Polychlorinated Biphenyls (PCBs) Data

Case Narrative/Conformance Summary

Polychlorinated Biphenyls (PCBs)

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Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID12

Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9872060	OU2-1-SU005-06		X	5	
9872061	OU2-1-SU005-06-DUP		X	5	Field Duplicate Sample
9872062	OU2-1-SU005-16		X	5	
9872063	OU2-1-SU006-05		X	1	
9872064	OU2-1-SU006-14		X	10	
9872065	OU2-1-SU008-02		X	50	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

(Sample number(s): 9872060-9872065: Analysis: 10885)
For dual column analyses in which the calibration (initial and/or continuing) response is outside the acceptance criteria on one column and within criteria on the second column affected analytes are reported from the compliant column. The sample raw data identifies the column used to report each analyte.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

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Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID12

Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

Surrogate

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

Batch#: 183040031A (Sample number(s): 9872060-9872065)
The recovery(ies) for the following surrogate(s) exceeded the acceptance window: Decachlorobiphenyl-D1 (9872062, 9872064), Decachlorobiphenyl-D2 (9872060, 9872062, 9872064, 9872065)

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Polychlorinated Biphenyls (PCBs)

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Quality Control Reference List
Pesticide Residue Analysis

CLIENT: Tidewater, Inc.
SDG: TID12

Fraction: Polychlorinated Biphenyls (PCBs)

Analysis	Batch Number	Sample Number	Analysis Date
PCBs 8082A/3546	183040031A	PBLK31304	11/05/2018 00:27
		LCS31304	11/05/2018 00:38
		9872060	11/05/2018 03:32
		9872061	11/05/2018 18:53
		9872062	11/05/2018 19:15
		9872063	11/05/2018 04:27
		9872064	11/05/2018 19:59
		9872065	11/05/2018 04:59

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Quality Control Summary
Method Blank
Pesticide Residue Analysis
SDG: TID12
Matrix: SOLID

Fraction: Polychlorinated Biphenyls (PCBs)

183040031A / PBLK31304 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**DL**	**LOD**	**LOQ**
PCB-1016	11/05/18	N.D.	mg/kg	0.0036	0.010	0.017
PCB-1221	11/05/18	N.D.	mg/kg	0.0046	0.010	0.017
PCB-1232	11/05/18	N.D.	mg/kg	0.0080	0.016	0.017
PCB-1242	11/05/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1248	11/05/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1254	11/05/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1262	11/05/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1268	11/05/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1260	11/05/18	N.D.	mg/kg	0.0049	0.010	0.017

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Quality Control Summary
Surrogates
Pesticide Residue Analysis
SDG: TID12
Matrix: SOLID

Fraction: Polychlorinated Biphenyls (PCBs)

183040031A	Decachlorobiphenyl-D1		Decachlorobiphenyl-D2		Tetrachloro-m-xylene-D1		Tetrachloro-m-xylene-D2	
	Spike Added	0.00992 mg/kg	Spike Added	0.00992 mg/kg	Spike Added	0.01003499 mg/kg	Spike Added	0.01003499 mg/kg
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
PBLK31304	102	45 - 143	102	45 - 143	107	44 - 130	104	44 - 130
LCS31304	106	45 - 143	105	45 - 143	108	44 - 130	107	44 - 130
9872060	85	45 - 143	155 *	45 - 143	74	44 - 130	69	44 - 130
9872061	85	45 - 143	117	45 - 143	74	44 - 130	72	44 - 130
9872062	273 *	45 - 143	238 *	45 - 143	73	44 - 130	61	44 - 130
9872063	131	45 - 143	116	45 - 143	89	44 - 130	88	44 - 130
9872064	205 *	45 - 143	185 *	45 - 143	109	44 - 130	77	44 - 130
9872065	133	45 - 143	165 *	45 - 143	90	44 - 130	92	44 - 130

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

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Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: TID12
Matrix: SOLID

Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

LCS: LCS31304	Batch: **183040031A** (Sample number(s): 9872060-9872065)							
Analyte	**Spike Added mg/kg**	**LCS Conc mg/kg**	**LCSD Conc mg/kg**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
PCB-1016	0.167	0.162	NA	97	NA	47-134	NA	NA
PCB-1260	0.167	0.181	NA	109	NA	53-140	NA	NA

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LOQ/MDL Summary
Pesticide Residue Analysis

SDG: TID12

Fraction: Polychlorinated Biphenyls (PCBs)

10885: PCBs 8082A/3546 Analyte Name	Default DL	Default LOD	Default LOQ	Units
PCB-1016	0.0036	0.010	0.017	mg/kg
PCB-1221	0.0046	0.010	0.017	mg/kg
PCB-1232	0.0080	0.016	0.017	mg/kg
PCB-1242	0.0033	0.010	0.017	mg/kg
PCB-1248	0.0033	0.010	0.017	mg/kg
PCB-1254	0.0033	0.010	0.017	mg/kg
PCB-1262	0.0033	0.010	0.017	mg/kg
PCB-1268	0.0033	0.010	0.017	mg/kg
PCB-1260	0.0049	0.010	0.017	mg/kg

Multiple Component Initial Calibration Report: **25PCBS1830301**

Area Files Used For Calibration

Sequence _____ Injections _____

Component: **Aroclor-1016** **AR16**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.200000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1016

		1	2	3	4	5	6	SUM
Retention Time:		3.182	3.397	3.512	3.728	3.787	3.979	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		752713	729715	958851	1140878	949999	699898	5232054
RF (Height/Conc):		2643	2557	3283	3779	3112	2377	
%RSD For RF		**11.878**	**11.457**	**9.484**	**7.301**	**5.369**	**9.316**	
Slope								
Y-Intercept								
Level 1	Height	75503	73203	90270	105438	82112	67454	493980
	Conc	25.050	25.050	25.050	25.050	25.050	25.050	
Level 2	Height	146818	142607	178049	198098	160190	126874	952636
	Conc	50.100	50.100	50.100	50.100	50.100	50.100	
Level 3	Height	267602	257848	339375	372287	313654	234676	1785442
	Conc	100.200	100.200	100.200	100.200	100.200	100.200	
Level 4	Height	533317	505255	658792	737500	635686	477901	3548451
	Conc	200.400	200.400	200.400	200.400	200.400	200.400	
Level 5	Height	1095296	1088673	1388826	1700359	1400081	1027346	7700581
	Conc	501.000	501.000	501.000	501.000	501.000	501.000	
Level 6	Height	2397742	2310704	3097795	3731587	3108270	2265134	16911232
	Conc	1002.000	1002.000	1002.000	1002.000	1002.000	1002.000	

Component: **Aroclor-1221** **AR21**

Calibration Levels: 1 Concentration (ng/ml): 201.700000

Min # of Peaks Required: 3 Max %RSD: 5 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1221

	1	2	3	SUM
Retention Time:	3.077	3.133	3.181	
RT Window (Mins):	0.02000	0.02000	0.02000	
Height:	283431	224638	734217	1242286
RF (Height/Conc):	1405	1114	3640	
%RSD For RF	**0.000**	**0.000**	**0.000**	
Slope				
Y-Intercept				

Component: **Aroclor-1232** **AR32**

Calibration Levels: 1 Concentration (ng/ml): 201.600000

Min # of Peaks Required: 4 Max %RSD: 10 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1232

	1	2	3	4	5	6	SUM
Retention Time:	3.182	3.396	3.512	3.729	3.787	3.978	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	599681	232902	298723	359052	265743	187474	1943575
RF (Height/Conc):	2975	1155	1482	1781	1318	930	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

Multiple Component Initial Calibration Report: **25PCBS1830301**

Component: **Aroclor-1242** **AR42**

Calibration Levels: 1 Concentration (ng/ml): 198.660000

Min # of Peaks Required: 4 Max %RSD: 30 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1242

	1	2	3	4	5	6	SUM
Retention Time:	3.182	3.397	3.513	3.729	3.788	3.980	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	454082	422803	538774	642603	479208	359250	2896720
RF (Height/Conc):	2286	2128	2712	3235	2412	1808	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

Component: **Aroclor-1248** **AR48**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.950000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1248

		1	2	3	4	5	6	SUM
Retention Time:		3.854	3.979	4.068	4.248	4.377	4.634	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		891859	1035712	879897	921566	955375	685082	5369492
RF (Height/Conc):		3111	3511	2977	2971	3166	2356	
%RSD For RF		**15.444**	**13.308**	**13.398**	**8.529**	**12.824**	**15.323**	
Slope								
Y-Intercept								
Level 1	Height	101346	111588	94220	87034	100213	77489	571890
	Conc	25.240	25.240	25.240	25.240	25.240	25.240	
Level 2	Height	162501	176516	149906	145718	157882	117274	909797
	Conc	50.470	50.470	50.470	50.470	50.470	50.470	
Level 3	Height	306732	349640	302107	297585	304387	231663	1792114
	Conc	100.950	100.950	100.950	100.950	100.950	100.950	
Level 4	Height	586135	655082	547615	556716	574697	445117	3365362
	Conc	201.900	201.900	201.900	201.900	201.900	201.900	
Level 5	Height	1349984	1576176	1317265	1400666	1495085	1046054	8185230
	Conc	504.750	504.750	504.750	504.750	504.750	504.750	
Level 6	Height	2844456	3345268	2868271	3041679	3099987	2192896	17392557
	Conc	1009.500	1009.500	1009.500	1009.500	1009.500	1009.500	

Multiple Component Initial Calibration Report: **25PCBS1830301**

Component: **Aroclor-1254** **AR54**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.560000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1254

		1	2	3	4	5	6	SUM
Retention Time:		4.573	4.634	4.757	4.848	5.048	5.164	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		1081188	2172570	650252	1477260	1232058	1559983	8173311
RF (Height/Conc):		3491	6989	2204	4822	3869	4945	
%RSD For RF		**9.017**	**7.204**	**11.161**	**9.078**	**5.401**	**5.721**	
Slope								
Y-Intercept								
Level 1	Height	101777	199750	64495	141946	106743	134726	749437
	Conc	25.140	25.140	25.140	25.140	25.140	25.140	
Level 2	Height	184557	360152	119328	248121	196751	259820	1368729
	Conc	50.280	50.280	50.280	50.280	50.280	50.280	
Level 3	Height	333041	676949	229605	470862	377654	491007	2579118
	Conc	100.560	100.560	100.560	100.560	100.560	100.560	
Level 4	Height	827982	1684452	523914	1175536	933268	1183647	6328799
	Conc	251.400	251.400	251.400	251.400	251.400	251.400	
Level 5	Height	1619001	3353396	972978	2218199	1850595	2312743	12326912
	Conc	502.800	502.800	502.800	502.800	502.800	502.800	
Level 6	Height	3420771	6760720	1991192	4608894	3927339	4977952	25686868
	Conc	1005.600	1005.600	1005.600	1005.600	1005.600	1005.600	

Component: **Aroclor-1260** **AR16**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.220000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1260

		1	2	3	4	5	6	SUM
Retention Time:		4.756	4.956	5.164	5.228	5.631	5.837	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		1615040	1946233	2450183	1134449	3644032	1952307	12742243
RF (Height/Conc):		5412	6519	7862	3815	11391	6344	
%RSD For RF		**9.159**	**8.364**	**4.413**	**8.666**	**4.361**	**6.116**	
Slope								
Y-Intercept								
Level 1	Height	152363	183327	198524	108702	288500	169233	1100649
	Conc	25.060	25.060	25.060	25.060	25.060	25.060	
Level 2	Height	290340	341145	409465	201452	566675	327228	2136305
	Conc	50.110	50.110	50.110	50.110	50.110	50.110	
Level 3	Height	541151	659767	776581	372998	1119487	646075	4116059
	Conc	100.220	100.220	100.220	100.220	100.220	100.220	
Level 4	Height	1050530	1278580	1612398	755072	2295582	1244407	8236569
	Conc	200.440	200.440	200.440	200.440	200.440	200.440	
Level 5	Height	2324202	2841732	3617329	1687649	5357405	2824350	18652667
	Conc	501.100	501.100	501.100	501.100	501.100	501.100	
Level 6	Height	5331655	6372845	8086801	3680820	12236540	6502546	42211207
	Conc	1002.200	1002.200	1002.200	1002.200	1002.200	1002.200	

Multiple Component Initial Calibration Report: **25PCBS1830301**

Component: **Aroclor-1262** **AR62**

Calibration Levels: 1 Concentration (ng/ml): 200.200000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1262

	1	2	3	4	5	6	SUM
Retention Time:	5.230	5.395	5.633	5.837	5.892	6.269	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	1164675	938190	2718715	1573352	853867	1051633	8300432
RF (Height/Conc):	5818	4686	13580	7859	4265	5253	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

Component: **Aroclor-1268** **AR68**

Calibration Levels: 1 Concentration (ng/ml): 200.200000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1268

	1	2	3	4	5	6	SUM
Retention Time:	5.831	5.890	6.020	6.086	6.264	6.464	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	3533167	3199968	2938374	737580	1261203	10177340	21847632
RF (Height/Conc):	17648	15984	14677	3684	6300	50836	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

Multiple Component Initial Calibration Report: **25PCBS1830301B**

Area Files Used For Calibration

Sequence _____ Injections _____

Component: **Aroclor-1016** **AR16**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.200000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1016

		1	2	3	4	5	6	SUM
Retention Time:		2.962	3.294	3.487	3.562	3.621	3.725	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		1246524	1500646	1461509	1544662	1186906	1283060	8223305
RF (Height/Conc):		4354	5098	4944	5124	4020	4335	
%RSD For RF		**10.764**	**9.293**	**8.904**	**7.081**	**8.815**	**9.301**	
Slope								
Y-Intercept								
Level 1	Height	124339	143547	135493	139771	111475	121312	775937
	Conc	25.050	25.050	25.050	25.050	25.050	25.050	
Level 2	Height	236641	276807	271866	272442	215826	234636	1508218
	Conc	50.100	50.100	50.100	50.100	50.100	50.100	
Level 3	Height	444019	513766	489337	508535	405735	430757	2792149
	Conc	100.200	100.200	100.200	100.200	100.200	100.200	
Level 4	Height	872891	985969	992112	1014869	805902	862187	5533930
	Conc	200.400	200.400	200.400	200.400	200.400	200.400	
Level 5	Height	1862517	2218634	2131913	2274882	1726302	1850855	12065103
	Conc	501.000	501.000	501.000	501.000	501.000	501.000	
Level 6	Height	3938734	4865150	4748335	5057472	3856195	4198610	26664496
	Conc	1002.000	1002.000	1002.000	1002.000	1002.000	1002.000	

Component: **Aroclor-1221** **AR21**

Calibration Levels: 1 Concentration (ng/ml): 201.700000

Min # of Peaks Required: 3 Max %RSD: 5 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1221

	1	2	3	SUM
Retention Time:	2.849	2.910	2.962	
RT Window (Mins):	0.02000	0.02000	0.02000	
Height:	512425	365366	1241151	2118942
RF (Height/Conc):	2541	1811	6153	
%RSD For RF	**0.000**	**0.000**	**0.000**	
Slope				
Y-Intercept				

Component: **Aroclor-1232** **AR32**

Calibration Levels: 1 Concentration (ng/ml): 201.600000

Min # of Peaks Required: 4 Max %RSD: 10 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1232

	1	2	3	4	5	6	SUM
Retention Time:	2.962	3.294	3.487	3.562	3.621	3.726	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	1004896	462523	469887	449578	292905	342291	3022080
RF (Height/Conc):	4985	2294	2331	2230	1453	1698	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

Multiple Component Initial Calibration Report: **25PCBS1830301B**

Component: **Aroclor-1242** **AR42**

Calibration Levels: 1 Concentration (ng/ml): 198.660000

Min # of Peaks Required: 4 Max %RSD: 30 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1242

	1	2	3	4	5	6	SUM
Retention Time:	2.962	3.294	3.487	3.562	3.621	3.726	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	746286	822899	836933	816912	600229	671054	4494313
RF (Height/Conc):	3757	4142	4213	4112	3021	3378	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

Component: **Aroclor-1248** **AR48**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.950000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1248

		1	2	3	4	5	6	SUM
Retention Time:		3.597	3.725	3.818	3.954	4.091	4.324	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		1477833	1855387	1224545	2477278	1155937	1066139	9257119
RF (Height/Conc):		5078	6235	4121	8026	3692	3490	
%RSD For RF		**13.969**	**11.862**	**12.995**	**8.591**	**5.808**	**9.480**	
Slope								
Y-Intercept								
Level 1	Height	161334	193718	130637	234630	99069	103005	922393
	Conc	25.240	25.240	25.240	25.240	25.240	25.240	
Level 2	Height	260788	317587	208220	402446	192587	175733	1557361
	Conc	50.470	50.470	50.470	50.470	50.470	50.470	
Level 3	Height	518707	607642	401143	802517	377295	353479	3060783
	Conc	100.950	100.950	100.950	100.950	100.950	100.950	
Level 4	Height	939975	1186033	769223	1498938	698043	659057	5751269
	Conc	201.900	201.900	201.900	201.900	201.900	201.900	
Level 5	Height	2215002	2829950	1875280	3737282	1714444	1568281	13940239
	Conc	504.750	504.750	504.750	504.750	504.750	504.750	
Level 6	Height	4771194	5997394	3962764	8187852	3854186	3537277	30310667
	Conc	1009.500	1009.500	1009.500	1009.500	1009.500	1009.500	

Multiple Component Initial Calibration Report: **25PCBS1830301B**

Component: **Aroclor-1254** **AR54**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.560000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1254

		1	2	3	4	5	6	SUM
Retention Time:		4.323	4.417	4.488	4.557	4.712	4.793	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		3243920	1473331	2079202	1212095	1459922	2358855	11827324
RF (Height/Conc):		10204	4793	6436	3881	4426	7273	
%RSD For RF		**6.025**	**7.915**	**3.928**	**6.146**	**4.858**	**4.749**	
Slope								
Y-Intercept								
Level 1	Height	286327	136710	171463	106750	116641	196142	1014033
	Conc	25.140	25.140	25.140	25.140	25.140	25.140	
Level 2	Height	512856	252879	322258	204251	214837	365768	1872849
	Conc	50.280	50.280	50.280	50.280	50.280	50.280	
Level 3	Height	968365	477966	638169	386897	437757	709287	3618441
	Conc	100.560	100.560	100.560	100.560	100.560	100.560	
Level 4	Height	2483457	1134046	1572065	938245	1082411	1731512	8941736
	Conc	251.400	251.400	251.400	251.400	251.400	251.400	
Level 5	Height	5025122	2236031	3088708	1800090	2129697	3554720	17834368
	Conc	502.800	502.800	502.800	502.800	502.800	502.800	
Level 6	Height	10187390	4602355	6682550	3836338	4778186	7595699	37682518
	Conc	1005.600	1005.600	1005.600	1005.600	1005.600	1005.600	

Component: **Aroclor-1260** **AR16**

Calibration Levels: 6 Avg Concentration (ng/ml): 100.220000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1260

		1	2	3	4	5	6	SUM
Retention Time:		4.557	4.662	4.792	5.019	5.214	5.474	
RT Window (Mins):		0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:		2983403	2412770	3055246	1850497	4604799	3006933	17913648
RF (Height/Conc):		9482	7613	9473	5864	13916	9474	
%RSD For RF		**5.827**	**6.408**	**5.841**	**4.892**	**6.503**	**2.997**	
Slope								
Y-Intercept								
Level 1	Height	248288	201226	245410	154875	338668	238977	1427444
	Conc	25.060	25.060	25.060	25.060	25.060	25.060	
Level 2	Height	494277	387672	462462	290152	677397	483176	2795136
	Conc	50.110	50.110	50.110	50.110	50.110	50.110	
Level 3	Height	937030	731484	919693	578540	1332020	932059	5430826
	Conc	100.220	100.220	100.220	100.220	100.220	100.220	
Level 4	Height	1818781	1517422	1898718	1170345	2811238	1864258	11080762
	Conc	200.440	200.440	200.440	200.440	200.440	200.440	
Level 5	Height	4333224	3435597	4405541	2715796	6741592	4580504	26212254
	Conc	501.100	501.100	501.100	501.100	501.100	501.100	
Level 6	Height	10068820	8203220	10399650	6193271	15727880	9942624	60535465
	Conc	1002.200	1002.200	1002.200	1002.200	1002.200	1002.200	

Multiple Component Initial Calibration Report: **25PCBS1830301B**

Component: **Aroclor-1262** **AR62**

Calibration Levels: 1 Concentration (ng/ml): 200.200000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1262

	1	2	3	4	5	6	SUM
Retention Time:	4.828	5.021	5.216	5.429	5.478	5.854	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	1556104	1611131	3273690	1325530	2216939	1310334	11293728
RF (Height/Conc):	7773	8048	16352	6621	11074	6545	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

Component: **Aroclor-1268** **AR68**

Calibration Levels: 1 Concentration (ng/ml): 200.200000

Min # of Peaks Required: 4 Max %RSD: 40 Report Base:

Slope: Y-Intercept: E-Flag Basis: Aroclor-1268

	1	2	3	4	5	6	SUM
Retention Time:	5.426	5.476	5.627	5.695	5.851	6.051	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	4736334	4788130	4160612	1035941	1670071	15195680	31586768
RF (Height/Conc):	23658	23917	20782	5175	8342	75902	
%RSD For RF	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	
Slope							
Y-Intercept							

6D

INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	RT OF STANDARDS						MIDPOINT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	RT	FROM	TO
Tetrachloro-m-xylene	2.93	2.93	2.92	2.93	2.93	2.93	2.92	2.89	2.95
Decachlorobiphenyl	6.62	6.61	6.61	6.61	6.61	6.61	6.61	6.58	6.64

6E

INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	CALIBRATION FACTORS							%RSD
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	MEAN	
Tetrachloro-m-xylene	1.54E+05	1.49E+05	1.52E+05	1.59E+05	1.63E+05	1.55E+05	1.55E+05	3
Decachlorobiphenyl	1.42E+05	1.31E+05	1.22E+05	1.21E+05	1.29E+05	1.27E+05	1.28E+05	6

6F
INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1016	1	3.18	3.16	3.20	3014	2643	1	25.05	75503	11.88
					2930		2	50.1	146818	
					2671		3	100.2	267602	
					2661		4	200.4	533317	
					2186		5	501	1095296	
					2393		6	1002	2397742	
	2	3.40	3.38	3.42	2922	2557	1	25.05	73203	11.46
					2846		2	50.1	142607	
					2573		3	100.2	257848	
					2521		4	200.4	505255	
					2173		5	501	1088673	
					2306		6	1002	2310704	
	3	3.51	3.49	3.53	3604	3283	1	25.05	90270	9.48
					3554		2	50.1	178049	
					3387		3	100.2	339375	
					3287		4	200.4	658792	
					2772		5	501	1388826	
					3092		6	1002	3097795	
	4	3.73	3.71	3.75	4209	3779	1	25.05	105430	7.00
					3954		2	50.1	198098	
					3715		3	100.2	372287	
					3680		4	200.4	737500	
					3394		5	501	1700359	
					3724		6	1002	3731587	
	5	3.79	3.77	3.81	3278	3112	1	25.05	82112	5.37
					3197		2	50.1	160190	
					3130		3	100.2	313654	
					3172		4	200.4	635686	
					2795		5	501	1400081	
					3102		6	1002	3108270	
	6	3.98	3.96	4.00	2693	2377	1	25.05	67454	9.32
					2532		2	50.1	126874	
					2342		3	100.2	234676	
					2385		4	200.4	477901	
					2051		5	501	1027346	
					2261		6	1002	2265134	
Aroclor-1221	1	3.08	3.06	3.10	1405	1405	1	201.7	283431	.00
	2	3.13	3.11	3.15	1114	1114	1	201.7	224638	.00
	3	3.18	3.16	3.20	3640	3640	1	201.7	734217	.00

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1232	1	3.18	3.16	3.20	2975	2975	1	201.6	599681	.00
	2	3.40	3.38	3.42	1155	1155	1	201.6	232902	.00
	3	3.51	3.49	3.53	1482	1482	1	201.6	298723	.00
	4	3.73	3.71	3.75	1781	1781	1	201.6	359052	.00
	5	3.79	3.77	3.81	1318	1318	1	201.6	265743	.00
	6	3.98	3.96	4.00	930	930	1	201.6	187474	.00
Aroclor-1242	1	3.18	3.16	3.20	2286	2286	1	198.66	454082	.00
	2	3.40	3.38	3.42	2128	2128	1	198.66	422803	.00
	3	3.51	3.49	3.53	2712	2712	1	198.66	538774	.00
	4	3.73	3.71	3.75	3235	3235	1	198.66	642603	.00
	5	3.79	3.77	3.81	2412	2412	1	198.66	479208	.00
	6	3.98	3.96	4.00	1808	1808	1	198.66	359250	.00

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1248	1	3.85	3.83	3.87	4015	3111	1	25.24	101346	15.44
					3220		2	50.47	162501	
					3038		3	100.95	306732	
					2903		4	201.9	586135	
					2675		5	504.75	1349984	
					2818		6	1009.5	2844456	
	2	3.98	3.96	4.00	4421	3511	1	25.24	111588	13.31
					3497		2	50.47	176516	
					3463		3	100.95	349640	
					3245		4	201.9	655082	
					3123		5	504.75	1576176	
					3314		6	1009.5	3345268	
	3	4.07	4.05	4.09	3733	2977	1	25.24	94220	13.40
					2970		2	50.47	149906	
					2993		3	100.95	302107	
					2712		4	201.9	547615	
					2610		5	504.75	1317265	
					2841		6	1009.5	2868271	
	4	4.25	4.23	4.27	3448	2971	1	25.24	87034	8.53
					2887		2	50.47	145718	
					2948		3	100.95	297585	
					2757		4	201.9	556716	
					2775		5	504.75	1400666	
					3013		6	1009.5	3041679	
	5	4.38	4.36	4.40	3970	3166	1	25.24	100213	12.82
					3128		2	50.47	157882	
					3015		3	100.95	304387	
					2846		4	201.9	574697	
					2962		5	504.75	1495085	
					3071		6	1009.5	3099987	
	6	4.63	4.61	4.65	3070	2356	1	25.24	77489	15.32
					2324		2	50.47	117274	
					2295		3	100.95	231663	
					2205		4	201.9	445117	
					2072		5	504.75	1046054	
					2172		6	1009.5	2192896	

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1254	1	4.57	4.55	4.59	4048	3491	1	25.14	101777	9.02
					3671		2	50.28	184557	
					3312		3	100.56	333041	
					3293		4	251.4	827982	
					3220		5	502.8	1619001	
					3402		6	1005.6	3420771	
	2	4.63	4.61	4.65	7946	6989	1	25.14	199750	7.20
					7163		2	50.28	360152	
					6732		3	100.56	676949	
					6700		4	251.4	1684452	
					6669		5	502.8	3353396	
					6723		6	1005.6	6760720	
	3	4.76	4.74	4.78	2565	2204	1	25.14	64495	11.16
					2373		2	50.28	119328	
					2283		3	100.56	229605	
					2084		4	251.4	523914	
					1935		5	502.8	972978	
					1980		6	1005.6	1991192	
	4	4.85	4.83	4.87	5646	4822	1	25.14	141946	9.08
					4935		2	50.28	248121	
					4682		3	100.56	470862	
					4676		4	251.4	1175536	
					4412		5	502.8	2218199	
					4583		6	1005.6	4608894	
	5	5.05	5.03	5.07	4246	3869	1	25.14	106743	5.40
					3913		2	50.28	196751	
					3756		3	100.56	377654	
					3712		4	251.4	933268	
					3681		5	502.8	1850505	
					3905		6	1005.6	3927339	
	6	5.16	5.14	5.18	5359	4945	1	25.14	134726	5.72
					5167		2	50.28	259820	
					4883		3	100.56	491007	
					4708		4	251.4	1183647	
					4600		5	502.8	2312743	
					4950		6	1005.6	4977952	

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1260	1	4.76	4.74	4.78	6080	5412	1	25.06	152363	9.16
					5794		2	50.11	290340	
					5400		3	100.22	541151	
					5241		4	200.44	1050530	
					4638		5	501.1	2324202	
					5320		6	1002.2	5331655	
	2	4.96	4.94	4.98	7316	6519	1	25.06	183327	8.36
					6808		2	50.11	341145	
					6583		3	100.22	659767	
					6379		4	200.44	1278580	
					5671		5	501.1	2841732	
					6359		6	1002.2	6372845	
	3	5.16	5.14	5.18	7922	7862	1	25.06	198524	4.41
					8171		2	50.11	409465	
					7749		3	100.22	776581	
					8044		4	200.44	1612398	
					7219		5	501.1	3617329	
					8069		6	1002.2	8086801	
	4	5.23	5.21	5.25	4338	3815	1	25.06	108702	8.67
					4020		2	50.11	201452	
					3722		3	100.22	372998	
					3767		4	200.44	755072	
					3368		5	501.1	1687649	
					3673		6	1002.2	3680820	
	5	5.63	5.61	5.65	11512	11391	1	25.06	288500	4.36
					11309		2	50.11	566675	
					11170		3	100.22	1119487	
					11453		4	200.44	2295582	
					10601		5	501.1	5357405	
					12210		6	1002.2	12236540	
	6	5.84	5.82	5.86	6753	6344	1	25.06	169233	6.12
					6530		2	50.11	327228	
					6447		3	100.22	646075	
					6208		4	200.44	1244407	
					5636		5	501.1	2824350	
					6488		6	1002.2	6502546	

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Calibration File: 25PCBS1830301

GC Column (1) : MR-1 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1262	1	5.23	5.21	5.25	5818	5818	1	200.2	1164675	.00
	2	5.40	5.38	5.42	4686	4686	1	200.2	938190	.00
	3	5.63	5.61	5.65	13580	13580	1	200.2	2718715	.00
	4	5.84	5.82	5.86	7859	7859	1	200.2	1573352	.00
	5	5.89	5.87	5.91	4265	4265	1	200.2	853867	.00
	6	6.27	6.25	6.29	5253	5253	1	200.2	1051633	.00
Aroclor-1268	1	5.83	5.81	5.85	17648	17648	6	200.2	3533167	.00
	2	5.89	5.87	5.91	15984	15984	6	200.2	3199968	.00
	3	6.02	6.00	6.04	14677	14677	6	200.2	2938374	.00
	4	6.09	6.07	6.11	3684	3684	6	200.2	737580	.00
	5	6.26	6.24	6.28	6300	6300	6	200.2	1261203	.00
	6	6.46	6.44	6.48	50836	50836	6	200.2	10177340	.00

File Name: V:\CP25\25PCBS1830301.CAL
Version: 8

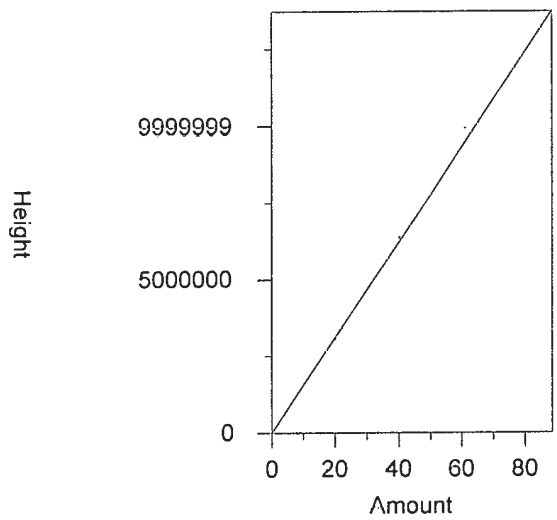
Creator:
Description:
Reason for change:

External standard calibration
Standard injection volume: 1
No sample weight correction
Area reject threshold: 0
Reference peak area reject threshold: 0
Amount units: ug/l
No default component

Method of calculating data point averages: Current update equal to cal data
Print calibration update report

All levels are normal data points.

1 TCX



Expected retention time: 2.925 minutes
Search window: 0.03 minutes
No retention time reference component
No response proxy component
Group number: 0

High alarm limit: 0
Low alarm limit: 0
Component constant: 0

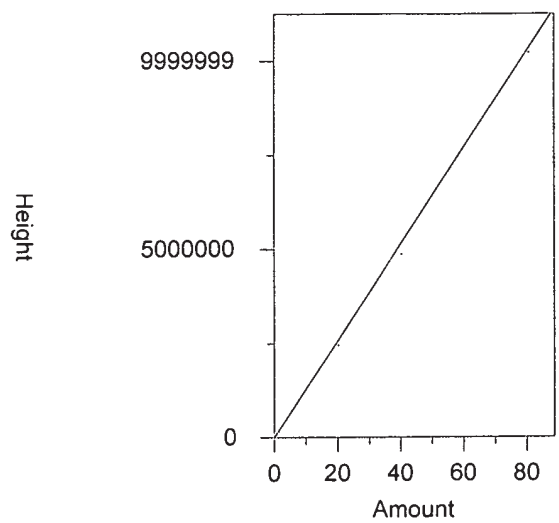
Single peak quantification by height

Y = 155137.6 X + 0

Average CF fit with equal weighting, forced to origin
Coefficient of determination: 0.9981739
Average error: 2.371%
Average CF: 155137.6
RSD: 3.136%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.01	308788.9	153626.3	-0.974	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.007.
2	4.02	598913.4	148983.4	-3.967	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.008.
3	20.12	3056704	151923.7	-2.072	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.009.
4	40.24	6390003	158797.3	2.359	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.010.
5	61.16	9939359	162514	4.755	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.011.
6	80.48	1.247286E+07	154980.9	-0.101	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.012.

2 DCB



Expected retention time:	6.614 minutes
Search window:	0.03 minutes
No retention time reference component	
No response proxy component	
Group number:	0
High alarm limit:	0
Low alarm limit:	0
Component constant:	0

Single peak quantification by height

Y = 128339 X + 0

Average CF fit with equal weighting, forced to origin

Coefficient of determination:	0.998426
Average error:	4.146%
Average CF:	128339
RSD:	5.949%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.02	286269.3	141717.5	10.424	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
2	4.03	526710.1	130697.3	1.838	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
3	20.15	2448309	121504.2	-5.326	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
4	40.3	4865646	120735.6	-5.924	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
5	61.26	7875793	128563.4	0.175	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
6	80.6	1.022137E+07	126816	-1.187	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300

6D

INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	RT OF STANDARDS						MIDPOINT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	RT	FROM	TO
Tetrachloro-m-xylene	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.65	2.71
Decachlorobiphenyl	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.18	6.24

6E

INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	CALIBRATION FACTORS							%RSD
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	MEAN	
Tetrachloro-m-xylene	2.49E+05	2.35E+05	2.53E+05	2.56E+05	2.66E+05	2.72E+05	2.55E+05	5
Decachlorobiphenyl	2.00E+05	1.89E+05	1.78E+05	1.85E+05	1.88E+05	1.87E+05	1.88E+05	4

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1016	1	2.96	2.94	2.98	4964	4354	1	25.05	124339	10.76
					4723		2	50.1	236641	
					4431		3	100.2	444019	
					4356		4	200.4	872891	
					3718		5	501	1862517	
					3931		6	1002	3938734	
	2	3.29	3.27	3.31	5730	5098	1	25.05	143547	9.29
					5525		2	50.1	276807	
					5127		3	100.2	513766	
					4920		4	200.4	985969	
					4428		5	501	2218634	
					4855		6	1002	4865150	
	3	3.49	3.47	3.51	5409	4944	1	25.05	135493	8.90
					5426		2	50.1	271866	
					4884		3	100.2	489337	
					4951		4	200.4	992112	
					4255		5	501	2131913	
					4739		6	1002	4748335	
	4	3.56	3.54	3.58	5580	5124	1	25.05	139771	7.08
					5438		2	50.1	272442	
					5075		3	100.2	508535	
					5064		4	200.4	1014869	
					4541		5	501	2274882	
					5047		6	1002	5057472	
	5	3.62	3.60	3.64	4450	4020	1	25.05	111475	8.81
					4308		2	50.1	215826	
					4049		3	100.2	405735	
					4021		4	200.4	805902	
					3446		5	501	1726302	
					3848		6	1002	3856195	
	6	3.73	3.71	3.75	4843	4335	1	25.05	121312	9.30
					4683		2	50.1	234636	
					4299		3	100.2	430757	
					4302		4	200.4	862187	
					3694		5	501	1850855	
					4190		6	1002	4198610	
Aroclor-1221	1	2.85	2.83	2.87	2541	2541	1	201.7	512425	.00
	2	2.91	2.89	2.93	1811	1811	1	201.7	365366	.00
	3	2.96	2.94	2.98	6153	6153	1	201.7	1241151	.00

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1232	1	2.96	2.94	2.98	4985	4985	1	201.6	1004896	.00
	2	3.29	3.27	3.31	2294	2294	1	201.6	462523	.00
	3	3.49	3.47	3.51	2331	2331	1	201.6	469887	.00
	4	3.56	3.54	3.58	2230	2230	1	201.6	449578	.00
	5	3.62	3.60	3.64	1453	1453	1	201.6	292905	.00
	6	3.73	3.71	3.75	1698	1698	1	201.6	342291	.00
Aroclor-1242	1	2.96	2.94	2.98	3757	3757	1	198.66	746286	.00
	2	3.29	3.27	3.31	4142	4142	1	198.66	822899	.00
	3	3.49	3.47	3.51	4213	4213	1	198.66	836933	.00
	4	3.56	3.54	3.58	4112	4112	1	198.66	816912	.00
	5	3.62	3.60	3.64	3021	3021	1	198.66	600229	.00
	6	3.73	3.71	3.75	3378	3378	1	198.66	671054	.00

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1248	1	3.60	3.58	3.62	6392	5078	1	25.24	161334	13.97
					5167		2	50.47	260788	
					5138		3	100.95	518707	
					4656		4	201.9	939975	
					4388		5	504.75	2215002	
					4726		6	1009.5	4771194	
	2	3.73	3.71	3.75	7675	6235	1	25.24	193718	11.86
					6293		2	50.47	317587	
					6019		3	100.95	607642	
					5874		4	201.9	1186033	
					5607		5	504.75	2829950	
					5941		6	1009.5	5997394	
	3	3.82	3.80	3.84	5176	4121	1	25.24	130637	13.00
					4126		2	50.47	208220	
					3974		3	100.95	401143	
					3810		4	201.9	769223	
					3715		5	504.75	1875280	
					3925		6	1009.5	3962764	
	4	3.95	3.93	3.97	9296	8026	1	25.24	234630	8.59
					7974		2	50.47	402446	
					7950		3	100.95	802517	
					7424		4	201.9	1498938	
					7404		5	504.75	3737282	
					8111		6	1009.5	8187852	
	5	4.09	4.07	4.11	3925	3692	1	25.24	99069	5.81
					3816		2	50.47	192587	
					3737		3	100.95	377295	
					3457		4	201.9	698043	
					3397		5	504.75	1714444	
					3818		6	1009.5	3854186	
	6	4.32	4.30	4.34	4081	3490	1	25.24	103005	9.48
					3482		2	50.47	175733	
					3502		3	100.95	353479	
					3264		4	201.9	659057	
					3107		5	504.75	1568281	
					3504		6	1009.5	3537277	

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1254	1	4.32	4.30	4.34	11389	10204	1	25.14	286327	6.03
					10200		2	50.28	512856	
					9630		3	100.56	968365	
					9879		4	251.4	2483457	
					9994		5	502.8	5025122	
					10131		6	1005.6	10187390	
	2	4.42	4.40	4.44	5438	4793	1	25.14	136710	7.91
					5029		2	50.28	252879	
					4753		3	100.56	477966	
					4511		4	251.4	1134046	
					4447		5	502.8	2236031	
					4577		6	1005.6	4602355	
	3	4.49	4.47	4.51	6820	6436	1	25.14	171463	3.93
					6409		2	50.28	322258	
					6346		3	100.56	638169	
					6253		4	251.4	1572065	
					6143		5	502.8	3088708	
					6645		6	1005.6	6682550	
	4	4.56	4.54	4.58	4246	3881	1	25.14	106750	6.15
					4062		2	50.28	204251	
					3847		3	100.56	386897	
					3732		4	251.4	938245	
					3580		5	502.8	1800090	
					3815		6	1005.6	3836338	
	5	4.71	4.69	4.73	4640	4426	1	25.14	116641	4.86
					4273		2	50.28	214837	
					4353		3	100.56	437757	
					4306		4	251.4	1082411	
					4236		5	502.8	2129697	
					4752		6	1005.6	4778186	
	6	4.79	4.77	4.81	7802	7273	1	25.14	196142	4.75
					7275		2	50.28	365768	
					7053		3	100.56	709287	
					6887		4	251.4	1731512	
					7070		5	502.8	3554720	
					7553		6	1005.6	7595699	

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1260	1	4.56	4.54	4.58	9908	9482	1	25.06	248288	5.83
					9864		2	50.11	494277	
					9350		3	100.22	937030	
					9074		4	200.44	1818781	
					8647		5	501.1	4333224	
					10047		6	1002.2	10068820	
	2	4.66	4.64	4.68	8030	7613	1	25.06	201226	6.41
					7736		2	50.11	387672	
					7299		3	100.22	731484	
					7570		4	200.44	1517422	
					6856		5	501.1	3435597	
					8185		6	1002.2	8203220	
	3	4.79	4.77	4.81	9793	9473	1	25.06	245410	5.84
					9229		2	50.11	462462	
					9177		3	100.22	919693	
					9473		4	200.44	1898718	
					8792		5	501.1	4405541	
					10377		6	1002.2	10399650	
	4	5.02	5.00	5.04	6180	5864	1	25.06	154875	4.89
					5790		2	50.11	290152	
					5773		3	100.22	578540	
					5839		4	200.44	1170345	
					5420		5	501.1	2715796	
					6180		6	1002.2	6193271	
	5	5.21	5.19	5.23	13514	13916	1	25.06	338668	6.50
					13518		2	50.11	677397	
					13291		3	100.22	1332020	
					14025		4	200.44	2811230	
					13454		5	501.1	6741592	
					15693		6	1002.2	15727880	
	6	5.47	5.45	5.49	9536	9474	1	25.06	238977	3.00
					9642		2	50.11	483176	
					9300		3	100.22	932059	
					9301		4	200.44	1864258	
					9141		5	501.1	4580504	
					9921		6	1002.2	9942624	

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Calibration File: 25PCBS1830301B

GC Column (2) : MR-2 ID: 0.32 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
Aroclor-1262	1	4.83	4.81	4.85	7773	7773	1	200.2	1556104	.00
	2	5.02	5.00	5.04	8048	8048	1	200.2	1611131	.00
	3	5.22	5.20	5.24	16352	16352	1	200.2	3273690	.00
	4	5.43	5.41	5.45	6621	6621	1	200.2	1325530	.00
	5	5.48	5.46	5.50	11074	11074	1	200.2	2216939	.00
	6	5.85	5.83	5.87	6545	6545	1	200.2	1310334	.00
Aroclor-1268	1	5.43	5.41	5.45	23658	23658	1	200.2	4736334	.00
	2	5.48	5.46	5.50	23917	23917	1	200.2	4788130	.00
	3	5.63	5.61	5.65	20782	20782	1	200.2	4160612	.00
	4	5.70	5.68	5.72	5175	5175	1	200.2	1035941	.00
	5	5.85	5.83	5.87	8342	8342	1	200.2	1670071	.00
	6	6.05	6.03	6.07	75902	75902	1	200.2	15195680	.00

File Name: V:\CP25\25PCBS1830301b.CAL
Version: 8

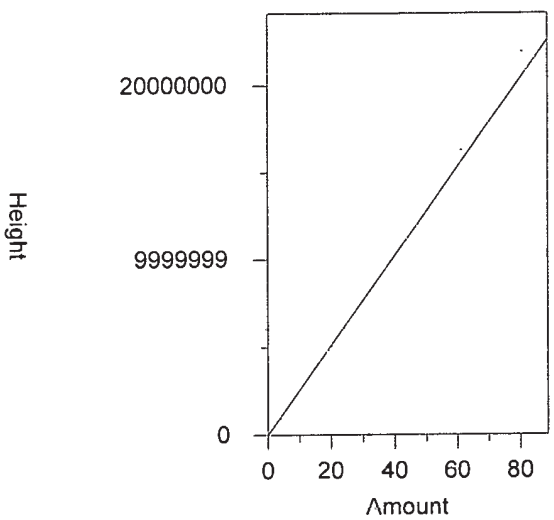
Creator:
Description:
Reason for change:

External standard calibration
Standard injection volume: 1
No sample weight correction
Area reject threshold: 0
Reference peak area reject threshold: 0
Amount units: ug/l
No default component

Method of calculating data point averages: Current update equal to cal data
Print calibration update report

All levels are normal data points.

1 TCX



Expected retention time: 2.678 minutes
Search window: 0.03 minutes
No retention time reference component
No response proxy component
Group number: 0

High alarm limit: 0
Low alarm limit: 0
Component constant: 0

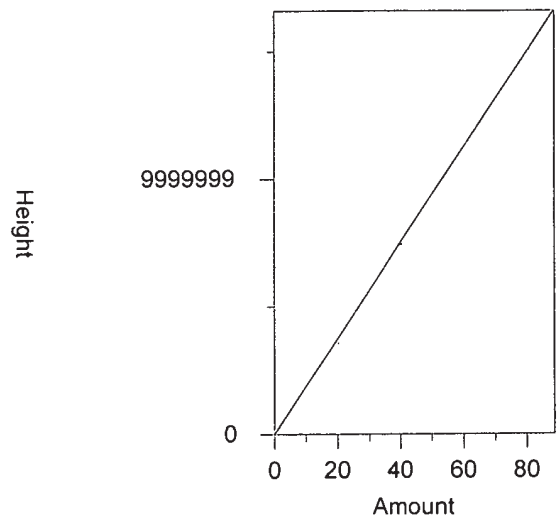
Single peak quantification by height

Y = 255215.7 X + 0

Average CF fit with equal weighting, forced to origin
Coefficient of determination: 0.9937048
Average error: 3.769%
Average CF: 255215.7
RSD: 5.165%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.01	500538.6	249024.2	-2.426	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001B.00
2	4.02	944578.4	234969.8	-7.933	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001B.00
3	20.12	5086297	252798	-0.947	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001B.00
4	40.24	1.029699E+07	255889.4	0.264	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001B.01
5	61.16	1.629122E+07	266370.5	4.371	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001B.01
6	80.48	2.191007E+07	272242.4	6.671	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001B.01

2 DCB



Expected retention time:	6.211 minutes
Search window:	0.03 minutes
No retention time reference component	
No response proxy component	
Group number:	0
High alarm limit:	0
Low alarm limit:	0
Component constant:	0

Single peak quantification by height

Y = 187766.9 X + 0

Average CF fit with equal weighting, forced to origin

Coefficient of determination:	0.9996763
Average error:	2.392%
Average CF:	187766.9
RSD:	3.762%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.02	403092.3	199550.7	6.276	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
2	4.03	762165.5	189122.9	0.722	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
3	20.15	3582853	177809.1	-5.303	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
4	40.3	7443800	184709.7	-1.628	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
5	61.26	1.152307E+07	188101	0.178	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300
6	80.6	1.509704E+07	187308.2	-0.244	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs1830300

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Date Analyzed: 10/30/18

GC Column (1) : MR-1 ID: .32 (mm) Time Analyzed: 22:45

Lab File ID: 25PCBS18303001.032.RAW Initial Calibration: 25PCBS1830301

Lab Standard ID: IC16XAA Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Aroclor-1016	3.18	3.16	3.20	197.83	201.00	-2
	3.40	3.38	3.42	199.59	201.00	-1
	3.51	3.49	3.53	201.43	201.00	0
	3.73	3.71	3.75	202.07	201.00	1
	3.79	3.77	3.81	195.94	201.00	-3
	3.98	3.96	4.00	183.06	201.00	-9
Aroclor-1260	4.76	4.74	4.78	198.12	200.60	-1
	4.96	4.94	4.98	199.80	200.60	0
	5.16	5.14	5.18	201.71	200.60	1
	5.23	5.21	5.25	211.77	200.60	6
	5.63	5.61	5.65	213.21	200.60	6
	5.84	5.82	5.86	214.40	200.60	7

Compounds 12

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Date Analyzed: 10/30/18

GC Column (2) : MR-2 ID: .32 (mm) Time Analyzed: 22:45

Lab File ID: 25PCBS18303001B.032.RAW Initial Calibration: 25PCBS1830301B

Lab Standard ID: IC16XAA Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Aroclor-1016	2.96	2.94	2.98	198.51	201.00	-1
	3.29	3.27	3.31	199.52	201.00	-1
	3.49	3.47	3.51	196.16	201.00	-2
	3.56	3.54	3.58	197.67	201.00	-2
	3.62	3.60	3.64	213.88	201.00	6
	3.72	3.71	3.75	189.71	201.00	-6
Aroclor-1260	4.56	4.54	4.58	200.63	200.60	0
	4.66	4.64	4.68	196.39	200.60	-2
	4.79	4.77	4.81	191.49	200.60	-5
	5.02	5.00	5.04	207.97	200.60	4
	5.21	5.19	5.23	220.23	200.60	10
	5.47	5.45	5.49	221.76	200.60	11

Compounds 12

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC16X1824D** IC16XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 22:45:45
Instrument : CP25--18274A
Result file : 25PCBS18303001.032.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	3.58	
3.16	3.18	3.20	522789.9	197.830301			1
3.38	3.40	3.42	510369	199.591846			2
+ 3.38	3.41	3.42	213874.6	83.640712			2
3.49	3.51	3.53	661226.2	201.434234			3
3.71	3.73	3.75	763712.6	202.068869			4
3.77	3.79	3.81	609852.2	195.943445			5
3.96	3.98	4.00	435164.3	183.057446			6
Height Summation:			3503114.2				
Amount Avg CF:			196.654357	Linear:			
Aroclor-1221					3	22.19	
3.06	3.08	3.10	140143.4	99.731235			1
3.11	3.13	3.15	110941.9	99.613517			2
3.16	3.18	3.20	522789.9	143.617926			3
Height Summation:			773875.2				
Amount Avg CF:			114.320893	Linear:			
Aroclor-1232					6	27.89	
3.16	3.18	3.20	522789.9	175.750847			1
E 3.38	3.40	3.42	510369	441.77547			2
+ 3.38	3.41	3.42	213874.6	185.12988			2
E 3.49	3.51	3.53	661226.2	446.243516			3
E 3.71	3.73	3.75	763712.6	428.808251			4
E 3.77	3.79	3.81	609852.2	462.65077			5
E 3.96	3.98	4.00	435164.3	467.953545			6
Height Summation:			3503114.2				
Amount Avg CF:			403.863733	Linear:			
Aroclor-1242					6	3.34	
E 3.16	3.18	3.20	522789.9	228.719574			1
E 3.38	3.40	3.42	510369	239.80413			2
+ 3.38	3.41	3.42	213874.6	100.492021			2
E 3.49	3.51	3.53	661226.2	243.811314			3
E 3.71	3.73	3.75	763712.6	236.100898			4
E 3.77	3.79	3.81	609852.2	252.819732			5
E 3.96	3.98	4.00	435164.3	240.639499			6
Height Summation:			3503114.2				
Amount Avg CF:			240.315858	Linear:			
Aroclor-1248					6	44.83	
3.83	3.85	3.87	405437.2	130.303891			1
3.96	3.98	4.00	435164.3	123.960313			2
4.05	4.07	4.09	379460.2	127.484455			3
4.23	4.25	4.27	38330.04	12.899417			4
4.36	4.38	4.40	486172	153.583348			5
4.61	4.63	4.65	269762.2	114.484903			6
Height Summation:			2014325.94				
Amount Avg CF:			110.452721	Linear:			

Analysis Report (B)

Injected on : Oct 30, 2018 22:45:45
Instrument : CP25--18274B
Result file : 25PCBS18303001B.032.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	4.00	
2.94	2.96	2.98	864285.9	198.514916			1
3.27	3.29	3.31	1017116	199.520777			2
+ 3.47	3.47	3.51	45993.72	9.302999			3
3.47	3.49	3.51	969790.9	196.156417			3
3.54	3.56	3.58	1012916	197.673512			4
3.60	3.62	3.64	859890.4	213.877076			5
+ 3.60	3.64	3.64	197964.1	49.238813			5
3.71	3.72	3.75	822452.3	189.709119			6
Height Summation:			5546451.5				
Amount Avg CF:			199.24197	Linear:			
Aroclor-1221					3	20.69	
2.83	2.85	2.87	252177.5	99.261749			1
2.89	2.91	2.93	181872.5	100.402564			2
2.94	2.96	2.98	864285.9	140.455485			3
Height Summation:			1298335.9				
Amount Avg CF:			113.373266	Linear:			
Aroclor-1232					6	32.42	
2.94	2.96	2.98	864285.9	173.391115			1
E 3.27	3.29	3.31	1017116	443.330571			2
+ 3.47	3.47	3.51	45993.72	19.733114			3
E 3.47	3.49	3.51	969790.9	416.07843			3
E 3.54	3.56	3.58	1012916	454.212318			4
E 3.60	3.62	3.64	859890.4	591.843446			5
+ 3.60	3.64	3.64	197964.1	136.254289			5
E 3.71	3.72	3.75	822452.3	484.401821			6
Height Summation:			5546451.5				
Amount Avg CF:			427.209617	Linear:			
Aroclor-1242					6	8.10	
E 2.94	2.96	2.98	864285.9	230.071363			1
E 3.27	3.29	3.31	1017116	245.546859			2
+ 3.47	3.47	3.51	45993.72	10.917376			3
E 3.47	3.49	3.51	969790.9	230.196037			3
E 3.54	3.56	3.58	1012916	246.325054			4
E 3.60	3.62	3.64	859890.4	284.601089			5
+ 3.60	3.64	3.64	197964.1	65.520906			5
E 3.71	3.72	3.75	822452.3	243.480218			6
Height Summation:			5546451.5				
Amount Avg CF:			246.703437	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC16X1824D** IC16XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 22:45:45
Instrument : CP25--18274A
Result file : 25PCBS18303001.032.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					**6**	**105.01**	
+ 4.55	4.57	4.59	18634.97	5.337995			1
4.55	4.59	4.59	127102	36.408421			1
4.61	4.63	4.65	269762.2	38.599009			2
4.74	4.76	4.78	1072242	486.602121			3
4.83	4.85	4.87	149500.4	31.001368			4
5.03	5.05	5.07	625042.2	161.55909			5
5.14	5.16	5.18	1585895	320.734896			6
Height Summation:			**3829543.8**				
Amount Avg CF:			**179.150818**	Linear:			
Aroclor-1260					**6**	**3.58**	
4.74	4.76	4.78	1072242	198.117675			1
4.94	4.96	4.98	1302570	199.804465			2
5.14	5.16	5.18	1585895	201.707285			3
5.21	5.23	5.25	807798.5	211.767166			4
5.61	5.63	5.65	2428648	213.210838			5
5.82	5.84	5.86	1360107	214.399289			6
Height Summation:			**8557260.5**				
Amount Avg CF:			**206.501119**	Linear:			
Aroclor-1262					**6**	**36.40**	
5.21	5.23	5.25	807798.5	138.855268			1
5.38	5.39	5.41	815590.6	174.038562			2
5.61	5.63	5.65	2428648	178.840125			3
5.82	5.84	5.86	1360107	173.065799			4
+ 5.87	5.87	5.91	88012.84	20.635732			5
5.87	5.89	5.91	187649.9	43.996911			5
6.25	6.27	6.29	697246.1	132.735155			6
Height Summation:			**6297040.1**				
Amount Avg CF:			**140.255303**	Linear:			
Aroclor-1268					**6**	**124.78**	
5.81	5.84	5.85	1360107	77.067804			1
+ 5.87	5.87	5.91	88012.84	5.506358			2
5.87	5.89	5.91	187649.9	11.739964			2
6.00	6.02	6.04	55161.66	3.758325			3
6.07	6.08	6.11	43021.25	11.67718			4
6.24	6.27	6.28	697246.1	110.678986			5
6.44	6.47	6.48	248487.7	4.888039			6
Height Summation:			**2591673.61**				
Amount Avg CF:			**36.63505**	Linear:			

Analysis Report (B)

Injected on : Oct 30, 2018 22:45:45
Instrument : CP25--18274B
Result file : 25PCBS18303001B.032.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					**6**	**44.46**	
3.58	3.60	3.62	652570.7	128.51067			1
3.71	3.72	3.75	822452.3	131.913121			2
+ 3.80	3.80	3.84	229868.5	55.780352			3
3.80	3.82	3.84	478556.6	116.127506			3
3.93	3.95	3.97	709709.2	88.421205			4
+ 4.07	4.09	4.11	29788.54	8.069021			5
4.07	4.11	4.11	73073.45	19.793894			5
+ 4.30	4.31	4.34	207829.5	59.550608			6
+ 4.30	4.32	4.34	108363.6	31.050059			6
4.30	4.34	4.34	530156	151.908715			6
Height Summation:			**3266518.25**				
Amount Avg CF:			**106.112518**	Linear:			
Aroclor-1254					**6**	**97.18**	
+ 4.30	4.31	4.34	207829.5	20.367964			1
+ 4.30	4.32	4.34	108363.6	10.619984			1
4.30	4.34	4.34	530156	51.957005			1
4.40	4.42	4.44	1690249	352.683683			2
4.47	4.49	4.51	112443.8	17.470463			3
4.54	4.56	4.58	1902249	490.205029			4
4.69	4.72	4.73	186625.3	42.161796			5
4.77	4.79	4.81	1814083	249.411576			6
Height Summation:			**6235806.1**				
Amount Avg CF:			**200.648259**	Linear:			
Aroclor-1260					**6**	**6.07**	
4.54	4.56	4.58	1902249	200.62604			1
4.64	4.66	4.68	1495106	196.393924			2
4.77	4.79	4.81	1814083	191.494016			3
5.00	5.02	5.04	1219417	207.965103			4
5.19	5.21	5.23	3064727	220.231191			5
5.45	5.47	5.49	2100850	221.760099			6
Height Summation:			**11596432**				
Amount Avg CF:			**208.411729**	Linear:			
Aroclor-1262					**6**	**24.85**	
4.81	4.83	4.85	983008.8	126.468643			1
5.00	5.02	5.04	1219417	151.525409			2
5.20	5.21	5.24	3064727	187.421028			3
5.41	5.43	5.45	643736.9	97.226111			4
5.46	5.47	5.50	2100850	189.716618			5
5.83	5.85	5.87	849517.8	129.793979			6
Height Summation:			**8861257.5**				
Amount Avg CF:			**147.025298**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC16X1824D** IC16XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 22:45:45
Instrument : CP25--18274A
Result file : 25PCBS18303001.032.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Analysis Report (B)

Injected on : Oct 30, 2018 22:45:45
Instrument : CP25--18274B
Result file : 25PCBS18303001B.032.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**141.31**	
5.41	5.43	5.45	643736.9	0.135915			1
5.46	5.47	5.50	2100850	438.762105			2
5.61	5.63	5.65	70341.34	16.906489			3
5.68	5.70	5.72	24643.6	23.788613			4
5.83	5.85	5.87	849517.8	508.671667			5
6.03	6.05	6.07	323788.7	21.307944			6

Height Summation: **4012878.34**
Amount Avg CF: **168.262122** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		1.31	4	40	
Aroclor-1221			0.5	0.1		0.83	3	5	
Aroclor-1232			0.5	0.2	E	5.62	4	10	
Aroclor-1242			0.5	0.1	E	2.62	4	30	
Aroclor-1248			0.5	0.1		4.01	4	40	
Aroclor-1254			0.5	0.1		11.32	4	40	
Aroclor-1260			0.5	0.15		0.04	4	40	
Aroclor-1262			0.5	0.2		4.71	4	40	
Aroclor-1268			0.5	0.16		** 128.48	4	40	

Units: ug/l

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Date Analyzed: 10/30/18

GC Column (1) : MR-1 ID: .32 (mm) Time Analyzed: 22:56

Lab File ID: 25PCBS18303001.033.RAW Initial Calibration: 25PCBS1830301

Lab Standard ID: IC48XAA Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Aroclor-1248	3.85	3.83	3.87	179.04	200.00	-10
	3.98	3.96	4.00	181.47	200.00	-9
	4.07	4.05	4.09	186.05	200.00	-7
	4.25	4.23	4.27	186.37	200.00	-7
	4.38	4.36	4.40	181.61	200.00	-9
	4.63	4.61	4.65	184.86	200.00	-8

Compounds 6

7E

CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Date Analyzed: 10/30/18

GC Column (2) : MR-2 ID: .32 (mm) Time Analyzed: 22:56

Lab File ID: 25PCBS18303001B.033.RAW Initial Calibration: 25PCBS1830301B

Lab Standard ID: IC48XAA Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Aroclor-1248	3.60	4.30	4.34	186.12	200.00	-7
	3.72	4.07	4.11	182.19	200.00	-9
	3.82	3.58	3.62	181.56	200.00	-9
	3.95	3.71	3.75	185.55	200.00	-7
	4.09	3.80	3.84	198.03	200.00	-1
	4.32	3.93	3.97	188.46	200.00	-6

Compounds 6

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC48X1824C** IC48XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 22:56:40
Instrument : CP25--18274A
Result file : 25PCBS18303001.033.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	67.17	
3.16	3.18	3.20	106031.3	40.123583			1
3.38	3.40	3.42	255116.6	99.769369			2
+ 3.38	3.41	3.42	64431.24	25.197358			2
3.49	3.51	3.53	275120.7	83.812056			3
3.71	3.73	3.75	383485.5	101.4655			4
3.77	3.79	3.81	325200.2	104.485722			5
3.96	3.98	4.00	637049.2	267.982919			6
Height Summation:			1982003.5				
Amount Avg CF:			116.273192	Linear:			
Aroclor-1221					3	40.55	
3.06	3.08	3.10	52375.76	37.272531			1
3.11	3.14	3.15	17147.97	15.396974			2
3.16	3.18	3.20	106031.3	29.128327			3
Height Summation:			175555.03				
Amount Avg CF:			27.265944	Linear:			
Aroclor-1232					6	82.73	
3.16	3.18	3.20	106031.3	35.645468			1
E 3.38	3.40	3.42	255116.6	220.828961			2
+ 3.38	3.41	3.42	64431.24	55.771689			2
3.49	3.51	3.53	275120.7	185.671452			3
E 3.71	3.73	3.75	383485.5	215.318886			4
E 3.77	3.79	3.81	325200.2	246.705879			5
E 3.96	3.98	4.00	637049.2	685.050293			6
Height Summation:			1982003.5				
Amount Avg CF:			264.870157	Linear:			
Aroclor-1242					6	72.72	
3.16	3.18	3.20	106031.3	46.388489			1
3.38	3.40	3.42	255116.6	119.870161			2
+ 3.38	3.41	3.42	64431.24	30.273934			2
3.49	3.51	3.53	275120.7	101.444164			3
3.71	3.73	3.75	383485.5	118.554114			4
3.77	3.79	3.81	325200.2	134.814677			5
E 3.96	3.98	4.00	637049.2	352.278898			6
Height Summation:			1982003.5				
Amount Avg CF:			145.558417	Linear:			
Aroclor-1248					6	1.61	
3.83	3.85	3.87	557066.4	179.03616			1
3.96	3.98	4.00	637049.2	181.468973			2
4.05	4.07	4.09	553775.1	186.047751			3
4.23	4.25	4.27	553795.1	186.371673			4
4.36	4.38	4.40	574904.8	181.614334			5
4.61	4.63	4.65	435580.5	184.856853			6
Height Summation:			3312171.1				
Amount Avg CF:			183.232624	Linear:			

Analysis Report (B)

Injected on : Oct 30, 2018 22:56:40
Instrument : CP25--18274B
Result file : 25PCBS18303001B.033.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	65.22	
2.94	2.96	2.98	170243.8	39.102725			1
3.27	3.29	3.31	418366.7	82.06817			2
+ 3.47	3.47	3.51	77786.06	15.733531			3
3.47	3.49	3.51	447777.8	90.570544			3
3.54	3.56	3.58	546259.4	106.604115			4
3.60	3.62	3.64	869763	216.332648			5
+ 3.60	3.64	3.64	267707.8	66.585883			5
3.71	3.72	3.75	1135933	262.017443			6
Height Summation:			3588343.7				
Amount Avg CF:			132.782608	Linear:			
Aroclor-1221					3	37.08	
2.83	2.85	2.87	92267.65	36.318261			1
2.89	2.91	2.93	29853.29	16.480484			2
2.94	2.96	2.98	170243.8	27.666396			3
Height Summation:			292364.74				
Amount Avg CF:			26.821714	Linear:			
Aroclor-1232					6	79.26	
2.94	2.96	2.98	170243.8	34.153932			1
3.27	3.29	3.31	418366.7	182.353584			2
+ 3.47	3.47	3.51	77786.06	33.373278			3
3.47	3.49	3.51	447777.8	192.114284			3
E 3.54	3.56	3.58	546259.4	244.953924			4
E 3.60	3.62	3.64	869763	598.638537			5
+ 3.60	3.64	3.64	267707.8	184.257327			5
E 3.71	3.72	3.75	1135933	669.033345			6
Height Summation:			3588343.7				
Amount Avg CF:			320.207934	Linear:			
Aroclor-1242					6	68.93	
2.94	2.96	2.98	170243.8	45.318595			1
3.27	3.29	3.31	418366.7	100.999914			2
+ 3.47	3.47	3.51	77786.06	18.463818			3
3.47	3.49	3.51	447777.8	106.287526			3
3.54	3.56	3.58	546259.4	132.841594			4
E 3.60	3.62	3.64	869763	287.868659			5
+ 3.60	3.64	3.64	267707.8	88.604235			5
E 3.71	3.72	3.75	1135933	336.283592			6
Height Summation:			3588343.7				
Amount Avg CF:			168.266647	Linear:			
Aroclor-1248					6	3.20	
3.58	3.60	3.62	945120.9	186.122546			1
3.71	3.72	3.75	1135933	182.192289			2
+ 3.80	3.80	3.84	175911	42.686917			3
3.80	3.82	3.84	748187.1	181.556584			3
3.93	3.95	3.97	1489308	185.549811			4
4.07	4.09	4.11	731062.9	198.027898			5
4.30	4.32	4.34	657715.4	188.45906			6
Height Summation:			5707327.3				
Amount Avg CF:			186.984698	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC48X1824C** IC48XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 22:56:40
Instrument : CP25--18274A
Result file : 25PCBS18303001.033.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	54.59	
4.55	4.57	4.59	242846.7	69.563539			1
4.61	4.63	4.65	435580.5	62.325172			2
4.74	4.76	4.78	37144.83	16.856972			3
4.83	4.85	4.87	311288.1	64.550711			4
5.03	5.05	5.07	327178.2	84.56807			5
5.14	5.16	5.18	83463.61	16.879864			6
Height Summation:			**1437501.94**				
Amount Avg CF:			**52.457388**	Linear:			
Aroclor-1260					6	81.17	
4.74	4.76	4.78	37144.83	6.863234			1
4.94	4.96	4.98	25546.09	3.918579			2
+ 4.94	4.97	4.98	16931.2	2.597119			2
5.14	5.16	5.18	83463.61	10.615594			3
5.21	5.23	5.25	4631.566	1.214181			4
5.61	5.63	5.65	19987.45	1.754697			5
5.82	5.84	5.86	15577.71	2.455579			6
Height Summation:			**186351.256**				
Amount Avg CF:			**4.470311**	Linear:			
Aroclor-1262					5	39.38	
5.21	5.23	5.25	4631.566	0.796136			1
5.61	5.63	5.65	19987.45	1.47183			3
5.82	5.84	5.86	15577.71	1.982174			4
5.87	5.89	5.91	3987.986	0.935034			5
6.25	6.26	6.29	5272.021	1.003638			6
Height Summation:			**49456.733**				
Amount Avg CF:			**1.237762**	Linear:			
Aroclor-1268					6	95.68	
5.81	5.84	5.85	15577.71	0.88268			1
5.87	5.89	5.91	3987.986	0.249501			2
6.00	6.02	6.04	1123.161	0.076524			3
6.07	6.09	6.11	764.7879	0.207585			4
6.24	6.26	6.28	5272.021	0.836867			5
6.44	6.47	6.48	3967.612	0.078047			6
Height Summation:			**30693.2779**				
Amount Avg CF:			**0.388534**	Linear:			

Analysis Report (B)

Injected on : Oct 30, 2018 22:56:40
Instrument : CP25--18274B
Result file : 25PCBS18303001B.033.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	61.53	
4.30	4.32	4.34	657715.4	64.45824			1
4.40	4.42	4.44	268719.5	56.070427			2
4.47	4.49	4.51	425923	66.175922			3
4.54	4.56	4.58	47954.12	12.357662			4
4.69	4.71	4.73	415614.2	93.894241			5
4.77	4.79	4.81	114609.3	15.75721			6
Height Summation:			**1930535.52**				
Amount Avg CF:			**51.452284**	Linear:			
Aroclor-1260					6	85.78	
4.54	4.56	4.58	47954.12	5.057616			1
4.64	4.66	4.68	63797.91	8.380357			2
4.77	4.79	4.81	114609.3	12.098121			3
5.00	5.02	5.04	8271.973	1.410741			4
5.19	5.21	5.23	20849.66	1.498256			5
5.45	5.47	5.49	19861.91	2.09657			6
Height Summation:			**275344.873**				
Amount Avg CF:			**5.090277**	Linear:			
Aroclor-1262					5	24.00	
5.00	5.02	5.04	8271.973	1.02788			2
5.20	5.21	5.24	20849.66	1.275045			3
5.41	5.43	5.45	7110.343	1.073903			4
5.46	5.47	5.50	19861.91	1.793624			5
5.83	5.85	5.87	7910.783	1.208653			6
Height Summation:			**64004.669**				
Amount Avg CF:			**1.275821**	Linear:			
Aroclor-1268					4	106.62	
5.41	5.43	5.45	7110.343	0.001501			1
5.46	5.47	5.50	19861.91	4.148156			2
5.83	5.85	5.87	7910.783	4.736794			5
6.03	6.05	6.07	5811.18	0.382423			6
Height Summation:			**40694.216**				
Amount Avg CF:			**2.317219**	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		13.26	4	40	
Aroclor-1221			0.5	0.1		1.64	3	5	
Aroclor-1232			0.5	0.2	E	18.92	4	10	
Aroclor-1242			0.5	0.1	E	14.47	4	30	
Aroclor-1248			0.5	0.1		2.03	4	40	
Aroclor-1254			0.5	0.1		1.93	4	40	
Aroclor-1260			0.5	0.15		12.97	4	40	
Aroclor-1262			0.5	0.2		3.03	4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC48X1824C** IC48XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 22:56:40
Instrument : CP25--18274A
Result file : 25PCBS18303001.033.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Analysis Report (B)

Injected on : Oct 30, 2018 22:56:40
Instrument : CP25--18274B
Result file : 25PCBS18303001B.033.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1268			0.5	0.16		** 142.56	4	40	

Units: ug/l

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Date Analyzed: 10/30/18

GC Column (1) : MR-1 ID: .32 (mm) Time Analyzed: 23:07

Lab File ID: 25PCBS18303001.034.RAW Initial Calibration: 25PCBS1830301

Lab Standard ID: IC54XAA Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Aroclor-1254	4.57	4.55	4.59	232.44	250.00	-7
	4.63	4.61	4.65	239.19	250.00	-4
	4.76	4.74	4.78	234.91	250.00	-6
	4.85	4.83	4.87	244.80	250.00	-2
	5.05	5.03	5.07	248.65	250.00	-1
	5.16	5.14	5.18	242.80	250.00	-3

Compounds 6

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Date Analyzed: 10/30/18

GC Column (2) : MR-2 ID: .32 (mm) Time Analyzed: 23:07

Lab File ID: 25PCBS18303001B.034.RAW Initial Calibration: 25PCBS1830301B

Lab Standard ID: IC54XAA Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Aroclor-1254	4.32	4.30	4.34	244.43	250.00	-2
	4.42	4.40	4.44	240.11	250.00	-4
	4.49	4.47	4.51	240.95	250.00	-4
	4.56	4.54	4.58	247.47	250.00	-1
	4.71	4.69	4.73	242.69	250.00	-3
	4.79	4.77	4.81	241.46	250.00	-3

Compounds 6

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC54X1824C** IC54XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 23:07:33
Instrument : CP25--18274A
Result file : 25PCBS18303001.034.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					**6**	**126.66**	
3.16	3.18	3.20	26020.83	9.846611			1
3.38	3.40	3.42	54619.28	21.360159			2
+ 3.38	3.41	3.42	8005.941	3.130912			2
3.49	3.51	3.53	57591.05	17.544388			3
3.71	3.73	3.75	122245.4	32.344615			4
3.77	3.78	3.81	59930.27	19.255393			5
3.96	3.98	4.00	348105.7	146.435129			6
Height Summation:			**668512.53**				
Amount Avg CF:			**41.131049**	Linear:			
Aroclor-1221					**3**	**31.63**	
3.06	3.08	3.10	15172.01	10.796964			1
3.11	3.14	3.15	6637.713	5.95993			2
3.16	3.18	3.20	26020.83	7.148297			3
Height Summation:			**47830.553**				
Amount Avg CF:			**7.968397**	Linear:			
Aroclor-1232					**6**	**141.04**	
3.16	3.18	3.20	26020.83	8.74765			1
3.38	3.40	3.42	54619.28	47.278456			2
+ 3.38	3.41	3.42	8005.941	6.929944			2
3.49	3.51	3.53	57591.05	38.866628			3
3.71	3.73	3.75	122245.4	68.638171			4
3.77	3.78	3.81	59930.27	45.464763			5
E 3.96	3.98	4.00	348105.7	374.335156			6
Height Summation:			**668512.53**				
Amount Avg CF:			**97.221804**	Linear:			
Aroclor-1242					**6**	**132.54**	
3.16	3.18	3.20	26020.83	11.384063			1
3.38	3.40	3.42	54619.28	25.663645			2
+ 3.38	3.41	3.42	8005.941	3.761705			2
3.49	3.51	3.53	57591.05	21.235319			3
3.71	3.73	3.75	122245.4	37.792029			4
3.77	3.78	3.81	59930.27	24.844634			5
3.96	3.98	4.00	348105.7	192.497365			6
Height Summation:			**668512.53**				
Amount Avg CF:			**52.236176**	Linear:			
Aroclor-1248					**6**	**97.87**	
3.83	3.85	3.87	563018.9	180.949241			1
3.96	3.98	4.00	348105.7	99.160919			2
4.05	4.07	4.09	168024.9	56.450091			3
4.23	4.25	4.27	300351.9	101.079056			4
4.36	4.38	4.40	1319847	416.944047			5
4.61	4.63	4.65	1671648	709.433937			6
Height Summation:			**4370996.4**				
Amount Avg CF:			**260.669548**	Linear:			

Analysis Report (B)

Injected on : Oct 30, 2018 23:07:33
Instrument : CP25--18274B
Result file : 25PCBS18303001B.034.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					**6**	**104.46**	
2.94	2.96	2.98	44367.76	10.190681			1
3.27	3.30	3.31	87719.47	17.207336			2
+ 3.47	3.47	3.51	25326	5.122607			3
3.47	3.49	3.51	120645.3	24.402528			3
3.54	3.56	3.58	95102.87	18.559602			4
3.60	3.62	3.64	409979.9	101.972649			5
+ 3.60	3.64	3.64	19315.76	4.804331			5
3.71	3.72	3.75	590661.6	136.243636			6
Height Summation:			**1348476.9**				
Amount Avg CF:			**51.429406**	Linear:			
Aroclor-1221					**3**	**31.18**	
2.83	2.85	2.87	28036.49	11.035683			1
2.89	2.91	2.93	11269.3	6.221208			2
2.94	2.96	2.98	44367.76	7.210224			3
Height Summation:			**83673.55**				
Amount Avg CF:			**8.155705**	Linear:			
Aroclor-1232					**6**	**114.00**	
2.94	2.96	2.98	44367.76	8.900961			1
3.27	3.30	3.31	87719.47	38.234304			2
+ 3.47	3.47	3.51	25326	10.86585			3
3.47	3.49	3.51	120645.3	51.761578			3
3.54	3.56	3.58	95102.87	42.646078			4
E 3.60	3.62	3.64	409979.9	282.180051			5
+ 3.60	3.64	3.64	19315.76	13.294608			5
E 3.71	3.72	3.75	590661.6	347.883463			6
Height Summation:			**1348476.9**				
Amount Avg CF:			**128.601073**	Linear:			
Aroclor-1242					**6**	**107.08**	
2.94	2.96	2.98	44367.76	11.810618			1
3.27	3.30	3.31	87719.47	21.176779			2
+ 3.47	3.47	3.51	25326	6.011548			3
3.47	3.49	3.51	120645.3	28.637173			3
3.54	3.56	3.58	95102.87	23.127505			4
3.60	3.62	3.64	409979.9	135.692556			5
+ 3.60	3.64	3.64	19315.76	6.393008			5
3.71	3.72	3.75	590661.6	174.860493			6
Height Summation:			**1348476.9**				
Amount Avg CF:			**65.884187**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC54X1824C** IC54XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 23:07:33
Instrument : CP25--18274A
Result file : 25PCBS18303001.034.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	2.55	
4.55	4.57	4.59	811461.4	232.443458			1
4.61	4.63	4.65	1671648	239.188277			2
4.74	4.76	4.78	517621.3	234.905574			3
4.83	4.85	4.87	1180528	244.80191			4
5.03	5.05	5.07	961986.1	248.65137			5
5.14	5.16	5.18	1200534	242.798639			6
Height Summation:			6343778.8				
Amount Avg CF:			240.464871	Linear:			
Aroclor-1260					6	92.07	
4.74	4.76	4.78	517621.3	95.640656			1
4.94	4.96	4.98	393271.7	60.324928			2
+ 4.94	4.97	4.98	179226.5	27.492			2
5.14	5.16	5.18	1200534	152.693875			3
5.21	5.23	5.25	31484.19	8.253689			4
5.61	5.63	5.65	202708.5	17.795765			5
5.82	5.84	5.86	171518.4	27.037154			6
Height Summation:			2517138.09				
Amount Avg CF:			60.291011	Linear:			
Aroclor-1262					4	82.12	
5.21	5.23	5.25	31484.19	5.411926			1
5.61	5.63	5.65	202708.5	14.926994			3
5.82	5.84	5.86	171518.4	21.824731			4
6.25	6.27	6.29	10185.9	1.939096			6
Height Summation:			415896.99				
Amount Avg CF:			11.025687	Linear:			
Aroclor-1268					5	143.93	
5.81	5.84	5.85	171518.4	9.718755			1
6.00	6.03	6.04	1747.089	0.119034			3
6.07	6.08	6.11	8999.151	2.442623			4
6.24	6.27	6.28	10185.9	1.616883			5
6.44	6.46	6.48	1390.458	0.027352			6
Height Summation:			193840.008				
Amount Avg CF:			2.784929	Linear:			

Analysis Report (B)

Injected on : Oct 30, 2018 23:07:33
Instrument : CP25--18274B
Result file : 25PCBS18303001B.034.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	98.65	
3.58	3.60	3.62	917790.3	180.740334			1
3.71	3.72	3.75	590661.6	94.736212			2
+ 3.80	3.80	3.84	115278.2	27.97364			3
3.80	3.82	3.84	170133.8	41.28501			3
3.93	3.95	3.97	2140552	266.686957			4
4.07	4.09	4.11	651844.6	176.569507			5
+ 4.07	4.11	4.11	420703.2	113.95869			5
4.30	4.32	4.34	2494120	714.654864			6
Height Summation:			6965102.3				
Amount Avg CF:			245.778814	Linear:			
Aroclor-1254					6	1.12	
4.30	4.32	4.34	2494120	244.431839			1
4.40	4.42	4.44	1150721	240.106943			2
4.47	4.49	4.51	1550823	240.952336			3
4.54	4.56	4.58	960311.5	247.409983			4
4.69	4.71	4.73	1074245	242.690021			5
4.77	4.79	4.81	1756223	241.456618			6
Height Summation:			8986443.5				
Amount Avg CF:			242.85129	Linear:			
Aroclor-1260					6	92.41	
4.54	4.56	4.58	960311.5	101.281953			1
4.64	4.66	4.68	839888.5	110.325956			2
4.77	4.79	4.81	1756223	185.386333			3
5.00	5.02	5.04	79785.29	13.606958			4
5.19	5.21	5.23	200394.5	14.400343			5
5.45	5.47	5.49	239091.3	25.237837			6
Height Summation:			4075694.09				
Amount Avg CF:			75.039897	Linear:			
Aroclor-1262					6	73.85	
4.81	4.84	4.85	115858.3	14.905708			1
5.00	5.02	5.04	79785.29	9.914163			2
5.20	5.21	5.24	200394.5	12.254972			3
5.41	5.43	5.45	9334.012	1.409752			4
5.46	5.47	5.50	239091.3	21.591067			5
5.83	5.85	5.87	15292.07	2.336406			6
Height Summation:			659755.472				
Amount Avg CF:			10.402011	Linear:			
Aroclor-1268					3	134.95	
5.41	5.43	5.45	9334.012	0.001971			1
5.46	5.47	5.50	239091.3	49.934171			2
5.83	5.85	5.87	15292.07	9.156539			5
Height Summation:			263717.382				
Amount Avg CF:			19.69756	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		22.25	4	40	
Aroclor-1221			0.5	0.1		2.32	3	5	
Aroclor-1232			0.5	0.2	E	27.79	4	10	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IC54X1824C** IC54XAA ID: AA **Batchnumber: 1830299999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Oct 30, 2018 23:07:33
Instrument : CP25--18274A
Result file : 25PCBS18303001.034.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBS.MET

Analysis Report (B)

Injected on : Oct 30, 2018 23:07:33
Instrument : CP25--18274B
Result file : 25PCBS18303001B.034.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBSB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1242			0.5	0.1		23.11	4	30	
Aroclor-1248			0.5	0.1		5.88	4	40	
Aroclor-1254			0.5	0.1		0.99	4	40	
Aroclor-1260			0.5	0.15		21.80	4	40	
Aroclor-1262			0.5	0.2		5.82	4	40	
Aroclor-1268			0.5	0.16		** 150.45	4	40	

Units: ug/l

7E

CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 18274A
Date Analyzed: 11/05/18
GC Column (1) : MR-1
ID: .32 (mm)
Time Analyzed: 0:05
Lab File ID: 25PCBS18303004.069.RAW
Initial Calibration: 25PCBS1830301
Lab Standard ID: AR164JS
Init. Calib Date(s): 10/30/18 10/30/18
Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.92	2.90	2.96	42.02	40.06	5
Decachlorobiphenyl	6.61	6.58	6.64	38.53	40.04	-4
Aroclor-1016	3.18	3.16	3.20	188.37	200.40	-6
	3.40	3.38	3.42	191.99	200.40	-4
	3.51	3.49	3.53	194.00	200.40	-3
	3.73	3.71	3.75	191.67	200.40	-4
	3.79	3.77	3.81	195.16	200.40	-3
	3.98	3.96	4.00	192.90	200.40	-4
Aroclor-1260	4.76	4.74	4.78	194.40	200.44	-3
	4.96	4.94	4.98	192.72	200.44	-4
	5.16	5.14	5.18	197.38	200.44	-2
	5.23	5.21	5.25	193.46	200.44	-3
	5.63	5.61	5.65	203.08	200.44	1
	5.84	5.82	5.86	201.36	200.44	0

Compounds 14

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 18274B
Date Analyzed: 11/05/18
GC Column (2) : MR-2 ID: .32 (mm)
Time Analyzed: 0:05
Lab File ID: 25PCBS18303004B.069.RAW
Initial Calibration: 25PCBS1830301B
Lab Standard ID: AR164JS
Init. Calib Date(s): 10/30/18 10/30/18
Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.68	2.65	2.71	41.14	40.06	3
Decachlorobiphenyl	6.21	6.18	6.24	38.31	40.04	-4
Aroclor-1016	2.96	2.94	2.98	189.21	200.40	-6
	3.29	3.27	3.31	191.85	200.40	-4
	3.49	3.47	3.51	192.38	200.40	-4
	3.56	3.54	3.58	199.48	200.40	0
	3.62	3.60	3.64	180.01	200.40	-10
	3.73	3.71	3.75	202.67	200.40	1
Aroclor-1260	4.56	4.54	4.58	205.62	200.44	3
	4.66	4.64	4.68	204.68	200.44	2
	4.79	4.77	4.81	204.36	200.44	2
	5.02	5.00	5.04	205.75	200.44	3
	5.21	5.19	5.23	203.84	200.44	2
	5.47	5.45	5.49	201.71	200.44	1

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JS ID: JS **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:05:27
Instrument : CP25--18274A
Result file : 25PCBS18303004.069.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 105% (33-137) Conc.: 42.01968
%SSR(DCB) : 96% (10-148) Conc.: 38.53212

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	1.22	
3.16	3.18	3.20	497792.6	188.371007			1
3.38	3.40	3.42	490918.3	191.985191			2
+ 3.38	3.41	3.42	215850	84.413238			2
3.49	3.51	3.53	636815.2	193.99773			3
3.71	3.73	3.75	724414.3	191.671026			4
3.77	3.79	3.81	607427.9	195.164525			5
3.96	3.98	4.00	458553.8	192.896539			6
Height Summation:			3415922.1				
Amount Avg CF:			192.34767	Linear:			
Aroclor-1221					3	39.19	
3.06	3.08	3.10	82133.14	58.448985			1
3.11	3.13	3.15	120418	108.122003			2
3.16	3.18	3.20	497792.6	136.750807			3
Height Summation:			700343.74				
Amount Avg CF:			101.107265	Linear:			
Aroclor-1232					6	29.37	
3.16	3.18	3.20	497792.6	167.347287			1
E 3.38	3.40	3.42	490918.3	424.938941			2
+ 3.38	3.41	3.42	215850	186.839787			2
E 3.49	3.51	3.53	636815.2	429.769199			3
E 3.71	3.73	3.75	724414.3	406.743098			4
E 3.77	3.79	3.81	607427.9	460.811629			5
E 3.96	3.98	4.00	458553.8	493.105423			6
Height Summation:			3415922.1				
Amount Avg CF:			397.119263	Linear:			
Aroclor-1242					6	6.20	
E 3.16	3.18	3.20	497792.6	217.783303			1
E 3.38	3.40	3.42	490918.3	230.664942			2
+ 3.38	3.41	3.42	215850	101.420191			2
E 3.49	3.51	3.53	636815.2	234.810343			3
E 3.71	3.73	3.75	724414.3	223.951872			4
E 3.77	3.79	3.81	607427.9	251.814716			5
E 3.96	3.98	4.00	458553.8	253.57355			6
Height Summation:			3415922.1				
Amount Avg CF:			235.433121	Linear:			
Aroclor-1248					6	38.27	
3.83	3.85	3.87	414546.8	133.231635			1
3.96	3.98	4.00	458553.8	130.623015			2
4.05	4.07	4.09	467329.1	157.005124			3
4.23	4.25	4.27	90923.16	30.598865			4
4.36	4.38	4.40	506097.3	159.877816			5
4.61	4.63	4.65	324513.8	137.721041			6
Height Summation:			2261963.96				
Amount Avg CF:			124.842916	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:05:27
Instrument : CP25--18274B
Result file : 25PCBS18303004B.069.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 103% (33-137) Conc.: 41.14135
%SSR(DCB) : 96% (10-148) Conc.: 38.30936

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	4.15	
2.94	2.96	2.98	823754.4	189.205372			1
3.27	3.29	3.31	978011.4	191.849891			2
+ 3.47	3.47	3.51	38431.5	7.773413			3
3.47	3.49	3.51	951120.2	192.379956			3
3.54	3.56	3.58	1022160	199.477506			4
3.60	3.62	3.64	723738.7	180.012612			5
+ 3.60	3.64	3.64	231580.5	57.600085			5
3.71	3.73	3.75	878629.5	202.667107			6
Height Summation:			5377414.2				
Amount Avg CF:			192.598741	Linear:			
Aroclor-1221					3	47.93	
2.83	2.85	2.87	153333	60.354717			1
+ 2.89	2.90	2.93	63293.71	34.941241			2
2.89	2.91	2.93	116675.7	64.410724			2
2.94	2.96	2.98	823754.4	133.868693			3
Height Summation:			1093763.1				
Amount Avg CF:			86.211378	Linear:			
Aroclor-1232					6	31.02	
2.94	2.96	2.98	823754.4	165.259775			1
E 3.27	3.29	3.31	978011.4	426.28604			2
+ 3.47	3.47	3.51	38431.5	16.488625			3
E 3.47	3.49	3.51	951120.2	408.067966			3
E 3.54	3.56	3.58	1022160	458.357517			4
E 3.60	3.62	3.64	723738.7	498.133258			5
+ 3.60	3.64	3.64	231580.5	159.39171			5
E 3.71	3.73	3.75	878629.5	517.488649			6
Height Summation:			5377414.2				
Amount Avg CF:			412.265534	Linear:			
Aroclor-1242					6	6.24	
E 2.94	2.96	2.98	823754.4	219.28195			1
E 3.27	3.29	3.31	978011.4	236.106429			2
+ 3.47	3.47	3.51	38431.5	9.122357			3
E 3.47	3.49	3.51	951120.2	225.764236			3
E 3.54	3.56	3.58	1022160	248.573048			4
E 3.60	3.62	3.64	723738.7	239.53846			5
+ 3.60	3.64	3.64	231580.5	76.64705			5
E 3.71	3.73	3.75	878629.5	260.111014			6
Height Summation:			5377414.2				
Amount Avg CF:			238.229189	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JS ID: JS **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:05:27
Instrument : CP25--18274A
Result file : 25PCBS18303004.069.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	103.30	
+ 4.55	4.57	4.59	34597.27	9.910403			1
4.55	4.59	4.59	102500.6	29.36134			1
4.61	4.63	4.65	324513.8	46.433159			2
4.74	4.76	4.78	1052105	477.463599			3
4.83	4.85	4.87	186123.4	38.59575			4
5.03	5.05	5.07	607914.8	157.13205			5
5.14	5.16	5.18	1551865	313.852594			6
Height Summation:			**3825022.6**				
Amount Avg CF:			**177.139749**	Linear:			
Aroclor-1260					6	2.20	
4.74	4.76	4.78	1052105	194.39697			1
4.94	4.96	4.98	1256411	192.72402			2
5.14	5.16	5.18	1551865	197.379067			3
5.21	5.23	5.25	737976.8	193.463166			4
5.61	5.63	5.65	2313243	203.079441			5
5.82	5.84	5.86	1277416	201.364365			6
Height Summation:			**8189016.8**				
Amount Avg CF:			**197.067838**	Linear:			
Aroclor-1262					6	40.25	
5.21	5.23	5.25	737976.8	126.853376			1
5.38	5.39	5.41	711636.7	151.855879			2
5.61	5.63	5.65	2313243	170.341963			3
5.82	5.84	5.86	1277416	162.543845			4
+ 5.87	5.88	5.91	51165.58	11.996422			5
5.87	5.89	5.91	141484.3	33.172797			5
6.25	6.26	6.29	579734.2	110.364345			6
Height Summation:			**5761491**				
Amount Avg CF:			**125.855367**	Linear:			
Aroclor-1268					6	122.73	
5.81	5.84	5.85	1277416	72.38228			1
+ 5.87	5.88	5.91	51165.58	3.201079			2
5.87	5.89	5.91	141484.3	8.8517			2
6.00	6.02	6.04	48301.64	3.290932			3
6.07	6.08	6.11	46544.43	12.63347			4
6.24	6.26	6.28	579734.2	92.02546			5
6.44	6.47	6.48	183002.8	3.599876			6
Height Summation:			**2276483.37**				
Amount Avg CF:			**32.13062**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:05:27
Instrument : CP25--18274B
Result file : 25PCBS18303004B.069.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	44.90	
3.58	3.60	3.62	714833.7	140.772115			1
3.71	3.73	3.75	878629.5	140.923382			2
+ 3.80	3.80	3.84	182224.2	44.21889			3
3.80	3.82	3.84	695268.3	168.715202			3
3.93	3.95	3.97	937846.5	116.84436			4
+ 4.07	4.09	4.11	28967.69	7.846672			5
4.07	4.11	4.11	56933.5	15.421958			5
+ 4.30	4.31	4.34	205876.5	58.991004			6
+ 4.30	4.32	4.34	153381.6	43.949331			6
4.30	4.34	4.34	469138.3	134.424955			6
Height Summation:			**3752649.8**				
Amount Avg CF:			**119.516995**	Linear:			
Aroclor-1254					6	96.76	
+ 4.30	4.31	4.34	205876.5	20.176564			1
+ 4.30	4.32	4.34	153381.6	15.031894			1
4.30	4.34	4.34	469138.3	45.977073			1
4.40	4.42	4.44	1622284	338.502254			2
4.47	4.49	4.51	160254.9	24.898904			3
4.54	4.56	4.58	1949646	502.419123			4
4.69	4.72	4.73	191166.8	43.187797			5
4.77	4.79	4.81	1935948	266.166345			6
Height Summation:			**6328438**				
Amount Avg CF:			**203.525249**	Linear:			
Aroclor-1260					6	0.72	
4.54	4.56	4.58	1949646	205.624898			1
4.64	4.66	4.68	1558180	204.679189			2
4.77	4.79	4.81	1935948	204.358047			3
5.00	5.02	5.04	1206441	205.752115			4
5.19	5.21	5.23	2836580	203.836555			5
5.45	5.47	5.49	1910895	201.708958			6
Height Summation:			**11397690**				
Amount Avg CF:			**204.326627**	Linear:			
Aroclor-1262					6	24.76	
4.81	4.82	4.85	947449.1	121.893723			1
5.00	5.02	5.04	1206441	149.913004			2
5.20	5.21	5.24	2836580	173.468873			3
5.41	5.43	5.45	588743.4	88.920227			4
5.46	5.47	5.50	1910895	172.56279			5
5.83	5.85	5.87	756944.4	115.650108			6
Height Summation:			**8247052.9**				
Amount Avg CF:			**137.068121**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JS ID: JS **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:05:27
Instrument : CP25--18274A
Result file : 25PCBS18303004.069.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 00:05:27
Instrument : CP25--18274B
Result file : 25PCBS18303004B.069.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**138.35**	
5.41	5.43	5.45	588743.4	0.124304			1
5.46	5.47	5.50	1910895	399.090041			2
5.61	5.63	5.65	60189.42	14.466482			3
5.68	5.70	5.72	38740.12	37.396068			4
5.83	5.85	5.87	756944.4	453.24085			5
6.03	6.05	6.07	248014	16.321349			6

Height Summation: **3603526.34**
Amount Avg CF: **153.439849** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.13	4	40	
Aroclor-1221			0.5	0.1		15.90	3	5	
Aroclor-1232			0.5	0.2	E	3.74	4	10	
Aroclor-1242			0.5	0.1	E	1.18	4	30	
Aroclor-1248			0.5	0.1		4.36	4	40	
Aroclor-1254			0.5	0.1		13.86	4	40	
Aroclor-1260			0.5	0.15		3.62	4	40	
Aroclor-1262			0.5	0.2		8.53	4	40	
Aroclor-1268			0.5	0.16		** 130.74	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKT ID: KT **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:16:20
Instrument : CP25--18274A
Result file : 25PCBS18303004.070.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 101% (33-137) Conc.: 0.203029
%SSR(DCB) : 100% (10-148) Conc.: 0.20006

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	25.57	
3.16	3.18	3.20	2682.568	0.010151			1
3.38	3.40	3.42	2696.222	0.010544			2
3.49	3.51	3.53	1787.505	0.005445			3
3.71	3.73	3.75	2977.962	0.007879			4
3.77	3.79	3.81	1990.616	0.006396			5
3.96	3.98	4.00	2360.202	0.009928			6
Height Summation:			14495.075				
Amount Avg CF:			0.008391	Linear:			
Aroclor-1221					2	135.50	
3.11	3.12	3.15	38367.46	0.344497			2
3.16	3.18	3.20	2682.568	0.007369			3
Height Summation:			41050.028				
Amount Avg CF:			0.175933	Linear:			
Aroclor-1232					6	37.54	
3.16	3.18	3.20	2682.568	0.009018			1
3.38	3.40	3.42	2696.222	0.023339			2
3.49	3.51	3.53	1787.505	0.012063			3
3.71	3.73	3.75	2977.962	0.016721			4
3.77	3.79	3.81	1990.616	0.015101			5
3.96	3.98	4.00	2360.202	0.02538			6
Height Summation:			14495.075				
Amount Avg CF:			0.016937	Linear:			
Aroclor-1242					6	25.58	
3.16	3.18	3.20	2682.568	0.011736			1
3.38	3.40	3.42	2696.222	0.012669			2
3.49	3.51	3.53	1787.505	0.006591			3
3.71	3.73	3.75	2977.962	0.009206			4
3.77	3.79	3.81	1990.616	0.008252			5
3.96	3.98	4.00	2360.202	0.013052			6
Height Summation:			14495.075				
Amount Avg CF:			0.010251	Linear:			
Aroclor-1248					4	18.26	
3.96	3.98	4.00	2360.202	0.006723			2
4.05	4.07	4.09	1815.932	0.006101			3
4.36	4.38	4.40	2845.349	0.008989			5
4.61	4.63	4.65	1540.406	0.006537			6
Height Summation:			8561.889				
Amount Avg CF:			0.007088	Linear:			
Aroclor-1254					4	89.49	
4.61	4.63	4.65	1540.406	0.002204			2
4.74	4.76	4.78	4927.096	0.02236			3
4.83	4.85	4.87	1716.666	0.00356			4
5.14	5.16	5.18	7242.472	0.014647			6
Height Summation:			15426.64				
Amount Avg CF:			0.010693	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:16:20
Instrument : CP25--18274B
Result file : 25PCBS18303004B.070.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 98% (33-137) Conc.: 0.195847
%SSR(DCB) : 95% (10-148) Conc.: 0.190108

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	14.09	
3.27	3.29	3.31	4659.226	0.00914			2
3.47	3.49	3.51	4874.411	0.009859			3
3.54	3.56	3.58	4964.899	0.009689			4
3.60	3.62	3.64	2876.76	0.007155			5
3.71	3.73	3.75	4608.382	0.01063			6
Height Summation:			21983.678				
Amount Avg CF:			0.009295	Linear:			
Aroclor-1221					1		
2.89	2.90	2.93	61201.92	0.337865			2
Height Summation:			61201.92				
Amount Avg CF:			0.337865	Linear:			
Aroclor-1232					5	13.46	
3.27	3.29	3.31	4659.226	0.020308			2
3.47	3.49	3.51	4874.411	0.020913			3
3.54	3.56	3.58	4964.899	0.022264			4
3.60	3.62	3.64	2876.76	0.0198			5
3.71	3.73	3.75	4608.382	0.027142			6
Height Summation:			21983.678				
Amount Avg CF:			0.022085	Linear:			
Aroclor-1242					5	12.80	
3.27	3.29	3.31	4659.226	0.011248			2
3.47	3.49	3.51	4874.411	0.01157			3
3.54	3.56	3.58	4964.899	0.012074			4
3.60	3.62	3.64	2876.76	0.009521			5
3.71	3.73	3.75	4608.382	0.013643			6
Height Summation:			21983.678				
Amount Avg CF:			0.011611	Linear:			
Aroclor-1248					3	13.13	
3.58	3.60	3.62	4405.169	0.008675			1
3.71	3.73	3.75	4608.382	0.007391			2
3.93	3.95	3.97	5386.75	0.006711			4
Height Summation:			14400.301				
Amount Avg CF:			0.007593	Linear:			
Aroclor-1254					3	30.34	
4.40	4.42	4.44	8678.421	0.018108			2
4.54	4.56	4.58	9473.188	0.024412			4
4.77	4.79	4.81	9583.665	0.013176			6
Height Summation:			27735.274				
Amount Avg CF:			0.018566	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKT ID: KT **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:16:20
Instrument : CP25--18274A
Result file : 25PCBS18303004.070.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					6	16.40	
4.74	4.76	4.78	4927.096	0.009104			1
4.94	4.96	4.98	6525.178	0.010009			2
5.14	5.16	5.18	7242.472	0.009212			3
5.21	5.23	5.25	3700.668	0.009701			4
5.61	5.63	5.65	8303.497	0.00729			5
5.82	5.84	5.86	7697.553	0.012134			6
Height Summation:			**38396.464**				
Amount Avg CF:			**0.009575**	Linear:			
Aroclor-1262					6	39.34	
5.21	5.23	5.25	3700.668	0.006361			1
5.38	5.39	5.41	4210.002	0.008984			2
5.61	5.63	5.65	8303.497	0.006115			3
5.82	5.84	5.86	7697.553	0.009795			4
5.87	5.88	5.91	1042.231	0.002444			5
6.25	6.27	6.29	3141.165	0.00598			6
Height Summation:			**28095.116**				
Amount Avg CF:			**0.006613**	Linear:			
Aroclor-1268					6	107.41	
5.81	5.84	5.85	7697.553	0.004362			1
5.87	5.88	5.91	1042.231	0.000652			2
6.00	6.02	6.04	13794.09	0.009398			3
6.07	6.09	6.11	9158.074	0.024858			4
6.24	6.27	6.28	3141.165	0.004986			5
6.44	6.47	6.48	21491.11	0.004228			6
Height Summation:			**56324.223**				
Amount Avg CF:			**0.008081**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:16:20
Instrument : CP25--18274B
Result file : 25PCBS18303004B.070.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					6	1.72	
4.54	4.56	4.58	9473.188	0.009991			1
4.64	4.66	4.68	7480.064	0.009826			2
4.77	4.79	4.81	9583.665	0.010116			3
5.00	5.02	5.04	5811.194	0.009911			4
5.19	5.21	5.23	13646.16	0.009806			5
5.45	5.47	5.49	9114.435	0.009621			6
Height Summation:			**55108.706**				
Amount Avg CF:			**0.009879**	Linear:			
Aroclor-1262					3	7.80	
5.00	5.02	5.04	5811.194	0.007221			2
5.20	5.21	5.24	13646.16	0.008345			3
5.46	5.47	5.50	9114.435	0.008231			5
Height Summation:			**28571.789**				
Amount Avg CF:			**0.007932**	Linear:			
Aroclor-1268					4	98.62	
5.46	5.47	5.50	9114.435	0.019035			2
5.61	5.63	5.65	17939.39	0.043117			3
5.68	5.70	5.72	13044.42	0.125919			4
6.03	6.05	6.07	27779.83	0.018281			6
Height Summation:			**67878.075**				
Amount Avg CF:			**0.051588**	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		10.22	4	40	
Aroclor-1221			0.5	0.1		** 63.03	3	5	
Aroclor-1232			0.5	0.2		26.39	4	10	
Aroclor-1242			0.5	0.1		12.44	4	30	
Aroclor-1248			0.5	0.1		6.88	4	40	
Aroclor-1254			0.5	0.1		** 53.82	4	40	
Aroclor-1260			0.5	0.15		3.12	4	40	
Aroclor-1262			0.5	0.2		18.14	4	40	
Aroclor-1268			0.5	0.16		** 145.83	4	40	

Units: ug/l

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 18274A
Date Analyzed: 11/05/18
GC Column (1) : MR-1 ID: .32 (mm)
Time Analyzed: 0:49
Lab File ID: 25PCBS18303004.073.RAW
Initial Calibration: 25PCBS1830301
Lab Standard ID: AR164JT
Init. Calib Date(s): 10/30/18 10/30/18
Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.92	2.90	2.96	41.01	40.06	2
Decachlorobiphenyl	6.61	6.58	6.64	42.38	40.04	6
Aroclor-1016	3.18	3.16	3.20	189.63	200.40	-5
	3.40	3.38	3.42	193.28	200.40	-4
	3.51	3.49	3.53	196.89	200.40	-2
	3.73	3.71	3.75	196.57	200.40	-2
	3.79	3.77	3.81	207.42	200.40	4
	3.98	3.96	4.00	204.70	200.40	2
Aroclor-1260	4.76	4.74	4.78	210.65	200.44	5
	4.96	4.94	4.98	212.63	200.44	6
	5.16	5.14	5.18	213.09	200.44	6
	5.23	5.21	5.25	212.03	200.44	6
	5.63	5.61	5.65	217.41	200.44	8
	5.84	5.82	5.86	206.85	200.44	3

Compounds 14

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Date Analyzed: 11/05/18

GC Column (2) : MR-2 ID: .32 (mm) Time Analyzed: 0:49

Lab File ID: 25PCBS18303004B.073.RAW Initial Calibration: 25PCBS1830301B

Lab Standard ID: AR164JT Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.68	2.65	2.71	41.62	40.06	4
Decachlorobiphenyl	6.21	6.18	6.24	40.00	40.04	0
Aroclor-1016	2.96	2.94	2.98	190.88	200.40	-5
	3.29	3.27	3.31	198.65	200.40	-1
	3.49	3.47	3.51	198.28	200.40	-1
	3.56	3.54	3.58	201.71	200.40	1
	3.62	3.60	3.64	186.54	200.40	-7
	3.72	3.71	3.75	204.10	200.40	2
Aroclor-1260	4.56	4.54	4.58	204.04	200.44	2
	4.66	4.64	4.68	209.63	200.44	5
	4.79	4.77	4.81	199.22	200.44	-1
	5.02	5.00	5.04	205.21	200.44	2
	5.21	5.19	5.23	215.02	200.44	7
	5.47	5.45	5.49	212.57	200.44	6

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JT ID: JT **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:49:17
Instrument : CP25--18274A
Result file : 25PCBS18303004.073.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 102% (33-137) Conc.: 41.01494
%SSR(DCB) : 106% (10-148) Conc.: 42.38482

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	3.42	
3.16	3.18	3.20	501122.7	189.631159			1
3.38	3.40	3.42	494221.3	193.276907			2
+ 3.38	3.41	3.42	199724.1	78.106824			2
3.49	3.51	3.53	646306.1	196.889013			3
3.71	3.73	3.75	742933	196.570844			4
3.77	3.79	3.81	645562.1	207.416914			5
3.96	3.98	4.00	486601.9	204.695332			6
Height Summation:			3516747.1				
Amount Avg CF:			198.080028	Linear:			
Aroclor-1221					3	37.83	
3.06	3.08	3.10	85963.42	61.174754			1
3.11	3.13	3.15	118028	105.976049			2
3.16	3.18	3.20	501122.7	137.665634			3
Height Summation:			705114.12				
Amount Avg CF:			101.605479	Linear:			
Aroclor-1232					6	30.54	
3.16	3.18	3.20	501122.7	168.466795			1
E 3.38	3.40	3.42	494221.3	427.798018			2
+ 3.38	3.41	3.42	199724.1	172.881206			2
E 3.49	3.51	3.53	646306.1	436.174348			3
E 3.71	3.73	3.75	742933	417.140951			4
E 3.77	3.79	3.81	645562.1	489.741289			5
E 3.96	3.98	4.00	486601.9	523.266923			6
Height Summation:			3516747.1				
Amount Avg CF:			410.431387	Linear:			
Aroclor-1242					6	8.58	
E 3.16	3.18	3.20	501122.7	219.240216			1
E 3.38	3.40	3.42	494221.3	232.216904			2
+ 3.38	3.41	3.42	199724.1	93.843208			2
E 3.49	3.51	3.53	646306.1	238.309885			3
E 3.71	3.73	3.75	742933	229.676907			4
E 3.77	3.79	3.81	645562.1	267.623593			5
E 3.96	3.98	4.00	486601.9	269.08374			6
Height Summation:			3516747.1				
Amount Avg CF:			242.691874	Linear:			
Aroclor-1248					6	37.39	
3.83	3.85	3.87	433899.1	139.451291			1
3.96	3.98	4.00	486601.9	138.612759			2
4.05	4.07	4.09	474528.7	159.42392			3
4.23	4.25	4.27	99377.09	33.443912			4
4.36	4.38	4.40	525476.1	165.999644			5
4.61	4.63	4.65	340754.6	144.613506			6
Height Summation:			2360637.49				
Amount Avg CF:			130.257505	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:49:17
Instrument : CP25--18274B
Result file : 25PCBS18303004B.073.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 104% (33-137) Conc.: 41.61581
%SSR(DCB) : 100% (10-148) Conc.: 40.00079

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	3.40	
2.94	2.96	2.98	831045.6	190.880063			1
3.27	3.29	3.31	1012682	198.650989			2
+ 3.47	3.47	3.51	43812.73	8.861857			3
3.47	3.49	3.51	980269.6	198.27591			3
3.54	3.56	3.58	1033625	201.714934			4
3.60	3.62	3.64	749986.6	186.541146			5
+ 3.60	3.64	3.64	239964.9	59.685503			5
3.71	3.72	3.75	884829.6	204.09724			6
Height Summation:			5492438.4				
Amount Avg CF:			196.69338	Linear:			
Aroclor-1221					3	46.24	
2.83	2.85	2.87	157024.6	61.8078			1
+ 2.89	2.90	2.93	64805.65	35.775906			2
2.89	2.91	2.93	122254.5	67.490496			2
2.94	2.96	2.98	831045.6	135.053589			3
Height Summation:			1110324.7				
Amount Avg CF:			88.117295	Linear:			
Aroclor-1232					6	31.10	
2.94	2.96	2.98	831045.6	166.72252			1
E 3.27	3.29	3.31	1012682	441.397922			2
+ 3.47	3.47	3.51	43812.73	18.797384			3
E 3.47	3.49	3.51	980269.6	420.574205			3
E 3.54	3.56	3.58	1033625	463.498659			4
E 3.60	3.62	3.64	749986.6	516.199104			5
+ 3.60	3.64	3.64	239964.9	165.162506			5
E 3.71	3.72	3.75	884829.6	521.140338			6
Height Summation:			5492438.4				
Amount Avg CF:			421.588791	Linear:			
Aroclor-1242					6	5.92	
E 2.94	2.96	2.98	831045.6	221.222854			1
E 3.27	3.29	3.31	1012682	244.476426			2
+ 3.47	3.47	3.51	43812.73	10.399682			3
E 3.47	3.49	3.51	980269.6	232.683332			3
E 3.54	3.56	3.58	1033625	251.361153			4
E 3.60	3.62	3.64	749986.6	248.225824			5
+ 3.60	3.64	3.64	239964.9	79.422066			5
E 3.71	3.72	3.75	884829.6	261.946503			6
Height Summation:			5492438.4				
Amount Avg CF:			243.319348	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JT ID: JT **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:49:17
Instrument : CP25--18274A
Result file : 25PCBS18303004.073.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	104.48	
+ 4.55	4.57	4.59	37915.84	10.861008			1
4.55	4.59	4.59	109943	31.493218			1
4.61	4.63	4.65	340754.6	48.756978			2
4.74	4.76	4.78	1140089	517.392273			3
4.83	4.85	4.87	189973.9	39.394215			4
5.03	5.05	5.07	642132.3	165.97649			5
5.14	5.16	5.18	1675429	338.842449			6
Height Summation:			4098321.8				
Amount Avg CF:			190.309271	Linear:			
Aroclor-1260					6	1.62	
4.74	4.76	4.78	1140089	210.653734			1
4.94	4.96	4.98	1386180	212.629611			2
5.14	5.16	5.18	1675429	213.094962			3
5.21	5.23	5.25	808812.2	212.032911			4
5.61	5.63	5.65	2476450	217.407372			5
5.82	5.84	5.86	1312218	206.850348			6
Height Summation:			8799178.2				
Amount Avg CF:			212.11149	Linear:			
Aroclor-1262					6	38.09	
5.21	5.23	5.25	808812.2	139.029517			1
5.38	5.39	5.41	770559.9	164.429478			2
5.61	5.63	5.65	2476450	182.360155			3
5.82	5.84	5.86	1312218	166.972199			4
+ 5.87	5.88	5.91	89220.58	20.918902			5
5.87	5.89	5.91	169466.5	39.733581			5
6.25	6.27	6.29	642624.2	122.336751			6
Height Summation:			6180130.8				
Amount Avg CF:			135.81028	Linear:			
Aroclor-1268					6	122.70	
5.81	5.84	5.85	1312218	74.354267			1
+ 5.87	5.88	5.91	89220.58	5.581918			2
5.87	5.89	5.91	169466.5	10.602354			2
6.00	6.02	6.04	54260.04	3.696895			3
6.07	6.09	6.11	49610.64	13.465726			4
6.24	6.27	6.28	642624.2	102.008451			5
6.44	6.47	6.48	196577.9	3.866914			6
Height Summation:			2424757.28				
Amount Avg CF:			34.665768	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:49:17
Instrument : CP25--18274B
Result file : 25PCBS18303004B.073.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	43.74	
3.58	3.60	3.62	717846.9	141.365504			1
3.71	3.72	3.75	884829.6	141.917816			2
+ 3.80	3.80	3.84	180999.5	43.921702			3
3.80	3.82	3.84	670465	162.696383			3
3.93	3.95	3.97	952555	118.676862			4
+ 4.07	4.09	4.11	29564.62	8.008366			5
4.07	4.11	4.11	61755.55	16.728139			5
+ 4.30	4.31	4.34	206945.5	59.297311			6
+ 4.30	4.32	4.34	154482.5	44.264779			6
4.30	4.34	4.34	491528.7	140.840608			6
Height Summation:			3778980.75				
Amount Avg CF:			120.370885	Linear:			
Aroclor-1254					6	96.14	
+ 4.30	4.31	4.34	206945.5	20.281329			1
+ 4.30	4.32	4.34	154482.5	15.139785			1
4.30	4.34	4.34	491528.7	48.171405			1
4.40	4.42	4.44	1681255	350.807014			2
4.47	4.49	4.51	161239.6	25.051897			3
4.54	4.56	4.58	1934588	498.538712			4
4.69	4.72	4.73	197001.2	44.505886			5
4.77	4.79	4.81	1887296	259.477361			6
Height Summation:			6352908.5				
Amount Avg CF:			204.425379	Linear:			
Aroclor-1260					6	2.83	
4.54	4.56	4.58	1934588	204.036764			1
4.64	4.66	4.68	1595896	209.633482			2
4.77	4.79	4.81	1887296	199.222357			3
5.00	5.02	5.04	1203276	205.212341			4
5.19	5.21	5.23	2992197	215.019188			5
5.45	5.47	5.49	2013755	212.566584			6
Height Summation:			11627008				
Amount Avg CF:			207.615119	Linear:			
Aroclor-1262					6	25.58	
4.81	4.83	4.85	956041.9	122.999227			1
5.00	5.02	5.04	1203276	149.51972			2
5.20	5.21	5.24	2992197	182.985512			3
5.41	5.43	5.45	608483.2	91.901607			4
5.46	5.47	5.50	2013755	181.851531			5
5.83	5.85	5.87	799393.8	122.13576			6
Height Summation:			8573146.9				
Amount Avg CF:			141.898892	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JT ID: JT **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 00:49:17
Instrument : CP25--18274A
Result file : 25PCBS18303004.073.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 00:49:17
Instrument : CP25--18274B
Result file : 25PCBS18303004B.073.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**137.52**	
+ 5.41	5.41	5.45	25140.13	0.005308			1
5.41	5.43	5.45	608483.2	0.128471			1
5.46	5.47	5.50	2013755	420.572332			2
5.61	5.63	5.65	68126.36	16.37412			3
5.68	5.70	5.72	43774.86	42.256132			4
5.83	5.85	5.87	799393.8	478.658572			5
6.03	6.05	6.07	262436.2	17.270448			6

Height Summation: **3795969.42**
Amount Avg CF: **162.543346** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.70	4	40	
Aroclor-1221			0.5	0.1		14.22	3	5	
Aroclor-1232			0.5	0.2	E	2.68	4	10	
Aroclor-1242			0.5	0.1	E	0.26	4	30	
Aroclor-1248			0.5	0.1		7.89	4	40	
Aroclor-1254			0.5	0.1		7.15	4	40	
Aroclor-1260			0.5	0.15		2.14	4	40	
Aroclor-1262			0.5	0.2		4.38	4	40	
Aroclor-1268			0.5	0.16		** 129.69	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKU ID: KU **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 01:00:10
Instrument : CP25--18274A
Result file : 25PCBS18303004.074.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 102% (33-137) Conc.: 0.204461
%SSR(DCB) : 101% (10-148) Conc.: 0.202828

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	9.83	
3.16	3.18	3.20	3958.158	0.014978			1
3.38	3.40	3.42	3511.997	0.013734			2
3.49	3.51	3.53	3956.166	0.012052			3
3.71	3.73	3.75	4992.485	0.013209			4
3.77	3.79	3.81	3518.561	0.011305			5
3.96	3.98	4.00	3151.035	0.013255			6
Height Summation:			23088.402				
Amount Avg CF:			0.013089	Linear:			
Aroclor-1221					2	132.80	
3.11	3.12	3.15	38535.75	0.346008			2
3.16	3.18	3.20	3958.158	0.010874			3
Height Summation:			42493.908				
Amount Avg CF:			0.178441	Linear:			
Aroclor-1232					6	26.48	
3.16	3.18	3.20	3958.158	0.013306			1
3.38	3.40	3.42	3511.997	0.0304			2
3.49	3.51	3.53	3956.166	0.026699			3
3.71	3.73	3.75	4992.485	0.028032			4
3.77	3.79	3.81	3518.561	0.026693			5
3.96	3.98	4.00	3151.035	0.033885			6
Height Summation:			23088.402				
Amount Avg CF:			0.026502	Linear:			
Aroclor-1242					6	8.08	
3.16	3.18	3.20	3958.158	0.017317			1
3.38	3.40	3.42	3511.997	0.016502			2
3.49	3.51	3.53	3956.166	0.014587			3
3.71	3.73	3.75	4992.485	0.015434			4
3.77	3.79	3.81	3518.561	0.014587			5
3.96	3.98	4.00	3151.035	0.017425			6
Height Summation:			23088.402				
Amount Avg CF:			0.015975	Linear:			
Aroclor-1248					5	13.10	
3.83	3.85	3.87	3805.824	0.012232			1
3.96	3.98	4.00	3151.035	0.008976			2
4.05	4.07	4.09	3196.539	0.010739			3
4.36	4.38	4.40	3643.944	0.011511			5
4.61	4.63	4.65	2207.125	0.009367			6
Height Summation:			16004.467				
Amount Avg CF:			0.010565	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 01:00:10
Instrument : CP25--18274B
Result file : 25PCBS18303004B.074.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 101% (33-137) Conc.: 0.201807
%SSR(DCB) : 98% (10-148) Conc.: 0.196937

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	5.54	
3.27	3.29	3.31	7291.793	0.014304			2
3.47	3.49	3.51	6318.157	0.01278			3
3.54	3.56	3.58	7384.894	0.014412			4
3.60	3.62	3.64	5384.218	0.013392			5
3.71	3.73	3.75	6310.358	0.014556			6
Height Summation:			32689.42				
Amount Avg CF:			0.013889	Linear:			
Aroclor-1221					1		
2.89	2.90	2.93	65121.55	0.359503			2
Height Summation:			65121.55				
Amount Avg CF:			0.359503	Linear:			
Aroclor-1232					5	12.56	
3.27	3.29	3.31	7291.793	0.031783			2
3.47	3.49	3.51	6318.157	0.027107			3
3.54	3.56	3.58	7384.894	0.033115			4
3.60	3.62	3.64	5384.218	0.037058			5
3.71	3.73	3.75	6310.358	0.037166			6
Height Summation:			32689.42				
Amount Avg CF:			0.033246	Linear:			
Aroclor-1242					5	8.09	
3.27	3.29	3.31	7291.793	0.017603			2
3.47	3.49	3.51	6318.157	0.014997			3
3.54	3.56	3.58	7384.894	0.017959			4
3.60	3.62	3.64	5384.218	0.01782			5
3.71	3.73	3.75	6310.358	0.018681			6
Height Summation:			32689.42				
Amount Avg CF:			0.017412	Linear:			
Aroclor-1248					4	9.83	
3.58	3.60	3.62	5410.523	0.010655			1
3.71	3.73	3.75	6310.358	0.010121			2
3.80	3.82	3.84	4814.287	0.011682			3
3.93	3.95	3.97	7409.214	0.009231			4
Height Summation:			23944.382				
Amount Avg CF:			0.010422	Linear:			
Aroclor-1254					3	34.24	
4.40	4.42	4.44	12768.2	0.026642			2
4.54	4.56	4.58	14431.7	0.03719			4
4.77	4.79	4.81	13425.15	0.018458			6
Height Summation:			40625.05				
Amount Avg CF:			0.02743	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKU ID: KU **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 01:00:10
Instrument : CP25--18274A
Result file : 25PCBS18303004.074.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					**5**	**102.60**	
4.55	4.59	4.59	1075.049	0.003079			1
4.61	4.63	4.65	2207.125	0.003158			2
4.74	4.76	4.78	7490.746	0.033994			3
4.83	4.85	4.87	2691.853	0.005582			4
5.14	5.16	5.18	10565.34	0.021368			6
Height Summation:			**24030.113**				
Amount Avg CF:			**0.013436**	Linear:			
Aroclor-1260					**6**	**11.20**	
4.74	4.76	4.78	7490.746	0.013841			1
4.94	4.95	4.98	9264.75	0.014211			2
5.14	5.16	5.18	10565.34	0.013438			3
5.21	5.23	5.25	4907.472	0.012865			4
5.61	5.63	5.65	13072.21	0.011476			5
5.82	5.83	5.86	10208.25	0.016092			6
Height Summation:			**55508.768**				
Amount Avg CF:			**0.013654**	Linear:			
Aroclor-1262					**6**	**28.31**	
5.21	5.23	5.25	4907.472	0.008436			1
5.38	5.39	5.41	6343.054	0.013535			2
5.61	5.63	5.65	13072.21	0.009626			3
5.82	5.83	5.86	10208.25	0.012989			4
5.87	5.88	5.91	2808.841	0.006586			5
6.25	6.26	6.29	4266.181	0.008122			6
Height Summation:			**41606.008**				
Amount Avg CF:			**0.009882**	Linear:			
Aroclor-1268					**6**	**95.57**	
5.81	5.83	5.85	10208.25	0.005784			1
5.87	5.88	5.91	2808.841	0.001757			2
6.00	6.02	6.04	14566.77	0.009925			3
6.07	6.08	6.11	9639.877	0.026165			4
6.24	6.26	6.28	4266.181	0.006772			5
6.44	6.46	6.48	23093.35	0.004543			6
Height Summation:			**64583.269**				
Amount Avg CF:			**0.009158**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 01:00:10
Instrument : CP25--18274B
Result file : 25PCBS18303004B.074.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					**6**	**7.80**	
4.54	4.56	4.58	14431.7	0.015221			1
4.64	4.66	4.68	11042.32	0.014505			2
4.77	4.79	4.81	13425.15	0.014172			3
5.00	5.02	5.04	9552.704	0.016292			4
5.19	5.21	5.23	18396.29	0.01322			5
5.45	5.47	5.49	12834.52	0.013548			6
Height Summation:			**79682.684**				
Amount Avg CF:			**0.014493**	Linear:			
Aroclor-1262					**6**	**17.89**	
4.81	4.82	4.85	6346.601	0.008165			1
5.00	5.02	5.04	9552.704	0.01187			2
5.20	5.21	5.24	18396.29	0.01125			3
5.41	5.43	5.45	5066.189	0.007652			4
5.46	5.47	5.50	12834.52	0.01159			5
5.83	5.85	5.87	6929.452	0.010587			6
Height Summation:			**59125.756**				
Amount Avg CF:			**0.010186**	Linear:			
Aroclor-1268					**6**	**107.81**	
5.41	5.43	5.45	5066.189	0.000011			1
5.46	5.47	5.50	12834.52	0.026805			2
5.61	5.63	5.65	20200.1	0.048551			3
5.68	5.70	5.72	14632.19	0.141245			4
5.83	5.85	5.87	6929.452	0.041492			5
6.03	6.05	6.07	27966.33	0.018404			6
Height Summation:			**87628.781**				
Amount Avg CF:			**0.046085**	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		5.93	4	40	
Aroclor-1221			0.5	0.1		** 67.32	3	5	
Aroclor-1232			0.5	0.2		22.57	4	10	
Aroclor-1242			0.5	0.1		8.61	4	30	
Aroclor-1248			0.5	0.1		1.36	4	40	
Aroclor-1254			0.5	0.1		** 68.49	4	40	
Aroclor-1260			0.5	0.15		5.96	4	40	
Aroclor-1262			0.5	0.2		3.02	4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C PIBLKKU ID: KU **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 01:00:10
Instrument : CP25--18274A
Result file : 25PCBS18303004.074.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 01:00:10
Instrument : CP25--18274B
Result file : 25PCBS18303004B.074.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1268			0.5	0.16		** 133.69	4	40	

Units: ug/l

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Date Analyzed: 11/05/18

GC Column (1) : MR-1 ID: .32 (mm) Time Analyzed: 3:00

Lab File ID: 25PCBS18303004.085.RAW Initial Calibration: 25PCBS1830301

Lab Standard ID: AR164JU Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.92	2.90	2.96	43.06	40.06	7
Decachlorobiphenyl	6.61	6.58	6.64	38.32	40.04	-4
Aroclor-1016	3.18	3.16	3.20	192.11	200.40	-4
	3.40	3.38	3.42	195.30	200.40	-3
	3.51	3.49	3.53	191.54	200.40	-4
	3.73	3.71	3.75	195.16	200.40	-3
	3.79	3.77	3.81	199.00	200.40	-1
	3.98	3.96	4.00	195.88	200.40	-2
Aroclor-1260	4.76	4.74	4.78	191.24	200.44	-5
	4.95	4.94	4.98	198.10	200.44	-1
	5.16	5.14	5.18	202.10	200.44	1
	5.23	5.21	5.25	189.91	200.44	-5
	5.63	5.61	5.65	182.33	200.44	-9
	5.84	5.82	5.86	198.49	200.44	-1

Compounds 14

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 18274B
Date Analyzed: 11/05/18
GC Column (2) : MR-2
ID: .32 (mm)
Time Analyzed: 3:00
Lab File ID: 25PCBS18303004B.085.RAW
Initial Calibration: 25PCBS1830301B
Lab Standard ID: AR164JU
Init. Calib Date(s): 10/30/18 10/30/18
Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.68	2.65	2.71	41.87	40.06	5
Decachlorobiphenyl	6.21	6.18	6.24	37.54	40.04	-6
Aroclor-1016	2.96	2.94	2.98	196.04	200.40	-2
	3.29	3.27	3.31	198.46	200.40	-1
	3.49	3.47	3.51	201.60	200.40	1
	3.56	3.54	3.58	206.61	200.40	3
	3.62	3.60	3.64	191.27	200.40	-5
	3.72	3.71	3.75	201.92	200.40	1
Aroclor-1260	4.56	4.54	4.58	208.60	200.44	4
	4.66	4.64	4.68	196.54	200.44	-2
	4.79	4.77	4.81	209.10	200.44	4
	5.02	5.00	5.04	199.64	200.44	0
	5.21	5.19	5.23	214.17	200.44	7
	5.47	5.45	5.49	202.47	200.44	1

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JU ID: JU **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 03:00:12
Instrument : CP25--18274A
Result file : 25PCBS18303004.085.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 107% (33-137) Conc.: 43.0636
%SSR(DCB) : 96% (10-148) Conc.: 38.32301

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	1.40	
3.16	3.18	3.20	507661.3	192.105447			1
3.38	3.40	3.42	499391.4	195.298797			2
+ 3.38	3.41	3.42	208936.1	81.709395			2
3.49	3.51	3.53	628741.1	191.538057			3
3.71	3.73	3.75	737614.8	195.163715			4
3.77	3.79	3.81	619363.2	198.999297			5
3.96	3.98	4.00	465634.7	195.87521			6
Height Summation:			3458406.5				
Amount Avg CF:			194.830087	Linear:			
Aroclor-1221					3	34.79	
3.06	3.08	3.10	93592.78	66.60409			1
3.11	3.13	3.15	122390.9	109.893449			2
3.16	3.18	3.20	507661.3	139.461881			3
Height Summation:			723644.98				
Amount Avg CF:			105.319807	Linear:			
Aroclor-1232					6	29.31	
3.16	3.18	3.20	507661.3	170.664934			1
E 3.38	3.40	3.42	499391.4	432.273258			2
+ 3.38	3.41	3.42	208936.1	180.855114			2
E 3.49	3.51	3.53	628741.1	424.320209			3
E 3.71	3.73	3.75	737614.8	414.154896			4
E 3.77	3.79	3.81	619363.2	469.866078			5
E 3.96	3.98	4.00	465634.7	500.719863			6
Height Summation:			3458406.5				
Amount Avg CF:			401.999873	Linear:			
Aroclor-1242					6	6.31	
E 3.16	3.18	3.20	507661.3	222.100841			1
E 3.38	3.40	3.42	499391.4	234.646148			2
+ 3.38	3.41	3.42	208936.1	08.171507			2
E 3.49	3.51	3.53	628741.1	231.833212			3
E 3.71	3.73	3.75	737614.8	228.032792			4
E 3.77	3.79	3.81	619363.2	256.762603			5
E 3.96	3.98	4.00	465634.7	257.489184			6
Height Summation:			3458406.5				
Amount Avg CF:			238.477463	Linear:			
Aroclor-1248					6	37.20	
3.83	3.85	3.87	423014.1	135.95295			1
3.96	3.98	4.00	465634.7	132.64007			2
4.05	4.07	4.09	480896.1	161.563129			3
4.23	4.25	4.27	101028	33.999502			4
4.36	4.38	4.40	506762.9	160.088082			5
4.61	4.63	4.65	325786.8	138.261292			6
Height Summation:			2303122.6				
Amount Avg CF:			127.084171	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 03:00:12
Instrument : CP25--18274B
Result file : 25PCBS18303004B.085.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 105% (33-137) Conc.: 41.87462
%SSR(DCB) : 94% (10-148) Conc.: 37.54303

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	2.67	
2.94	2.96	2.98	853498.2	196.037125			1
3.27	3.29	3.31	1011722	198.462672			2
+ 3.47	3.47	3.51	37458.36	7.576579			3
3.47	3.49	3.51	996688.2	201.596846			3
3.54	3.56	3.58	1058686	206.605661			4
3.60	3.62	3.64	768991.3	191.268109			5
+ 3.60	3.64	3.64	238120.2	59.226678			5
3.71	3.72	3.75	875370.2	201.915308			6
Height Summation:			5564955.9				
Amount Avg CF:			199.314287	Linear:			
Aroclor-1221					3	46.27	
2.83	2.85	2.87	165991.6	65.337378			1
+ 2.89	2.90	2.93	65744.23	36.294048			2
2.89	2.91	2.93	121706.7	67.188084			2
2.94	2.96	2.98	853498.2	138.702371			3
Height Summation:			1141196.5				
Amount Avg CF:			90.409278	Linear:			
Aroclor-1232					6	30.78	
2.94	2.96	2.98	853498.2	171.22691			1
E 3.27	3.29	3.31	1011722	440.979487			2
+ 3.47	3.47	3.51	37458.36	16.071109			3
E 3.47	3.49	3.51	996688.2	427.61843			3
E 3.54	3.56	3.58	1058686	474.736525			4
E 3.60	3.62	3.64	768991.3	529.279617			5
+ 3.60	3.64	3.64	238120.2	163.89284			5
E 3.71	3.72	3.75	875370.2	515.569011			6
Height Summation:			5564955.9				
Amount Avg CF:			426.56833	Linear:			
Aroclor-1242					6	5.20	
E 2.94	2.96	2.98	853498.2	227.199696			1
E 3.27	3.29	3.31	1011722	244.244667			2
+ 3.47	3.47	3.51	37458.36	8.891366			3
E 3.47	3.49	3.51	996688.2	236.58056			3
E 3.54	3.56	3.58	1058686	257.45559			4
E 3.60	3.62	3.64	768991.3	254.515879			5
+ 3.60	3.64	3.64	238120.2	78.811518			5
E 3.71	3.72	3.75	875370.2	259.146125			6
Height Summation:			5564955.9				
Amount Avg CF:			246.523753	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JU ID: JU **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 03:00:12
Instrument : CP25--18274A
Result file : 25PCBS18303004.085.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	103.55	
+ 4.55	4.57	4.59	43554.39	12.476173			1
4.55	4.59	4.59	97965.85	28.062359			1
4.61	4.63	4.65	325786.8	46.615306			2
4.74	4.76	4.78	1035017	469.708767			3
4.83	4.85	4.87	184632.6	38.286608			4
5.03	5.05	5.07	582660.8	150.604469			5
5.14	5.16	5.18	1588966	321.355982			6
Height Summation:			3815029.05				
Amount Avg CF:			175.772249	Linear:			
Aroclor-1260					6	3.74	
4.74	4.76	4.78	1035017	191.239628			1
4.94	4.95	4.98	1291455	198.099507			2
5.14	5.16	5.18	1588966	202.09788			3
5.21	5.23	5.25	724406	189.905534			4
5.61	5.63	5.65	2076855	182.326955			5
5.82	5.84	5.86	1259156	198.485965			6
Height Summation:			7975855				
Amount Avg CF:			193.692578	Linear:			
Aroclor-1262					6	40.01	
5.21	5.23	5.25	724406	124.520644			1
5.38	5.39	5.41	702189.9	149.84003			2
5.61	5.63	5.65	2076855	152.934887			3
5.82	5.84	5.86	1259156	160.220365			4
+ 5.87	5.88	5.91	45198.97	10.597475			5
5.87	5.89	5.91	126473.3	29.653277			5
6.25	6.26	6.29	588984.4	112.125311			6
Height Summation:			5478064.6				
Amount Avg CF:			121.549086	Linear:			
Aroclor-1268					6	123.57	
5.81	5.84	5.85	1259156	71.347613			1
+ 5.87	5.88	5.91	45198.97	2.827789			2
5.87	5.89	5.91	126473.3	7.912565			2
6.00	6.02	6.04	51660.46	3.519778			3
6.07	6.08	6.11	47735.5	12.95676			4
6.24	6.26	6.28	588984.4	93.493813			5
6.44	6.47	6.48	184769.4	3.634627			6
Height Summation:			2258779.06				
Amount Avg CF:			32.144193	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 03:00:12
Instrument : CP25--18274B
Result file : 25PCBS18303004B.085.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	44.07	
3.58	3.60	3.62	701516.3	138.149521			1
3.71	3.72	3.75	875370.2	140.400623			2
+ 3.80	3.80	3.84	185093	44.915039			3
3.80	3.82	3.84	694589.9	168.55058			3
3.93	3.95	3.97	951067.8	118.491575			4
+ 4.07	4.09	4.11	30688.96	8.312924			5
4.07	4.11	4.11	63366.72	17.164567			5
+ 4.30	4.30	4.34	202014.7	57.884459			6
+ 4.30	4.32	4.34	151136.6	43.306058			6
4.30	4.34	4.34	476831.1	136.629218			6
Height Summation:			3762742.02				
Amount Avg CF:			119.897681	Linear:			
Aroclor-1254					6	96.27	
+ 4.30	4.30	4.34	202014.7	19.798095			1
+ 4.30	4.32	4.34	151136.6	14.811876			1
4.30	4.34	4.34	476831.1	46.730992			1
4.40	4.42	4.44	1644694	343.178275			2
4.47	4.49	4.51	178998.9	27.811171			3
4.54	4.56	4.58	1977817	509.678722			4
4.69	4.72	4.73	192411	43.468883			5
4.77	4.79	4.81	1980886	272.344704			6
Height Summation:			6461638				
Amount Avg CF:			207.202125	Linear:			
Aroclor-1260					6	3.24	
4.54	4.56	4.58	1977817	208.596032			1
4.64	4.66	4.68	1496246	196.543672			2
4.77	4.79	4.81	1980886	209.101687			3
5.00	5.02	5.04	1170620	199.643033			4
5.19	5.21	5.23	2980389	214.170665			5
5.45	5.47	5.49	1918076	202.466965			6
Height Summation:			11524034				
Amount Avg CF:			205.007009	Linear:			
Aroclor-1262					6	26.01	
4.81	4.82	4.85	934492.2	120.226758			1
5.00	5.02	5.04	1170620	145.461867			2
5.20	5.21	5.24	2980389	182.263402			3
5.41	5.43	5.45	585756.3	88.469074			4
5.46	5.47	5.50	1918076	173.211268			5
5.83	5.85	5.87	770606.2	117.737433			6
Height Summation:			8359939.7				
Amount Avg CF:			137.894967	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JU ID: JU **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 03:00:12
Instrument : CP25--18274A
Result file : 25PCBS18303004.085.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 03:00:12
Instrument : CP25--18274B
Result file : 25PCBS18303004B.085.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**137.71**	
5.41	5.43	5.45	585756.3	0.123673			1
5.46	5.47	5.50	1918076	400.589792			2
5.61	5.63	5.65	67729.98	16.27885			3
5.68	5.69	5.72	40440.77	39.037715			4
5.83	5.85	5.87	770606.2	461.421221			5
6.03	6.05	6.07	257350.8	16.935787			6

Height Summation: **3639960.05**
Amount Avg CF: **155.731173** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		2.28	4	40	
Aroclor-1221			0.5	0.1		15.24	3	5	
Aroclor-1232			0.5	0.2	E	5.93	4	10	
Aroclor-1242			0.5	0.1	E	3.32	4	30	
Aroclor-1248			0.5	0.1		5.82	4	40	
Aroclor-1254			0.5	0.1		16.41	4	40	
Aroclor-1260			0.5	0.15		5.71	4	40	
Aroclor-1262			0.5	0.2		12.60	4	40	
Aroclor-1268			0.5	0.16		** 131.56	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKV ID: KV **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 03:11:07
Instrument : CP25--18274A
Result file : 25PCBS18303004.086.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 104% (33-137) Conc.: 0.208043
%SSR(DCB) : 97% (10-148) Conc.: 0.194347

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	22.64	
3.16	3.18	3.20	3568.158	0.013502			1
3.38	3.40	3.42	3684.794	0.01441			2
3.49	3.51	3.53	2451.522	0.007468			3
3.71	3.73	3.75	4287.989	0.011345			4
+ 3.77	3.77	3.81	764.2572	0.002456			5
3.77	3.79	3.81	2989.097	0.009604			5
3.96	3.98	4.00	3039.104	0.012784			6
Height Summation:			20020.664				
Amount Avg CF:			0.011519	Linear:			
Aroclor-1221					2	133.73	
3.11	3.12	3.15	39035.94	0.350499			2
3.16	3.18	3.20	3568.158	0.009802			3
Height Summation:			42604.098				
Amount Avg CF:			0.180151	Linear:			
Aroclor-1232					6	35.18	
3.16	3.18	3.20	3568.158	0.011995			1
3.38	3.40	3.42	3684.794	0.031896			2
3.49	3.51	3.53	2451.522	0.016545			3
3.71	3.73	3.75	4287.989	0.024076			4
+ 3.77	3.77	3.81	764.2572	0.005798			5
3.77	3.79	3.81	2989.097	0.022676			5
3.96	3.98	4.00	3039.104	0.032681			6
Height Summation:			20020.664				
Amount Avg CF:			0.023311	Linear:			
Aroclor-1242					6	22.29	
3.16	3.18	3.20	3568.158	0.015611			1
3.38	3.40	3.42	3684.794	0.017314			2
3.49	3.51	3.53	2451.522	0.009039			3
3.71	3.73	3.75	4287.989	0.013258			4
+ 3.77	3.77	3.81	764.2572	0.003168			5
3.77	3.79	3.81	2989.097	0.012392			5
3.96	3.98	4.00	3039.104	0.016806			6
Height Summation:			20020.664				
Amount Avg CF:			0.01407	Linear:			
Aroclor-1248					5	10.14	
3.83	3.85	3.87	3013.638	0.009686			1
3.96	3.98	4.00	3039.104	0.008657			2
4.05	4.07	4.09	2494.199	0.00838			3
4.36	4.38	4.40	3286.229	0.010381			5
4.61	4.63	4.65	1948.066	0.008267			6
Height Summation:			13781.236				
Amount Avg CF:			0.009074	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 03:11:07
Instrument : CP25--18274B
Result file : 25PCBS18303004B.086.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 100% (33-137) Conc.: 0.201057
%SSR(DCB) : 95% (10-148) Conc.: 0.190124

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	5.86	
3.27	3.29	3.31	6474.762	0.012701			2
3.47	3.49	3.51	6291.545	0.012726			3
3.54	3.56	3.58	6426.593	0.012542			4
3.60	3.62	3.64	4593.942	0.011426			5
3.71	3.72	3.75	5842.268	0.013476			6
Height Summation:			29629.11				
Amount Avg CF:			0.012574	Linear:			
Aroclor-1221					1		
2.89	2.90	2.93	64967.29	0.358651			2
Height Summation:			64967.29				
Amount Avg CF:			0.358651	Linear:			
Aroclor-1232					5	9.95	
3.27	3.29	3.31	6474.762	0.028222			2
3.47	3.49	3.51	6291.545	0.026993			3
3.54	3.56	3.58	6426.593	0.028818			4
3.60	3.62	3.64	4593.942	0.031619			5
3.71	3.72	3.75	5842.268	0.034409			6
Height Summation:			29629.11				
Amount Avg CF:			0.030012	Linear:			
Aroclor-1242					5	5.84	
3.27	3.29	3.31	6474.762	0.015631			2
3.47	3.49	3.51	6291.545	0.014934			3
3.54	3.56	3.58	6426.593	0.015628			4
3.60	3.62	3.64	4593.942	0.015205			5
3.71	3.72	3.75	5842.268	0.017296			6
Height Summation:			29629.11				
Amount Avg CF:			0.015739	Linear:			
Aroclor-1248					3	4.51	
3.58	3.60	3.62	4731.837	0.009318			1
3.71	3.72	3.75	5842.268	0.00937			2
3.93	3.95	3.97	6930.293	0.008634			4
Height Summation:			17504.398				
Amount Avg CF:			0.009108	Linear:			
Aroclor-1254					3	31.13	
4.40	4.42	4.44	11653.06	0.024315			2
4.54	4.56	4.58	12243.02	0.03155			4
4.77	4.79	4.81	12021.94	0.016529			6
Height Summation:			35918.02				
Amount Avg CF:			0.024131	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKV ID: KV **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 03:11:07
Instrument : CP25--18274A
Result file : 25PCBS18303004.086.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					5	100.14	
4.55	4.58	4.59	1237.208	0.003544			1
4.61	4.63	4.65	1948.066	0.002787			2
4.74	4.76	4.78	6889.432	0.031265			3
4.83	4.85	4.87	2762.371	0.005728			4
5.14	5.16	5.18	8845.168	0.017889			6
Height Summation:			**21682.245**				
Amount Avg CF:			**0.012243**	Linear:			
Aroclor-1260					6	14.49	
4.74	4.76	4.78	6889.432	0.01273			1
4.94	4.96	4.98	7820.193	0.011996			2
5.14	5.16	5.18	8845.168	0.01125			3
5.21	5.23	5.25	4377.483	0.011476			4
5.61	5.63	5.65	10341.25	0.009079			5
5.82	5.84	5.86	9023.003	0.014223			6
Height Summation:			**47296.529**				
Amount Avg CF:			**0.011792**	Linear:			
Aroclor-1262					6	31.68	
5.21	5.23	5.25	4377.483	0.007525			1
5.38	5.39	5.41	5793.166	0.012362			2
5.61	5.63	5.65	10341.25	0.007615			3
5.82	5.84	5.86	9023.003	0.011481			4
5.87	5.88	5.91	2373.008	0.005564			5
6.25	6.26	6.29	3600.641	0.006855			6
Height Summation:			**35508.551**				
Amount Avg CF:			**0.008567**	Linear:			
Aroclor-1268					6	99.52	
5.81	5.84	5.85	9023.003	0.005113			1
5.87	5.88	5.91	2373.008	0.001485			2
6.00	6.02	6.04	13050.28	0.008892			3
6.07	6.09	6.11	9258.35	0.02513			4
6.24	6.26	6.28	3600.641	0.005716			5
6.44	6.47	6.48	24208.78	0.004762			6
Height Summation:			**61514.062**				
Amount Avg CF:			**0.008516**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 03:11:07
Instrument : CP25--18274B
Result file : 25PCBS18303004B.086.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					6	1.93	
4.54	4.56	4.58	12243.02	0.012912			1
4.64	4.66	4.68	9699.25	0.012741			2
4.77	4.79	4.81	12021.94	0.01269			3
5.00	5.02	5.04	7470.273	0.01274			4
5.19	5.21	5.23	17166.12	0.012336			5
5.45	5.47	5.49	11662.39	0.012311			6
Height Summation:			**70262.993**				
Amount Avg CF:			**0.012622**	Linear:			
Aroclor-1262					6	19.81	
4.81	4.83	4.85	5843.16	0.007517			1
5.00	5.02	5.04	7470.273	0.009283			2
5.20	5.21	5.24	17166.12	0.010498			3
5.41	5.43	5.45	4034.828	0.006094			4
5.46	5.47	5.50	11662.39	0.010532			5
5.83	5.85	5.87	5688.567	0.008691			6
Height Summation:			**51866.338**				
Amount Avg CF:			**0.008769**	Linear:			
Aroclor-1268					6	112.95	
5.41	5.43	5.45	4034.828	9.0E-6			1
5.46	5.47	5.50	11662.39	0.024357			2
5.61	5.63	5.65	19891.13	0.047808			3
5.68	5.70	5.72	14818.29	0.143042			4
5.83	5.85	5.87	5688.567	0.034062			5
6.03	6.05	6.07	30056.3	0.01978			6
Height Summation:			**86151.505**				
Amount Avg CF:			**0.044843**	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		8.76	4	40	
Aroclor-1221			0.5	0.1		** 66.26	3	5	
Aroclor-1232			0.5	0.2		25.13	4	10	
Aroclor-1242			0.5	0.1		11.20	4	30	
Aroclor-1248			0.5	0.1		0.37	4	40	
Aroclor-1254			0.5	0.1		** 65.37	4	40	
Aroclor-1260			0.5	0.15		6.80	4	40	
Aroclor-1262			0.5	0.2		2.33	4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C PIBLKKV ID: KV **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 03:11:07
Instrument : CP25--18274A
Result file : 25PCBS18303004.086.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 03:11:07
Instrument : CP25--18274B
Result file : 25PCBS18303004B.086.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1268			0.5	0.16		** 136.16	4	40	

Units: ug/l

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 18274A
Date Analyzed: 11/05/18
GC Column (1) : MR-1
ID: .32 (mm)
Time Analyzed: 5:11
Lab File ID: 25PCBS18303004.097.RAW
Initial Calibration: 25PCBS1830301
Lab Standard ID: AR164JV
Init. Calib Date(s): 10/30/18 10/30/18
Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.92	2.90	2.96	41.42	40.06	3
Decachlorobiphenyl	6.61	6.58	6.64	40.34	40.04	1
Aroclor-1016	3.18	3.16	3.20	196.16	200.40	-2
	3.40	3.38	3.42	198.77	200.40	-1
	3.51	3.49	3.53	195.93	200.40	-2
	3.73	3.71	3.75	204.24	200.40	2
	3.79	3.77	3.81	205.84	200.40	3
	3.98	3.96	4.00	209.18	200.40	4
Aroclor-1260	4.76	4.74	4.78	211.31	200.44	5
	4.96	4.94	4.98	217.63	200.44	9
	5.16	5.14	5.18	210.26	200.44	5
	5.23	5.21	5.25	210.15	200.44	5
	5.63	5.61	5.65	207.67	200.44	4
	5.84	5.82	5.86	215.10	200.44	7

Compounds 14

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Date Analyzed: 11/05/18

GC Column (2) : MR-2 ID: .32 (mm) Time Analyzed: 5:11

Lab File ID: 25PCBS18303004B.097.RAW Initial Calibration: 25PCBS1830301B

Lab Standard ID: AR164JV Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.68	2.65	2.71	40.94	40.06	2
Decachlorobiphenyl	6.21	6.18	6.24	41.09	40.04	3
Aroclor-1016	2.96	2.94	2.98	197.38	200.40	-2
	3.29	3.27	3.31	196.40	200.40	-2
	3.49	3.47	3.51	200.37	200.40	0
	3.56	3.54	3.58	207.32	200.40	3
	3.62	3.60	3.64	193.14	200.40	-4
	3.73	3.71	3.75	206.62	200.40	3
Aroclor-1260	4.56	4.54	4.58	210.02	200.44	5
	4.66	4.64	4.68	204.10	200.44	2
	4.79	4.77	4.81	208.39	200.44	4
	5.02	5.00	5.04	210.15	200.44	5
	5.21	5.19	5.23	214.08	200.44	7
	5.47	5.45	5.49	201.59	200.44	1

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JV ID: JV **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 05:11:02
Instrument : CP25--18274A
Result file : 25PCBS18303004.097.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 103% (33-137) Conc.: 41.41802
%SSR(DCB) : 101% (10-148) Conc.: 40.33932

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	2.73	
3.16	3.18	3.20	518387.2	196.164263			1
3.38	3.40	3.42	508265.5	198.769223			2
+ 3.38	3.41	3.42	213172.8	83.366256			2
3.49	3.51	3.53	643170.4	195.933762			3
3.71	3.73	3.75	771934.6	204.244308			4
3.77	3.79	3.81	640642.9	205.836392			5
3.96	3.98	4.00	497267.1	209.181785			6
Height Summation:			3579667.7				
Amount Avg CF:			201.688289	Linear:			
Aroclor-1221					3	31.29	
3.06	3.08	3.10	104593.9	74.432894			1
3.11	3.13	3.15	121425.8	109.026896			2
3.16	3.18	3.20	518387.2	142.408441			3
Height Summation:			744406.9				
Amount Avg CF:			108.622744	Linear:			
Aroclor-1232					6	30.07	
3.16	3.18	3.20	518387.2	174.270753			1
E 3.38	3.40	3.42	508265.5	439.95468			2
+ 3.38	3.41	3.42	213172.8	184.522402			2
E 3.49	3.51	3.53	643170.4	434.05815			3
E 3.71	3.73	3.75	771934.6	433.424728			4
E 3.77	3.79	3.81	640642.9	486.009448			5
E 3.96	3.98	4.00	497267.1	534.735736			6
Height Summation:			3579667.7				
Amount Avg CF:			417.075582	Linear:			
Aroclor-1242					6	7.62	
E 3.16	3.18	3.20	518387.2	226.793401			1
E 3.38	3.40	3.42	508265.5	238.815771			2
+ 3.38	3.41	3.42	213172.8	100.16227			2
E 3.49	3.51	3.53	643170.4	237.15367			3
E 3.71	3.73	3.75	771934.6	238.64272			4
E 3.77	3.79	3.81	640642.9	265.584294			5
E 3.96	3.98	4.00	497267.1	274.981439			6
Height Summation:			3579667.7				
Amount Avg CF:			246.995216	Linear:			
Aroclor-1248					6	9.40	
3.83	3.86	3.87	441506.3	141.896177			1
3.96	3.98	4.00	497267.1	141.650833			2
4.05	4.07	4.09	489113.6	164.323902			3
4.23	4.23	4.27	510132.9	171.677796			4
+ 4.23	4.25	4.27	101279.5	34.08414			4
4.36	4.38	4.40	554437.6	175.148678			5
4.61	4.64	4.65	355712.5	150.961518			6
Height Summation:			2848170				
Amount Avg CF:			157.609817	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 05:11:02
Instrument : CP25--18274B
Result file : 25PCBS18303004B.097.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 102% (33-137) Conc.: 40.93739
%SSR(DCB) : 103% (10-148) Conc.: 41.09113

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	2.86	
2.94	2.96	2.98	859335.1	197.377783			1
3.27	3.29	3.31	1001182	196.395112			2
+ 3.47	3.47	3.51	45591.85	9.221714			3
3.47	3.49	3.51	990601.6	200.365729			3
3.54	3.56	3.58	1062372	207.324995			4
3.60	3.62	3.64	776519.2	193.140493			5
+ 3.60	3.64	3.64	227801.8	56.660224			5
3.71	3.73	3.75	895752.7	206.616792			6
Height Summation:			5585762.6				
Amount Avg CF:			200.203484	Linear:			
Aroclor-1221					3	41.01	
2.83	2.85	2.87	186948.1	73.586245			1
+ 2.89	2.90	2.93	66243.05	36.569421			2
2.89	2.91	2.93	128831	71.121048			2
2.94	2.96	2.98	859335.1	139.650929			3
Height Summation:			1175114.2				
Amount Avg CF:			94.786074	Linear:			
Aroclor-1232					6	31.12	
2.94	2.96	2.98	859335.1	172.397896			1
E 3.27	3.29	3.31	1001182	436.385415			2
+ 3.47	3.47	3.51	45591.85	19.560696			3
E 3.47	3.49	3.51	990601.6	425.007039			3
E 3.54	3.56	3.58	1062372	476.389403			4
E 3.60	3.62	3.64	776519.2	534.460903			5
+ 3.60	3.64	3.64	227801.8	156.790915			5
E 3.71	3.73	3.75	895752.7	527.573744			6
Height Summation:			5585762.6				
Amount Avg CF:			428.7024	Linear:			
Aroclor-1242					6	5.87	
E 2.94	2.96	2.98	859335.1	228.753468			1
E 3.27	3.29	3.31	1001182	241.700155			2
+ 3.47	3.47	3.51	45591.85	10.821986			3
E 3.47	3.49	3.51	990601.6	235.135804			3
E 3.54	3.56	3.58	1062372	258.351966			4
E 3.60	3.62	3.64	776519.2	257.007416			5
+ 3.60	3.64	3.64	227801.8	75.3964			5
E 3.71	3.73	3.75	895752.7	265.180196			6
Height Summation:			5585762.6				
Amount Avg CF:			247.688168	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JV ID: JV **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 05:11:02
Instrument : CP25--18274A
Result file : 25PCBS18303004.097.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					**6**	**104.05**	
+ 4.55	4.57	4.59	41653.21	11.931579			1
4.55	4.59	4.59	105008.1	30.079614			1
4.61	4.64	4.65	355712.5	50.897234			2
4.74	4.76	4.78	1143629	518.998787			3
4.83	4.85	4.87	195954	40.634287			4
5.03	5.05	5.07	653527.9	168.921991			5
5.14	5.16	5.18	1653143	334.33528			6
Height Summation:			**4106974.5**				
Amount Avg CF:			**190.644532**	Linear:			
Aroclor-1260					**6**	**1.73**	
4.74	4.76	4.78	1143629	211.307819			1
4.94	4.96	4.98	1418750	217.625605			2
5.14	5.16	5.18	1653143	210.260443			3
5.21	5.23	5.25	801616.5	210.146533			4
5.61	5.63	5.65	2365542	207.670766			5
5.82	5.84	5.86	1364543	215.098554			6
Height Summation:			**8747223.5**				
Amount Avg CF:			**212.018287**	Linear:			
Aroclor-1262					**6**	**21.77**	
5.21	5.23	5.25	801616.5	137.792623			1
5.38	5.39	5.41	787983.6	168.147515			2
5.61	5.63	5.65	2365542	174.193142			3
5.82	5.84	5.86	1364543	173.630255			4
5.87	5.89	5.91	418679.7	98.164791			5
6.25	6.26	6.29	636550.1	121.180421			6
Height Summation:			**6374914.9**				
Amount Avg CF:			**145.518125**	Linear:			
Aroclor-1268					**6**	**109.55**	
5.81	5.84	5.85	1364543	77.319161			1
5.87	5.89	5.91	418679.7	26.193911			2
6.00	6.02	6.04	59200.77	4.033521			3
6.07	6.09	6.11	52023.39	14.120614			4
6.24	6.26	6.28	636550.1	101.044265			5
6.44	6.47	6.48	193563.5	3.807617			6
Height Summation:			**2724560.46**				
Amount Avg CF:			**37.753182**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 05:11:02
Instrument : CP25--18274B
Result file : 25PCBS18303004B.097.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					**6**	**42.91**	
3.58	3.60	3.62	709991.2	139.818482			1
3.71	3.73	3.75	895752.7	143.669772			2
+ 3.80	3.80	3.84	192163	46.63066			3
3.80	3.82	3.84	677528.3	164.410378			3
3.93	3.95	3.97	987820.2	123.070481			4
+ 4.07	4.09	4.11	36576.22	9.907645			5
4.07	4.11	4.11	69524.74	18.832631			5
+ 4.30	4.31	4.34	203839.2	58.407244			6
+ 4.30	4.33	4.34	170683.8	48.907032			6
4.30	4.34	4.34	458761.6	131.451658			6
Height Summation:			**3799378.74**				
Amount Avg CF:			**120.2089**	Linear:			
Aroclor-1254					**6**	**96.89**	
+ 4.30	4.31	4.34	203839.2	19.976902			1
+ 4.30	4.33	4.34	170683.8	16.727565			1
4.30	4.34	4.34	458761.6	44.960123			1
4.40	4.42	4.44	1701421	355.014808			2
4.47	4.49	4.51	167067.4	25.957366			3
4.54	4.56	4.58	1991329	513.160733			4
4.69	4.72	4.73	195993.7	44.278275			5
4.77	4.79	4.81	1974142	271.417497			6
Height Summation:			**6488714.7**				
Amount Avg CF:			**209.131467**	Linear:			
Aroclor-1260					**6**	**2.17**	
4.54	4.56	4.58	1991329	210.021113			1
4.64	4.66	4.68	1553774	204.100427			2
4.77	4.79	4.81	1974142	208.389793			3
5.00	5.02	5.04	1232234	210.150974			4
5.19	5.21	5.23	2979100	214.078038			5
5.45	5.47	5.49	1909729	201.585878			6
Height Summation:			**11640308**				
Amount Avg CF:			**208.05437**	Linear:			
Aroclor-1262					**6**	**24.54**	
4.81	4.83	4.85	944172.9	121.472225			1
5.00	5.02	5.04	1232234	153.118056			2
5.20	5.21	5.24	2979100	182.184575			3
5.41	5.43	5.45	614744.3	92.847245			4
5.46	5.47	5.50	1909729	172.457495			5
5.83	5.85	5.87	790270.8	120.741898			6
Height Summation:			**8470251**				
Amount Avg CF:			**140.470249**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164JV ID: JV **Batchnumber: 1830799999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 05:11:02
Instrument : CP25--18274A
Result file : 25PCBS18303004.097.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 05:11:02
Instrument : CP25--18274B
Result file : 25PCBS18303004B.097.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**134.66**	
5.41	5.43	5.45	614744.3	0.129793			1
5.46	5.47	5.50	1909729	398.846523			2
5.61	5.63	5.65	73665.03	17.705335			3
5.68	5.70	5.72	55512.5	53.586546			4
5.83	5.85	5.87	790270.8	473.19593			5
6.03	6.05	6.07	266063.7	17.509167			6

Height Summation: **3709985.33**
Amount Avg CF: **160.162216** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.74	4	40	
Aroclor-1221			0.5	0.1		13.60	3	5	
Aroclor-1232			0.5	0.2	E	2.75	4	10	
Aroclor-1242			0.5	0.1	E	0.28	4	30	
Aroclor-1248			0.5	0.1		26.92	4	40	
Aroclor-1254			0.5	0.1		9.25	4	40	
Aroclor-1260			0.5	0.15		1.89	4	40	
Aroclor-1262			0.5	0.2		3.53	4	40	
Aroclor-1268			0.5	0.16		** 123.70	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKW ID: KW **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 05:21:57
Instrument : CP25--18274A
Result file : 25PCBS18303004.098.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 102% (33-137) Conc.: 0.203889
%SSR(DCB) : 98% (10-148) Conc.: 0.197187

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	15.28	
3.16	3.18	3.20	2921.401	0.011055			1
3.38	3.40	3.42	3772.026	0.014751			2
+ 3.49	3.49	3.53	1071.923	0.003265			3
3.49	3.51	3.53	3463.611	0.010551			3
3.71	3.73	3.75	4869.349	0.012884			4
+ 3.77	3.77	3.81	1090.538	0.003504			5
3.77	3.79	3.81	3114.179	0.010006			5
3.96	3.98	4.00	3175.34	0.013357			6
Height Summation:			21315.906				
Amount Avg CF:			0.012101	Linear:			
Aroclor-1221					2	134.94	
3.11	3.12	3.15	38134.49	0.342405			2
3.16	3.18	3.20	2921.401	0.008026			3
Height Summation:			41055.891				
Amount Avg CF:			0.175215	Linear:			
Aroclor-1232					6	34.76	
3.16	3.18	3.20	2921.401	0.009821			1
3.38	3.40	3.42	3772.026	0.032651			2
+ 3.49	3.49	3.53	1071.923	0.007234			3
3.49	3.51	3.53	3463.611	0.023375			3
3.71	3.73	3.75	4869.349	0.02734			4
+ 3.77	3.77	3.81	1090.538	0.008273			5
3.77	3.79	3.81	3114.179	0.023625			5
3.96	3.98	4.00	3175.34	0.034146			6
Height Summation:			21315.906				
Amount Avg CF:			0.02516	Linear:			
Aroclor-1242					6	15.99	
3.16	3.18	3.20	2921.401	0.012781			1
3.38	3.40	3.42	3772.026	0.017723			2
+ 3.49	3.49	3.53	1071.923	0.003952			3
3.49	3.51	3.53	3463.611	0.012771			3
3.71	3.73	3.75	4869.349	0.015054			4
+ 3.77	3.77	3.81	1090.538	0.004521			5
3.77	3.79	3.81	3114.179	0.01291			5
3.96	3.98	4.00	3175.34	0.017559			6
Height Summation:			21315.906				
Amount Avg CF:			0.0148	Linear:			
Aroclor-1248					5	14.48	
3.83	3.85	3.87	3231.486	0.010386			1
3.96	3.98	4.00	3175.34	0.009045			2
4.05	4.07	4.09	3139.679	0.010548			3
4.36	4.38	4.40	4105.841	0.01297			5
4.61	4.64	4.65	2239.401	0.009504			6
Height Summation:			15891.747				
Amount Avg CF:			0.010491	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 05:21:57
Instrument : CP25--18274B
Result file : 25PCBS18303004B.098.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 100% (33-137) Conc.: 0.200939
%SSR(DCB) : 99% (10-148) Conc.: 0.198273

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	8.41	
3.27	3.29	3.31	6178.32	0.01212			2
3.47	3.49	3.51	6731.701	0.013616			3
3.54	3.56	3.58	7187.756	0.014027			4
3.60	3.62	3.64	4779.733	0.011888			5
3.71	3.73	3.75	6192.419	0.014284			6
Height Summation:			31069.929				
Amount Avg CF:			0.013187	Linear:			
Aroclor-1221					1		
2.89	2.90	2.93	63821.67	0.352327			2
Height Summation:			63821.67				
Amount Avg CF:			0.352327	Linear:			
Aroclor-1232					5	11.77	
3.27	3.29	3.31	6178.32	0.026929			2
3.47	3.49	3.51	6731.701	0.028882			3
3.54	3.56	3.58	7187.756	0.032231			4
3.60	3.62	3.64	4779.733	0.032898			5
3.71	3.73	3.75	6192.419	0.036472			6
Height Summation:			31069.929				
Amount Avg CF:			0.031482	Linear:			
Aroclor-1242					5	8.33	
3.27	3.29	3.31	6178.32	0.014915			2
3.47	3.49	3.51	6731.701	0.015979			3
3.54	3.56	3.58	7187.756	0.017479			4
3.60	3.62	3.64	4779.733	0.01582			5
3.71	3.73	3.75	6192.419	0.018332			6
Height Summation:			31069.929				
Amount Avg CF:			0.016505	Linear:			
Aroclor-1248					3	14.27	
3.58	3.60	3.62	6232.765	0.012274			1
3.71	3.73	3.75	6192.419	0.009932			2
3.93	3.95	3.97	7594.901	0.009462			4
Height Summation:			20020.085				
Amount Avg CF:			0.010556	Linear:			
Aroclor-1254					3	33.17	
4.40	4.42	4.44	12300.99	0.025667			2
4.54	4.56	4.58	13493.12	0.034771			4
4.77	4.79	4.81	12756.39	0.017538			6
Height Summation:			38550.5				
Amount Avg CF:			0.025992	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKKW ID: KW **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 05:21:57
Instrument : CP25--18274A
Result file : 25PCBS18303004.098.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					5	112.74	
4.55	4.57	4.59	1002.713	0.002872			1
4.61	4.64	4.65	2239.401	0.003204			2
4.74	4.76	4.78	7748.364	0.035163			3
4.83	4.85	4.87	1501.318	0.003113			4
5.14	5.16	5.18	9652.346	0.019521			6
Height Summation:			22144.142				
Amount Avg CF:			0.012775	Linear:			
Aroclor-1260					6	13.56	
4.74	4.76	4.78	7748.364	0.014317			1
4.94	4.96	4.98	8867.356	0.013602			2
5.14	5.16	5.18	9652.346	0.012277			3
5.21	5.23	5.25	5449.877	0.014287			4
5.61	5.63	5.65	11103.74	0.009748			5
5.82	5.84	5.86	8785.99	0.01385			6
Height Summation:			51607.673				
Amount Avg CF:			0.013013	Linear:			
Aroclor-1262					6	26.97	
5.21	5.23	5.25	5449.877	0.009368			1
5.38	5.39	5.41	6578.93	0.014039			2
5.61	5.63	5.65	11103.74	0.008177			3
+ 5.61	5.65	5.65	5203.161	0.003831			3
5.82	5.84	5.86	8785.99	0.01118			4
5.87	5.89	5.91	3009.815	0.007057			5
6.25	6.26	6.29	4147.019	0.007895			6
Height Summation:			39075.371				
Amount Avg CF:			0.009619	Linear:			
Aroclor-1268					6	101.80	
5.81	5.84	5.85	8785.99	0.004978			1
5.87	5.89	5.91	3009.815	0.001883			2
6.00	6.02	6.04	15741.84	0.010725			3
6.07	6.09	6.11	10526.12	0.028571			4
6.24	6.26	6.28	4147.019	0.006583			5
6.44	6.46	6.48	23956.17	0.004712			6
Height Summation:			66166.954				
Amount Avg CF:			0.009575	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 05:21:57
Instrument : CP25--18274B
Result file : 25PCBS18303004B.098.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					6	4.77	
4.54	4.56	4.58	13493.12	0.014231			1
4.64	4.66	4.68	10698.33	0.014053			2
4.77	4.79	4.81	12756.39	0.013466			3
5.00	5.02	5.04	8973.921	0.015305			4
5.19	5.21	5.23	18754.13	0.013477			5
5.45	5.47	5.49	13466.16	0.014215			6
Height Summation:			78142.051				
Amount Avg CF:			0.014124	Linear:			
Aroclor-1262					5	22.53	
5.00	5.02	5.04	8973.921	0.011151			2
5.20	5.21	5.24	18754.13	0.011469			3
5.41	5.43	5.45	4350.72	0.006571			4
5.46	5.47	5.50	13466.16	0.012161			5
5.83	5.85	5.87	5956.867	0.009101			6
Height Summation:			51501.798				
Amount Avg CF:			0.010091	Linear:			
Aroclor-1268					6	121.57	
5.41	5.43	5.45	4350.72	9.0E-6			1
5.46	5.47	5.50	13466.16	0.028124			2
5.61	5.63	5.65	21789.06	0.05237			3
5.68	5.70	5.72	18380.18	0.177425			4
5.83	5.85	5.87	5956.867	0.035668			5
6.03	6.05	6.07	31241.23	0.020559			6
Height Summation:			95184.217				
Amount Avg CF:			0.052369	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		8.59	4	40	
Aroclor-1221			0.5	0.1		** 67.15	3	5	
Aroclor-1232			0.5	0.2		22.33	4	10	
Aroclor-1242			0.5	0.1		10.90	4	30	
Aroclor-1248			0.5	0.1		0.62	4	40	
Aroclor-1254			0.5	0.1		** 68.19	4	40	
Aroclor-1260			0.5	0.15		8.19	4	40	
Aroclor-1262			0.5	0.2		4.78	4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C PIBLKKW ID: KW **Batchnumber: 1830799999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 05:21:57
Instrument : CP25--18274A
Result file : 25PCBS18303004.098.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 05:21:57
Instrument : CP25--18274B
Result file : 25PCBS18303004B.098.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1268			0.5	0.16		** 138.16	4	40	

Units: ug/l

7E

CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 18274A
Date Analyzed: 11/05/18
GC Column (1) : MR-1
ID: .32 (mm)
Time Analyzed: 17:16
Lab File ID: 25PCBS18303005.023.RAW
Initial Calibration: 25PCBS1830301
Lab Standard ID: AR164KG
Init. Calib Date(s): 10/30/18 10/30/18
Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.92	2.90	2.96	41.85	40.06	4
Decachlorobiphenyl	6.61	6.58	6.64	39.45	40.04	-1
Aroclor-1016	3.18	3.16	3.20	199.30	200.40	-1
	3.40	3.38	3.42	197.15	200.40	-2
	3.51	3.49	3.53	199.79	200.40	0
	3.73	3.71	3.75	197.78	200.40	-1
	3.79	3.77	3.81	205.42	200.40	3
	3.98	3.96	4.00	201.24	200.40	0
Aroclor-1260	4.76	4.74	4.78	205.95	200.44	3
	4.95	4.94	4.98	210.09	200.44	5
	5.16	5.14	5.18	205.03	200.44	2
	5.23	5.21	5.25	207.82	200.44	4
	5.63	5.61	5.65	206.39	200.44	3
	5.84	5.82	5.86	203.06	200.44	1

Compounds 14

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 18274B
Date Analyzed: 11/05/18
GC Column (2) : MR-2
ID: .32 (mm)
Time Analyzed: 17:16
Lab File ID: 25PCBS18303005B.023.RAW
Initial Calibration: 25PCBS1830301B
Lab Standard ID: AR164KG
Init. Calib Date(s): 10/30/18 10/30/18
Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.68	2.65	2.71	40.61	40.06	1
Decachlorobiphenyl	6.21	6.18	6.24	40.03	40.04	0
Aroclor-1016	2.96	2.94	2.98	196.61	200.40	-2
	3.29	3.27	3.31	200.48	200.40	0
	3.49	3.47	3.51	204.78	200.40	2
	3.56	3.54	3.58	207.67	200.40	4
	3.62	3.60	3.64	199.77	200.40	0
	3.72	3.71	3.75	204.93	200.40	2
Aroclor-1260	4.56	4.54	4.58	196.25	200.44	-2
	4.66	4.64	4.68	204.66	200.44	2
	4.79	4.77	4.81	196.42	200.44	-2
	5.02	5.00	5.04	198.71	200.44	-1
	5.21	5.19	5.23	210.44	200.44	5
	5.47	5.45	5.49	199.71	200.44	0

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164KG ID: KG **Batchnumber: 1830899999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 17:16:12
Instrument : CP25--18274A
Result file : 25PCBS18303005.023.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 104% (33-137) Conc.: 41.85157
%SSR(DCB) : 99% (10-148) Conc.: 39.45184

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	1.49	
3.16	3.18	3.20	526665.5	199.296877			1
3.38	3.40	3.42	504114.9	197.146033			2
+ 3.38	3.41	3.42	209089.8	81.769503			2
3.49	3.51	3.53	655830.4	199.790471			3
3.71	3.73	3.75	747491.7	197.77702			4
3.77	3.79	3.81	639349.6	205.420859			5
3.96	3.98	4.00	478397.9	201.244214			6
Height Summation:			3551850				
Amount Avg CF:			200.112579	Linear:			
Aroclor-1221					3	28.49	
3.06	3.08	3.10	113614.2	80.852074			1
3.11	3.13	3.15	123366.9	110.769788			2
3.16	3.18	3.20	526665.5	144.682609			3
Height Summation:			763646.6				
Amount Avg CF:			112.101491	Linear:			
Aroclor-1232					6	29.21	
3.16	3.18	3.20	526665.5	177.053742			1
E 3.38	3.40	3.42	504114.9	436.36192			2
+ 3.38	3.41	3.42	209089.8	180.988157			2
E 3.49	3.51	3.53	655830.4	442.602038			3
E 3.71	3.73	3.75	747491.7	419.700563			4
E 3.77	3.79	3.81	639349.6	485.028314			5
E 3.96	3.98	4.00	478397.9	514.444758			6
Height Summation:			3551850				
Amount Avg CF:			412.531889	Linear:			
Aroclor-1242					6	6.50	
E 3.16	3.18	3.20	526665.5	230.415141			1
E 3.38	3.40	3.42	504114.9	236.865552			2
+ 3.38	3.41	3.42	209089.8	98.243815			2
E 3.49	3.51	3.53	655830.4	241.021742			3
E 3.71	3.73	3.75	747491.7	231.086224			4
E 3.77	3.79	3.81	639349.6	265.048145			5
E 3.96	3.98	4.00	478397.9	264.547047			6
Height Summation:			3551850				
Amount Avg CF:			244.963975	Linear:			
Aroclor-1248					6	37.55	
3.83	3.85	3.87	429980	138.191728			1
3.96	3.98	4.00	478397.9	136.275778			2
4.05	4.07	4.09	475172.2	159.640112			3
4.23	4.25	4.27	103168.3	34.719788			4
4.36	4.38	4.40	547548.4	172.972356			5
4.61	4.63	4.65	344896	146.371082			6
Height Summation:			2379162.8				
Amount Avg CF:			131.361808	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 17:16:12
Instrument : CP25--18274B
Result file : 25PCBS18303005B.023.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 101% (33-137) Conc.: 40.60545
%SSR(DCB) : 100% (10-148) Conc.: 40.02771

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	2.02	
2.94	2.96	2.98	856001.5	196.6121			1
3.27	3.29	3.31	1022029	200.484527			2
+ 3.47	3.47	3.51	41371.8	8.368138			3
3.47	3.49	3.51	1012422	204.77927			3
3.54	3.56	3.58	1064138	207.669635			4
3.60	3.62	3.64	803187.2	199.773517			5
+ 3.60	3.64	3.64	225349.7	56.050323			5
3.71	3.72	3.75	888422.2	204.925919			6
Height Summation:			5646199.9				
Amount Avg CF:			202.374161	Linear:			
Aroclor-1221					3	38.52	
2.83	2.85	2.87	209002.5	82.267267			1
+ 2.89	2.90	2.93	66341.44	36.623737			2
2.89	2.91	2.93	124842.2	68.919034			2
2.94	2.96	2.98	856001.5	139.109184			3
Height Summation:			1189846.2				
Amount Avg CF:			96.765162	Linear:			
Aroclor-1232					6	31.39	
2.94	2.96	2.98	856001.5	171.729117			1
E 3.27	3.29	3.31	1022029	445.472001			2
+ 3.47	3.47	3.51	41371.8	17.750129			3
E 3.47	3.49	3.51	1012422	434.368849			3
E 3.54	3.56	3.58	1064138	477.181314			4
E 3.60	3.62	3.64	803187.2	552.815894			5
+ 3.60	3.64	3.64	225349.7	155.103189			5
E 3.71	3.72	3.75	888422.2	523.256281			6
Height Summation:			5646199.9				
Amount Avg CF:			434.137243	Linear:			
Aroclor-1242					6	5.90	
E 2.94	2.96	2.98	856001.5	227.86607			1
E 3.27	3.29	3.31	1022029	246.73293			2
+ 3.47	3.47	3.51	41371.8	9.820286			3
E 3.47	3.49	3.51	1012422	240.31524			3
E 3.54	3.56	3.58	1064138	258.781429			4
E 3.60	3.62	3.64	803187.2	265.833822			5
+ 3.60	3.64	3.64	225349.7	74.584819			5
E 3.71	3.72	3.75	888422.2	263.010062			6
Height Summation:			5646199.9				
Amount Avg CF:			250.423259	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164KG ID: KG **Batchnumber: 1830899999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 17:16:12
Instrument : CP25--18274A
Result file : 25PCBS18303005.023.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					**6**	**104.24**	
+ 4.55	4.57	4.59	50447.76	14.450782			1
4.55	4.59	4.59	97532.3	27.938168			1
4.61	4.63	4.65	344896	49.349552			2
4.74	4.76	4.78	1114655	505.84988			3
4.83	4.85	4.87	192864.2	39.993566			4
5.03	5.05	5.07	638167.1	164.951576			5
5.14	5.16	5.18	1611986	326.011597			6
Height Summation:			**4000100.6**				
Amount Avg CF:			**185.68239**	Linear:			
Aroclor-1260					**6**	**1.16**	
4.74	4.76	4.78	1114655	205.954306			1
4.94	4.95	4.98	1369600	210.086364			2
5.14	5.16	5.18	1611986	205.025755			3
5.21	5.23	5.25	792739.4	207.819371			4
5.61	5.63	5.65	2350912	206.3864			5
5.82	5.84	5.86	1288182	203.061454			6
Height Summation:			**8528074.4**				
Amount Avg CF:			**206.388941**	Linear:			
Aroclor-1262					**6**	**37.44**	
5.21	5.23	5.25	792739.4	136.266708			1
5.38	5.39	5.41	738016.2	157.484991			2
5.61	5.63	5.65	2350912	173.115822			3
5.82	5.84	5.86	1288182	163.913756			4
+ 5.87	5.88	5.91	26248.6	6.154319			5
5.87	5.89	5.91	172122.5	40.356314			5
6.25	6.26	6.29	606396.5	115.440063			6
Height Summation:			**5948368.6**				
Amount Avg CF:			**131.096276**	Linear:			
Aroclor-1268					**6**	**119.30**	
5.81	5.84	5.85	1288182	72.992314			1
+ 5.87	5.88	5.91	26248.6	1.642194			2
5.87	5.89	5.91	172122.5	10.768522			2
6.00	6.02	6.04	61827.49	4.212487			3
6.07	6.08	6.11	52876.2	14.352091			4
6.24	6.26	6.28	606396.5	96.257763			5
6.44	6.46	6.48	202360.3	3.98066			6
Height Summation:			**2383764.99**				
Amount Avg CF:			**33.76064**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 17:16:12
Instrument : CP25--18274B
Result file : 25PCBS18303005B.023.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					**6**	**41.72**	
3.58	3.60	3.62	704174.6	138.67302			1
3.71	3.72	3.75	888422.2	142.494033			2
+ 3.80	3.80	3.84	205973.6	49.981967			3
3.80	3.82	3.84	677834.2	164.484608			3
3.93	3.95	3.97	955267.2	119.01477			4
+ 4.07	4.09	4.11	39096.92	10.590444			5
4.07	4.11	4.11	82283.16	22.28859			5
+ 4.30	4.30	4.34	205128.1	58.77656			6
+ 4.30	4.32	4.34	177627.9	50.896766			6
4.30	4.34	4.34	481048.2	137.837568			6
Height Summation:			**3789029.56**				
Amount Avg CF:			**120.798765**	Linear:			
Aroclor-1254					**6**	**94.83**	
+ 4.30	4.30	4.34	205128.1	20.103218			1
+ 4.30	4.32	4.34	177627.9	17.40811			1
4.30	4.34	4.34	481048.2	47.144282			1
4.40	4.42	4.44	1699584	354.631504			2
4.47	4.49	4.51	163514.3	25.405319			3
4.54	4.56	4.58	1860772	479.516505			4
4.69	4.72	4.73	205610	46.450759			5
4.77	4.79	4.81	1860790	255.833149			6
Height Summation:			**6271318.5**				
Amount Avg CF:			**201.496919**	Linear:			
Aroclor-1260					**6**	**2.75**	
4.54	4.56	4.58	1860772	196.251552			1
4.64	4.66	4.68	1558061	204.663558			2
4.77	4.79	4.81	1860790	196.424392			3
5.00	5.02	5.04	1165123	198.705549			4
5.19	5.21	5.23	2928497	210.441707			5
5.45	5.47	5.49	1891942	199.70833			6
Height Summation:			**11265185**				
Amount Avg CF:			**201.032515**	Linear:			
Aroclor-1262					**6**	**24.67**	
4.81	4.82	4.85	934246.8	120.195186			1
5.00	5.02	5.04	1165123	144.778807			2
+ 5.00	5.04	5.04	145206.5	18.043437			2
5.20	5.21	5.24	2928497	179.089987			3
5.41	5.43	5.45	600083.8	90.633012			4
5.46	5.47	5.50	1891942	170.851245			5
5.83	5.85	5.87	777103.9	118.730187			6
Height Summation:			**8296996.5**				
Amount Avg CF:			**137.379737**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164KG ID: KG **Batchnumber: 1830899999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 17:16:12
Instrument : CP25--18274A
Result file : 25PCBS18303005.023.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 17:16:12
Instrument : CP25--18274B
Result file : 25PCBS18303005B.023.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**133.21**	
5.41	5.43	5.45	600083.8	0.126698			1
5.46	5.47	5.50	1891942	395.131711			2
5.61	5.63	5.65	75840.12	18.228116			3
5.68	5.69	5.72	60383.48	58.288532			4
5.83	5.85	5.87	777103.9	465.311894			5
6.03	6.05	6.07	270786.2	17.819946			6

Height Summation: **3676139.5**
Amount Avg CF: **159.15115** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		1.12	4	40	
Aroclor-1221			0.5	0.1		14.69	3	5	
Aroclor-1232			0.5	0.2	E	5.10	4	10	
Aroclor-1242			0.5	0.1	E	2.20	4	30	
Aroclor-1248			0.5	0.1		8.38	4	40	
Aroclor-1254			0.5	0.1		8.17	4	40	
Aroclor-1260			0.5	0.15		2.63	4	40	
Aroclor-1262			0.5	0.2		4.68	4	40	
Aroclor-1268			0.5	0.16		** 130.00	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKLS ID: LS **Batchnumber: 1830899999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 17:27:05
Instrument : CP25--18274A
Result file : 25PCBS18303005.024.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 105% (33-137) Conc.: 0.210444
%SSR(DCB) : 99% (10-148) Conc.: 0.197636

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	13.80	
3.16	3.18	3.20	3467.085	0.01312			1
3.38	3.40	3.42	3832.54	0.014988			2
+ 3.49	3.49	3.53	921.4834	0.002807			3
3.49	3.51	3.53	3725.54	0.011349			3
3.71	3.73	3.75	4984.476	0.013188			4
+ 3.77	3.77	3.81	887.498	0.002852			5
3.77	3.79	3.81	3183.752	0.010229			5
3.96	3.98	4.00	2715.472	0.011423			6
Height Summation:			**21908.865**				
Amount Avg CF:			**0.012383**	Linear:			
Aroclor-1221					3	161.58	
3.06	3.08	3.10	904.1937	0.006435			1
3.11	3.12	3.15	37928.95	0.34056			2
3.16	3.18	3.20	3467.085	0.009525			3
Height Summation:			**42300.2287**				
Amount Avg CF:			**0.11884**	Linear:			
Aroclor-1232					6	29.24	
3.16	3.18	3.20	3467.085	0.011656			1
3.38	3.40	3.42	3832.54	0.033174			2
+ 3.49	3.49	3.53	921.4834	0.006219			3
3.49	3.51	3.53	3725.54	0.025143			3
3.71	3.73	3.75	4984.476	0.027987			4
+ 3.77	3.77	3.81	887.498	0.006733			5
3.77	3.79	3.81	3183.752	0.024153			5
3.96	3.98	4.00	2715.472	0.029201			6
Height Summation:			**21908.865**				
Amount Avg CF:			**0.025219**	Linear:			
Aroclor-1242					6	11.10	
3.16	3.18	3.20	3467.085	0.015168			1
3.38	3.40	3.42	3832.54	0.018008			2
+ 3.49	3.49	3.53	921.4834	0.003398			3
3.49	3.51	3.53	3725.54	0.013737			3
3.71	3.73	3.75	4984.476	0.015409			4
3.77	3.79	3.81	3183.752	0.013199			5
3.96	3.98	4.00	2715.472	0.015016			6
Height Summation:			**21908.865**				
Amount Avg CF:			**0.01509**	Linear:			
Aroclor-1248					6	37.14	
3.83	3.85	3.87	3018.383	0.009701			1
3.96	3.98	4.00	2715.472	0.007735			2
4.05	4.07	4.09	3565.231	0.011978			3
4.23	4.25	4.27	1042.132	0.003507			4
4.36	4.38	4.40	4146.614	0.013099			5
4.61	4.63	4.65	2098.13	0.008904			6
Height Summation:			**16585.962**				
Amount Avg CF:			**0.009154**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 17:27:05
Instrument : CP25--18274B
Result file : 25PCBS18303005B.024.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 101% (33-137) Conc.: 0.202467
%SSR(DCB) : 99% (10-148) Conc.: 0.197738

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	10.04	
3.27	3.29	3.31	7456.344	0.014627			2
3.47	3.49	3.51	6439	0.013024			3
3.54	3.56	3.58	6825.628	0.01332			4
3.60	3.62	3.64	4423.795	0.011003			5
3.71	3.73	3.75	5544.671	0.012789			6
Height Summation:			**30689.438**				
Amount Avg CF:			**0.012953**	Linear:			
Aroclor-1221					1		
2.89	2.90	2.93	63568.82	0.350931			2
Height Summation:			**63568.82**				
Amount Avg CF:			**0.350931**	Linear:			
Aroclor-1232					5	6.61	
3.27	3.29	3.31	7456.344	0.0325			2
3.47	3.49	3.51	6439	0.027626			3
3.54	3.56	3.58	6825.628	0.030608			4
3.60	3.62	3.64	4423.795	0.030448			5
3.71	3.73	3.75	5544.671	0.032657			6
Height Summation:			**30689.438**				
Amount Avg CF:			**0.030768**	Linear:			
Aroclor-1242					5	8.00	
3.27	3.29	3.31	7456.344	0.018001			2
3.47	3.49	3.51	6439	0.015284			3
3.54	3.56	3.58	6825.628	0.016599			4
3.60	3.62	3.64	4423.795	0.014642			5
3.71	3.73	3.75	5544.671	0.016415			6
Height Summation:			**30689.438**				
Amount Avg CF:			**0.016188**	Linear:			
Aroclor-1248					3	1.54	
3.58	3.60	3.62	4629.284	0.009116			1
3.71	3.73	3.75	5544.671	0.008893			2
3.93	3.95	3.97	7343.784	0.009149			4
Height Summation:			**17517.739**				
Amount Avg CF:			**0.009053**	Linear:			
Aroclor-1254					3	31.36	
4.40	4.42	4.44	13296.92	0.027745			2
4.54	4.56	4.58	11004.37	0.028358			4
4.77	4.79	4.81	11027.18	0.015161			6
Height Summation:			**35328.47**				
Amount Avg CF:			**0.023755**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKLS ID: LS **Batchnumber: 1830899999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 17:27:05
Instrument : CP25--18274A
Result file : 25PCBS18303005.024.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					**5**	**105.71**	
4.55	4.57	4.59	1457.516	0.004175			1
4.61	4.63	4.65	2098.13	0.003002			2
4.74	4.76	4.78	7463.178	0.033869			3
4.83	4.85	4.87	1800.81	0.003734			4
5.14	5.16	5.18	9772.351	0.019764			6
Height Summation:			**22591.985**				
Amount Avg CF:			**0.012909**	Linear:			
Aroclor-1260					**6**	**16.56**	
4.74	4.76	4.78	7463.178	0.01379			1
4.94	4.96	4.98	8723.528	0.013381			2
5.14	5.16	5.18	9772.351	0.012429			3
5.21	5.23	5.25	5155.62	0.013516			4
5.61	5.63	5.65	9847.209	0.008645			5
+ 5.61	5.65	5.65	9590.693	0.00842			5
5.82	5.84	5.86	9215.538	0.014527			6
Height Summation:			**50177.424**				
Amount Avg CF:			**0.012715**	Linear:			
Aroclor-1262					**6**	**45.86**	
5.21	5.23	5.25	5155.62	0.008862			1
5.38	5.39	5.41	7563.73	0.01614			2
5.61	5.63	5.65	9847.209	0.007251			3
+ 5.61	5.65	5.65	9590.693	0.007062			3
5.82	5.84	5.86	9215.538	0.011726			4
5.87	5.87	5.91	1572.668	0.003687			5
6.25	6.27	6.29	4177.171	0.007952			6
Height Summation:			**37531.936**				
Amount Avg CF:			**0.00927**	Linear:			
Aroclor-1268					**6**	**123.75**	
5.81	5.84	5.85	9215.538	0.005222			1
5.87	5.87	5.91	1572.668	0.000984			2
6.00	6.02	6.04	17879.5	0.012182			3
6.07	6.09	6.11	14827.46	0.040246			4
6.24	6.27	6.28	4177.171	0.006631			5
6.44	6.47	6.48	24522.7	0.004824			6
Height Summation:			**72195.037**				
Amount Avg CF:			**0.011681**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 17:27:05
Instrument : CP25--18274B
Result file : 25PCBS18303005B.024.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					**6**	**13.82**	
4.54	4.56	4.58	11004.37	0.011606			1
4.64	4.66	4.68	11397.58	0.014972			2
4.77	4.79	4.81	11027.18	0.01164			3
5.00	5.02	5.04	9511.2	0.016221			4
5.19	5.21	5.23	18215.02	0.013089			5
5.45	5.47	5.49	12171.74	0.012848			6
Height Summation:			**73327.09**				
Amount Avg CF:			**0.013396**	Linear:			
Aroclor-1262					**6**	**20.09**	
4.81	4.83	4.85	6428.007	0.00827			1
5.00	5.02	5.04	9511.2	0.011819			2
5.20	5.21	5.24	18215.02	0.011139			3
5.41	5.43	5.45	4446.356	0.006716			4
5.46	5.47	5.50	12171.74	0.010992			5
5.83	5.85	5.87	6256.792	0.009559			6
Height Summation:			**57029.115**				
Amount Avg CF:			**0.009749**	Linear:			
Aroclor-1268					**6**	**136.64**	
5.41	5.43	5.45	4446.356	9.0E-6			1
5.46	5.47	5.50	12171.74	0.025421			2
5.61	5.63	5.65	23544.63	0.056589			3
5.68	5.70	5.72	23688.29	0.228664			4
5.83	5.85	5.87	6256.792	0.037464			5
6.03	6.05	6.07	31523.59	0.020745			6
Height Summation:			**101631.398**				
Amount Avg CF:			**0.061482**	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		4.50	4	40	
Aroclor-1221			0.5	0.1		** 98.81	3	5	
Aroclor-1232			0.5	0.2		19.82	4	10	
Aroclor-1242			0.5	0.1		7.02	4	30	
Aroclor-1248			0.5	0.1		1.11	4	40	
Aroclor-1254			0.5	0.1		** 59.16	4	40	
Aroclor-1260			0.5	0.15		5.22	4	40	
Aroclor-1262			0.5	0.2		5.04	4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C PIBLKLS ID: LS **Batchnumber: 1830899999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 17:27:05
Instrument : CP25--18274A
Result file : 25PCBS18303005.024.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 17:27:05
Instrument : CP25--18274B
Result file : 25PCBS18303005B.024.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1268			0.5	0.16		** 136.14	4	40	

Units: ug/l

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274A Date Analyzed: 11/05/18

GC Column (1) : MR-1 ID: .32 (mm) Time Analyzed: 20:21

Lab File ID: 25PCBS18303005.040.RAW Initial Calibration: 25PCBS1830301

Lab Standard ID: AR164KH Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.92	2.90	2.96	42.28	40.06	6
Decachlorobiphenyl	6.61	6.58	6.64	36.08	40.04	-10
Aroclor-1016	3.18	3.16	3.20	197.75	200.40	-1
	3.40	3.38	3.42	199.78	200.40	0
	3.51	3.49	3.53	201.93	200.40	1
	3.73	3.71	3.75	205.29	200.40	2
	3.79	3.77	3.81	204.03	200.40	2
	3.98	3.96	4.00	203.59	200.40	2
Aroclor-1260	4.75	4.74	4.78	191.42	200.44	-4
	4.95	4.94	4.98	195.16	200.44	-3
	5.16	5.14	5.18	185.98	200.44	-7
	5.22	5.21	5.25	187.20	200.44	-7
	5.63	5.61	5.65	196.82	200.44	-2
	5.83	5.82	5.86	188.26	200.44	-6

Compounds 14

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 18274B Date Analyzed: 11/05/18

GC Column (2) : MR-2 ID: .32 (mm) Time Analyzed: 20:21

Lab File ID: 25PCBS18303005B.040.RAW Initial Calibration: 25PCBS1830301B

Lab Standard ID: AR164KH Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 25PCBS1830301B

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.68	2.65	2.71	40.94	40.06	2
Decachlorobiphenyl	6.21	6.18	6.24	35.97	40.04	-10
Aroclor-1016	2.96	2.94	2.98	195.72	200.40	-2
	3.29	3.27	3.31	199.09	200.40	-1
	3.49	3.47	3.51	201.97	200.40	1
	3.56	3.54	3.58	204.32	200.40	2
	3.62	3.60	3.64	194.65	200.40	-3
	3.72	3.71	3.75	208.78	200.40	4
Aroclor-1260	4.56	4.54	4.58	203.48	200.44	2
	4.66	4.64	4.68	210.83	200.44	5
	4.79	4.77	4.81	208.34	200.44	4
	5.02	5.00	5.04	203.51	200.44	2
	5.21	5.19	5.23	211.02	200.44	5
	5.47	5.45	5.49	202.78	200.44	1

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164KH ID: KH **Batchnumber: 1830899999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 20:21:01
Instrument : CP25--18274A
Result file : 25PCBS18303005.040.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 106% (33-137) Conc.: 42.28342
%SSR(DCB) : 90% (10-148) Conc.: 36.07939

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	1.41	
3.16	3.18	3.20	522571.1	197.747504			1
3.38	3.40	3.42	510842	199.776824			2
+ 3.38	3.41	3.42	216179.1	84.541941			2
3.49	3.51	3.53	662841.4	201.926284			3
3.71	3.73	3.75	775870.4	205.285671			4
3.77	3.79	3.81	635029.4	204.032794			5
3.96	3.98	4.00	483985.9	203.594878			6
Height Summation:			3591140.2				
Amount Avg CF:			202.060659	Linear:			
Aroclor-1221					3	37.32	
3.06	3.08	3.10	90717.44	64.557891			1
3.11	3.13	3.15	123689.6	111.059537			2
3.16	3.18	3.20	522571.1	143.557819			3
Height Summation:			736978.14				
Amount Avg CF:			106.391749	Linear:			
Aroclor-1232					6	29.36	
3.16	3.18	3.20	522571.1	175.677291			1
E 3.38	3.40	3.42	510842	442.184898			2
+ 3.38	3.41	3.42	216179.1	187.124656			2
E 3.49	3.51	3.53	662841.4	447.333571			3
E 3.71	3.73	3.75	775870.4	435.634595			4
E 3.77	3.79	3.81	635029.4	481.750891			5
E 3.96	3.98	4.00	483985.9	520.453809			6
Height Summation:			3591140.2				
Amount Avg CF:			417.172509	Linear:			
Aroclor-1242					6	6.09	
E 3.16	3.18	3.20	522571.1	228.623849			1
E 3.38	3.40	3.42	510842	240.026376			2
+ 3.38	3.41	3.42	216179.1	101.574823			2
E 3.49	3.51	3.53	662841.4	244.40688			3
E 3.71	3.73	3.75	775870.4	239.859468			4
E 3.77	3.79	3.81	635029.4	263.257167			5
E 3.96	3.98	4.00	483985.9	267.63713			6
+ 3.96	4.00	4.00	154075.4	85.201445			6
Height Summation:			3591140.2				
Amount Avg CF:			247.301812	Linear:			
Aroclor-1248					6	37.31	
3.83	3.85	3.87	436889.4	140.412347			1
3.96	3.98	4.00	483985.9	137.867568			2
4.05	4.07	4.09	461711.8	155.117921			3
4.23	4.24	4.27	97947.69	32.962868			4
4.36	4.38	4.40	519192.5	164.014633			5
4.61	4.63	4.65	325881.9	138.301652			6
Height Summation:			2325609.19				
Amount Avg CF:			128.112832	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 20:21:01
Instrument : CP25--18274B
Result file : 25PCBS18303005B.040.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 102% (33-137) Conc.: 40.93959
%SSR(DCB) : 90% (10-148) Conc.: 35.97256

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	2.67	
2.94	2.96	2.98	852130.9	195.723075			1
3.27	3.29	3.31	1014917	199.089414			2
+ 3.47	3.47	3.51	40674.07	8.22701			3
3.47	3.49	3.51	998512.6	201.965861			3
3.54	3.56	3.58	1046951	204.315542			4
3.60	3.62	3.64	782586.2	194.649514			5
+ 3.60	3.64	3.64	238312.9	59.274608			5
3.71	3.72	3.75	905110.9	208.77538			6
Height Summation:			5600208.6				
Amount Avg CF:			200.753131	Linear:			
Aroclor-1221					3	44.12	
2.83	2.85	2.87	168108.3	66.17055			1
+ 2.89	2.90	2.93	61889.59	34.166097			2
2.89	2.91	2.93	128089.5	70.711703			2
2.94	2.96	2.98	852130.9	138.480171			3
Height Summation:			1148328.7				
Amount Avg CF:			91.787475	Linear:			
Aroclor-1232					6	31.38	
2.94	2.96	2.98	852130.9	170.952605			1
E 3.27	3.29	3.31	1014917	442.372092			2
+ 3.47	3.47	3.51	40674.07	17.450775			3
E 3.47	3.49	3.51	998512.6	428.401169			3
E 3.54	3.56	3.58	1046951	469.474311			4
E 3.60	3.62	3.64	782586.2	538.636684			5
+ 3.60	3.64	3.64	238312.9	164.025471			5
E 3.71	3.72	3.75	905110.9	533.085467			6
Height Summation:			5600208.6				
Amount Avg CF:			430.487055	Linear:			
Aroclor-1242					6	6.08	
E 2.94	2.96	2.98	852130.9	226.835723			1
E 3.27	3.29	3.31	1014917	245.015988			2
+ 3.47	3.47	3.51	40674.07	9.654669			3
E 3.47	3.49	3.51	998512.6	237.013612			3
E 3.54	3.56	3.58	1046951	254.601825			4
E 3.60	3.62	3.64	782586.2	259.015433			5
+ 3.60	3.64	3.64	238312.9	78.875297			5
E 3.71	3.72	3.75	905110.9	267.950614			6
Height Summation:			5600208.6				
Amount Avg CF:			248.405532	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164KH ID: KH **Batchnumber: 1830899999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 20:21:01
Instrument : CP25--18274A
Result file : 25PCBS18303005.040.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					**6**	**103.02**	
+ 4.55	4.57	4.59	44415.69	12.722893			1
4.55	4.59	4.59	105255.3	30.150425			1
4.61	4.63	4.65	325881.9	46.628914			2
4.74	4.75	4.78	1036004	470.156685			3
4.83	4.84	4.87	186329.7	38.63853			4
5.03	5.05	5.07	597633.2	154.474492			5
5.14	5.16	5.18	1462216	295.721783			6
Height Summation:			**3713320.1**				
Amount Avg CF:			**172.628471**	Linear:			
Aroclor-1260					**6**	**2.32**	
4.74	4.75	4.78	1036004	191.421995			1
4.94	4.95	4.98	1272304	195.161887			2
5.14	5.16	5.18	1462216	185.976763			3
5.21	5.22	5.25	714102.2	187.204357			4
5.61	5.63	5.65	2241969	196.822301			5
5.82	5.83	5.86	1194258	188.255825			6
Height Summation:			**7920853.2**				
Amount Avg CF:			**190.807188**	Linear:			
Aroclor-1262					**6**	**21.36**	
5.21	5.22	5.25	714102.2	122.749488			1
5.38	5.39	5.41	680090.1	145.124163			2
5.61	5.63	5.65	2241969	165.093507			3
5.82	5.83	5.86	1194258	151.962467			4
5.87	5.89	5.91	398596.9	93.456123			5
6.25	6.26	6.29	557345.5	106.102194			6
Height Summation:			**5786361.7**				
Amount Avg CF:			**130.74799**	Linear:			
Aroclor-1268					**6**	**108.33**	
5.81	5.83	5.85	1194258	67.670295			1
5.87	5.89	5.91	398596.9	24.937468			2
6.00	6.02	6.04	50129.41	3.415463			3
6.07	6.08	6.11	44319.48	12.029556			4
6.24	6.26	6.28	557345.5	88.471538			5
6.44	6.46	6.48	181066.7	3.561791			6
Height Summation:			**2425715.99**				
Amount Avg CF:			**33.347685**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 20:21:01
Instrument : CP25--18274B
Result file : 25PCBS18303005B.040.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					**6**	**44.70**	
3.58	3.59	3.62	722982.8	142.376916			1
3.71	3.72	3.75	905110.9	145.170733			2
+ 3.80	3.80	3.84	181499.4	44.043009			3
3.80	3.82	3.84	726261.6	176.236098			3
3.93	3.95	3.97	975747.2	121.56633			4
+ 4.07	4.09	4.11	33180.75	8.987892			5
4.07	4.10	4.11	62734.58	16.993335			5
+ 4.30	4.32	4.34	175581.5	50.310399			6
4.30	4.34	4.34	469973.3	134.664212			6
Height Summation:			**3862810.38**				
Amount Avg CF:			**122.834604**	Linear:			
Aroclor-1254					**6**	**95.44**	
+ 4.30	4.30	4.34	203088.3	19.903311			1
+ 4.30	4.32	4.34	175581.5	17.207556			1
4.30	4.34	4.34	469973.3	46.058906			1
4.40	4.42	4.44	1679103	350.357983			2
4.47	4.49	4.51	174519.4	27.115188			3
4.54	4.56	4.58	1929332	497.184254			4
4.69	4.71	4.73	197808.2	44.688201			5
4.77	4.79	4.81	1973661	271.351366			6
Height Summation:			**6424396.9**				
Amount Avg CF:			**206.125983**	Linear:			
Aroclor-1260					**6**	**1.87**	
4.54	4.56	4.58	1929332	203.482425			1
4.64	4.66	4.68	1604992	210.828314			2
4.77	4.79	4.81	1973661	208.339019			3
5.00	5.02	5.04	1193271	203.506041			4
5.19	5.21	5.23	2936480	211.015366			5
5.45	5.47	5.49	1921005	202.776143			6
Height Summation:			**11558741**				
Amount Avg CF:			**206.657884**	Linear:			
Aroclor-1262					**6**	**25.29**	
4.81	4.82	4.85	950711.6	122.313459			1
5.00	5.02	5.04	1193271	148.276493			2
+ 5.00	5.04	5.04	144149.7	17.912119			2
5.20	5.21	5.24	2936480	179.578181			3
5.41	5.43	5.45	601702.2	90.877446			4
5.46	5.47	5.50	1921005	173.47577			5
5.83	5.85	5.87	750212.5	114.621572			6
Height Summation:			**8353382.3**				
Amount Avg CF:			**138.190487**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **AR1641824D** AR164KH ID: KH **Batchnumber: 1830899999**
Sample Amount: 1 Total Volume: 1 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 20:21:01
Instrument : CP25--18274A
Result file : 25PCBS18303005.040.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 20:21:01
Instrument : CP25--18274B
Result file : 25PCBS18303005B.040.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**136.42**	
5.41	5.43	5.45	601702.2	0.12704			1
5.46	5.47	5.50	1921005	401.201513			2
5.61	5.63	5.65	69213.49	16.635411			3
5.68	5.69	5.72	44770.16	43.216901			4
5.83	5.85	5.87	750212.5	449.209944			5
6.03	6.05	6.07	248913.5	16.380544			6

Height Summation: **3635816.85**
Amount Avg CF: **154.461892** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.65	4	40	
Aroclor-1221			0.5	0.1		14.74	3	5	
Aroclor-1232			0.5	0.2	E	3.14	4	10	
Aroclor-1242			0.5	0.1	E	0.45	4	30	
Aroclor-1248			0.5	0.1		4.21	4	40	
Aroclor-1254			0.5	0.1		17.69	4	40	
Aroclor-1260			0.5	0.15		7.98	4	40	
Aroclor-1262			0.5	0.2		5.53	4	40	
Aroclor-1268			0.5	0.16		** 128.98	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKLT ID: LT **Batchnumber: 1830899999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 20:31:54
Instrument : CP25--18274A
Result file : 25PCBS18303005.041.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 104% (33-137) Conc.: 0.208275
%SSR(DCB) : 94% (10-148) Conc.: 0.187283

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	17.92	
3.16	3.18	3.20	2692.386	0.010188			1
3.38	3.40	3.42	3770.932	0.014747			2
3.49	3.51	3.53	2965.905	0.009035			3
3.71	3.73	3.75	4273.806	0.011308			4
3.77	3.79	3.81	3108.112	0.009986			5
3.96	3.98	4.00	2766.926	0.011639			6
Height Summation:			19578.067				
Amount Avg CF:			0.011151	Linear:			
Aroclor-1221					2	135.69	
3.11	3.12	3.15	39824.04	0.357576			2
3.16	3.18	3.20	2692.386	0.007396			3
Height Summation:			42516.426				
Amount Avg CF:			0.182486	Linear:			
Aroclor-1232					6	35.75	
3.16	3.18	3.20	2692.386	0.009051			1
3.38	3.40	3.42	3770.932	0.032641			2
3.49	3.51	3.53	2965.905	0.020016			3
3.71	3.73	3.75	4273.806	0.023997			4
3.77	3.79	3.81	3108.112	0.023579			5
3.96	3.98	4.00	2766.926	0.029754			6
Height Summation:			19578.067				
Amount Avg CF:			0.023173	Linear:			
Aroclor-1242					6	18.23	
3.16	3.18	3.20	2692.386	0.011779			1
3.38	3.40	3.42	3770.932	0.017718			2
3.49	3.51	3.53	2965.905	0.010936			3
3.71	3.73	3.75	4273.806	0.013212			4
3.77	3.79	3.81	3108.112	0.012885			5
3.96	3.98	4.00	2766.926	0.015301			6
Height Summation:			19578.067				
Amount Avg CF:			0.013639	Linear:			
Aroclor-1248					5	16.48	
3.83	3.85	3.87	2637.564	0.008477			1
3.96	3.98	4.00	2766.926	0.007882			2
4.05	4.07	4.09	2052.655	0.006896			3
4.36	4.38	4.40	3393.081	0.010719			5
4.61	4.63	4.65	2058.371	0.008736			6
Height Summation:			12908.597				
Amount Avg CF:			0.008542	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 20:31:54
Instrument : CP25--18274B
Result file : 25PCBS18303005B.041.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 101% (33-137) Conc.: 0.201308
%SSR(DCB) : 93% (10-148) Conc.: 0.186422

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	10.21	
3.27	3.29	3.31	5056.084	0.009918			2
3.47	3.49	3.51	5812.339	0.011756			3
3.54	3.56	3.58	5211.899	0.010171			4
3.60	3.62	3.64	4516.891	0.011235			5
3.71	3.72	3.75	5495.868	0.012677			6
Height Summation:			26093.081				
Amount Avg CF:			0.011151	Linear:			
Aroclor-1221					1		
2.89	2.90	2.93	65081.1	0.35928			2
Height Summation:			65081.1				
Amount Avg CF:			0.35928	Linear:			
Aroclor-1232					5	17.46	
3.27	3.29	3.31	5056.084	0.022038			2
3.47	3.49	3.51	5812.339	0.024937			3
3.54	3.56	3.58	5211.899	0.023371			4
3.60	3.62	3.64	4516.891	0.031089			5
3.71	3.72	3.75	5495.868	0.032369			6
Height Summation:			26093.081				
Amount Avg CF:			0.026761	Linear:			
Aroclor-1242					5	11.90	
3.27	3.29	3.31	5056.084	0.012206			2
3.47	3.49	3.51	5812.339	0.013797			3
3.54	3.56	3.58	5211.899	0.012675			4
3.60	3.62	3.64	4516.891	0.01495			5
3.71	3.72	3.75	5495.868	0.01627			6
Height Summation:			26093.081				
Amount Avg CF:			0.013979	Linear:			
Aroclor-1248					3	9.35	
3.58	3.59	3.62	4310.11	0.008488			1
3.71	3.72	3.75	5495.868	0.008815			2
3.93	3.95	3.97	5900.003	0.007351			4
Height Summation:			15705.981				
Amount Avg CF:			0.008218	Linear:			
Aroclor-1254					3	31.33	
4.40	4.42	4.44	11332.62	0.023646			2
4.54	4.56	4.58	11739.3	0.030252			4
4.77	4.79	4.81	11439.49	0.015728			6
Height Summation:			34511.41				
Amount Avg CF:			0.023209	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **IBLKX1824C** PIBLKLT ID: LT **Batchnumber: 1830899999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 20:31:54
Instrument : CP25--18274A
Result file : 25PCBS18303005.041.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					**6**	**96.04**	
4.55	4.57	4.59	774.9142	0.00222			1
4.61	4.63	4.65	2058.371	0.002945			2
4.74	4.75	4.78	6571.901	0.029824			3
4.83	4.85	4.87	1506.043	0.003123			4
5.03	5.05	5.07	5015.419	0.012964			5
5.14	5.16	5.18	8734.067	0.017664			6

Height Summation: **24660.7152**
Amount Avg CF: **0.011457** Linear:

Aroclor-1260					**6**	**15.20**	
4.74	4.75	4.78	6571.901	0.012143			1
4.94	4.95	4.98	7650.134	0.011735			2
5.14	5.16	5.18	8734.067	0.011109			3
5.21	5.22	5.25	4448.276	0.011661			4
5.61	5.63	5.65	8786.092	0.007713			5
5.82	5.83	5.86	7635.93	0.012037			6

Height Summation: **43826.4**
Amount Avg CF: **0.011066** Linear:

Aroclor-1262					**6**	**32.77**	
5.21	5.22	5.25	4448.276	0.007646			1
5.38	5.39	5.41	5749.353	0.012269			2
5.61	5.63	5.65	8786.092	0.00647			3
5.82	5.83	5.86	7635.93	0.009716			4
5.87	5.88	5.91	2159.806	0.005064			5
6.25	6.27	6.29	3488.138	0.00664			6

Height Summation: **32267.595**
Amount Avg CF: **0.007968** Linear:

Aroclor-1268					**6**	**109.09**	
5.81	5.83	5.85	7635.93	0.004327			1
5.87	5.88	5.91	2159.806	0.001351			2
6.00	6.02	6.04	14824.11	0.0101			3
6.07	6.09	6.11	10365.34	0.028134			4
6.24	6.27	6.28	3488.138	0.005537			5
6.44	6.46	6.48	22650.37	0.004456			6

Height Summation: **61123.694**
Amount Avg CF: **0.008984** Linear:

Analysis Report (B)

Injected on : Nov 05, 2018 20:31:54
Instrument : CP25--18274B
Result file : 25PCBS18303005B.041.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					**6**	**7.99**	
4.54	4.56	4.58	11739.3	0.012381			1
4.64	4.66	4.68	9920.562	0.013031			2
4.77	4.79	4.81	11439.49	0.012075			3
5.00	5.02	5.04	8389.676	0.014308			4
5.19	5.21	5.23	15745.85	0.011315			5
5.45	5.47	5.49	11881.82	0.012542			6

Height Summation: **69116.698**
Amount Avg CF: **0.012609** Linear:

Aroclor-1262					**3**	**5.54**	
5.00	5.02	5.04	8389.676	0.010425			2
5.20	5.21	5.24	15745.85	0.009629			3
5.46	5.47	5.50	11881.82	0.01073			5

Height Summation: **36017.346**
Amount Avg CF: **0.010261** Linear:

Aroclor-1268					**4**	**107.02**	
5.46	5.47	5.50	11881.82	0.024815			2
5.61	5.63	5.65	21629.03	0.051985			3
5.68	5.69	5.72	17958.19	0.173351			4
6.03	6.05	6.07	29310.05	0.019288			6

Height Summation: **80779.09**
Amount Avg CF: **0.06736** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.01	4	40	
Aroclor-1221			0.5	0.1		** 65.27	3	5	
Aroclor-1232			0.5	0.2		14.37	4	10	
Aroclor-1242			0.5	0.1		2.47	4	30	
Aroclor-1248			0.5	0.1		3.87	4	40	
Aroclor-1254			0.5	0.1		** 67.80	4	40	
Aroclor-1260			0.5	0.15		13.03	4	40	
Aroclor-1262			0.5	0.2		25.17	4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C PIBLKLT ID: LT **Batchnumber: 1830899999**
Sample Amount: 1000 Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10227

Analysis Report (A)

Injected on : Nov 05, 2018 20:31:54
Instrument : CP25--18274A
Result file : 25PCBS18303005.041.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 20:31:54
Instrument : CP25--18274B
Result file : 25PCBS18303005B.041.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1268			0.5	0.16		** 152.93	4	40	

Units: ug/l

Eurofins Lancaster Laboratories
Pesticide Residue Analysis
Runlog for 25PCBS18303001
Instrument CP25--18274A

Data Directory Path is - \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	25PCBS18303001.001	CONDITIONER		10/30/18 17:08	1830299999	1.00
9065	25PCBS18303001.002	CONDITIONER		10/30/18 17:19	1830299999	1.00
9065	25PCBS18303001.003	CONDITIONER		10/30/18 17:30	1830299999	1.00
9065	25PCBS18303001.004	CONDITIONER		10/30/18 17:40	1830299999	1.00
9065	25PCBS18303001.005	IBLKX1824C	PIBLKFR	10/30/18 17:51	1830299999	10.00
9065	25PCBS18303001.006	EVALX1824B	EVALXAA	10/30/18 18:02	1830299999	1.00
9065	25PCBS18303001.007	AR1611824D	AR161AA	10/30/18 18:13	1830299999	1.00
9065	25PCBS18303001.008	AR1621824D	AR162AA	10/30/18 18:24	1830299999	1.00
9065	25PCBS18303001.009	AR1631824D	AR163AA	10/30/18 18:35	1830299999	1.00
9065	25PCBS18303001.010	AR1641824D	AR164AA	10/30/18 18:46	1830299999	1.00
9065	25PCBS18303001.011	AR1651824D	AR165AA	10/30/18 18:57	1830299999	1.00
9065	25PCBS18303001.012	AR1661824C	AR166AA	10/30/18 19:08	1830299999	1.00
9065	25PCBS18303001.013	AR4811824C	AR481AA	10/30/18 19:19	1830299999	1.00
9065	25PCBS18303001.014	AR4821824C	AR482AA	10/30/18 19:30	1830299999	1.00
9065	25PCBS18303001.015	AR4831824C	AR483AA	10/30/18 19:41	1830299999	1.00
9065	25PCBS18303001.016	AR4841824C	AR484AA	10/30/18 19:51	1830299999	1.00
9065	25PCBS18303001.017	AR4851824C	AR485AA	10/30/18 20:02	1830299999	1.00
9065	25PCBS18303001.018	AR4861824C	AR486AA	10/30/18 20:13	1830299999	1.00
9065	25PCBS18303001.019	AR5411824C	AR541AA	10/30/18 20:24	1830299999	1.00
9065	25PCBS18303001.020	AR5421824C	AR542AA	10/30/18 20:35	1830299999	1.00
9065	25PCBS18303001.021	AR5431824C	AR543AA	10/30/18 20:46	1830299999	1.00
9065	25PCBS18303001.022	AR5441824C	AR544AA	10/30/18 20:57	1830299999	1.00
9065	25PCBS18303001.023	AR5451824C	AR545AA	10/30/18 21:07	1830299999	1.00
9065	25PCBS18303001.024	AR5461824C	AR546AA	10/30/18 21:18	1830299999	1.00
9065	25PCBS18303001.025	AR6241824B	AR624AA	10/30/18 21:29	1830299999	1.00
9065	25PCBS18303001.026	AR6841824B	AR684AA	10/30/18 21:40	1830299999	1.00
9065	25PCBS18303001.027	AR2141824E	AR214AA	10/30/18 21:51	1830299999	1.00
9065	25PCBS18303001.028	AR3241824D	AR324AA	10/30/18 22:02	1830299999	1.00
9065	25PCBS18303001.029	AR4241824E	AR424AA	10/30/18 22:12	1830299999	1.00
9065	25PCBS18303001.030	AR16XX1824B	AR16XAA	10/30/18 22:23	1830299999	1.00
9065	25PCBS18303001.031	MD16X1824E	MD16XAA	10/30/18 22:34	1830299999	1.00
9065	25PCBS18303001.032	IC16X1824D	IC16XAA	10/30/18 22:45	1830299999	1.00
9065	25PCBS18303001.033	IC48X1824C	IC48XAA	10/30/18 22:56	1830299999	1.00
9065	25PCBS18303001.034	IC54X1824C	IC54XAA	10/30/18 23:07	1830299999	1.00
9065	25PCBS18303001.035	BLANKA 10/26/18 CA	PBLK06299	10/30/18 23:18	182990006A	2.00
9065	25PCBS18303001.036	LCSA 10/26/18 CAF	LCS06299	10/30/18 23:29	182990006A	2.00
9065	25PCBS18303001.037	LCSDA 10/26/18 CAF	LCSD06299	10/30/18 23:40	182990006A	2.00
9065	25PCBS18303001.038	9868586 CAF	25E01	10/30/18 23:51	182990006A	2.00
9065	25PCBS18303001.039	BLANKA 10/26/18 AC	PBLK37298	10/31/18 0:02	182980037A	10.00
9065	25PCBS18303001.040	LCSA 10/26/18 ACF	LCS37298	10/31/18 0:13	182980037A	10.00
9065	25PCBS18303001.041	9863842 ACF DF20	CE104	10/31/18 0:23	182980037A	200.00
9065	25PCBS18303001.042	BLANKA 10/26/18 AC	PBLK34298	10/31/18 0:34	182980034A	10.00
9065	25PCBS18303001.043	LCSA 10/26/18 ACF	LCS34298	10/31/18 0:45	182980034A	10.00
9065	25PCBS18303001.044	IBLKX1824C	PIBLKFS	10/31/18 0:56	1830299999	10.00
9065	25PCBS18303001.045	AR1641824D	AR164GU	10/31/18 1:07	1830299999	1.00
9065	25PCBS18303001.046	9865786 ACF	3B840	10/31/18 1:18	182980034A	10.00
9065	25PCBS18303001.047	9865786MS ACF	3B840MS	10/31/18 1:29	182980034A	10.00
9065	25PCBS18303001.048	9865786MSD ACF	3B840MSD	10/31/18 1:40	182980034A	10.00
9065	25PCBS18303001.049	9865977 ACF	C2301	10/31/18 1:51	182980034A	10.00
9065	25PCBS18303001.050	9865977 ACF DF5	C2301	10/31/18 2:02	182980034A	50.00
9065	25PCBS18303001.051	9865978 ACF	C2302	10/31/18 2:12	182980034A	10.00
9065	25PCBS18303001.052	9865979 ACF	C2303	10/31/18 2:23	182980034A	10.00
9065	25PCBS18303001.053	9865980 ACF	C2304	10/31/18 2:34	182980034A	10.00
9065	25PCBS18303001.054	9865981 ACF DF50	C2305	10/31/18 2:45	182980034A	500.00
9065	25PCBS18303001.055	9865982 ACF DF50	C2306	10/31/18 2:56	182980034A	500.00
9065	25PCBS18303001.056	9865983 ACF	C2307	10/31/18 3:07	182980034A	10.00

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	25PCBS18303001.057	9865984 ACF	C2308	10/31/18 3:18	182980034A	10.00
9065	25PCBS18303001.058	9865985 ACF DF10	C2309	10/31/18 3:29	182980034A	100.00
9065	25PCBS18303001.059	9865986 ACF	C2310	10/31/18 3:39	182980034A	10.00
9065	25PCBS18303001.060	9865987 ACF	C2311	10/31/18 3:50	182980034A	10.00
9065	25PCBS18303001.061	9865988 ACF	C2312	10/31/18 4:01	182980034A	10.00
9065	25PCBS18303001.062	9865989 ACF	C2313	10/31/18 4:12	182980034A	10.00
9065	25PCBS18303001.063	9865990 ACF	C2314	10/31/18 4:23	182980034A	10.00
9065	25PCBS18303001.064	9865991 ACF DF20	C2315	10/31/18 4:34	182980034A	200.00
9065	25PCBS18303001.065	AR1641824D	AR164GV	10/31/18 4:45	1830299999	1.00
9065	25PCBS18303001.066	IBLKX1824C	PIBLKFT	10/31/18 4:56	1830299999	10.00
9065	25PCBS18303001.067	9865992 ACF DF5	C2316	10/31/18 5:07	182980034A	50.00
9065	25PCBS18303001.068	9865993 ACF	C2317	10/31/18 5:18	182980034A	10.00
9065	25PCBS18303001.069	9865994 ACF	C2318	10/31/18 5:29	182980034A	10.00
9065	25PCBS18303001.070	9865995 ACF	C2319	10/31/18 5:40	182980034A	10.00
9065	25PCBS18303001.071	AR1641824D	AR164GW	10/31/18 5:51	1830299999	1.00
9065	25PCBS18303001.072	IBLKX1824C	PIBLKFU	10/31/18 6:02	1830299999	10.00
9065	25PCBS18303001.073	BLANKA 10/25/18 RI	PBLK32297	10/31/18 6:13	182970032A	2.00
9065	25PCBS18303001.074	LCSA 10/25/18 RI CA	LCS32297	10/31/18 6:24	182970032A	2.00
9065	25PCBS18303001.075	9860354 RI CAF	O1006	10/31/18 6:35	182970032A	2.00
9065	25PCBS18303001.076	9860355 RI CAF	O1005	10/31/18 6:46	182970032A	2.00
9065	25PCBS18303001.077	9860356MS RI CAF	O1005	10/31/18 6:57	182970032A	2.00
9065	25PCBS18303001.078	9860357MSD RI CAF	O1005	10/31/18 7:07	182970032A	2.00
9065	25PCBS18303001.079	9861761 RI CAF	10MW4	10/31/18 7:19	182970032A	2.00
9065	25PCBS18303001.080	9861762 RI CAF	10MW3	10/31/18 7:29	182970032A	2.00
9065	25PCBS18303001.081	9861763 RI CAF	10MW2	10/31/18 7:40	182970032A	2.00
9065	25PCBS18303001.082	AR1641824D	AR164GX	10/31/18 7:51	1830299999	1.00
9065	25PCBS18303001.083	IBLKX1824C	PIBLKFV	10/31/18 8:02	1830299999	10.00
9065	25PCBS18303001.084	BLANKA 10/23/18 RI	PBLK12296	10/31/18 8:13	182960012A	2.00
9065	25PCBS18303001.085	LCSA 10/23/18 RI CA	LCS12296	10/31/18 8:24	182960012A	2.00
9065	25PCBS18303001.086	LCSDA 10/23/18 RI C	LCSD12296	10/31/18 8:35	182960012A	2.00
9065	25PCBS18303001.087	9854342 RI CAF	97604	10/31/18 8:46	182960012A	2.00
9065	25PCBS18303001.088	9854344 RI CAF	97606	10/31/18 8:57	182960012A	2.00
9065	25PCBS18303001.089	9854345 RI CAF	97607	10/31/18 9:08	182960012A	2.00
9065	25PCBS18303001.090	BLANKA 10/25/18 RI	PBLK31297	10/31/18 9:19	182970031A	2.00
9065	25PCBS18303001.091	LCSA 10/25/18 RI CA	LCS31297	10/31/18 9:30	182970031A	2.00
9065	25PCBS18303001.092	LCSDA 10/25/18 RI C	LCSD31297	10/31/18 9:41	182970031A	2.00
9065	25PCBS18303001.093	AR1641824D	AR164GY	10/31/18 9:51	1830299999	1.00
9065	25PCBS18303001.094	IBLKX1824C	PIBLKFW	10/31/18 10:02	1830299999	10.00
9065	25PCBS18303001.095	9859872 RI CAF	C3311	10/31/18 10:13	182970031A	2.00
9065	25PCBS18303001.096	9859873 RI CAF	C3312	10/31/18 10:24	182970031A	2.00
9065	25PCBS18303001.097	9859874 RI CAF	C3313	10/31/18 10:35	182970031A	2.00
9065	25PCBS18303001.098	9859875 RI CAF	C3314	10/31/18 10:46	182970031A	2.00
9065	25PCBS18303001.099	9861917 RI AF	GKP01	10/31/18 10:57	182980007A	2.00
9065	25PCBS18303001.100	9861918 RI AF	GKP03	10/31/18 11:08	182980007A	2.00
9065	25PCBS18303001.101	9861919 RI AF	GKP04	10/31/18 11:19	182980007A	2.00
9065	25PCBS18303001.102	9861920 RI AF	GKPR1	10/31/18 11:30	182980007A	2.00
9065	25PCBS18303001.103	9861921 RI AF	GKP05	10/31/18 11:41	182980007A	2.00
9065	25PCBS18303001.104	9861922 RI AF	GKP02	10/31/18 11:52	182980007A	2.00
9065	25PCBS18303001.105	AR1641824D	AR164GZ	10/31/18 12:03	1830299999	1.00
9065	25PCBS18303001.106	IBLKX1824C	PIBLKFX	10/31/18 12:14	1830299999	10.00
9065	25PCBS18303001.107	9866412 RI ACF DF1	24E13	10/31/18 12:25	182970043A	100.00
9065	25PCBS18303001.109	IBLKX1824C	PIBLKFY	10/31/18 12:47	1830299999	10.00

Eurofins Lancaster Laboratories
Pesticide Residue Analysis
Runlog for 25PCBS18303004
Instrument CP25--18274A

Data Directory Path is - \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	25PCBS18303004.001	CONDITIONER		11/4/18 11:44	1830499999	1.00
9065	25PCBS18303004.002	CONDITIONER		11/4/18 11:54	1830499999	1.00
9065	25PCBS18303004.003	CONDITIONER		11/4/18 12:05	1830499999	1.00
9065	25PCBS18303004.004	CONDITIONER		11/4/18 12:16	1830499999	1.00
9065	25PCBS18303004.005	AR1641824D	AR164JM	11/4/18 12:27	1830799999	1.00
9065	25PCBS18303004.006	IBLKX1824C	PIBLKKN	11/4/18 12:37	1830799999	10.00
9065	25PCBS18303004.007	BLANKA 11/1/18 CAF	PBLK10305	11/4/18 12:48	183050010A	2.00
9065	25PCBS18303004.008	LCSA 11/1/18 CAF	LCS10305	11/4/18 12:59	183050010A	2.00
9065	25PCBS18303004.009	9874781 CAF	BRL01	11/4/18 13:10	183050010A	2.00
9065	25PCBS18303004.010	9874782 CAF	BRL02	11/4/18 13:21	183050010A	2.00
9065	25PCBS18303004.011	9876332 CAF	14T02	11/4/18 13:32	183050010A	2.00
9065	25PCBS18303004.012	9876334 CAF	14T04	11/4/18 13:43	183050010A	2.00
9065	25PCBS18303004.013	9876335MS CAF	14T04	11/4/18 13:54	183050010A	2.00
9065	25PCBS18303004.014	9876336MSD CAF	14T04	11/4/18 14:05	183050010A	2.00
9065	25PCBS18303004.015	9876342 CAF	14T06	11/4/18 14:16	183050010A	2.00
9065	25PCBS18303004.016	9877294 CAF	27E16	11/4/18 14:27	183050010A	2.00
9065	25PCBS18303004.017	AR1641824D	AR164JW	11/4/18 14:38	1830799999	1.00
9065	25PCBS18303004.018	IBLKX1824C	PIBLKKX	11/4/18 14:48	1830799999	10.00
9065	25PCBS18303004.019	AR4241824E	AA	11/4/18 14:59	1830499999	1.00
9065	25PCBS18303004.020	AR4841824C	AA	11/4/18 15:10	1830499999	1.00
9065	25PCBS18303004.021	AR5441824C	AA	11/4/18 15:21	1830499999	1.00
9065	25PCBS18303004.022	AR6241824B	AA	11/4/18 15:32	1830499999	1.00
9065	25PCBS18303004.023	AR6841824B	AA	11/4/18 15:43	1830499999	1.00
9065	25PCBS18303004.024	BLANKA 11/2/18 ACF	PBLK25306	11/4/18 15:54	183060025A	5.00
9065	25PCBS18303004.025	LCSA 11/2/18 ACF	LCS25306	11/4/18 16:05	183060025A	5.00
9065	25PCBS18303004.026	LCSDA 11/2/18 ACF	LCSD25306	11/4/18 16:16	183060025A	5.00
9065	25PCBS18303004.027	9876292 ACF	51812	11/4/18 16:27	183060025A	5.00
9065	25PCBS18303004.028	9880240 ACF	S3801	11/4/18 16:38	183060025A	5.00
9065	25PCBS18303004.029	AR1641824D	AR164JO	11/4/18 16:49	1830799999	1.00
9065	25PCBS18303004.030	IBLKX1824C	PIBLKKP	11/4/18 17:00	1830799999	10.00
9065	25PCBS18303004.031	9880241 ACF	S3802	11/4/18 17:11	183060025A	5.00
9065	25PCBS18303004.032	9880246 ACF	S3807	11/4/18 17:22	183060025A	5.00
9065	25PCBS18303004.033	9880247 ACF	S3808	11/4/18 17:33	183060025A	5.00
9065	25PCBS18303004.034	9880248 ACF	S3809	11/4/18 17:43	183060025A	5.00
9065	25PCBS18303004.035	9880249 ACF	S3810	11/4/18 17:54	183060025A	5.00
9065	25PCBS18303004.036	BLANKA 11/2/18 ACF	PBLK02306	11/4/18 18:05	183060002A	5.00
9065	25PCBS18303004.037	LCSA 11/2/18 ACF	LCS02306	11/4/18 18:16	183060002A	5.00
9065	25PCBS18303004.038	LCSDA 11/2/18 ACF	LCSD02306	11/4/18 18:27	183060002A	5.00
9065	25PCBS18303004.039	9871235R ACF	62981	11/4/18 18:38	183060002A	5.00
9065	25PCBS18303004.040	9873394 ACF	UPT85	11/4/18 18:49	183060002A	5.00
9065	25PCBS18303004.041	AR1641824D	AR164JP	11/4/18 19:00	1830799999	1.00
9065	25PCBS18303004.042	IBLKX1824C	PIBLKKQ	11/4/18 19:11	1830799999	10.00
9065	25PCBS18303004.043	9873395 ACF	UPT86	11/4/18 19:21	183060002A	5.00
9065	25PCBS18303004.044	9873396 ACF	UPT87	11/4/18 19:32	183060002A	5.00
9065	25PCBS18303004.045	9873397 ACF	UPT88	11/4/18 19:43	183060002A	5.00
9065	25PCBS18303004.046	9873925 ACF	EBSSE	11/4/18 19:54	183060002A	5.00
9065	25PCBS18303004.047	AR1641824D	AR164JQ	11/4/18 20:05	1830799999	1.00
9065	25PCBS18303004.048	IBLKX1824C	PIBLKKR	11/4/18 20:16	1830799999	10.00
9065	25PCBS18303004.049	BLANKA 11/2/18 ACF	PBLK37305	11/4/18 20:27	183050037A	10.00
9065	25PCBS18303004.050	LCSA 11/2/18 ACF	LCS37305	11/4/18 20:38	183050037A	10.00
9065	25PCBS18303004.051	AR1641824D	AR164JR	11/4/18 20:48	1830799999	1.00
9065	25PCBS18303004.052	IBLKX1824C	PIBLKKS	11/4/18 20:59	1830799999	10.00
9065	25PCBS18303004.053	9879071 ACF DF10	28E01	11/4/18 21:10	183050037A	100.00
9065	25PCBS18303004.054	9879076 ACF DF200	28E06	11/4/18 21:21	183050037A	2,000.00
9065	25PCBS18303004.055	9879076 ACF DF500	28E06	11/4/18 21:32	183050037A	5,000.00
9065	25PCBS18303004.056	9879080 ACF DF5	28E10	11/4/18 21:43	183050037A	50.00

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	25PCBS18303004.057	9879080MS ACF DF	28E10MS	11/4/18 21:54	183050037A	50.00
9065	25PCBS18303004.058	9879080MSD ACF D	28E10MSD	11/4/18 22:05	183050037A	50.00
9065	25PCBS18303004.059	9879081 ACF DF200	28E11	11/4/18 22:16	183050037A	2,000.00
9065	25PCBS18303004.060	9879082 ACF	28E12	11/4/18 22:26	183050037A	10.00
9065	25PCBS18303004.061	9879082 ACF DF5	28E12	11/4/18 22:38	183050037A	50.00
9065	25PCBS18303004.062	9879085 ACF DF500	28E15	11/4/18 22:48	183050037A	5,000.00
9065	25PCBS18303004.063	9879085 ACF DF100	28E15	11/4/18 22:59	183050037A	10,000.00
9065	25PCBS18303004.064	9879086 ACF DF500	28E16	11/4/18 23:10	183050037A	5,000.00
9065	25PCBS18303004.065	9879086 ACF DF100	28E16	11/4/18 23:21	183050037A	10,000.00
9065	25PCBS18303004.066	9879089 ACF DF50	28E19	11/4/18 23:32	183050037A	500.00
9065	25PCBS18303004.067	9879090 ACF DF10	28E20	11/4/18 23:43	183050037A	100.00
9065	25PCBS18303004.068	9879091 ACF	28E21	11/4/18 23:54	183050037A	10.00
9065	25PCBS18303004.069	AR1641824D	AR164JS	11/5/18 0:05	1830799999	1.00
9065	25PCBS18303004.070	IBLKX1824C	PIBLKKT	11/5/18 0:16	1830799999	10.00
9065	25PCBS18303004.071	BLANKA 11/1/18 ACF	PBLK31304	11/5/18 0:27	183040031A	10.00
9065	25PCBS18303004.072	LCSA 11/1/18 ACF	LCS31304	11/5/18 0:38	183040031A	10.00
9065	25PCBS18303004.073	AR1641824D	AR164JT	11/5/18 0:49	1830799999	1.00
9065	25PCBS18303004.074	IBLKX1824C	PIBLKKU	11/5/18 1:00	1830799999	10.00
9065	25PCBS18303004.075	9867761 ACF DF20	T1002	11/5/18 1:10	183040031A	200.00
9065	25PCBS18303004.076	9867762 ACF DF5	T1003	11/5/18 1:21	183040031A	50.00
9065	25PCBS18303004.077	9867763MS ACF DF	T1003	11/5/18 1:32	183040031A	50.00
9065	25PCBS18303004.078	9867764MSD ACF D	T1003	11/5/18 1:43	183040031A	50.00
9065	25PCBS18303004.079	9867766 ACF DF5	T1004	11/5/18 1:54	183040031A	50.00
9065	25PCBS18303004.080	9867767 ACF DF200	T1005	11/5/18 2:05	183040031A	2,000.00
9065	25PCBS18303004.081	9870251 ACF	T1102	11/5/18 2:16	183040031A	10.00
9065	25PCBS18303004.082	9870252 ACF DF5	T1103	11/5/18 2:27	183040031A	50.00
9065	25PCBS18303004.083	9870253 ACF	T1104	11/5/18 2:38	183040031A	10.00
9065	25PCBS18303004.084	9870253 ACF DF5	T1104	11/5/18 2:49	183040031A	50.00
9065	25PCBS18303004.085	AR1641824D	AR164JU	11/5/18 3:00	1830799999	1.00
9065	25PCBS18303004.086	IBLKX1824C	PIBLKKV	11/5/18 3:11	1830799999	10.00
9065	25PCBS18303004.087	9870254 ACF DF5	T1105	11/5/18 3:22	183040031A	50.00
9065	25PCBS18303004.088	9872060 ACF DF5	12T02	11/5/18 3:32	183040031A	50.00
9065	25PCBS18303004.089	9872061 ACF DF500	12T03	11/5/18 3:43	183040031A	5,000.00
9065	25PCBS18303004.090	9872061 ACF DF100	12T03	11/5/18 3:54	183040031A	10,000.00
9065	25PCBS18303004.091	9872062 ACF DF500	12T04	11/5/18 4:05	183040031A	5,000.00
9065	25PCBS18303004.092	9872062 ACF DF100	12T04	11/5/18 4:16	183040031A	10,000.00
9065	25PCBS18303004.093	9872063 ACF	12T05	11/5/18 4:27	183040031A	10.00
9065	25PCBS18303004.094	9872064 ACF DF100	12T06	11/5/18 4:38	183040031A	10,000.00
9065	25PCBS18303004.095	9872064 ACF DF200	12T06	11/5/18 4:49	183040031A	20,000.00
9065	25PCBS18303004.096	9872065 ACF DF50	12T07	11/5/18 4:59	183040031A	500.00
9065	25PCBS18303004.097	AR1641824D	AR164JV	11/5/18 5:11	1830799999	1.00
9065	25PCBS18303004.098	IBLKX1824C	PIBLKKW	11/5/18 5:21	1830799999	10.00

Eurofins Lancaster Laboratories
Pesticide Residue Analysis
Runlog for 25PCBS18303005
Instrument CP25--18274A

Data Directory Path is - \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	25PCBS18303005.001	CONDITIONER		11/5/18 13:16	1830899999	1.00
9065	25PCBS18303005.002	CONDITIONER		11/5/18 13:27	1830899999	1.00
9065	25PCBS18303005.003	CONDITIONER		11/5/18 13:38	1830899999	1.00
9065	25PCBS18303005.004	CONDITIONER		11/5/18 13:48	1830899999	1.00
9065	25PCBS18303005.005	AR1641824D	AR164KF	11/5/18 13:59	1830899999	1.00
9065	25PCBS18303005.006	IBLKX1824C	PIBLKLR	11/5/18 14:10	1830899999	10.00
9065	25PCBS18303005.007	AR4241824E	AA	11/5/18 14:21	1830899999	1.00
9065	25PCBS18303005.008	AR4841824C	AA	11/5/18 14:32	1830899999	1.00
9065	25PCBS18303005.009	AR5441824C	AA	11/5/18 14:43	1830899999	1.00
9065	25PCBS18303005.010	AR6241824B	AA	11/5/18 14:54	1830899999	1.00
9065	25PCBS18303005.011	AR6841824B	AA	11/5/18 15:05	1830899999	1.00
9065	25PCBS18303005.012	BLANKA 11/5/18 CAF	PBLK20306	11/5/18 15:16	183060020A	2.00
9065	25PCBS18303005.013	LCSA 11/5/18 CAF	LCS20306	11/5/18 15:27	183060020A	2.00
9065	25PCBS18303005.014	LCSDA 11/5/18 CAF	LCSD20306	11/5/18 15:38	183060020A	2.00
9065	25PCBS18303005.015	9878966 CAF	45L03	11/5/18 15:49	183060020A	2.00
9065	25PCBS18303005.016	9878967 CAF	45L04	11/5/18 15:59	183060020A	2.00
9065	25PCBS18303005.017	9878968 CAF	45L05	11/5/18 16:10	183060020A	2.00
9065	25PCBS18303005.018	9878969 CAF	45L06	11/5/18 16:21	183060020A	2.00
9065	25PCBS18303005.019	9878970 CAF	45L07	11/5/18 16:32	183060020A	2.00
9065	25PCBS18303005.020	9878971 CAF	45L08	11/5/18 16:43	183060020A	2.00
9065	25PCBS18303005.021	9879087 CAF	28E17	11/5/18 16:54	183060020A	2.00
9065	25PCBS18303005.022	9879107 CAF	45L11	11/5/18 17:05	183060020A	2.00
9065	25PCBS18303005.023	AR1641824D	AR164KG	11/5/18 17:16	1830899999	1.00
9065	25PCBS18303005.024	IBLKX1824C	PIBLKLS	11/5/18 17:27	1830899999	10.00
9065	25PCBS18303005.025	9879080MSD ACF	28E10MSD	11/5/18 17:38	183050037A	10.00
9065	25PCBS18303005.026	9879080MSD RI ACF	28E10MSD	11/5/18 17:48	183050037A	50.00
9065	25PCBS18303005.027	9879080 ACF	28E10	11/5/18 17:59	183050037A	10.00
9065	25PCBS18303005.028	9879080 RI ACF DF5	28E10	11/5/18 18:10	183050037A	50.00
9065	25PCBS18303005.029	9879082 RI ACF	28E12	11/5/18 18:21	183050037A	10.00
9065	25PCBS18303005.030	9879082 RI ACF DF5	28E12	11/5/18 18:32	183050037A	50.00
9065	25PCBS18303005.031	9872061 ACF	12T03	11/5/18 18:42	183040031A	10.00
9065	25PCBS18303005.032	9872061 ACF DF5	12T03	11/5/18 18:53	183040031A	50.00
9065	25PCBS18303005.033	9872062 ACF	12T04	11/5/18 19:04	183040031A	10.00
9065	25PCBS18303005.034	9872062 ACF DF5	12T04	11/5/18 19:15	183040031A	50.00
9065	25PCBS18303005.035	9872062 ACF DF10	12T04	11/5/18 19:26	183040031A	100.00
9065	25PCBS18303005.036	9872064 ACF	12T06	11/5/18 19:37	183040031A	10.00
9065	25PCBS18303005.037	9872064 ACF DF5	12T06	11/5/18 19:48	183040031A	50.00
9065	25PCBS18303005.038	9872064 ACF DF10	12T06	11/5/18 19:59	183040031A	100.00
9065	25PCBS18303005.039	9872064 ACF DF20	12T06	11/5/18 20:10	183040031A	200.00
9065	25PCBS18303005.040	AR1641824D	AR164KH	11/5/18 20:21	1830899999	1.00
9065	25PCBS18303005.041	IBLKX1824C	PIBLKLT	11/5/18 20:31	1830899999	10.00

Sample Data

Polychlorinated Biphenyls (PCBs)

eurofins | Lancaster Laboratories Environmental

Data Summary

Sample Name: 9872060 ACF DF5 12T02 Sample ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.49 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 03:32:56
Instrument 18274A
Result file 25PCBS18303004.088.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 74% (44 - 130) Conc: 7.291848
%SSR(DCB) 85% (45 - 143) Conc: 8.279102

Analysis Report (B)

Injected on Nov 05, 2018 03:32:56
Instrument 18274B
Result file 25PCBS18303004B.088.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 69% (44 - 130) Conc: 6.810242
%SSR(DCB) * 155% (45 - 143) Conc: 15.0965

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	689830	7.291848
Decachlorobiphenyl	6.58	6.61	6.64	647932	8.279102

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	1059882	6.810242
Decachlorobiphenyl	6.18	6.21	6.24	1728554	15.0965

Single Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
☐	Tetrachloro-m-xylene	A	7.291848	2.4598	4.9196	4.9196		6.83	
☑	Tetrachloro-m-xylene-D1	A	7.291848	2.4598	4.9196	4.9196			
☑	Tetrachloro-m-xylene-D2	B	6.810242	2.4598	4.9196	4.9196			
☐	Decachlorobiphenyl	A	8.279102	2.4598	4.9196	4.9196	P	58.33	
☑	Decachlorobiphenyl-D1	A	8.279102	2.4598	4.9196	4.9196			
☑	Decachlorobiphenyl-D2	B	15.0965	2.4598	4.9196	4.9196			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260						**29.39**	
4.74	4.76	4.78	382508.7	115.900232			1
5.14	5.16	5.18	440580.9	91.893628			3
5.21	5.24	5.25	148978.2	64.045834			4
5.61	5.63	5.65	697949.9	100.480441			5
5.82	5.83	5.86	567635.7	146.734605			6

Height summation: **2237653.4**
Concentration CF: **103.810948** L:

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260						**26.74**	
4.54	4.56	4.58	644811.1	111.523148			1
4.64	4.66	4.68	398861.2	85.919241			2
4.77	4.79	4.81	679155.4	117.565472			3
5.00	5.02	5.04	251718	70.39877			4
5.19	5.21	5.23	928359.1	109.399569			5
5.45	5.48	5.49	893887	154.73322			6

Height summation: **3796791.8**
Concentration CF: **108.25657** L:

Multiple Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
☑	PCB-1016			<17.7107	<49.1965	<83.634	D1		4	
☑	PCB-1221			<22.6304	<49.1965	<83.634	D1		3	
☑	PCB-1232			<39.3572	<78.7143	<83.634	D1		4	
☑	PCB-1242			<16.2348	<49.1965	<83.634	D1		4	
☑	PCB-1248			<16.2348	<49.1965	<83.634	D1		4	
☑	PCB-1254			<16.2348	<49.1965	<83.634	D1		4	
☑	PCB-1260	B	108.25657	24.1063	49.1965	83.634	D2	4.19	4	
☑	PCB-1262			<16.2348	<49.1965	<83.634	D1		4	
☑	PCB-1268			<16.2348	<49.1965	<83.634	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/5/2018 11:29:03

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872060** ACF DF5 12T02 ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.49 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 03:32:56
Instrument : CP25--18274A
Result file : 25PCBS18303004.088.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 74% (44-130) Conc.: 7.291848
%SSR(DCB) : 85% (45-143) Conc.: 8.279102

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	230.79	
3.16	3.18	3.20	241155.2	149.64935			1
3.38	3.39	3.42	53864.81	34.544286			2
3.49	3.51	3.53	7140.461	3.567156			3
+ 3.49	3.53	3.53	4602.191	2.299114			3
3.71	3.73	3.75	14295.86	6.202865			4
E 3.77	3.80	3.81	8159516	4299.155186			5
3.96	3.98	4.00	36818.26	25.398612			6
Height Summation:			8512790.591				
Amount Avg CF:			753.086242	Linear:			
Aroclor-1221					3	87.27	
+ 3.06	3.06	3.10	2328.923	2.717855			1
3.06	3.08	3.10	11335.86	13.228957			1
3.11	3.12	3.15	30037.76	45.112019			2
3.16	3.18	3.20	241155.2	108.640229			3
Height Summation:			283128.82				
Amount Avg CF:			55.660402	Linear:			
Aroclor-1232					6	236.65	
3.16	3.18	3.20	241155.2	132.947278			1
3.38	3.39	3.42	53864.81	76.460128			2
3.49	3.51	3.53	7140.461	7.902431			3
+ 3.49	3.53	3.53	4602.191	5.093298			3
3.71	3.73	3.75	14295.86	13.163035			4
E 3.77	3.80	3.81	8159516	10150.926253			5
3.96	3.98	4.00	36818.26	64.926998			6
Height Summation:			8512790.591				
Amount Avg CF:			1741.054354	Linear:			
Aroclor-1242					6	231.90	
3.16	3.18	3.20	241155.2	173.015637			1
3.38	3.39	3.42	53864.81	41.504012			2
3.49	3.51	3.53	7140.461	4.317602			3
+ 3.49	3.53	3.53	4602.191	2.782794			3
3.71	3.73	3.75	14295.86	7.247539			4
E 3.77	3.80	3.81	8159516	5547.066212			5
3.90	3.90	4.00	36818.26	33.38793			6
+ 3.96	4.00	4.00	13772.02	12.488891			6
Height Summation:			8512790.591				
Amount Avg CF:			967.756489	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 03:32:56
Instrument : CP25--18274B
Result file : 25PCBS18303004B.088.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 69% (44-130) Conc.: 6.810242
%SSR(DCB) : *155% (45-143) Conc.: 15.0965

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	223.12	
2.94	2.97	2.98	48486.69	18.262946			1
3.27	3.28	3.31	19069.84	6.134473			2
+ 3.27	3.31	3.31	15785.02	5.077797			2
+ 3.47	3.47	3.51	14896.58	4.941099			3
+ 3.47	3.49	3.51	21295.32	7.06352			3
3.47	3.50	3.51	76807.02	25.476391			3
E 3.54	3.56	3.58	10758780	3443.108069			4
3.60	3.62	3.64	434800.4	177.346921			5
+ 3.60	3.64	3.64	116509.6	47.522079			5
+ 3.71	3.72	3.75	87691.59	33.170194			6
3.71	3.73	3.75	137640.3	52.063778			6
Height Summation:			11475584.25				
Amount Avg CF:			620.398763	Linear:			
Aroclor-1221					3	131.89	
2.83	2.85	2.87	58073.24	37.485579			1
2.89	2.90	2.93	290085.8	262.613361			2
2.94	2.97	2.98	48486.69	12.921603			3
Height Summation:			396645.73				
Amount Avg CF:			104.340181	Linear:			
Aroclor-1232					6	221.18	
2.94	2.97	2.98	48486.69	15.95161			1
3.27	3.28	3.31	19069.84	13.630658			2
+ 3.27	3.31	3.31	15785.02	11.282749			2
+ 3.47	3.47	3.51	14896.58	10.480844			3
+ 3.47	3.49	3.51	21295.32	14.98283			3
3.47	3.50	3.51	76807.02	54.039409			3
E 3.54	3.56	3.58	10758780	7911.541012			4
E 3.60	3.62	3.64	434800.4	490.756722			5
+ 3.60	3.64	3.64	116509.6	131.503719			5
+ 3.71	3.72	3.75	87691.59	84.696521			6
3.71	3.73	3.75	137640.3	132.939254			6
Height Summation:			11475584.25				
Amount Avg CF:			1436.476444	Linear:			
Aroclor-1242					6	222.38	
2.94	2.97	2.98	48486.69	21.166071			1
3.27	3.28	3.31	19069.84	7.549593			2
+ 3.27	3.31	3.31	15785.02	6.24916			2
+ 3.47	3.47	3.51	14896.58	5.798543			3
+ 3.47	3.49	3.51	21295.32	8.289274			3
3.47	3.50	3.51	76807.02	29.897387			3
E 3.54	3.56	3.58	10758780	4290.528216			4
3.60	3.62	3.64	434800.4	235.991289			5
+ 3.60	3.64	3.64	116509.6	63.236489			5
+ 3.71	3.72	3.75	87691.59	42.571944			6
3.71	3.73	3.75	137640.3	66.82072			6
Height Summation:			11475584.25				
Amount Avg CF:			775.325546	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872060** ACF DF5 12T02 ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.49 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 03:32:56
Instrument : CP25--18274A
Result file : 25PCBS18303004.088.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	64.52	
3.83	3.86	3.87	241217	127.131825			1
3.96	3.98	4.00	36818.26	17.199081			2
+ 4.05	4.05	4.09	34468.19	18.989873			3
4.05	4.07	4.09	115459.5	63.611151			3
4.23	4.26	4.27	76832.22	42.402041			4
+ 4.36	4.36	4.40	213664.7	110.687746			5
4.36	4.38	4.40	263702.3	136.609432			5
4.61	4.63	4.65	240472.7	167.357618			6
Height Summation:			**974501.98**				
Amount Avg CF:			**92.385191**	Linear:			
Aroclor-1254					6	102.84	
4.55	4.58	4.59	1625301	763.476801			1
4.61	4.63	4.65	240472.7	56.42524			2
4.74	4.76	4.78	382508.7	284.66566			3
4.83	4.83	4.87	521808.9	177.444512			4
5.03	5.05	5.07	228859.1	97.006944			5
5.14	5.16	5.18	440580.9	146.120123			6
Height Summation:			**3439531.3**				
Amount Avg CF:			**254.18988**	Linear:			
Aroclor-1260					6	50.87	
4.74	4.76	4.78	382508.7	115.900232			1
4.94	4.95	4.98	988017	248.531313			2
5.14	5.16	5.18	440580.9	91.893628			3
+ 5.21	5.21	5.25	58417.66	25.113794			4
+ 5.21	5.23	5.25	88686.59	38.126428			4
5.21	5.24	5.25	148978.2	64.045834			4
5.61	5.63	5.65	697949.9	100.480441			5
5.82	5.83	5.86	567635.7	146.734605			6
Height Summation:			**3225670.4**				
Amount Avg CF:			**127.931009**	Linear:			
Aroclor-1262					6	38.08	
+ 5.21	5.23	5.25	88686.59	24.999416			1
5.21	5.24	5.25	148978.2	41.994713			1
5.38	5.39	5.41	247268.3	86.527528			2
5.61	5.63	5.65	697949.9	84.282463			3
5.82	5.83	5.86	567635.7	118.446016			4
5.87	5.89	5.91	387897.2	149.143067			5
6.25	6.27	6.29	422569.1	131.919861			6
Height Summation:			**2472298.4**				
Amount Avg CF:			**102.052275**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 03:32:56
Instrument : CP25--18274B
Result file : 25PCBS18303004B.088.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	116.63	
3.58	3.60	3.62	129143.3	41.705764			1
+ 3.71	3.72	3.75	87691.59	23.064699			2
3.71	3.73	3.75	137640.3	36.202242			2
3.80	3.82	3.84	54156.16	21.550742			3
3.93	3.95	3.97	345723.7	70.634638			4
4.07	4.09	4.11	77778.65	34.549727			5
+ 4.07	4.11	4.11	51749.97	22.987636			5
4.30	4.31	4.34	547307	257.171354			6
+ 4.30	4.32	4.34	191875.5	90.159421			6
+ 4.30	4.34	4.34	115332.5	54.193013			6
Height Summation:			**1291749.11**				
Amount Avg CF:			**76.969078**	Linear:			
Aroclor-1254					6	55.50	
4.30	4.31	4.34	547307	87.959755			1
+ 4.30	4.32	4.34	191875.5	30.837029			1
+ 4.30	4.34	4.34	115332.5	18.535518			1
4.40	4.40	4.44	332872.8	113.900484			2
+ 4.40	4.42	4.44	145717.1	49.860632			2
+ 4.40	4.43	4.44	209045.2	71.529874			2
4.47	4.49	4.51	278356.1	70.922205			3
4.54	4.56	4.58	644811.1	272.493083			4
4.69	4.71	4.73	268526.7	99.482945			5
4.77	4.79	4.81	679155.4	153.123268			6
Height Summation:			**2751029.1**				
Amount Avg CF:			**132.98029**	Linear:			
Aroclor-1260					6	26.74	
4.54	4.56	4.58	644811.1	111.523148			1
4.64	4.66	4.68	398861.2	85.919241			2
4.77	4.79	4.81	679155.4	117.565472			3
5.00	5.02	5.04	251718	70.39877			4
5.19	5.21	5.23	928359.1	109.399569			5
5.45	5.48	5.49	893887	154.73322			6
Height Summation:			**3796791.8**				
Amount Avg CF:			**108.25657**	Linear:			
Aroclor-1262					6	28.24	
4.81	4.83	4.85	389171	82.106682			1
+ 5.00	5.02	5.04	251718	51.293233			2
5.00	5.04	5.04	856999	174.632919			2
5.20	5.21	5.24	928359.1	93.101162			3
5.41	5.43	5.45	465119.7	115.199827			4
5.46	5.48	5.50	893887	132.374865			5
5.83	5.85	5.87	422120.4	105.762324			6
Height Summation:			**3955656.2**				
Amount Avg CF:			**117.196297**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872060** ACF DF5 12T02 ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.49 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 03:32:56
Instrument : CP25--18274A
Result file : 25PCBS18303004.088.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**91.58**	
5.81	5.83	5.85	567635.7	52.745108			1
5.87	5.89	5.91	387897.2	39.796755			2
+ 6.00	6.02	6.04	53266.43	5.951455			3
6.00	6.03	6.04	91230.41	10.193169			3
6.07	6.09	6.11	36593.2	16.288006			4
6.24	6.27	6.28	422569.1	109.999167			5
6.44	6.47	6.48	522742.5	16.862819			6

Height Summation: **2028668.11**
Amount Avg CF: **40.980837** Linear:

Analysis Report (B)

Injected on : Nov 05, 2018 03:32:56
Instrument : CP25--18274B
Result file : 25PCBS18303004B.088.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**80.98**	
5.41	5.43	5.45	465119.7	0.16104			1
5.46	5.48	5.50	893887	306.146478			2
5.61	5.63	5.65	346343.9	136.509509			3
5.68	5.68	5.72	205991	326.081233			4
5.83	5.85	5.87	422120.4	414.489932			5
+ 6.03	6.03	6.07	61686.41	6.657052			6
6.03	6.05	6.07	479086	51.701831			6

Height Summation: **2812548**
Amount Avg CF: **205.848337** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			83.634	17.7107	E	19.32	4	40	
Aroclor-1221			83.634	22.6304		** 60.85	3	5	
Aroclor-1232			83.634	39.3572	E	19.17	4	10	
Aroclor-1242			83.634	16.2348	E	22.08	4	30	
Aroclor-1248			83.634	16.2348		18.21	4	40	
Aroclor-1254			83.634	16.2348		** 62.61	4	40	
Aroclor-1260			83.634	24.1063		16.66	4	40	
Aroclor-1262			83.634	16.2348		13.81	4	40	
Aroclor-1268			83.634	16.2348		** 133.59	4	40	

Units: ug/kg

9872060 ACF DF5 AC12T02 T 183040031A 10885 SW-846 8082A Fel

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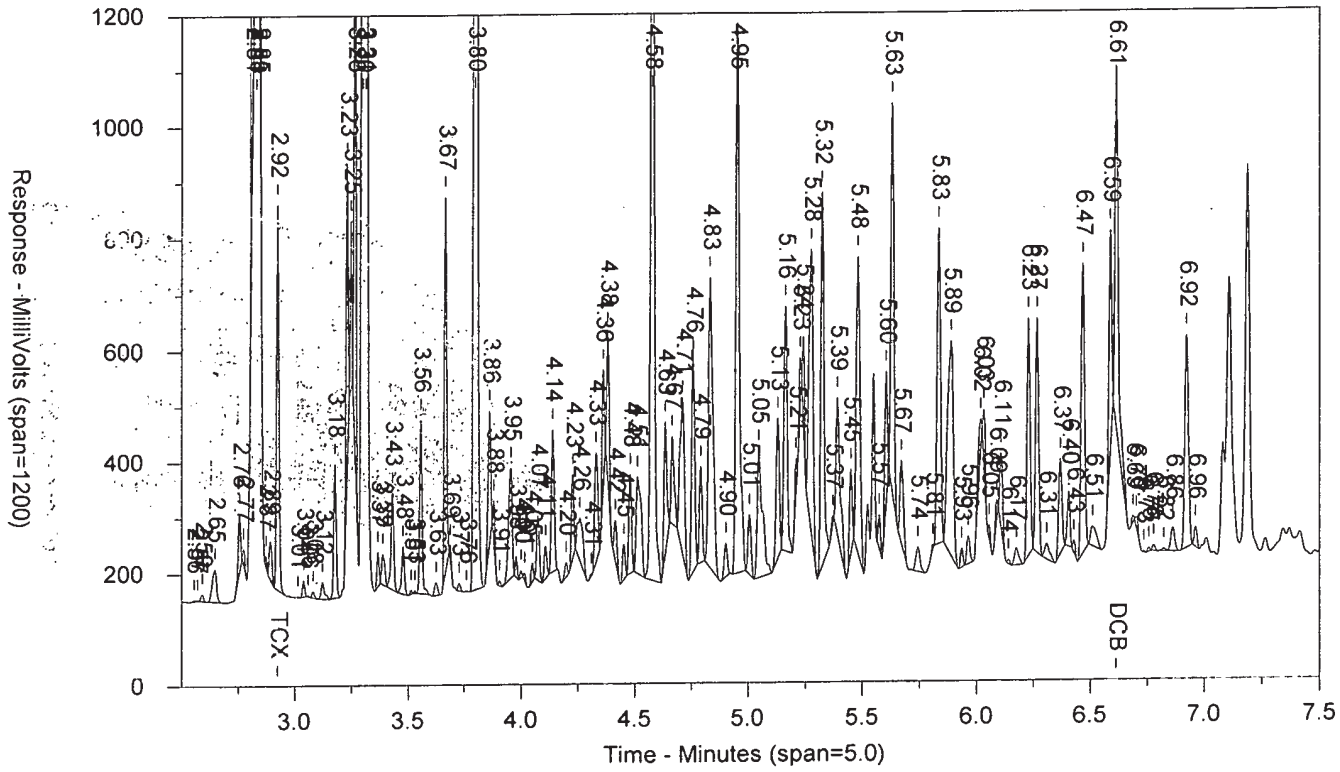

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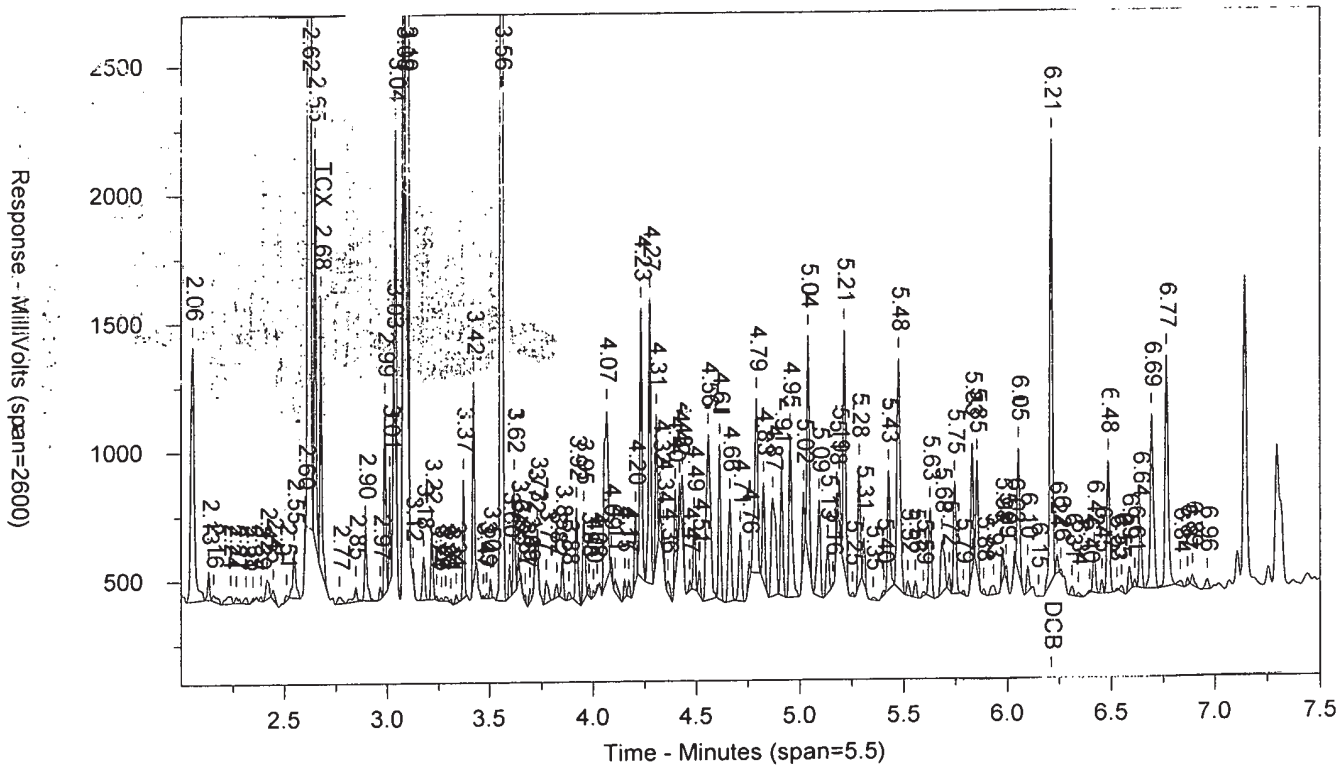

LANCASTER LABORATORIES

Sample Number: 9872060 ACF DF5 AC12T02 T 183040031A 10885 SW-846 8082A Feb 2007 Re
Injected On: 11/5/2018 3:32:56 AM
Sample Weight: 30.49
Dilution Factor: 50
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst. 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	689830	7.292	TCX	2.677	1059882	6.81	TCX
6.611	647932	8.279	DCB	6.21	1728554	15.097	DCB

Files:
Area File: 25PCBS18303004.088.RAW
Area File: 25PCBS18303004B.088.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 3:41:25 AM
File Reported On: 11/5/2018 at 3:41:35 AM

9872060 ACF DF5 AC12T02 T 183040031A 10885 SW-846 8082A

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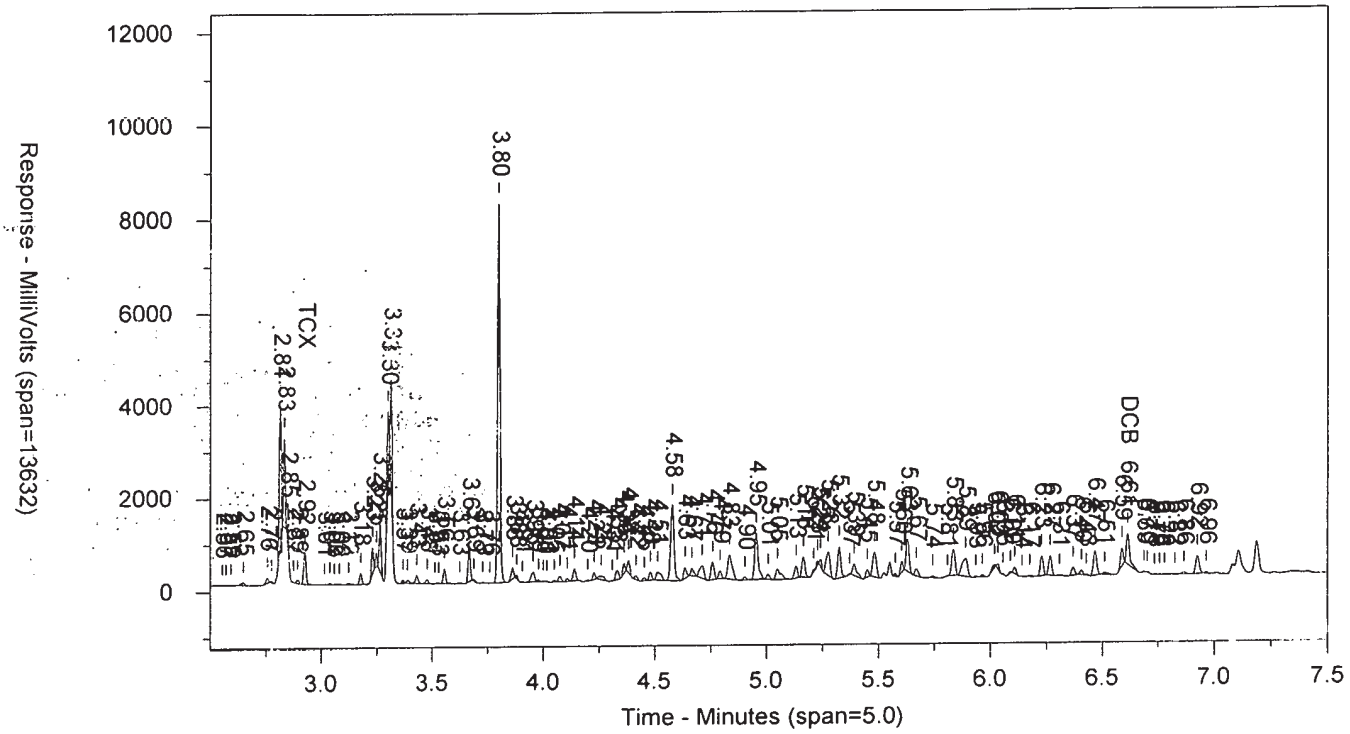

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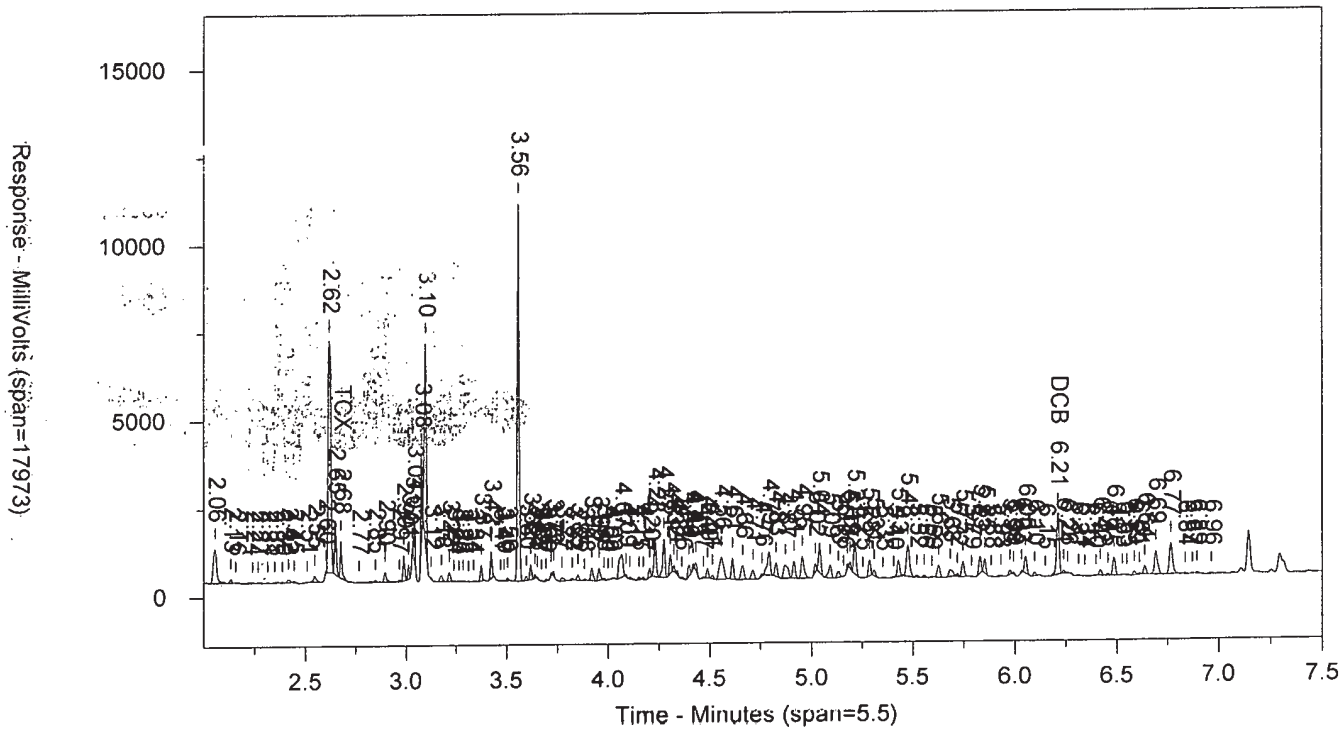

9872060 ACF DF5 AC12T02 T 183040031A 10885 **SW-846 8082A I**

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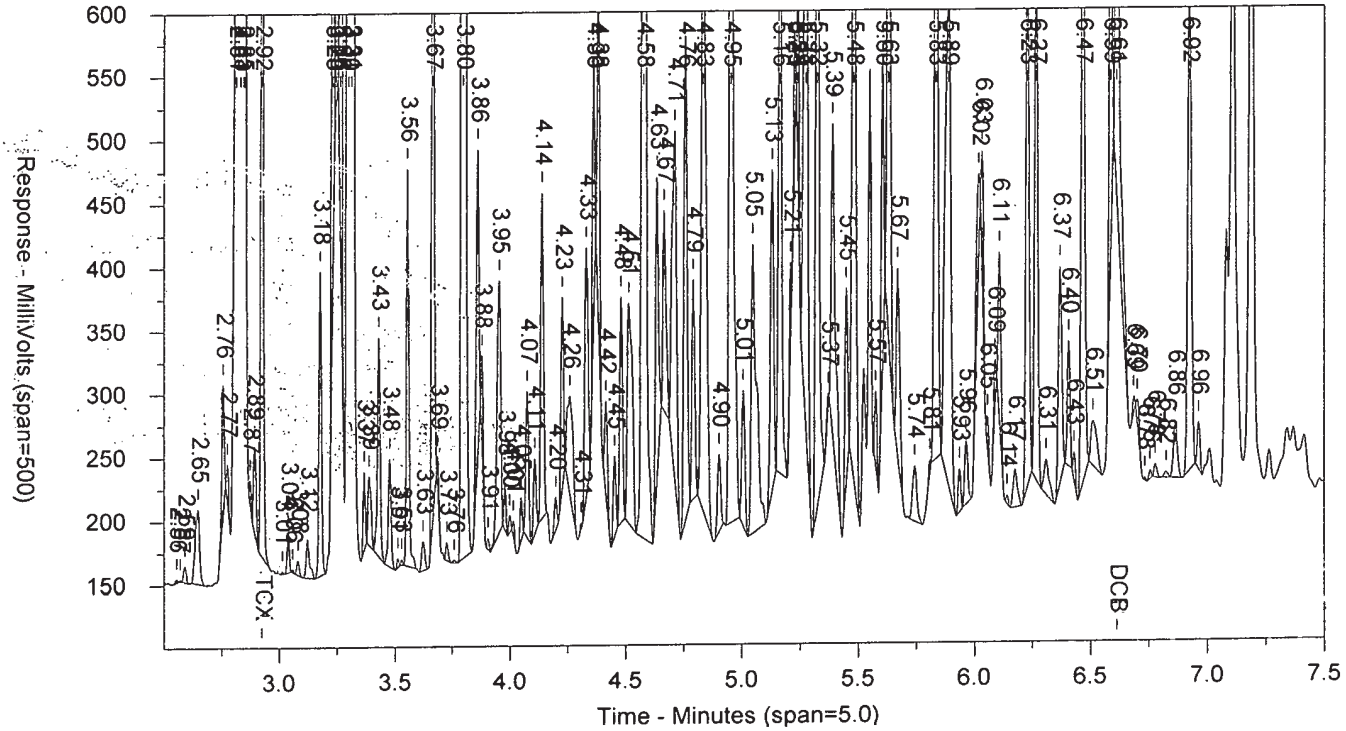

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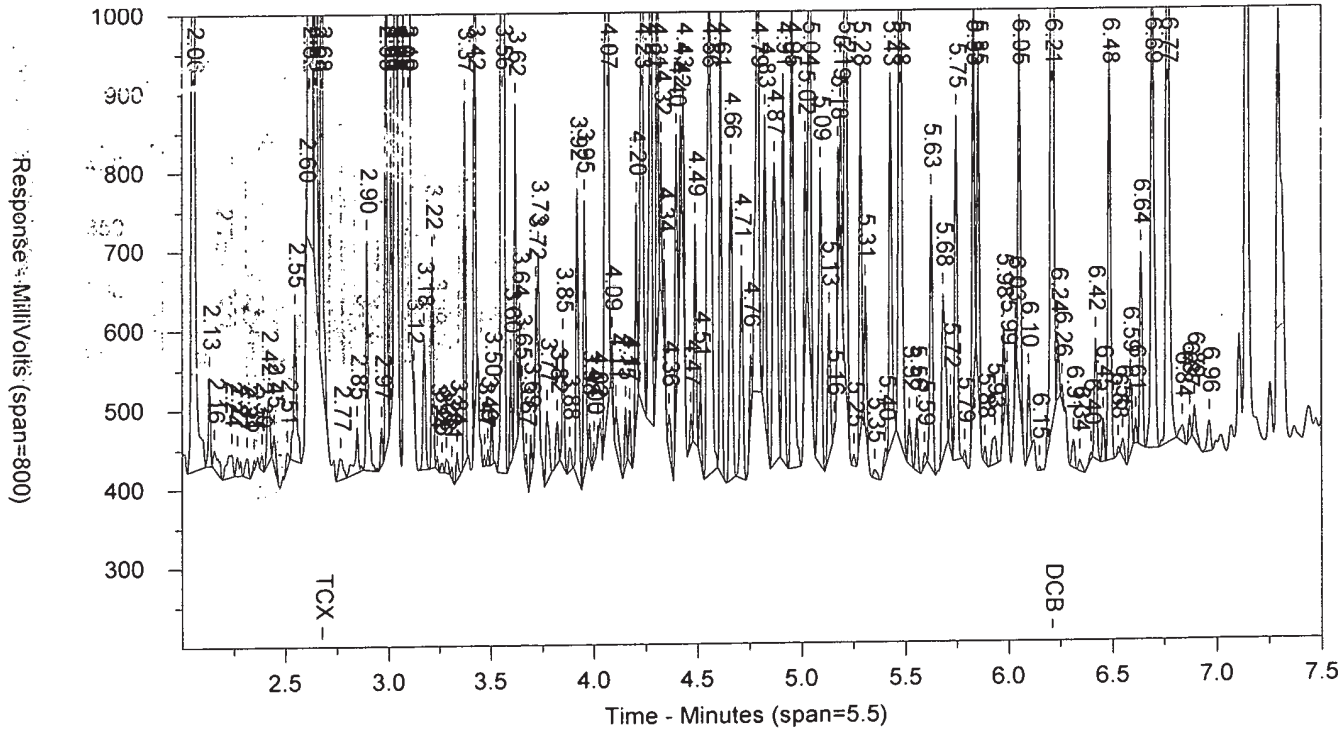

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Data Summary

Sample Name: 9872061 ACF DF5 12T03 Sample ID: AF **Batchnumber: 183040031A**
Sample Amount: 30.03 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 18:53:39
Instrument 18274A
Result file 25PCBS18303005.032.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 74% (44 - 130) Conc: 7.427155
%SSR(DCB) 85% (45 - 143) Conc: 8.421405

Analysis Report (B)

Injected on Nov 05, 2018 18:53:39
Instrument 18274B
Result file 25PCBS18303005B.032.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 72% (44 - 130) Conc: 7.191144
%SSR(DCB) 117% (45 - 143) Conc: 11.62016

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	692030	7.427155
Decachlorobiphenyl	6.58	6.61	6.64	649125	8.421405

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	1102277	7.191144
Decachlorobiphenyl	6.18	6.21	6.24	1310438	11.62016

Single Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
☐	Tetrachloro-m-xylene	A	7.427155	2.4975	4.995	4.995		3.23	
☑	Tetrachloro-m-xylene-D1	A	7.427155	2.4975	4.995	4.995			
☑	Tetrachloro-m-xylene-D2	B	7.191144	2.4975	4.995	4.995			
☐	Decachlorobiphenyl	B	11.62016	2.4975	4.995	4.995		31.92	
☑	Decachlorobiphenyl-D1	A	8.421405	2.4975	4.995	4.995			
☑	Decachlorobiphenyl-D2	B	11.62016	2.4975	4.995	4.995			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**24.60**	
4.61	4.63	4.65	207363.5	49.401717			2
4.83	4.85	4.87	182886.6	63.144433			4
5.03	5.05	5.07	188363.6	81.065061			5
Height summation:			**578613.7**				
Concentration		CF:	**64.53707**	L:			
Aroclor-1260						**44.45**	
5.21	5.24	5.25	93304.17	40.725958			4
5.61	5.63	5.65	506671.8	74.060409			5
5.82	5.83	5.86	404697.4	106.217323			6
Height summation:			**1004673.37**				
Concentration		CF:	**73.667897**	L:			

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**33.59**	
4.30	4.32	4.34	236931.9	38.661495			1
4.47	4.49	4.51	242161.4	62.645301			3
4.69	4.71	4.73	209250	78.709784			5
Height summation:			**688343.3**				
Concentration		CF:	**60.005527**	L:			
Aroclor-1260						**20.69**	
4.64	4.66	4.68	317103.1	69.353953			2
5.19	5.21	5.23	667960.6	79.919462			5
5.45	5.47	5.49	588344.3	103.403344			6
Height summation:			**1573408**				
Concentration		CF:	**84.225586**	L:			

Valerie L Tomayko
Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/6/2018 11:36:51

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Data Summary

Sample Name: 9872061 ACF DF5 12T03 Sample ID: AF **Batchnumber: 183040031A**
Sample Amount: 30.03 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on	Nov 05, 2018 18:53:39
Instrument	18274A
Result file	25PCBS18303005.032.RAW
Calibration file	25PCBS1830301
Method file	25PCBA

Analysis Report (B)

Injected on	Nov 05, 2018 18:53:39
Instrument	18274B
Result file	25PCBS18303005B.032.RAW
Calibration file	25PCBS1830301B
Method file	25PCBAB

Multiple Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
☑	PCB-1016			<17.982	<49.9501	<84.9151	D1		4	
☑	PCB-1221			<22.977	<49.9501	<84.9151	D1		3	
☑	PCB-1232			<39.96	<79.9201	<84.9151	D1		4	
☑	PCB-1242			<16.4835	<49.9501	<84.9151	D1		4	
☑	PCB-1248			<16.4835	<49.9501	<84.9151	D1		4	
☑	PCB-1254	A	64.53707	16.4835	49.9501	<84.9151	JD1	7.28	4	
☑	PCB-1260	B	84.225586	24.4755	49.9501	<84.9151	JD2	13.37	4	
☑	PCB-1262			<16.4835	<49.9501	<84.9151	D1		4	
☑	PCB-1268			<16.4835	<49.9501	<84.9151	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Reviewed and digitally signed by Kirby B Turner on 11/6/2018 11:36:51

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872061** ACF DF5 12T03 ID: AF **Batchnumber: 183040031A**
Sample Amount: 30.03 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 18:53:39
Instrument : CP25--18274A
Result file : 25PCBS18303005.032.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 74% (44-130) Conc.: 7.427155
%SSR(DCB) : 85% (45-143) Conc.: 8.421405

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	222.25	
3.16	3.18	3.20	188825.4	118.970889			1
3.38	3.39	3.42	54456.49	35.458701			2
3.49	3.51	3.53	5784.809	2.934181			3
+ 3.49	3.53	3.53	5434.411	2.756452			3
3.71	3.73	3.75	14078.06	6.201931			4
E 3.77	3.80	3.81	4183118	2237.798258			5
3.96	3.98	4.00	37054.04	25.952809			6
+ 3.96	4.00	4.00	12303.91	8.617712			6
Height Summation:			4483316.799				
Amount Avg CF:			404.552795	Linear:			
Aroclor-1221					3	78.00	
+ 3.06	3.06	3.10	3359.405	3.980481			1
3.06	3.08	3.10	9400.347	11.138254			1
3.11	3.12	3.15	31576.67	47.206704			2
3.16	3.18	3.20	188825.4	86.368733			3
Height Summation:			229802.417				
Amount Avg CF:			48.237897	Linear:			
Aroclor-1232					6	230.69	
3.16	3.18	3.20	188825.4	105.692781			1
3.38	3.39	3.42	54456.49	78.48409			2
3.49	3.51	3.53	5784.809	6.500183			3
+ 3.49	3.53	3.53	5434.411	6.106453			3
3.71	3.73	3.75	14078.06	13.161054			4
E 3.77	3.80	3.81	4183118	5283.764857			5
3.96	3.98	4.00	37054.04	66.343705			6
+ 3.96	4.00	4.00	12303.91	22.029635			6
Height Summation:			4483316.799				
Amount Avg CF:			925.657778	Linear:			
Aroclor-1242					6	223.89	
3.16	3.18	3.20	188825.4	137.547034			1
3.38	3.39	3.42	54456.49	42.602657			2
3.49	3.51	3.53	5784.809	3.551465			3
+ 3.49	3.53	3.53	5434.411	3.336345			3
3.71	3.73	3.75	14078.06	7.246448			4
E 3.77	3.80	3.81	4183118	2887.361486			5
3.96	3.98	4.00	37054.04	34.116455			6
+ 3.96	4.00	4.00	12303.91	11.328476			6
Height Summation:			4483316.799				
Amount Avg CF:			518.737591	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 18:53:39
Instrument : CP25--18274B
Result file : 25PCBS18303005B.032.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 72% (44-130) Conc.: 7.191144
%SSR(DCB) : 117% (45-143) Conc.: 11.62016

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	195.98	
2.94	2.97	2.98	51683.58	19.76528			1
3.27	3.28	3.31	20885.42	6.821432			2
+ 3.27	3.31	3.31	10809.85	3.530628			2
+ 3.47	3.47	3.51	2719.588	0.915888			3
+ 3.47	3.48	3.51	19361.39	6.520421			3
3.47	3.50	3.51	64621.81	21.762972			3
E 3.54	3.56	3.58	5657110	1838.164366			4
3.60	3.62	3.64	535013.7	221.564773			5
+ 3.60	3.64	3.64	111535.5	46.190103			5
3.71	3.73	3.75	283184.4	108.758068			6
Height Summation:			6612498.91				
Amount Avg CF:			369.472815	Linear:			
Aroclor-1221					3	144.94	
2.83	2.85	2.87	30953.71	20.286306			1
2.89	2.89	2.93	305016.7	280.360004			2
2.94	2.97	2.98	51683.58	13.984551			3
Height Summation:			387653.99				
Amount Avg CF:			104.876954	Linear:			
Aroclor-1232					6	191.95	
2.94	2.97	2.98	51683.58	17.263811			1
3.27	3.28	3.31	20885.42	15.157064			2
+ 3.27	3.31	3.31	10809.85	7.844974			2
+ 3.47	3.47	3.51	2719.588	1.942741			3
+ 3.47	3.48	3.51	19361.39	13.830832			3
3.47	3.50	3.51	64621.81	46.162667			3
E 3.54	3.56	3.58	5657110	4223.716619			4
E 3.60	3.62	3.64	535013.7	613.116943			5
+ 3.60	3.64	3.64	111535.5	127.817857			5
3.71	3.73	3.75	283184.4	277.702024			6
Height Summation:			6612498.91				
Amount Avg CF:			865.519854	Linear:			
Aroclor-1242					6	194.47	
2.94	2.97	2.98	51683.58	22.907221			1
3.27	3.28	3.31	20885.42	8.395021			2
+ 3.27	3.31	3.31	10809.85	4.345085			2
+ 3.47	3.47	3.51	2719.588	1.074824			3
+ 3.47	3.48	3.51	19361.39	7.651929			3
3.47	3.50	3.51	64621.81	25.539567			3
E 3.54	3.56	3.58	5657110	2290.574656			4
3.60	3.62	3.64	535013.7	294.830923			5
+ 3.60	3.64	3.64	111535.5	61.46406			5
3.71	3.73	3.75	283184.4	139.584424			6
Height Summation:			6612498.91				
Amount Avg CF:			463.638635	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872061** ACF DF5 12T03 ID: AF **Batchnumber: 183040031A**
Sample Amount: 30.03 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 18:53:39
Instrument : CP25--18274A
Result file : 25PCBS18303005.032.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	79.29	
3.83	3.86	3.87	313857.6	167.950427			1
3.96	3.98	4.00	37054.04	17.574365			2
+ 3.96	4.00	4.00	12303.91	5.835623			2
4.05	4.07	4.09	98638.2	55.176076			3
4.23	4.25	4.27	16909.47	9.474918			4
+ 4.23	4.26	4.27	14067.22	7.882314			4
+ 4.36	4.36	4.40	180997.7	95.201089			5
4.36	4.38	4.40	209726.3	110.311745			5
4.61	4.63	4.65	207363.5	146.525804			6
Height Summation:			883549.11				
Amount Avg CF:			84.502223	Linear:			
Aroclor-1254					6	117.64	
4.55	4.58	4.59	1392569	664.172451			1
4.61	4.63	4.65	207363.5	49.401717			2
4.74	4.76	4.78	307740.2	232.530586			3
4.83	4.85	4.87	182886.6	63.144433			4
5.03	5.05	5.07	188363.6	81.065061			5
5.14	5.16	5.18	341759.2	115.081807			6
Height Summation:			2620682.1				
Amount Avg CF:			200.899343	Linear:			
Aroclor-1260					6	51.80	
4.74	4.76	4.78	307740.2	94.673691			1
4.94	4.95	4.98	727777.1	185.873371			2
5.14	5.16	5.18	341759.2	72.373911			3
+ 5.21	5.21	5.25	51362.71	22.419101			4
+ 5.21	5.23	5.25	58961.24	25.735752			4
5.21	5.24	5.25	93304.17	40.725958			4
5.61	5.63	5.65	506671.8	74.060409			5
5.82	5.83	5.86	404697.4	106.217323			6
Height Summation:			2381949.87				
Amount Avg CF:			95.65411	Linear:			
Aroclor-1262					6	37.66	
+ 5.21	5.23	5.25	58961.24	16.874876			1
5.21	5.24	5.25	93304.17	26.703922			1
5.38	5.39	5.41	174577.9	62.026491			2
5.61	5.63	5.65	506671.8	62.12118			3
5.82	5.83	5.86	404697.4	85.739957			4
5.87	5.89	5.91	261112.2	101.933205			5
6.25	6.26	6.29	277429.4	87.936064			6
Height Summation:			1717792.87				
Amount Avg CF:			71.076853	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 18:53:39
Instrument : CP25--18274B
Result file : 25PCBS18303005B.032.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	70.07	
+ 3.58	3.60	3.62	132226.2	43.355461			1
3.58	3.62	3.62	535013.7	175.424882			1
3.71	3.73	3.75	283184.4	75.624284			2
3.80	3.82	3.84	55284.43	22.336715			3
3.93	3.95	3.97	329011.3	68.249815			4
4.07	4.09	4.11	68604.96	30.941533			5
+ 4.07	4.11	4.11	47881.62	21.595096			5
+ 4.30	4.30	4.34	82176.27	39.204878			6
4.30	4.32	4.34	236931.9	113.036114			6
+ 4.30	4.34	4.34	76879.51	36.677885			6
Height Summation:			1508030.69				
Amount Avg CF:			80.935557	Linear:			
Aroclor-1254					6	65.69	
+ 4.30	4.30	4.34	82176.27	13.409159			1
4.30	4.32	4.34	236931.9	38.661495			1
+ 4.30	4.34	4.34	76879.51	12.544857			1
+ 4.40	4.42	4.44	80337.55	27.91052			2
4.40	4.43	4.44	231464.7	80.414454			2
4.47	4.49	4.51	242161.4	62.645301			3
4.54	4.56	4.58	524974.1	225.24904			4
4.69	4.71	4.73	209250	78.709784			5
4.77	4.79	4.81	536340.2	122.776281			6
Height Summation:			1981122.3				
Amount Avg CF:			101.409392	Linear:			
Aroclor-1260					6	44.57	
4.54	4.56	4.58	524974.1	92.187595			1
4.64	4.66	4.68	317103.1	69.353953			2
4.77	4.79	4.81	536340.2	94.265565			3
+ 5.00	5.02	5.04	172905.8	49.097848			4
5.00	5.04	5.04	706096.2	200.501103			4
5.19	5.21	5.23	667960.6	79.919462			5
5.45	5.47	5.49	588344.3	103.403344			6
Height Summation:			3340818.5				
Amount Avg CF:			106.605171	Linear:			
Aroclor-1262					6	36.10	
4.01	4.02	4.85	288305.5	61.757976			1
+ 5.00	5.02	5.04	172905.8	35.773172			2
5.00	5.04	5.04	706096.2	146.087066			2
5.20	5.21	5.24	667960.6	68.013017			3
5.41	5.43	5.45	328054.1	82.496335			4
5.46	5.47	5.50	588344.3	88.461959			5
5.83	5.85	5.87	272208.4	69.246569			6
Height Summation:			2850969.1				
Amount Avg CF:			86.010487	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872061** ACF DF5 12T03 ID: AF **Batchnumber: 183040031A**
Sample Amount: 30.03 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 18:53:39
Instrument : CP25--18274A
Result file : 25PCBS18303005.032.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**64.49**	
5.81	5.83	5.85	404697.4	38.180797			1
5.87	5.89	5.91	261112.2	27.199459			2
6.00	6.03	6.04	144378	16.378446			3
+ 6.07	6.09	6.11	16452.4	7.435306			4
6.07	6.11	6.11	111740.6	50.498748			4
6.24	6.26	6.28	277429.4	73.324014			5
6.44	6.46	6.48	330299.6	10.818138			6

Height Summation: **1529657.2**
Amount Avg CF: **36.066601** Linear:

Analysis Report (B)

Injected on : Nov 05, 2018 18:53:39
Instrument : CP25--18274B
Result file : 25PCBS18303005B.032.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**79.91**	
5.41	5.43	5.45	328054.1	0.115324			1
5.46	5.47	5.50	588344.3	204.588062			2
5.61	5.62	5.65	250837.2	100.38051			3
5.68	5.68	5.72	105735.1	169.941259			4
5.83	5.85	5.87	272208.4	271.382138			5
6.03	6.05	6.07	312900.5	34.284734			6

Height Summation: **1858079.6**
Amount Avg CF: **130.115338** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			84.9151	17.982	E	9.06	4	40	
Aroclor-1221			84.9151	22.977		** 73.98	3	5	
Aroclor-1232			84.9151	39.96	E	6.71	4	10	
Aroclor-1242			84.9151	16.4835	E	11.22	4	30	
Aroclor-1248			84.9151	16.4835		4.31	4	40	
Aroclor-1254			84.9151	16.4835		** 65.82	4	40	
Aroclor-1260			84.9151	24.4755		10.83	4	40	
Aroclor-1262			84.9151	16.4835		19.01	4	40	
Aroclor-1268			84.9151	16.4835		** 113.19	4	40	

Units: ug/kg

9872061 ACF DF5 AF12T03 T 183040031A 10885 SW-846 8082A Fet

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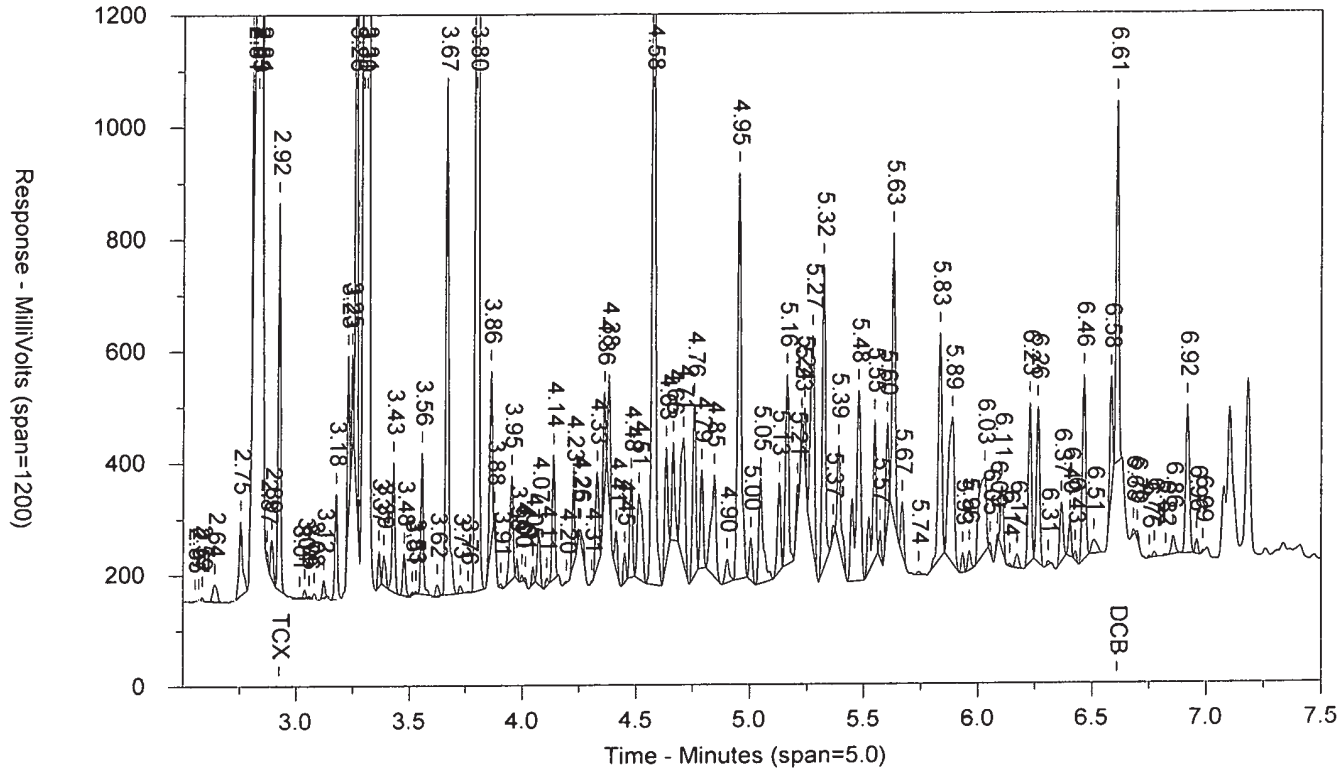

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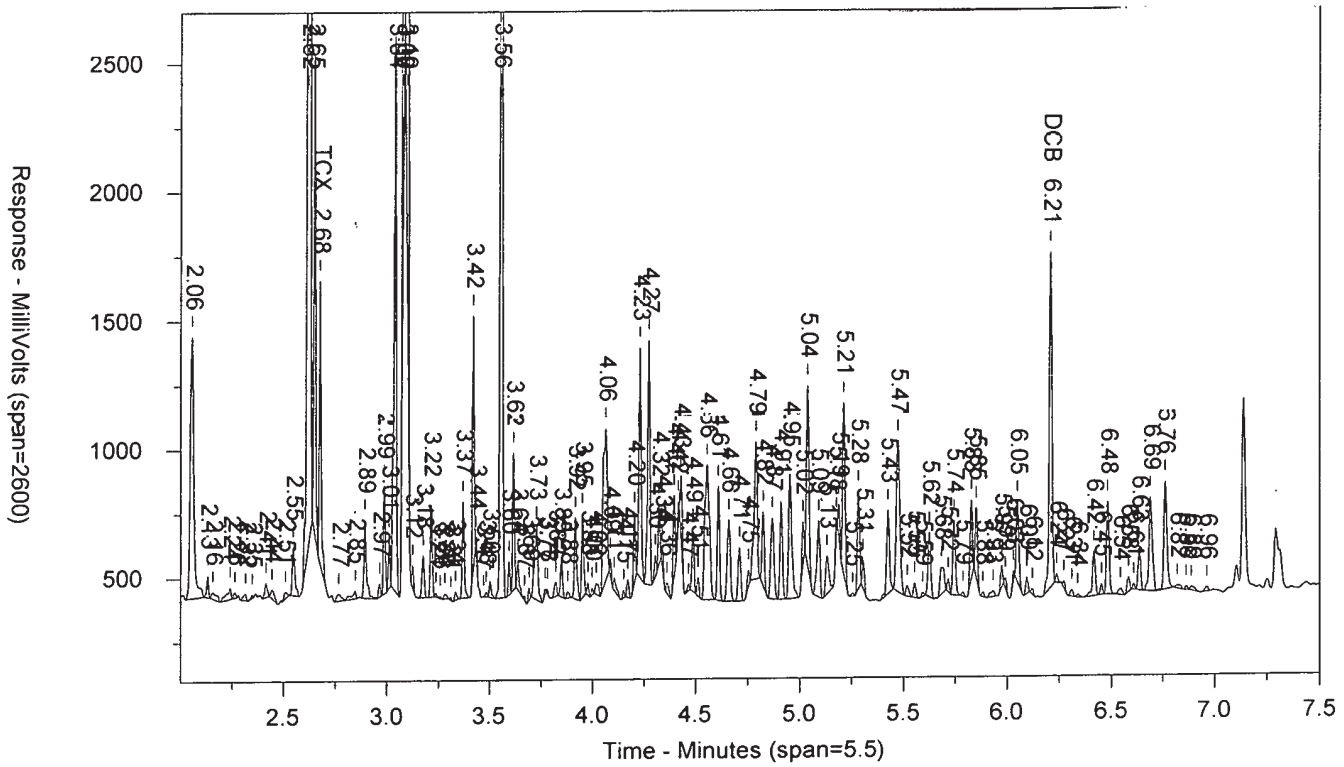

LANCASTER LABORATORIES

Sample Number: 9872061 ACF DF5 AF12T03 T 183040031A 10885 SW-846 8082A Feb 2007 Re
Injected On: 11/5/2018 6:53:39 PM
Sample Weight: 30.03
Instrument ID: CP25-18274
Dilution Factor: 50
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.923	692030	7.427	TCX	2.677	1102277	7.191	TCX
6.608	649125	8.421	DCB	6.208	1310438	11.62	DCB

Files:
Area File: 25PCBS18303005.032.RAW
Area File: 25PCBS18303005B.032.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 7:02:11 PM
File Reported On: 11/5/2018 at 7:02:20 PM

9872061 ACF DF5 AF12T03 T 183040031A 10885 SW-846 8082A I

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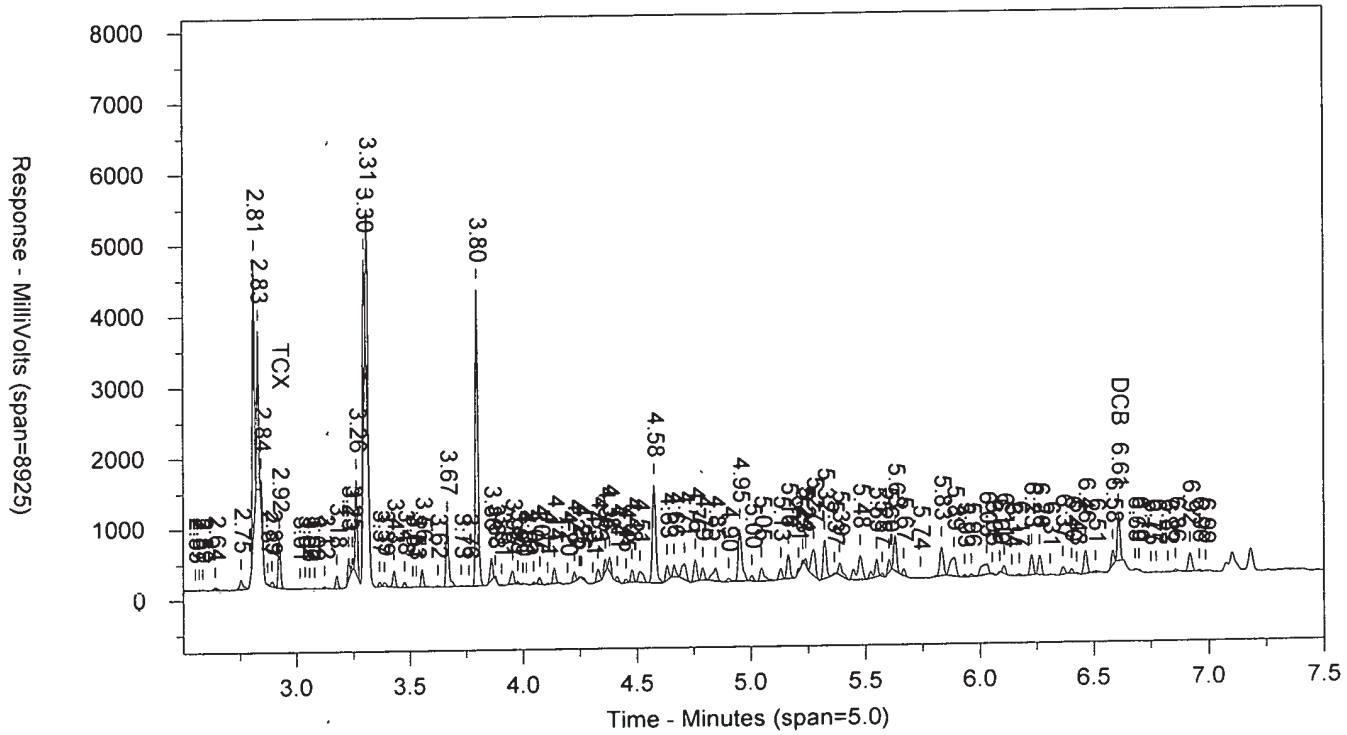

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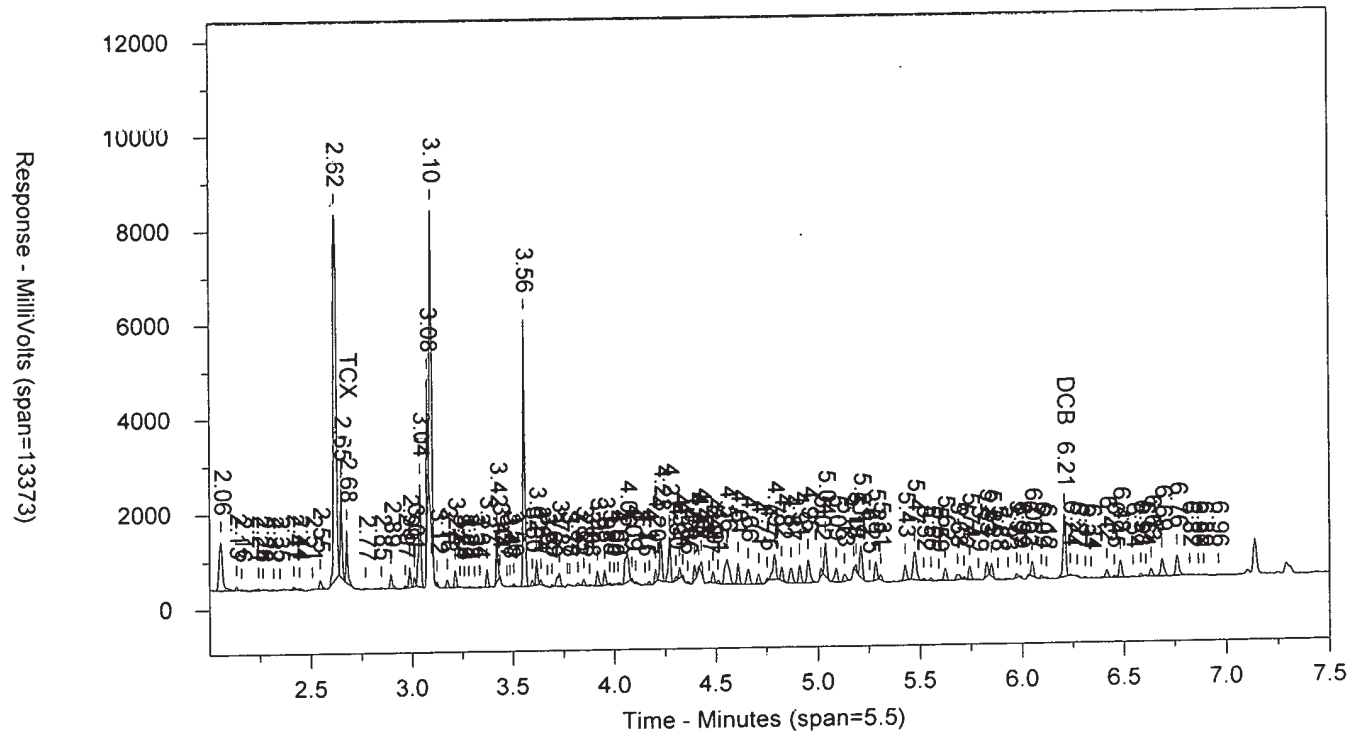

9872061 ACF DF5 AF12T03 T 183040031A 10885 SW-846 8082A F

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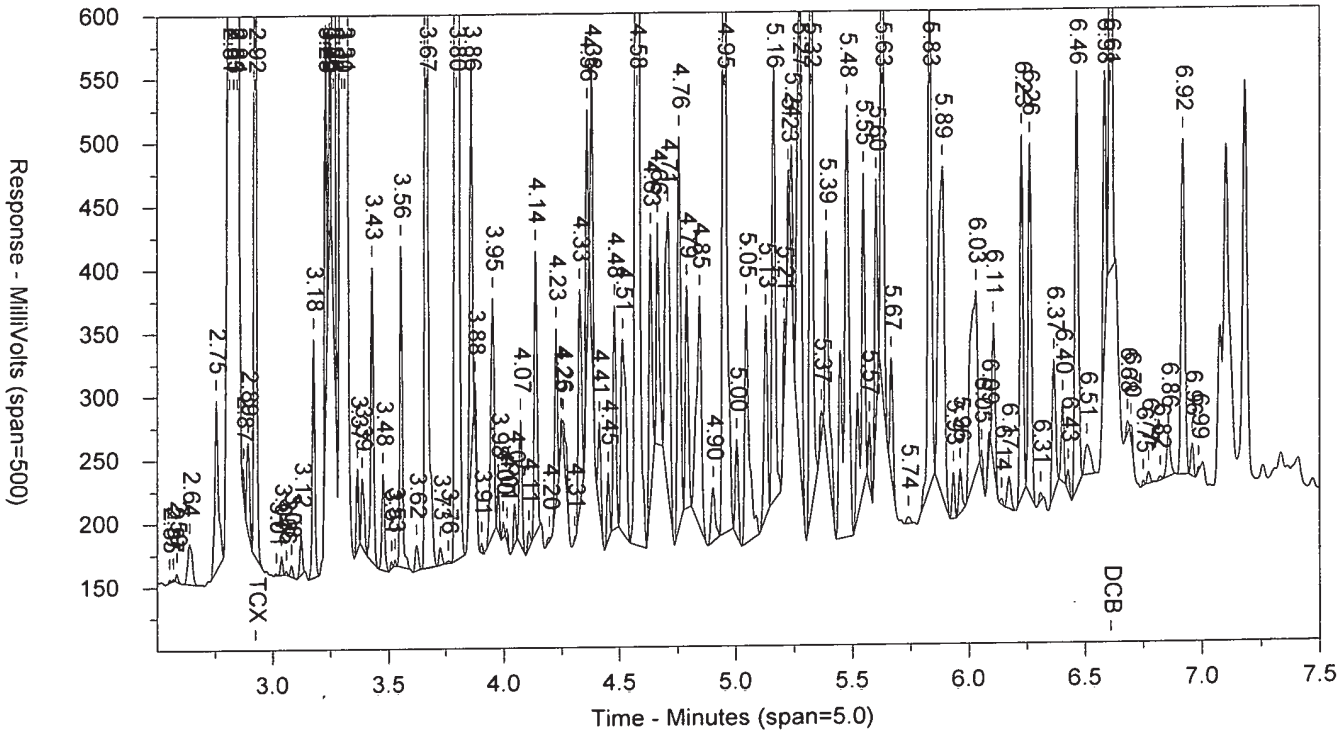

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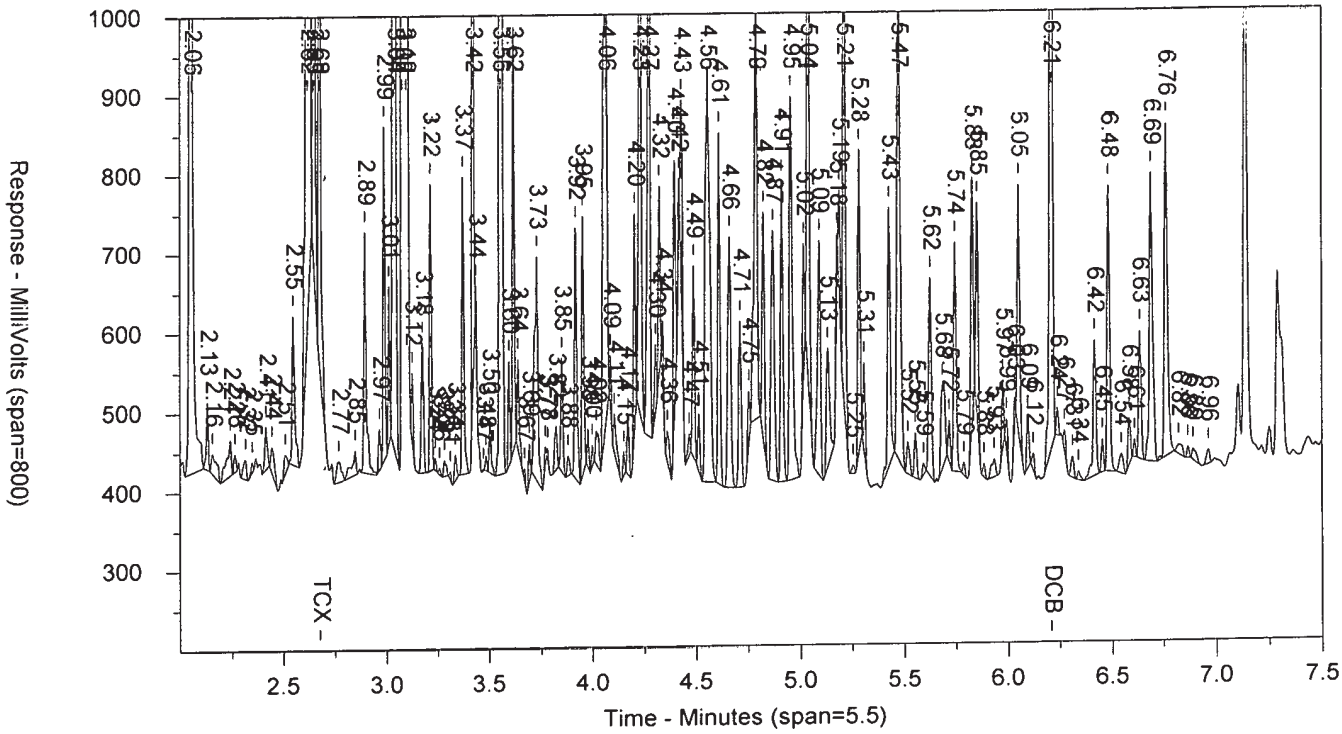

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Data Summary

Sample Name: 9872062 ACF DF5 12T04 Sample ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.02 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 19:15:30
Instrument 18274A
Result file 25PCBS18303005.034.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 73% (44 - 130) Conc: 7.270813
%SSR(DCB) * 273% (45 - 143) Conc: 27.06061

Analysis Report (B)

Injected on Nov 05, 2018 19:15:30
Instrument 18274B
Result file 25PCBS18303005B.034.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 61% (44 - 130) Conc: 6.073357
%SSR(DCB) * 238% (45 - 143) Conc: 23.54486

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	677237	7.270813
Decachlorobiphenyl	6.58	6.61	6.64	2085148	27.06061

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	930630	6.073357
Decachlorobiphenyl	6.18	6.21	6.24	2654336	23.54486

Single Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
☐	Tetrachloro-m-xylene	A	7.270813	2.4983	4.9967	4.9967		17.95	
☑	Tetrachloro-m-xylene-D1	A	7.270813	2.4983	4.9967	4.9967			
☑	Tetrachloro-m-xylene-D2	B	6.073357	2.4983	4.9967	4.9967			
☐	Decachlorobiphenyl	A	27.06061	2.4983	4.9967	4.9967		13.89	
☑	Decachlorobiphenyl-D1	A	27.06061	2.4983	4.9967	4.9967			
☑	Decachlorobiphenyl-D2	B	23.54486	2.4983	4.9967	4.9967			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**36.28**	
4.61	4.63	4.65	270055.7	64.358768			2
4.83	4.85	4.87	103644.4	35.796756			4
5.03	5.05	5.07	181248.5	78.028956			5
Height summation:			**554948.6**				
Concentration		CF:	**59.394827**	L:			
Aroclor-1260						**35.02**	
5.21	5.21	5.25	169675	74.085422			4
5.61	5.63	5.65	311269.7	45.513566			5
5.82	5.83	5.86	364054.6	95.581998			6
Height summation:			**844999.3**				
Concentration		CF:	**71.726995**	L:			

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**30.79**	
4.30	4.32	4.34	283045	46.20141			1
4.47	4.49	4.51	236112.9	61.100947			3
4.69	4.71	4.73	226902.8	85.378349			5
Height summation:			**746060.7**				
Concentration		CF:	**64.226902**	L:			
Aroclor-1260						**37.37**	
5.00	5.02	5.04	169449.7	48.132491			4
5.19	5.21	5.23	421790.1	50.482718			5
5.45	5.47	5.49	511536.4	89.934064			6
Height summation:			**1102776.2**				
Concentration		CF:	**62.849758**	L:			

Valerie L Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/6/2018 10:20:49

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Data Summary

Sample Name: 9872062 ACF DF5 12T04 Sample ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.02 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on	Nov 05, 2018 19:15:30
Instrument	18274A
Result file	25PCBS18303005.034.RAW
Calibration file	25PCBS1830301
Method file	25PCBA

Analysis Report (B)

Injected on	Nov 05, 2018 19:15:30
Instrument	18274B
Result file	25PCBS18303005B.034.RAW
Calibration file	25PCBS1830301B
Method file	25PCBAB

Multiple Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
☑	PCB-1016			<17.988	<49.9667	<84.9434	D1		4	
☑	PCB-1221			<22.9847	<49.9667	<84.9434	D1		3	
☑	PCB-1232			<39.9734	<79.9467	<84.9434	D1		4	
☑	PCB-1242			<16.489	<49.9667	<84.9434	D1		4	
☑	PCB-1248			<16.489	<49.9667	<84.9434	D1		4	
☑	PCB-1254	B	64.226902	16.489	49.9667	<84.9434	JD2	7.82	4	
☑	PCB-1260	A	71.726995	24.4837	49.9667	<84.9434	JD1	13.19	4	
☑	PCB-1262			<16.489	<49.9667	<84.9434	D1		4	
☑	PCB-1268			<16.489	<49.9667	<84.9434	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Reviewed and digitally signed by Kirby B Turner on 11/6/2018 10:20:49

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872062** ACF DF5 12T04 ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.02 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 19:15:30
Instrument : CP25--18274A
Result file : 25PCBS18303005.034.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 73% (44-130) Conc.: 7.270813
%SSR(DCB) : *273% (45-143) Conc.: 27.0606 ~~6~~ 5 →

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	189.88	
3.16	3.18	3.20	105239.9	66.329293			1
3.38	3.38	3.42	225954.2	147.176423			2
+ 3.49	3.51	3.53	3563.582	1.808129			3
3.49	3.53	3.53	41305.08	20.957815			3
3.71	3.73	3.75	18825.39	8.296077			4
+ 3.77	3.77	3.81	3054.299	1.63447			5
3.77	3.80	3.81	2079632	1112.889261			5
+ 3.96	3.98	4.00	25402.02	17.797611			6
3.96	4.00	4.00	30512.29	21.378058			6
Height Summation:			2501468.86				
Amount Avg CF:			229.504488	Linear:			
Aroclor-1221					3	50.91	
3.06	3.08	3.10	19340.98	22.924314			1
3.11	3.12	3.15	13402.78	20.043653			2
+ 3.11	3.14	3.15	3619.128	5.412351			2
3.16	3.18	3.20	105239.9	48.152762			3
Height Summation:			137983.66				
Amount Avg CF:			30.373576	Linear:			
Aroclor-1232					6	198.89	
3.16	3.18	3.20	105239.9	58.92641			1
3.38	3.38	3.42	225954.2	325.759466			2
+ 3.49	3.51	3.53	3563.582	4.005603			3
3.49	3.53	3.53	41305.08	46.4285			3
3.71	3.73	3.75	18825.39	17.605018			4
+ 3.77	3.77	3.81	3054.299	3.85922			5
E 3.77	3.80	3.81	2079632	2627.692262			5
+ 3.96	3.98	4.00	25402.02	45.496402			6
3.96	4.00	4.00	30512.29	54.649174			6
Height Summation:			2501468.86				
Amount Avg CF:			521.843472	Linear:			
Aroclor-1242					6	192.97	
3.16	3.18	3.20	105239.9	76.685965			1
3.38	3.38	3.42	225954.2	176.828436			2
+ 3.49	3.51	3.53	3563.582	2.108517			3
3.49	3.53	3.53	41305.08	25.366853			3
3.71	3.73	3.75	18825.39	9.693285			4
E 3.77	3.80	3.81	2079632	1435.926397			5
+ 3.96	3.98	4.00	25402.02	23.395979			6
3.96	4.00	4.00	30512.29	28.102682			6
Height Summation:			2501468.86				
Amount Avg CF:			292.100603	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 19:15:30
Instrument : CP25--18274B
Result file : 25PCBS18303005B.034.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 61% (44-130) Conc.: 6.073357
%SSR(DCB) : *238% (45-143) Conc.: 23.54486

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	112.30	
2.94	2.97	2.98	30276.7	11.582534			1
3.27	3.28	3.31	186301.6	60.868632			2
+ 3.27	3.31	3.31	12859.24	4.201383			2
+ 3.47	3.47	3.51	4368.913	1.471828			3
+ 3.47	3.49	3.51	22721.25	7.654485			3
3.47	3.50	3.51	162770.4	54.835166			3
3.54	3.56	3.58	2151131	699.199683			4
3.60	3.62	3.64	1961696	812.666131			5
+ 3.60	3.64	3.64	281091.7	116.447046			5
3.71	3.73	3.75	646689.9	248.4465			6
Height Summation:			5138865.6				
Amount Avg CF:			314.599774	Linear:			
Aroclor-1221					3	146.38	
2.83	2.84	2.87	15855.82	10.394979			1
2.89	2.89	2.93	175525.9	161.390621			2
2.94	2.97	2.98	30276.7	8.195003			3
Height Summation:			221658.42				
Amount Avg CF:			59.993534	Linear:			
Aroclor-1232					6	117.24	
2.94	2.97	2.98	30276.7	10.116663			1
3.27	3.28	3.31	186301.6	135.248699			2
+ 3.27	3.31	3.31	12859.24	9.335376			2
+ 3.47	3.47	3.51	4368.913	3.121978			3
+ 3.47	3.49	3.51	22721.25	16.236359			3
3.47	3.50	3.51	162770.4	116.313961			3
E 3.54	3.56	3.58	2151131	1606.614389			4
E 3.60	3.62	3.64	1961696	2248.820364			5
+ 3.60	3.64	3.64	281091.7	322.233791			5
E 3.71	3.73	3.75	646689.9	634.381402			6
Height Summation:			5138865.6				
Amount Avg CF:			791.915913	Linear:			
Aroclor-1242					6	113.99	
2.94	2.97	2.98	30276.7	13.423723			1
3.27	3.28	3.31	186301.6	74.91			2
+ 3.27	3.31	3.31	12859.24	5.170571			2
+ 3.47	3.47	3.51	4368.913	1.727239			3
+ 3.47	3.49	3.51	22721.25	8.982791			3
3.47	3.50	3.51	162770.4	64.350879			3
E 3.54	3.56	3.58	2151131	871.287194			4
E 3.60	3.62	3.64	1961696	1081.395305			5
+ 3.60	3.64	3.64	281091.7	154.953288			5
3.71	3.73	3.75	646689.9	318.866105			6
Height Summation:			5138865.6				
Amount Avg CF:			404.038868	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872062** ACF DF5 12T04 ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.02 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 19:15:30
Instrument : CP25--18274A
Result file : 25PCBS18303005.034.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	113.44	
3.83	3.86	3.87	1487592	796.300414			1
+ 3.96	3.98	4.00	25402.02	12.05194			2
3.96	4.00	4.00	30512.29	14.476498			2
4.05	4.07	4.09	343488.2	192.203875			3
4.23	4.26	4.27	282384.4	158.281739			4
+ 4.36	4.36	4.40	133194.5	70.08092			5
4.36	4.38	4.40	224639.6	118.195195			5
4.61	4.63	4.65	270055.7	190.888512			6
Height Summation:			2638672.19				
Amount Avg CF:			245.057705	Linear:			
Aroclor-1254					6	98.06	
4.55	4.58	4.59	996047.4	475.213517			1
4.61	4.63	4.65	270055.7	64.358768			2
4.74	4.76	4.78	408915.3	309.082104			3
+ 4.83	4.83	4.87	48241.49	16.66167			4
4.83	4.85	4.87	103644.4	35.796756			4
5.03	5.05	5.07	181248.5	78.028956			5
5.14	5.16	5.18	324099.7	109.171614			6
Height Summation:			2284011				
Amount Avg CF:			178.608619	Linear:			
Aroclor-1260					6	55.16	
4.74	4.76	4.78	408915.3	125.841267			1
4.94	4.95	4.98	793815.1	202.806929			2
5.14	5.16	5.18	324099.7	68.657044			3
5.21	5.21	5.25	169675	74.085422			4
+ 5.21	5.22	5.25	45225.08	19.746687			4
5.61	5.63	5.65	311269.7	45.513566			5
5.82	5.83	5.86	364054.6	95.581998			6
Height Summation:			2371829.4				
Amount Avg CF:			102.081038	Linear:			
Aroclor-1262					6	55.07	
5.21	5.22	5.25	45225.08	12.94786			1
5.38	5.39	5.41	97143.62	34.526048			2
5.61	5.63	5.65	311269.7	38.176539			3
5.82	5.83	5.86	364054.6	77.154989			4
5.87	5.89	5.91	230180	89.887799			5
6.25	6.26	6.29	211918.7	67.193686			6
Height Summation:			1259791.7				
Amount Avg CF:			53.314487	Linear:			
Aroclor-1268					6	39.46	
5.81	5.83	5.85	364054.6	34.357832			1
5.87	5.89	5.91	230180	23.98531			2
6.00	6.02	6.04	272615.8	30.936227			3
+ 6.07	6.08	6.11	44098.38	19.935948			4
6.07	6.10	6.11	112573.4	50.892061			4
6.24	6.26	6.28	211918.7	56.02833			5
6.44	6.46	6.48	641103.8	21.004747			6
Height Summation:			1832446.3				
Amount Avg CF:			36.200751	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 19:15:30
Instrument : CP25--18274B
Result file : 25PCBS18303005B.034.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	60.53	
3.58	3.60	3.62	138854	45.543807			1
3.71	3.73	3.75	646689.9	172.755813			2
3.80	3.82	3.84	153946.4	62.220091			3
3.93	3.95	3.97	370220.1	76.823715			4
4.07	4.09	4.11	86740.2	39.133741			5
+ 4.30	4.30	4.34	130301.3	62.185206			6
4.30	4.32	4.34	283045	135.080859			6
Height Summation:			1679495.6				
Amount Avg CF:			88.593004	Linear:			
Aroclor-1254					6	60.76	
+ 4.30	4.30	4.34	130301.3	21.26907			1
4.30	4.32	4.34	283045	46.20141			1
4.40	4.40	4.44	294795.6	102.450715			2
+ 4.40	4.42	4.44	93337.23	32.437614			2
+ 4.40	4.43	4.44	162564.7	56.496331			2
4.47	4.49	4.51	236112.9	61.100947			3
4.54	4.57	4.58	539685.8	231.63848			4
4.69	4.71	4.73	226902.8	85.378349			5
4.77	4.79	4.81	662454.8	151.696311			6
Height Summation:			2242996.9				
Amount Avg CF:			113.077702	Linear:			
Aroclor-1260					6	36.00	
4.54	4.57	4.58	539685.8	94.802599			1
4.64	4.66	4.68	279858.5	61.228537			2
4.77	4.79	4.81	662454.8	116.469878			3
5.00	5.02	5.04	169449.7	48.132491			4
5.19	5.21	5.23	421790.1	50.482718			5
5.45	5.47	5.49	511536.4	89.934064			6
Height Summation:			2584775.3				
Amount Avg CF:			76.841715	Linear:			
Aroclor-1262					6	25.93	
4.81	4.82	4.85	204645	43.851647			1
+ 5.00	5.02	5.04	169449.7	35.069804			2
5.00	5.04	5.04	354109.3	73.287493			2
5.20	5.21	5.24	421790.1	42.961775			3
5.41	5.43	5.45	313832.5	70.940293			4
5.46	5.47	5.50	511536.4	76.938938			5
5.83	5.85	5.87	239373.5	60.914046			6
Height Summation:			2045286.8				
Amount Avg CF:			62.816699	Linear:			
Aroclor-1268					6	62.11	
5.41	5.43	5.45	313832.5	0.110361			1
5.46	5.47	5.50	511536.4	177.9385			2
5.61	5.63	5.65	490239.3	196.250252			3
5.68	5.69	5.72	82585.5	132.778604			4
5.83	5.85	5.87	239373.5	238.726401			5
6.03	6.05	6.07	775277.6	84.976025			6
Height Summation:			2412844.8				
Amount Avg CF:			138.463357	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872062** ACF DF5 12T04 ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.02 g Total Volume: 50 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 19:15:30
Instrument : CP25--18274A
Result file : 25PCBS18303005.034.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 19:15:30
Instrument : CP25--18274B
Result file : 25PCBS18303005B.034.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			84.9434	17.988		31.28	4	40	
Aroclor-1221			84.9434	22.9847		** 65.55	3	5	
Aroclor-1232			84.9434	39.9734	E	** 41.11	4	10	
Aroclor-1242			84.9434	16.489	E	32.16	4	30	
Aroclor-1248			84.9434	16.489		** 93.79	4	40	
Aroclor-1254			84.9434	16.489		** 44.93	4	40	
Aroclor-1260			84.9434	24.4837		28.21	4	40	
Aroclor-1262			84.9434	16.489		16.36	4	40	
Aroclor-1268			84.9434	16.489		** 117.10	4	40	

Units: ug/kg

9872062 ACF DF5 AG12T04 T 183040031A 10885 SW-846 8082A Fel

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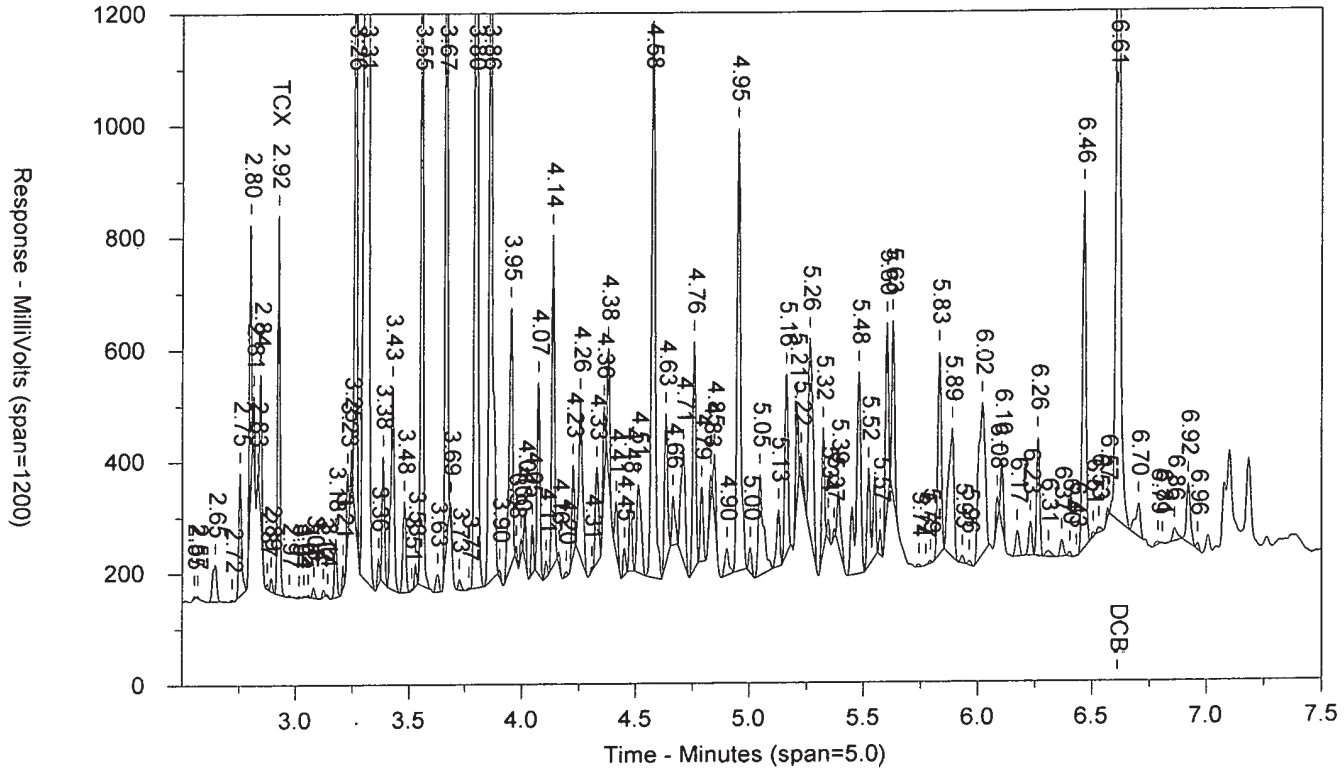

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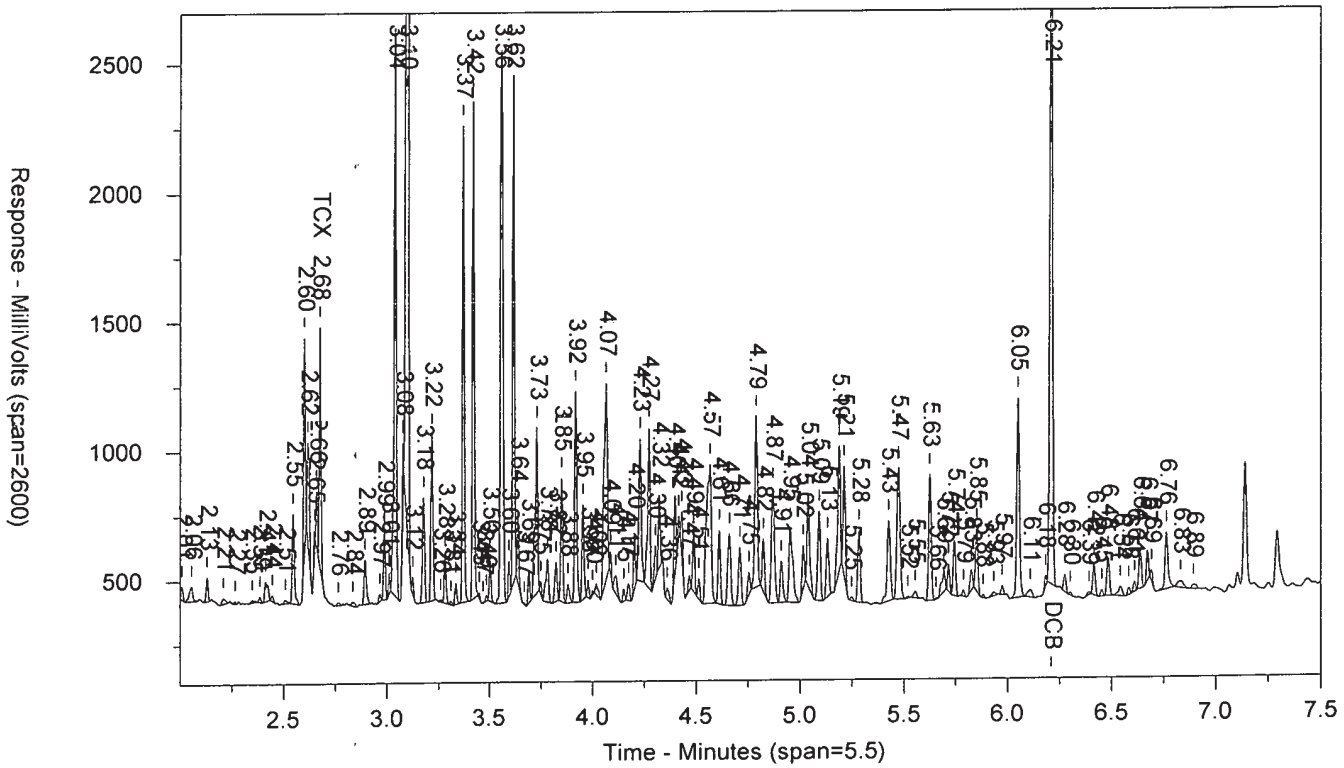

LANCASTER LABORATORIES

Sample Number: 9872062 ACF DF5 AG12T04 T 183040031A 10885 SW-846 8082A Feb 2007 Re
Injected On: 11/5/2018 7:15:30 PM Sample Weight: 30.02
Instrument ID: CP25-18274 Dilution Factor: 50
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.923	677237	7.271	TCX	2.677	930630	6.073	TCX
6.61	2085148	27.061	DCB	6.209	2654337	23.545	DCB

Files:
Area File: 25PCBS18303005.034.RAW
Area File: 25PCBS18303005B.034.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 7:24:01 PM
File Reported On: 11/5/2018 at 7:24:10 PM

9872062 ACF DF5 AG12T04 T 183040031A 10885 SW-846 8082A

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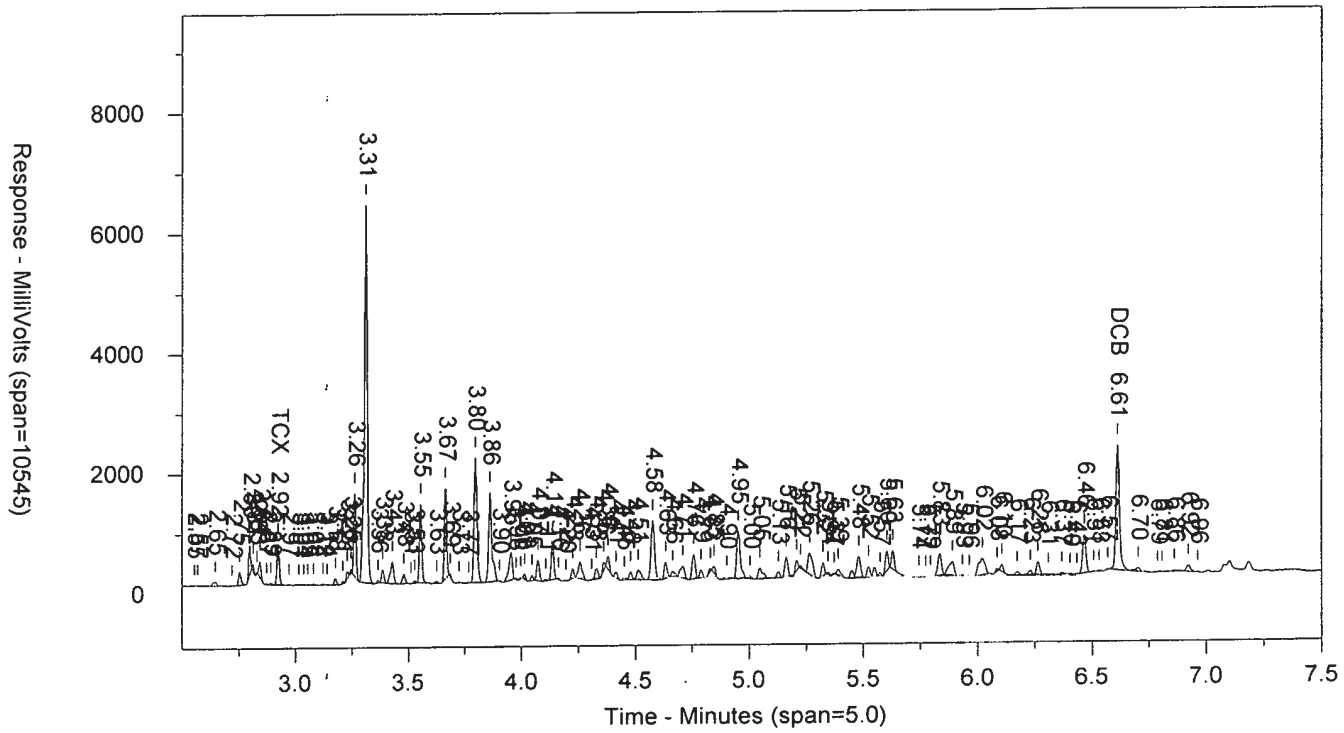

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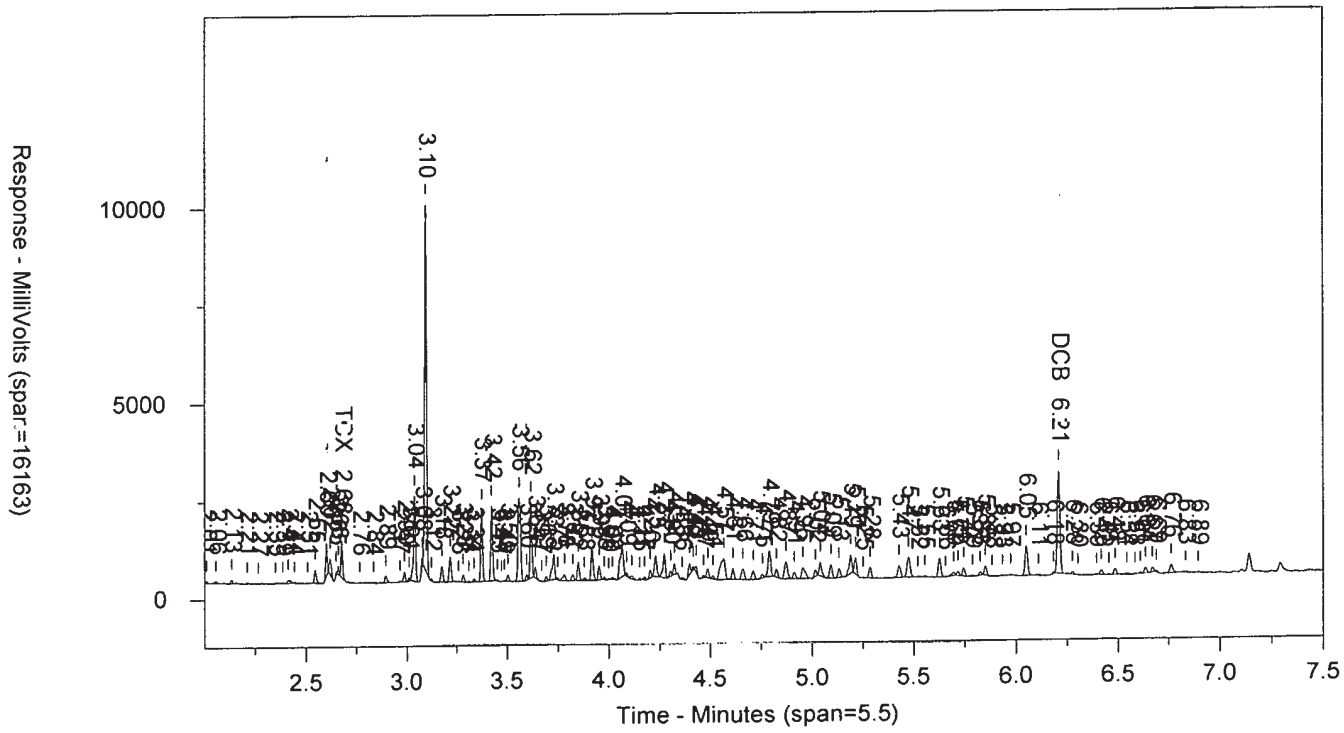

9872062 ACF DF5 AG12T04 T 183040031A 10885 SW-846 8082A

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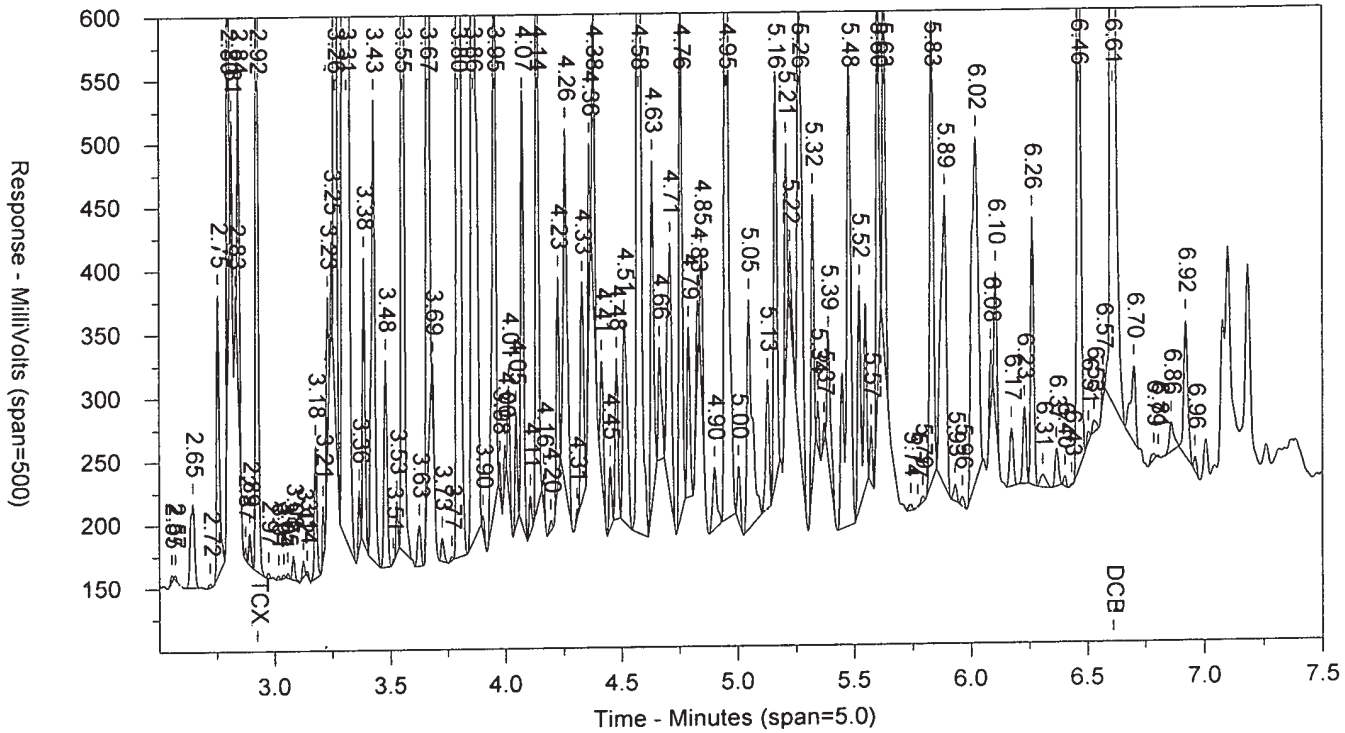

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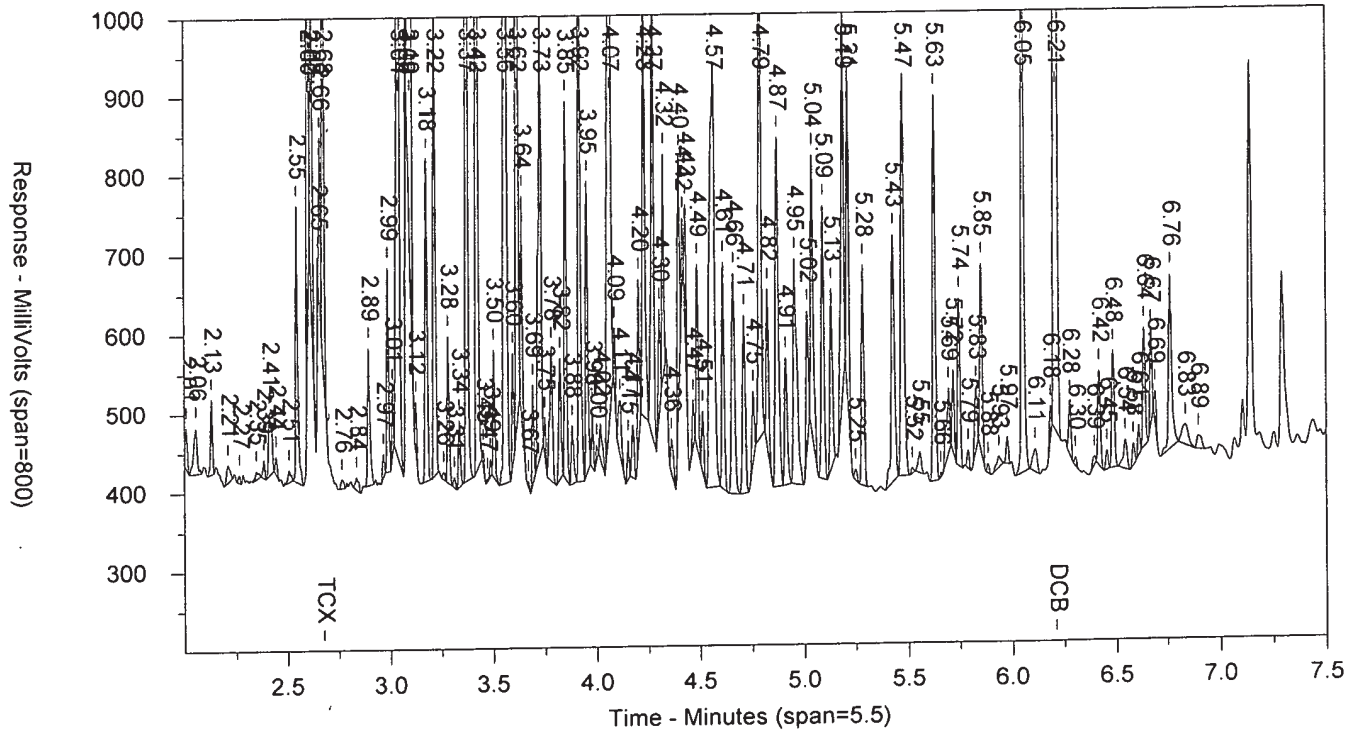

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Data Summary

Sample Name: 9872063 ACF 12T05 Sample ID: AB **Batchnumber: 183040031A**
Sample Amount: 30.21 g Total Volume: 10 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on	Nov 05, 2018 04:27:16
Instrument	18274A
Result file	25PCBS18303004.093.RAW
Calibration file	25PCBS1830301
Method file	25PCBA

%SSR(TCX) 89% (44 - 130) Conc: 8.869979
%SSR(DCB) 131% (45 - 143) Conc: 12.88374

Analysis Report (B)

Injected on	Nov 05, 2018 04:27:16
Instrument	18274B
Result file	25PCBS18303004B.093.RAW
Calibration file	25PCBS1830301B
Method file	25PCBAB

%SSR(TCX) 88% (44 - 130) Conc: 8.788001
%SSR(DCB) 116% (45 - 143) Conc: 11.42598

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	4157099	8.869979
Decachlorobiphenyl	6.58	6.61	6.64	4995182	12.88374

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	6775608	8.788001
Decachlorobiphenyl	6.18	6.21	6.24	6481316	11.42598

Single Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
☐	Tetrachloro-m-xylene	A	8.869979	0.4965	0.993	0.993		0.93	
☑	Tetrachloro-m-xylene-D1	A	8.869979	0.4965	0.993	0.993			
☑	Tetrachloro-m-xylene-D2	B	8.788001	0.4965	0.993	0.993			
☐	Decachlorobiphenyl	A	12.88374	0.4965	0.993	0.993		11.99	
☑	Decachlorobiphenyl-D1	A	12.88374	0.4965	0.993	0.993			
☑	Decachlorobiphenyl-D2	B	11.42598	0.4965	0.993	0.993			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260						**42.92**	
4.74	4.76	4.78	324294.9	19.834433			1
5.14	5.16	5.18	352963.5	14.860254			3
5.21	5.23	5.25	223040.7	19.354813			4
5.61	5.63	5.65	565571.7	16.435452			5
5.82	5.83	5.86	726541.1	37.910519			6

Height summation: **2192411.9**
Concentration CF: **21.679094** L:

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260						**33.75**	
4.54	4.55	4.58	594437.4	20.752735			1
4.64	4.66	4.68	316692	13.770269			2
4.77	4.79	4.81	768284.7	26.845377			3
5.00	5.02	5.04	320652.6	18.101821			4
5.19	5.21	5.23	744841.6	17.71741			5
5.45	5.48	5.49	976110.9	34.106472			6

Height summation: **3721019.2**
Concentration CF: **21.882347** L:

Multiple Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
☑	PCB-1016			<3.575	<9.9305	<16.8818	D1		4	
☑	PCB-1221			<4.568	<9.9305	<16.8818	D1		3	
☑	PCB-1232			<7.9444	<15.8888	<16.8818	D1		4	
☑	PCB-1242			<3.2771	<9.9305	<16.8818	D1		4	
☑	PCB-1248			<3.2771	<9.9305	<16.8818	D1		4	
☑	PCB-1254			<3.2771	<9.9305	<16.8818	D1		4	
☑	PCB-1260	B	21.882347	4.8659	9.9305	16.8818	D2	0.93	4	
☑	PCB-1262			<3.2771	<9.9305	<16.8818	D1		4	
☑	PCB-1268			<3.2771	<9.9305	<16.8818	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/5/2018 11:29:07

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872063** ACF 12T05 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30.21 g Total Volume: 10 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 04:27:16
Instrument : CP25--18274A
Result file : 25PCBS18303004.093.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 89% (44-130) Conc.: 8.869979
%SSR(DCB) : 131% (45-143) Conc.: 12.88374

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	211.00	
3.16	3.18	3.20	7201.771	0.902099			1
3.38	3.39	3.42	100909	13.062842			2
+ 3.49	3.51	3.53	6461.562	0.651583			3
3.49	3.53	3.53	21910.09	2.209412			3
+ 3.71	3.71	3.75	8670.616	0.759397			4
3.71	3.73	3.75	12665.48	1.109278			4
3.77	3.80	3.81	1748121	185.920342			5
3.96	4.00	4.00	52664.22	7.333294			6
Height Summation:			**1943471.561**				
Amount Avg CF:			**35.089544**	Linear:			
Aroclor-1221					3	107.00	
3.06	3.08	3.10	22411.79	5.279398			1
3.11	3.12	3.15	52988.23	15.748941			2
3.16	3.18	3.20	7201.771	0.654893			3
Height Summation:			**82601.791**				
Amount Avg CF:			**7.227744**	Linear:			
Aroclor-1232					5	202.26	
3.16	3.18	3.20	7201.771	0.801417			1
3.38	3.39	3.42	100909	28.913222			2
+ 3.49	3.51	3.53	6461.562	1.443473			3
3.49	3.53	3.53	21910.09	4.894579			3
+ 3.71	3.71	3.75	8670.616	1.611508			4
3.71	3.73	3.75	12665.48	2.353987			4
E 3.77	3.80	3.81	1748121	438.984776			5
Height Summation:			**1890807.341**				
Amount Avg CF:			**95.189596**	Linear:			
Aroclor-1242					6	212.32	
3.16	3.18	3.20	7201.771	1.042953			1
3.38	3.39	3.42	100909	15.694647			2
+ 3.49	3.51	3.53	6461.562	0.788661			3
3.49	3.53	3.53	21910.09	2.674221			3
+ 3.71	3.71	3.75	8670.616	0.887293			4
3.71	3.73	3.75	12665.48	1.2961			4
E 3.77	3.80	3.81	1748121	239.887234			5
3.96	4.00	4.00	52664.22	9.640034			6
Height Summation:			**1943471.561**				
Amount Avg CF:			**45.039198**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 04:27:16
Instrument : CP25--18274B
Result file : 25PCBS18303004B.093.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 88% (44-130) Conc.: 8.788001
%SSR(DCB) : 116% (45-143) Conc.: 11.42598

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	117.93	
2.94	2.96	2.98	25224.55	1.917823			1
3.27	3.28	3.31	11623.32	0.75474			2
+ 3.27	3.29	3.31	8143.776	0.528802			2
+ 3.47	3.47	3.51	30507.22	2.042567			3
+ 3.47	3.49	3.51	9100.14	0.609287			3
3.47	3.50	3.51	276268.1	18.497134			3
3.54	3.56	3.58	1983918	128.158684			4
3.60	3.62	3.64	391344.2	32.22028			5
+ 3.60	3.64	3.64	16849.48	1.387257			5
3.71	3.73	3.75	898295.3	68.587645			6
Height Summation:			**3586673.47**				
Amount Avg CF:			**41.689384**	Linear:			
Aroclor-1221					3	99.18	
2.83	2.85	2.87	52253.64	6.808343			1
2.89	2.90	2.93	102658.1	18.759457			2
2.94	2.96	2.98	25224.55	1.356919			3
Height Summation:			**180136.29**				
Amount Avg CF:			**8.974906**	Linear:			
Aroclor-1232					6	115.16	
2.94	2.96	2.98	25224.55	1.675105			1
3.27	3.28	3.31	11623.32	1.677014			2
+ 3.27	3.29	3.31	8143.776	1.174985			2
+ 3.47	3.47	3.51	30507.22	4.332604			3
+ 3.47	3.49	3.51	9100.14	1.292393			3
3.47	3.50	3.51	276268.1	39.235312			3
E 3.54	3.56	3.58	1983918	294.481807			4
E 3.60	3.62	3.64	391344.2	89.160382			5
+ 3.60	3.64	3.64	16849.48	3.838836			5
E 3.71	3.73	3.75	898295.3	175.13117			6
Height Summation:			**3586673.47**				
Amount Avg CF:			**100.226798**	Linear:			
Aroclor-1242					6	117.19	
2.94	2.96	2.98	25224.55	2.222685			1
3.27	3.28	3.31	11623.32	0.928845			2
+ 3.27	3.29	3.31	8143.776	0.650787			2
+ 3.47	3.47	3.51	30507.22	2.39702			3
+ 3.47	3.49	3.51	9100.14	0.715018			3
3.47	3.50	3.51	276268.1	21.706997			3
E 3.54	3.56	3.58	1983918	159.701188			4
3.60	3.62	3.64	391344.2	42.874753			5
+ 3.60	3.64	3.64	16849.48	1.84599			5
E 3.71	3.73	3.75	898295.3	88.028107			6
Height Summation:			**3586673.47**				
Amount Avg CF:			**52.577096**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872063** ACF 12T05 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30.21 g Total Volume: 10 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 04:27:16
Instrument : CP25--18274A
Result file : 25PCBS18303004.093.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	61.42	
3.83	3.86	3.87	277419.8	29.513487			1
3.96	4.00	4.00	52664.22	4.965858			2
4.05	4.07	4.09	510760.8	56.801242			3
4.23	4.26	4.27	446736.7	49.765882			4
+ 4.36	4.36	4.40	184223.1	19.264048			5
4.36	4.38	4.40	295556.8	30.906115			5
4.61	4.63	4.65	124166	17.442916			6
+ 4.61	4.65	4.65	77568.4	10.896857			6
Height Summation:			1707304.32				
Amount Avg CF:			31.565917	Linear:			
Aroclor-1254					6	146.84	
4.55	4.58	4.59	1858777	176.248743			1
4.61	4.63	4.65	124166	5.880944			2
+ 4.61	4.65	4.65	77568.4	3.673916			2
4.74	4.76	4.78	324294.9	48.715883			3
4.83	4.85	4.87	84227.35	5.781505			4
5.03	5.05	5.07	122842.4	10.510409			5
5.14	5.16	5.18	352963.5	23.6293			6
Height Summation:			2867271.15				
Amount Avg CF:			45.127797	Linear:			
Aroclor-1260					6	75.45	
4.74	4.76	4.78	324294.9	19.834433			1
4.94	4.95	4.98	1458271	74.0443			2
5.14	5.16	5.18	352963.5	14.860254			3
+ 5.21	5.21	5.25	52258.73	4.534858			4
5.21	5.23	5.25	223040.7	19.354813			4
5.61	5.63	5.65	565571.7	16.435452			5
5.82	5.83	5.86	726541.1	37.910519			6
Height Summation:			3650682.9				
Amount Avg CF:			30.406628	Linear:			
Aroclor-1262					6	50.38	
5.21	5.23	5.25	223040.7	12.690909			1
5.38	5.39	5.41	146566.3	10.352773			2
5.61	5.63	5.65	565571.7	13.78597			3
5.82	5.83	5.86	726541.1	30.601847			4
5.87	5.89	5.91	471051.7	36.66878			5
6.25	6.27	6.29	455553	28.707016			6
Height Summation:			2588324.5				
Amount Avg CF:			22.116216	Linear:			
Aroclor-1268					6	49.52	
5.81	5.83	5.85	726541.1	13.627286			1
5.87	5.89	5.91	471051.7	9.755202			2
6.00	6.02	6.04	549863.7	12.401132			3
6.07	6.09	6.11	78345.59	7.039127			4
6.24	6.27	6.28	455553	23.936865			5
6.44	6.46	6.48	1221236	7.952042			6
Height Summation:			3502591.09				
Amount Avg CF:			12.451942	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 04:27:16
Instrument : CP25--18274B
Result file : 25PCBS18303004B.093.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					5	93.54	
3.58	3.60	3.62	28810.44	1.878066			1
3.71	3.73	3.75	898295.3	47.692016			2
3.80	3.82	3.84	166418.8	13.3676			3
3.93	3.95	3.97	171017.2	7.052857			4
+ 4.30	4.30	4.34	35144.43	3.33338			6
+ 4.30	4.32	4.34	304356	28.867565			6
4.30	4.34	4.34	326503	30.968164			6
Height Summation:			1591044.74				
Amount Avg CF:			20.19174	Linear:			
Aroclor-1254					6	68.03	
+ 4.30	4.30	4.34	35144.43	1.140109			1
+ 4.30	4.32	4.34	304356	9.87351			1
4.30	4.34	4.34	326503	10.591973			1
+ 4.40	4.40	4.44	278918.4	19.26465			2
4.40	4.43	4.44	589484.7	40.715192			2
4.47	4.49	4.51	135128.2	6.94967			3
4.54	4.55	4.58	594437.4	50.706753			4
4.69	4.71	4.73	201687.1	15.082592			5
4.77	4.79	4.81	768284.7	34.964789			6
Height Summation:			2615525.1				
Amount Avg CF:			26.501828	Linear:			
Aroclor-1260					6	33.75	
4.54	4.55	4.58	594437.4	20.752735			1
4.64	4.66	4.68	316692	13.770269			2
4.77	4.79	4.81	768284.7	26.845377			3
5.00	5.02	5.04	320652.6	18.101821			4
5.19	5.21	5.23	744841.6	17.71741			5
5.45	5.48	5.49	976110.9	34.106472			6
Height Summation:			3721019.2				
Amount Avg CF:			21.882347	Linear:			
Aroclor-1262					6	28.23	
4.81	4.82	4.85	439871.9	18.732725			1
+ 5.00	5.02	5.04	320652.6	13.189164			2
5.00	5.04	5.04	605381.4	24.900701			2
5.20	5.21	5.24	744841.6	15.07786			3
5.41	5.43	5.45	686917.3	34.34221			4
5.46	5.48	5.50	976110.9	29.178218			5
5.83	5.85	5.87	535389.4	27.077035			6
Height Summation:			3988512.5				
Amount Avg CF:			24.884791	Linear:			
Aroclor-1268					6	66.95	
5.41	5.43	5.45	686917.3	0.048008			1
5.46	5.48	5.50	976110.9	67.481154			2
5.61	5.63	5.65	757683.6	60.28093			3
5.68	5.69	5.72	154724.9	49.439545			4
5.83	5.85	5.87	535389.4	106.116791			5
6.03	6.05	6.07	1555207	33.877967			6
Height Summation:			4666033.1				
Amount Avg CF:			52.874066	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872063** ACF 12T05 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30.21 g Total Volume: 10 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 04:27:16
Instrument : CP25--18274A
Result file : 25PCBS18303004.093.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 04:27:16
Instrument : CP25--18274B
Result file : 25PCBS18303004B.093.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			16.8818	3.575		17.19	4	40	
Aroclor-1221			16.8818	4.568		21.57	3	5	
Aroclor-1232			16.8818	7.9444	E	5.16	4	10	
Aroclor-1242			16.8818	3.2771	E	15.44	4	30	
Aroclor-1248			16.8818	3.2771		** 43.95	4	40	
Aroclor-1254			16.8818	3.2771		** 52.01	4	40	
Aroclor-1260			16.8818	4.8659		32.60	4	40	
Aroclor-1262			16.8818	3.2771		11.78	4	40	
Aroclor-1268			16.8818	3.2771		** 123.76	4	40	

Units: ug/kg

9872063 ACF AB12T05 T 183040031A 10885 SW-846 8082A Feb 2

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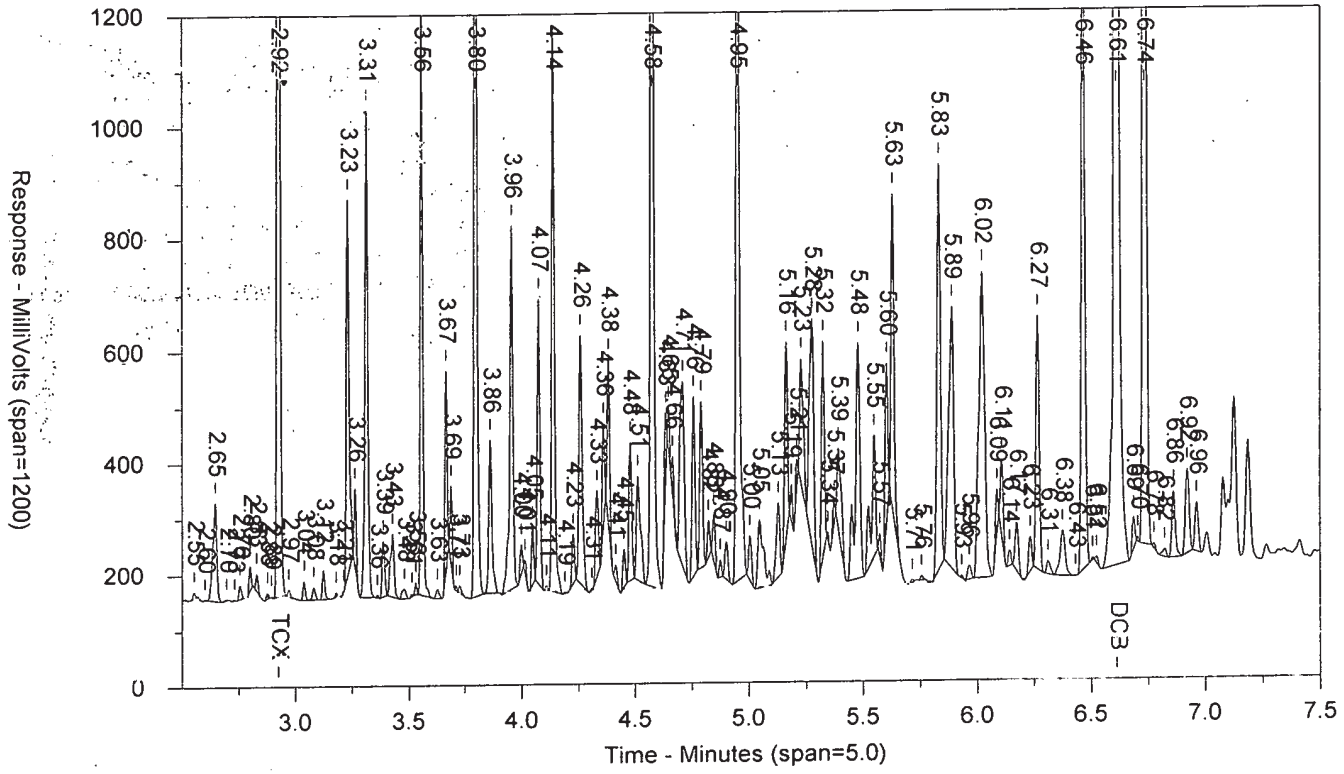

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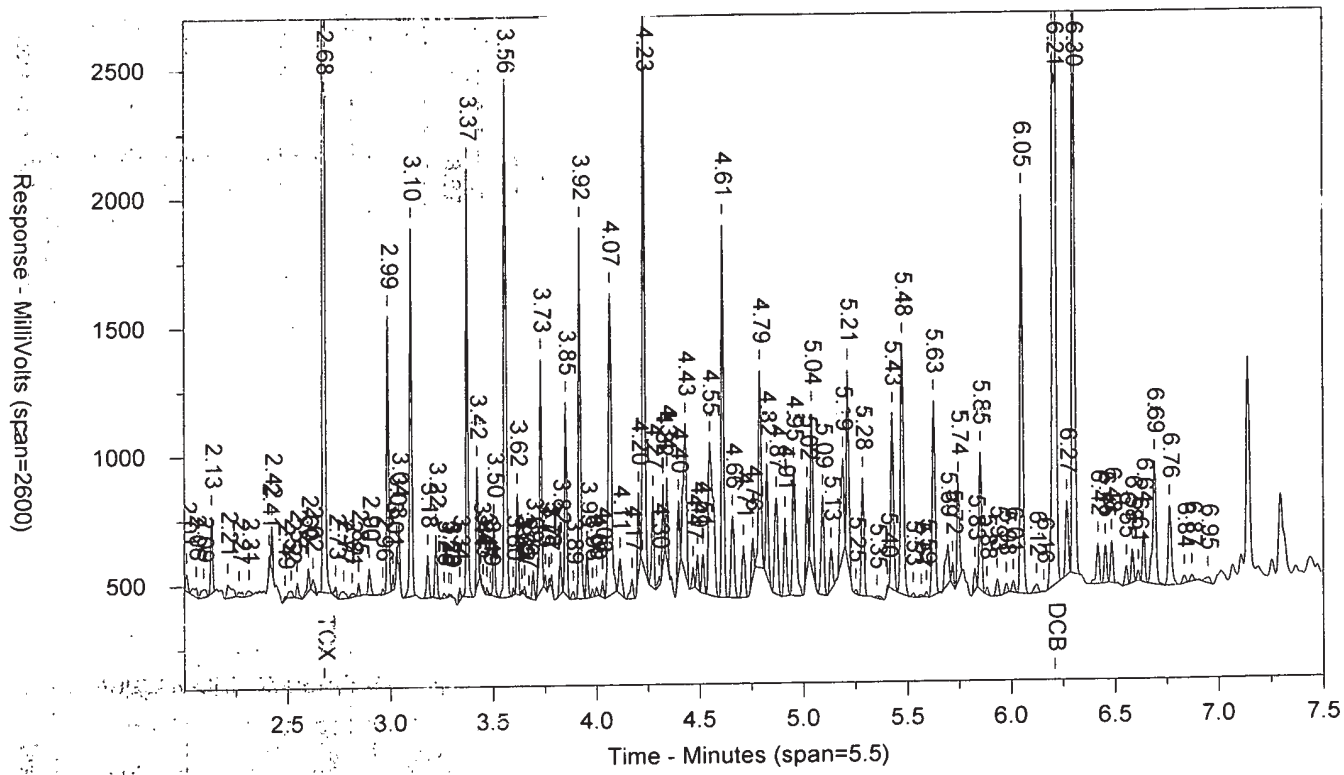

LANCASTER LABORATORIES

Sample Number: 9872063 ACF AB12T05 T 183040031A 10885 SW-846 8082A Feb 2007 Rev
Injected On: 11/5/2018 4:27:16 AM Sample Weight: 30.21
Instrument ID: CP25-18274 Dilution Factor: 10
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	4157099	8.87	TCX	2.677	6775608	8.788	TCX
6.611	4995182	12.884	DCB	6.21	6481316	11.426	DCB

Files:
Area File: 25PCBS18303004.093.RAW
Area File: 25PCBS18303004B.093.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 4:35:47 AM
File Reported On: 11/5/2018 at 4:35:56 AM

9872063 ACF AB12T05 T 183040031A 10885 SW-846 8082A Fe

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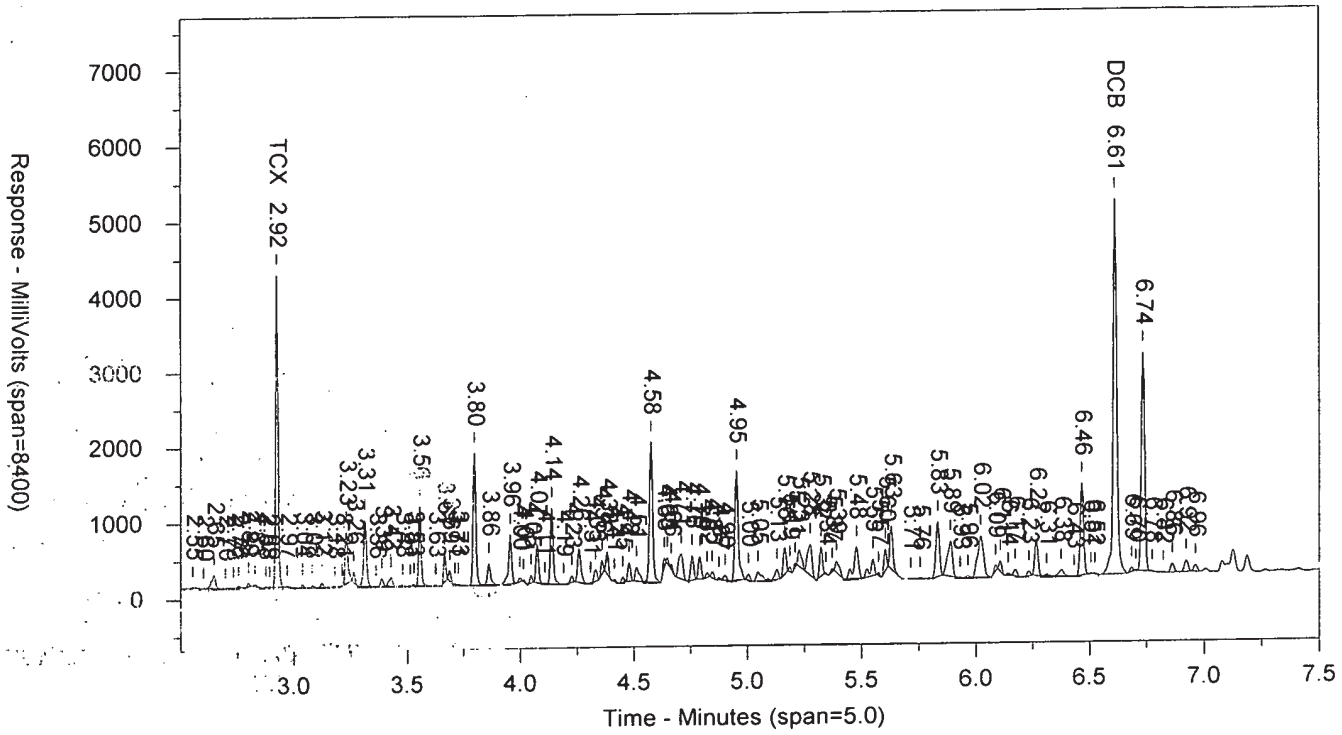

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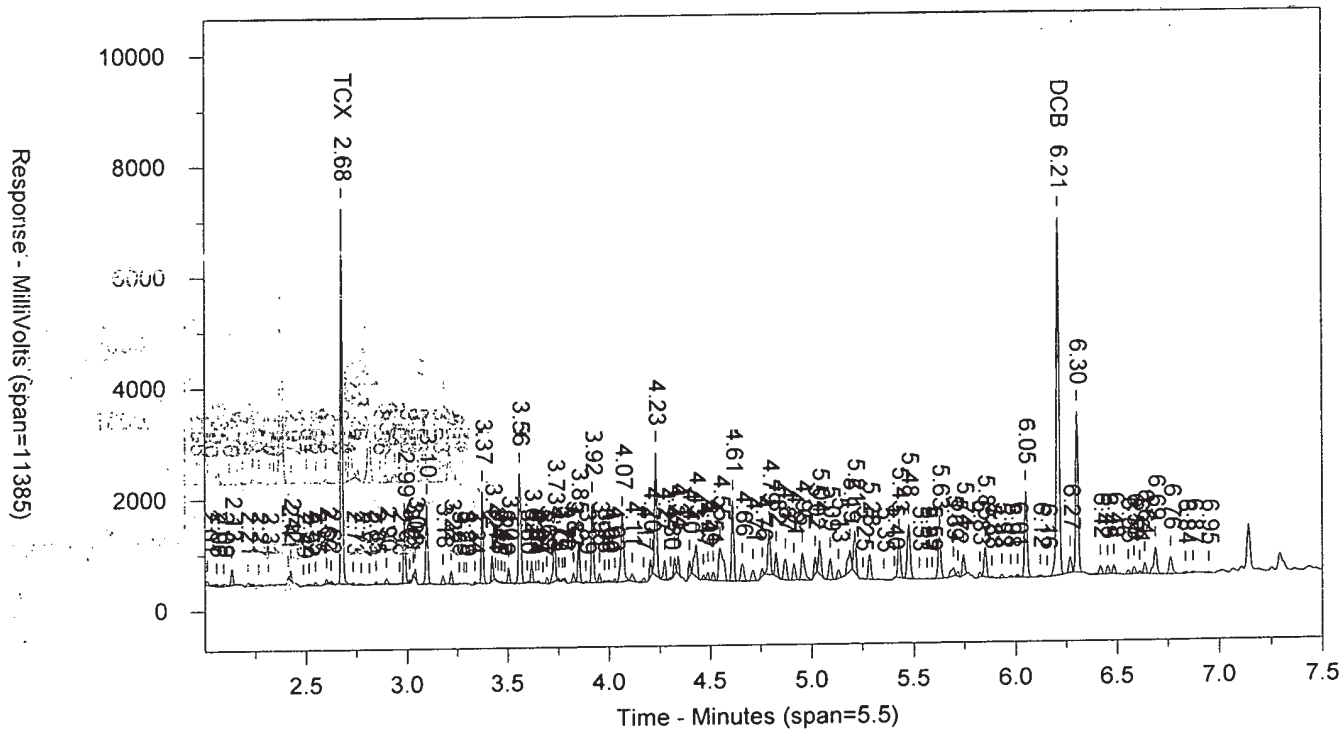

9872063 ACF AB12T05 T 183040031A 10885 SW-846 8082A Fe

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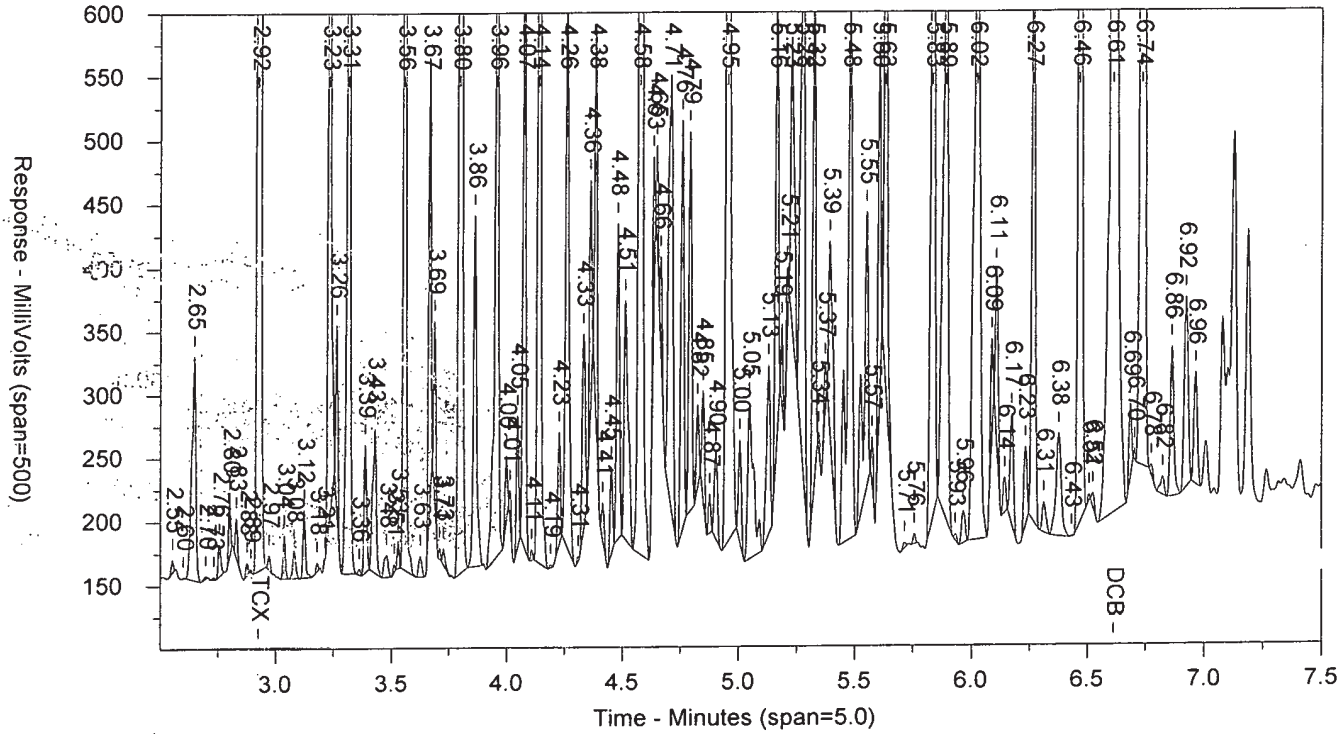

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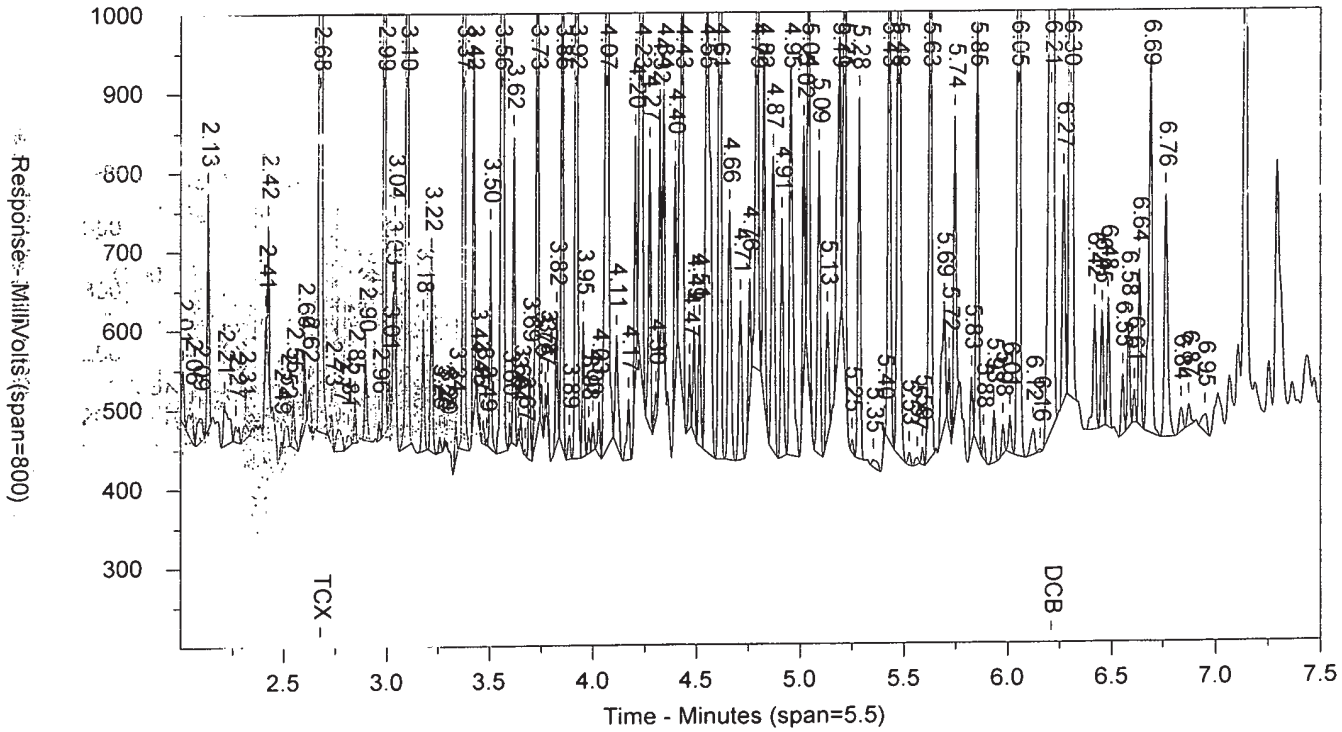

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Data Summary

Sample Name: 9872064 ACF DF10 12T06 Sample ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.34 g Total Volume: 100 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 19:59:13
Instrument 18274A
Result file 25PCBS18303005.038.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 109% (44 - 130) Conc: 10.82495
%SSR(DCB) * 205% (45 - 143) Conc: 20.10973

Analysis Report (B)

Injected on Nov 05, 2018 19:59:13
Instrument 18274B
Result file 25PCBS18303005B.038.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 77% (44 - 130) Conc: 7.606325
%SSR(DCB) * 185% (45 - 143) Conc: 18.19186

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	509517	10.82495
Decachlorobiphenyl	6.58	6.61	6.64	783034	20.10973

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	588976	7.606325
Decachlorobiphenyl	6.18	6.21	6.24	1036363	18.19186

Single Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
☐	Tetrachloro-m-xylene	A	10.82495	4.944	9.8879	9.8879		34.93	
☑	Tetrachloro-m-xylene-D1	A	10.82495	4.944	9.8879	9.8879			
☑	Tetrachloro-m-xylene-D2	B	7.606325	4.944	<9.8879	<9.8879	J		
☐	Decachlorobiphenyl	A	20.10973	4.944	9.8879	9.8879		10.01	
☑	Decachlorobiphenyl-D1	A	20.10973	4.944	9.8879	9.8879			
☑	Decachlorobiphenyl-D2	B	18.19186	4.944	9.8879	9.8879			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**20.99**	
4.61	4.63	4.65	503418	237.415036			2
4.83	4.85	4.87	265450	181.428564			4
5.03	5.05	5.07	186526.2	158.908206			5
Height summation:			**955394.2**				
Concentration		CF:	**192.583935**	L:			
Aroclor-1260						**42.10**	
5.14	5.16	5.18	334493.3	140.222918			3
5.61	5.63	5.65	192773.5	55.779736			5
5.82	5.83	5.86	206606.4	107.344169			6
Height summation:			**733873.2**				
Concentration		CF:	**101.115608**	L:			

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**18.10**	
4.30	4.32	4.34	705214	227.795835			1
4.47	4.49	4.51	316700.9	162.181991			3
4.69	4.71	4.73	238868.1	177.865271			5
Height summation:			**1260783**				
Concentration		CF:	**189.281032**	L:			
Aroclor-1260						**32.58**	
5.00	5.02	5.04	100975.4	56.759456			4
5.19	5.21	5.23	263880.7	62.499866			5
5.45	5.47	5.49	289470	100.71087			6
Height summation:			**654326.1**				
Concentration		CF:	**73.323397**	L:			

Reviewed and digitally signed by Kirby B Turner on 11/6/2018 10:20:52

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Data Summary

Sample Name: 9872064 ACF DF10 12T06 Sample ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.34 g Total Volume: 100 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on	Nov 05, 2018 19:59:13
Instrument	18274A
Result file	25PCBS18303005.038.RAW
Calibration file	25PCBS1830301
Method file	25PCBA

Analysis Report (B)

Injected on	Nov 05, 2018 19:59:13
Instrument	18274B
Result file	25PCBS18303005B.038.RAW
Calibration file	25PCBS1830301B
Method file	25PCBAB

Multiple Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
☑	PCB-1016			<35.5966	<98.8794	<168.0949	D1		4	
☑	PCB-1221			<45.4845	<98.8794	<168.0949	D1		3	
☑	PCB-1232			<79.1035	<158.207	<168.0949	D1		4	
☑	PCB-1242			<32.6302	<98.8794	<168.0949	D1		4	
☑	PCB-1248			<32.6302	<98.8794	<168.0949	D1		4	
☑	PCB-1254	A	192.583935	32.6302	98.8794	168.0949	D1	1.73	4	
☑	PCB-1260	A	101.115608	48.4509	98.8794	<168.0949	JD1	31.86	4	
☑	PCB-1262			<32.6302	<98.8794	<168.0949	D1		4	
☑	PCB-1268			<32.6302	<98.8794	<168.0949	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/6/2018 10:20:52

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872064** ACF DF10 12T06 ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.34 g Total Volume: 100 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 19:59:13
Instrument : CP25--18274A
Result file : 25PCBS18303005.038.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 109% (44-130) Conc.: 10.82495
%SSR(DCB) : *205% (45-143) Conc.: 20.10973

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	84.37	
3.16	3.18	3.20	3929.353	4.900846			1
3.38	3.40	3.42	183220.8	236.166181			2
+ 3.38	3.41	3.42	25801.36	33.257188			2
3.49	3.51	3.53	88710.37	89.072172			3
3.71	3.73	3.75	84701.94	73.866451			4
3.77	3.80	3.81	388260	411.162234			5
3.96	3.98	4.00	175013.5	242.655485			6
Height Summation:			923835.963				
Amount Avg CF:			176.303895	Linear:			
Aroclor-1221					3	139.18	
3.06	3.07	3.10	28991.82	68.001494			1
3.11	3.13	3.15	154100.7	456.049212			2
3.16	3.18	3.20	3929.353	3.557844			3
Height Summation:			187021.873				
Amount Avg CF:			175.869517	Linear:			
Aroclor-1232					6	87.19	
3.16	3.18	3.20	3929.353	4.353873			1
3.38	3.40	3.42	183220.8	522.728896			2
+ 3.38	3.41	3.42	25801.36	73.611274			2
3.49	3.51	3.53	88710.37	197.32435			3
3.71	3.73	3.75	84701.94	156.75123			4
E 3.77	3.80	3.81	388260	970.813413			5
3.96	3.98	4.00	175013.5	620.305248			6
Height Summation:			923835.963				
Amount Avg CF:			412.046168	Linear:			
Aroclor-1242					6	86.96	
3.16	3.18	3.20	3929.353	5.666066			1
3.38	3.40	3.42	183220.8	283.74719			2
+ 3.38	3.41	3.42	25801.36	39.9576			2
3.49	3.51	3.53	88710.37	107.810886			3
3.71	3.73	3.75	84701.94	86.306889			4
3.77	3.80	3.81	388260	530.509842			5
3.96	3.98	4.00	175013.5	318.984535			6
Height Summation:			923835.963				
Amount Avg CF:			222.170901	Linear:			
Aroclor-1248					6	71.72	
3.83	3.85	3.87	459257	486.490094			1
3.96	3.98	4.00	175013.5	164.318094			2
4.05	4.07	4.09	130436.6	144.435814			3
4.23	4.25	4.27	82311.98	91.301575			4
4.30	4.38	4.40	527010.1	548.728541			5
4.61	4.63	4.65	503418	704.174494			6
Height Summation:			1877447.18				
Amount Avg CF:			356.574767	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 19:59:13
Instrument : CP25--18274B
Result file : 25PCBS18303005B.038.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 77% (44-130) Conc.: 7.606325
%SSR(DCB) : *185% (45-143) Conc.: 18.19186

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	106.21	
2.94	2.96	2.98	13165.96	9.967188			1
3.27	3.29	3.31	137978.6	89.210053			2
+ 3.47	3.47	3.51	117824.8	78.549885			3
3.47	3.50	3.51	130483.9	86.989286			3
3.54	3.56	3.58	471425.6	303.230326			4
3.60	3.62	3.64	891031.8	730.463912			5
+ 3.60	3.64	3.64	230133.4	188.662339			5
3.71	3.72	3.75	343817.4	261.390478			6
Height Summation:			1987903.26				
Amount Avg CF:			246.875207	Linear:			
Aroclor-1221					3	138.61	
2.83	2.85	2.87	47823.11	62.04372			1
2.89	2.91	2.93	239465.3	435.717278			2
2.94	2.96	2.98	13165.96	7.052096			3
Height Summation:			300454.37				
Amount Avg CF:			168.271031	Linear:			
Aroclor-1232					6	117.01	
2.94	2.96	2.98	13165.96	8.705753			1
3.27	3.29	3.31	137978.6	198.222684			2
+ 3.47	3.47	3.51	117824.8	166.616586			3
3.47	3.50	3.51	130483.9	184.517877			3
E 3.54	3.56	3.58	471425.6	696.759763			4
E 3.60	3.62	3.64	891031.8	2021.349307			5
+ 3.60	3.64	3.64	230133.4	522.068896			5
E 3.71	3.72	3.75	343817.4	667.432458			6
+ 3.71	3.75	3.75	102232.1	198.457151			6
Height Summation:			1987903.26				
Amount Avg CF:			629.497974	Linear:			
Aroclor-1242					6	110.29	
2.94	2.96	2.98	13165.96	11.551599			1
3.27	3.29	3.31	137978.6	109.78931			2
+ 3.47	3.47	3.51	117824.8	92.180885			3
3.47	3.50	3.51	130483.9	102.084802			3
3.54	3.56	3.58	471425.6	377.861585			4
E 3.60	3.62	3.64	891031.8	972.010786			5
+ 3.60	3.64	3.64	230133.4	251.048444			5
3.71	3.72	3.75	343817.4	335.478921			6
+ 3.71	3.75	3.75	102232.1	99.752702			6
Height Summation:			1987903.26				
Amount Avg CF:			318.1295	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872064** ACF DF10 12T06 ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.34 g Total Volume: 100 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 19:59:13
Instrument : CP25--18274A
Result file : 25PCBS18303005.038.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	69.97	
4.55	4.58	4.59	814300.2	768.808945			1
4.61	4.63	4.65	503418	237.415036			2
4.74	4.75	4.78	318631.7	476.600603			3
4.83	4.85	4.87	265450	181.428564			4
5.03	5.05	5.07	186526.2	158.908206			5
5.14	5.16	5.18	334493.3	222.968561			6
Height Summation:			2422819.4				
Amount Avg CF:			341.021652	Linear:			
Aroclor-1260					6	66.41	
4.74	4.75	4.78	318631.7	194.045605			1
4.94	4.95	4.98	560611.7	283.433185			2
5.14	5.16	5.18	334493.3	140.222918			3
5.21	5.22	5.25	47573.16	41.105696			4
5.61	5.63	5.65	192773.5	55.779730			5
5.82	5.83	5.86	206606.4	107.344169			6
Height Summation:			1660689.76				
Amount Avg CF:			136.988552	Linear:			
Aroclor-1262					6	48.94	
5.21	5.22	5.25	47573.16	26.952915			1
5.38	5.39	5.41	39505.71	27.785459			2
5.61	5.63	5.65	192773.5	46.787748			3
5.82	5.83	5.86	206606.4	86.649562			4
5.87	5.89	5.91	115998.1	89.641506			5
6.25	6.26	6.29	124030.4	77.8238			6
Height Summation:			726487.27				
Amount Avg CF:			59.273498	Linear:			
Aroclor-1268					6	44.43	
5.81	5.83	5.85	206606.4	38.585853			1
5.87	5.89	5.91	115998.1	23.91959			2
6.00	6.02	6.04	142044.6	31.898198			3
+ 6.07	6.09	6.11	14653.44	13.109283			4
6.07	6.10	6.11	62786.87	56.170488			4
6.24	6.26	6.28	124030.4	64.892073			5
6.44	6.46	6.48	334263.4	21.672202			6
Height Summation:			985729.77				
Amount Avg CF:			39.523067	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 19:59:13
Instrument : CP25--18274B
Result file : 25PCBS18303005B.038.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	69.78	
3.58	3.60	3.62	757606.4	491.744686			1
3.71	3.72	3.75	343817.4	181.756333			2
3.80	3.82	3.84	141309.1	113.02027			3
3.93	3.95	3.97	707811.2	290.655033			4
4.07	4.09	4.11	164988.8	147.302637			5
+ 4.07	4.10	4.11	145897.4	130.257761			5
4.30	4.32	4.34	705214	666.015533			6
Height Summation:			2820746.9				
Amount Avg CF:			315.082415	Linear:			
Aroclor-1254					6	23.80	
4.30	4.32	4.34	705214	227.795835			1
+ 4.40	4.40	4.44	87825.27	60.400231			2
4.40	4.42	4.44	321666.3	221.220142			2
4.47	4.49	4.51	316700.9	162.181991			3
4.54	4.56	4.58	367937.5	312.513566			4
4.69	4.71	4.73	238868.1	177.865271			5
4.77	4.79	4.81	542731.9	245.940032			6
Height Summation:			2493118.7				
Amount Avg CF:			224.586139	Linear:			
Aroclor-1260					6	44.61	
4.54	4.56	4.58	367937.5	127.902317			1
4.64	4.66	4.68	264429.5	114.485475			2
4.77	4.79	4.81	542731.9	188.828623			3
5.00	5.02	5.04	100975.4	56.759456			4
5.19	5.21	5.23	263880.7	62.499866			5
5.45	5.47	5.49	289470	100.71087			6
Height Summation:			1829425				
Amount Avg CF:			108.531101	Linear:			
Aroclor-1262					6	26.39	
4.81	4.82	4.85	116341.5	49.333796			1
+ 5.00	5.02	5.04	100975.4	41.355495			2
5.00	5.04	5.04	231209.1	94.694023			2
5.20	5.21	5.24	263880.7	53.188602			3
5.41	5.43	5.45	181401.2	90.302358			4
5.46	5.47	5.50	289470	86.158537			5
5.83	5.85	5.87	138525.9	69.758554			6
Height Summation:			1220828.4				
Amount Avg CF:			73.905978	Linear:			
Aroclor-1268					6	67.41	
5.41	5.43	5.45	181401.2	0.126236			1
5.46	5.47	5.50	289470	199.260883			2
5.61	5.62	5.65	243833.4	193.161425			3
5.68	5.69	5.72	33086.05	105.267504			4
5.83	5.85	5.87	138525.9	273.388643			5
6.03	6.05	6.07	426057.4	92.412857			6
Height Summation:			1312373.95				
Amount Avg CF:			143.936258	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872064** ACF DF10 12T06 ID: AG **Batchnumber: 183040031A**
Sample Amount: 30.34 g Total Volume: 100 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 19:59:13
Instrument : CP25--18274A
Result file : 25PCBS18303005.038.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 19:59:13
Instrument : CP25--18274B
Result file : 25PCBS18303005B.038.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

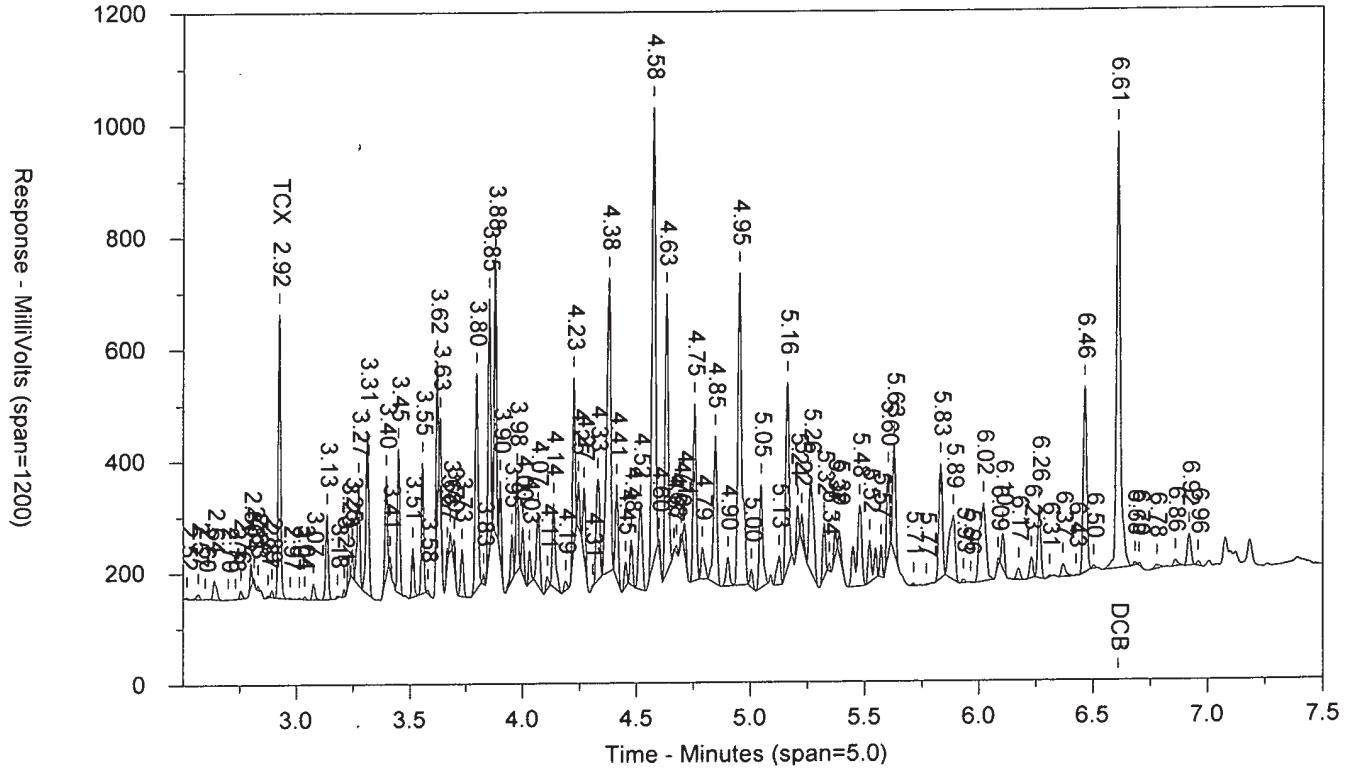
Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			168.0949	35.5966		33.35	4	40	
Aroclor-1221			168.0949	45.4845		4.42	3	5	
Aroclor-1232			168.0949	79.1035	E	** 41.76	4	10	
Aroclor-1242			168.0949	32.6302		35.52	4	30	
Aroclor-1248			168.0949	32.6302		12.36	4	40	
Aroclor-1254			168.0949	32.6302		** 41.17	4	40	
Aroclor-1260			168.0949	48.4509		23.18	4	40	
Aroclor-1262			168.0949	32.6302		21.97	4	40	
Aroclor-1268			168.0949	32.6302		** 113.83	4	40	

Units: ug/kg

9872064 ACF DF10 AG12T06 T 183040031A 10885 SW-846 8082A Fe

—— \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.038.RAW



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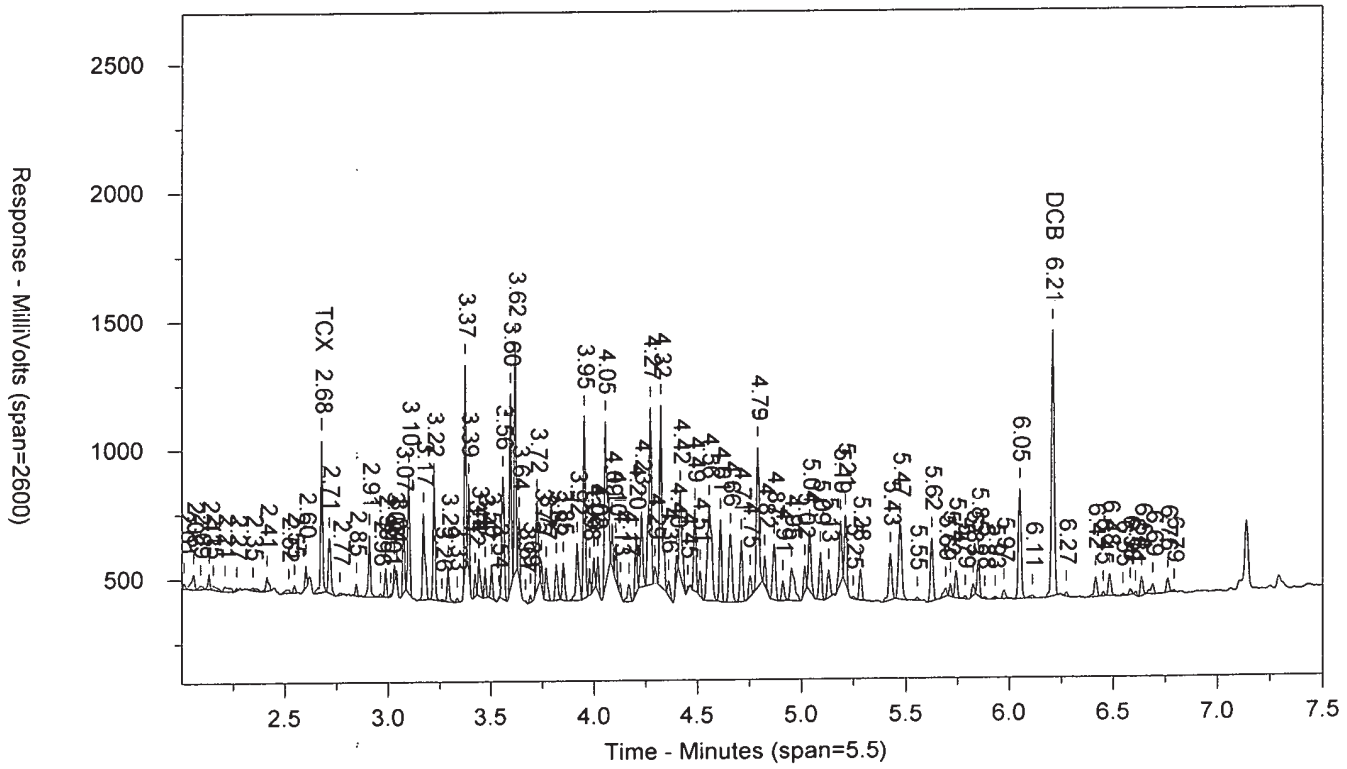


LANCASTER LABORATORIES

Sample Number: 9872064 ACF DF10 AG12T06 T 183040031A 10885 SW-846 8082A Feb 2007 R
Injected On: 11/5/2018 7:59:13 PM
Sample Weight: 30.34
Instrument ID: CP25-18274
Dilution Factor: 100
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

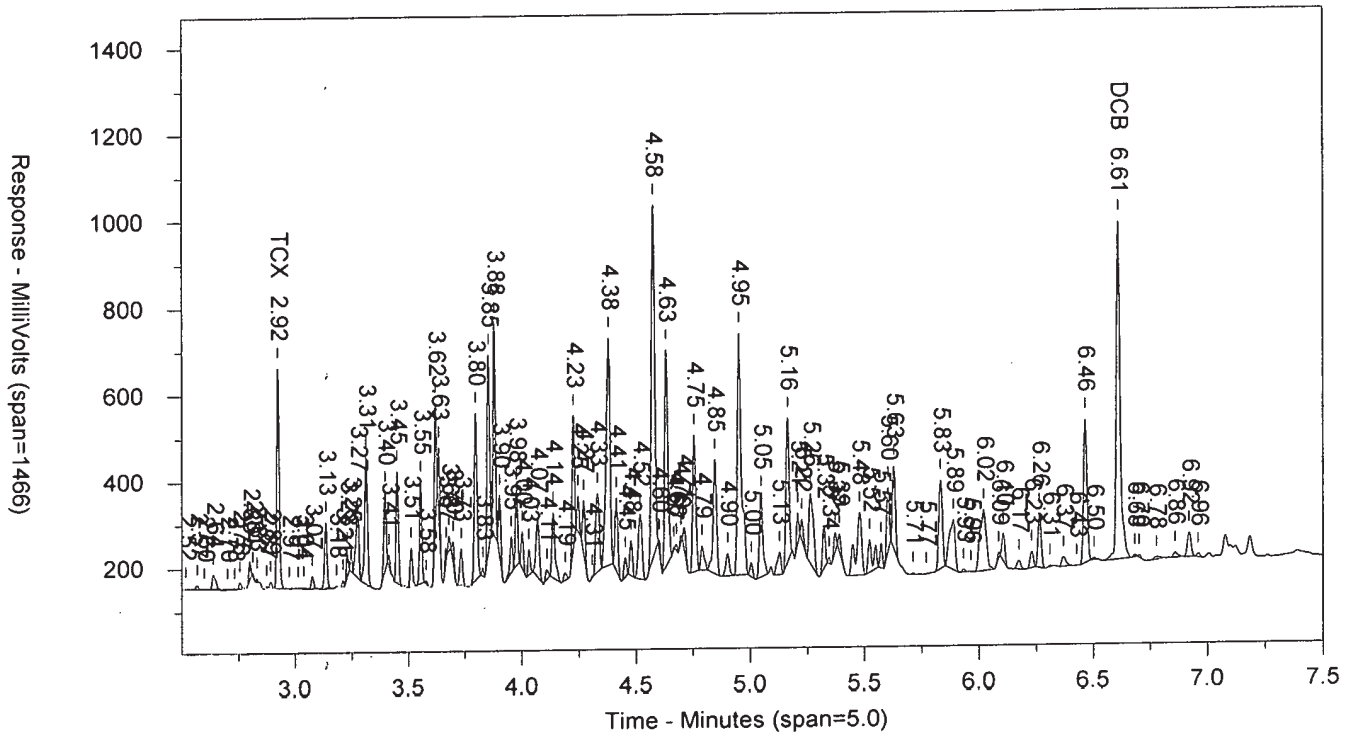
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	509517	10.825	TCX	2.677	588976	7.606	TCX
6.609	783034	20.11	DCB	6.208	1036363	18.192	DCB

Files:
Area File: 25PCBS18303005.038.RAW
Area File: 25PCBS18303005B.038.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 8:07:44 PM
File Reported On: 11/5/2018 at 8:07:52 PM

9872064 ACF DF10 AG12T06 T 183040031A 10885 SW-846 8082A

—— \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.038.RAW



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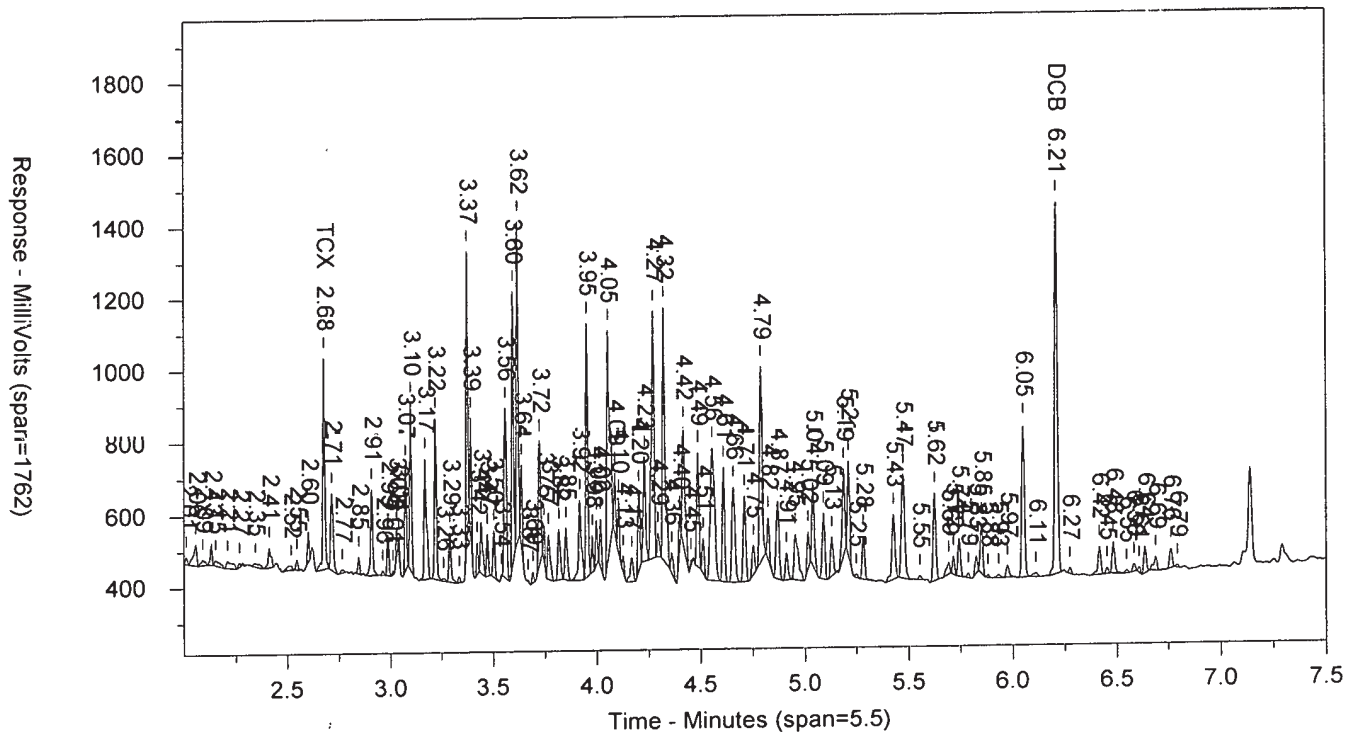

9872064 ACF DF10 AG12T06 T 183040031A 10885 SW-846 8082A

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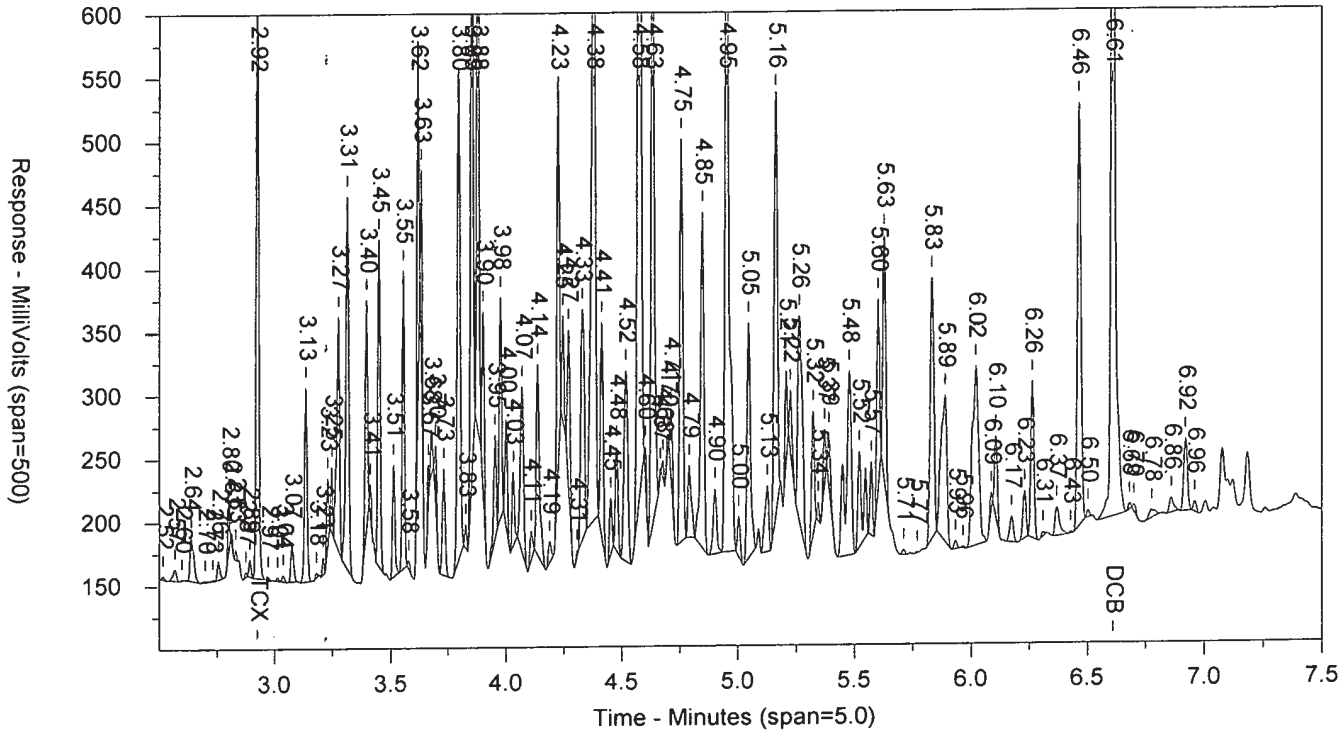

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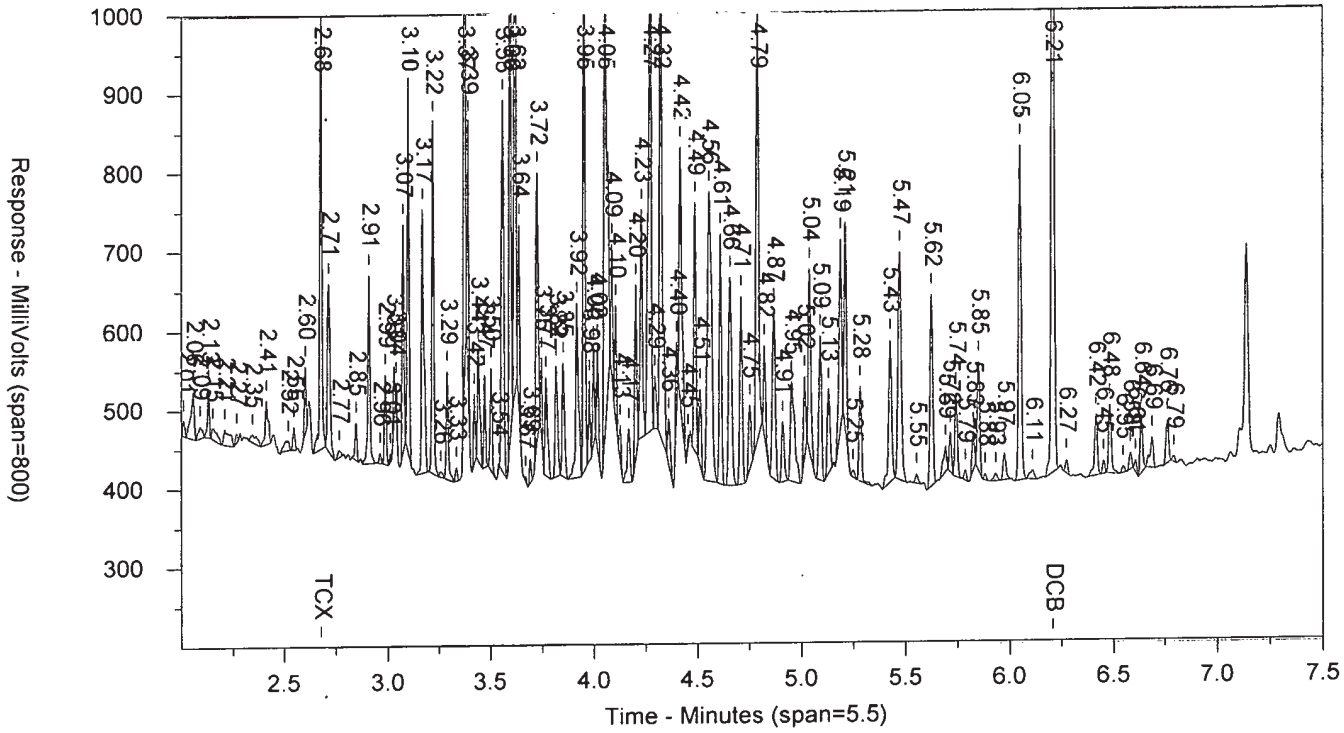

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Data Summary

Sample Name: 9872065 ACF DF50 12T07 Sample ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.3 g Total Volume: 500 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 04:59:59
Instrument 18274A
Result file 25PCBS18303004.096.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 90% (44 - 130) Conc: 8.981779
%SSR(DCB) 133% (45 - 143) Conc: 13.04622

Analysis Report (B)

Injected on Nov 05, 2018 04:59:59
Instrument 18274B
Result file 25PCBS18303004B.096.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 92% (44 - 130) Conc: 9.107246
%SSR(DCB) * 165% (45 - 143) Conc: 16.19659

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	84441	8.981779
Decachlorobiphenyl	6.58	6.61	6.64	101465	13.04622

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	140853	9.107246
Decachlorobiphenyl	6.18	6.21	6.24	184296	16.19659

Single Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
☐	Tetrachloro-m-xylene	B	9.107246	<24.7525	<49.505	<49.505	J	1.39	
☑	Tetrachloro-m-xylene-D1	A	8.981779	<24.7525	<49.505	<49.505	J		
☑	Tetrachloro-m-xylene-D2	B	9.107246	<24.7525	<49.505	<49.505	J		
☐	Decachlorobiphenyl	B	16.19659	<24.7525	<49.505	<49.505	J	21.55	
☑	Decachlorobiphenyl-D1	A	13.04622	<24.7525	<49.505	<49.505	J		
☑	Decachlorobiphenyl-D2	B	16.19659	<24.7525	<49.505	<49.505	J		

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**15.99**	
4.61	4.63	4.65	1162245	2744.227544			2
4.83	4.85	4.87	587638.6	2010.833915			4
5.03	5.05	5.07	615044.1	2623.346707			5
Height summation:			**2364927.7**				
Concentration		CF:	**2459.469389**	L:			
Aroclor-1260						**9.49**	
5.21	5.23	5.25	243687.6	1054.183924			4
5.61	5.63	5.65	787108.6	1140.267472			5
5.82	5.83	5.86	488929.4	1271.814561			6
Height summation:			**1519725.6**				
Concentration		CF:	**1155.421986**	L:			

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254						**17.16**	
4.30	4.32	4.34	1679059	2715.399684			1
4.47	4.49	4.51	764652.8	1960.471648			3
4.69	4.71	4.73	579506.1	2160.398996			5
Height summation:			**3023217.9**				
Concentration		CF:	**2278.756776**	L:			
Aroclor-1260						**8.43**	
5.00	5.02	5.04	382477.3	1076.393982			4
5.19	5.21	5.23	980463.9	1162.642025			5
5.45	5.47	5.49	730995.8	1273.29965			6
Height summation:			**2093937**				
Concentration		CF:	**1170.778552**	L:			

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/5/2018 11:29:11

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Data Summary

Sample Name: 9872065 ACF DF50 12T07 Sample ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.3 g Total Volume: 500 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on	Nov 05, 2018 04:59:59
Instrument	18274A
Result file	25PCBS18303004.096.RAW
Calibration file	25PCBS1830301
Method file	25PCBA

Analysis Report (B)

Injected on	Nov 05, 2018 04:59:59
Instrument	18274B
Result file	25PCBS18303004B.096.RAW
Calibration file	25PCBS1830301B
Method file	25PCBAB

Multiple Component Summary

	Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
☑	PCB-1016			<178.2178	<495.0495	<841.5842	D1		4	
☑	PCB-1221			<227.7228	<495.0495	<841.5842	D1		3	
☑	PCB-1232			<396.0396	<792.0792	<841.5842	D1		4	
☑	PCB-1242			<163.3663	<495.0495	<841.5842	D1		4	
☑	PCB-1248			<163.3663	<495.0495	<841.5842	D1		4	
☑	PCB-1254	A	2459.469389	163.3663	495.0495	841.5842	D1	7.63	4	
☑	PCB-1260	B	1170.778552	242.5743	495.0495	841.5842	D2	1.32	4	
☑	PCB-1262			<163.3663	<495.0495	<841.5842	D1		4	
☑	PCB-1268			<163.3663	<495.0495	<841.5842	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Reviewed and digitally signed by Kirby B Turner on 11/5/2018 11:29:11

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872065** ACF DF50 12T07 ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.3 g Total Volume: 500 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 04:59:59
Instrument : CP25--18274A
Result file : 25PCBS18303004.096.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 90% (44-130) Conc.: 8.981779
%SSR(DCB) : 133% (45-143) Conc.: 13.04622

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	104.99	
3.16	3.18	3.20	265600.8	1658.526355			1
3.38	3.40	3.42	9201.738	59.382127			2
3.49	3.51	3.53	54856.14	275.762907			3
3.71	3.73	3.75	47580.75	207.74382			4
3.96	3.98	4.00	150133.5	1042.171335			6
Height Summation:			**527372.928**				
Amount Avg CF:			**648.717309**	Linear:			
Aroclor-1221					3	164.45	
3.06	3.08	3.10	1452.403	17.055838			1
3.11	3.12	3.15	1682.872	24.934527			2
3.16	3.18	3.20	265600.8	1204.03252			3
Height Summation:			**268736.075**				
Amount Avg CF:			**415.340962**	Linear:			
Aroclor-1232					5	96.19	
3.16	3.18	3.20	265600.8	1473.421468			1
3.38	3.40	3.42	9201.738	131.436065			2
3.49	3.51	3.53	54856.14	610.906135			3
3.71	3.73	3.75	47580.75	440.851007			4
3.96	3.98	4.00	150133.5	2664.124197			6
Height Summation:			**527372.928**				
Amount Avg CF:			**1064.147774**	Linear:			
Aroclor-1242					5	103.06	
3.16	3.18	3.20	265600.8	1917.489079			1
3.38	3.40	3.42	9201.738	71.345997			2
3.49	3.51	3.53	54856.14	333.777012			3
3.71	3.73	3.75	47580.75	242.731613			4
3.96	3.98	4.00	150133.5	1369.993919			6
Height Summation:			**527372.928**				
Amount Avg CF:			**787.067524**	Linear:			
Aroclor-1248					5	111.14	
3.83	3.85	3.87	242621.2	1286.737367			1
3.96	3.98	4.00	150133.5	705.723195			2
4.05	4.07	4.09	153984.2	853.67888			3
4.36	4.38	4.40	588905.8	3069.92238			5
4.61	4.63	4.65	1162245	8139.396201			6
Height Summation:			**2297889.7**				
Amount Avg CF:			**2811.091605**	Linear:			
Aroclor-1254					6	35.20	
4.55	4.57	4.59	1092526	5164.266187			1
4.61	4.63	4.65	1162245	2744.227544			2
4.74	4.76	4.78	607160.3	4546.863595			3
4.83	4.85	4.87	587638.6	2010.833915			4
5.03	5.05	5.07	615044.1	2623.346707			5
5.14	5.16	5.18	1165112	3888.363299			6
Height Summation:			**5229726**				
Amount Avg CF:			**3496.316875**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 04:59:59
Instrument : CP25--18274B
Result file : 25PCBS18303004B.096.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 92% (44-130) Conc.: 9.107246
%SSR(DCB) : *165% (45-143) Conc.: 16.19659

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					5	64.70	
3.27	3.29	3.31	63374.8	205.145322			2
+ 3.27	3.31	3.31	10290.92	33.311886			2
+ 3.47	3.48	3.51	193148.6	644.678752			3
3.47	3.50	3.51	466987.8	1558.681307			3
3.54	3.56	3.58	205767.8	662.64334			4
3.60	3.62	3.64	137214.7	563.182503			5
+ 3.60	3.64	3.64	29953.08	122.939092			5
3.71	3.72	3.75	235308.7	895.659319			6
Height Summation:			**1108653.8**				
Amount Avg CF:			**777.062358**	Linear:			
Aroclor-1221					2	128.77	
2.83	2.85	2.87	27216.31	176.779625			1
E 2.89	2.90	2.93	414379.2	3774.879485			2
Height Summation:			**441595.51**				
Amount Avg CF:			**1975.829555**	Linear:			
Aroclor-1232					5	57.73	
3.27	3.29	3.31	63374.8	455.828181			2
+ 3.27	3.31	3.31	10290.92	74.018243			2
+ 3.47	3.48	3.51	193148.6	1367.46443			3
3.47	3.50	3.51	466987.8	3306.206752			3
3.54	3.56	3.58	205767.8	1522.615571			4
3.60	3.62	3.64	137214.7	1558.446			5
+ 3.60	3.64	3.64	29953.08	340.198665			5
3.71	3.72	3.75	235308.7	2286.969685			6
Height Summation:			**1108653.8**				
Amount Avg CF:			**1826.013238**	Linear:			
Aroclor-1242					5	60.53	
3.27	3.29	3.31	63374.8	252.468892			2
+ 3.27	3.31	3.31	10290.92	40.996377			2
+ 3.47	3.48	3.51	193148.6	756.551818			3
3.47	3.50	3.51	466987.8	1829.164017			3
3.54	3.56	3.58	205767.8	825.733579			4
3.60	3.62	3.64	137214.7	749.413432			5
+ 3.60	3.64	3.64	29953.08	163.592097			5
3.71	3.72	3.75	235308.7	1149.524739			6
Height Summation:			**1108653.8**				
Amount Avg CF:			**961.260932**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872065** ACF DF50 12T07 ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.3 g Total Volume: 500 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 04:59:59
Instrument : CP25--18274A
Result file : 25PCBS18303004.096.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260					6	37.75	
4.74	4.76	4.78	607160.3	1851.233283			1
4.94	4.95	4.98	971434.8	2458.924251			2
5.14	5.16	5.18	1165112	2445.356623			3
5.21	5.23	5.25	243687.6	1054.183924			4
5.61	5.63	5.65	787108.6	1140.267472			5
5.82	5.83	5.86	488929.4	1271.814561			6
Height Summation:			**4263432.7**				
Amount Avg CF:			**1703.630019**	Linear:			
Aroclor-1262					5	42.83	
5.21	5.23	5.25	243687.6	691.226097			1
5.38	5.39	5.41	173118.2	609.597781			2
5.61	5.63	5.65	787108.6	956.450334			3
5.82	5.83	5.86	488929.4	1026.624691			4
+ 5.87	5.87	5.91	29297.73	113.353567			5
5.87	5.89	5.91	68460	264.873259			5
Height Summation:			**1761303.8**				
Amount Avg CF:			**709.754432**	Linear:			
Aroclor-1268					6	226.01	
5.81	5.83	5.85	488929.4	457.165487			1
+ 5.87	5.87	5.91	29297.73	30.246824			2
5.87	5.89	5.91	68460	70.677749			2
6.00	6.02	6.04	31311.52	35.203717			3
6.07	6.08	6.11	21871.81	97.96412			4
6.24	6.25	6.28	3847533	10078.3354			5
6.44	6.46	6.48	122866.1	39.88313			6
Height Summation:			**4580971.83**				
Amount Avg CF:			**1796.538267**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 04:59:59
Instrument : CP25--18274B
Result file : 25PCBS18303004B.096.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	108.84	
3.58	3.60	3.62	400994.5	1303.098991			1
3.71	3.72	3.75	235308.7	622.791442			2
+ 3.80	3.80	3.84	26543.46	106.288603			3
3.80	3.82	3.84	145645.6	583.212109			3
3.93	3.95	3.97	1341916	2758.85389			4
+ 3.93	3.97	3.97	205982.9	423.481593			4
+ 4.07	4.08	4.11	319297.9	1427.233633			5
4.07	4.09	4.11	465251.8	2079.634776			5
4.30	4.32	4.34	1679059	7939.119548			6
Height Summation:			**4268175.6**				
Amount Avg CF:			**2547.785126**	Linear:			
Aroclor-1254					6	43.58	
4.30	4.32	4.34	1679059	2715.399684			1
4.40	4.42	4.44	1163855	4007.383742			2
4.47	4.49	4.51	764652.8	1960.471648			3
4.54	4.56	4.58	1405609	5977.262144			4
4.69	4.71	4.73	579506.1	2160.398996			5
4.77	4.79	4.81	1706740	3872.168032			6
Height Summation:			**7299421.9**				
Amount Avg CF:			**3448.847374**	Linear:			
Aroclor-1260					6	42.81	
4.54	4.56	4.58	1405609	2446.311979			1
4.64	4.66	4.68	913415	1979.93794			2
4.77	4.79	4.81	1706740	2972.985544			3
5.00	5.02	5.04	382477.3	1076.393982			4
5.19	5.21	5.23	980463.9	1162.642025			5
5.45	5.47	5.49	730995.8	1273.29965			6
Height Summation:			**6119701**				
Amount Avg CF:			**1818.595187**	Linear:			
Aroclor-1262					6	32.37	
4.81	4.82	4.85	216430.2	459.484315			1
5.00	5.02	5.04	382477.3	784.271187			2
5.20	5.21	5.24	980463.9	989.430982			3
5.41	5.43	5.45	240690.6	599.875351			4
5.46	5.47	5.50	730995.8	1089.312751			5
5.83	5.85	5.87	242871.2	612.329887			6
Height Summation:			**2793929**				
Amount Avg CF:			**755.784079**	Linear:			
Aroclor-1268					6	127.76	
5.41	5.43	5.45	240690.6	0.838579			1
5.46	5.47	5.50	730995.8	2519.279335			2
5.61	5.63	5.65	66329.94	263.075111			3
5.68	5.69	5.72	13420.66	213.779584			4
5.83	5.85	5.87	242871.2	2399.763589			5
6.03	6.05	6.07	170175.9	184.801415			6
Height Summation:			**1464484.1**				
Amount Avg CF:			**930.256269**	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **9872065** ACF DF50 12T07 ID: AC **Batchnumber: 183040031A**
Sample Amount: 30.3 g Total Volume: 500 ml Analyst: 9065 SDG: TID12 State: NY
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 04:59:59
Instrument : CP25--18274A
Result file : 25PCBS18303004.096.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 04:59:59
Instrument : CP25--18274B
Result file : 25PCBS18303004B.096.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

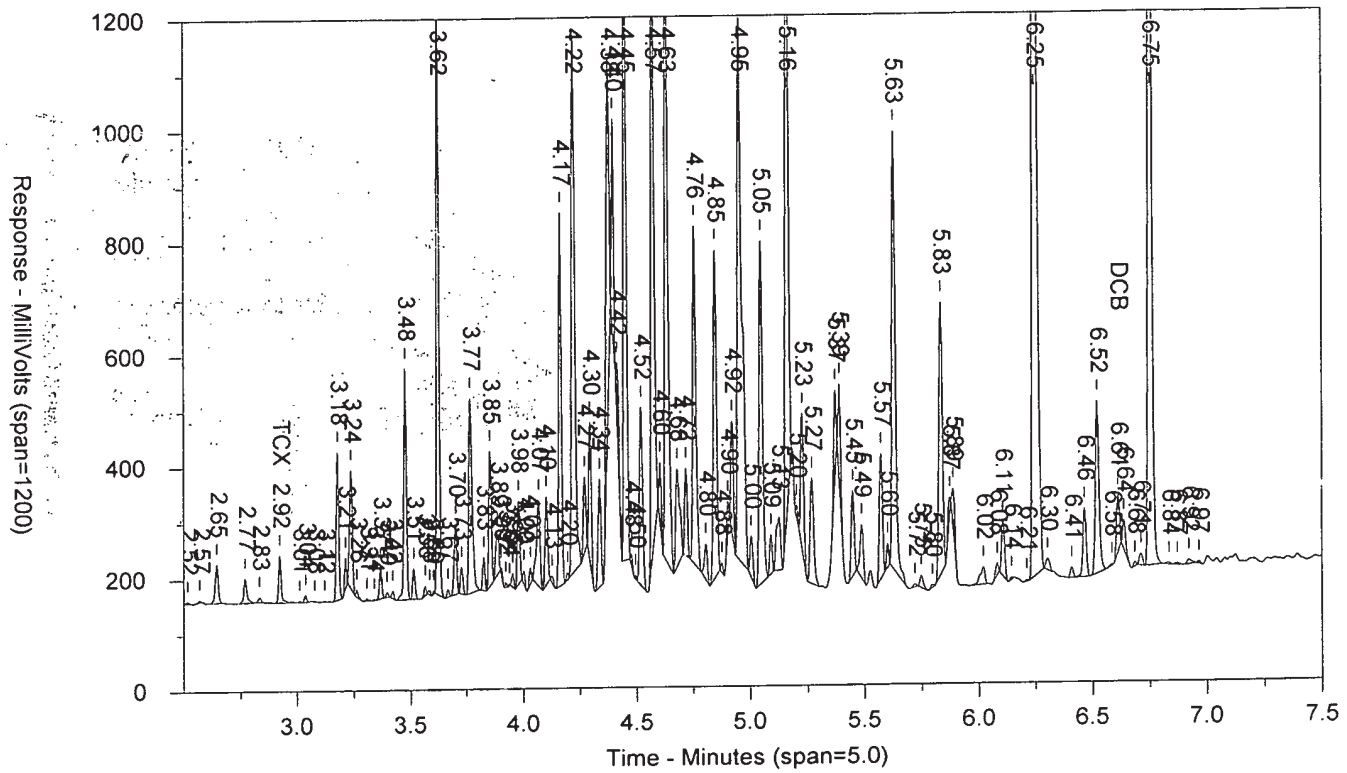
Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			841.5842	178.2178		18.00	4	40	
Aroclor-1221			841.5842	227.7228		** 130.52	3	5	
Aroclor-1232			841.5842	396.0396		** 52.72	4	10	
Aroclor-1242			841.5842	163.3663		19.93	4	30	
Aroclor-1248			841.5842	163.3663		9.83	4	40	
Aroclor-1254			841.5842	163.3663		1.37	4	40	
Aroclor-1260			841.5842	242.5743		6.53	4	40	
Aroclor-1262			841.5842	163.3663		6.28	4	40	
Aroclor-1268			841.5842	163.3663		** 63.54	4	40	

Units: ug/kg

9872065 ACF DF50 AC12T07 T 183040031A 10885 SW-846 8082A Fe

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.096.RAW



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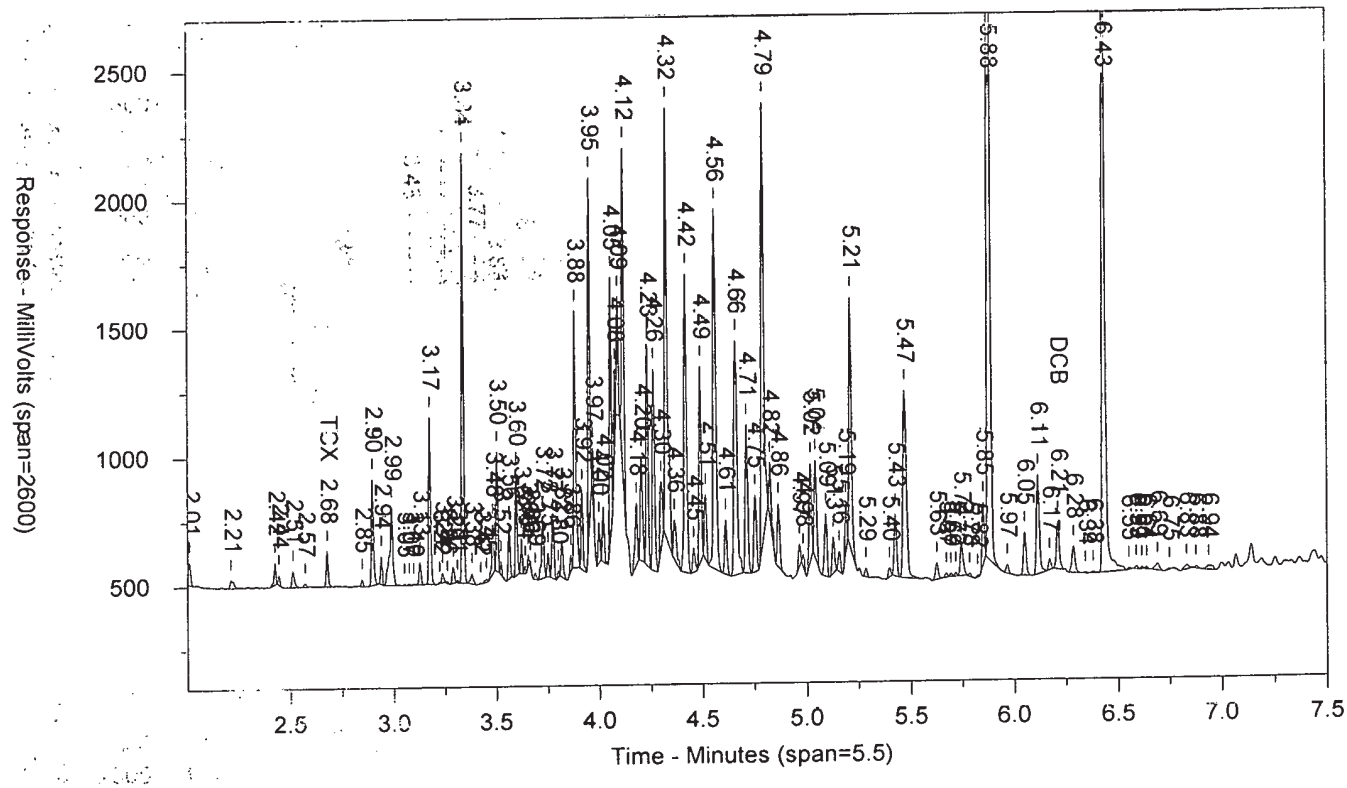

LANCASTER LABORATORIES

Sample Number: 9872065 ACF DF50 AC12T07 T 183040031A 10885 SW-846 8082A Feb 2007 R
Injected On: 11/5/2018 4:59:59 AM
Sample Weight: 30.3
Instrument ID: CP25-18274
Dilution Factor: 500
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	84441	8.982	TCX	2.677	140853	9.107	TCX
6.611	101465	13.046	DCB	6.209	184296	16.197	DCB

Files:
Area File: 25PCBS18303004.096.RAW
Area File: 25PCBS18303004B.096.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 5:08:30 AM
File Reported On: 11/5/2018 at 5:08:38 AM

9872065 ACF DF50 AC12T07 T 183040031A 10885 SW-846 8082A

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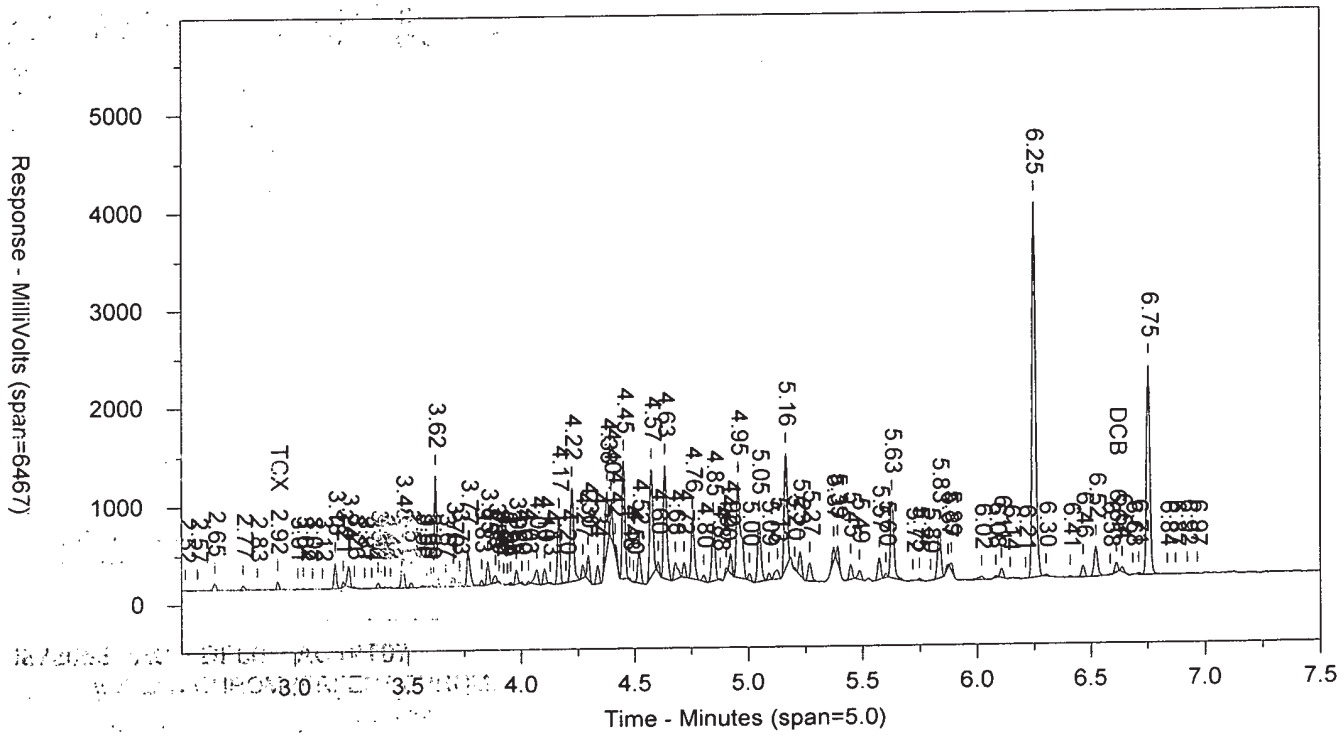

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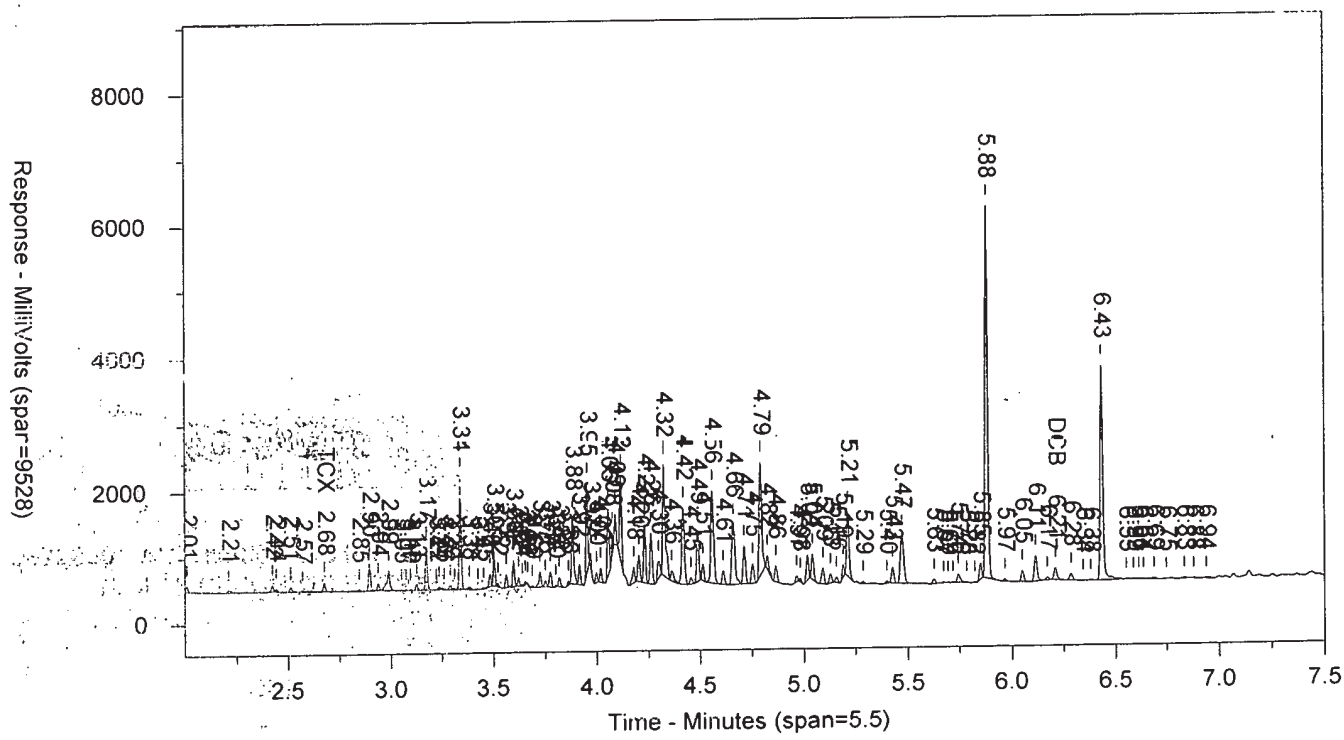

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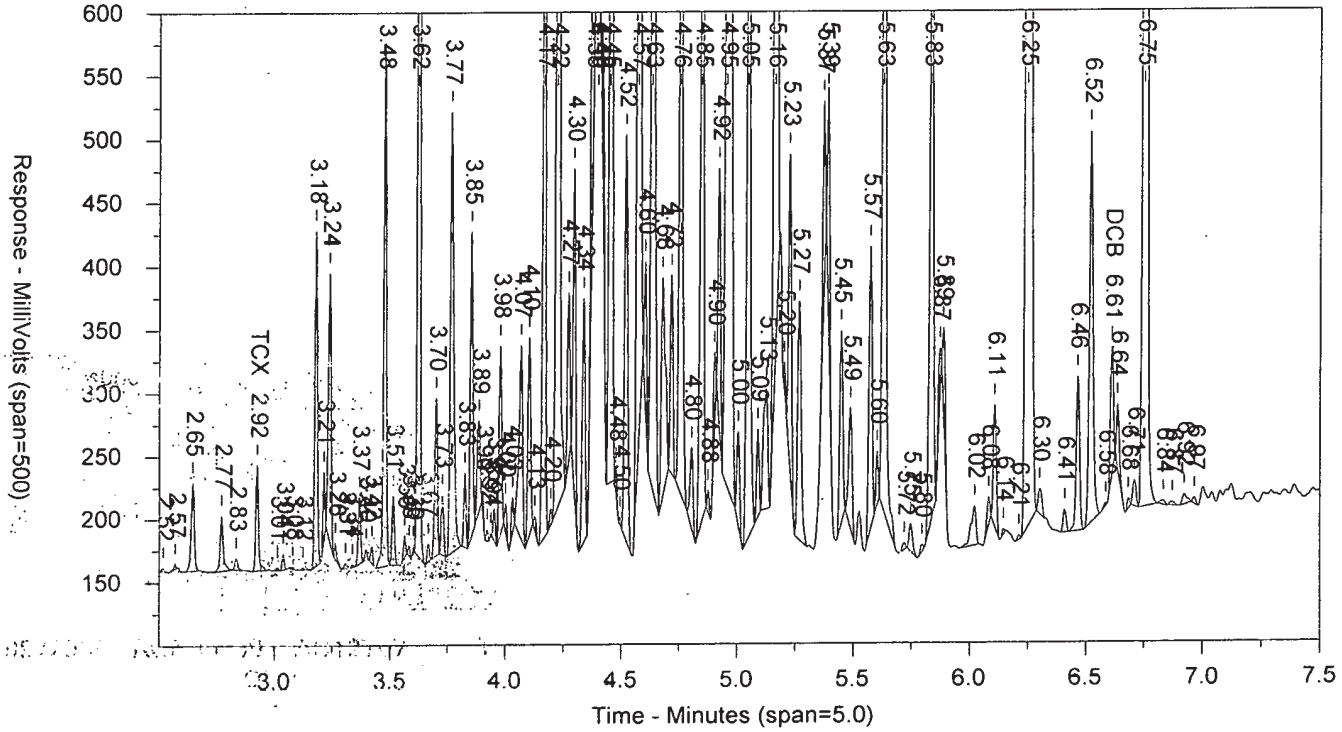

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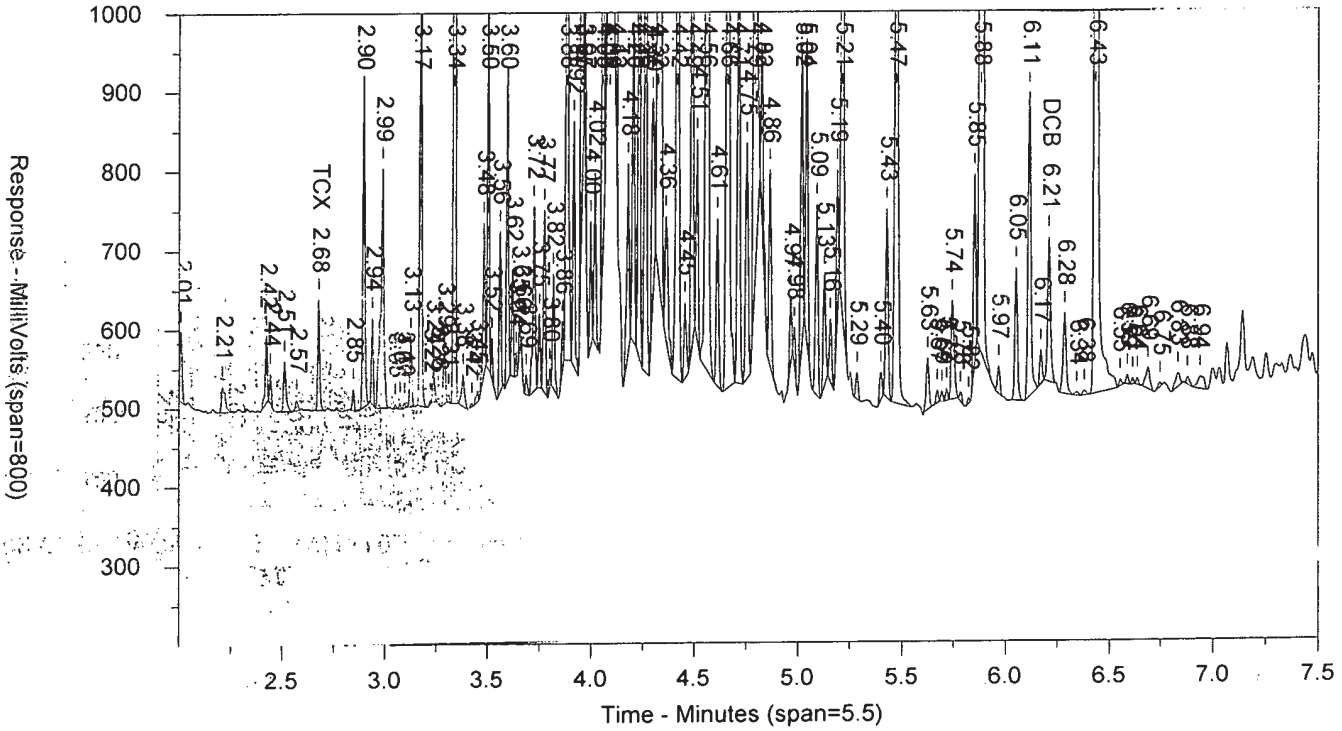

Standards Data

Polychlorinated Biphenyls (PCBs)

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Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP25\25pcbs18303001.seq

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Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Number of Entries: 109

Samplename	VP	Code	ID	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
1 CONDITIONER	1	MISC	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	
2 CONDITIONER	2	MISC	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	
3 CONDITIONER	3	MISC	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	
4 CONDITIONER	4	MISC	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	
5 IBLKX1824C	5	PIBLK	FR	EPT-24\ACTIVE\CP25\25PCBS.MET	1000	10	1	0	1830299999	10227
6 EVALX1824B	6	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
7 AR1611824D	7	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	1	1830299999	10227
8 AR1621824D	8	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	2	1830299999	10227
9 AR1631824D	9	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	3	1830299999	10227
10 AR1641824D	10	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	4	1830299999	10227
11 AR1651824D	11	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	5	1830299999	10227
12 AR1661824C	12	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	6	1830299999	10227
13 AR4811824C	13	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
14 AR4821824C	14	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
15 AR4831824C	15	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
16 AR4841824C	16	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
17 AR4851824C	17	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
18 AR4861824C	18	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
19 AR5411824C	19	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
20 AR5421824C	20	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
21 AR5431824C	21	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
22 AR5441824C	22	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
23 AR5451824C	23	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
24 AR5461824C	24	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
25 AR6241824B	25	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
26 AR6841824B	26	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
27 AR2141824E	27	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
28 AR3241824D	28	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
29 AR4241824E	29	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
30 AR16XX1824B	30	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
31 MD16X1824E	31	ICAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
32 IC16X1824D	32	CCAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
33 IC48X1824C	33	CCAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
34 IC54X1824C	34	CCAL	AA	EPT-24\ACTIVE\CP25\25PCBS.MET	1	1	1	0	1830299999	10227
35 BLANKA 10/26/18 CAF	35	BLK	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182990006A	10591
36 LCSA 10/26/18 CAF	36	LCS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182990006A	10591
37 LCSDA 10/26/18 CAF	37	LCSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182990006A	10591
38 9868586 CAF	38	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	223	2	1	0	182990006A	10591
39 BLANKA 10/26/18 ACF	39	BLK	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	182980037A	10885
40 LCSA 10/26/18 ACF	40	LCS	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	182980037A	10885
41 9863842 ACF DF20	41	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.3	200	1	0	182980037A	10885
42 BLANKA 10/26/18 ACF	42	BLK	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	182980034A	10885
43 LCSA 10/26/18 ACF	43	LCS	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	182980034A	10885
44 IBLKX1824C	44	PIBLK	FS	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830299999	10227
45 AR1641824D	45	CCAL	GU	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830299999	10227
46 9865786 ACF	46	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.08	10	1	0	182980034A	10885
47 9865786MS ACF	47	MS	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.24	10	1	0	182980034A	10885
48 9865786MSD ACF	48	MSD	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.4	10	1	0	182980034A	10885
49 9865977 ACF	49	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.04	10	1	0	182980034A	10885
50 9865977 ACF DF5	50	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.04	50	1	0	182980034A	10885

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CHROM PERFECT SEQUENCE FILE

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Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Number of Entries: 109

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51 9865978 ACF	51	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.35	10	1	0	182980034A	10885
52 9865979 ACF	52	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.27	10	1	0	182980034A	10885
53 9865980 ACF	53	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.3	10	1	0	182980034A	10885
54 9865981 ACF DF50	54	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.05	500	1	0	182980034A	10885
55 9865982 ACF DF50	55	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.01	500	1	0	182980034A	10885
56 9865983 ACF	56	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.5	10	1	0	182980034A	10885
57 9865984 ACF	57	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.07	10	1	0	182980034A	10885
58 9865985 ACF DF10	58	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.04	100	1	0	182980034A	10885
59 9865986 ACF	59	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.15	10	1	0	182980034A	10885
60 9865987 ACF	60	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.23	10	1	0	182980034A	10885
61 9865988 ACF	61	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.45	10	1	0	182980034A	10885
62 9865989 ACF	62	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.47	10	1	0	182980034A	10885
63 9865990 ACF	63	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.33	10	1	0	182980034A	10885
64 9865991 ACF DF20	64	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.32	200	1	0	182980034A	10885
65 AR1641824D	65	CCAL	GV	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830299999	10227
66 IBLKX1824C	66	PIBLK	FT	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830299999	10227
67 9865992 ACF DF5	67	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.35	50	1	0	182980034A	10885
68 9865993 ACF	68	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.36	10	1	0	182980034A	10885
69 9865994 ACF	69	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.32	10	1	0	182980034A	10885
70 9865995 ACF	70	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.29	10	1	0	182980034A	10885
71 AR1641824D	71	CCAL	GW	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830299999	10227
72 IBLKX1824C	72	PIBLK	FU	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830299999	10227
73 BLANKA 10/25/18 RI C	73	BLK	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182970032A	10227
74 LCSA 10/25/18 RI CAF	74	LCS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182970032A	10227
75 9860354 RI CAF	75	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	223	2	1	0	182970032A	10227
76 9860355 RI CAF	76	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	225	2	1	0	182970032A	10227
77 9860356MS RI CAF	77	MS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	224	2	1	0	182970032A	10227
78 9860357MSD RI CAF	78	MSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	248	2	1	0	182970032A	10227
79 9861761 RI CAF	79	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	198	2	1	0	182970032A	10227
80 9861762 RI CAF	80	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	233	2	1	0	182970032A	10227
81 9861763 RI CAF	81	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	248	2	1	0	182970032A	10227
82 AR1641824D	82	CCAL	GX	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830299999	10227
83 IBLKX1824C	83	PIBLK	FV	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830299999	10227
84 BLANKA 10/23/18 RI C	84	BLK	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182960012A	10227
85 LCSA 10/23/18 RI CAF	85	LCS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182960012A	10227
86 LCSDA 10/23/18 RI CA	86	LCSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182960012A	10227
87 9854342 RI CAF	87	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	192	2	1	0	182960012A	10227
88 9854344 RI CAF	88	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	243	2	1	0	182960012A	10227
89 9854345 RI CAF	89	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	200	2	1	0	182960012A	10227
90 BLANKA 10/25/18 RI C	90	BLK	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182970031A	10227
91 LCSA 10/25/18 RI CAF	91	LCS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182970031A	10227
92 LCSDA 10/25/18 RI CA	92	LCSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182970031A	10227
93 AR1641824D	93	CCAL	GY	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830299999	10227
94 IBLKX1824C	94	PIBLK	FW	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830299999	10227
95 9859872 RI CAF	95	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	243	2	1	0	182970031A	10227
96 9859873 RI CAF	96	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	247	2	1	0	182970031A	10227
97 9859874 RI CAF	97	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	246	2	1	0	182970031A	10227
98 9859875 RI CAF	98	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	240	2	1	0	182970031A	10227
99 9861917 RI AF	99	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	238	2	1	0	182980007A	10591
100 9861918 RI AF	100	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	245	2	1	0	182980007A	10591

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CHROM PERFECT SEQUENCE FILE

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Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Number of Entries: 109

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101 9861919 RI AF	101	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	235	2	1	0	182980007A	10591
102 9861920 RI AF	102	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	223	2	1	0	182980007A	10591
103 9861921 RI AF	103	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	247	2	1	0	182980007A	10591
104 9861922 RI AF	104	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	182980007A	10591
105 AR1641824D	105	CCAL	GZ	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830299999	10227
106 IBLKX1824C	106	PIBLK	FX	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830299999	10227
107 9866412 RI ACF DF10	107	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.12	100	1	0	182970043A	10592
108 AR1641824D	108	CCAL	HA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830299999	10227
109 IBLKX1824C	109	PIBLK	FY	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830299999	10227

MW 15249
10/31/18

Set-up by: 2855 Date: 31Oct18

10/31/2018

Eurofins Lancaster Laboratories

CHROM PERFECT SEQUENCE FILE

Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP25\25PCBS18303004.seq

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Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Number of Entries: 98

Samplename	VP	Code	ID	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
1 CONDITIONER	1	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
2 CONDITIONER	2	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
3 CONDITIONER	3	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
4 CONDITIONER	4	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
5 AR1641824D	5	CCAL	JM	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
6 IBLKX1824C	6	PIBLK	KN	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
7 BLANKA 11/1/18 CAF	7	BLK	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	183050010A	10591
8 LCSA 11/1/18 CAF	8	LCS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	183050010A	10591
9 9874781 CAF	9	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	259	2	1	0	183050010A	10591
10 9874782 CAF	10	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	183050010A	10591
11 9876332 CAF	11	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	251	2	1	0	183050010A	10591
12 9876334 CAF	12	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	241	2	1	0	183050010A	10591
13 9876335MS CAF	13	MS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	237	2	1	0	183050010A	10591
14 9876336MSD CAF	14	MSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	183050010A	10591
15 9876342 CAF	15	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	252	2	1	0	183050010A	10591
16 9877294 CAF	16	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	248	2	1	0	183050010A	10591
17 AR1641824D	17	CCAL	JW	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
18 IBLKX1824C	18	PIBLK	KX	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
19 AR4241824E	19	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
20 AR4841824C	20	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
21 AR5441824C	21	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
22 AR6241824B	22	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
23 AR6841824B	23	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830499999	10227
24 BLANKA 11/2/18 ACF	24	BLK	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	5	1	0	183060025A	14188
25 LCSA 11/2/18 ACF	25	LCS	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	5	1	0	183060025A	14188
26 LCSDA 11/2/18 ACF	26	LCSD	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	5	1	0	183060025A	14188
27 9876292 ACF	27	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	251	5	1	0	183060025A	14188
28 9880240 ACF	28	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	229	5	1	0	183060025A	14188
29 AR1641824D	29	CCAL	JO	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
30 IBLKX1824C	30	PIBLK	KP	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
31 9880241 ACF	31	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	211	5	1	0	183060025A	14188
32 9880246 ACF	32	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	222	5	1	0	183060025A	14188
33 9880247 ACF	33	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	213	5	1	0	183060025A	14188
34 9880248 ACF	34	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	224	5	1	0	183060025A	14188
35 9880249 ACF	35	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	224	5	1	0	183060025A	14188
36 BLANKA 11/2/18 ACF	36	BLK	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	5	1	0	183060002A	14188
37 LCSA 11/2/18 ACF	37	LCS	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	5	1	0	183060002A	14188
38 LCSDA 11/2/18 ACF	38	LCSD	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	5	1	0	183060002A	14188
39 9871235R ACF	39	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	249	5	1	0	183060002A	14188
40 9873394 ACF	40	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	250	5	1	0	183060002A	14188
41 AR1641824D	41	CCAL	JP	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
42 IBLKX1824C	42	PIBLK	KQ	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
43 9873395 ACF	43	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	249	5	1	0	183060002A	14188
44 9873396 ACF	44	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	249	5	1	0	183060002A	14188
45 9873397 ACF	45	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	249	5	1	0	183060002A	14188
46 9873925 ACF	46	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	249	5	1	0	183060002A	14188
47 AR1641824D	47	CCAL	JQ	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
48 IBLKX1824C	48	PIBLK	KR	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
49 BLANKA 11/2/18 ACF	49	BLK	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	183050037A	10592
50 LCSA 11/2/18 ACF	50	LCS	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	183050037A	10592

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP25\25PCBS18303004.seq

Chromatography Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Number of Entries: 98

Samplename	VP	Code	ID	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
51 AR1641824D	51	CCAL	JR	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
52 IBLKX1824C	52	PIBLK	KS	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
53 9879071 ACF DF10	53	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.24	100	1	0	183050037A	10592
54 9879076 ACF DF200	54	T	AD	EPT-24\ACTIVE\CP25\25PCBA.MET	30.31	2000	1	0	183050037A	10592
55 9879076 ACF DF500	55	T	AE	EPT-24\ACTIVE\CP25\25PCBA.MET	30.31	5000	1	0	183050037A	10592
56 9879080 ACF DF5	56	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.47	50	1	0	183050037A	10592
57 9879080MS ACF DF5	57	MS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.1	50	1	0	183050037A	10592
58 9879080MSD ACF DF5	58	MSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.3	50	1	0	183050037A	10592
59 9879081 ACF DF200	59	T	AD	EPT-24\ACTIVE\CP25\25PCBA.MET	30.45	2000	1	0	183050037A	10592
60 9879082 ACF	60	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.48	10	1	0	183050037A	10592
61 9879082 ACF DF5	61	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.48	50	1	0	183050037A	10592
62 9879085 ACF DF500	62	T	AD	EPT-24\ACTIVE\CP25\25PCBA.MET	30.49	5000	1	0	183050037A	10592
63 9879085 ACF DF1000	63	T	AF	EPT-24\ACTIVE\CP25\25PCBA.MET	30.49	10000	1	0	183050037A	10592
64 9879086 ACF DF500	64	T	AD	EPT-24\ACTIVE\CP25\25PCBA.MET	30.15	5000	1	0	183050037A	10592
65 9879086 ACF DF1000	65	T	AF	EPT-24\ACTIVE\CP25\25PCBA.MET	30.15	10000	1	0	183050037A	10592
66 9879089 ACF DF50	66	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.01	500	1	0	183050037A	10592
67 9879090 ACF DF10	67	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.36	100	1	0	183050037A	10592
68 9879091 ACF	68	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.09	10	1	0	183050037A	10592
69 AR1641824D	69	CCAL	JS	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
70 IBLKX1824C	70	PIBLK	KT	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
71 BLANKA 11/1/18 ACF	71	BLK	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	183040031A	10885
72 LCSA 11/1/18 ACF	72	LCS	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30	10	1	0	183040031A	10885
73 AR1641824D	73	CCAL	JT	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
74 IBLKX1824C	74	PIBLK	KU	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
75 9867761 ACF DF20	75	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.03	200	1	0	183040031A	10885
76 9867762 ACF DF5	76	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.22	50	1	0	183040031A	10885
77 9867763MS ACF DF5	77	MS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.24	50	1	0	183040031A	10885
78 9867764MSD ACF DF5	78	MSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.18	50	1	0	183040031A	10885
79 9867766 ACF DF5	79	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.17	50	1	0	183040031A	10885
80 9867767 ACF DF200	80	T	AE	EPT-24\ACTIVE\CP25\25PCBA.MET	30.49	2000	1	0	183040031A	10885
81 9870251 ACF	81	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.47	10	1	0	183040031A	10885
82 9870252 ACF DF5	82	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.28	50	1	0	183040031A	10885
83 9870253 ACF	83	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.18	10	1	0	183040031A	10885
84 9870253 ACF DF5	84	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.18	50	1	0	183040031A	10885
85 AR1641824D	85	CCAL	JU	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
86 IBLKX1824C	86	PIBLK	KV	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227
87 9870254 ACF DF5	87	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.24	50	1	0	183040031A	10885
88 9872060 ACF DF5	88	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.49	50	1	0	183040031A	10885
89 9872061 ACF DF500	89	T	AD	EPT-24\ACTIVE\CP25\25PCBA.MET	30.03	5000	1	0	183040031A	10885
90 9872061 ACF DF1000	90	T	AE	EPT-24\ACTIVE\CP25\25PCBA.MET	30.03	10000	1	0	183040031A	10885
91 9872062 ACF DF500	91	T	AD	EPT-24\ACTIVE\CP25\25PCBA.MET	30.02	5000	1	0	183040031A	10885
92 9872062 ACF DF1000	92	T	AF	EPT-24\ACTIVE\CP25\25PCBA.MET	30.02	10000	1	0	183040031A	10885
93 9872063 ACF	93	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.21	10	1	0	183040031A	10885
94 9872064 ACF DF1000	94	T	AD	EPT-24\ACTIVE\CP25\25PCBA.MET	30.34	10000	1	0	183040031A	10885
95 9872064 ACF DF2000	95	T	AE	EPT-24\ACTIVE\CP25\25PCBA.MET	30.34	20000	1	0	183040031A	10885
96 9872065 ACF DF50	96	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.3	500	1	0	183040031A	10885
97 AR1641824D	97	CCAL	JV	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830799999	10227
98 IBLKX1824C	98	PIBLK	KW	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830799999	10227

Kirby B. Turner
Chemist

Set-up by: 72855 NOV 05 2018 Date: 4 Nov 18

11/4/2018

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP25\25PCBS18303005.seq

Chromatography Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25

Number of Entries: 41

Samplename	VP	Code	ID	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
1 CONDITIONER	1	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
2 CONDITIONER	2	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
3 CONDITIONER	3	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
4 CONDITIONER	4	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
5 AR1641824D	5	CCAL	KF	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	10227
6 IBLKX1824C	6	PIBLK	LR	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830899999	10227
7 AR4241824E	7	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
8 AR4841824C	8	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
9 AR5441824C	9	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
10 AR6241824B	10	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
11 AR6841824B	11	MISC	AA	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	
12 BLANKA 11/5/18 CAF	12	BLK	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	183060020A	10591
13 LCSA 11/5/18 CAF	13	LCS	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	183060020A	10591
14 LCSDA 11/5/18 CAF	14	LCSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	250	2	1	0	183060020A	10591
15 9878966 CAF	15	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	236	2	1	0	183060020A	10591
16 9878967 CAF	16	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	229	2	1	0	183060020A	10591
17 9878968 CAF	17	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	238	2	1	0	183060020A	10591
18 9878969 CAF	18	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	229	2	1	0	183060020A	10591
19 9878970 CAF	19	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	238	2	1	0	183060020A	10591
20 9878971 CAF	20	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	235	2	1	0	183060020A	10591
21 9879087 CAF	21	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	248	2	1	0	183060020A	10591
22 9879107 CAF	22	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	236	2	1	0	183060020A	10591
23 AR1641824D	23	CCAL	KG	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	10227
24 IBLKX1824C	24	PIBLK	LS	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830899999	10227
25 9879080MSD ACF	25	MSD	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.3	10	1	0	183050037A	10592
26 9879080MSD RI ACF DF	26	MSD	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.3	50	1	0	183050037A	10592
27 9879080 ACF	27	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.47	10	1	0	183050037A	10592
28 9879080 RI ACF DF5	28	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.47	50	1	0	183050037A	10592
29 9879082 RI ACF	29	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.48	10	1	0	183050037A	10592
30 9879082 RI ACF DF5	30	T	AC	EPT-24\ACTIVE\CP25\25PCBA.MET	30.48	50	1	0	183050037A	10592
31 9872061 ACF	31	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.03	10	1	0	183040031A	10885
32 9872061 ACF DF5	32	T	AF	EPT-24\ACTIVE\CP25\25PCBA.MET	30.03	50	1	0	183040031A	10885
33 9872062 ACF	33	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.02	10	1	0	183040031A	10885
34 9872062 ACF DF5	34	T	AG	EPT-24\ACTIVE\CP25\25PCBA.MET	30.02	50	1	0	183040031A	10885
35 9872062 ACF DF10	35	T	AH	EPT-24\ACTIVE\CP25\25PCBA.MET	30.02	100	1	0	183040031A	10885
36 9872064 ACF	36	T	AB	EPT-24\ACTIVE\CP25\25PCBA.MET	30.34	10	1	0	183040031A	10885
37 9872064 ACF DF5	37	T	AF	EPT-24\ACTIVE\CP25\25PCBA.MET	30.34	50	1	0	183040031A	10885
38 9872064 ACF DF10	38	T	AG	EPT-24\ACTIVE\CP25\25PCBA.MET	30.34	100	1	0	183040031A	10885
39 9872064 ACF DF20	39	T	AH	EPT-24\ACTIVE\CP25\25PCBA.MET	30.34	200	1	0	183040031A	10885
40 AR1641824D	40	CCAL	KH	EPT-24\ACTIVE\CP25\25PCBA.MET	1	1	1	0	1830899999	10227
41 IBLKX1824C	41	PIBLK	LT	EPT-24\ACTIVE\CP25\25PCBA.MET	1000	10	1	0	1830899999	10227

PB68
11/6/18

Set-up by: CM 13786 Date: 11/6/18

11/6/2018

LANCASTER LABORATORIES

Sample Number: IBLKX1824C FRPIBLKFR PIBLK1830299999 10227 SW-846 8082
Injected On: 10/30/2018 5:51:47 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.005.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		11434	20635
2.15		2385	4432
2.22		12836	14621
2.311		7434	4512
2.329		3536	2159
2.375		2941	3408
2.422		15940	15828
2.493		2570	3313
2.57		2963	3022
2.673		1307	1386
2.776		66264	63177
2.824		11403	12927
2.924	TCX	3110338	2238045
3.011		1000	505
3.069		1880	1488
3.124		37798	25255
3.187		12458	12674
3.254		6144	4034
3.374		880	1406
3.398		1508	1000
3.428		2299	2325
3.524		12447	13396
3.568		6311	4395
3.667		7429	5868
3.734		919	940
3.77		3755	4206
3.839		12499	14315
3.997		1843	2185
4.049		1295	1197
4.12		2098	2209
4.162		13049	16080
4.248		1406	2191
4.401		1494	2442
4.497		16183	25451
4.57		1631	1211
4.846		15972	21442
4.879		7312	5807
4.923		5751	5670
5.12		11932	11289
5.194		15756	23323
5.528		25430	66063
5.652		14104	14346
5.83		16534	24578
6.022		17385	16476
6.087		12764	9383
6.112		12636	14518
6.289		23304	141593
6.382		9432	13285
6.467		23068	24159
6.577		2324	1717
6.612	DCB	2360066	2622250
6.883		7156	11150

LANCASTER LABORATORIES

Sample Number: IBLKX1824C FRPIBLKFR PIBLK1830299999 10227 SW-846 8082
Injected On: 10/30/2018 5:51:47 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.005.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.044		18424	31519
2.289		8679	49065
2.603		72378	126863
2.678	TCX	4979812	3079502
2.898		76290	101090
3.015		11722	6797
3.182		4679	17883
3.239		2928	2308
3.36		11992	7347
3.387		20279	19932
3.454		7092	29779
3.7		6150	21475
3.768		8864	7115
3.964		12199	42675
4.239		12315	50715
4.534		20437	74706
4.677		7959	7399
4.768		24277	22000
5.088		12889	44048
5.164		9666	8876
5.287		25313	41819
5.392		11109	55981
5.628		29695	36891
5.696		21795	18285
5.745		7778	7399
5.999		3814	49473
6.052		31117	33124
6.211	DCB	3424385	3441286

IBLKX1824C FRPIBLKFR PIBLK1830299999 10227 SW-846 8082

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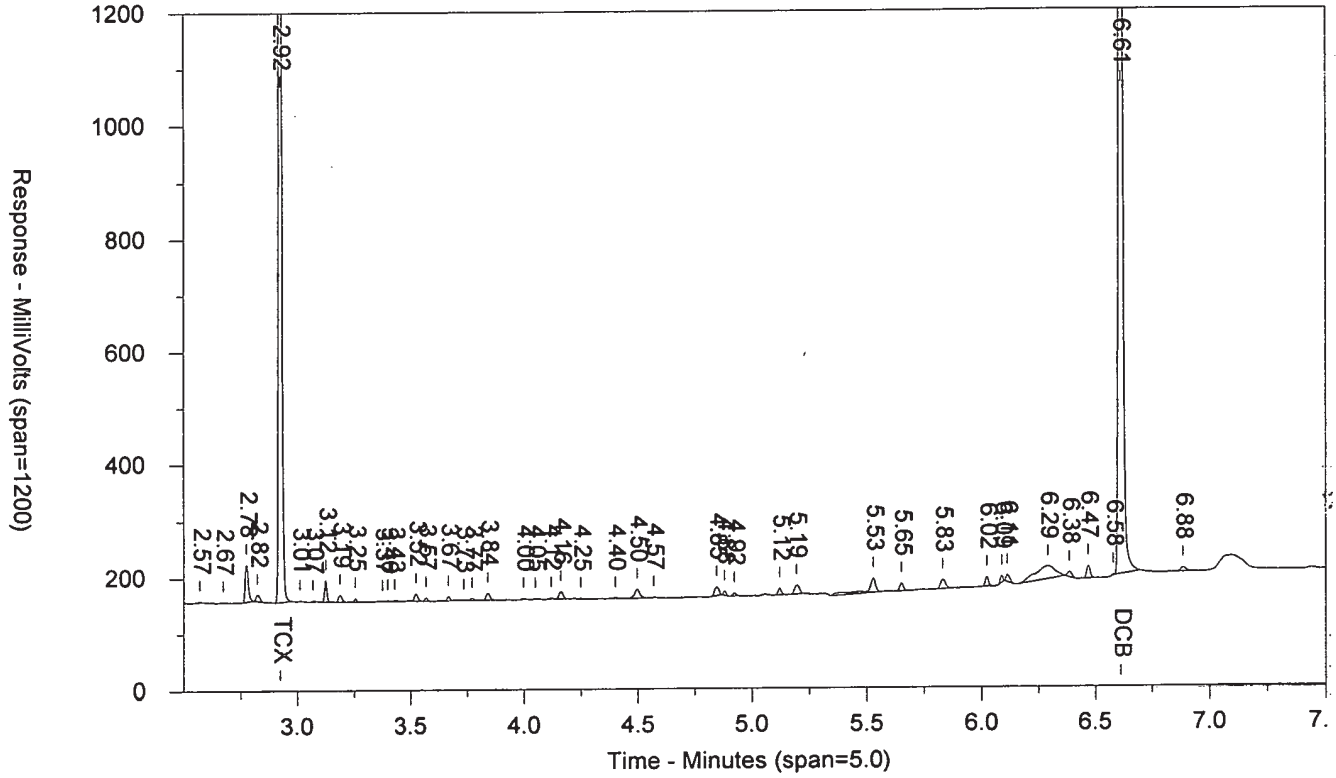

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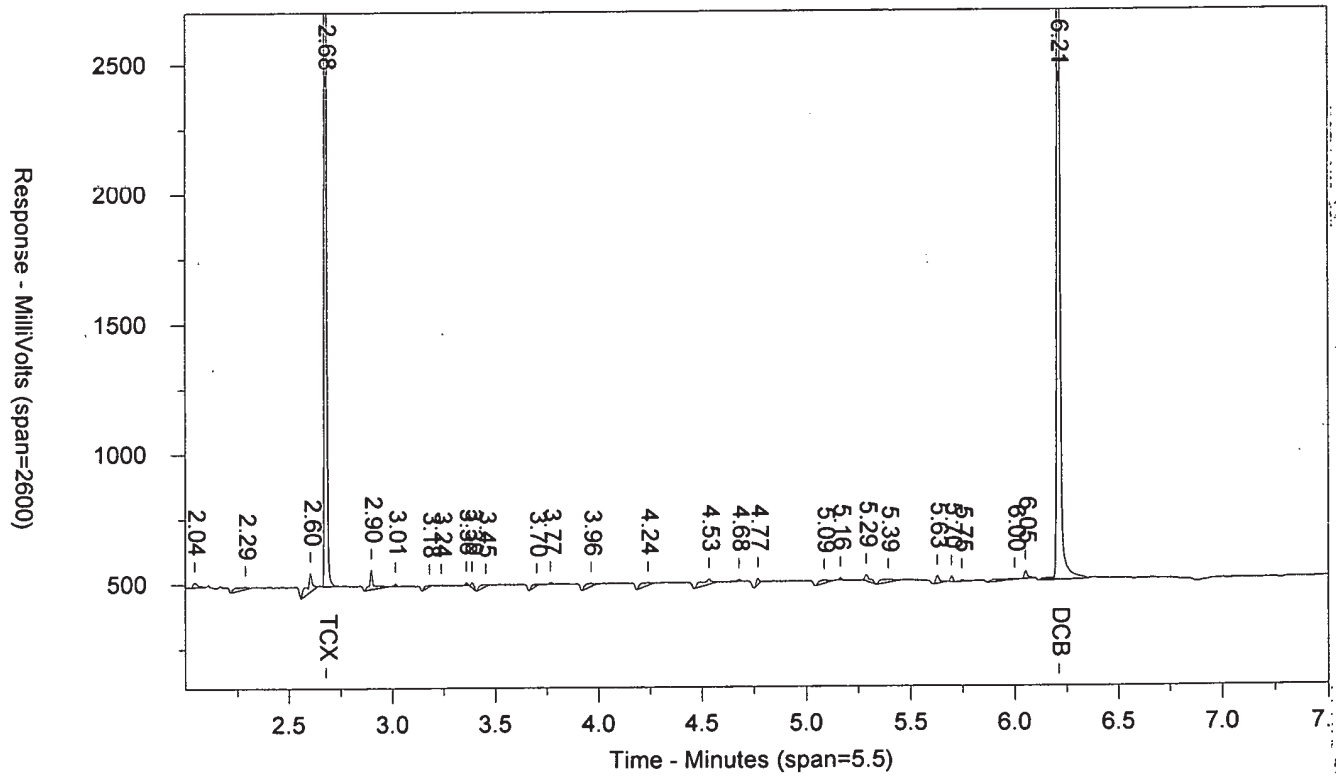

LANCASTER LABORATORIES

Sample Number: IBLKX1824C FRPIBLKFR PIBLK1830299999 10227 SW-846 8082
Injected On: 10/30/2018 5:51:47 PM Sample Weight: 1000
Instrument ID: CP25-18274 Dilution Factor: 10
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	3110338	.2	TCX	2.678	4979812	.195	TCX
6.612	2360066	.184	DCB	6.211	3424385	.182	DCB

Files:
Area File: 25pcbs18303001.005.RAW
Area File: 25pcbs18303001B.005.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 6:00:18 PM
File Reported On: 10/31/2018 at 12:34:38 PM

IBLKX1824C FRPIBLKFR PIBLK1830299999 10227 SW-846 8082

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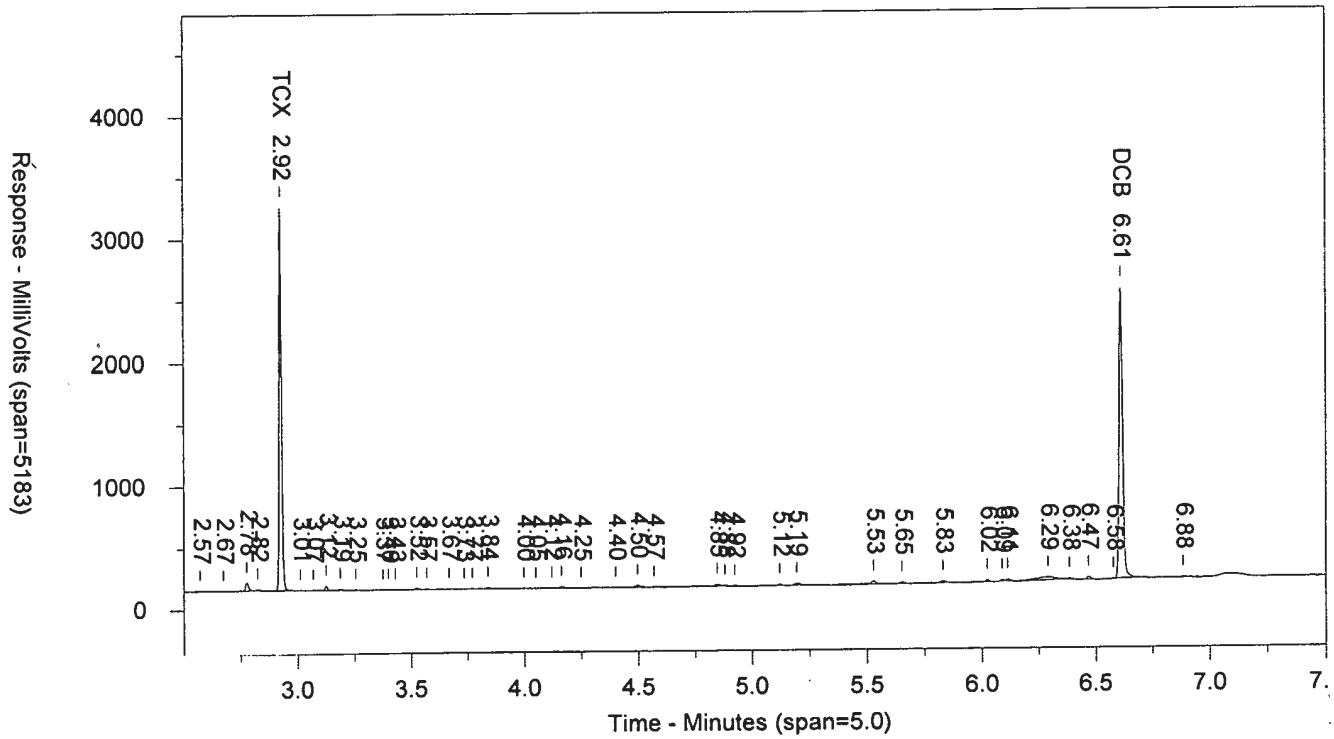

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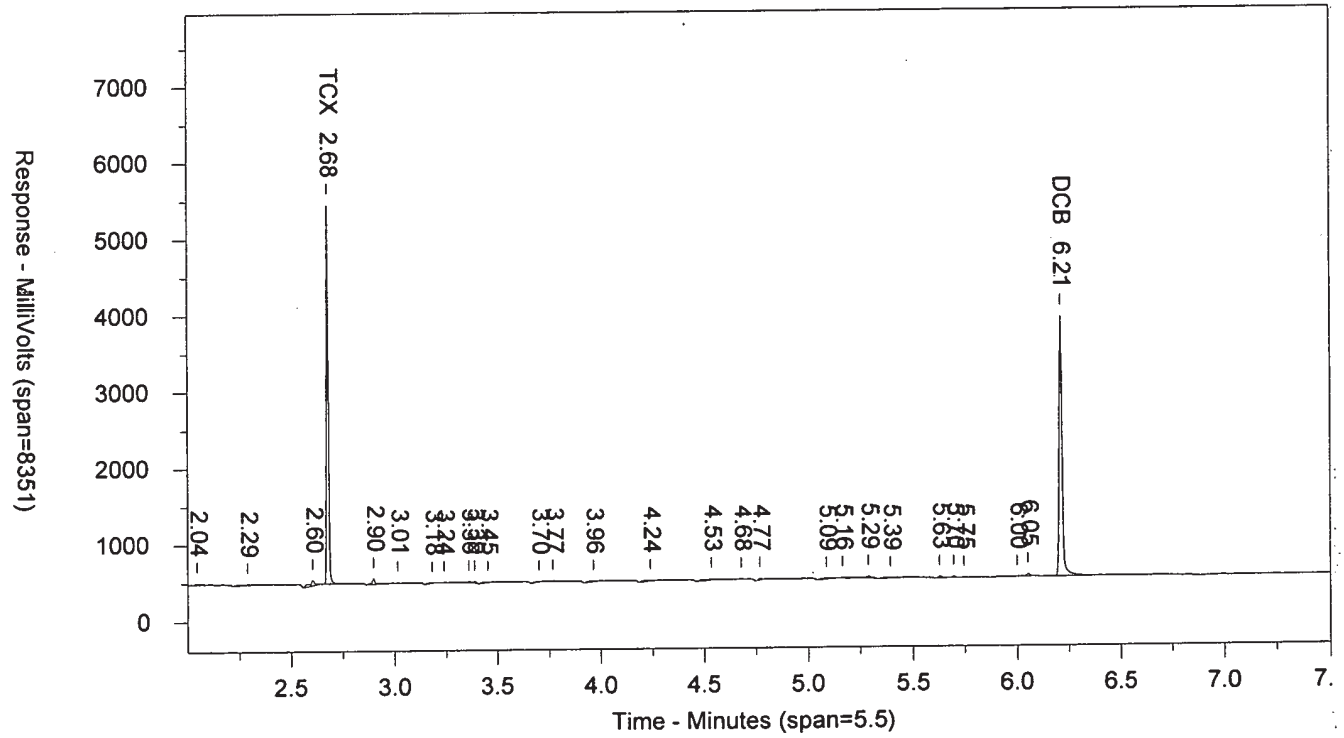

IBLKX1824C FRPIBLKFR PIBLK1830299999 10227 SW-846 8082

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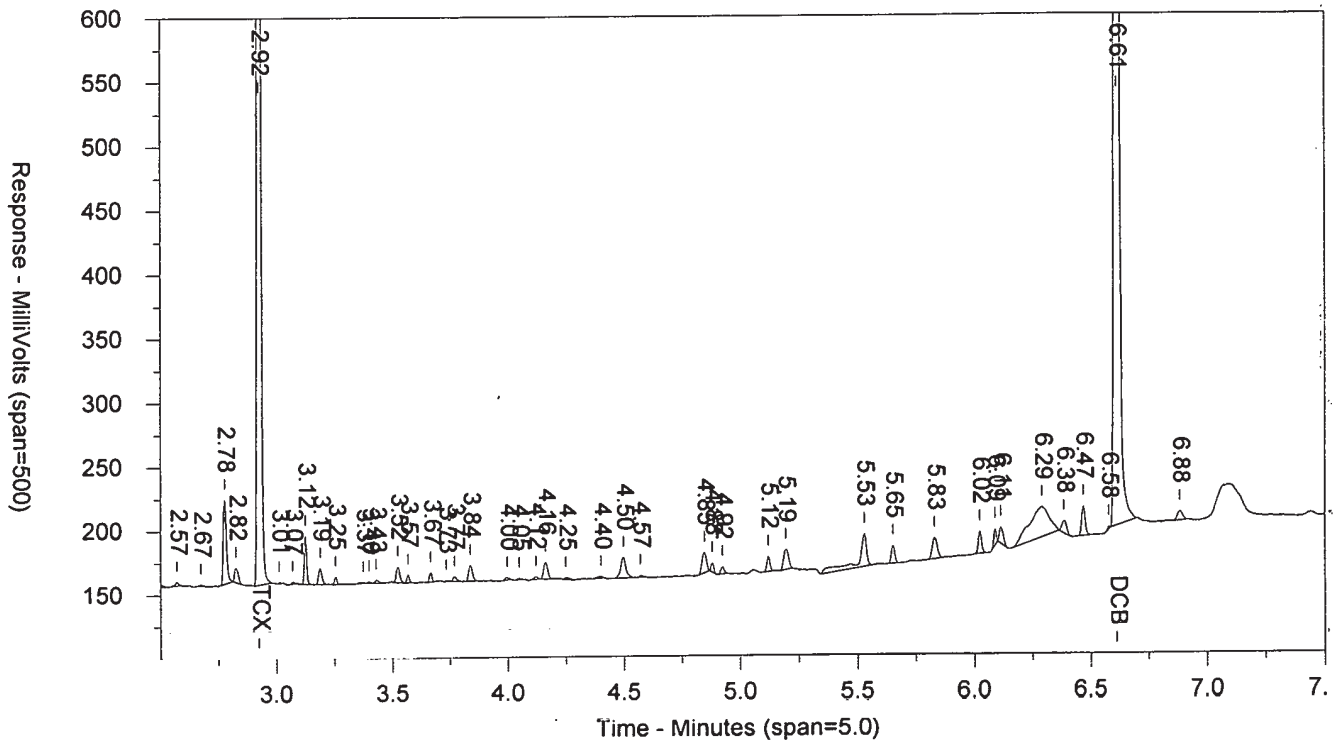

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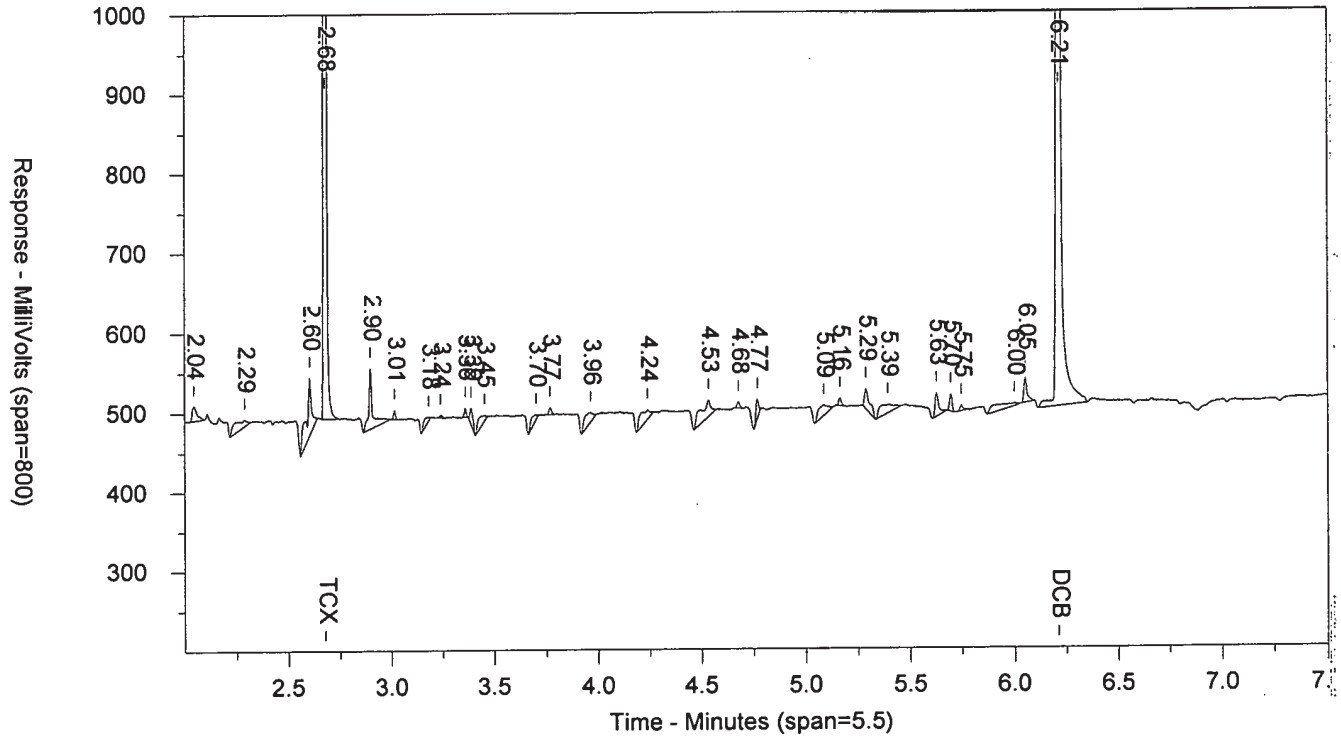

LANCASTER LABORATORIES

Sample Number: EVALX1824B AAEVALXAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:02:40 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.006.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		7451	9745
2.123		4849	2580
2.219		12931	16951
2.311		17955	11336
2.339		31258	20660
2.378		3177	4076
2.425		2262	2153
2.51		62177	45962
2.554		2166	1287
2.569		1699	1141
2.677		1209	1221
2.776		7872	6237
2.808		763	595
2.852		11048	8172
2.925	TCMX	3014307	2245220
3.012		2939	2730
3.072		1129	941
3.125		37994	26867
3.211		2024021	1382482
3.254		5736	3611
3.313		2376	1661
3.355		1199	942
3.411		1735166	1175197
3.441		14914	9881
3.493		3065	2318
3.534		729113	514851
3.566		7896	5372
3.629		1321	978
3.666		18139	15277
3.703		22207	17292
3.733		4784	4020
3.769		2691	2176
3.812		117433	93531
3.843		6560	5088
3.923		1863	1277
3.954		1540	1168
3.992		3344	3706
4.06		2467	1701
4.09		31017	28190
4.139		2595	1776
4.167		25926	21885
4.208		13415	8299
4.224		55481	38227
4.301		833	1149
4.384		378644	361385
4.468		3181	2627
4.505		9980	11495
4.551		7047	5782
4.574		45878	38477
4.648		7518	6516
4.707		371281	354440
4.809		306367	293211
4.846		4046000	3736172
4.876		32925	17246

RT A	Compound A	Height A	Area A
4.897		109140	85251
4.926		4693	2815
4.952		1171907	1096247
5.038		49603	70924
5.111		349121	346730
5.187		3357606	3219051
5.272		71187	102038
5.413		682521	845226
5.554		4142425	4004409
5.611		103537	93452
5.645		925399	879149
5.723		6300	7652
5.832		2333	3035
5.927		888	773
6.023		20971	20000
6.087		17047	15046
6.109		2301	1372
6.301		1329	7905
6.333		1895	2057
6.388		1867	1895
6.466		26706	28934
6.578		4850	4001
6.611	DCB	2589863	2824841
6.847		690	1347
6.885		2014	2504

LANCASTER LABORATORIES

Sample Number: EVALX1824B AAEVALXAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:02:40 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.006.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		16268	28847
2.164		8187	9212
2.209		65339	40479
2.379		103842	67320
2.602		28029	104235
2.678	TCX	4952907	3077005
2.897		63950	43296
3.025		3262340	1840573
3.142		4962	2810
3.182		26984	20761
3.236		2651780	1554054
3.265		4519	2035
3.308		6509	4365
3.36		7720	4077
3.388		23512	15323
3.417		1085267	658939
3.473		5074	3062
3.505		2445	2009
3.522		6895	3262
3.54		201885	127788
3.572		7206	3950
3.617		10043	6408
3.653		5822	4686
3.741		6005	10561
3.769		14380	11547
3.842		14833	7241
3.891		4772	2625
3.914		50992	31320
3.935		112020	70156
3.96		10149	8568
4.073		578937	414141
4.15		7146	5225
4.231		81089	89778
4.276		8120	8192
4.338		26123	35744
4.453		477901	385122
4.523		6555046	5212409
4.557		180408	130503
4.612		1724866	1408826
4.66		15476	17369
4.722		78449	97574
4.768		18098	11689
4.796		5398151	4408750
4.86		533923	434488
4.967		59951	52134
5.124		797294	834569
5.229		5752723	5274320
5.283		38531	31322
5.31		57522	44432
5.415		1687089	1508704
5.468		36064	28575
5.629		28298	30483
5.697		29230	24302
5.746		11469	22444

RT B	Compound B	Height B	Area B
6.052		34692	41140
6.211	DCB	3839457	3652620

EVALX1824B AAEVALXAA ICAL 1830299999 10227 SW-846 8082

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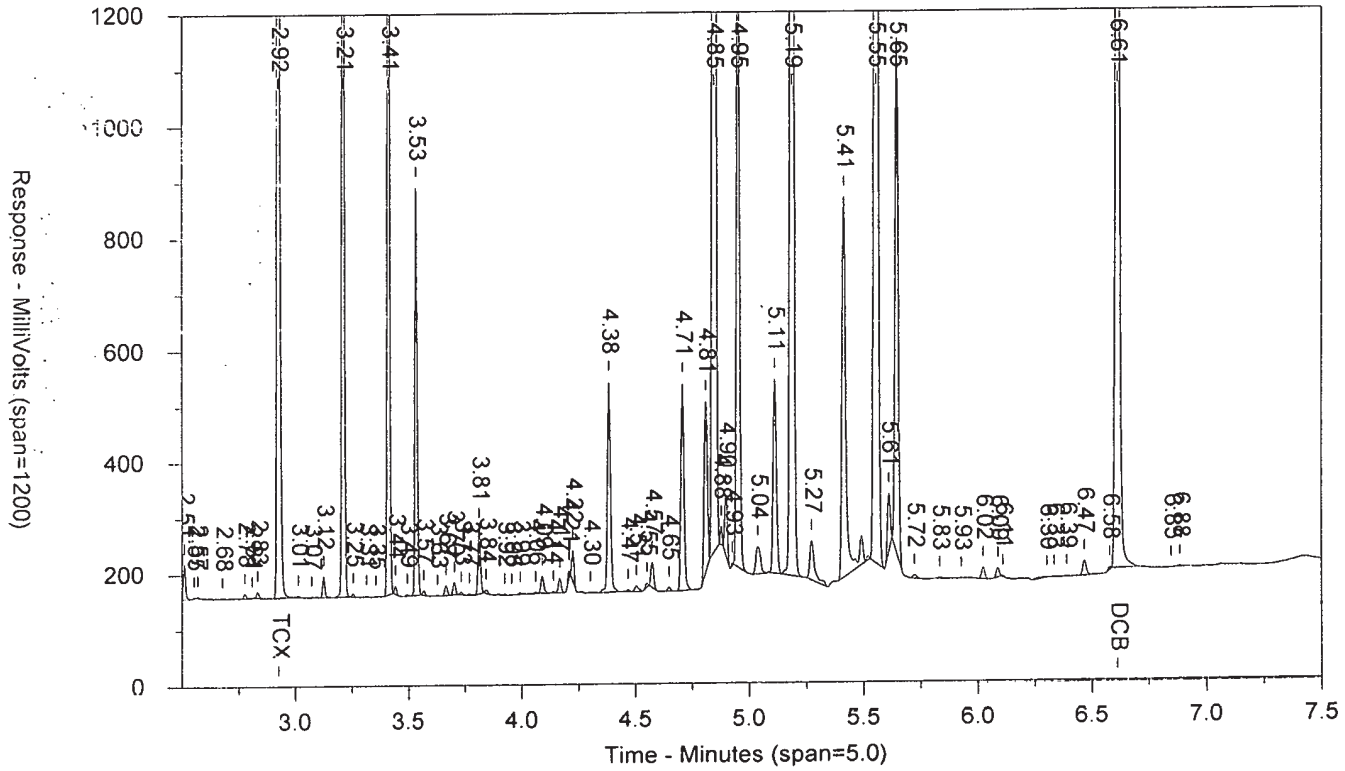

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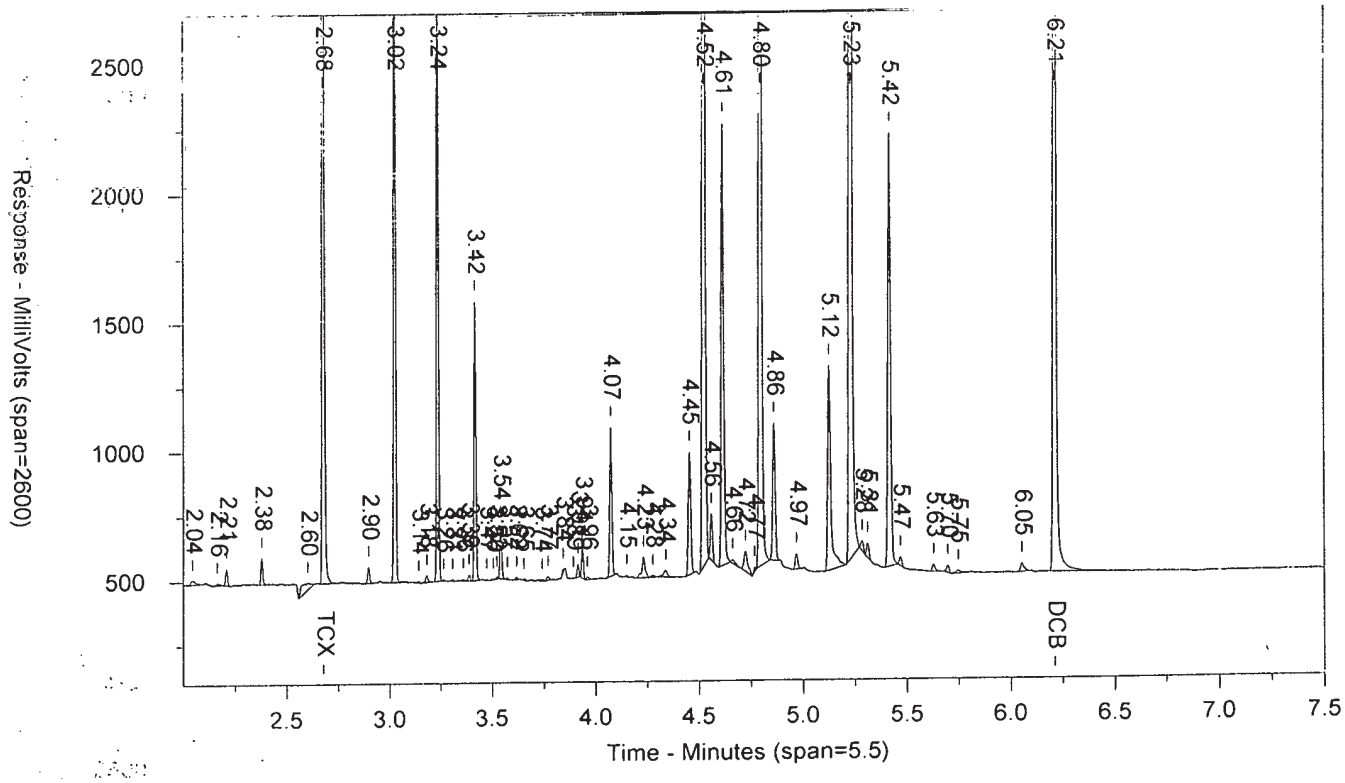

LANCASTER LABORATORIES

Sample Number: EVALX1824B AAEVALXAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:02:40 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	3014307	20.375	TCX	2.678	4952907	20.409	TCX
6.611	2589863	21.724	DCB	6.211	3839457	22.394	DCB

Files:
Area File: 25pcbs18303001.006.RAW
Area File: 25pcbs18303001B.006.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 6:11:12 PM
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EVALX1824B AAEVALXAA ICAL 1830299999 10227 SW-846 8082

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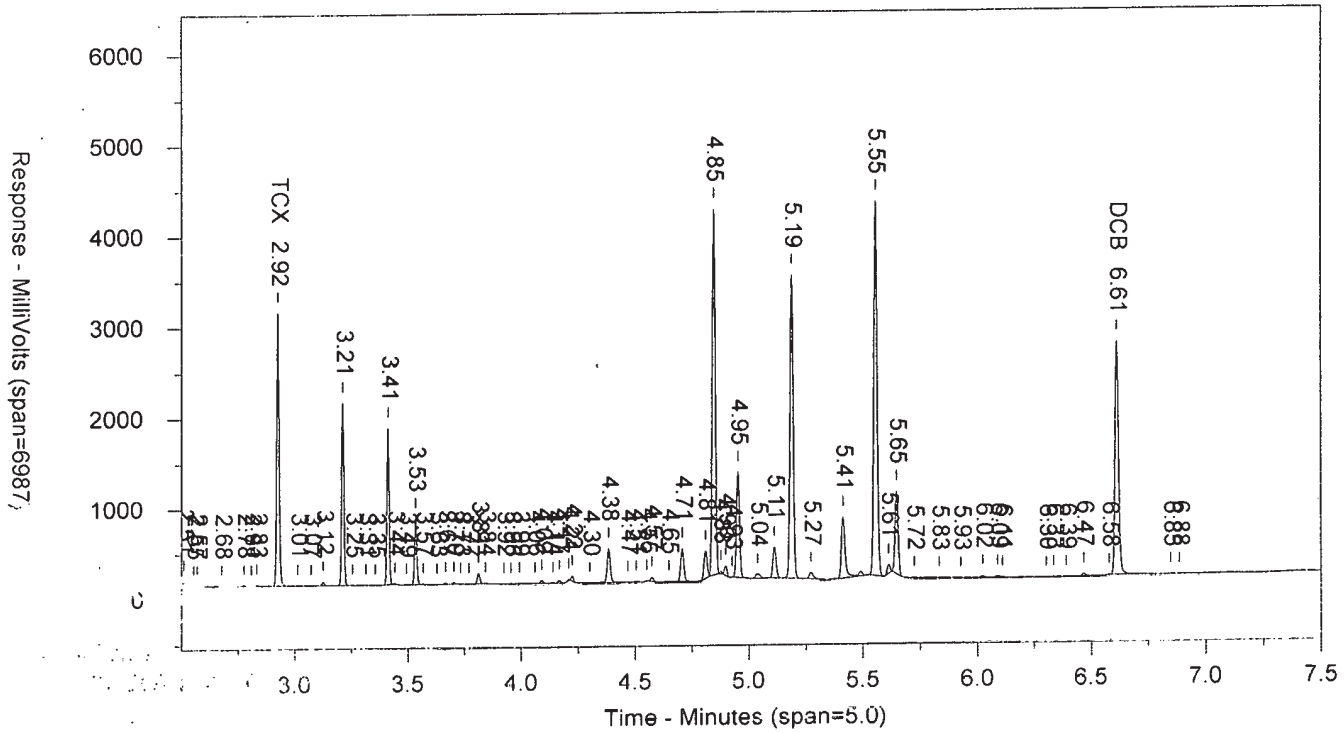

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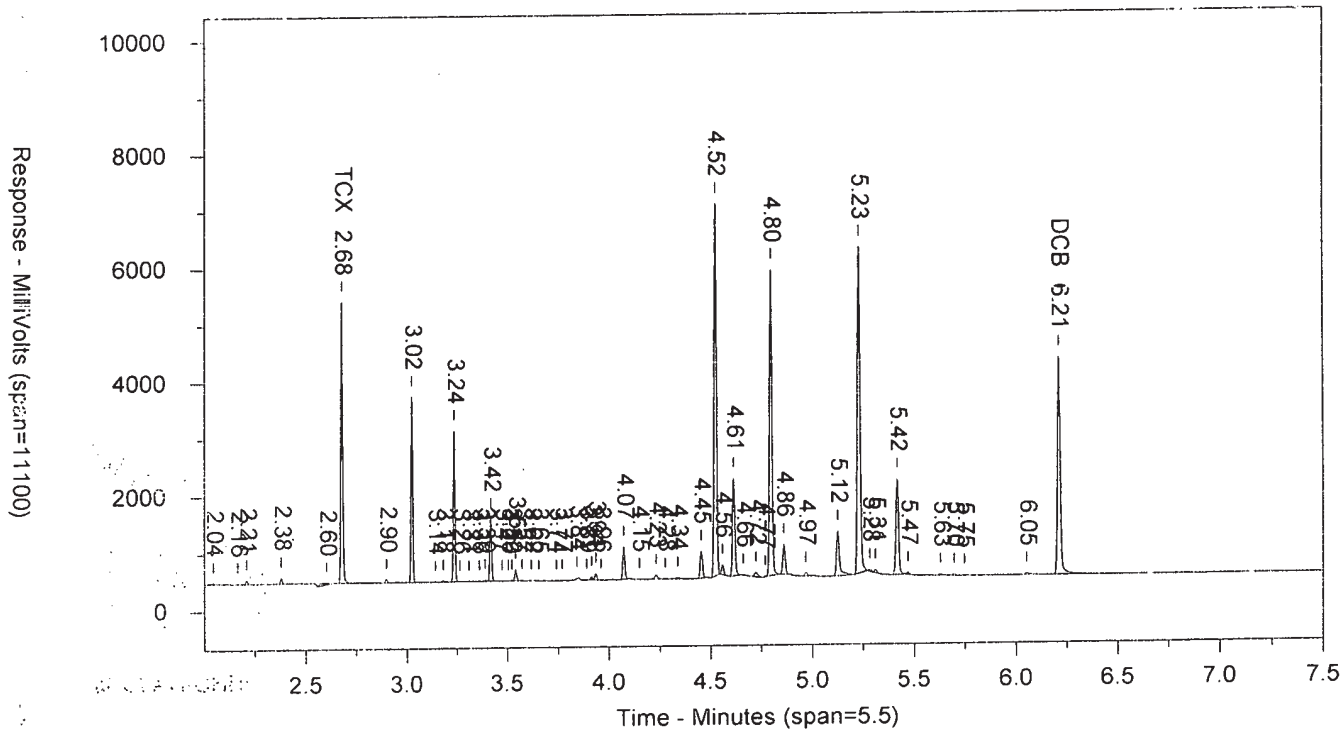

EVALX1824B AAEVALXAA ICAL 1830299999 10227 SW-846 8082

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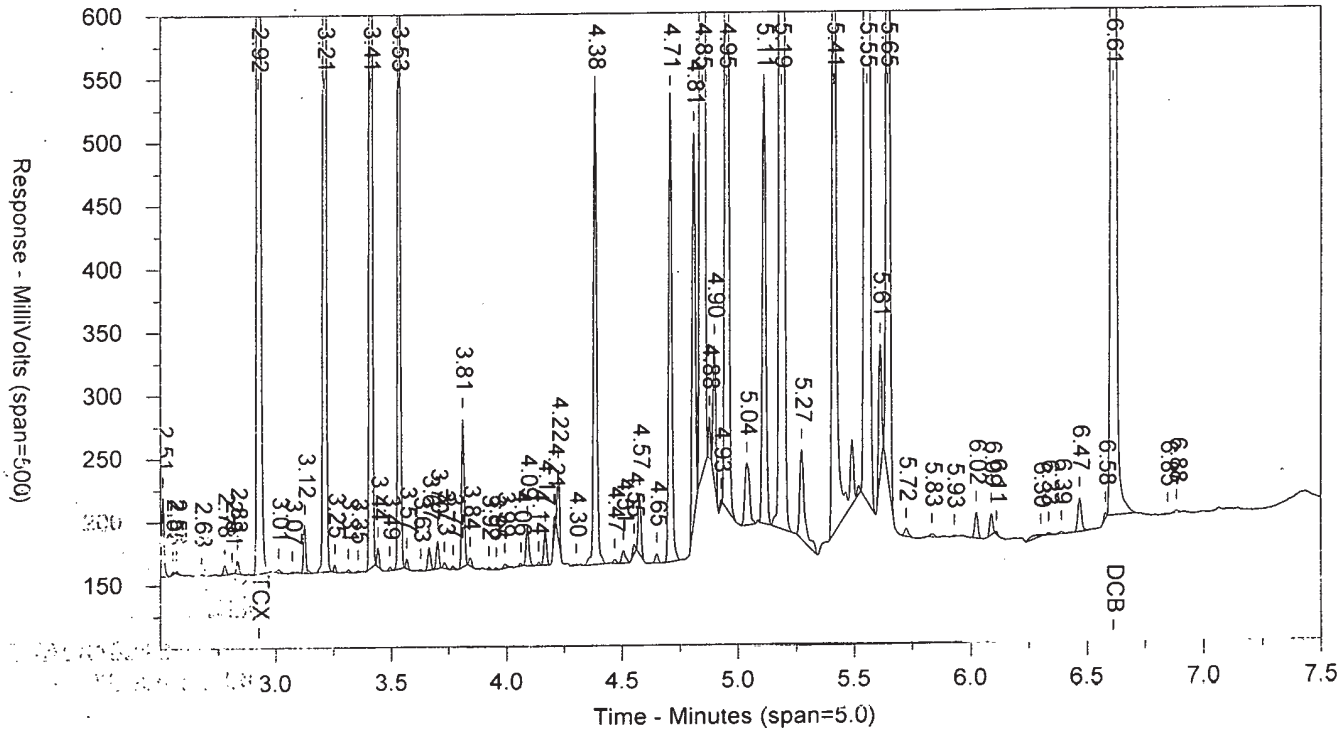

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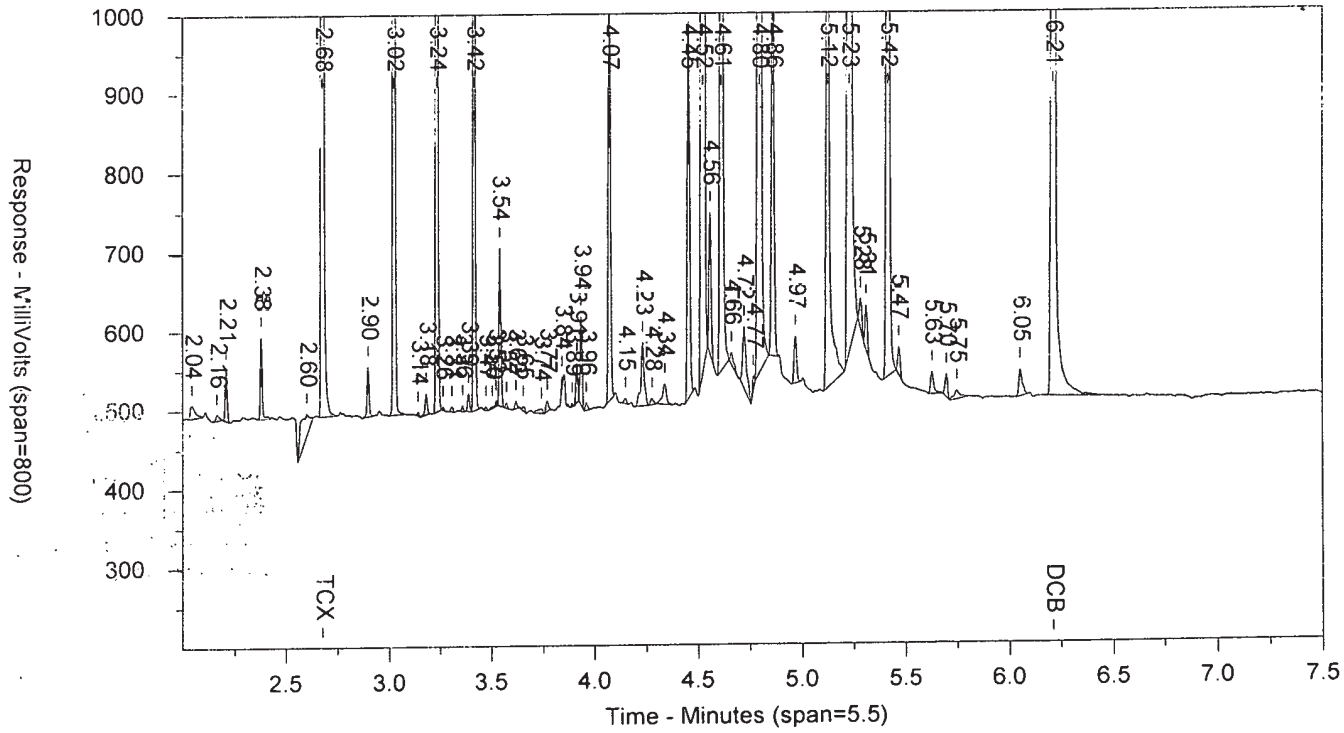

LANCASTER LABORATORIES

Sample Number: AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:13:42 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.007.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.096		8292	14934
2.23		3880	5029
2.312		11023	7991
2.378		2056	2541
2.423		4861	4251
2.495		2423	3696
2.569		4080	5104
2.777		21346	18762
2.827		2732	3053
2.925	TCX	308789	223877
3.078		14841	13800
3.135		15057	13375
3.183		75503	55576
3.211		6329	3208
3.270		8814	6435
3.398		73203	44050
3.414		34786	18006
3.452		7244	4168
3.468		2616	1174
3.484		3276	2220
3.514		90270	74876
3.588		4606	3181
3.624		15563	9264
3.639		7826	3840
3.684		22699	16926
3.694		74837	42198
3.731		105438	82698
3.780		82112	67933
3.83		5206	3373
3.856		62454	46894
3.884		43838	39481
3.905		7590	4181
3.981		67454	51080
4.005		21877	13722
4.035		24597	17381
4.071		65820	69030
4.111		19142	15970
4.16		3622	3789
4.194		4612	3374
4.23		72250	54161
4.25		13864	7754
4.273		15619	11234
4.34		9503	8360
4.384		80466	74945
4.417		1909	1193
4.521		14047	19712
4.575		6052	4168
4.591		14900	10531
4.637		46489	41060
4.682		64414	72206
4.72		13158	9028
4.759		152363	147530
4.804		2812	3428
4.848		43982	44271

RT A	Compound A	Height A	Area A
4.88		2660	1609
4.906		25920	27515
4.958		183327	243870
5.009		32714	28933
5.052		83246	91831
5.131		16136	21314
5.167		198524	189015
5.19		8152	3641
5.23		108702	102130
5.273		67021	66981
5.372		9444	9663
5.394		104419	96793
5.452		63702	101691
5.577		39719	34960
5.633		288500	323628
5.839		169233	185906
5.877		14036	14800
5.892		23616	17205
6.022		4347	4259
6.087		5275	4133
6.112		33263	31331
6.181		899	818
6.268		85150	87598
6.313		4510	4533
6.39		1445	1311
6.469		23299	23888
6.615	DCB	286269	321234
6.89		975	848

LANCASTER LABORATORIES

Sample Number: AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:13:42 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.007.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.044		14725	38181
2.602		21778	32164
2.678	TCX	500539	314595
2.849		29692	21831
2.909		27396	23886
2.962		124339	80194
3.025		14235	8750
3.074		15407	9928
3.17		107207	53306
3.182		34992	13618
3.223		12724	6325
3.238		14569	11608
3.269		11530	6441
3.294		143547	99257
3.332		8076	5080
3.377		24377	11417
3.391		26580	14661
3.417		6108	2941
3.444		63791	33806
3.453		129650	54863
3.474		6615	2587
3.488		135493	91666
3.563		139771	88793
3.598		101599	62813
3.622		111475	63872
3.64		30578	14822
3.629		2427	2690
3.727		121312	82649
3.751		44750	24436
3.771		52251	32347
3.802		28269	14978
3.819		88712	55857
3.863		35699	27838
3.908		10936	11823
3.934		21850	12840
3.955		135078	89736
3.981		24363	14598
4.021		15834	9693
4.058		106506	78580
4.108		14496	16701
4.205		11035	12500
4.265		26630	19510
4.307		29214	17295
4.326		19388	11110
4.339		66593	38305
4.365		39219	41842
4.419		222537	181802
4.491		23812	16673
4.518		56736	58115
4.56		248288	214205
4.614		11642	9522
4.664		201226	216313
4.719		26849	22422
4.757		49133	43267

RT B	Compound B	Height B	Area B
4.795		245410	222371
4.828		124962	93340
4.867		87005	73025
4.969		30185	32415
5.02		154875	127122
5.095		86254	79468
5.131		45275	37009
5.161		30329	25741
5.193		10763	6698
5.215		338668	321682
5.29		14497	17359
5.43		81992	87423
5.475		238977	306177
5.63		7687	7359
5.676		7105	5059
5.748		46051	43793
5.854		99761	92543
6.053		31246	36499
6.213	DCB	403092	408402

AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 8082

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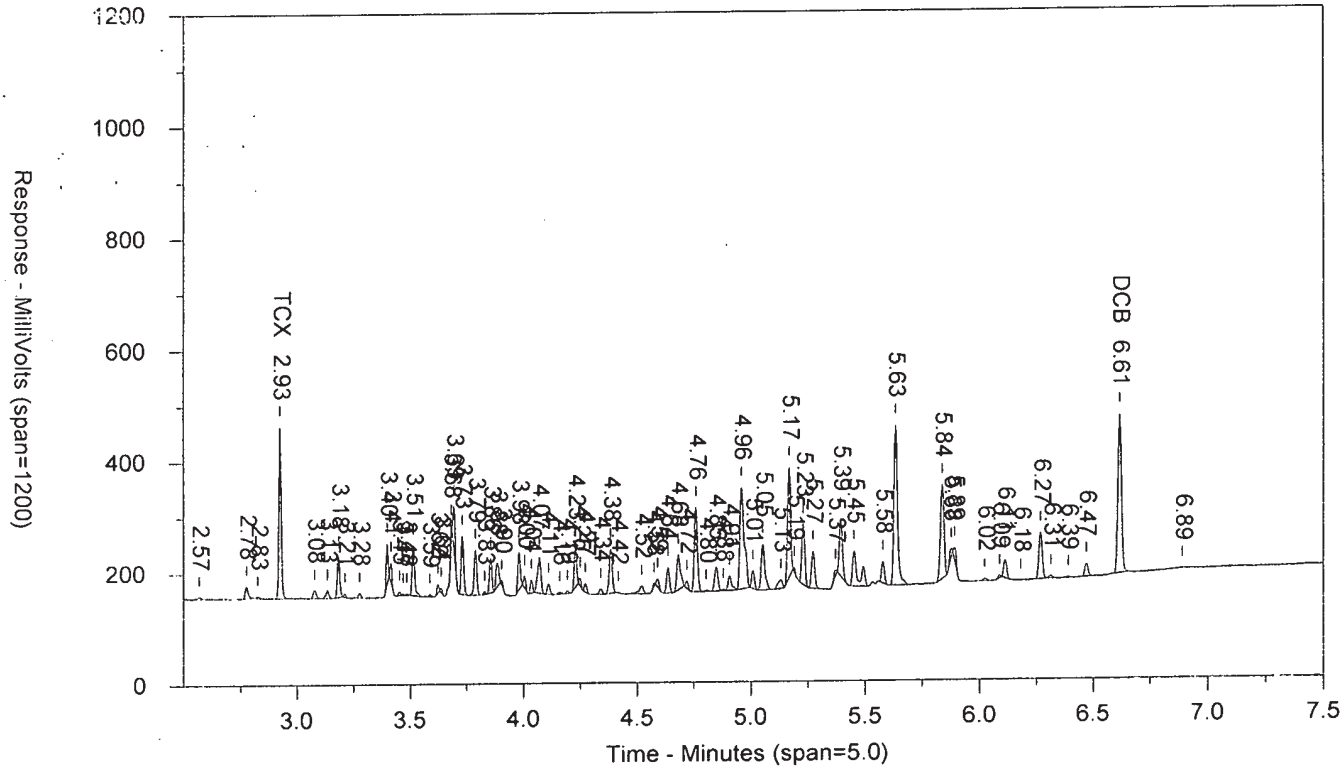

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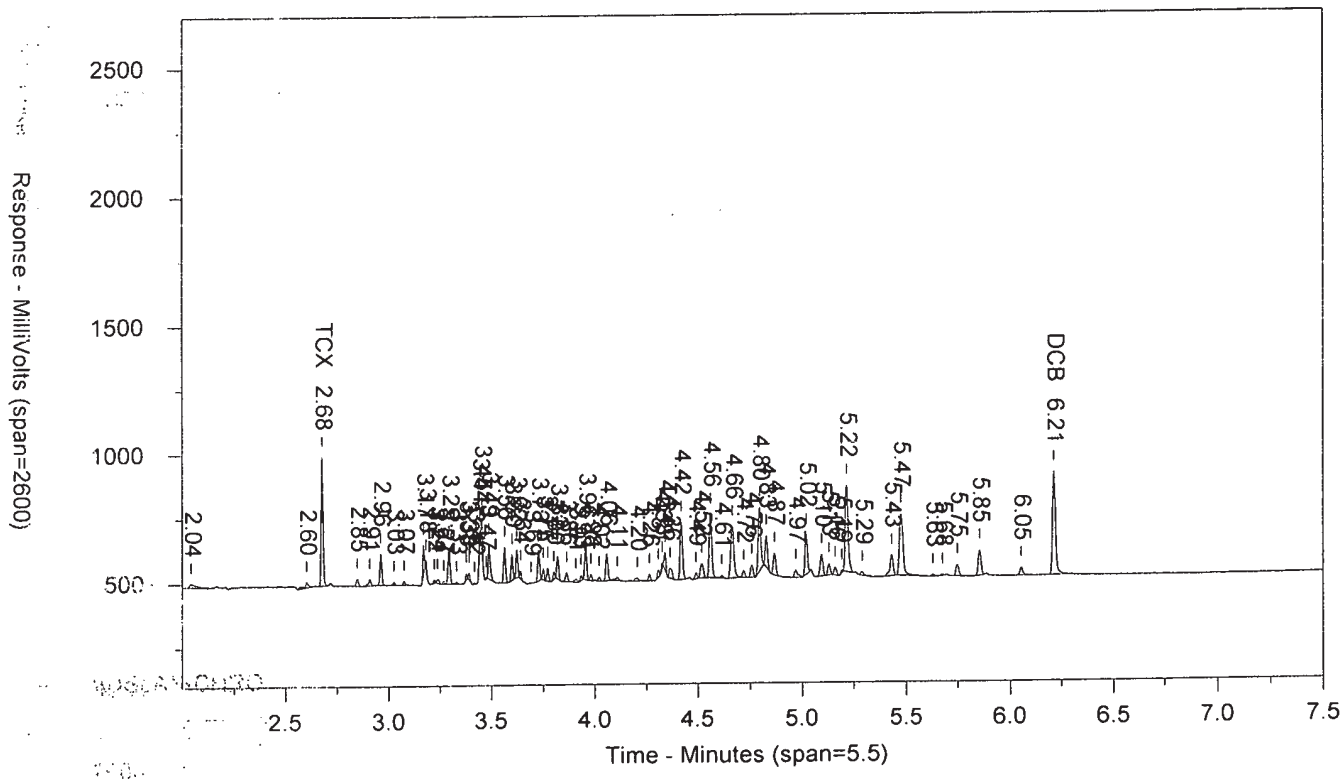

LANCASTER LABORATORIES

Sample Number: AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:13:42 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	308789	2.087	TCX	2.678	500539	2.063	TCX
6.615	286269	2.401	DCB	6.213	403092	2.351	DCB

Files:
Area File: 25pcbs18303001.007.RAW
Area File: 25pcbs18303001B.007.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 6:22:13 PM
File Reported On: 10/30/2018 at 6:22:24 PM

AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 8082

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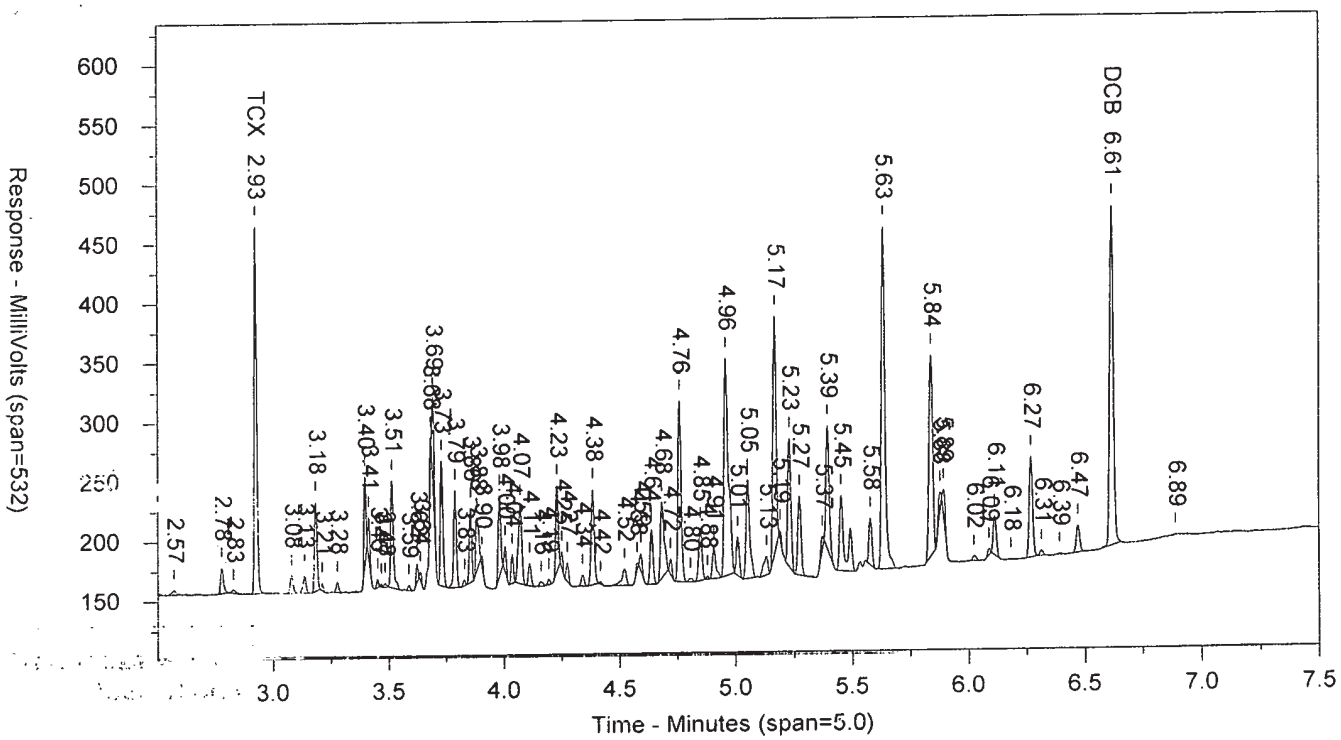

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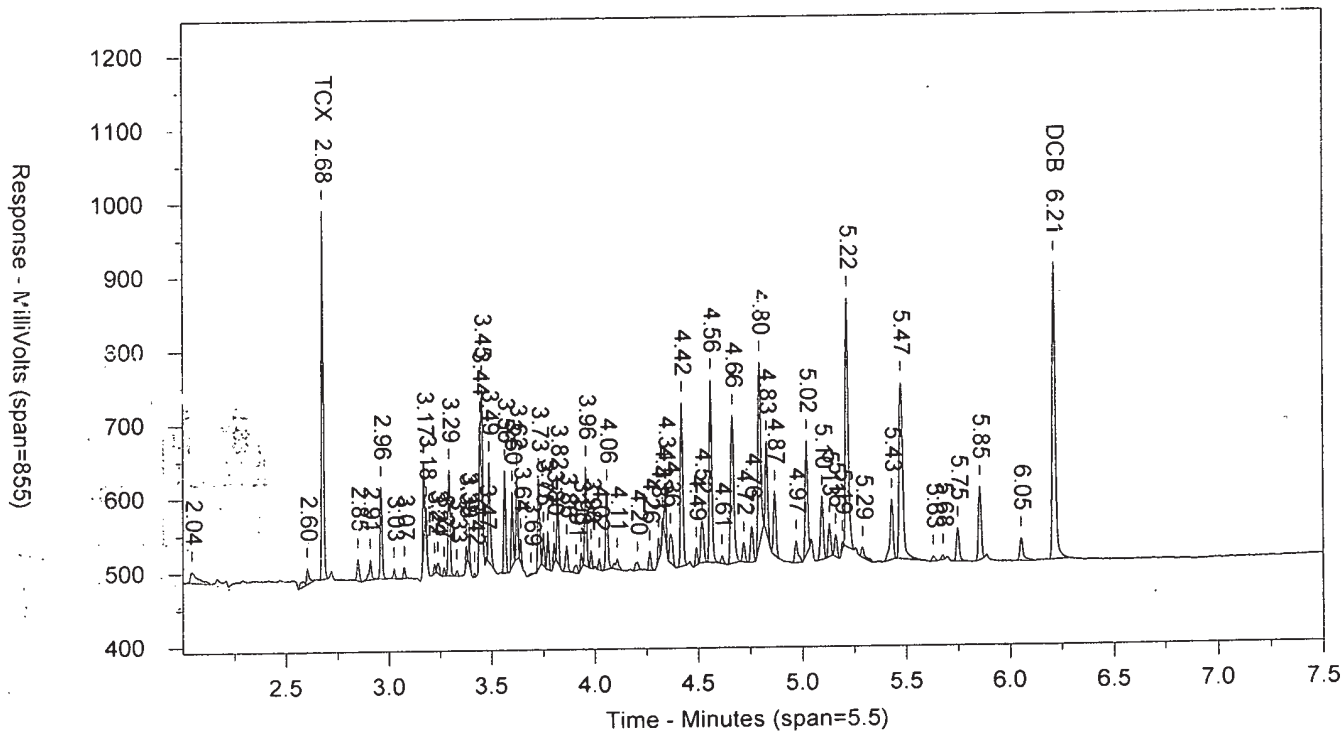

AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 8082

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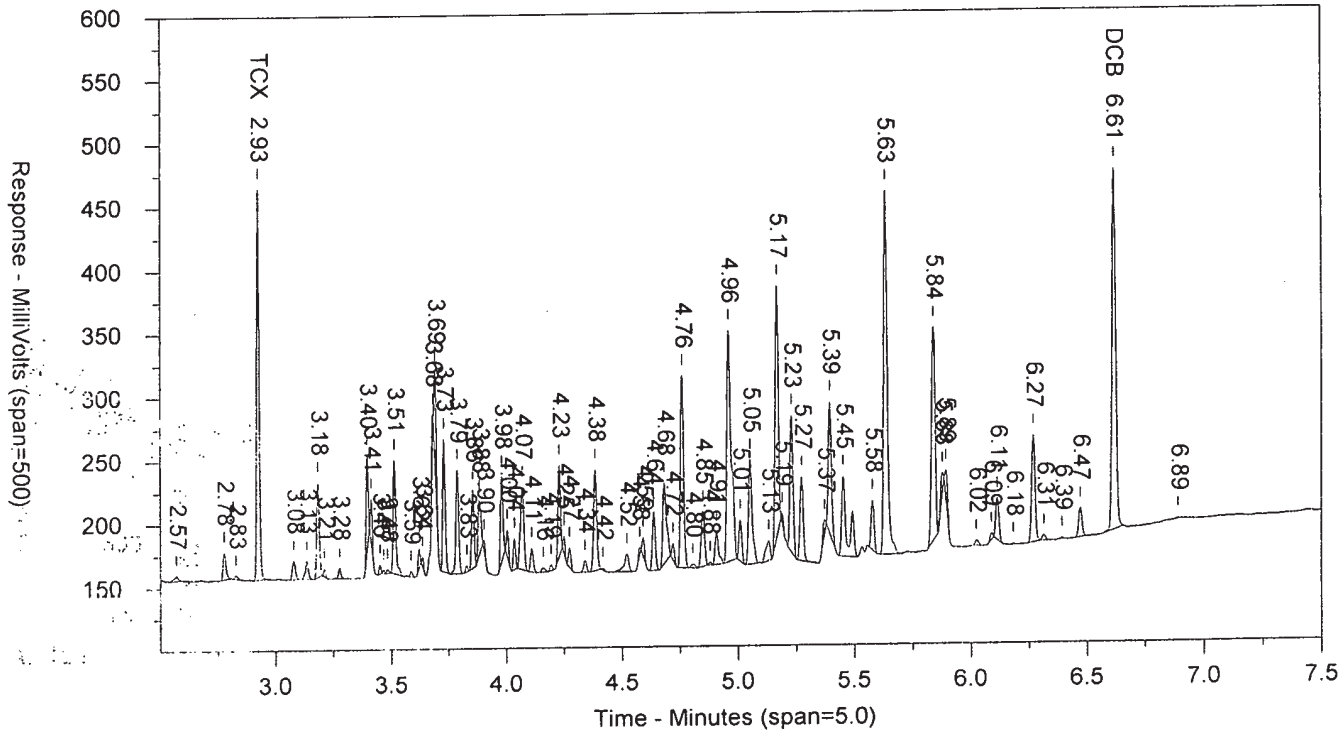

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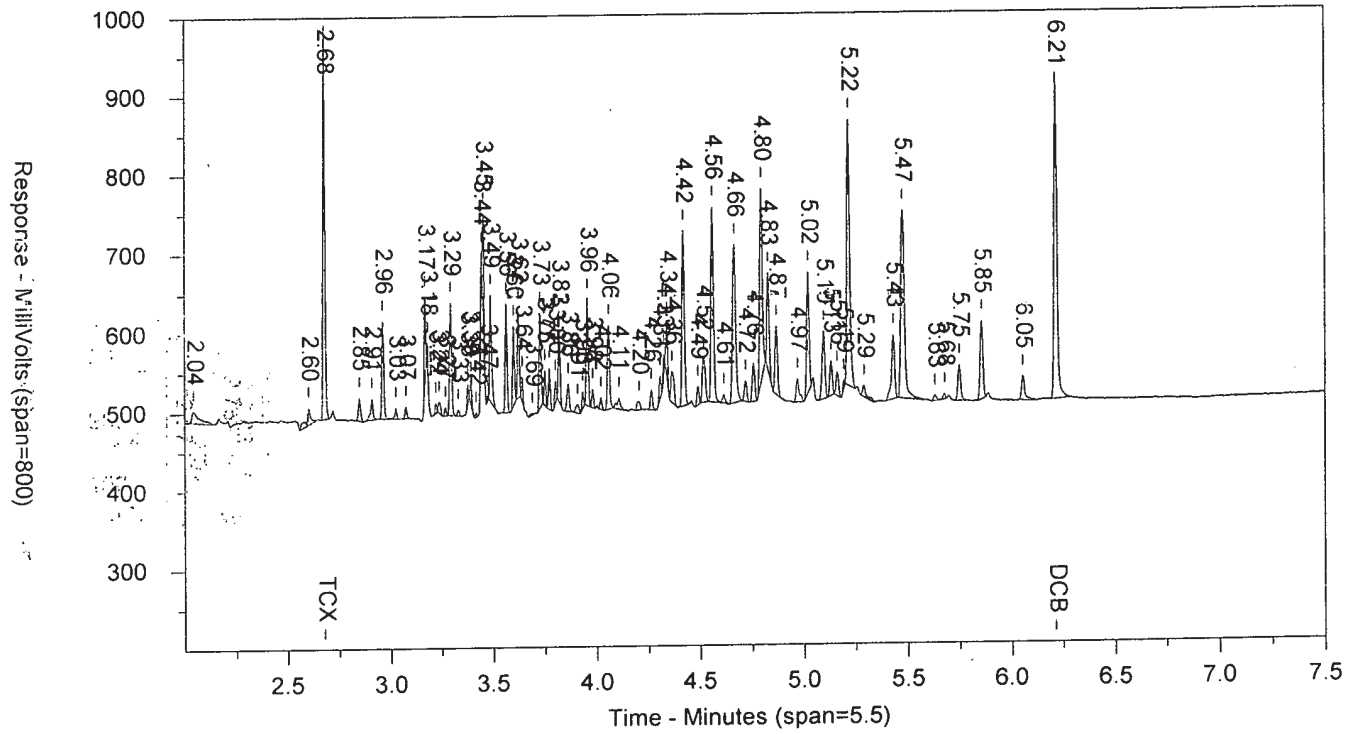

LANCASTER LABORATORIES

Sample Number: AR1621824D AAAR162AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:24:35 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.008.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.094		8060	13777
2.227		3528	4023
2.311		13164	9766
2.377		2244	2489
2.422		2831	2878
2.494		2219	3754
2.569		5241	5534
2.776		18884	16478
2.925	TCX	598913	434755
3.078		30590	26877
3.134		29605	26440
3.182		146818	113887
3.255		1223	639
3.275		16884	12360
3.396		142607	87229
3.413		59394	30859
3.45		14773	8365
3.466		5474	2425
3.482		7712	4697
3.512		178049	139224
3.586		9228	6354
3.622		33906	19372
3.636		14101	6746
3.681		54672	36819
3.691		156964	86177
3.727		198098	160809
3.786		160190	132223
3.827		11956	8564
3.853		121796	90805
3.882		85023	77139
3.901		15108	7873
3.978		126874	96978
4.002		42022	26658
4.032		51557	36453
4.068		128568	138845
4.108		41258	33033
4.154		5477	4743
4.191		9330	7400
4.227		135534	102364
4.246		28964	15833
4.27		33725	23964
4.337		18857	16841
4.38		153294	144120
4.414		4072	3061
4.477		2305	1881
4.517		29702	31043
4.573		13004	8969
4.588		27230	20383
4.633		88077	82738
4.679		127502	147452
4.717		29797	20918
4.756		290340	281313
4.798		4938	4334
4.846		51941	56660

RT A	Compound A	Height A	Area A
4.877		4549	2836
4.903		51506	50422
4.955		341145	455280
5.006		66303	59585
5.049		163031	185073
5.128		33235	40556
5.164		409465	440981
5.227		201452	196406
5.27		128011	128136
5.37		17328	18092
5.392		194746	183297
5.45		120932	222590
5.574		92554	88816
5.63		566675	624258
5.836		327228	352915
5.876		31510	33239
5.89		37505	27843
6.022		9470	9238
6.085		11555	8936
6.108		56528	59076
6.172		689	609
6.265		164634	168959
6.31		9614	9077
6.466		46881	47931
6.612	DCB	526710	591160

LANCASTER LABORATORIES

Sample Number: AR1621824D AAAR162AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:24:35 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.008.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		13810	24737
2.603		22940	50834
2.678	TCX	944578	591212
2.72		21780	16531
2.849		55902	41957
2.909		52245	39943
2.962		236641	152940
3.074		30029	19880
3.17		200189	101938
3.181		52144	23453
3.222		32283	19330
3.2[illegible]		22580	12979
3.269		20941	11763
3.293		276807	190152
3.331		16443	9766
3.36		2169	741
3.377		58718	29703
3.391		39204	19720
3.443		129179	61510
3.452		239155	108460
3.472		13479	4867
3.487		271866	180187
3.561		272442	176788
3.596		195538	122746
3.62		215826	126017
3.638		59113	28203
3.725		234636	158485
3.748		84496	46842
3.769		89586	56065
3.8		58074	30552
3.817		177174	109959
3.861		69534	51815
3.907		17683	17793
3.931		43191	26607
3.953		249261	173415
3.979		47435	28803
3.999		9616	4495
4.018		30217	19308
4.055		208058	152610
4.091		10190	6399
4.106		22762	14765
4.195		29004	34187
4.262		55377	41043
4.306		54743	33875
4.324		45711	23161
4.337		122288	70567
4.364		76386	81032
4.417		438500	352062
4.459		9525	8279
4.489		44126	30362
4.513		96079	72275
4.557		494277	416595
4.662		387672	411035
4.716		52222	44782

RT B	Compound B	Height B	Area B
4.756		109010	93396
4.793		462462	418246
4.826		231693	181245
4.865		167390	137979
4.968		58040	62342
5.019		290152	250449
5.043		36319	23184
5.093		170173	158257
5.129		83140	66522
5.159		59886	51286
5.192		22215	13619
5.214		677397	608513
5.254		13746	10008
5.287		28904	26453
5.405		7445	4619
5.428		162059	136248
5.474		483176	588545
5.628		13826	12743
5.673		14384	10427
5.697		9399	6588
5.746		91585	89297
5.852		203105	180021
5.885		10776	8179
6.052		61044	60321
6.211	DCB	762166	748510

AR1621824D AAAR162AA ICAL 1830299999 10227 SW-846 8082

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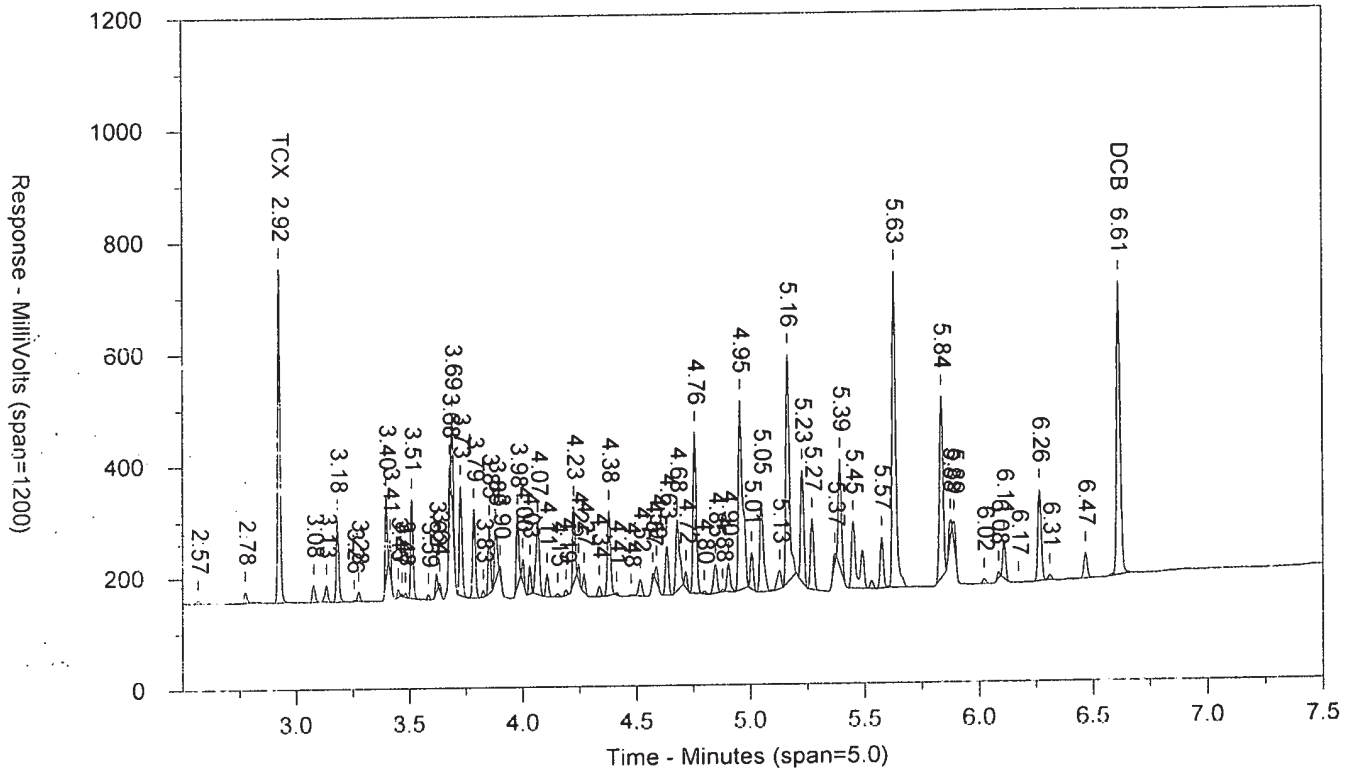

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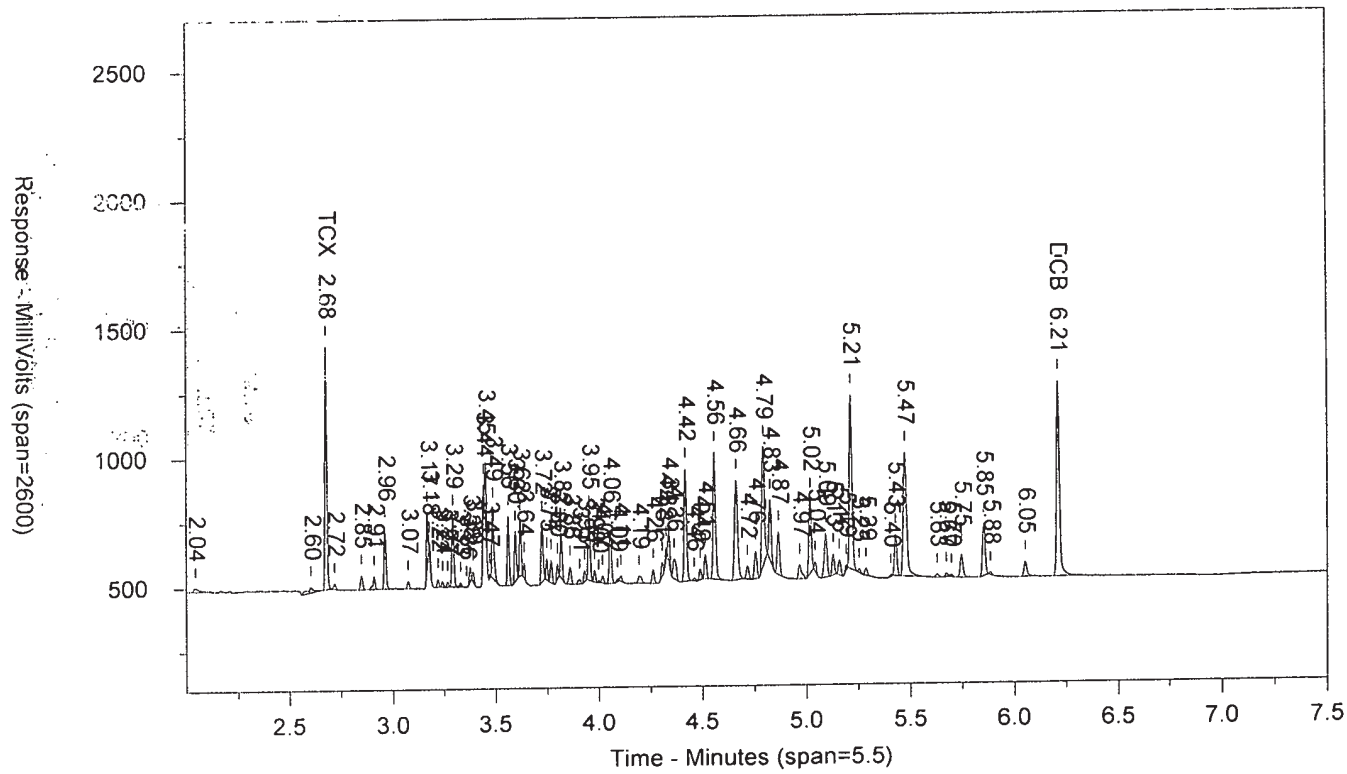

LANCASTER LABORATORIES

Sample Number: AR1621824D AAAR162AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:24:35 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	598913	3.99	TCX	2.678	944578	3.832	TCX
6.612	526710	4.387	DCB	6.211	762166	4.359	DCB

Files:
Area File: 25pcbs18303001.008.RAW
Area File: 25pcbs18303001B.008.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 6:33:07 PM
File Reported On: 10/30/2018 at 6:33:17 PM

AR1621824D AAAR162AA ICAL 1830299999 10227 SW-846 8082

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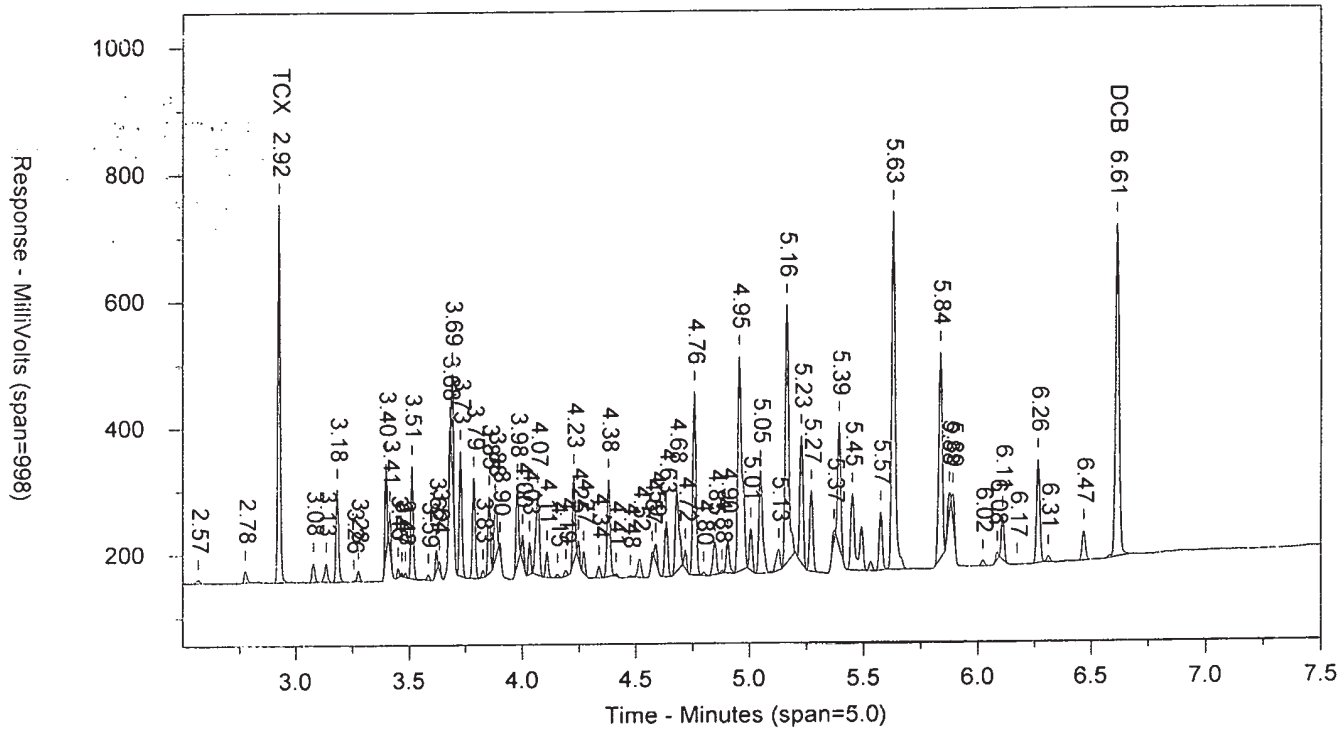

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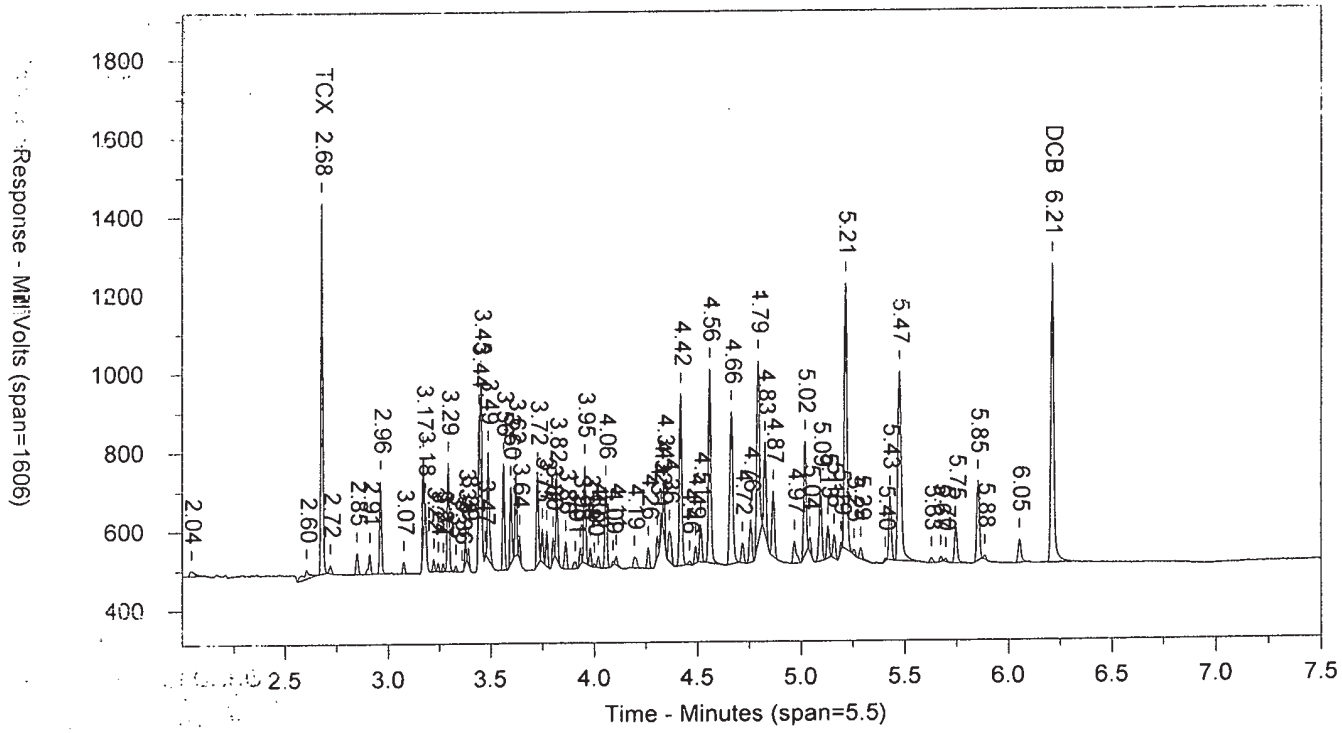

AR1621824D AAAR162AA ICAL 1830299999 10227 SW-846 8082

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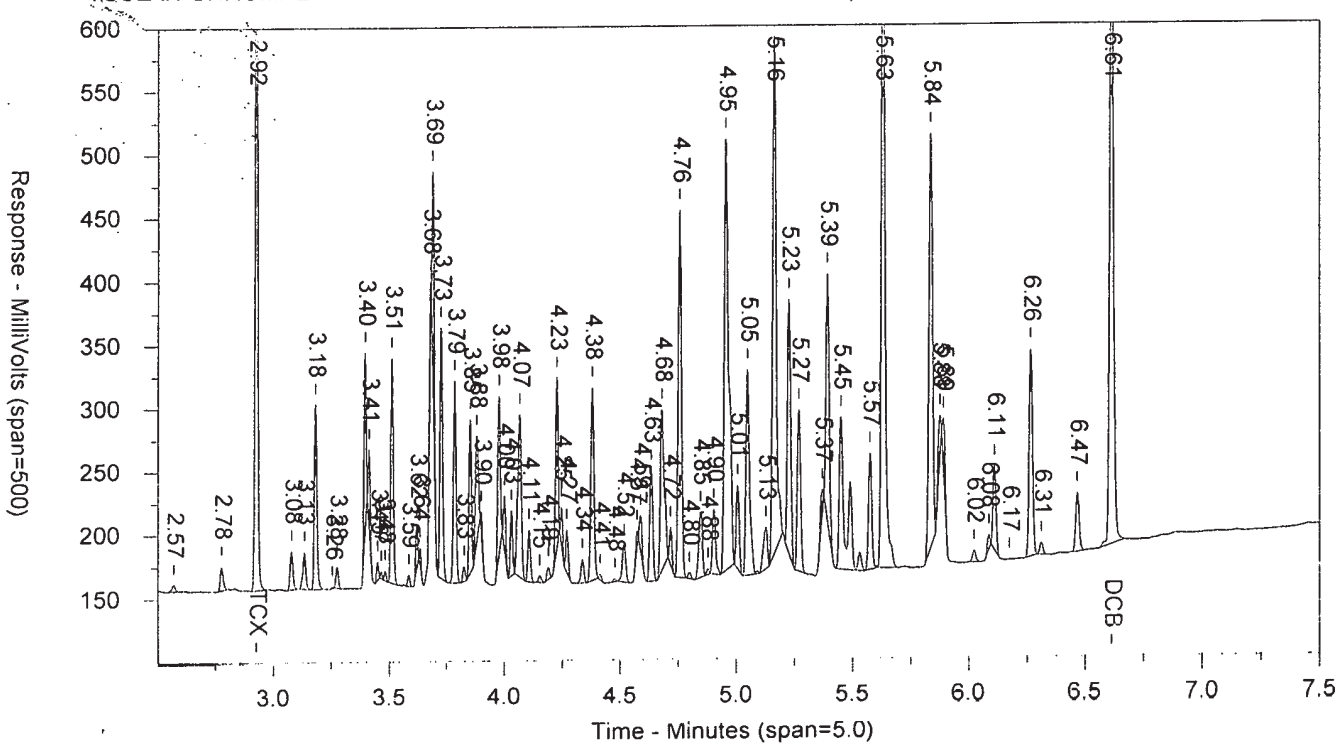

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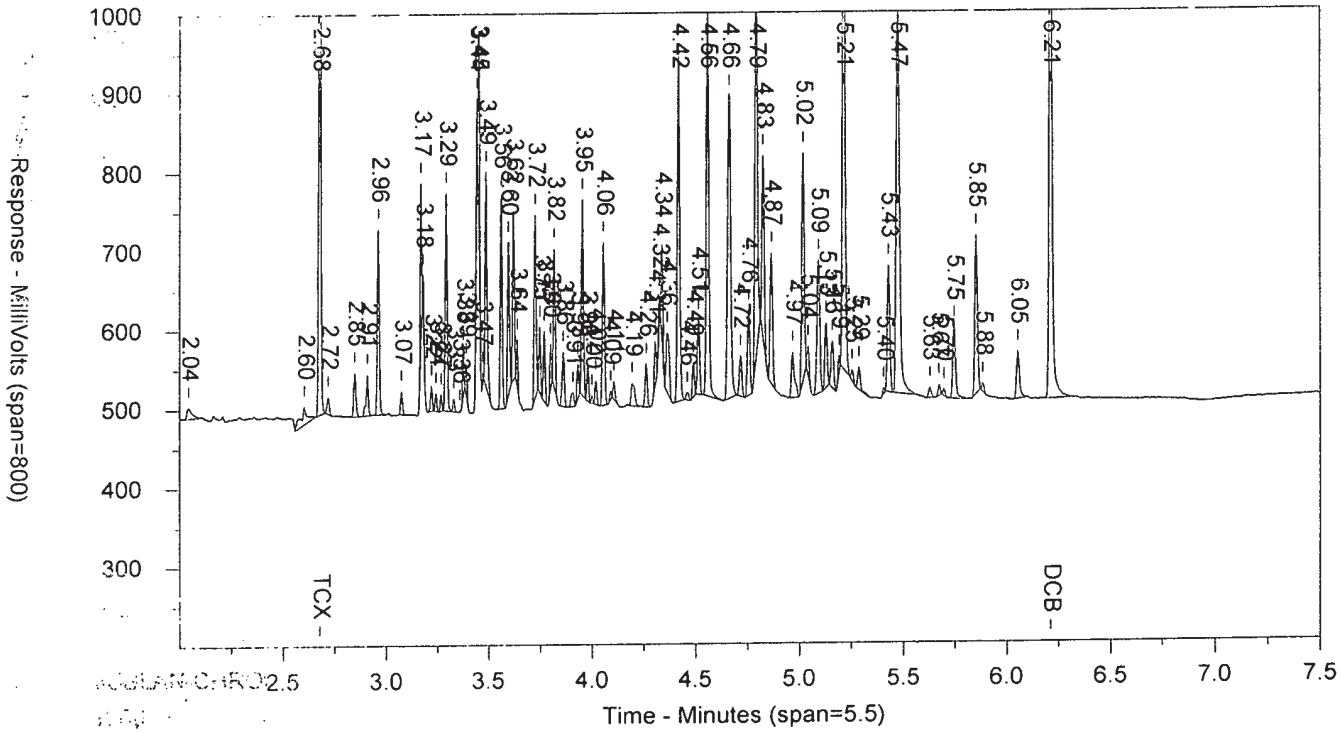

LANCASTER LABORATORIES

Sample Number: AR1631824D AAAR163AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:35:30 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.009.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.097		8389	14958
2.219		12898	14229
2.311		9940	6359
2.33		2919	1680
2.377		2271	2102
2.422		2416	2020
2.494		1926	1872
2.569		7736	8549
2.777		18810	16028
2.833		1955	2210
2.924	TCX	3056704	2255672
3.078		60355	54641
3.134		62666	67648
3.182		267602	211083
3.254		4799	2747
3.275		33438	24488
3.312		1056	646
3.396		257848	160792
3.413		104422	56923
3.449		28497	16475
3.465		11046	4932
3.482		16180	9540
3.511		339375	266297
3.567		5553	3325
3.585		17085	11273
3.621		64099	37099
3.635		29469	14392
3.681		58597	56075
3.69		303689	174144
3.727		372287	306486
3.786		313654	256478
3.826		24884	17165
3.853		218109	169231
3.881		160009	141535
3.901		33681	17874
3.977		234676	178971
4.002		78797	51342
4.032		99695	70594
4.068		234380	265168
4.108		80750	65448
4.153		10416	8273
4.19		18534	14674
4.226		248529	191115
4.246		49267	28925
4.27		65602	48969
4.337		39534	34024
4.381		273304	270685
4.415		17562	5227
4.476		4456	3788
4.517		59069	61472
4.573		25199	17915
4.587		57073	40780
4.633		173924	159761
4.68		230312	273495

RT A	Compound A	Height A	Area A
4.717		54230	39951
4.756		541151	530683
4.798		9291	8232
4.846		100214	111238
4.878		12249	7935
4.903		98732	94609
4.955		659767	856174
5.006		121579	111374
5.049		303681	355742
5.128		70133	87716
5.164		776581	887779
5.228		372998	365984
5.271		235586	243305
5.371		24192	33437
5.391		351541	345968
5.449		210875	207127
5.489		113711	102061
5.574		173313	171987
5.63		1119487	1222668
5.836		646075	671204
5.877		28253	51402
5.889		67175	53313
6.022		29175	28886
6.084		28010	21687
6.108		124421	110666
6.264		311441	321479
6.309		20055	18424
6.385		2628	3893
6.464		103019	105368
6.61	DCB	2448309	2695673

LANCASTER LABORATORIES

Sample Number: AR1631824D AAAR163AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:35:30 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.009.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		14577	24974
2.603		21543	39922
2.678	TCX	5086297	3064686
2.72		39569	27662
2.849		110596	77771
2.909		95021	98250
2.962		444019	285666
3.014		10915	6372
3.074		60041	39096
3.17		364930	186122
3.182		111722	45877
3.222		63938	38620
3.243		39794	23245
3.269		43191	23915
3.293		513766	359764
3.33		29897	18538
3.359		9358	4129
3.377		115848	59837
3.391		69874	34364
3.442		238071	121968
3.451		489661	210944
3.472		20999	8218
3.487		489337	342642
3.561		508535	336623
3.596		369027	229927
3.62		405735	235958
3.638		112482	56371
3.6[illegible]		1047	2397
3.724		430757	297631
3.747		161387	90016
3.769		164987	102696
3.8		109014	59904
3.817		338320	209783
3.86[illegible]		132311	100114
3.906		35412	35811
3.931		82469	49774
3.953		478533	326550
3.978		88685	54439
3.999		16124	8161
4.018		54451	35016
4.055		392477	286267
4.09		20387	11564
4.106		45469	29017
4.169		6595	5182
4.195		53747	66056
4.261		109370	80535
4.305		109909	66845
4.324		78174	43805
4.337		225703	134530
4.363		146494	154890
4.416		816416	666303
4.457		15447	13767
4.488		84128	57587
4.513		179577	133536

RT B	Compound B	Height B	Area B
4.557		937030	770573
4.662		731484	782634
4.716		101805	87418
4.755		203180	182154
4.793		919693	789994
4.825		451986	344195
4.864		315743	262807
4.968		111936	122918
5.018		578540	478379
5.042		71584	43948
5.093		316710	302697
5.129		164036	128629
5.159		116096	100120
5.191		46261	26638
5.214		1332020	1190436
5.255		26910	18229
5.286		66388	61679
5.405		14844	8760
5.429		305116	262984
5.473		932059	1166153
5.528		40640	36144
5.573		24221	18617
5.696		30229	21993
5.745		182150	175615
5.852		400631	347671
5.884		22797	17557
6.051		135196	129178
6.21	DCB	3582853	3493396

AR1631824D AAAR163AA ICAL 1830299999 10227 SW-846 8082

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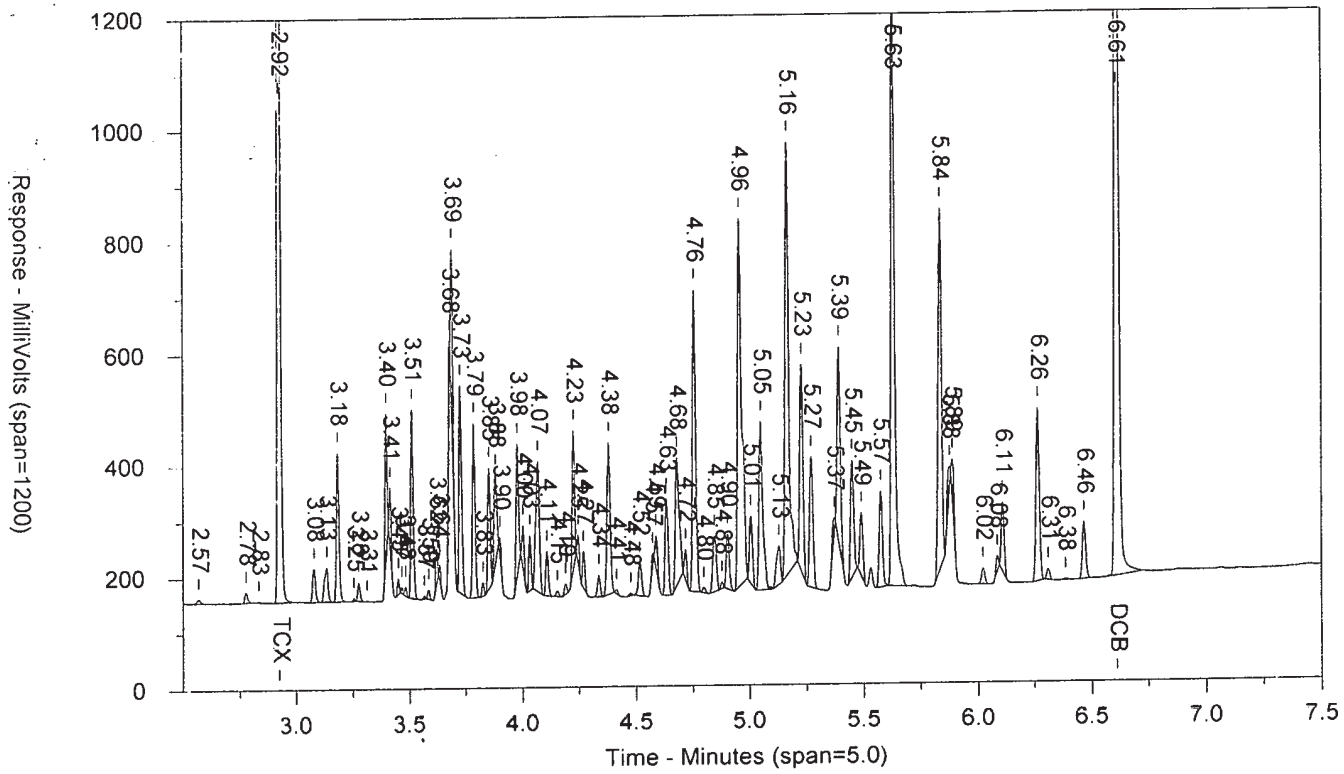

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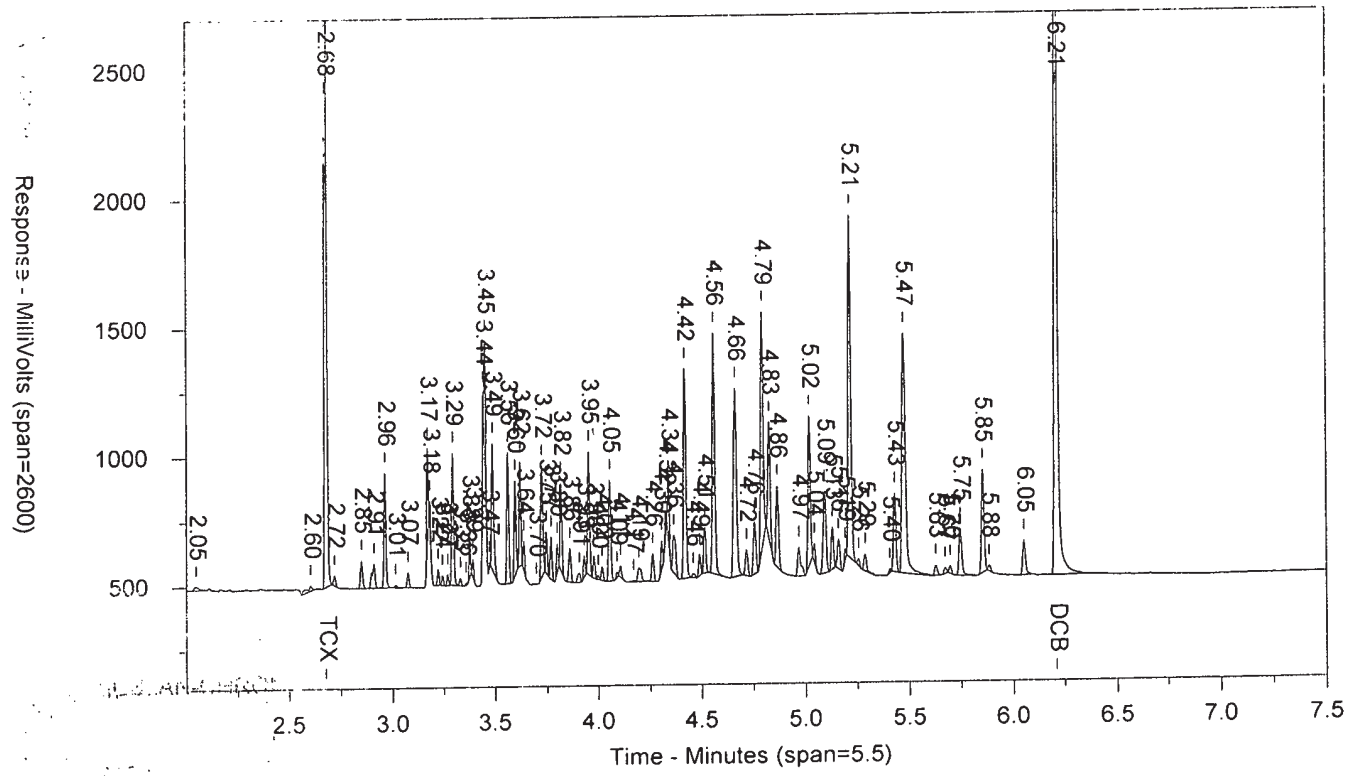

LANCASTER LABORATORIES

Sample Number: AR1631824D AAAR163AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:35:30 PM
Sample Weight: 1
Instrument ID: CP25-18274
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	3056704	20.249	TCX	2.678	5086297	20.443	TCX
6.61	2448309	20.242	DCB	6.21	3582853	20.215	DCB

Files:
Area File: 25pcbs18303001.009.RAW
Area File: 25pcbs18303001B.009.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 6:43:59 PM
File Reported On: 10/30/2018 at 6:44:06 PM

AR1631824D AAAR163AA ICAL 1830299999 10227 SW-846 8082

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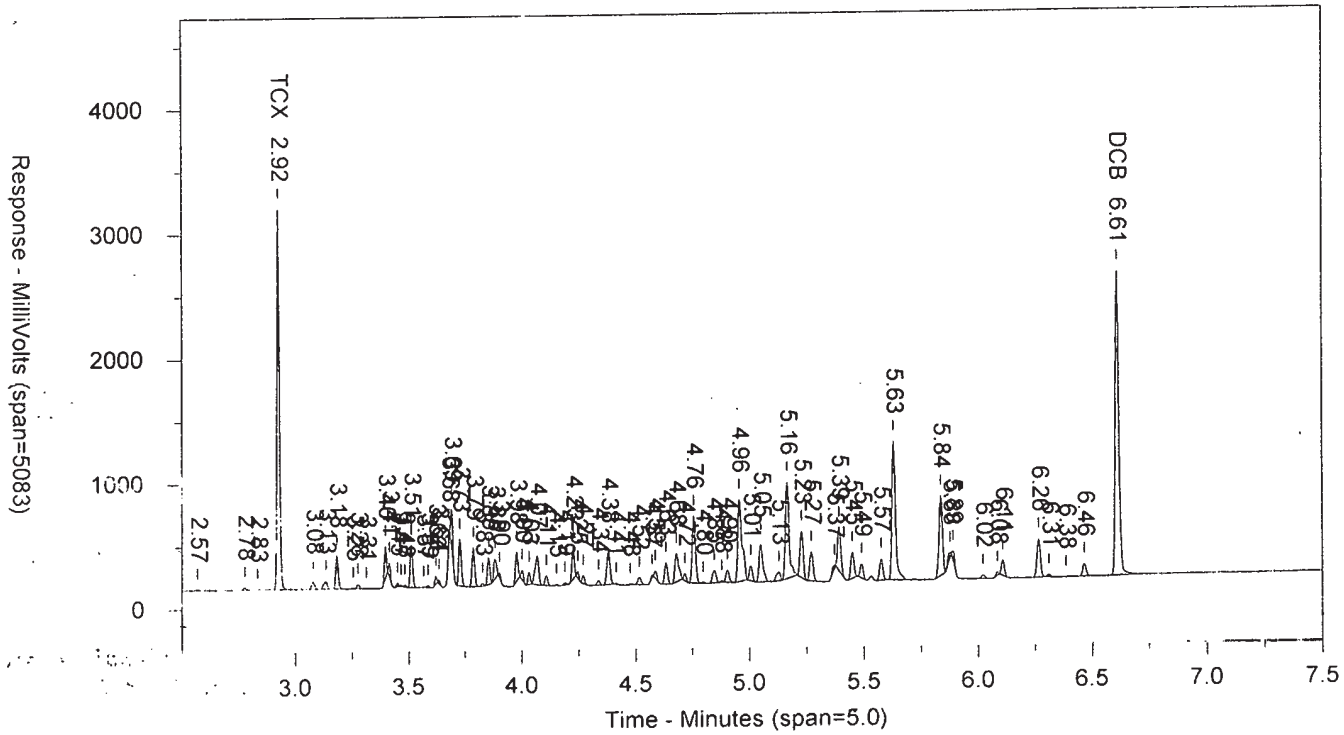

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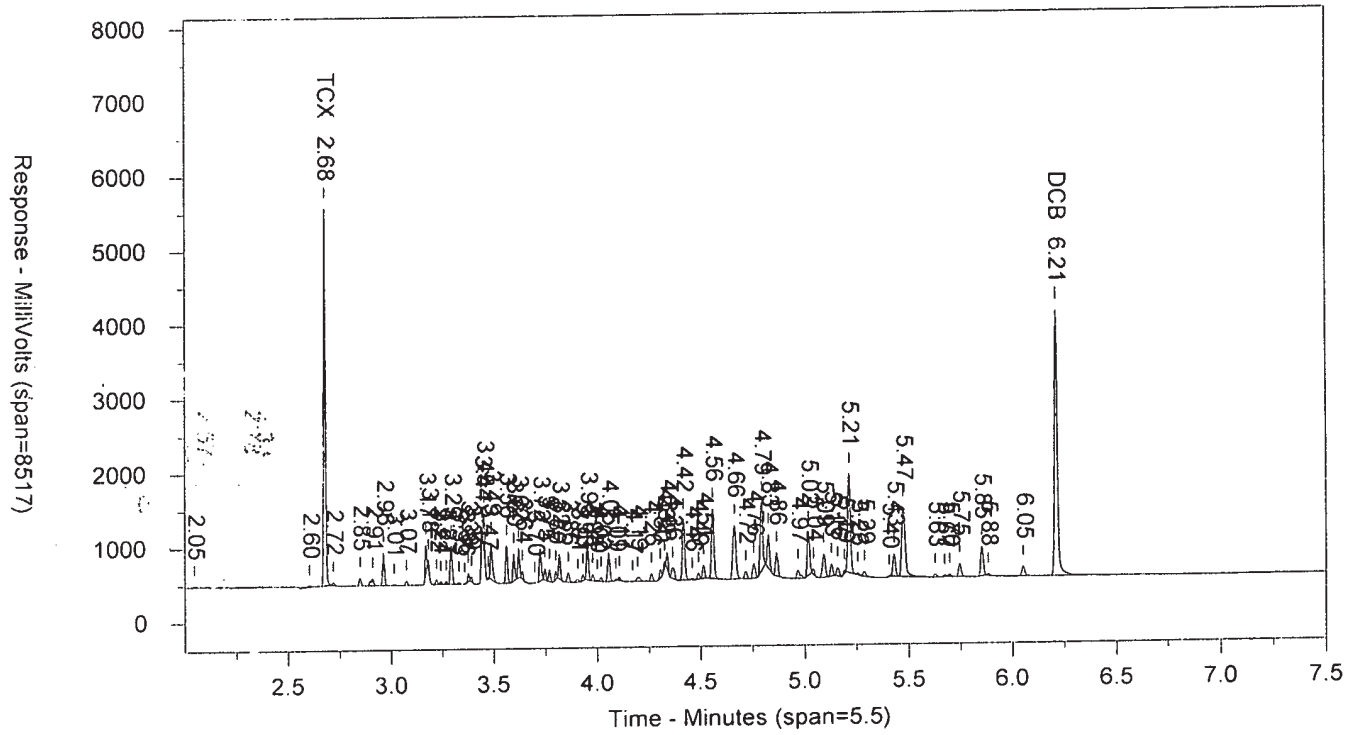

AR1631824D AAAR163AA ICAL 1830299999 10227 SW-846 8082

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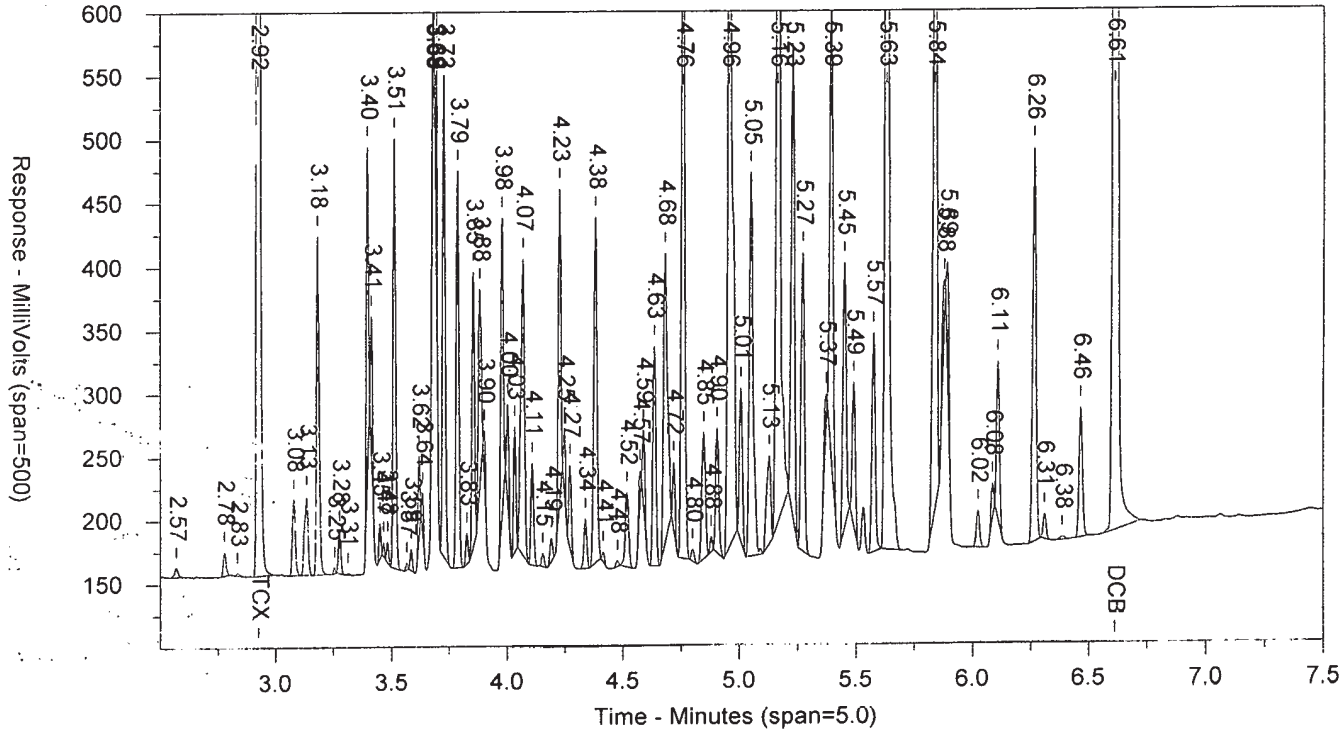

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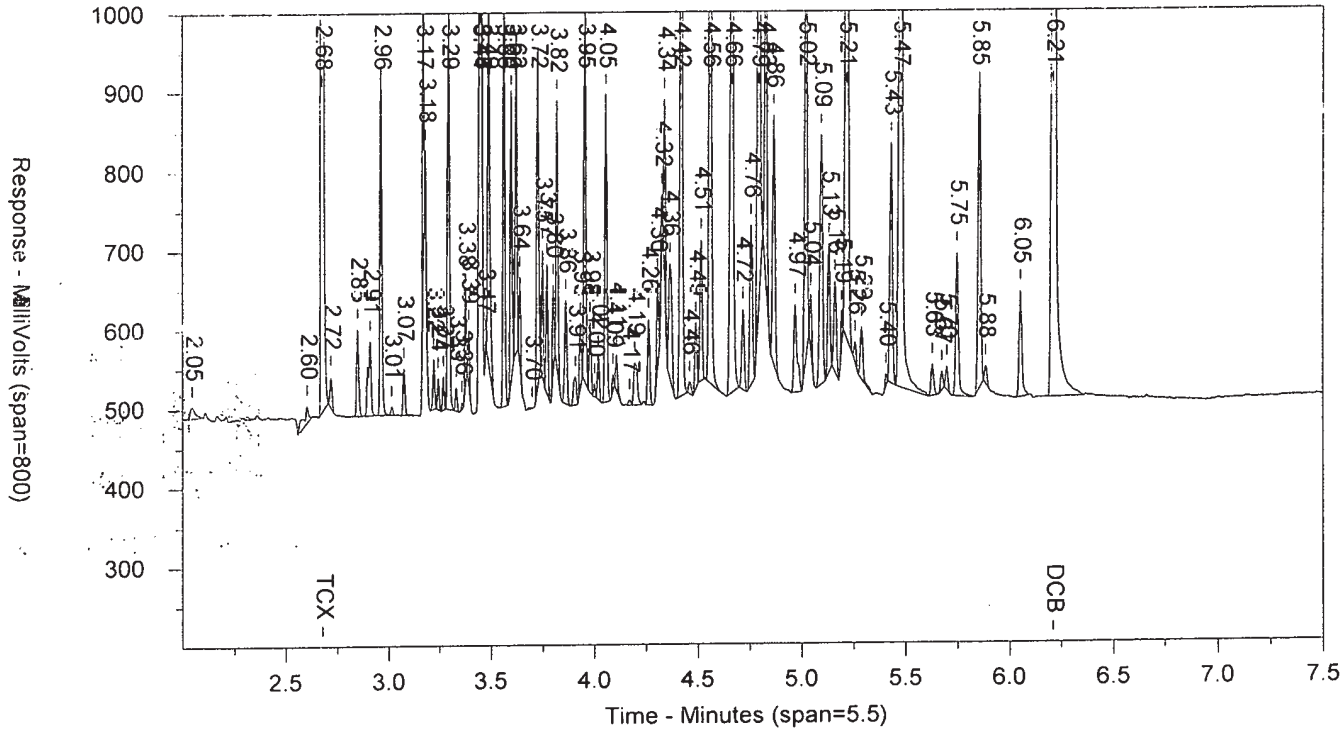

LANCASTER LABORATORIES

Sample Number: AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:46:23 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.010.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		7149	11702
2.219		25137	23966
2.311		7080	4164
2.33		8120	5379
2.374		2071	1983
2.423		5039	5032
2.569		12865	13445
2.776		17317	14735
2.832		6506	6800
2.925	TCX	6390003	4651791
3.078		124803	113728
3.134		120392	135323
3.182		533517	408197
3.254		9918	5378
3.275		72686	51154
3.313		1966	1298
3.397		505255	309578
3.413		205661	107255
3.45		58001	34173
3.466		26489	12008
3.483		32564	18733
3.512		658792	520628
3.547		1723	744
3.567		10804	6379
3.586		37756	25452
3.622		124301	71802
3.636		55797	27875
3.682		121686	92853
3.691		594775	346914
3.728		737500	602190
3.787		635686	509903
3.827		50809	36077
3.854		422147	317700
3.883		292432	273354
3.901		41751	21755
3.979		477901	355266
4.002		145998	93383
4.033		183445	135745
4.069		456120	518702
4.108		157194	129129
4.138		1186	376
4.154		20289	15605
4.191		39036	29812
4.227		476479	364633
4.247		104050	58394
4.271		126627	94409
4.338		78005	68717
4.381		528343	524180
4.415		15891	10540
4.477		8804	7881
4.517		123218	131621
4.573		49143	34632
4.588		105432	74165
4.634		333230	309889

RT A	Compound A	Height A	Area A
4.68		442163	519034
4.717		106695	77824
4.756		1050530	1036428
4.799		21840	19049
4.847		183516	209331
4.879		29285	19788
4.904		192616	178818
4.956		1278580	1678464
5.006		226145	210104
5.049		588918	705049
5.128		129621	171199
5.164		1612399	1765991
5.228		755072	712189
5.271		469383	475131
5.37		65779	65856
5.391		738612	692983
5.45		408113	403751
5.489		214528	198779
5.575		341644	336690
5.631		2295582	2476836
5.837		1244407	1333571
5.879		44053	95472
5.89		155989	117296
6.023		57612	57333
6.086		51916	39788
6.109		222786	208433
6.267		600719	631052
6.312		40376	38154
6.467		191597	206126
6.614	DCB	4865646	5320384

LANCASTER LABORATORIES

Sample Number: AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:46:23 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.010.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.043		12717	22475
2.11		17197	14094
2.288		5451	18568
2.359		13560	12715
2.603		26606	72840
2.678	TCX	10296990	6302197
2.72		77650	55939
2.849		224403	159311
2.898		54336	26571
2.91		124840	60641
2.962		872891	551735
3.015		21133	13139
3.074		117673	76919
3.17		698487	358230
3.181		221964	82435
3.222		118713	74666
3.244		81383	47450
3.269		83558	46466
3.294		985969	697429
3.331		65329	39987
3.36		16449	7541
3.377		230033	119227
3.392		140173	67115
3.443		507476	243867
3.452		1003817	428617
3.473		46532	17625
3.487		992112	671483
3.562		1014869	661302
3.596		683591	439030
3.621		805902	458835
3.639		214159	106830
3.725		862187	574363
3.748		312222	174145
3.77		311220	195740
3.801		211691	114656
3.818		622815	390432
3.861		258385	195360
3.908		72369	72970
3.932		163945	99722
3.953		960636	634756
3.979		174031	107139
3.999		31245	16011
4.019		106134	69034
4.056		753479	550147
4.09		35417	22170
4.106		86420	55788
4.17		10172	7424
4.194		117302	139387
4.238		9333	5285
4.262		211129	157089
4.306		196956	123572
4.324		157429	83450
4.337		469620	267815
4.363		280068	303219

RT B	Compound B	Height B	Area B
4.418		1667142	1306880
4.46		40524	33962
4.489		165843	113699
4.513		353397	263430
4.557		1818781	1508647
4.662		1517422	1542631
4.717		197064	171782
4.755		405861	372451
4.792		1898718	1598011
4.825		891633	651434
4.865		631786	520198
4.967		226044	242367
5.019		1170345	946641
5.042		143612	92243
5.093		637313	586296
5.128		316407	253649
5.159		236024	202831
5.191		97499	55006
5.214		2811239	2440691
5.254		53624	36594
5.286		129789	110168
5.406		24937	16387
5.428		572886	504564
5.474		1864258	2299024
5.628		73459	65693
5.673		52133	37828
5.697		56866	42460
5.746		358870	338528
5.853		795740	678079
5.885		41835	30605
6.053		266499	251591
6.211	DCB	7443800	6959854
6.663		6696	7231

AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082

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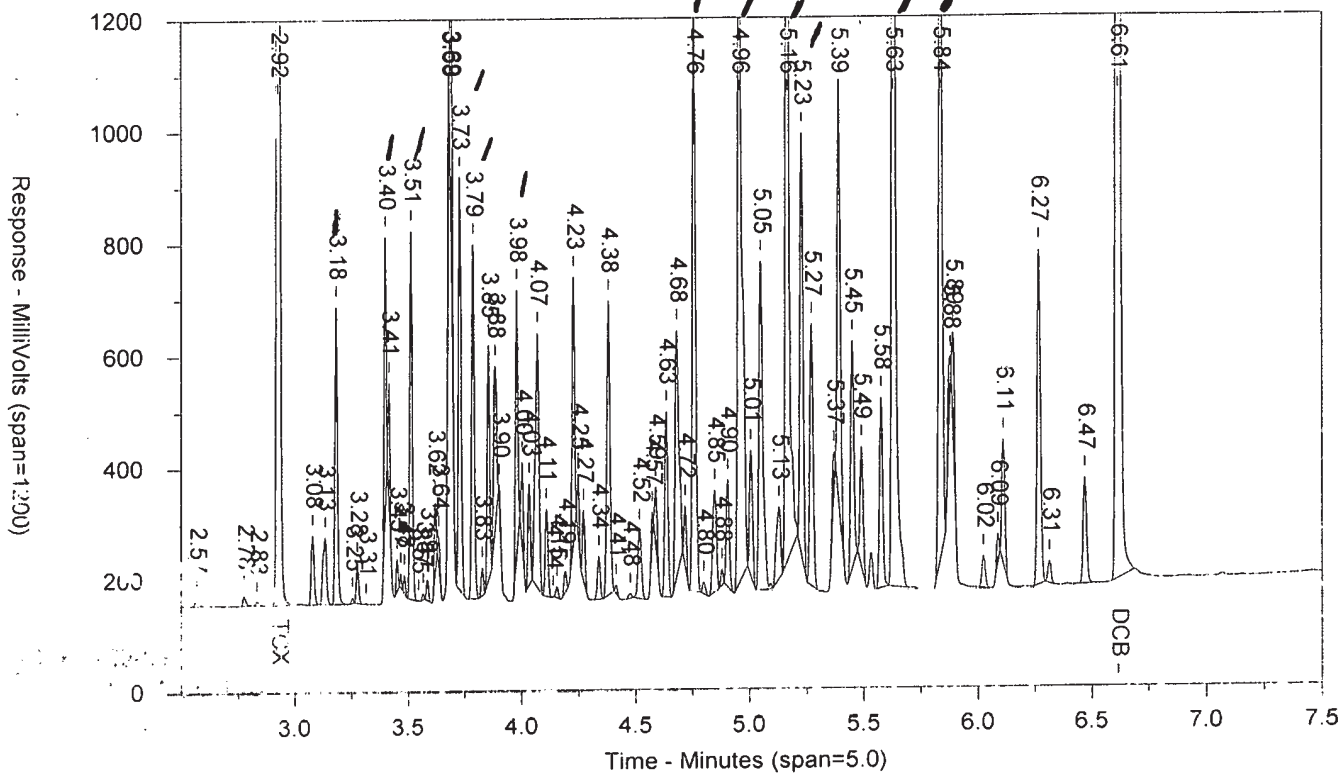

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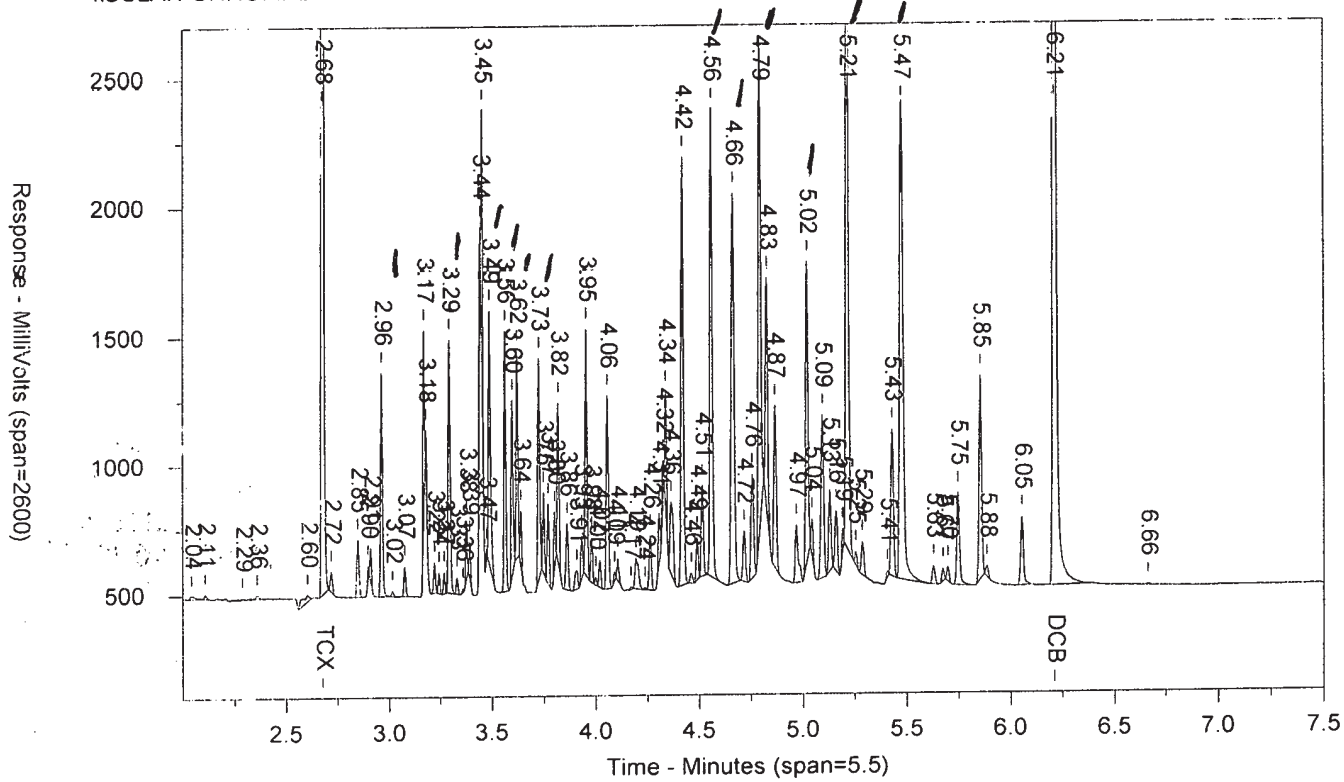

LANCASTER LABORATORIES

Sample Number: AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:46:23 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	6390003	42.022	TCX	2.678	10296990	40.891	TCX
6.614	4865646	39.456	DCB	6.211	7443800	41.565	DCB

Files:
Area File: 25pcbs18303001.010.RAW
Area File: 25pcbs18303001B.010.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 6:54:55 PM
File Reported On: 10/30/2018 at 6:55:06 PM

AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082

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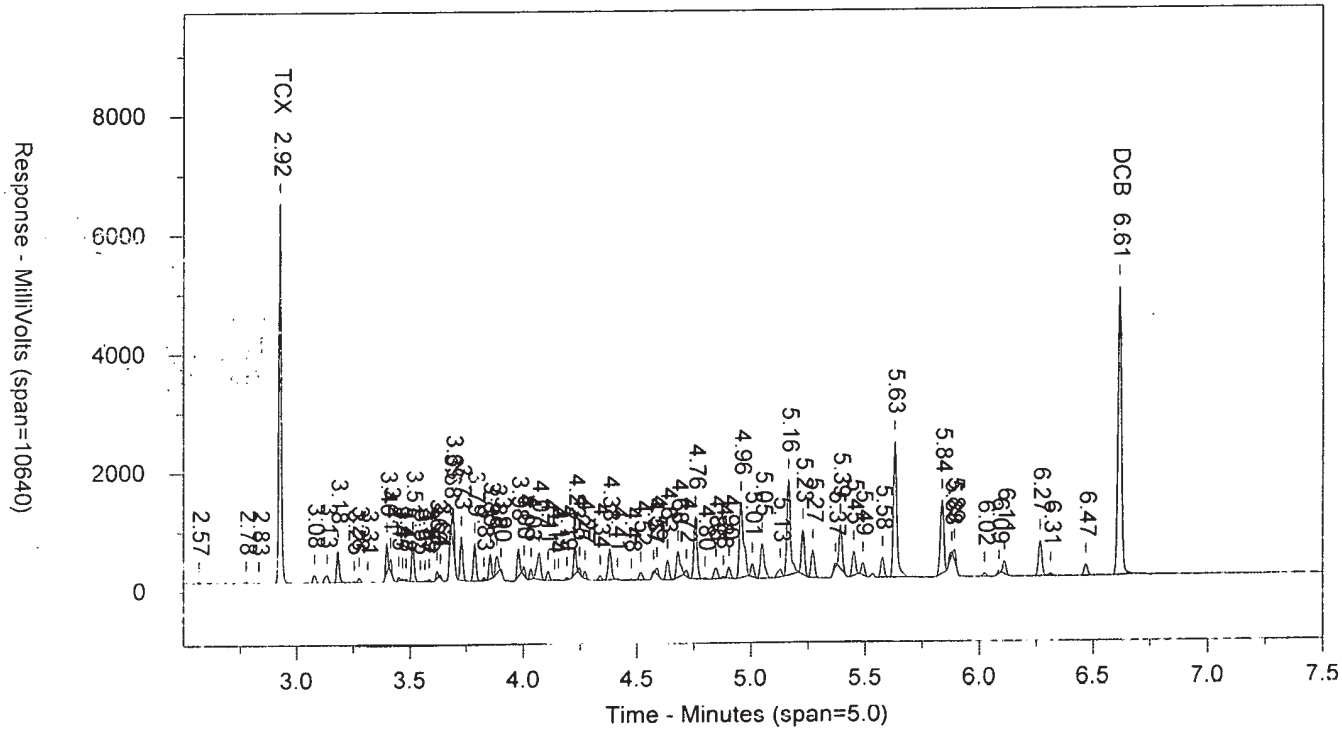

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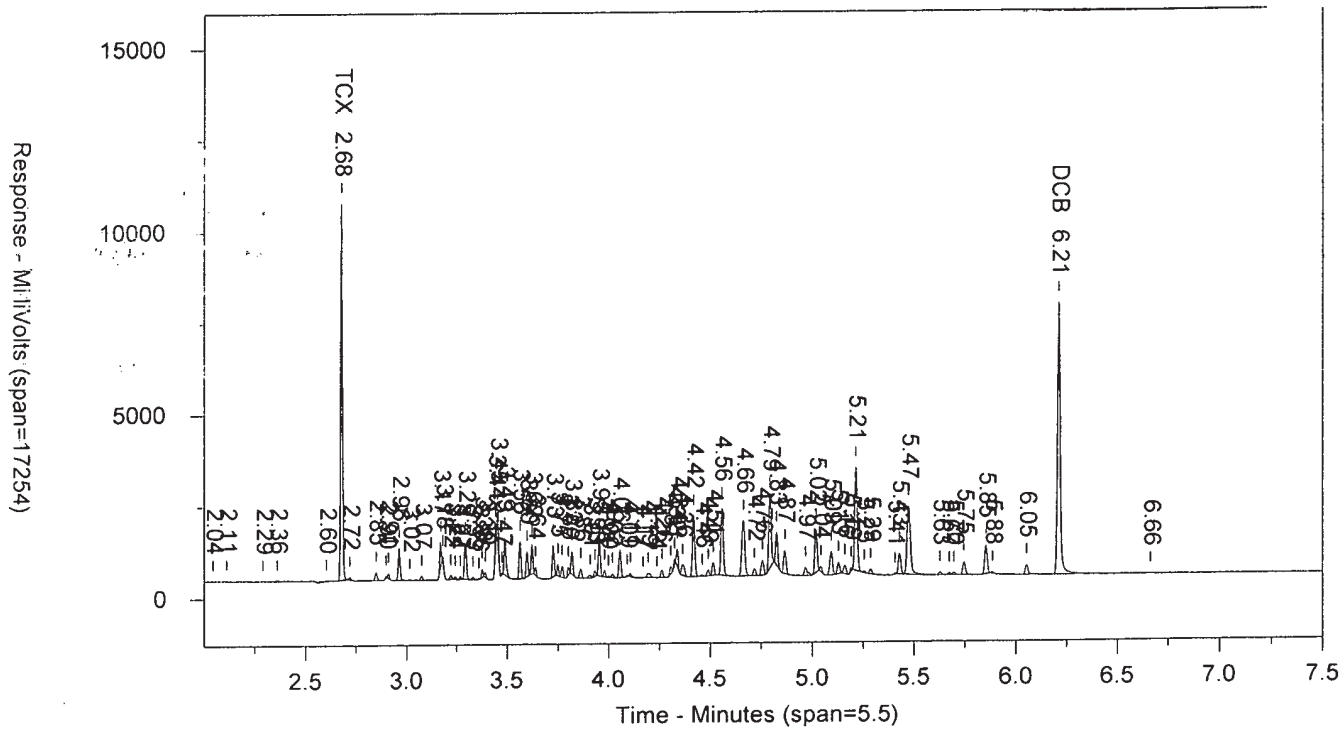

AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082

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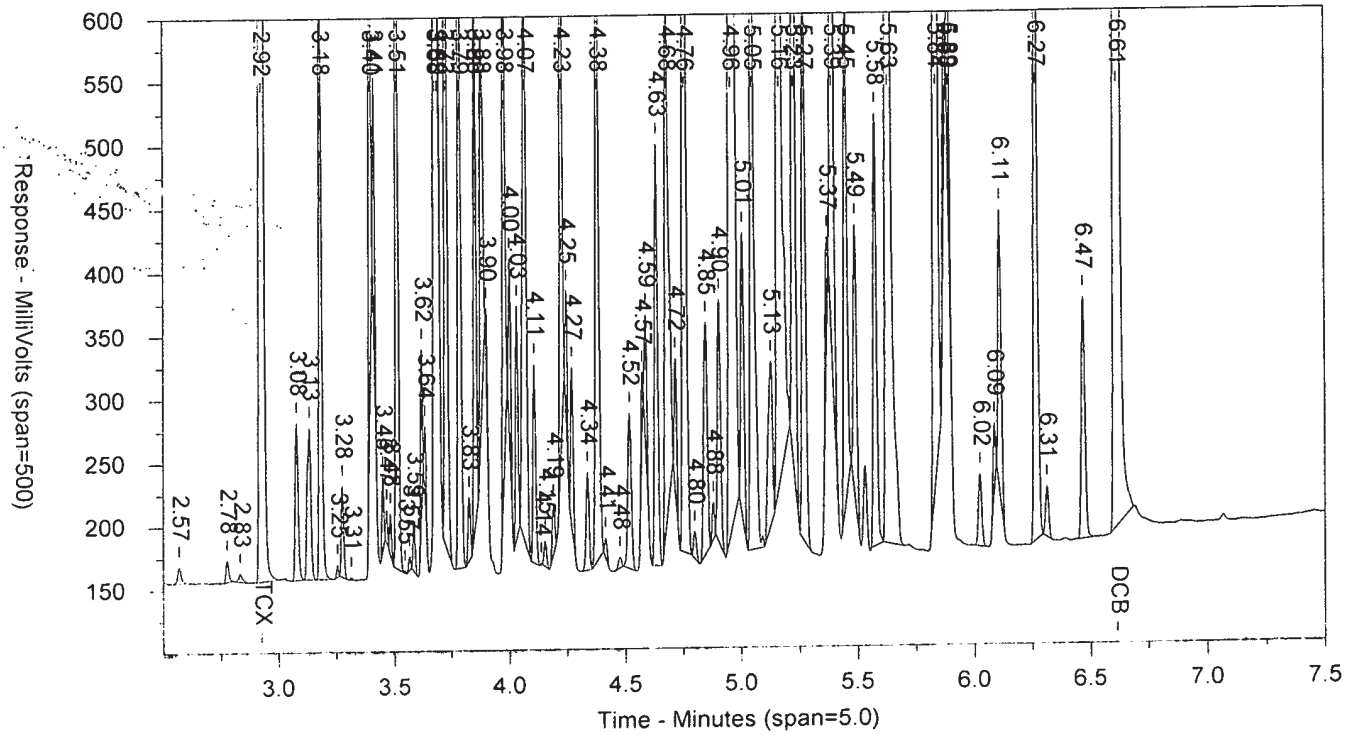

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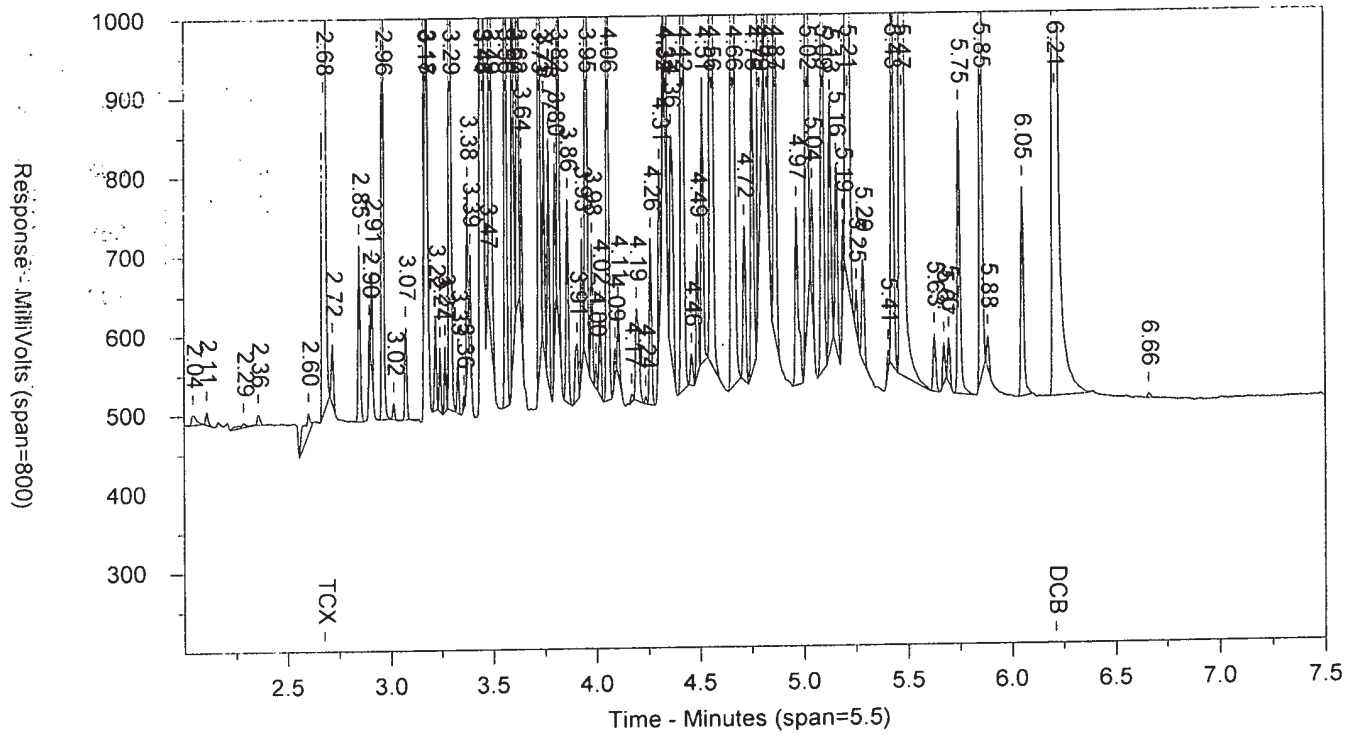

LANCASTER LABORATORIES

Sample Number: AR1651824D AAAR165AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:57:17 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.011.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.093		12775	21385
2.219		40728	36059
2.311		7650	4601
2.331		12831	8529
2.376		4677	4974
2.424		8817	8581
2.493		2905	4155
2.568		23329	25455
2.653		711	524
2.677		1171	1188
2.776		26264	23898
2.826		4418	3364
2.925	TCX	9939359	7351705
3.028		2172	1166
3.078		258825	238886
3.134		252879	260051
3.182		1095297	861577
3.254		14664	7955
3.276		150751	111630
3.313		3903	2601
3.396		1088673	670983
3.413		460310	242554
3.45		124804	71854
3.466		51071	22581
3.482		73479	42343
3.512		1388826	1119109
3.545		3496	1513
3.566		16582	10191
3.586		82944	56291
3.621		257429	152833
3.636		121907	62109
3.681		278126	235636
3.691		1466238	813338
3.727		1700359	1333459
3.787		1400081	1145595
3.827		108941	78268
3.854		931232	673923
3.881		648580	588899
3.902		110542	58366
3.978		1027346	775560
4.002		330669	209665
4.032		379039	284522
4.069		1024548	1142691
4.108		1323080	275980
4.153		53004	46323
4.19		81472	65270
4.226		1066716	798942
4.247		225009	122932
4.27		270067	200157
4.337		163662	149552
4.38		1175762	1127364
4.414		35890	23617
4.476		18959	15976
4.517		261239	275146

RT A	Compound A	Height A	Area A
4.573		106194	75919
4.587		229461	152730
4.634		709642	678380
4.679		987673	1139234
4.717		232089	172115
4.756		2324202	2280073
4.798		48141	44054
4.845		399512	440883
4.877		49327	33576
4.903		403710	386627
4.955		2841732	3707613
5.005		464585	429998
5.049		1386980	1576259
5.128		269881	338264
5.164		3617329	3983802
5.227		1687649	1559095
5.27		1047681	1033606
5.37		132521	150484
5.392		1659157	1540836
5.45		911256	867247
5.489		475258	428010
5.53		133590	134369
5.574		763764	747817
5.63		5357405	5616735
5.717		5316	6342
5.837		2824350	2891251
5.877		161145	210832
5.889		329084	260509
6.022		100845	108707
6.085		101438	78424
6.109		500448	461345
6.265		1317838	1376754
6.31		83890	81546
6.387		8457	12036
6.466		379941	412430
6.612	DCB	7875793	8389106
6.882		6838	10306

LANCASTER LABORATORIES

Sample Number: AR1651824D AAAR165AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:57:17 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.011.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		22569	33102
2.109		26577	21506
2.289		6417	25659
2.359		29380	27462
2.603		27000	42914
2.678	TCX	16291220	10125260
2.72		167079	122802
2.849		466832	331121
2.898		68674	33512
2.91		289164	149536
2.962		1862517	1187578
3.015		33227	18675
3.074		250481	170484
3.17		1529328	780621
3.182		525045	197419
3.222		264228	163196
3.244		164796	97044
3.269		178287	100480
3.293		2218635	1524634
3.331		131458	80984
3.36		22113	10008
3.377		502670	268124
3.392		286194	141401
3.442		1032051	517262
3.452		2377184	1053303
3.473		89911	32200
3.487		2131913	1495457
3.561		2274882	1487180
3.596		1527451	943888
3.62		1726302	995586
3.638		479463	233456
3.686		3947	4834
3.724		1850855	1261386
3.747		661815	371958
3.769		664372	417445
3.8		477045	250092
3.818		1451914	888768
3.861		548349	419249
3.906		155962	154035
3.931		346845	207743
3.953		2133942	1398588
3.978		378831	234585
3.999		67513	33828
4.018		229134	148030
4.055		1652842	1199055
4.09		83249	49854
4.106		191926	122445
4.151		5287	2762
4.172		26336	20314
4.194		245503	297334
4.237		15611	8135
4.261		464343	344070
4.305		424139	264483
4.324		376506	189094

RT B	Compound B	Height B	Area B
4.337		1004490	581462
4.363		604966	650981
4.416		3763268	2949756
4.459		74886	66314
4.488		371847	252020
4.513		744202	570345
4.557		4333224	3442015
4.662		3435597	3528769
4.716		434817	378331
4.756		860065	754907
4.792		4405541	3784087
4.825		2081662	1494259
4.864		1443239	1159135
4.967		497937	538667
5.018		2715796	2173651
5.042		284946	183455
5.093		1439178	1298038
5.128		698161	566637
5.159		522689	440284
5.18		209942	126979
5.213		6741592	5735211
5.254		117531	83212
5.286		260357	231540
5.352		7795	11383
5.405		57215	36312
5.428		1307148	1111584
5.473		4580504	5308149
5.628		140947	129720
5.673		121606	89826
5.696		108765	77210
5.745		780870	732678
5.852		1762639	1511090
5.884		90427	69851
6.052		539382	540331
6.145		5333	10678
6.21	DCB	11523070	10930790
6.391		9717	22664
6.617		4657	13046
6.665		8755	9759
6.839		6062	17818

AR1651824D AAAR165AA ICAL 1830299999 10227 SW-846 8082

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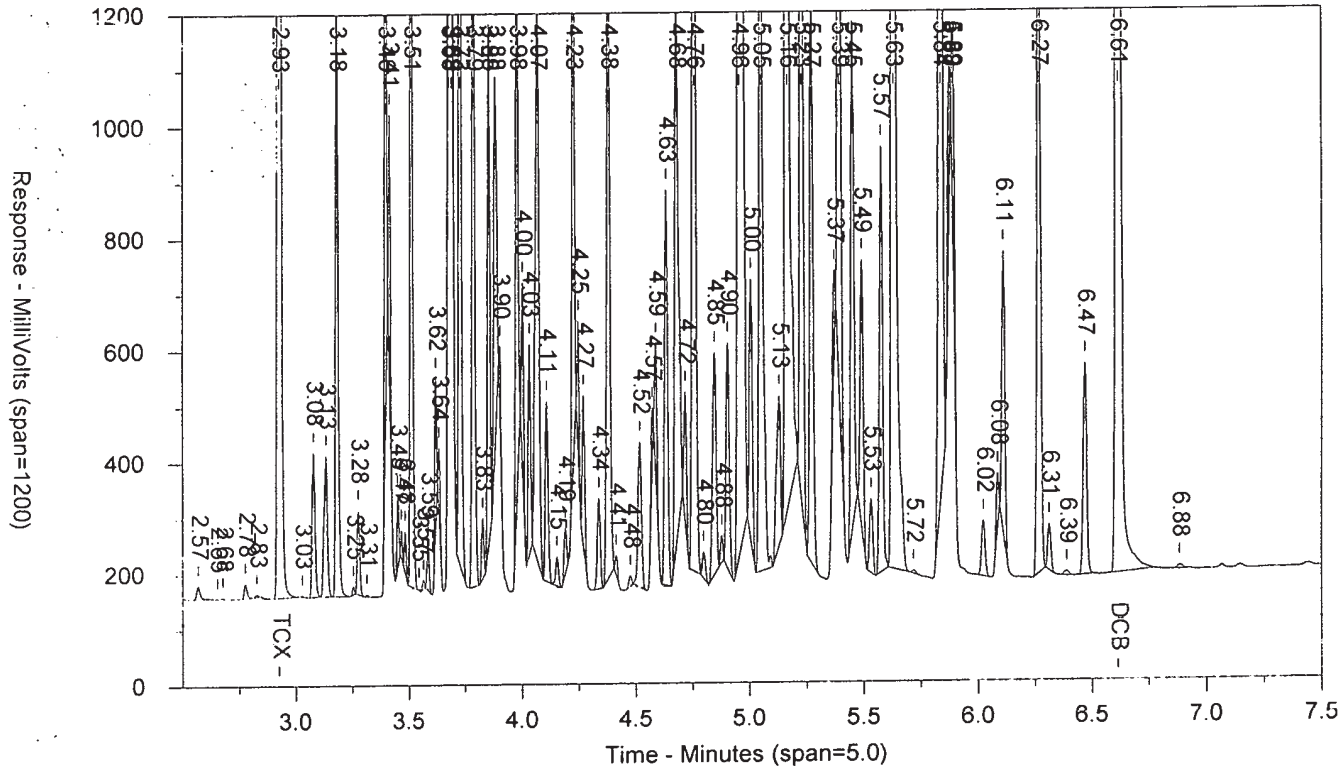

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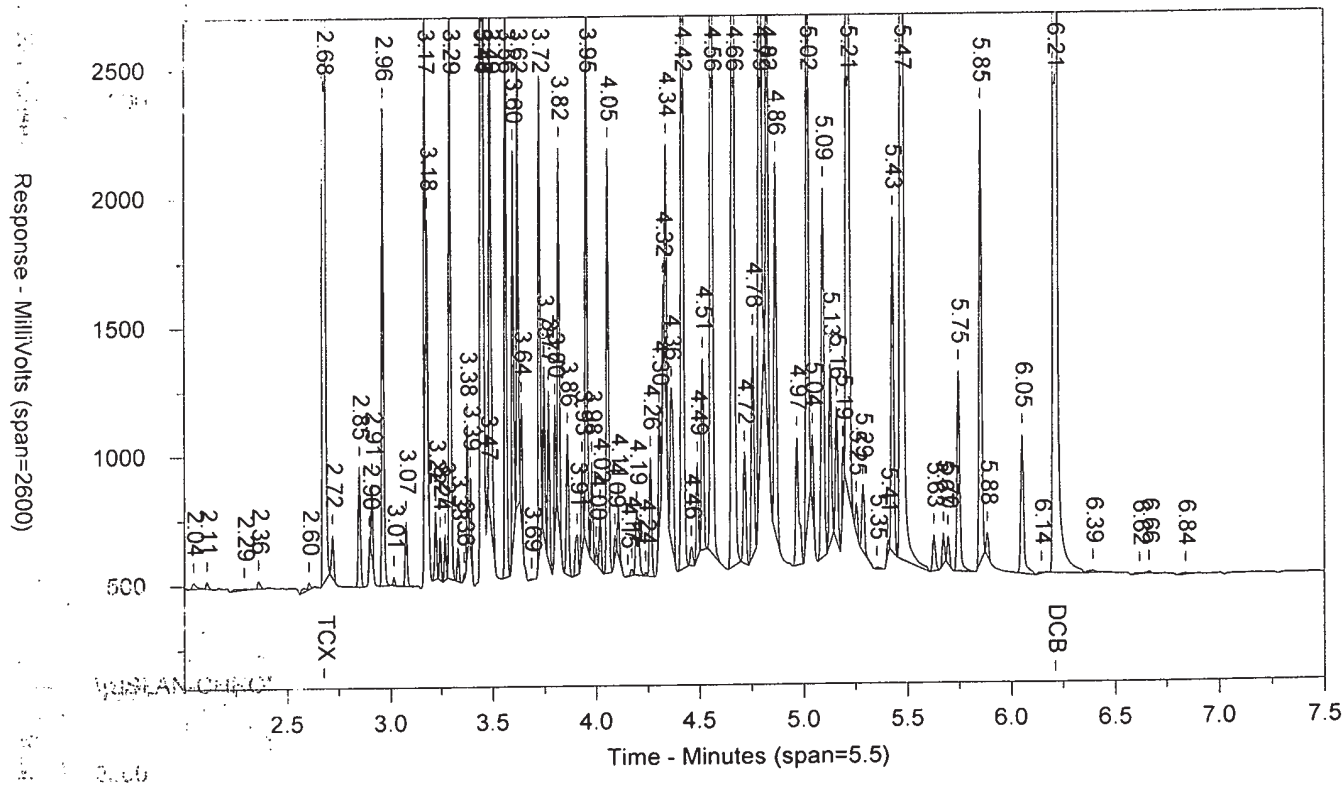

LANCASTER LABORATORIES

Sample Number: AR1651824D AAAR165AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 6:57:17 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	9939359	64.824	TCX	2.678	16291220	64.612	TCX
6.612	7875793	63.328	DCB	6.21	11523070	63.533	DCB

Files:
Area File: 25pcbs18303001.011.RAW
Area File: 25pcbs18303001B.011.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 7:05:49 PM
File Reported On: 10/30/2018 at 7:05:58 PM

AR1651824D AAAR165AA ICAL 1830299999 10227 SW-846 8082

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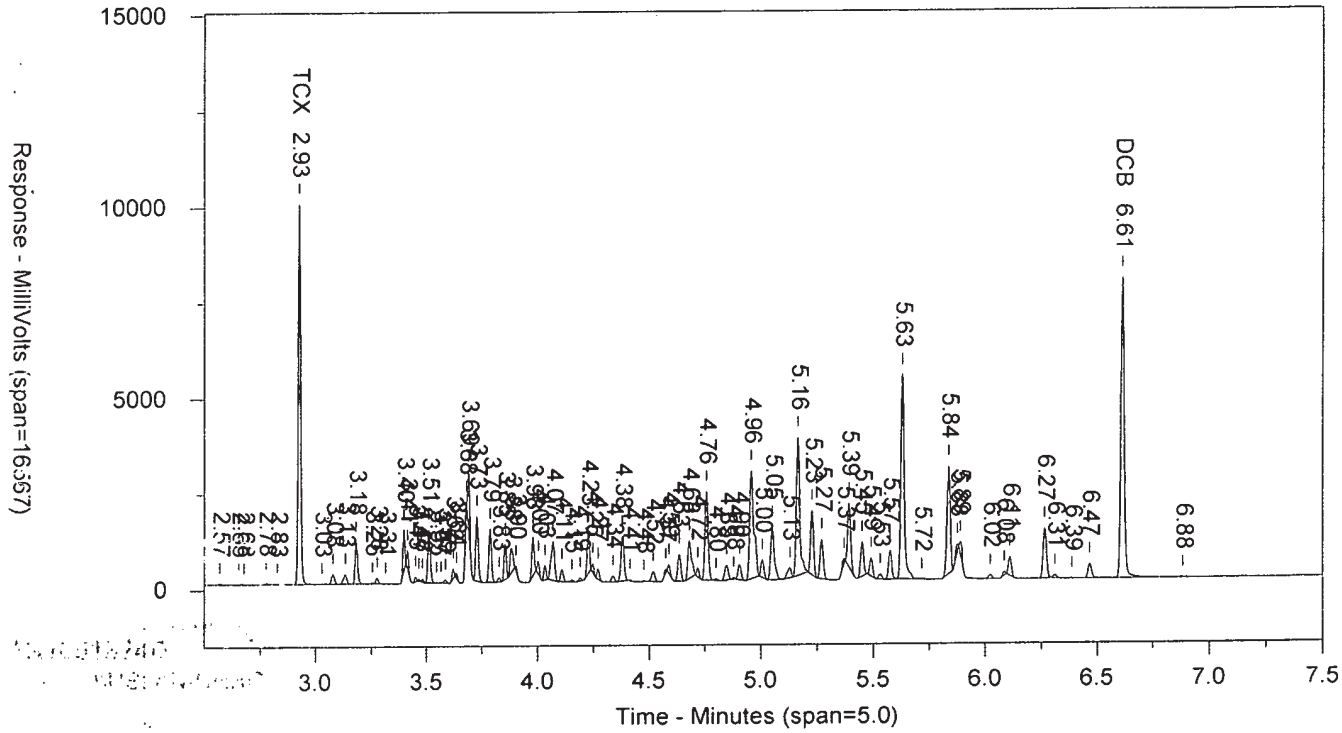

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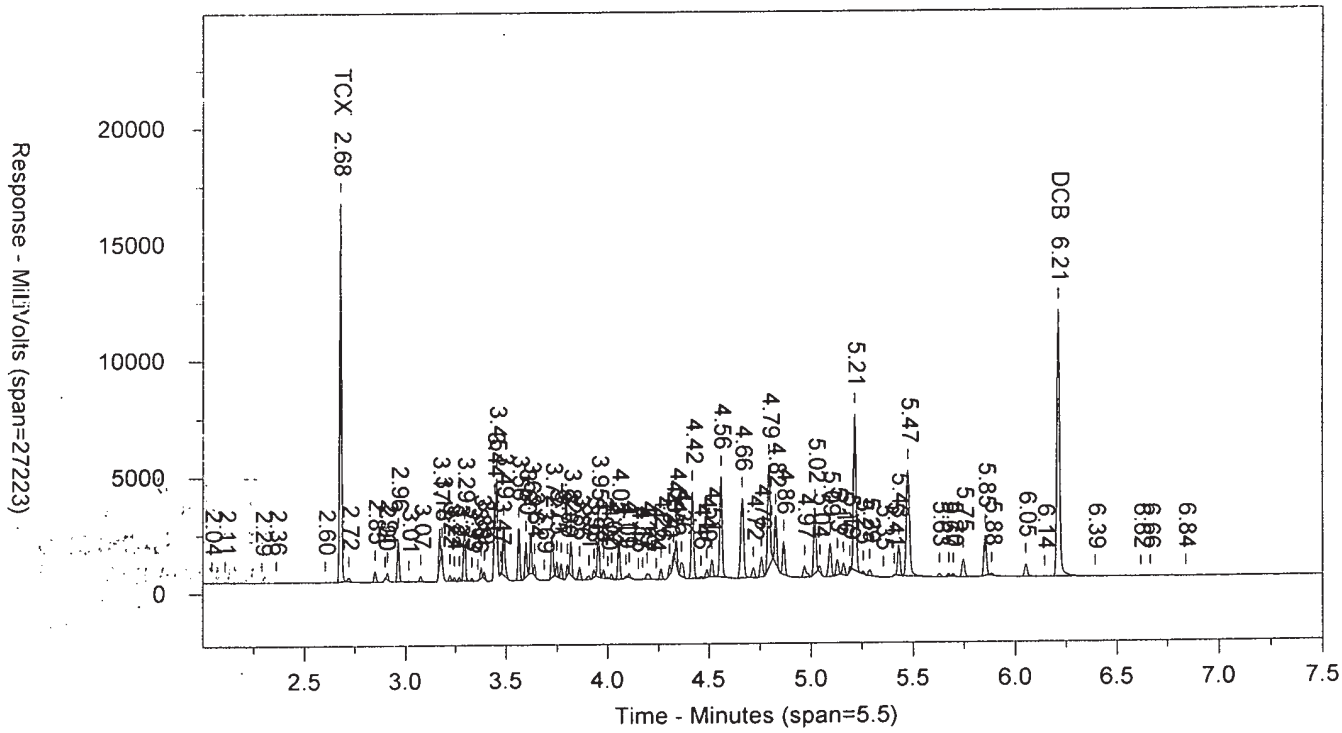

AR1651824D AAAR165AA ICAL 1830299999 10227 SW-846 8082

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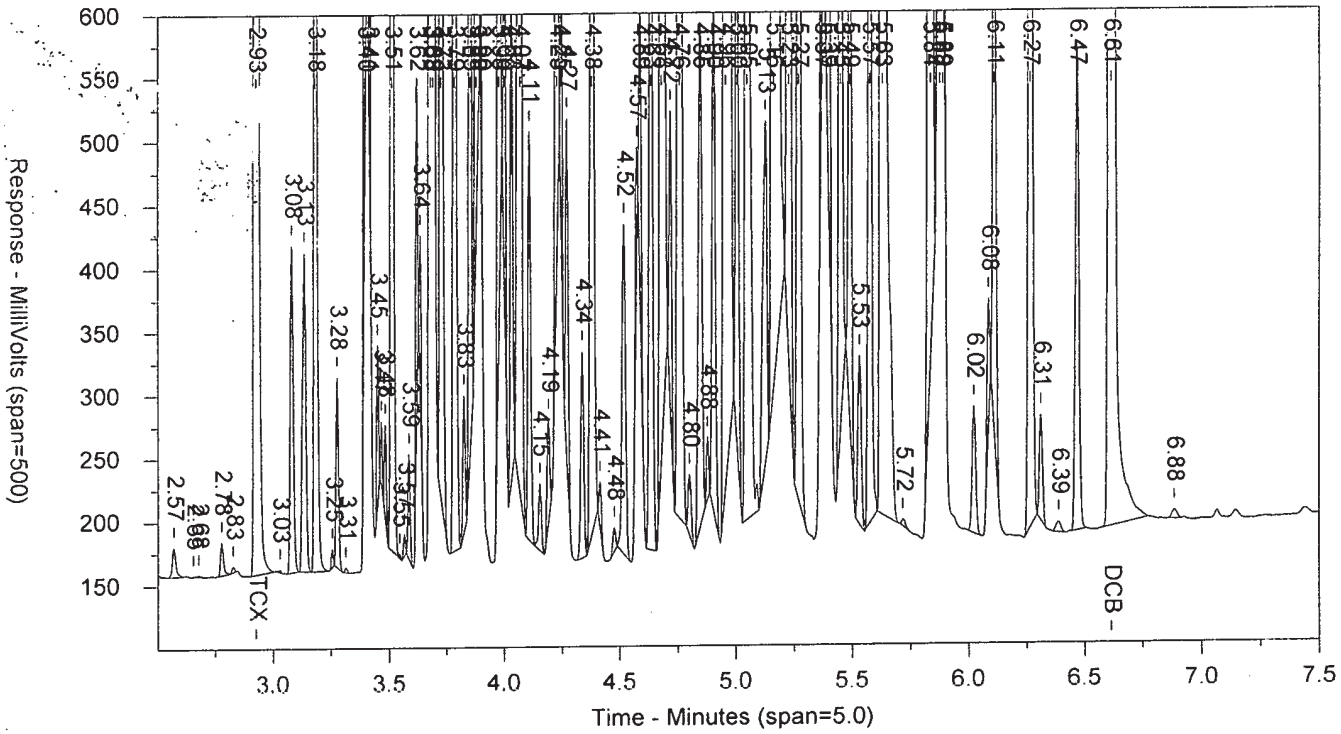

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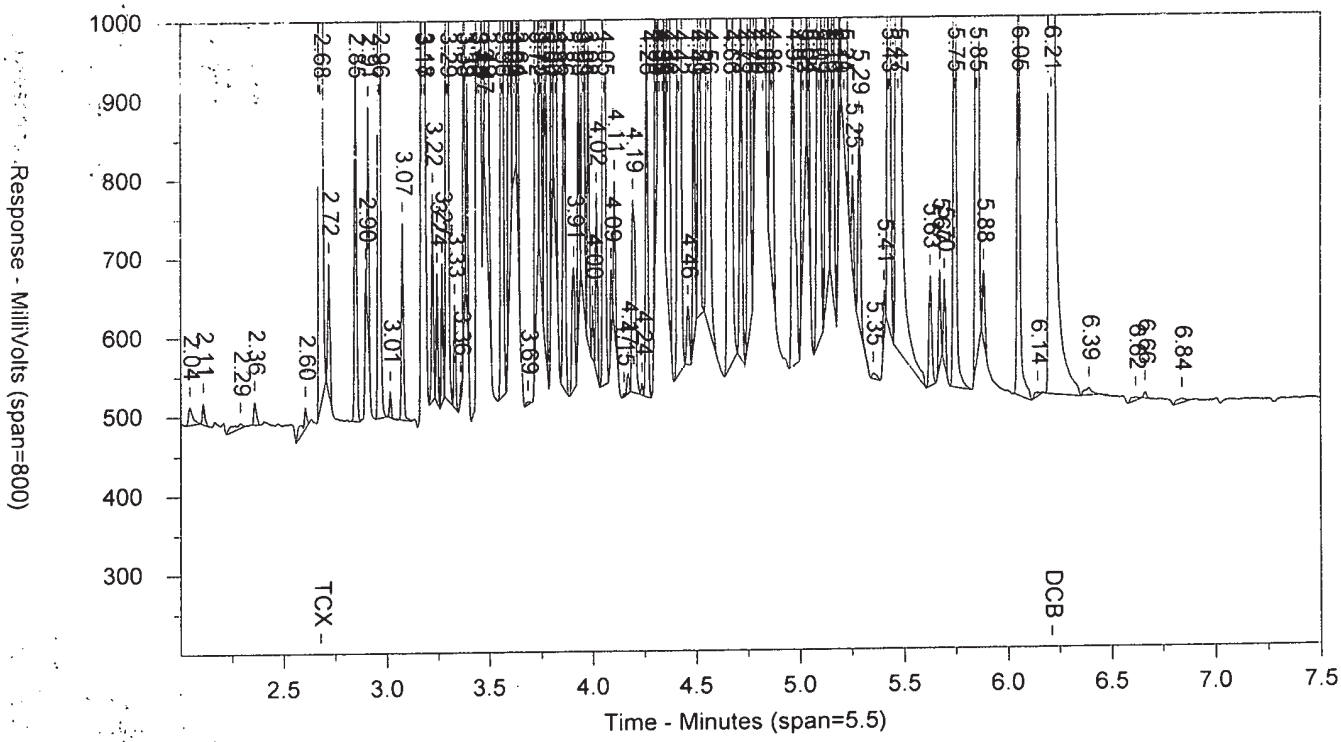

LANCASTER LABORATORIES

Sample Number: AR1661824C AAAR166AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:08:10 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.012.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.097		9186	16027
2.219		51142	44999
2.311		10138	5927
2.33		17109	11976
2.377		3232	3753
2.423		6383	6187
2.496		2356	3788
2.568		47408	48529
2.776		21845	18649
2.844		7443	8344
2.925	TCX	12472860	9355415
3.028		2694	1775
3.078		535889	496663
3.134		503611	474301
3.182		2397742	1831863
3.255		17639	9062
3.275		295890	231055
3.313		7701	5215
3.396		2310704	1409518
3.413		960043	506222
3.45		244980	144143
3.466		97205	41956
3.482		138919	79863
3.512		3097795	2402547
3.546		9091	3977
3.565		23523	15005
3.585		170191	121309
3.621		557276	318428
3.635		259125	126304
3.68		1159087	653582
3.691		3353930	1804032
3.727		3731587	2920273
3.786		3108270	2533646
3.826		216320	154099
3.853		1942672	1448054
3.882		1383978	1245798
3.901		286058	133960
3.977		2265135	1693752
4.001		673124	427623
4.032		830241	603027
4.067		2303566	2506225
4.108		695807	579792
4.153		105995	92146
4.19		156098	129759
4.226		2354364	1742330
4.246		428090	241882
4.27		569365	430356
4.337		338633	311399
4.381		2499547	2438776
4.414		68353	46762
4.476		43458	37603
4.517		523919	553278
4.573		226266	162938
4.587		437692	298089

RT A	Compound A	Height A	Area A
4.634		1593310	1478228
4.679		2226058	2488500
4.716		516378	372559
4.756		5331655	5048792
4.798		89532	84605
4.847		889001	921879
4.877		86236	55869
4.903		885722	824227
4.955		6372845	8279168
5.006		1023223	925603
5.049		3272840	3534160
5.128		551133	688334
5.164		8086801	9023837
5.227		3680820	3452638
5.269		2304960	2272018
5.369		308853	311922
5.391		3803128	3461554
5.449		1994331	1897058
5.489		1046632	936181
5.574		1699322	1643489
5.63		12236540	12638670
5.716		6859	8165
5.836		6502546	6613598
5.889		1913223	3579880
6.022		172529	182426
6.084		196949	154065
6.108		1069562	987051
6.265		3008672	2986800
6.31		168106	166011
6.386		4338	5132
6.434		965	591
6.465		762809	819233
6.6[illegible]	DCB	10221370	10750700
6.685		6304	5156
6.882		4880	7267

LANCASTER LABORATORIES

Sample Number: AR1661824C AAAR166AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:08:10 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.012.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.047		15667	27058
2.11		34971	27065
2.292		4979	16212
2.359		60016	58526
2.603		22258	37484
2.678	TCX	21910070	13074030
2.72		339271	265211
2.848		959867	686205
2.909		800938	655330
2.962		3938734	2491120
3.015		43430	25391
3.074		508081	340235
3.17		3206210	1633517
3.181		1057950	431283
3.222		544067	341784
3.244		340835	200072
3.268		354376	204679
3.293		4865150	3253553
3.33		267598	166279
3.359		25717	11062
3.376		1083115	575016
3.391		612677	301715
3.419		5262	2089
3.442		2353796	1167650
3.452		5158882	2299626
3.472		182267	68151
3.486		4748335	3309790
3.561		5057473	3298841
3.596		3423128	2075197
3.62		3856195	2211734
3.638		1015163	505748
3.724		4198611	2791086
3.747		1507274	813414
3.769		1453505	881313
3.8		980653	533601
3.817		3264810	1987914
3.861		1189015	888831
3.907		293445	298041
3.931		753732	454572
3.953		4610057	3104013
3.979		846100	507805
3.999		141304	73070
4.018		490446	312185
4.055		3721667	2631133
4.09		178292	107722
4.106		388962	248635
4.151		10578	5347
4.171		40218	31854
4.195		516450	609548
4.238		24827	13042
4.261		1010478	746720
4.305		954710	571519
4.324		945420	458987
4.337		2429791	1325258

RT B	Compound B	Height B	Area B
4.364		1348254	1443958
4.416		8478878	6569485
4.461		171099	161324
4.488		780792	535215
4.513		1684765	1246050
4.557		10068820	7797005
4.662		8203220	7960940
4.716		924980	813717
4.755		2009794	1758456
4.792		10399650	8754935
4.825		4584628	3370716
4.864		3313086	2641002
4.967		1135195	1182373
5.018		6193271	4945047
5.042		754645	465772
5.092		3040357	2867492
5.129		1534505	1234904
5.159		1105162	937883
5.191		492215	287049
5.213		15727890	13297110
5.254		267293	195832
5.2[illegible]		513925	442121
5.406		120196	76752
5.427		3010106	2448080
5.474		9942624	11905400
5.628		228903	211141
5.672		251695	191564
5.696		163052	121396
5.745		1743556	1568406
5.852		3993789	3370973
5.885		197002	145576
6.052		1061432	1038427
6.145		4672	8964
6.21	DCB	15097040	14179290
6.39		15889	30904
6.616		5823	16389
6.662		11822	10352
6.835		7487	19090

AR1661824C AAAR166AA ICAL 1830299999 10227 SW-846 8082

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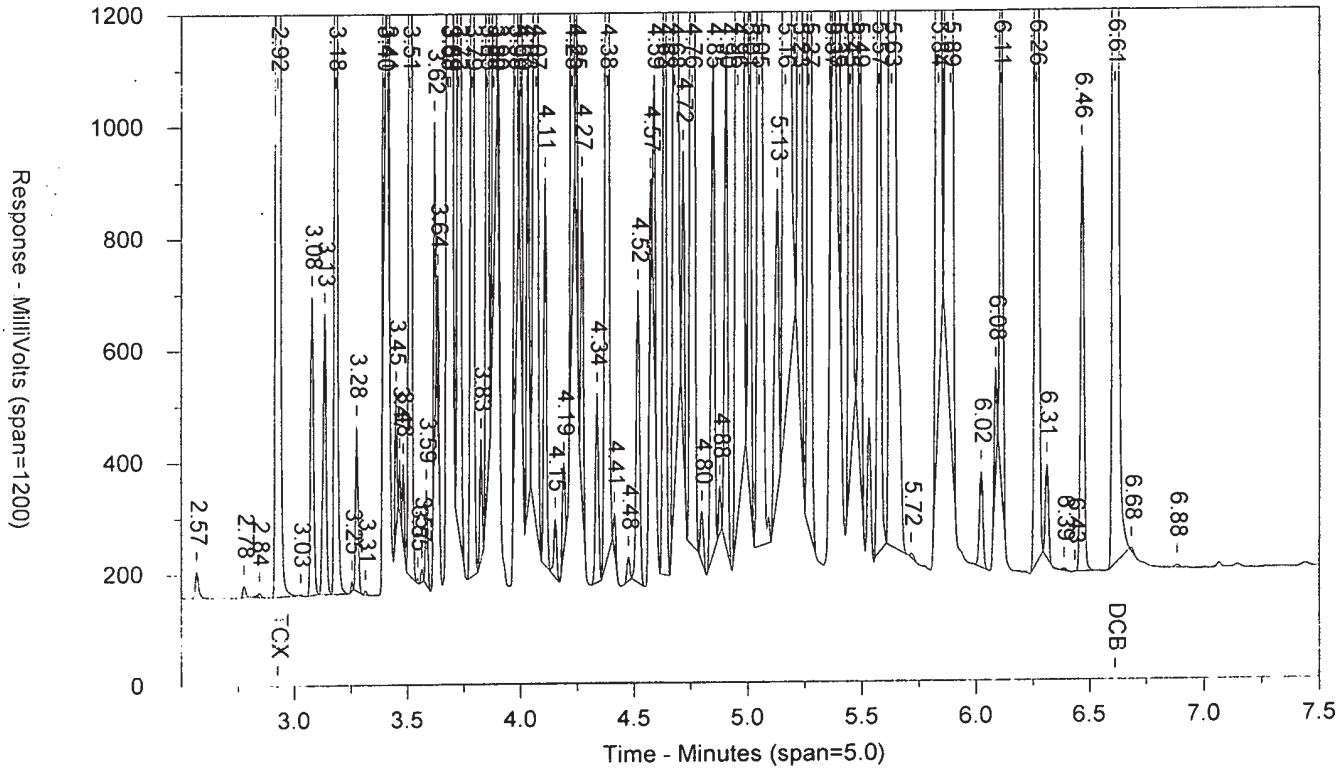

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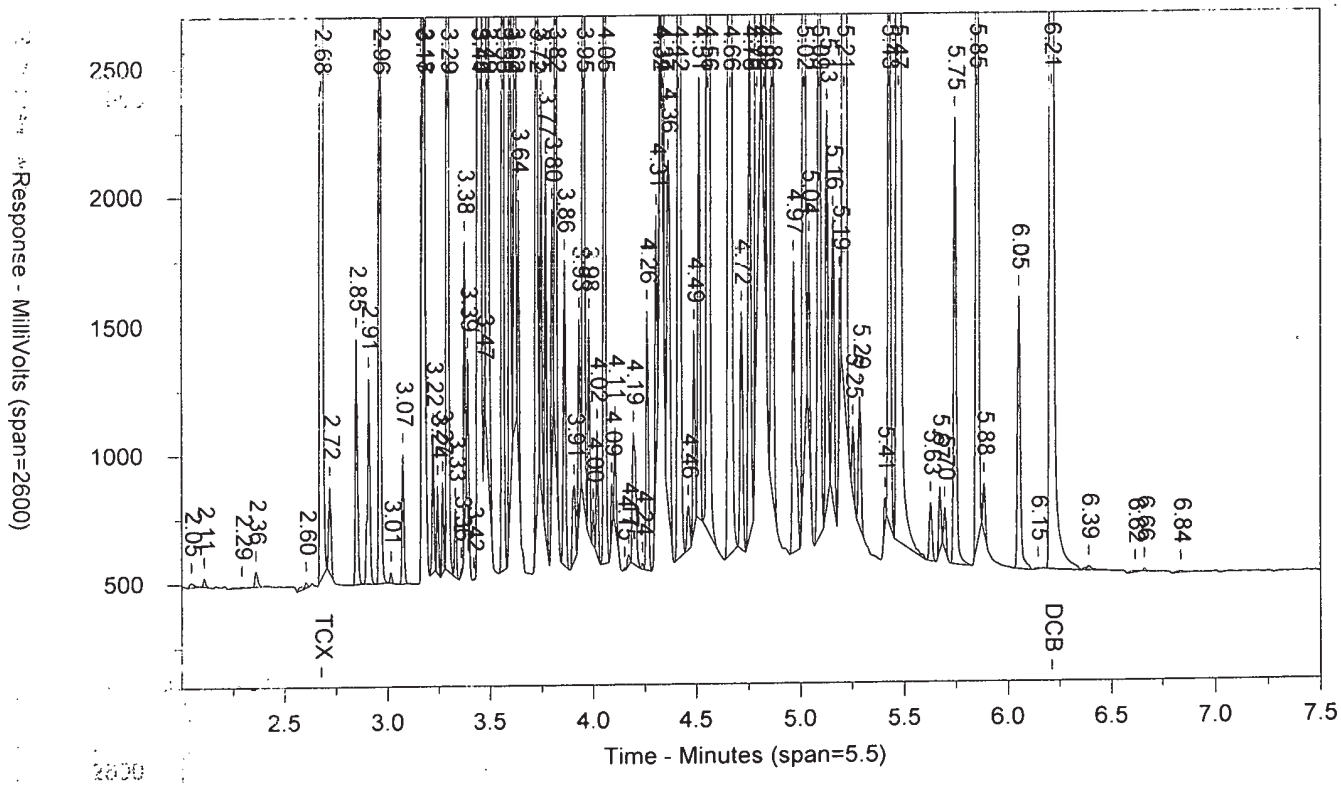

LANCASTER LABORATORIES

Sample Number: AR1661824C AAAR166AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:08:10 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	12472860	80.632	TCX	2.678	21910070	86.52	TCX
6.611	10221370	80.736	DCB	6.21	15097040	81.613	DCB

Files:
Area File: 25pcbs18303001.012.RAW
Area File: 25pcbs18303001B.012.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 7:16:41 PM
File Reported On: 10/30/2018 at 7:16:49 PM

AR1661824C AAAR166AA ICAL 1830299999 10227 SW-846 8082

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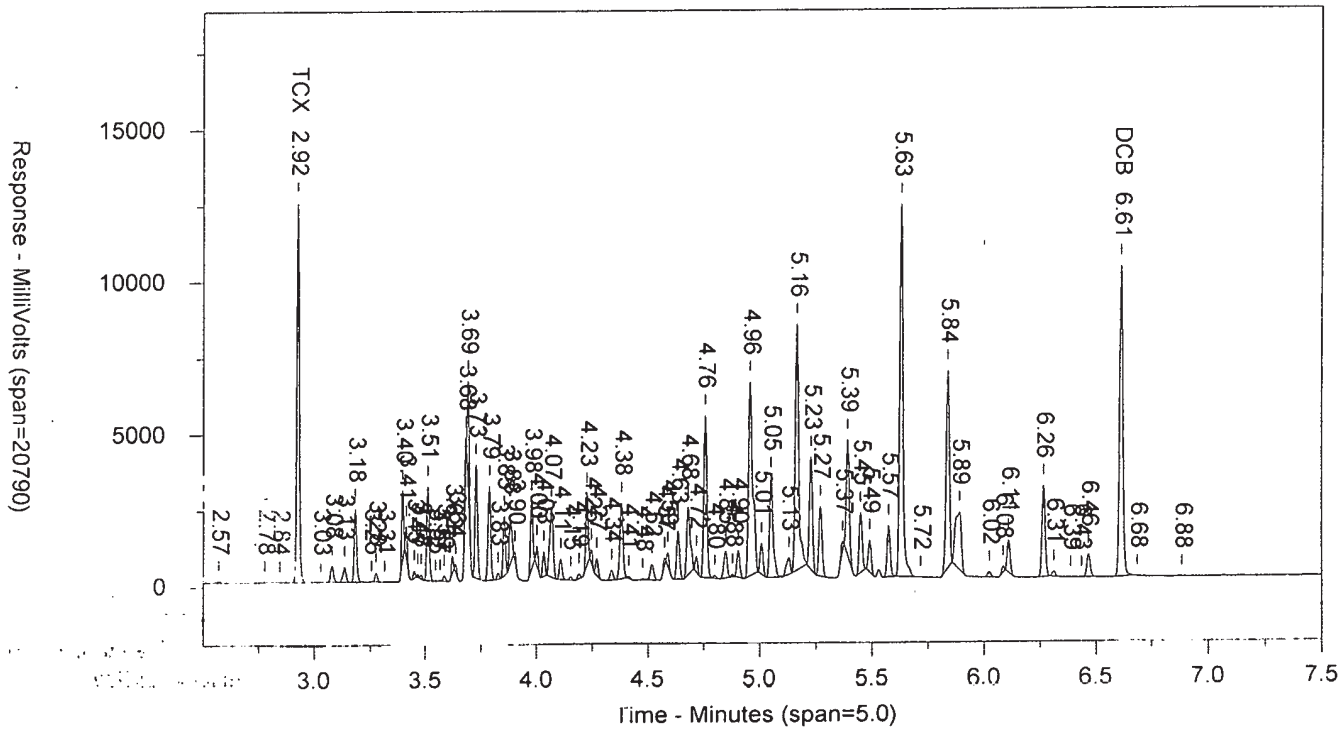

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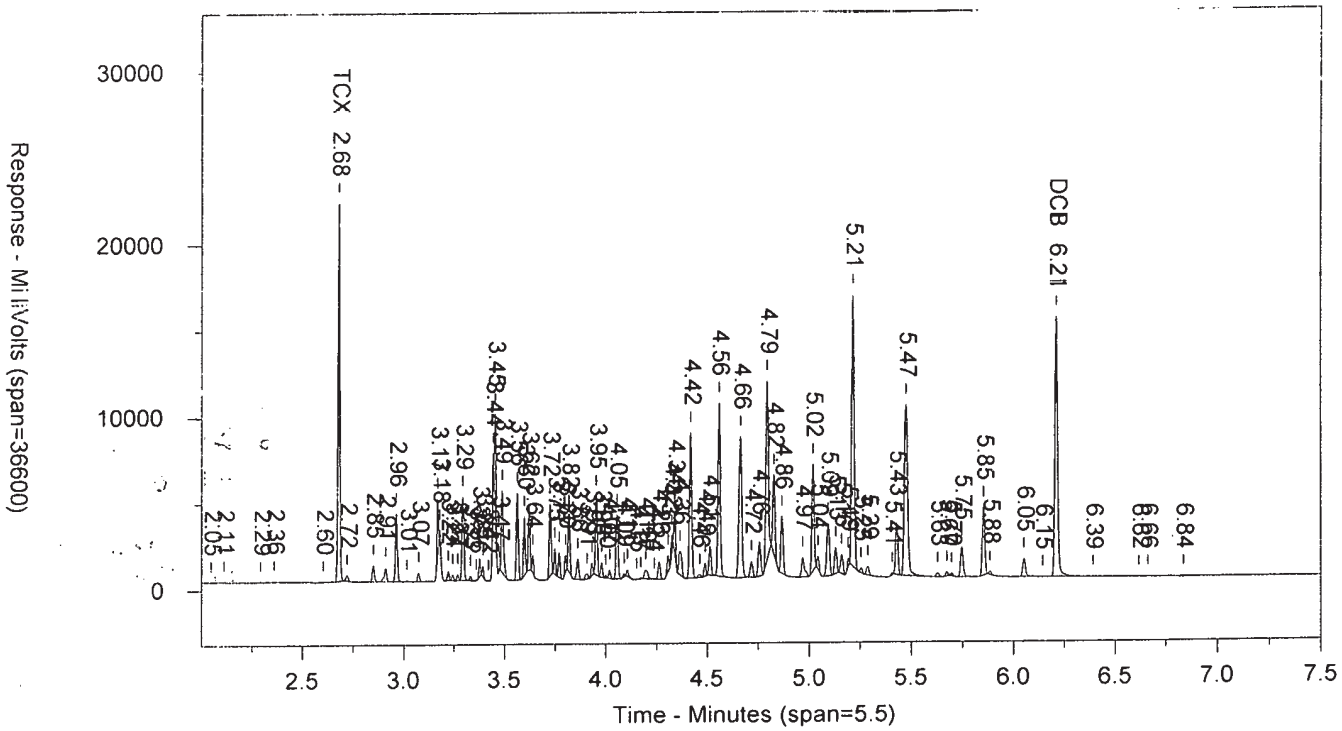

AR1661824C AAAR166AA ICAL 1830299999 10227 SW-846 8082

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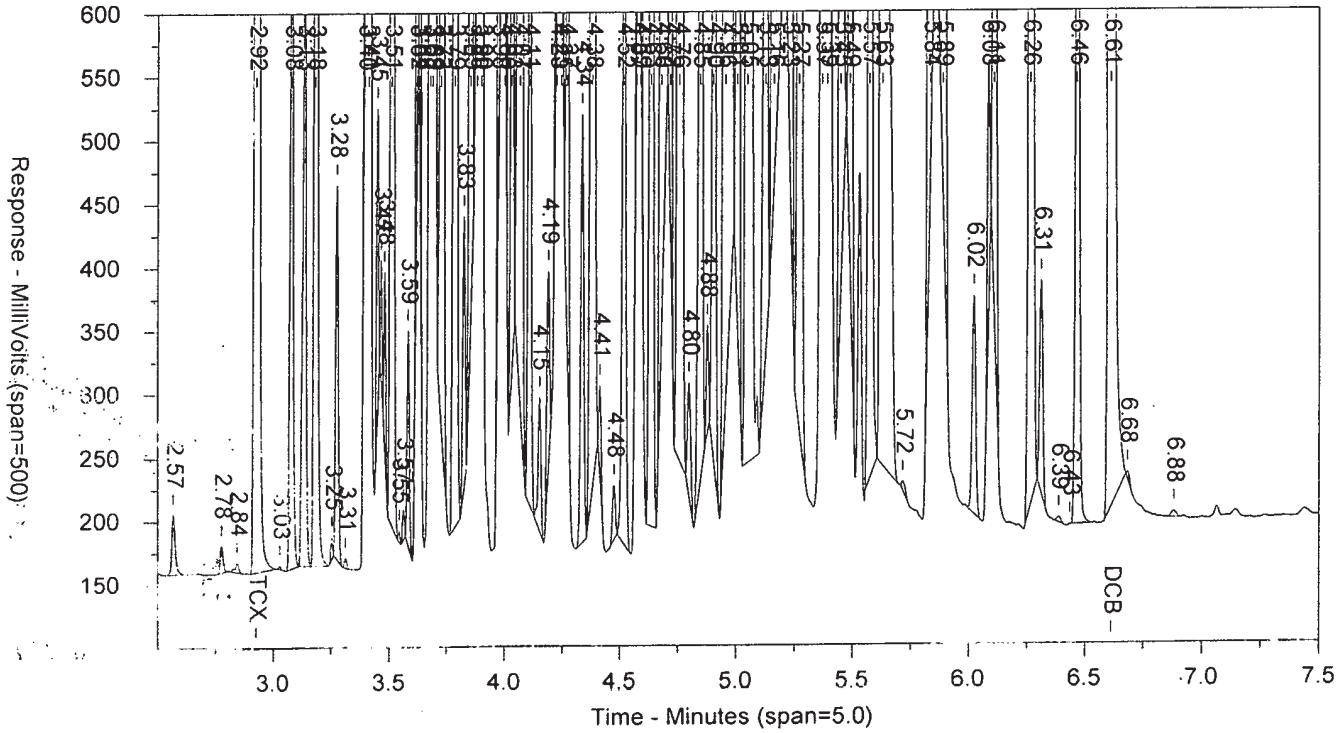

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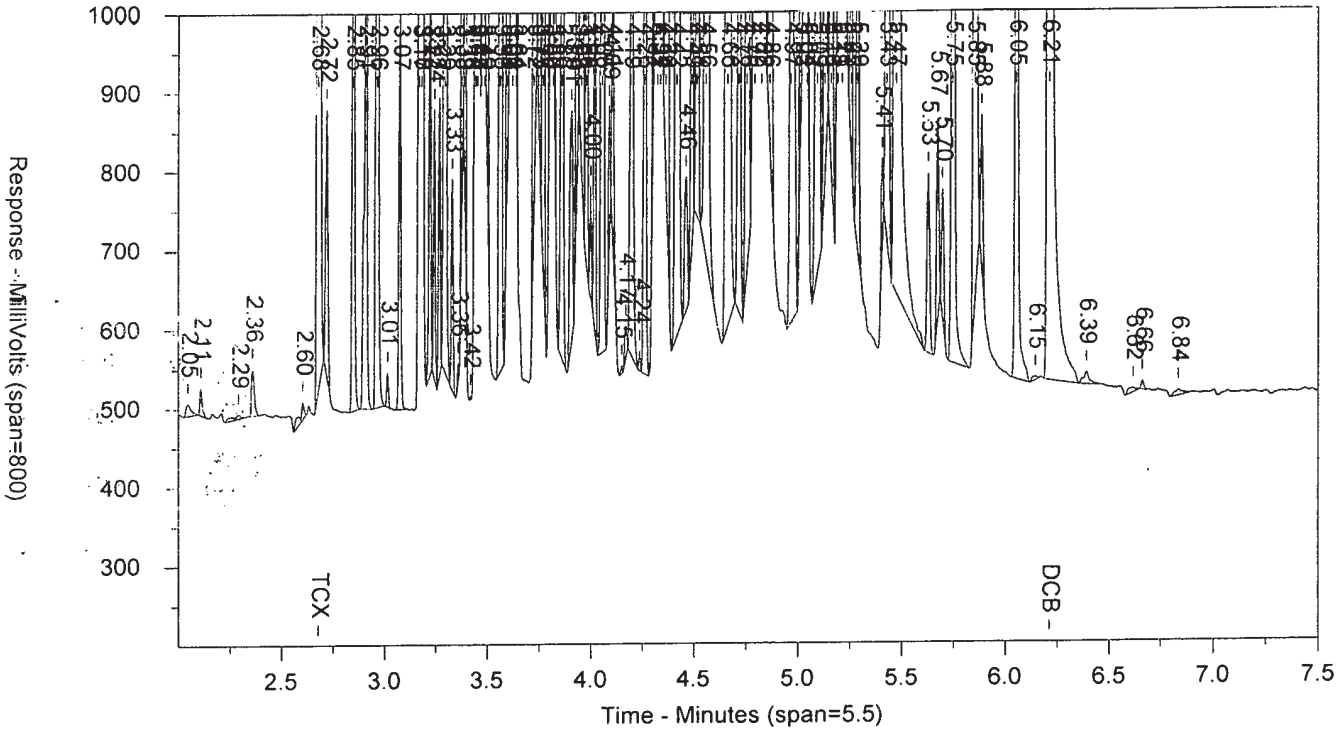

LANCASTER LABORATORIES

Sample Number: AR4811824C AAAR481AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:19:16 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs1830301.013.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		9075	15343
2.23		3175	3979
2.312		9653	6542
2.374		2196	2682
2.423		2522	2379
2.493		1778	2050
2.571		4651	4061
2.777		66559	66265
2.832		1695	1578
2.925	TCX	65410	46459
3.079		9634	8951
3.135		5340	4422
3.183		34341	26063
3.277		5275	4069
3.397		61494	37420
3.414		18196	8916
3.451		3638	2069
3.467		2458	1240
3.513		65643	49560
3.587		5760	4375
3.623		9885	5790
3.637		3547	1623
3.682		31339	18972
3.693		49109	26987
3.729		82718	65064
3.787		68949	56248
3.828		7621	5402
3.855		101346	76992
3.883		65401	55788
3.903		15780	8192
3.979		111588	85246
4.003		30141	19405
4.033		40156	28808
4.069		94220	94843
4.109		32602	25423
4.155		3168	2750
4.193		7781	6767
4.227		85373	61158
4.248		87034	56737
4.271		94085	71209
4.338		10406	9532
4.378		100213	87720
4.398		14379	6651
4.415		12830	7479
4.479		4465	3298
4.521		28819	26191
4.573		39434	34107
4.605		16679	11423
4.635		77489	66959
4.68		17772	18892
4.719		26011	21304
4.757		48599	46943
4.807		5342	4755
4.848		52709	48472

RT A	Compound A	Height A	Area A
4.905		4041	3085
4.927		4781	3608
4.958		45292	37058
5.007		8821	7937
5.049		60094	64510
5.13		5199	6432
5.166		68187	64596
5.228		32199	28667
5.272		18269	18369
5.393		37463	54216
5.576		14296	13441
5.632		90104	98119
5.838		54973	57873
5.891		16633	30260
6.026		1260	1084
6.086		1748	1314
6.11		9823	9290
6.267		25986	26524
6.31		1129	864
6.383		827	639
6.468		7058	7411
6.547		702	1360
6.614	DCB	87019	97842
6.892		1040	2186

LANCASTER LABORATORIES

Sample Number: AR4811824C AAAR481AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:19:16 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.013.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		17745	42081
2.58		10744	15471
2.603		62369	63918
2.678	TCX	102985	65901
2.85		18639	14979
2.91		9667	7936
2.962		56731	37511
3.074		8510	5046
3.171		77922	41660
3.182		17163	6197
3.223		8580	4828
3.245		8636	5443
3.27		4389	2527
3.294		95323	68367
3.331		10357	6294
3.377		14311	7058
3.39		14357	7851
3.443		69095	33612
3.453		81208	34569
3.473		13384	5557
3.488		95903	63677
3.563		115691	73436
3.597		161334	102192
3.621		156028	88568
3.639		44676	23055
3.726		193718	129082
3.749		59625	32464
3.77		69178	43664
3.801		32735	17510
3.818		130637	81095
3.862		53206	39099
3.91		11427	10618
3.932		87737	53112
3.955		234630	157759
3.98		143679	89118
4		12042	5906
4.019		14376	8172
4.056		85145	64373
4.092		99069	80468
4.121		44845	24439
4.169		8643	6295
4.205		40485	33861
4.262		66188	50477
4.297		30882	24097
4.325		103005	93226
4.364		12631	13030
4.418		94917	85221
4.456		9750	7489
4.489		59986	44457
4.515		13606	9688
4.558		78203	63160
4.663		63893	74854
4.713		51289	45284
4.756		13700	11850

RT B	Compound B	Height B	Area B
4.794		80473	70531
4.827		35687	27303
4.866		24466	20025
4.968		7984	9140
5.02		45050	35918
5.095		25792	23159
5.13		11865	9425
5.161		8497	7313
5.215		104142	106314
5.429		24899	21784
5.476		73917	91298
5.748		13544	12220
5.853		32944	29216
6.054		10692	11548
6.212	DCB	118969	119949

AR4811824C AAAR481AA ICAL 1830299999 10227 SW-846 8082

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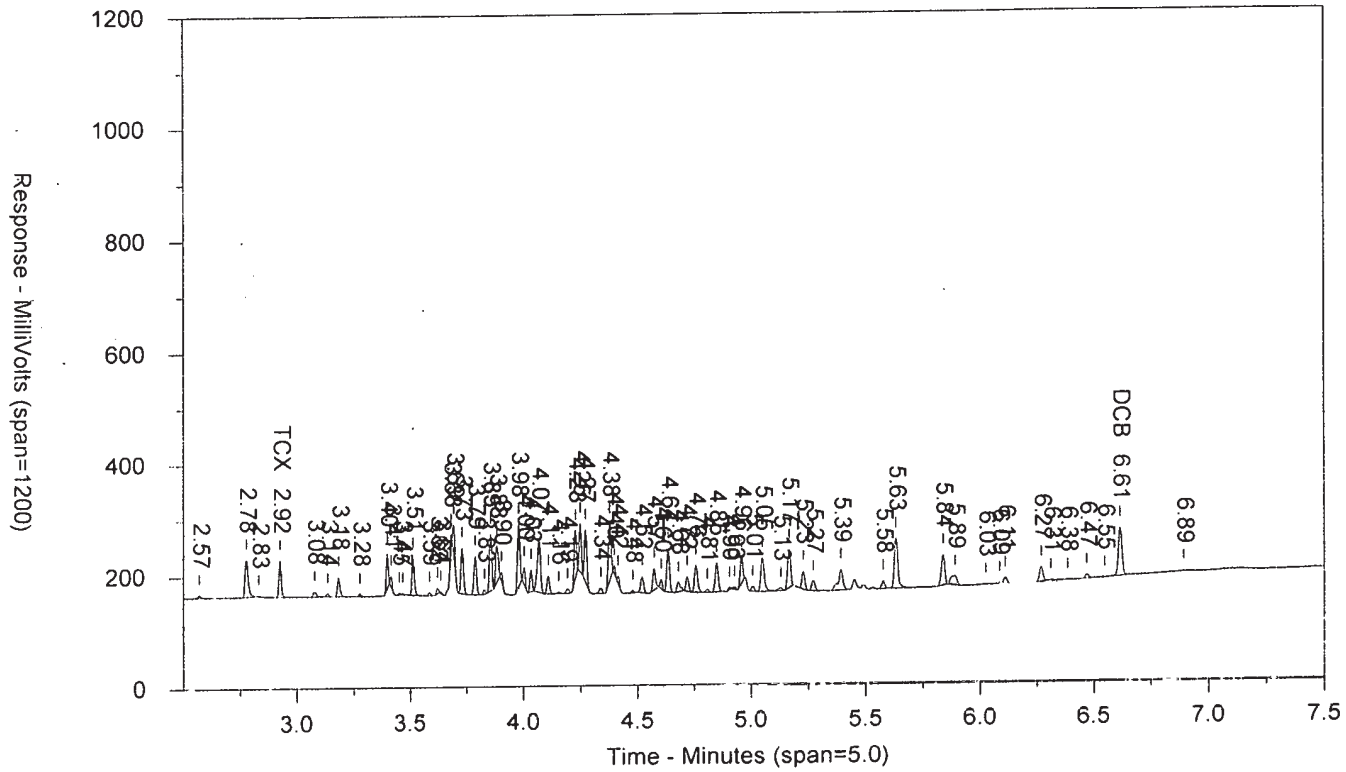

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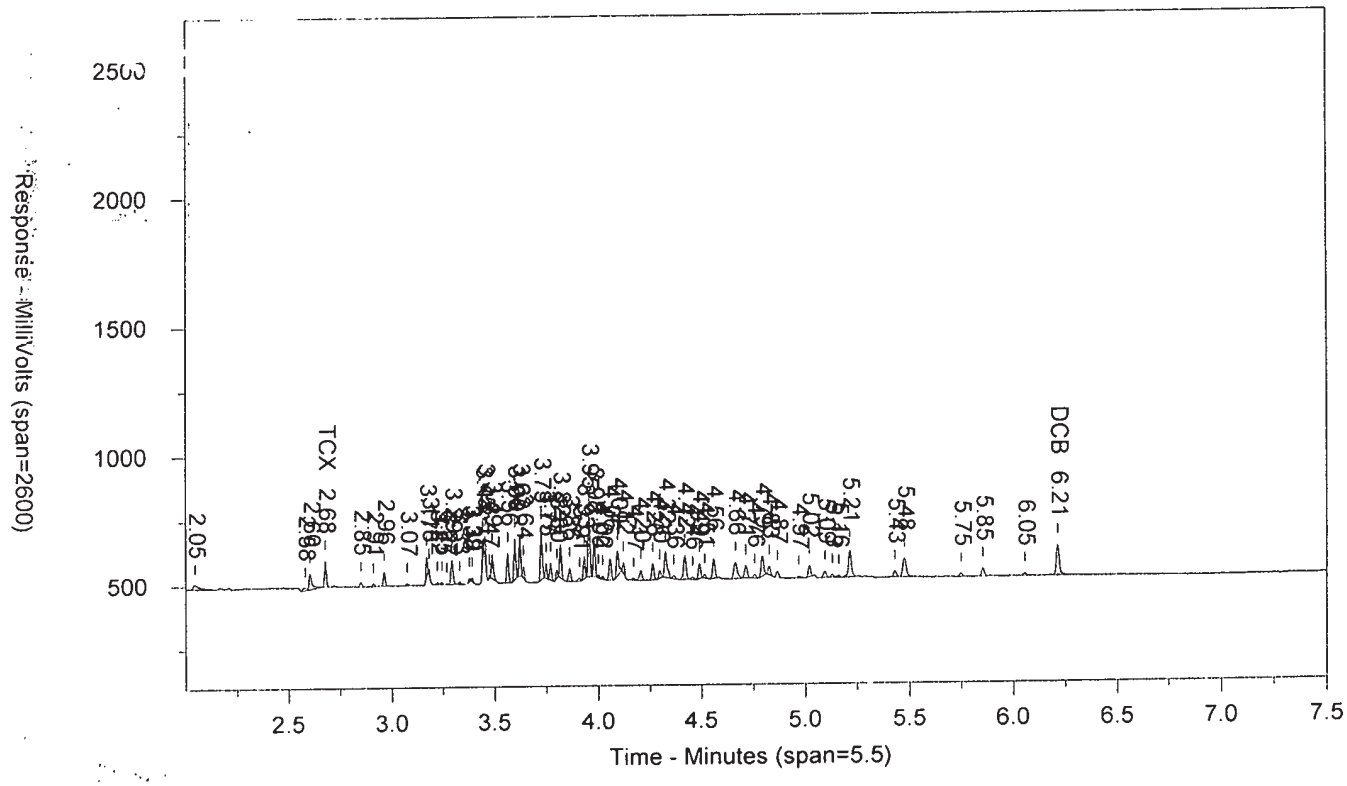

LANCASTER LABORATORIES

Sample Number: AR4811824C AAAR481AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:19:16 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	65410	.422	TCX	2.678	102985	.404	TCX
6.614	87019	.678	DCB	6.212	118969	.634	DCB

Files:
Area File: 25pcbs18303001.013.RAW
Area File: 25pcbs18303001B.013.RAW
Method A: 25PCBS.MFT
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 7:27:45 PM
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AR4811824C AAAR481AA ICAL 1830299999 10227 SW-846 8082

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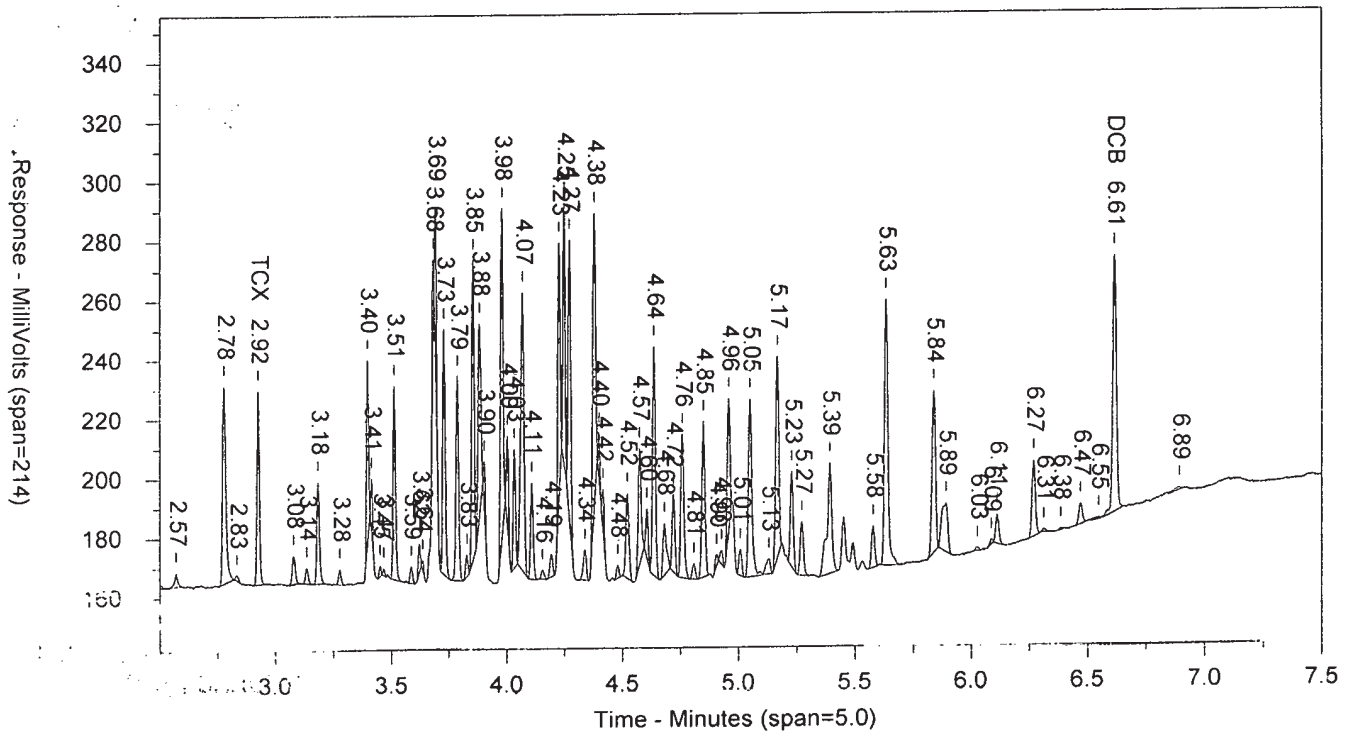

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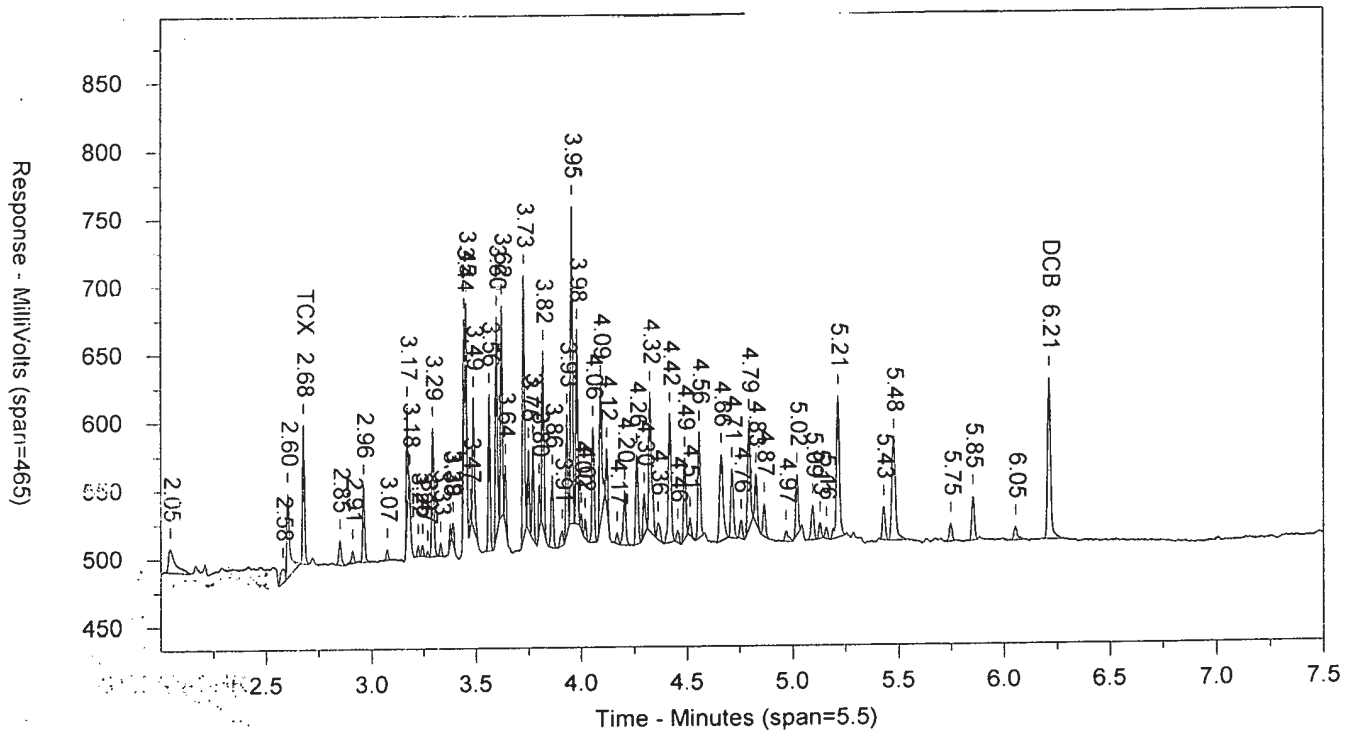

AR4811824C AAAR481AA ICAL 1830299999 10227 SW-846 8082

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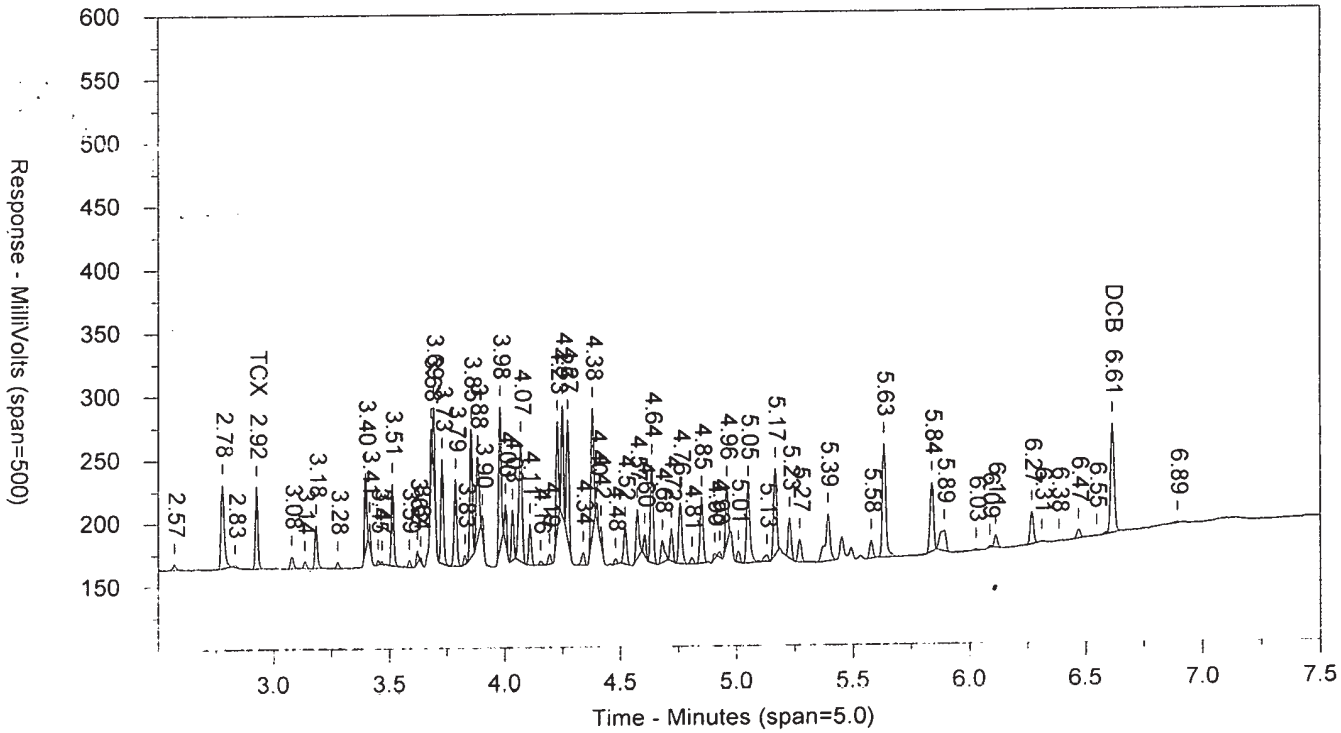

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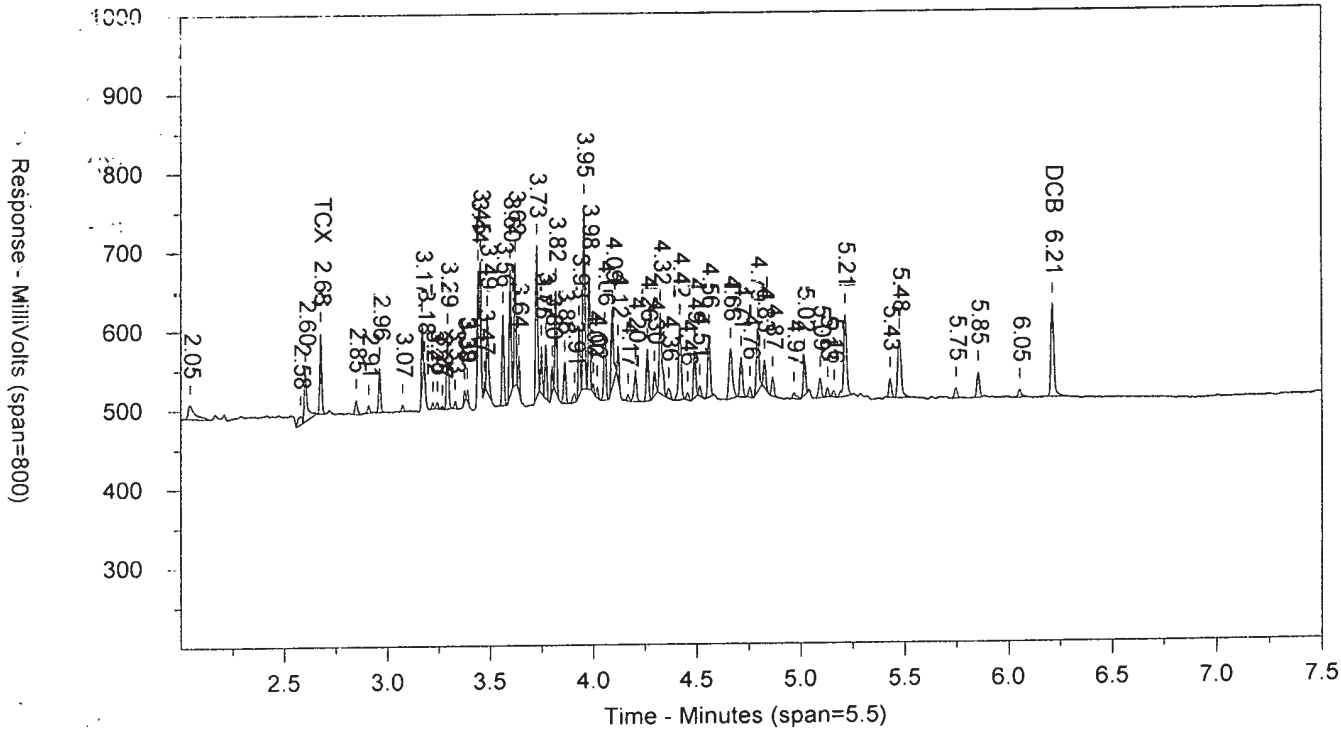

LANCASTER LABORATORIES

Sample Number: AR4821824C AAAR482AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:30:09 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.014.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.096		8275	16405
2.145		2096	3082
2.229		2615	2234
2.311		10043	7006
2.376		2192	2580
2.421		3198	2994
2.492		1393	1775
2.57		3301	3110
2.776		11660	9121
2.831		1737	2080
2.927	TCX	4941	4262
3.078		12293	11084
3.135		5148	3965
3.182		32938	26436
3.276		5876	4501
3.396		77372	49641
3.413		19298	9461
3.449		4259	2427
3.466		4105	2104
3.512		81816	63386
3.586		9136	6535
3.622		11991	7027
3.681		46859	27183
3.691		56592	33744
3.728		108121	87107
3.786		90524	76428
3.828		12078	8320
3.854		162501	123005
3.881		102139	85533
3.902		26832	14431
3.978		176516	137391
4.002		48308	31858
4.033		63240	47349
4.068		149906	147987
4.109		51119	41727
4.154		5076	4512
4.193		13090	11084
4.227		125240	89815
4.247		145718	98293
4.27		163506	125197
4.337		15238	14469
4.376		157882	137487
4.397		34107	17171
4.414		25583	14182
4.454		1938	1314
4.478		7642	5803
4.52		49197	43505
4.572		72048	61078
4.604		36893	27989
4.634		117274	107991
4.678		2179	1652
4.719		45442	40550
4.756		10002	12403
4.806		9983	8960

RT A	Compound A	Height A	Area A
4.848		85290	83561
4.925		10562	12687
4.955		7037	4750
4.973		3769	2632
5.047		77504	73720
5.165		19463	17741
5.19		743	355
5.228		2620	2045
5.375		4091	3846
5.575		4058	3592
5.63		8522	8599
5.834		6937	7670
5.893		2366	3586
6.112		1789	1800
6.265		3118	3066
6.468		1373	1124
6.583		1199	1118
6.613	DCB	934	543

LANCASTER LABORATORIES

Sample Number: AR4821824C AAAR482AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:30:09 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.014.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		13265	32123
2.604		15364	34390
2.85		23900	18110
2.91		9710	7219
2.963		54906	37248
3.075		9789	6802
3.17		116224	59812
3.222		10560	6238
3.244		13198	8371
3.27		3291	1733
3.293		123547	85244
3.331		16272	9957
3.377		17063	8649
3.39		12175	6534
3.442		98088	47650
3.452		111397	46030
3.472		23463	9770
3.487		122689	82201
3.562		153693	100077
3.596		260788	163453
3.62		235907	135990
3.638		71607	36260
3.696		1663	1730
3.725		317587	207859
3.748		90520	51525
3.769		108978	67196
3.8		46667	24232
3.818		208220	127614
3.861		83067	61370
3.909		16816	14641
3.931		156703	97241
3.954		402446	258902
3.979		260853	167328
3.999		22423	11145
4.019		21148	12260
4.055		117048	84689
4.091		192587	152210
4.12		89810	49698
4.168		14950	10873
4.204		69127	55302
4.262		112013	88211
4.295		64487	46338
4.323		175733	135863
4.419		68530	68032
4.455		16915	12662
4.488		109932	98675
4.557		14448	10335
4.583		7040	5153
4.658		17326	25182
4.711		90657	86371
4.792		26105	24026
5.02		4609	4001
5.042		7260	5430
5.19		4085	2811

RT B	Compound B	Height B	Area B
5.214		9969	8676
5.475		8635	9880

AR4821824C AAAR482AA ICAL 1830299999 10227 SW-846 8082

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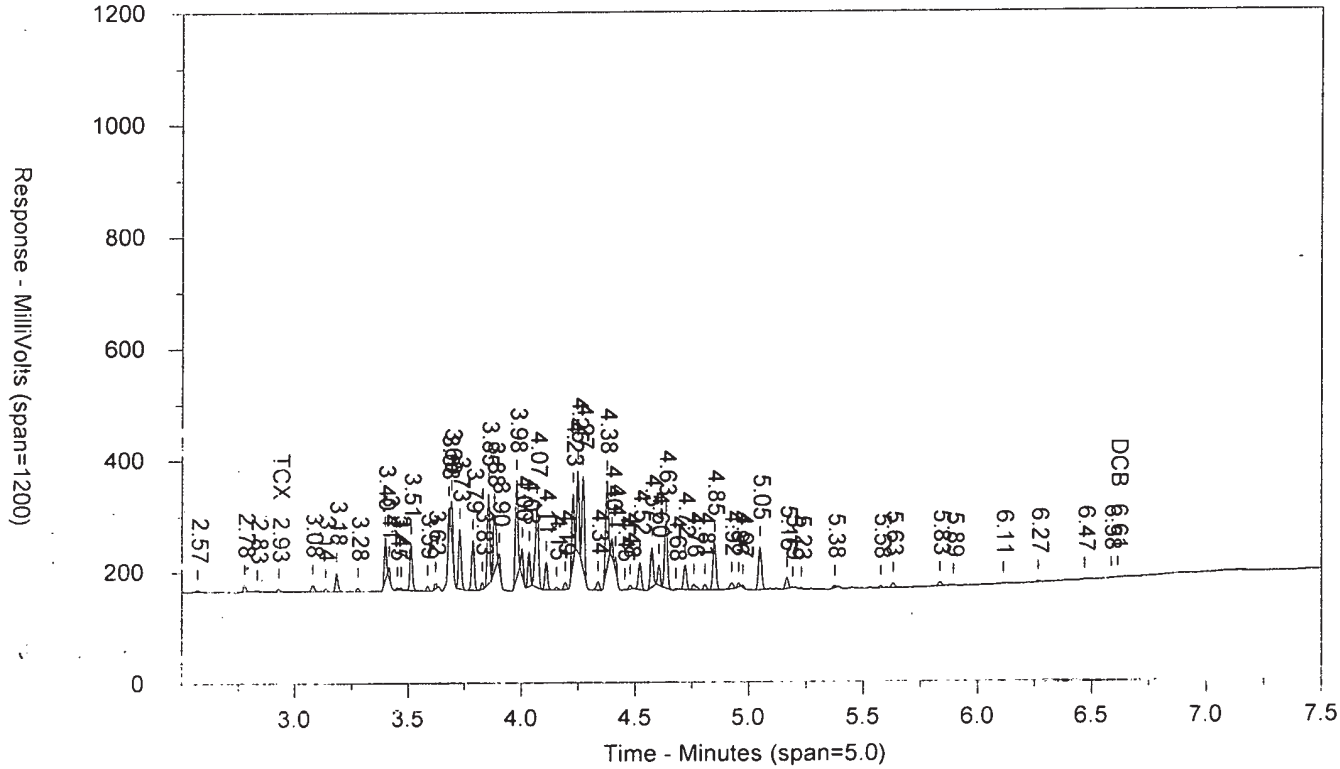

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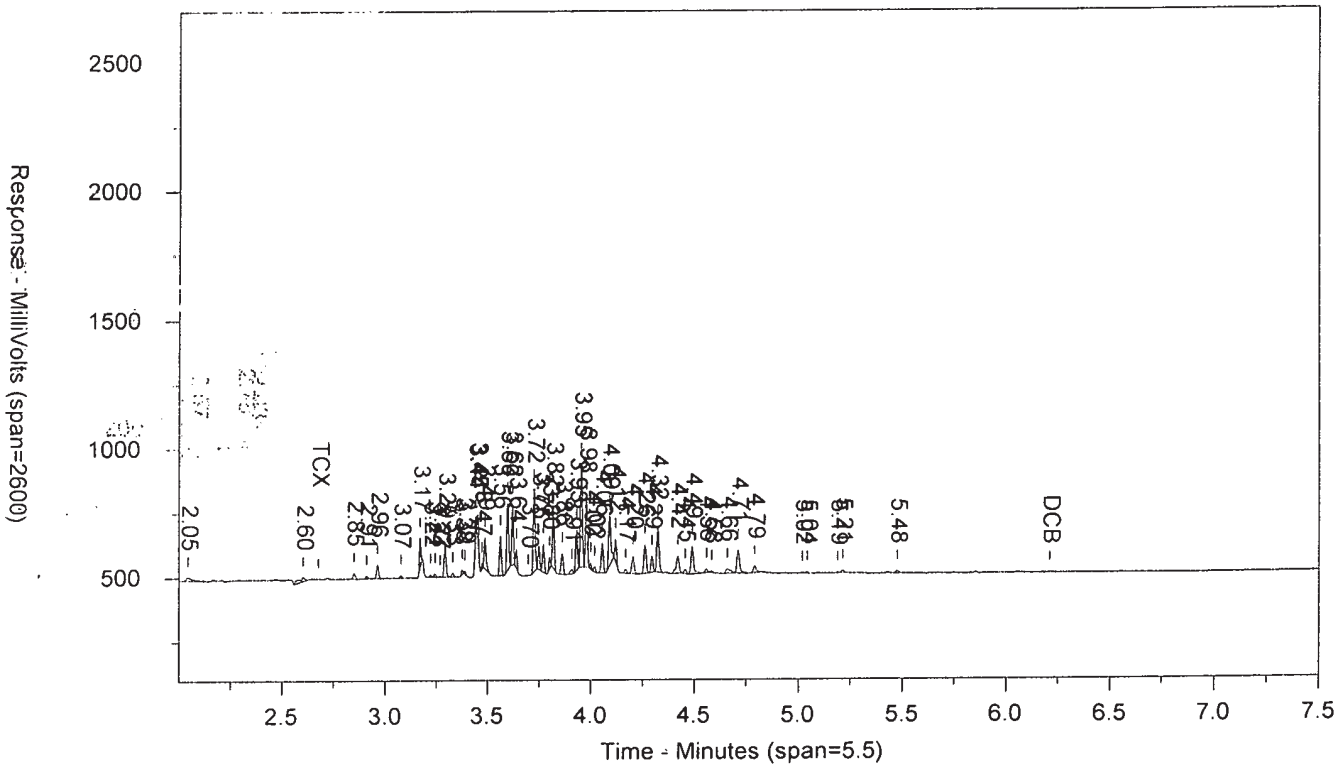

LANCASTER LABORATORIES

Sample Number: AR4821824C AAAR482AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:30:09 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.927	4941	.032	TCX		0		TCX
6.613	934	.007	DCB		0		DCB

Files:
Area File: 25pcbs18303001.014.RAW
Area File: 25pcbs18303001B.014.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 7:38:40 PM
File Reported On: 10/30/2018 at 7:38:49 PM

AR4821824C AAAR482AA ICAL 1830299999 10227 SW-846 8082

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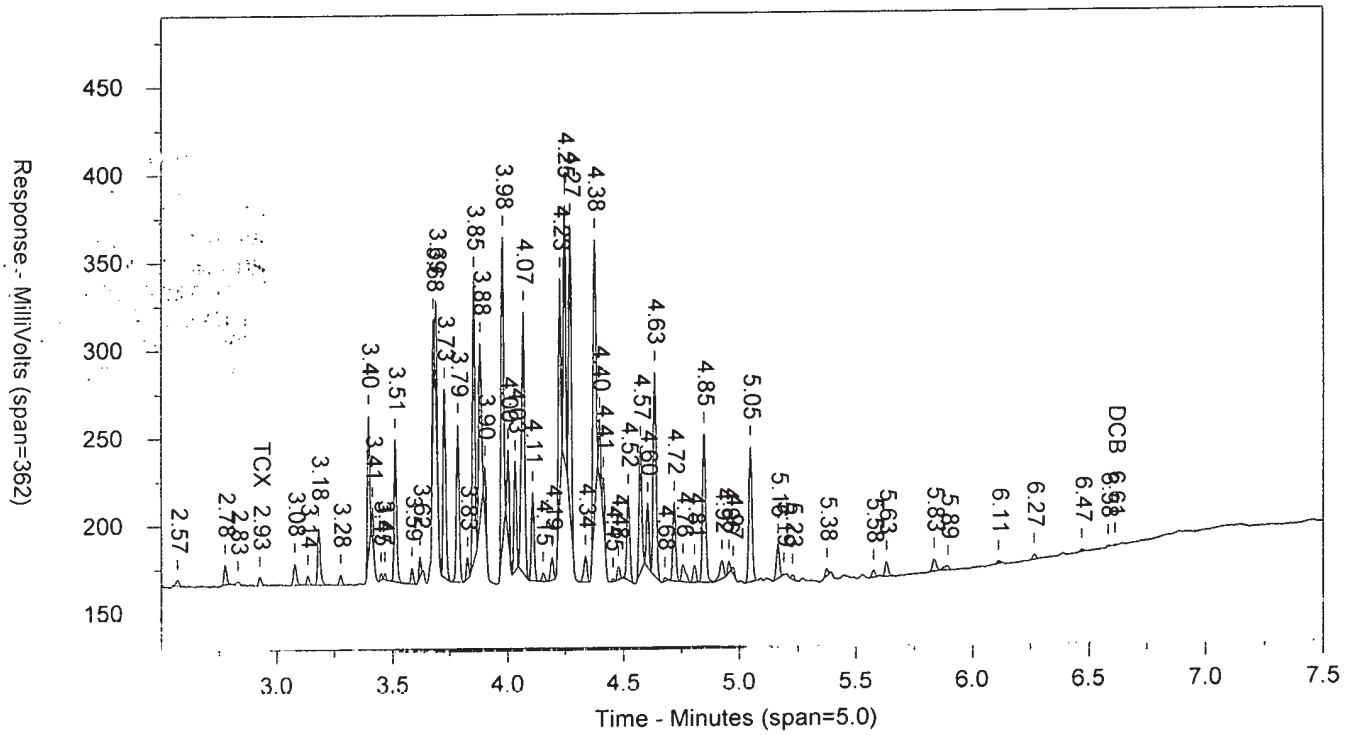

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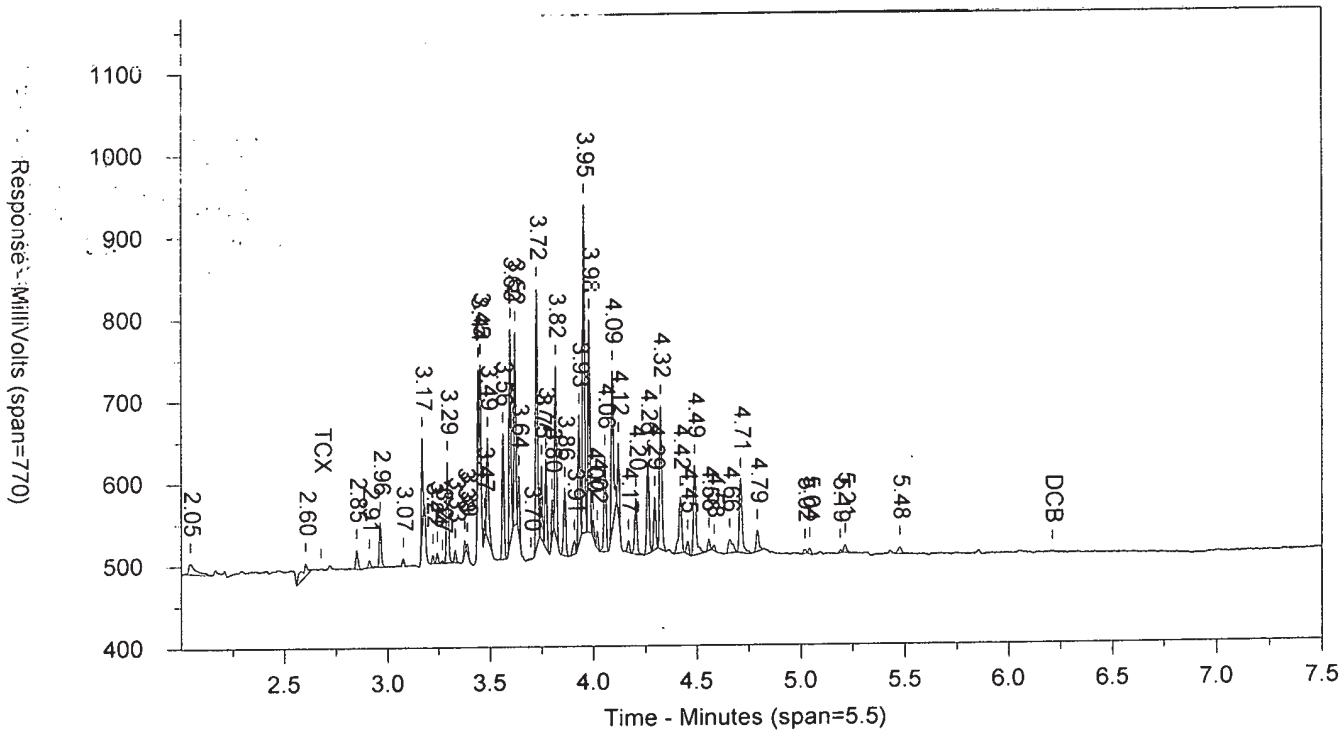

AR4821824C AAAR482AA ICAL 1830299999 10227 SW-846 8082

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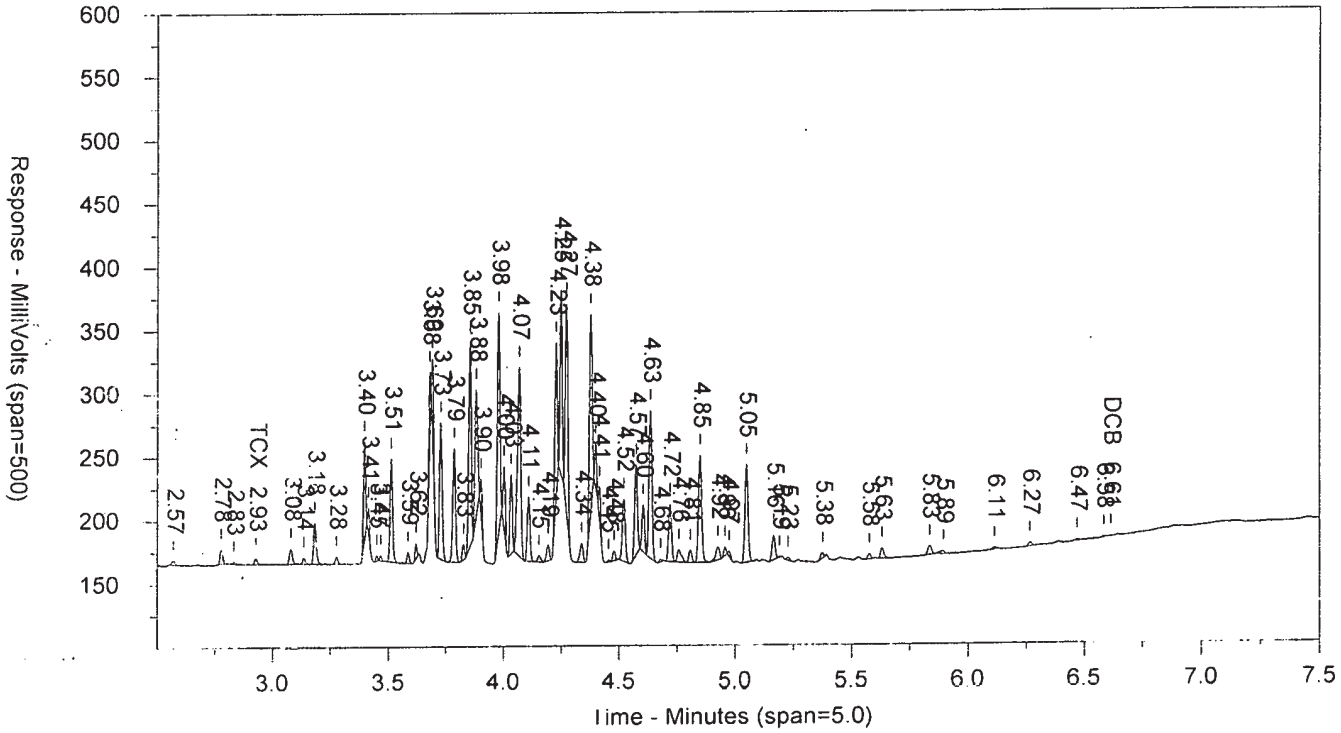

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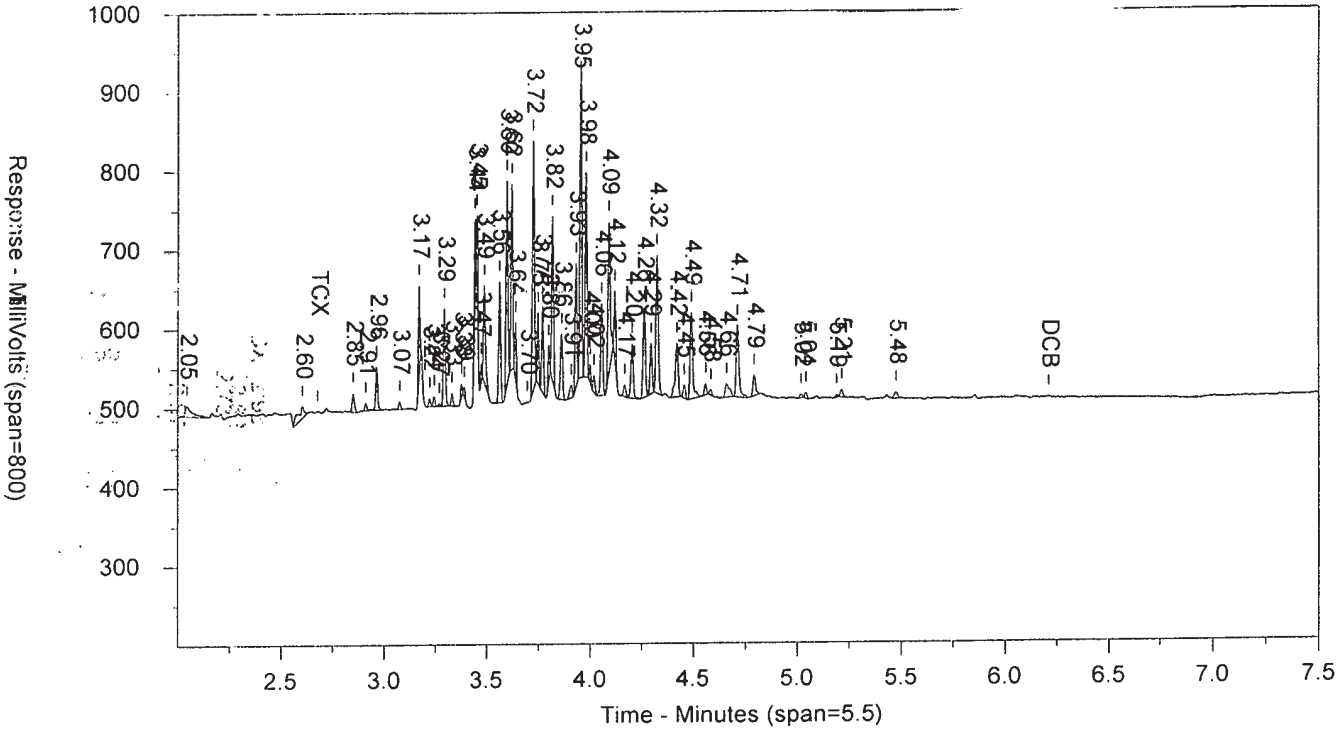

LANCASTER LABORATORIES

Sample Number: AR4831824C AAAR483AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:41:01 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.015.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.096		8478	15602
2.146		958	1016
2.228		3204	3985
2.311		7522	5560
2.38		2256	2826
2.424		2532	2025
2.57		4582	4458
2.776		32790	30290
2.926	TCX	7960	6753
3.079		21332	19552
3.135		10078	7840
3.182		62703	49279
3.275		12077	8675
3.396		147201	93615
3.412		27136	18913
3.45		8845	4936
3.467		7175	3732
3.512		155464	122432
3.561		1190	645
3.586		15955	11773
3.621		25504	14780
3.636		5744	2506
3.681		92349	55706
3.691		117097	65766
3.728		197427	163624
3.786		175699	150182
3.827		26697	17947
3.854		306732	233200
3.881		195141	160346
3.902		49478	27517
3.978		349640	263637
4.002		90438	58479
4.032		129080	94608
4.068		302107	290715
4.108		102127	84245
4.153		9755	7869
4.192		27157	23863
4.226		250487	173400
4.247		297585	192934
4.27		332495	250280
4.338		31855	30620
4.377		304387	268950
4.398		65119	33019
4.414		38268	23268
4.455		13969	2846
4.478		17197	12814
4.52		98006	89009
4.572		137052	121692
4.603		72714	57512
4.634		231663	212481
4.679		3434	2394
4.718		88709	82999
4.756		19911	23755
4.806		21315	18551

RT A	Compound A	Height A	Area A
4.647		160398	163725
4.928		14457	19255
4.956		13676	9430
4.974		8714	5534
5.048		152879	150423
5.164		39301	35930
5.188		1564	797
5.227		5376	4292
5.374		8838	7070
5.573		7945	6985
5.601		1155	695
5.629		14619	15447
5.835		11159	12172
5.89		4778	7422
6.109		2169	2141
6.265		5507	5627
6.464		2695	2615
6.582	DCB	1802	2042

LANCASTER LABORATORIES

Sample Number: AR4831824C AAAR483AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:41:01 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.015.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.047		15625	38633
2.604		36922	66373
2.72		10982	10717
2.85		41766	31350
2.911		17650	13093
2.963		99746	66934
3.074		19550	12805
3.17		211272	113056
3.182		34514	12936
3.222		20395	12013
3.244		19583	12061
3.269		6856	3566
3.294		236567	165911
3.331		26754	16983
3.377		44098	23147
3.391		17194	8549
3.443		210982	98119
3.452		200537	80407
3.473		40042	17223
3.487		234781	157428
3.562		304067	197718
3.596		518707	323074
3.62		454100	266125
3.638		150182	75086
3.725		607642	407553
3.748		192731	105299
3.769		209392	131342
3.8		88665	46846
3.817		401143	254500
3.861		164770	122169
3.908		32931	28044
3.931		308796	195260
3.954		802517	510454
3.978		526703	333401
3.999		44976	21488
4.018		39542	23259
4.055		232733	169832
4.091		377295	298244
4.12		189491	107348
4.168		30059	20485
4.203		137401	106004
4.262		227378	175633
4.295		130537	93334
4.324		353479	265998
4.419		141132	134183
4.456		32678	23281
4.489		211876	163971
4.557		27382	19187
4.582		15795	11019
4.66		36980	43904
4.712		195475	160989
4.794		52972	49015
5.02		8131	6022
5.042		15468	11387

RT B	Compound B	Height B	Area B
5.192		6587	4794
5.213		18516	15542
5.429		8043	7559
5.475		14968	17869
5.851		8511	7891

AR4631824C AAAR483AA ICAL 1830299999 10227 SW-846 8082

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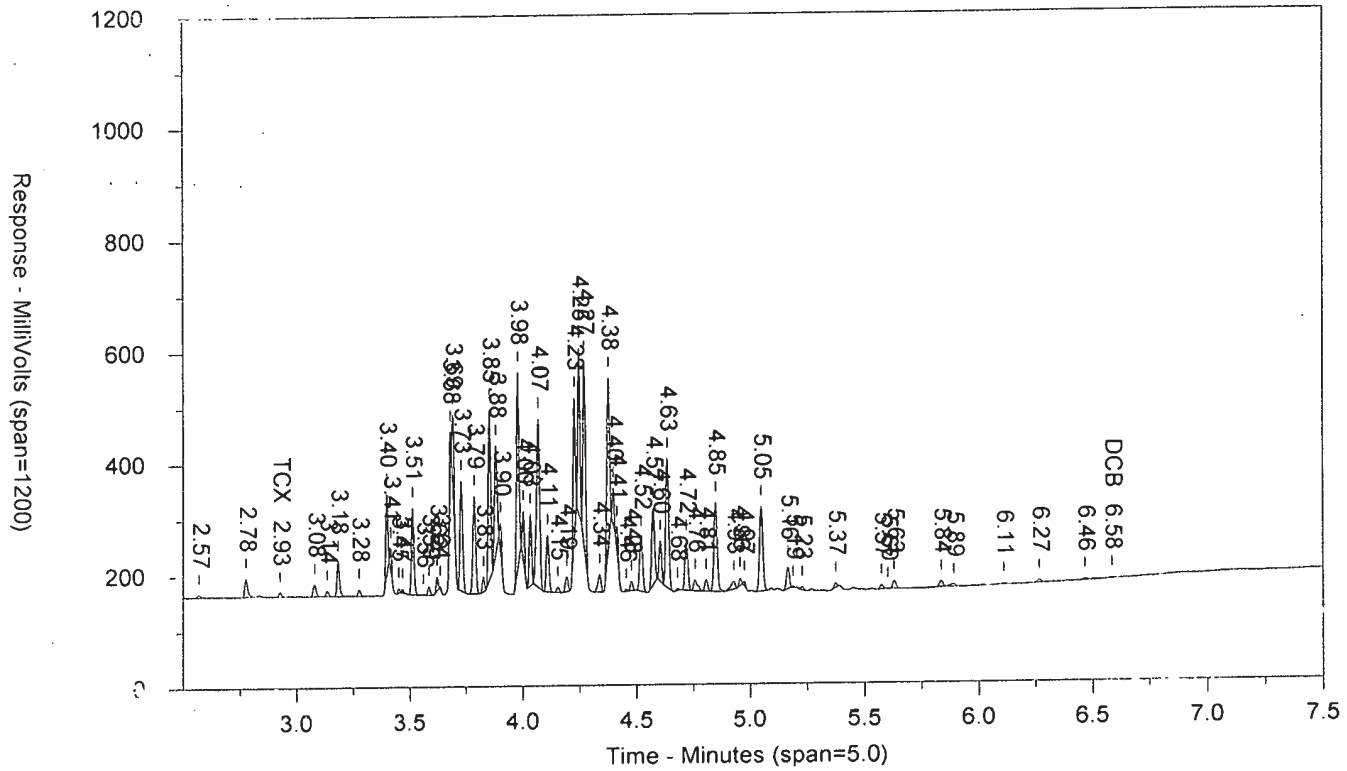

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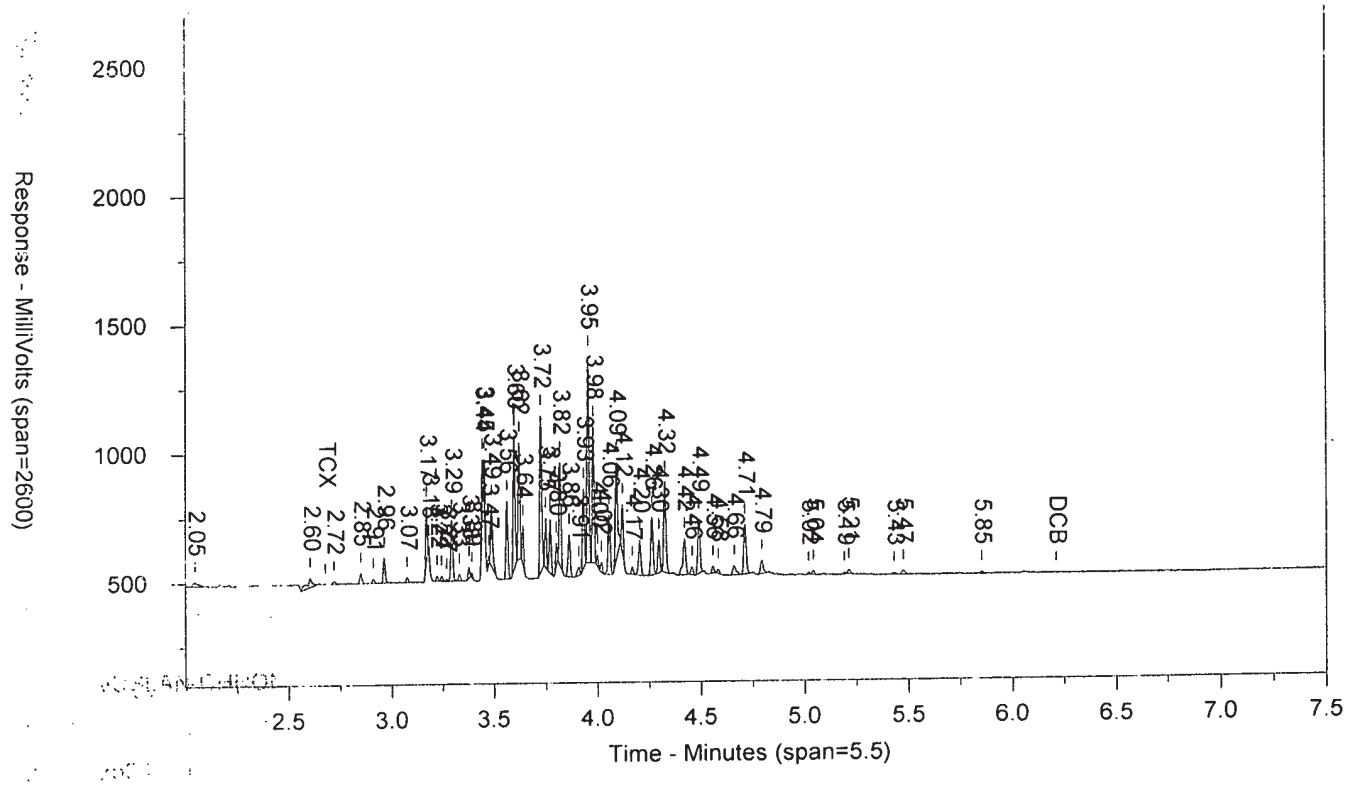

LANCASTER LABORATORIES

Sample Number: AR4831824C AAAR483AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:41:01 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.926	7960	.051	TCX		0		TCX
6.582	1802	.014	DCB		0		DCB

Files:
Area File: 25pcbs18303001.015.RAW
Area File: 25pcbs18303001B.015.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 7:49:33 PM
File Reported On: 10/30/2018 at 7:49:41 PM

AR4831824C AAAR483AA ICAL 1830299999 10227 SW-846 8082

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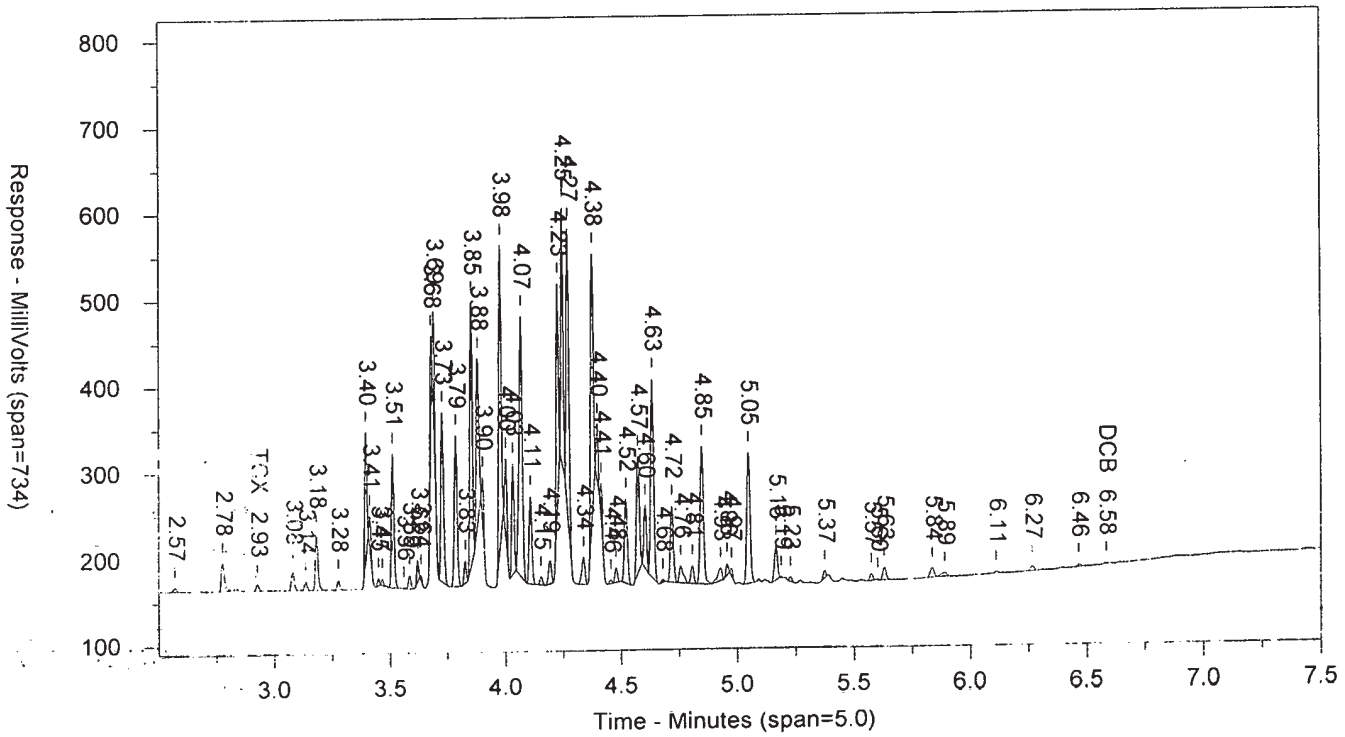

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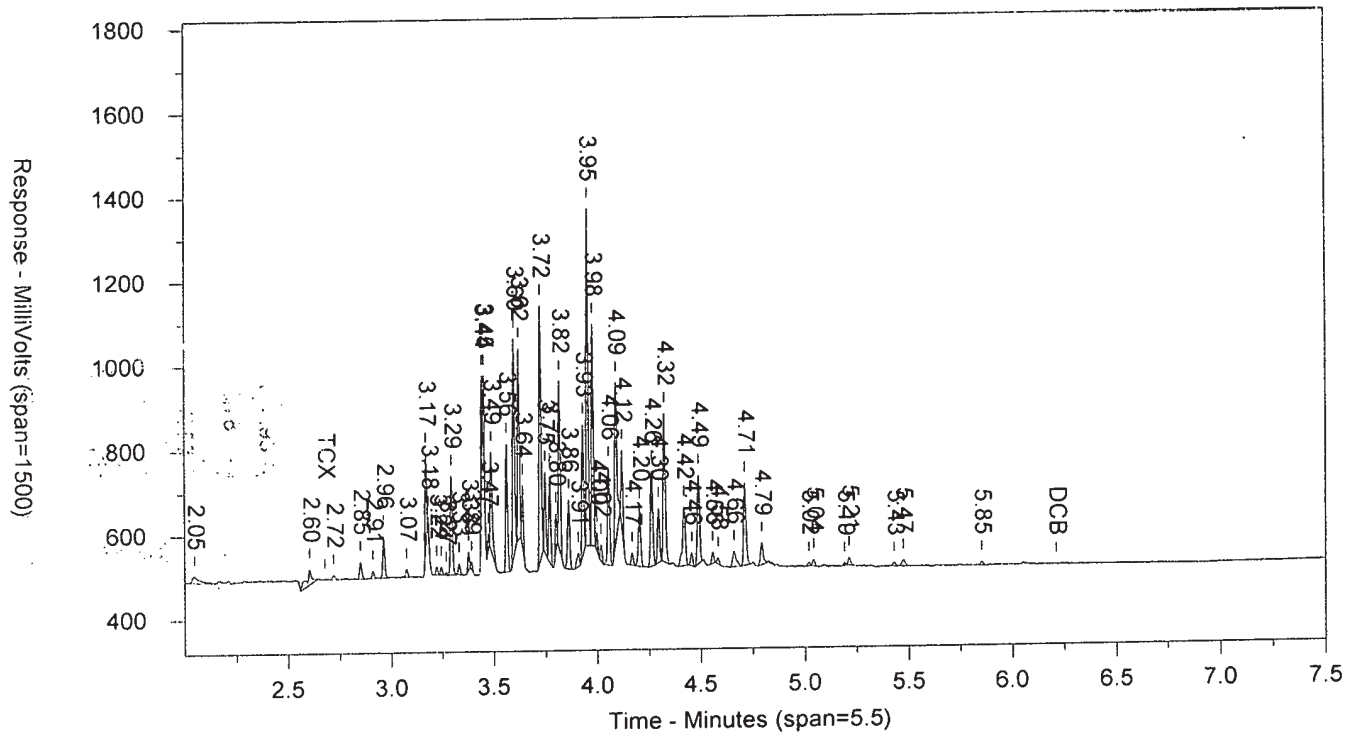

AR4831824C AAAR483AA ICAL 1830299999 10227 SW-846 8082

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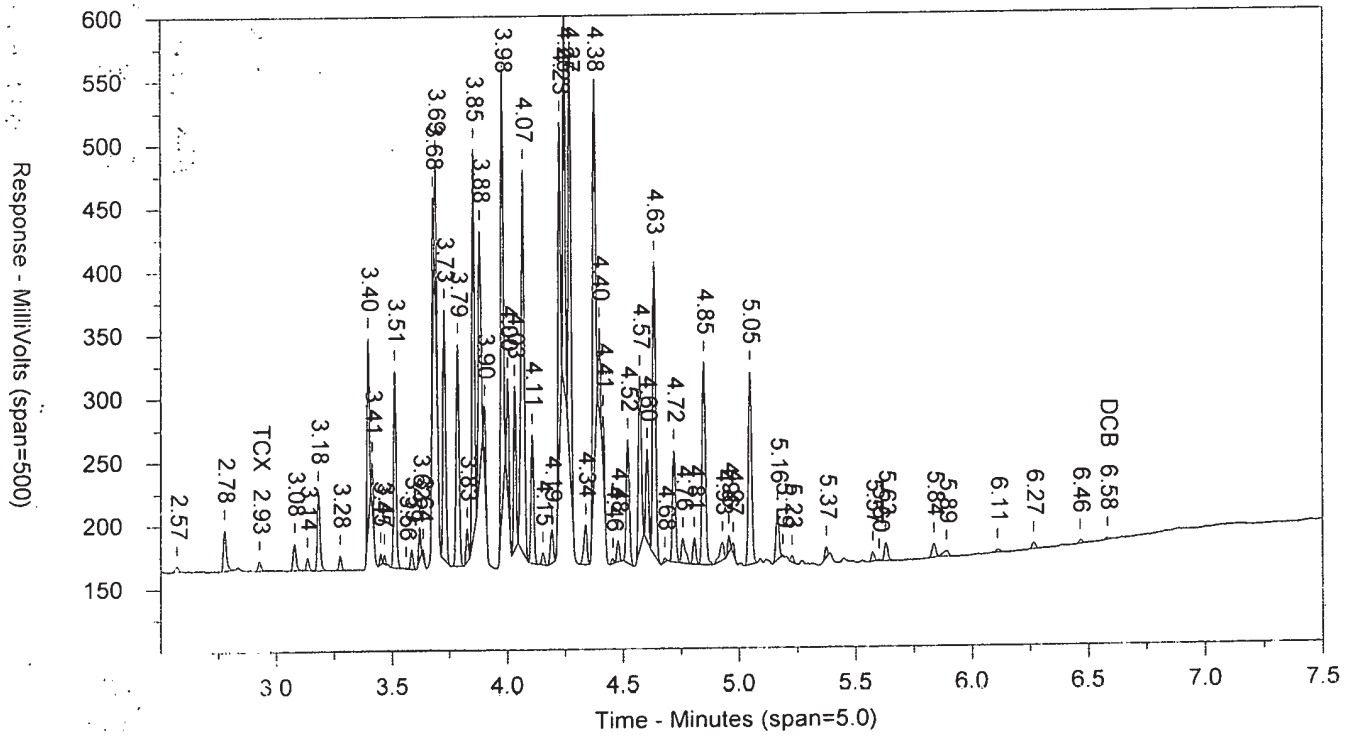

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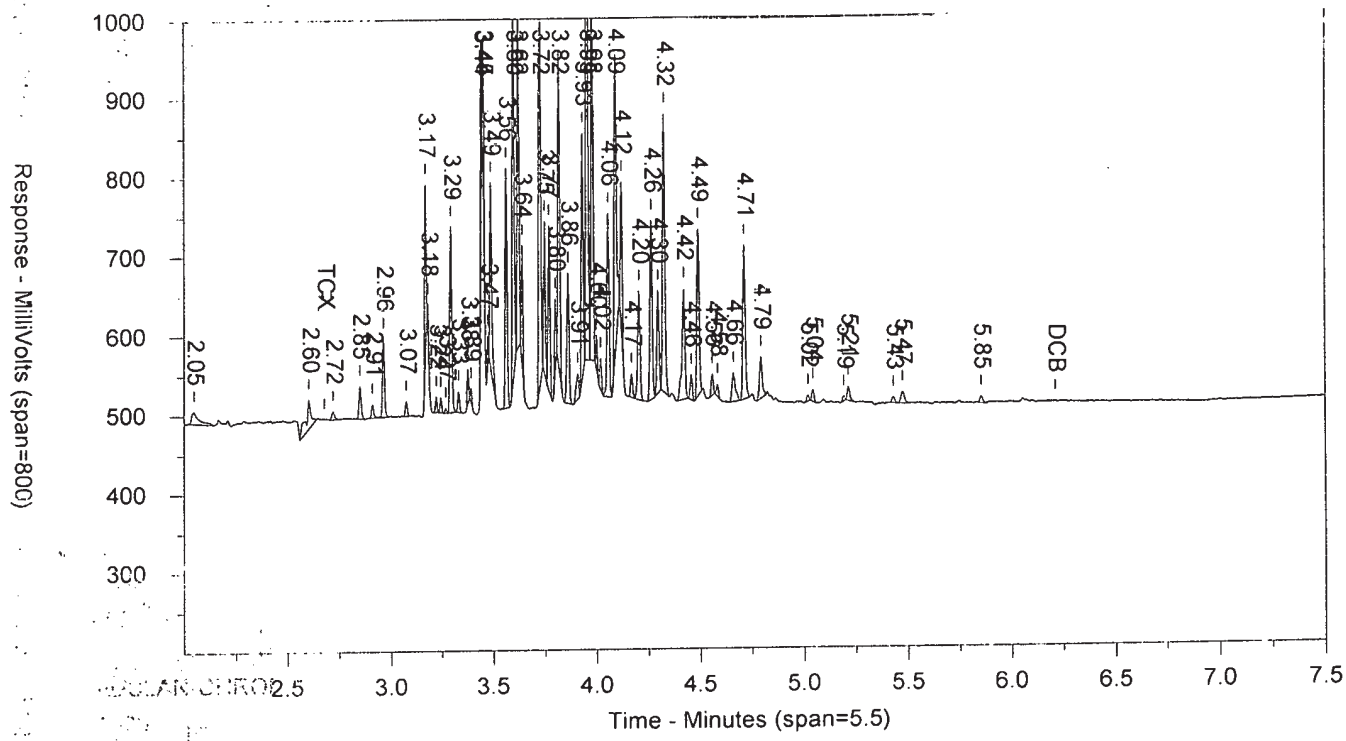

LANCASTER LABORATORIES

Sample Number: AR4841824C AAAR484AA ICAL 1830299999 10227 SW-846 8082
Injected On. 10/30/2018 7:51:57 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.016.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.096		8505	14447
2.233		2652	3468
2.311		12737	9030
2.376		1815	1938
2.421		3077	3345
2.495		1649	2078
2.571		9512	9329
2.776		50587	48926
2.832		2119	2258
2.927	TCX	16999	14813
3.079		51382	45537
3.135		20863	15970
3.183		124260	97749
3.276		23590	17843
3.397		268196	173960
3.413		72814	36832
3.45		16571	9178
3.487		18368	9494
3.513		295669	236059
3.564		2446	1445
3.587		40087	29587
3.623		49283	29300
3.636		11431	4754
3.682		156348	94837
3.692 +		250801	139184
3.729 +		393819	322625
3.787 +		336275	287213
3.828		53148	35925
3.854 -		586135	428883
3.882 +		346016	291734
3.903		90173	50925
3.979 -		655082	499102
4.002		166300	107047
4.033		236228	174088
4.068 -		547615	548149
4.109		189835	158946
4.154		19447	15011
4.193		54783	47776
4.227		457106	316771
4.248 -		556716	362663
4.271 +		634707	473171
4.338 + +		60147	59249
4.377 -		574697	506178
4.399		129370	65671
4.414		56332	36526
4.455		8567	5590
4.478		33061	25659
4.521		183314	169645
4.573		240419	224966
4.604		141805	106066
4.634 -		445117	394999
34.68		257248	5369
4.719		171700	155320
4.757		38589	46648

RT A	Compound A	Height A	Area A
4.807		42098	36872
4.849		301261	299816
4.927		27447	33133
4.956		24991	18064
4.973		14952	10051
5.049		278848	283048
5.165		76763	69359
5.204		3155	1802
5.228		10307	8468
5.375		18297	14088
5.392		4446	3003
5.575		14688	13299
5.599		1815	1190
5.631		30181	31522
5.836		21194	22945
5.892		8824	13824
6.11		4119	4101
6.266		12410	11382
6.468		5909	6044
6.584	DCB	1749	2050
6.884		931	646

LANCASTER LABORATORIES

Sample Number: AR4841824C AAAR484AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:51:57 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.016.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.047		17196	43071
2.211		12939	8558
2.603		55877	120796
2.721		24612	23742
2.85		88863	65812
2.91		35757	25763
2.963		198224	132809
3.074		40065	27764
3.17		400820	211702
3.181		71262	24205
3.222		38451	23121
3.245		43822	27107
3.268		12921	7207
3.294		452367	317641
3.331		61030	39642
3.377		85506	46677
3.392		33509	15399
3.442		372302	179677
3.452 + ②		415964	160465
3.473		86697	34809
3.487 + ①		463855	313159
3.562 + ③		581324	375466
3.597		939975	595395
3.621		879310	497697
3.639		262134	132565
3.725		1186033	767752
3.748		347979	196528
3.77		379404	241417
3.801		184950	96058
3.818		769223	473876
3.861		311439	229726
3.909		62508	53427
3.931		578516	362517
3.954		1498939	966675
3.979		1003681	630281
3.999		82948	40410
4.019		73652	43157
4.056		422500	311490
4.091		698043	556495
4.12		352631	201101
4.168		52775	37968
4.204		252755	200151
4.262		408278	326418
4.295		240040	173529
4.324		659057	494686
4.362		10751	11325
4.42		253718	253637
4.456		60247	44276
4.489		379846	303072
4.558		51739	35618
4.583		29767	20941
4.66		62703	72640
4.712		354423	301586
4.754		13912	10032

③ cm 13706 10/31/18

RT B	Compound B	Height B	Area B
4.793		100281	90154
5.019		14841	11084
5.043		30837	22733
5.091		8627	8489
5.192		12026	8561
5.214		33954	29582
5.429		16396	14553
5.476		28957	35771
5.748		6779	9643
5.853		16096	14954
6.053		8463	8690

AR4841824C AAAR484AA ICAL 1830299999 10227 SW-846 8082

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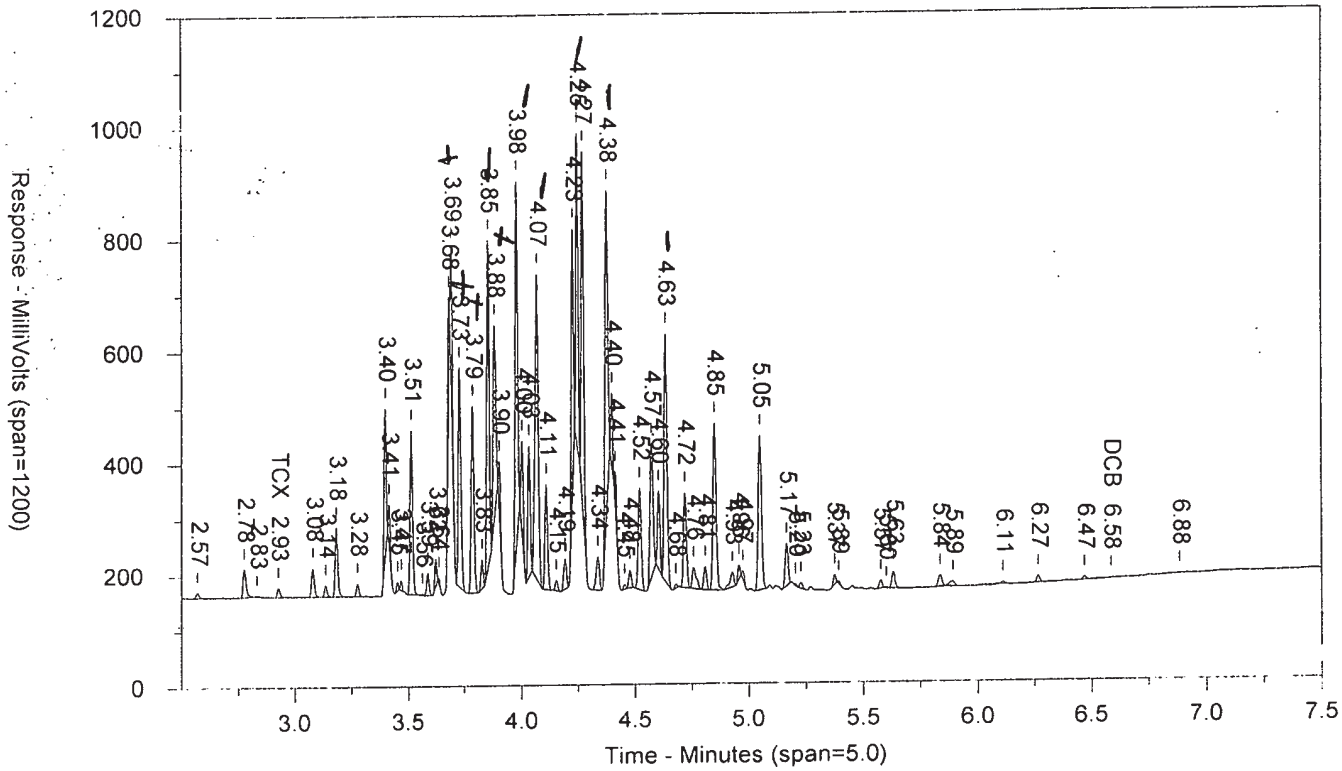

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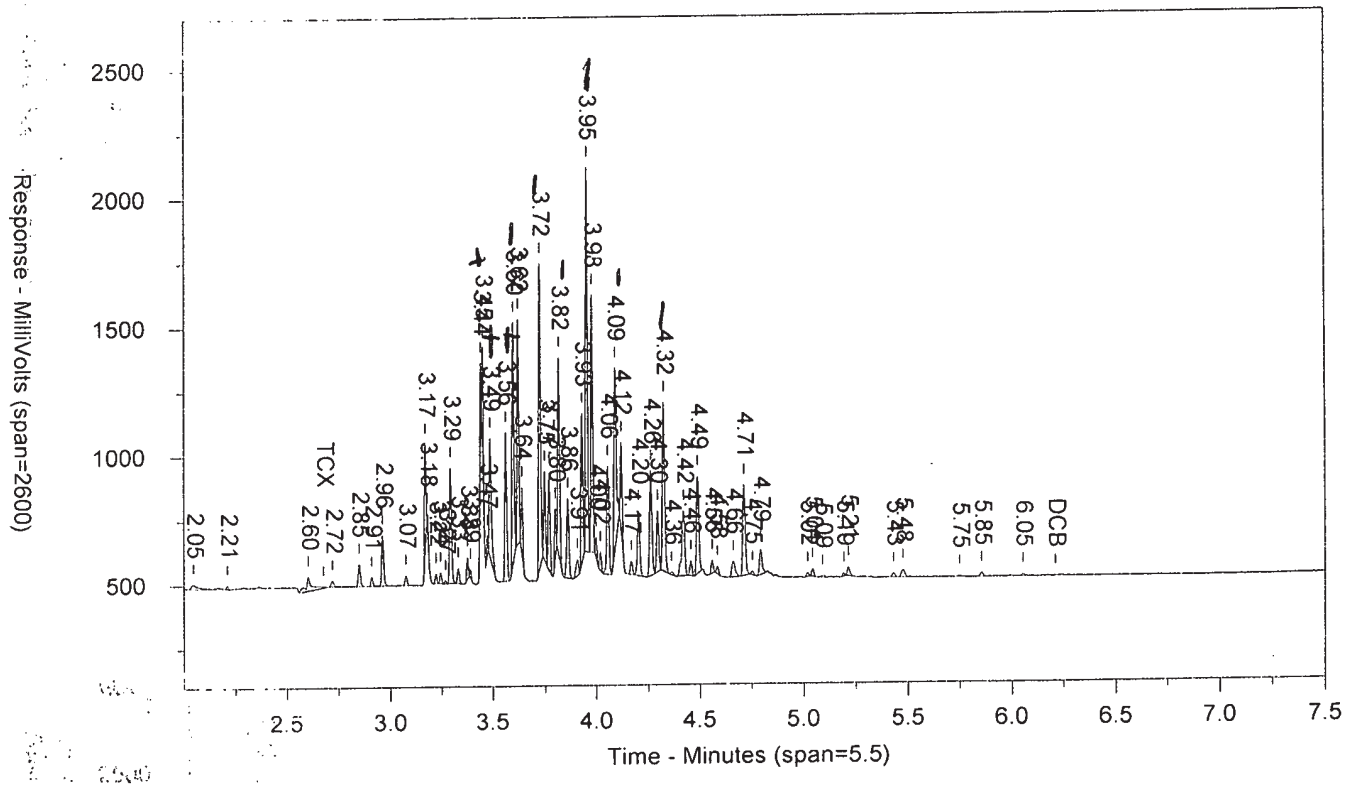

LANCASTER LABORATORIES

Sample Number: AR4841824C AAAR484AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 7:51:57 PM
Sample Weight: 1
Instrument ID: CP25-18274
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.927	16999	.11	TCX		0		TCX
6.584	1749	.014	DCB		0		DCB

Files:
Area File: 25pcbs18303001.016.RAW
Area File: 25pcbs18303001B.016.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 8:00:29 PM
File Reported On: 10/30/2018 at 8:00:35 PM

AR4841824C AAAR484AA ICAL 1830299999 10227 SW-846 8082

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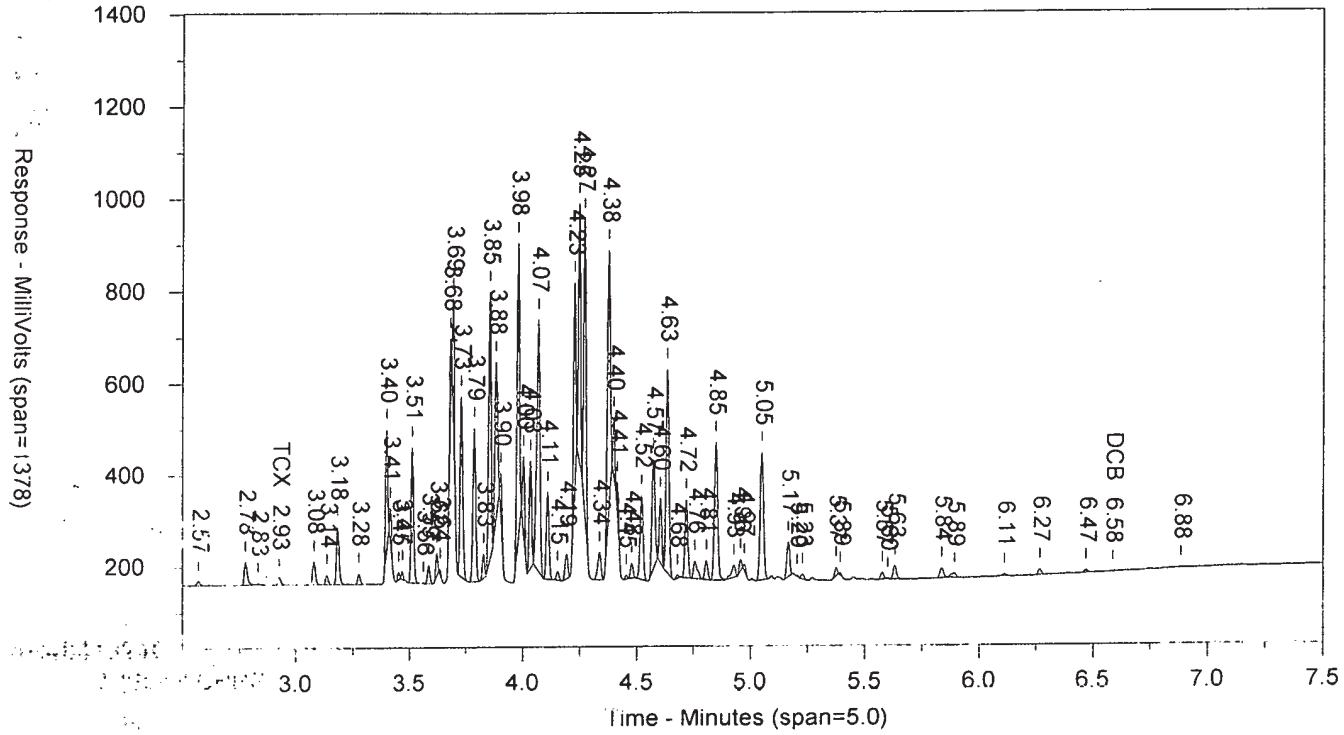

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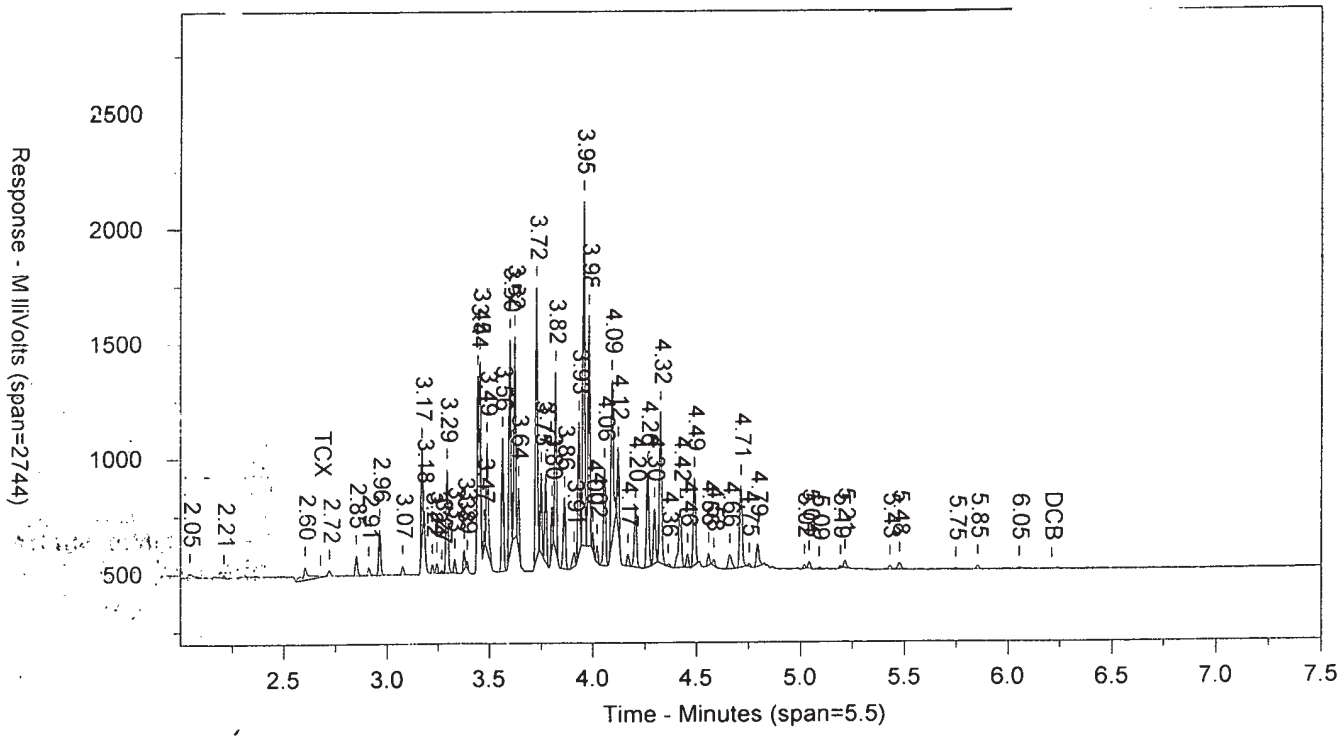

AR4841824C AAAR484AA ICAL 1830299999 10227 SW-846 8082

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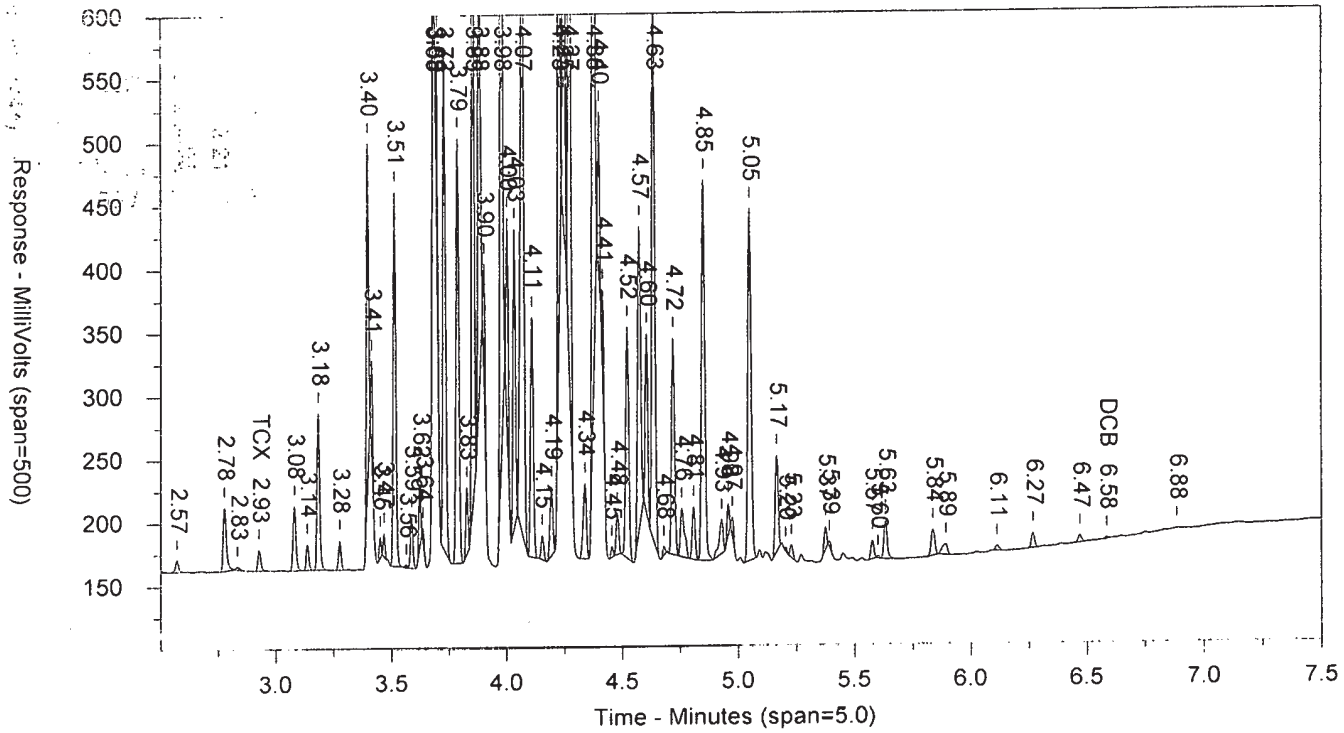

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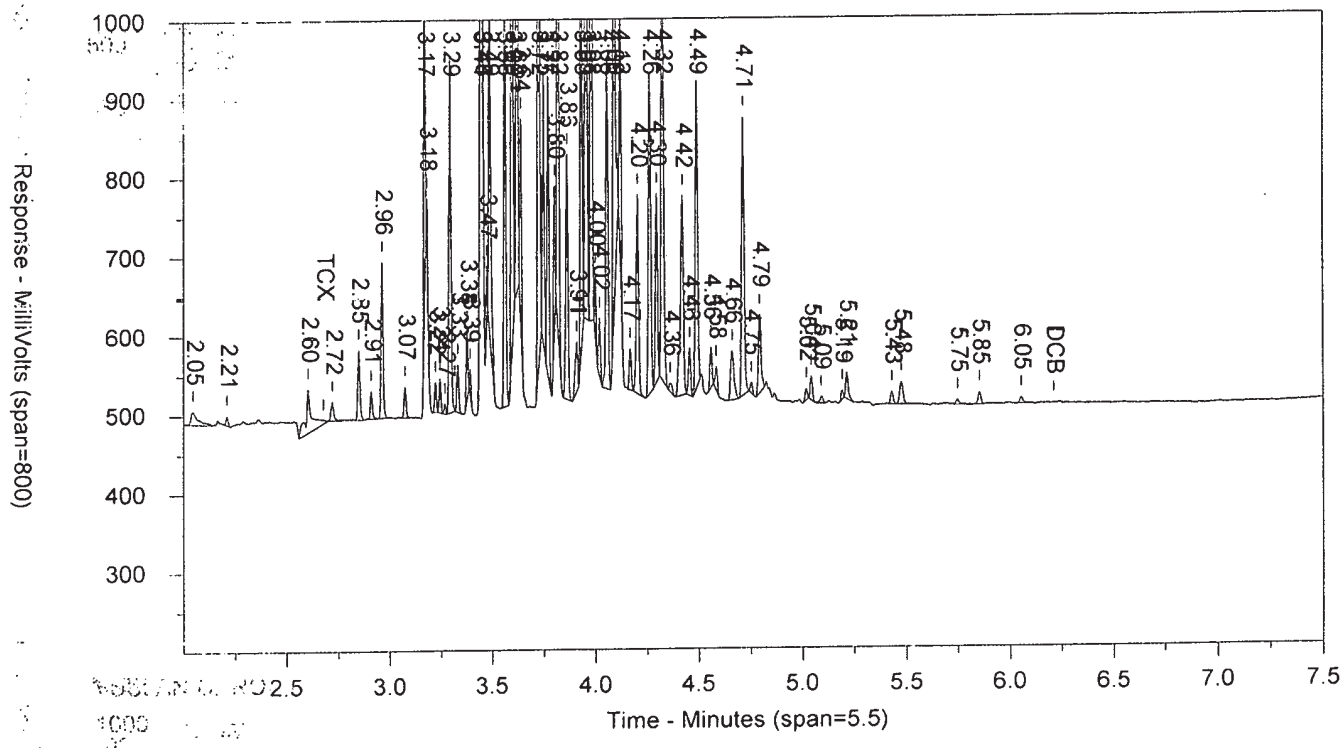

LANCASTER LABORATORIES

Sample Number: AR4851824C AAAR485AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:02:51 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.017.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.094		9493	16441
2.233		2283	2810
2.311		10558	7505
2.376		2378	2938
2.423		6723	6129
2.492		1646	1886
2.57		14336	16062
2.776		54718	53202
2.827		3957	5073
2.927	TCX	43752	37602
3.079		121039	110112
3.135		52396	39676
3.182		284413	227781
3.276		59470	44719
3.315		1949	1397
3.396		636377	405124
3.413		156810	83950
3.45		42098	23379
3.466		46233	24636
3.512		685194	547765
3.562		5588	3106
3.586		101993	73564
3.621		116869	69505
3.636		29637	13431
3.68		414152	242640
3.691		581750	309735
3.728		926843	755875
3.786		814350	685362
3.827		118871	84207
3.854		1349984	991511
3.881		827812	689680
3.902		228366	117887
3.978		1576176	1184108
4.002		391115	246644
4.033		529509	397101
4.068		1317265	1308080
4.108		436433	369219
4.153		50286	41770
4.192		120536	108131
4.226		1125341	771237
4.247		1400666	899769
4.27		1538718	1152900
4.337		141952	141300
4.377		1495085	1228715
4.397		351639	179134
4.414		148912	88451
4.455		21528	14013
4.478		79644	62149
4.52		403096	385754
4.572		587859	531255
4.603		315862	241197
4.634		1046054	935676
4.679		518514	13799
4.718		388176	363280

RT A	Compound A	Height A	Area A
4.756		90106	114857
4.806		101836	91987
4.848		664945	694347
4.928		56559	72413
4.956		59120	43073
4.973		40676	26856
5.049		694293	694530
5.091		17429	12915
5.117		15247	20180
5.165		176176	161556
5.186		6186	2937
5.204		7948	4231
5.227		28623	22124
5.27		13776	13483
5.374		45672	36613
5.392		14406	8684
5.574		35428	32936
5.599		3978	2590
5.63		73506	76884
5.835		55483	60084
5.891		23123	35874
6.023		2533	2423
6.085		1243	868
6.11		11372	12008
6.264		30273	30073
6.311		1323	1223
6.387		2311	2625
6.465		14631	14158
6.579		4894	5191
6.639	DCB	1320	1351
6.885		2105	4464

LANCASTER LABORATORIES

Sample Number: AR4851824C AAAR485AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:02:51 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.017.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.043		18744	43676
2.362		13496	13022
2.603		58478	115052
2.721		57771	54927
2.85		209269	153883
2.91		84733	58396
2.962		442746	304873
3.074		94393	65010
3.17		894964	478525
3.181		150499	51566
3.222		92040	55719
3.245		102065	63179
3.269		30461	15935
3.294		1038145	732530
3.331		149236	94529
3.377		196960	105998
3.392		73815	35787
3.442		825283	406743
3.452		1012560	391480
3.472		182606	77929
3.487		1077316	737049
3.562		1392558	888575
3.596		2215002	1408273
3.62		2132338	1192404
3.638		639140	316593
3.682		3289	3024
3.724		2829950	1834374
3.748		797330	449834
3.77		890512	561901
3.801		399138	214874
3.817		1875281	1138803
3.861		705397	531794
3.909		150736	126808
3.931		1356221	850565
3.954		3737282	2373050
3.979		2472248	1550409
3.999		186260	90190
4.019		175956	103303
4.055		974773	721200
4.091		1714444	1352388
4.12		874428	511083
4.168		128119	92573
4.204		587707	463039
4.262		1009870	779633
4.296		572446	408761
4.324		1568281	1183790
4.362		27904	27386
4.419		601788	597159
4.455		145514	105913
4.488		953795	728726
4.557		121557	81317
4.583		67890	48655
4.659		157139	166949
4.711		890252	747304

RT B	Compound B	Height B	Area B
4.753		31433	23374
4.793		235323	213064
4.825		17535	8254
4.865		18744	14137
4.983		11057	14952
5.018		36583	27029
5.042		68920	53039
5.093		19363	18662
5.129		8433	6766
5.158		6504	4606
5.191		30151	21038
5.213		80677	70049
5.287		6316	12772
5.428		39555	45719
5.475		65769	80298
5.628		6471	7779
5.745		14668	13281
5.853		38241	35402
6.052		19247	22412

AR4851824C AAAR485AA ICAL 1830299999 10227 SW-846 8082

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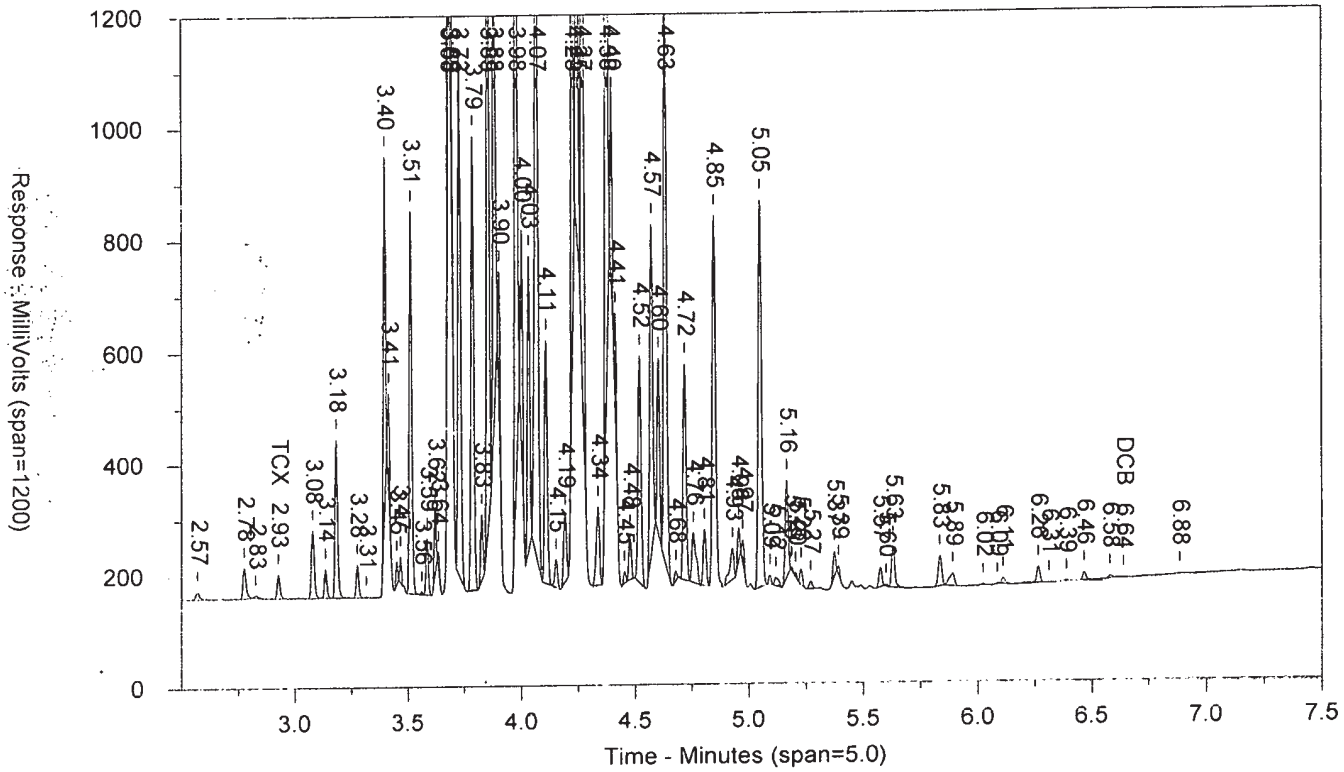

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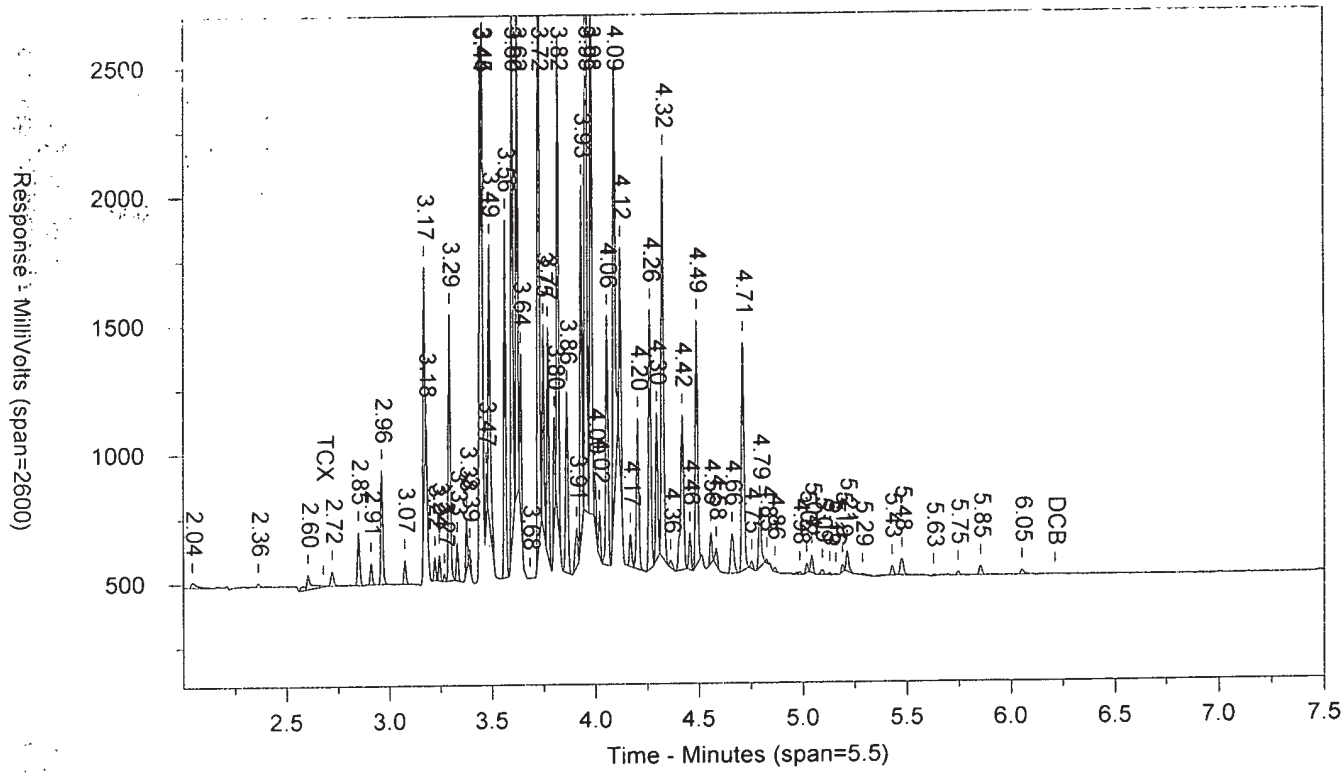

LANCASTER LABORATORIES

Sample Number: AR4851824C AAAR485AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:02:51 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.927	43752	.282	TCX		0		TCX
6.639	1320	.01	DCB		0		DCB

Files:
Area File: 25pcbs18303001.017.RAW
Area File: 25pcbs18303001B.017.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 8:11:22 PM
File Reported On: 10/30/2018 at 8:11:27 PM

AR4851824C AAAR485AA ICAL 1830299999 10227 SW-846 8082

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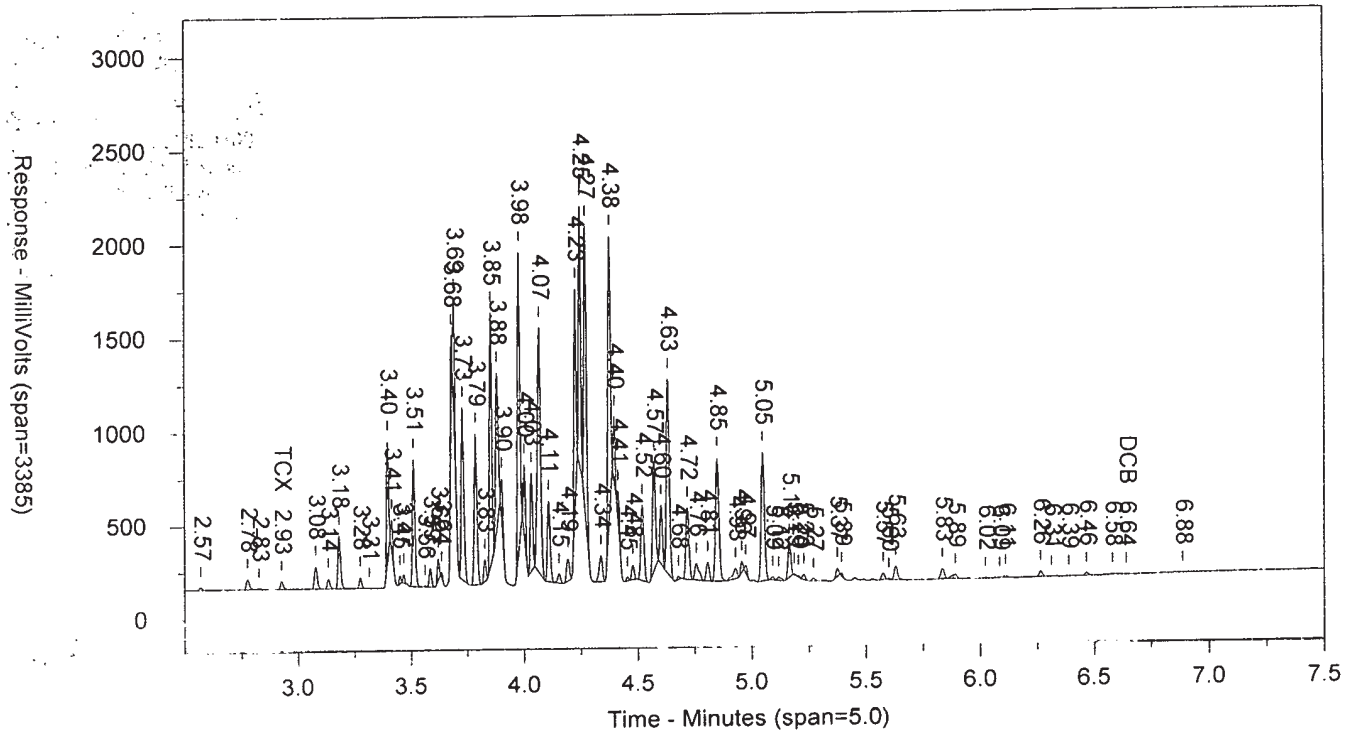

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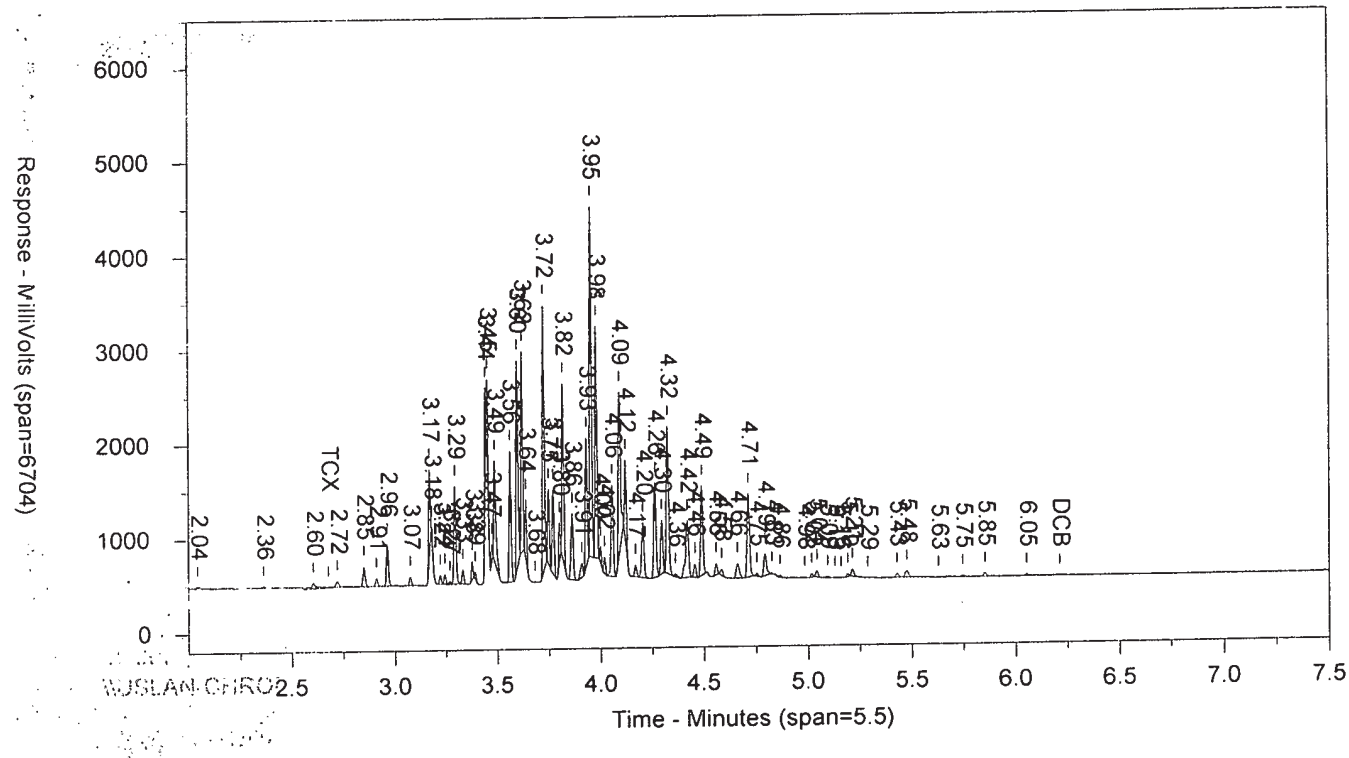

AR4851824C AAAR485AA ICAL 1830299999 10227 SW-846 8082

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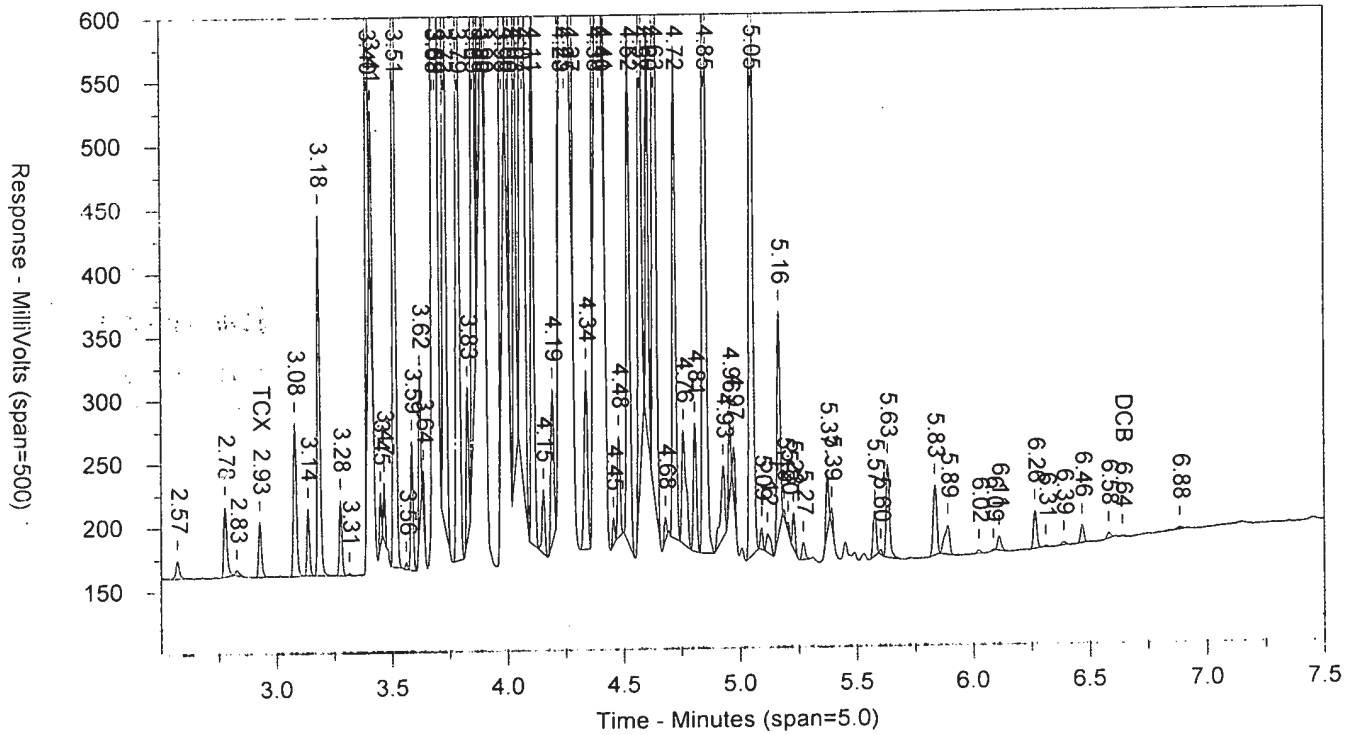

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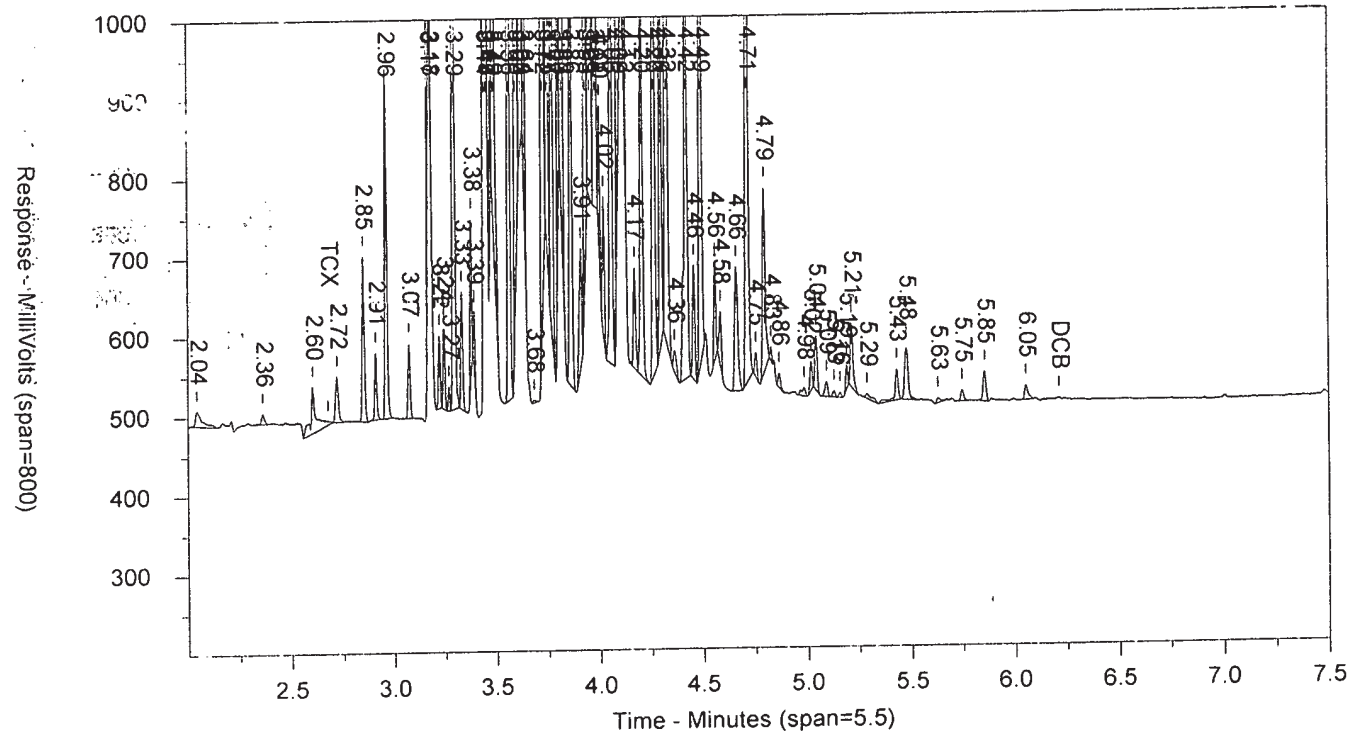

LANCASTER LABORATORIES

Sample Number: AR4861824C AAAR486AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:13:28 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.018.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.094		8290	13970
2.228		1941	2780
2.31		11725	8425
2.377		2363	2808
2.422		2671	2478
2.49		1591	1734
2.57		29565	30370
2.775		39523	35833
2.842		2908	3958
2.926	TCX	100465	90096
3.078		269537	253031
3.134		115540	89680
3.181		601087	482095
3.275		128719	98752
3.312		4624	3281
3.395		1294091	815506
3.411		339784	171769
3.448		81063	45955
3.465		114169	74253
3.51		1450465	1156443
3.544		1923	705
3.56		14472	7869
3.584		232999	177922
3.619		229040	137842
3.633		57441	28189
3.679		727066	434071
3.688		1274825	694455
3.726		2030428	1640153
3.784		1704349	1446878
3.824		236838	169063
3.851		2844456	2063606
3.878		1777816	1476973
3.899		400324	215154
3.975		3345268	2480800
3.999		795683	498907
4.03		1113084	818773
4.065		2868271	2764216
4.105		898046	748969
4.151		102134	85048
4.19		236510	214727
4.223		2451013	1657944
4.244		3041679	1959556
4.268		3298432	2490113
4.334		291576	281030
4.374		3099987	2595983
4.395		721425	380563
4.41		300697	150277
4.452		42111	28655
4.475		154697	124268
4.518		827065	791101
4.569		1221407	1100629
4.601		647036	494683
4.632		2192897	1956743
4.676		39730	28386

RT A	Compound A	Height A	Area A
4.716		784290	738373
4.753		177557	223832
4.804		199924	185776
4.845		1452426	1442253
4.926		110481	141713
4.953		112399	84387
4.971		69951	46670
5.003		17696	14646
5.046		1522938	1491291
5.089		36439	28105
5.115		34393	44889
5.162		347180	328635
5.184		13453	5579
5.201		15203	7976
5.224		57277	46556
5.268		30959	29263
5.372		85053	72007
5.388		16662	13946
5.447		31183	48532
5.572		81516	72863
5.596		10700	6522
5.628		152274	159530
5.832		107633	116448
5.887		49675	79416
6.02		6372	6612
6.082		2396	1691
6.105		20856	18516
6.262		62936	64876
6.307		2551	2369
6.386		903	982
6.462		30404	31219
6.609	DCB	2030	1665

LANCASTER LABORATORIES

Sample Number: AR4861824C AAAR486AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:13:28 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.018.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.048		16746	41368
2.364		35306	43126
2.603		40017	60811
2.721		129742	125124
2.85		476670	354308
2.911		185294	124952
2.963		972690	652491
3.075		205932	140862
3.17		1993619	1026026
3.181		331582	115618
3.222		195615	116416
3.244		251585	155059
3.269		60908	33169
3.293		2242947	1549529
3.33		366522	233307
3.376		423883	233323
3.391		160378	74805
3.442		1879740	858391
3.451		2146198	887966
3.472		362420	145276
3.486		2498233	1654129
3.56		2932817	1893874
3.595		4771195	2949293
3.619		4604169	2559444
3.637		1265402	650836
3.723		5997394	3892470
3.746		1690160	938041
3.768		1863580	1167670
3.799		889720	469245
3.816		3962764	2452449
3.86		1547521	1110825
3.907		305478	259978
3.929		3084126	1902631
3.952		8187852	5168668
3.977		5440820	3420166
3.997		357670	177426
4.017		350024	201892
4.053		2089715	1512831
4.089		3854186	2993408
4.118		2101467	1177217
4.166		260165	185481
4.202		1222448	968922
4.26		2189281	1673865
4.293		1219209	868878
4.322		3537277	2574828
4.36		61484	59710
4.417		1304065	1263560
4.453		295396	228934
4.487		2052326	1584860
4.511		54460	29203
4.555		251830	176514
4.581		152809	108522
4.657		318351	340665
4.71		2086319	1671136

RT B	Compound B	Height B	Area B
4.751		84225	70136
4.791		494567	450658
4.823		35295	17328
4.833		37323	26843
4.965		10341	6017
4.983		17355	11556
5.017		74572	56767
5.041		158532	124206
5.091		42730	40937
5.127		17859	14313
5.157		12802	9890
5.189		62485	44536
5.212		175384	148169
5.283		12094	15235
5.426		78987	75832
5.474		142960	166304
5.626		8686	7904
5.744		29660	28732
5.851		79542	70848
6.05		43545	45058

AR4861824C AAAR486AA ICAL 1830299999 10227 SW-846 8082

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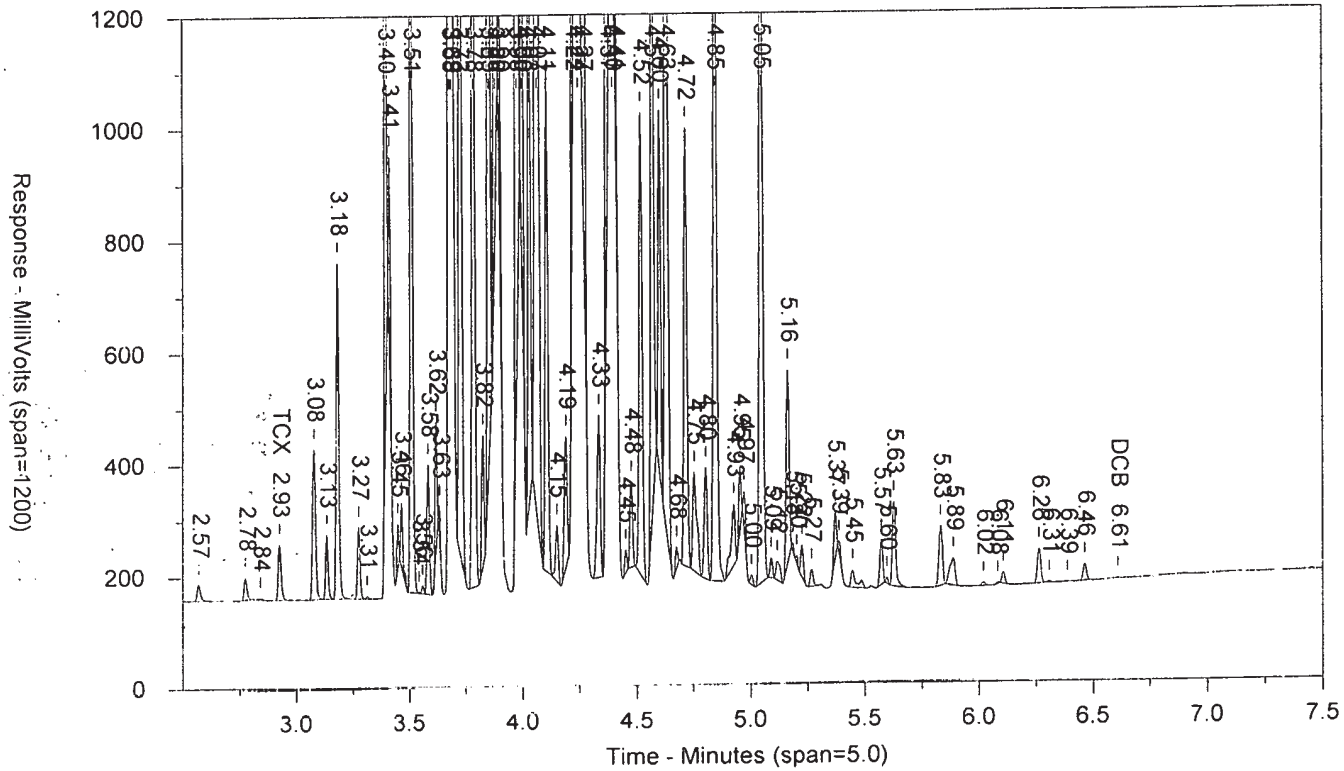

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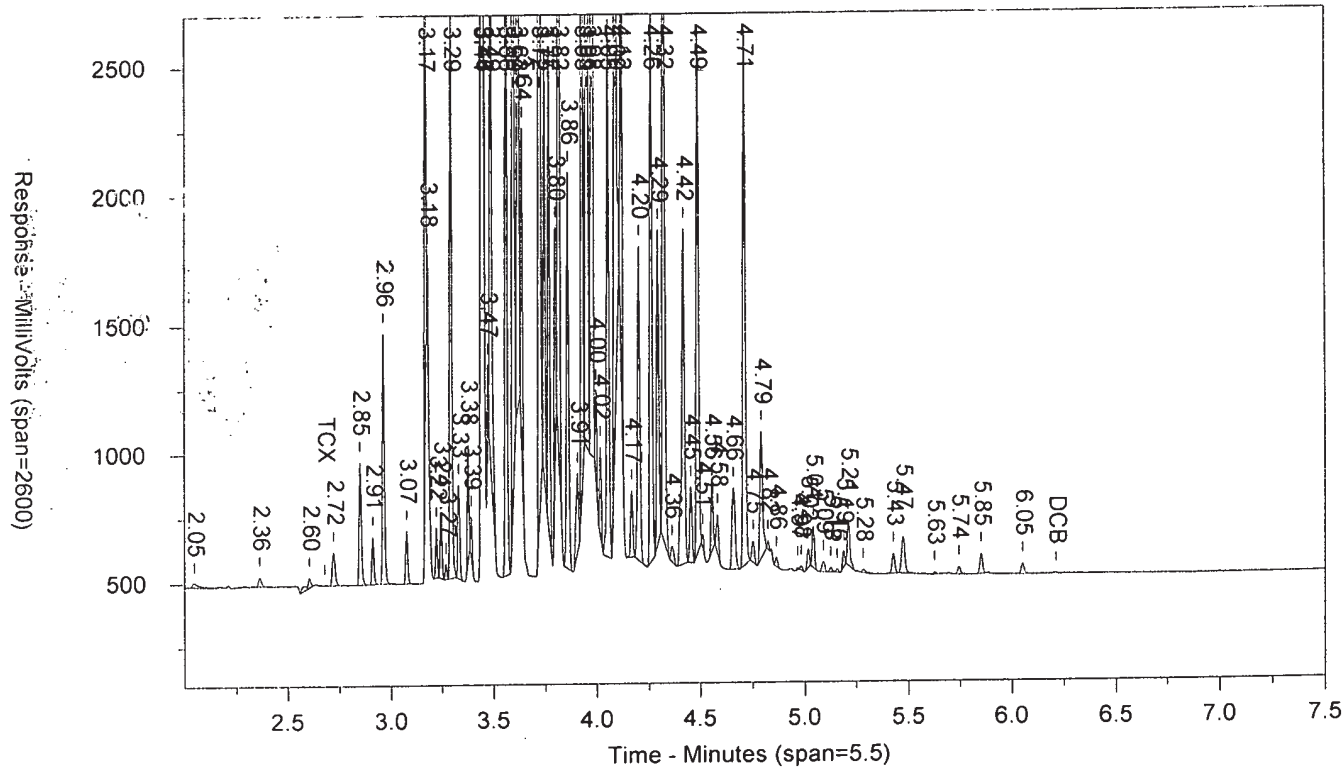

LANCASTER LABORATORIES

Sample Number: AR4861824C AAAR486AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:13:28 PM
Sample Weight: 1
Instrument ID: CP25-18274
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	100465	.648	TCX		0		TCX
6.609	2330	.016	DCB		0		DCB

Files:
Area File: 25pcbs18303001.018.RAW
Area File: 25pcbs18303001B.018.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 8:21:58 PM
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AR4861824C AAAR486AA ICAL 1830299999 10227 SW-846 8082

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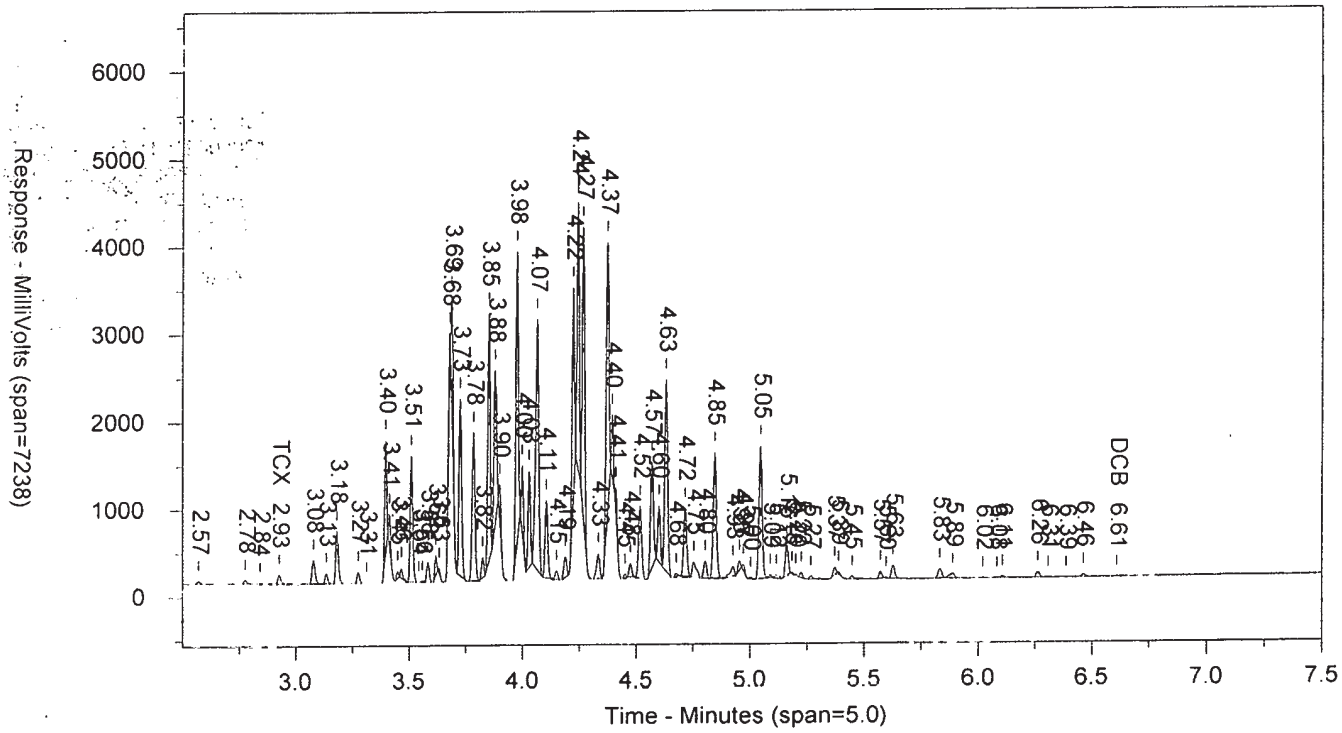

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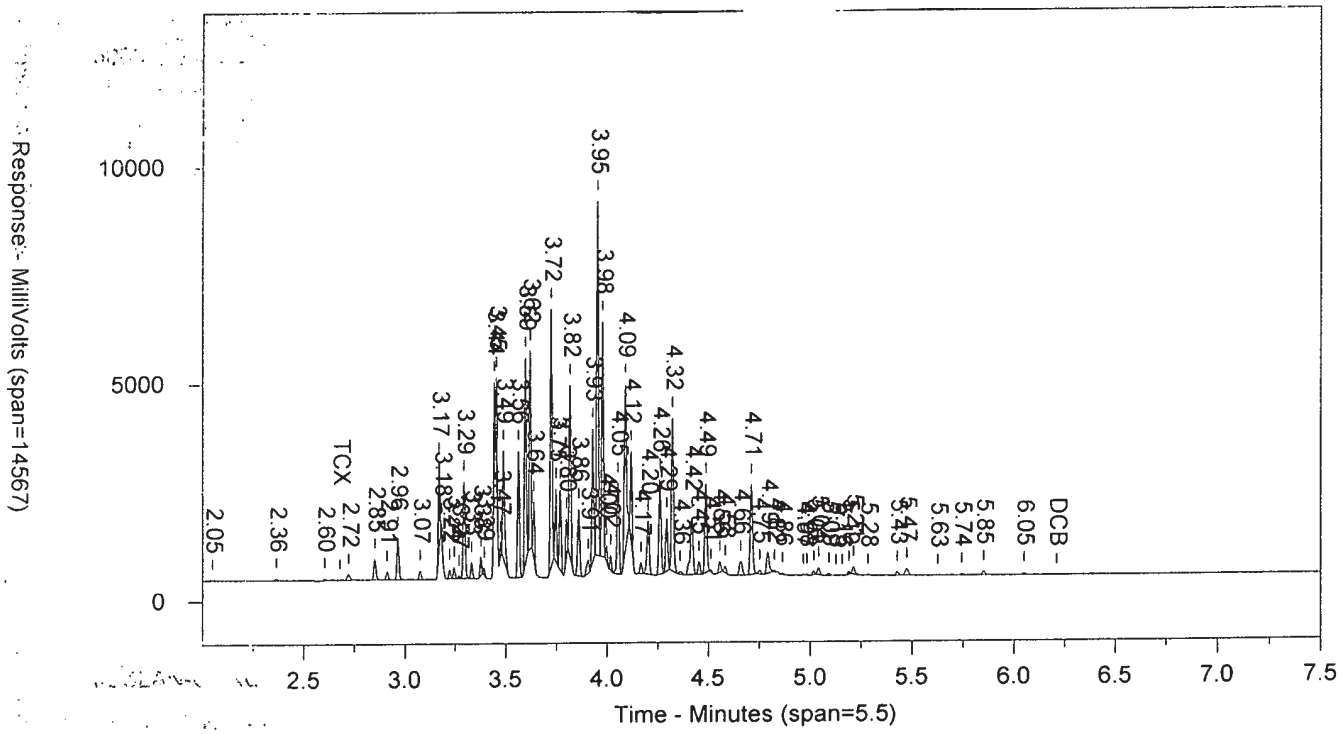

AR4861824C AAAR486AA ICAL 1830299999 10227 SW-846 8082

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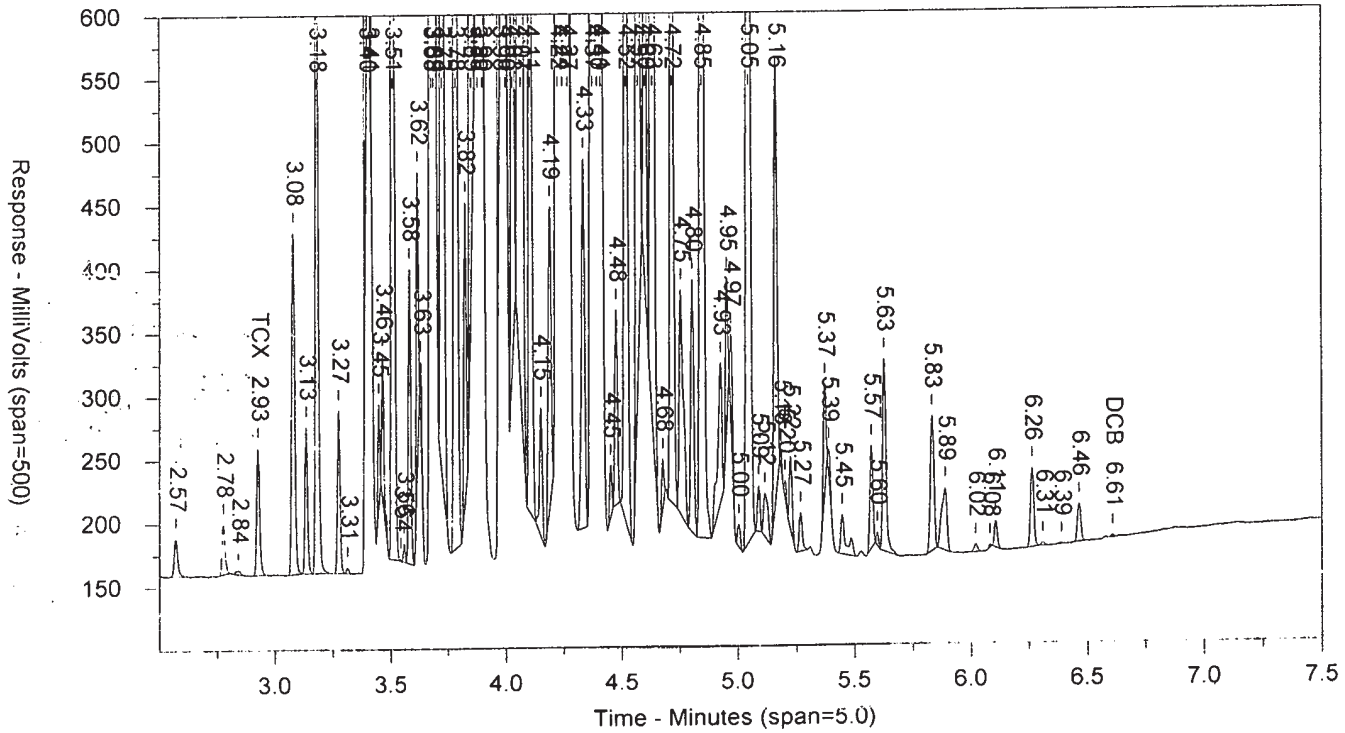

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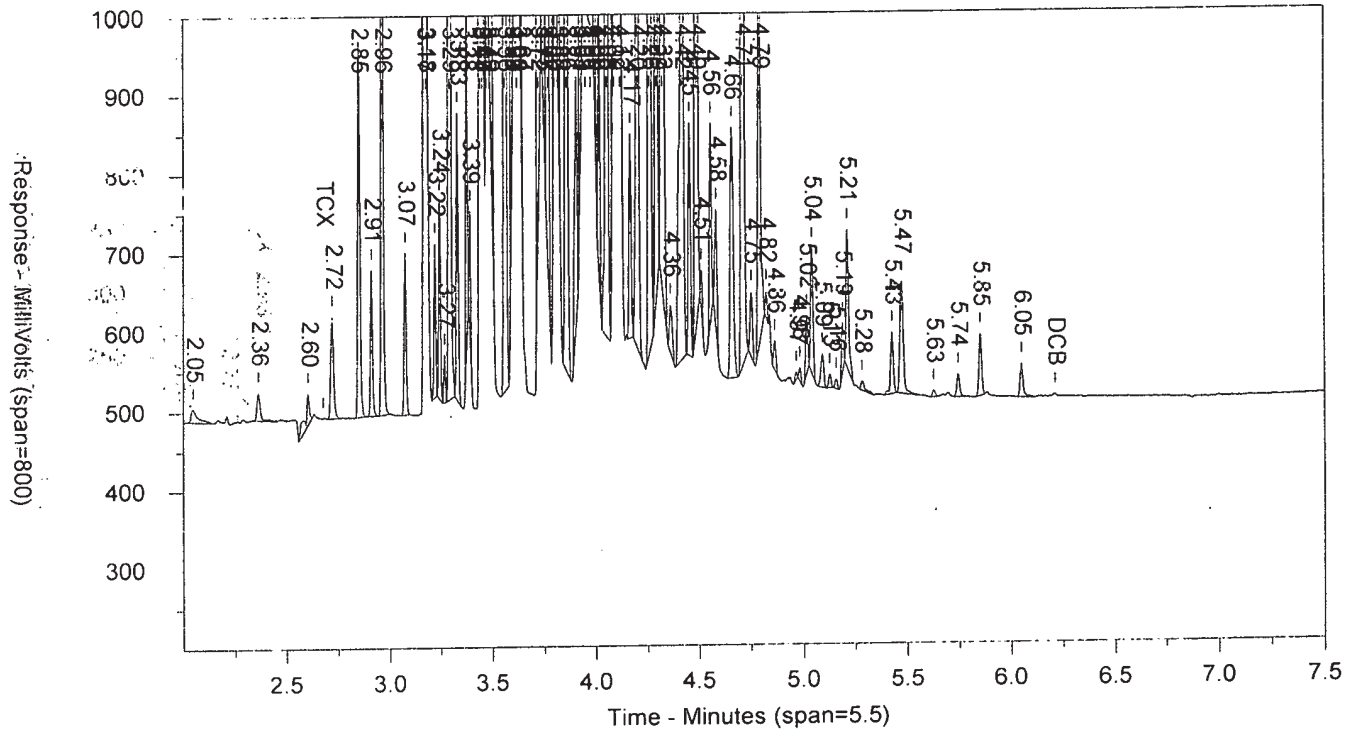

LANCASTER LABORATORIES

Sample Number: AR5411824C AAAR541AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:24:30 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001.019.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		8809	16422
2.144		2416	3700
2.311		11040	7662
2.377		1855	2110
2.422		784	735
2.493		1582	1689
2.571		4404	4791
2.776		57829	57552
2.836		1466	1359
2.929	TCX	1824	1432
3.079		3392	3213
3.137		1350	1045
3.182		5926	5026
3.278		1457	908
3.397		12347	8098
3.413		2433	1089
3.468		3481	2167
3.513		12473	9639
3.587		8023	6069
3.624		1831	1138
3.682		4215	2087
3.691		5561	4032
3.729		22944	18591
3.786		14327	12557
3.828		1879	1313
3.854		81328	62565
3.882		30021	35738
3.978		55809	43164
4.001		5284	3073
4.033		11353	8358
4.067		31350	33243
4.109		8393	6649
4.153		1600	1157
4.19		4911	3866
4.227		105339	78557
4.247		51905	30402
4.271		42884	31496
4.338		28405	24278
4.38		165007	174531
4.415		55062	42863
4.455		1884	1273
4.478		9287	7319
4.521		59403	54642
4.573		101777	91889
4.603		24310	16155
4.634		199750	180868
4.68		8133	5738
4.719		30606	24994
4.756		64495	67442
4.807		11750	10633
4.848		141946	140450
4.903		9471	7228
4.924		5090	3921
4.956		51397	39889
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RT A	Compound A	Height A	Area A
4.973		19932	13109
5.047		106743	105221
5.092		9926	7930
5.165		134726	128718
5.186		5556	2387
5.226		3370	2199
5.374		38236	31208
5.574		28617	25502
5.599		2959	2033
5.63		22673	21305
5.838		19008	18286
5.87		2926	2422
6.266		1437	1499
6.562	DCB	732	523

LANCASTER LABORATORIES

Sample Number: AR5411824C AAAR541AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:24:30 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.019.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		15266	29600
2.603		59313	108862
2.963		10093	7799
3.075		2683	2167
3.171		17815	9478
3.221		2225	981
3.245		9169	6258
3.295		21353	14789
3.331		13373	9014
3.369		10882	10695
3.443		12295	6232
3.452		10428	4222
3.473		4851	2128
3.488		25151	18735
3.563		25078	16637
3.597		134935	83365
3.621		69211	41208
3.638		7957	3451
3.725		95099	62395
3.748		13242	7297
3.77		27347	18361
3.801		16863	9073
3.818		38753	22581
3.861		15250	11278
3.901		8476	7010
3.931		33946	19889
3.954		267715	183653
3.979		45541	26876
3.999		24698	13601
4.019		41585	25953
4.055		216908	154510
4.089		87293	56847
4.106		48303	27874
4.168		16919	12432
4.204		87121	70100
4.262		164347	126001
4.295		47467	36012
4.324		286327	220045
4.362		20166	19957
4.418		136710	119558
4.455		19372	14428
4.488		171463	131669
4.513		27169	17158
4.557		106750	86337
4.658		92250	109844
4.712		116641	98397
4.752		29062	24159
4.793		196142	198836
4.841		12400	7964
4.985		9611	8373
5.019		10437	7159
5.043		56522	48312
5.094		7107	6267
5.13		5522	4435

RT B	Compound B	Height B	Area B
5.191		27015	19474
5.214		22216	19624
5.472		26496	31530

AR5411824C AAAR541AA ICAL 1830299999 10227 SW-846 8082

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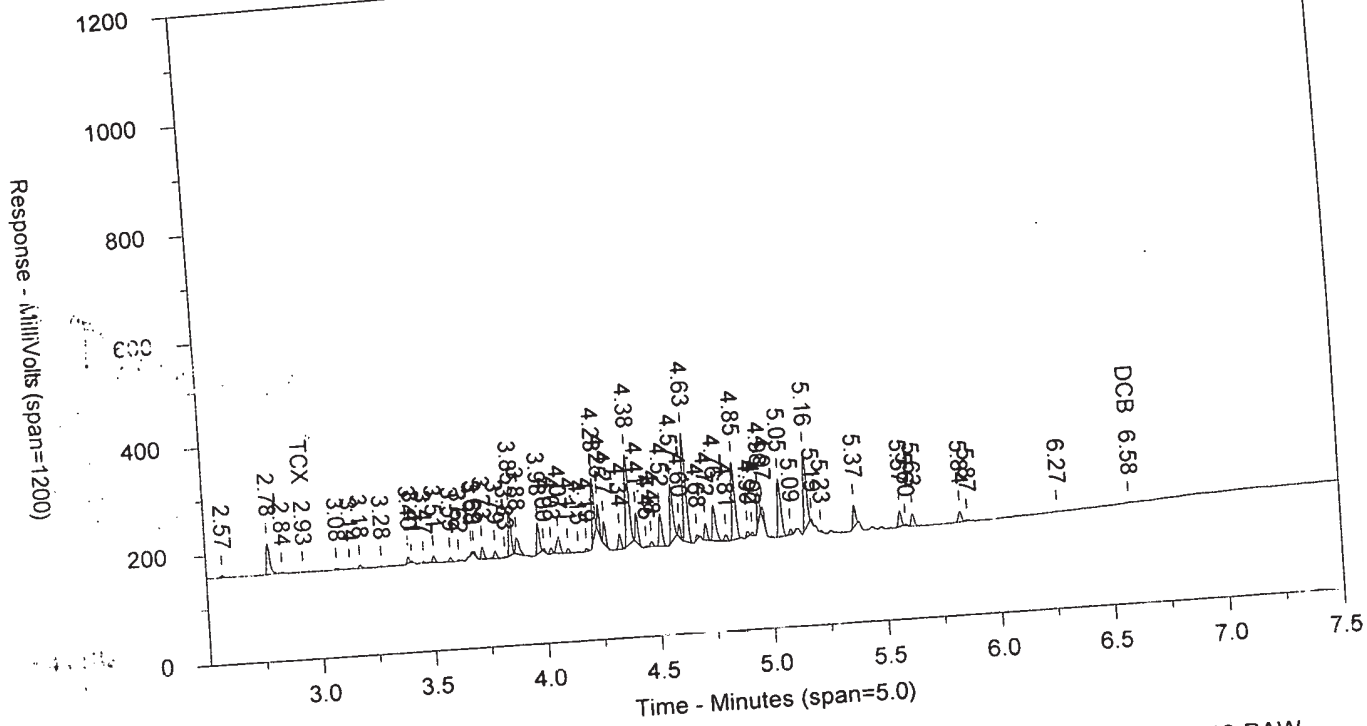

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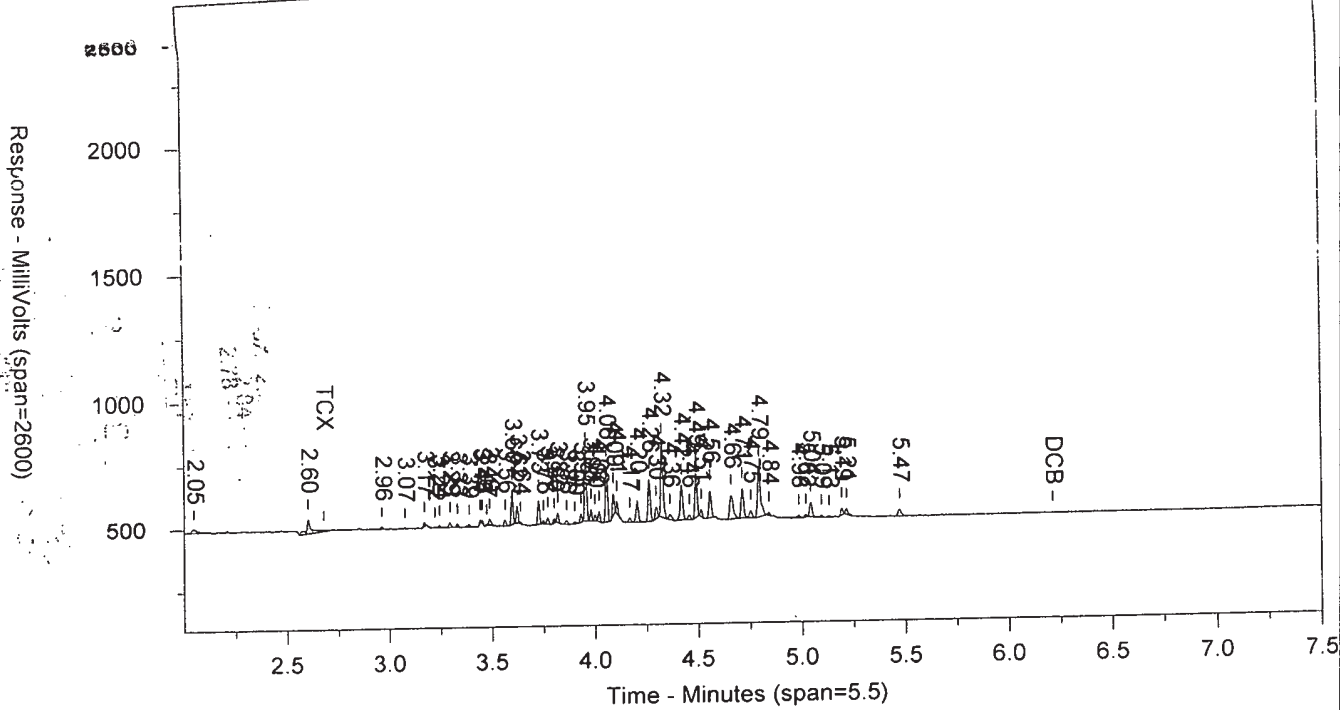

LANCASTER LABORATORIES

Sample Number: AR5411824C AAAR541AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:24:30 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB-Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB-Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.929	1824	.012	TCX		0		TCX
6.582	732	.006	DCB		0		DCB

Files:
Area File: 25pcbs18303001.019.RAW
Area File: 25pcbs18303001B.019.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 8:33:00 PM
File Reported On: 10/30/2018 at 8:33:05 PM

AR5411824C AAAR541AA ICAL 1830299999 10227 SW-846 8082

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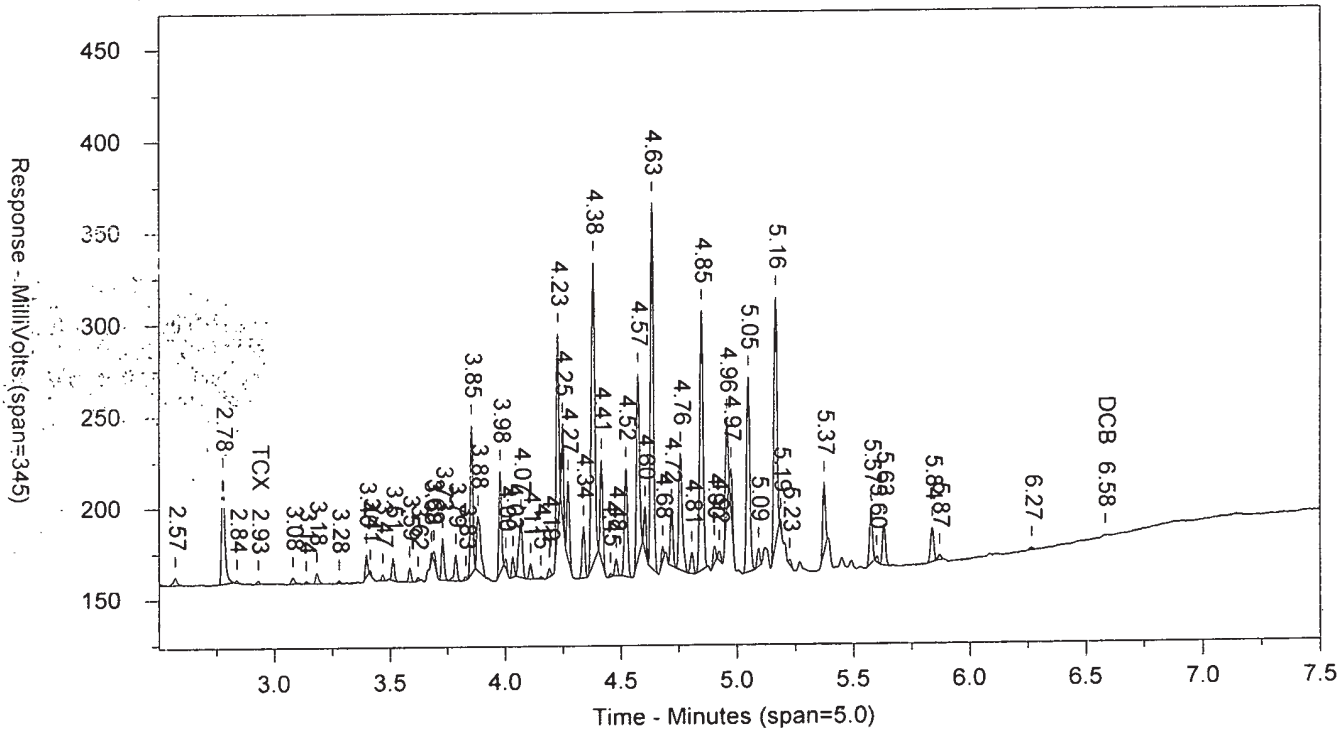

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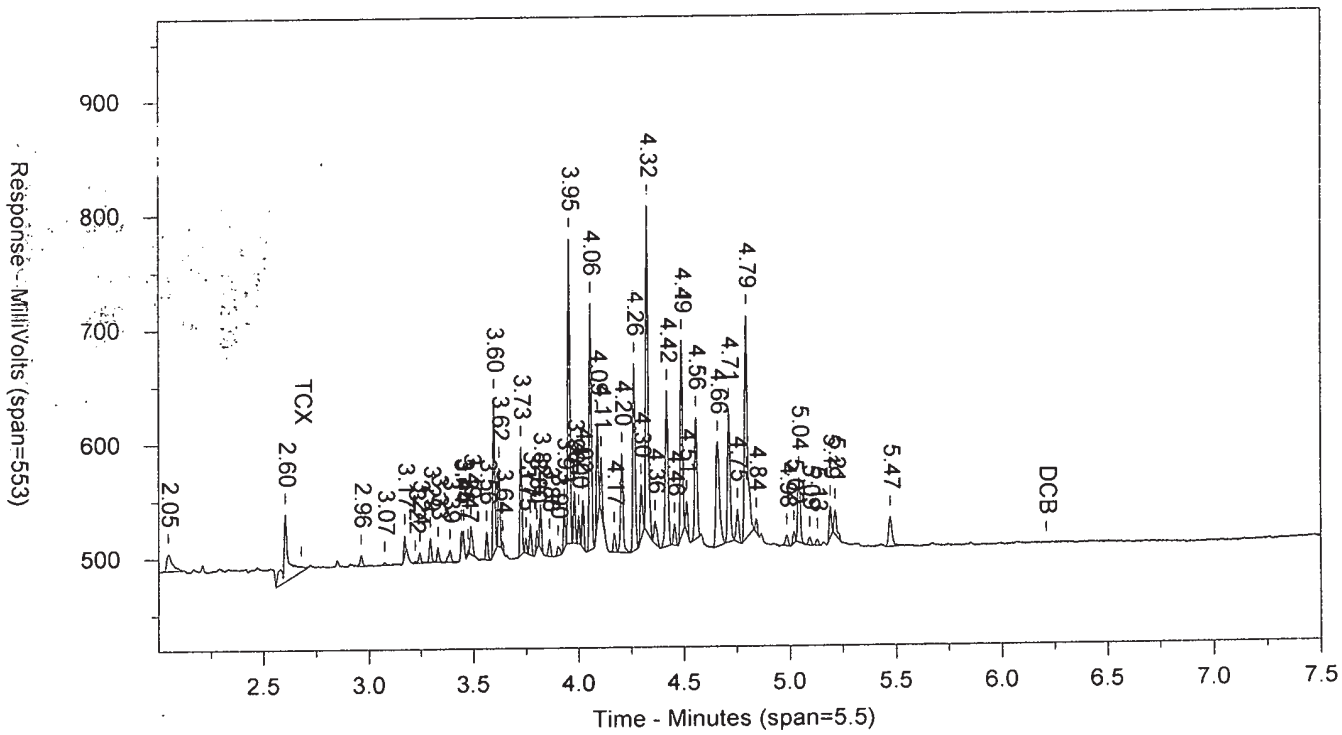

AR5411824C AAAR541AA ICAL 1830299999 10227 SW-846 8082

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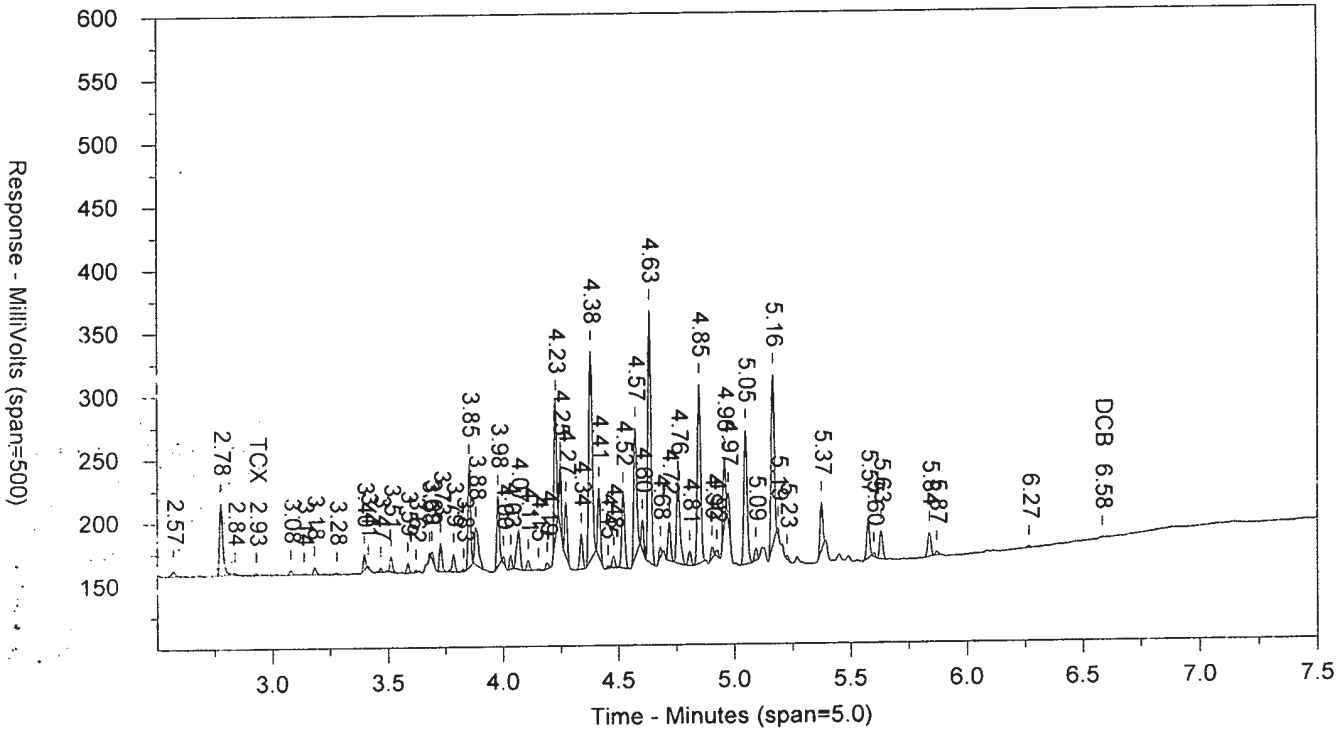

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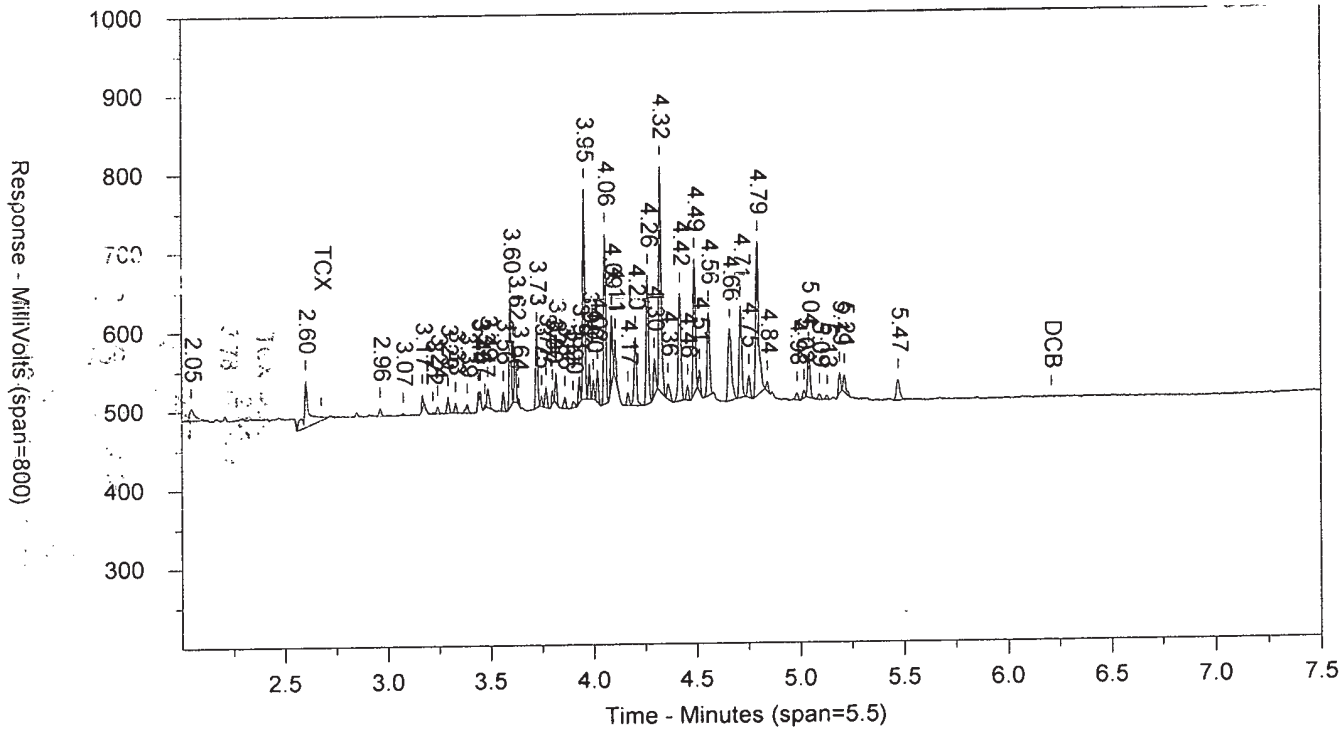

LANCASTER LABORATORIES

Sample Number: AR5421824C AAAR542AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:35:22 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.020.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.093		8036	15831
2.231		2627	3273
2.311		11345	7958
2.378		2173	2727
2.423		1250	1093
2.496		1309	1029
2.57		4362	3293
2.776		25982	23399
2.835		2338	1805
2.928	TCX	1339	929
3.076		3201	2858
3.182		5173	4345
3.277		1728	1395
3.397		11006	7076
3.466		4565	3105
3.512		10364	8219
3.585		10796	8003
3.62		1486	887
3.664		5321	3146
3.678		1559	589
3.697		4191	3449
3.728		23489	19743
3.784		10498	7999
3.826		1656	1007
3.853		133908	101955
3.881		36054	41782
3.977		81722	63039
4.032		11473	8068
4.066		35426	39385
4.107		7447	6038
4.152		2003	1393
4.187		7379	5581
4.226		175190	137057
4.246		68722	41556
4.271		55012	41562
4.336		54391	47262
4.379		294109	307095
4.414		101948	86579
4.453		3328	2196
4.477		16755	13717
4.519		110656	100383
4.571		184557	169128
4.602		40501	28138
4.633		360152	334572
4.679		17972	12262
4.692		5867	3140
4.717		53551	44439
4.755		119328	129338
4.805		23083	19873
4.846		248121	257238
4.902		24042	18464
4.926		5645	3443
4.954		94345	73908
4.972		40342	25826

RT A	Compound A	Height A	Area A
5.047		196751	194076
5.09		20989	16394
5.117		19693	28848
5.163		259820	239523
5.185		10050	4414
5.202		7597	4078
5.225		6066	4370
5.269		10145	12243
5.373		89117	123671
5.573		58541	52250
5.598		6326	3950
5.629		46102	42278
5.836		39455	35638
5.867		5537	5938
6.084		1518	1135
6.113		1314	1402
6.264		2071	2083
6.715		655	628
6.891		729	1333

LANCASTER LABORATORIES

Sample Number: AR5421824C AAAR542AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:35:22 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.020.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.047		14399	35476
2.603		32275	63107
2.963		9198	7548
3.077		2817	1771
3.172		15347	8604
3.244		10833	7637
3.295		17442	13122
3.331		18850	12024
3.387		13676	11354
3.443		5378	2607
3.473		5369	2368
3.488		25500	21172
3.562		19575	12438
3.595		216795	135773
3.62		87356	54331
3.724		135777	87040
3.747		9335	4727
3.769		26631	19162
3.8		24083	12949
3.817		40069	22809
3.862		14242	11971
3.901		13205	12254
3.93		38992	21932
3.952		469125	314983
3.978		45018	25453
3.998		45849	25824
4.018		76949	48546
4.054		388644	285028
4.087		152162	96809
4.105		94724	53790
4.167		29829	21715
4.203		151315	122807
4.261		299510	232087
4.295		79472	61700
4.323		512856	406187
4.361		36585	37972
4.417		252879	225507
4.455		36803	28085
4.487		322258	245832
4.512		50743	34131
4.556		204251	169398
4.658		181538	201727
4.711		214837	182432
4.753		54831	47256
4.792		365768	380267
4.84		24199	15377
4.984		17212	14224
5.018		18486	12679
5.042		106144	91803
5.093		14946	12926
5.129		11898	9368
5.16		7013	6044
5.19		53615	39677
5.213		42443	38551

RT B	Compound B	Height B	Area B
5:47		50420	56430

AR5421824C AAAR542AA ICAL 1830299999 10227 SW-846 8082

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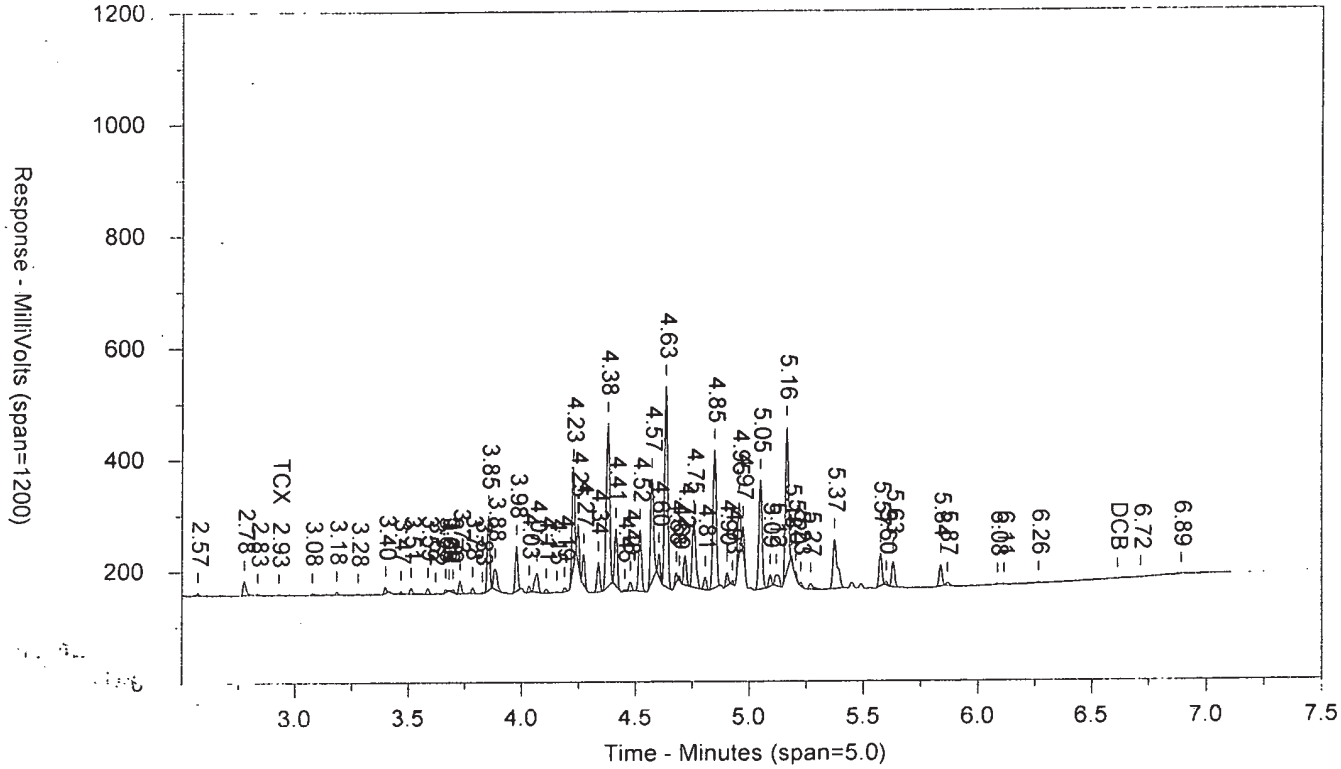

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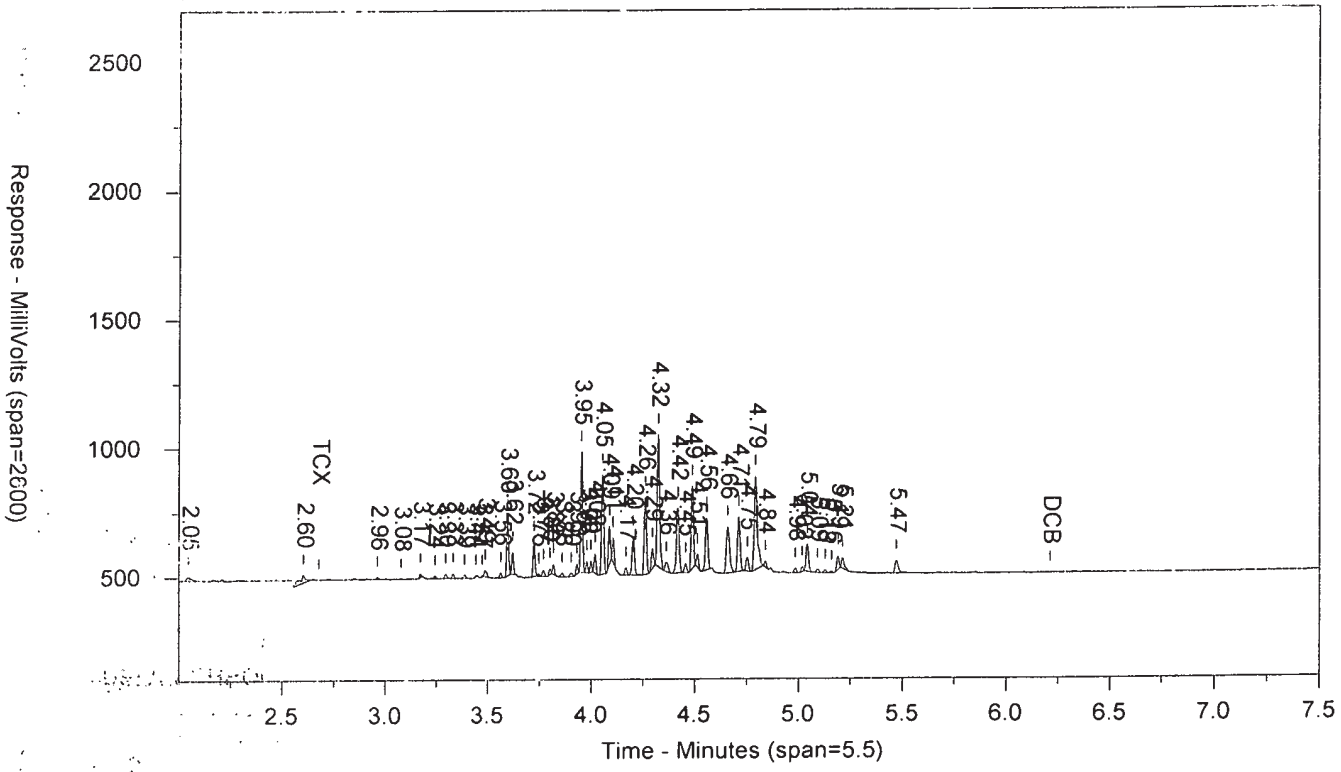

LANCASTER LABORATORIES

Sample Number: AR5421824C AAAR542AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:35:22 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters. 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.928	1339	.009	TCX		0		TCX

Files:
Area File: 25pcbs18303001.020.RAW
Area File: 25pcbs18303001B.020.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 8:43:54 PM
File Reported On: 10/30/2018 at 8:43:59 PM

AR5421824C AAAR542AA ICAL 1830299999 10227 SW-846 8082

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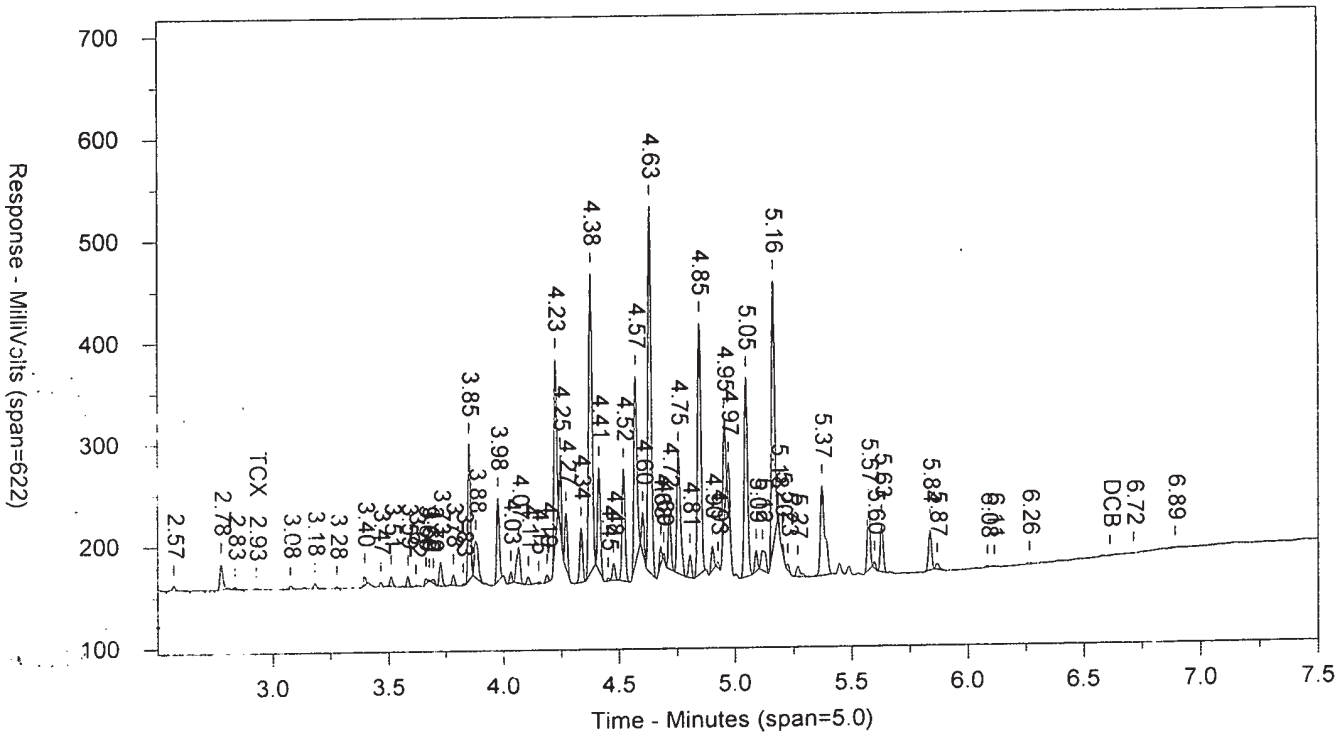

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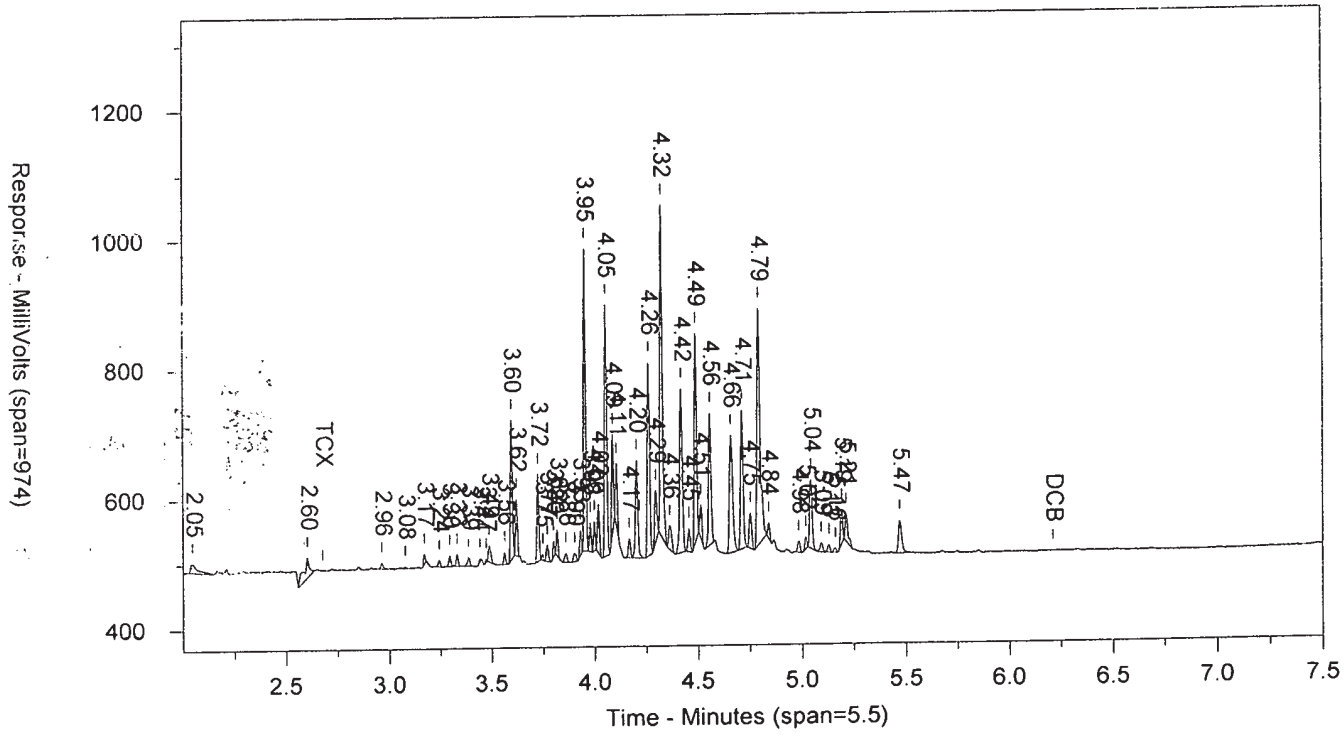

AR5421824C AAAR542AA ICAL 1830299999 10227 SW-846 8082

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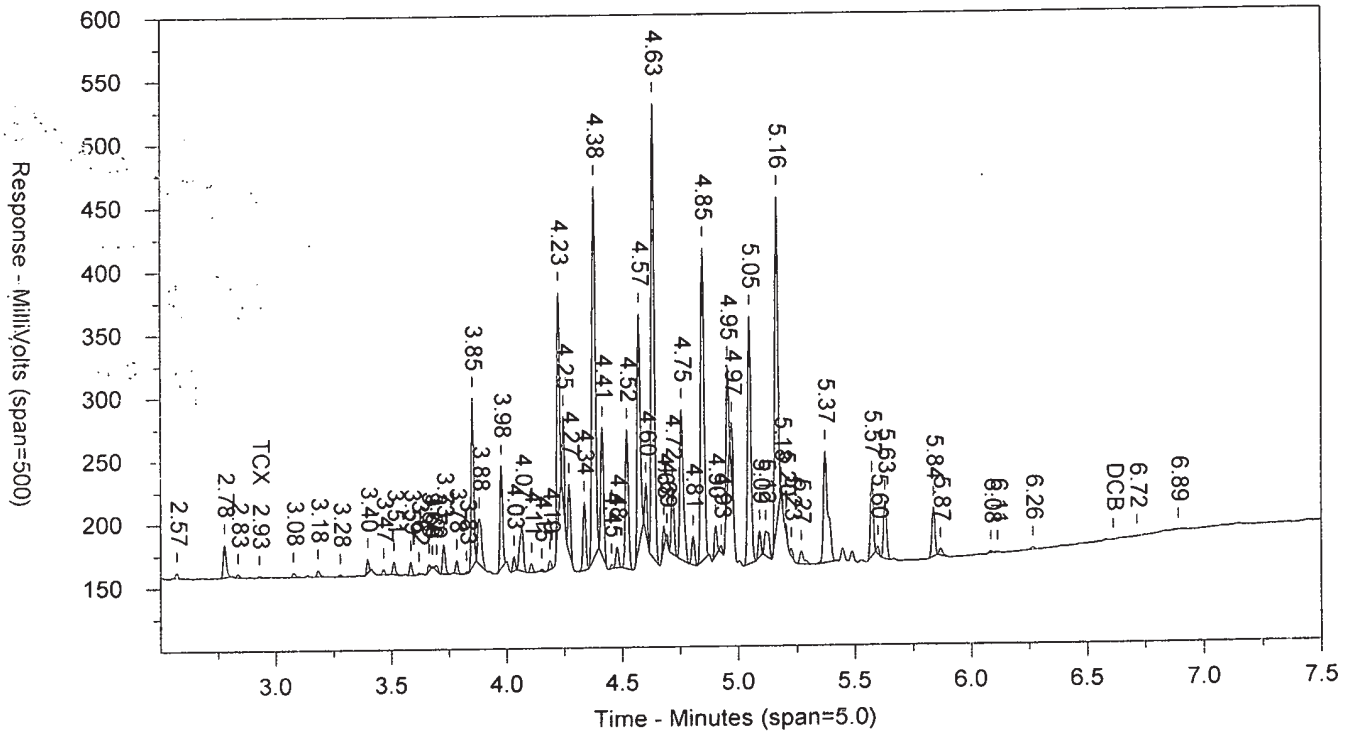

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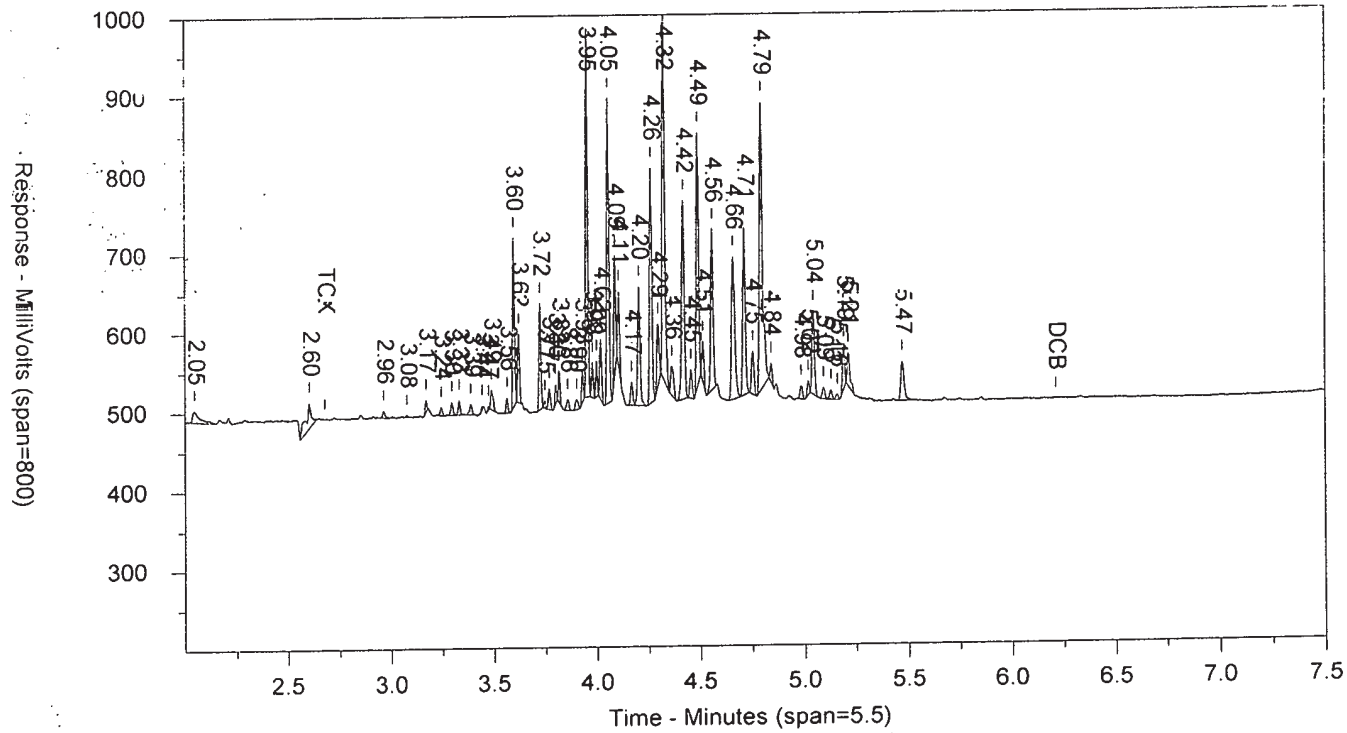

LANCASTER LABORATORIES

Sample Number: AR5431824C AAAR543AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:46:11 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.021.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.099		10969	19877
2.23		1021	622
2.311		13099	9356
2.382		3831	5338
2.422		2353	1947
2.493		2508	3270
2.57		7753	8699
2.683		1571	1476
2.776		52818	51652
2.833		1508	1277
2.928	TCX	4019	3840
3.077		7486	7387
3.135		2964	2324
3.182		12005	10864
3.276		3228	2516
3.364		752	632
3.397		23486	14927
3.466		12016	9140
3.511		23915	19615
3.561		1543	967
3.585		25279	18440
3.621		3704	3765
3.664		2871	1501
3.678		4555	2199
3.697		8958	6762
3.728		54524	43220
3.783		24312	19614
3.827		2738	1816
3.852		232507	186726
3.884		76983	89583
3.976		152015	121173
4		5802	3111
4.031		24251	17052
4.065		70847	83270
4.107		14860	12226
4.154		7361	8284
4.188		15540	11923
4.225		342603	248434
4.245		117873	73311
4.27		101957	76524
4.336		103030	89978
4.378		546772	569052
4.413		184667	158242
4.454		6150	4041
4.477		31885	24414
4.519		198823	184447
4.571		333041	315585
4.602		77791	53005
4.632		676949	631540
4.678		28742	20763
4.692		16691	7969
4.716		103026	86996
4.755		229605	241210
4.805		45160	40164

RT A	Compound A	Height A	Area A
4.846		470862	484940
4.901		47091	39076
4.925		8602	5377
4.954		174937	137750
4.971		68600	47376
5.046		377654	375002
5.089		43355	34671
5.116		41881	60247
5.163		491007	452839
5.185		18423	8523
5.201		15416	7999
5.225		14360	9732
5.268		20774	24563
5.373		132126	114623
5.449		20593	19240
5.572		113199	103407
5.598		13714	8610
5.628		87830	86320
5.719		7800	9526
5.836		80316	80625
5.867		11674	11015
6.081		3703	3033
6.113		7837	11239
6.175		7886	8404
6.261		5449	6077
6.327		1430	1842
6.381		13617	21039
6.463		1082	830
6.48		1403	921
6.577		2300	2318
6.608	DCB	2040	1386
6.635		13101	18426
6.879		18587	35001

LANCASTER LABORATORIES

Sample Number: AR5431824C AAAR543AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:46:11 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.021.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.052		20609	61832
2.211		11340	7546
2.603		55196	94622
2.85		12041	9922
2.964		19272	13732
3.075		5997	3681
3.171		47265	50814
3.222		3246	1489
3.244		22194	14012
3.296		36038	23790
3.331		42015	27278
3.377		3678	1338
3.388		9782	6882
3.442		10962	5236
3.4[illegible]		9975	4849
3.488		52961	44745
3.562		42996	27669
3.595		395746	249984
3.62[illegible]		183625	110328
3.636		7789	2754
3.723		252707	164612
3.747		18194	9387
3.769		50259	35196
3.8[illegible]		55173	29600
3.817		72734	40329
3.859		26508	22673
3.9		34467	37308
3.93		69538	40027
3.952		841379	584229
3.978		79824	45176
3.998		83739	46931
4.017		137685	88489
4.055		733571	529549
4.087		286525	180884
4.105		195694	109712
4.167		61358	46919
4.203		294522	241295
4.261		547338	437826
4.295		154763	116689
4.322		968365	778515
4.362		69233	69020
4.417		477966	421185
4.453		65952	49393
4.487		638169	474864
4.512		99220	63633
4.556		386897	318658
4.657		345181	377931
4.711		437757	362348
4.752		89795	79940
4.792		709287	743407
4.84		52664	34790
4.863		21936	16893
4.926		9053	9000
4.983		37797	30066

RT B	Compound B	Height B	Area B
5.018		33747	23444
5.041		202091	162502
5.091		29807	24806
5.127		23414	19544
5.157		13471	10107
5.19		105368	78754
5.212		83310	74201
5.47		107095	214495
5.638		16992	22362
5.672		6306	11158
5.932		10818	60154
6.208	DCB	10055	60789
6.533		19065	225504
6.689		4474	55952
6.892		5639	37203

AR5431824C AAAR543AA ICAL 1830299999 10227 SW-846 8082

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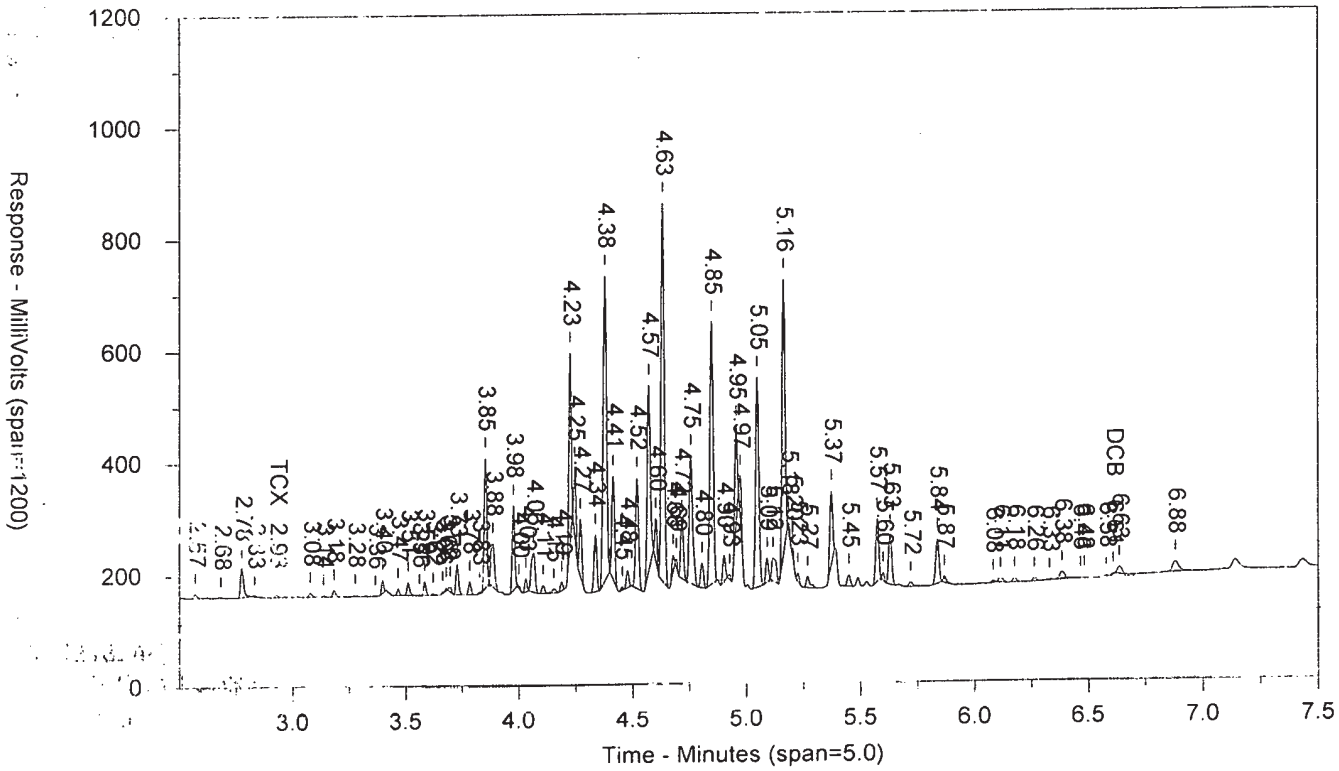

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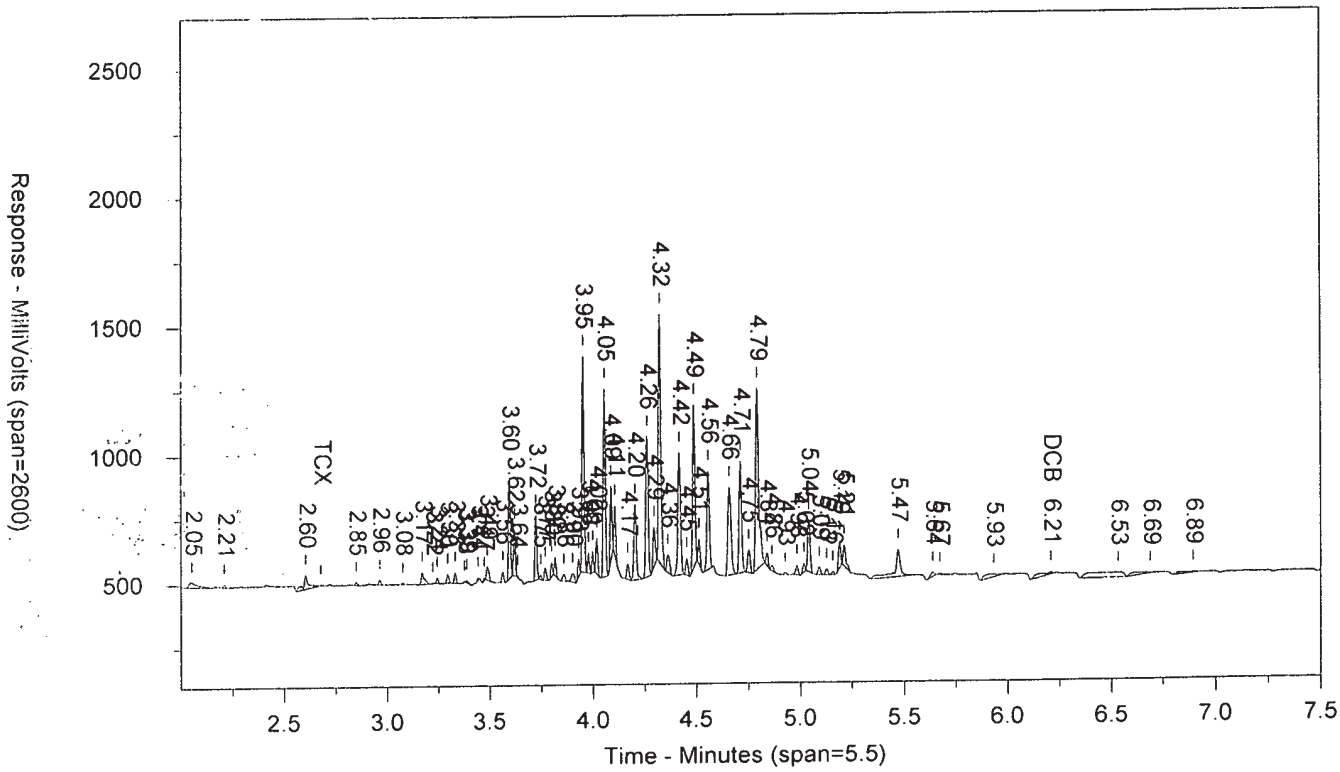

LANCASTER LABORATORIES

Sample Number: AR5431824C AAAR543AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:46:11 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.928	4019	.026	TCX		0		TCX
6.608	2040	.016	DCB	6.208	10055	.054	DCB

Files:
Area File: 25pcbs18303001.021.RAW
Area File: 25pcbs1830301B.021.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 8:54:42 PM
File Reported On: 10/30/2018 at 8:54:51 PM

AR5431824C AAAR543AA ICAL 1830299999 10227 SW-846 8082

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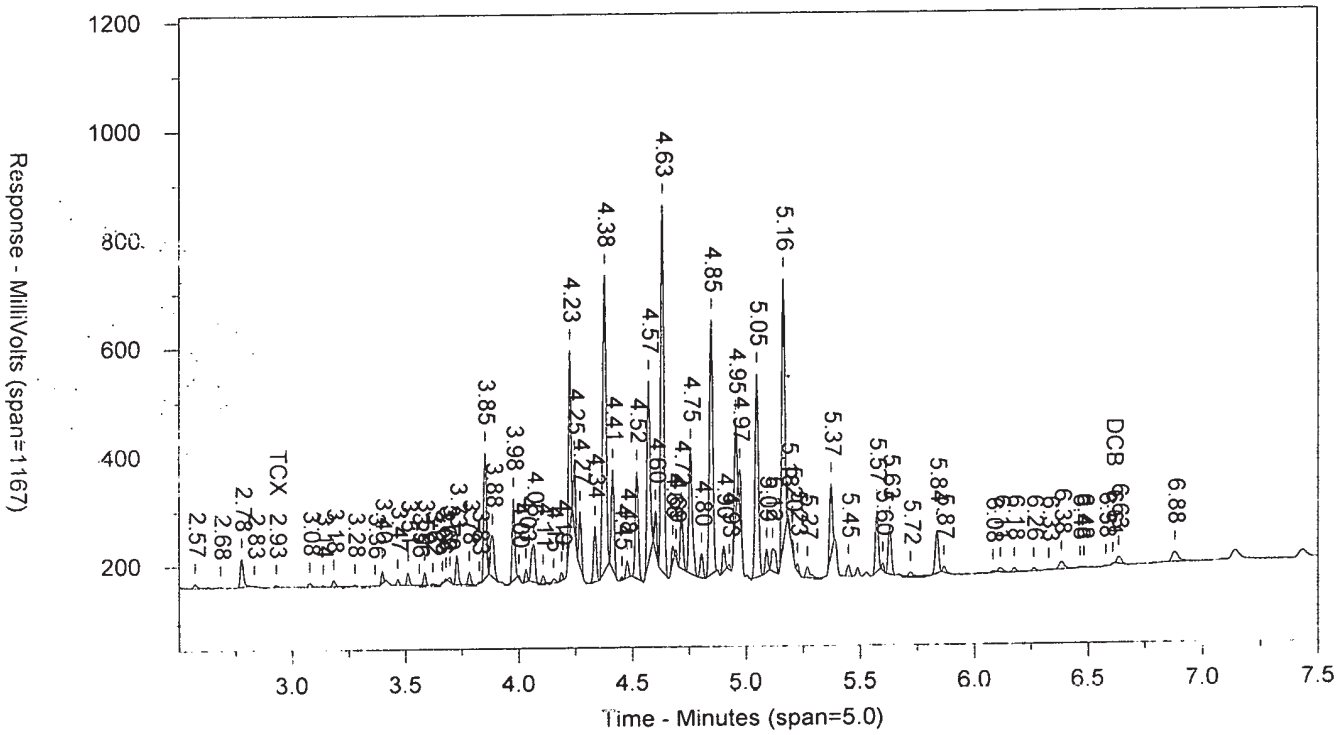

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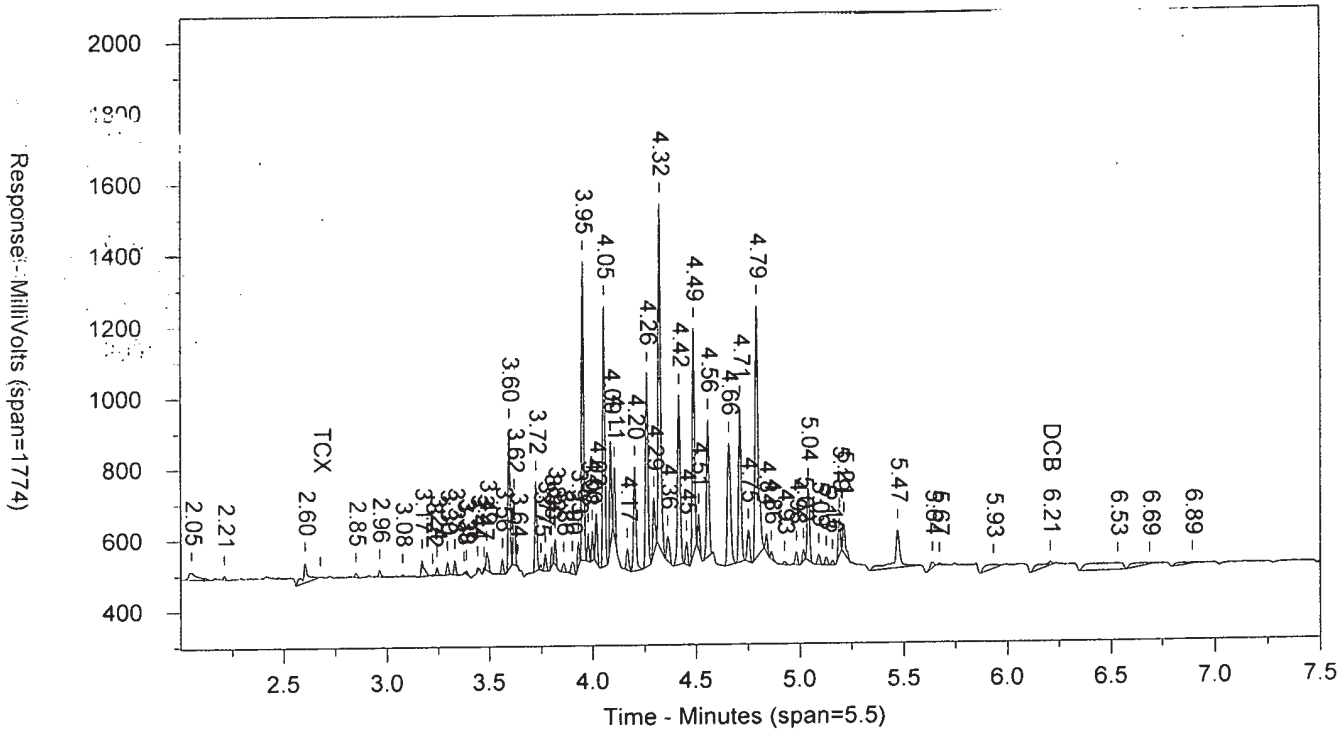

AR5431824C AAAR543AA ICAL 1830299999 10227 SW-846 8082

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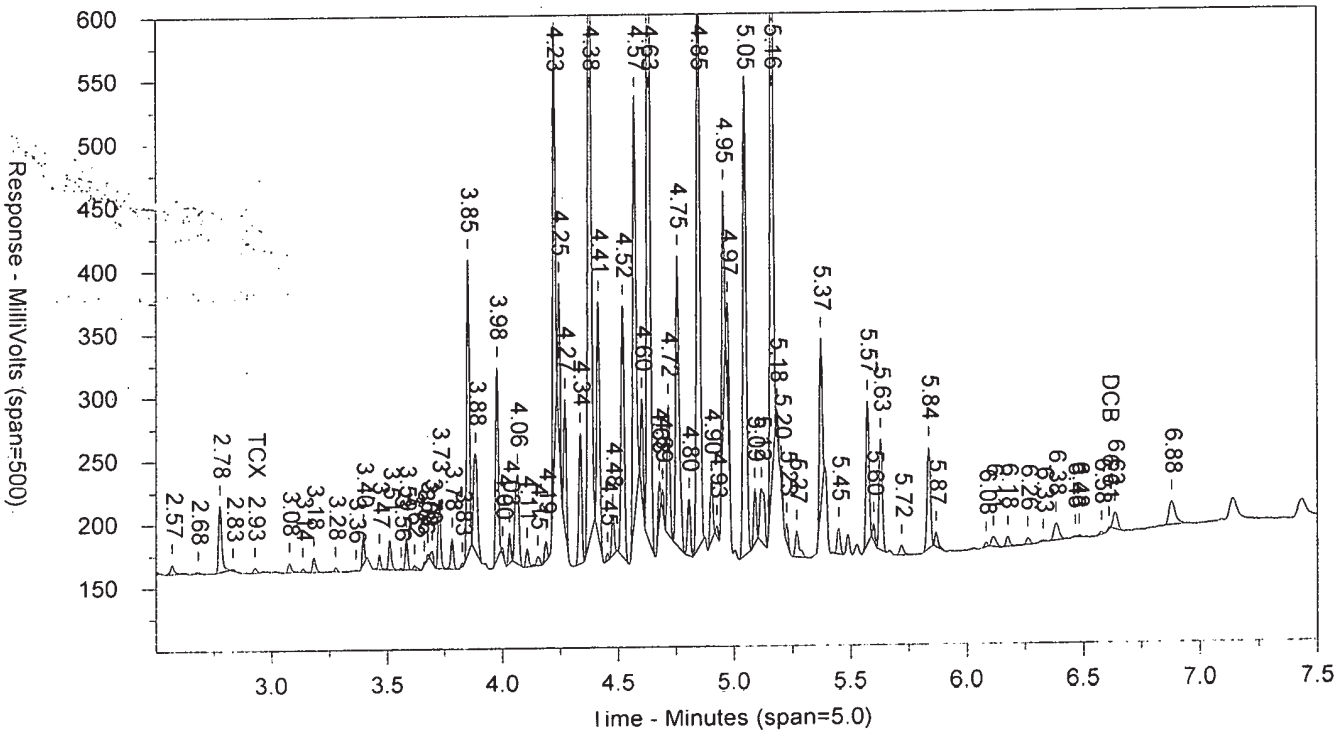

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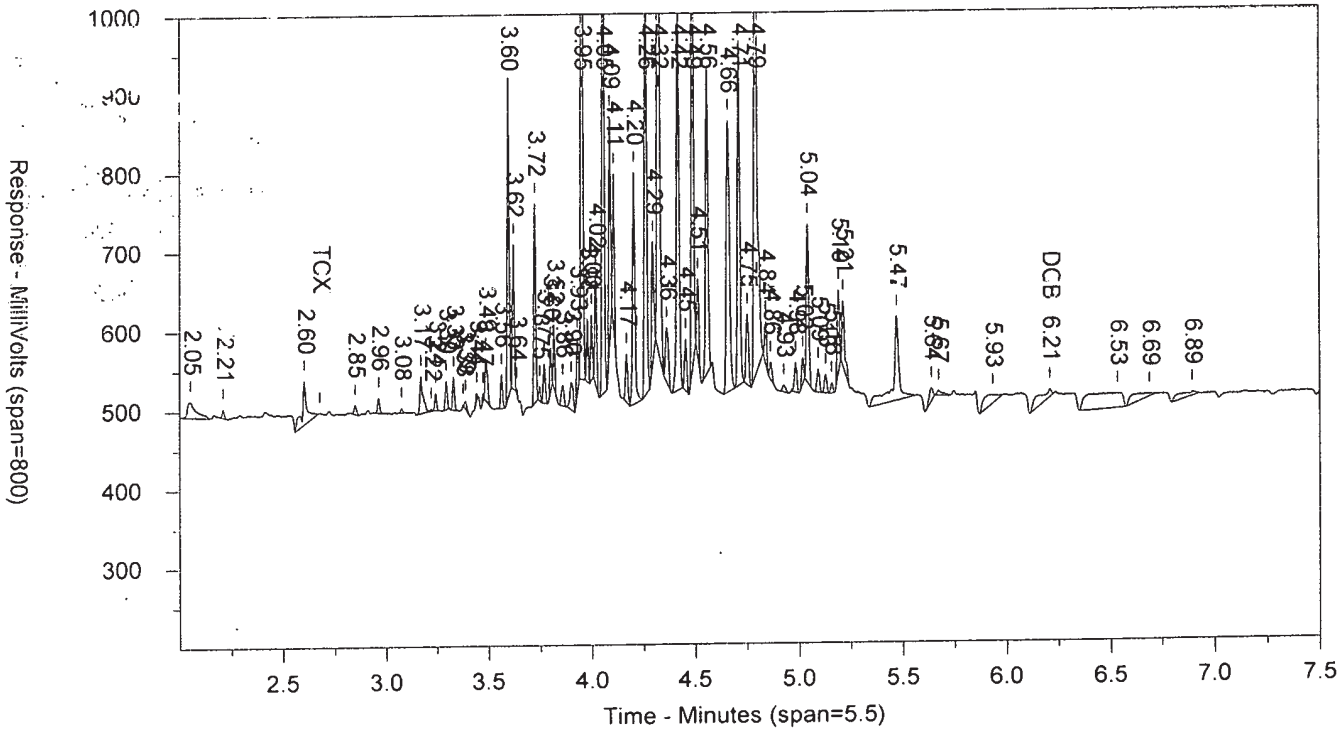

LANCASTER LABORATORIES

Sample Number: AR5441824C AAAR544AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:57:04 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.022.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		8307	16467
2.144		1370	1296
2.229		2383	3107
2.311		8401	6048
2.376		2192	2564
2.423		2556	1924
2.495		1388	1307
2.571		5249	6889
2.776		18624	15611
2.833		2668	1894
2.928	TCX	8373	7487
3.078		15000	14437
3.136		6653	5476
3.182		26609	21589
3.277		8005	6240
3.397		52699	33934
3.414		7840	5800
3.466		26897	21007
3.512		56976	43120
3.563		3515	2127
3.586		60661	44423
3.622		6004	3623
3.666		3871	2176
3.68		11420	5568
3.697		20772	15966
3.729		119734	96802
3.785		57286	46505
3.828		8373	5168
3.853		542039	430232
3.883		192864	196100
3.927		4514	2464
3.978		355747	281579
4.001		14753	7275
4.033		57229	40987
4.066		166389	193102
4.108		36634	28920
4.137		2183	1142
4.154		9420	6717
4.189		34782	25573
4.227		810556	599040
4.247		276443	169570
4.271		233618	176501
4.337		239280	210877
4.38		1307387	1345156
4.415		431907	362528
4.455		15735	10274
4.478		83696	66884
4.52		474188	440838
4.573		827982	768715
4.604		184408	122520
4.634		1684452	1536226
4.679		72885	53087
4.694		27386	13833
4.718		238013	194872

RT A	Compound A	Height A	Area A
4.757		523914	554387
4.806		108492	99141
4.848		1175536	1208363
4.903		110323	94885
4.928		17543	10039
4.955		412534	321104
4.973		168773	115111
5.048		933268	923575
5.091		102499	81093
5.118		89391	137013
5.164		1183647	1094427
5.187		38596	17153
5.204		29583	18183
5.227		29846	21368
5.27		50022	60764
5.374		392958	565038
5.45		51046	47568
5.49		43788	40460
5.574		253361	241246
5.599		31648	21116
5.631		200380	196557
5.667		5628	5148
5.837		169701	166418
5.869		29480	28418
6.083		8784	7704
6.109		4380	3551
6.264		10789	11106
6.468		1311	1399
6.639	DCB	3748	5337
6.83		875	1022
6.878		9308	14174

LANCASTER LABORATORIES

Sample Number: AR5441824C AAAR544AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:57:04 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.022.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.047		13566	31936
2.603		36988	136115
2.724		11323	12144
2.85		26709	19634
2.911		11006	9066
2.963		43127	30031
3.076		12332	9176
3.171		101012	104926
3.223		5974	3238
3.245		48079	31109
3.296		84605	61236
3.331		91855	59580
3.379		22222	26929
3.442		23841	12193
3.473		22968	10832
3.488		115022	97758
3.563		91676	61633
3.596		921437	583296
3.62		407803	246889
3.637		16866	5997
3.656		16033	9969
3.724		579336	384735
3.748		44158	23033
3.77		103086	70338
3.801		113206	61957
3.817		172582	97120
3.86		66780	55267
3.902		64226	60563
3.931		173674	101689
3.953		2072479	1414843
3.979		200540	113267
3.999		202553	114830
4.019		334257	213271
4.055		1772002	1258472
4.088		639719	415259
4.106		445240	244886
4.168		130454	95049
4.204		667704	539828
4.261		1414830	1068335
4.296		375100	281074
4.323		2483457	1912456
4.362		168390	170208
4.417		1134046	1003582
4.455		167919	128699
4.488		1572065	1146581
4.513		223628	150145
4.557		938245	744173
4.582		41478	23087
4.658		800421	878003
4.712		1082411	884834
4.753		254481	222827
4.793		1731513	1766109
4.84		117663	77382
4.865		51512	34379

RT B	Compound B	Height B	Area B
4.925		18962	21268
4.984		85978	81345
5.018		77765	53408
5.042		505957	421010
5.093		66846	57312
5.129		55142	45213
5.159		29320	24287
5.191		260061	188737
5.213		190557	174021
5.428		9945	7655
5.47		230609	273803
5.673		18139	35060
5.747		9596	9975
5.852		20516	19358
5.912		7297	24673
6.224	DCB	6675	82706
6.389		12851	40163
6.688		9997	110271
6.902		4410	59581

AR5441824C AAAR544AA ICAL 1830299999 10227 SW-846 8082

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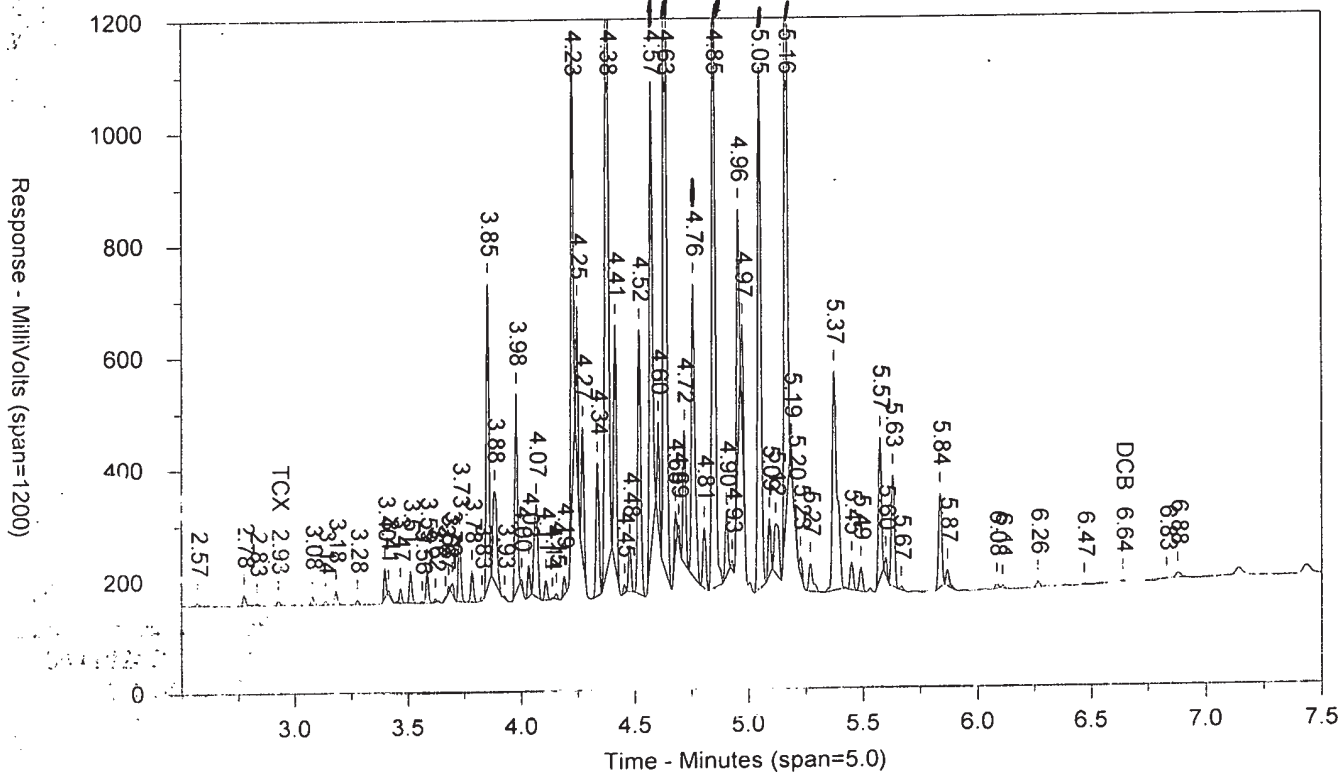

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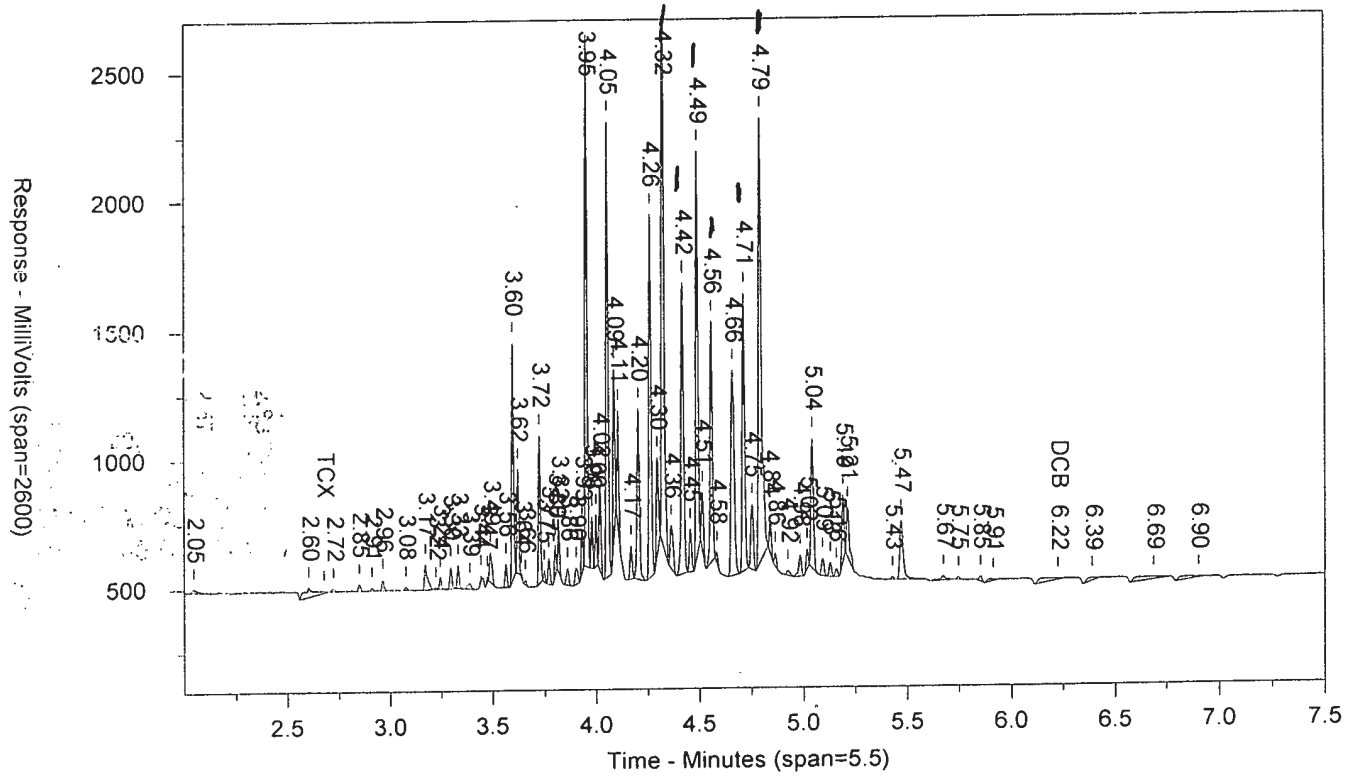

LANCASTER LABORATORIES

Sample Number: AR5441824C AAAR544AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:57:04 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.928	8373	.054	TCX		0		TCX
6.639	3748	.029	DCB	6.224	6675	.036	DCB

Files:
Area File: 25pcbs18303001.022.RAW
Area File: 25pcbs18303001B.022.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 9:05:35 PM
File Reported On: 10/30/2018 at 9:05:43 PM

AR5441824C AAAR544AA ICAL 1830299999 10227 SW-846 8082

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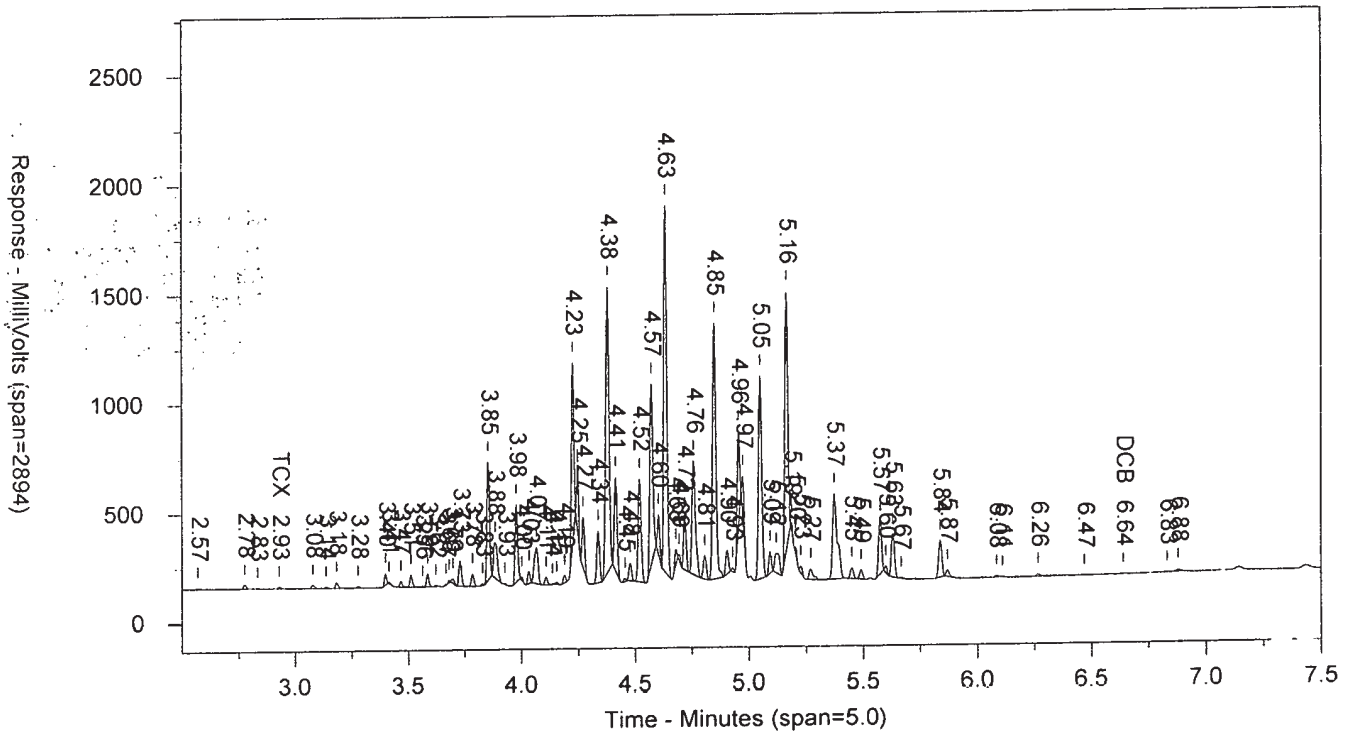

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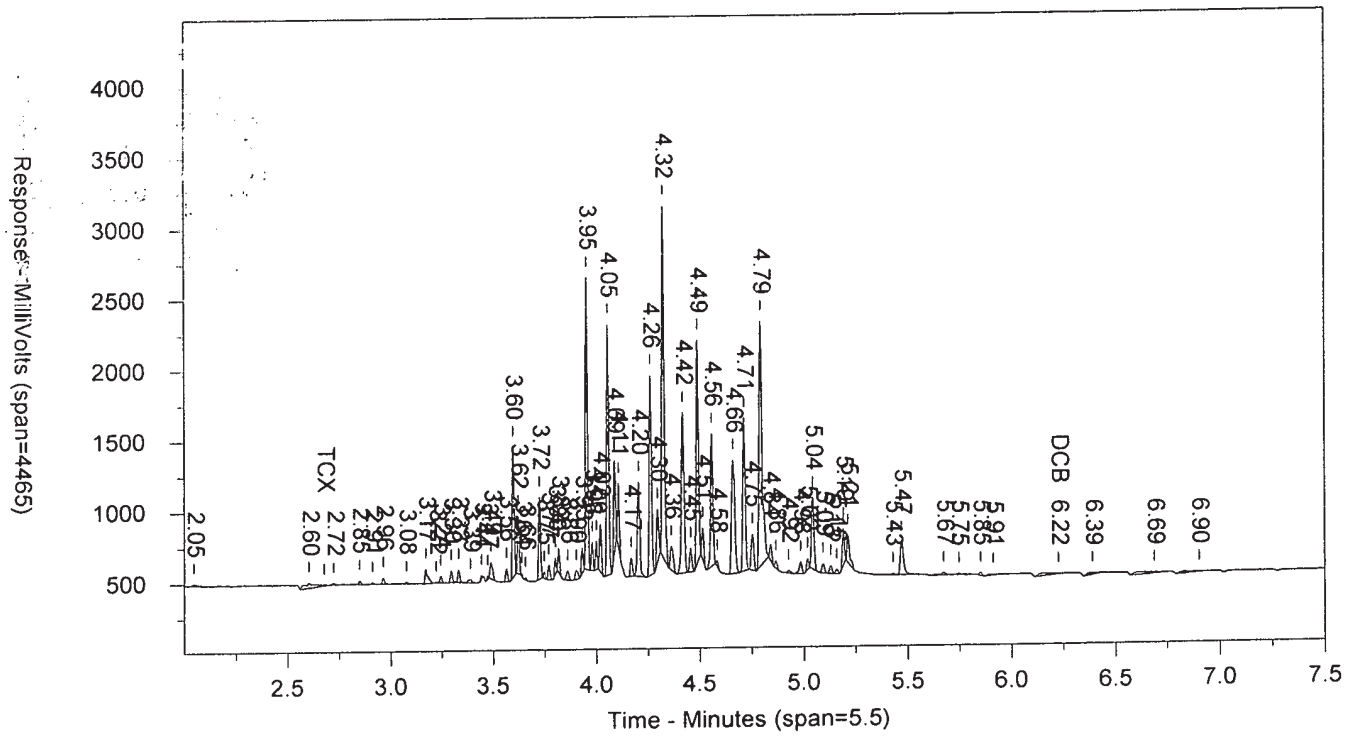

AR5441824C AAAR544AA ICAL 1830299999 10227 SW-846 8082

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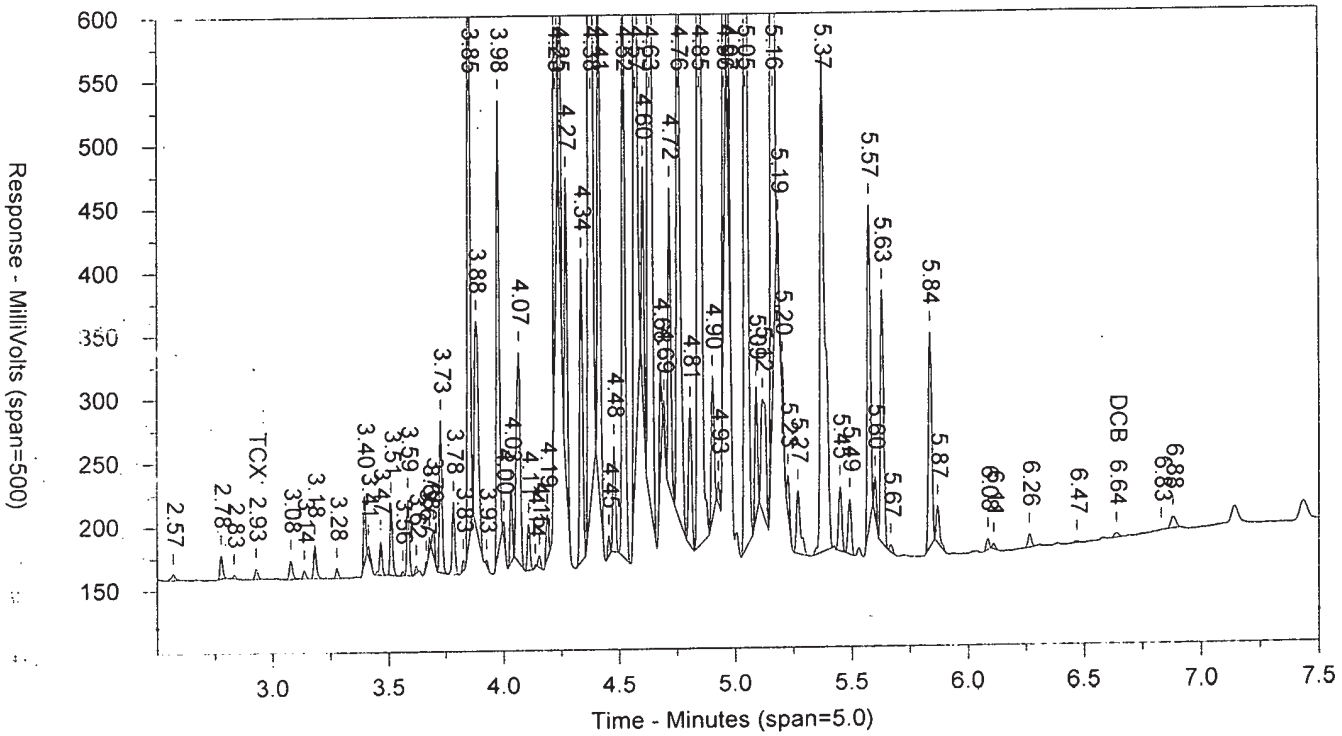

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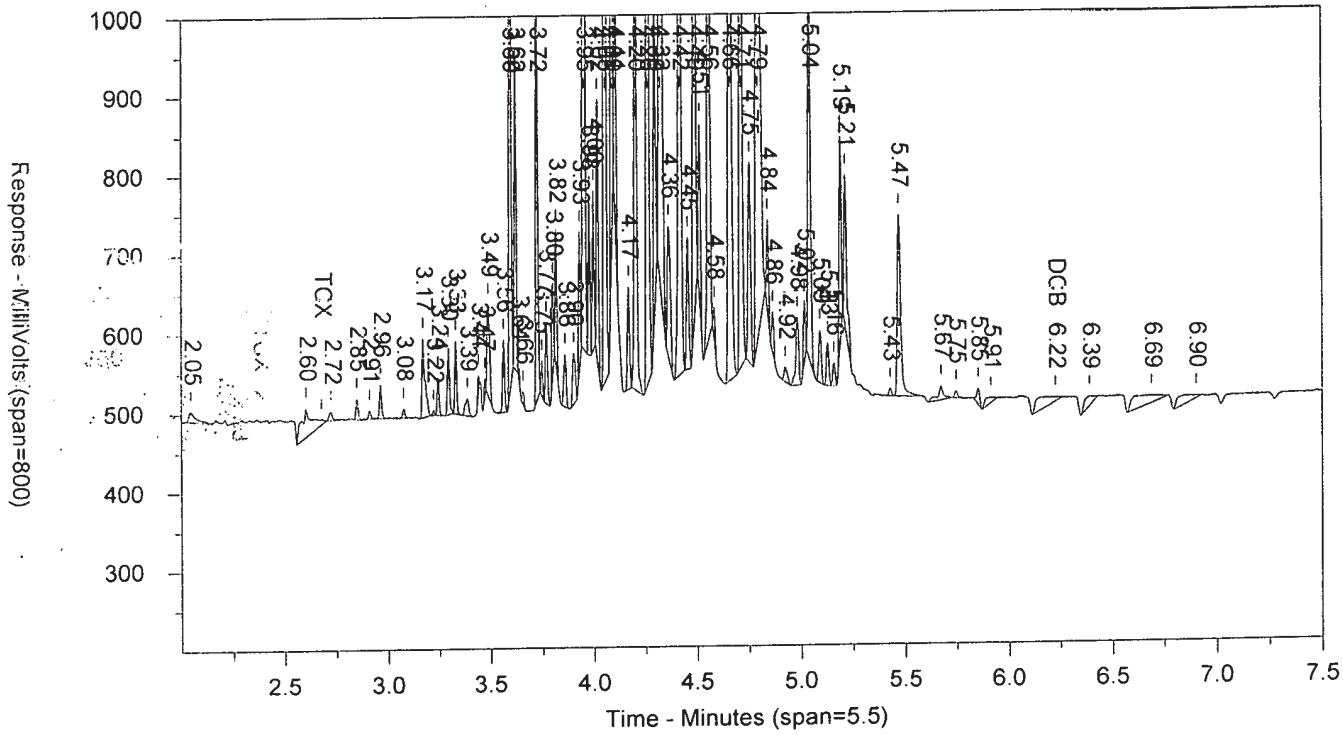

LANCASTER LABORATORIES

Sample Number: AR5451824C AAAR545AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:07:59 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.023.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.097		7477	13171
2.228		2399	3418
2.311		8923	6325
2.378		2123	2519
2.422		4295	4016
2.492		1568	1269
2.571		7900	8637
2.776		19514	16978
2.831		2974	3364
2.928	TCX	16045	14541
3.078		30707	28258
3.136		13556	11083
3.182		55148	44163
3.277		15150	12248
3.398		100430	66473
3.413		15826	10655
3.467		59330	46473
3.512		112365	89891
3.563		6510	3990
3.587		122089	90675
3.622		11816	7234
3.68		26423	12866
3.698		41868	31929
3.73		233964	199806
3.785		113749	95431
3.827		17159	11177
3.854		1040132	794365
3.886		314169	368246
3.928		9976	5967
3.978		649750	523788
4.002		23925	13225
4.033		117684	83569
4.066		316916	377431
4.109		72262	58190
4.138		3678	2122
4.154		21106	14855
4.189		66473	50156
4.227		1575951	1144317
4.247		566391	337232
4.272		431808	334229
4.338		435316	389201
4.38		2515995	2577949
4.415		835304	673555
4.455		31272	20561
4.478		143772	122278
4.521		894566	831425
4.573		1619001	1479356
4.603		338935	228037
4.634		3353396	2998440
4.68		131241	96287
4.694		47167	23715
4.719		434975	369300
4.757		972978	1028073
4.807		193194	181456

RT A	Compound A	Height A	Area A
4.848		2218199	2180953
4.904		201256	173542
4.928		33564	18600
4.956		777466	595725
4.973		321718	204427
5.049		1850595	1825270
5.092		184343	147593
5.118		158613	242598
5.165		2312743	2149451
5.187		59780	27144
5.203		42046	25908
5.227		53472	37760
5.27		95589	118397
5.375		656472	541529
5.45		96545	91667
5.49		82238	80574
5.574		516736	469923
5.6		61478	40326
5.631		371131	369137
5.668		13153	11514
5.839		313829	311980
5.869		56918	55552
6.018		1341	1116
6.084		19764	16505
6.109		8347	6732
6.267		21468	21233
6.467		3252	3683
6.582	DCB	2478	3709
6.646		1034	1161
6.887		1309	940

LANCASTER LABORATORIES

Sample Number: AR5451824C AAAR545AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:07:59 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.023.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		14675	35621
2.291		4782	17364
2.603		27501	58153
2.723		21463	23921
2.85		55841	41345
2.912		21929	16980
2.963		81516	58919
3.076		25756	18400
3.171		199634	209176
3.224		11817	6641
3.245		95000	60343
3.296		167866	121592
3.331		184770	119451
3.378		13121	6464
3.389		15398	8109
3.442		48714	23977
3.452		27257	11030
3.473		43928	20818
3.488		236854	206177
3.563		188315	124181
3.596		1760992	1085084
3.621		772676	475165
3.638		29169	10112
3.657		33121	20580
3.725		1062065	722111
3.748		87246	44018
3.77		198950	135417
3.801		244104	136296
3.817		322137	177330
3.861		129628	110099
3.902		124130	115289
3.931		322800	187548
3.953		4129381	2739754
3.979		369105	211351
3.999		356211	203387
4.019		607097	386727
4.055		3443448	2413045
4.088		1238591	792273
4.106		797052	439322
4.168		249293	176292
4.204		1309053	1011734
4.262		2739280	2070676
4.296		700741	542871
4.324		5025123	3771466
4.362		312800	315715
4.418		2236031	1930016
4.455		314854	242508
4.488		3088708	2254227
4.513		435751	283385
4.557		1800090	1422719
4.582		70563	38495
4.659		1564926	1677337
4.712		2129697	1768596
4.753		492927	420342

RT B	Compound B	Height B	Area B
4.793		3554720	3494969
4.841		225948	149844
4.864		96913	67073
4.925		33568	40226
4.984		167404	157312
5.019		151005	104953
5.043		972151	811117
5.093		127709	108864
5.13		108092	85542
5.16		55279	44808
5.191		491970	367878
5.214		363173	326858
5.428		18770	16333
5.471		441569	511755
5.674		27430	26809
5.747		17328	16305
5.853		28559	25914
6.053		7328	25582
6.159		4519	13413
6.396		8997	27832
6.686		4991	57000
6.863		5872	31828

AR5451824C AAAR545AA ICAL 1830299999 10227 SW-846 8082

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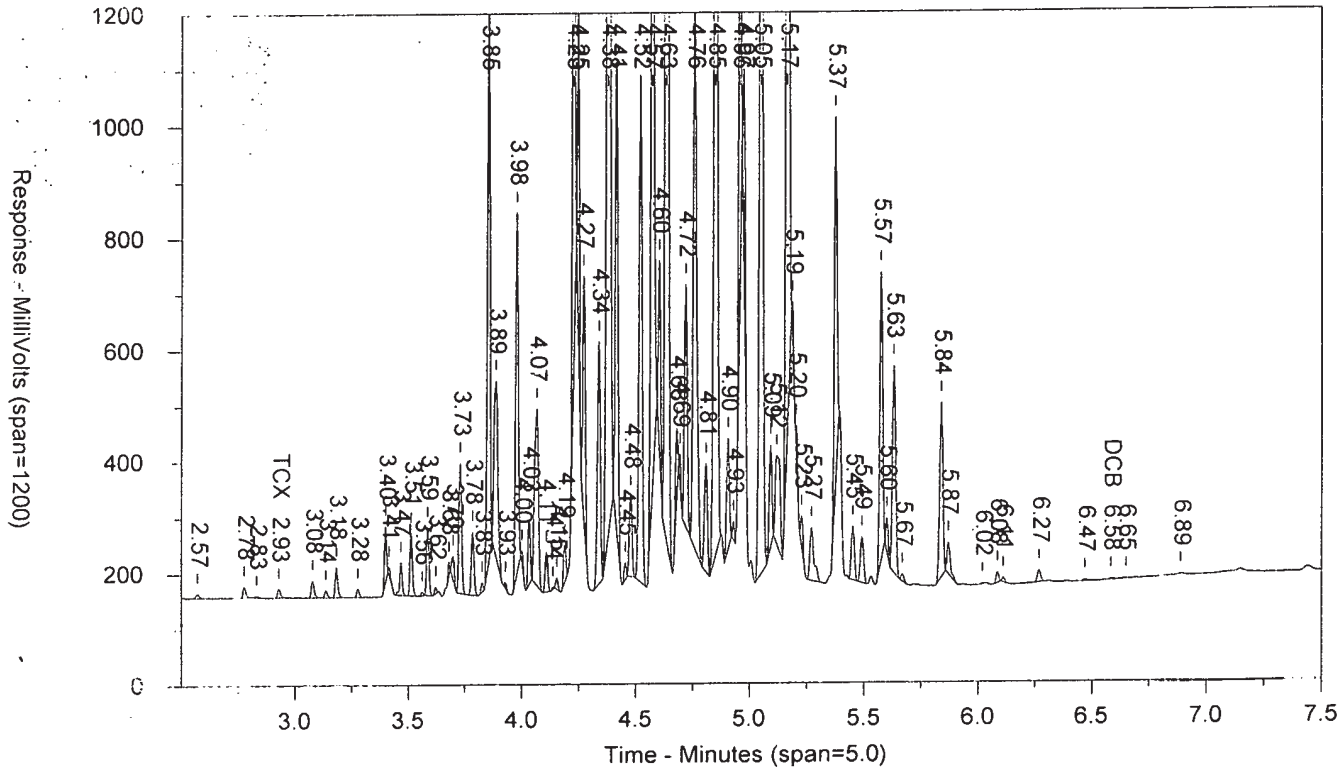

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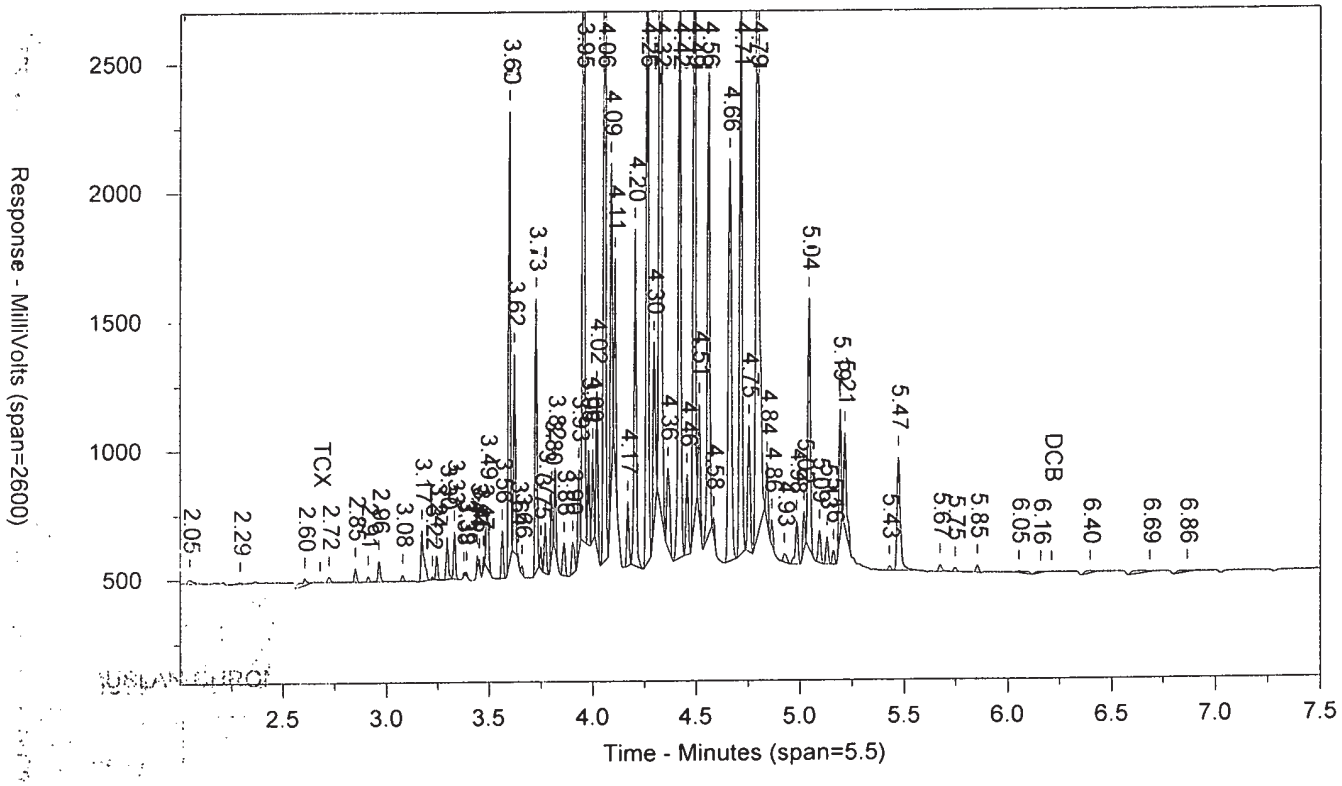

LANCASTER LABORATORIES

Sample Number: AR5451824C AAAR545AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:07:59 PM
Instrument ID: CP25-18274
Sample Weight: 1
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.928	16045	.103	TCX		0		TCX
6.582	2478	.019	DCB		0		DCB

Files:
Area File: 25pcbs18303001.023.RAW
Area File: 25pcbs18303001B.023.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 9:16:31 PM
File Reported On: 10/30/2018 at 9:16:37 PM

AR5451824C AAAR545AA ICAL 1830299999 10227 SW-846 8082

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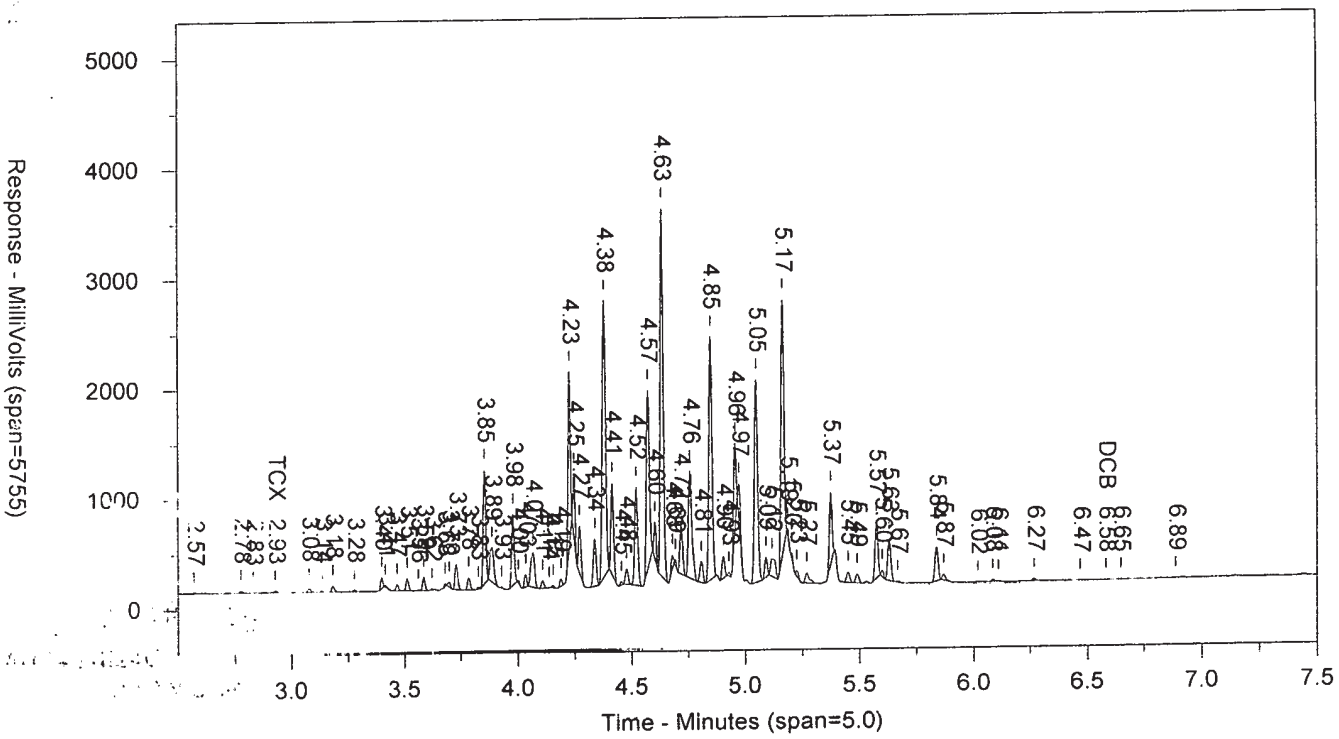

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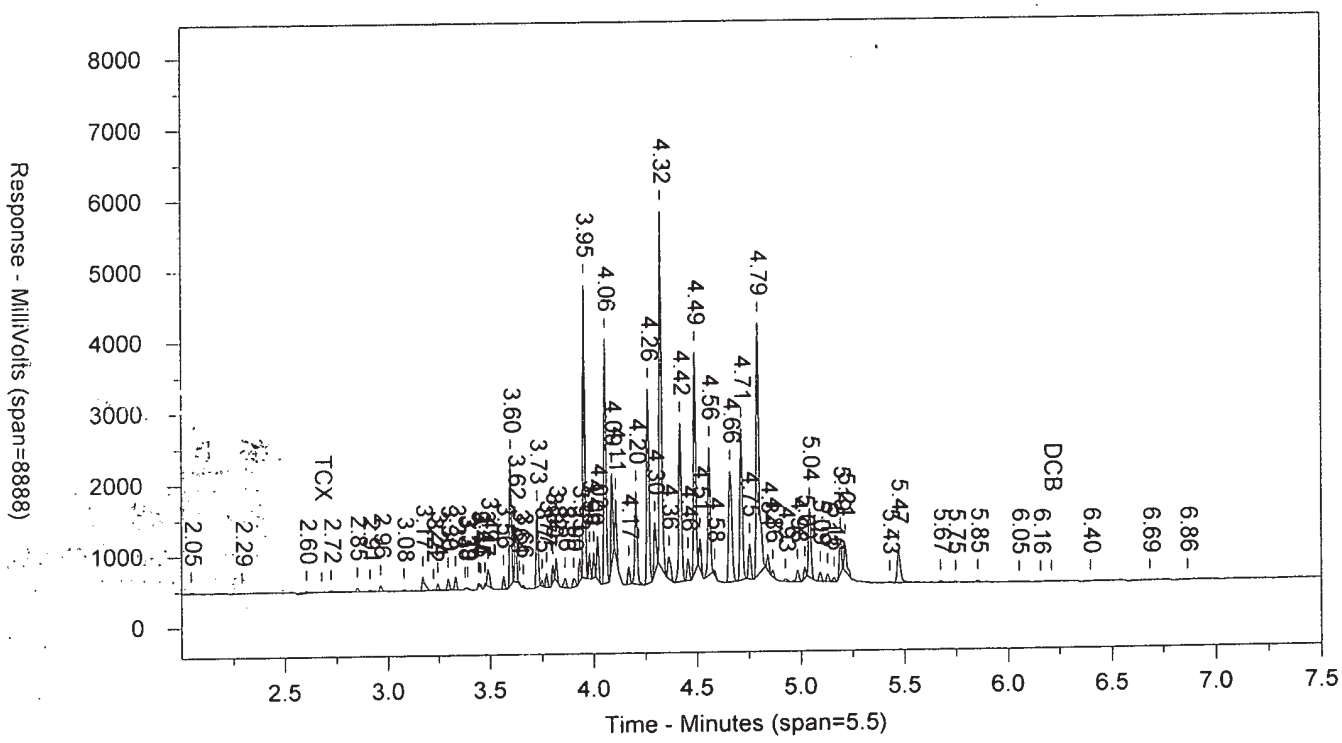

AR5451824C AAAR545AA ICAL 1830299999 10227 SW-846 8082

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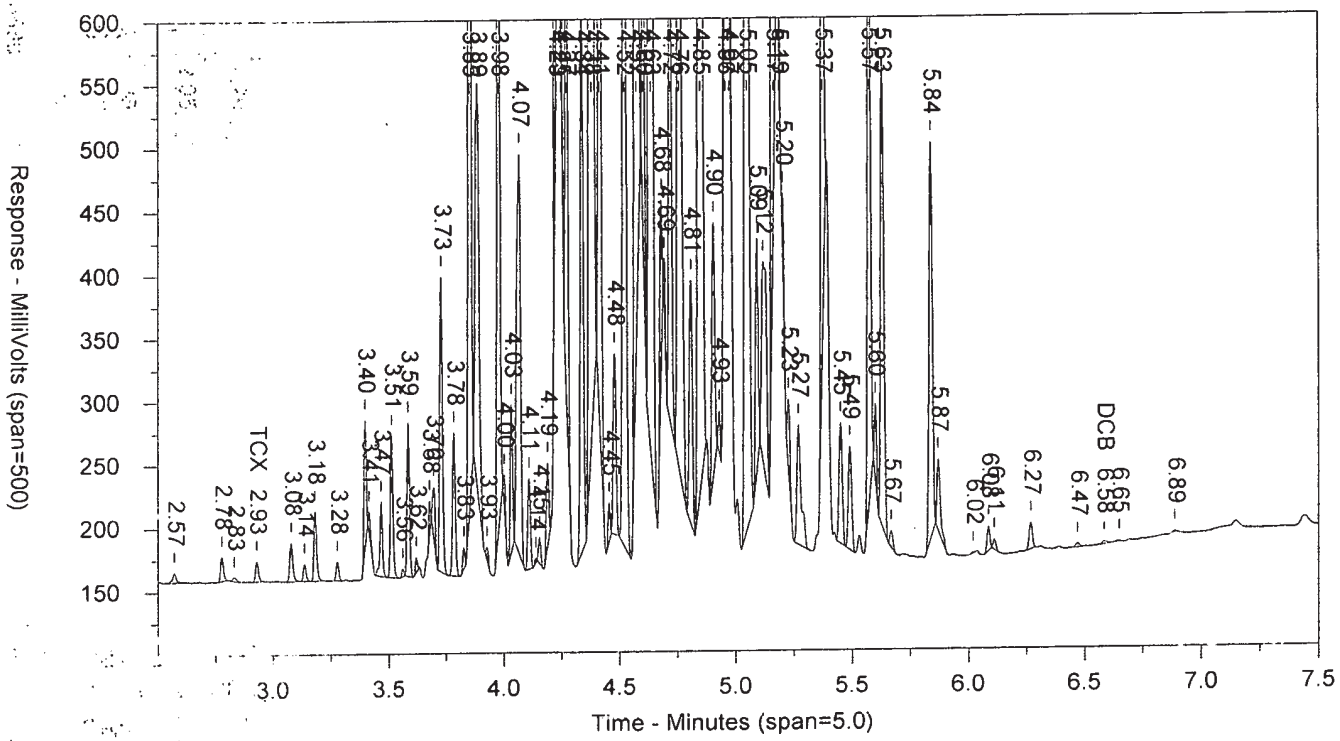

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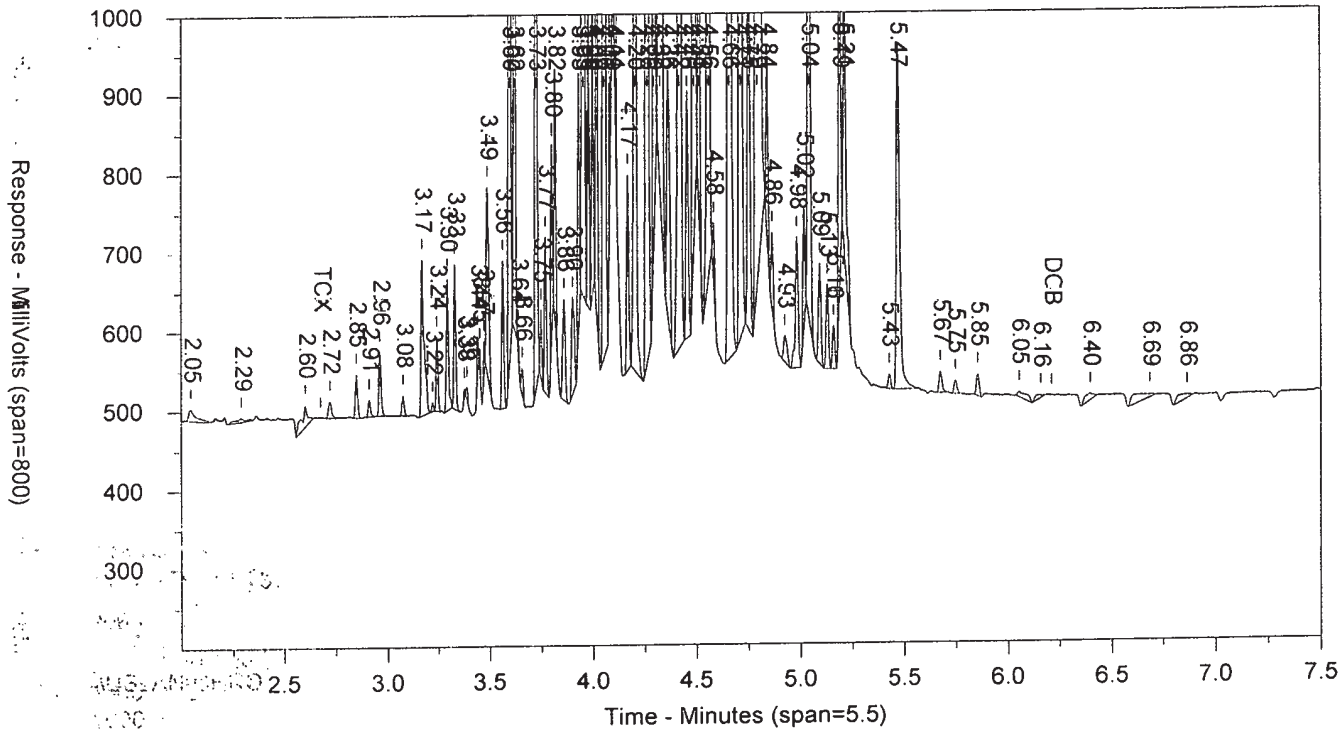

LANCASTER LABORATORIES

Sample Number: AR5461824C AAAR546AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:18:51 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.024.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.094		7408	13388
2.233		2179	3238
2.311		9432	6658
2.376		1924	1798
2.423		3353	3007
2.497		1436	1784
2.571		12200	13310
2.776		36529	33301
2.833		5334	4064
2.928	TCX	32620	30003
3.078		59113	54244
3.136		26195	20839
3.182		104933	83894
3.278		31011	24657
3.313		1155	1012
3.397		180991	120809
3.414		32218	24721
3.452		3822	2113
3.467		105011	74214
3.512		212445	167744
3.563		13514	8203
3.587		230741	175467
3.623		24713	14147
3.636		6080	2697
3.681		46283	25795
3.699		80088	61907
3.73		444696	376395
3.785		212734	178824
3.828		36454	22797
3.854		2056594	1589986
3.885		603796	707240
3.928		19436	11606
3.978		1296770	1041157
4.002		51015	27578
4.034		201819	151466
4.067		645347	726678
4.109		139839	114025
4.138		8141	4508
4.154		41450	28956
4.19		121069	92722
4.228		3284526	2327146
4.247		1182900	707804
4.272		872893	662808
4.339		853431	763755
4.381		5324277	5254742
4.416		1673328	1344659
4.455		61431	39434
4.479		282815	232205
4.521		1806874	1651918
4.573		3420771	3053629
4.604		712272	478851
4.634		6760720	6168934
4.681		254408	193322
4.694		77836	44146

RT A	Compound A	Height A	Area A
4.719		905508	751376
4.757		1991192	2053135
4.807		385505	354604
4.849		4608894	4510303
4.876		24661	12595
4.904		389319	331871
4.929		64788	36191
4.956		1518873	1167457
4.973		636038	405798
5.049		3927339	3813414
5.092		369825	292539
5.119		319560	478155
5.165		4977952	4420109
5.187		123540	60043
5.204		132287	73050
5.227		98120	69179
5.271		183168	226262
5.348		7498	5464
5.375		1247826	1080849
5.394		129818	68919
5.443		179701	170869
5.49		156417	155782
5.575		1024683	939665
5.6		101291	67052
5.631		736691	712075
5.669		25126	22363
5.715		3367	6142
5.838		624278	598196
5.869		108703	105118
5.933		2460	2761
6.018		2412	1710
6.034		4460	3119
6.084		38530	33369
6.11		15859	12505
6.265		45246	43998
6.313		2915	2804
6.467		6263	5980
6.58		9233	13362
6.69		2048	1872
6.89		1205	1360

LANCASTER LABORATORIES

Sample Number: AR5461824C AAAR546AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:18:51 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.024.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		14693	35639
2.363		11505	16652
2.603		59523	192864
2.722		43141	47924
2.85		102639	77722
2.912		42510	31913
2.964		163347	113987
3.076		49762	37163
3.172		361933	383690
3.223		23406	13268
3.245		180580	115616
3.269		5337	2583
3.296		318563	230584
3.331		362699	230716
3.377		37112	19946
3.39		14938	7993
3.442		88806	42582
3.452		50186	20759
3.473		84677	39924
3.488		454611	386919
3.503		348565	235004
3.597		3635007	2188417
3.621		1500162	919614
3.638		64116	22115
3.657		63312	40138
3.725		2174332	1438263
3.748		175293	87812
3.77		365803	251459
3.801		469088	253578
3.817		632379	355966
3.861		254391	210710
3.902		231633	226238
3.932		625924	369407
3.954		8346918	5636610
3.979		773893	425754
3.999		704201	396583
4.019		1228260	769302
4.056		7010777	4964528
4.088		2643298	1644492
4.107		1588901	887118
4.168		479814	346797
4.204		2646371	2049279
4.263		5791161	4324584
4.296		1507193	1117029
4.324		10187390	7881136
4.363		621292	622078
4.418		4602355	3979191
4.455		639310	492301
4.489		6682550	4784914
4.513		824623	560211
4.558		3836338	2940892
4.583		147074	89335
4.66		3317469	3455392
4.713		4778186	3815753

RT B	Compound B	Height B	Area B
4.754		975237	855110
4.794		7595699	7298322
4.841		460311	303362
4.865		192130	131132
4.926		72379	78827
4.984		329956	308391
5.019		293980	208753
5.043		2082079	1685111
5.093		251061	213599
5.13		207527	172328
5.16		115450	91032
5.192		1055183	772440
5.214		758857	647696
5.429		35513	29801
5.471		891708	996034
5.674		54381	57517
5.747		35491	33362
5.853		53365	48039
6.052		9005	14592
6.15		3188	7374
6.392		7423	17231
6.626		6388	24863
6.86		6242	31651

AR5461824C AAAR546AA ICAL 1830299999 10227 SW-846 8082

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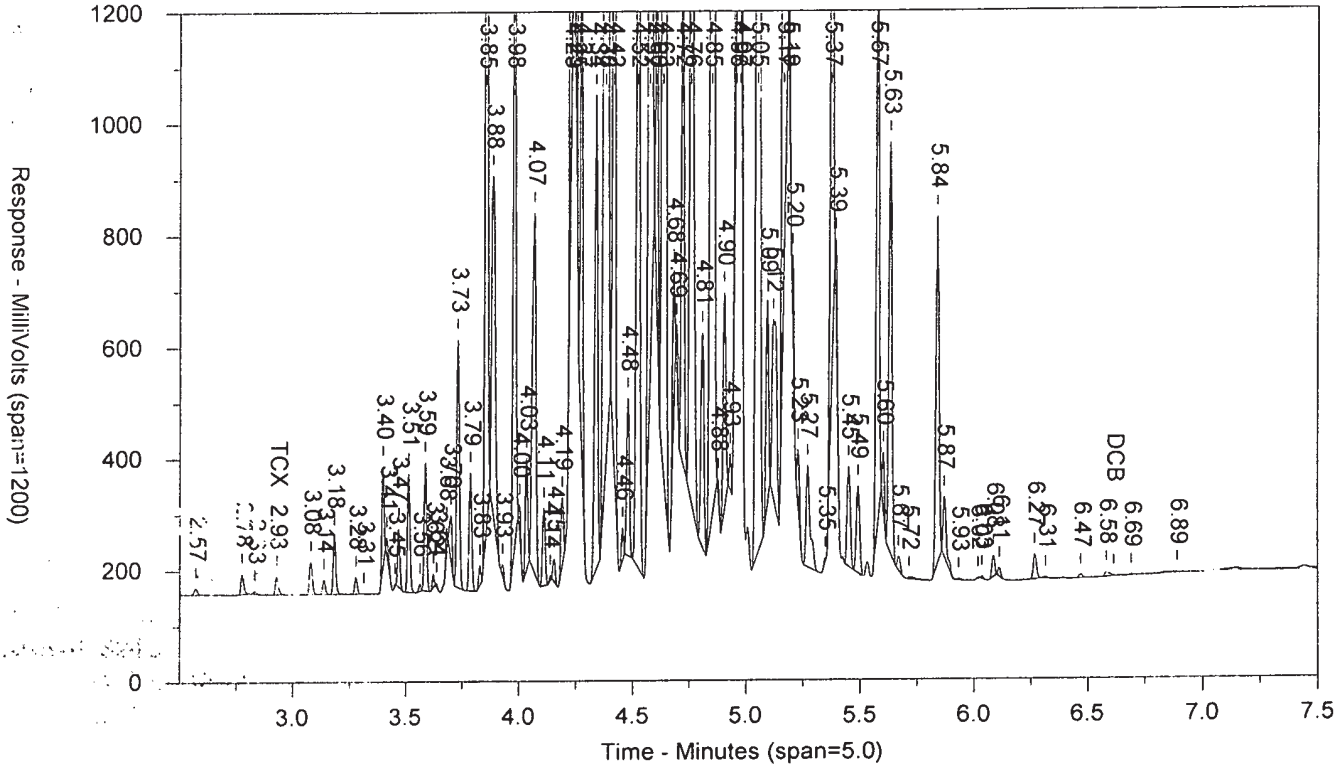

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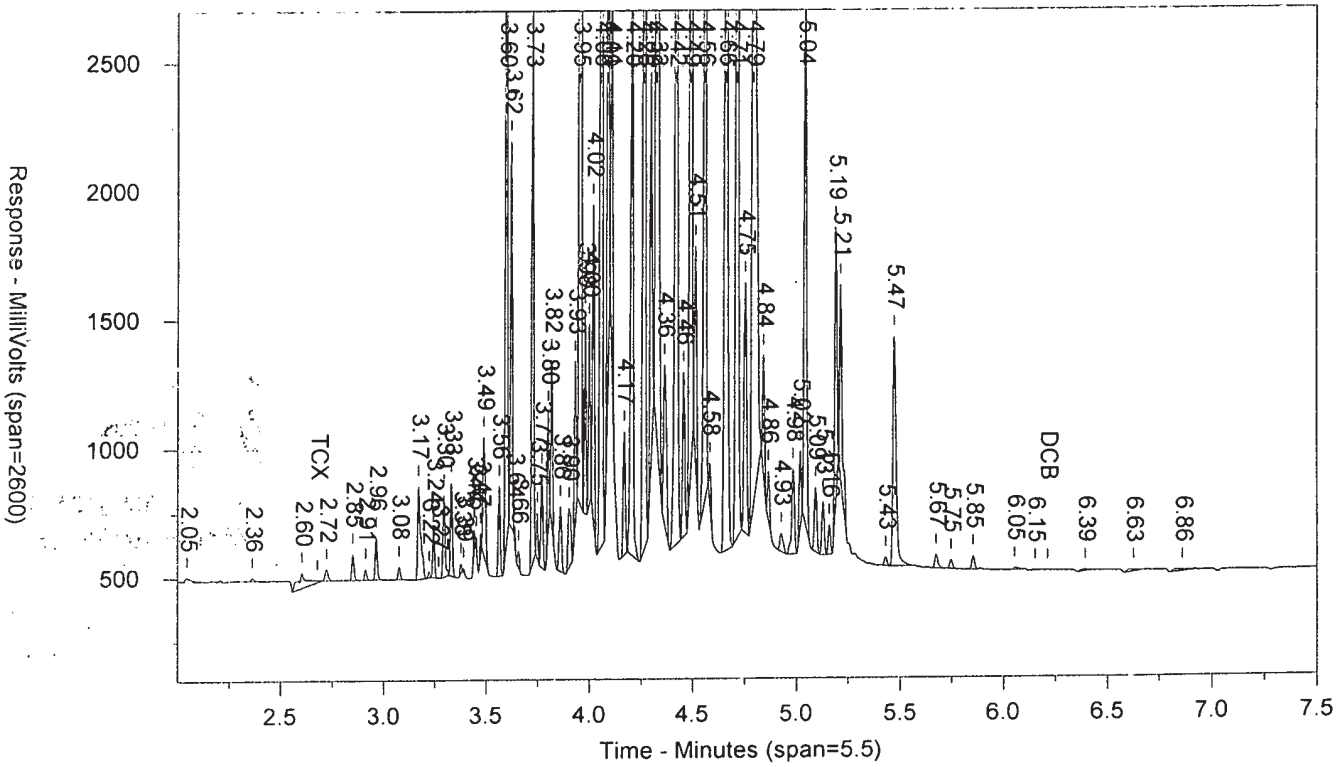

LANCASTER LABORATORIES

Sample Number: AR5461824C AAAR546AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:18:51 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.928	32620	.21	TCX		0		TCX

Files:
Area File: 25pcbs18303001.024.RAW
Area File: 25pcbs18303001B.024.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 9:27:23 PM
File Reported On: 10/30/2018 at 9:27:31 PM

AR5461824C AAAR546AA ICAL 1830299999 10227 SW-846 8082

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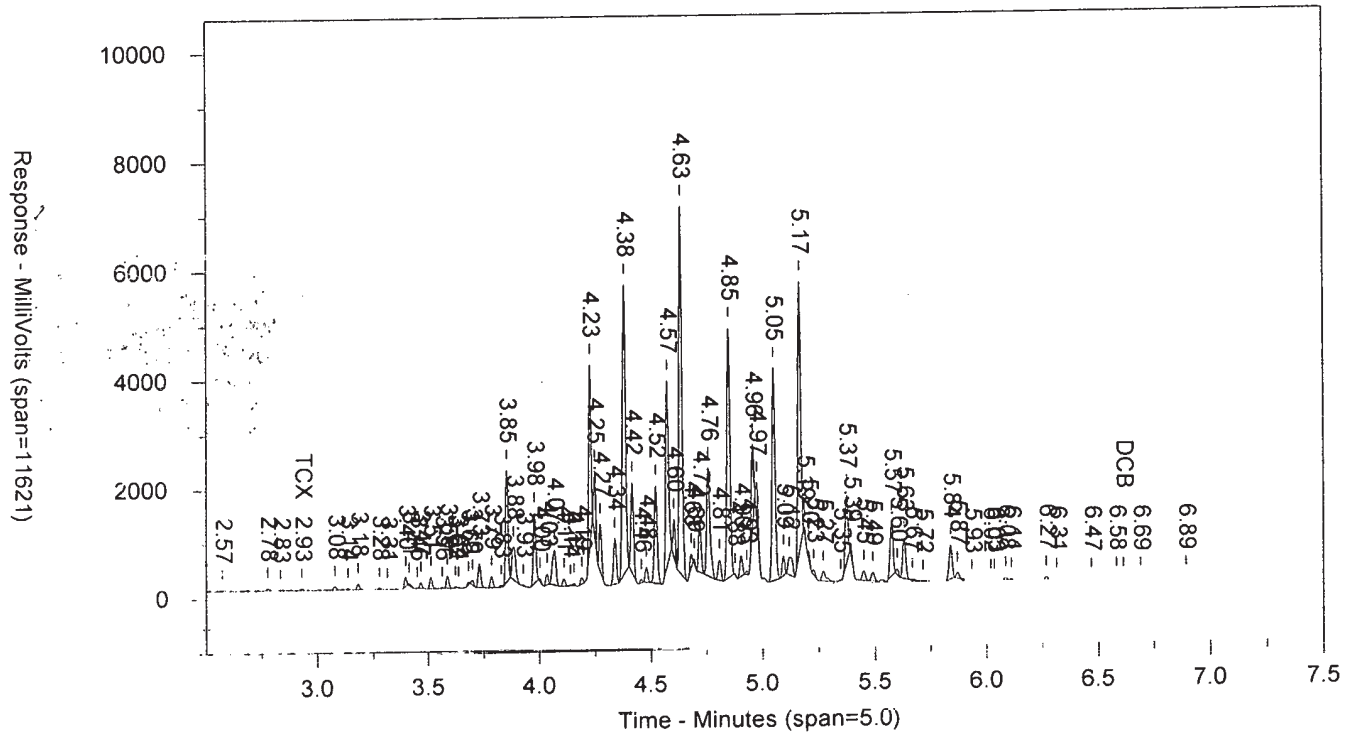

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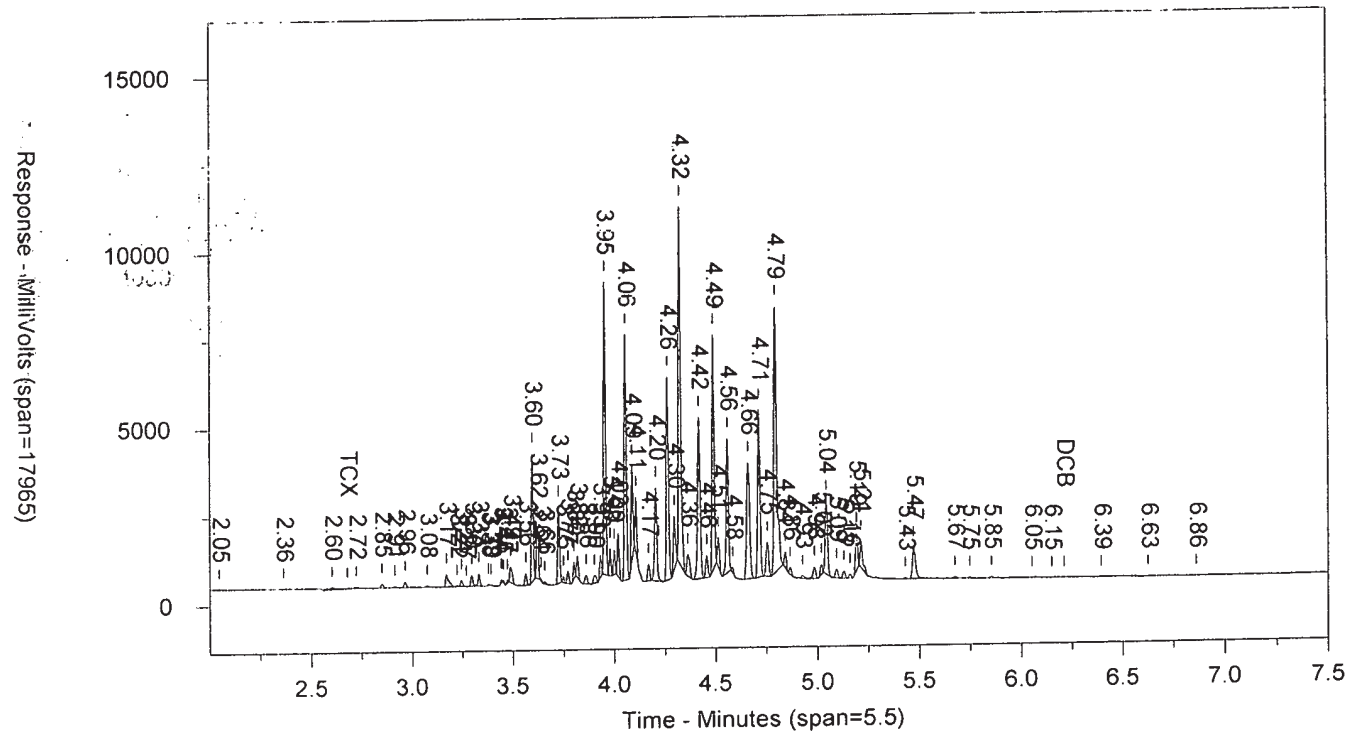

AR5461824C AAAR546AA ICAL 1830299999 10227 SW-846 8082

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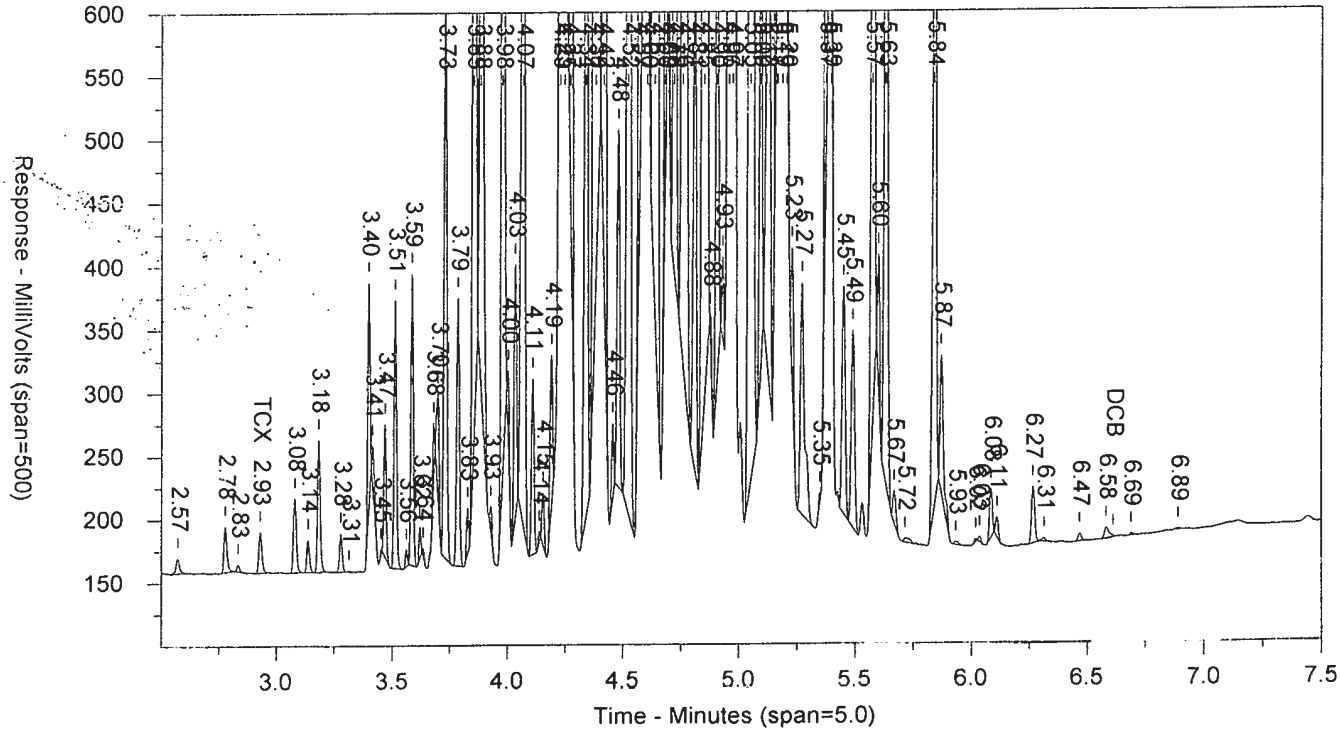

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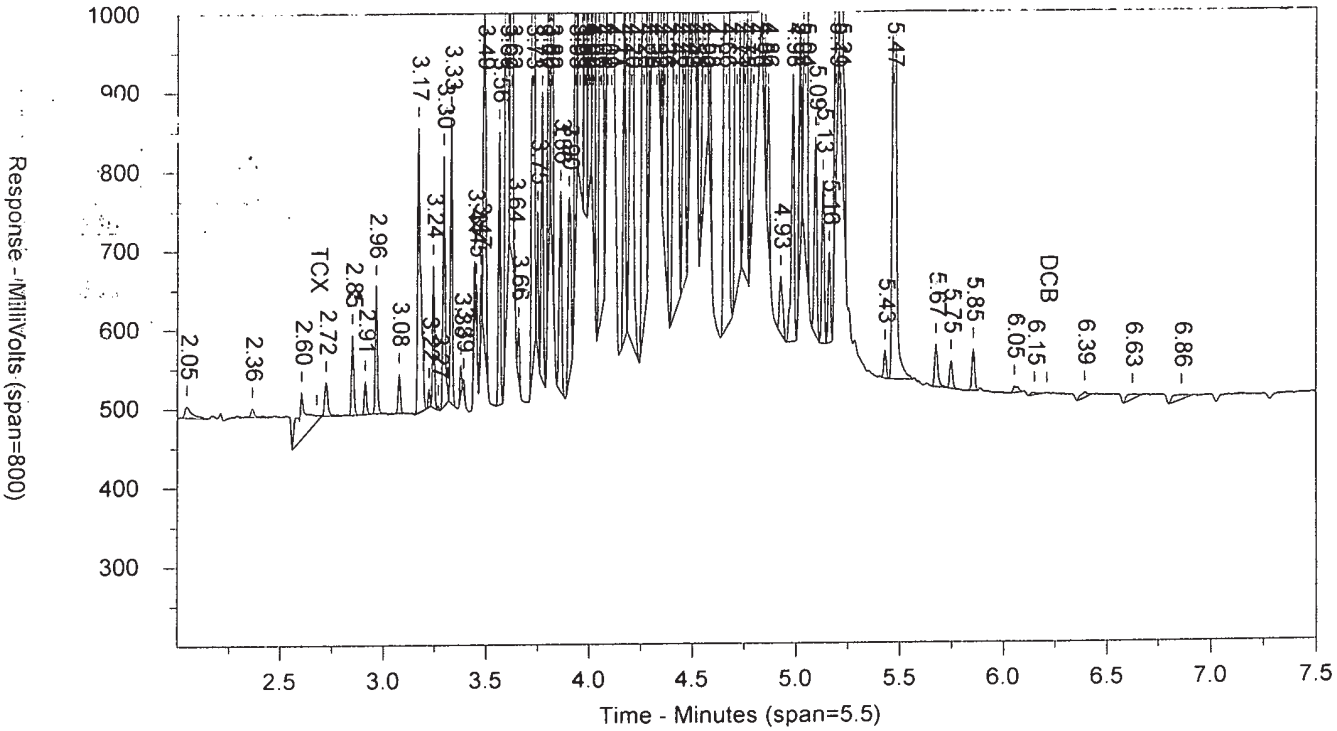

LANCASTER LABORATORIES

Sample Number: AR6241824B AAAR624AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:29:54 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.025.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		8244	14206
2.233		2582	3348
2.312		15206	10836
2.376		2243	2582
2.424		4198	3829
2.493		1718	2056
2.571		6133	6436
2.737		818	537
2.776		34801	32437
2.833		4364	3656
2.928	TCX	3696	3382
3.078		5196	4668
3.136		3335	2750
3.184		20003	16762
3.278		6517	5535
3.398		20957	12730
3.415		6420	3517
3.452		1100	650
3.469		5423	3375
3.495		2726	1371
3.514		32571	24042
3.589		18065	13505
3.624		3352	1952
3.669		2888	1852
3.684		3682	2183
3.694		14692	8982
3.732		39953	31786
3.788		40440	34944
3.831		3998	2738
3.857		36687	27333
3.892		76966	67070
3.921		5371	5790
3.981		28337	20677
4.005		4319	2586
4.035		7864	5301
4.062		39593	48905
4.112		9085	7277
4.141		1962	1393
4.159		1915	1757
4.192		29264	19871
4.223		140782	130538
4.249		21189	11268
4.274		19744	14737
4.34		17688	16047
4.383		196001	196481
4.417		21754	16345
4.477		13605	12911
4.519		149316	155846
4.591		135213	191360
4.636		108208	96069
4.682		434565	470045
4.72		81340	58725
4.759		738465	722299
4.801		45666	40909

RT A	Compound A	Height A	Area A
4.849		79021	84722
4.881		22269	15650
4.906		88312	80967
4.959		864124	983044
5.009		380901	367922
5.052		377268	483653
5.131		41028	42053
5.165		727963	785616
5.207		7806	3838
5.23		1164675	1163316
5.273		509487	509467
5.368		181130	135849
5.395		938190	998675
5.452		455289	768269
5.534		53554	53594
5.576		188288	192155
5.633		2718715	2846648
5.837		1573352	1678339
5.892		853867	1328349
6.024		86609	88929
6.09		22810	16790
6.111		359825	347637
6.269		1051633	1090672
6.314		55428	54889
6.469		401026	438776
6.584		2119	2058
6.6[illegible]	DCB	9769	9131
6.695		1936	1633
6.835		991	953
6.888		755	373

LANCASTER LABORATORIES

Sample Number: AR6241824B AAAR624AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:29:54 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.025.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		15988	37252
2.603		41592	76115
2.963		31460	21990
3.075		9711	7039
3.171		29625	15685
3.222		3966	2016
3.244		19662	13257
3.296		49714	37094
3.332		28121	18842
3.39		20812	23024
3.443		15156	6537
3.453		23859	11055
3.474		6109	2350
3.489		36049	33394
3.565		64508	44043
3.599		56803	36188
3.624		127471	82298
3.657		17345	12419
3.727		50891	34901
3.75		10638	5515
3.772		21108	14298
3.803		51865	30817
3.862		19360	16581
3.909		63288	68905
3.955		277083	242562
3.981		20083	11091
4.001		11618	6370
4.021		26615	16552
4.057		262157	192213
4.091		39152	24806
4.109		44126	25969
4.177		11843	8883
4.196		167290	162100
4.24		9507	5795
4.264		73844	55011
4.307		153331	107142
4.339		625909	510116
4.367		164424	170536
4.419		1122709	911385
4.461		68495	53814
4.49		65010	44588
4.516		151400	104627
4.56		1231751	1004703
4.665		1140231	1083646
4.719		218363	185643
4.759		338750	289881
4.795		714246	630126
4.828		1556104	1318008
4.867		691185	567285
4.969		342866	302164
5.021		1611131	1498616
5.095		667748	669796
5.131		199633	156870
5.16		185731	152099

RT B	Compound B	Height B	Area B
5.216		3273690	2923518
5.257		31561	20402
5.289		209750	181793
5.407		46437	30249
5.429		1325530	1161049
5.478		2216939	2484833
5.63		113328	100211
5.674		15365	10409
5.698		70733	59188
5.747		512055	517163
5.854		1310334	1176970
5.887		57197	40650
6.054		556066	562785
6.213	DCB	15657	13672
6.707		10177	107635
6.843		6065	21315

AR6241824B AAAR624AA ICAL 1830299999 10227 SW-846 8082

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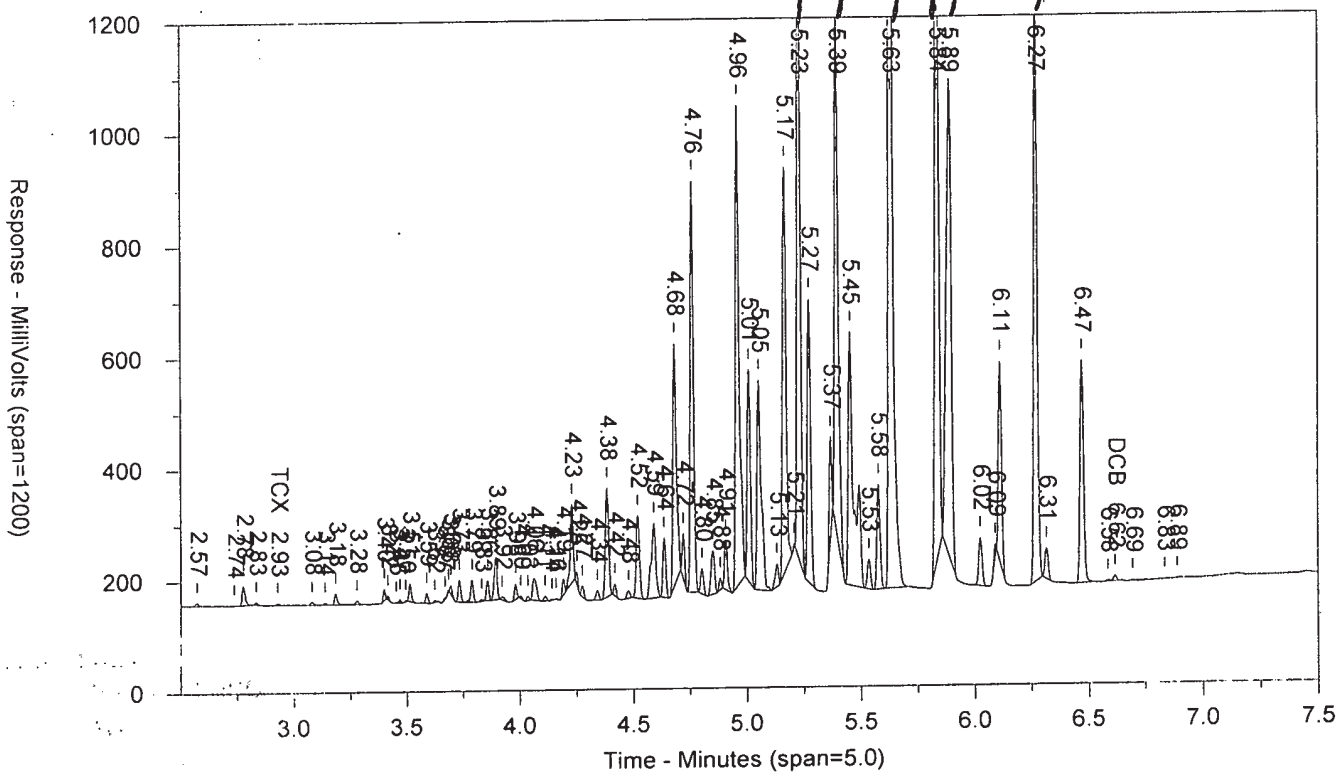

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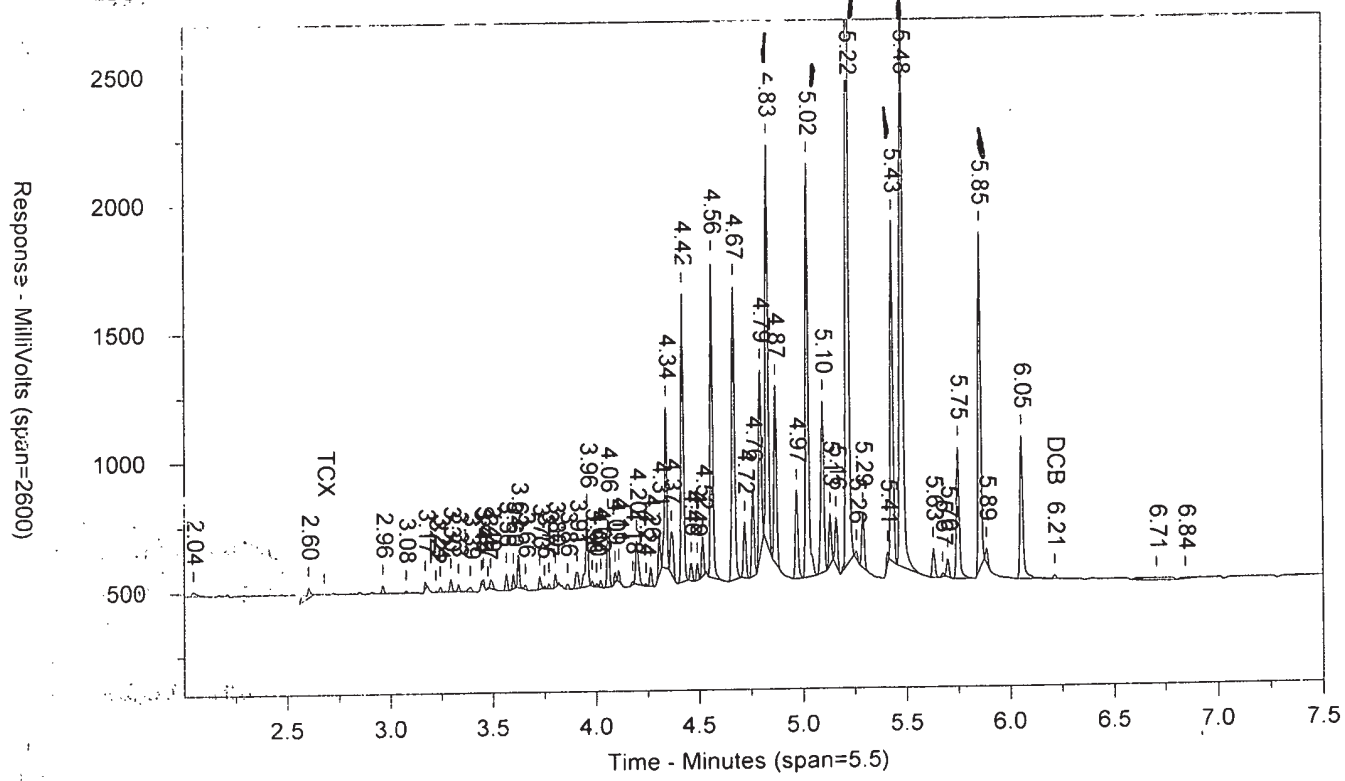

LANCASTER LABORATORIES

Sample Number: AR6241824B AAAR624AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:29:54 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.928	3696	.024	TCX		0		TCX
6.616	9769	.076	DCB	6.213	15657	.083	DCB

Files:
Area File: 25pcbs18303001.025.RAW
Area File: 25pcbs18303001B.025.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 9:38:25 PM
File Reported On: 10/30/2018 at 9:38:35 PM

AR6241824B AAAR624AA ICAL 1830299999 10227 SW-846 8082

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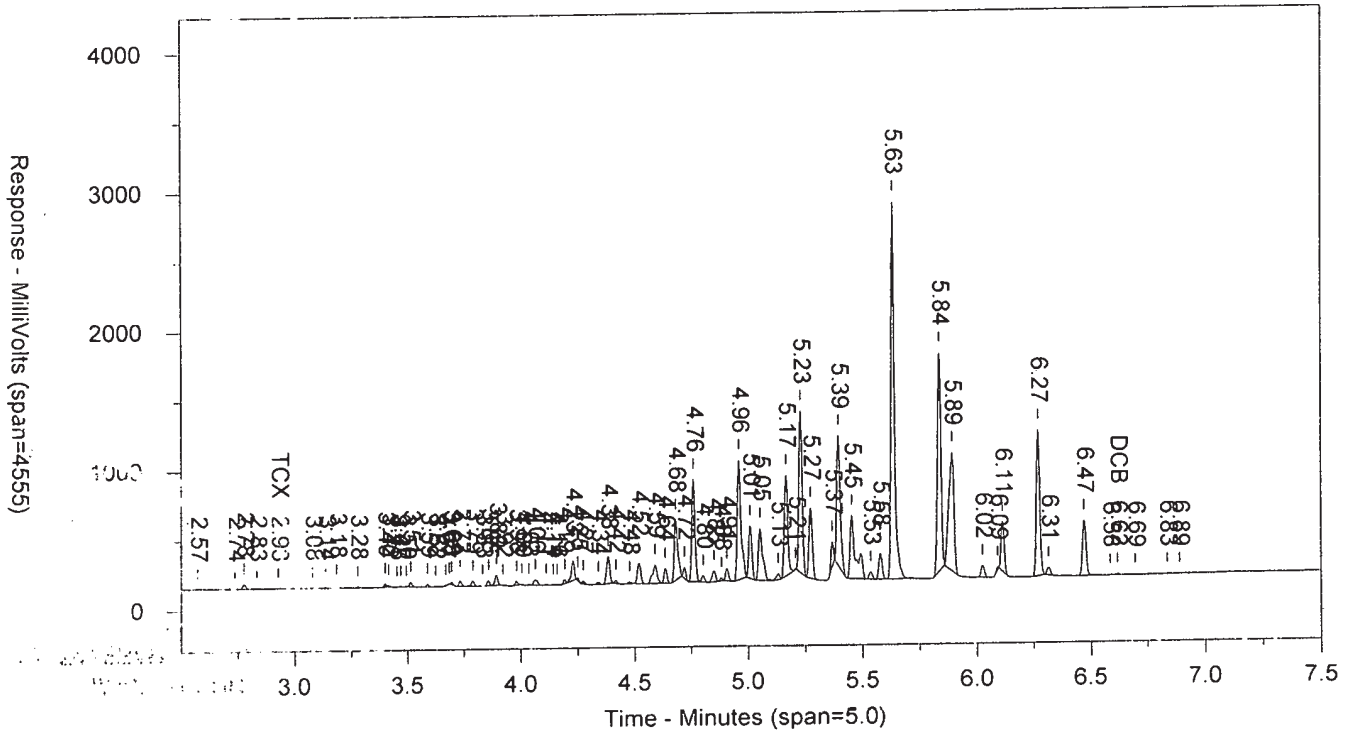

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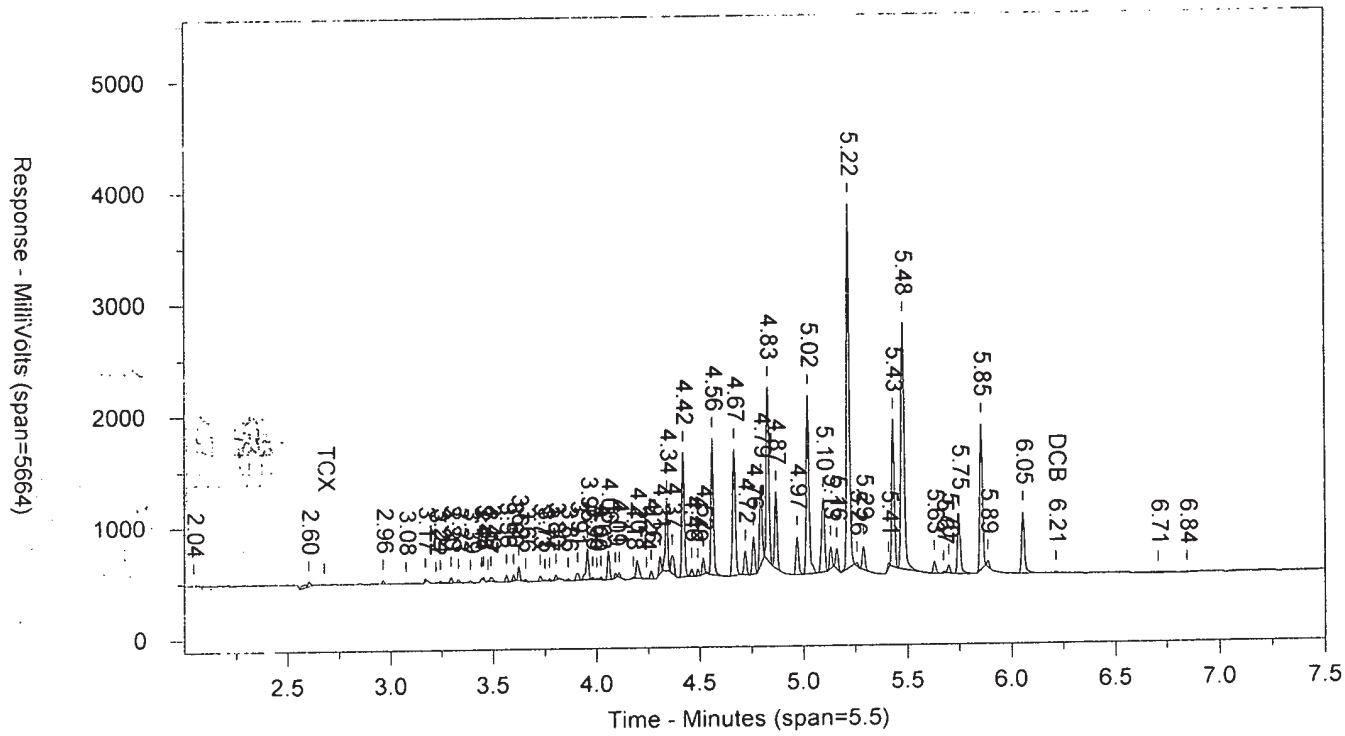

AR6241824B AAAR624AA ICAL 1830299999 10227 SW-846 8082

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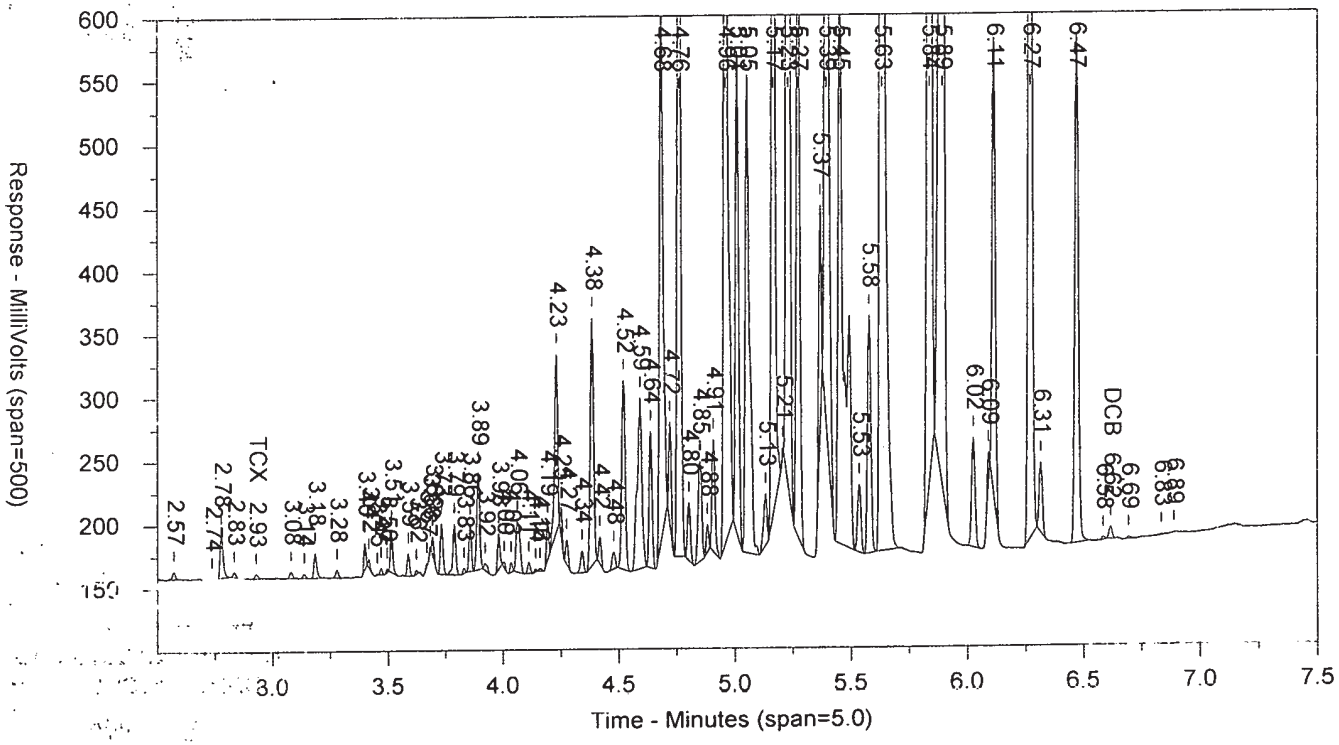

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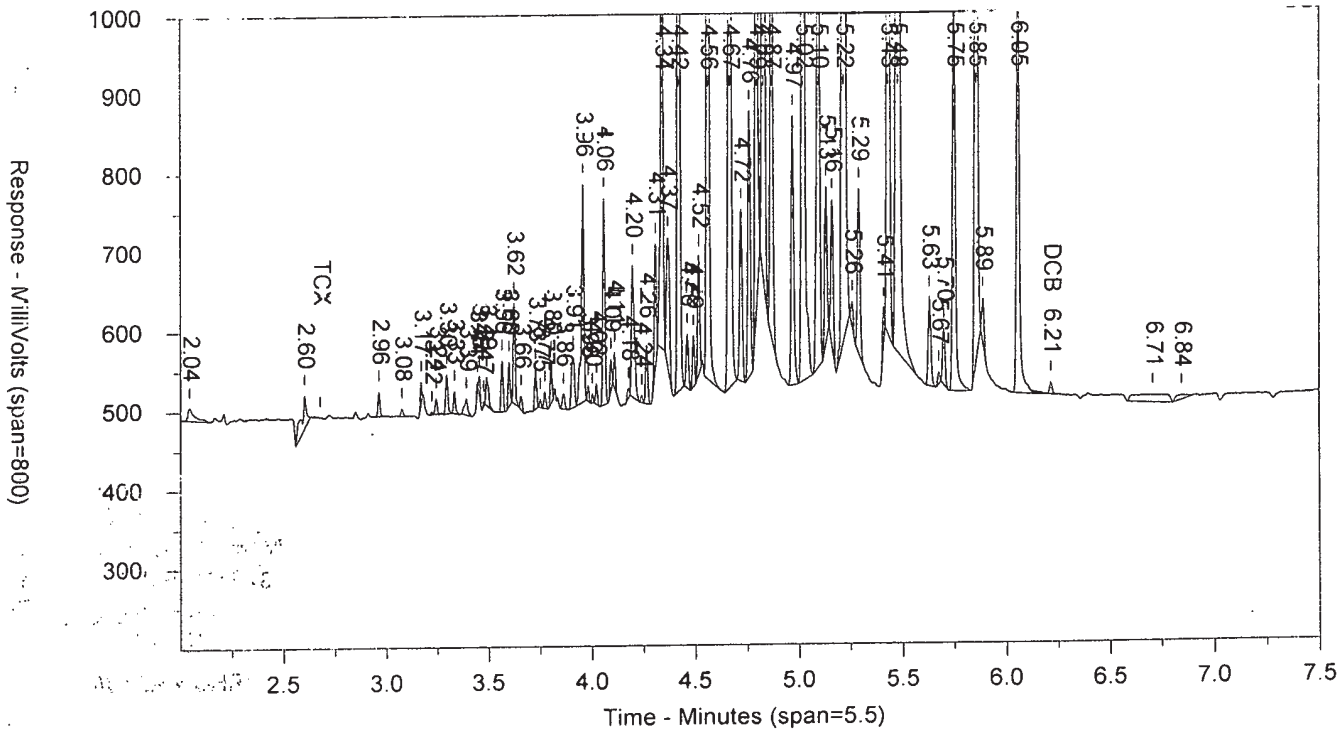

LANCASTER LABORATORIES

Sample Number: AR6841824B AAAR684AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:40:30 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.026.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.094		8426	14892
2.229		2204	2850
2.31		12271	8806
2.377		2209	2600
2.494		1590	1791
2.569		4177	4004
2.775		35630	32840
2.833		1680	1349
2.926	TCX	1195	888
3.076		1320	1081
3.181		6806	5816
3.277		2880	2225
3.395		4714	2907
3.465		2743	1851
3.493		1377	706
3.511		12877	9845
3.585		5584	4187
3.619		935	520
3.664		4145	2491
3.689		5836	6110
3.729		16272	13520
3.783		13457	10701
3.827		4041	2976
3.853		7213	5318
3.888		13308	12574
3.918		5518	6659
3.976		7804	5626
[illegible]4		2336	1360
4.031		2986	1883
4.058		17082	22527
4.107		8649	7059
4.135		889	672
4.188		5991	3642
4.208		34951	41495
4.246		17268	12019
4.269		10111	7264
4.33		1407	1685
4.376		23954	21537
4.471		13447	13021
4.514		98132	95454
4.57		31449	38031
4.633		7395	6967
4.678		9543	9406
4.717		14727	12508
4.755		26245	23553
4.796		61910	57277
4.84		19392	19716
4.877		109356	102222
4.92		6153	5689
4.954		8069	6041
4.972		5644	3555
5.005		69105	67206
5.047		14899	25937
5.118		43362	41654

RT A	Compound A	Height A	Area A
5.159		25421	24817
5.204		12096	8763
5.226		514948	489458
5.269		46770	43459
5.364		40243	31922
5.404		719952	818392
5.47		206915	235972
5.529		52720	53804
5.573		7052	6257
5.629		243710	196136
5.649		130018	93350
5.831		3533167	3580792
5.89		3199968	3549904
6.02		2938375	3085443
6.086		737580	876010
6.264		1261203	1325598
6.308		5340	4193
6.34		4810	4642
6.464		10177340	10632640
6.611	DCB	1917197	2113110
6.688		6160	5791
6.926		5651	6372

LANCASTER LABORATORIES

Sample Number: AR6841824B AAAR684AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:40:30 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.026.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.049		15768	37261
2.604		43734	113261
2.963		11089	8966
3.078		5198	3486
3.171		6424	3534
3.244		7925	5073
3.296		22578	17090
3.331		7612	4187
3.388		11270	7070
3.4[illegible]		4932	2501
3.495		17971	21028
3.563		24409	16834
3.596		11311	7601
3.621		25022	14468
3.655		13133	10483
3.725		17815	12129
3.748		5627	2910
3.768		13168	9151
3.801		23019	13701
3.86[illegible]		14821	11263
3.908		60019	46652
3.938		24553	15694
3.955		32635	20263
3.979		17036	9905
4.055		7472	5200
4.091		10264	5898
4.105		18275	14279
4.174		12134	6985
4.193		122038	96068
4.238		36879	25186
4.305		11734	9123
4.337		14986	15213
4.369		6440	6709
4.418		56734	52534
4.458		87473	69404
4.487		8299	4818
4.51		15625	9125
4.532		141993	105551
4.661		125043	118032
4.715		30775	28206
4.764		72274	71164
4.793		15015	11443
4.824		730394	682037
4.864		56464	41509
4.966		66950	59773
5.016		1066981	1025718
5.083		292530	281787
5.143		7260	6159
5.164		49199	39761
5.212		435482	400714
5.286		319808	296189
5.426		4736335	4112565
5.476		4788130	4223430
5.627		4160612	3688537

RT B	Compound B	Height B	Area B
5.695		1035941	903498
5.744		116906	100396
5.851		1670071	1651434
6.051		15195680	13697890
6.21	DCB	2886474	2735162
6.39		9585	9238
6.549		9634	11677
6.858		3831	14731

AR6841824B AAAR684AA ICAL 1830299999 10227 SW-846 8082

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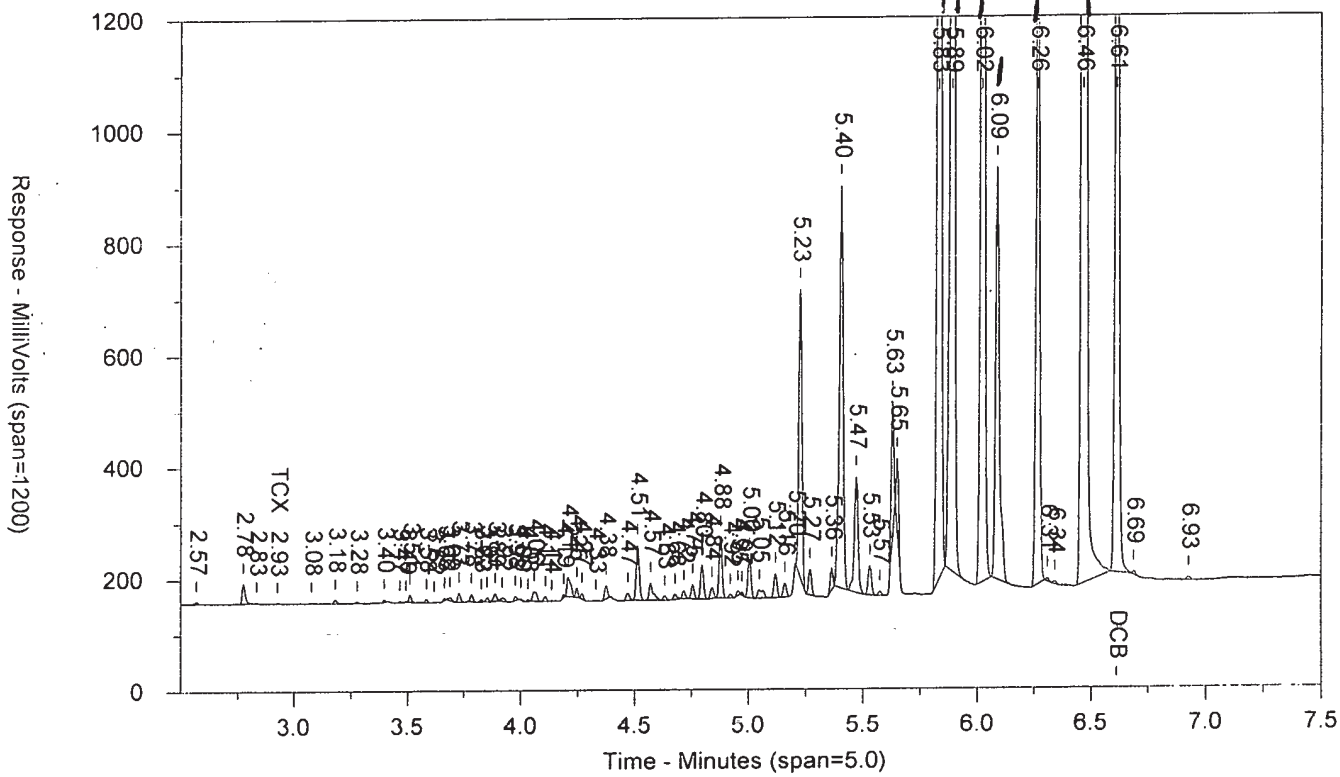

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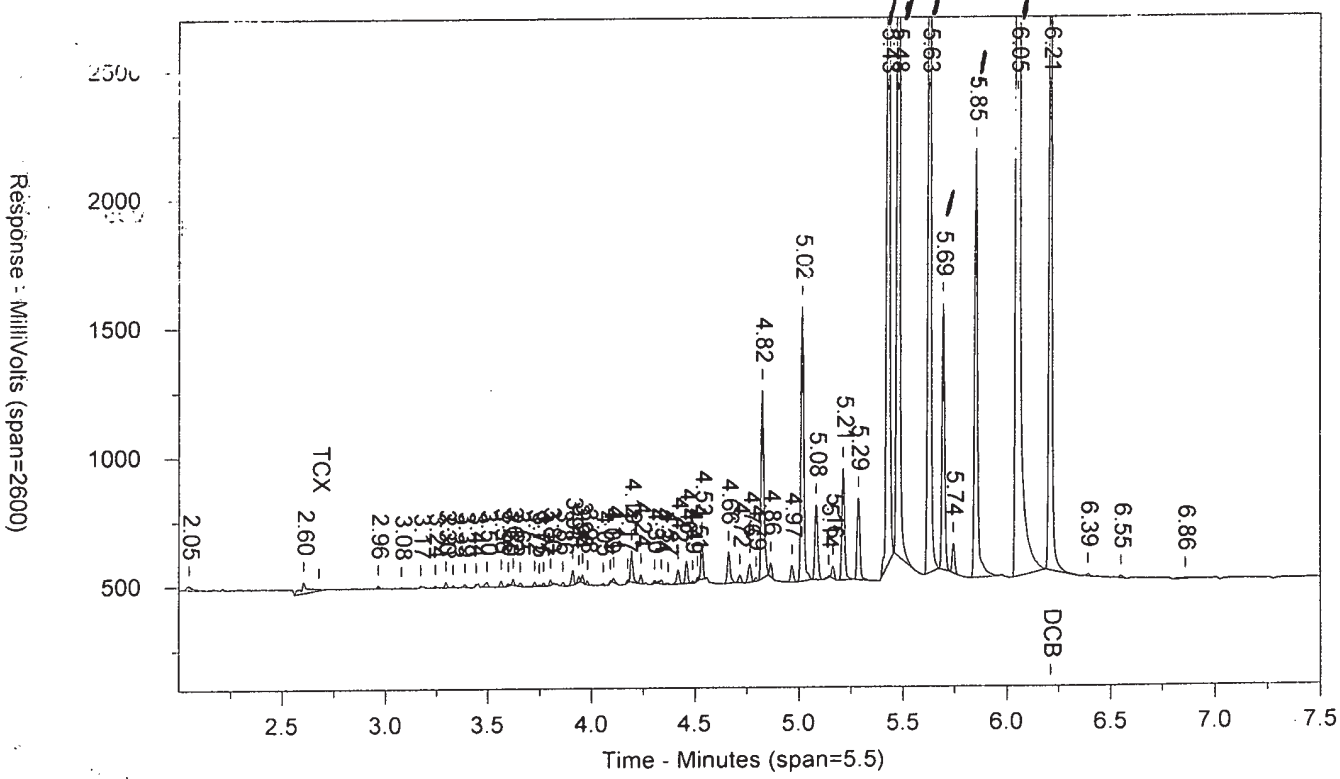

LANCASTER LABORATORIES

Sample Number: AR6841824B AAAR684AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:40:30 PM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.926	1195	008	TCX		0		TCX
6.611	1917197	14.939	DCB	6.21	2886474	15.373	DCB

Files:
Area File: 25pcbs18303001.026.RAW
Area File: 25pcbs18303001B.026.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 9:49:00 PM
File Reported On: 10/30/2018 at 9:49:07 PM

AR6841824B AAAR684AA ICAL 1830299999 10227 SW-846 8082

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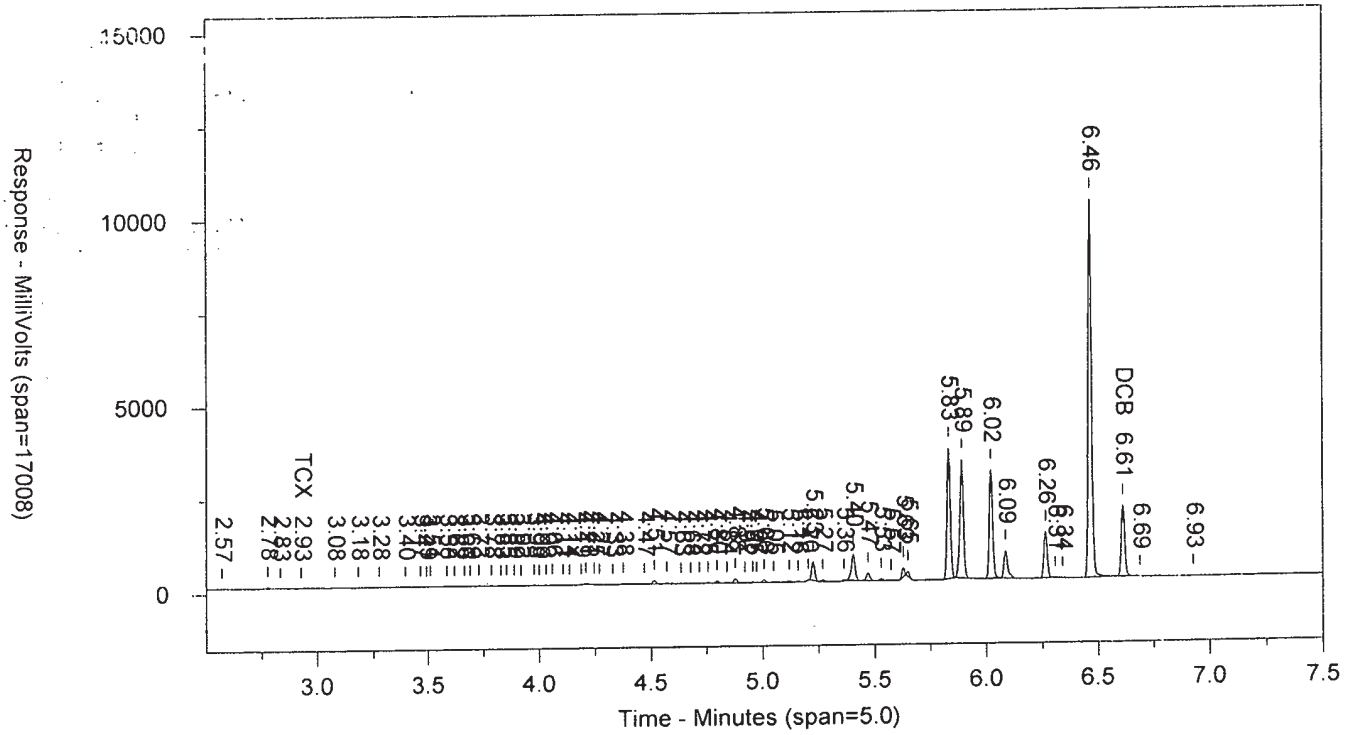

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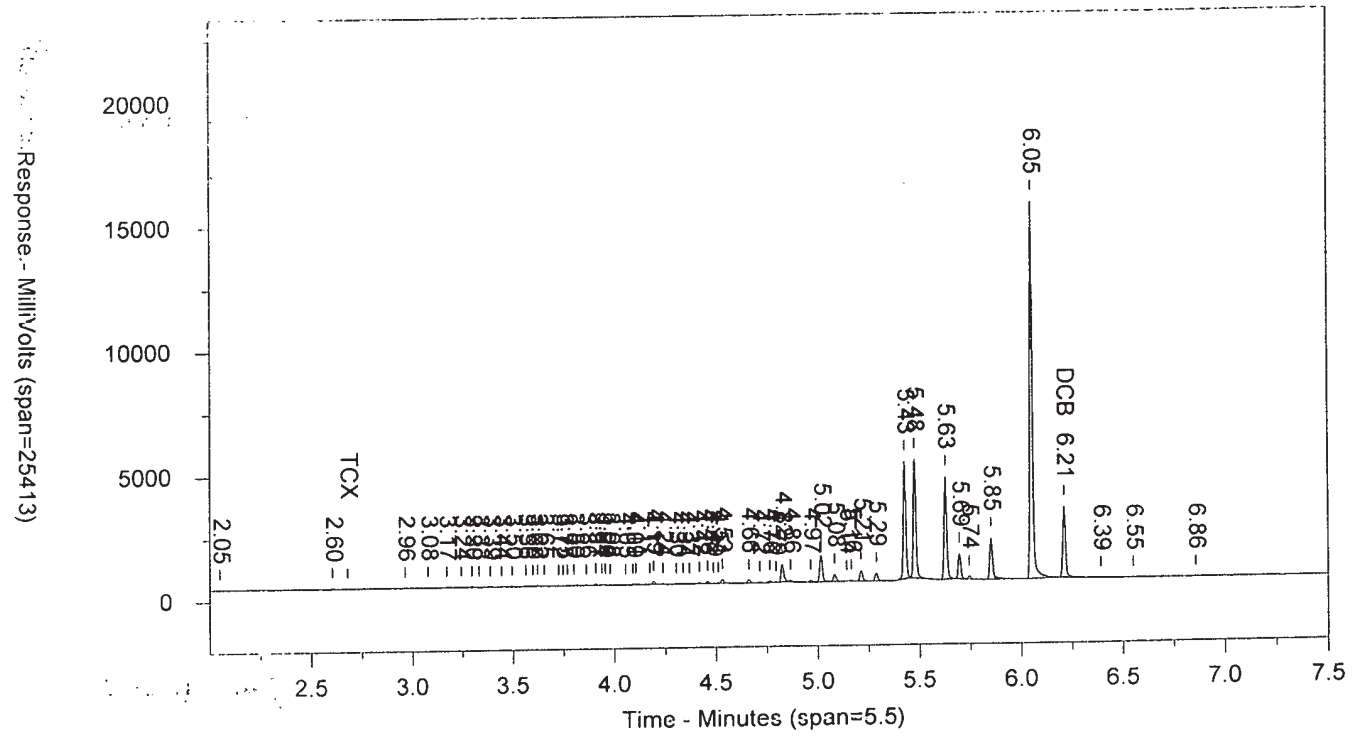

AR6841824B AAAR684AA ICAL 1830299999 10227 SW-846 8082

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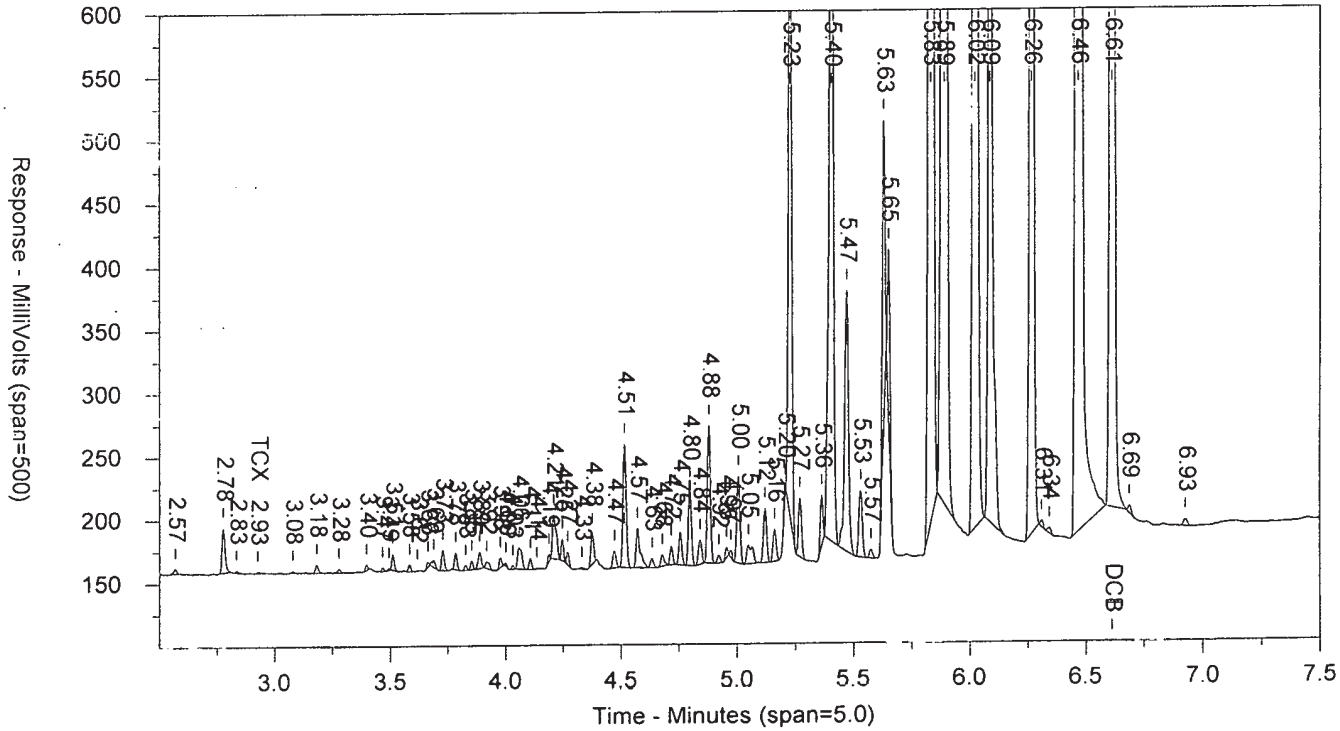

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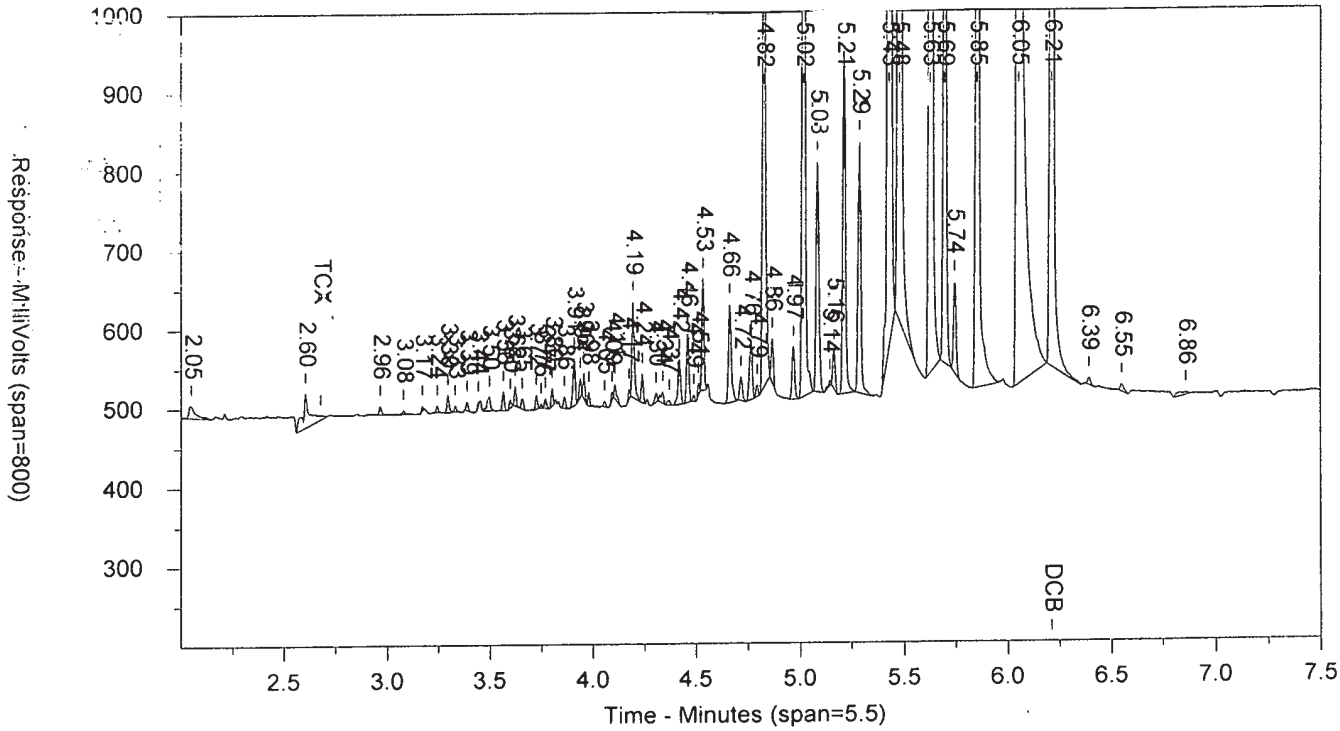

LANCASTER LABORATORIES

Sample Number: AR2141824E AAAR214AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:51:07 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.027.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.094		8389	15799
2.228		2709	3659
2.31		10402	7331
2.378		2275	2669
2.422		1436	1017
2.493		1401	972
2.565		214224	178646
2.736		815	695
2.775		17456	14572
2.806		2268	1453
2.842		62706	50087
2.924	TCX	115406	92736
3.077		283431	248256
3.133		224638	164402
3.181		734217	583182
3.274		7335	5382
3.395		48829	28864
3.412		21970	16913
3.464		1242	420
3.481		72562	53294
3.51		62294	43879
3.584		4593	3356
3.619		11648	6474
3.634		9583	4953
3.689		99556	127767
3.725		72528	55895
3.785		41734	33472
3.825		1393	810
3.852		13618	10217
3.879		10333	8569
3.976		13624	9795
[illegible]		4455	3154
4.03		5306	3657
4.068		17661	18744
4.107		4439	3747
4.192		935	602
4.224		7824	5276
4.246		9755	6211
4.268		11886	8351
4.375		8684	6922
4.396		3495	2425
4.515		1548	1430
4.569		2070	1697
4.633		3542	3172
4.846		3016	3117
4.92		6077	6073
5.226		2508	2243
5.404		3655	5327
5.627		1981	3658
5.831		17958	18433
5.89		15674	16575
6.021		13886	13696
6.084		3246	2835
6.265		5871	6195

RT A	Compound A	Height A	Area A
6.464		51130	52238
6.61	DCB	9928	11384

LANCASTER LABORATORIES

Sample Number: AR2141824E AAAR214AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:51:07 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.027.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		23466	80750
2.358		318752	237610
2.603		21058	44756
2.632		100079	66812
2.719		141777	130893
2.849		512425	343324
2.91		365366	226709
2.962		1241151	786320
3.074		12288	8279
3.149		3022	1451
3.17		65697	32365
3.182		15588	5139
3.213		40465	30662
3.243		13692	7793
3.268		136982	82757
3.293		97837	63798
3.33		8582	6267
3.376		17881	7889
3.389		32985	18960
3.442		40035	18947
3.452		33989	36421
3.486		93601	76751
3.56		74918	46448
3.595		22759	14082
3.619		26031	14756
3.637		7647	3574
3.724		29392	19447
3.746		11770	6643
3.768		16068	10802
3.799		6048	3182
3.817		32761	20327
3.859		7692	5815
3.93		11262	6296
3.952		24165	15853
3.977		20002	12874
4.091		13367	10095
4.118		7755	4415
4.323		7259	8036
4.488		4758	4692
4.676		11550	11401
5.017		6225	7421
5.427		23241	21482
5.475		23412	21160
5.628		20091	18893
5.695		4909	4572
5.852		9115	8114
6.052		66942	70390
6.211	DCB	15497	16194
6.848		3470	13012

AR2141824E AAAR214AA ICAL 1830299999 10227 SW-846 8082

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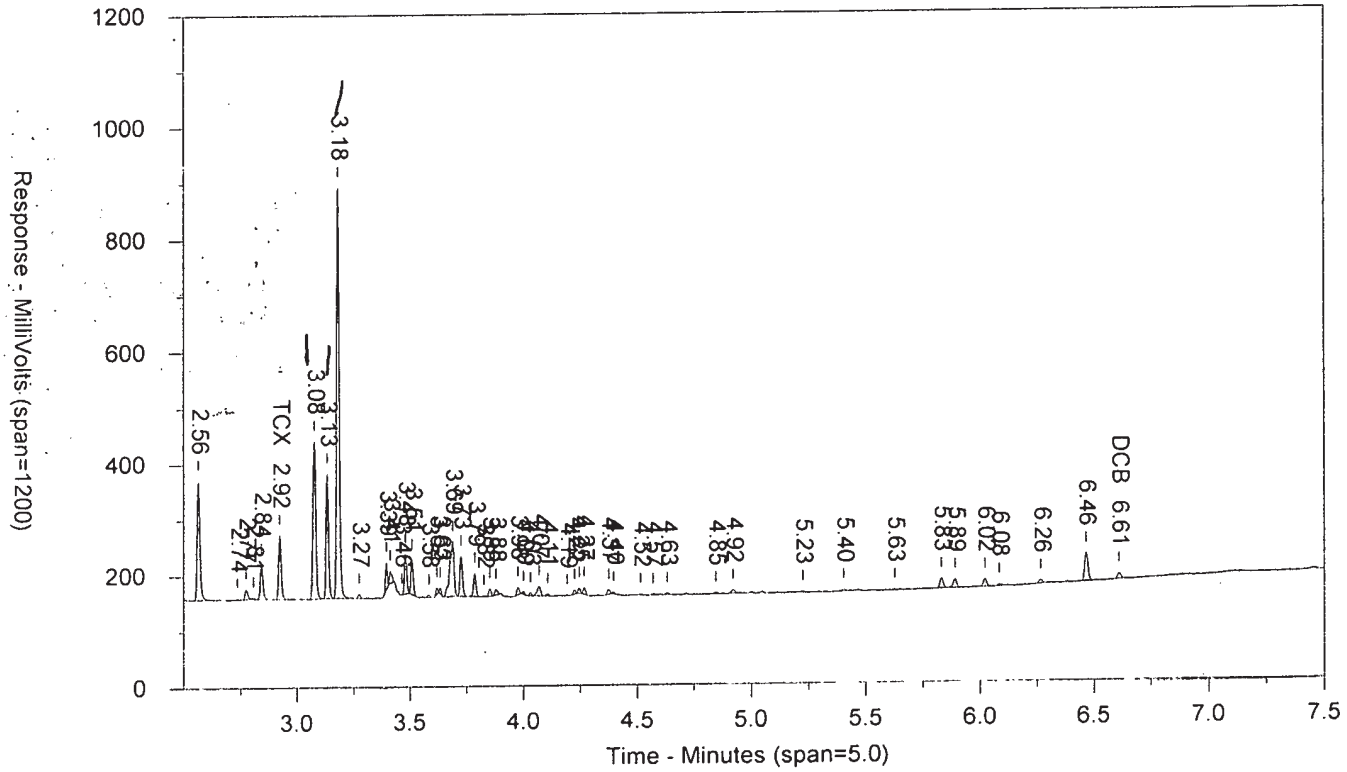

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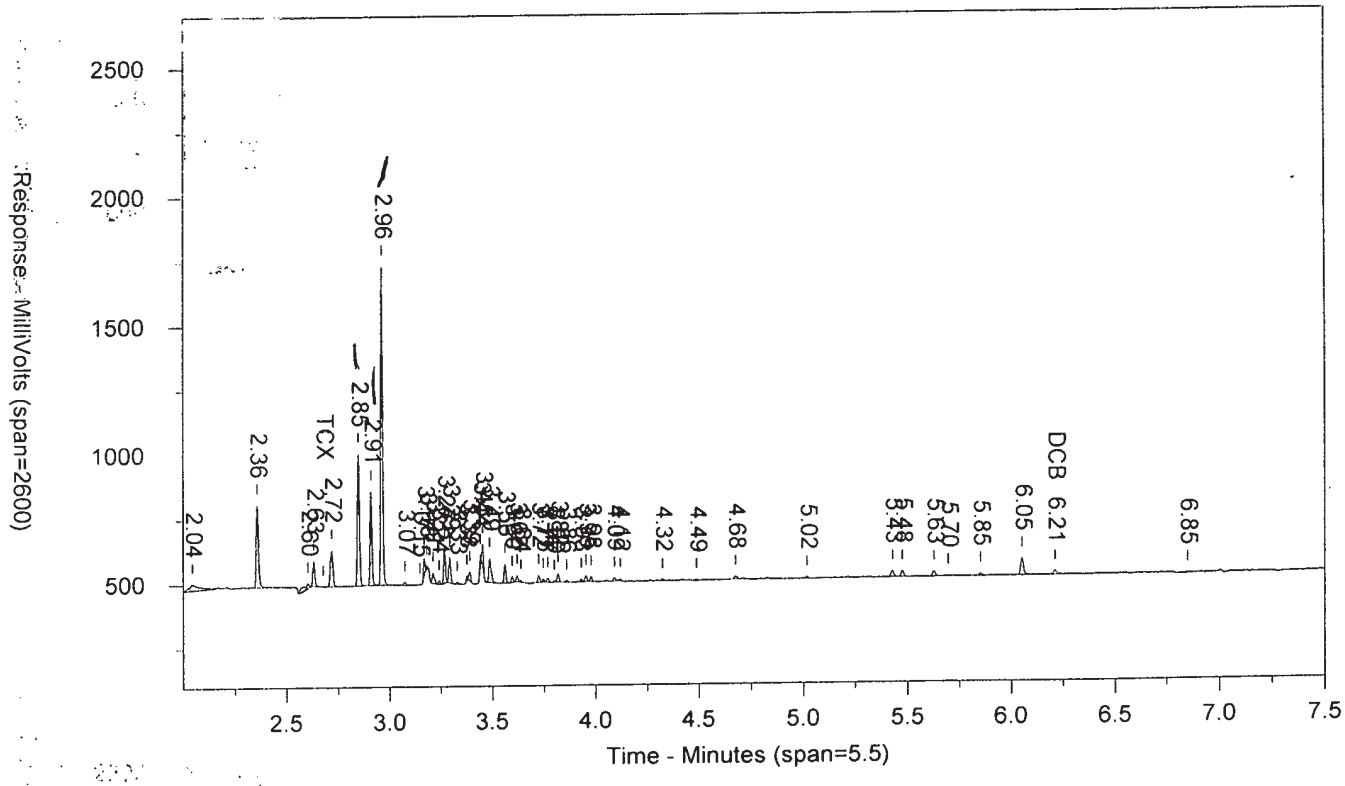

LANCASTER LABORATORIES

Sample Number: AR2141824E AAAR214AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 9:51:07 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	115406	.744	TCX		0		TCX
6.61	9928	.077	DCB	6.211	15497	.083	DCB

Files:
Area File: 25pcbs18303001.027.RAW
Area File: 25pcbs1830300 1B.027.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 9:59:38 PM
File Reported On: 10/30/2018 at 9:59:45 PM

AR2141824E AAAR214AA ICAL 1830299999 10227 SW-846 8082

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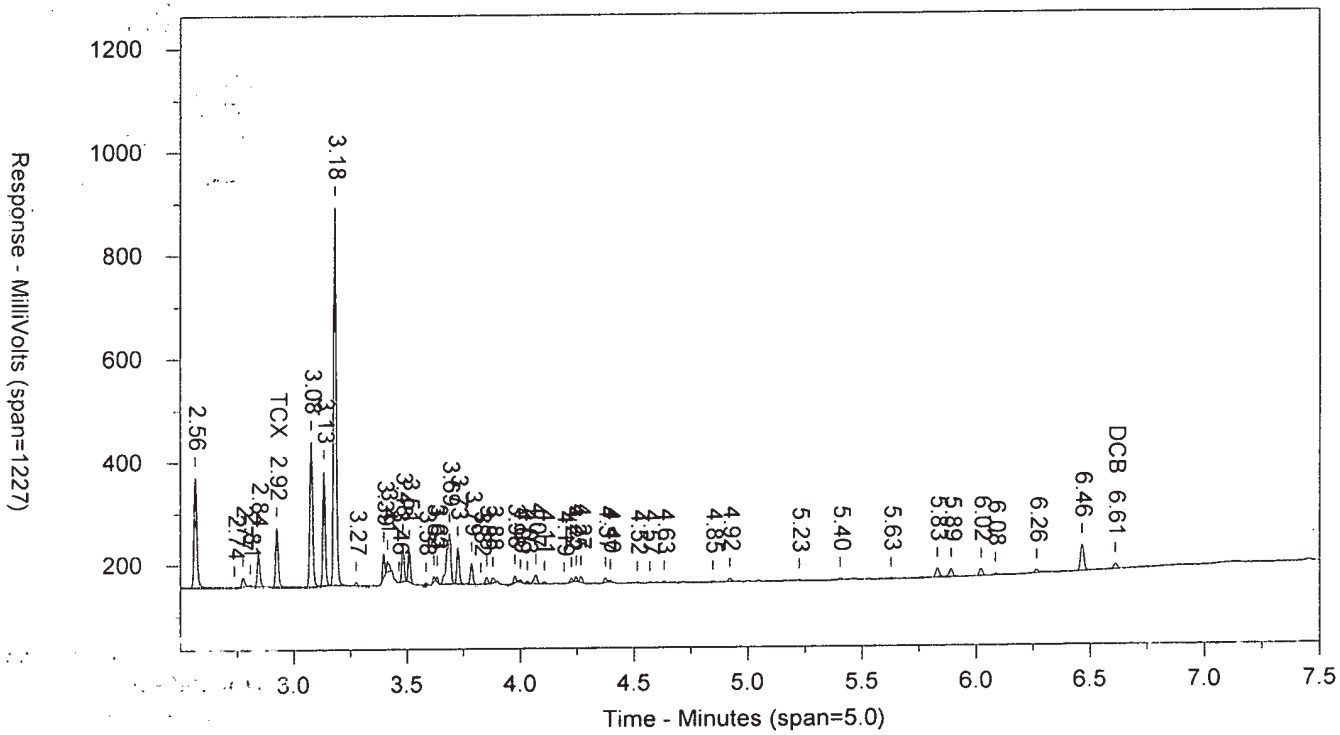

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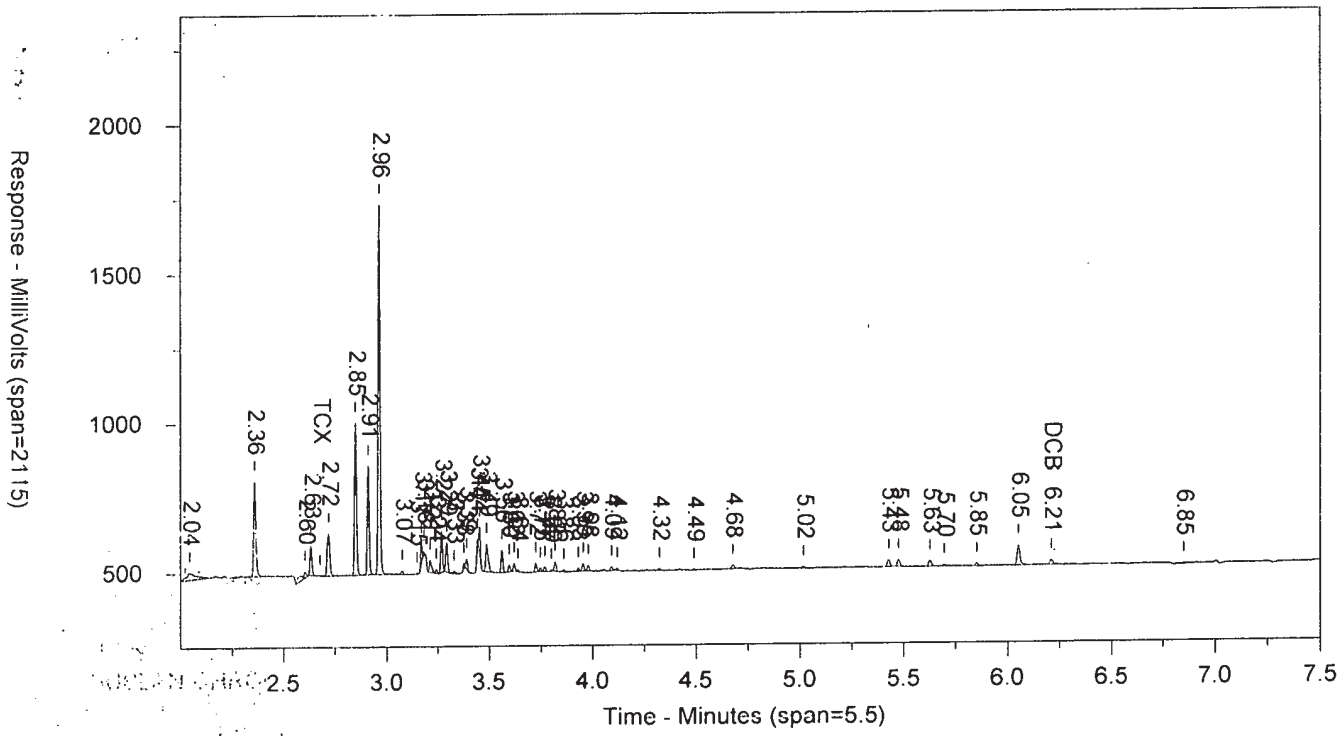

AR2141824E AAAR214AA ICAL 1830299999 10227 SW-846 8082

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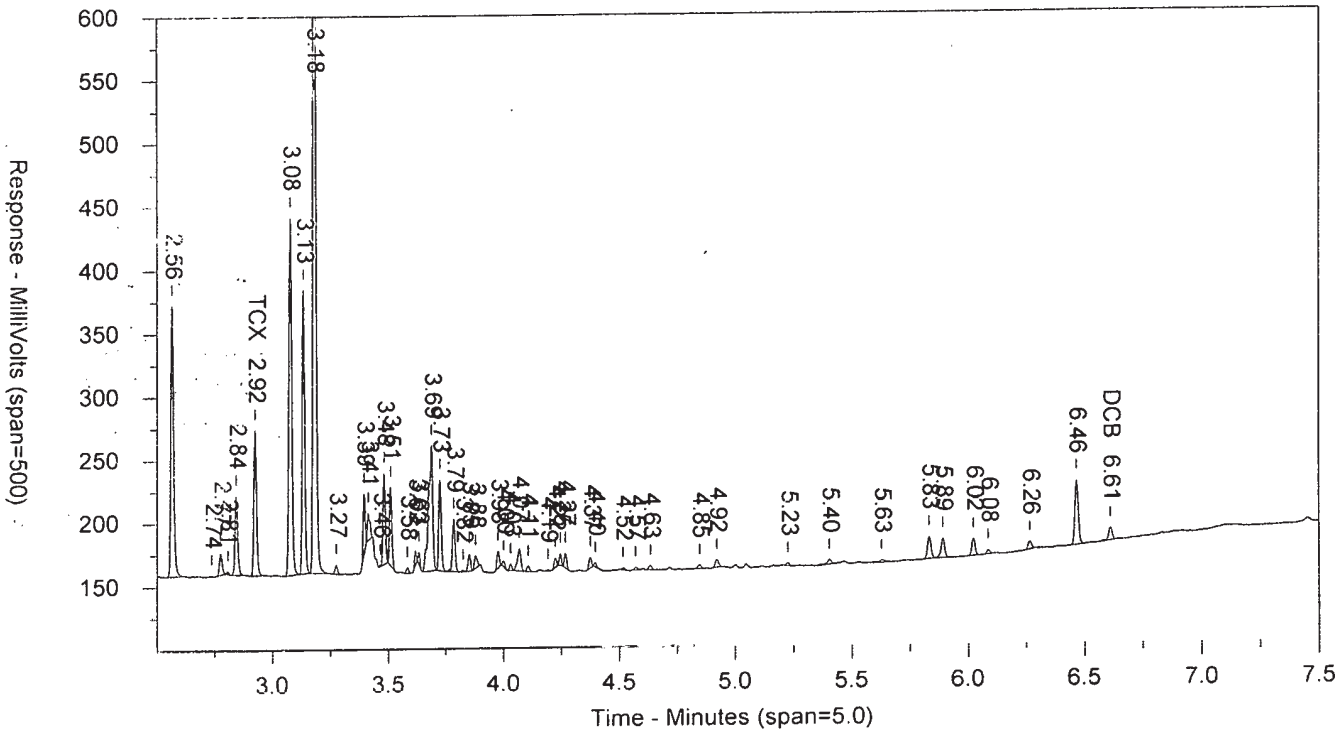

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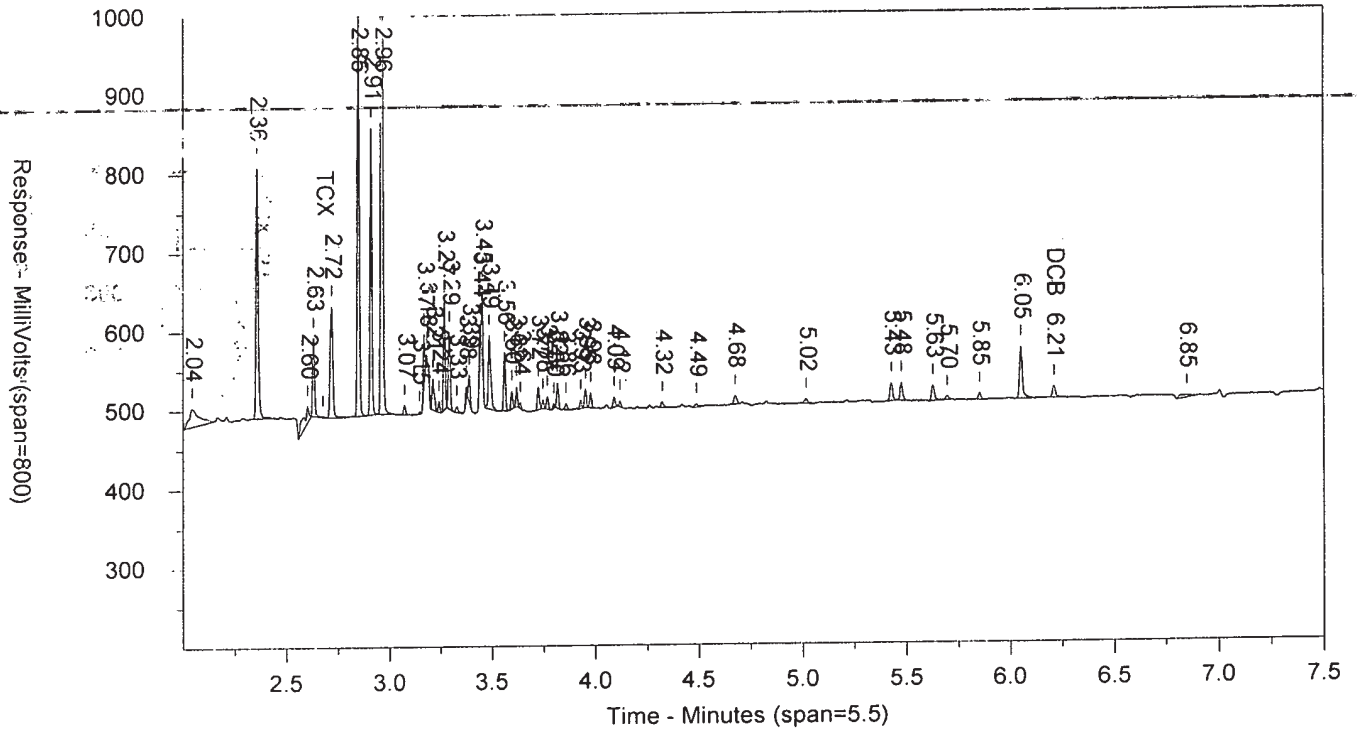

LANCASTER LABORATORIES

Sample Number: AR3241824D AAAR324AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:02:01 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.028.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.094		6974	12647
2.231		2561	3444
2.311		6990	4984
2.378		1916	2005
2.424		3164	2908
2.493		1540	1754
2.566		130071	109145
2.777		12819	10282
2.844		34408	29205
2.925	TCX	90182	72472
3.078		197807	179007
3.134		161780	121087
3.182		599681	470678
3.276		31572	23057
3.396		232902	143601
3.413		99651	55002
3.45		24124	12695
3.466		8484	3439
3.483		49284	31442
3.512		298723	235411
3.562		1579	860
3.586		19554	14337
3.622		55883	32237
3.636		25969	13470
3.682		73598	46616
3.692		266255	148685
3.729		359052	287762
3.787		265743	214951
3.827		18861	12853
3.854		162373	121799
3.881		123669	108581
3.903		32268	17150
3.978		187474	141561
4.002		64287	41938
4.033		77061	56259
4.069		200105	212361
4.109		65321	53608
4.154		12005	10582
4.194		14189	11881
4.227		122019	85607
4.247		161781	103000
4.27		191771	146599
4.33		10952	14313
4.377		148303	121050
4.398		67655	50496
4.457		1447	850
4.479		5073	3781
4.521		29174	25456
4.573		41779	36135
4.604		22004	16669
4.634		67104	60919
4.679		2216	1880
4.719		38122	33784
4.757		7920	9181

RT A	Compound A	Height A	Area A
4.806		6482	5678
4.848		49799	48331
4.924		8912	10652
4.956		6077	4638
5.048		47163	47286
5.164		12181	11283
5.202		1424	1612
5.227		3167	2665
5.376		1077	1010
5.392		2696	2163
5.575		2409	2208
5.631		9699	10190
5.837		7010	7673
5.889		1550	2726
6.112		1493	1407
6.265		2196	1776
6.39		931	1185
6.587	DCB	1063	1356

LANCASTER LABORATORIES

Sample Number: AR3241824D AAAR324AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:02:01 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.028.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.047		18236	54711
2.357		194858	147920
2.604		17600	54989
2.632		57287	38187
2.72		109811	100590
2.848		360171	247356
2.91		263595	167439
2.962		1004896	628441
3.074		54422	35459
3.17		322768	164533
3.182		105178	41449
3.222		59455	44808
3.244		38768	22226
3.269		100020	58257
3.294		462523	318226
3.331		33555	20272
3.377		105549	56315
3.392		68846	33738
3.443		179548	99311
3.453		431618	188703
3.473		14091	5442
3.487		469887	332053
3.562		449578	282949
3.597		263185	164640
3.621		292905	169348
3.639		89040	45309
3.726		342291	232751
3.749		132540	72578
3.77		130529	80194
3.801		76430	40905
3.818		294061	187151
3.862		105920	83700
3.91		19326	13817
3.932		186169	117332
3.955		370033	240227
3.98		324007	207761
4.019		11972	6466
4.056		71728	59536
4.092		207344	151309
4.12		139708	87243
4.168		9614	7427
4.205		43047	32568
4.263		68776	54497
4.295		40408	29325
4.325		99825	78431
4.42		47732	56273
4.457		11003	8522
4.499		66068	58943
4.557		12085	9168
4.66		6889	4592
4.712		57379	53941
4.795		16525	15533
5.02		5162	3657
5.095		3620	3183

RT B	Compound B	Height B	Area B
5.215		12049	11094
5.473		8222	10989

AR3241824D AAAR324AA ICAL 1830299999 10227 SW-846 8082

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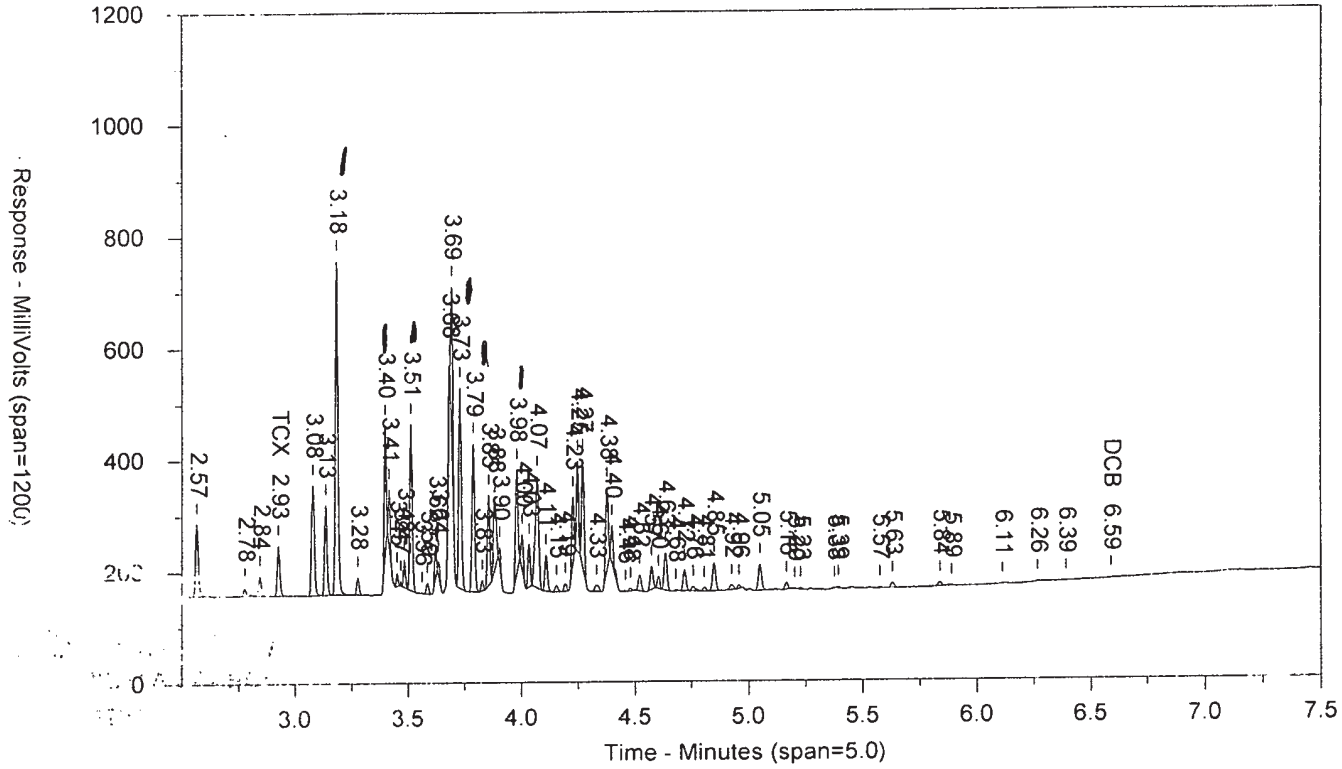

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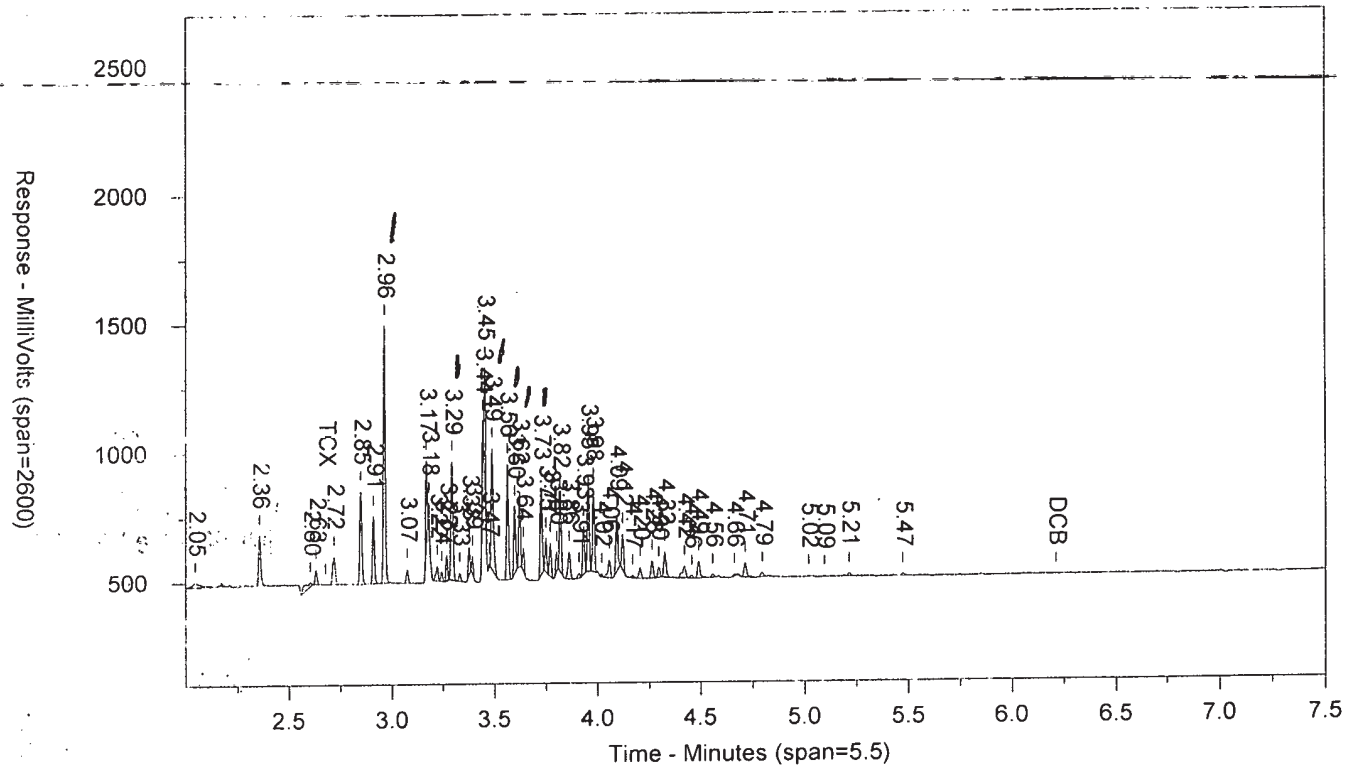

LANCASTER LABORATORIES

Sample Number: AR3241824D AAAR324AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:02:01 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	90182	.581	TCX		0		TCX
6.587	1063	.008	DCB		0		DCB

Files:
Area File: 25pcbs18303001.028.RAW
Area File: 25pcbs18303001B.028.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 10:10:32 PM
File Reported On: 10/30/2018 at 10:10:37 PM

AR3241824D AAAR324AA ICAL 1830299999 10227 SW-846 8082

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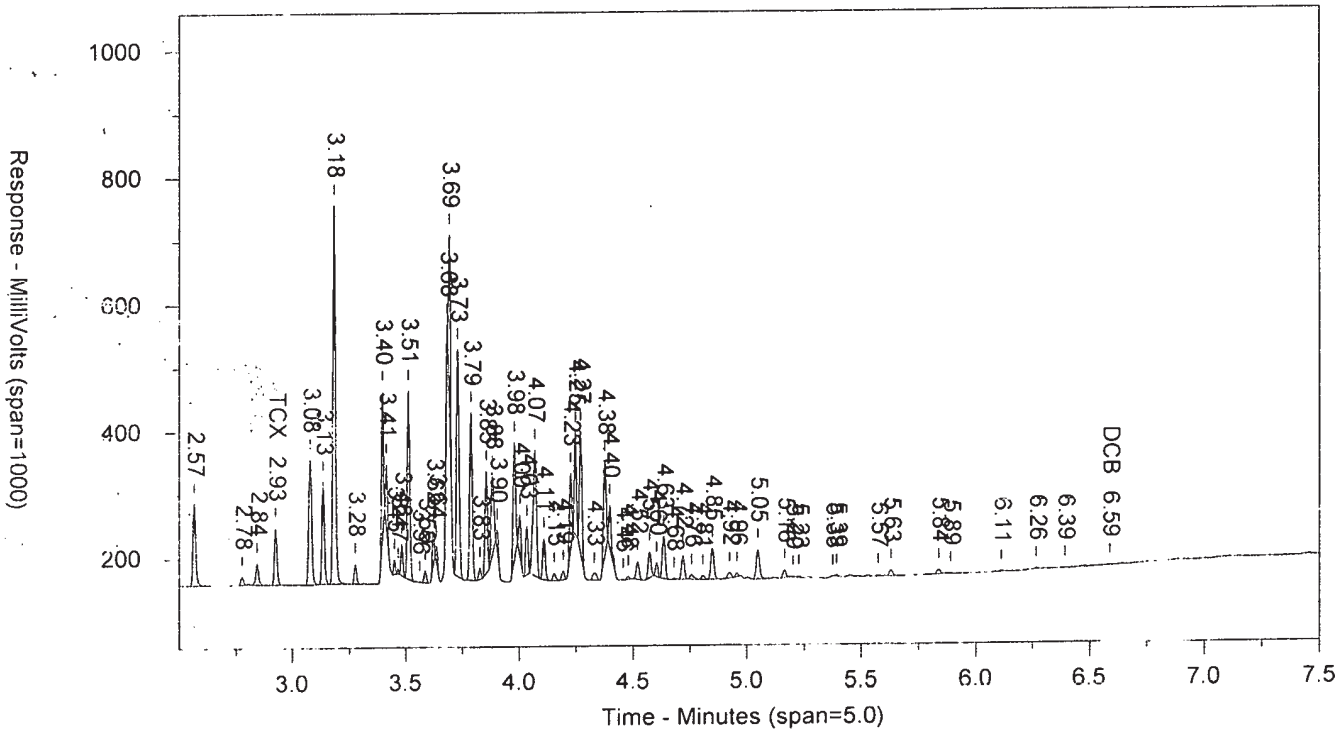

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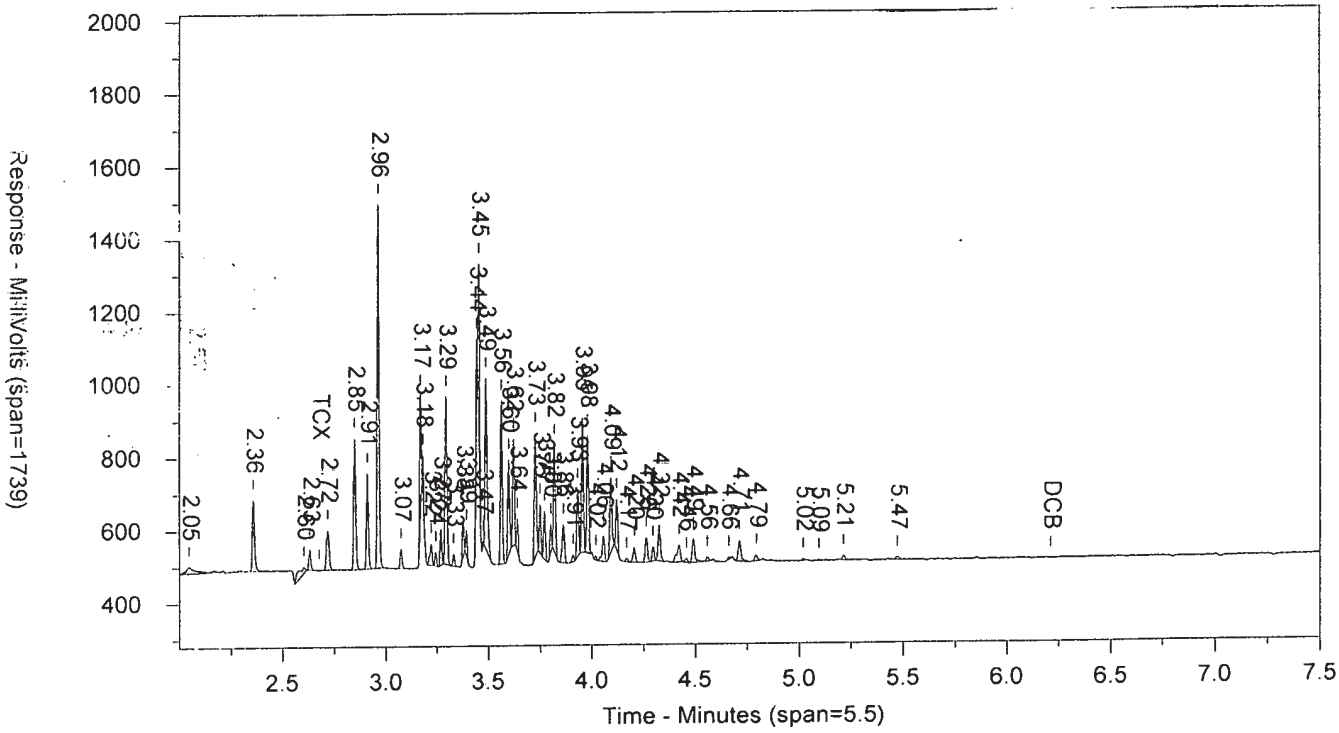

AR3241824D AAAR324AA ICAL 1830299999 10227 SW-846 8082

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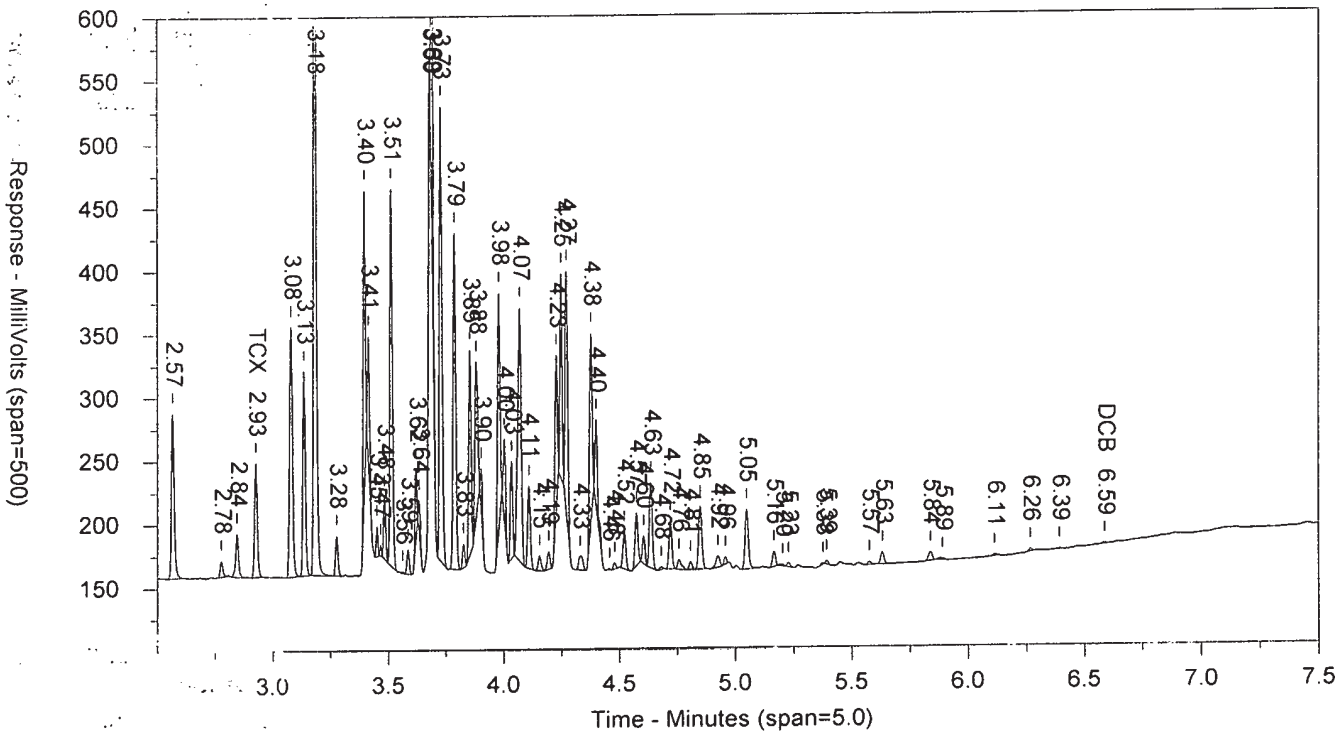

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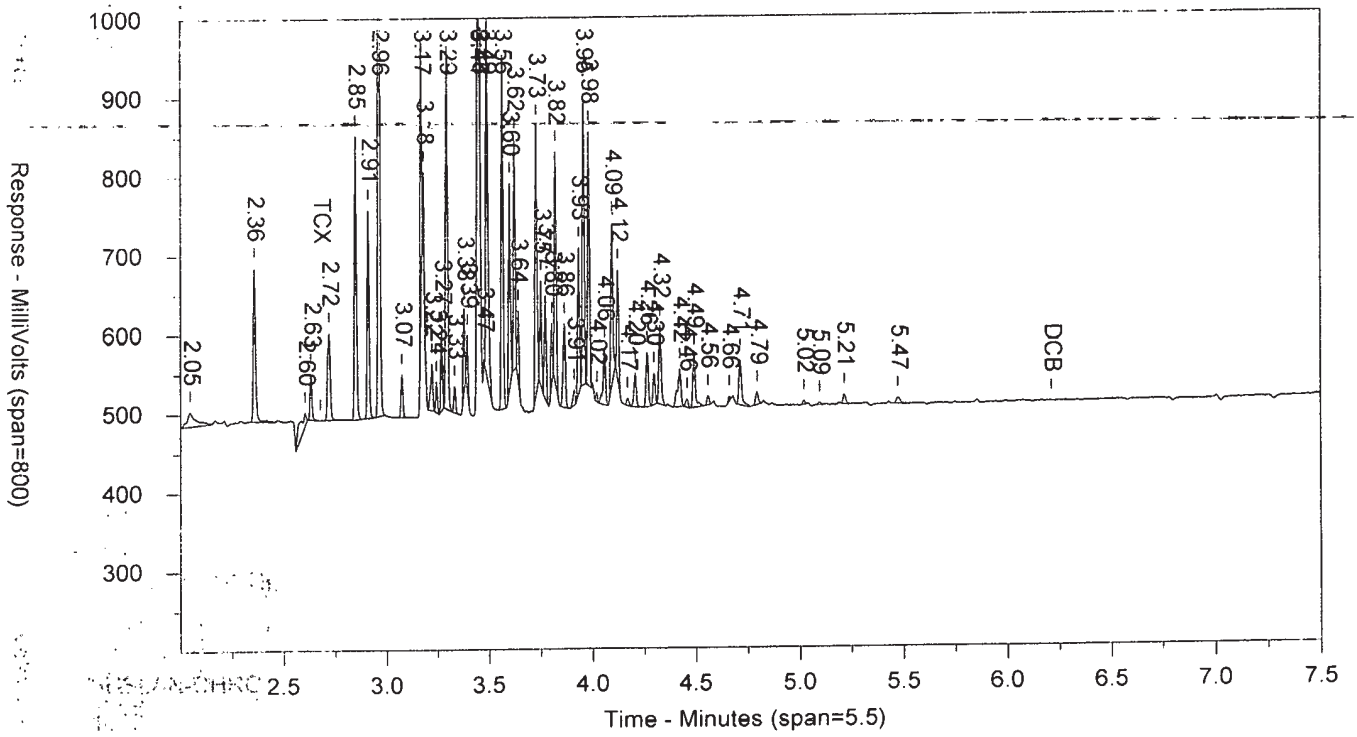

LANCASTER LABORATORIES

Sample Number: AR4241824E AAAR424AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:12:57 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.029.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.097		8113	14080
2.233		1975	2591
2.311		14460	10287
2.378		1892	1984
2.425		1916	1695
2.492		1327	1373
2.569		15199	14596
2.777		52819	52281
2.833		2166	2747
2.926	TCX	63130	53187
3.078		116650	105489
3.135		97732	73719
3.182		454082	353930
3.276		58723	44039
3.314		1882	1203
3.397		422803	258093
3.413		167966	90120
3.45		48599	27481
3.467		22827	10200
3.483		25463	15131
3.513		538774	426580
3.548		1374	571
3.562		2833	1538
3.587		41386	29374
3.623		102089	59128
3.637		45446	21087
3.683		134344	90715
3.693		480754	272519
3.729		642603	513586
3.788		479208	397183
3.828		40470	28605
3.855		323769	240312
3.883		236604	206360
3.903		61093	33110
3.98		359250	279345
4.003		122727	77198
4.034		152913	111364
4.07		382926	415973
4.109		124735	105966
4.154		22517	18831
4.195		31589	26392
4.228		255971	178164
4.248		309323	203515
4.271		385669	293074
4.337		26912	32632
4.378		288520	241466
4.399		117458	103851
4.455		3638	2579
4.48		12387	9446
4.522		71726	66363
4.573		101250	90350
4.605		58822	44829
4.635		163423	146422
4.682		1502	1085

RT A	Compound A	Height A	Area A
4.72		84661	75449
4.758		5356	3698
4.809		17001	15197
4.849		127122	128928
4.929		14088	17764
4.957		9246	6529
4.975		5194	3265
5.049		116211	115967
5.167		30687	26839
5.376		10549	9486
5.576		7913	6988
5.632		2680	2542
5.838		3489	3692
6.468		794	941
6.59	DCB	955	934

LANCASTER LABORATORIES

Sample Number: AR4241824E AAAR424AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:12:57 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.029.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		15967	39726
2.36		15462	15732
2.603		48816	35729
2.72		83553	76242
2.849		207863	149263
2.91		159732	103446
2.962		746286	473947
3.074		96300	64253
3.17		588620	301391
3.181		191072	71643
3.222		99379	61414
3.244		67497	39377
3.269		68390	37855
3.294		822899	571771
3.331		64094	39834
3.377		190560	100291
3.392		110422	52832
3.443		419681	192831
3.453		804990	353427
3.473		33002	12109
3.487		836933	578848
3.562		816912	517970
3.597		519150	329955
3.621		600229	341407
3.639		183699	94857
3.726		671054	460200
3.749		255371	142283
3.771		255544	157019
3.801		158928	82986
3.819		557293	352545
3.861		209744	162929
3.91		40979	30008
3.932		397938	242541
3.955		761803	488517
3.98		628481	408583
4		26279	12007
4.019		26771	15139
4.056		163785	130148
4.092		419497	308961
4.12		269611	167688
4.169		21205	15041
4.204		99611	78366
4.263		170027	130624
4.296		99920	70179
4.324		240150	181741
4.42		97734	111348
4.456		26971	19995
4.489		167576	129719
4.558		19048	12893
4.584		14833	10327
4.659		20816	27428
4.713		151090	124565
4.794		44684	45716
5.044		15527	12428

RT B	Compound B	Height B	Area B
5.192		8772	7215

AR4241824E AAAR424AA ICAL 1830299999 10227 SW-846 8082

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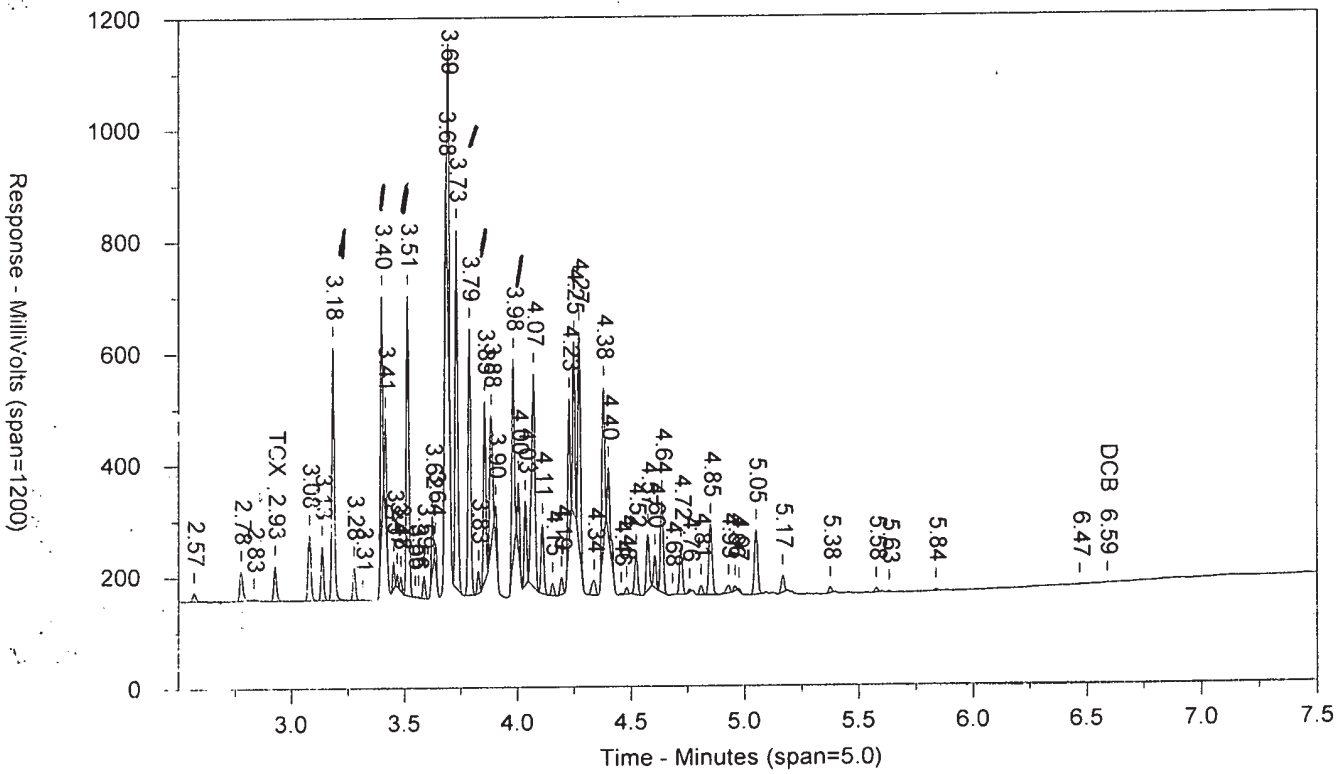

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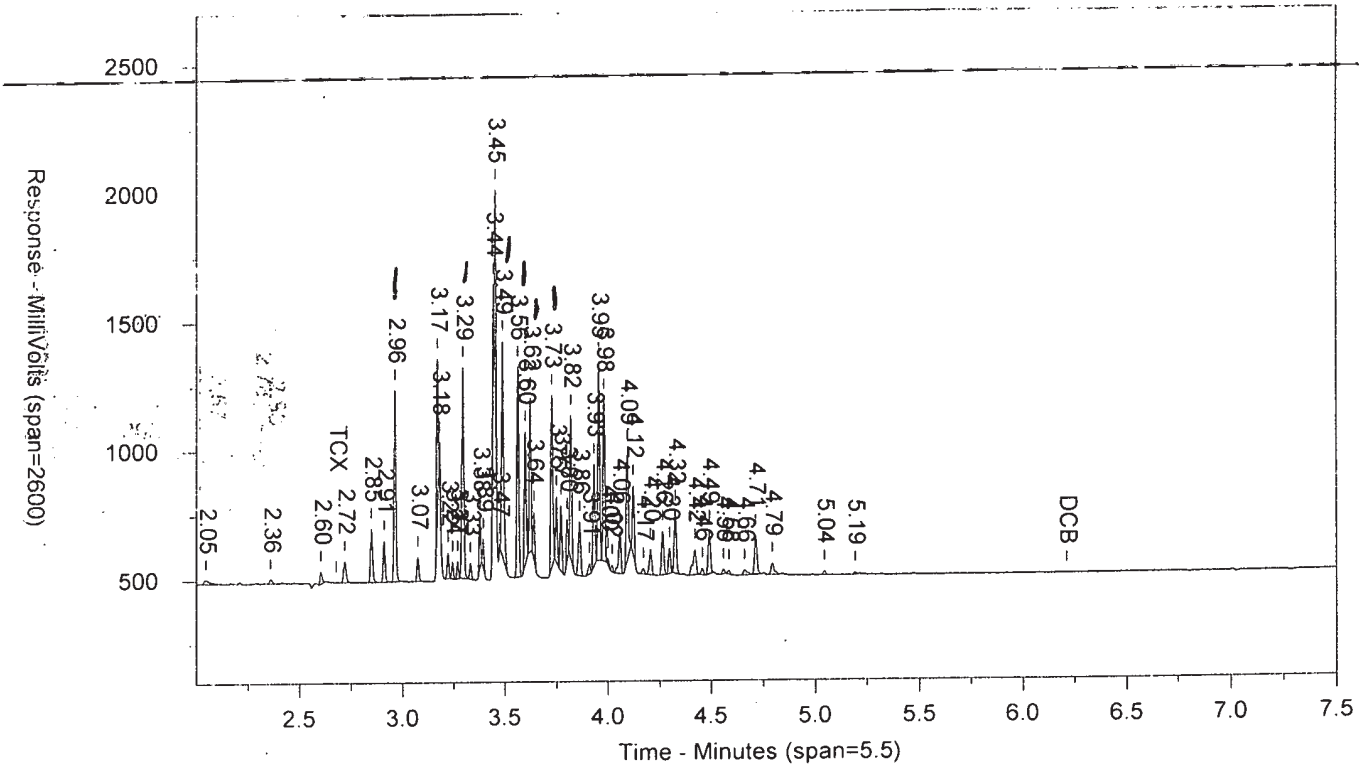

LANCASTER LABORATORIES

Sample Number: AR4241824E AAAR424AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:12:57 PM
Sample Weight: 1
Instrument ID: CP25-18274
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.926	63130	.407	TCX		0		TCX
6.59	955	.007	DCB		0		DCB

Files:
Area File: 25pcbs18303001.029.RAW
Area File: 25pcbs18303001B.029.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 10:21:27 PM
File Reported On: 10/30/2018 at 10:21:39 PM

AR4241824E AAAR424AA ICAL 1830299999 10227 SW-846 8082

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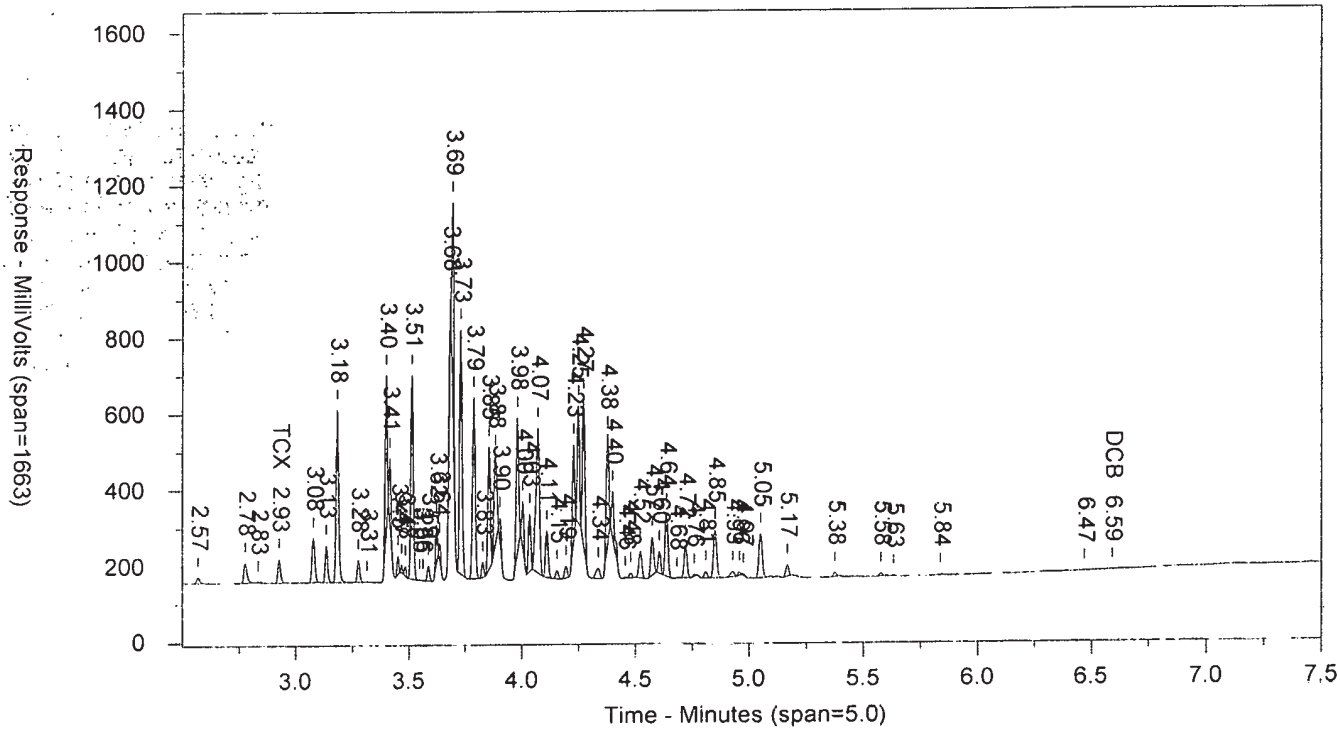

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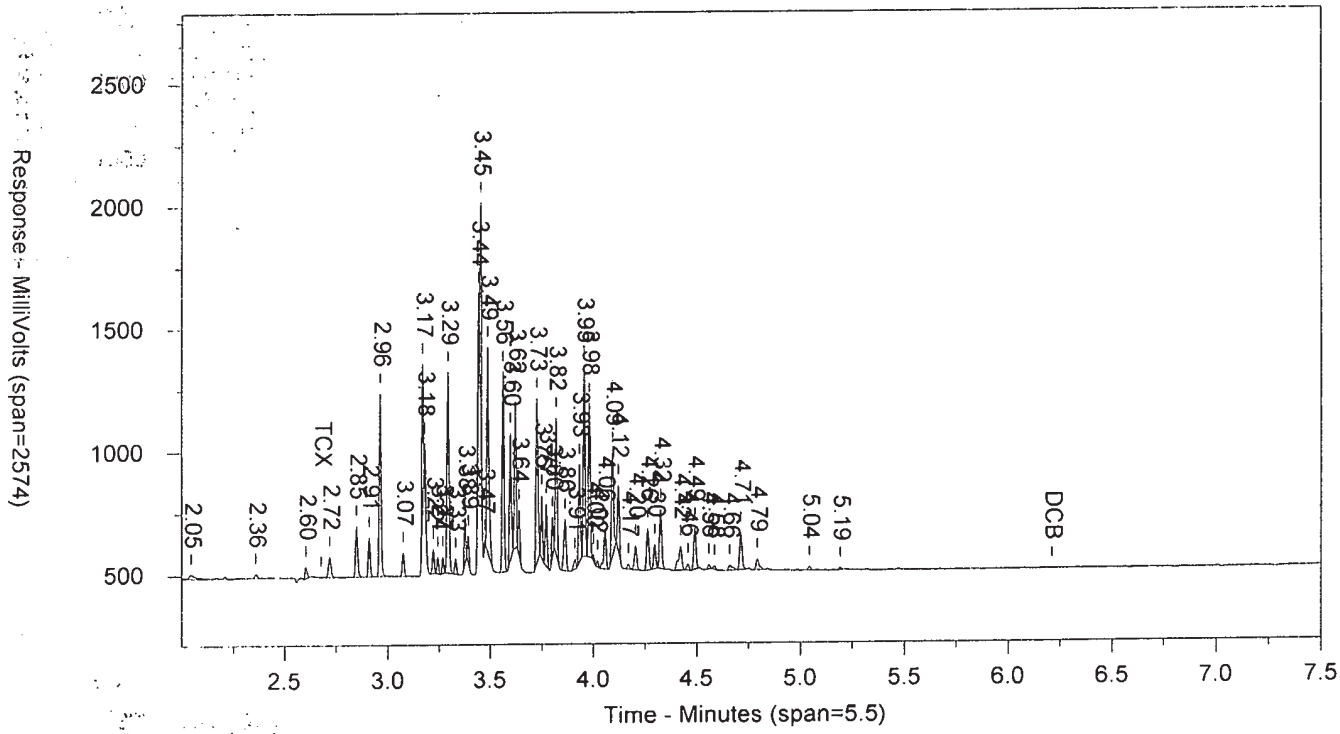

AR4241824E AAAR424AA ICAL 1830299999 10227 SW-846 8082

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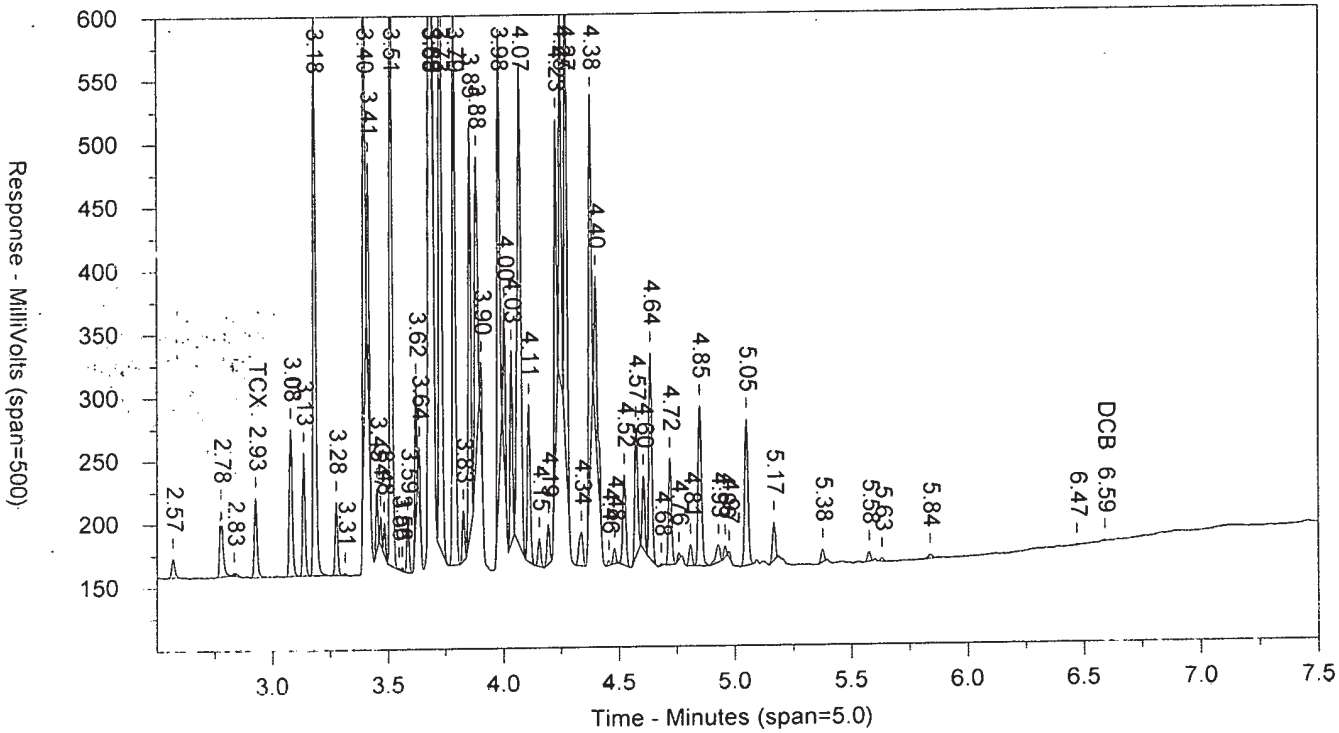

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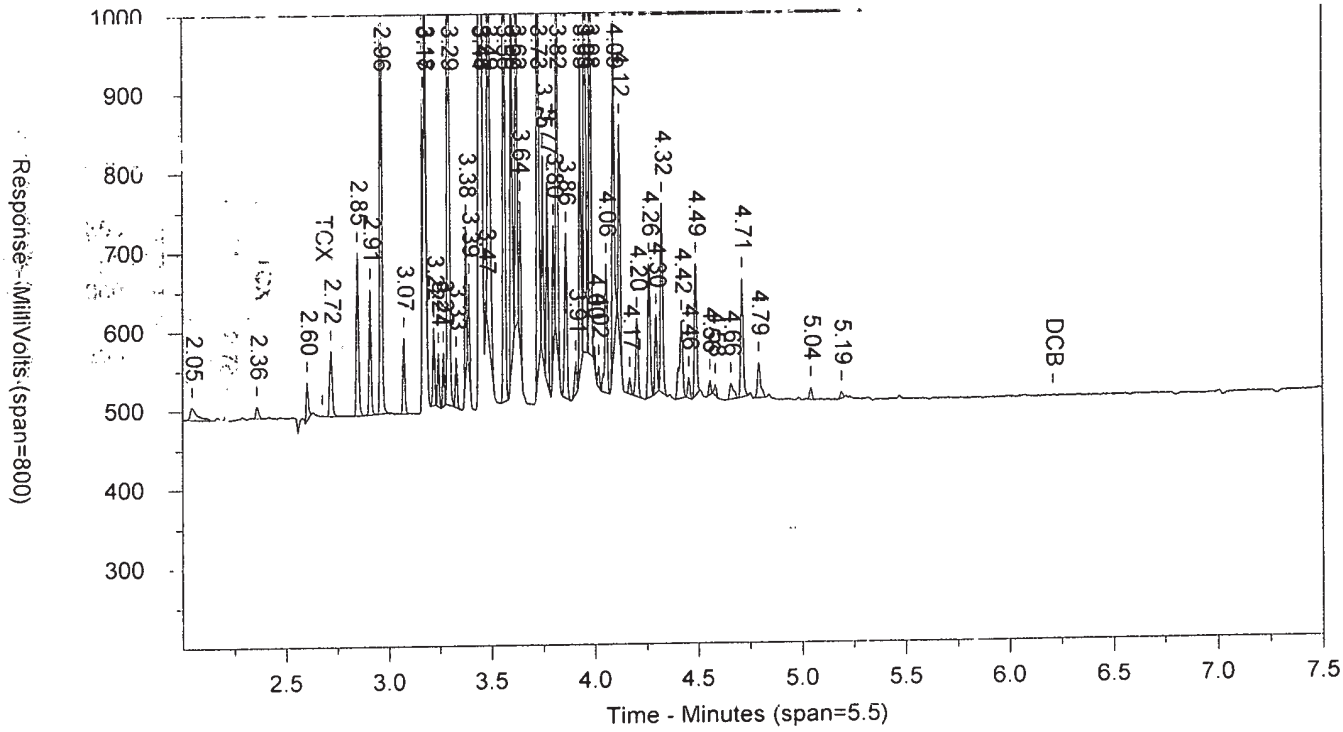

LANCASTER LABORATORIES

Sample Number: AR16XX1824B AAAR16XAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:23:49 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.030.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		8582	16096
2.15		1152	1493
2.219		5613	6323
2.311		9932	6455
2.375		1733	1651
2.424		3675	3809
2.496		1562	1826
2.569		14312	15368
2.656		1611	1059
2.776		25849	22986
2.833		2332	2755
2.925	TCX	1440513	1069832
3.077		130781	117315
3.134		116088	97582
3.181		521956	413710
3.255		2012	931
3.275		70316	52411
3.315		2186	1487
3.397		504090	308009
3.413		214243	116357
3.45		59651	33859
3.466		24474	10882
3.483		33403	19532
3.513		648611	516938
3.566		3528	2144
3.586		26704	18189
3.622		116494	70909
3.637		53308	27315
3.682		170651	104883
3.692		630794	357759
3.729		719331	585519
3.787		590494	489730
3.828		47257	33151
3.855		378345	286758
3.883		279192	240848
3.903		76387	40717
3.979		441101	338771
4.003		140430	92334
4.034		175153	130072
4.069		440889	476499
4.109		150230	123862
4.154		18814	15127
4.194		23806	19747
4.228		153062	111935
4.248		125159	80276
4.272		117467	87054
4.338		4354	5273
4.377		40539	34984
4.398		4016	2241
4.52		2784	4225
4.574		2903	2616
4.636		2649	2304
4.72		1242	1117
4.85		3909	3847

RT A	Compound A	Height A	Area A
4.88		6319	5251
4.923		6941	7175
5.121		7708	7882
5.198		1583	1786
5.53		5425	14036
5.652		7150	7043
5.836		1399	1532
6.023		7343	8095
6.088		6143	5641
6.383		1228	1423
6.467		10294	10632
6.613	DCB	1166332	1281616

LANCASTER LABORATORIES

Sample Number: AR16XX1824B AAAR16XAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:23:49 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.030.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		13574	22742
2.36		15815	15780
2.603		26517	39342
2.678	TCX	2308105	1423846
2.72		93404	74679
2.849		229274	165291
2.91		190818	138612
2.962		868876	557561
3.013		4982	3214
3.074		114747	76272
3.17		737617	373321
3.181		234975	87996
3.222		120487	74694
3.244		76653	44619
3.269		83566	46574
3.293		1016832	694144
3.33		45058	27521
3.36		4741	1936
3.377		234896	124664
3.392		132815	65206
3.443		428975	221530
3.453		965415	421207
3.473		43864	15543
3.487		968423	661712
3.562		990752	636180
3.597		610162	389397
3.621		690647	400650
3.639		227775	115480
3.726		821378	551903
3.749		299657	168904
3.771		293508	184363
3.801		169449	90792
3.818		637164	404014
3.862		247467	181746
3.91		28757	23788
3.932		174402	108846
3.955		368949	247844
3.98		173473	108863
4		26967	14069
4.056		15751	10043
4.092		19919	11849
4.107		17311	15151
4.492		4889	4971
4.533		9292	7244
4.678		8812	7678
4.768		10955	8505
5.289		10348	14524
5.629		10571	9356
5.698		10985	10171
6.053		15220	18079
6.212	DCB	1661723	1649505

AR16XX1824B AAAR16XAA ICAL 1830299999 10227 SW-846 8082

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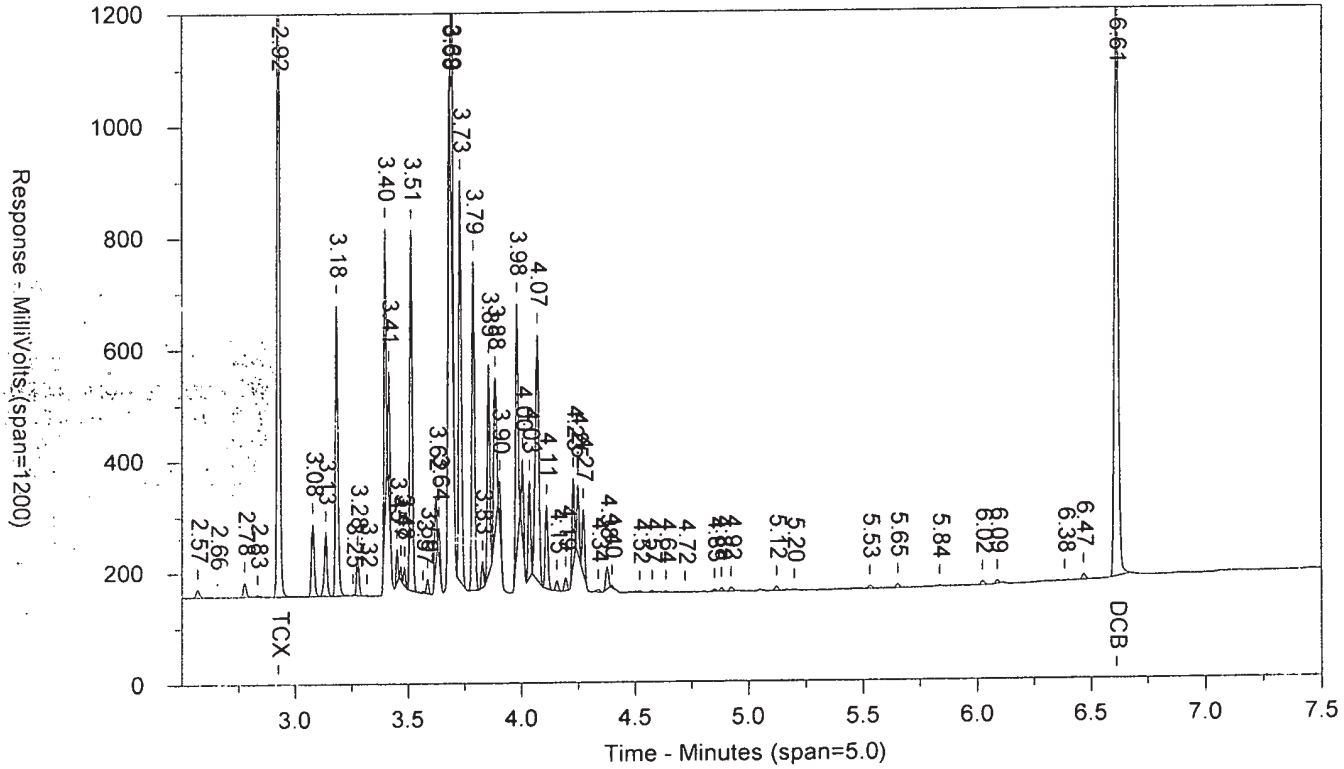

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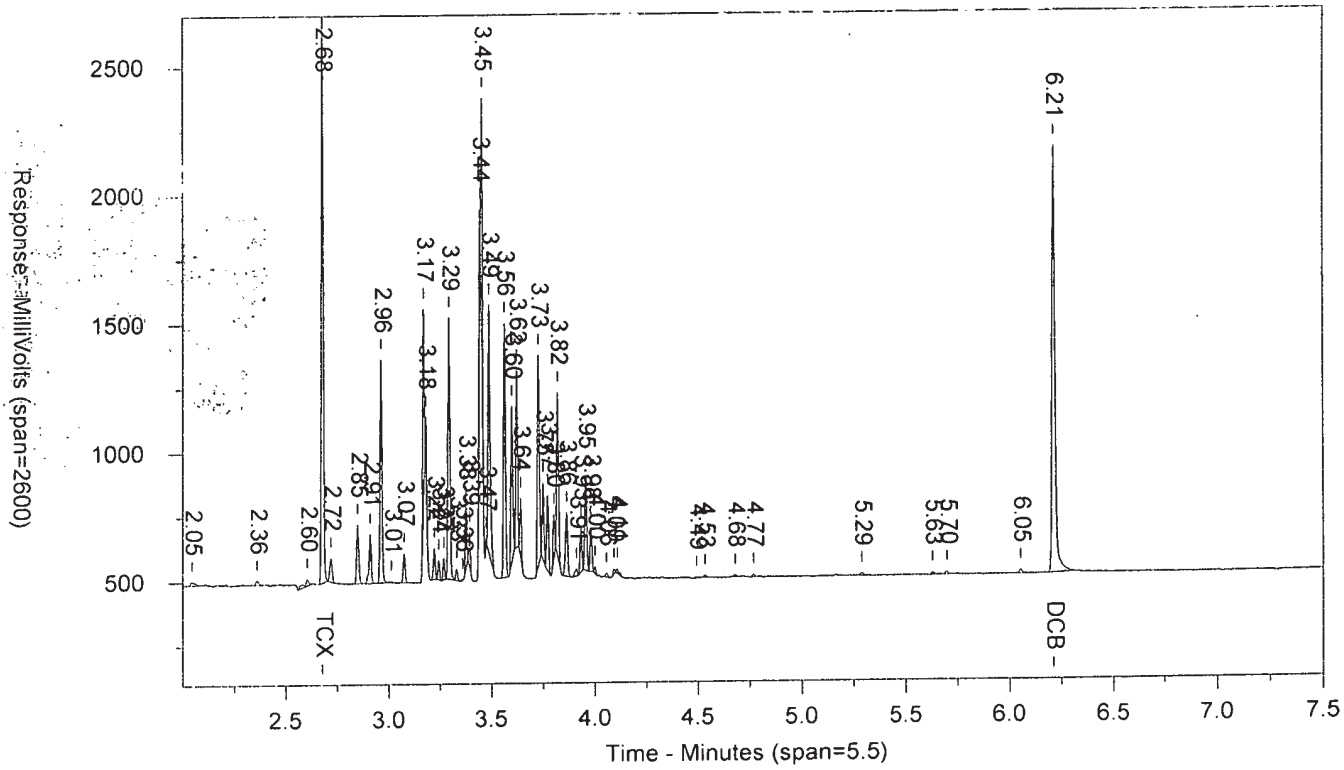

LANCASTER LABORATORIES

Sample Number: AR16XX1824B AAAR16XAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:23:49 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	1440513	9.285	TCX	2.678	2308105	9.044	TCX
6.613	1166332	9.088	DCB	6.212	1661723	8.85	DCB

Files:
Area File: 25pcbs18303001.030.RAW
Area File: 25pcbs18303001B.030.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 10:32:20 PM
File Reported On: 10/30/2018 at 10:32:29 PM

AR16XX1824B AAAR16XAA ICAL 1830299999 10227 SW-846 8082

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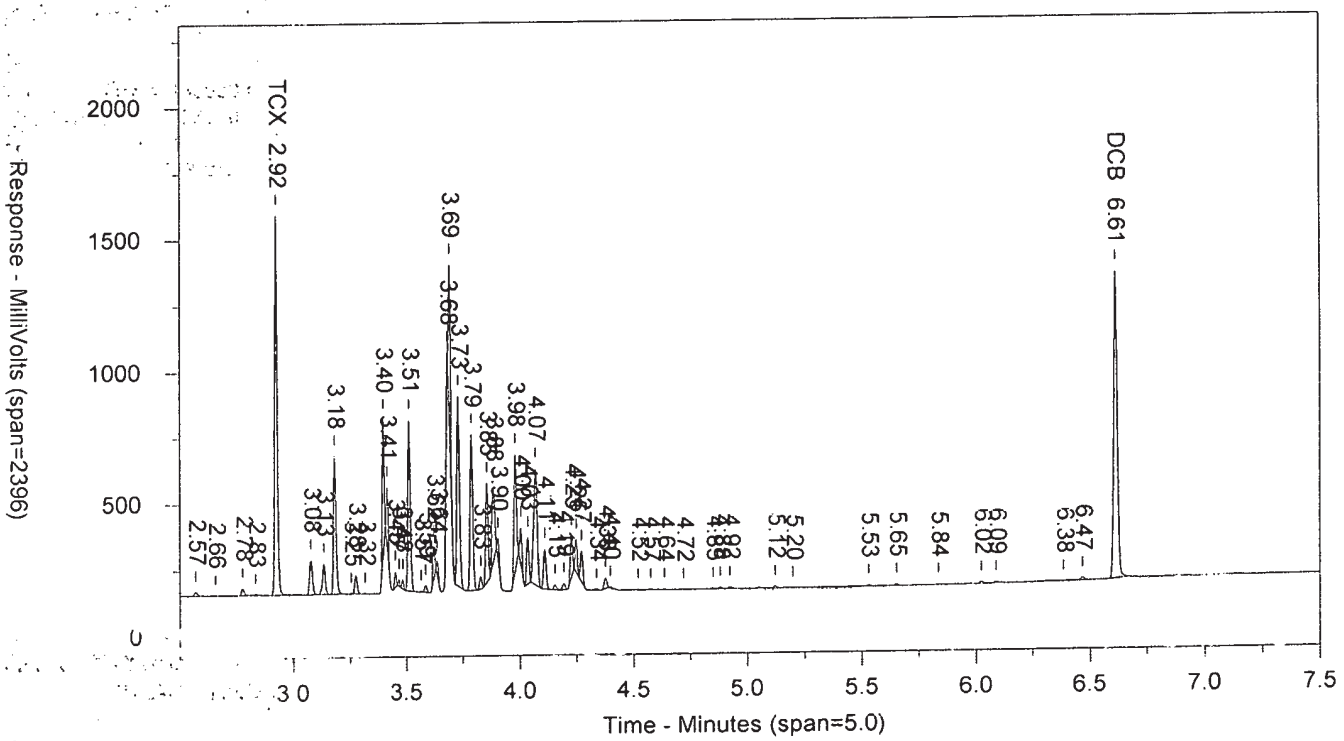

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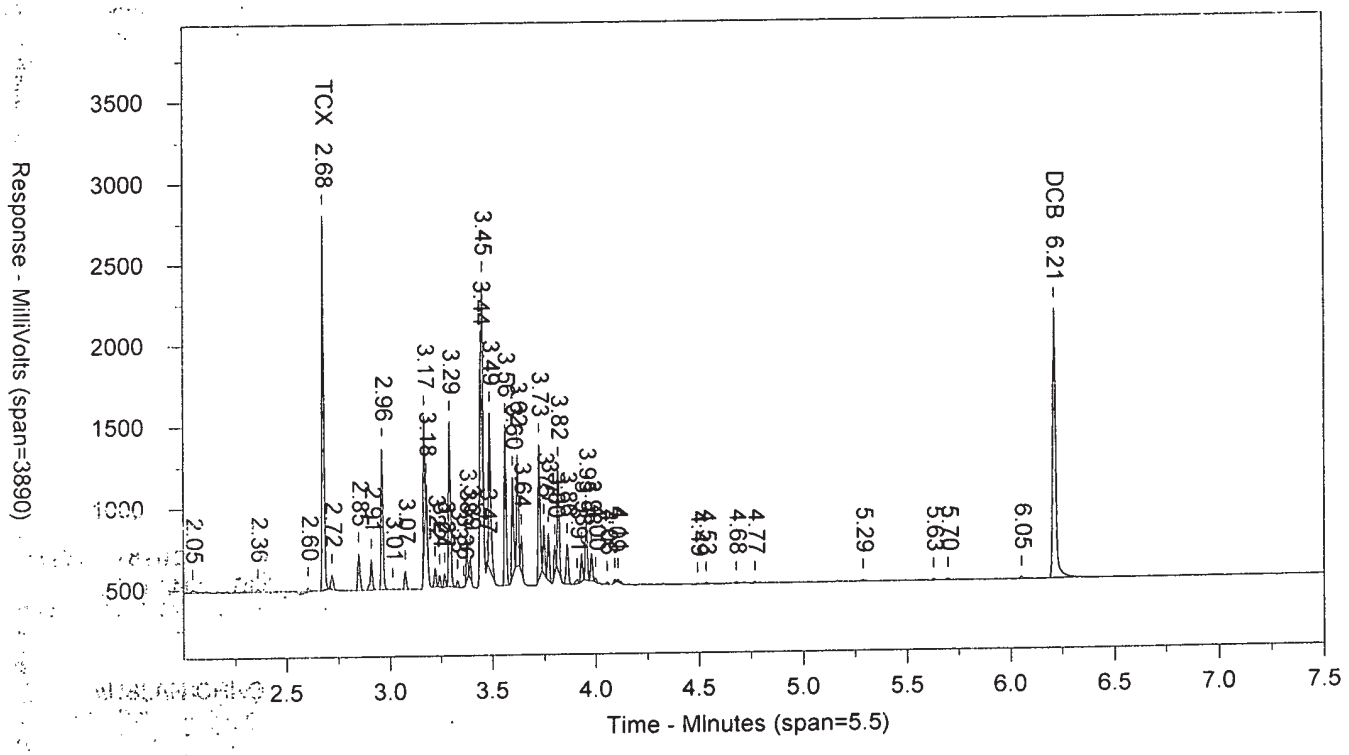

AR16XX1824B AAAR16XAA ICAL 1830299999 10227 SW-846 8082

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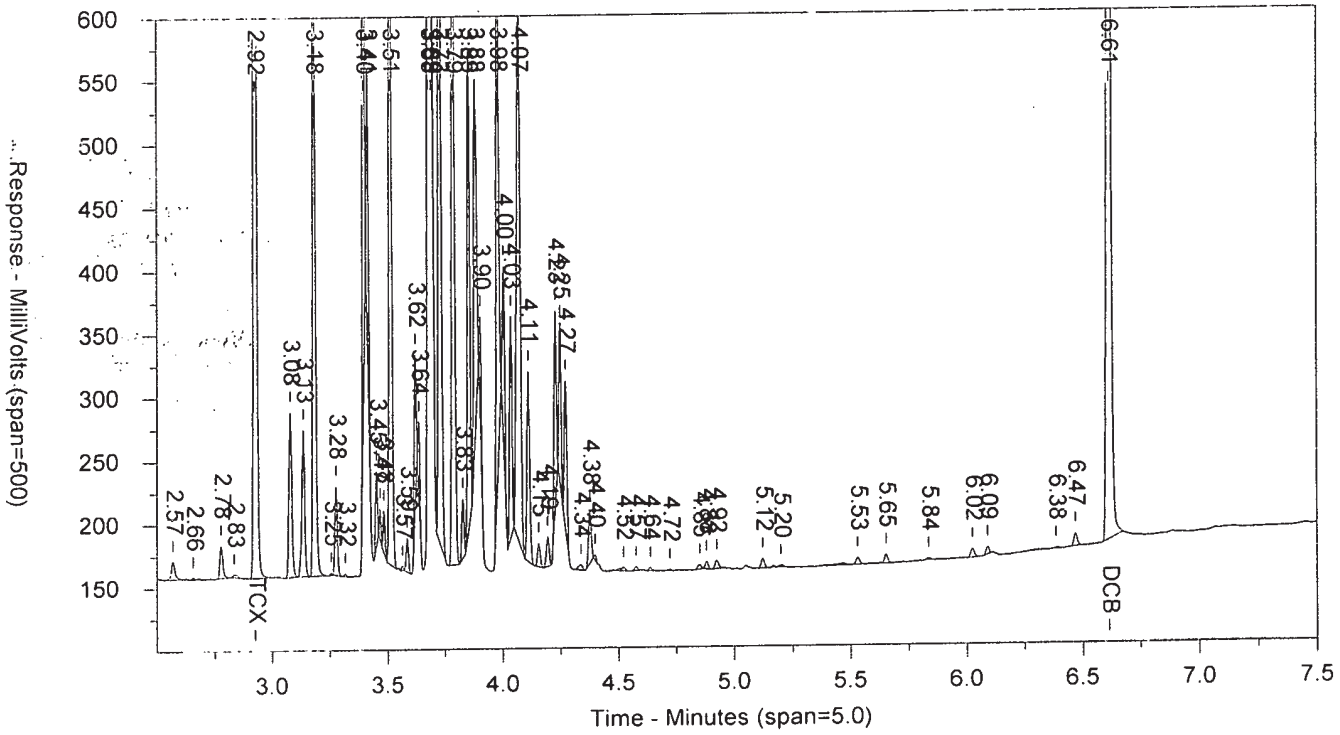

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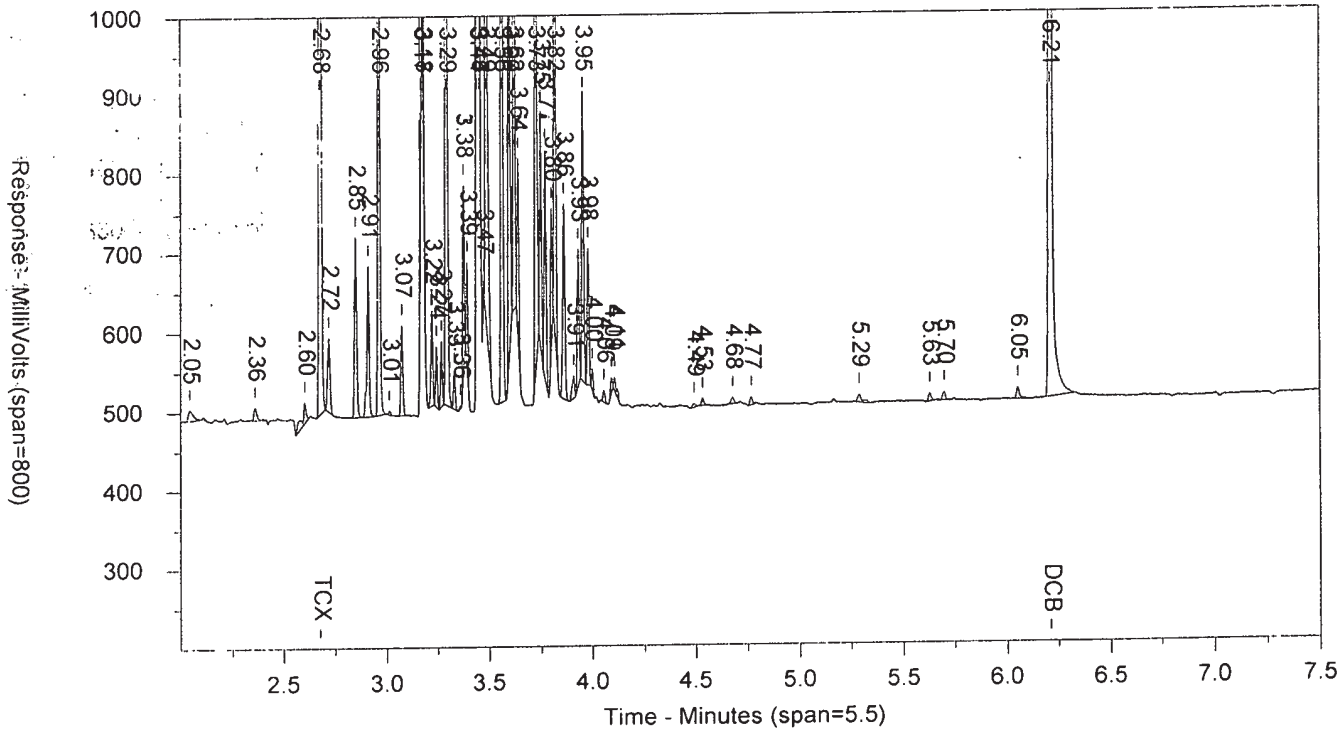

LANCASTER LABORATORIES

Sample Number: MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:34:51 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.031.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		6667	12007
2.228		1352	1775
2.312		10589	7509
2.376		1633	1811
2.424		5724	5366
2.495		1291	1325
2.57		3638	4433
2.777		17653	15617
2.831		3634	4129
2.925	TCX	70806	48580
3.078		4954	4629
3.135		3590	2687
3.183		20692	17982
3.276		2797	2217
3.398		20515	12452
3.414		7252	3929
3.451		1803	984
3.484		701	412
3.514		23471	20298
3.589		2001	1228
3.624		4010	2493
3.668		4168	2521
3.683		6616	3510
3.693		20387	10549
3.72		26408	21067
3.788		20341	16569
3.855		16557	14856
3.885		13816	20416
3.98		16171	11364
4.004		5085	3222
4.035		5990	4303
4.07		15691	17502
4.111		4795	3622
4.164		2886	2909
4.193		1930	1330
4.229		15790	11758
4.25		3611	1876
4.272		3621	2625
4.341		2285	2239
4.384		17067	16751
4.517		5604	8727
4.575		1853	1050
4.589		3266	2361
4.636		9846	8995
4.682		14213	15663
4.72		3009	2279
4.758		34950	33041
4.799		988	904
4.849		8588	9724
4.905		3485	2340
4.926		3933	2964
4.958		42142	51535
5.052		18003	20429
5.129		3793	4818

RT A	Compound A	Height A	Area A
5.166		47586	44393
5.229		22376	21202
5.273		14663	16447
5.393		27864	38952
5.576		9535	9351
5.632		71900	75887
5.838		43142	45639
5.879		2866	3333
6.087		1186	931
6.111		7945	8342
6.267		19537	19388
6.388		1693	2336
6.467		5026	5417
6.614	DCB	75258	78170

LANCASTER LABORATORIES

Sample Number: MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:34:51 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.031.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		11165	26029
2.603		23539	47432
2.678	TCX	111840	70399
2.848		9838	8883
2.91		7383	8534
2.962		36154	22501
3.011		1747	901
3.075		5044	3633
3.171		30245	15037
3.182		9092	3788
3.223		4003	2697
3.243		6053	4095
3.269		3094	1721
3.294		38710	27079
3.331		3381	1526
3.39		26548	31656
3.444		16066	8977
3.453		34755	14595
3.474		2882	977
3.488		36921	25614
3.562		37249	23630
3.598		26442	16793
3.622		31824	18044
3.64		7576	3318
3.704		2463	4537
3.727		31256	20798
3.75		10408	5553
3.771		17285	11320
3.802		7818	4062
3.819		23222	14593
3.862		8153	6246
3.955		34079	29417
4.056		24904	19674
4.263		6122	5676
4.307		6177	4285
4.339		21426	22761
4.364		8971	9861
4.419		52841	43415
4.494		5425	5239
4.515		10398	8651
4.559		59363	52536
4.664		46418	56201
4.717		6191	5282
4.794		55427	49334
4.827		27266	21934
4.867		20007	16174
4.97		6483	6422
5.02		34849	28878
5.095		19786	18868
5.131		9518	7873
5.161		7311	6220
5.215		81257	80226
5.429		18627	16979
5.476		57705	68136

RT B	Compound B	Height B	Area B
5.673		3239	6369
5.748		11336	12975
5.854		25788	23301
6.053		7562	7273
6.213	DCB	97116	96347

MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082

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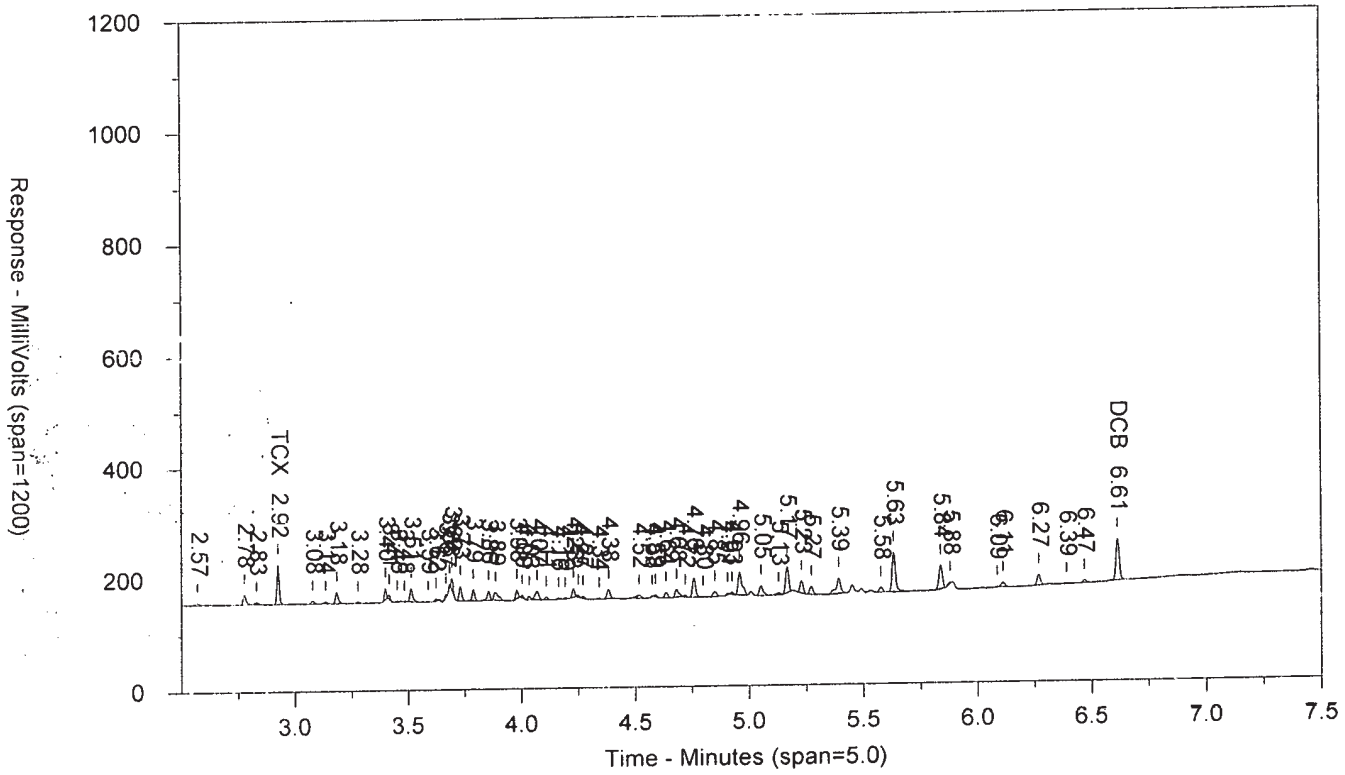

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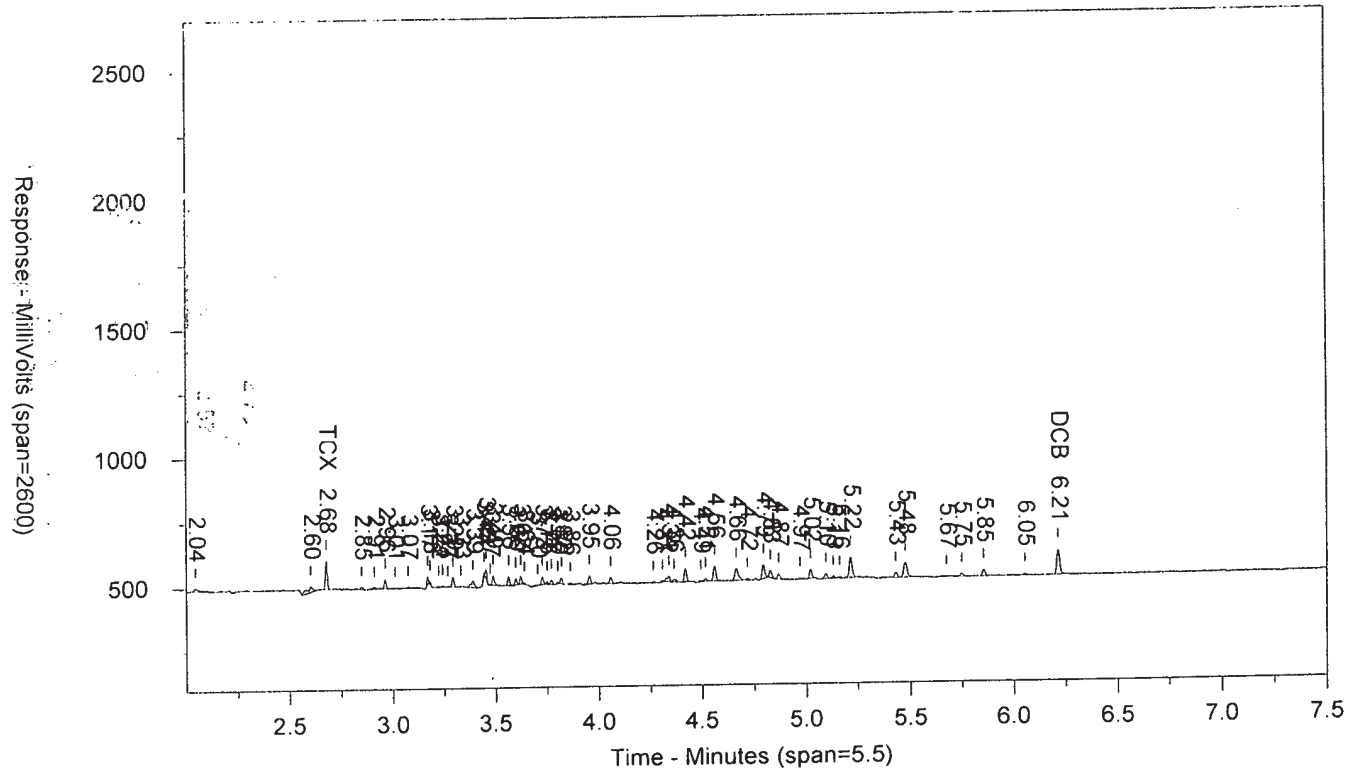

LANCASTER LABORATORIES

Sample Number: MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:34:51 PM
Instrument ID: CP25-18274
Sample Weight: 1
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	70806	.456	TCX	2.678	111840	.438	TCX
6.6[illegible]	75258	.586	DCB	6.213	97116	.517	DCB

Files:
Area File: 25pcbs18303001.031.RAW
Area File: 25pcbs18303001B.031.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 10:43:23 PM
File Reported On: 10/30/2018 at 10:43:33 PM

MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082

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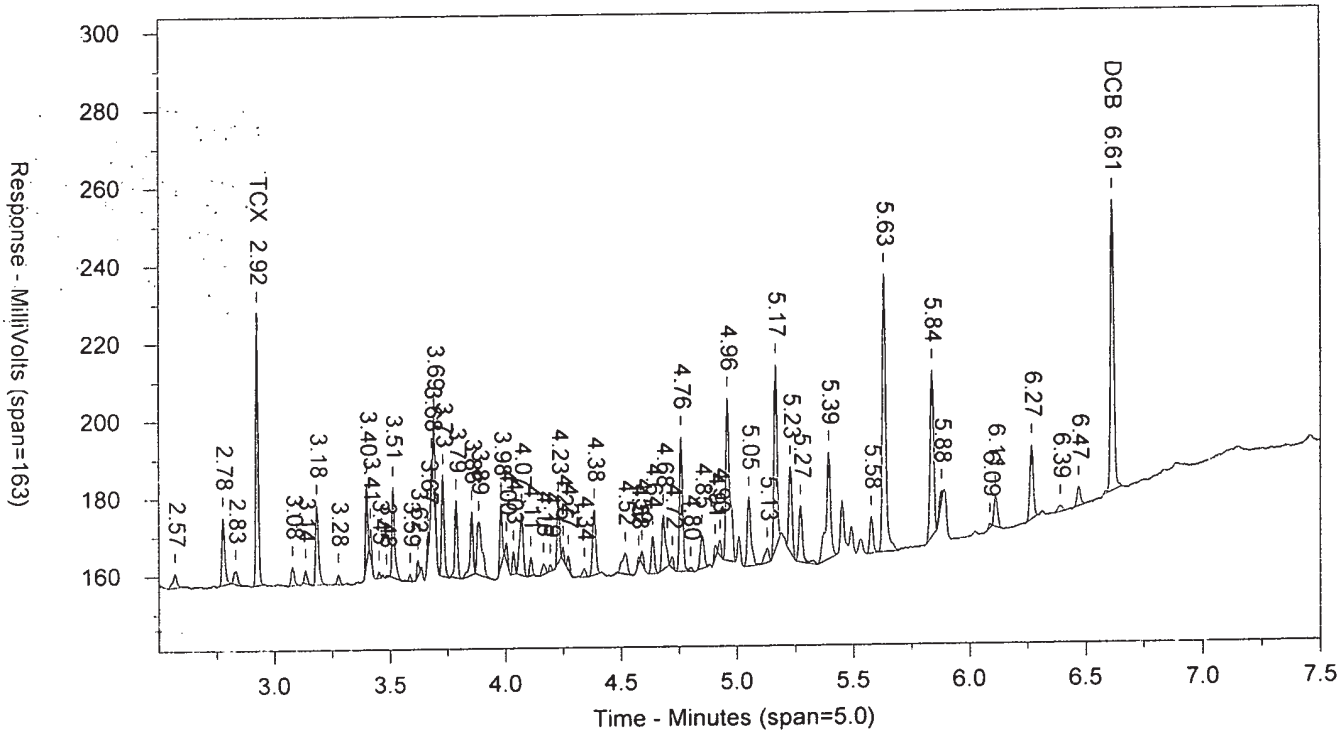

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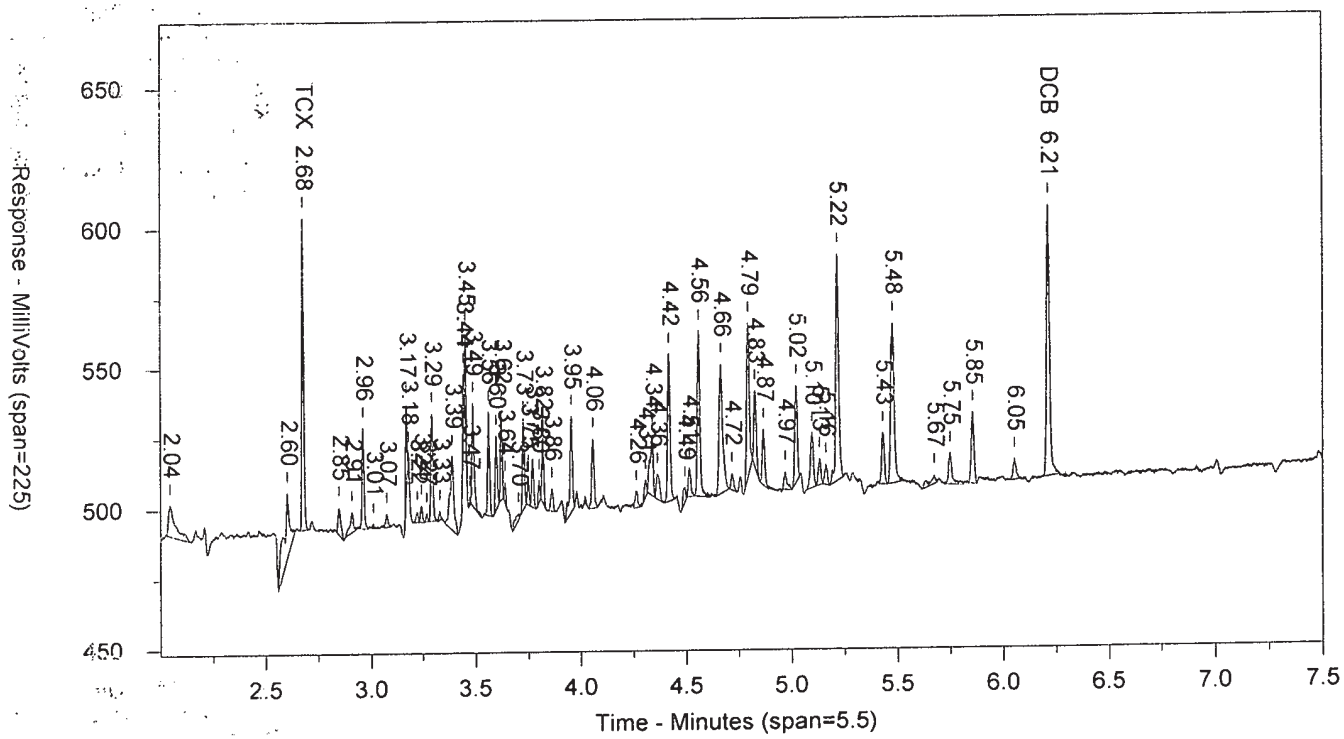

MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082

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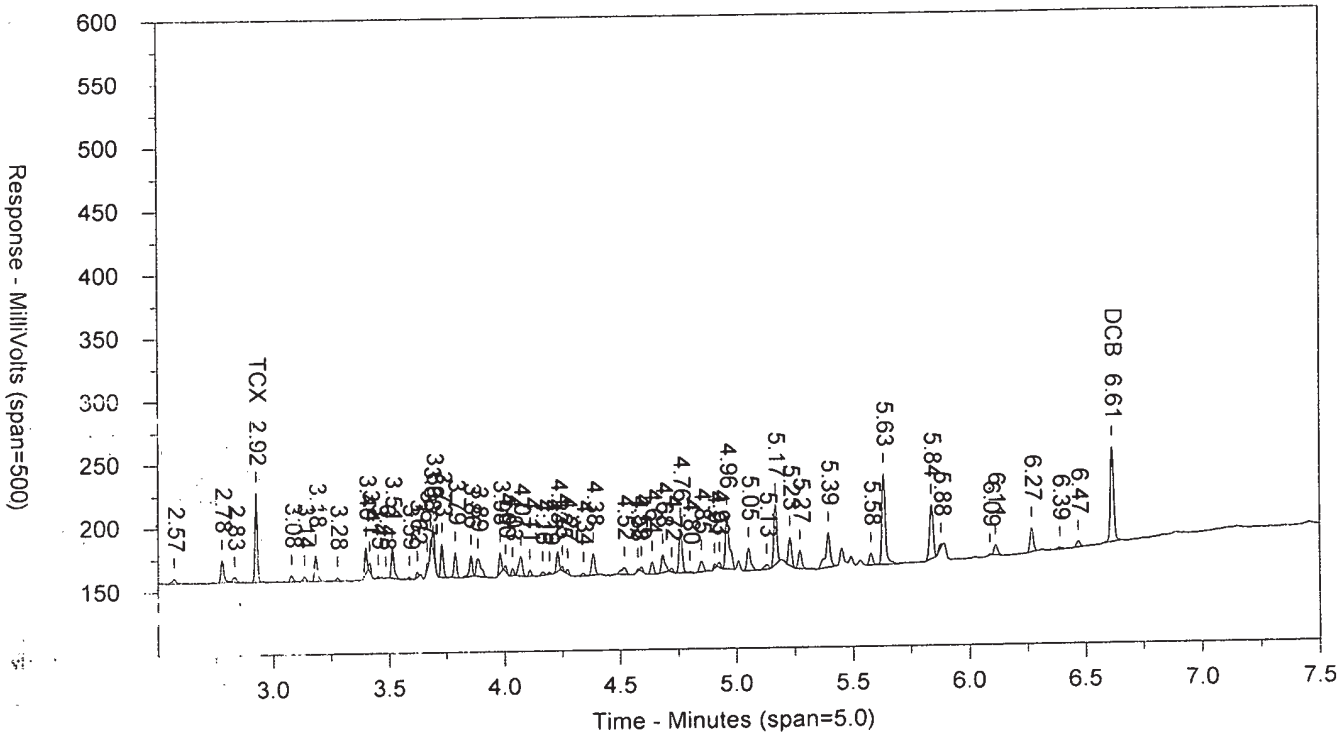

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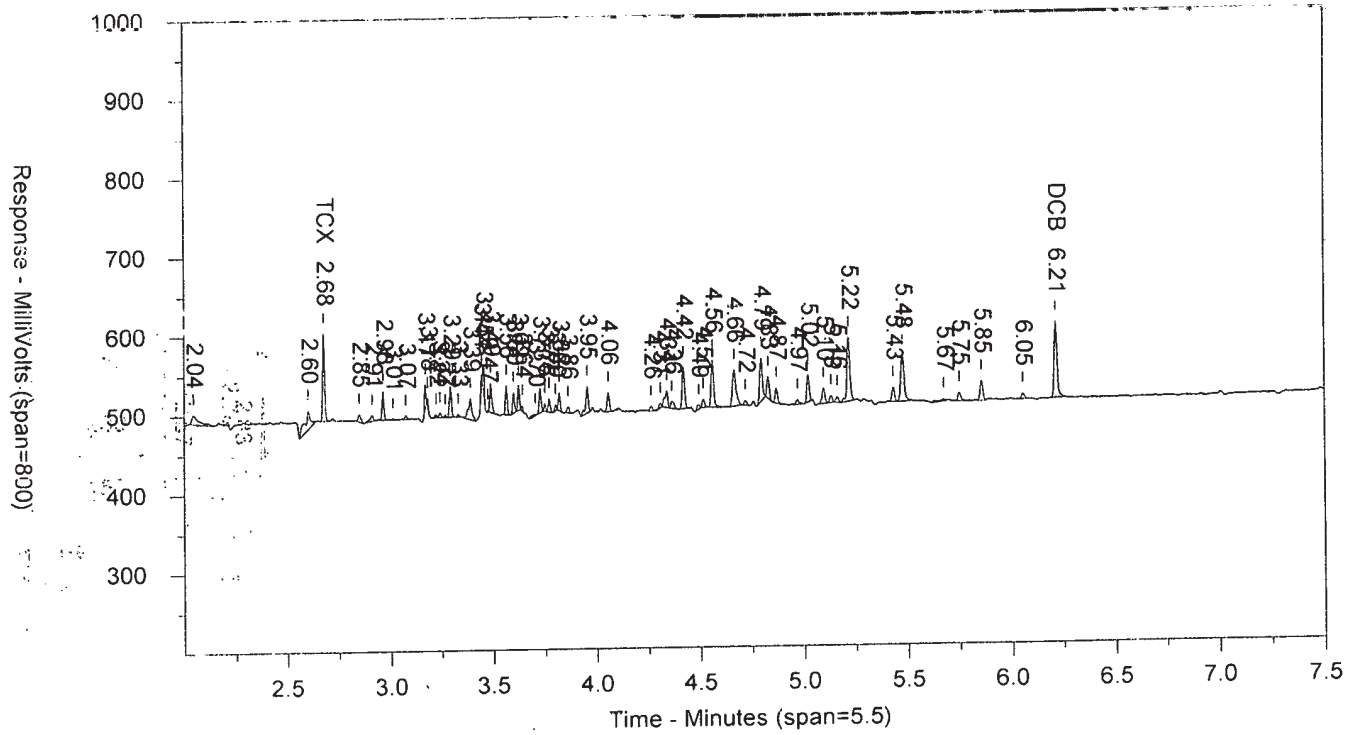

LANCASTER LABORATORIES

Sample Number: IC16X1824D AAIC16XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:45:45 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.032.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.096		9886	16734
2.232		1788	1764
2.311		8310	5962
2.378		1449	1452
2.422		3231	3033
2.494		1373	1431
2.569		17645	17736
2.776		71820	71876
2.832		2367	3293
2.926	TCX	78974	66736
3.078		140143	127615
3.135		110942	84031
3.182		522790	412520
3.276		82447	61850
3.314		2262	1555
3.397		510369	319328
3.413		213875	110300
3.45		58454	32783
3.466		33803	16040
3.482		28272	15248
3.513		661226	536974
3.563		3864	2007
3.586		56763	40815
3.622		122160	71246
3.636		44921	23710
3.681		210981	128254
3.691		586417	321596
3.728		763713	596277
3.787		609852	509180
3.827		55108	37967
3.854		405437	304254
3.884		392198	571055
3.978		435164	333357
4.002		127413	83469
4.033		163387	120336
4.068		379460	428370
4.108		114307	92142
4.138		2330	1132
4.153		8725	6051
4.189		42869	31426
4.227		386318	312527
4.246		38330	20661
4.271		62050	47086
4.337		64270	56736
4.38		486172	475595
4.414		10931	7105
4.475		10693	10137
4.516		179990	185551
4.574		18635	18934
4.587		127102	93520
4.634		269762	256716
4.679		488712	549164
4.717		110490	81827
4.756		1072242	1063204

RT A	Compound A	Height A	Area A
4.798		35543	30592
4.845		149500	169921
4.878		19276	12637
4.903		188441	182762
4.955		1302570	1678957
5.005		242184	226562
5.049		625042	712003
5.128		120679	140756
5.164		1585895	1710124
5.227		807799	768281
5.269		500784	491321
5.368		73417	73869
5.392		815591	777807
5.449		438372	440120
5.49		217104	203853
5.574		326286	328642
5.63		2428648	2664400
5.837		1360107	1451563
5.875		88013	102533
5.89		187650	141471
6.022		55162	55527
6.084		43021	31307
6.108		259144	246153
6.265		697246	728579
6.31		44365	41086
6.465		248488	259938
6.612	DCBi	32786	32954
6.691		3342	3448
6.892		927	1034

LANCASTER LABORATORIES

Sample Number: IC16X1824D AAIC16XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:45:45 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.032.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		19164	47488
2.361		20886	19506
2.584		11481	18645
2.603		71242	95492
2.72		104767	98423
2.849		252178	180059
2.909		181873	118217
2.962		864286	554899
3.074		128620	87667
3.17		731006	372226
3.181		241936	87838
3.222		119974	74923
3.244		93833	56130
3.269		75108	42674
3.293		1017116	716290
3.331		84624	53467
3.377		225688	121298
3.392		132197	63013
3.443		444626	209105
3.452		993188	431663
3.478		45994	16952
3.487		969791	659260
3.561		1012916	662096
3.596		652571	415343
3.62		859890	491700
3.638		197964	98452
3.655		12268	6774
3.724		822452	549788
3.748		290951	159862
3.769		276469	173282
3.8		229869	124569
3.817		478557	286338
3.861		186655	138555
3.907		91083	96687
3.932		62463	39414
3.953		709709	478187
3.979		85245	49369
3.999		16785	8472
4.018		89002	59810
4.055		686564	502348
4.09		29789	17618
4.106		73073	46730
4.193		212955	230995
4.238		11159	6195
4.261		160992	119728
4.305		207830	133857
4.324		108364	52740
4.337		530156	318793
4.362		283886	302858
4.416		1690249	1336214
4.459		58239	48527
4.488		112444	73522
4.513		356283	266655
4.557		1902249	1545720

RT B	Compound B	Height B	Area B
4.662		1495106	1558719
4.716		186625	157896
4.756		425725	366207
4.792		1814083	1565138
4.825		983009	745753
4.865		626363	536201
4.966		238793	241090
5.018		1219417	1033228
5.042		106836	69856
5.093		657872	623577
5.128		320168	258811
5.158		233265	203497
5.19		75580	42752
5.213		3064727	2655086
5.254		51073	38114
5.286		98749	79056
5.405		24096	16514
5.428		643737	561558
5.473		2100851	2443015
5.628		70341	62794
5.673		53548	40997
5.696		24644	17006
5.745		372931	367901
5.852		849518	766949
5.884		41526	28949
6.052		323789	328715
6.211	DCB	45784	47692

IC16X1824D AAIC16XAA CCAL 1830299999 10227 SW-846 8082

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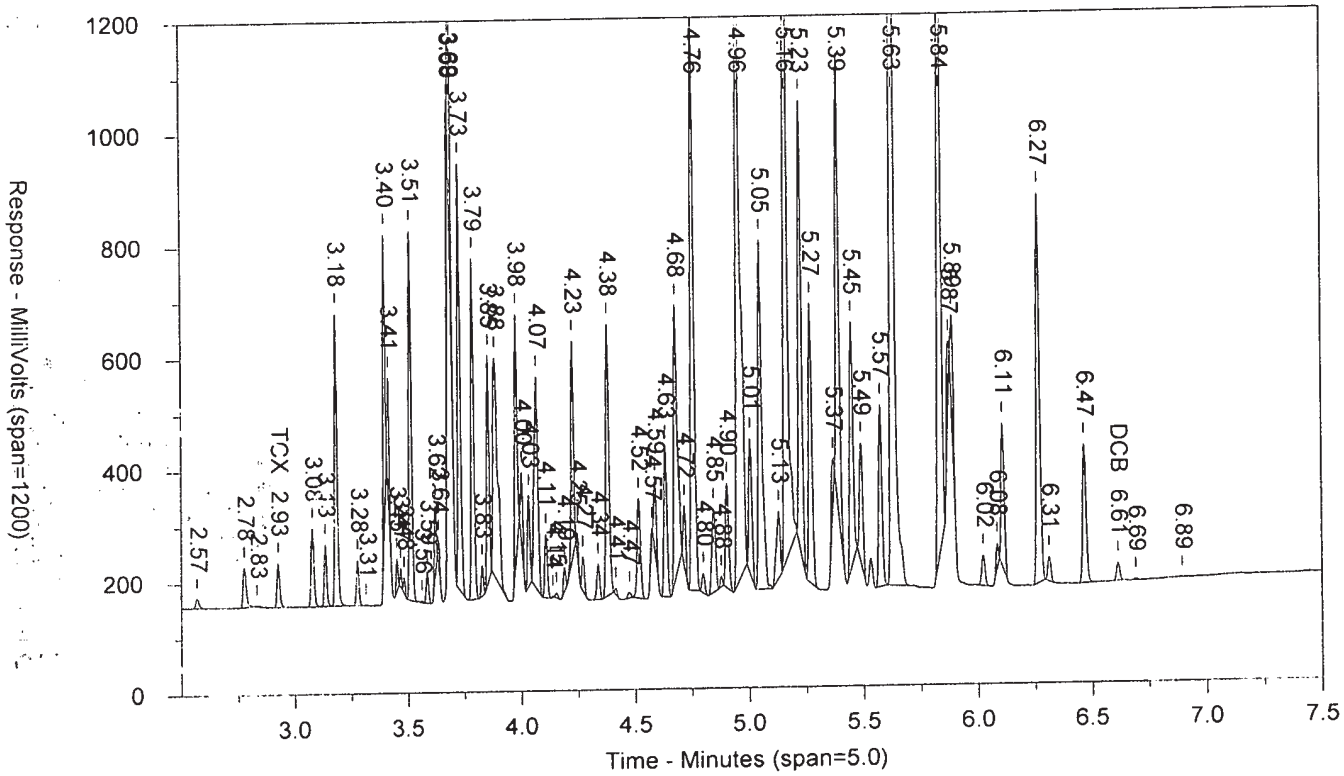

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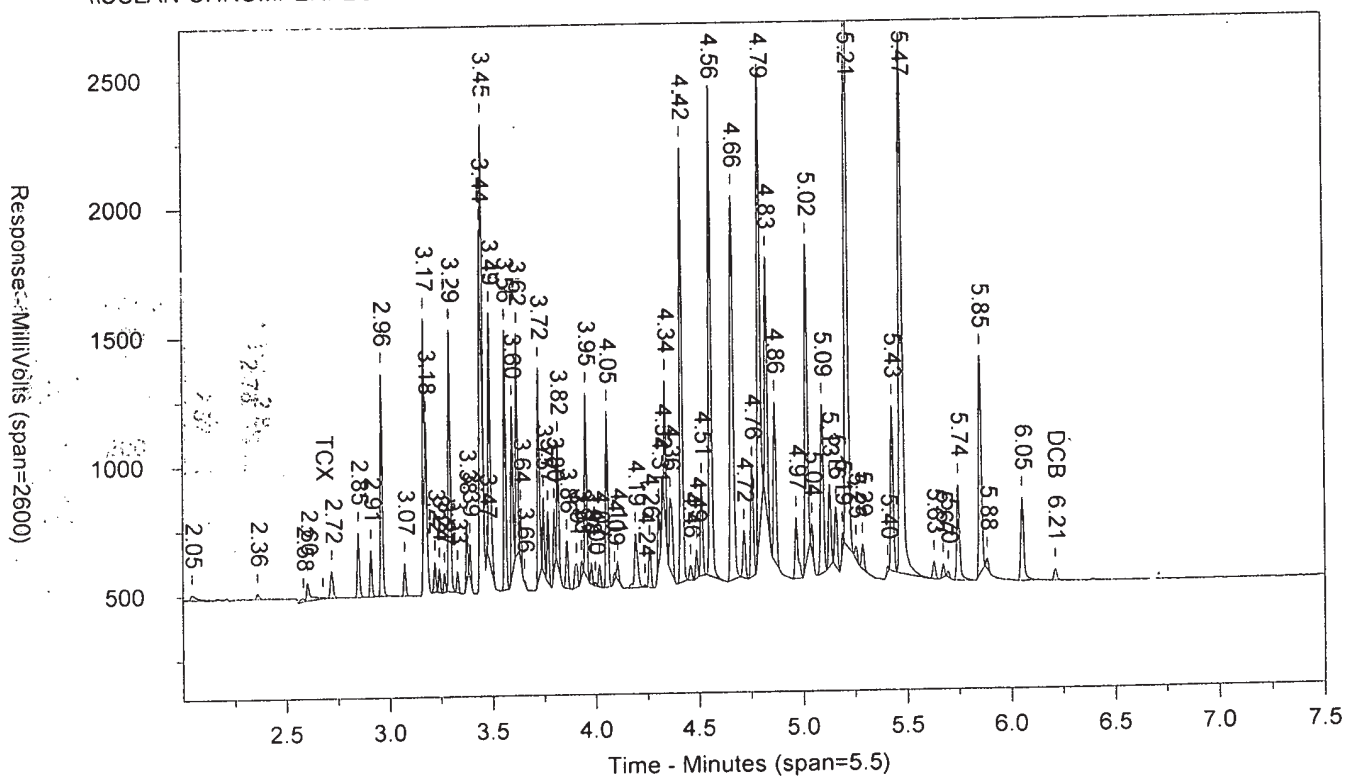

LANCASTER LABORATORIES

Sample Number: IC16X1824D AAIC16XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:45:45 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.926	78974	.509	TCX		0		TCX
6.612	32786	.255	DCB	6.211	45784	.244	DCB

Files:
Area File: 25pcbs18303001.032.RAW
Area File: 25pcbs18303001B.032.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 10:54:17 PM
File Reported On: 10/30/2018 at 10:54:25 PM

IC16X1824D AAIC16XAA CCAL 1830299999 10227 SW-846 8082

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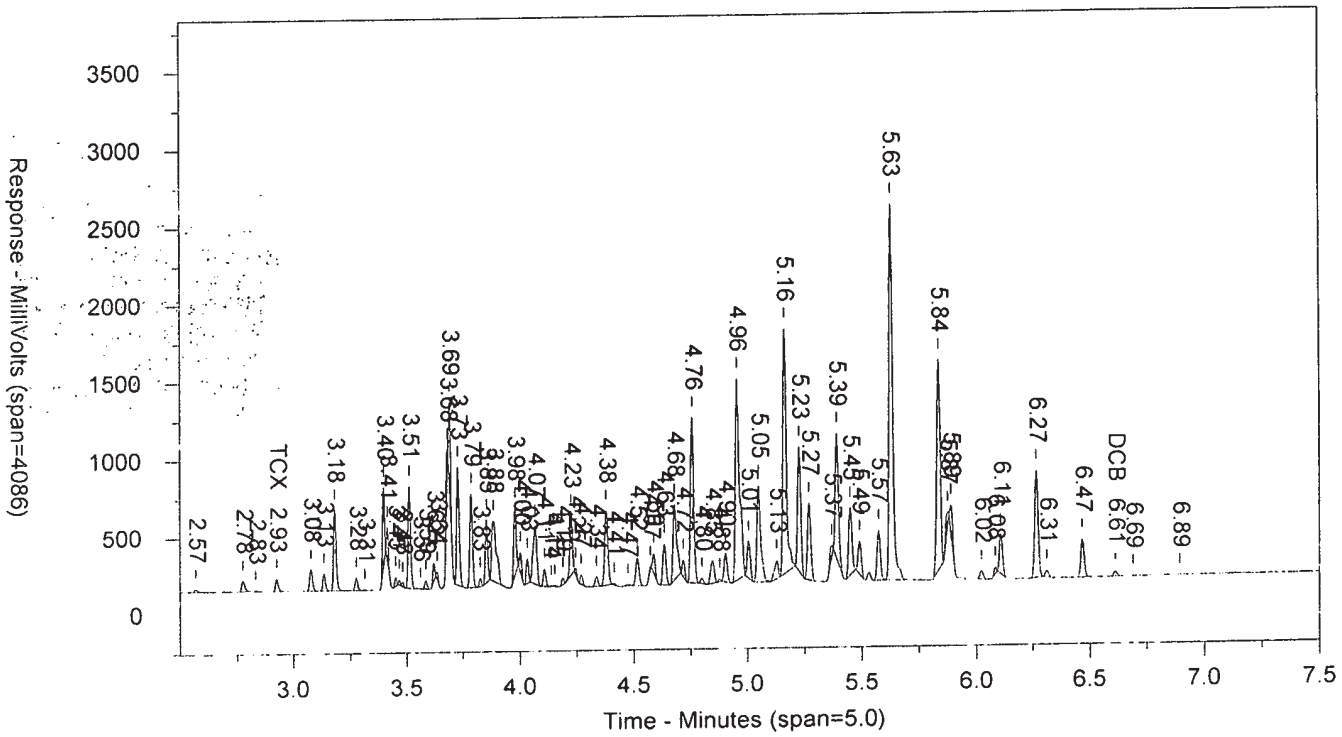

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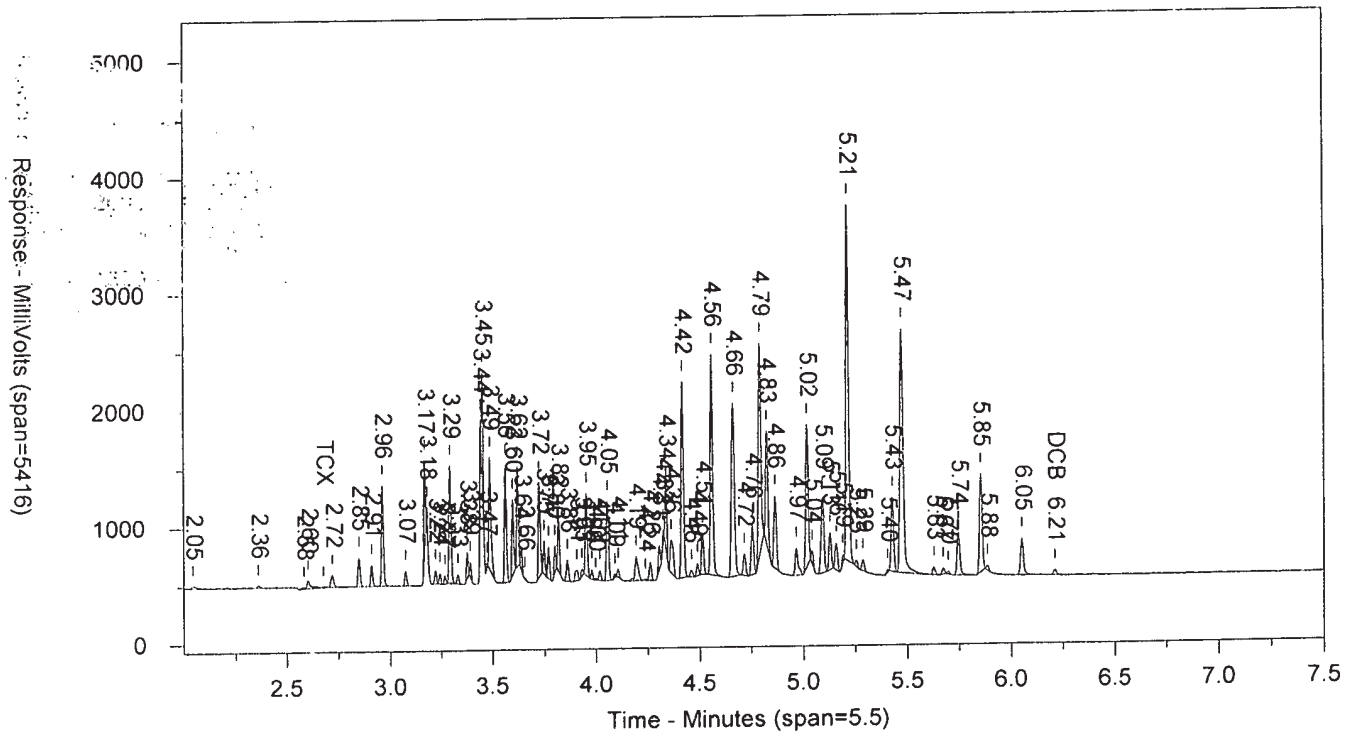

IC16X1824D AAIC16XAA CCAL 1830299999 10227 SW-846 8082

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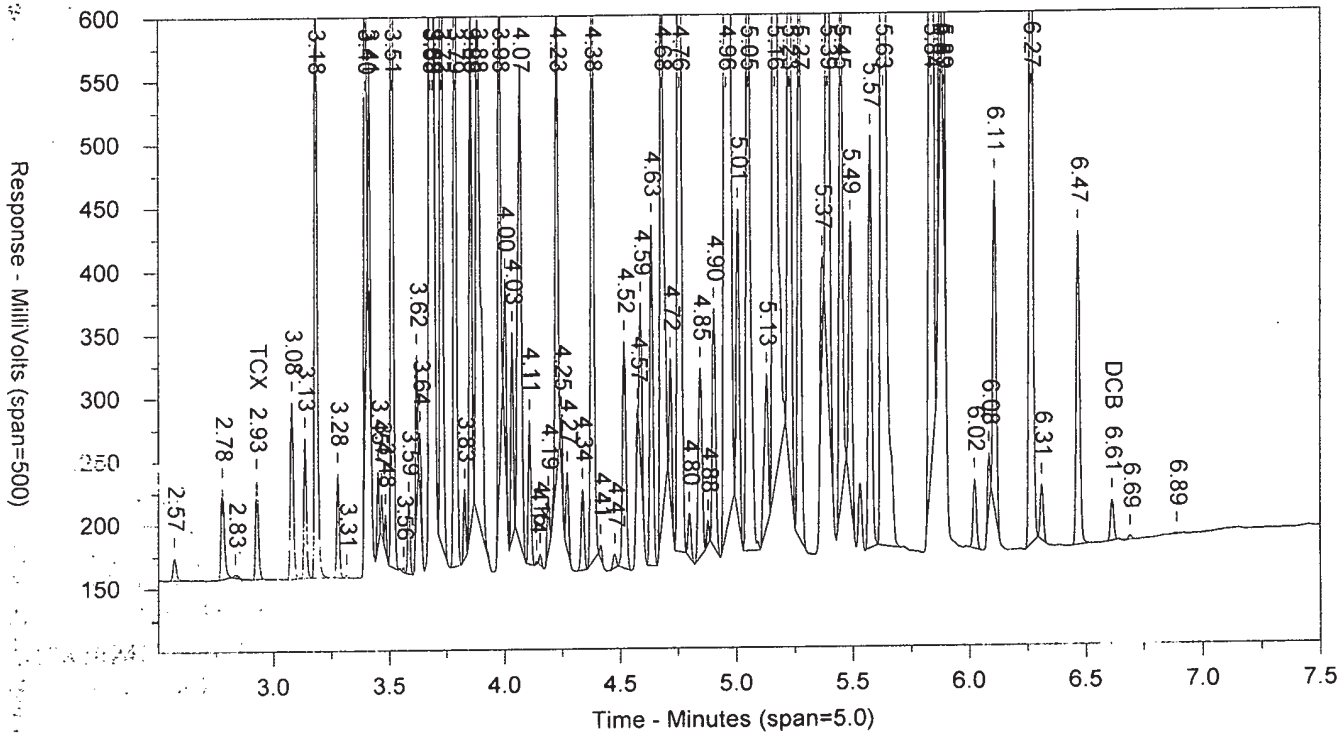

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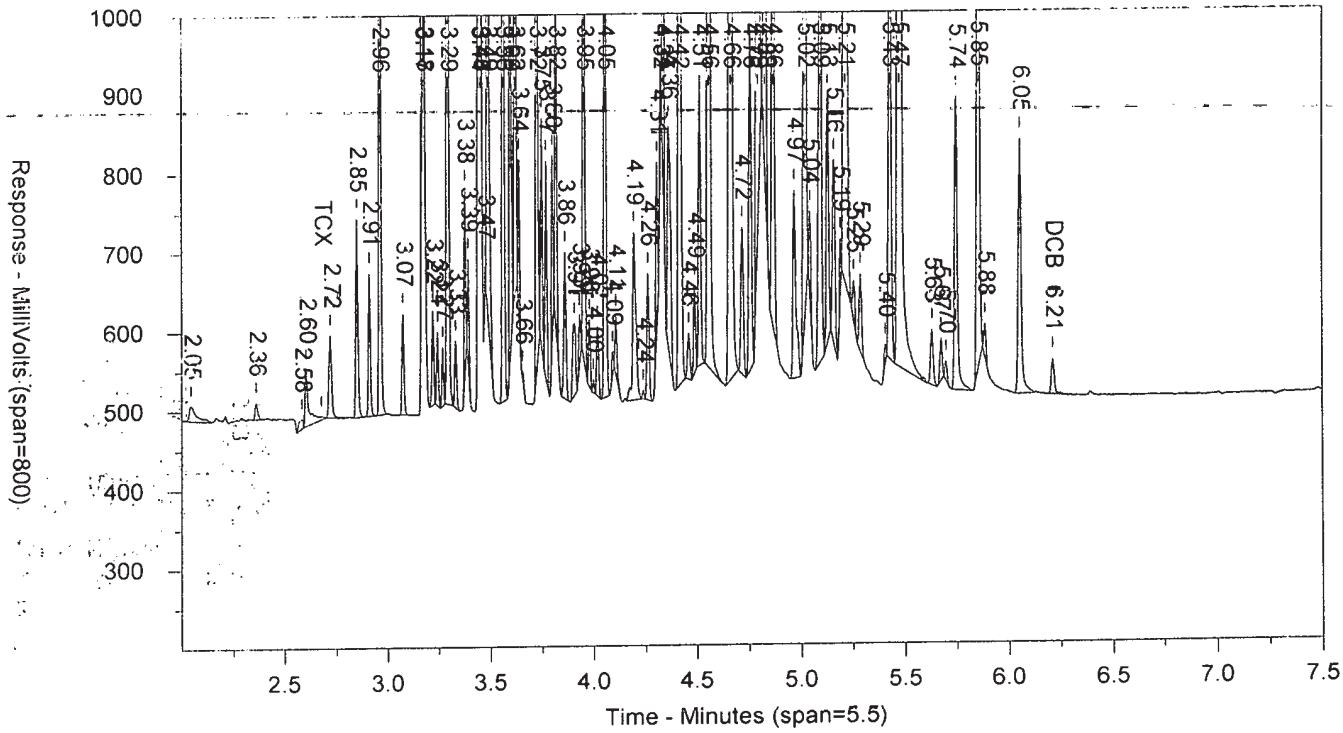

LANCASTER LABORATORIES

Sample Number: IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:56:40 PM
Injection Volume: 1 ul
Analyst: 9065
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.033.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		7936	13881
2.232		1731	2087
2.311		9741	7050
2.38		1977	2555
2.423		2129	2316
2.57		8141	7594
2.776		45809	44505
2.832		2023	1880
2.927	TCX	17654	15533
3.079		52376	46402
3.135		17148	13736
3.182		106031	83931
3.276		21642	16814
3.314		977	600
3.396		255117	164745
3.413		64431	33133
3.45		14762	7886
3.467		21829	12717
3.512		275121	222601
3.563		2810	1580
3.586		49882	35510
3.622		45186	26192
3.636		9614	4283
3.681		153658	90933
3.691		206250	121469
3.728		383486	313161
3.786		325200	273341
3.826		51769	36418
3.854		557066	417388
3.881		351033	290439
3.902		91708	49267
3.978		637049	489778
4.002		163025	108555
4.032		234790	175195
4.067		553775	547076
4.108		186478	157907
4.153		18874	13963
4.192		54184	46362
4.226		459896	318520
4.246		553795	360568
4.27		638983	484562
4.336		60385	58228
4.376		574905	505900
4.397		140956	71802
4.413		62041	41206
4.455		8211	5628
4.477		34830	26181
4.52		186303	173677
4.572		242847	228728
4.603		143586	111591
4.634		435581	406860
4.679		5594	3794
4.718		176058	163760
4.756		37145	44403

RT A	Compound A	Height A	Area A
4.806		45951	39703
4.847		311288	325890
4.927		29108	35699
4.956		25546	18290
4.973		16931	10557
5.048		327178	314985
5.165		83464	77231
5.227		4632	3548
5.374		24535	20103
5.573		18623	16322
5.598		2292	1542
5.629		19987	19200
5.836		15578	16757
5.891		3988	7383
6.023		1123	1103
6.089		765	758
6.111		1796	1531
6.265		5272	5225
6.385		765	624
6.466		3968	4100
6.608	DCB	926	1249
6.6[illegible]5		709	772
6.851		567	990
6.888		1208	1493

LANCASTER LABORATORIES

Sample Number: IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:56:40 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.033.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		15203	37249
2.603		50627	104804
2.721		24334	22745
2.85		92268	68887
2.91		29853	21612
2.963		170244	114971
3.074		38179	25702
3.17		387350	203276
3.222		36317	20933
3.244		49324	31319
3.269		8826	4616
3.294		418367	300379
3.331		76321	47842
3.377		69465	36615
3.391		32664	16319
3.442		365694	180542
3.452		371891	146501
3.473		77786	32669
3.487		447778	306055
3.562		546259	358432
3.596		945121	575134
3.62		869763	499136
3.638		267708	137302
3.725		1135933	751088
3.748		343380	194909
3.77		390764	245447
3.801		175911	94131
3.818		748187	468982
3.861		309355	227489
3.909		60436	53194
3.931		609024	376483
3.954		1489308	969142
3.979		1037791	655393
3.999		77430	38609
4.019		74183	42476
4.056		420741	311415
4.091		731063	566484
4.12		365657	205414
4.168		53385	38239
4.203		256353	207176
4.262		436465	333050
4.295		250014	181558
4.323		657715	510400
4.362		12270	11461
4.42		268720	262637
4.455		63657	48357
4.488		425923	332257
4.557		47954	34687
4.583		31537	22067
4.658		163798	74790
4.712		415614	341168
4.753		14166	10629
4.793		114609	114618
4.983		5452	4405

RT B	Compound B	Height B	Area B
5.019		8272	6121
5.043		37740	30666
5.095		6239	5668
5.191		17008	12222
5.214		20850	19001
5.429		7110	6572
5.473		19862	23674
5.853		7911	7094
6.05		5811	6321

IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082

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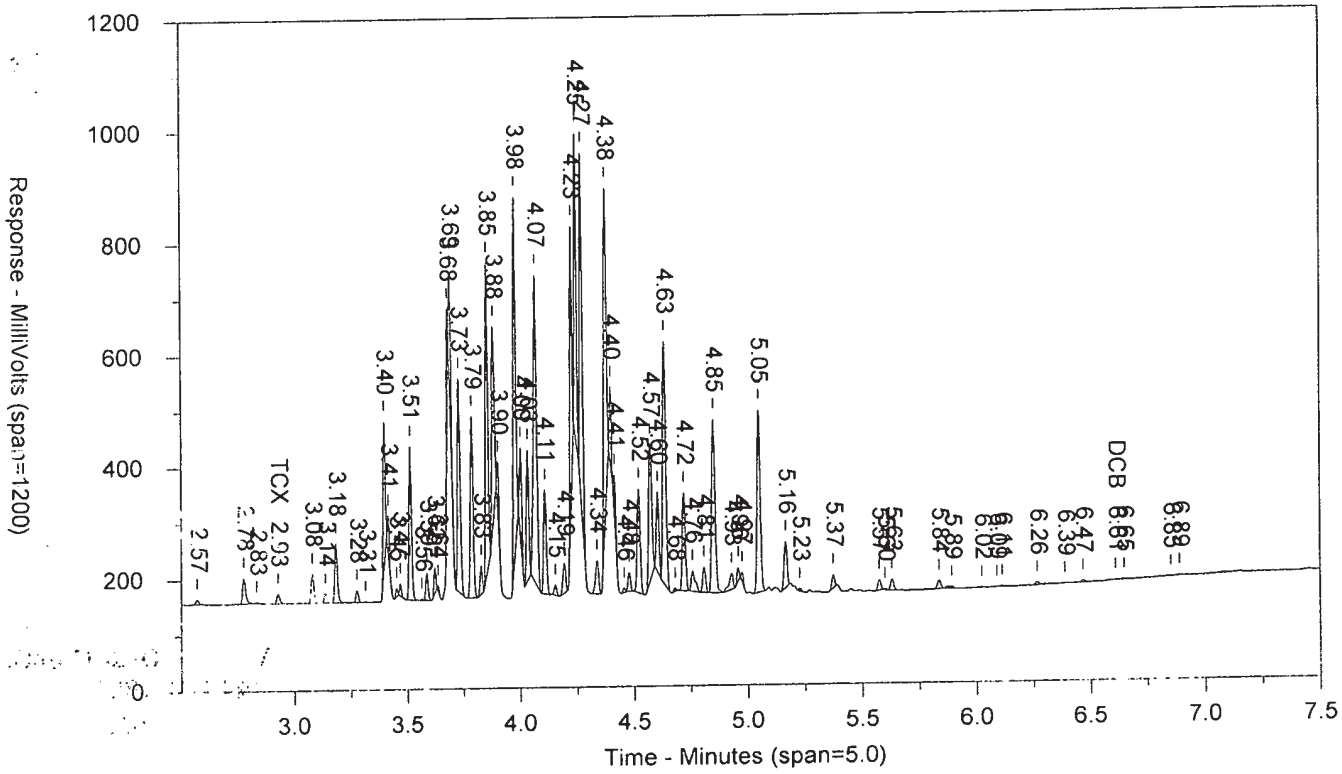

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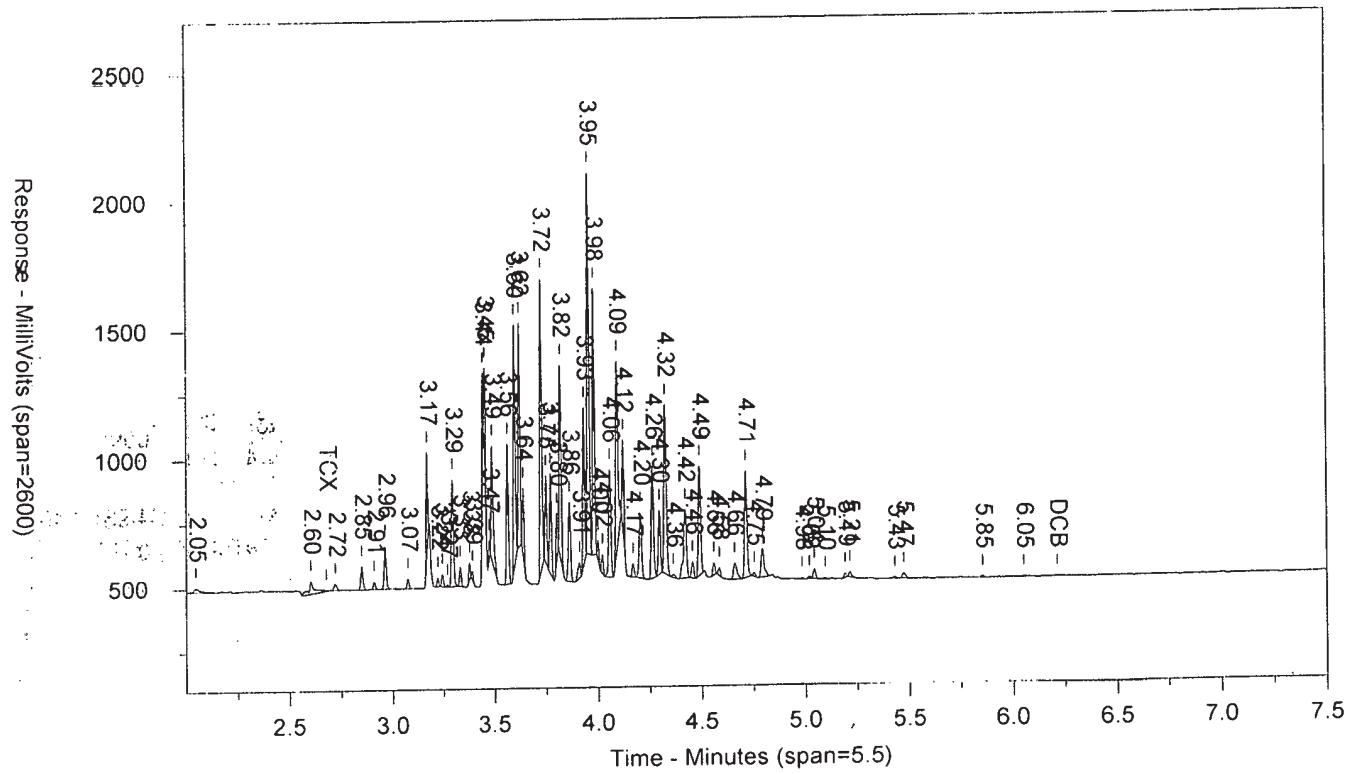

LANCASTER LABORATORIES

Sample Number: IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 10:56:40 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.927	17654	.114	TCX		0		TCX
6.608	926	.007	DCB		0		DCB

Files:
Area File: 25pcbs18303001.033.RAW
Area File: 25pcbs18303001B.033.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 11:05:10 PM
File Reported On: 10/30/2018 at 11:05:19 PM

IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082

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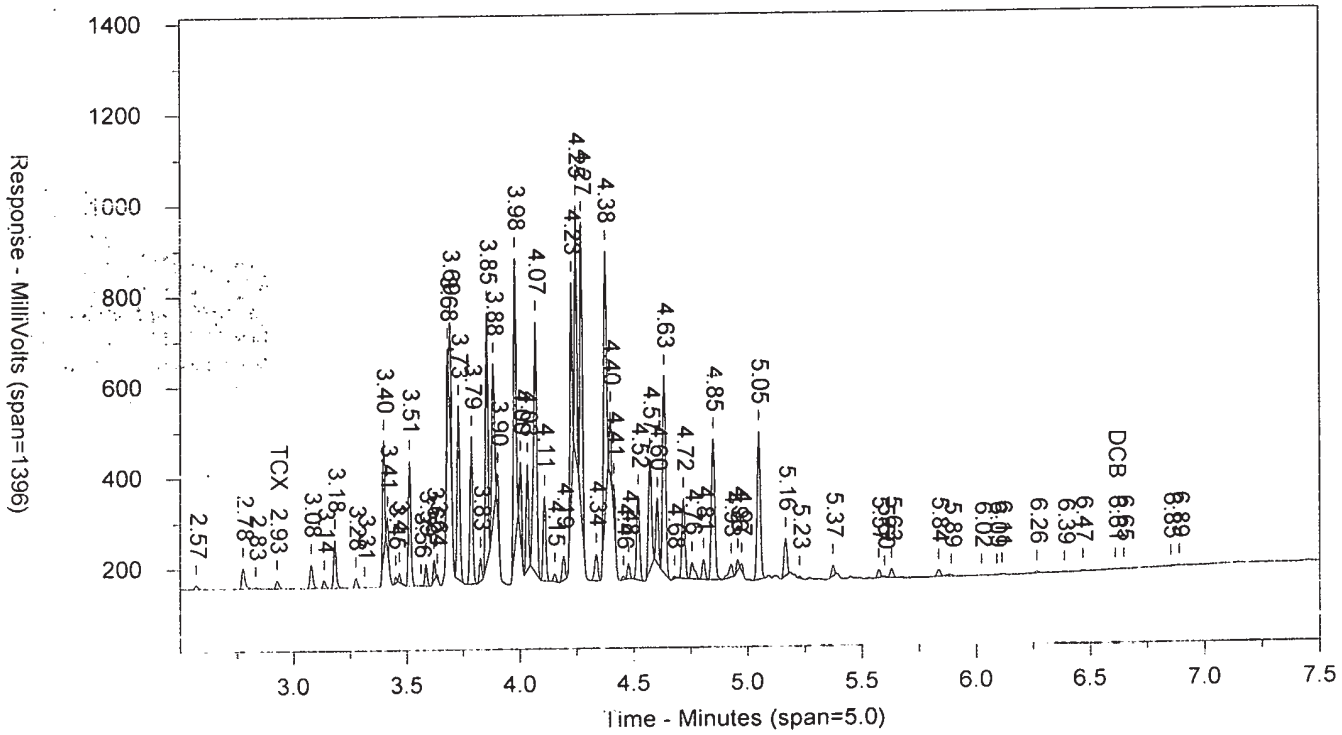

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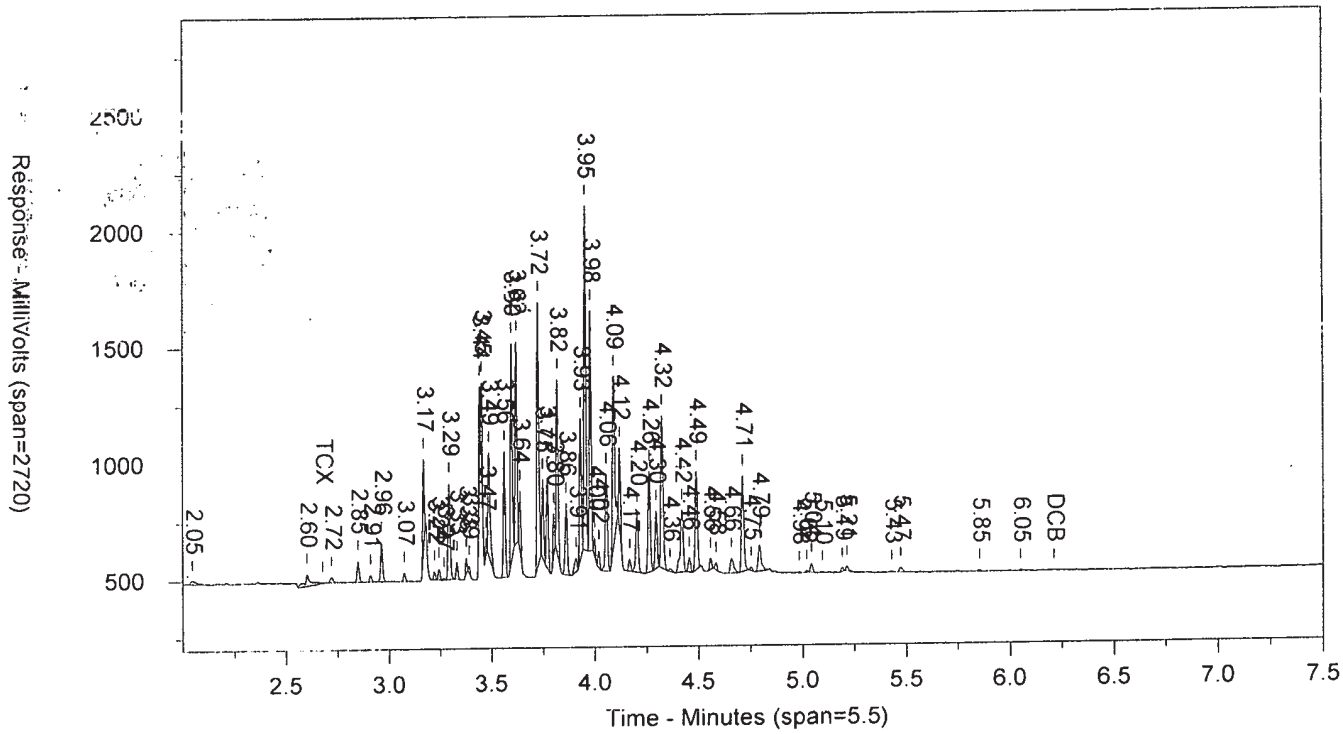

IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082

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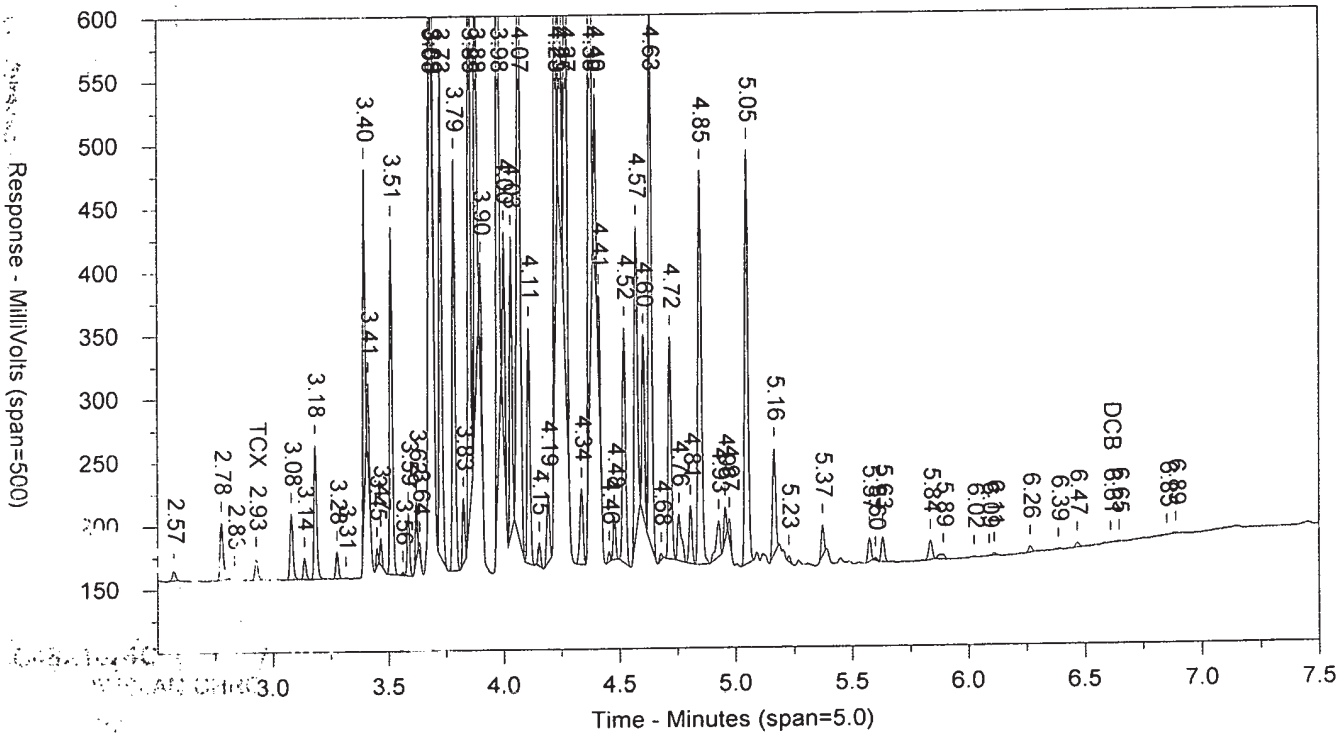

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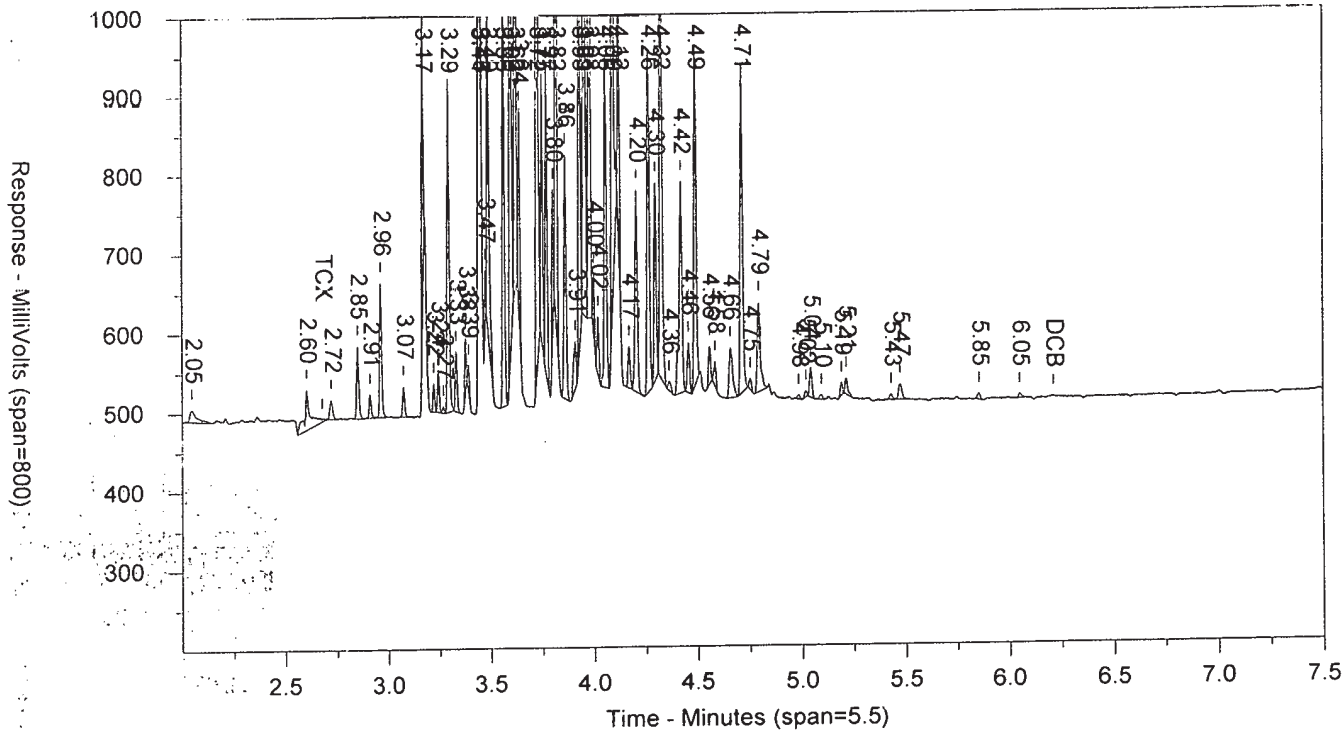

LANCASTER LABORATORIES

Sample Number: IC54X1824C AAIC54XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 11:07:33 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Date File: 25pcbs18303001.034.RAW
Method File: 25PCBS.MET
Calibration File: 25PCBS1830301.CAL

RT A	Compound A	Height A	Area A
2.095		8513	14452
2.229		2374	2561
2.311		11376	7731
2.378		2045	2474
2.422		3200	3274
2.494		1332	1179
2.57		5945	5279
2.776		36653	34581
2.831		2533	2500
2.928	TCX	7978	7286
3.078		15172	13581
3.136		6638	5271
3.182		26021	22535
3.277		7815	6283
3.397		54619	34899
3.413		8006	5306
3.466		27834	21292
3.512		57591	45373
3.562		3435	1981
3.586		58969	42454
3.621		6036	3823
3.68		13110	6490
3.697		20475	15742
3.729		122245	99967
3.784		59930	48055
3.827		8803	5498
3.853		563019	428568
3.884		163840	194213
3.927		4266	2528
3.977		348106	281168
4		13653	6654
4.032		59586	42309
4.066		168025	197432
4.107		37894	29971
4.137		1859	1156
4.154		9867	6639
4.189		35610	25945
4.226		807420	603410
4.246		300352	175704
4.27		232030	176115
4.337		231716	211170
4.379		1319847	1347438
4.414		437754	363063
4.454		16465	10274
4.478		80543	66210
4.52		456652	439684
4.572		811461	765470
4.603		188443	123317
4.633		1671648	1546975
4.679		74086	54690
4.693		27453	14669
4.717		230727	196790
4.756		517621	556760
4.806		108372	100447

RT A	Compound A	Height A	Area A
4.847		1180528	1213266
4.903		109576	94954
4.928		19749	10990
4.956		393272	312109
4.972		179227	111059
5.048		961986	933422
5.091		100427	80735
5.118		89936	137561
5.164		1200534	1118336
5.186		38061	18227
5.203		30008	19067
5.227		31484	21378
5.27		50602	60878
5.374		411738	572736
5.449		53926	48107
5.489		45758	41402
5.573		259460	246357
5.599		34231	21981
5.63		202709	198297
5.669		6274	5620
5.838		171518	169021
5.868		29581	28373
6.033		1747	2348
6.083		8999	7810
6.11		4057	3446
6.266		10186	10703
6.463		1390	1442
6.886		1241	1489

LANCASTER LABORATORIES

Sample Number: IC54X1824C AAIC54XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 11:07:33 PM Injection Volume: 1 ul
Instrument ID: CP25-18274 Analyst: 9065
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Data File: 25pcbs18303001B.034.RAW
Method File: 25PCBSB.MET
Calibration File: 25PCBS1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		15619	37498
2.603		37723	54745
2.723		11112	11380
2.85		28036	22017
2.912		11269	9004
2.963		44368	31366
3.076		13274	9245
3.171		105572	109971
3.222		5610	2752
3.244		49558	30813
3.295		87719	63228
3.331		88384	56842
3.378		5408	2995
3.389		11357	5980
3.442		28651	13528
3.451		16420	6205
3.473		25326	11486
3.488		120645	99804
3.563		95103	63866
3.596		917790	582685
3.62		409980	246748
3.638		19316	6861
3.656		15951	9568
3.724		590662	387869
3.748		47344	24279
3.77		105719	71454
3.801		115278	64455
3.817		170134	97866
3.86		68230	56222
3.902		63710	59246
3.93		170518	100520
3.953		2140553	1419096
3.979		205517	117121
3.999		195187	112169
4.018		330106	208865
4.055		1765835	1260607
4.088		651845	415638
4.106		420703	236008
4.168		133926	95252
4.203		674614	535694
4.261		1424666	1067892
4.296		366817	283121
4.323		2494120	1917995
4.361		175073	170554
4.417		1150721	1009790
4.455		170346	129767
4.488		1550823	1140798
4.513		214448	151464
4.557		960312	748085
4.582		41262	23942
4.658		839889	878646
4.711		1074245	883010
4.752		243520	219258
4.792		1756223	1779350

RT B	Compound B	Height B	Area B
4.84		115858	76855
4.865		52477	35707
4.926		19808	21144
4.984		87090	81765
5.018		79785	54437
5.042		497133	426089
5.093		68348	57188
5.129		54845	44991
5.159		29705	24006
5.191		251931	191296
5.214		200395	179508
5.427		9334	7873
5.471		239091	269231
5.672		13704	16448
5.747		9634	8657
5.853		15292	13905

IC54X1824C AAIC54XAA CCAL 1830299999 10227 SW-846 8082

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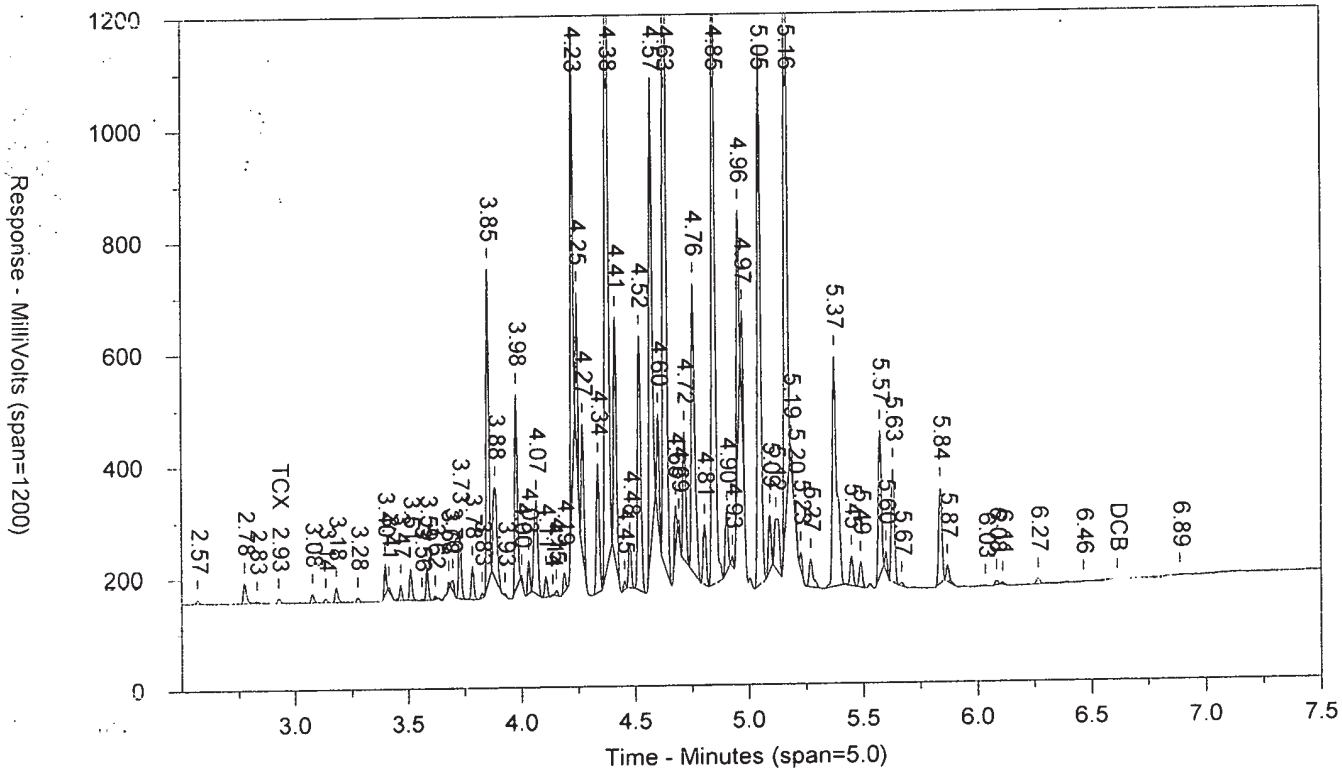

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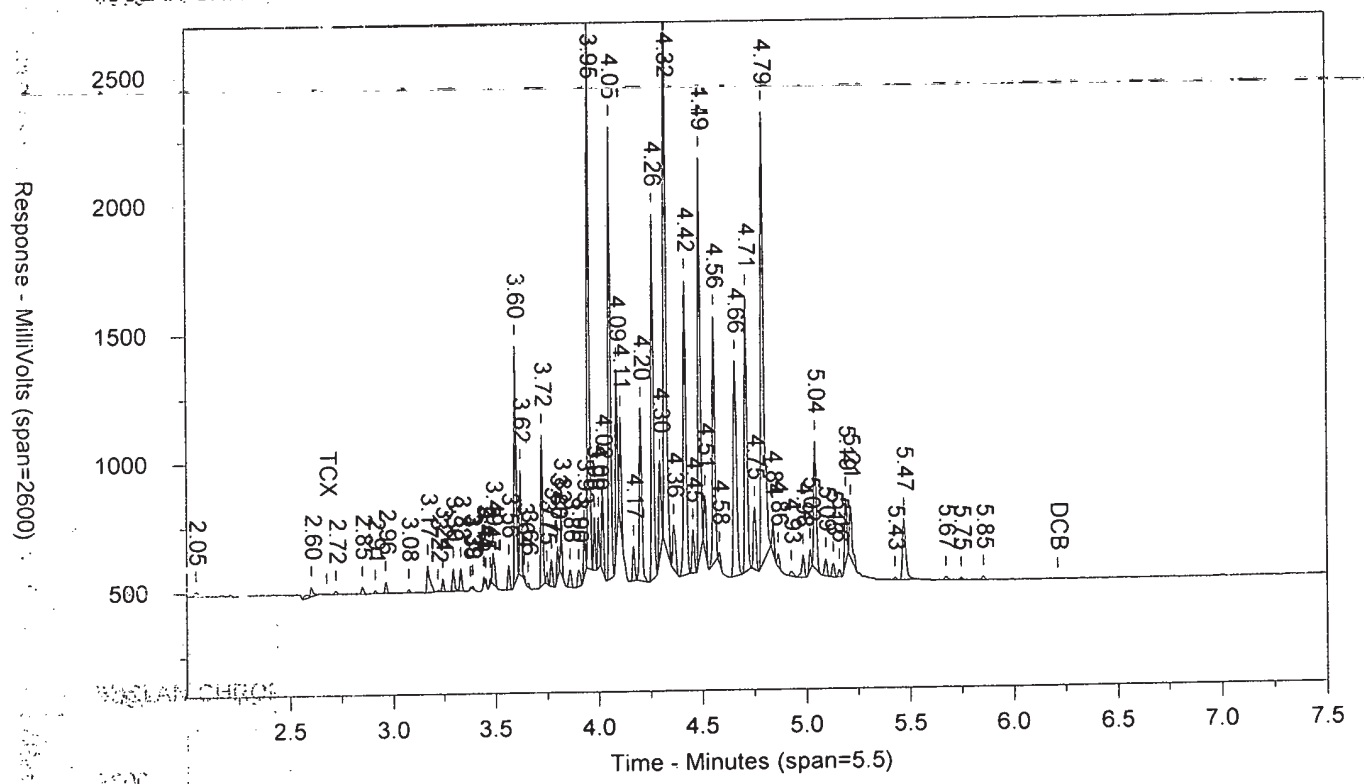

LANCASTER LABORATORIES

Sample Number: IC54X1824C AAIC54XAA CCAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 11:07:33 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.928	7978	.051	TCX		0		TCX

Files:
Area File: 25pcbs18303001.034.RAW
Area File: 25pcbs18303001B.034.RAW
Mothod A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 11:16:04 PM
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IC54X1824C AAIC54XAA CCAL 1830299999 10227 SW-846 8082

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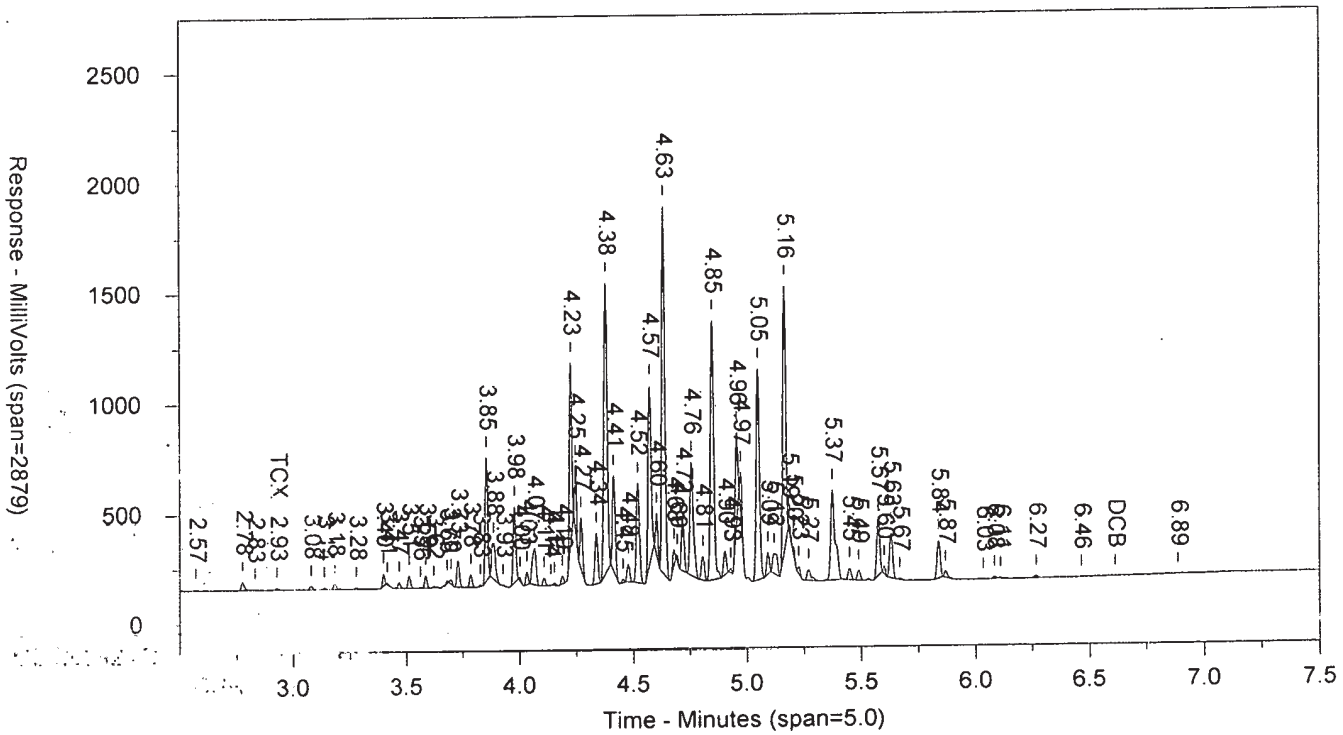

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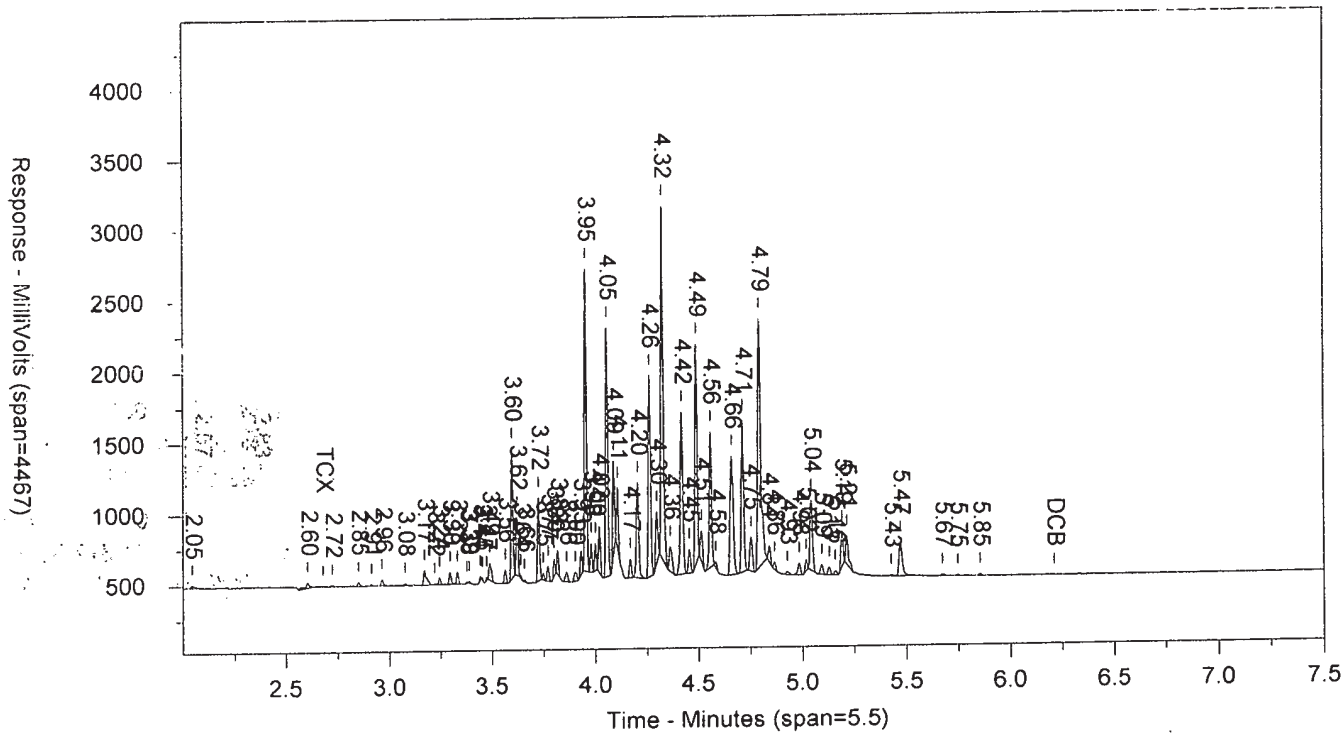

IC54X1824C AAIC54XAA CCAL 1830299999 10227 SW-846 8082

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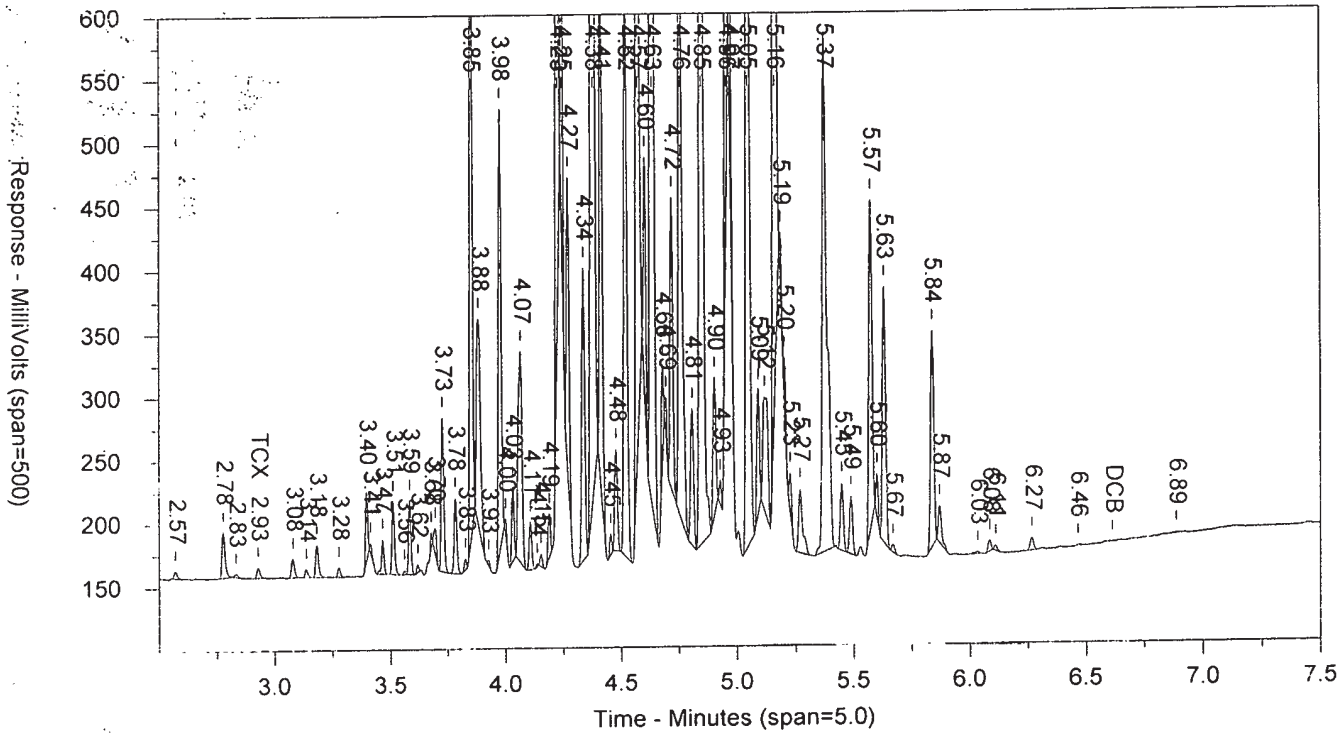

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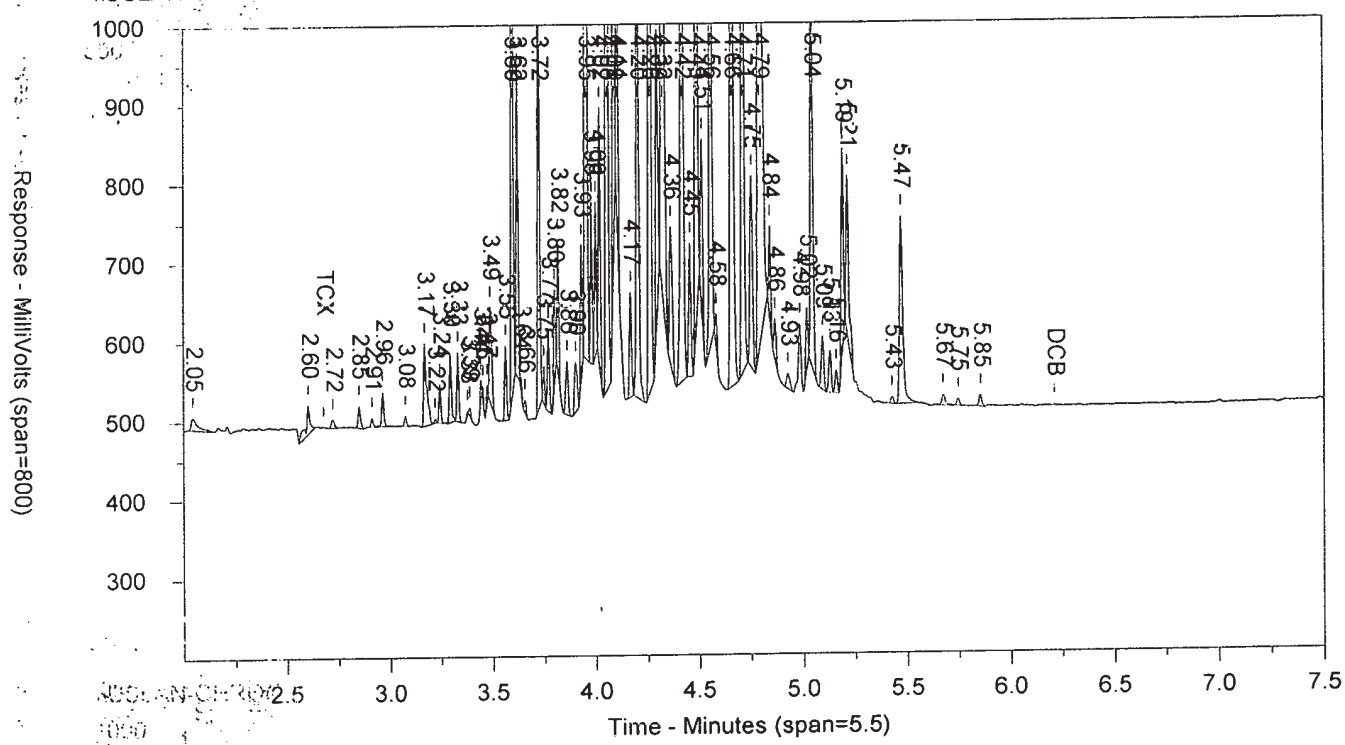

AR1641824D JSAR164JS CCAL 1830799999 10227 SW-846 8082

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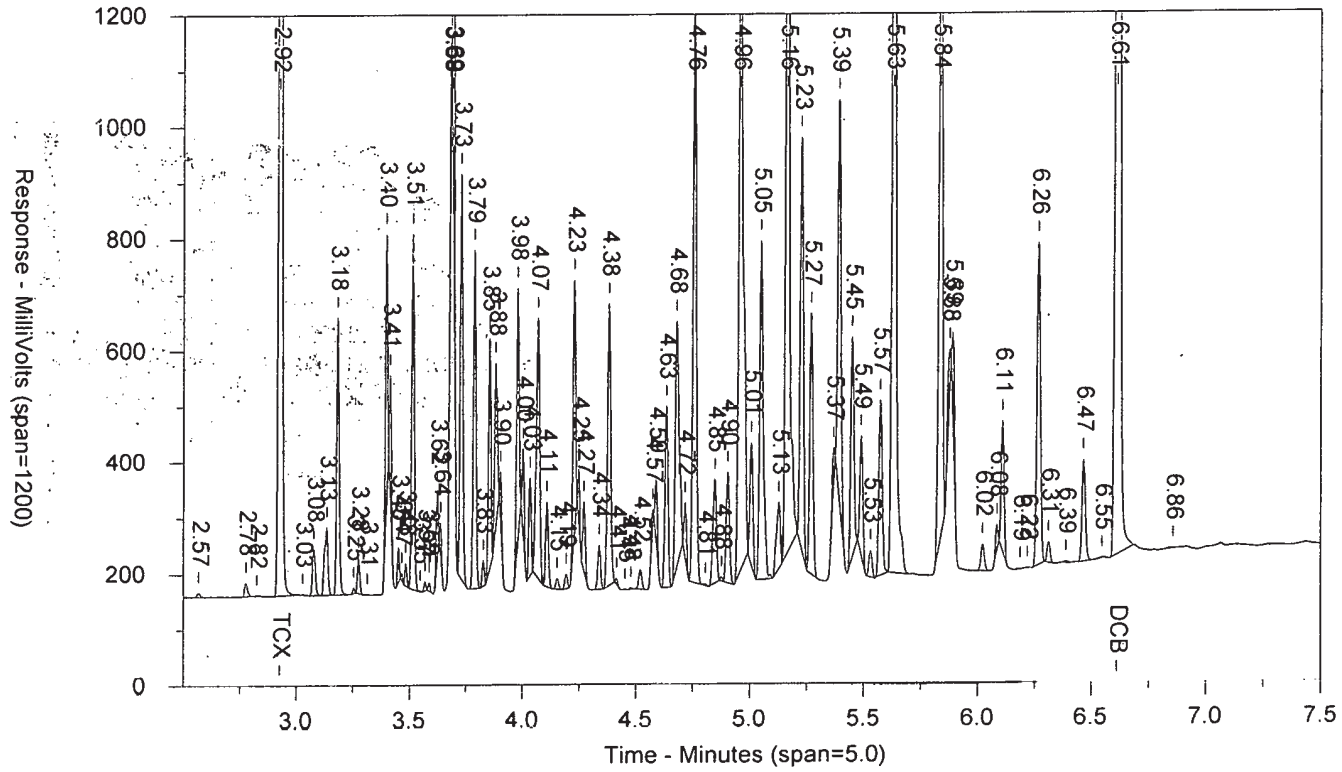

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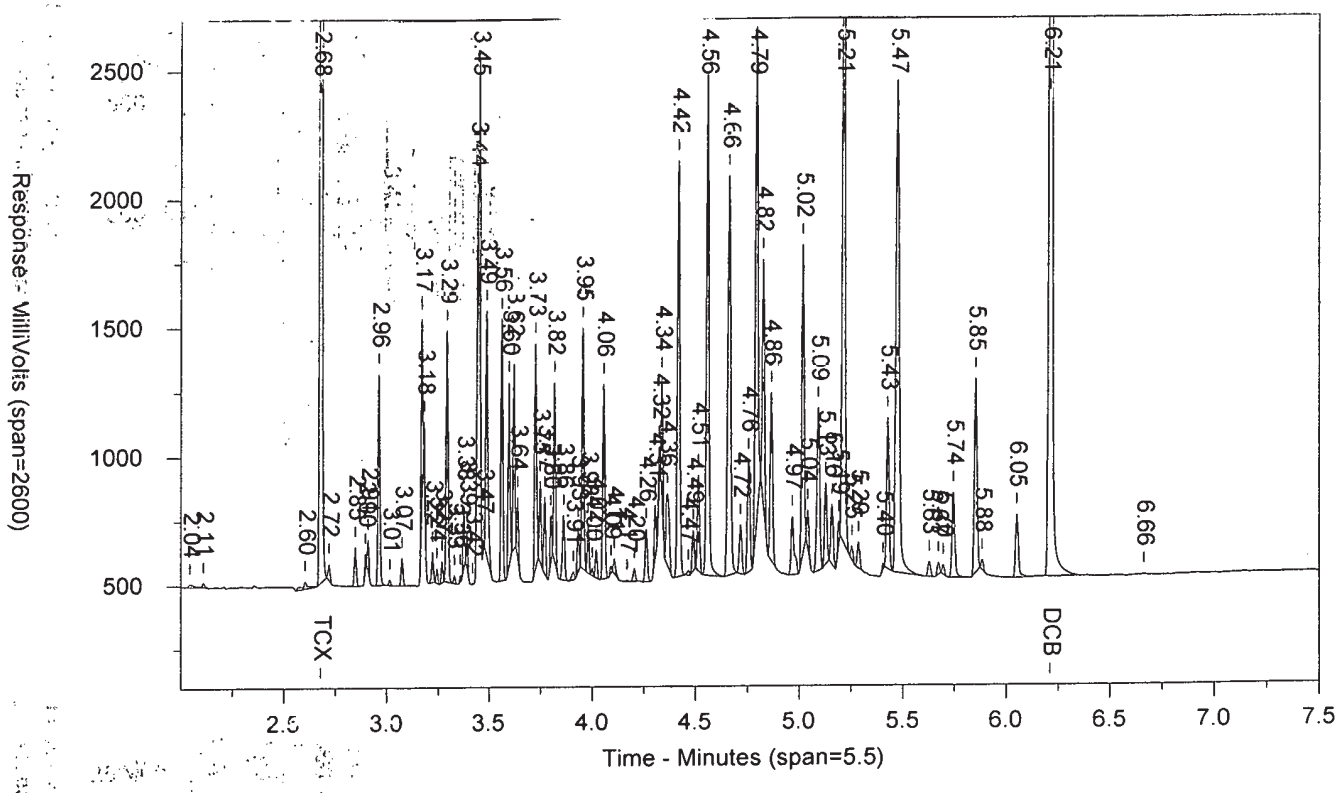


LANCASTER LABORATORIES

Sample Number: AR1641824D JSAR164JS CCAL 1830799999 10227 SW-846 8082
Injected On: 11/5/2018 12:05:27 AM Sample Weight: 1
Instrument ID: CP25-18274 Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

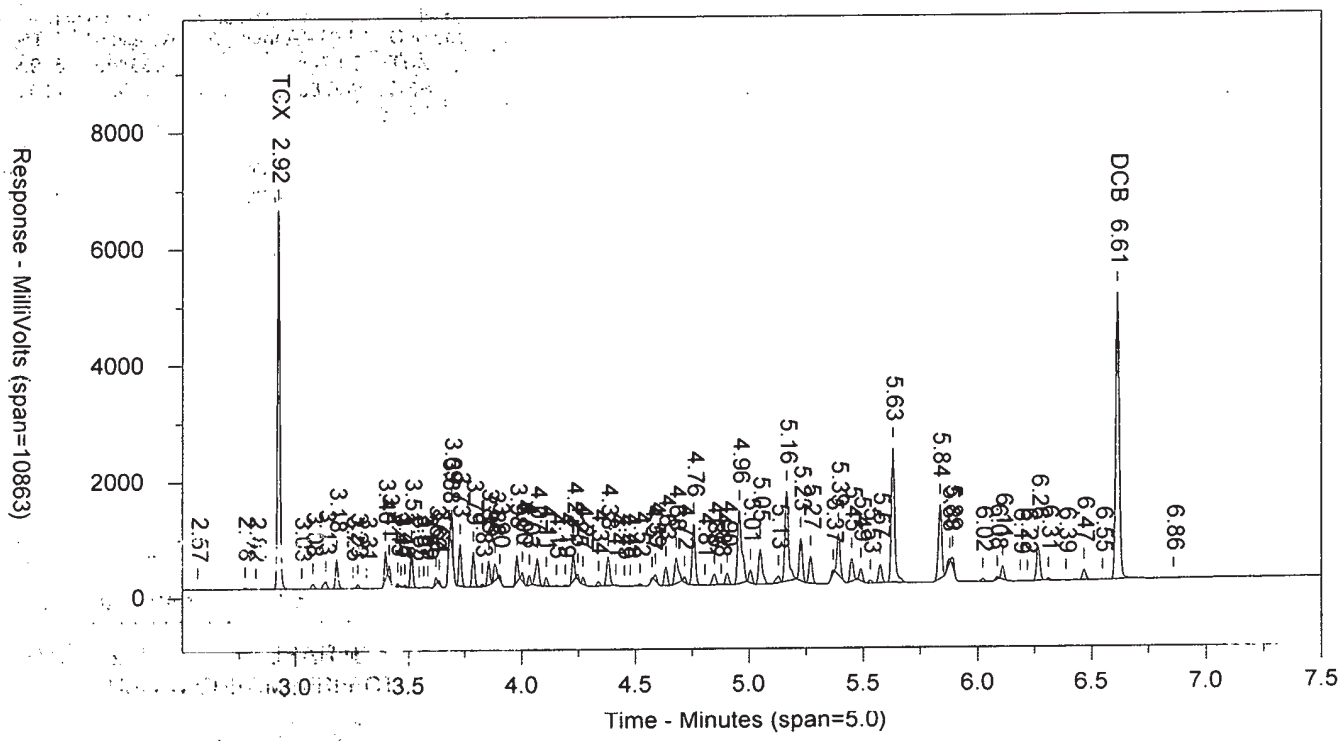
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	6518833	42.02	TCX	2.678	10499920	41.141	TCX
6.611	4945174	38.532	DCB	6.21	7193232	38.309	DCB

Files:
Area File: 25PCBS18303004.069.RAW
Area File: 25PCBS18303004B.069.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 12:13:58 AM
File Reported On: 11/5/2018 at 12:14:02 AM

AR1641824D JSAR164JS CCAL 1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.069.RAW



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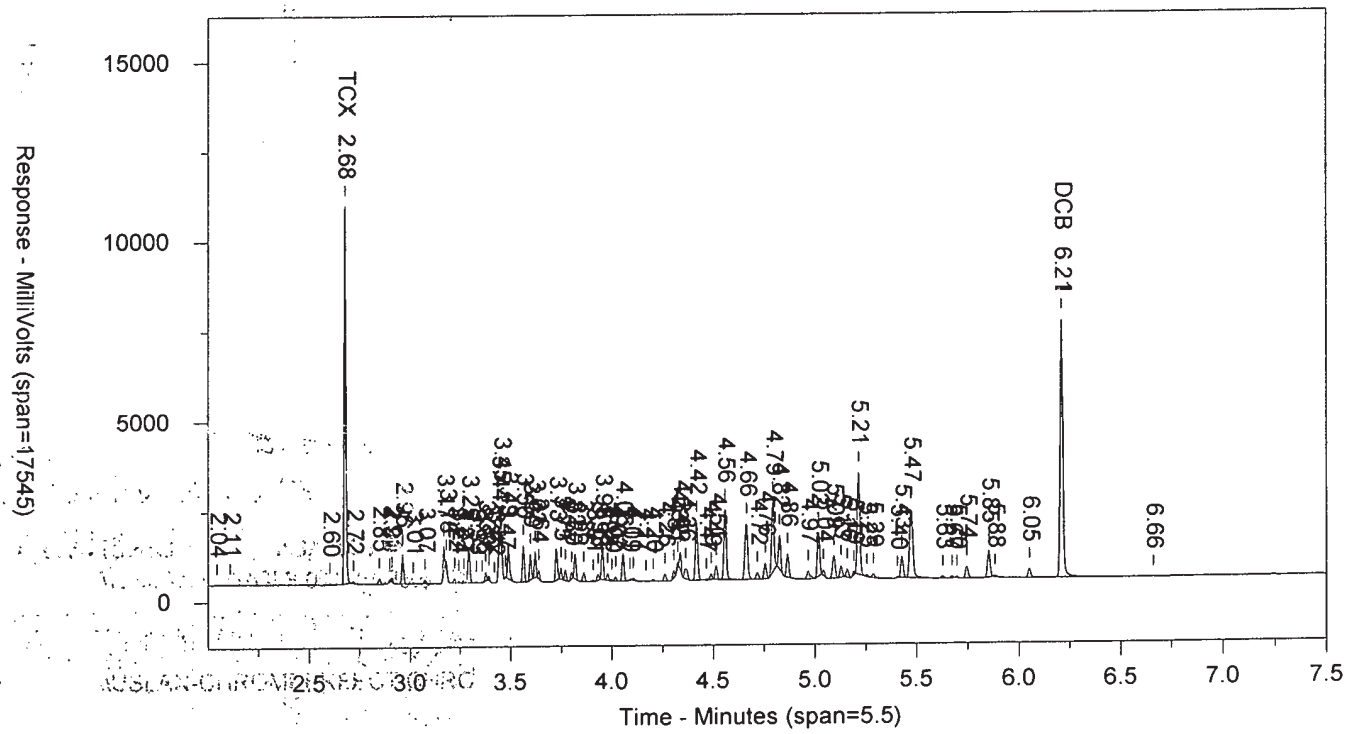

AR1641824D JSAR164JS CCAL 1830799999 10227 SW-846 8082

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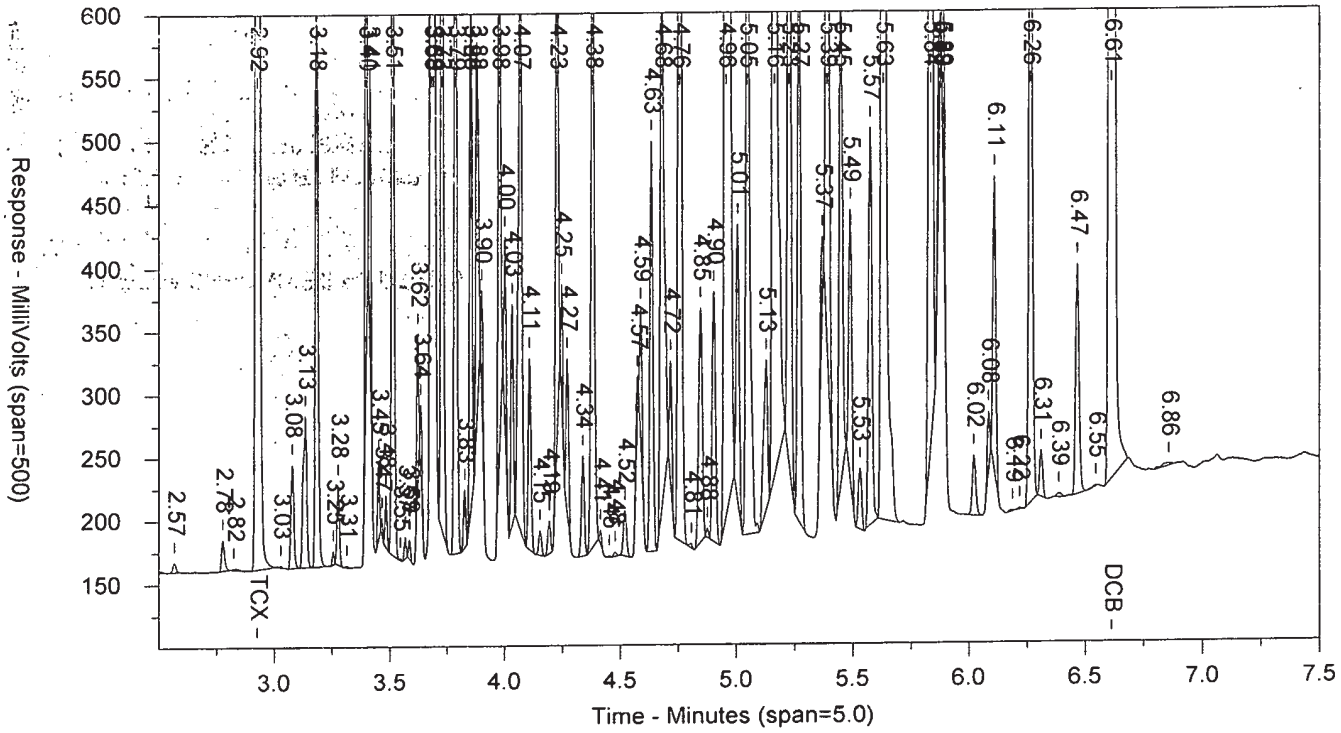

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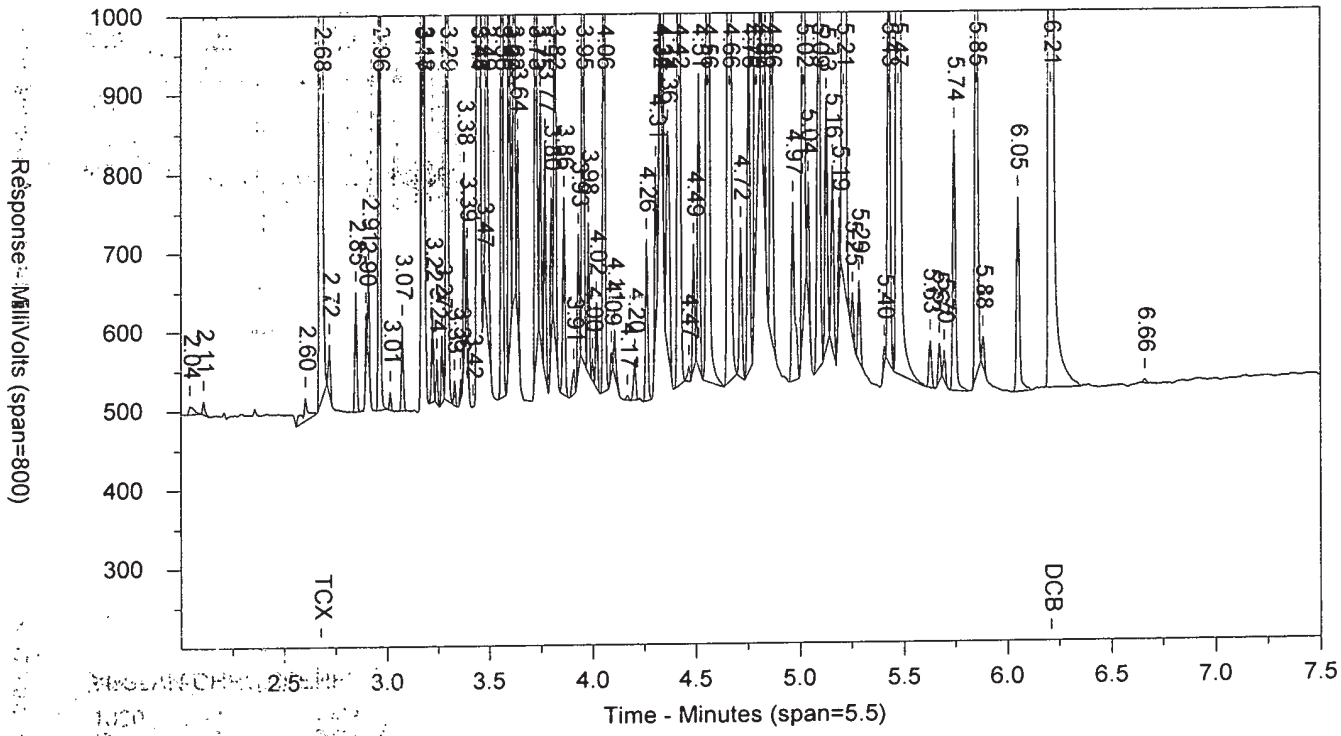

IBLKX1824C KTPIBLKKT PIBLK1830799999 10227 SW-846 8082

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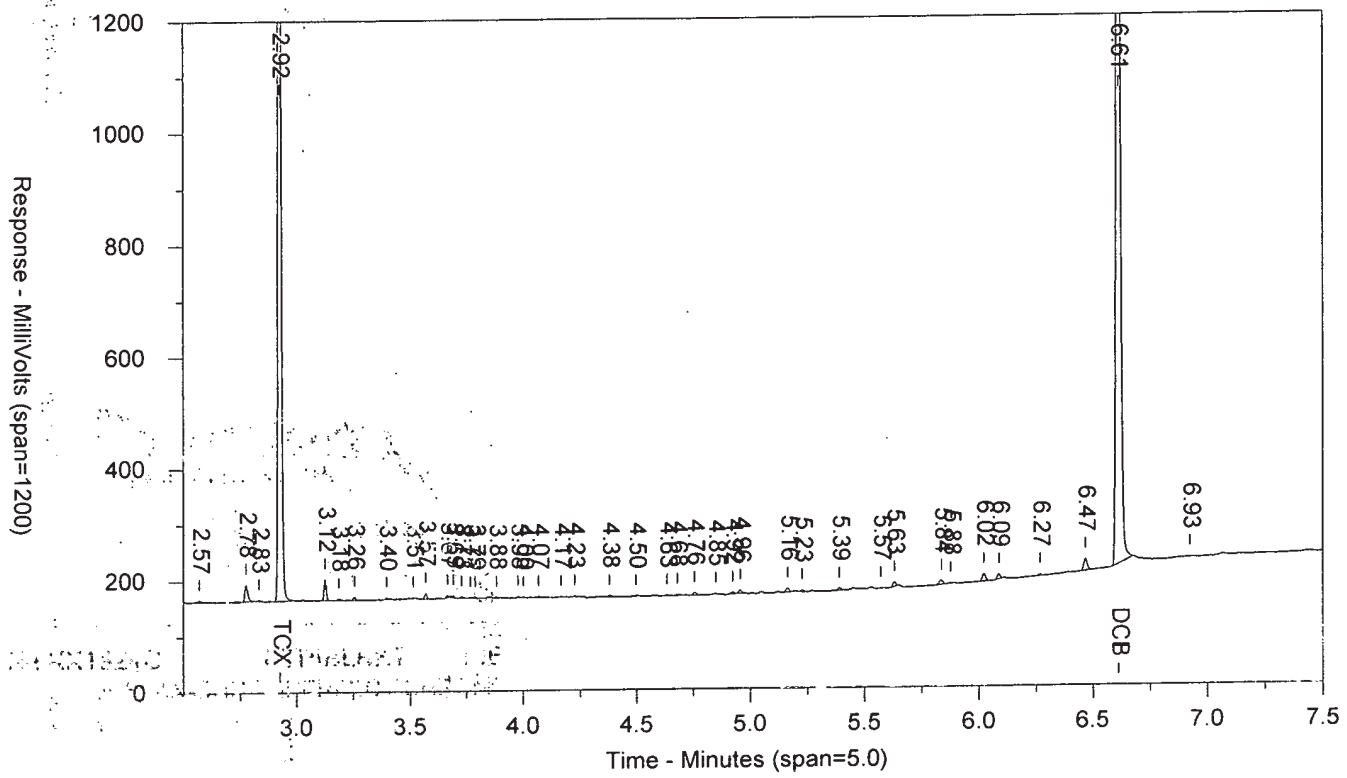

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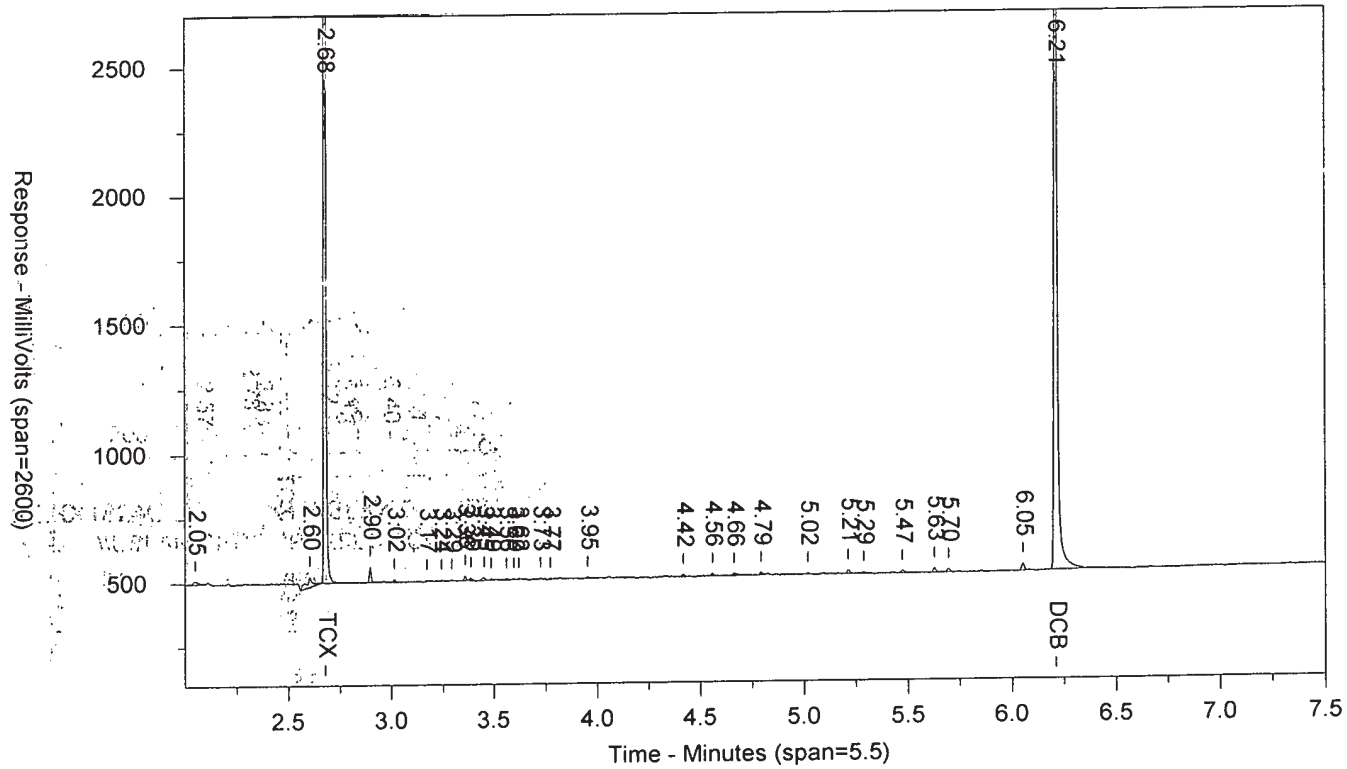


LANCASTER LABORATORIES

Sample Number: IBLKX1824C KTPIBLKKT PIBLK1830799999 10227 SW-846 8082
Injected On: 11/5/2018 12:16:20 AM Sample Weight: 1000
Instrument ID: CP25-18274 Dilution Factor: 10
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

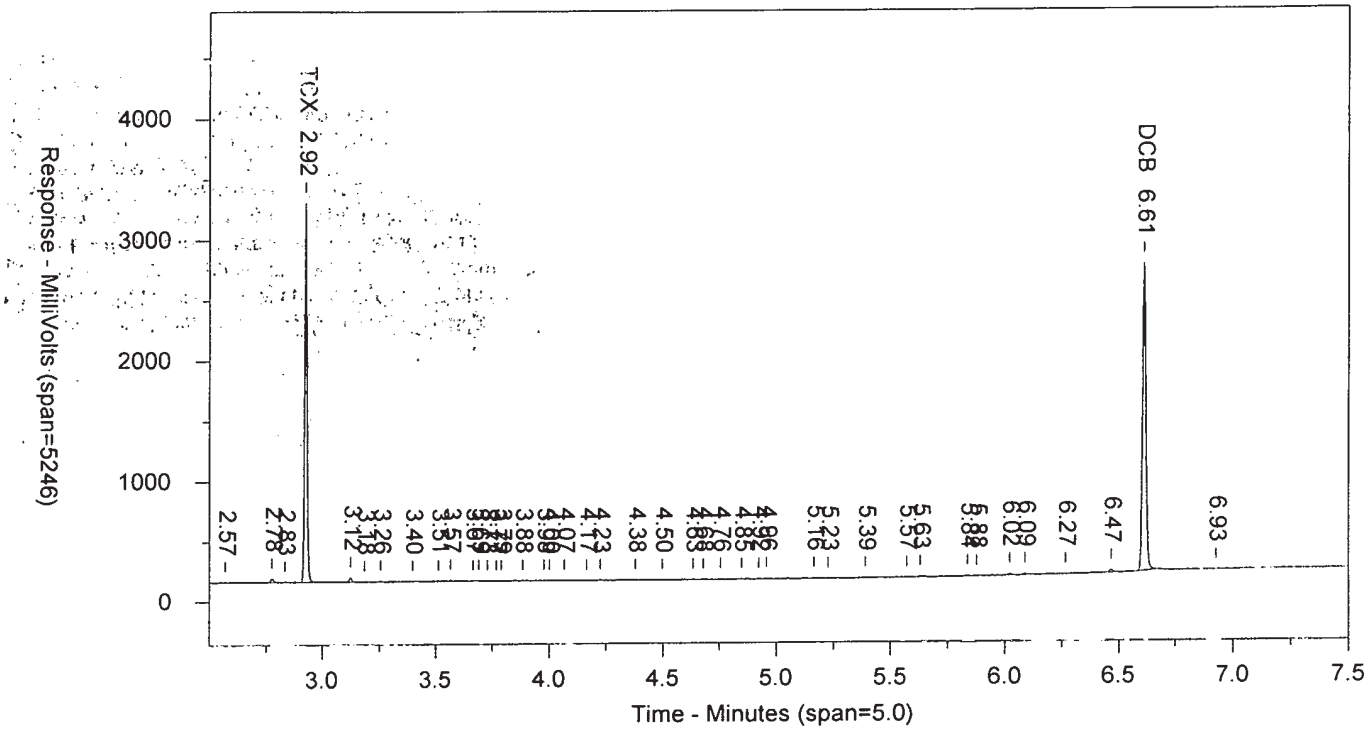
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	3149744	.203	TCX	2.678	4998313	.196	TCX
6.61	2567551	.2	DCB	6.21	3569604	.19	DCB

Files:
Area File: 25PCBS18303004.070.RAW
Area File: 25PCBS18303004B.070.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 12:24:52 AM
File Reported On: 11/5/2018 at 12:24:58 AM

IBLKX1824C KTPIBLKKT PIBLK1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.070.RAW



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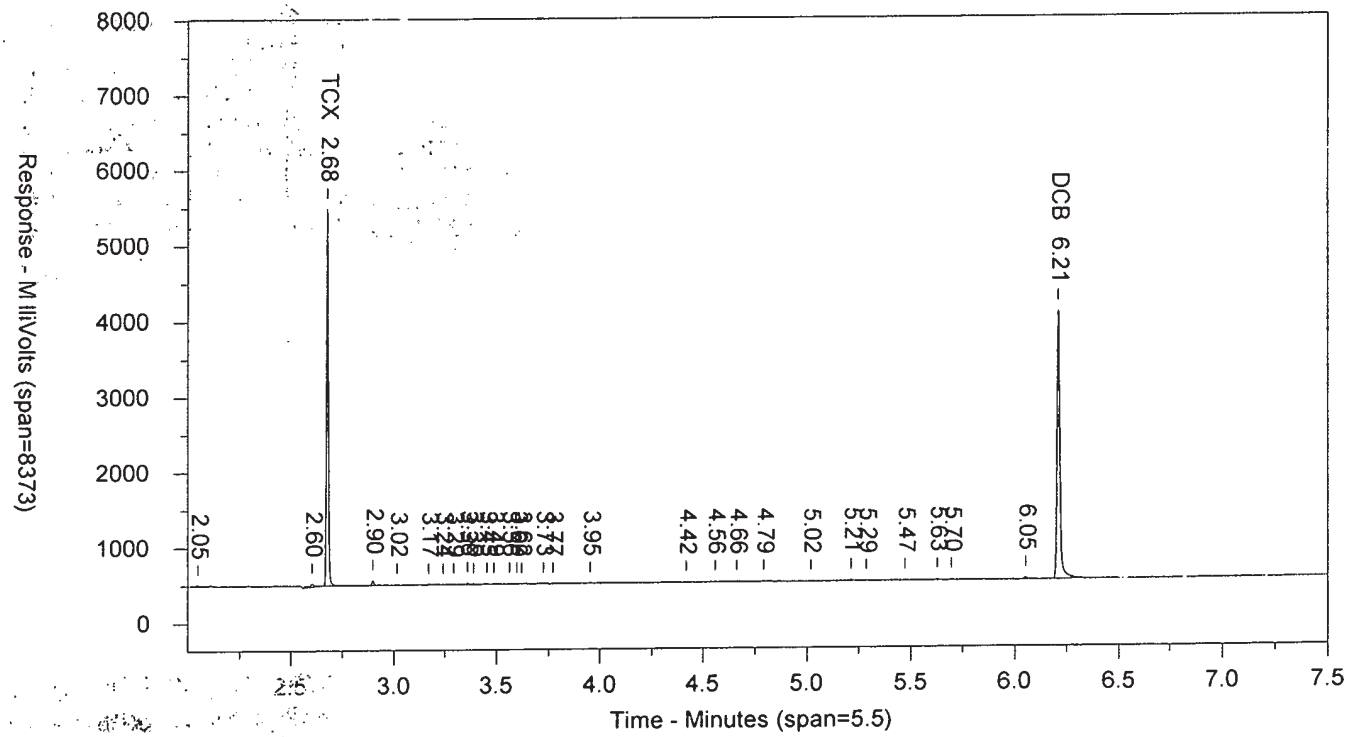
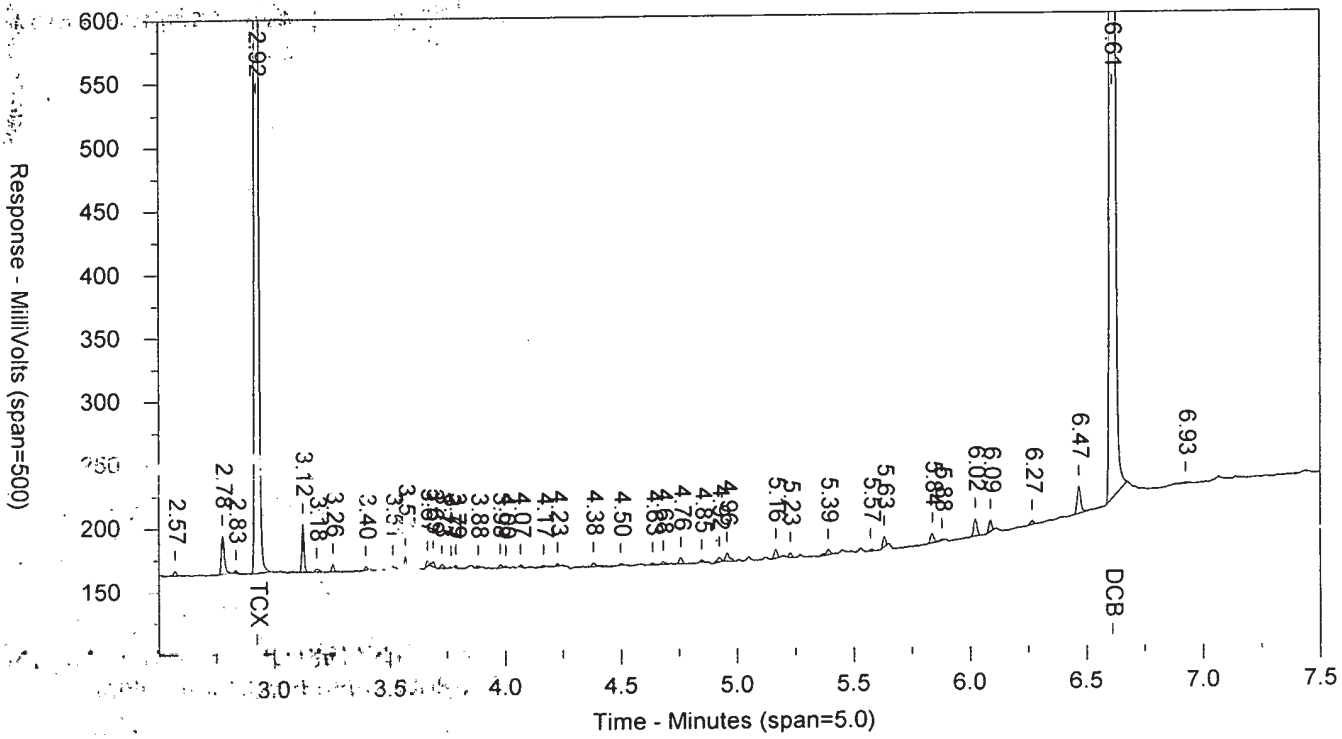


IBLKX1824C KTPIBLKKT PIBLK1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.070.RAW



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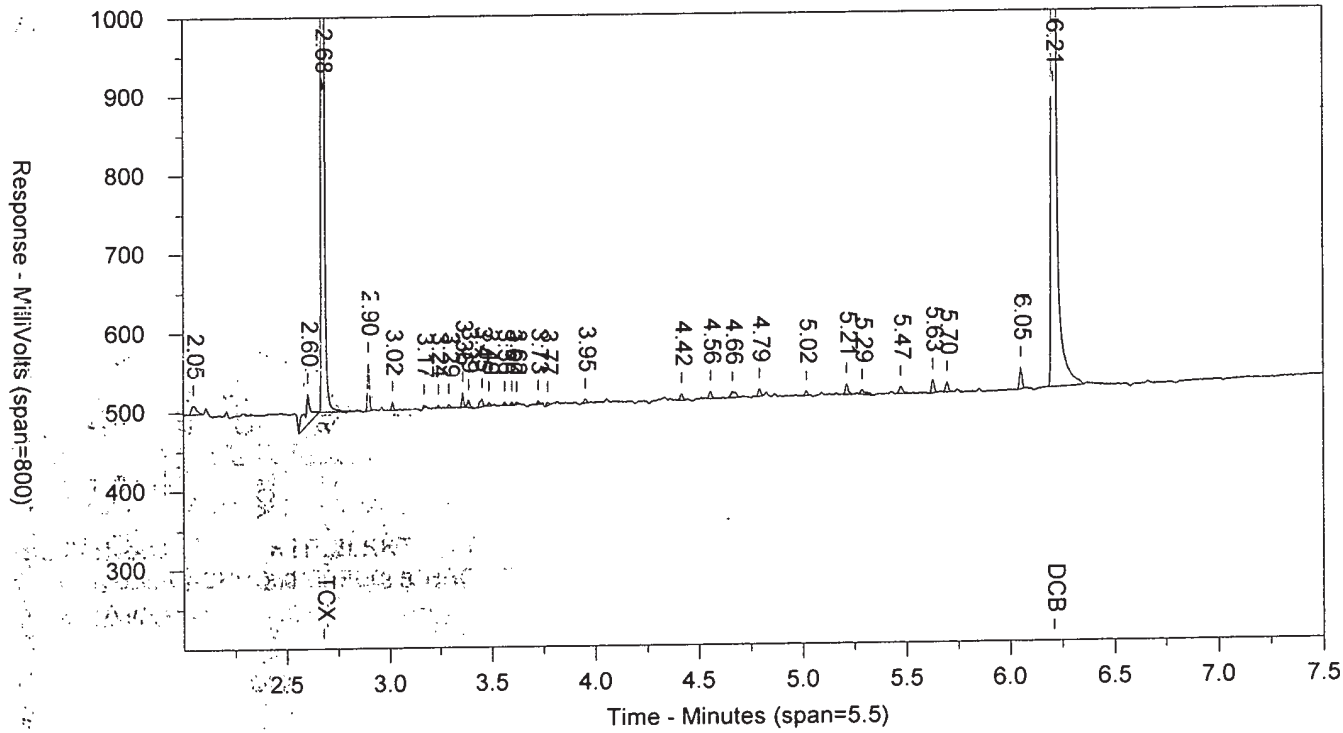
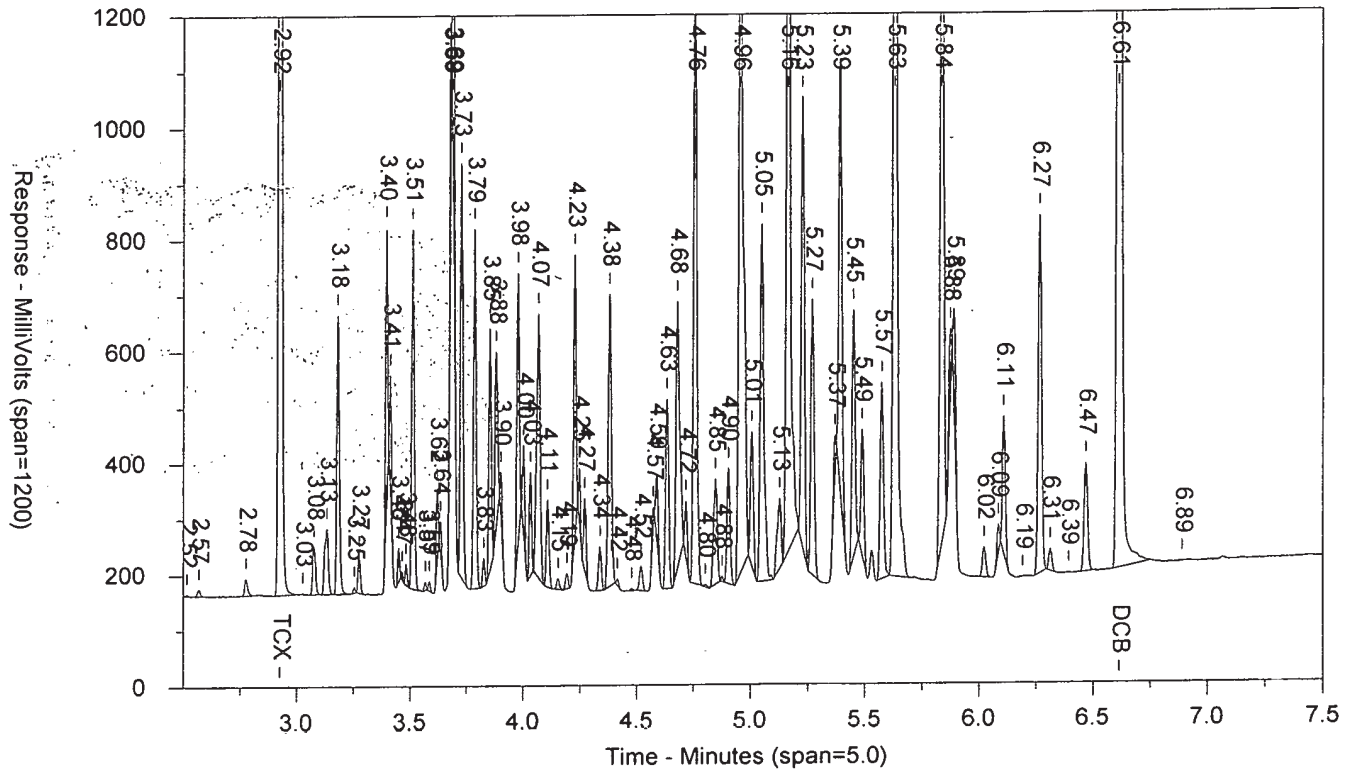


AR1641824D JTAR164JT CCAL 1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.073.RAW



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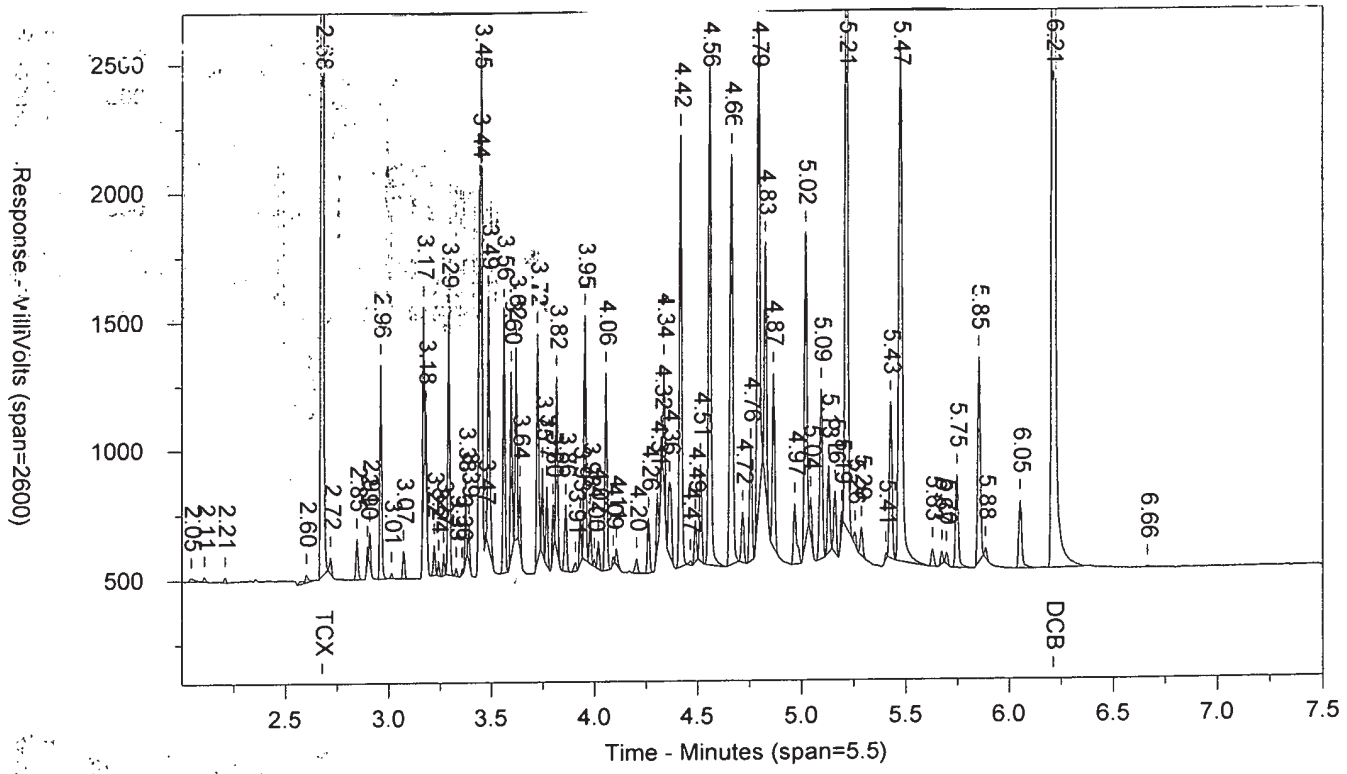


LANCASTER LABORATORIES

Sample Number: AR1641824D JTAR164JT CCAL 1830799999 10227 SW-846 8082
Injected On: 11/5/2018 12:49:17 AM
Sample Weight: 1
Instrument ID: CP25-18274
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

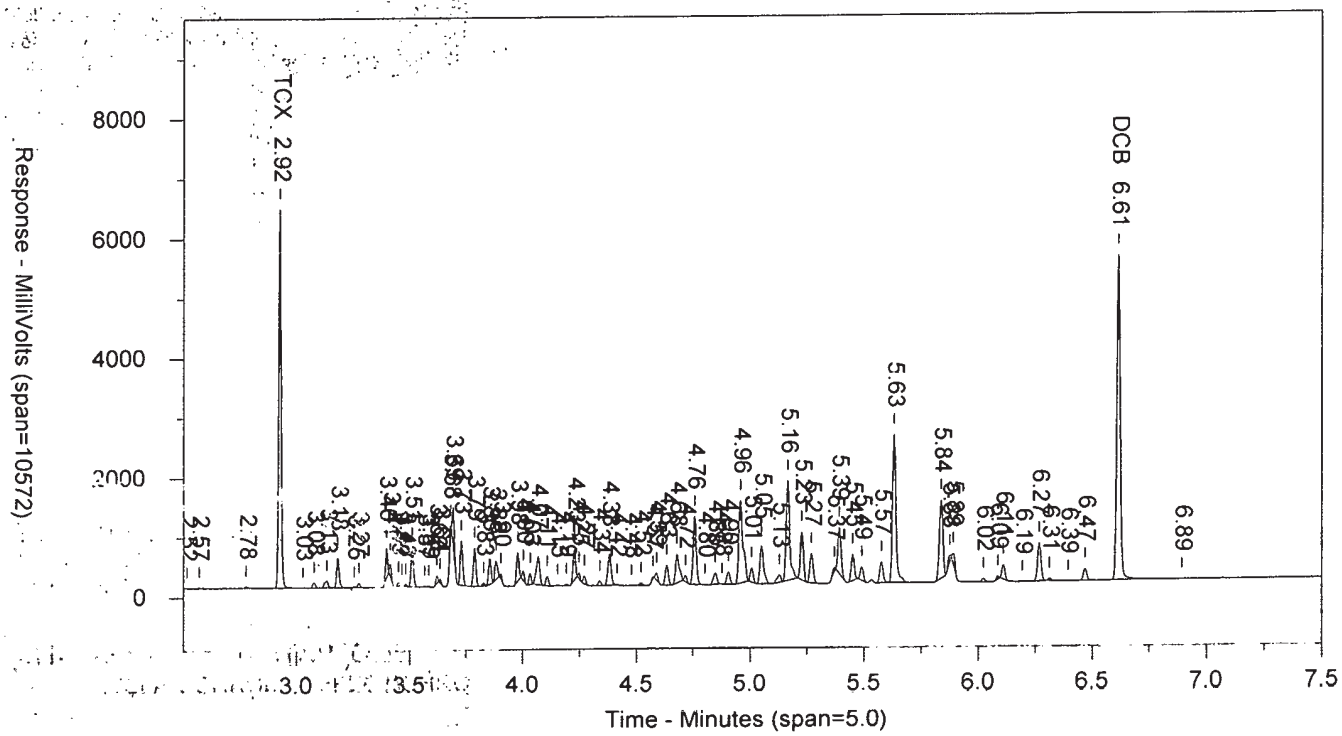
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	6362959	41.015	TCX	2.677	10621010	41.616	TCX
6.613	5439626	42.385	DCB	6.21	7510825	40.001	DCB

Files:
Area File: 25PCBS18303004.073.RAW
Area File: 25PCBS18303004B.073.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB:MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 12:57:48 AM
File Reported On: 11/5/2018 at 12:57:53 AM

AR1641824D JTAR164JT CCAL 1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.073.RAW



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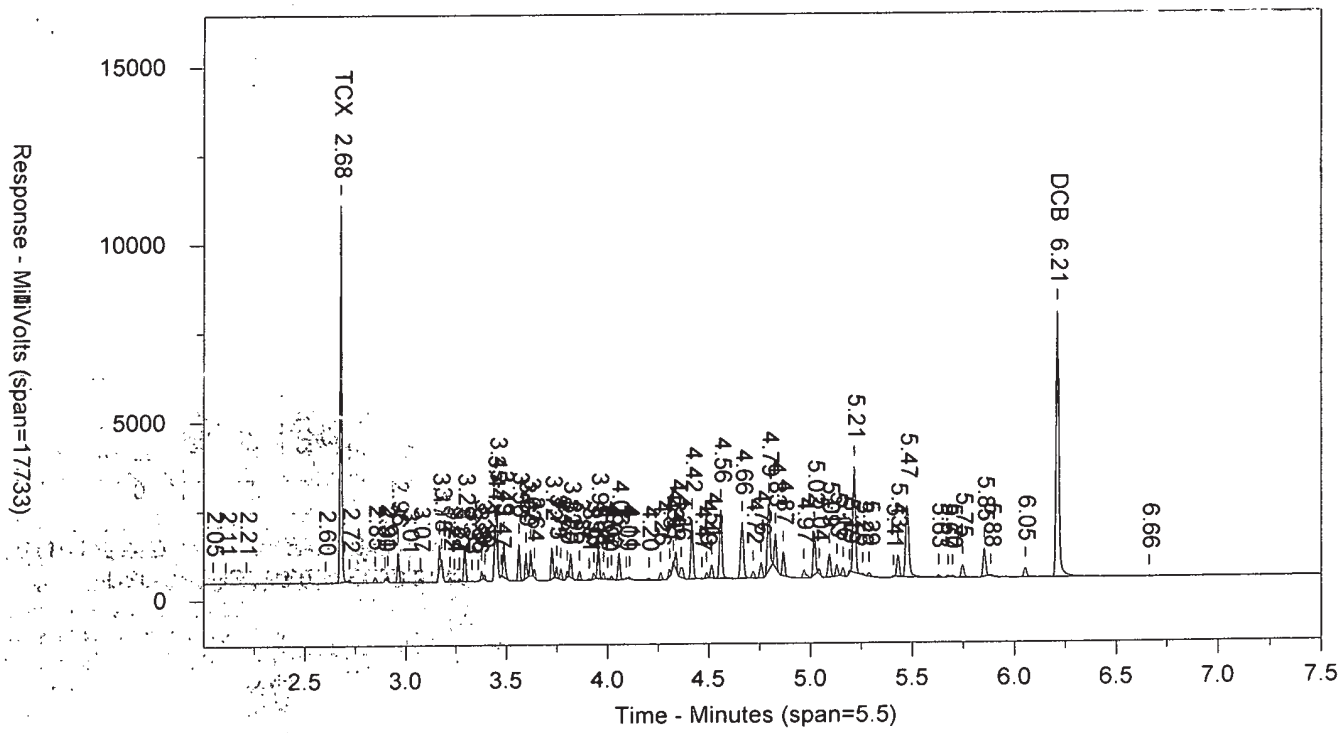

AR1641824D JTAR164JT CCAL 1830799999 10227 SW-846 8082

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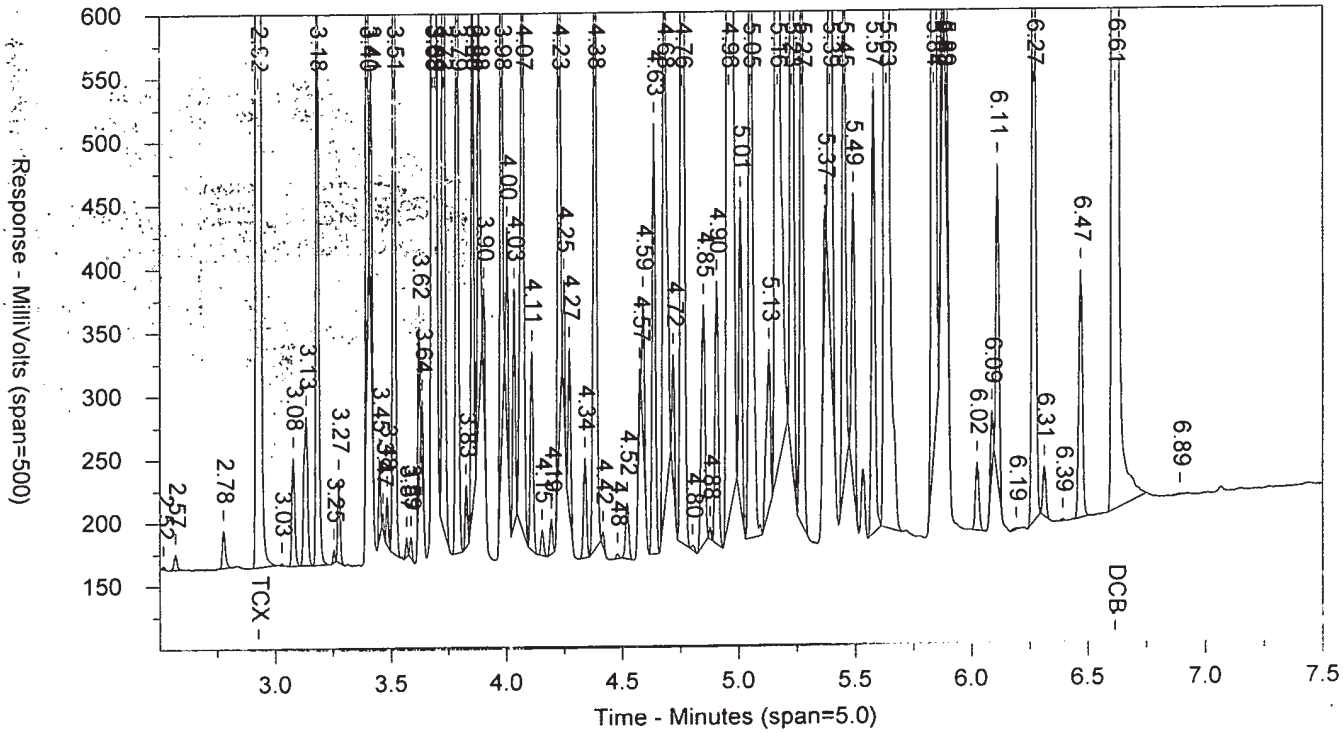

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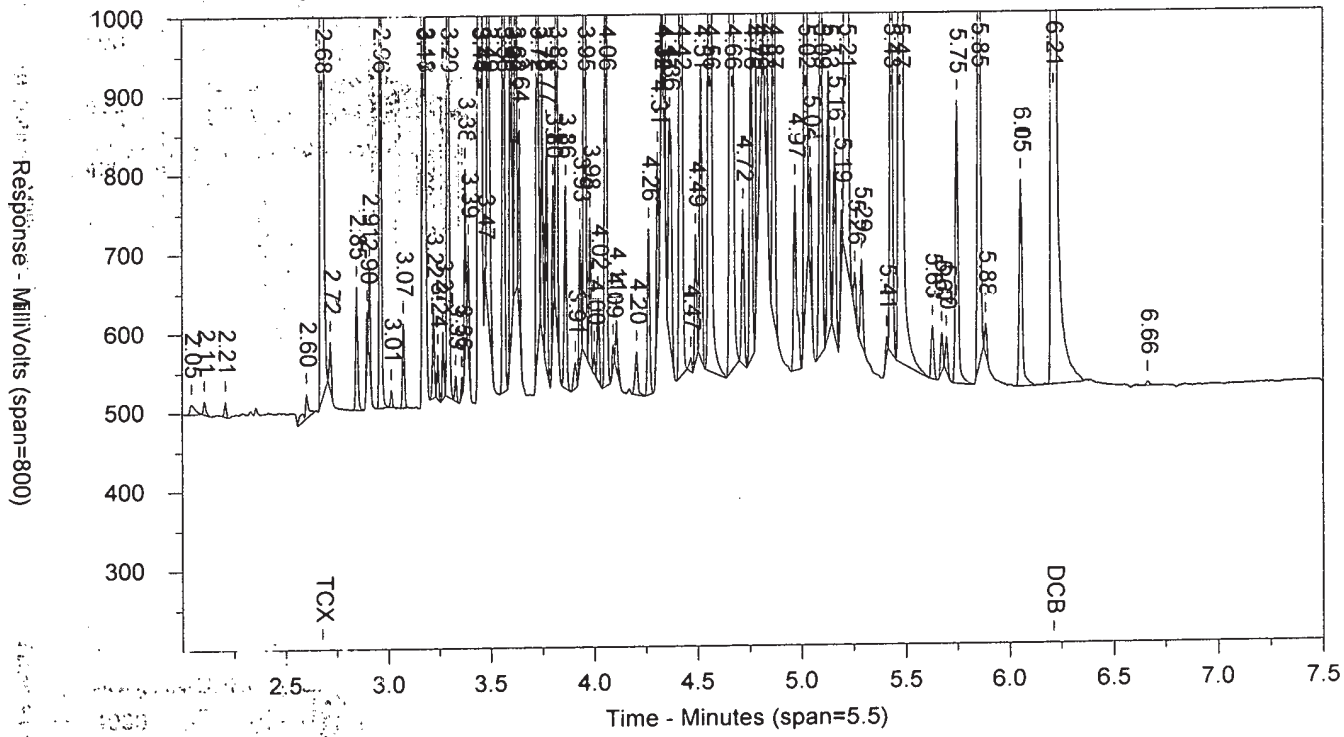

IBLKX1824C KUPIBLKKU PIBLK1830799999 10227 SW-846 8082

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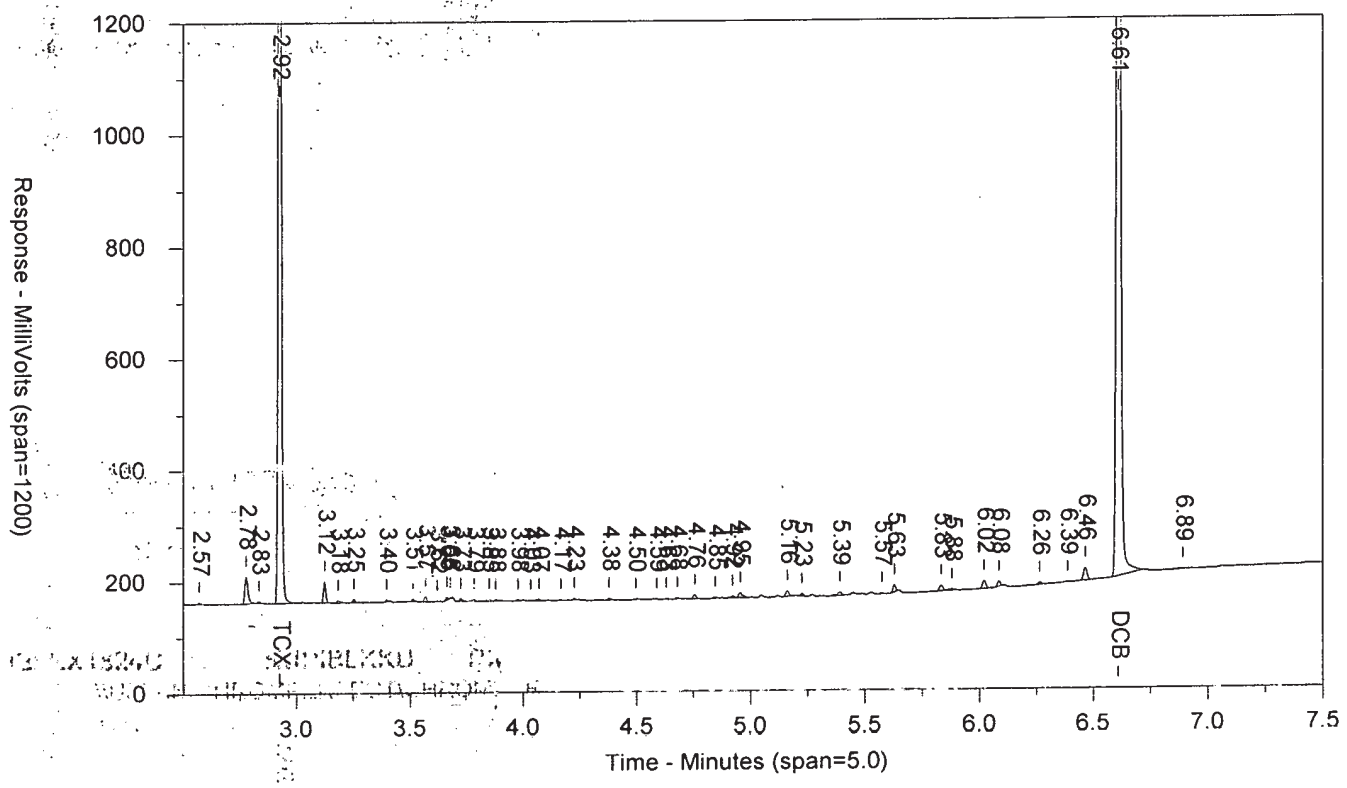

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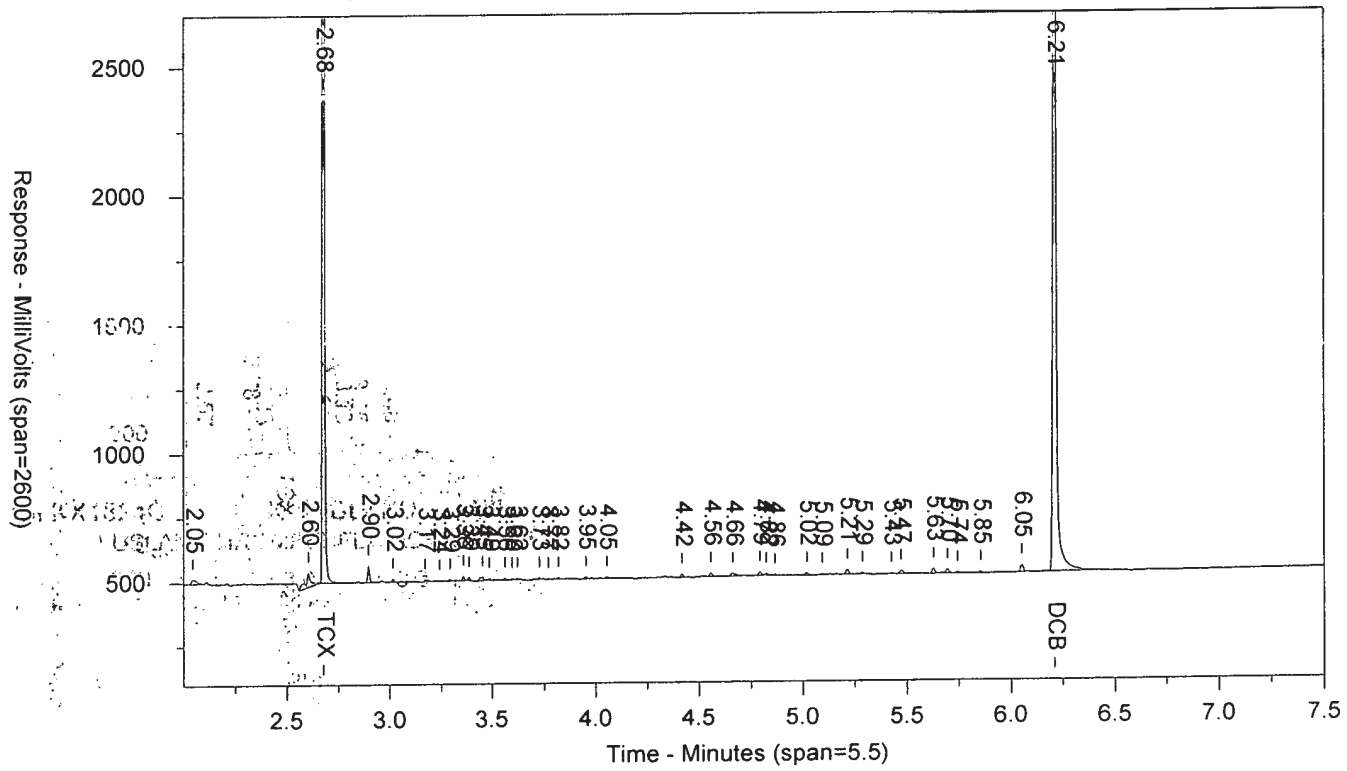


LANCASTER LABORATORIES

Sample Number: IBLKX1824C KUPIBLKKU PIBLK1830799999 10227 SW-846 8082
Injected On: 11/5/2018 1:00:10 AM Sample Weight: 1000
Instrument ID: CP25-18274 Dilution Factor: 10
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

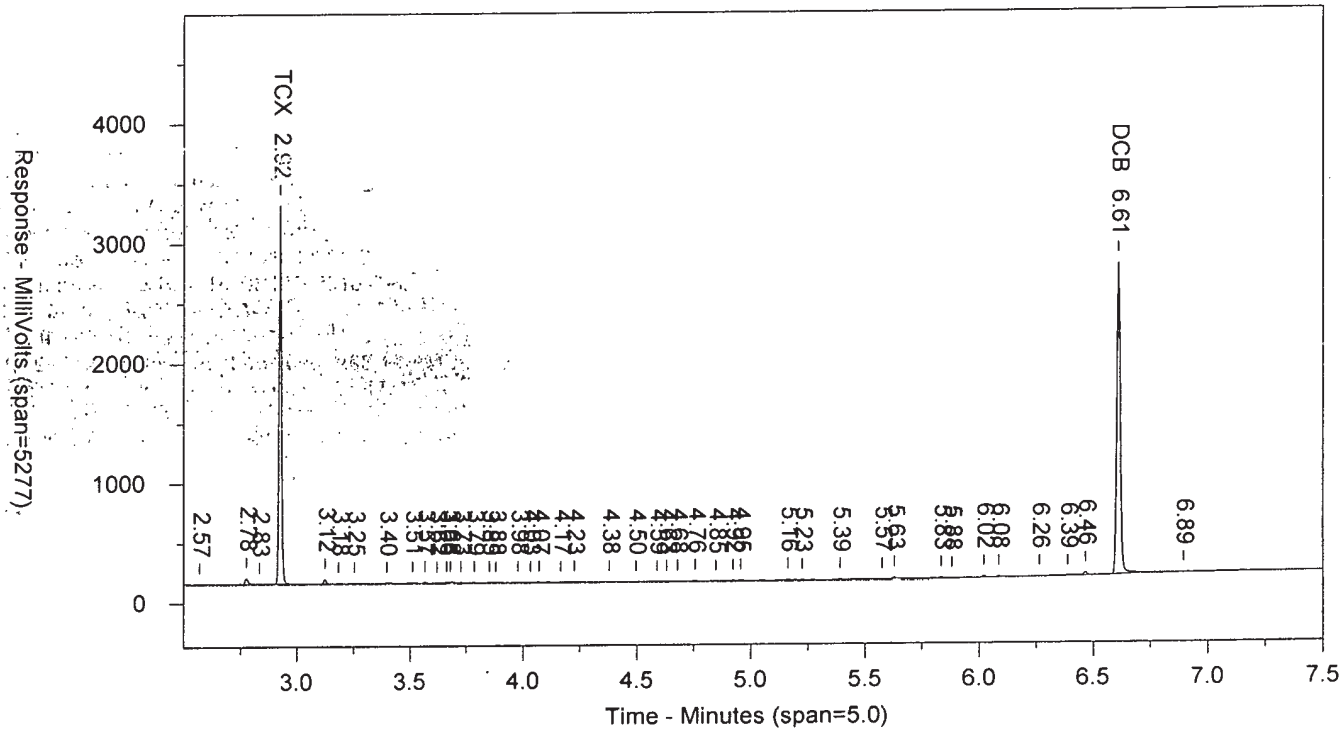
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	3171962	.204	TCX	2.678	5150420	.202	TCX
6.608	2603073	.203	DCB	6.209	3697822	.197	DCB

Files.
Area File: 25PCBS18303004.074.RAW
Area File: 25PCBS18303004B.074.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 1:08:41 AM
File Reported On: 11/5/2018 at 1:08:47 AM

IBLKX1824C KUPIBLKKU PIBLK1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.074.RAW



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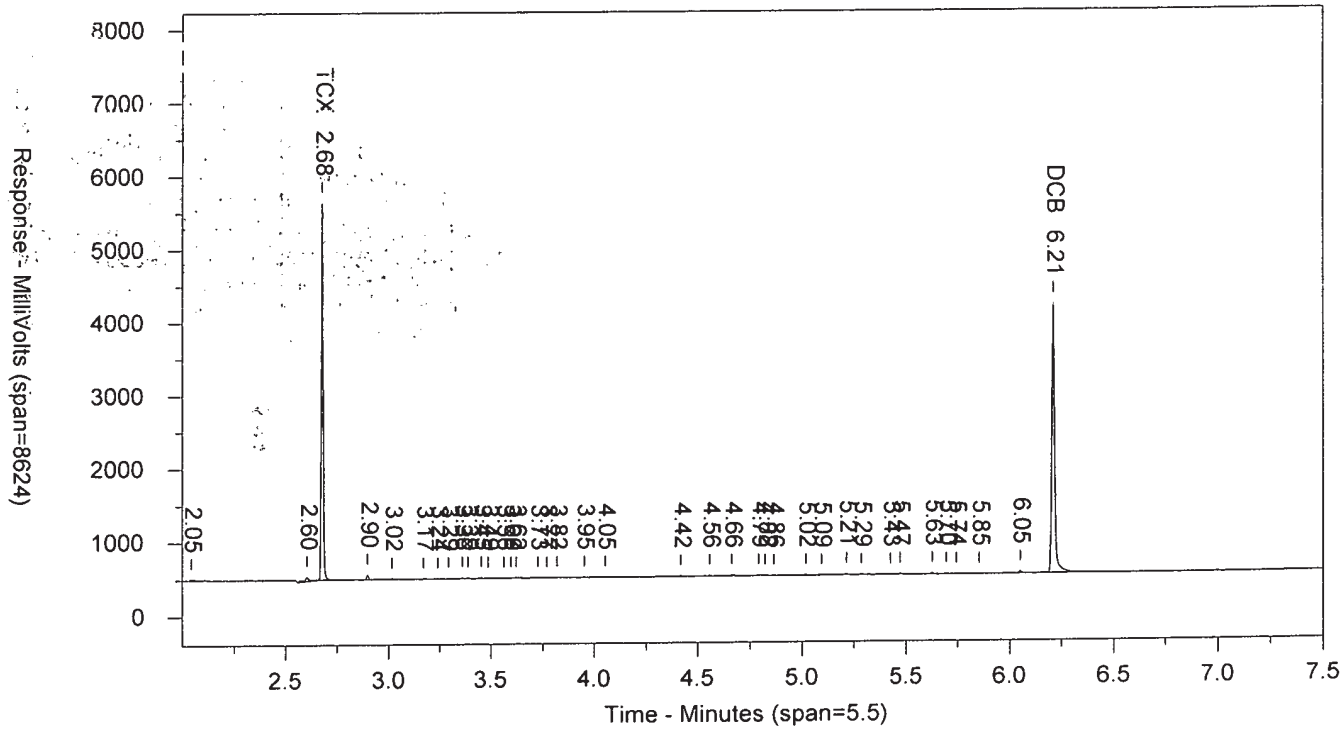

IBLKX1824C KUPIBLKKU PIBLK1830799999 10227 SW-846 8082

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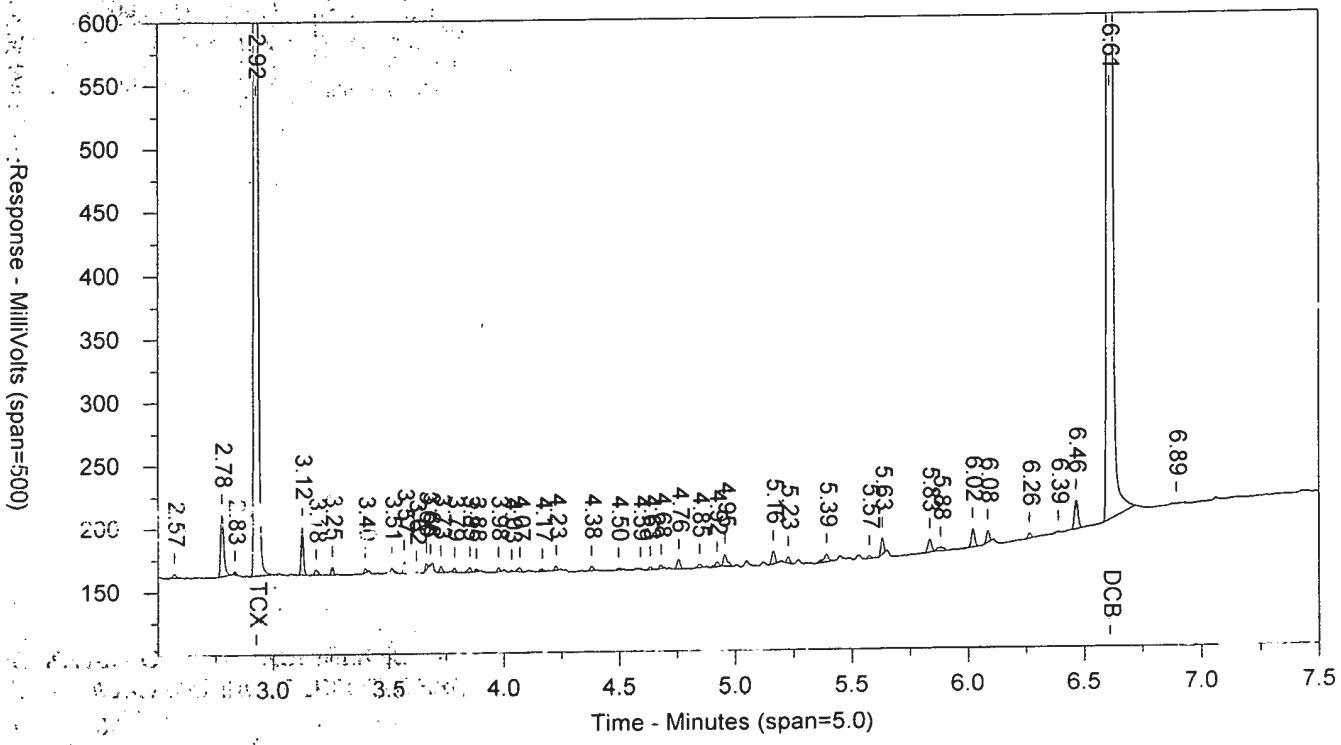

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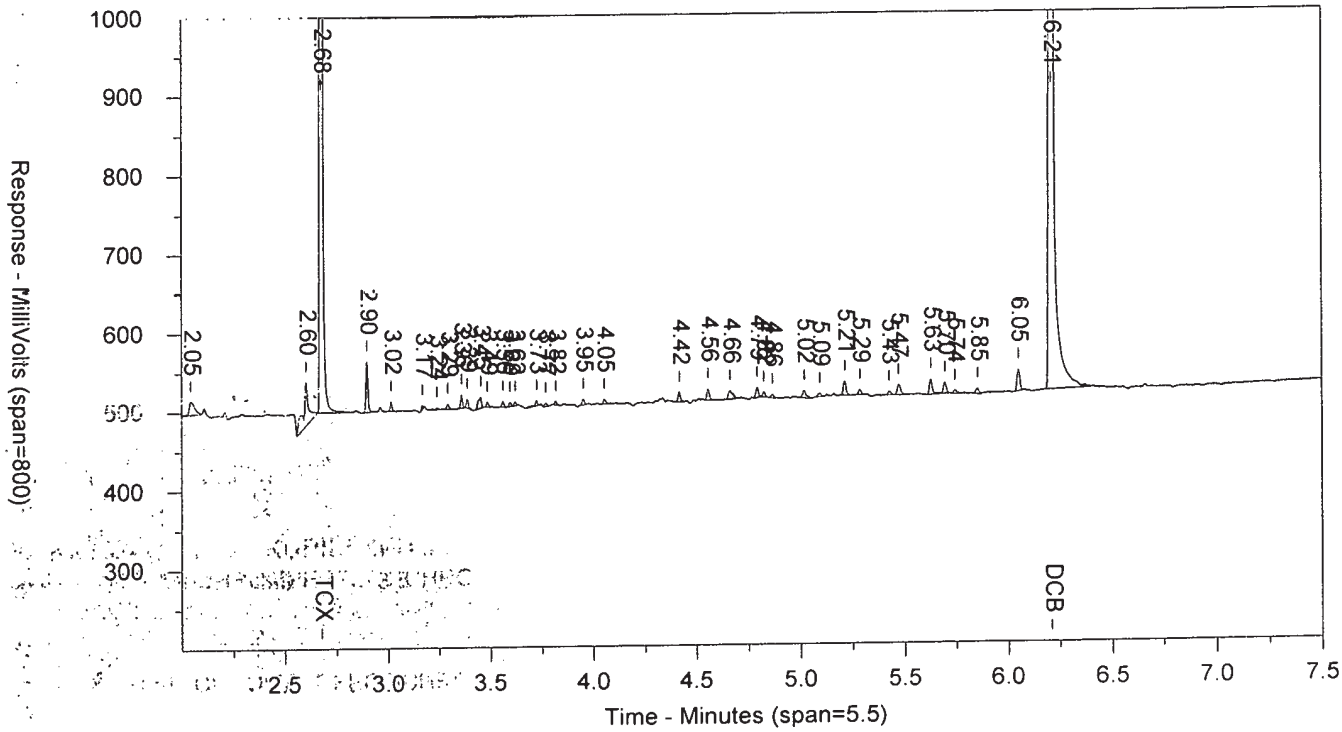
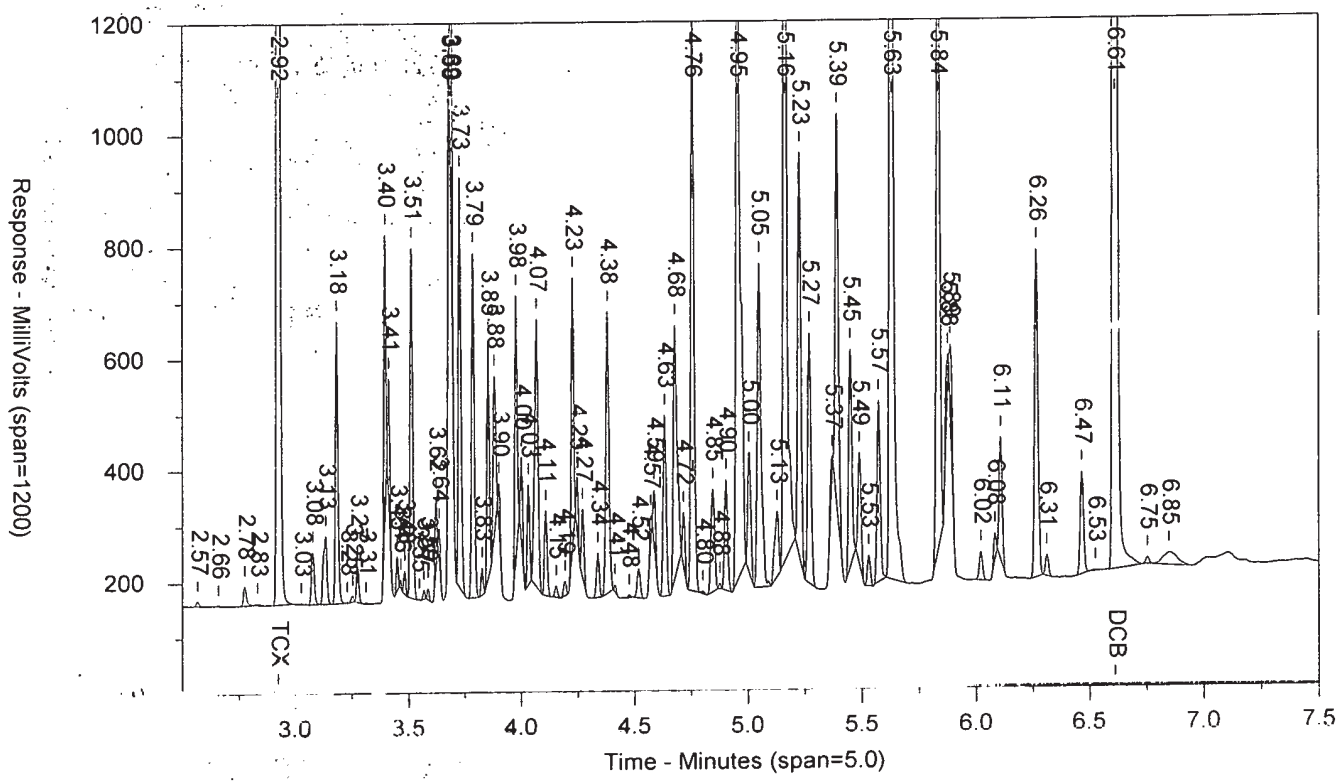


AR1641824D JUAR164JU CCAL 1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.085.RAW



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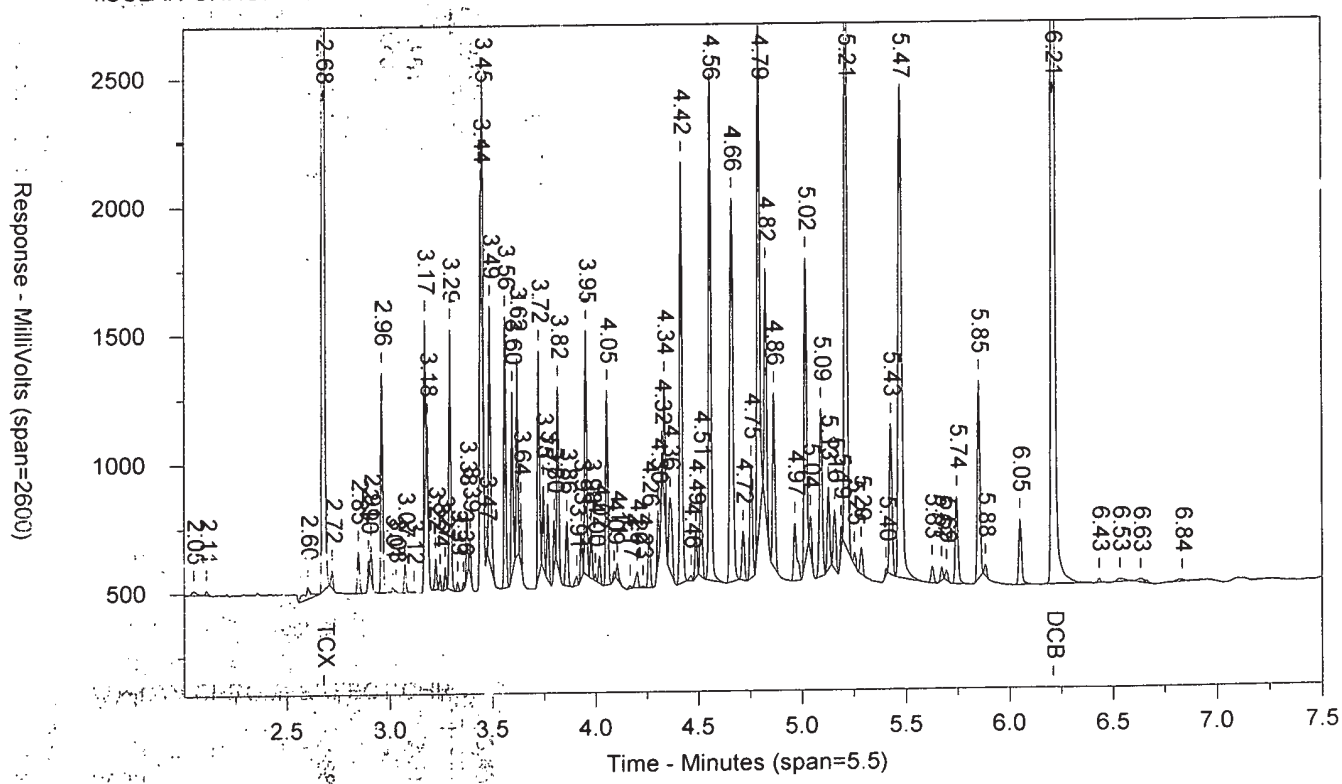


LANCASTER LABORATORIES

Sample Number: AR1641824D JUAR164JU CCAL 1830799999 10227 SW-846 8082
Injected On: 11/5/2018 3:00:12 AM
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Sample Weight: 1
Dilution Factor: 1

Threshold: 7
Calibration Type: external
Quantitation: Height

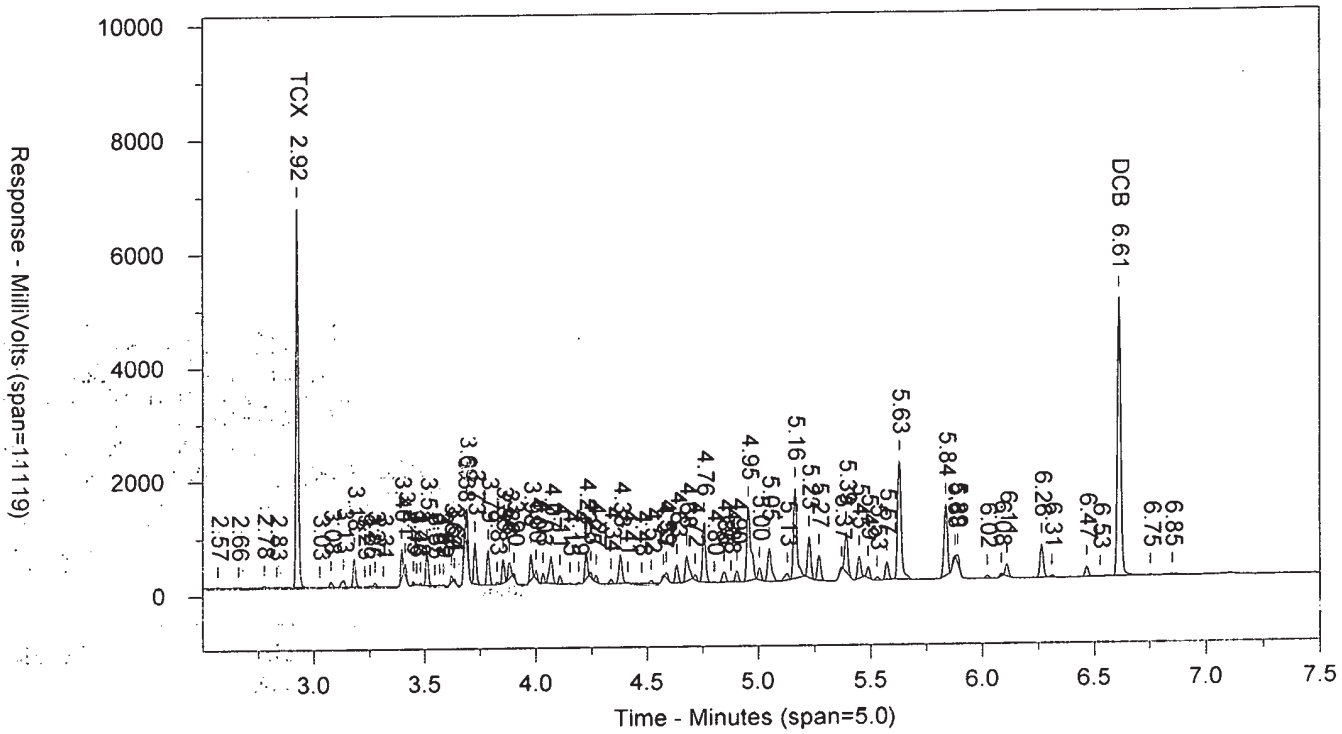
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	6680783	43.064	TCX	2.677	10687060	41.875	TCX
6.611	4918336	38.323	DCB	6.21	7049340	37.543	DCB

Files:
Area File: 25PCBS18303004.085.RAW
Area File: 25PCBS18303004B.085.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 3:08:43 AM
File Reported On: 11/5/2018 at 3:08:48 AM

AR1641824D JUAR164JU CCAL 1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.085.RAW



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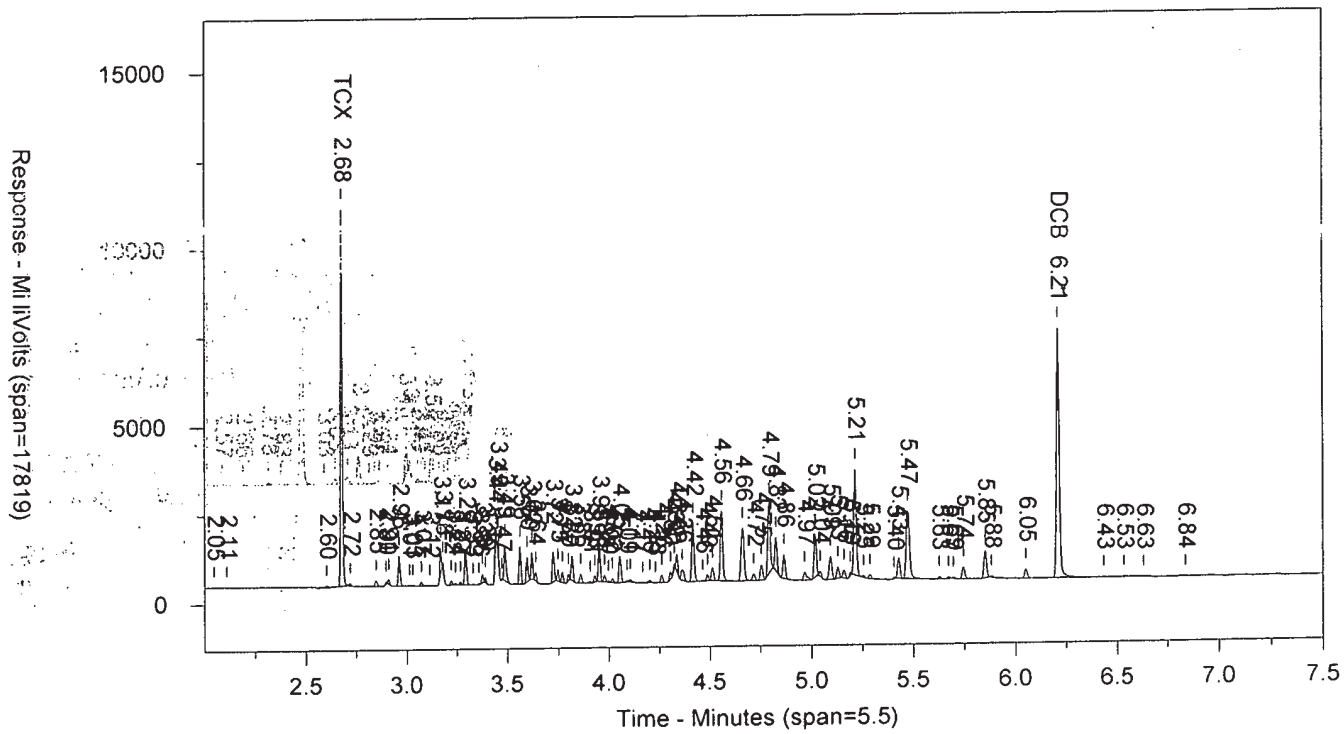
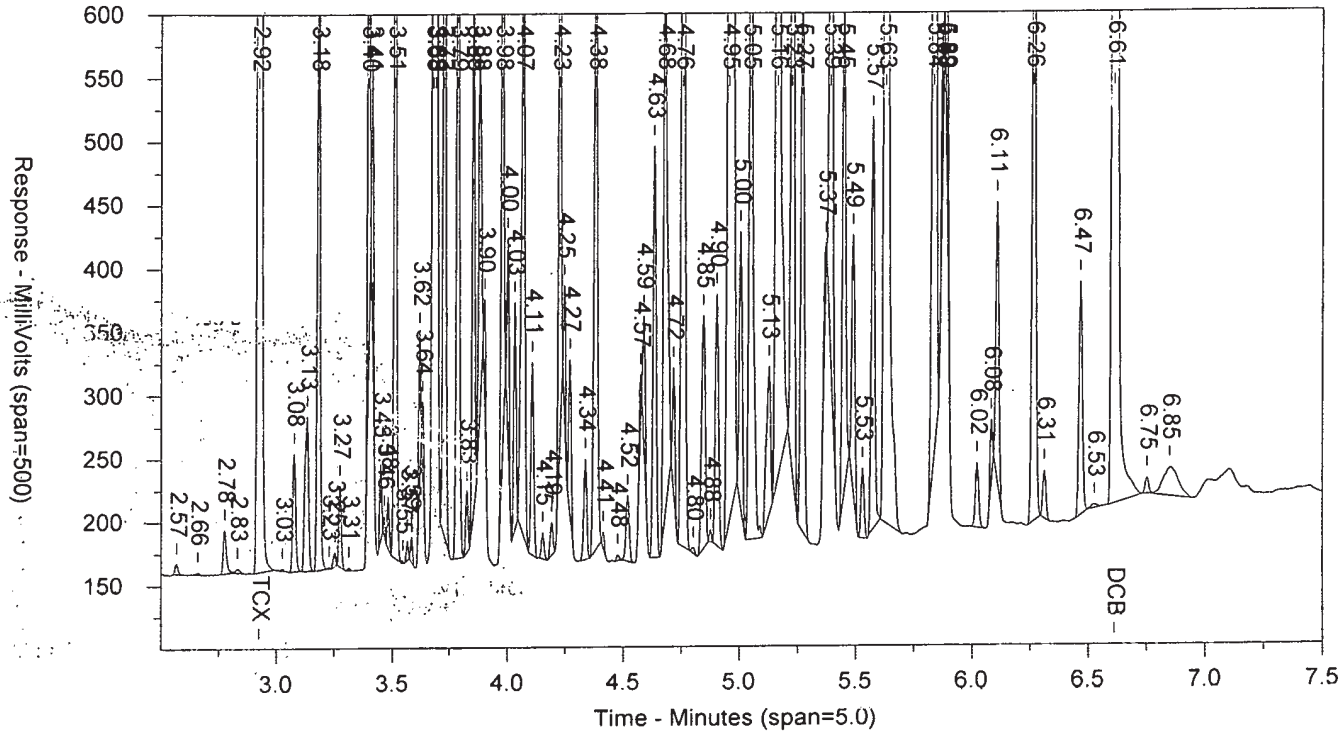


AR1641824D JUAR164JU CCAL 1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.085.RAW



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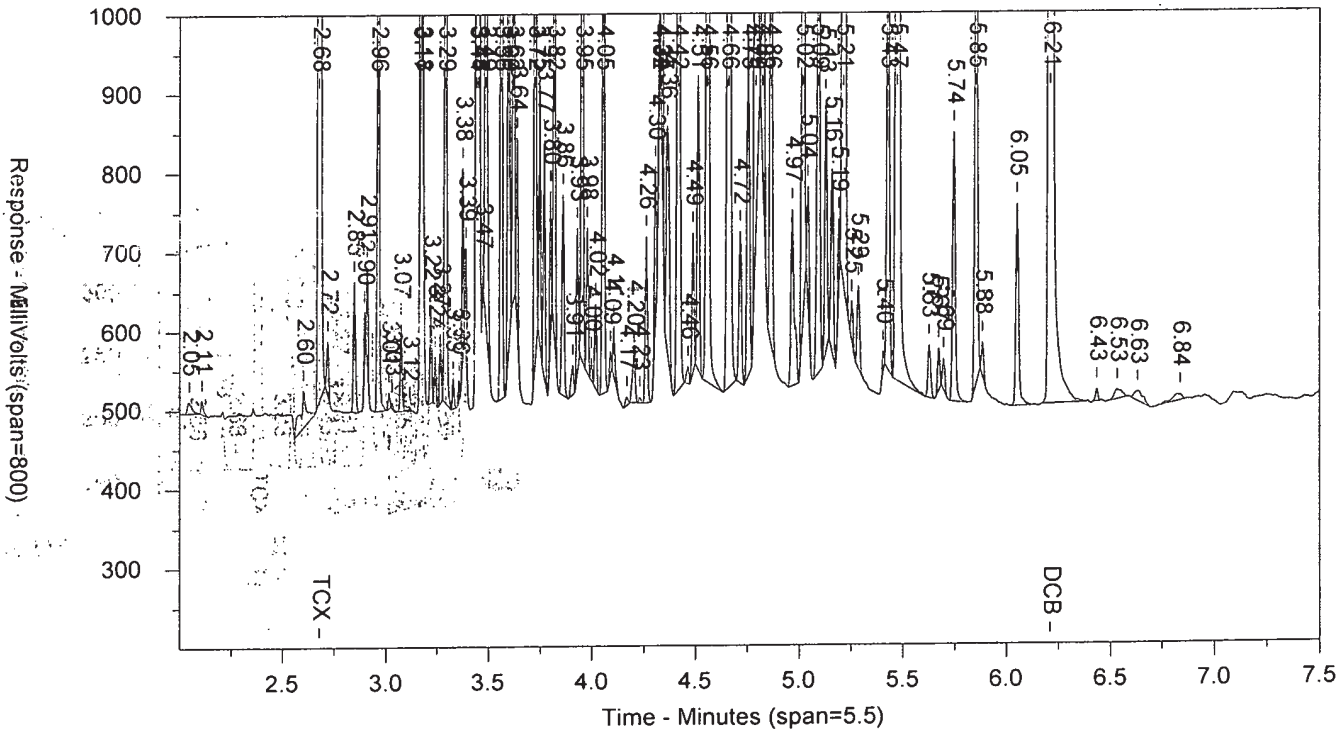
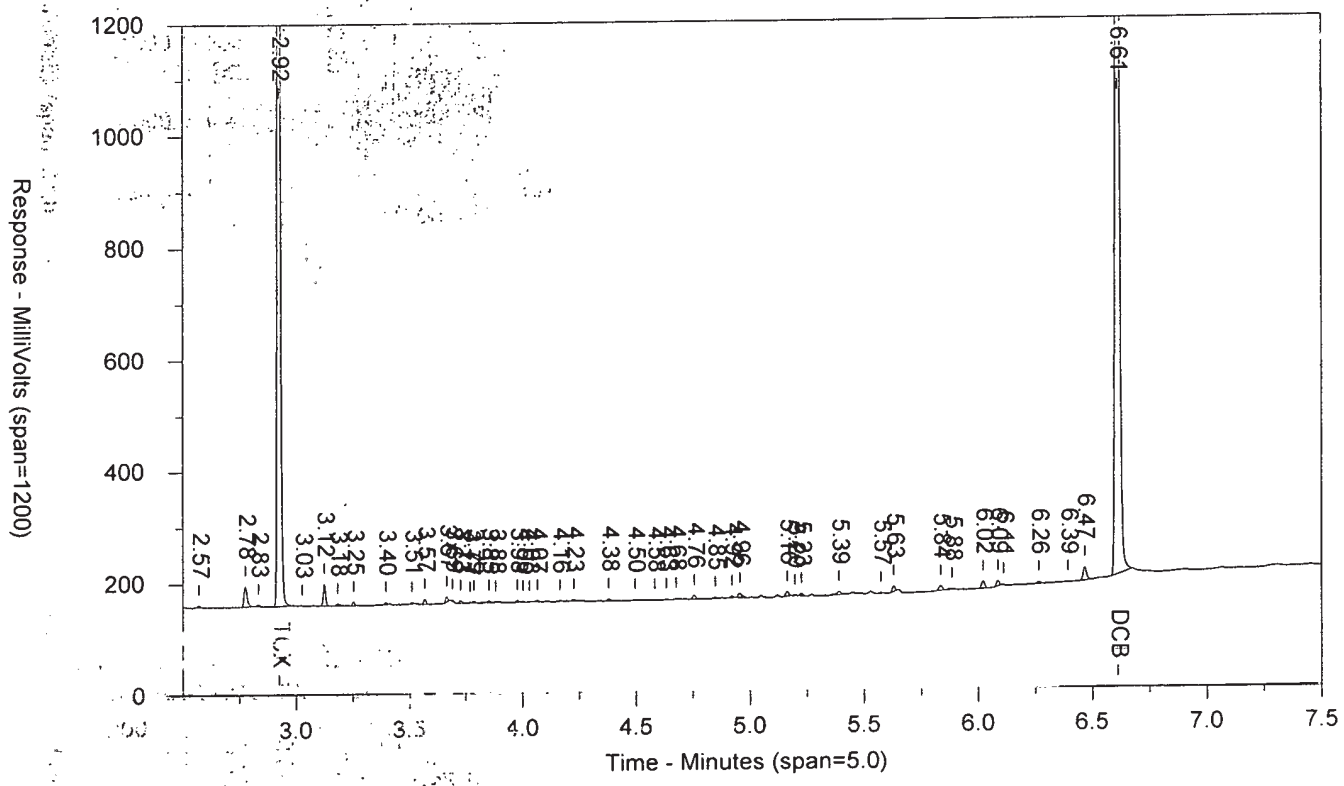


IBLKX1824C KVPIBLKKV PIBLK1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.086.RAW



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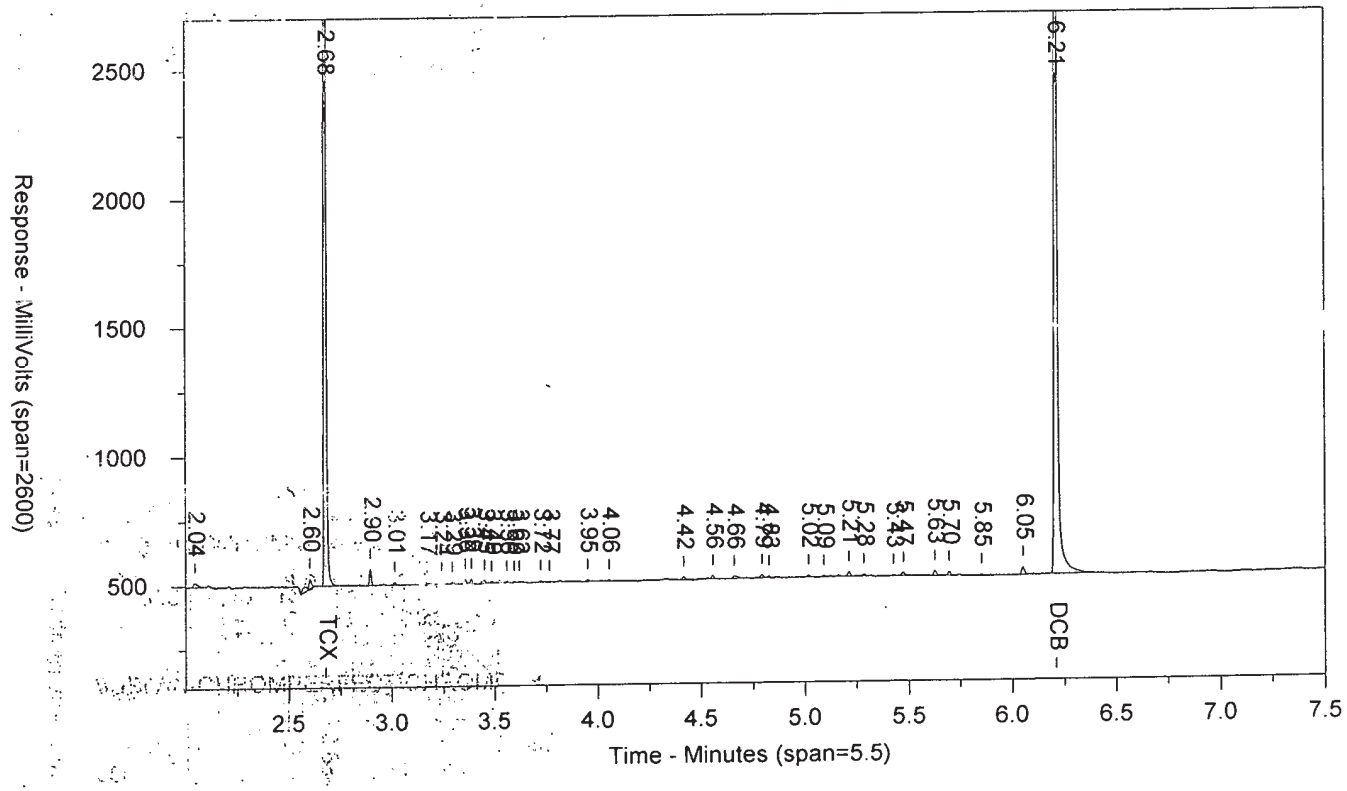

LANCASTER LABORATORIES

Sample Number: IBLKX1824C KVPIBLKKV PIBLK1830799999 10227 SW-846 8082
Injected On: 11/5/2018 3:11:07 AM
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Sample Weight: 1000
Dilution Factor: 10

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	3227524	.208	TCX	2.678	5131290	.201	TCX
6.61	2494235	.194	DCB	6.21	3569904	.19	DCB

Files:
Area File: 25PCBS18303004.086.RAW
Area File: 25PCBS18303004B.086.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 3:19:37 AM
File Reported On: 11/5/2018 at 3:19:44 AM

IBLKX1824C KVPIBLKKV PIBLK1830799999 10227 SW-846 8082

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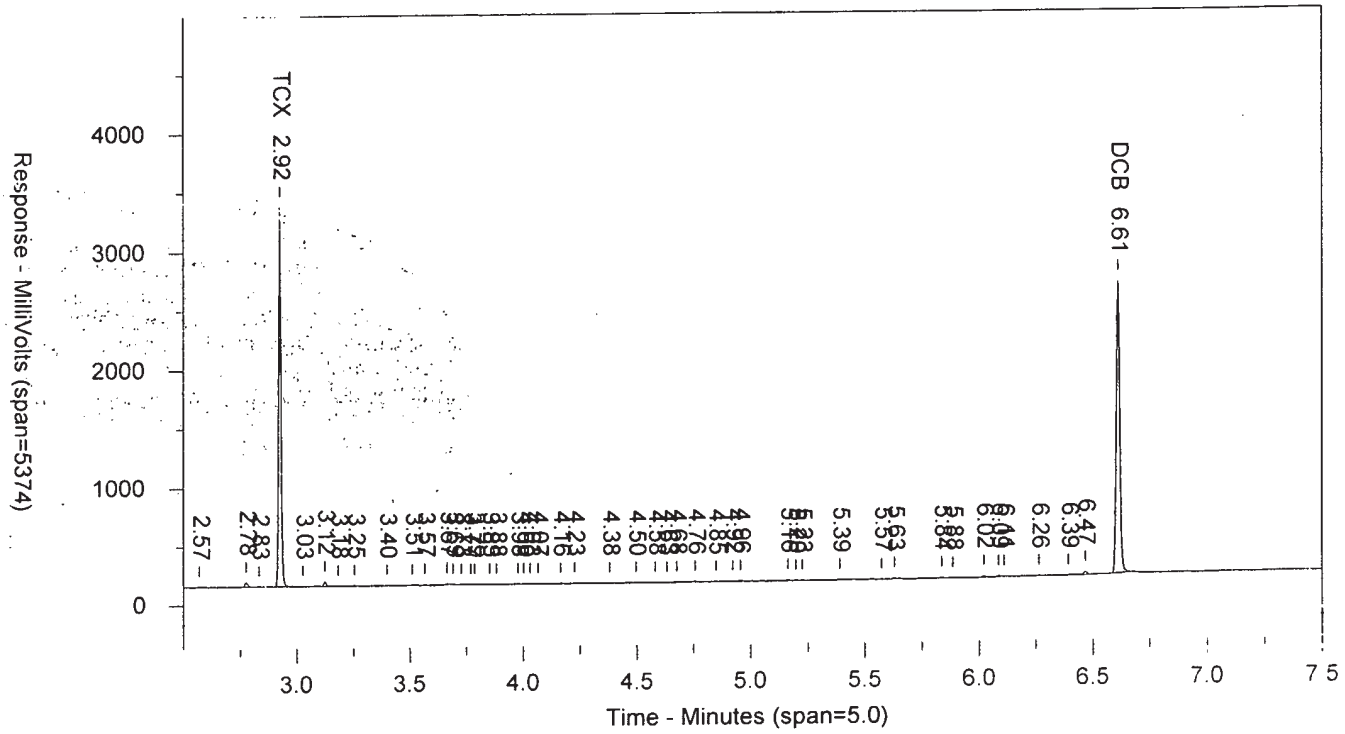
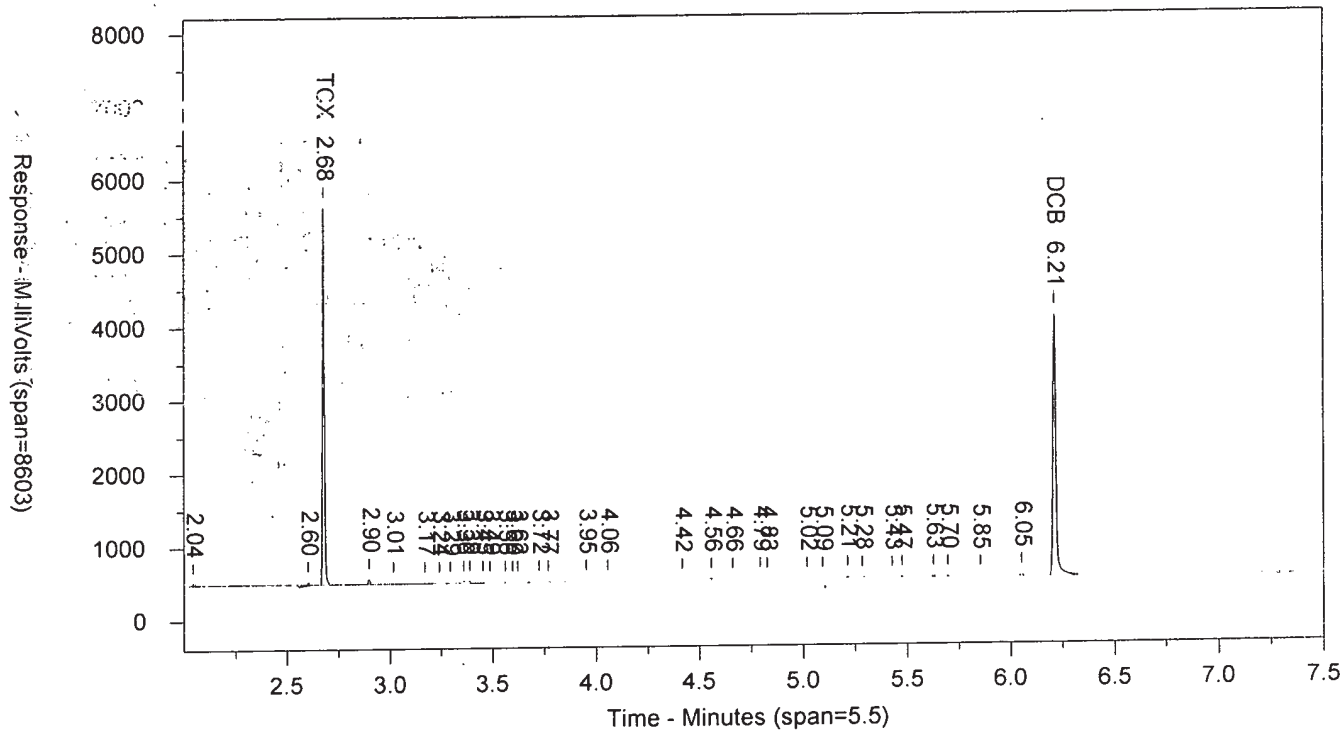


\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004B.086.RAW



IBLKX1824C KVPIBLKKV PIBLK1830799999 10227 SW-846 8082

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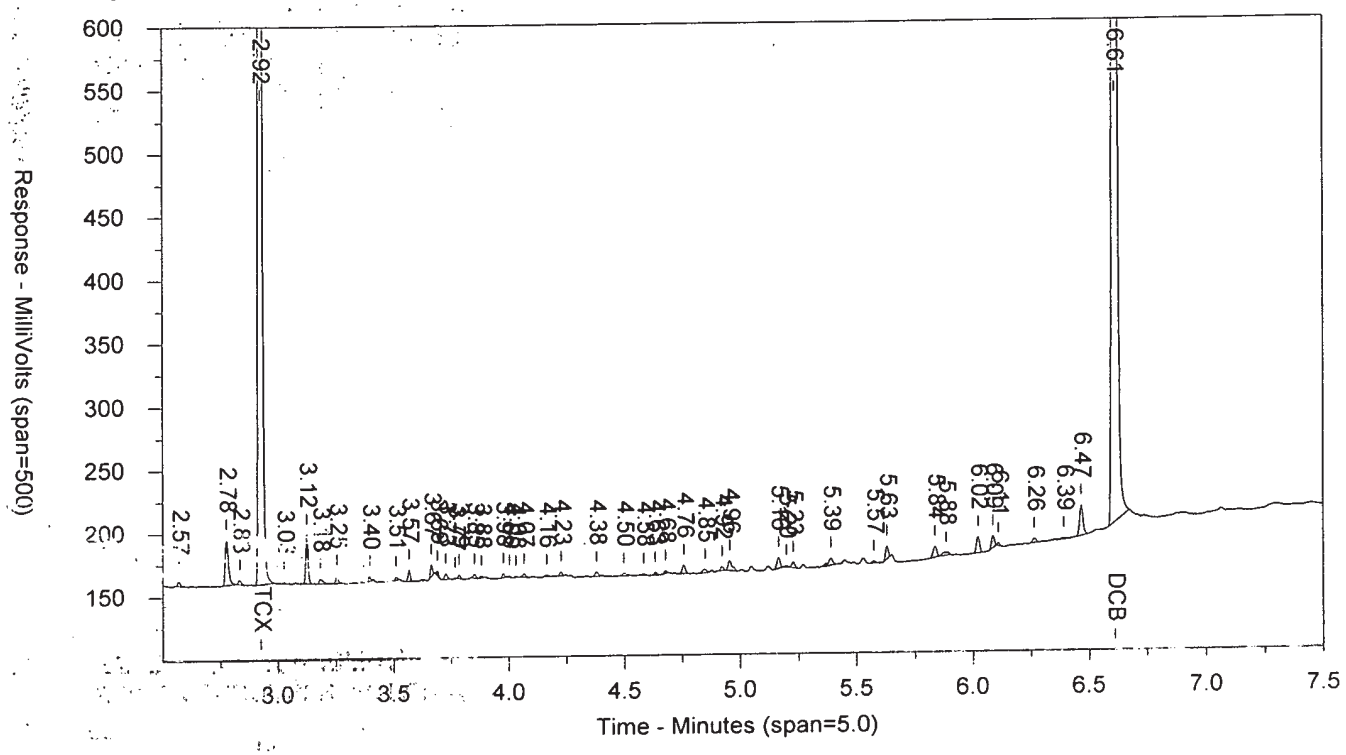

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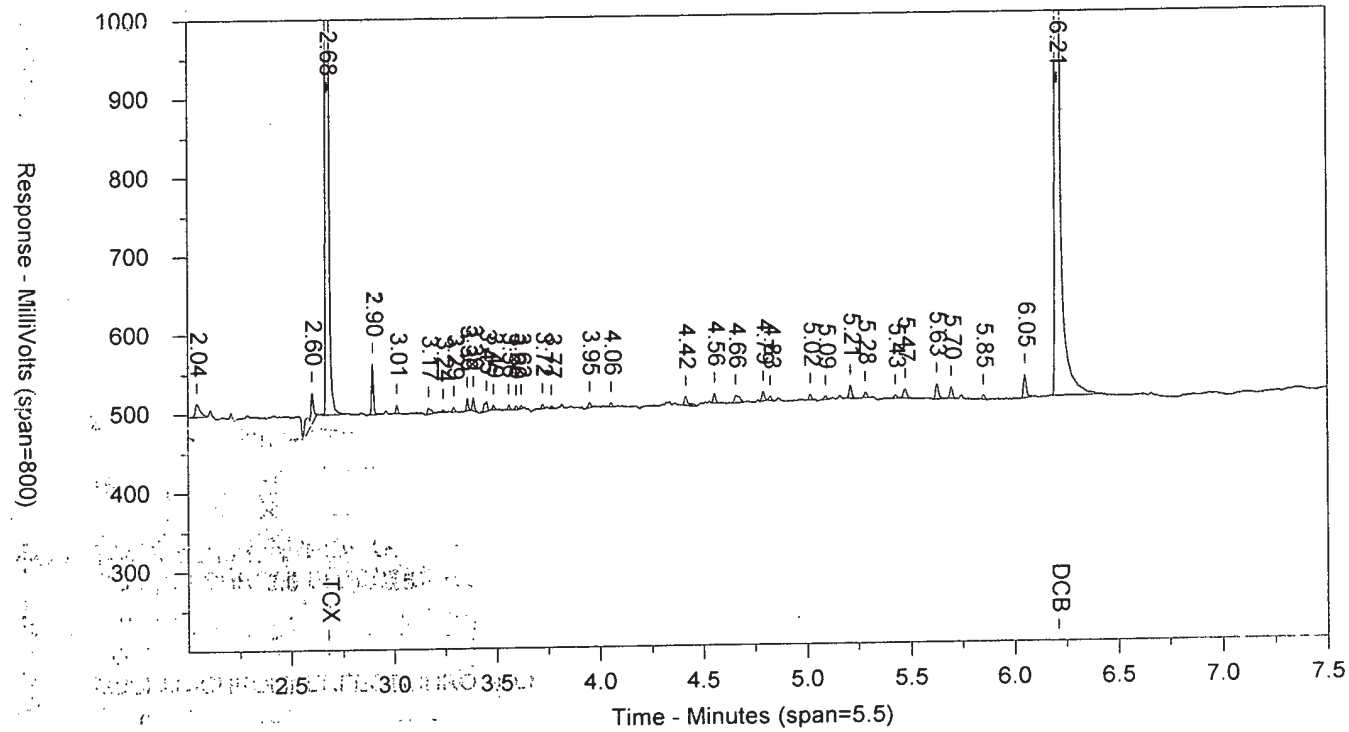

AR1641824D JVAR164JV CCAL 1830799999 10227 SW-846 8082

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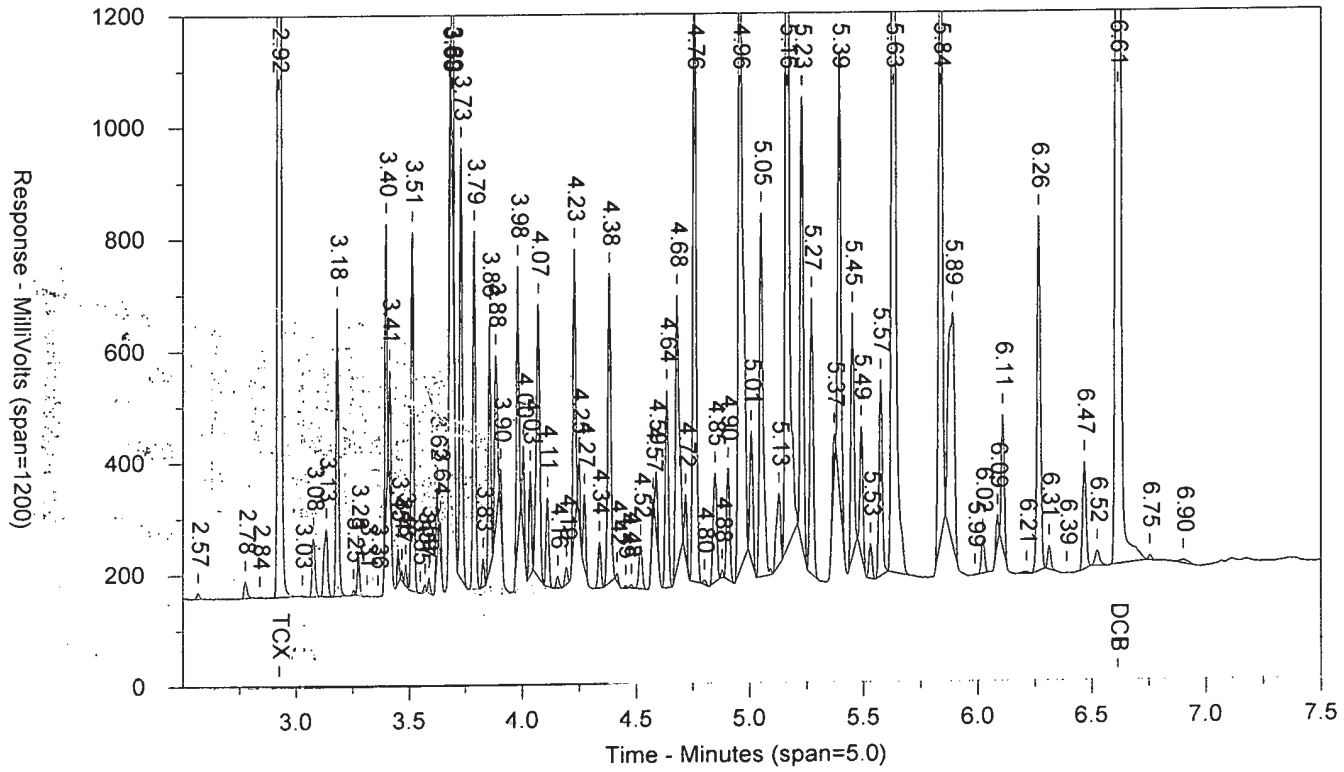

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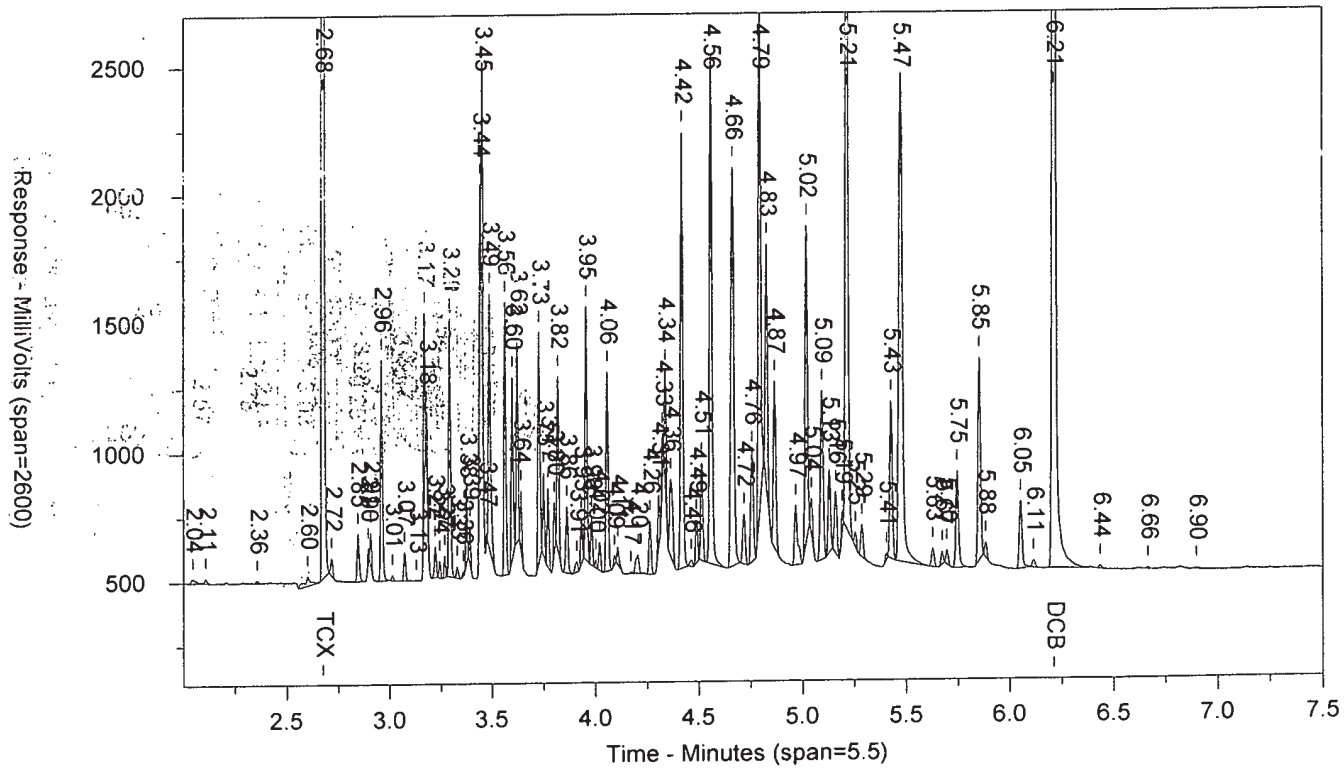

LANCASTER LABORATORIES

Sample Number: AR1641824D JVAR164JV CCAL 1830799999 10227 SW-846 8082
Injected On: 11/5/2018 5:11:02 AM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	6425492	41.418	TCX	2.677	10447870	40.937	TCX
6.612	5177108	40.339	DCB	6.211	7715555	41.091	DCB

Files:
Area File: 25PCBS18303004.097.RAW
Area File: 25PCBS18303004B.097.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 5:19:33 AM
File Reported On: 11/5/2018 at 5:19:40 AM

AR164824D JVAR164JV CCAL 1830799999 10227 SW-846 8082

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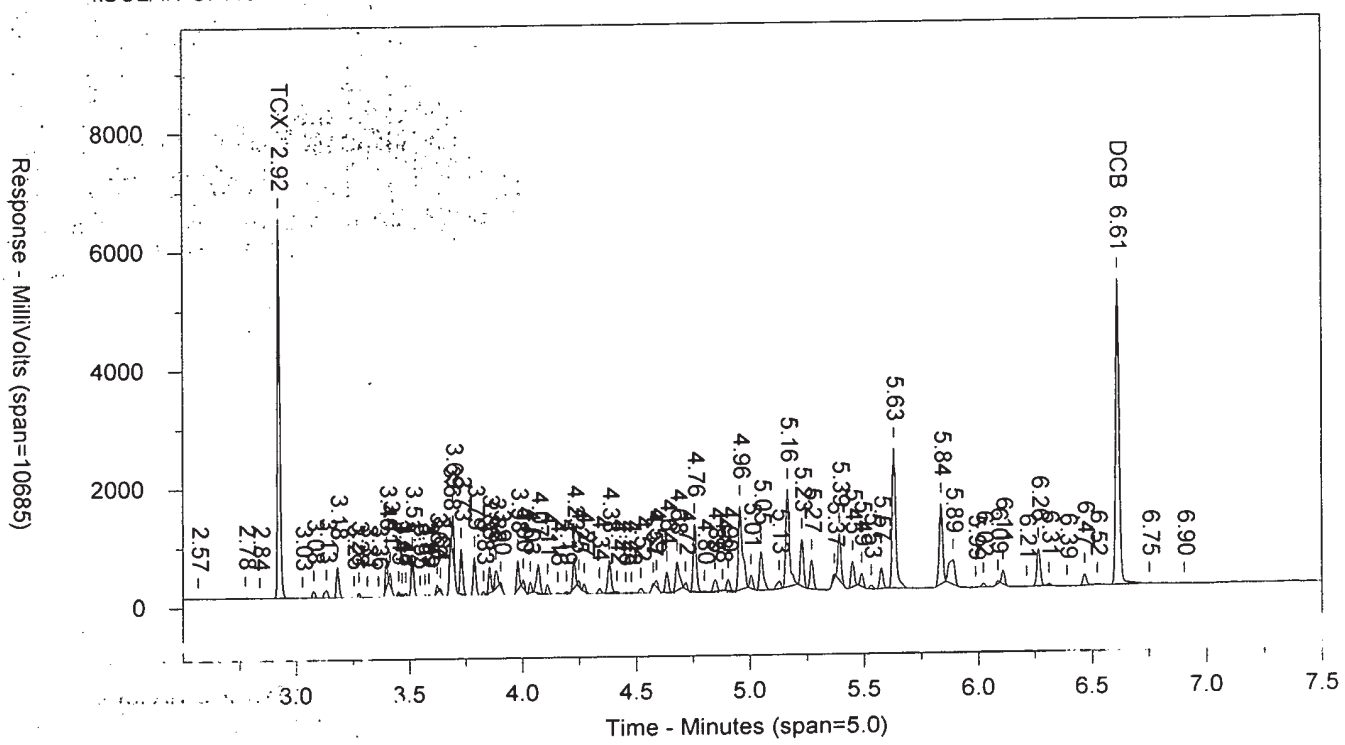

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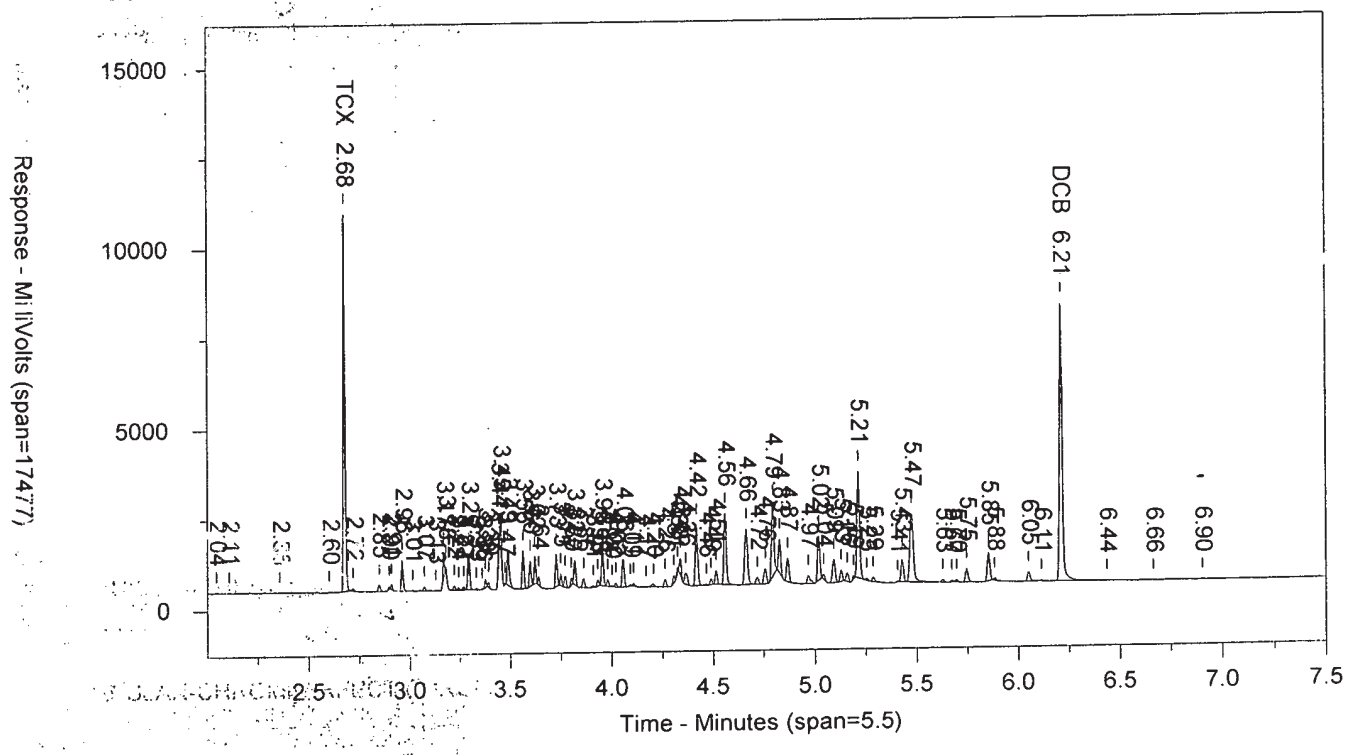
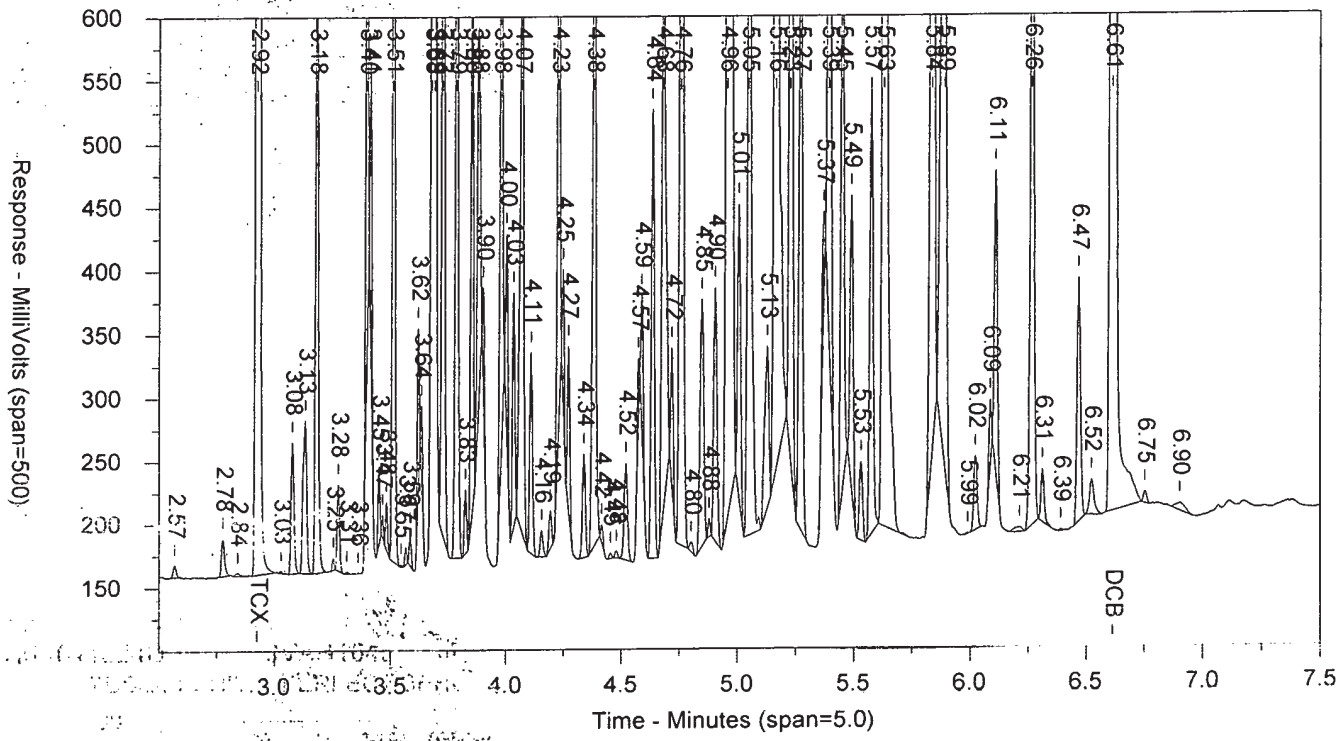


AR1641824D JVAR164JV CCAL 1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.097.RAW



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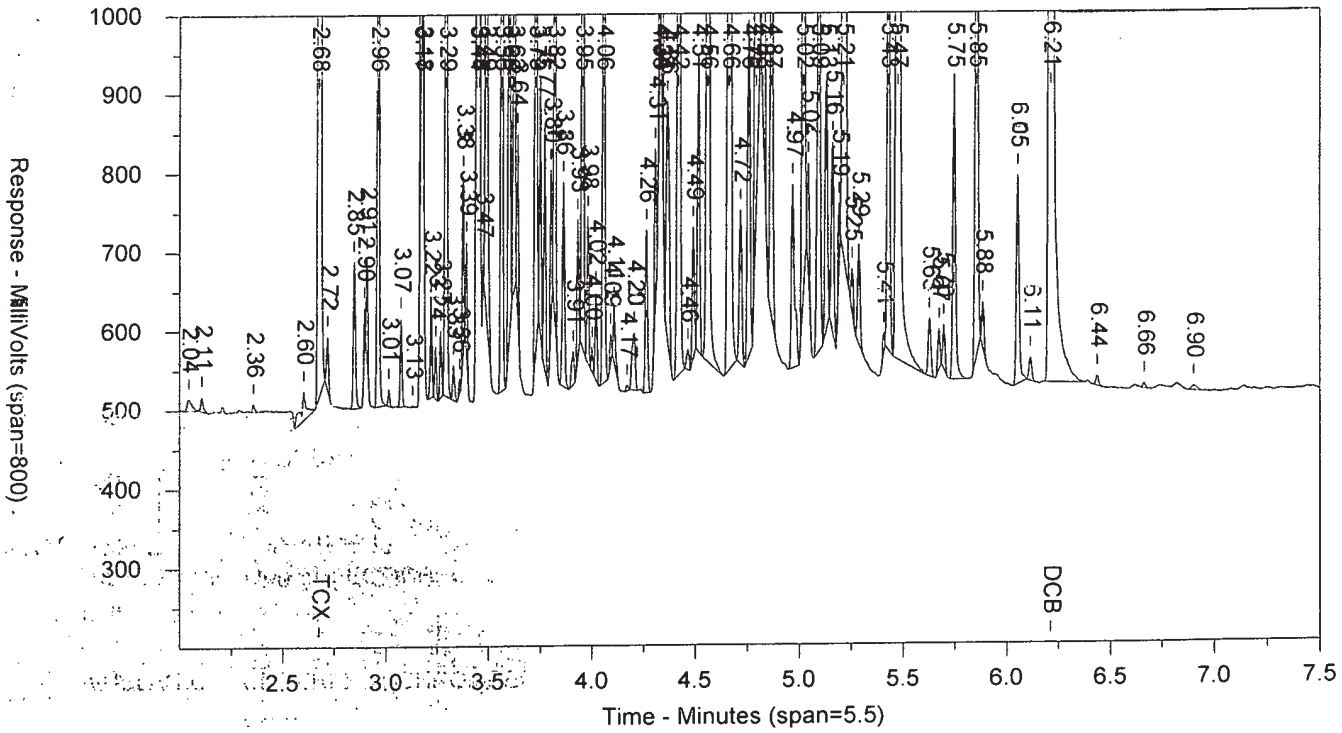
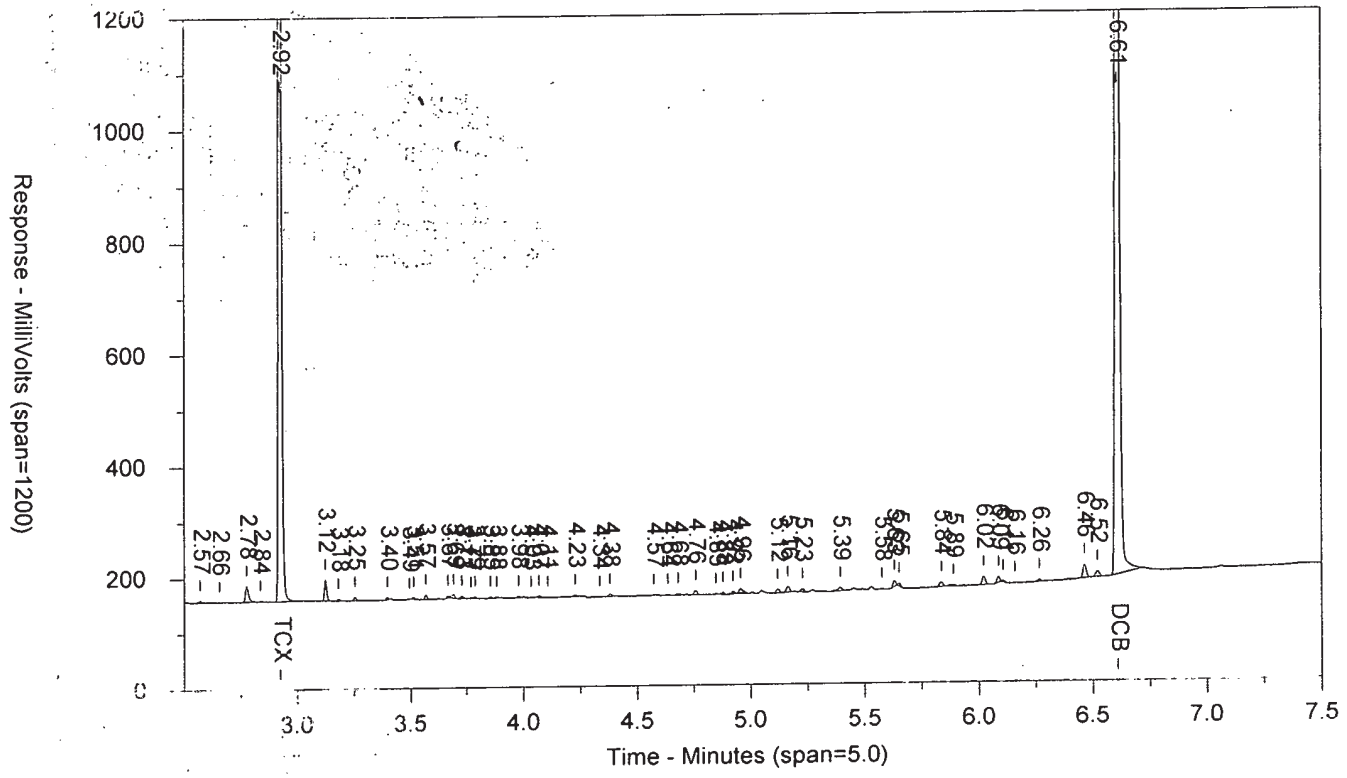


IBLKX1824C KWPIBLKKW PIBLK1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.098.RAW



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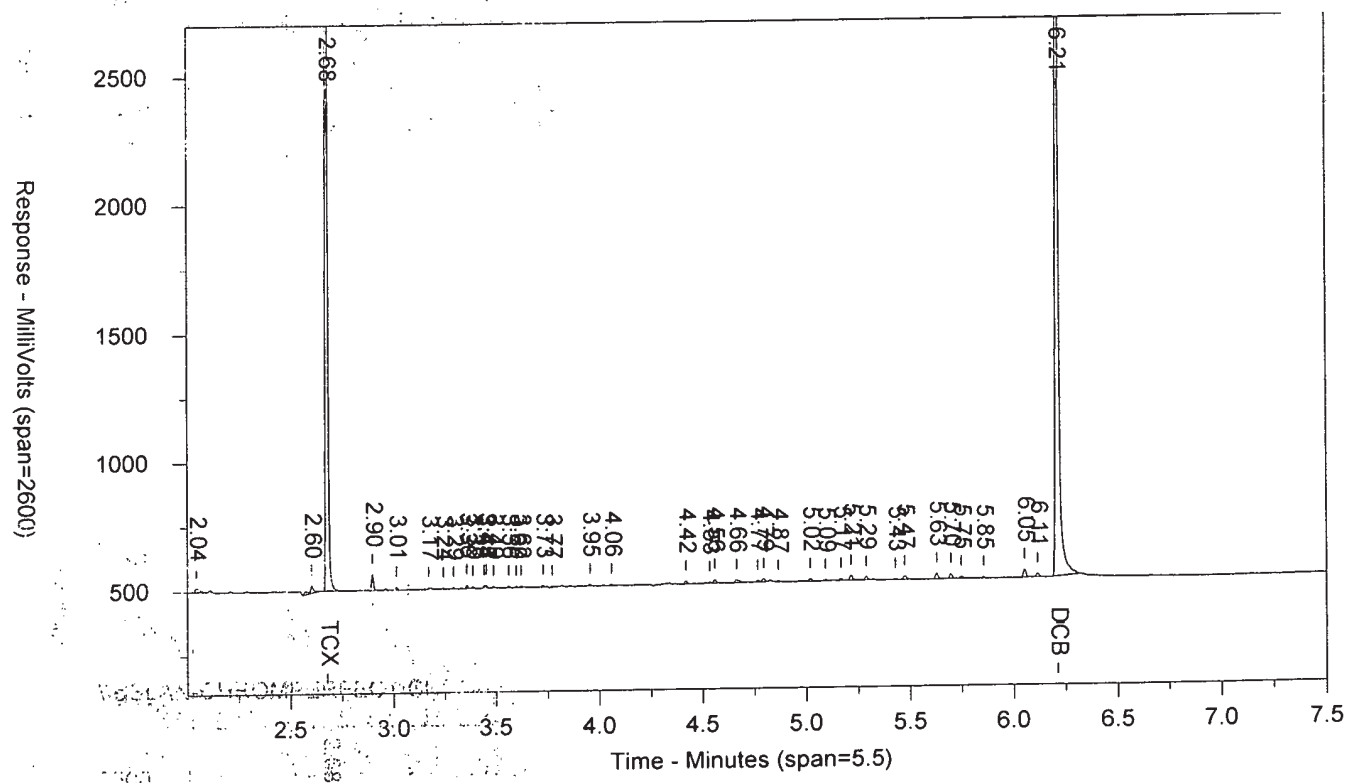


LANCASTER LABORATORIES

Sample Number: IBLKX1824C KWPIBLKKW PIBLK1830799999 10227 SW-846 8082
Injected On: 11/5/2018 5:21:57 AM
Sample Weight: 1000
Dilution Factor: 10
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

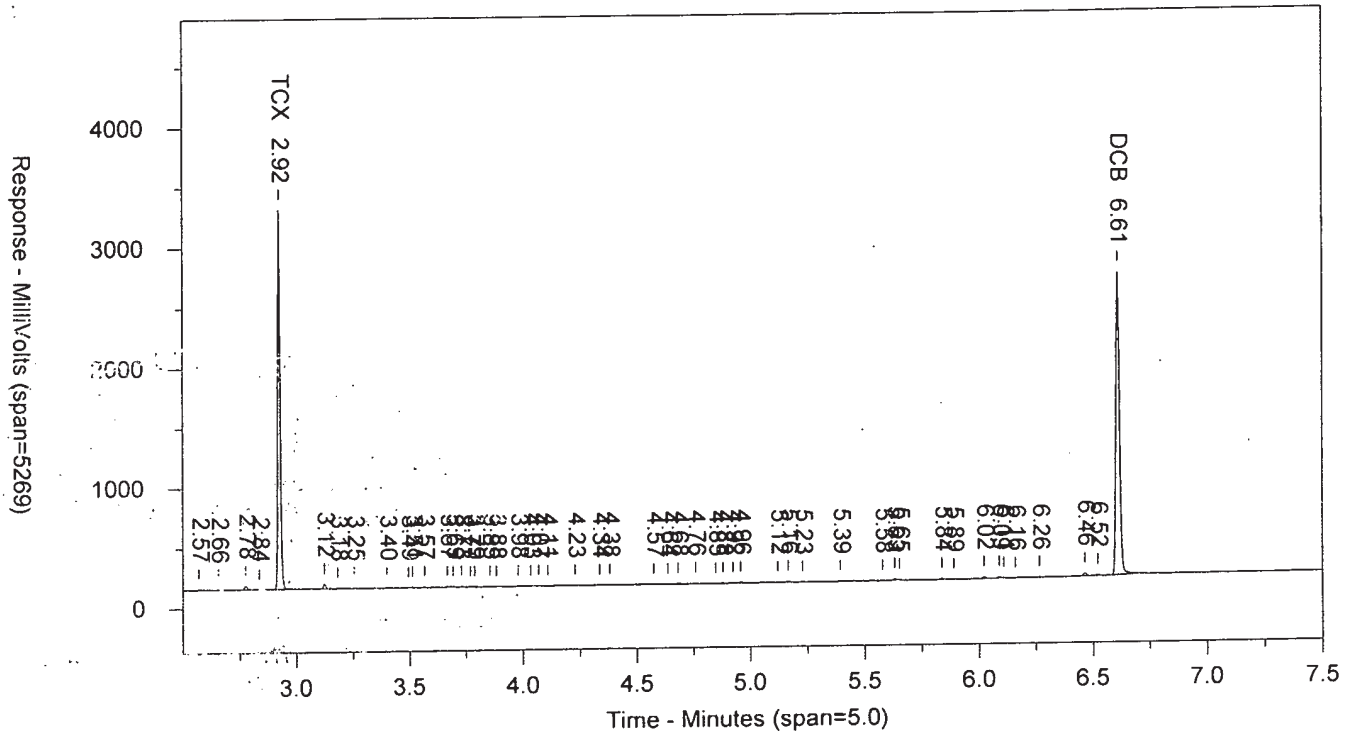
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	3163088	.204	TCX	2.677	5128266	.201	TCX
6.608	2530674	.197	DCB	6.21	3722905	.198	DCB

Files:
Area File: 25PCBS18303004.098.RAW
Area File: 25PCBS18303004B.098.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 5:30:29 AM
File Reported On: 11/5/2018 at 5:30:36 AM

IBLKX1824C KWPIBLKKW PIBLK1830799999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.098.RAW



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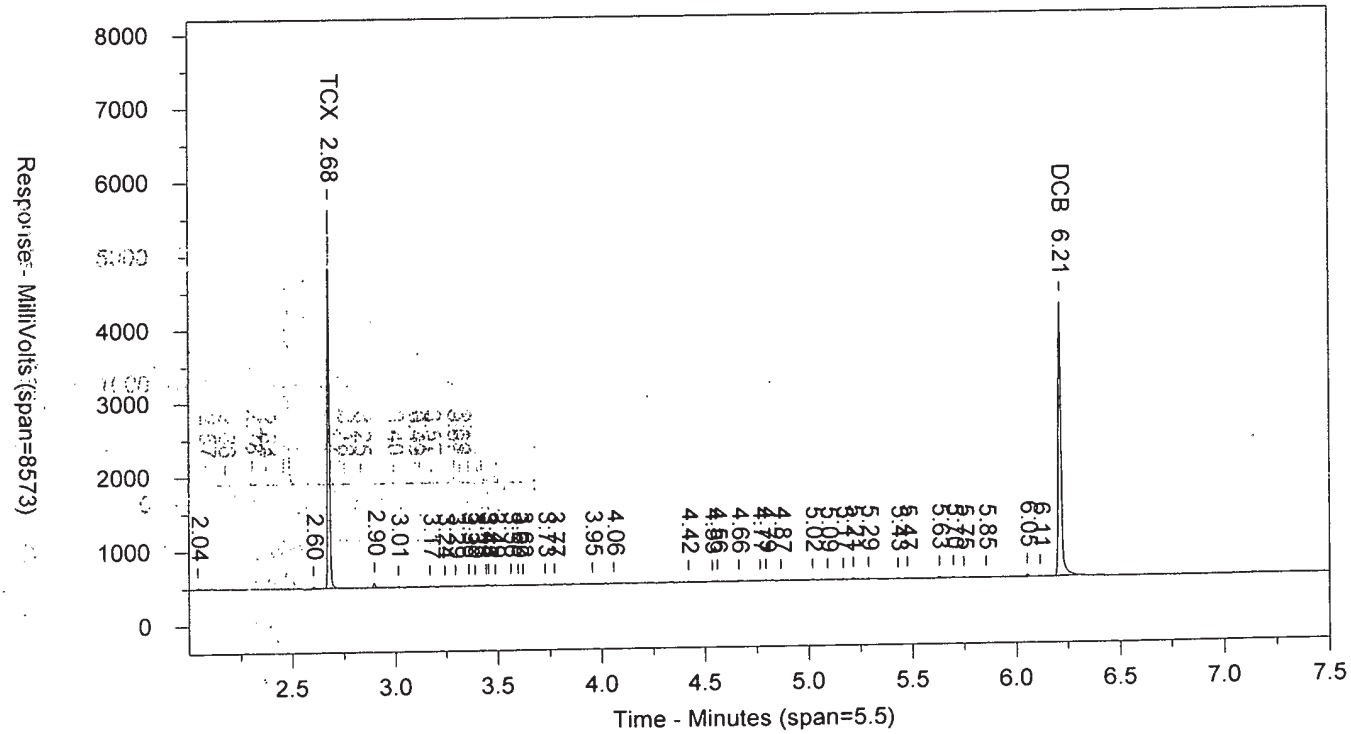
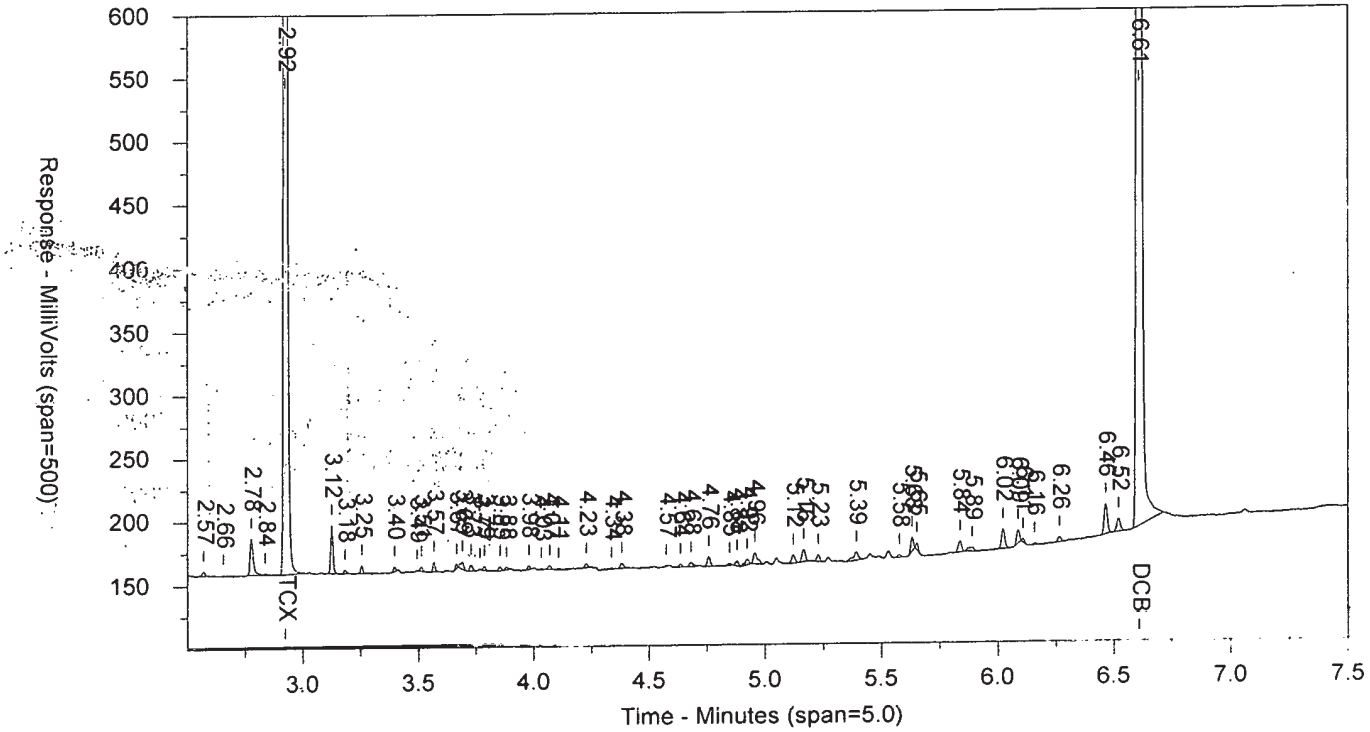


IBLKX1824C **KWPIBLKKW** **PIBLK1830799999** **10227** **SW-846 8082**

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.098.RAW



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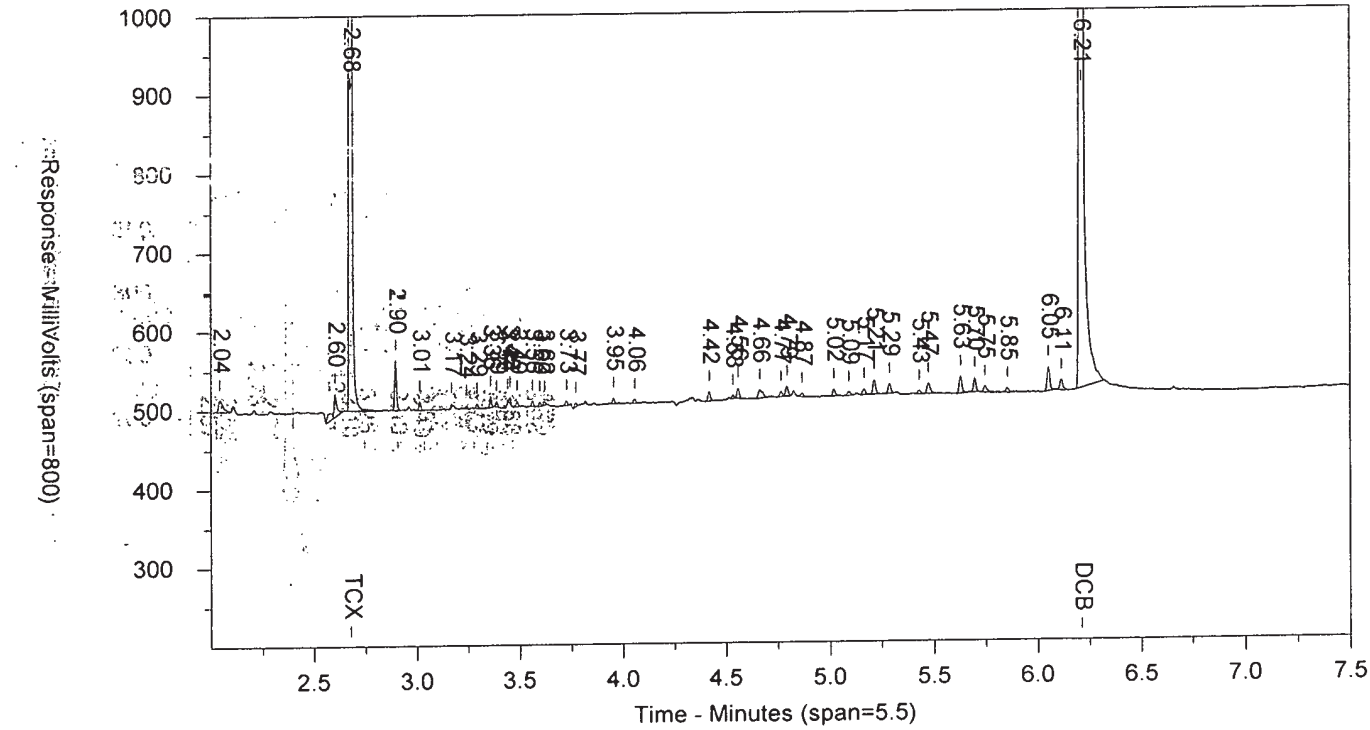
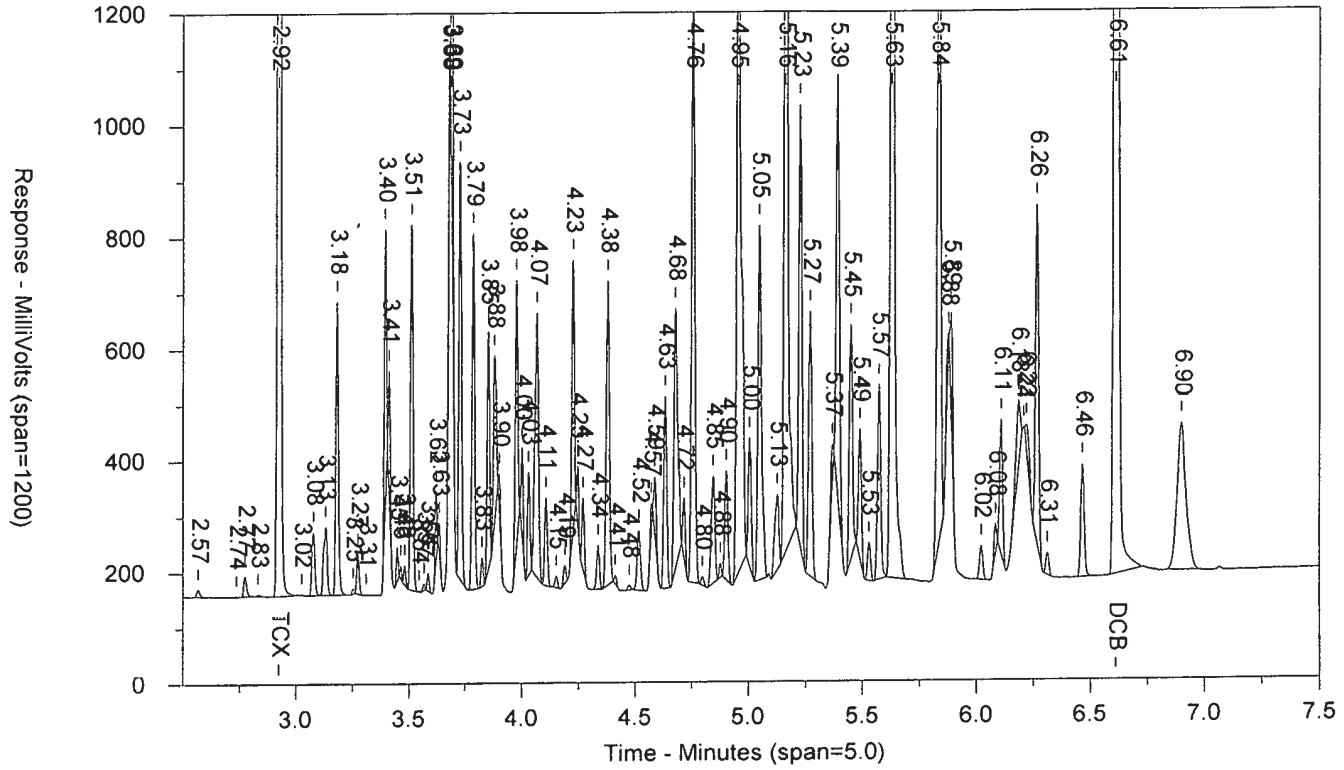
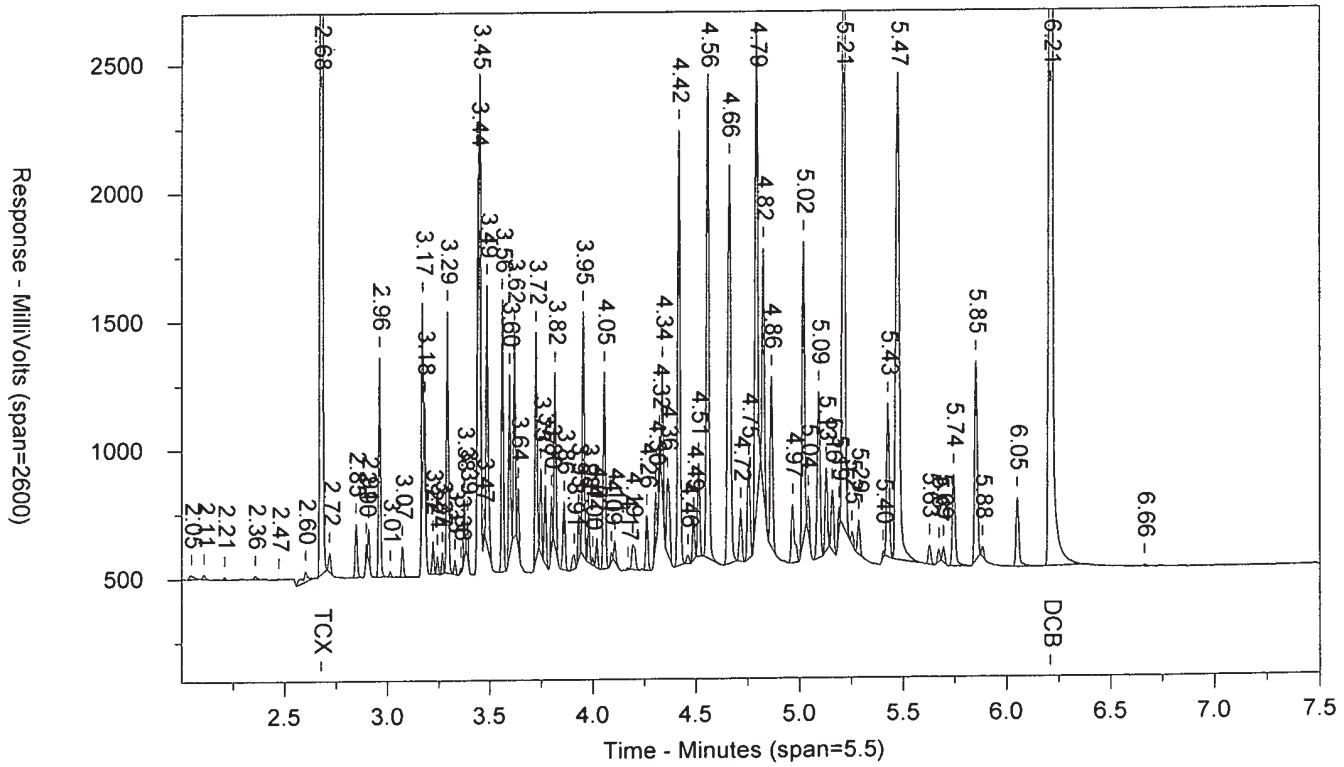


AR1641824D KGAR164KG CCAL 1830899999 10227 SW-846 8082

—— \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.023.RAW



—— \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005B.023.RAW



LANCASTER LABORATORIES

Sample Number: AR1641824D KGAR164KG CCAL 1830899999 10227 SW-846 8082
Injected On: 11/5/2018 5:16:12 PM
Sample Weight: 1
Dilution Factor: 1
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

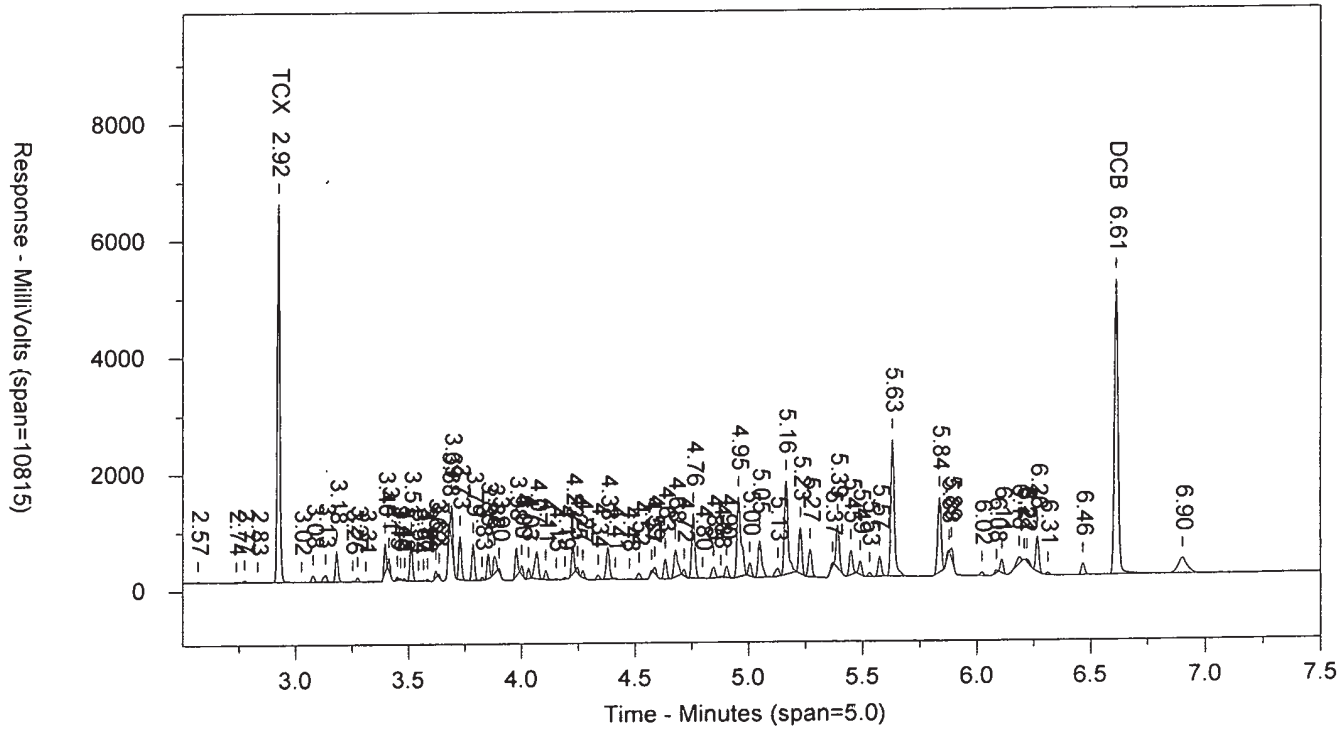
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.923	6492751	41.852	TCX	2.677	10363150	40.605	TCX
6.611	5063210	39.452	DCB	6.209	7515880	40.028	DCB

Files:
Area File: 25PCBS18303005.023.RAW
Area File: 25PCBS18303005B.023.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 5:24:43 PM
File Reported On: 11/5/2018 at 5:24:50 PM

AR1641824D KGAR164KG CCAL 1830899999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.023.RAW



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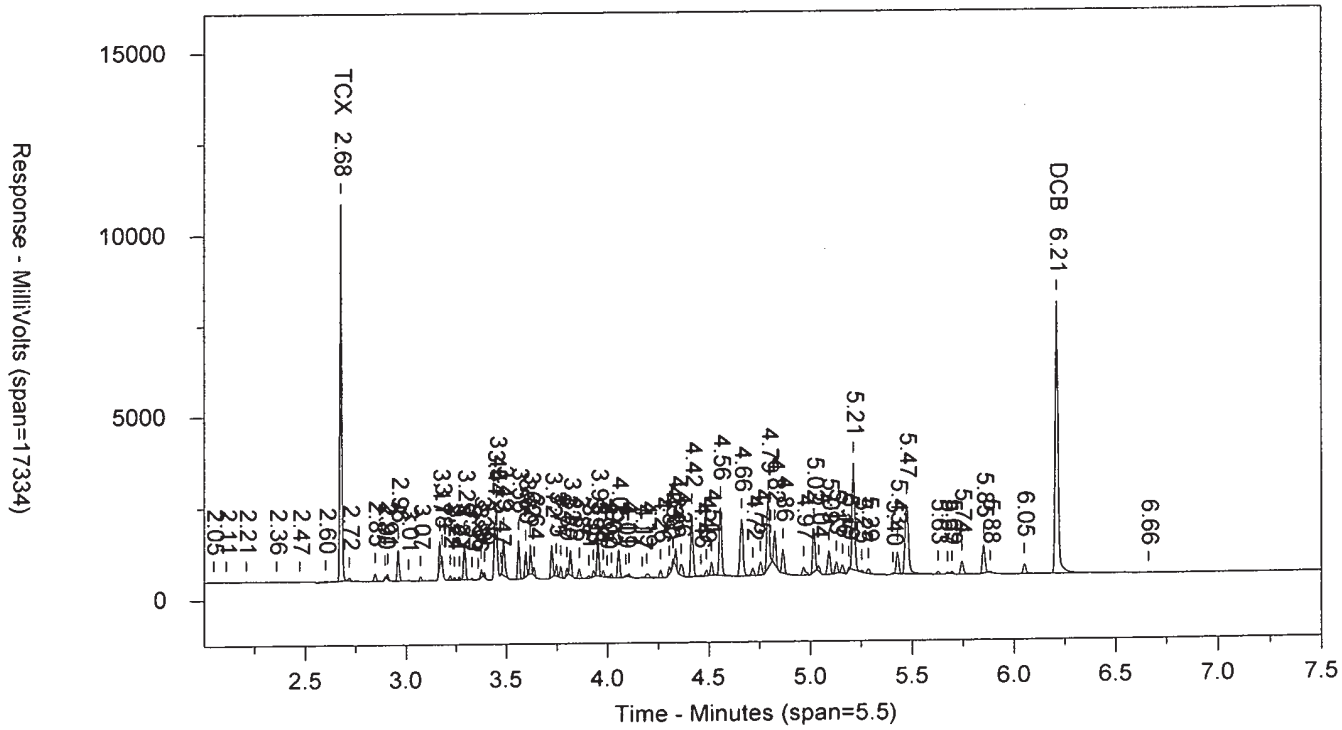
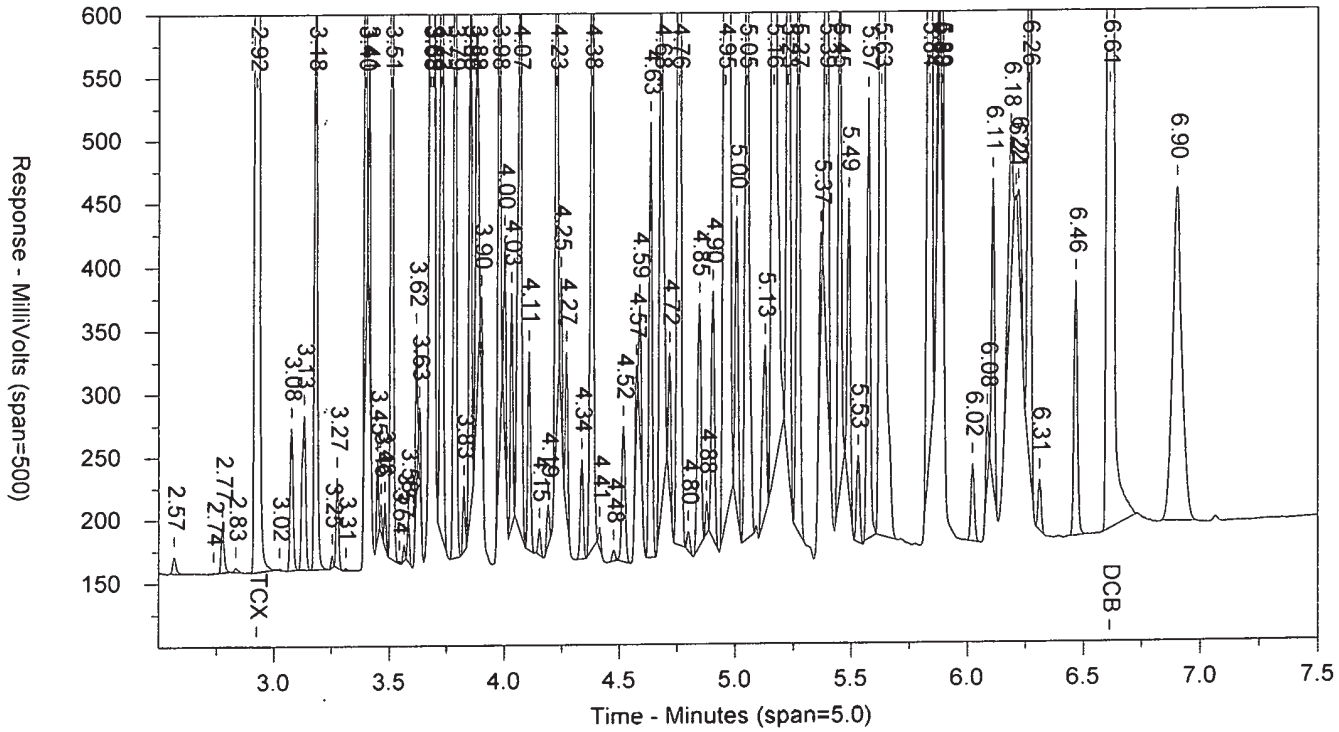
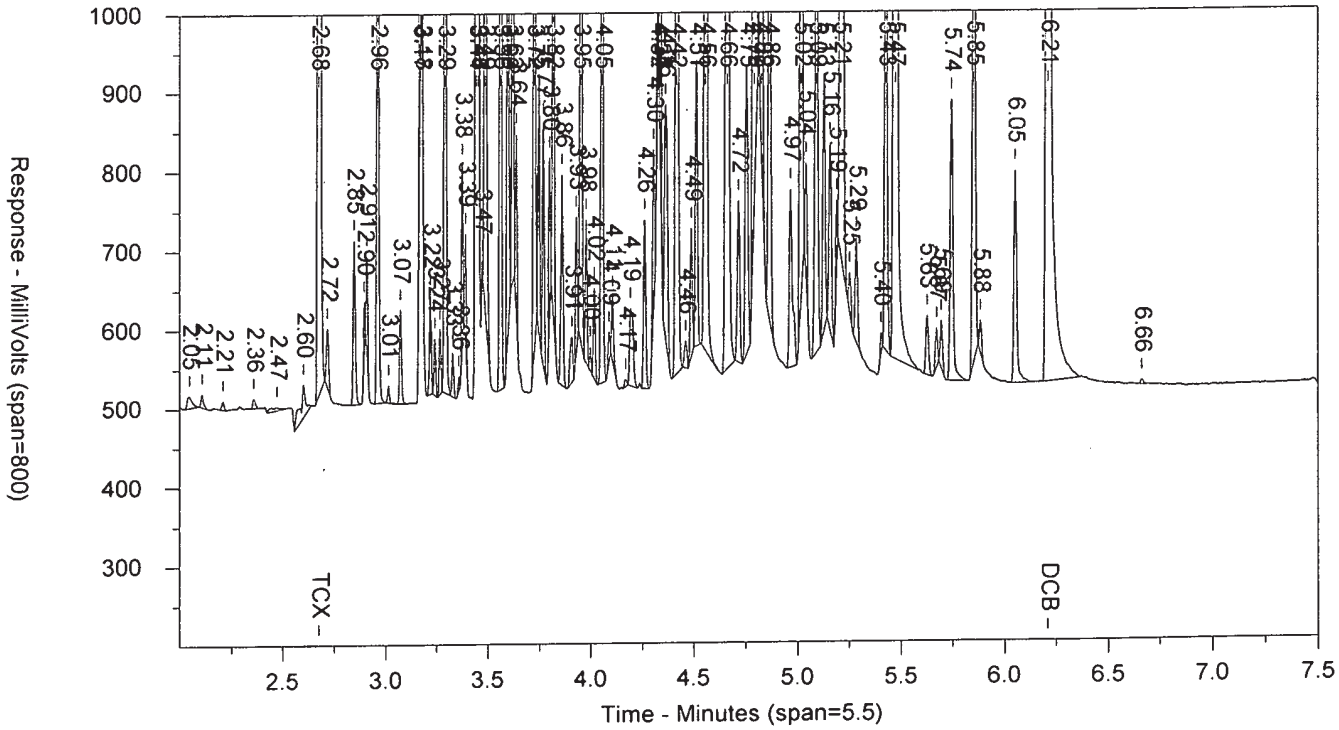


AR1641824D KGAR164KG CCAL 1830899999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.023.RAW

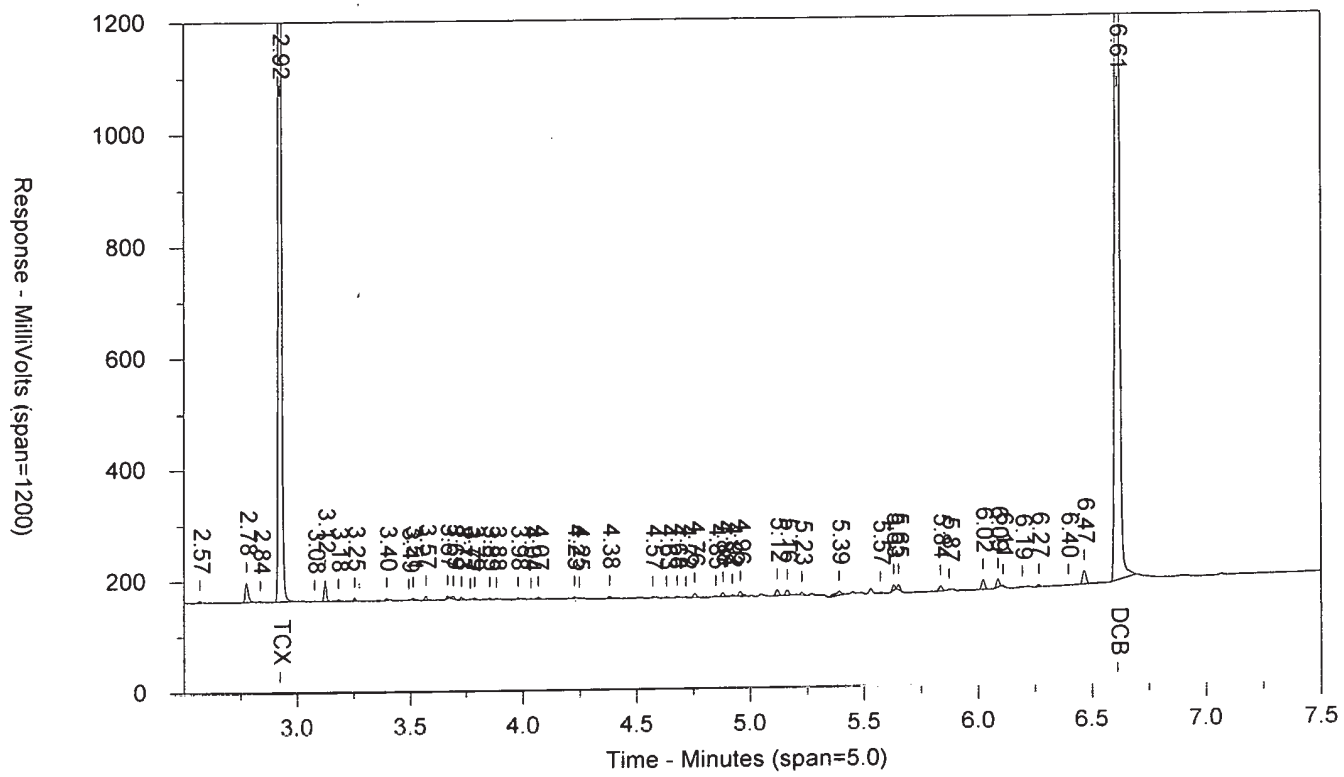


\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005B.023.RAW

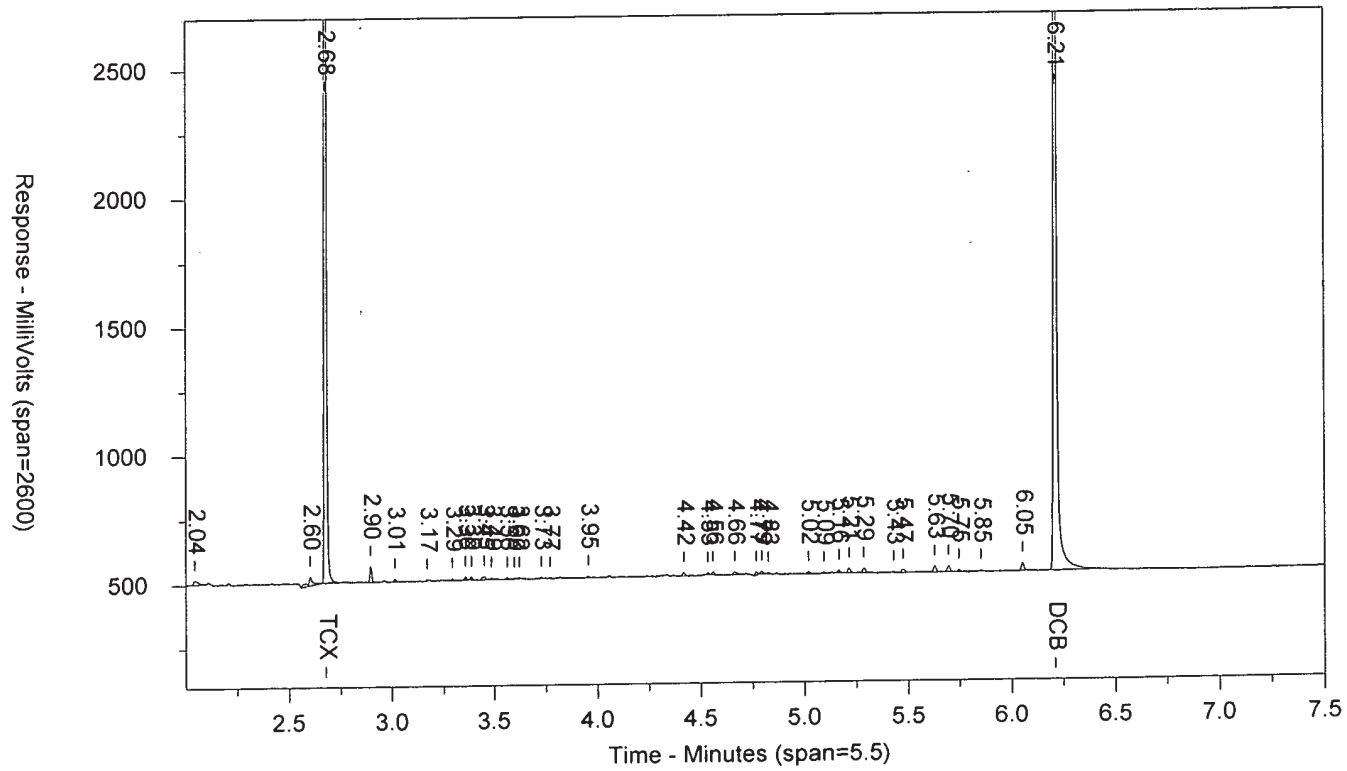


IBLKX1824C **LSPIBLKLS** **PIBLK1830899999** **10227** **SW-846 8082**

—— \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.024.RAW



—— \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005B.024.RAW



LANCASTER LABORATORIES

Sample Number: IBLKX1824C LSPIBLKLS PIBLK1830899999 10227 SW-846 8082
Injected On: 11/5/2018 5:27:05 PM Sample Weight: 1000
Instrument ID: CP25-18274 Dilution Factor: 10
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

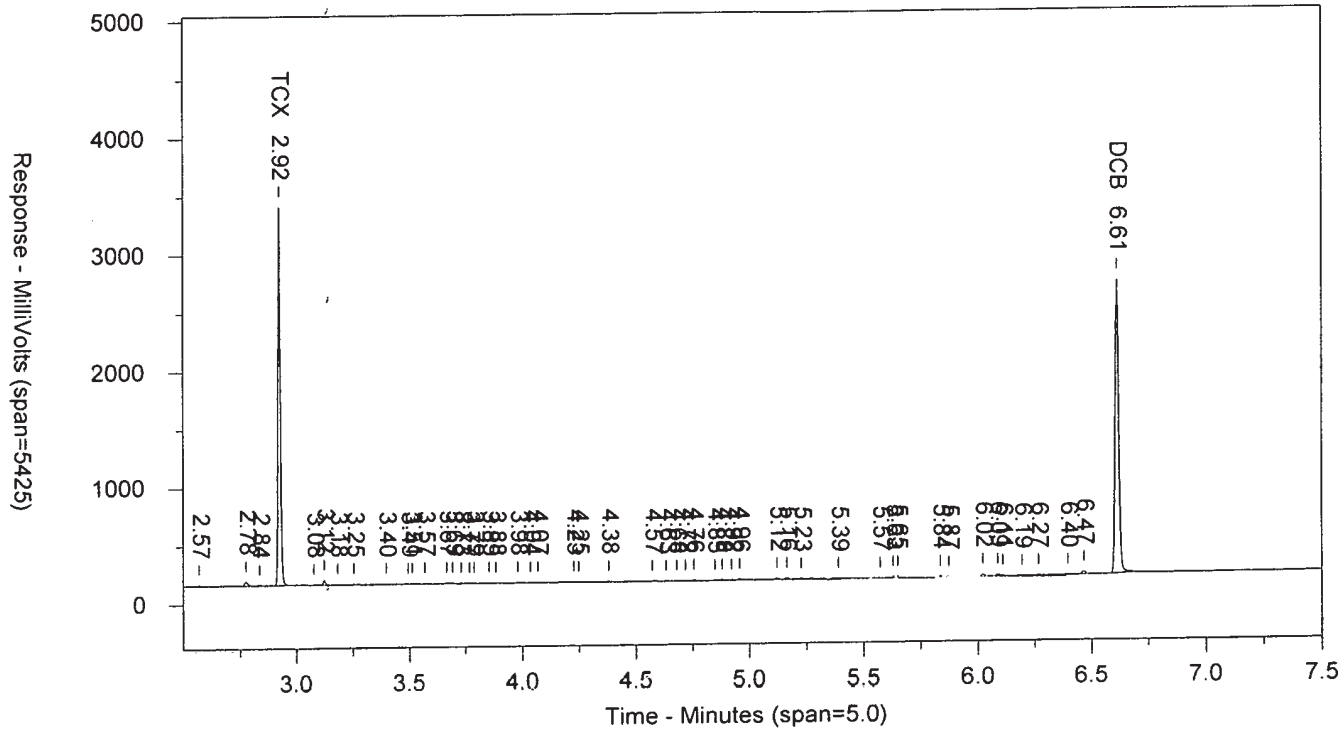
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	3264778	.21	TCX	2.677	5167270	.202	TCX
6.611	2536438	.198	DCB	6.21	3712865	.198	DCB

Files:
Area File: 25PCBS18303005.024.RAW
Area File: 25PCBS18303005B.024.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 5:35:37 PM
File Reported On: 11/5/2018 at 5:35:42 PM

IBLKX1824C **LSPIBLKLS** **PIBLK1830899999** **10227** **SW-846 8082**

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.024.RAW



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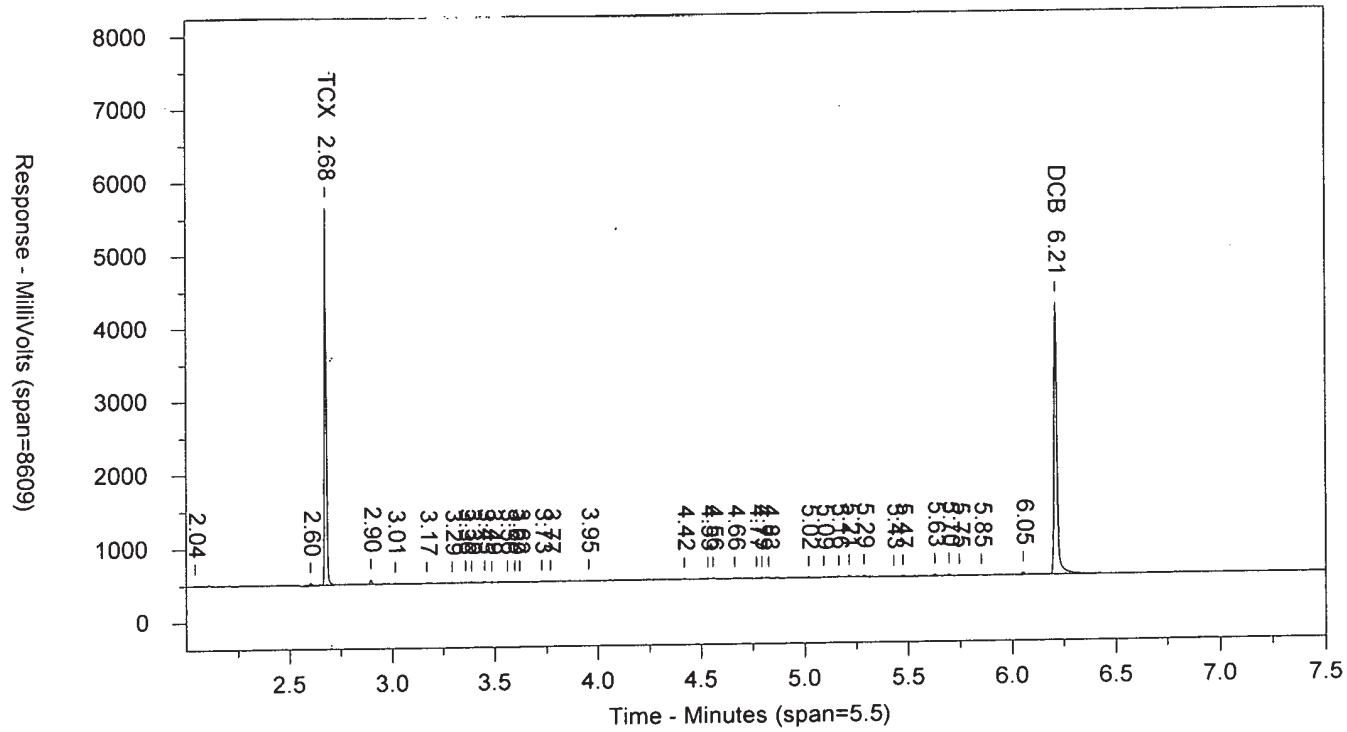
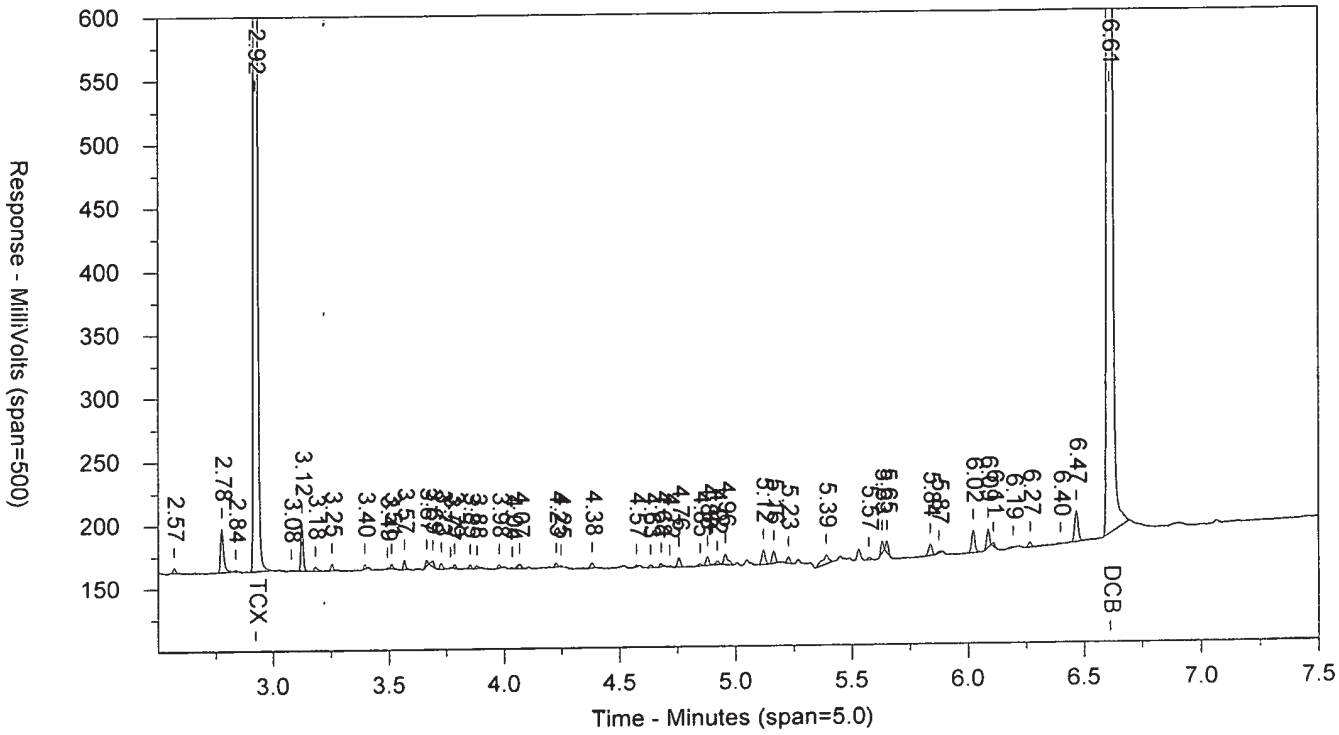


IBLKX1824C LSPIBLKLS PIBLK1830899999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.024.RAW



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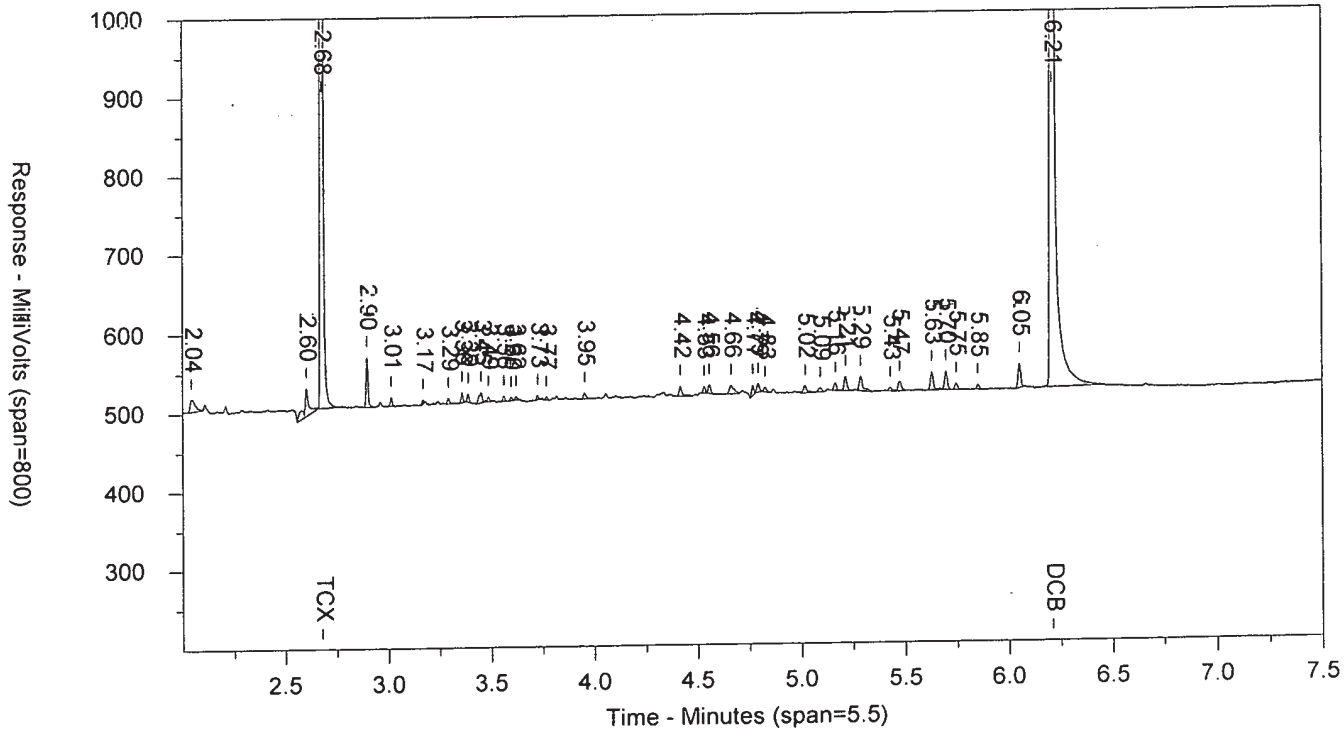
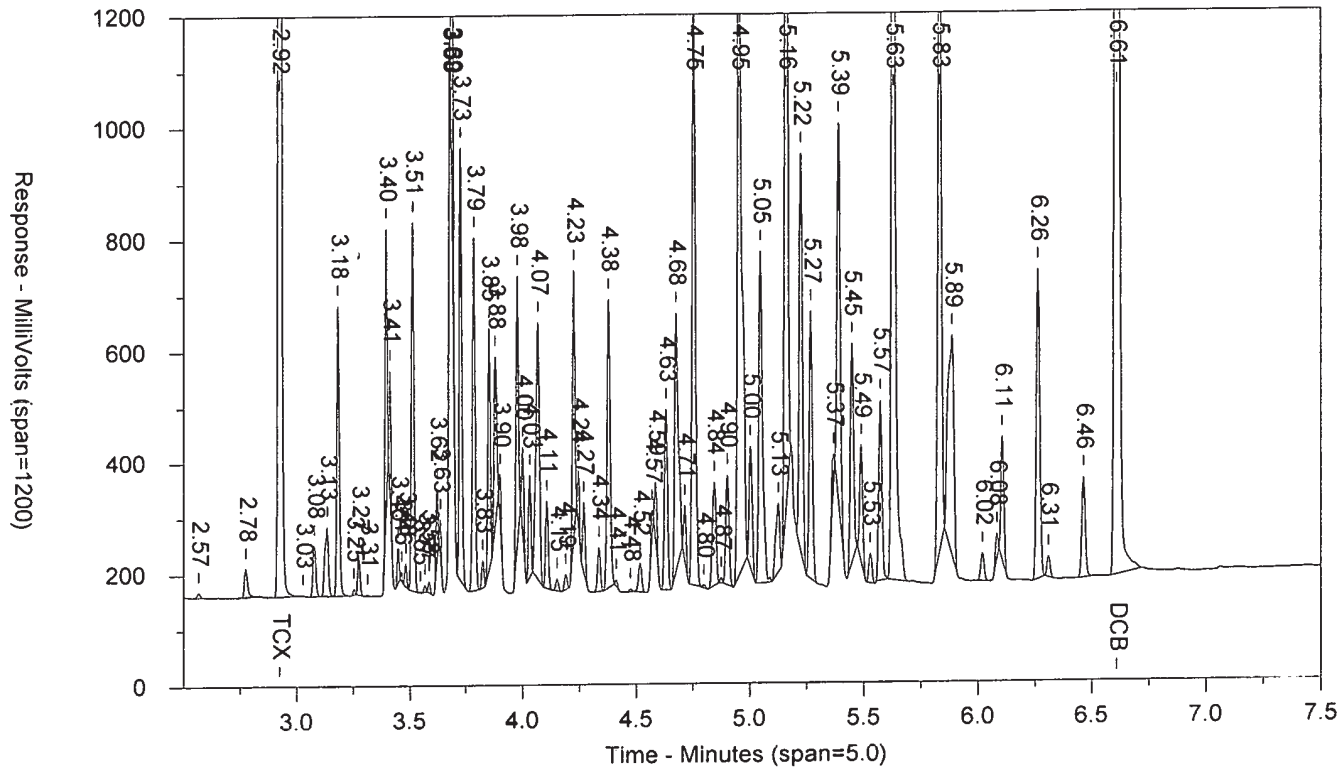


AR1641824D KHAR164KH CCAL 1830899999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303005.040.RAW



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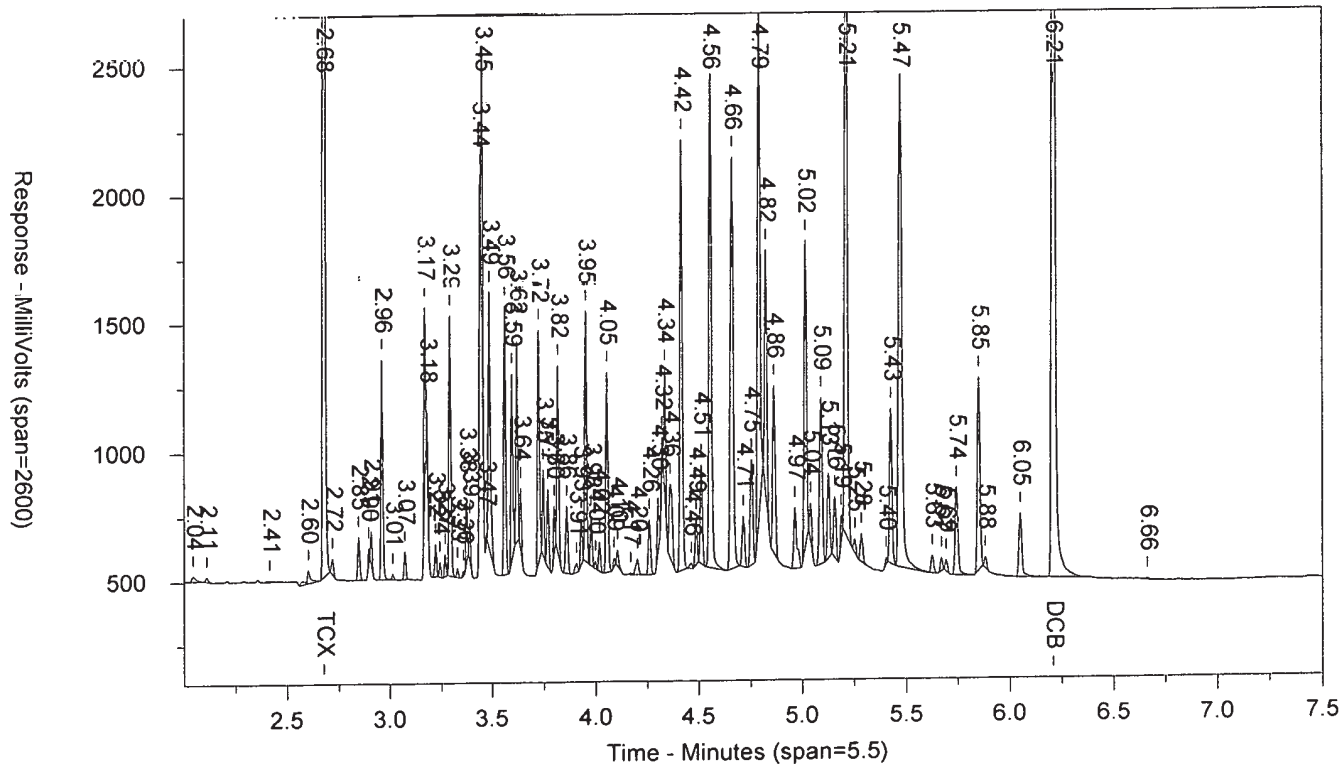

LANCASTER LABORATORIES

Sample Number: AR1641824D KHAR164KH CCAL 1830899999 10227 SW-846 8082
Injected On: 11/5/2018 8:21:01 PM
Sample Weight: 1
Instrument ID: CP25-18274
Dilution Factor: 1
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	6559748	42.283	TCX	2.677	10448430	40.94	TCX
6.608	4630393	36.079	DCB	6.208	6754459	35.973	DCB

Files:
Area File: 25PCBS18303005.040.RAW
Area File: 25PCBS18303005B.040.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 8:29:32 PM
File Reported On: 11/5/2018 at 8:29:38 PM

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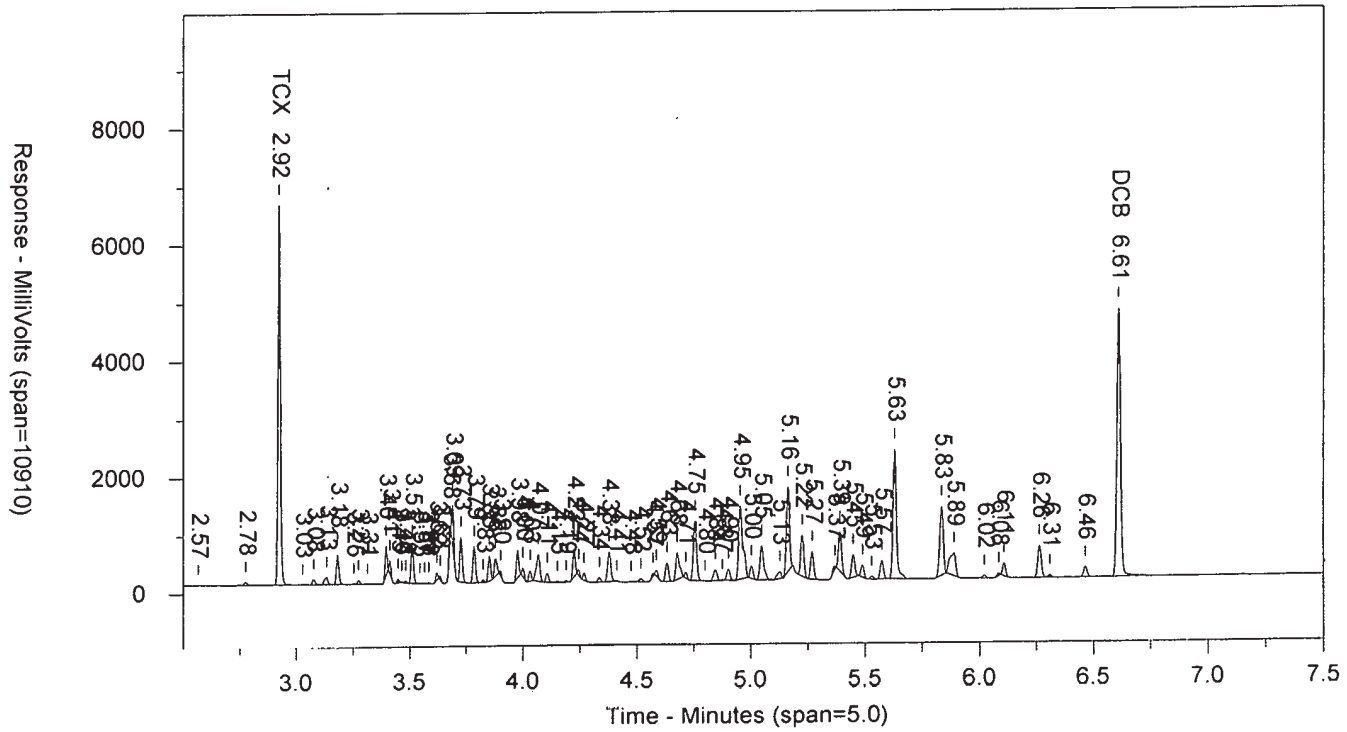

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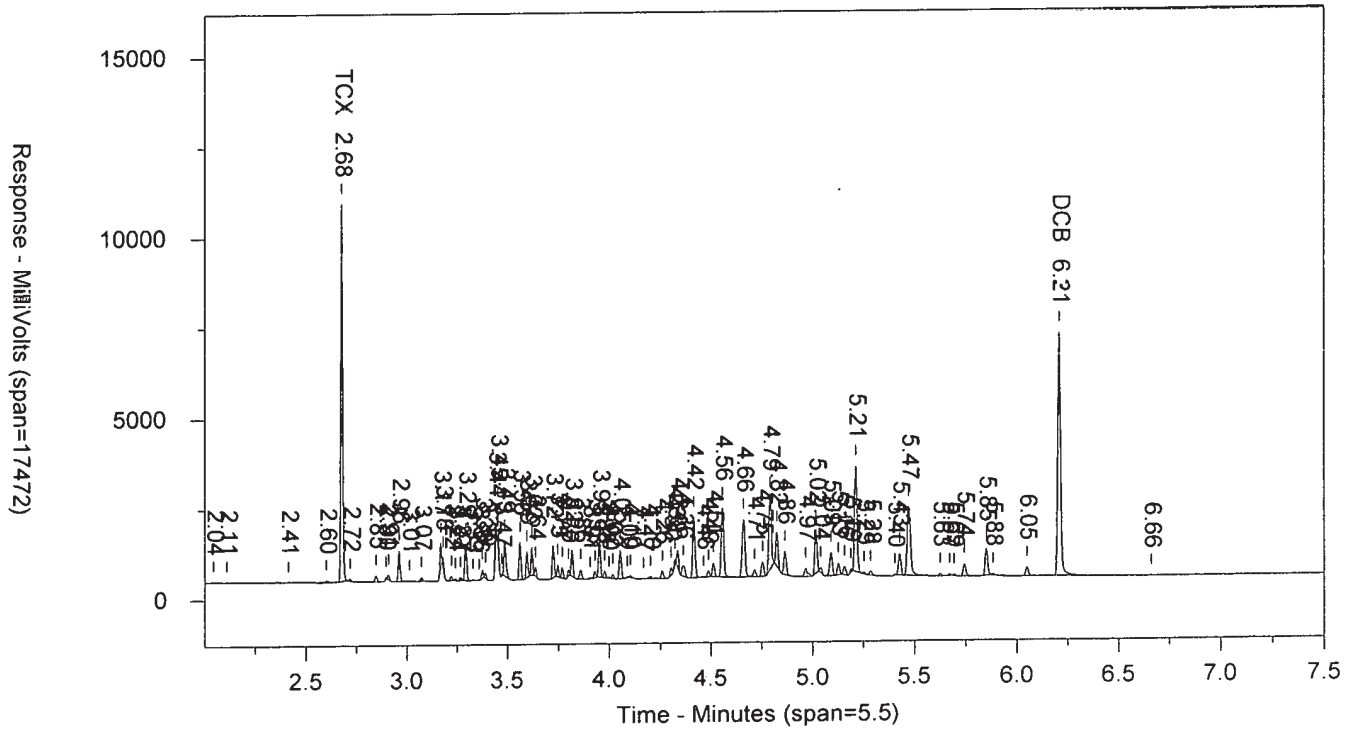

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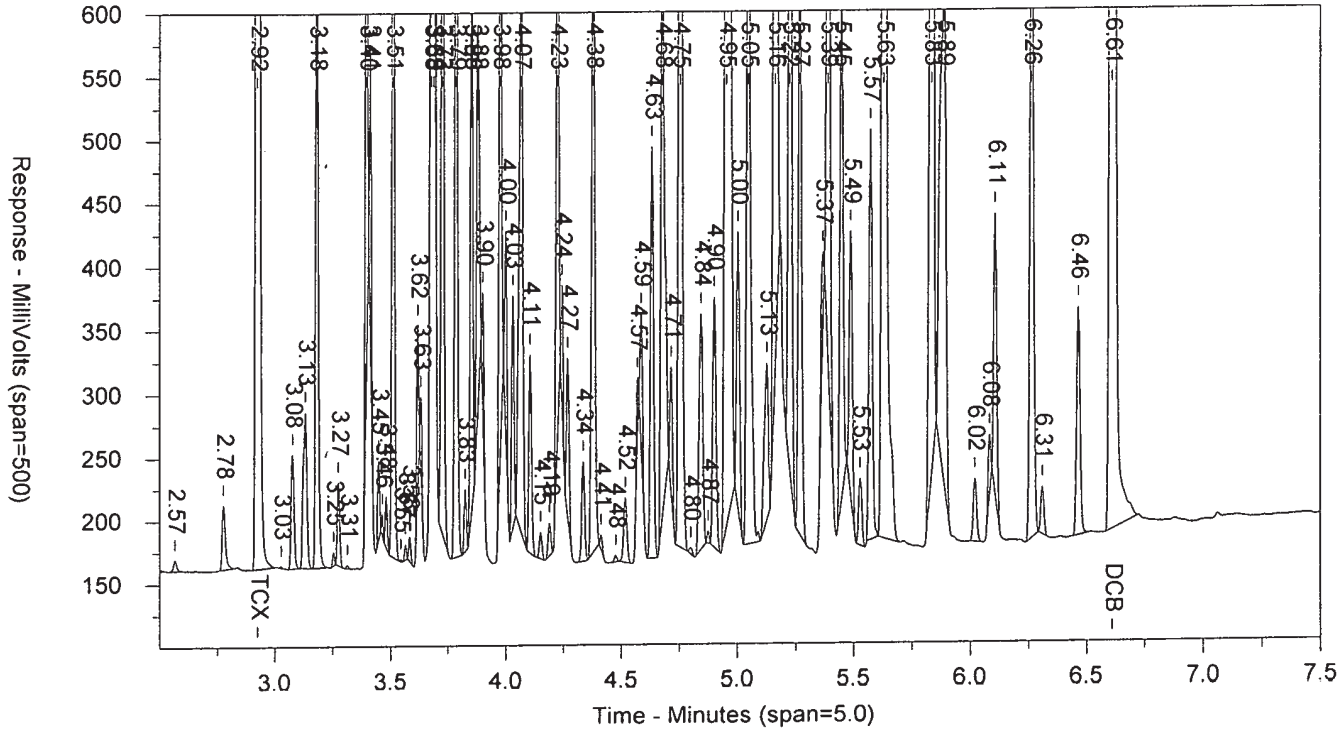

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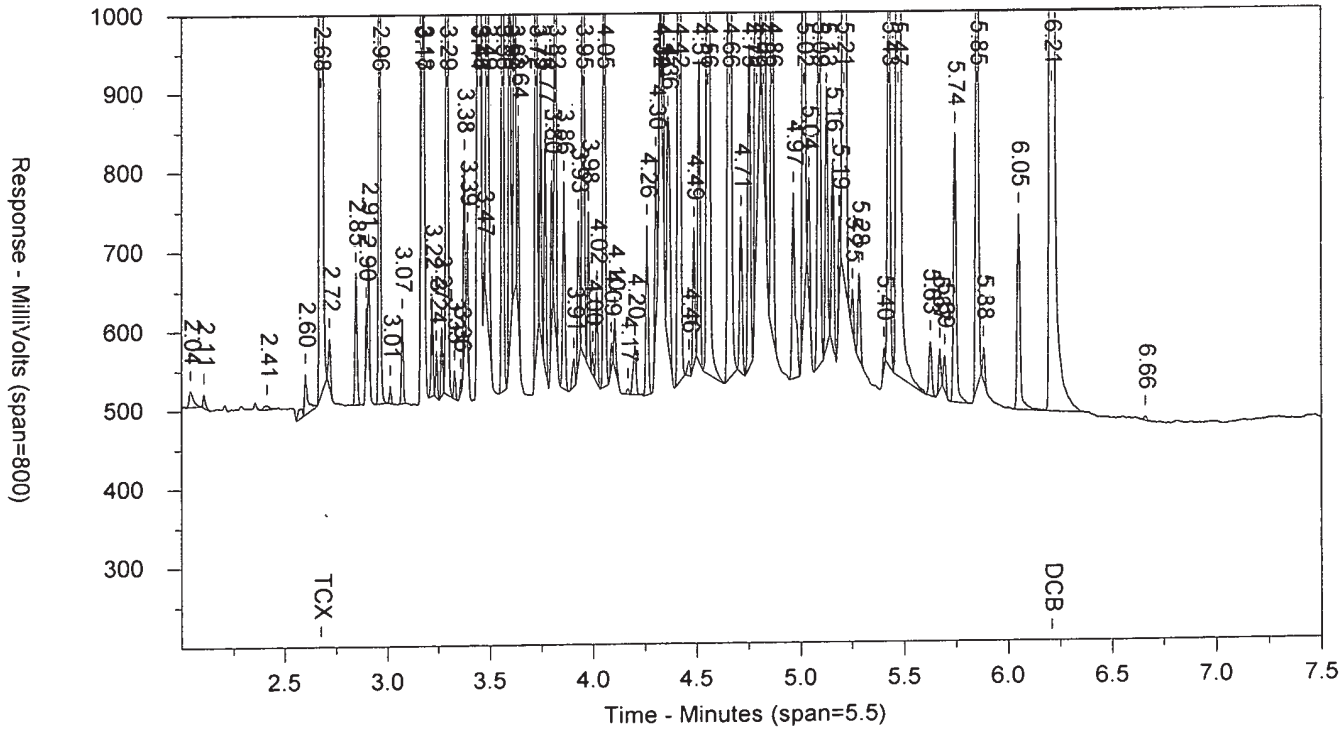

IBLKX1824C **LTPIBLKLT** **PIBLK1830899999** **10227** **SW-846 8082**

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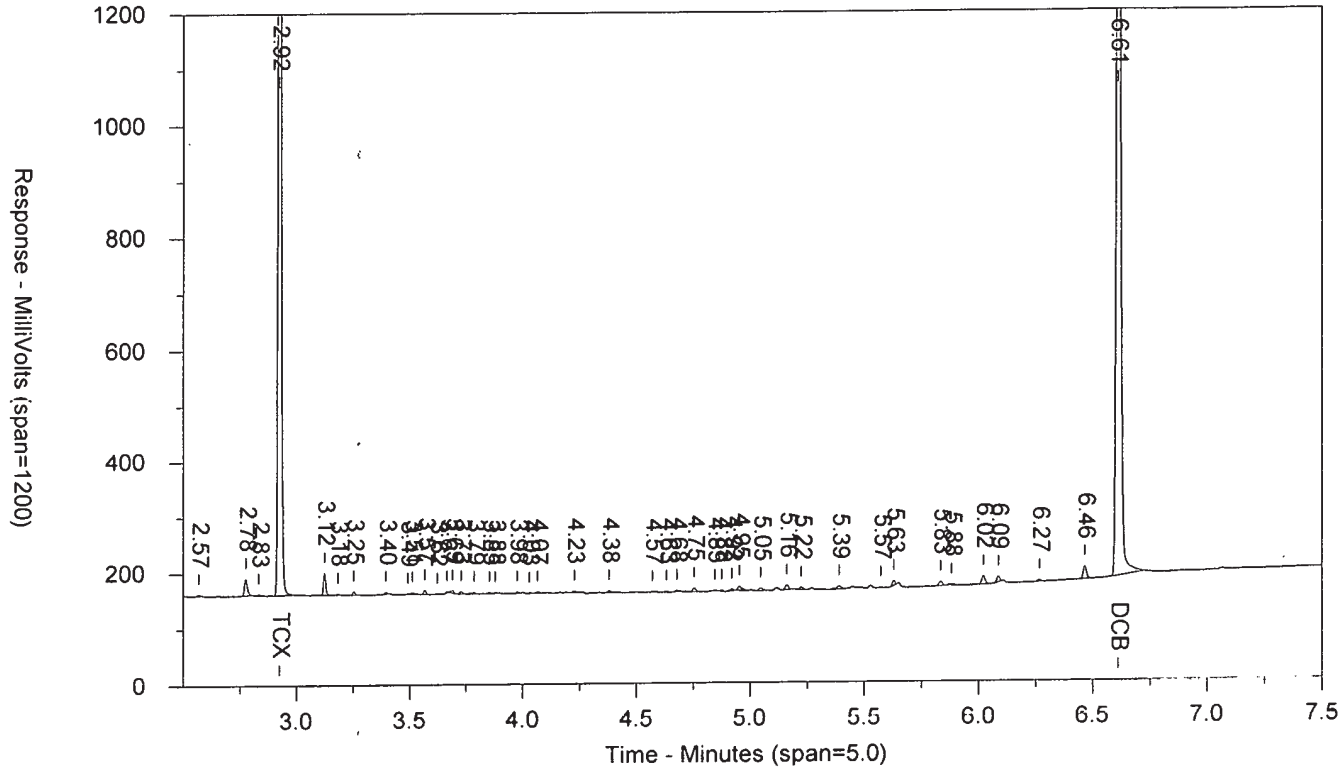

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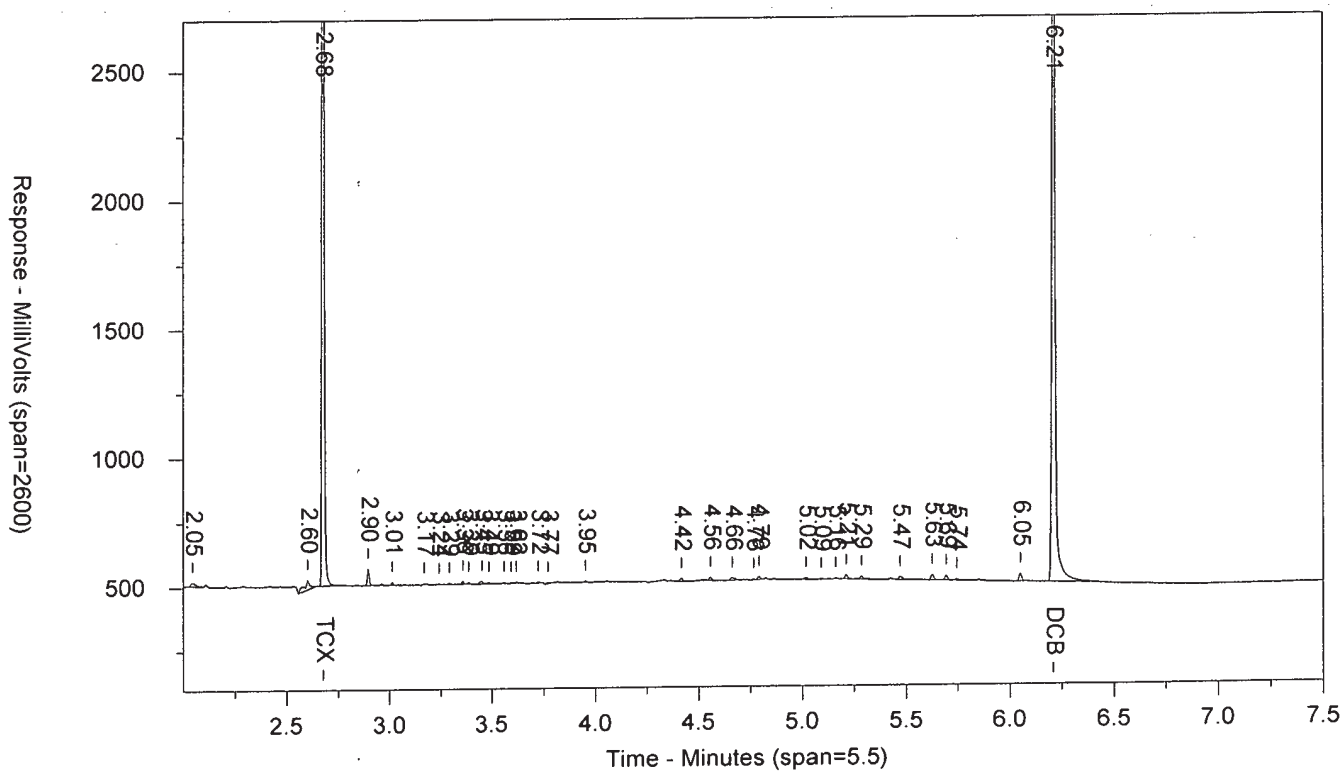

LANCASTER LABORATORIES

Sample Number: IBLKX1824C LTPIBLKLT PIBLK1830899999 10227 SW-846 8082
Injected On: 11/5/2018 8:31:54 PM
Sample Weight: 1000
Instrument ID: CP25-18274
Dilution Factor: 10
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.923	3231125	.208	TCX	2.677	5137691	.201	TCX
6.61	2403569	.187	DCB	6.209	3500380	.186	DCB

Files:
Area File: 25PCBS18303005.041.RAW
Area File: 25PCBS18303005B.041.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 8:40:25 PM
File Reported On: 11/5/2018 at 8:40:33 PM

IBLKX1824C LTPIBLKLT PIBLK1830899999 10227 SW-846 8082

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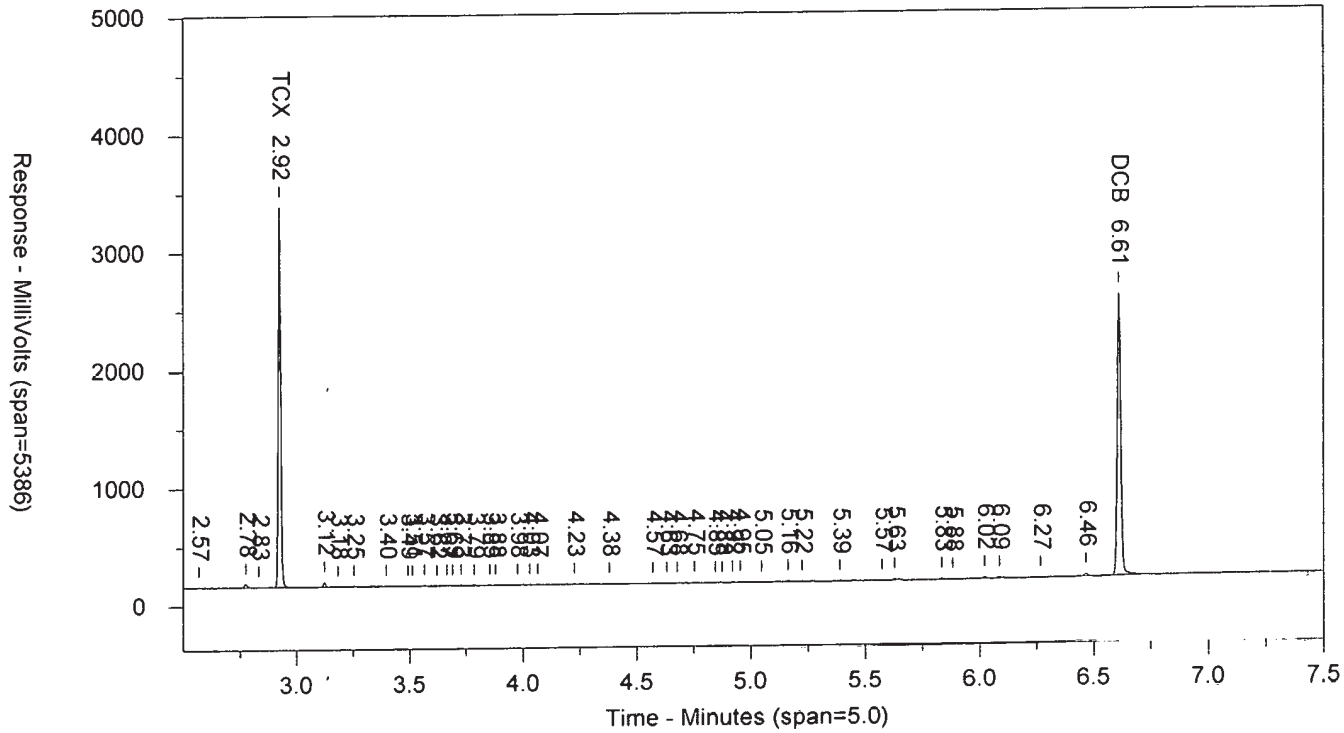

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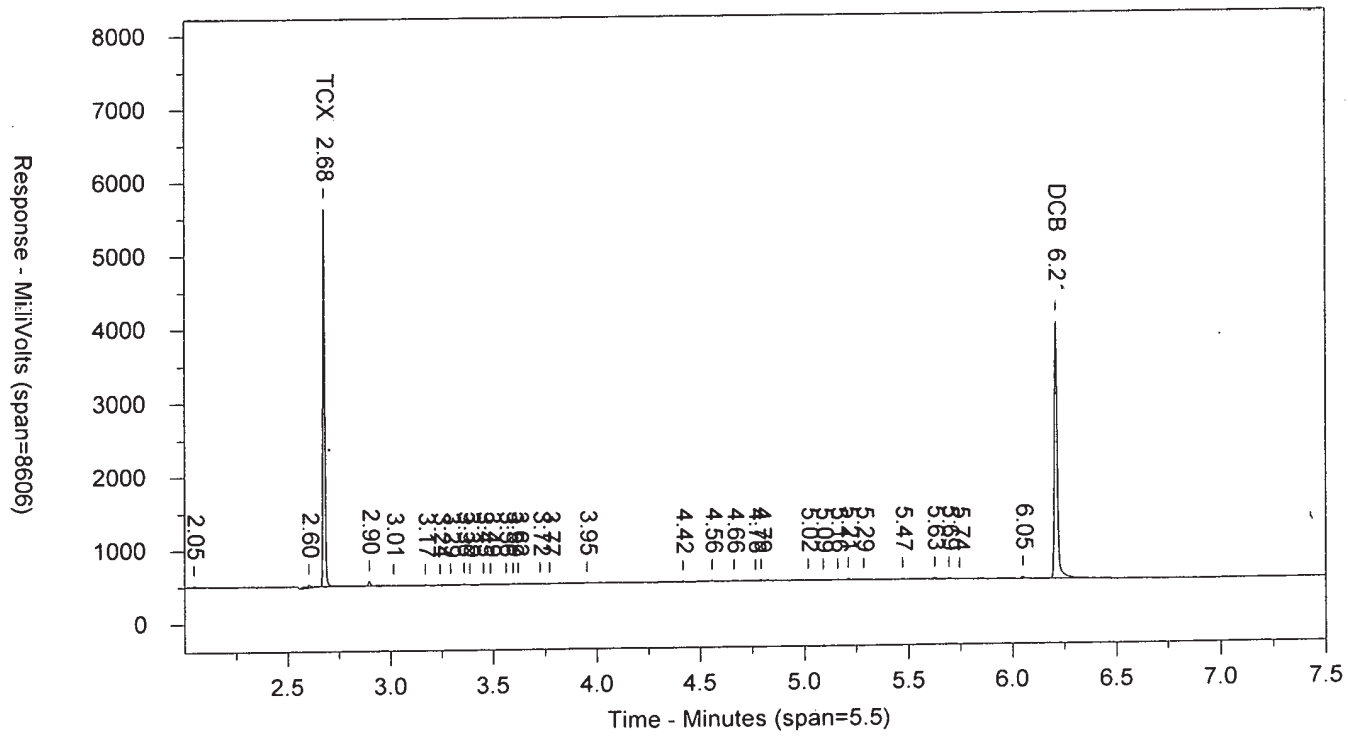

IBLKX1824C LTPIBLKLT PIBLK1830899999 10227 SW-846 8082

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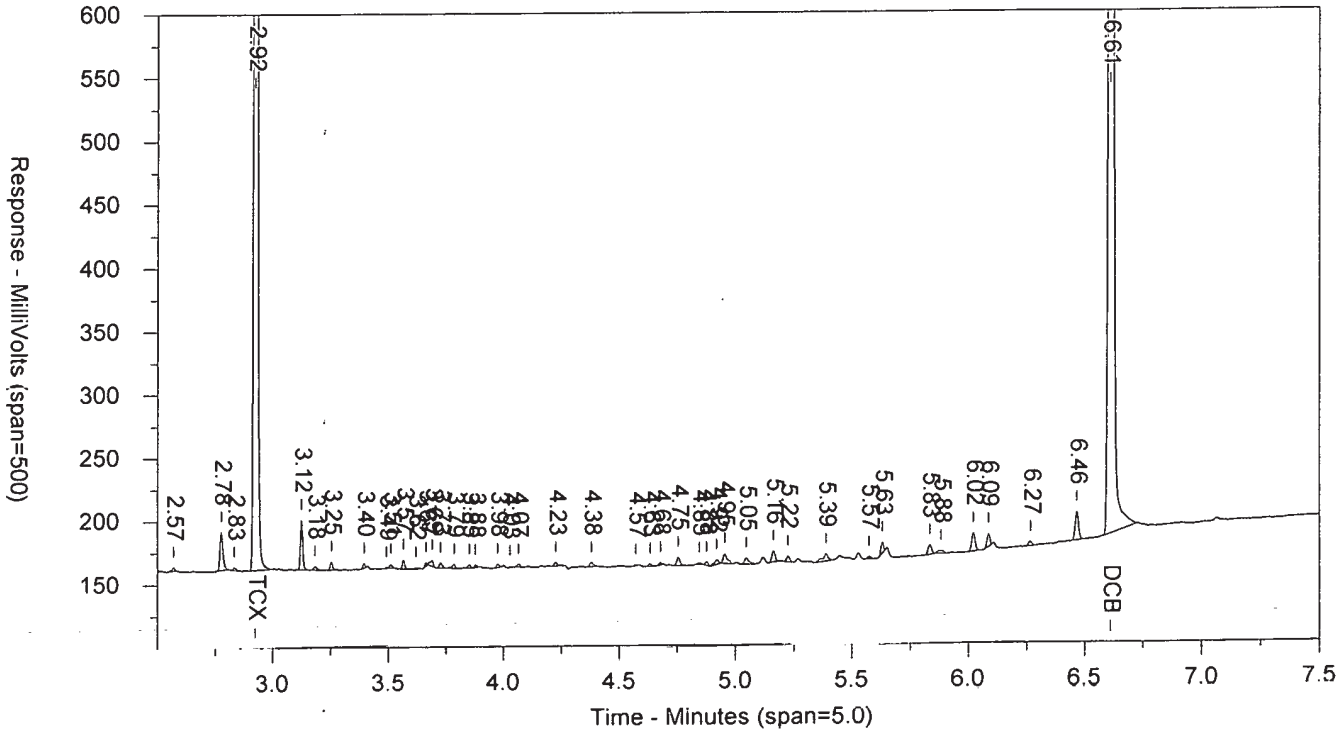

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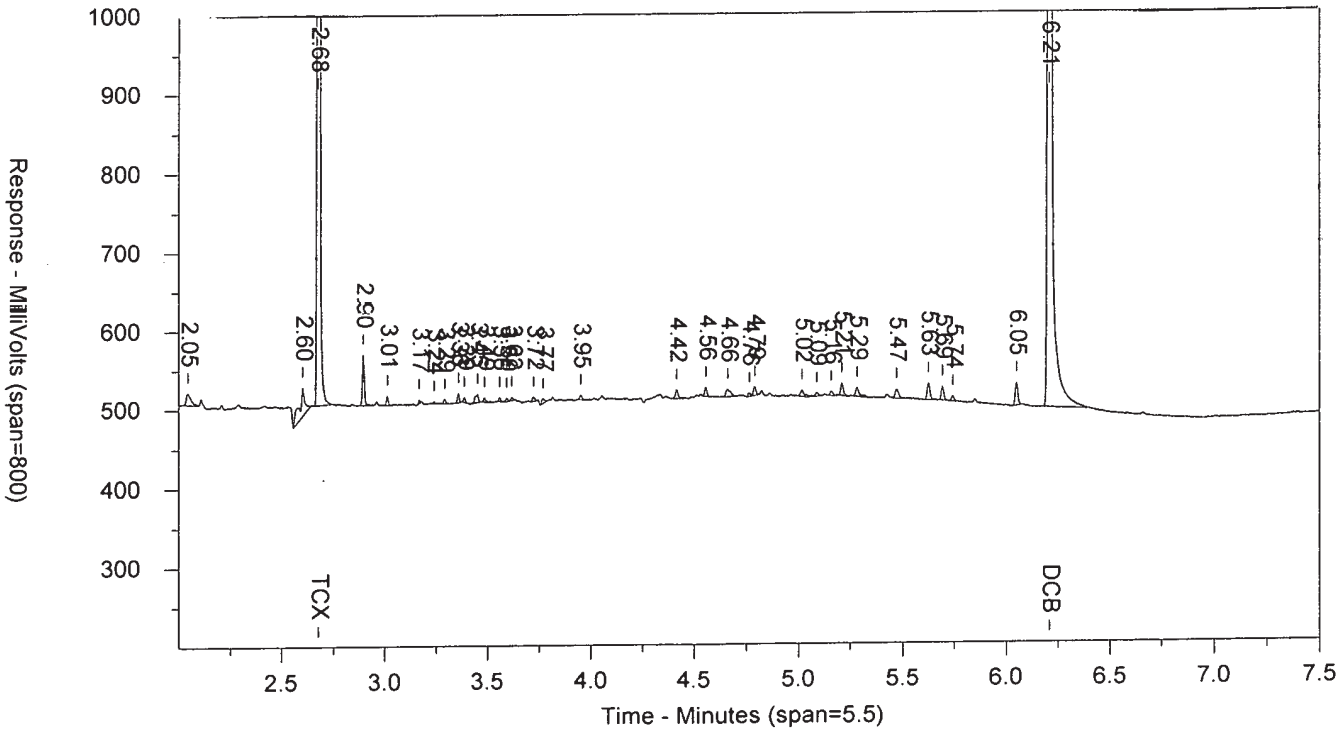

Raw QC Data

Polychlorinated Biphenyls (PCBs)

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Data Summary

Sample Name: BLANKA 11/1/18 ACF PBLK31304 BLK Sample ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 00:27:18
Instrument 18274A
Result file 25PCBS18303004.071.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 107% (53 - 140) Conc: 10.77032
%SSR(DCB) 102% (45 - 143) Conc: 10.09909

Analysis Report (B)

Injected on Nov 05, 2018 00:27:18
Instrument 18274B
Result file 25PCBS18303004B.071.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 104% (53 - 140) Conc: 10.45016
%SSR(DCB) 102% (45 - 143) Conc: 10.07598

Single Component Data

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	5012644	10.77032	Tetrachloro-m-xylene	2.65	2.68	2.71	8001132	10.45016
Decachlorobiphenyl	6.58	6.61	6.64	3888320	10.09909	Decachlorobiphenyl	6.18	6.21	6.24	5675806	10.07598

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
Tetrachloro-m-xylene	A	10.77032	0.5	1	1		3.02	
Tetrachloro-m-xylene-D1	A	10.77032	0.5	1	1			
Tetrachloro-m-xylene-D2	B	10.45016	0.5	1	1			
Decachlorobiphenyl	A	10.09909	0.5	1	1		0.23	
Decachlorobiphenyl-D1	A	10.09909	0.5	1	1			
Decachlorobiphenyl-D2	B	10.07598	0.5	1	1			

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
PCB-1016			<3.6	<10	<17			4	
PCB-1221			<4.6	<10	<17			3	
PCB-1232			<8	<16	<17			4	
PCB-1242			<3.3	<10	<17			4	
PCB-1248			<3.3	<10	<17			4	
PCB-1254			<3.3	<10	<17			4	
PCB-1260			<4.9	<10	<17			4	
PCB-1262			<3.3	<10	<17			4	
PCB-1268			<3.3	<10	<17			4	
Total PCBs			<3.3	<10	<17				

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/5/2018 11:27:53

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Data Summary

Sample Name: BLANKA 11/1/18 ACF PBLK31304 BLK Sample ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 00:27:18
Instrument 18274A
Result file 25PCBS18303004.071.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 107% (44 - 130) Conc: 10.77032
%SSR(DCB) 102% (45 - 143) Conc: 10.09909

Analysis Report (B)

Injected on Nov 05, 2018 00:27:18
Instrument 18274B
Result file 25PCBS18303004B.071.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 104% (44 - 130) Conc: 10.45016
%SSR(DCB) 102% (45 - 143) Conc: 10.07598

Single Component Data

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	5012644	10.77032	Tetrachloro-m-xylene	2.65	2.68	2.71	8001132	10.45016
Decachlorobiphenyl	6.58	6.61	6.64	3888320	10.09909	Decachlorobiphenyl	6.18	6.21	6.24	5675806	10.07598

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
Tetrachloro-m-xylene	A	10.77032	0.5	1	1		3.02	
Tetrachloro-m-xylene-D1	A	10.77032	0.5	1	1			
Tetrachloro-m-xylene-D2	B	10.45016	0.5	1	1			
Decachlorobiphenyl	A	10.09909	0.5	1	1		0.23	
Decachlorobiphenyl-D1	A	10.09909	0.5	1	1			
Decachlorobiphenyl-D2	B	10.07598	0.5	1	1			

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
PCB-1016			<3.6	<10	<17			4	
PCB-1221			<4.6	<10	<17			3	
PCB-1232			<8	<16	<17			4	
PCB-1242			<3.3	<10	<17			4	
PCB-1248			<3.3	<10	<17			4	
PCB-1254			<3.3	<10	<17			4	
PCB-1260			<4.9	<10	<17			4	
PCB-1262			<3.3	<10	<17			4	
PCB-1268			<3.3	<10	<17			4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/5/2018 11:27:57

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **BLANKA** 11/1/18 ACF PBLK31304 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 00:27:18
Instrument : CP25--18274A
Result file : 25PCBS18303004.071.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 107% (53-140) Conc.: 10.77032
%SSR(DCB) : 102% (45-143) Conc.: 10.09909

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					1		
3.77	3.77	3.81	993.2507	0.106376			5
Height Summation:			**993.2507**				
Amount Avg CF:			**0.106376**	Linear:			
Aroclor-1221					1		
3.11	3.12	3.15	58890.07	17.625583			2
Height Summation:			**58890.07**				
Amount Avg CF:			**17.625583**	Linear:			
Aroclor-1232					1		
3.77	3.77	3.81	993.2507	0.251169			5
Height Summation:			**993.2507**				
Amount Avg CF:			**0.251169**	Linear:			
Aroclor-1242					1		
3.77	3.77	3.81	993.2507	0.137254			5
Height Summation:			**993.2507**				
Amount Avg CF:			**0.137254**	Linear:			
Aroclor-1260					2	81.84	
5.61	5.65	5.65	6589.794	0.192839			5
5.82	5.84	5.86	979.4629	0.051466			6
Height Summation:			**7569.2569**				
Amount Avg CF:			**0.122152**	Linear:			
Aroclor-1262					2	83.62	
5.61	5.65	5.65	6589.794	0.161752			3
5.82	5.84	5.86	979.4629	0.041544			4
Height Summation:			**7569.2569**				
Amount Avg CF:			**0.101648**	Linear:			
Aroclor-1268					4	145.49	
5.81	5.84	5.85	979.4629	0.0185			1
6.00	6.02	6.04	13605.67	0.308998			3
6.07	6.09	6.11	13951.87	1.26231			4
6.44	6.47	6.48	4045.479	0.026526			6
Height Summation:			**32582.4819**				
Amount Avg CF:			**0.404084**	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:27:18
Instrument : CP25--18274B
Result file : 25PCBS18303004B.071.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 104% (53-140) Conc.: 10.45016
%SSR(DCB) : 102% (45-143) Conc.: 10.07598

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					1		
3.27	3.31	3.31	14894.67	0.973929			2
Height Summation:			**14894.67**				
Amount Avg CF:			**0.973929**	Linear:			
Aroclor-1221					1		
2.89	2.90	2.93	95070.03	17.494444			2
Height Summation:			**95070.03**				
Amount Avg CF:			**17.494444**	Linear:			
Aroclor-1232					1		
3.27	3.31	3.31	14894.67	2.164048			2
Height Summation:			**14894.67**				
Amount Avg CF:			**2.164048**	Linear:			
Aroclor-1242					1		
3.27	3.31	3.31	14894.67	1.198598			2
Height Summation:			**14894.67**				
Amount Avg CF:			**1.198598**	Linear:			
Aroclor-1260					1		
4.64	4.68	4.68	6153.703	0.269446			2
Height Summation:			**6153.703**				
Amount Avg CF:			**0.269446**	Linear:			
Aroclor-1268					3	123.19	
5.61	5.63	5.65	18493.62	1.481643			3
5.68	5.69	5.72	20103.46	6.468663			4
6.03	6.05	6.07	7104.836	0.155852			6
Height Summation:			**45701.916**				
Amount Avg CF:			**2.702053**	Linear:			

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			17	3.6		** 160.61	4	40	
Aroclor-1221			17	4.6		0.75	3	5	
Aroclor-1232			17	8		** 158.40	4	10	
Aroclor-1242			17	3.3		** 158.90	4	30	
Aroclor-1248			17	3.3			4	40	
Aroclor-1254			17	3.3			4	40	
Aroclor-1260			17	4.9		** 75.23	4	40	
Aroclor-1262			17	3.3			4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **BLANKA** 11/1/18 ACF PBLK31304 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 00:27:18
Instrument : CP25--18274A
Result file : 25PCBS18303004.071.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 00:27:18
Instrument : CP25--18274B
Result file : 25PCBS18303004B.071.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1268			17	3.3		** 147.96	4	40	

Units: ug/kg

BLANKA 11/1/18 ACF ABPBLK31304 BLK 183040031A 10885 **SW-846 8082**

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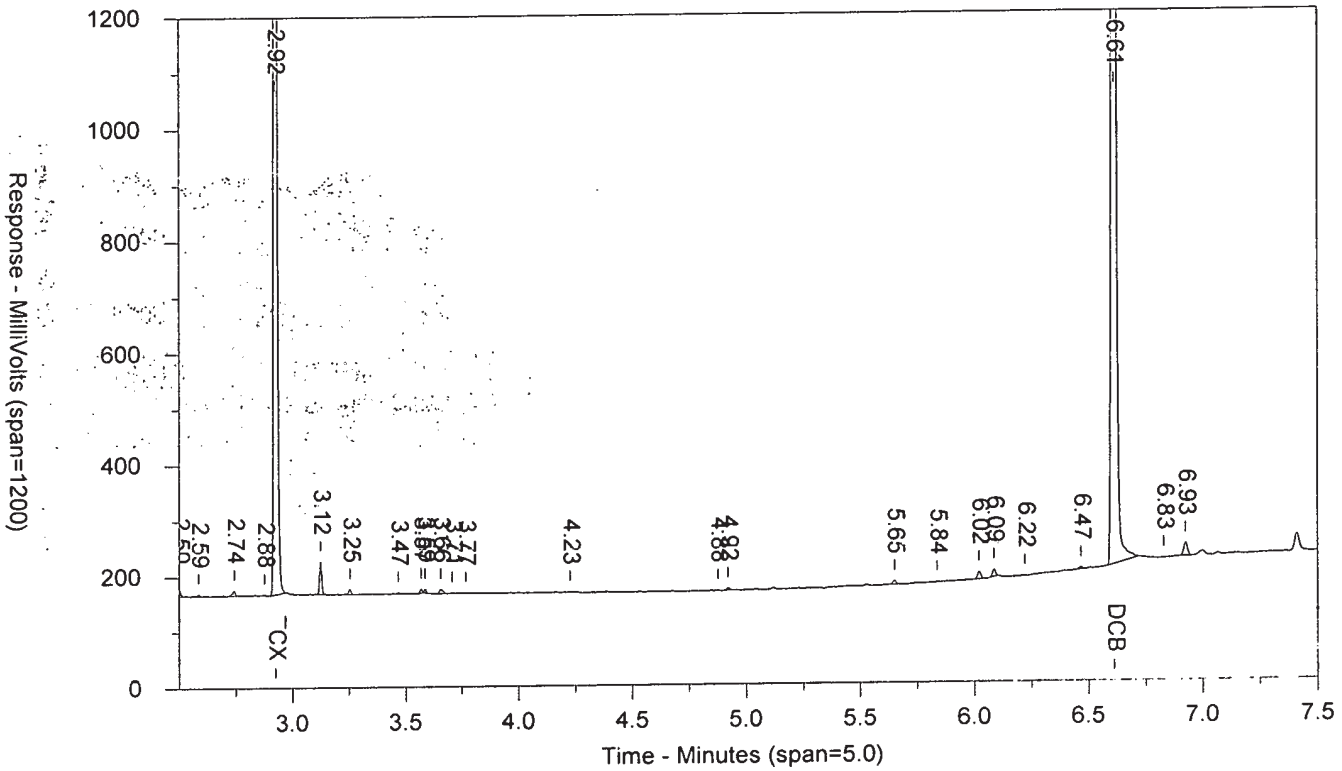

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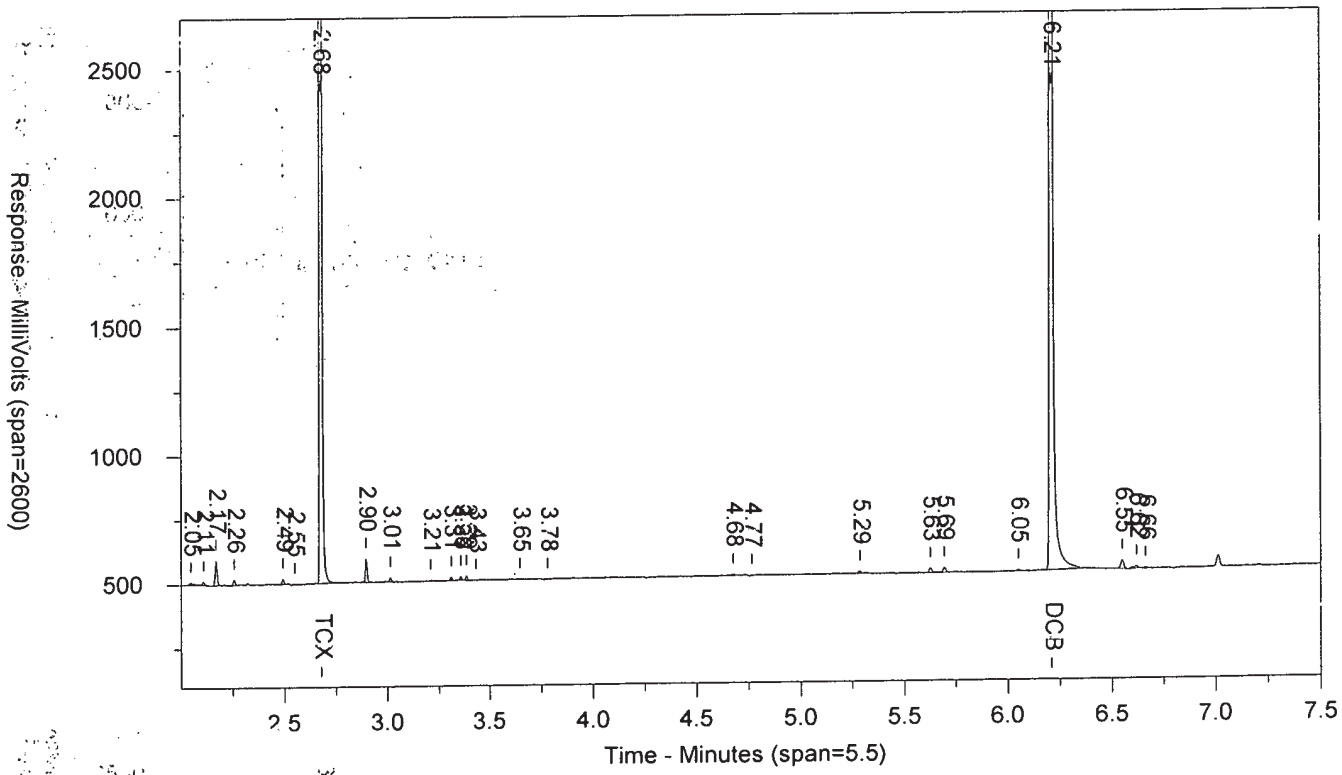

LANCASTER LABORATORIES

Sample Number: BLANKA 11/1/18 ACF ABPBLK31304 BLK 183040031A 10885 SW-846 8082A Feb 20(
Injected On: 11/5/2018 12:27:18 AM
Instrument ID: CP25-18274
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Sample Weight: 30
Dilution Factor: 10

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 2085

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.924	5012644	10.77	TCX	2.677	8001132	10.45	TCX
6.61	3888321	10.099	DCB	6.209	5675806	10.076	DCB

Files:
Area File: 25PCBS18303004.071.RAW
Area File: 25PCBS18303004B.071.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 12:35:50 AM
File Reported On: 11/5/2018 at 12:35:55 AM

10.77 TCX
10.099 DCB

BLANKA 11/1/18 ACF ABPBLK31304 BLK 183040031A 10885 **SW-846 80**

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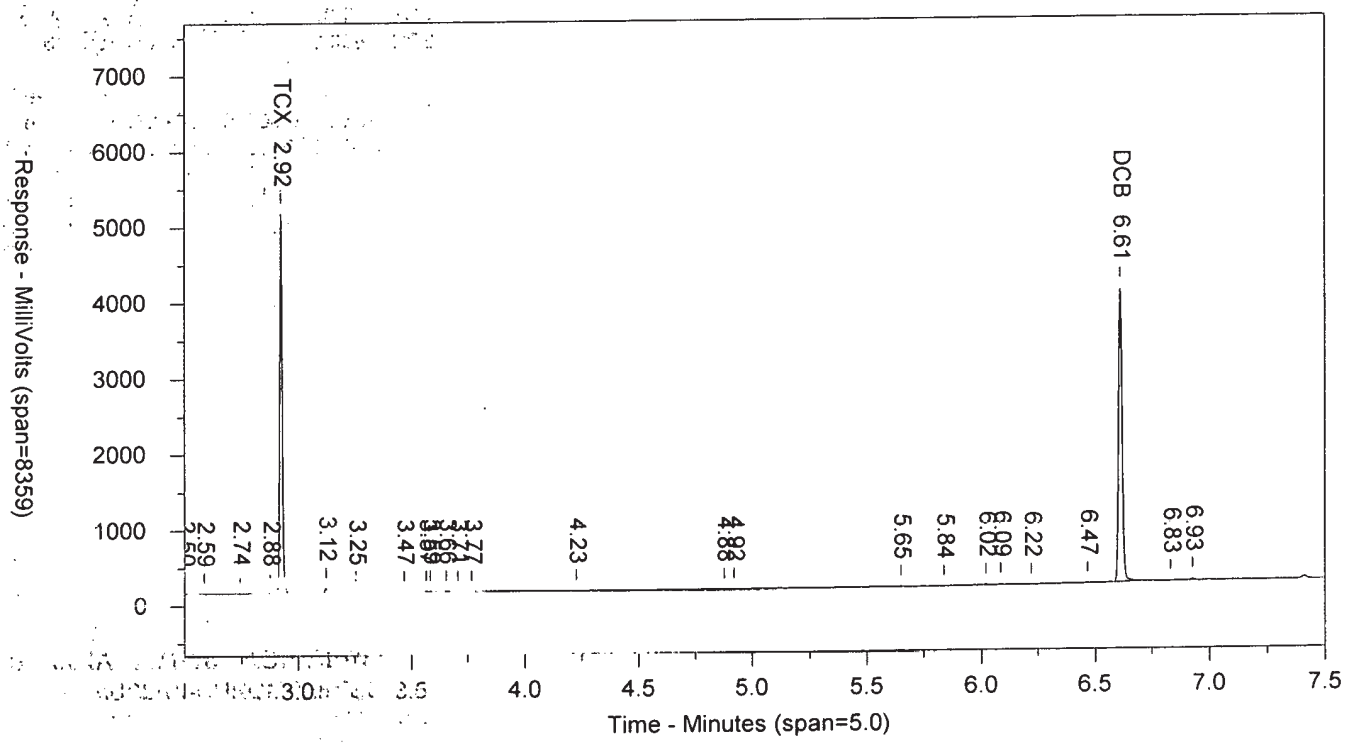

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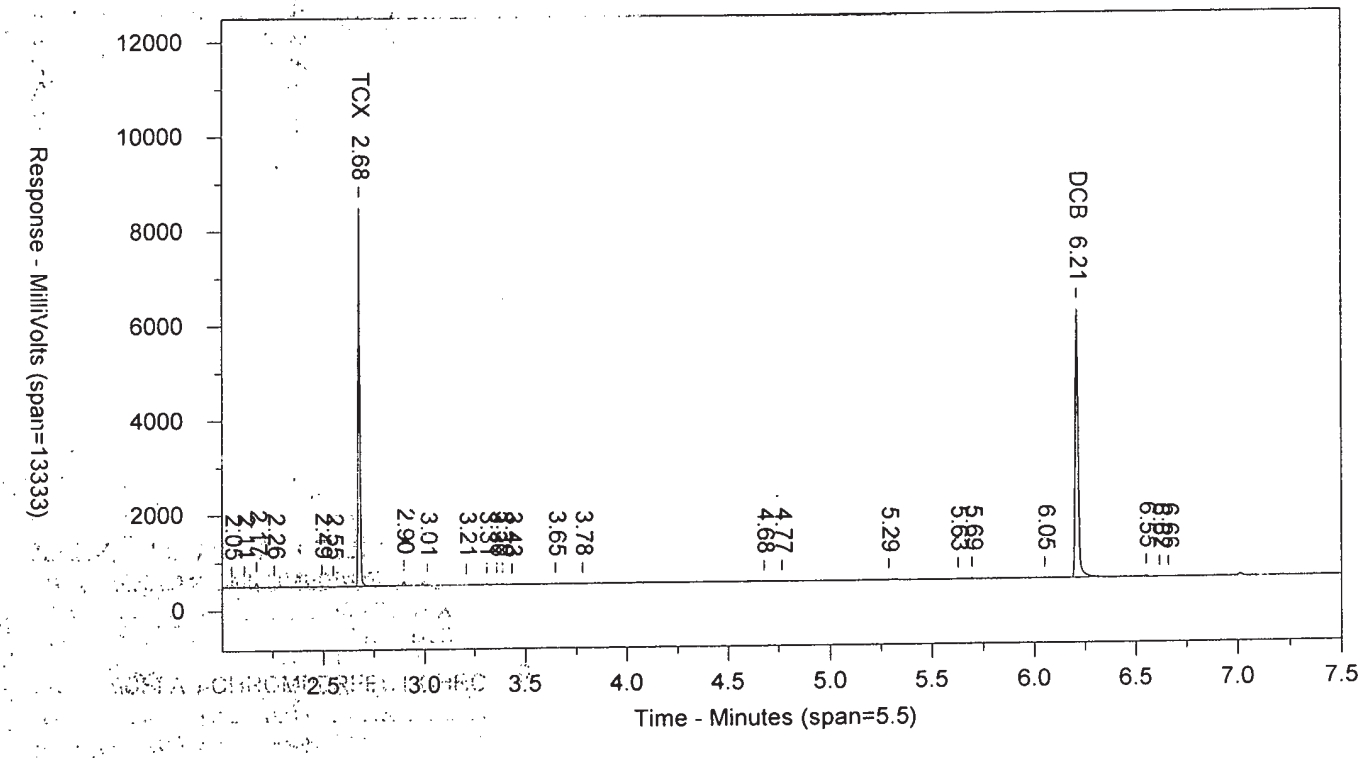

BLANKA 11/1/18 ACF ABPBLK31304 BLK 183040031A 10885 **SW-846 80**

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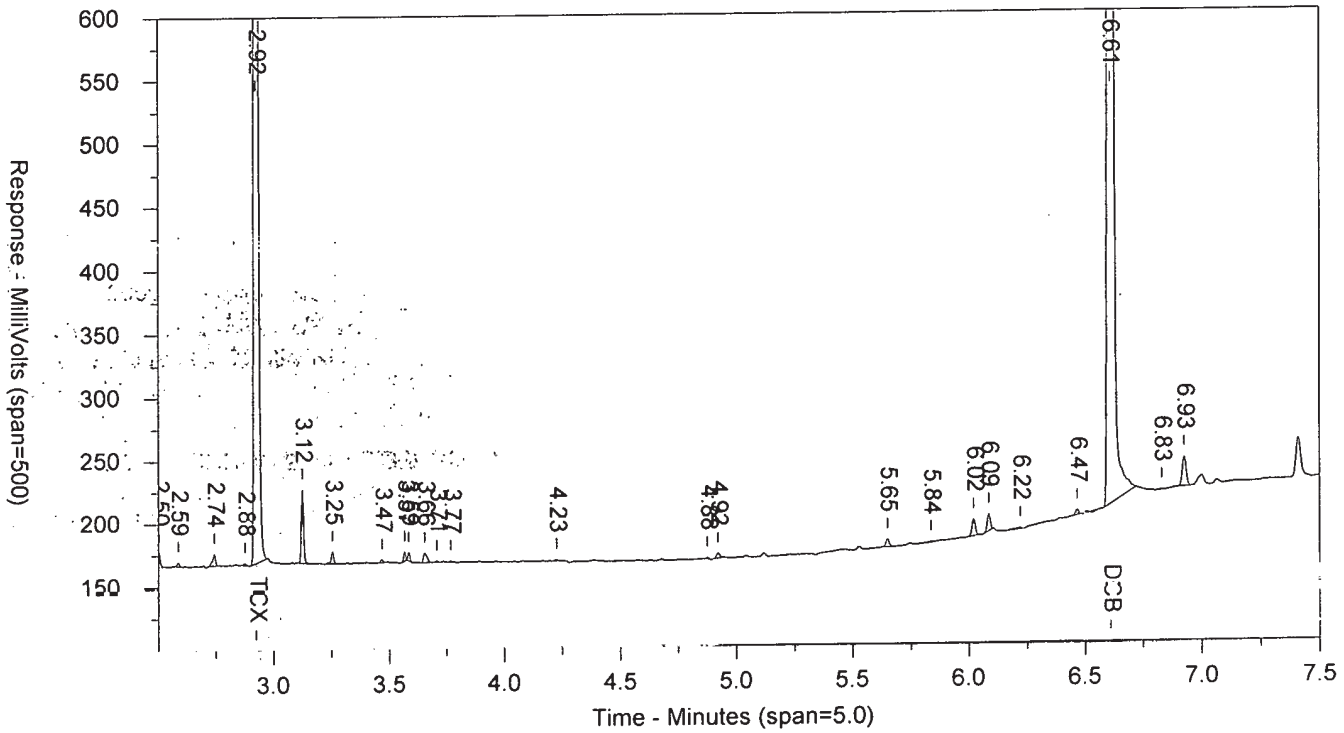

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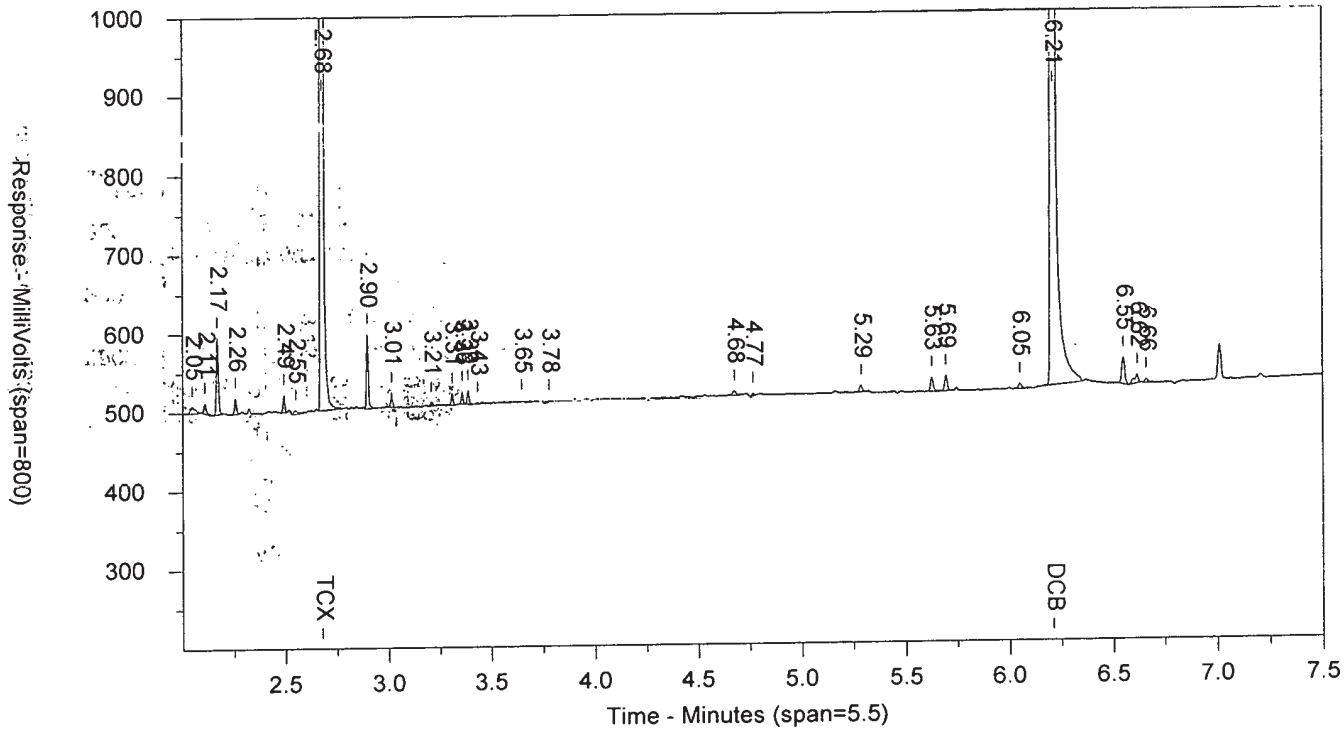

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Data Summary

Sample Name: LCSA 11/1/18 ACF LCS31304 LCS Sample ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 00:38:13
Instrument 18274A
Result file 25PCBS18303004.072.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 108% (53 - 140) Conc: 10.80137
%SSR(DCB) 106% (45 - 143) Conc: 10.53895

Analysis Report (B)

Injected on Nov 05, 2018 00:38:13
Instrument 18274B
Result file 25PCBS18303004B.072.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 107% (53 - 140) Conc: 10.74434
%SSR(DCB) 105% (45 - 143) Conc: 10.3885

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	5027097	10.80137
Decachlorobiphenyl	6.58	6.61	6.64	4057677	10.53895

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	8226377	10.74434
Decachlorobiphenyl	6.18	6.21	6.24	5851852	10.3885

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
Tetrachloro-m-xylene	A	10.80137	0.5	1	1		0.53	
Tetrachloro-m-xylene-D1	A	10.80137	0.5	1	1			
Tetrachloro-m-xylene-D2	B	10.74434	0.5	1	1			
Decachlorobiphenyl	A	10.53895	0.5	1	1		1.44	
Decachlorobiphenyl-D1	A	10.53895	0.5	1	1			
Decachlorobiphenyl-D2	B	10.3885	0.5	1	1			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016						**5.46**	
3.16	3.18	3.20	1154846	145.669437			1
3.38	3.40	3.42	1219099	158.919148			2
3.49	3.51	3.53	1581478	160.592451			3
3.71	3.73	3.75	1903307	167.863798			4
3.77	3.79	3.81	1576220	168.811381			5
3.96	3.98	4.00	1195281	167.603429			6
Height summation:			**8630231**				
Concentration		CF:	**161.576607**	L:			
Aroclor-1260						**14.10**	
4.74	4.76	4.78	2588266	159.410917			1
4.94	4.95	4.98	3133687	160.228025			2
5.14	5.16	5.18	3490217	147.971586			3
5.21	5.23	5.25	2374257	207.473224			4
5.61	5.63	5.65	6867490	200.965488			5
5.82	5.83	5.86	3649524	191.763185			6
Height summation:			**22103441**				
Concentration		CF:	**177.968738**	L:			

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016						**6.46**	
2.94	2.96	2.98	1905792	145.911647			1
3.27	3.29	3.31	2384612	155.924411			2
3.47	3.49	3.51	2510950	169.293867			3
3.54	3.56	3.58	2661678	173.144742			4
3.60	3.62	3.64	1880060	155.873251			5
3.71	3.72	3.75	2184647	167.072237			6
Height summation:			**13527739**				
Concentration		CF:	**161.353359**	L:			
Aroclor-1260						**13.58**	
4.54	4.56	4.58	4740928	166.671768			1
4.64	4.66	4.68	3754500	164.394361			2
4.77	4.79	4.81	4204504	147.942029			3
5.00	5.02	5.04	3495038	198.686732			4
5.19	5.21	5.23	8768595	210.036992			5
5.45	5.47	5.49	5628348	198.03778			6
Height summation:			**30591913**				
Concentration		CF:	**180.96161**	L:			

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Data Summary

Sample Name: LCSA 11/1/18 ACF LCS31304 LCS Sample ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on	Nov 05, 2018 00:38:13
Instrument	18274A
Result file	25PCBS18303004.072.RAW
Calibration file	25PCBS1830301
Method file	25PCBA

Analysis Report (B)

Injected on	Nov 05, 2018 00:38:13
Instrument	18274B
Result file	25PCBS18303004B.072.RAW
Calibration file	25PCBS1830301B
Method file	25PCBAB

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
☐ PCB-1016	A	161.576607	3.6	10	17		0.14	4	
☐ PCB-1221			<4.6	<10	<17			3	
☐ PCB-1232			<8	<16	<17			4	
☐ PCB-1242			<3.3	<10	<17			4	
☐ PCB-1248			<3.3	<10	<17			4	
☐ PCB-1254			<3.3	<10	<17			4	
☐ PCB-1260	B	180.96161	4.9	10	17		1.67	4	
☐ PCB-1262			<3.3	<10	<17			4	
☐ PCB-1268			<3.3	<10	<17			4	
☐ Total PCBs	A	342.538218	3.3	10	17				

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

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Data Summary

Sample Name: LCSA 11/1/18 ACF LCS31304 LCS Sample ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on Nov 05, 2018 00:38:13
Instrument 18274A
Result file 25PCBS18303004.072.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

%SSR(TCX) 108% (44 - 130) Conc: 10.80137
%SSR(DCB) 106% (45 - 143) Conc: 10.53895

Analysis Report (B)

Injected on Nov 05, 2018 00:38:13
Instrument 18274B
Result file 25PCBS18303004B.072.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

%SSR(TCX) 107% (44 - 130) Conc: 10.74434
%SSR(DCB) 105% (45 - 143) Conc: 10.3885

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.92	2.95	5027097	10.80137
Decachlorobiphenyl	6.58	6.61	6.64	4057677	10.53895

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	8226377	10.74434
Decachlorobiphenyl	6.18	6.21	6.24	5851852	10.3885

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
Tetrachloro-m-xylene	A	10.80137	0.5	1	1		0.53	
Tetrachloro-m-xylene-D1	A	10.80137	0.5	1	1			
Tetrachloro-m-xylene-D2	B	10.74434	0.5	1	1			
Decachlorobiphenyl	A	10.53895	0.5	1	1		1.44	
Decachlorobiphenyl-D1	A	10.53895	0.5	1	1			
Decachlorobiphenyl-D2	B	10.3885	0.5	1	1			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016						**5.46**	
3.16	3.18	3.20	1154846	145.669437			1
3.38	3.40	3.42	1219099	158.919148			2
3.49	3.51	3.53	1581478	160.502451			3
3.71	3.73	3.75	1903307	167.863798			4
3.77	3.79	3.81	1576220	168.811381			5
3.96	3.98	4.00	1195281	167.603429			6
Height summation:			**8630231**				
Concentration		CF:	**161.576607**	L:			
Aroclor-1260						**14.10**	
4.74	4.76	4.78	2588266	159.410917			1
4.94	4.95	4.98	3133687	160.228025			2
5.14	5.16	5.18	3490217	147.971586			3
5.21	5.23	5.25	2374257	207.473224			4
5.61	5.63	5.65	6867490	200.965488			5
5.82	5.83	5.86	3649524	191.763185			6
Height summation:			**22103441**				
Concentration		CF:	**177.968738**	L:			

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016						**6.46**	
2.94	2.96	2.98	1905792	145.911647			1
3.27	3.29	3.31	2384612	155.924411			2
3.47	3.49	3.51	2510950	169.293867			3
3.54	3.56	3.58	2661678	173.144742			4
3.60	3.62	3.64	1880060	155.873251			5
3.71	3.72	3.75	2184647	167.072237			0
Height summation:			**13527739**				
Concentration		CF:	**161.353359**	L:			
Aroclor-1260						**13.58**	
4.54	4.56	4.58	4740928	166.671768			1
4.64	4.66	4.68	3754500	164.394361			2
4.77	4.79	4.81	4204504	147.942029			3
5.00	5.02	5.04	3495038	198.686732			4
5.19	5.21	5.23	8768595	210.036992			5
5.45	5.47	5.49	5628348	198.03778			6
Height summation:			**30591913**				
Concentration		CF:	**180.96161**	L:			

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Data Summary

Sample Name: LCSA 11/1/18 ACF LCS31304 LCS Sample ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on	Nov 05, 2018 00:38:13
Instrument	18274A
Result file	25PCBS18303004.072.RAW
Calibration file	25PCBS1830301
Method file	25PCBA

Analysis Report (B)

Injected on	Nov 05, 2018 00:38:13
Instrument	18274B
Result file	25PCBS18303004B.072.RAW
Calibration file	25PCBS1830301B
Method file	25PCBAB

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
PCB-1016	A	161.576607	3.6	10	17		0.14	4	
PCB-1221			<4.6	<10	<17			3	
PCB-1232			<8	<16	<17			4	
PCB-1242			<3.3	<10	<17			4	
PCB-1248			<3.3	<10	<17			4	
PCB-1254			<3.3	<10	<17			4	
PCB-1260	B	180.96161	4.9	10	17		1.67	4	
PCB-1262			<3.3	<10	<17			4	
PCB-1268			<3.3	<10	<17			4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

Valerie L. Tomayko
Principal Specialist

NOV 0 6 2018

Reviewed and digitally signed by Kirby B Turner on 11/5/2018 11:28:06

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **LCSA** 11/1/18 ACF LCS31304 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 00:38:13
Instrument : CP25--18274A
Result file : 25PCBS18303004.072.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET
%SSR(TCX) : 108% (53-140) Conc.: 10.80137
%SSR(DCB) : 106% (45-143) Conc.: 10.53895

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	5.46	
3.16	3.18	3.20	1154846	145.669437			1
3.38	3.40	3.42	1219099	158.919148			2
+ 3.38	3.41	3.42	493046.4	64.272478			2
3.49	3.51	3.53	1581478	160.592451			3
3.71	3.73	3.75	1903307	167.863798			4
3.77	3.79	3.81	1576220	168.811381			5
3.96	3.98	4.00	1195281	167.603429			6
Height Summation:			8630231				
Amount Avg CF:			161.576607	Linear:			
Aroclor-1221					3	39.57	
3.06	3.08	3.10	193975.4	46.01336			1
E 3.11	3.13	3.15	249700.1	74.734328			2
E 3.16	3.18	3.20	1154846	105.750951			3
Height Summation:			1598521.5				
Amount Avg CF:			75.499547	Linear:			
Aroclor-1232					6	31.48	
E 3.16	3.18	3.20	1154846	129.411556			1
E 3.38	3.40	3.42	1219099	351.750748			2
E+ 3.38	3.41	3.42	493046.4	142.260342			2
E 3.49	3.51	3.53	1581478	355.765447			3
E 3.71	3.73	3.75	1903307	356.222025			4
E 3.77	3.79	3.81	1576220	398.588049			5
E 3.96	3.98	4.00	1195281	428.448122			6
Height Summation:			8630231				
Amount Avg CF:			336.697658	Linear:			
Aroclor-1242					6	9.67	
E 3.16	3.18	3.20	1154846	168.4143			1
E 3.38	3.40	3.42	1219099	190.936999			2
E+ 3.38	3.41	3.42	493046.4	77.22162			2
E 3.49	3.51	3.53	1581478	194.37737			3
E 3.71	3.73	3.75	1903307	196.135078			4
E 3.77	3.79	3.81	1576220	217.812074			5
E 3.96	3.98	4.00	1195281	220.324308			6
Height Summation:			8630231				
Amount Avg CF:			198.000022	Linear:			
Aroclor-1248					6	42.08	
3.83	3.85	3.87	1082798	116.000532			1
3.96	3.98	4.00	1195281	113.495376			2
4.05	4.07	4.09	1000630	112.058103			3
4.23	4.25	4.27	137131.9	15.383248			4
4.36	4.38	4.40	1011164	106.476688			5
4.61	4.63	4.65	634117.8	89.704828			6
Height Summation:			5061122.7				
Amount Avg CF:			92.186462	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:38:13
Instrument : CP25--18274B
Result file : 25PCBS18303004B.072.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET
%SSR(TCX) : 107% (53-140) Conc.: 10.74434
%SSR(DCB) : 105% (45-143) Conc.: 10.3885

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016					6	6.46	
2.94	2.96	2.98	1905792	145.911647			1
3.27	3.29	3.31	2384612	155.924411			2
+ 3.47	3.47	3.51	80161.23	5.404649			3
3.47	3.49	3.51	2510950	169.293867			3
3.54	3.56	3.58	2661678	173.144742			4
3.60	3.62	3.64	1880060	155.873251			5
+ 3.60	3.64	3.64	598960.8	49.659036			5
3.71	3.72	3.75	2184647	167.972237			6
Height Summation:			13527739				
Amount Avg CF:			161.353359	Linear:			
Aroclor-1221					3	38.43	
2.83	2.85	2.87	350299.6	45.961477			1
E 2.89	2.91	2.93	403998.4	74.342328			2
E 2.94	2.96	2.98	1905792	103.237035			3
Height Summation:			2660090				
Amount Avg CF:			74.513613	Linear:			
Aroclor-1232					6	32.65	
E 2.94	2.96	2.98	1905792	127.44525			1
E 3.27	3.29	3.31	2384612	346.460449			2
+ 3.47	3.47	3.51	80161.23	11.464107			3
E 3.47	3.49	3.51	2510950	359.098762			3
E 3.54	3.56	3.58	2661678	397.850343			4
E 3.60	3.62	3.64	1880060	431.334501			5
E+ 3.60	3.64	3.64	598960.8	137.417134			5
E 3.71	3.72	3.75	2184647	428.899032			6
Height Summation:			13527739				
Amount Avg CF:			348.514723	Linear:			
Aroclor-1242					6	8.87	
E 2.94	2.96	2.98	1905792	169.106142			1
E 3.27	3.29	3.31	2384612	191.893545			2
+ 3.47	3.47	3.51	80161.23	6.342535			3
E 3.47	3.49	3.51	2510950	198.671947			3
E 3.54	3.56	3.58	2661678	215.759246			4
E 3.60	3.62	3.64	1880060	207.416791			5
+ 3.60	3.64	3.64	598960.8	66.080086			5
E 3.71	3.72	3.75	2184647	215.58224			6
Height Summation:			13527739				
Amount Avg CF:			199.738319	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **LCSA** 11/1/18 ACF LCS31304 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 00:38:13
Instrument : CP25--18274A
Result file : 25PCBS18303004.072.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254					6	107.71	
+ 4.55	4.57	4.59	58473.69	5.583271			1
4.55	4.59	4.59	233814.6	22.32543			1
4.61	4.63	4.65	634117.8	30.244315			2
E 4.74	4.76	4.78	2588266	391.533418			3
4.83	4.85	4.87	371526.4	25.680705			4
5.03	5.05	5.07	1470348	126.683758			5
5.14	5.16	5.18	3490217	235.289723			6
Height Summation:			8788289.8				
Amount Avg CF:			138.626225	Linear:			
Aroclor-1260					6	14.10	
4.74	4.76	4.78	2588266	159.410917			1
4.94	4.95	4.98	3133687	160.228025			2
5.14	5.16	5.18	3490217	147.971586			3
5.21	5.23	5.25	2374257	207.473224			4
5.61	5.63	5.65	6867490	200.965488			5
5.82	5.83	5.86	3649524	191.763185			6
Height Summation:			22103441				
Amount Avg CF:			177.968737	Linear:			
Aroclor-1262					6	16.50	
E 5.21	5.23	5.25	2374257	136.03974			1
E 5.38	5.39	5.41	2170746	154.404882			2
E 5.61	5.63	5.65	6867490	168.568791			3
E 5.82	5.83	5.86	3649524	154.793652			4
E 5.87	5.89	5.91	1318485	103.045204			5
E 6.25	6.26	6.29	2050717	130.132072			6
Height Summation:			18431219				
Amount Avg CF:			141.164057	Linear:			
Aroclor-1268					6	119.04	
5.81	5.83	5.85	3649524	68.931047			1
5.87	5.89	5.91	1318485	27.496181			2
6.00	6.02	6.04	101014.4	2.294135			3
6.07	6.08	6.11	82902.17	7.500662			4
6.24	6.26	6.28	2050717	108.508449			5
6.44	6.46	6.48	579027.9	3.796715			6
Height Summation:			7781670.47				
Amount Avg CF:			36.421198	Linear:			

Analysis Report (B)

Injected on : Nov 05, 2018 00:38:13
Instrument : CP25--18274B
Result file : 25PCBS18303004B.072.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248					6	48.54	
3.58	3.60	3.62	1771172	116.265563			1
3.71	3.72	3.75	2184647	116.798508			2
+ 3.80	3.80	3.84	403236.5	32.616726			3
3.80	3.82	3.84	1447594	117.092022			3
3.93	3.95	3.97	1677569	69.668287			4
4.07	4.09	4.11	110686.6	9.99414			5
+ 4.07	4.11	4.11	103256.2	9.323233			5
+ 4.30	4.30	4.34	443200.9	42.330986			6
+ 4.30	4.32	4.34	261193.9	24.947141			6
4.30	4.34	4.34	1281451	122.393896			6
Height Summation:			8473119.6				
Amount Avg CF:			92.035403	Linear:			
Aroclor-1254					6	97.50	
+ 4.30	4.30	4.34	443200.9	14.478375			1
+ 4.30	4.32	4.34	261193.9	8.532616			1
4.30	4.34	4.34	1281451	41.862116			1
4.40	4.42	4.44	3880146	269.874277			2
4.47	4.49	4.51	324347.8	16.79804			3
E 4.54	4.56	4.58	4740928	407.241945			4
4.69	4.72	4.73	512418.5	38.587987			5
4.77	4.79	4.81	4204504	192.687245			6
Height Summation:			14943795.3				
Amount Avg CF:			161.175268	Linear:			
Aroclor-1260					6	13.58	
4.54	4.56	4.58	4740928	166.671768			1
4.64	4.66	4.68	3754500	164.394361			2
4.77	4.79	4.81	4204504	147.942029			3
5.00	5.02	5.04	3495038	198.686732			4
5.19	5.21	5.23	8768595	210.036992			5
5.45	5.47	5.49	5628348	198.03778			6
Height Summation:			30591913				
Amount Avg CF:			180.96161	Linear:			
Aroclor-1262					6	19.19	
E 4.81	4.82	4.85	3058799	131.176228			1
E 5.00	5.02	5.04	3495038	144.765097			2
E 5.20	5.21	5.24	8768595	178.745566			3
E 5.41	5.43	5.45	2011660	101.276303			4
E 5.46	5.47	5.50	5628348	169.422083			5
E 5.83	5.85	5.87	2784092	141.789604			6
Height Summation:			25746532				
Amount Avg CF:			144.529147	Linear:			

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **LCSA** 11/1/18 ACF LCS31304 ID: AB **Batchnumber: 183040031A**
Sample Amount: 30 g Total Volume: 10 ml Analyst: 9065 SDG: State:
Analyses: 10885

Analysis Report (A)

Injected on : Nov 05, 2018 00:38:13
Instrument : CP25--18274A
Result file : 25PCBS18303004.072.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 05, 2018 00:38:13
Instrument : CP25--18274B
Result file : 25PCBS18303004B.072.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268					**6**	**145.05**	
5.41	5.43	5.45	2011660	0.141576			1
5.46	5.47	5.50	5628348	391.826454			2
5.61	5.63	5.65	131811.4	10.560257			3
5.68	5.69	5.72	94601.38	30.439758			4
5.83	5.85	5.87	2784092	555.683361			5
6.03	6.05	6.07	751798.4	16.491494			6

Height Summation: **11402311.18**
Amount Avg CF: **167.523817** Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			17	3.6		0.14	4	40	
Aroclor-1221			17	4.6	E	1.31	3	5	
Aroclor-1232			17	8	E	3.45	4	10	
Aroclor-1242			17	3.3	E	0.87	4	30	
Aroclor-1248			17	3.3		0.16	4	40	
Aroclor-1254			17	3.3	E	15.04	4	40	
Aroclor-1260			17	4.9		1.67	4	40	
Aroclor-1262			17	3.3	E	2.36	4	40	
Aroclor-1268			17	3.3		** 128.57	4	40	

Units: ug/kg

LCSA 11/1/18 ACF ABLCS31304 LCS 183040031A 10885 SW-846 8082A

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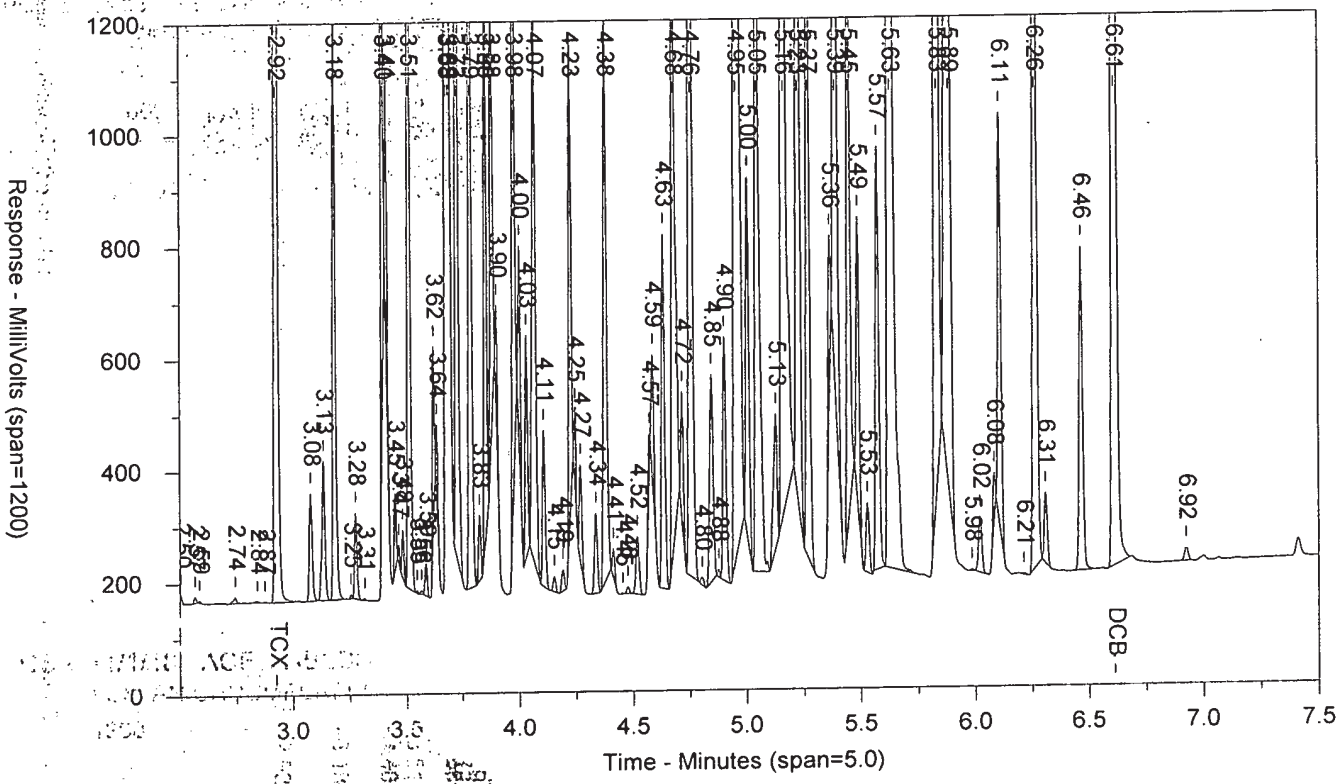

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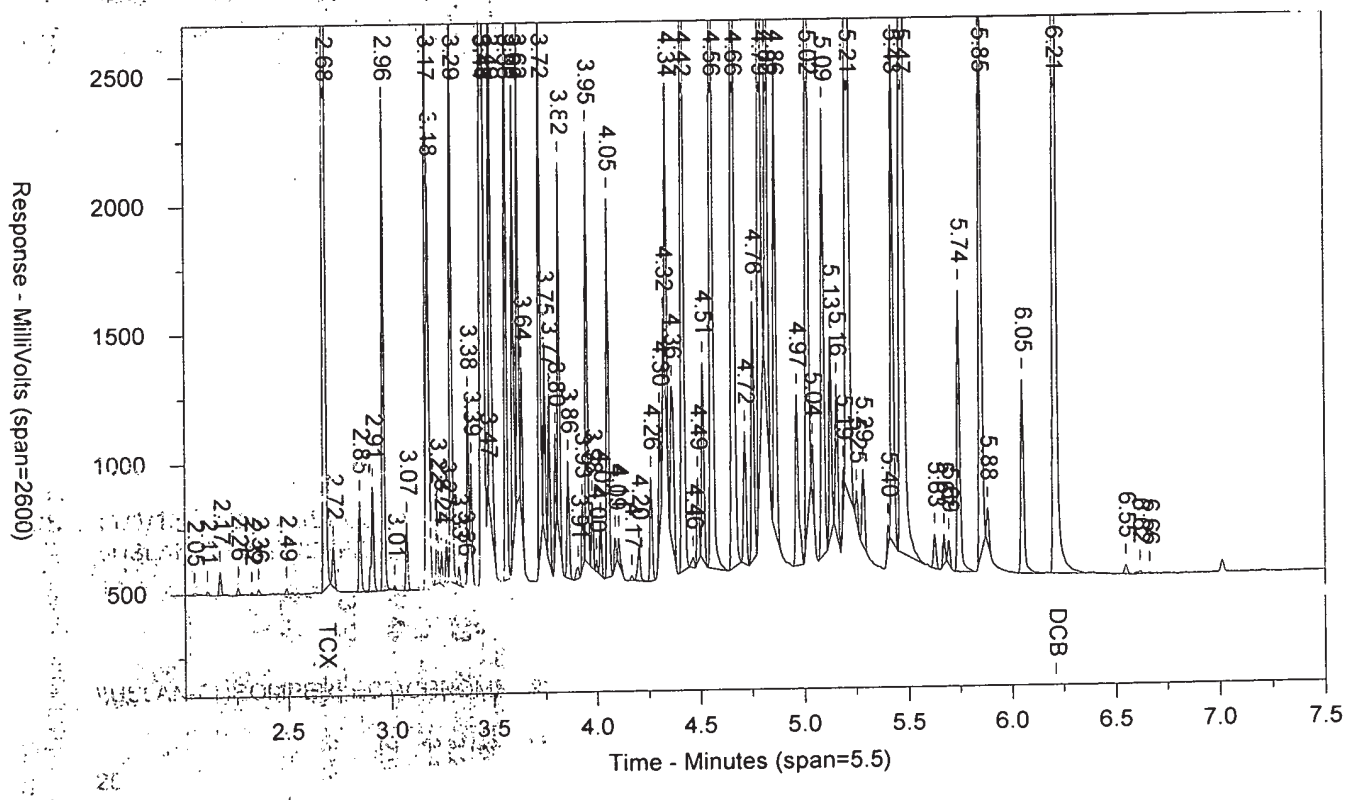

LANCASTER LABORATORIES

Sample Number: LCSA 11/1/18 ACF ABLCS31304 LCS 183040031A 10885 SW-846 8082A Feb 2007
Injected On: 11/5/2018 12:38:13 AM Sample Weight: 30
Instrument ID: CP25-18274 Dilution Factor: 10
Oven Parameters: 110c to 250 @ 40c/min, to 280 @ 20c/min, to 330 @ 30c/min, hold for 5 min
Column A ID: ZB Multiresidue-1 30m x 0.32mm x 0.5um
Column B ID: ZB Multiresidue-2 30m x 0.32mm x 0.25um
Injection Volume: 1 ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	5027097	10.801	TCX	2.678	8226377	10.744	TCX
6.611	4057677	10.539	DCB	6.21	5851852	10.389	DCB

Files:
Area File: 25PCBS18303004.072.RAW
Area File: 25PCBS18303004B.072.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/5/2018 12:46:44 AM
File Reported On: 11/5/2018 at 12:46:49 AM

LCSA 11/1/18 ACF ABLCS31304 LCS 183040031A 10885 SW-846 8082

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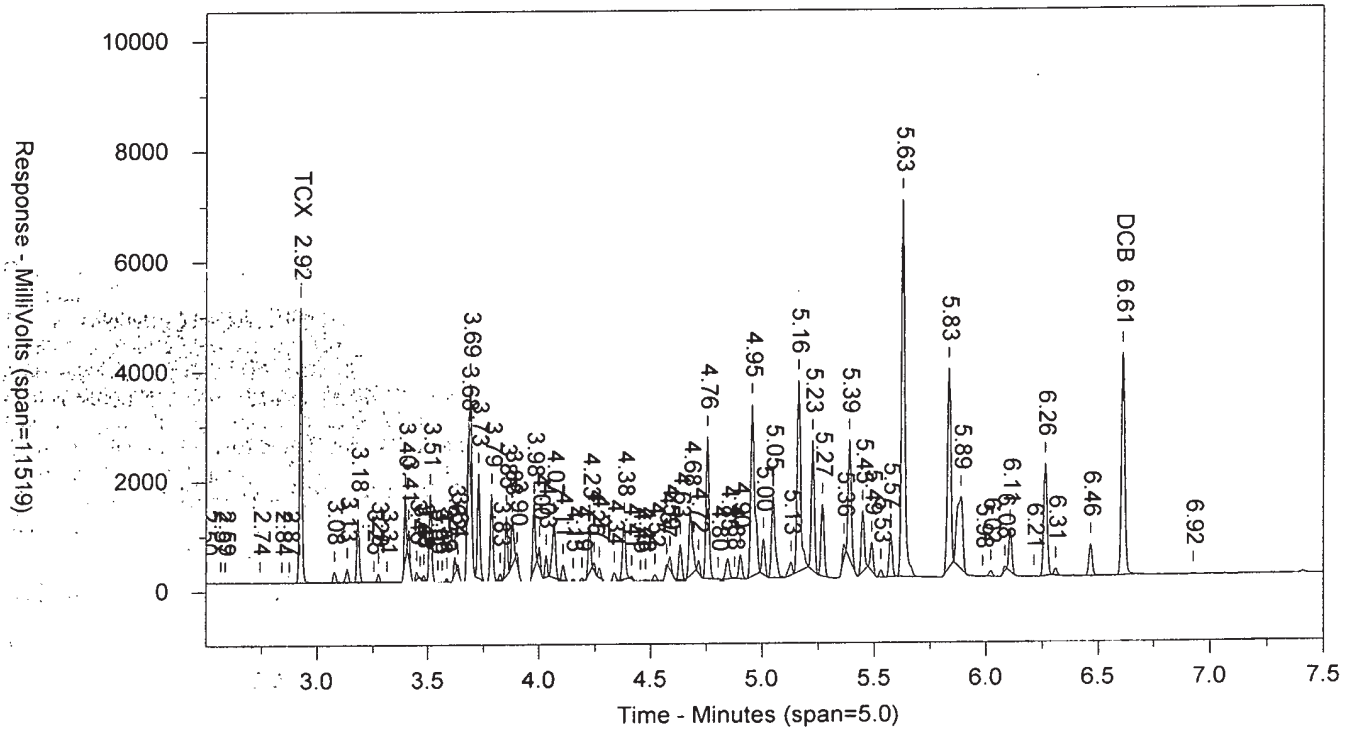

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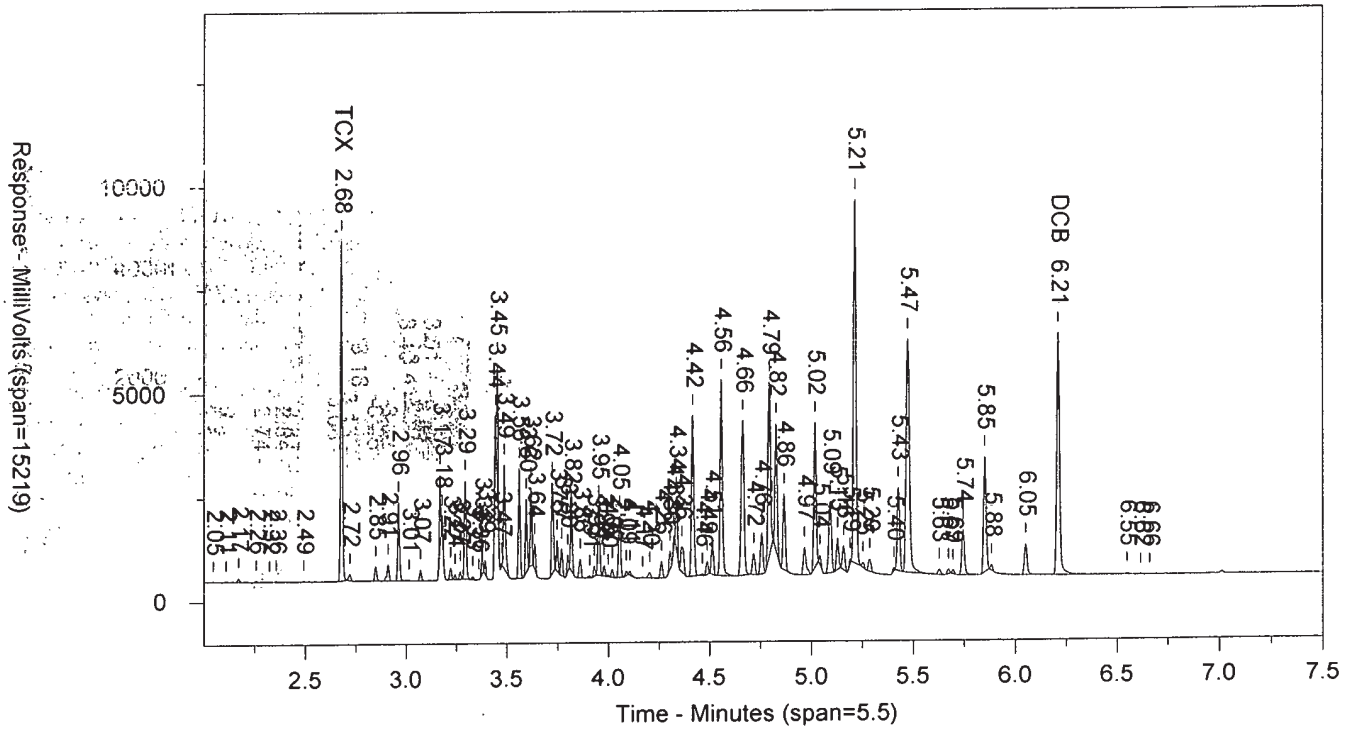

LCSA 11/1/18 ACF ABLCS31304 LCS 183040031A 10885 SW-846 8082

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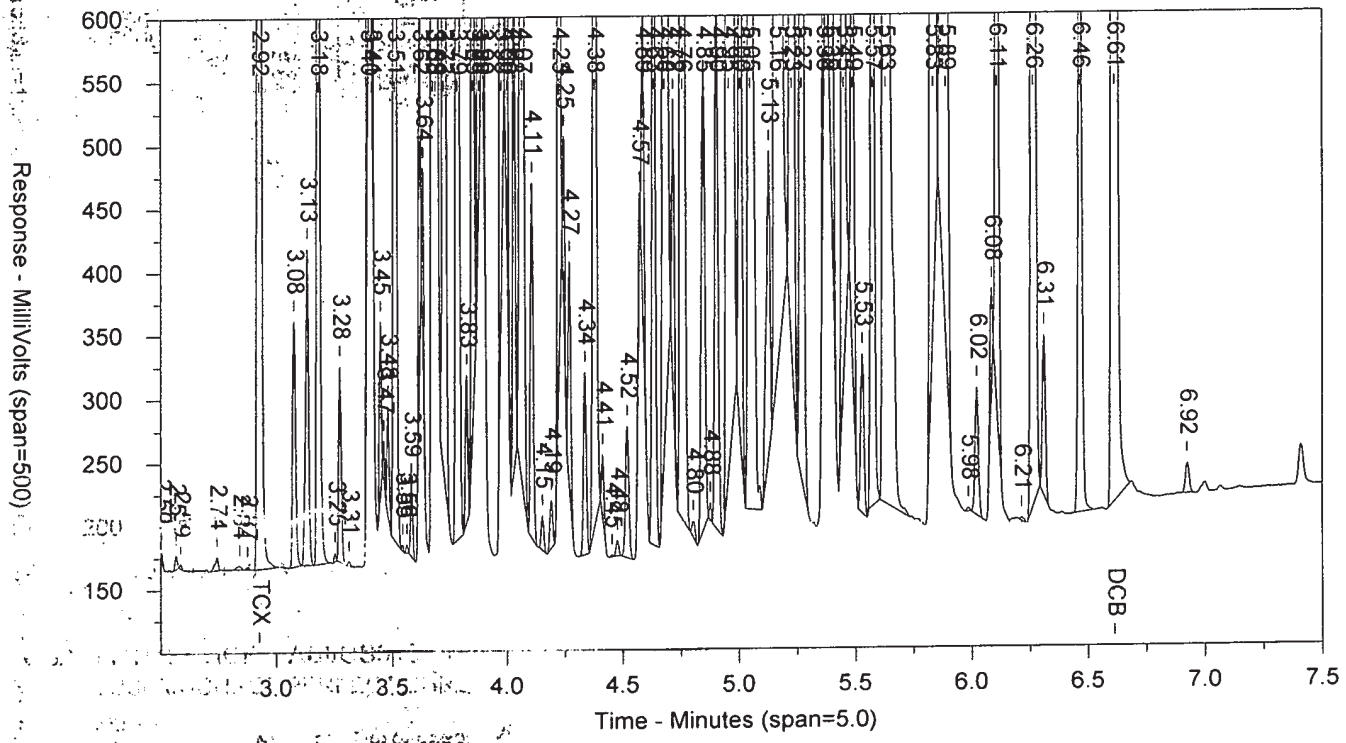

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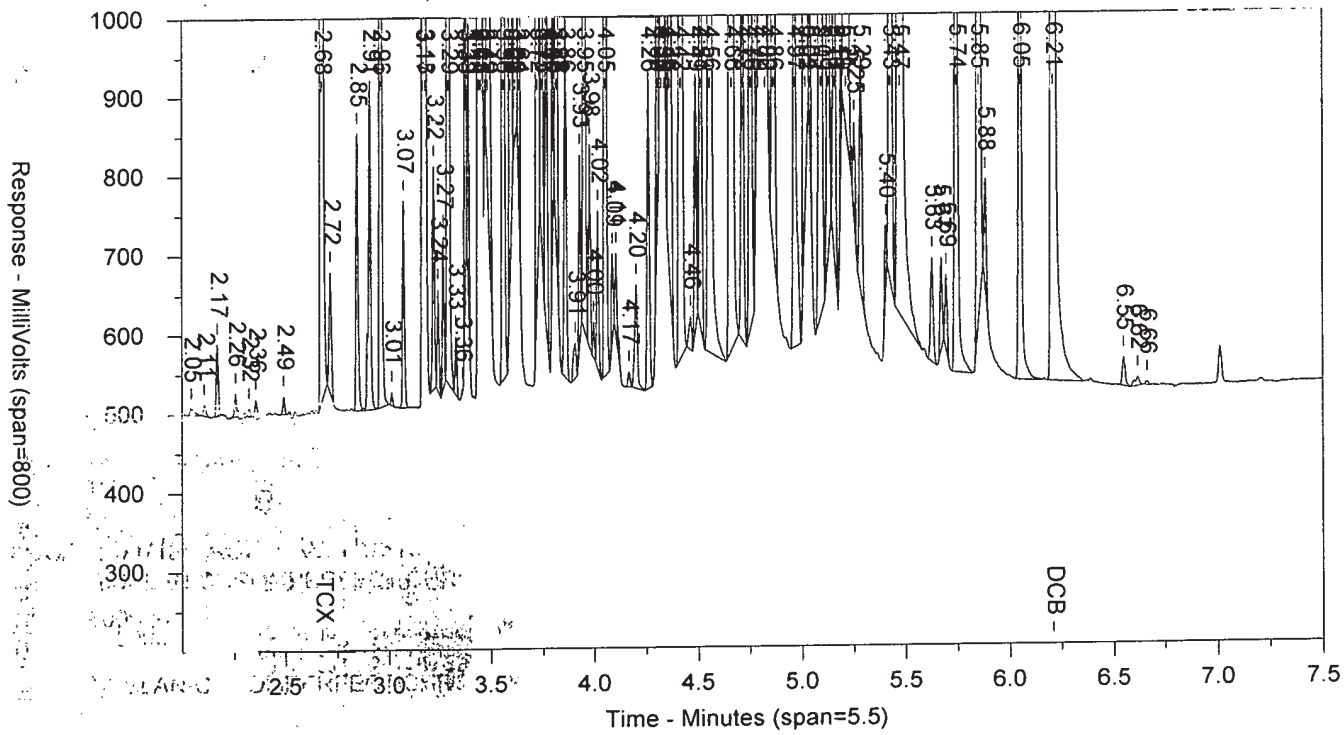

Extraction/Distillation/Digestion Logs

Polychlorinated Biphenyls (PCBs)

Organic Extraction Batchlog Assigned to: 9874 Kayla Yuditsky

Reviewed by: [illegible] Start Date: 11/1/18 Start time: 8:00

183040031A

Tech 1: Ky 9874 Tech 2: LAB 26557

Dept: 24	Prep Analysis: 10497 PCB Microwave Soil Extraction										PCBs 8082A/3546
QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments
9867763MS	T1003	30.24	SS1828524A	1.0	MS1828824C	1.0	10	Z	Z	312B	Soil, sandy
9867764MSD	T1003	30.18	SS1828524A		MS1828824C	1.0	10	Z	Z	312B	↓
BLANKA	PBLK31304	30.0	SS1828524A		—		10	Z	Z	—	Na2SO4
LCSA	LCS31304	30.0	SS1828524A	↓	MS1828824C	1.0	10	Z	Z	↓	↓

Solvent Used	Lot No.
1:1 Methylene Chloride/Acetone	9874110118A
Hexane	186229
Sodium Sulfate	18304A

N/A Ky 9874 11/1/18

Spike Solutions: Witness: N/A

MS1828824C PCB SPIKE

SS1828524A SW846 SURROGATE STANDARI

Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments	Analyses	List	Due Date	Prio
1 9867761	T1002	30.03	SS1828524A	1.0	10	Z	Z	312B	Soil;Sandy;Brown	10885	22371	11/05/2018	N
2 9867762BKG	T1003	30.22	SS1828524A		10	Z	Z	312B	Soil;Sandy;Brown	10885	22371	11/05/2018	N
3 9867766	T1004	30.17	SS1828524A		10	Z	Z	312B	Soil;Sandy;Rocks;Brown	10885	22371	11/05/2018	N
4 9867767	T1005	30.49	SS1828524A		10	Z	Z	312B	Soil;Wet;Brown	10885	22371	11/05/2018	N
5 9870251	T1102	30.47	SS1828524A		10	Z	Z	312B	Soil;Gritty;Rocks;Red	10885	22371	11/06/2018	N
6 9870252	T1103	30.28	SS1828524A		10	Z	Z	312B	Soil;Gritty;Rocks;Black	10885	22371	11/06/2018	N
7 9870253	T1104	30.18	SS1828524A		10	Z	Z	312B	Soil;Gritty;Rocks;Black	10885	22371	11/06/2018	N
8 9870254	T1105	30.24	SS1828524A		10	Z	Z	312B	Soil;Gritty;Rocks;Black	10885	22371	11/06/2018	N
9 9872060	12T02	30.49	SS1828524A		10	Z	Z	312B	Soil;Rocks;Black	10885	22371	11/07/2018	N
10 9872061	12T03	30.03	SS1828524A		10	Z	Z	312B	Soil;Rocks;Black	10885	22371	11/07/2018	N
11 9872062	12T04	30.02	SS1828524A		10	Z	Z	312B	Soil;Gritty;Rocks;Black	10885	22371	11/07/2018	N
12 9872063	12T05	30.21	SS1828524A		10	Z	Z	312B	Soil;Rocks;Brown	10885	22371	11/07/2018	N
13 9872064	12T06	30.34	SS1828524A		10	Z	Z	312B	Organic Matter;Soil;Rocks;Black	10885	22371	11/07/2018	N
14 9872065	12T07	30.30	SS1828524A	↓	10	Z	Z	312B	Soil;Brown	10885	22371	11/07/2018	N

N/A Ky 9874 11/1/18

Bench#	Bench#	Bench#
Rack ID:		Work Station: Micro
Internal Standard		Balance #: 17609

Micro Temp 100? ✓

R-VAP ID	C	R-VAP ID	C	R-VAP ID	C
S-bath ID 5	98 C	S-bath ID	C	N-Evap	C

M-vap C

183040031A

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

Prep-Process Worksheet

Acid Cleanup

Prep: 10497 PCB Microwave Soil Extraction

Batch No: 183040031A

Verified: [illegible]
Start Date: 11/1/18
Start Time: 12:00
Tech 1: KY9874
Tech 2: —

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F. Aliq	D.F. F.V.	Comments
9867763MS		10	10			
9867764MSD		↓	↓			
BLANKA		↓	↓			
LCSA		↓	↓			

	Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F. Aliq	D.F. F.V.	Comments	Analyses
1	9867761		10	10				10885
2	9867762		↓	↓				10885
3	9867766		↓	↓				10885
4	9867767		↓	↓				10885
5	9870251		↓	↓				10885
6	9870252		↓	↓				10885
7	9870253		↓	↓				10885
8	9870254		↓	↓				10885
9	9872060		↓	↓				10885
10	9872061		↓	↓				10885
11	9872062		↓	↓				10885
12	9872063		↓	↓				10885
13	9872064		↓	↓				10885
14	9872065		↓	↓				10885

Additional Comment: _____

DF = Dilution Factor FV = Final Volume

N/A KY 9874 11/1/18

Solvent Used	Lot No.	Solvent Used	Lot No.
		Sulfuric acid	184517

Prep-Process Worksheet

Copper/Florisil

Prep: 10497 PCB Microwave Soil Extraction

Batch No: 183040031A

Verified: [illegible]
Start Date: 11/1/18
Start Time: 13:00
Tech 1: Ky 9874
Tech 2: —

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F. Aliq	D.F. F.V.	Comments
9867763MS		2	2			
9867764MSD		↓	↓			
BLANKA		↓	↓			
LCSA		↓	↓			

	Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F. Aliq	D.F. F.V.	Comments	Analyses
1	9867761		2	2				10885
2	9867762		↓	↓				10885
3	9867766		↓	↓				10885
4	9867767		↓	↓				10885
5	9870251		↓	↓				10885
6	9870252		↓	↓				10885
7	9870253		↓	↓				10885
8	9870254		↓	↓				10885
9	9872060		↓	↓				10885
10	9872061		↓	↓				10885
11	9872062		↓	↓				10885
12	9872063		↓	↓				10885
13	9872064		↓	↓				10885
14	9872065		↓	↓				10885

N/A Ky 9874 11/1/18

Additional Comment: _____

DF = Dilution Factor FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
		Florisil	71228DC1
		Copper	811260BF

Dioxins/Furans by HRMS Data

Case Narrative/Conformance Summary

Dioxins/Furans by HRMS

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Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID12

HRMS Group

Fraction: Dioxins/Furans by HRMS

Sample #	Client ID	Matrix Liquid	Matrix Solid	Comments
9872060	OU2-1-SU005-06		X	
9872061	OU2-1-SU005-06-DUP		X	Field Duplicate Sample
9872062	OU2-1-SU005-16		X	
9872063	OU2-1-SU006-05		X	
9872064	OU2-1-SU006-14		X	
9872065	OU2-1-SU008-02		X	

LABORATORY SUBMITTED QC:

Sample #	Matrix Liquid	Matrix Solid
BLK302007		X
OPR302007		X

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

SAMPLE PREPARATION:

No problems were encountered with the extraction of these samples.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Surrogate

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

(Sample number(s): 9872060-9872062, 9872064: Analysis: 13233)
Due to the nature of the sample matrix, the recovery of 13C12-2378-TCDF was outside of the QC acceptance limits for the confirmation of this sample.

Batch#: 18302007 (Sample number(s): 9872060-9872065)
The recovery(ies) for the following surrogate(s) were below the acceptance window:
13C12-2378-TCDF-Conf (9872060, 9872061, 9872062, 9872064)

SAMPLE ANALYSIS:

All samples were analyzed by SW846 Method 8290A.

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Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID12

HRMS Group

Fraction: Dioxins/Furans by HRMS

Confirmation analysis for 2378-TCDF was performed on all samples.

Samples	D/F in Solids 8290-Conf	Dioxins/Furans in Solids-8290
9872060	DF1	DF10
9872061	DF1	DF10
9872062	DF1	DF10
9872063	DF1	DF10
9872064	DF1	DF10
9872065	DF1	DF10

No problems were encountered with the analysis of the samples.

DATA INTERPRETATION:

Data was processed and interpreted using standard operating procedures.

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID12

HRMS Group

Fraction: Dioxins/Furans by HRMS

Quality Control and Calibration Summary Forms

Dioxins/Furans by HRMS

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 77.9
ID: 0.25 (mm)

Lab Sample ID: 9872060DL
Lab File ID: 18NOV07-09
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 22:37
Dilution Factor: 10.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.81	0.65	3.82	J	1.92
2378-TCDD	320/322	29.95	1.24 *		U	1.70
12378-PeCDF	340/342	34.93	1.44	6.00	J	3.19
23478-PeCDF	340/342	36.25	1.93 *	8.48	JQ	3.19
12378-PeCDD	356/358	36.65	1.54		U	4.09
123478-HxCDF	374/376	39.99	1.30	13.2	J	3.19
123678-HxCDF	374/376	40.16	1.14	15.4	J	3.19
234678-HxCDF	374/376	40.88	1.12	11.9	J	3.19
123478-HxCDD	390/392	41.07	1.06		U	3.19
123678-HxCDD	390/392	41.19	1.22	22.0	J	3.19
123789-HxCDD	390/392	41.52	1.34	7.48	J	3.19
123789-HxCDF	374/376	41.92	1.75 *	4.14	JQ	3.19
1234678-HpCDF	408/410	43.64	1.06	299		3.19
1234678-HpCDD	424/426	44.87	1.05	442		3.19
1234789-HpCDF	408/410	45.45	1.23 *	13.7	JQ	3.19
OCDD	458/460	47.92	0.92	5550		17.6
OCDF	442/444	48.11	0.89	259		6.92

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.33	0.83	0.65 - 0.90	20 *	35 - 197
13C12-2378-TCDF	316/318	28.77	0.79	0.65 - 0.90	105	40 - 135
13C12-2378-TCDD	332/334	29.88	0.80	0.65 - 0.90	101	40 - 135
13C12-12378-PeCDF	352/354	34.90	1.58	1.32 - 1.79	107	40 - 135
13C12-23478-PeCDF	352/354	36.22	1.59	1.32 - 1.79	106	40 - 135
13C12-12378-PeCDD	368/370	36.62	1.58	1.32 - 1.79	99	40 - 135
13C12-123478-HxCDF	384/386	39.98	0.53	0.43 - 0.60	105	40 - 135
13C12-123678-HxCDF	384/386	40.14	0.53	0.43 - 0.60	104	40 - 135
13C12-234678-HxCDF	384/386	40.86	0.53	0.43 - 0.60	103	40 - 135
13C12-123478-HxCDD	402/404	41.06	1.26	1.05 - 1.44	96	40 - 135
13C12-123678-HxCDD	402/404	41.18	1.25	1.05 - 1.44	95	40 - 135
13C12-123789-HxCDD	402/404	41.49	1.27	1.05 - 1.44	96	40 - 135
13C12-123789-HxCDF	384/386	41.89	0.54	0.43 - 0.60	107	40 - 135
13C12-1234678-HpCDF	418/420	43.62	0.47	0.37 - 0.52	101	40 - 135
13C12-1234678-HpCDD	436/438	44.86	1.06	0.88 - 1.21	92	40 - 135
13C12-1234789-HpCDF	418/420	45.44	0.46	0.37 - 0.52	101	40 - 135
13C12-OCDD	470/472	47.91	0.90	0.76 - 1.03	95	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 77.9
ID: 0.25 (mm)

Lab Sample ID: 9872060DL
Lab File ID: 18NOV07-09
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 22:37
Dilution Factor: 10.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.10	0.90	0.76 - 1.03	101	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 77.8
ID: 0.25 (mm)

Lab Sample ID: 9872061DL
Lab File ID: 18NOV07-10
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 23:34
Dilution Factor: 10.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.84	0.68	4.79	J	1.92
2378-TCDD	320/322	29.96	1.47 *		U	1.69
12378-PeCDF	340/342	34.94	1.55	8.24	J	3.18
23478-PeCDF	340/342	36.30	1.63	11.5	J	3.18
12378-PeCDD	356/358	36.67	1.61		U	4.09
123478-HxCDF	374/376	40.03	1.41	22.4	J	3.18
123678-HxCDF	374/376	40.18	1.22	25.4	J	3.18
234678-HxCDF	374/376	40.91	1.26	17.5	J	3.18
123478-HxCDD	390/392	41.10	1.49 *		U	3.18
123678-HxCDD	390/392	41.22	1.28	25.9	J	3.18
123789-HxCDD	390/392	41.54	1.46 *	8.67	JQ	3.18
123789-HxCDF	374/376	41.96	1.13	7.58	J	3.18
1234678-HpCDF	408/410	43.68	1.07	474		3.18
1234678-HpCDD	424/426	44.89	1.03	586		3.18
1234789-HpCDF	408/410	45.48	1.15	36.6	J	3.18
OCDD	458/460	47.95	0.90	8760		17.6
OCDF	442/444	48.13	0.90	525		6.92

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.37	0.79	0.65 - 0.90	28 *	35 - 197
13C12-2378-TCDF	316/318	28.80	0.80	0.65 - 0.90	107	40 - 135
13C12-2378-TCDD	332/334	29.91	0.81	0.65 - 0.90	100	40 - 135
13C12-12378-PeCDF	352/354	34.92	1.58	1.32 - 1.79	102	40 - 135
13C12-23478-PeCDF	352/354	36.25	1.59	1.32 - 1.79	100	40 - 135
13C12-12378-PeCDD	368/370	36.65	1.59	1.32 - 1.79	95	40 - 135
13C12-123478-HxCDF	384/386	40.02	0.54	0.43 - 0.60	110	40 - 135
13C12-123678-HxCDF	384/386	40.17	0.53	0.43 - 0.60	108	40 - 135
13C12-234678-HxCDF	384/386	40.89	0.53	0.43 - 0.60	112	40 - 135
13C12-123478-HxCDD	402/404	41.08	1.31	1.05 - 1.44	102	40 - 135
13C12-123678-HxCDD	402/404	41.20	1.25	1.05 - 1.44	100	40 - 135
13C12-123789-HxCDD	402/404	41.53	1.25	1.05 - 1.44	102	40 - 135
13C12-123789-HxCDF	384/386	41.92	0.53	0.43 - 0.60	116	40 - 135
13C12-1234678-HpCDF	418/420	43.66	0.47	0.37 - 0.52	112	40 - 135
13C12-1234678-HpCDD	436/438	44.89	1.05	0.88 - 1.21	104	40 - 135
13C12-1234789-HpCDF	418/420	45.46	0.46	0.37 - 0.52	114	40 - 135
13C12-OCDD	470/472	47.95	0.91	0.76 - 1.03	108	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 77.8
ID: 0.25 (mm)

Lab Sample ID: 9872061DL
Lab File ID: 18NOV07-10
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 23:34
Dilution Factor: 10.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.12	0.91	0.76 - 1.03	117	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 74.3
ID: 0.25 (mm)

Lab Sample ID: 9872062DL
Lab File ID: 18NOV07-11
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/08/2018 00:31
Dilution Factor: 10.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.83	0.53 *	4.72	JQ	2.02
2378-TCDD	320/322	29.96	1.14 *		U	1.78
12378-PeCDF	340/342	34.94	1.68	6.17	J	3.35
23478-PeCDF	340/342	36.28	1.73	12.9	J	3.35
12378-PeCDD	356/358	36.68	2.73 *		U	4.30
123478-HxCDF	374/376	40.03	1.07	15.3	J	3.35
123678-HxCDF	374/376	40.18	1.22	16.7	J	3.35
234678-HxCDF	374/376	40.89	1.21	12.3	J	3.35
123478-HxCDD	390/392	41.09	1.42		U	3.35
123678-HxCDD	390/392	41.21	1.20	18.6	J	3.35
123789-HxCDD	390/392	41.52	1.61 *	9.19	JQ	3.35
123789-HxCDF	374/376	41.95	1.91 *	5.15	JQ	3.35
1234678-HpCDF	408/410	43.66	1.04	322		3.35
1234678-HpCDD	424/426	44.89	1.04	493		3.35
1234789-HpCDF	408/410	45.47	1.25 *	9.88	JQ	3.35
OCDD	458/460	47.94	0.90	6350		18.5
OCDF	442/444	48.13	0.91	233		7.28

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.37	0.75	0.65 - 0.90	37	35 - 197
13C12-2378-TCDF	316/318	28.80	0.78	0.65 - 0.90	107	40 - 135
13C12-2378-TCDD	332/334	29.91	0.80	0.65 - 0.90	97	40 - 135
13C12-12378-PeCDF	352/354	34.92	1.61	1.32 - 1.79	104	40 - 135
13C12-23478-PeCDF	352/354	36.25	1.59	1.32 - 1.79	102	40 - 135
13C12-12378-PeCDD	368/370	36.65	1.57	1.32 - 1.79	96	40 - 135
13C12-123478-HxCDF	384/386	40.00	0.54	0.43 - 0.60	108	40 - 135
13C12-123678-HxCDF	384/386	40.16	0.54	0.43 - 0.60	105	40 - 135
13C12-234678-HxCDF	384/386	40.88	0.54	0.43 - 0.60	105	40 - 135
13C12-123478-HxCDD	402/404	41.08	1.29	1.05 - 1.44	95	40 - 135
13C12-123678-HxCDD	402/404	41.20	1.25	1.05 - 1.44	96	40 - 135
13C12-123789-HxCDD	402/404	41.51	1.27	1.05 - 1.44	96	40 - 135
13C12-123789-HxCDF	384/386	41.91	0.54	0.43 - 0.60	110	40 - 135
13C12-1234678-HpCDF	418/420	43.64	0.47	0.37 - 0.52	101	40 - 135
13C12-1234678-HpCDD	436/438	44.88	1.05	0.88 - 1.21	93	40 - 135
13C12-1234789-HpCDF	418/420	45.46	0.46	0.37 - 0.52	102	40 - 135
13C12-OCDD	470/472	47.93	0.90	0.76 - 1.03	92	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 74.3
ID: 0.25 (mm)

Lab Sample ID: 9872062DL
Lab File ID: 18NOV07-11
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/08/2018 00:31
Dilution Factor: 10.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.11	0.92	0.76 - 1.03	103	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 67.4
ID: 0.25 (mm)

Lab Sample ID: 9872064DL
Lab File ID: 18NOV07-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/08/2018 01:28
Dilution Factor: 10.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.84	0.40 *	5.25	JQ	2.21
2378-TCDD	320/322	29.95	0.66	4.39	J	1.95
12378-PeCDF	340/342	34.94	1.79 *	5.94	JQ	3.66
23478-PeCDF	340/342	36.30	1.59	15.9	J	3.66
12378-PeCDD	356/358	36.67	1.66	98.0		4.70
123478-HxCDF	374/376	40.02	1.27	14.5	J	3.66
123678-HxCDF	374/376	40.18	1.30	16.8	J	3.66
234678-HxCDF	374/376	40.90	1.27	14.8	J	3.66
123478-HxCDD	390/392	41.09	1.22	34.6	J	3.66
123678-HxCDD	390/392	41.21	1.24	392		3.66
123789-HxCDD	390/392	41.53	1.27	254		3.66
123789-HxCDF	374/376	41.99	1.12	6.40	J	3.66
1234678-HpCDF	408/410	43.66	1.06	443		3.66
1234678-HpCDD	424/426	44.89	1.04	1350		3.66
1234789-HpCDF	408/410	45.47	1.11	9.37	J	3.66
OCDD	458/460	47.94	0.90	9880		20.2
OCDF	442/444	48.13	0.88	261		7.95

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.38	0.85	0.65 - 0.90	37	35 - 197
13C12-2378-TCDF	316/318	28.81	0.80	0.65 - 0.90	105	40 - 135
13C12-2378-TCDD	332/334	29.92	0.77	0.65 - 0.90	100	40 - 135
13C12-12378-PeCDF	352/354	34.93	1.61	1.32 - 1.79	102	40 - 135
13C12-23478-PeCDF	352/354	36.26	1.60	1.32 - 1.79	100	40 - 135
13C12-12378-PeCDD	368/370	36.66	1.58	1.32 - 1.79	93	40 - 135
13C12-123478-HxCDF	384/386	40.01	0.53	0.43 - 0.60	107	40 - 135
13C12-123678-HxCDF	384/386	40.16	0.54	0.43 - 0.60	107	40 - 135
13C12-234678-HxCDF	384/386	40.89	0.54	0.43 - 0.60	108	40 - 135
13C12-123478-HxCDD	402/404	41.07	1.24	1.05 - 1.44	99	40 - 135
13C12-123678-HxCDD	402/404	41.20	1.26	1.05 - 1.44	97	40 - 135
13C12-123789-HxCDD	402/404	41.52	1.28	1.05 - 1.44	97	40 - 135
13C12-123789-HxCDF	384/386	41.91	0.53	0.43 - 0.60	117	40 - 135
13C12-1234678-HpCDF	418/420	43.64	0.45	0.37 - 0.52	112	40 - 135
13C12-1234678-HpCDD	436/438	44.87	1.05	0.88 - 1.21	101	40 - 135
13C12-1234789-HpCDF	418/420	45.45	0.46	0.37 - 0.52	112	40 - 135
13C12-OCDD	470/472	47.93	0.90	0.76 - 1.03	114	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF17280
% Solid/Lipids: 67.4
ID: 0.25 (mm)

Lab Sample ID: 9872064DL
Lab File ID: 18NOV07-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/08/2018 01:28
Dilution Factor: 10.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.11	0.91	0.76 - 1.03	123	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF18471
% Solid/Lipids: N/A
ID: 0.25 (mm)

Lab Sample ID: OPR302007
Lab File ID: 18NOV01-14
Date Collected: N/A
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/01/2018 21:32
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.20	0.78	21.4		0.151
2378-TCDD	320/322	30.35	0.79	17.0		0.133
12378-PeCDF	340/342	35.24	1.56	102		0.250
23478-PeCDF	340/342	36.52	1.55	104		0.250
12378-PeCDD	356/358	36.93	1.59	99.6		0.321
123478-HxCDF	374/376	40.24	1.24	102		0.250
123678-HxCDF	374/376	40.39	1.25	103		0.250
234678-HxCDF	374/376	41.09	1.25	101		0.250
123478-HxCDD	390/392	41.29	1.27	104		0.250
123678-HxCDD	390/392	41.41	1.22	104		0.250
123789-HxCDD	390/392	41.74	1.25	101		0.250
123789-HxCDF	374/376	42.11	1.25	99.7		0.250
1234678-HpCDF	408/410	43.86	1.06	105		0.250
1234678-HpCDD	424/426	45.08	1.05	104		0.250
1234789-HpCDF	408/410	45.63	1.06	105		0.250
OCDD	458/460	48.12	0.90	210		1.38
OCDF	442/444	48.30	0.90	211		0.543

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.76	0.80	0.65 - 0.90	90	31 - 191
13C12-2378-TCDF	316/318	29.19	0.80	0.65 - 0.90	68	40 - 135
13C12-2378-TCDD	332/334	30.33	0.80	0.65 - 0.90	80	40 - 135
13C12-12378-PeCDF	352/354	35.22	1.59	1.32 - 1.79	55	40 - 135
13C12-23478-PeCDF	352/354	36.50	1.58	1.32 - 1.79	72	40 - 135
13C12-12378-PeCDD	368/370	36.90	1.60	1.32 - 1.79	69	40 - 135
13C12-123478-HxCDF	384/386	40.23	0.53	0.43 - 0.60	62	40 - 135
13C12-123678-HxCDF	384/386	40.37	0.52	0.43 - 0.60	69	40 - 135
13C12-234678-HxCDF	384/386	41.08	0.52	0.43 - 0.60	64	40 - 135
13C12-123478-HxCDD	402/404	41.28	1.31	1.05 - 1.44	76	40 - 135
13C12-123678-HxCDD	402/404	41.40	1.22	1.05 - 1.44	75	40 - 135
13C12-123789-HxCDD	402/404	41.71	1.23	1.05 - 1.44	77	40 - 135
13C12-123789-HxCDF	384/386	42.10	0.53	0.43 - 0.60	70	40 - 135
13C12-1234678-HpCDF	418/420	43.85	0.46	0.37 - 0.52	85	40 - 135
13C12-1234678-HpCDD	436/438	45.06	1.08	0.88 - 1.21	83	40 - 135
13C12-1234789-HpCDF	418/420	45.62	0.46	0.37 - 0.52	64	40 - 135
13C12-OCDD	470/472	48.11	0.91	0.76 - 1.03	86	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF18471
% Solid/Lipids: N/A
ID: 0.25 (mm)

Lab Sample ID: OPR302007
Lab File ID: 18NOV01-14
Date Collected: N/A
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/01/2018 21:32
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.28	0.90	0.76 - 1.03	65	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF18471
% Solid/Lipids: N/A
ID: 0.25 (mm)

Lab Sample ID: BLK302007
Lab File ID: 18NOV01-16
Date Collected: N/A
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/01/2018 23:25
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.20	0.47 *		U	0.151
2378-TCDD	320/322	30.36	0.80		U	0.133
12378-PeCDF	340/342	35.26	1.24 *		U	0.250
23478-PeCDF	340/342	36.51	1.33		U	0.250
12378-PeCDD	356/358	36.90	14.15 *		U	0.321
123478-HxCDF	374/376	40.25	1.38		U	0.250
123678-HxCDF	374/376	40.39	1.60 *		U	0.250
234678-HxCDF	374/376	41.12	1.14		U	0.250
123478-HxCDD	390/392	41.30	1.70 *		U	0.250
123678-HxCDD	390/392	41.43	0.74 *		U	0.250
123789-HxCDD	390/392	41.72	1.69 *		U	0.250
123789-HxCDF	374/376	42.13	1.38		U	0.250
1234678-HpCDF	408/410	43.86	0.78 *		U	0.250
1234678-HpCDD	424/426	45.08	0.88		U	0.250
1234789-HpCDF	408/410	45.61	1.82 *		U	0.250
OCDD	458/460	48.12	0.70 *		U	1.38
OCDF	442/444	48.31	1.27 *		U	0.543

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.75	0.78	0.65 - 0.90	99	35 - 197
13C12-2378-TCDF	316/318	29.18	0.81	0.65 - 0.90	77	40 - 135
13C12-2378-TCDD	332/334	30.33	0.78	0.65 - 0.90	92	40 - 135
13C12-12378-PeCDF	352/354	35.22	1.58	1.32 - 1.79	76	40 - 135
13C12-23478-PeCDF	352/354	36.50	1.60	1.32 - 1.79	98	40 - 135
13C12-12378-PeCDD	368/370	36.91	1.63	1.32 - 1.79	83	40 - 135
13C12-123478-HxCDF	384/386	40.23	0.53	0.43 - 0.60	70	40 - 135
13C12-123678-HxCDF	384/386	40.37	0.52	0.43 - 0.60	74	40 - 135
13C12-234678-HxCDF	384/386	41.09	0.53	0.43 - 0.60	67	40 - 135
13C12-123478-HxCDD	402/404	41.29	1.29	1.05 - 1.44	82	40 - 135
13C12-123678-HxCDD	402/404	41.41	1.29	1.05 - 1.44	79	40 - 135
13C12-123789-HxCDD	402/404	41.72	1.26	1.05 - 1.44	83	40 - 135
13C12-123789-HxCDF	384/386	42.10	0.53	0.43 - 0.60	64	40 - 135
13C12-1234678-HpCDF	418/420	43.86	0.45	0.37 - 0.52	83	40 - 135
13C12-1234678-HpCDD	436/438	45.06	1.07	0.88 - 1.21	81	40 - 135
13C12-1234789-HpCDF	418/420	45.61	0.47	0.37 - 0.52	64	40 - 135
13C12-OCDD	470/472	48.11	0.90	0.76 - 1.03	84	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF18471
% Solid/Lipids: N/A
ID: 0.25 (mm)

Lab Sample ID: BLK302007
Lab File ID: 18NOV01-16
Date Collected: N/A
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/01/2018 23:25
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.28	0.90	0.76 - 1.03	65	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF18471
% Solid/Lipids: 78.9
ID: 0.25 (mm)

Lab Sample ID: 9872063
Lab File ID: 18NOV02-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/02/2018 20:52
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.20	0.79	12.7	C	0.189
2378-TCDD	320/322	30.35	0.84	1.72		0.166
12378-PeCDF	340/342	35.22	1.48	10.9		0.313
23478-PeCDF	340/342	36.53	1.61	26.9		0.313
12378-PeCDD	356/358	36.93	1.19 *	6.04	JQ	0.402
123478-HxCDF	374/376	40.27	1.24	28.5		0.313
123678-HxCDF	374/376	40.41	1.23	44.8		0.313
234678-HxCDF	374/376	41.11	1.28	27.1		0.313
123478-HxCDD	390/392	41.32	1.26	5.72	J	0.313
123678-HxCDD	390/392	41.44	1.25	38.8		0.313
123789-HxCDD	390/392	41.77	1.24	14.6		0.313
123789-HxCDF	374/376	42.17	1.22	9.27		0.313
1234678-HpCDF	408/410	43.88	1.04	796		0.313
1234678-HpCDD	424/426	45.09	1.04	1150		0.313
1234789-HpCDF	408/410	45.64	1.03	17.1		0.313
OCDD	458/460	48.15	0.83	15700	E	1.73
OCDF	442/444	48.32	0.91	386		0.679

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.74	0.81	0.65 - 0.90	102	35 - 197
13C12-2378-TCDF	316/318	29.17	0.79	0.65 - 0.90	80	40 - 135
13C12-2378-TCDD	332/334	30.32	0.80	0.65 - 0.90	97	40 - 135
13C12-12378-PeCDF	352/354	35.21	1.56	1.32 - 1.79	71	40 - 135
13C12-23478-PeCDF	352/354	36.50	1.58	1.32 - 1.79	78	40 - 135
13C12-12378-PeCDD	368/370	36.92	1.58	1.32 - 1.79	86	40 - 135
13C12-123478-HxCDF	384/386	40.24	0.53	0.43 - 0.60	72	40 - 135
13C12-123678-HxCDF	384/386	40.40	0.53	0.43 - 0.60	78	40 - 135
13C12-234678-HxCDF	384/386	41.10	0.53	0.43 - 0.60	74	40 - 135
13C12-123478-HxCDD	402/404	41.30	1.26	1.05 - 1.44	84	40 - 135
13C12-123678-HxCDD	402/404	41.42	1.24	1.05 - 1.44	83	40 - 135
13C12-123789-HxCDD	402/404	41.76	1.24	1.05 - 1.44	87	40 - 135
13C12-123789-HxCDF	384/386	42.14	0.53	0.43 - 0.60	82	40 - 135
13C12-1234678-HpCDF	418/420	43.87	0.46	0.37 - 0.52	81	40 - 135
13C12-1234678-HpCDD	436/438	45.07	1.05	0.88 - 1.21	94	40 - 135
13C12-1234789-HpCDF	418/420	45.63	0.45	0.37 - 0.52	78	40 - 135
13C12-OCDD	470/472	48.13	0.92	0.76 - 1.03	104	40 - 135

Abbreviations:
- B = Detected in Method Blank
- U = Undetected
- J = Estimated concentration between EDL and LOQ
- C = Concentration confirmed on second column
- Q = Estimated Maximum Possible Concentration
- E = Exceeds calibration range
- F = Interference is present
- N = See comment in Case Narrative
- S = The detector is saturated
- * = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF18471
% Solid/Lipids: 78.9
ID: 0.25 (mm)

Lab Sample ID: 9872063
Lab File ID: 18NOV02-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/02/2018 20:52
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.31	0.90	0.76 - 1.03	80	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 78.9
ID: 0.25 (mm)

Lab Sample ID: 9872063DL
Lab File ID: 18NOV05-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/05/2018 19:09
Dilution Factor: 10.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.47	1.23 *	8.01	JQ	1.89
2378-TCDD	320/322	30.59	12.18 *		U	1.66
12378-PeCDF	340/342	35.41	1.64	7.93	J	3.13
23478-PeCDF	340/342	36.72	3.22 *	12.7	JQ	3.13
12378-PeCDD	356/358	37.10	3.63 *	4.81	JQ	4.02
123478-HxCDF	374/376	40.41	1.02 *	17.2	JQ	3.13
123678-HxCDF	374/376	40.55	1.16	24.1	J	3.13
234678-HxCDF	374/376	41.27	1.47 *	17.5	JQ	3.13
123478-HxCDD	390/392	41.46	1.30	4.76	J	3.13
123678-HxCDD	390/392	41.58	1.26	26.0	J	3.13
123789-HxCDD	390/392	41.89	1.25	11.4	J	3.13
123789-HxCDF	374/376	42.33	1.37	8.20	J	3.13
1234678-HpCDF	408/410	44.01	1.10	479		3.13
1234678-HpCDD	424/426	45.22	1.06	712		3.13
1234789-HpCDF	408/410	45.81	1.30 *	13.1	JQ	3.13
OCDD	458/460	48.27	0.89	7000		17.3
OCDF	442/444	48.47	0.92	226		6.79

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.98	0.73	0.65 - 0.90	58	35 - 197
13C12-2378-TCDF	316/318	29.42	0.75	0.65 - 0.90	92	40 - 135
13C12-2378-TCDD	332/334	30.55	0.76	0.65 - 0.90	105	40 - 135
13C12-12378-PeCDF	352/354	35.39	1.60	1.32 - 1.79	102	40 - 135
13C12-23478-PeCDF	352/354	36.68	1.55	1.32 - 1.79	105	40 - 135
13C12-12378-PeCDD	368/370	37.07	1.59	1.32 - 1.79	115	40 - 135
13C12-123478-HxCDF	384/386	40.39	0.52	0.43 - 0.60	96	40 - 135
13C12-123678-HxCDF	384/386	40.54	0.51	0.43 - 0.60	95	40 - 135
13C12-234678-HxCDF	384/386	41.25	0.54	0.43 - 0.60	99	40 - 135
13C12-123478-HxCDD	402/404	41.44	1.28	1.05 - 1.44	99	40 - 135
13C12-123678-HxCDD	402/404	41.56	1.29	1.05 - 1.44	100	40 - 135
13C12-123789-HxCDD	402/404	41.87	1.25	1.05 - 1.44	100	40 - 135
13C12-123789-HxCDF	384/386	42.28	0.51	0.43 - 0.60	98	40 - 135
13C12-1234678-HpCDF	418/420	43.99	0.45	0.37 - 0.52	107	40 - 135
13C12-1234678-HpCDD	436/438	45.21	1.04	0.88 - 1.21	106	40 - 135
13C12-1234789-HpCDF	418/420	45.79	0.46	0.37 - 0.52	103	40 - 135
13C12-OCDD	470/472	48.26	0.89	0.76 - 1.03	101	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 78.9
ID: 0.25 (mm)

Lab Sample ID: 9872063DL
Lab File ID: 18NOV05-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/05/2018 19:09
Dilution Factor: 10.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.46	0.90	0.76 - 1.03	96	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 44.7
ID: 0.25 (mm)

Lab Sample ID: 9872065DL
Lab File ID: 18NOV05-14
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/05/2018 21:02
Dilution Factor: 10.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.43	0.73	43.1		3.35
2378-TCDD	320/322	30.57	1.20 *	8.33	JQ	2.95
12378-PeCDF	340/342	35.41	1.47	22.1	J	5.55
23478-PeCDF	340/342	36.70	1.56	40.9	J	5.55
12378-PeCDD	356/358	37.10	1.22 *	21.6	JQ	7.12
123478-HxCDF	374/376	40.41	1.20	86.2	J	5.55
123678-HxCDF	374/376	40.56	1.12	46.0	J	5.55
234678-HxCDF	374/376	41.27	1.14	40.6	J	5.55
123478-HxCDD	390/392	41.46	1.50 *	38.2	JQ	5.55
123678-HxCDD	390/392	41.58	1.37	182		5.55
123789-HxCDD	390/392	41.89	1.29	63.1	J	5.55
123789-HxCDF	374/376	42.34	1.26	16.8	J	5.55
1234678-HpCDF	408/410	44.01	1.05	677		5.55
1234678-HpCDD	424/426	45.23	1.04	7740		5.55
1234789-HpCDF	408/410	45.81	1.09	40.1	J	5.55
OCDD	458/460	48.27	0.90	55400		30.6
OCDF	442/444	48.46	0.92	1420		12.1

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.97	0.83	0.65 - 0.90	64	35 - 197
13C12-2378-TCDF	316/318	29.43	0.77	0.65 - 0.90	90	40 - 135
13C12-2378-TCDD	332/334	30.54	0.81	0.65 - 0.90	103	40 - 135
13C12-12378-PeCDF	352/354	35.38	1.56	1.32 - 1.79	106	40 - 135
13C12-23478-PeCDF	352/354	36.69	1.60	1.32 - 1.79	111	40 - 135
13C12-12378-PeCDD	368/370	37.07	1.61	1.32 - 1.79	127	40 - 135
13C12-123478-HxCDF	384/386	40.38	0.52	0.43 - 0.60	94	40 - 135
13C12-123678-HxCDF	384/386	40.54	0.54	0.43 - 0.60	93	40 - 135
13C12-234678-HxCDF	384/386	41.24	0.53	0.43 - 0.60	97	40 - 135
13C12-123478-HxCDD	402/404	41.45	1.27	1.05 - 1.44	99	40 - 135
13C12-123678-HxCDD	402/404	41.57	1.21	1.05 - 1.44	98	40 - 135
13C12-123789-HxCDD	402/404	41.88	1.25	1.05 - 1.44	101	40 - 135
13C12-123789-HxCDF	384/386	42.28	0.53	0.43 - 0.60	94	40 - 135
13C12-1234678-HpCDF	418/420	44.00	0.47	0.37 - 0.52	101	40 - 135
13C12-1234678-HpCDD	436/438	45.21	1.05	0.88 - 1.21	109	40 - 135
13C12-1234789-HpCDF	418/420	45.79	0.47	0.37 - 0.52	102	40 - 135
13C12-OCDD	470/472	48.27	0.91	0.76 - 1.03	104	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 44.7
ID: 0.25 (mm)

Lab Sample ID: 9872065DL
Lab File ID: 18NOV05-14
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/05/2018 21:02
Dilution Factor: 10.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.45	0.89	0.76 - 1.03	94	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 44.7
ID: 0.25 (mm)

Lab Sample ID: 9872065
Lab File ID: 18NOV06-07
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/06/2018 13:40
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.46	0.74	77.6	C	0.335
2378-TCDD	320/322	30.56	0.48 *	13.2	Q	0.295
12378-PeCDF	340/342	35.41	1.48	38.5		0.555
23478-PeCDF	340/342	36.72	1.71	73.8		0.555
12378-PeCDD	356/358	37.11	0.85 *	45.4	Q	0.712
123478-HxCDF	374/376	40.41	1.32	120		0.555
123678-HxCDF	374/376	40.57	1.38	74.8		0.555
234678-HxCDF	374/376	41.29	1.36	76.2		0.555
123478-HxCDD	390/392	41.46	1.18	65.3		0.555
123678-HxCDD	390/392	41.58	1.23	326		0.555
123789-HxCDD	390/392	41.91	1.32	106		0.555
123789-HxCDF	374/376	42.33	1.20	24.4		0.555
1234678-HpCDF	408/410	44.03	1.04	974		0.555
1234678-HpCDD	424/426	45.24	1.06	12100	E	0.555
1234789-HpCDF	408/410	45.81	1.03	70.1		0.555
OCDD	458/460	48.29	0.90	85300	E	3.06
OCDF	442/444	48.47	0.91	2110		1.21

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.99	0.77	0.65 - 0.90	80	35 - 197
13C12-2378-TCDF	316/318	29.43	0.86	0.65 - 0.90	73	40 - 135
13C12-2378-TCDD	332/334	30.56	0.82	0.65 - 0.90	83	40 - 135
13C12-12378-PeCDF	352/354	35.40	1.54	1.32 - 1.79	87	40 - 135
13C12-23478-PeCDF	352/354	36.71	1.69	1.32 - 1.79	92	40 - 135
13C12-12378-PeCDD	368/370	37.09	1.57	1.32 - 1.79	107	40 - 135
13C12-123478-HxCDF	384/386	40.40	0.58	0.43 - 0.60	81	40 - 135
13C12-123678-HxCDF	384/386	40.55	0.50	0.43 - 0.60	79	40 - 135
13C12-234678-HxCDF	384/386	41.26	0.62 *	0.43 - 0.60	78	40 - 135
13C12-123478-HxCDD	402/404	41.45	1.20	1.05 - 1.44	85	40 - 135
13C12-123678-HxCDD	402/404	41.57	1.31	1.05 - 1.44	77	40 - 135
13C12-123789-HxCDD	402/404	41.88	1.27	1.05 - 1.44	88	40 - 135
13C12-123789-HxCDF	384/386	42.28	0.51	0.43 - 0.60	80	40 - 135
13C12-1234678-HpCDF	418/420	44.01	0.46	0.37 - 0.52	91	40 - 135
13C12-1234678-HpCDD	436/438	45.23	1.01	0.88 - 1.21	91	40 - 135
13C12-1234789-HpCDF	418/420	45.80	0.46	0.37 - 0.52	81	40 - 135
13C12-OCDD	470/472	48.29	1.04 *	0.76 - 1.03	85	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 44.7
ID: 0.25 (mm)

Lab Sample ID: 9872065
Lab File ID: 18NOV06-07
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/06/2018 13:40
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.47	0.93	0.76 - 1.03	75	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 77.9
ID: 0.25 (mm)

Lab Sample ID: 9872060
Lab File ID: 18NOV06-11
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/06/2018 17:27
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.45	0.79	12.0	C	0.192
2378-TCDD	320/322	30.56	0.81	2.71		0.170
12378-PeCDF	340/342	35.40	1.60	13.9		0.319
23478-PeCDF	340/342	36.74	1.50	28.1		0.319
12378-PeCDD	356/358	37.09	1.18 *	9.55	Q	0.409
123478-HxCDF	374/376	40.39	1.31	32.7		0.319
123678-HxCDF	374/376	40.54	1.17	40.4		0.319
234678-HxCDF	374/376	41.25	1.30	41.8		0.319
123478-HxCDD	390/392	41.45	1.19	6.93		0.319
123678-HxCDD	390/392	41.56	1.20	66.9		0.319
123789-HxCDD	390/392	41.88	1.34	25.3		0.319
123789-HxCDF	374/376	42.29	1.37	9.19		0.319
1234678-HpCDF	408/410	44.01	1.05	813		0.319
1234678-HpCDD	424/426	45.22	1.05	1300		0.319
1234789-HpCDF	408/410	45.79	0.99	43.4		0.319
OCDD	458/460	48.27	0.90	15800	E	1.76
OCDF	442/444	48.46	0.89	756		0.692

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.95	0.72	0.65 - 0.90	21 *	35 - 197
13C12-2378-TCDF	316/318	29.41	0.80	0.65 - 0.90	34	1 - 135
13C12-2378-TCDD	332/334	30.53	0.79	0.65 - 0.90	57	40 - 135
13C12-12378-PeCDF	352/354	35.37	1.56	1.32 - 1.79	52	40 - 135
13C12-23478-PeCDF	352/354	36.68	1.68	1.32 - 1.79	44	40 - 135
13C12-12378-PeCDD	368/370	37.06	1.66	1.32 - 1.79	58	40 - 135
13C12-123478-HxCDF	384/386	40.38	0.54	0.43 - 0.60	79	40 - 135
13C12-123678-HxCDF	384/386	40.52	0.53	0.43 - 0.60	79	40 - 135
13C12-234678-HxCDF	384/386	41.24	0.51	0.43 - 0.60	56	40 - 135
13C12-123478-HxCDD	402/404	41.44	1.32	1.05 - 1.44	80	40 - 135
13C12-123678-HxCDD	402/404	41.55	1.30	1.05 - 1.44	74	40 - 135
13C12-123789-HxCDD	402/404	41.87	1.23	1.05 - 1.44	66	40 - 135
13C12-123789-HxCDF	384/386	42.26	0.49	0.43 - 0.60	57	40 - 135
13C12-1234678-HpCDF	418/420	43.99	0.46	0.37 - 0.52	85	40 - 135
13C12-1234678-HpCDD	436/438	45.21	1.06	0.88 - 1.21	76	40 - 135
13C12-1234789-HpCDF	418/420	45.77	0.50	0.37 - 0.52	70	40 - 135
13C12-OCDD	470/472	48.27	0.90	0.76 - 1.03	77	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 77.9
ID: 0.25 (mm)

Lab Sample ID: 9872060
Lab File ID: 18NOV06-11
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/06/2018 17:27
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.44	0.90	0.76 - 1.03	68	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 77.8
ID: 0.25 (mm)

Lab Sample ID: 9872061
Lab File ID: 18NOV06-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/06/2018 18:23
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.46	0.63 *	11.6	CQ	0.192
2378-TCDD	320/322	30.55	0.70	2.57		0.169
12378-PeCDF	340/342	35.41	1.50	20.4		0.318
23478-PeCDF	340/342	36.75	1.60		U	0.318
12378-PeCDD	356/358	37.10	1.35	8.58		0.409
123478-HxCDF	374/376	40.41	1.35	53.7		0.318
123678-HxCDF	374/376	40.55	1.24	63.4		0.318
234678-HxCDF	374/376	41.27	1.27	50.2		0.318
123478-HxCDD	390/392	41.46	0.97 *	4.47	JQ	0.318
123678-HxCDD	390/392	41.58	1.31	61.3		0.318
123789-HxCDD	390/392	41.89	1.22	20.8		0.318
123789-HxCDF	374/376	42.32	1.30	16.7		0.318
1234678-HpCDF	408/410	44.01	1.05	1180		0.318
1234678-HpCDD	424/426	45.23	1.07	1470		0.318
1234789-HpCDF	408/410	45.81	1.07	90.4		0.318
OCDD	458/460	48.28	0.89	22800	E	1.76
OCDF	442/444	48.47	0.91	1340		0.692

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.96	0.82	0.65 - 0.90	32 *	35 - 197
13C12-2378-TCDF	316/318	29.42	0.86	0.65 - 0.90	40	40 - 135
13C12-2378-TCDD	332/334	30.55	0.77	0.65 - 0.90	61	40 - 135
13C12-12378-PeCDF	352/354	35.39	1.57	1.32 - 1.79	56	40 - 135
13C12-23478-PeCDF	352/354	36.69	1.57	1.32 - 1.79	52	40 - 135
13C12-12378-PeCDD	368/370	37.07	1.67	1.32 - 1.79	61	40 - 135
13C12-123478-HxCDF	384/386	40.39	0.54	0.43 - 0.60	77	40 - 135
13C12-123678-HxCDF	384/386	40.54	0.57	0.43 - 0.60	74	40 - 135
13C12-234678-HxCDF	384/386	41.25	0.53	0.43 - 0.60	64	40 - 135
13C12-123478-HxCDD	402/404	41.44	1.23	1.05 - 1.44	78	40 - 135
13C12-123678-HxCDD	402/404	41.56	1.26	1.05 - 1.44	76	40 - 135
13C12-123789-HxCDD	402/404	41.87	1.27	1.05 - 1.44	72	40 - 135
13C12-123789-HxCDF	384/386	42.28	0.49	0.43 - 0.60	69	40 - 135
13C12-1234678-HpCDF	418/420	44.00	0.48	0.37 - 0.52	82	40 - 135
13C12-1234678-HpCDD	436/438	45.21	1.07	0.88 - 1.21	82	40 - 135
13C12-1234789-HpCDF	418/420	45.79	0.45	0.37 - 0.52	75	40 - 135
13C12-OCDD	470/472	48.27	0.90	0.76 - 1.03	75	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 77.8
ID: 0.25 (mm)

Lab Sample ID: 9872061
Lab File ID: 18NOV06-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/06/2018 18:23
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.46	0.93	0.76 - 1.03	67	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 74.3
ID: 0.25 (mm)

Lab Sample ID: 9872062
Lab File ID: 18NOV06-19
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 00:21
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.45	0.72	13.1	C	0.202
2378-TCDD	320/322	30.56	0.90 *	2.59	Q	0.178
12378-PeCDF	340/342	35.40	1.49	14.1		0.335
23478-PeCDF	340/342	36.71	1.59	31.9		0.335
12378-PeCDD	356/358	37.10	1.50	11.0		0.430
123478-HxCDF	374/376	40.39	1.27	38.4		0.335
123678-HxCDF	374/376	40.55	1.29	44.6		0.335
234678-HxCDF	374/376	41.27	1.34	33.7		0.335
123478-HxCDD	390/392	41.46	1.16	7.47		0.335
123678-HxCDD	390/392	41.58	1.28	50.4		0.335
123789-HxCDD	390/392	41.89	1.29	22.7		0.335
123789-HxCDF	374/376	42.32	1.24	11.1		0.335
1234678-HpCDF	408/410	44.01	1.07	786		0.335
1234678-HpCDD	424/426	45.22	1.04	1270		0.335
1234789-HpCDF	408/410	45.80	1.06	25.2		0.335
OCDD	458/460	48.27	0.90	15900	E	1.85
OCDF	442/444	48.46	0.92	587		0.728

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.96	0.85	0.65 - 0.90	42	35 - 197
13C12-2378-TCDF	316/318	29.42	0.76	0.65 - 0.90	50	40 - 135
13C12-2378-TCDD	332/334	30.53	0.77	0.65 - 0.90	67	40 - 135
13C12-12378-PeCDF	352/354	35.39	1.59	1.32 - 1.79	59	40 - 135
13C12-23478-PeCDF	352/354	36.68	1.56	1.32 - 1.79	61	40 - 135
13C12-12378-PeCDD	368/370	37.07	1.58	1.32 - 1.79	65	40 - 135
13C12-123478-HxCDF	384/386	40.38	0.54	0.43 - 0.60	81	40 - 135
13C12-123678-HxCDF	384/386	40.53	0.53	0.43 - 0.60	80	40 - 135
13C12-234678-HxCDF	384/386	41.24	0.54	0.43 - 0.60	76	40 - 135
13C12-123478-HxCDD	402/404	41.43	1.22	1.05 - 1.44	83	40 - 135
13C12-123678-HxCDD	402/404	41.55	1.28	1.05 - 1.44	80	40 - 135
13C12-123789-HxCDD	402/404	41.87	1.25	1.05 - 1.44	81	40 - 135
13C12-123789-HxCDF	384/386	42.27	0.55	0.43 - 0.60	79	40 - 135
13C12-1234678-HpCDF	418/420	43.99	0.44	0.37 - 0.52	87	40 - 135
13C12-1234678-HpCDD	436/438	45.21	1.09	0.88 - 1.21	84	40 - 135
13C12-1234789-HpCDF	418/420	45.79	0.45	0.37 - 0.52	76	40 - 135
13C12-OCDD	470/472	48.27	0.90	0.76 - 1.03	80	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 74.3
ID: 0.25 (mm)

Lab Sample ID: 9872062
Lab File ID: 18NOV06-19
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 00:21
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.45	0.91	0.76 - 1.03	70	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 67.4
ID: 0.25 (mm)

Lab Sample ID: 9872064
Lab File ID: 18NOV06-20
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 01:18
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.44	0.83	15.8	C	0.221
2378-TCDD	320/322	30.53	0.87	10.7		0.195
12378-PeCDF	340/342	35.39	1.36	12.9		0.366
23478-PeCDF	340/342	36.72	1.58	40.0		0.366
12378-PeCDD	356/358	37.09	1.51	247		0.470
123478-HxCDF	374/376	40.40	1.20	39.2		0.366
123678-HxCDF	374/376	40.54	1.25	47.0		0.366
234678-HxCDF	374/376	41.26	1.26	39.8		0.366
123478-HxCDD	390/392	41.45	1.33	98.5		0.366
123678-HxCDD	390/392	41.57	1.23	1030		0.366
123789-HxCDD	390/392	41.88	1.26	666		0.366
123789-HxCDF	374/376	42.32	1.31	13.6		0.366
1234678-HpCDF	408/410	44.00	1.06	1200		0.366
1234678-HpCDD	424/426	45.23	1.05	3530	E	0.366
1234789-HpCDF	408/410	45.79	1.13	23.8		0.366
OCDD	458/460	48.28	0.89	26200	E	2.02
OCDF	442/444	48.46	0.91	712		0.795

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.94	0.80	0.65 - 0.90	45	35 - 197
13C12-2378-TCDF	316/318	29.40	0.74	0.65 - 0.90	45	40 - 135
13C12-2378-TCDD	332/334	30.51	0.85	0.65 - 0.90	62	40 - 135
13C12-12378-PeCDF	352/354	35.38	1.65	1.32 - 1.79	54	40 - 135
13C12-23478-PeCDF	352/354	36.67	1.54	1.32 - 1.79	59	40 - 135
13C12-12378-PeCDD	368/370	37.06	1.65	1.32 - 1.79	62	40 - 135
13C12-123478-HxCDF	384/386	40.37	0.51	0.43 - 0.60	71	40 - 135
13C12-123678-HxCDF	384/386	40.53	0.53	0.43 - 0.60	68	40 - 135
13C12-234678-HxCDF	384/386	41.25	0.54	0.43 - 0.60	71	40 - 135
13C12-123478-HxCDD	402/404	41.43	1.23	1.05 - 1.44	71	40 - 135
13C12-123678-HxCDD	402/404	41.56	1.33	1.05 - 1.44	73	40 - 135
13C12-123789-HxCDD	402/404	41.86	1.21	1.05 - 1.44	74	40 - 135
13C12-123789-HxCDF	384/386	42.27	0.52	0.43 - 0.60	73	40 - 135
13C12-1234678-HpCDF	418/420	44.00	0.48	0.37 - 0.52	74	40 - 135
13C12-1234678-HpCDD	436/438	45.21	1.10	0.88 - 1.21	79	40 - 135
13C12-1234789-HpCDF	418/420	45.78	0.47	0.37 - 0.52	69	40 - 135
13C12-OCDD	470/472	48.26	0.94	0.76 - 1.03	77	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01A
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB5MS

Instrument ID: DF19780
% Solid/Lipids: 67.4
ID: 0.25 (mm)

Lab Sample ID: 9872064
Lab File ID: 18NOV06-20
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 01:18
Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.45	0.92	0.76 - 1.03	62	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01C
CDD/CDF SECOND COLUMN CONFIRMATION
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB-Dioxin

Instrument ID: DF18471
% Solid/Lipids: N/A
ID: 0.25 (mm)

Lab Sample ID: BLK302007
Lab File ID: 18NOV02-06
Date Collected: N/A
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/03/2018 18:51
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.68	0.23 *		U	0.151

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.68	0.80	0.65 - 0.89	61	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01C
CDD/CDF SECOND COLUMN CONFIRMATION
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB-Dioxin

Instrument ID: DF18471
% Solid/Lipids: 78.9
ID: 0.25 (mm)

Lab Sample ID: 9872063
Lab File ID: 18NOV02-11
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/04/2018 00:05
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.71	0.77	12.6		0.189

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.65	0.80	0.65 - 0.89	66	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01C
CDD/CDF SECOND COLUMN CONFIRMATION
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB-Dioxin

Instrument ID: DF18471
% Solid/Lipids: 44.7
ID: 0.25 (mm)

Lab Sample ID: 9872065
Lab File ID: 18NOV02-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/04/2018 01:08
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.75	1.22 *	69.4	Q	0.335

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.69	0.79	0.65 - 0.89	66	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01C
CDD/CDF SECOND COLUMN CONFIRMATION
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB-Dioxin

Instrument ID: DF18471
% Solid/Lipids: 77.9
ID: 0.25 (mm)

Lab Sample ID: 9872060
Lab File ID: 18NOV07-10
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 21:33
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.71	0.81	11.9		0.192

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.66	0.79	0.65 - 0.90	27 *	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01C
CDD/CDF SECOND COLUMN CONFIRMATION
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB-Dioxin

Instrument ID: DF18471
% Solid/Lipids: 77.8
ID: 0.25 (mm)

Lab Sample ID: 9872061
Lab File ID: 18NOV07-11
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 22:35
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.68	0.54 *	8.95		0.192

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.65	0.76	0.65 - 0.90	35 *	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01C
CDD/CDF SECOND COLUMN CONFIRMATION
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.0 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB-Dioxin

Instrument ID: DF18471
% Solid/Lipids: 74.3
ID: 0.25 (mm)

Lab Sample ID: 9872062
Lab File ID: 18NOV07-12
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/07/2018 23:38
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.71	0.77	8.20		0.202

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.65	0.77	0.65 - 0.89	0 *	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 01C
CDD/CDF SECOND COLUMN CONFIRMATION
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample (wt): 10.1 (g)
Water Sample Prep: N/A
Concentration Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL)
GC Column: DB-Dioxin

Instrument ID: DF18471
% Solid/Lipids: 67.4
ID: 0.25 (mm)

Lab Sample ID: 9872064
Lab File ID: 18NOV07-13
Date Collected: 10/27/2018 09:50
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/08/2018 00:41
Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.65	0.82	13.6		0.221

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.63	0.77	0.65 - 0.90	38 *	40 - 135

Abbreviations:
B = Detected in Method Blank
U = Undetected
J = Estimated concentration between EDL and LOQ
C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration
E = Exceeds calibration range
F = Interference is present
N = See comment in Case Narrative
S = The detector is saturated
* = Outside QC Limits

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FORM 03A
CDD/CDF OPR SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL
Sample wt: 10.0 (g)
Water Sample PREP: N/A
Concentrated Extract Volume: 20.0 (uL)
Injection Volume: 1.00 (uL) %SOLID/LIPIDS: N/A
GC Column: DB5MS ID: 0.25 (mm)
Method Reference: SW-846 8290A Feb 2007 Rev 1

Instrument ID: DF18471
Lab Sample ID: OPR302007
Lab File ID: 18NOV01-14
Date Received: N/A
Date Extracted: 10/29/2018 15:45
Date Analyzed: 11/01/2018 21:32
Dilution Factor: 1.0

Concentration Units: ng/kg

Spike Analyte	Spike Added	Amount Recovered	Percent Recovery	QC Limits
2378-TCDF	20.0	21.4	107	75 - 135
2378-TCDD	20.0	17.0	85	70 - 128
12378-PeCDF	100	102	102	77 - 131
23478-PeCDF	100	104	104	75 - 128
12378-PeCDD	100	99.6	100	74 - 125
123478-HxCDF	100	102	102	77 - 130
123678-HxCDF	100	103	103	73 - 134
234678-HxCDF	100	101	101	74 - 133
123478-HxCDD	100	104	104	72 - 131
123678-HxCDD	100	104	104	74 - 134
123789-HxCDD	100	101	101	71 - 138
123789-HxCDF	100	99.7	100	74 - 135
1234678-HpCDF	100	105	105	73 - 135
1234678-HpCDD	100	104	104	76 - 125
1234789-HpCDF	100	105	105	72 - 131
OCDD	200	210	105	73 - 135
OCDF	200	211	106	66 - 144

* Outside Quality Control (QC) limits.

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FORM 04
CDD/CDF METHOD BLANK SUMMARY
HIGH RESOLUTION

SDG No.: TID12

Matrix: SOIL | Lab Sample ID: BLK302007

Water Sample Prep: N/A | Lab File ID: 18NOV01-16

Sample wt: 10.0 (g)

GC Column: DB5MS ID: 0.25 (mm) | Date Analyzed: 11/01/2018 23:25

This Method Blank applies to Samples:

Lab Sample ID	Lab File ID	Date Analyzed
OPR302007	18NOV01-14	11/01/2018 21:32
9872063	18NOV02-12	11/02/2018 20:52
9872063DL	18NOV05-12	11/05/2018 19:09
9872065DL	18NOV05-14	11/05/2018 21:02
9872065	18NOV06-07	11/06/2018 13:40
9872060	18NOV06-11	11/06/2018 17:27
9872061	18NOV06-12	11/06/2018 18:23
9872062	18NOV06-19	11/07/2018 00:21
9872064	18NOV06-20	11/07/2018 01:18
9872060DL	18NOV07-09	11/07/2018 22:37
9872061DL	18NOV07-10	11/07/2018 23:34
9872062DL	18NOV07-11	11/08/2018 00:31
9872064DL	18NOV07-12	11/08/2018 01:28

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FORM 05B
CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm)

Instrument ID	Lab File ID	Sample ID	Analysis Date/Time	Compound Name	% Valley	QC Limits (%)
DF18471	18OCT17-12	CPS01	10/18/2018 15:14	2378-TCDF	15.232	25
DF18471	18NOV02-02	CPS02	11/03/2018 14:39	2378-TCDF	13.454	25
DF18471	18NOV07-02	CPS02	11/07/2018 12:45	2378-TCDF	11.749	25

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FORM 05B
CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm)

Instrument ID	Lab File ID	Sample ID	Analysis Date/Time	Compound Name	% Valley	QC Limits (%)
DF17280	18NOV02-02	CPS01	11/02/2018 09:27	2378-TCDD	7.360	25
DF17280	18NOV06-06	CPS02	11/06/2018 13:03	2378-TCDD	7.537	25
DF17280	18NOV07-02	CPS02	11/07/2018 16:02	2378-TCDD	6.704	25
DF18471	18OCT25-02	CPS01	10/25/2018 11:43	2378-TCDD	11.541	25
DF18471	18NOV01-05	CPS02	11/01/2018 12:52	2378-TCDD	9.506	25
DF18471	18NOV02-05	CPS02	11/02/2018 14:18	2378-TCDD	11.174	25
DF19780	18MAY09-06	CPS01	05/09/2018 14:55	2378-TCDD	3.946	25
DF19780	18NOV05-02	CPS02	11/05/2018 09:45	2378-TCDD	6.118	25
DF19780	18NOV06-02	CPS02	11/06/2018 08:29	2378-TCDD	6.069	25
DF19780	18NOV06-16	CPS03	11/06/2018 21:34	2378-TCDD	5.702	25

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FORM 05C
CDD/CDF ANALYTICAL SEQUENCE SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Lab Sample ID	Lab File ID	Date/Time Analyzed
CPS01	18NOV02-02	11/02/2018 09:27
CSL01	18NOV02-06	11/02/2018 14:38
CS101	18NOV02-07	11/02/2018 15:41
CS201	18NOV02-08	11/02/2018 16:35
CS301	18NOV02-09	11/02/2018 17:32
CS401	18NOV02-10	11/02/2018 18:29
CS501	18NOV02-11	11/02/2018 19:26
CPS02	18NOV06-06	11/06/2018 13:03
ICV	18NOV06-08	11/06/2018 14:54
CPS02	18NOV07-02	11/07/2018 16:02
CS3CC02	18NOV07-03	11/07/2018 16:56
9872060DL	18NOV07-09	11/07/2018 22:37
9872061DL	18NOV07-10	11/07/2018 23:34
9872062DL	18NOV07-11	11/08/2018 00:31
9872064DL	18NOV07-12	11/08/2018 01:28
CS3CC03	18NOV07-17	11/08/2018 05:33

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FORM 05C
CDD/CDF ANALYTICAL SEQUENCE SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Lab Sample ID	Lab File ID	Date/Time Analyzed
CPS01	18OCT17-12	10/18/2018 15:14
CSL01	18OCT17-14	10/18/2018 17:20
CS101	18OCT17-15	10/18/2018 18:23
CS201	18OCT17-16	10/18/2018 19:26
CS301	18OCT17-17	10/18/2018 20:28
CS401	18OCT17-18	10/18/2018 21:31
CS501	18OCT17-19	10/18/2018 22:34
ICV	18OCT17-22	10/19/2018 00:40
CPS02	18NOV02-02	11/03/2018 14:39
CS3CC02	18NOV02-03	11/03/2018 15:42
BLK302007	18NOV02-06	11/03/2018 18:51
9872063	18NOV02-11	11/04/2018 00:05
9872065	18NOV02-12	11/04/2018 01:08
CS3CC03	18NOV02-14	11/04/2018 01:23
CPS02	18NOV07-02	11/07/2018 12:45
CS3CC02	18NOV07-03	11/07/2018 13:48
9872060	18NOV07-10	11/07/2018 21:33
9872061	18NOV07-11	11/07/2018 22:35
9872062	18NOV07-12	11/07/2018 23:38
9872064	18NOV07-13	11/08/2018 00:41
CS3CC03	18NOV07-17	11/08/2018 04:02

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FORM 05C
CDD/CDF ANALYTICAL SEQUENCE SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Lab Sample ID	Lab File ID	Date/Time Analyzed
CPS01	18OCT25-02	10/25/2018 11:43
CSL01	18OCT25-04	10/25/2018 13:34
CS101	18OCT25-05	10/25/2018 14:31
CS201	18OCT25-06	10/25/2018 15:27
CS301	18OCT25-07	10/25/2018 16:23
CS401	18OCT25-08	10/25/2018 17:20
CS501	18OCT25-09	10/25/2018 18:17
ICV	18OCT25-11	10/25/2018 20:10
CPS02	18NOV01-05	11/01/2018 12:52
CS3CC02	18NOV01-06	11/01/2018 13:46
OPR302007	18NOV01-14	11/01/2018 21:32
BLK302007	18NOV01-16	11/01/2018 23:25
CS3CC04	18NOV01-18	11/02/2018 00:42
CPS02	18NOV02-05	11/02/2018 14:18
CS3CC02	18NOV02-06	11/02/2018 15:12
9872063	18NOV02-12	11/02/2018 20:52
CS3CC03	18NOV02-21	11/03/2018 04:43

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FORM 05C
CDD/CDF ANALYTICAL SEQUENCE SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Lab Sample ID	Lab File ID	Date/Time Analyzed
CPS01	18MAY09-06	05/09/2018 14:55
CSL01	18MAY09-10	05/09/2018 18:39
CS101	18MAY09-11	05/09/2018 19:36
CS201	18MAY09-13	05/09/2018 21:29
CS301	18MAY09-14	05/09/2018 22:26
CS401	18MAY09-15	05/09/2018 23:23
CS501	18MAY09-16	05/10/2018 00:19
ICV	18MAY09-18	05/10/2018 02:13
CPS02	18NOV05-02	11/05/2018 09:45
CS3CC02	18NOV05-03	11/05/2018 10:39
9872063DL	18NOV05-12	11/05/2018 19:09
9872065DL	18NOV05-14	11/05/2018 21:02
CS3CC03	18NOV05-17	11/05/2018 23:14
CPS02	18NOV06-02	11/06/2018 08:29
CS3CC02	18NOV06-03	11/06/2018 09:23
9872065	18NOV06-07	11/06/2018 13:40
9872060	18NOV06-11	11/06/2018 17:27
9872061	18NOV06-12	11/06/2018 18:23
CPS03	18NOV06-16	11/06/2018 21:34
CS3CC03	18NOV06-17	11/06/2018 22:28
9872062	18NOV06-19	11/07/2018 00:21
9872064	18NOV06-20	11/07/2018 01:18
CS3CC03	18NOV06-31	11/07/2018 10:26

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FORM 06A - SW-846 8290A Feb 2007 Rev 1
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Init. Calib. Date/Times: 11/02/2018 14:38 11/02/2018 19:26

Lab File Names: CSL = 18NOV02-06; CS1 = 18NOV02-07; CS2 = 18NOV02-08;
CS3 = 18NOV02-09; CS4 = 18NOV02-10; CS5 = 18NOV02-11;

Analyte	Type	RF						Mean RF	%RSD	QC Limits
		CSL	CS1	CS2	CS3	CS4	CS5			(%)
2378-TCDF	TARGET	1.047	0.921	0.868	0.884	0.915	0.905	0.923	6.90	± 20
2378-TCDD	TARGET	1.150	1.046	1.049	1.069	1.139	1.111	1.094	4.16	± 20
12378-PeCDF	TARGET	0.894	0.803	0.820	0.849	0.868	0.866	0.850	3.95	± 20
23478-PeCDF	TARGET	0.983	0.912	0.916	0.940	0.969	0.985	0.951	3.45	± 20
12378-PeCDD	TARGET	0.897	0.845	0.877	0.899	0.941	0.915	0.896	3.65	± 20
123478-HxCDF	TARGET	1.093	1.028	1.033	1.062	1.084	1.109	1.068	3.08	± 20
123678-HxCDF	TARGET	1.108	1.021	1.003	1.024	1.053	1.055	1.044	3.55	± 20
234678-HxCDF	TARGET	1.143	1.072	1.071	1.100	1.133	1.131	1.108	2.88	± 20
123478-HxCDD	TARGET	0.928	0.885	0.885	0.922	0.932	0.913	0.911	2.33	± 20
123678-HxCDD	TARGET	0.948	0.851	0.884	0.901	0.931	0.911	0.904	3.80	± 20
123789-HxCDD	TARGET	0.918	0.951	0.944	0.954	0.980	0.979	0.954	2.43	± 20
123789-HxCDF	TARGET	1.082	0.977	0.974	1.005	1.034	1.035	1.018	4.05	± 20
1234678-HpCDF	TARGET	1.171	1.096	1.102	1.138	1.172	1.209	1.148	3.83	± 20
1234678-HpCDD	TARGET	0.980	0.895	0.902	0.931	0.950	0.962	0.937	3.59	± 20
1234789-HpCDF	TARGET	1.290	1.108	1.135	1.159	1.198	1.198	1.181	5.40	± 20
OCDD	TARGET	0.886	0.877	0.883	0.916	0.931	0.980	0.912	4.31	± 20
OCDF	TARGET	0.876	0.826	0.801	0.823	0.833	0.918	0.846	5.08	± 20
13C12-1278-TCDD (CRS)	LABELED	1.169	1.053	0.980	0.992	0.974	1.027	1.032	7.11	± 20
13C12-2378-TCDF	LABELED	1.878	1.765	1.752	1.732	1.751	1.744	1.770	3.05	± 20
13C12-2378-TCDD	LABELED	1.088	1.000	0.937	0.962	0.916	0.959	0.977	6.25	± 20
13C12-12378-PeCDF	LABELED	1.824	1.599	1.546	1.567	1.599	1.658	1.632	6.22	± 20
13C12-23478-PeCDF	LABELED	1.846	1.565	1.551	1.576	1.589	1.673	1.633	6.90	± 20
13C12-12378-PeCDD	LABELED	1.086	0.930	0.920	0.947	0.944	1.023	0.975	6.71	± 20
13C12-123478-HxCDF	LABELED	1.280	1.259	1.245	1.216	1.262	1.334	1.266	3.15	± 20
13C12-123678-HxCDF	LABELED	1.356	1.320	1.306	1.280	1.321	1.430	1.336	3.92	± 20
13C12-234678-HxCDF	LABELED	1.269	1.199	1.215	1.193	1.220	1.324	1.237	4.08	± 20
13C12-123478-HxCDD	LABELED	0.986	0.959	0.953	0.948	0.996	1.093	0.989	5.50	± 20
13C12-123678-HxCDD	LABELED	1.026	0.982	0.985	0.977	1.014	1.106	1.015	4.78	± 20
13C12-123789-HxCDD	LABELED	0.966	0.934	0.918	0.936	0.973	1.046	0.962	4.80	± 20
13C12-123789-HxCDF	LABELED	1.135	1.105	1.109	1.091	1.112	1.206	1.127	3.69	± 20
13C12-1234678-HpCDF	LABELED	1.195	1.132	1.143	1.120	1.135	1.263	1.165	4.71	± 20
13C12-1234678-HpCDD	LABELED	0.992	0.925	0.954	0.934	0.948	1.063	0.969	5.30	± 20
13C12-1234789-HpCDF	LABELED	0.970	0.905	0.933	0.920	0.927	1.082	0.956	6.83	± 20
13C12-OCDD	LABELED	0.956	0.859	0.893	0.892	0.901	1.153	0.942	11.46	± 20
13C12-OCDF	LABELED	1.277	1.145	1.202	1.194	1.208	1.524	1.258	10.87	± 20

* Outside QC Limits.

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FORM 06A - SW-846 8290A Feb 2007 Rev 1
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/18/2018 17:20 10/18/2018 22:34

Lab File Names: CSL = 18OCT17-14; CS1 = 18OCT17-15; CS2 = 18OCT17-16;
CS3 = 18OCT17-17; CS4 = 18OCT17-18; CS5 = 18OCT17-19;

Analyte	Type	RF						Mean RF	%RSD	QC Limits (%)
		CSL	CS1	CS2	CS3	CS4	CS5			
2378-TCDF	TARGET	1.035	0.983	1.003	1.026	1.012	1.050	1.018	2.35	± 20
13C12-2378-TCDF	LABELED	2.058	1.959	2.082	1.982	2.020	2.126	2.038	3.08	± 20

* Outside QC Limits.

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FORM 06A - SW-846 8290A Feb 2007 Rev 1
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 18:17

Lab File Names: CSL = 18OCT25-04; CS1 = 18OCT25-05; CS2 = 18OCT25-06;
CS3 = 18OCT25-07; CS4 = 18OCT25-08; CS5 = 18OCT25-09;

Analyte	Type	RF						Mean RF	%RSD	QC Limits (%)
		CSL	CS1	CS2	CS3	CS4	CS5			
2378-TCDF	TARGET	1.190	0.954	0.961	0.984	0.999	1.018	1.018	8.62	± 20
2378-TCDD	TARGET	1.447	1.098	1.132	1.185	1.188	1.194	1.207	10.24	± 20
12378-PeCDF	TARGET	1.005	0.894	0.895	0.935	0.928	0.938	0.932	4.37	± 20
23478-PeCDF	TARGET	1.083	0.986	1.002	1.062	1.038	1.038	1.035	3.50	± 20
12378-PeCDD	TARGET	1.154	0.968	0.973	1.000	1.008	1.021	1.020	6.71	± 20
123478-HxCDF	TARGET	1.215	1.090	1.124	1.164	1.147	1.184	1.154	3.82	± 20
123678-HxCDF	TARGET	1.186	1.071	1.070	1.127	1.106	1.121	1.113	3.86	± 20
234678-HxCDF	TARGET	1.337	1.132	1.161	1.195	1.192	1.214	1.205	5.85	± 20
123478-HxCDD	TARGET	1.059	0.949	0.960	0.999	0.996	1.020	0.997	4.03	± 20
123678-HxCDD	TARGET	0.966	0.935	0.983	1.005	1.010	0.983	0.980	2.81	± 20
123789-HxCDD	TARGET	1.126	0.993	1.041	1.061	1.060	1.056	1.056	4.05	± 20
123789-HxCDF	TARGET	1.282	1.073	1.064	1.111	1.099	1.103	1.122	7.18	± 20
1234678-HpCDF	TARGET	1.246	1.213	1.215	1.246	1.224	1.258	1.234	1.52	± 20
1234678-HpCDD	TARGET	1.084	0.999	0.995	1.033	1.025	1.016	1.025	3.14	± 20
1234789-HpCDF	TARGET	1.333	1.244	1.243	1.280	1.269	1.297	1.278	2.68	± 20
OCDD	TARGET	1.105	0.966	0.966	0.999	0.996	1.022	1.009	5.13	± 20
OCDF	TARGET	0.925	0.863	0.878	0.905	0.891	0.934	0.899	3.05	± 20
13C12-1278-TCDD (CRS)	LABELED	1.085	1.049	1.086	1.008	1.047	1.039	1.052	2.83	± 20
13C12-2378-TCDF	LABELED	1.990	1.947	1.981	1.916	1.924	1.942	1.950	1.53	± 20
13C12-2378-TCDD	LABELED	1.031	1.009	1.036	0.976	0.987	0.981	1.003	2.61	± 20
13C12-12378-PeCDF	LABELED	1.940	1.888	1.943	1.890	1.939	1.951	1.925	1.47	± 20
13C12-23478-PeCDF	LABELED	1.931	1.910	1.943	1.892	1.945	2.008	1.938	2.06	± 20
13C12-12378-PeCDD	LABELED	1.055	1.043	1.051	1.024	1.050	1.030	1.042	1.18	± 20
13C12-123478-HxCDF	LABELED	1.481	1.436	1.391	1.429	1.475	1.573	1.464	4.27	± 20
13C12-123678-HxCDF	LABELED	1.519	1.473	1.465	1.485	1.552	1.693	1.531	5.61	± 20
13C12-234678-HxCDF	LABELED	1.426	1.350	1.345	1.372	1.414	1.543	1.408	5.25	± 20
13C12-123478-HxCDD	LABELED	1.021	0.966	0.961	0.987	1.027	1.070	1.005	4.19	± 20
13C12-123678-HxCDD	LABELED	1.041	0.993	0.959	0.989	1.033	1.122	1.023	5.59	± 20
13C12-123789-HxCDD	LABELED	0.986	0.939	0.913	0.943	0.980	1.071	0.972	5.73	± 20
13C12-123789-HxCDF	LABELED	1.311	1.259	1.222	1.250	1.323	1.499	1.311	7.63	± 20
13C12-1234678-HpCDF	LABELED	1.369	1.288	1.277	1.330	1.360	1.475	1.350	5.31	± 20
13C12-1234678-HpCDD	LABELED	0.955	0.922	0.907	0.942	0.971	1.060	0.959	5.65	± 20
13C12-1234789-HpCDF	LABELED	1.091	1.055	1.024	1.079	1.119	1.223	1.099	6.27	± 20
13C12-OCDD	LABELED	0.891	0.855	0.810	0.888	0.920	1.019	0.897	7.87	± 20
13C12-OCDF	LABELED	1.398	1.335	1.264	1.381	1.439	1.649	1.411	9.27	± 20

* Outside QC Limits.

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FORM 06A - SW-846 8290A Feb 2007 Rev 1
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 00:19

Lab File Names: CSL = 18MAY09-10; CS1 = 18MAY09-11; CS2 = 18MAY09-13;
CS3 = 18MAY09-14; CS4 = 18MAY09-15; CS5 = 18MAY09-16;

Analyte	Type	RF						Mean RF	%RSD	QC Limits
		CSL	CS1	CS2	CS3	CS4	CS5			(%)
2378-TCDF	TARGET	1.328	1.070	1.067	1.021	1.070	1.051	1.101	10.24	± 20
2378-TCDD	TARGET	1.328	1.169	1.193	1.151	1.244	1.240	1.221	5.27	± 20
12378-PeCDF	TARGET	1.062	0.957	0.998	0.937	1.005	0.982	0.990	4.38	± 20
23478-PeCDF	TARGET	1.129	1.098	1.128	1.055	1.138	1.106	1.109	2.74	± 20
12378-PeCDD	TARGET	1.043	1.023	1.051	1.003	1.073	1.031	1.037	2.30	± 20
123478-HxCDF	TARGET	1.220	1.188	1.209	1.152	1.217	1.206	1.198	2.13	± 20
123678-HxCDF	TARGET	1.206	1.121	1.154	1.103	1.173	1.164	1.153	3.22	± 20
234678-HxCDF	TARGET	1.297	1.218	1.263	1.175	1.256	1.233	1.240	3.38	± 20
123478-HxCDD	TARGET	0.965	0.998	1.050	0.995	1.075	1.037	1.020	4.00	± 20
123678-HxCDD	TARGET	1.054	1.012	1.040	0.987	1.059	1.024	1.029	2.64	± 20
123789-HxCDD	TARGET	1.111	1.092	1.100	1.046	1.122	1.088	1.093	2.41	± 20
123789-HxCDF	TARGET	1.265	1.136	1.153	1.089	1.150	1.127	1.153	5.15	± 20
1234678-HpCDF	TARGET	1.339	1.268	1.322	1.225	1.308	1.298	1.294	3.18	± 20
1234678-HpCDD	TARGET	1.122	1.045	1.088	1.013	1.093	1.031	1.065	3.93	± 20
1234789-HpCDF	TARGET	1.255	1.273	1.335	1.252	1.343	1.309	1.295	3.09	± 20
OCDD	TARGET	1.068	1.032	1.051	0.996	1.045	1.066	1.043	2.58	± 20
OCDF	TARGET	0.959	0.920	0.952	0.898	0.941	0.970	0.940	2.84	± 20
13C12-1278-TCDD (CRS)	LABELED		1.643	1.331	1.104	1.129	1.120	1.265	18.23	± 20
13C12-2378-TCDF	LABELED	1.742	1.764	1.882	1.922	1.869	1.928	1.851	4.31	± 20
13C12-2378-TCDD	LABELED	0.888	0.877	0.957	0.938	0.946	0.967	0.929	4.01	± 20
13C12-12378-PeCDF	LABELED	1.612	1.605	1.713	1.786	1.694	1.862	1.712	5.84	± 20
13C12-23478-PeCDF	LABELED	1.606	1.562	1.674	1.688	1.660	1.885	1.679	6.61	± 20
13C12-12378-PeCDD	LABELED	0.876	0.853	0.915	0.922	0.915	1.013	0.916	5.99	± 20
13C12-123478-HxCDF	LABELED	1.215	1.244	1.318	1.361	1.317	1.467	1.320	6.78	± 20
13C12-123678-HxCDF	LABELED	1.309	1.295	1.388	1.459	1.394	1.590	1.406	7.72	± 20
13C12-234678-HxCDF	LABELED	1.173	1.186	1.244	1.290	1.260	1.416	1.262	6.95	± 20
13C12-123478-HxCDD	LABELED	0.850	0.861	0.914	0.956	0.923	1.040	0.924	7.52	± 20
13C12-123678-HxCDD	LABELED	0.857	0.867	0.911	0.967	0.938	1.085	0.937	8.88	± 20
13C12-123789-HxCDD	LABELED	0.822	0.827	0.888	0.918	0.892	1.008	0.893	7.65	± 20
13C12-123789-HxCDF	LABELED	1.124	1.132	1.187	1.204	1.211	1.377	1.206	7.59	± 20
13C12-1234678-HpCDF	LABELED	1.042	1.039	1.090	1.163	1.105	1.239	1.113	6.91	± 20
13C12-1234678-HpCDD	LABELED	0.760	0.755	0.801	0.834	0.801	0.913	0.811	7.15	± 20
13C12-1234789-HpCDF	LABELED	0.866	0.856	0.905	0.927	0.915	1.014	0.914	6.17	± 20
13C12-OCDD	LABELED	0.676	0.654	0.707	0.736	0.714	0.789	0.713	6.64	± 20
13C12-OCDF	LABELED	1.035	1.000	1.061	1.108	1.080	1.242	1.088	7.75	± 20

* Outside QC Limits.

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FORM 06B
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Init. Calib. Date/Times: 11/02/2018 14:38 11/02/2018 19:26

Lab File Names: CSL = 18NOV02-06; CS1 = 18NOV02-07; CS2 = 18NOV02-08;
CS3 = 18NOV02-09; CS4 = 18NOV02-10; CS5 = 18NOV02-11;

Analytes	Type	Selected Ion	Ion Abundance Ratio						Ion Ratio
			CSL	CS1	CS2	CS3	CS4	CS5	QC Limits
2378-TCDF	TARGET	304/306	0.68	0.80	0.79	0.78	0.78	0.77	0.65 - 0.90
2378-TCDD	TARGET	320/322	0.70	0.85	0.82	0.79	0.79	0.79	0.65 - 0.90
12378-PeCDF	TARGET	340/342	1.44	1.53	1.55	1.56	1.54	1.58	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.53	1.51	1.55	1.56	1.54	1.58	1.32 - 1.79
12378-PeCDD	TARGET	356/358	1.55	1.51	1.61	1.56	1.56	1.55	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.16	1.25	1.23	1.26	1.23	1.24	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.28	1.33	1.24	1.25	1.24	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.20	1.19	1.25	1.24	1.24	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.22	1.28	1.28	1.25	1.23	1.24	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.25	1.24	1.28	1.25	1.24	1.25	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.19	1.28	1.26	1.25	1.25	1.24	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.37	1.30	1.23	1.26	1.25	1.26	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.05	1.06	1.01	1.04	1.04	1.04	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.06	1.04	1.06	1.03	1.03	1.04	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	0.94	1.13	1.04	1.05	1.05	1.04	0.88 - 1.21
OCDD	TARGET	458/460	0.82	0.88	0.89	0.89	0.89	0.87	0.76 - 1.03
OCDF	TARGET	442/444	0.82	0.92	0.93	0.91	0.90	0.88	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.81	0.80	0.78	0.81	0.81	0.79	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	0.80	0.79	0.76	0.78	0.79	0.78	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.78	0.80	0.81	0.78	0.80	0.79	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.57	1.55	1.59	1.57	1.59	1.56	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.58	1.59	1.55	1.56	1.57	1.57	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.59	1.56	1.59	1.60	1.58	1.60	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	0.52	0.52	0.52	0.53	0.52	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	0.52	0.54	0.53	0.53	0.52	0.53	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	0.53	0.53	0.53	0.52	0.53	0.54	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.26	1.29	1.26	1.29	1.26	1.26	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.25	1.25	1.23	1.25	1.24	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	1.23	1.23	1.24	1.25	1.25	1.24	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	0.53	0.53	0.53	0.54	0.54	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	0.46	0.46	0.46	0.46	0.46	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.05	1.05	1.05	1.04	1.04	1.07	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.46	0.46	0.45	0.46	0.44	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.88	0.90	0.89	0.90	0.90	0.90	0.76 - 1.03
13C12-OCDF	LABELED	454/456	0.90	0.90	0.89	0.89	0.90	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 06B
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/18/2018 17:20 10/18/2018 22:34

Lab File Names: CSL = 18OCT17-14; CS1 = 18OCT17-15; CS2 = 18OCT17-16;
CS3 = 18OCT17-17; CS4 = 18OCT17-18; CS5 = 18OCT17-19;

Analytes	Type	Selected Ion	Ion Abundance Ratio						Ion Ratio
			CSL	CS1	CS2	CS3	CS4	CS5	QC Limits
2378-TCDF	TARGET	304/306	0.69	0.82	0.82	0.78	0.80	0.81	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	0.79	0.82	0.80	0.79	0.80	0.80	0.65 - 0.89

* Outside QC Limits.

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FORM 06B
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 18:17

Lab File Names: CSL = 18OCT25-04; CS1 = 18OCT25-05; CS2 = 18OCT25-06;
CS3 = 18OCT25-07; CS4 = 18OCT25-08; CS5 = 18OCT25-09;

Analytes	Type	Selected Ion	Ion Abundance Ratio						Ion Ratio
			CSL	CS1	CS2	CS3	CS4	CS5	QC Limits
2378-TCDF	TARGET	304/306	0.82	0.80	0.77	0.81	0.80	0.79	0.65 - 0.90
2378-TCDD	TARGET	320/322	0.89	0.66	0.85	0.82	0.80	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	1.53	1.56	1.53	1.58	1.56	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.49	1.59	1.53	1.56	1.54	1.56	1.32 - 1.79
12378-PeCDD	TARGET	356/358	1.72	1.65	1.62	1.59	1.56	1.57	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.19	1.29	1.24	1.26	1.24	1.26	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.21	1.27	1.24	1.26	1.24	1.26	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.36	1.31	1.31	1.27	1.25	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.17	1.32	1.31	1.25	1.25	1.25	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.28	1.28	1.28	1.24	1.26	1.26	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.15	1.28	1.23	1.25	1.26	1.25	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.37	1.28	1.29	1.26	1.26	1.26	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.11	1.08	1.07	1.04	1.05	1.05	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.09	1.09	1.09	1.05	1.06	1.05	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.05	1.06	1.08	1.07	1.05	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.95	0.89	0.91	0.91	0.90	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.91	0.94	0.91	0.91	0.91	0.89	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.81	0.80	0.79	0.81	0.83	0.80	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	0.81	0.79	0.79	0.81	0.80	0.79	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.80	0.81	0.80	0.81	0.79	0.82	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.59	1.59	1.60	1.58	1.57	1.61	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.58	1.59	1.58	1.59	1.60	1.60	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.58	1.58	1.60	1.57	1.60	1.64	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	0.53	0.53	0.52	0.53	0.54	0.52	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	0.54	0.54	0.53	0.55	0.54	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	0.53	0.53	0.53	0.53	0.54	0.54	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.27	1.30	1.28	1.27	1.28	1.28	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.26	1.23	1.27	1.24	1.23	1.27	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	1.26	1.26	1.27	1.28	1.25	1.27	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	0.53	0.53	0.53	0.53	0.53	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	0.45	0.47	0.46	0.46	0.47	0.47	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.07	1.05	1.06	1.05	1.07	1.07	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.45	0.47	0.46	0.46	0.46	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.91	0.92	0.90	0.90	0.90	0.91	0.76 - 1.03
13C12-OCDF	LABELED	454/456	0.91	0.91	0.90	0.91	0.91	0.93	0.76 - 1.03

* Outside QC Limits.

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FORM 06B
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 00:19

Lab File Names: CSL = 18MAY09-10; CS1 = 18MAY09-11; CS2 = 18MAY09-13;
CS3 = 18MAY09-14; CS4 = 18MAY09-15; CS5 = 18MAY09-16;

Analytes	Type	Selected Ion	Ion Abundance Ratio						Ion Ratio
			CSL	CS1	CS2	CS3	CS4	CS5	QC Limits
2378-TCDF	TARGET	304/306	0.85	0.79	0.79	0.80	0.79	0.80	0.65 - 0.90
2378-TCDD	TARGET	320/322	0.65	0.75	0.86	0.77	0.78	0.79	0.65 - 0.90
12378-PeCDF	TARGET	340/342	1.66	1.57	1.57	1.57	1.58	1.60	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.54	1.62	1.56	1.57	1.57	1.61	1.32 - 1.79
12378-PeCDD	TARGET	356/358	1.62	1.61	1.54	1.58	1.59	1.59	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.15	1.23	1.30	1.27	1.24	1.26	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.30	1.24	1.25	1.25	1.25	1.26	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.30	1.22	1.27	1.26	1.23	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.21	1.21	1.28	1.26	1.25	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.25	1.33	1.27	1.26	1.26	1.27	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.27	1.28	1.25	1.26	1.26	1.26	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.17	1.30	1.23	1.26	1.26	1.26	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.04	1.04	1.07	1.05	1.05	1.05	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.96	1.09	1.07	1.06	1.06	1.05	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.20	1.04	1.07	1.05	1.05	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.84	0.87	0.91	0.91	0.91	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.85	0.91	0.90	0.91	0.91	0.89	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334		0.66	0.82	0.78	0.79	0.80	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	0.79	0.80	0.80	0.81	0.81	0.81	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.79	0.80	0.78	0.78	0.79	0.81	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.59	1.61	1.59	1.60	1.61	1.60	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.58	1.61	1.60	1.59	1.61	1.59	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.59	1.57	1.61	1.61	1.57	1.63	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	0.53	0.52	0.53	0.53	0.53	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	0.54	0.53	0.54	0.53	0.53	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	0.54	0.53	0.54	0.54	0.53	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.28	1.27	1.30	1.28	1.29	1.28	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.29	1.26	1.27	1.26	1.23	1.27	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	1.26	1.28	1.27	1.26	1.26	1.29	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	0.53	0.54	0.53	0.54	0.54	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	0.47	0.46	0.47	0.46	0.47	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.07	1.07	1.06	1.07	1.07	1.07	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.47	0.47	0.47	0.46	0.46	0.47	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.91	0.91	0.90	0.92	0.91	0.91	0.76 - 1.03
13C12-OCDF	LABELED	454/456	0.90	0.91	0.91	0.91	0.91	0.91	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Lab File ID: 18NOV07-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/07/2018 16:56

Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.938	0.923	1.55	20	0.79	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.152	1.094	5.28	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.900	0.850	5.90	20	1.56	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.002	0.951	5.41	20	1.56	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.972	0.896	8.47	20	1.56	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.146	1.068	7.32	20	1.24	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.104	1.044	5.76	20	1.24	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.174	1.108	5.91	20	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.984	0.911	8.08	20	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.985	0.904	8.93	20	1.25	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.041	0.954	9.14	20	1.29	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.078	1.018	5.92	20	1.26	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.184	1.148	3.16	20	1.03	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.983	0.937	4.90	20	1.05	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.230	1.181	4.12	20	1.04	0.88 - 1.21
OCDD	TARGET	458/460	0.969	0.912	6.21	20	0.91	0.76 - 1.03
OCDF	TARGET	442/444	0.865	0.846	2.26	20	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.002	1.032	2.95	20	0.80	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.829	1.770	3.29	30	0.79	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.979	0.977	0.16	30	0.78	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.565	1.632	4.14	30	1.58	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.589	1.633	2.70	30	1.56	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.879	0.975	9.82	30	1.60	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.315	1.266	3.84	30	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.379	1.336	3.27	30	0.53	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.287	1.237	4.11	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.987	0.989	0.19	30	1.29	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.004	1.015	1.06	30	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.963	0.962	0.06	30	1.24	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.211	1.127	7.53	30	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.193	1.165	2.46	30	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.953	0.969	1.70	30	1.07	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.987	0.956	3.25	30	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.911	0.942	3.29	30	0.91	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.251	1.258	0.61	30	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Lab File ID: 18NOV07-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/08/2018 05:33

Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	1.011	0.923	9.53	20	0.78	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.198	1.094	9.50	20	0.77	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.961	0.850	13.00	20	1.59	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.075	0.951	13.03	20	1.62	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.999	0.896	11.52	20	1.60	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.214	1.068	13.69	20	1.25	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.172	1.044	12.25	20	1.27	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.256	1.108	13.27	20	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.017	0.911	11.62	20	1.29	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.003	0.904	10.95	20	1.27	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.057	0.954	10.76	20	1.25	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.171	1.018	15.05	20	1.30	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.289	1.148	12.34	20	1.06	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.014	0.937	8.29	20	1.03	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.306	1.181	10.59	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	1.009	0.912	10.63	20	0.91	0.76 - 1.03
OCDF	TARGET	442/444	0.932	0.846	10.18	20	0.91	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.011	1.032	2.03	20	0.79	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.867	1.770	5.49	30	0.81	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.941	0.977	3.64	30	0.81	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.744	1.632	6.86	30	1.62	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.723	1.633	5.51	30	1.59	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.935	0.975	4.11	30	1.59	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.381	1.266	9.09	30	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.405	1.336	5.22	30	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.259	1.237	1.84	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.908	0.989	8.24	30	1.28	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.946	1.015	6.80	30	1.30	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.984	0.962	2.29	30	1.26	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.260	1.127	11.84	30	0.54	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.214	1.165	4.24	30	0.45	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.091	0.969	12.51	30	1.04	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	1.250	0.956	30.75 *	30	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	1.005	0.942	6.68	30	0.92	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.512	1.258	20.18	30	0.91	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV01-06 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/01/2018 13:46

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.928	1.018	8.82	20	0.76	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.089	1.207	9.80	20	0.78	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.860	0.932	7.77	20	1.58	1.32 - 1.79
23478-PeCDF	TARGET	340/342	0.965	1.035	6.73	20	1.58	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.939	1.020	7.97	20	1.55	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.100	1.154	4.68	20	1.27	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.050	1.113	5.73	20	1.26	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.126	1.205	6.55	20	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.956	0.997	4.16	20	1.24	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.927	0.980	5.41	20	1.19	1.05 - 1.44
123789-HxCDD	TARGET	390/392	0.989	1.056	6.40	20	1.25	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.013	1.122	9.73	20	1.25	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.190	1.234	3.52	20	1.04	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.985	1.025	3.96	20	1.05	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.207	1.278	5.49	20	1.03	0.88 - 1.21
OCDD	TARGET	458/460	0.974	1.009	3.49	20	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.877	0.899	2.48	20	0.91	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.996	1.052	5.33	20	0.77	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.784	1.950	8.53	30	0.79	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.958	1.003	4.52	30	0.80	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.588	1.925	17.53	30	1.59	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.597	1.938	17.63	30	1.56	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.921	1.042	11.58	30	1.60	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.287	1.464	12.08	30	0.52	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.339	1.531	12.53	30	0.52	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.197	1.408	15.02	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.957	1.005	4.77	30	1.30	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.965	1.023	5.67	30	1.24	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.912	0.972	6.14	30	1.24	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.085	1.311	17.22	30	0.52	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.178	1.350	12.73	30	0.45	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.924	0.959	3.67	30	1.04	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.955	1.099	13.06	30	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.950	0.897	5.85	30	0.91	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.337	1.411	5.24	30	0.89	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV01-18 Lab Sample ID: CS3CC04 Date/Time Analyzed: 11/02/2018 00:42

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.941	1.018	7.53	20	0.77	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.184	1.207	1.90	20	0.78	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.888	0.932	4.81	20	1.59	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.002	1.035	3.17	20	1.57	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.970	1.020	4.90	20	1.58	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.109	1.154	3.94	20	1.27	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.078	1.113	3.19	20	1.26	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.155	1.205	4.16	20	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.987	0.997	1.05	20	1.23	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.959	0.980	2.15	20	1.24	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.047	1.056	0.86	20	1.25	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.033	1.122	7.96	20	1.30	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.180	1.234	4.34	20	1.05	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.983	1.025	4.15	20	1.06	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.200	1.278	6.10	20	1.06	0.88 - 1.21
OCDD	TARGET	458/460	0.958	1.009	5.09	20	0.88	0.76 - 1.03
OCDF	TARGET	442/444	0.861	0.899	4.29	20	0.93	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.991	1.052	5.82	20	0.79	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.901	1.950	2.53	30	0.79	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.964	1.003	3.98	30	0.81	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.719	1.925	10.73	30	1.60	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.668	1.938	13.96	30	1.56	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.945	1.042	9.30	30	1.60	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.345	1.464	8.15	30	0.52	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.371	1.531	10.47	30	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.313	1.408	6.73	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.978	1.005	2.67	30	1.28	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.019	1.023	0.35	30	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.932	0.972	4.09	30	1.25	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.146	1.311	12.58	30	0.52	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.117	1.350	17.22	30	0.45	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.963	0.959	0.32	30	1.03	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.983	1.099	10.52	30	0.45	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.917	0.897	2.21	30	0.90	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.302	1.411	7.71	30	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV02-06 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/02/2018 15:12

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.982	1.018	3.55	20	0.77	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.184	1.207	1.92	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.951	0.932	1.95	20	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.056	1.035	2.03	20	1.57	1.32 - 1.79
12378-PeCDD	TARGET	356/358	1.003	1.020	1.67	20	1.57	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.156	1.154	0.14	20	1.23	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.120	1.113	0.61	20	1.26	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.196	1.205	0.76	20	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.033	0.997	3.62	20	1.25	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.985	0.980	0.52	20	1.26	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.047	1.056	0.88	20	1.24	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.107	1.122	1.38	20	1.26	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.247	1.234	1.07	20	1.05	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.018	1.025	0.76	20	1.06	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.278	1.278	0.03	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	1.016	1.009	0.67	20	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.894	0.899	0.62	20	0.92	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.038	1.052	1.31	20	0.81	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.945	1.950	0.27	30	0.80	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.984	1.003	1.95	30	0.79	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.757	1.925	8.73	30	1.57	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.750	1.938	9.73	30	1.55	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.947	1.042	9.16	30	1.58	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.435	1.464	1.97	30	0.53	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.483	1.531	3.15	30	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.368	1.408	2.88	30	0.54	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.999	1.005	0.65	30	1.27	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.056	1.023	3.26	30	1.26	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.988	0.972	1.66	30	1.26	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.288	1.311	1.70	30	0.54	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.326	1.350	1.77	30	0.47	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.006	0.959	4.89	30	1.05	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	1.115	1.099	1.50	30	0.47	0.37 - 0.52
13C12-OCDD	LABELED	470/472	1.096	0.897	22.15	30	0.90	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.665	1.411	18.03	30	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV02-21 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/03/2018 04:43

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.943	1.018	7.35	20	0.77	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.154	1.207	4.46	20	0.79	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.922	0.932	1.07	20	1.59	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.026	1.035	0.81	20	1.55	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.987	1.020	3.30	20	1.57	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.110	1.154	3.81	20	1.26	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.064	1.113	4.47	20	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.164	1.205	3.38	20	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.013	0.997	1.57	20	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.983	0.980	0.27	20	1.25	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.050	1.056	0.63	20	1.26	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.073	1.122	4.35	20	1.25	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.211	1.234	1.80	20	1.05	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.982	1.025	4.22	20	1.04	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.233	1.278	3.46	20	1.06	0.88 - 1.21
OCDD	TARGET	458/460	1.016	1.009	0.69	20	0.90	0.76 - 1.03
OCDF	TARGET	442/444	0.909	0.899	1.05	20	0.91	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	10.297	1.052	878.63 *	20	0.79	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.881	1.950	3.54	30	0.79	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.989	1.003	1.40	30	0.80	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.749	1.925	9.14	30	1.57	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.728	1.938	10.84	30	1.55	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.962	1.042	7.66	30	1.59	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.334	1.464	8.84	30	0.53	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.390	1.531	9.19	30	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.299	1.408	7.80	30	0.54	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.003	1.005	0.25	30	1.27	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.033	1.023	0.96	30	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.966	0.972	0.65	30	1.25	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.241	1.311	5.31	30	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.246	1.350	7.72	30	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.907	0.959	5.50	30	1.04	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.981	1.099	10.72	30	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.944	0.897	5.25	30	0.90	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.435	1.411	1.67	30	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV02-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/03/2018 15:42

Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.981	1.018	3.64	20	0.81	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.923	2.038	5.63	30	0.79	0.65 - 0.89

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV02-14 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/04/2018 01:23

Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.983	1.018	3.49	20	0.79	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.874	2.038	8.06	30	0.80	0.65 - 0.89

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV07-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/07/2018 13:48

Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.923	1.018	9.34	20	0.75	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.807	2.038	11.34	30	0.79	0.65 - 0.89

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV07-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/08/2018 04:02

Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.844	1.018	17.13	20	0.75	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.743	2.038	14.48	30	0.79	0.65 - 0.89

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV05-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/05/2018 10:39

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.979	1.101	11.06	20	0.77	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.094	1.221	10.36	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.919	0.990	7.23	20	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.046	1.109	5.73	20	1.54	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.906	1.037	12.64	20	1.54	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.190	1.198	0.69	20	1.27	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.137	1.153	1.43	20	1.28	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.187	1.240	4.31	20	1.28	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.021	1.020	0.08	20	1.22	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.969	1.029	5.85	20	1.23	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.073	1.093	1.80	20	1.25	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.112	1.153	3.57	20	1.28	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.252	1.294	3.23	20	1.07	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.028	1.065	3.51	20	1.08	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.261	1.295	2.59	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.961	1.043	7.90	20	0.91	0.76 - 1.03
OCDF	TARGET	442/444	0.889	0.940	5.38	20	0.91	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.997	1.265	21.23 *	20	0.79	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.769	1.851	4.41	30	0.73	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	1.003	0.929	7.95	30	0.81	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.866	1.712	9.00	30	1.60	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.848	1.679	10.08	30	1.61	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.122	0.916	22.50	30	1.58	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.313	1.320	0.56	30	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.381	1.406	1.74	30	0.52	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.331	1.262	5.54	30	0.55	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.938	0.924	1.52	30	1.31	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.984	0.937	4.96	30	1.22	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.907	0.893	1.56	30	1.27	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.200	1.206	0.48	30	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.293	1.113	16.20	30	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.962	0.811	18.66	30	1.04	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	1.053	0.914	15.26	30	0.45	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.896	0.713	25.68	30	0.91	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.277	1.088	17.38	30	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV05-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/05/2018 23:14

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.962	1.101	12.63	20	0.82	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.118	1.221	8.40	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.929	0.990	6.19	20	1.58	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.030	1.109	7.15	20	1.58	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.936	1.037	9.73	20	1.59	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.199	1.198	0.02	20	1.27	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.136	1.153	1.49	20	1.28	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.191	1.240	3.97	20	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.982	1.020	3.69	20	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.008	1.029	2.11	20	1.29	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.064	1.093	2.63	20	1.28	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.133	1.153	1.76	20	1.27	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.246	1.294	3.67	20	1.09	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.005	1.065	5.68	20	1.10	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.279	1.295	1.18	20	1.09	0.88 - 1.21
OCDD	TARGET	458/460	0.982	1.043	5.87	20	0.88	0.76 - 1.03
OCDF	TARGET	442/444	0.917	0.940	2.46	20	0.92	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.031	1.265	18.54	20	0.75	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.793	1.851	3.14	30	0.77	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.973	0.929	4.74	30	0.90 *	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.892	1.712	10.51	30	1.61	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.861	1.679	10.82	30	1.55	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.100	0.916	20.15	30	1.56	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.319	1.320	0.06	30	0.55	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.370	1.406	2.55	30	0.52	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.294	1.262	2.55	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.949	0.924	2.66	30	1.28	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.953	0.937	1.67	30	1.28	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.909	0.893	1.79	30	1.25	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.167	1.206	3.17	30	0.54	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.226	1.113	10.15	30	0.47	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.918	0.811	13.19	30	1.04	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.974	0.914	6.63	30	0.47	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.740	0.713	3.81	30	0.88	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.065	1.088	2.12	30	0.91	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV06-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/06/2018 09:23

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	1.005	1.101	8.76	20	0.77	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.184	1.221	3.01	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.933	0.990	5.83	20	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.089	1.109	1.85	20	1.56	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.990	1.037	4.59	20	1.59	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.148	1.198	4.22	20	1.27	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.106	1.153	4.09	20	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.198	1.240	3.44	20	1.27	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.007	1.020	1.22	20	1.29	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.014	1.029	1.47	20	1.25	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.039	1.093	4.98	20	1.27	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.104	1.153	4.25	20	1.27	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.248	1.294	3.54	20	1.06	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.007	1.065	5.50	20	1.02	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.267	1.295	2.11	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	1.003	1.043	3.84	20	0.88	0.76 - 1.03
OCDF	TARGET	442/444	0.899	0.940	4.33	20	0.91	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.058	1.265	16.39	20	0.81	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.860	1.851	0.50	30	0.80	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.945	0.929	1.73	30	0.81	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.965	1.712	14.81	30	1.62	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.915	1.679	14.06	30	1.57	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.079	0.916	17.83	30	1.56	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.359	1.320	2.96	30	0.53	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.415	1.406	0.69	30	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.305	1.262	3.47	30	0.54	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.934	0.924	1.08	30	1.29	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.942	0.937	0.44	30	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.929	0.893	4.06	30	1.24	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.190	1.206	1.34	30	0.54	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.215	1.113	9.17	30	0.45	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.891	0.811	9.94	30	1.09	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.939	0.914	2.78	30	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.699	0.713	1.85	30	0.89	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.026	1.088	5.64	30	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV06-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/06/2018 22:28

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	1.033	1.101	6.19	20	0.77	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.184	1.221	3.02	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.930	0.990	6.10	20	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.062	1.109	4.26	20	1.58	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.976	1.037	5.95	20	1.59	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.166	1.198	2.67	20	1.26	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.102	1.153	4.45	20	1.26	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.194	1.240	3.76	20	1.28	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.986	1.020	3.34	20	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.009	1.029	1.95	20	1.26	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.056	1.093	3.38	20	1.23	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.105	1.153	4.18	20	1.24	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.233	1.294	4.66	20	1.05	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.998	1.065	6.34	20	1.06	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.280	1.295	1.13	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.995	1.043	4.58	20	0.91	0.76 - 1.03
OCDF	TARGET	442/444	0.899	0.940	4.31	20	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.038	1.265	17.97	20	0.83	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.810	1.851	2.23	30	0.78	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.979	0.929	5.44	30	0.77	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	2.010	1.712	17.41	30	1.61	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	2.008	1.679	19.60	30	1.56	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.137	0.916	24.17	30	1.61	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.376	1.320	4.25	30	0.52	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.449	1.406	3.09	30	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.328	1.262	5.29	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.958	0.924	3.69	30	1.25	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.957	0.937	2.11	30	1.27	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.942	0.893	5.58	30	1.29	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.203	1.206	0.19	30	0.52	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.233	1.113	10.77	30	0.45	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.890	0.811	9.84	30	1.08	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.939	0.914	2.74	30	0.48	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.679	0.713	4.68	30	0.89	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.003	1.088	7.80	30	0.90	0.76 - 1.03

* Outside QC Limits.

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FORM 07AD
CDD/CDF CONTINUING CALIBRATION SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV06-31 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/07/2018 10:26

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.966	1.101	12.23	20	0.80	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.180	1.221	3.30	20	0.75	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.921	0.990	7.02	20	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.051	1.109	5.27	20	1.56	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.979	1.037	5.66	20	1.63	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.168	1.198	2.50	20	1.26	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.092	1.153	5.29	20	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.195	1.240	3.68	20	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.013	1.020	0.72	20	1.25	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.969	1.029	5.81	20	1.28	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.053	1.093	3.67	20	1.25	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.080	1.153	6.34	20	1.26	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.246	1.294	3.69	20	1.08	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.992	1.065	6.85	20	1.05	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.274	1.295	1.63	20	1.07	0.88 - 1.21
OCDD	TARGET	458/460	0.987	1.043	5.33	20	0.87	0.76 - 1.03
OCDF	TARGET	442/444	0.882	0.940	6.19	20	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.991	1.265	21.66 *	20	0.79	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.929	1.851	4.20	30	0.81	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.978	0.929	5.24	30	0.80	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.890	1.712	10.39	30	1.58	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.866	1.679	11.10	30	1.59	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.046	0.916	14.23	30	1.59	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.349	1.320	2.16	30	0.53	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.432	1.406	1.86	30	0.51	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.303	1.262	3.28	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.954	0.924	3.25	30	1.31	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.959	0.937	2.25	30	1.24	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.912	0.893	2.20	30	1.27	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.198	1.206	0.65	30	0.52	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.155	1.113	3.78	30	0.47	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.836	0.811	3.16	30	1.10	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.880	0.914	3.74	30	0.48	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.636	0.713	10.81	30	0.90	0.76 - 1.03
13C12-OCDF	LABELED	454/456	0.920	1.088	15.42	30	0.91	0.76 - 1.03

* Outside QC Limits.

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Lab File ID: 18NOV07-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/07/2018 16:56

Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	28.80	1.001	0.999-1.003
2378-TCDD	TARGET	29.93	1.001	0.999-1.002
12378-PeCDF	TARGET	34.92	1.000	0.999-1.002
23478-PeCDF	TARGET	36.25	1.001	0.999-1.002
12378-PeCDD	TARGET	36.65	1.001	0.999-1.002
123478-HxCDF	TARGET	40.02	1.001	0.999-1.001
123678-HxCDF	TARGET	40.16	1.000	0.997-1.005
234678-HxCDF	TARGET	40.89	1.001	0.999-1.001
123478-HxCDD	TARGET	41.08	1.000	0.999-1.001
123678-HxCDD	TARGET	41.20	1.000	0.998-1.004
123789-HxCDD	TARGET	41.51	1.000	1.000-1.019
123789-HxCDF	TARGET	41.92	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.65	1.000	0.999-1.001
1234678-HpCDD	TARGET	44.88	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.46	1.000	0.999-1.001
OCDD	TARGET	47.93	1.000	0.999-1.001
OCDF	TARGET	48.12	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.34	1.045	0.988-1.056
13C12-2378-TCDF	LABELED	28.78	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	29.89	1.029	0.976-1.043
13C12-12378-PeCDF	LABELED	34.91	1.202	1.000-1.425
13C12-23478-PeCDF	LABELED	36.23	1.248	1.011-1.526
13C12-12378-PeCDD	LABELED	36.63	1.261	1.000-1.567
13C12-123478-HxCDF	LABELED	39.99	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.15	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	40.86	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.07	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.19	1.032	1.019-1.041
13C12-123789-HxCDD	LABELED	41.50	1.040	1.027-1.049
13C12-123789-HxCDF	LABELED	41.90	1.050	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.64	1.093	1.067-1.109
13C12-1234678-HpCDD	LABELED	44.87	1.124	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.45	1.139	1.084-1.178
13C12-OCDD	LABELED	47.92	1.201	1.051-1.330
13C12-OCDF	LABELED	48.10	1.205	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Lab File ID: 18NOV07-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/08/2018 05:33

Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	28.81	1.001	0.999-1.003
2378-TCDD	TARGET	29.92	1.001	0.999-1.002
12378-PeCDF	TARGET	34.91	1.000	0.999-1.002
23478-PeCDF	TARGET	36.26	1.001	0.999-1.002
12378-PeCDD	TARGET	36.66	1.001	0.999-1.002
123478-HxCDF	TARGET	40.01	1.001	0.999-1.001
123678-HxCDF	TARGET	40.16	1.000	0.997-1.005
234678-HxCDF	TARGET	40.89	1.001	0.999-1.001
123478-HxCDD	TARGET	41.08	1.000	0.999-1.001
123678-HxCDD	TARGET	41.20	1.000	0.998-1.004
123789-HxCDD	TARGET	41.51	1.000	1.000-1.019
123789-HxCDF	TARGET	41.91	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.64	1.000	0.999-1.001
1234678-HpCDD	TARGET	44.87	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.45	1.000	0.999-1.001
OCDD	TARGET	47.92	1.000	0.999-1.001
OCDF	TARGET	48.11	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.33	1.044	0.988-1.056
13C12-2378-TCDF	LABELED	28.79	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	29.89	1.029	0.976-1.043
13C12-12378-PeCDF	LABELED	34.90	1.201	1.000-1.425
13C12-23478-PeCDF	LABELED	36.23	1.247	1.011-1.526
13C12-12378-PeCDD	LABELED	36.63	1.261	1.000-1.567
13C12-123478-HxCDF	LABELED	39.98	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.15	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	40.86	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.06	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.18	1.032	1.019-1.041
13C12-123789-HxCDD	LABELED	41.49	1.040	1.027-1.049
13C12-123789-HxCDF	LABELED	41.90	1.050	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.63	1.093	1.067-1.109
13C12-1234678-HpCDD	LABELED	44.86	1.124	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.44	1.139	1.084-1.178
13C12-OCDD	LABELED	47.91	1.201	1.051-1.330
13C12-OCDF	LABELED	48.10	1.206	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV01-06 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/01/2018 13:46

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.19	1.001	0.999-1.003
2378-TCDD	TARGET	30.34	1.001	0.999-1.002
12378-PeCDF	TARGET	35.22	1.001	0.999-1.002
23478-PeCDF	TARGET	36.51	1.001	0.999-1.002
12378-PeCDD	TARGET	36.91	1.000	0.999-1.002
123478-HxCDF	TARGET	40.23	1.000	0.999-1.001
123678-HxCDF	TARGET	40.38	1.000	0.997-1.005
234678-HxCDF	TARGET	41.10	1.001	0.999-1.001
123478-HxCDD	TARGET	41.29	1.000	0.999-1.001
123678-HxCDD	TARGET	41.41	1.000	0.998-1.004
123789-HxCDD	TARGET	41.73	1.000	1.000-1.019
123789-HxCDF	TARGET	42.11	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.85	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.07	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.62	1.000	0.999-1.001
OCDD	TARGET	48.12	1.000	0.999-1.001
OCDF	TARGET	48.29	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.73	1.042	0.988-1.056
13C12-2378-TCDF	LABELED	29.16	0.989	0.923-1.103
13C12-2378-TCDD	LABELED	30.32	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.20	1.194	1.000-1.425
13C12-23478-PeCDF	LABELED	36.48	1.237	1.011-1.526
13C12-12378-PeCDD	LABELED	36.90	1.252	1.000-1.567
13C12-123478-HxCDF	LABELED	40.22	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.37	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.07	1.023	0.992-1.053
13C12-123478-HxCDD	LABELED	41.27	1.028	1.016-1.039
13C12-123678-HxCDD	LABELED	41.39	1.031	1.019-1.041
13C12-123789-HxCDD	LABELED	41.72	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.09	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.85	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.05	1.122	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.61	1.136	1.084-1.178
13C12-OCDD	LABELED	48.10	1.198	1.051-1.330
13C12-OCDF	LABELED	48.29	1.203	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV01-18 Lab Sample ID: CS3CC04 Date/Time Analyzed: 11/02/2018 00:42

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.21	1.001	0.999-1.003
2378-TCDD	TARGET	30.35	1.001	0.999-1.002
12378-PeCDF	TARGET	35.24	1.001	0.999-1.002
23478-PeCDF	TARGET	36.52	1.000	0.999-1.002
12378-PeCDD	TARGET	36.94	1.001	0.999-1.002
123478-HxCDF	TARGET	40.26	1.000	0.999-1.001
123678-HxCDF	TARGET	40.41	1.000	0.997-1.005
234678-HxCDF	TARGET	41.11	1.000	0.999-1.001
123478-HxCDD	TARGET	41.31	1.000	0.999-1.001
123678-HxCDD	TARGET	41.43	1.000	0.998-1.004
123789-HxCDD	TARGET	41.74	1.000	1.000-1.019
123789-HxCDF	TARGET	42.12	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.88	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.09	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.64	1.000	0.999-1.001
OCDD	TARGET	48.14	1.000	0.999-1.001
OCDF	TARGET	48.31	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.76	1.042	0.988-1.056
13C12-2378-TCDF	LABELED	29.17	0.988	0.923-1.103
13C12-2378-TCDD	LABELED	30.33	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.21	1.193	1.000-1.425
13C12-23478-PeCDF	LABELED	36.51	1.237	1.011-1.526
13C12-12378-PeCDD	LABELED	36.91	1.251	1.000-1.567
13C12-123478-HxCDF	LABELED	40.25	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.39	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.09	1.023	0.992-1.053
13C12-123478-HxCDD	LABELED	41.30	1.028	1.016-1.039
13C12-123678-HxCDD	LABELED	41.42	1.031	1.019-1.041
13C12-123789-HxCDD	LABELED	41.73	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.10	1.048	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.86	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.08	1.123	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.63	1.136	1.084-1.178
13C12-OCDD	LABELED	48.13	1.198	1.051-1.330
13C12-OCDF	LABELED	48.30	1.203	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV02-06 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/02/2018 15:12

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.20	1.001	0.999-1.003
2378-TCDD	TARGET	30.35	1.001	0.999-1.002
12378-PeCDF	TARGET	35.22	1.001	0.999-1.002
23478-PeCDF	TARGET	36.51	1.001	0.999-1.002
12378-PeCDD	TARGET	36.91	1.000	0.999-1.002
123478-HxCDF	TARGET	40.24	1.000	0.999-1.001
123678-HxCDF	TARGET	40.39	1.000	0.997-1.005
234678-HxCDF	TARGET	41.09	1.000	0.999-1.001
123478-HxCDD	TARGET	41.29	1.000	0.999-1.001
123678-HxCDD	TARGET	41.41	1.000	0.998-1.004
123789-HxCDD	TARGET	41.73	1.000	1.000-1.019
123789-HxCDF	TARGET	42.11	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.86	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.07	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.63	1.000	0.999-1.001
OCDD	TARGET	48.12	1.000	0.999-1.001
OCDF	TARGET	48.29	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.74	1.042	0.988-1.056
13C12-2378-TCDF	LABELED	29.17	0.989	0.923-1.103
13C12-2378-TCDD	LABELED	30.33	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.20	1.194	1.000-1.425
13C12-23478-PeCDF	LABELED	36.48	1.237	1.011-1.526
13C12-12378-PeCDD	LABELED	36.90	1.251	1.000-1.567
13C12-123478-HxCDF	LABELED	40.23	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.37	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.07	1.023	0.992-1.053
13C12-123478-HxCDD	LABELED	41.28	1.028	1.016-1.039
13C12-123678-HxCDD	LABELED	41.40	1.031	1.019-1.041
13C12-123789-HxCDD	LABELED	41.72	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.10	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.84	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.06	1.123	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.61	1.136	1.084-1.178
13C12-OCDD	LABELED	48.11	1.199	1.051-1.330
13C12-OCDF	LABELED	48.28	1.203	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 18NOV02-21 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/03/2018 04:43

Init. Calib. Date/Times: 10/25/2018 13:34 10/25/2018 20:10

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.19	1.001	0.999-1.003
2378-TCDD	TARGET	30.33	1.001	0.999-1.002
12378-PeCDF	TARGET	35.21	1.001	0.999-1.002
23478-PeCDF	TARGET	36.49	1.001	0.999-1.002
12378-PeCDD	TARGET	36.91	1.001	0.999-1.002
123478-HxCDF	TARGET	40.23	1.000	0.999-1.001
123678-HxCDF	TARGET	40.38	1.000	0.997-1.005
234678-HxCDF	TARGET	41.08	1.000	0.999-1.001
123478-HxCDD	TARGET	41.28	1.000	0.999-1.001
123678-HxCDD	TARGET	41.40	1.000	0.998-1.004
123789-HxCDD	TARGET	41.72	1.000	1.000-1.019
123789-HxCDF	TARGET	42.10	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.85	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.06	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.62	1.000	0.999-1.001
OCDD	TARGET	48.11	1.000	0.999-1.001
OCDF	TARGET	48.29	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.72	1.042	0.988-1.056
13C12-2378-TCDF	LABELED	29.15	0.989	0.923-1.103
13C12-2378-TCDD	LABELED	30.30	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.19	1.194	1.000-1.425
13C12-23478-PeCDF	LABELED	36.47	1.237	1.011-1.526
13C12-12378-PeCDD	LABELED	36.89	1.251	1.000-1.567
13C12-123478-HxCDF	LABELED	40.22	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.36	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.06	1.023	0.992-1.053
13C12-123478-HxCDD	LABELED	41.27	1.028	1.016-1.039
13C12-123678-HxCDD	LABELED	41.39	1.031	1.019-1.041
13C12-123789-HxCDD	LABELED	41.70	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.09	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.83	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.05	1.123	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.60	1.136	1.084-1.178
13C12-OCDD	LABELED	48.10	1.199	1.051-1.330
13C12-OCDF	LABELED	48.27	1.203	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV05-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/05/2018 10:39

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.48	1.000	0.999-1.003
2378-TCDD	TARGET	30.61	1.001	0.999-1.002
12378-PeCDF	TARGET	35.43	1.001	0.999-1.002
23478-PeCDF	TARGET	36.73	1.001	0.999-1.002
12378-PeCDD	TARGET	37.13	1.001	0.999-1.002
123478-HxCDF	TARGET	40.42	1.000	0.999-1.001
123678-HxCDF	TARGET	40.58	1.001	0.997-1.005
234678-HxCDF	TARGET	41.28	1.000	0.999-1.001
123478-HxCDD	TARGET	41.47	1.000	0.999-1.001
123678-HxCDD	TARGET	41.59	1.000	0.998-1.004
123789-HxCDD	TARGET	41.91	1.000	1.000-1.019
123789-HxCDF	TARGET	42.30	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.03	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.24	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.82	1.000	0.999-1.001
OCDD	TARGET	48.29	1.000	0.999-1.001
OCDF	TARGET	48.47	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.99	1.043	0.988-1.056
13C12-2378-TCDF	LABELED	29.47	0.992	0.923-1.103
13C12-2378-TCDD	LABELED	30.58	1.029	0.976-1.043
13C12-12378-PeCDF	LABELED	35.41	1.191	1.000-1.425
13C12-23478-PeCDF	LABELED	36.71	1.235	1.011-1.526
13C12-12378-PeCDD	LABELED	37.10	1.248	1.000-1.567
13C12-123478-HxCDF	LABELED	40.40	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.55	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.27	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.46	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.58	1.032	1.019-1.041
13C12-123789-HxCDD	LABELED	41.90	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.29	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.01	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.24	1.122	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.80	1.136	1.084-1.178
13C12-OCDD	LABELED	48.27	1.197	1.051-1.330
13C12-OCDF	LABELED	48.46	1.202	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV05-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/05/2018 23:14

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.46	1.000	0.999-1.003
2378-TCDD	TARGET	30.57	1.000	0.999-1.002
12378-PeCDF	TARGET	35.43	1.001	0.999-1.002
23478-PeCDF	TARGET	36.72	1.000	0.999-1.002
12378-PeCDD	TARGET	37.11	1.001	0.999-1.002
123478-HxCDF	TARGET	40.40	1.000	0.999-1.001
123678-HxCDF	TARGET	40.57	1.000	0.997-1.005
234678-HxCDF	TARGET	41.27	1.000	0.999-1.001
123478-HxCDD	TARGET	41.47	1.001	0.999-1.001
123678-HxCDD	TARGET	41.59	1.001	0.998-1.004
123789-HxCDD	TARGET	41.90	1.000	1.000-1.019
123789-HxCDF	TARGET	42.30	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.02	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.24	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.80	1.000	0.999-1.001
OCDD	TARGET	48.28	1.000	0.999-1.001
OCDF	TARGET	48.47	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.97	1.043	0.988-1.056
13C12-2378-TCDF	LABELED	29.45	0.992	0.923-1.103
13C12-2378-TCDD	LABELED	30.56	1.029	0.976-1.043
13C12-12378-PeCDF	LABELED	35.40	1.192	1.000-1.425
13C12-23478-PeCDF	LABELED	36.71	1.236	1.011-1.526
13C12-12378-PeCDD	LABELED	37.09	1.249	1.000-1.567
13C12-123478-HxCDF	LABELED	40.39	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.55	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.25	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.44	1.028	1.016-1.039
13C12-123678-HxCDD	LABELED	41.56	1.031	1.019-1.041
13C12-123789-HxCDD	LABELED	41.89	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.28	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.00	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.22	1.122	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.80	1.136	1.084-1.178
13C12-OCDD	LABELED	48.27	1.198	1.051-1.330
13C12-OCDF	LABELED	48.46	1.202	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV06-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/06/2018 09:23

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.43	1.001	0.999-1.003
2378-TCDD	TARGET	30.56	1.001	0.999-1.002
12378-PeCDF	TARGET	35.40	1.001	0.999-1.002
23478-PeCDF	TARGET	36.71	1.001	0.999-1.002
12378-PeCDD	TARGET	37.09	1.000	0.999-1.002
123478-HxCDF	TARGET	40.40	1.000	0.999-1.001
123678-HxCDF	TARGET	40.55	1.000	0.997-1.005
234678-HxCDF	TARGET	41.26	1.000	0.999-1.001
123478-HxCDD	TARGET	41.45	1.000	0.999-1.001
123678-HxCDD	TARGET	41.57	1.000	0.998-1.004
123789-HxCDD	TARGET	41.88	1.000	1.000-1.019
123789-HxCDF	TARGET	42.28	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.00	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.23	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.80	1.000	0.999-1.001
OCDD	TARGET	48.28	1.000	0.999-1.001
OCDF	TARGET	48.47	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.95	1.042	0.988-1.056
13C12-2378-TCDF	LABELED	29.41	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	30.53	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.38	1.192	1.000-1.425
13C12-23478-PeCDF	LABELED	36.68	1.235	1.011-1.526
13C12-12378-PeCDD	LABELED	37.08	1.249	1.000-1.567
13C12-123478-HxCDF	LABELED	40.38	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.53	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.25	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.44	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.56	1.032	1.019-1.041
13C12-123789-HxCDD	LABELED	41.87	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.27	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.99	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.22	1.122	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.79	1.137	1.084-1.178
13C12-OCDD	LABELED	48.27	1.198	1.051-1.330
13C12-OCDF	LABELED	48.45	1.203	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV06-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/06/2018 22:28

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.45	1.001	0.999-1.003
2378-TCDD	TARGET	30.56	1.001	0.999-1.002
12378-PeCDF	TARGET	35.40	1.001	0.999-1.002
23478-PeCDF	TARGET	36.69	1.000	0.999-1.002
12378-PeCDD	TARGET	37.09	1.001	0.999-1.002
123478-HxCDF	TARGET	40.39	1.000	0.999-1.001
123678-HxCDF	TARGET	40.55	1.000	0.997-1.005
234678-HxCDF	TARGET	41.27	1.001	0.999-1.001
123478-HxCDD	TARGET	41.46	1.001	0.999-1.001
123678-HxCDD	TARGET	41.58	1.001	0.998-1.004
123789-HxCDD	TARGET	41.89	1.000	1.000-1.019
123789-HxCDF	TARGET	42.29	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.01	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.23	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.79	1.000	0.999-1.001
OCDD	TARGET	48.28	1.000	0.999-1.001
OCDF	TARGET	48.46	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.95	1.043	0.988-1.056
13C12-2378-TCDF	LABELED	29.41	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	30.52	1.029	0.976-1.043
13C12-12378-PeCDF	LABELED	35.38	1.192	1.000-1.425
13C12-23478-PeCDF	LABELED	36.68	1.236	1.011-1.526
13C12-12378-PeCDD	LABELED	37.06	1.249	1.000-1.567
13C12-123478-HxCDF	LABELED	40.38	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.53	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.24	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.43	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.55	1.032	1.019-1.041
13C12-123789-HxCDD	LABELED	41.87	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.27	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.00	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.21	1.122	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.79	1.137	1.084-1.178
13C12-OCDD	LABELED	48.26	1.198	1.051-1.330
13C12-OCDF	LABELED	48.45	1.203	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

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FORM 07B
CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY
HIGH RESOLUTION

SDG No.: TID12

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF19780

Lab File ID: 18NOV06-31 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/07/2018 10:26

Init. Calib. Date/Times: 05/09/2018 18:39 05/10/2018 02:13

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.45	1.001	0.999-1.003
2378-TCDD	TARGET	30.56	1.001	0.999-1.002
12378-PeCDF	TARGET	35.40	1.001	0.999-1.002
23478-PeCDF	TARGET	36.71	1.001	0.999-1.002
12378-PeCDD	TARGET	37.09	1.000	0.999-1.002
123478-HxCDF	TARGET	40.40	1.000	0.999-1.001
123678-HxCDF	TARGET	40.55	1.000	0.997-1.005
234678-HxCDF	TARGET	41.26	1.000	0.999-1.001
123478-HxCDD	TARGET	41.45	1.000	0.999-1.001
123678-HxCDD	TARGET	41.57	1.000	0.998-1.004
123789-HxCDD	TARGET	41.90	1.000	1.000-1.019
123789-HxCDF	TARGET	42.29	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.01	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.23	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.80	1.000	0.999-1.001
OCDD	TARGET	48.28	1.000	0.999-1.001
OCDF	TARGET	48.46	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.95	1.042	0.988-1.056
13C12-2378-TCDF	LABELED	29.41	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	30.52	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.38	1.192	1.000-1.425
13C12-23478-PeCDF	LABELED	36.68	1.235	1.011-1.526
13C12-12378-PeCDD	LABELED	37.08	1.249	1.000-1.567
13C12-123478-HxCDF	LABELED	40.39	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.53	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.25	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.44	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.56	1.032	1.019-1.041
13C12-123789-HxCDD	LABELED	41.88	1.039	1.027-1.049
13C12-123789-HxCDF	LABELED	42.27	1.049	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.00	1.092	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.22	1.122	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.80	1.137	1.084-1.178
13C12-OCDD	LABELED	48.28	1.198	1.051-1.330
13C12-OCDF	LABELED	48.46	1.203	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).
* RRT exceeds the acceptable range

Sample Data

Dioxins/Furans by HRMS

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 17:27
Number of Entries	270
Comment	S:11030:12937:17962
Vial	76
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Sample ID	9872060
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-11.quan
Data	z:\18nov06\18nov06-11.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.07
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.45	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.40	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.74	passed	passed	passed	passed	passed	failed	
5	12378-PeCDD	37.09	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.54	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.25	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.45	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.56	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.88	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.29	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
16	OCDD	48.27	passed	passed	passed	passed	passed	passed	
17	OCDF	48.46	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.95	failed	passed	passed	passed	failed	passed	Failed on: RecovA
19	13C12-1234-TCDD	29.67	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.28	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.41	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.53	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.37	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.06	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.52	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.24	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.44	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.55	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.87	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.26	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.99	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.77	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.27	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.44	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 17:27
Number of Entries	270
Comment	S:11030:12937:17962
Vial	76
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Sample ID	9872060
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-11.quan
Data	z:\18nov06\18nov06-11.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.07
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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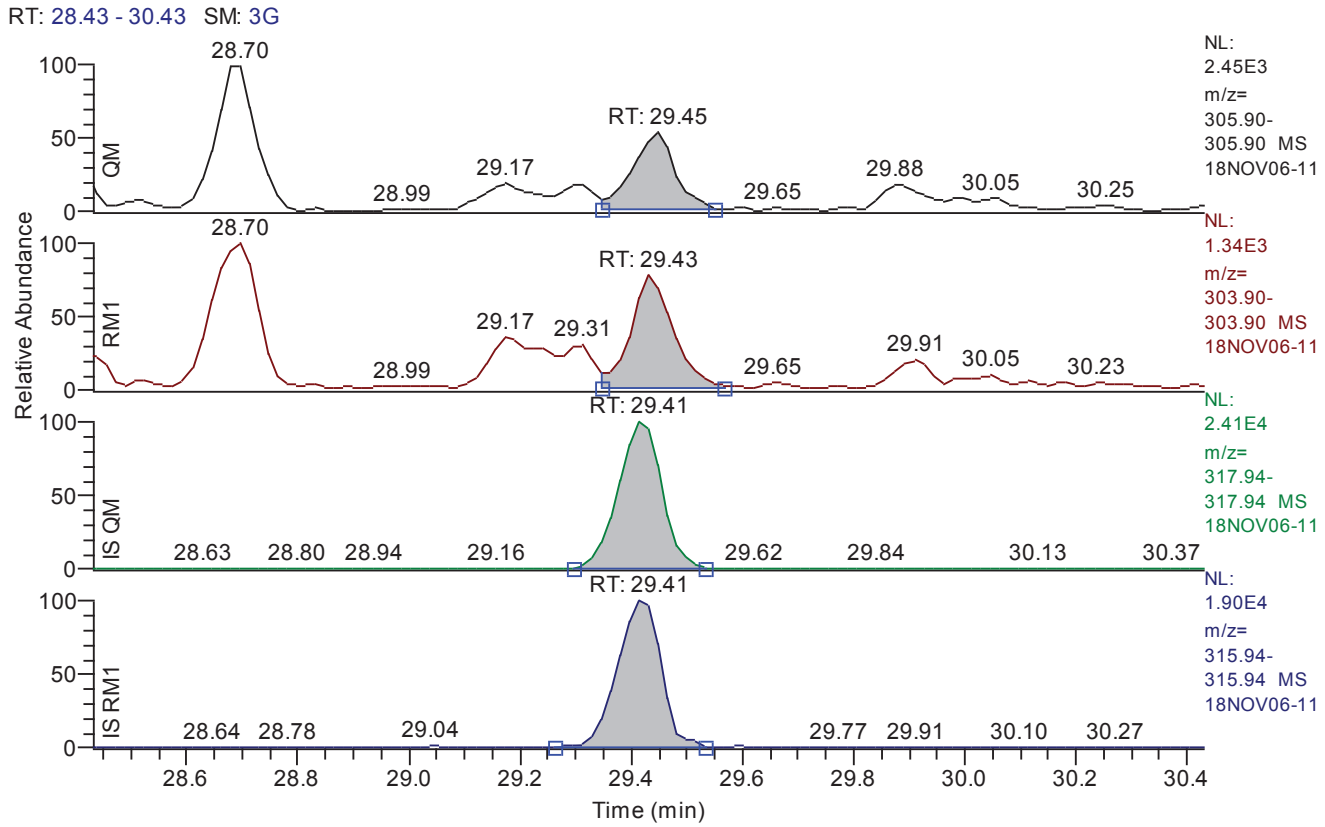
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.45
QM Area	6977
QM Integration Mode	A
RM1 Area	5478
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.8708
Unqualified Amount (A)	9.360443
Adjusted Amount (A)	9.3604
Signal-to-Noise	28
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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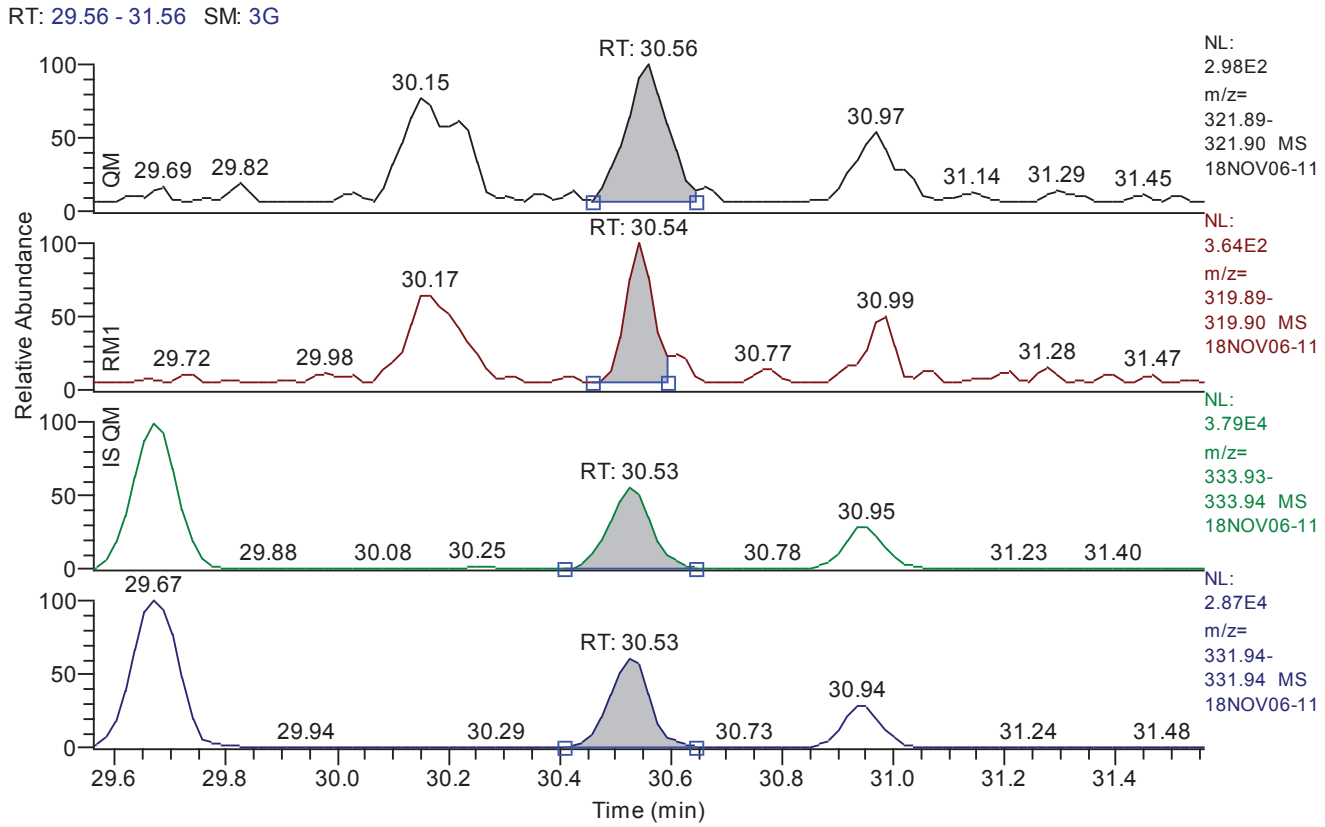
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.56
QM Area	1471
QM Integration Mode	A
RM1 Area	1189
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2390
Unqualified Amount (A)	2.110078
Adjusted Amount (A)	2.1101
Signal-to-Noise	27
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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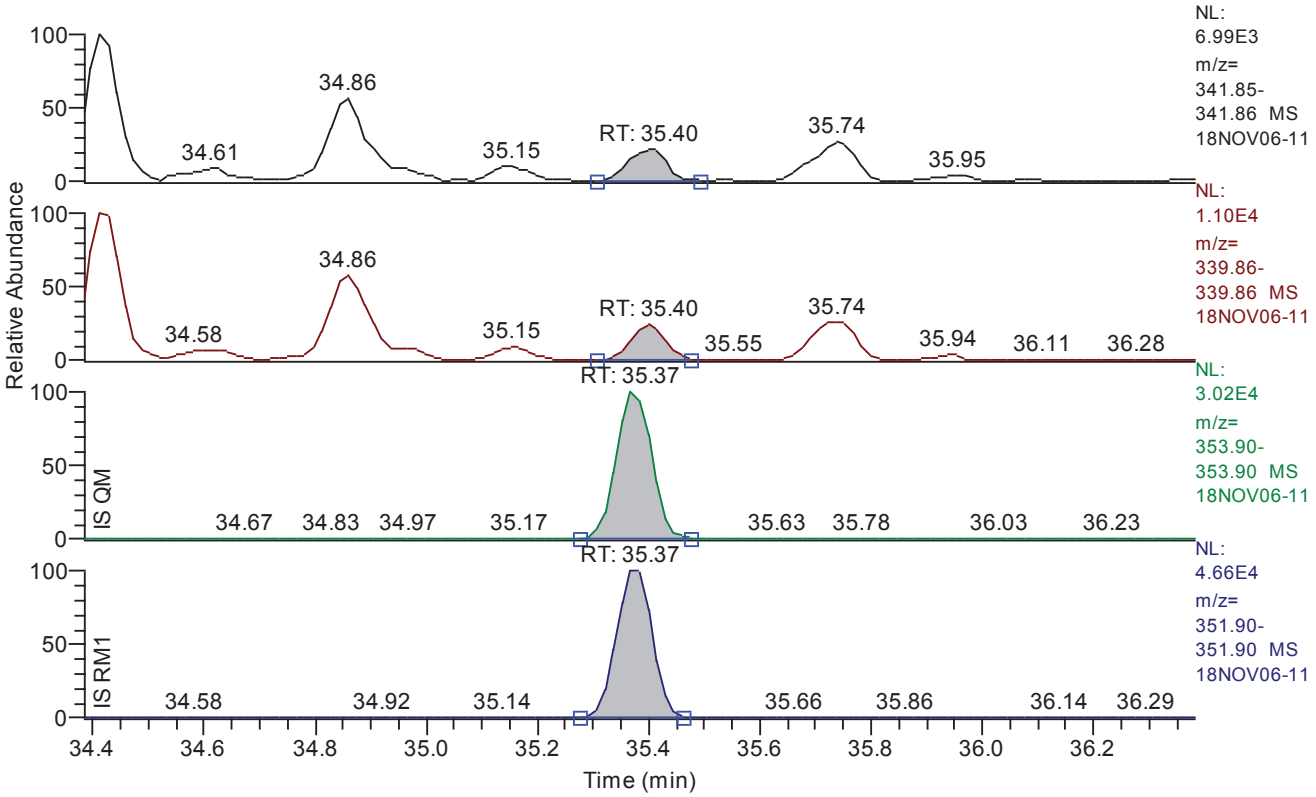
Chromatogram

RT: 34.38 - 36.38 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.40
QM Area	7122
QM Integration Mode	A
RM1 Area	11398
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3111
Unqualified Amount (A)	10.855668
Adjusted Amount (A)	10.8557
Signal-to-Noise	89
Client Flags	
Status Overview	passed
Status Info	

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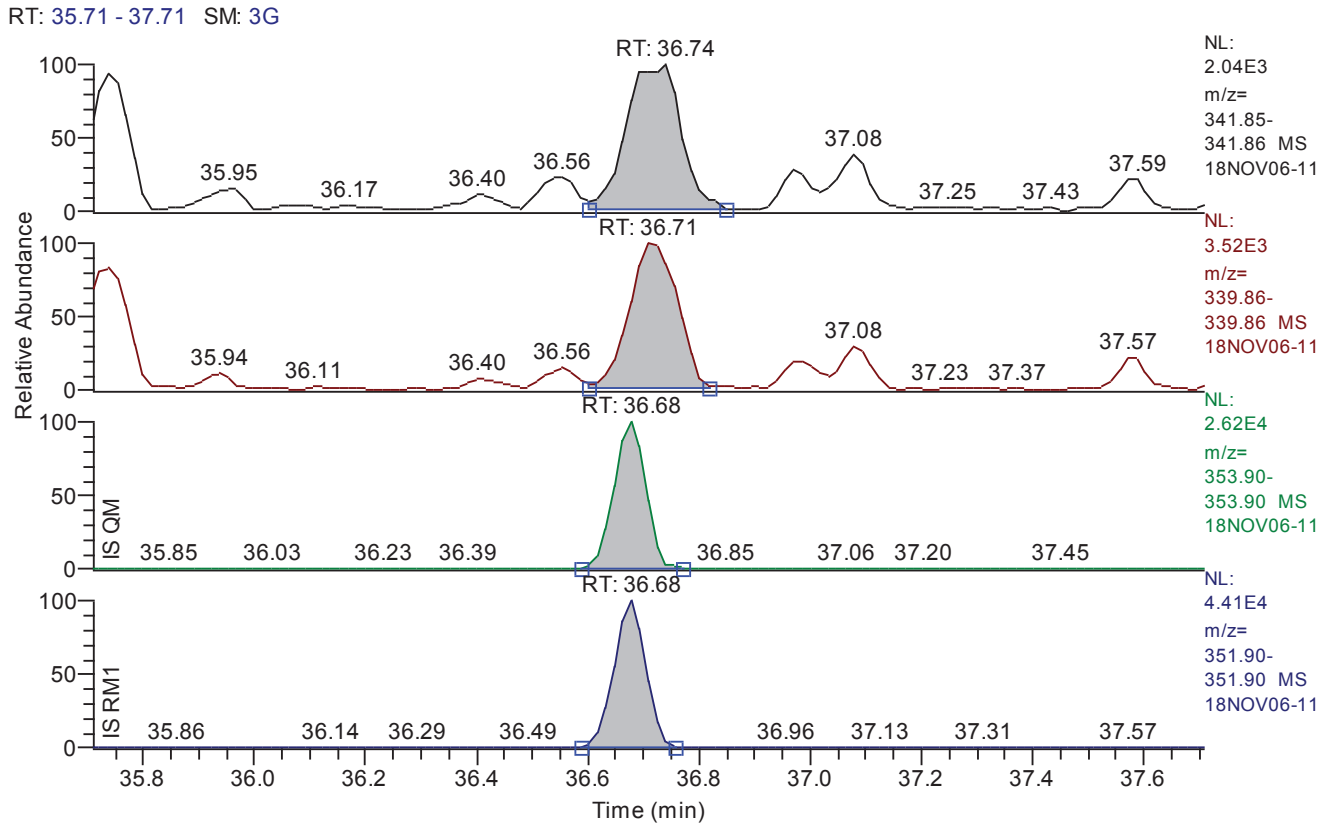
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.74
QM Area	13748
QM Integration Mode	A
RM1 Area	20683
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3032
Unqualified Amount (A)	21.866738
Adjusted Amount (A)	21.8667
Signal-to-Noise	115
Client Flags	
Status Overview	passed
Status Info	

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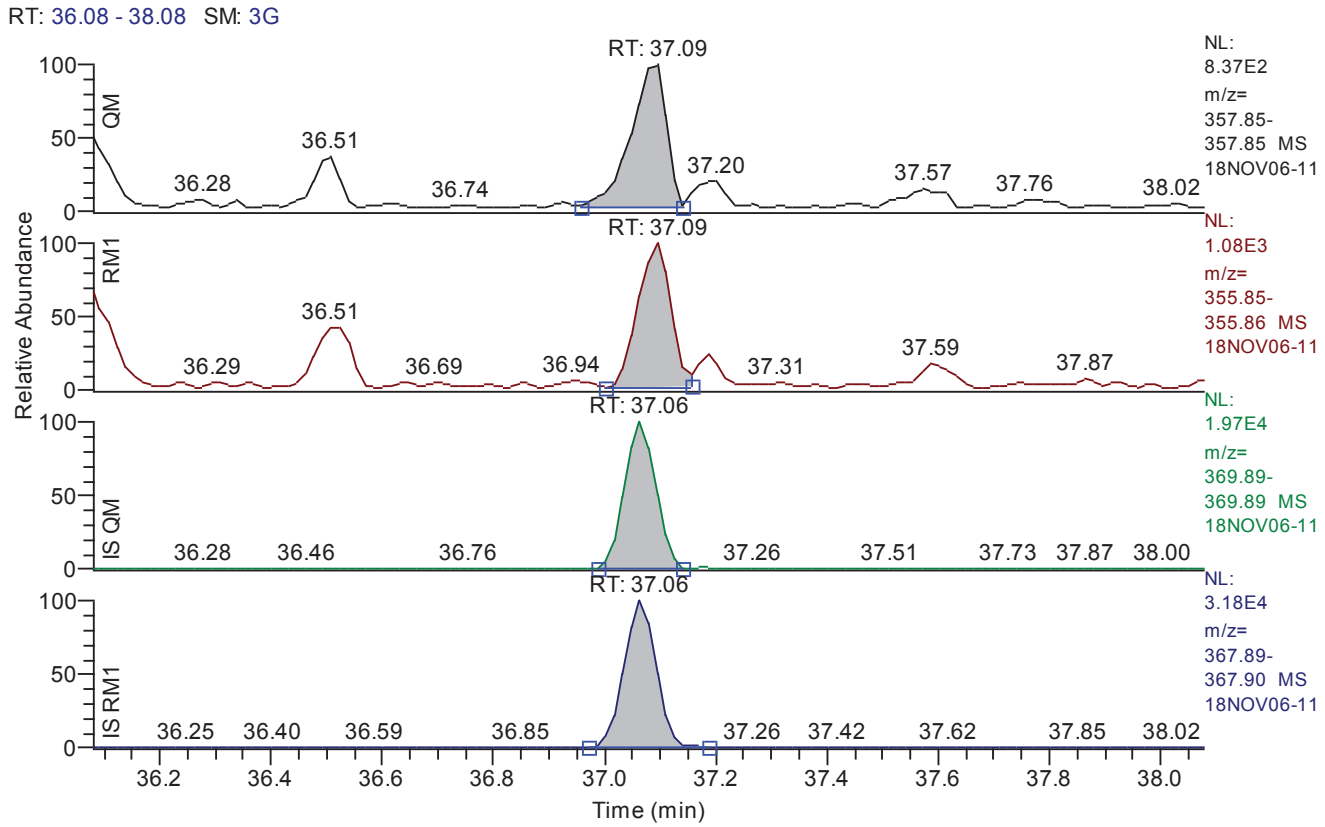
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.09
QM Area	3653
QM Integration Mode	A
RM1 Area	4308
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4571
Unqualified Amount (A)	7.437419
Adjusted Amount (A)	n.d.
Signal-to-Noise	38
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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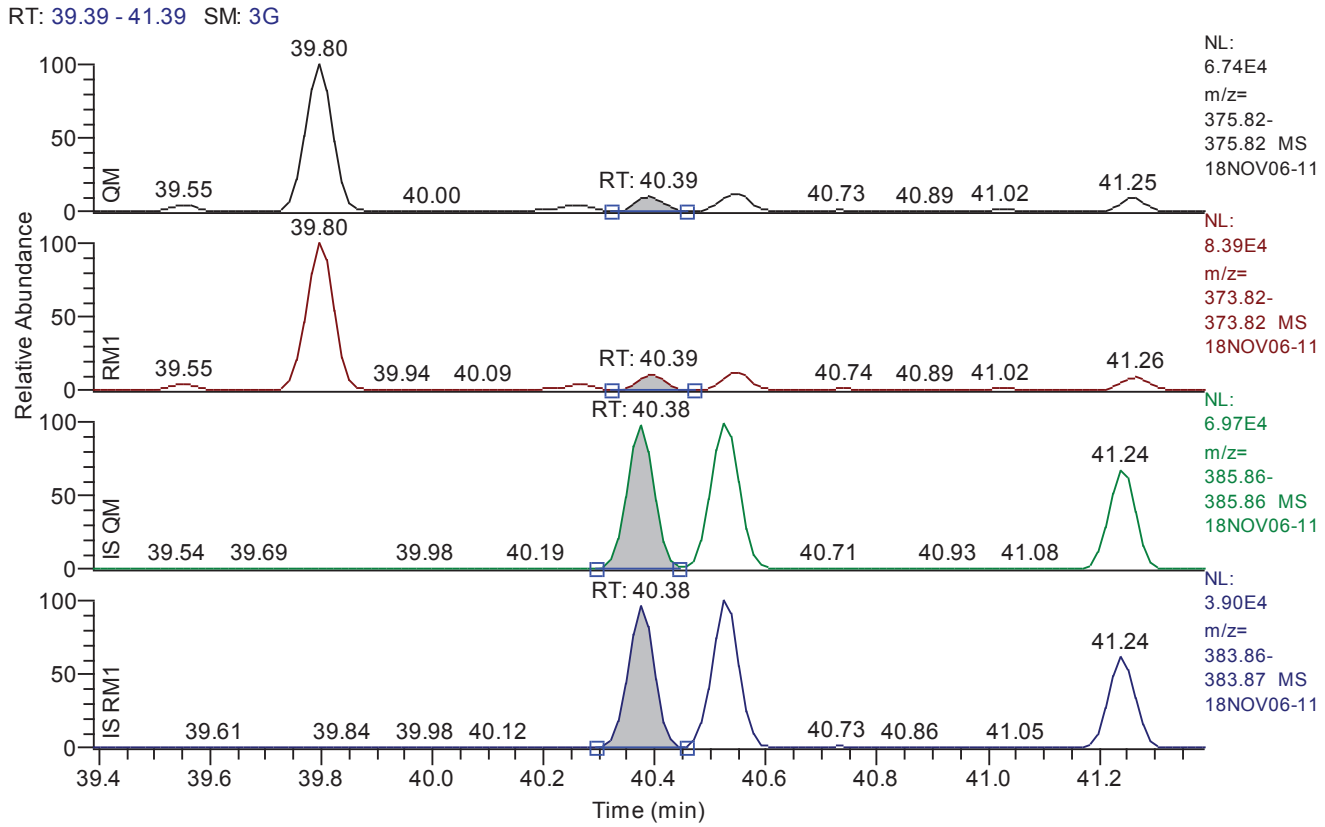
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.39
QM Area	23860
QM Integration Mode	A
RM1 Area	31241
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3887
Unqualified Amount (A)	25.440673
Adjusted Amount (A)	25.4407
Signal-to-Noise	158
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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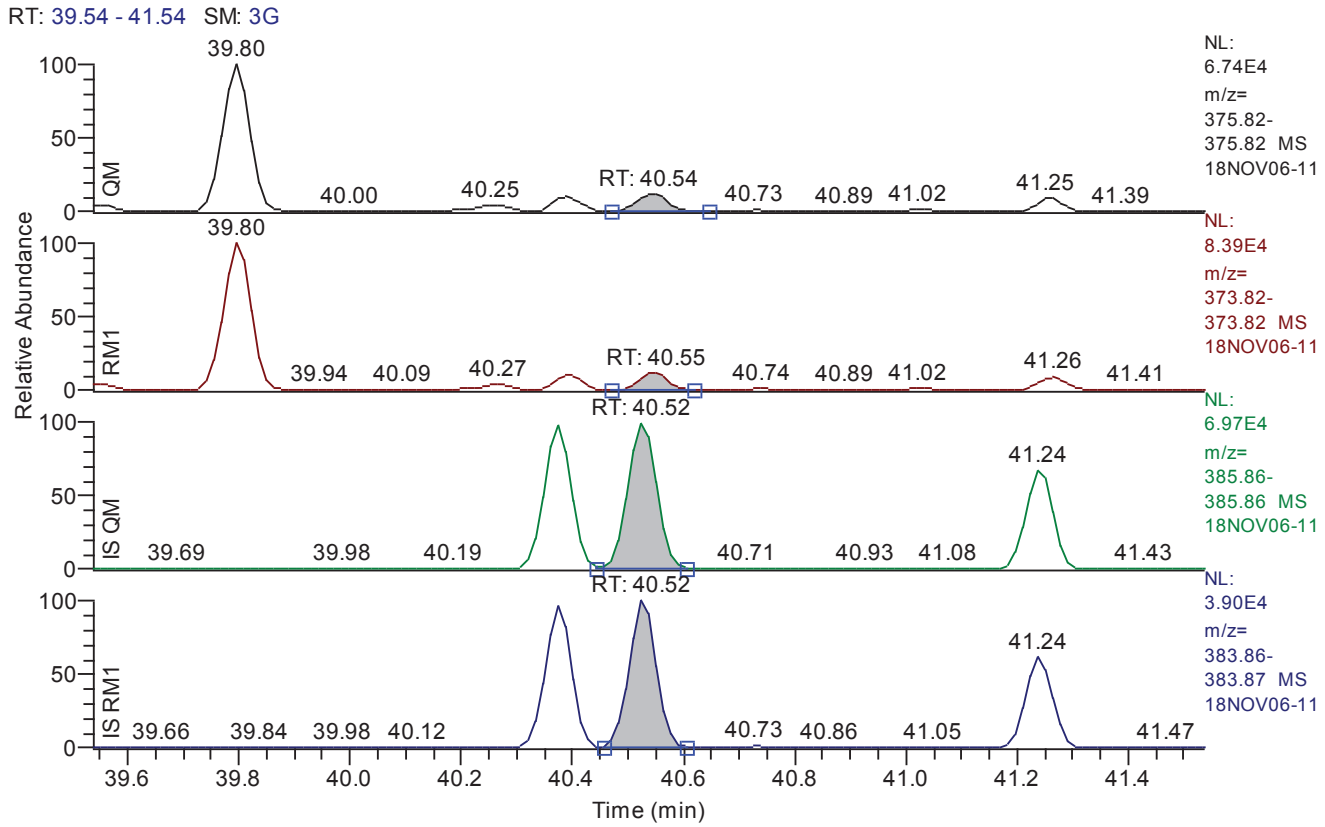
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.54
QM Area	32339
QM Integration Mode	A
RM1 Area	37679
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3963
Unqualified Amount (A)	31.468555
Adjusted Amount (A)	31.4686
Signal-to-Noise	188
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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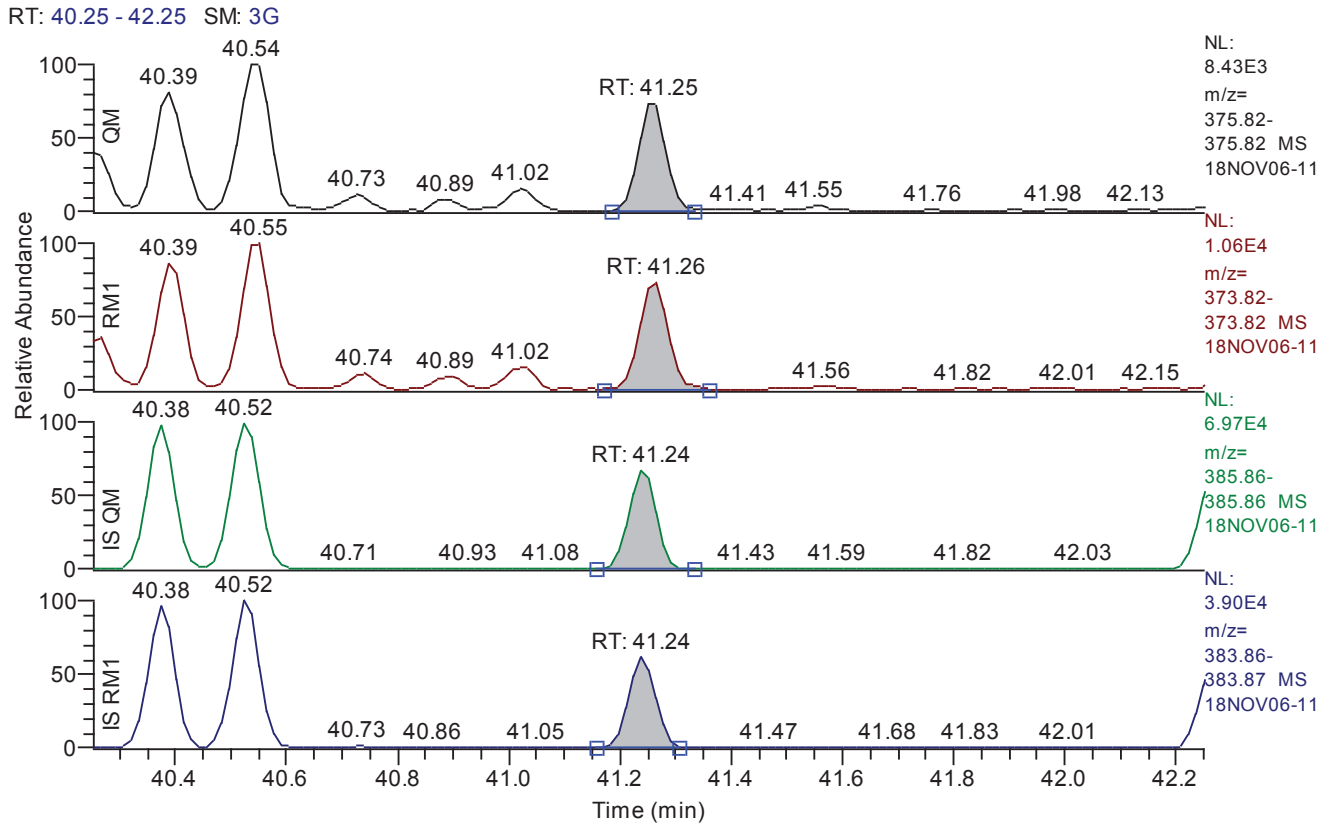
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.25
QM Area	21472
QM Integration Mode	A
RM1 Area	27926
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5650
Unqualified Amount (A)	32.555475
Adjusted Amount (A)	32.5555
Signal-to-Noise	140
Client Flags	
Status Overview	passed
Status Info	

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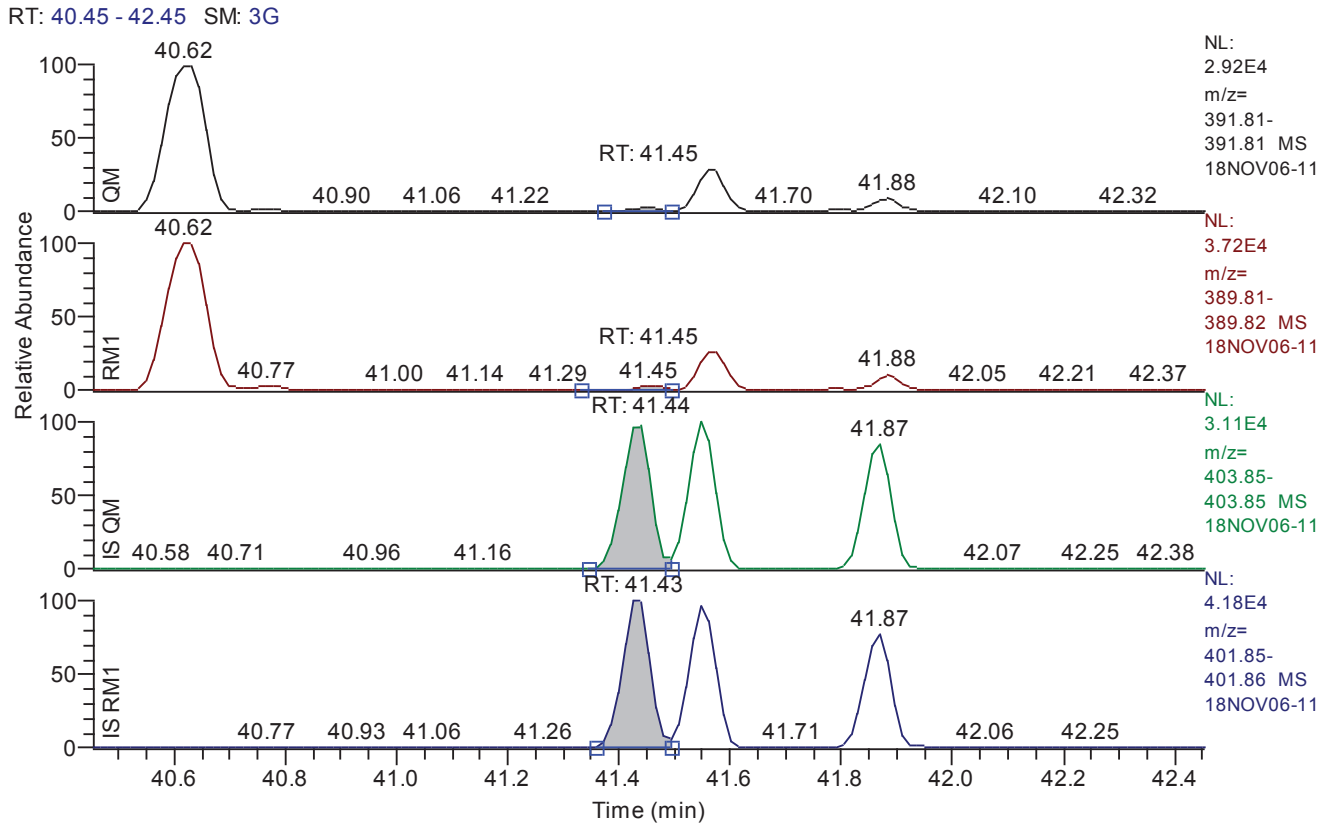
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.45
QM Area	3240
QM Integration Mode	A
RM1 Area	3858
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3868
Unqualified Amount (A)	5.400272
Adjusted Amount (A)	5.4003
Signal-to-Noise	34
Client Flags	
Status Overview	passed
Status Info	

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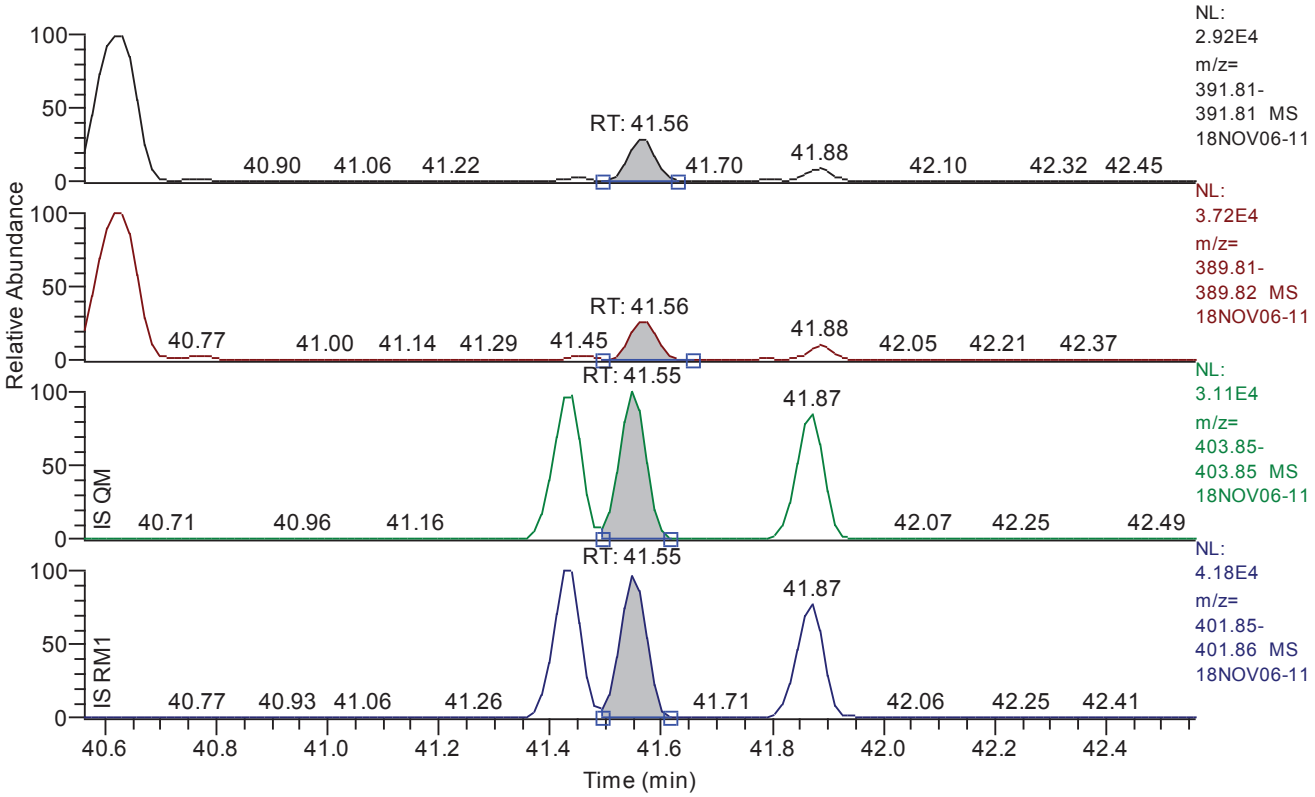
Chromatogram

RT: 40.56 - 42.56 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.56
QM Area	29322
QM Integration Mode	A
RM1 Area	35125
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3891
Unqualified Amount (A)	52.134718
Adjusted Amount (A)	52.1347
Signal-to-Noise	320
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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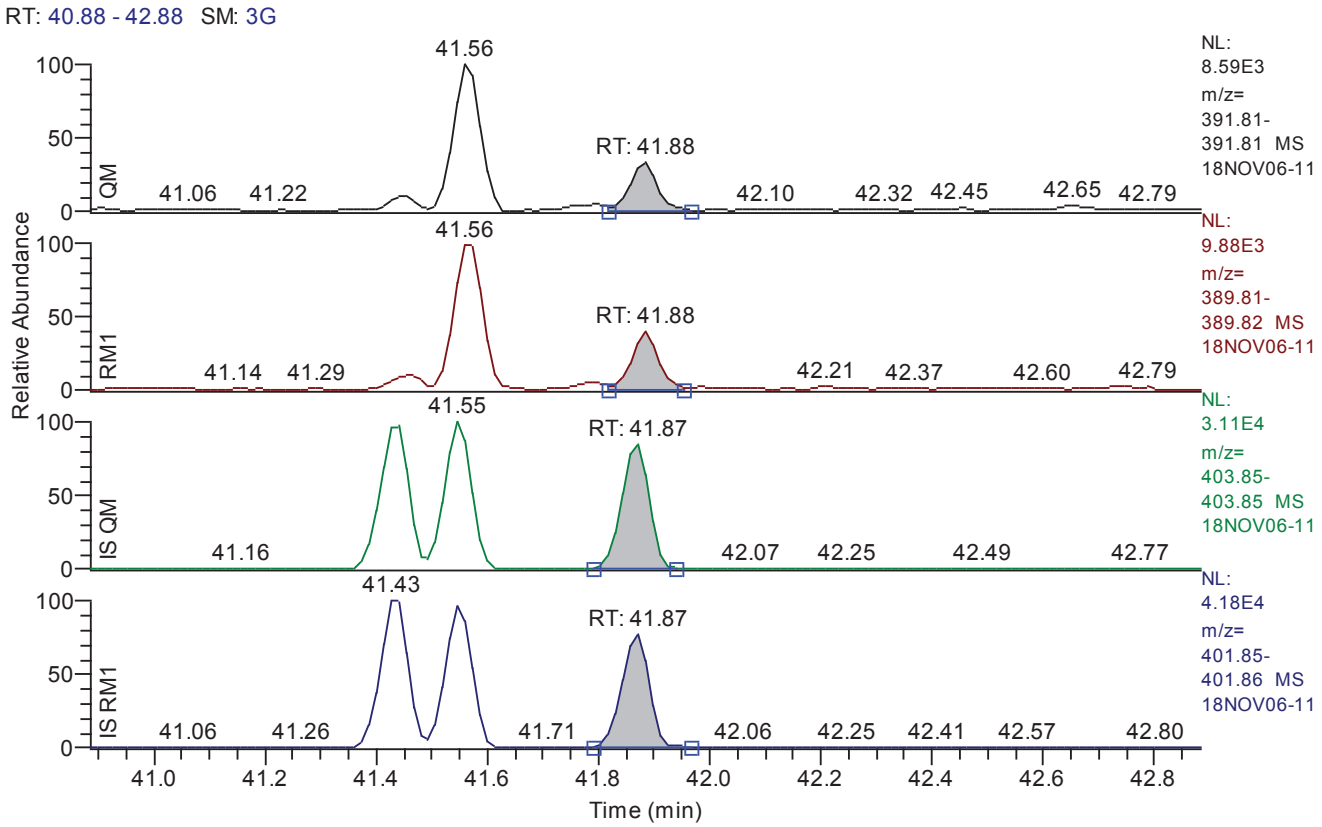
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.88
QM Area	9420
QM Integration Mode	A
RM1 Area	12581
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4446
Unqualified Amount (A)	19.690112
Adjusted Amount (A)	19.6901
Signal-to-Noise	115
Client Flags	
Status Overview	passed
Status Info	

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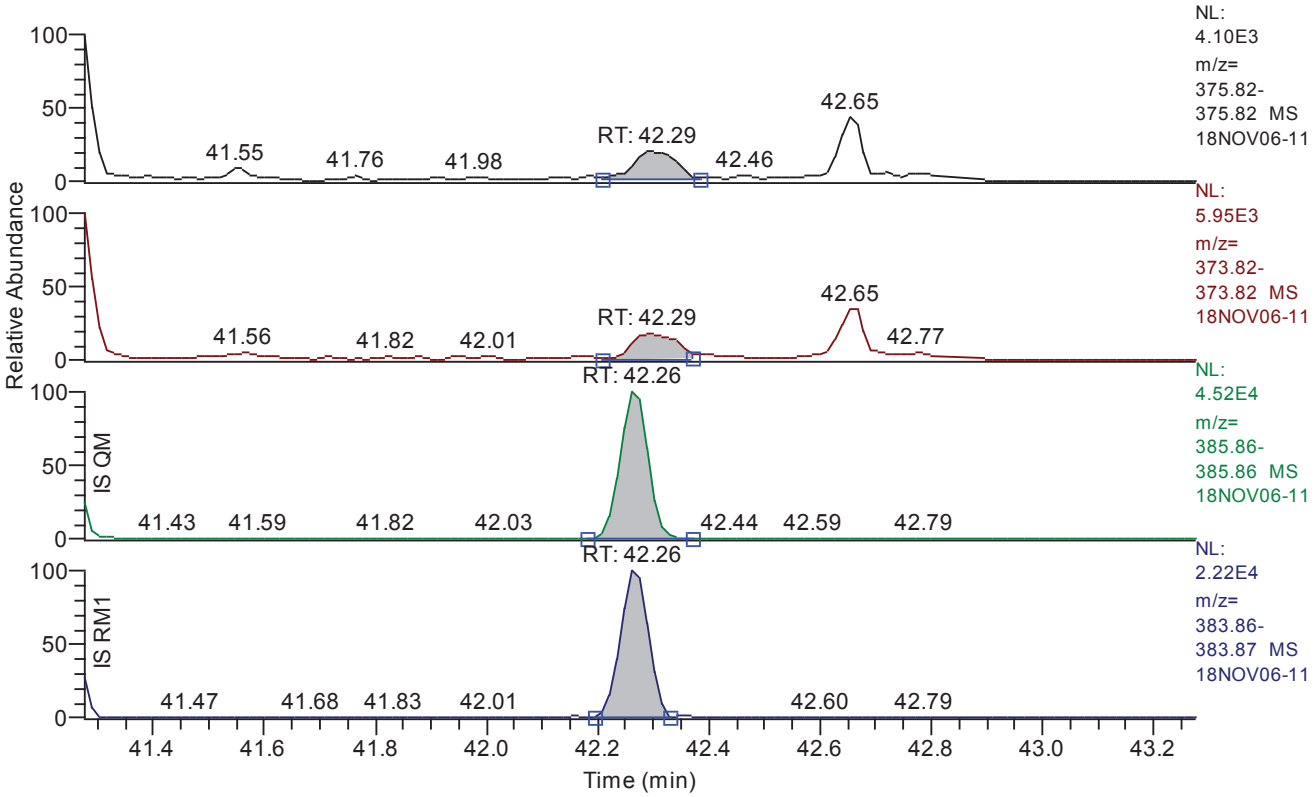
Chromatogram

RT: 41.28 - 43.28 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.29
QM Area	4168
QM Integration Mode	A
RM1 Area	5690
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6397
Unqualified Amount (A)	7.155224
Adjusted Amount (A)	7.1552
Signal-to-Noise	18
Client Flags	
Status Overview	passed
Status Info	

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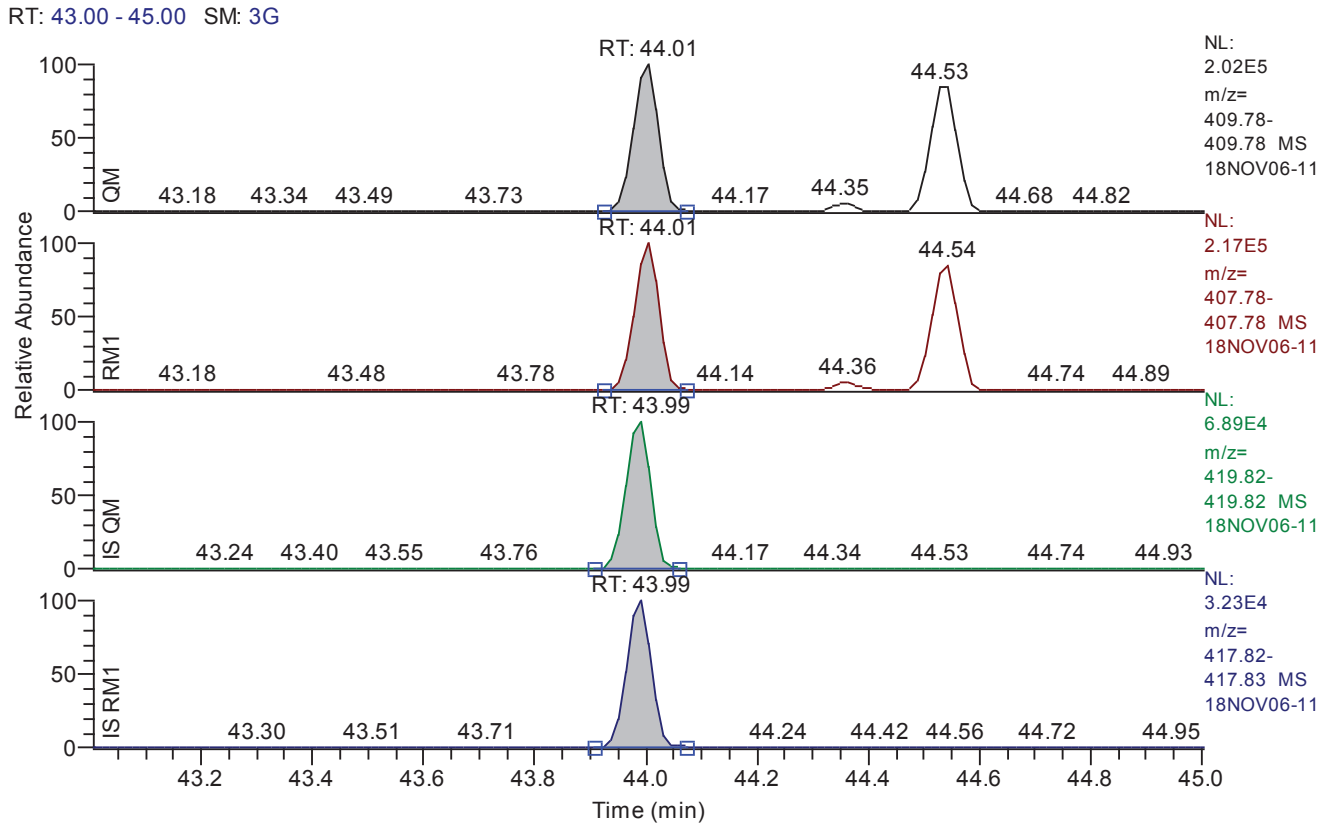
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.01
QM Area	655520
QM Integration Mode	A
RM1 Area	685753
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2076
Unqualified Amount (A)	633.206455
Adjusted Amount (A)	633.2065
Signal-to-Noise	7645
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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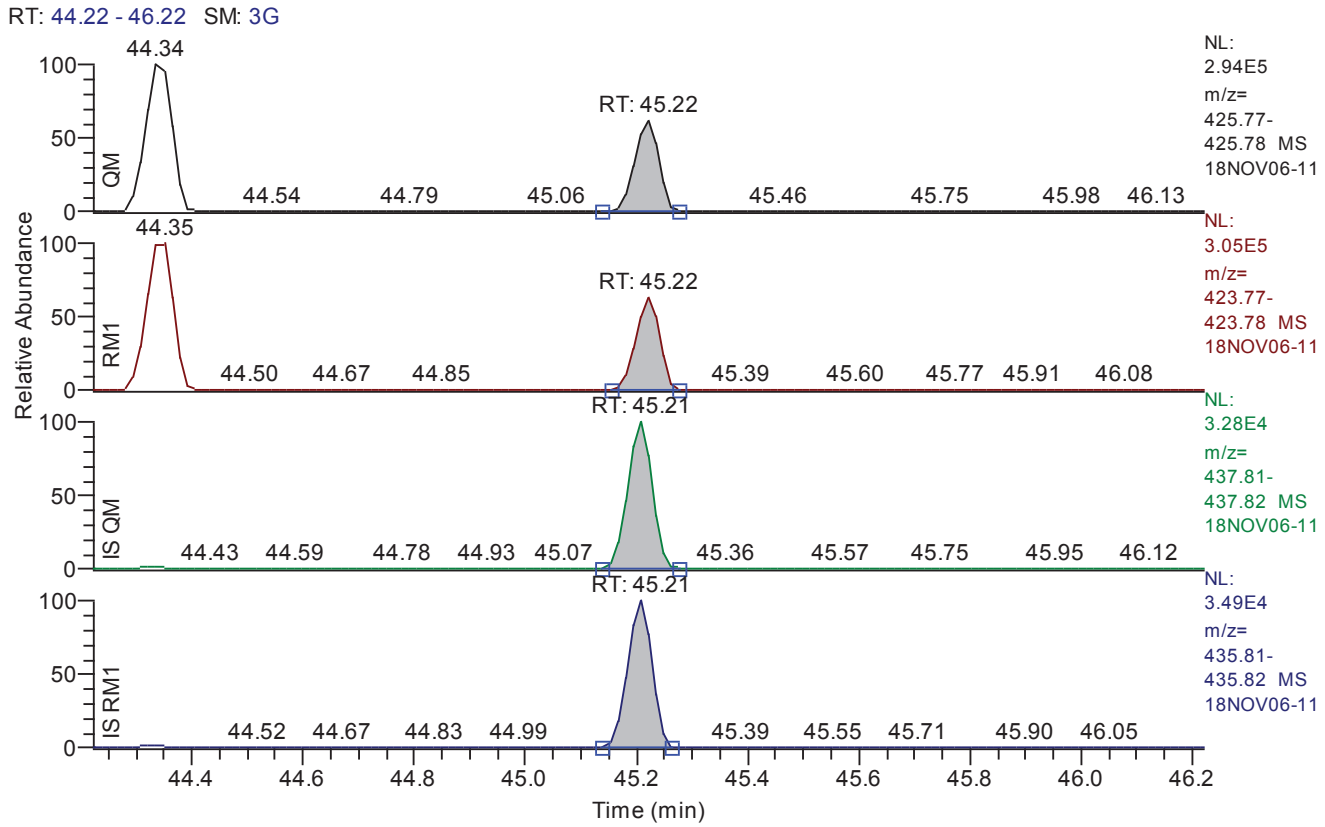
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.22
QM Area	566949
QM Integration Mode	A
RM1 Area	593937
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6948
Unqualified Amount (A)	1013.066915
Adjusted Amount (A)	1013.0669
Signal-to-Noise	3697
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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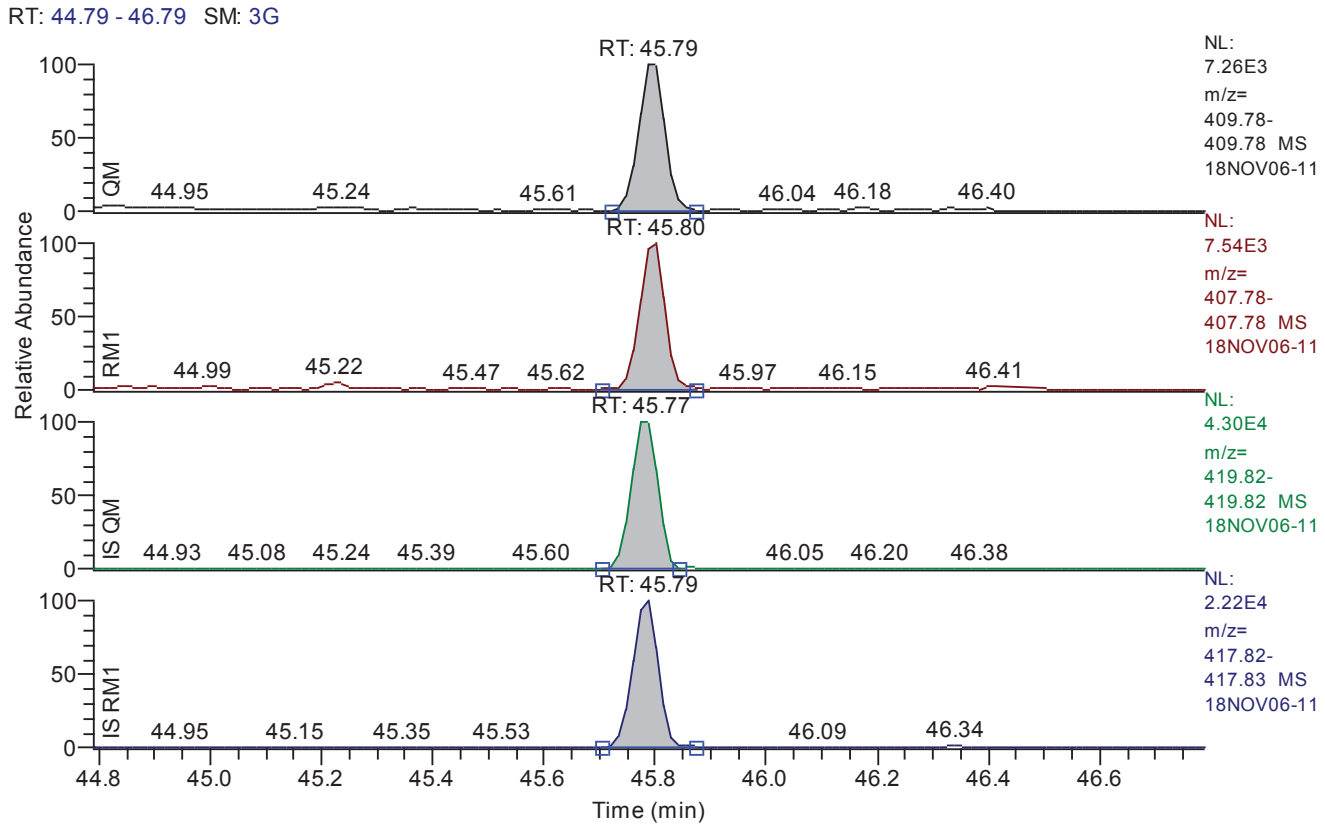
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.79
QM Area	24576
QM Integration Mode	A
RM1 Area	24224
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3226
Unqualified Amount (A)	33.791976
Adjusted Amount (A)	33.7920
Signal-to-Noise	268
Client Flags	
Status Overview	passed
Status Info	

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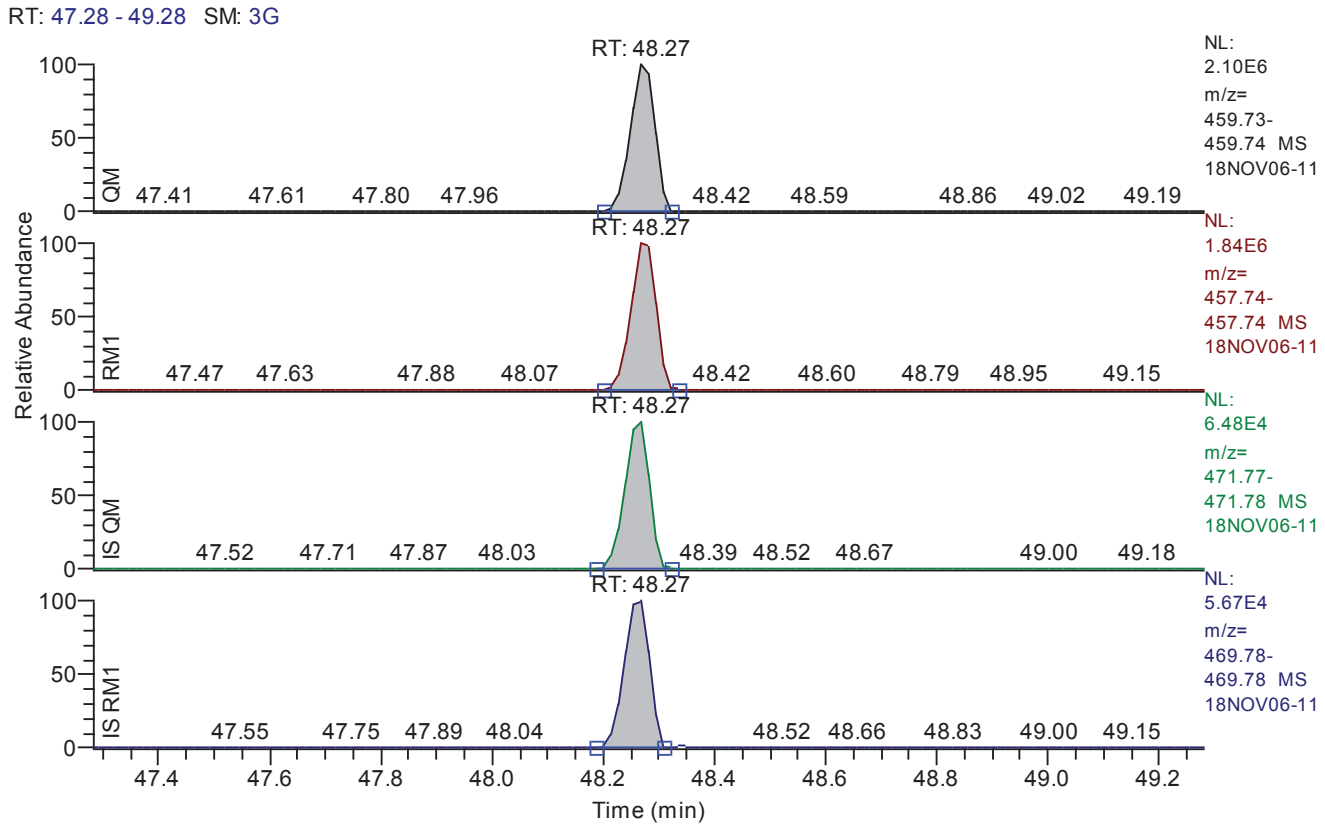
Chromatogram



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.27
QM Area	6434869
QM Integration Mode	A
RM1 Area	5776415
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4417
Unqualified Amount (A)	12334.919912
Adjusted Amount (A)	12334.9199
Signal-to-Noise	70035
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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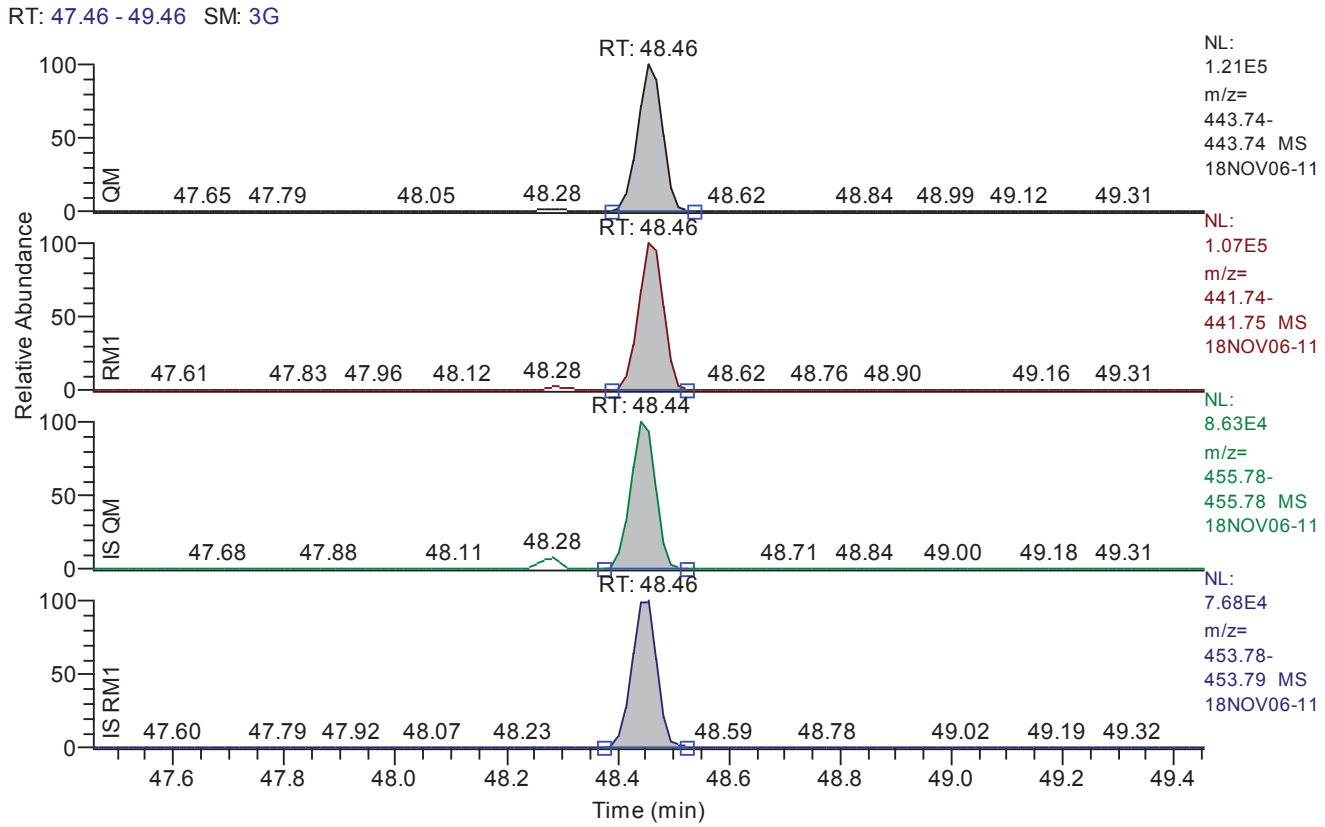
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.46
QM Area	374034
QM Integration Mode	A
RM1 Area	333272
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1547
Unqualified Amount (A)	588.634721
Adjusted Amount (A)	588.6347
Signal-to-Noise	9562
Client Flags	
Status Overview	passed
Status Info	

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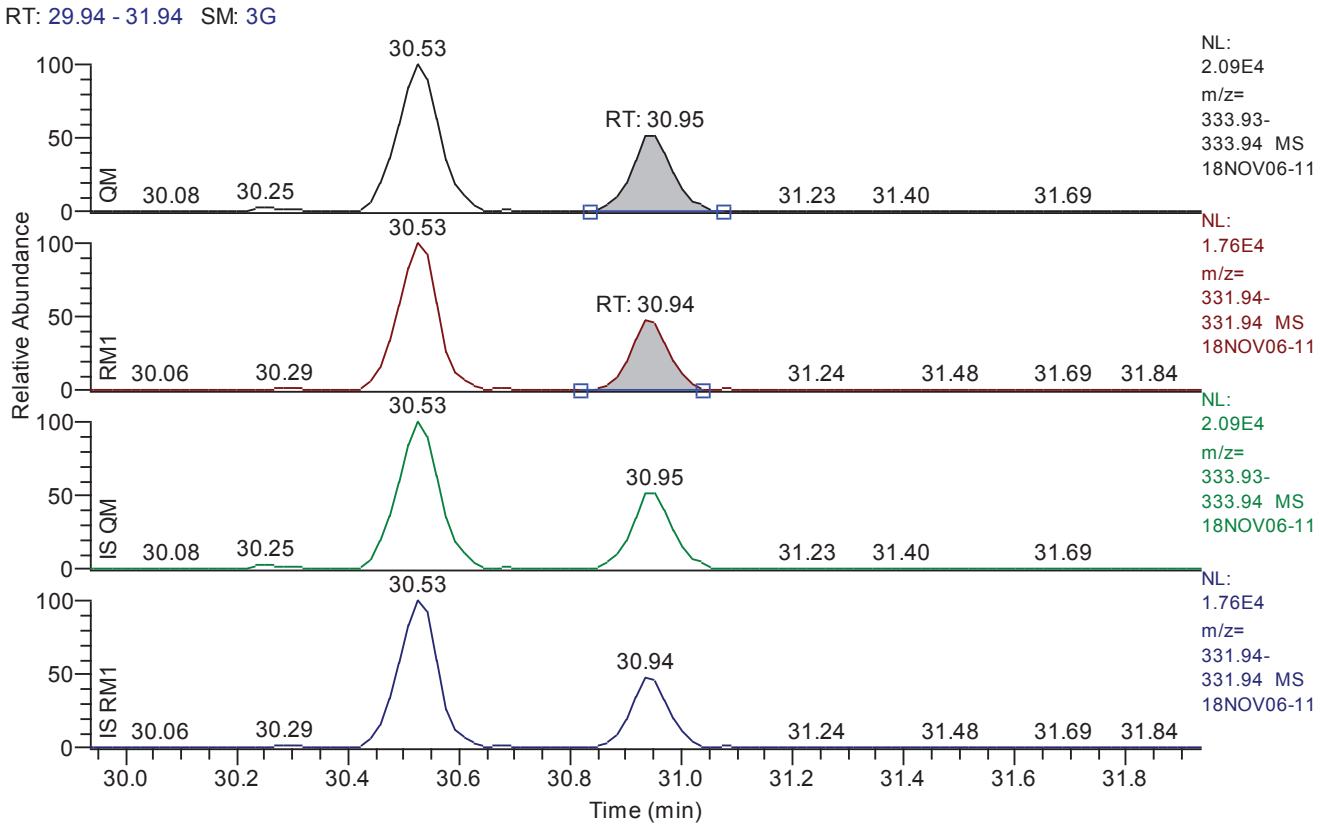
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.95
QM Area	58043
QM Integration Mode	A
RM1 Area	41861
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1540
Unqualified Amount (A)	40.829105
Adjusted Amount (A)	n.d.
Signal-to-Noise	741
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.43	29.45	29.43	29.41	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.56	30.54	30.53	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.40	35.40	35.37	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.71	36.74	36.71	36.68	passed	failed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.09	37.09	37.06	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.40	40.39	40.39	40.38	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.54	40.55	40.52	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.26	41.25	41.26	41.24	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.45	41.45	41.45	41.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.57	41.56	41.56	41.55	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.88	41.88	41.88	41.87	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.28	42.29	42.29	42.26	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.00	44.01	44.01	43.99	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.22	45.22	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.80	45.79	45.80	45.77	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.27	48.27	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.46	48.46	48.44	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.95	30.94	30.95	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.69	29.67	29.67	29.67	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.29	40.28	40.28	40.28	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.41	29.41	29.43	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.53	30.53	30.53	30.53	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.37	35.37	35.37	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.68	36.68	36.97	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.08	37.06	37.06	37.06	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.38	40.38	40.38	40.36	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.52	40.52	40.51	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.25	41.24	41.24	41.40	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.44	41.44	41.43	41.43	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.56	41.55	41.55	41.55	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.87	41.87	41.87	41.87	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.26	42.26	42.28	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.99	43.99	43.99	43.99	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.22	45.21	45.21	45.21	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.79	45.77	45.79	45.83	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.45	48.44	48.46	48.46	passed	passed

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.45	0.7852	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	30.56	0.8078	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	35.40	1.6003	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.74	1.5045	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	37.09	1.1794	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.39	1.3094	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.54	1.1651	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.25	1.3005	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.45	1.1908	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.56	1.1979	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.88	1.3355	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.29	1.3652	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.01	1.0461	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.22	1.0476	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.79	0.9857	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.27	0.8977	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.46	0.8910	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.95	0.7212	0.6450 - 0.8950	passed	20.56	35 - 197	failed
19	13C12-1234-TCDD	29.67	0.8088	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.28	1.2949	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.41	0.7975	0.6450 - 0.8950	passed	33.76	1 - 135	passed
22	13C12-2378-TCDD	30.53	0.7945	0.6450 - 0.8950	passed	57.50	40 - 135	passed
23	13C12-12378-PeCDF	35.37	1.5649	1.3150 - 1.7850	passed	52.04	40 - 135	passed
24	13C12-23478-PeCDF	36.68	1.6752	1.3150 - 1.7850	passed	43.72	40 - 135	passed
25	13C12-12378-PeCDD	37.06	1.6578	1.3150 - 1.7850	passed	58.28	40 - 135	passed
26	13C12-123478-HxCDF	40.38	0.5423	0.4250 - 0.5950	passed	78.90	40 - 135	passed
27	13C12-123678-HxCDF	40.52	0.5267	0.4250 - 0.5950	passed	79.10	40 - 135	passed
28	13C12-234678-HxCDF	41.24	0.5071	0.4250 - 0.5950	passed	55.90	40 - 135	passed
29	13C12-123478-HxCDD	41.44	1.3206	1.0450 - 1.4350	passed	80.39	40 - 135	passed
30	13C12-123678-HxCDD	41.55	1.2955	1.0450 - 1.4350	passed	73.85	40 - 135	passed
31	13C12-123789-HxCDD	41.87	1.2254	1.0450 - 1.4350	passed	66.01	40 - 135	passed
32	13C12-123789-HxCDF	42.26	0.4893	0.4250 - 0.5950	passed	57.10	40 - 135	passed
33	13C12-1234678-HpCDF	43.99	0.4641	0.3650 - 0.5150	passed	84.81	40 - 135	passed
34	13C12-1234678-HpCDD	45.21	1.0583	0.8750 - 1.2050	passed	76.48	40 - 135	passed
35	13C12-1234789-HpCDF	45.77	0.4970	0.3650 - 0.5150	passed	70.36	40 - 135	passed
36	13C12-OCDD	48.27	0.8973	0.7550 - 1.0250	passed	76.78	40 - 135	passed
37	13C12-OCDF	48.44	0.8968	0.7550 - 1.0250	passed	67.73	40 - 135	passed

APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.45	6977	A	5478	A	0.8708	9.360443	9.3604	0.000000	28	
2	2378-TCDD	passed	30.56	1471	A	1189	A	0.2390	2.110078	2.1101	0.000000	27	
3	12378-PeCDF	passed	35.40	7122	A	11398	A	0.3111	10.855668	10.8557	0.000000	89	
4	23478-PeCDF	passed	36.74	13748	A	20683	A	0.3032	21.866738	21.8667	0.000000	115	
5	12378-PeCDD	failed	37.09	3653	A	4308	A	0.4571	7.437419	n.d.	0.000000	38	
6	123478-HxCDF	passed	40.39	23860	A	31241	A	0.3887	25.440673	25.4407	0.000000	158	
7	123678-HxCDF	passed	40.54	32339	A	37679	A	0.3963	31.468555	31.4686	0.000000	188	
8	234678-HxCDF	passed	41.25	21472	A	27926	A	0.5650	32.555475	32.5555	0.000000	140	
9	123478-HxCDD	passed	41.45	3240	A	3858	A	0.3868	5.400272	5.4003	0.000000	34	
10	123678-HxCDD	passed	41.56	29322	A	35125	A	0.3891	52.134718	52.1347	0.000000	320	
11	123789-HxCDD	passed	41.88	9420	A	12581	A	0.4446	19.690112	19.6901	0.000000	115	
12	123789-HxCDF	passed	42.29	4168	A	5690	A	0.6397	7.155224	7.1552	0.000000	18	
13	1234678-HpCDF	passed	44.01	655520	A	685753	A	0.2076	633.206455	633.2065	0.000000	7645	
14	1234678-HpCDD	passed	45.22	566949	A	593937	A	0.6948	1013.066915	1013.0669	0.000000	3697	
15	1234789-HpCDF	passed	45.79	24576	A	24224	A	0.3226	33.791976	33.7920	0.000000	268	
16	OCDD	passed	48.27	6434869	A	5776415	A	0.4417	12334.919912	12334.9199	0.000000	70035	
17	OCDF	passed	48.46	374034	A	333272	A	0.1547	588.634721	588.6347	0.000000	9562	
18	13C12-1278-TCDD (CRS)	failed	30.95	58043	A	41861	A	0.1540	40.829105	n.d.	198.609732	741	
19	13C12-1234-TCDD	passed	29.67	212339	A	171734	A	0.1949	198.609732	198.6097	198.609732	2547	
20	13C12-123468-HxCDD	passed	40.28	150164	A	194444	A	0.1988	198.609732	198.6097	198.609732	2497	
21	13C12-2378-TCDF	passed	29.41	133529	A	106489	A	0.0722	67.054628	67.0546	198.609732	2402	
22	13C12-2378-TCDD	passed	30.53	114301	A	90814	A	0.2098	114.195818	114.1958	198.609732	1474	
23	13C12-12378-PeCDF	passed	35.37	133412	A	208782	A	0.1515	103.365427	103.3654	198.609732	2207	
24	13C12-23478-PeCDF	passed	36.68	105390	A	176545	A	0.1544	86.826541	86.8265	198.609732	2021	
25	13C12-12378-PeCDD	passed	37.06	77121	A	127850	A	0.1309	115.748307	115.7483	198.609732	3202	
26	13C12-123478-HxCDF	passed	40.38	232747	A	126213	A	0.1484	156.709121	156.7091	198.609732	2704	
27	13C12-123678-HxCDF	passed	40.52	250994	A	132190	A	0.1394	157.105691	157.1057	198.609732	2757	
28	13C12-234678-HxCDF	passed	41.24	161247	A	81764	A	0.1553	111.022785	111.0228	198.609732	1798	
29	13C12-123478-HxCDD	passed	41.44	110301	A	145662	A	0.2152	159.668476	159.6685	198.609732	1809	
30	13C12-123678-HxCDD	passed	41.55	103918	A	134622	A	0.2121	146.663721	146.6637	198.609732	1782	
31	13C12-123789-HxCDD	passed	41.87	91237	A	111799	A	0.2228	131.104971	131.1050	198.609732	1468	
32	13C12-123789-HxCDF	passed	42.26	159307	A	77950	A	0.1625	113.412673	113.4127	198.609732	1707	
33	13C12-1234678-HpCDF	passed	43.99	222127	A	103099	A	0.1643	168.432533	168.4325	198.609732	2755	
34	13C12-1234678-HpCDD	passed	45.21	103798	A	109853	A	0.1094	151.897519	151.8975	198.609732	3793	
35	13C12-1234789-HpCDF	passed	45.77	148000	A	73553	A	0.2001	139.738125	139.7381	198.609732	1771	
36	13C12-OCDD	passed	48.27	198740	A	178337	A	0.1214	304.986901	304.9869	397.219464	6989	
37	13C12-OCDF	passed	48.44	267706	A	240076	A	0.0788	269.052543	269.0525	397.219464	9463	

APPROVED
By uma9 at 3:55 pm, 11/9/18

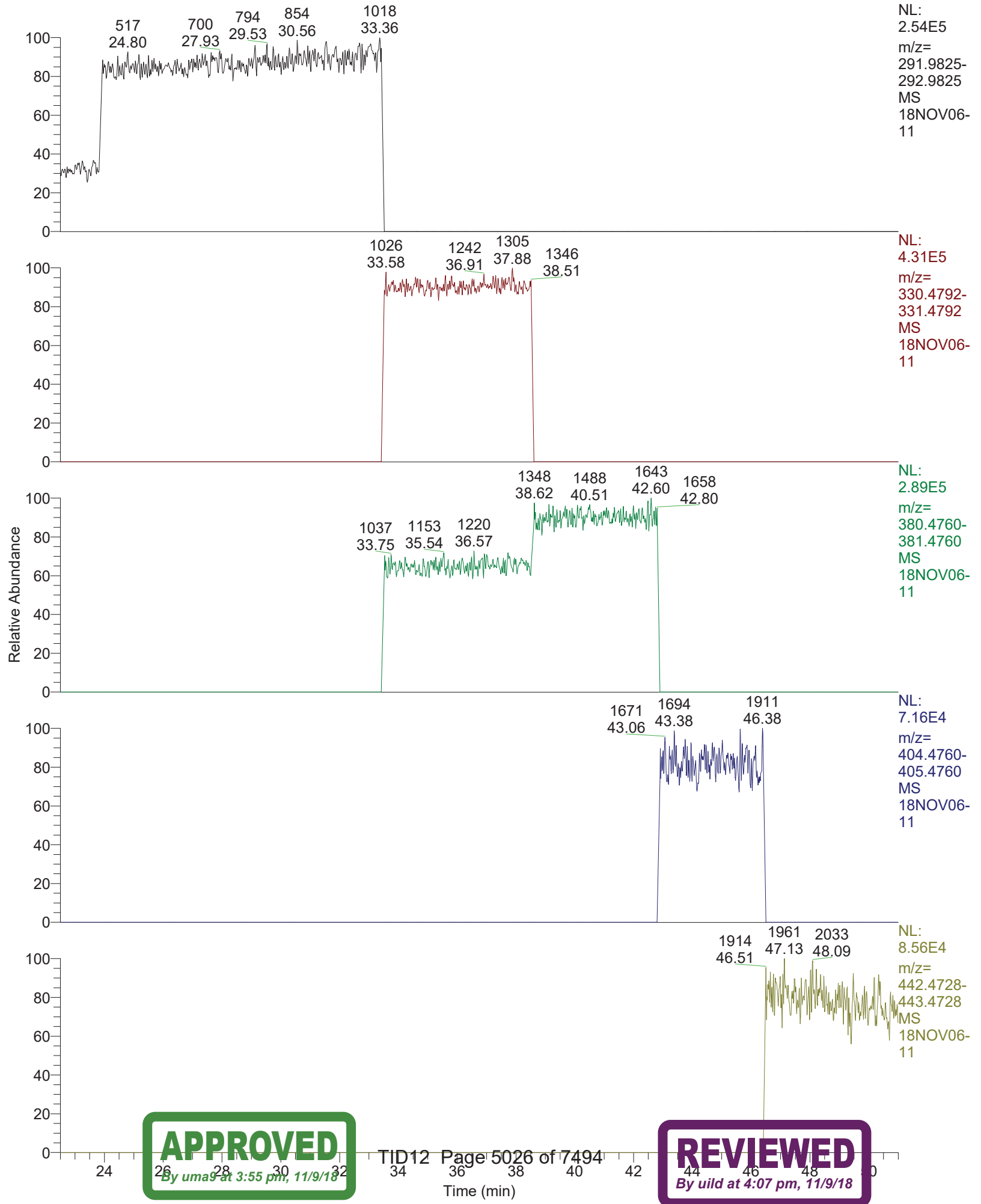
REVIEWED
By uild at 4:07 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-11
Sample ID: 9872060

Acq. Data: 11/6/2018 5:27:08 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By umas at 3:55 pm, 11/9/18

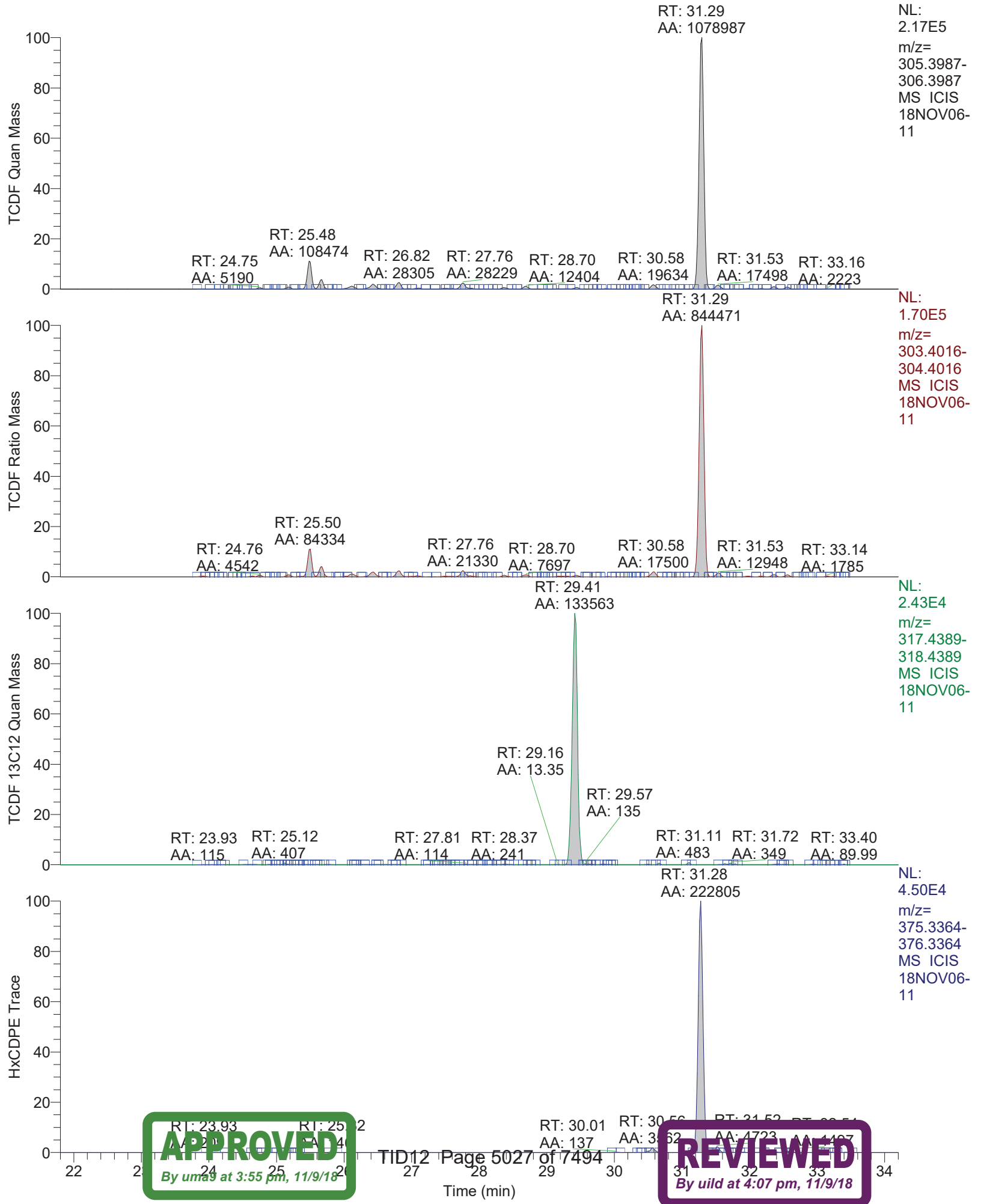
REVIEWED
By uild at 4:07 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-11
Sample ID: 9872060

Acq. Data: 11/6/2018 5:27:08 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 21.80 - 34.20



APPROVED
By umas at 3:55 pm, 11/9/18

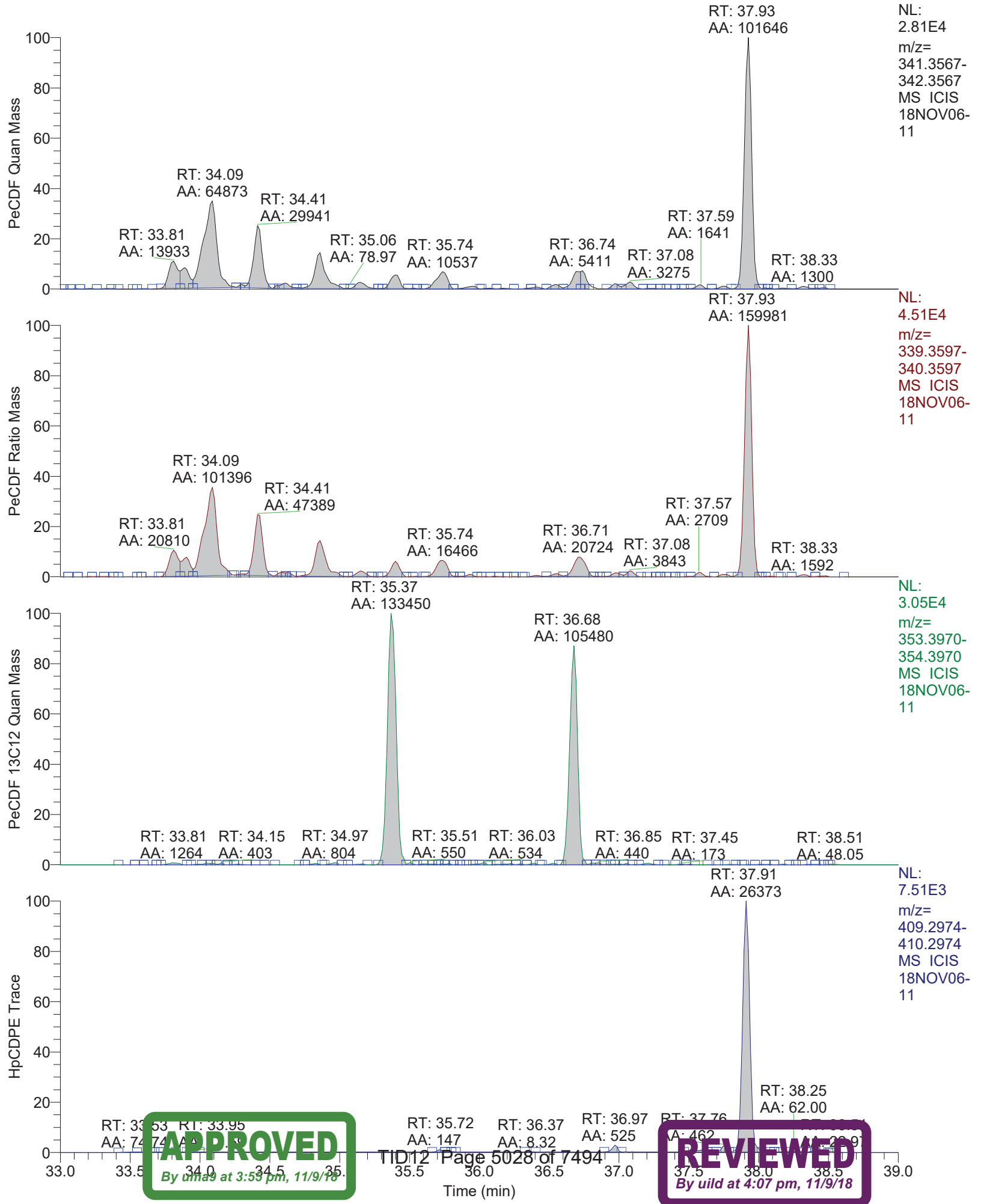
REVIEWED
By uild at 4:07 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-11
Sample ID: 9872060

Acq. Data: 11/6/2018 5:27:08 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 33.00 - 39.00



APPROVED
By uma9 at 3:55 pm, 11/9/18

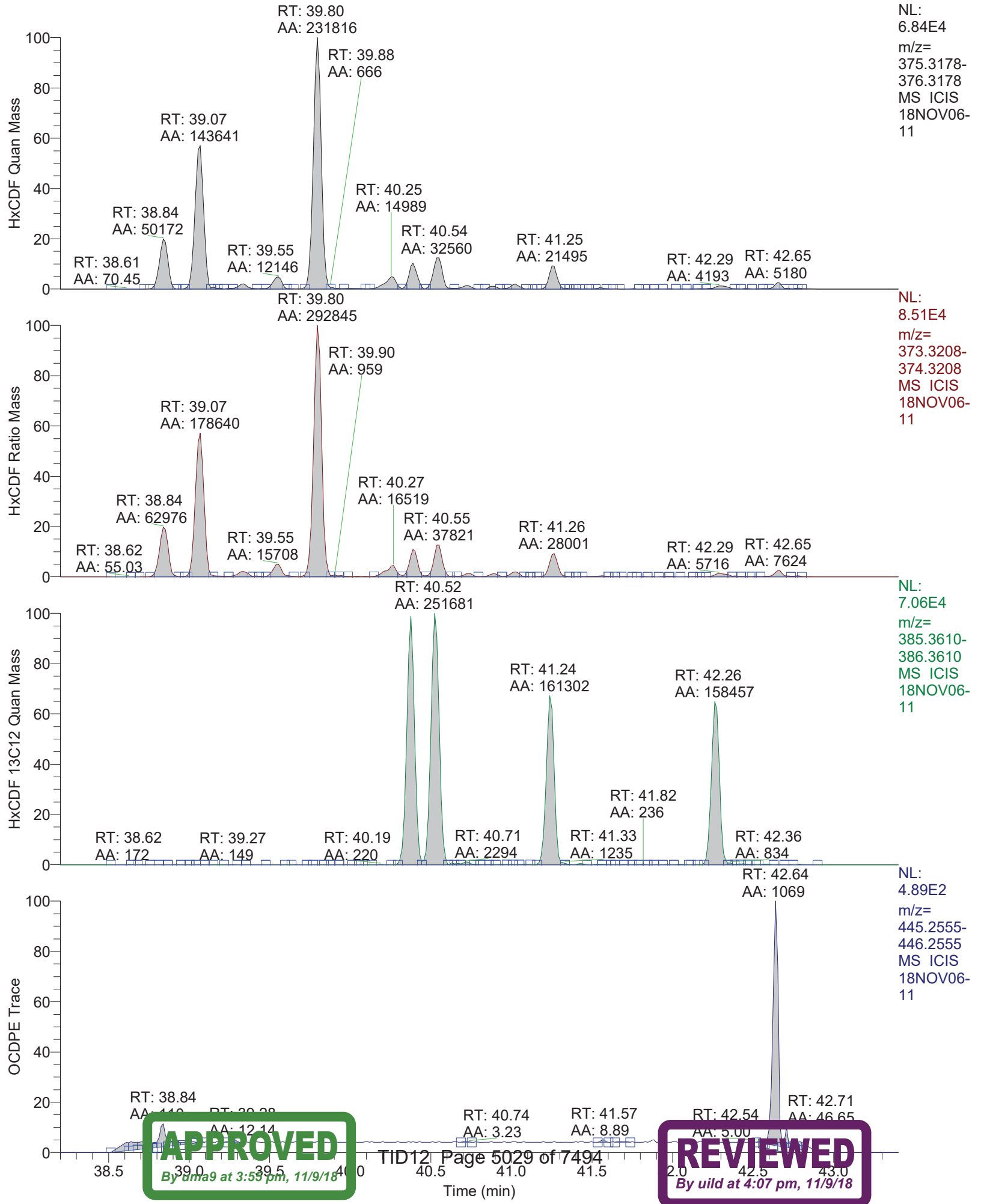
REVIEWED
By uild at 4:07 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-11
Sample ID: 9872060

Acq. Data: 11/6/2018 5:27:08 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 38.20 - 43.40



APPROVED
By dma9 at 3:55 pm, 11/9/18

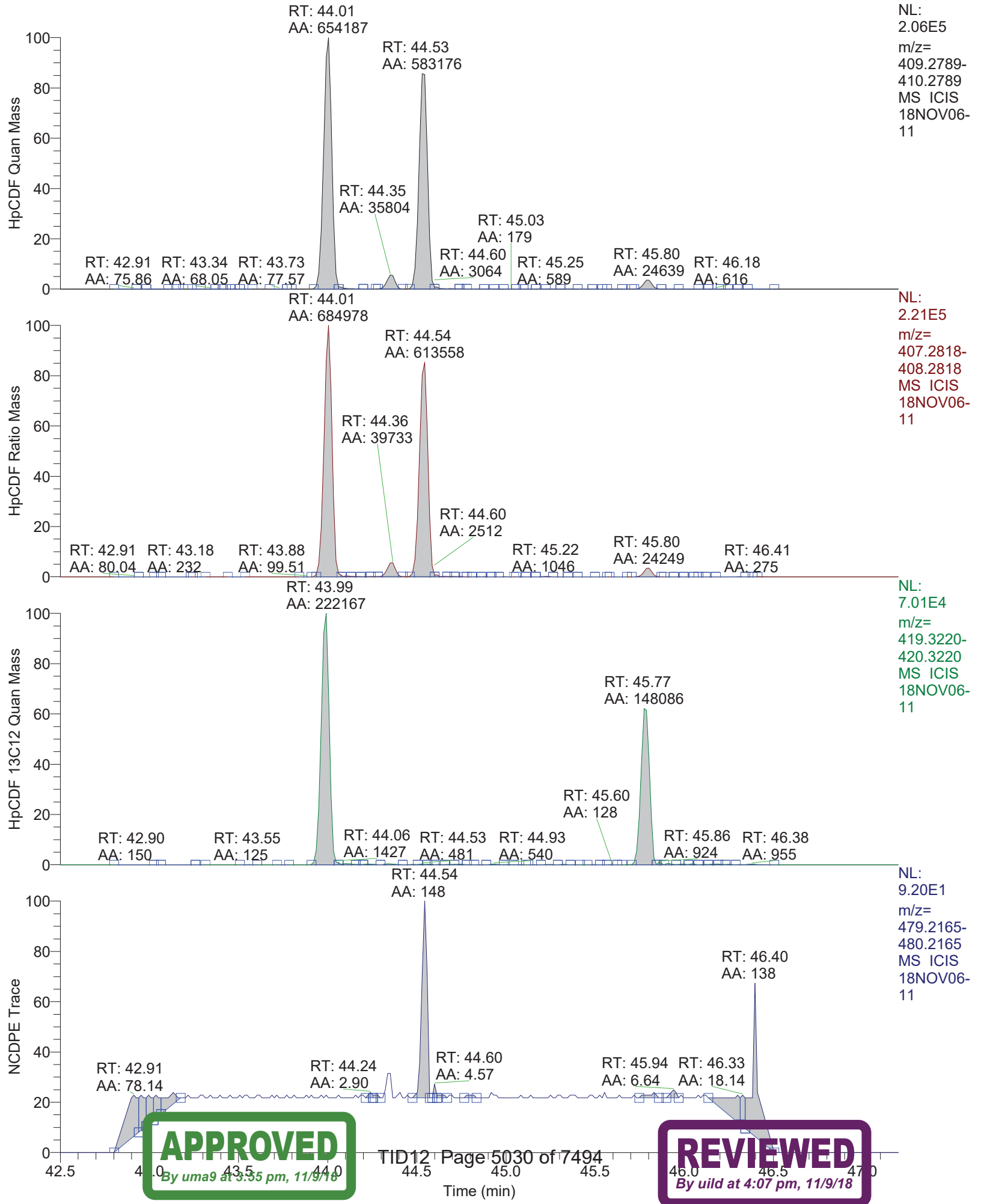
REVIEWED
By uild at 4:07 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-11
Sample ID: 9872060

Acq. Data: 11/6/2018 5:27:08 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 42.50 - 47.20



APPROVED
By uma9 at 3:55 pm, 11/9/18

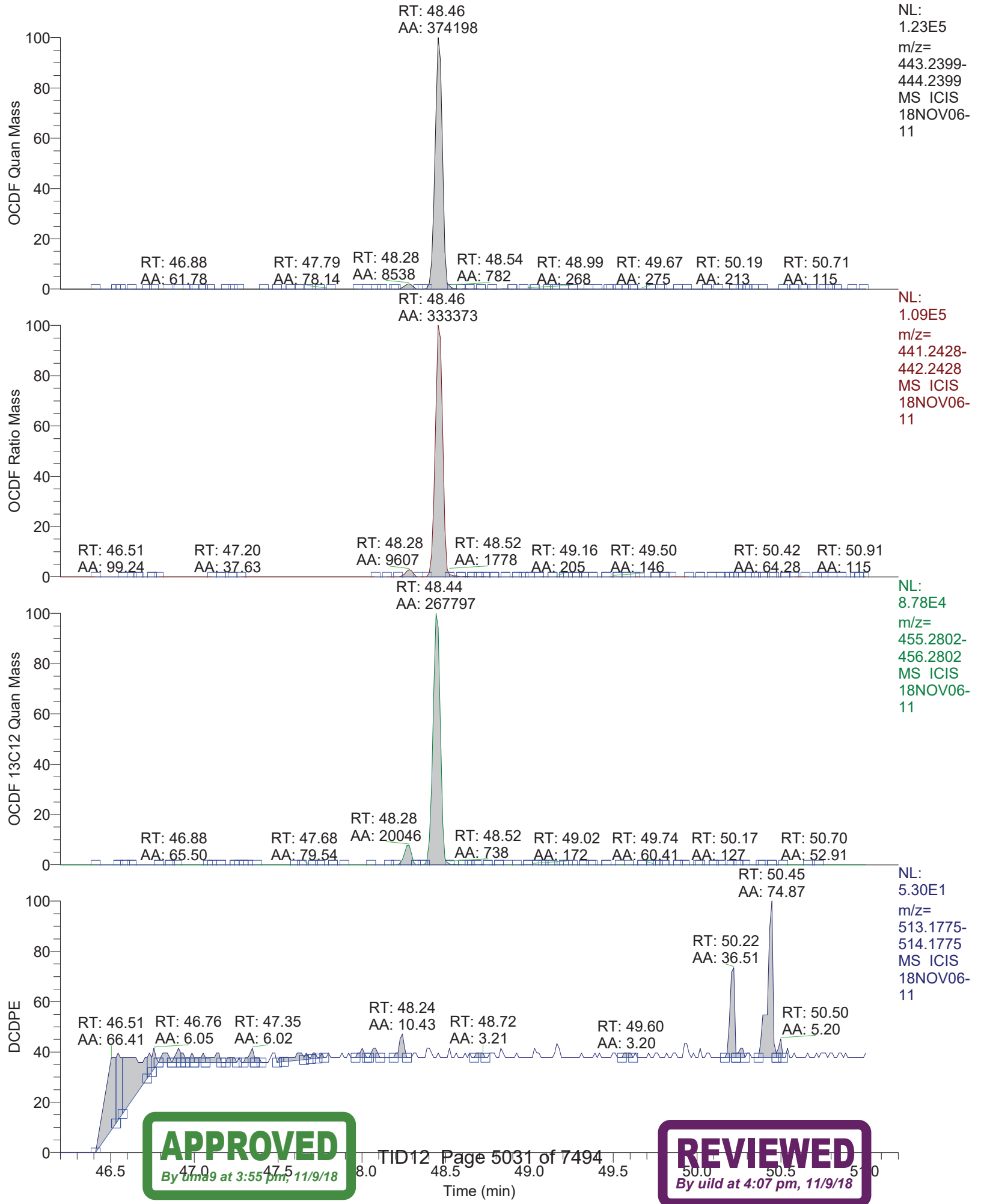
REVIEWED
By uild at 4:07 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-11
Sample ID: 9872060

Acq. Data: 11/6/2018 5:27:08 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 46.20 - 51.20



APPROVED
By uma9 at 3:55 pm, 11/9/18

REVIEWED
By uild at 4:07 pm, 11/9/18

*** file opened Tue Nov 06 17:32:39 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J

Analysis started at: 06-Nov-18 17:32:39

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f50533d2-f9c1-41a2-b71e-4157fb85ab75

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          94.5000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2535.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0206   FVINLET         0.0407   FVSRC           0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           94.5000   LKM           442.9723   MASS           94.5000
 MDAC        1445803.8122  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9661   RELEN           0.0000
 RES          12902.3584   RPUSHER       -17.1209   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0210   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.5000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10684.
MID Time Window 2: Resolution is 12359.
MID Time Window 3: Resolution is 11579.
MID Time Window 4: Resolution is 11739.
```

```
MID Time Window 5: Resolution is 12527.
MID Time Window 6: Resolution is 12902.

Amplifier Offset: 86.


*** File closed Tue Nov 06 18:23:40 2018
  ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 21:33
Number of Entries	3
Comment	S:11030:12937:17962
Vial	44
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Sample ID	9872060
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-10.quan
Data	y:\18nov07conf\18nov07-10.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.07
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.71	failed	passed	passed	passed	failed on IS	passed	failed on IS Recov
2	13C12-1234-TCDD	24.74	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.66	failed	passed	passed	passed	failed	passed	Failed on: RecovA

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 21:33
Number of Entries	3
Comment	S:11030:12937:17962
Vial	44
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Sample ID	9872060
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-10.quan
Data	y:\18nov07conf\18nov07-10.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.07
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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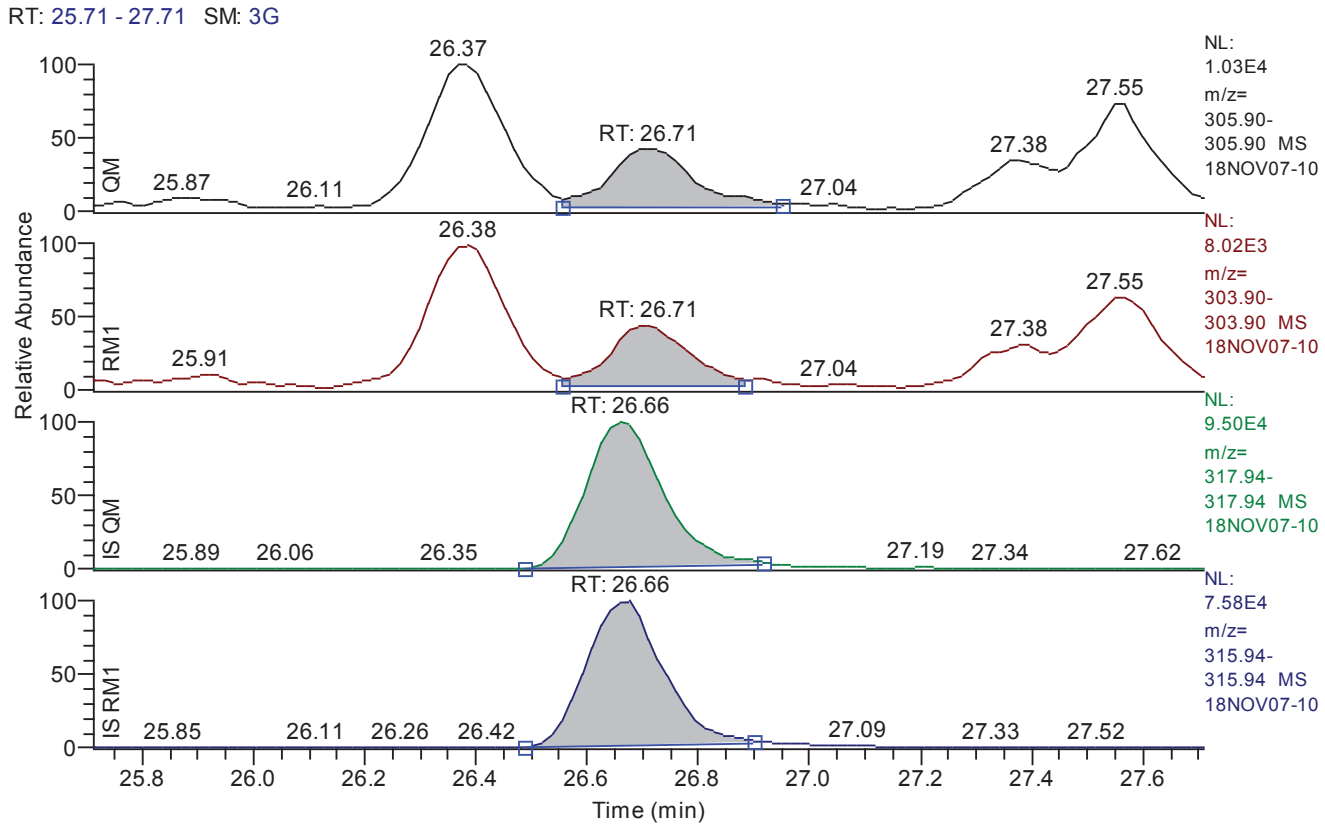
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.71
QM Area	42058
QM Integration Mode	A
RM1 Area	34167
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5543
Unqualified Amount (A)	9.279383
Adjusted Amount (A)	n.d.
Signal-to-Noise	39
Client Flags	
Status Overview	failed
Status Info	failed on IS Recov

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.71	26.71	26.71	26.66	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.77	24.74	24.74	24.74	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.66	26.66	26.66	26.66	passed	passed

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.71	0.8124	0.6450 - 0.8950	passed	---	0 - 0	failed on IS
2	13C12-1234-TCDD	24.74	0.7909	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.66	0.7918	0.6450 - 0.8950	passed	26.67	40 - 135	failed

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	26.71	42058	A	34167	A	0.5543	9.279383	n.d.	0.000000	39	
2	13C12-1234-TCDD	passed	24.74	1646456	A	1302213	A	0.1203	198.609732	198.6097	198.609732	4127	
3	13C12-2378-TCDF	failed	26.66	894323	A	708136	A	0.0416	52.964525	n.d.	198.609732	2756	

APPROVED
By uma9 at 3:54 pm, 11/9/18

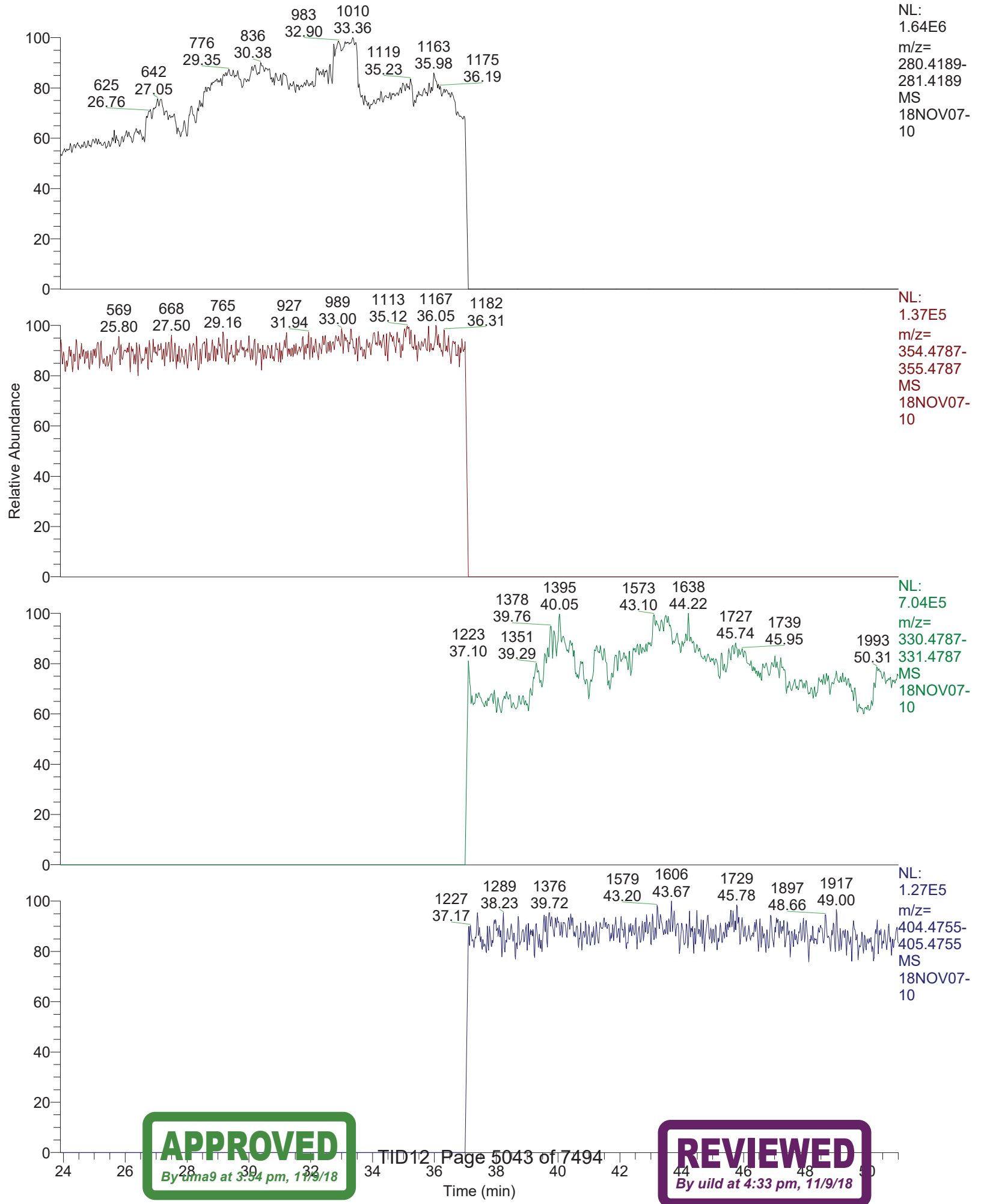
REVIEWED
By uild at 4:33 pm, 11/9/18

File Name: Y:\18NOV07Conf\18NOV07-10
Sample ID: 9872060

Acq. Data: 11/7/2018 9:33:06 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV07Conf

RT: 23.90 - 51.00



APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

*** file opened Wed Nov 07 21:37:30 2018 ***

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Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 07-Nov-18 21:37:29

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	328.9787
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-99.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0379	FVSRC	0.0336
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	328.9787	LKM	330.9792	MASS	328.9787
MDAC	2963649.4363	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9665	RELEN	0.0000
RES	12845.6628	RPUSHER	-15.8022	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.1400	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	328.9787	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.4e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.3e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11993.
MID Time Window 2: Resolution is 12845.

Amplifier Offset: 87.

*** File closed Wed Nov 07 22:30:01 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 22:37
Number of Entries	245
Comment	S:11030:12937:17962
Vial	83
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Sample ID	9872060DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-09.quan
Data	w:\18nov07\18nov07-09.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.07
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	29.95	failed	passed	failed	failed	passed	failed	Failed on: Ratio1A RM1Time < min RM2Time
3	12378-PeCDF	34.93	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.25	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5	12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	39.99	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.07	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.19	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.52	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.92	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
13	1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.45	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
16	OCDD	47.92	passed	passed	passed	passed	passed	passed	
17	OCDF	48.11	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.33	failed	passed	passed	passed	failed	passed	Failed on: RecovA
19	13C12-1234-TCDD	29.03	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.90	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.77	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.88	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.90	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.22	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.62	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	39.98	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.14	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.86	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.06	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.18	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.49	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.89	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.62	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.86	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.44	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.91	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.10	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 22:37
Number of Entries	245
Comment	S:11030:12937:17962
Vial	83
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Sample ID	9872060DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-09.quan
Data	w:\18nov07\18nov07-09.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.07
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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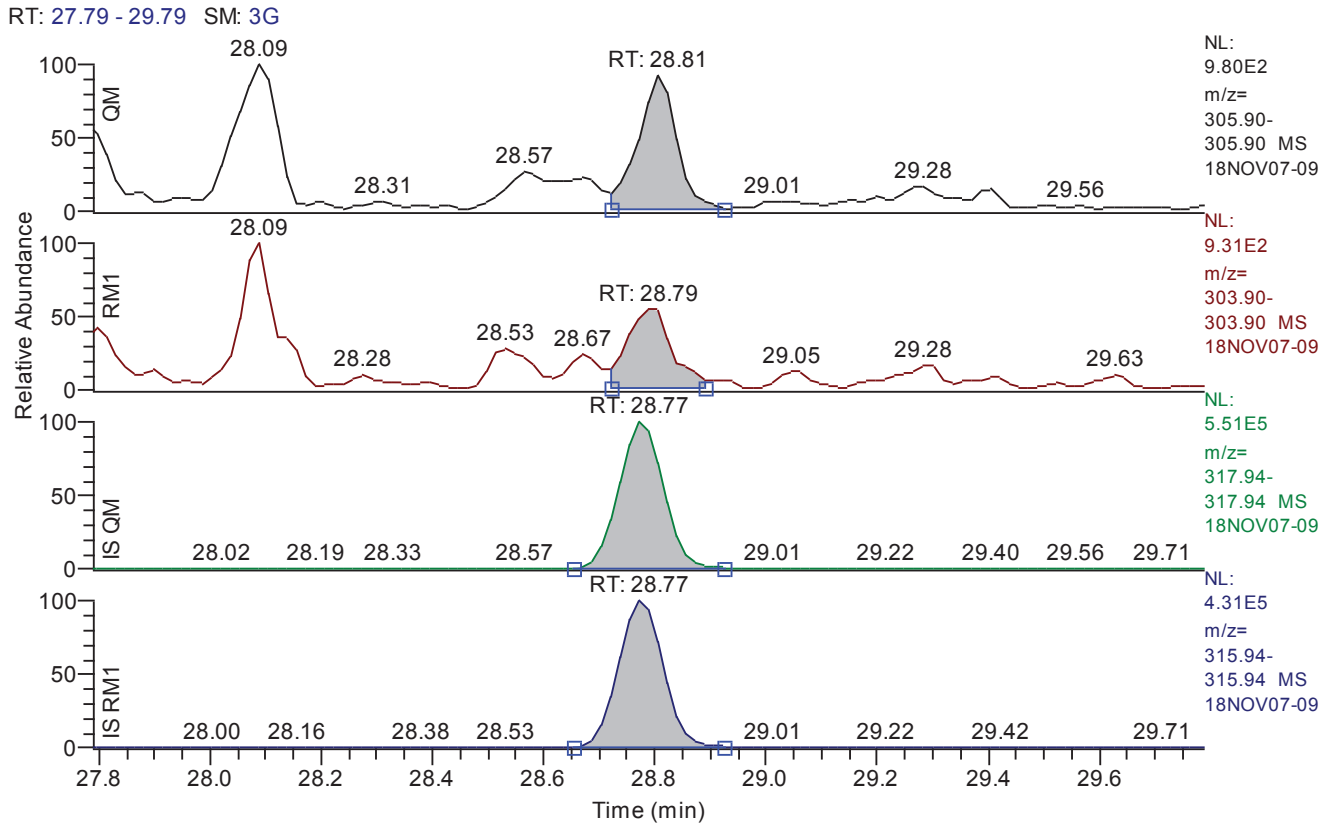
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.81
QM Area	4273
QM Integration Mode	A
RM1 Area	2783
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0393
Unqualified Amount (A)	2.975573
Adjusted Amount (A)	2.9756
Signal-to-Noise	21
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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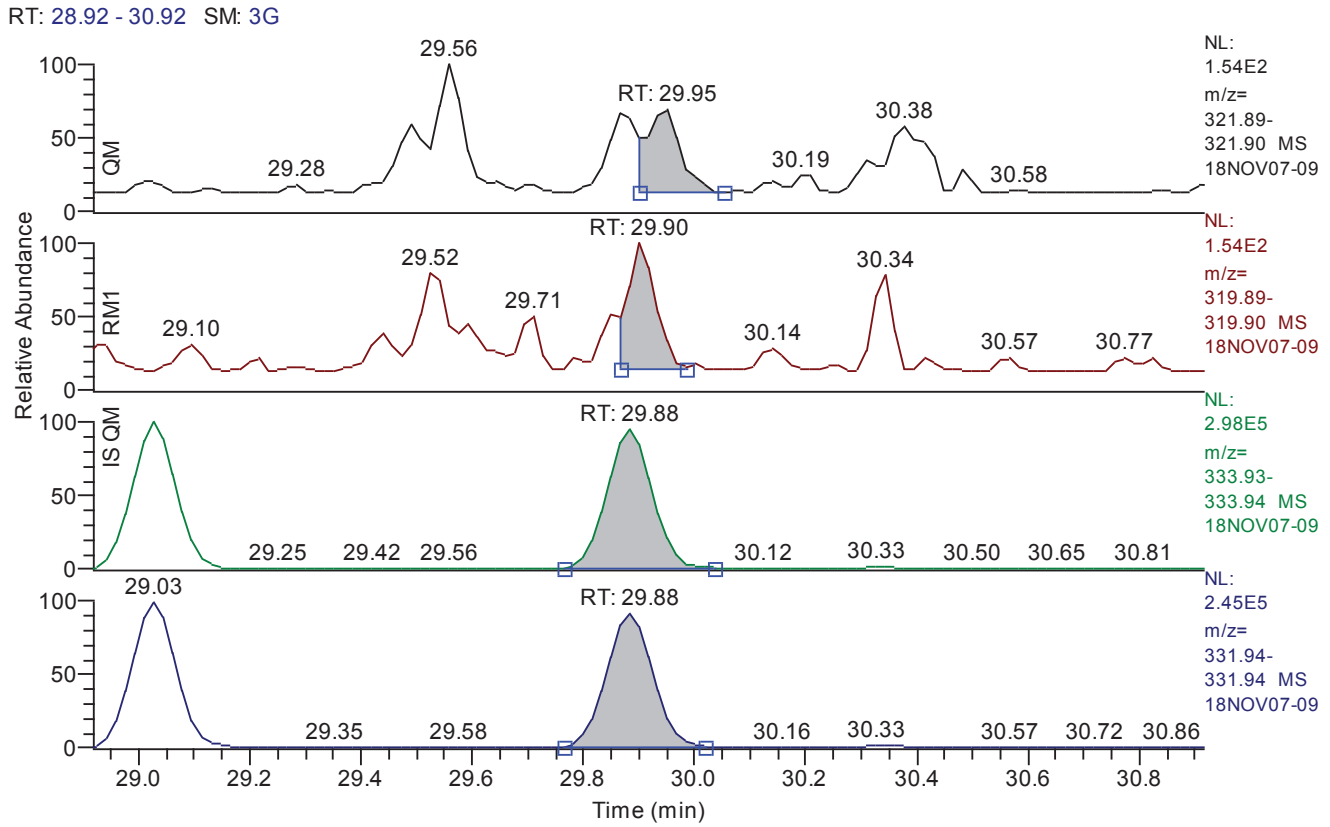
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	29.95
QM Area	373
QM Integration Mode	A
RM1 Area	464
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0184
Unqualified Amount (A)	0.561812
Adjusted Amount (A)	n.d.
Signal-to-Noise	12
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time < min RM2Time < min

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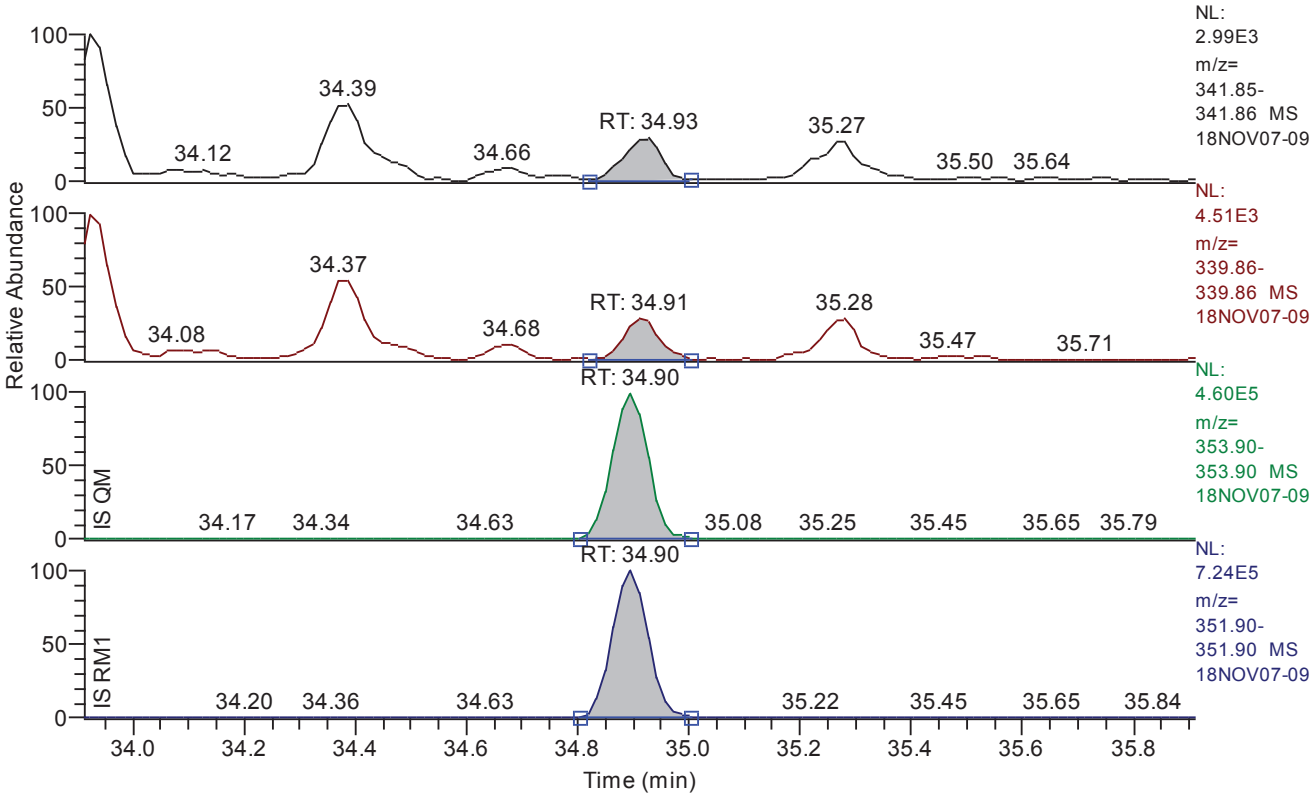
Chromatogram

RT: 33.91 - 35.91 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	34.93
QM Area	3951
QM Integration Mode	A
RM1 Area	5697
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0230
Unqualified Amount (A)	4.672029
Adjusted Amount (A)	4.6720
Signal-to-Noise	50
Client Flags	
Status Overview	passed
Status Info	

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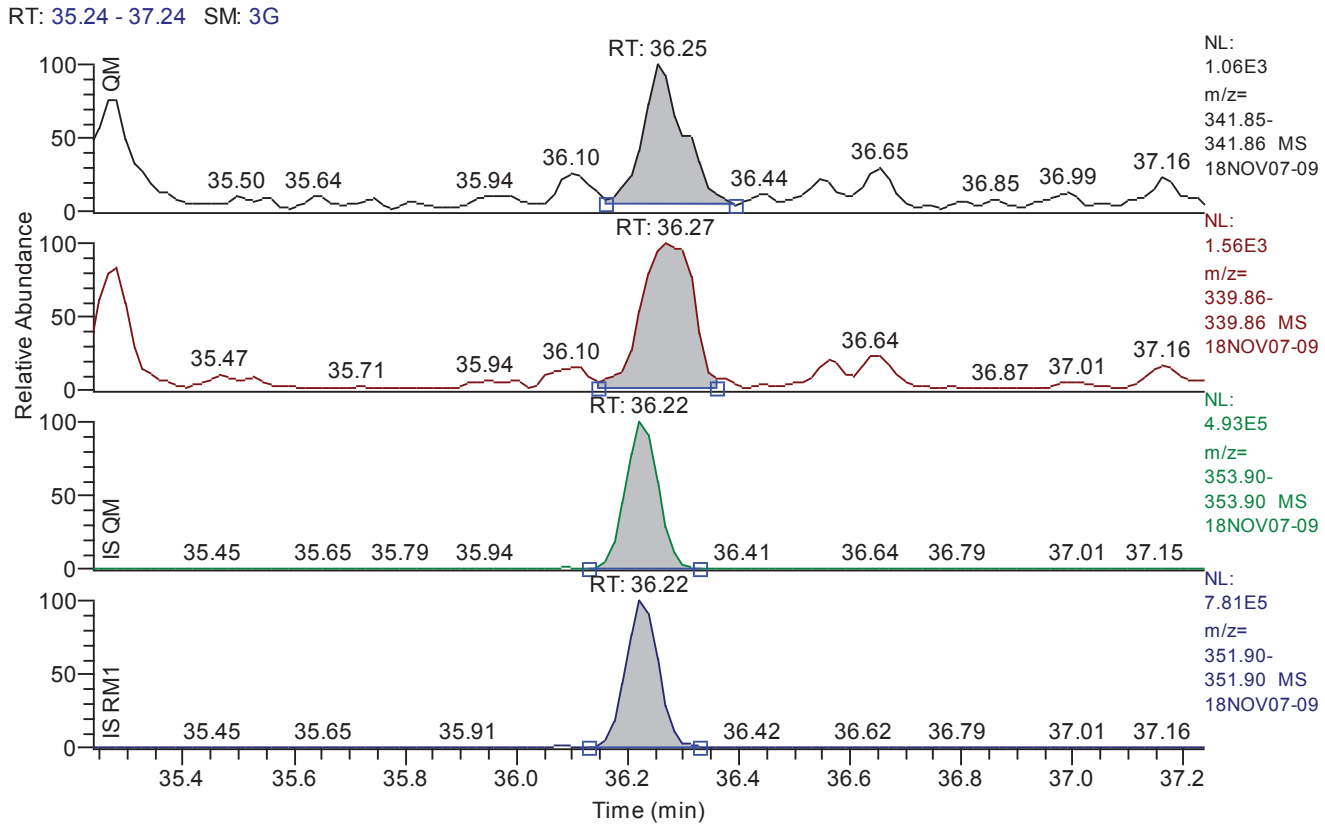
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.25
QM Area	5145
QM Integration Mode	A
RM1 Area	9920
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0191
Unqualified Amount (A)	6.603735
Adjusted Amount (A)	n.d.
Signal-to-Noise	60
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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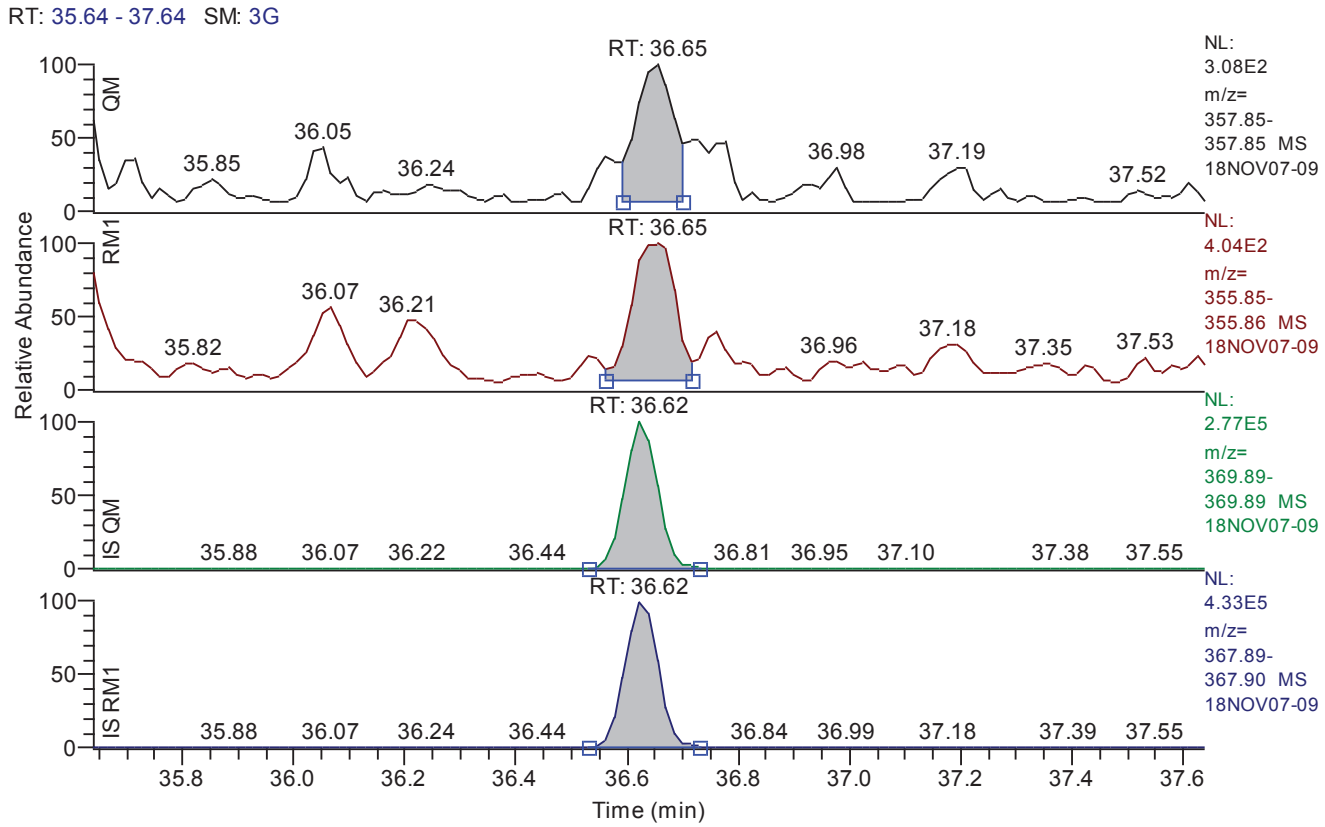
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.65
QM Area	1308
QM Integration Mode	A
RM1 Area	2018
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0371
Unqualified Amount (A)	2.767152
Adjusted Amount (A)	2.7672
Signal-to-Noise	15
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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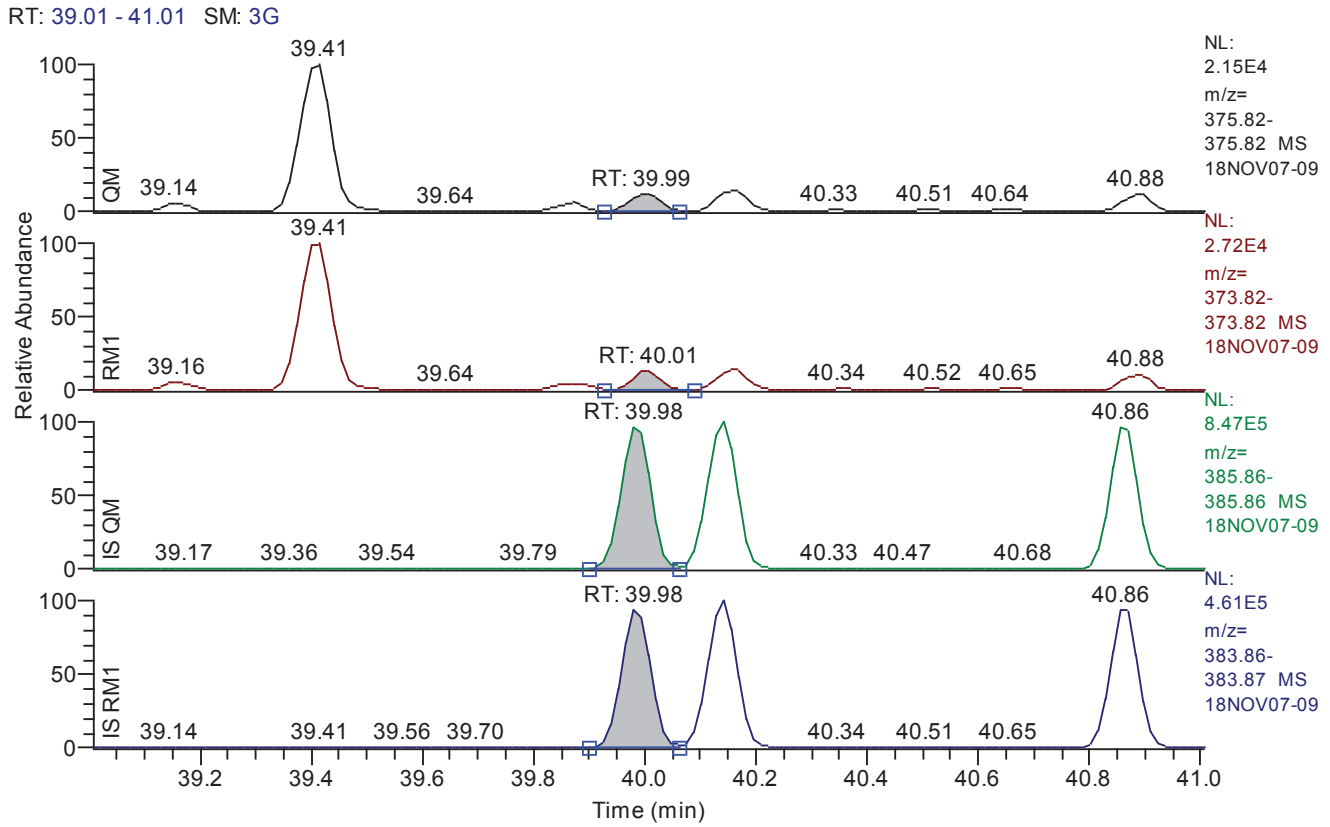
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	39.99
QM Area	10028
QM Integration Mode	A
RM1 Area	13086
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0224
Unqualified Amount (A)	10.247471
Adjusted Amount (A)	10.2475
Signal-to-Noise	110
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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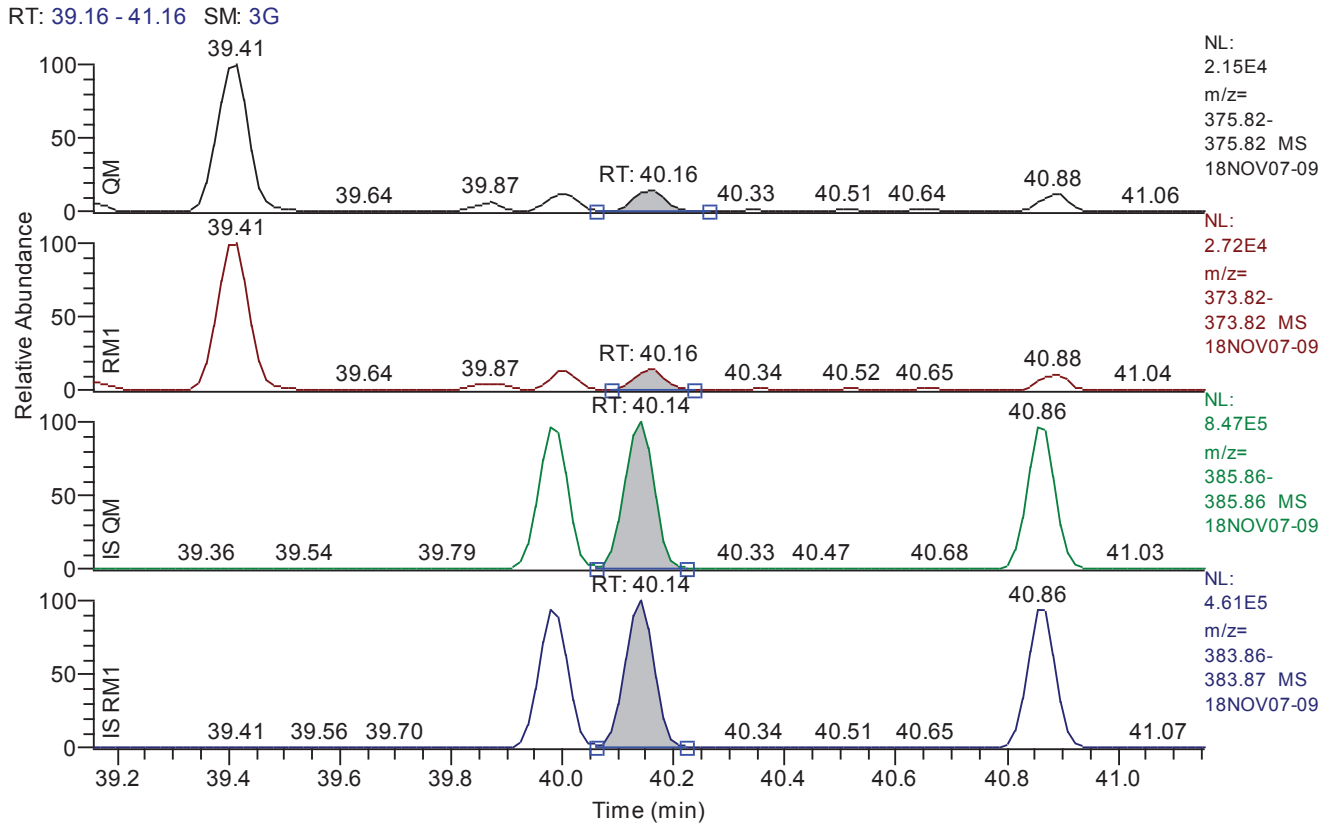
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.16
QM Area	12900
QM Integration Mode	A
RM1 Area	14652
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0220
Unqualified Amount (A)	11.963545
Adjusted Amount (A)	11.9635
Signal-to-Noise	130
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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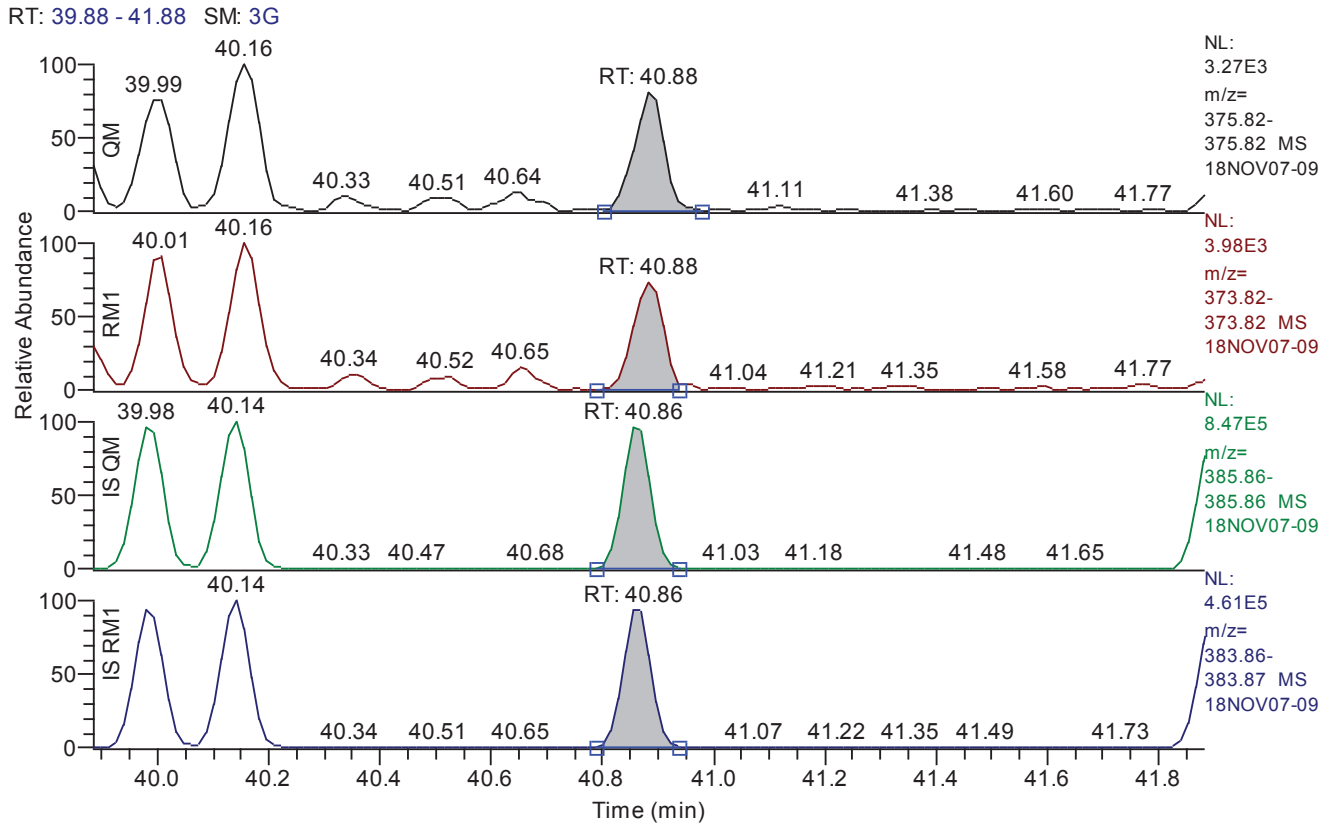
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.88
QM Area	9796
QM Integration Mode	A
RM1 Area	10987
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0217
Unqualified Amount (A)	9.274614
Adjusted Amount (A)	9.2746
Signal-to-Noise	100
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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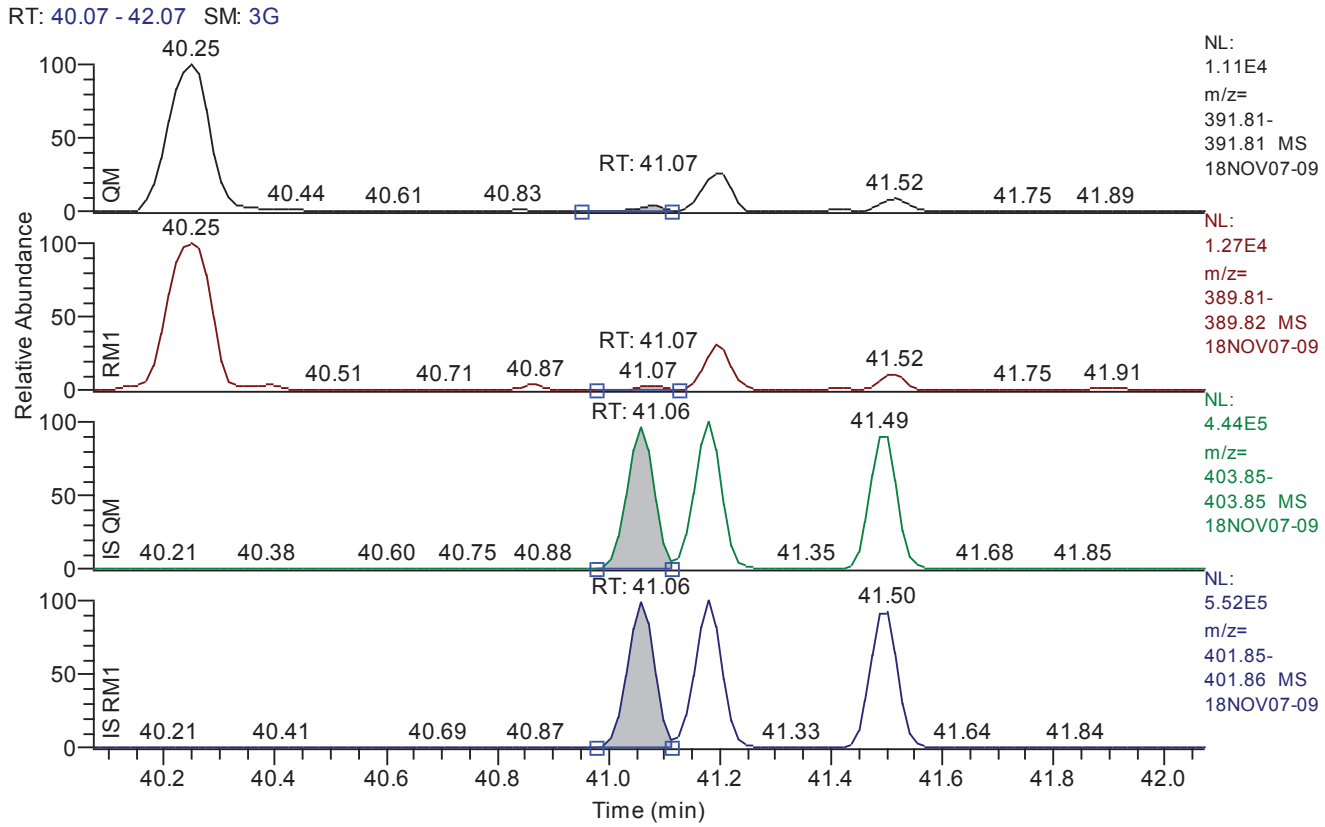
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.07
QM Area	1424
QM Integration Mode	A
RM1 Area	1516
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0298
Unqualified Amount (A)	2.131547
Adjusted Amount (A)	2.1315
Signal-to-Noise	18
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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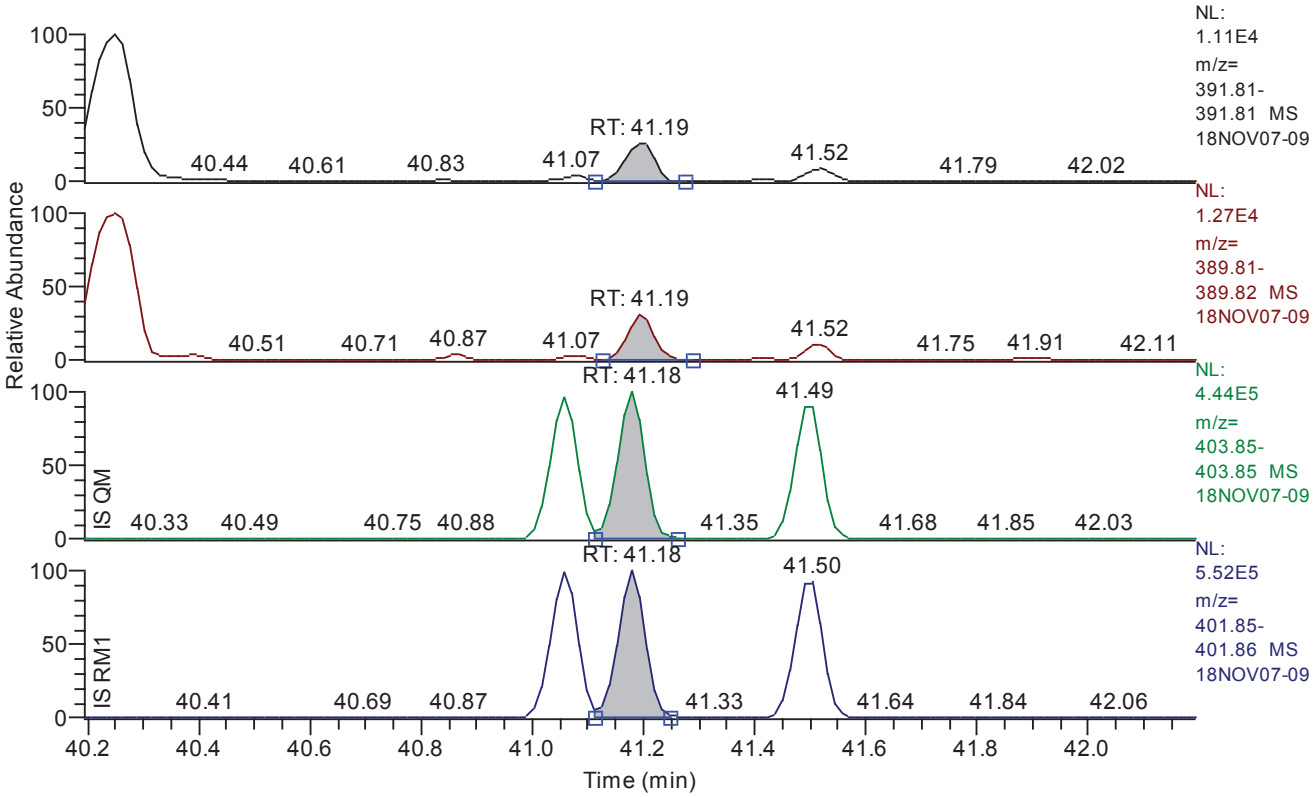
Chromatogram

RT: 40.19 - 42.19 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.19
QM Area	10717
QM Integration Mode	A
RM1 Area	13052
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0295
Unqualified Amount (A)	17.140181
Adjusted Amount (A)	17.1402
Signal-to-Noise	140
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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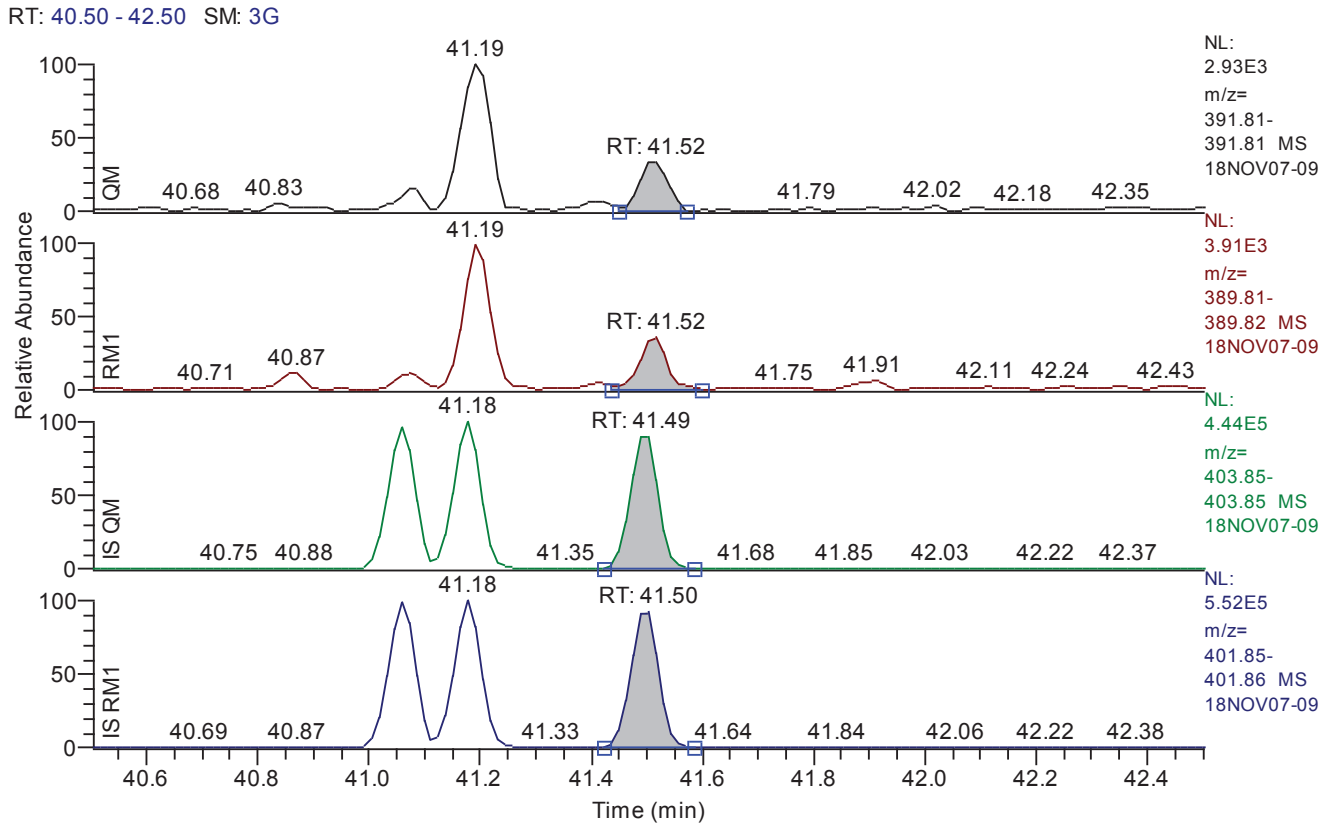
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.52
QM Area	3497
QM Integration Mode	A
RM1 Area	4672
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0303
Unqualified Amount (A)	5.830489
Adjusted Amount (A)	5.8305
Signal-to-Noise	49
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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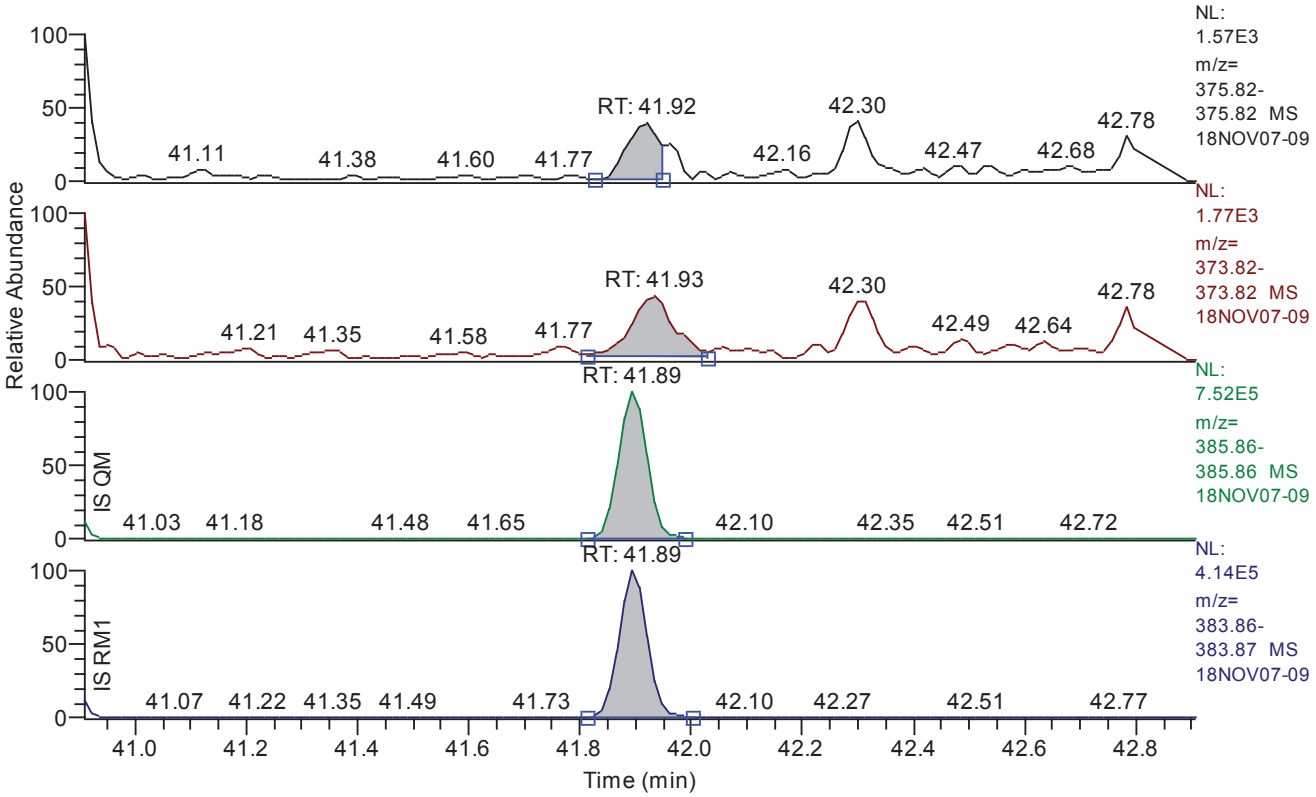
Chromatogram

RT: 40.91 - 42.91 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.92
QM Area	2281
QM Integration Mode	A
RM1 Area	3994
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0253
Unqualified Amount (A)	3.223173
Adjusted Amount (A)	n.d.
Signal-to-Noise	25
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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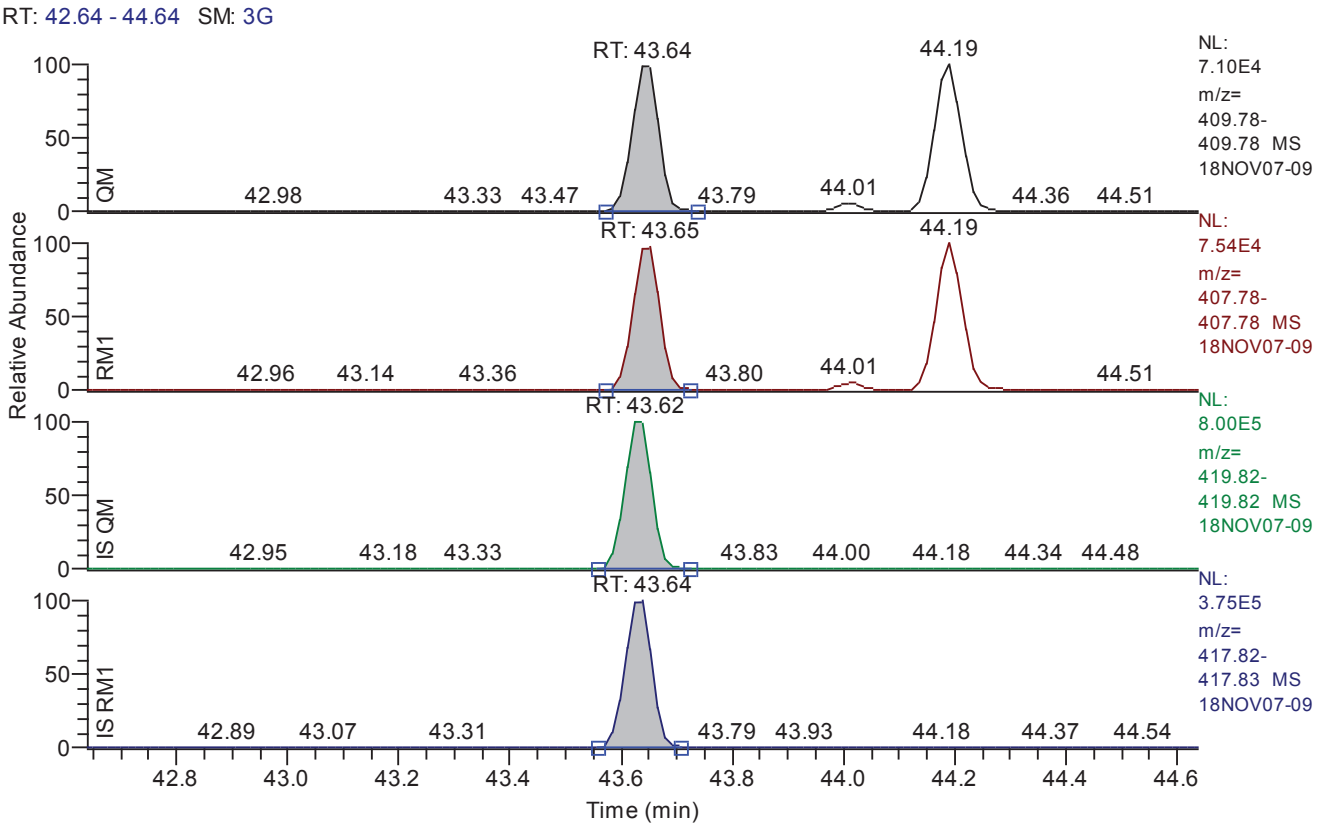
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.64
QM Area	242699
QM Integration Mode	A
RM1 Area	256476
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	232.653219
Adjusted Amount (A)	232.6532
Signal-to-Noise	4982
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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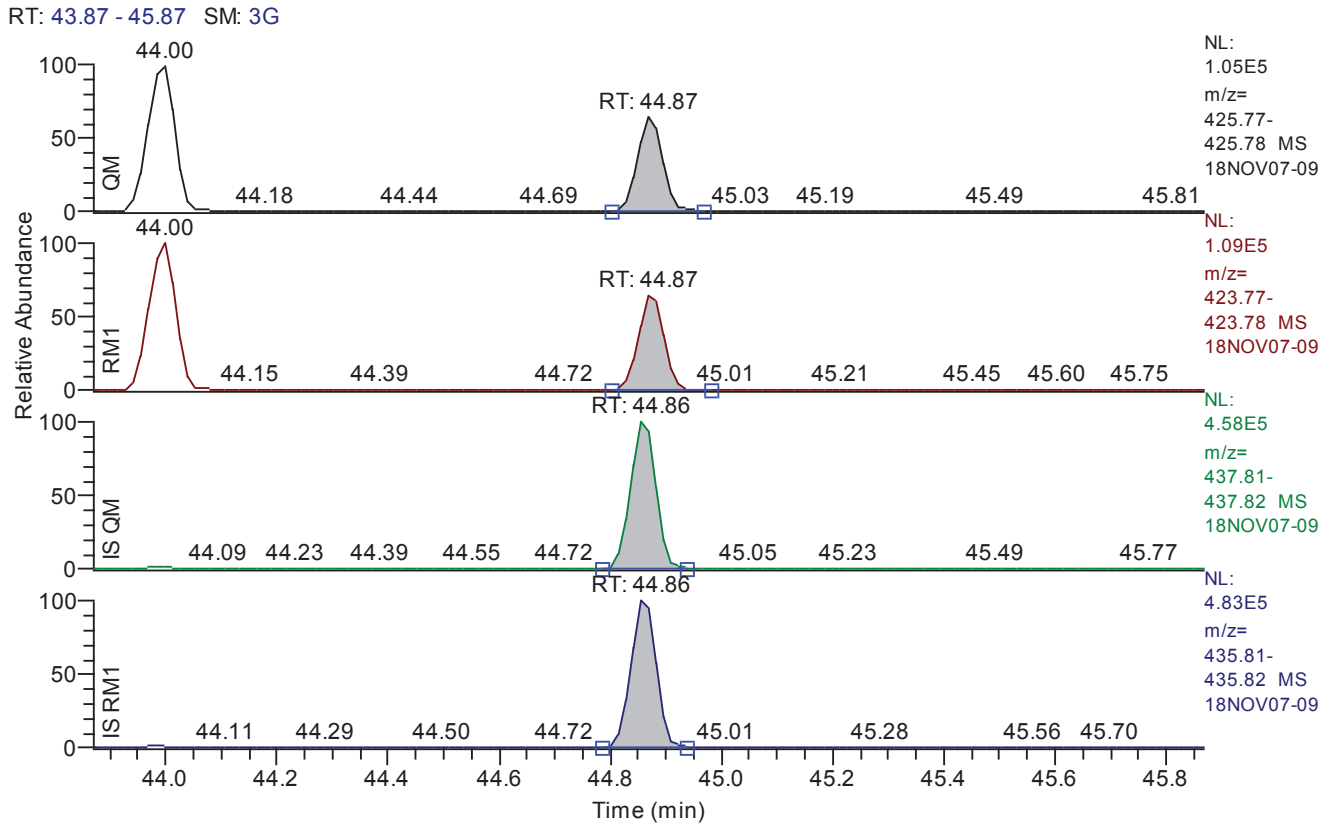
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.87
QM Area	221604
QM Integration Mode	A
RM1 Area	232913
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0548
Unqualified Amount (A)	344.131348
Adjusted Amount (A)	344.1313
Signal-to-Noise	1563
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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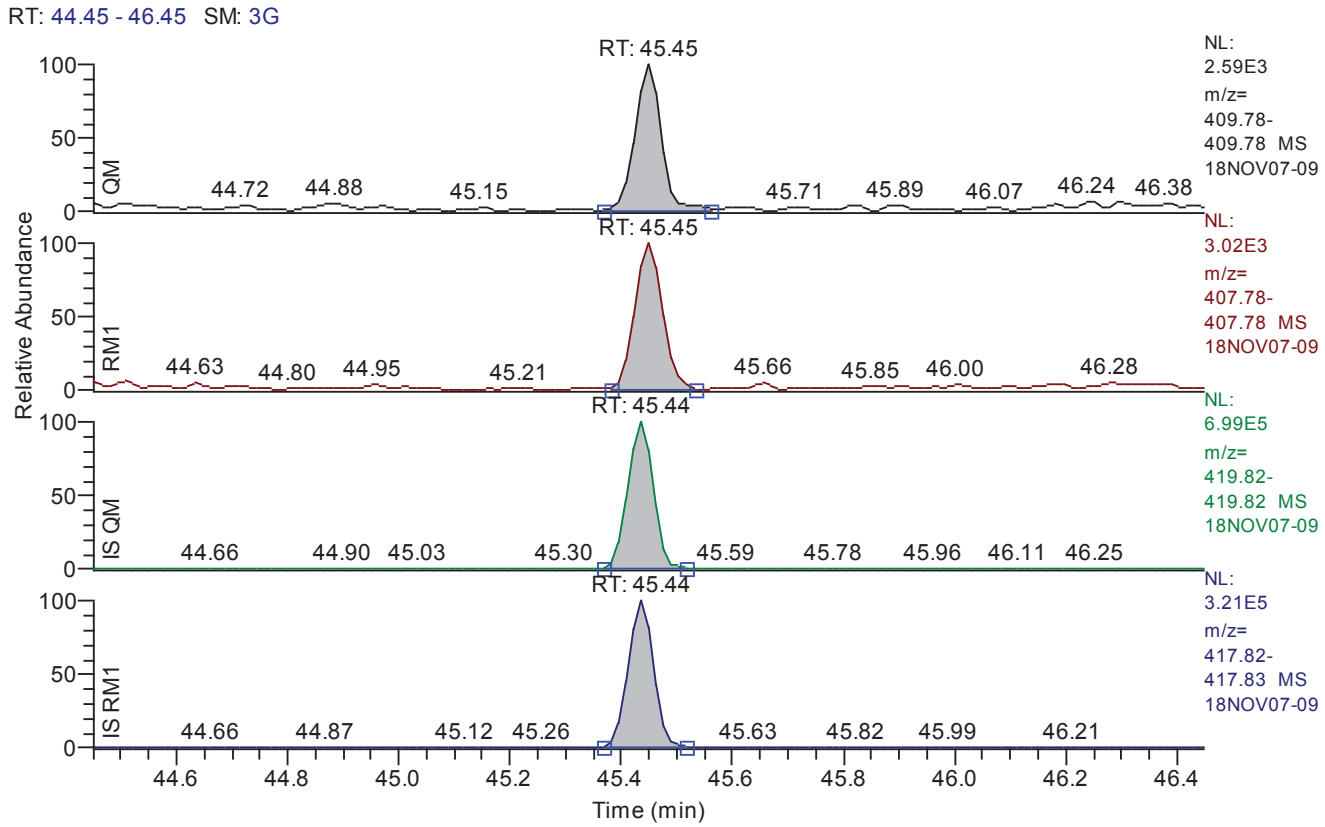
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.45
QM Area	8696
QM Integration Mode	A
RM1 Area	10728
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	10.686218
Adjusted Amount (A)	n.d.
Signal-to-Noise	191
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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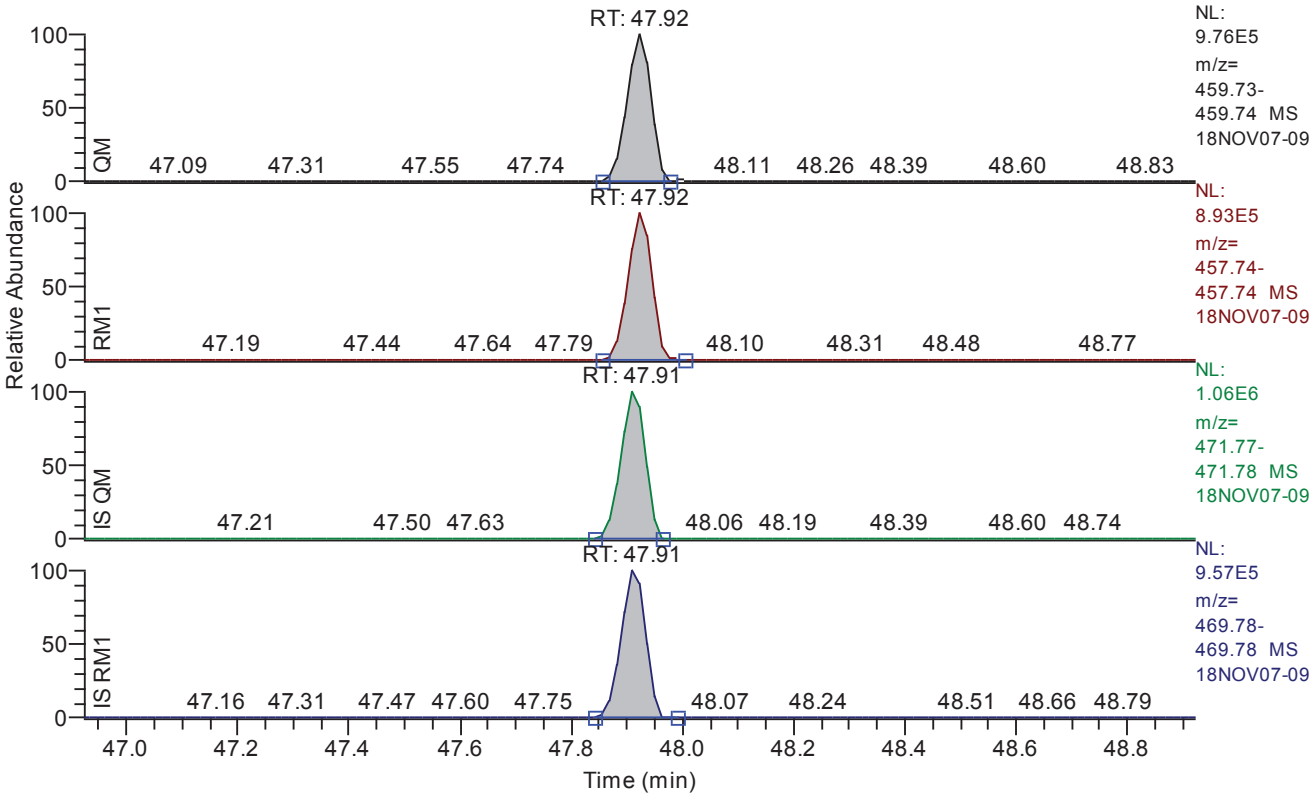
Chromatogram

RT: 46.92 - 48.92 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	47.92
QM Area	2916369
QM Integration Mode	A
RM1 Area	2678806
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0314
Unqualified Amount (A)	4327.280956
Adjusted Amount (A)	4327.2810
Signal-to-Noise	35216
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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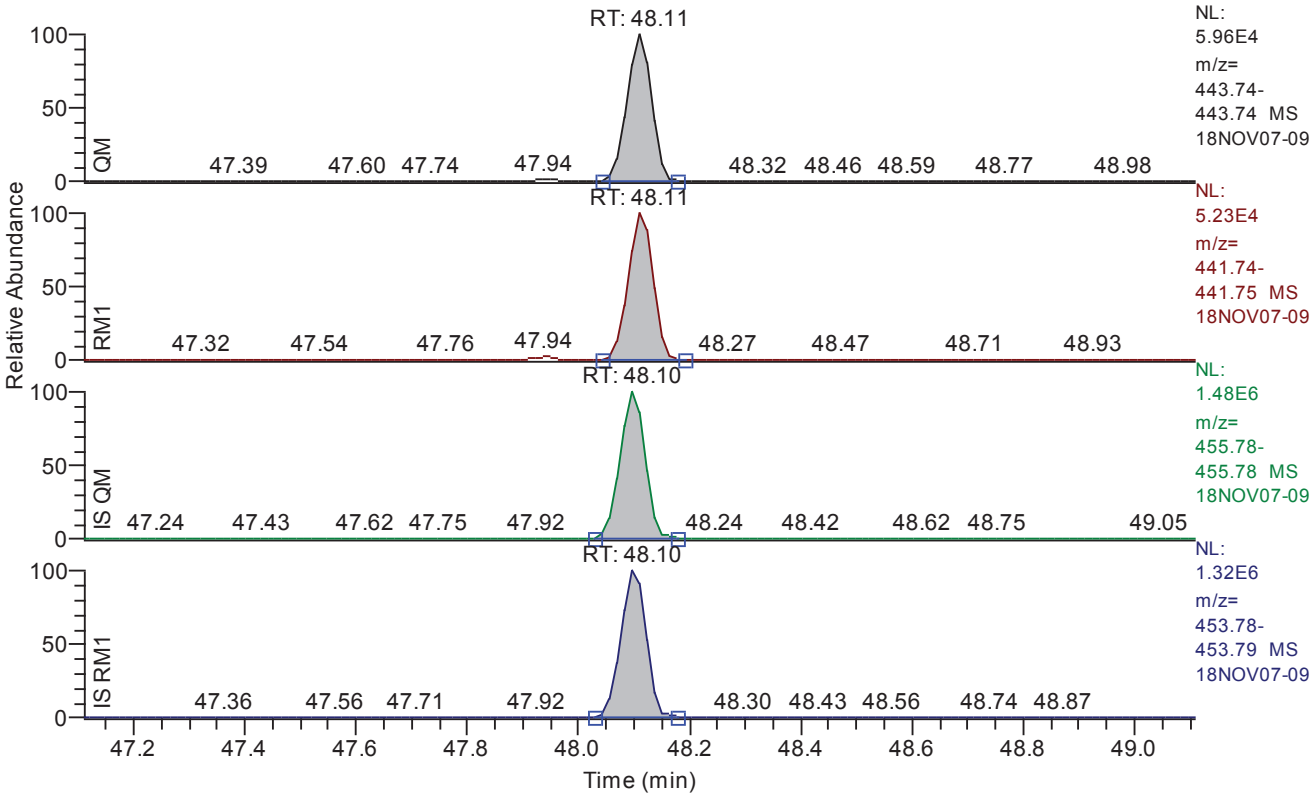
Chromatogram

RT: 47.11 - 49.11 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.11
QM Area	182298
QM Integration Mode	A
RM1 Area	162679
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0148
Unqualified Amount (A)	201.559017
Adjusted Amount (A)	201.5590
Signal-to-Noise	3483
Client Flags	
Status Overview	passed
Status Info	

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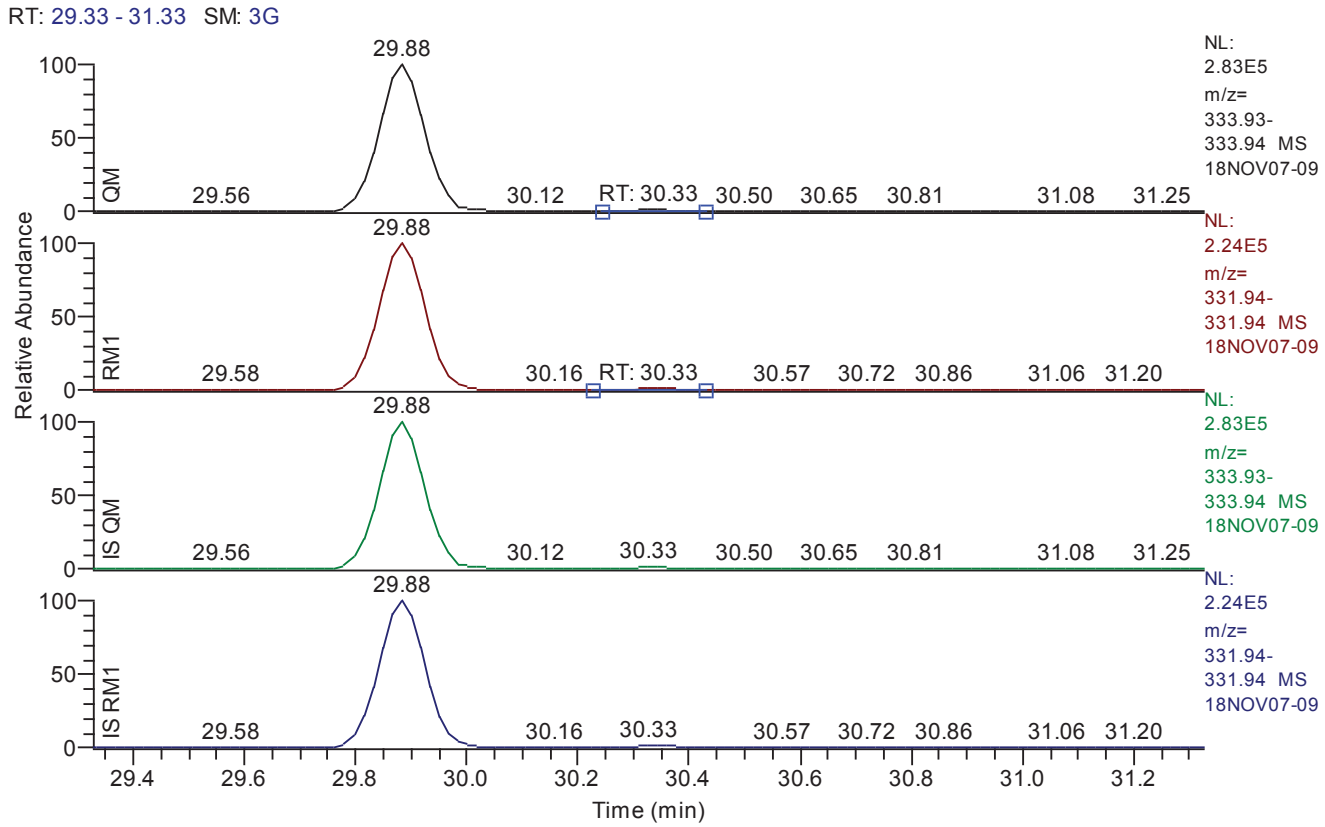
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.33
QM Area	30484
QM Integration Mode	M
RM1 Area	25343
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0338
Unqualified Amount (A)	39.042503
Adjusted Amount (A)	n.d.
Signal-to-Noise	289
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 22:37
Number of Entries	245
Comment	S:11030:12937:17962
Vial	83
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Sample ID	9872060DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-09.quan
Data	w:\18nov07\18nov07-09.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.07
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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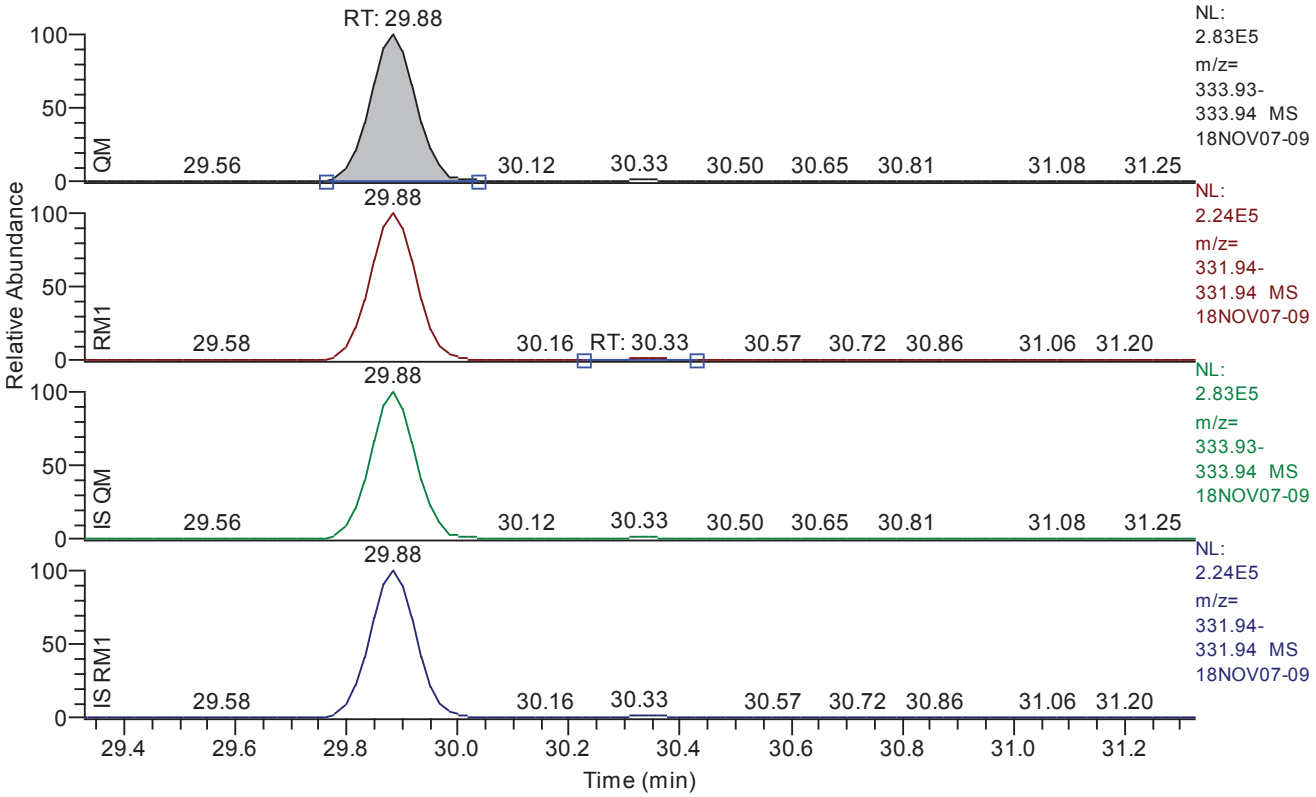
Chromatogram

RT: 29.33 - 31.33 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	29.88
QM Area	1648431
QM Integration Mode	A
RM1 Area	26800
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0338
Unqualified Amount (A)	1171.578165
Adjusted Amount (A)	n.d.
Signal-to-Noise	8296
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time2 > max RecovA

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.80	28.81	28.79	28.77	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.93	29.95	29.90	29.88	failed	failed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.93	34.91	34.90	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.25	36.25	36.27	36.22	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.65	36.65	36.65	36.62	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.02	39.99	40.01	39.98	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.16	40.16	40.14	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.89	40.88	40.88	40.86	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.07	41.07	41.06	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.19	41.19	41.18	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.52	41.52	41.49	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.92	41.92	41.93	41.89	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.65	43.64	43.65	43.62	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.88	44.87	44.87	44.86	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.46	45.45	45.45	45.44	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.92	47.92	47.91	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.12	48.11	48.11	48.10	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.34	30.33	30.33	29.88	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.04	29.03	29.03	29.03	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.91	39.90	39.90	39.90	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.78	28.77	28.77	28.65	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.88	29.88	29.88	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.91	34.90	34.90	34.88	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.22	36.22	36.53	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.62	36.62	36.62	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	39.98	39.98	40.01	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.15	40.14	40.14	40.05	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.86	40.86	40.88	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.07	41.06	41.06	41.06	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.18	41.18	41.18	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.49	41.50	41.50	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.89	41.89	41.80	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.64	43.62	43.64	43.57	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.87	44.86	44.86	44.86	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.45	45.44	45.44	45.24	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.92	47.91	47.91	47.91	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.10	48.10	47.98	passed	passed

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.81	0.6512	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	29.95	1.2430	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	34.93	1.4419	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.25	1.9283	1.3150 - 1.7850	failed	---	0 - 0	passed
5	12378-PeCDD	36.65	1.5434	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	39.99	1.3049	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.16	1.1357	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.88	1.1216	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.07	1.0649	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.19	1.2179	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.52	1.3360	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.92	1.7511	1.0450 - 1.4350	failed	---	0 - 0	passed
13	1234678-HpCDF	43.64	1.0568	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.87	1.0510	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.45	1.2337	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	47.92	0.9185	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.11	0.8924	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.33	0.8314	0.6450 - 0.8950	passed	19.66	35 - 197	failed
19	13C12-1234-TCDD	29.03	0.8278	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.90	1.2562	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.77	0.7887	0.6450 - 0.8950	passed	104.74	40 - 135	passed
22	13C12-2378-TCDD	29.88	0.8048	0.6450 - 0.8950	passed	100.65	40 - 135	passed
23	13C12-12378-PeCDF	34.90	1.5806	1.3150 - 1.7850	passed	107.48	40 - 135	passed
24	13C12-23478-PeCDF	36.22	1.5883	1.3150 - 1.7850	passed	106.05	40 - 135	passed
25	13C12-12378-PeCDD	36.62	1.5829	1.3150 - 1.7850	passed	99.35	40 - 135	passed
26	13C12-123478-HxCDF	39.98	0.5253	0.4250 - 0.5950	passed	105.03	40 - 135	passed
27	13C12-123678-HxCDF	40.14	0.5334	0.4250 - 0.5950	passed	104.00	40 - 135	passed
28	13C12-234678-HxCDF	40.86	0.5337	0.4250 - 0.5950	passed	102.93	40 - 135	passed
29	13C12-123478-HxCDD	41.06	1.2620	1.0450 - 1.4350	passed	96.41	40 - 135	passed
30	13C12-123678-HxCDD	41.18	1.2453	1.0450 - 1.4350	passed	95.13	40 - 135	passed
31	13C12-123789-HxCDD	41.49	1.2722	1.0450 - 1.4350	passed	96.08	40 - 135	passed
32	13C12-123789-HxCDF	41.89	0.5438	0.4250 - 0.5950	passed	106.90	40 - 135	passed
33	13C12-1234678-HpCDF	43.62	0.4659	0.3650 - 0.5150	passed	101.07	40 - 135	passed
34	13C12-1234678-HpCDD	44.86	1.0599	0.8750 - 1.2050	passed	91.60	40 - 135	passed
35	13C12-1234789-HpCDF	45.44	0.4572	0.3650 - 0.5150	passed	101.30	40 - 135	passed
36	13C12-OCDD	47.91	0.9005	0.7550 - 1.0250	passed	94.73	40 - 135	passed
37	13C12-OCDF	48.10	0.9022	0.7550 - 1.0250	passed	101.24	40 - 135	passed

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.81	4273	A	2783	A	0.0393	2.975573	2.9756	0.000000	21	
2	2378-TCDD	failed	29.95	373	A	464	A	0.0184	0.561812	n.d.	0.000000	12	
3	12378-PeCDF	passed	34.93	3951	A	5697	A	0.0230	4.672029	4.6720	0.000000	50	
4	23478-PeCDF	failed	36.25	5145	A	9920	A	0.0191	6.603735	n.d.	0.000000	60	
5	12378-PeCDD	passed	36.65	1308	A	2018	A	0.0371	2.767152	2.7672	0.000000	15	
6	123478-HxCDF	passed	39.99	10028	A	13086	A	0.0224	10.247471	10.2475	0.000000	110	
7	123678-HxCDF	passed	40.16	12900	A	14652	A	0.0220	11.963545	11.9635	0.000000	130	
8	234678-HxCDF	passed	40.88	9796	A	10987	A	0.0217	9.274614	9.2746	0.000000	100	
9	123478-HxCDD	passed	41.07	1424	A	1516	A	0.0298	2.131547	2.1315	0.000000	18	
10	123678-HxCDD	passed	41.19	10717	A	13052	A	0.0295	17.140181	17.1402	0.000000	140	
11	123789-HxCDD	passed	41.52	3497	A	4672	A	0.0303	5.830489	5.8305	0.000000	49	
12	123789-HxCDF	failed	41.92	2281	A	3994	A	0.0253	3.223173	n.d.	0.000000	25	
13	1234678-HpCDF	passed	43.64	242699	A	256476	A	0.0118	232.653219	232.6532	0.000000	4982	
14	1234678-HpCDD	passed	44.87	221604	A	232913	A	0.0548	344.131348	344.1313	0.000000	1563	
15	1234789-HpCDF	failed	45.45	8696	A	10728	A	0.0132	10.686218	n.d.	0.000000	191	
16	OCDD	passed	47.92	2916369	A	2678806	A	0.0314	4327.280956	4327.2810	0.000000	35216	
17	OCDF	passed	48.11	182298	A	162679	A	0.0148	201.559017	201.5590	0.000000	3483	
18	13C12-1278-TCDD (CRS)	failed	30.33	30484	M	25343	M	0.0338	39.042503	n.d.	198.609732	289	
19	13C12-1234-TCDD	passed	29.03	1655455	A	1370314	A	0.0349	2184.707051	2184.7071	2184.707051	15666	
20	13C12-123468-HxCDD	passed	39.90	1538080	A	1932158	A	0.0470	2184.707051	2184.7071	2184.707051	11625	
21	13C12-2378-TCDF	passed	28.77	3136654	A	2473978	A	0.0254	2288.356703	2288.3567	2184.707051	21950	
22	13C12-2378-TCDD	passed	29.88	1648431	A	1326632	A	0.0357	2198.917508	2198.9175	2184.707051	14617	
23	13C12-12378-PeCDF	passed	34.90	2056705	A	3250849	A	0.0734	2348.145711	2348.1457	2184.707051	9930	
24	13C12-23478-PeCDF	passed	36.22	2024961	A	3216310	A	0.0733	2316.983335	2316.9833	2184.707051	10684	
25	13C12-12378-PeCDD	passed	36.62	1134897	A	1796416	A	0.0388	2170.564840	2170.5648	2184.707051	18821	
26	13C12-123478-HxCDF	passed	39.98	3025066	A	1589033	A	0.0502	2294.700029	2294.7000	2184.707051	10997	
27	13C12-123678-HxCDF	passed	40.14	3143159	A	1676579	A	0.0475	2272.048780	2272.0488	2184.707051	11440	
28	13C12-234678-HxCDF	passed	40.86	2879796	A	1537034	A	0.0513	2248.705768	2248.7058	2184.707051	10968	
29	13C12-123478-HxCDD	passed	41.06	1463027	A	1846322	A	0.0475	2106.170483	2106.1705	2184.707051	11569	
30	13C12-123678-HxCDD	passed	41.18	1492137	A	1858223	A	0.0463	2078.243335	2078.2433	2184.707051	11771	
31	13C12-123789-HxCDD	passed	41.49	1411901	A	1796227	A	0.0488	2099.142954	2099.1430	2184.707051	10872	
32	13C12-123789-HxCDF	passed	41.89	2706874	A	1472023	A	0.0564	2335.437922	2335.4379	2184.707051	10229	
33	13C12-1234678-HpCDF	passed	43.62	2786207	A	1297989	A	0.0673	2207.982554	2207.9826	2184.707051	8353	
34	13C12-1234678-HpCDD	passed	44.86	1495703	A	1585223	A	0.0576	2001.137032	2001.1370	2184.707051	9391	
35	13C12-1234789-HpCDF	passed	45.44	2306920	A	1054808	A	0.0819	2213.189438	2213.1894	2184.707051	7251	
36	13C12-OCDD	passed	47.91	3259647	A	2935239	A	0.0191	4139.276475	4139.2765	4369.414101	62609	
37	13C12-OCDF	passed	48.10	4647555	A	4192969	A	0.0206	4423.584579	4423.5846	4369.414101	60201	

APPROVED
By uma9 at 12:12 pm, 11/8/18

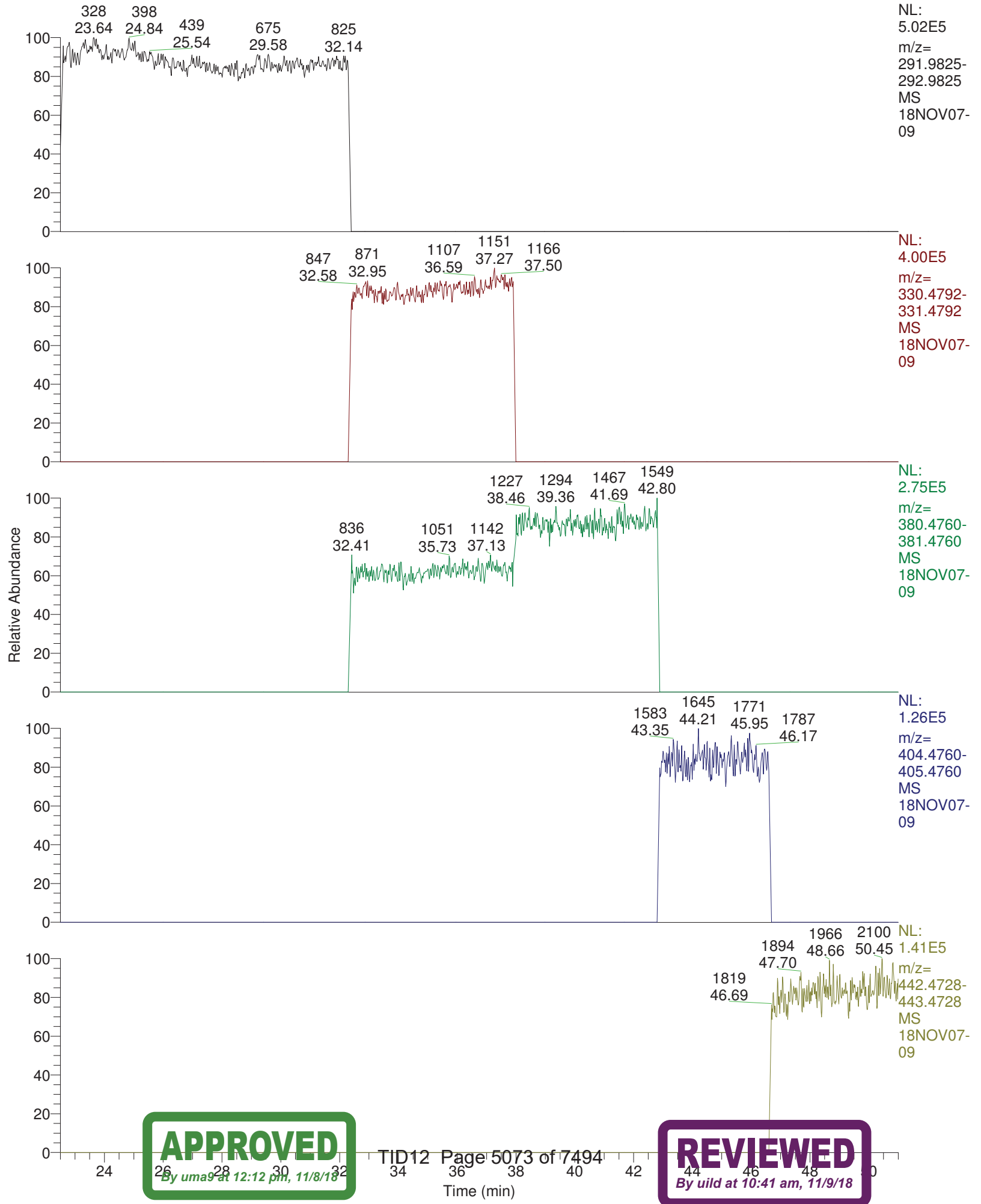
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-09
Sample ID: 9872060DL

Acq. Data: 11/7/2018 10:37:55 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV07

RT: 22.50 - 51.00



APPROVED
By uma9 at 12:12 pm, 11/8/18

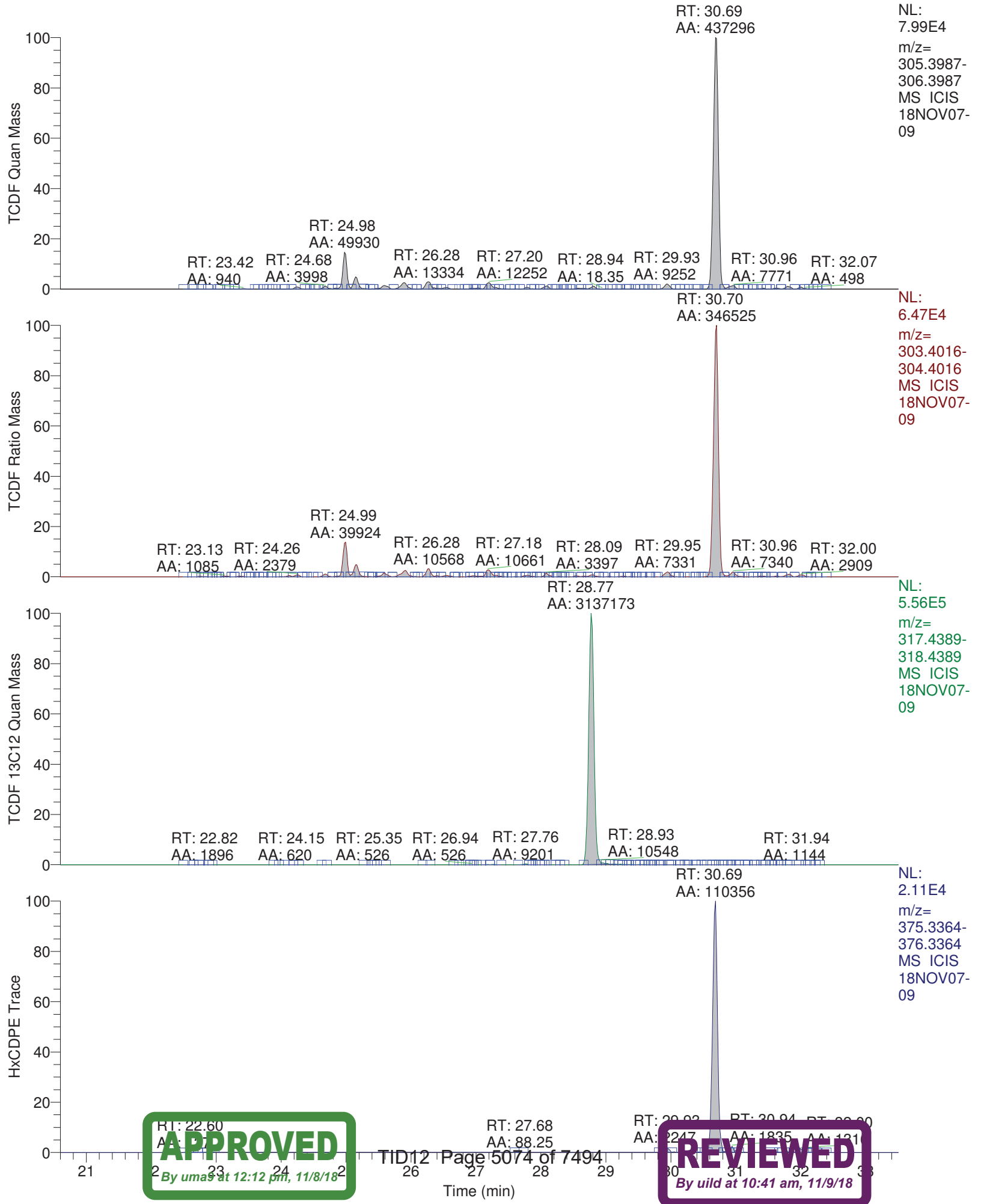
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-09
Sample ID: 9872060DL

Acq. Data: 11/7/2018 10:37:55 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 20.60 - 33.50



APPROVED
By umas at 12:12 pm, 11/8/18

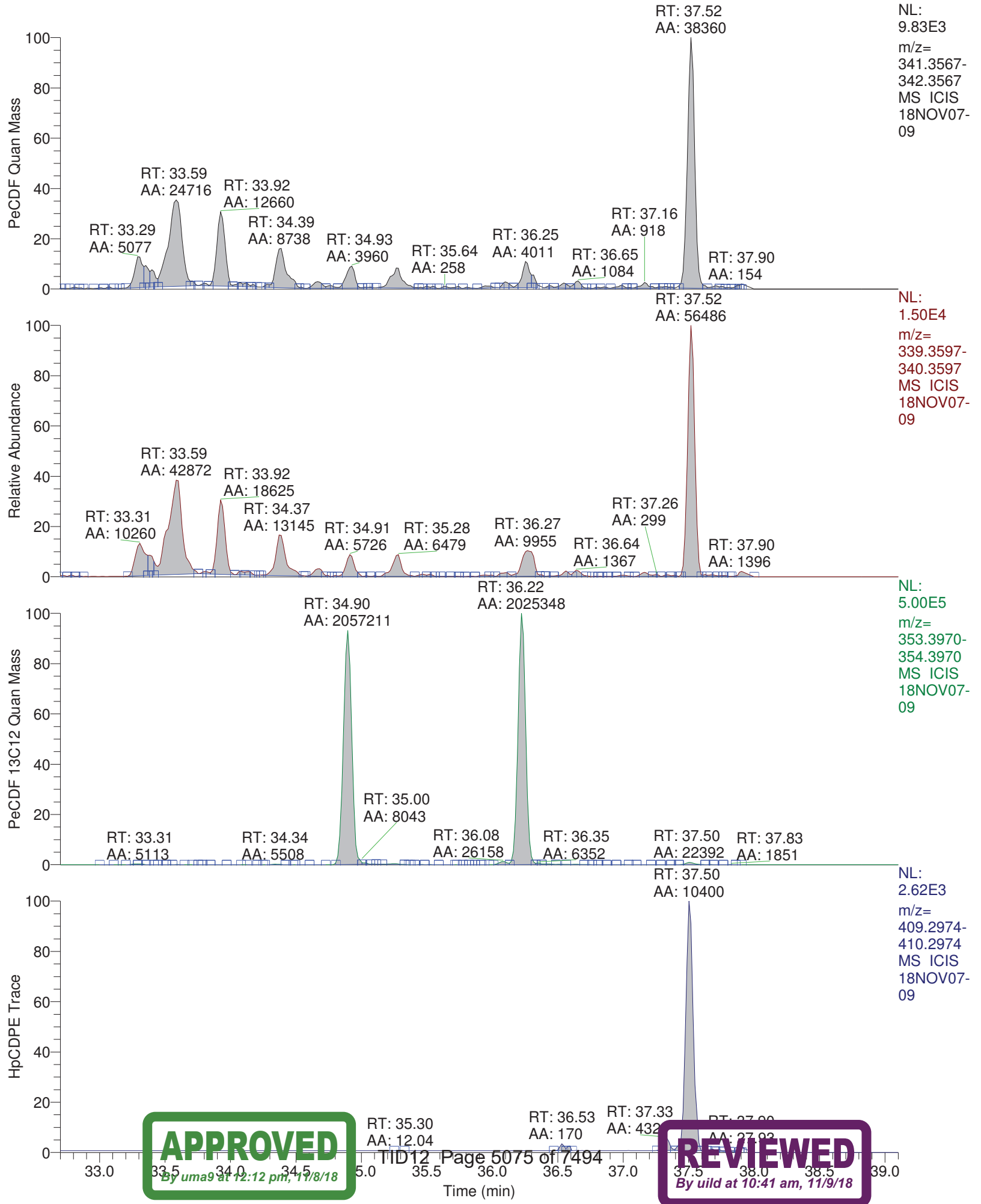
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-09
Sample ID: 9872060DL

Acq. Data: 11/7/2018 10:37:55 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 32.70 - 39.10



APPROVED
By uma9 at 12:12 pm, 11/8/18

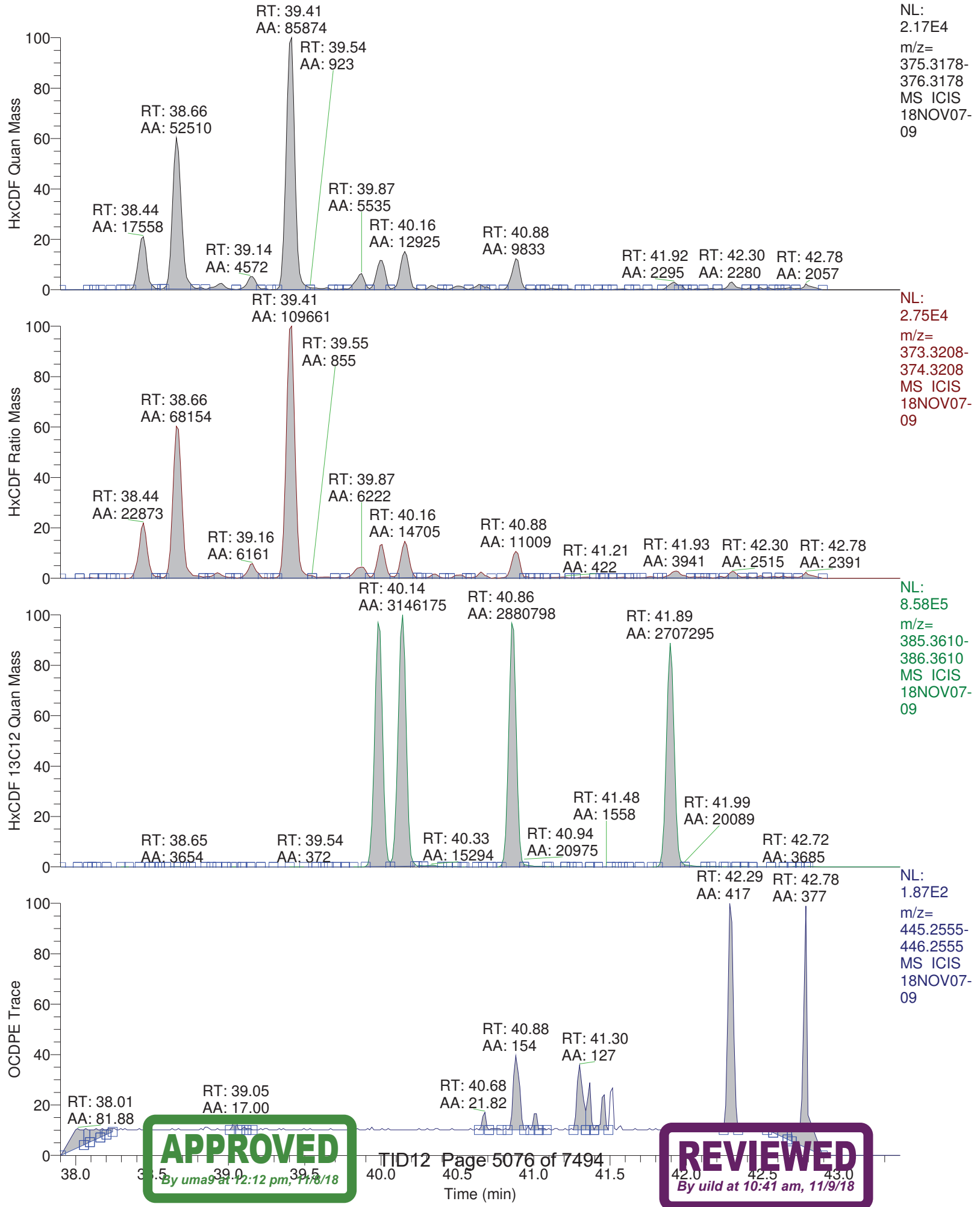
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-09
Sample ID: 9872060DL

Acq. Data: 11/7/2018 10:37:55 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 37.90 - 43.40



APPROVED
By uma9 at 12:12 pm, 11/8/18

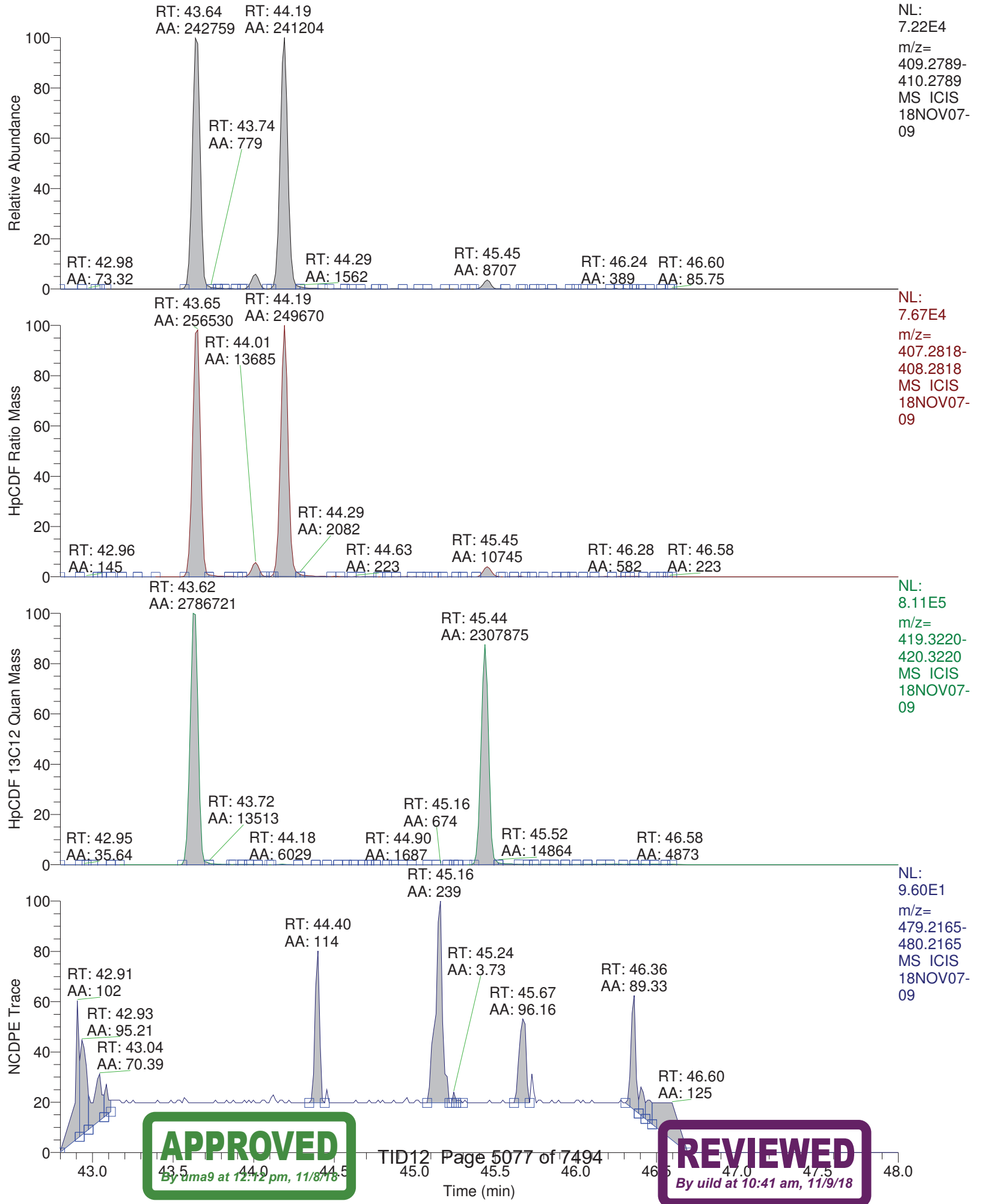
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-09
Sample ID: 9872060DL

Acq. Data: 11/7/2018 10:37:55 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 42.80 - 48.00



APPROVED
By uma9 at 12:12 pm, 11/8/18

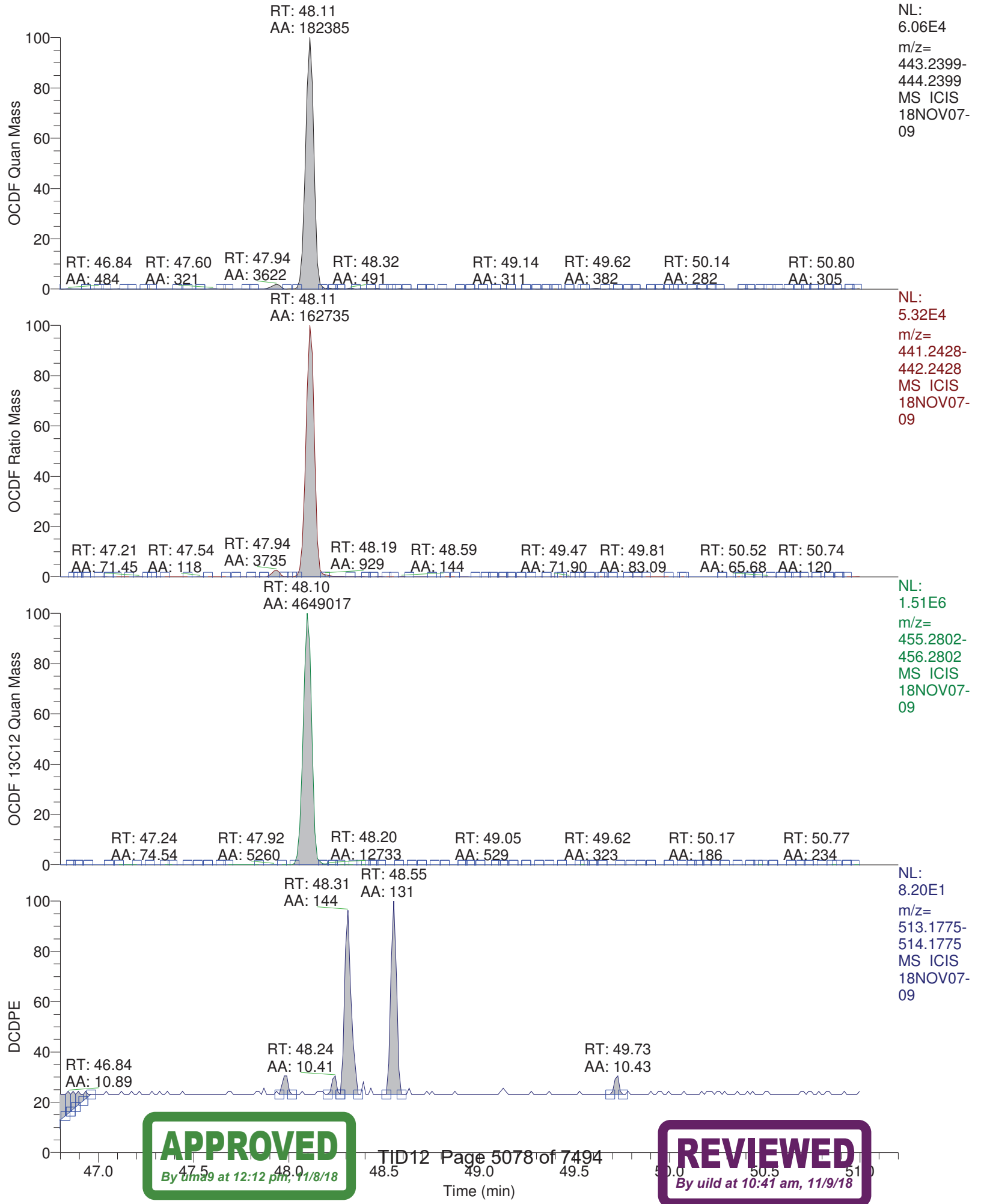
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-09
Sample ID: 9872060DL

Acq. Data: 11/7/2018 10:37:55 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 46.80 - 51.20



APPROVED
By umd9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

*** file opened Wed Nov 07 22:43:38 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 07-Nov-18 22:43:38

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a0a01fd6-72e8-45b2-b305-4c3908038902

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.500000 minutes
MID Window end time was 22.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
```

```
MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          95.5000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ        1449.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR          -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0189   FVINLET         0.0431   FVSRC           0.0331
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           95.5000   LKM           442.9723   MASS           95.5000
 MDAC        1407807.8555  MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2166.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9807   RELEN           0.0000
 RES          13161.4756   RPUSHER        -1.0476   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.5000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.9e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11826.
MID Time Window 2: Resolution is 12525.
MID Time Window 3: Resolution is 12154.
MID Time Window 4: Resolution is 11883.
```

```
                                        18NOV07-09
  MID Time Window 5: Resolution is 12481.
  MID Time Window 6: Resolution is 13161.

  Amplifier Offset: 91.


*** File closed Wed Nov 07 23:34:39 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 18:23
Number of Entries	248
Comment	S:11030:12937:17962
Vial	77
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-12.quan
Data	z:\18nov06\18nov06-12.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.46	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	30.55	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.41	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.75	failed	passed	passed	passed	passed	failed	Failed on: RM2Time < min RT
5	12378-PeCDD	37.10	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.41	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.27	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.46	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.58	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.89	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.32	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.81	passed	passed	passed	passed	passed	passed	
16	OCDD	48.28	passed	passed	passed	passed	passed	passed	
17	OCDF	48.47	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.96	failed	passed	passed	passed	failed	passed	Failed on: RecovA
19	13C12-1234-TCDD	29.70	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.30	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.42	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.55	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.39	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.69	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.07	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.54	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.25	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.44	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.56	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.87	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.27	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.46	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 18:23
Number of Entries	248
Comment	S:11030:12937:17962
Vial	77
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-12.quan
Data	z:\18nov06\18nov06-12.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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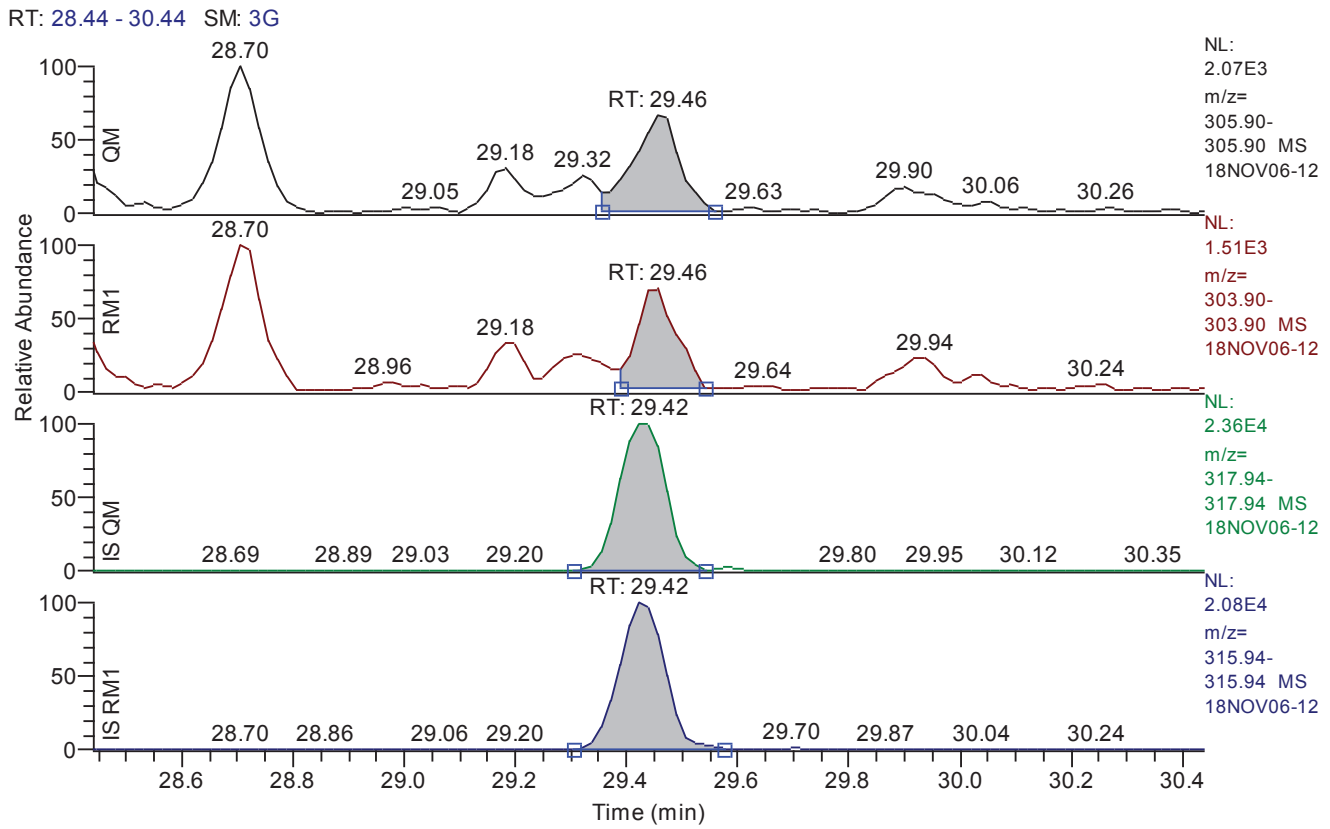
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.46
QM Area	8089
QM Integration Mode	A
RM1 Area	5062
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.8144
Unqualified Amount (A)	9.055881
Adjusted Amount (A)	n.d.
Signal-to-Noise	30
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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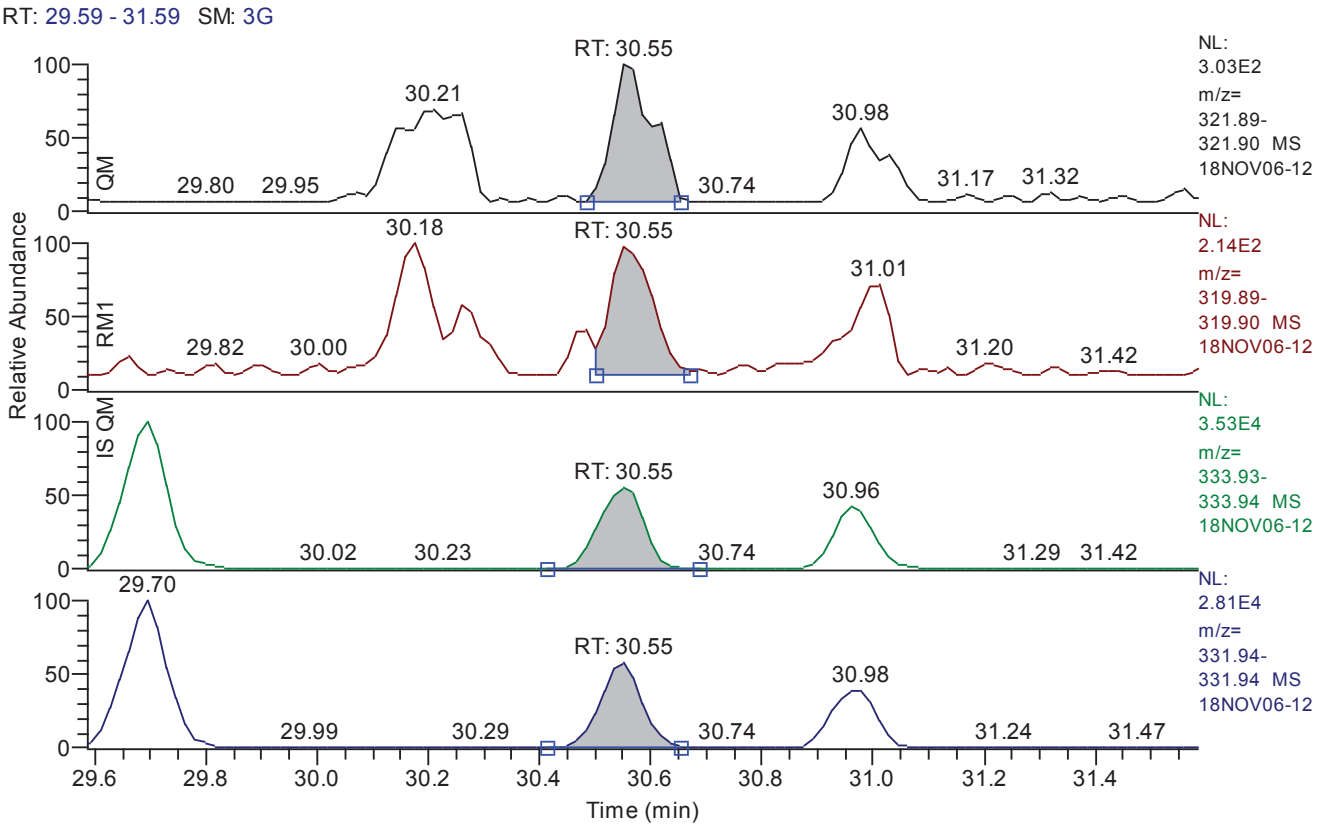
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.55
QM Area	1455
QM Integration Mode	M
RM1 Area	1015
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.2515
Unqualified Amount (A)	1.998414
Adjusted Amount (A)	1.9984
Signal-to-Noise	21
Client Flags	
Status Overview	passed
Status Info	

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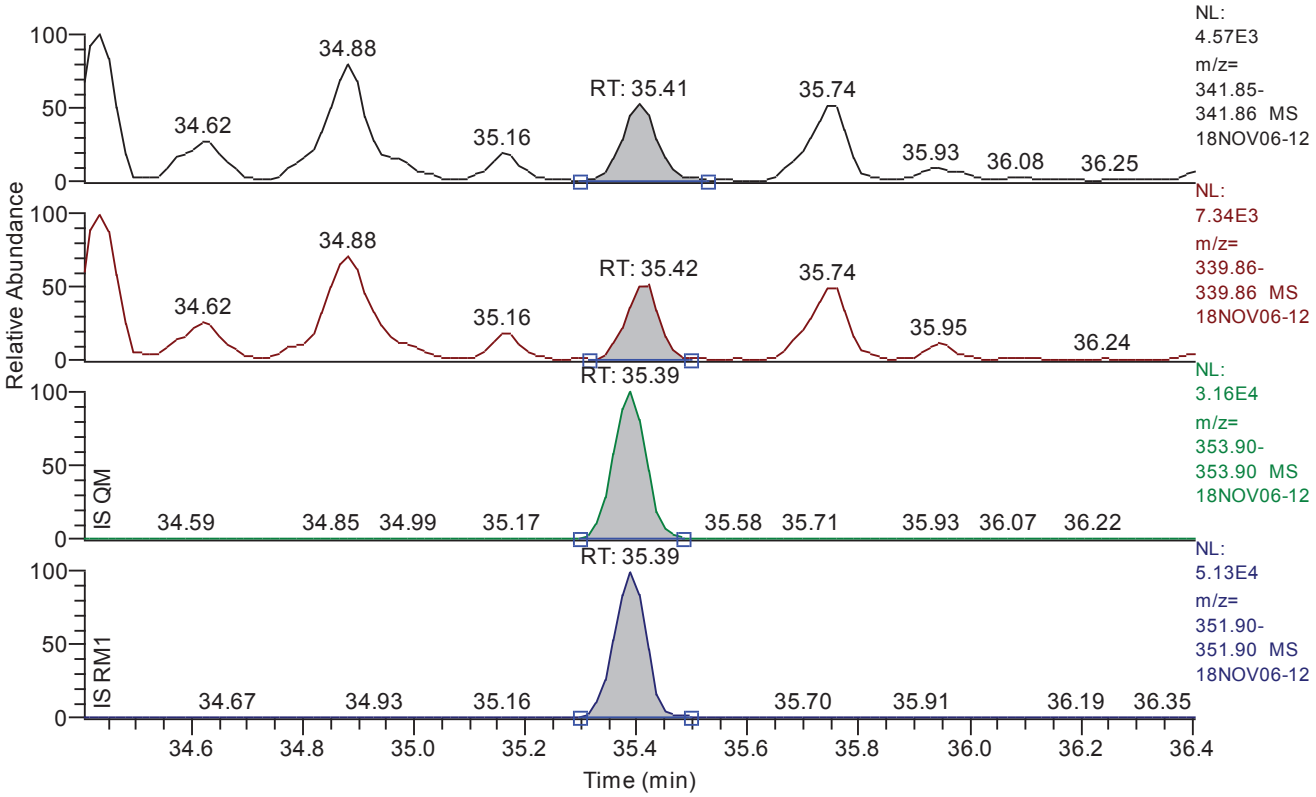
Chromatogram

RT: 34.41 - 36.41 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.41
QM Area	10677
QM Integration Mode	A
RM1 Area	15985
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2963
Unqualified Amount (A)	15.887187
Adjusted Amount (A)	15.8872
Signal-to-Noise	126
Client Flags	
Status Overview	passed
Status Info	

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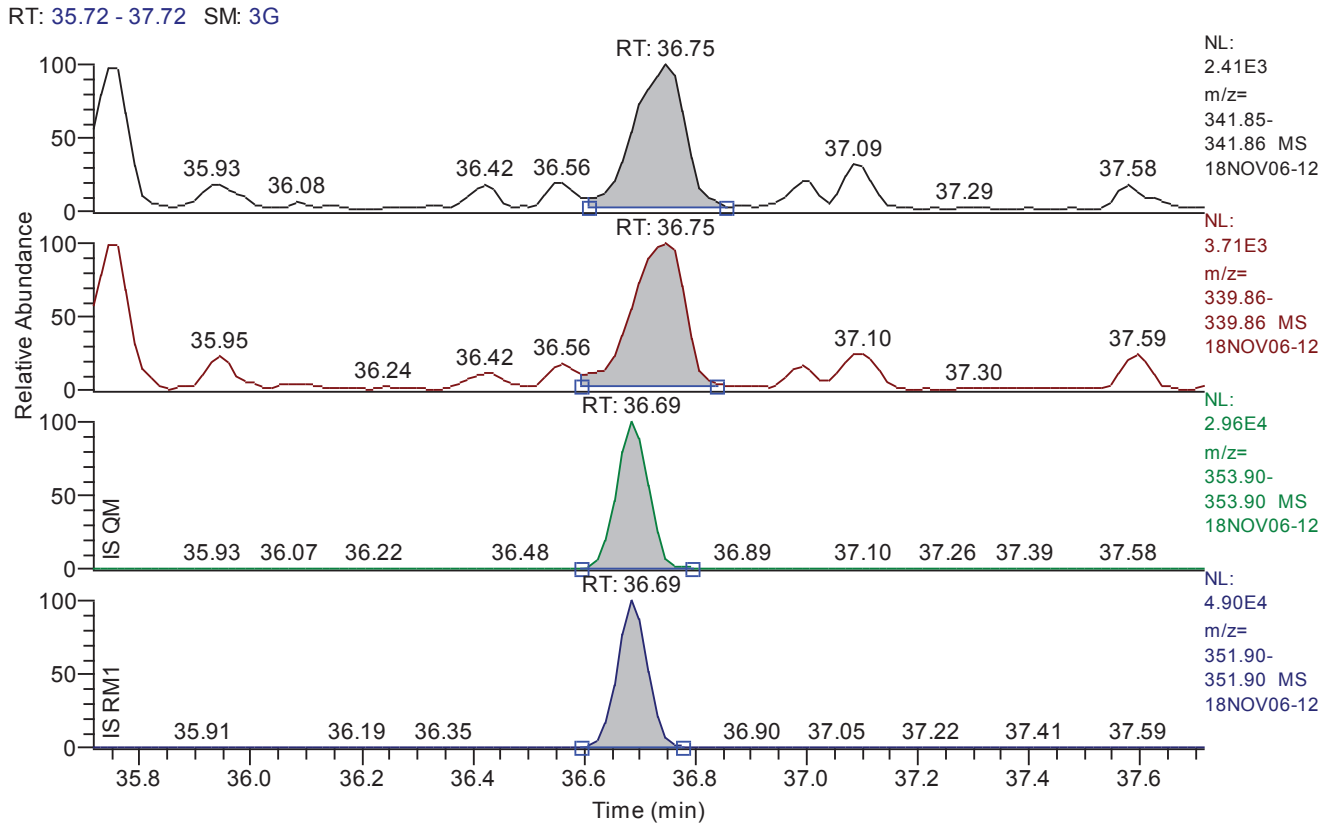
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.75
QM Area	14882
QM Integration Mode	A
RM1 Area	23860
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2789
Unqualified Amount (A)	22.401699
Adjusted Amount (A)	n.d.
Signal-to-Noise	121
Client Flags	
Status Overview	failed
Status Info	Failed on: RM2Time < min RT

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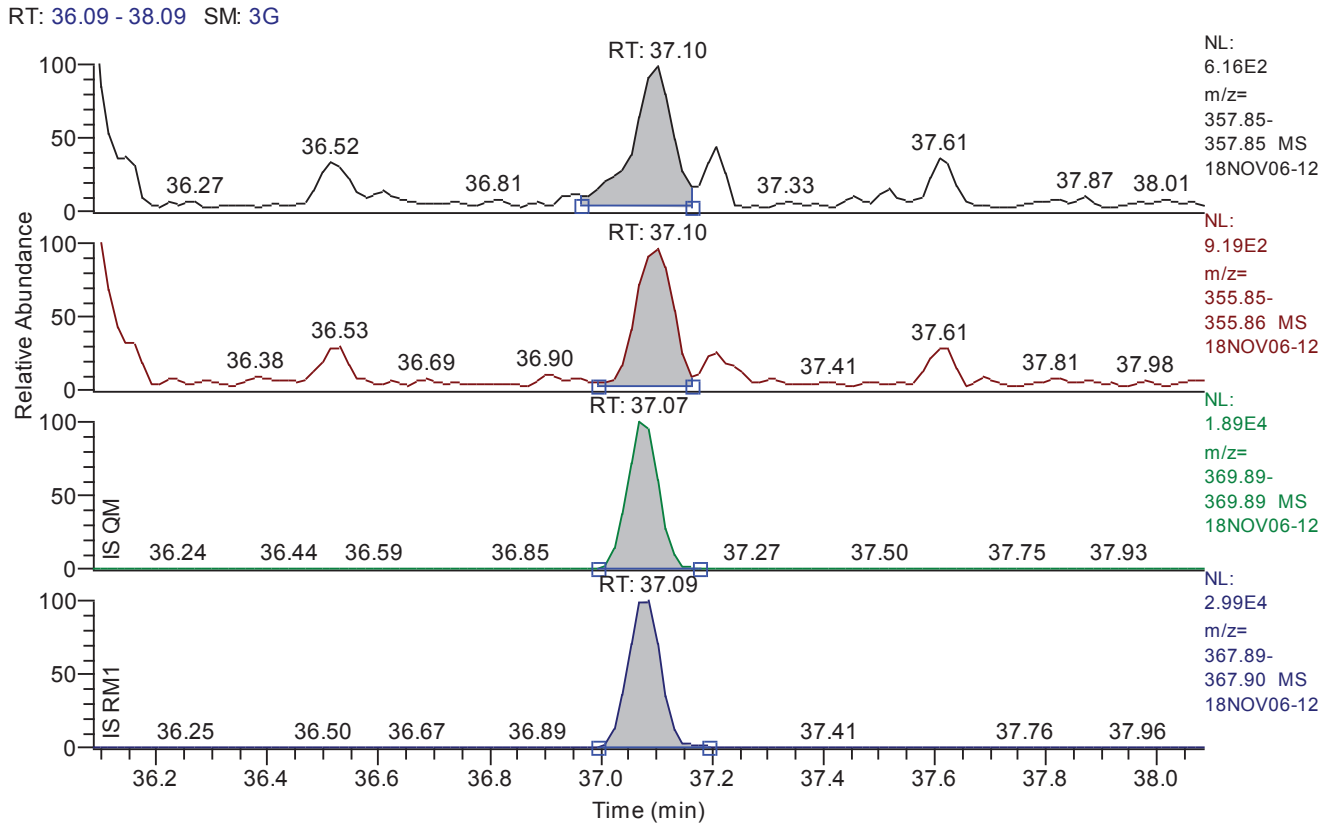
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.10
QM Area	2950
QM Integration Mode	A
RM1 Area	3971
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5088
Unqualified Amount (A)	6.676606
Adjusted Amount (A)	6.6766
Signal-to-Noise	28
Client Flags	
Status Overview	passed
Status Info	

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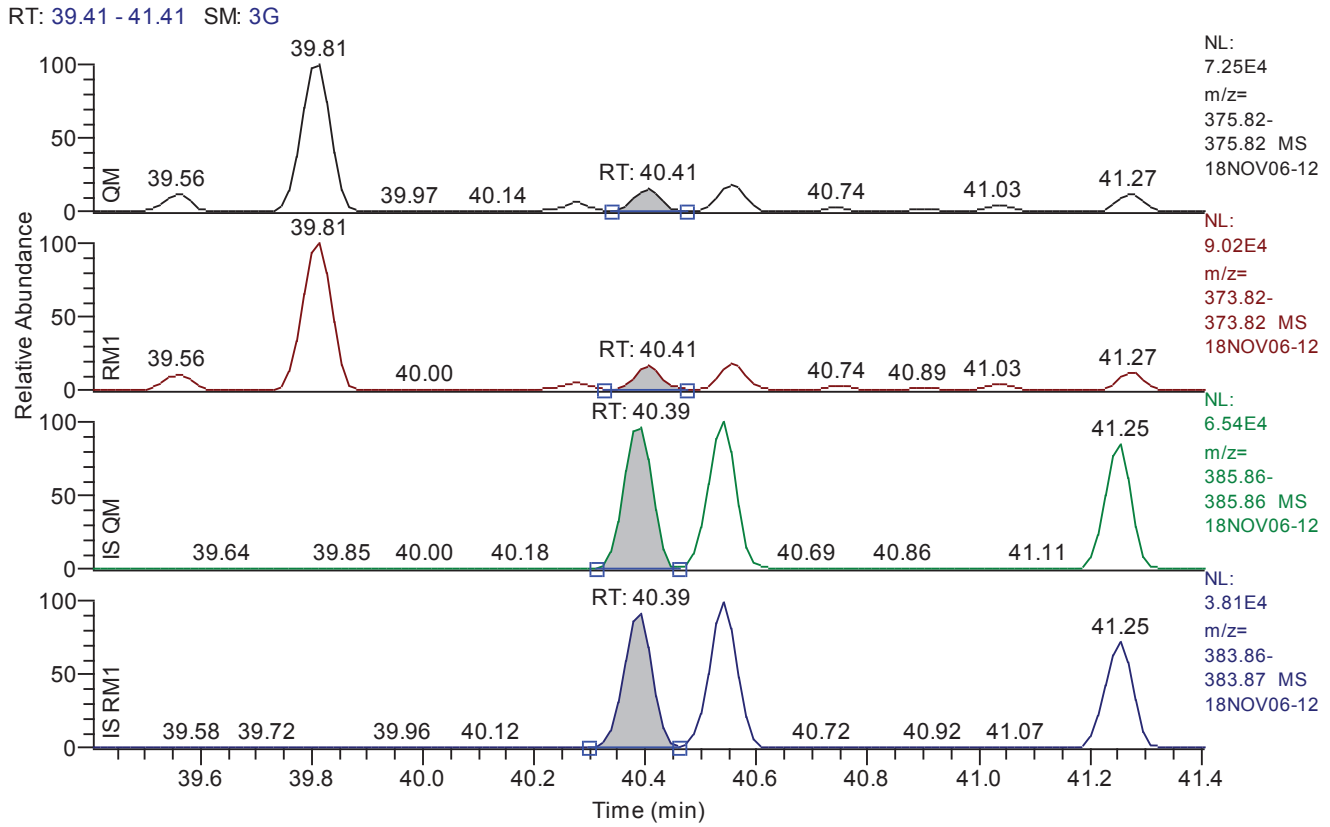
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.41
QM Area	38148
QM Integration Mode	A
RM1 Area	51492
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4589
Unqualified Amount (A)	41.759535
Adjusted Amount (A)	41.7595
Signal-to-Noise	240
Client Flags	
Status Overview	passed
Status Info	

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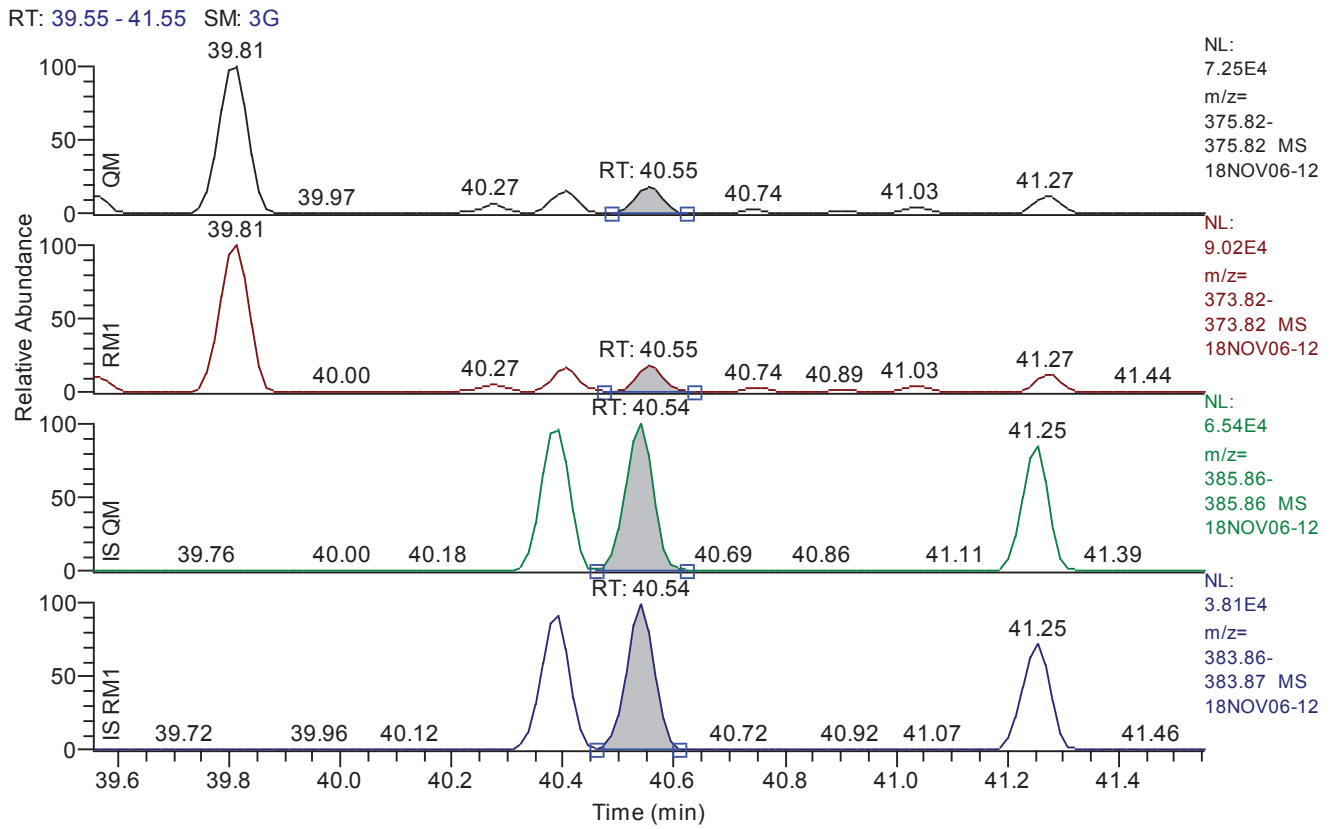
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.55
QM Area	46271
QM Integration Mode	A
RM1 Area	57335
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4537
Unqualified Amount (A)	49.348727
Adjusted Amount (A)	49.3487
Signal-to-Noise	277
Client Flags	
Status Overview	passed
Status Info	

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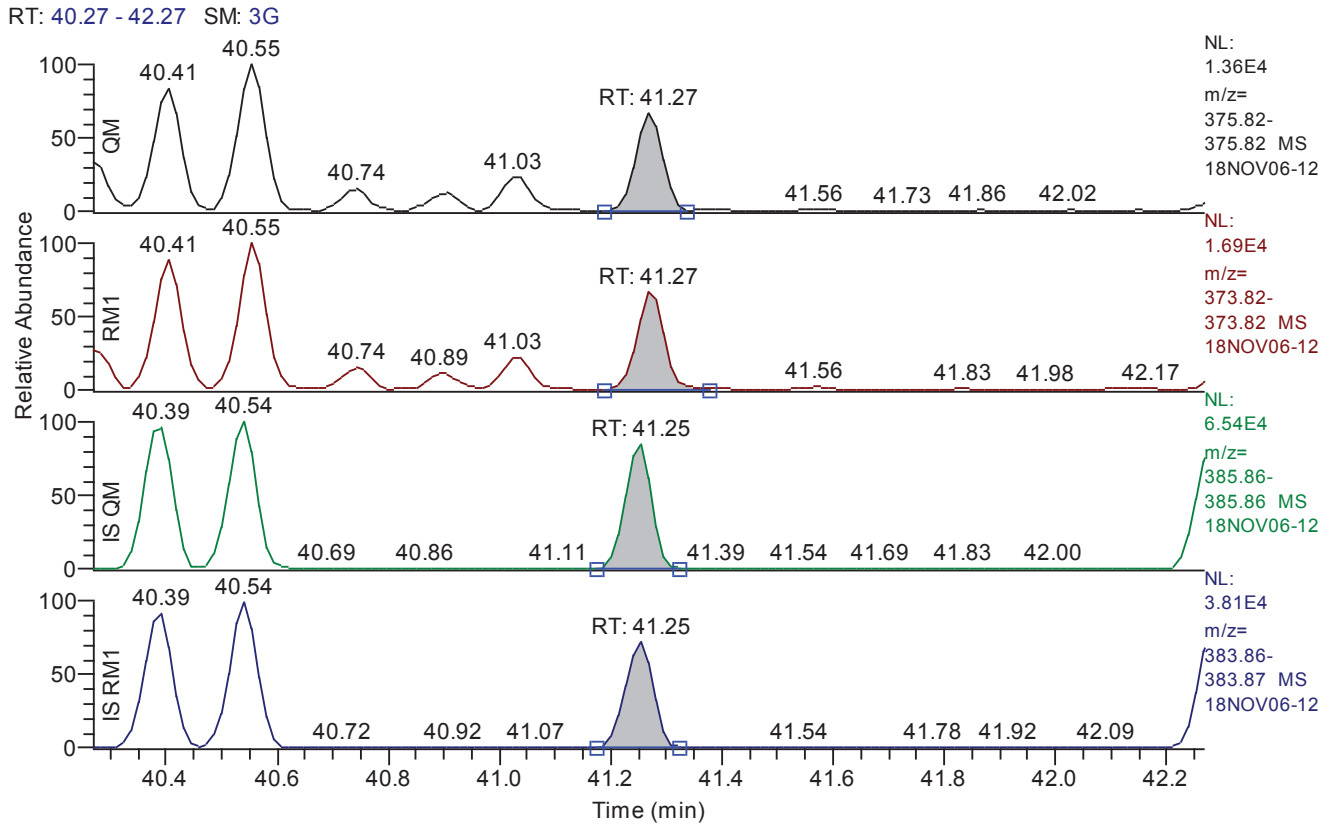
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.27
QM Area	30370
QM Integration Mode	A
RM1 Area	38486
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5235
Unqualified Amount (A)	39.052967
Adjusted Amount (A)	39.0530
Signal-to-Noise	187
Client Flags	
Status Overview	passed
Status Info	

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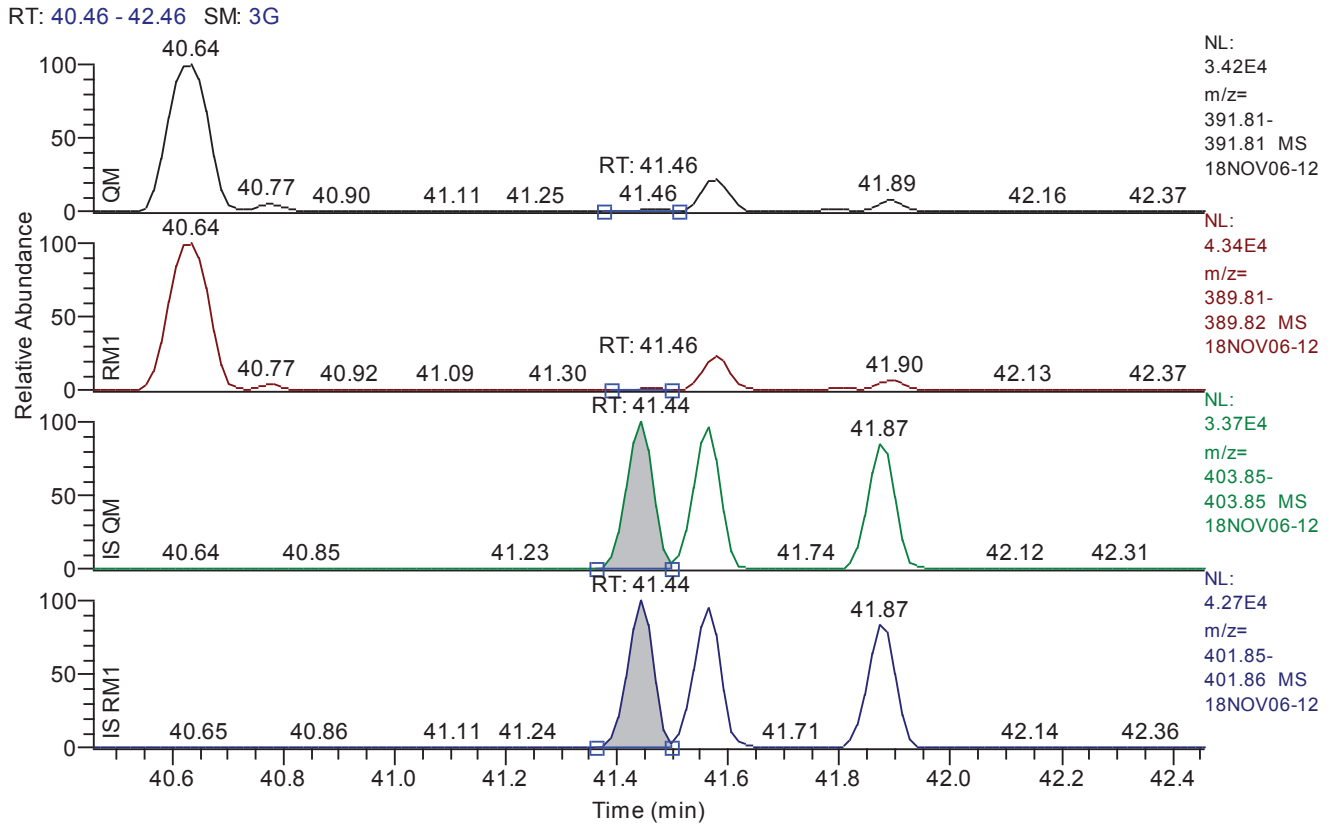
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.46
QM Area	2285
QM Integration Mode	A
RM1 Area	2213
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3852
Unqualified Amount (A)	3.480555
Adjusted Amount (A)	n.d.
Signal-to-Noise	24
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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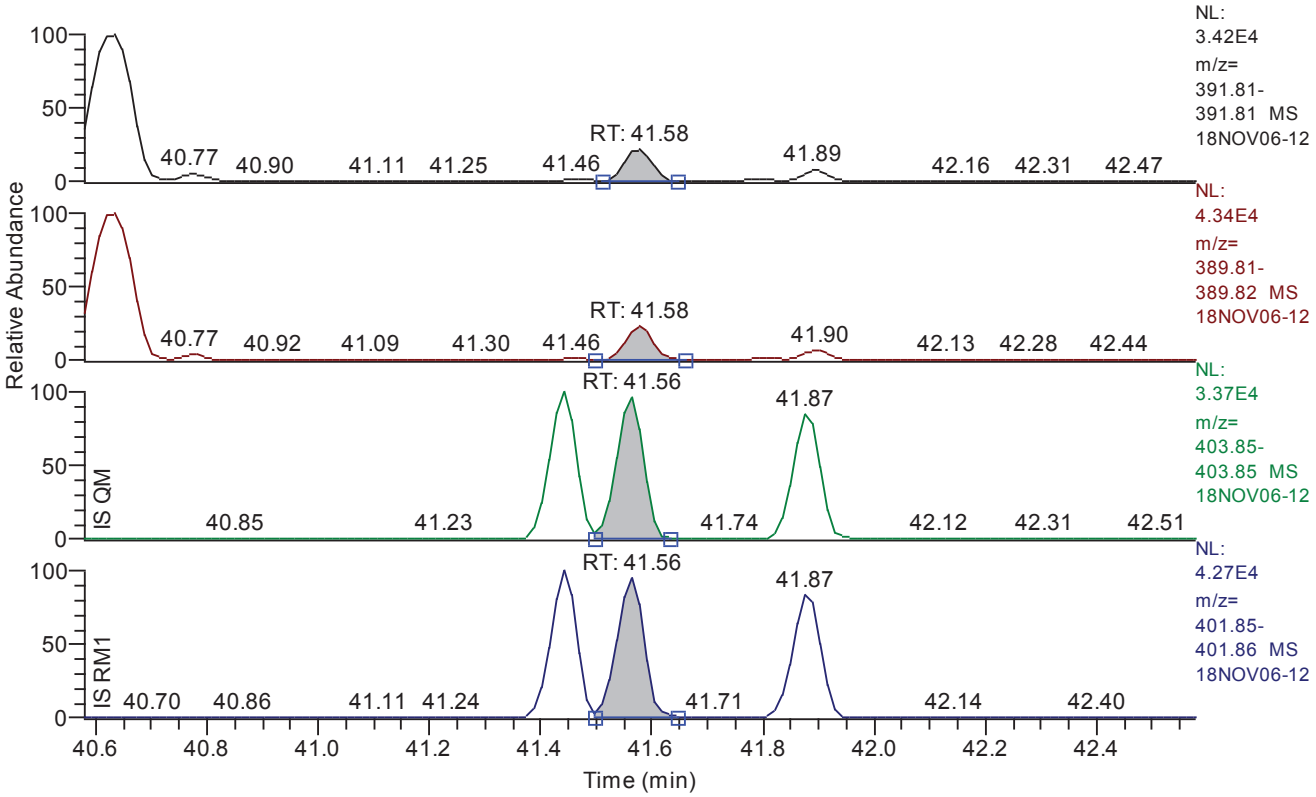
Chromatogram

RT: 40.58 - 42.58 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.58
QM Area	26590
QM Integration Mode	A
RM1 Area	34964
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3978
Unqualified Amount (A)	47.699818
Adjusted Amount (A)	47.6998
Signal-to-Noise	298
Client Flags	
Status Overview	passed
Status Info	

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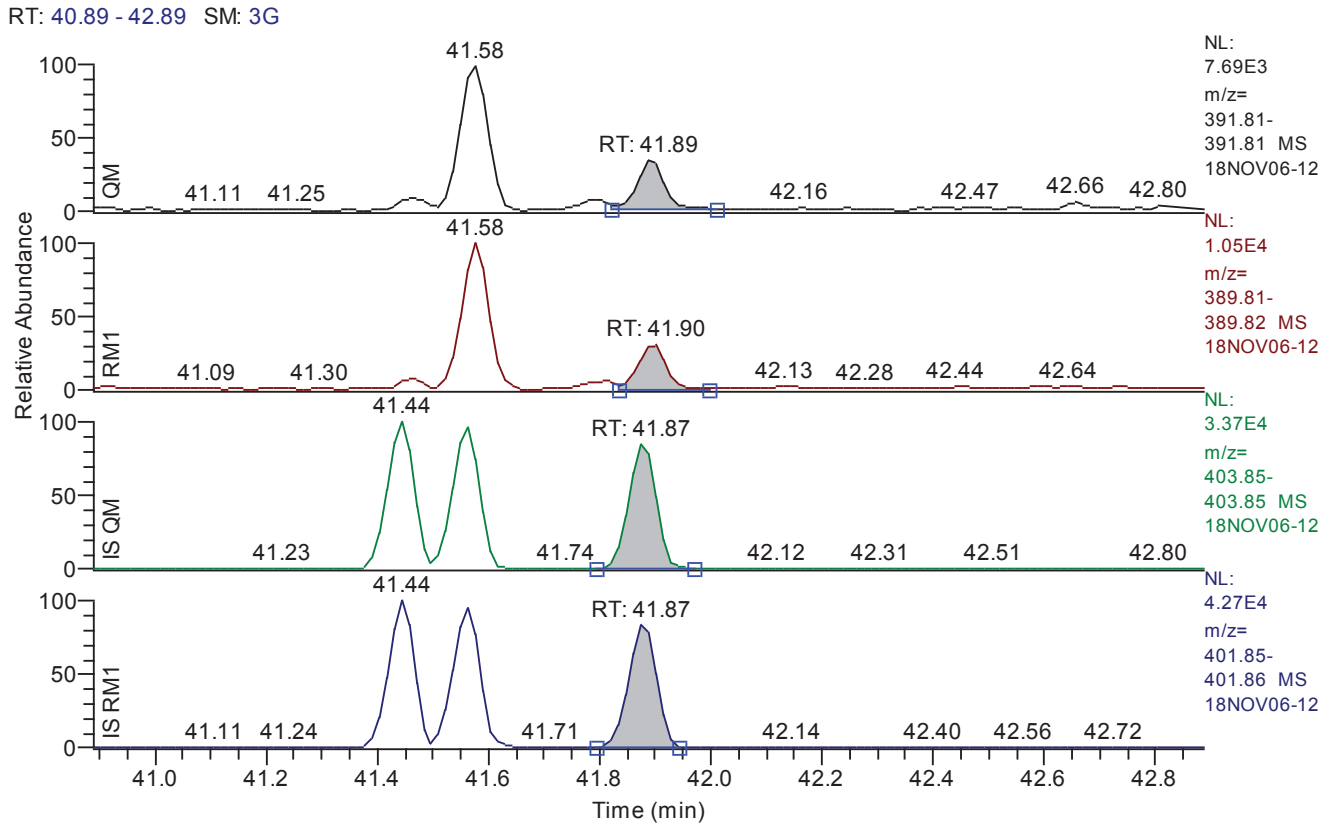
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.89
QM Area	9056
QM Integration Mode	A
RM1 Area	11019
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4243
Unqualified Amount (A)	16.207983
Adjusted Amount (A)	16.2080
Signal-to-Noise	94
Client Flags	
Status Overview	passed
Status Info	

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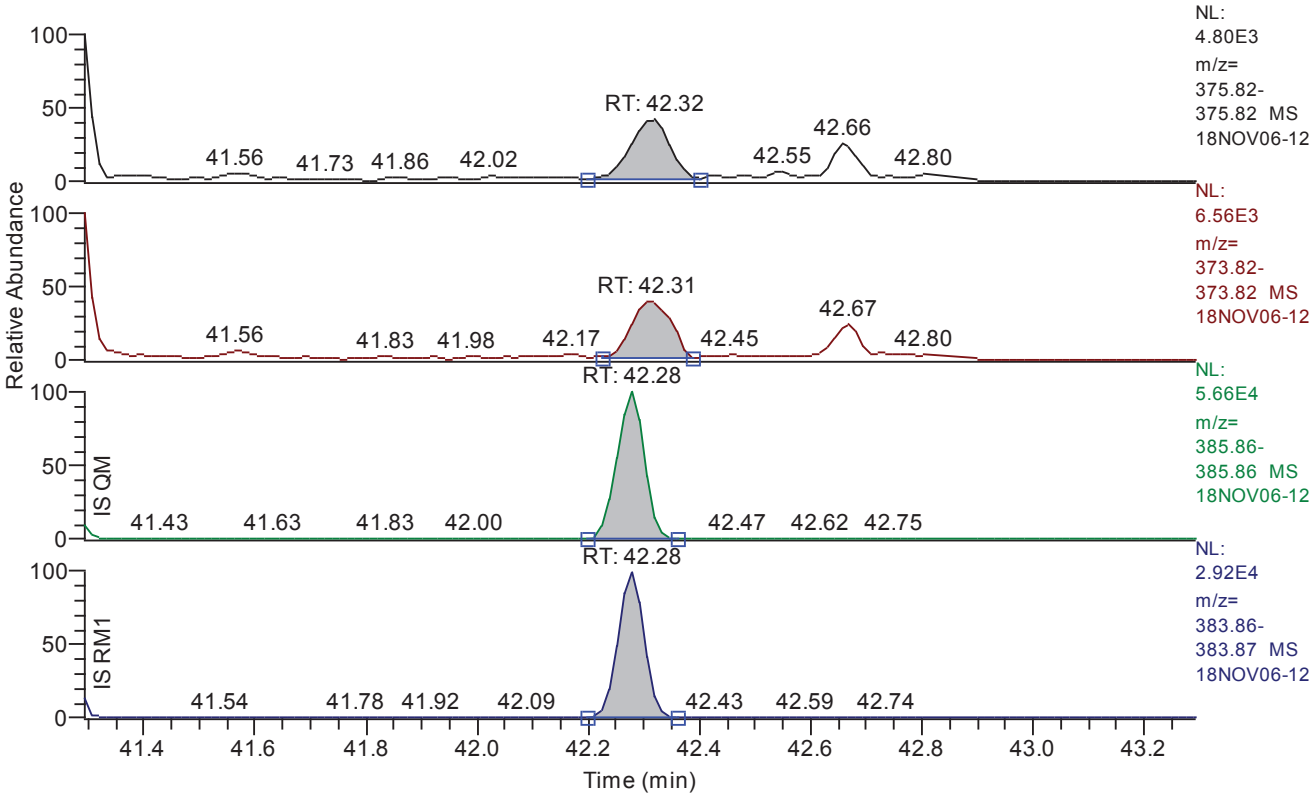
Chromatogram

RT: 41.29 - 43.29 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.32
QM Area	9538
QM Integration Mode	A
RM1 Area	12372
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5458
Unqualified Amount (A)	13.025988
Adjusted Amount (A)	13.0260
Signal-to-Noise	41
Client Flags	
Status Overview	passed
Status Info	

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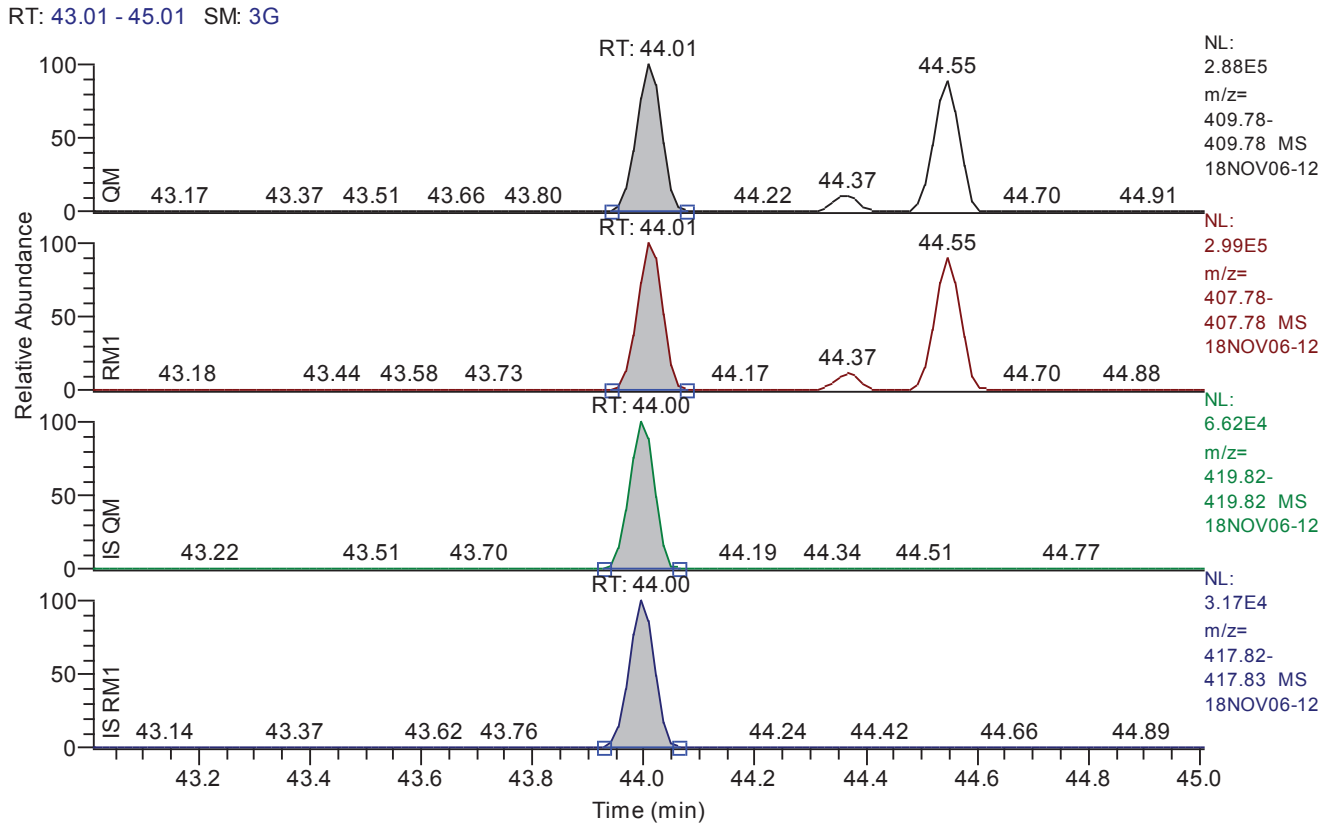
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.01
QM Area	928701
QM Integration Mode	A
RM1 Area	971645
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2331
Unqualified Amount (A)	916.284111
Adjusted Amount (A)	916.2841
Signal-to-Noise	9859
Client Flags	
Status Overview	passed
Status Info	

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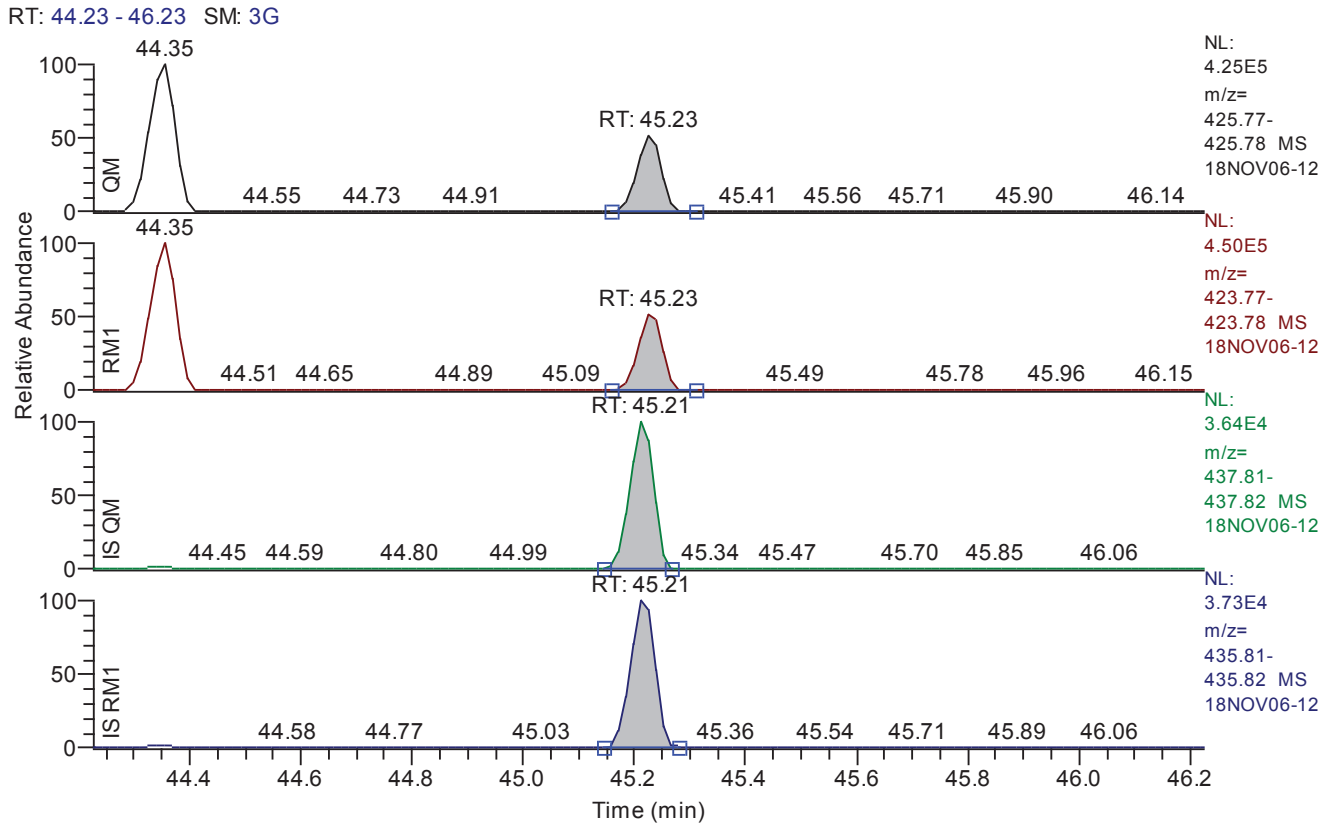
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	686240
QM Integration Mode	A
RM1 Area	733412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.7886
Unqualified Amount (A)	1144.647355
Adjusted Amount (A)	1144.6474
Signal-to-Noise	3633
Client Flags	
Status Overview	passed
Status Info	

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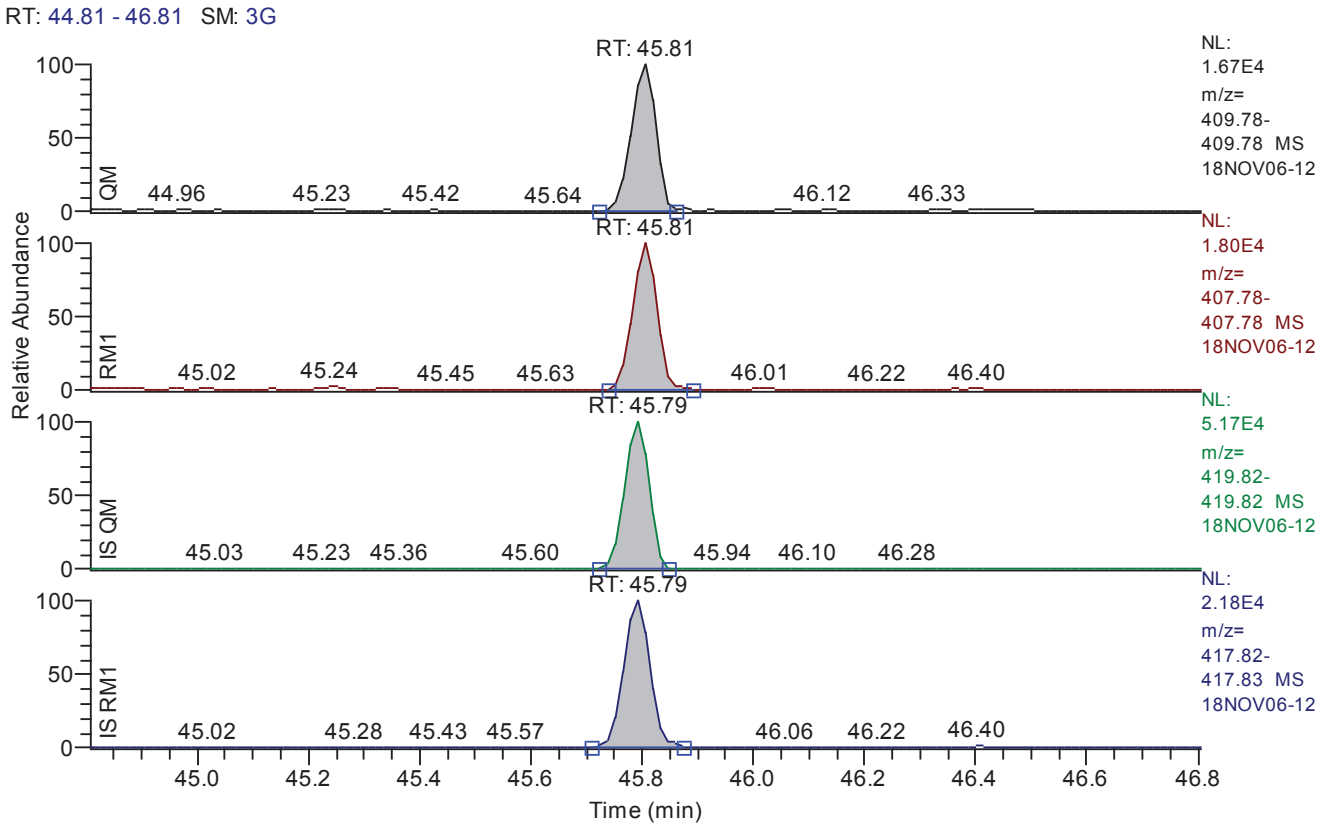
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.81
QM Area	52639
QM Integration Mode	A
RM1 Area	56337
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3100
Unqualified Amount (A)	70.328291
Adjusted Amount (A)	70.3283
Signal-to-Noise	581
Client Flags	
Status Overview	passed
Status Info	

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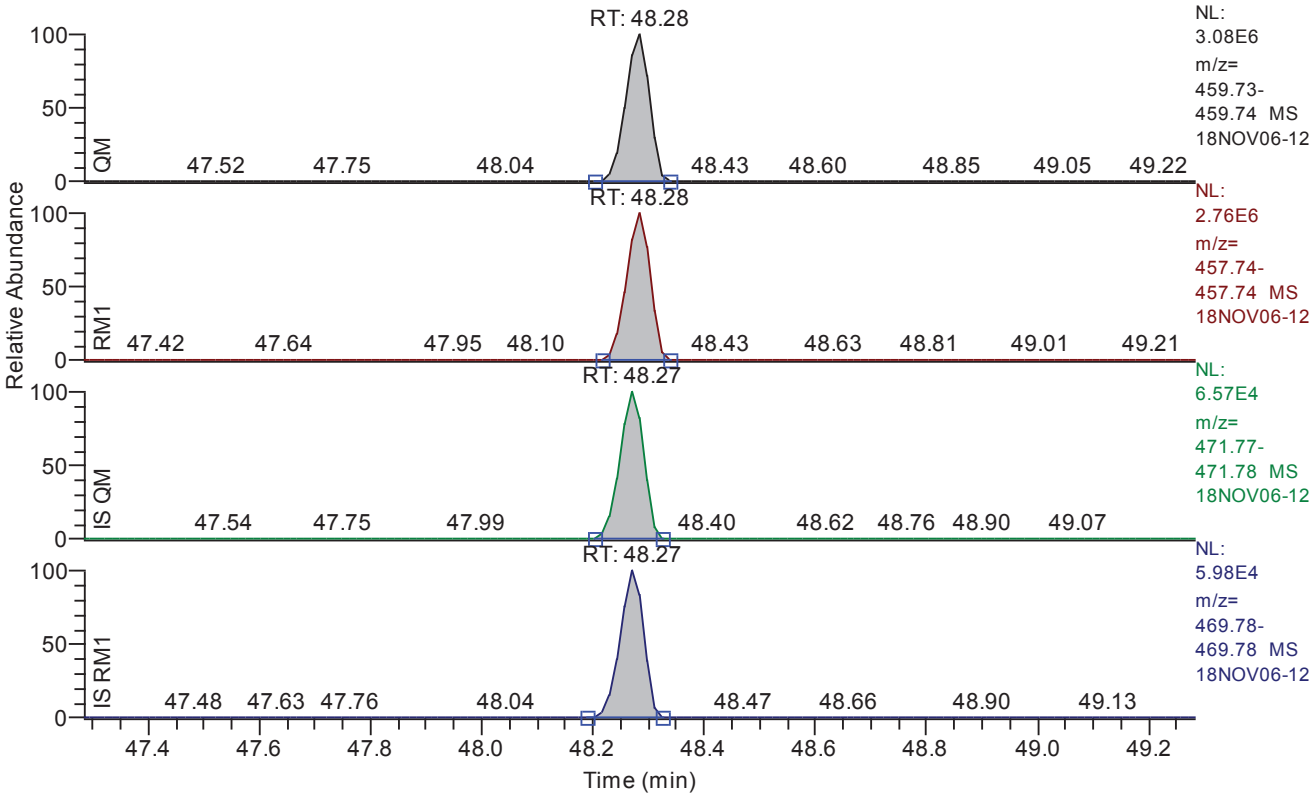
Chromatogram

RT: 47.28 - 49.28 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.28
QM Area	9209094
QM Integration Mode	A
RM1 Area	8210138
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4592
Unqualified Amount (A)	17707.763898
Adjusted Amount (A)	17707.7639
Signal-to-Noise	96425
Client Flags	
Status Overview	passed
Status Info	

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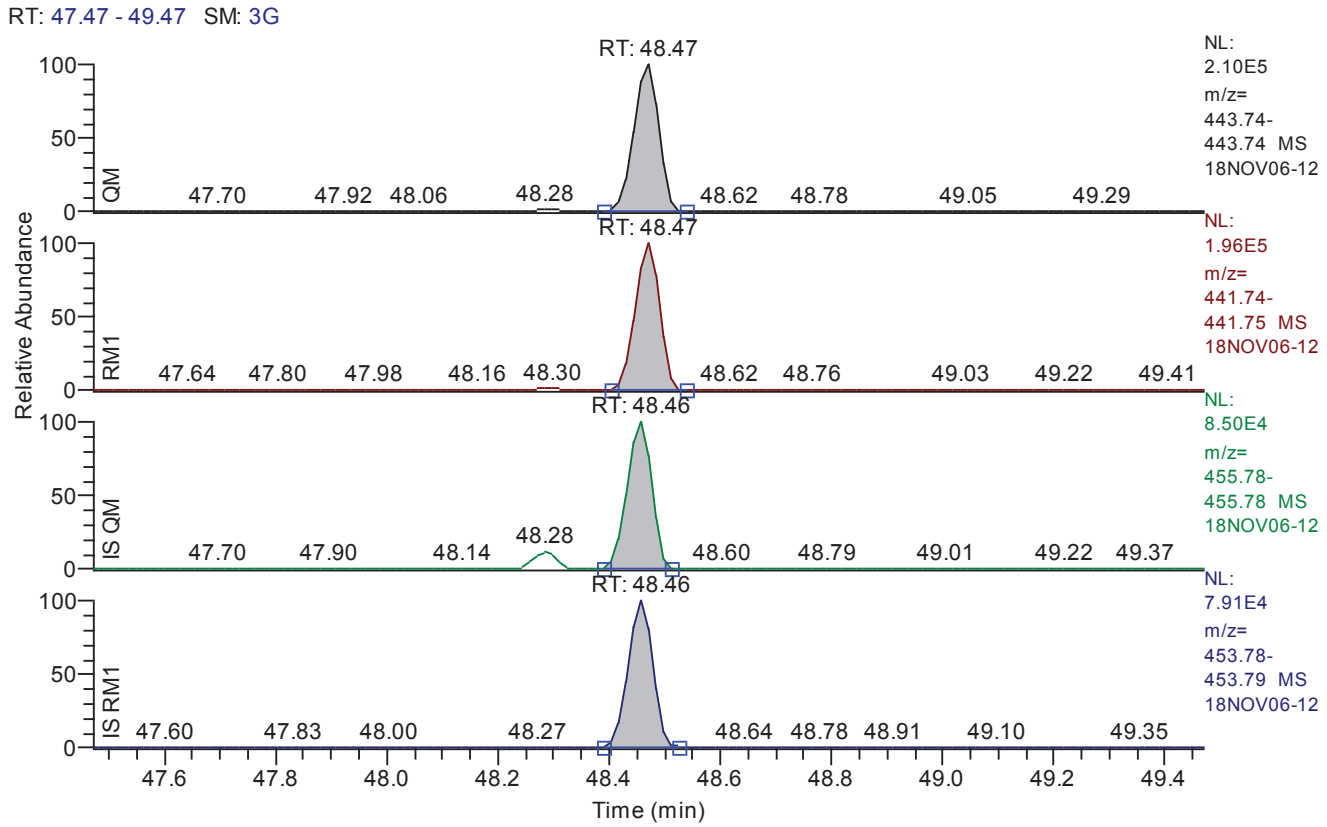
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.47
QM Area	653752
QM Integration Mode	A
RM1 Area	597710
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1754
Unqualified Amount (A)	1046.151558
Adjusted Amount (A)	1046.1516
Signal-to-Noise	14859
Client Flags	
Status Overview	passed
Status Info	

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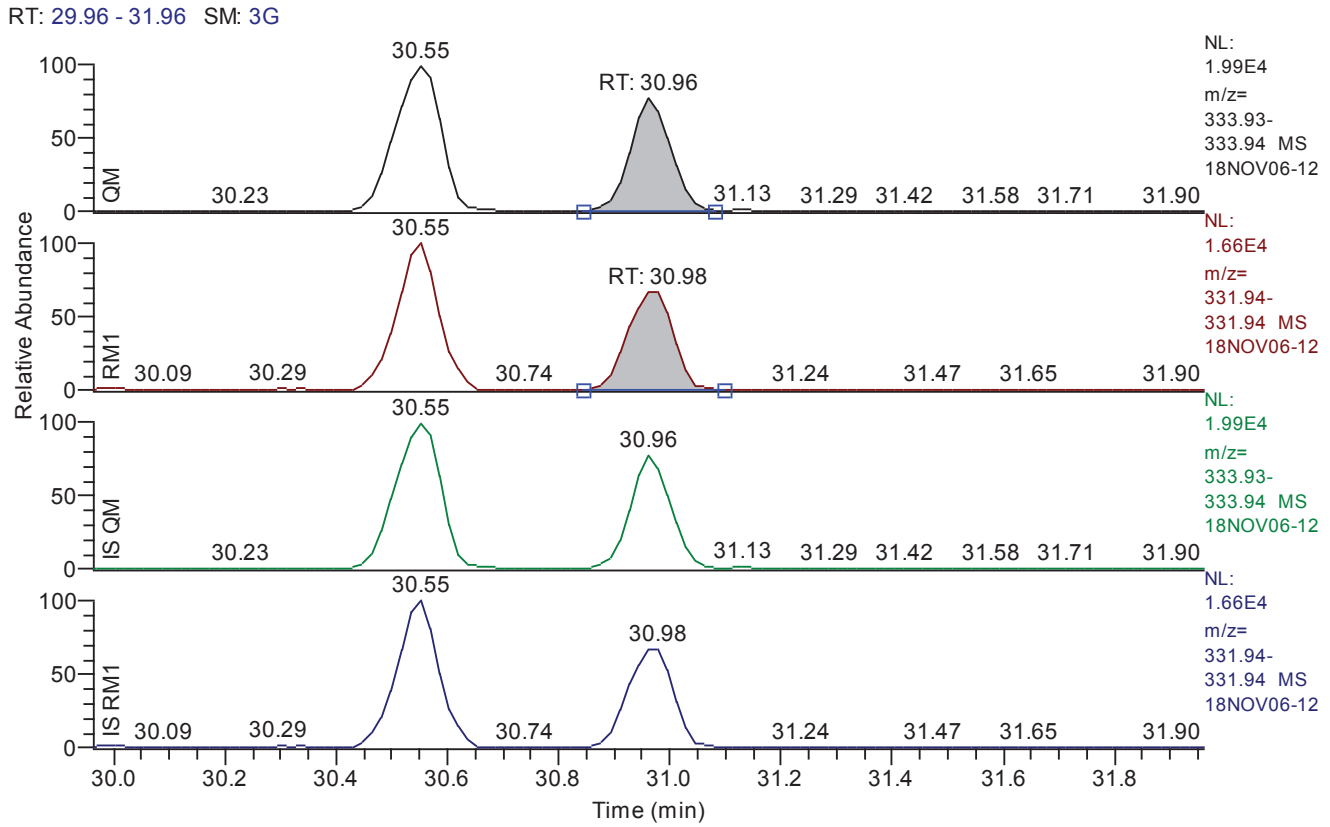
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.96
QM Area	79624
QM Integration Mode	A
RM1 Area	64977
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1310
Unqualified Amount (A)	64.227001
Adjusted Amount (A)	n.d.
Signal-to-Noise	1249
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 18:23
Number of Entries	248
Comment	S:11030:12937:17962
Vial	77
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-12.quan
Data	z:\18nov06\18nov06-12.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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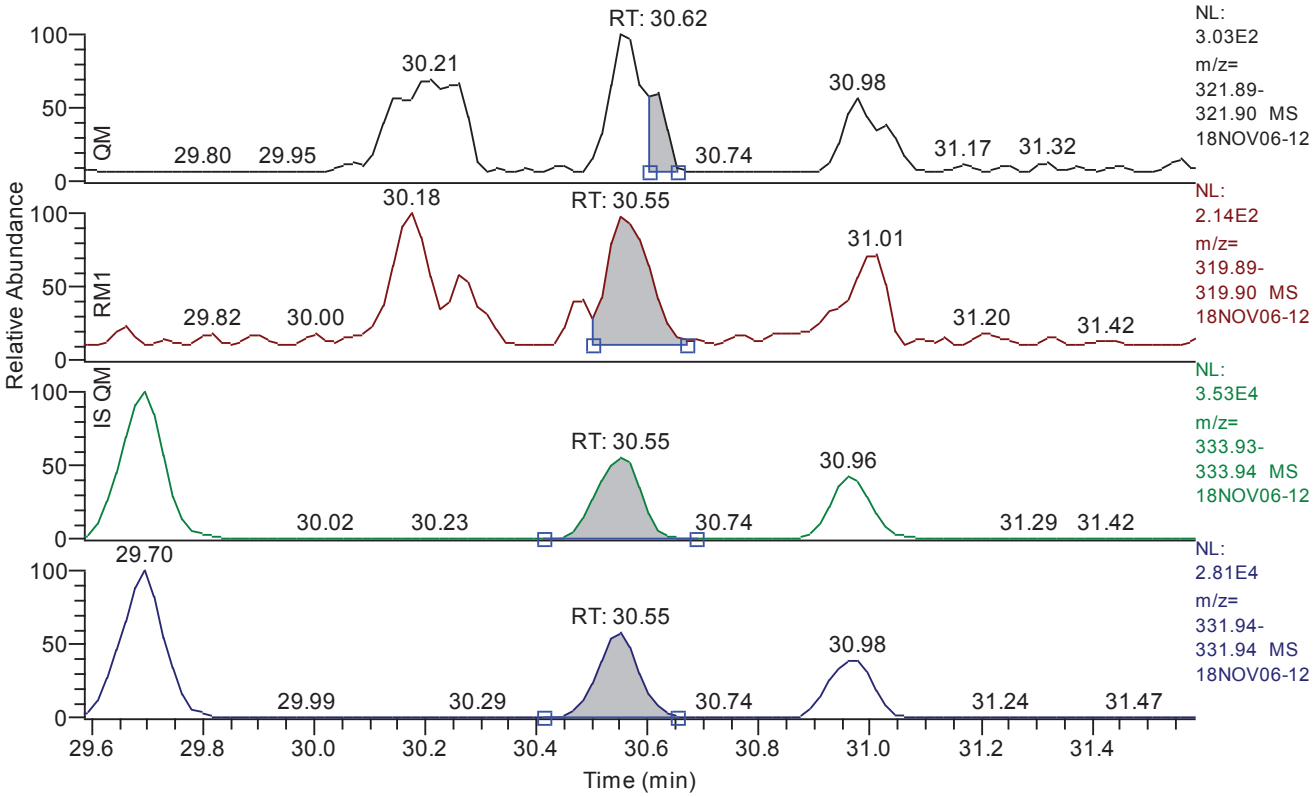
Chromatogram

RT: 29.59 - 31.59 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.62
QM Area	340
QM Integration Mode	A
RM1 Area	1015
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.2515
Unqualified Amount (A)	1.096022
Adjusted Amount (A)	n.d.
Signal-to-Noise	16
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time < min RM2Time < min

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.43	29.46	29.46	29.42	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.55	30.55	30.55	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.41	35.42	35.39	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.71	36.75	36.75	36.69	passed	failed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.10	37.10	37.07	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.40	40.41	40.41	40.39	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.55	40.55	40.54	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.26	41.27	41.27	41.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.45	41.46	41.46	41.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.57	41.58	41.58	41.56	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.88	41.89	41.90	41.87	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.28	42.32	42.31	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.00	44.01	44.01	44.00	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.23	45.23	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.80	45.81	45.81	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.28	48.28	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.47	48.47	48.46	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.96	30.98	30.96	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.69	29.70	29.70	29.70	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.29	40.30	40.30	40.30	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.42	29.42	29.44	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.53	30.55	30.55	30.55	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.39	35.39	35.33	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.69	36.69	36.70	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.08	37.07	37.09	37.09	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.38	40.39	40.39	40.37	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.54	40.54	40.62	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.25	41.25	41.25	41.16	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.44	41.44	41.44	41.44	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.56	41.56	41.56	41.56	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.87	41.87	41.87	41.87	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.28	42.28	42.32	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.99	44.00	44.00	44.15	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.22	45.21	45.21	45.21	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.79	45.79	45.79	45.76	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.45	48.46	48.46	48.50	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.46	0.6258	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	30.55	0.6977	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	35.41	1.4971	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.75	1.6033	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	37.10	1.3460	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.41	1.3498	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.55	1.2391	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.27	1.2672	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.46	0.9686	1.0450 - 1.4350	failed	---	0 - 0	passed
10	123678-HxCDD	41.58	1.3149	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.89	1.2167	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.32	1.2972	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.01	1.0462	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.23	1.0687	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.81	1.0703	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.28	0.8915	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.47	0.9143	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.96	0.8161	0.6450 - 0.8950	passed	32.40	35 - 197	failed
19	13C12-1234-TCDD	29.70	0.7924	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.30	1.2362	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.42	0.8569	0.6450 - 0.8950	passed	40.05	40 - 135	passed
22	13C12-2378-TCDD	30.55	0.7702	0.6450 - 0.8950	passed	61.29	40 - 135	passed
23	13C12-12378-PeCDF	35.39	1.5693	1.3150 - 1.7850	passed	55.64	40 - 135	passed
24	13C12-23478-PeCDF	36.69	1.5727	1.3150 - 1.7850	passed	52.19	40 - 135	passed
25	13C12-12378-PeCDD	37.07	1.6726	1.3150 - 1.7850	passed	61.34	40 - 135	passed
26	13C12-123478-HxCDF	40.39	0.5412	0.4250 - 0.5950	passed	77.27	40 - 135	passed
27	13C12-123678-HxCDF	40.54	0.5733	0.4250 - 0.5950	passed	73.75	40 - 135	passed
28	13C12-234678-HxCDF	41.25	0.5258	0.4250 - 0.5950	passed	64.18	40 - 135	passed
29	13C12-123478-HxCDD	41.44	1.2307	1.0450 - 1.4350	passed	78.11	40 - 135	passed
30	13C12-123678-HxCDD	41.56	1.2577	1.0450 - 1.4350	passed	76.17	40 - 135	passed
31	13C12-123789-HxCDD	41.87	1.2704	1.0450 - 1.4350	passed	72.30	40 - 135	passed
32	13C12-123789-HxCDF	42.28	0.4893	0.4250 - 0.5950	passed	68.88	40 - 135	passed
33	13C12-1234678-HpCDF	44.00	0.4816	0.3650 - 0.5150	passed	82.04	40 - 135	passed
34	13C12-1234678-HpCDD	45.21	1.0658	0.8750 - 1.2050	passed	81.79	40 - 135	passed
35	13C12-1234789-HpCDF	45.79	0.4512	0.3650 - 0.5150	passed	74.59	40 - 135	passed
36	13C12-OCDD	48.27	0.9020	0.7550 - 1.0250	passed	75.38	40 - 135	passed
37	13C12-OCDF	48.46	0.9270	0.7550 - 1.0250	passed	66.63	40 - 135	passed

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Entry Parameters

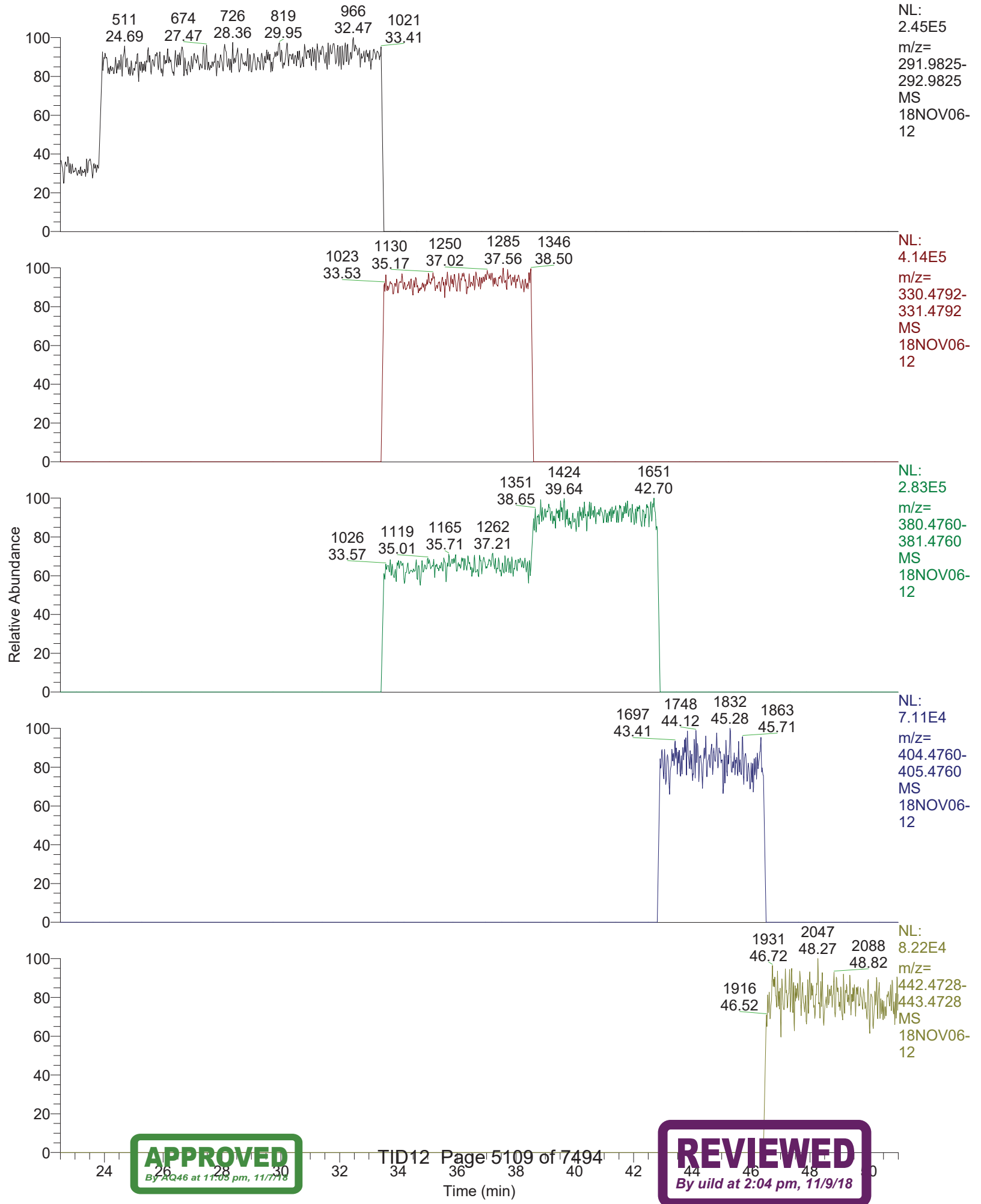
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	29.46	8089	A	5062	A	0.8144	9.055881	n.d.	0.000000	30	
2	2378-TCDD	passed	30.55	1455	M	1015	A	0.2515	1.998414	1.9984	0.000000	21	
3	12378-PeCDF	passed	35.41	10677	A	15985	A	0.2963	15.887187	15.8872	0.000000	126	
4	23478-PeCDF	failed	36.75	14882	A	23860	A	0.2789	22.401699	n.d.	0.000000	121	
5	12378-PeCDD	passed	37.10	2950	A	3971	A	0.5088	6.676606	6.6766	0.000000	28	
6	123478-HxCDF	passed	40.41	38148	A	51492	A	0.4589	41.759535	41.7595	0.000000	240	
7	123678-HxCDF	passed	40.55	46271	A	57335	A	0.4537	49.348727	49.3487	0.000000	277	
8	234678-HxCDF	passed	41.27	30370	A	38486	A	0.5235	39.052967	39.0530	0.000000	187	
9	123478-HxCDD	failed	41.46	2285	A	2213	A	0.3852	3.480555	n.d.	0.000000	24	
10	123678-HxCDD	passed	41.58	26590	A	34964	A	0.3978	47.699818	47.6998	0.000000	298	
11	123789-HxCDD	passed	41.89	9056	A	11019	A	0.4243	16.207983	16.2080	0.000000	94	
12	123789-HxCDF	passed	42.32	9538	A	12372	A	0.5458	13.025988	13.0260	0.000000	41	
13	1234678-HpCDF	passed	44.01	928701	A	971645	A	0.2331	916.284111	916.2841	0.000000	9859	
14	1234678-HpCDD	passed	45.23	686240	A	733412	A	0.7886	1144.647355	1144.6474	0.000000	3633	
15	1234789-HpCDF	passed	45.81	52639	A	56337	A	0.3100	70.328291	70.3283	0.000000	581	
16	OCDD	passed	48.28	9209094	A	8210138	A	0.4592	17707.763898	17707.7639	0.000000	96425	
17	OCDF	passed	48.47	653752	A	597710	A	0.1754	1046.151558	1046.1516	0.000000	14859	
18	13C12-1278-TCDD (CRS)	failed	30.96	79624	A	64977	A	0.1310	64.227001	n.d.	198.216056	1249	
19	13C12-1234-TCDD	passed	29.70	196764	A	155924	A	0.1658	198.216056	198.2161	198.216056	2989	
20	13C12-123468-HxCDD	passed	40.30	155656	A	192425	A	0.2213	198.216056	198.2161	198.216056	2240	
21	13C12-2378-TCDF	passed	29.42	140792	A	120643	A	0.0670	79.379478	79.3795	198.216056	2794	
22	13C12-2378-TCDD	passed	30.55	113423	A	87362	A	0.1785	121.490517	121.4905	198.216056	1716	
23	13C12-12378-PeCDF	passed	35.39	130759	A	205196	A	0.1720	110.291928	110.2919	198.216056	2197	
24	13C12-23478-PeCDF	passed	36.69	120124	A	188921	A	0.1754	103.439304	103.4393	198.216056	2083	
25	13C12-12378-PeCDD	passed	37.07	74126	A	123980	A	0.1426	121.584930	121.5849	198.216056	2916	
26	13C12-123478-HxCDF	passed	40.39	230374	A	124686	A	0.1430	153.155313	153.1553	198.216056	2601	
27	13C12-123678-HxCDF	passed	40.54	229358	A	131485	A	0.1343	146.179242	146.1792	198.216056	2734	
28	13C12-234678-HxCDF	passed	41.25	184704	A	97109	A	0.1496	127.212867	127.2129	198.216056	2203	
29	13C12-123478-HxCDD	passed	41.44	112613	A	138590	A	0.2395	154.827971	154.8280	198.216056	1724	
30	13C12-123678-HxCDD	passed	41.56	110079	A	138444	A	0.2360	150.977089	150.9771	198.216056	1654	
31	13C12-123789-HxCDD	passed	41.87	98933	A	125684	A	0.2479	143.307942	143.3079	198.216056	1461	
32	13C12-123789-HxCDF	passed	42.28	194105	A	94971	A	0.1566	136.533046	136.5330	198.216056	2272	
33	13C12-1234678-HpCDF	passed	44.00	214503	A	103297	A	0.1431	162.621458	162.6215	198.216056	3071	
34	13C12-1234678-HpCDD	passed	45.21	111713	A	119069	A	0.1196	162.117796	162.1178	198.216056	3804	
35	13C12-1234789-HpCDF	passed	45.79	163491	A	73763	A	0.1743	147.853839	147.8538	198.216056	2307	
36	13C12-OCDD	passed	48.27	196604	A	177342	A	0.0941	298.842620	298.8426	396.432111	9357	
37	13C12-OCDF	passed	48.46	261809	A	242710	A	0.0645	264.131325	264.1313	396.432111	11693	

File Name: Z:\18NOV06\18NOV06-12
Sample ID: 9872061

Acq. Data: 11/6/2018 6:23:46 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00

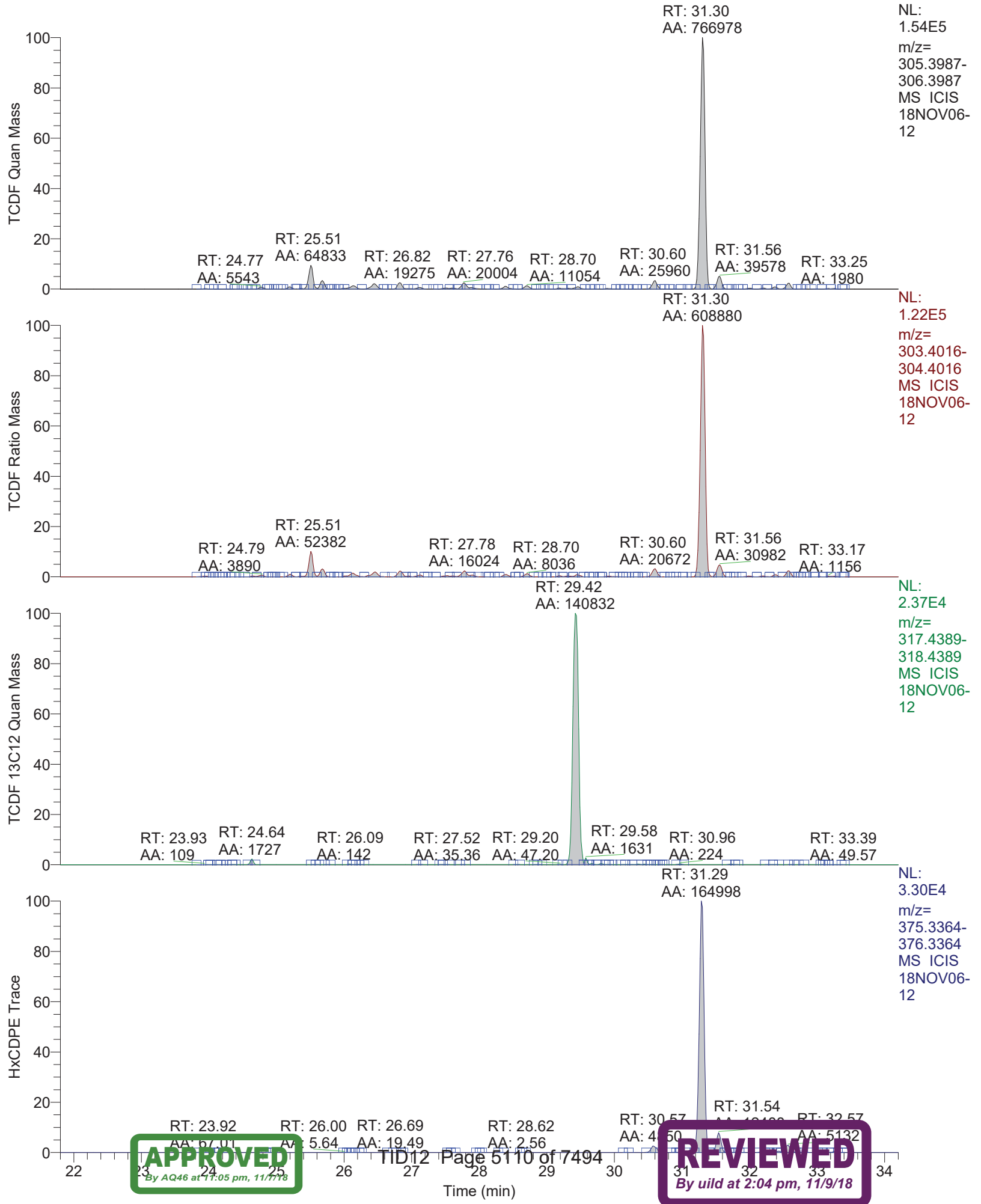


APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-12 Acq. Data: 11/6/2018 6:23:46 PM Instrument ID: DF19780-18NOV06
Sample ID: 9872061 Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

RT: 21.80 - 34.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

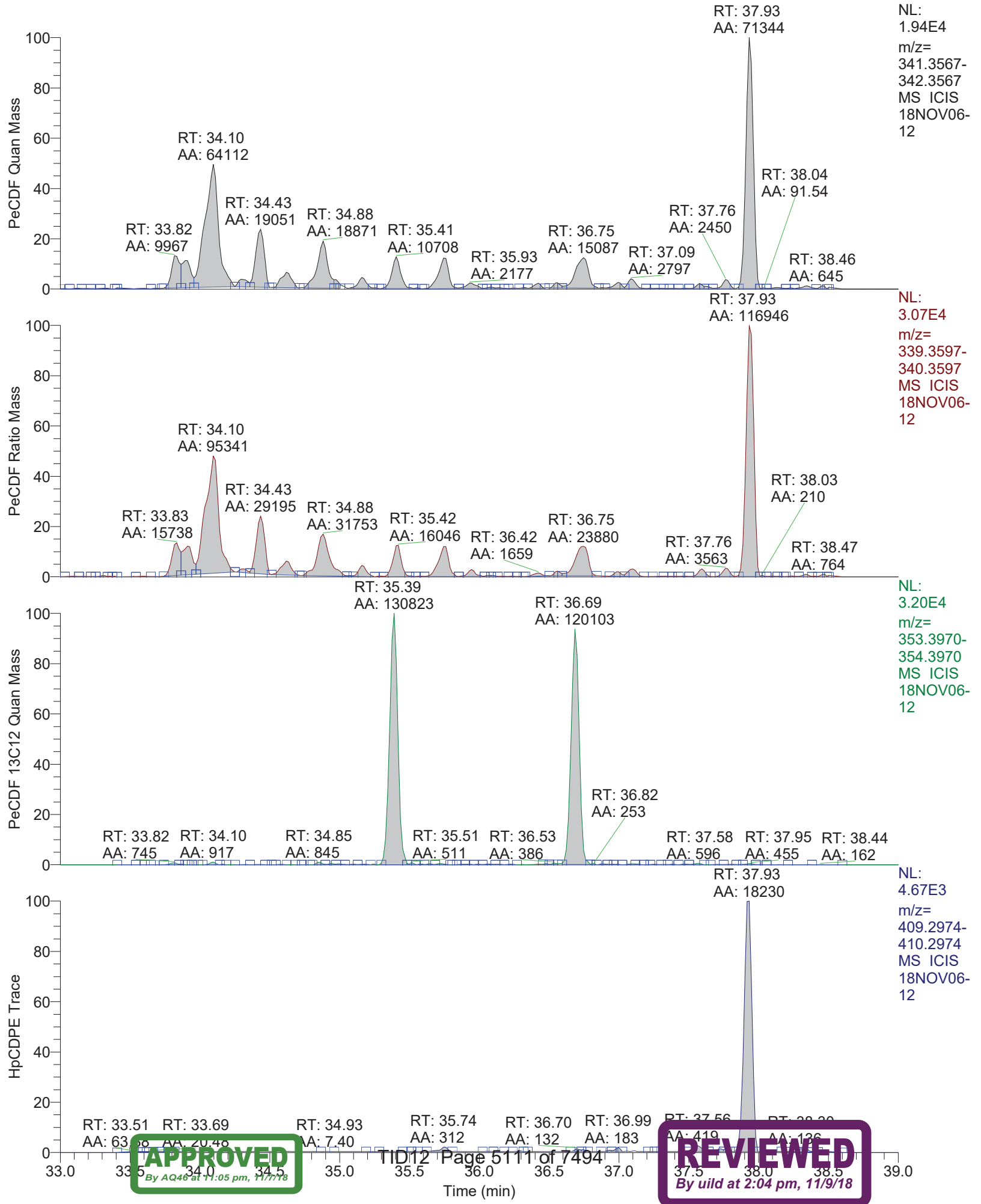
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-12
Sample ID: 9872061

Acq. Data: 11/6/2018 6:23:46 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 33.00 - 39.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

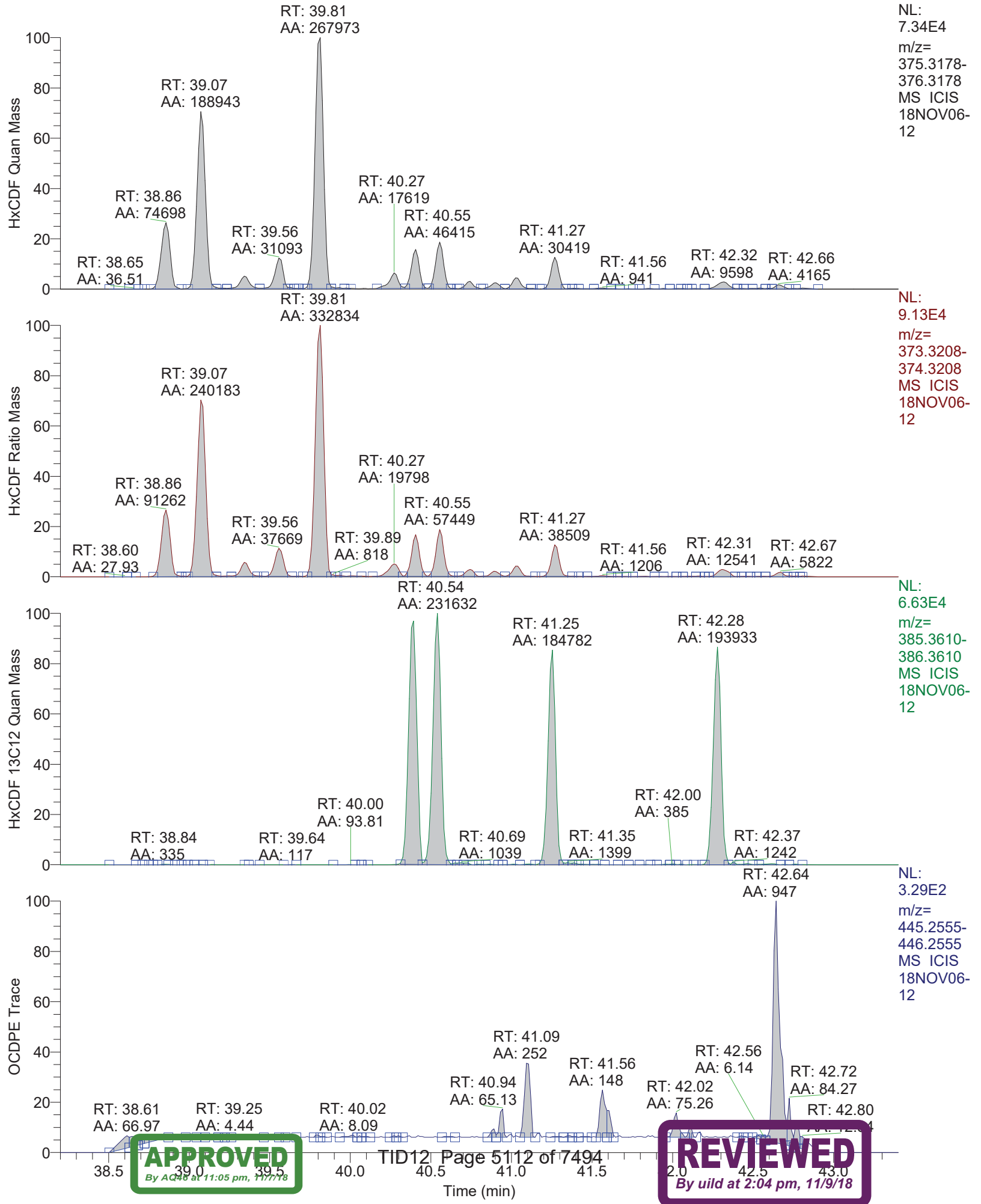
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-12
Sample ID: 9872061

Acq. Data: 11/6/2018 6:23:46 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 38.20 - 43.40



APPROVED
By AQ46 at 11:05 pm, 11/7/18

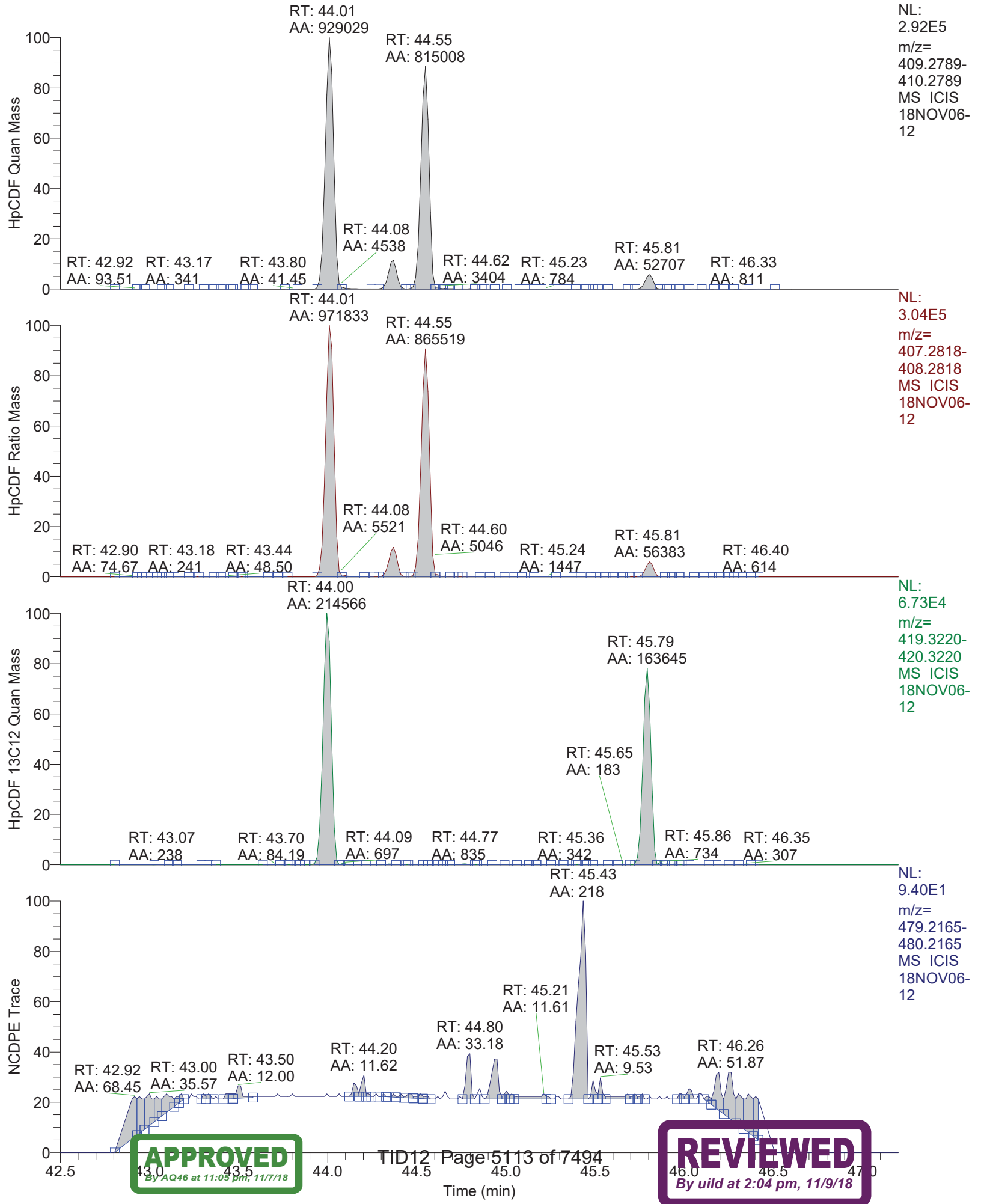
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-12
Sample ID: 9872061

Acq. Data: 11/6/2018 6:23:46 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 42.50 - 47.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

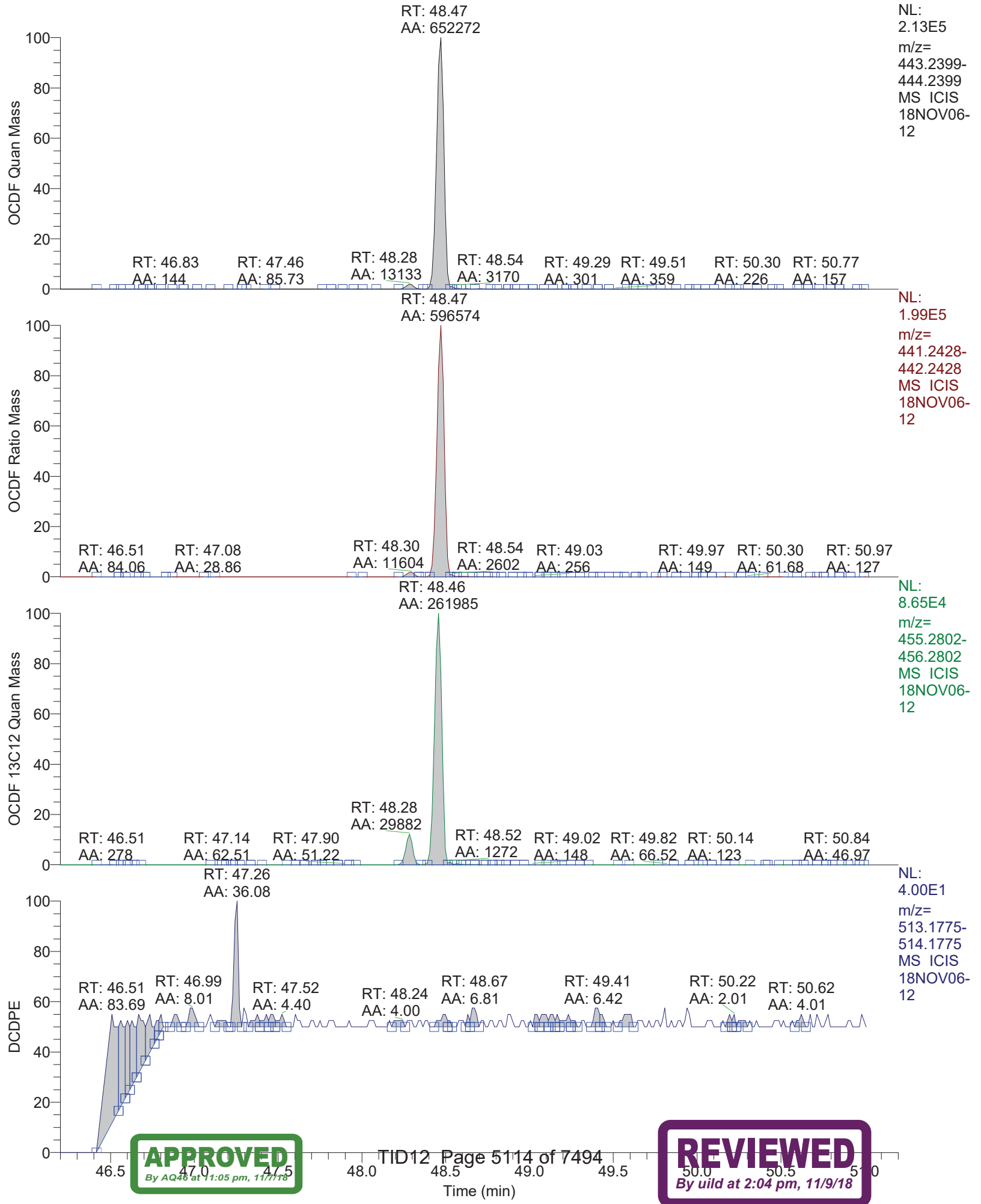
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-12
Sample ID: 9872061

Acq. Data: 11/6/2018 6:23:46 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 46.20 - 51.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

*** file opened Tue Nov 06 18:29:15 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 06-Nov-18 18:29:15

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f50533d2-f9c1-41a2-b71e-4157fb85ab75

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          94.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2535.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0206   FVINLET         0.0405   FVSRC           0.0333
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           94.0000   LKM           442.9723   MASS           94.0000
 MDAC        1439298.3323  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2277.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9675   RELEN           0.0000
 RES          12138.0558   RPUSHER       -17.1062   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0210   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.0000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10387.
MID Time Window 2: Resolution is 11687.
MID Time Window 3: Resolution is 11448.
MID Time Window 4: Resolution is 12067.
```

```
                                        18NOV06-12
  MID Time Window 5: Resolution is 13461.
  MID Time Window 6: Resolution is 12138.

  Amplifier Offset: 86.


*** File closed Tue Nov 06 19:20:17 2018
  ***
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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 22:35
Number of Entries	3
Comment	S:11030:12937:17962
Vial	45
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-11.quan
Data	y:\18nov07conf\18nov07-11.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.68	failed	passed	passed	failed	failed on IS	passed	failed on IS Recov
2	13C12-1234-TCDD	24.75	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.65	failed	passed	passed	passed	failed	passed	Failed on: RecovA

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 22:35
Number of Entries	3
Comment	S:11030:12937:17962
Vial	45
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-11.quan
Data	y:\18nov07conf\18nov07-11.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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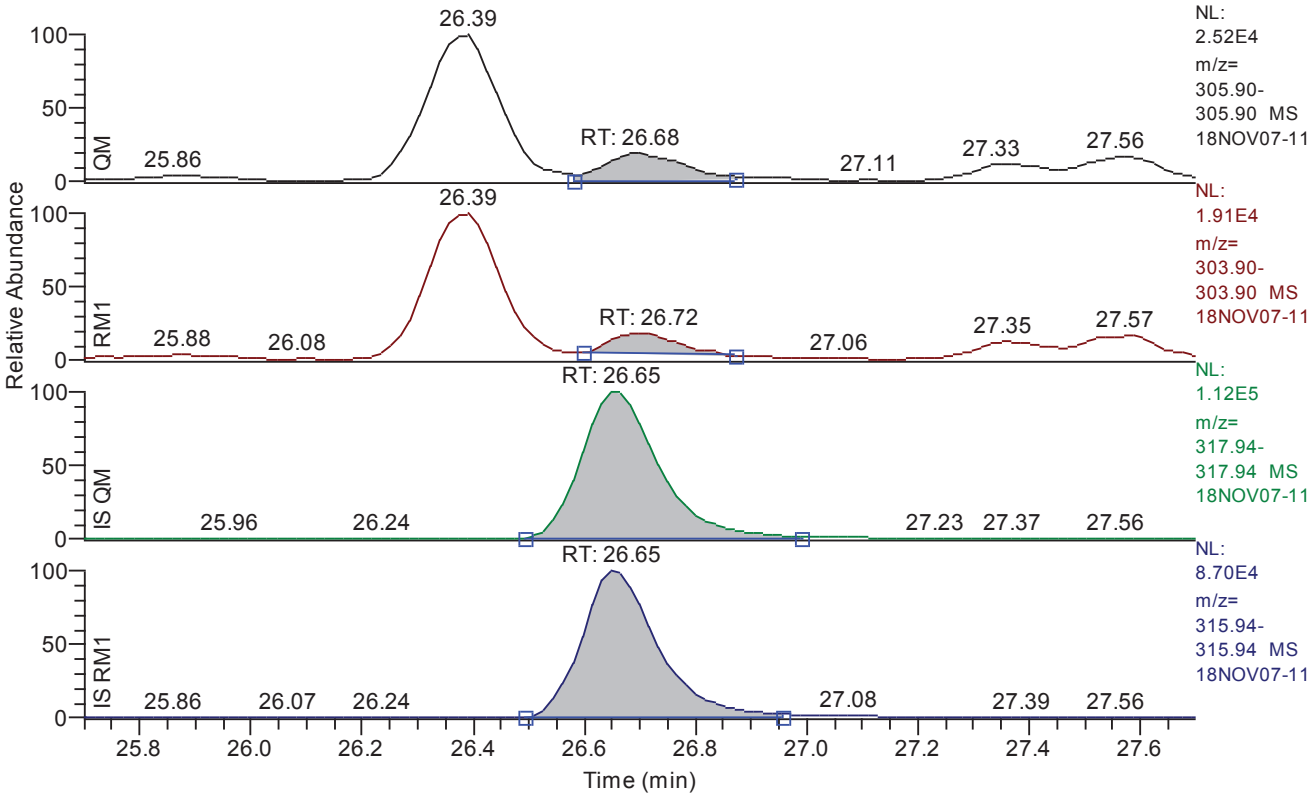
Chromatogram

RT: 25.70 - 27.70 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.68
QM Area	44589
QM Integration Mode	A
RM1 Area	23950
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4245
Unqualified Amount (A)	6.960747
Adjusted Amount (A)	n.d.
Signal-to-Noise	43
Client Flags	
Status Overview	failed
Status Info	failed on IS Recov

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 22:35
Number of Entries	3
Comment	S:11030:12937:17962
Vial	45
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-11.quan
Data	y:\18nov07conf\18nov07-11.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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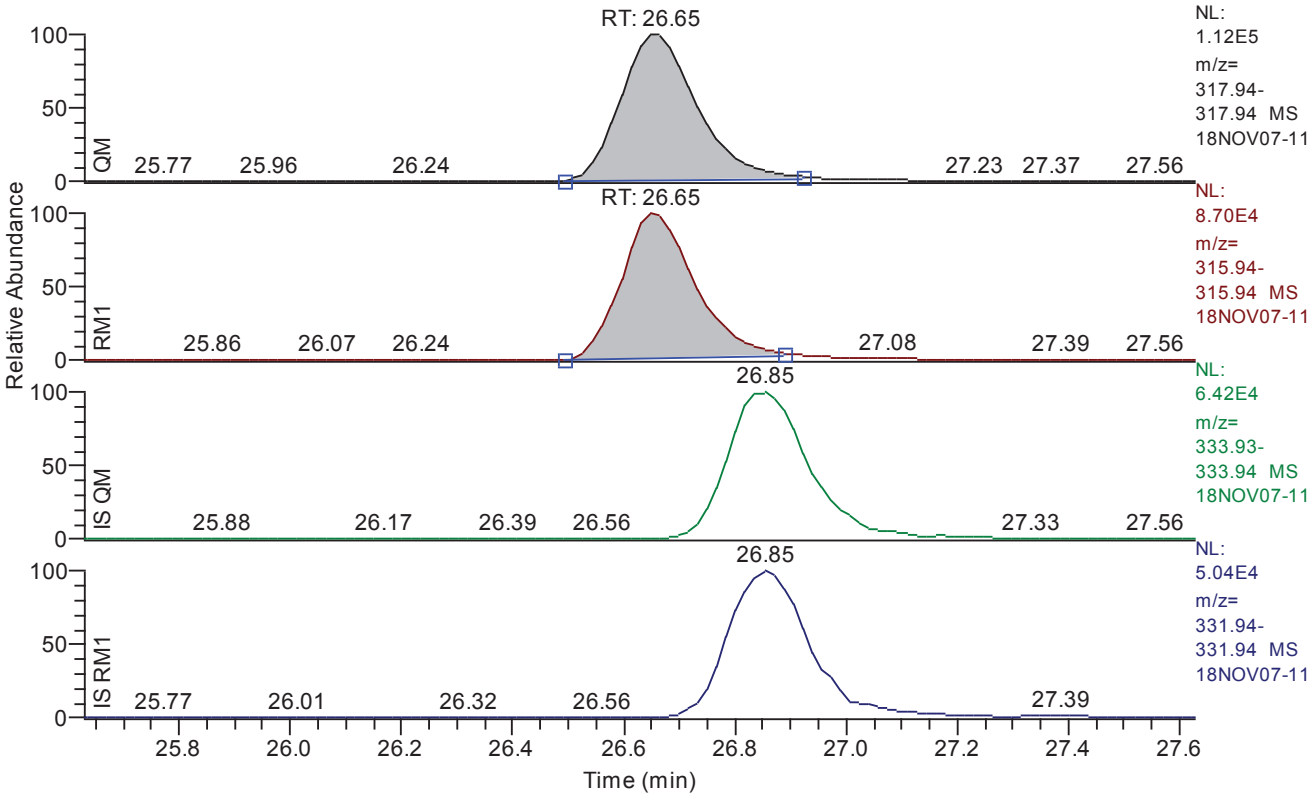
Chromatogram

RT: 25.63 - 27.63 SM: 3G



Entry Parameters

Compound Name	13C12-2378-TCDF
QM Retention Time	26.65
QM Area	1042043
QM Integration Mode	A
RM1 Area	783144
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0464
Unqualified Amount (A)	66.089079
Adjusted Amount (A)	n.d.
Signal-to-Noise	3100
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.71	26.68	26.72	26.65	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.77	24.75	24.75	24.75	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.66	26.65	26.65	26.65	passed	passed

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.68	0.5371	0.6450 - 0.8950	failed	---	0 - 0	failed on IS
2	13C12-1234-TCDD	24.75	0.7951	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.65	0.7576	0.6450 - 0.8950	passed	35.02	40 - 135	failed

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

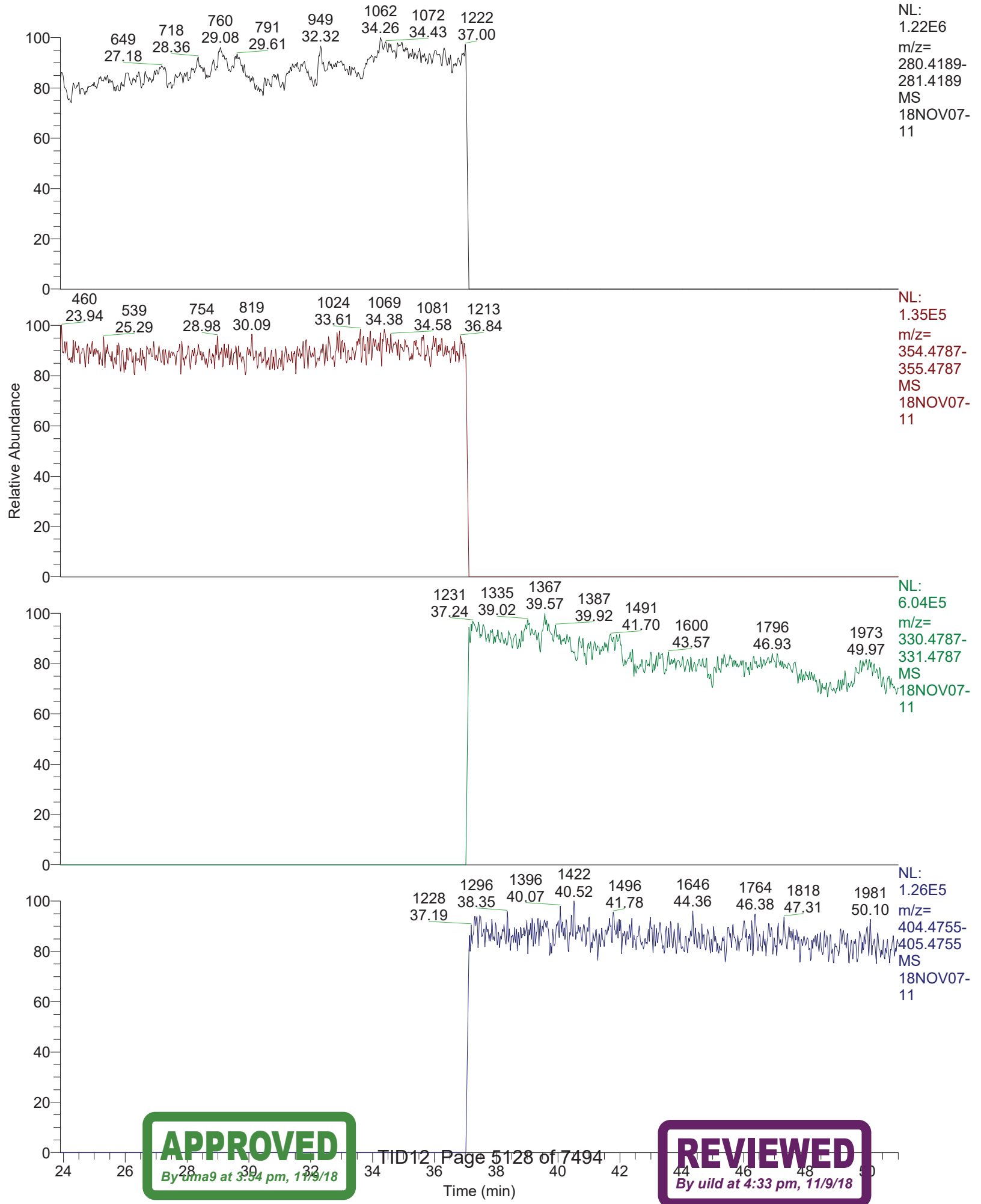
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	26.68	44589	A	23950	A	0.4245	6.960747	n.d.	0.000000	43	
2	13C12-1234-TCDD	passed	24.75	1496389	A	1189820	A	0.1301	198.216056	198.2161	198.216056	3810	
3	13C12-2378-TCDF	failed	26.65	1090684	M	826346	M	0.0464	69.414693	n.d.	198.216056	3135	

File Name: Y:\18NOV07Conf\18NOV07-11
Sample ID: 9872061

Acq. Data: 11/7/2018 10:35:51 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV07Conf

RT: 23.90 - 51.00



APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

*** file opened Wed Nov 07 22:40:27 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 07-Nov-18 22:40:27

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	328.4787
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-99.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0376	FVSRC	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	328.4787	LKM	330.9792	MASS	328.4787
MDAC	2960078.2853	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9665	RELEN	0.0000
RES	12218.0768	RPUSHER	-15.8022	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.1400	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	328.4787	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.3e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12160.
MID Time Window 2: Resolution is 12218.

Amplifier Offset: 88.

*** File closed Wed Nov 07 23:32:59 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 23:34
Number of Entries	270
Comment	S:11030:12937:17962
Vial	84
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-10.quan
Data	w:\18nov07\18nov07-10.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	29.96	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.30	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.03	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.91	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.10	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.22	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.54	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
12	123789-HxCDF	41.96	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.68	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.48	passed	passed	passed	passed	passed	passed	
16	OCDD	47.95	passed	passed	passed	passed	passed	passed	
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.37	failed	passed	passed	passed	failed	passed	Failed on: RecovA
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.80	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.91	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.17	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.92	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.46	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.95	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.12	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 23:34
Number of Entries	270
Comment	S:11030:12937:17962
Vial	84
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Sample ID	9872061DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-10.quan
Data	w:\18nov07\18nov07-10.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.09
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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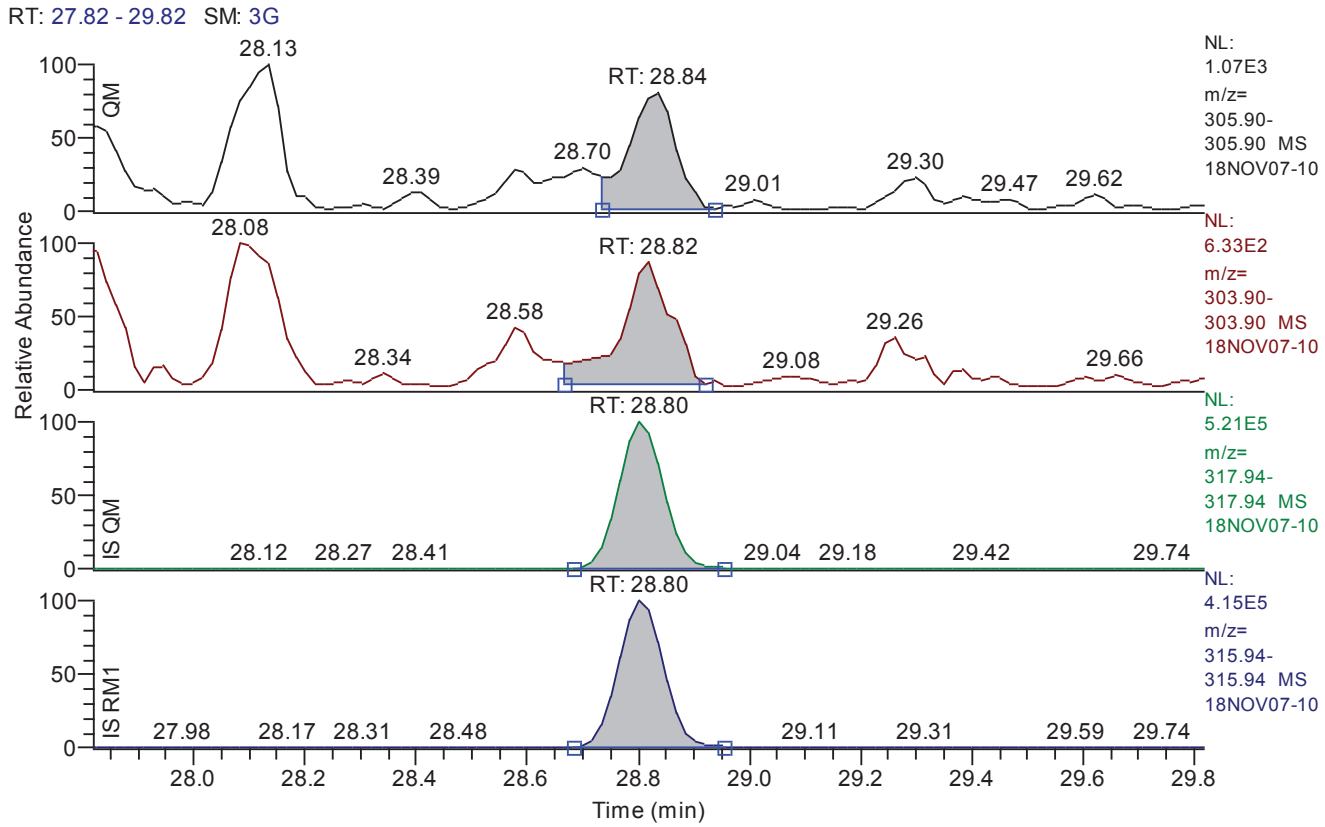
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	5037
QM Integration Mode	A
RM1 Area	3441
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0429
Unqualified Amount (A)	3.723770
Adjusted Amount (A)	3.7238
Signal-to-Noise	20
Client Flags	
Status Overview	passed
Status Info	

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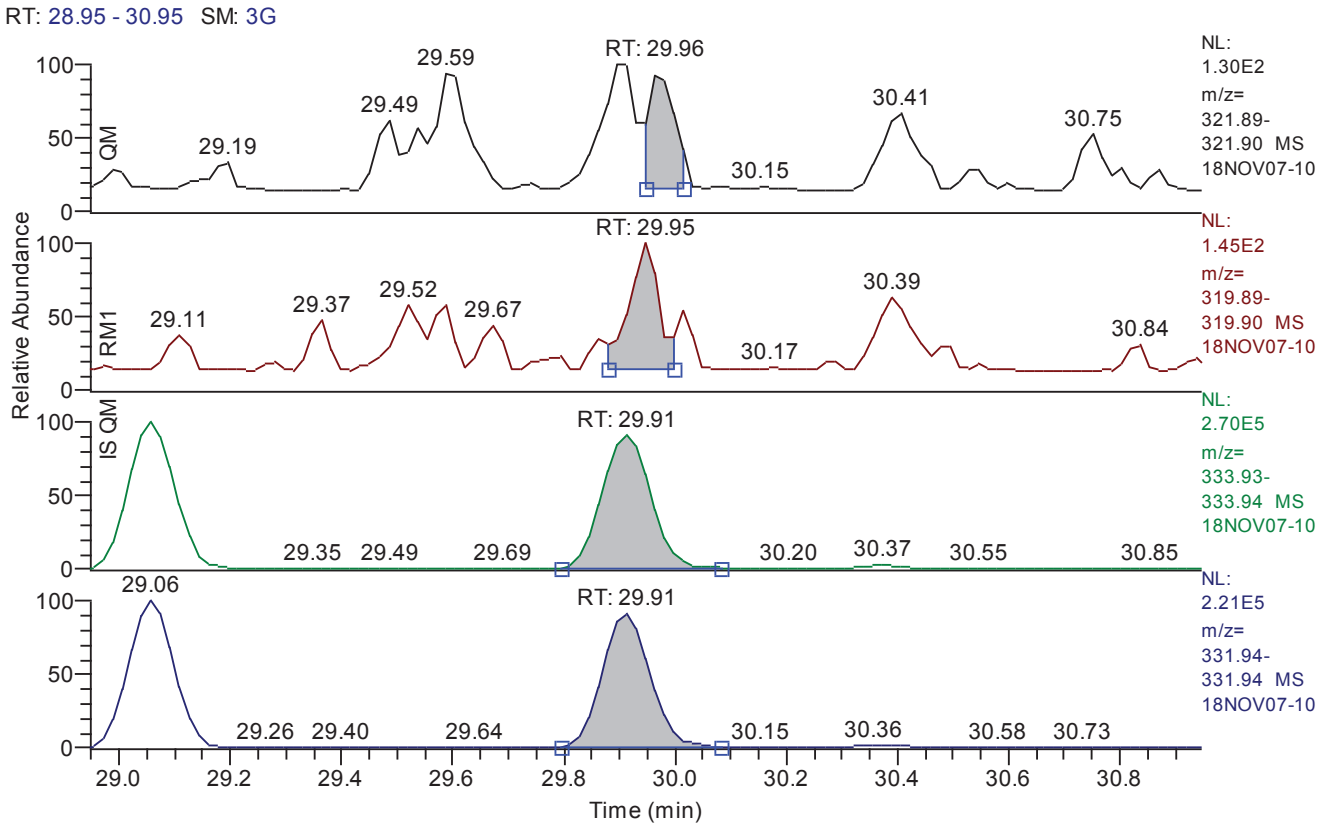
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	29.96
QM Area	318
QM Integration Mode	A
RM1 Area	469
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0204
Unqualified Amount (A)	0.565904
Adjusted Amount (A)	n.d.
Signal-to-Noise	12
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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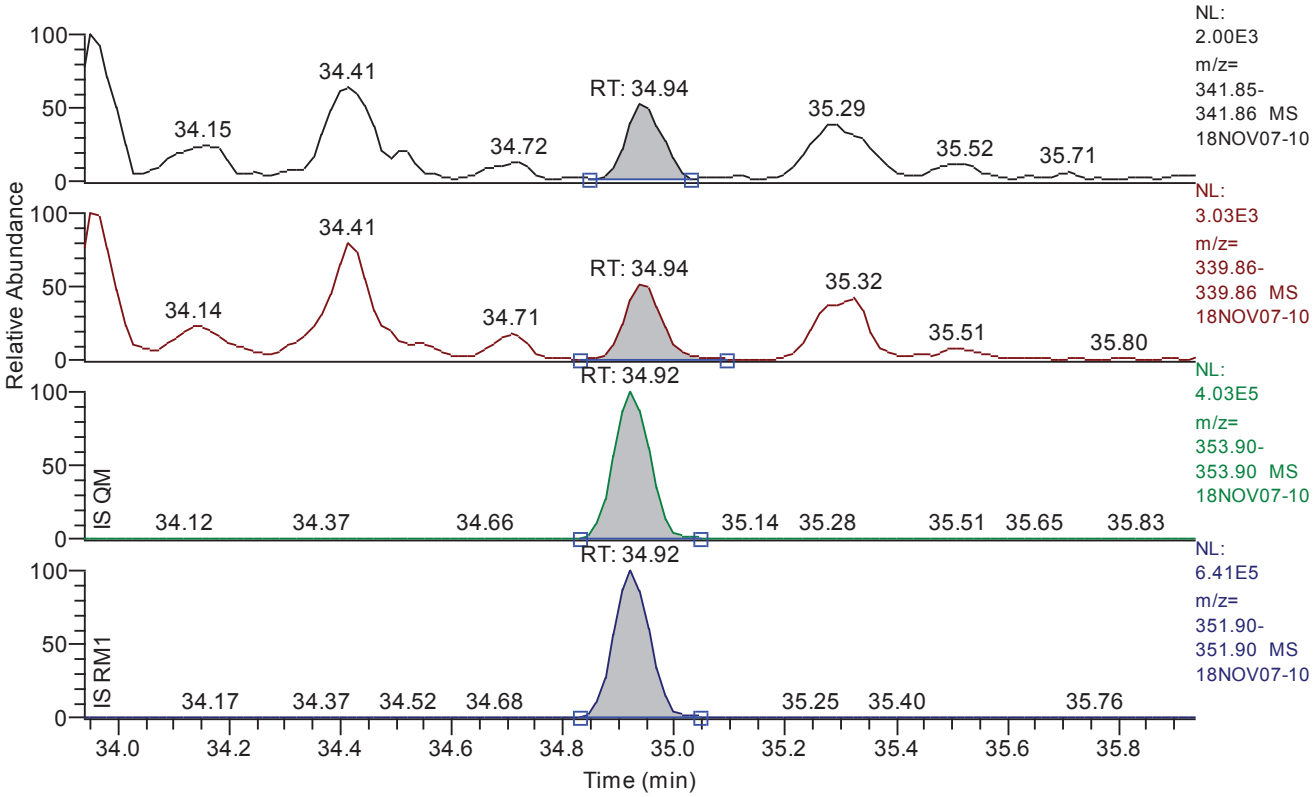
Chromatogram

RT: 33.94 - 35.94 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	4650
QM Integration Mode	A
RM1 Area	7203
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0269
Unqualified Amount (A)	6.410298
Adjusted Amount (A)	6.4103
Signal-to-Noise	59
Client Flags	
Status Overview	passed
Status Info	

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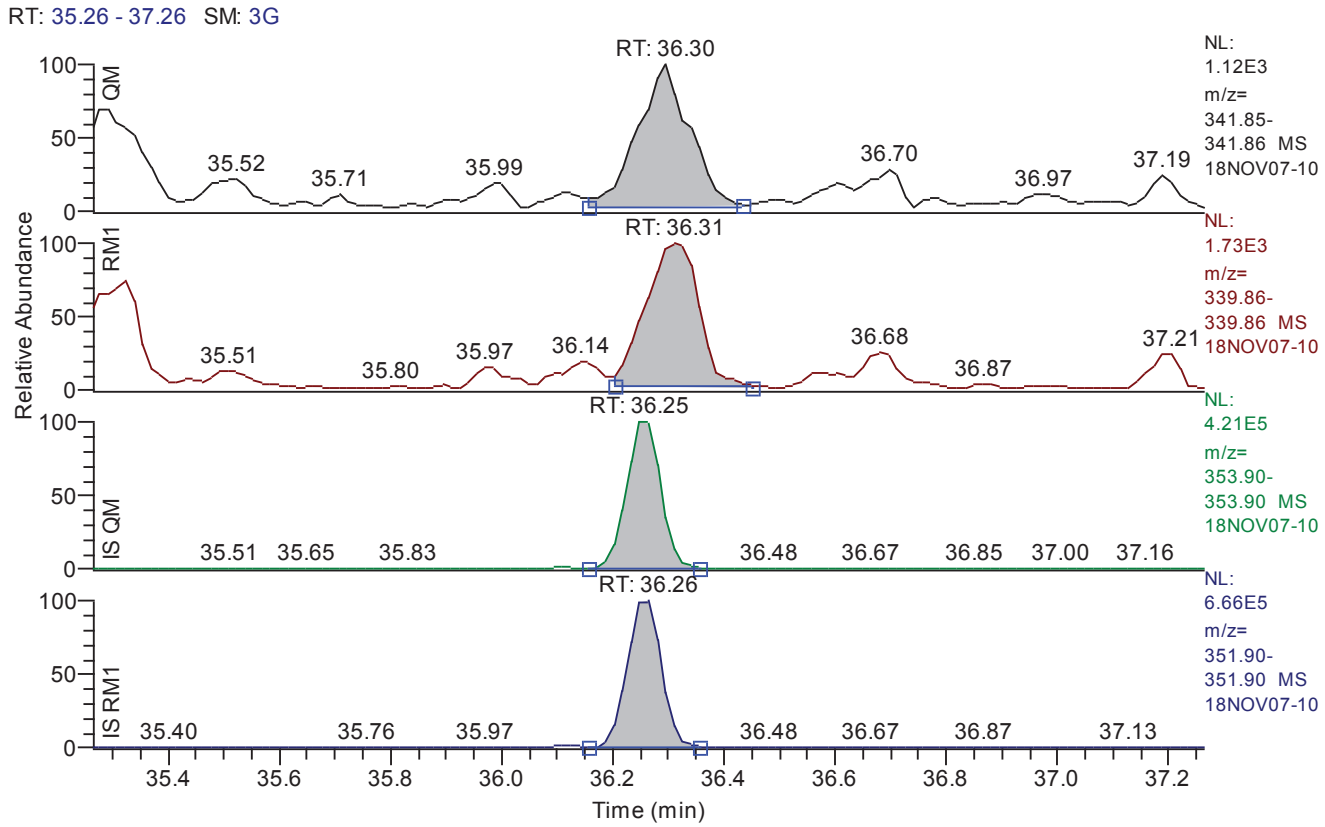
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.30
QM Area	6949
QM Integration Mode	A
RM1 Area	11320
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0231
Unqualified Amount (A)	8.964285
Adjusted Amount (A)	8.9643
Signal-to-Noise	63
Client Flags	
Status Overview	passed
Status Info	

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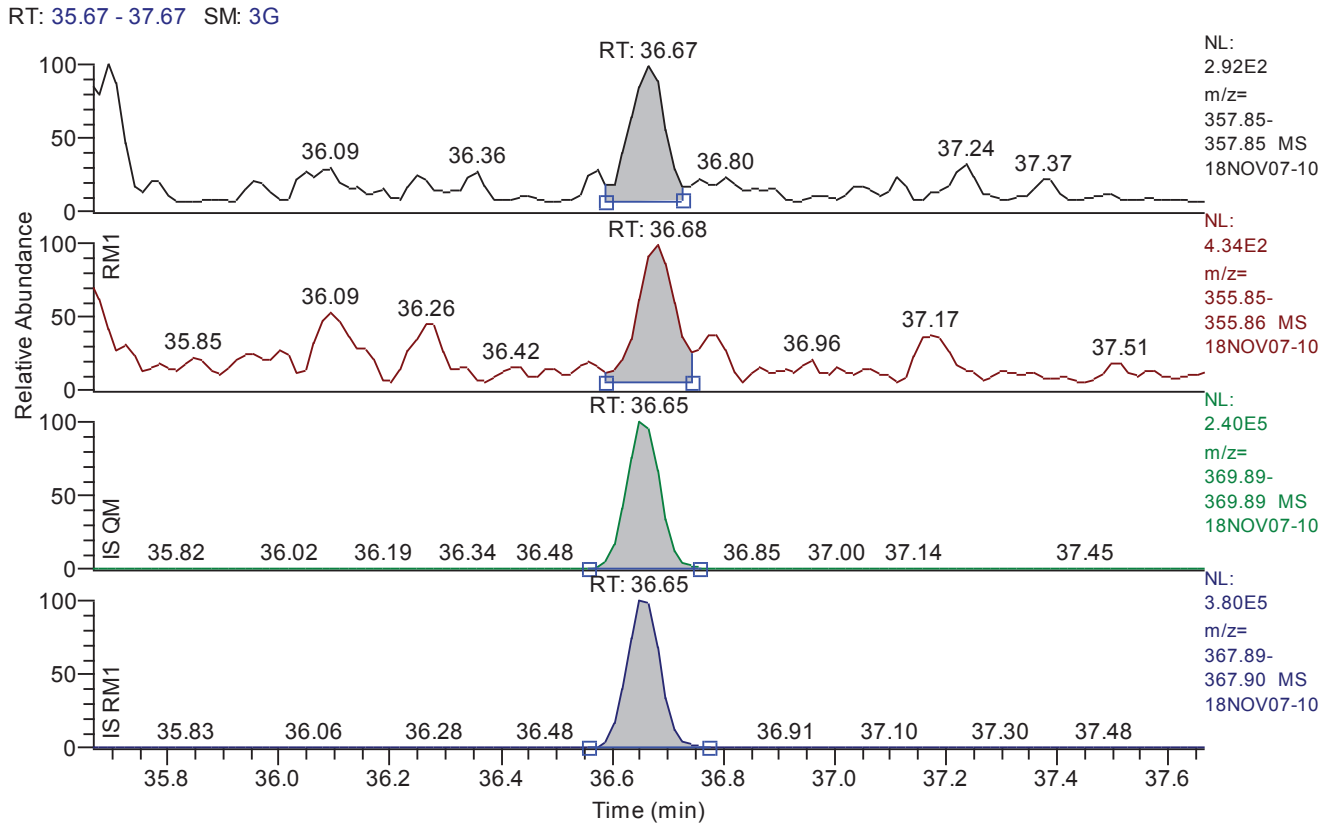
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	1168
QM Integration Mode	A
RM1 Area	1876
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0444
Unqualified Amount (A)	2.812475
Adjusted Amount (A)	2.8125
Signal-to-Noise	15
Client Flags	
Status Overview	passed
Status Info	

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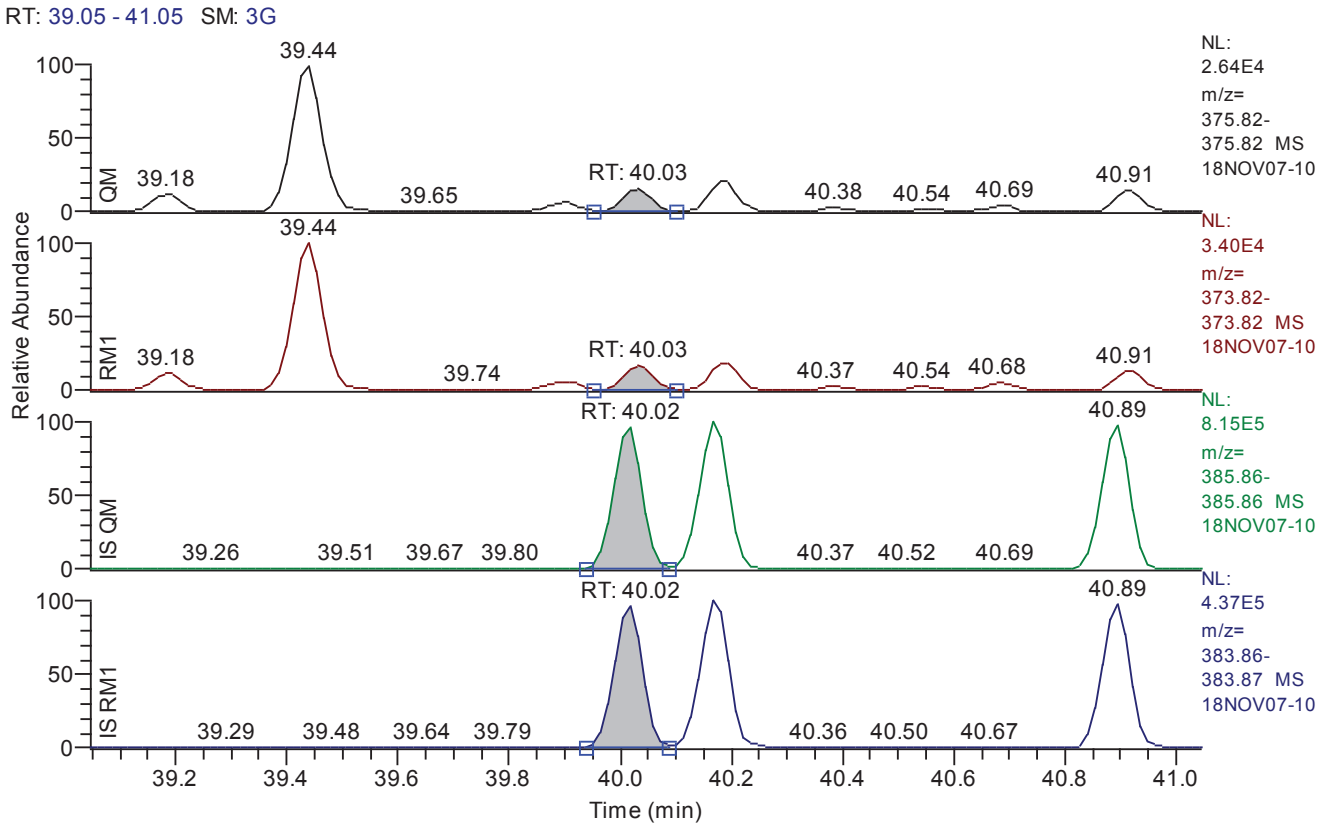
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.03
QM Area	15320
QM Integration Mode	A
RM1 Area	21534
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0246
Unqualified Amount (A)	17.458993
Adjusted Amount (A)	17.4590
Signal-to-Noise	171
Client Flags	
Status Overview	passed
Status Info	

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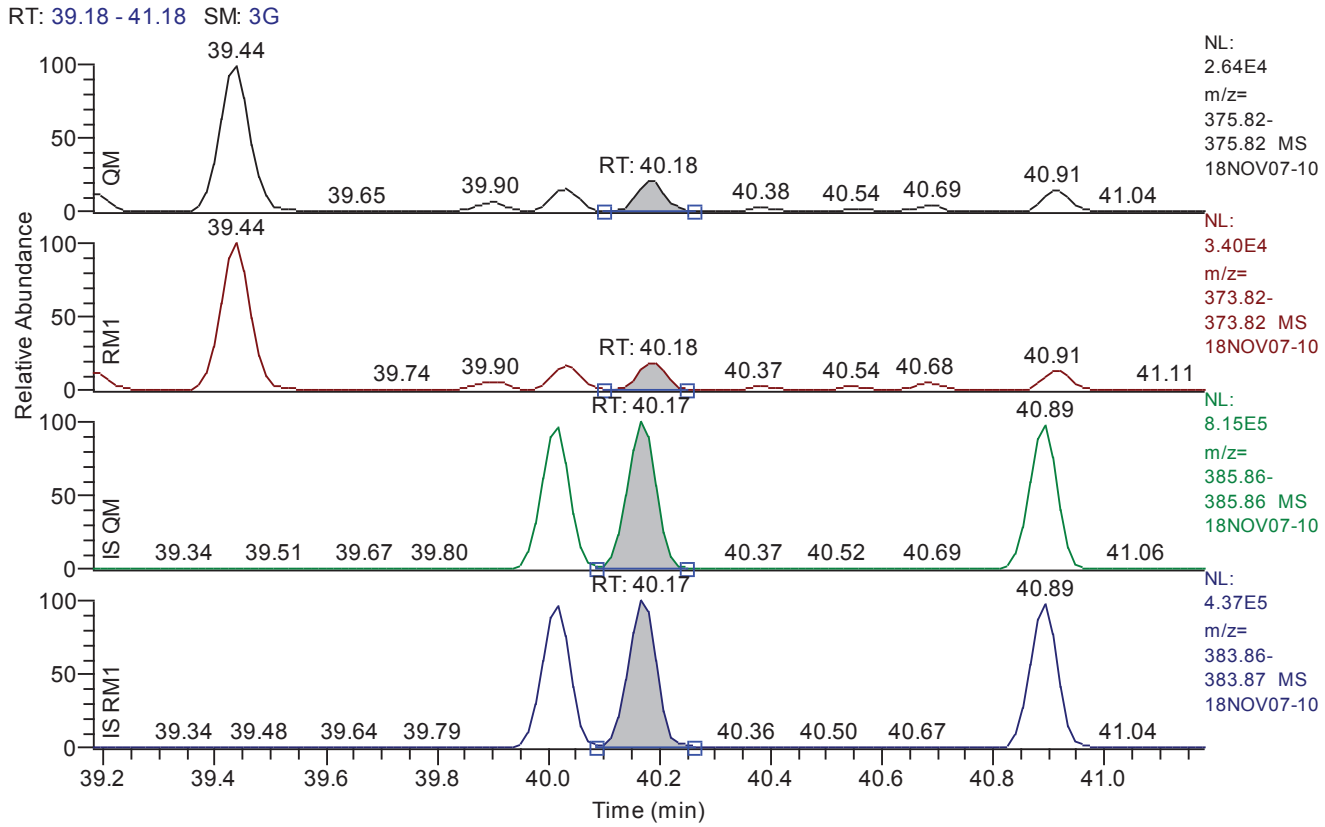
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	19147
QM Integration Mode	A
RM1 Area	23396
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0244
Unqualified Amount (A)	19.767156
Adjusted Amount (A)	19.7672
Signal-to-Noise	202
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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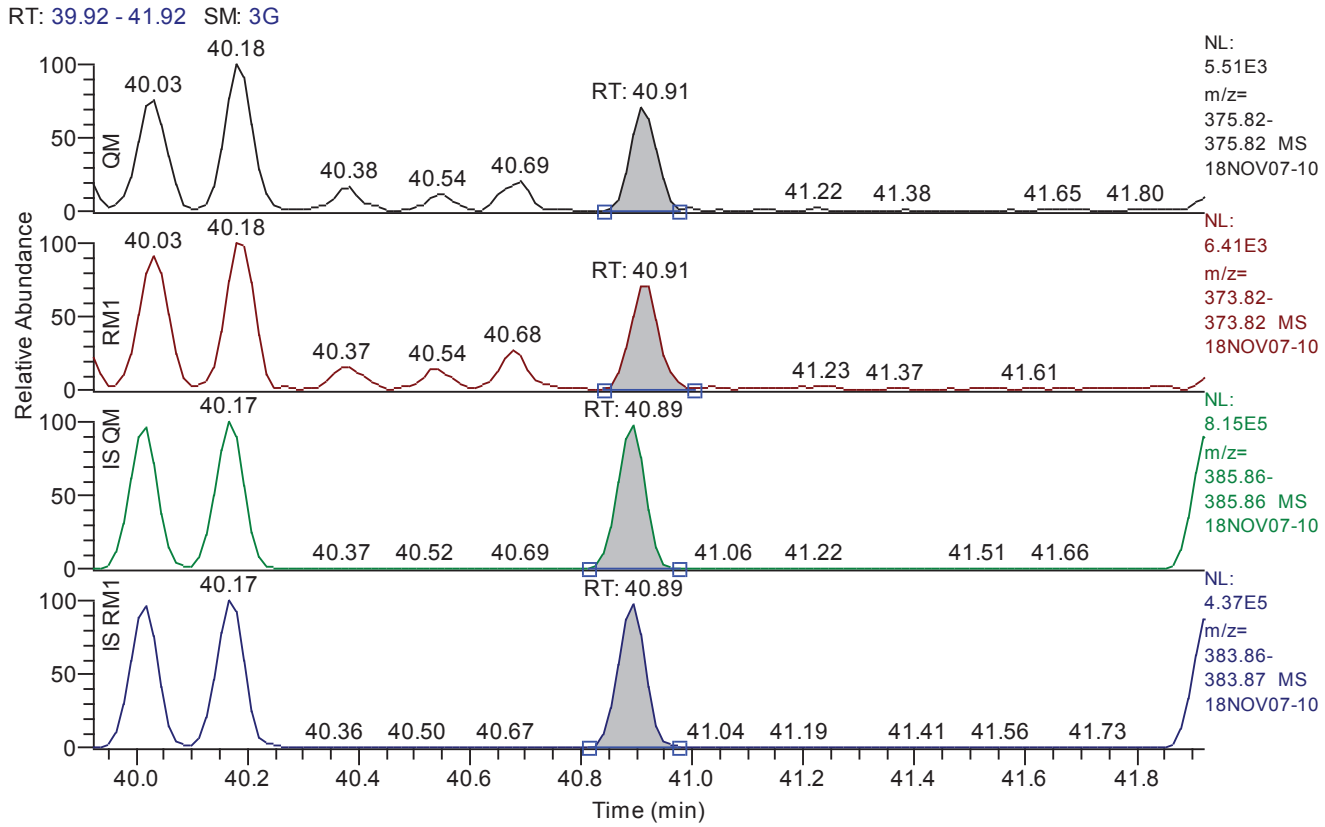
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.91
QM Area	13126
QM Integration Mode	A
RM1 Area	16603
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0234
Unqualified Amount (A)	13.595341
Adjusted Amount (A)	13.5953
Signal-to-Noise	144
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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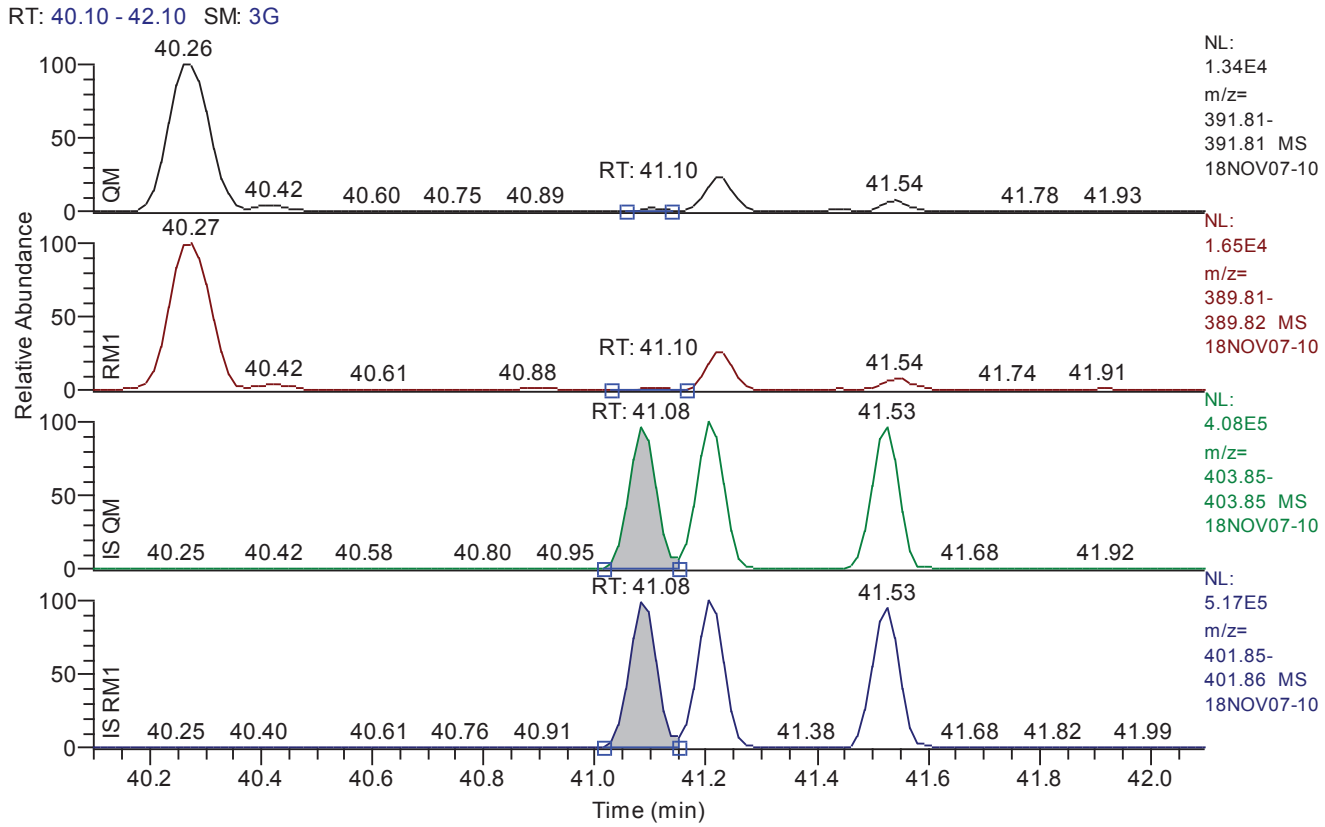
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.10
QM Area	970
QM Integration Mode	A
RM1 Area	1450
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0327
Unqualified Amount (A)	1.846825
Adjusted Amount (A)	n.d.
Signal-to-Noise	14
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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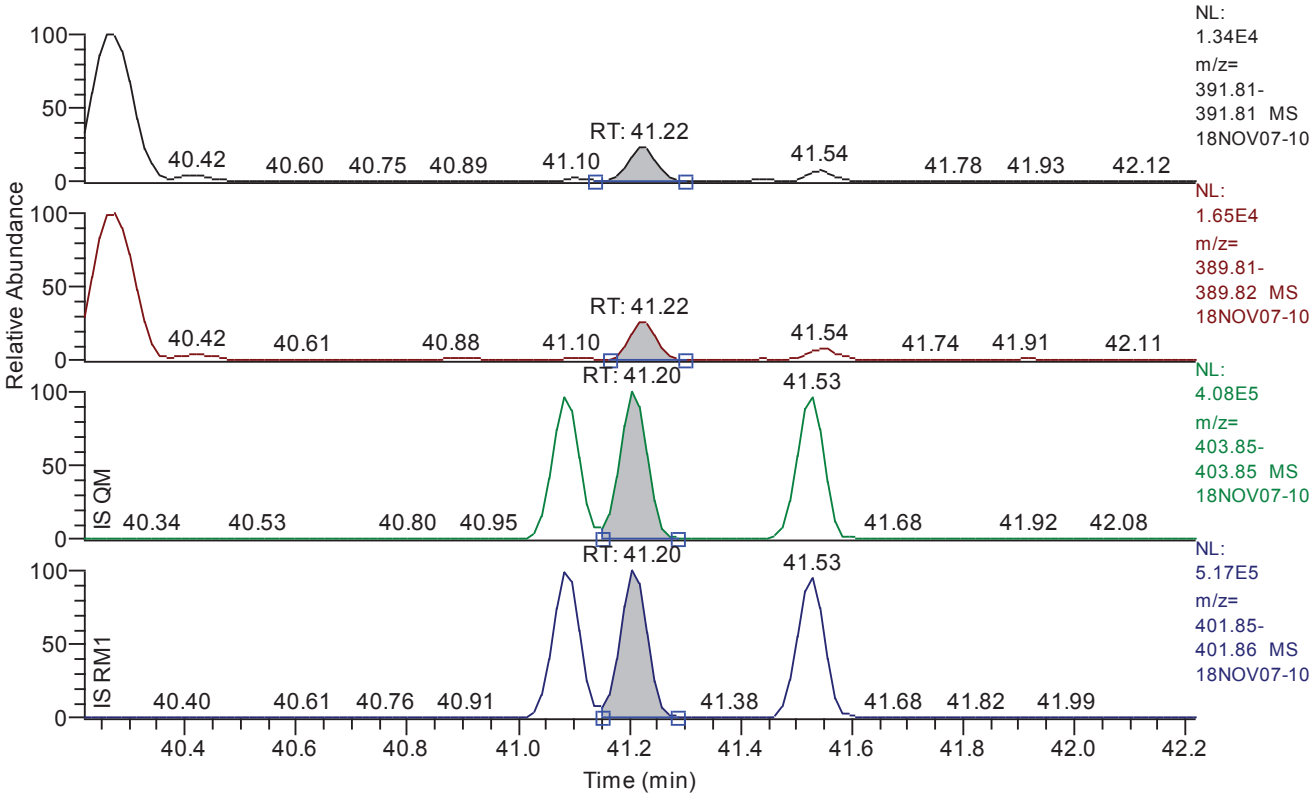
Chromatogram

RT: 40.22 - 42.22 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.22
QM Area	11539
QM Integration Mode	A
RM1 Area	14804
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0324
Unqualified Amount (A)	20.148656
Adjusted Amount (A)	20.1487
Signal-to-Noise	150
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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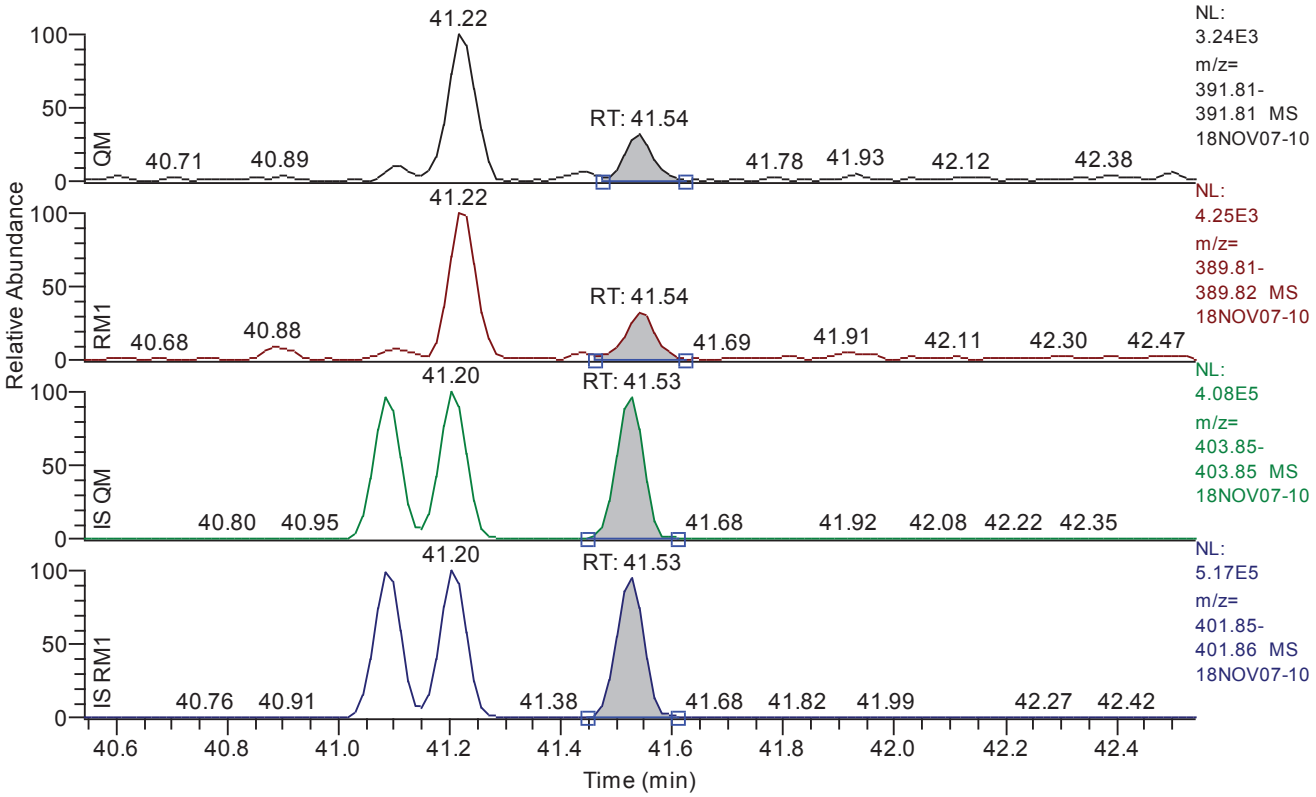
Chromatogram

RT: 40.54 - 42.54 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.54
QM Area	3668
QM Integration Mode	A
RM1 Area	5350
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0319
Unqualified Amount (A)	6.743532
Adjusted Amount (A)	n.d.
Signal-to-Noise	49
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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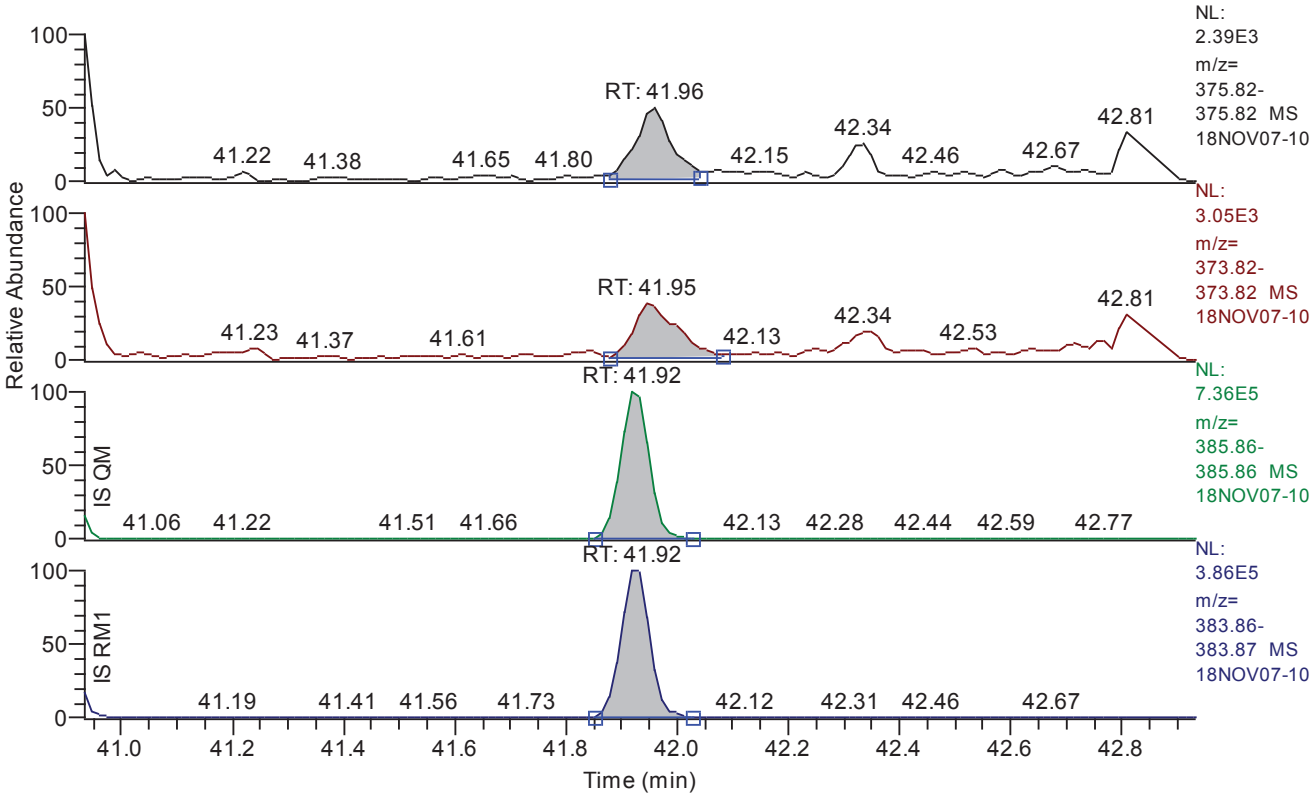
Chromatogram

RT: 40.93 - 42.93 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.96
QM Area	5223
QM Integration Mode	A
RM1 Area	5907
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0278
Unqualified Amount (A)	5.897437
Adjusted Amount (A)	5.8974
Signal-to-Noise	40
Client Flags	
Status Overview	passed
Status Info	

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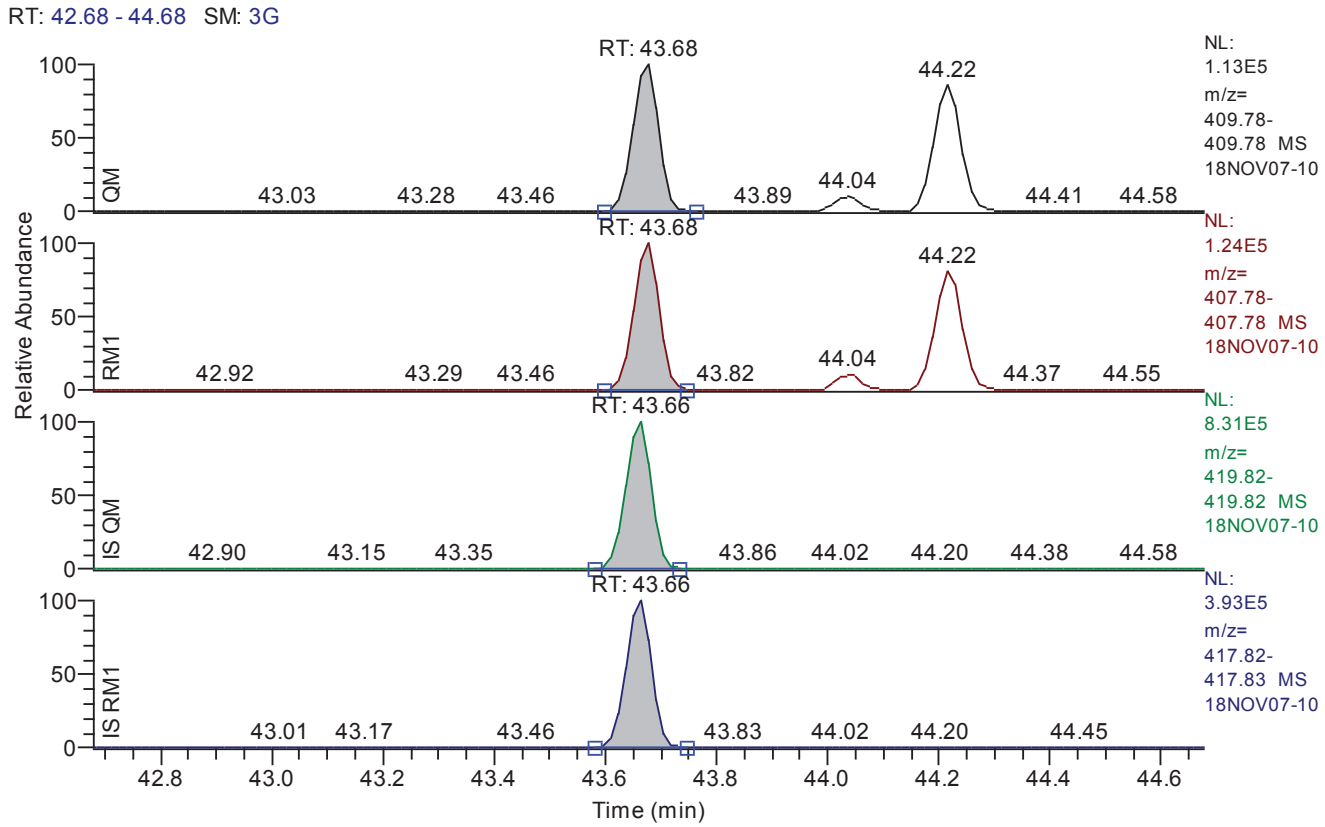
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.68
QM Area	378272
QM Integration Mode	A
RM1 Area	406373
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0149
Unqualified Amount (A)	368.779221
Adjusted Amount (A)	368.7792
Signal-to-Noise	6194
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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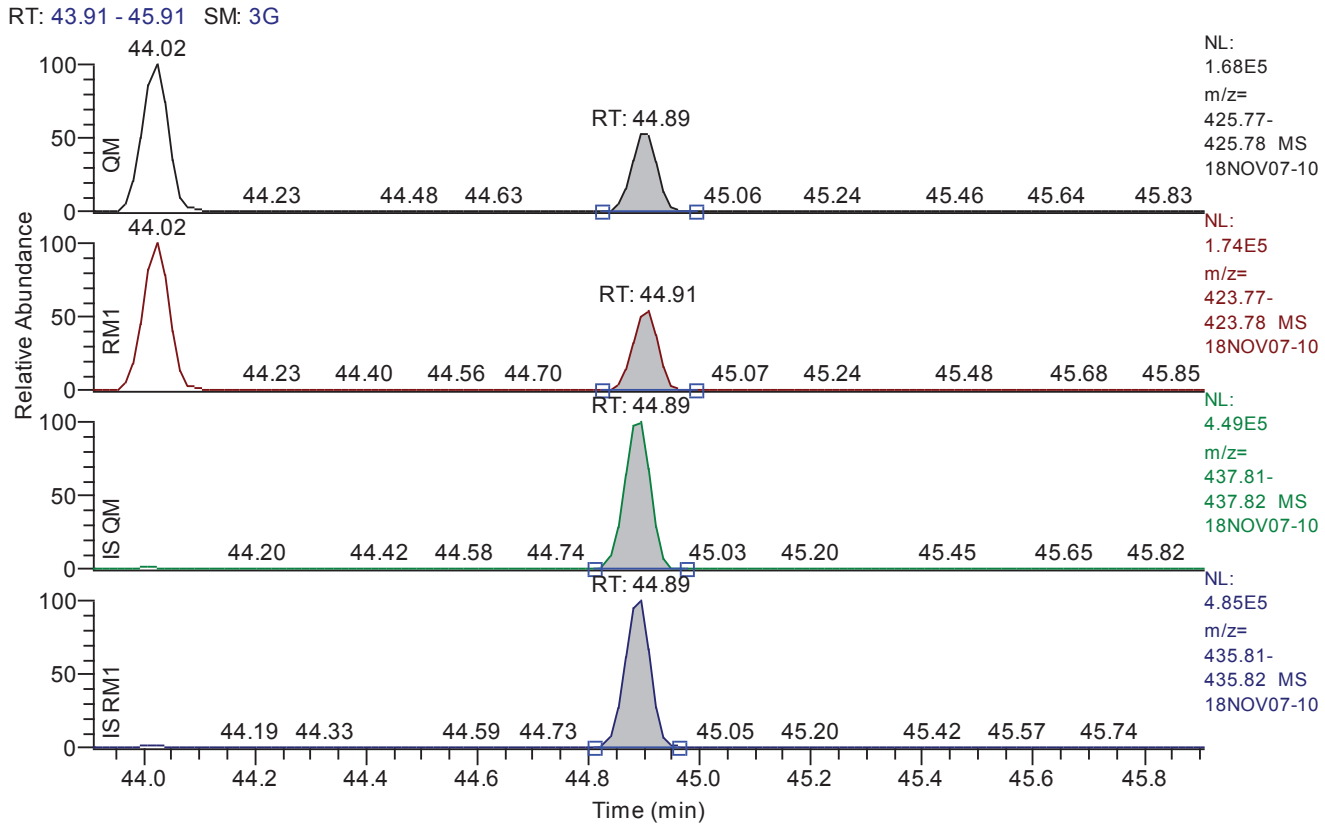
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	302415
QM Integration Mode	A
RM1 Area	310483
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0638
Unqualified Amount (A)	455.663436
Adjusted Amount (A)	455.6634
Signal-to-Noise	1784
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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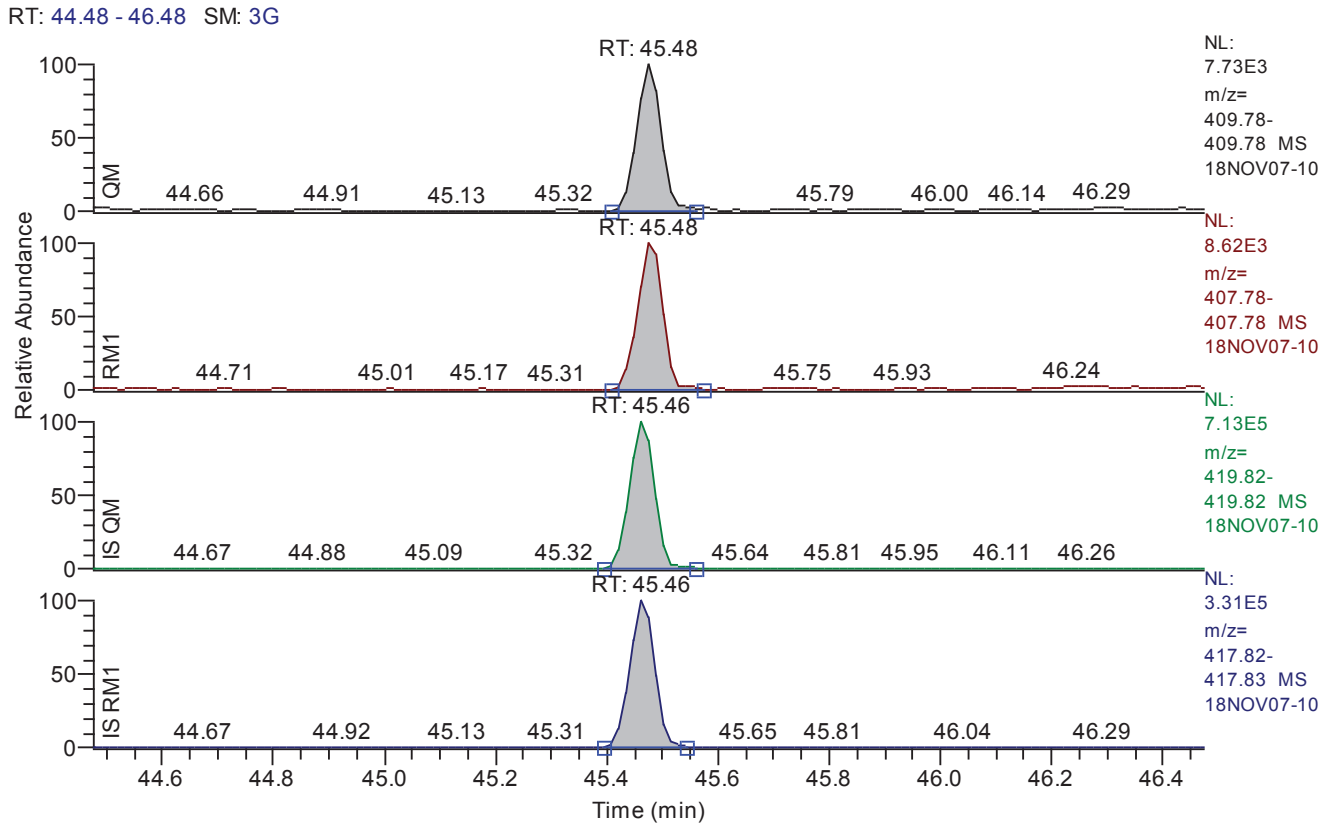
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.48
QM Area	24243
QM Integration Mode	A
RM1 Area	27936
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0170
Unqualified Amount (A)	28.461162
Adjusted Amount (A)	28.4612
Signal-to-Noise	424
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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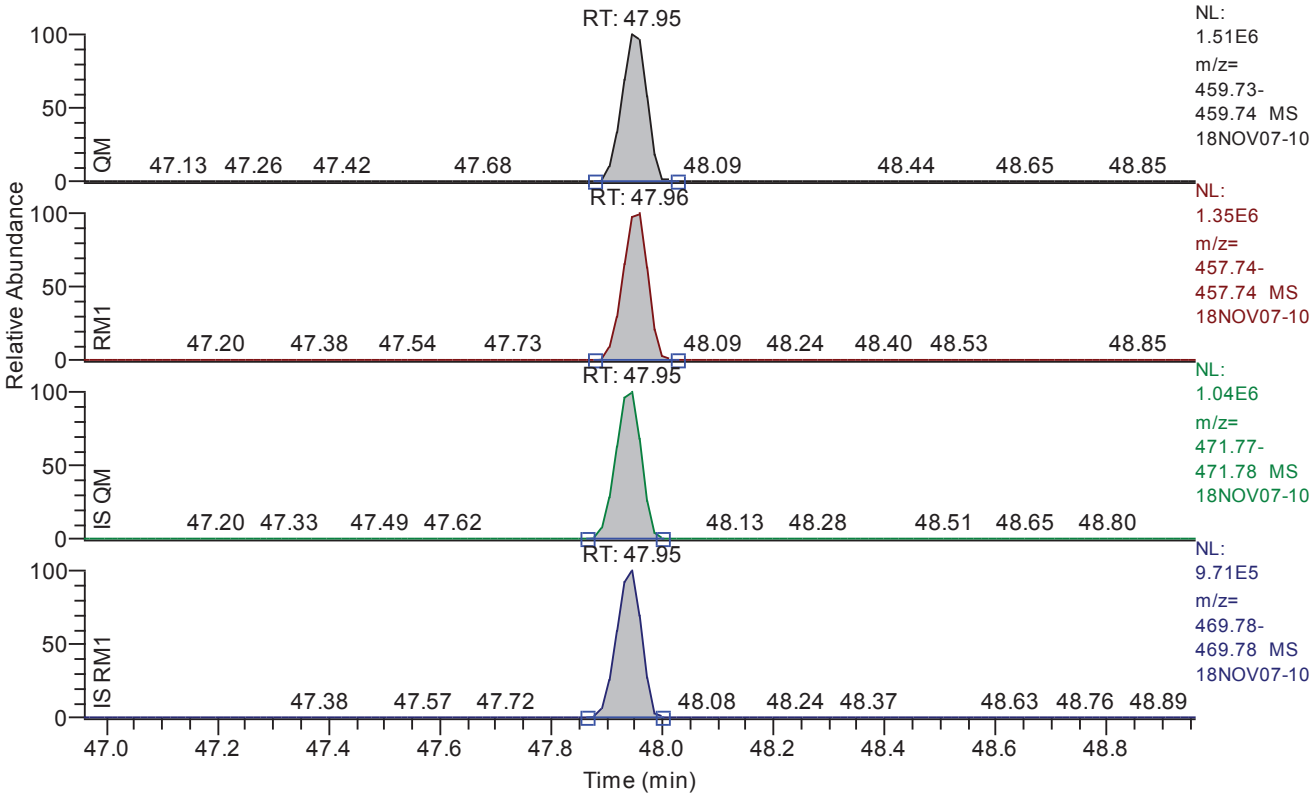
Chromatogram

RT: 46.96 - 48.96 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	47.95
QM Area	4768995
QM Integration Mode	A
RM1 Area	4284934
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0328
Unqualified Amount (A)	6816.092515
Adjusted Amount (A)	6816.0925
Signal-to-Noise	51694
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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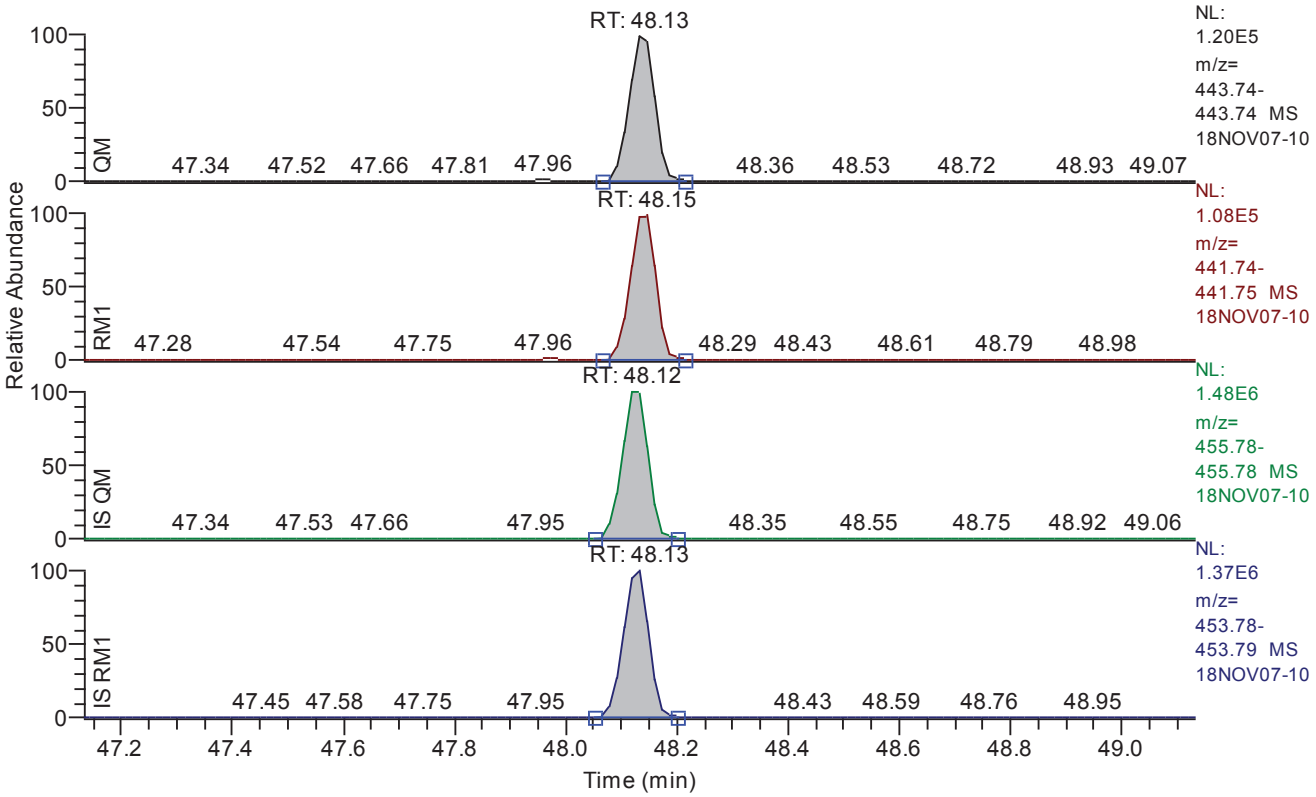
Chromatogram

RT: 47.13 - 49.13 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.13
QM Area	380993
QM Integration Mode	A
RM1 Area	343261
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0162
Unqualified Amount (A)	408.734365
Adjusted Amount (A)	408.7344
Signal-to-Noise	6389
Client Flags	
Status Overview	passed
Status Info	

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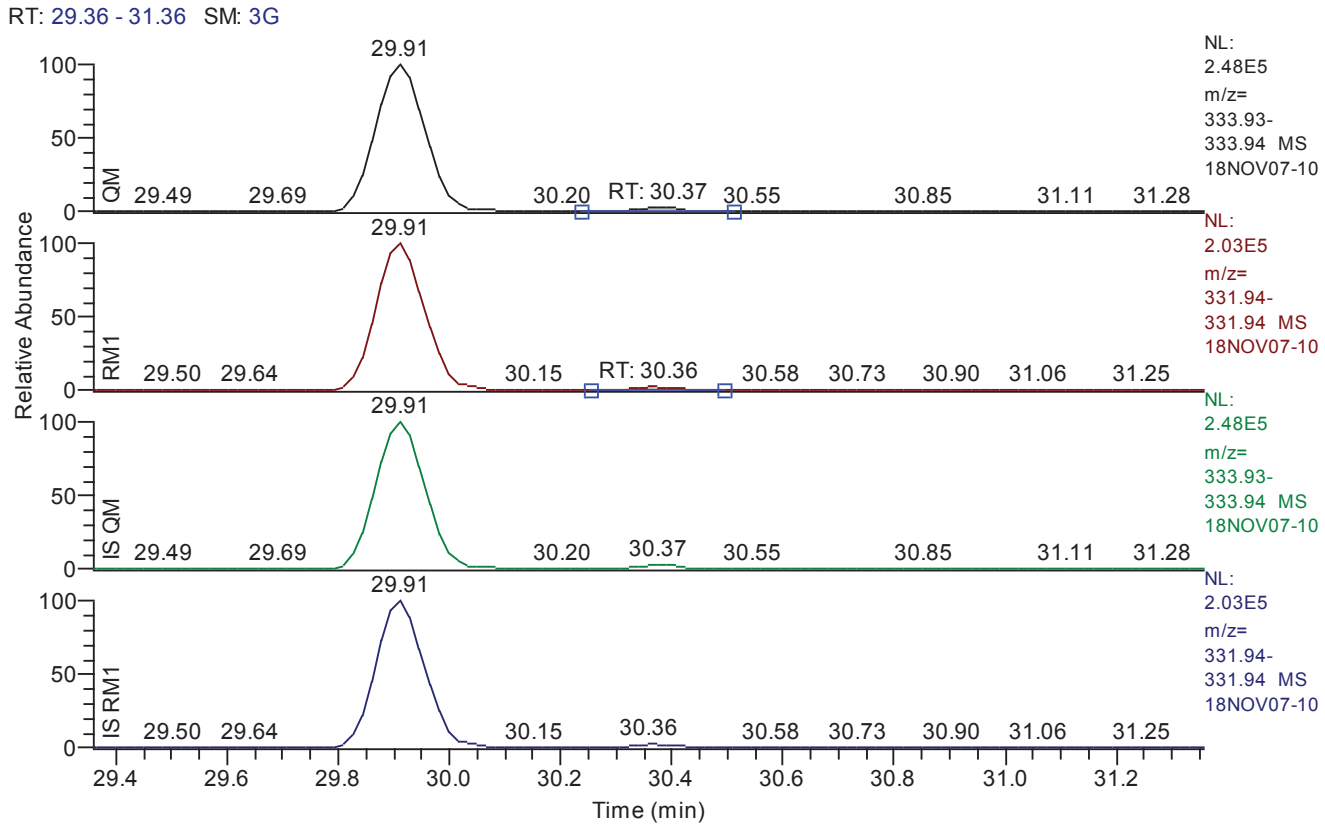
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.37
QM Area	42093
QM Integration Mode	A
RM1 Area	33299
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0344
Unqualified Amount (A)	55.883534
Adjusted Amount (A)	n.d.
Signal-to-Noise	388
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.80	28.84	28.82	28.80	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.93	29.96	29.95	29.91	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.94	34.94	34.92	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.25	36.30	36.31	36.25	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.65	36.67	36.68	36.65	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.02	40.03	40.03	40.02	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.18	40.18	40.17	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.89	40.91	40.91	40.89	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.10	41.10	41.08	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.22	41.22	41.20	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.54	41.54	41.53	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.92	41.96	41.95	41.92	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.65	43.68	43.68	43.66	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.88	44.89	44.91	44.89	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.46	45.48	45.48	45.46	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.95	47.96	47.95	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.12	48.13	48.15	48.12	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.34	30.37	30.36	30.37	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.04	29.06	29.06	29.06	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.91	39.92	39.92	39.92	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.78	28.80	28.80	29.01	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.91	29.91	29.91	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.91	34.92	34.92	34.74	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.25	36.26	36.17	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.65	36.65	36.65	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.02	40.02	40.03	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.15	40.17	40.17	40.11	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.89	40.89	40.80	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.07	41.08	41.08	41.08	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.20	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.53	41.53	41.53	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.92	41.92	41.91	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.64	43.66	43.66	43.75	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.87	44.89	44.89	44.89	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.45	45.46	45.46	45.32	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.92	47.95	47.95	47.95	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.12	48.13	48.12	passed	passed

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	28.84	0.6833	0.6450 - 0.8950	passed	---	0.9233	0.0000 - 0.0000	passed
2	2378-TCDD	29.96	1.4744	0.6450 - 0.8950	failed	---	1.0942	0.0000 - 0.0000	passed
3	12378-PeCDF	34.94	1.5489	1.3150 - 1.7850	passed	---	0.8501	0.0000 - 0.0000	passed
4	23478-PeCDF	36.30	1.6289	1.3150 - 1.7850	passed	---	0.9509	0.0000 - 0.0000	passed
5	12378-PeCDD	36.67	1.6065	1.3150 - 1.7850	passed	---	0.8957	0.0000 - 0.0000	passed
6	123478-HxCDF	40.03	1.4056	1.0450 - 1.4350	passed	---	1.0680	0.0000 - 0.0000	passed
7	123678-HxCDF	40.18	1.2219	1.0450 - 1.4350	passed	---	1.0439	0.0000 - 0.0000	passed
8	234678-HxCDF	40.91	1.2649	1.0450 - 1.4350	passed	---	1.1084	0.0000 - 0.0000	passed
9	123478-HxCDD	41.10	1.4946	1.0450 - 1.4350	failed	---	0.9107	0.0000 - 0.0000	passed
10	123678-HxCDD	41.22	1.2830	1.0450 - 1.4350	passed	---	0.9043	0.0000 - 0.0000	passed
11	123789-HxCDD	41.54	1.4585	1.0450 - 1.4350	failed	---	0.9541	0.0000 - 0.0000	passed
12	123789-HxCDF	41.96	1.1308	1.0450 - 1.4350	passed	---	1.0178	0.0000 - 0.0000	passed
13	1234678-HpCDF	43.68	1.0743	0.8750 - 1.2050	passed	---	1.1477	0.0000 - 0.0000	passed
14	1234678-HpCDD	44.89	1.0267	0.8750 - 1.2050	passed	---	0.9366	0.0000 - 0.0000	passed
15	1234789-HpCDF	45.48	1.1524	0.8750 - 1.2050	passed	---	1.1813	0.0000 - 0.0000	passed
16	OCDD	47.95	0.8985	0.7550 - 1.0250	passed	---	0.9120	0.0000 - 0.0000	passed
17	OCDF	48.13	0.9010	0.7550 - 1.0250	passed	---	0.8459	0.0000 - 0.0000	passed
18	13C12-1278-TCDD (CRS)	30.37	0.7911	0.6450 - 0.8950	passed	0.2911	1.0324	0.0000 - 0.0000	passed
19	13C12-1234-TCDD	29.06	0.8032	0.6450 - 0.8950	passed	1.0000	1.0000	0.0000 - 0.0000	passed
20	13C12-123468-HxCDD	39.92	1.2773	1.0450 - 1.4350	passed	1.0000	1.0000	0.0000 - 0.0000	passed
21	13C12-2378-TCDF	28.80	0.7950	0.6450 - 0.8950	passed	1.8871	1.7703	0.0000 - 0.0000	passed
22	13C12-2378-TCDD	29.91	0.8066	0.6450 - 0.8950	passed	0.9736	0.9769	0.0000 - 0.0000	passed
23	13C12-12378-PeCDF	34.92	1.5837	1.3150 - 1.7850	passed	1.6645	1.6320	0.0000 - 0.0000	passed
24	13C12-23478-PeCDF	36.25	1.5864	1.3150 - 1.7850	passed	1.6402	1.6333	0.0000 - 0.0000	passed
25	13C12-12378-PeCDD	36.65	1.5894	1.3150 - 1.7850	passed	0.9246	0.9751	0.0000 - 0.0000	passed
26	13C12-123478-HxCDF	40.02	0.5404	0.4250 - 0.5950	passed	1.3872	1.2659	0.0000 - 0.0000	passed
27	13C12-123678-HxCDF	40.17	0.5340	0.4250 - 0.5950	passed	1.4470	1.3355	0.0000 - 0.0000	passed
28	13C12-234678-HxCDF	40.89	0.5343	0.4250 - 0.5950	passed	1.3846	1.2366	0.0000 - 0.0000	passed
29	13C12-123478-HxCDD	41.08	1.3072	1.0450 - 1.4350	passed	1.0096	0.9892	0.0000 - 0.0000	passed
30	13C12-123678-HxCDD	41.20	1.2521	1.0450 - 1.4350	passed	1.0147	1.0149	0.0000 - 0.0000	passed
31	13C12-123789-HxCDD	41.53	1.2494	1.0450 - 1.4350	passed	0.9837	0.9622	0.0000 - 0.0000	passed
32	13C12-123789-HxCDF	41.92	0.5329	0.4250 - 0.5950	passed	1.3014	1.1265	0.0000 - 0.0000	passed
33	13C12-1234678-HpCDF	43.66	0.4691	0.3650 - 0.5150	passed	1.3011	1.1645	0.0000 - 0.0000	passed
34	13C12-1234678-HpCDD	44.89	1.0537	0.8750 - 1.2050	passed	1.0080	0.9693	0.0000 - 0.0000	passed
35	13C12-1234789-HpCDF	45.46	0.4614	0.3650 - 0.5150	passed	1.0893	0.9563	0.0000 - 0.0000	passed
36	13C12-OCDD	47.95	0.9113	0.7550 - 1.0250	passed	1.0222	0.9422	0.0000 - 0.0000	passed
37	13C12-OCDF	48.12	0.9077	0.7550 - 1.0250	passed	1.4701	1.2582	0.0000 - 0.0000	passed

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.84	5037	A	3441	A	0.0429	3.723770	3.7238	0.000000	20	
2	2378-TCDD	failed	29.96	318	A	469	A	0.0204	0.565904	n.d.	0.000000	12	
3	12378-PeCDF	passed	34.94	4650	A	7203	A	0.0269	6.410298	6.4103	0.000000	59	
4	23478-PeCDF	passed	36.30	6949	A	11320	A	0.0231	8.964285	8.9643	0.000000	63	
5	12378-PeCDD	passed	36.67	1168	A	1876	A	0.0444	2.812475	2.8125	0.000000	15	
6	123478-HxCDF	passed	40.03	15320	A	21534	A	0.0246	17.458993	17.4590	0.000000	171	
7	123678-HxCDF	passed	40.18	19147	A	23396	A	0.0244	19.767156	19.7672	0.000000	202	
8	234678-HxCDF	passed	40.91	13126	A	16603	A	0.0234	13.595341	13.5953	0.000000	144	
9	123478-HxCDD	failed	41.10	970	A	1450	A	0.0327	1.846825	n.d.	0.000000	14	
10	123678-HxCDD	passed	41.22	11539	A	14804	A	0.0324	20.148656	20.1487	0.000000	150	
11	123789-HxCDD	failed	41.54	3668	A	5350	A	0.0319	6.743532	n.d.	0.000000	49	
12	123789-HxCDF	passed	41.96	5223	A	5907	A	0.0278	5.897437	5.8974	0.000000	40	
13	1234678-HpCDF	passed	43.68	378272	A	406373	A	0.0149	368.779221	368.7792	0.000000	6194	
14	1234678-HpCDD	passed	44.89	302415	A	310483	A	0.0638	455.663436	455.6634	0.000000	1784	
15	1234789-HpCDF	passed	45.48	24243	A	27936	A	0.0170	28.461162	28.4612	0.000000	424	
16	OCDD	passed	47.95	4768995	A	4284934	A	0.0328	6816.092515	6816.0925	0.000000	51694	
17	OCDF	passed	48.13	380993	A	343261	A	0.0162	408.734365	408.7344	0.000000	6389	
18	13C12-1278-TCDD (CRS)	failed	30.37	42093	A	33299	A	0.0344	55.883534	n.d.	198.216056	388	
19	13C12-1234-TCDD	passed	29.06	1580008	A	1269090	A	0.0355	2180.376611	2180.3766	2180.376611	15364	
20	13C12-123468-HxCDD	passed	39.92	1364177	A	1742489	A	0.0530	2180.376611	2180.3766	2180.376611	10280	
21	13C12-2378-TCDF	passed	28.80	2995251	A	2381207	A	0.0260	2324.207219	2324.2072	2180.376611	22527	
22	13C12-2378-TCDD	passed	29.91	1535384	A	1238454	A	0.0363	2173.002540	2173.0025	2180.376611	14095	
23	13C12-12378-PeCDF	passed	34.92	1835503	A	2906871	A	0.0630	2223.786060	2223.7861	2180.376611	11255	
24	13C12-23478-PeCDF	passed	36.25	1806791	A	2866238	A	0.0629	2189.532008	2189.5320	2180.376611	11716	
25	13C12-12378-PeCDD	passed	36.65	1017326	A	1616955	A	0.0411	2067.469897	2067.4699	2180.376611	17201	
26	13C12-123478-HxCDF	passed	40.02	2797677	A	1511876	A	0.0712	2389.319424	2389.3194	2180.376611	8237	
27	13C12-123678-HxCDF	passed	40.17	2930417	A	1564821	A	0.0675	2362.380684	2362.3807	2180.376611	8494	
28	13C12-234678-HxCDF	passed	40.89	2803627	A	1497880	A	0.0729	2441.437250	2441.4373	2180.376611	8349	
29	13C12-123478-HxCDD	passed	41.08	1359416	A	1777080	A	0.0536	2225.351562	2225.3516	2180.376611	10536	
30	13C12-123678-HxCDD	passed	41.20	1399771	A	1752700	A	0.0522	2180.012747	2180.0127	2180.376611	10690	
31	13C12-123789-HxCDD	passed	41.53	1358601	A	1697387	A	0.0551	2229.179205	2229.1792	2180.376611	10307	
32	13C12-123789-HxCDF	passed	41.92	2637504	A	1405498	A	0.0800	2518.915230	2518.9152	2180.376611	7630	
33	13C12-1234678-HpCDF	passed	43.66	2751394	A	1290715	A	0.0704	2436.127727	2436.1277	2180.376611	9153	
34	13C12-1234678-HpCDD	passed	44.89	1524773	A	1606617	A	0.0596	2267.439442	2267.4394	2180.376611	9913	
35	13C12-1234789-HpCDF	passed	45.46	2315605	A	1068362	A	0.0857	2483.619970	2483.6200	2180.376611	7801	
36	13C12-OCDD	passed	47.95	3323132	A	3028343	A	0.0288	4731.171886	4731.1719	4360.753221	45455	
37	13C12-OCDF	passed	48.12	4788157	A	4346215	A	0.0278	5095.397401	5095.3974	4360.753221	50016	

APPROVED
By uma9 at 12:30 pm, 11/9/18

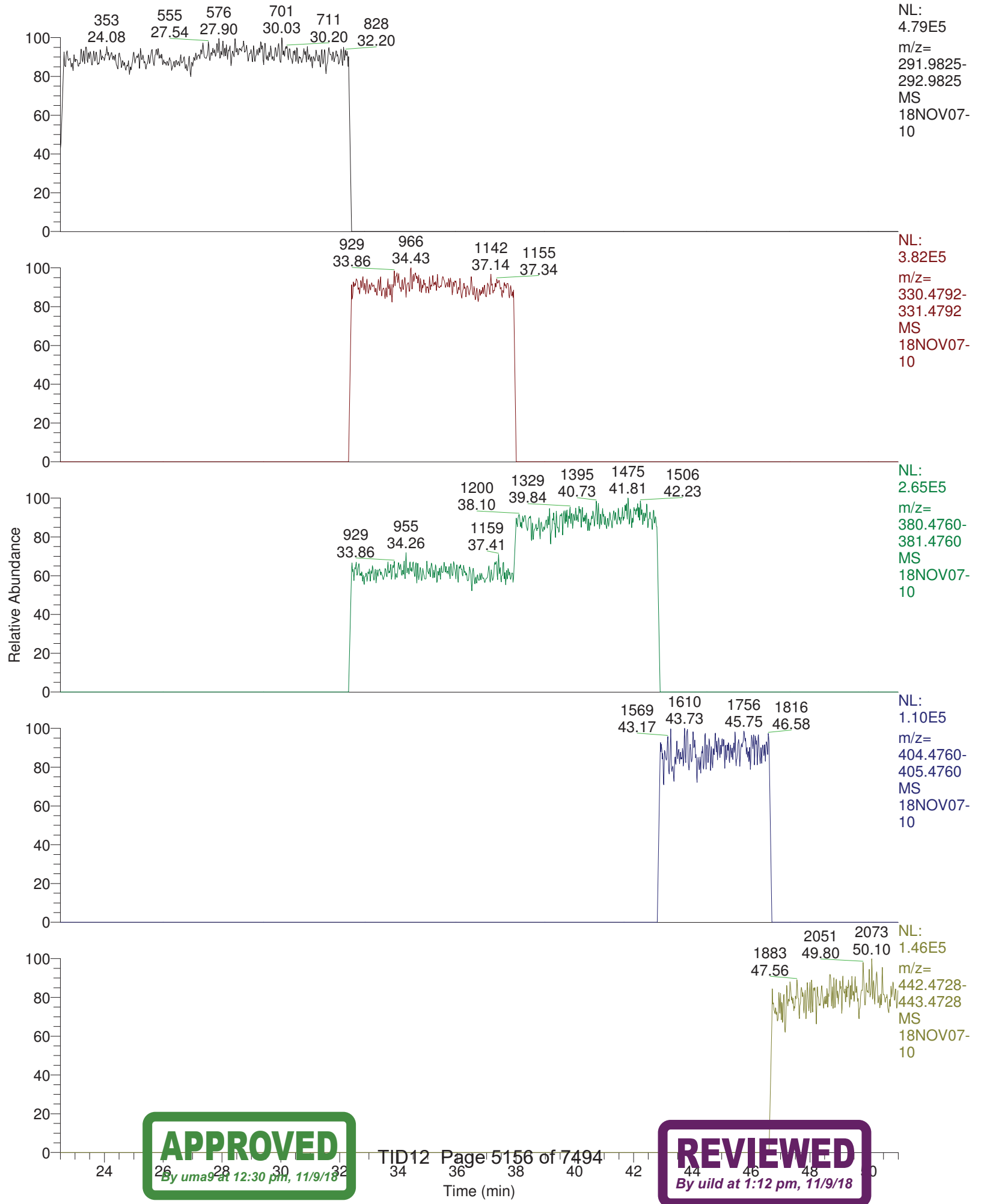
REVIEWED
By uild at 1:12 pm, 11/9/18

File Name: W:\18NOV07\18NOV07-10
Sample ID: 9872061DL

Acq. Data: 11/7/2018 11:34:47 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV07

RT: 22.50 - 51.00



APPROVED
By uma9 at 12:30 pm, 11/9/18

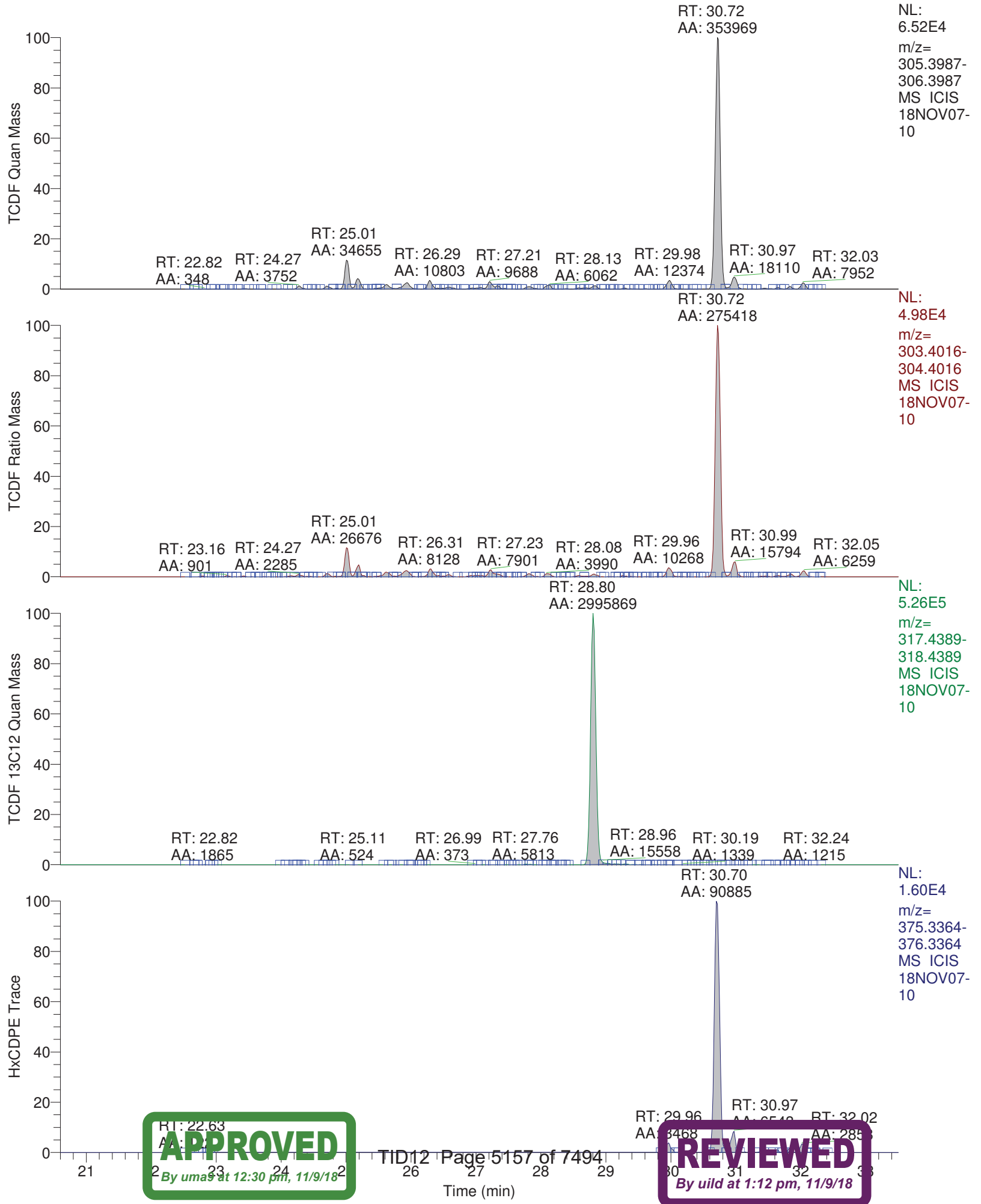
REVIEWED
By uild at 1:12 pm, 11/9/18

File Name: W:\18NOV07\18NOV07-10
Sample ID: 9872061DL

Acq. Data: 11/7/2018 11:34:47 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 20.60 - 33.50



APPROVED
By umas at 12:30 pm, 11/9/18

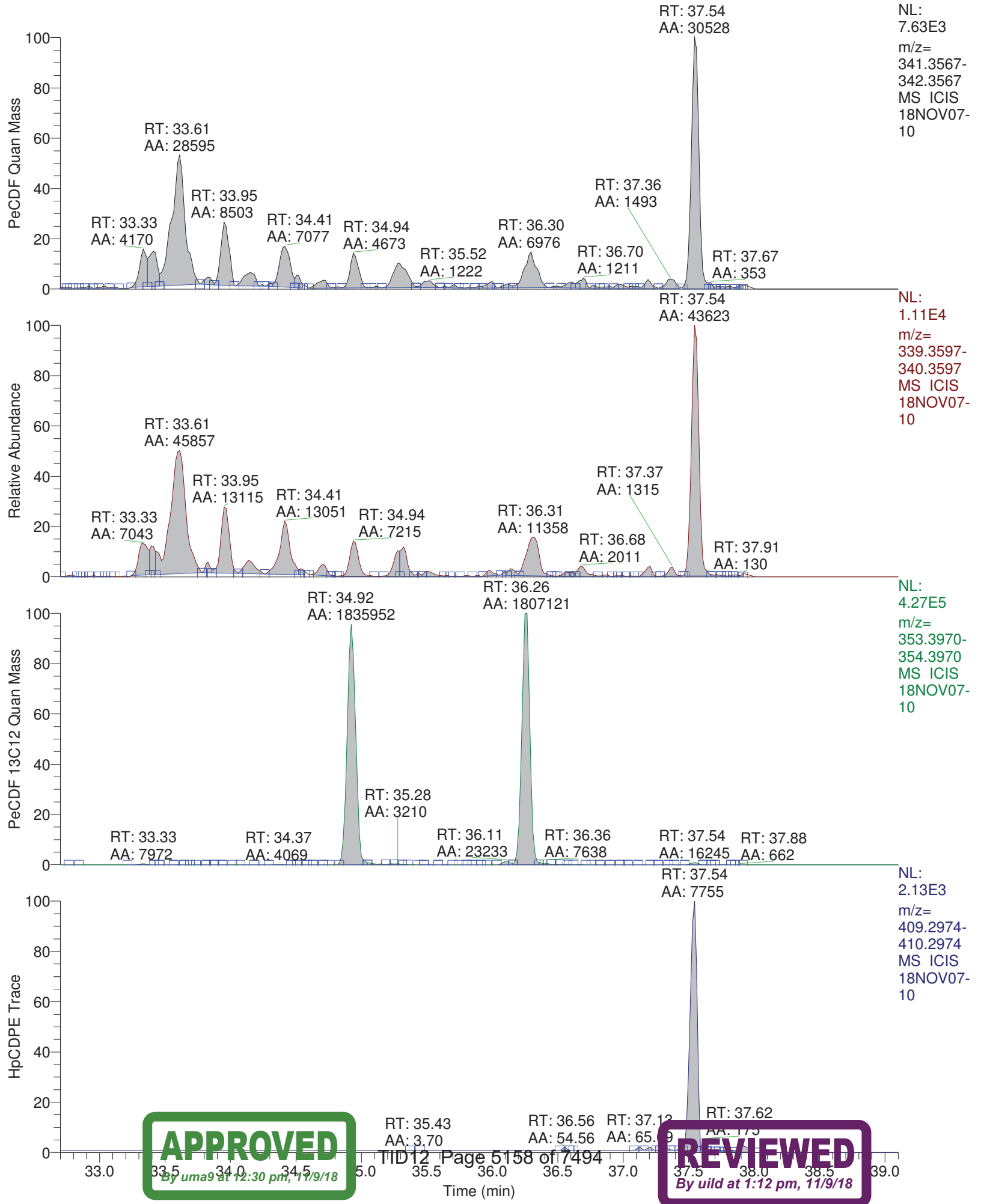
REVIEWED
By uild at 1:12 pm, 11/9/18

File Name: W:\18NOV07\18NOV07-10
Sample ID: 9872061DL

Acq. Data: 11/7/2018 11:34:47 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 32.70 - 39.10



APPROVED
By uma9 at 12:30 pm, 11/9/18

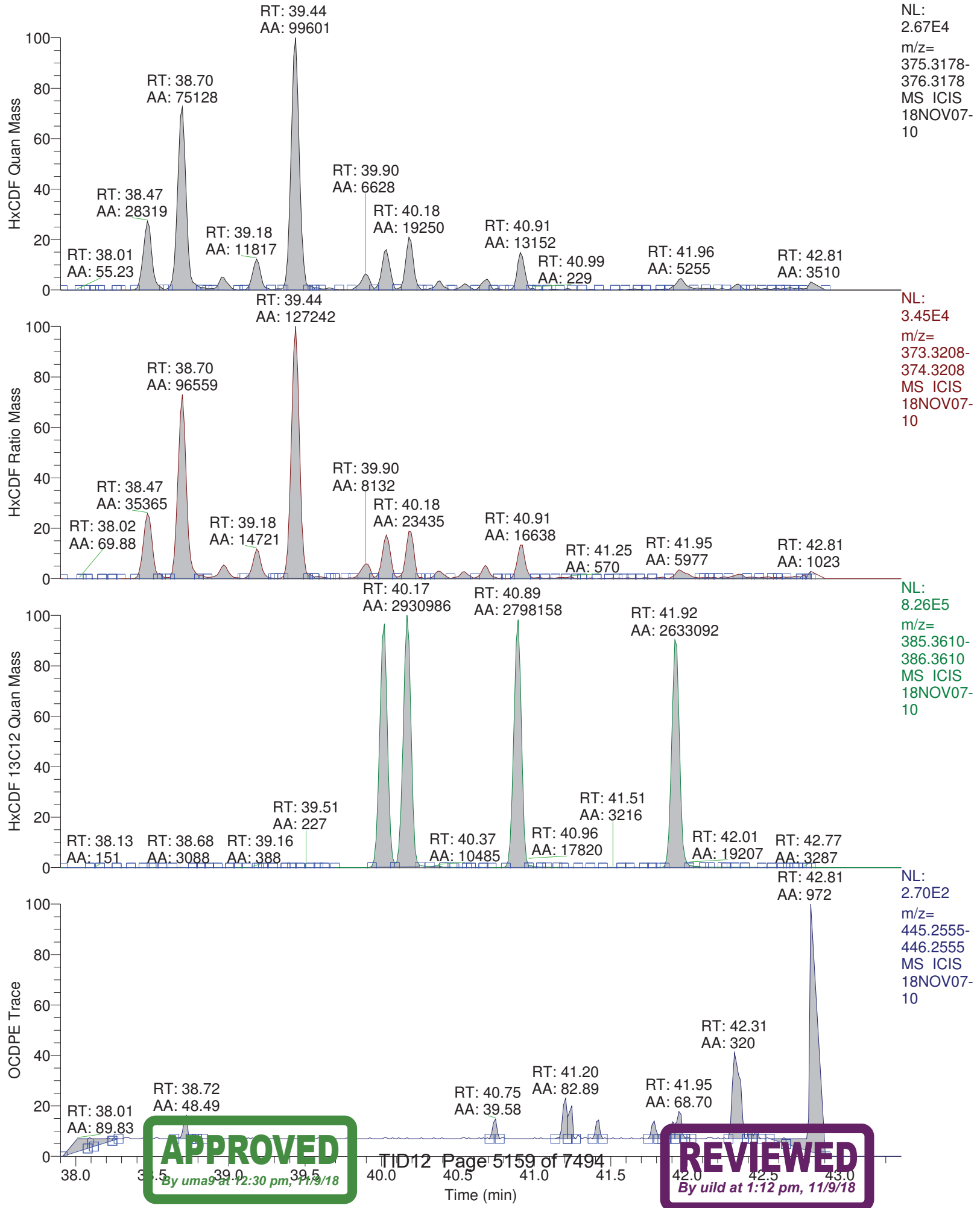
REVIEWED
By uild at 1:12 pm, 11/9/18

File Name: W:\18NOV07\18NOV07-10
Sample ID: 9872061DL

Acq. Data: 11/7/2018 11:34:47 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 37.90 - 43.40



APPROVED
By uma9 at 12:30 pm, 11/9/18

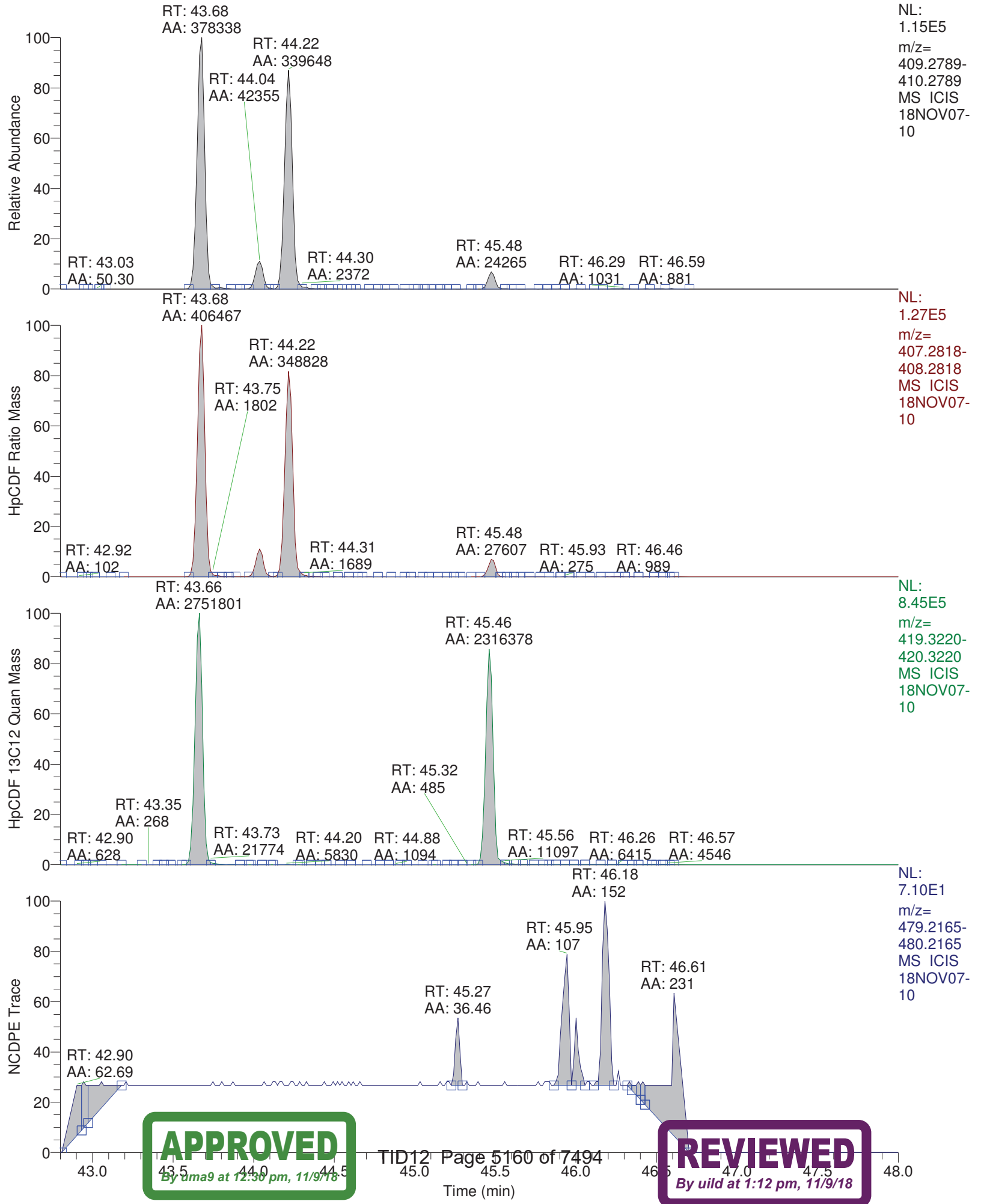
REVIEWED
By uild at 1:12 pm, 11/9/18

File Name: W:\18NOV07\18NOV07-10
Sample ID: 9872061DL

Acq. Data: 11/7/2018 11:34:47 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 42.80 - 48.00



APPROVED
By uma9 at 12:30 pm, 11/9/18

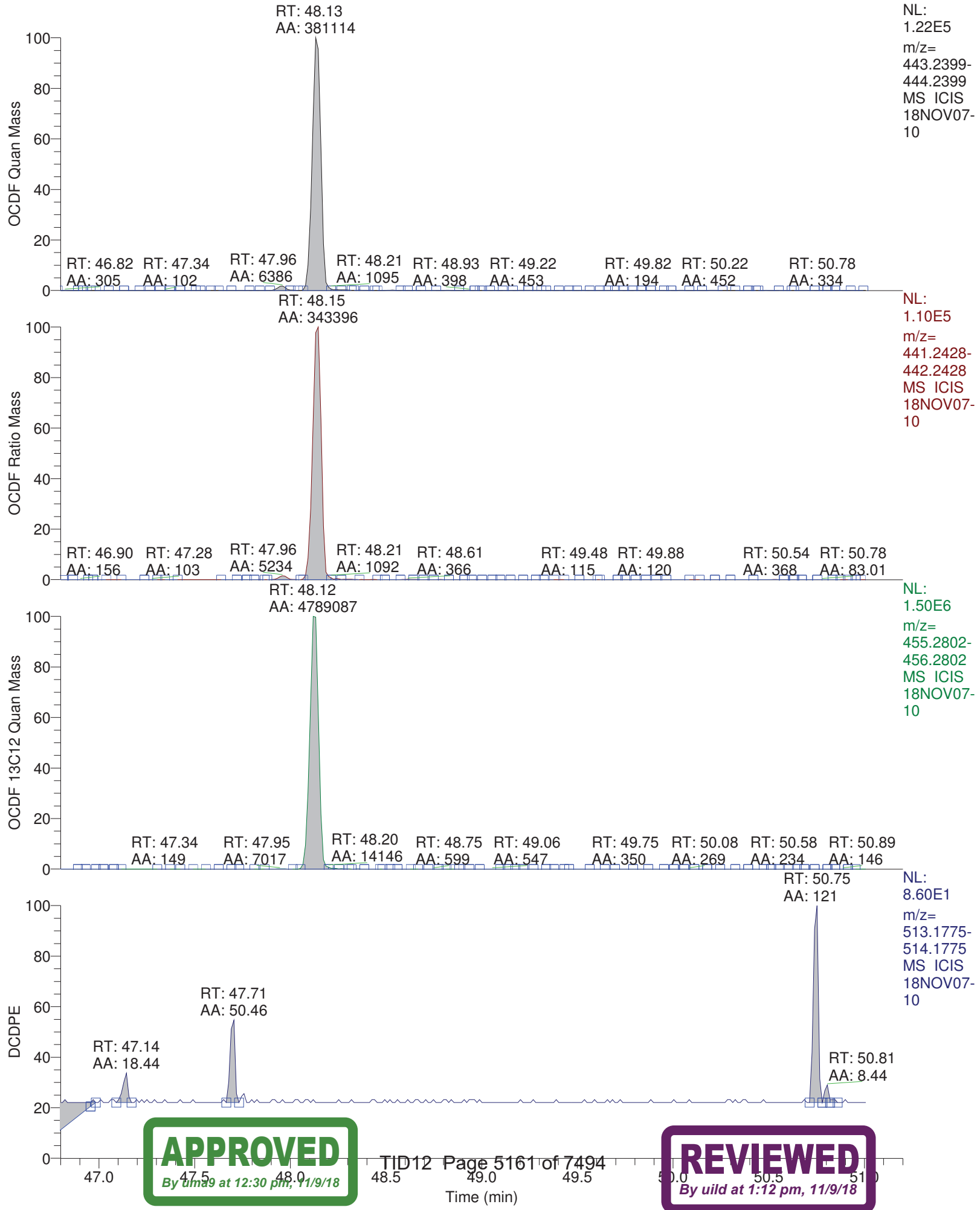
REVIEWED
By uild at 1:12 pm, 11/9/18

File Name: W:\18NOV07\18NOV07-10
Sample ID: 9872061DL

Acq. Data: 11/7/2018 11:34:47 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-06-DUP Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 46.80 - 51.20



APPROVED
By umd9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

*** file opened Wed Nov 07 23:40:27 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 07-Nov-18 23:40:27

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 942b750e-bb72-49d7-85db-36b7fb54dc11

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.500000 minutes
MID Window end time was 22.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
```

```
MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          95.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR           1.0000
 EDAC        7969177.0000   EDACG           0.9998   EDACZ        1449.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR          -2.6700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0186   FVINLET         0.0428   FVSRC           0.0327
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           95.0000   LKM           442.9723   MASS           95.0000
 MDAC        1401471.2988   MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2166.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9817   RELEN           0.0000
 RES          12228.3742   RPUSHER        -1.0769   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.0000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11903.
MID Time Window 2: Resolution is 11997.
MID Time Window 3: Resolution is 12299.
MID Time Window 4: Resolution is 12067.
```

```
MID Time Window 5: Resolution is 12795.
MID Time Window 6: Resolution is 12228.

Amplifier Offset: 92.


*** File closed Thu Nov 08 00:31:29 2018
 ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 00:21
Number of Entries	245
Comment	S:11030:12937:17962
Vial	78
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Sample ID	9872062
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-19.quan
Data	z:\18nov06\18nov06-19.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.04
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.45	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.56	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	35.40	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.71	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.10	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.27	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.58	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.89	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.32	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
16	OCDD	48.27	passed	passed	passed	passed	passed	passed	
17	OCDF	48.46	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.96	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.67	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.28	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.42	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.53	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.39	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.07	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.53	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.24	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.43	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.55	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.87	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.27	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.99	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.27	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.45	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 00:21
Number of Entries	245
Comment	S:11030:12937:17962
Vial	78
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Sample ID	9872062
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-19.quan
Data	z:\18nov06\18nov06-19.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.04
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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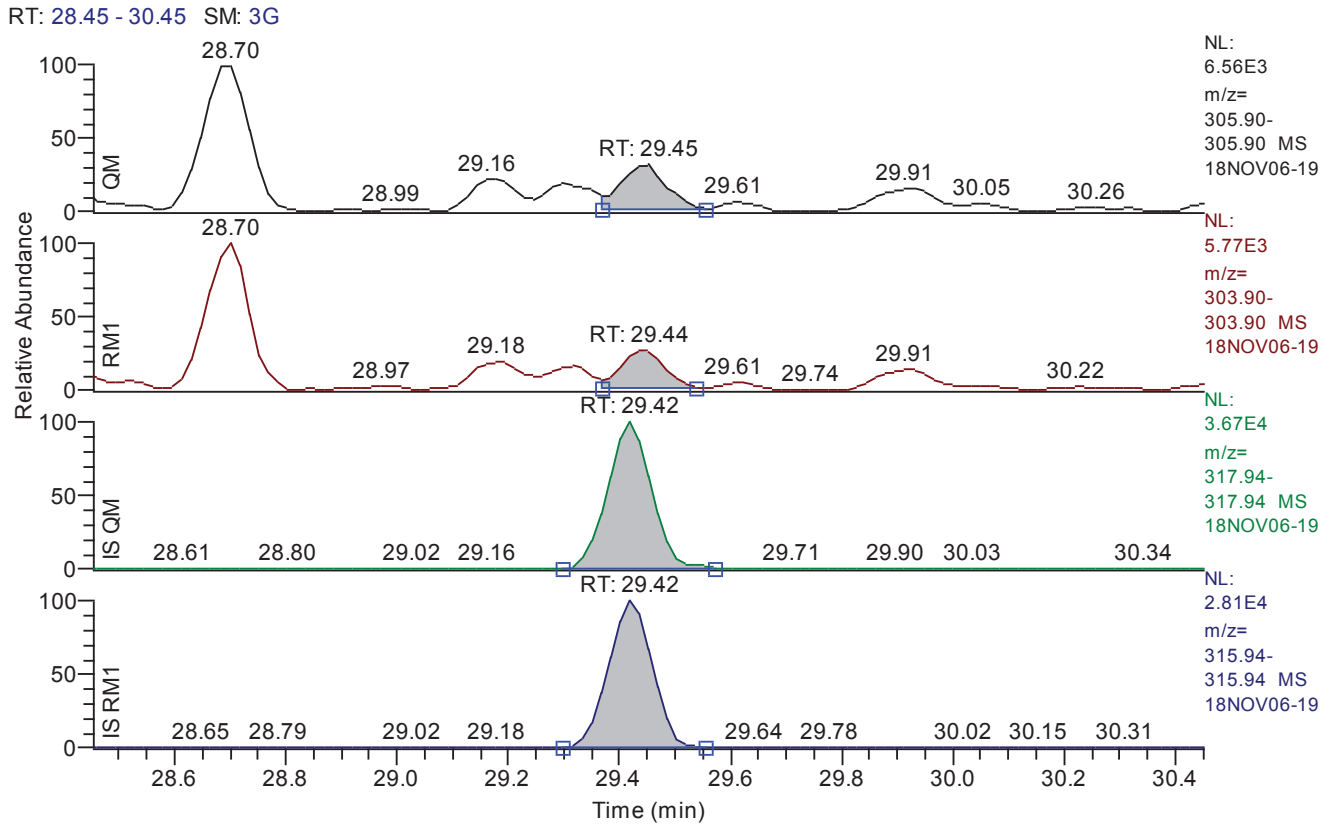
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.45
QM Area	11311
QM Integration Mode	A
RM1 Area	8181
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.8664
Unqualified Amount (A)	9.767749
Adjusted Amount (A)	9.7677
Signal-to-Noise	28
Client Flags	
Status Overview	passed
Status Info	

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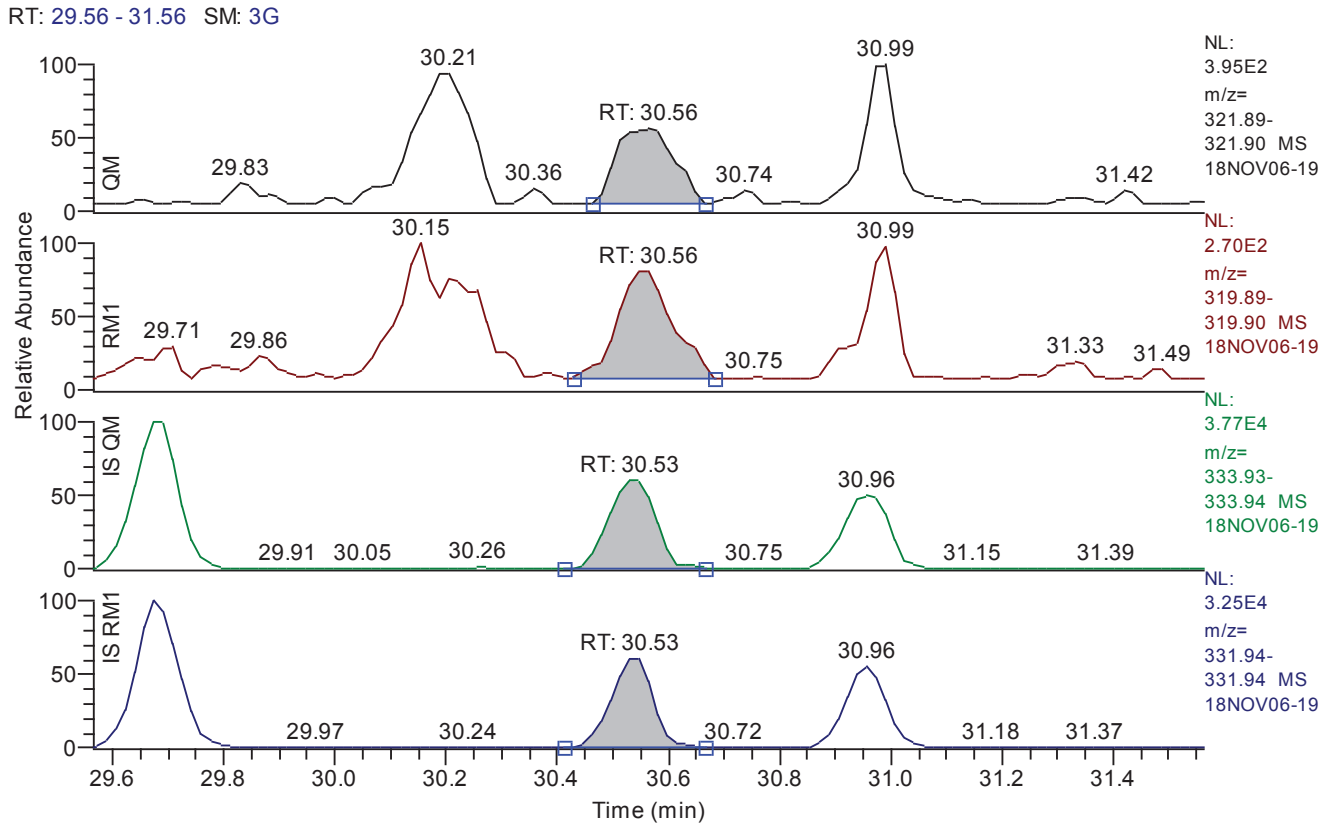
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.56
QM Area	1508
QM Integration Mode	A
RM1 Area	1365
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2236
Unqualified Amount (A)	1.921943
Adjusted Amount (A)	n.d.
Signal-to-Noise	17
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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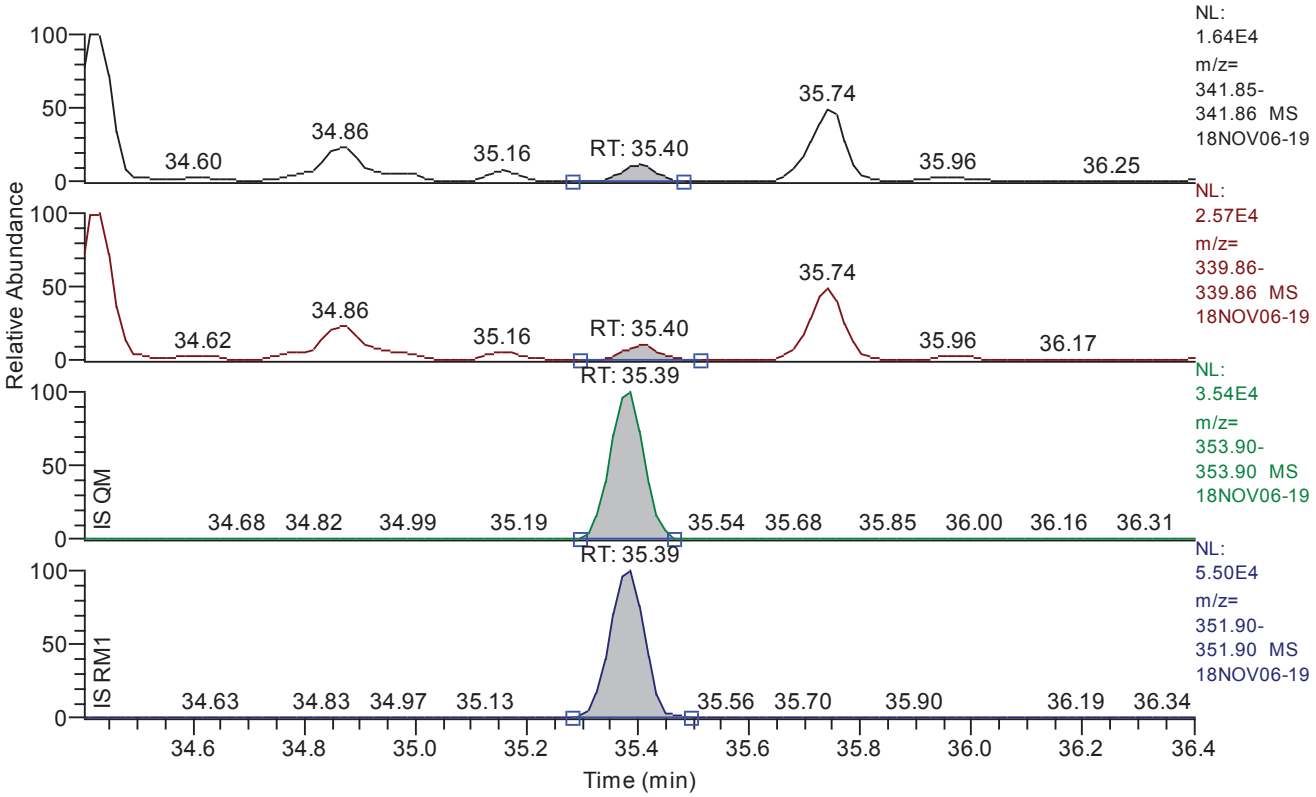
Chromatogram

RT: 34.40 - 36.40 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.40
QM Area	8176
QM Integration Mode	A
RM1 Area	12156
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2899
Unqualified Amount (A)	10.455573
Adjusted Amount (A)	10.4556
Signal-to-Noise	87
Client Flags	
Status Overview	passed
Status Info	

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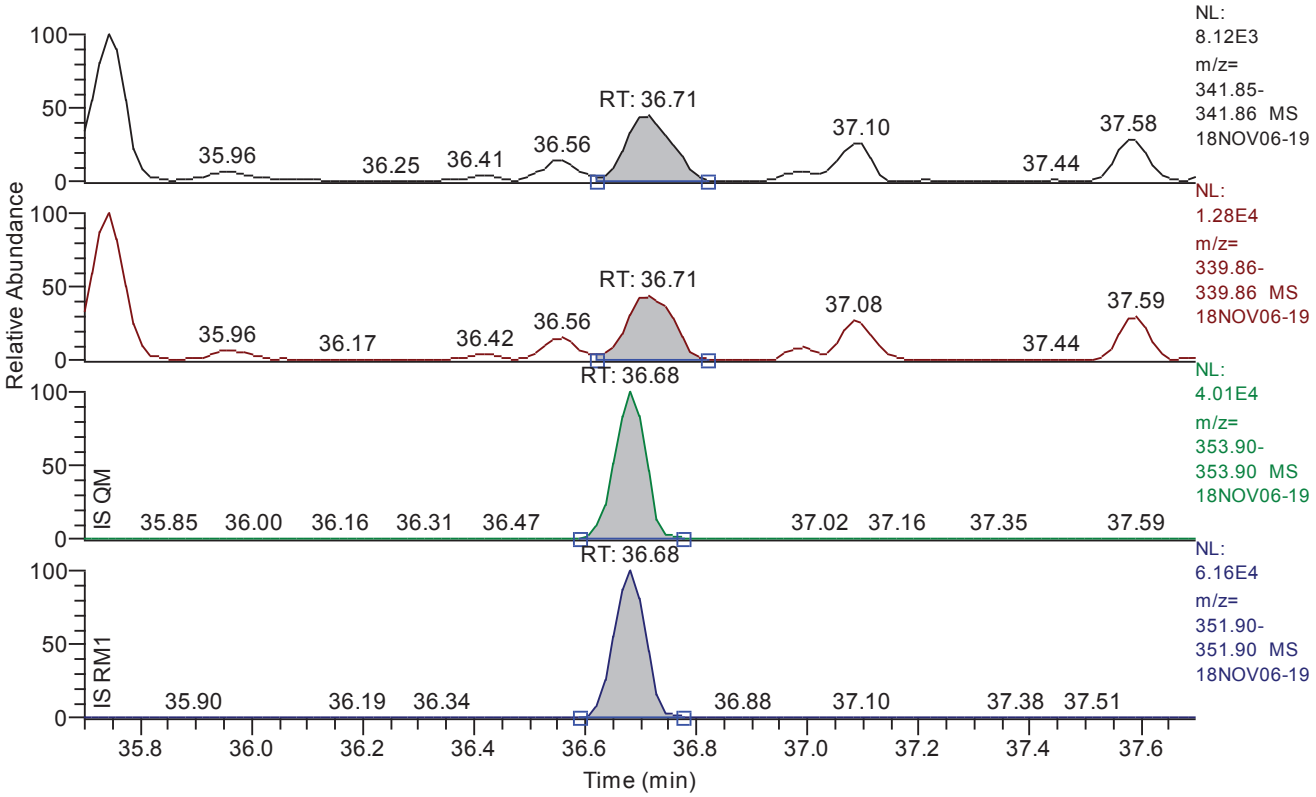
Chromatogram

RT: 35.70 - 37.70 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.71
QM Area	20437
QM Integration Mode	A
RM1 Area	32453
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2302
Unqualified Amount (A)	23.720603
Adjusted Amount (A)	23.7206
Signal-to-Noise	176
Client Flags	
Status Overview	passed
Status Info	

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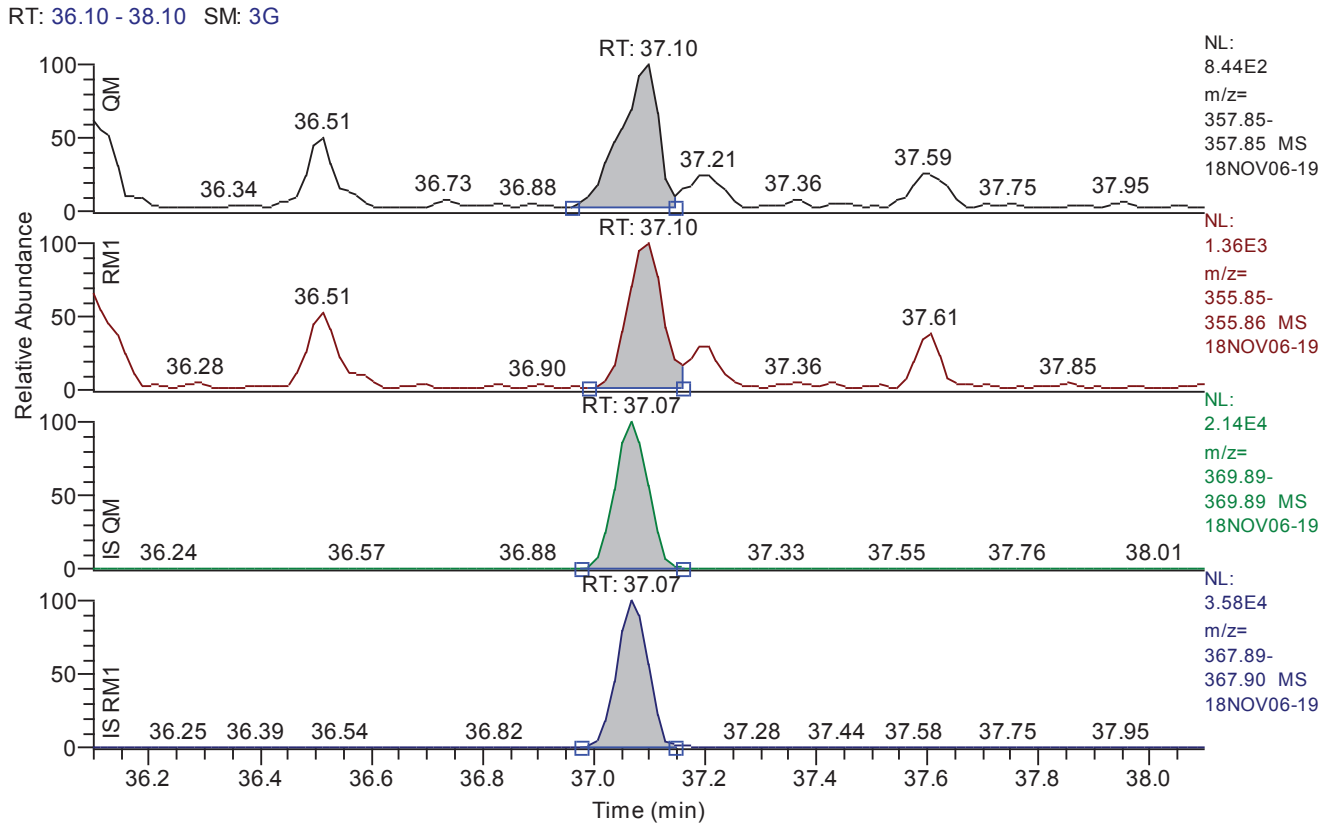
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.10
QM Area	3933
QM Integration Mode	A
RM1 Area	5883
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4357
Unqualified Amount (A)	8.179449
Adjusted Amount (A)	8.1794
Signal-to-Noise	42
Client Flags	
Status Overview	passed
Status Info	

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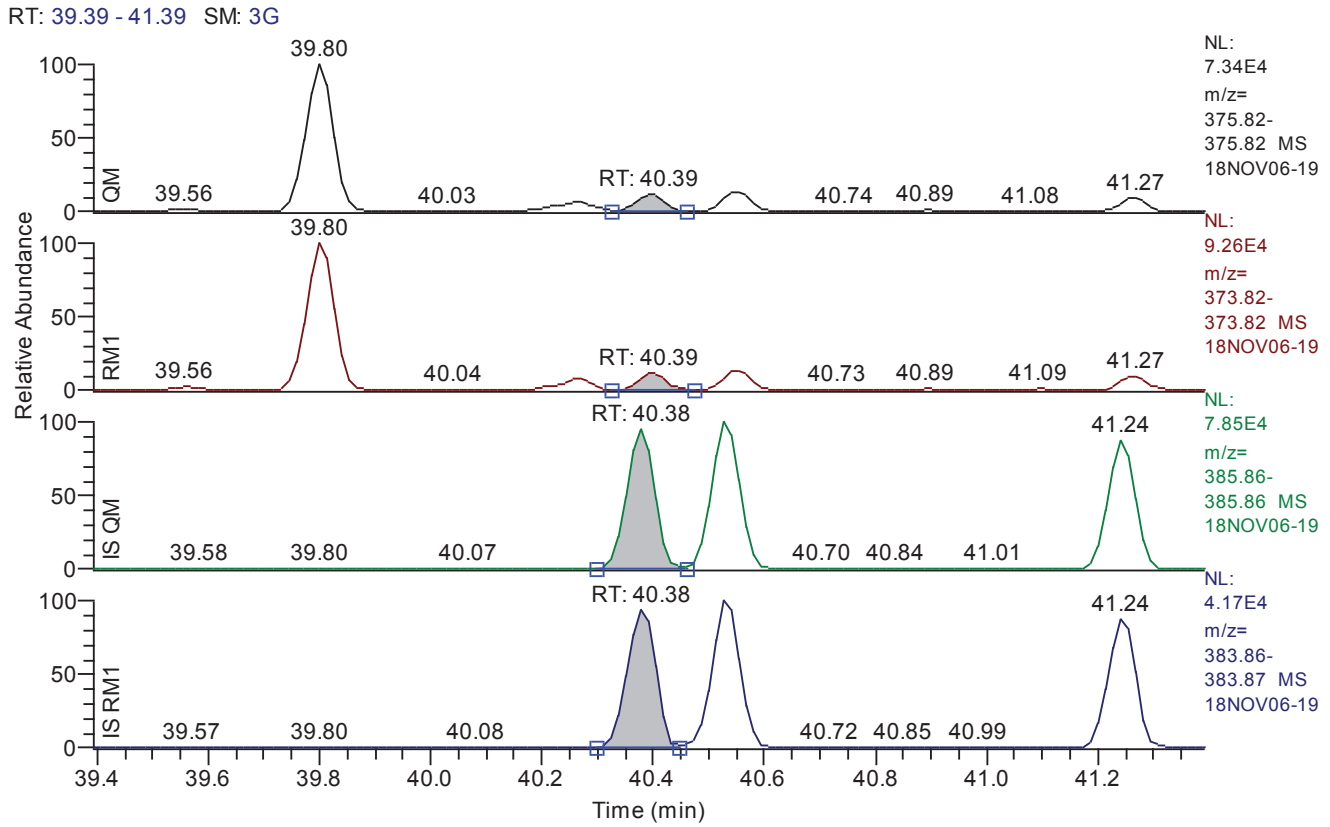
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.39
QM Area	30265
QM Integration Mode	A
RM1 Area	38576
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3709
Unqualified Amount (A)	28.504242
Adjusted Amount (A)	28.5042
Signal-to-Noise	188
Client Flags	
Status Overview	passed
Status Info	

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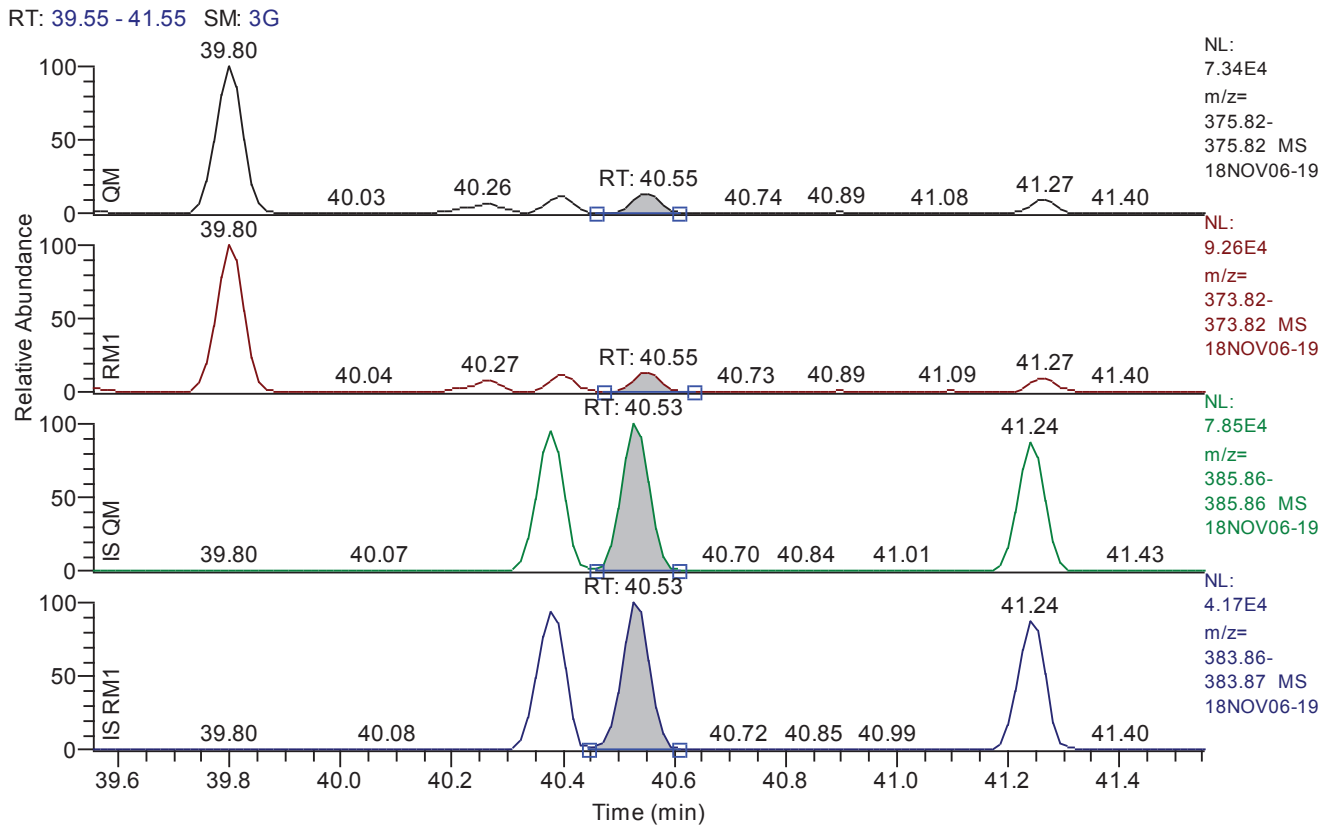
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.55
QM Area	35316
QM Integration Mode	A
RM1 Area	45609
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3670
Unqualified Amount (A)	33.147511
Adjusted Amount (A)	33.1475
Signal-to-Noise	221
Client Flags	
Status Overview	passed
Status Info	

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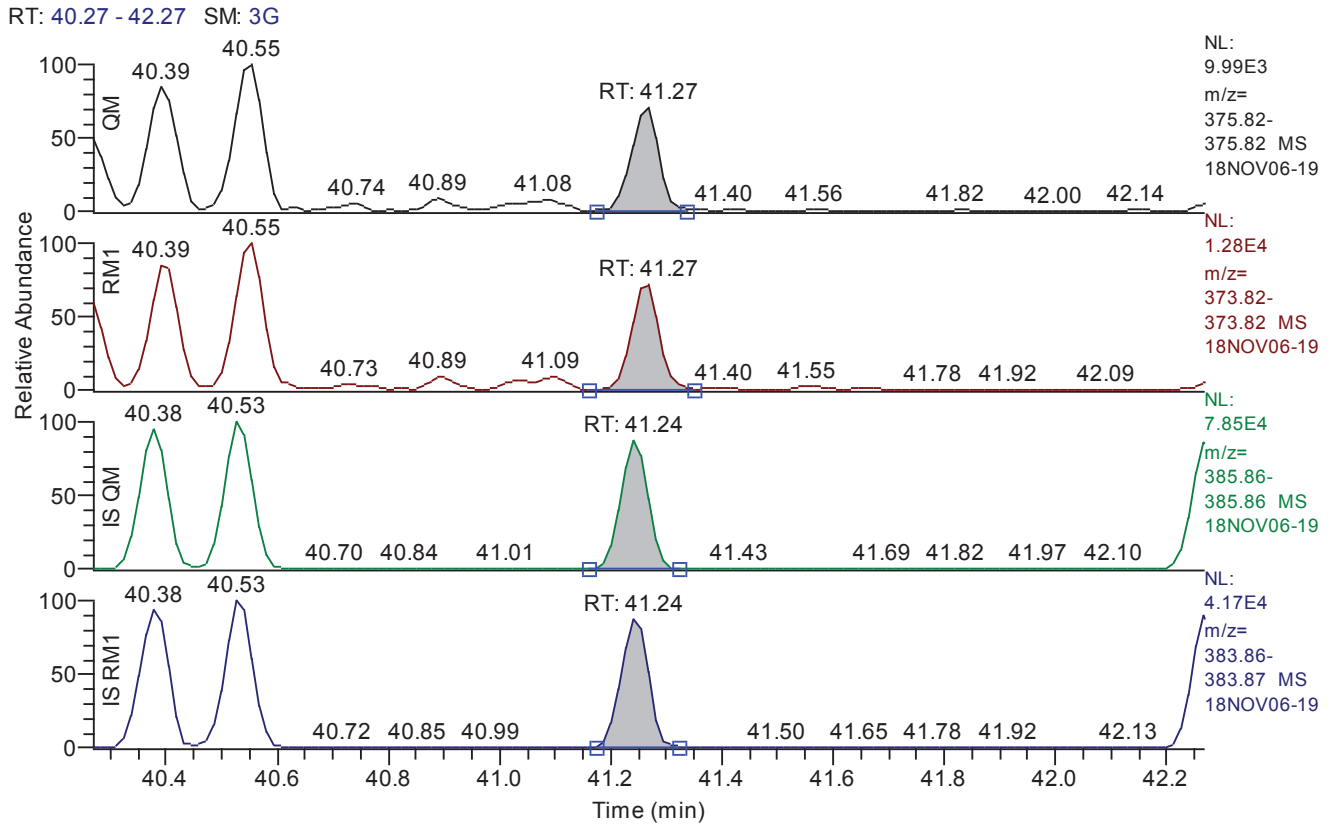
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.27
QM Area	24171
QM Integration Mode	A
RM1 Area	32390
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3896
Unqualified Amount (A)	25.035644
Adjusted Amount (A)	25.0356
Signal-to-Noise	160
Client Flags	
Status Overview	passed
Status Info	

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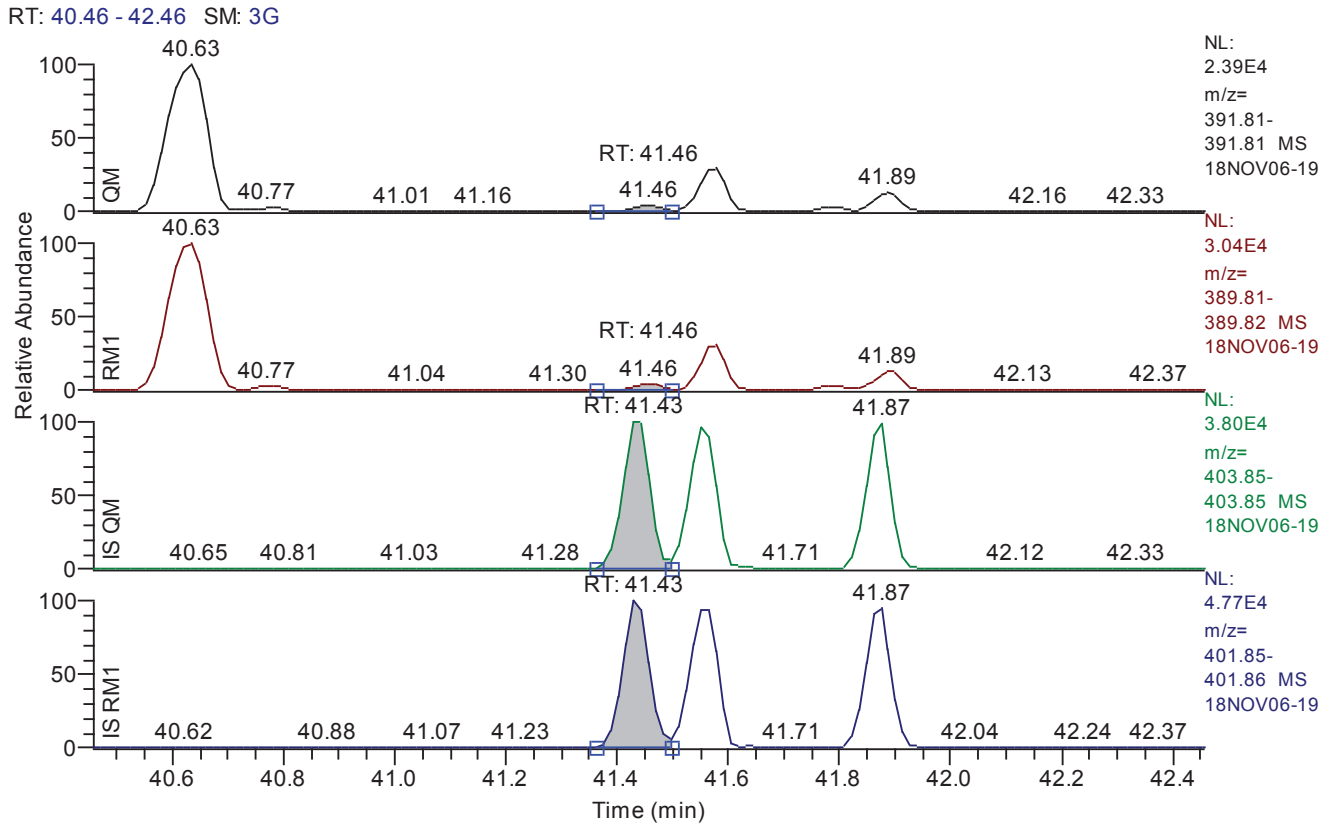
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.46
QM Area	3788
QM Integration Mode	A
RM1 Area	4408
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2794
Unqualified Amount (A)	5.550845
Adjusted Amount (A)	5.5508
Signal-to-Noise	50
Client Flags	
Status Overview	passed
Status Info	

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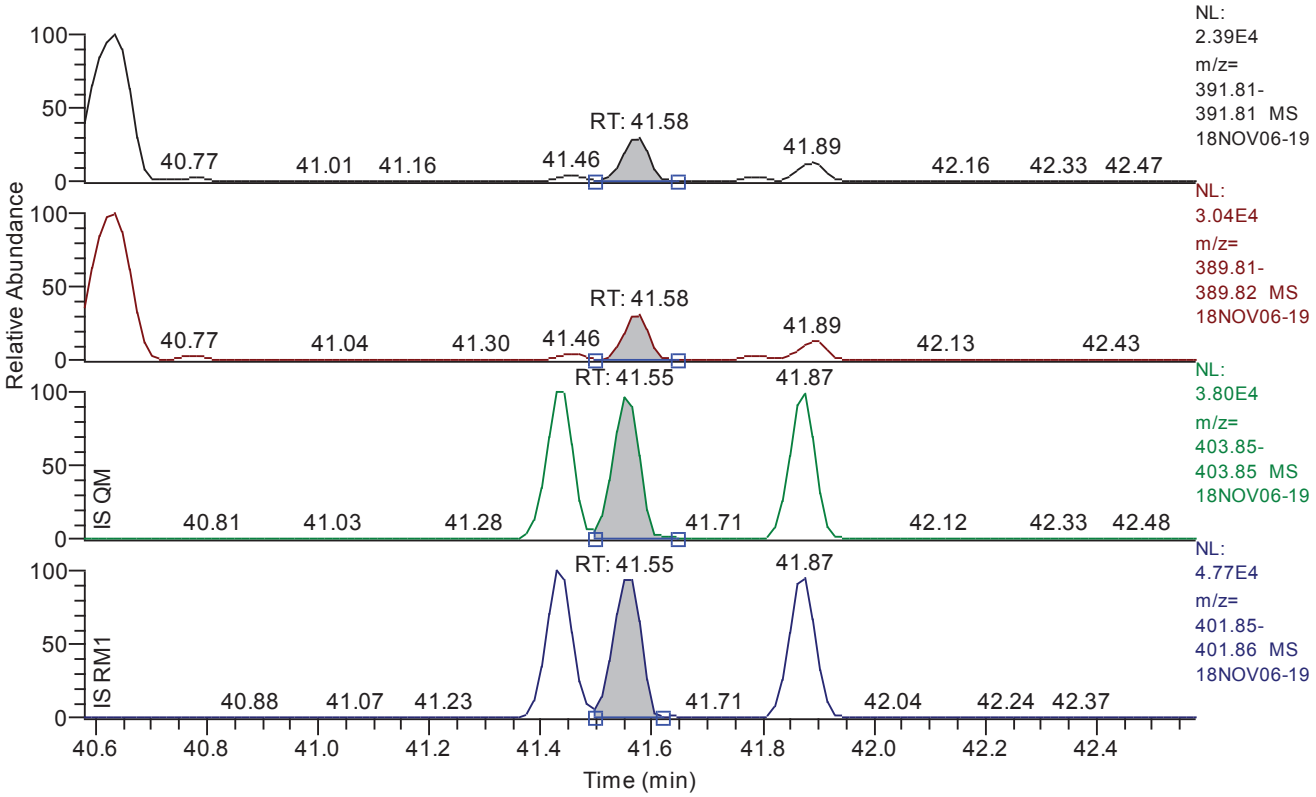
Chromatogram

RT: 40.58 - 42.58 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.58
QM Area	23931
QM Integration Mode	A
RM1 Area	30682
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2899
Unqualified Amount (A)	37.427918
Adjusted Amount (A)	37.4279
Signal-to-Noise	340
Client Flags	
Status Overview	passed
Status Info	

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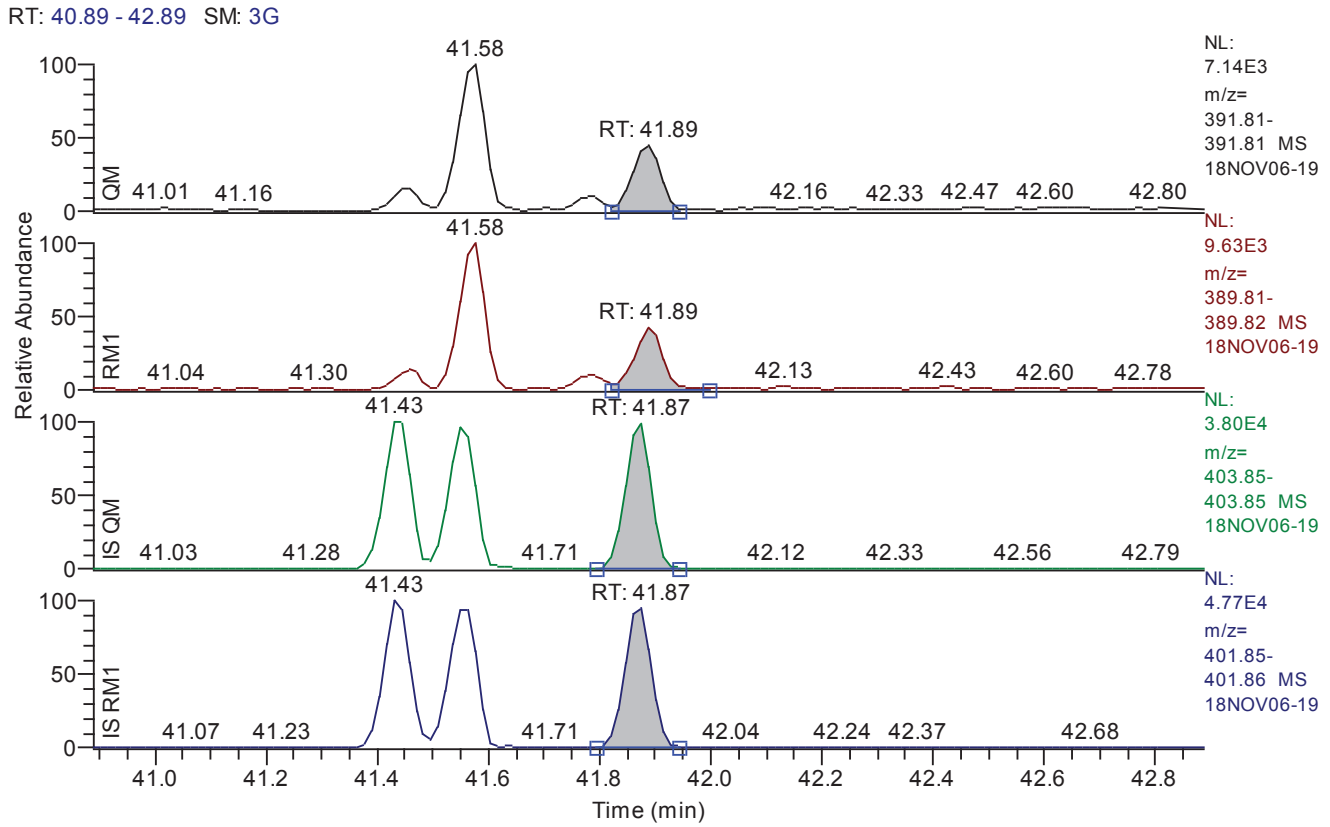
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.89
QM Area	11035
QM Integration Mode	A
RM1 Area	14192
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2684
Unqualified Amount (A)	16.835424
Adjusted Amount (A)	16.8354
Signal-to-Noise	148
Client Flags	
Status Overview	passed
Status Info	

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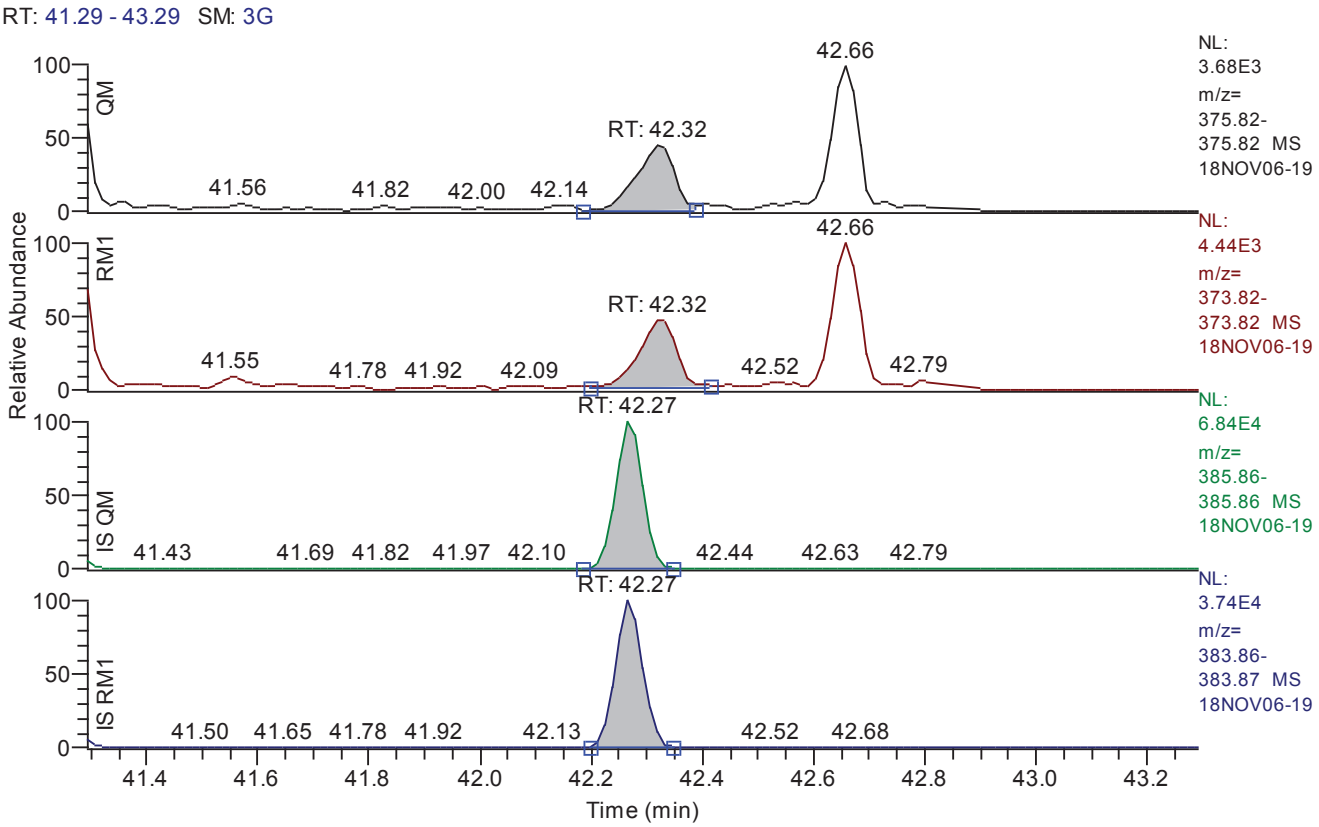
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.32
QM Area	7664
QM Integration Mode	A
RM1 Area	9537
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4157
Unqualified Amount (A)	8.247220
Adjusted Amount (A)	8.2472
Signal-to-Noise	36
Client Flags	
Status Overview	passed
Status Info	

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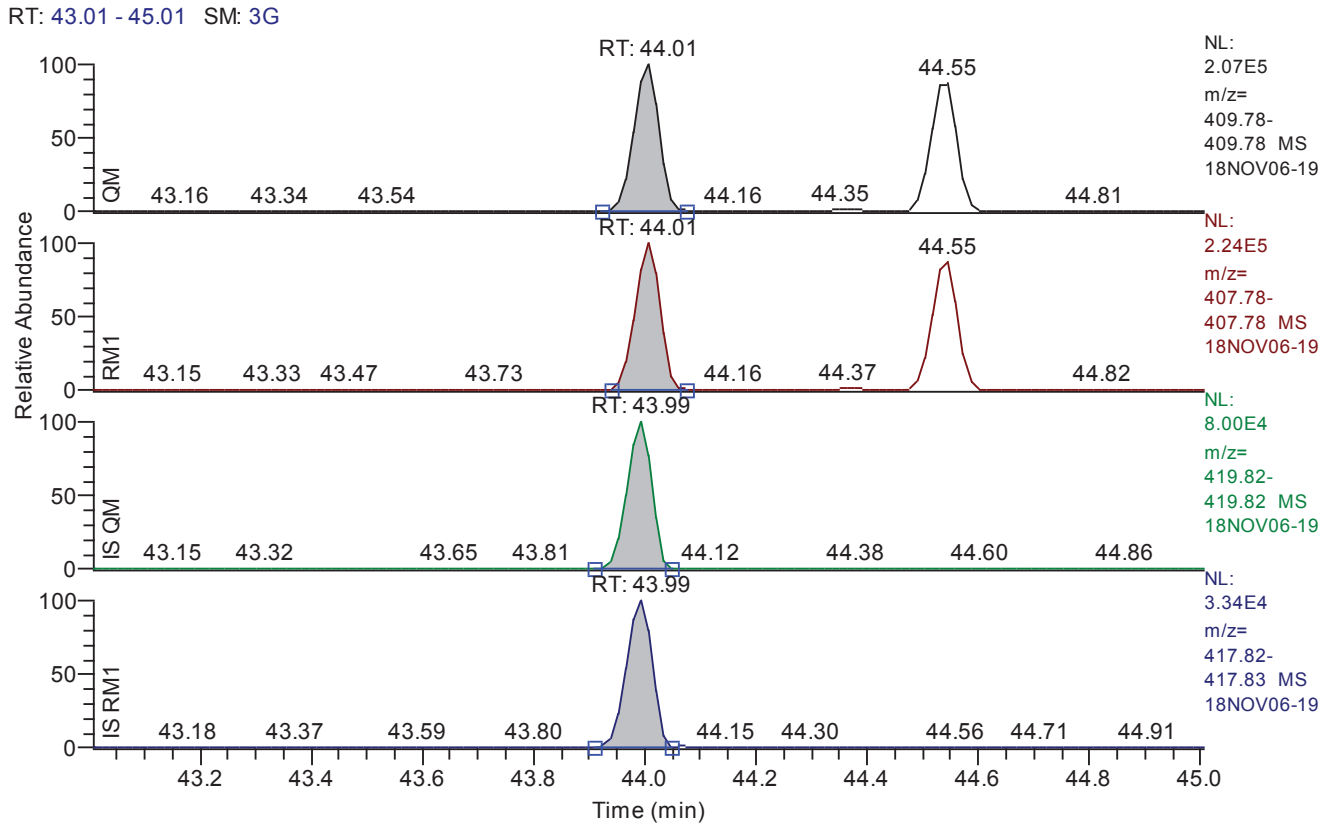
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.01
QM Area	672190
QM Integration Mode	A
RM1 Area	716167
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1881
Unqualified Amount (A)	584.367225
Adjusted Amount (A)	584.3672
Signal-to-Noise	7776
Client Flags	
Status Overview	passed
Status Info	

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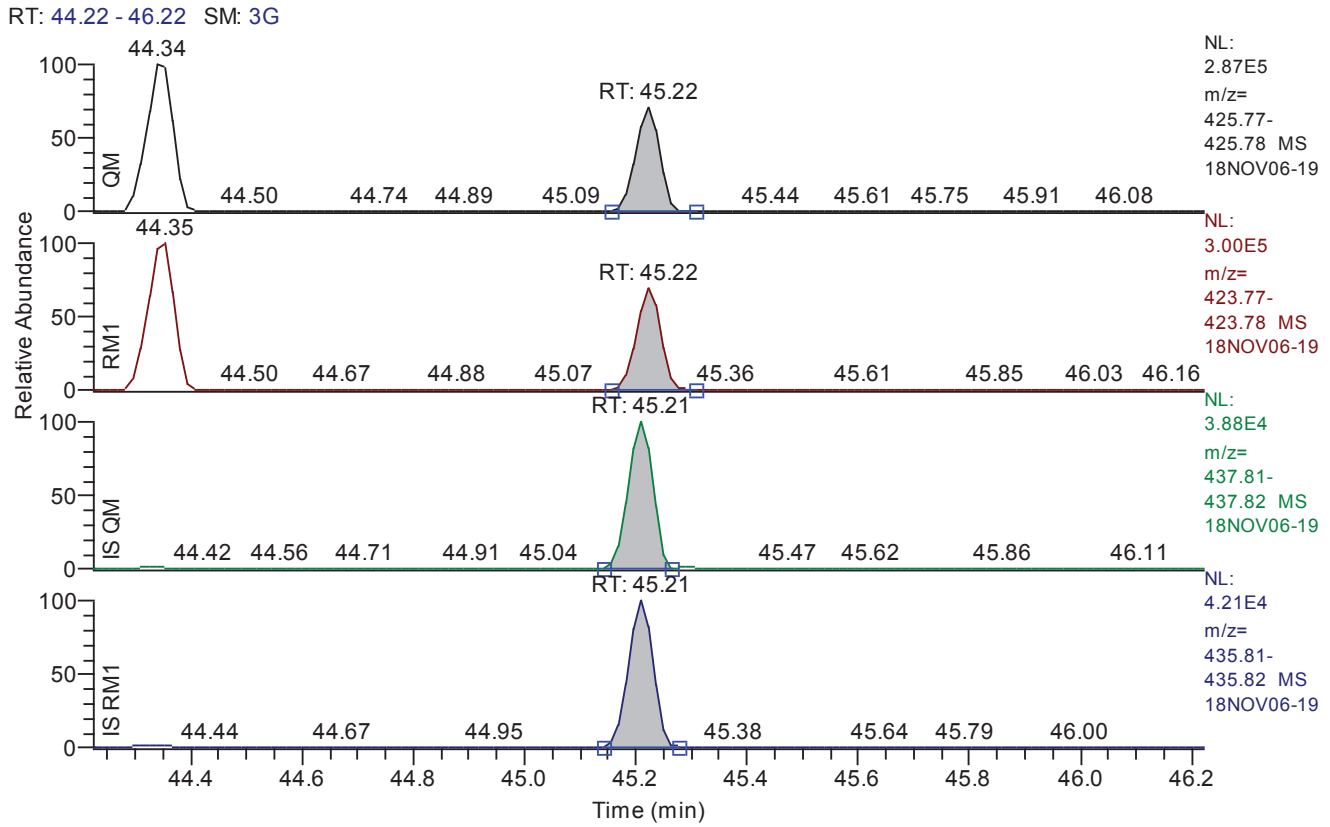
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.22
QM Area	633879
QM Integration Mode	A
RM1 Area	660219
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6009
Unqualified Amount (A)	940.503441
Adjusted Amount (A)	940.5034
Signal-to-Noise	3981
Client Flags	
Status Overview	passed
Status Info	

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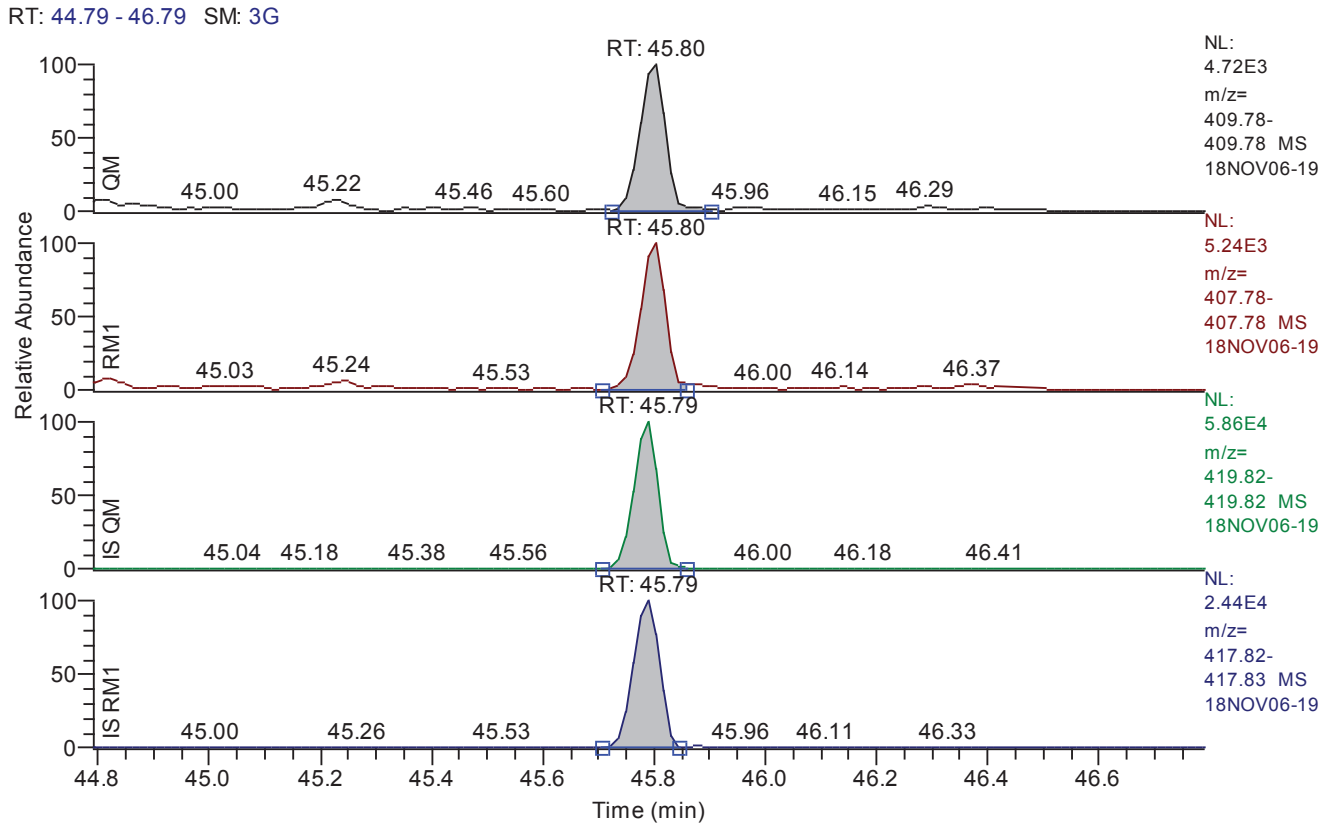
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.80
QM Area	15529
QM Integration Mode	A
RM1 Area	16480
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2568
Unqualified Amount (A)	18.704067
Adjusted Amount (A)	18.7041
Signal-to-Noise	178
Client Flags	
Status Overview	passed
Status Info	

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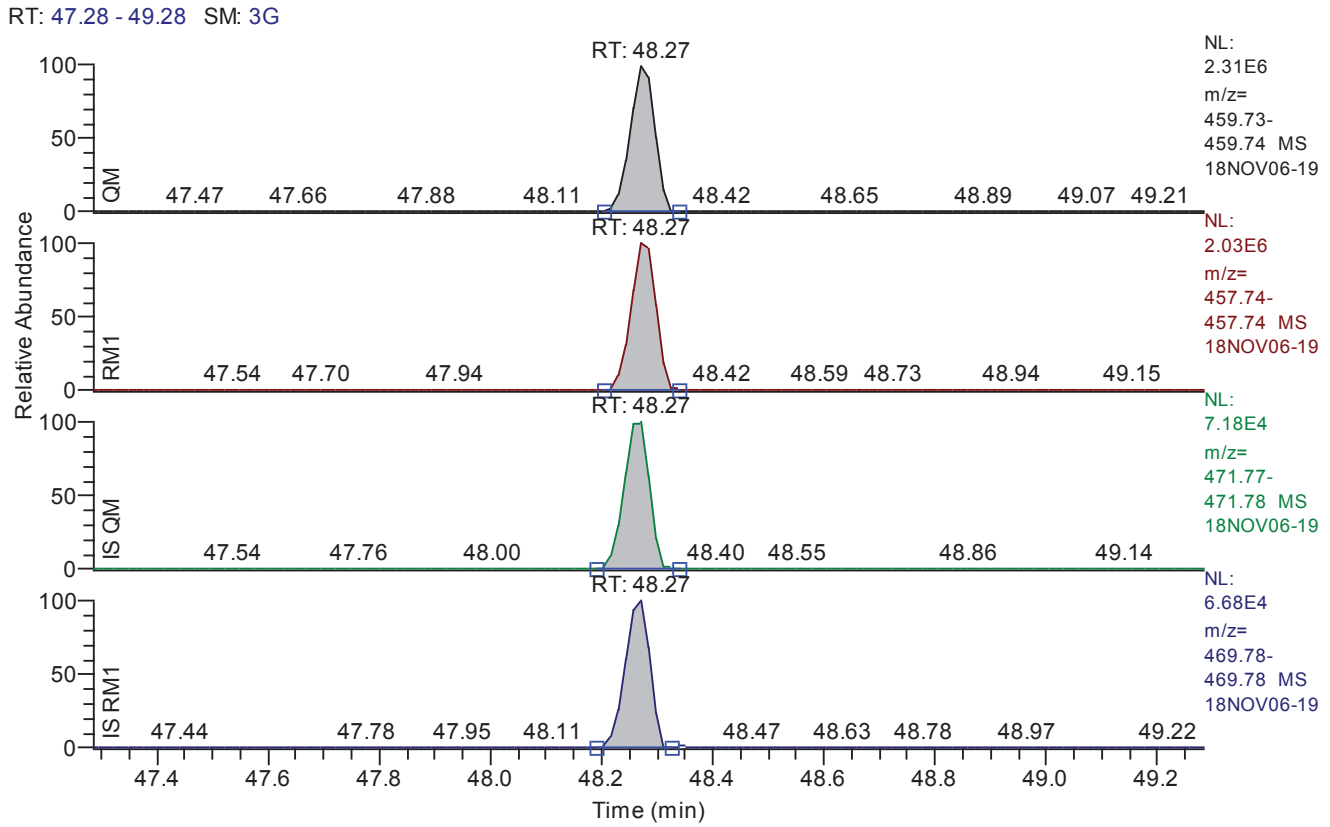
Chromatogram



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.27
QM Area	7019601
QM Integration Mode	A
RM1 Area	6314496
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3592
Unqualified Amount (A)	11776.982488
Adjusted Amount (A)	11776.9825
Signal-to-Noise	83147
Client Flags	
Status Overview	passed
Status Info	

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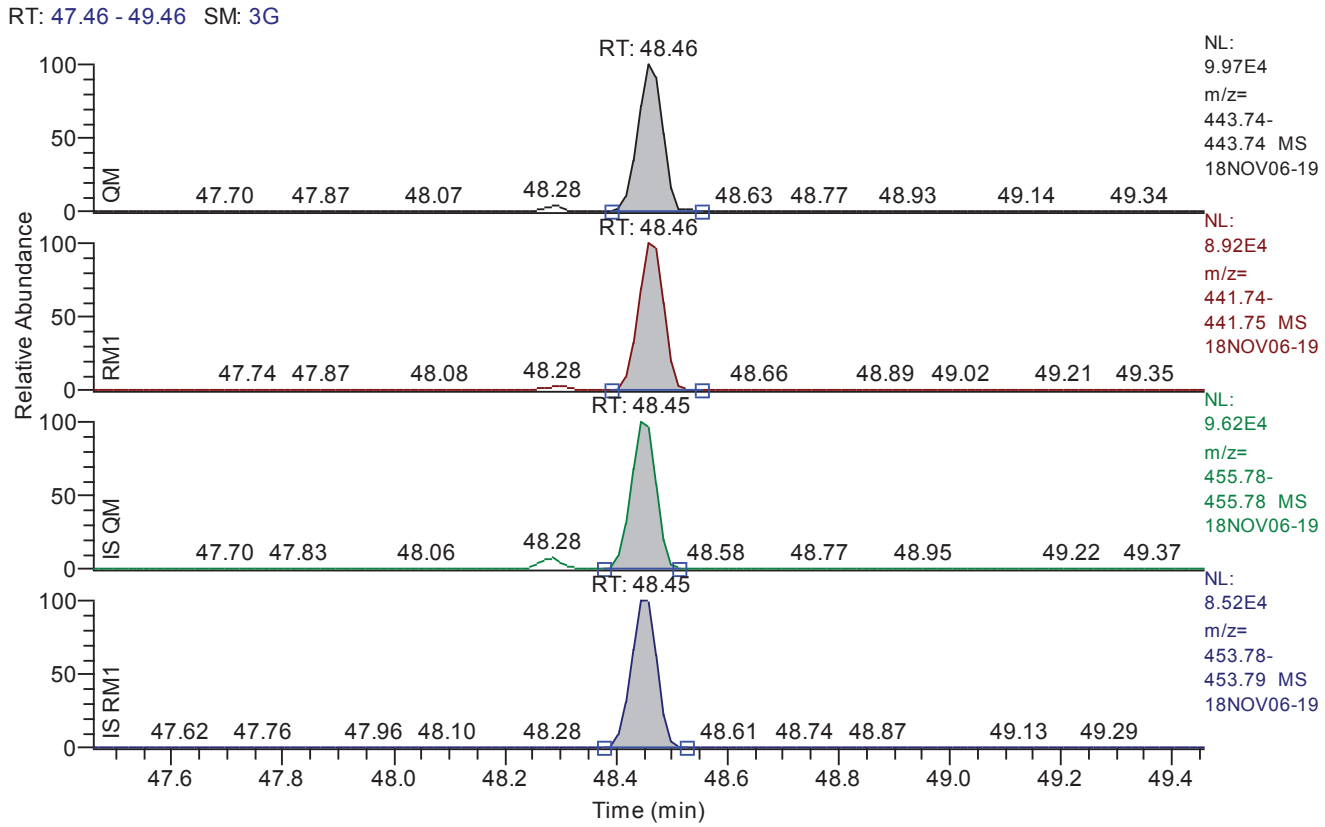
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.46
QM Area	308681
QM Integration Mode	A
RM1 Area	282567
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1285
Unqualified Amount (A)	436.087357
Adjusted Amount (A)	436.0874
Signal-to-Noise	8591
Client Flags	
Status Overview	passed
Status Info	

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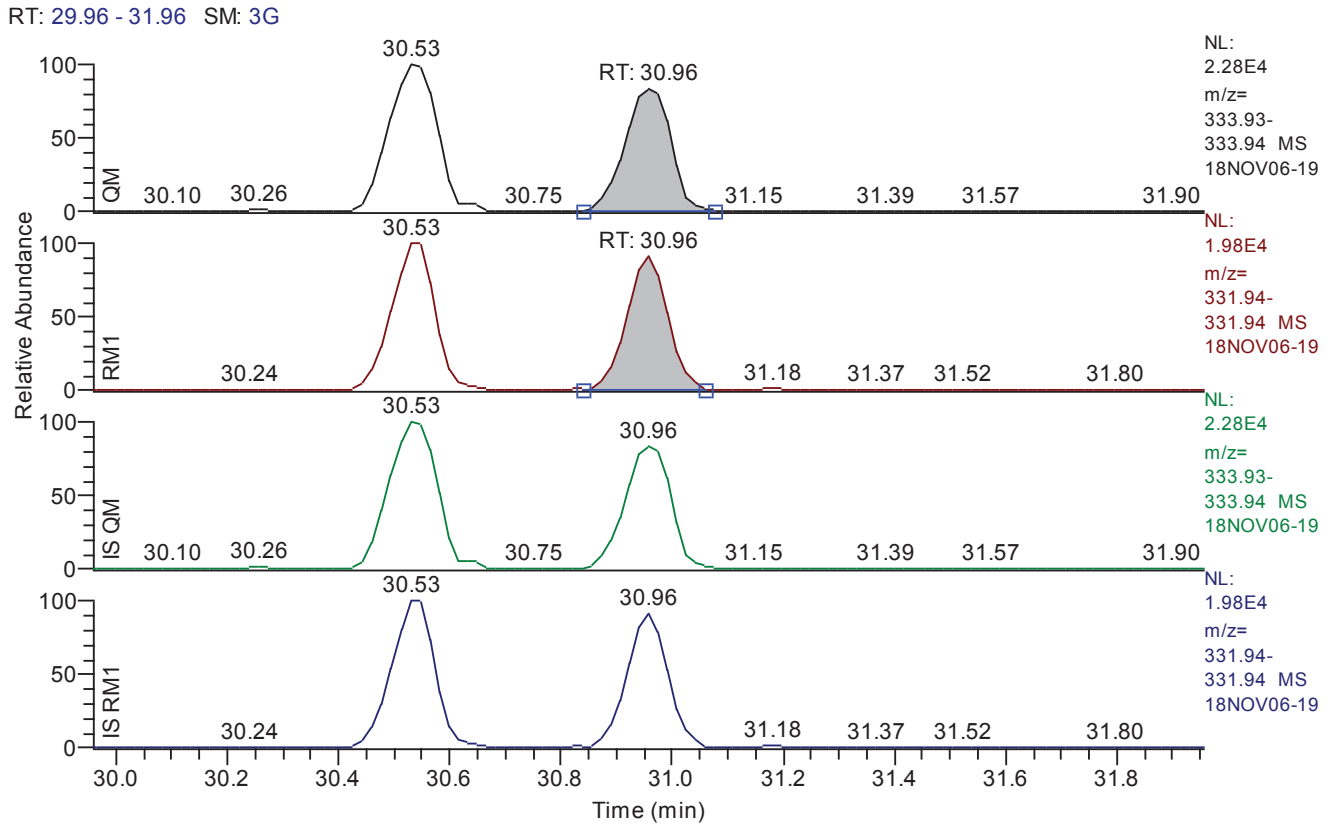
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.96
QM Area	111891
QM Integration Mode	A
RM1 Area	94630
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1259
Unqualified Amount (A)	83.333389
Adjusted Amount (A)	83.3334
Signal-to-Noise	1658
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.45	29.45	29.44	29.42	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.56	30.56	30.53	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.40	35.40	35.39	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.69	36.71	36.71	36.68	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.10	37.10	37.07	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.39	40.39	40.39	40.38	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.55	40.55	40.53	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.27	41.27	41.27	41.24	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.46	41.46	41.46	41.43	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.58	41.58	41.58	41.55	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.89	41.89	41.89	41.87	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.32	42.32	42.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.01	44.01	44.01	43.99	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.22	45.22	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.79	45.80	45.80	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.27	48.27	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.46	48.46	48.46	48.45	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.96	30.96	30.96	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.67	29.67	29.67	29.67	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.28	40.28	40.28	40.28	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.42	29.42	29.30	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.52	30.53	30.53	30.53	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.39	35.39	35.42	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.68	36.68	36.98	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.06	37.07	37.07	37.07	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.38	40.38	40.38	40.54	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.53	40.53	40.54	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.24	41.24	41.24	41.15	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.43	41.43	41.43	41.43	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.55	41.55	41.55	41.55	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.87	41.87	41.87	41.87	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.27	42.27	42.22	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.00	43.99	43.99	43.94	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.21	45.21	45.21	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.79	45.79	45.79	45.78	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.26	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.45	48.45	48.45	48.47	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.45	0.7233	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	30.56	0.9048	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	35.40	1.4868	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.71	1.5880	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	37.10	1.4960	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.39	1.2746	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.55	1.2915	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.27	1.3400	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.46	1.1635	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.58	1.2821	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.89	1.2860	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.32	1.2444	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.01	1.0654	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.22	1.0416	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.80	1.0612	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.27	0.8996	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.46	0.9154	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.96	0.8457	0.6450 - 0.8950	passed	41.83	35 - 197	passed
19	13C12-1234-TCDD	29.67	0.8418	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.28	1.3353	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.42	0.7630	0.6450 - 0.8950	passed	49.99	40 - 135	passed
22	13C12-2378-TCDD	30.53	0.7749	0.6450 - 0.8950	passed	67.32	40 - 135	passed
23	13C12-12378-PeCDF	35.39	1.5922	1.3150 - 1.7850	passed	58.57	40 - 135	passed
24	13C12-23478-PeCDF	36.68	1.5565	1.3150 - 1.7850	passed	61.12	40 - 135	passed
25	13C12-12378-PeCDD	37.07	1.5847	1.3150 - 1.7850	passed	64.51	40 - 135	passed
26	13C12-123478-HxCDF	40.38	0.5407	0.4250 - 0.5950	passed	80.62	40 - 135	passed
27	13C12-123678-HxCDF	40.53	0.5275	0.4250 - 0.5950	passed	79.53	40 - 135	passed
28	13C12-234678-HxCDF	41.24	0.5403	0.4250 - 0.5950	passed	76.27	40 - 135	passed
29	13C12-123478-HxCDD	41.43	1.2182	1.0450 - 1.4350	passed	82.76	40 - 135	passed
30	13C12-123678-HxCDD	41.55	1.2761	1.0450 - 1.4350	passed	79.88	40 - 135	passed
31	13C12-123789-HxCDD	41.87	1.2478	1.0450 - 1.4350	passed	81.12	40 - 135	passed
32	13C12-123789-HxCDF	42.27	0.5486	0.4250 - 0.5950	passed	79.21	40 - 135	passed
33	13C12-1234678-HpCDF	43.99	0.4394	0.3650 - 0.5150	passed	87.16	40 - 135	passed
34	13C12-1234678-HpCDD	45.21	1.0893	0.8750 - 1.2050	passed	84.15	40 - 135	passed
35	13C12-1234789-HpCDF	45.79	0.4546	0.3650 - 0.5150	passed	76.40	40 - 135	passed
36	13C12-OCDD	48.27	0.9039	0.7550 - 1.0250	passed	80.47	40 - 135	passed
37	13C12-OCDF	48.45	0.9139	0.7550 - 1.0250	passed	70.03	40 - 135	passed

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Entry Parameters

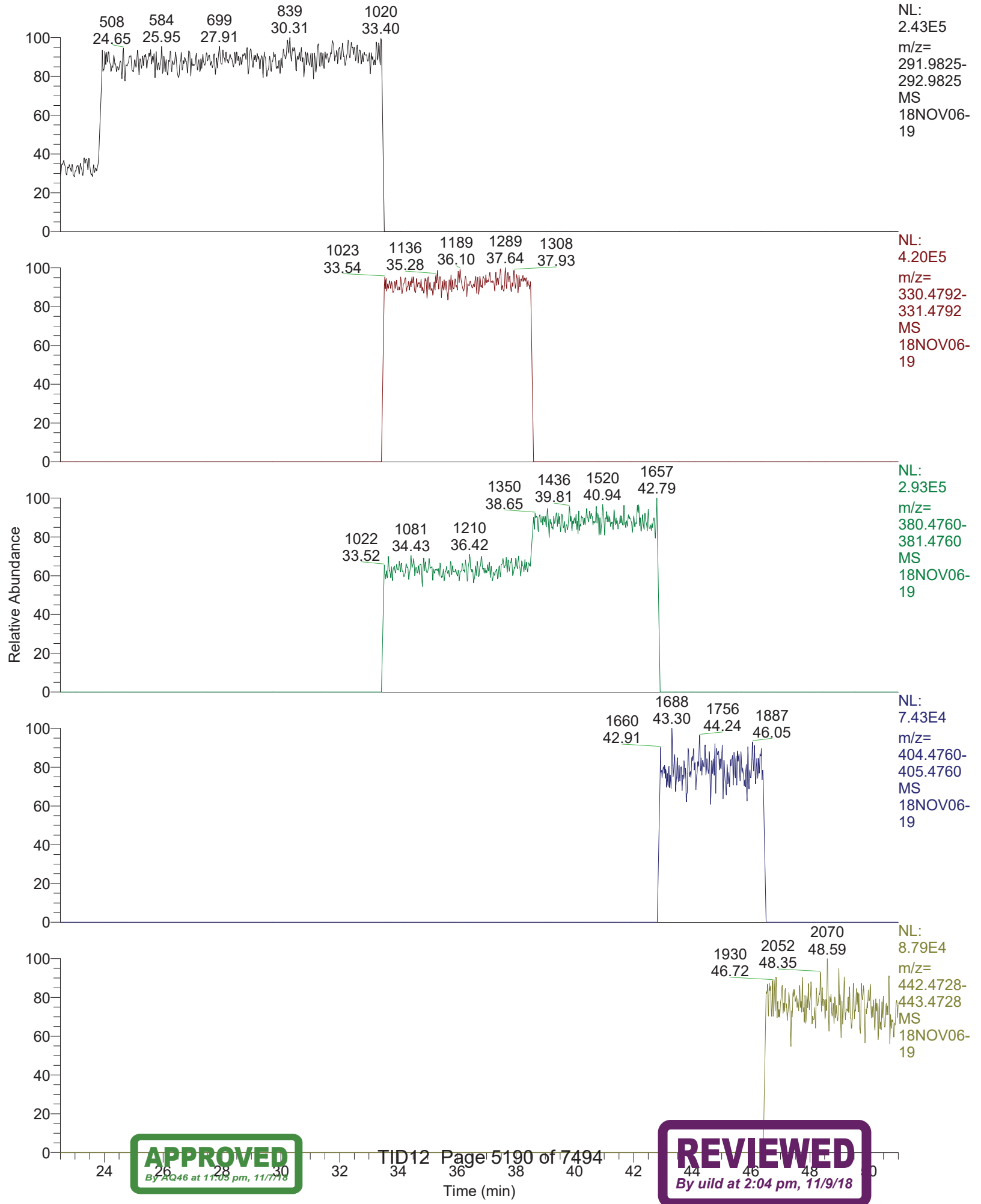
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.45	11311	A	8181	A	0.8664	9.767749	9.7677	0.000000	28	
2	2378-TCDD	failed	30.56	1508	A	1365	A	0.2236	1.921943	n.d.	0.000000	17	
3	12378-PeCDF	passed	35.40	8176	A	12156	A	0.2899	10.455573	10.4556	0.000000	87	
4	23478-PeCDF	passed	36.71	20437	A	32453	A	0.2302	23.720603	23.7206	0.000000	176	
5	12378-PeCDD	passed	37.10	3933	A	5883	A	0.4357	8.179449	8.1794	0.000000	42	
6	123478-HxCDF	passed	40.39	30265	A	38576	A	0.3709	28.504242	28.5042	0.000000	188	
7	123678-HxCDF	passed	40.55	35316	A	45609	A	0.3670	33.147511	33.1475	0.000000	221	
8	234678-HxCDF	passed	41.27	24171	A	32390	A	0.3896	25.035644	25.0356	0.000000	160	
9	123478-HxCDD	passed	41.46	3788	A	4408	A	0.2794	5.550845	5.5508	0.000000	50	
10	123678-HxCDD	passed	41.58	23931	A	30682	A	0.2899	37.427918	37.4279	0.000000	340	
11	123789-HxCDD	passed	41.89	11035	A	14192	A	0.2684	16.835424	16.8354	0.000000	148	
12	123789-HxCDF	passed	42.32	7664	A	9537	A	0.4157	8.247220	8.2472	0.000000	36	
13	1234678-HpCDF	passed	44.01	672190	A	716167	A	0.1881	584.367225	584.3672	0.000000	7776	
14	1234678-HpCDD	passed	45.22	633879	A	660219	A	0.6009	940.503441	940.5034	0.000000	3981	
15	1234789-HpCDF	passed	45.80	15529	A	16480	A	0.2568	18.704067	18.7041	0.000000	178	
16	OCDD	passed	48.27	7019601	A	6314496	A	0.3592	11776.982488	11776.9825	0.000000	83147	
17	OCDF	passed	48.46	308681	A	282567	A	0.1285	436.087357	436.0874	0.000000	8591	
18	13C12-1278-TCDD (CRS)	passed	30.96	111891	A	94630	A	0.1259	83.333389	83.3334	199.203187	1658	
19	13C12-1234-TCDD	passed	29.67	211836	A	178322	A	0.1594	199.203187	199.2032	199.203187	3125	
20	13C12-123468-HxCDD	passed	40.28	161511	A	215674	A	0.1762	199.203187	199.2032	199.203187	2826	
21	13C12-2378-TCDF	passed	29.42	204786	A	156247	A	0.0744	99.586406	99.5864	199.203187	3338	
22	13C12-2378-TCDD	passed	30.53	137443	A	106510	A	0.1716	134.099535	134.0995	199.203187	1895	
23	13C12-12378-PeCDF	passed	35.39	150914	A	240287	A	0.1609	116.673316	116.6733	199.203187	2328	
24	13C12-23478-PeCDF	passed	36.68	156632	A	243797	A	0.1640	121.758035	121.7580	199.203187	2617	
25	13C12-12378-PeCDD	passed	37.07	89168	A	141304	A	0.1595	128.501884	128.5019	199.203187	2775	
26	13C12-123478-HxCDF	passed	40.38	260570	A	140895	A	0.1495	160.605577	160.6056	199.203187	2751	
27	13C12-123678-HxCDF	passed	40.53	276071	A	145624	A	0.1404	158.434607	158.4346	199.203187	2888	
28	13C12-234678-HxCDF	passed	41.24	235603	A	127302	A	0.1564	151.930771	151.9308	199.203187	2530	
29	13C12-123478-HxCDD	passed	41.43	130020	A	158390	A	0.1907	164.860743	164.8607	199.203187	2309	
30	13C12-123678-HxCDD	passed	41.55	124077	A	158337	A	0.1880	159.116362	159.1164	199.203187	2206	
31	13C12-123789-HxCDD	passed	41.87	121498	A	151601	A	0.1974	161.596126	161.5961	199.203187	2244	
32	13C12-123789-HxCDF	passed	42.27	232617	A	127612	A	0.1637	157.793051	157.7931	199.203187	2550	
33	13C12-1234678-HpCDF	passed	43.99	254176	A	111692	A	0.1584	173.632407	173.6324	199.203187	3059	
34	13C12-1234678-HpCDD	passed	45.21	123158	A	134152	A	0.1062	167.636017	167.6360	199.203187	4461	
35	13C12-1234789-HpCDF	passed	45.79	181028	A	82301	A	0.1930	152.195794	152.1958	199.203187	2239	
36	13C12-OCDD	passed	48.27	227183	A	205360	A	0.0647	320.587868	320.5879	398.406375	14298	
37	13C12-OCDF	passed	48.45	300256	A	274400	A	0.0723	279.018555	279.0186	398.406375	10971	

File Name: Z:\18NOV06\18NOV06-19
Sample ID: 9872062

Acq. Data: 11/7/2018 12:21:38 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

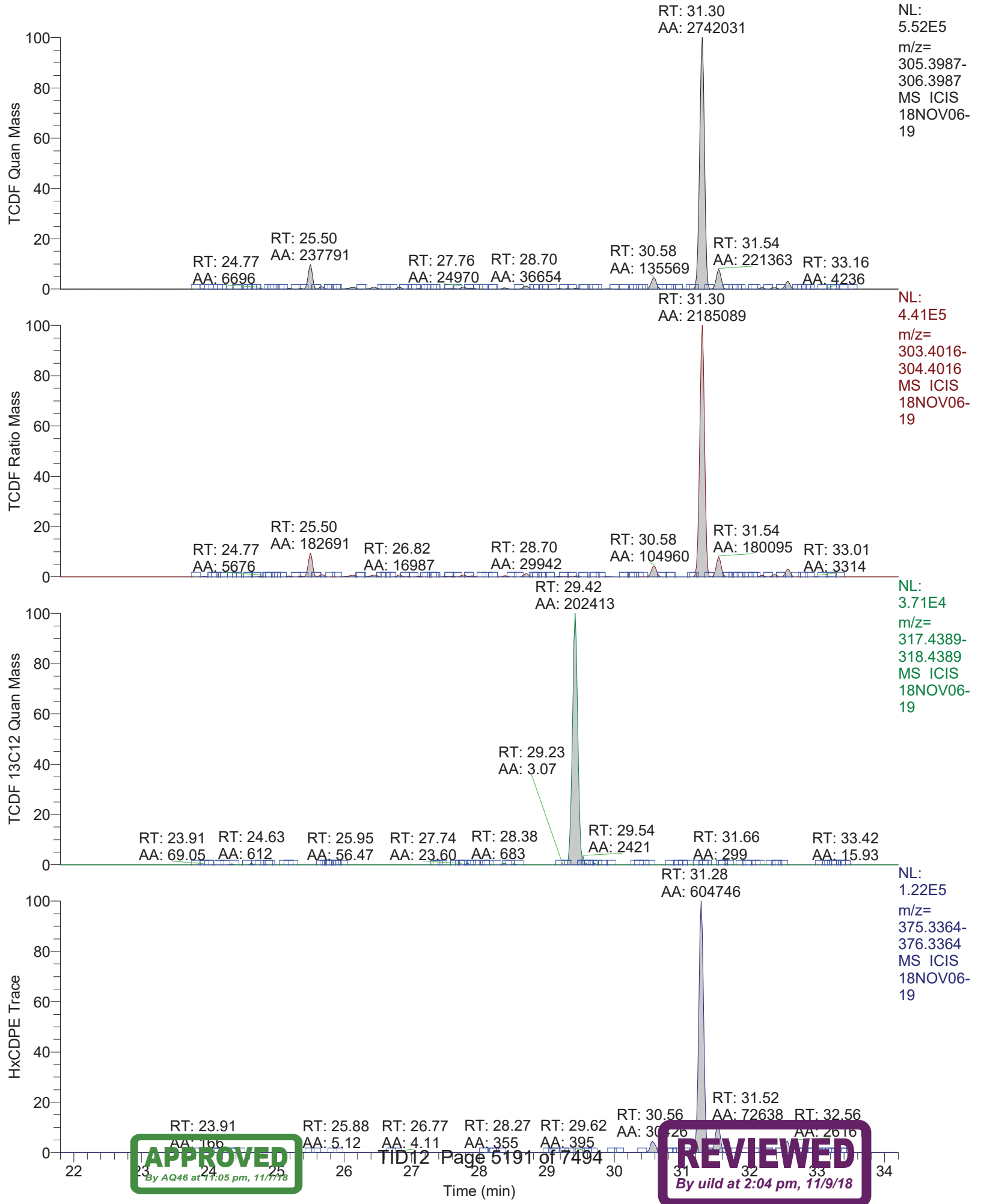
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-19
Sample ID: 9872062

Acq. Data: 11/7/2018 12:21:38 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 21.80 - 34.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

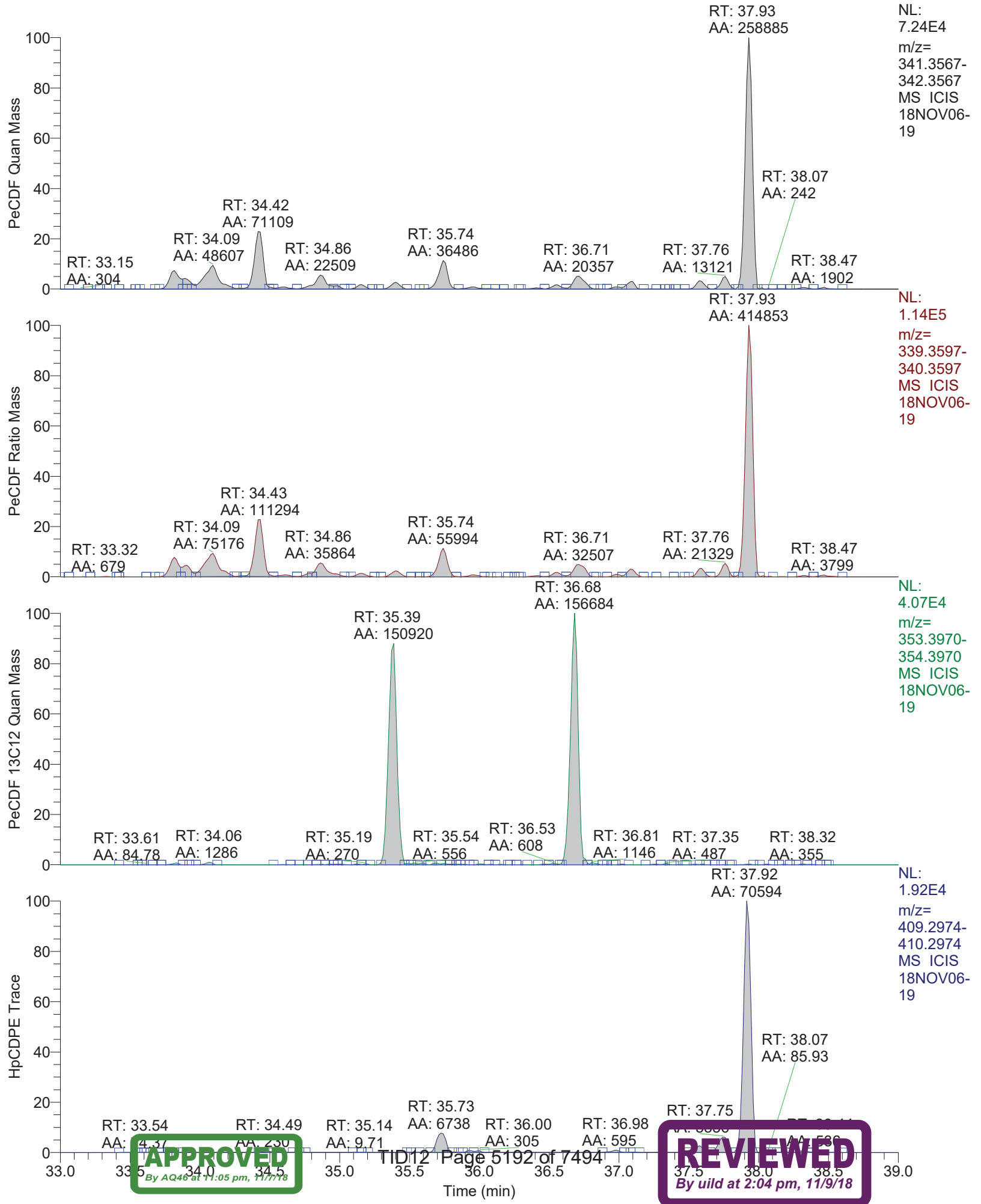
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-19
Sample ID: 9872062

Acq. Data: 11/7/2018 12:21:38 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 33.00 - 39.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

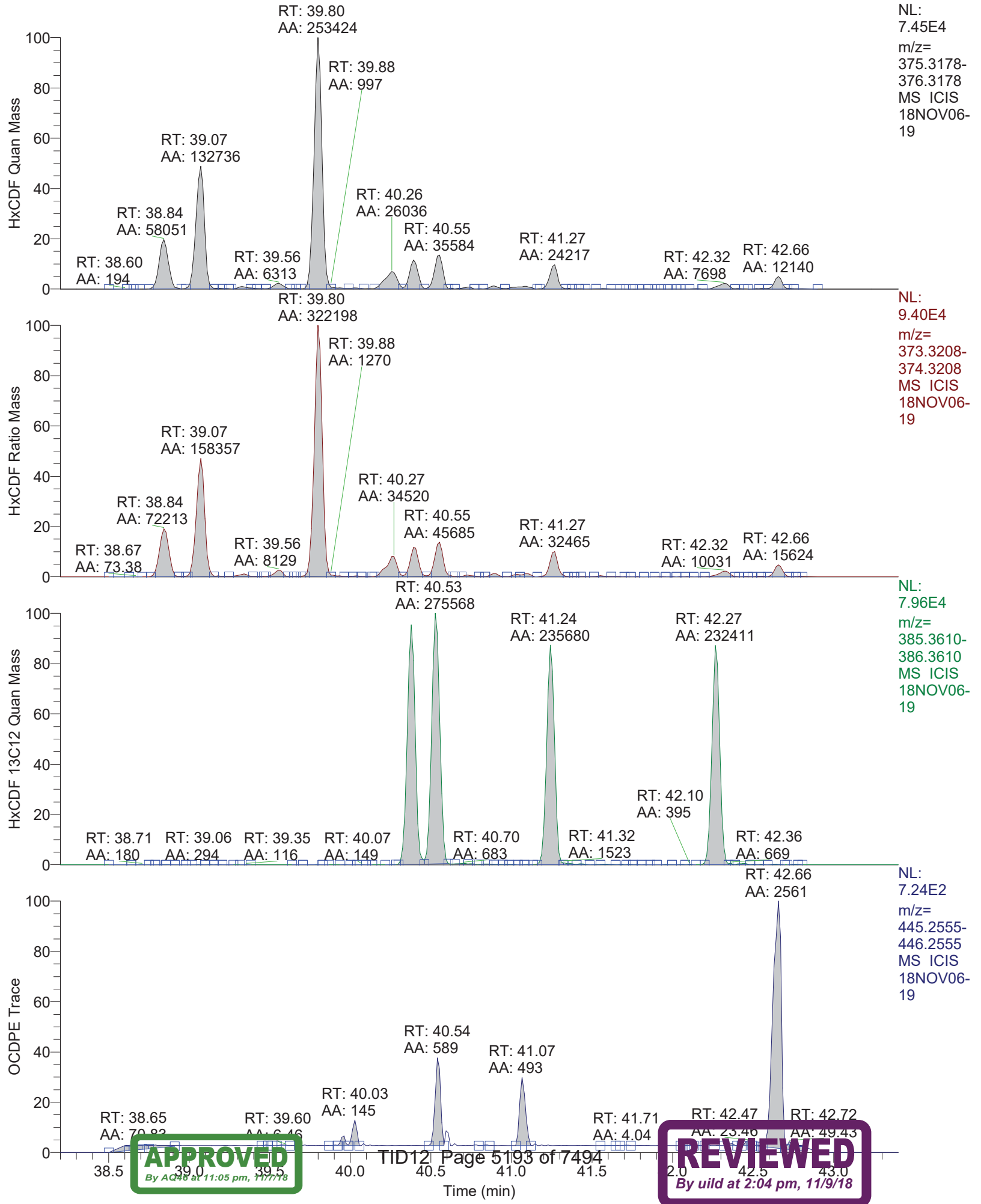
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-19
Sample ID: 9872062

Acq. Data: 11/7/2018 12:21:38 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 38.20 - 43.40



APPROVED
By AQ46 at 11:05 pm, 11/7/18

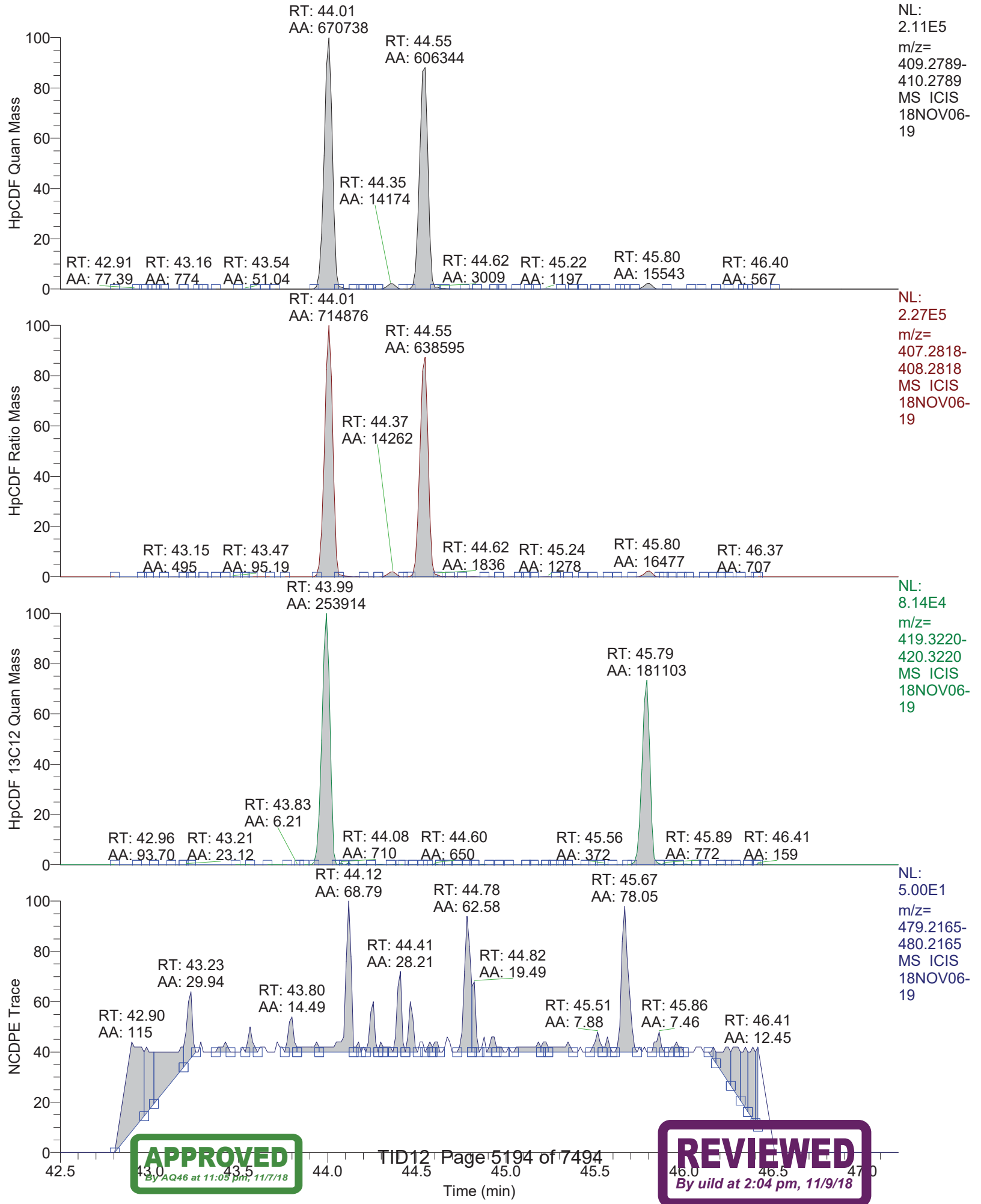
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-19
Sample ID: 9872062

Acq. Data: 11/7/2018 12:21:38 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 42.50 - 47.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

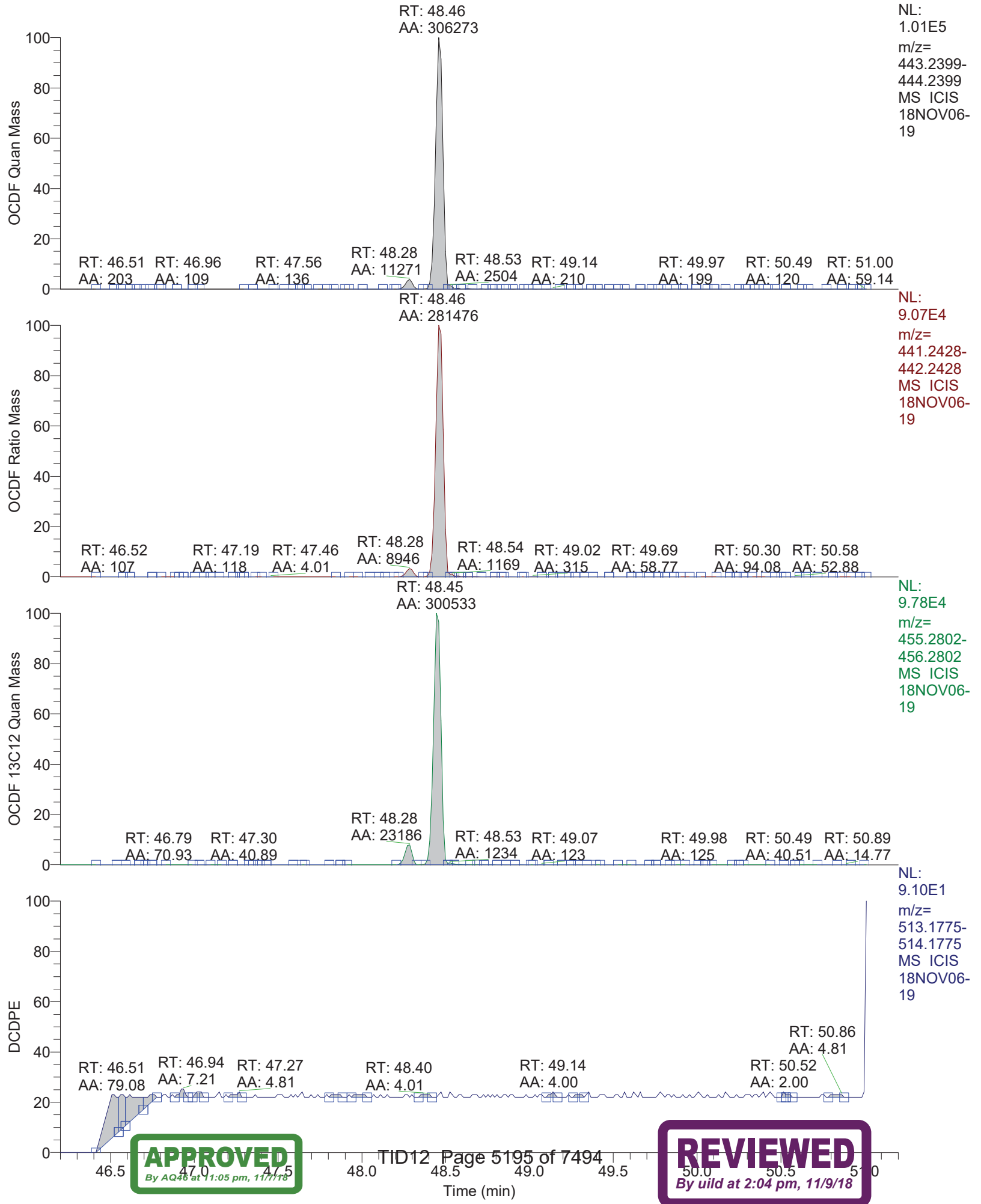
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-19
Sample ID: 9872062

Acq. Data: 11/7/2018 12:21:38 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 46.20 - 51.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

*** file opened Wed Nov 07 00:27:07 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 07-Nov-18 00:27:06

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f50533d2-f9c1-41a2-b71e-4157fb85ab75

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          97.5000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0002   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2531.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0207   FVINLET         0.0407   FVSRC           0.0333
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           97.5000   LKM           442.9723   MASS           97.5000
 MDAC        1484695.2551  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9685   RELEN           0.0000
 RES          12422.0858   RPUSHER       -17.1209   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0207   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          97.5000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10651.
MID Time Window 2: Resolution is 11115.
MID Time Window 3: Resolution is 11725.
MID Time Window 4: Resolution is 10947.
```

```
MID Time Window 5: Resolution is 12619.
MID Time Window 6: Resolution is 12422.

Amplifier Offset: 86.


*** File closed Wed Nov 07 01:18:08 2018
 ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 23:38
Number of Entries	3
Comment	S:11030:12937:17962
Vial	46
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Sample ID	9872062
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-12.quan
Data	y:\18nov07conf\18nov07-12.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.04
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.71	failed	passed	passed	passed	failed on IS	failed	failed on IS Recov
2	13C12-1234-TCDD	24.74	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.65	failed	passed	passed	passed	failed	passed	Failed on: RecovA

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 23:38
Number of Entries	3
Comment	S:11030:12937:17962
Vial	46
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Sample ID	9872062
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-12.quan
Data	y:\18nov07conf\18nov07-12.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.04
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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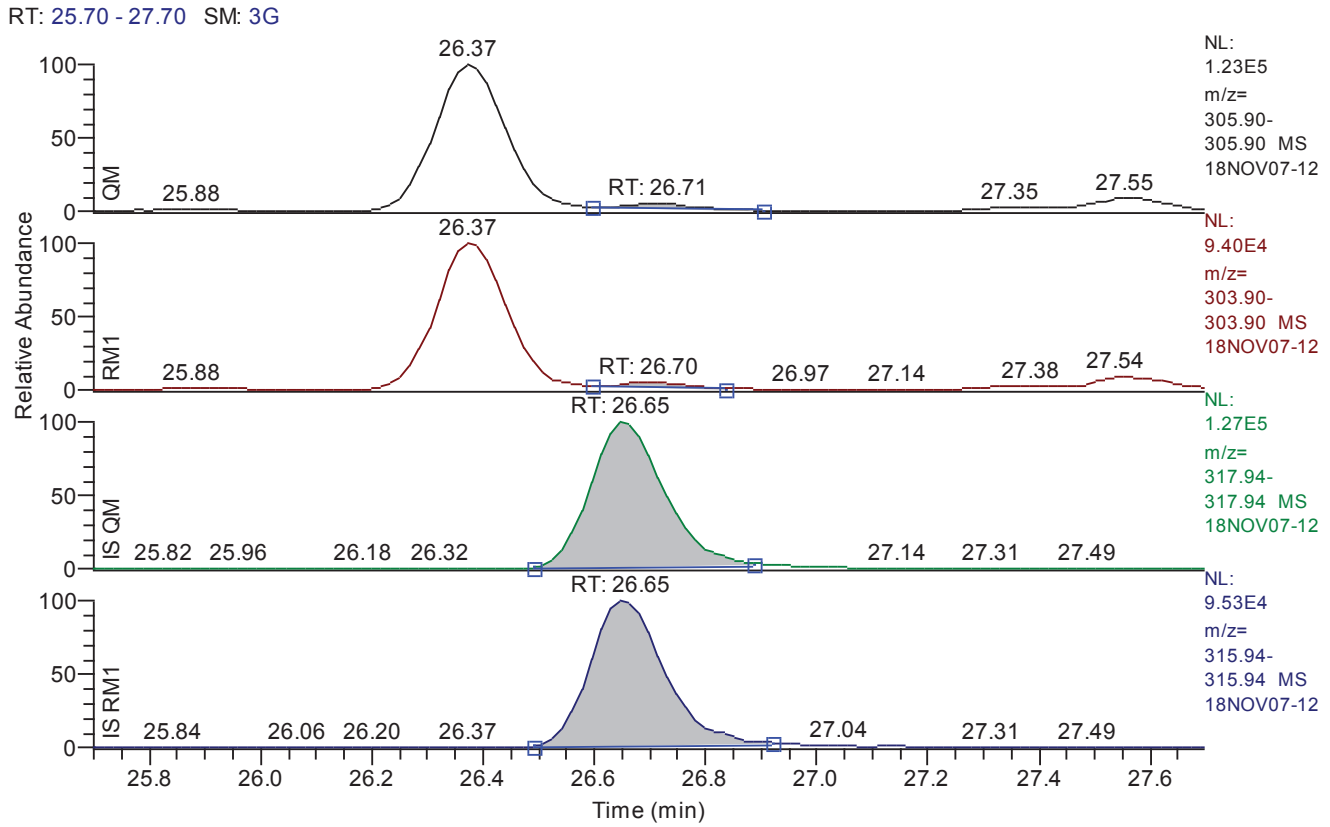
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.71
QM Area	35976
QM Integration Mode	A
RM1 Area	27627
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5701
Unqualified Amount (A)	6.095797
Adjusted Amount (A)	n.d.
Signal-to-Noise	34
Client Flags	
Status Overview	failed
Status Info	failed on IS Recov

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.71	26.71	26.70	26.65	passed	failed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.77	24.74	24.74	24.74	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.66	26.65	26.65	26.65	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.71	0.7679	0.6450 - 0.8950	passed	---	0 - 0	failed on IS
2	13C12-1234-TCDD	24.74	0.8101	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.65	0.7659	0.6450 - 0.8950	passed	35.38	40 - 135	failed

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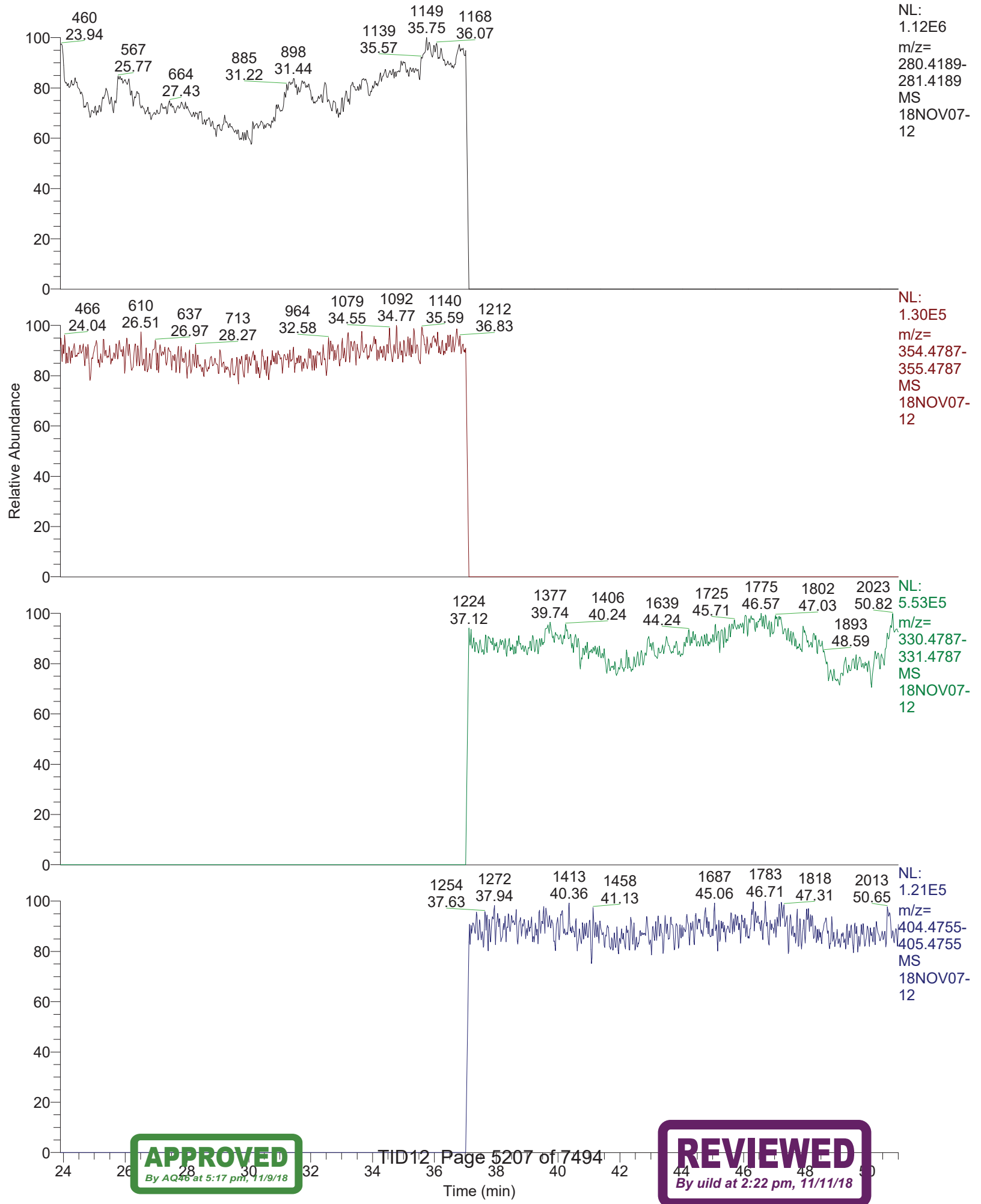
Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	26.71	35976	A	27627	A	0.5701	6.095797	n.d.	0.000000	34	
2	13C12-1234-TCDD	passed	24.74	1564165	A	1267183	A	0.1312	199.203187	199.2032	199.203187	3796	
3	13C12-2378-TCDF	failed	26.65	1156046	A	885471	A	0.0441	70.482229	n.d.	199.203187	3425	

File Name: Y:\18NOV07Conf\18NOV07-12
Sample ID: 9872062
Acq. Data: 11/7/2018 11:38:48 PM
Instrument ID: DF18471-18NOV07Conf
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
PFK Reference Lock Mass Traces

RT: 23.90 - 51.00



APPROVED
By AQ46 at 5:17 pm, 11/9/18

REVIEWED
By uild at 2:22 pm, 11/11/18

*** file opened Wed Nov 07 23:43:11 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 07-Nov-18 23:43:11

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	327.9787
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-99.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0381	FVSRC	0.0340
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	327.9787	LKM	330.9792	MASS	327.9787
MDAC	2956504.5028	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9680	RELEN	0.0000
RES	12782.2280	RPUSHER	-15.8315	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.1400	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	327.9787	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.4e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12840.
MID Time Window 2: Resolution is 12782.

Amplifier Offset: 89.

*** File closed Thu Nov 08 00:35:42 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 00:31
Number of Entries	253
Comment	S:11030:12937:17962
Vial	85
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Sample ID	9872062DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-11.quan
Data	w:\18nov07\18nov07-11.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.04
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.83	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	29.96	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.28	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.68	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.03	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.09	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.21	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.52	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
12	123789-HxCDF	41.95	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
13	1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.47	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.37	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.80	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.91	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.00	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.88	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.46	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.93	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.11	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 00:31
Number of Entries	253
Comment	S:11030:12937:17962
Vial	85
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Sample ID	9872062DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-11.quan
Data	w:\18nov07\18nov07-11.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.04
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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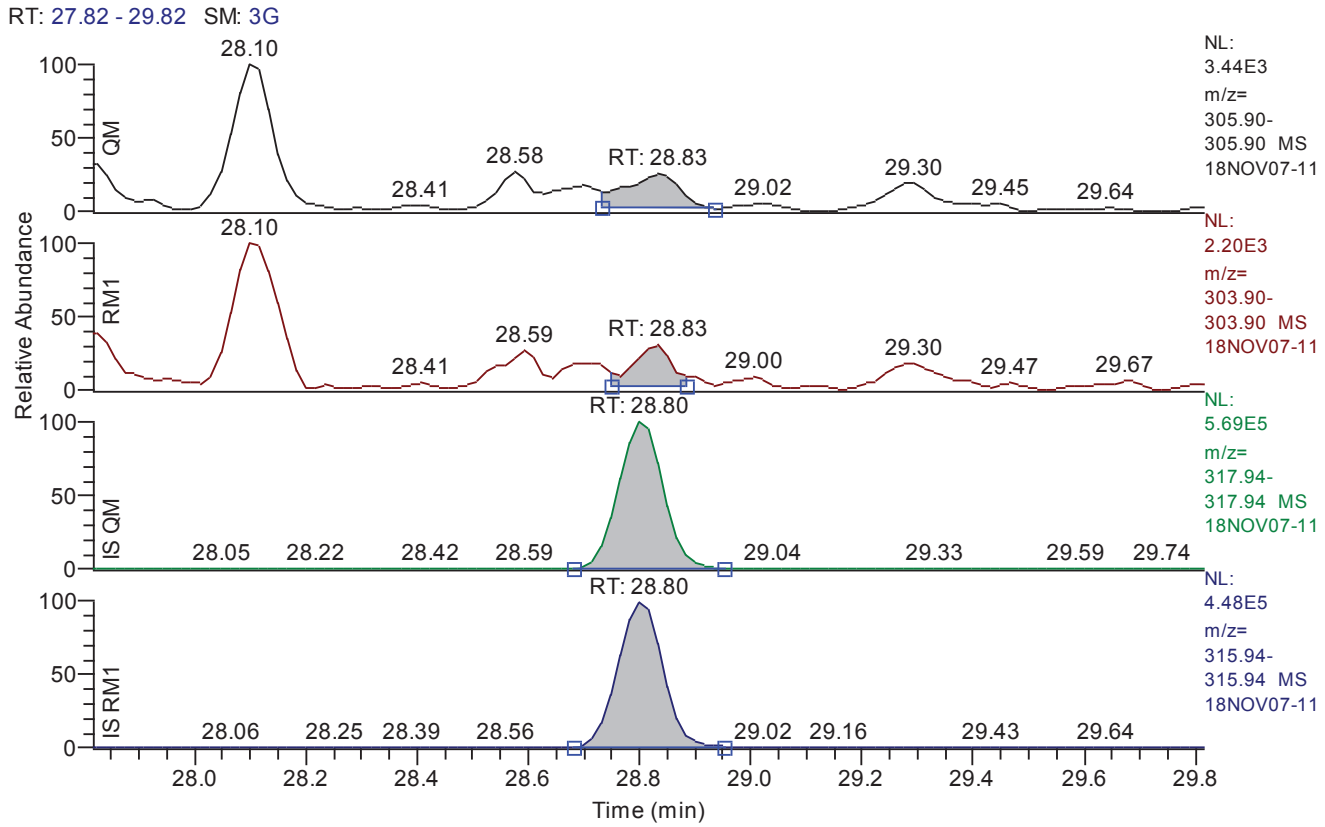
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.83
QM Area	5610
QM Integration Mode	A
RM1 Area	2979
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0517
Unqualified Amount (A)	3.504918
Adjusted Amount (A)	n.d.
Signal-to-Noise	16
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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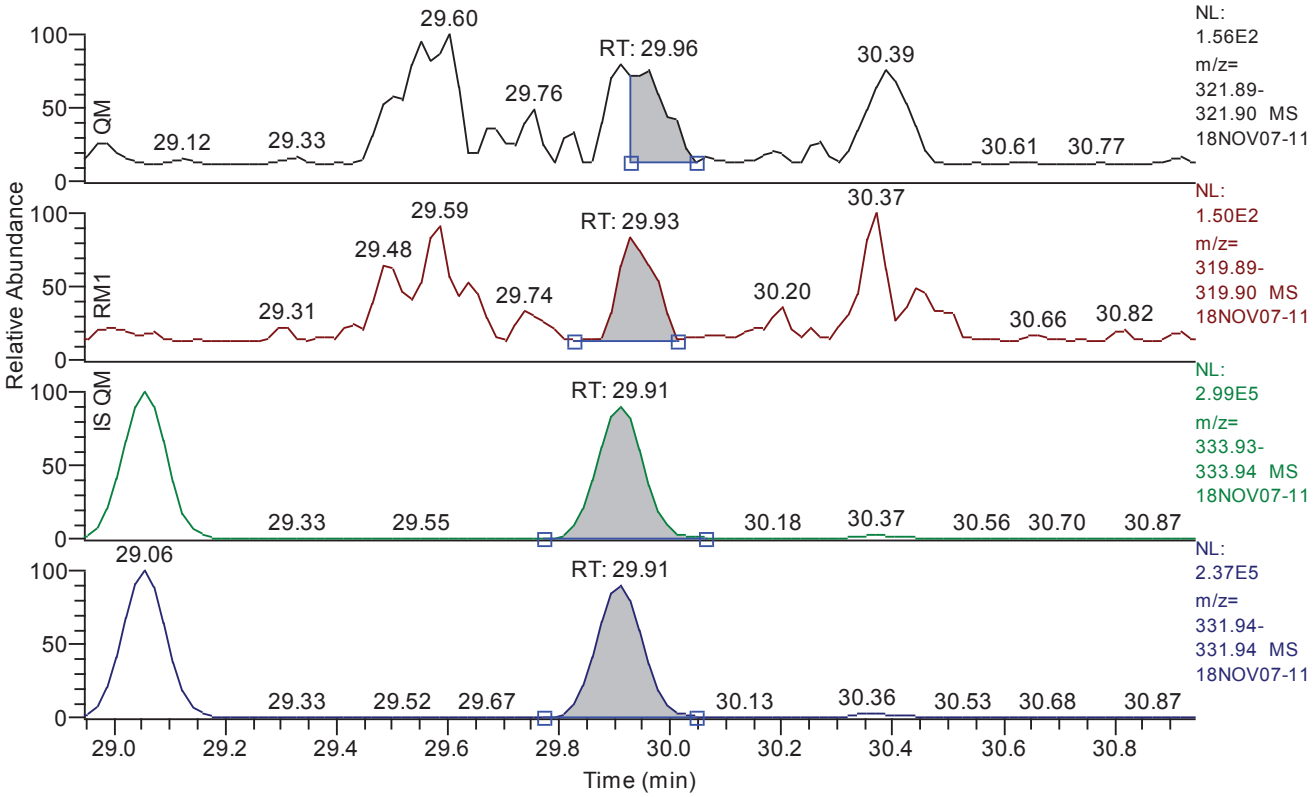
Chromatogram

RT: 28.95 - 30.95 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	29.96
QM Area	427
QM Integration Mode	A
RM1 Area	488
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0181
Unqualified Amount (A)	0.631910
Adjusted Amount (A)	n.d.
Signal-to-Noise	12
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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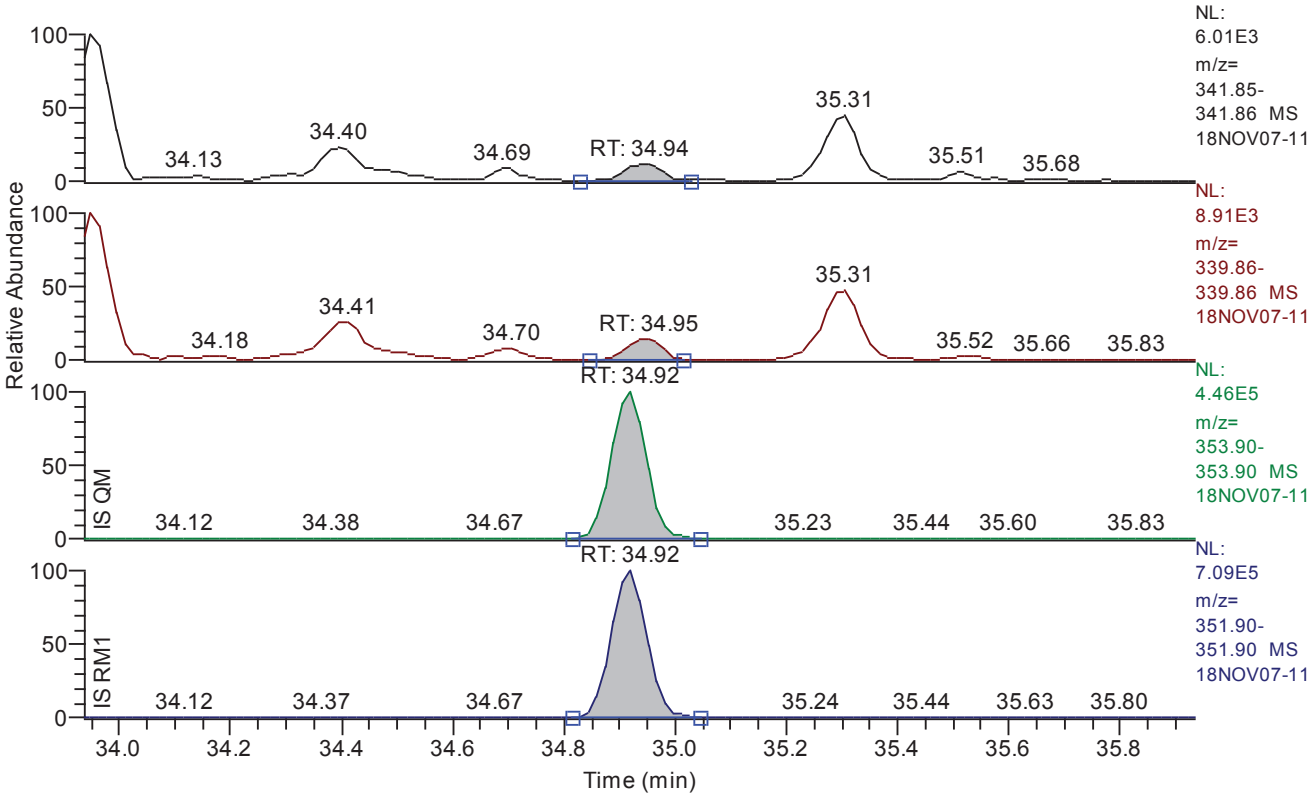
Chromatogram

RT: 33.94 - 35.94 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	3431
QM Integration Mode	A
RM1 Area	5771
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0259
Unqualified Amount (A)	4.582757
Adjusted Amount (A)	4.5828
Signal-to-Noise	43
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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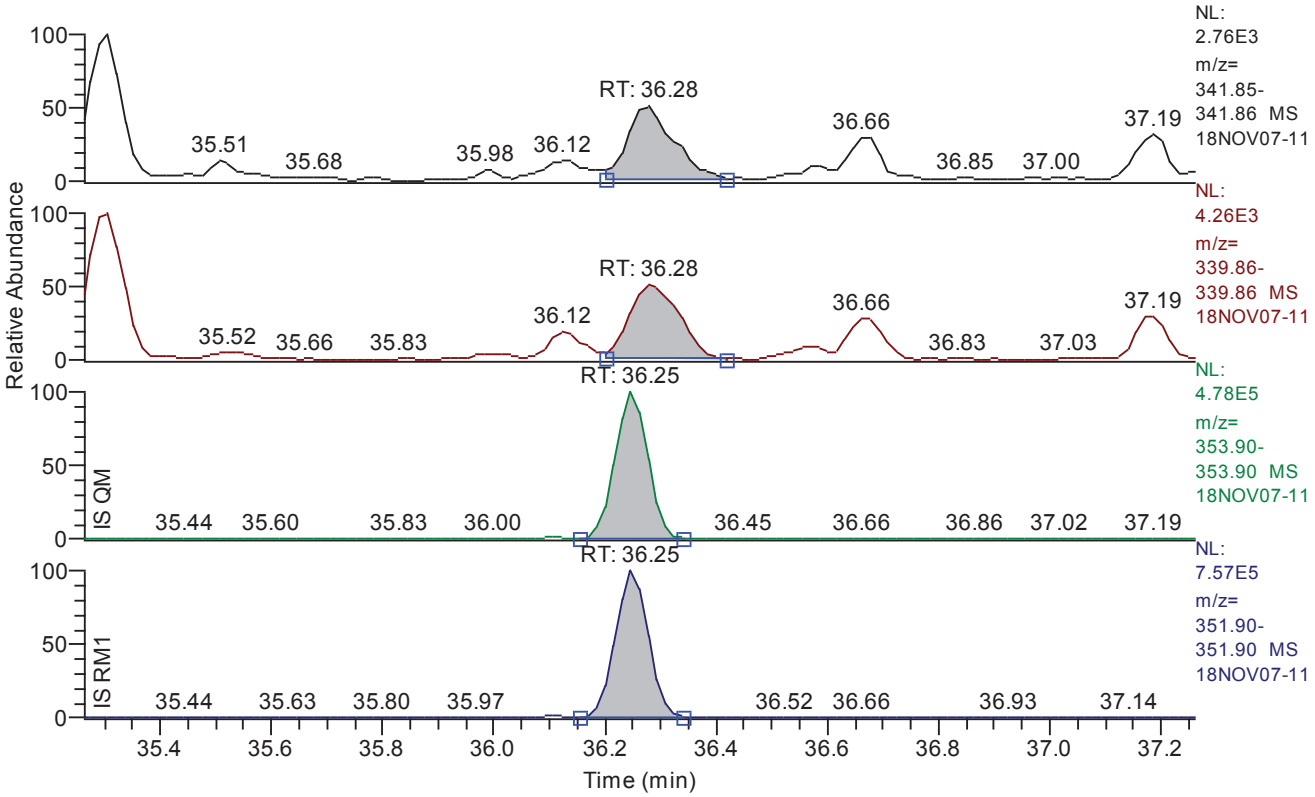
Chromatogram

RT: 35.26 - 37.26 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.28
QM Area	7759
QM Integration Mode	A
RM1 Area	13446
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0217
Unqualified Amount (A)	9.616475
Adjusted Amount (A)	9.6165
Signal-to-Noise	76
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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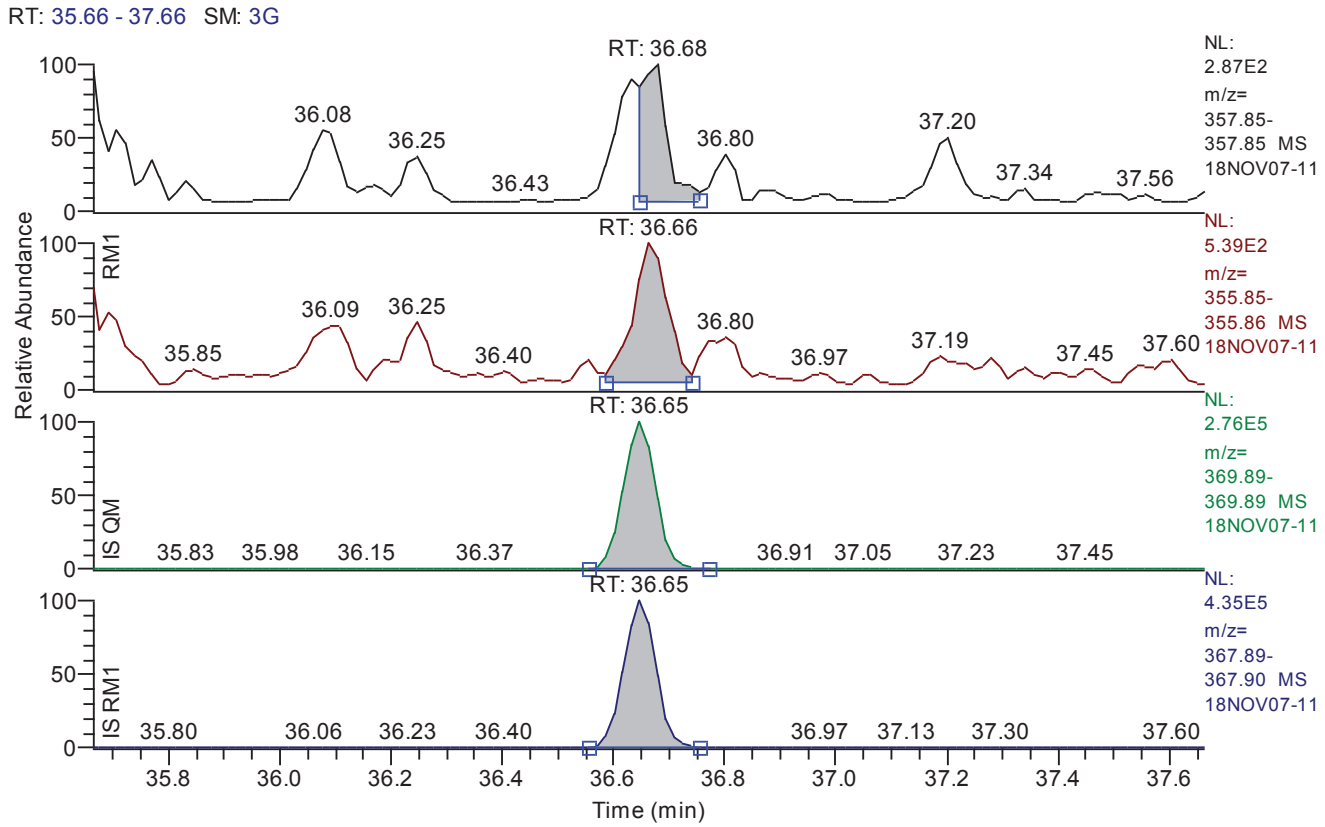
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.68
QM Area	805
QM Integration Mode	A
RM1 Area	2198
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0354
Unqualified Amount (A)	2.560175
Adjusted Amount (A)	n.d.
Signal-to-Noise	19
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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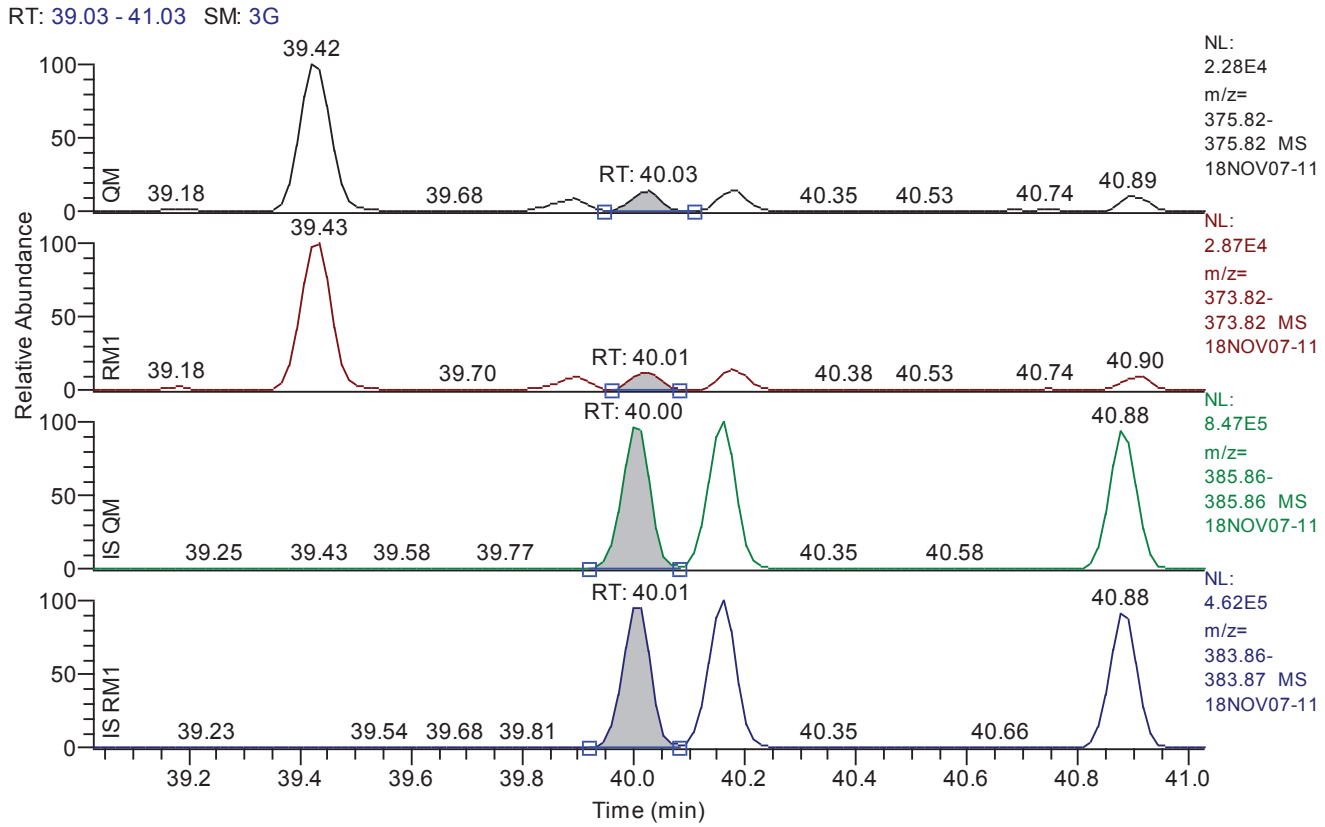
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.03
QM Area	12048
QM Integration Mode	A
RM1 Area	12942
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0220
Unqualified Amount (A)	11.393251
Adjusted Amount (A)	11.3933
Signal-to-Noise	122
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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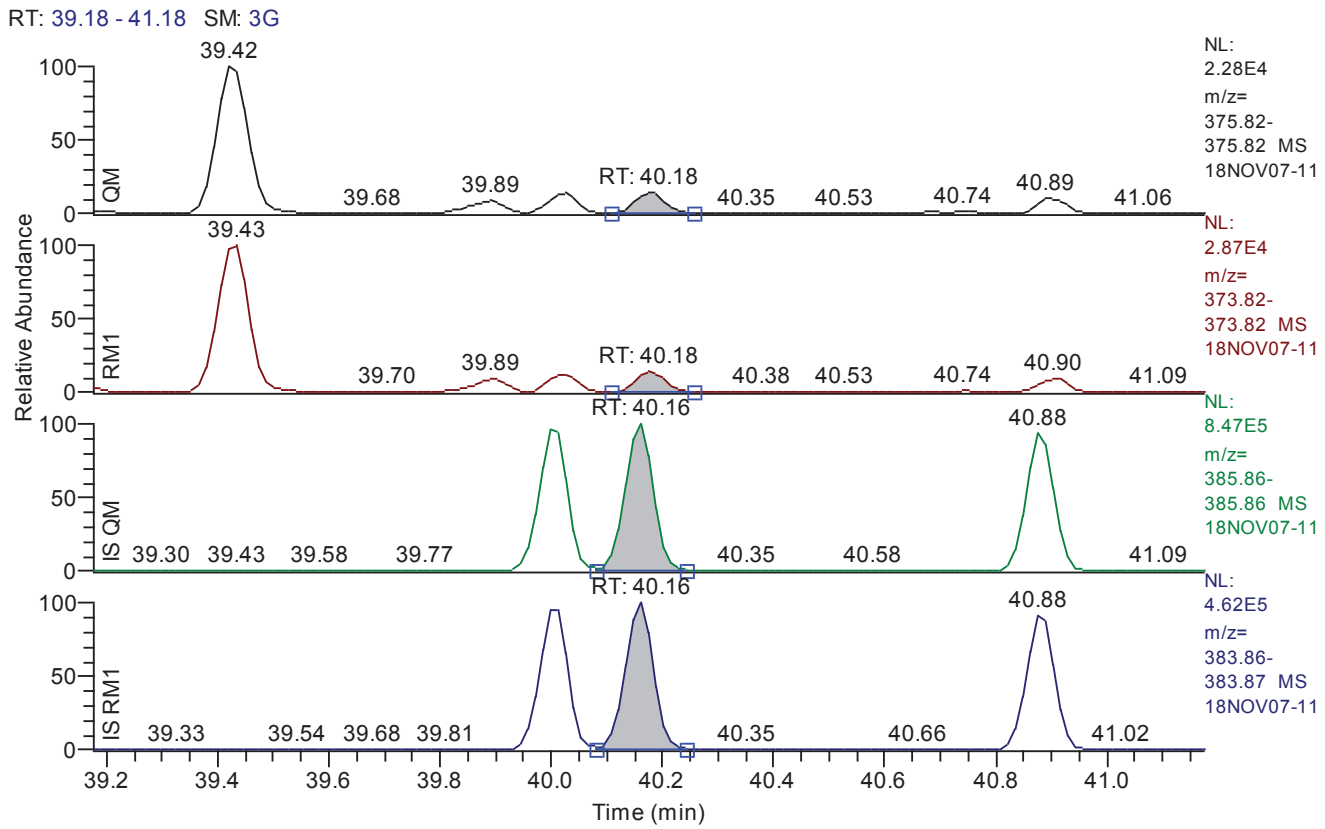
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	12316
QM Integration Mode	A
RM1 Area	15002
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0218
Unqualified Amount (A)	12.429956
Adjusted Amount (A)	12.4300
Signal-to-Noise	138
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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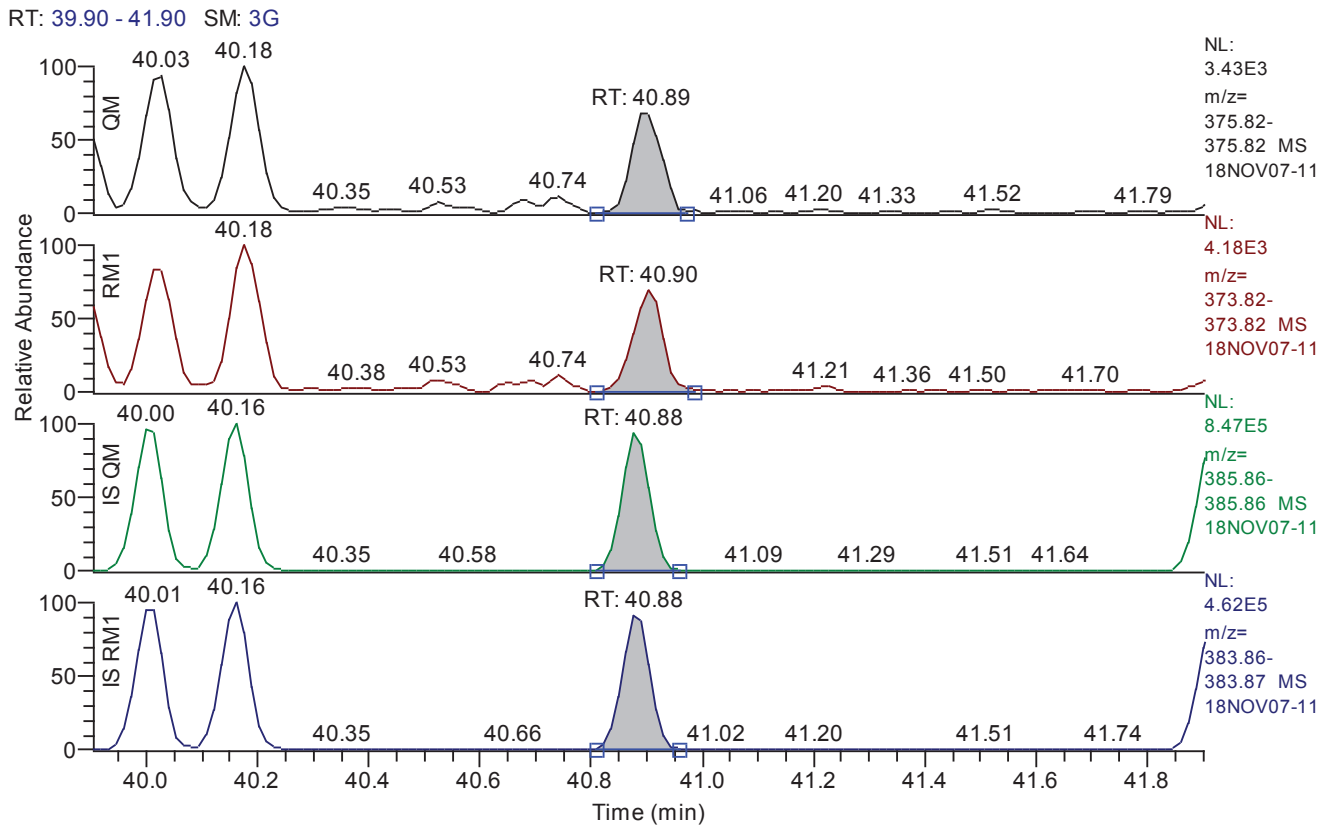
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.89
QM Area	8934
QM Integration Mode	A
RM1 Area	10842
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0220
Unqualified Amount (A)	9.158002
Adjusted Amount (A)	9.1580
Signal-to-Noise	97
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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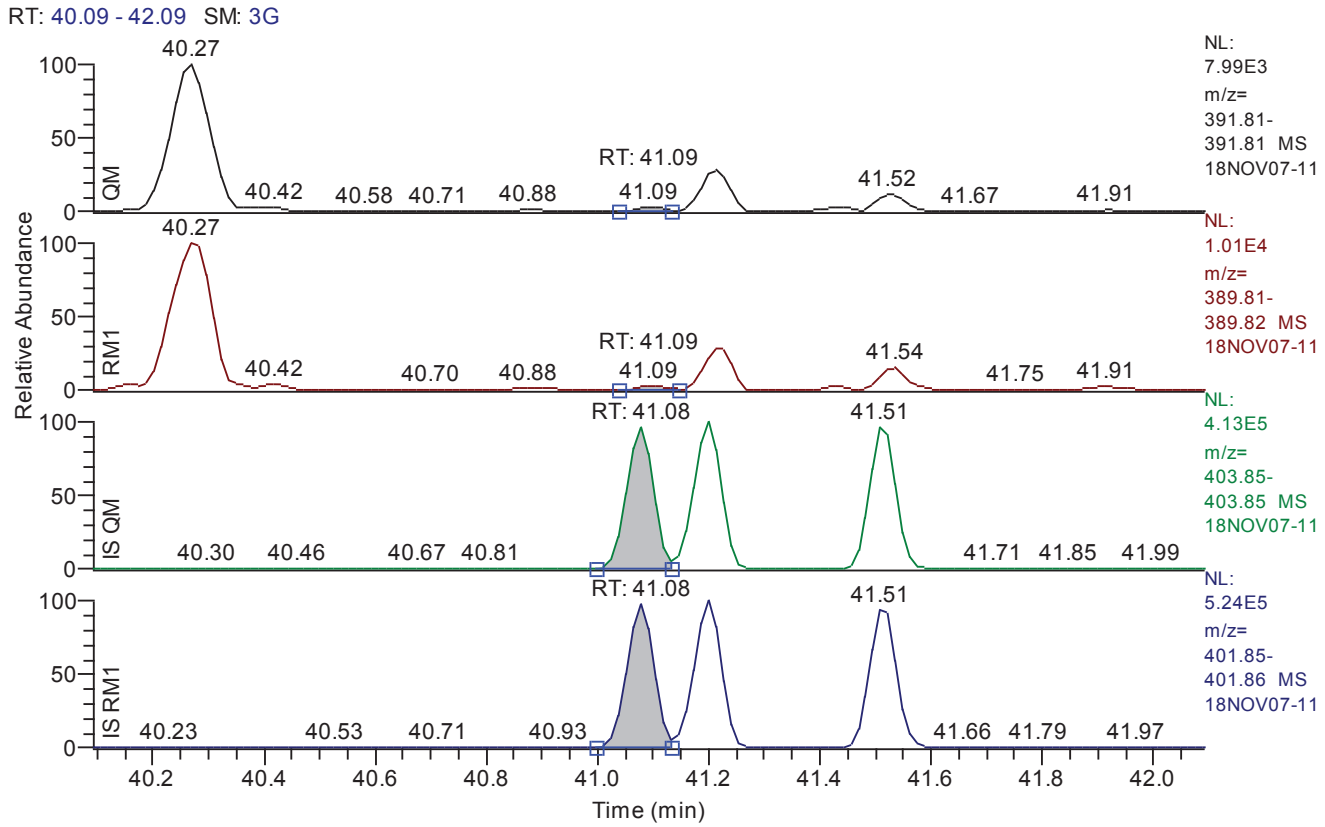
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.09
QM Area	863
QM Integration Mode	A
RM1 Area	1228
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0309
Unqualified Amount (A)	1.634403
Adjusted Amount (A)	1.6344
Signal-to-Noise	12
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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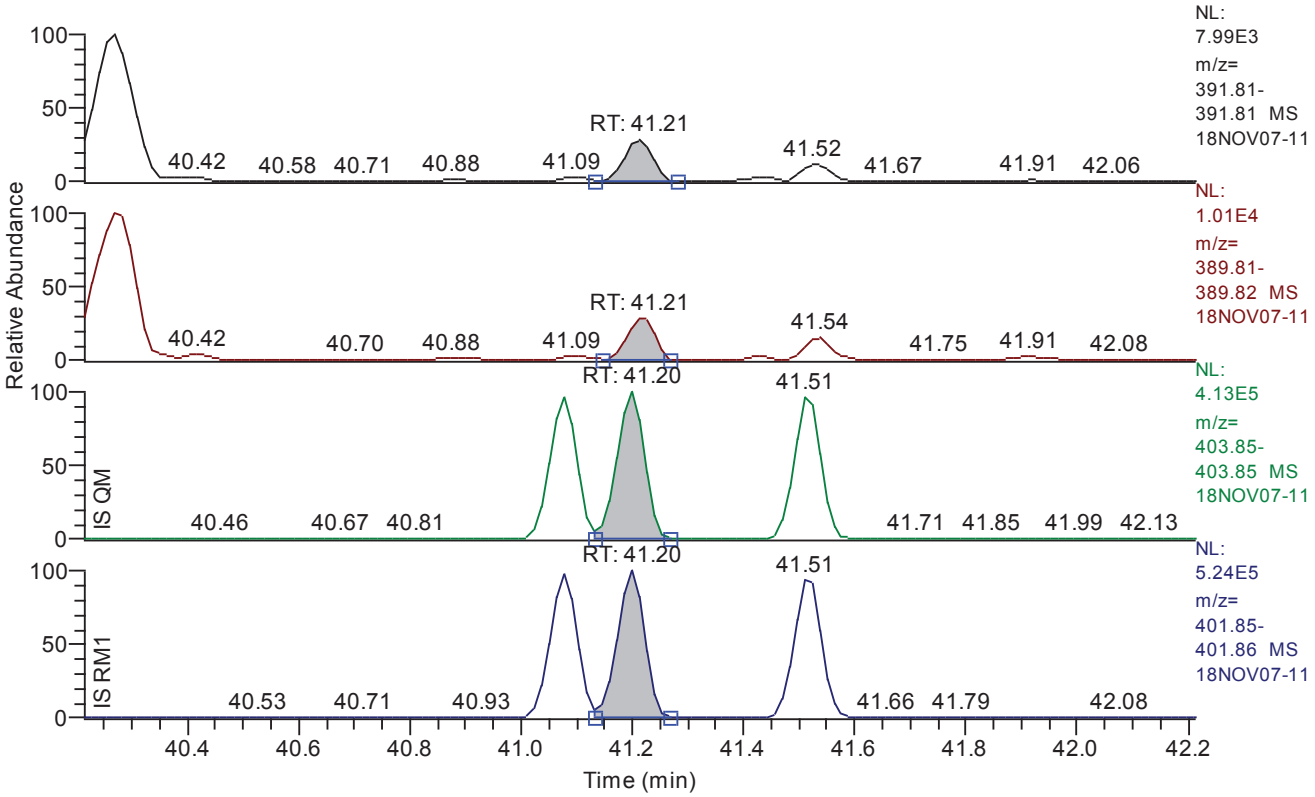
Chromatogram

RT: 40.21 - 42.21 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.21
QM Area	8290
QM Integration Mode	A
RM1 Area	9983
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0302
Unqualified Amount (A)	13.826599
Adjusted Amount (A)	13.8266
Signal-to-Noise	111
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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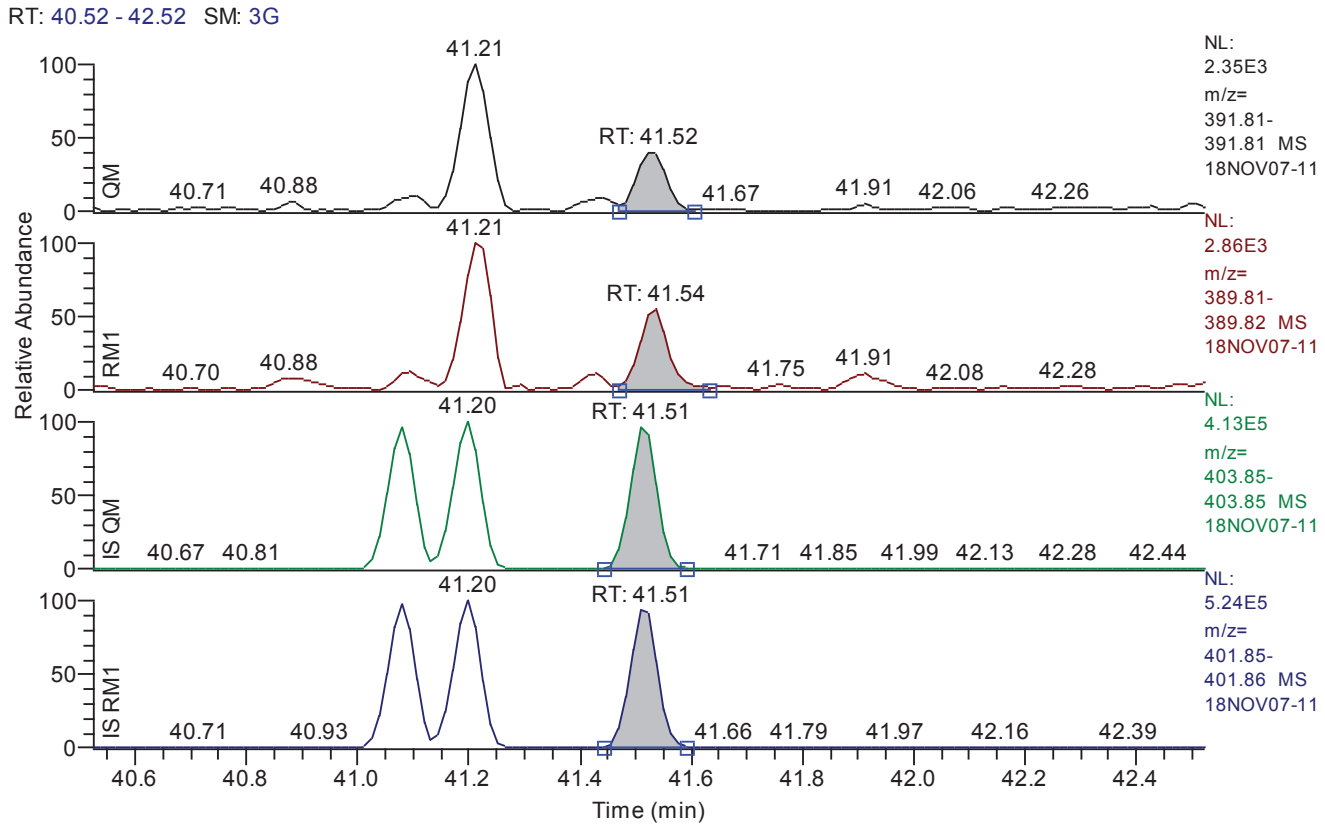
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.52
QM Area	3460
QM Integration Mode	A
RM1 Area	5563
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0301
Unqualified Amount (A)	6.824818
Adjusted Amount (A)	n.d.
Signal-to-Noise	54
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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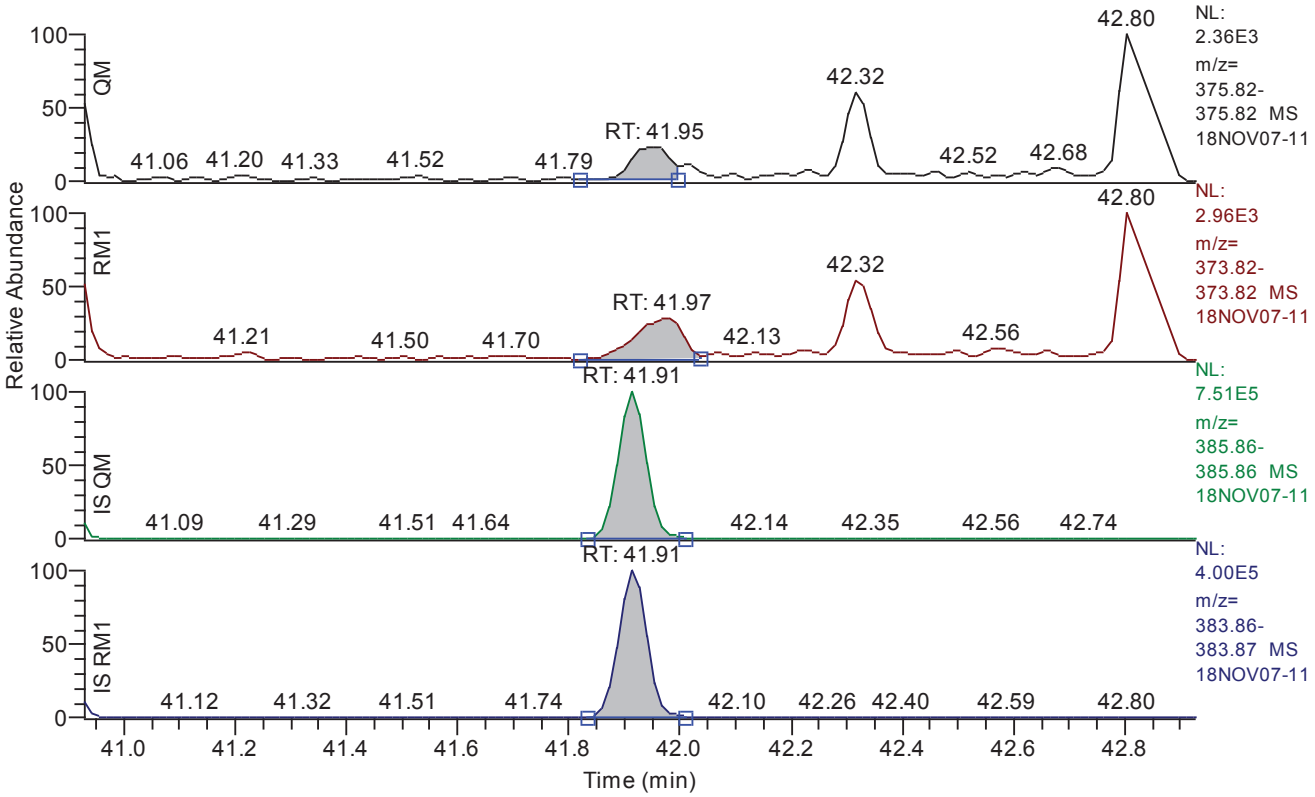
Chromatogram

RT: 40.93 - 42.93 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.95
QM Area	2488
QM Integration Mode	A
RM1 Area	4752
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0254
Unqualified Amount (A)	3.827402
Adjusted Amount (A)	n.d.
Signal-to-Noise	24
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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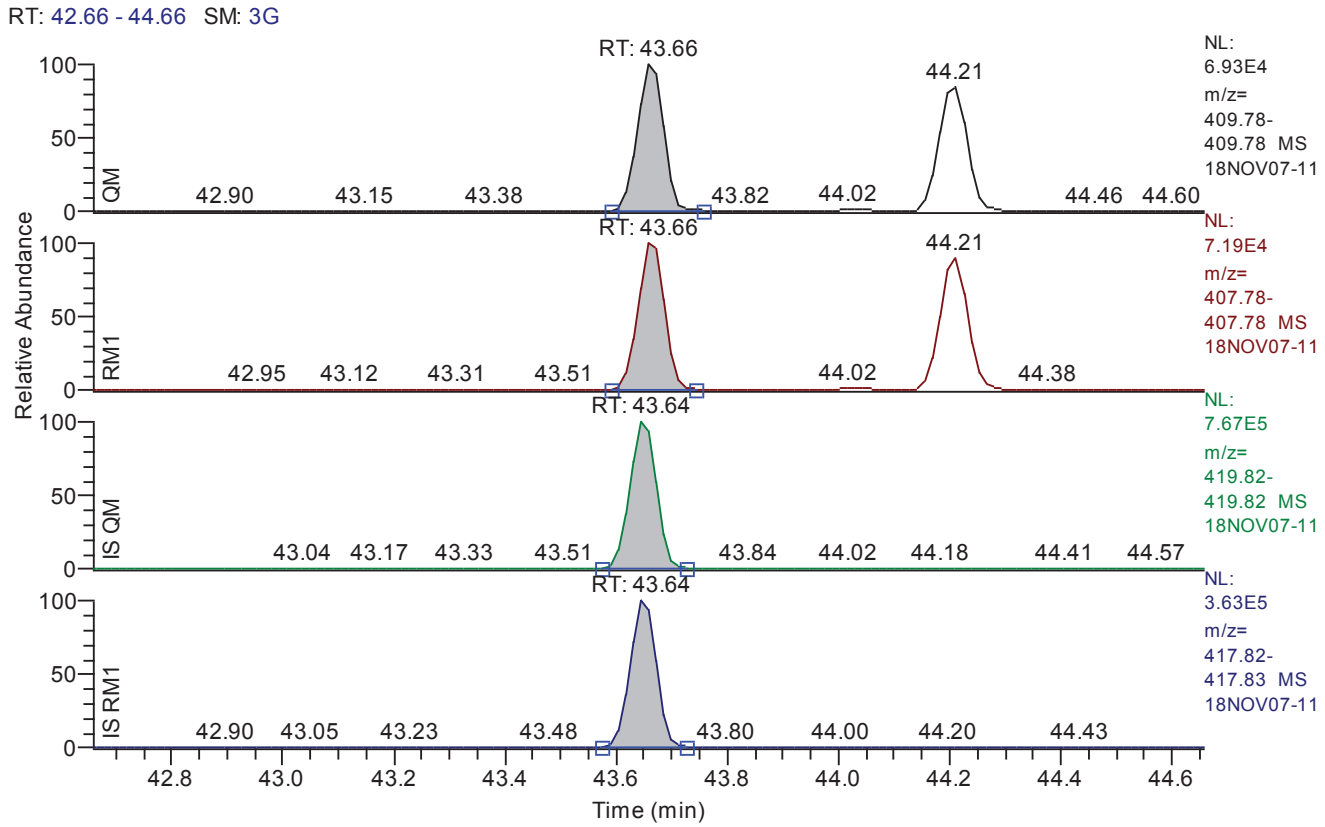
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.66
QM Area	236615
QM Integration Mode	A
RM1 Area	246093
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0146
Unqualified Amount (A)	239.042572
Adjusted Amount (A)	239.0426
Signal-to-Noise	4088
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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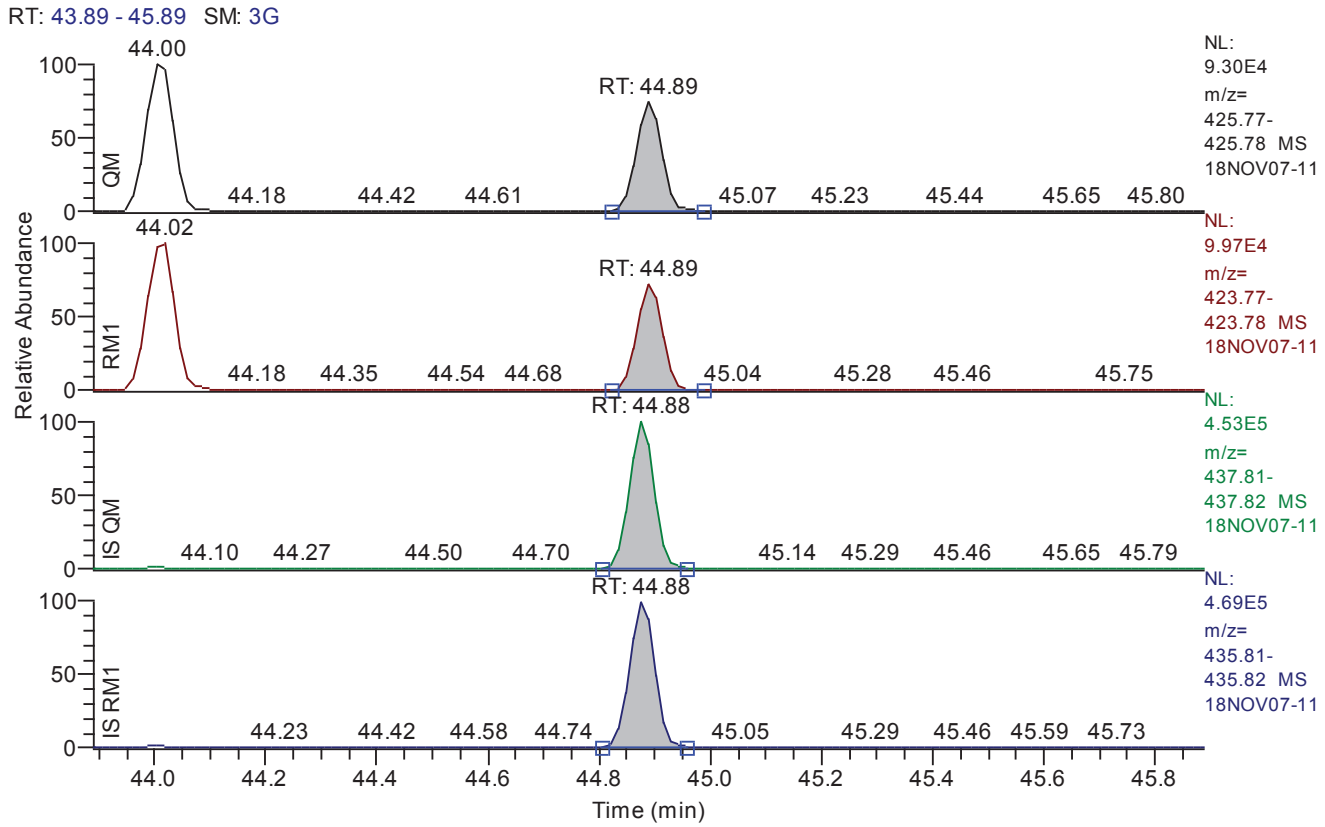
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	228064
QM Integration Mode	A
RM1 Area	237517
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0567
Unqualified Amount (A)	366.632270
Adjusted Amount (A)	366.6323
Signal-to-Noise	1587
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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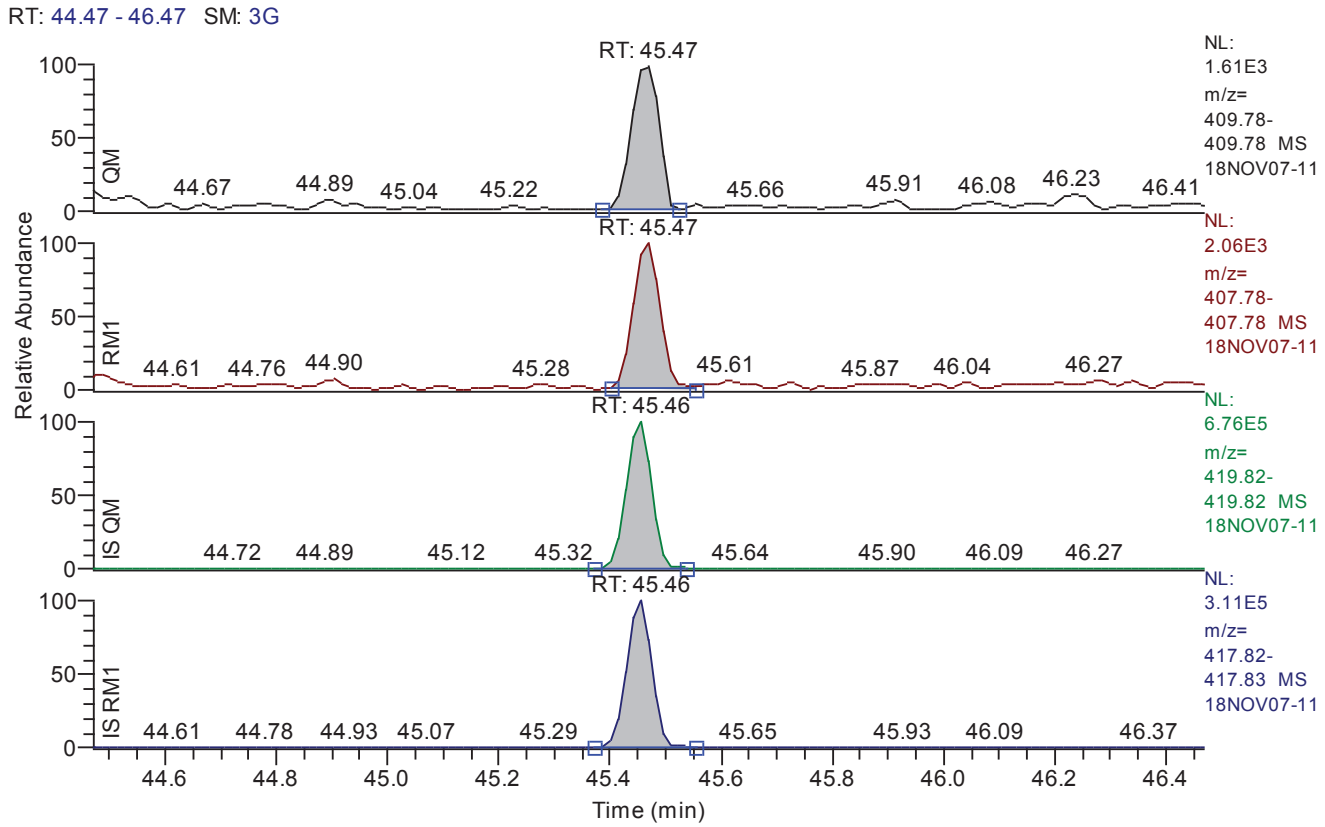
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	5652
QM Integration Mode	A
RM1 Area	7055
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0162
Unqualified Amount (A)	7.339024
Adjusted Amount (A)	n.d.
Signal-to-Noise	105
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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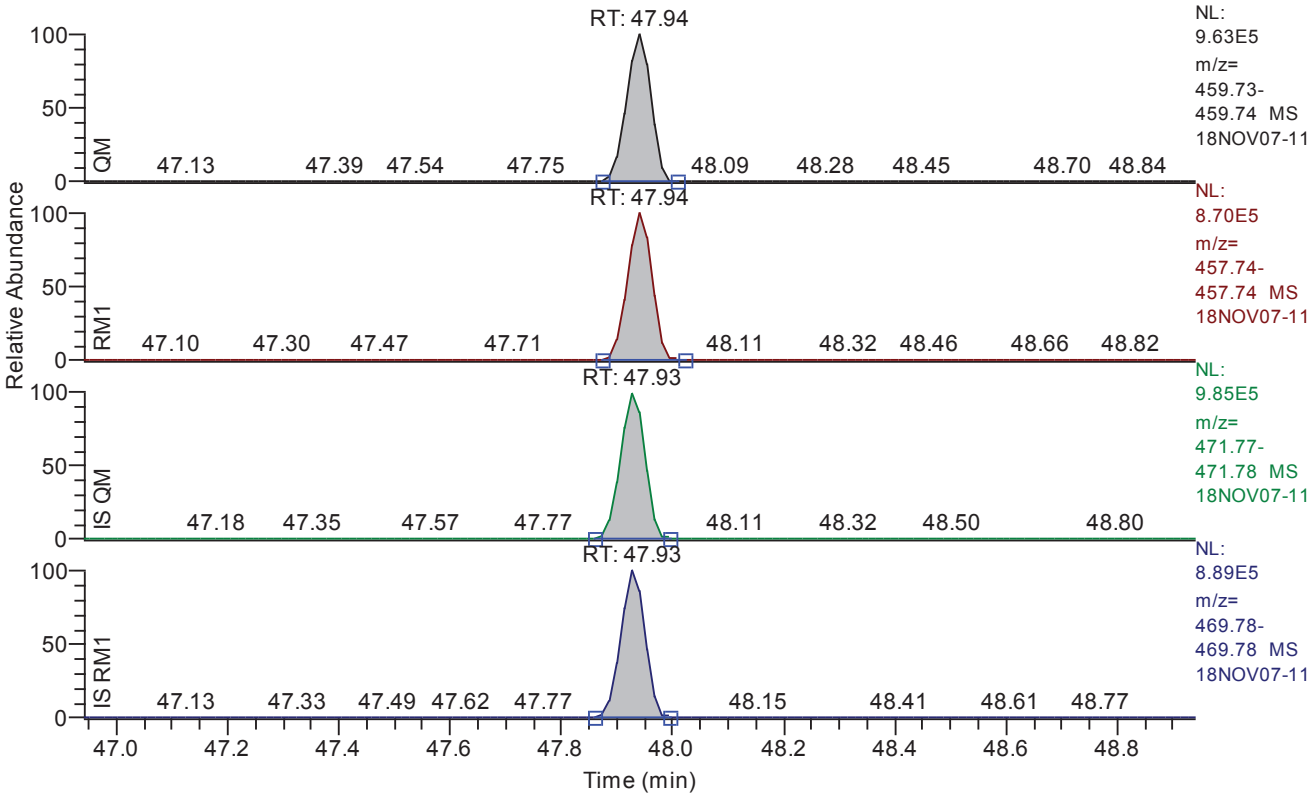
Chromatogram

RT: 46.94 - 48.94 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	47.94
QM Area	2945434
QM Integration Mode	A
RM1 Area	2662200
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0323
Unqualified Amount (A)	4716.939017
Adjusted Amount (A)	4716.9390
Signal-to-Noise	36368
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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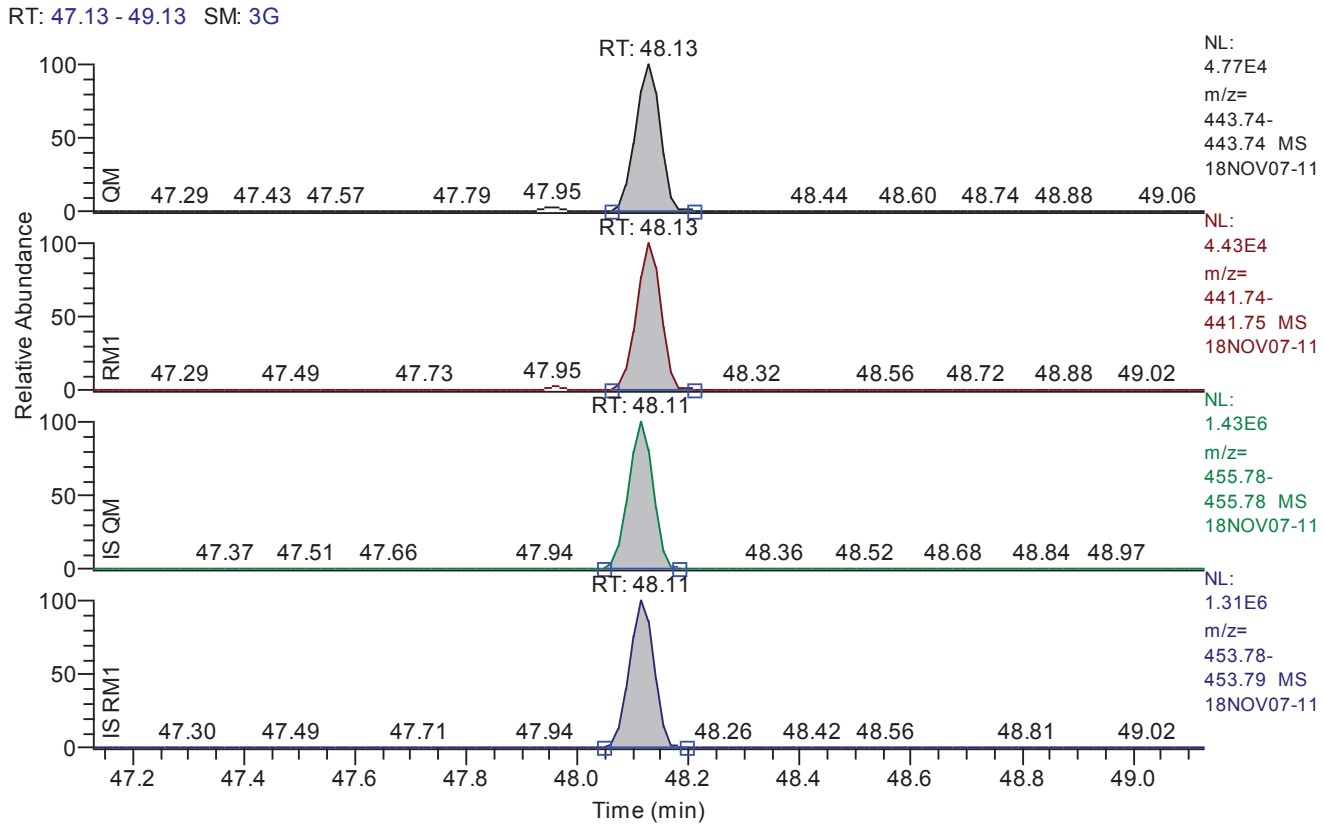
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.13
QM Area	147879
QM Integration Mode	A
RM1 Area	134958
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0131
Unqualified Amount (A)	173.106513
Adjusted Amount (A)	173.1065
Signal-to-Noise	3308
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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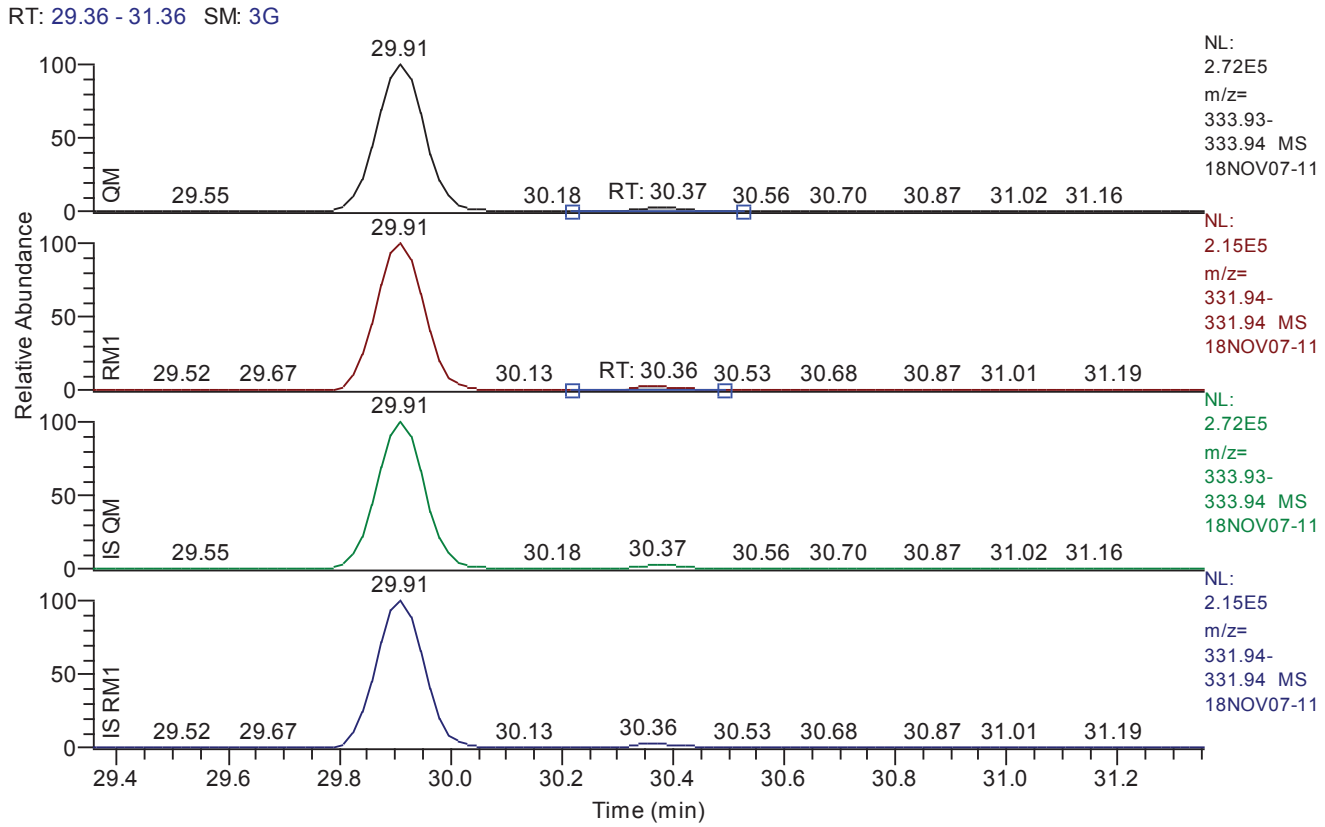
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.37
QM Area	60031
QM Integration Mode	A
RM1 Area	45173
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0248
Unqualified Amount (A)	73.042415
Adjusted Amount (A)	73.0424
Signal-to-Noise	676
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass		Ratio Mass 1		Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987	+/- 5 ppm	303.9016	+/- 5 ppm	28.80	28.83	28.83	28.80	passed	passed
2	2378-TCDD	321.8936	+/- 5 ppm	319.8965	+/- 5 ppm	29.93	29.96	29.93	29.91	passed	passed
3	12378-PeCDF	341.8567	+/- 5 ppm	339.8597	+/- 5 ppm	34.92	34.94	34.95	34.92	passed	passed
4	23478-PeCDF	341.8567	+/- 5 ppm	339.8597	+/- 5 ppm	36.25	36.28	36.28	36.25	passed	passed
5	12378-PeCDD	357.8516	+/- 5 ppm	355.8546	+/- 5 ppm	36.65	36.68	36.66	36.65	passed	passed
6	123478-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	40.02	40.03	40.01	40.00	passed	passed
7	123678-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	40.16	40.18	40.18	40.16	passed	passed
8	234678-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	40.89	40.89	40.90	40.88	passed	passed
9	123478-HxCDD	391.8127	+/- 5 ppm	389.8157	+/- 5 ppm	41.08	41.09	41.09	41.08	passed	passed
10	123678-HxCDD	391.8127	+/- 5 ppm	389.8157	+/- 5 ppm	41.20	41.21	41.21	41.20	passed	passed
11	123789-HxCDD	391.8127	+/- 5 ppm	389.8157	+/- 5 ppm	41.51	41.52	41.54	41.51	passed	passed
12	123789-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	41.92	41.95	41.97	41.91	passed	passed
13	1234678-HpCDF	409.7789	+/- 5 ppm	407.7818	+/- 5 ppm	43.65	43.66	43.66	43.64	passed	passed
14	1234678-HpCDD	425.7737	+/- 5 ppm	423.7766	+/- 5 ppm	44.88	44.89	44.89	44.88	passed	passed
15	1234789-HpCDF	409.7789	+/- 5 ppm	407.7818	+/- 5 ppm	45.46	45.47	45.47	45.46	passed	passed
16	OCDD	459.7348	+/- 5 ppm	457.7377	+/- 5 ppm	47.93	47.94	47.94	47.93	passed	passed
17	OCDF	443.7399	+/- 5 ppm	441.7428	+/- 5 ppm	48.12	48.13	48.13	48.11	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339	+/- 5 ppm	331.9368	+/- 5 ppm	30.34	30.37	30.36	30.37	passed	passed
19	13C12-1234-TCDD	333.9339	+/- 5 ppm	331.9368	+/- 5 ppm	29.04	29.06	29.06	29.06	passed	passed
20	13C12-123468-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	39.91	39.92	39.92	39.92	passed	passed
21	13C12-2378-TCDF	317.9389	+/- 5 ppm	315.9419	+/- 5 ppm	28.78	28.80	28.80	28.99	passed	passed
22	13C12-2378-TCDD	333.9339	+/- 5 ppm	331.9368	+/- 5 ppm	29.89	29.91	29.91	29.91	passed	passed
23	13C12-12378-PeCDF	353.8970	+/- 5 ppm	351.9000	+/- 5 ppm	34.91	34.92	34.92	34.86	passed	passed
24	13C12-23478-PeCDF	353.8970	+/- 5 ppm	351.9000	+/- 5 ppm	36.23	36.25	36.25	36.35	passed	passed
25	13C12-12378-PeCDD	369.8919	+/- 5 ppm	367.8949	+/- 5 ppm	36.63	36.65	36.65	36.65	passed	passed
26	13C12-123478-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	39.99	40.00	40.01	40.19	passed	passed
27	13C12-123678-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	40.15	40.16	40.16	40.19	passed	passed
28	13C12-234678-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	40.86	40.88	40.88	40.85	passed	passed
29	13C12-123478-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	41.07	41.08	41.08	41.08	passed	passed
30	13C12-123678-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	41.19	41.20	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	41.50	41.51	41.51	41.51	passed	passed
32	13C12-123789-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	41.90	41.91	41.91	41.97	passed	passed
33	13C12-1234678-HpCDF	419.8220	+/- 5 ppm	417.8253	+/- 5 ppm	43.64	43.64	43.64	43.44	passed	passed
34	13C12-1234678-HpCDD	437.8140	+/- 5 ppm	435.8169	+/- 5 ppm	44.87	44.88	44.88	44.88	passed	passed
35	13C12-1234789-HpCDF	419.8220	+/- 5 ppm	417.8253	+/- 5 ppm	45.45	45.46	45.46	45.29	passed	passed
36	13C12-OCDD	471.7750	+/- 5 ppm	469.7779	+/- 5 ppm	47.92	47.93	47.93	47.93	passed	passed
37	13C12-OCDF	455.7802	+/- 5 ppm	453.7831	+/- 5 ppm	48.10	48.11	48.11	48.15	passed	passed

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.83	0.5311	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	29.96	1.1421	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	34.94	1.6821	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.28	1.7328	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.68	2.7289	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.03	1.0742	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.18	1.2180	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.89	1.2135	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.09	1.4219	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.21	1.2043	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.52	1.6076	1.0450 - 1.4350	failed	---	0 - 0	passed
12	123789-HxCDF	41.95	1.9100	1.0450 - 1.4350	failed	---	0 - 0	passed
13	1234678-HpCDF	43.66	1.0401	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.89	1.0414	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.47	1.2483	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	47.94	0.9038	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.13	0.9126	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.37	0.7525	0.6450 - 0.8950	passed	36.67	35 - 197	passed
19	13C12-1234-TCDD	29.06	0.7940	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.3010	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.80	0.7847	0.6450 - 0.8950	passed	107.47	40 - 135	passed
22	13C12-2378-TCDD	29.91	0.7951	0.6450 - 0.8950	passed	97.05	40 - 135	passed
23	13C12-12378-PeCDF	34.92	1.6064	1.3150 - 1.7850	passed	103.74	40 - 135	passed
24	13C12-23478-PeCDF	36.25	1.5863	1.3150 - 1.7850	passed	101.77	40 - 135	passed
25	13C12-12378-PeCDD	36.65	1.5692	1.3150 - 1.7850	passed	96.28	40 - 135	passed
26	13C12-123478-HxCDF	40.00	0.5390	0.4250 - 0.5950	passed	108.40	40 - 135	passed
27	13C12-123678-HxCDF	40.16	0.5419	0.4250 - 0.5950	passed	105.33	40 - 135	passed
28	13C12-234678-HxCDF	40.88	0.5378	0.4250 - 0.5950	passed	105.27	40 - 135	passed
29	13C12-123478-HxCDD	41.08	1.2904	1.0450 - 1.4350	passed	94.89	40 - 135	passed
30	13C12-123678-HxCDD	41.20	1.2526	1.0450 - 1.4350	passed	96.22	40 - 135	passed
31	13C12-123789-HxCDD	41.51	1.2660	1.0450 - 1.4350	passed	96.23	40 - 135	passed
32	13C12-123789-HxCDF	41.91	0.5359	0.4250 - 0.5950	passed	110.23	40 - 135	passed
33	13C12-1234678-HpCDF	43.64	0.4684	0.3650 - 0.5150	passed	100.95	40 - 135	passed
34	13C12-1234678-HpCDD	44.88	1.0479	0.8750 - 1.2050	passed	93.47	40 - 135	passed
35	13C12-1234789-HpCDF	45.46	0.4577	0.3650 - 0.5150	passed	102.42	40 - 135	passed
36	13C12-OCDD	47.93	0.9022	0.7550 - 1.0250	passed	92.44	40 - 135	passed
37	13C12-OCDF	48.11	0.9176	0.7550 - 1.0250	passed	102.57	40 - 135	passed

APPROVED
By uma9 at 12:12 pm, 11/8/18

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By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	28.83	5610	A	2979	A	0.0517	3.504918	n.d.	0.000000	16	
2	2378-TCDD	failed	29.96	427	A	488	A	0.0181	0.631910	n.d.	0.000000	12	
3	12378-PeCDF	passed	34.94	3431	A	5771	A	0.0259	4.582757	4.5828	0.000000	43	
4	23478-PeCDF	passed	36.28	7759	A	13446	A	0.0217	9.616475	9.6165	0.000000	76	
5	12378-PeCDD	failed	36.68	805	A	2198	A	0.0354	2.560175	n.d.	0.000000	19	
6	123478-HxCDF	passed	40.03	12048	A	12942	A	0.0220	11.393251	11.3933	0.000000	122	
7	123678-HxCDF	passed	40.18	12316	A	15002	A	0.0218	12.429956	12.4300	0.000000	138	
8	234678-HxCDF	passed	40.89	8934	A	10842	A	0.0220	9.158002	9.1580	0.000000	97	
9	123478-HxCDD	passed	41.09	863	A	1228	A	0.0309	1.634403	1.6344	0.000000	12	
10	123678-HxCDD	passed	41.21	8290	A	9983	A	0.0302	13.826599	13.8266	0.000000	111	
11	123789-HxCDD	failed	41.52	3460	A	5563	A	0.0301	6.824818	n.d.	0.000000	54	
12	123789-HxCDF	failed	41.95	2488	A	4752	A	0.0254	3.827402	n.d.	0.000000	24	
13	1234678-HpCDF	passed	43.66	236615	A	246093	A	0.0146	239.042572	239.0426	0.000000	4088	
14	1234678-HpCDD	passed	44.89	228064	A	237517	A	0.0567	366.632270	366.6323	0.000000	1587	
15	1234789-HpCDF	failed	45.47	5652	A	7055	A	0.0162	7.339024	n.d.	0.000000	105	
16	OCDD	passed	47.94	2945434	A	2662200	A	0.0323	4716.939017	4716.9390	0.000000	36368	
17	OCDF	passed	48.13	147879	A	134958	A	0.0131	173.106513	173.1065	0.000000	3308	
18	13C12-1278-TCDD (CRS)	passed	30.37	60031	A	45173	A	0.0248	73.042415	73.0424	199.203187	676	
19	13C12-1234-TCDD	passed	29.06	1703953	A	1352988	A	0.0256	2191.235060	2191.2351	2191.235060	21361	
20	13C12-123468-HxCDD	passed	39.92	1425275	A	1854220	A	0.0420	2191.235060	2191.2351	2191.235060	13042	
21	13C12-2378-TCDF	passed	28.80	3258910	A	2557106	A	0.0266	2354.950990	2354.9510	2191.235060	22050	
22	13C12-2378-TCDD	passed	29.91	1614525	A	1283661	A	0.0263	2126.587322	2126.5873	2191.235060	19379	
23	13C12-12378-PeCDF	passed	34.92	1985635	A	3189788	A	0.0622	2273.111918	2273.1119	2191.235060	11628	
24	13C12-23478-PeCDF	passed	36.25	1964722	A	3116548	A	0.0622	2229.989877	2229.9899	2191.235060	12422	
25	13C12-12378-PeCDD	passed	36.65	1117012	A	1752786	A	0.0416	2109.629366	2109.6294	2191.235060	17932	
26	13C12-123478-HxCDF	passed	40.00	2924190	A	1576131	A	0.0578	2375.366535	2375.3665	2191.235060	10321	
27	13C12-123678-HxCDF	passed	40.16	2991951	A	1621252	A	0.0548	2308.048210	2308.0482	2191.235060	10700	
28	13C12-234678-HxCDF	passed	40.88	2776199	A	1492902	A	0.0592	2306.782038	2306.7820	2191.235060	9965	
29	13C12-123478-HxCDD	passed	41.08	1344048	A	1734350	A	0.0425	2079.332430	2079.3324	2191.235060	12947	
30	13C12-123678-HxCDD	passed	41.20	1421730	A	1780832	A	0.0414	2108.388457	2108.3885	2191.235060	13336	
31	13C12-123789-HxCDD	passed	41.51	1339965	A	1696410	A	0.0437	2108.598863	2108.5989	2191.235060	12681	
32	13C12-123789-HxCDF	passed	41.91	2651351	A	1420987	A	0.0650	2415.453369	2415.4534	2191.235060	9415	
33	13C12-1234678-HpCDF	passed	43.64	2625555	A	1229829	A	0.0678	2212.100444	2212.1004	2191.235060	8580	
34	13C12-1234678-HpCDD	passed	44.88	1450809	A	1520278	A	0.0585	2048.137977	2048.1380	2191.235060	9740	
35	13C12-1234789-HpCDF	passed	45.46	2203457	A	1008455	A	0.0826	2244.232072	2244.2321	2191.235060	7487	
36	13C12-OCDD	passed	47.93	3003238	A	2709573	A	0.0228	4051.250509	4051.2505	4382.470120	52286	
37	13C12-OCDF	passed	48.11	4414222	A	4050427	A	0.0234	4495.246021	4495.2460	4382.470120	55761	

APPROVED
By uma9 at 12:12 pm, 11/8/18

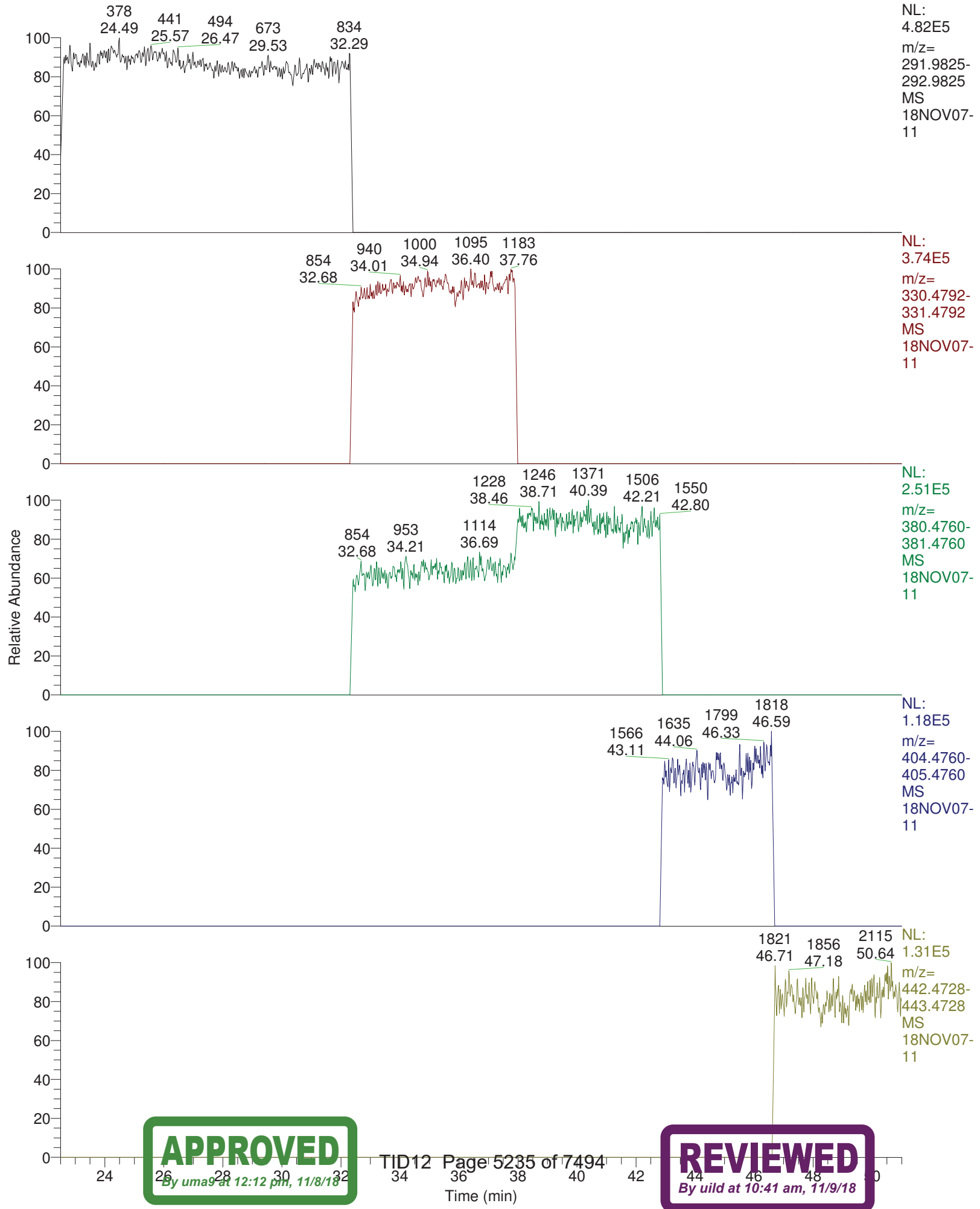
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-11
Sample ID: 9872062DL

Acq. Data: 11/8/2018 12:31:35 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV07

RT: 22.50 - 51.00



APPROVED
By uma9 at 12:12 pm, 11/8/18

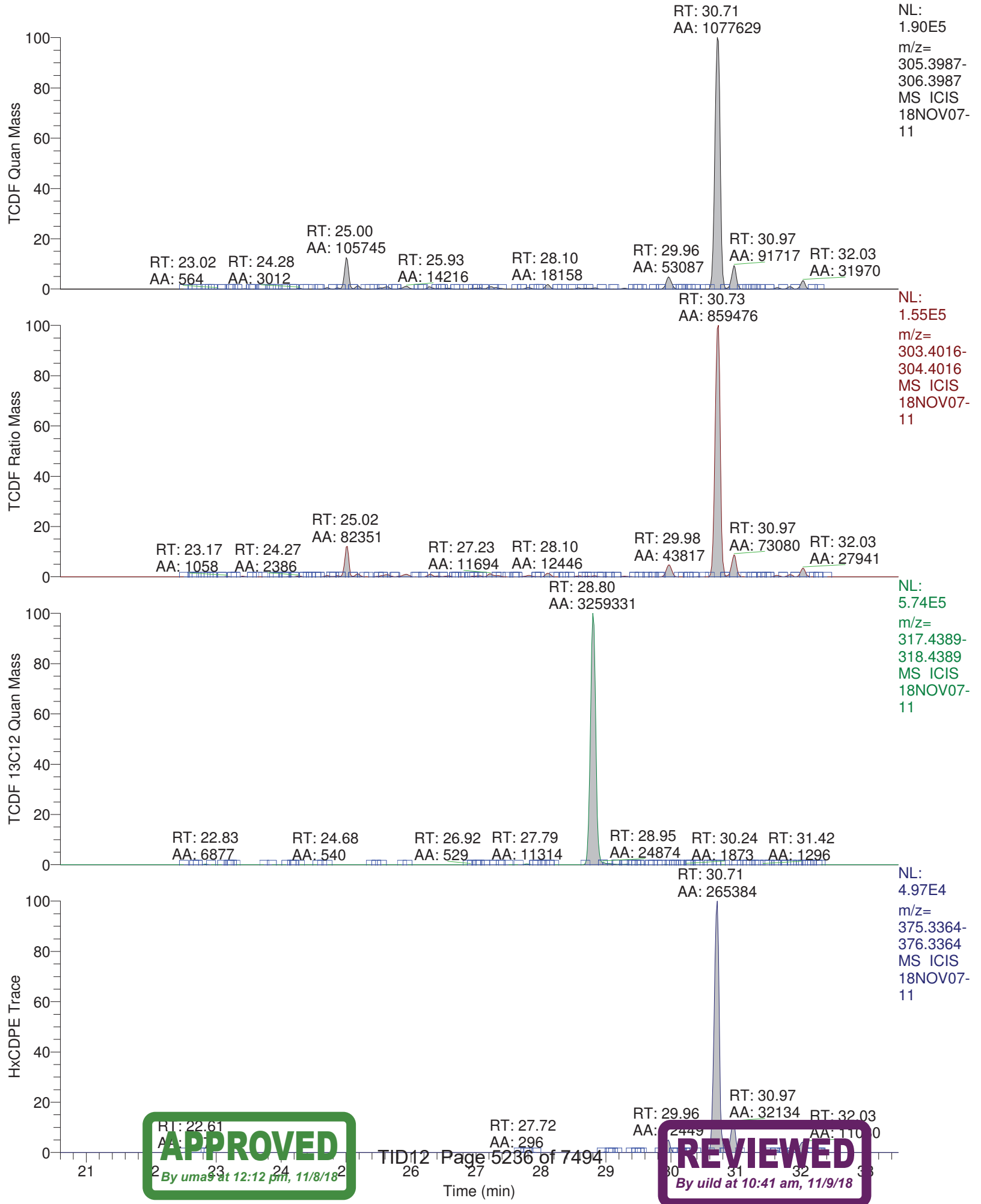
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-11
Sample ID: 9872062DL

Acq. Data: 11/8/2018 12:31:35 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 20.60 - 33.50



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By umas at 12:12 pm, 11/8/18

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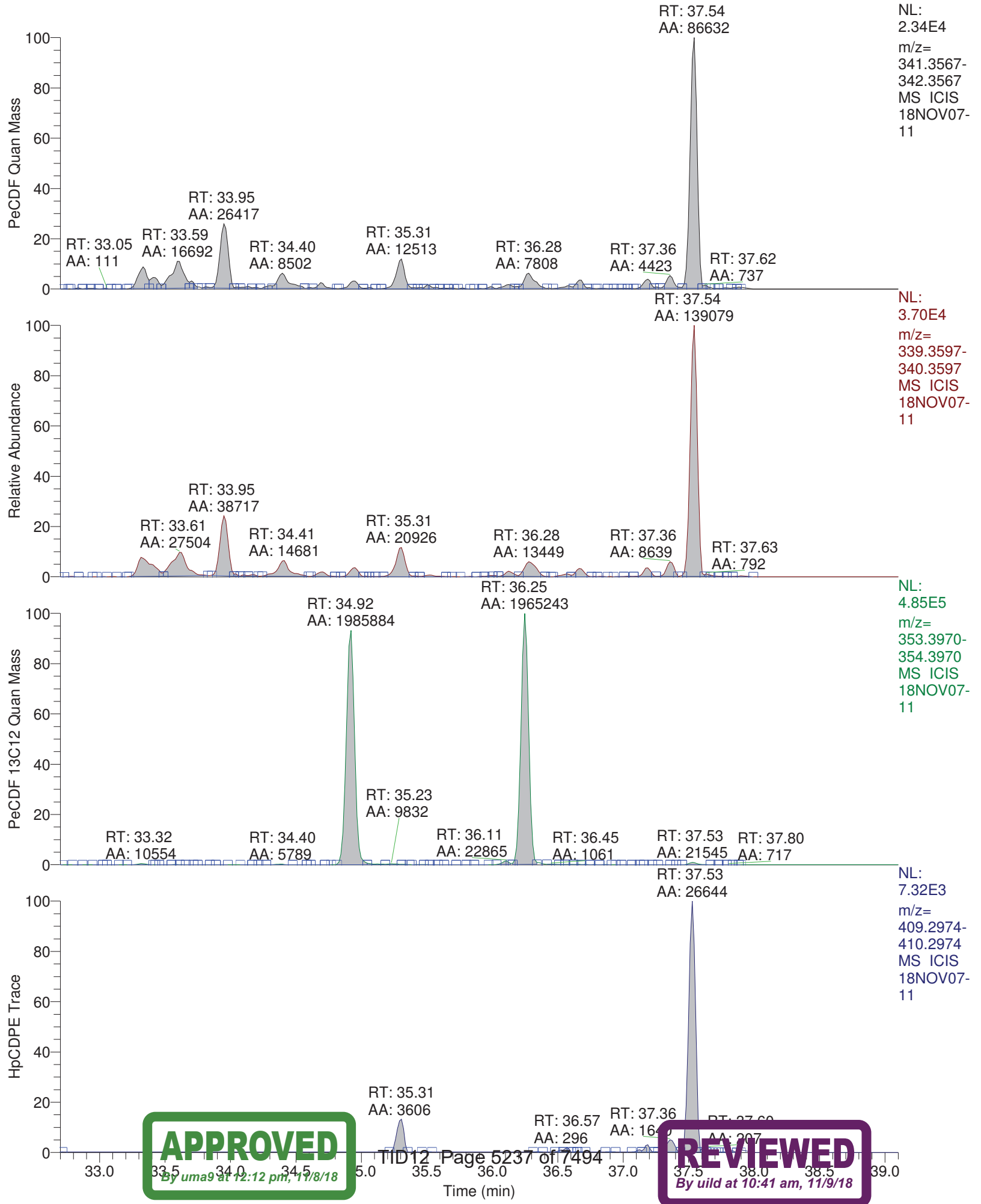
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-11
Sample ID: 9872062DL

Acq. Data: 11/8/2018 12:31:35 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 32.70 - 39.10



APPROVED
By uma9 at 12:12 pm, 11/8/18

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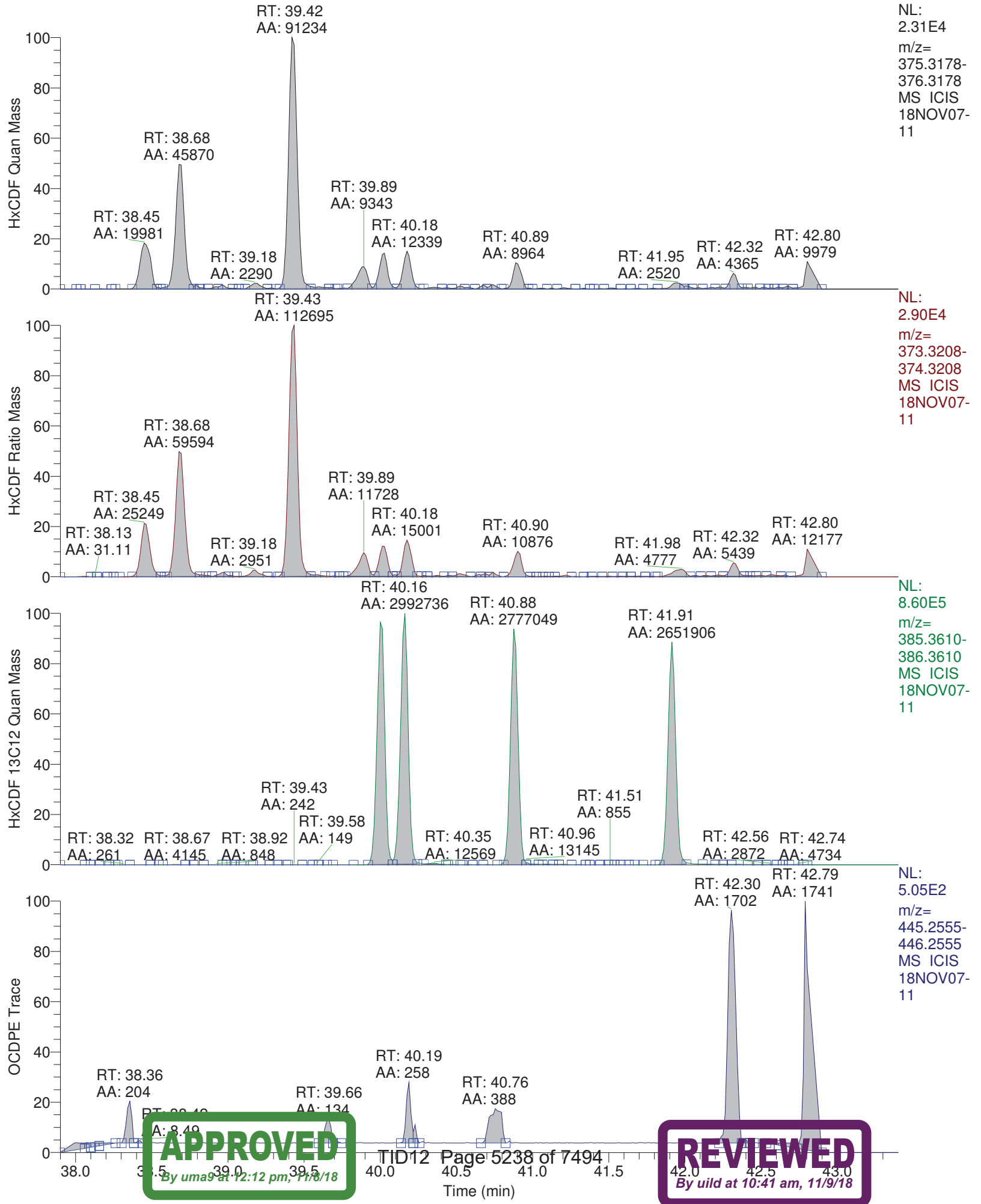
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-11
Sample ID: 9872062DL

Acq. Data: 11/8/2018 12:31:35 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 37.90 - 43.40



APPROVED
By uma9 at 12:12 pm, 11/8/18

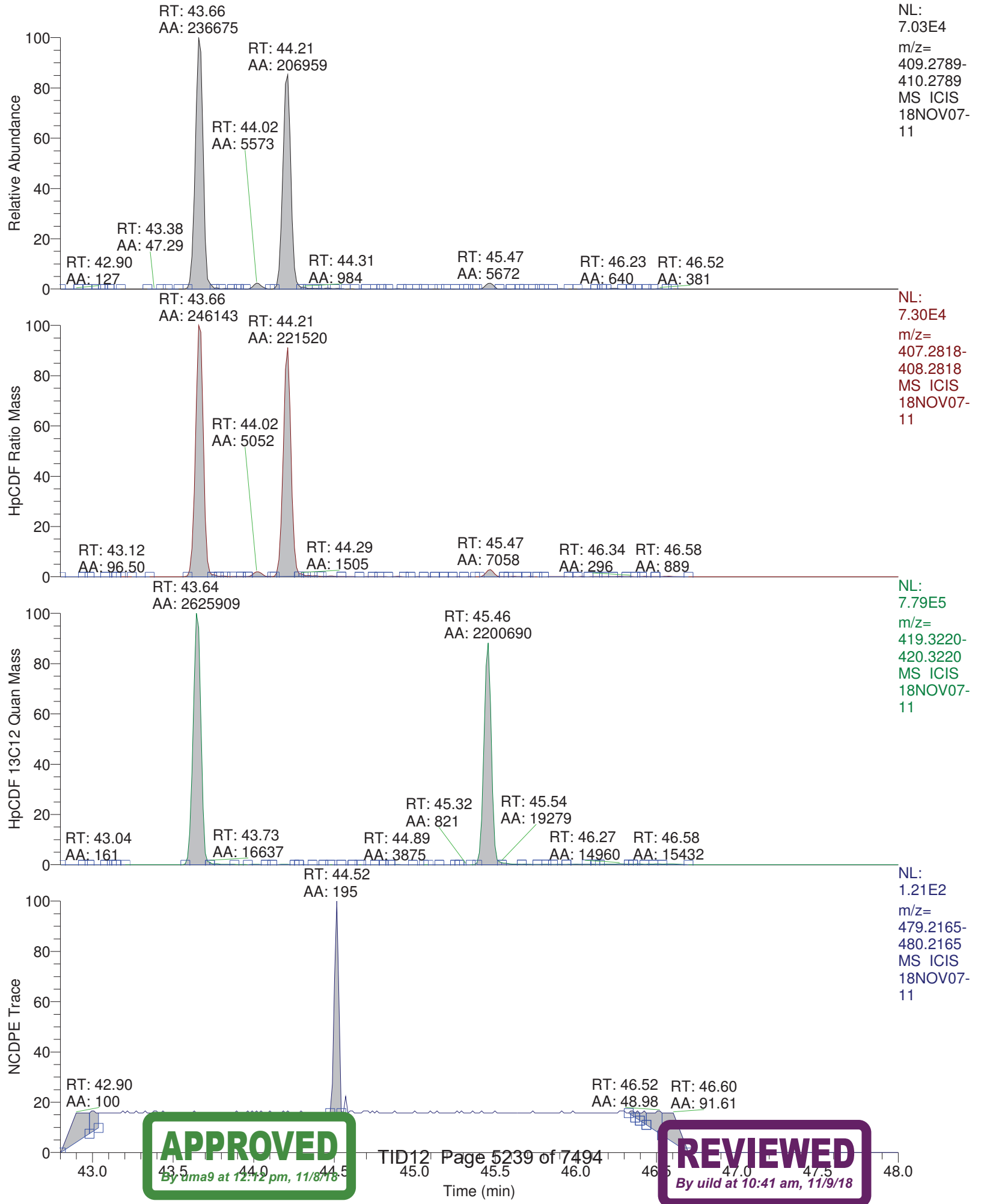
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-11
Sample ID: 9872062DL

Acq. Data: 11/8/2018 12:31:35 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 42.80 - 48.00



APPROVED
By uma9 at 12:12 pm, 11/8/18

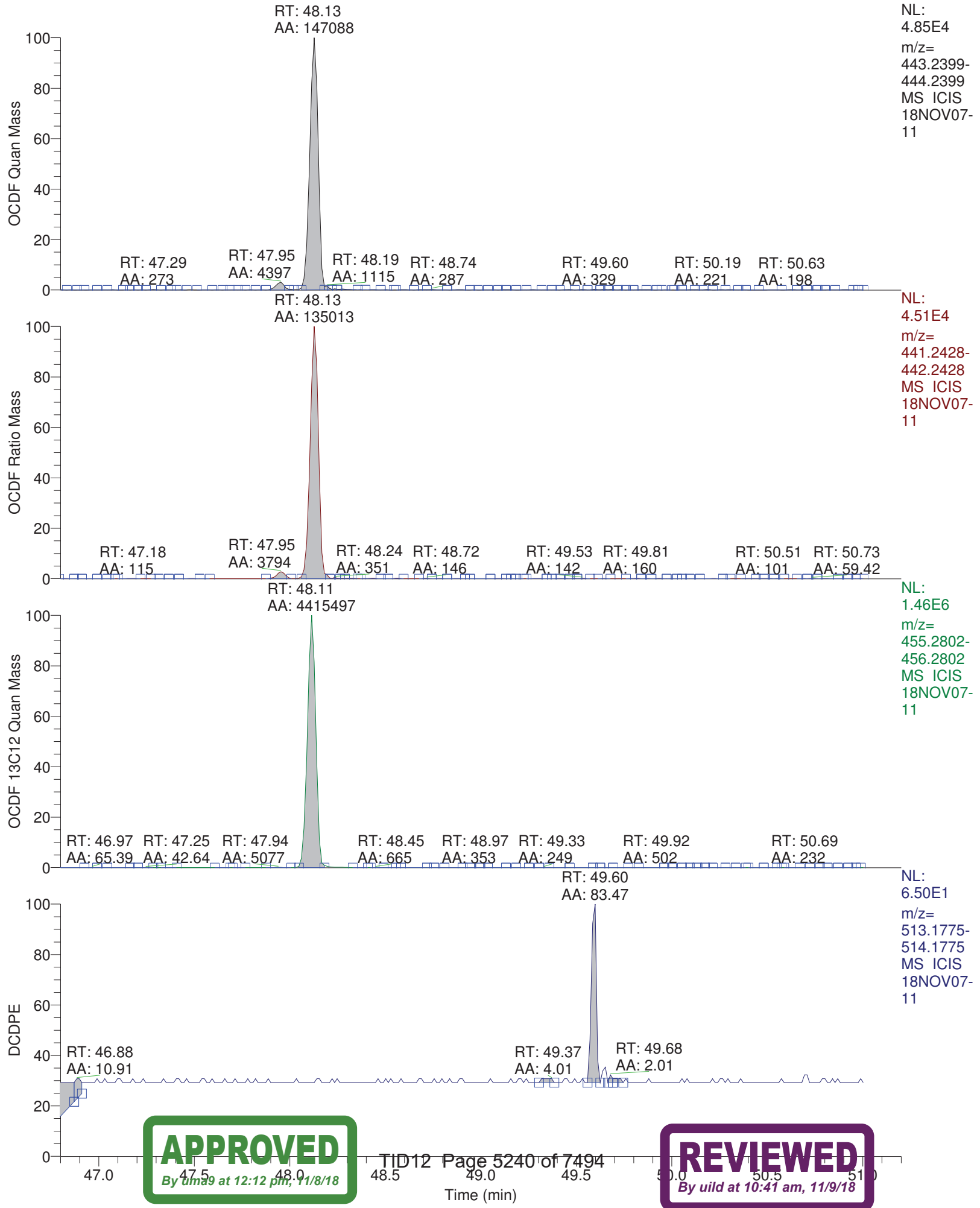
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-11
Sample ID: 9872062DL

Acq. Data: 11/8/2018 12:31:35 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU005-16 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 46.80 - 51.20



APPROVED
By umd9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

*** file opened Thu Nov 08 00:37:19 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 08-Nov-18 00:37:19

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 942b750e-bb72-49d7-85db-36b7fb54dc11

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

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  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.500000 minutes
MID Window end time was 22.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
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MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          94.5000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ        1449.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR          -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0186   FVINLET         0.0431   FVSRC           0.0331
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           94.5000   LKM           442.9723   MASS           94.5000
 MDAC        1395128.6998  MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2167.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9817   RELEN           0.0000
 RES          12160.6321   RPUSHER        -1.0769   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.5000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.9e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11827.
MID Time Window 2: Resolution is 11778.
MID Time Window 3: Resolution is 11784.
MID Time Window 4: Resolution is 12614.
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                                    18NOV07-11
  MID Time Window 5: Resolution is 13029.
  MID Time Window 6: Resolution is 12160.

  Amplifier Offset: 90.


*** File closed Thu Nov 08 01:28:21 2018
  ***
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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 20:52
Number of Entries	240
Comment	S:11030:12937:17962
Vial	40
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Sample ID	9872063
Inst ID	DF18471-18NOV02
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-12.quan
Data	y:\18nov02\18nov02-12.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.13
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.20	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.35	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.22	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.53	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.93	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.27	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.41	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.11	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.32	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.44	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.77	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.17	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.88	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.09	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.64	passed	passed	passed	passed	passed	passed	
16	OCDD	48.15	passed	passed	passed	passed	passed	passed	
17	OCDF	48.32	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.74	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.49	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.16	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.17	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.32	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.21	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.50	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.92	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.24	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.40	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.10	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.30	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.42	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.76	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.14	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.87	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.07	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.63	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.13	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.31	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 20:52
Number of Entries	240
Comment	S:11030:12937:17962
Vial	40
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Sample ID	9872063
Inst ID	DF18471-18NOV02
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-12.quan
Data	y:\18nov02\18nov02-12.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.13
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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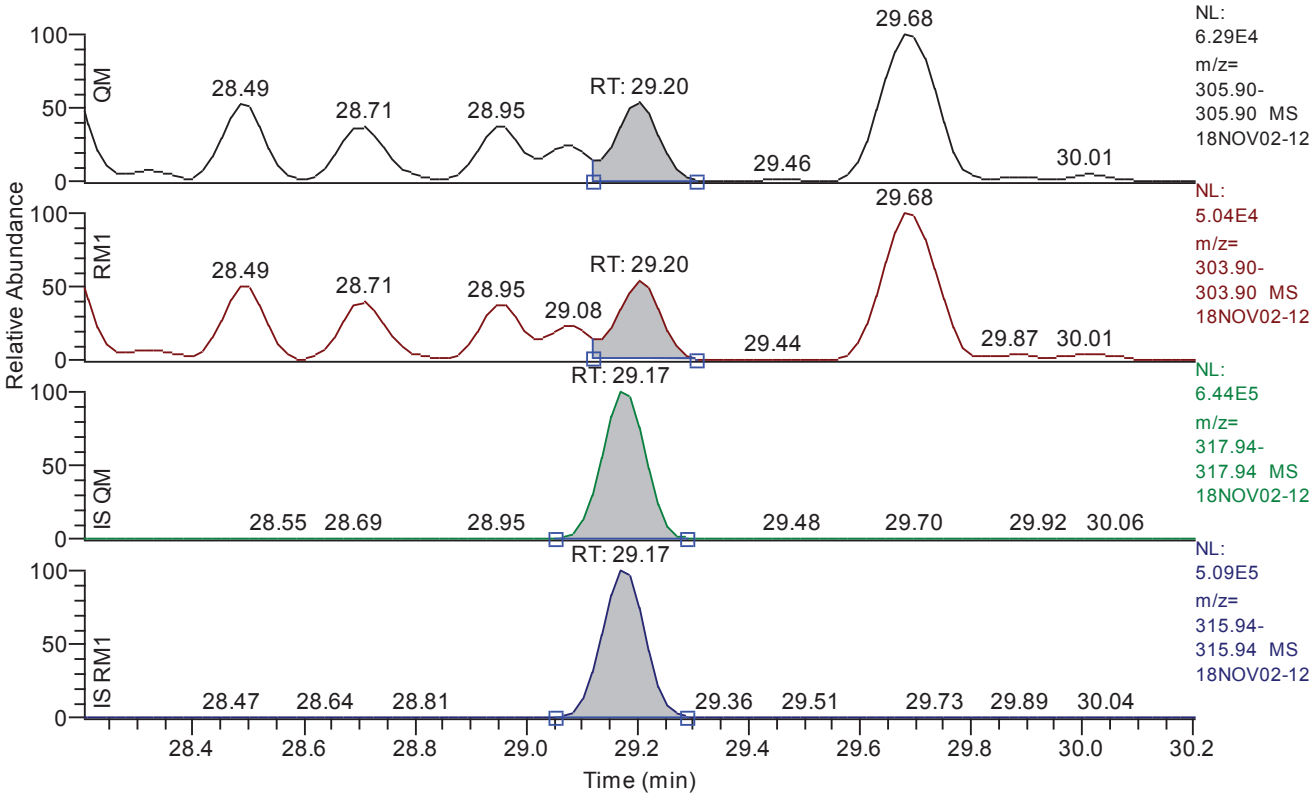
Chromatogram

RT: 28.20 - 30.20 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.20
QM Area	185410
QM Integration Mode	A
RM1 Area	147217
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0823
Unqualified Amount (A)	10.035655
Adjusted Amount (A)	10.0357
Signal-to-Noise	307
Client Flags	
Status Overview	passed
Status Info	

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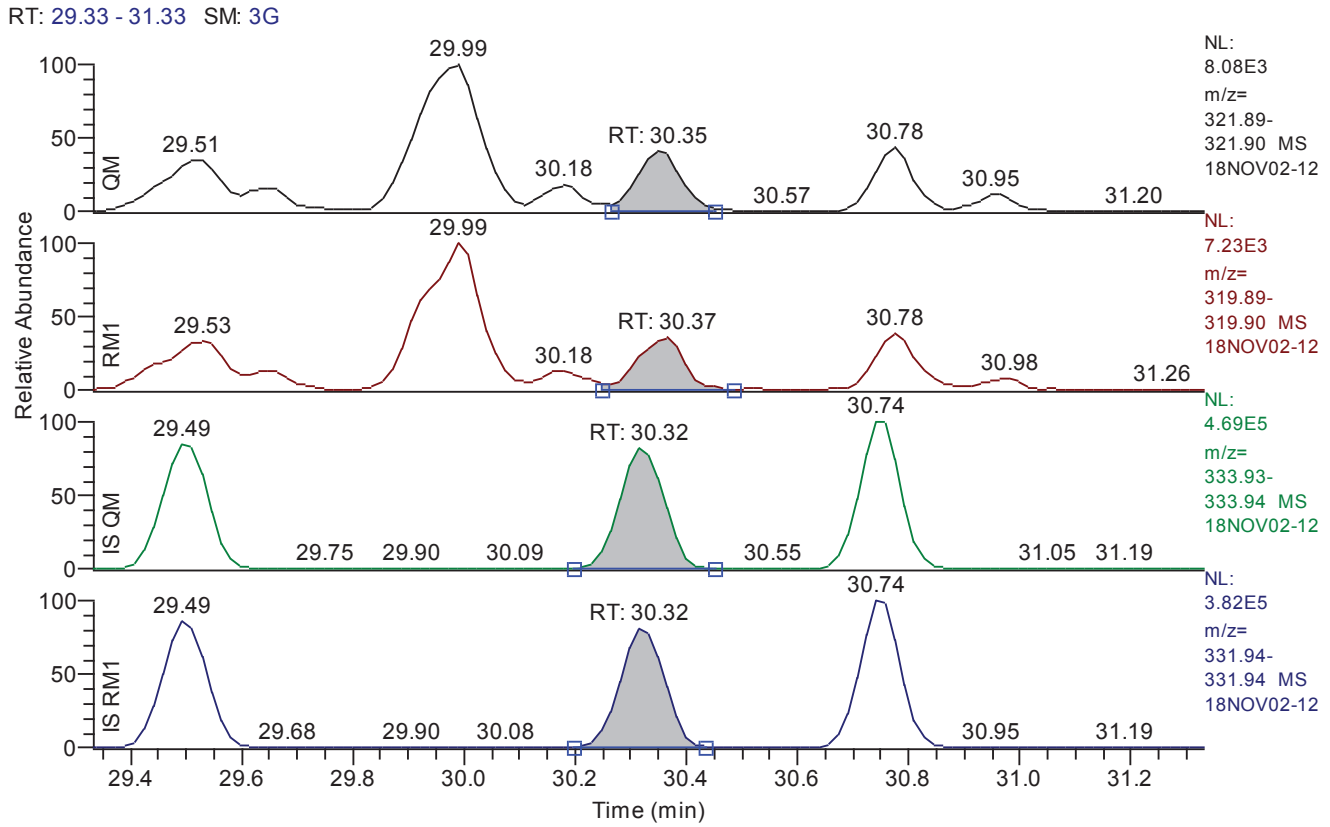
Chromatogram



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.35
QM Area	17990
QM Integration Mode	A
RM1 Area	15093
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0381
Unqualified Amount (A)	1.360856
Adjusted Amount (A)	1.3609
Signal-to-Noise	91
Client Flags	
Status Overview	passed
Status Info	

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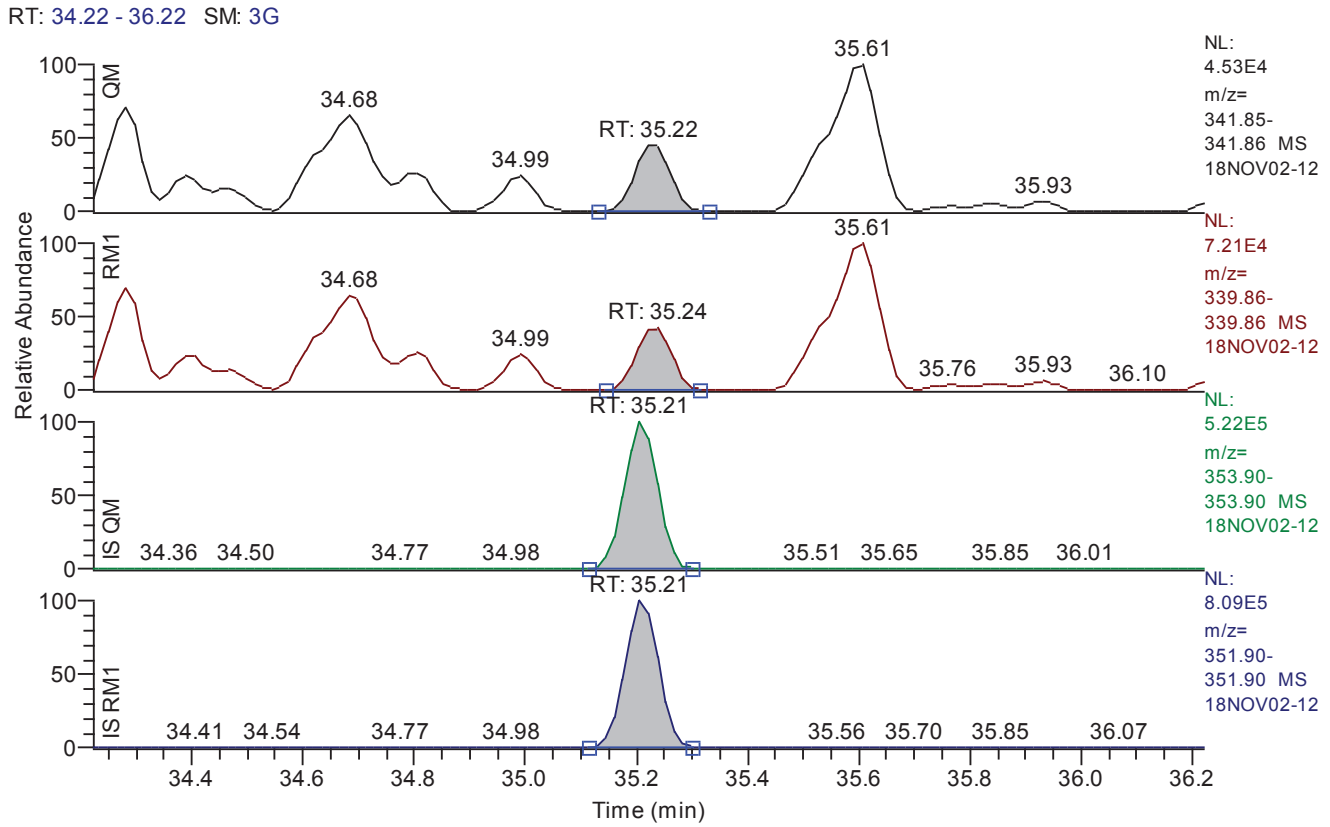
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.22
QM Area	92124
QM Integration Mode	A
RM1 Area	136771
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0320
Unqualified Amount (A)	8.621774
Adjusted Amount (A)	8.6218
Signal-to-Noise	633
Client Flags	
Status Overview	passed
Status Info	

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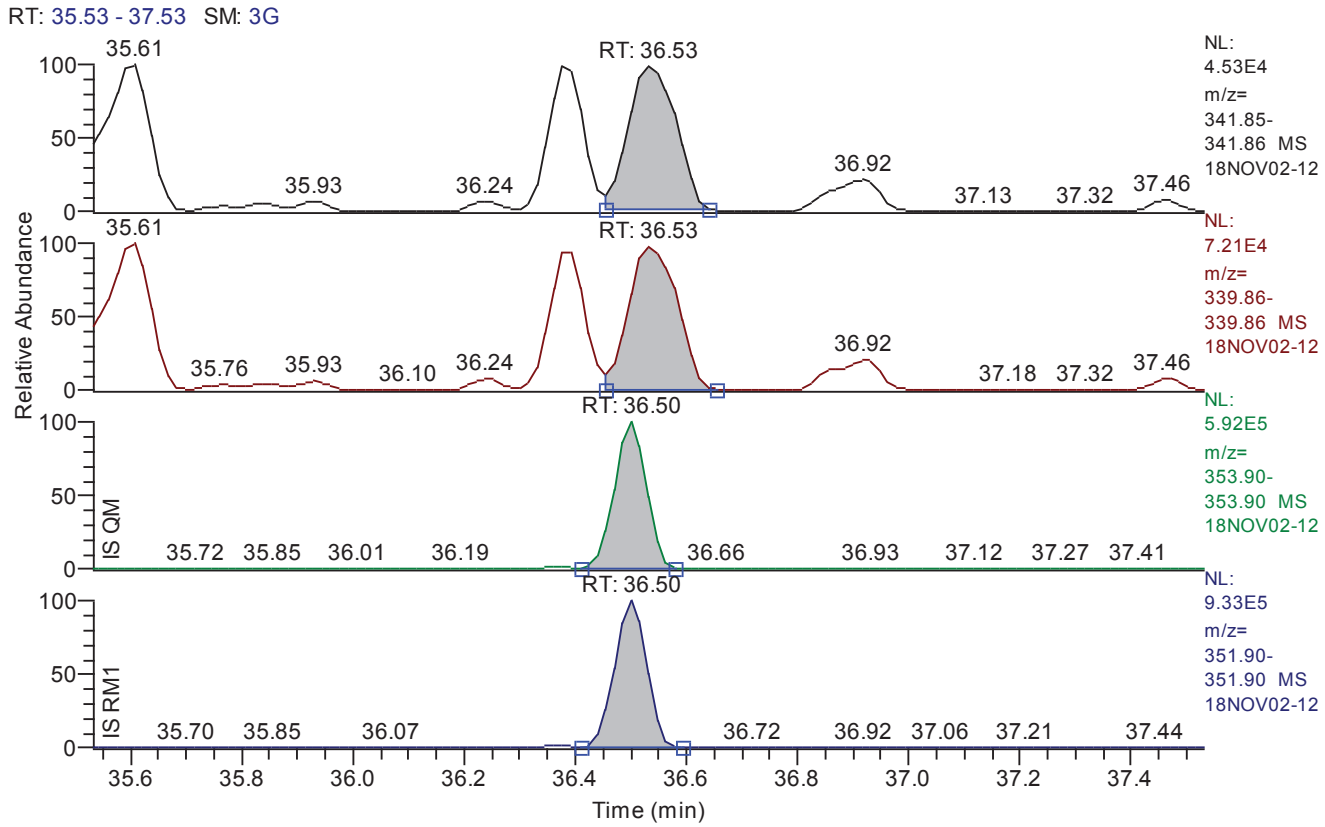
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.53
QM Area	263039
QM Integration Mode	A
RM1 Area	423029
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0252
Unqualified Amount (A)	21.226072
Adjusted Amount (A)	21.2261
Signal-to-Noise	1420
Client Flags	
Status Overview	passed
Status Info	

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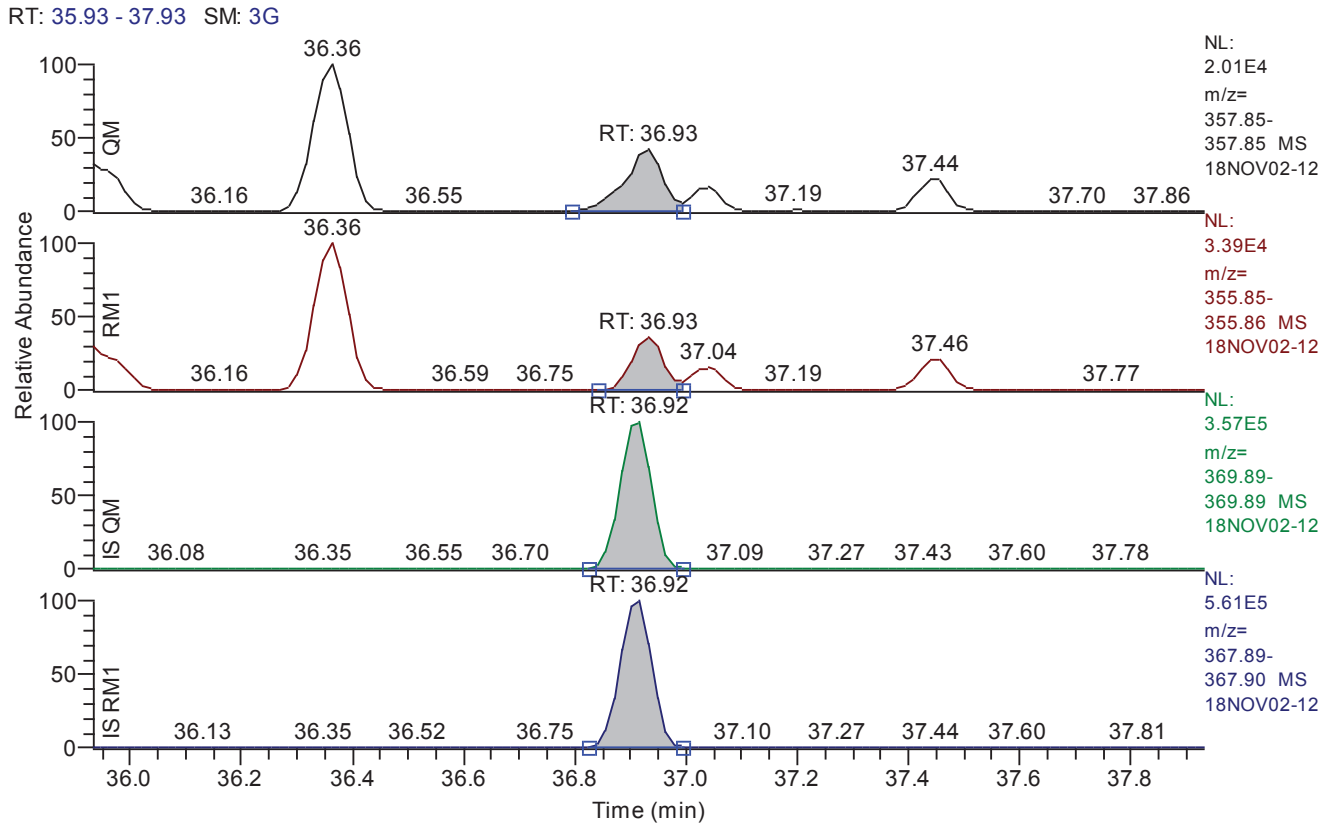
Chromatogram



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.93
QM Area	41042
QM Integration Mode	A
RM1 Area	48939
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0449
Unqualified Amount (A)	4.763801
Adjusted Amount (A)	n.d.
Signal-to-Noise	244
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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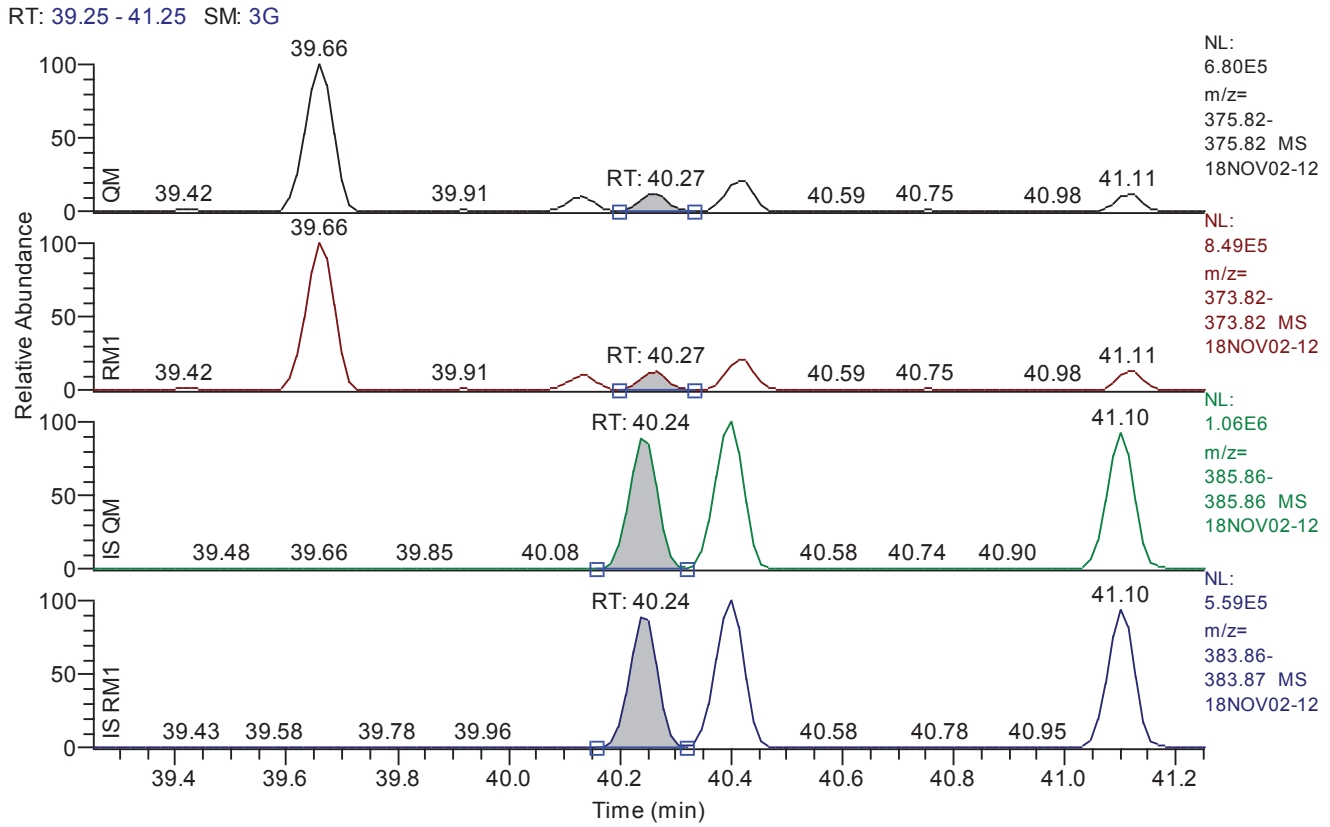
Chromatogram



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.27
QM Area	302296
QM Integration Mode	A
RM1 Area	374230
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0512
Unqualified Amount (A)	22.456060
Adjusted Amount (A)	22.4561
Signal-to-Noise	1111
Client Flags	
Status Overview	passed
Status Info	

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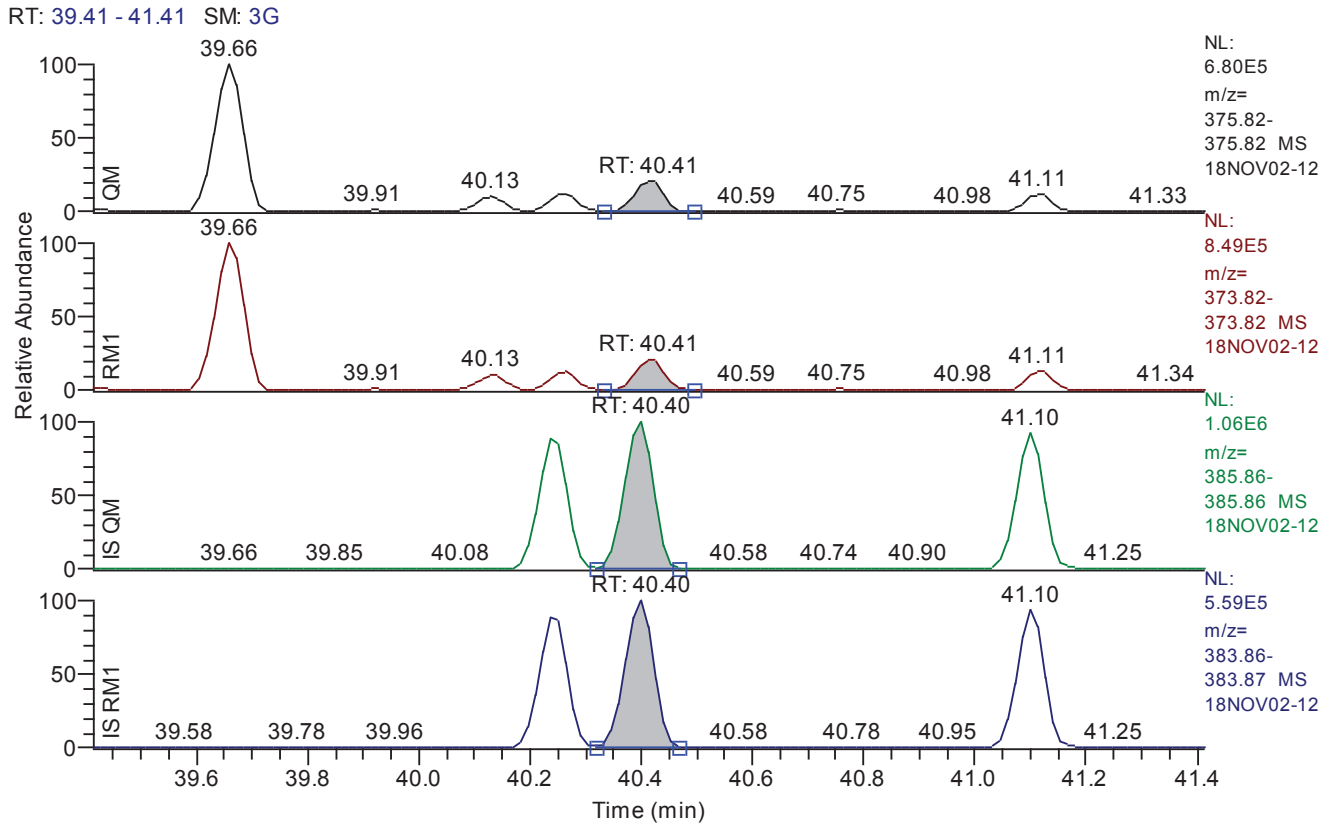
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.41
QM Area	521162
QM Integration Mode	A
RM1 Area	642923
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0472
Unqualified Amount (A)	35.338258
Adjusted Amount (A)	35.3383
Signal-to-Noise	1912
Client Flags	
Status Overview	passed
Status Info	

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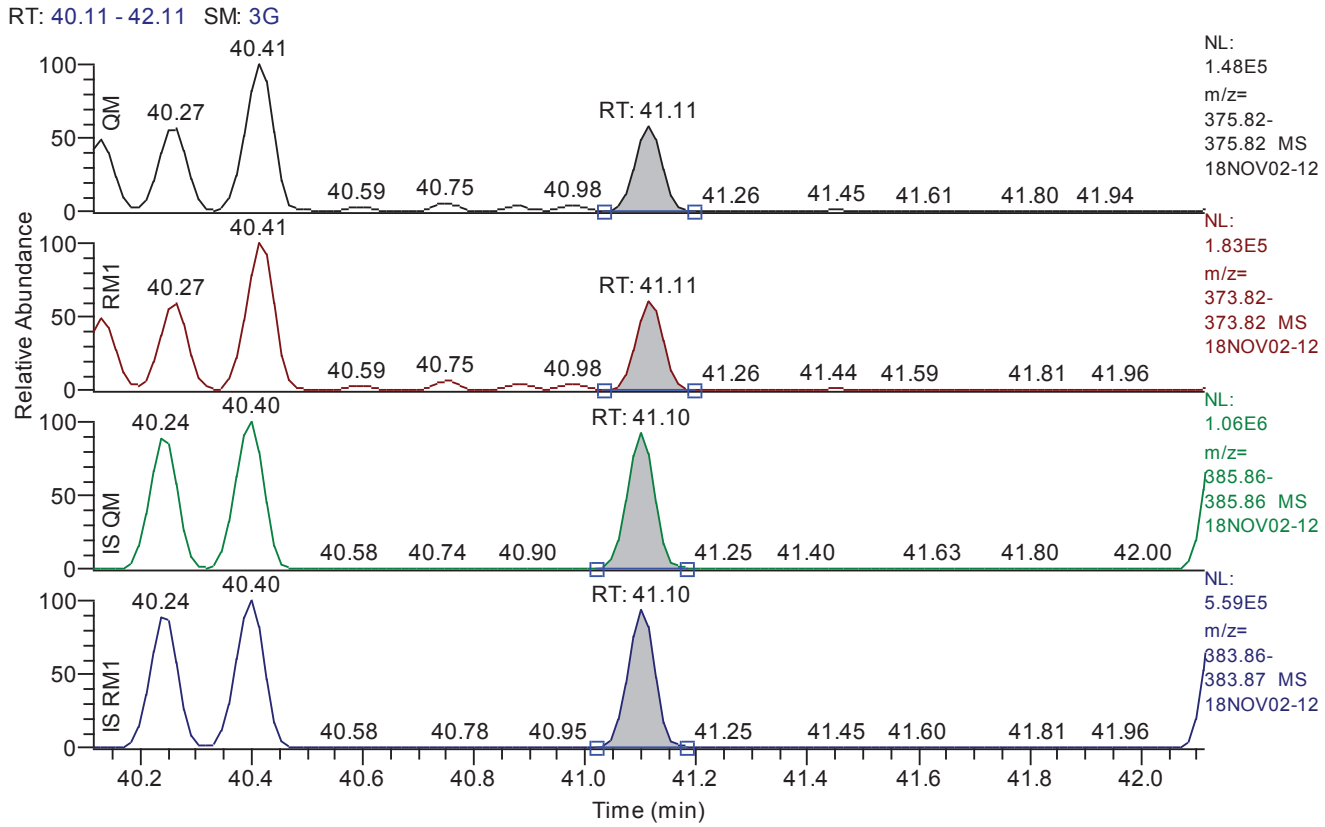
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.11
QM Area	295368
QM Integration Mode	A
RM1 Area	378002
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0465
Unqualified Amount (A)	21.391365
Adjusted Amount (A)	21.3914
Signal-to-Noise	1145
Client Flags	
Status Overview	passed
Status Info	

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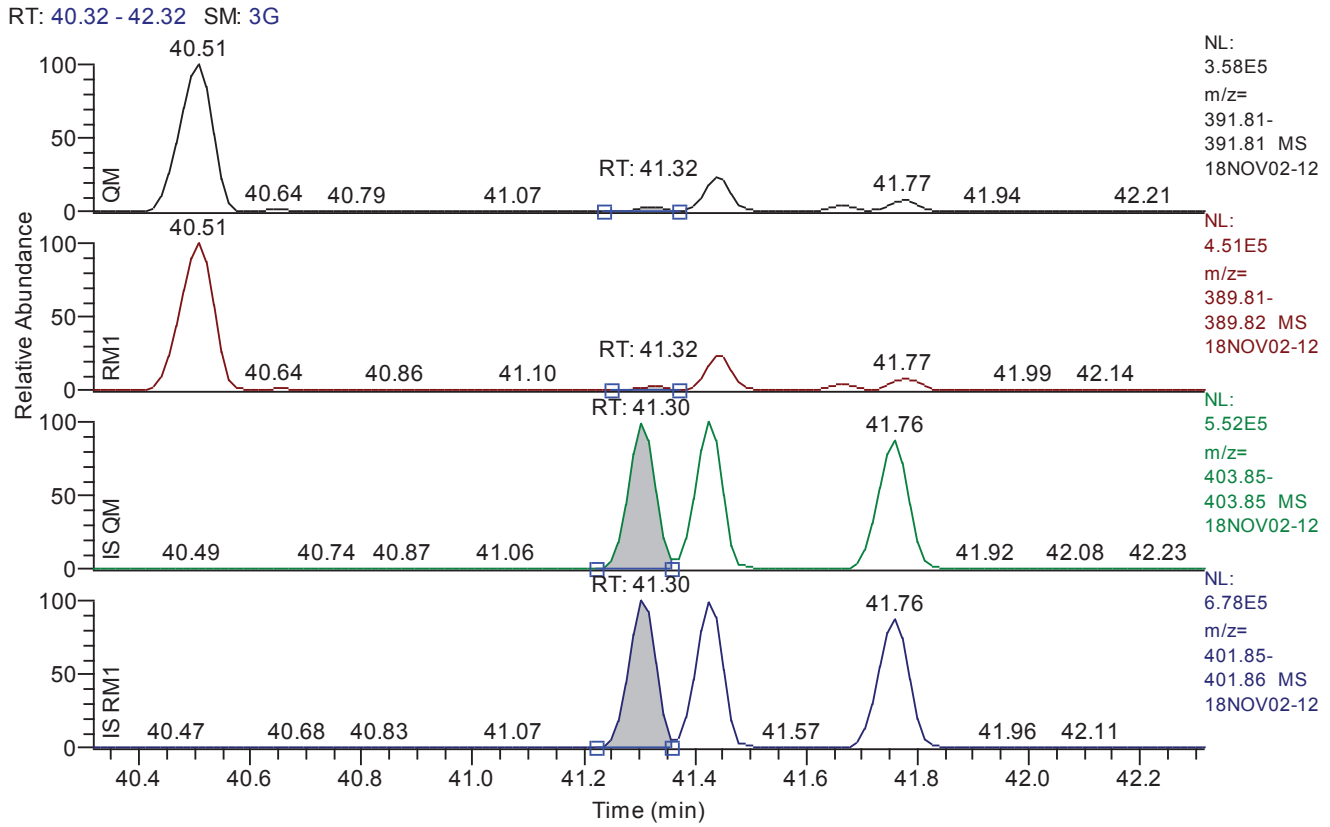
Chromatogram



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.32
QM Area	41999
QM Integration Mode	A
RM1 Area	52878
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0456
Unqualified Amount (A)	4.511656
Adjusted Amount (A)	4.5117
Signal-to-Noise	244
Client Flags	
Status Overview	passed
Status Info	

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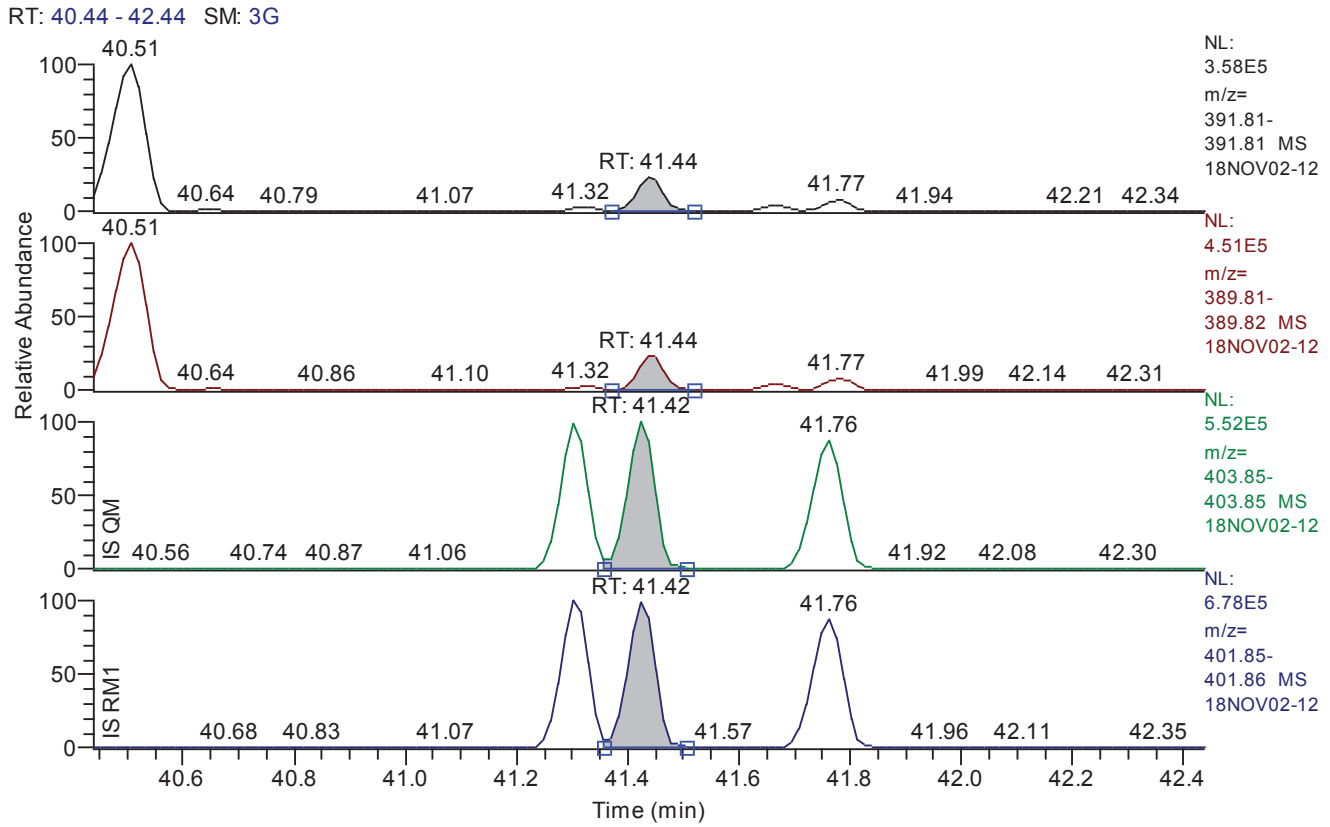
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.44
QM Area	282436
QM Integration Mode	A
RM1 Area	351861
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0464
Unqualified Amount (A)	30.576431
Adjusted Amount (A)	30.5764
Signal-to-Noise	1680
Client Flags	
Status Overview	passed
Status Info	

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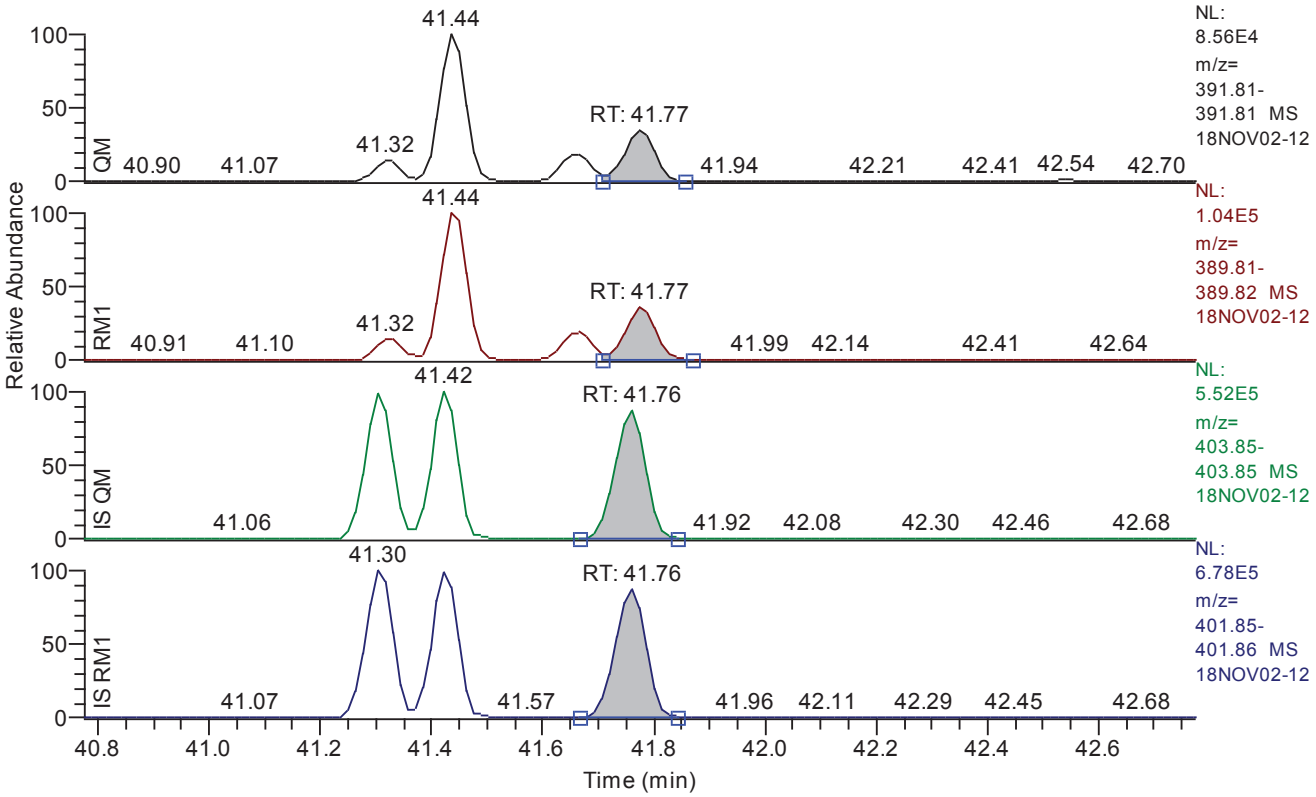
Chromatogram

RT: 40.77 - 42.77 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.77
QM Area	114150
QM Integration Mode	A
RM1 Area	141660
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0490
Unqualified Amount (A)	11.521875
Adjusted Amount (A)	11.5219
Signal-to-Noise	598
Client Flags	
Status Overview	passed
Status Info	

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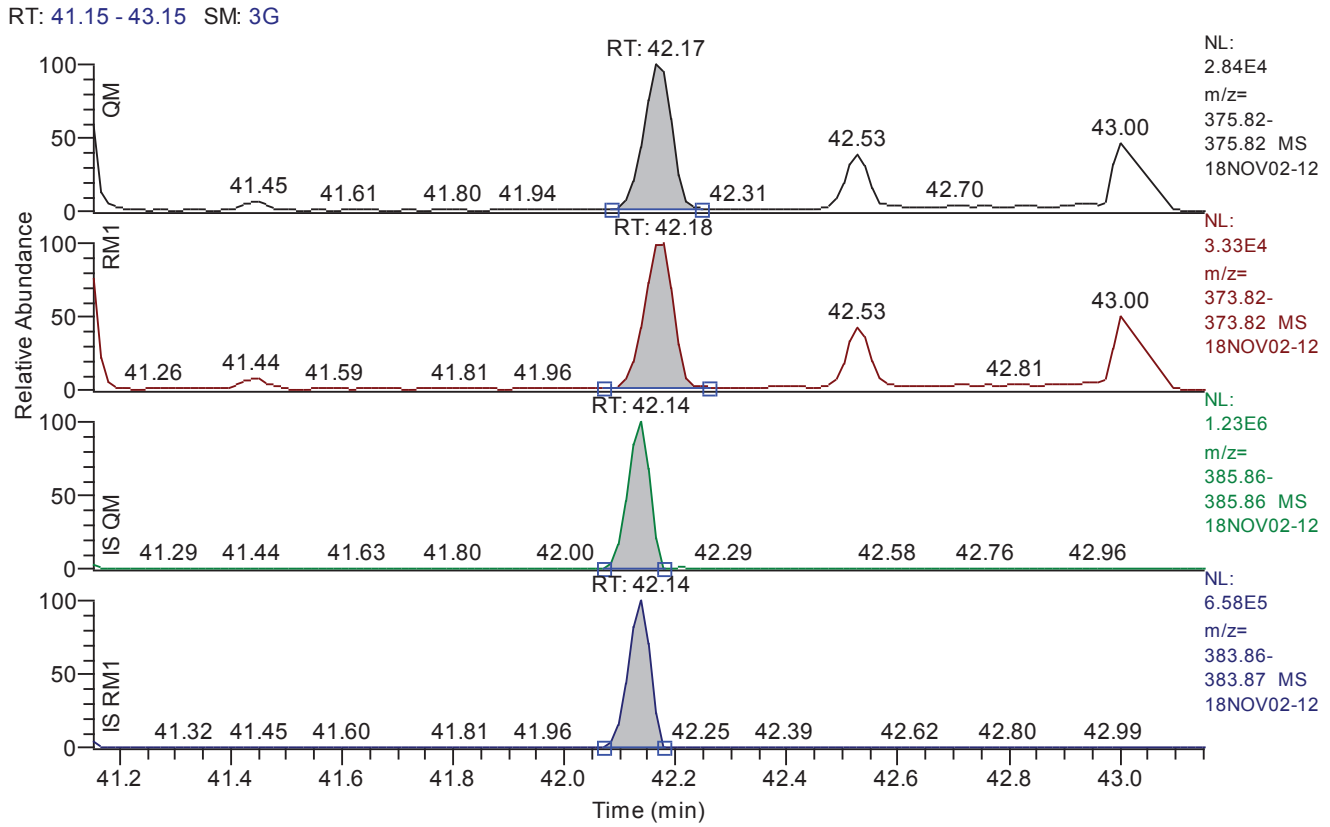
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.17
QM Area	98363
QM Integration Mode	A
RM1 Area	120420
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0399
Unqualified Amount (A)	7.312524
Adjusted Amount (A)	7.3125
Signal-to-Noise	354
Client Flags	
Status Overview	passed
Status Info	

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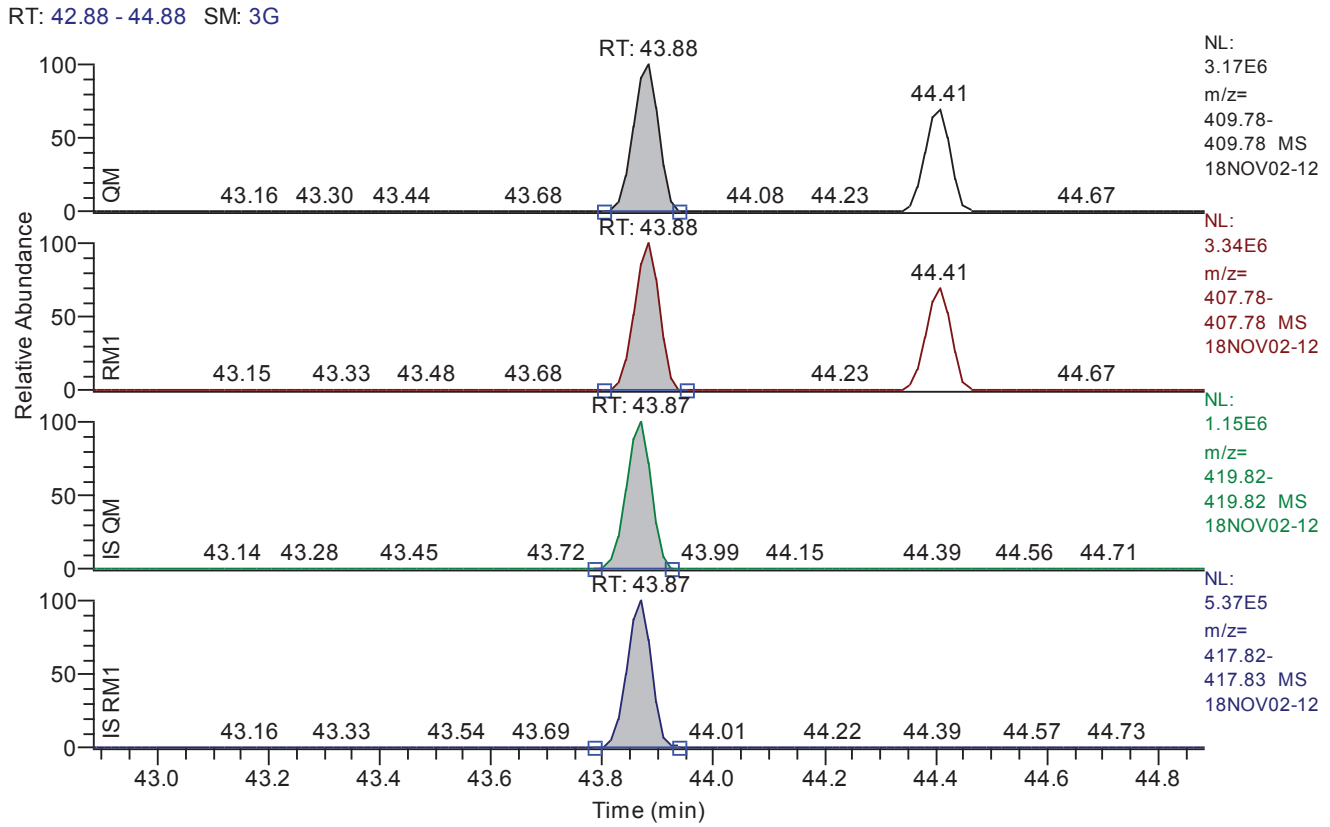
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.88
QM Area	10338831
QM Integration Mode	A
RM1 Area	10705358
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0323
Unqualified Amount (A)	628.256723
Adjusted Amount (A)	628.2567
Signal-to-Noise	47923
Client Flags	
Status Overview	passed
Status Info	

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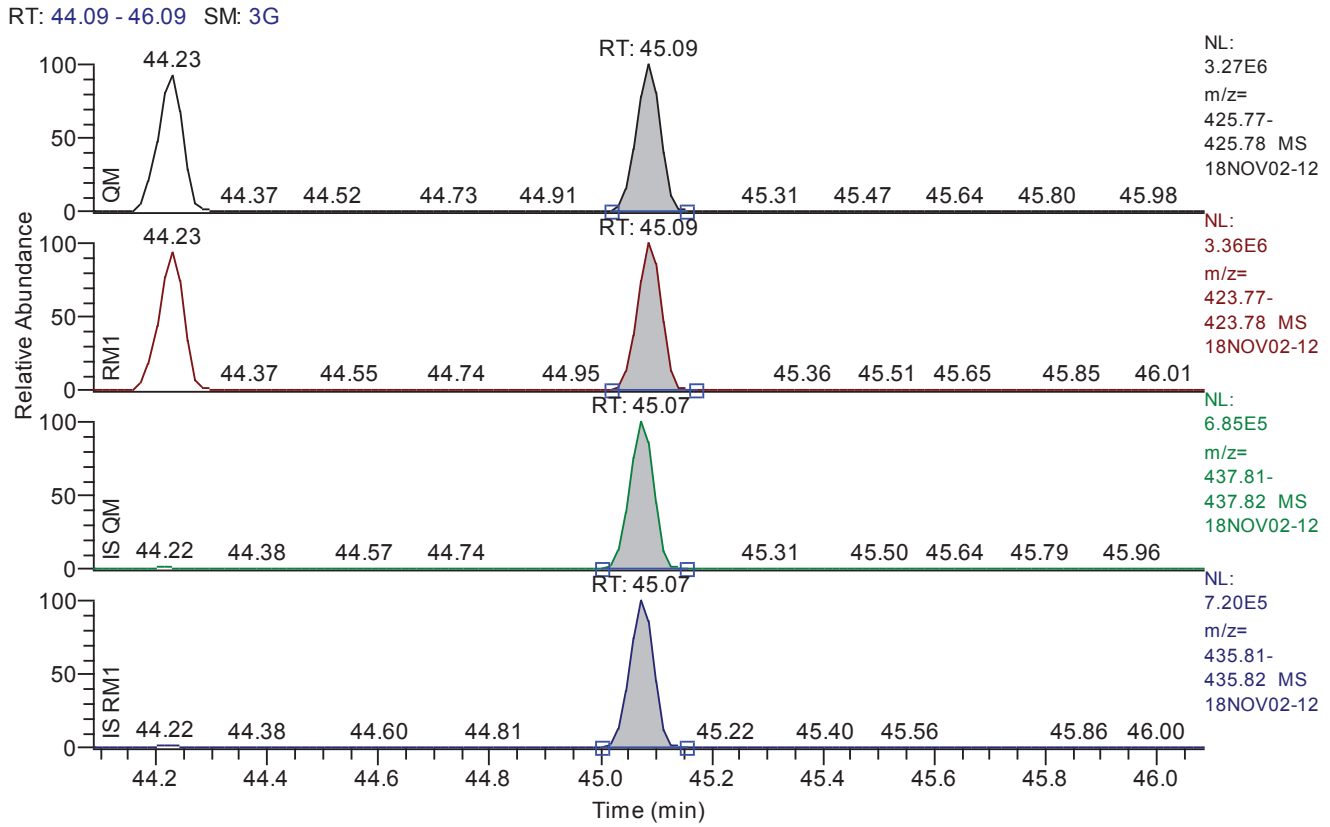
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.09
QM Area	10221738
QM Integration Mode	A
RM1 Area	10605225
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1219
Unqualified Amount (A)	907.832768
Adjusted Amount (A)	907.8328
Signal-to-Noise	18621
Client Flags	
Status Overview	passed
Status Info	

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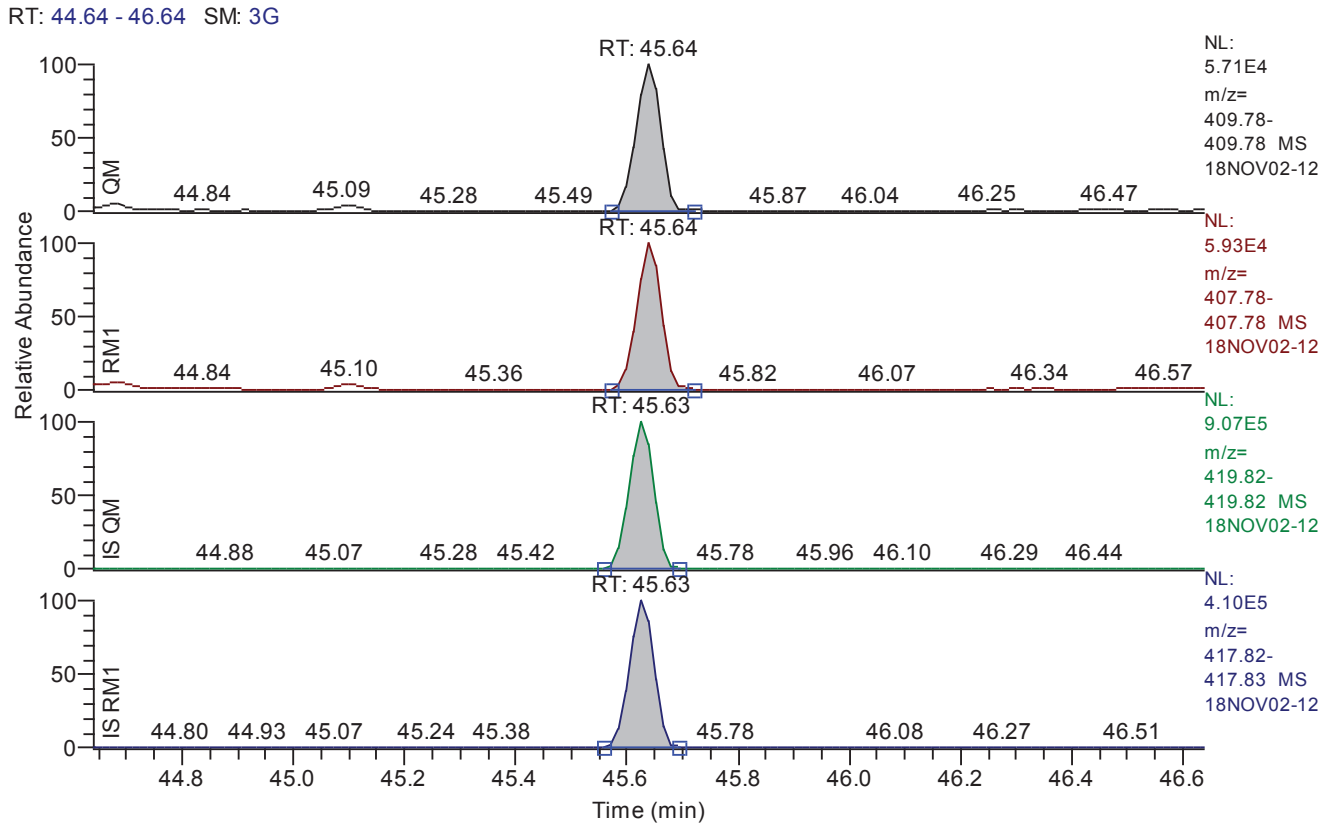
Chromatogram



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.64
QM Area	180793
QM Integration Mode	A
RM1 Area	186378
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0399
Unqualified Amount (A)	13.531156
Adjusted Amount (A)	13.5312
Signal-to-Noise	853
Client Flags	
Status Overview	passed
Status Info	

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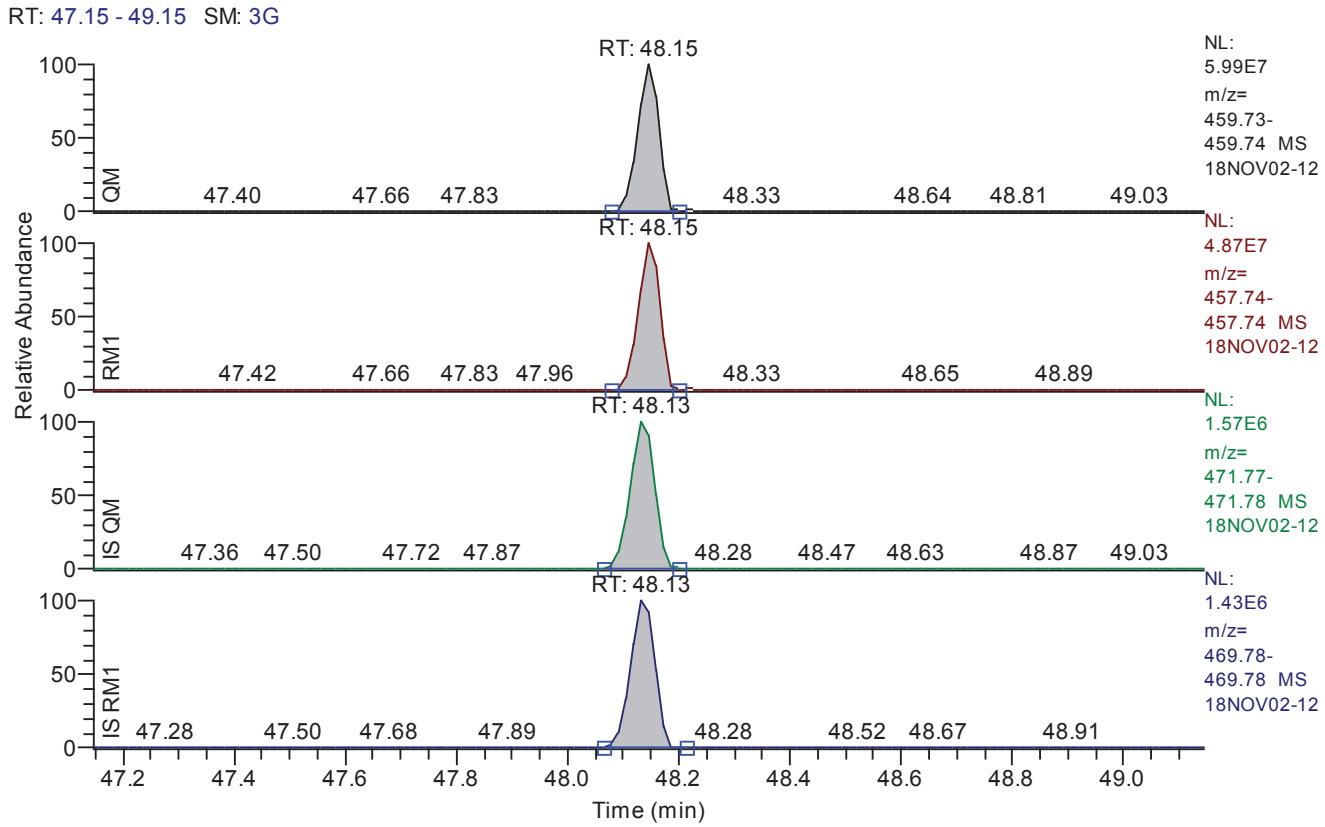
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.15
QM Area	159129681
QM Integration Mode	A
RM1 Area	132444641
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0627
Unqualified Amount (A)	12412.245290
Adjusted Amount (A)	12412.2453
Signal-to-Noise	564491
Client Flags	
Status Overview	passed
Status Info	

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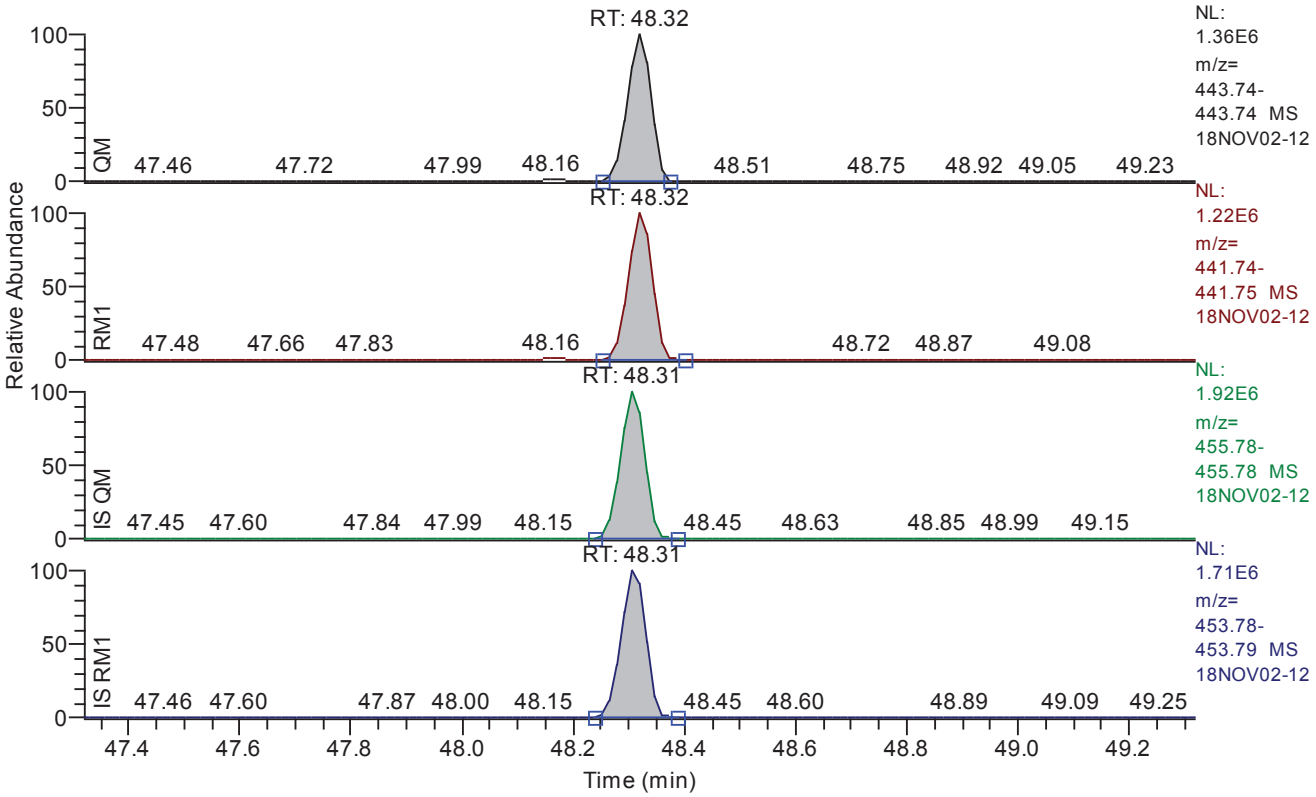
Chromatogram

RT: 47.32 - 49.32 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.32
QM Area	4024075
QM Integration Mode	A
RM1 Area	3665281
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0250
Unqualified Amount (A)	304.380268
Adjusted Amount (A)	304.3803
Signal-to-Noise	31264
Client Flags	
Status Overview	passed
Status Info	

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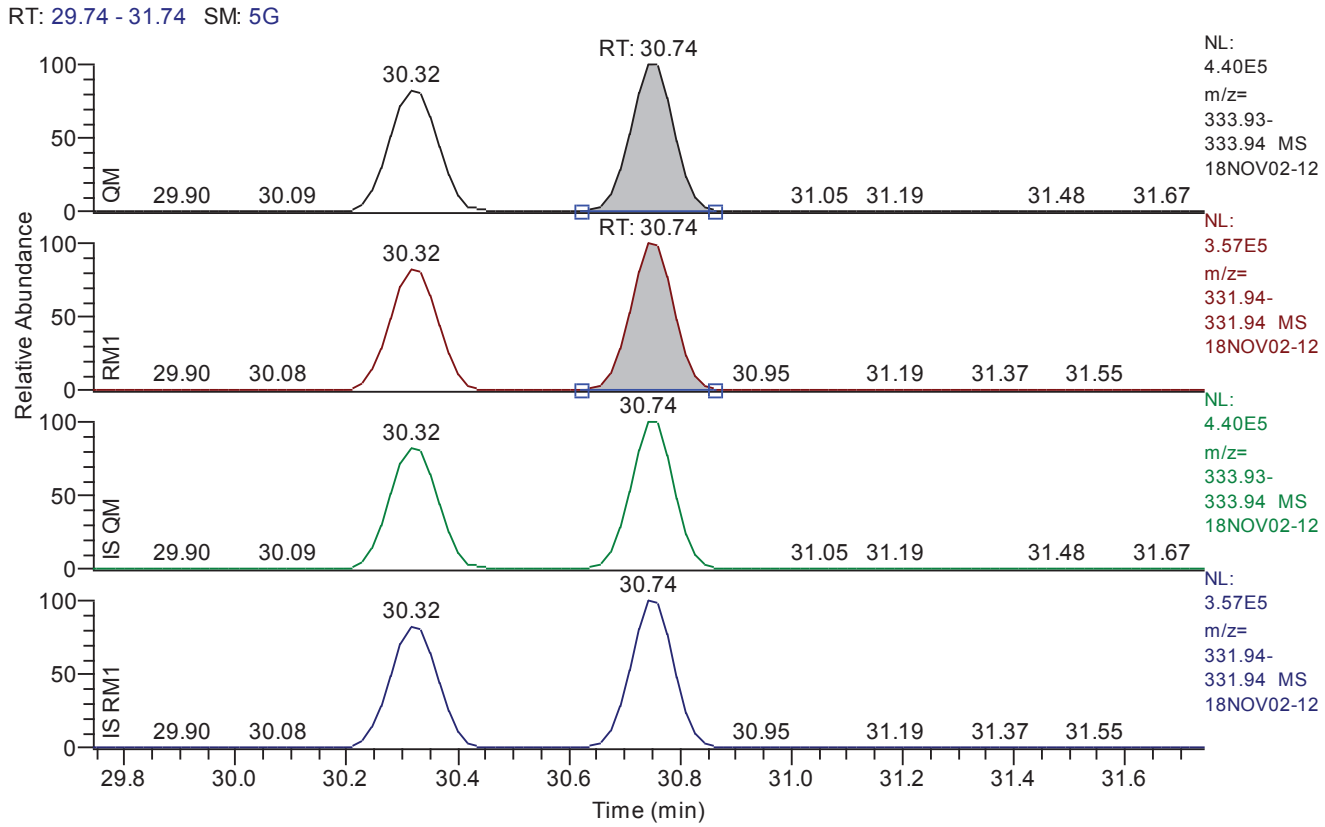
Chromatogram



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.74
QM Area	2442071
QM Integration Mode	A
RM1 Area	1976033
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0448
Unqualified Amount (A)	202.286672
Adjusted Amount (A)	202.2867
Signal-to-Noise	11403
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.20	29.20	29.20	29.17	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.35	30.35	30.37	30.32	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.22	35.22	35.24	35.21	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.51	36.53	36.53	36.50	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.91	36.93	36.93	36.92	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.24	40.27	40.27	40.24	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.39	40.41	40.41	40.40	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.09	41.11	41.11	41.10	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.29	41.32	41.32	41.30	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.41	41.44	41.44	41.42	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.73	41.77	41.77	41.76	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.11	42.17	42.18	42.14	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.86	43.88	43.88	43.87	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.07	45.09	45.09	45.07	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.63	45.64	45.64	45.63	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.12	48.15	48.15	48.13	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.29	48.32	48.32	48.31	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.74	30.74	30.74	30.74	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.49	29.49	29.49	29.49	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.14	40.16	40.16	40.16	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.17	29.17	29.17	29.19	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.32	30.32	30.32	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.20	35.21	35.21	35.21	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.48	36.50	36.50	36.49	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.90	36.92	36.92	36.92	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.23	40.24	40.24	40.24	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.37	40.40	40.40	40.41	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.07	41.10	41.10	41.13	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.28	41.30	41.30	41.30	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.40	41.42	41.42	41.42	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.72	41.76	41.76	41.76	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.10	42.14	42.14	42.10	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.84	43.87	43.87	43.86	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.06	45.07	45.07	45.07	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.61	45.63	45.63	45.57	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.11	48.13	48.13	48.13	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.28	48.31	48.31	48.29	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.20	0.7940	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	30.35	0.8389	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	35.22	1.4846	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.53	1.6082	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.93	1.1924	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.27	1.2380	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.41	1.2336	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.11	1.2798	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.32	1.2590	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.44	1.2458	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.77	1.2410	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.17	1.2242	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.88	1.0355	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.09	1.0375	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.64	1.0309	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.15	0.8323	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.32	0.9108	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.74	0.8092	0.6450 - 0.8950	passed	102.46	35 - 197	passed
19	13C12-1234-TCDD	29.49	0.8138	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.16	1.2517	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.17	0.7887	0.6450 - 0.8950	passed	80.46	40 - 135	passed
22	13C12-2378-TCDD	30.32	0.8043	0.6450 - 0.8950	passed	96.68	40 - 135	passed
23	13C12-12378-PeCDF	35.21	1.5556	1.3150 - 1.7850	passed	71.25	40 - 135	passed
24	13C12-23478-PeCDF	36.50	1.5805	1.3150 - 1.7850	passed	77.64	40 - 135	passed
25	13C12-12378-PeCDD	36.92	1.5826	1.3150 - 1.7850	passed	85.59	40 - 135	passed
26	13C12-123478-HxCDF	40.24	0.5274	0.4250 - 0.5950	passed	71.57	40 - 135	passed
27	13C12-123678-HxCDF	40.40	0.5266	0.4250 - 0.5950	passed	77.56	40 - 135	passed
28	13C12-234678-HxCDF	41.10	0.5323	0.4250 - 0.5950	passed	74.44	40 - 135	passed
29	13C12-123478-HxCDD	41.30	1.2576	1.0450 - 1.4350	passed	84.21	40 - 135	passed
30	13C12-123678-HxCDD	41.42	1.2404	1.0450 - 1.4350	passed	83.03	40 - 135	passed
31	13C12-123789-HxCDD	41.76	1.2416	1.0450 - 1.4350	passed	86.80	40 - 135	passed
32	13C12-123789-HxCDF	42.14	0.5313	0.4250 - 0.5950	passed	81.65	40 - 135	passed
33	13C12-1234678-HpCDF	43.87	0.4610	0.3650 - 0.5150	passed	80.73	40 - 135	passed
34	13C12-1234678-HpCDD	45.07	1.0526	0.8750 - 1.2050	passed	93.59	40 - 135	passed
35	13C12-1234789-HpCDF	45.63	0.4496	0.3650 - 0.5150	passed	77.60	40 - 135	passed
36	13C12-OCDD	48.13	0.9159	0.7550 - 1.0250	passed	104.14	40 - 135	passed
37	13C12-OCDF	48.31	0.8988	0.7550 - 1.0250	passed	79.89	40 - 135	passed

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.20	185410	A	147217	A	0.0823	10.035655	10.0357	0.000000	307	
2	2378-TCDD	passed	30.35	17990	A	15093	A	0.0381	1.360856	1.3609	0.000000	91	
3	12378-PeCDF	passed	35.22	92124	A	136771	A	0.0320	8.621774	8.6218	0.000000	633	
4	23478-PeCDF	passed	36.53	263039	A	423029	A	0.0252	21.226072	21.2261	0.000000	1420	
5	12378-PeCDD	failed	36.93	41042	A	48939	A	0.0449	4.763801	n.d.	0.000000	244	
6	123478-HxCDF	passed	40.27	302296	A	374230	A	0.0512	22.456060	22.4561	0.000000	1111	
7	123678-HxCDF	passed	40.41	521162	A	642923	A	0.0472	35.338258	35.3383	0.000000	1912	
8	234678-HxCDF	passed	41.11	295368	A	378002	A	0.0465	21.391365	21.3914	0.000000	1145	
9	123478-HxCDD	passed	41.32	41999	A	52878	A	0.0456	4.511656	4.5117	0.000000	244	
10	123678-HxCDD	passed	41.44	282436	A	351861	A	0.0464	30.576431	30.5764	0.000000	1680	
11	123789-HxCDD	passed	41.77	114150	A	141660	A	0.0490	11.521875	11.5219	0.000000	598	
12	123789-HxCDF	passed	42.17	98363	A	120420	A	0.0399	7.312524	7.3125	0.000000	354	
13	1234678-HpCDF	passed	43.88	10338831	A	10705358	A	0.0323	628.256723	628.2567	0.000000	47923	
14	1234678-HpCDD	passed	45.09	10221738	A	10605225	A	0.1219	907.832768	907.8328	0.000000	18621	
15	1234789-HpCDF	passed	45.64	180793	A	186378	A	0.0399	13.531156	13.5312	0.000000	853	
16	OCDD	passed	48.15	159129681	A	132444641	A	0.0627	12412.245290	12412.2453	0.000000	564491	
17	OCDF	passed	48.32	4024075	A	3665281	A	0.0250	304.380268	304.3803	0.000000	31264	
18	13C12-1278-TCDD (CRS)	passed	30.74	2442071	A	1976033	A	0.0448	202.286672	202.2867	197.433366	11403	
19	13C12-1234-TCDD	passed	29.49	2259432	A	1838667	A	0.0404	197.433366	197.4334	197.433366	12215	
20	13C12-123468-HxCDD	passed	40.16	2184814	A	2734679	A	0.0347	197.433366	197.4334	197.433366	14238	
21	13C12-2378-TCDF	passed	29.17	3594870	A	2835127	A	0.0281	158.864243	158.8642	197.433366	14219	
22	13C12-2378-TCDD	passed	30.32	2203354	A	1772202	A	0.0403	190.872415	190.8724	197.433366	11656	
23	13C12-12378-PeCDF	passed	35.21	2199625	A	3421701	A	0.0414	140.662439	140.6624	197.433366	11288	
24	13C12-23478-PeCDF	passed	36.50	2389991	A	3777434	A	0.0411	153.294386	153.2944	197.433366	12922	
25	13C12-12378-PeCDD	passed	36.92	1415270	A	2239778	A	0.0358	168.978325	168.9783	197.433366	16591	
26	13C12-123478-HxCDF	passed	40.24	3374475	A	1779840	A	0.0248	141.306641	141.3066	197.433366	14131	
27	13C12-123678-HxCDF	passed	40.40	3826661	A	2014975	A	0.0237	153.122835	153.1228	197.433366	15894	
28	13C12-234678-HxCDF	passed	41.10	3365629	A	1791462	A	0.0258	146.965731	146.9657	197.433366	14897	
29	13C12-123478-HxCDD	passed	41.30	1844544	A	2319661	A	0.0345	166.268307	166.2683	197.433366	12621	
30	13C12-123678-HxCDD	passed	41.42	1865094	A	2313490	A	0.0339	163.933666	163.9337	197.433366	12629	
31	13C12-123789-HxCDD	passed	41.76	1851559	A	2298831	A	0.0357	171.363384	171.3634	197.433366	11089	
32	13C12-123789-HxCDF	passed	42.14	3438038	A	1826554	A	0.0277	161.201556	161.2016	197.433366	18630	
33	13C12-1234678-HpCDF	passed	43.87	3669179	A	1691617	A	0.0304	159.383559	159.3836	197.433366	14692	
34	13C12-1234678-HpCDD	passed	45.07	2152037	A	2265201	A	0.0500	184.776085	184.7761	197.433366	10470	
35	13C12-1234789-HpCDF	passed	45.63	2892860	A	1300514	A	0.0373	153.201849	153.2018	197.433366	11485	
36	13C12-OCDD	passed	48.13	4798137	A	4394449	A	0.0441	411.194914	411.1949	394.866732	27170	
37	13C12-OCDF	passed	48.31	5840768	A	5249879	A	0.0184	315.441289	315.4413	394.866732	50057	

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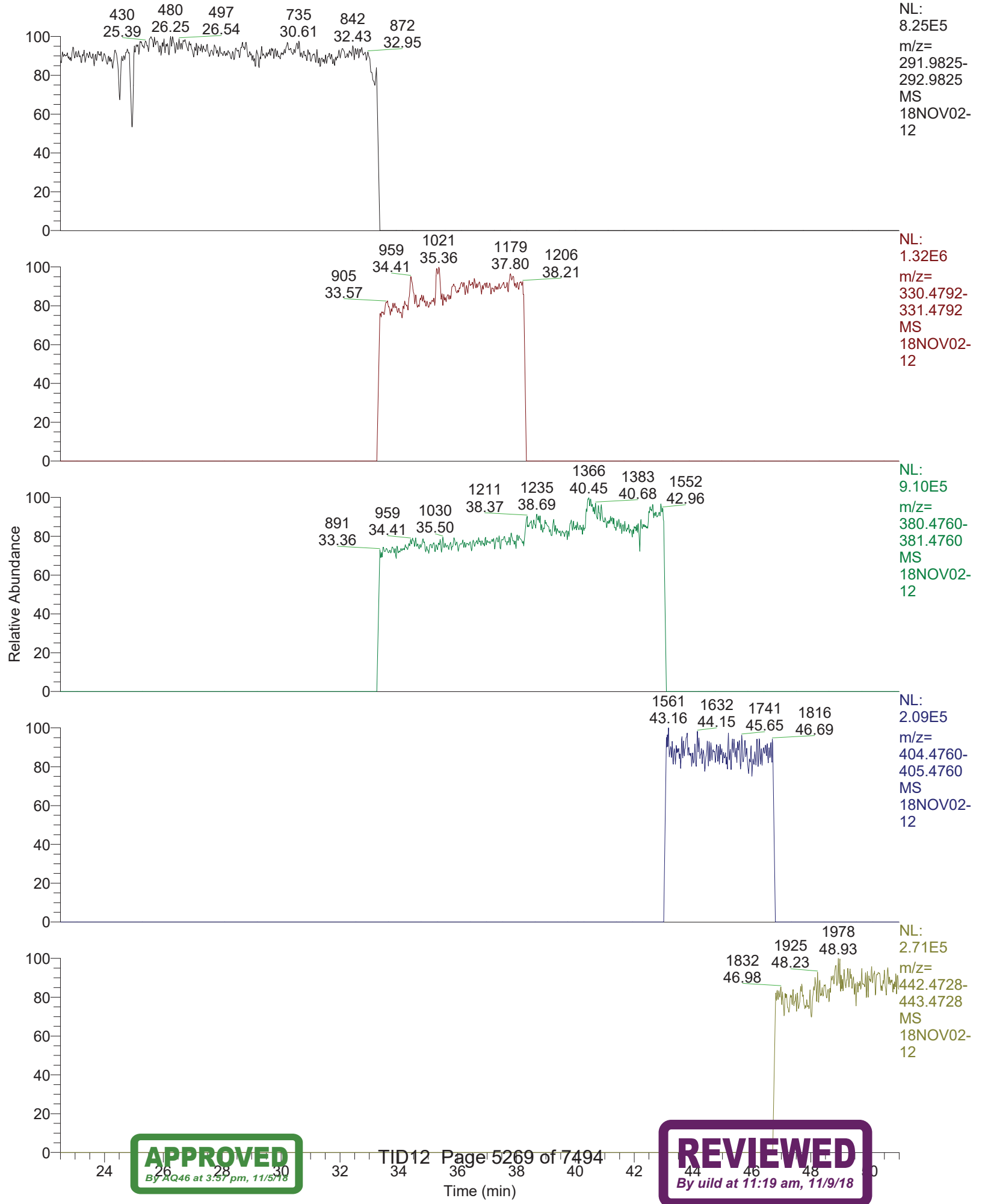
Sample ID: 9872063

Acq. Data: 11/2/2018 8:52:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02

RT: 22.50 - 51.00



APPROVED
By AQ46 at 3:57 pm, 11/5/18

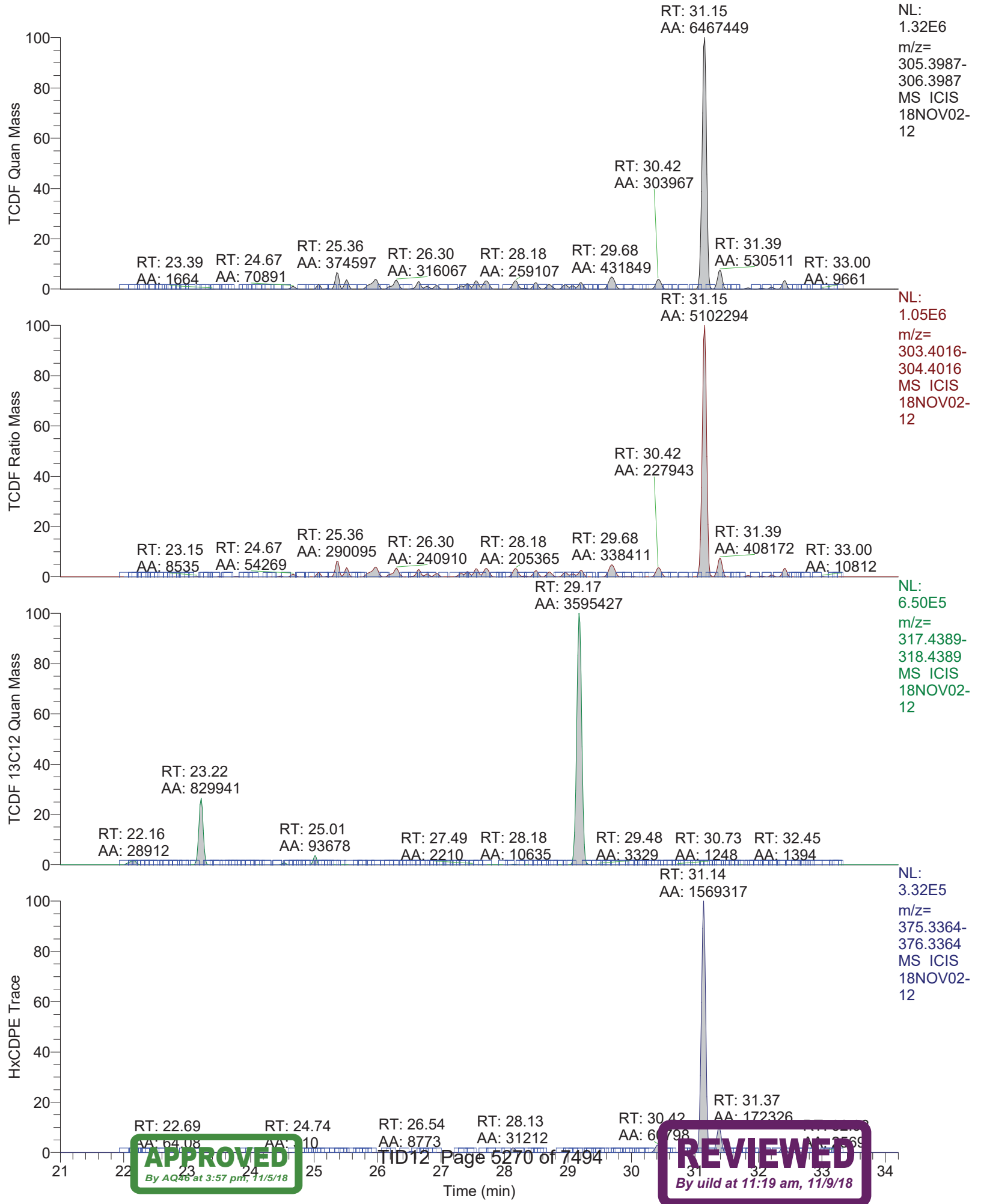
REVIEWED
By uild at 11:19 am, 11/9/18

File Name: Y:\18NOV02\18NOV02-12
Sample ID: 9872063

Acq. Data: 11/2/2018 8:52:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV02

RT: 21.00 - 34.20



APPROVED
By AQ46 at 3:57 pm, 11/5/18

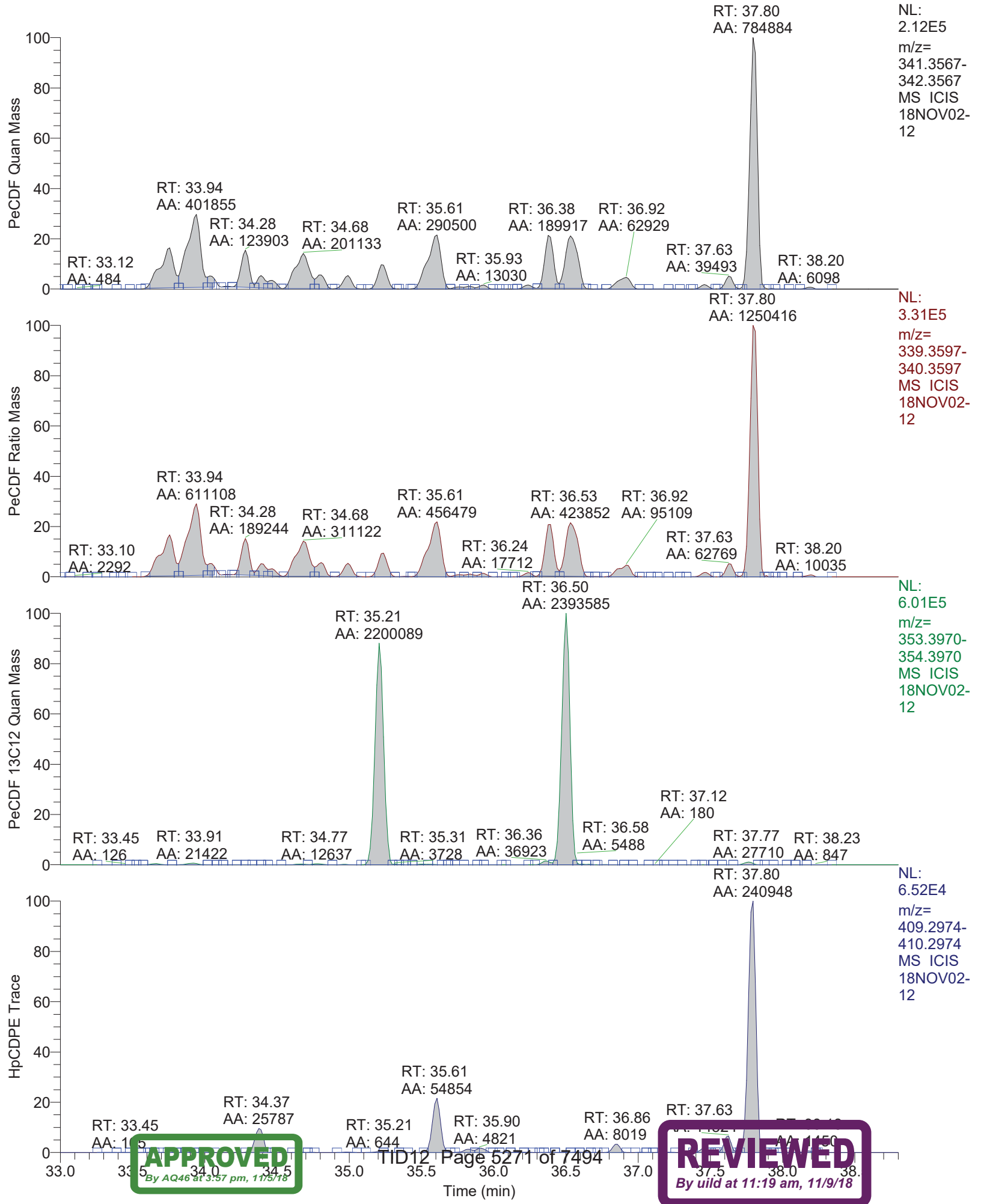
REVIEWED
By uild at 11:19 am, 11/9/18

File Name: Y:\18NOV02\18NOV02-12
Sample ID: 9872063

Acq. Data: 11/2/2018 8:52:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV02

RT: 33.00 - 38.80



APPROVED
By AQ46 at 3:57 pm, 11/5/18

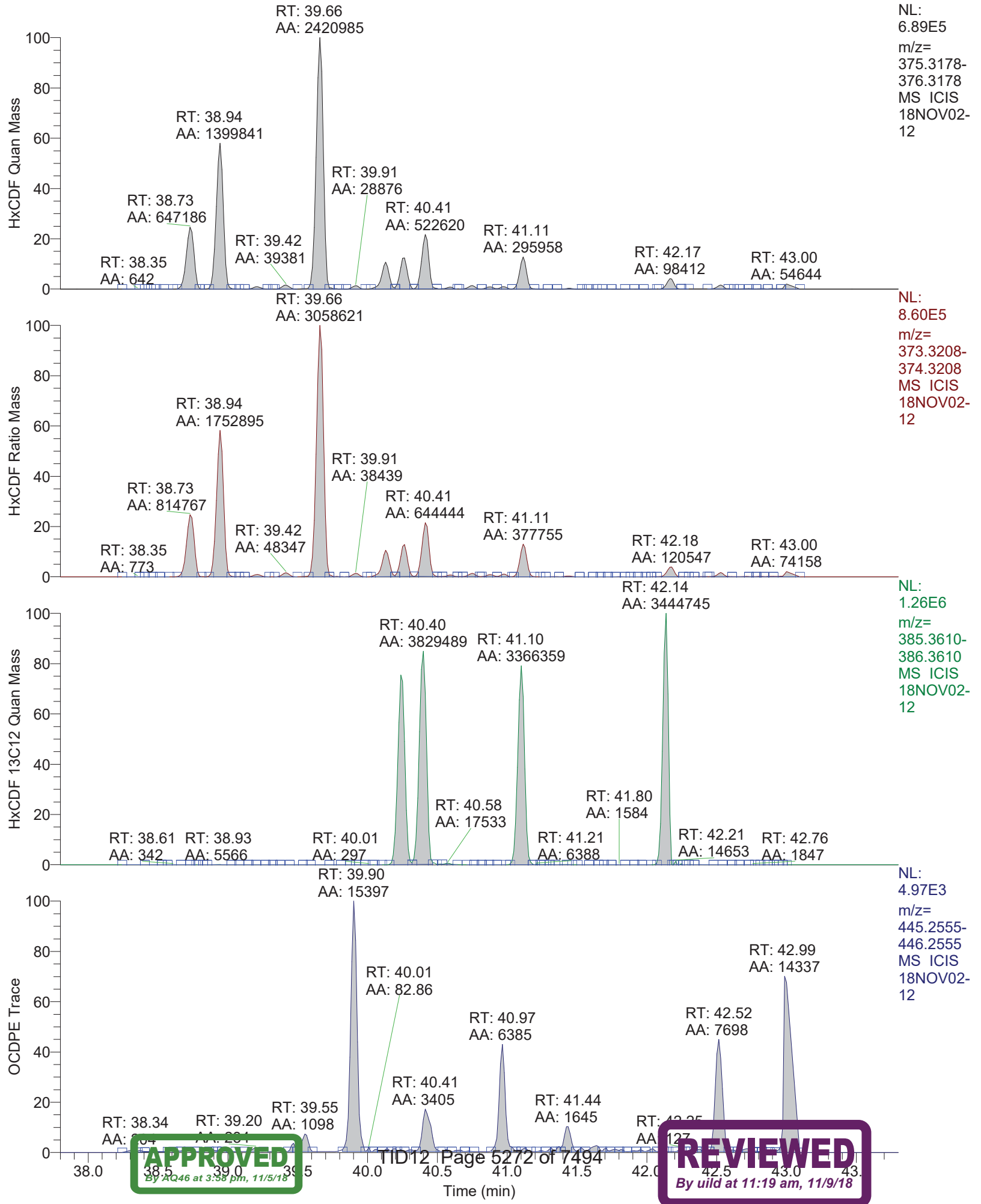
REVIEWED
By uild at 11:19 am, 11/9/18

File Name: Y:\18NOV02\18NOV02-12
Sample ID: 9872063

Acq. Data: 11/2/2018 8:52:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV02

RT: 37.80 - 43.80



APPROVED
By AQ46 at 3:58 pm, 11/5/18

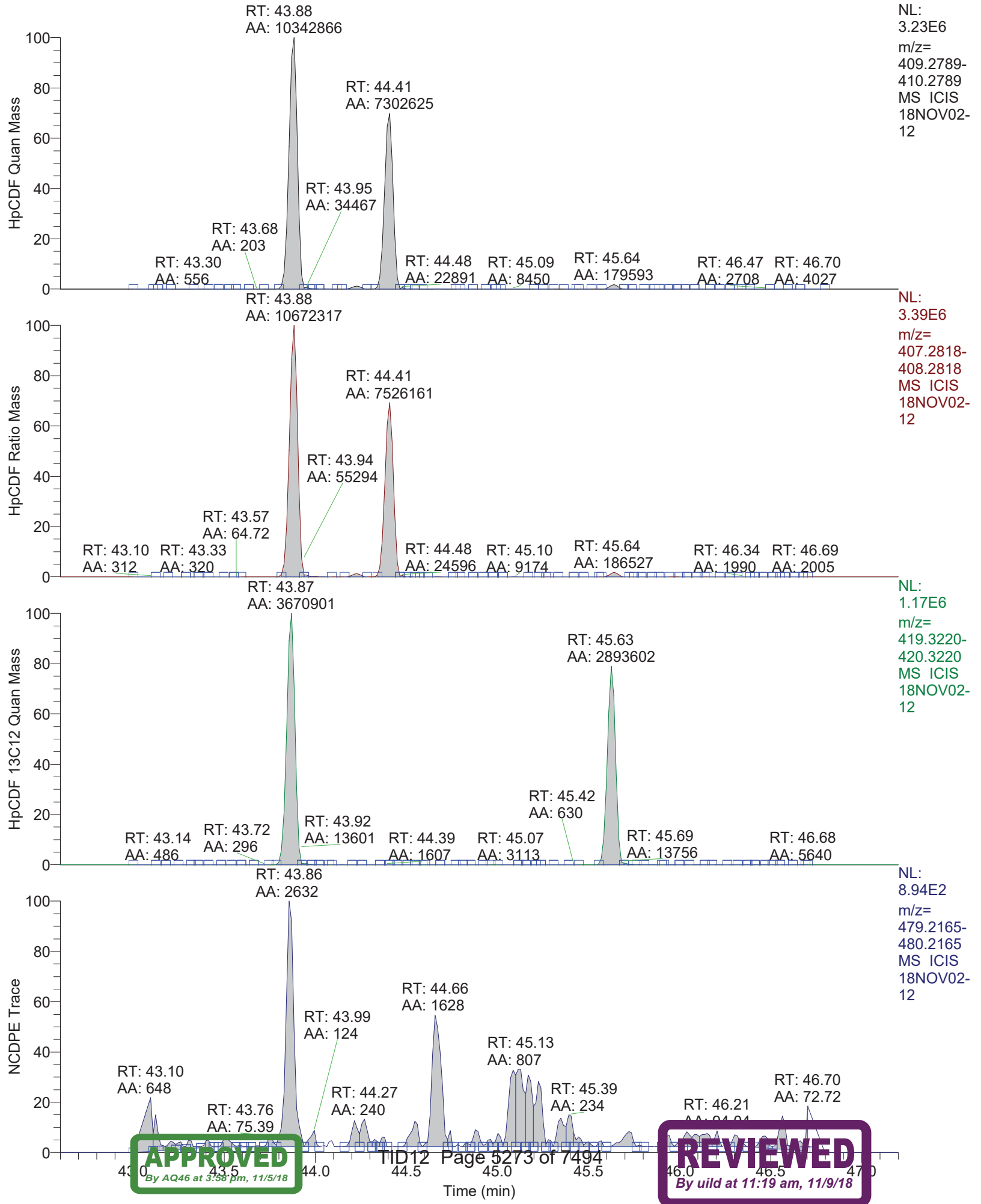
REVIEWED
By uild at 11:19 am, 11/9/18

File Name: Y:\18NOV02\18NOV02-12
Sample ID: 9872063

Acq. Data: 11/2/2018 8:52:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV02

RT: 42.60 - 47.20



APPROVED
By AQ46 at 3:58 pm, 11/5/18

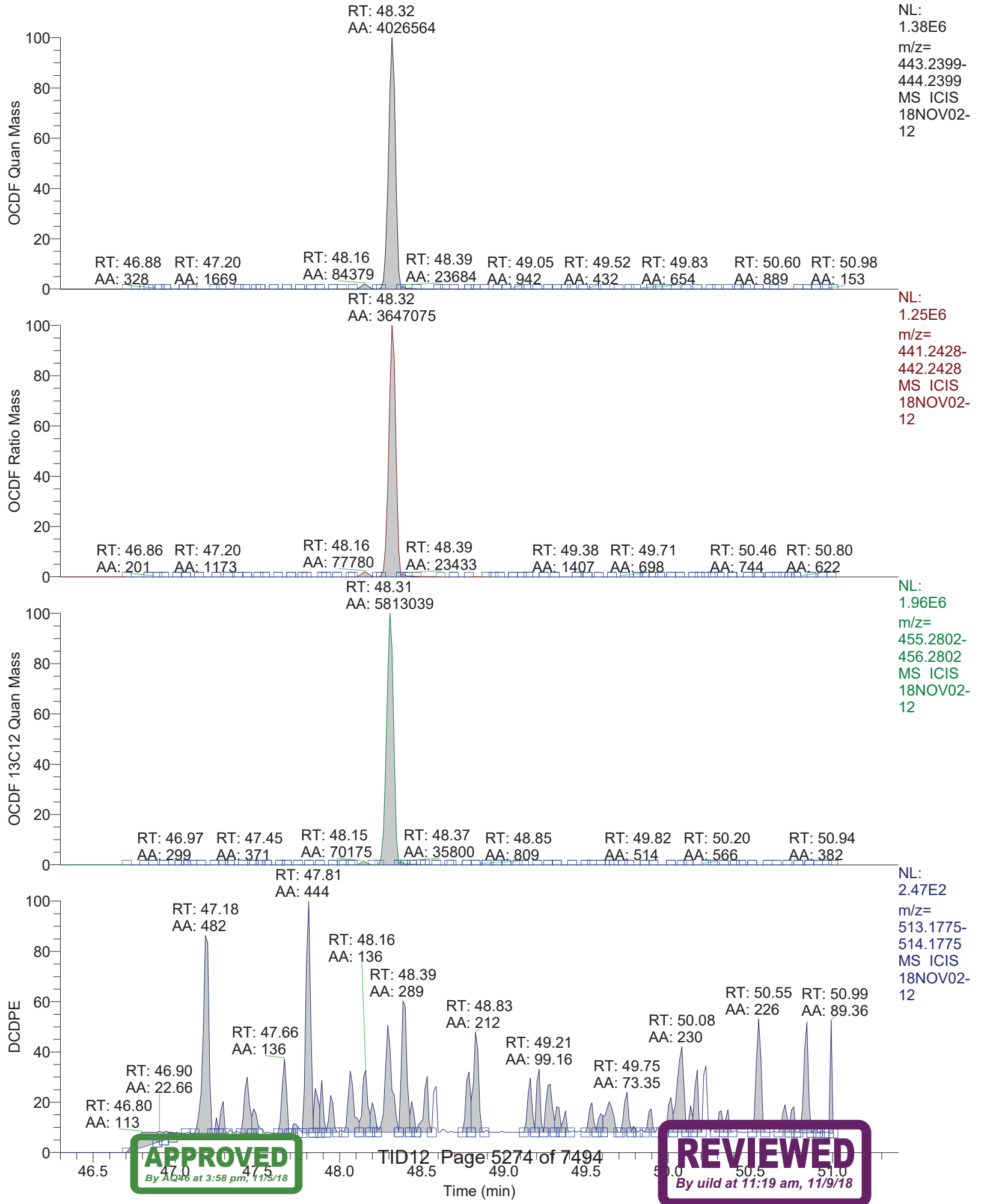
REVIEWED
By uild at 11:19 am, 11/9/18

File Name: Y:\18NOV02\18NOV02-12
Sample ID: 9872063

Acq. Data: 11/2/2018 8:52:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV02

RT: 46.30 - 51.40



APPROVED
By AQ46 at 3:58 pm, 11/5/18

REVIEWED
By uild at 11:19 am, 11/9/18

```
*** file opened Fri Nov 02 20:58:04 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 02-Nov-18 20:58:03


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : 44d0baaa-8ec9-423d-9ed2-7b00fcbd57b2


  MID procedure: PFK16MAR24+MDT



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  18:00 min   4:00 min  22:00 min   1.00 sec
  # 2  22:00 min  11:15 min  33:15 min   1.00 sec
  # 3  33:15 min   5:00 min  38:15 min   0.90 sec
  # 4  38:15 min   4:45 min  43:00 min   0.80 sec
  # 5  43:00 min   3:42 min  46:42 min   0.80 sec
  # 6  46:42 min   4:17 min  51:00 min   0.80 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    218.0129     1  1       95
    218.9851 l  20  1        4
    220.0100     1  1       95
    230.0532     2  1       47
    232.0502     2  1       47
    251.9739     1  1       95
    253.9710     1  1       95
    264.0142     2  1       47
    266.0112     2  1       47
    285.9350     1  1       95
    287.9320     1  1       95
    292.9819 c  20  1        4
    297.9752     2  1       47
    299.9723     2  1       47
   Window # 2
        mass F  int  gr  time (ms)
    292.9819 l  20  1        5
    303.9011     1  1      118
    305.8981     1  1      118
    315.9413     5  1       23
    317.9384     5  1       23
    319.8960     1  1      118
    321.8930     1  1      118
```

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          95.5000
 BQUAD            6.3500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000  EDACG           1.0000   EDACZ        -174.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           219.0000
 ENSBR            6.3500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           172.0000   EXSBR          -0.7300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           3.7000
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0170   FVINLET         0.0376   FVSRC           0.0340
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      652.0000
 LENS_SYM         3.7500   LM            650.0000   LMII          500.0000
 LMASS           95.5000   LKM           442.9723   MASS           95.5000
 MDAC         925071.2508  MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2158.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9709   RELEN           0.0000
 RES          11081.9991   RPUSHER       -14.8059   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     680.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0215   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.5000   XLENS_POT     930.0000
 XLENS_SYM        7.5000   YLENS_POT     862.0000   YLENS_SYM      14.7500

Source Gauge:        2.2e-005 mbar
Analyzer Penning:    7.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11076.
MID Time Window 2: Resolution is 11265.
MID Time Window 3: Resolution is 11916.
MID Time Window 4: Resolution is 11262.
```

```
MID Time Window 5: Resolution is 11289.
MID Time Window 6: Resolution is 11081.

Amplifier Offset: 87.


*** File closed Fri Nov 02 21:49:06 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/04 00:05
Number of Entries	3
Comment	S:11030:12937:17962
Vial	40
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Sample ID	9872063
Inst ID	DF18471-18NOV02Conf
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-11.quan
Data	y:\18nov02conf\18nov02-11.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.13
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.71	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.77	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.65	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/04 00:05
Number of Entries	3
Comment	S:11030:12937:17962
Vial	40
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Sample ID	9872063
Inst ID	DF18471-18NOV02Conf
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-11.quan
Data	y:\18nov02conf\18nov02-11.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.13
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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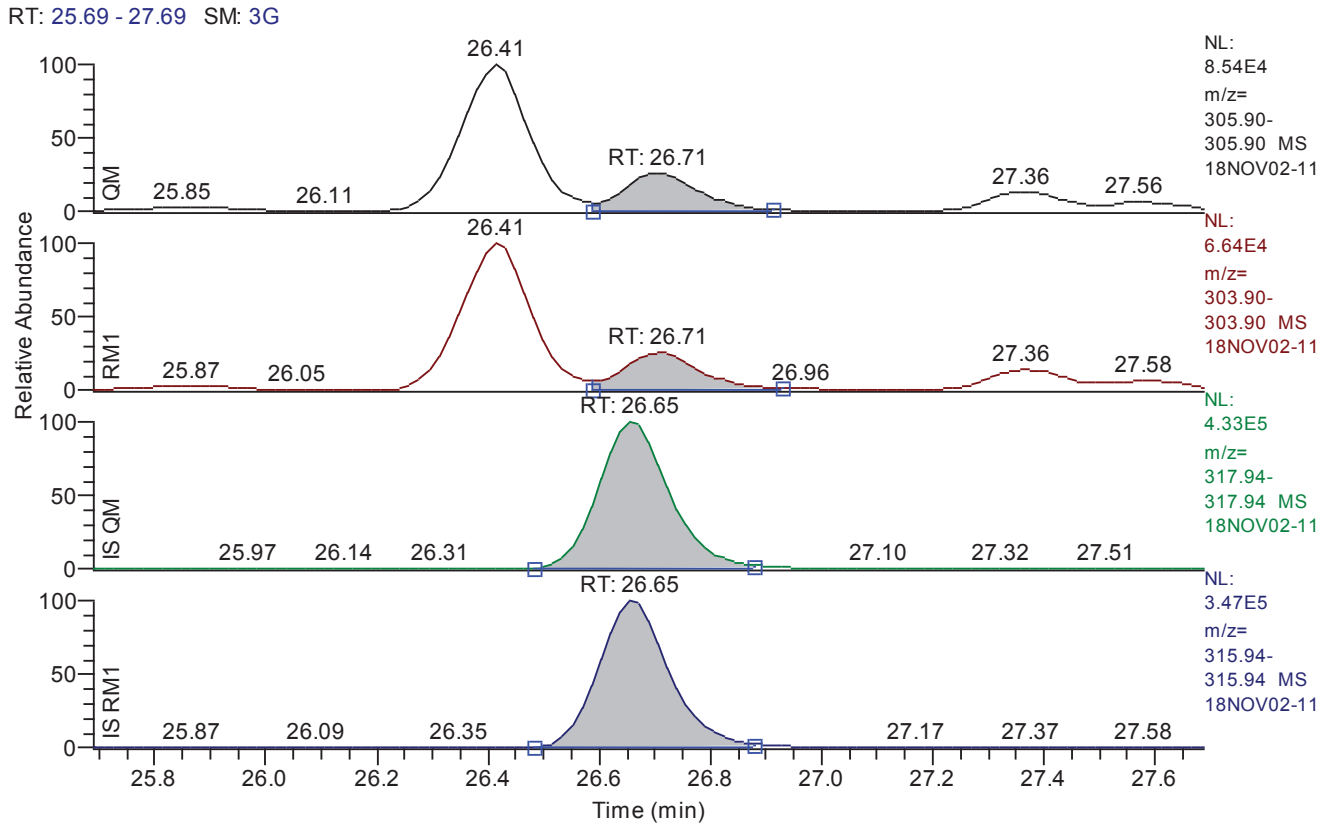
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.71
QM Area	197870
QM Integration Mode	A
RM1 Area	151794
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1926
Unqualified Amount (A)	9.915707
Adjusted Amount (A)	9.9157
Signal-to-Noise	125
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.72	26.71	26.71	26.65	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.78	24.77	24.77	24.77	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.68	26.65	26.65	26.65	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.71	0.7671	0.6450 - 0.8950	passed	---	0 - 0	passed
2	13C12-1234-TCDD	24.77	0.8074	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.65	0.7995	0.6450 - 0.8950	passed	65.58	40 - 135	passed

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Entry Parameters

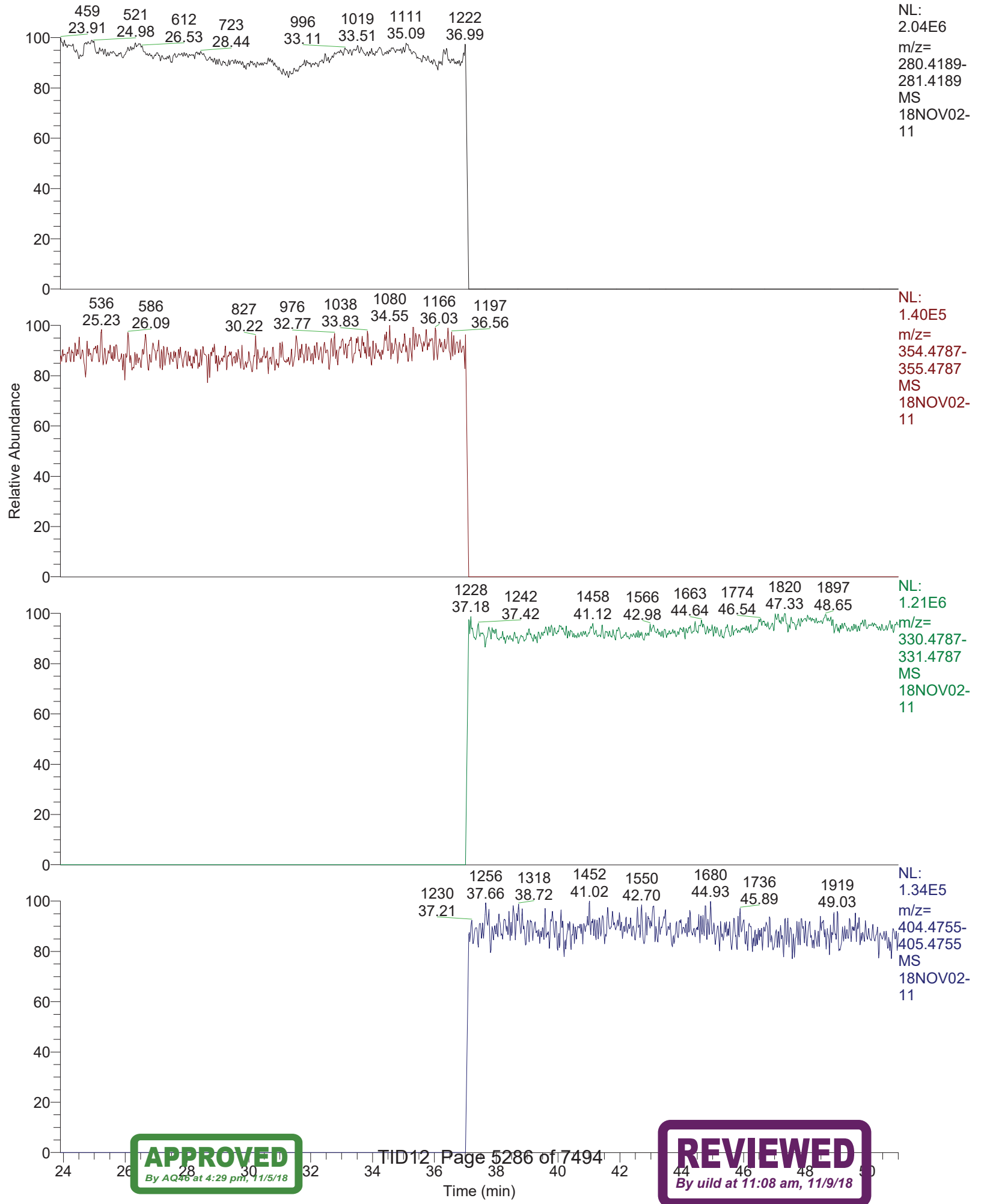
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.71	197870	A	151794	A	0.1926	9.915707	9.9157	0.000000	125	
2	13C12-1234-TCDD	passed	24.77	2830848	A	2285727	A	0.1009	197.433366	197.4334	197.433366	4892	
3	13C12-2378-TCDF	passed	26.65	3800295	A	3038150	A	0.0444	129.485755	129.4858	197.433366	7090	

File Name: Y:\18NOV02Conf\18NOV02-11
Sample ID: 9872063

Acq. Data: 11/4/2018 12:05:29 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02Conf

RT: 23.90 - 51.00



APPROVED
By AQ46 at 4:29 pm, 11/5/18

REVIEWED
By uild at 11:08 am, 11/9/18

*** file opened Sun Nov 04 00:09:52 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 04-Nov-18 00:09:51

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0d86c2a9-4f6a-43e5-8f3c-d5023df8b2d3

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	94.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-261.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	219.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	3.7000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0374	FVSRC	0.0336
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	652.0000
LENS_SYM	3.7500	LM	650.0000	LMII	500.0000
LMASS	94.5000	LKM	330.9792	MASS	94.5000
MDAC	914124.4195	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.9705	RELEN	0.0000
RES	10416.0576	RPUSHER	-14.8059	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	680.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0194	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	94.5000	XLENS_POT	930.0000
XLENS_SYM	7.5000	YLENS_POT	862.0000	YLENS_SYM	14.7500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.0e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.3e-002 mbar
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10665.
MID Time Window 2: Resolution is 10416.

Amplifier Offset: 89.

*** File closed Sun Nov 04 01:02:23 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 19:09
Number of Entries	258
Comment	S:11030:12937:17962
Vial	111
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Sample ID	9872063DL
Inst ID	DF19780-18NOV05
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-12.quan
Data	z:\18nov05\18nov05-12.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.13
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.47	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	30.59	failed	failed	passed	failed	passed	passed	Failed on: CAA Ratio1A
3	12378-PeCDF	35.41	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.72	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5	12378-PeCDD	37.10	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.41	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
7	123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.27	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
9	123478-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.58	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.89	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.33	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.81	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
16	OCDD	48.27	passed	passed	passed	passed	passed	passed	
17	OCDF	48.47	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.98	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.70	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.28	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.42	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.55	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.39	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.07	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.54	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.25	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.44	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.56	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.87	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.99	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.26	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.46	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 19:09
Number of Entries	258
Comment	S:11030:12937:17962
Vial	111
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Sample ID	9872063DL
Inst ID	DF19780-18NOV05
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-12.quan
Data	z:\18nov05\18nov05-12.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.13
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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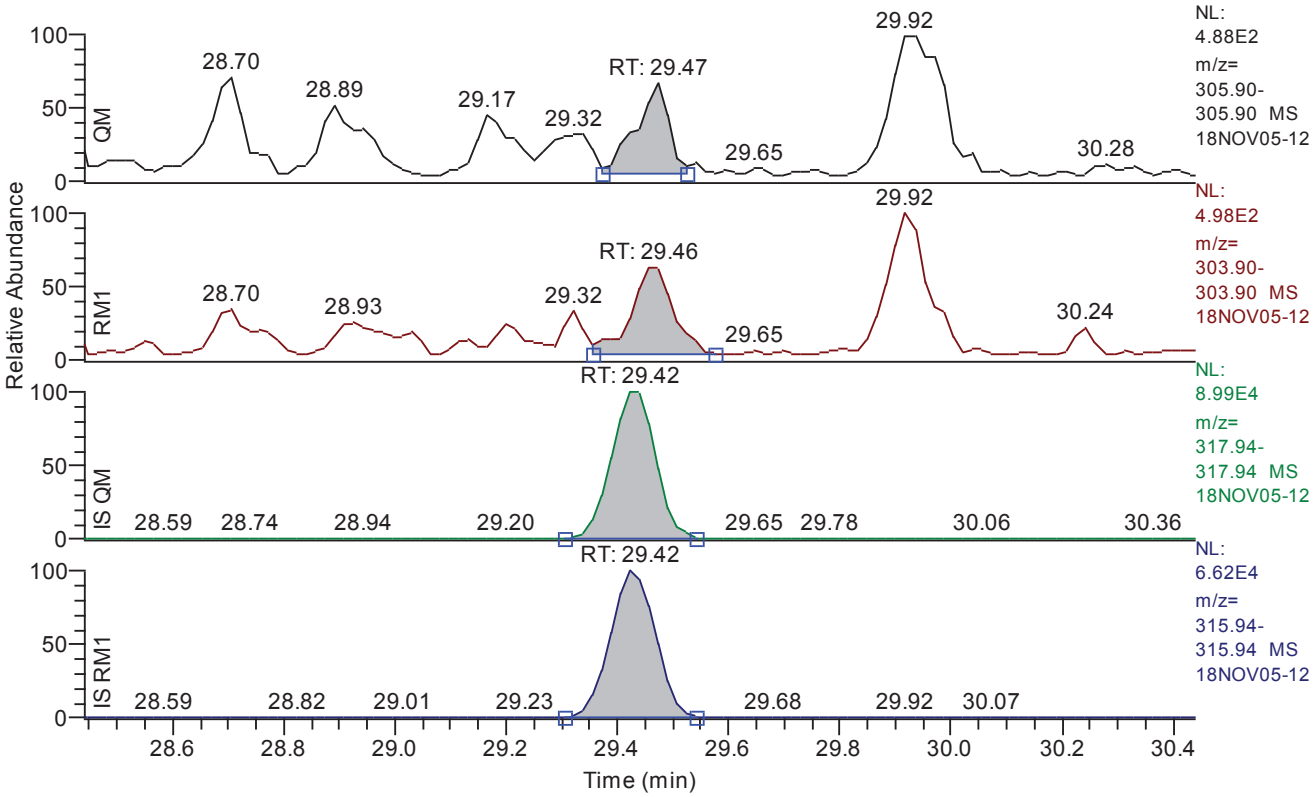
Chromatogram

RT: 28.44 - 30.44 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.47
QM Area	1270
QM Integration Mode	A
RM1 Area	1568
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1127
Unqualified Amount (A)	6.316285
Adjusted Amount (A)	n.d.
Signal-to-Noise	17
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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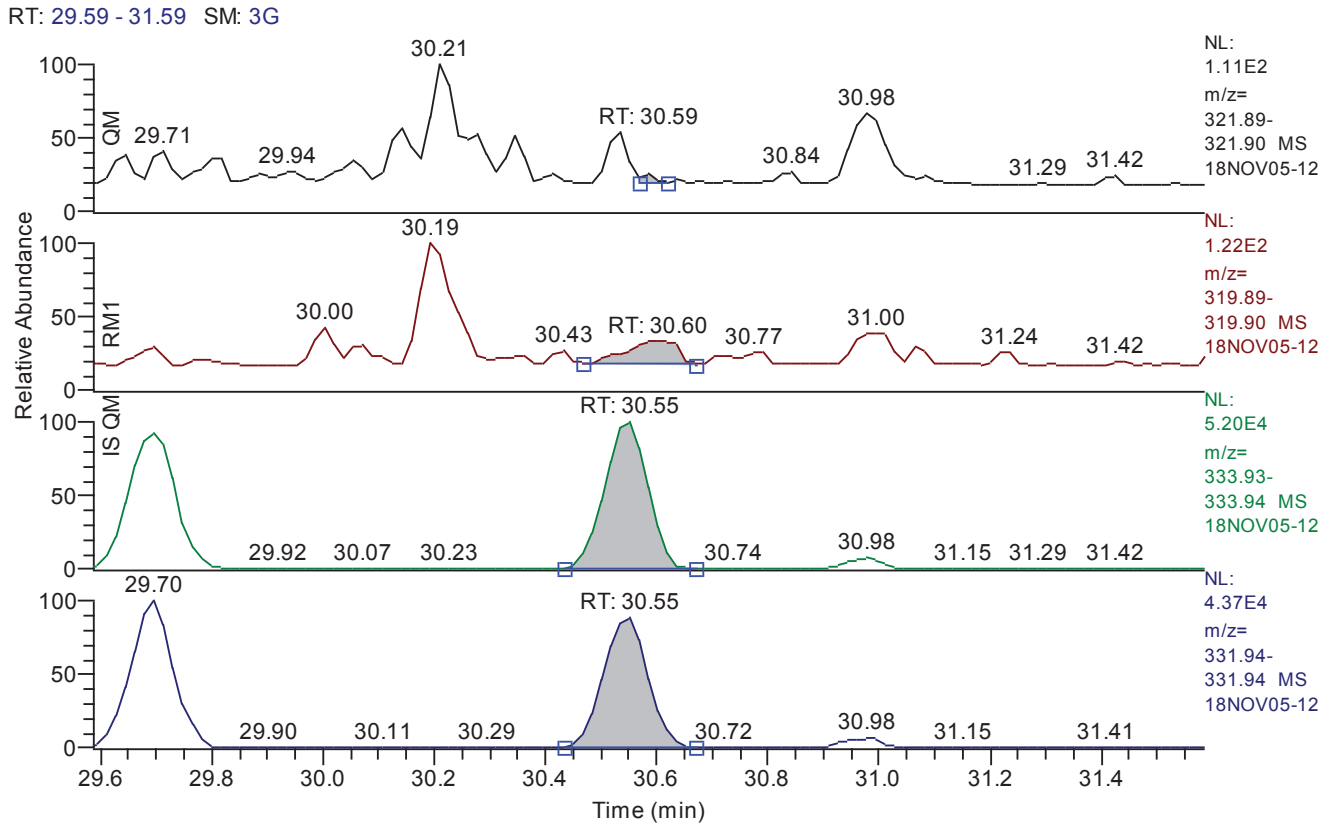
Chromatogram



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.59
QM Area	11
QM Integration Mode	A
RM1 Area	128
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0540
Unqualified Amount (A)	0.486613
Adjusted Amount (A)	n.d. < 0.0540
Signal-to-Noise	2
Client Flags	
Status Overview	failed
Status Info	Failed on: CAA Ratio1A

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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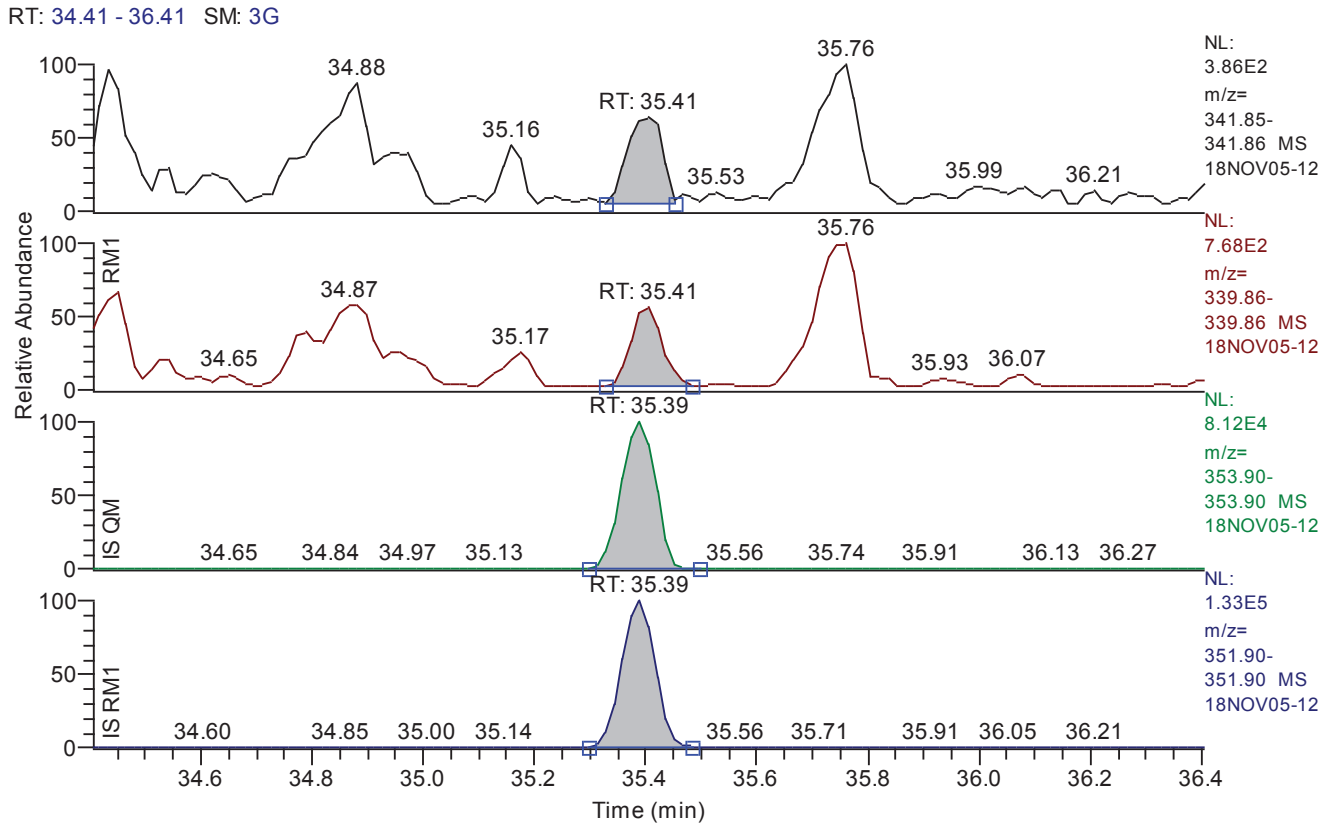
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.41
QM Area	982
QM Integration Mode	A
RM1 Area	1610
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0570
Unqualified Amount (A)	6.259659
Adjusted Amount (A)	6.2597
Signal-to-Noise	29
Client Flags	
Status Overview	passed
Status Info	

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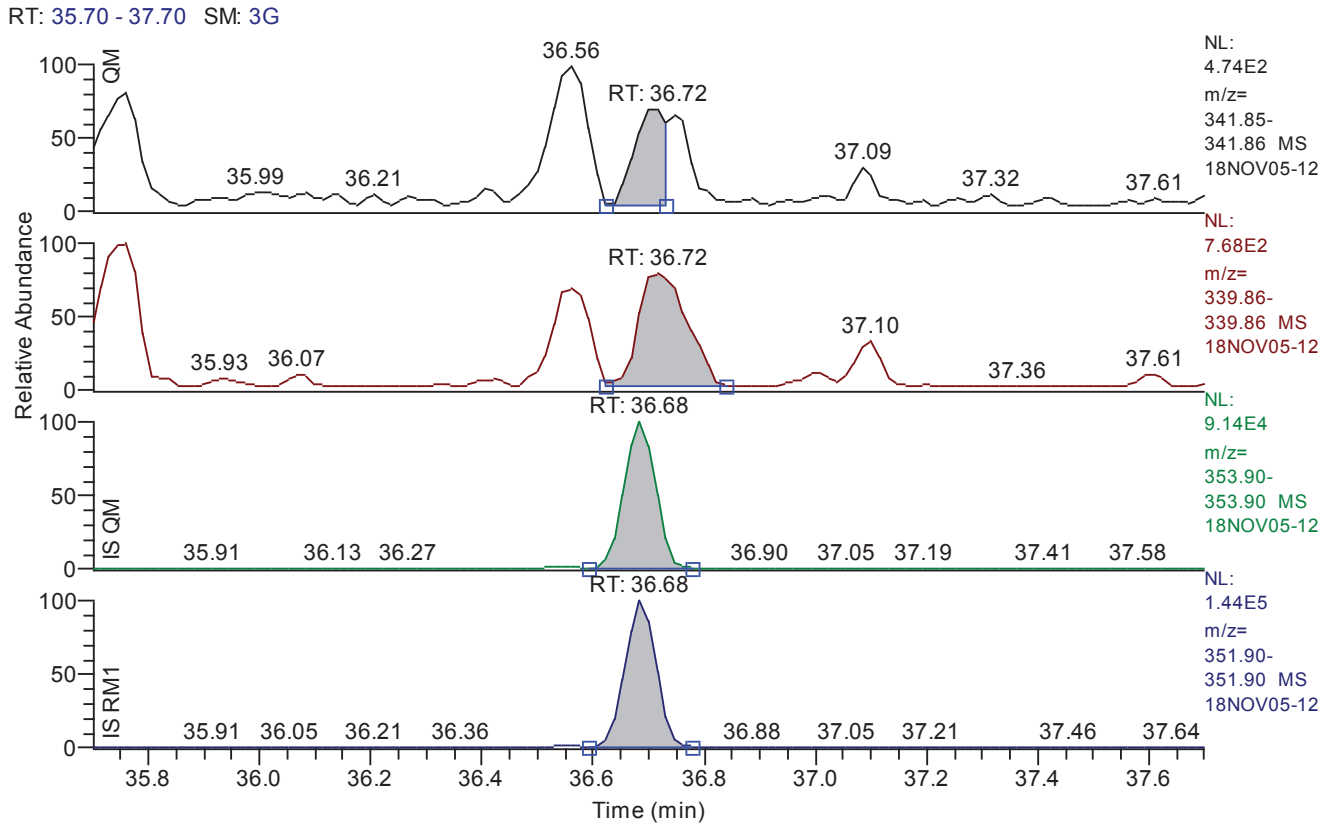
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.72
QM Area	1117
QM Integration Mode	A
RM1 Area	3598
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0465
Unqualified Amount (A)	10.030138
Adjusted Amount (A)	n.d.
Signal-to-Noise	40
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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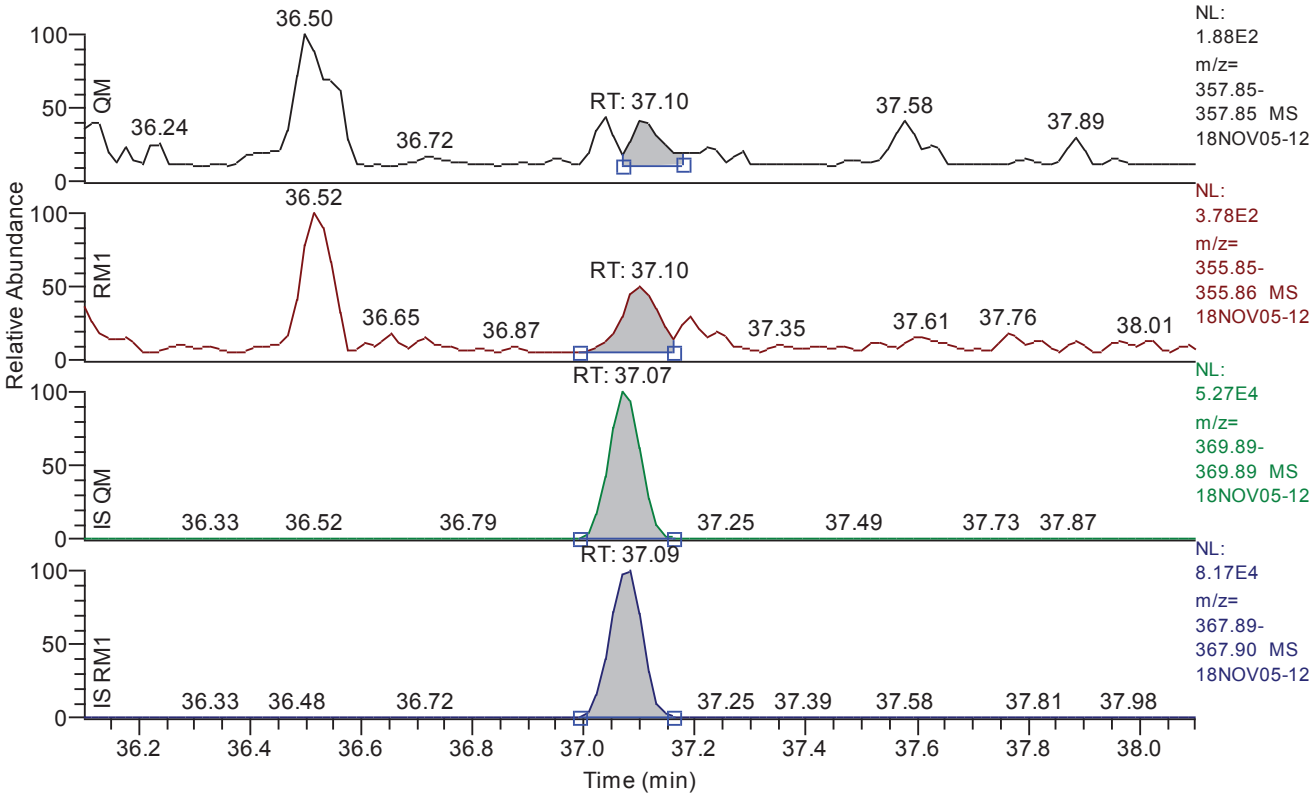
Chromatogram

RT: 36.10 - 38.10 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.10
QM Area	215
QM Integration Mode	A
RM1 Area	779
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0944
Unqualified Amount (A)	3.798532
Adjusted Amount (A)	n.d.
Signal-to-Noise	9
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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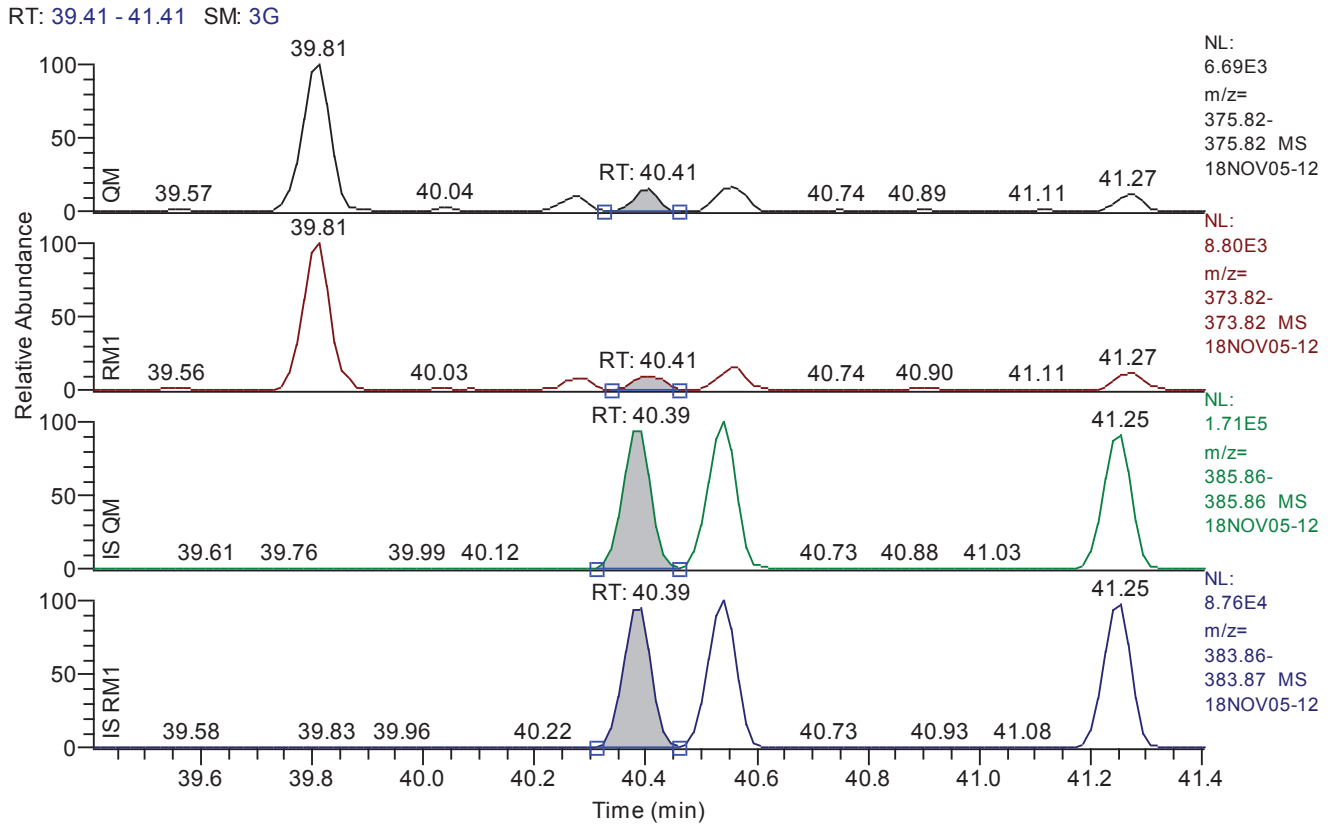
Chromatogram



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.41
QM Area	3220
QM Integration Mode	A
RM1 Area	3298
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0791
Unqualified Amount (A)	13.571677
Adjusted Amount (A)	n.d.
Signal-to-Noise	43
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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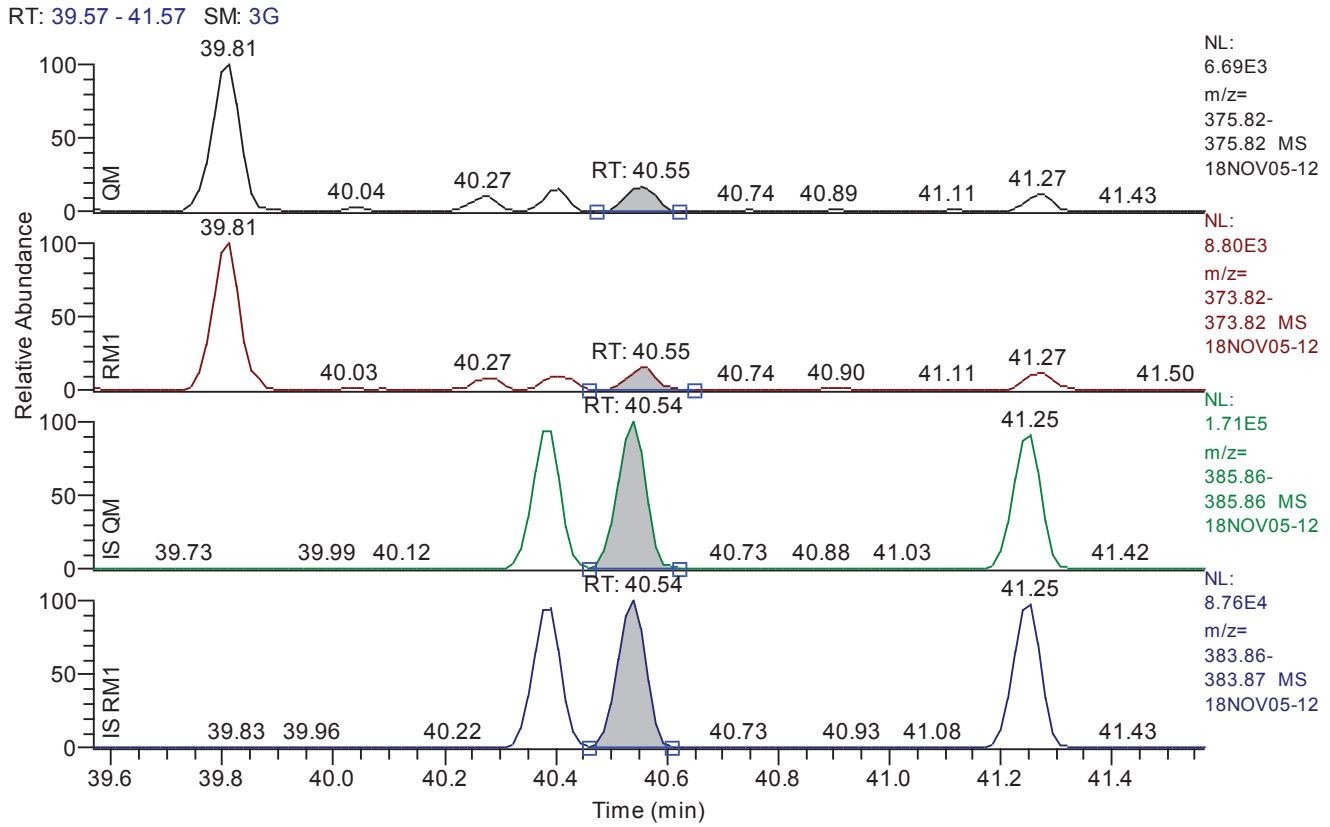
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.55
QM Area	4303
QM Integration Mode	A
RM1 Area	4980
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0783
Unqualified Amount (A)	19.030198
Adjusted Amount (A)	19.0302
Signal-to-Noise	60
Client Flags	
Status Overview	passed
Status Info	

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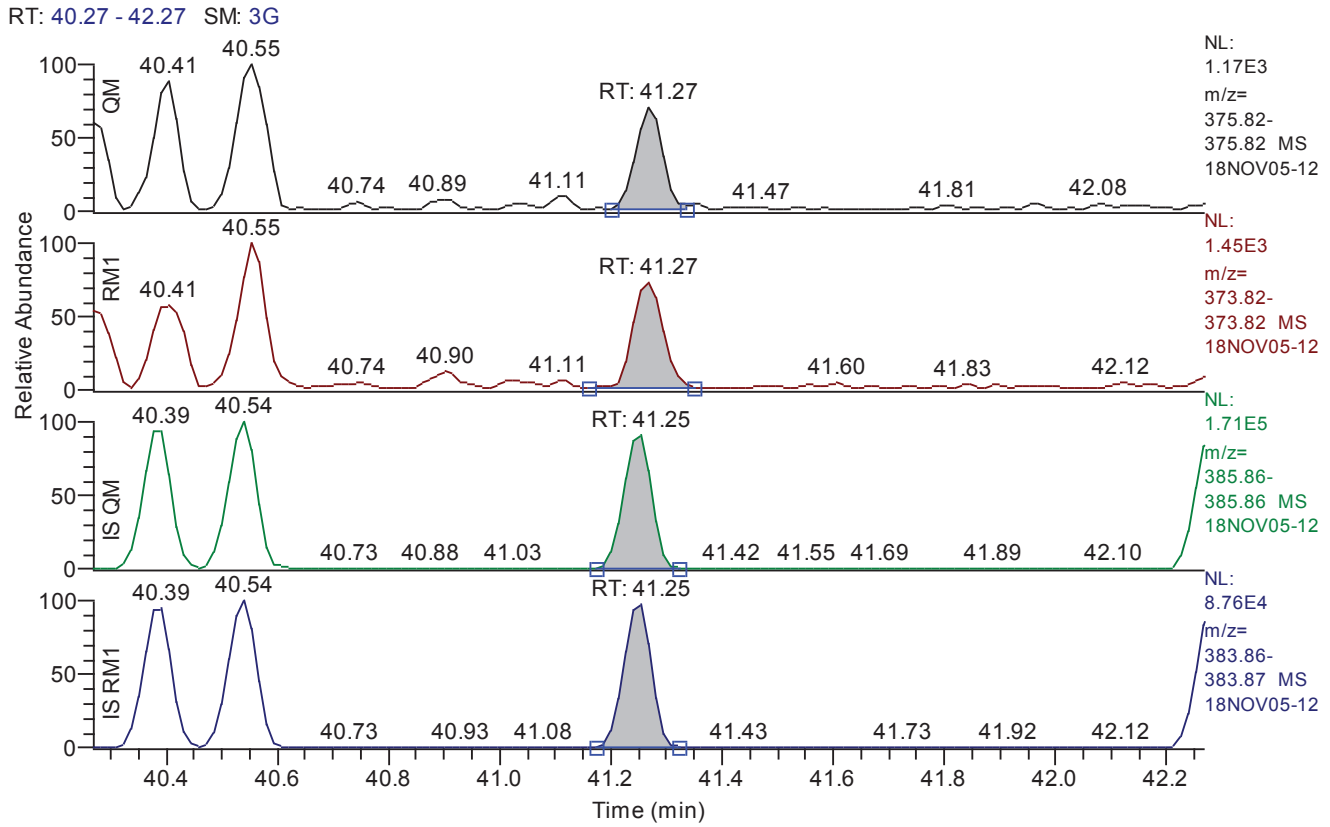
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.27
QM Area	2732
QM Integration Mode	A
RM1 Area	4011
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0775
Unqualified Amount (A)	13.838407
Adjusted Amount (A)	n.d.
Signal-to-Noise	43
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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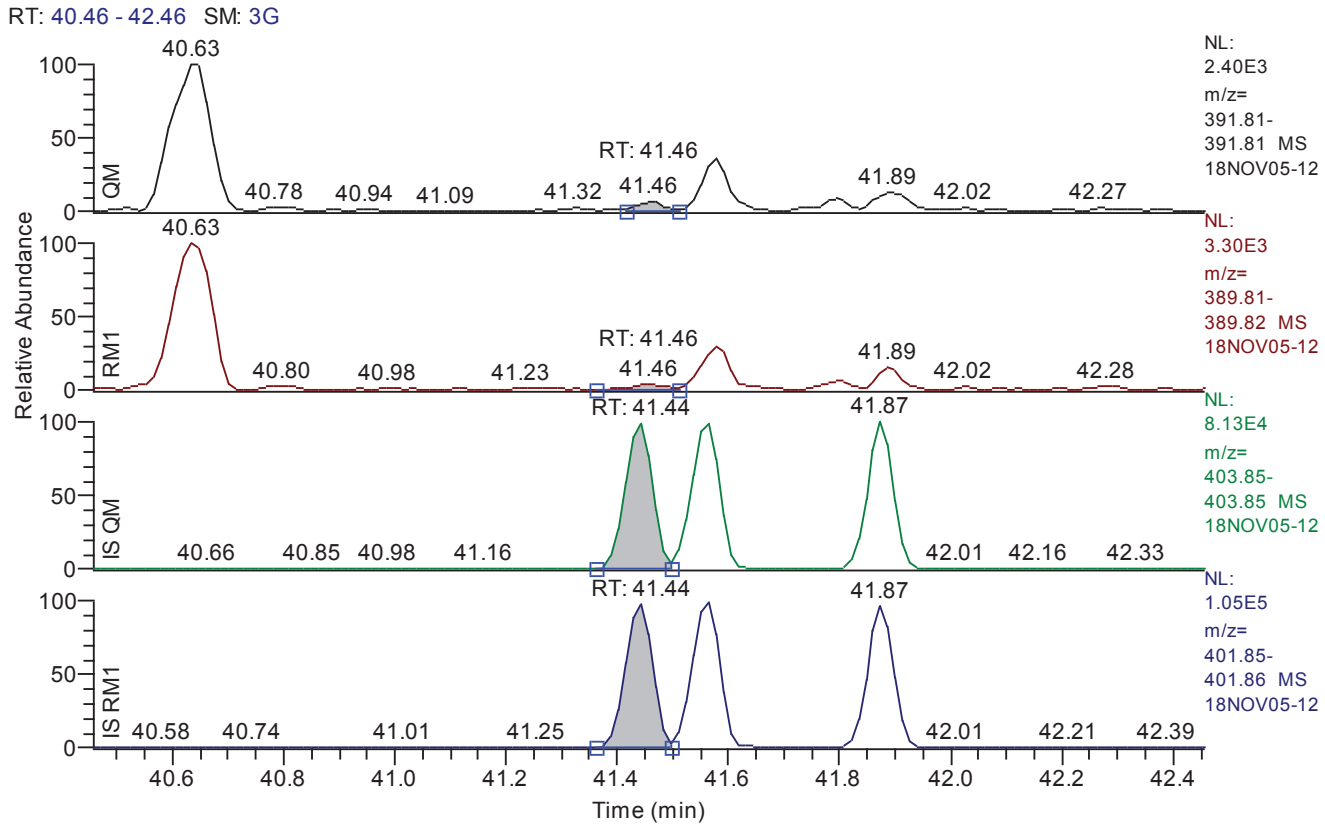
Chromatogram



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.46
QM Area	482
QM Integration Mode	A
RM1 Area	626
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0978
Unqualified Amount (A)	3.759124
Adjusted Amount (A)	3.7591
Signal-to-Noise	9
Client Flags	
Status Overview	passed
Status Info	

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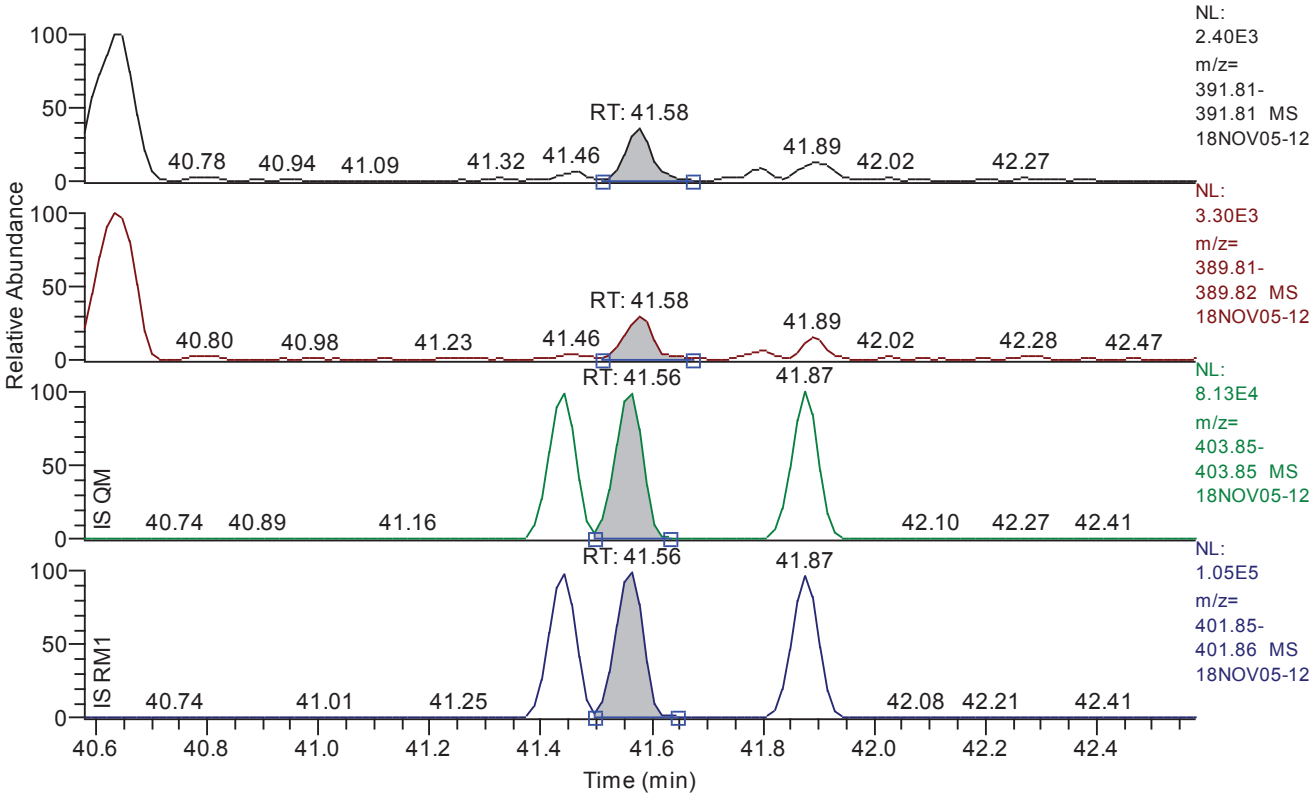
Chromatogram

RT: 40.58 - 42.58 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.58
QM Area	2771
QM Integration Mode	A
RM1 Area	3496
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0960
Unqualified Amount (A)	20.547346
Adjusted Amount (A)	20.5473
Signal-to-Noise	54
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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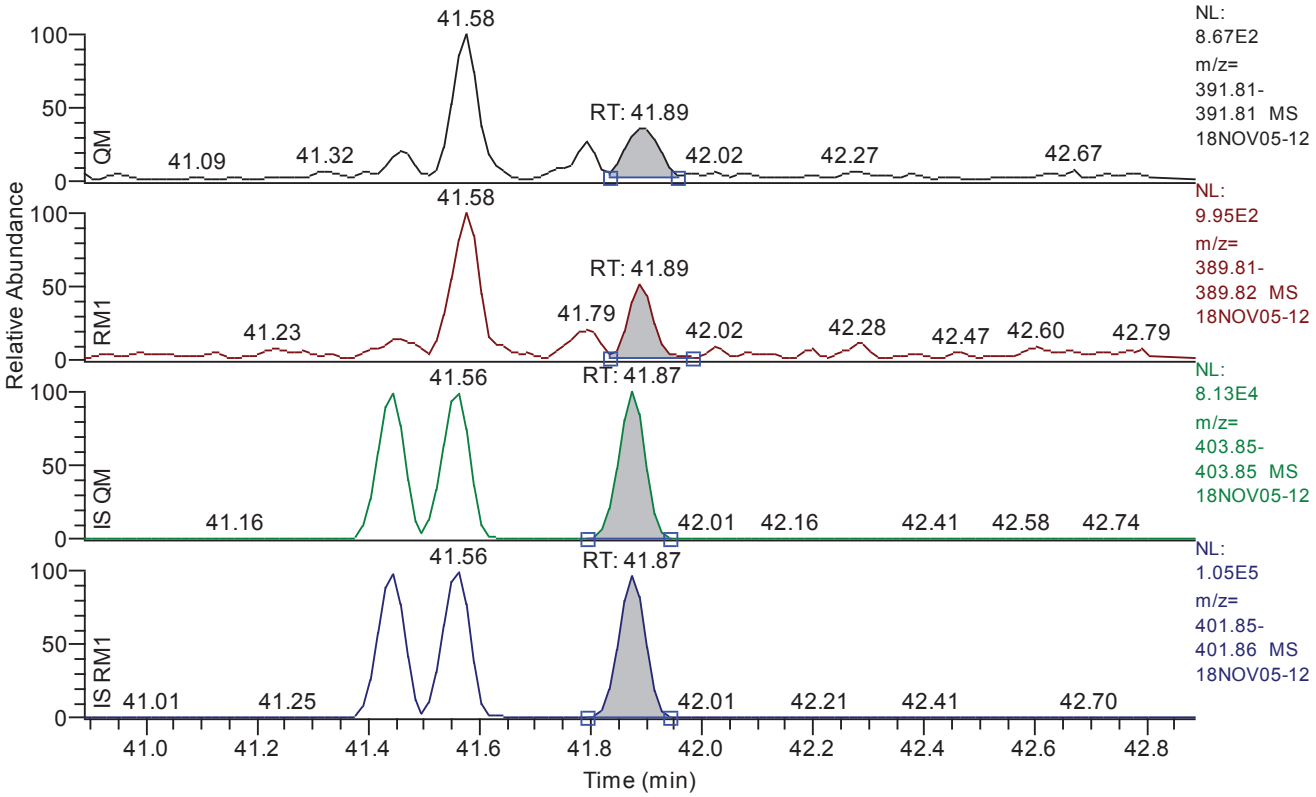
Chromatogram

RT: 40.89 - 42.89 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.89
QM Area	1230
QM Integration Mode	A
RM1 Area	1543
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0918
Unqualified Amount (A)	9.009657
Adjusted Amount (A)	9.0097
Signal-to-Noise	23
Client Flags	
Status Overview	passed
Status Info	

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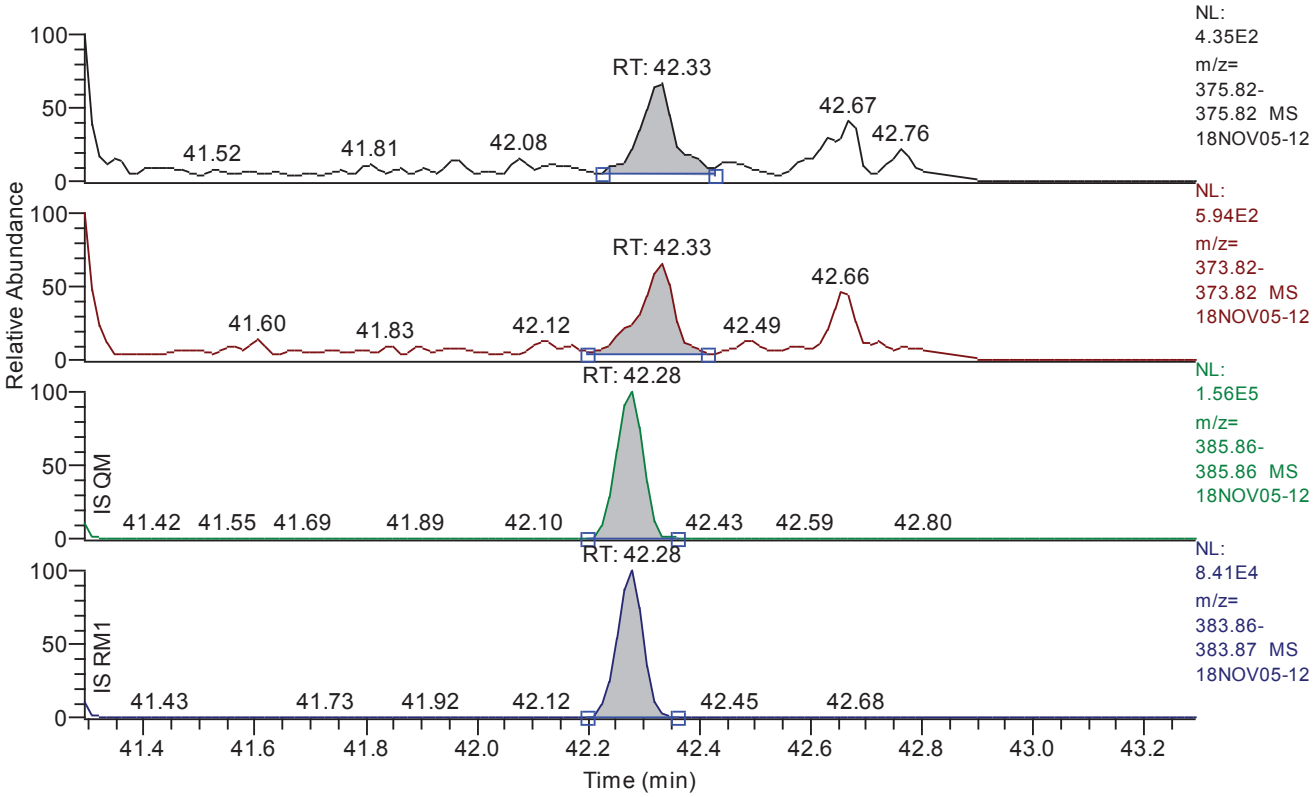
Chromatogram

RT: 41.29 - 43.29 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.33
QM Area	1181
QM Integration Mode	A
RM1 Area	1616
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0840
Unqualified Amount (A)	6.472750
Adjusted Amount (A)	6.4727
Signal-to-Noise	15
Client Flags	
Status Overview	passed
Status Info	

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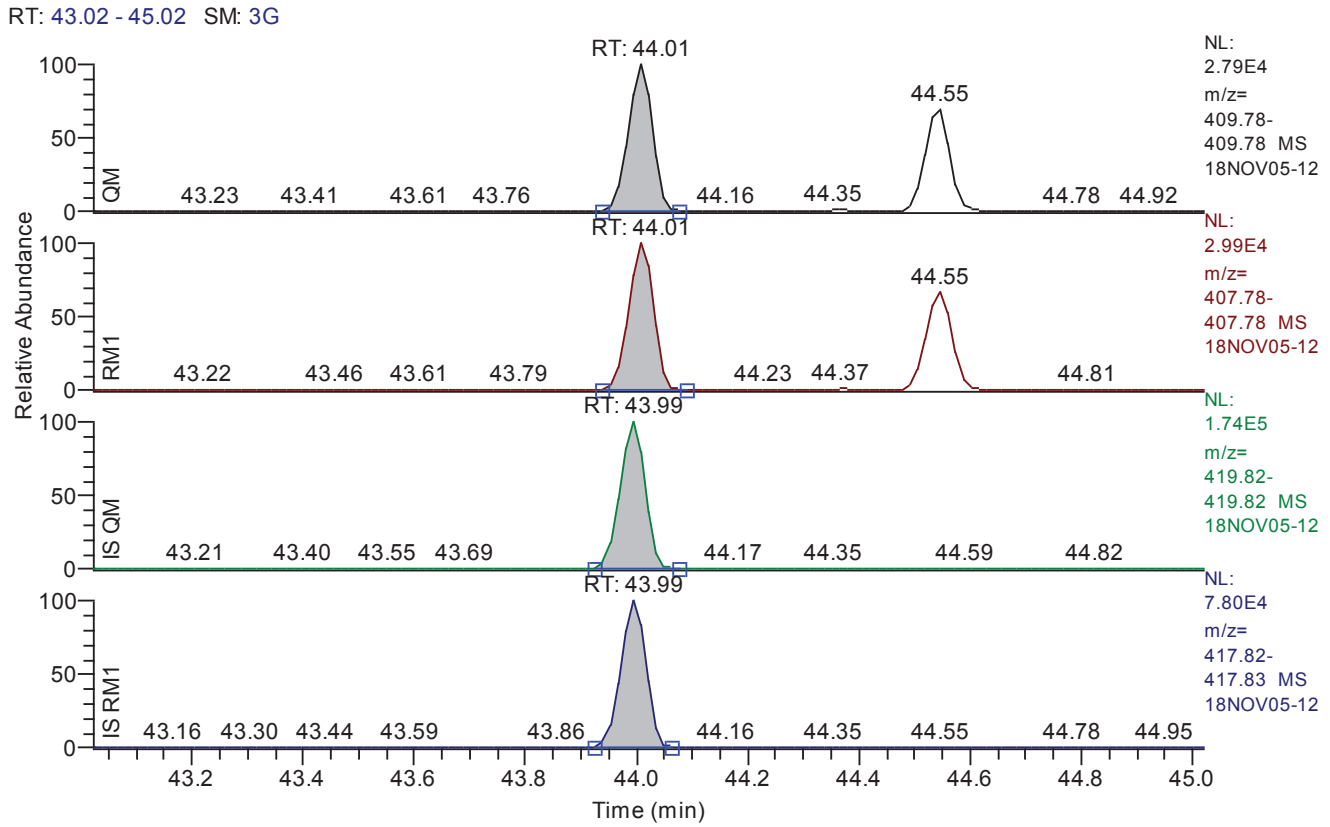
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.01
QM Area	87256
QM Integration Mode	A
RM1 Area	96007
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0362
Unqualified Amount (A)	377.661714
Adjusted Amount (A)	377.6617
Signal-to-Noise	2659
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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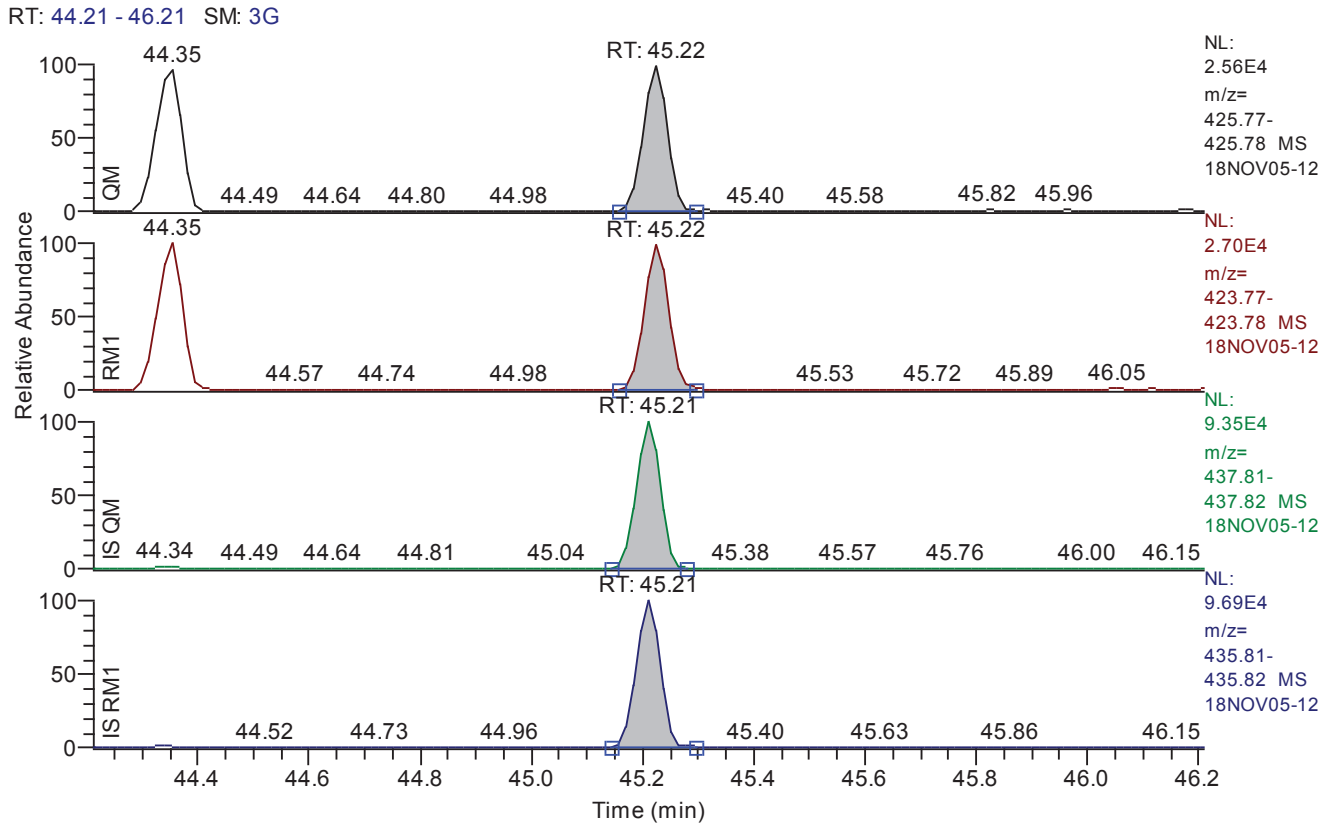
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.22
QM Area	79242
QM Integration Mode	A
RM1 Area	84010
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1198
Unqualified Amount (A)	561.602487
Adjusted Amount (A)	561.6025
Signal-to-Noise	1168
Client Flags	
Status Overview	passed
Status Info	

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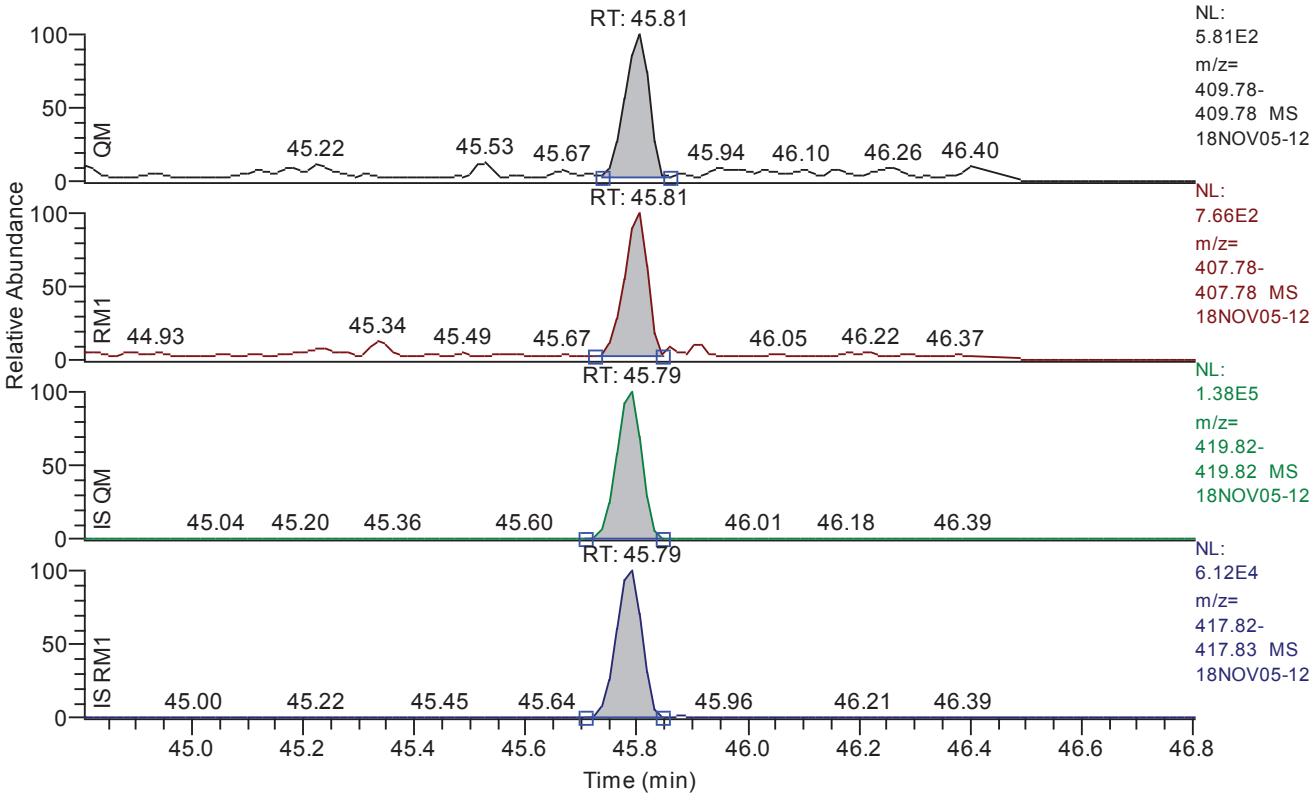
Chromatogram

RT: 44.81 - 46.81 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.81
QM Area	1732
QM Integration Mode	A
RM1 Area	2245
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0459
Unqualified Amount (A)	10.334253
Adjusted Amount (A)	n.d.
Signal-to-Noise	60
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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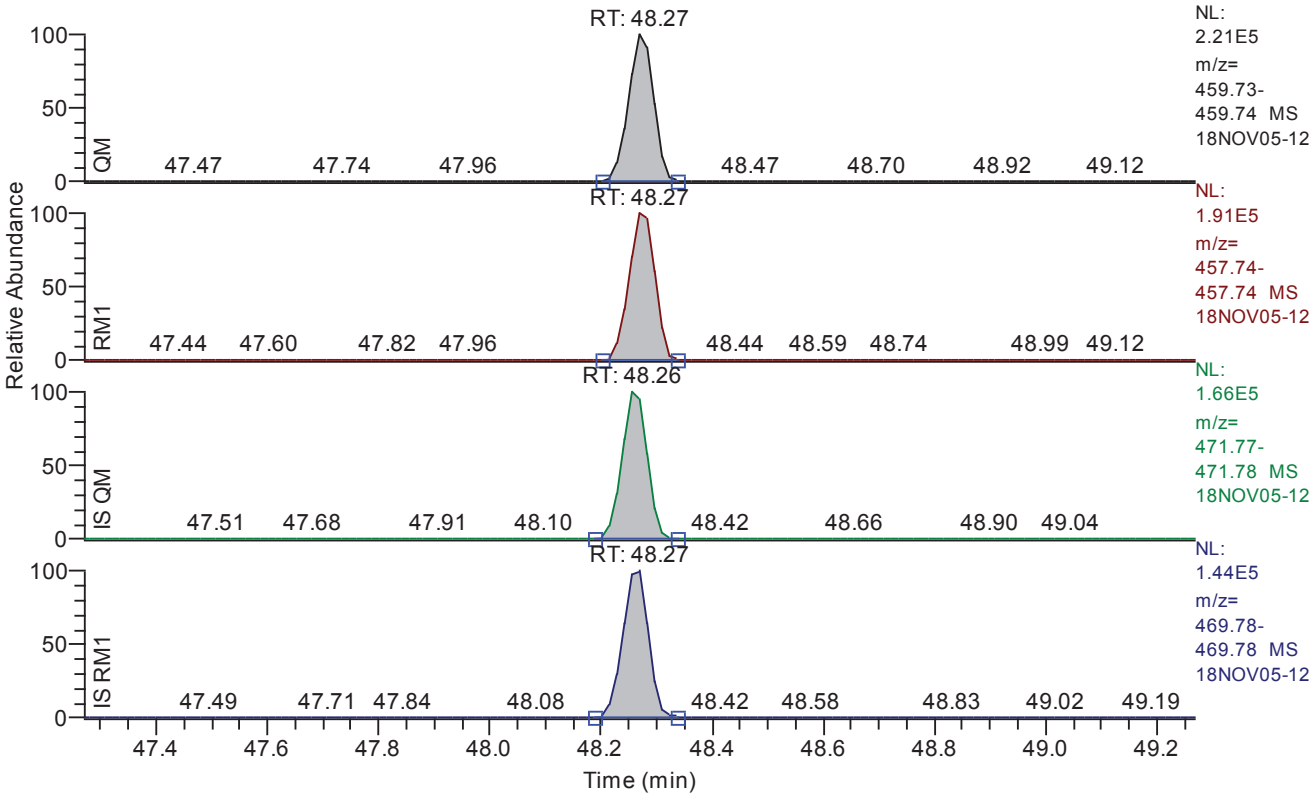
Chromatogram

RT: 47.27 - 49.27 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.27
QM Area	693678
QM Integration Mode	A
RM1 Area	615875
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0952
Unqualified Amount (A)	5526.138030
Adjusted Amount (A)	5526.1380
Signal-to-Noise	14506
Client Flags	
Status Overview	passed
Status Info	

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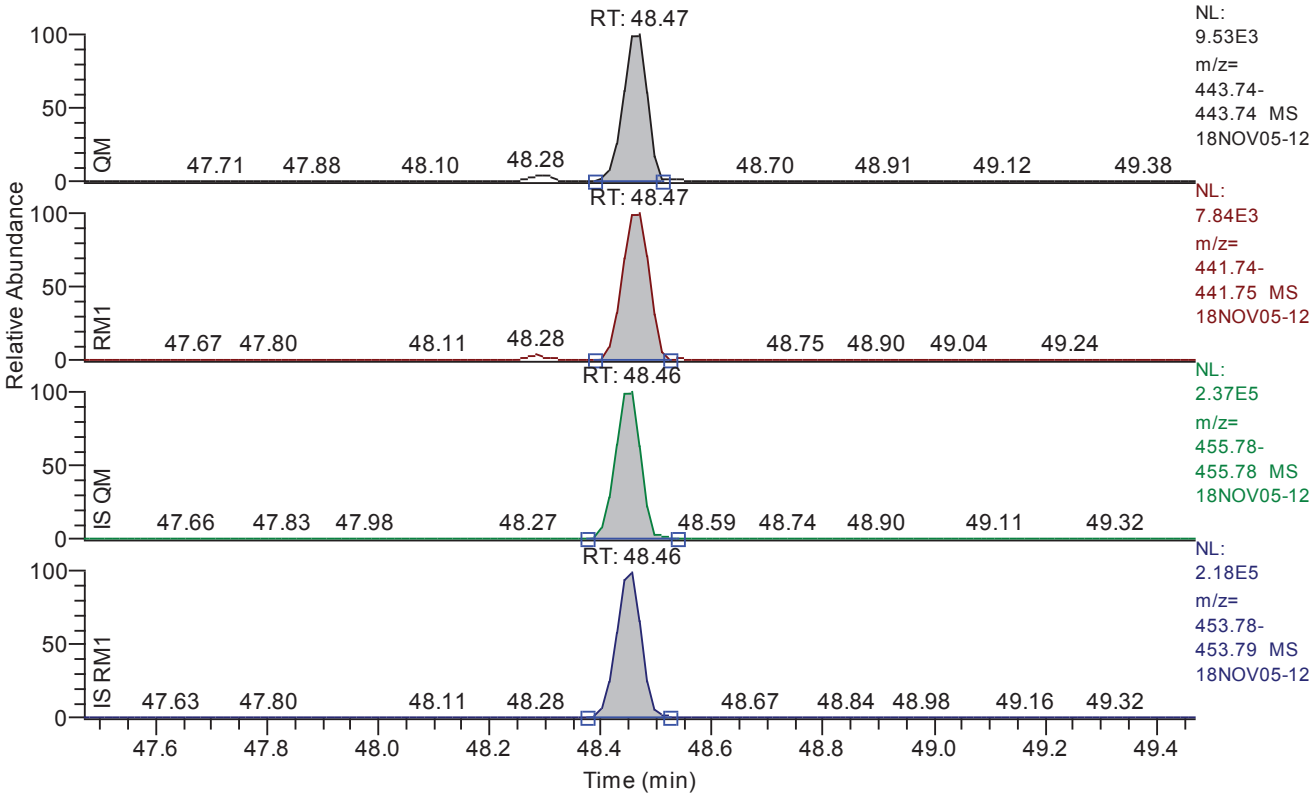
Chromatogram

RT: 47.47 - 49.47 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.47
QM Area	28680
QM Integration Mode	A
RM1 Area	26326
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0339
Unqualified Amount (A)	178.006069
Adjusted Amount (A)	178.0061
Signal-to-Noise	1297
Client Flags	
Status Overview	passed
Status Info	

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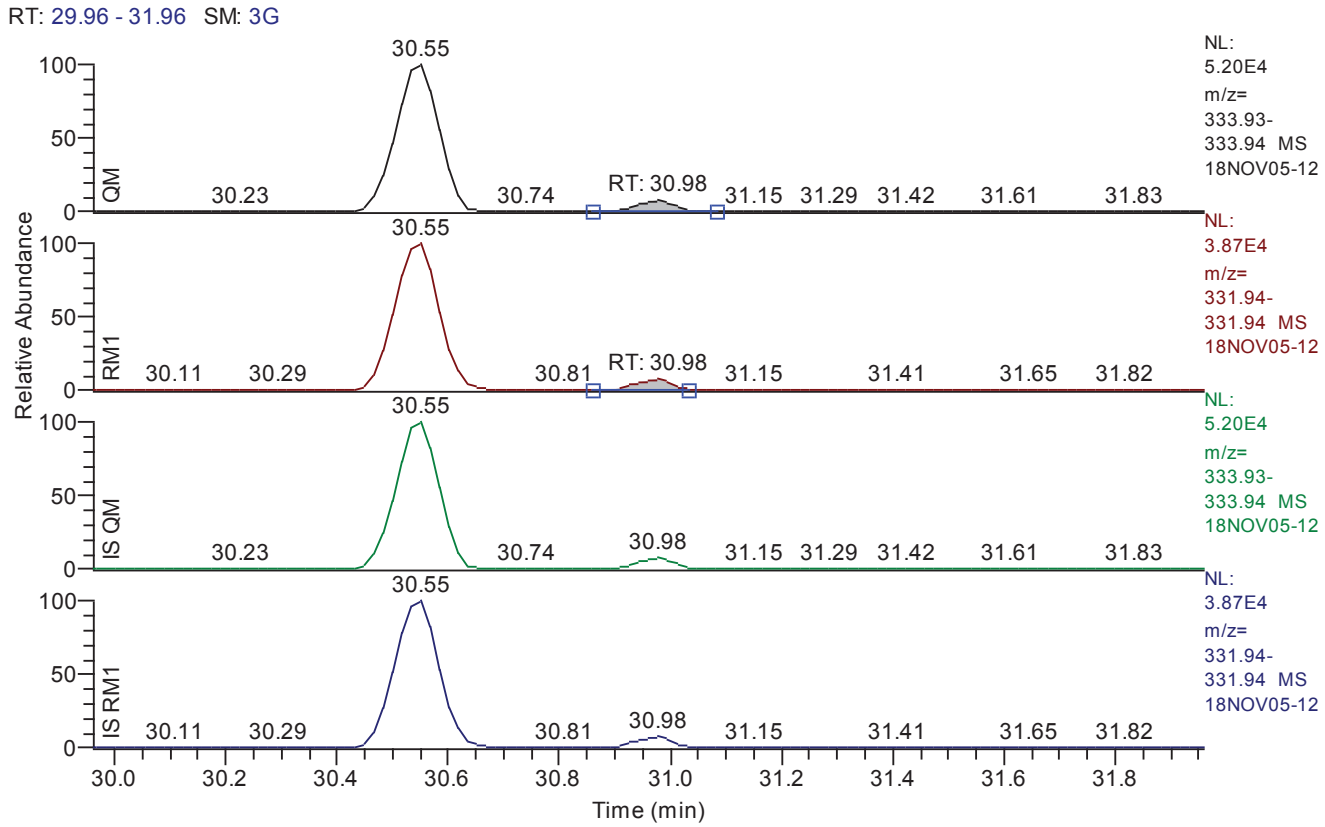
Chromatogram



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.98
QM Area	20007
QM Integration Mode	A
RM1 Area	14635
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0655
Unqualified Amount (A)	114.342012
Adjusted Amount (A)	114.3420
Signal-to-Noise	508
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.48	29.47	29.46	29.42	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.61	30.59	30.60	30.55	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.43	35.41	35.41	35.39	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.73	36.72	36.72	36.68	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.13	37.10	37.10	37.07	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.42	40.41	40.41	40.39	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.58	40.55	40.55	40.54	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.27	41.27	41.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.47	41.46	41.46	41.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.59	41.58	41.58	41.56	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.89	41.89	41.87	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.30	42.33	42.33	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.03	44.01	44.01	43.99	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.24	45.22	45.22	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.82	45.81	45.81	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.29	48.27	48.27	48.26	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.47	48.47	48.46	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.99	30.98	30.98	30.98	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.72	29.70	29.70	29.70	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.31	40.28	40.30	40.28	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.47	29.42	29.42	29.32	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.58	30.55	30.55	30.55	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.41	35.39	35.39	35.39	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.71	36.68	36.68	36.67	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.10	37.07	37.09	37.09	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.40	40.39	40.39	40.24	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.55	40.54	40.54	40.72	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.25	41.25	41.25	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.46	41.44	41.44	41.44	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.58	41.56	41.56	41.56	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.87	41.87	41.87	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.29	42.28	42.28	42.29	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	43.99	43.99	43.97	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.24	45.21	45.21	45.21	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.80	45.79	45.79	45.81	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.26	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.46	48.46	48.46	48.30	passed	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.47	1.2349	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	30.59	12.1799	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	35.41	1.6396	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.72	3.2214	1.3150 - 1.7850	failed	---	0 - 0	passed
5	12378-PeCDD	37.10	3.6268	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.41	1.0243	1.0450 - 1.4350	failed	---	0 - 0	passed
7	123678-HxCDF	40.55	1.1572	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.27	1.4681	1.0450 - 1.4350	failed	---	0 - 0	passed
9	123478-HxCDD	41.46	1.2992	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.58	1.2615	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.89	1.2542	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.33	1.3687	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.01	1.1003	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.22	1.0602	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.81	1.2961	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	48.27	0.8878	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.47	0.9179	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.98	0.7315	0.6450 - 0.8950	passed	57.91	35 - 197	passed
19	13C12-1234-TCDD	29.70	0.8322	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.28	1.3063	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.42	0.7490	0.6450 - 0.8950	passed	92.09	40 - 135	passed
22	13C12-2378-TCDD	30.55	0.7620	0.6450 - 0.8950	passed	104.91	40 - 135	passed
23	13C12-12378-PeCDF	35.39	1.5966	1.3150 - 1.7850	passed	102.00	40 - 135	passed
24	13C12-23478-PeCDF	36.68	1.5468	1.3150 - 1.7850	passed	105.41	40 - 135	passed
25	13C12-12378-PeCDD	37.07	1.5862	1.3150 - 1.7850	passed	115.03	40 - 135	passed
26	13C12-123478-HxCDF	40.39	0.5230	0.4250 - 0.5950	passed	96.03	40 - 135	passed
27	13C12-123678-HxCDF	40.54	0.5117	0.4250 - 0.5950	passed	95.19	40 - 135	passed
28	13C12-234678-HxCDF	41.25	0.5443	0.4250 - 0.5950	passed	98.53	40 - 135	passed
29	13C12-123478-HxCDD	41.44	1.2760	1.0450 - 1.4350	passed	98.99	40 - 135	passed
30	13C12-123678-HxCDD	41.56	1.2891	1.0450 - 1.4350	passed	100.01	40 - 135	passed
31	13C12-123789-HxCDD	41.87	1.2473	1.0450 - 1.4350	passed	99.79	40 - 135	passed
32	13C12-123789-HxCDF	42.28	0.5124	0.4250 - 0.5950	passed	98.29	40 - 135	passed
33	13C12-1234678-HpCDF	43.99	0.4523	0.3650 - 0.5150	passed	106.63	40 - 135	passed
34	13C12-1234678-HpCDD	45.21	1.0449	0.8750 - 1.2050	passed	106.49	40 - 135	passed
35	13C12-1234789-HpCDF	45.79	0.4591	0.3650 - 0.5150	passed	102.92	40 - 135	passed
36	13C12-OCDD	48.26	0.8868	0.7550 - 1.0250	passed	100.88	40 - 135	passed
37	13C12-OCDF	48.46	0.8988	0.7550 - 1.0250	passed	95.61	40 - 135	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	29.47	1270	A	1568	A	0.1127	6.316285	n.d.	0.000000	17	
2	2378-TCDD	failed	30.59	11	A	128	A	0.0540	0.486613	n.d. < 0.0540	0.000000	2	
3	12378-PeCDF	passed	35.41	982	A	1610	A	0.0570	6.259659	6.2597	0.000000	29	
4	23478-PeCDF	failed	36.72	1117	A	3598	A	0.0465	10.030138	n.d.	0.000000	40	
5	12378-PeCDD	failed	37.10	215	A	779	A	0.0944	3.798532	n.d.	0.000000	9	
6	123478-HxCDF	failed	40.41	3220	A	3298	A	0.0791	13.571677	n.d.	0.000000	43	
7	123678-HxCDF	passed	40.55	4303	A	4980	A	0.0783	19.030198	19.0302	0.000000	60	
8	234678-HxCDF	failed	41.27	2732	A	4011	A	0.0775	13.838407	n.d.	0.000000	43	
9	123478-HxCDD	passed	41.46	482	A	626	A	0.0978	3.759124	3.7591	0.000000	9	
10	123678-HxCDD	passed	41.58	2771	A	3496	A	0.0960	20.547346	20.5473	0.000000	54	
11	123789-HxCDD	passed	41.89	1230	A	1543	A	0.0918	9.009657	9.0097	0.000000	23	
12	123789-HxCDF	passed	42.33	1181	A	1616	A	0.0840	6.472750	6.4727	0.000000	15	
13	1234678-HpCDF	passed	44.01	87256	A	96007	A	0.0362	377.661714	377.6617	0.000000	2659	
14	1234678-HpCDD	passed	45.22	79242	A	84010	A	0.1198	561.602487	561.6025	0.000000	1168	
15	1234789-HpCDF	failed	45.81	1732	A	2245	A	0.0459	10.334253	n.d.	0.000000	60	
16	OCDD	passed	48.27	693678	A	615875	A	0.0952	5526.138030	5526.1380	0.000000	14506	
17	OCDF	passed	48.47	28680	A	26326	A	0.0339	178.006069	178.0061	0.000000	1297	
18	13C12-1278-TCDD (CRS)	passed	30.98	20007	A	14635	A	0.0655	114.342012	114.3420	197.433366	508	
19	13C12-1234-TCDD	passed	29.70	283816	A	236195	A	0.0828	2171.767029	2171.7670	2171.767029	6556	
20	13C12-123468-HxCDD	passed	40.28	297680	A	388862	A	0.1011	2171.767029	2171.7670	2171.767029	5370	
21	13C12-2378-TCDF	passed	29.42	506811	A	379587	A	0.0606	1999.985722	1999.9857	2171.767029	8219	
22	13C12-2378-TCDD	passed	30.55	287590	A	219150	A	0.0892	2278.504146	2278.5041	2171.767029	6464	
23	13C12-12378-PeCDF	passed	35.39	349688	A	558318	A	0.1482	2215.159026	2215.1590	2171.767029	4990	
24	13C12-23478-PeCDF	passed	36.68	361393	A	559008	A	0.1511	2289.258042	2289.2580	2171.767029	5464	
25	13C12-12378-PeCDD	passed	37.07	211805	A	335975	A	0.1400	2498.278798	2498.2788	2171.767029	6192	
26	13C12-123478-HxCDF	passed	40.39	571494	A	298894	A	0.1185	2085.601100	2085.6011	2171.767029	4436	
27	13C12-123678-HxCDF	passed	40.54	607699	A	310937	A	0.1113	2067.279593	2067.2796	2171.767029	4657	
28	13C12-234678-HxCDF	passed	41.25	552545	A	300770	A	0.1240	2139.765178	2139.7652	2171.767029	4377	
29	13C12-123478-HxCDD	passed	41.44	275884	A	352036	A	0.1094	2149.890774	2149.8908	2171.767029	5134	
30	13C12-123678-HxCDD	passed	41.56	281177	A	362462	A	0.1079	2172.077855	2172.0779	2171.767029	5181	
31	13C12-123789-HxCDD	passed	41.87	272082	A	339371	A	0.1133	2167.102586	2167.1026	2171.767029	5101	
32	13C12-123789-HxCDF	passed	42.28	537962	A	275668	A	0.1297	2134.716466	2134.7165	2171.767029	4340	
33	13C12-1234678-HpCDF	passed	43.99	560984	A	253717	A	0.1358	2315.847634	2315.8476	2171.767029	4708	
34	13C12-1234678-HpCDD	passed	45.21	289814	A	302833	A	0.1198	2312.657584	2312.6576	2171.767029	5538	
35	13C12-1234789-HpCDF	passed	45.79	442515	A	203160	A	0.1654	2235.225495	2235.2255	2171.767029	3712	
36	13C12-OCDD	passed	48.26	523112	A	463891	A	0.0541	4381.680229	4381.6802	4343.534057	22755	
37	13C12-OCDF	passed	48.46	752013	A	675890	A	0.0517	4152.682693	4152.6827	4343.534057	22909	

APPROVED
By uma9 at 1:57 pm, 11/6/18

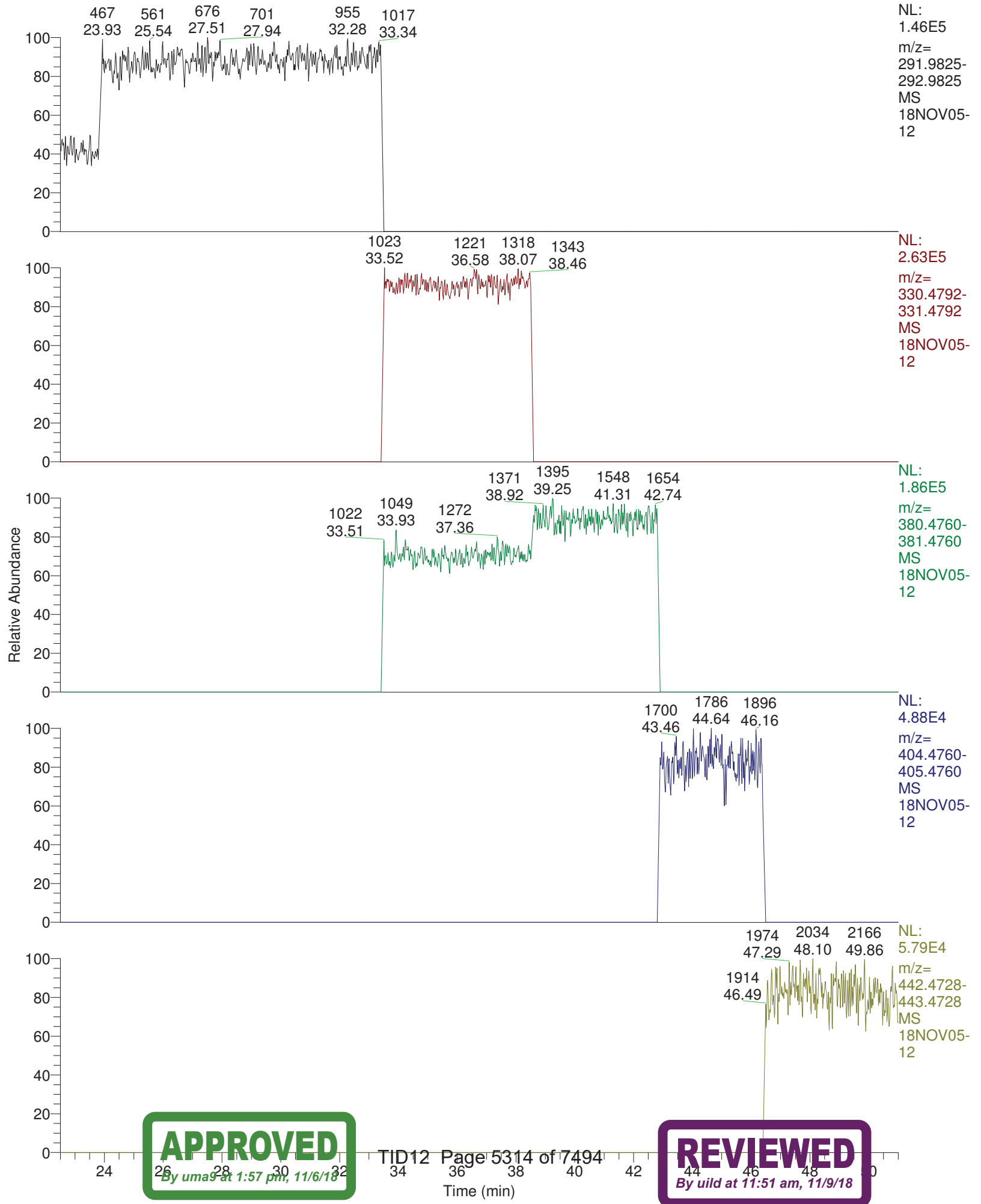
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-12
Sample ID: 9872063DL

Acq. Data: 11/5/2018 7:09:24 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV05

RT: 22.50 - 51.00



APPROVED
By umas at 1:57 pm, 11/6/18

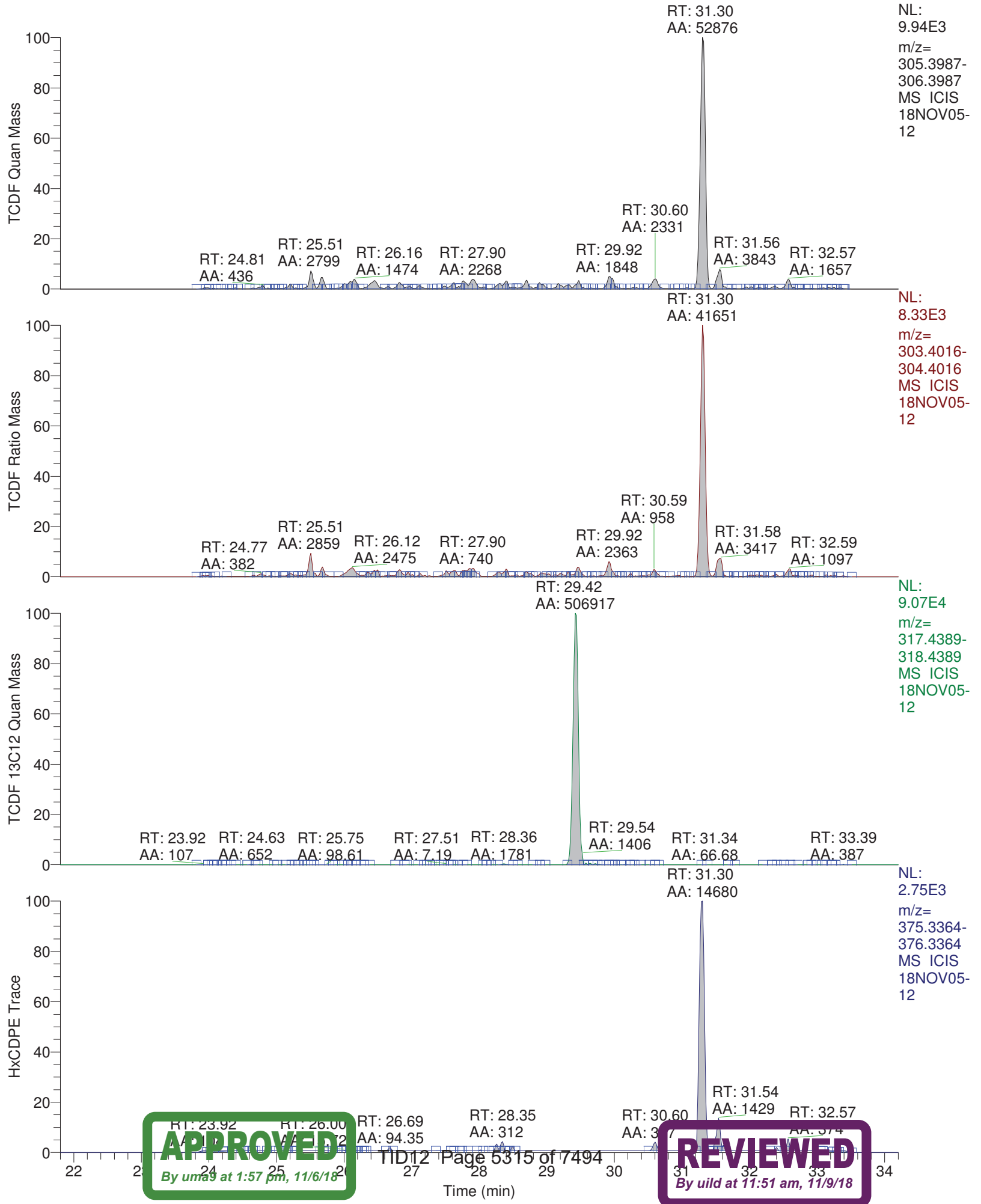
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-12
Sample ID: 9872063DL

Acq. Data: 11/5/2018 7:09:24 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 21.80 - 34.20



APPROVED
By umas at 1:57 pm, 11/6/18

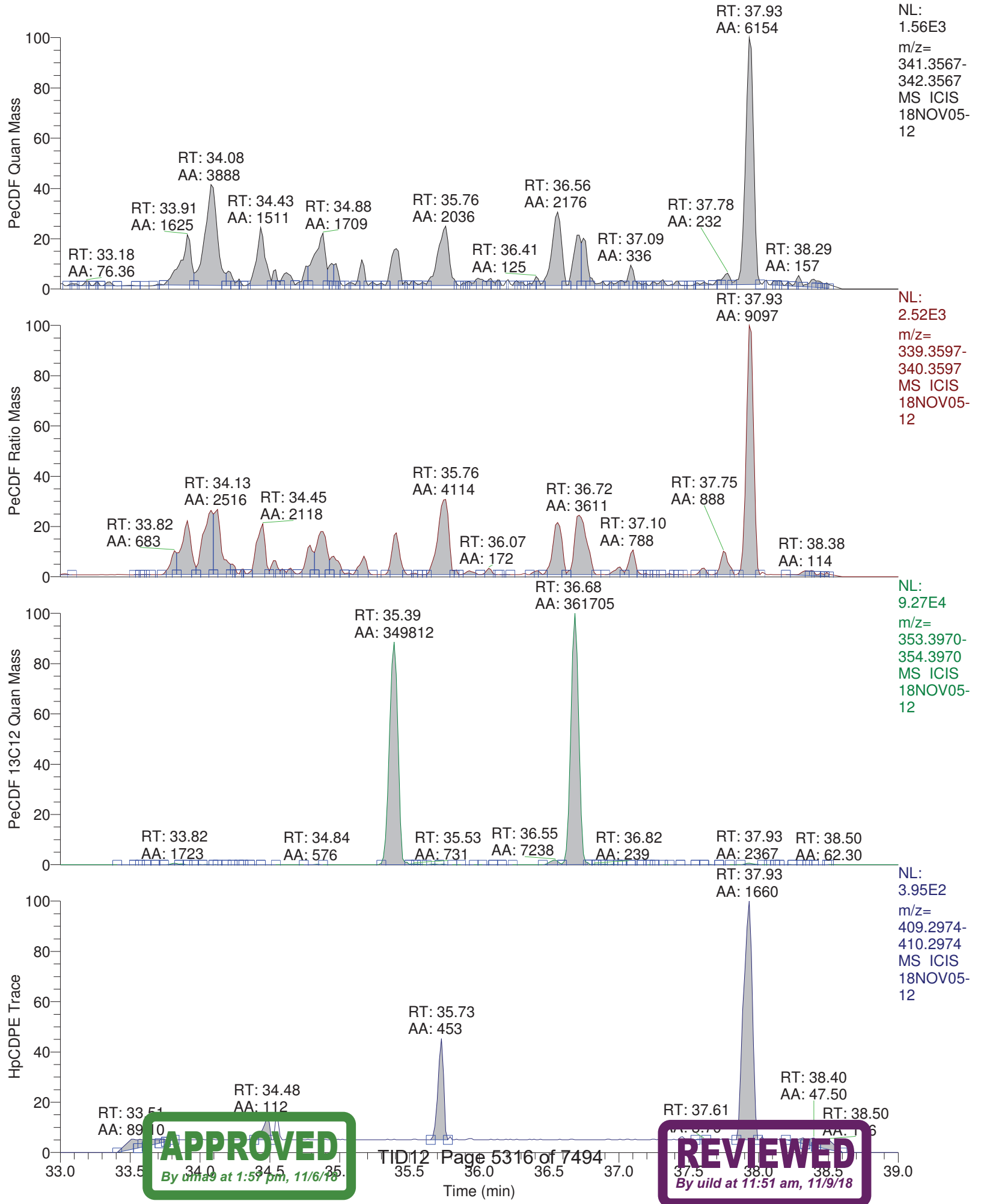
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-12
Sample ID: 9872063DL

Acq. Data: 11/5/2018 7:09:24 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 33.00 - 39.00



APPROVED
By uma9 at 1:57 pm, 11/6/18

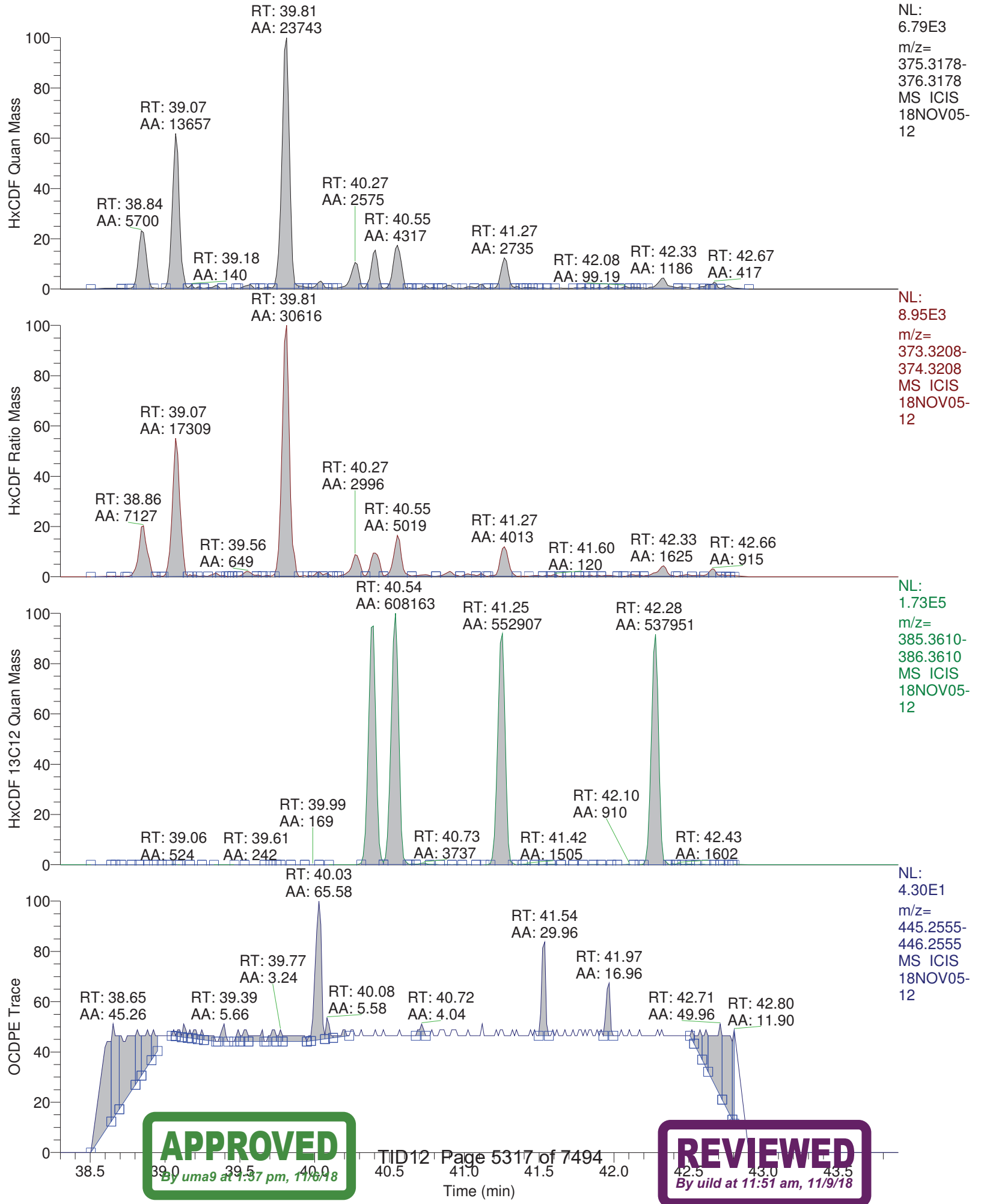
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-12
Sample ID: 9872063DL

Acq. Data: 11/5/2018 7:09:24 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 38.30 - 43.90



APPROVED
By uma9 at 1:37 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

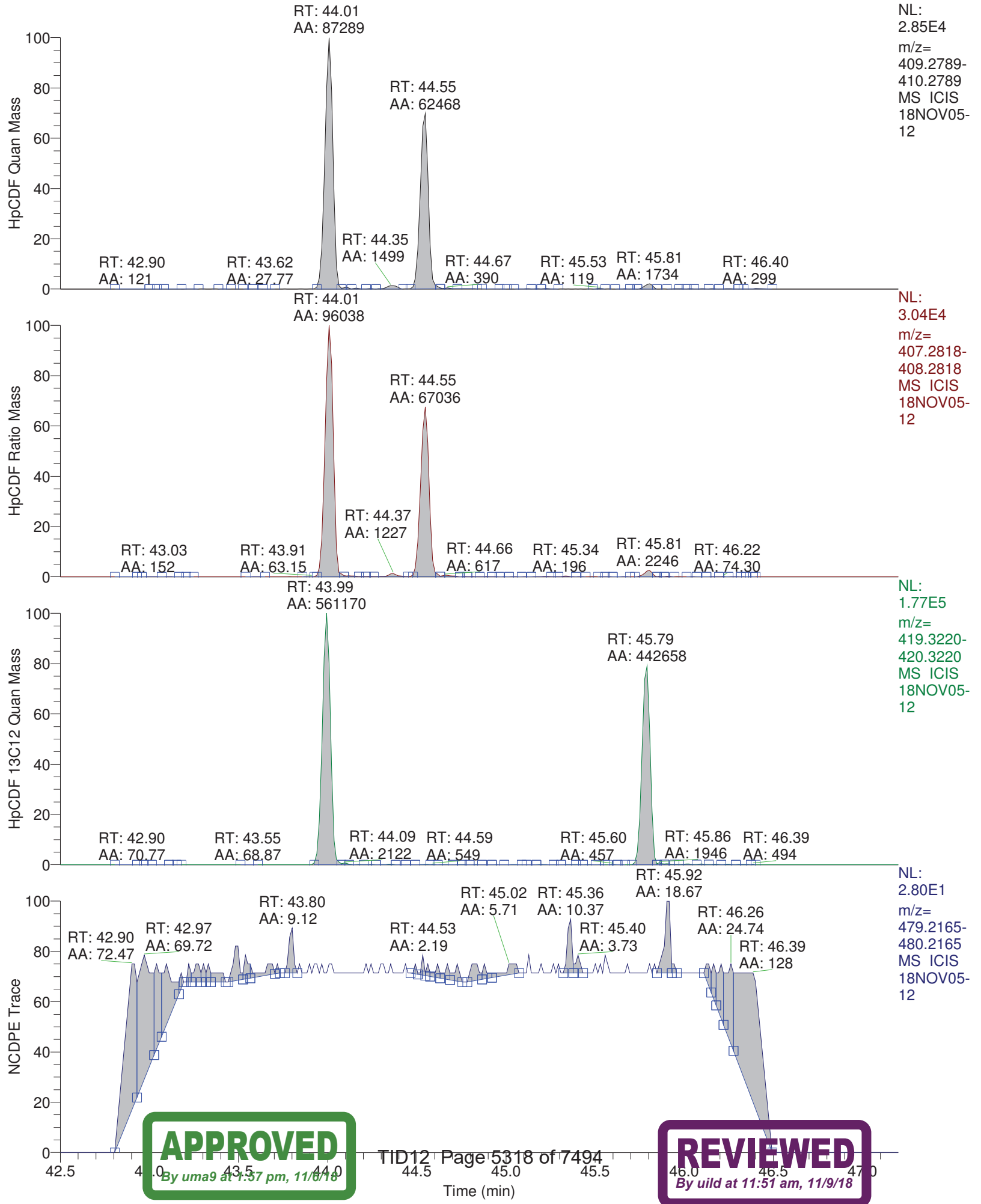
File Name: Z:\18NOV05\18NOV05-12
Sample ID: 9872063DL

Acq. Data: 11/5/2018 7:09:24 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil

Instrument ID: DF19780-18NOV05

Chlorodiphenylether Interference Traces

RT: 42.50 - 47.20



APPROVED
By uma9 at 1:57 pm, 11/6/18

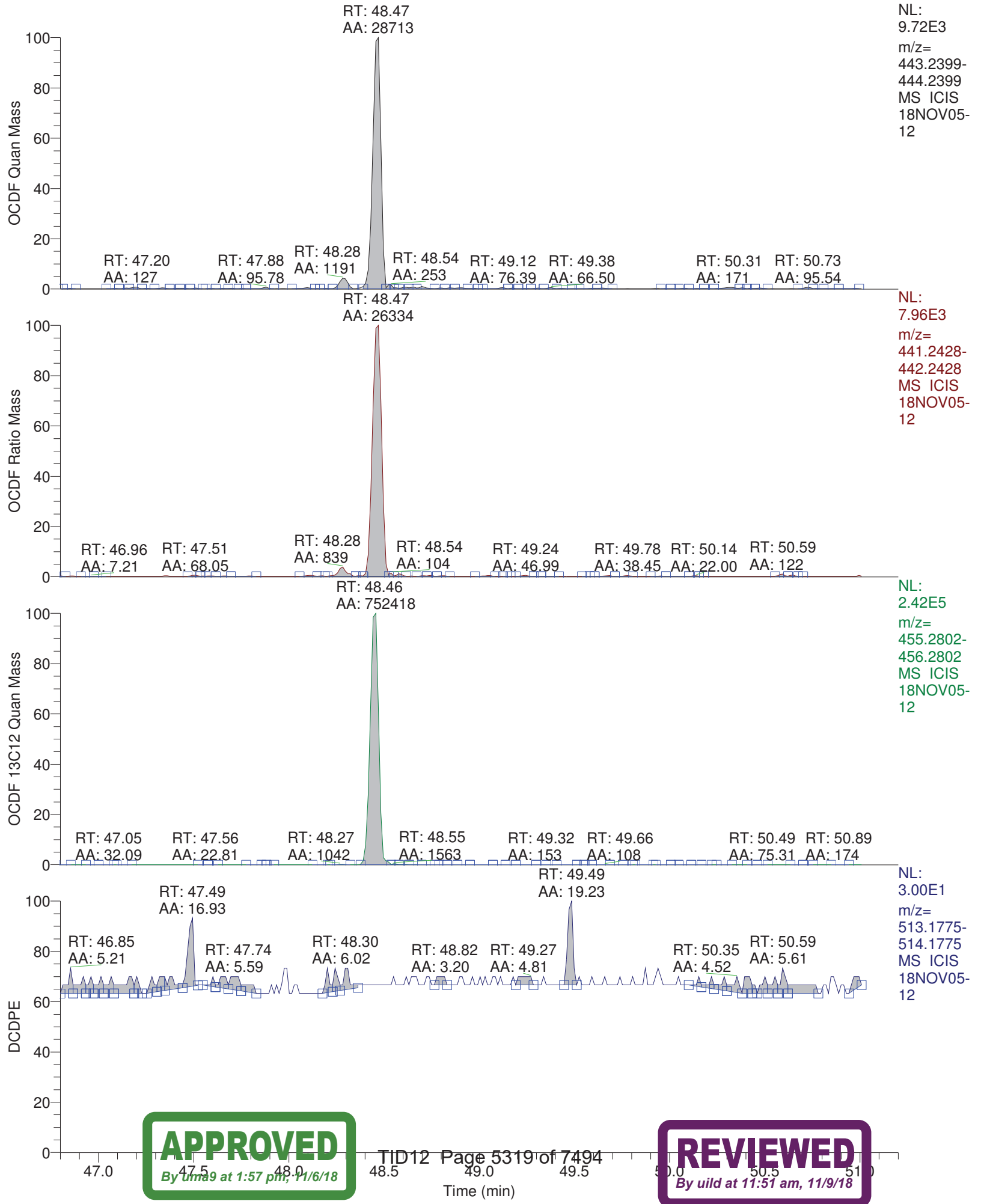
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-12
Sample ID: 9872063DL

Acq. Data: 11/5/2018 7:09:24 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-05 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 46.80 - 51.20



APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

*** file opened Mon Nov 05 19:14:55 2018 ***

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Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 05-Nov-18 19:14:55

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : ed73f7bd-3065-4700-8093-8c7e4fdbe210

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          94.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2593.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           171.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           178.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.7000
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0207   FVINLET         0.0410   FVSRC           0.0336
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      700.0000
 LENS_SYM         8.0000   LM            254.9851   LMII          500.0000
 LMASS           94.0000   LKM           442.9723   MASS           94.0000
 MDAC        1439298.3323  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2277.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9685   RELEN           0.0000
 RES          15358.3342   RPUSHER       -17.1355   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     738.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.0000   XLENS_POT     848.0000
 XLENS_SYM        3.0000   YLENS_POT     780.0000   YLENS_SYM      16.0000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11198.
MID Time Window 2: Resolution is 12097.
MID Time Window 3: Resolution is 12561.
MID Time Window 4: Resolution is 14042.
```

```
MID Time Window 5: Resolution is 13575.
MID Time Window 6: Resolution is 15358.

Amplifier Offset: 86.


*** File closed Mon Nov 05 20:05:57 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 01:18
Number of Entries	254
Comment	S:11030:12937:17962
Vial	79
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Sample ID	9872064
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-20.quan
Data	z:\18nov06\18nov06-20.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.14
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.44	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.53	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.39	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.72	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.09	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.40	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.54	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.26	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.45	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.57	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.88	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.32	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
16	OCDD	48.28	passed	passed	passed	passed	passed	passed	
17	OCDF	48.46	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.94	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.66	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.29	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.40	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.51	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.38	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.67	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.06	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.37	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.53	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.25	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.43	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.56	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.86	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.27	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.78	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.26	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.45	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 01:18
Number of Entries	254
Comment	S:11030:12937:17962
Vial	79
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Sample ID	9872064
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-20.quan
Data	z:\18nov06\18nov06-20.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.14
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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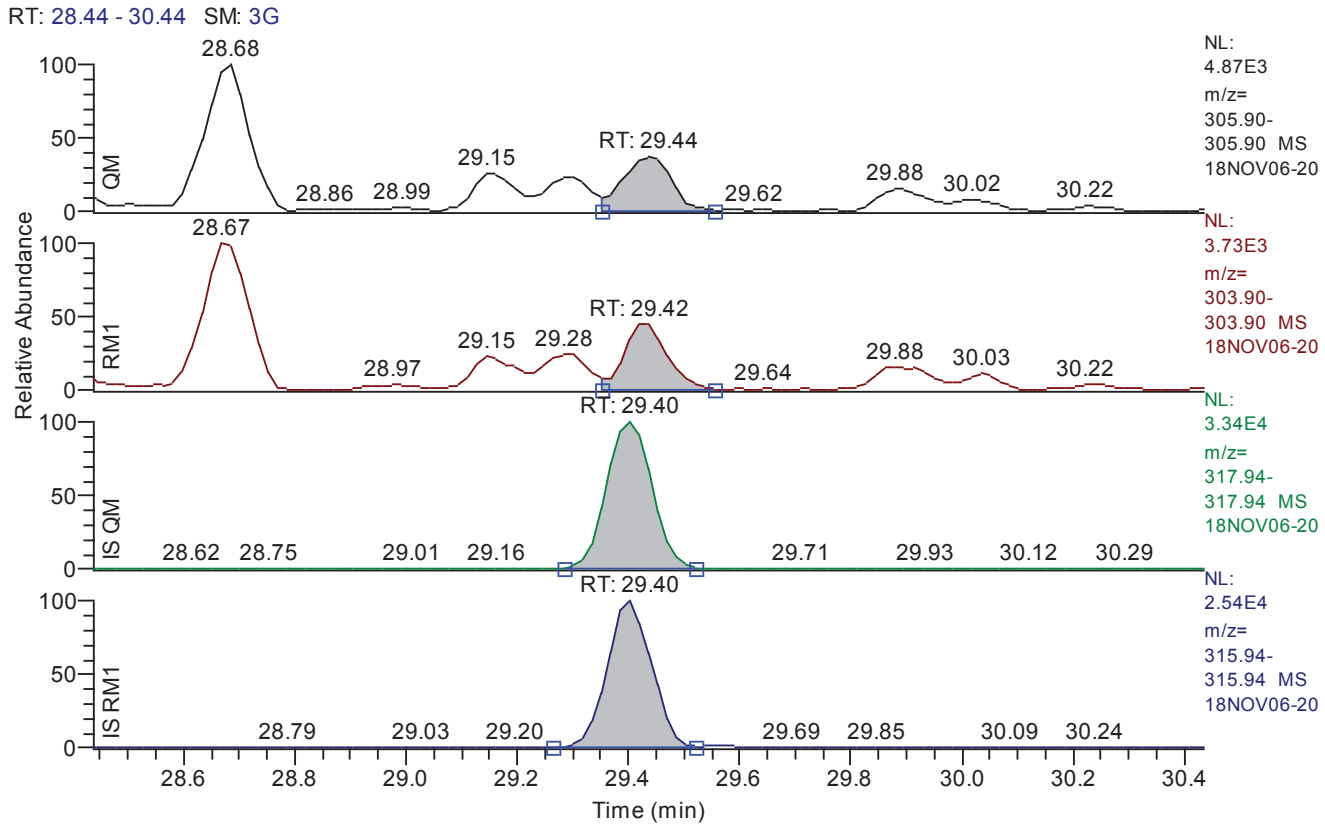
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.44
QM Area	10894
QM Integration Mode	A
RM1 Area	8998
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.7564
Unqualified Amount (A)	10.627226
Adjusted Amount (A)	10.6272
Signal-to-Noise	35
Client Flags	
Status Overview	passed
Status Info	

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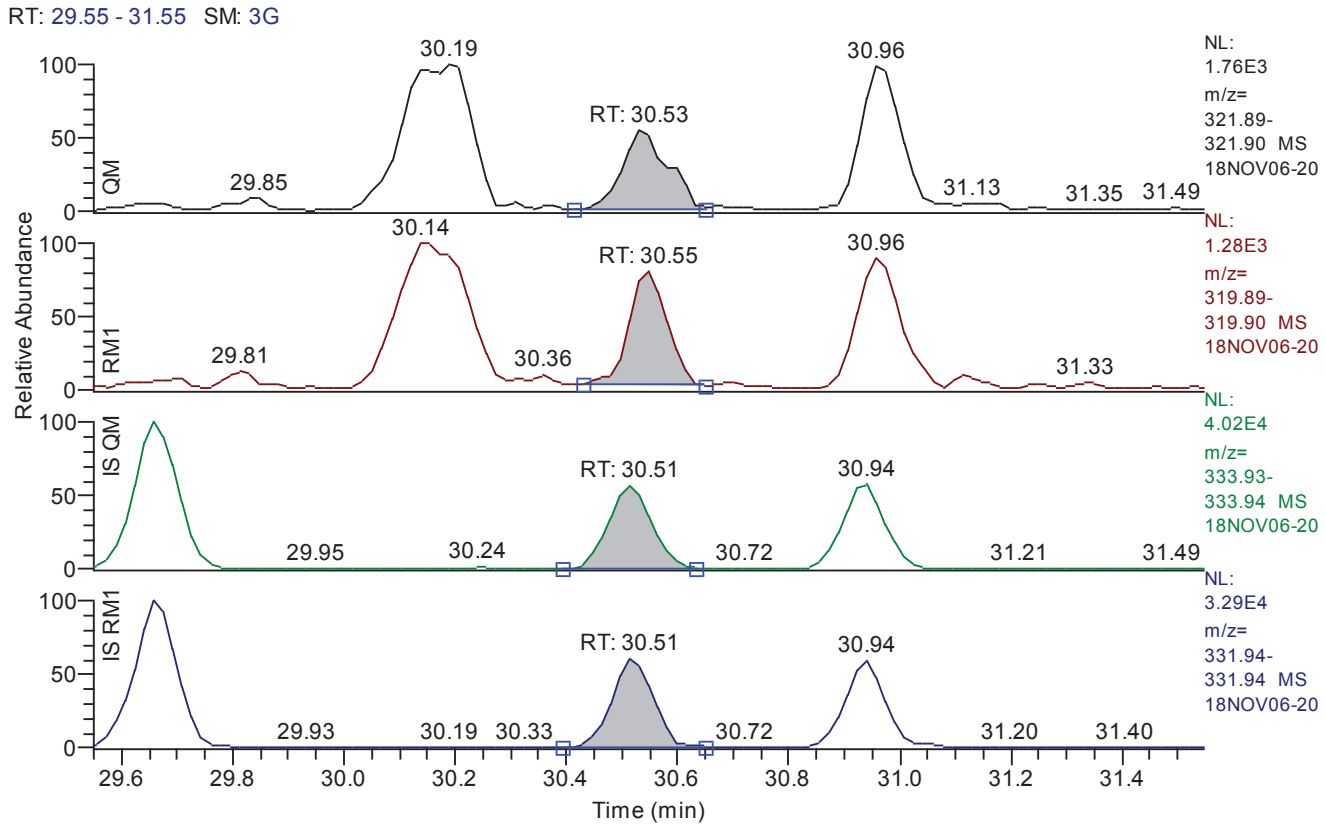
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.53
QM Area	5596
QM Integration Mode	A
RM1 Area	4877
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3511
Unqualified Amount (A)	7.233957
Adjusted Amount (A)	7.2340
Signal-to-Noise	52
Client Flags	
Status Overview	passed
Status Info	

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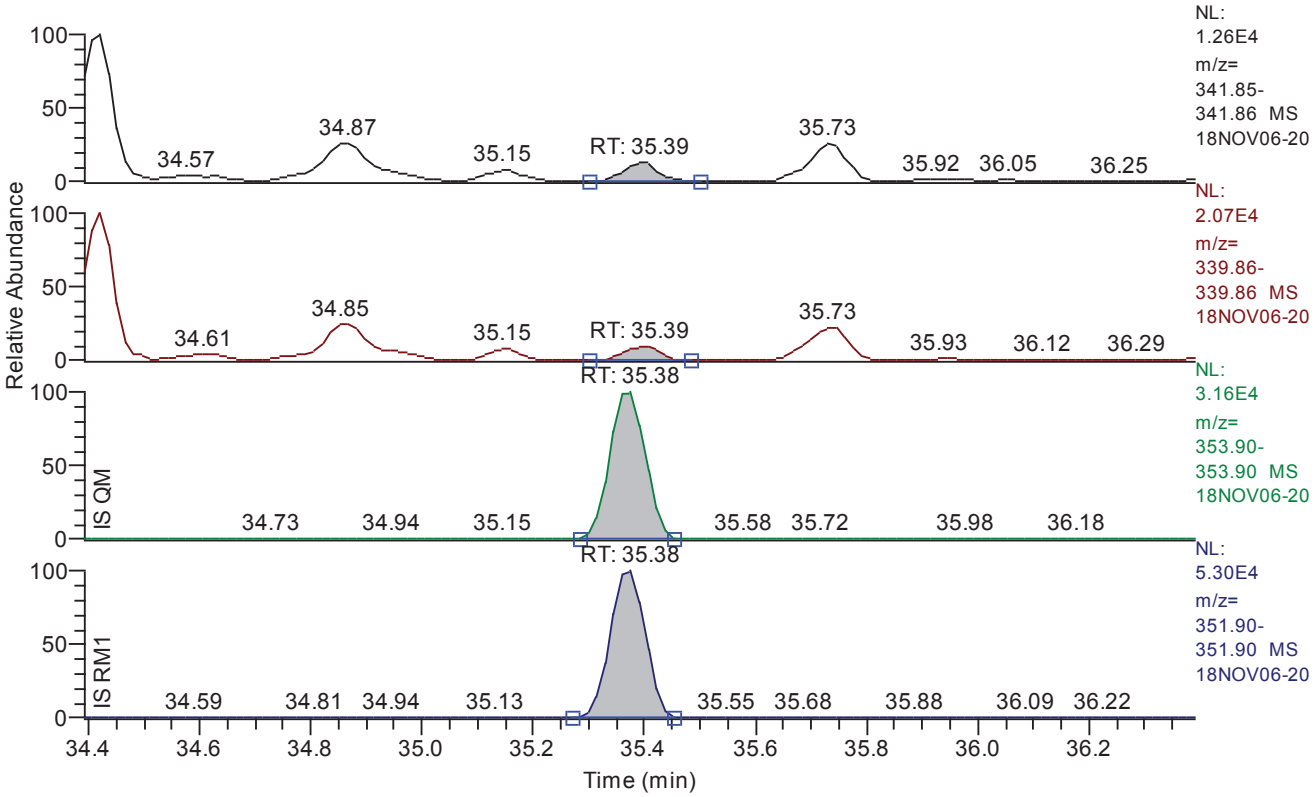
Chromatogram

RT: 34.39 - 36.39 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.39
QM Area	6923
QM Integration Mode	A
RM1 Area	9424
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2830
Unqualified Amount (A)	8.685459
Adjusted Amount (A)	8.6855
Signal-to-Noise	75
Client Flags	
Status Overview	passed
Status Info	

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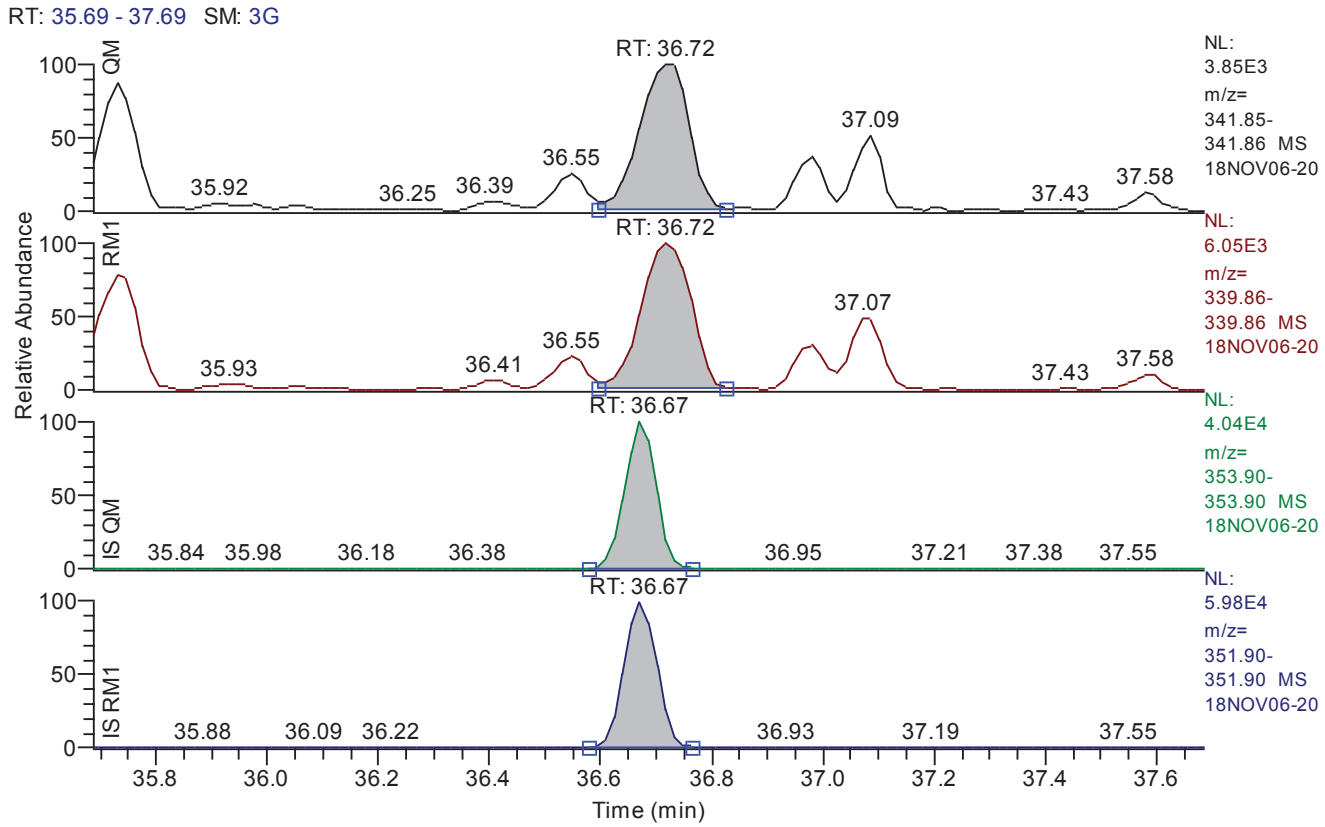
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.72
QM Area	23587
QM Integration Mode	A
RM1 Area	37281
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2134
Unqualified Amount (A)	26.984620
Adjusted Amount (A)	26.9846
Signal-to-Noise	203
Client Flags	
Status Overview	passed
Status Info	

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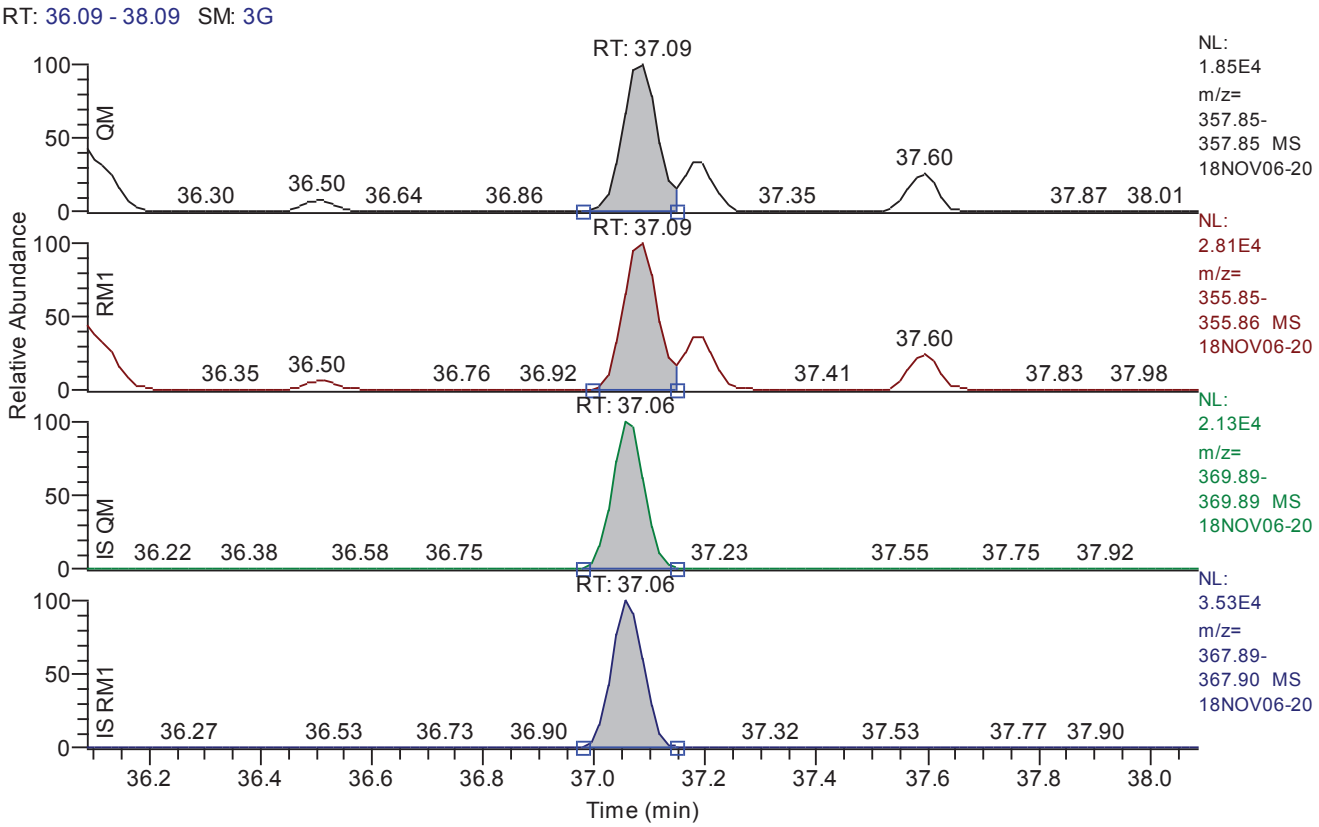
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.09
QM Area	79359
QM Integration Mode	A
RM1 Area	120036
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.7025
Unqualified Amount (A)	166.372129
Adjusted Amount (A)	166.3721
Signal-to-Noise	556
Client Flags	
Status Overview	passed
Status Info	

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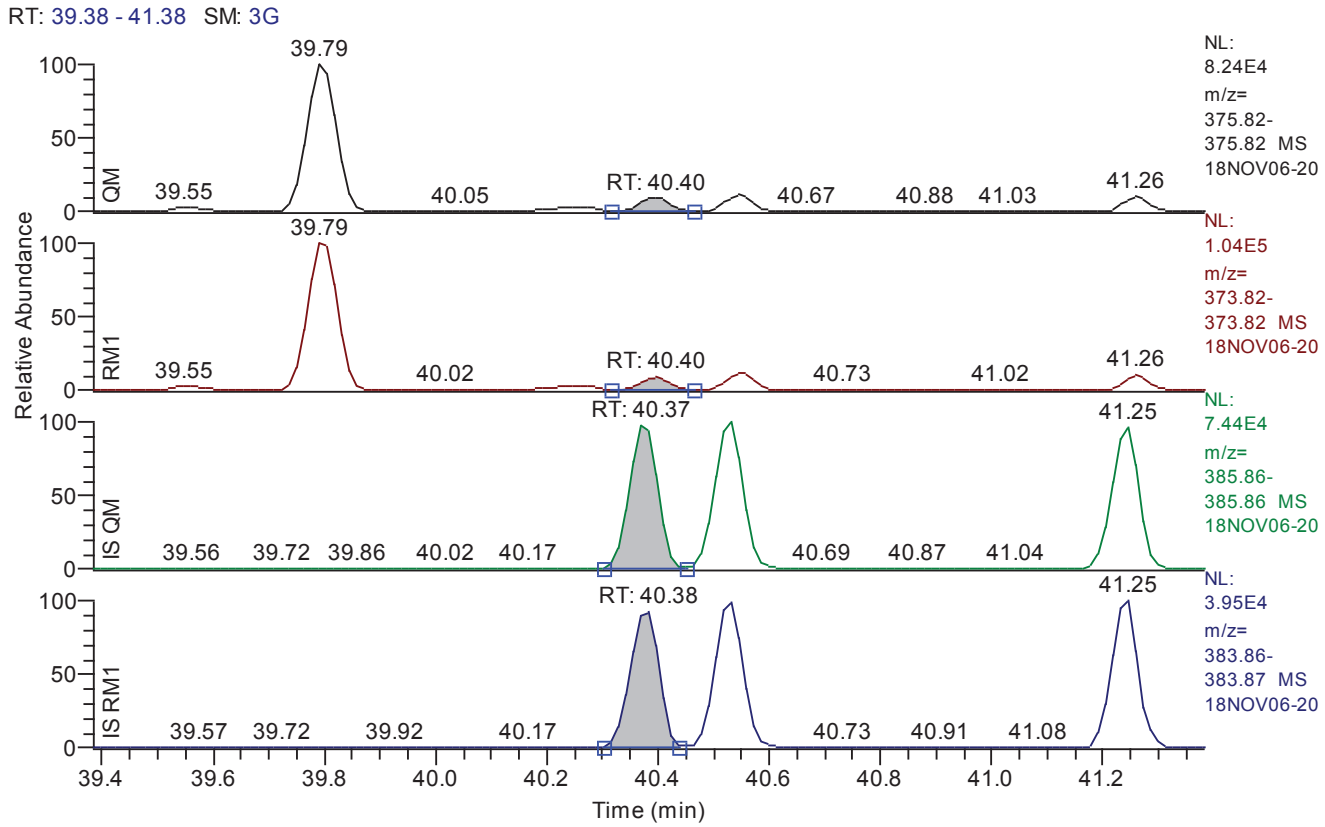
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.40
QM Area	28481
QM Integration Mode	A
RM1 Area	34182
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4073
Unqualified Amount (A)	26.403277
Adjusted Amount (A)	26.4033
Signal-to-Noise	160
Client Flags	
Status Overview	passed
Status Info	

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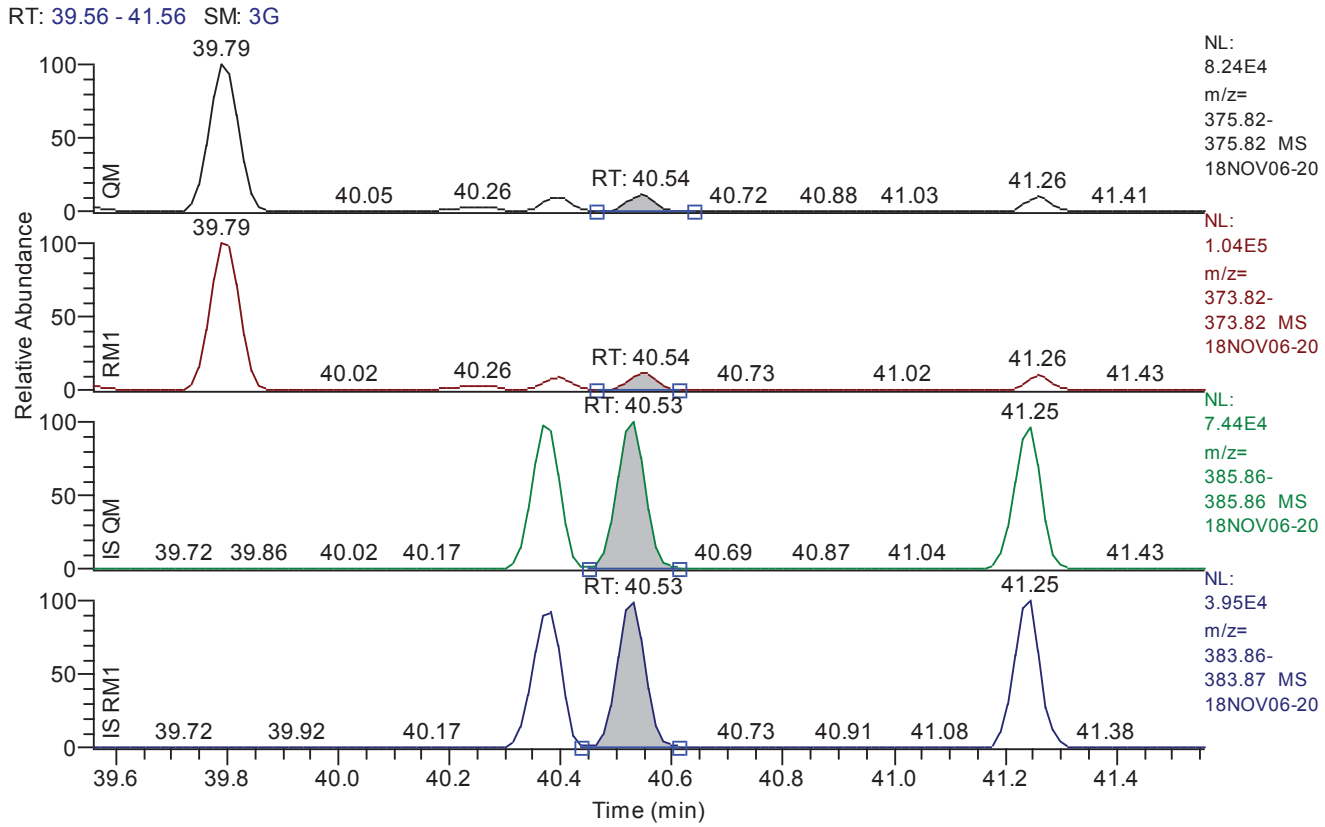
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.54
QM Area	32987
QM Integration Mode	A
RM1 Area	41187
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4074
Unqualified Amount (A)	31.666539
Adjusted Amount (A)	31.6665
Signal-to-Noise	195
Client Flags	
Status Overview	passed
Status Info	

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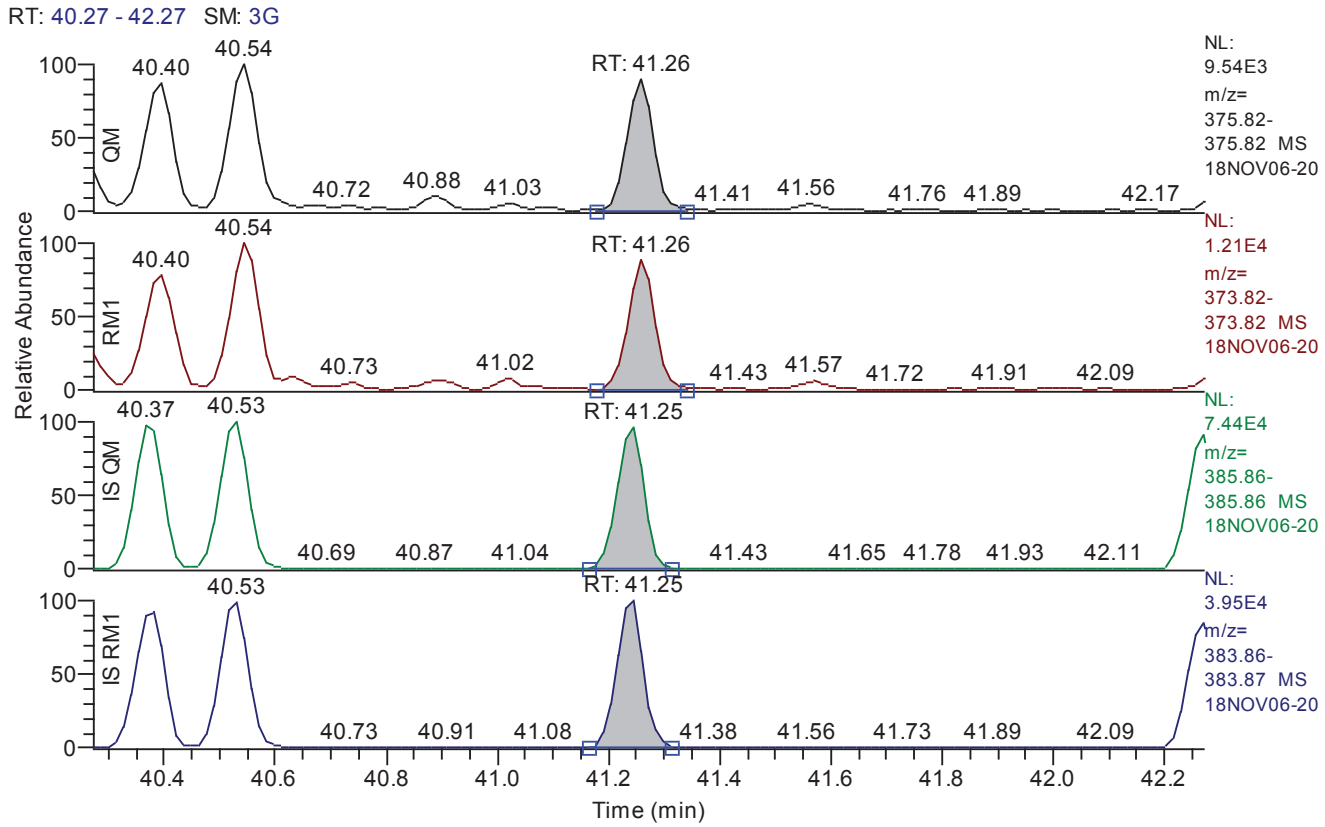
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.26
QM Area	28063
QM Integration Mode	A
RM1 Area	35233
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3873
Unqualified Amount (A)	26.854228
Adjusted Amount (A)	26.8542
Signal-to-Noise	177
Client Flags	
Status Overview	passed
Status Info	

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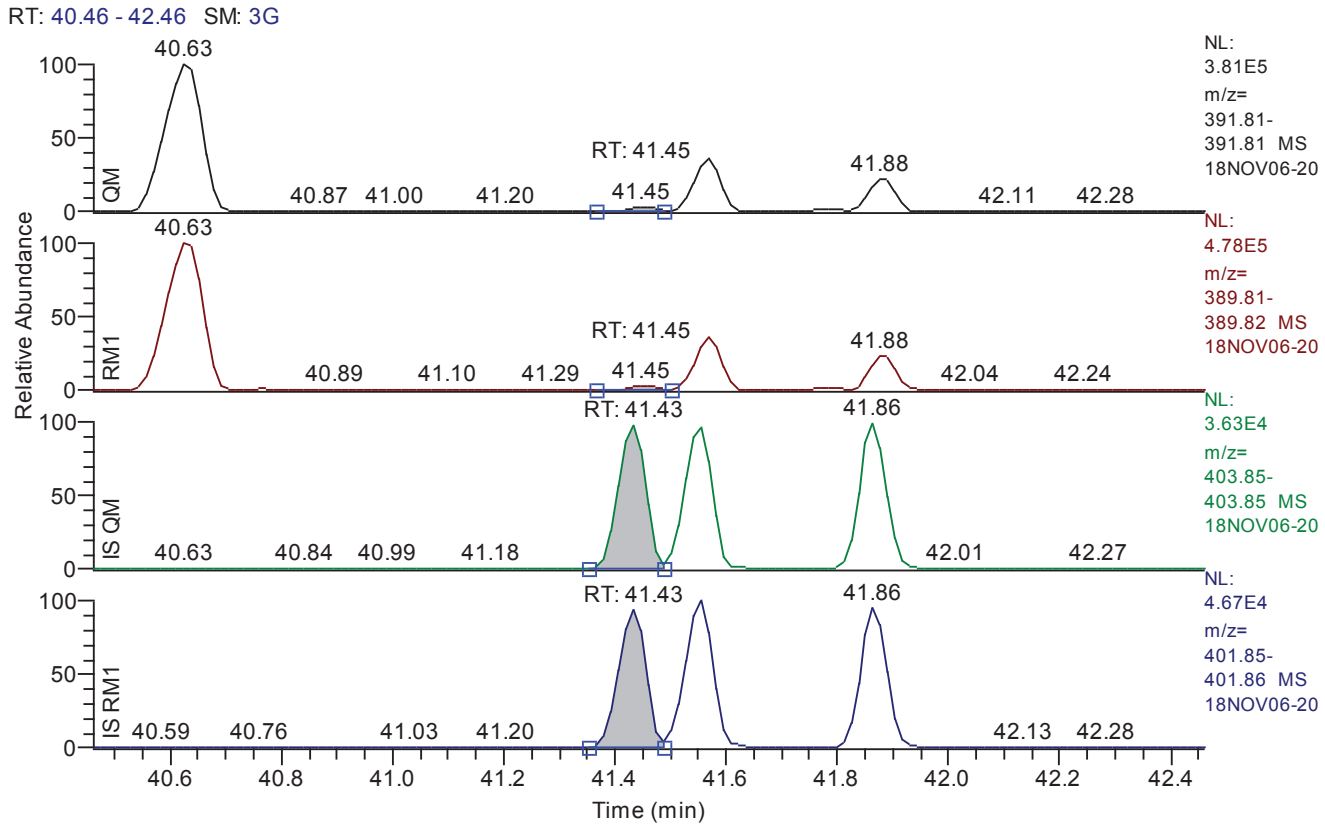
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.45
QM Area	40218
QM Integration Mode	A
RM1 Area	53474
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5393
Unqualified Amount (A)	66.386781
Adjusted Amount (A)	66.3868
Signal-to-Noise	311
Client Flags	
Status Overview	passed
Status Info	

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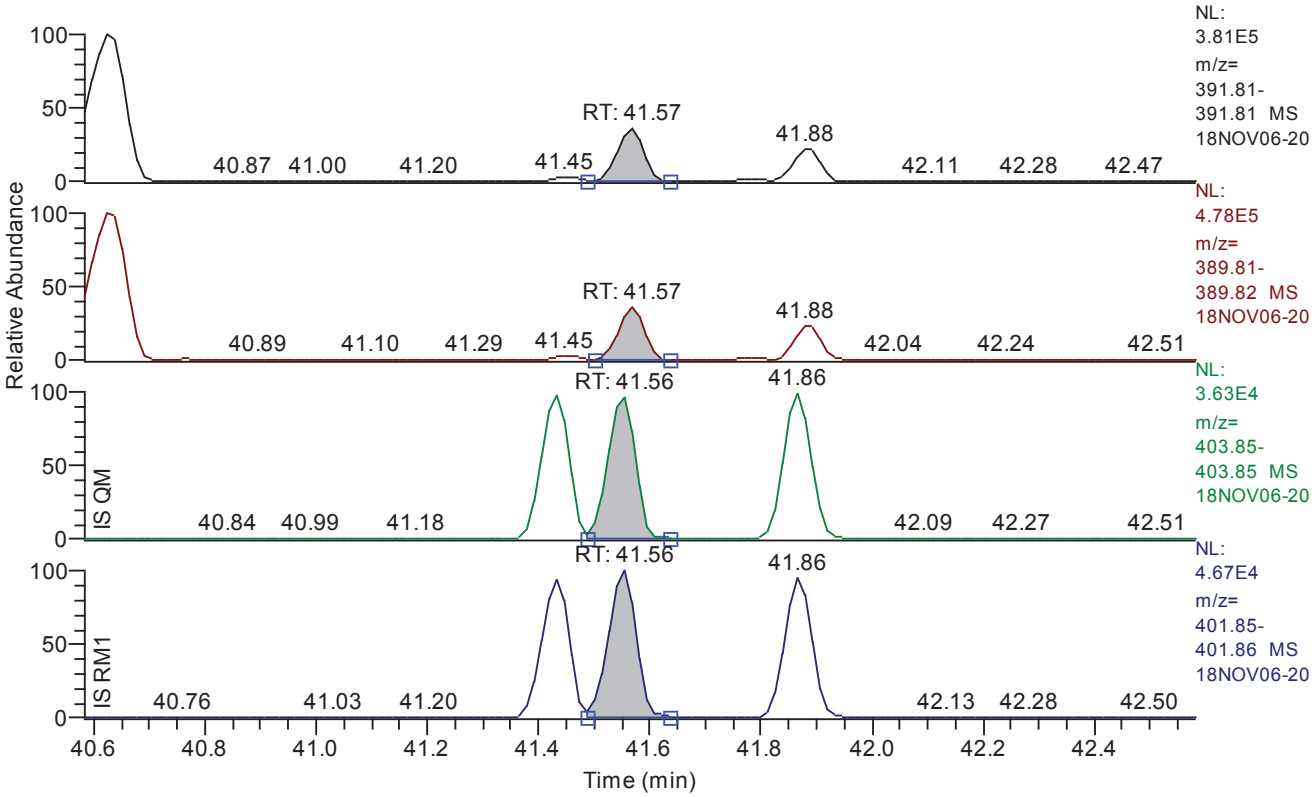
Chromatogram

RT: 40.58 - 42.58 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.57
QM Area	462501
QM Integration Mode	A
RM1 Area	567059
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5215
Unqualified Amount (A)	694.549517
Adjusted Amount (A)	694.5495
Signal-to-Noise	3519
Client Flags	
Status Overview	passed
Status Info	

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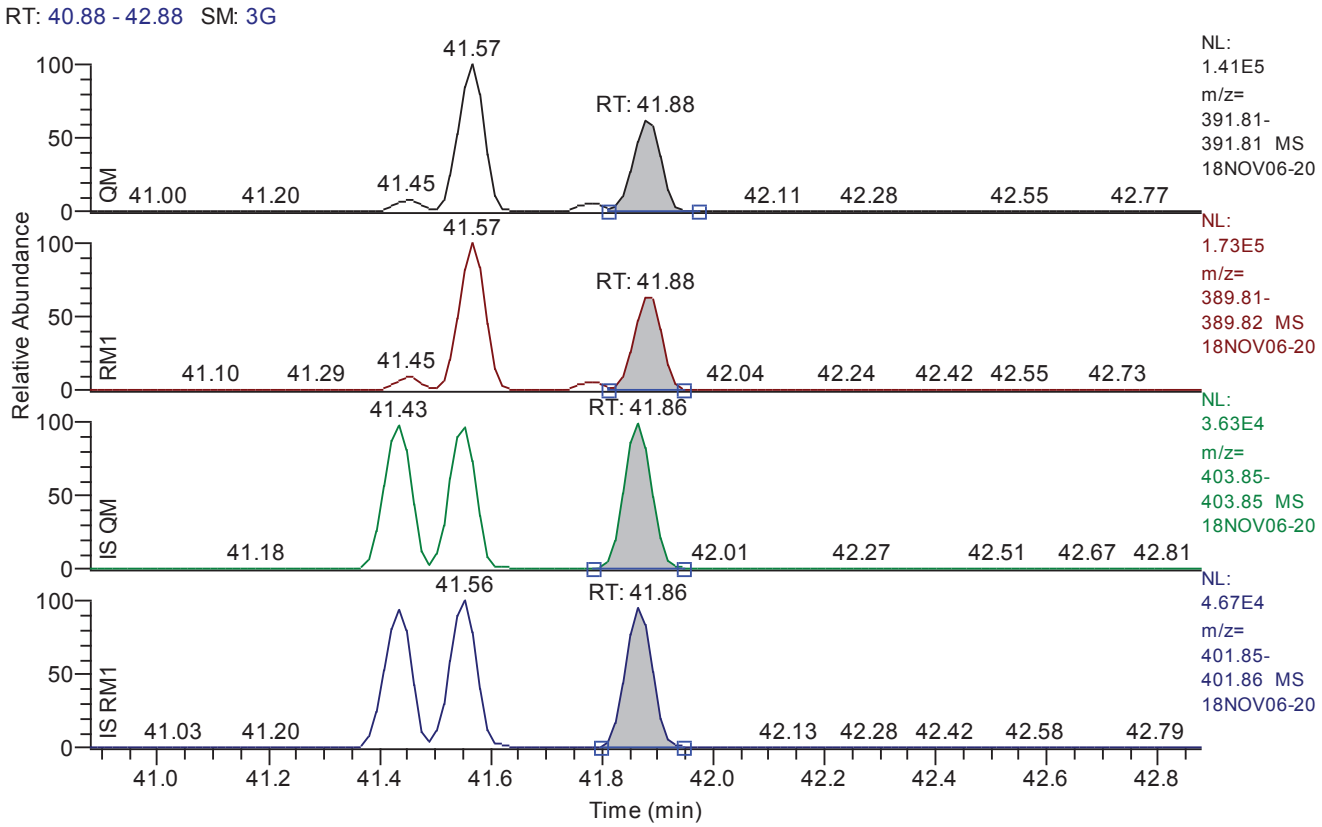
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.88
QM Area	304616
QM Integration Mode	A
RM1 Area	382984
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4985
Unqualified Amount (A)	449.127519
Adjusted Amount (A)	449.1275
Signal-to-Noise	2217
Client Flags	
Status Overview	passed
Status Info	

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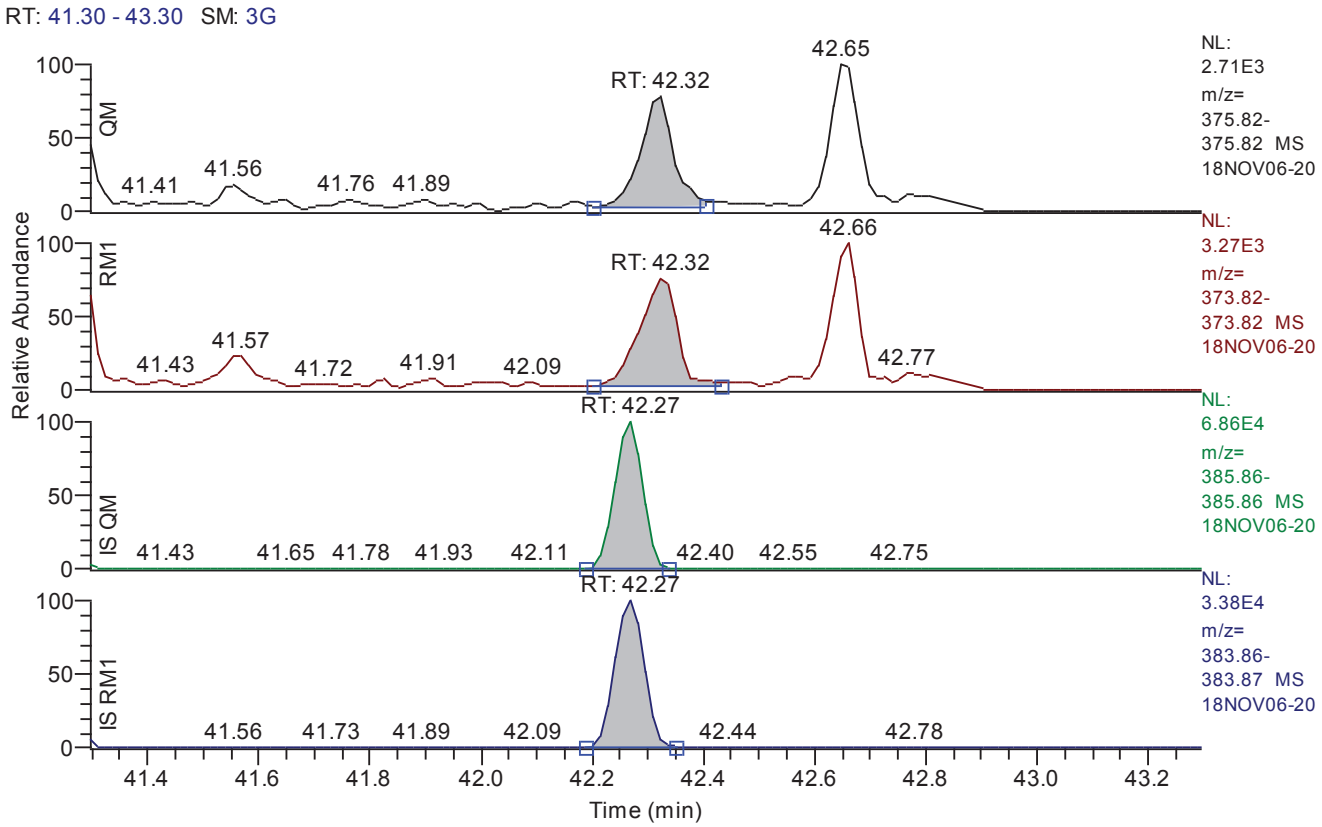
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.32
QM Area	8474
QM Integration Mode	A
RM1 Area	11133
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4521
Unqualified Amount (A)	9.193205
Adjusted Amount (A)	9.1932
Signal-to-Noise	41
Client Flags	
Status Overview	passed
Status Info	

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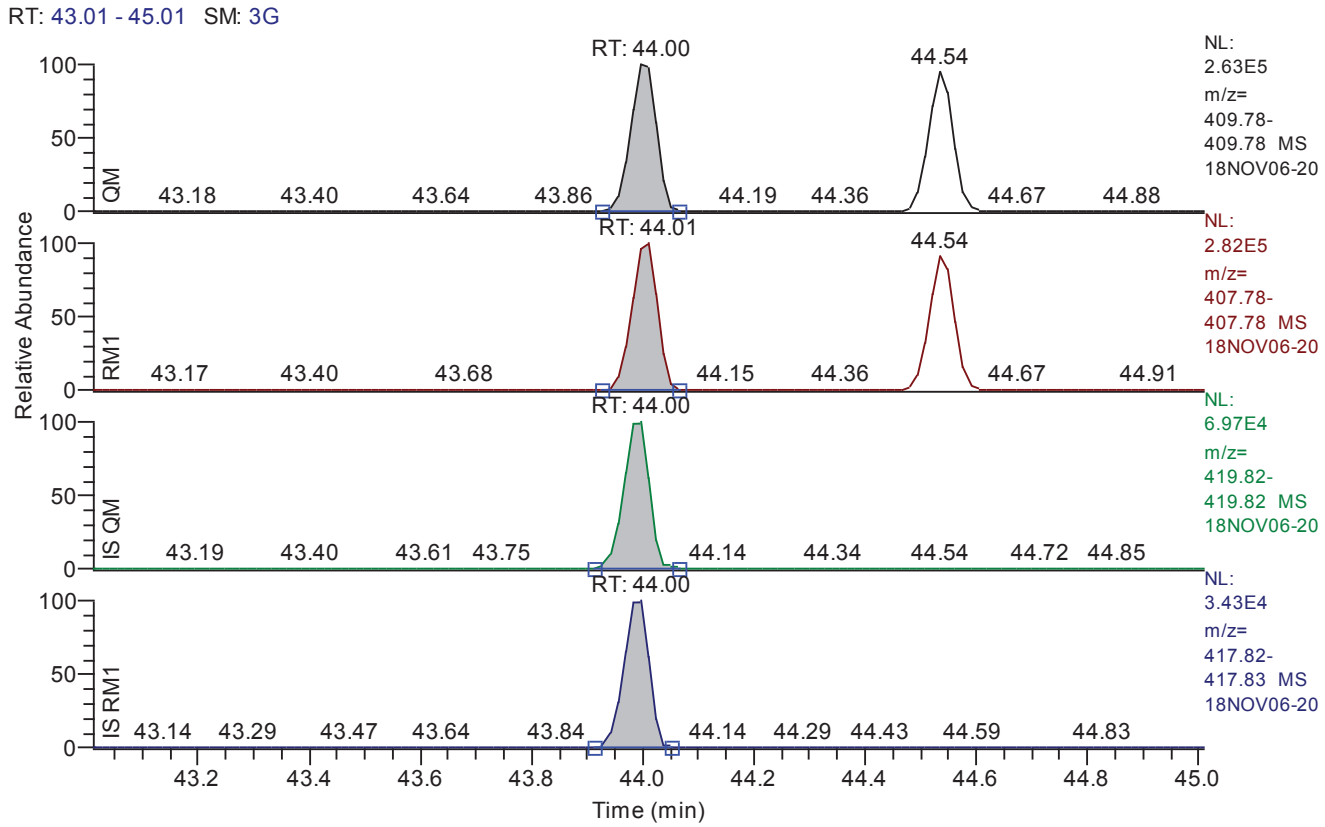
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.00
QM Area	876382
QM Integration Mode	A
RM1 Area	930655
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2144
Unqualified Amount (A)	805.638449
Adjusted Amount (A)	805.6384
Signal-to-Noise	9309
Client Flags	
Status Overview	passed
Status Info	

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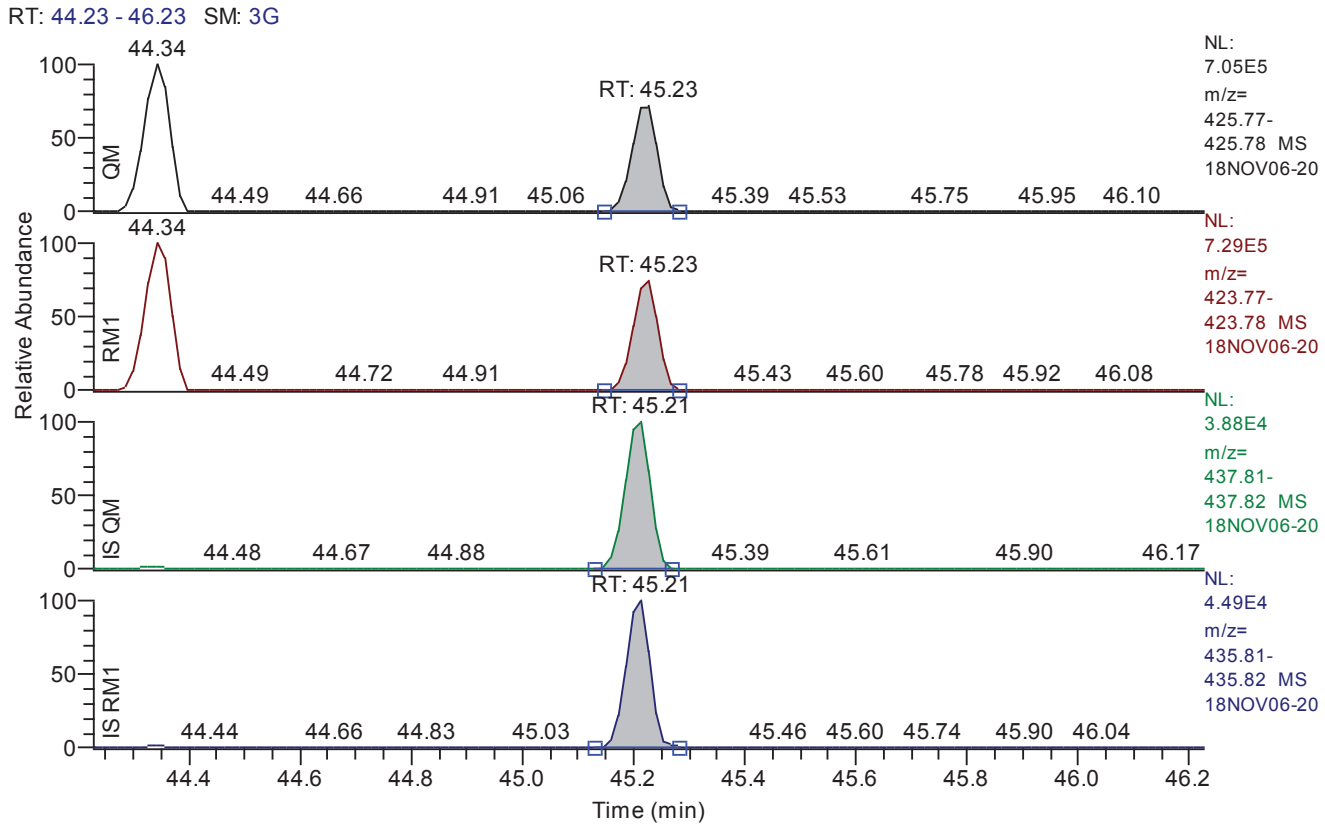
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	1672753
QM Integration Mode	A
RM1 Area	1748020
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.7198
Unqualified Amount (A)	2379.785618
Adjusted Amount (A)	2379.7856
Signal-to-Noise	8089
Client Flags	
Status Overview	passed
Status Info	

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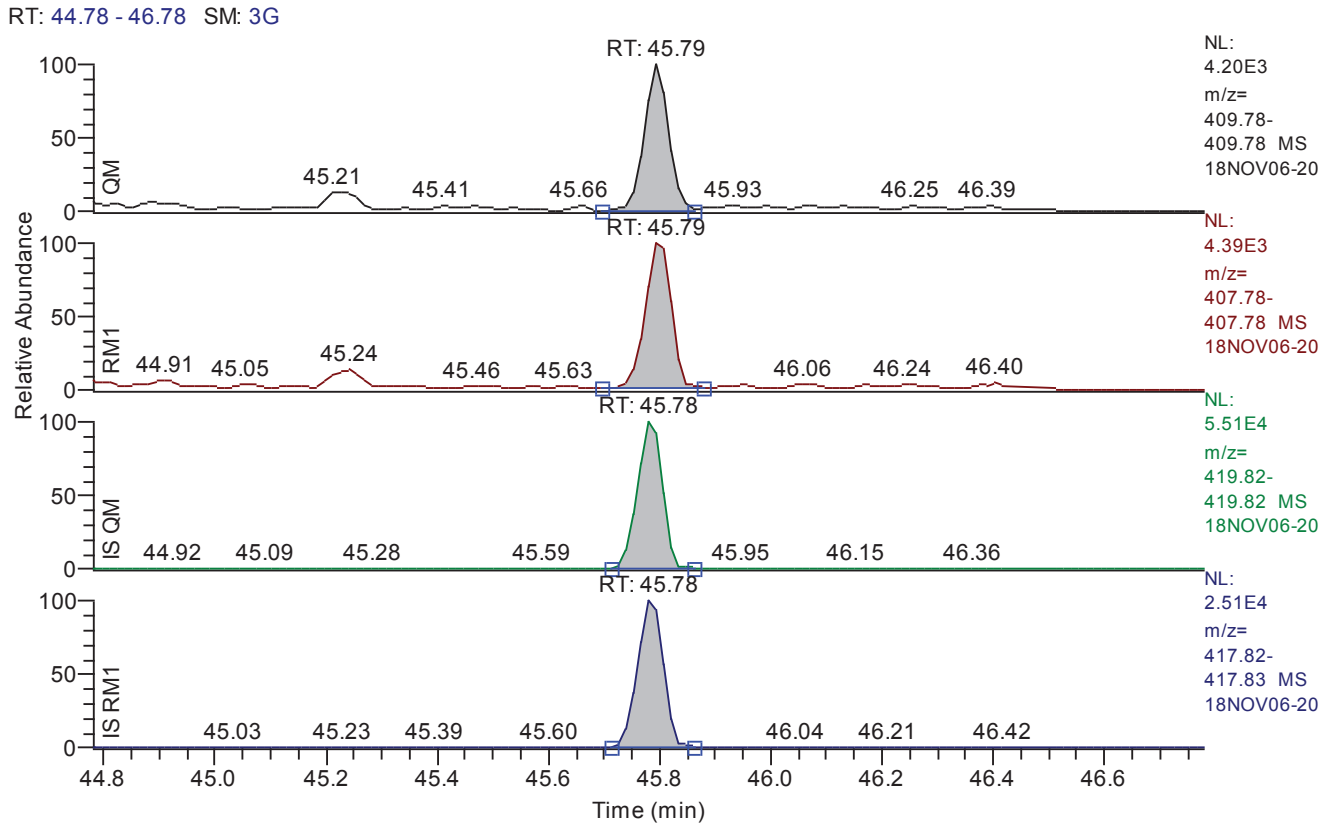
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.79
QM Area	12976
QM Integration Mode	A
RM1 Area	14692
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2776
Unqualified Amount (A)	16.069057
Adjusted Amount (A)	16.0691
Signal-to-Noise	145
Client Flags	
Status Overview	passed
Status Info	

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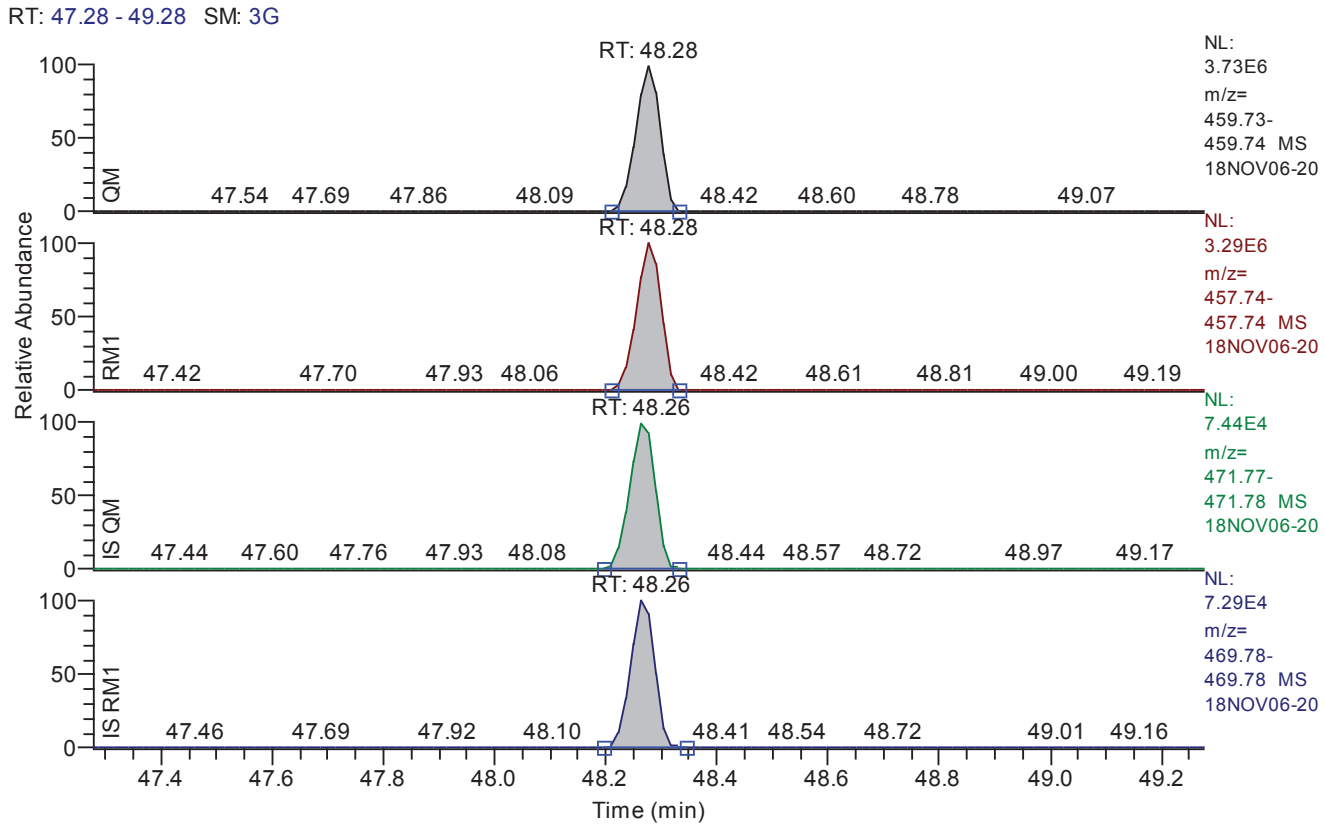
Chromatogram



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.28
QM Area	11244631
QM Integration Mode	A
RM1 Area	10039576
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4225
Unqualified Amount (A)	17671.904872
Adjusted Amount (A)	17671.9049
Signal-to-Noise	106621
Client Flags	
Status Overview	passed
Status Info	

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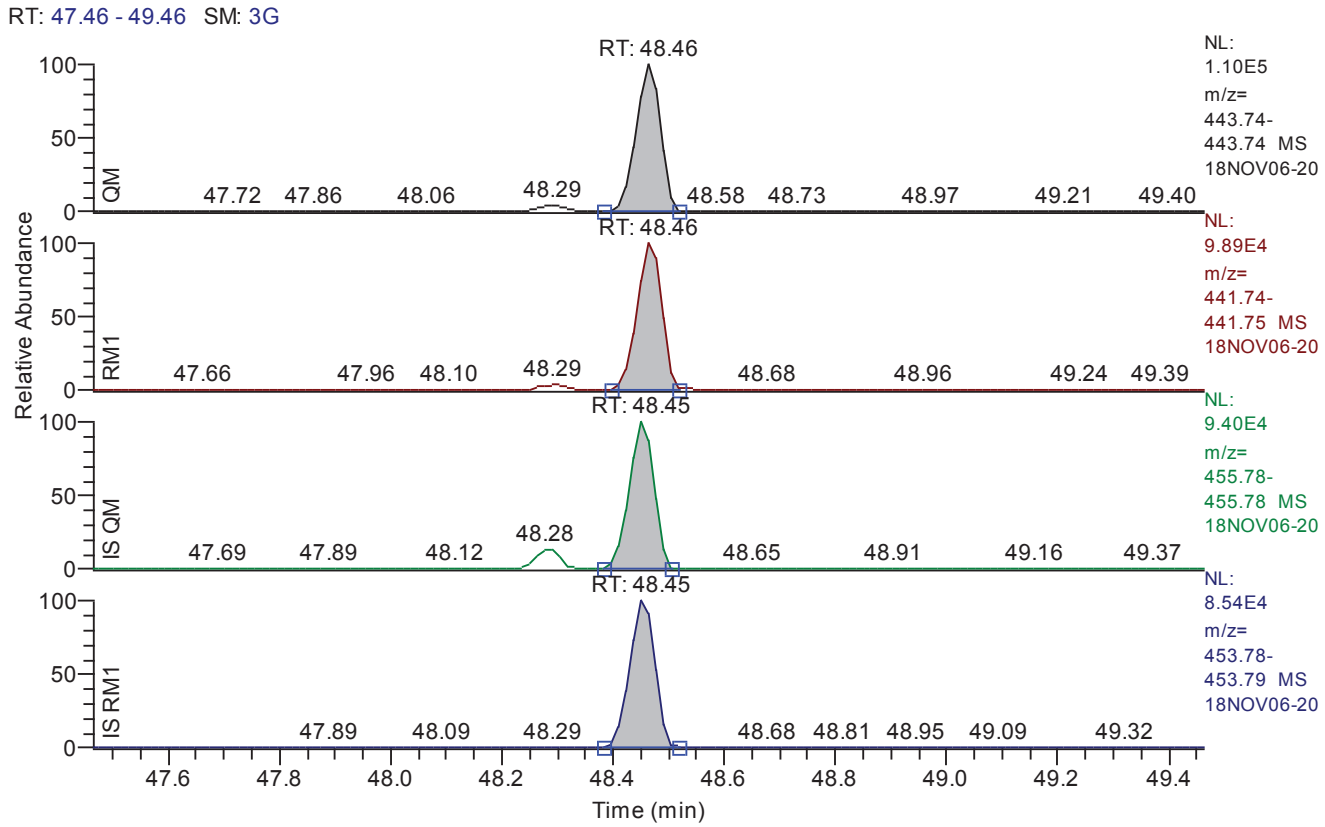
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.46
QM Area	336159
QM Integration Mode	A
RM1 Area	305290
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1375
Unqualified Amount (A)	479.899379
Adjusted Amount (A)	479.8994
Signal-to-Noise	8880
Client Flags	
Status Overview	passed
Status Info	

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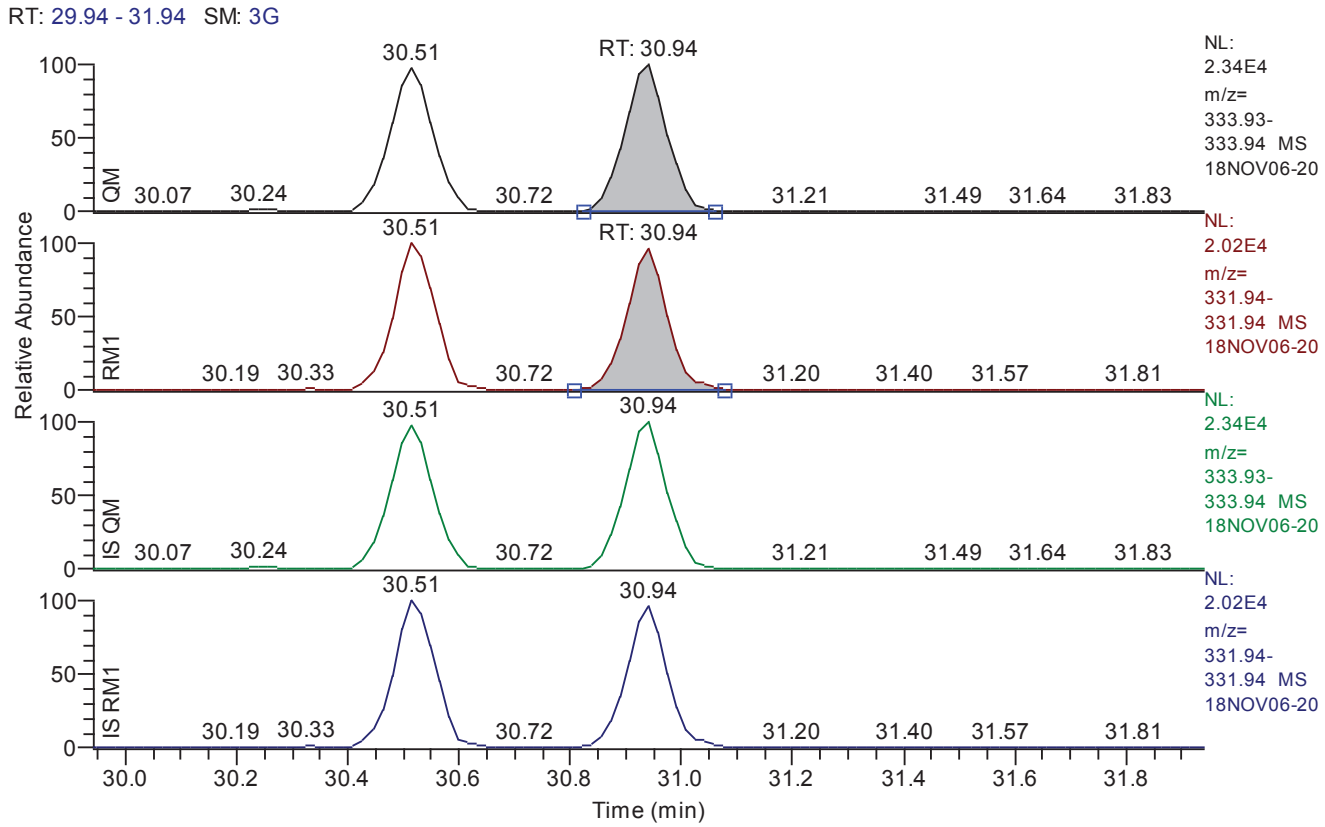
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.94
QM Area	126692
QM Integration Mode	A
RM1 Area	101431
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1028
Unqualified Amount (A)	88.089282
Adjusted Amount (A)	88.0893
Signal-to-Noise	2230
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.45	29.44	29.42	29.40	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.53	30.55	30.51	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.39	35.39	35.38	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.69	36.72	36.72	36.67	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.09	37.09	37.06	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.39	40.40	40.40	40.37	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.54	40.54	40.53	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.27	41.26	41.26	41.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.46	41.45	41.45	41.43	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.58	41.57	41.57	41.56	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.89	41.88	41.88	41.86	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.32	42.32	42.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.01	44.00	44.01	44.00	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.23	45.23	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.79	45.79	45.79	45.78	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.28	48.28	48.26	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.46	48.46	48.46	48.45	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.94	30.94	30.94	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.67	29.66	29.66	29.66	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.28	40.29	40.29	40.29	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.40	29.40	29.59	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.52	30.51	30.51	30.51	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.38	35.38	35.38	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.67	36.67	36.59	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.06	37.06	37.06	37.06	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.38	40.37	40.38	40.41	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.53	40.53	40.56	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.24	41.25	41.25	41.08	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.43	41.43	41.43	41.43	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.55	41.56	41.56	41.56	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.87	41.86	41.86	41.86	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.27	42.27	42.26	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.00	44.00	44.00	44.01	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.21	45.21	45.21	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.79	45.78	45.78	45.79	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.26	48.26	48.26	48.26	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.45	48.45	48.45	48.50	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.44	0.8259	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	30.53	0.8716	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	35.39	1.3614	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.72	1.5806	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	37.09	1.5126	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.40	1.2002	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.54	1.2486	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.26	1.2555	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.45	1.3296	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.57	1.2261	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.88	1.2573	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.32	1.3138	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.00	1.0619	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.23	1.0450	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.79	1.1322	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.28	0.8928	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.46	0.9082	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.94	0.8006	0.6450 - 0.8950	passed	44.66	35 - 197	passed
19	13C12-1234-TCDD	29.66	0.8044	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.29	1.3400	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.40	0.7386	0.6450 - 0.8950	passed	44.87	40 - 135	passed
22	13C12-2378-TCDD	30.51	0.8474	0.6450 - 0.8950	passed	62.40	40 - 135	passed
23	13C12-12378-PeCDF	35.38	1.6507	1.3150 - 1.7850	passed	54.25	40 - 135	passed
24	13C12-23478-PeCDF	36.67	1.5365	1.3150 - 1.7850	passed	59.17	40 - 135	passed
25	13C12-12378-PeCDD	37.06	1.6470	1.3150 - 1.7850	passed	61.65	40 - 135	passed
26	13C12-123478-HxCDF	40.37	0.5116	0.4250 - 0.5950	passed	70.94	40 - 135	passed
27	13C12-123678-HxCDF	40.53	0.5254	0.4250 - 0.5950	passed	68.32	40 - 135	passed
28	13C12-234678-HxCDF	41.25	0.5412	0.4250 - 0.5950	passed	71.24	40 - 135	passed
29	13C12-123478-HxCDD	41.43	1.2273	1.0450 - 1.4350	passed	70.82	40 - 135	passed
30	13C12-123678-HxCDD	41.56	1.3348	1.0450 - 1.4350	passed	72.65	40 - 135	passed
31	13C12-123789-HxCDD	41.86	1.2139	1.0450 - 1.4350	passed	74.21	40 - 135	passed
32	13C12-123789-HxCDF	42.27	0.5220	0.4250 - 0.5950	passed	72.52	40 - 135	passed
33	13C12-1234678-HpCDF	44.00	0.4846	0.3650 - 0.5150	passed	73.68	40 - 135	passed
34	13C12-1234678-HpCDD	45.21	1.1039	0.8750 - 1.2050	passed	78.71	40 - 135	passed
35	13C12-1234789-HpCDF	45.78	0.4726	0.3650 - 0.5150	passed	68.83	40 - 135	passed
36	13C12-OCDD	48.26	0.9385	0.7550 - 1.0250	passed	76.64	40 - 135	passed
37	13C12-OCDF	48.45	0.9245	0.7550 - 1.0250	passed	61.82	40 - 135	passed

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Entry Parameters

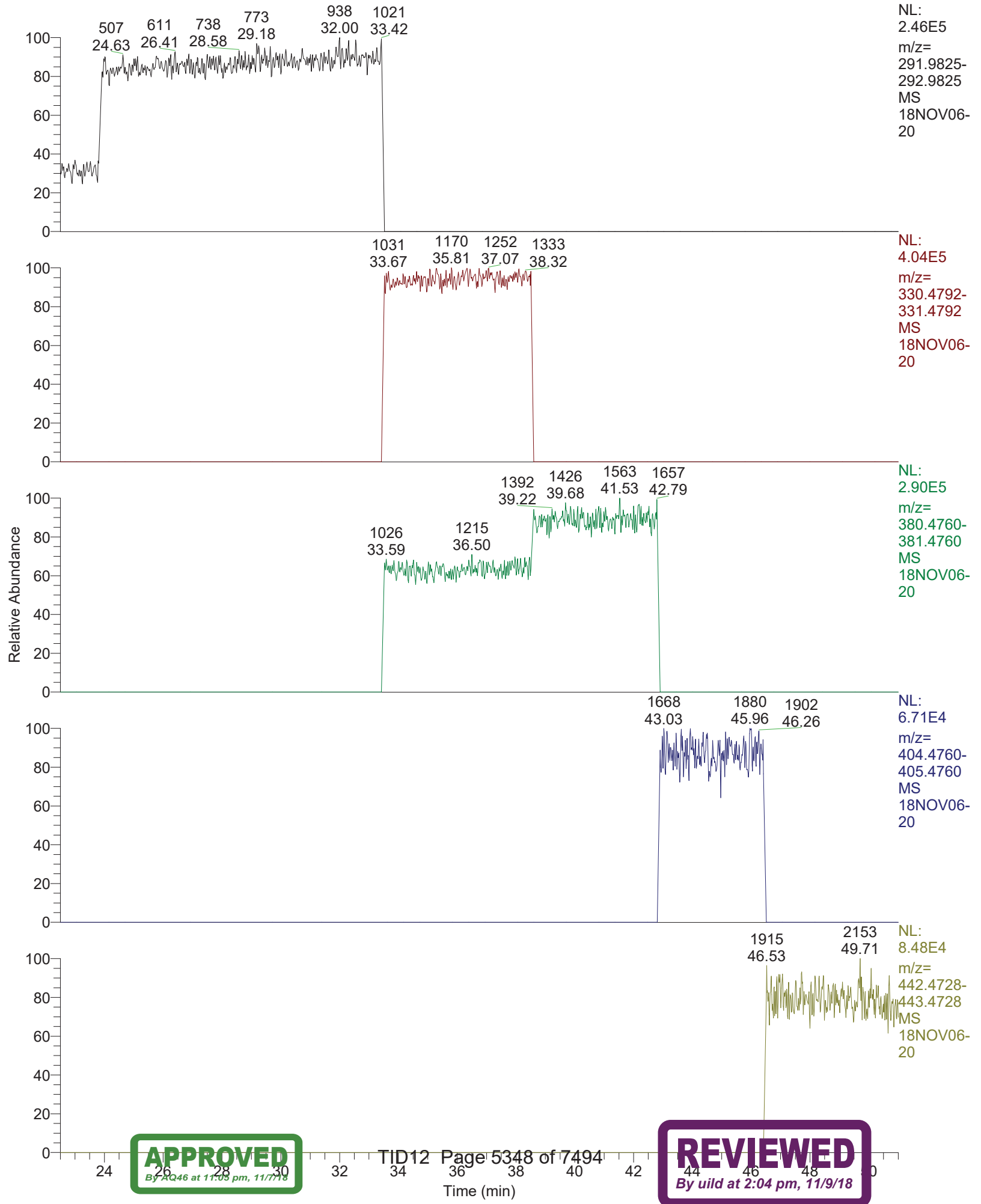
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.44	10894	A	8998	A	0.7564	10.627226	10.6272	0.000000	35	
2	2378-TCDD	passed	30.53	5596	A	4877	A	0.3511	7.233957	7.2340	0.000000	52	
3	12378-PeCDF	passed	35.39	6923	A	9424	A	0.2830	8.685459	8.6855	0.000000	75	
4	23478-PeCDF	passed	36.72	23587	A	37281	A	0.2134	26.984620	26.9846	0.000000	203	
5	12378-PeCDD	passed	37.09	79359	A	120036	A	0.7025	166.372129	166.3721	0.000000	556	
6	123478-HxCDF	passed	40.40	28481	A	34182	A	0.4073	26.403277	26.4033	0.000000	160	
7	123678-HxCDF	passed	40.54	32987	A	41187	A	0.4074	31.666539	31.6665	0.000000	195	
8	234678-HxCDF	passed	41.26	28063	A	35233	A	0.3873	26.854228	26.8542	0.000000	177	
9	123478-HxCDD	passed	41.45	40218	A	53474	A	0.5393	66.386781	66.3868	0.000000	311	
10	123678-HxCDD	passed	41.57	462501	A	567059	A	0.5215	694.549517	694.5495	0.000000	3519	
11	123789-HxCDD	passed	41.88	304616	A	382984	A	0.4985	449.127519	449.1275	0.000000	2217	
12	123789-HxCDF	passed	42.32	8474	A	11133	A	0.4521	9.193205	9.1932	0.000000	41	
13	1234678-HpCDF	passed	44.00	876382	A	930655	A	0.2144	805.638449	805.6384	0.000000	9309	
14	1234678-HpCDD	passed	45.23	1672753	A	1748020	A	0.7198	2379.785618	2379.7856	0.000000	8089	
15	1234789-HpCDF	passed	45.79	12976	A	14692	A	0.2776	16.069057	16.0691	0.000000	145	
16	OCDD	passed	48.28	11244631	A	10039576	A	0.4225	17671.904872	17671.9049	0.000000	106621	
17	OCDF	passed	48.46	336159	A	305290	A	0.1375	479.899379	479.8994	0.000000	8880	
18	13C12-1278-TCDD (CRS)	passed	30.94	126692	A	101431	A	0.1028	88.089282	88.0893	197.238659	2230	
19	13C12-1234-TCDD	passed	29.66	223713	A	179966	A	0.1300	197.238659	197.2387	197.238659	3792	
20	13C12-123468-HxCDD	passed	40.29	178259	A	238859	A	0.1673	197.238659	197.2387	197.238659	2947	
21	13C12-2378-TCDF	passed	29.40	192854	A	142445	A	0.0671	88.508595	88.5086	197.238659	3191	
22	13C12-2378-TCDD	passed	30.51	126647	A	107316	A	0.1400	123.074149	123.0741	197.238659	2241	
23	13C12-12378-PeCDF	passed	35.38	141438	A	233466	A	0.1741	107.001914	107.0019	197.238659	1914	
24	13C12-23478-PeCDF	passed	36.67	158128	A	242962	A	0.1775	116.711700	116.7117	197.238659	2265	
25	13C12-12378-PeCDD	passed	37.06	86099	A	141802	A	0.1236	121.600511	121.6005	197.238659	3373	
26	13C12-123478-HxCDF	passed	40.37	258415	A	132206	A	0.1342	139.914068	139.9141	197.238659	2534	
27	13C12-123678-HxCDF	passed	40.53	262609	A	137988	A	0.1260	134.757143	134.7571	197.238659	2632	
28	13C12-234678-HxCDF	passed	41.25	243234	A	131647	A	0.1404	140.519988	140.5200	197.238659	2575	
29	13C12-123478-HxCDD	passed	41.43	122544	A	150400	A	0.1811	139.692799	139.6928	197.238659	1958	
30	13C12-123678-HxCDD	passed	41.56	121671	A	162401	A	0.1785	143.300738	143.3007	197.238659	2007	
31	13C12-123789-HxCDD	passed	41.86	124788	A	151486	A	0.1875	146.367435	146.3674	197.238659	1977	
32	13C12-123789-HxCDF	passed	42.27	239639	A	125085	A	0.1469	143.042734	143.0427	197.238659	2372	
33	13C12-1234678-HpCDF	passed	44.00	230365	A	111639	A	0.1682	145.321714	145.3217	197.238659	2281	
34	13C12-1234678-HpCDD	passed	45.21	126506	A	139647	A	0.1181	155.251265	155.2513	197.238659	3589	
35	13C12-1234789-HpCDF	passed	45.78	178140	A	84197	A	0.2048	135.754774	135.7548	197.238659	1760	
36	13C12-OCDD	passed	48.26	235015	A	220571	A	0.0633	302.329006	302.3290	394.477318	13405	
37	13C12-OCDF	passed	48.45	291468	A	269476	A	0.0586	243.858183	243.8582	394.477318	11565	

File Name: Z:\18NOV06\18NOV06-20
Sample ID: 9872064

Acq. Data: 11/7/2018 1:18:14 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

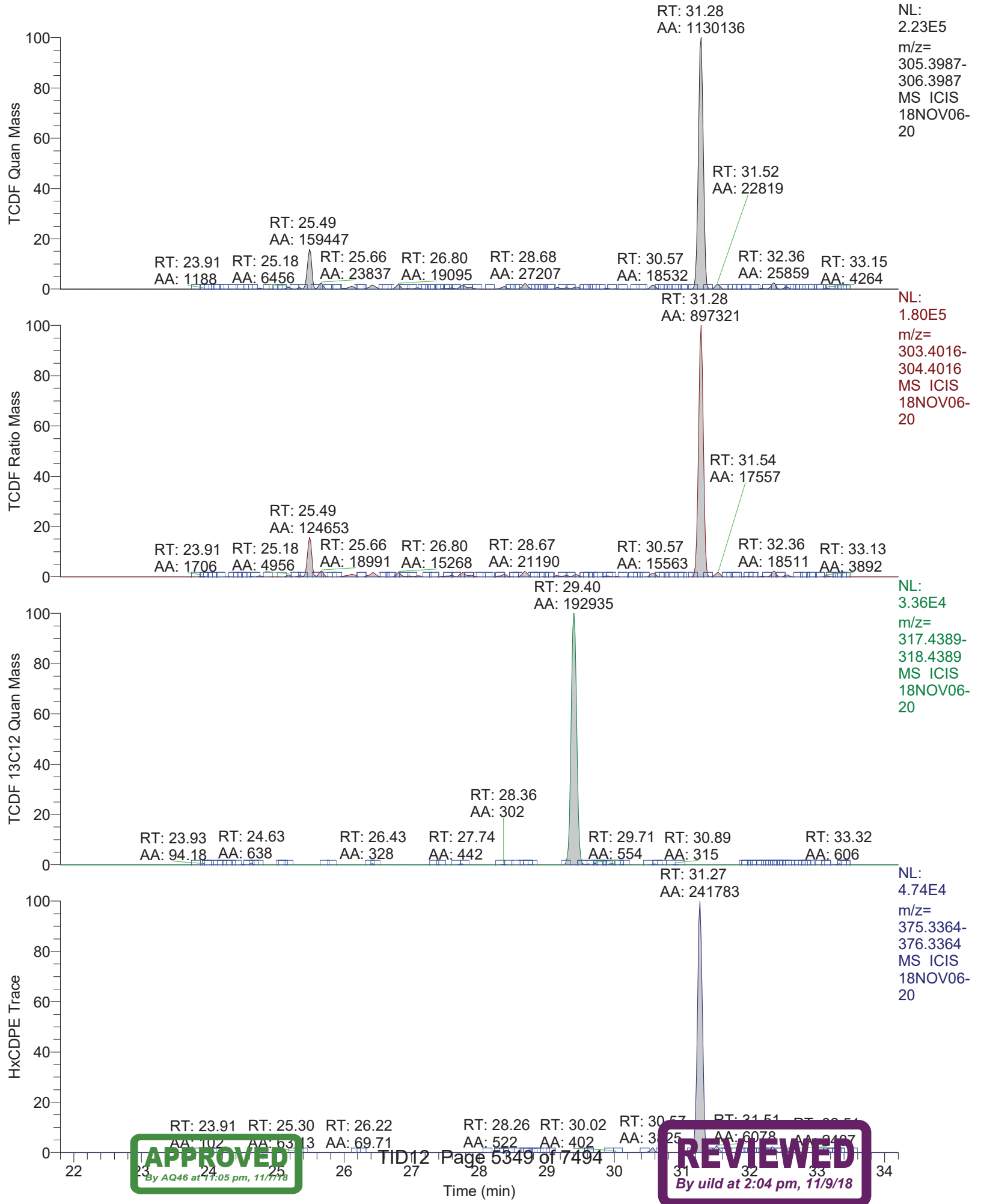
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-20
Sample ID: 9872064

Acq. Data: 11/7/2018 1:18:14 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 21.80 - 34.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

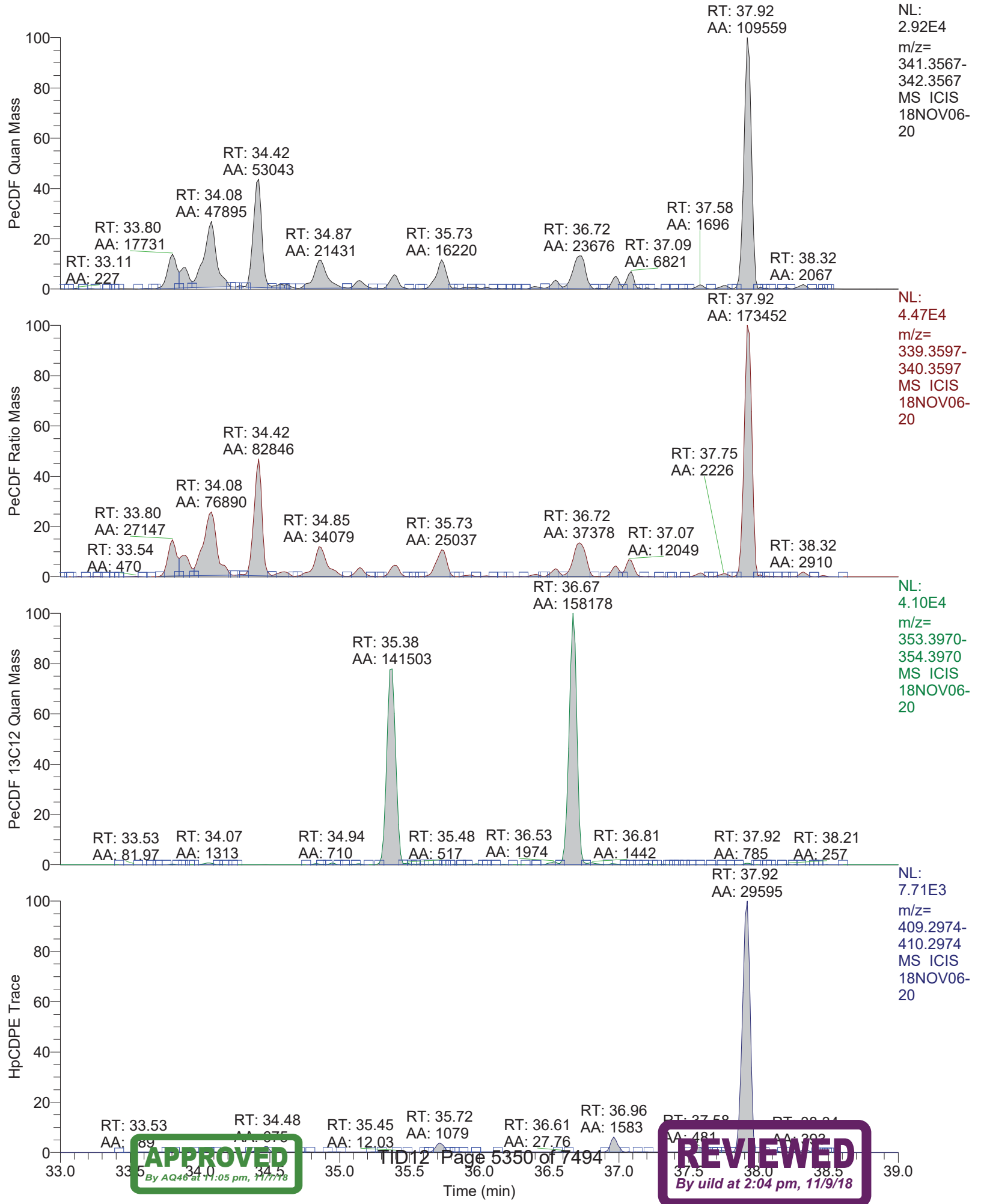
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-20
Sample ID: 9872064

Acq. Data: 11/7/2018 1:18:14 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 33.00 - 39.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

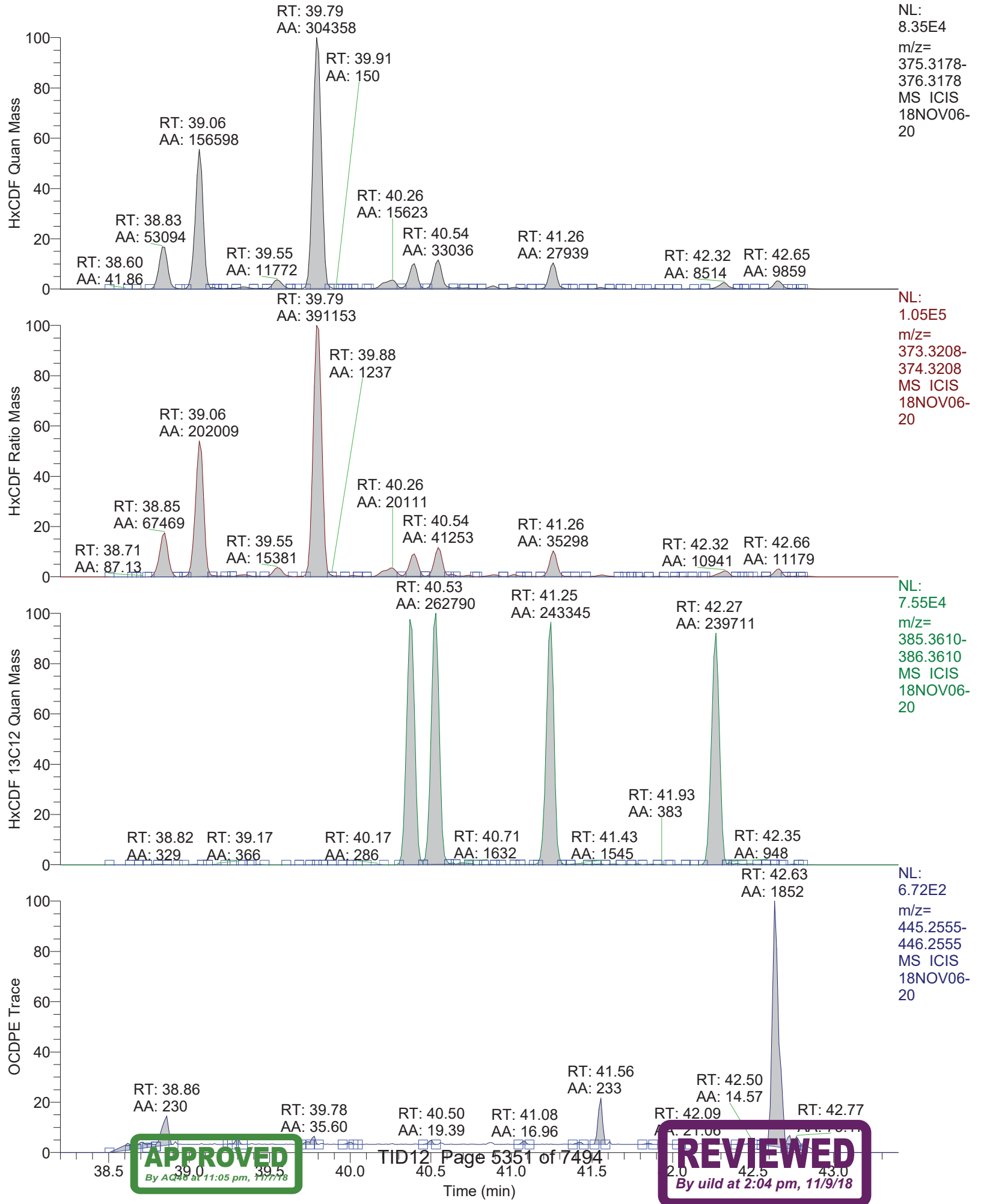
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-20
Sample ID: 9872064

Acq. Data: 11/7/2018 1:18:14 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 38.20 - 43.40



APPROVED
By AQ46 at 11:05 pm, 11/7/18

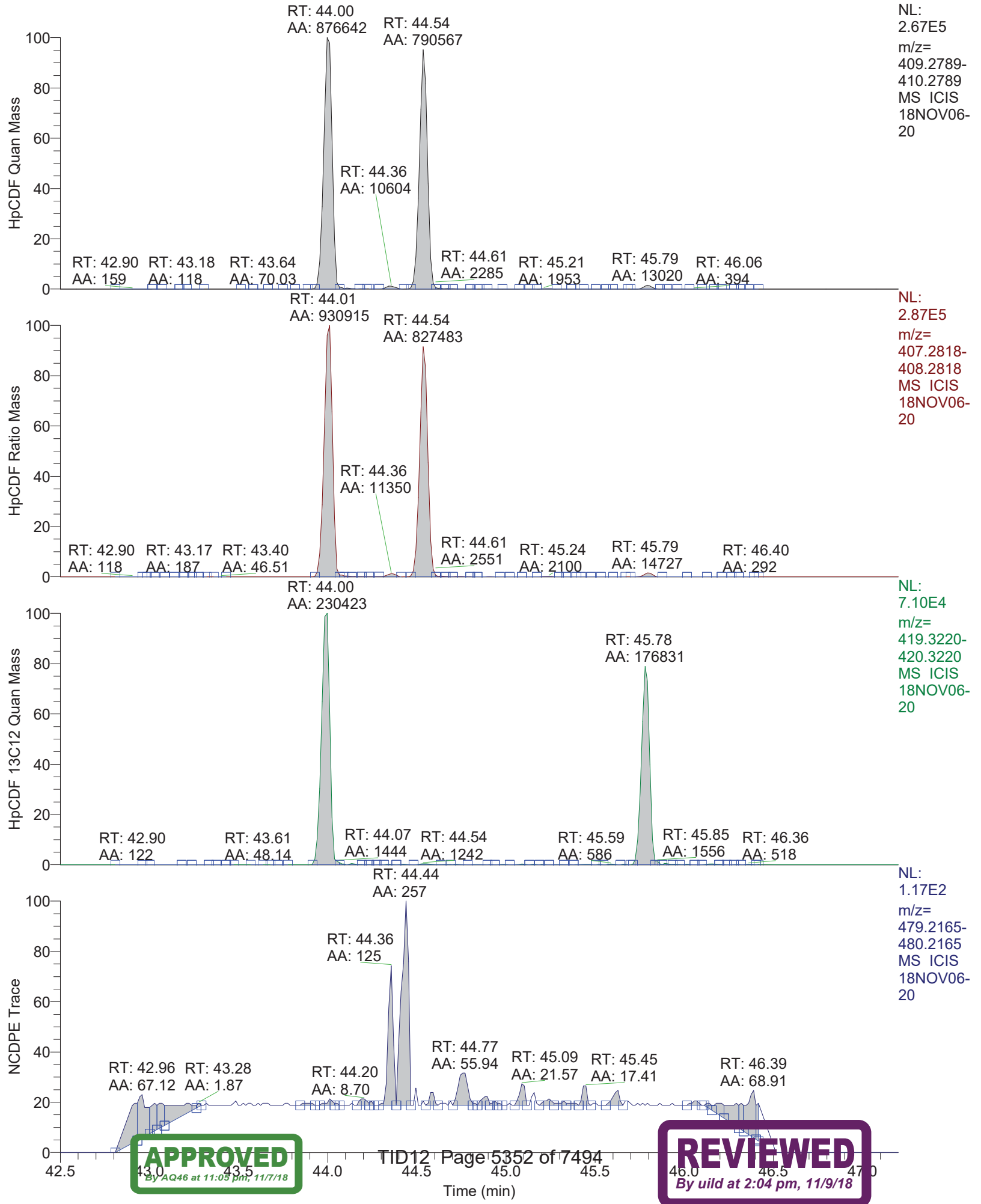
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-20
Sample ID: 9872064

Acq. Data: 11/7/2018 1:18:14 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 42.50 - 47.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

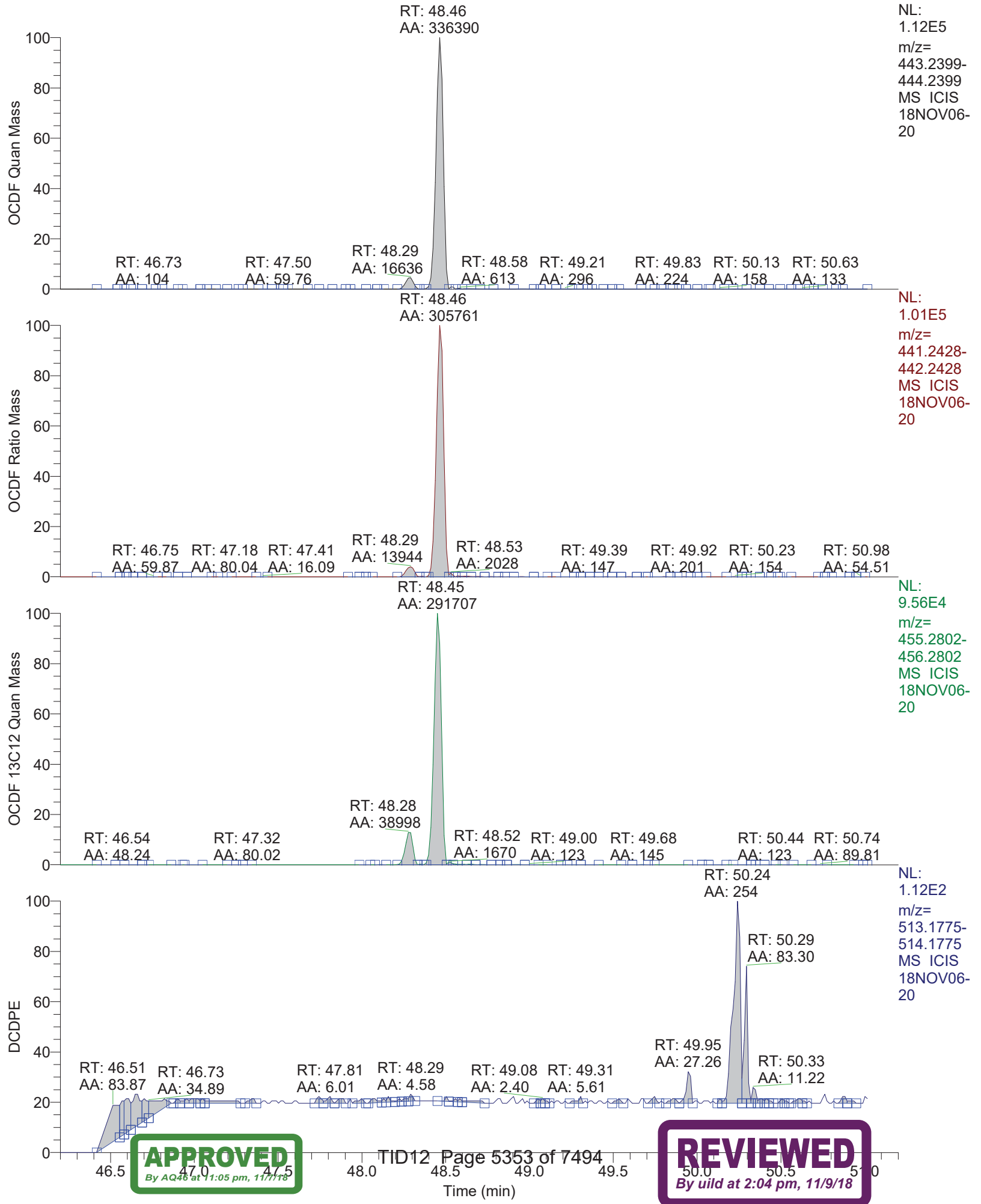
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-20
Sample ID: 9872064

Acq. Data: 11/7/2018 1:18:14 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 46.20 - 51.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

*** file opened Wed Nov 07 01:23:44 2018 ***

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Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 07-Nov-18 01:23:43

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f50533d2-f9c1-41a2-b71e-4157fb85ab75

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          97.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0002   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2531.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0207   FVINLET         0.0407   FVSRC           0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           97.0000   LKM           442.9723   MASS           97.0000
 MDAC        1478234.7552  MRANGE       1272.8365   NSAM          200.0000
 NSCAN          2276.0000  NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9680   RELEN           0.0000
 RES          13330.7602   RPUSHER       -17.1209   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0207   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          97.0000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.8e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10568.
MID Time Window 2: Resolution is 11607.
MID Time Window 3: Resolution is 10741.
MID Time Window 4: Resolution is 11989.
```

```
MID Time Window 5: Resolution is 12983.
MID Time Window 6: Resolution is 13330.

Amplifier Offset: 85.


*** File closed Wed Nov 07 02:14:46 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 00:41
Number of Entries	3
Comment	S:11030:12937:17962
Vial	47
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Sample ID	9872064
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-13.quan
Data	y:\18nov07conf\18nov07-13.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.14
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.65	failed	passed	passed	passed	failed on IS	passed	failed on IS Recov
2	13C12-1234-TCDD	24.71	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.63	failed	passed	passed	passed	failed	passed	Failed on: RecovA

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 00:41
Number of Entries	3
Comment	S:11030:12937:17962
Vial	47
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Sample ID	9872064
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-13.quan
Data	y:\18nov07conf\18nov07-13.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.14
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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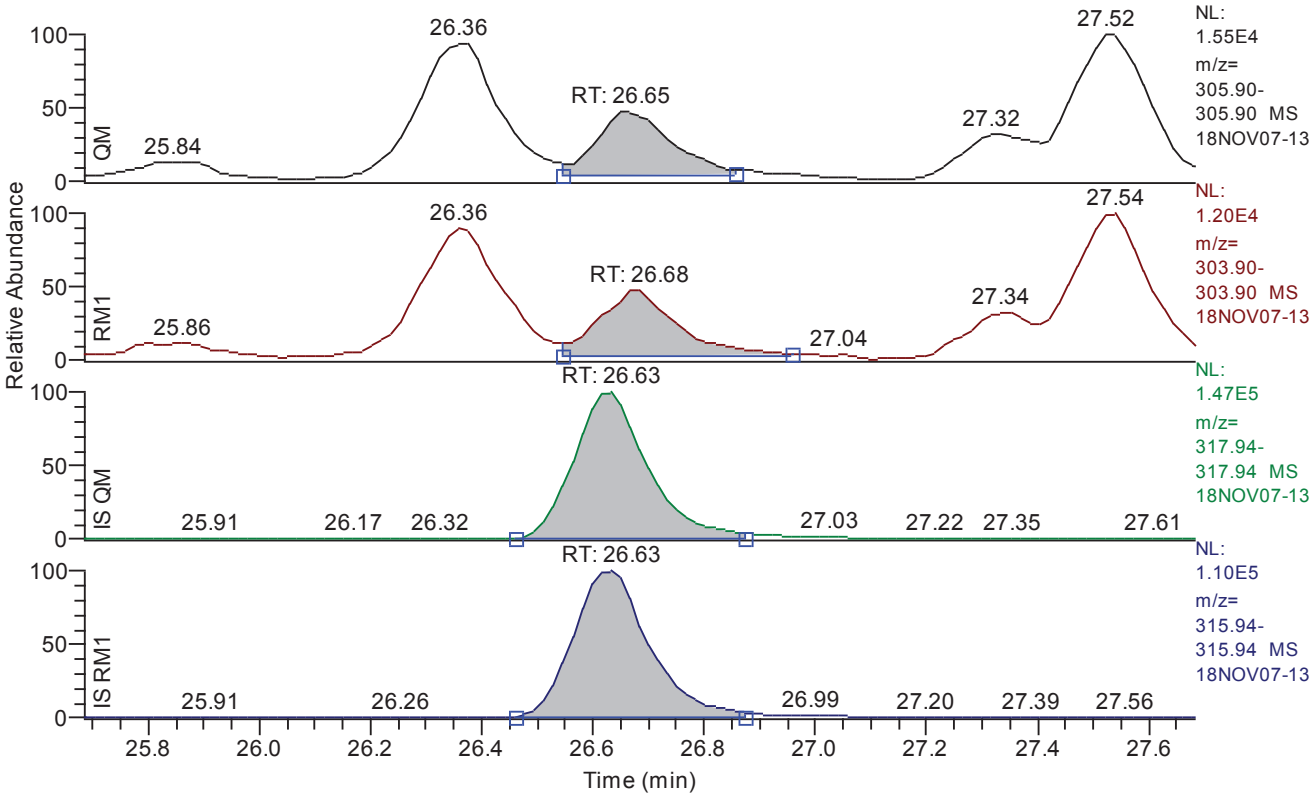
Chromatogram

RT: 25.68 - 27.68 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.65
QM Area	62351
QM Integration Mode	A
RM1 Area	51030
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3800
Unqualified Amount (A)	9.183038
Adjusted Amount (A)	n.d.
Signal-to-Noise	60
Client Flags	
Status Overview	failed
Status Info	failed on IS Recov

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 00:41
Number of Entries	3
Comment	S:11030:12937:17962
Vial	47
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Sample ID	9872064
Inst ID	DF18471-18NOV07Conf
Client	Tidewater Inc.
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-13.quan
Data	y:\18nov07conf\18nov07-13.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.14
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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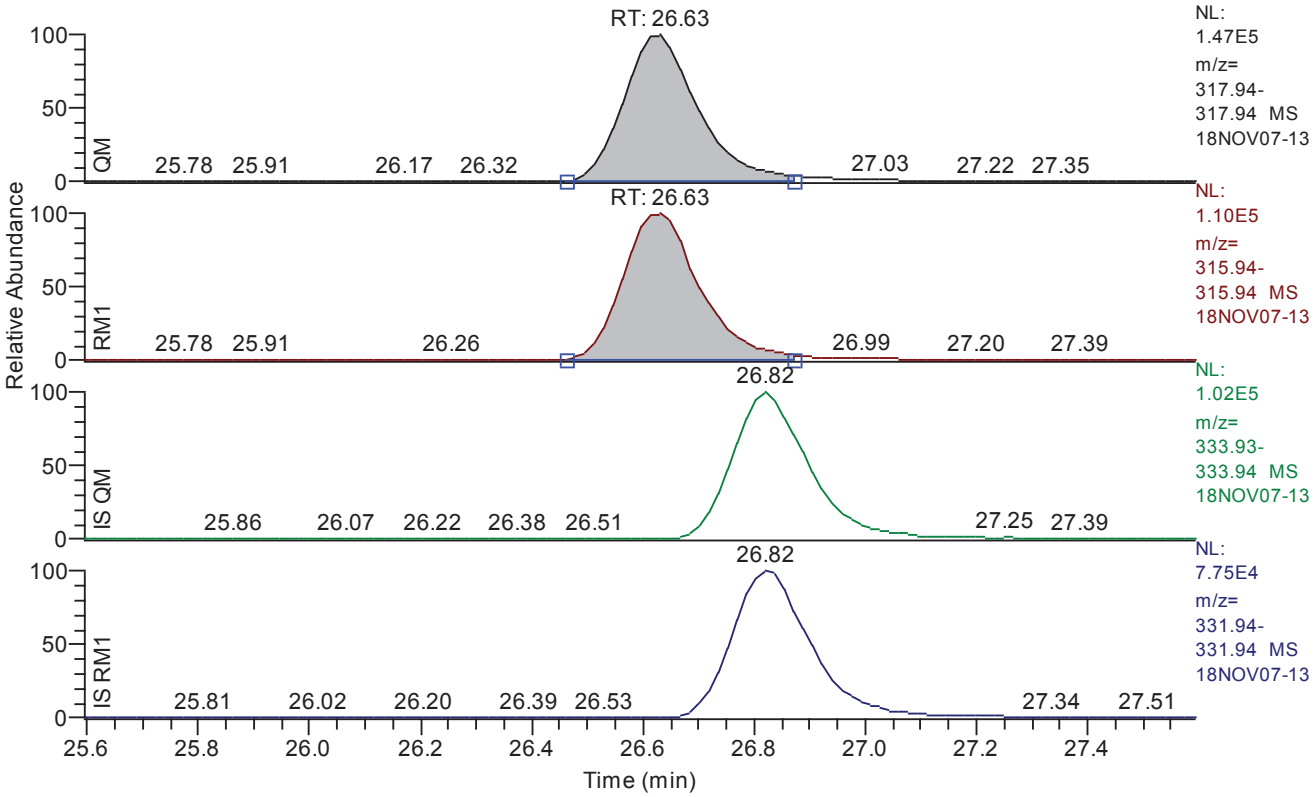
Chromatogram

RT: 25.59 - 27.59 SM: 3G



Entry: 13C12-2378-TCDF IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-2378-TCDF
QM Retention Time	26.63
QM Area	1354439
QM Integration Mode	M
RM1 Area	1037535
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0413
Unqualified Amount (A)	74.570926
Adjusted Amount (A)	n.d.
Signal-to-Noise	3974
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.71	26.65	26.68	26.63	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.77	24.71	24.71	24.71	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.66	26.63	26.63	26.63	passed	passed

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.65	0.8184	0.6450 - 0.8950	passed	---	0 - 0	failed on IS
2	13C12-1234-TCDD	24.71	0.7903	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.63	0.7660	0.6450 - 0.8950	passed	37.81	40 - 135	failed

APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	26.65	62351	A	51030	A	0.3800	9.183038	n.d.	0.000000	60	
2	13C12-1234-TCDD	passed	24.71	1734139	A	1370437	A	0.1204	197.238659	197.2387	197.238659	4095	
3	13C12-2378-TCDF	failed	26.63	1354439	M	1037535	M	0.0413	74.570926	n.d.	197.238659	3974	

APPROVED
By uma9 at 3:54 pm, 11/9/18

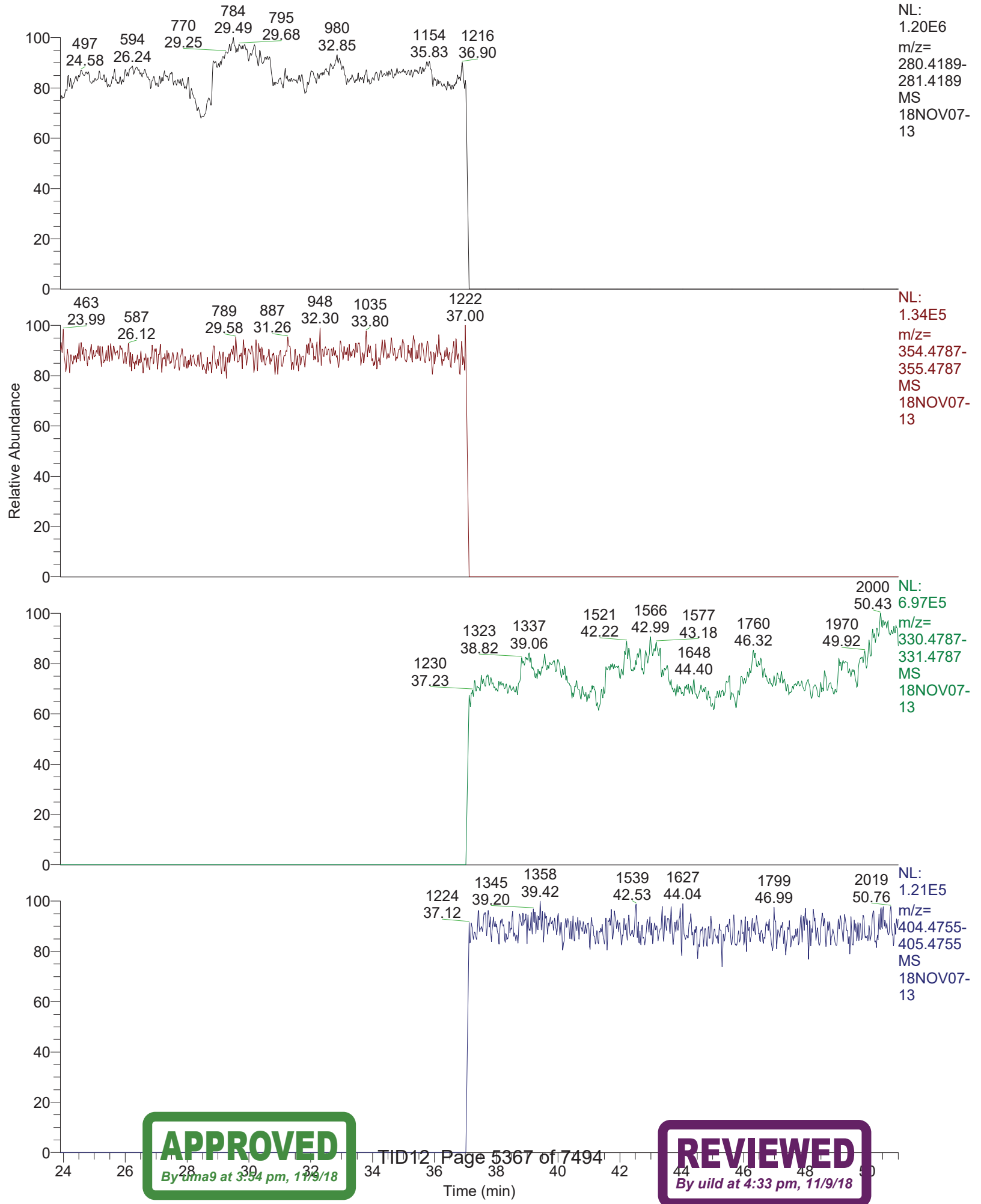
REVIEWED
By uild at 4:33 pm, 11/9/18

File Name: Y:\18NOV07Conf\18NOV07-13
Sample ID: 9872064

Acq. Data: 11/8/2018 12:41:31 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV07Conf

RT: 23.90 - 51.00



APPROVED
By uma9 at 3:54 pm, 11/9/18

REVIEWED
By uild at 4:33 pm, 11/9/18

*** file opened Thu Nov 08 00:46:08 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 08-Nov-18 00:46:07

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	327.4787
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-99.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0381	FVSRC	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	327.4787	LKM	330.9792	MASS	327.4787
MDAC	2952927.8151	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9680	RELEN	0.0000
RES	12707.2436	RPUSHER	-15.8022	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.1400	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	327.4787	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.4e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12359.
MID Time Window 2: Resolution is 12707.

Amplifier Offset: 88.

18NOV07-13

*** File closed Thu Nov 08 01:38:40 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 01:28
Number of Entries	264
Comment	S:11030:12937:17962
Vial	86
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Sample ID	9872064DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-12.quan
Data	w:\18nov07\18nov07-12.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.14
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	29.95	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	34.94	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.30	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.90	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.09	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.21	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.99	failed	passed	passed	passed	passed	failed	Failed on: RM2Time < min
13	1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed	passed	
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.38	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.92	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.93	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.26	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.66	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.01	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.07	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.52	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.45	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.93	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.11	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 01:28
Number of Entries	264
Comment	S:11030:12937:17962
Vial	86
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Sample ID	9872064DL
Inst ID	DF17280-18NOV07
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-12.quan
Data	w:\18nov07\18nov07-12.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.14
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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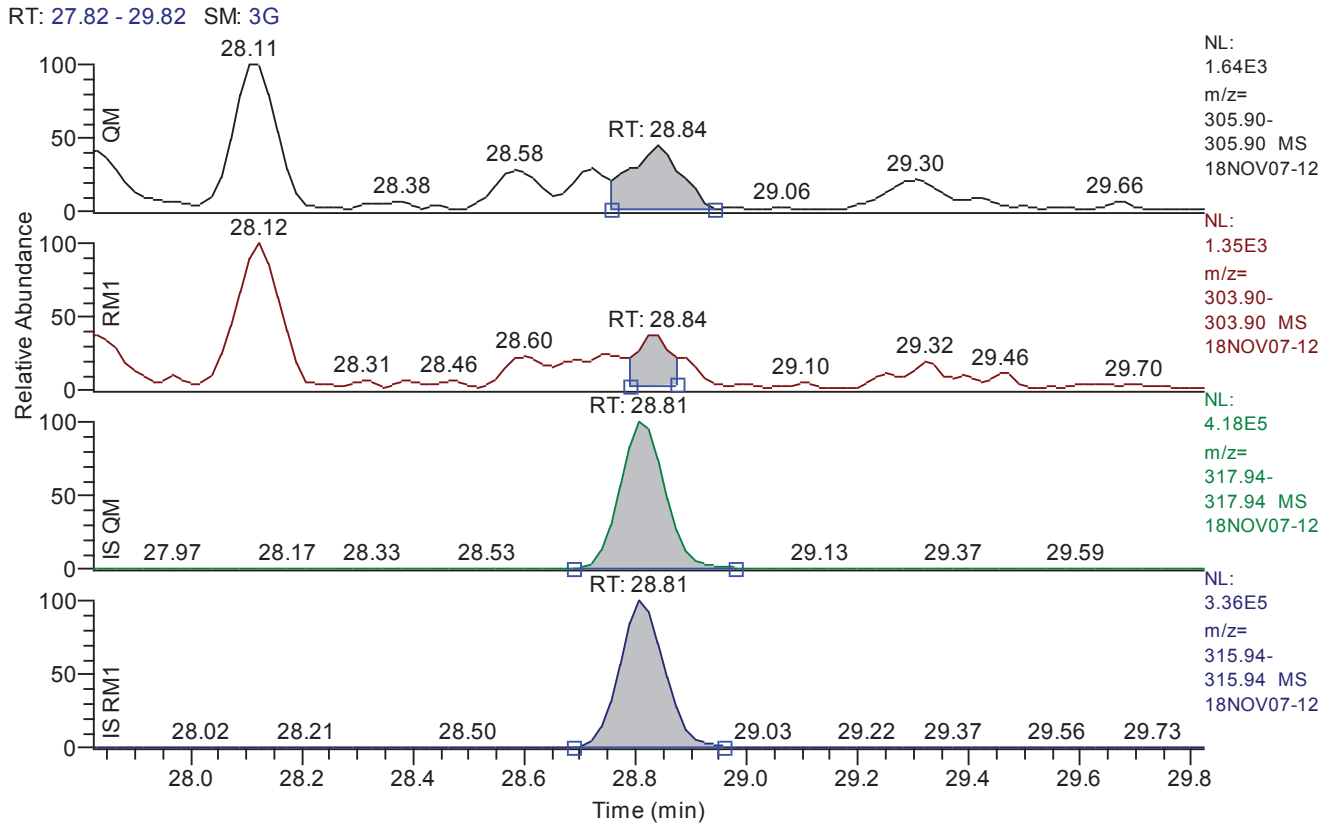
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	4639
QM Integration Mode	A
RM1 Area	1850
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0526
Unqualified Amount (A)	3.537607
Adjusted Amount (A)	n.d.
Signal-to-Noise	18
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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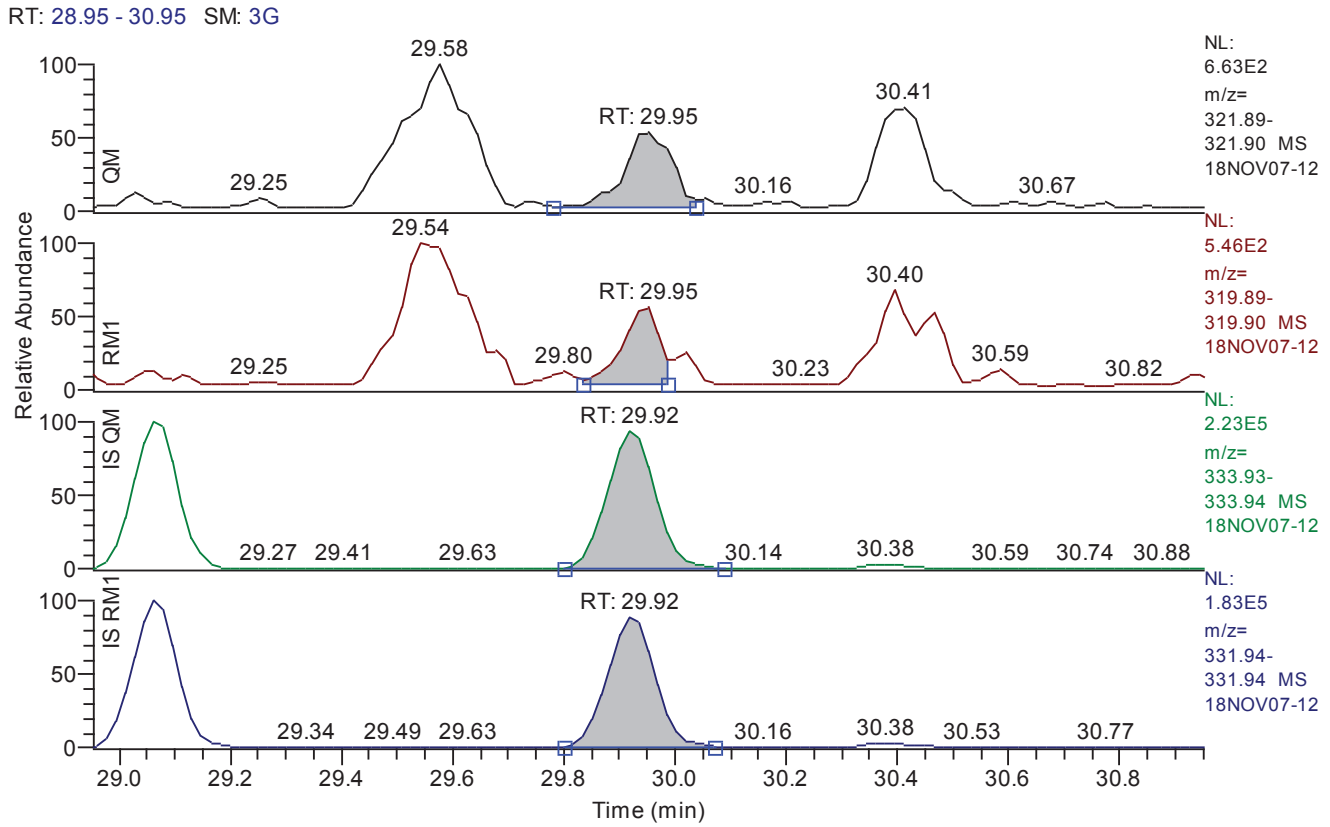
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	29.95
QM Area	2045
QM Integration Mode	A
RM1 Area	1340
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0358
Unqualified Amount (A)	2.955713
Adjusted Amount (A)	2.9557
Signal-to-Noise	23
Client Flags	
Status Overview	passed
Status Info	

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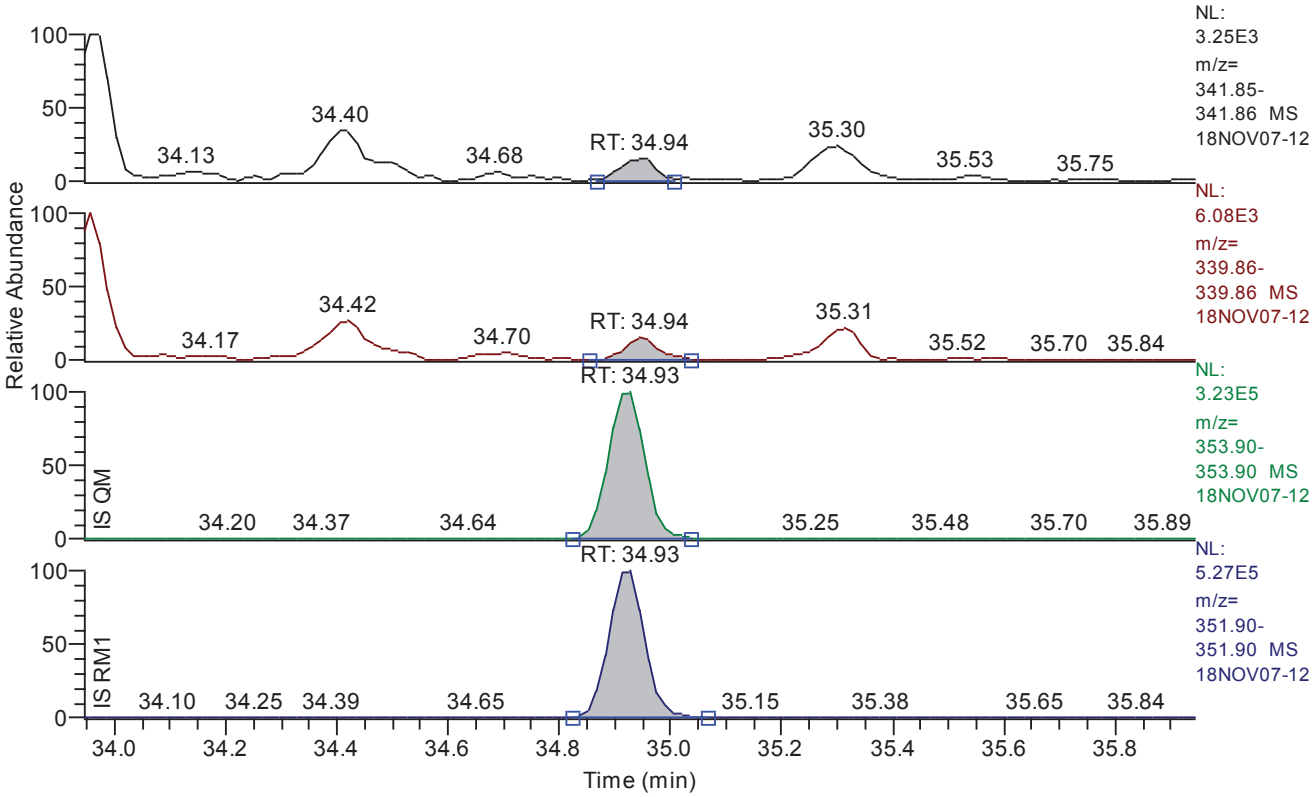
Chromatogram

RT: 33.94 - 35.94 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	2172
QM Integration Mode	A
RM1 Area	3884
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0306
Unqualified Amount (A)	4.004835
Adjusted Amount (A)	n.d.
Signal-to-Noise	35
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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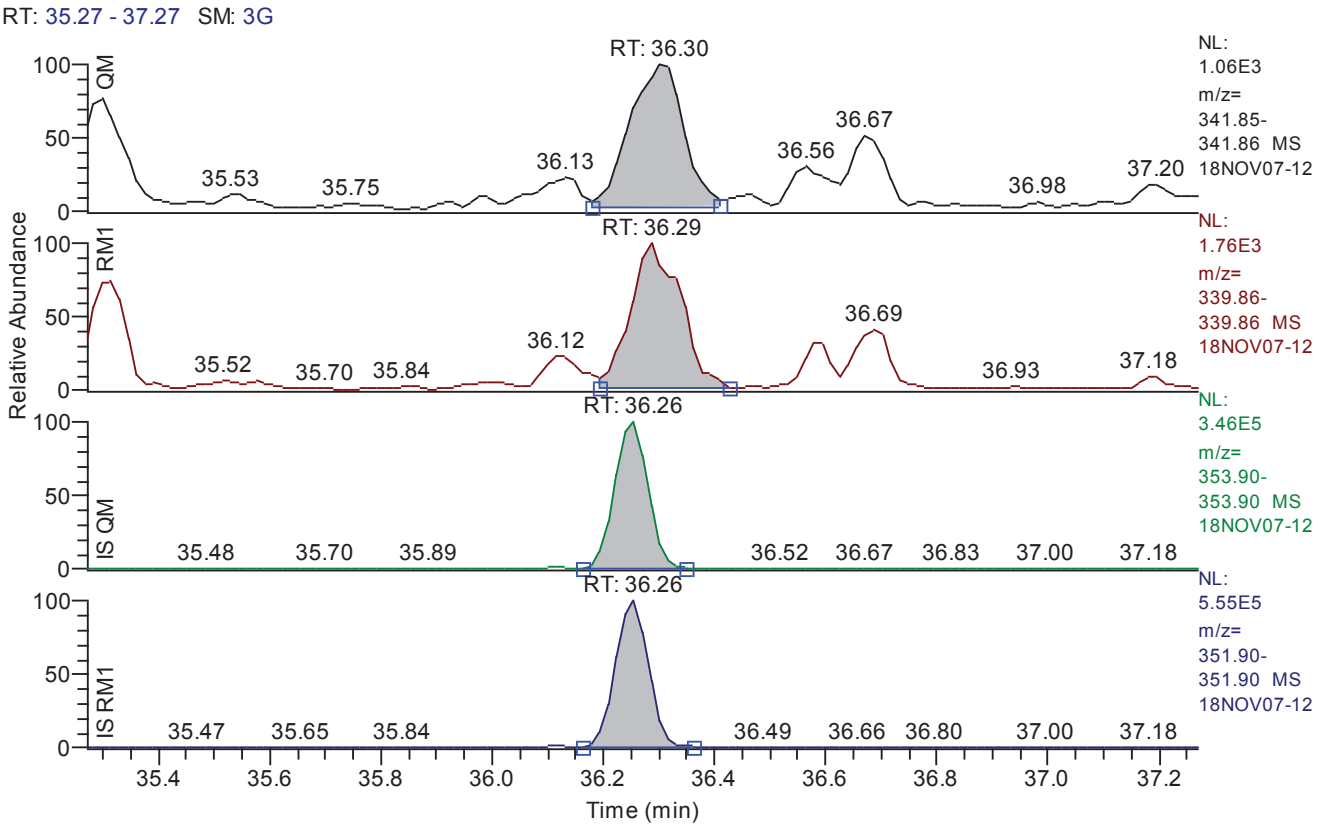
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.30
QM Area	6865
QM Integration Mode	A
RM1 Area	10881
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0258
Unqualified Amount (A)	10.732760
Adjusted Amount (A)	10.7328
Signal-to-Noise	67
Client Flags	
Status Overview	passed
Status Info	

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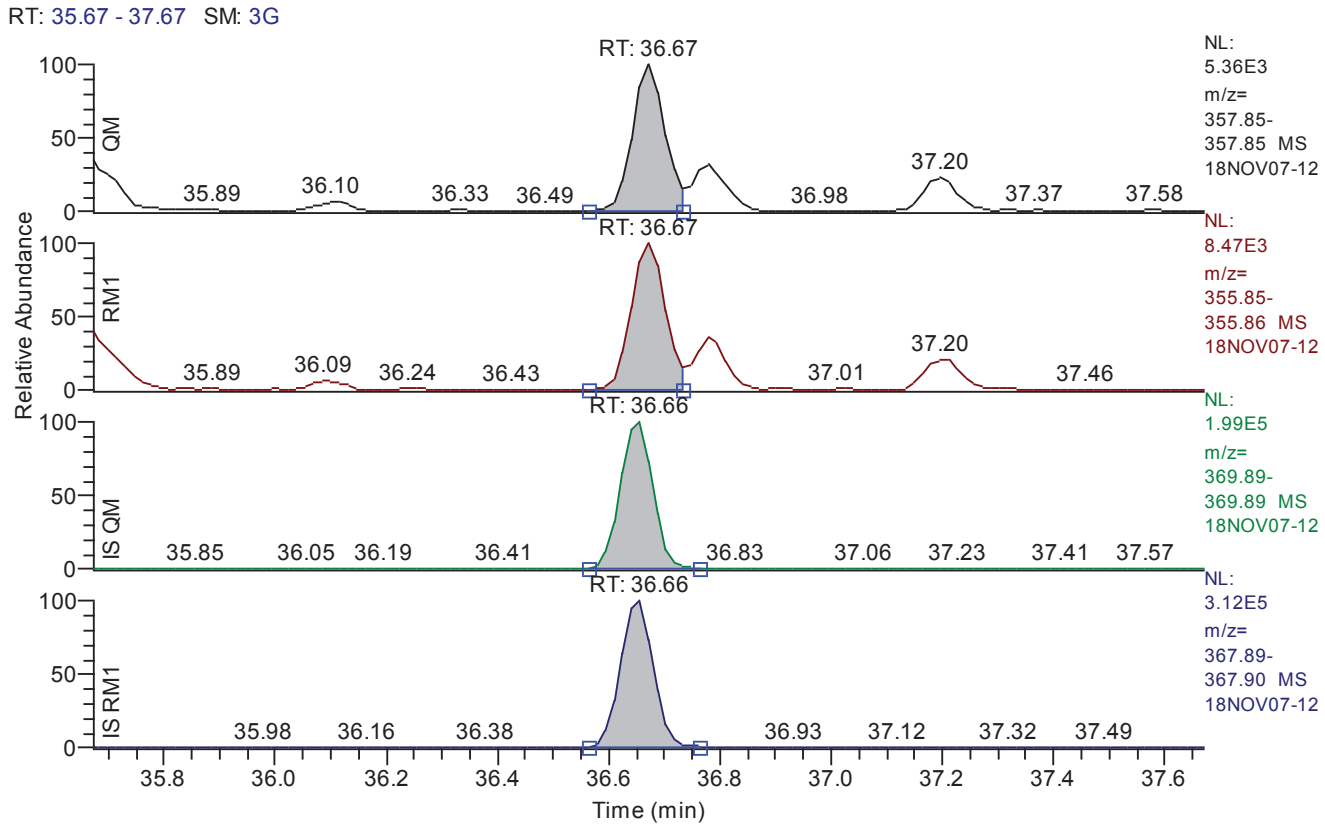
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	21556
QM Integration Mode	A
RM1 Area	35749
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0755
Unqualified Amount (A)	66.053153
Adjusted Amount (A)	66.0532
Signal-to-Noise	217
Client Flags	
Status Overview	passed
Status Info	

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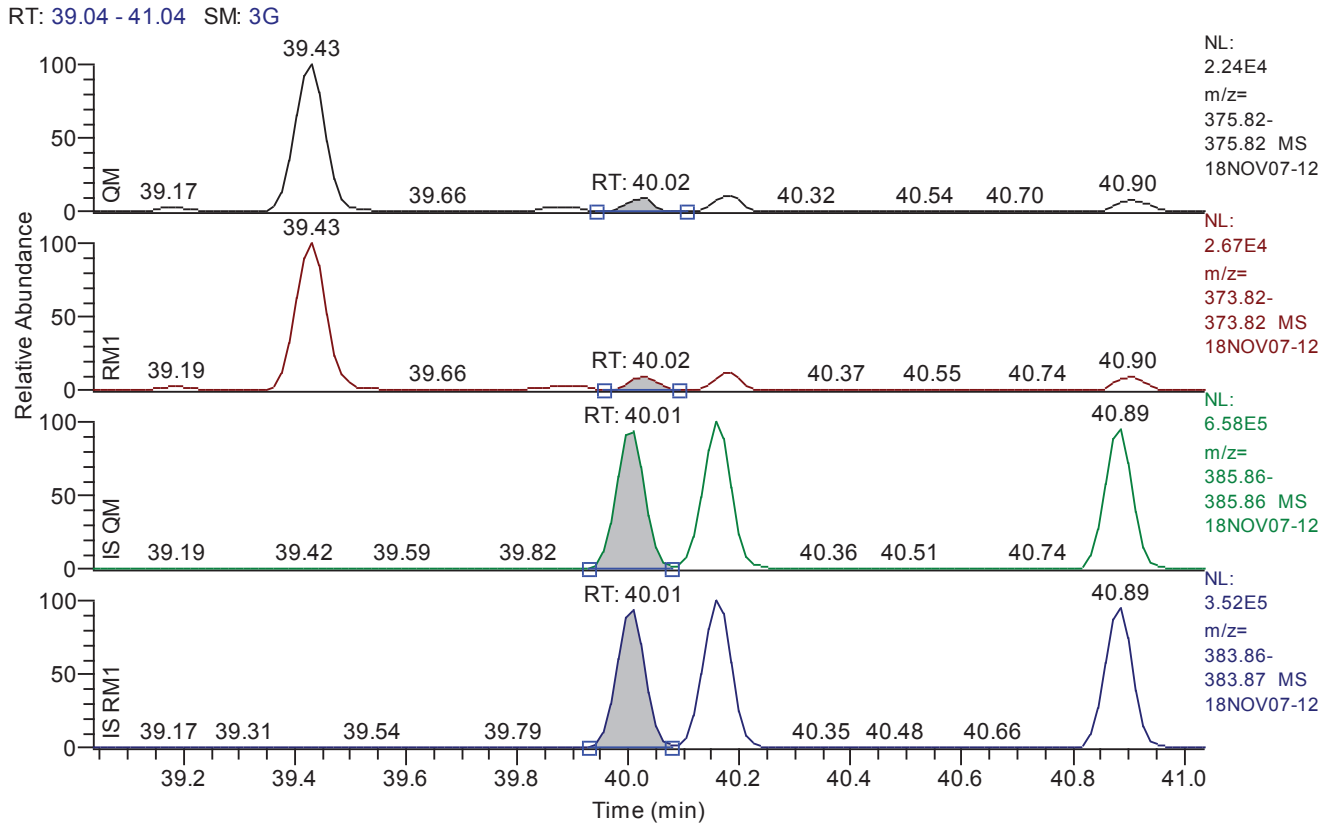
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.02
QM Area	7280
QM Integration Mode	A
RM1 Area	9221
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0266
Unqualified Amount (A)	9.797505
Adjusted Amount (A)	9.7975
Signal-to-Noise	95
Client Flags	
Status Overview	passed
Status Info	

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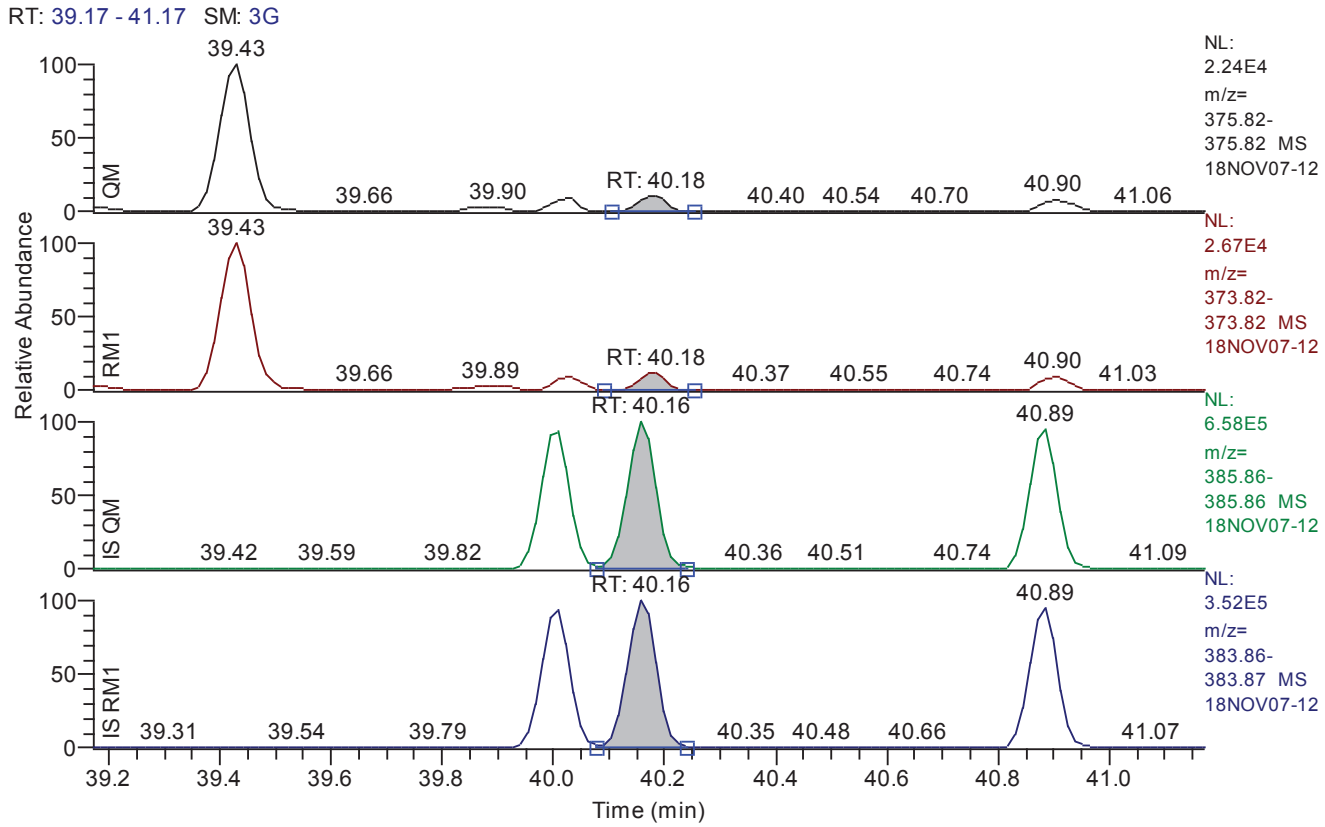
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	8569
QM Integration Mode	A
RM1 Area	11152
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0259
Unqualified Amount (A)	11.322730
Adjusted Amount (A)	11.3227
Signal-to-Noise	111
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

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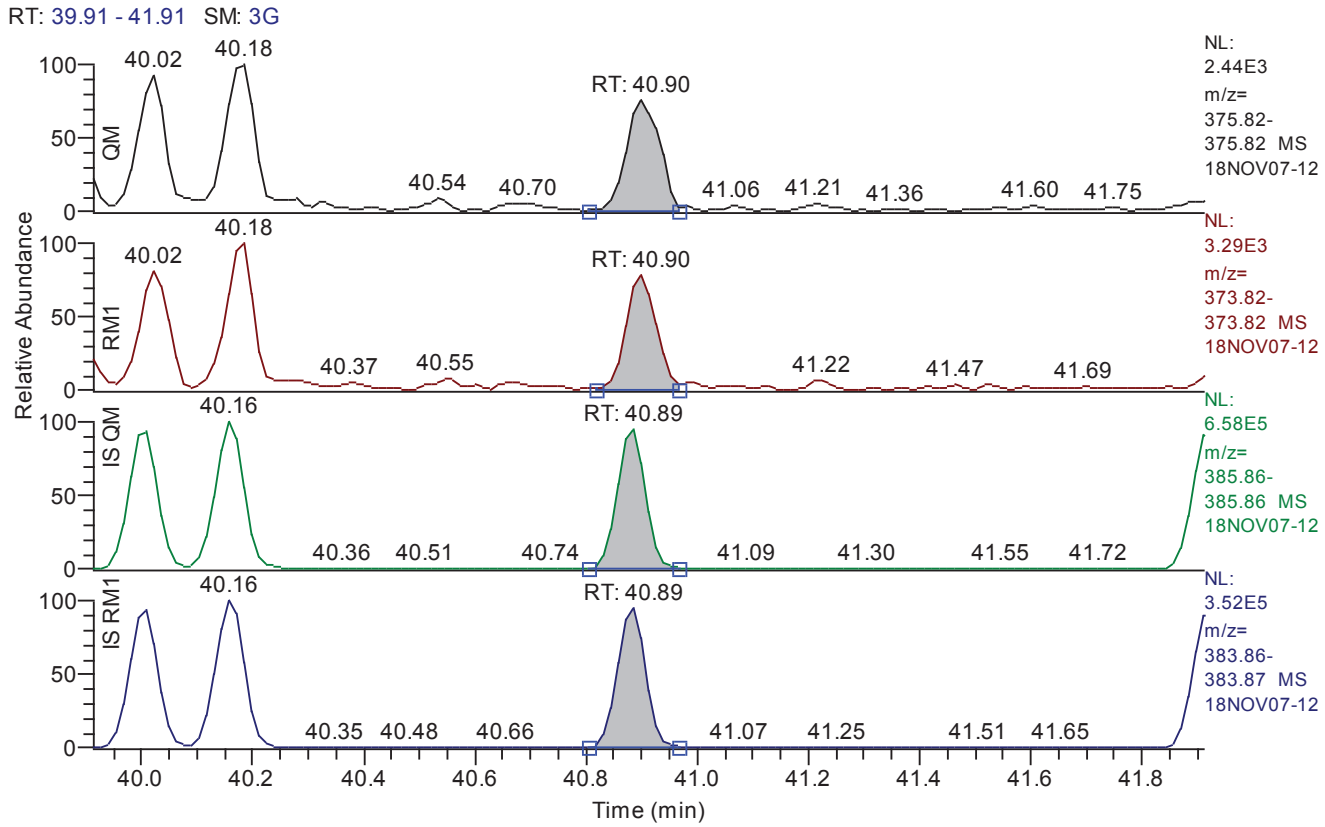
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.90
QM Area	7585
QM Integration Mode	A
RM1 Area	9638
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0254
Unqualified Amount (A)	9.944991
Adjusted Amount (A)	9.9450
Signal-to-Noise	88
Client Flags	
Status Overview	passed
Status Info	

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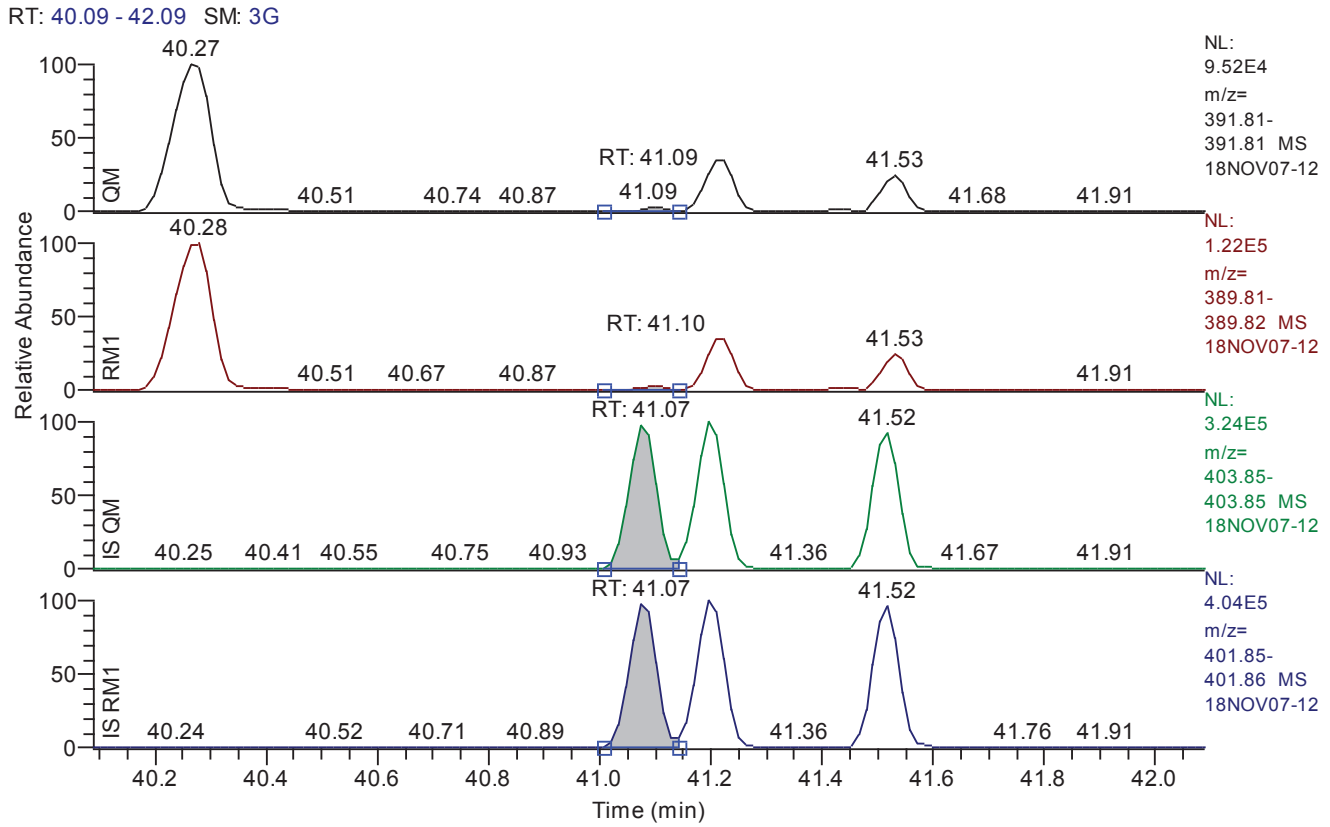
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.09
QM Area	10862
QM Integration Mode	A
RM1 Area	13300
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0461
Unqualified Amount (A)	23.289248
Adjusted Amount (A)	23.2892
Signal-to-Noise	125
Client Flags	
Status Overview	passed
Status Info	

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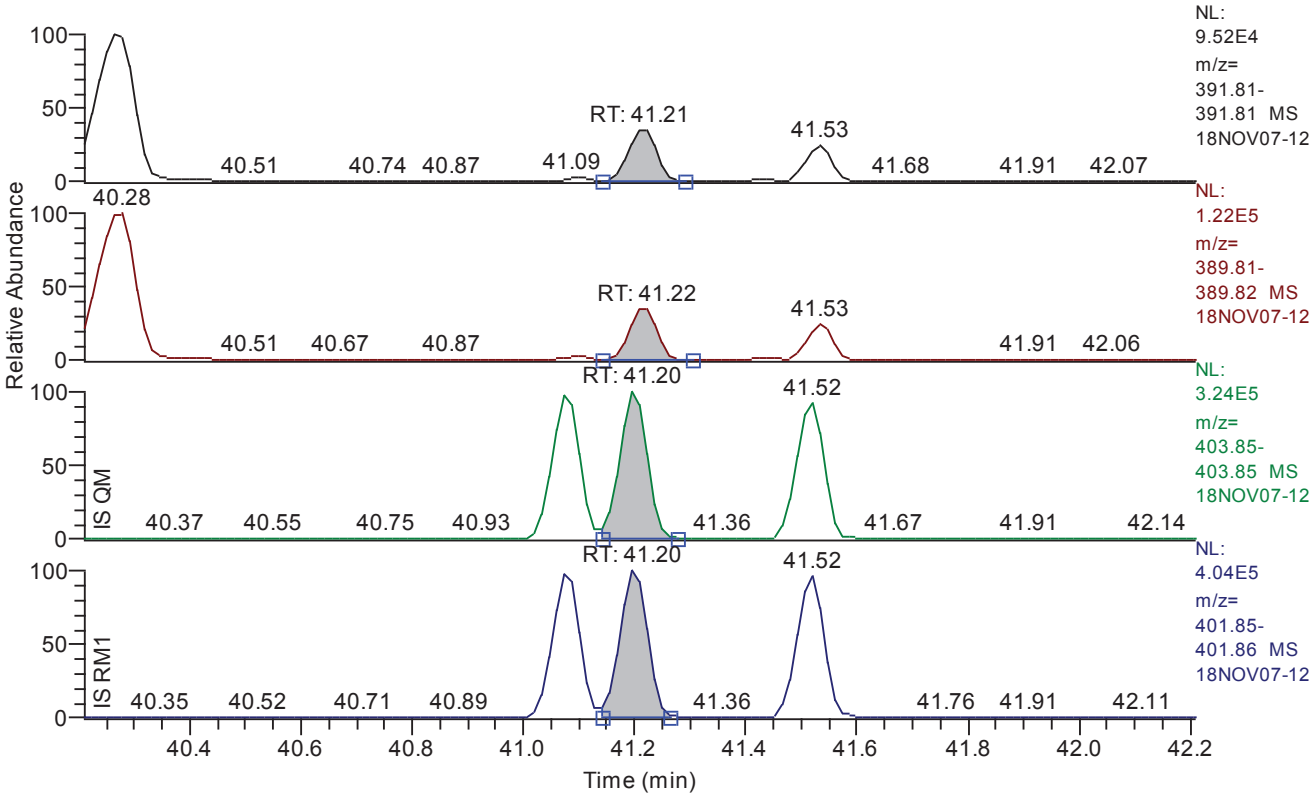
Chromatogram

RT: 40.21 - 42.21 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.21
QM Area	122574
QM Integration Mode	A
RM1 Area	152118
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0455
Unqualified Amount (A)	263.943859
Adjusted Amount (A)	263.9439
Signal-to-Noise	1384
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 12:12 pm, 11/8/18

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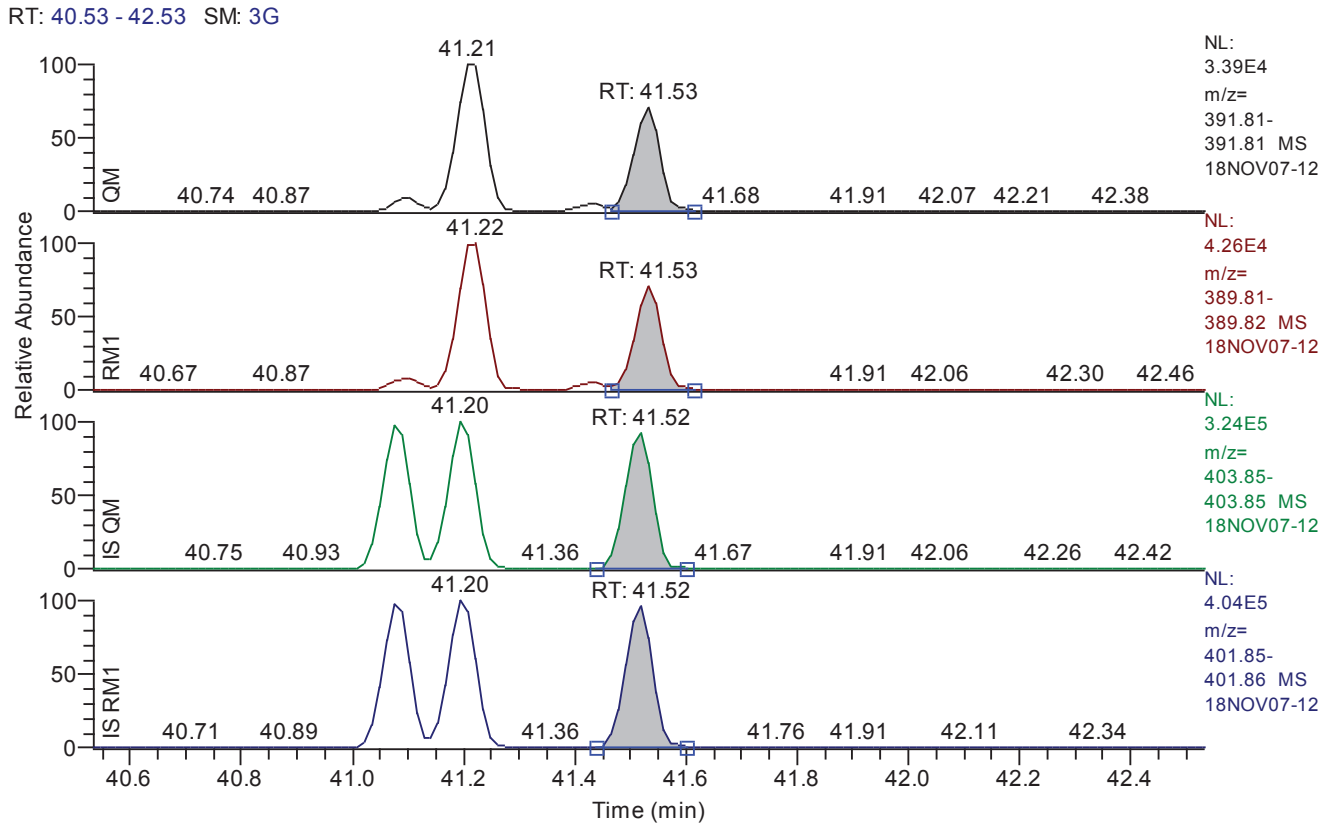
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.53
QM Area	78366
QM Integration Mode	A
RM1 Area	99833
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0454
Unqualified Amount (A)	171.035985
Adjusted Amount (A)	171.0360
Signal-to-Noise	977
Client Flags	
Status Overview	passed
Status Info	

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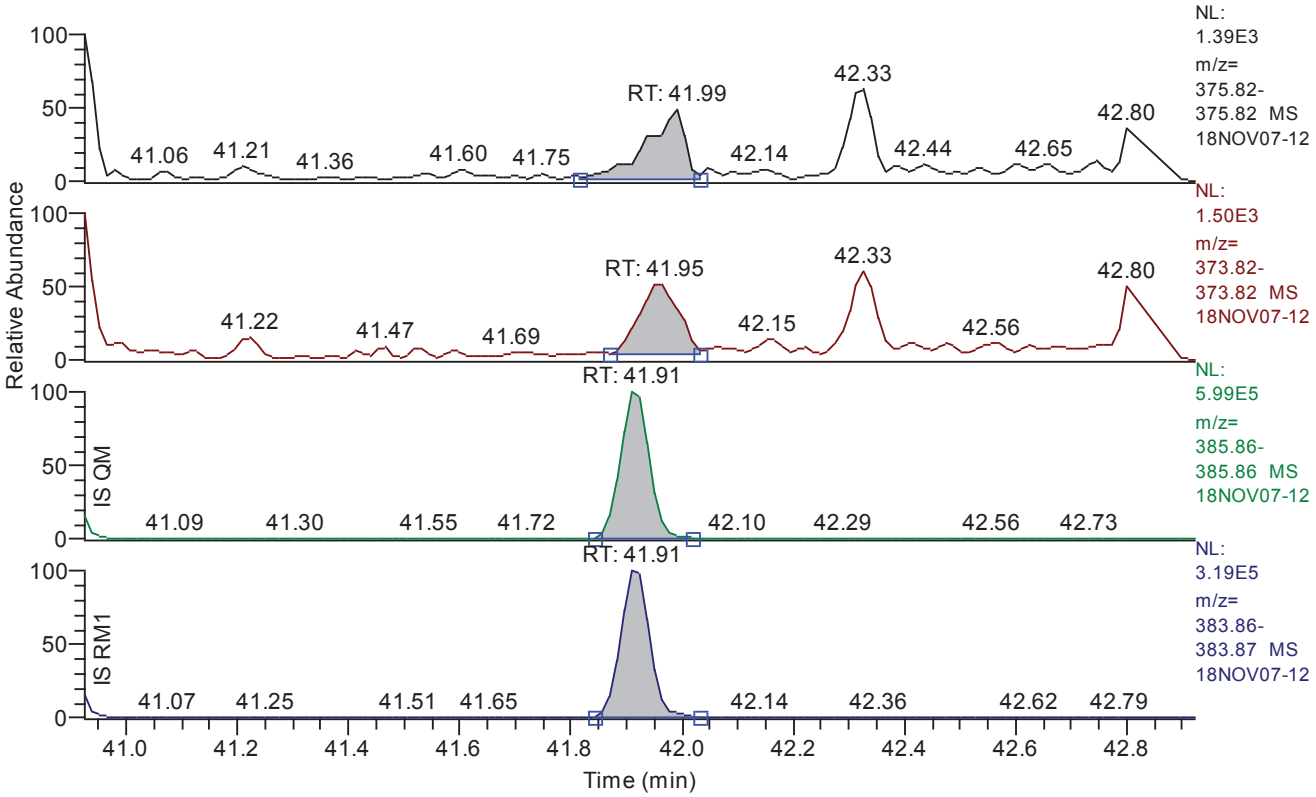
Chromatogram

RT: 40.92 - 42.92 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.99
QM Area	3193
QM Integration Mode	A
RM1 Area	3577
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0291
Unqualified Amount (A)	4.314382
Adjusted Amount (A)	n.d.
Signal-to-Noise	27
Client Flags	
Status Overview	failed
Status Info	Failed on: RM2Time < min

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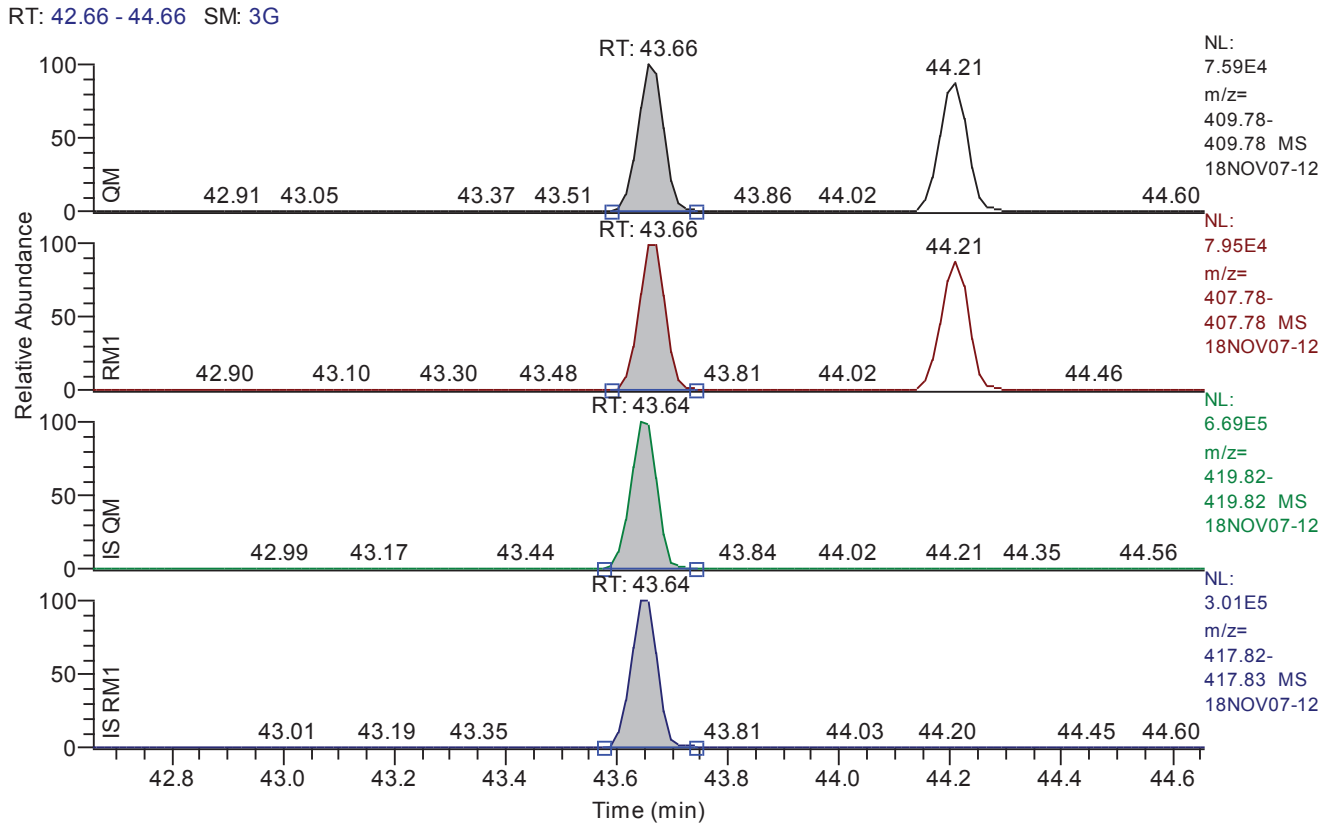
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.66
QM Area	252848
QM Integration Mode	A
RM1 Area	268451
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0165
Unqualified Amount (A)	298.278723
Adjusted Amount (A)	298.2787
Signal-to-Noise	4582
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:12 pm, 11/8/18

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By uild at 10:41 am, 11/9/18

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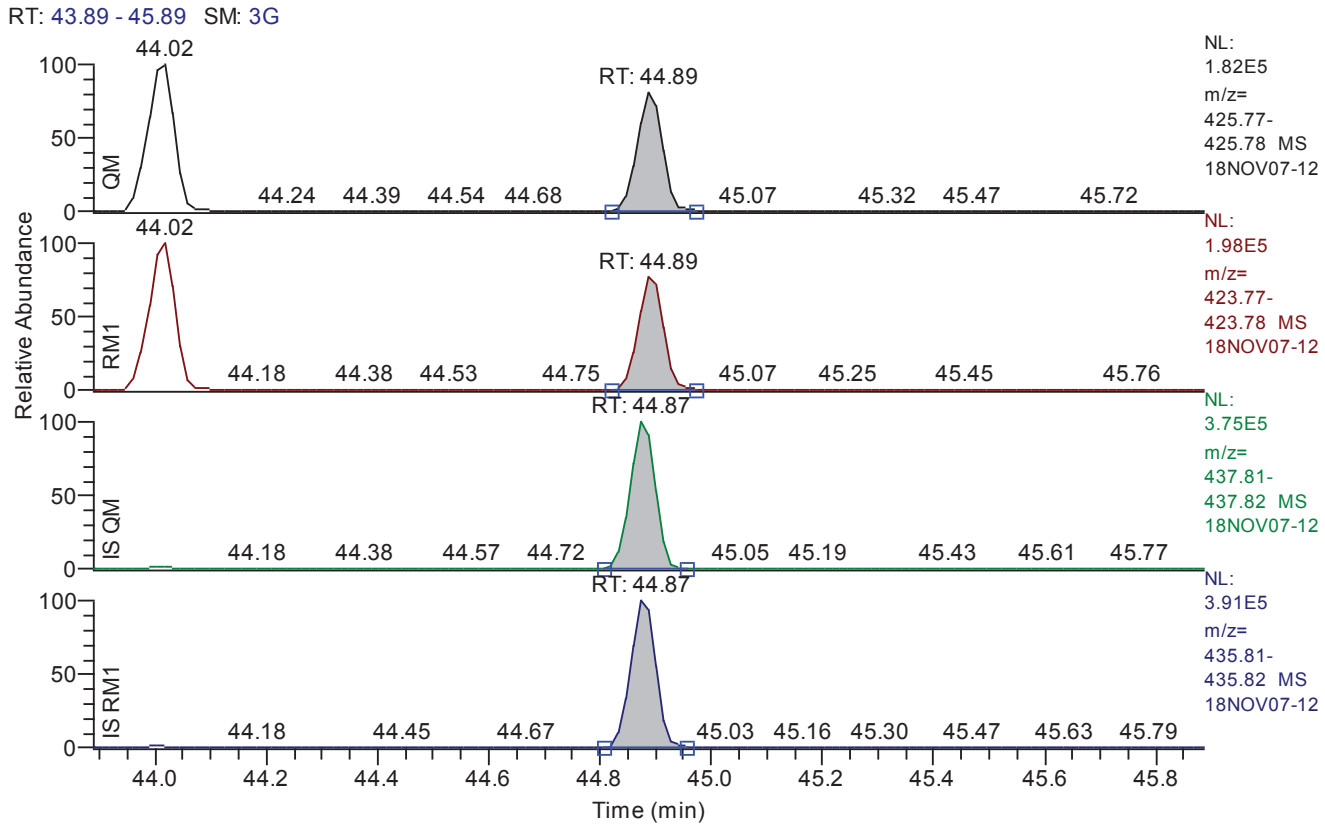
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	480468
QM Integration Mode	A
RM1 Area	498624
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0763
Unqualified Amount (A)	910.610688
Adjusted Amount (A)	910.6107
Signal-to-Noise	2969
Client Flags	
Status Overview	passed
Status Info	

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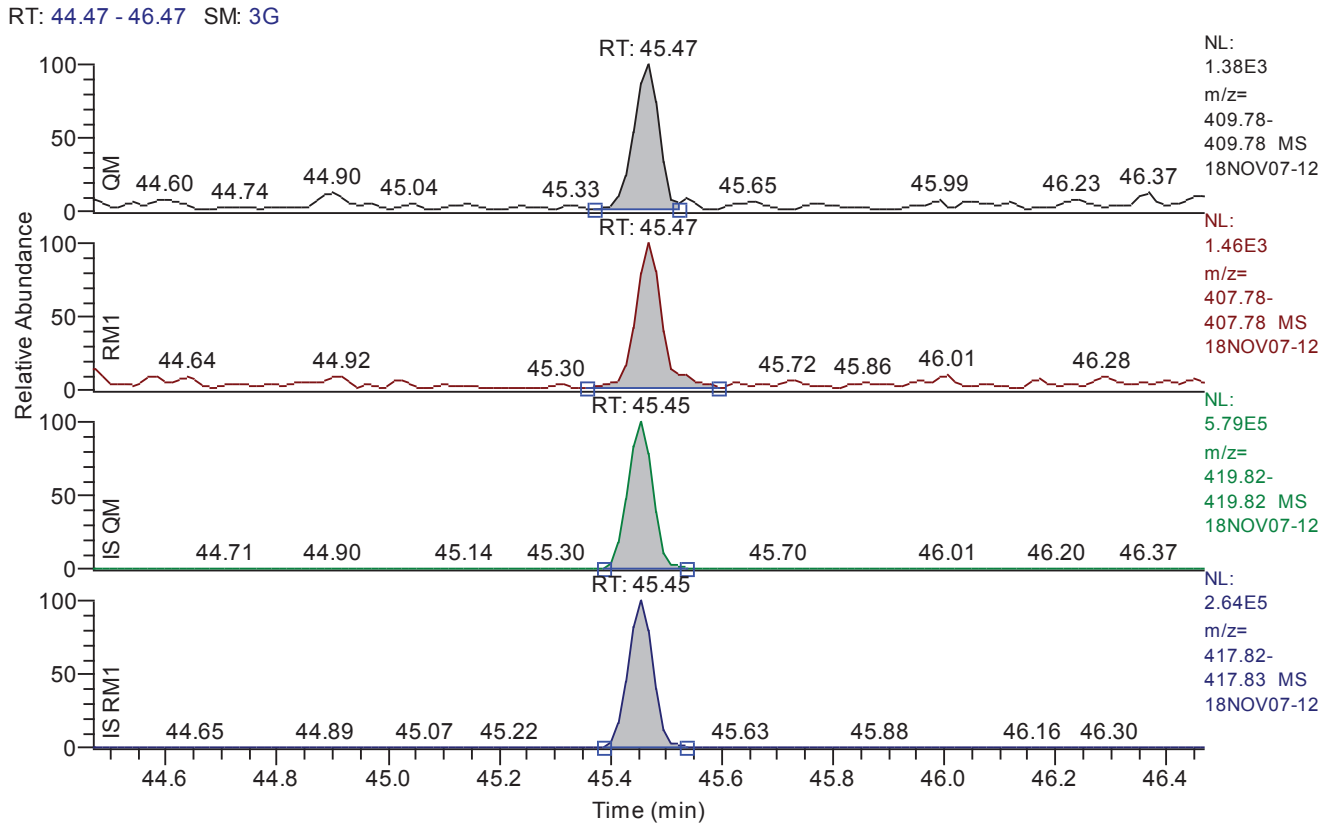
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	4438
QM Integration Mode	A
RM1 Area	4916
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0185
Unqualified Amount (A)	6.314817
Adjusted Amount (A)	6.3148
Signal-to-Noise	82
Client Flags	
Status Overview	passed
Status Info	

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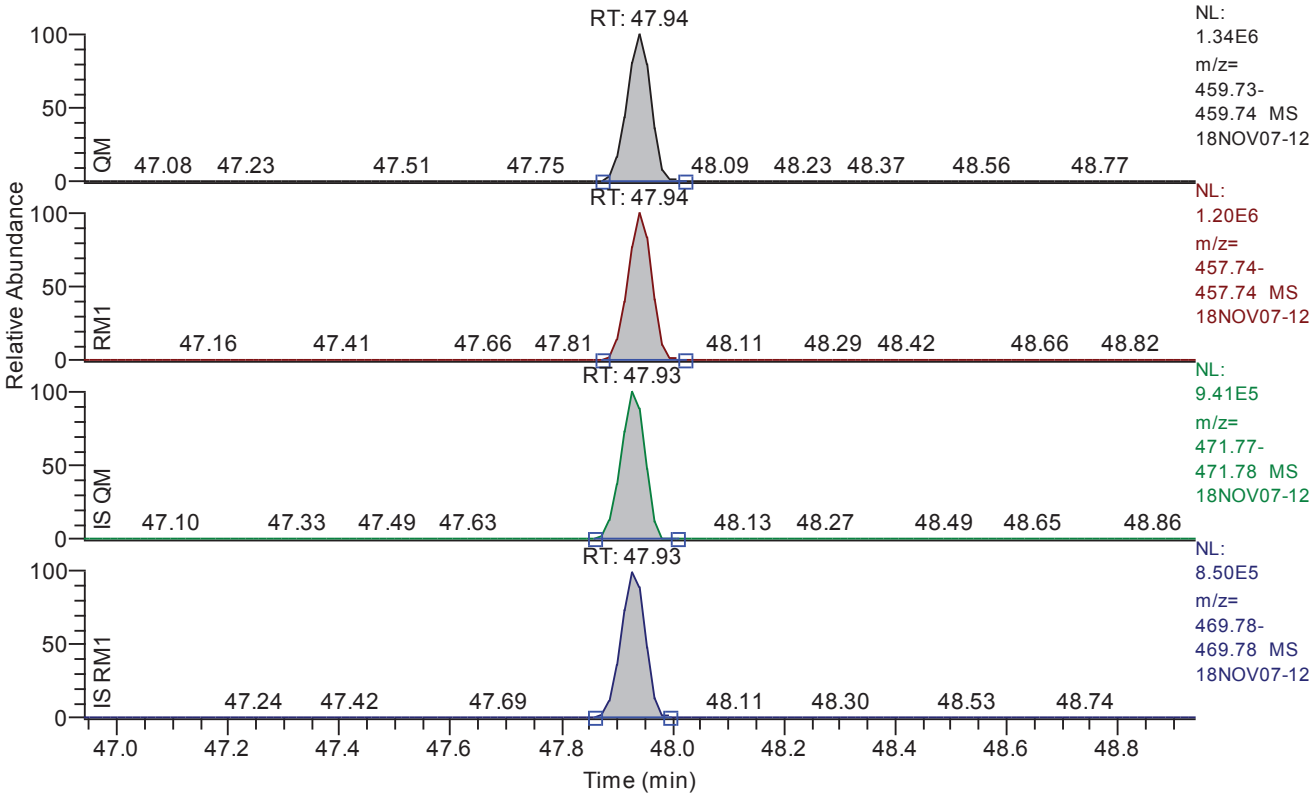
Chromatogram

RT: 46.94 - 48.94 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	47.94
QM Area	4020056
QM Integration Mode	A
RM1 Area	3610164
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0374
Unqualified Amount (A)	6661.522062
Adjusted Amount (A)	6661.5221
Signal-to-Noise	44929
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 12:12 pm, 11/8/18

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By uild at 10:41 am, 11/9/18

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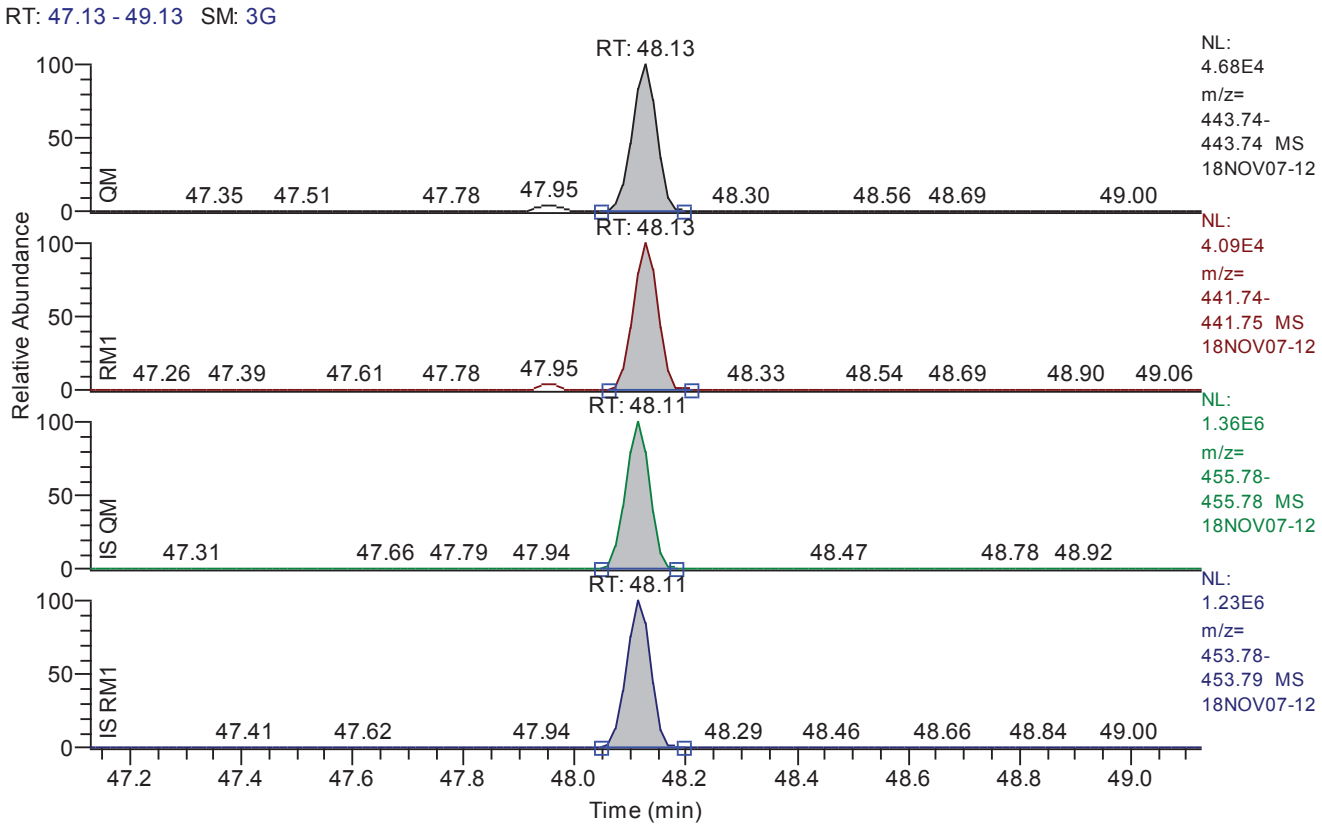
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.13
QM Area	142172
QM Integration Mode	A
RM1 Area	125557
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0143
Unqualified Amount (A)	175.582805
Adjusted Amount (A)	175.5828
Signal-to-Noise	3029
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 12:12 pm, 11/8/18

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By uild at 10:41 am, 11/9/18

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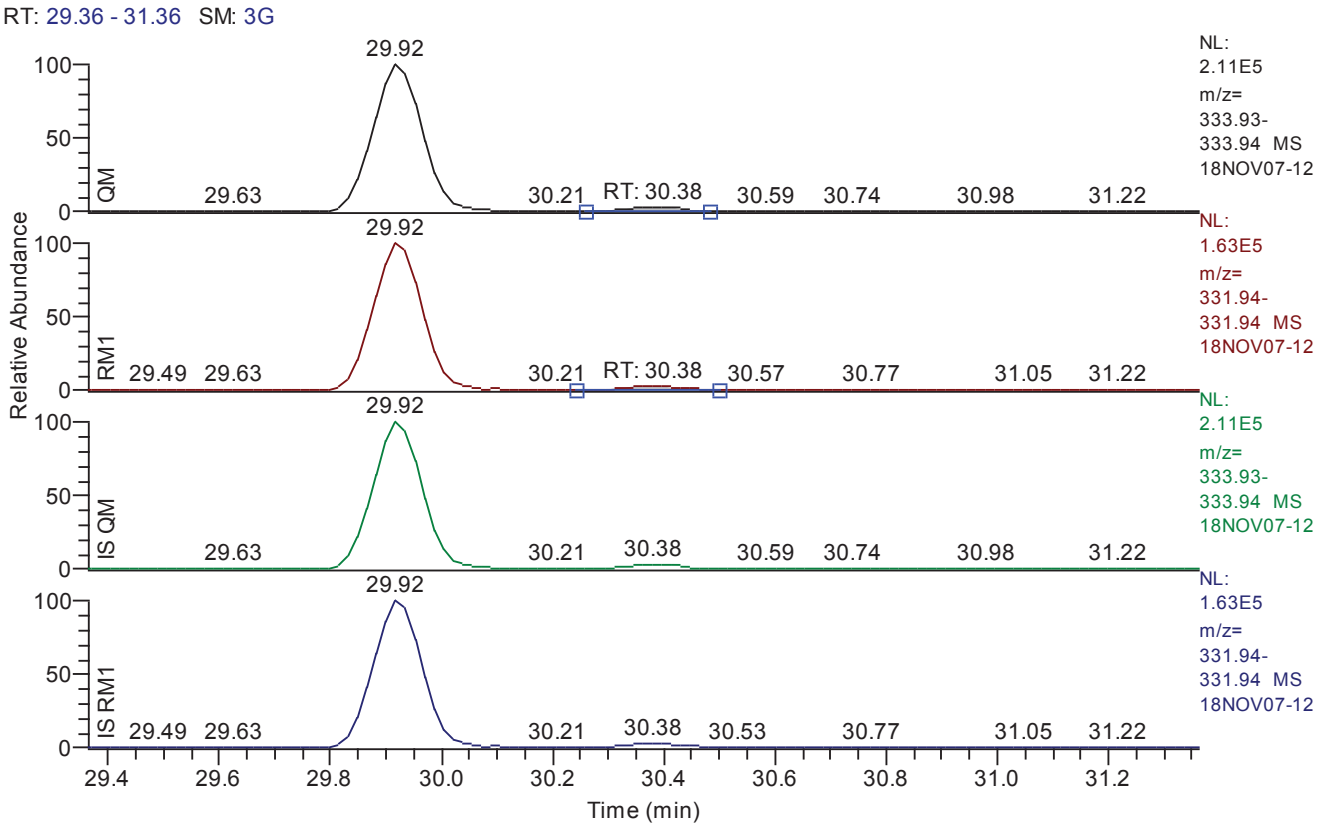
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.38
QM Area	43932
QM Integration Mode	A
RM1 Area	37199
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0478
Unqualified Amount (A)	73.572568
Adjusted Amount (A)	73.5726
Signal-to-Noise	332
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 12:12 pm, 11/8/18

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By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.80	28.84	28.84	28.81	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.93	29.95	29.95	29.92	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.94	34.94	34.93	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.25	36.30	36.29	36.26	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.65	36.67	36.67	36.66	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.02	40.02	40.02	40.01	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.18	40.18	40.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.89	40.90	40.90	40.89	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.09	41.10	41.07	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.21	41.22	41.20	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.53	41.53	41.52	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.92	41.99	41.95	41.91	passed	failed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.65	43.66	43.66	43.64	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.88	44.89	44.89	44.87	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.46	45.47	45.47	45.45	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.94	47.94	47.93	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.12	48.13	48.13	48.11	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.34	30.38	30.38	30.38	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.04	29.06	29.06	29.06	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.91	39.92	39.92	39.92	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.78	28.81	28.81	28.82	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.92	29.92	29.92	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.91	34.93	34.93	35.07	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.26	36.26	36.59	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.66	36.66	36.66	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.01	40.01	40.00	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.15	40.16	40.16	40.05	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.89	40.89	40.72	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.07	41.07	41.07	41.07	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.20	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.52	41.52	41.52	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.91	41.91	41.92	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.64	43.64	43.64	43.56	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.87	44.87	44.87	44.87	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.45	45.45	45.45	45.27	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.92	47.93	47.93	47.93	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.11	48.11	48.05	passed	passed

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.84	0.3988	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	29.95	0.6551	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	34.94	1.7884	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.30	1.5850	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.67	1.6584	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.02	1.2665	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.18	1.3015	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.90	1.2708	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.09	1.2244	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.21	1.2410	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.53	1.2739	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.99	1.1202	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.66	1.0617	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.89	1.0378	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.47	1.1078	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.94	0.8980	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.13	0.8831	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.38	0.8467	0.6450 - 0.8950	passed	37.30	35 - 197	passed
19	13C12-1234-TCDD	29.06	0.8121	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.2619	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.81	0.8040	0.6450 - 0.8950	passed	105.06	40 - 135	passed
22	13C12-2378-TCDD	29.92	0.7685	0.6450 - 0.8950	passed	100.30	40 - 135	passed
23	13C12-12378-PeCDF	34.93	1.6137	1.3150 - 1.7850	passed	102.04	40 - 135	passed
24	13C12-23478-PeCDF	36.26	1.5983	1.3150 - 1.7850	passed	99.67	40 - 135	passed
25	13C12-12378-PeCDD	36.66	1.5830	1.3150 - 1.7850	passed	93.00	40 - 135	passed
26	13C12-123478-HxCDF	40.01	0.5269	0.4250 - 0.5950	passed	106.73	40 - 135	passed
27	13C12-123678-HxCDF	40.16	0.5426	0.4250 - 0.5950	passed	107.03	40 - 135	passed
28	13C12-234678-HxCDF	40.89	0.5361	0.4250 - 0.5950	passed	108.25	40 - 135	passed
29	13C12-123478-HxCDD	41.07	1.2378	1.0450 - 1.4350	passed	98.66	40 - 135	passed
30	13C12-123678-HxCDD	41.20	1.2623	1.0450 - 1.4350	passed	97.15	40 - 135	passed
31	13C12-123789-HxCDD	41.52	1.2839	1.0450 - 1.4350	passed	97.23	40 - 135	passed
32	13C12-123789-HxCDF	41.91	0.5322	0.4250 - 0.5950	passed	117.25	40 - 135	passed
33	13C12-1234678-HpCDF	43.64	0.4527	0.3650 - 0.5150	passed	112.02	40 - 135	passed
34	13C12-1234678-HpCDD	44.87	1.0459	0.8750 - 1.2050	passed	101.47	40 - 135	passed
35	13C12-1234789-HpCDF	45.45	0.4564	0.3650 - 0.5150	passed	112.33	40 - 135	passed
36	13C12-OCDD	47.93	0.8993	0.7550 - 1.0250	passed	114.20	40 - 135	passed
37	13C12-OCDF	48.11	0.9090	0.7550 - 1.0250	passed	122.73	40 - 135	passed

APPROVED
By uma9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	28.84	4639	A	1850	A	0.0526	3.537607	n.d.	0.000000	18	
2	2378-TCDD	passed	29.95	2045	A	1340	A	0.0358	2.955713	2.9557	0.000000	23	
3	12378-PeCDF	failed	34.94	2172	A	3884	A	0.0306	4.004835	n.d.	0.000000	35	
4	23478-PeCDF	passed	36.30	6865	A	10881	A	0.0258	10.732760	10.7328	0.000000	67	
5	12378-PeCDD	passed	36.67	21556	A	35749	A	0.0755	66.053153	66.0532	0.000000	217	
6	123478-HxCDF	passed	40.02	7280	A	9221	A	0.0266	9.797505	9.7975	0.000000	95	
7	123678-HxCDF	passed	40.18	8569	A	11152	A	0.0259	11.322730	11.3227	0.000000	111	
8	234678-HxCDF	passed	40.90	7585	A	9638	A	0.0254	9.944991	9.9450	0.000000	88	
9	123478-HxCDD	passed	41.09	10862	A	13300	A	0.0461	23.289248	23.2892	0.000000	125	
10	123678-HxCDD	passed	41.21	122574	A	152118	A	0.0455	263.943859	263.9439	0.000000	1384	
11	123789-HxCDD	passed	41.53	78366	A	99833	A	0.0454	171.035985	171.0360	0.000000	977	
12	123789-HxCDF	failed	41.99	3193	A	3577	A	0.0291	4.314382	n.d.	0.000000	27	
13	1234678-HpCDF	passed	43.66	252848	A	268451	A	0.0165	298.278723	298.2787	0.000000	4582	
14	1234678-HpCDD	passed	44.89	480468	A	498624	A	0.0763	910.610688	910.6107	0.000000	2969	
15	1234789-HpCDF	passed	45.47	4438	A	4916	A	0.0185	6.314817	6.3148	0.000000	82	
16	OCDD	passed	47.94	4020056	A	3610164	A	0.0374	6661.522062	6661.5221	0.000000	44929	
17	OCDF	passed	48.13	142172	A	125557	A	0.0143	175.582805	175.5828	0.000000	3029	
18	13C12-1278-TCDD (CRS)	passed	30.38	43932	A	37199	A	0.0478	73.572568	73.5726	197.238659	332	
19	13C12-1234-TCDD	passed	29.06	1278824	A	1038552	A	0.0494	2169.625247	2169.6252	2169.625247	10983	
20	13C12-123468-HxCDD	passed	39.92	1119692	A	1412887	A	0.0424	2169.625247	2169.6252	2169.625247	12799	
21	13C12-2378-TCDF	passed	28.81	2389264	A	1920887	A	0.0326	2279.476428	2279.4764	2169.625247	17444	
22	13C12-2378-TCDD	passed	29.92	1283941	A	986684	A	0.0506	2176.149824	2176.1498	2169.625247	10122	
23	13C12-12378-PeCDF	passed	34.93	1476525	A	2382617	A	0.0706	2213.869769	2213.8698	2169.625247	9870	
24	13C12-23478-PeCDF	passed	36.26	1451956	A	2320636	A	0.0705	2162.502984	2162.5030	2169.625247	10467	
25	13C12-12378-PeCDD	passed	36.66	813529	A	1287852	A	0.0458	2017.651425	2017.6514	2169.625247	15304	
26	13C12-123478-HxCDF	passed	40.01	2240831	A	1180762	A	0.0591	2315.555260	2315.5553	2169.625247	9372	
27	13C12-123678-HxCDF	passed	40.16	2346690	A	1273265	A	0.0560	2322.122417	2322.1224	2169.625247	9869	
28	13C12-234678-HxCDF	passed	40.89	2206783	A	1183114	A	0.0605	2348.530923	2348.5309	2169.625247	9483	
29	13C12-123478-HxCDD	passed	41.07	1104518	A	1367193	A	0.0428	2140.604437	2140.6044	2169.625247	12341	
30	13C12-123678-HxCDD	passed	41.20	1103761	A	1393262	A	0.0418	2107.731323	2107.7313	2169.625247	12566	
31	13C12-123789-HxCDD	passed	41.52	1037304	A	1331841	A	0.0440	2109.453280	2109.4533	2169.625247	11947	
32	13C12-123789-HxCDF	passed	41.91	2183211	A	1161978	A	0.0664	2543.988218	2543.9882	2169.625247	9002	
33	13C12-1234678-HpCDF	passed	43.64	2274290	A	1029548	A	0.0769	2430.499727	2430.4997	2169.625247	7947	
34	13C12-1234678-HpCDD	passed	44.87	1217481	A	1273310	A	0.0655	2201.510072	2201.5101	2169.625247	8850	
35	13C12-1234789-HpCDF	passed	45.45	1867886	A	852566	A	0.0936	2437.163757	2437.1638	2169.625247	6899	
36	13C12-OCDD	passed	47.93	2869498	A	2580419	A	0.0220	4955.286108	4955.2861	4339.250493	63500	
37	13C12-OCDF	passed	48.11	4097292	A	3724328	A	0.0297	5325.750805	5325.7508	4339.250493	50856	

APPROVED
By uma9 at 12:12 pm, 11/8/18

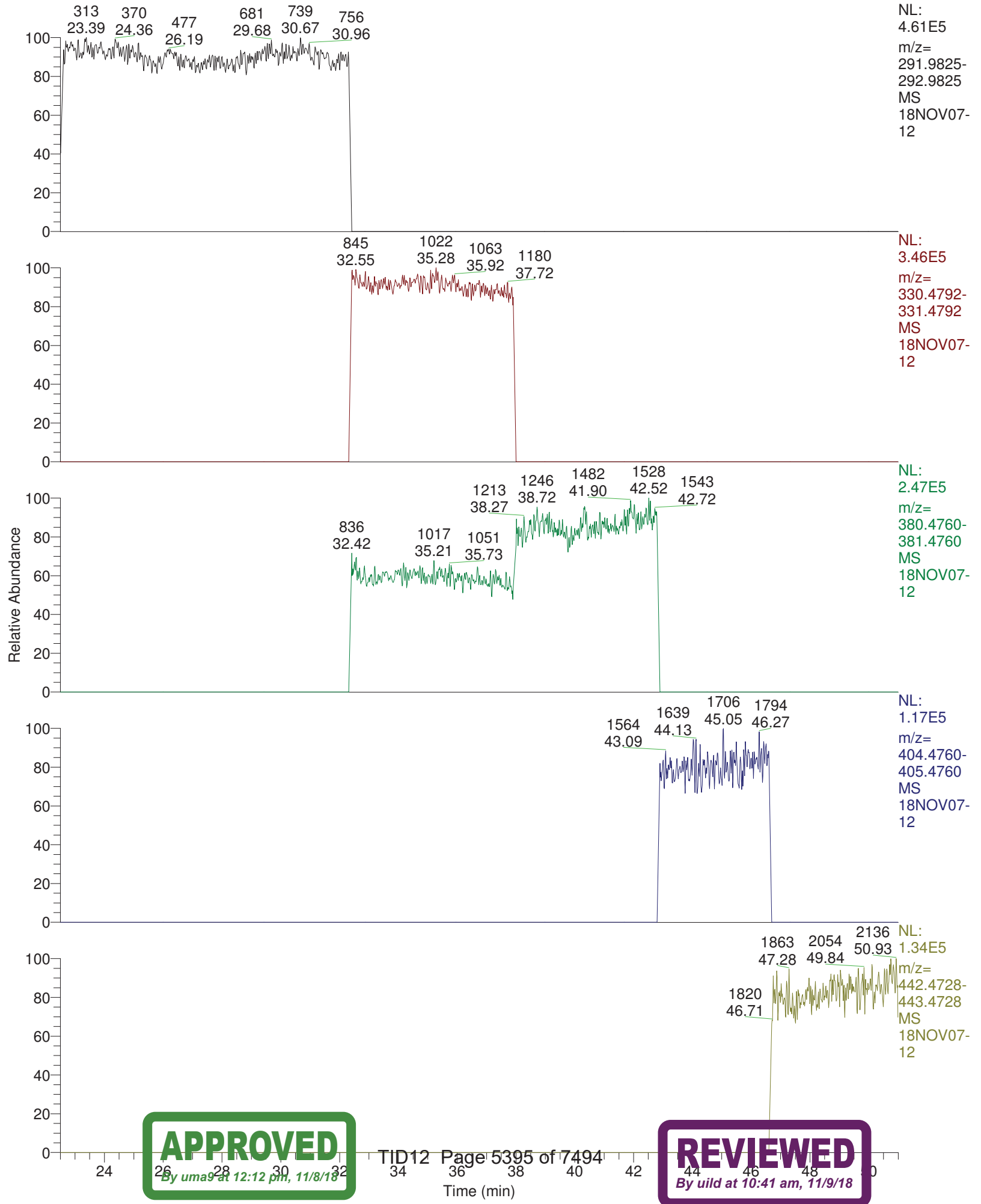
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-12
Sample ID: 9872064DL

Acq. Data: 11/8/2018 1:28:28 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV07

RT: 22.50 - 51.00



APPROVED
By uma9 at 12:12 pm, 11/8/18

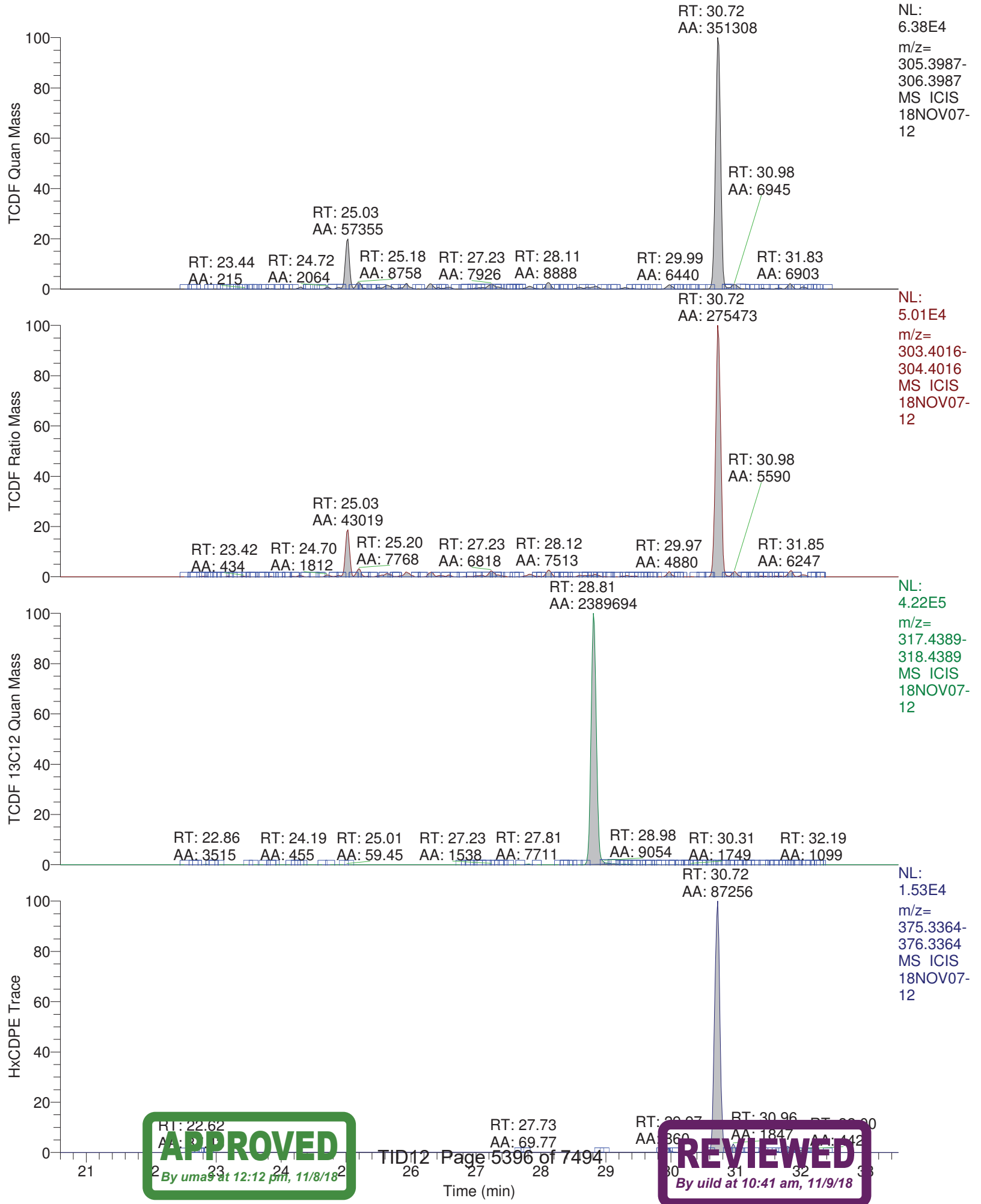
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-12
Sample ID: 9872064DL

Acq. Data: 11/8/2018 1:28:28 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 20.60 - 33.50



APPROVED
By umas at 12:12 pm, 11/8/18

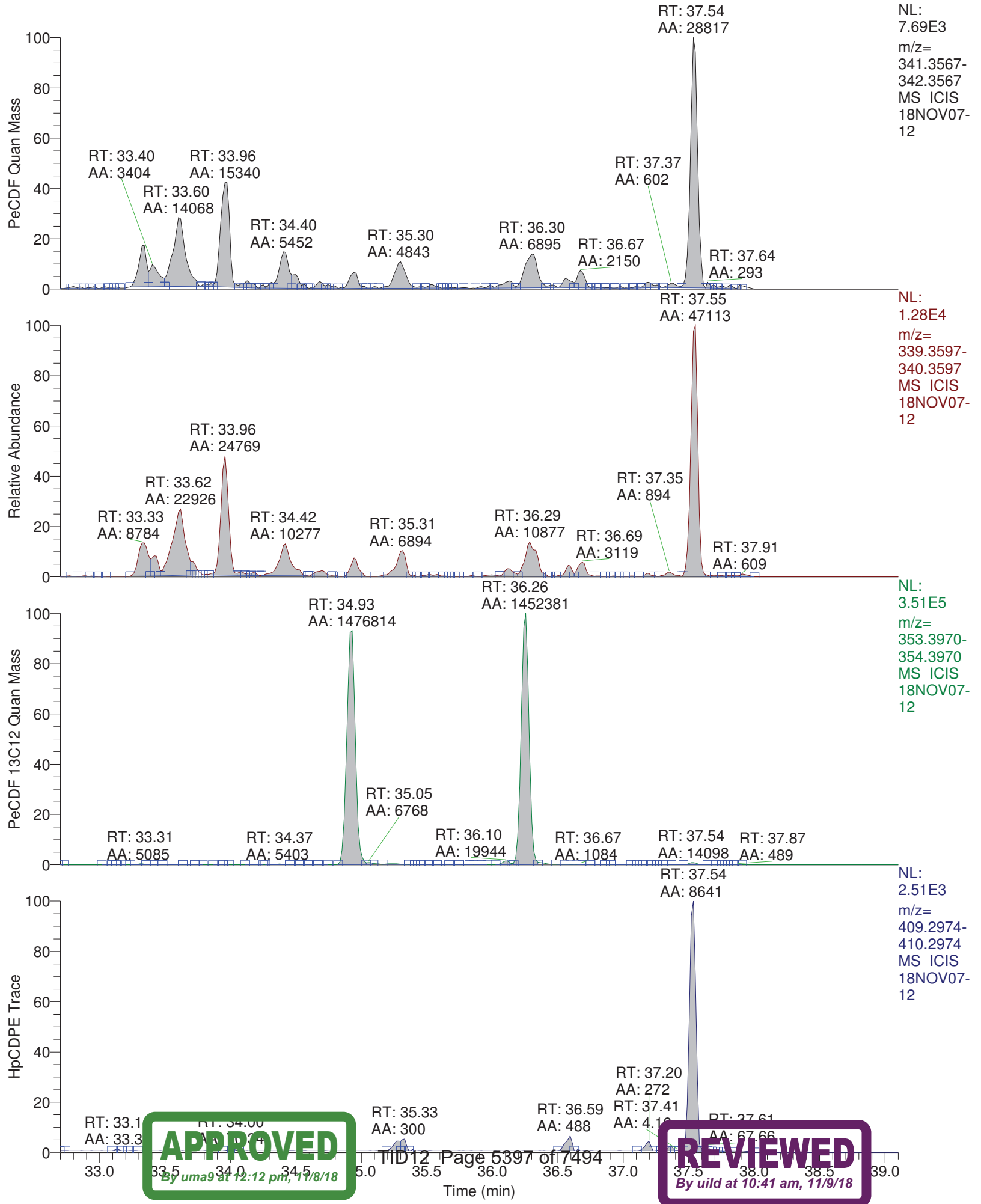
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-12
Sample ID: 9872064DL

Acq. Data: 11/8/2018 1:28:28 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 32.70 - 39.10



APPROVED
By uma9 at 12:12 pm, 11/8/18

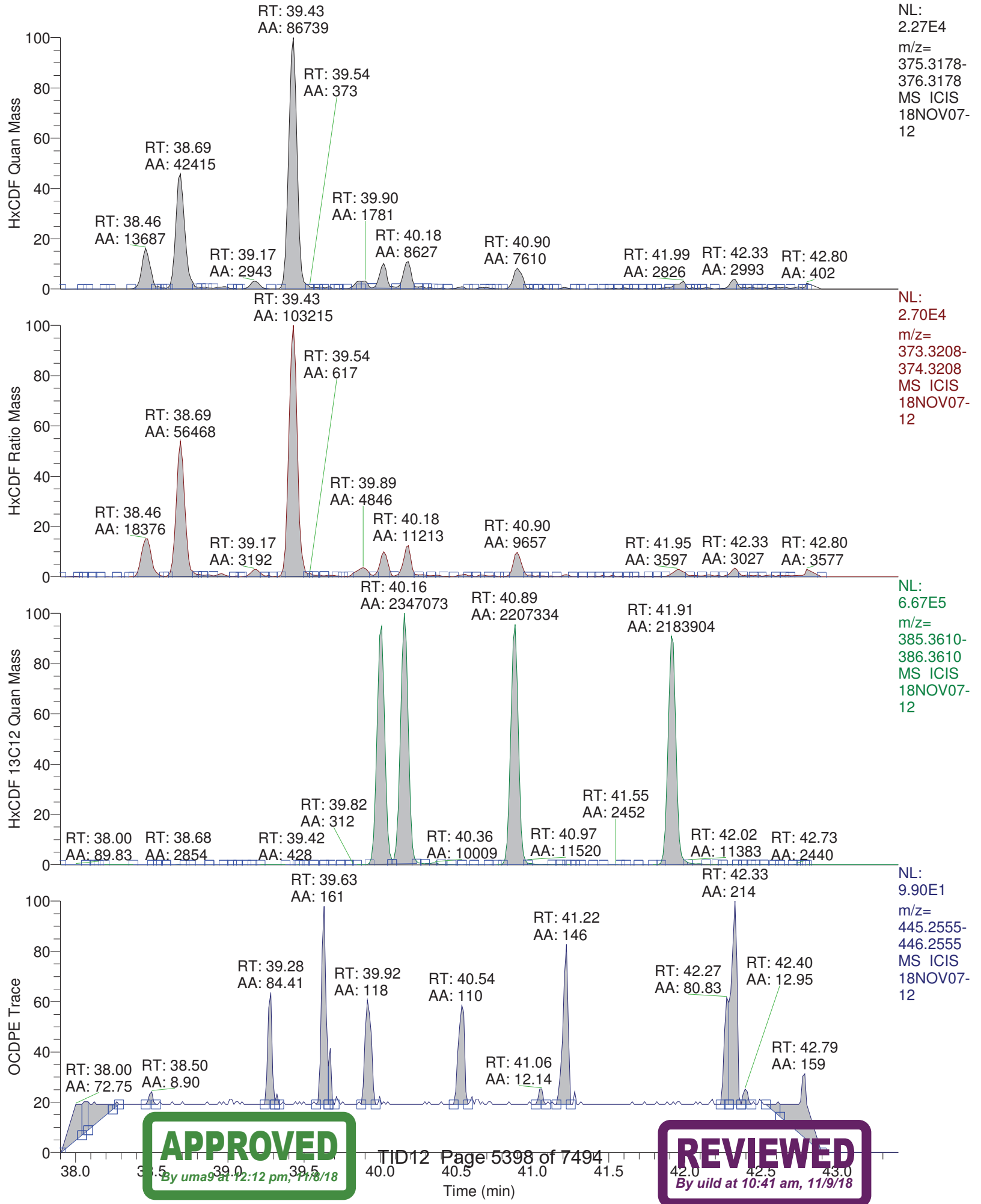
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-12
Sample ID: 9872064DL

Acq. Data: 11/8/2018 1:28:28 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 37.90 - 43.40



APPROVED
By uma9 at 12:12 pm, 11/8/18

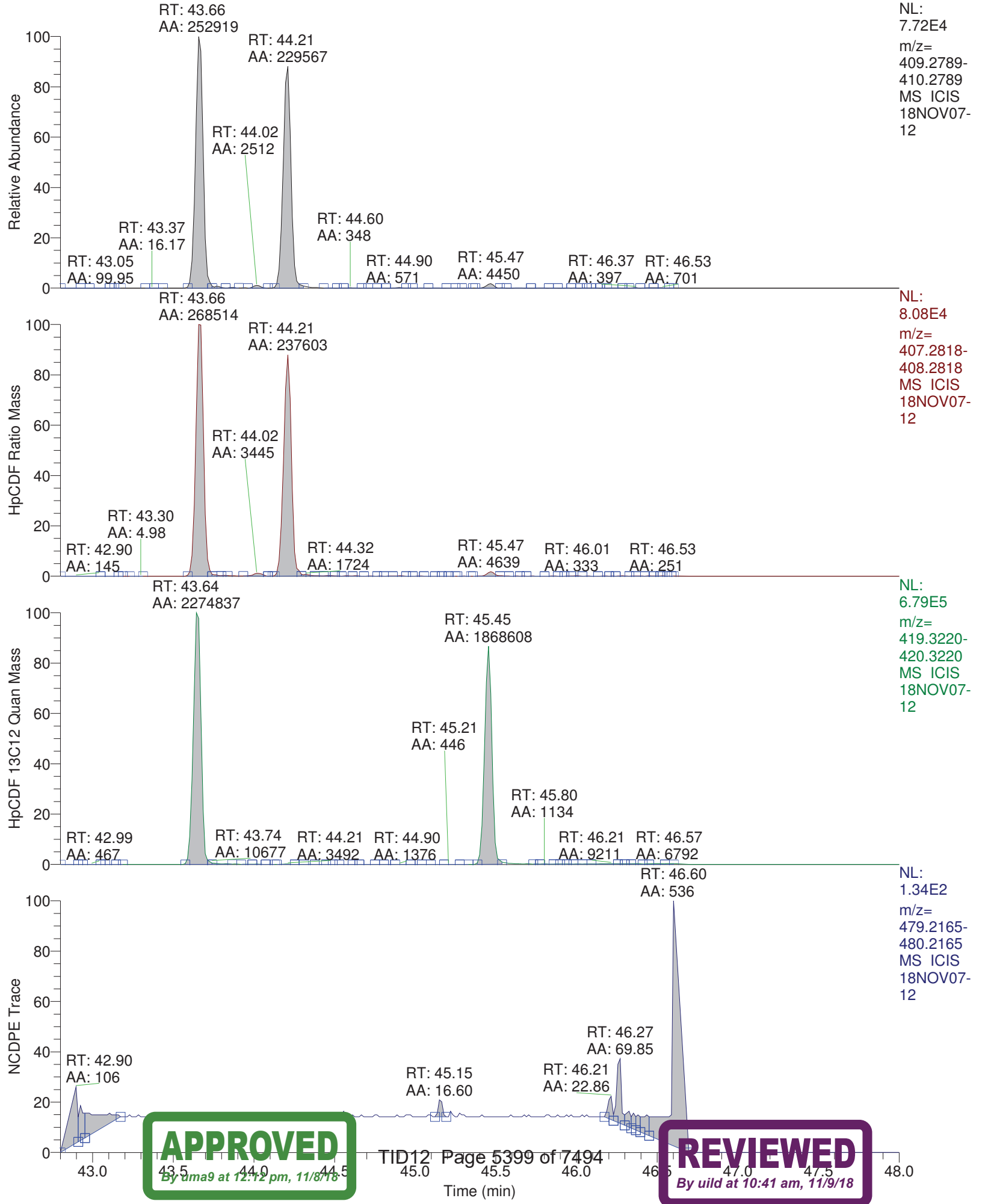
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-12
Sample ID: 9872064DL

Acq. Data: 11/8/2018 1:28:28 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 42.80 - 48.00



APPROVED
By uma9 at 12:12 pm, 11/8/18

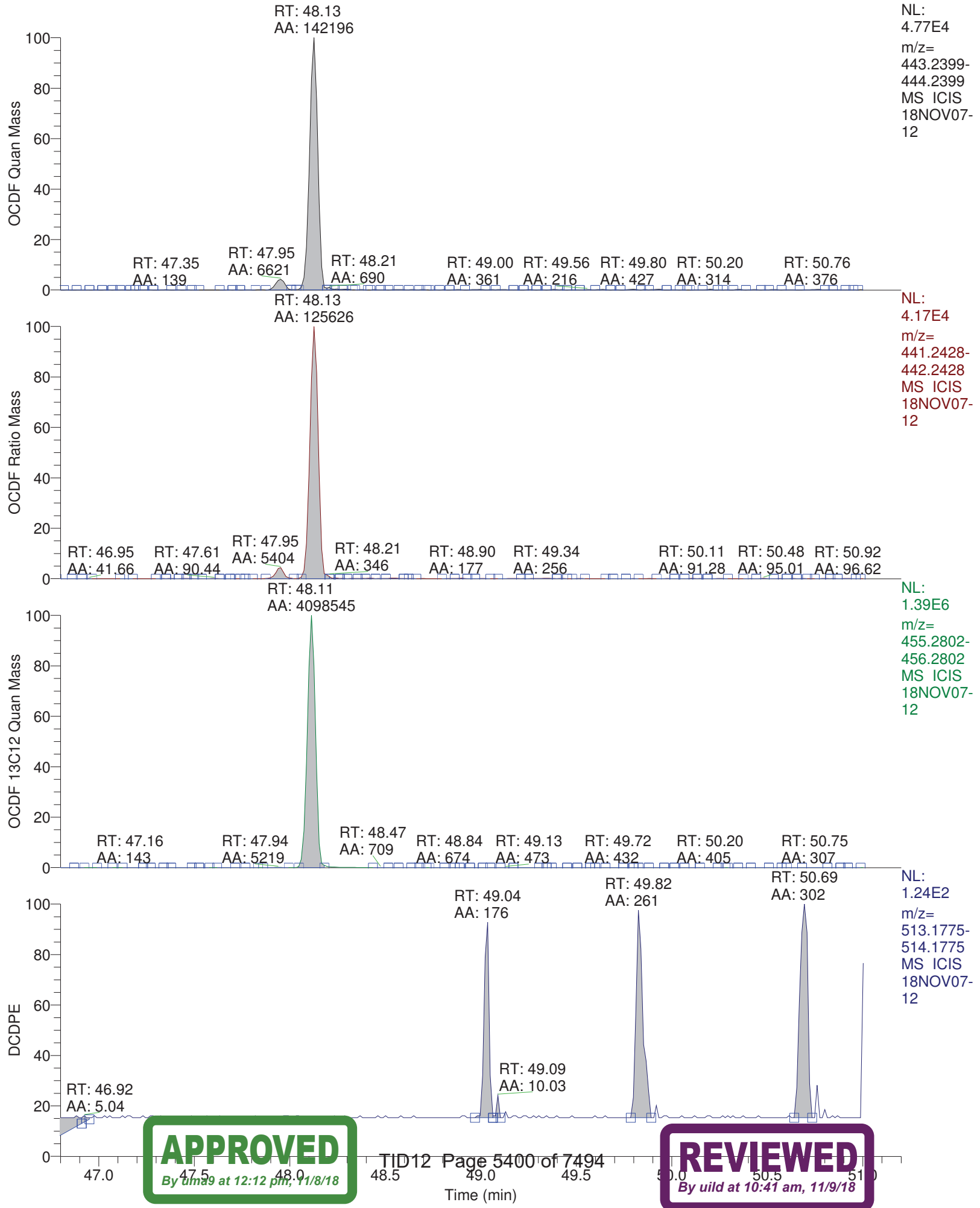
REVIEWED
By uild at 10:41 am, 11/9/18

File Name: W:\18NOV07\18NOV07-12
Sample ID: 9872064DL

Acq. Data: 11/8/2018 1:28:28 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU006-14 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF17280-18NOV07

RT: 46.80 - 51.20



APPROVED
By umad9 at 12:12 pm, 11/8/18

REVIEWED
By uild at 10:41 am, 11/9/18

*** file opened Thu Nov 08 01:34:12 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 08-Nov-18 01:34:11

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 942b750e-bb72-49d7-85db-36b7fb54dc11

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.500000 minutes
MID Window end time was 22.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
```

```
MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS           94.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ         1449.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS            210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR           -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             232.6644   FMII           50.0000   FQUAD            7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0186   FVINLET         0.0431   FVSRC            0.0333
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII           500.0000
 LMASS           94.0000   LKM           442.9723   MASS            94.0000
 MDAC        1388780.0841  MRANGE       1311.4489   NSAM           200.0000
 NSCAN         2166.0000   NSMAX           2.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER          -1.0000   RECURR          0.9797   RELEN            0.0000
 RES          14356.8281   RPUSHER        -1.0916   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0198   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0019   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          94.0000   XLENS_POT      752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM        2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.9e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11920.
MID Time Window 2: Resolution is 11895.
MID Time Window 3: Resolution is 11896.
MID Time Window 4: Resolution is 12127.
```

```
  MID Time Window 5: Resolution is 13434.
  MID Time Window 6: Resolution is 14356.

  Amplifier Offset: 91.


*** File closed Thu Nov 08 02:25:14 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 13:40
Number of Entries	247
Comment	S:11030:12937:17962
Vial	112
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Sample ID	9872065
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-07.quan
Data	z:\18nov06\18nov06-07.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.08
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.46	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.56	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	35.41	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.72	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.11	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.41	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.57	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.29	failed	passed	passed	failed on	passed	passed	failed on IS Ratio1
9	123478-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.58	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.91	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.33	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.03	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.24	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.81	passed	passed	passed	passed	passed	passed	
16	OCDD	48.29	failed	passed	passed	failed on	passed	passed	failed on IS Ratio1
17	OCDF	48.47	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.99	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.69	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.30	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.43	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.40	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.71	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.09	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.40	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.26	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
29	13C12-123478-HxCDD	41.45	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.57	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.88	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.29	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
37	13C12-OCDF	48.47	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 13:40
Number of Entries	247
Comment	S:11030:12937:17962
Vial	112
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Sample ID	9872065
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-07.quan
Data	z:\18nov06\18nov06-07.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.08
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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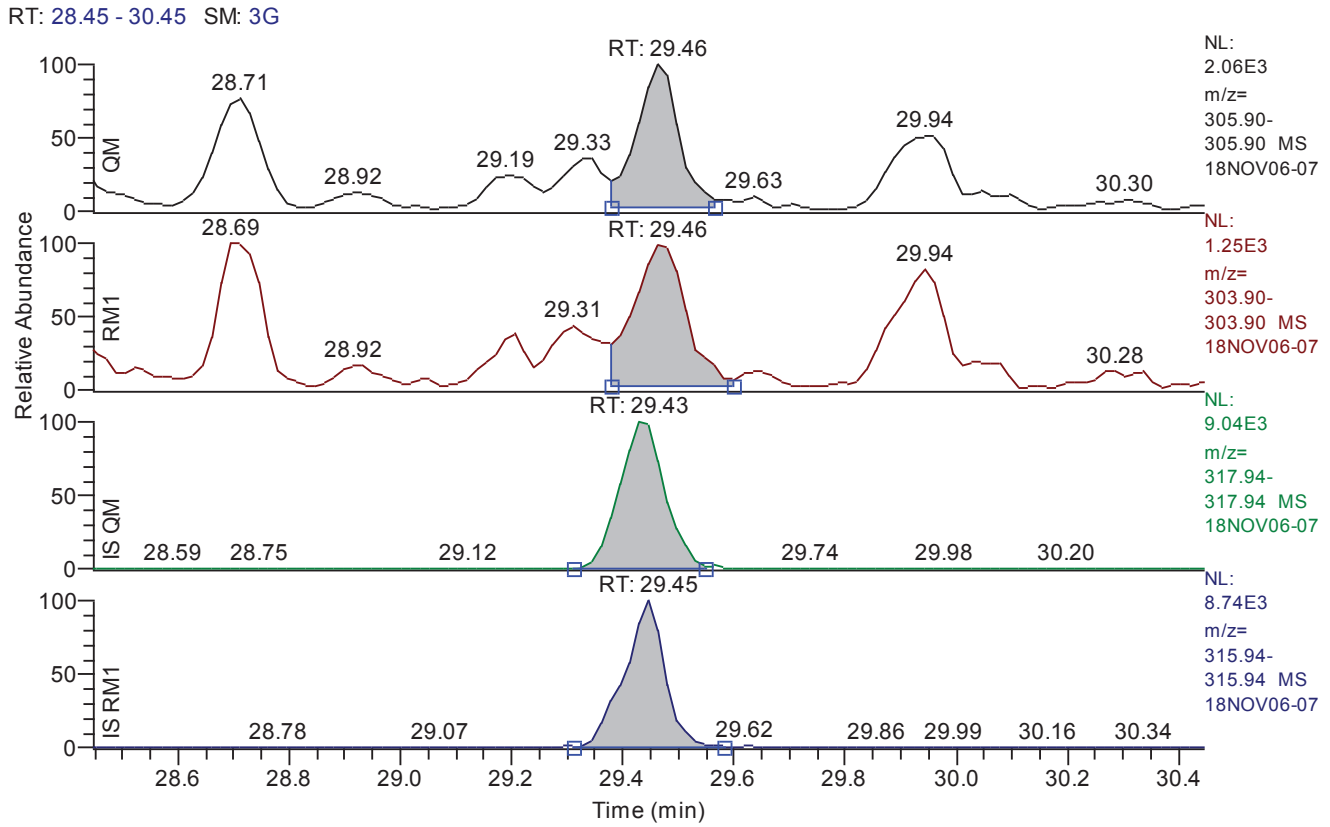
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.46
QM Area	10778
QM Integration Mode	A
RM1 Area	7928
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	2.3861
Unqualified Amount (A)	34.704993
Adjusted Amount (A)	34.7050
Signal-to-Noise	34
Client Flags	
Status Overview	passed
Status Info	

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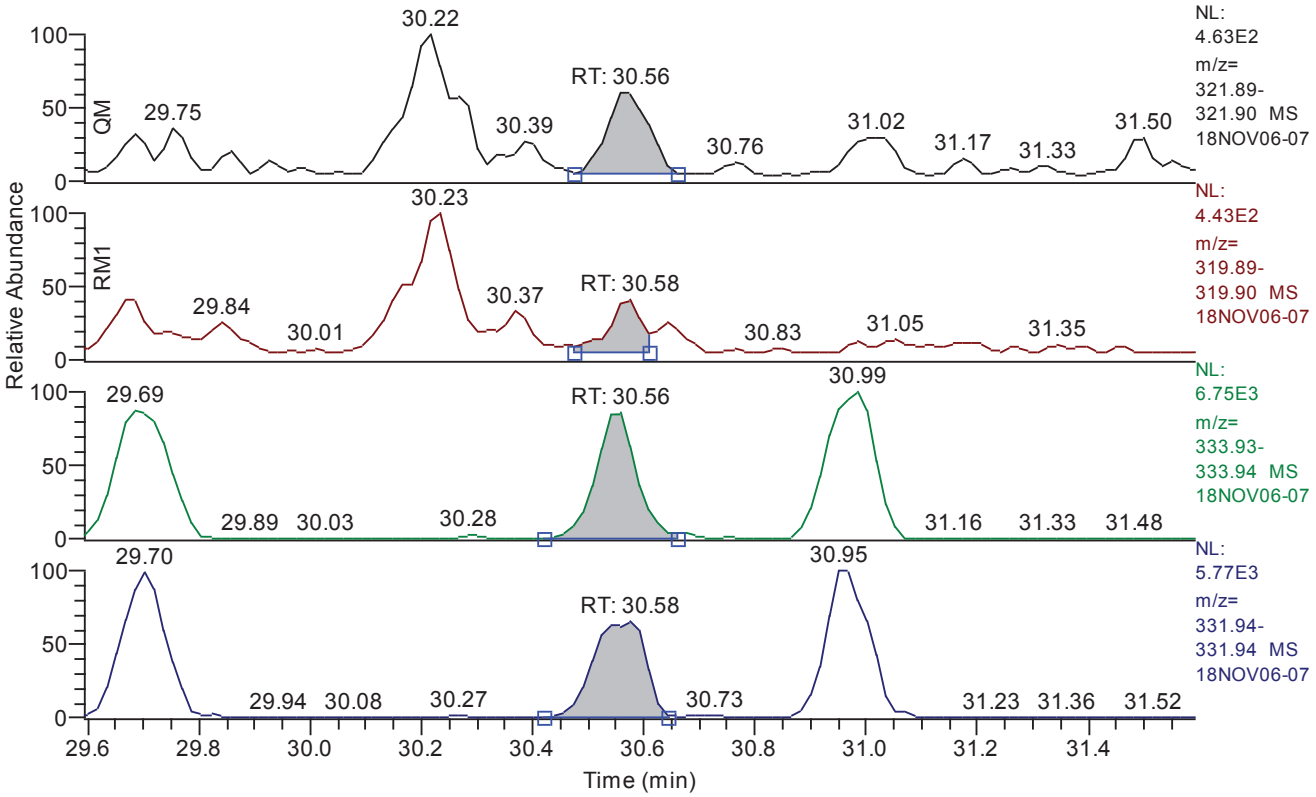
Chromatogram

RT: 29.59 - 31.59 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.56
QM Area	1362
QM Integration Mode	A
RM1 Area	657
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.1439
Unqualified Amount (A)	5.914052
Adjusted Amount (A)	n.d.
Signal-to-Noise	15
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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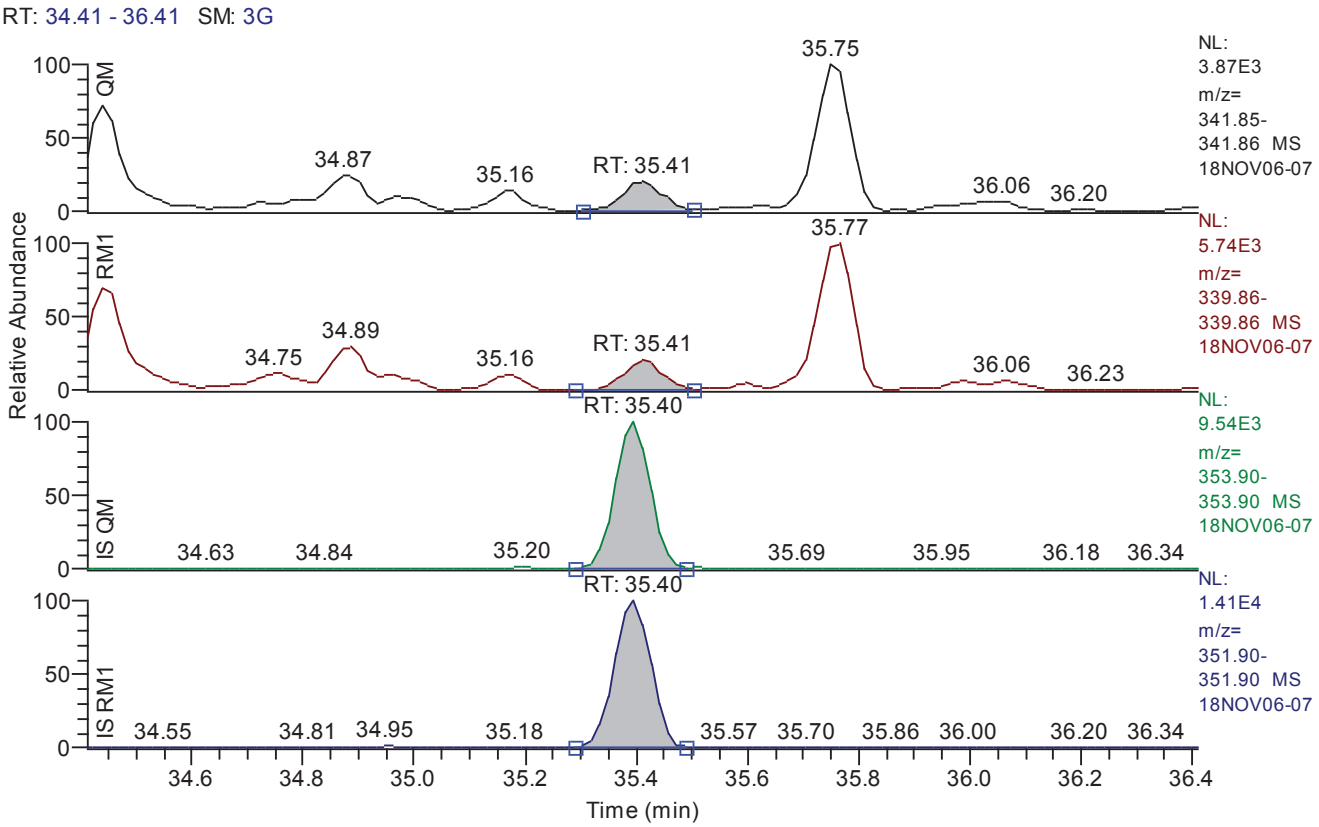
Chromatogram



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.41
QM Area	3708
QM Integration Mode	A
RM1 Area	5495
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.0452
Unqualified Amount (A)	17.201858
Adjusted Amount (A)	17.2019
Signal-to-Noise	40
Client Flags	
Status Overview	passed
Status Info	

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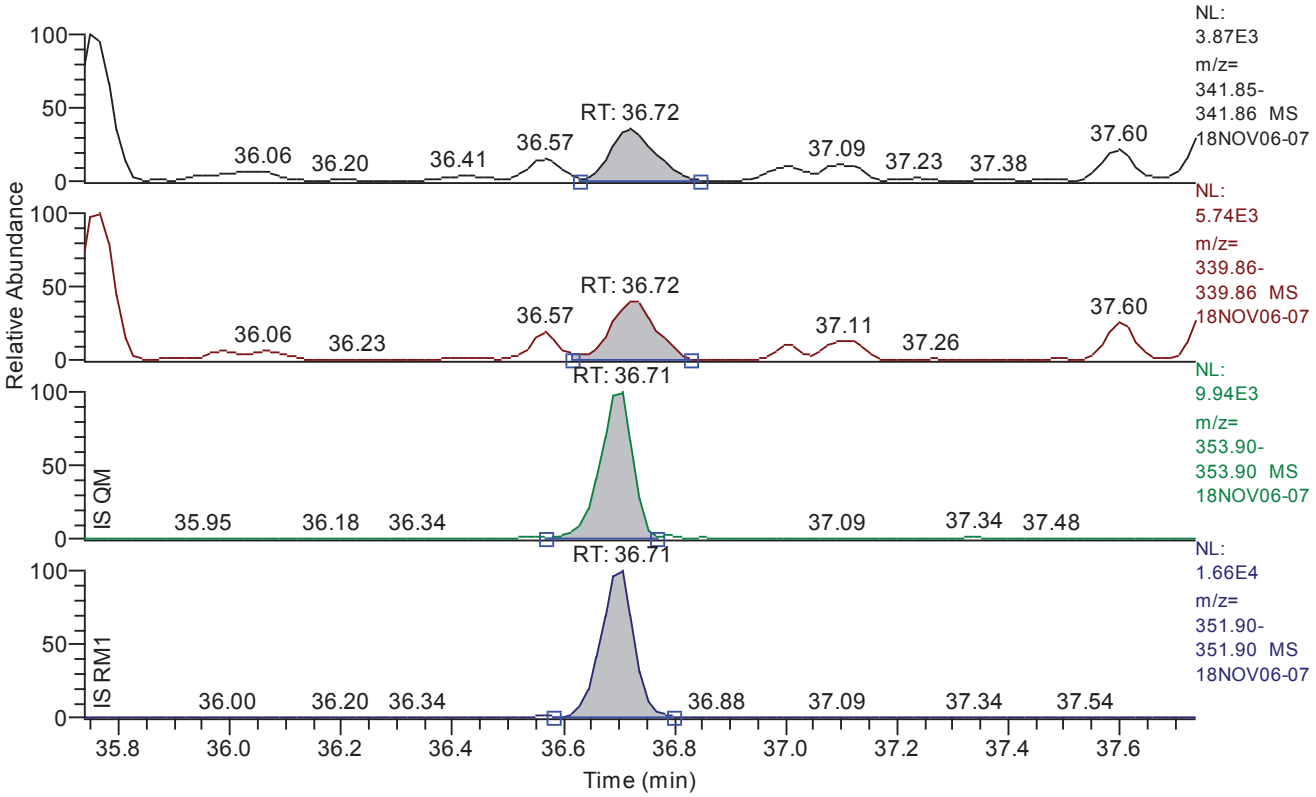
Chromatogram

RT: 35.74 - 37.74 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.72
QM Area	7585
QM Integration Mode	A
RM1 Area	12933
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.8339
Unqualified Amount (A)	32.986387
Adjusted Amount (A)	32.9864
Signal-to-Noise	74
Client Flags	
Status Overview	passed
Status Info	

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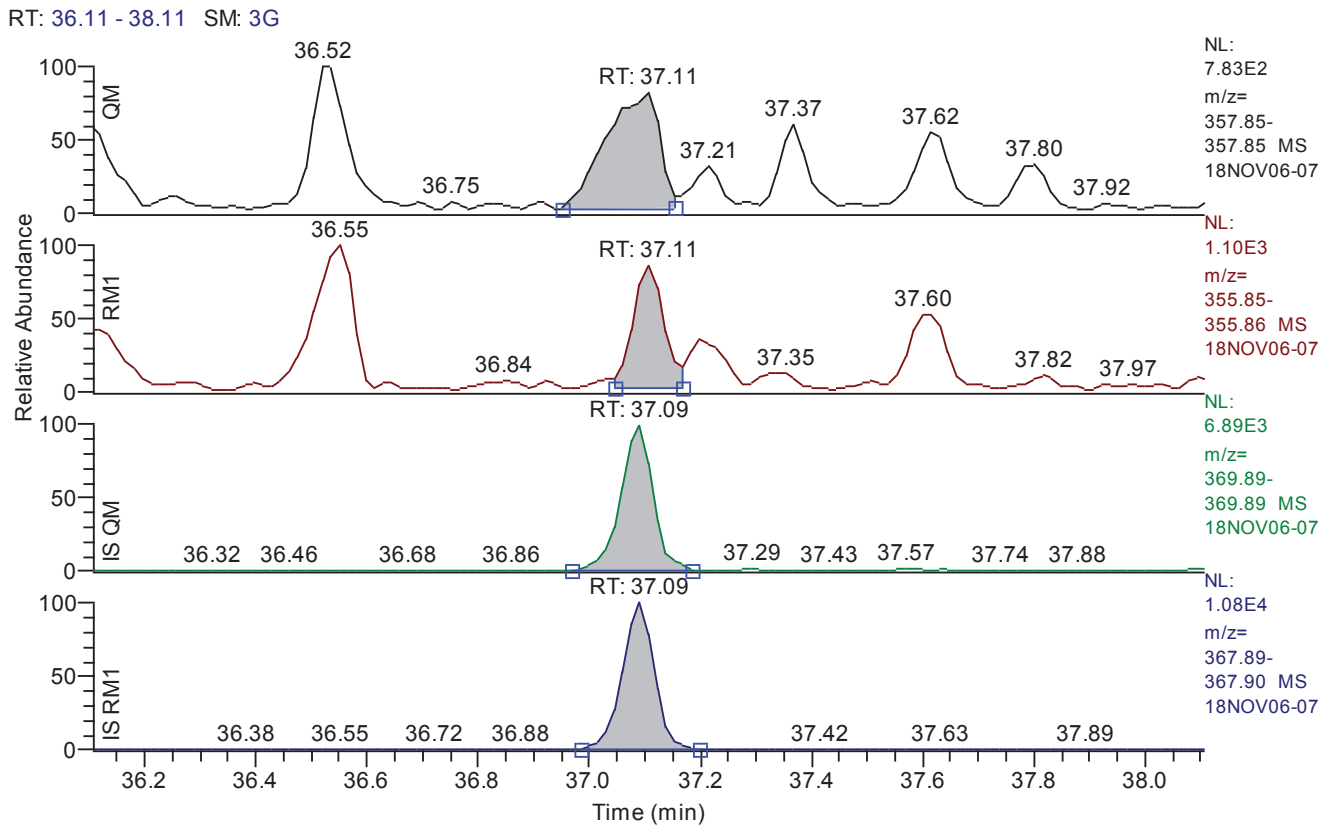
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.11
QM Area	4066
QM Integration Mode	A
RM1 Area	3445
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.5073
Unqualified Amount (A)	20.295323
Adjusted Amount (A)	n.d.
Signal-to-Noise	27
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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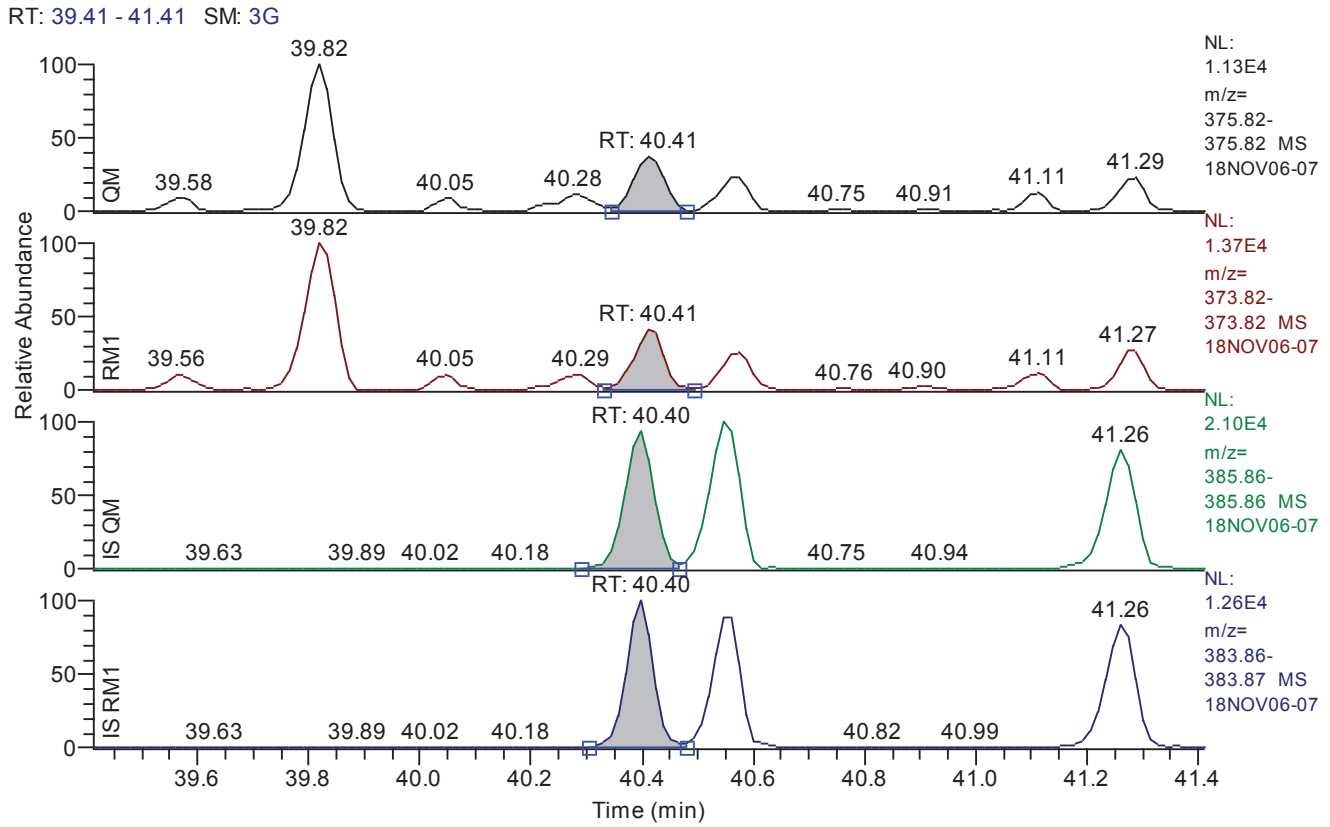
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.41
QM Area	16162
QM Integration Mode	A
RM1 Area	21282
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.0029
Unqualified Amount (A)	53.673109
Adjusted Amount (A)	53.6731
Signal-to-Noise	125
Client Flags	
Status Overview	passed
Status Info	

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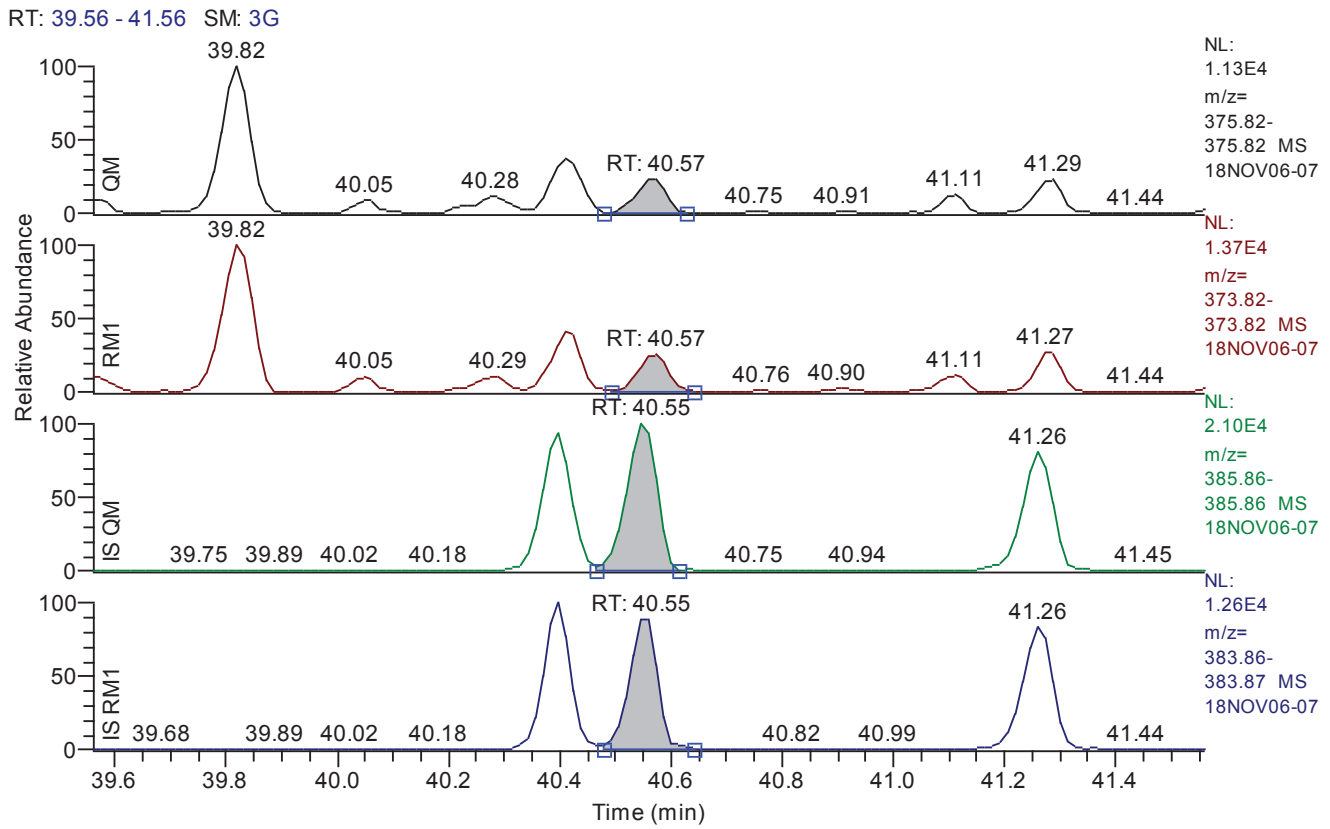
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.57
QM Area	9798
QM Integration Mode	A
RM1 Area	13504
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.0429
Unqualified Amount (A)	33.456784
Adjusted Amount (A)	33.4568
Signal-to-Noise	79
Client Flags	
Status Overview	passed
Status Info	

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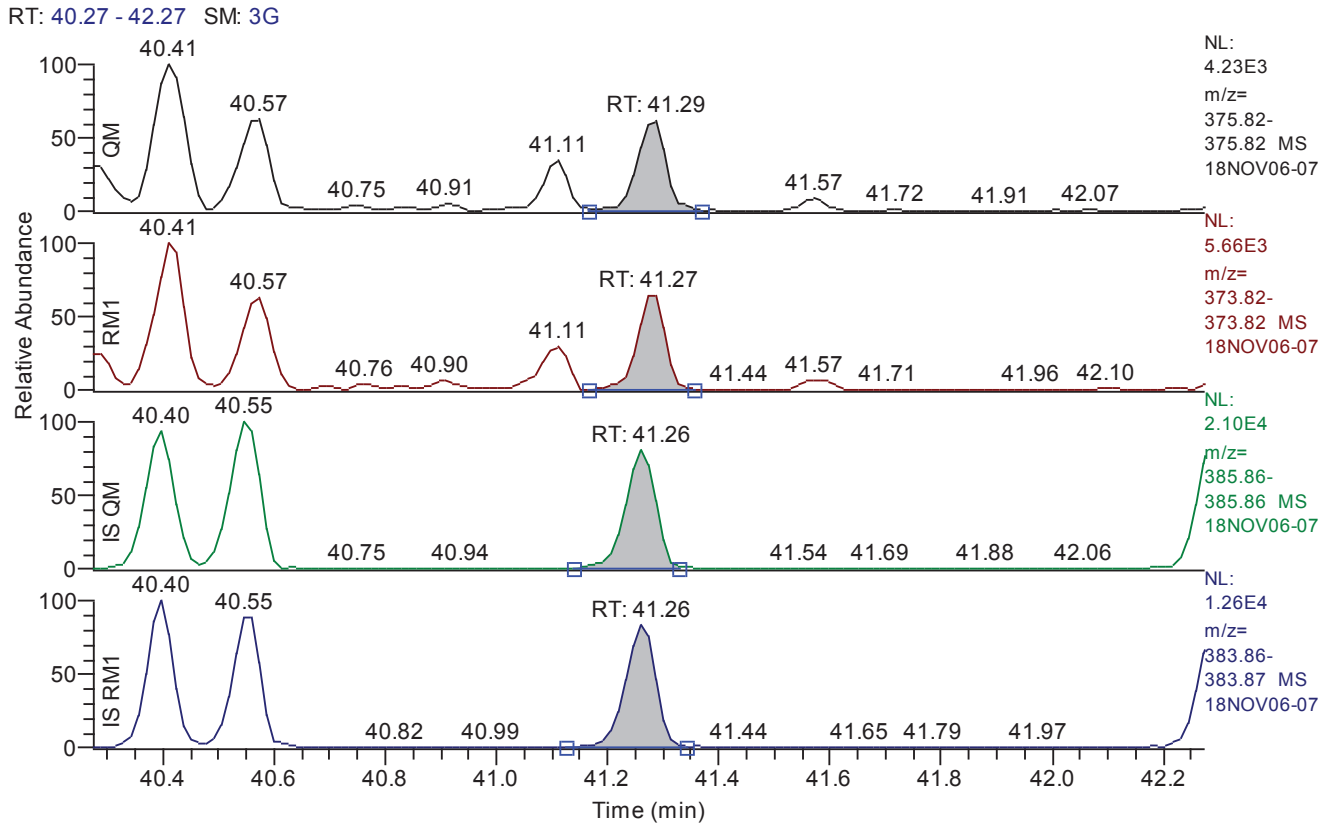
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.29
QM Area	9540
QM Integration Mode	A
RM1 Area	12958
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.1330
Unqualified Amount (A)	34.047876
Adjusted Amount (A)	n.d.
Signal-to-Noise	80
Client Flags	
Status Overview	failed
Status Info	failed on IS Ratio1

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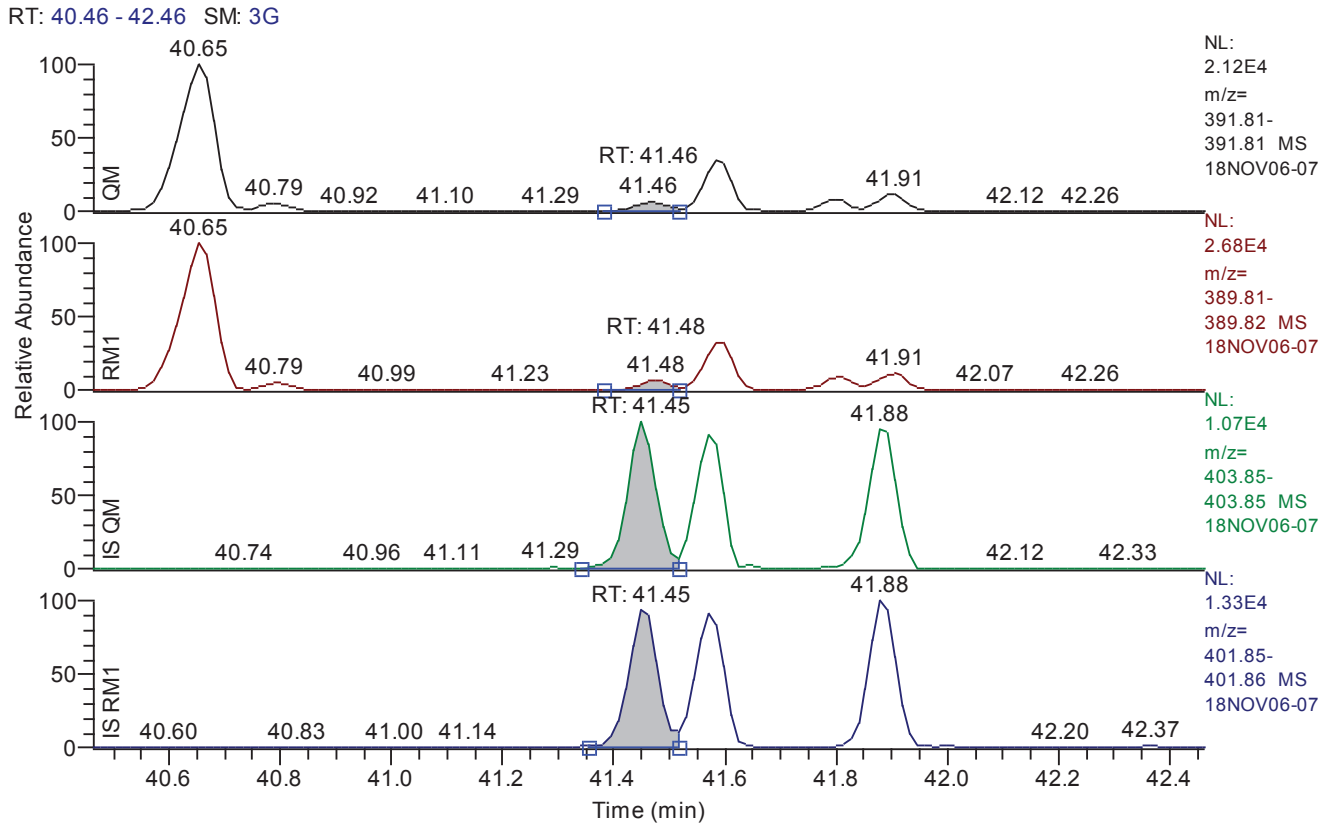
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.46
QM Area	5776
QM Integration Mode	A
RM1 Area	6841
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.5278
Unqualified Amount (A)	29.193983
Adjusted Amount (A)	29.1940
Signal-to-Noise	44
Client Flags	
Status Overview	passed
Status Info	

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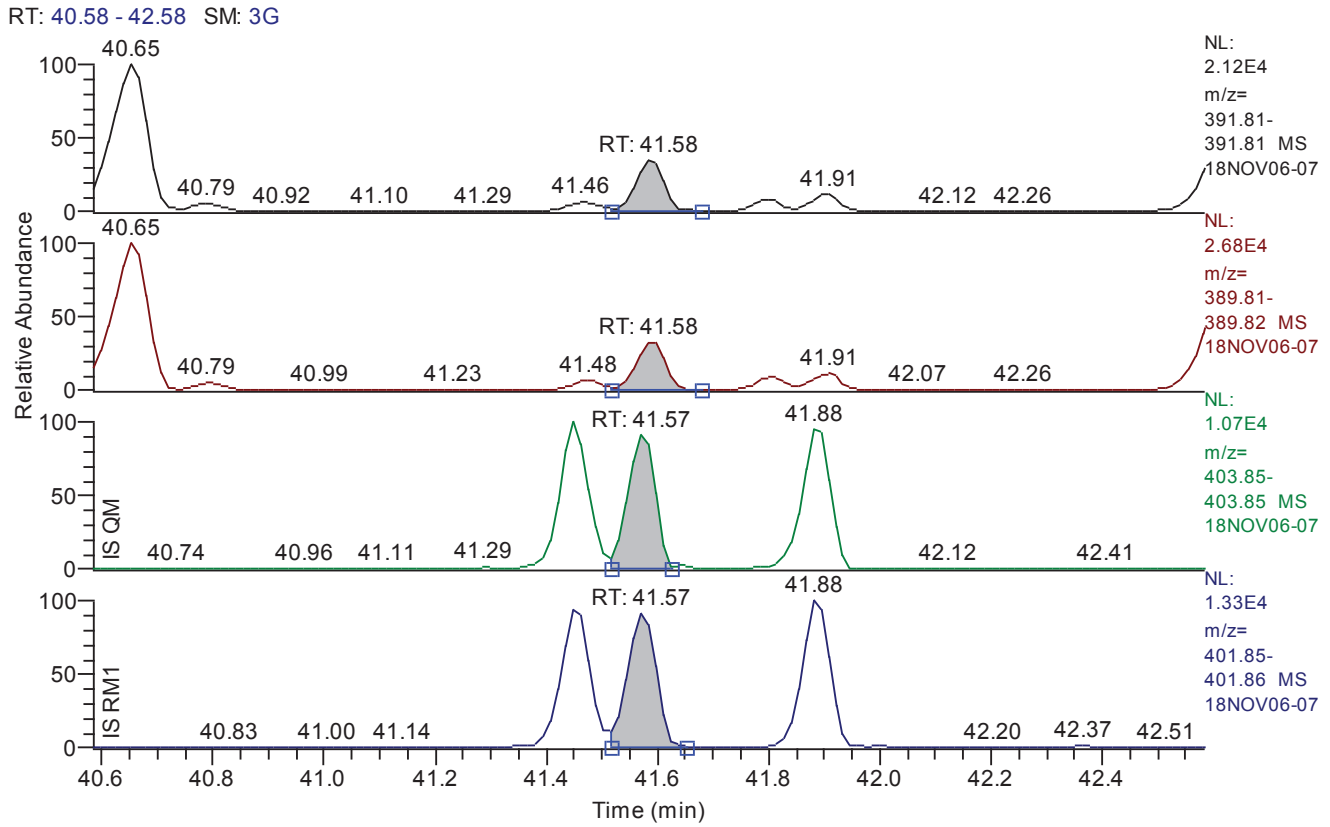
Chromatogram



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.58
QM Area	26210
QM Integration Mode	A
RM1 Area	32292
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.5947
Unqualified Amount (A)	145.840116
Adjusted Amount (A)	145.8401
Signal-to-Noise	223
Client Flags	
Status Overview	passed
Status Info	

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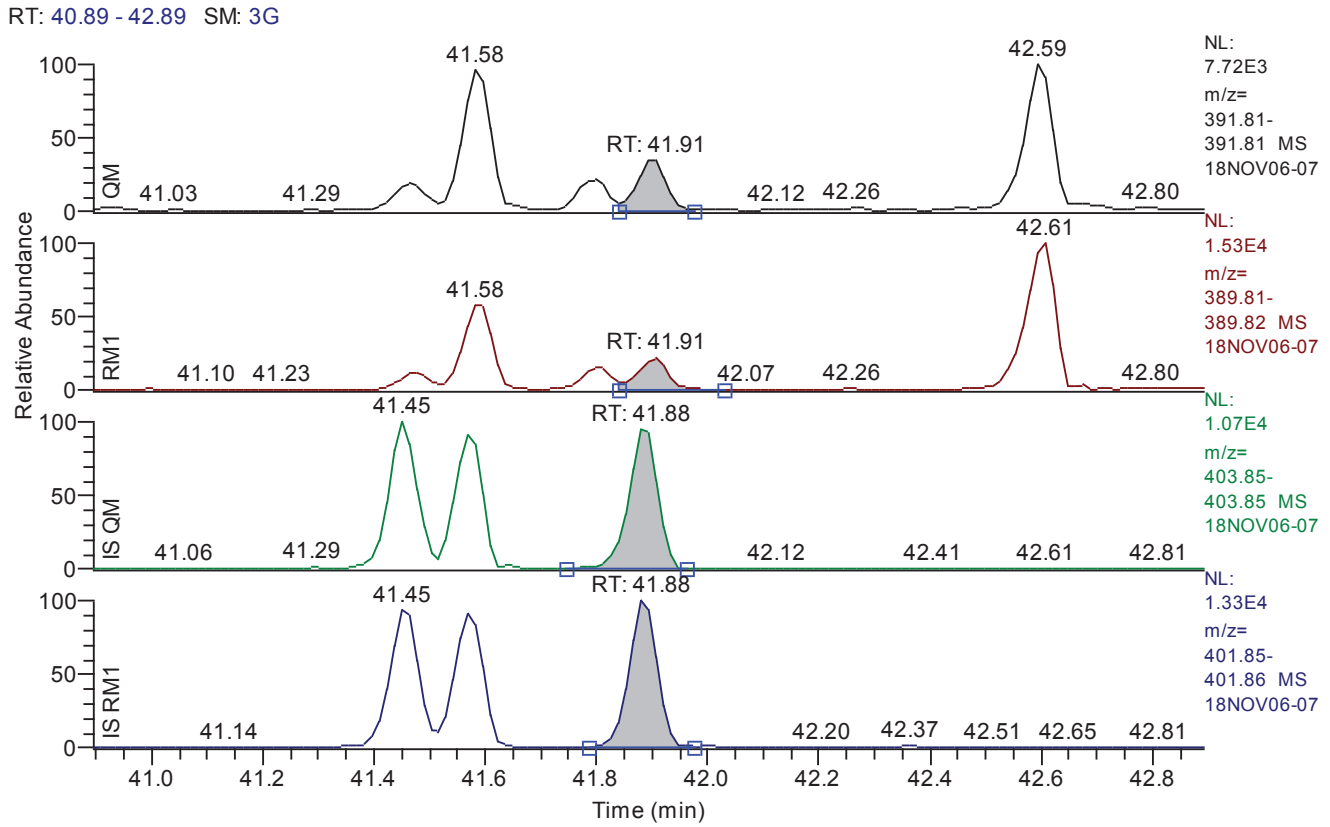
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.91
QM Area	9531
QM Integration Mode	A
RM1 Area	12572
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.3964
Unqualified Amount (A)	47.292415
Adjusted Amount (A)	47.2924
Signal-to-Noise	82
Client Flags	
Status Overview	passed
Status Info	

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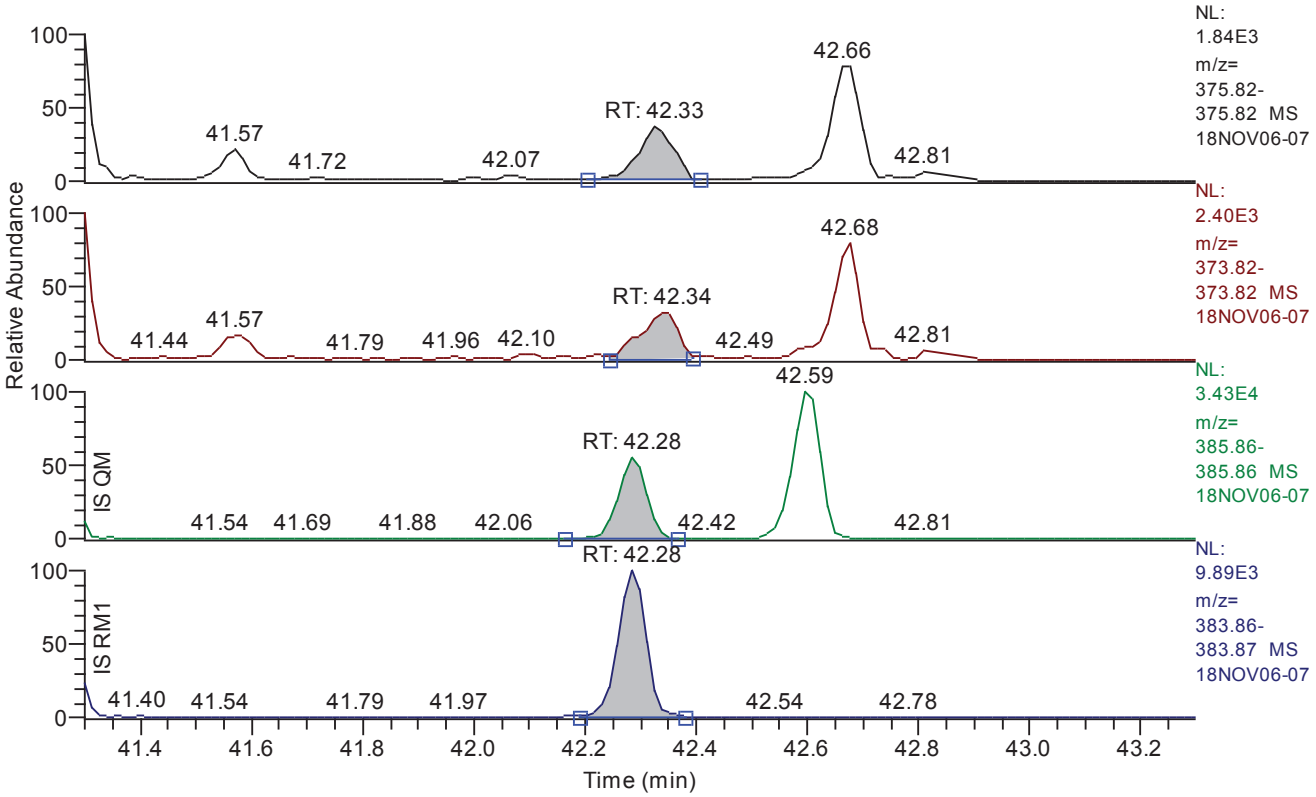
Chromatogram

RT: 41.30 - 43.30 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.33
QM Area	2967
QM Integration Mode	A
RM1 Area	3574
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.1572
Unqualified Amount (A)	10.896811
Adjusted Amount (A)	10.8968
Signal-to-Noise	18
Client Flags	
Status Overview	passed
Status Info	

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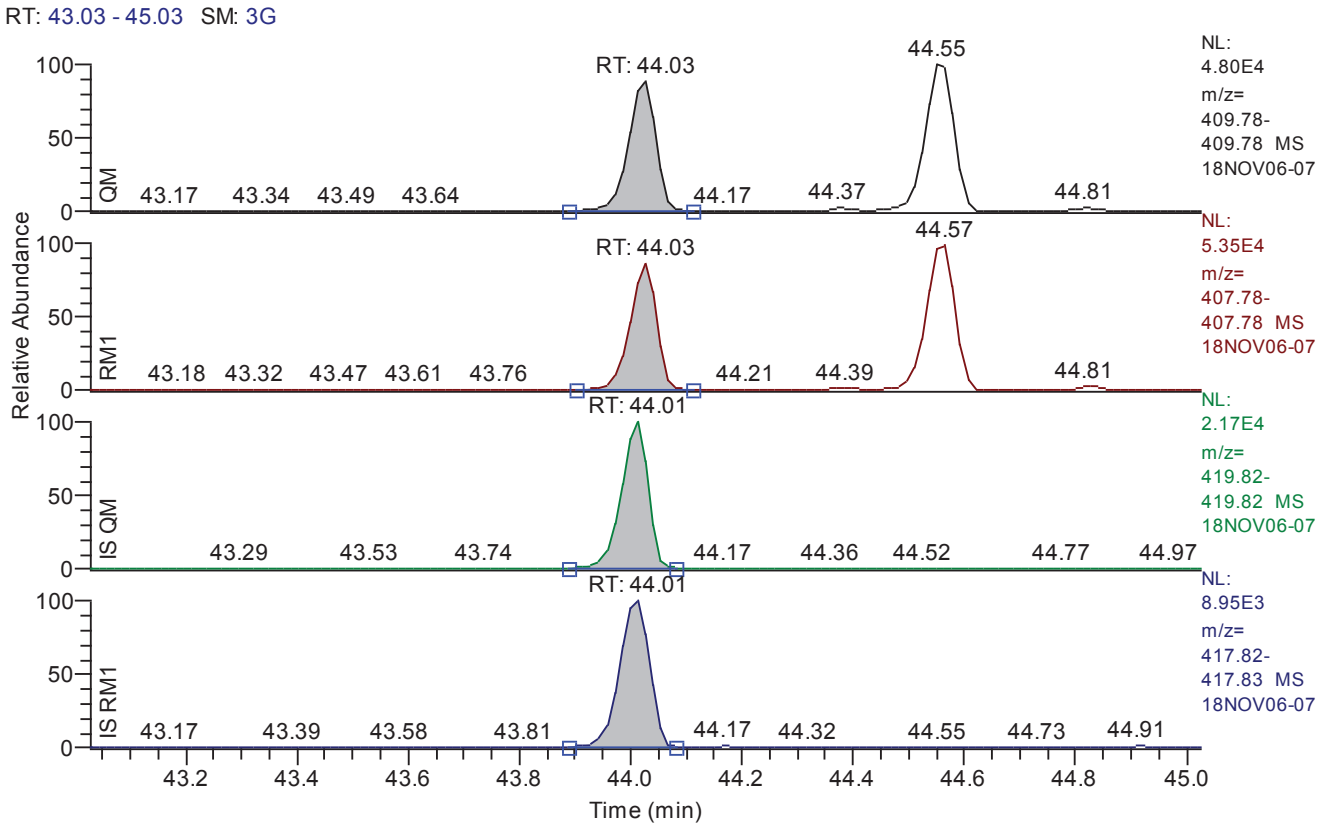
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.03
QM Area	151815
QM Integration Mode	A
RM1 Area	158034
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6001
Unqualified Amount (A)	435.507326
Adjusted Amount (A)	435.5073
Signal-to-Noise	1859
Client Flags	
Status Overview	passed
Status Info	

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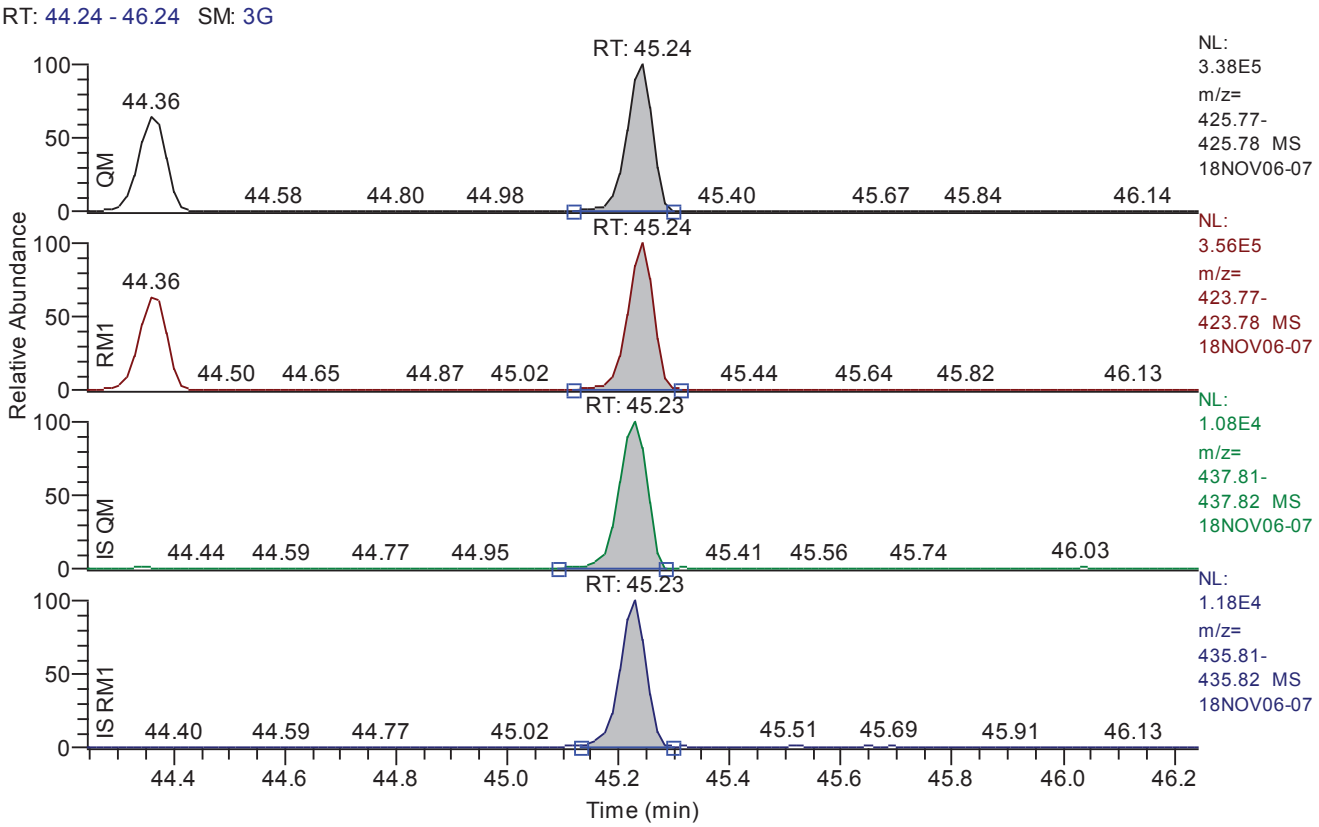
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.24
QM Area	1120746
QM Integration Mode	A
RM1 Area	1182474
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	2.4704
Unqualified Amount (A)	5400.973435
Adjusted Amount (A)	5400.9734
Signal-to-Noise	5785
Client Flags	
Status Overview	passed
Status Info	

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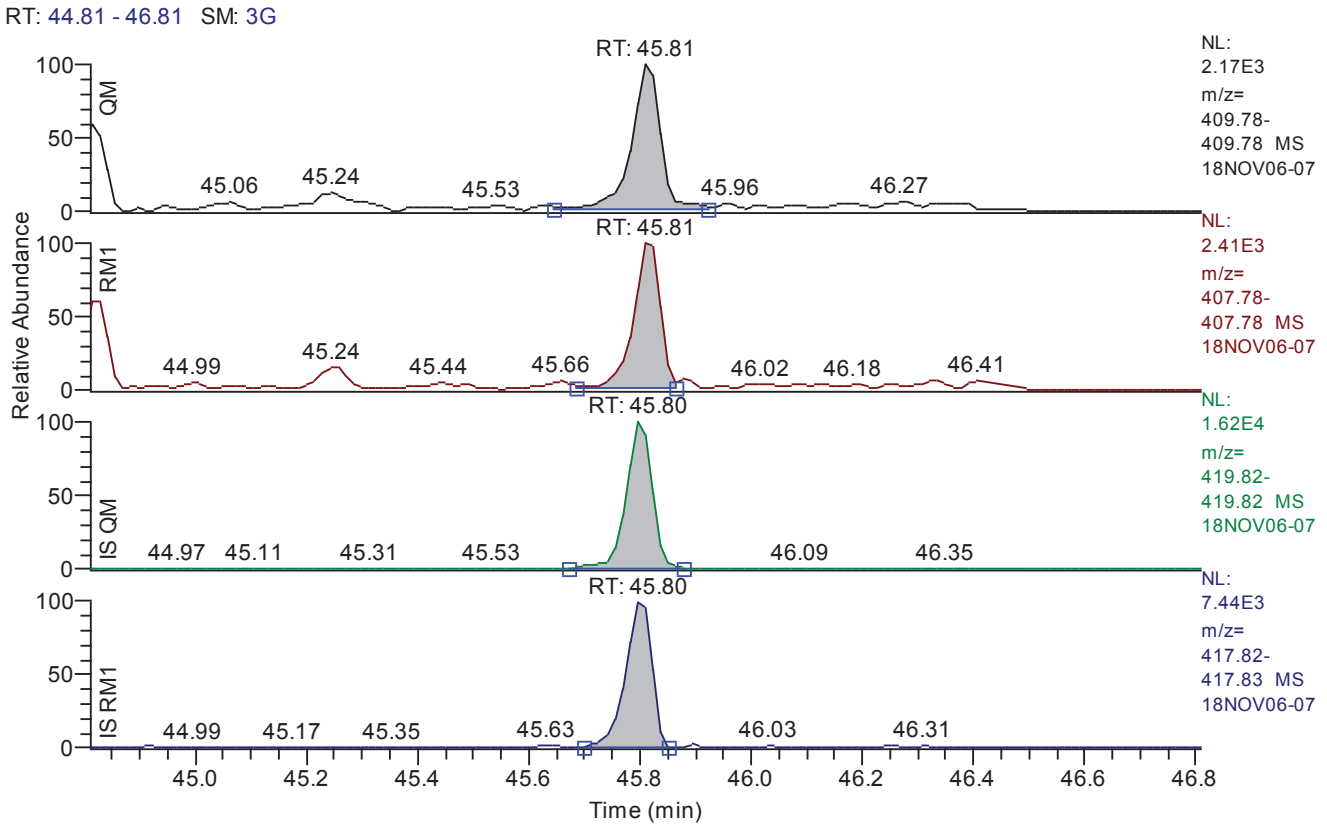
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.81
QM Area	7989
QM Integration Mode	A
RM1 Area	8206
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.7793
Unqualified Amount (A)	31.320910
Adjusted Amount (A)	31.3209
Signal-to-Noise	94
Client Flags	
Status Overview	passed
Status Info	

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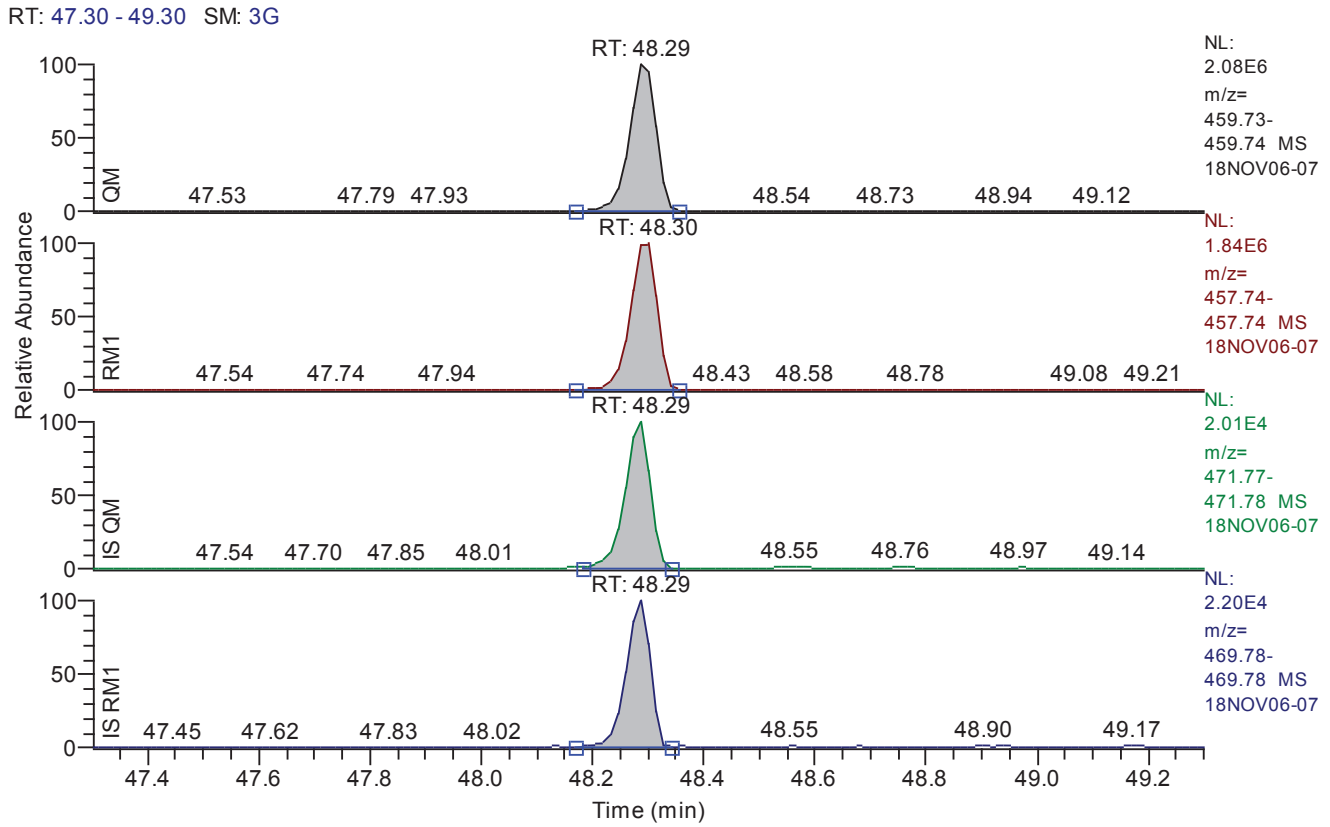
Chromatogram



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.29
QM Area	6918989
QM Integration Mode	A
RM1 Area	6216596
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.8015
Unqualified Amount (A)	38141.069327
Adjusted Amount (A)	n.d.
Signal-to-Noise	49222
Client Flags	
Status Overview	failed
Status Info	failed on IS Ratio1

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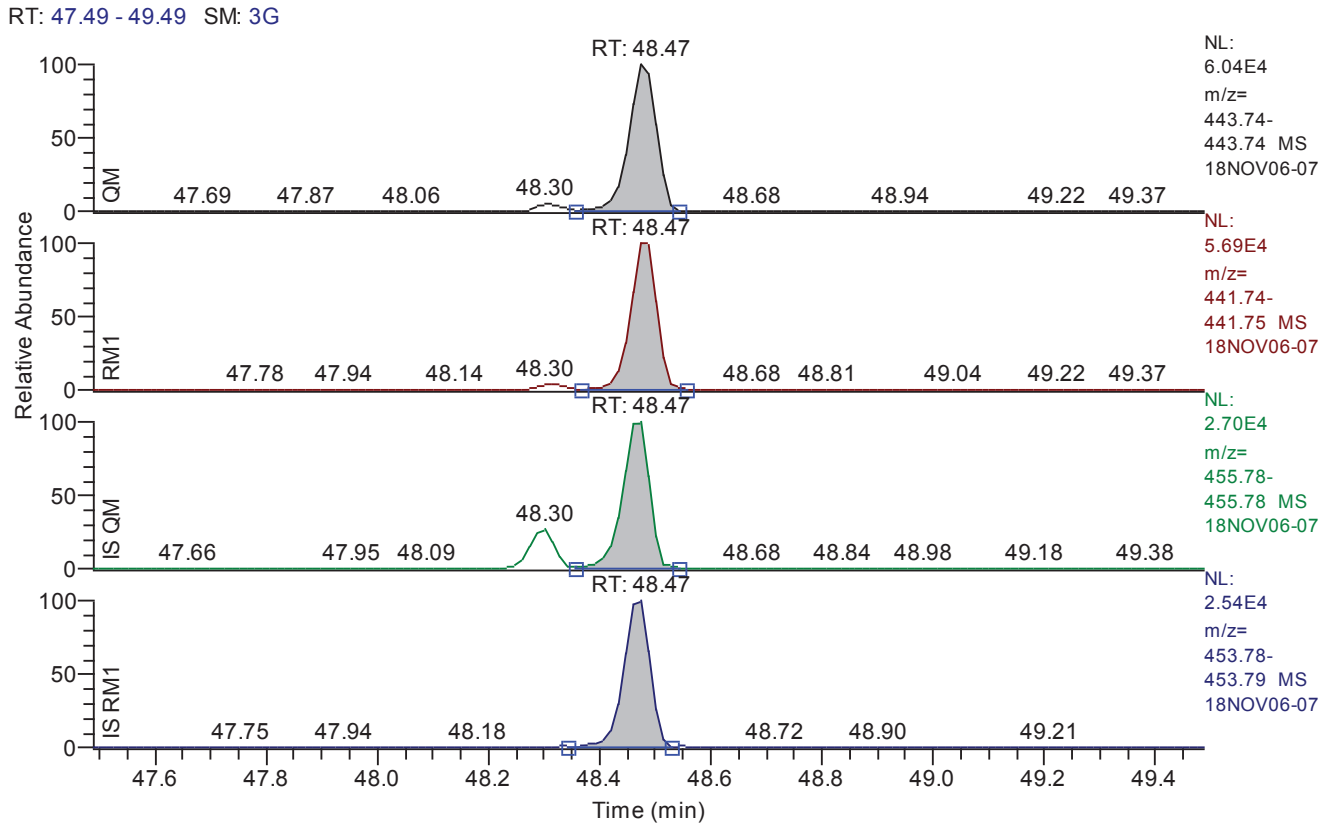
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.47
QM Area	206882
QM Integration Mode	A
RM1 Area	187450
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6616
Unqualified Amount (A)	944.684859
Adjusted Amount (A)	944.6849
Signal-to-Noise	3574
Client Flags	
Status Overview	passed
Status Info	

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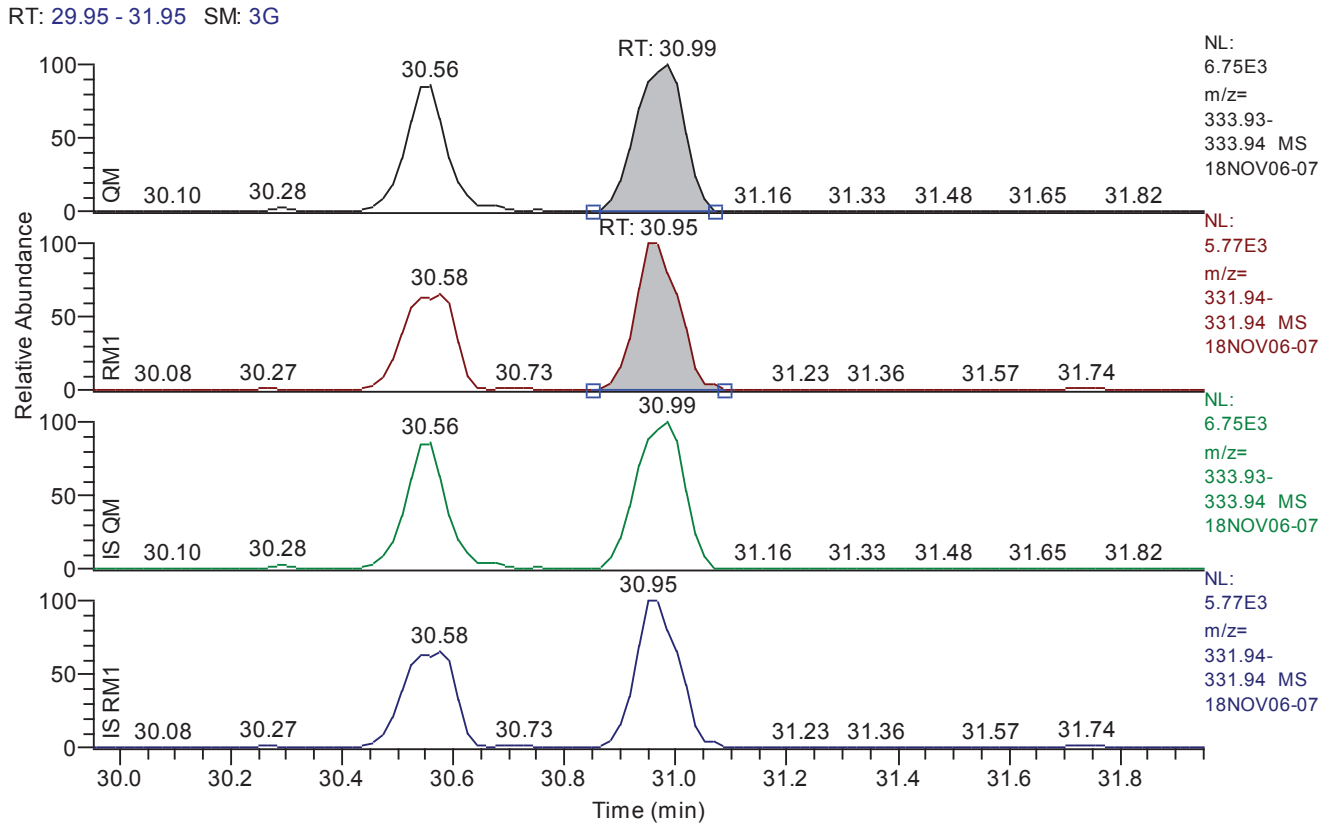
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.99
QM Area	41427
QM Integration Mode	A
RM1 Area	31870
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6489
Unqualified Amount (A)	159.072930
Adjusted Amount (A)	159.0729
Signal-to-Noise	646
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 13:40
Number of Entries	247
Comment	S:11030:12937:17962
Vial	112
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Sample ID	9872065
Inst ID	DF19780-18NOV06
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-07.quan
Data	z:\18nov06\18nov06-07.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.08
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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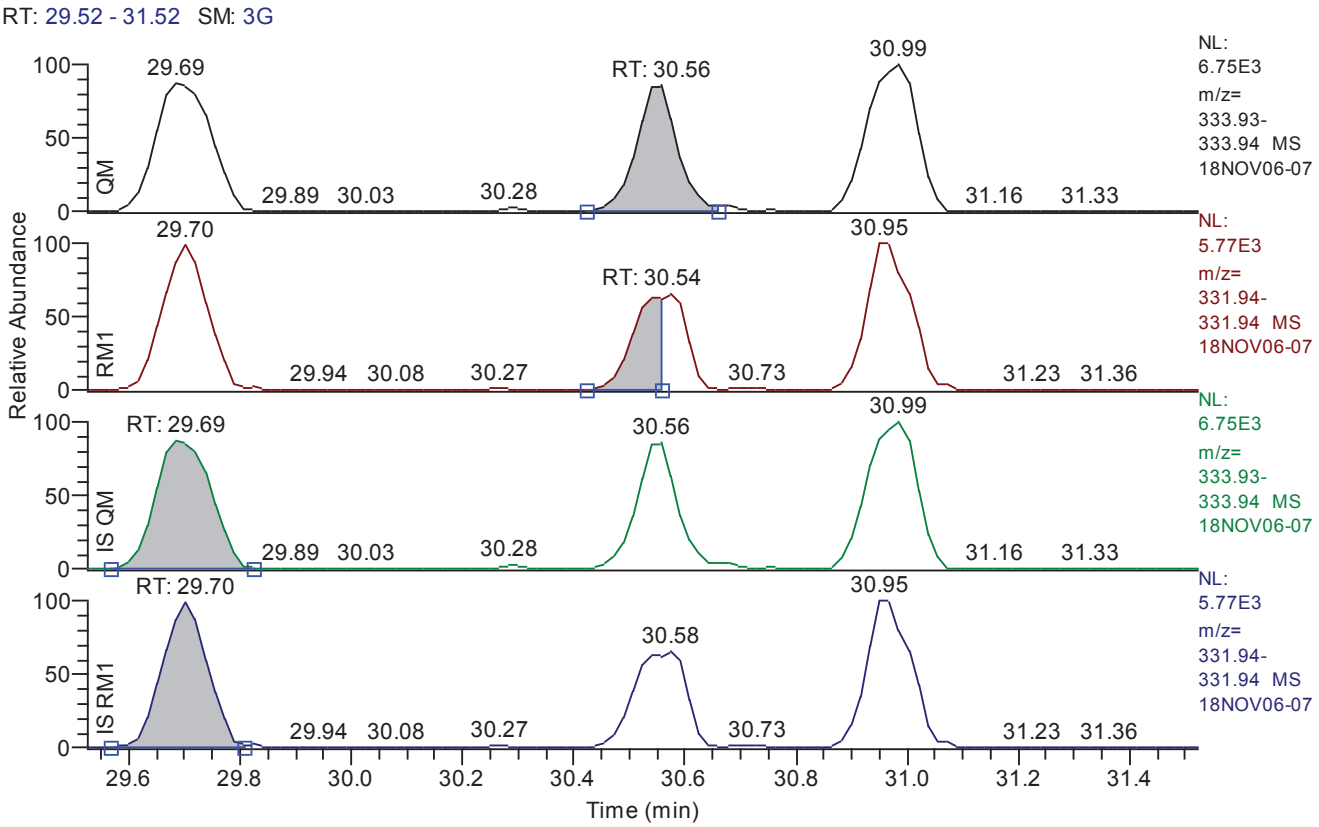
Chromatogram



Entry Parameters

Compound Name	13C12-2378-TCDD
QM Retention Time	30.56
QM Area	30451
QM Integration Mode	A
RM1 Area	13322
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.8840
Unqualified Amount (A)	129.413019
Adjusted Amount (A)	n.d.
Signal-to-Noise	491
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.43	29.46	29.46	29.43	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.56	30.58	30.56	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.41	35.41	35.40	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.71	36.72	36.72	36.71	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.11	37.11	37.09	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.40	40.41	40.41	40.40	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.57	40.57	40.55	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.26	41.29	41.27	41.26	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.45	41.46	41.48	41.45	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.57	41.58	41.58	41.57	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.88	41.91	41.91	41.88	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.28	42.33	42.34	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.00	44.03	44.03	44.01	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.24	45.24	45.23	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.80	45.81	45.81	45.80	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.29	48.30	48.29	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.47	48.47	48.47	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.99	30.95	30.99	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.69	29.69	29.70	29.69	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.29	40.30	40.30	40.30	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.43	29.45	29.38	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.53	30.56	30.58	30.54	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.40	35.40	35.35	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.71	36.71	36.69	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.08	37.09	37.09	37.09	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.38	40.40	40.40	40.53	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.55	40.55	40.53	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.25	41.26	41.26	41.30	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.44	41.45	41.45	41.45	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.56	41.57	41.57	41.57	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.87	41.88	41.88	41.88	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.28	42.28	42.28	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.99	44.01	44.01	44.00	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.22	45.23	45.23	45.23	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.79	45.80	45.80	45.80	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.29	48.29	48.29	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.45	48.47	48.47	48.45	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.46	0.7356	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	30.56	0.4825	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	35.41	1.4821	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.72	1.7050	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	37.11	0.8472	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.41	1.3168	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.57	1.3782	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.29	1.3584	1.0450 - 1.4350	failed on	---	0 - 0	passed
9	123478-HxCDD	41.46	1.1843	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.58	1.2320	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.91	1.3191	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.33	1.2046	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.03	1.0410	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.24	1.0551	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.81	1.0272	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.29	0.8985	0.7550 - 1.0250	failed on	---	0 - 0	passed
17	OCDF	48.47	0.9061	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.99	0.7693	0.6450 - 0.8950	passed	80.17	35 - 197	passed
19	13C12-1234-TCDD	29.69	0.7864	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.30	1.2428	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.43	0.8554	0.6450 - 0.8950	passed	72.63	40 - 135	passed
22	13C12-2378-TCDD	30.56	0.8224	0.6450 - 0.8950	passed	82.69	40 - 135	passed
23	13C12-12378-PeCDF	35.40	1.5354	1.3150 - 1.7850	passed	86.67	40 - 135	passed
24	13C12-23478-PeCDF	36.71	1.6943	1.3150 - 1.7850	passed	91.71	40 - 135	passed
25	13C12-12378-PeCDD	37.09	1.5706	1.3150 - 1.7850	passed	107.00	40 - 135	passed
26	13C12-123478-HxCDF	40.40	0.5799	0.4250 - 0.5950	passed	81.28	40 - 135	passed
27	13C12-123678-HxCDF	40.55	0.4997	0.4250 - 0.5950	passed	79.19	40 - 135	passed
28	13C12-234678-HxCDF	41.26	0.6158	0.4250 - 0.5950	failed	77.85	40 - 135	passed
29	13C12-123478-HxCDD	41.45	1.1989	1.0450 - 1.4350	passed	84.54	40 - 135	passed
30	13C12-123678-HxCDD	41.57	1.3060	1.0450 - 1.4350	passed	76.64	40 - 135	passed
31	13C12-123789-HxCDD	41.88	1.2698	1.0450 - 1.4350	passed	88.31	40 - 135	passed
32	13C12-123789-HxCDF	42.28	0.5106	0.4250 - 0.5950	passed	79.57	40 - 135	passed
33	13C12-1234678-HpCDF	44.01	0.4641	0.3650 - 0.5150	passed	91.10	40 - 135	passed
34	13C12-1234678-HpCDD	45.23	1.0114	0.8750 - 1.2050	passed	91.02	40 - 135	passed
35	13C12-1234789-HpCDF	45.80	0.4627	0.3650 - 0.5150	passed	80.57	40 - 135	passed
36	13C12-OCDD	48.29	1.0445	0.7550 - 1.0250	failed	85.42	40 - 135	passed
37	13C12-OCDF	48.47	0.9308	0.7550 - 1.0250	passed	75.25	40 - 135	passed

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Entry Parameters

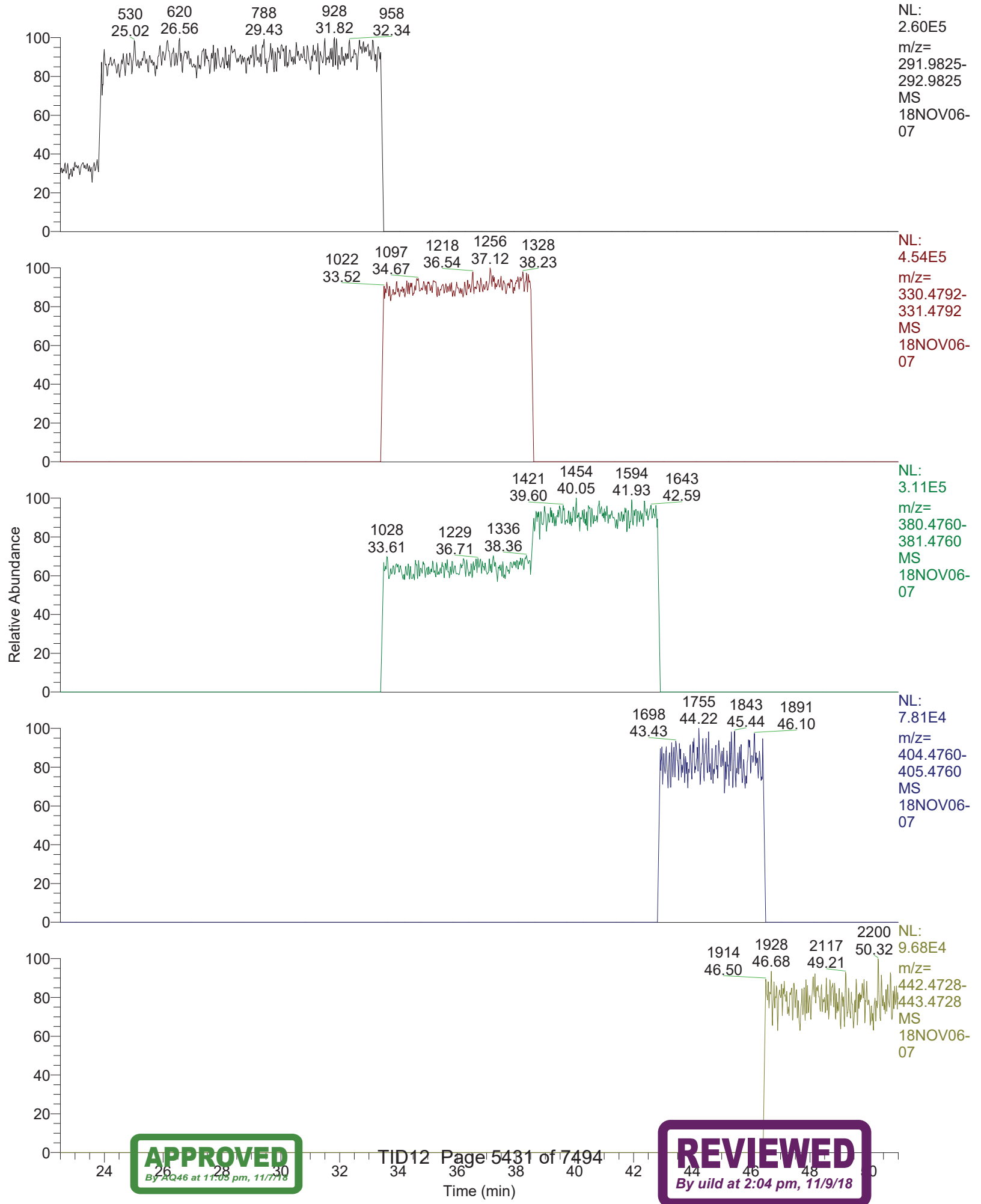
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.46	10778	A	7928	A	2.3861	34.704993	34.7050	0.000000	34	
2	2378-TCDD	failed	30.56	1362	A	657	A	1.1439	5.914052	n.d.	0.000000	15	
3	12378-PeCDF	passed	35.41	3708	A	5495	A	1.0452	17.201858	17.2019	0.000000	40	
4	23478-PeCDF	passed	36.72	7585	A	12933	A	0.8339	32.986387	32.9864	0.000000	74	
5	12378-PeCDD	failed	37.11	4066	A	3445	A	1.5073	20.295323	n.d.	0.000000	27	
6	123478-HxCDF	passed	40.41	16162	A	21282	A	1.0029	53.673109	53.6731	0.000000	125	
7	123678-HxCDF	passed	40.57	9798	A	13504	A	1.0429	33.456784	33.4568	0.000000	79	
8	234678-HxCDF	failed	41.29	9540	A	12958	A	1.1330	34.047876	n.d.	0.000000	80	
9	123478-HxCDD	passed	41.46	5776	A	6841	A	1.5278	29.193983	29.1940	0.000000	44	
10	123678-HxCDD	passed	41.58	26210	A	32292	A	1.5947	145.840116	145.8401	0.000000	223	
11	123789-HxCDD	passed	41.91	9531	A	12572	A	1.3964	47.292415	47.2924	0.000000	82	
12	123789-HxCDF	passed	42.33	2967	A	3574	A	1.1572	10.896811	10.8968	0.000000	18	
13	1234678-HpCDF	passed	44.03	151815	A	158034	A	0.6001	435.507326	435.5073	0.000000	1859	
14	1234678-HpCDD	passed	45.24	1120746	A	1182474	A	2.4704	5400.973435	5400.9734	0.000000	5785	
15	1234789-HpCDF	passed	45.81	7989	A	8206	A	0.7793	31.320910	31.3209	0.000000	94	
16	OCDD	failed	48.29	6918989	A	6216596	A	1.8015	38141.069327	n.d.	0.000000	49222	
17	OCDF	passed	48.47	206882	A	187450	A	0.6616	944.684859	944.6849	0.000000	3574	
18	13C12-1278-TCDD (CRS)	passed	30.99	41427	A	31870	A	0.6489	159.072930	159.0729	198.412698	646	
19	13C12-1234-TCDD	passed	29.69	40446	A	31807	A	0.8211	198.412698	198.4127	198.412698	604	
20	13C12-123468-HxCDD	passed	40.30	47996	A	59651	A	0.6514	198.412698	198.4127	198.412698	761	
21	13C12-2378-TCDF	passed	29.43	52349	A	44781	A	0.4367	144.098557	144.0986	198.412698	933	
22	13C12-2378-TCDD	passed	30.56	30451	A	25042	M	0.8840	164.062043	164.0620	198.412698	497	
23	13C12-12378-PeCDF	passed	35.40	42282	A	64919	A	0.5184	171.957810	171.9578	198.412698	1133	
24	13C12-23478-PeCDF	passed	36.71	41295	A	69967	A	0.5285	181.958977	181.9590	198.412698	1267	
25	13C12-12378-PeCDD	passed	37.09	27541	A	43256	A	0.5704	212.305839	212.3058	198.412698	1437	
26	13C12-123478-HxCDF	passed	40.40	73111	A	42397	A	0.4824	161.269350	161.2693	198.412698	889	
27	13C12-123678-HxCDF	passed	40.55	79899	A	39925	A	0.4530	157.116687	157.1167	198.412698	888	
28	13C12-234678-HxCDF	failed	41.26	65429	A	40290	A	0.5048	154.466592	n.d.	198.412698	761	
29	13C12-123478-HxCDD	passed	41.45	38238	A	45845	A	0.7051	167.740985	167.7410	198.412698	622	
30	13C12-123678-HxCDD	passed	41.57	33534	A	43797	A	0.6950	152.057061	152.0571	198.412698	591	
31	13C12-123789-HxCDD	passed	41.88	37380	A	47464	A	0.7299	175.211426	175.2114	198.412698	635	
32	13C12-123789-HxCDF	passed	42.28	68363	A	34907	A	0.5282	157.872711	157.8727	198.412698	801	
33	13C12-1234678-HpCDF	passed	44.01	74537	A	34591	A	0.4977	180.746820	180.7468	198.412698	970	
34	13C12-1234678-HpCDD	passed	45.23	39490	A	39940	A	0.5019	180.602549	180.6025	198.412698	973	
35	13C12-1234789-HpCDF	passed	45.80	54181	A	25068	A	0.6061	159.854550	159.8546	198.412698	747	
36	13C12-OCDD	failed	48.29	64098	A	66950	A	1.2728	338.979910	n.d.	396.825397	813	
37	13C12-OCDF	passed	48.47	91270	A	84952	A	0.3255	298.615559	298.6156	396.825397	2589	

File Name: Z:\18NOV06\18NOV06-07
Sample ID: 9872065

Acq. Data: 11/6/2018 1:40:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

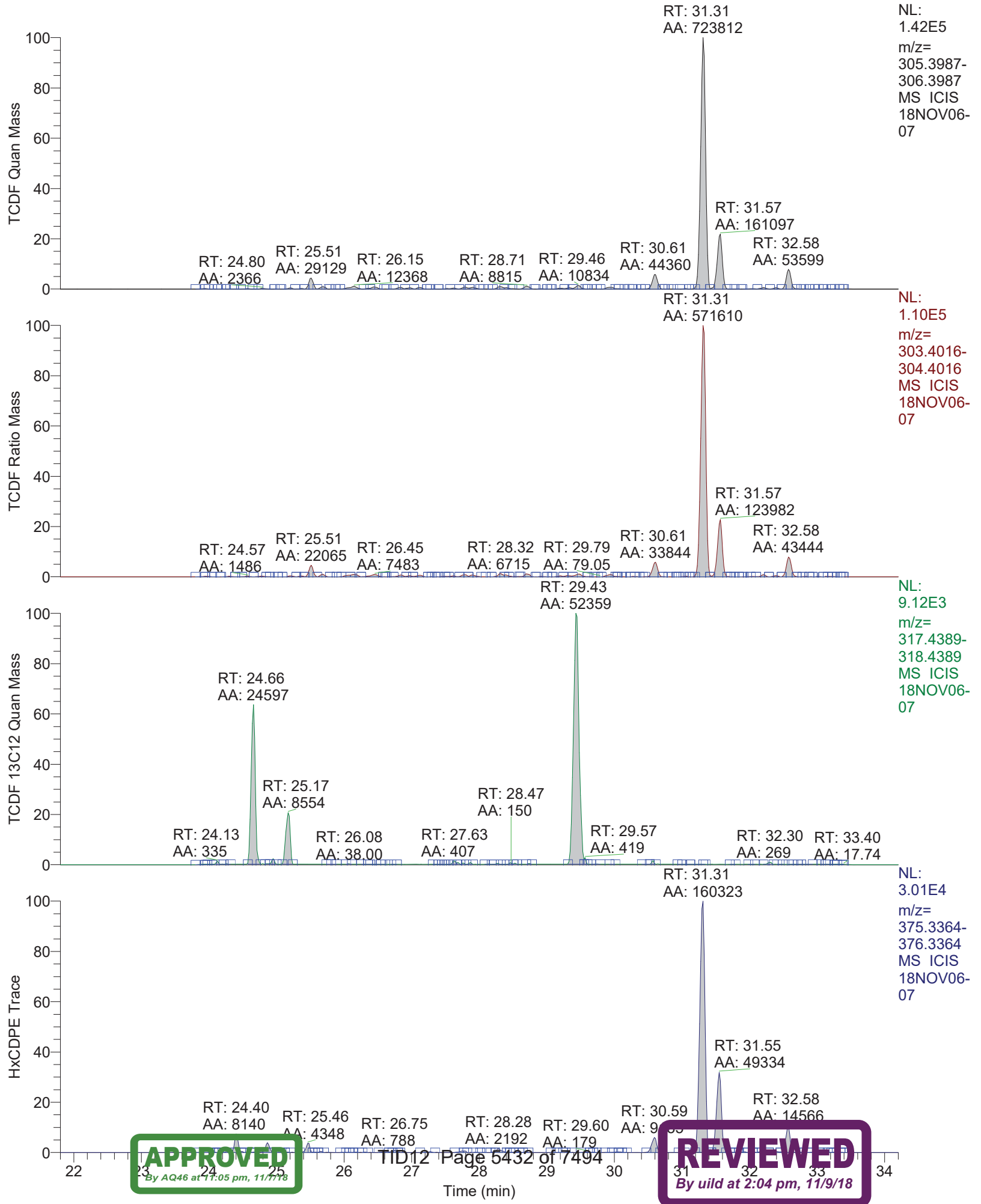
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-07
Sample ID: 9872065

Acq. Data: 11/6/2018 1:40:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 21.80 - 34.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

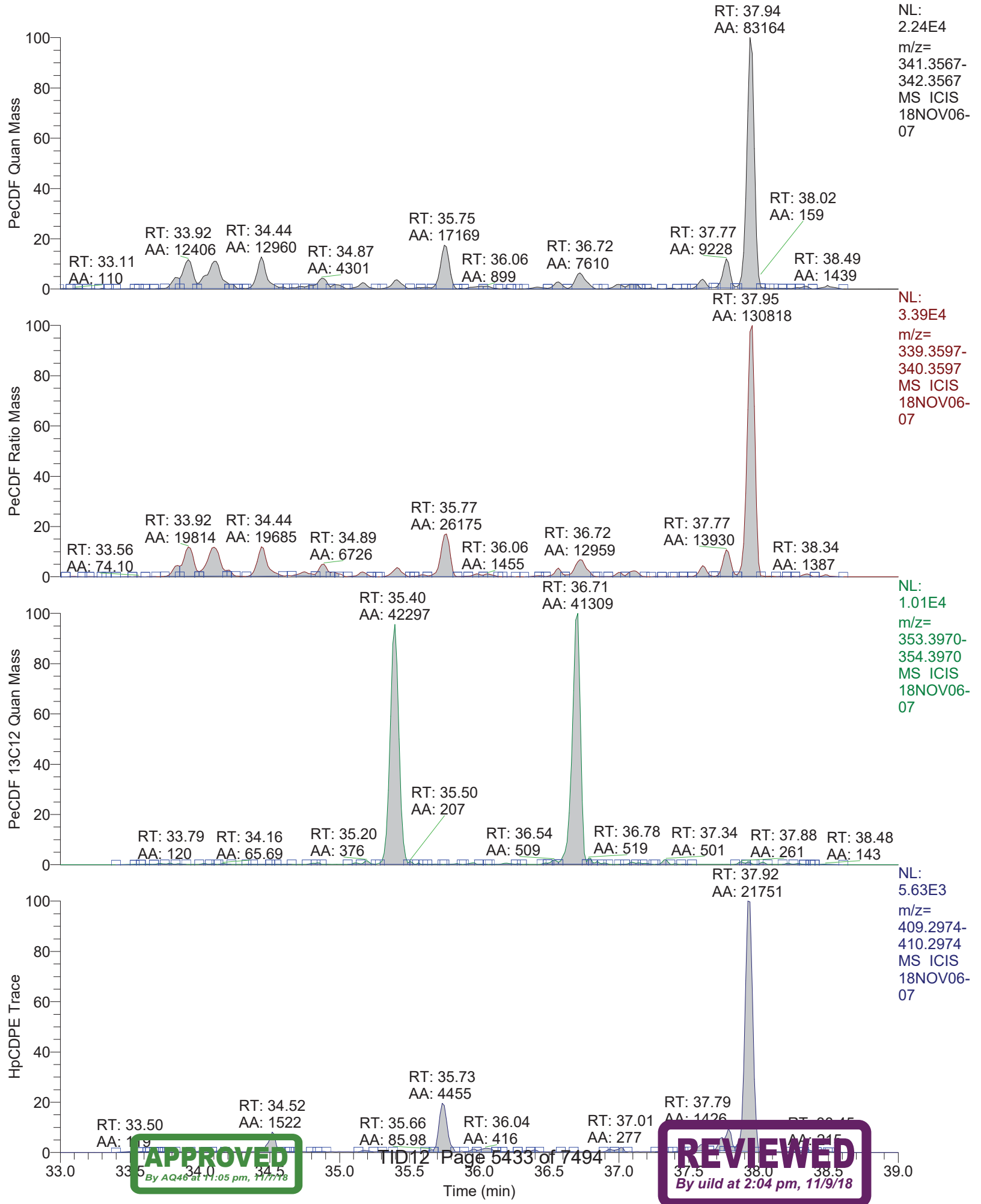
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-07
Sample ID: 9872065

Acq. Data: 11/6/2018 1:40:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 33.00 - 39.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

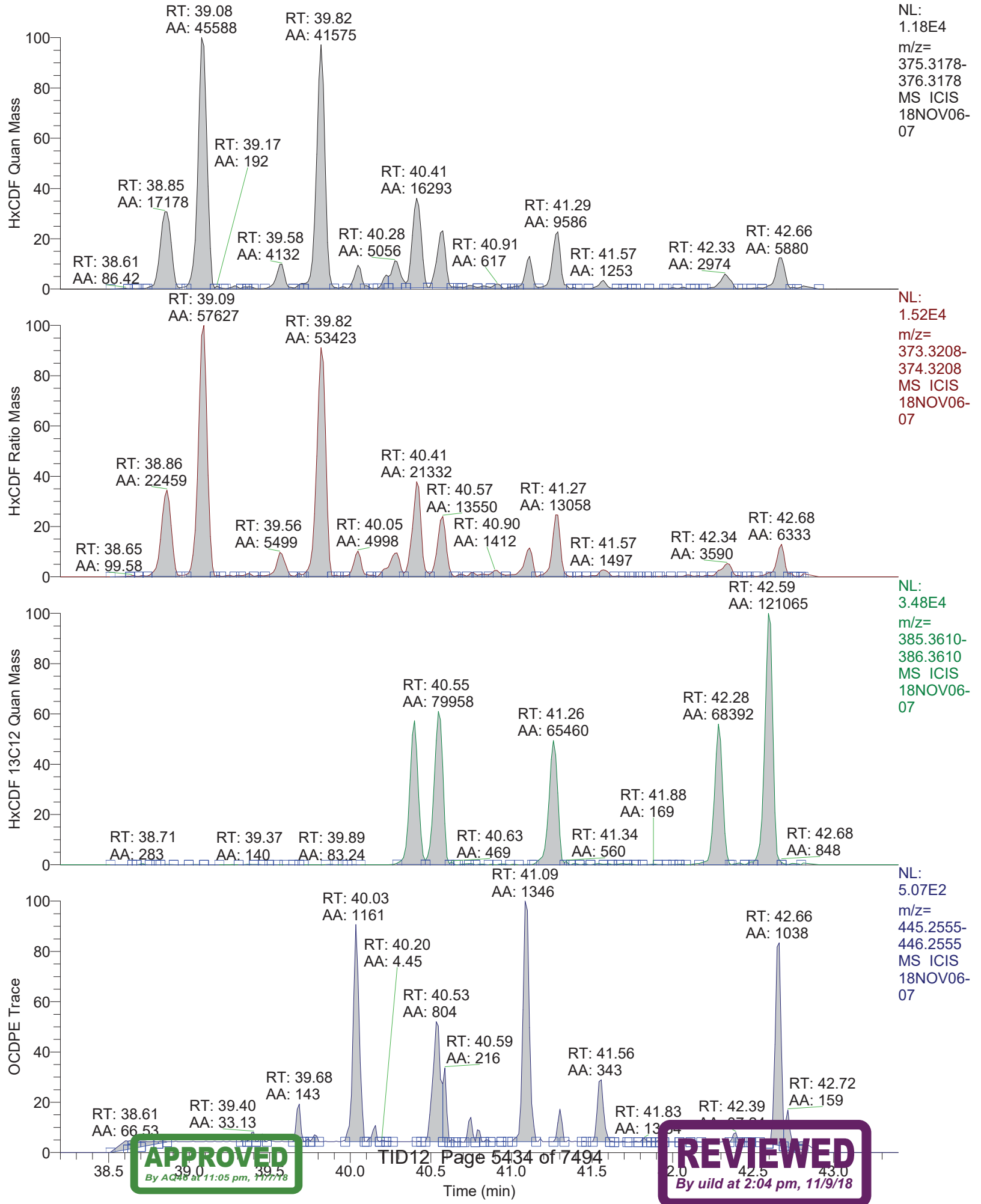
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-07
Sample ID: 9872065

Acq. Data: 11/6/2018 1:40:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 38.20 - 43.40



APPROVED
By AQ46 at 11:05 pm, 11/7/18

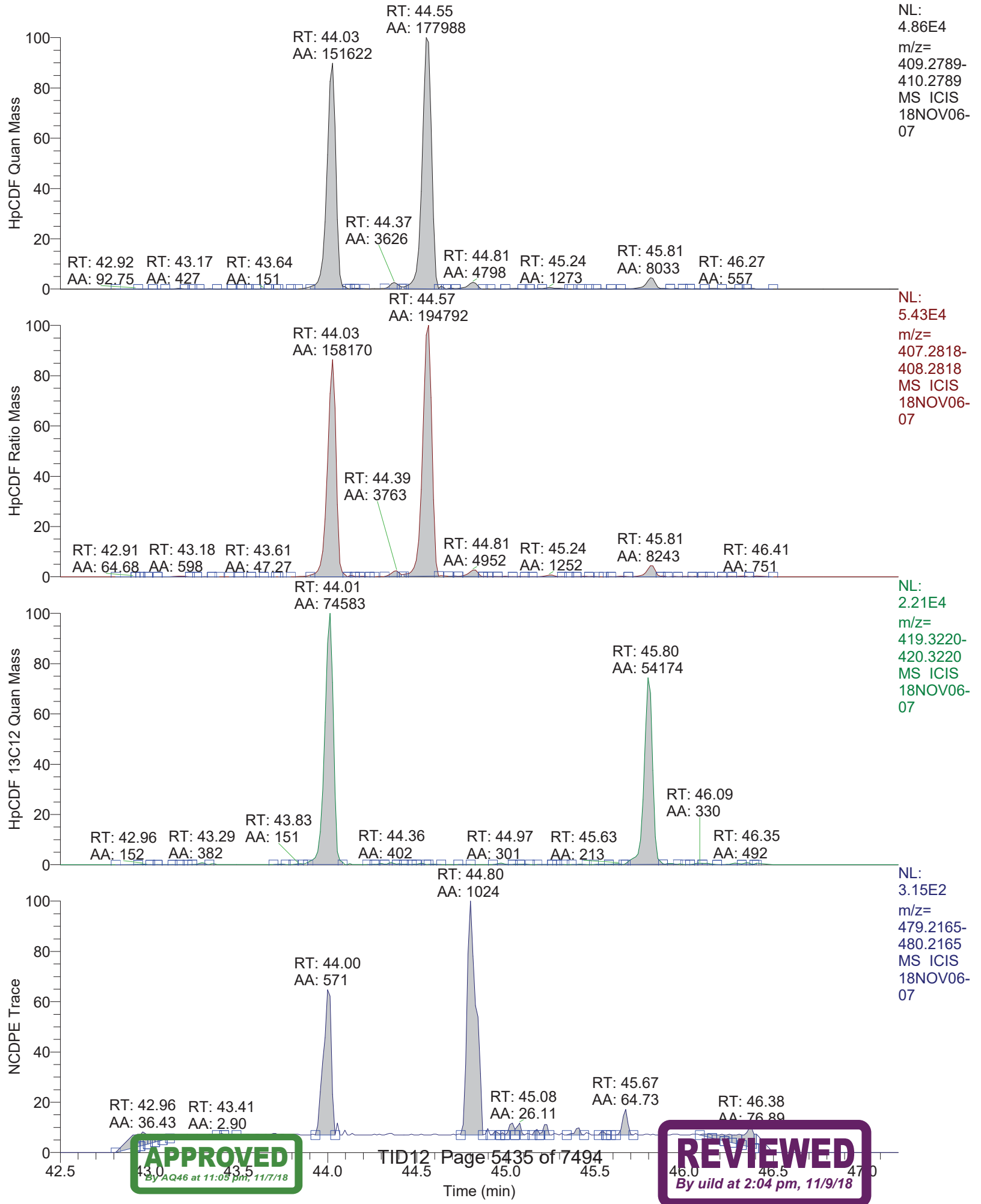
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-07
Sample ID: 9872065

Acq. Data: 11/6/2018 1:40:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 42.50 - 47.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

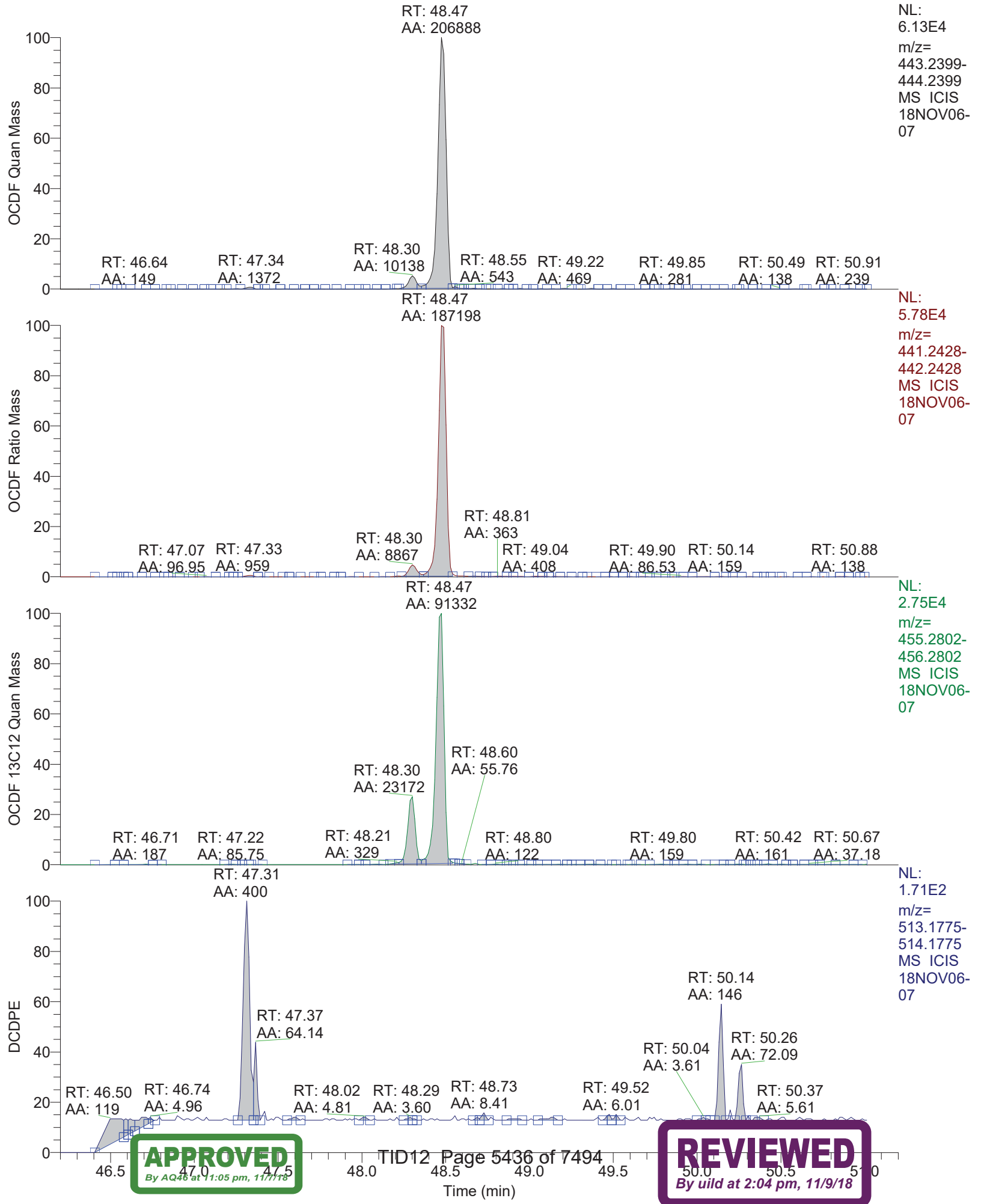
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-07
Sample ID: 9872065

Acq. Data: 11/6/2018 1:40:37 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV06

RT: 46.20 - 51.20



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

*** file opened Tue Nov 06 13:46:06 2018 ***

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Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 06-Nov-18 13:46:04

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 30aba325-9f9d-406a-9b43-31d7ad827584

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          96.5000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2535.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0207   FVINLET         0.0410   FVSRC           0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           96.5000   LKM           442.9723   MASS           96.5000
 MDAC        1471761.9161  MRANGE       1272.8365   NSAM          200.0000
 NSCAN          2277.0000  NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9670   RELEN           0.0000
 RES          14925.1033   RPUSHER       -17.1062   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0210   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          96.5000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10614.
MID Time Window 2: Resolution is 11932.
MID Time Window 3: Resolution is 11699.
MID Time Window 4: Resolution is 11202.
```

```
MID Time Window 5: Resolution is 11763.
MID Time Window 6: Resolution is 14925.

Amplifier Offset: 85.


*** File closed Tue Nov 06 14:37:08 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/04 01:08
Number of Entries	3
Comment	S:11030:12937:17962
Vial	42
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Sample ID	9872065
Inst ID	DF18471-18NOV02Conf
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-12.quan
Data	y:\18nov02conf\18nov02-12.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.08
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.75	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	13C12-1234-TCDD	24.81	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.69	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/04 01:08
Number of Entries	3
Comment	S:11030:12937:17962
Vial	42
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Sample ID	9872065
Inst ID	DF18471-18NOV02Conf
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-12.quan
Data	y:\18nov02conf\18nov02-12.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.08
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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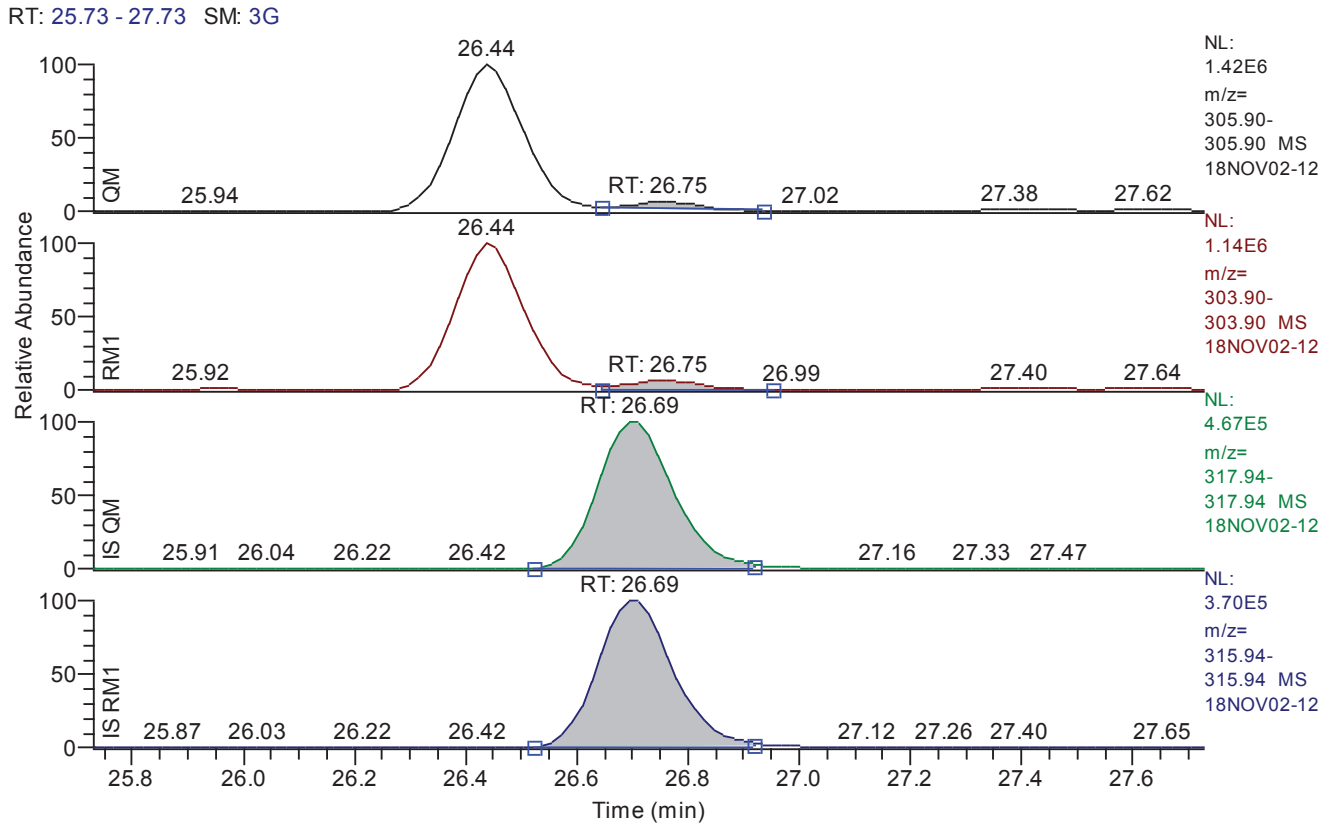
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.75
QM Area	561156
QM Integration Mode	A
RM1 Area	685380
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3736
Unqualified Amount (A)	31.030516
Adjusted Amount (A)	n.d.
Signal-to-Noise	232
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.72	26.75	26.75	26.69	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.78	24.81	24.81	24.81	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.68	26.69	26.69	26.69	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.75	1.2214	0.6450 - 0.8950	failed	---	0 - 0	passed
2	13C12-1234-TCDD	24.81	0.8265	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.69	0.7915	0.6450 - 0.8950	passed	65.89	40 - 135	passed

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Entry Parameters

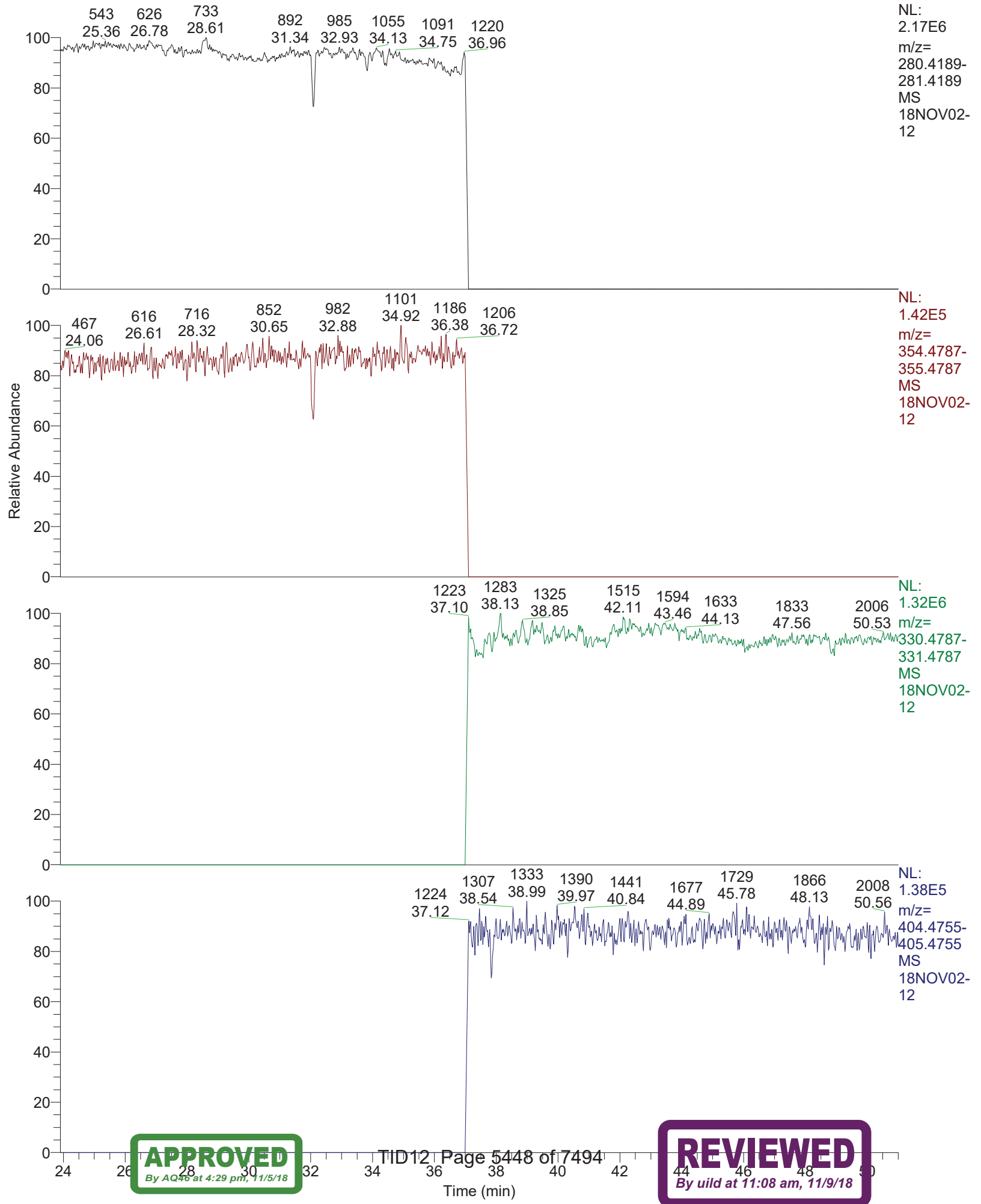
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	26.75	561156	A	685380	A	0.3736	31.030516	n.d.	0.000000	232	
2	13C12-1234-TCDD	passed	24.81	3192092	A	2638284	A	0.1212	198.412698	198.4127	198.412698	4093	
3	13C12-2378-TCDF	passed	26.69	4370014	A	3458767	A	0.0706	130.734592	130.7346	198.412698	4158	

File Name: Y:\18NOV02Conf\18NOV02-12
Sample ID: 9872065

Acq. Data: 11/4/2018 1:08:12 AM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02Conf

RT: 23.90 - 51.00



APPROVED
By AQ46 at 4:29 pm, 11/5/18

REVIEWED
By uild at 11:08 am, 11/9/18

*** file opened Sun Nov 04 01:12:35 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 04-Nov-18 01:12:34

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0d86c2a9-4f6a-43e5-8f3c-d5023df8b2d3

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	94.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-261.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	219.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	3.7000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0169	FVINLET	0.0376	FVSRC	0.0335
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	652.0000
LENS_SYM	3.7500	LM	650.0000	LMII	500.0000
LMASS	94.0000	LKM	330.9792	MASS	94.0000
MDAC	908649.4524	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.9700	RELEN	0.0000
RES	10744.5456	RPUSHER	-14.8059	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	680.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0194	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	94.0000	XLENS_POT	930.0000
XLENS_SYM	7.5000	YLENS_POT	862.0000	YLENS_SYM	14.7500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.0e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.3e-002 mbar
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10472.
MID Time Window 2: Resolution is 10744.

Amplifier Offset: 87.

*** File closed Sun Nov 04 01:05:07 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 21:02
Number of Entries	260
Comment	S:11030:12937:17962
Vial	113
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Sample ID	9872065DL
Inst ID	DF19780-18NOV05
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-14.quan
Data	z:\18nov05\18nov05-14.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.08
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.43	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.57	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	35.41	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.70	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.10	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.41	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.56	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.27	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.46	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.58	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.89	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.34	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.81	passed	passed	passed	passed	passed	passed	
16	OCDD	48.27	passed	passed	passed	passed	passed	passed	
17	OCDF	48.46	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.97	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.68	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.29	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.43	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.54	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.38	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.69	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.07	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.54	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.24	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.45	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.57	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.88	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.27	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.45	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 21:02
Number of Entries	260
Comment	S:11030:12937:17962
Vial	113
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Sample ID	9872065DL
Inst ID	DF19780-18NOV05
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-14.quan
Data	z:\18nov05\18nov05-14.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.08
Dilution Factor [hDF]	10.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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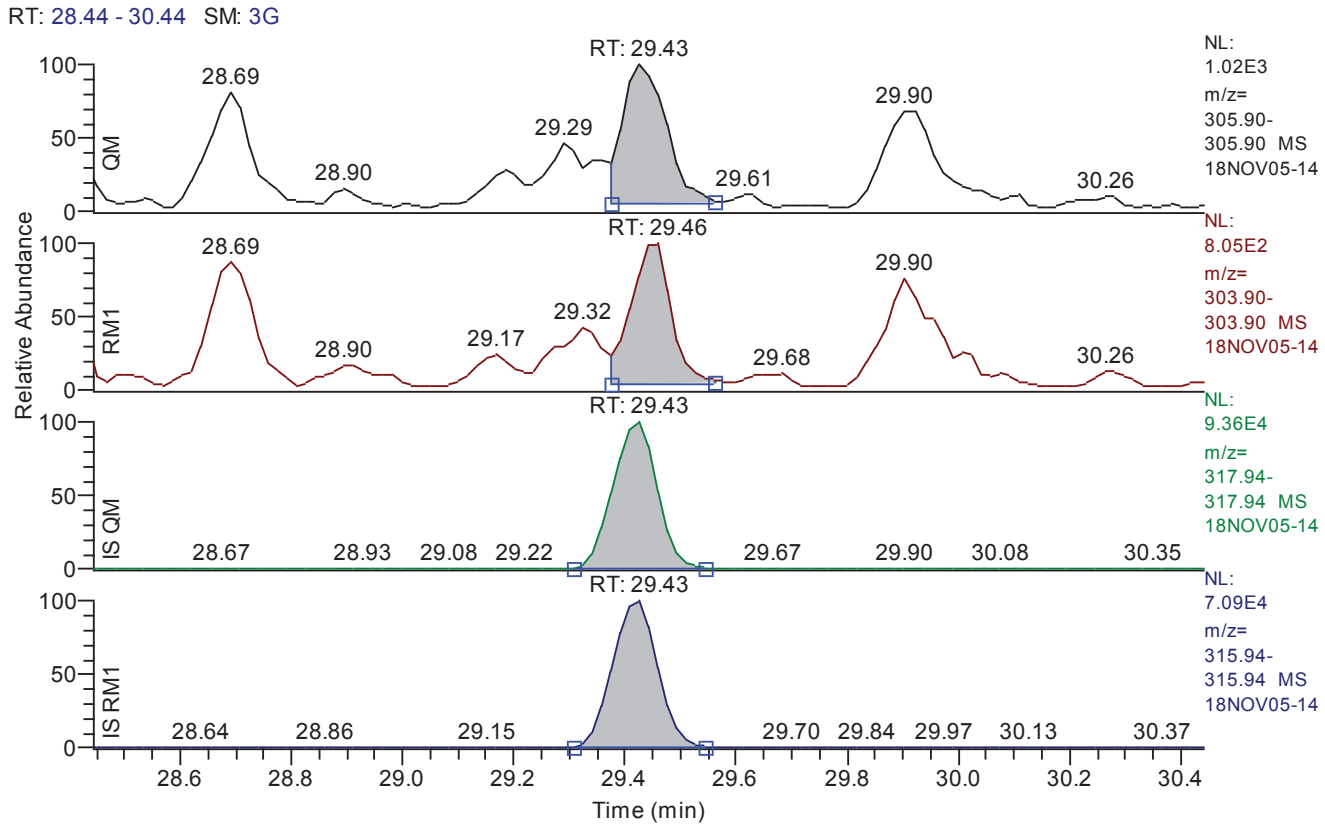
Chromatogram



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.43
QM Area	5231
QM Integration Mode	A
RM1 Area	3844
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1857
Unqualified Amount (A)	19.251858
Adjusted Amount (A)	19.2519
Signal-to-Noise	28
Client Flags	
Status Overview	passed
Status Info	

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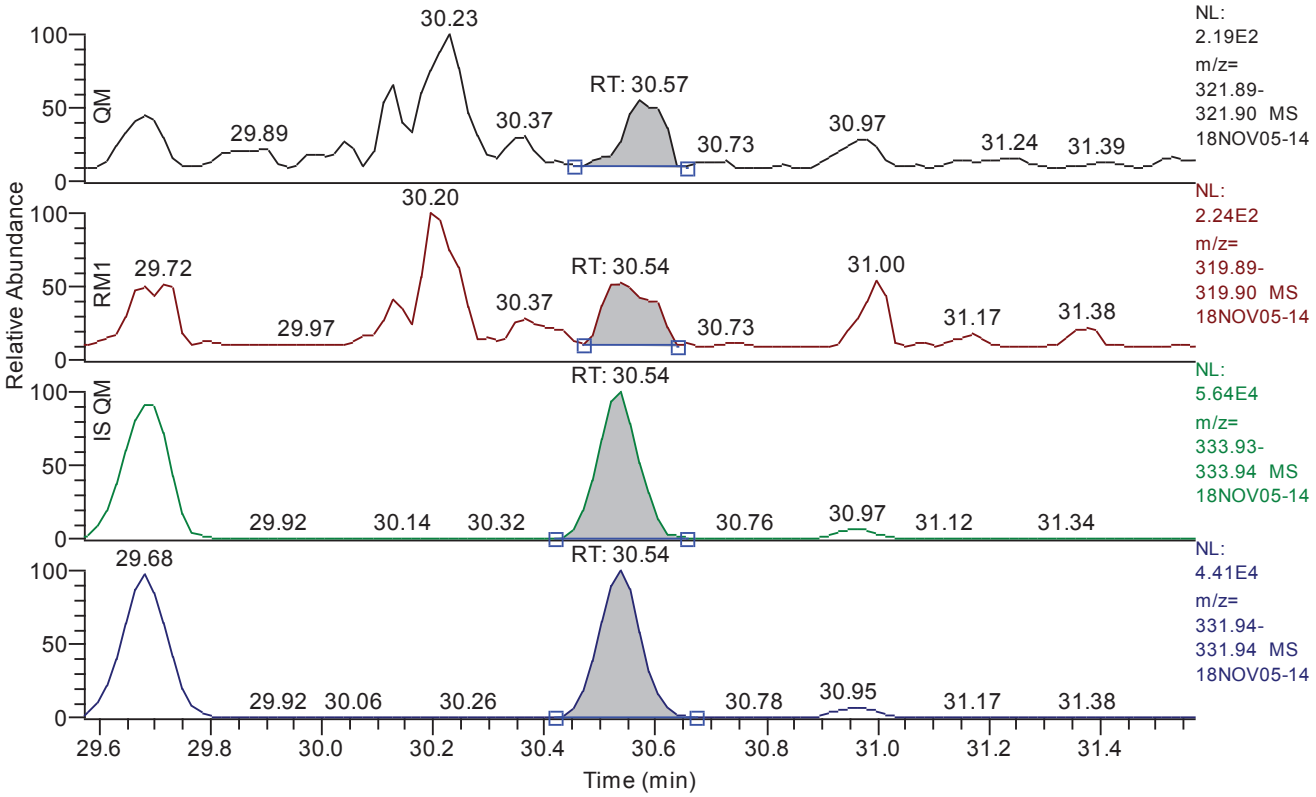
Chromatogram

RT: 29.57 - 31.57 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.57
QM Area	507
QM Integration Mode	A
RM1 Area	608
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0766
Unqualified Amount (A)	3.722968
Adjusted Amount (A)	n.d.
Signal-to-Noise	11
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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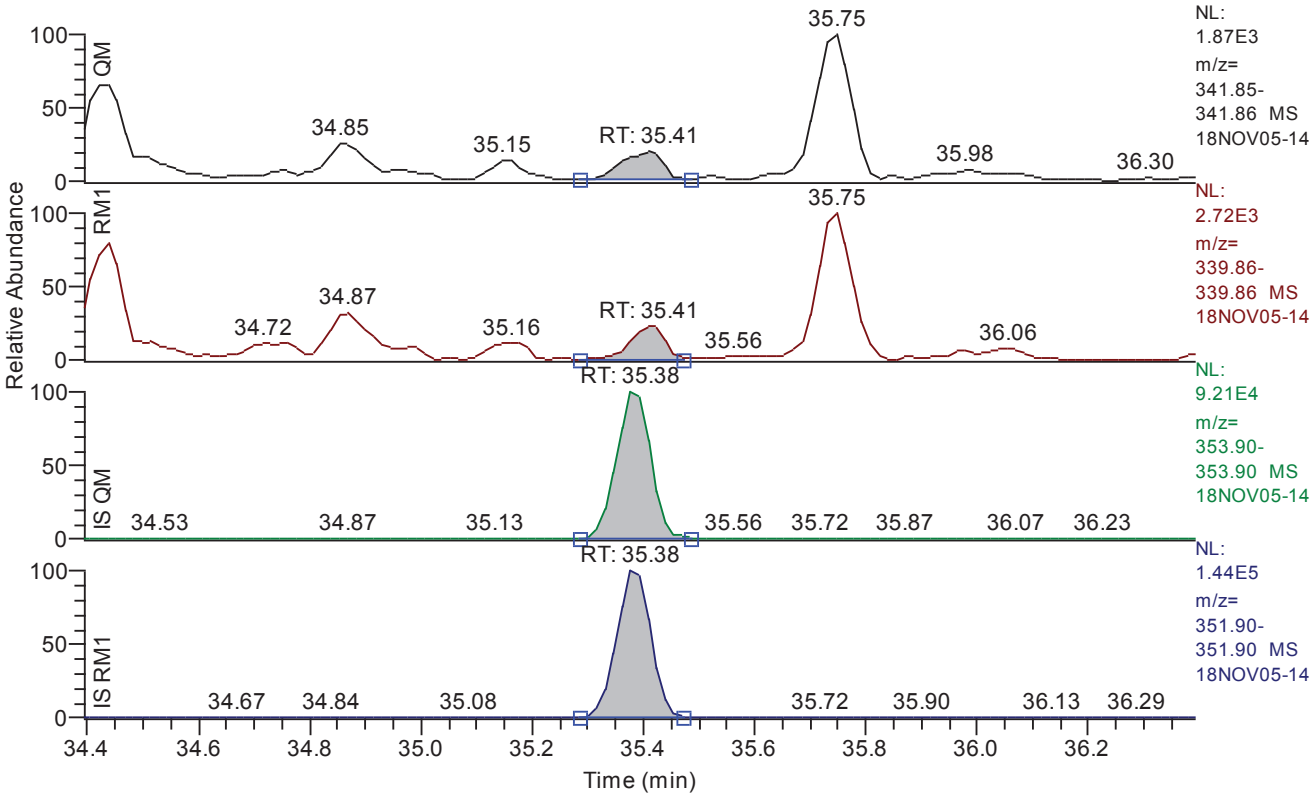
Chromatogram

RT: 34.39 - 36.39 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.41
QM Area	1834
QM Integration Mode	A
RM1 Area	2688
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0866
Unqualified Amount (A)	9.861703
Adjusted Amount (A)	9.8617
Signal-to-Noise	27
Client Flags	
Status Overview	passed
Status Info	

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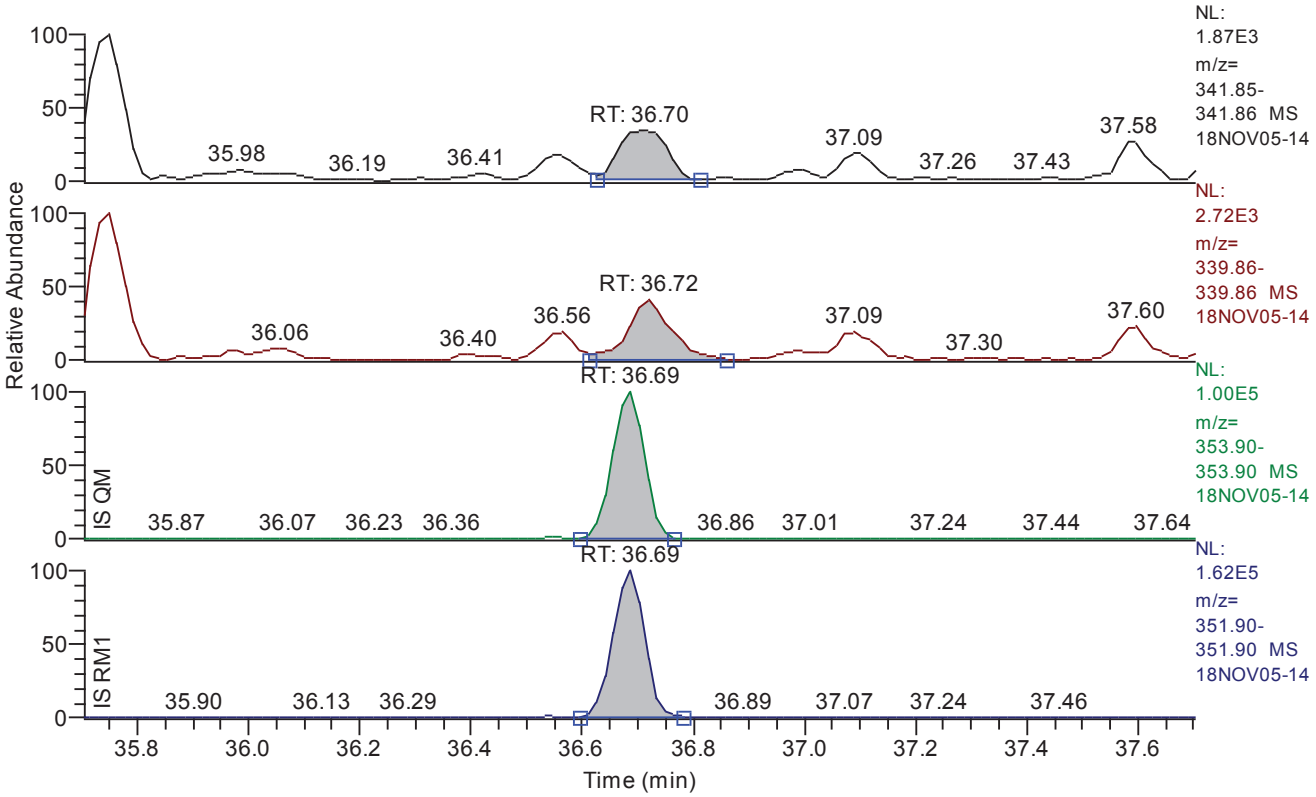
Chromatogram

RT: 35.70 - 37.70 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.70
QM Area	3790
QM Integration Mode	A
RM1 Area	5921
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0695
Unqualified Amount (A)	18.295801
Adjusted Amount (A)	18.2958
Signal-to-Noise	47
Client Flags	
Status Overview	passed
Status Info	

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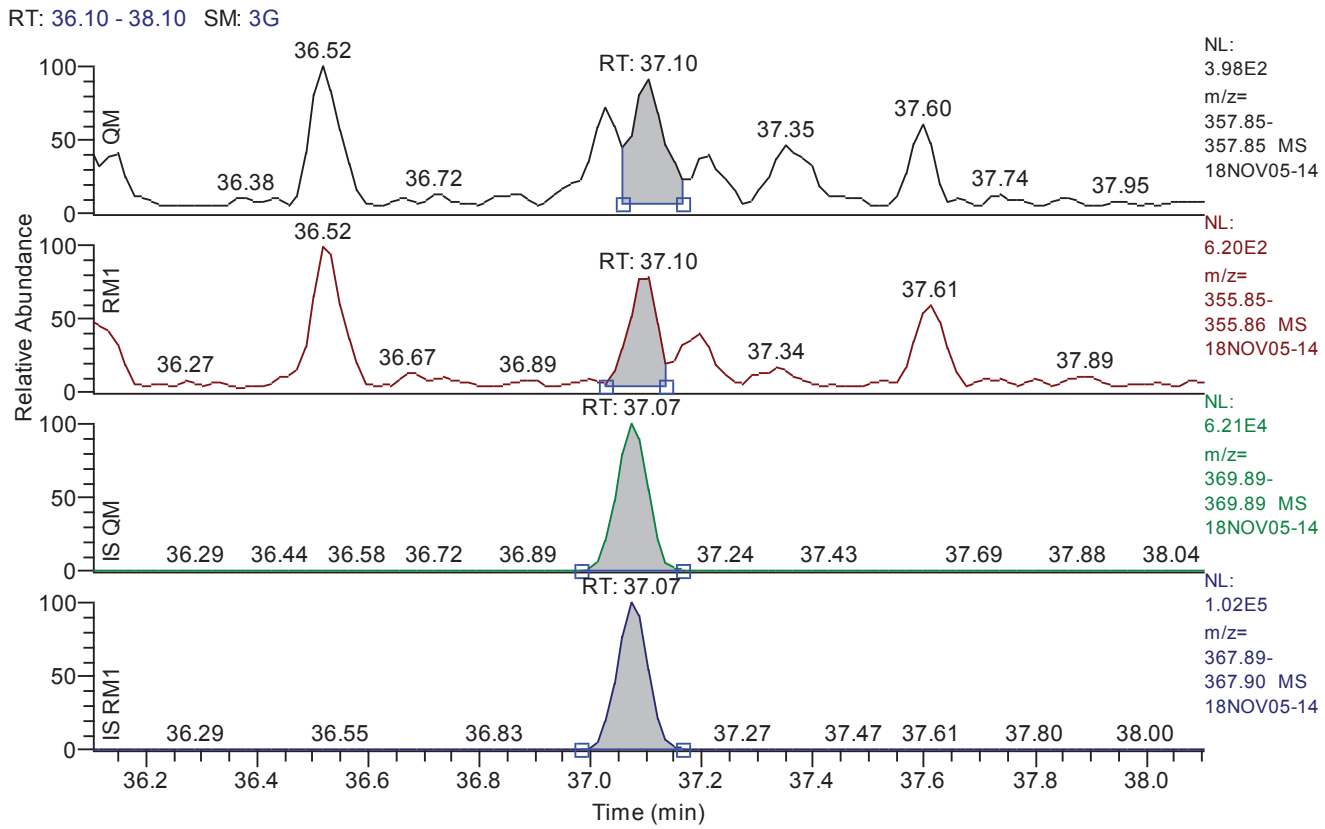
Chromatogram



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.10
QM Area	1339
QM Integration Mode	A
RM1 Area	1630
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1245
Unqualified Amount (A)	9.636843
Adjusted Amount (A)	n.d.
Signal-to-Noise	21
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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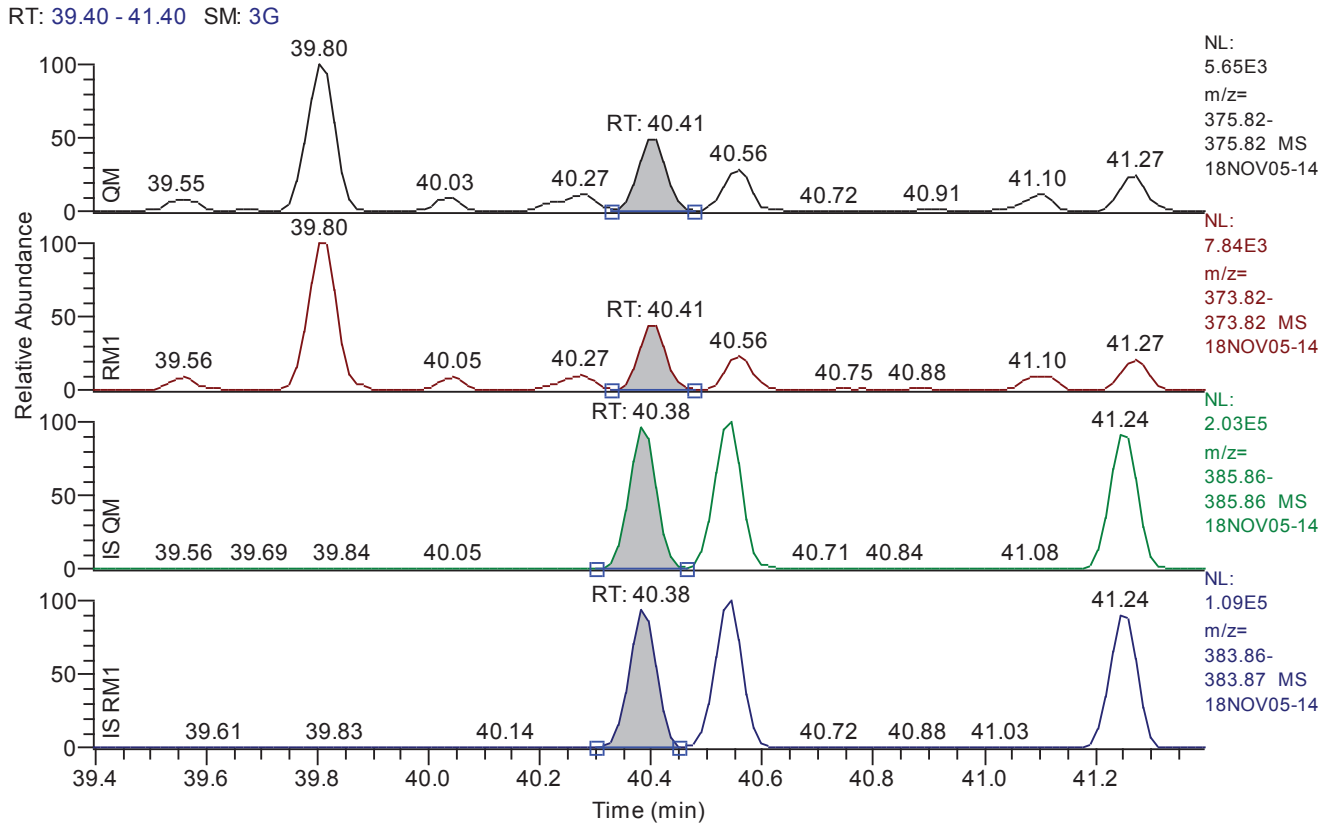
Chromatogram



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.41
QM Area	9845
QM Integration Mode	A
RM1 Area	11826
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0838
Unqualified Amount (A)	38.528677
Adjusted Amount (A)	38.5287
Signal-to-Noise	113
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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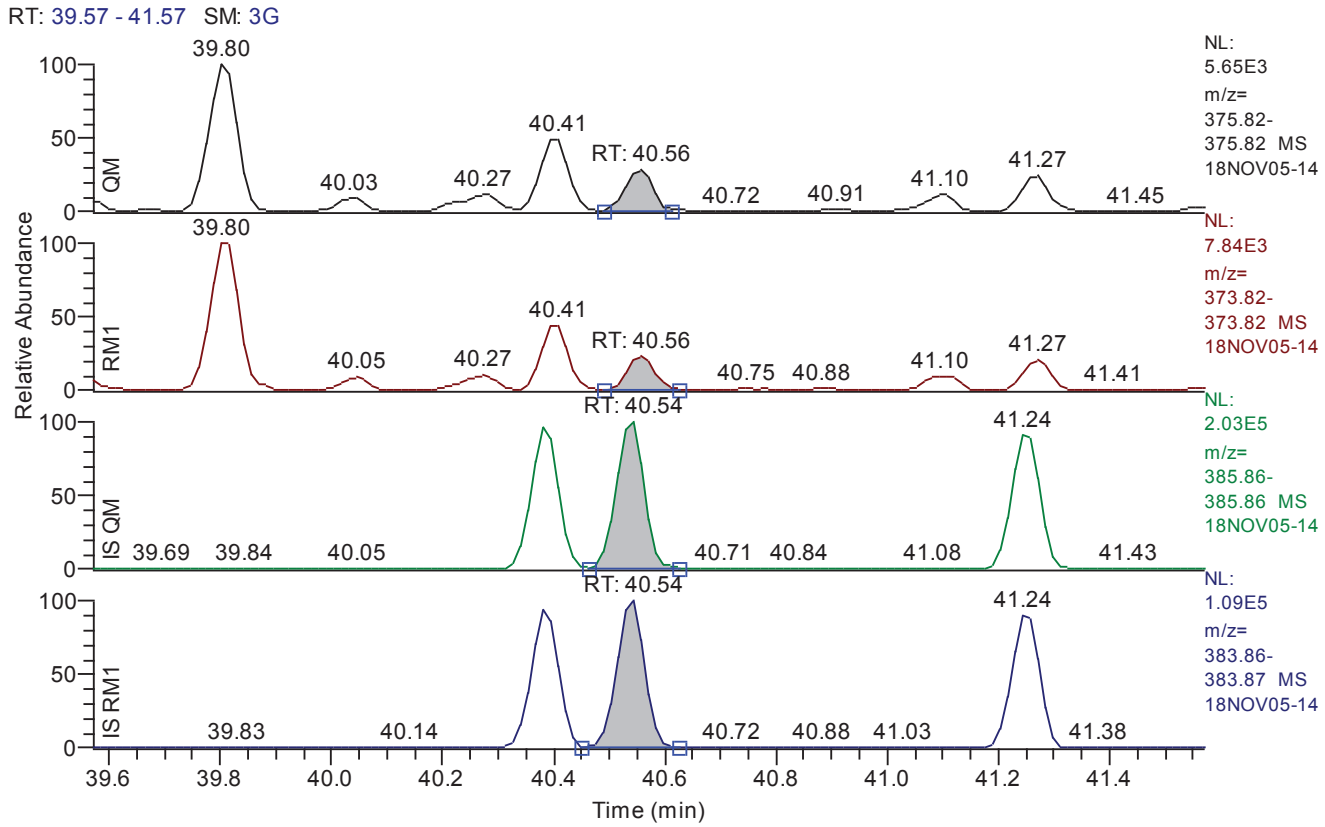
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.56
QM Area	5549
QM Integration Mode	A
RM1 Area	6202
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0837
Unqualified Amount (A)	20.545963
Adjusted Amount (A)	20.5460
Signal-to-Noise	63
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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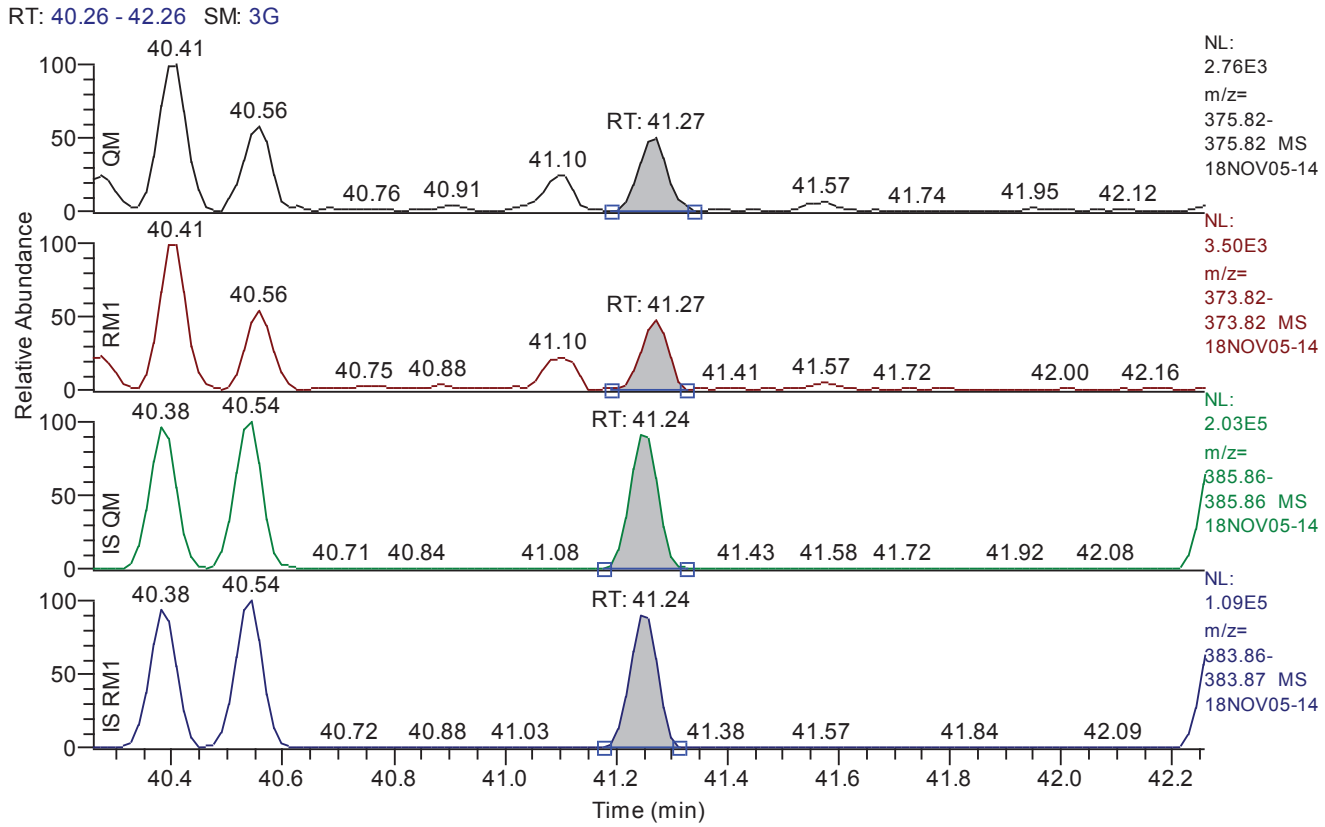
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.27
QM Area	4873
QM Integration Mode	A
RM1 Area	5569
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0847
Unqualified Amount (A)	18.164795
Adjusted Amount (A)	18.1648
Signal-to-Noise	55
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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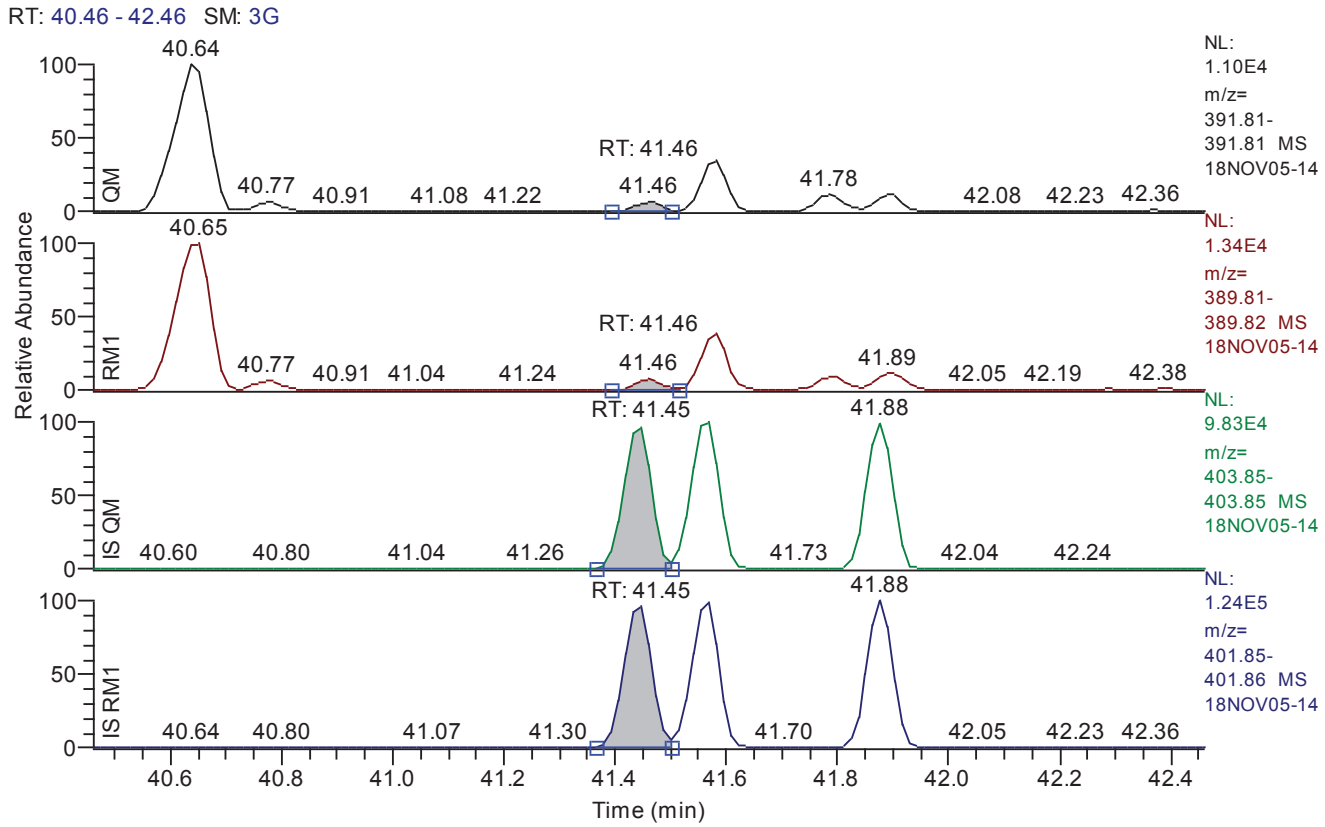
Chromatogram



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.46
QM Area	2406
QM Integration Mode	A
RM1 Area	3613
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1353
Unqualified Amount (A)	17.056706
Adjusted Amount (A)	n.d.
Signal-to-Noise	32
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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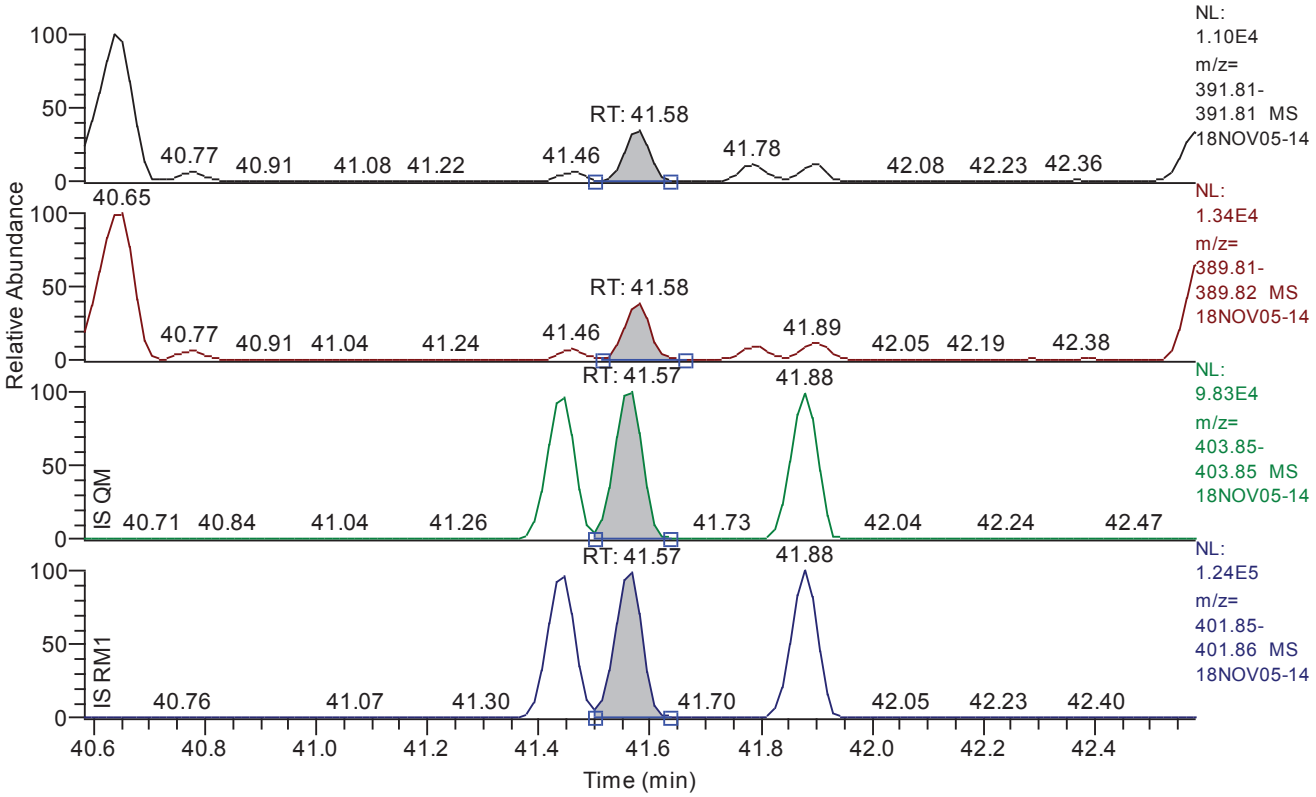
Chromatogram

RT: 40.58 - 42.58 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.58
QM Area	12358
QM Integration Mode	A
RM1 Area	16941
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1306
Unqualified Amount (A)	81.190416
Adjusted Amount (A)	81.1904
Signal-to-Noise	165
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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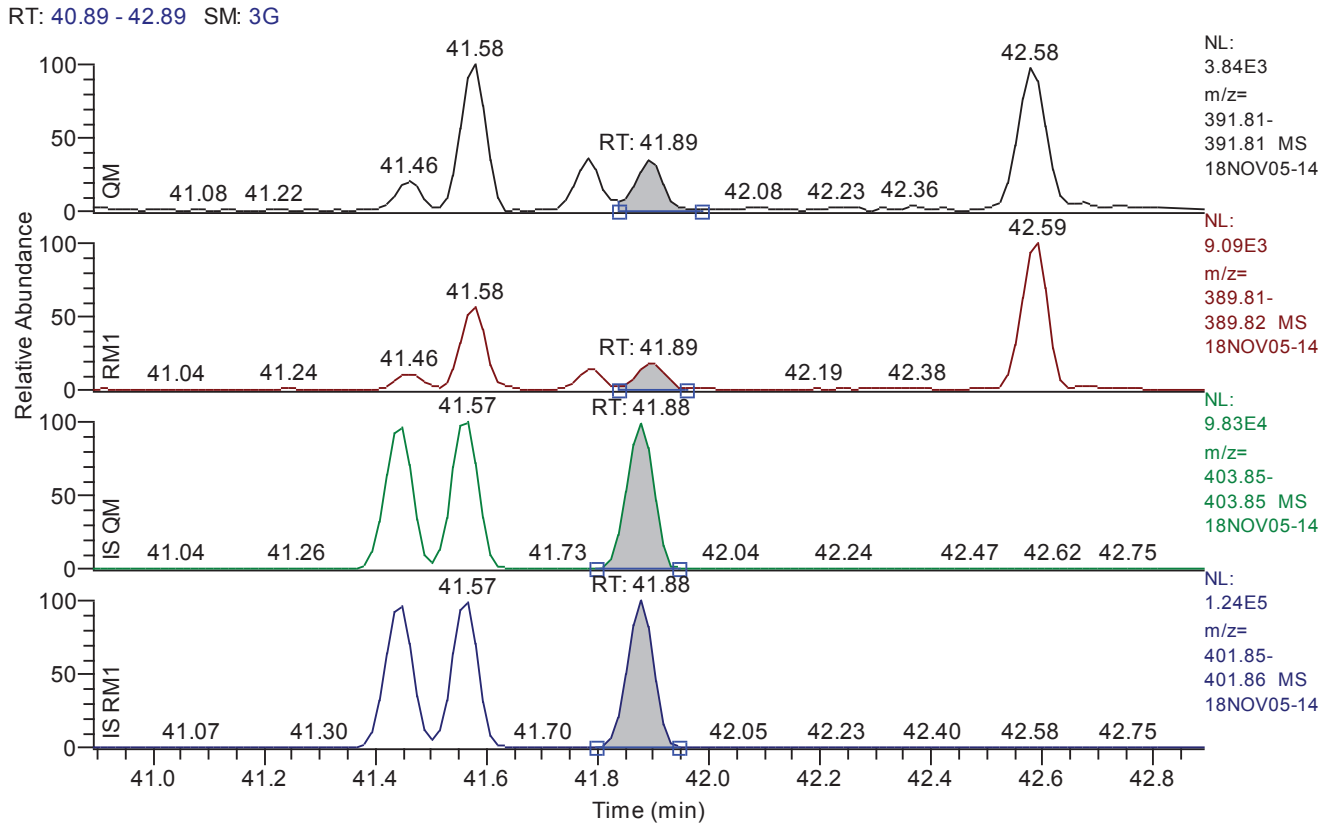
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.89
QM Area	4595
QM Integration Mode	A
RM1 Area	5937
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1226
Unqualified Amount (A)	28.218426
Adjusted Amount (A)	28.2184
Signal-to-Noise	54
Client Flags	
Status Overview	passed
Status Info	

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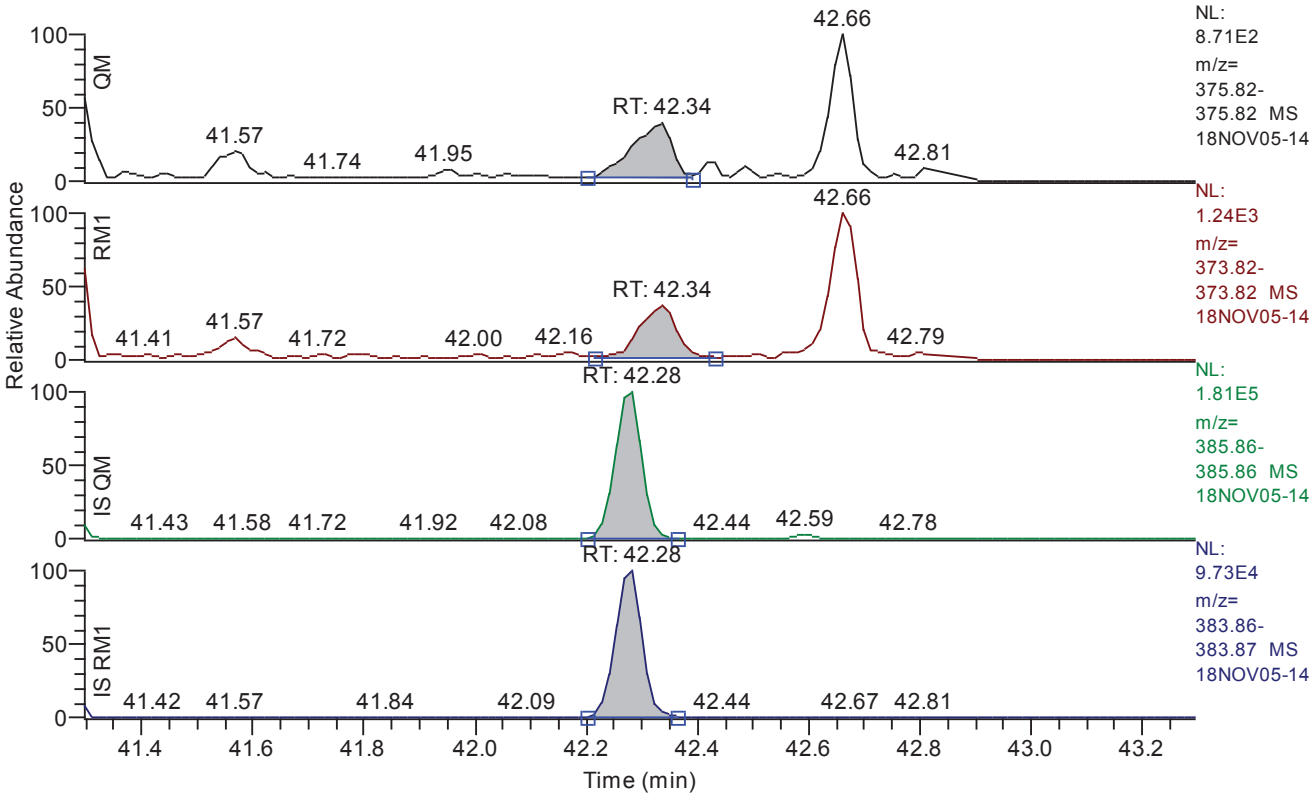
Chromatogram

RT: 41.30 - 43.30 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.34
QM Area	1658
QM Integration Mode	A
RM1 Area	2082
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0935
Unqualified Amount (A)	7.520997
Adjusted Amount (A)	7.5210
Signal-to-Noise	14
Client Flags	
Status Overview	passed
Status Info	

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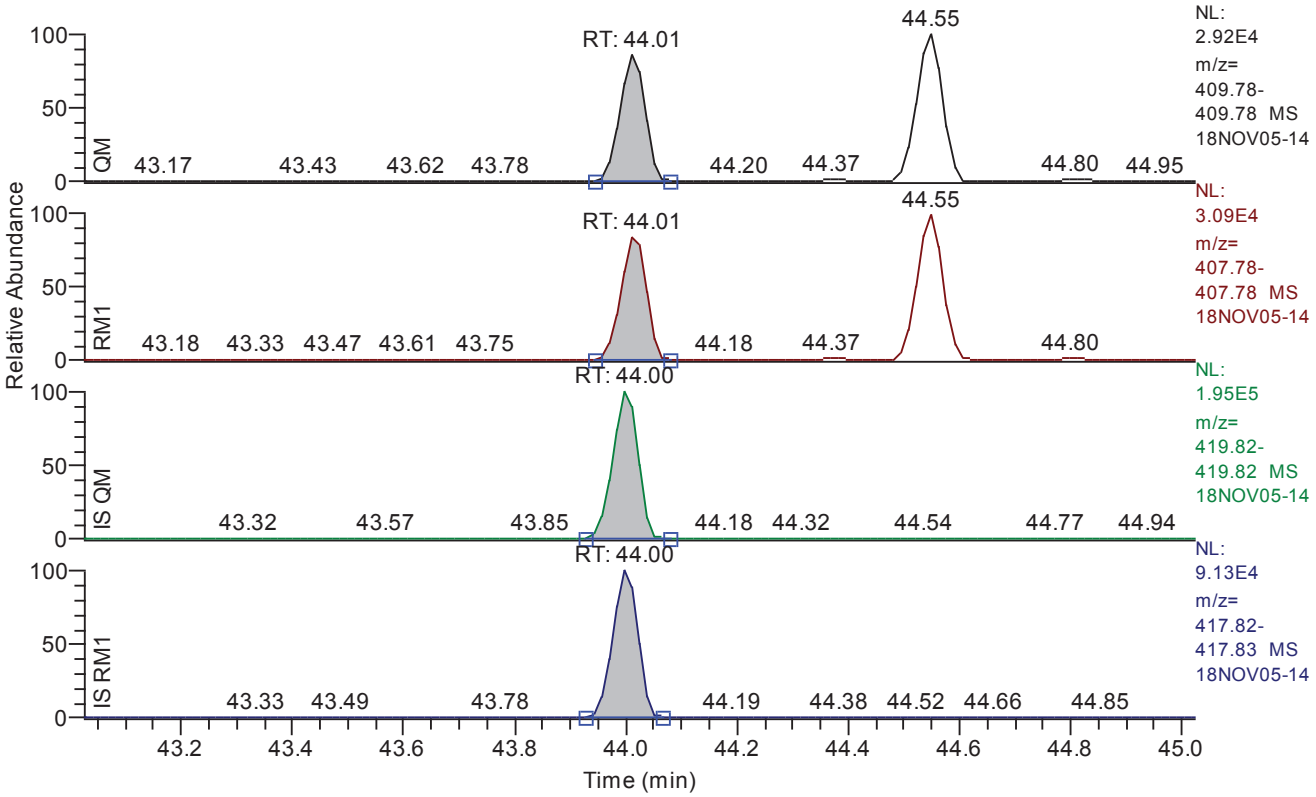
Chromatogram

RT: 43.02 - 45.02 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.01
QM Area	81553
QM Integration Mode	A
RM1 Area	85764
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0494
Unqualified Amount (A)	302.504963
Adjusted Amount (A)	302.5050
Signal-to-Noise	1528
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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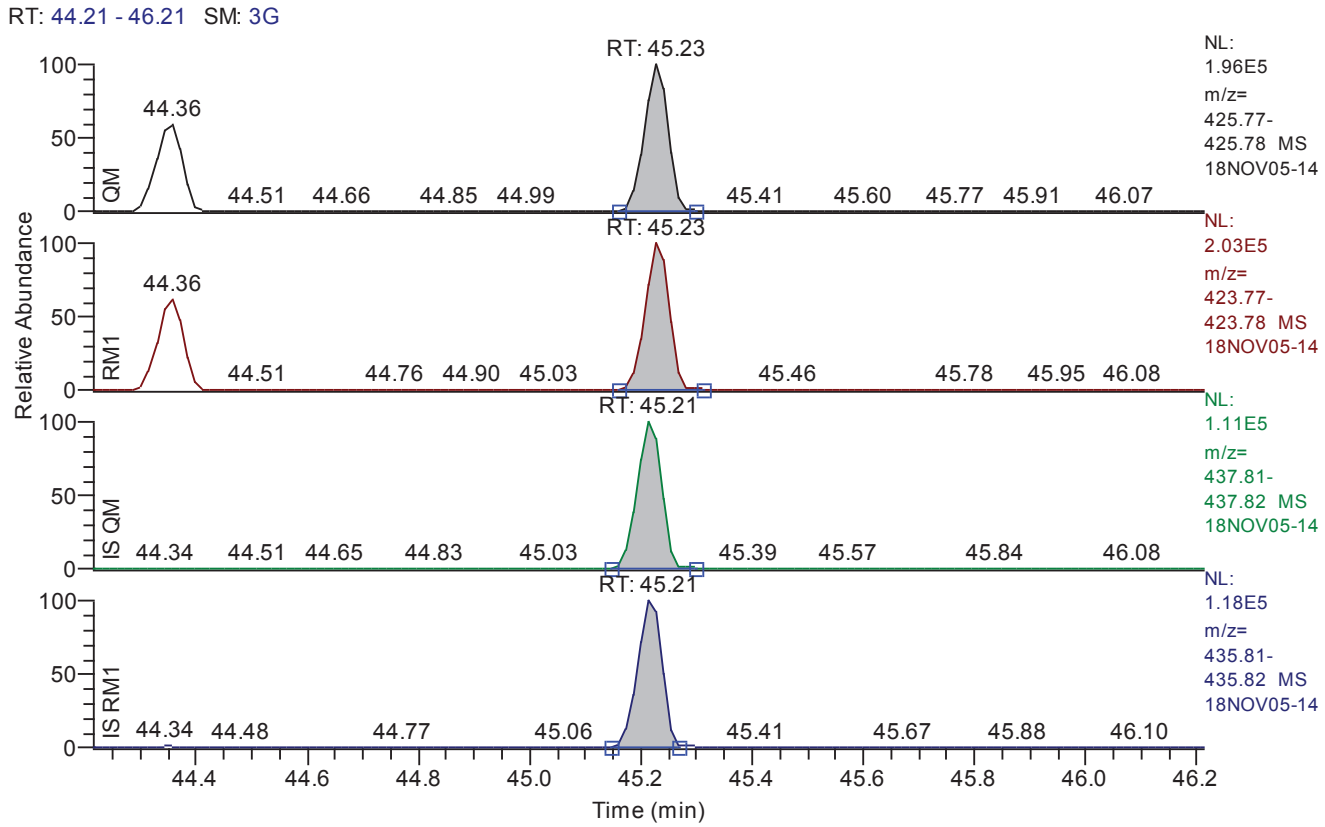
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	603459
QM Integration Mode	A
RM1 Area	628948
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1960
Unqualified Amount (A)	3458.263363
Adjusted Amount (A)	3458.2634
Signal-to-Noise	4545
Client Flags	
Status Overview	passed
Status Info	

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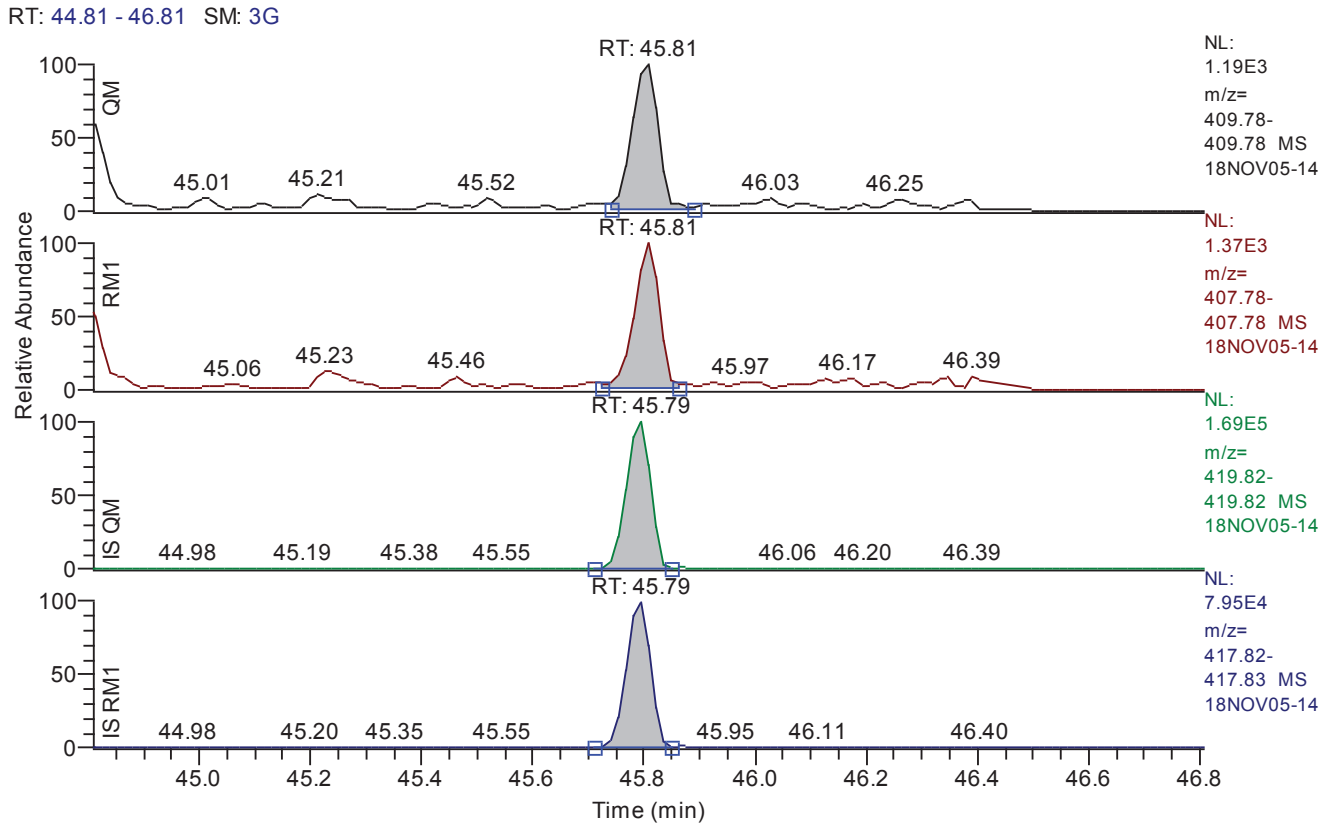
Chromatogram



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.81
QM Area	3933
QM Integration Mode	A
RM1 Area	4304
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0567
Unqualified Amount (A)	17.913442
Adjusted Amount (A)	17.9134
Signal-to-Noise	75
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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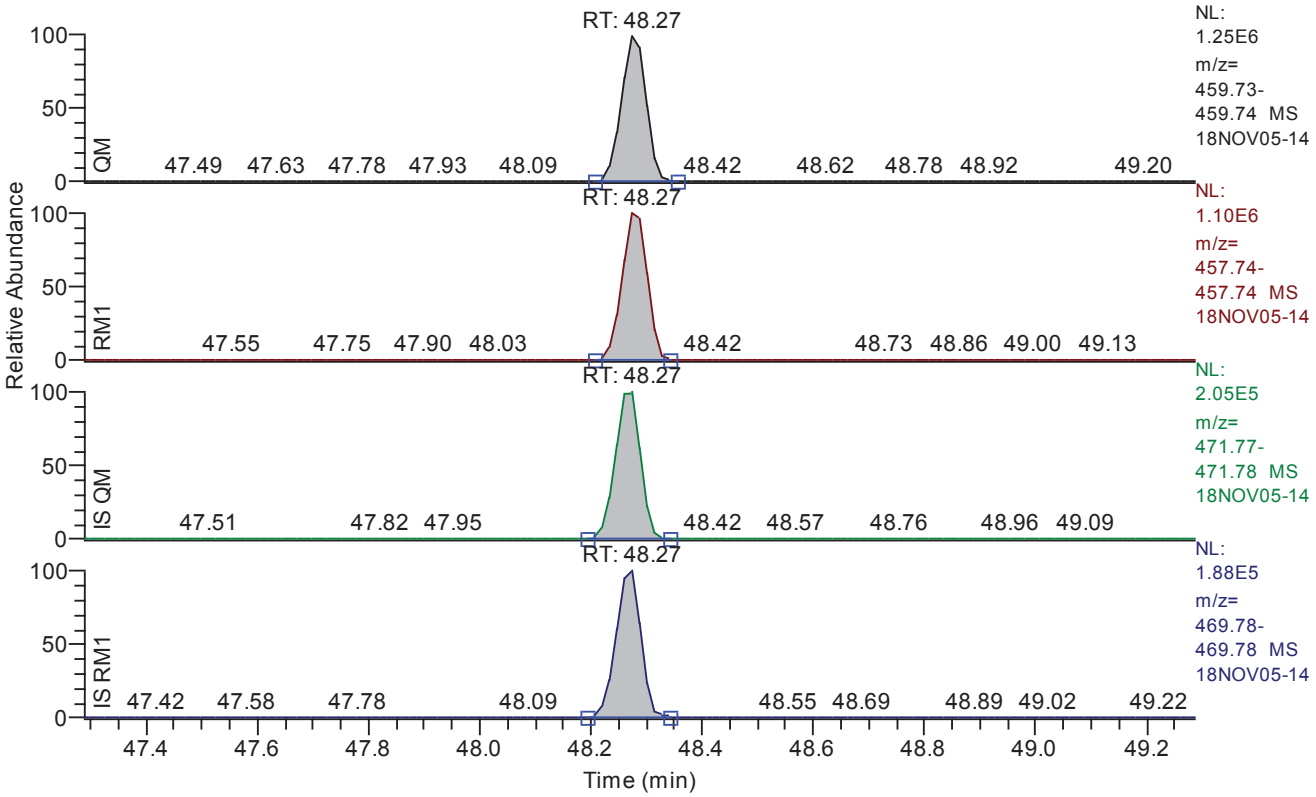
Chromatogram

RT: 47.29 - 49.29 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.27
QM Area	3829600
QM Integration Mode	A
RM1 Area	3441192
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1366
Unqualified Amount (A)	24781.484795
Adjusted Amount (A)	24781.4848
Signal-to-Noise	45655
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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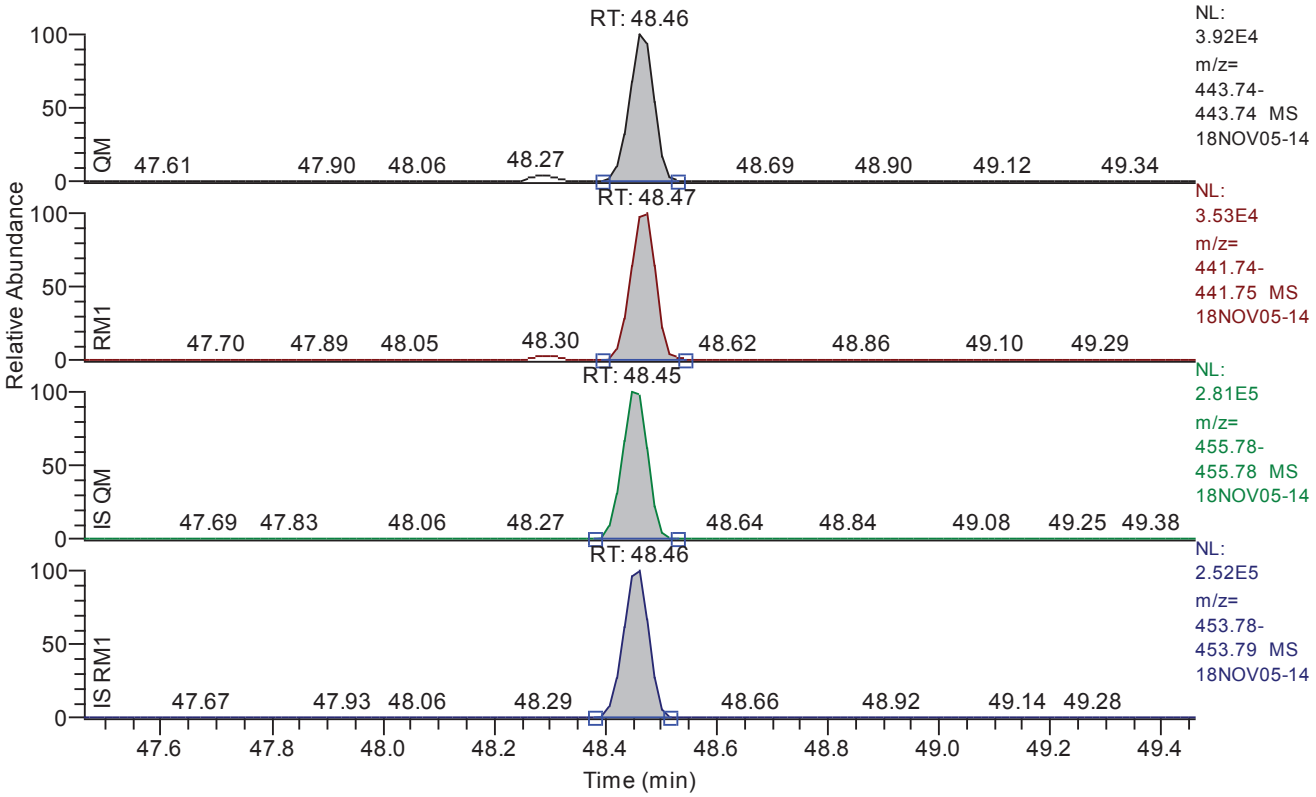
Chromatogram

RT: 47.46 - 49.46 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.46
QM Area	121069
QM Integration Mode	A
RM1 Area	111560
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0578
Unqualified Amount (A)	635.202420
Adjusted Amount (A)	635.2024
Signal-to-Noise	2807
Client Flags	
Status Overview	passed
Status Info	

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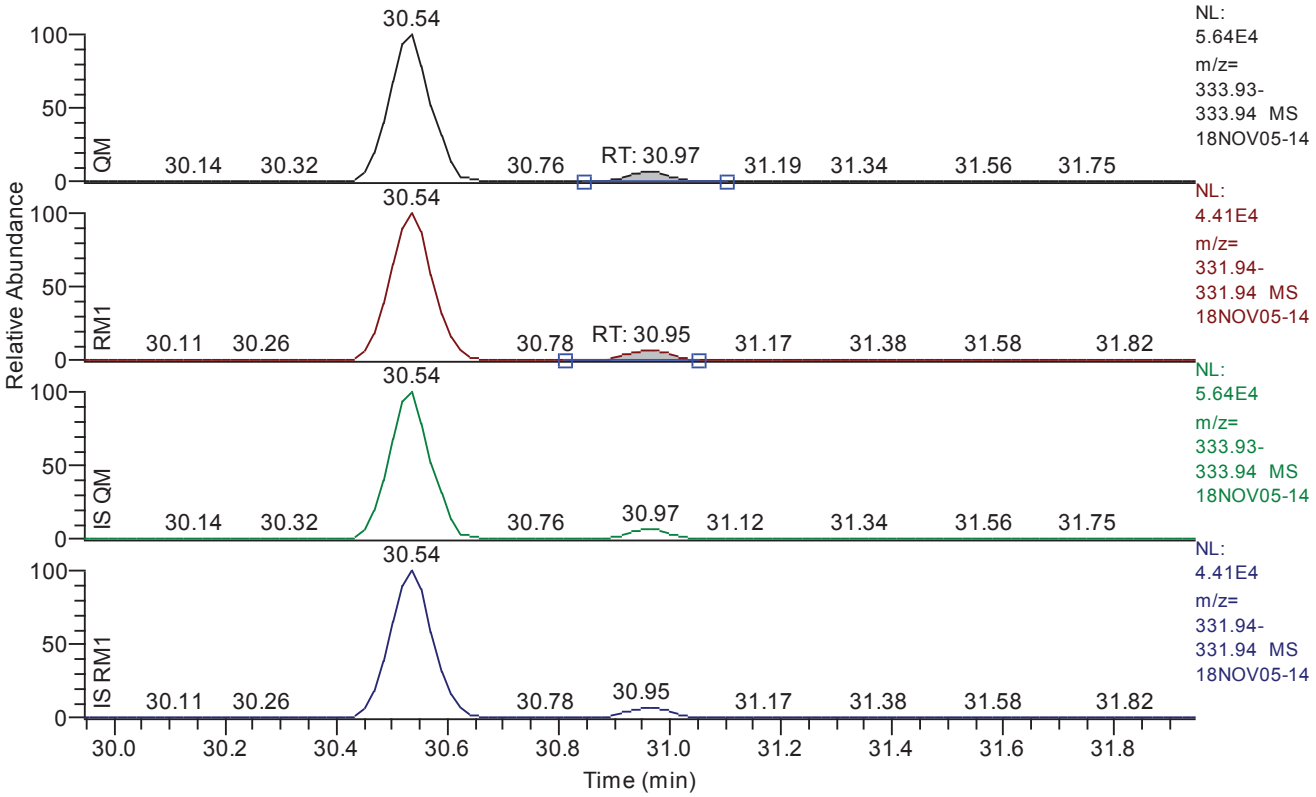
Chromatogram

RT: 29.95 - 31.95 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.97
QM Area	22483
QM Integration Mode	A
RM1 Area	18679
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0798
Unqualified Amount (A)	126.972416
Adjusted Amount (A)	126.9724
Signal-to-Noise	419
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.48	29.43	29.46	29.43	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.61	30.57	30.54	30.54	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.43	35.41	35.41	35.38	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.73	36.70	36.72	36.69	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.13	37.10	37.10	37.07	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.42	40.41	40.41	40.38	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.58	40.56	40.56	40.54	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.27	41.27	41.24	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.47	41.46	41.46	41.45	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.59	41.58	41.58	41.57	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.89	41.89	41.88	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.30	42.34	42.34	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.03	44.01	44.01	44.00	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.24	45.23	45.23	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.82	45.81	45.81	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.29	48.27	48.27	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.46	48.47	48.45	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.99	30.97	30.95	30.97	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.72	29.68	29.68	29.68	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.31	40.29	40.29	40.29	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.47	29.43	29.43	29.29	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.58	30.54	30.54	30.54	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.41	35.38	35.38	35.42	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.71	36.69	36.69	36.67	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.10	37.07	37.07	37.07	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.40	40.38	40.38	40.53	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.55	40.54	40.54	40.53	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.24	41.24	41.22	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.46	41.45	41.45	41.45	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.58	41.57	41.57	41.57	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.88	41.88	41.88	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.29	42.28	42.28	42.28	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.00	44.00	43.98	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.24	45.21	45.21	45.21	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.80	45.79	45.79	45.78	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.46	48.45	48.46	48.42	passed	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.43	0.7349	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	30.57	1.2003	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	35.41	1.4659	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.70	1.5622	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	37.10	1.2179	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.41	1.2012	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.56	1.1177	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.27	1.1427	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.46	1.5017	1.0450 - 1.4350	failed	---	0 - 0	passed
10	123678-HxCDD	41.58	1.3709	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.89	1.2921	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.34	1.2558	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.01	1.0516	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.23	1.0422	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.81	1.0941	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.27	0.8986	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.46	0.9215	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.97	0.8308	0.6450 - 0.8950	passed	63.99	35 - 197	passed
19	13C12-1234-TCDD	29.68	0.8082	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.29	1.2464	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.43	0.7742	0.6450 - 0.8950	passed	90.28	40 - 135	passed
22	13C12-2378-TCDD	30.54	0.8051	0.6450 - 0.8950	passed	103.11	40 - 135	passed
23	13C12-12378-PeCDF	35.38	1.5554	1.3150 - 1.7850	passed	105.59	40 - 135	passed
24	13C12-23478-PeCDF	36.69	1.5967	1.3150 - 1.7850	passed	111.23	40 - 135	passed
25	13C12-12378-PeCDD	37.07	1.6115	1.3150 - 1.7850	passed	126.59	40 - 135	passed
26	13C12-123478-HxCDF	40.38	0.5232	0.4250 - 0.5950	passed	93.60	40 - 135	passed
27	13C12-123678-HxCDF	40.54	0.5397	0.4250 - 0.5950	passed	92.88	40 - 135	passed
28	13C12-234678-HxCDF	41.24	0.5272	0.4250 - 0.5950	passed	96.73	40 - 135	passed
29	13C12-123478-HxCDD	41.45	1.2697	1.0450 - 1.4350	passed	98.59	40 - 135	passed
30	13C12-123678-HxCDD	41.57	1.2075	1.0450 - 1.4350	passed	98.47	40 - 135	passed
31	13C12-123789-HxCDD	41.88	1.2453	1.0450 - 1.4350	passed	100.73	40 - 135	passed
32	13C12-123789-HxCDF	42.28	0.5323	0.4250 - 0.5950	passed	94.13	40 - 135	passed
33	13C12-1234678-HpCDF	44.00	0.4656	0.3650 - 0.5150	passed	101.15	40 - 135	passed
34	13C12-1234678-HpCDD	45.21	1.0513	0.8750 - 1.2050	passed	108.64	40 - 135	passed
35	13C12-1234789-HpCDF	45.79	0.4655	0.3650 - 0.5150	passed	102.33	40 - 135	passed
36	13C12-OCDD	48.27	0.9059	0.7550 - 1.0250	passed	103.94	40 - 135	passed
37	13C12-OCDF	48.45	0.8869	0.7550 - 1.0250	passed	94.30	40 - 135	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.43	5231	A	3844	A	0.1857	19.251858	19.2519	0.000000	28	
2	2378-TCDD	failed	30.57	507	A	608	A	0.0766	3.722968	n.d.	0.000000	11	
3	12378-PeCDF	passed	35.41	1834	A	2688	A	0.0866	9.861703	9.8617	0.000000	27	
4	23478-PeCDF	passed	36.70	3790	A	5921	A	0.0695	18.295801	18.2958	0.000000	47	
5	12378-PeCDD	failed	37.10	1339	A	1630	A	0.1245	9.636843	n.d.	0.000000	21	
6	123478-HxCDF	passed	40.41	9845	A	11826	A	0.0838	38.528677	38.5287	0.000000	113	
7	123678-HxCDF	passed	40.56	5549	A	6202	A	0.0837	20.545963	20.5460	0.000000	63	
8	234678-HxCDF	passed	41.27	4873	A	5569	A	0.0847	18.164795	18.1648	0.000000	55	
9	123478-HxCDD	failed	41.46	2406	A	3613	A	0.1353	17.056706	n.d.	0.000000	32	
10	123678-HxCDD	passed	41.58	12358	A	16941	A	0.1306	81.190416	81.1904	0.000000	165	
11	123789-HxCDD	passed	41.89	4595	A	5937	A	0.1226	28.218426	28.2184	0.000000	54	
12	123789-HxCDF	passed	42.34	1658	A	2082	A	0.0935	7.520997	7.5210	0.000000	14	
13	1234678-HpCDF	passed	44.01	81553	A	85764	A	0.0494	302.504963	302.5050	0.000000	1528	
14	1234678-HpCDD	passed	45.23	603459	A	628948	A	0.1960	3458.263363	3458.2634	0.000000	4545	
15	1234789-HpCDF	passed	45.81	3933	A	4304	A	0.0567	17.913442	17.9134	0.000000	75	
16	OCDD	passed	48.27	3829600	A	3441192	A	0.1366	24781.484795	24781.4848	0.000000	45655	
17	OCDF	passed	48.46	121069	A	111560	A	0.0578	635.202420	635.2024	0.000000	2807	
18	13C12-1278-TCDD (CRS)	passed	30.97	22483	A	18679	A	0.0798	126.972416	126.9724	198.412698	419	
19	13C12-1234-TCDD	passed	29.68	309248	A	249929	A	0.1010	2182.539683	2182.5397	2182.539683	5403	
20	13C12-123468-HxCDD	passed	40.29	369057	A	459999	A	0.0898	2182.539683	2182.5397	2182.539683	6077	
21	13C12-2378-TCDF	passed	29.43	526665	A	407729	A	0.0584	1970.338245	1970.3382	2182.539683	8746	
22	13C12-2378-TCDD	passed	30.54	296678	A	238855	A	0.1087	2250.420409	2250.4204	2182.539683	5715	
23	13C12-12378-PeCDF	passed	35.38	395537	A	615205	A	0.1588	2304.457685	2304.4577	2182.539683	4976	
24	13C12-23478-PeCDF	passed	36.69	402190	A	642185	A	0.1619	2427.650761	2427.6508	2182.539683	5536	
25	13C12-12378-PeCDD	passed	37.07	248222	A	399997	A	0.1185	2762.924116	2762.9241	2182.539683	8664	
26	13C12-123478-HxCDF	passed	40.38	672514	A	351882	A	0.1094	2042.765583	2042.7656	2182.539683	4966	
27	13C12-123678-HxCDF	passed	40.54	702992	A	379392	A	0.1028	2027.071376	2027.0714	2182.539683	5166	
28	13C12-234678-HxCDF	passed	41.24	662422	A	349257	A	0.1145	2111.211029	2111.2110	2182.539683	4746	
29	13C12-123478-HxCDD	passed	41.45	332708	A	422453	A	0.0972	2151.709962	2151.7100	2182.539683	5750	
30	13C12-123678-HxCDD	passed	41.57	346650	A	418577	A	0.0958	2149.091667	2149.0917	2182.539683	5906	
31	13C12-123789-HxCDD	passed	41.88	331958	A	413383	A	0.1006	2198.383787	2198.3838	2182.539683	5924	
32	13C12-123789-HxCDF	passed	42.28	614069	A	326843	A	0.1198	2054.443605	2054.4436	2182.539683	4622	
33	13C12-1234678-HpCDF	passed	44.00	636742	A	296470	A	0.1028	2207.619514	2207.6195	2182.539683	5993	
34	13C12-1234678-HpCDD	passed	45.21	355937	A	374213	A	0.0933	2371.151957	2371.1520	2182.539683	7265	
35	13C12-1234789-HpCDF	passed	45.79	528983	A	246249	A	0.1252	2233.423445	2233.4234	2182.539683	5212	
36	13C12-OCDD	passed	48.27	644349	A	583714	A	0.1291	4537.061079	4537.0611	4365.079365	10239	
37	13C12-OCDF	passed	48.45	901343	A	799365	A	0.0532	4116.157083	4116.1571	4365.079365	22061	

APPROVED
By uma9 at 1:57 pm, 11/6/18

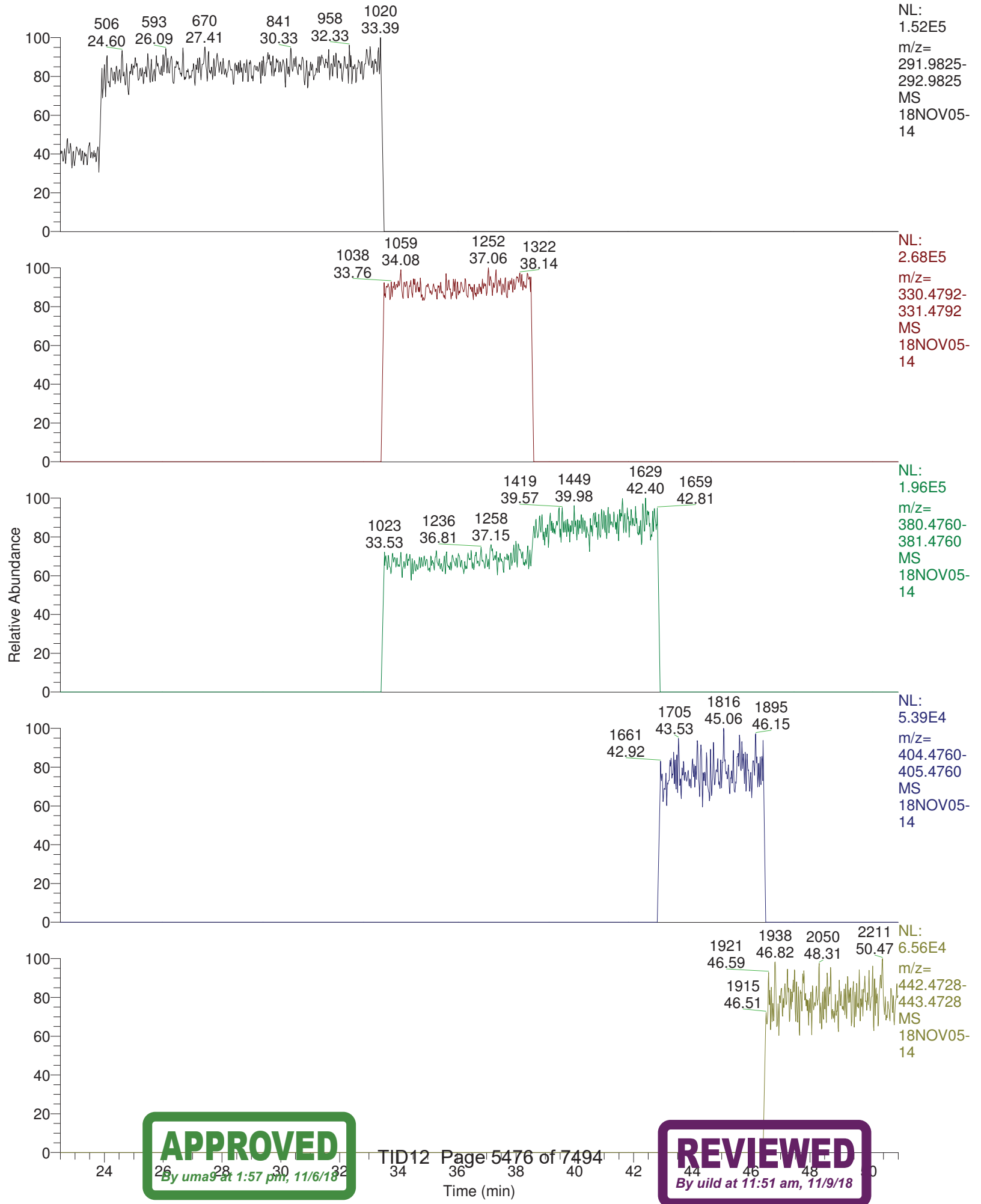
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-14
Sample ID: 9872065DL

Acq. Data: 11/5/2018 9:02:42 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV05

RT: 22.50 - 51.00



APPROVED
By umas at 1:57 pm, 11/6/18

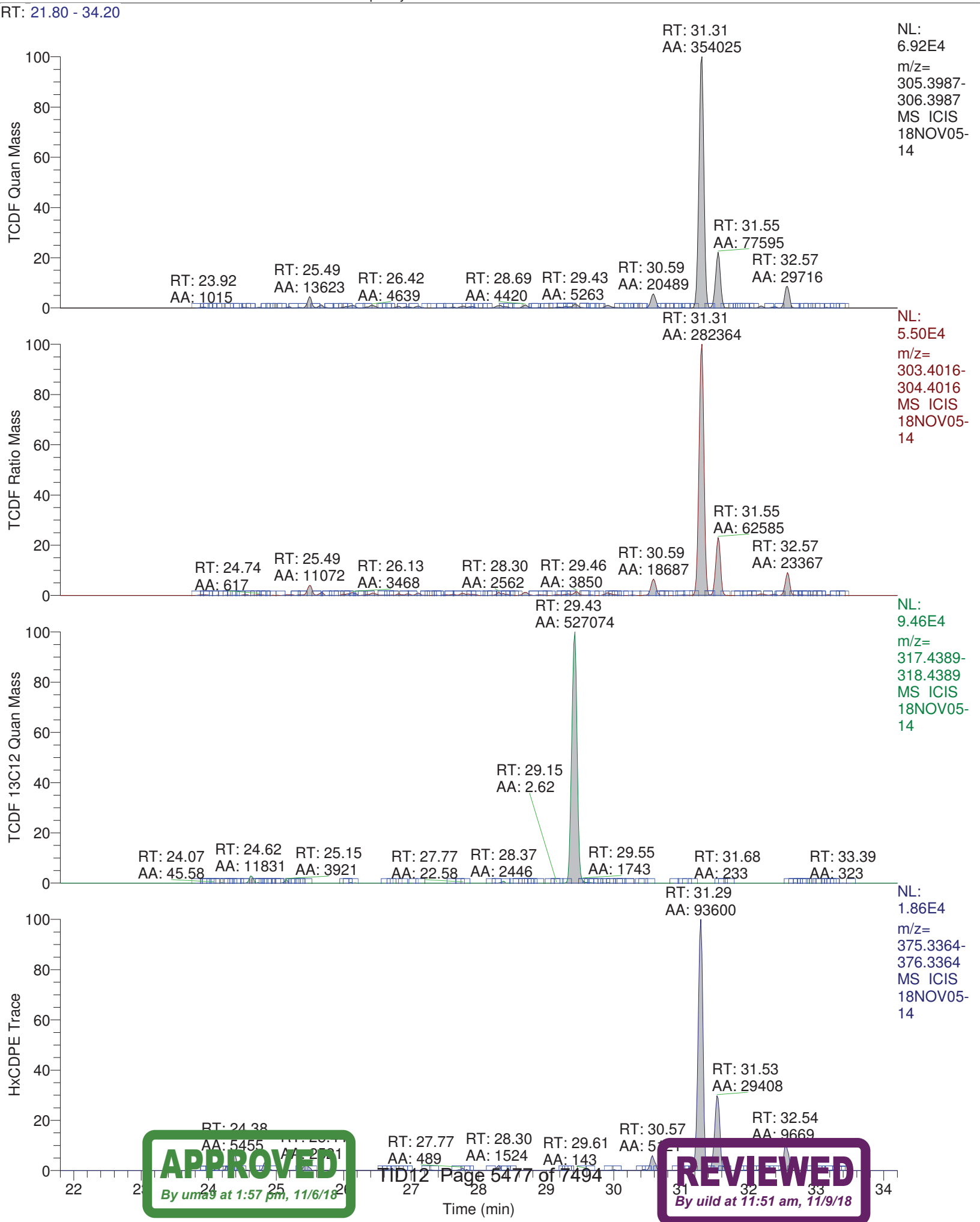
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-14
Sample ID: 9872065DL

Acq. Data: 11/5/2018 9:02:42 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 21.80 - 34.20



APPROVED
By umas at 1:57 pm, 11/6/18

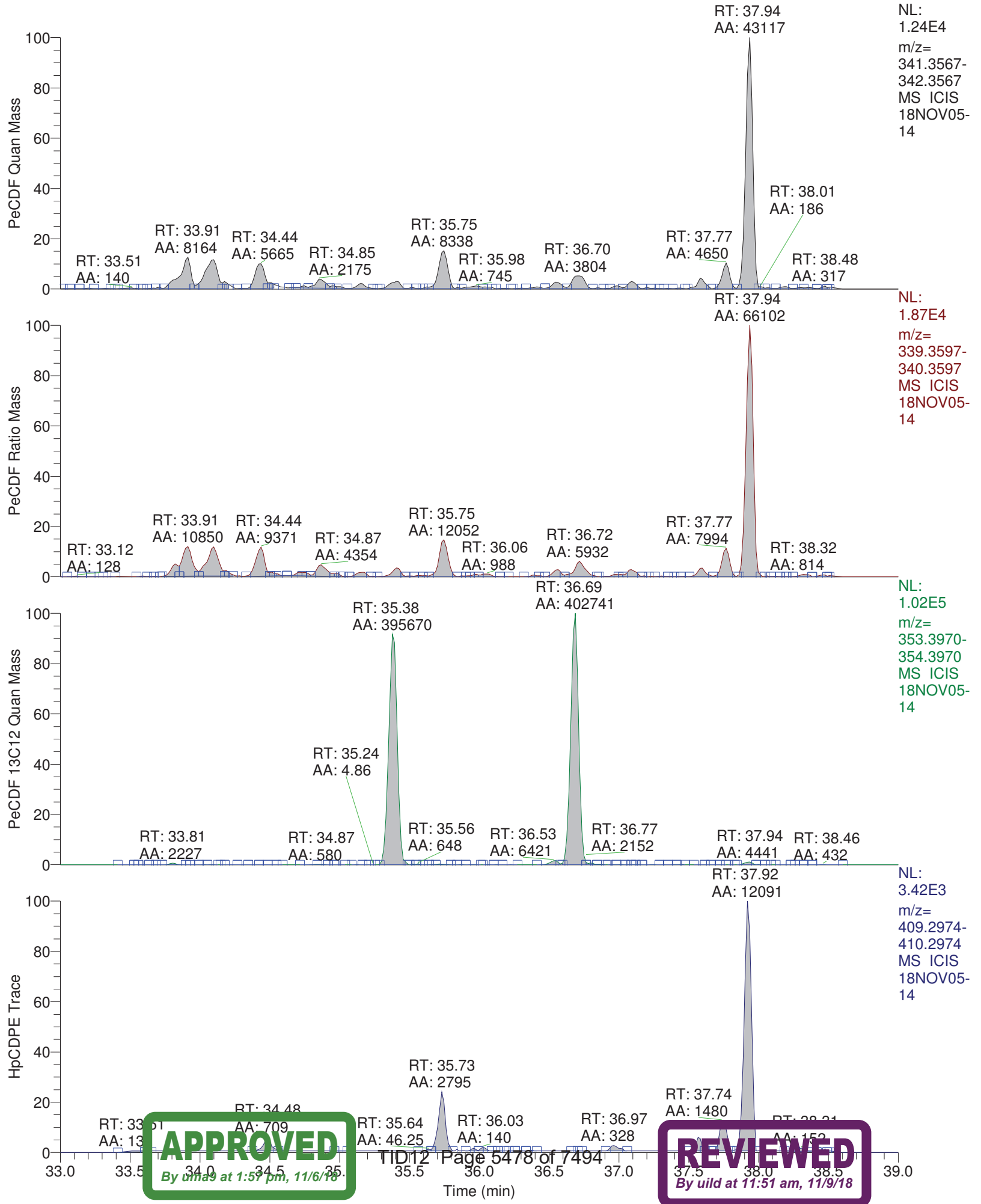
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-14
Sample ID: 9872065DL

Acq. Data: 11/5/2018 9:02:42 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 33.00 - 39.00



APPROVED
By uma9 at 1:57 pm, 11/6/18

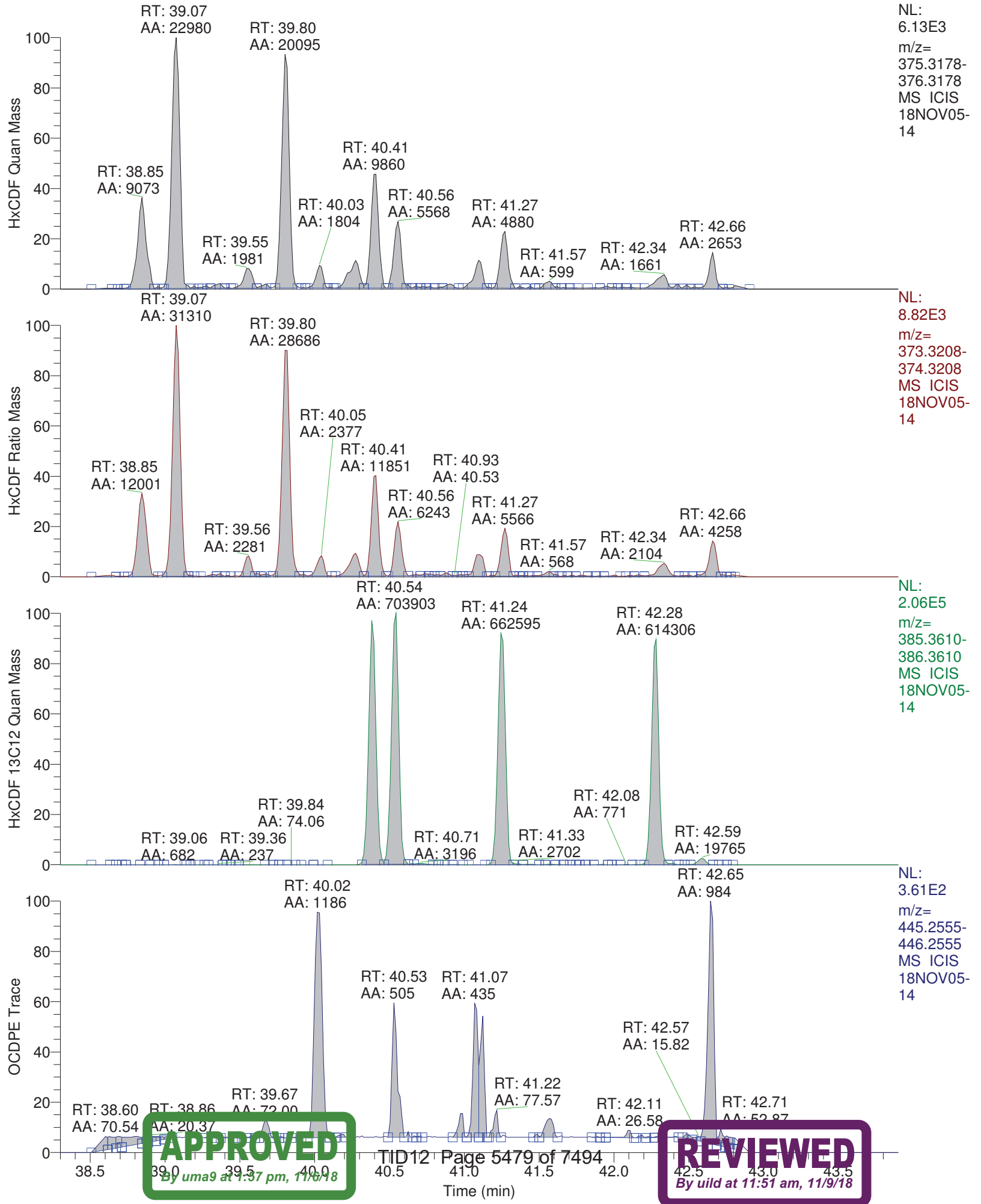
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-14
Sample ID: 9872065DL

Acq. Data: 11/5/2018 9:02:42 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 38.30 - 43.90



APPROVED
By uma9 at 1:37 pm, 11/6/18

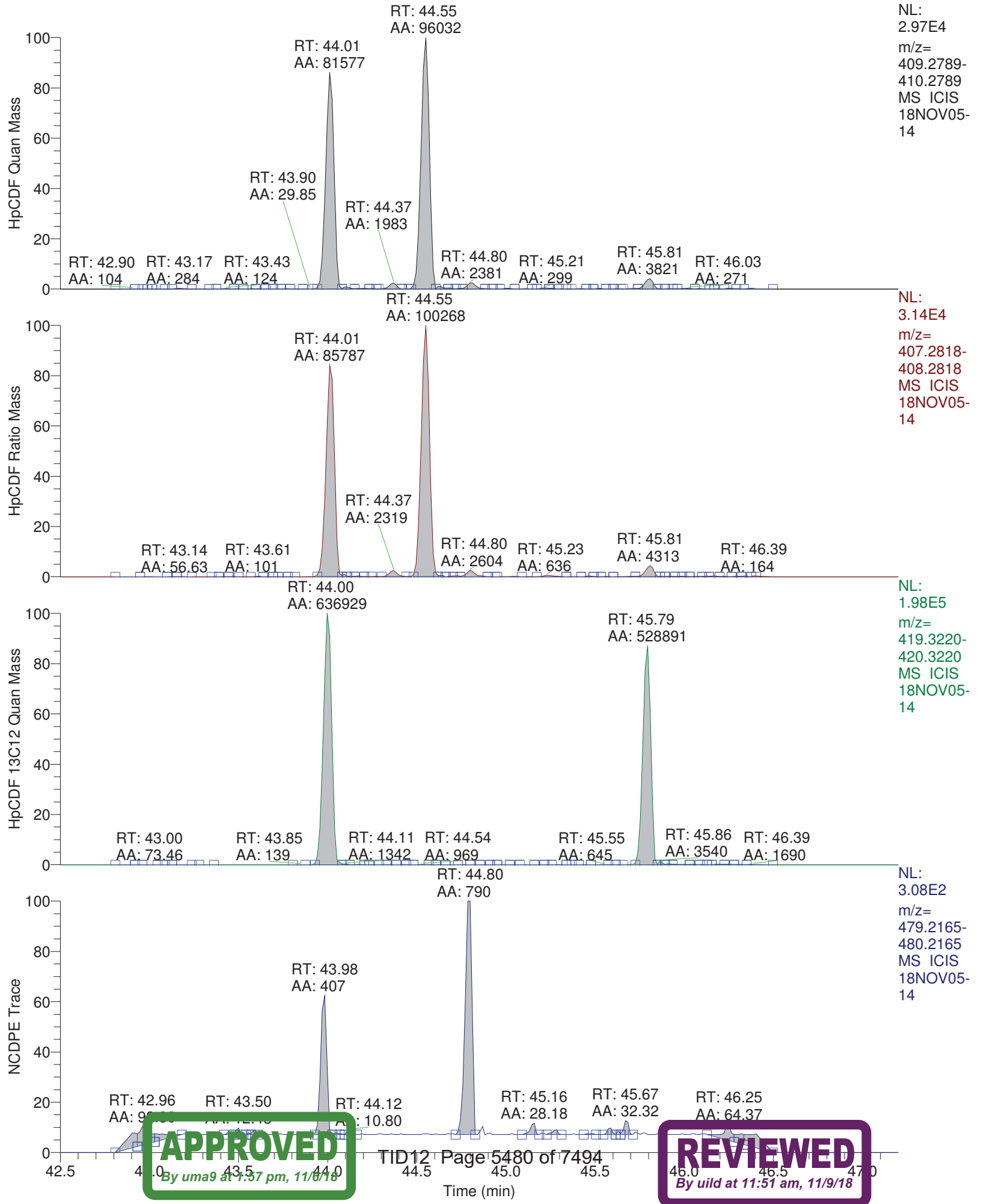
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-14
Sample ID: 9872065DL

Acq. Data: 11/5/2018 9:02:42 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 42.50 - 47.20



APPROVED
By uma9 at 1:57 pm, 11/6/18

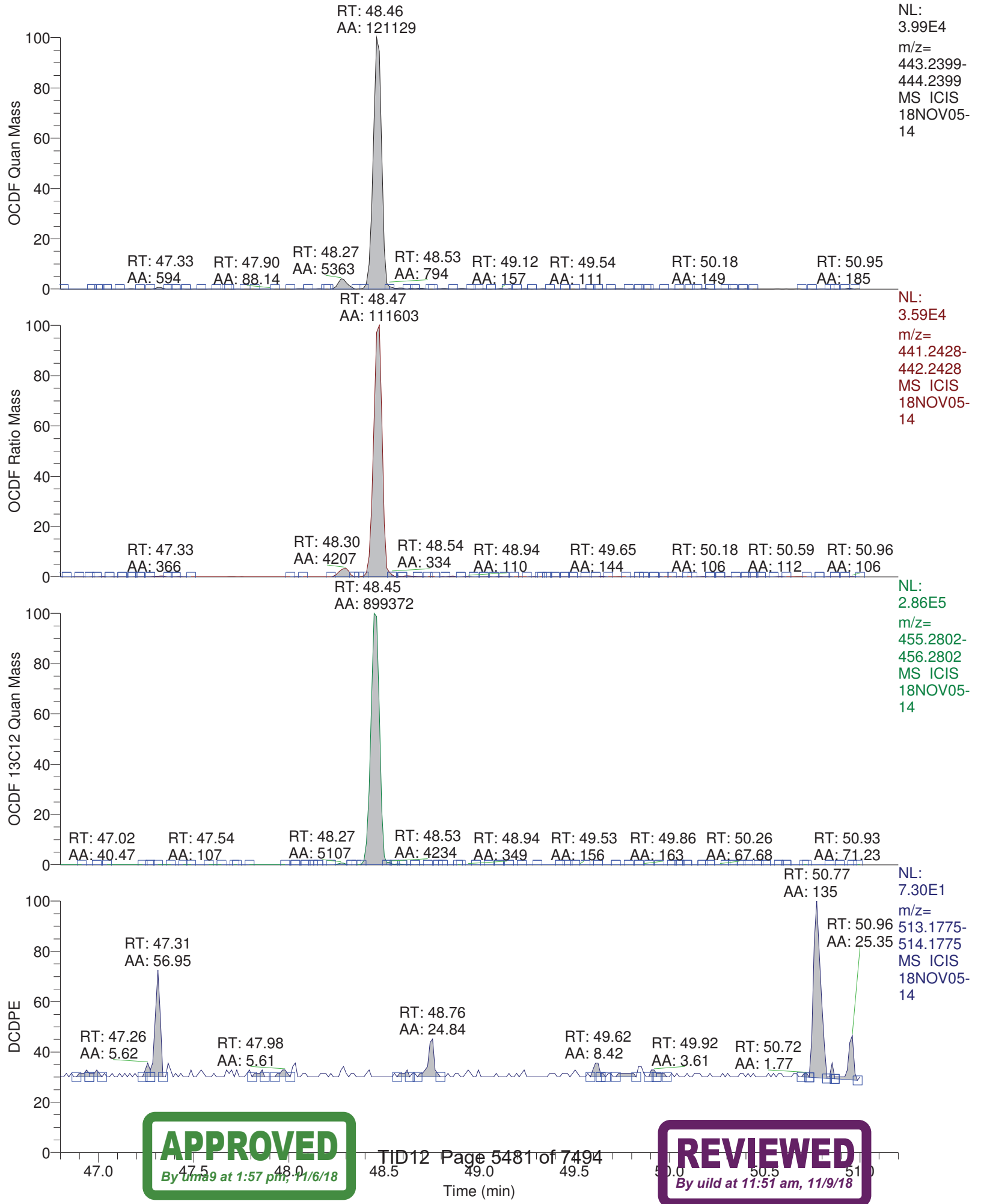
REVIEWED
By uild at 11:51 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-14
Sample ID: 9872065DL

Acq. Data: 11/5/2018 9:02:42 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007 OU2-1-SU008-02 Grab Soil
Chlorodiphenylether Interference Traces

Instrument ID: DF19780-18NOV05

RT: 46.80 - 51.20



APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:51 am, 11/9/18

*** file opened Mon Nov 05 21:08:11 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 05-Nov-18 21:08:11

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : ed73f7bd-3065-4700-8093-8c7e4fdbe210

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          93.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2593.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           171.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           178.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.7000
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0207   FVINLET         0.0410   FVSRC           0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      700.0000
 LENS_SYM         8.0000   LM            254.9851   LMII          500.0000
 LMASS           93.0000   LKM           442.9723   MASS           93.0000
 MDAC        1426267.1740  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9661   RELEN           0.0000
 RES          14004.8746   RPUSHER       -17.1209   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     738.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          93.0000   XLENS_POT     848.0000
 XLENS_SYM        3.0000   YLENS_POT     780.0000   YLENS_SYM      16.0000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11143.
MID Time Window 2: Resolution is 12498.
MID Time Window 3: Resolution is 12529.
MID Time Window 4: Resolution is 13248.
```

```
                                        18NOV05-14
  MID Time Window 5: Resolution is 13838.
  MID Time Window 6: Resolution is 14004.

  Amplifier Offset: 85.


*** File closed Mon Nov 05 21:59:12 2018
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```

Standards Data

Dioxins/Furans by HRMS

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 09:27
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1828537A
Sample ID	CPS01
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-02.quan
Data	w:\18nov02\18nov02-02.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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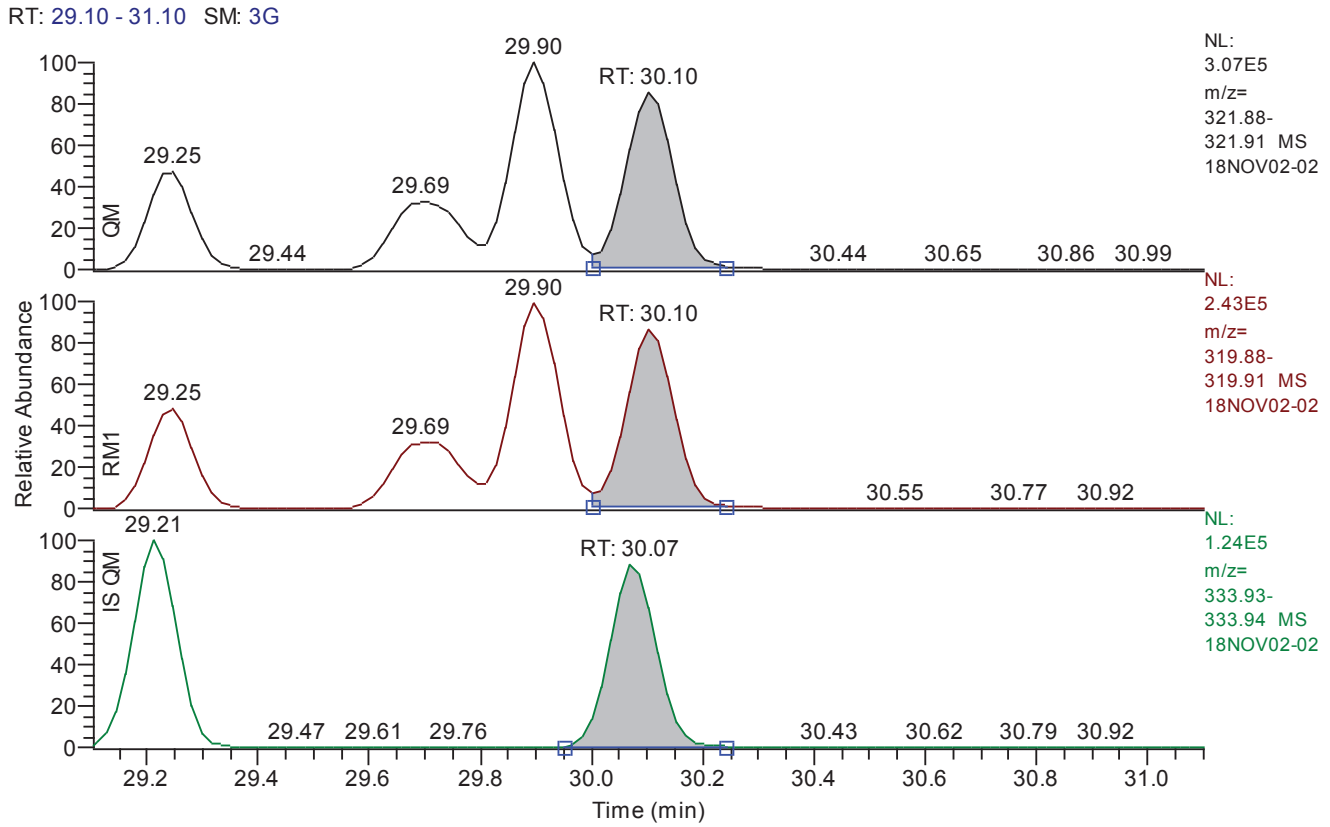
Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	30.10
RM1 Left Baseline Height	2967.36
RM1 Left Height	15368
RM1 Height	208496
GC Res (%) left	7.359587

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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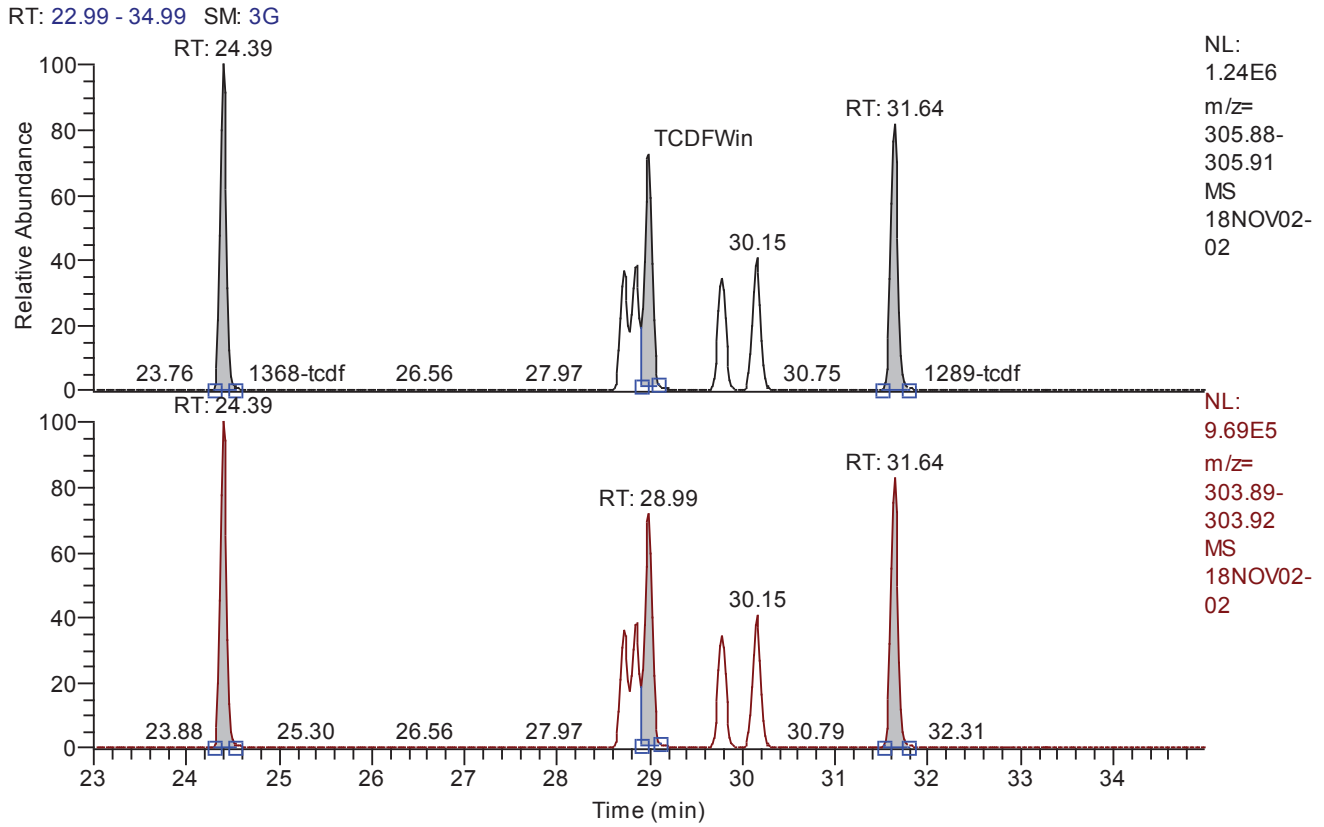
Chromatogram



Entry: TCDFWin Group: 1368-tcdf, 1289-tcdf

Entry Parameters

Compound Name	TCDF RT Window
Entry Identifier	TCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	28.99
QM Retention Time	28.99

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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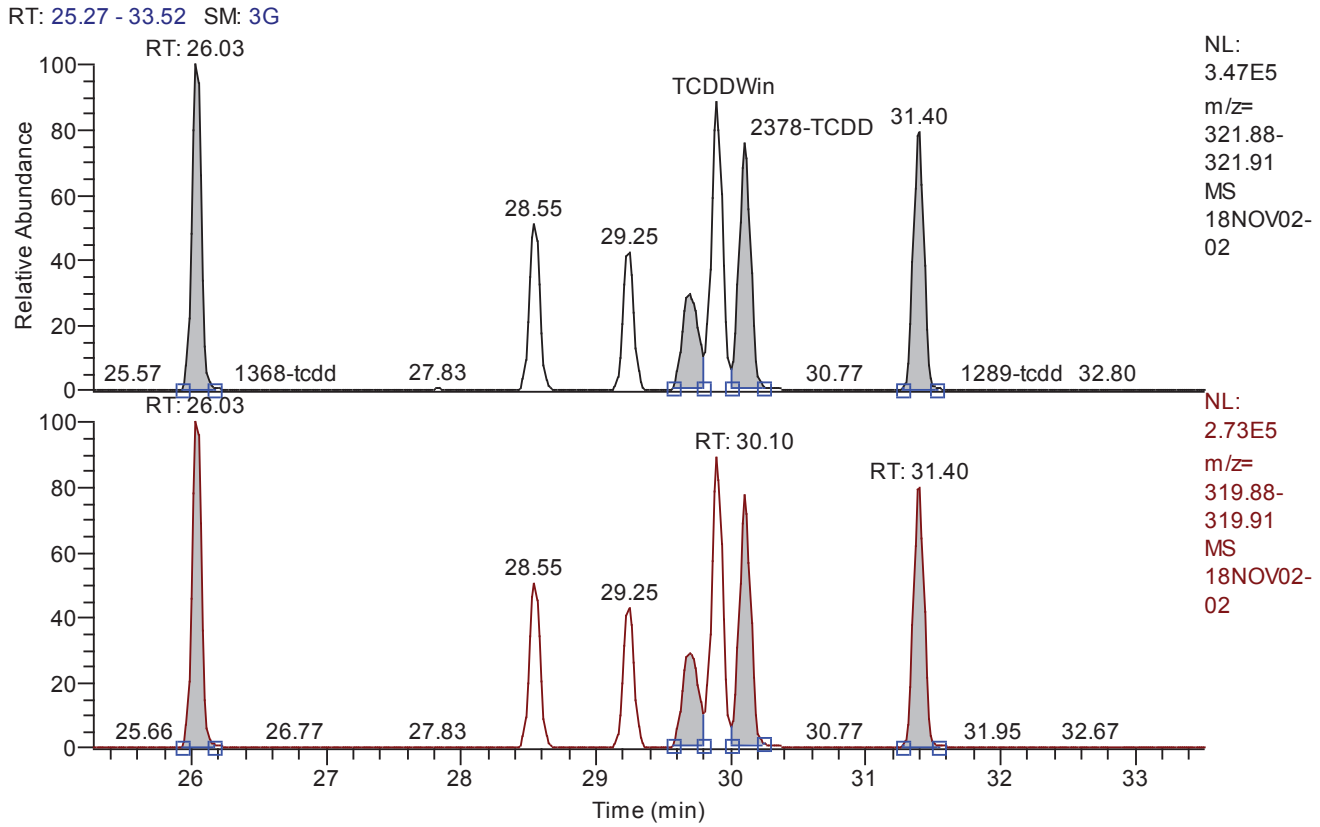
Chromatogram



Entry: TCDDWin Group: 1368-tcdd, 1289-tcdd, 2378-TCDD

Entry Parameters

Compound Name	TCDD RT Window
Entry Identifier	TCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	29.69
QM Retention Time	29.69

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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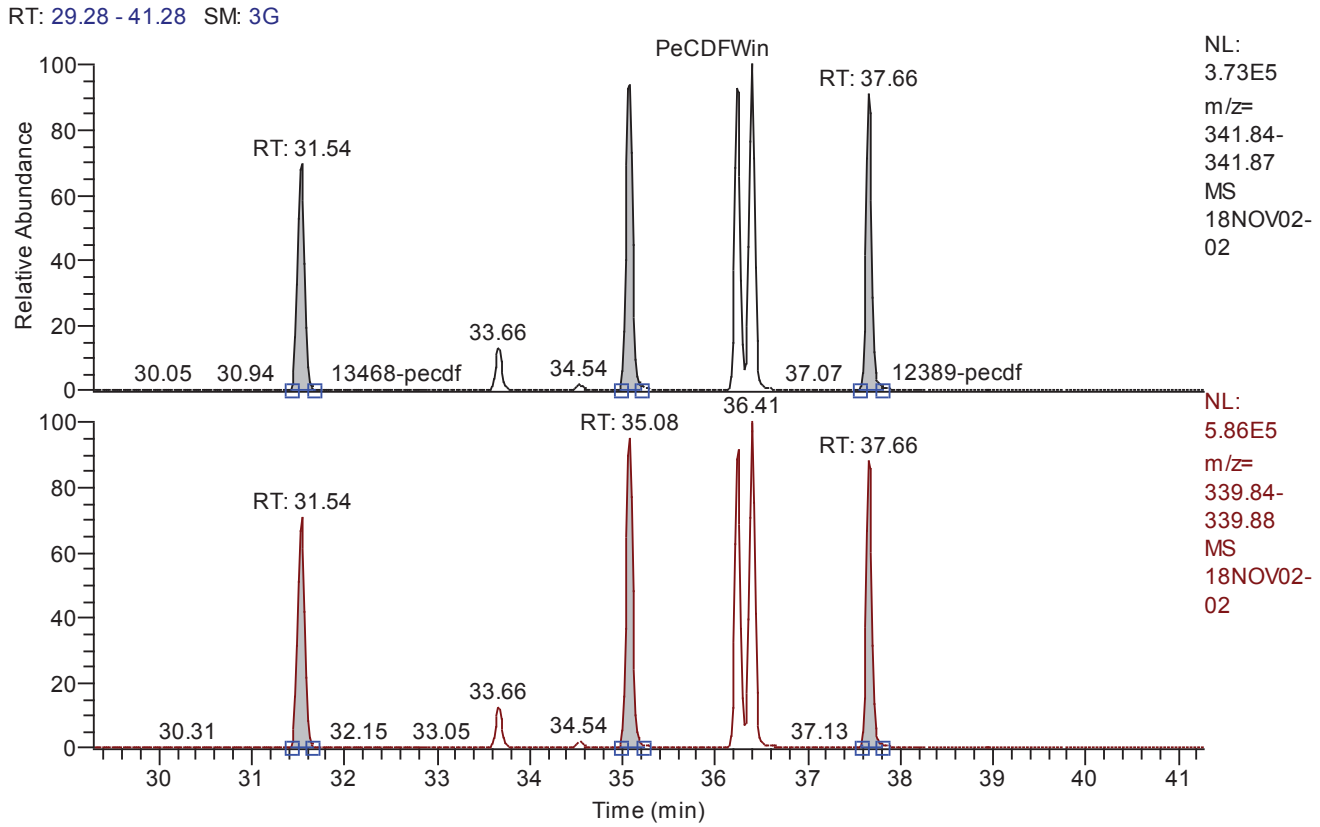
Chromatogram



Entry: PeCDFWin Group: 13468-pecdf, 12389-pecdf

Entry Parameters

Compound Name	PeCDF RT Window
Entry Identifier	PeCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	35.08
QM Retention Time	35.08

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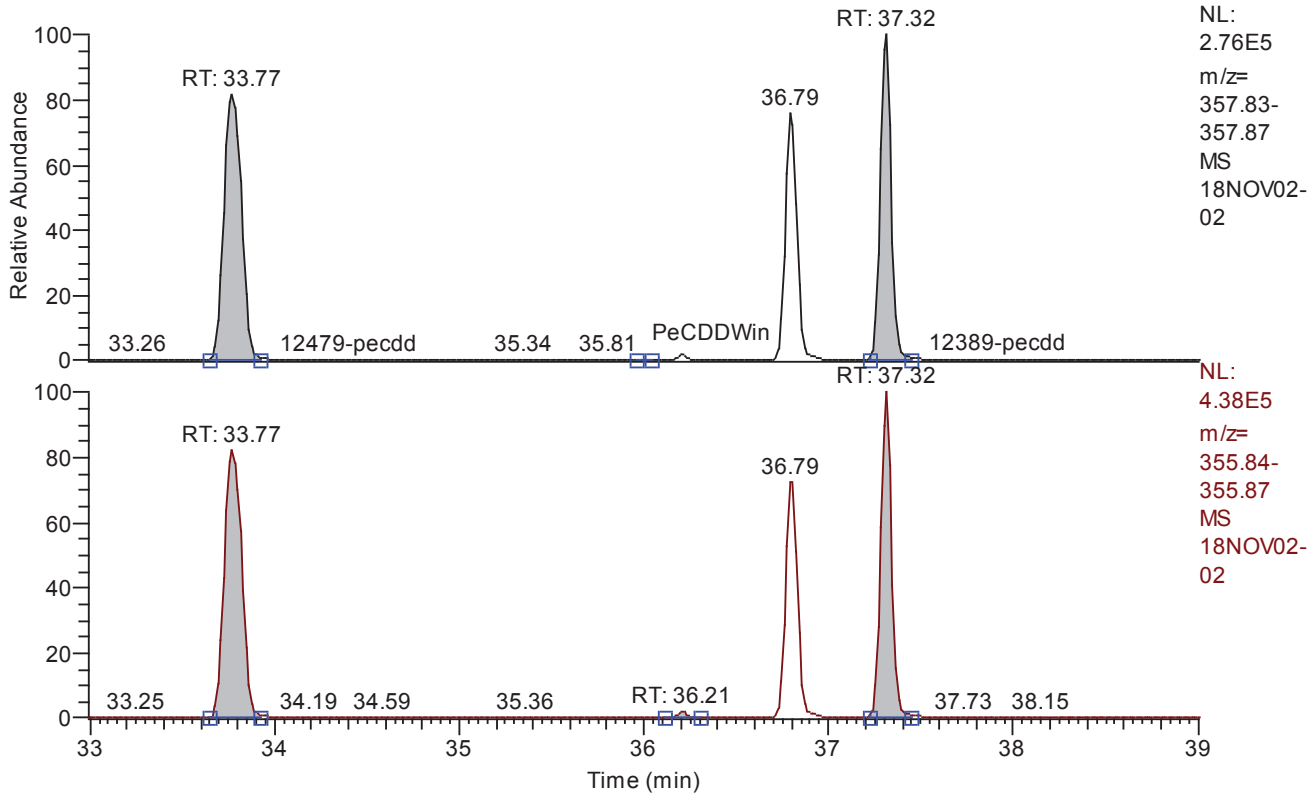
Chromatogram

RT: 32.99 - 39.01 SM: 3G



Entry: PeCDDWin Group: 12479-pecdd, 12389-pecdd

Entry Parameters

Compound Name	PeCDD RT Window
Entry Identifier	PeCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	36.01
QM Retention Time	36.01

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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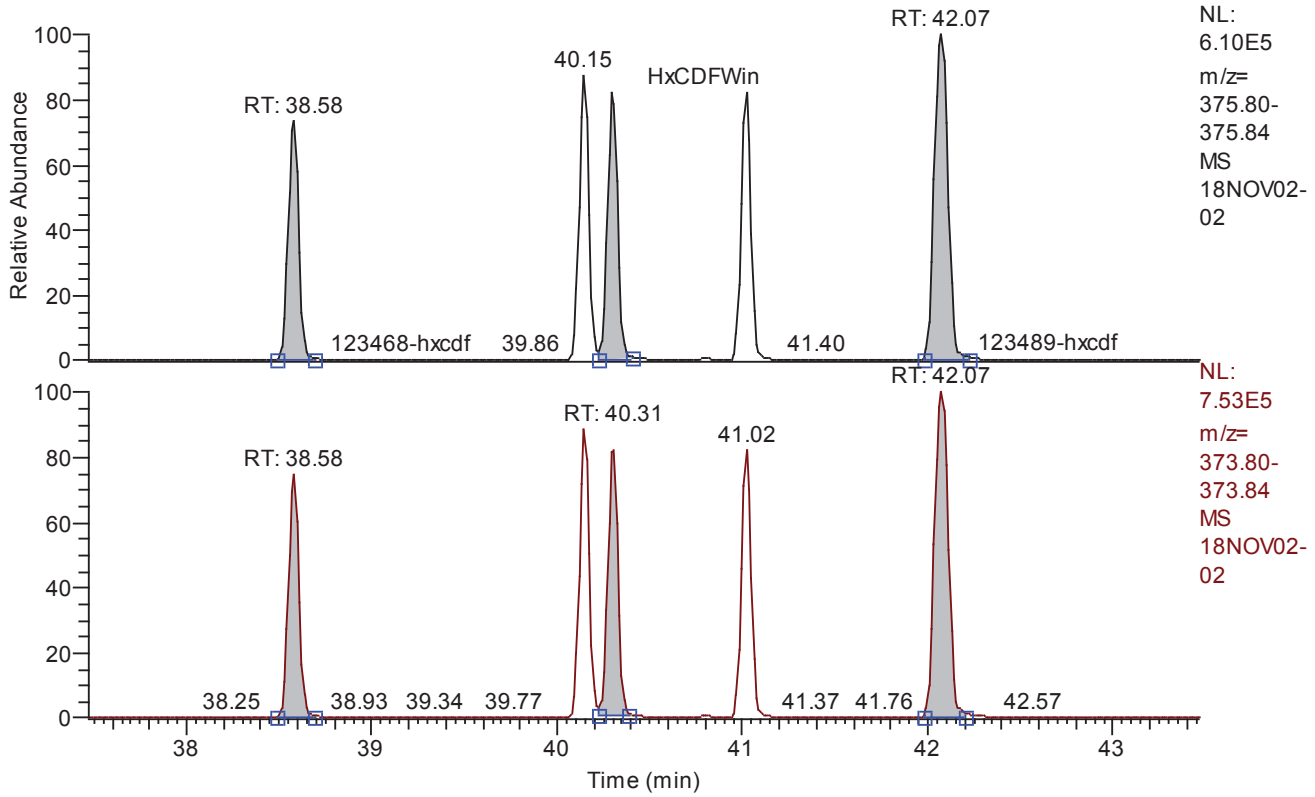
Chromatogram

RT: 37.47 - 43.47 SM: 3G



Entry: HxCDFWin Group: 123468-hxcdf, 123489-hxcdf

Entry Parameters

Compound Name	HxCDF RT Window
Entry Identifier	HxCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	40.29
QM Retention Time	40.29

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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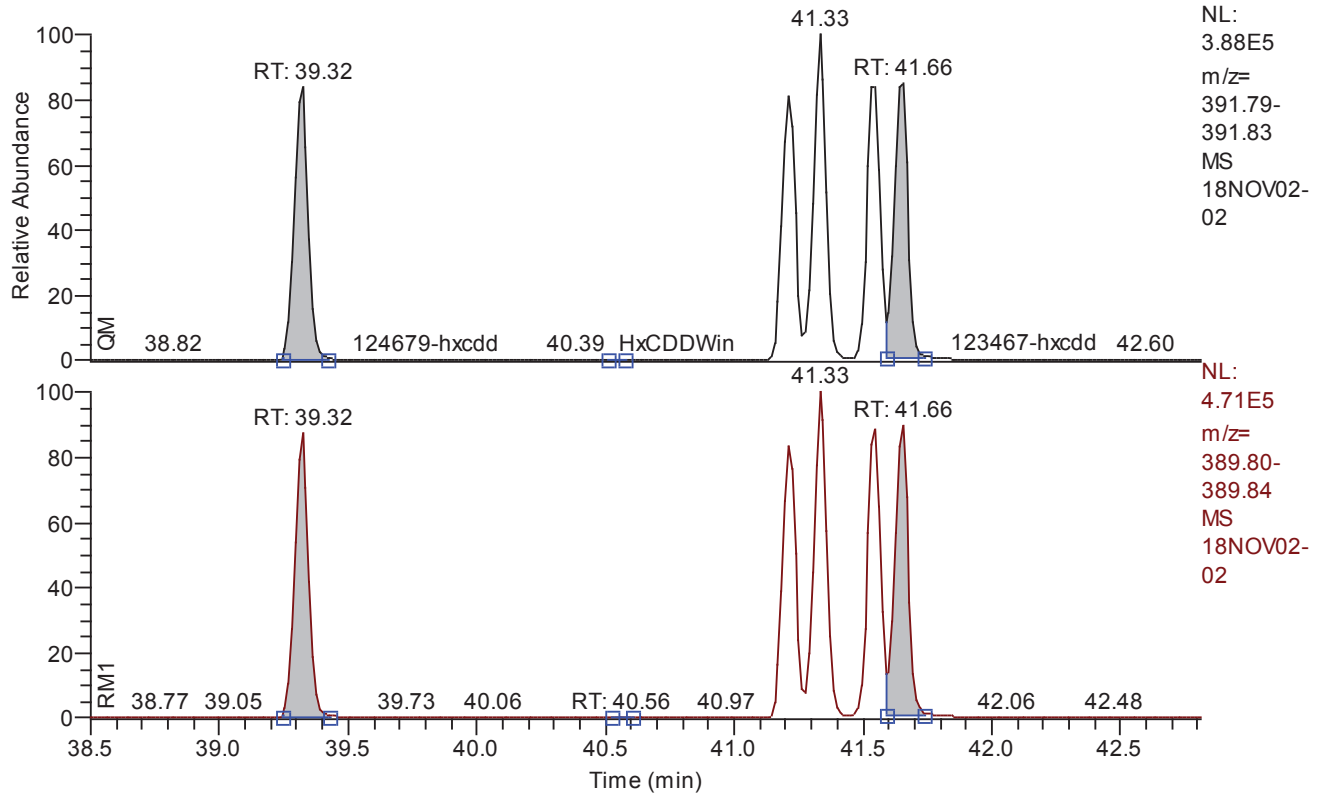
Chromatogram

RT: 38.50 - 42.81 SM: 3G



Entry: HxCDDWin Group: 124679-hxcdd, 123467-hxcdd

Entry Parameters

Compound Name	HxCDD RT Window
Entry Identifier	HxCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	40.54
QM Retention Time	40.54

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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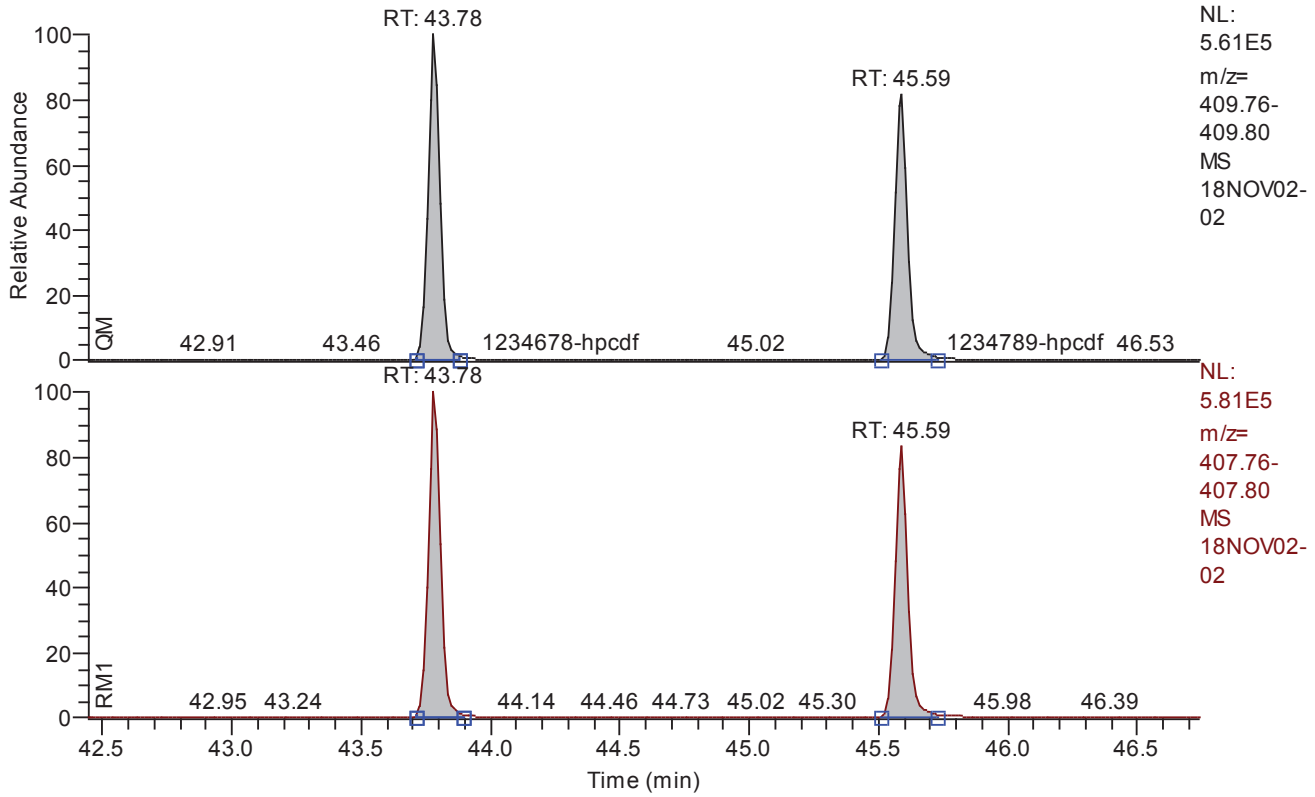
Chromatogram

RT: 42.44 - 46.74 SM: 3G



Entry: HpCDFWin Group: 1234678-hpcdf, 1234789-hpcdf

Entry Parameters

Compound Name	HpCDF RT Window
Entry Identifier	HpCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	43.78
QM Retention Time	43.78

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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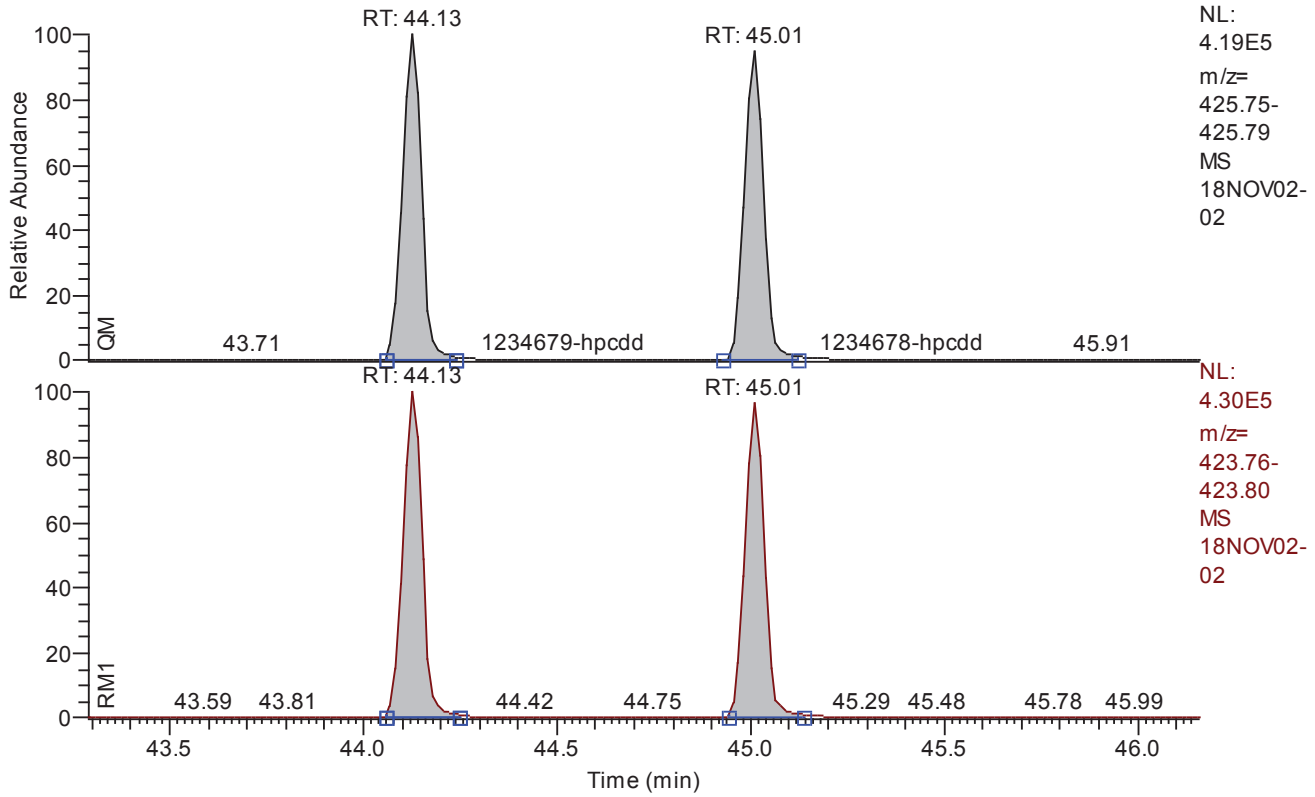
Chromatogram

RT: 43.29 - 46.16 SM: 3G



Entry: HpCDDWin Group: 1234679-hpcdd, 1234678-hpcdd

Entry Parameters

Compound Name	HpCDD RT Window
Entry Identifier	HpCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	44.13
QM Retention Time	44.13

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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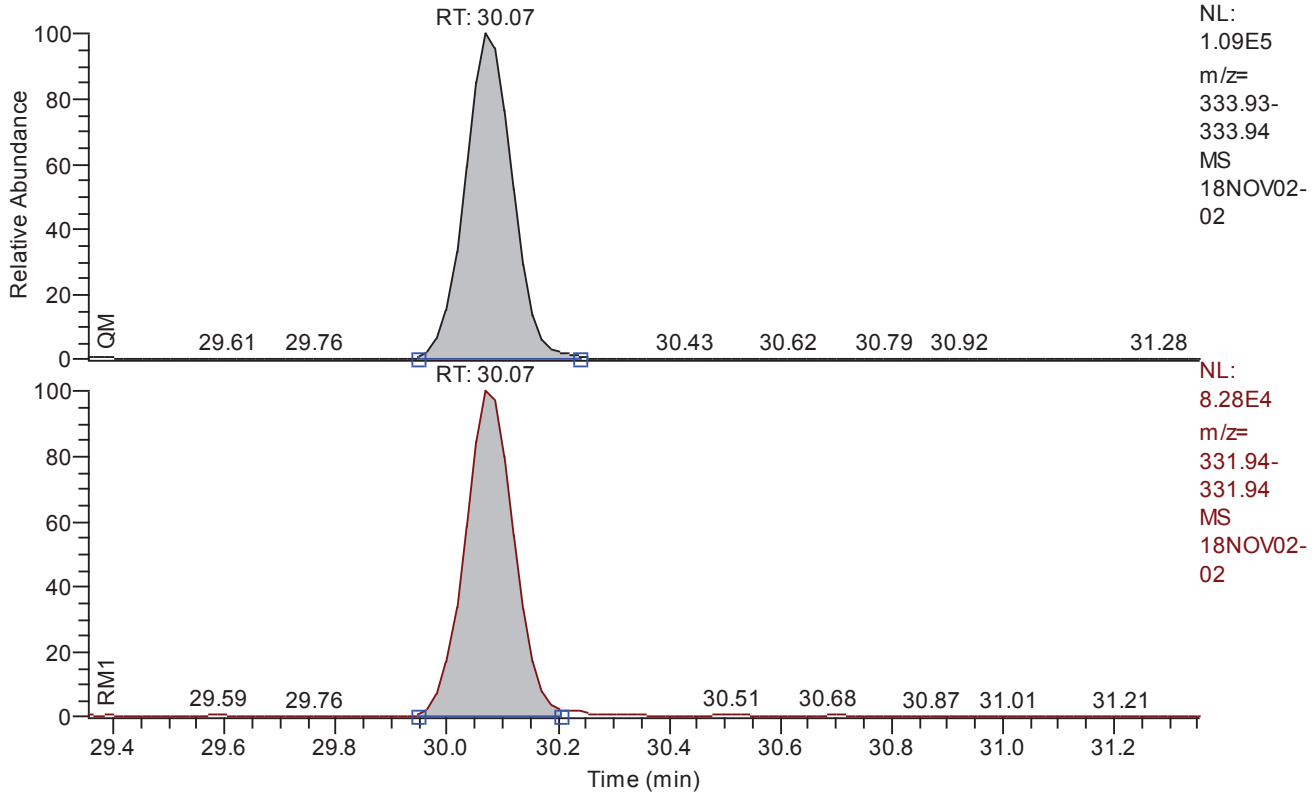
Chromatogram

RT: 29.35 - 31.35 SM: 3G



Entry: 13C12-2378-TCDD

Entry Parameters

Compound Name	13C12-2378-TCDD
Entry Identifier	13C12-2378-TCDD
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	30.07
QM Retention Time	30.07

APPROVED
By uma9 at 11:21 am, 11/7/18

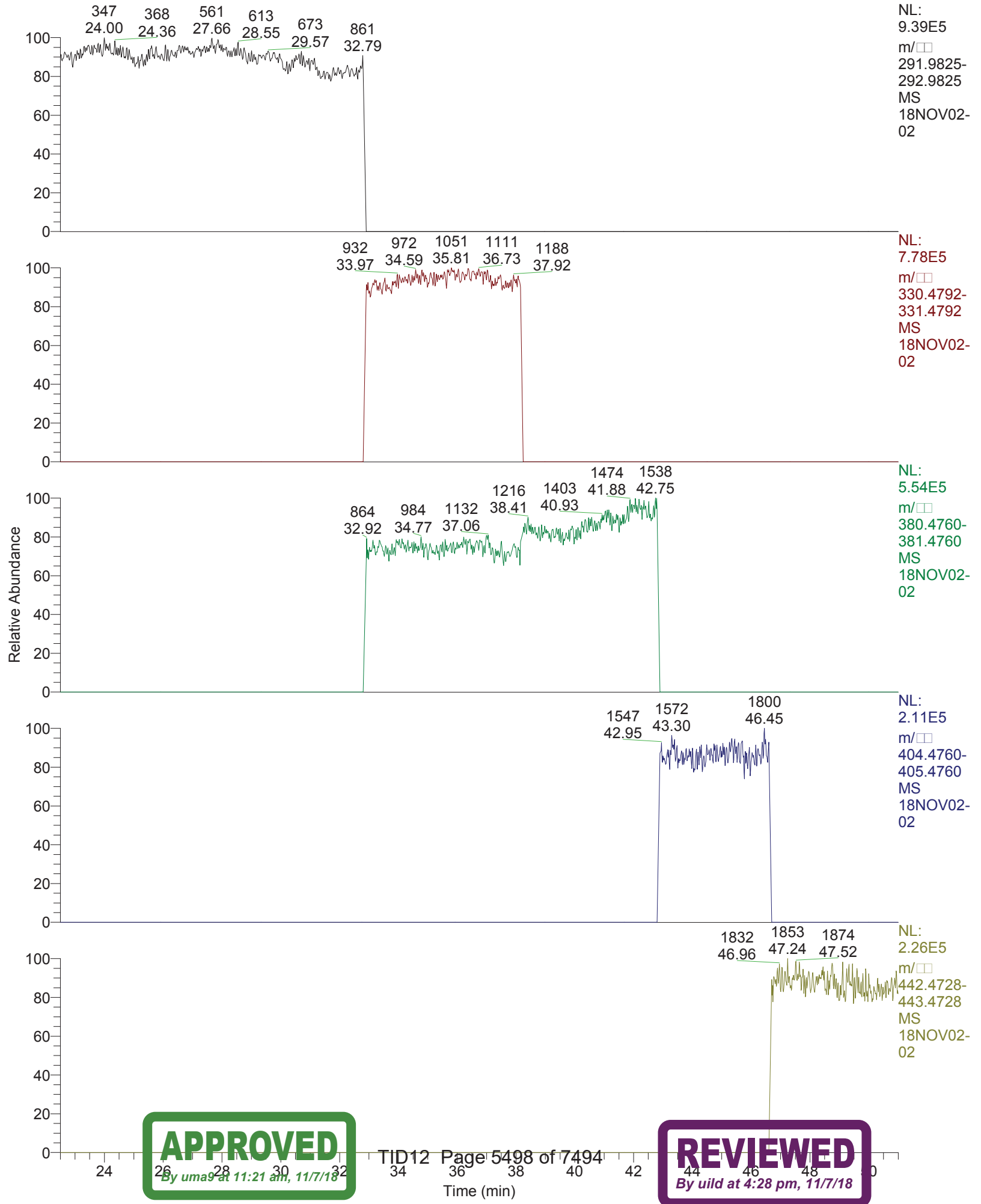
REVIEWED
By uild at 4:28 pm, 11/7/18

File Name: W:□18NOV02□18NOV02-02
Sample ID: CPS01

Acq. Data: 11/2/2018 9:27:05 AM
Sample Name: TDTFWD - ST1828537A
PFK Reference Loc□Mass Traces

Instrument ID: DF17280-18NOV02

RT: 22.50 - 51.00



APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

*** file opened Fri Nov 02 09:30:00 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 02-Nov-18 09:30:00

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 3d07faed-4c82-41ce-8278-6ae052e894c4

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
```

```
MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS           99.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0003   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ         1246.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS            217.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           192.0000   EXSBR           -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             232.6644   FMII           50.0000   FQUAD            7.6000
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0180   FVINLET         0.0426   FVSRC            0.0327
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII           500.0000
 LMASS           99.0000   LKM           442.9723   MASS            99.0000
 MDAC        1451960.7165  MRANGE       1311.4489   NSAM           200.0000
 NSCAN         2159.0000   NSMAX           2.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER          -1.0000   RECURR          0.9817   RELEN            0.0000
 RES          10212.6873   RPUSHER        -1.0476   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0227   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0019   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT      752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM        2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.6e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.2e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10283.
MID Time Window 2: Resolution is 10694.
MID Time Window 3: Resolution is 10705.
MID Time Window 4: Resolution is 10695.
```

```
                                        18NOV02-02
  MID Time Window 5: Resolution is 11018.
  MID Time Window 6: Resolution is 10212.

  Amplifier Offset: 91.


*** File closed Fri Nov 02 10:21:01 2018
  ***
```

		DF17280-18NOV02DFICAL							
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
	18NOV02-06	18NOV02-07	18NOV02-08	18NOV02-09	18NOV02-10	18NOV02-11			
2378-TCDF	1.0468	0.9207	0.8678	0.8842	0.9153	0.9050	0.9233	0.0637	6.90
2378-TCDD	1.1500	1.0462	1.0494	1.0694	1.1394	1.1105	1.0942	0.0455	4.16
12378-PeCDF	0.8942	0.8029	0.8203	0.8486	0.8684	0.8661	0.8501	0.0336	3.95
23478-PeCDF	0.9834	0.9119	0.9162	0.9400	0.9691	0.9848	0.9509	0.0328	3.45
12378-PeCDD	0.8974	0.8451	0.8770	0.8990	0.9410	0.9150	0.8957	0.0327	3.65
123478-HxCDF	1.0926	1.0276	1.0333	1.0616	1.0840	1.1087	1.0680	0.0329	3.08
123678-HxCDF	1.1078	1.0214	1.0028	1.0241	1.0527	1.0547	1.0439	0.0370	3.55
234678-HxCDF	1.1431	1.0724	1.0707	1.1002	1.1329	1.1310	1.1084	0.0319	2.88
123478-HxCDD	0.9280	0.8846	0.8846	0.9219	0.9320	0.9129	0.9107	0.0212	2.33
123678-HxCDD	0.9476	0.8508	0.8844	0.9007	0.9310	0.9110	0.9043	0.0344	3.80
123789-HxCDD	0.9179	0.9508	0.9437	0.9539	0.9799	0.9786	0.9541	0.0232	2.43
123789-HxCDF	1.0823	0.9770	0.9737	1.0046	1.0344	1.0348	1.0178	0.0413	4.05
1234678-HpCDF	1.1705	1.0959	1.1021	1.1376	1.1715	1.2087	1.1477	0.0440	3.83
1234678-HpCDD	0.9797	0.8950	0.9018	0.9312	0.9499	0.9617	0.9366	0.0336	3.59
1234789-HpCDF	1.2900	1.1083	1.1349	1.1590	1.1978	1.1976	1.1813	0.0638	5.40
OCDD	0.8862	0.8771	0.8825	0.9157	0.9305	0.9799	0.9120	0.0393	4.31
OCDF	0.8758	0.8259	0.8007	0.8225	0.8329	0.9178	0.8459	0.0429	5.08
13C12-1278-TCDD (CRS)	1.1691	1.0529	0.9801	0.9919	0.9737	1.0270	1.0324	0.0734	7.11
13C12-1234-TCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-123468-HxCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-2378-TCDF	1.8783	1.7650	1.7520	1.7318	1.7506	1.7440	1.7703	0.0540	3.05
13C12-2378-TCDD	1.0876	0.9995	0.9371	0.9621	0.9157	0.9593	0.9769	0.0610	6.25
13C12-12378-PeCDF	1.8241	1.5987	1.5457	1.5666	1.5993	1.6577	1.6320	0.1014	6.22
13C12-23478-PeCDF	1.8460	1.5650	1.5507	1.5764	1.5890	1.6728	1.6333	0.1127	6.90
13C12-12378-PeCDD	1.0860	0.9302	0.9202	0.9472	0.9437	1.0232	0.9751	0.0654	6.71
13C12-123478-HxCDF	1.2803	1.2588	1.2446	1.2155	1.2617	1.3344	1.2659	0.0399	3.15
13C12-123678-HxCDF	1.3561	1.3195	1.3063	1.2801	1.3211	1.4298	1.3355	0.0524	3.92
13C12-234678-HxCDF	1.2685	1.1989	1.2152	1.1926	1.2202	1.3240	1.2366	0.0505	4.08
13C12-123478-HxCDD	0.9863	0.9592	0.9533	0.9475	0.9956	1.0933	0.9892	0.0544	5.50
13C12-123678-HxCDD	1.0261	0.9821	0.9847	0.9773	1.0135	1.1058	1.0149	0.0486	4.78
13C12-123789-HxCDD	0.9657	0.9341	0.9182	0.9355	0.9729	1.0464	0.9622	0.0462	4.80
13C12-123789-HxCDF	1.1350	1.1049	1.1092	1.0914	1.1122	1.2062	1.1265	0.0415	3.69
13C12-1234678-HpCDF	1.1951	1.1316	1.1427	1.1199	1.1350	1.2628	1.1645	0.0548	4.71
13C12-1234678-HpCDD	0.9917	0.9253	0.9544	0.9336	0.9476	1.0629	0.9693	0.0513	5.30
13C12-1234789-HpCDF	0.9696	0.9052	0.9334	0.9202	0.9269	1.0823	0.9563	0.0654	6.83
13C12-OCDD	0.9559	0.8585	0.8926	0.8918	0.9014	1.1529	0.9422	0.1079	11.46
13C12-OCDF	1.2773	1.1447	1.2023	1.1936	1.2077	1.5235	1.2582	0.1367	10.87
Total TCDF	1.0467	0.9207	0.8678	0.8842	0.9153	0.9050	0.9233	0.0636	6.89
Total TCDD	1.1502	1.0462	1.0494	1.0694	1.1394	1.1105	1.0942	0.0455	4.16
Total PeCDD	0.8974	0.8451	0.8770	0.8990	0.9410	0.9150	0.8957	0.0327	3.65
Total PeCDF	0.9391	0.8568	0.8683	0.8944	0.9186	0.9257	0.9005	0.0330	3.66
Total HpCDD	0.9797	0.8950	0.9018	0.9312	0.9499	0.9617	0.9366	0.0336	3.59
Total HxCDF	1.1071	1.0255	1.0209	1.0482	1.0765	1.0828	1.0602	0.0343	3.23
Total HxCDD	0.9315	0.8946	0.9035	0.9251	0.9473	0.9335	0.9226	0.0198	2.15
Total HpCDF	1.2240	1.1014	1.1169	1.1472	1.1833	1.2036	1.1627	0.0489	4.21

APPROVED
By uma9 at 11:22 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 14:38
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-06.quan
Data	w:\18nov02\18nov02-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.11	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.06	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.77	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.12	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.63	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.56	passed	passed	passed	passed	passed	passed	
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.50	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.20	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.95	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.06	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.02	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.35	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.17	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.11	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.77	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.06	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.12	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.63	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.75	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.56	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 14:38
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-06.quan
Data	w:\18nov02\18nov02-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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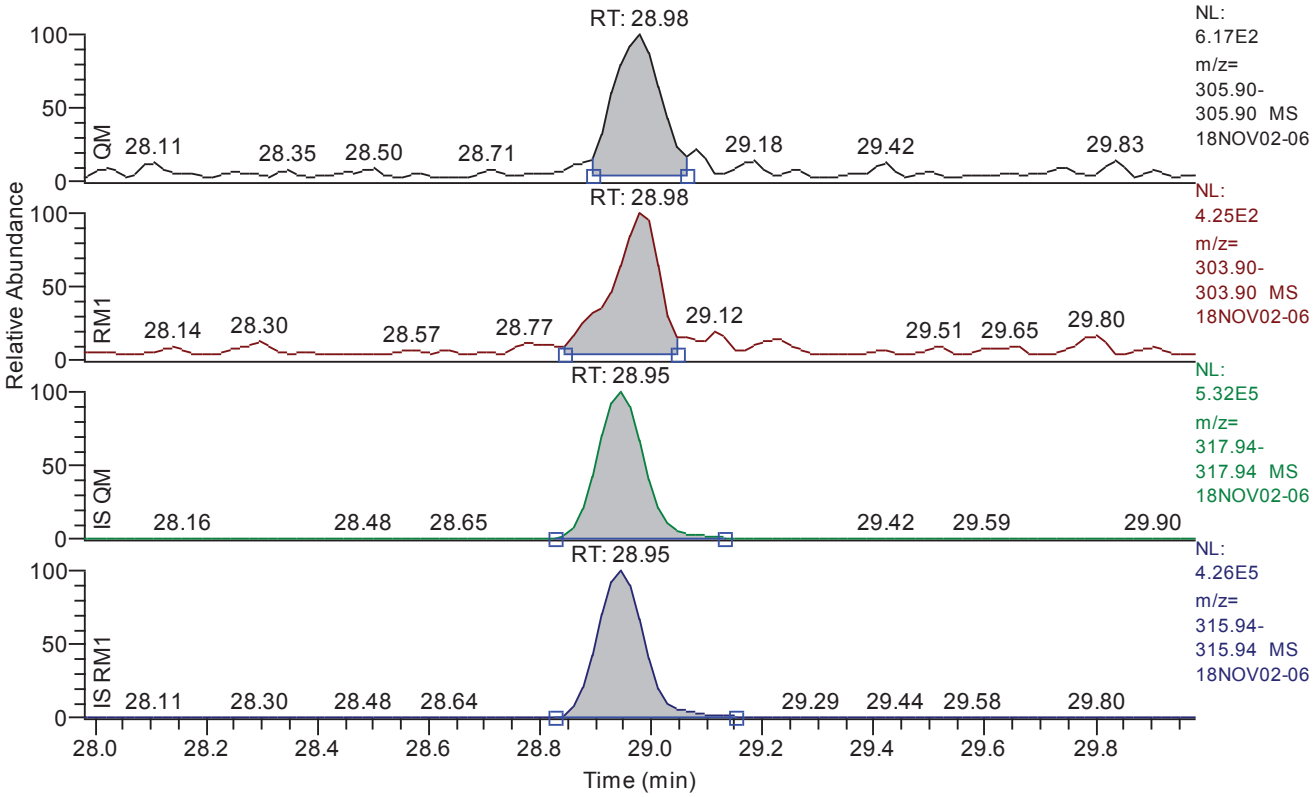
Chromatogram

RT: 27.98 - 29.98 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	3558
QM Integration Mode	M
RM1 Area	2407
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	48
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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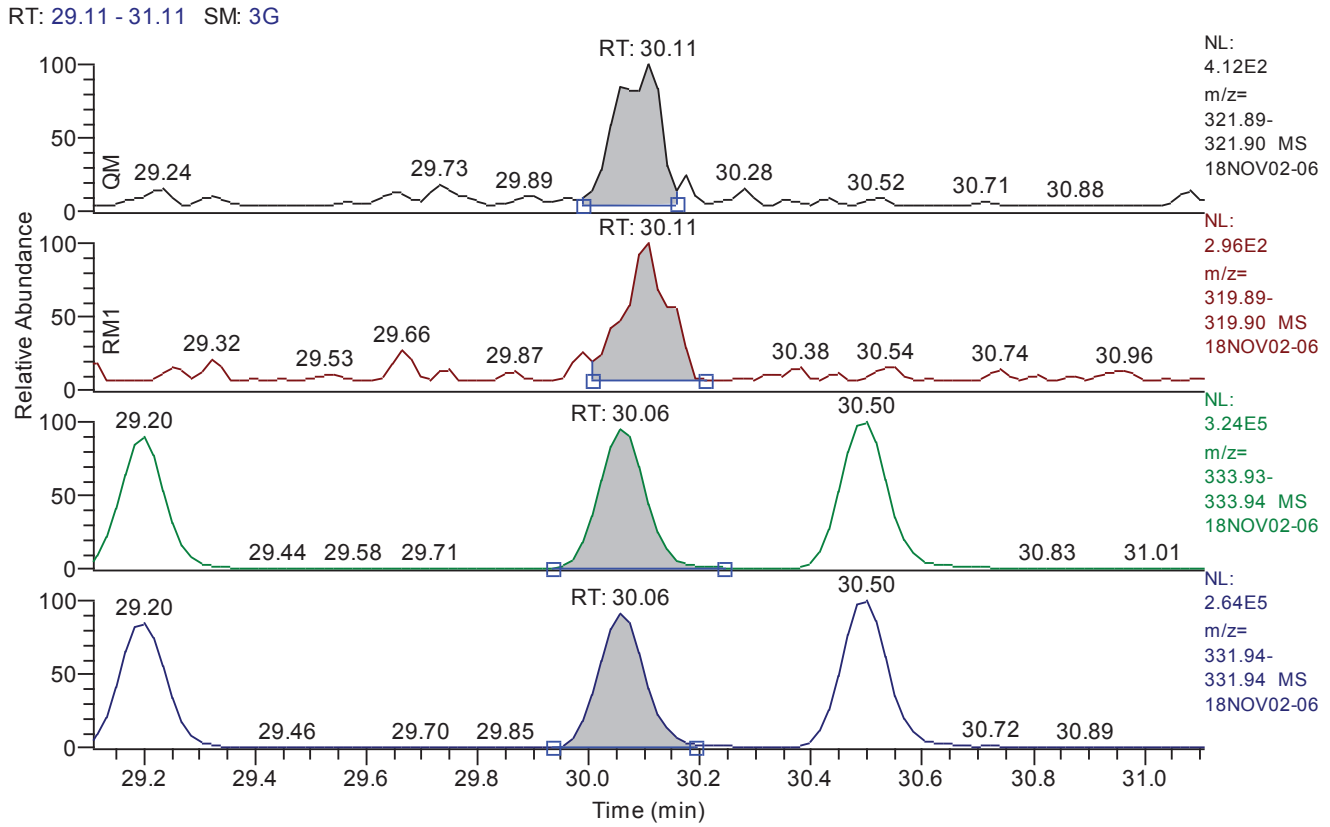
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.11
QM Area	2232
QM Integration Mode	M
RM1 Area	1563
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	47
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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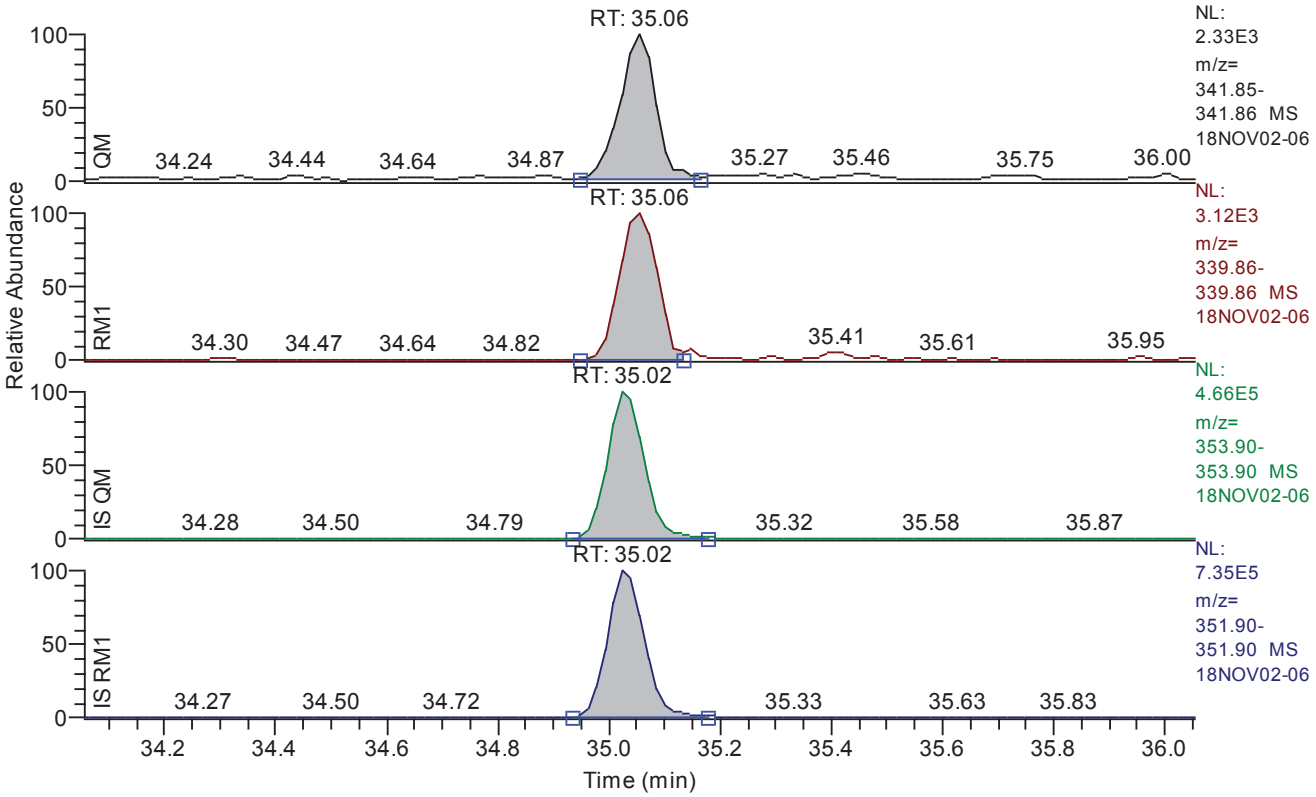
Chromatogram

RT: 34.06 - 36.06 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.06
QM Area	10121
QM Integration Mode	A
RM1 Area	14622
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0054
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	233
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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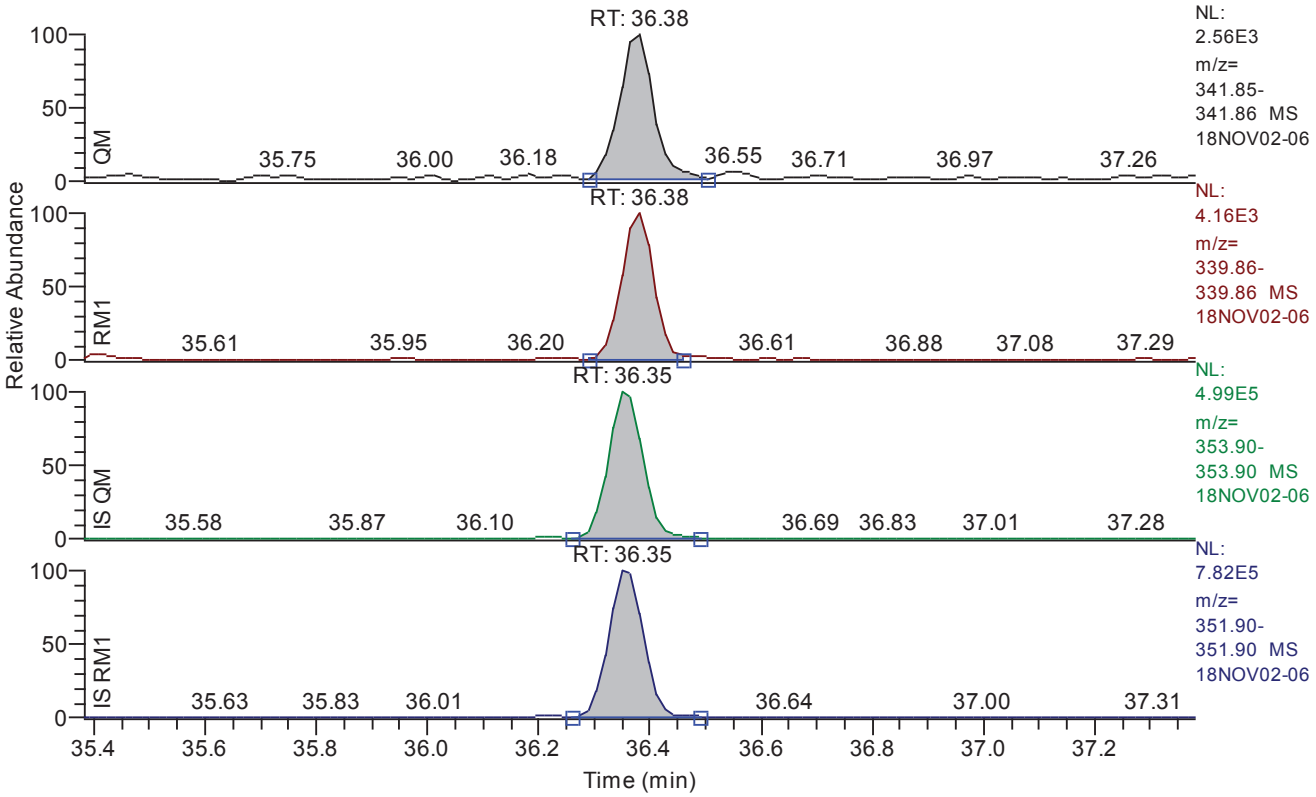
Chromatogram

RT: 35.38 - 37.38 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	10872
QM Integration Mode	A
RM1 Area	16666
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	289
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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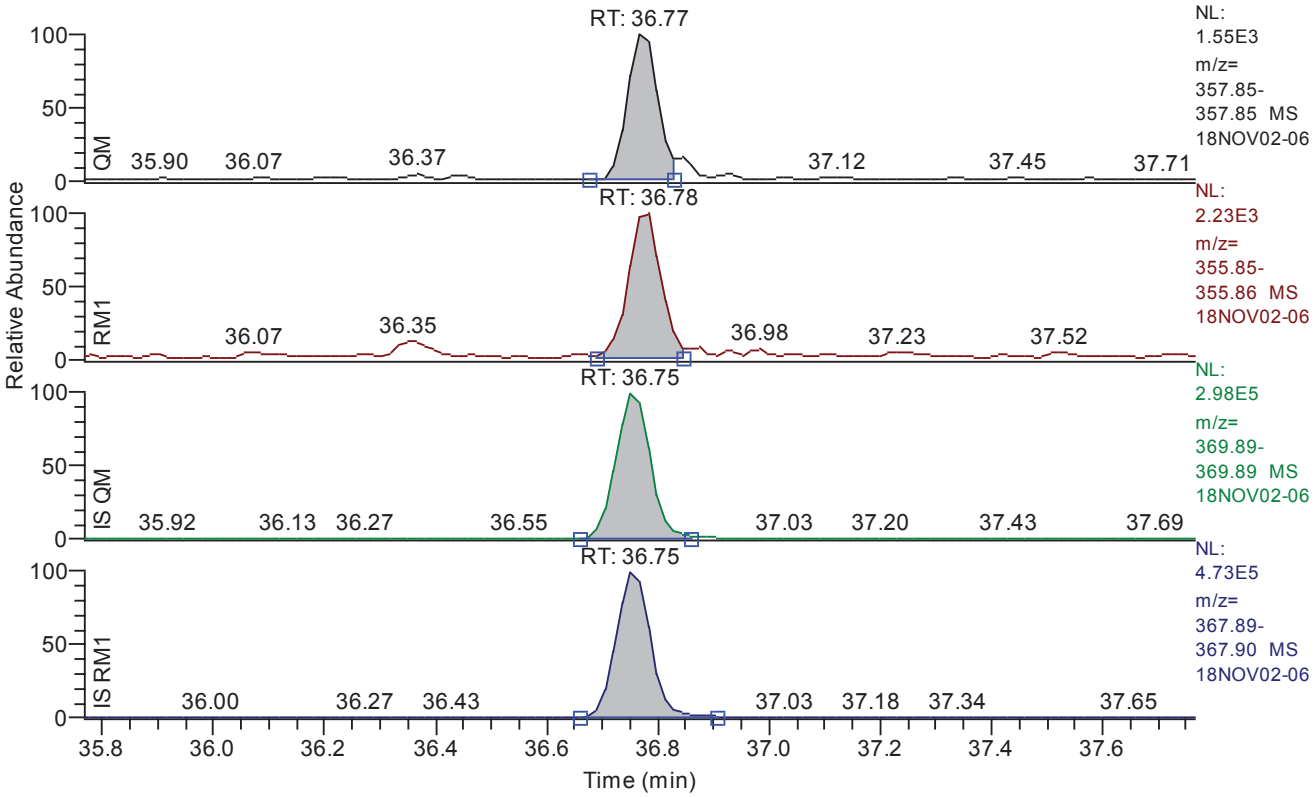
Chromatogram

RT: 35.77 - 37.77 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.77
QM Area	5800
QM Integration Mode	A
RM1 Area	8984
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	124
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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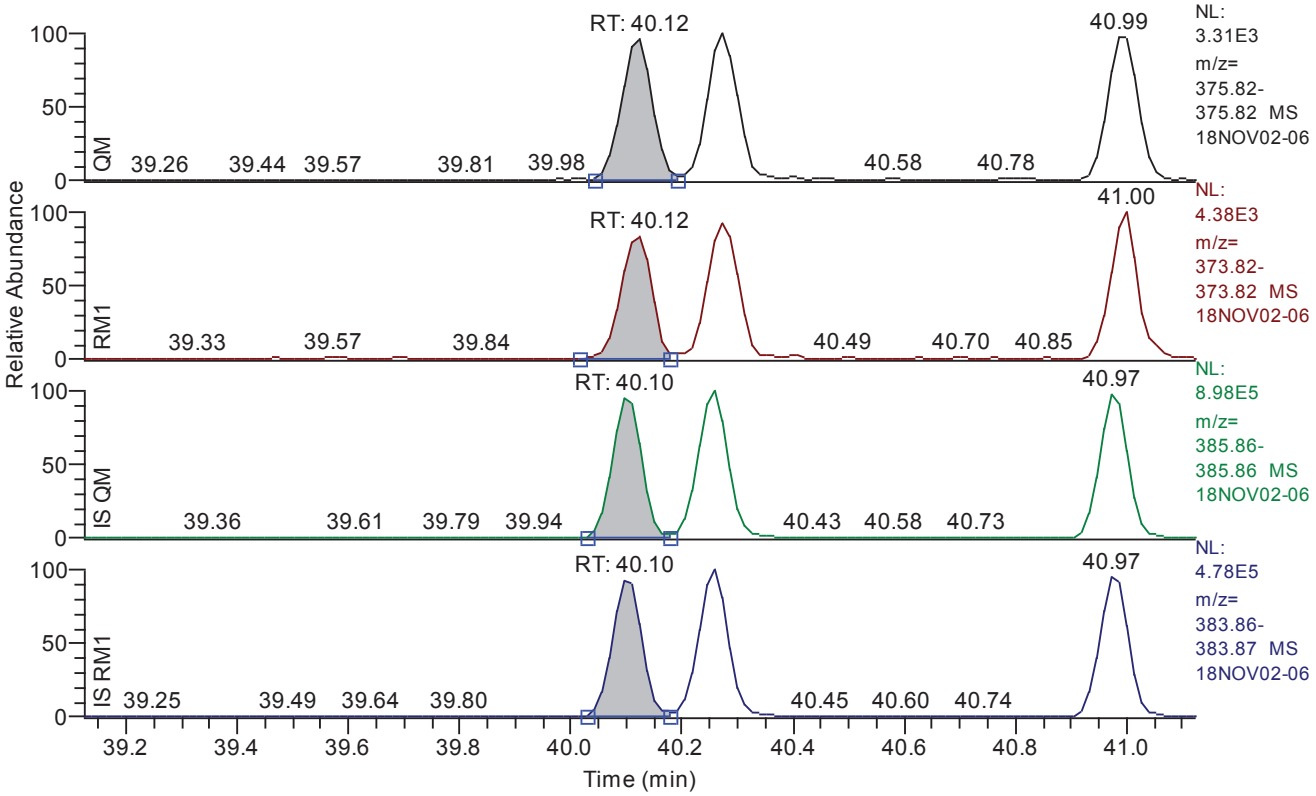
Chromatogram

RT: 39.12 - 41.12 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.12
QM Area	12161
QM Integration Mode	A
RM1 Area	14095
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	246
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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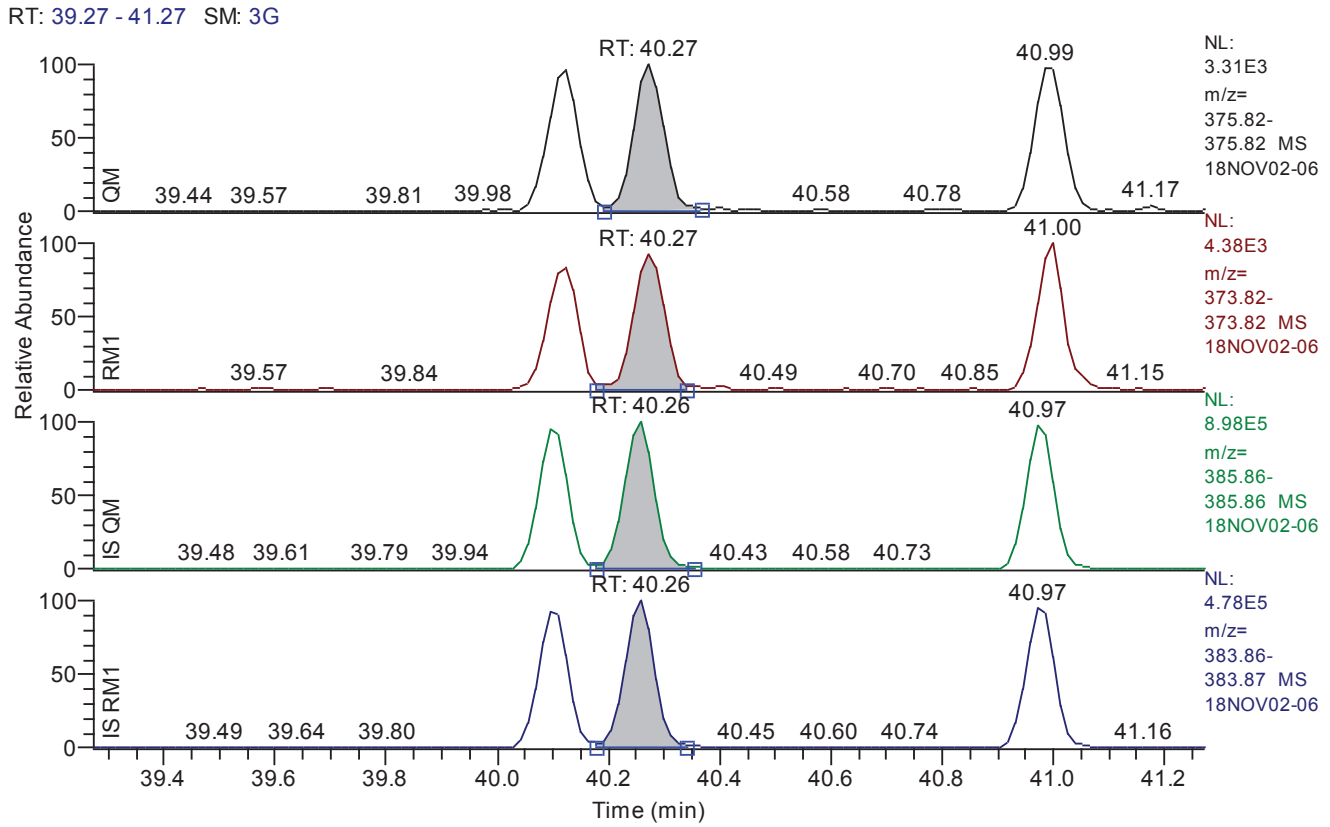
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	12379
QM Integration Mode	A
RM1 Area	15820
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	263
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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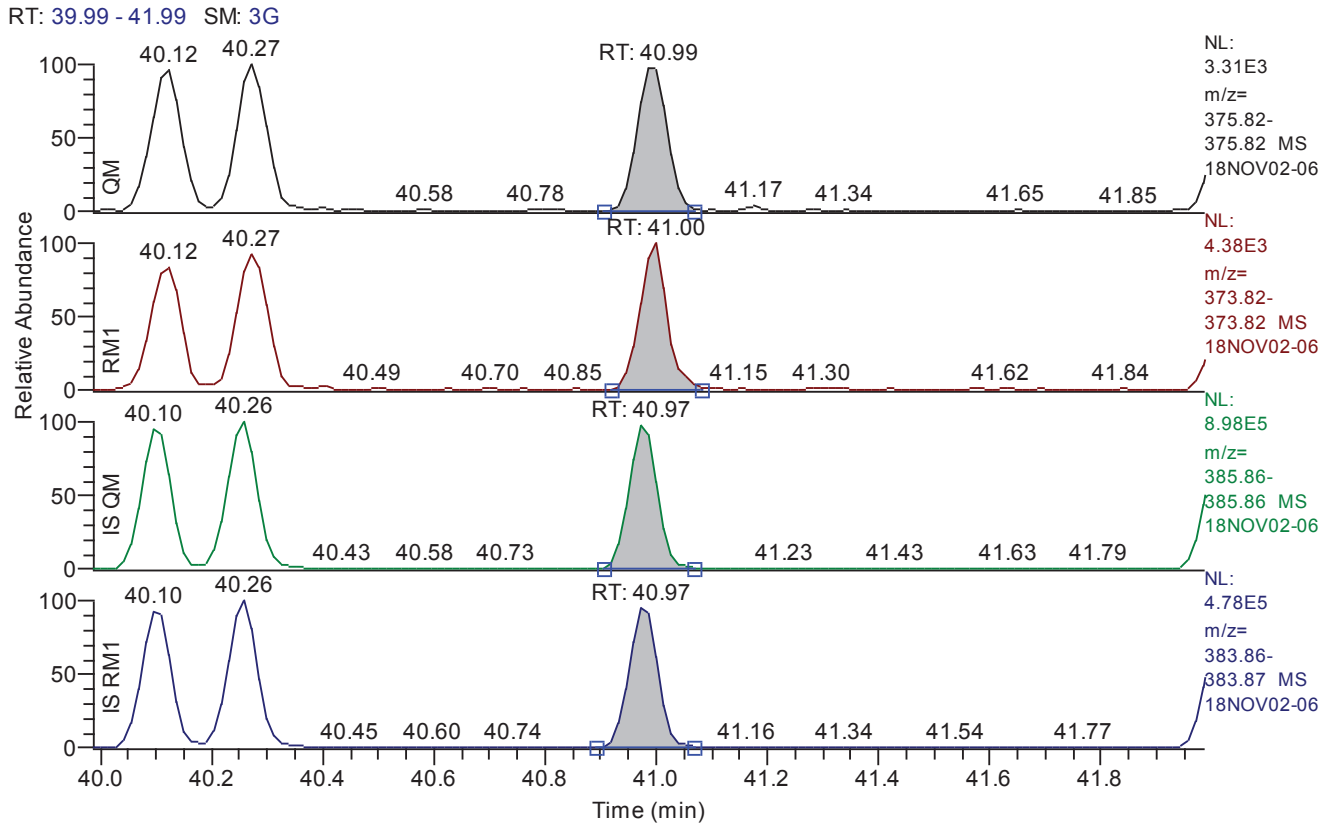
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	12350
QM Integration Mode	A
RM1 Area	14868
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	272
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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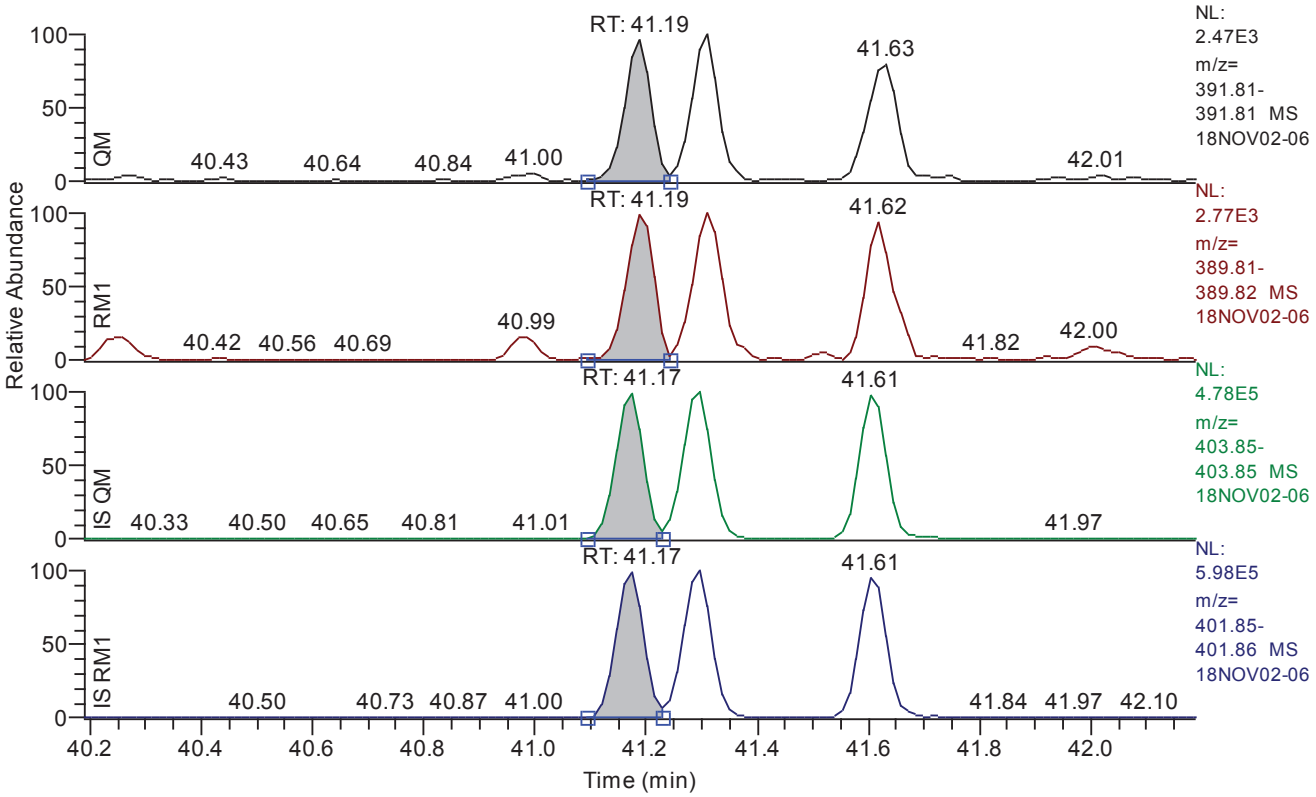
Chromatogram

RT: 40.19 - 42.19 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	7743
QM Integration Mode	A
RM1 Area	9437
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	189
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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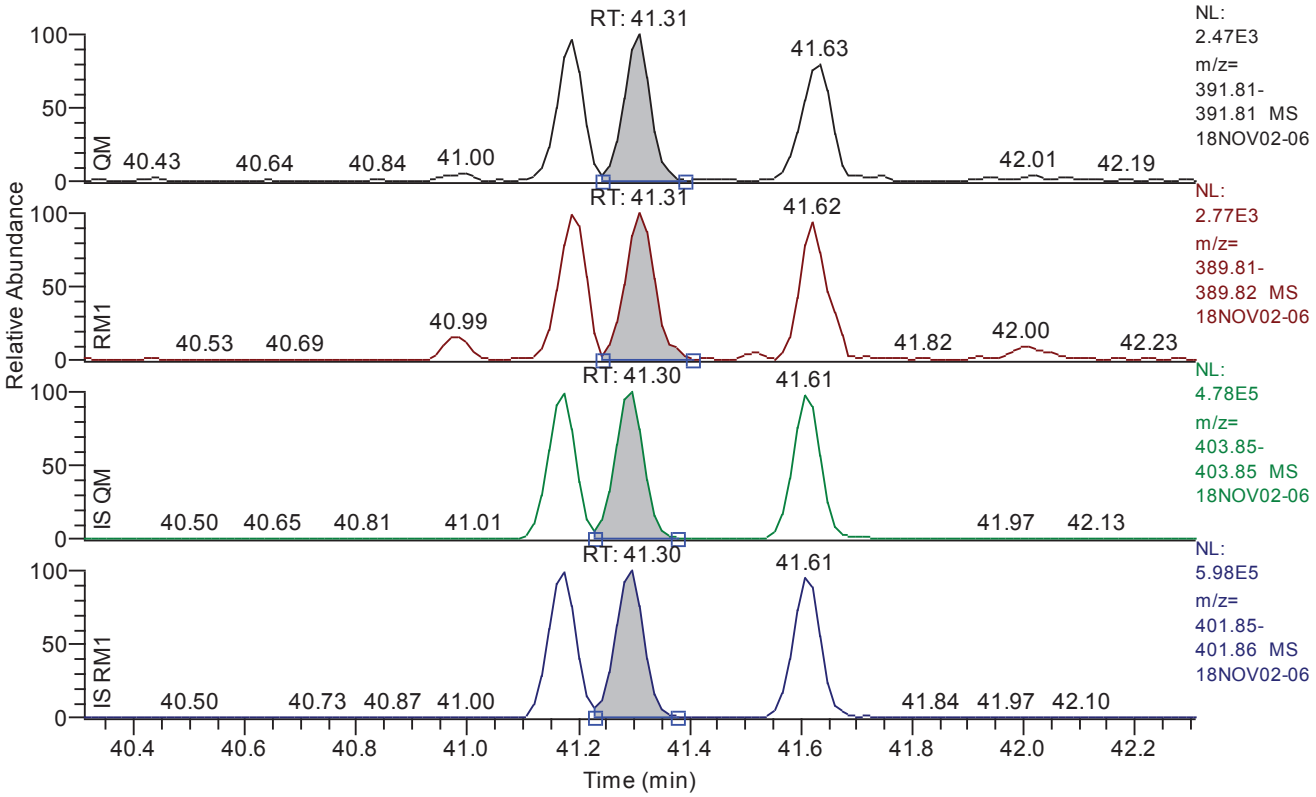
Chromatogram

RT: 40.31 - 42.31 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	8097
QM Integration Mode	A
RM1 Area	10153
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	192
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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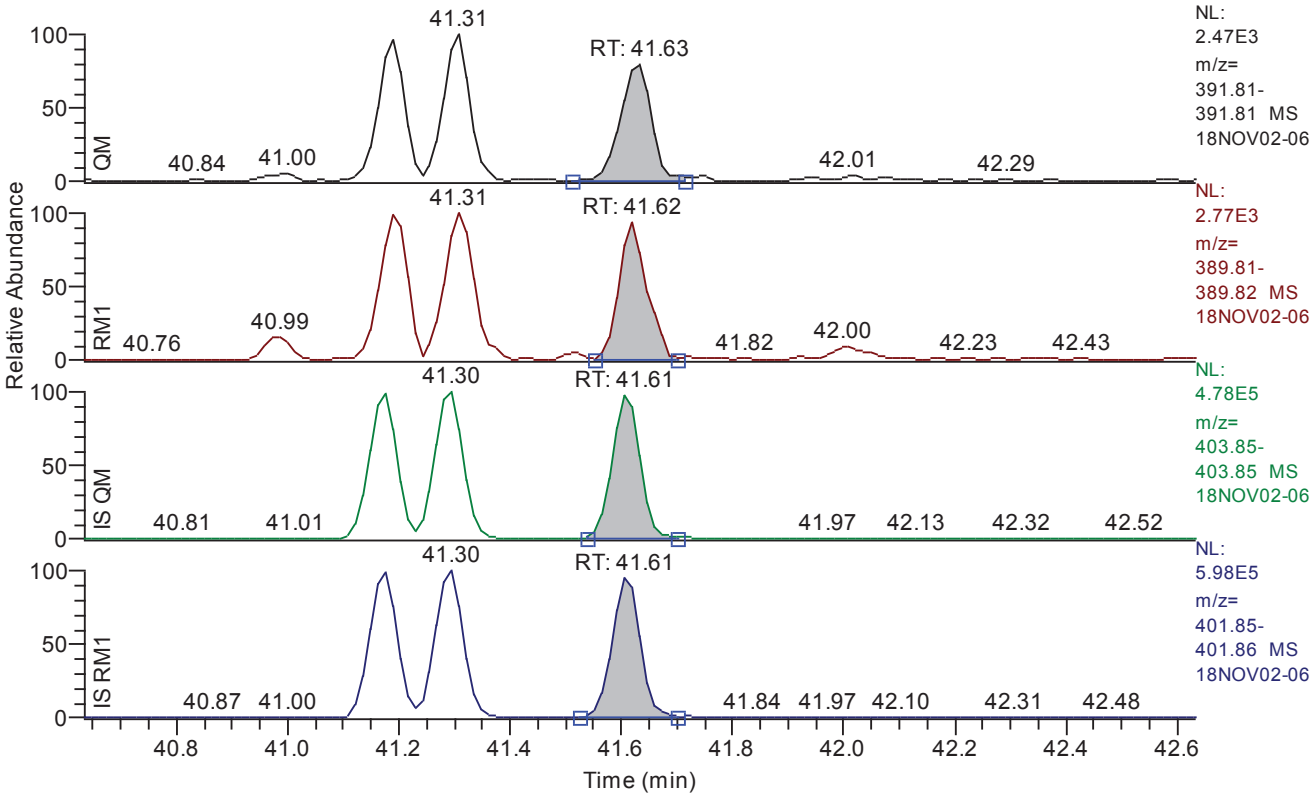
Chromatogram

RT: 40.63 - 42.63 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.63
QM Area	7595
QM Integration Mode	A
RM1 Area	9044
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	168
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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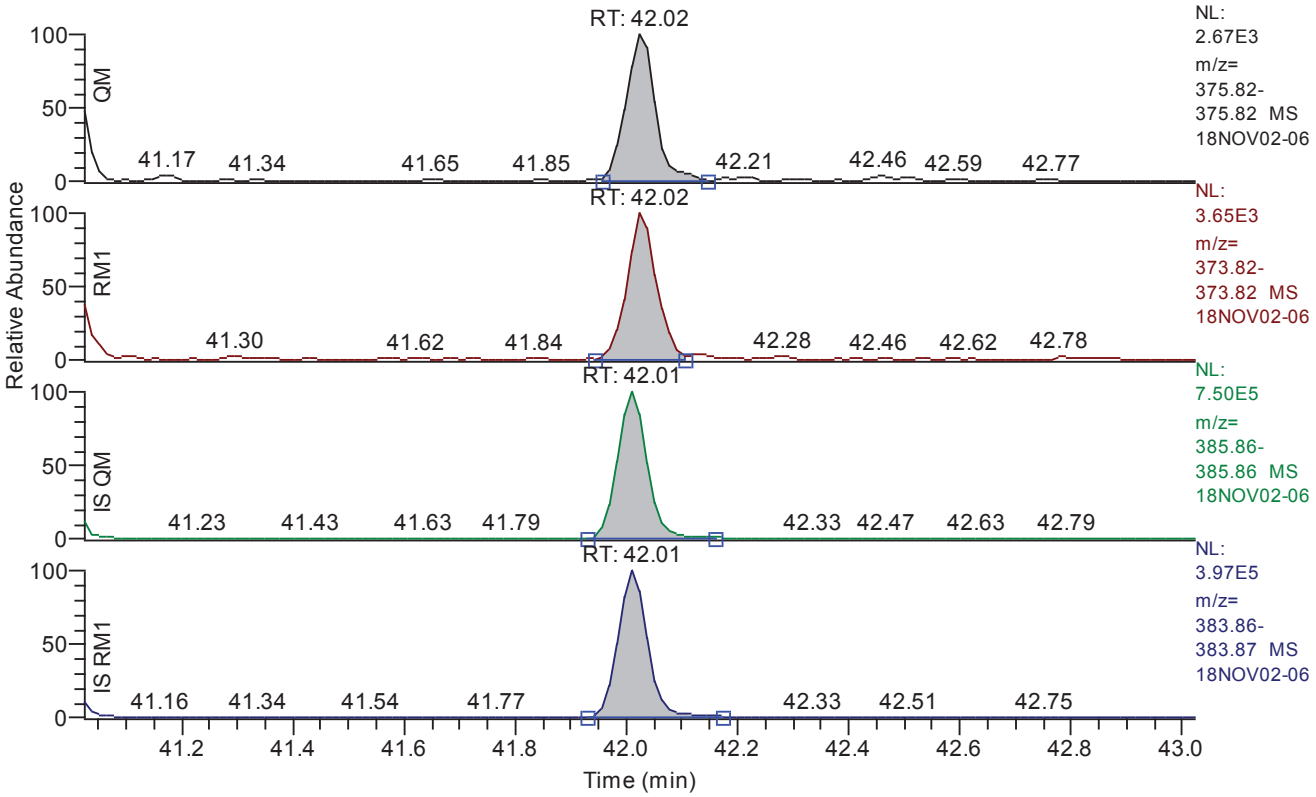
Chromatogram

RT: 41.02 - 43.02 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	9725
QM Integration Mode	A
RM1 Area	13333
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	225
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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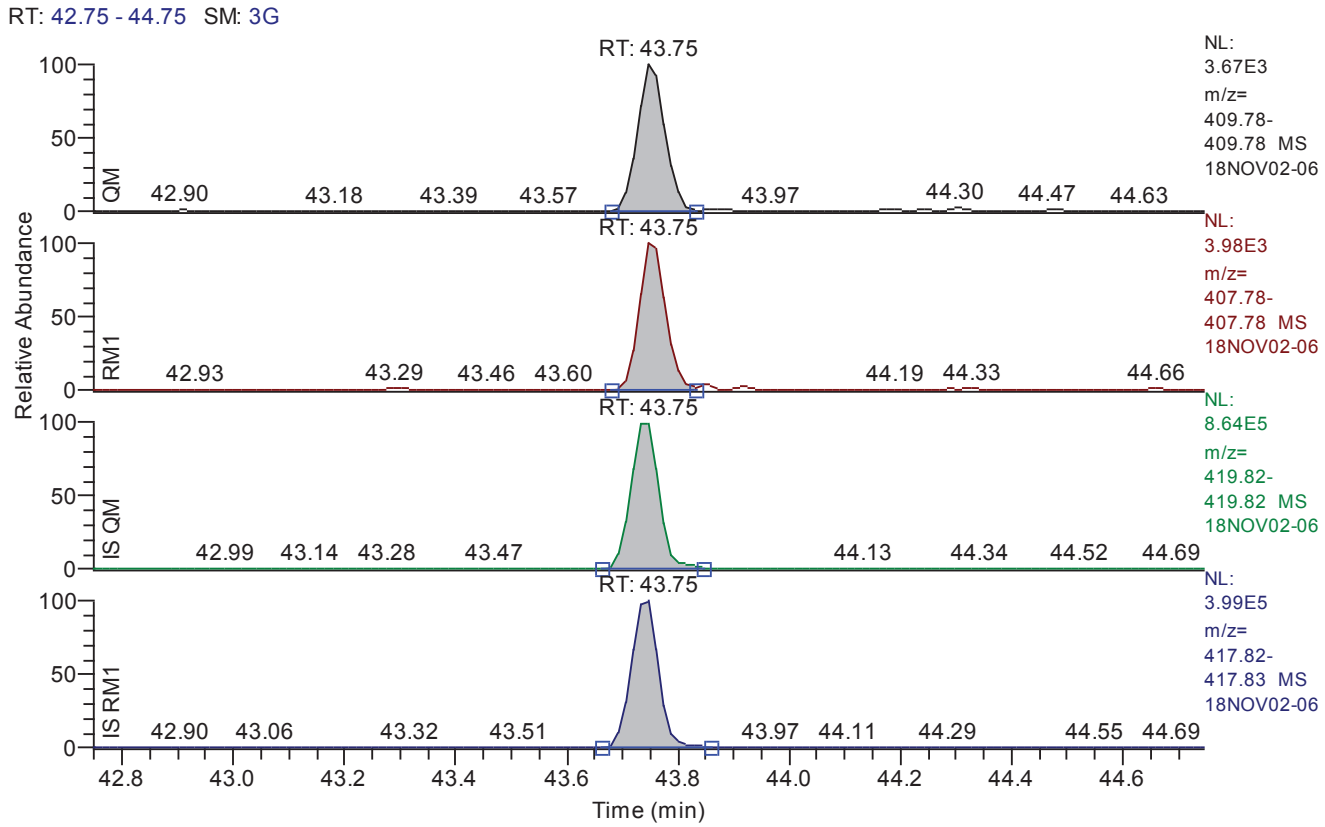
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.75
QM Area	12815
QM Integration Mode	A
RM1 Area	13442
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0035
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	365
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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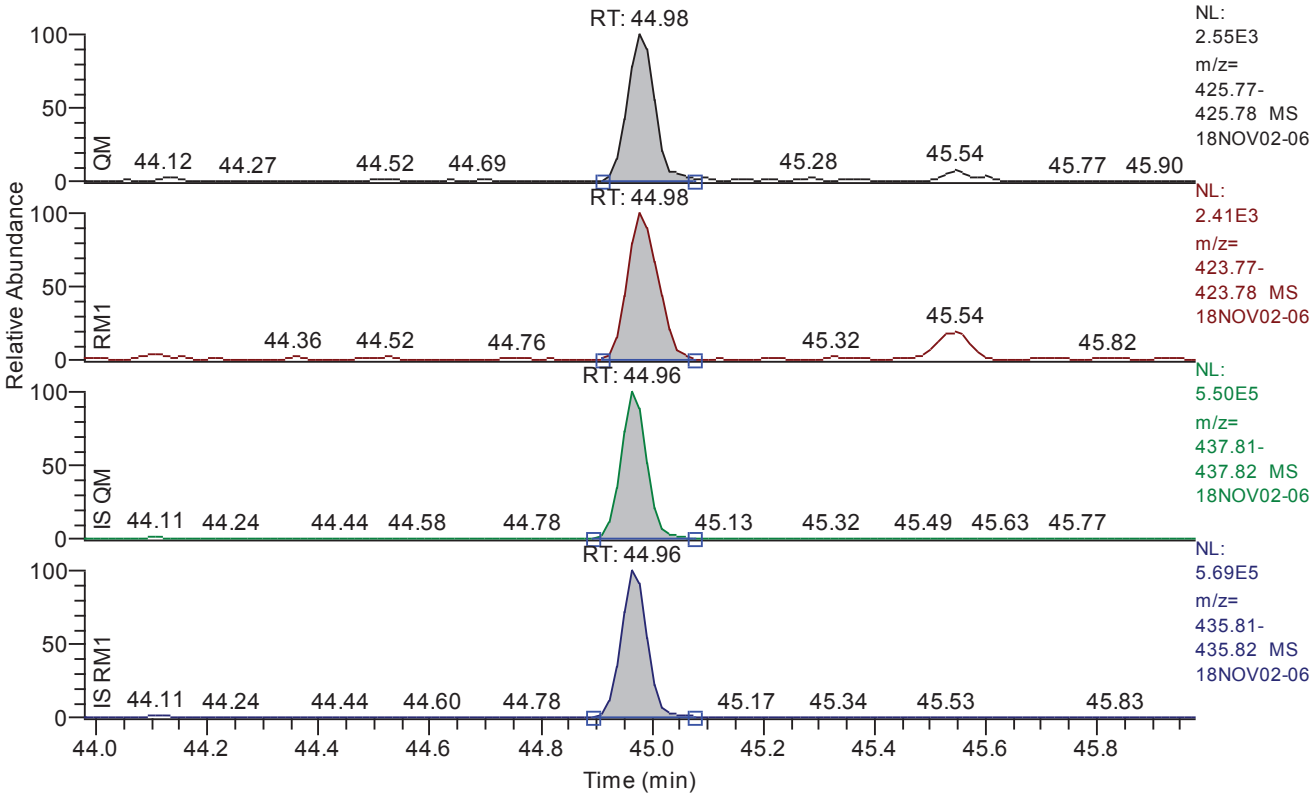
Chromatogram

RT: 43.98 - 45.98 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	8861
QM Integration Mode	A
RM1 Area	9376
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	247
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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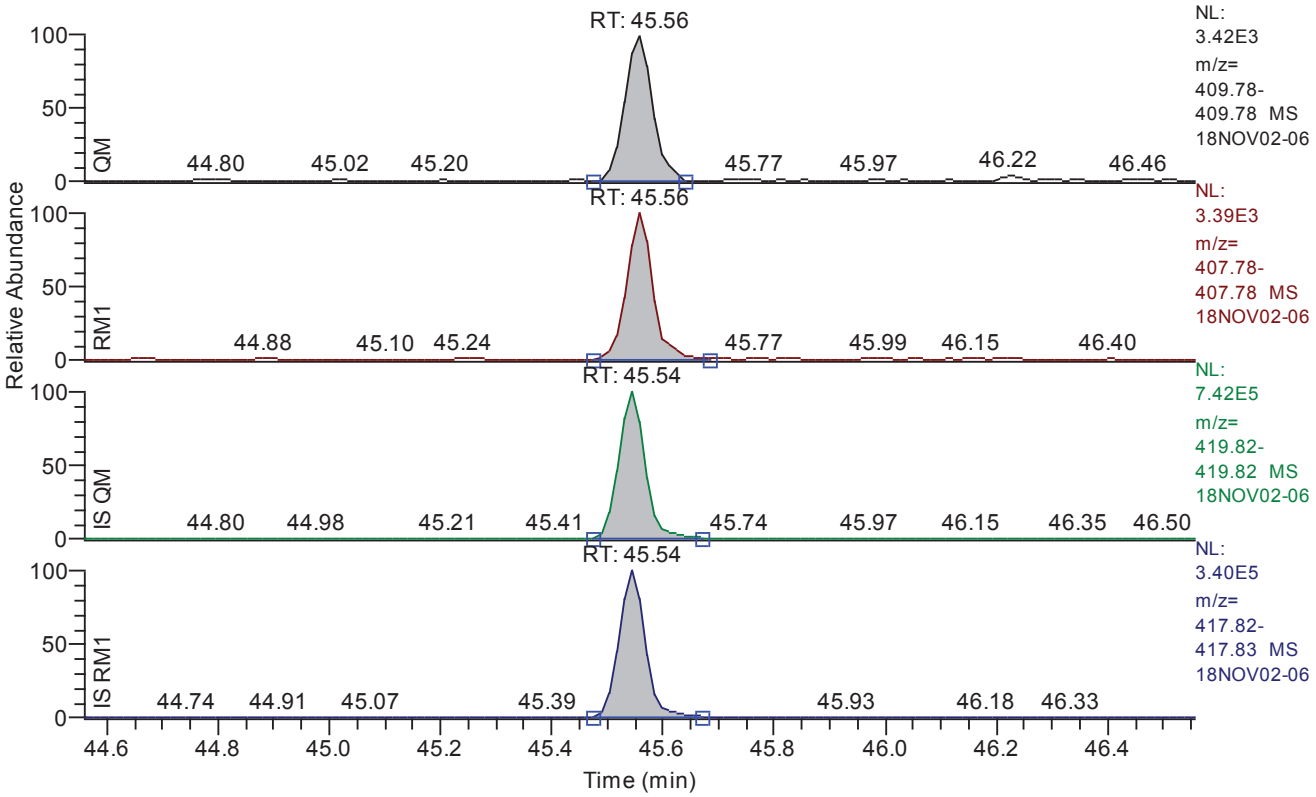
Chromatogram

RT: 44.56 - 46.56 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.56
QM Area	12121
QM Integration Mode	A
RM1 Area	11358
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0037
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	325
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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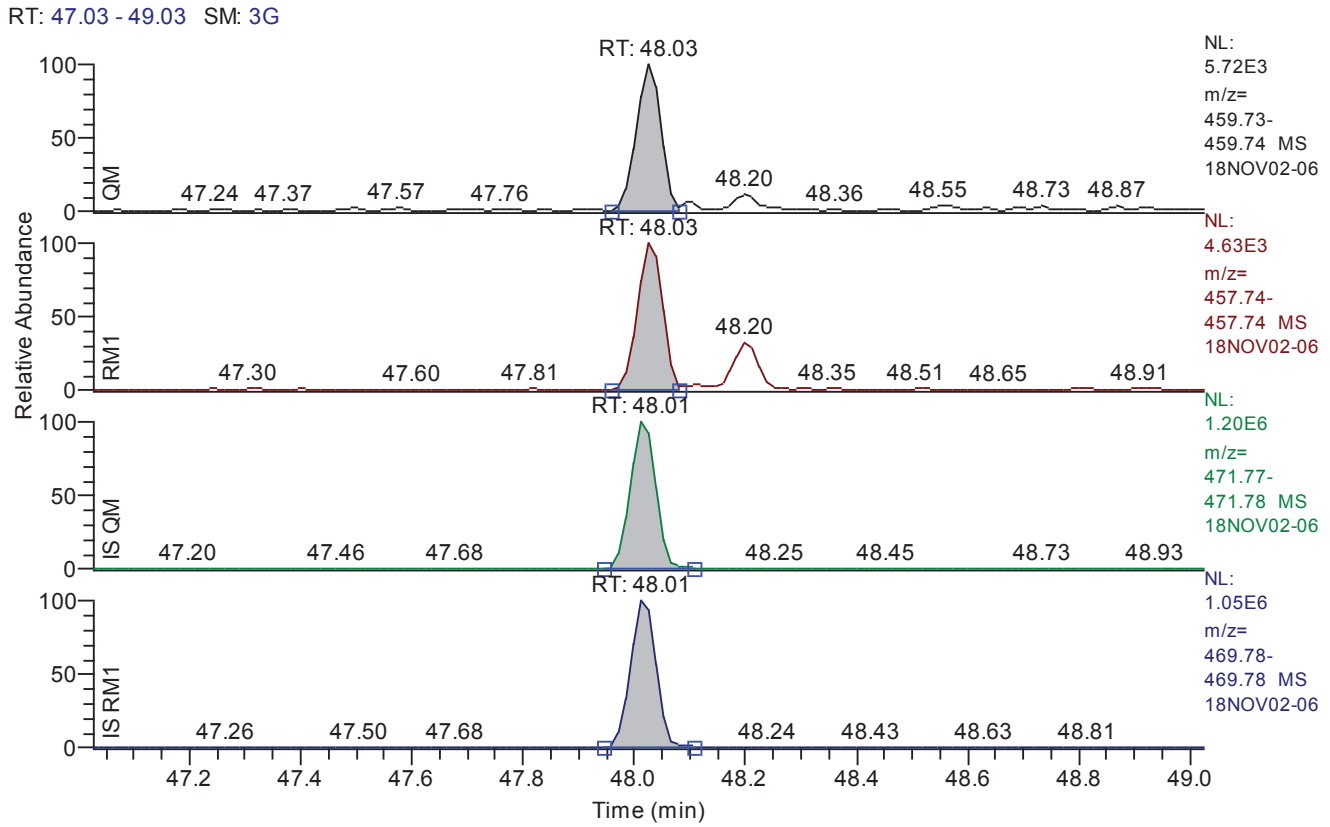
Chromatogram



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.03
QM Area	17489
QM Integration Mode	A
RM1 Area	14313
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	243
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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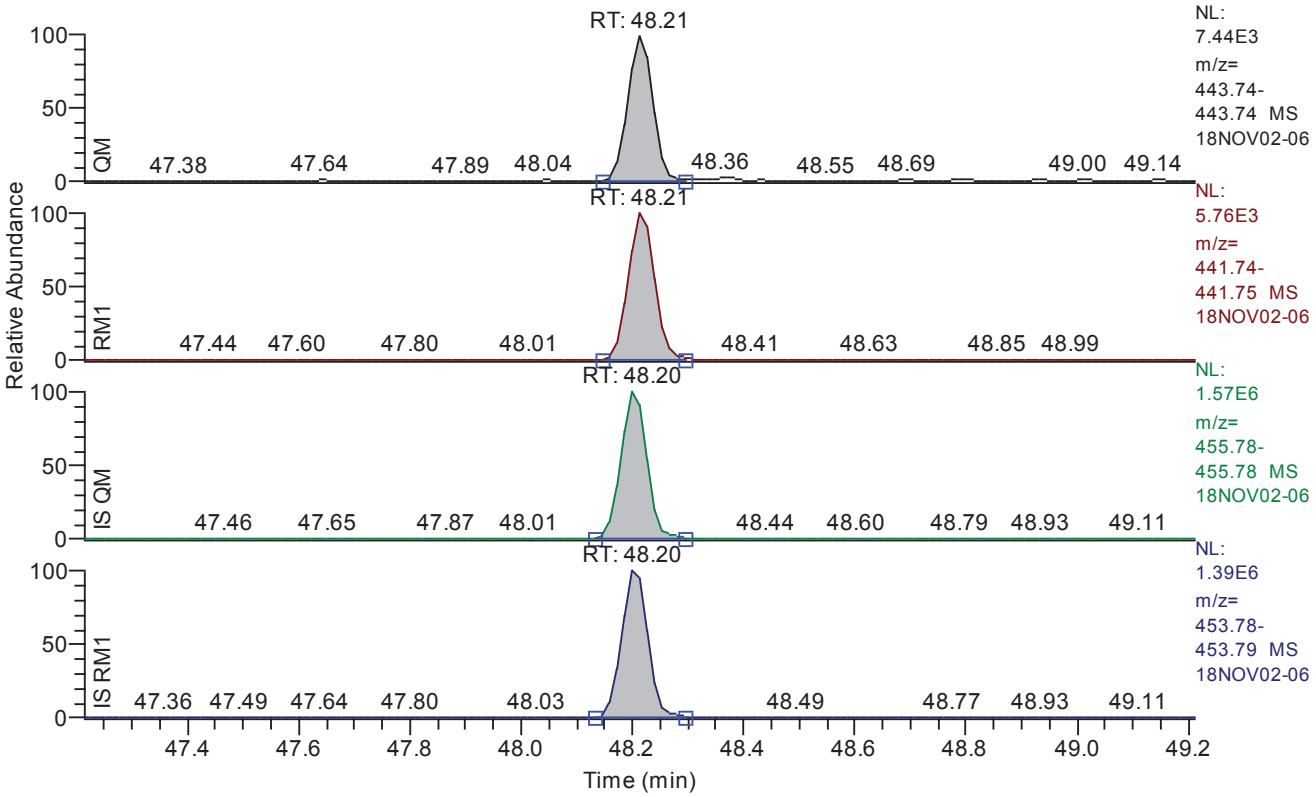
Chromatogram

RT: 47.21 - 49.21 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.21
QM Area	23087
QM Integration Mode	A
RM1 Area	18909
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	392
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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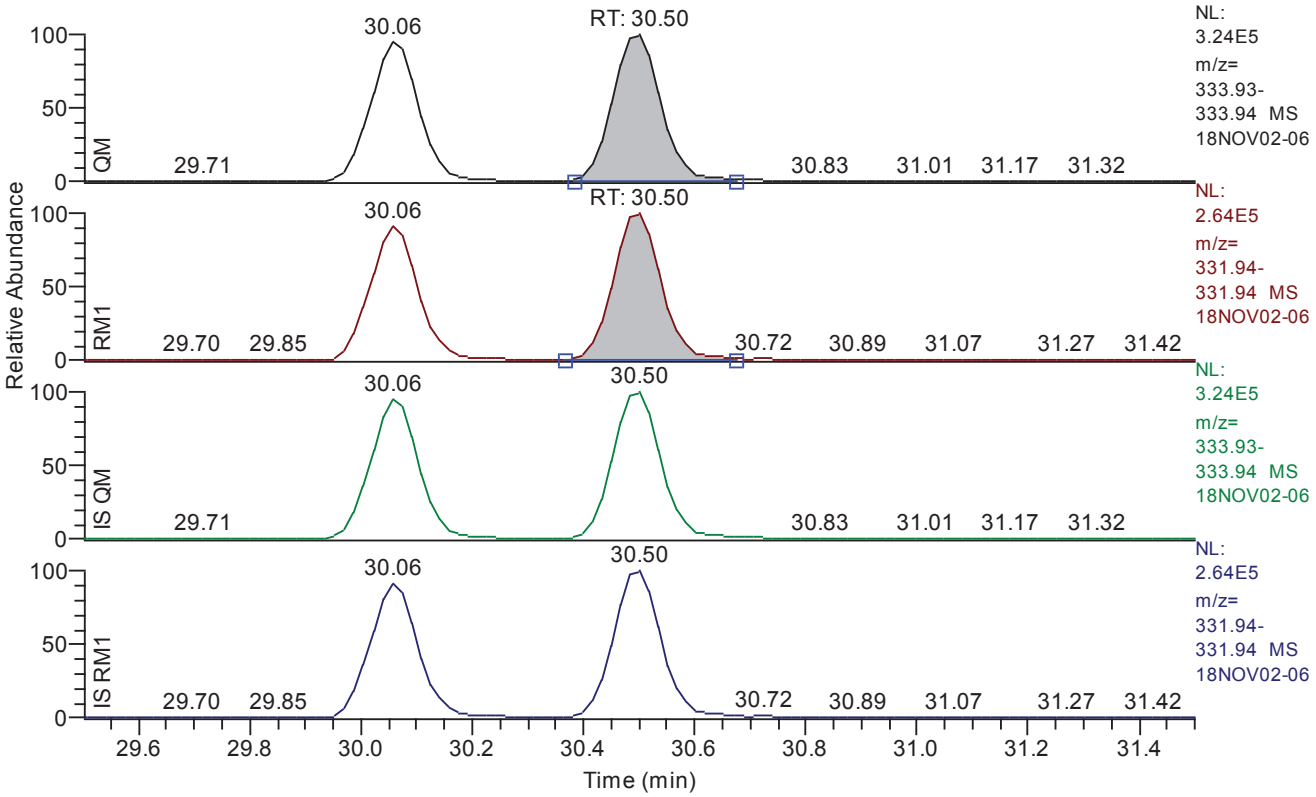
Chromatogram

RT: 29.50 - 31.50 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.50
QM Area	1955316
QM Integration Mode	A
RM1 Area	1591548
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0198
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	12183
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 14:38
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-06.quan
Data	w:\18nov02\18nov02-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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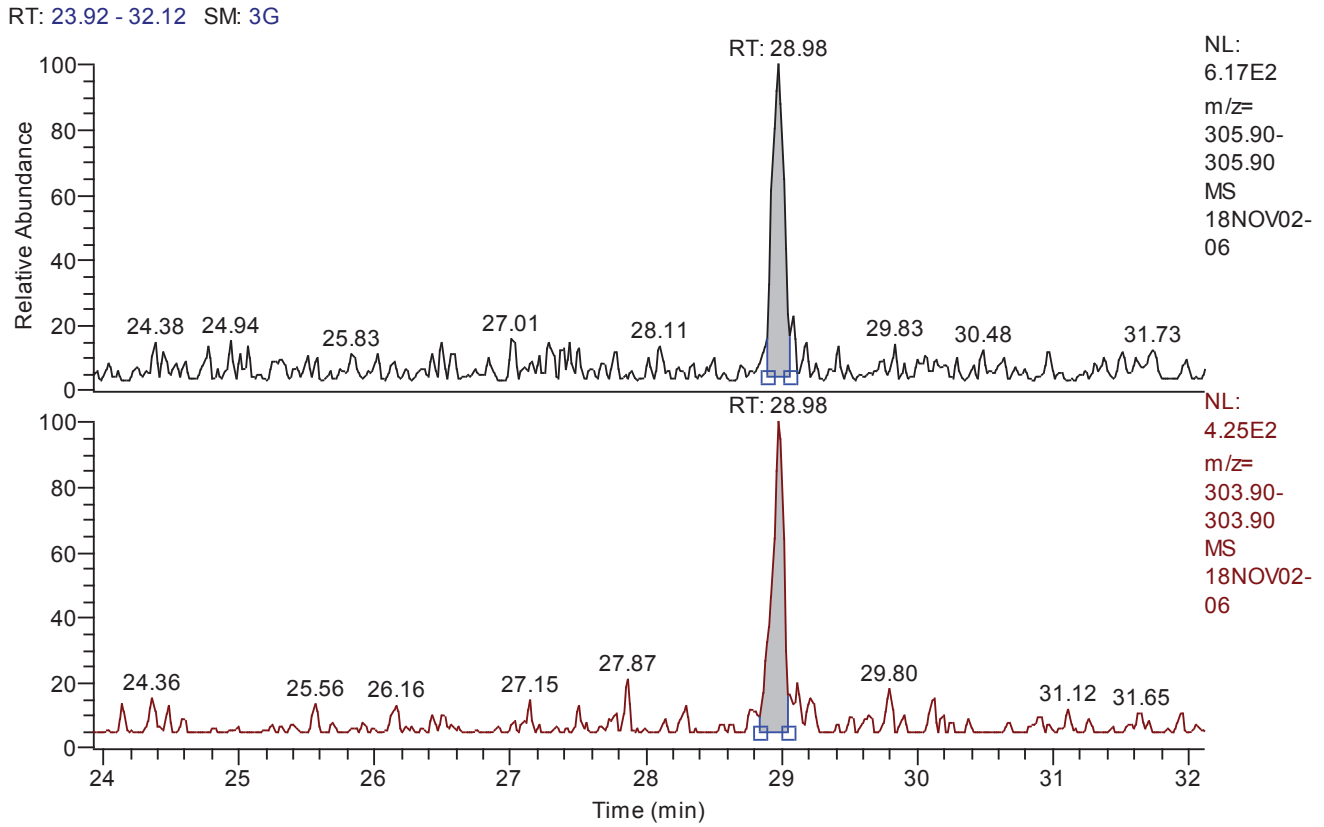
Chromatogram



Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	3558
QM Integration Mode	M
RM1 Area	2407
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	48
Client Flags	
Status Overview	passed (1)
Status Info	

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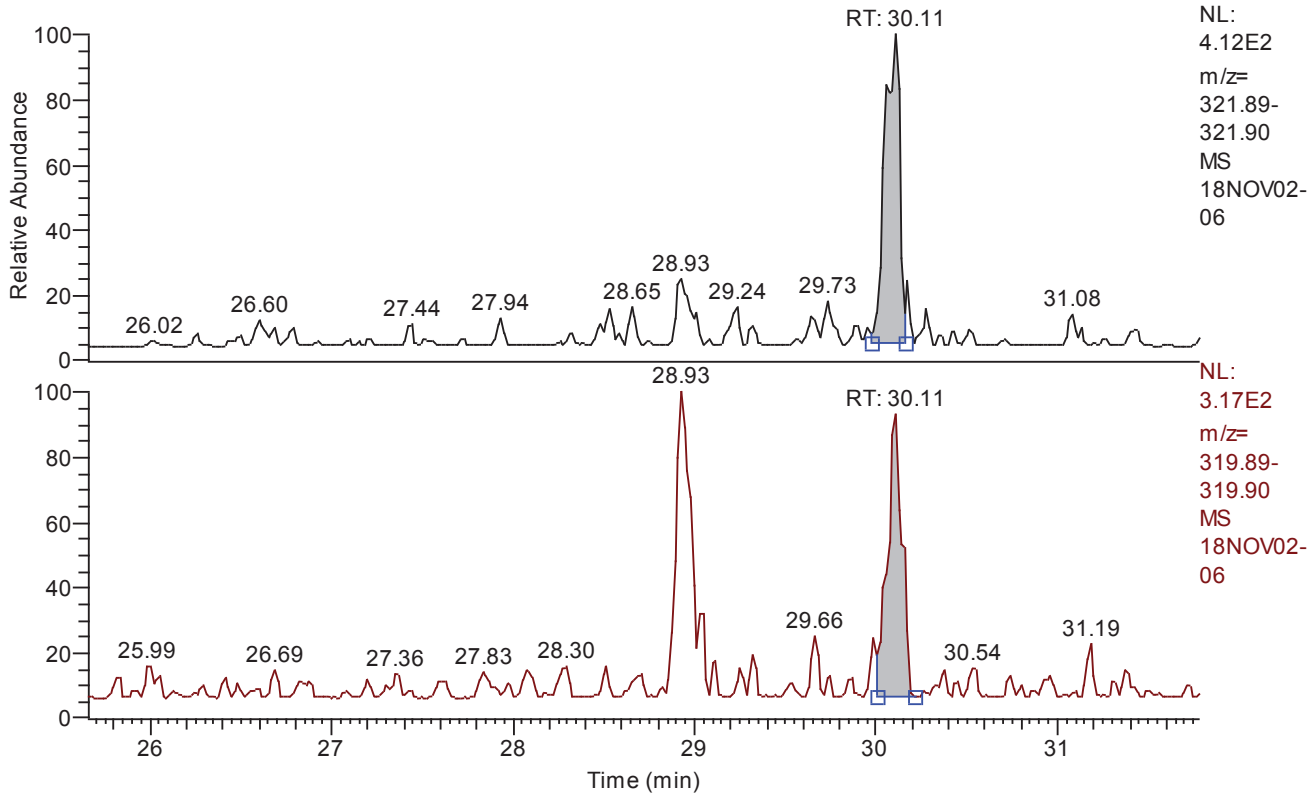
Chromatogram

RT: 25.66 - 31.78 SM: 3G



Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	2232
QM Integration Mode	M
RM1 Area	1563
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	47
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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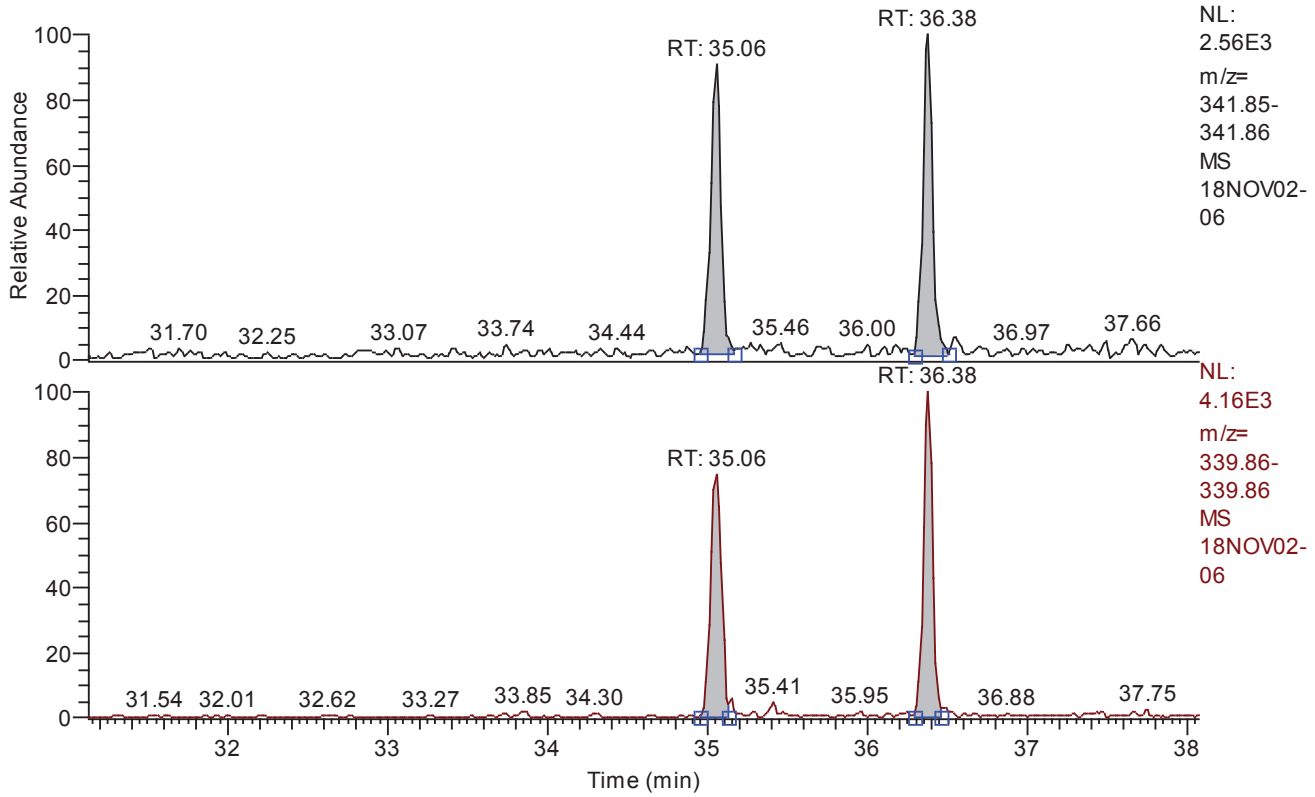
Chromatogram

RT: 31.12 - 38.08 SM: 3G



Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	20993
QM Integration Mode	A
RM1 Area	31287
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	261
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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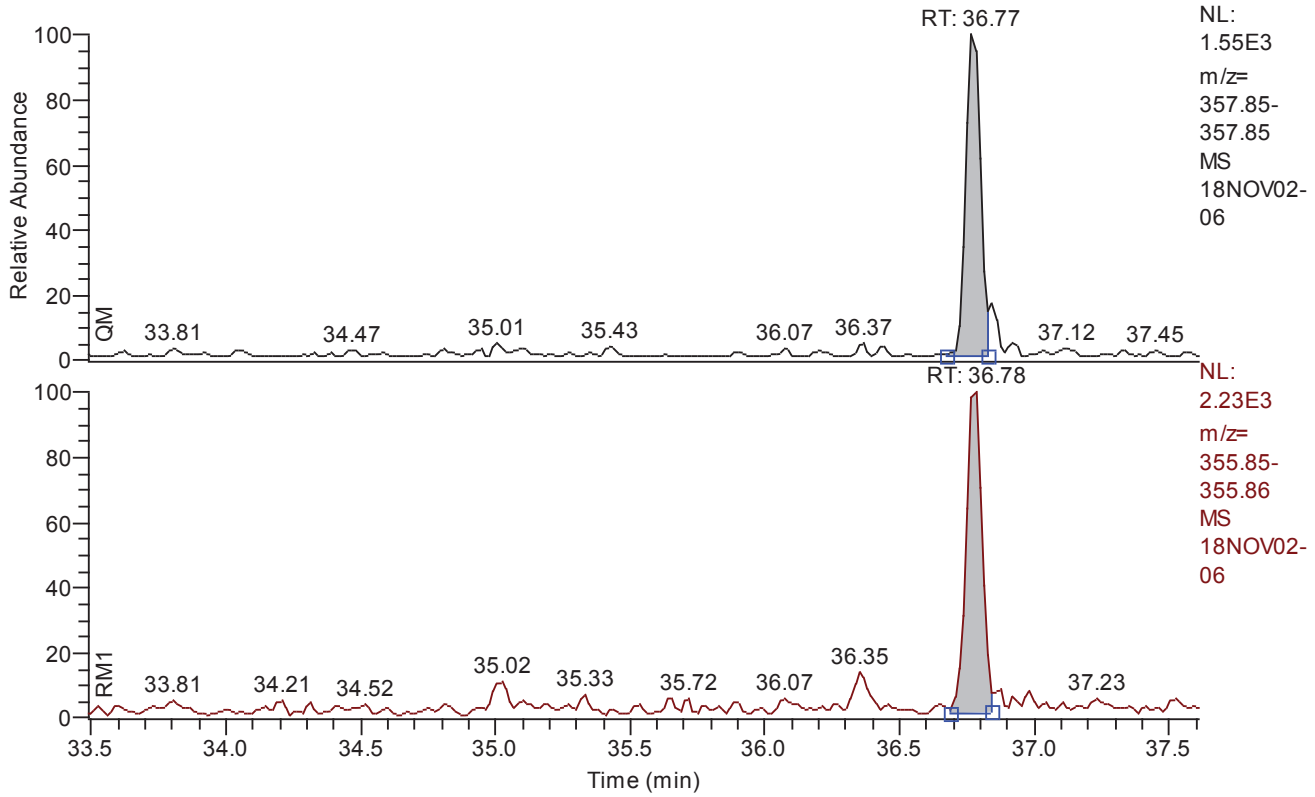
Chromatogram

RT: 33.49 - 37.61 SM: 3G



Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	5800
QM Integration Mode	A
RM1 Area	8984
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	124
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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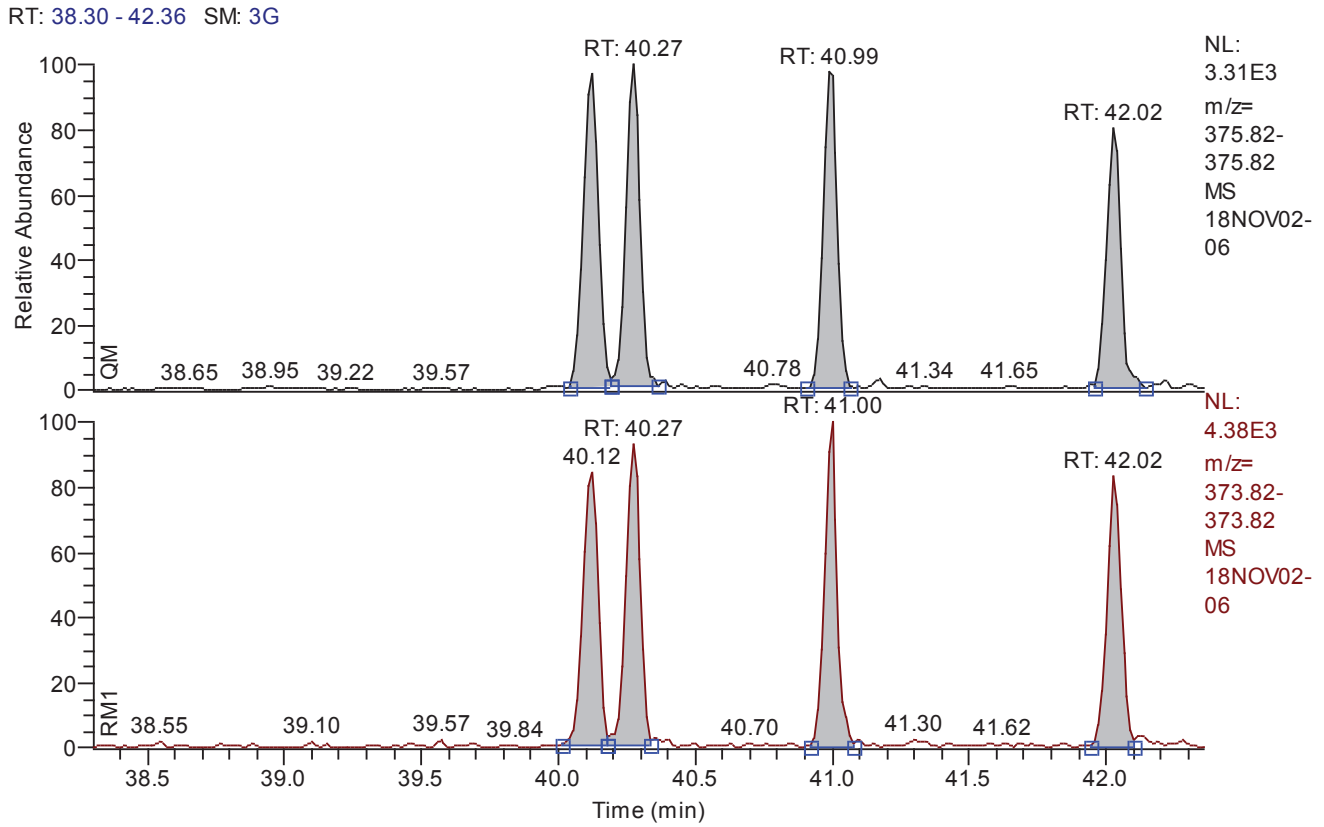
Chromatogram



Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	46615
QM Integration Mode	A
RM1 Area	58116
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	2.0000
Signal-to-Noise	252
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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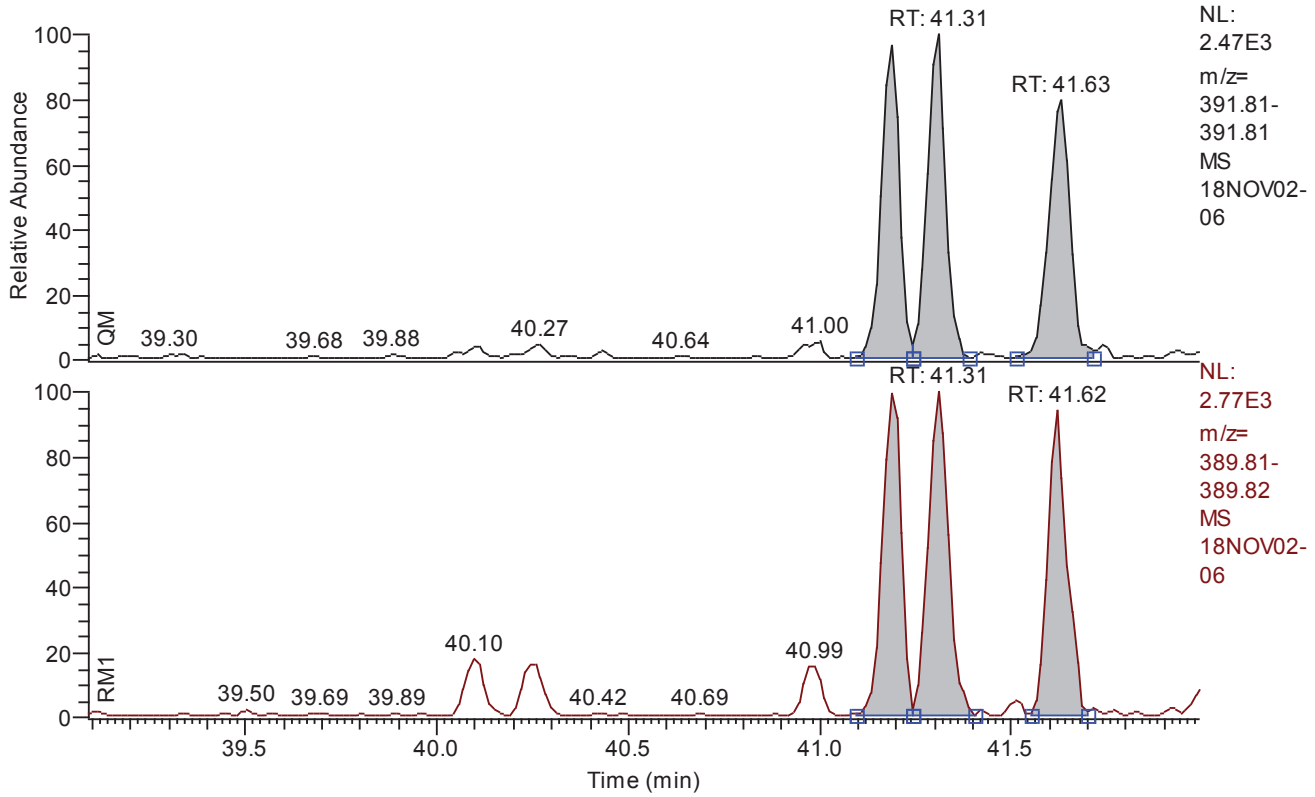
Chromatogram

RT: 39.09 - 41.99 SM: 3G



Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	23435
QM Integration Mode	A
RM1 Area	28635
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.5000
Signal-to-Noise	183
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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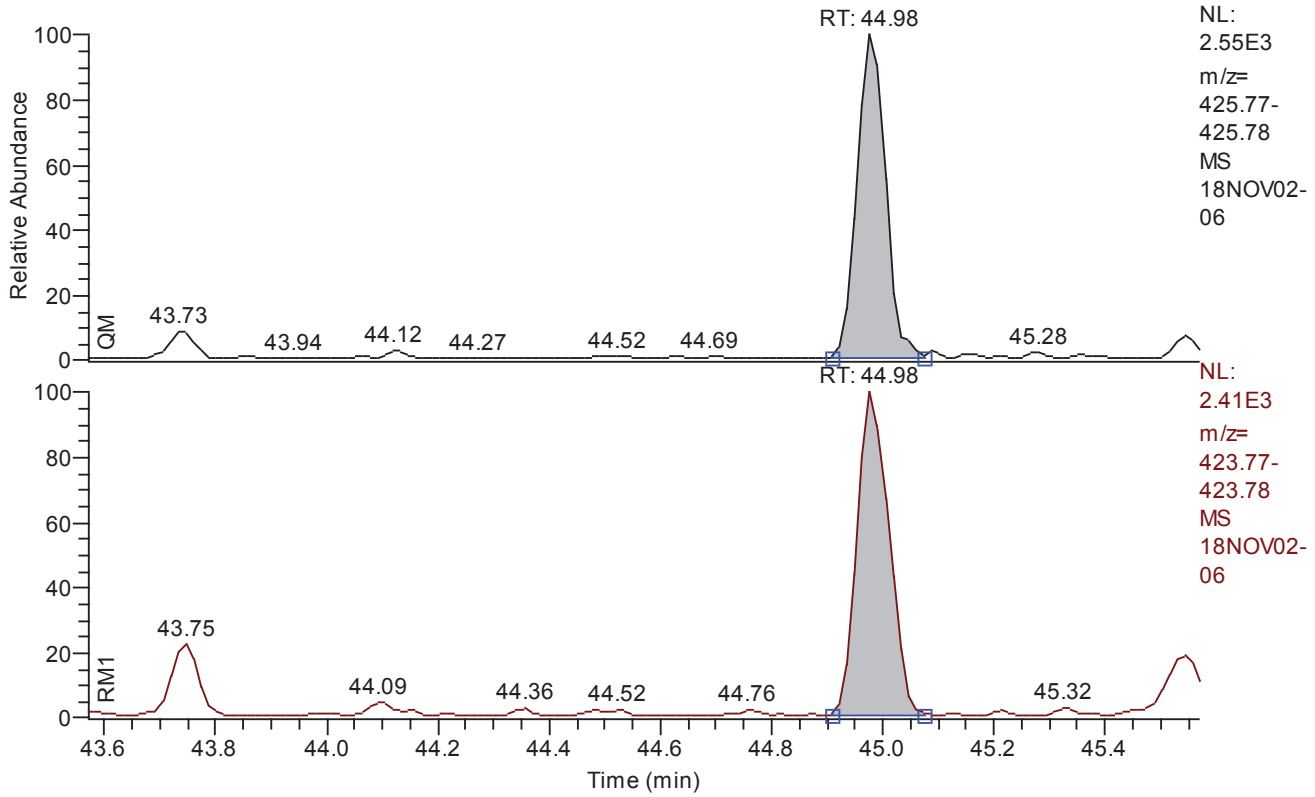
Chromatogram

RT: 43.57 - 45.57 SM: 3G



Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	8861
QM Integration Mode	A
RM1 Area	9376
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	247
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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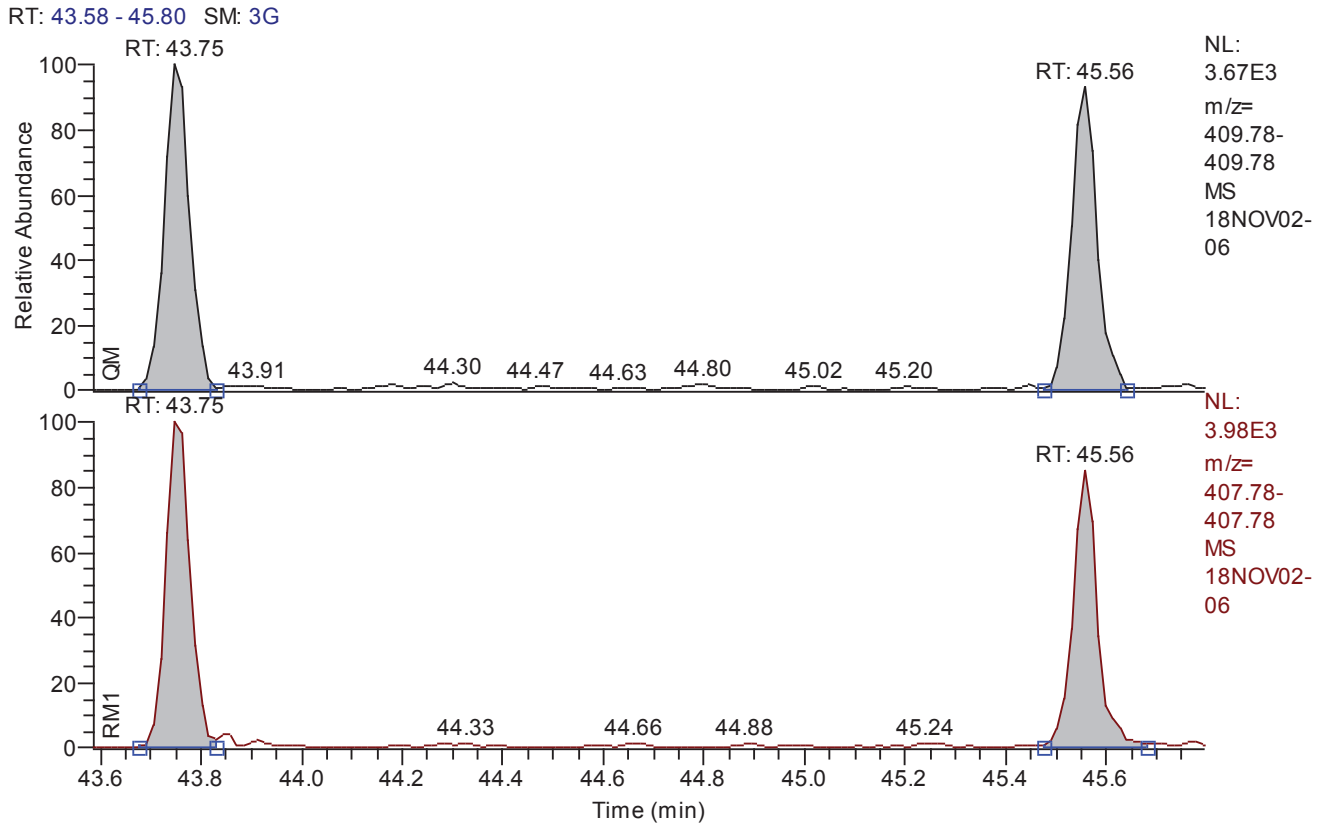
Chromatogram



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	24936
QM Integration Mode	A
RM1 Area	24800
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0036
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	345
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 14:38
Number of Entries	283
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-06.quan
Data	w:\18nov02\18nov02-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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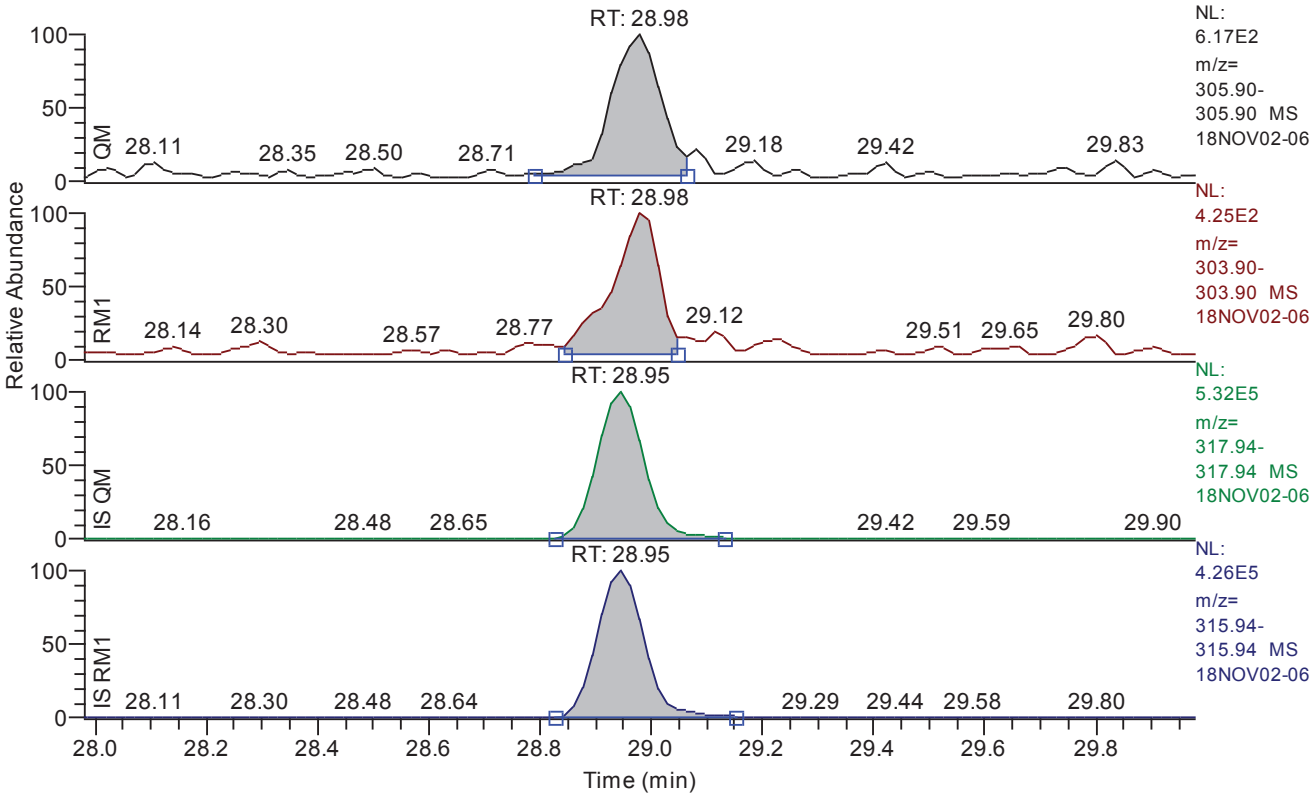
Chromatogram

RT: 27.98 - 29.98 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	3761
QM Integration Mode	A
RM1 Area	2407
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.103398
Adjusted Amount (A)	n.d.
Signal-to-Noise	48
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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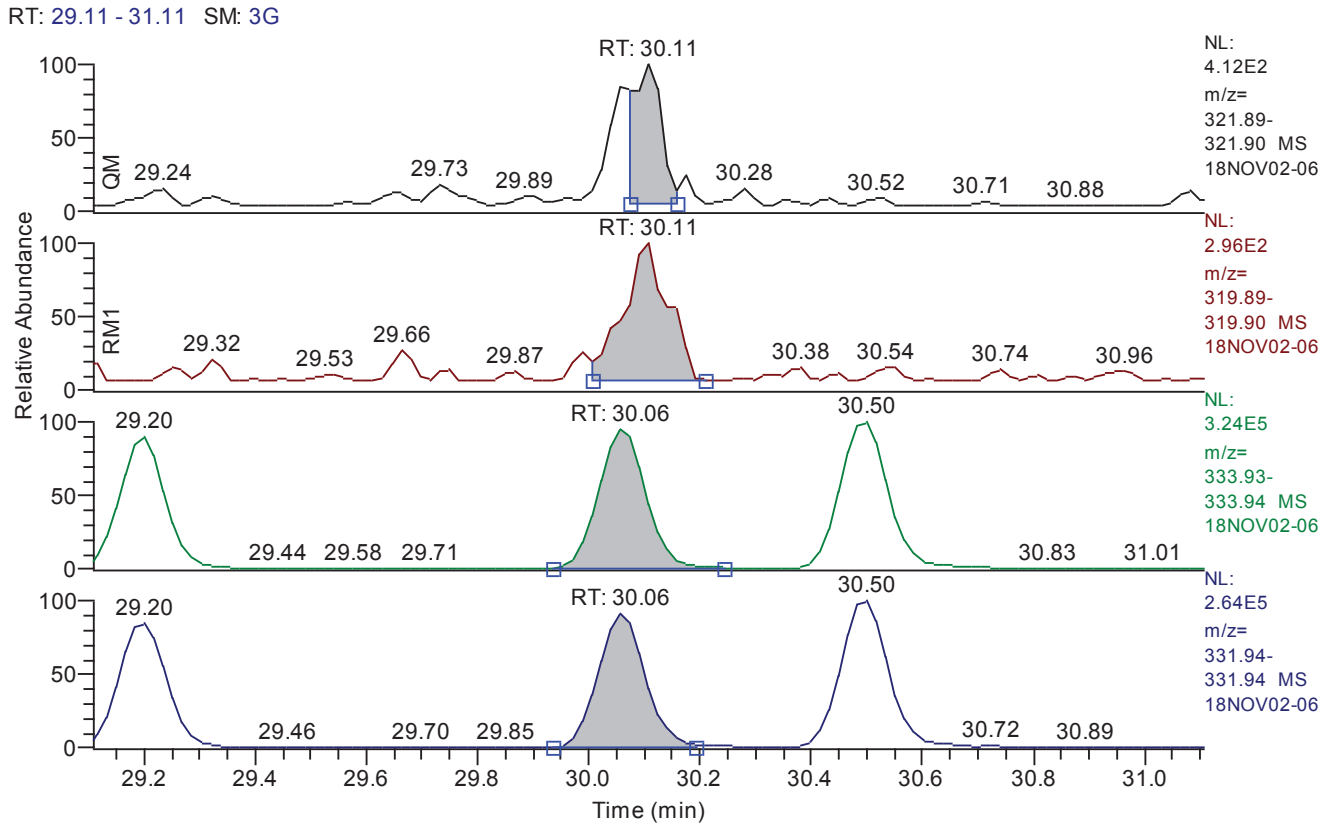
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.11
QM Area	1351
QM Integration Mode	A
RM1 Area	1563
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.076797
Adjusted Amount (A)	n.d.
Signal-to-Noise	47
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 14:38
Number of Entries	283
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-06.quan
Data	w:\18nov02\18nov02-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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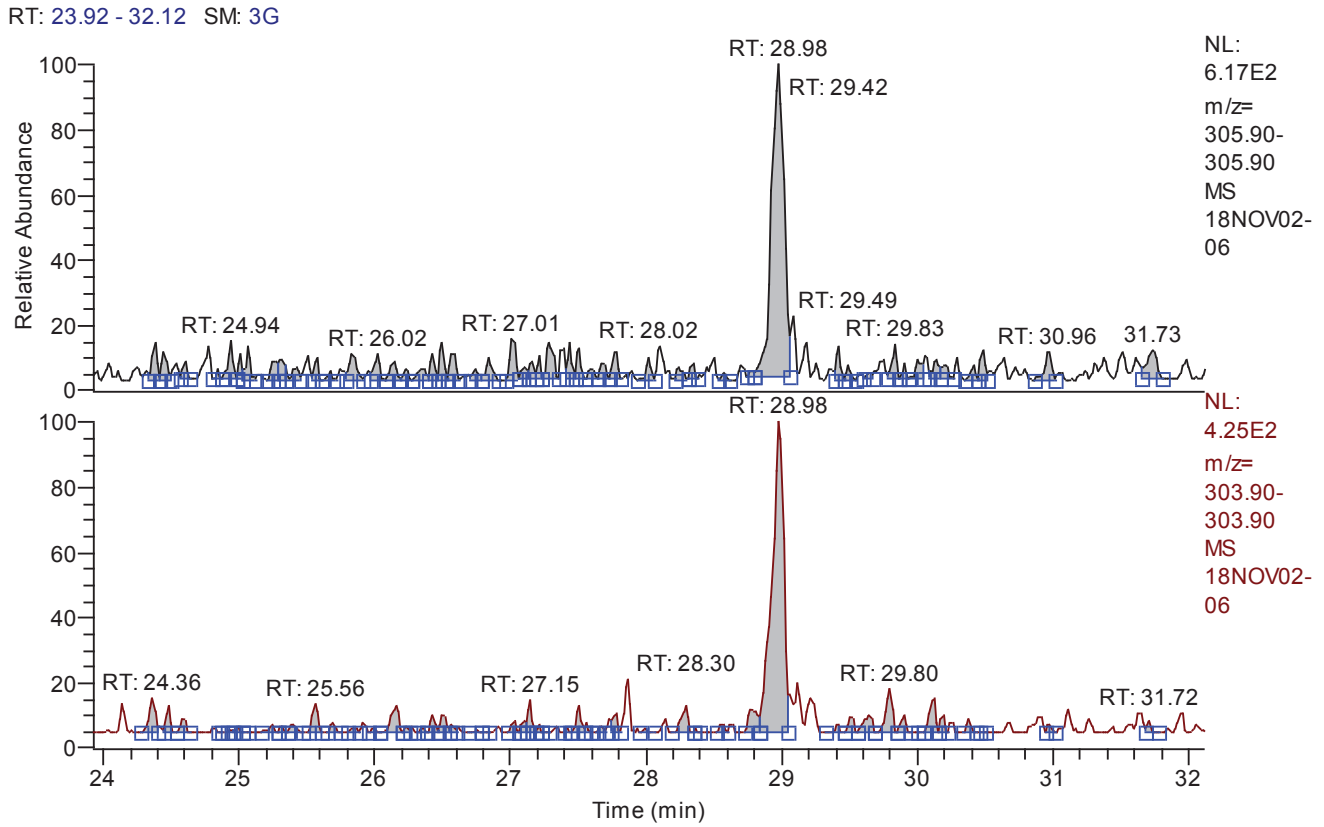
Chromatogram



Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	280
QM Integration Mode	A
RM1 Area	212
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.002751
Adjusted Amount (A)	0.0083
Signal-to-Noise	3
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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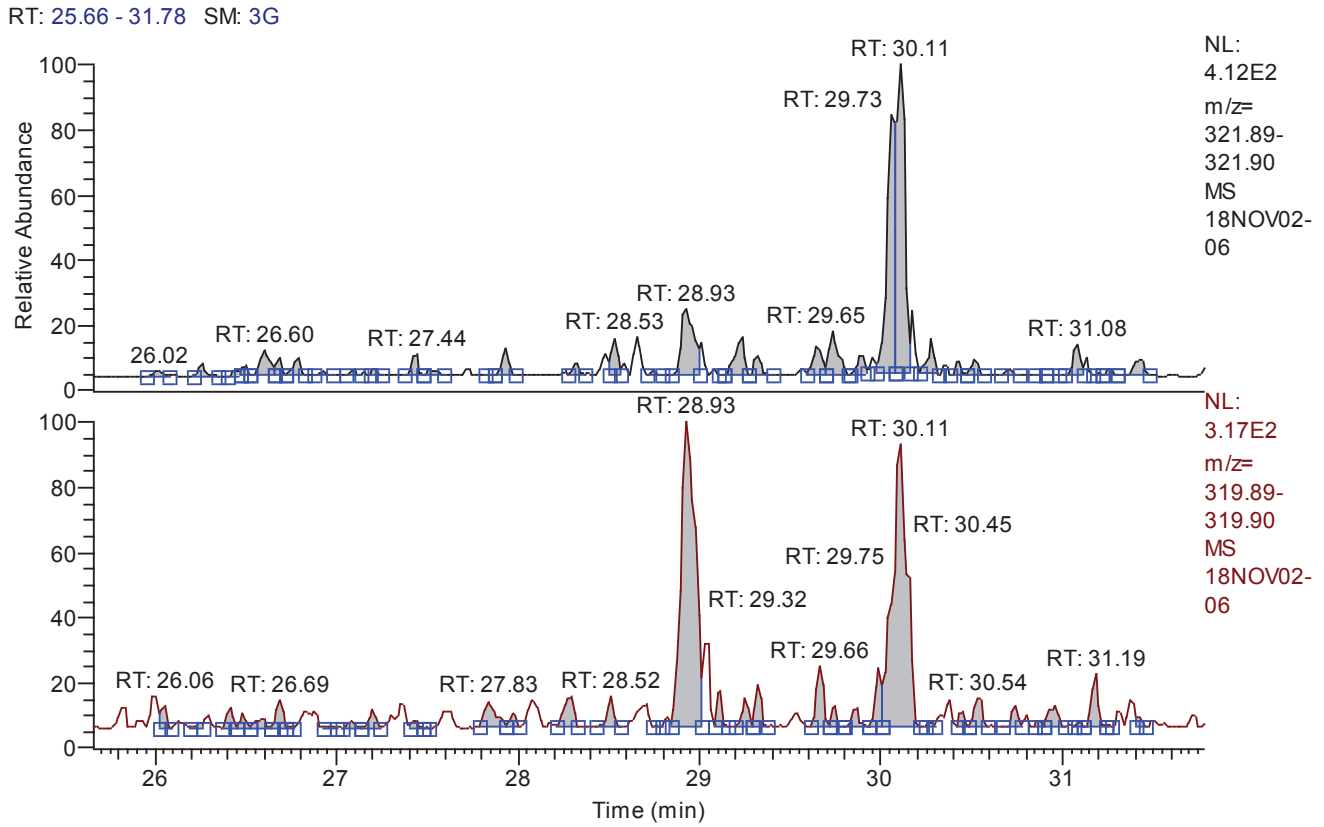
Chromatogram



Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	102
QM Integration Mode	A
RM1 Area	76
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.002337
Adjusted Amount (A)	0.0047
Signal-to-Noise	3
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.11	30.11	30.11	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.06	35.06	35.06	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.77	36.77	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.12	40.12	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	41.00	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.63	41.63	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.56	45.56	45.56	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.50	30.50	30.50	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.20	29.20	29.20	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.95	28.95	28.95	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.06	30.06	30.06	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.02	35.02	35.02	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.35	36.35	36.35	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.17	41.17	41.17	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.30	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.11	30.11	30.11	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.77	36.77	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.06	35.06	35.06	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.12	40.12	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	41.00	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.63	41.63	41.62	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.75	43.75	43.75	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.56	45.56	45.56	passed	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.6764	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.11	0.7004	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.06	1.4448	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5329	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.77	1.5491	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.12	1.1590	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2780	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.2039	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2188	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2539	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.63	1.1908	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.3711	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.75	1.0489	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0582	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.56	0.9371	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8184	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.8190	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.50	0.8140	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.20	0.8071	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2795	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.95	0.7992	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.06	0.7785	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.02	1.5727	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.35	1.5789	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5881	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5249	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5229	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5311	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.17	1.2636	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2472	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2305	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5290	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.75	0.4558	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0484	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.54	0.4560	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8847	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8986	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.6766	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7003	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.4904	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5491	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2467	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2219	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0582	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	0.9946	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.6766	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.11	0.7003	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.77	1.5491	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5329	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.06	1.4448	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0582	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.27	1.2780	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.12	1.1590	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.99	1.2039	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.3711	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.31	1.2539	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2188	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.63	1.1908	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.75	1.0489	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.56	0.9371	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	28.98	3558	M	2407	A	0.0051	0.100000	0.1000	0.100000	48	
2	2378-TCDD	passed	30.11	2232	M	1563	A	0.0056	0.100000	0.1000	0.100000	47	
3	12378-PeCDF	passed	35.06	10121	A	14622	A	0.0054	0.500000	0.5000	0.500000	233	
4	23478-PeCDF	passed	36.38	10872	A	16666	A	0.0046	0.500000	0.5000	0.500000	289	
5	12378-PeCDD	passed	36.77	5800	A	8984	A	0.0109	0.500000	0.5000	0.500000	124	
6	123478-HxCDF	passed	40.12	12161	A	14095	A	0.0049	0.500000	0.5000	0.500000	246	
7	123678-HxCDF	passed	40.27	12379	A	15820	A	0.0046	0.500000	0.5000	0.500000	263	
8	234678-HxCDF	passed	40.99	12350	A	14868	A	0.0046	0.500000	0.5000	0.500000	272	
9	123478-HxCDD	passed	41.19	7743	A	9437	A	0.0068	0.500000	0.5000	0.500000	189	
10	123678-HxCDD	passed	41.31	8097	A	10153	A	0.0066	0.500000	0.5000	0.500000	192	
11	123789-HxCDD	passed	41.63	7595	A	9044	A	0.0071	0.500000	0.5000	0.500000	168	
12	123789-HxCDF	passed	42.02	9725	A	13333	A	0.0056	0.500000	0.5000	0.500000	225	
13	1234678-HpCDF	passed	43.75	12815	A	13442	A	0.0035	0.500000	0.5000	0.500000	365	
14	1234678-HpCDD	passed	44.98	8861	A	9376	A	0.0046	0.500000	0.5000	0.500000	247	
15	1234789-HpCDF	passed	45.56	12121	A	11358	A	0.0037	0.500000	0.5000	0.500000	325	
16	OCDD	passed	48.03	17489	A	14313	A	0.0106	1.000000	1.0000	1.000000	243	
17	OCDF	passed	48.21	23087	A	18909	A	0.0065	1.000000	1.0000	1.000000	392	
18	13C12-1278-TCDD (CRS)	passed	30.50	1955316	A	1591548	A	0.0198	100.000000	100.0000	100.000000	12183	
19	13C12-1234-TCDD	passed	29.20	1678860	A	1355057	A	0.0232	100.000000	100.0000	100.000000	10782	
20	13C12-123468-HxCDD	passed	40.02	1646873	A	2107146	A	0.0290	100.000000	100.0000	100.000000	8618	
21	13C12-2378-TCDF	passed	28.95	3167304	A	2531286	A	0.0176	100.000000	100.0000	100.000000	13967	
22	13C12-2378-TCDD	passed	30.06	1855395	A	1444354	A	0.0213	100.000000	100.0000	100.000000	11470	
23	13C12-12378-PeCDF	passed	35.02	2151030	A	3383026	A	0.0449	100.000000	100.0000	100.000000	7080	
24	13C12-23478-PeCDF	passed	36.35	2171703	A	3428953	A	0.0443	100.000000	100.0000	100.000000	7551	
25	13C12-12378-PeCDD	passed	36.75	1273101	A	2021801	A	0.0299	100.000000	100.0000	100.000000	11459	
26	13C12-123478-HxCDF	passed	40.10	3151779	A	1654517	A	0.0353	100.000000	100.0000	100.000000	6966	
27	13C12-123678-HxCDF	passed	40.26	3342986	A	1747948	A	0.0333	100.000000	100.0000	100.000000	7333	
28	13C12-234678-HxCDF	passed	40.97	3110169	A	1651953	A	0.0356	100.000000	100.0000	100.000000	7144	
29	13C12-123478-HxCDD	passed	41.17	1635760	A	2066919	A	0.0294	100.000000	100.0000	100.000000	8907	
30	13C12-123678-HxCDD	passed	41.30	1714072	A	2137768	A	0.0283	100.000000	100.0000	100.000000	8966	
31	13C12-123789-HxCDD	passed	41.61	1625336	A	1999990	A	0.0300	100.000000	100.0000	100.000000	8701	
32	13C12-123789-HxCDF	passed	42.01	2786677	A	1474168	A	0.0398	100.000000	100.0000	100.000000	6141	
33	13C12-1234678-HpCDF	passed	43.75	3081851	A	1404641	A	0.0391	100.000000	100.0000	100.000000	6551	
34	13C12-1234678-HpCDD	passed	44.96	1817464	A	1905389	A	0.0328	100.000000	100.0000	100.000000	8333	
35	13C12-1234789-HpCDF	passed	45.54	2500123	A	1139948	A	0.0482	100.000000	100.0000	100.000000	5601	
36	13C12-OCDD	passed	48.01	3808088	A	3369019	A	0.0178	200.000000	200.0000	200.000000	32092	
37	13C12-OCDF	passed	48.20	5051030	A	4539091	A	0.0157	200.000000	200.0000	200.000000	35739	
38	Total TCDF	passed (1)	28.02	3558	M	2407	A	0.0051	0.100000	0.1000	0.100000	48	
39	Total TCDD	passed (1)	28.72	2232	M	1563	A	0.0056	0.100000	0.1000	0.100000	47	
40	Total PeCDF	passed (2)	34.60	20993	A	31287	A	0.0050	0.500000	1.0000	0.500000	261	
41	Total PeCDD	passed (1)	35.55	5800	A	8984	A	0.0109	0.500000	0.5000	0.500000	124	
42	Total HxCDF	passed (4)	40.33	46615	A	58116	A	0.0049	0.500000	2.0000	0.500000	252	
43	Total HxCDD	passed (3)	40.54	23435	A	28635	A	0.0068	0.500000	1.5000	0.500000	183	
44	Total HpCDD	passed (1)	44.57	8861	A	9376	A	0.0046	0.500000	0.5000	0.500000	247	
45	Total HpCDF	passed (2)	44.69	24936	A	24800	A	0.0036	0.500000	1.0000	0.500000	345	
46	Single TCDF	passed	28.98	3558	M	2407	A	0.0051	0.100000	0.1000	0.100000	48	
47	Single TCDD	passed	30.11	2232	M	1563	A	0.0056	0.100000	0.1000	0.100000	47	
48	Single PeCDD	passed	36.77	5800	A	8984	A	0.0109	0.500000	0.5000	0.500000	124	
49	Single PeCDF	passed	36.38	10872	A	16666	A	0.0047	0.500000	0.5000	0.500000	289	
50	Single PeCDF	passed	35.06	10121	A	14622	A	0.0052	0.500000	0.5000	0.500000	233	
51	Single HpCDD	passed	44.98	8861	A	9376	A	0.0046	0.500000	0.5000	0.500000	247	
52	Single HxCDF	passed	40.27	12379	A	15820	A	0.0045	0.500000	0.5000	0.500000	263	
53	Single HxCDF	passed	40.12	12161	A	14095	A	0.0049	0.500000	0.5000	0.500000	246	
54	Single HxCDF	passed	40.99	12350	A	14868	A	0.0047	0.500000	0.5000	0.500000	272	
55	Single HxCDF	passed	42.02	9725	A	13333	A	0.0056	0.500000	0.5000	0.500000	225	
56	Single HxCDD	passed	41.31	8097	A	10153	A	0.0065	0.500000	0.5000	0.500000	192	
57	Single HxCDD	passed	41.19	7743	A	9437	A	0.0069	0.500000	0.5000	0.500000	189	
58	Single HxCDD	passed	41.63	7595	A	9044	A	0.0071	0.500000	0.5000	0.500000	168	
59	Single HpCDF	passed	43.75	12815	A	13442	A	0.0034	0.500000	0.5000	0.500000	365	
60	Single HpCDF	passed	45.56	12121	A	11358	A	0.0038	0.500000	0.5000	0.500000	325	

APPROVED
By uma9 at 11:21 am, 11/7/18

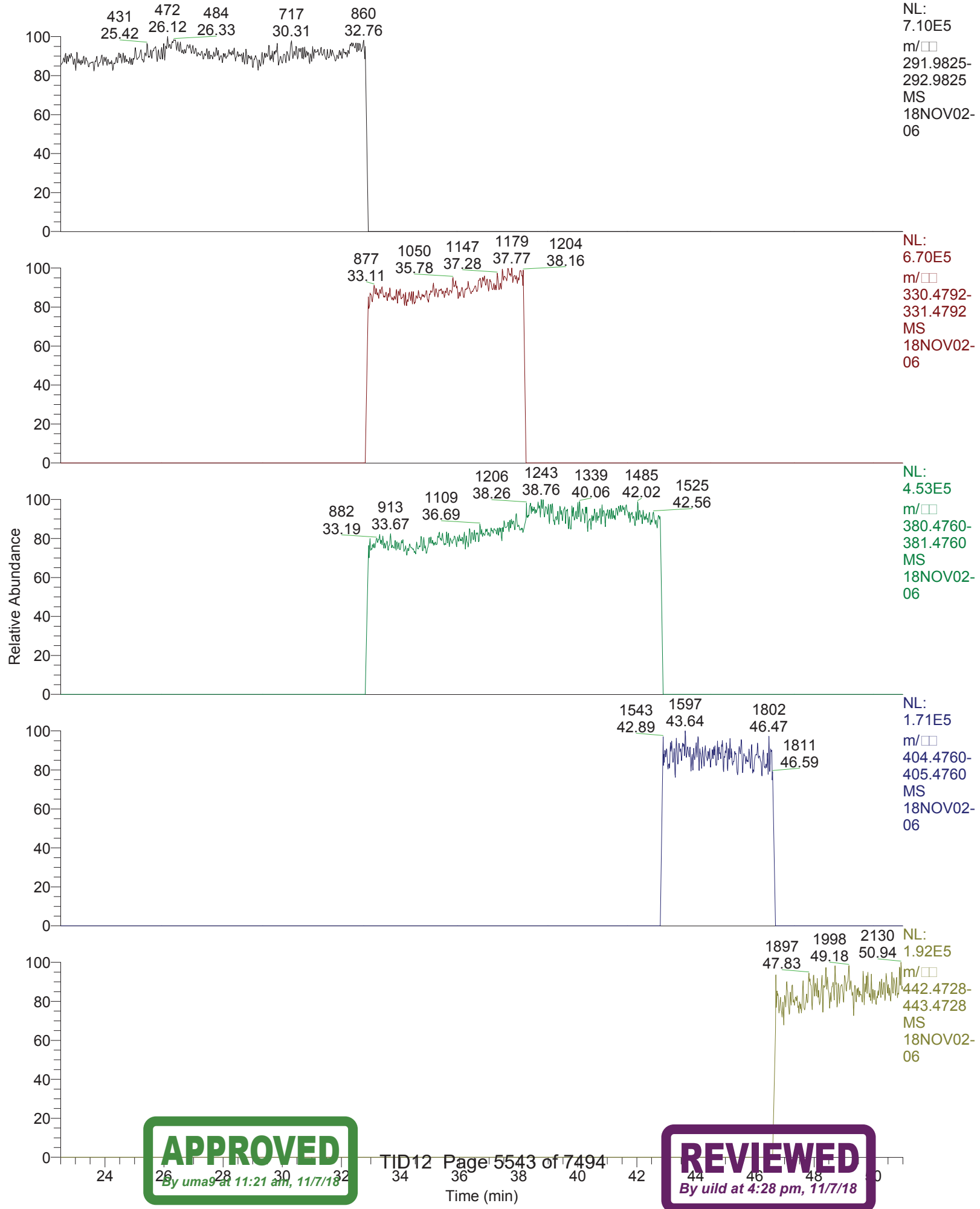
REVIEWED
By uild at 4:28 pm, 11/7/18

File Name: W:□18NOV02□18NOV02-06
Sample ID: CSL01

Acq. Data: 11/2/2018 2:38:41 PM
Sample Name: CALDF11837C
PFK Reference Loc□Mass Traces

Instrument ID: DF17280-18NOV02

RT: 22.50 - 51.00



APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

*** file opened Fri Nov 02 14:41:34 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 02-Nov-18 14:41:33

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 66b58c80-2866-4f97-9343-51e7a865048d

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

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  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
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MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS           97.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0003   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ         1246.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS            216.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           191.0000   EXSBR           -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             232.6644   FMII           50.0000   FQUAD            7.6000
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0181   FVINLET         0.0428   FVSRC            0.0329
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII           500.0000
 LMASS           97.0000   LKM           442.9723   MASS            97.0000
 MDAC        1426781.7688  MRANGE       1311.4489   NSAM           200.0000
 NSCAN         2159.0000   NSMAX           2.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER          -1.0000   RECURR          0.9822   RELEN            0.0000
 RES          11457.7460   RPUSHER        -1.1062   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0227   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0019   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          97.0000   XLENS_POT      752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM        2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.6e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10269.
MID Time Window 2: Resolution is 10662.
MID Time Window 3: Resolution is 10870.
MID Time Window 4: Resolution is 10321.
```

```
MID Time Window 5: Resolution is 11177.
MID Time Window 6: Resolution is 11457.

Amplifier Offset: 91.


*** File closed Fri Nov 02 15:32:34 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 15:41
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-07.quan
Data	w:\18nov02\18nov02-07.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.09	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.05	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.11	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.76	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	
16	OCDD	48.02	passed	passed	passed	passed	passed	passed	
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.50	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.20	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.00	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.07	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.02	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.36	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.16	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.28	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.73	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.09	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.05	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	44.97	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.11	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.76	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.55	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 15:41
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-07.quan
Data	w:\18nov02\18nov02-07.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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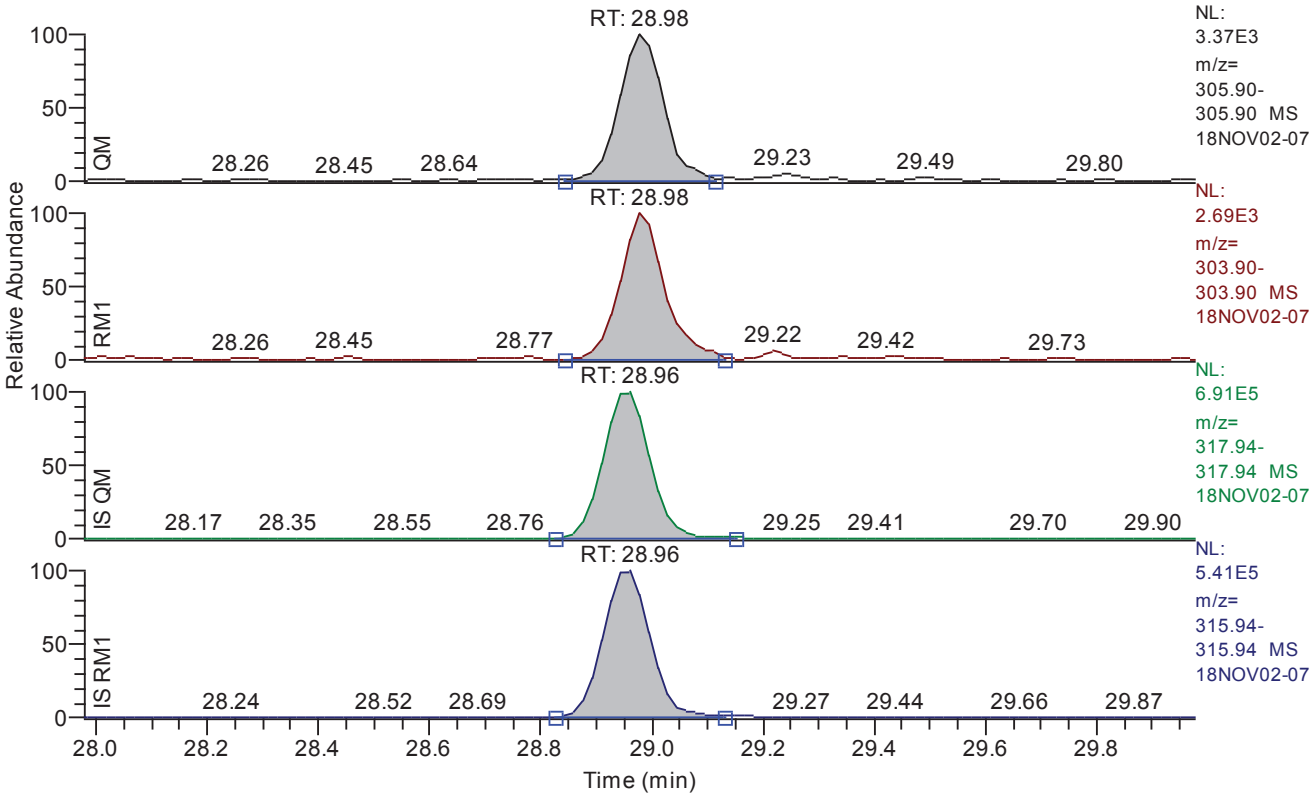
Chromatogram

RT: 27.98 - 29.98 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	18889
QM Integration Mode	A
RM1 Area	15137
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	277
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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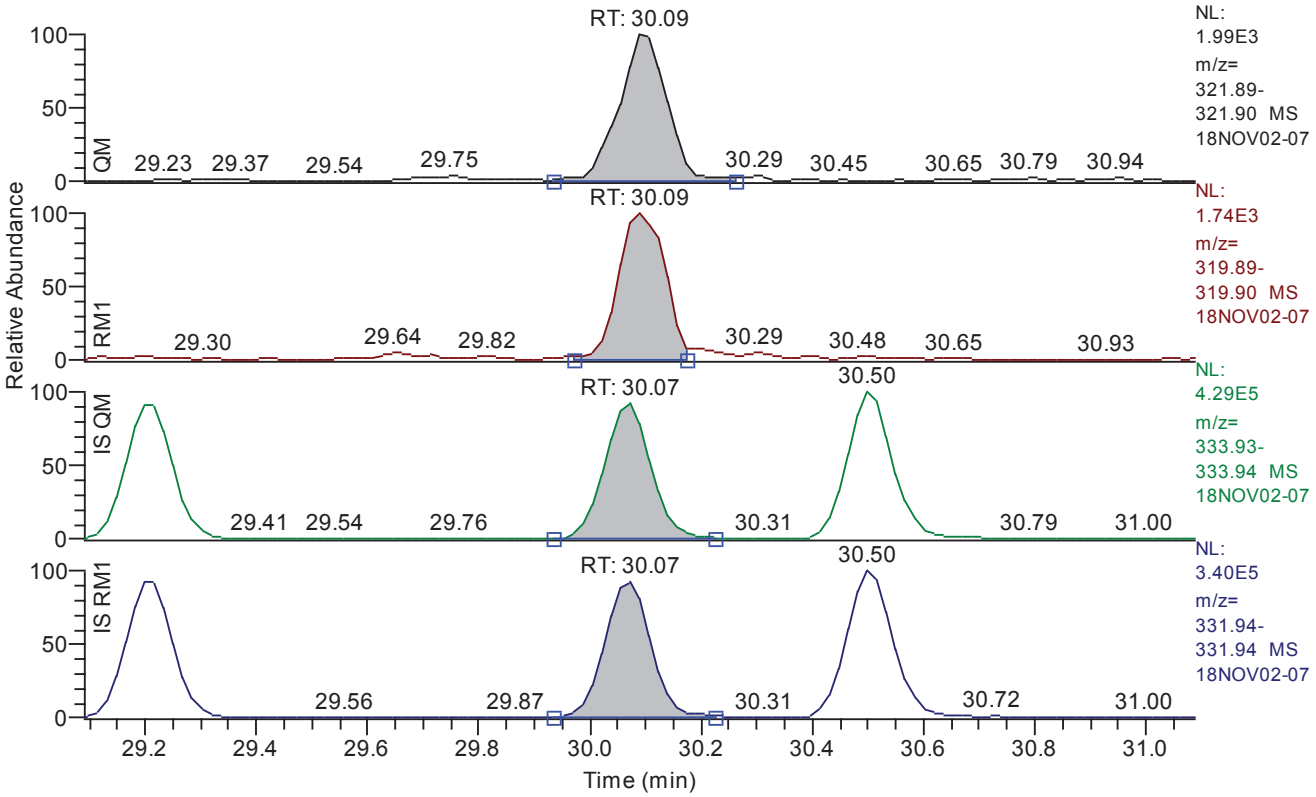
Chromatogram

RT: 29.09 - 31.09 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.09
QM Area	11824
QM Integration Mode	A
RM1 Area	10071
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	259
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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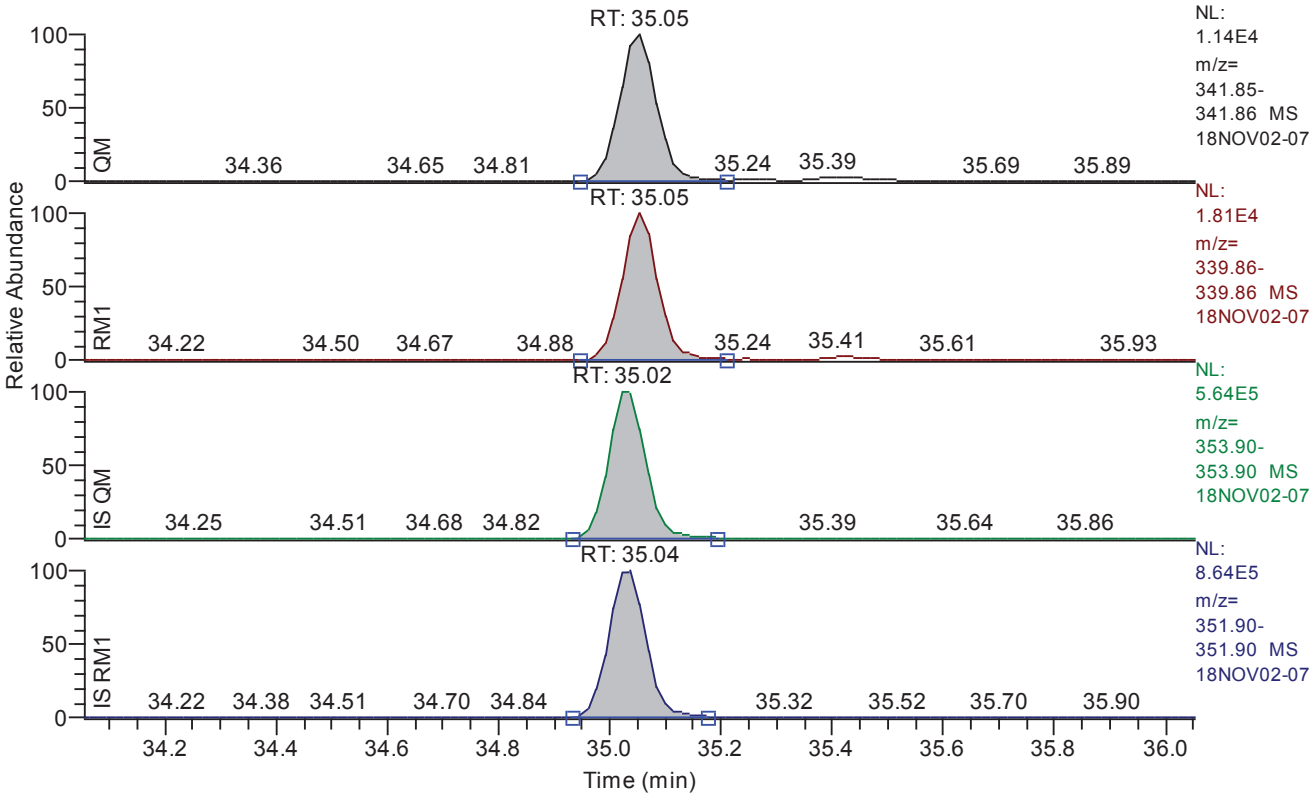
Chromatogram

RT: 34.05 - 36.05 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.05
QM Area	53035
QM Integration Mode	A
RM1 Area	81362
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1074
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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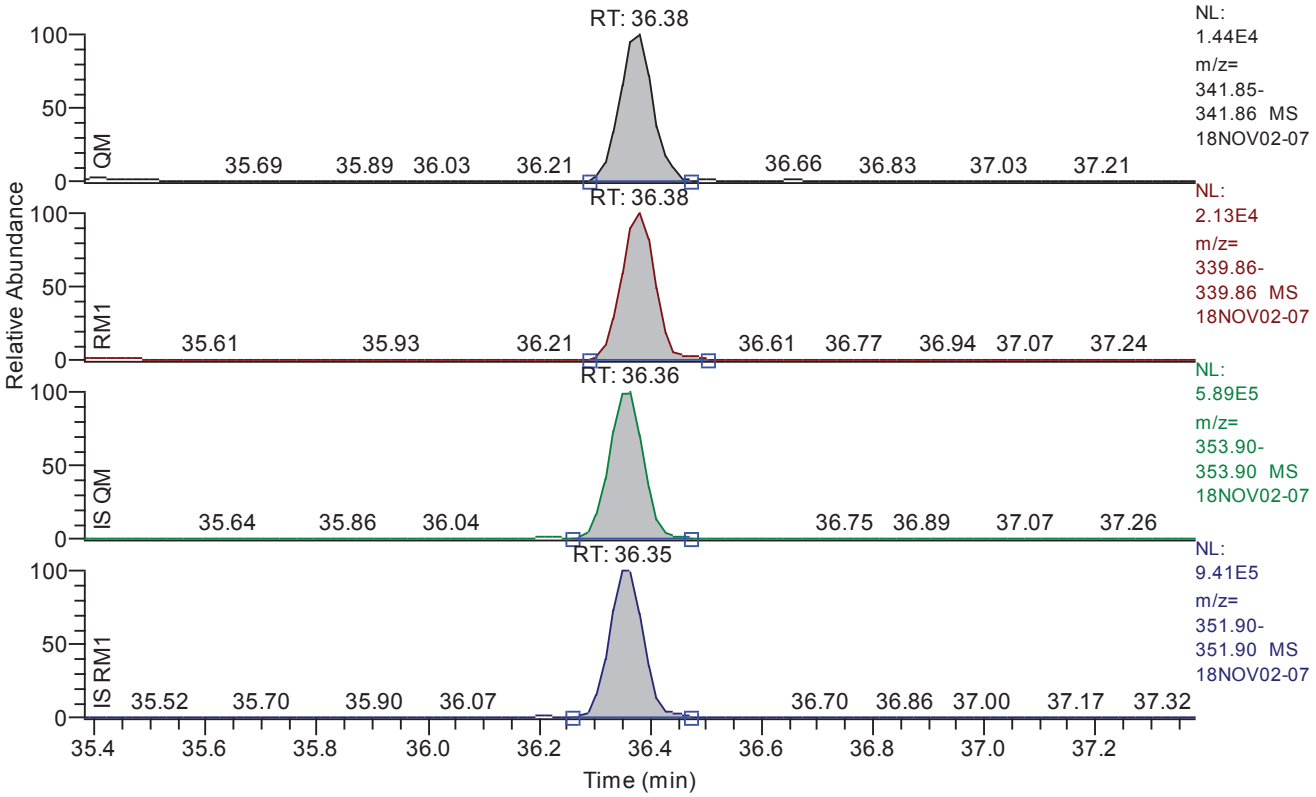
Chromatogram

RT: 35.38 - 37.38 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	59566
QM Integration Mode	A
RM1 Area	89844
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1298
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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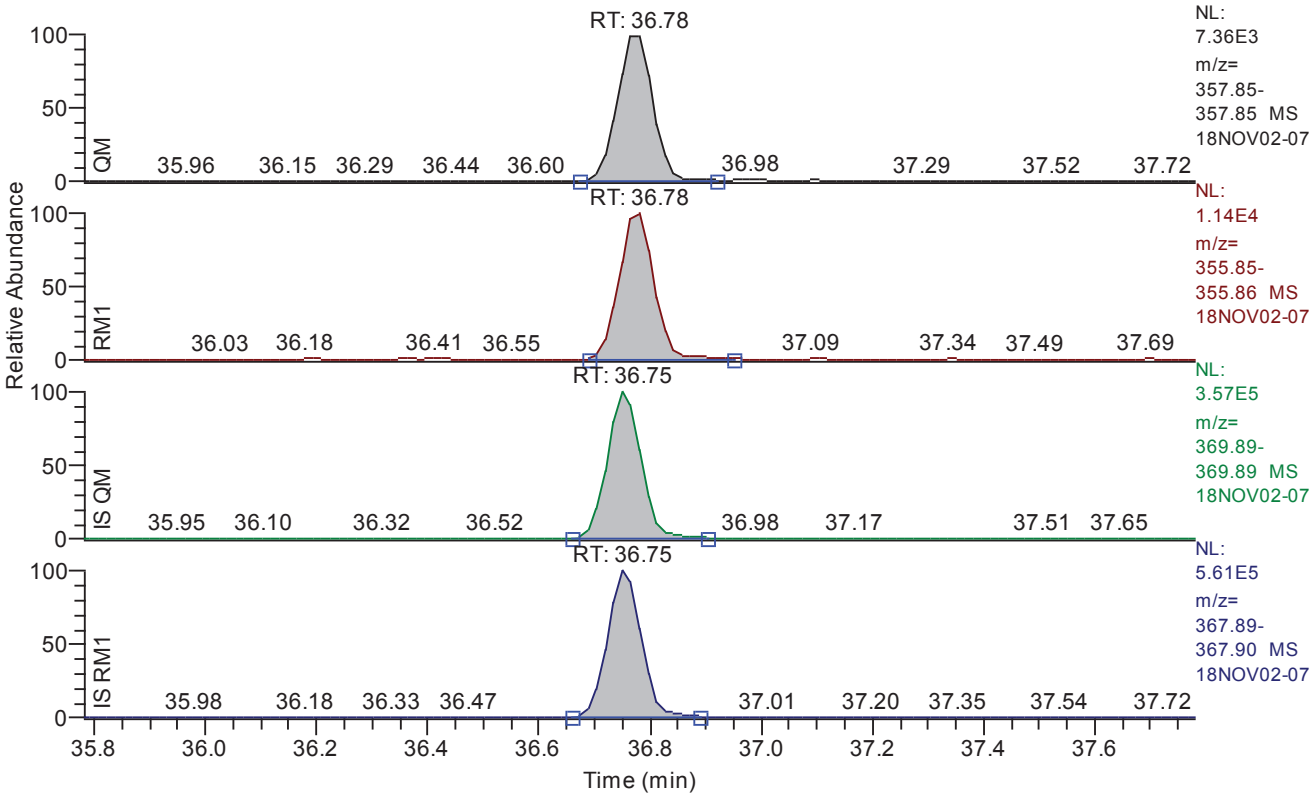
Chromatogram

RT: 35.78 - 37.78 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	32744
QM Integration Mode	A
RM1 Area	49561
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	519
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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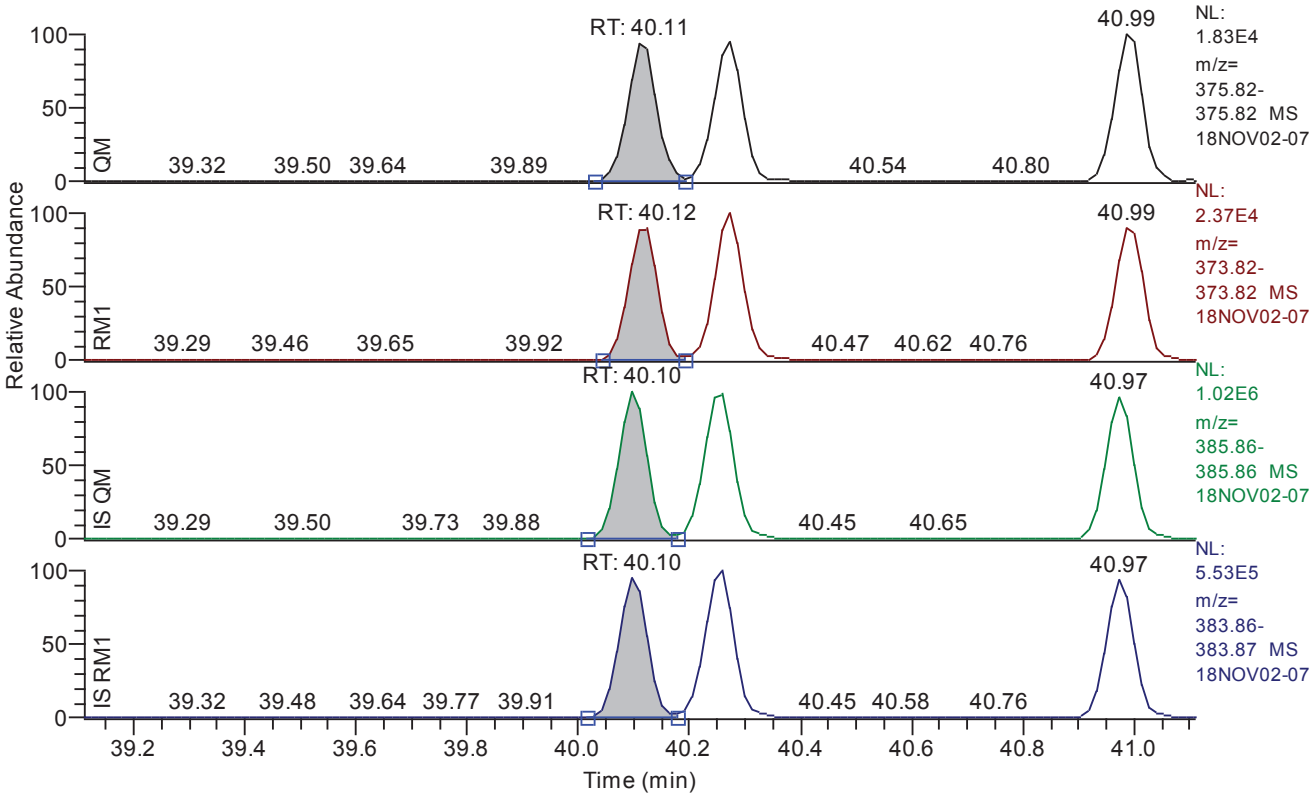
Chromatogram

RT: 39.11 - 41.11 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.11
QM Area	62727
QM Integration Mode	A
RM1 Area	78714
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1009
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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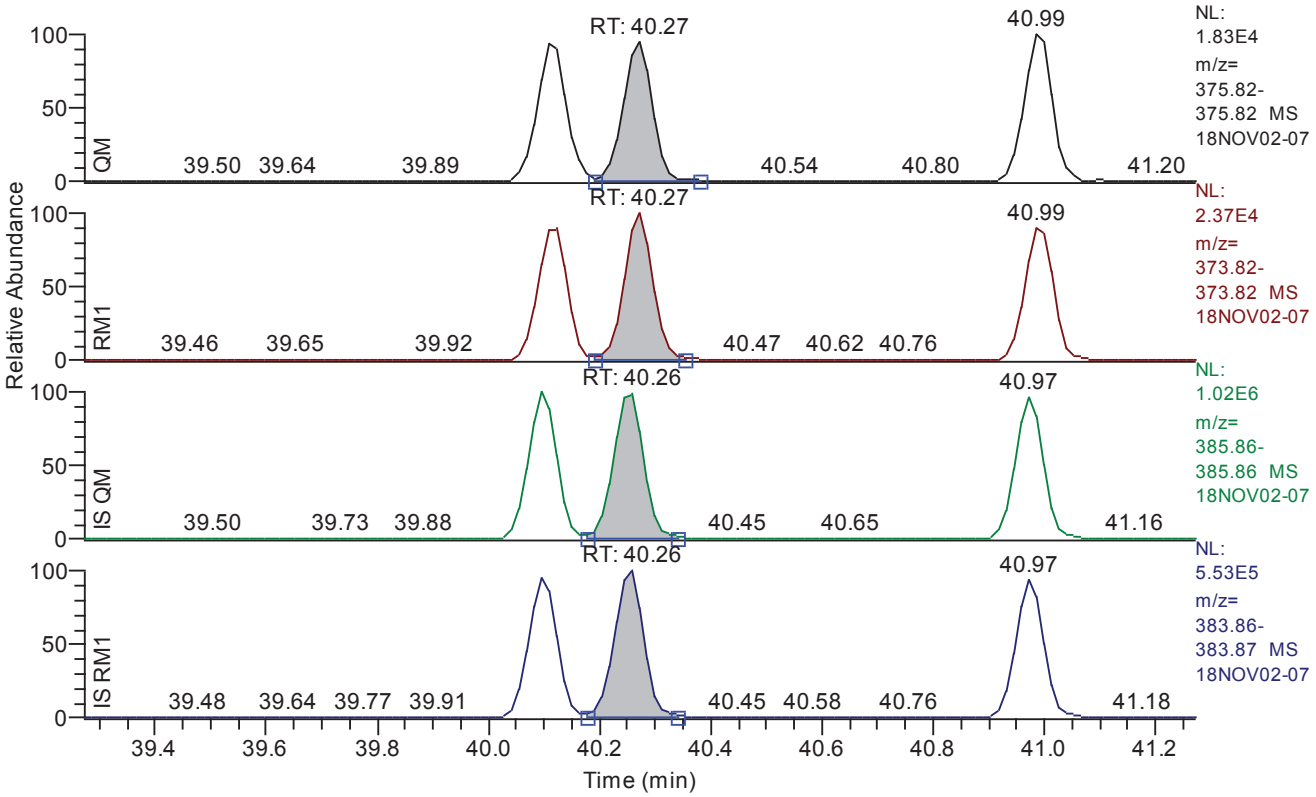
Chromatogram

RT: 39.27 - 41.27 SM: 3G



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	63342
QM Integration Mode	A
RM1 Area	84023
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1076
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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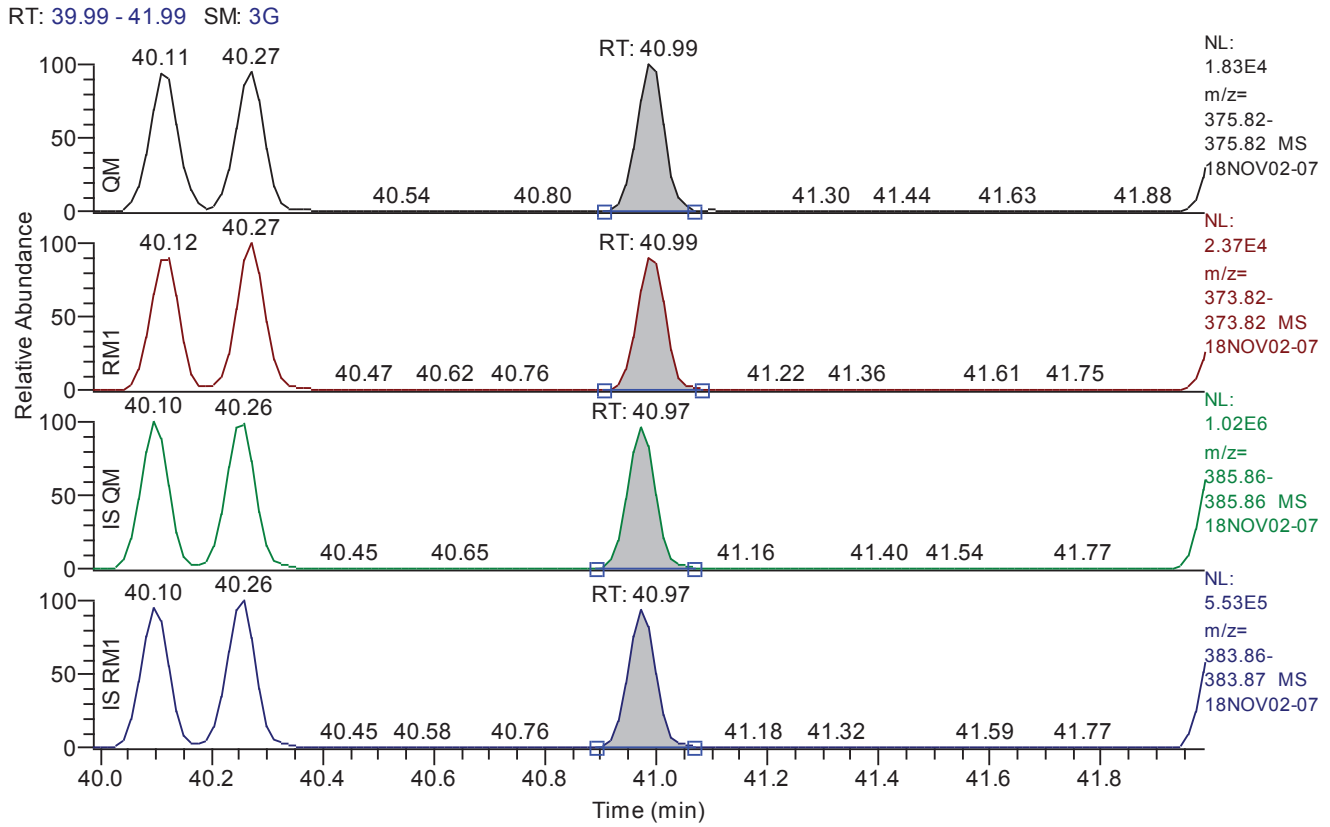
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	64068
QM Integration Mode	A
RM1 Area	76525
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0059
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1037
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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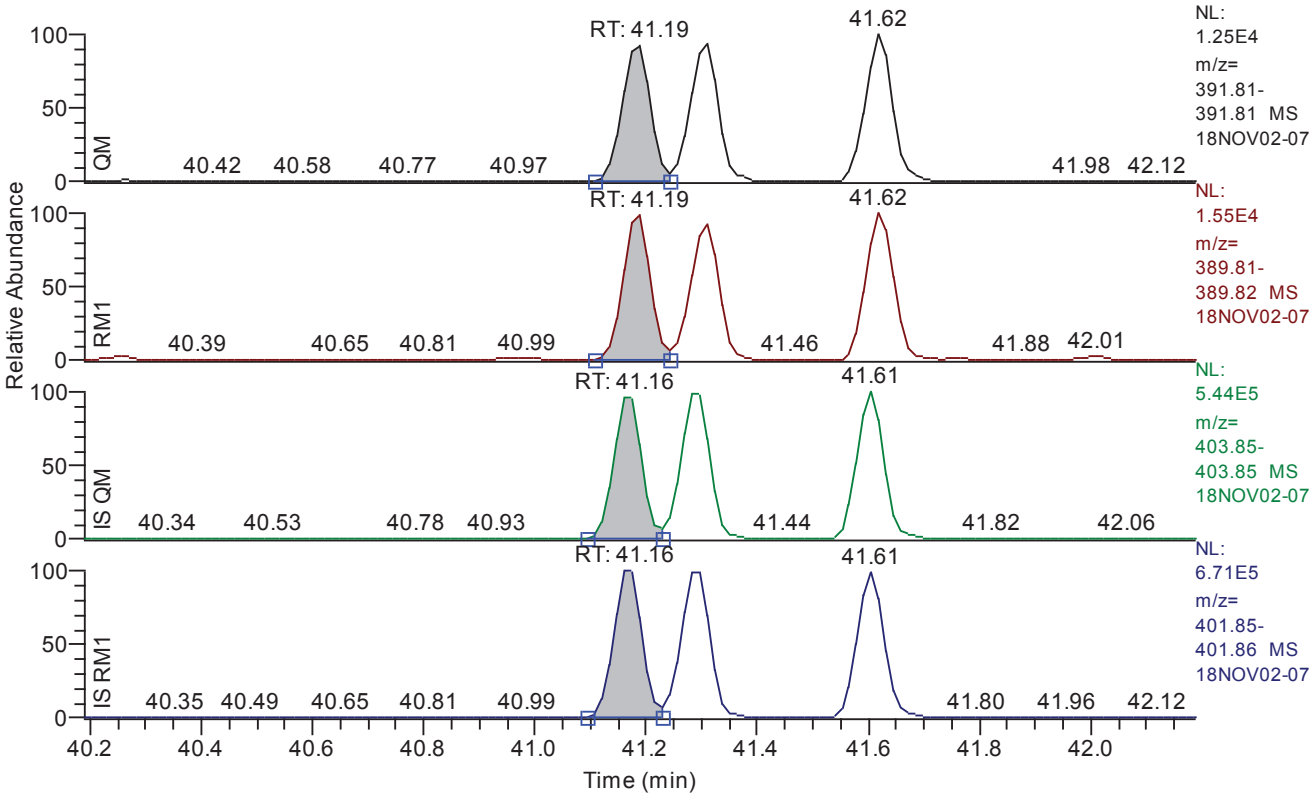
Chromatogram

RT: 40.19 - 42.19 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	40775
QM Integration Mode	A
RM1 Area	52005
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	933
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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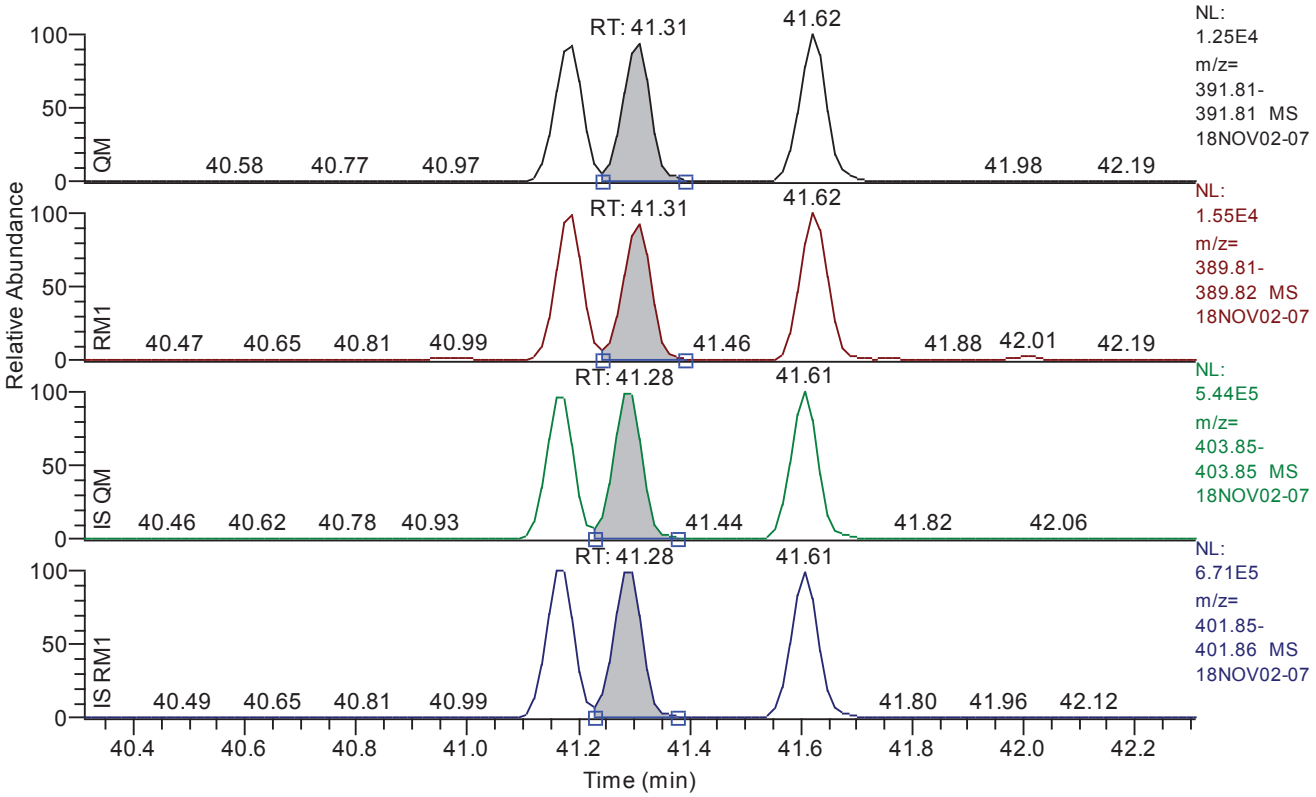
Chromatogram

RT: 40.31 - 42.31 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	40877
QM Integration Mode	A
RM1 Area	50490
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	904
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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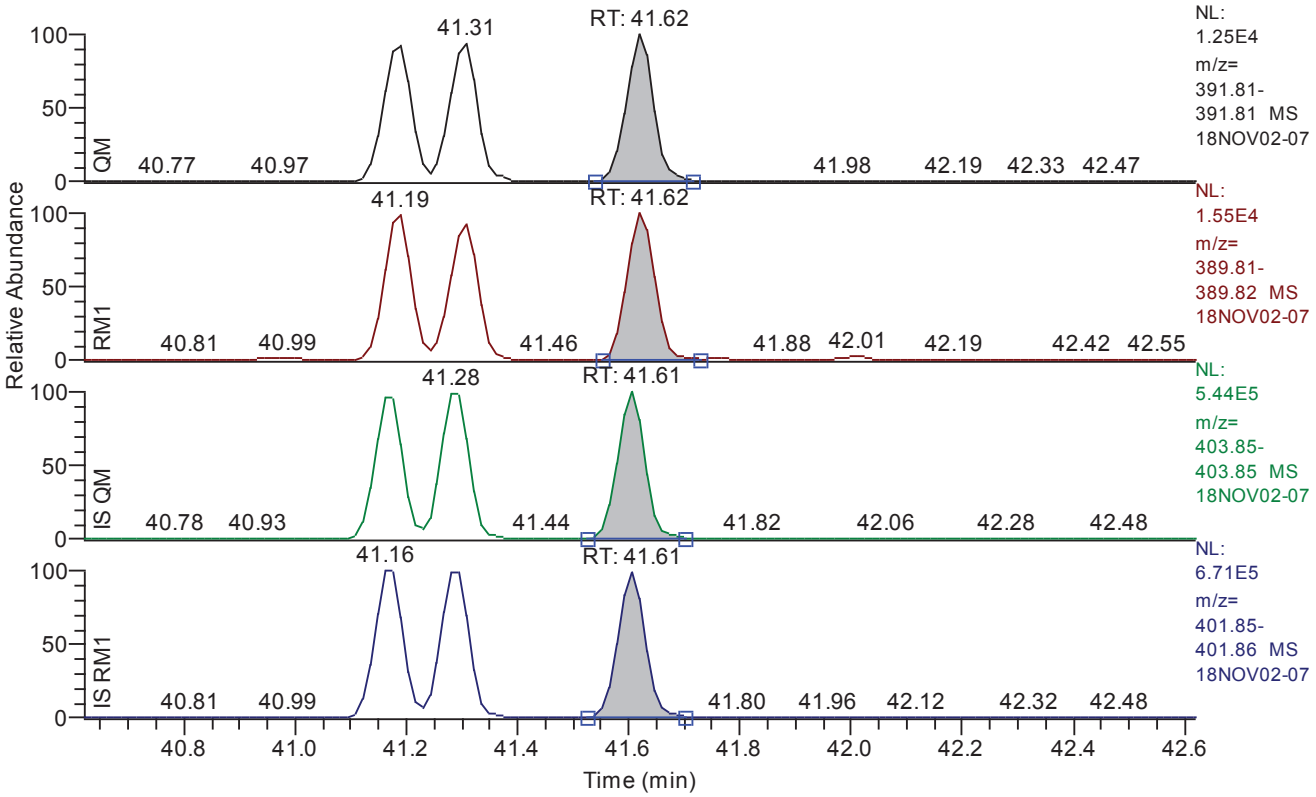
Chromatogram

RT: 40.62 - 42.62 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	42508
QM Integration Mode	A
RM1 Area	54608
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	970
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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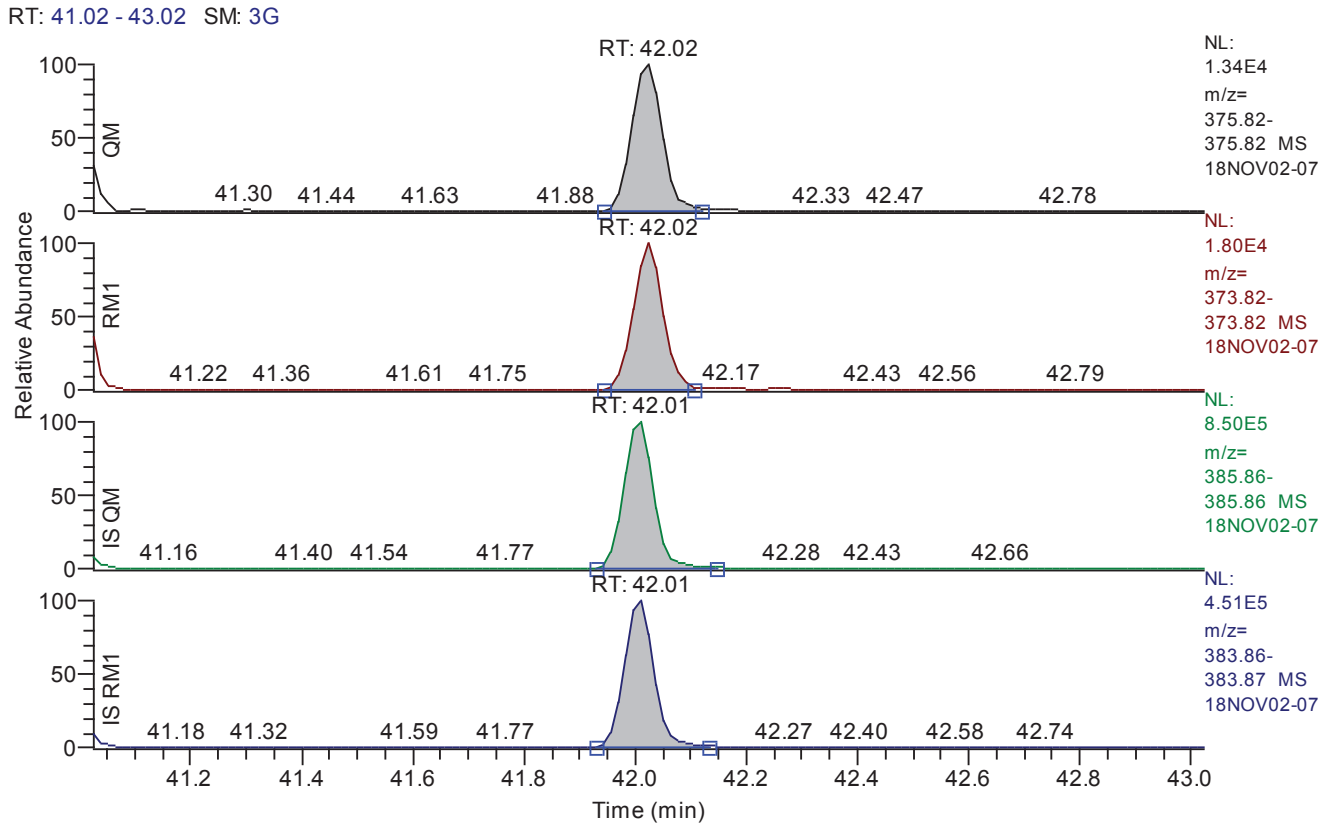
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	51309
QM Integration Mode	A
RM1 Area	66724
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	821
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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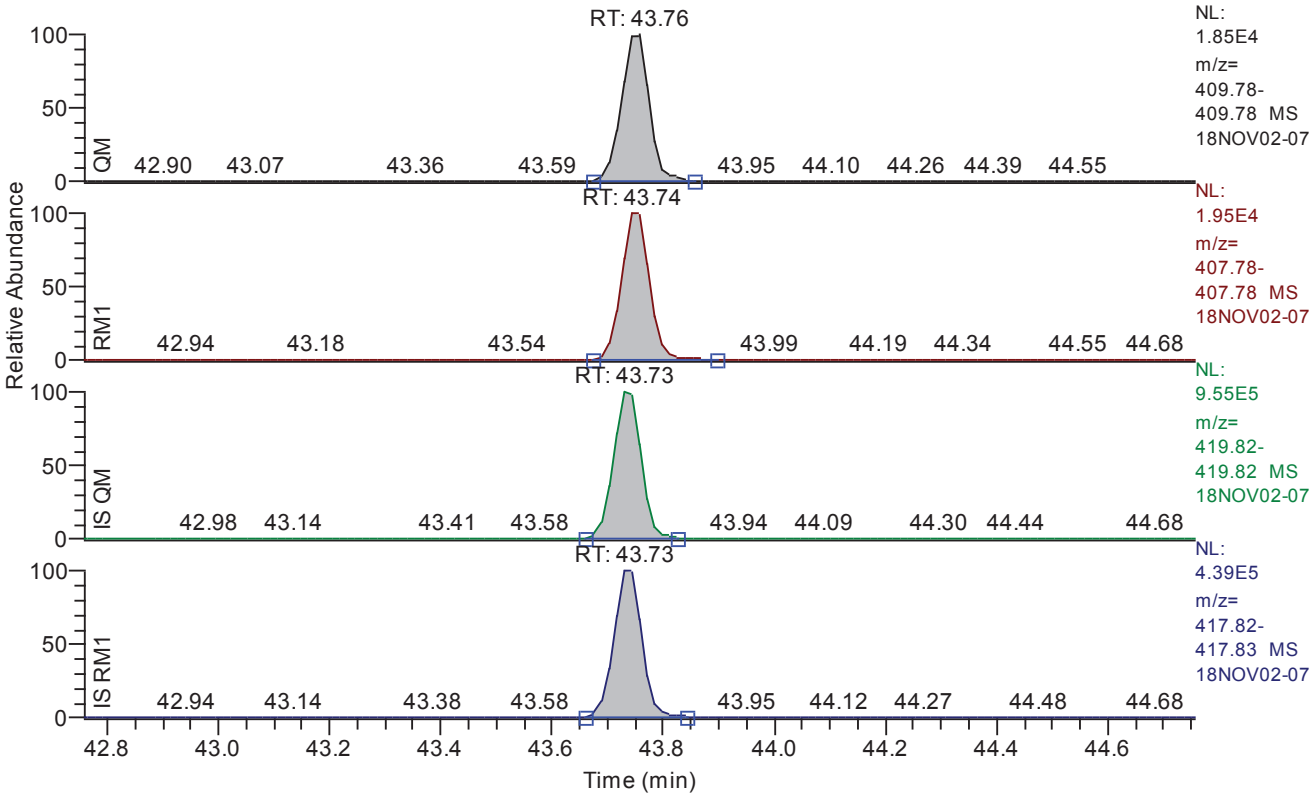
Chromatogram

RT: 42.76 - 44.76 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.76
QM Area	65682
QM Integration Mode	A
RM1 Area	69915
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1037
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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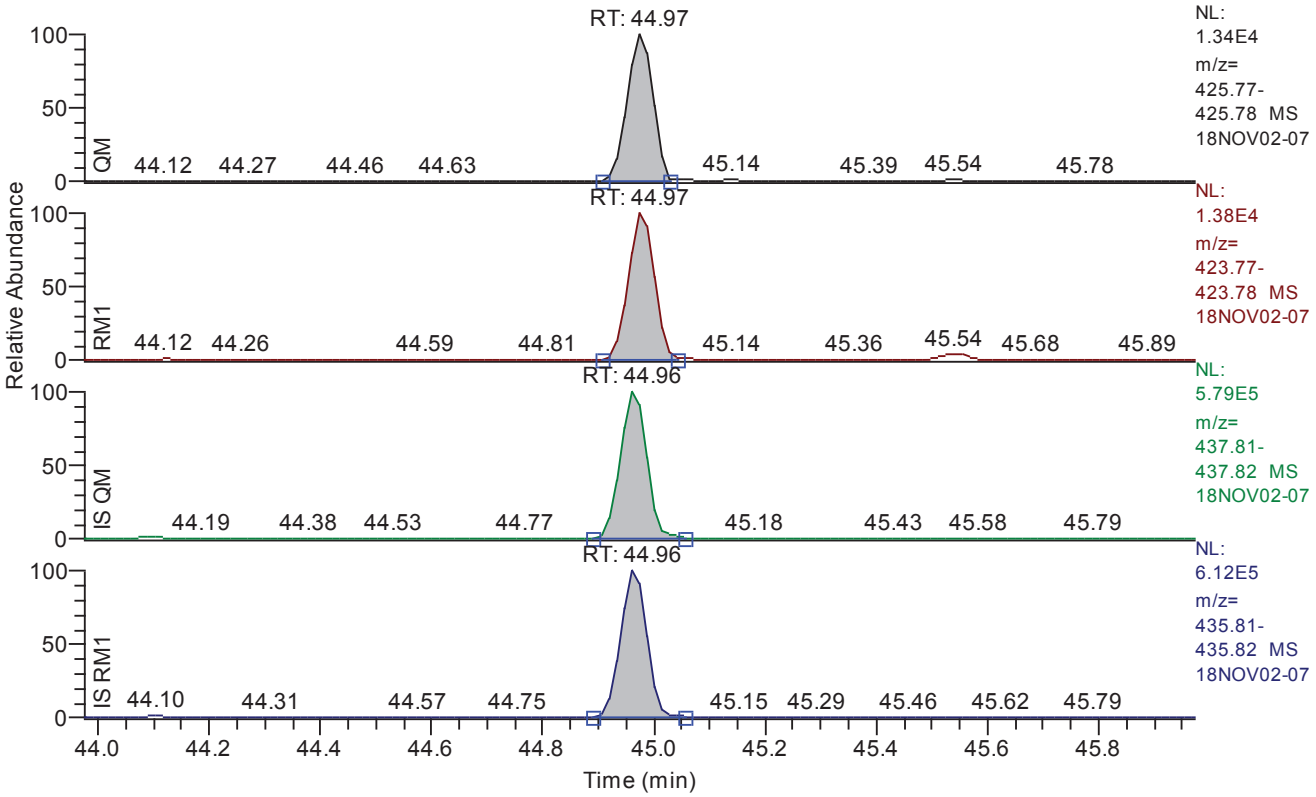
Chromatogram

RT: 43.97 - 45.97 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.97
QM Area	44392
QM Integration Mode	A
RM1 Area	46157
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	912
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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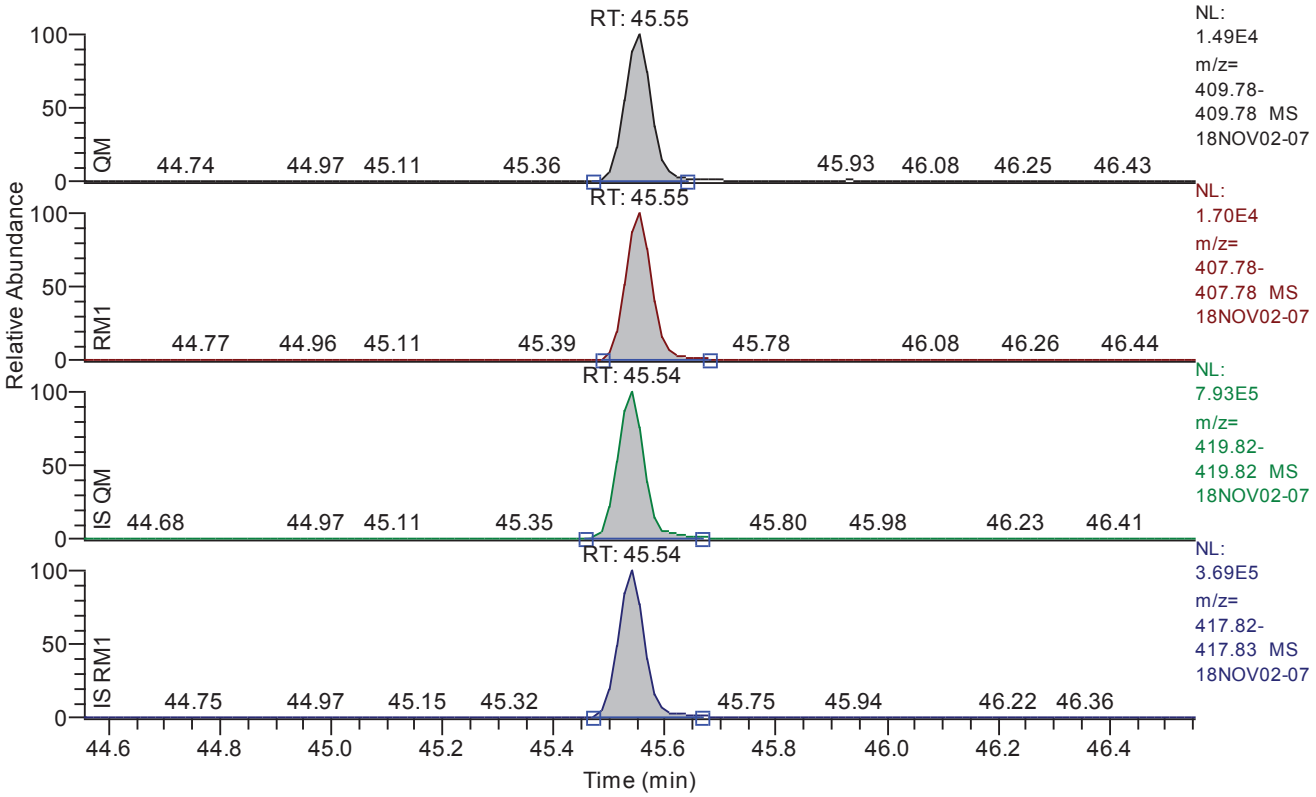
Chromatogram

RT: 44.55 - 46.55 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.55
QM Area	51482
QM Integration Mode	A
RM1 Area	58217
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	873
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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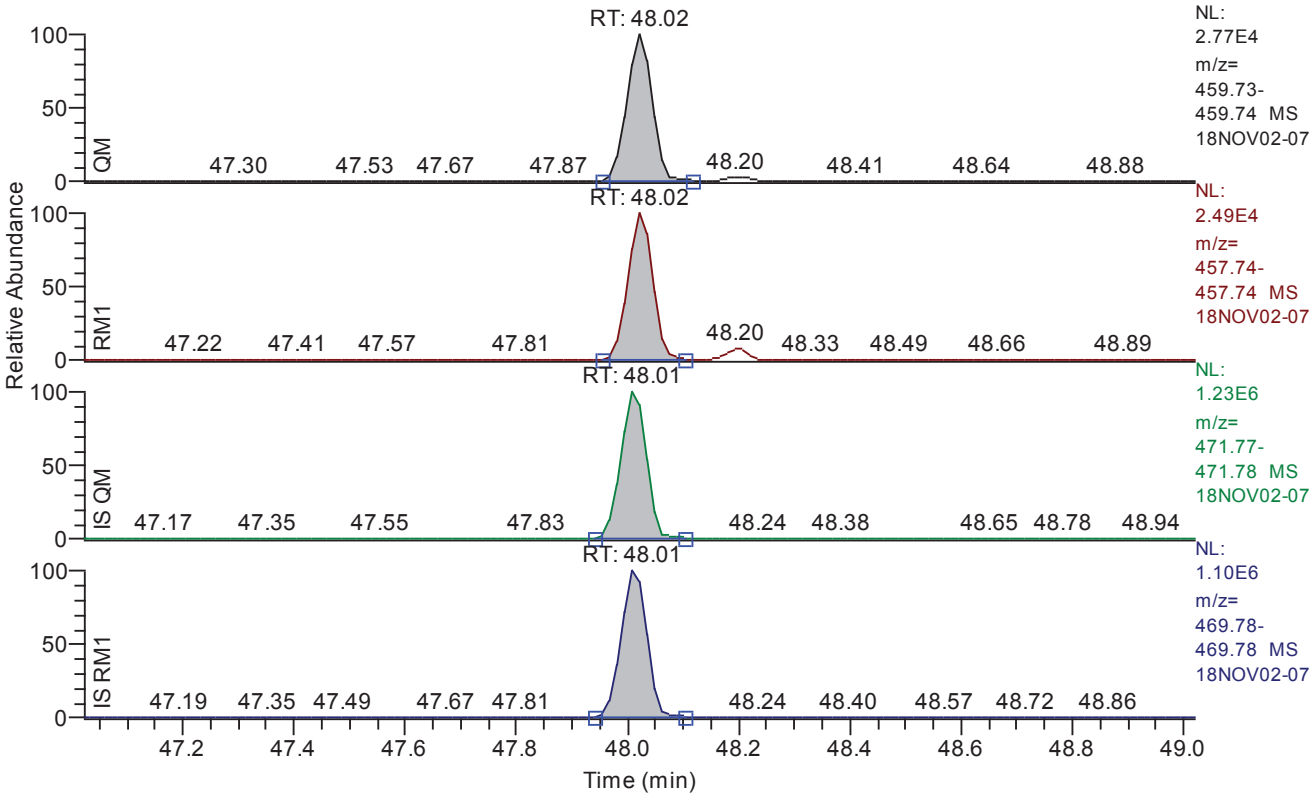
Chromatogram

RT: 47.02 - 49.02 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.02
QM Area	87389
QM Integration Mode	A
RM1 Area	77278
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0100
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1281
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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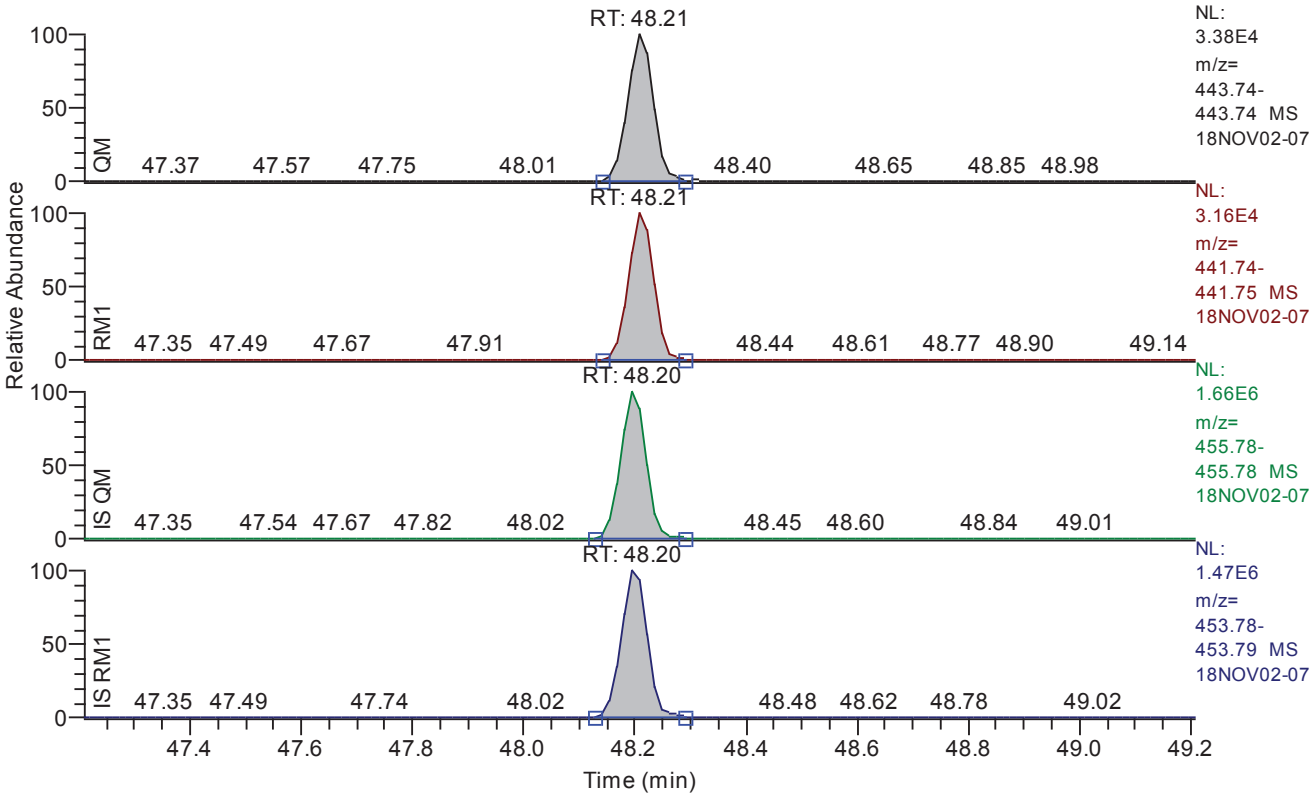
Chromatogram

RT: 47.21 - 49.21 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.21
QM Area	107784
QM Integration Mode	A
RM1 Area	98952
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1921
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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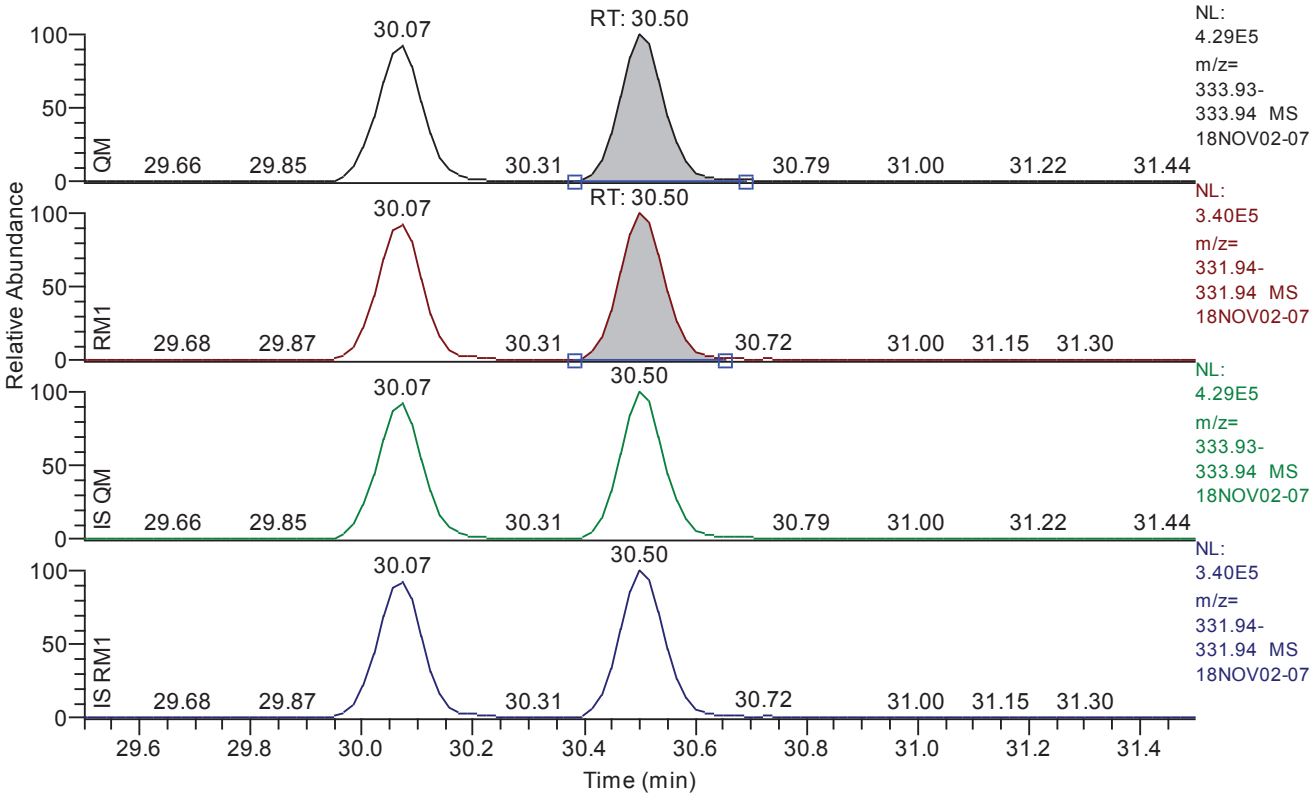
Chromatogram

RT: 29.50 - 31.50 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.50
QM Area	2447261
QM Integration Mode	A
RM1 Area	1962278
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0202
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	12733
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 15:41
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-07.quan
Data	w:\18nov02\18nov02-07.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

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By uild at 4:28 pm, 11/7/18

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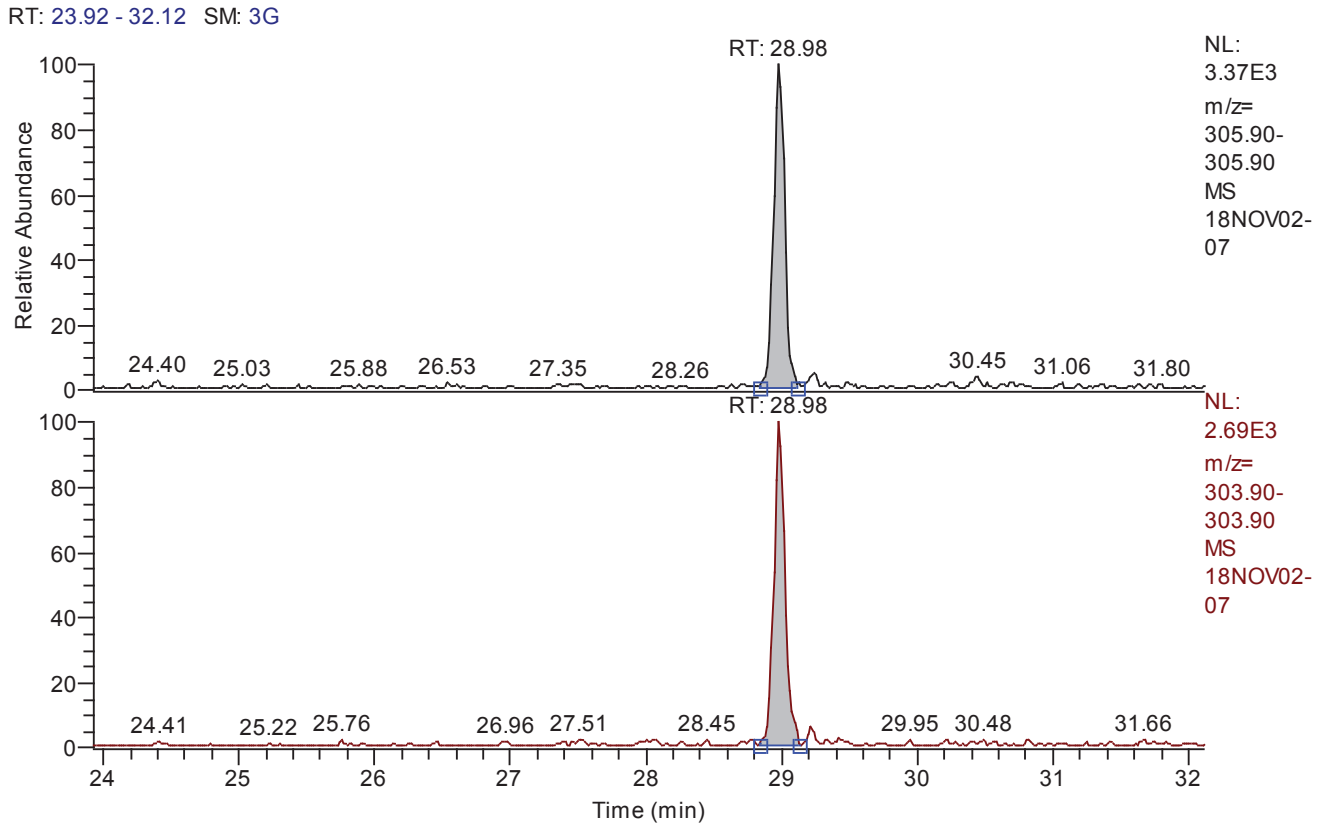
Chromatogram



Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	18889
QM Integration Mode	A
RM1 Area	15137
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	277
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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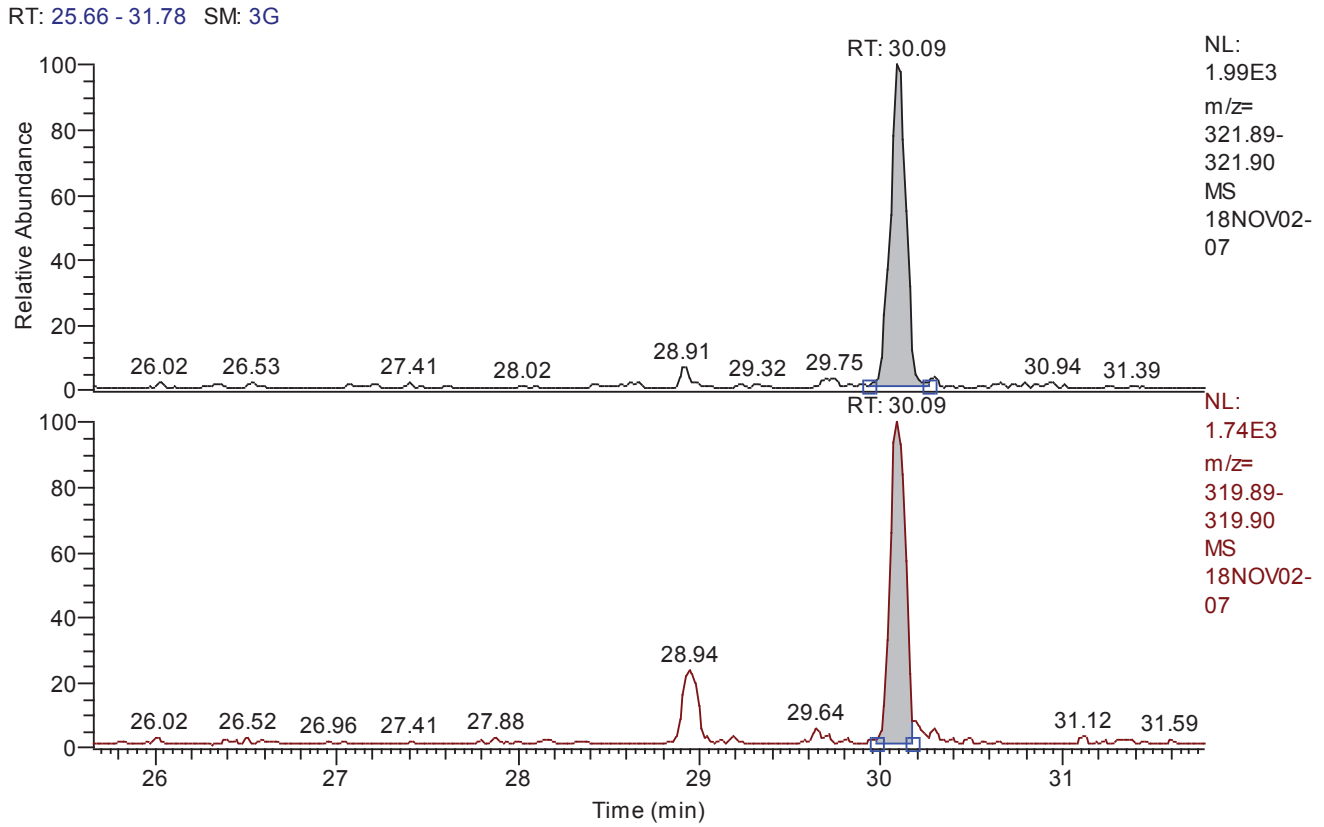
Chromatogram



Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	11824
QM Integration Mode	A
RM1 Area	10071
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	259
Client Flags	
Status Overview	passed (1)
Status Info	

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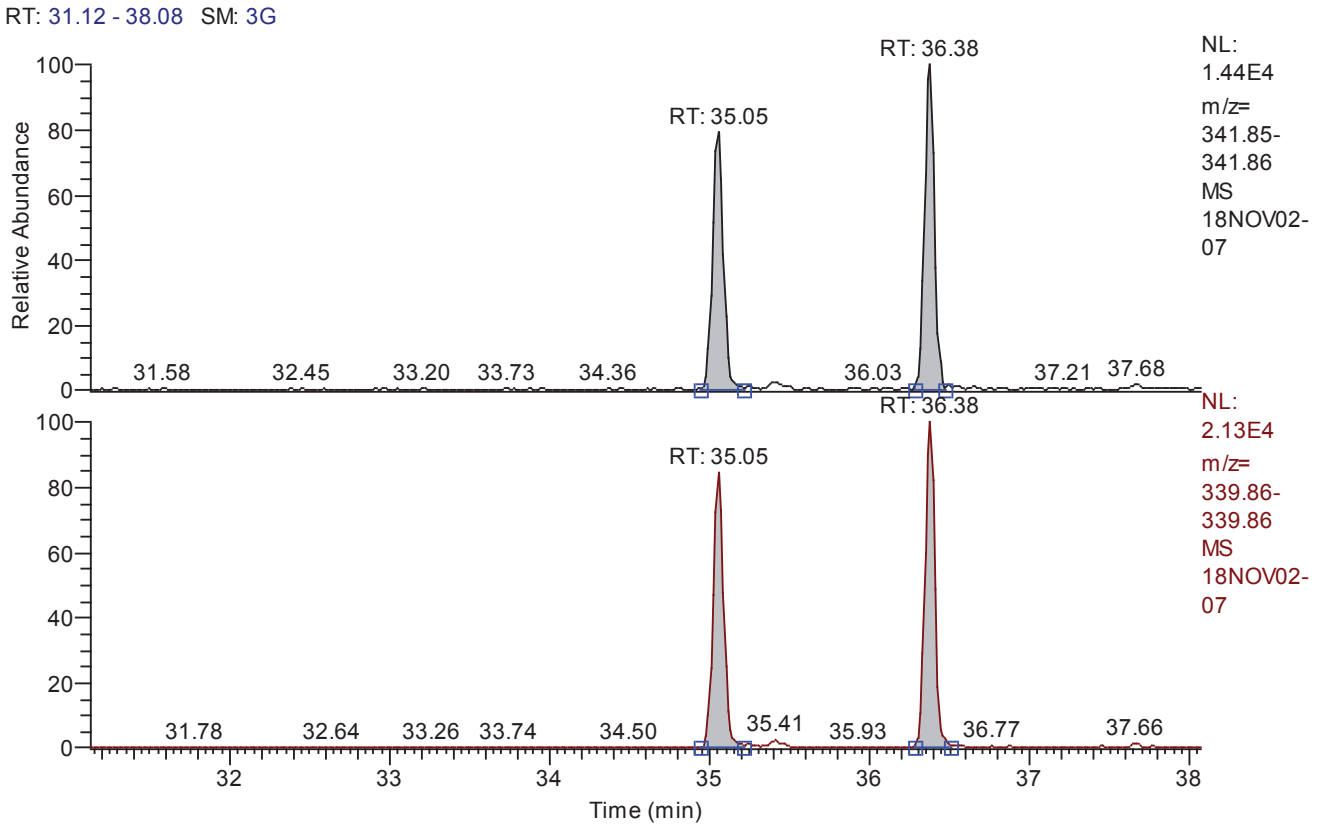
Chromatogram



Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	112601
QM Integration Mode	A
RM1 Area	171206
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0054
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1186
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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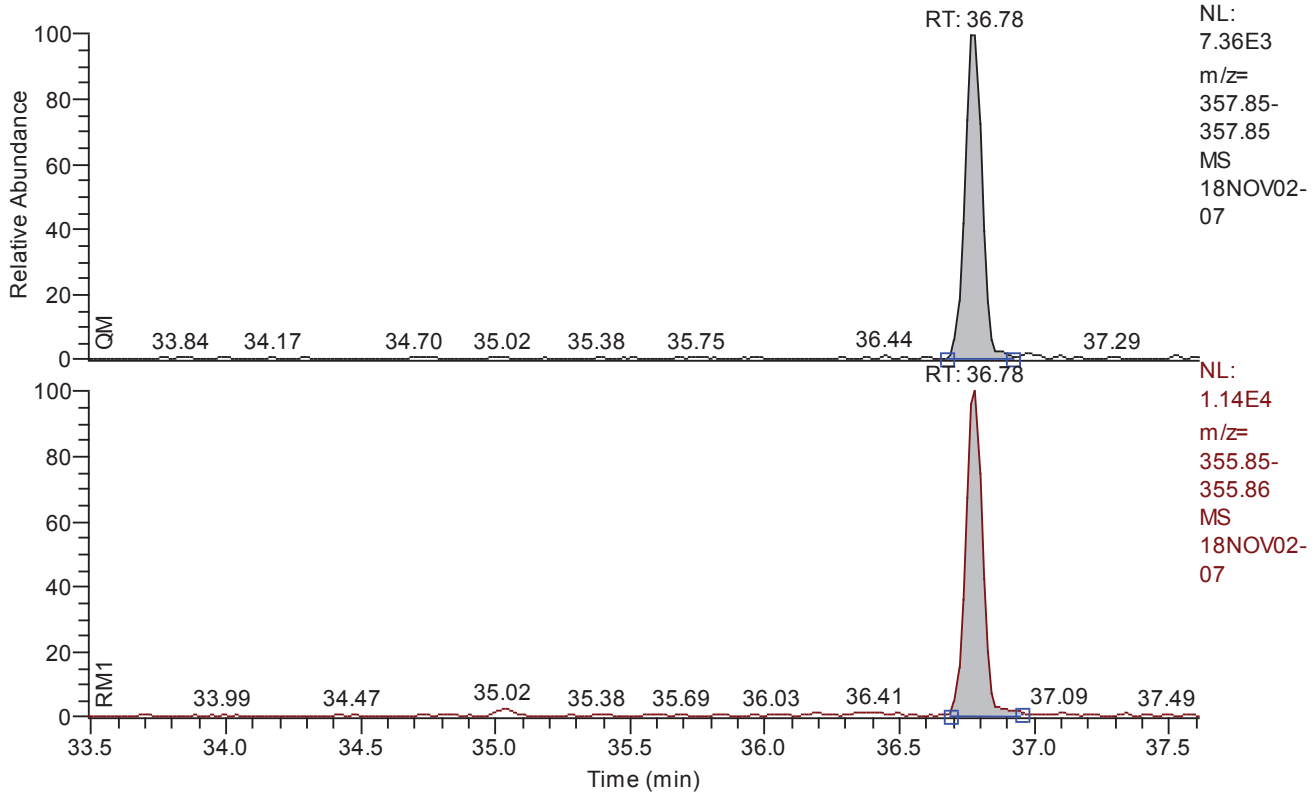
Chromatogram

RT: 33.49 - 37.61 SM: 3G



Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	32744
QM Integration Mode	A
RM1 Area	49561
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	519
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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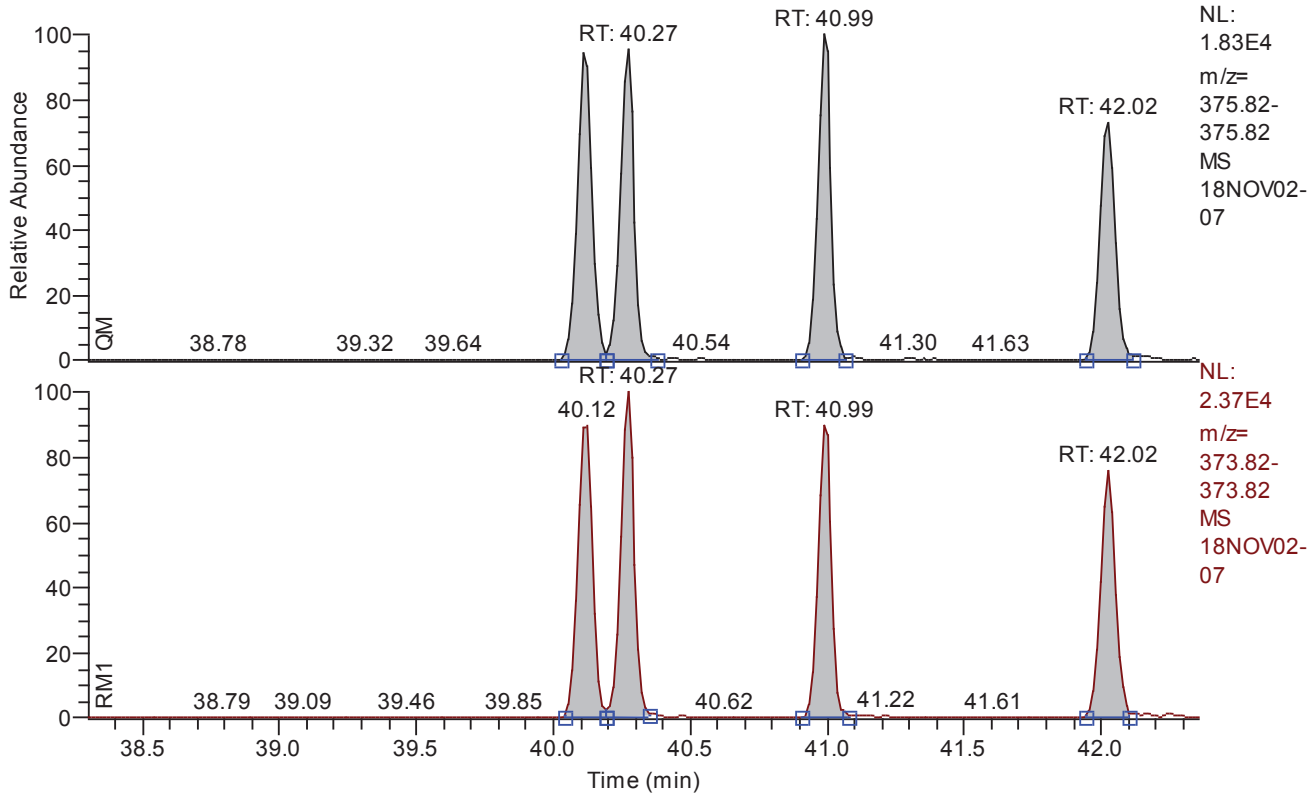
Chromatogram

RT: 38.30 - 42.36 SM: 3G



Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	241446
QM Integration Mode	A
RM1 Area	305986
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	10.0000
Signal-to-Noise	986
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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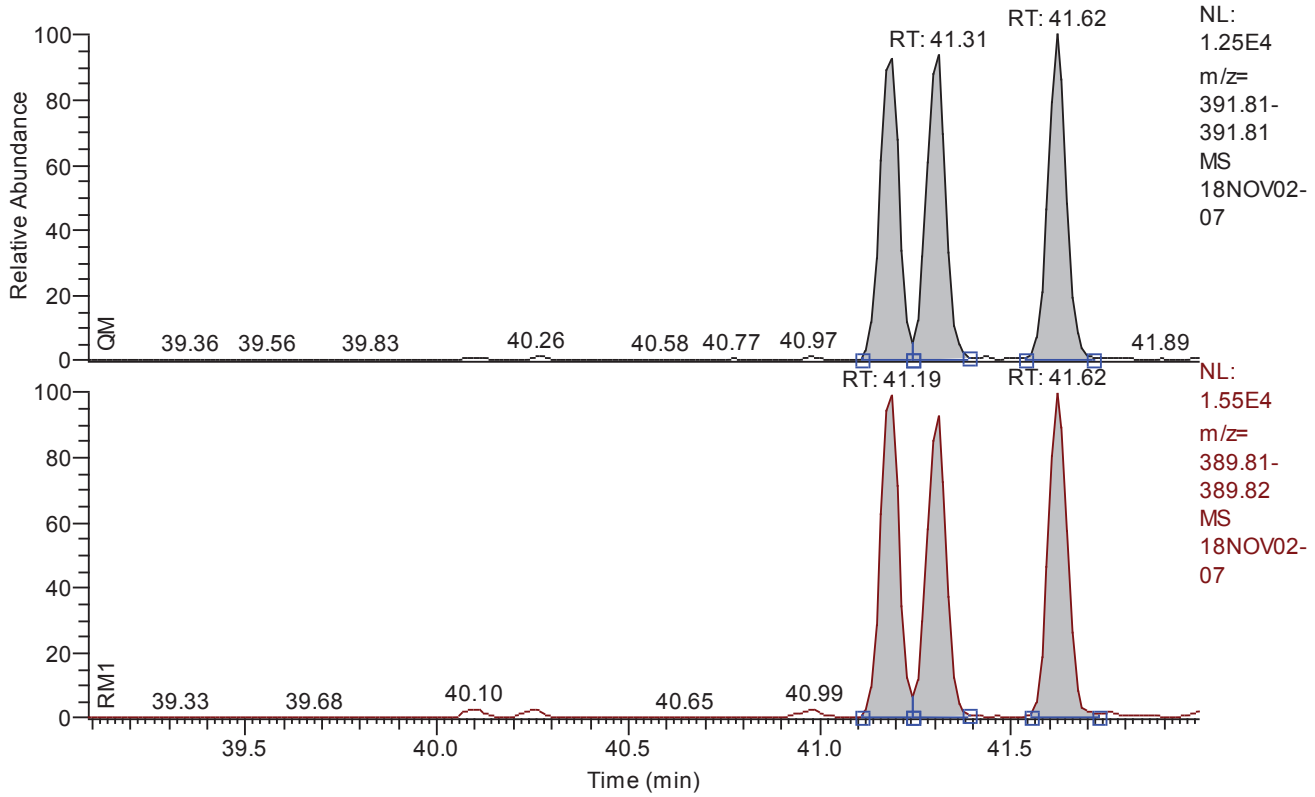
Chromatogram

RT: 39.09 - 41.99 SM: 3G



Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	124161
QM Integration Mode	A
RM1 Area	157103
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	7.5000
Signal-to-Noise	935
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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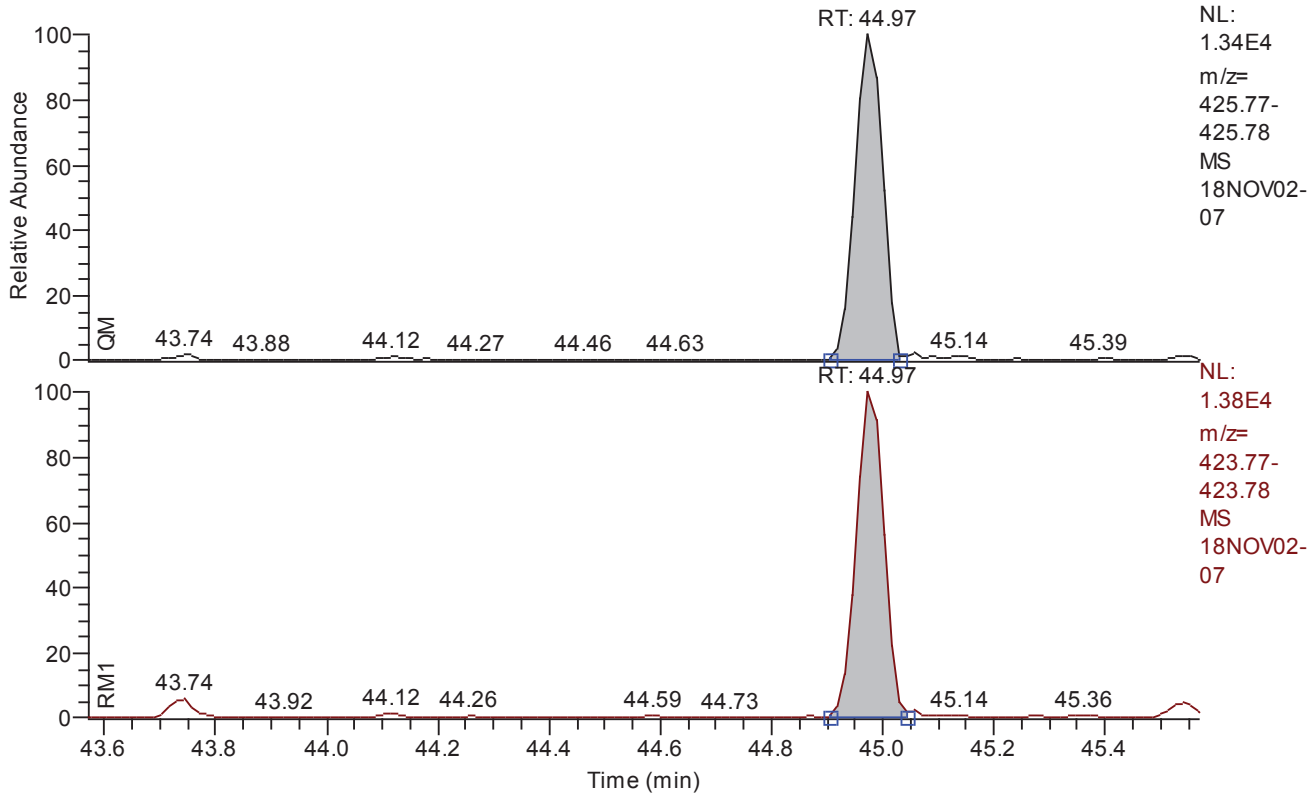
Chromatogram

RT: 43.57 - 45.57 SM: 3G



Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	44392
QM Integration Mode	A
RM1 Area	46157
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	912
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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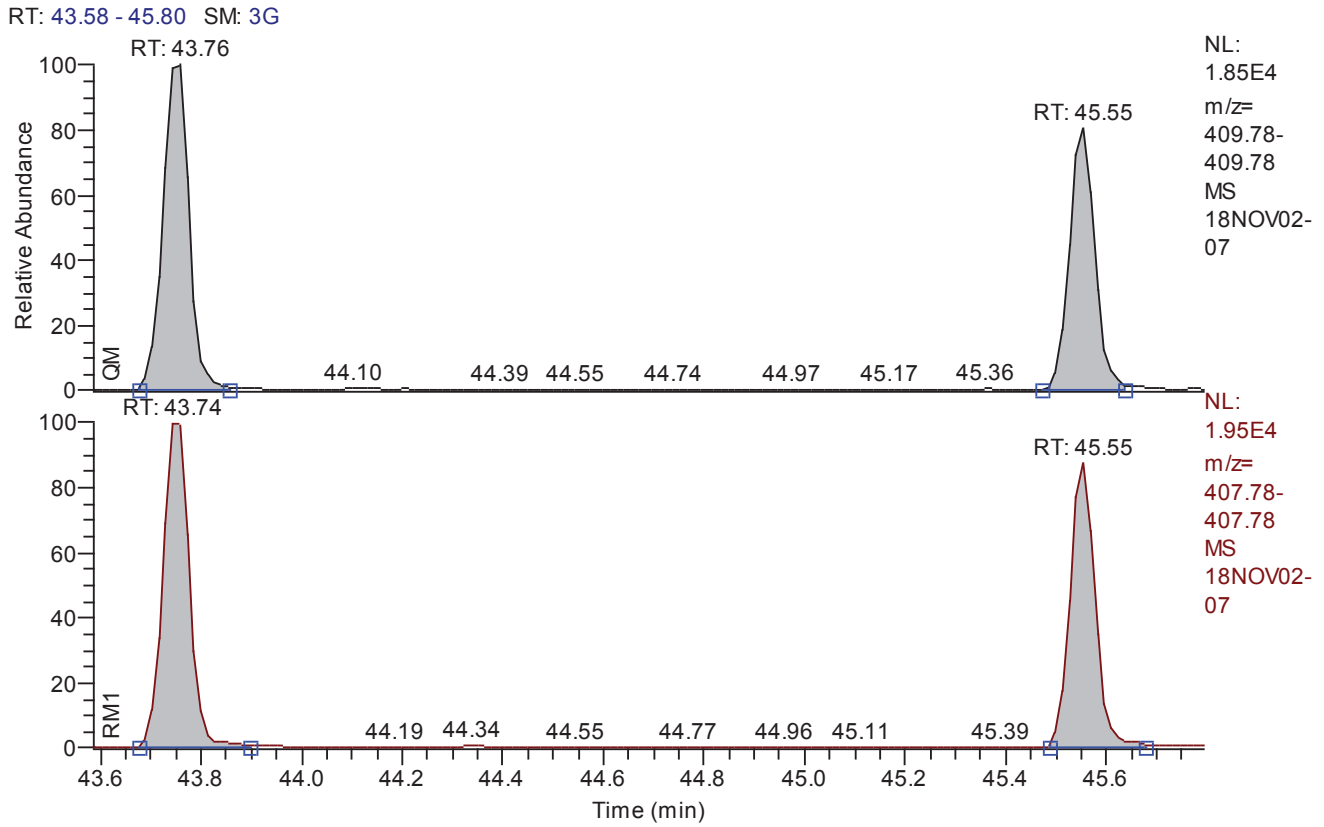
Chromatogram



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	117164
QM Integration Mode	A
RM1 Area	128132
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	5.0000
Signal-to-Noise	955
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.09	30.09	30.09	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.05	35.05	35.05	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.11	40.11	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.76	43.76	43.74	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.55	45.55	45.55	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.02	48.02	48.02	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.50	30.50	30.50	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.20	29.20	29.20	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.00	40.00	40.00	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.96	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.07	30.07	30.07	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.02	35.02	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.36	36.36	36.35	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.28	41.28	41.28	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.73	43.73	43.73	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.09	30.09	30.09	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.05	35.05	35.05	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.97	44.97	44.97	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	40.99	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.11	40.11	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.76	43.76	43.74	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.55	45.55	45.55	passed	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.8014	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.09	0.8518	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.05	1.5341	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5083	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.5136	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.11	1.2549	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.3265	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.1944	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2754	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2352	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2846	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.3004	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.76	1.0644	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.97	1.0398	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.55	1.1308	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.02	0.8843	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.9181	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.50	0.8018	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.20	0.7966	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.00	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7880	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.07	0.7984	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.02	1.5464	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.36	1.5945	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5594	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5175	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5351	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5268	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.16	1.2915	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.28	1.2505	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2295	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5272	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.73	0.4631	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0482	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.54	0.4583	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8964	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8979	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.8014	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.8518	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5205	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5136	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2673	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2653	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0398	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0936	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.8014	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.09	0.8518	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.5136	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5083	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.05	1.5341	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.97	1.0398	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.99	1.1944	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.11	1.2549	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.3265	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.3004	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2846	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2754	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2352	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.76	1.0644	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.55	1.1308	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	28.98	18889	A	15137	A	0.0048	0.500000	0.5000	0.500000	277	
2	2378-TCDD	passed	30.09	11824	A	10071	A	0.0048	0.500000	0.5000	0.500000	259	
3	12378-PeCDF	passed	35.05	53035	A	81362	A	0.0060	2.500000	2.5000	2.500000	1074	
4	23478-PeCDF	passed	36.38	59566	A	89844	A	0.0049	2.500000	2.5000	2.500000	1298	
5	12378-PeCDD	passed	36.78	32744	A	49561	A	0.0116	2.500000	2.5000	2.500000	519	
6	123478-HxCDF	passed	40.11	62727	A	78714	A	0.0060	2.500000	2.5000	2.500000	1009	
7	123678-HxCDF	passed	40.27	63342	A	84023	A	0.0060	2.500000	2.5000	2.500000	1076	
8	234678-HxCDF	passed	40.99	64068	A	76525	A	0.0059	2.500000	2.5000	2.500000	1037	
9	123478-HxCDD	passed	41.19	40775	A	52005	A	0.0068	2.500000	2.5000	2.500000	933	
10	123678-HxCDD	passed	41.31	40877	A	50490	A	0.0070	2.500000	2.5000	2.500000	904	
11	123789-HxCDD	passed	41.62	42508	A	54608	A	0.0063	2.500000	2.5000	2.500000	970	
12	123789-HxCDF	passed	42.02	51309	A	66724	A	0.0075	2.500000	2.5000	2.500000	821	
13	1234678-HpCDF	passed	43.76	65682	A	69915	A	0.0060	2.500000	2.5000	2.500000	1037	
14	1234678-HpCDD	passed	44.97	44392	A	46157	A	0.0070	2.500000	2.5000	2.500000	912	
15	1234789-HpCDF	passed	45.55	51482	A	58217	A	0.0071	2.500000	2.5000	2.500000	873	
16	OCDD	passed	48.02	87389	A	77278	A	0.0100	5.000000	5.0000	5.000000	1281	
17	OCDF	passed	48.21	107784	A	98952	A	0.0066	5.000000	5.0000	5.000000	1921	
18	13C12-1278-TCDD (CRS)	passed	30.50	2447261	A	1962278	A	0.0202	100.000000	100.0000	100.000000	12733	
19	13C12-1234-TCDD	passed	29.20	2330982	A	1856934	A	0.0212	100.000000	100.0000	100.000000	11779	
20	13C12-123468-HxCDD	passed	40.00	1942275	A	2431460	A	0.0258	100.000000	100.0000	100.000000	9696	
21	13C12-2378-TCDF	passed	28.96	4134229	A	3257632	A	0.0166	100.000000	100.0000	100.000000	14799	
22	13C12-2378-TCDD	passed	30.07	2327432	A	1858274	A	0.0212	100.000000	100.0000	100.000000	11875	
23	13C12-12378-PeCDF	passed	35.02	2629287	A	4066047	A	0.0437	100.000000	100.0000	100.000000	7201	
24	13C12-23478-PeCDF	passed	36.36	2526124	A	4027892	A	0.0447	100.000000	100.0000	100.000000	7711	
25	13C12-12378-PeCDD	passed	36.75	1522143	A	2373628	A	0.0314	100.000000	100.0000	100.000000	11088	
26	13C12-123478-HxCDF	passed	40.10	3628222	A	1877624	A	0.0330	100.000000	100.0000	100.000000	7675	
27	13C12-123678-HxCDF	passed	40.26	3759607	A	2011580	A	0.0315	100.000000	100.0000	100.000000	7771	
28	13C12-234678-HxCDF	passed	40.97	3434608	A	1809217	A	0.0347	100.000000	100.0000	100.000000	7524	
29	13C12-123478-HxCDD	passed	41.16	1830771	A	2364526	A	0.0269	100.000000	100.0000	100.000000	9597	
30	13C12-123678-HxCDD	passed	41.28	1908728	A	2386887	A	0.0263	100.000000	100.0000	100.000000	9657	
31	13C12-123789-HxCDD	passed	41.61	1832524	A	2253051	A	0.0276	100.000000	100.0000	100.000000	9700	
32	13C12-123789-HxCDF	passed	42.01	3164370	A	1668297	A	0.0376	100.000000	100.0000	100.000000	6473	
33	13C12-1234678-HpCDF	passed	43.73	3382825	A	1566631	A	0.0343	100.000000	100.0000	100.000000	7451	
34	13C12-1234678-HpCDD	passed	44.96	1975793	A	2071085	A	0.0325	100.000000	100.0000	100.000000	8217	
35	13C12-1234789-HpCDF	passed	45.54	2714998	A	1244199	A	0.0428	100.000000	100.0000	100.000000	6201	
36	13C12-OCDD	passed	48.01	3959976	A	3549864	A	0.0139	200.000000	200.0000	200.000000	40579	
37	13C12-OCDF	passed	48.20	5275766	A	4737265	A	0.0132	200.000000	200.0000	200.000000	42867	
38	Total TCDF	passed (1)	28.02	18889	A	15137	A	0.0048	0.500000	0.5000	0.500000	277	
39	Total TCDD	passed (1)	28.72	11824	A	10071	A	0.0048	0.500000	0.5000	0.500000	259	
40	Total PeCDF	passed (2)	34.60	112601	A	171206	A	0.0054	2.500000	5.0000	2.500000	1186	
41	Total PeCDD	passed (1)	35.55	32744	A	49561	A	0.0116	2.500000	2.5000	2.500000	519	
42	Total HxCDF	passed (4)	40.33	241446	A	305986	A	0.0063	2.500000	10.0000	2.500000	986	
43	Total HxCDD	passed (3)	40.54	124161	A	157103	A	0.0067	2.500000	7.5000	2.500000	935	
44	Total HpCDD	passed (1)	44.57	44392	A	46157	A	0.0070	2.500000	2.5000	2.500000	912	
45	Total HpCDF	passed (2)	44.69	117164	A	128132	A	0.0066	2.500000	5.0000	2.500000	955	
46	Single TCDF	passed	28.98	18889	A	15137	A	0.0048	0.500000	0.5000	0.500000	277	
47	Single TCDD	passed	30.09	11824	A	10071	A	0.0048	0.500000	0.5000	0.500000	259	
48	Single PeCDD	passed	36.78	32744	A	49561	A	0.0116	2.500000	2.5000	2.500000	519	
49	Single PeCDF	passed	36.38	59566	A	89844	A	0.0051	2.500000	2.5000	2.500000	1298	
50	Single PeCDF	passed	35.05	53035	A	81362	A	0.0057	2.500000	2.5000	2.500000	1074	
51	Single HpCDD	passed	44.97	44392	A	46157	A	0.0070	2.500000	2.5000	2.500000	912	
52	Single HxCDF	passed	40.99	64068	A	76525	A	0.0061	2.500000	2.5000	2.500000	1037	
53	Single HxCDF	passed	40.11	62727	A	78714	A	0.0061	2.500000	2.5000	2.500000	1009	
54	Single HxCDF	passed	40.27	63342	A	84023	A	0.0058	2.500000	2.5000	2.500000	1076	
55	Single HxCDF	passed	42.02	51309	A	66724	A	0.0073	2.500000	2.5000	2.500000	821	
56	Single HxCDD	passed	41.62	42508	A	54608	A	0.0065	2.500000	2.5000	2.500000	970	
57	Single HxCDD	passed	41.19	40775	A	52005	A	0.0068	2.500000	2.5000	2.500000	933	
58	Single HxCDD	passed	41.31	40877	A	50490	A	0.0069	2.500000	2.5000	2.500000	904	
59	Single HpCDF	passed	43.76	65682	A	69915	A	0.0059	2.500000	2.5000	2.500000	1037	
60	Single HpCDF	passed	45.55	51482	A	58217	A	0.0073	2.500000	2.5000	2.500000	873	

APPROVED
By uma9 at 11:21 am, 11/7/18

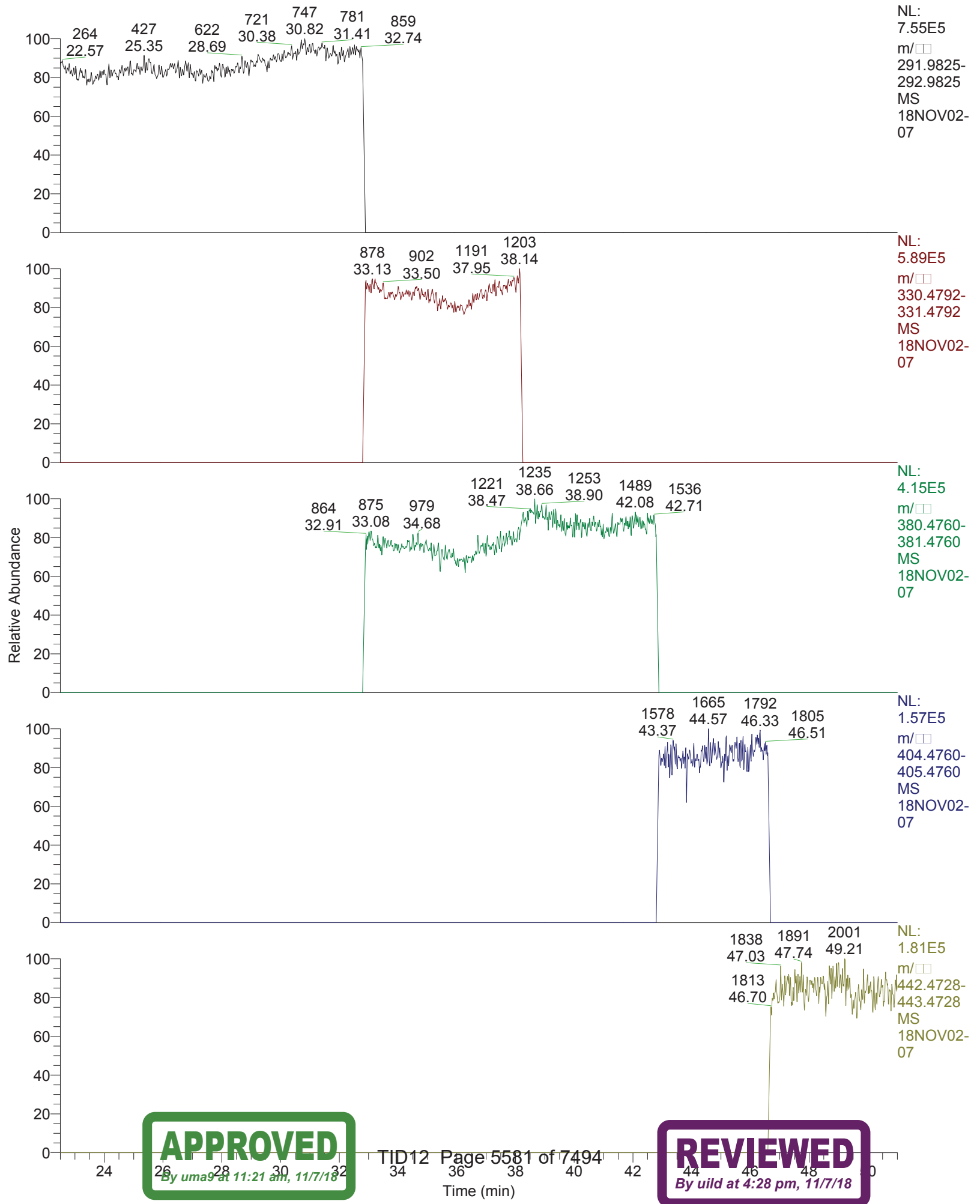
REVIEWED
By uild at 4:28 pm, 11/7/18

File Name: W:□18NOV02□18NOV02-07
Sample ID: CS101

Acq. Data: 11/2/2018 3:41:45 PM
Sample Name: CALDF21837C
PFK Reference Loc□Mass Traces

Instrument ID: DF17280-18NOV02

RT: 22.50 - 51.00



APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

*** file opened Fri Nov 02 15:44:39 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 02-Nov-18 15:44:38

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
```

```
MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          96.5000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0003   ECURR           1.0000
 EDAC        7969177.0000   EDACG           0.9998   EDACZ        1246.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           216.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           190.0000   EXSBR          -2.6700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.6000
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0181   FVINLET         0.0428   FVSRC           0.0331
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           96.5000   LKM           442.9723   MASS           96.5000
 MDAC        1420463.0737   MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2159.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9812   RELEN           0.0000
 RES          11229.5678   RPUSHER        -1.0769   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0227   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          96.5000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.6e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.2e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10672.
MID Time Window 2: Resolution is 10748.
MID Time Window 3: Resolution is 11120.
MID Time Window 4: Resolution is 10989.
```

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                                    18NOV02-07
  MID Time Window 5: Resolution is 11382.
  MID Time Window 6: Resolution is 11229.

  Amplifier Offset: 91.


*** File closed Fri Nov 02 16:35:39 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 16:35
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-08.quan
Data	w:\18nov02\18nov02-08.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.11	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.06	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.13	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.00	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.03	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.76	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.56	passed	passed	passed	passed	passed	passed	
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.50	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.22	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.08	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.04	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.37	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.11	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.98	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.18	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.11	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.06	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.13	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.00	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.03	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.76	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.56	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 16:35
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-08.quan
Data	w:\18nov02\18nov02-08.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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By uma9 at 11:21 am, 11/7/18

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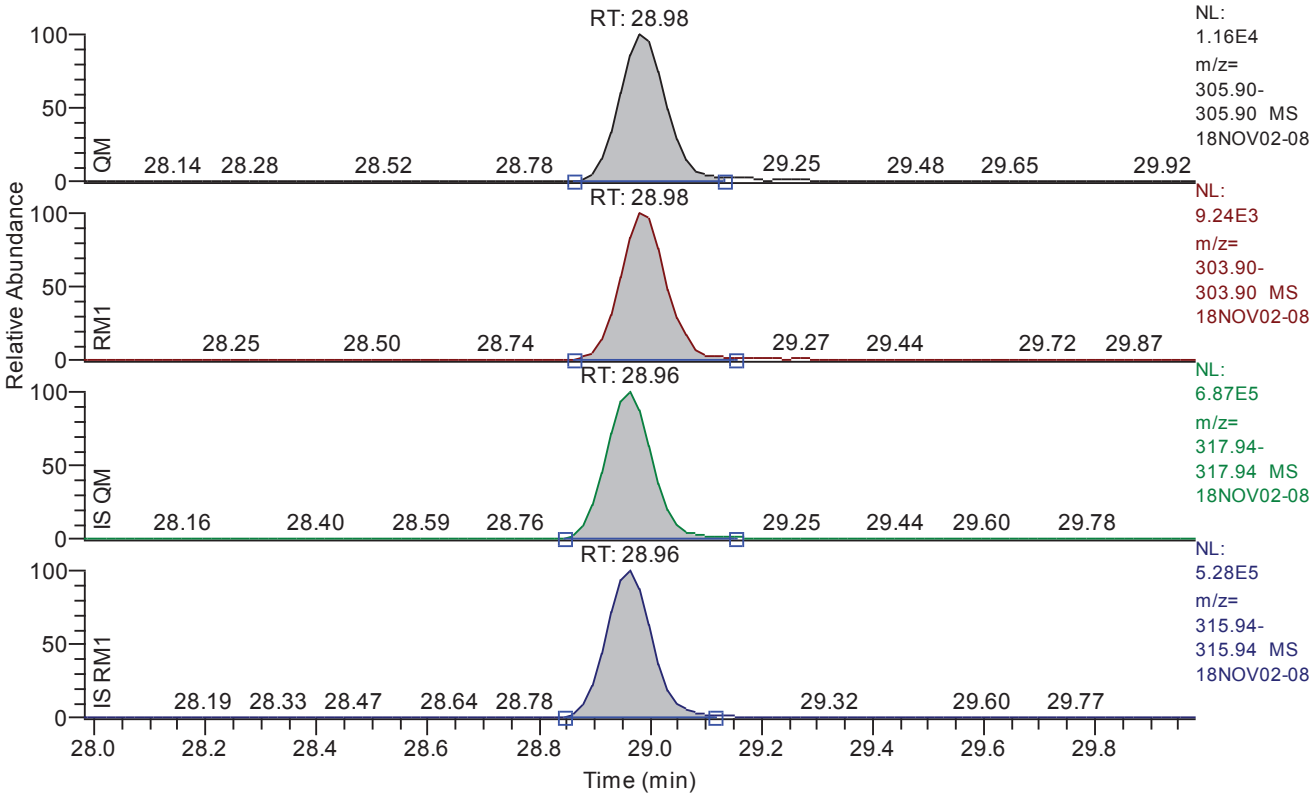
Chromatogram

RT: 27.98 - 29.98 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	69072
QM Integration Mode	A
RM1 Area	54334
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	781
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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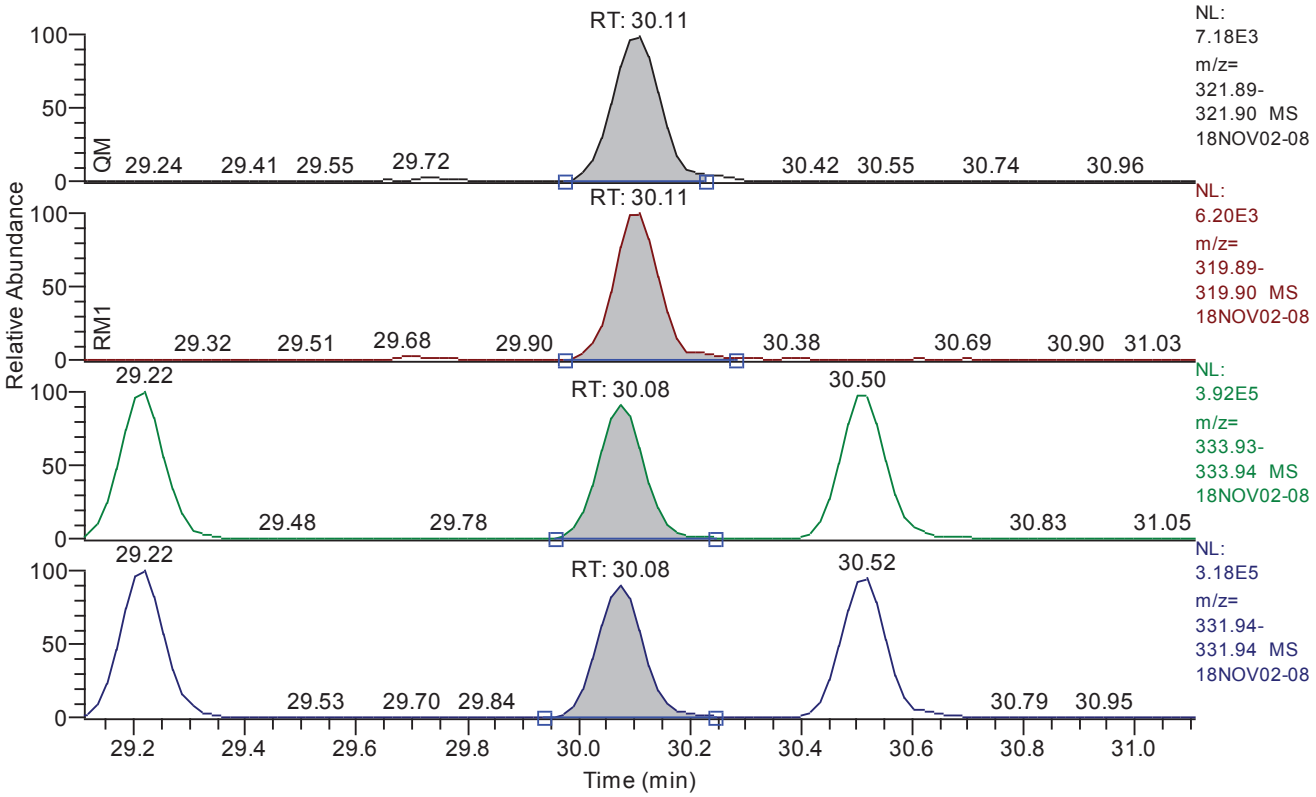
Chromatogram

RT: 29.11 - 31.11 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.11
QM Area	43810
QM Integration Mode	A
RM1 Area	36011
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	766
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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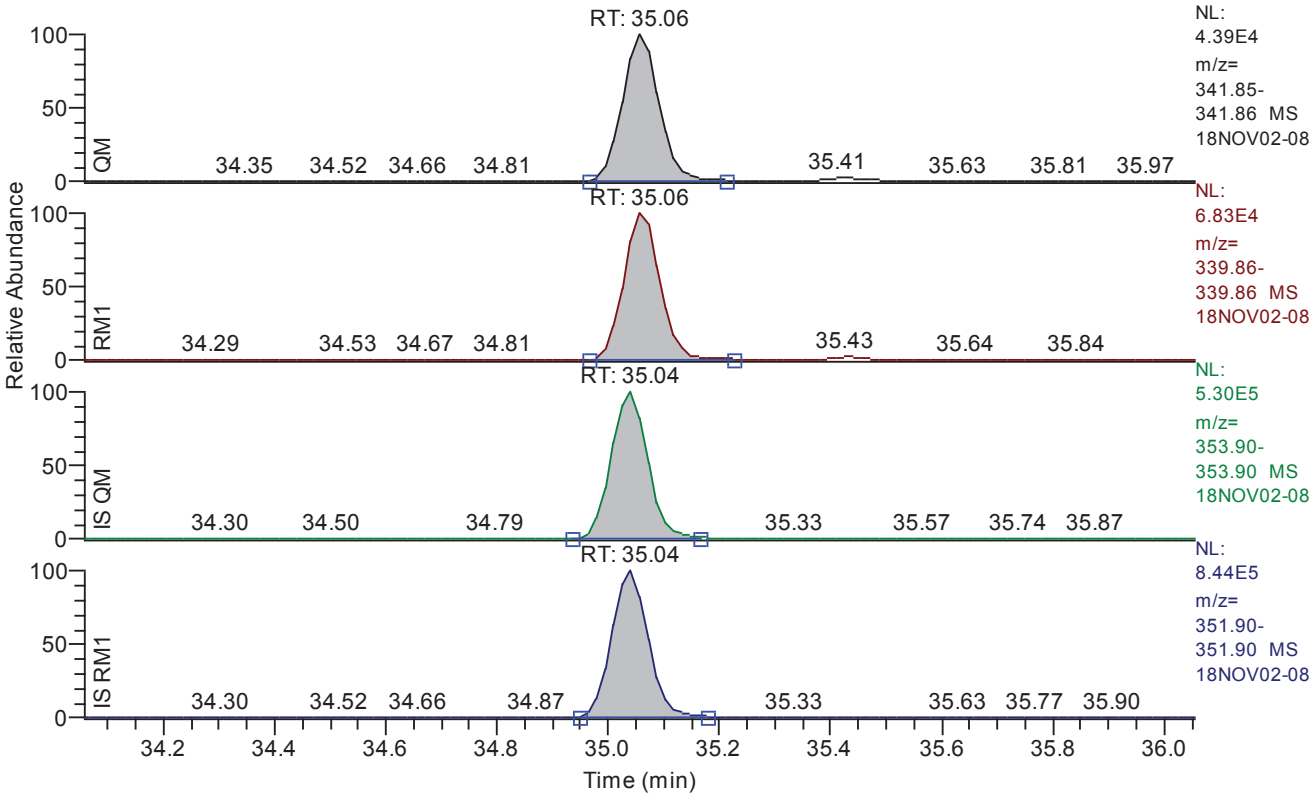
Chromatogram

RT: 34.06 - 36.06 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.06
QM Area	201568
QM Integration Mode	A
RM1 Area	313007
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0073
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3416
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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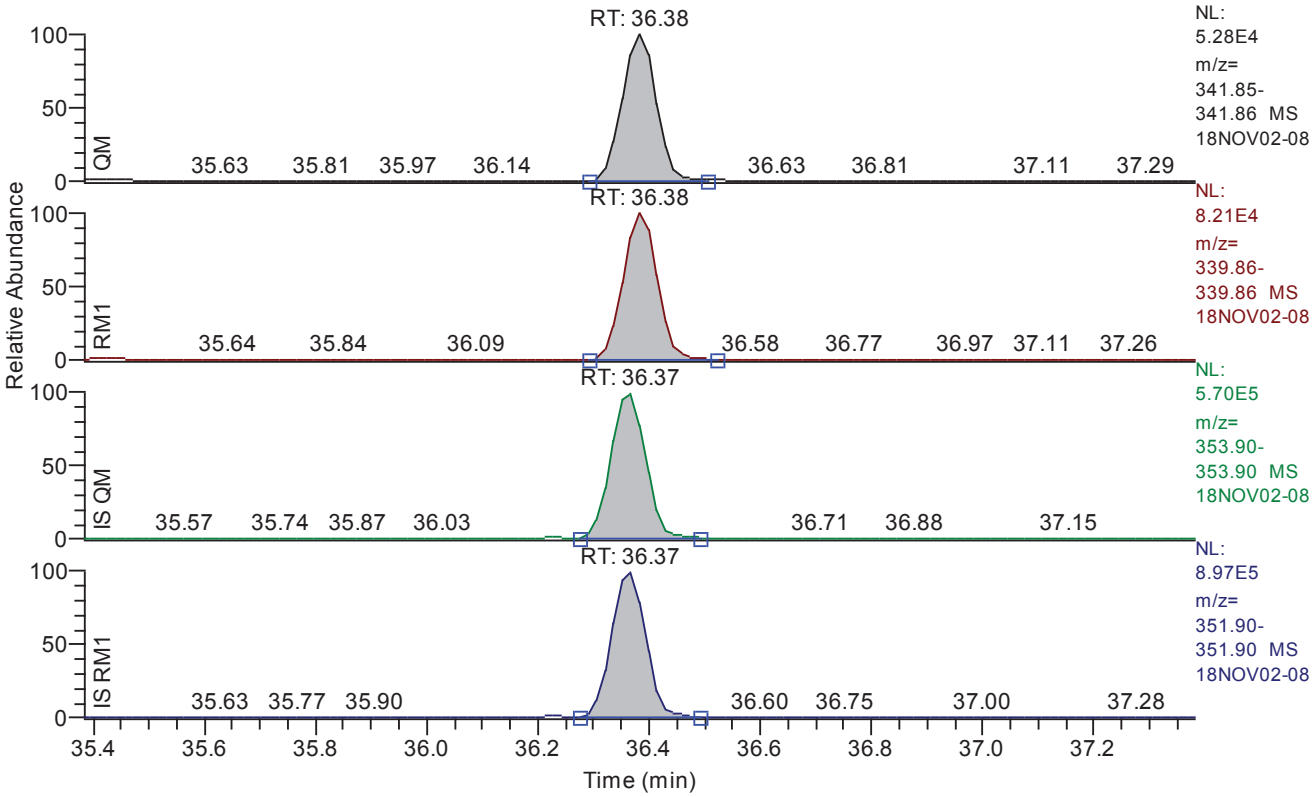
Chromatogram

RT: 35.38 - 37.38 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	225963
QM Integration Mode	A
RM1 Area	350650
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4105
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

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By uild at 4:28 pm, 11/7/18

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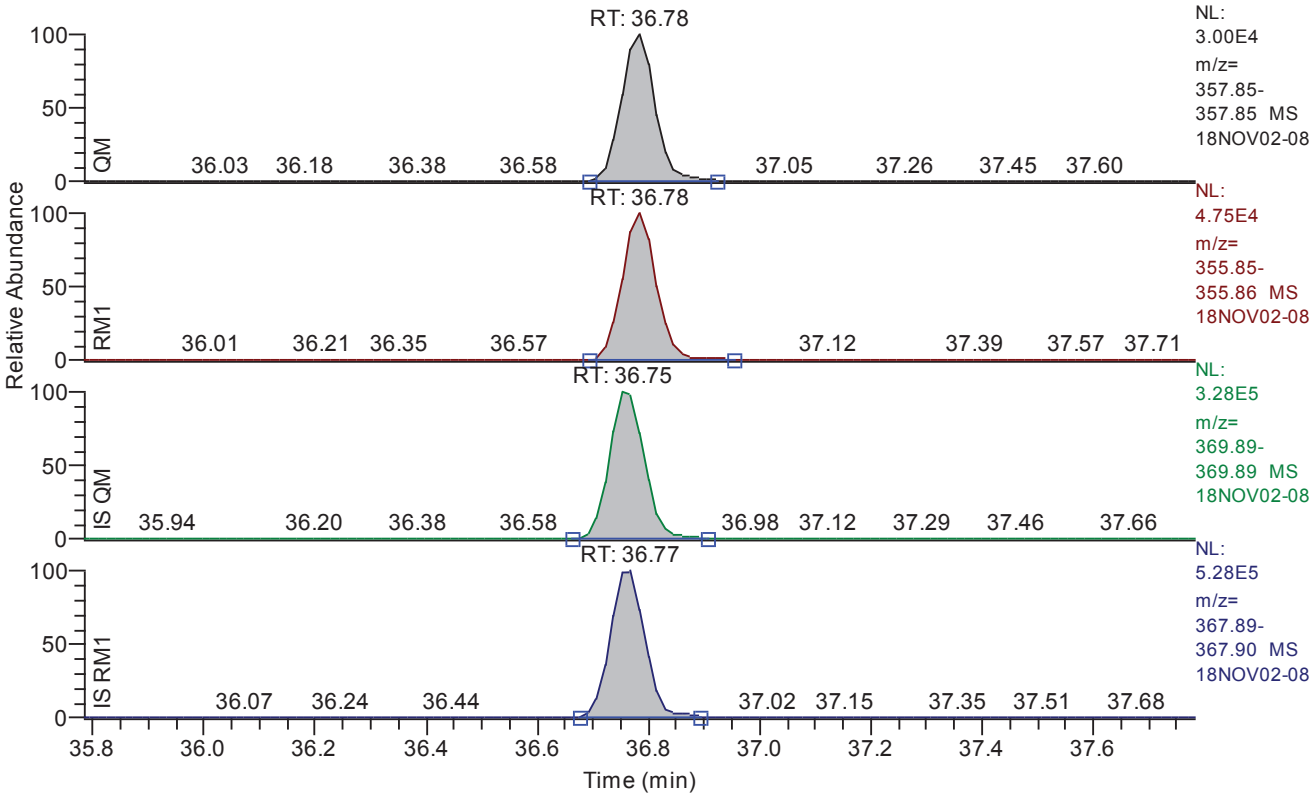
Chromatogram

RT: 35.78 - 37.78 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	125625
QM Integration Mode	A
RM1 Area	201892
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1988
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

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By uild at 4:28 pm, 11/7/18

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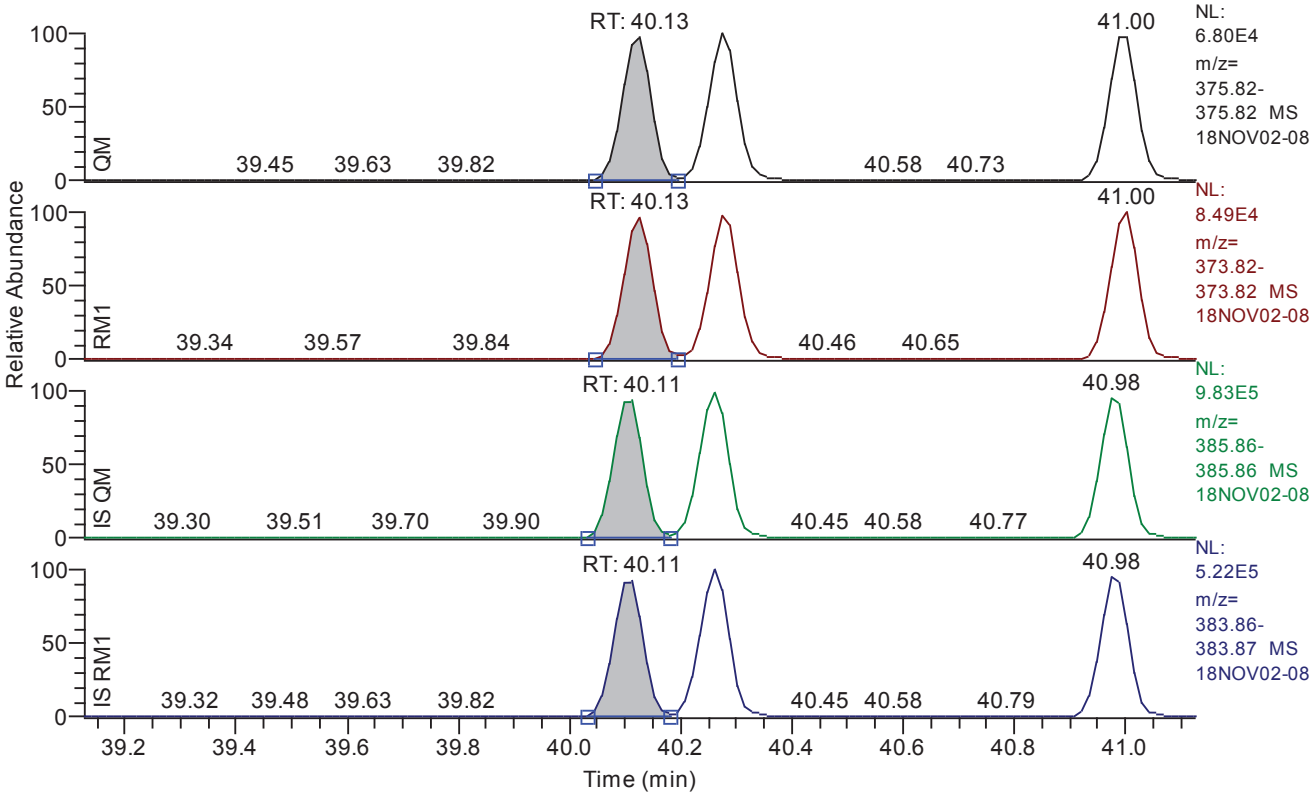
Chromatogram

RT: 39.13 - 41.13 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.13
QM Area	242805
QM Integration Mode	A
RM1 Area	299149
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2661
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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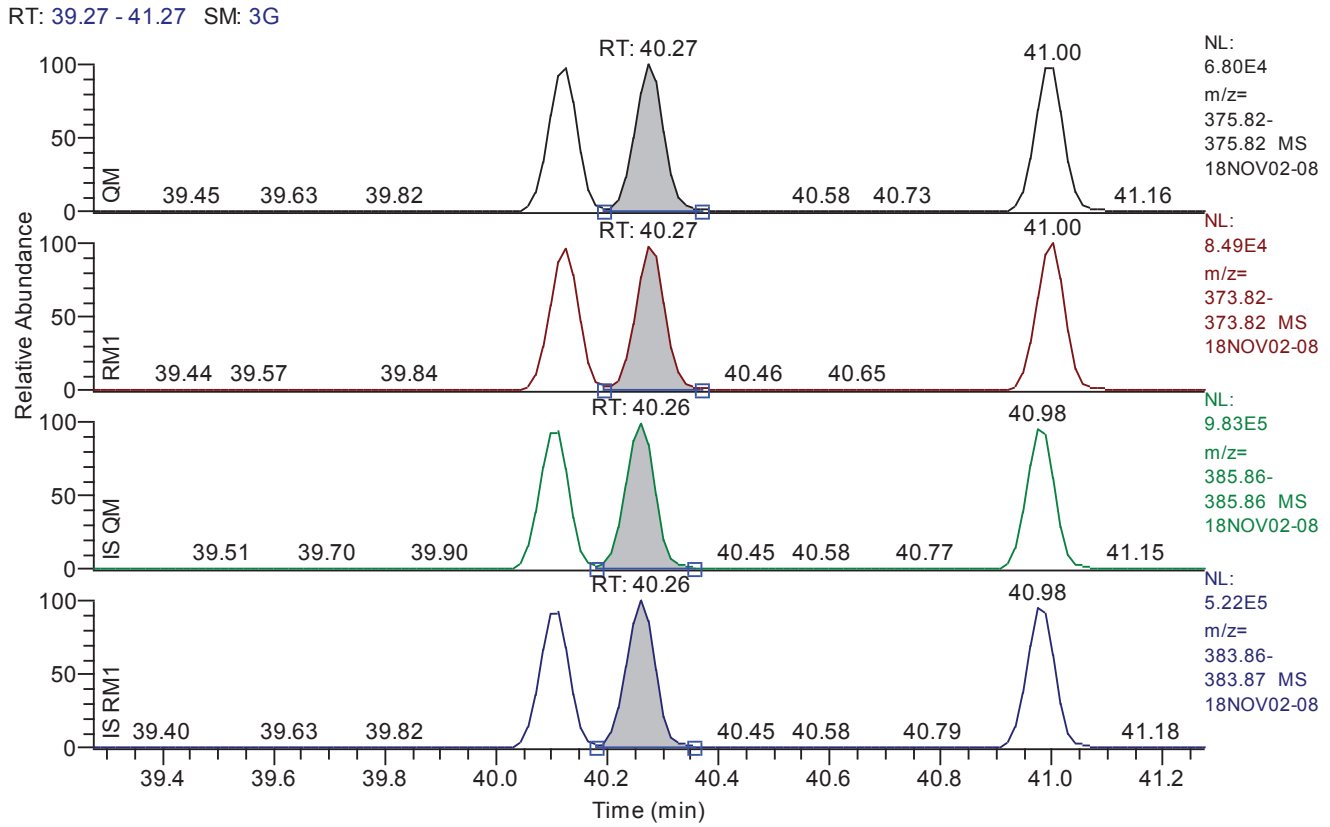
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	246206
QM Integration Mode	A
RM1 Area	305853
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2702
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

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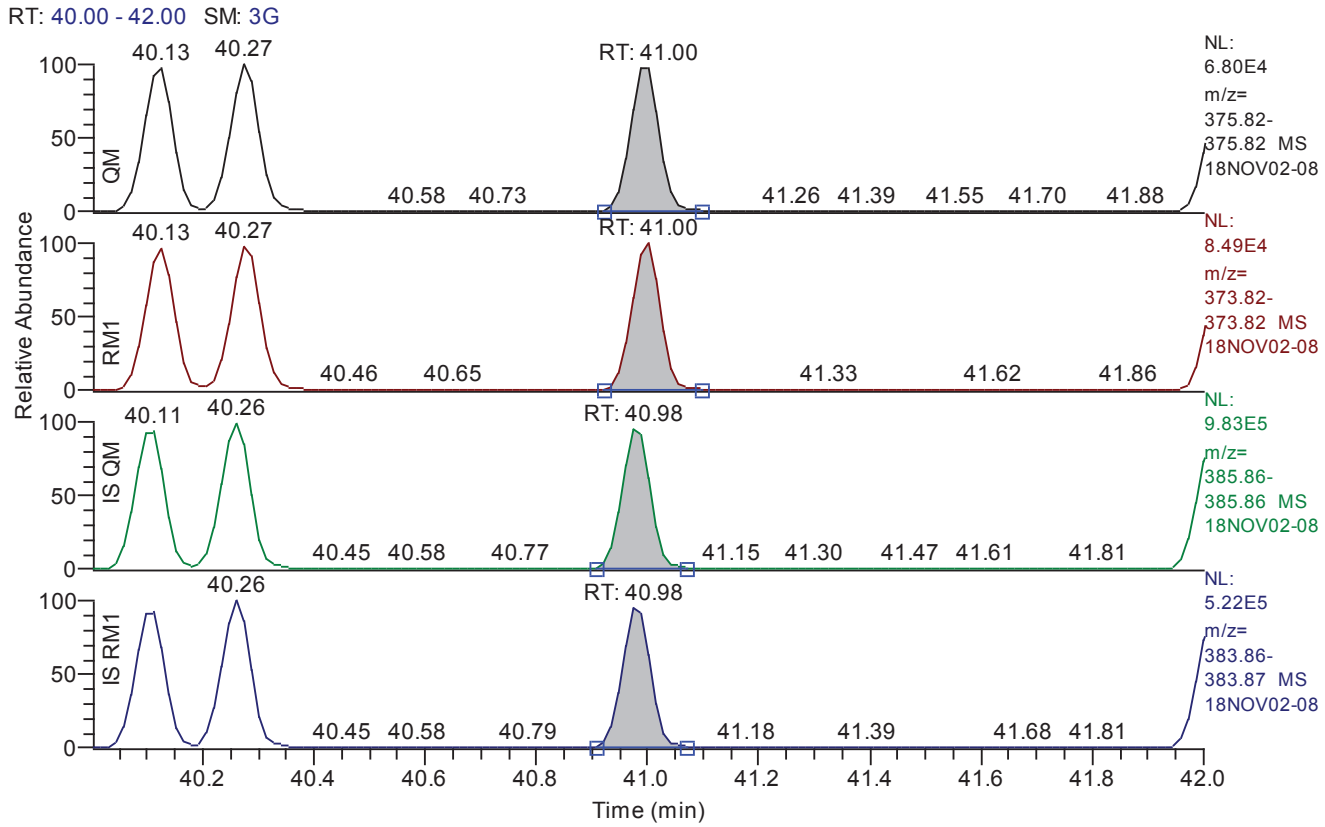
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.00
QM Area	243572
QM Integration Mode	A
RM1 Area	304749
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2710
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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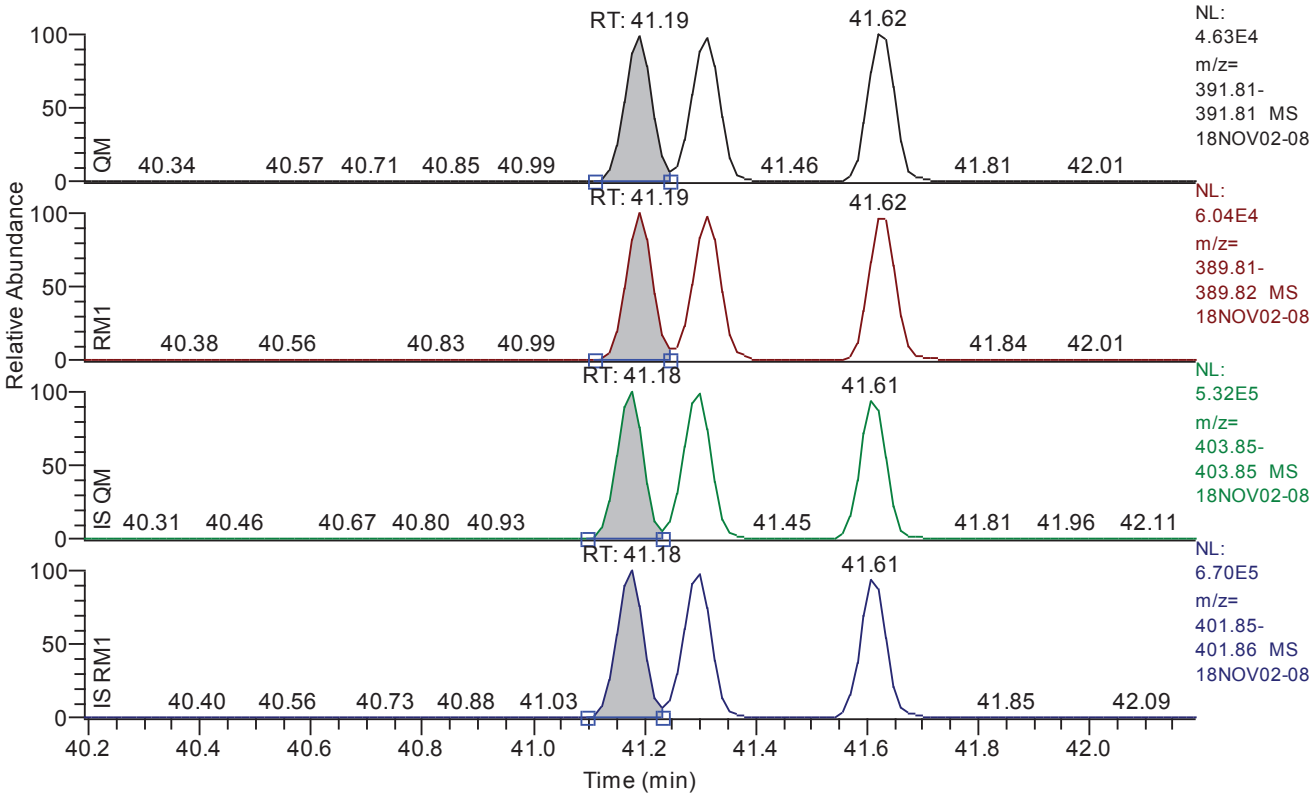
Chromatogram

RT: 40.19 - 42.19 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	156134
QM Integration Mode	A
RM1 Area	199235
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2930
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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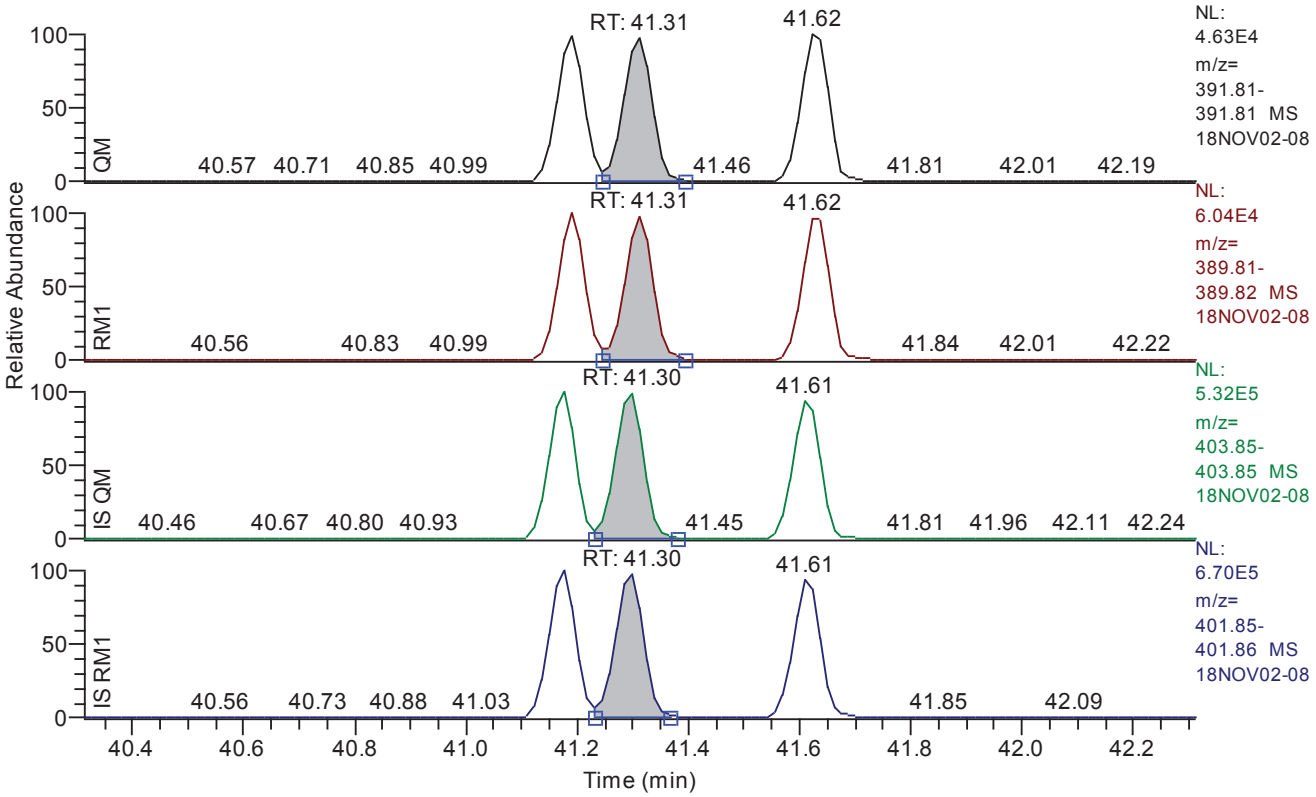
Chromatogram

RT: 40.31 - 42.31 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	160622
QM Integration Mode	A
RM1 Area	206379
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2874
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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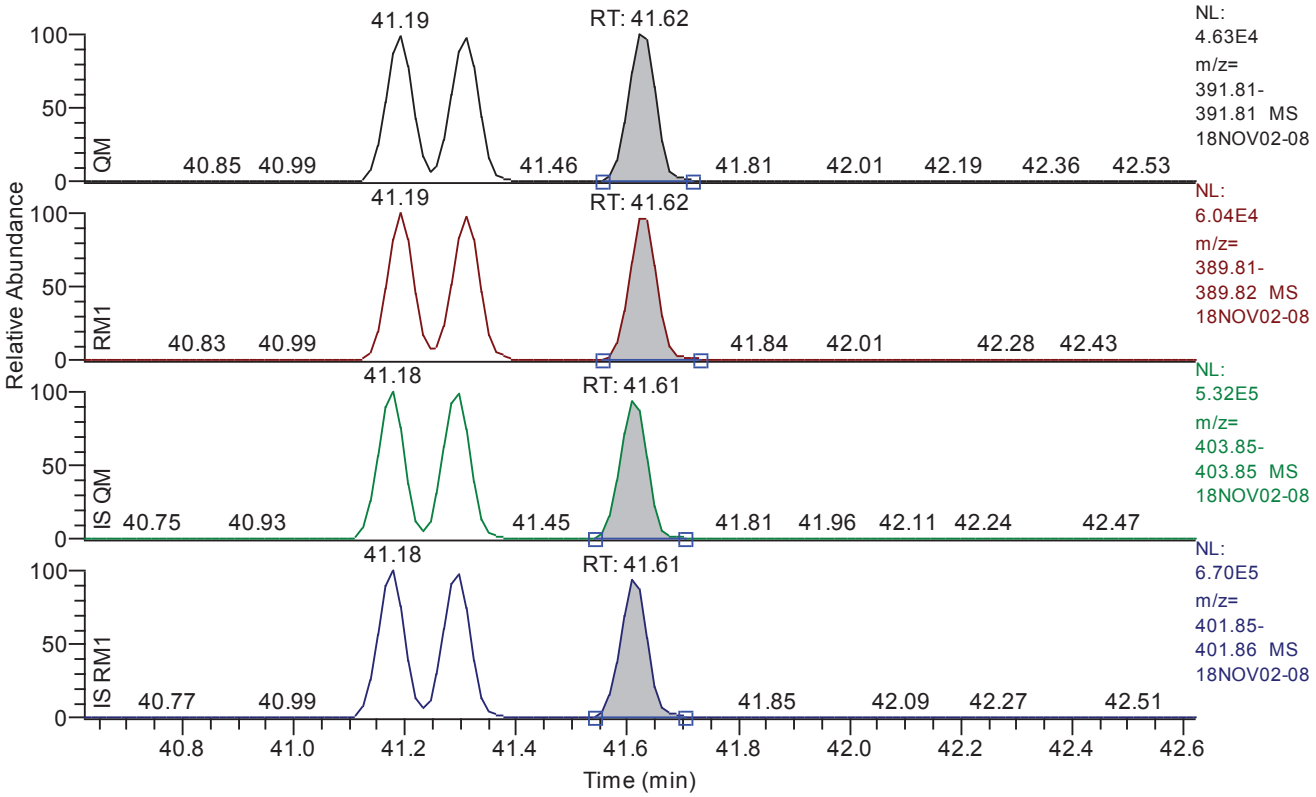
Chromatogram

RT: 40.62 - 42.62 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	161761
QM Integration Mode	A
RM1 Area	203405
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2868
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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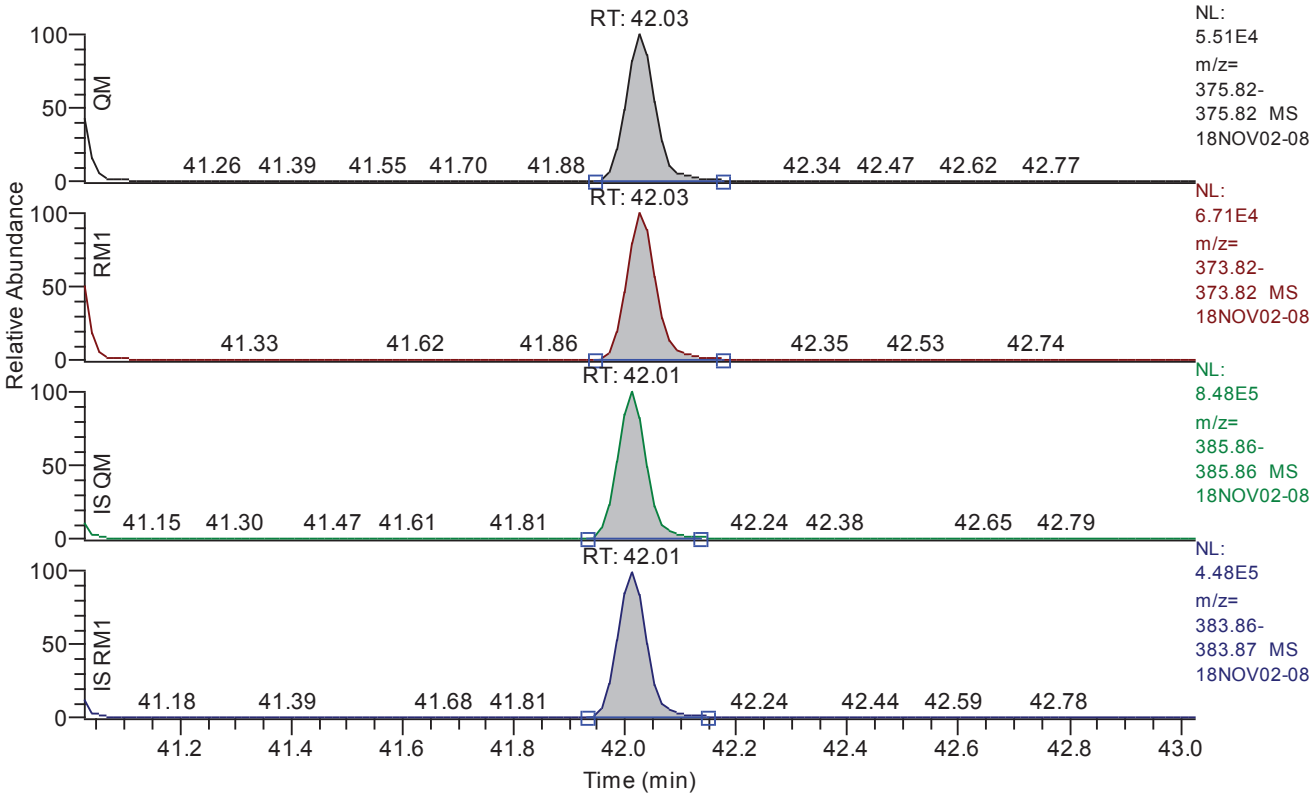
Chromatogram

RT: 41.03 - 43.03 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.03
QM Area	203932
QM Integration Mode	A
RM1 Area	251236
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2184
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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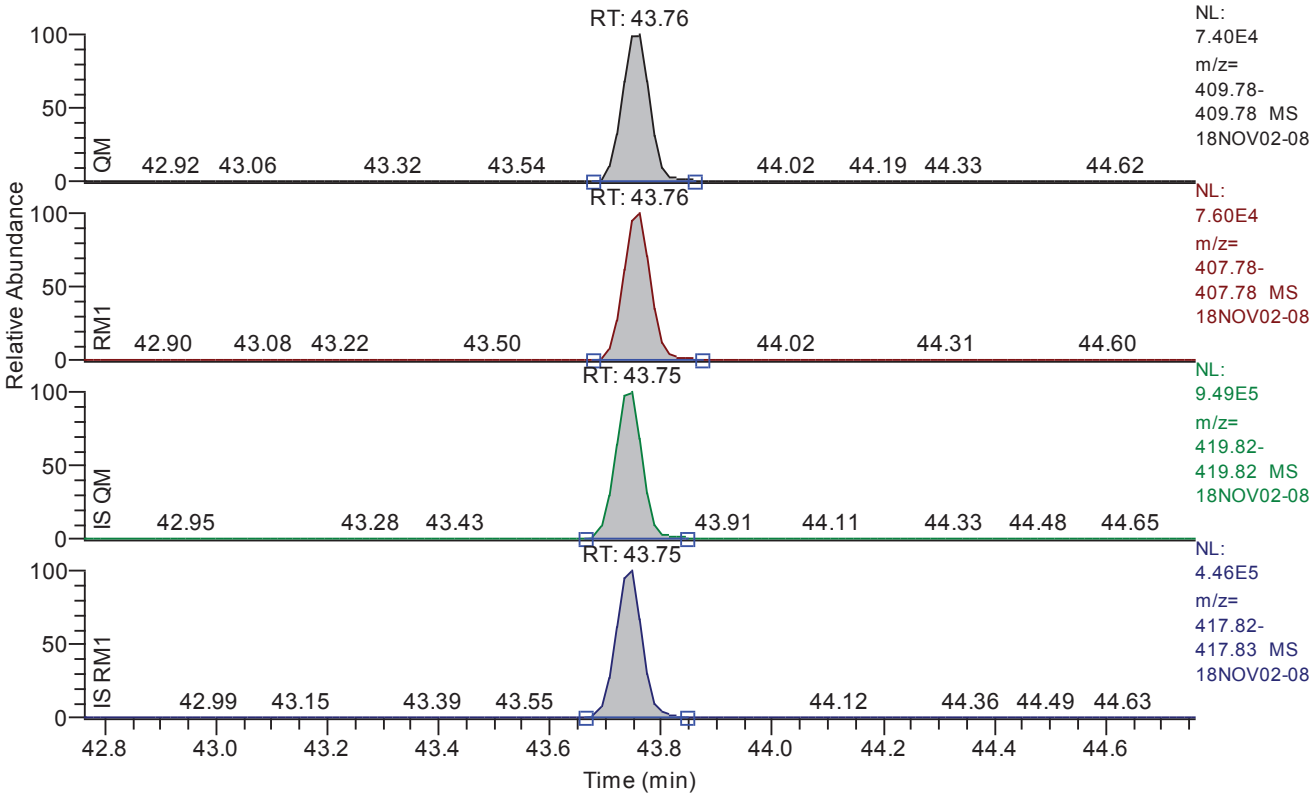
Chromatogram

RT: 42.76 - 44.76 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.76
QM Area	263652
QM Integration Mode	A
RM1 Area	267079
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2247
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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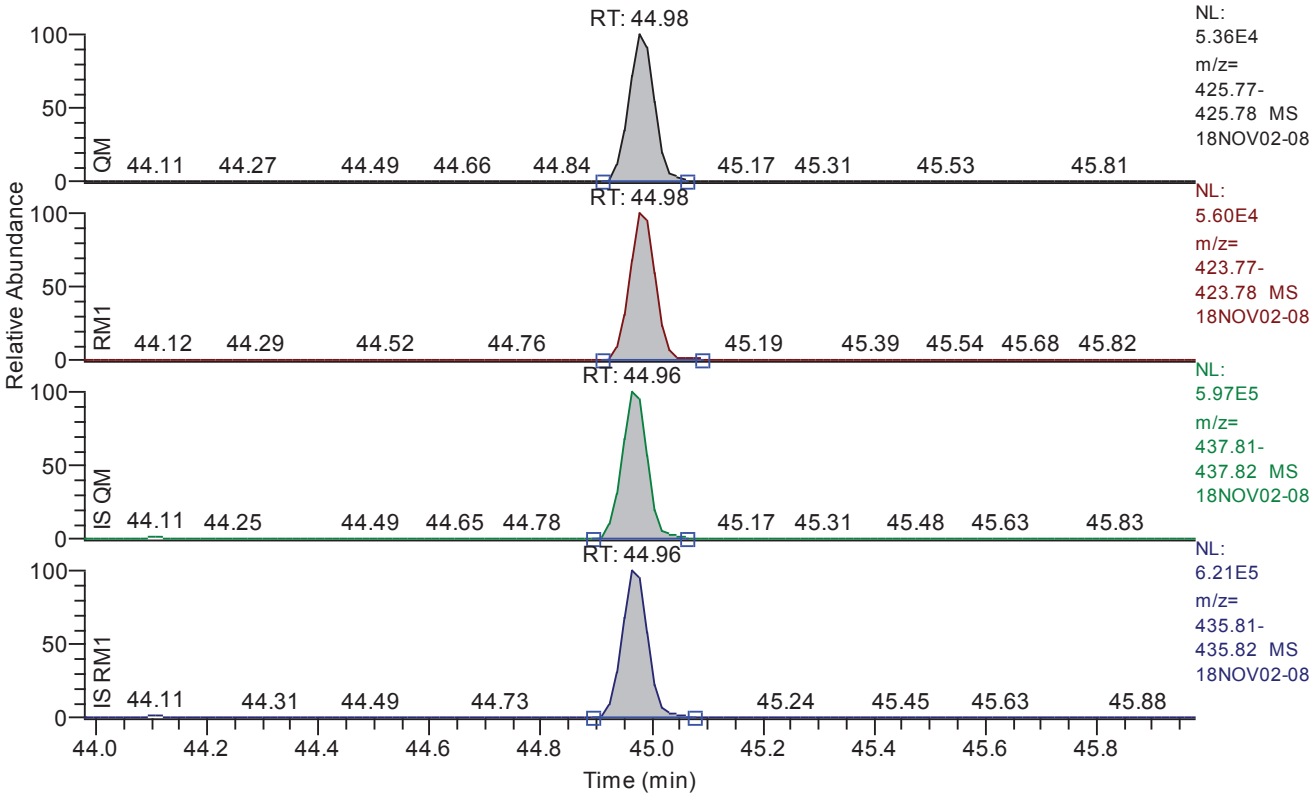
Chromatogram

RT: 43.98 - 45.98 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	176068
QM Integration Mode	A
RM1 Area	186638
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2254
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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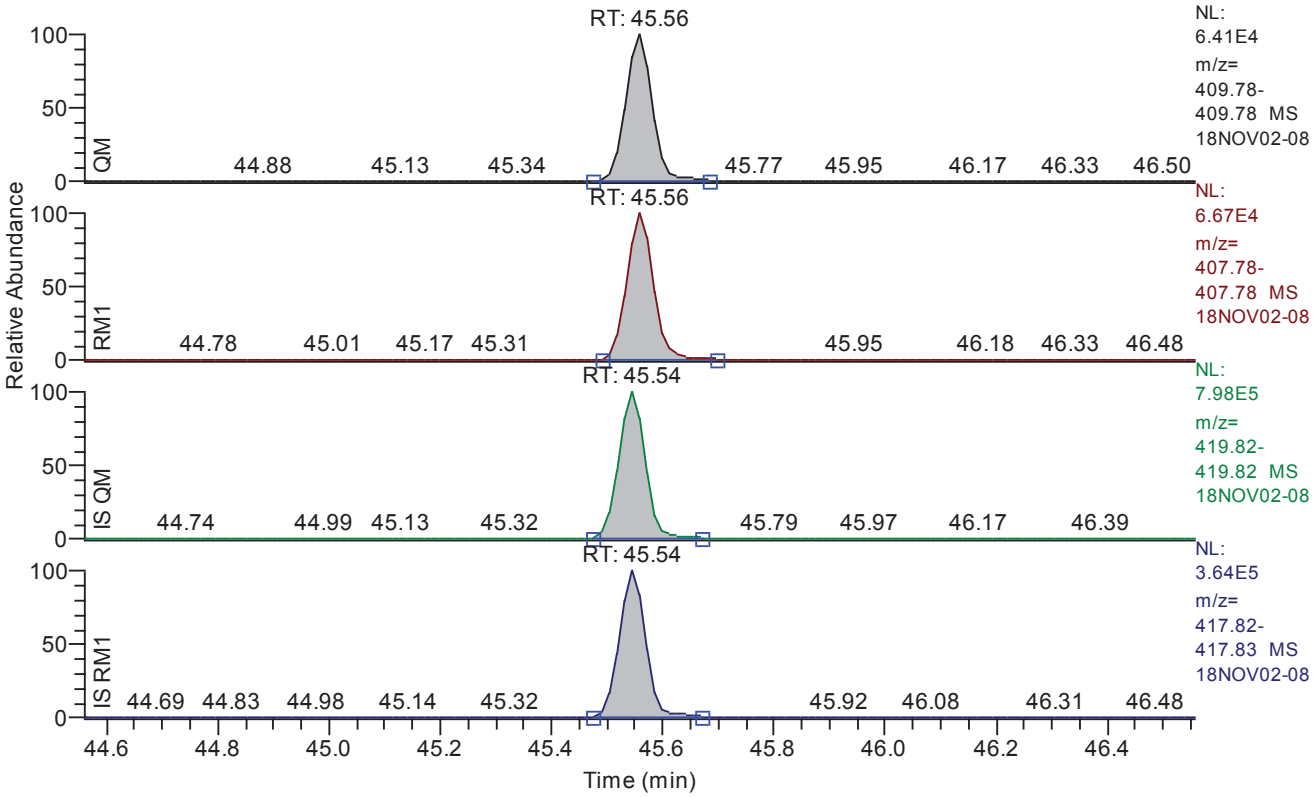
Chromatogram

RT: 44.56 - 46.56 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.56
QM Area	218969
QM Integration Mode	A
RM1 Area	227431
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1957
Client Flags	
Status Overview	passed
Status Info	

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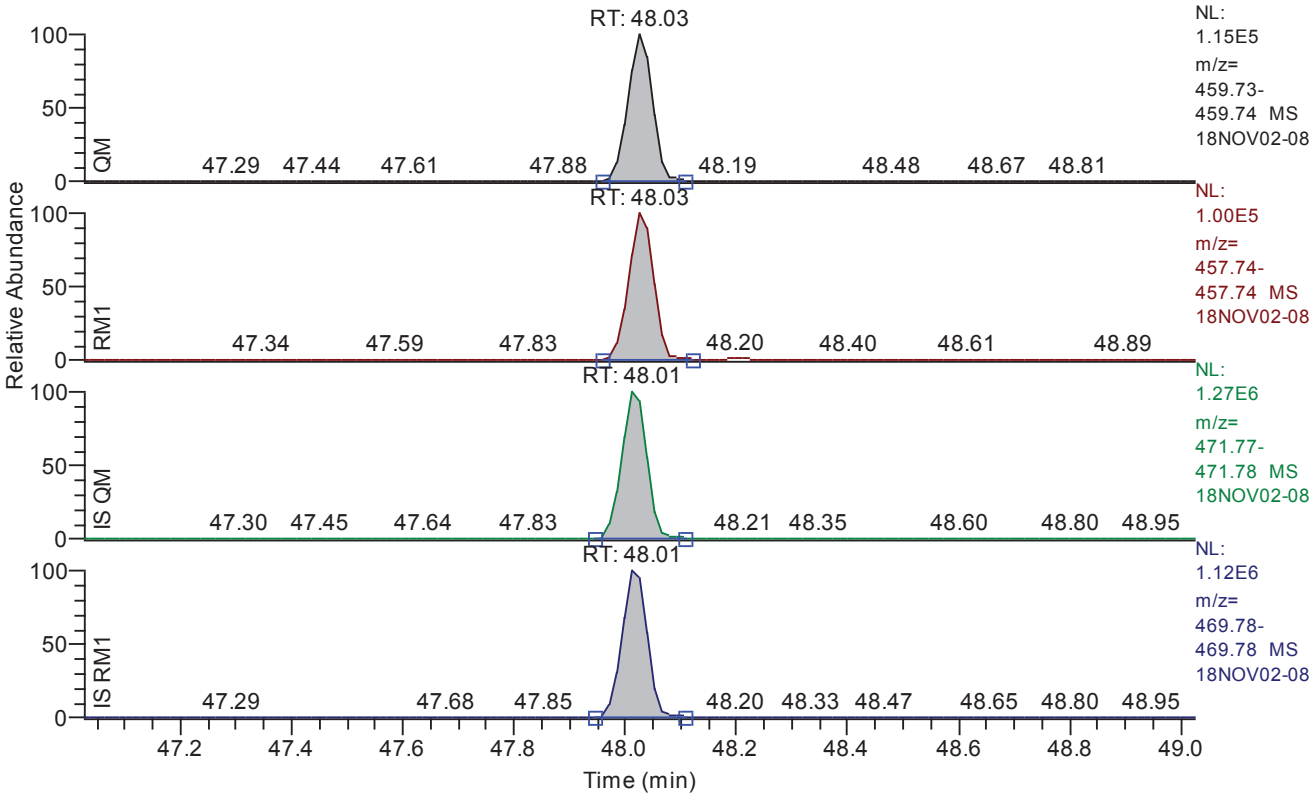
Chromatogram

RT: 47.03 - 49.03 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.03
QM Area	351622
QM Integration Mode	A
RM1 Area	312322
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	4488
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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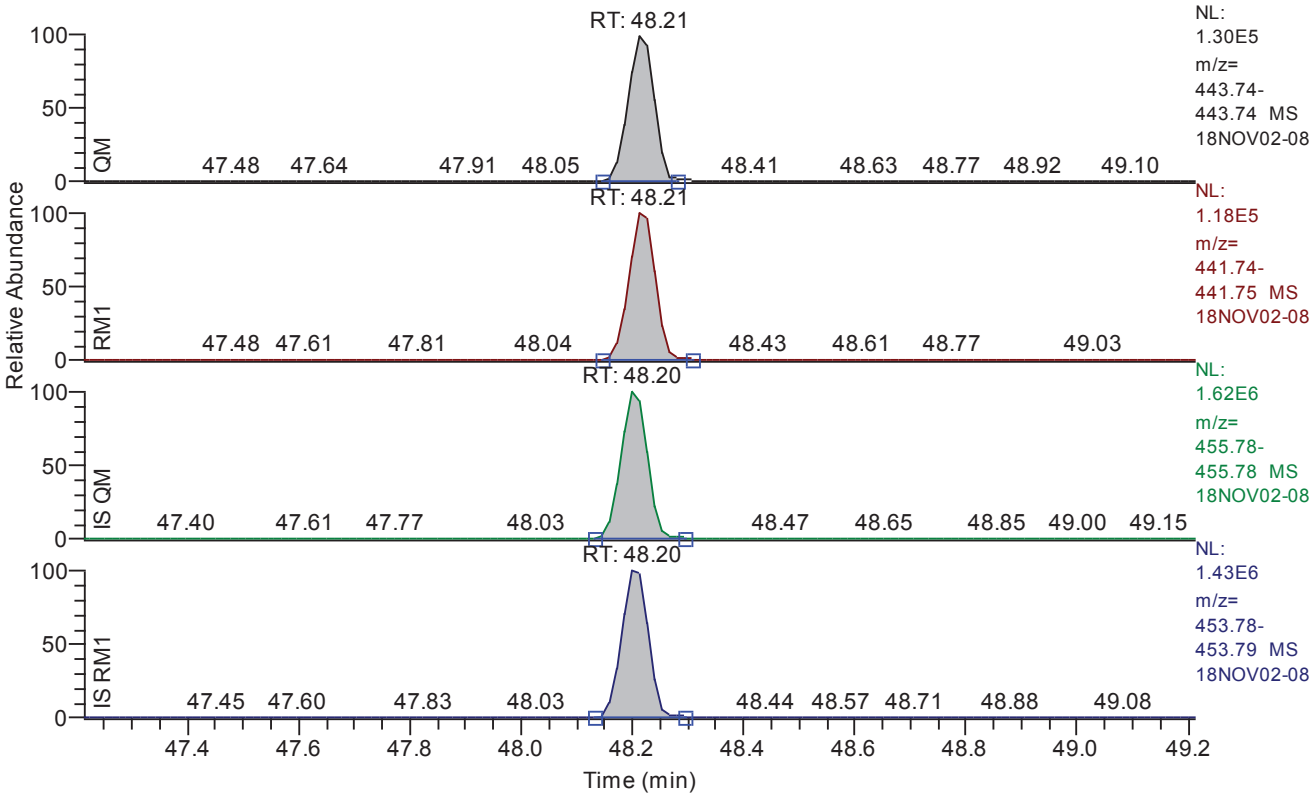
Chromatogram

RT: 47.21 - 49.21 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.21
QM Area	419850
QM Integration Mode	A
RM1 Area	391528
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	6210
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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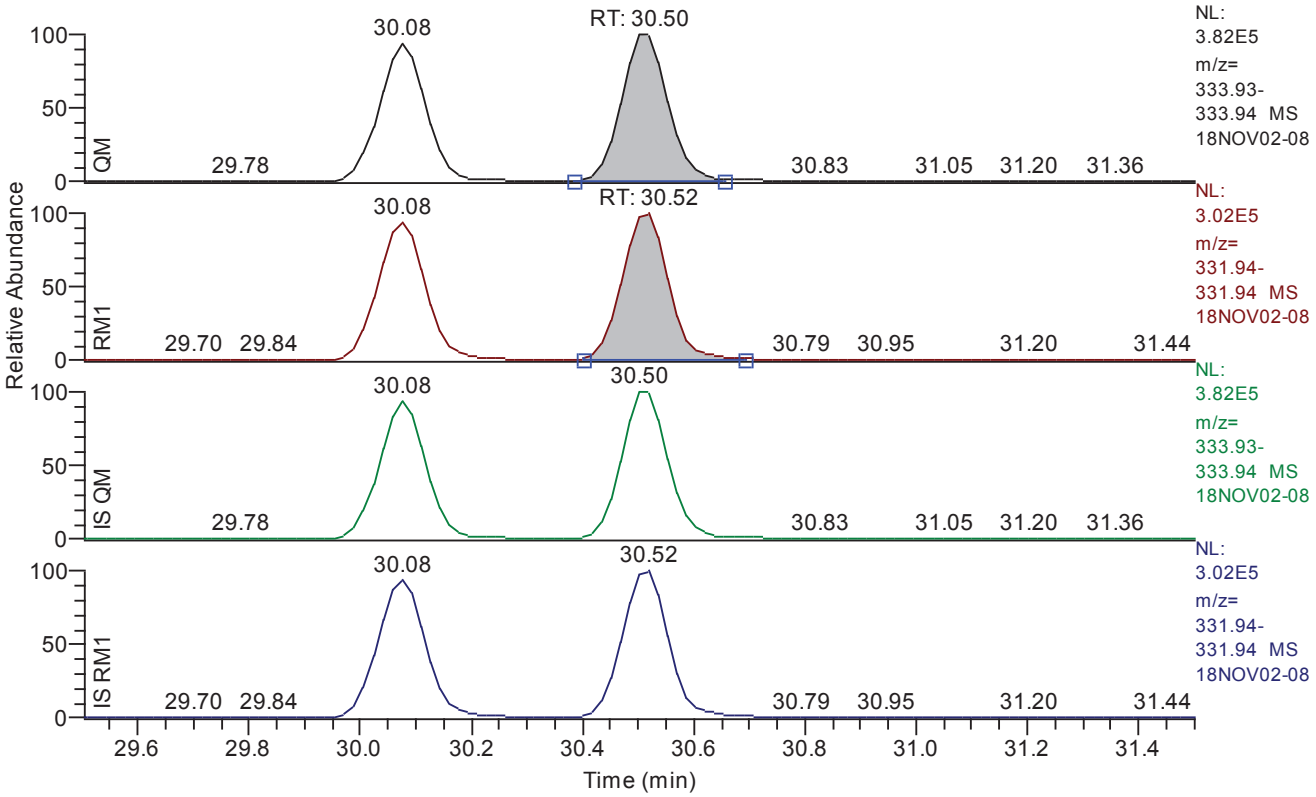
Chromatogram

RT: 29.50 - 31.50 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.50
QM Area	2230966
QM Integration Mode	A
RM1 Area	1746417
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0203
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	12068
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 16:35
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-08.quan
Data	w:\18nov02\18nov02-08.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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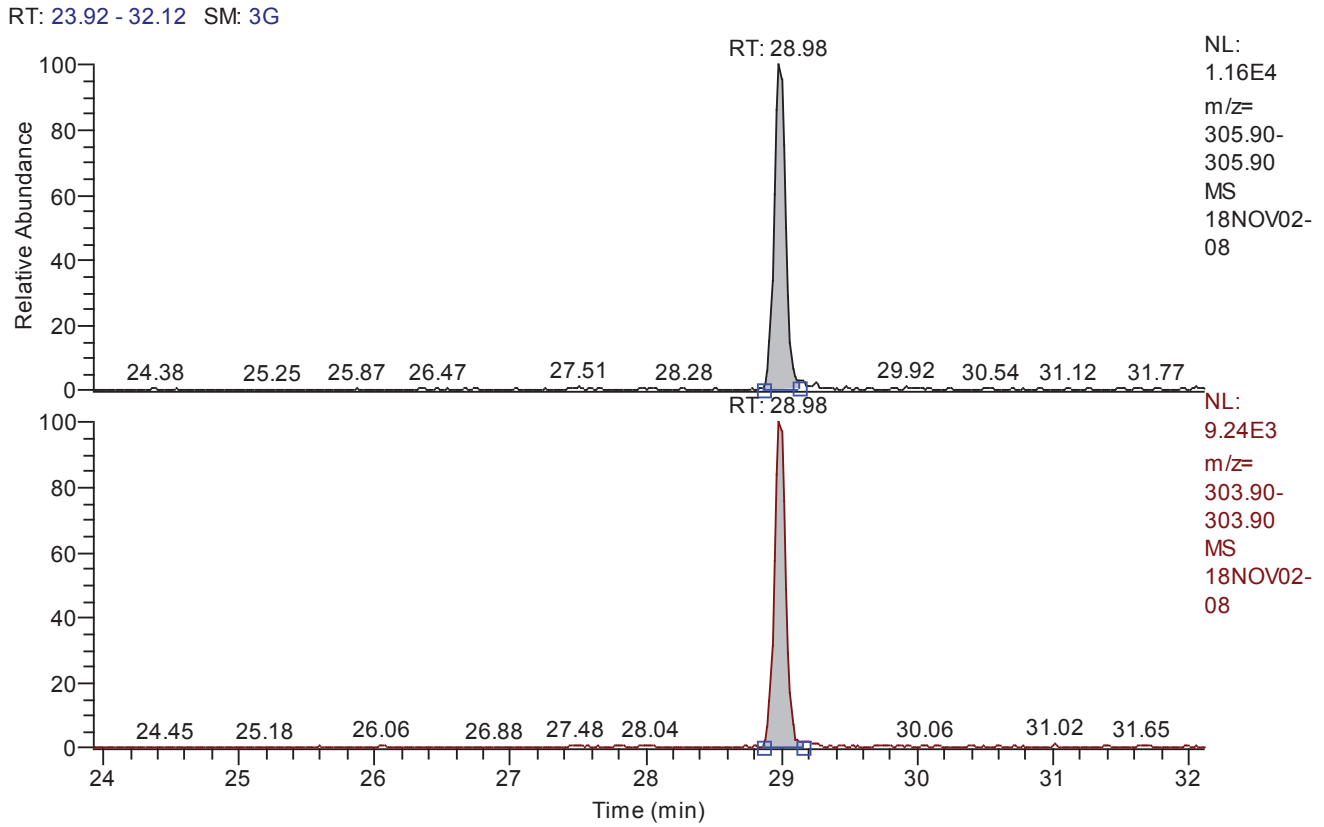
Chromatogram



Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	69072
QM Integration Mode	A
RM1 Area	54334
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	781
Client Flags	
Status Overview	passed (1)
Status Info	

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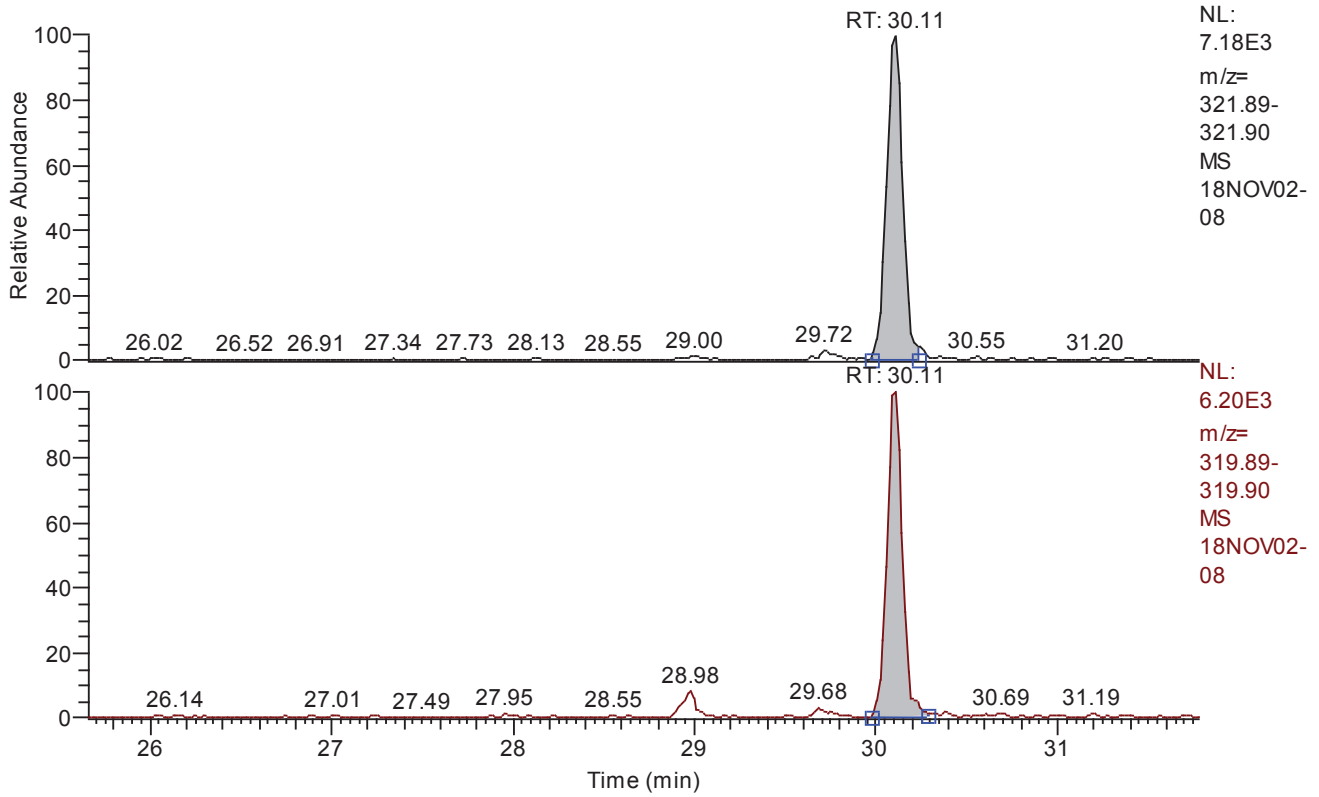
Chromatogram

RT: 25.66 - 31.78 SM: 3G



Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	43810
QM Integration Mode	A
RM1 Area	36011
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	766
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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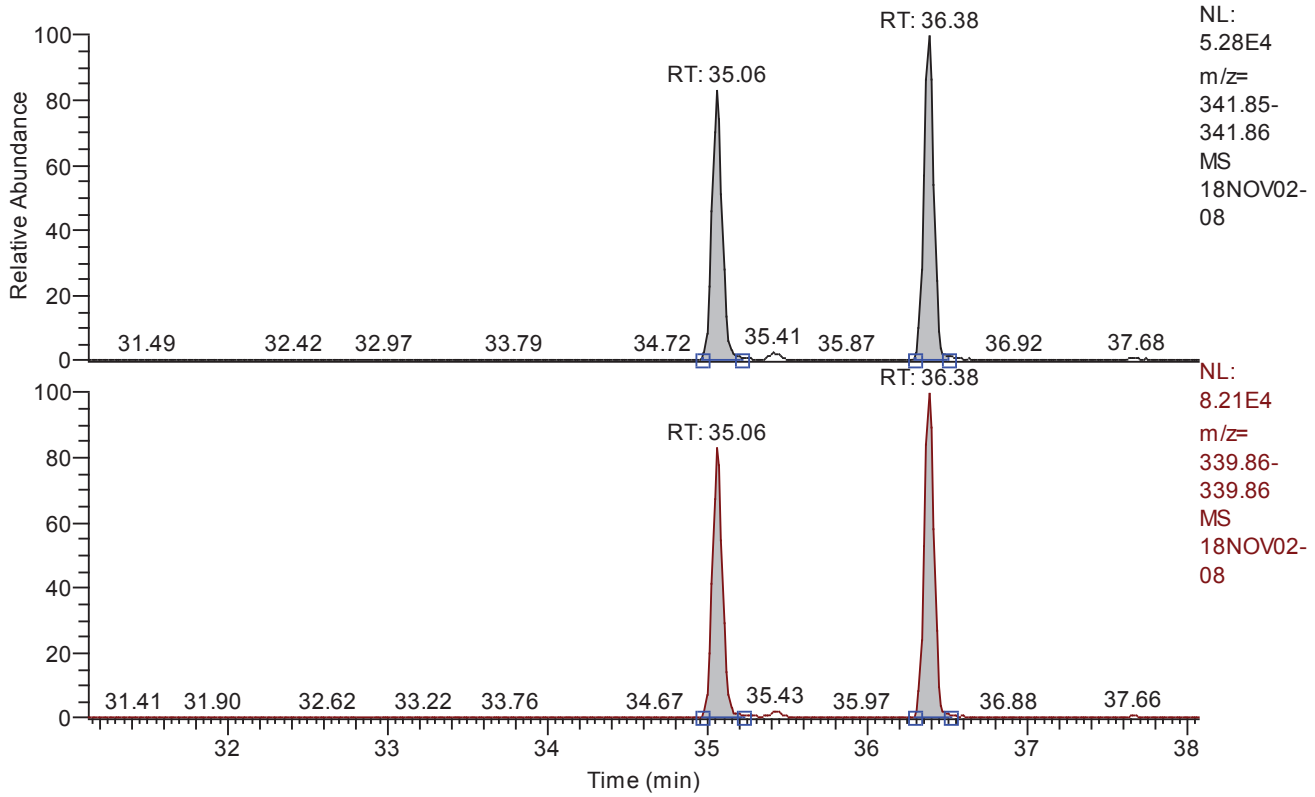
Chromatogram

RT: 31.12 - 38.08 SM: 3G



Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	427531
QM Integration Mode	A
RM1 Area	663658
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	3760
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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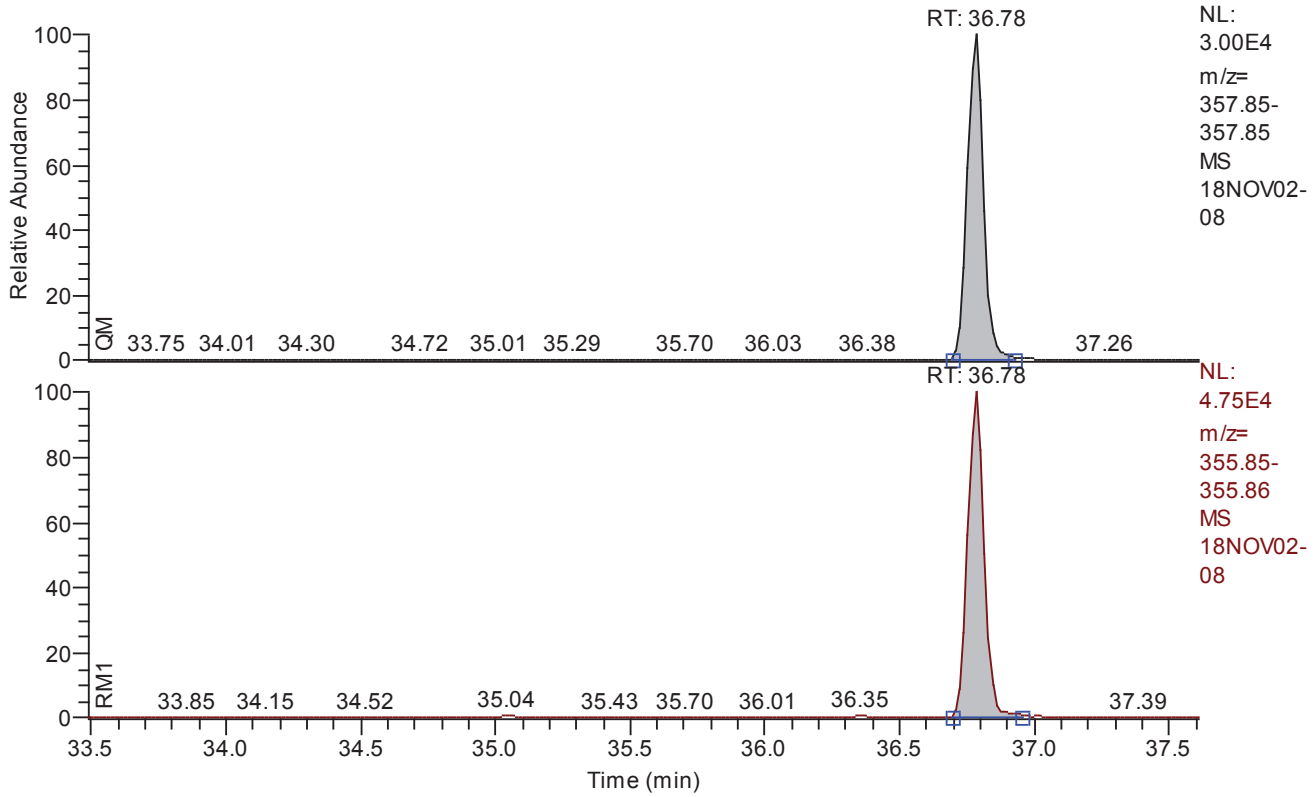
Chromatogram

RT: 33.49 - 37.61 SM: 3G



Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	125625
QM Integration Mode	A
RM1 Area	201892
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1988
Client Flags	
Status Overview	passed (1)
Status Info	

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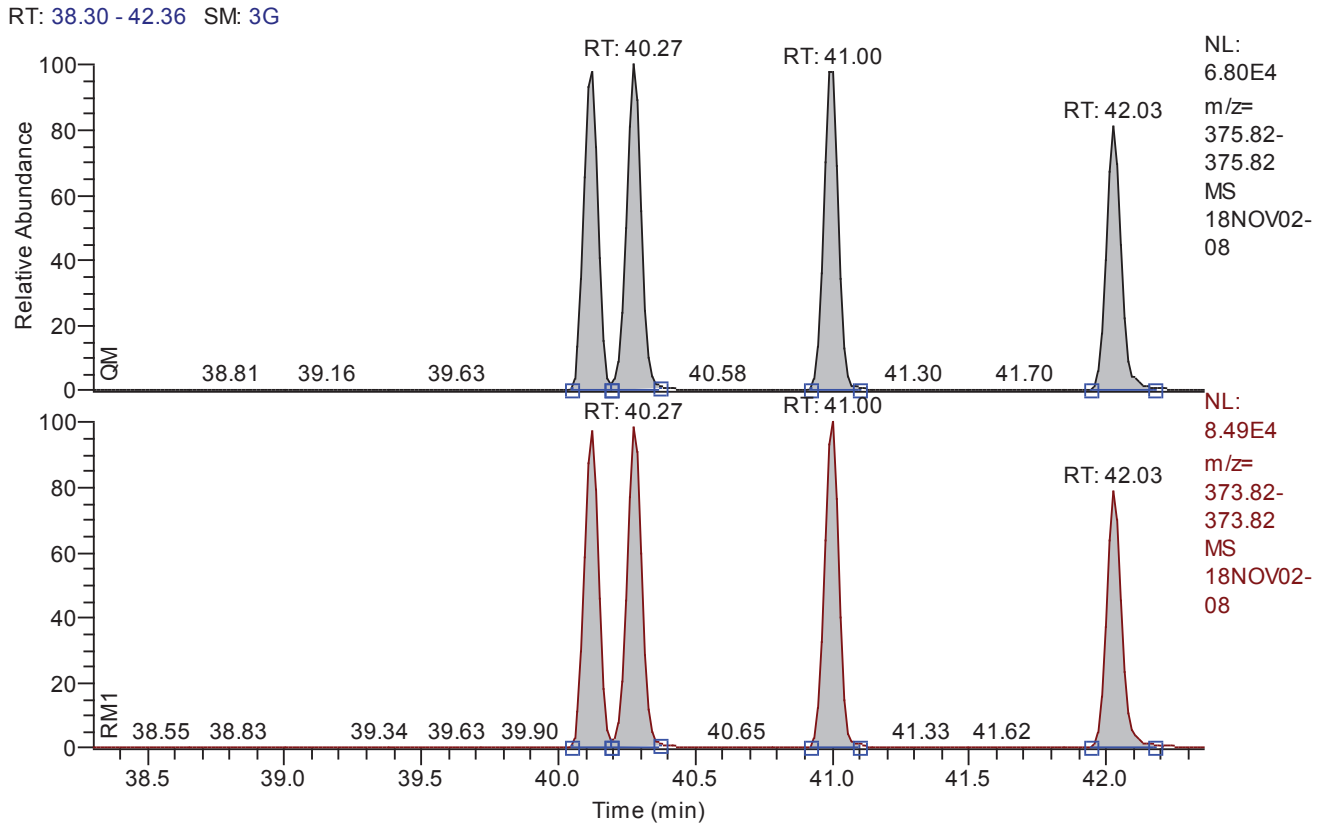
Chromatogram



Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	936516
QM Integration Mode	A
RM1 Area	1160986
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	2564
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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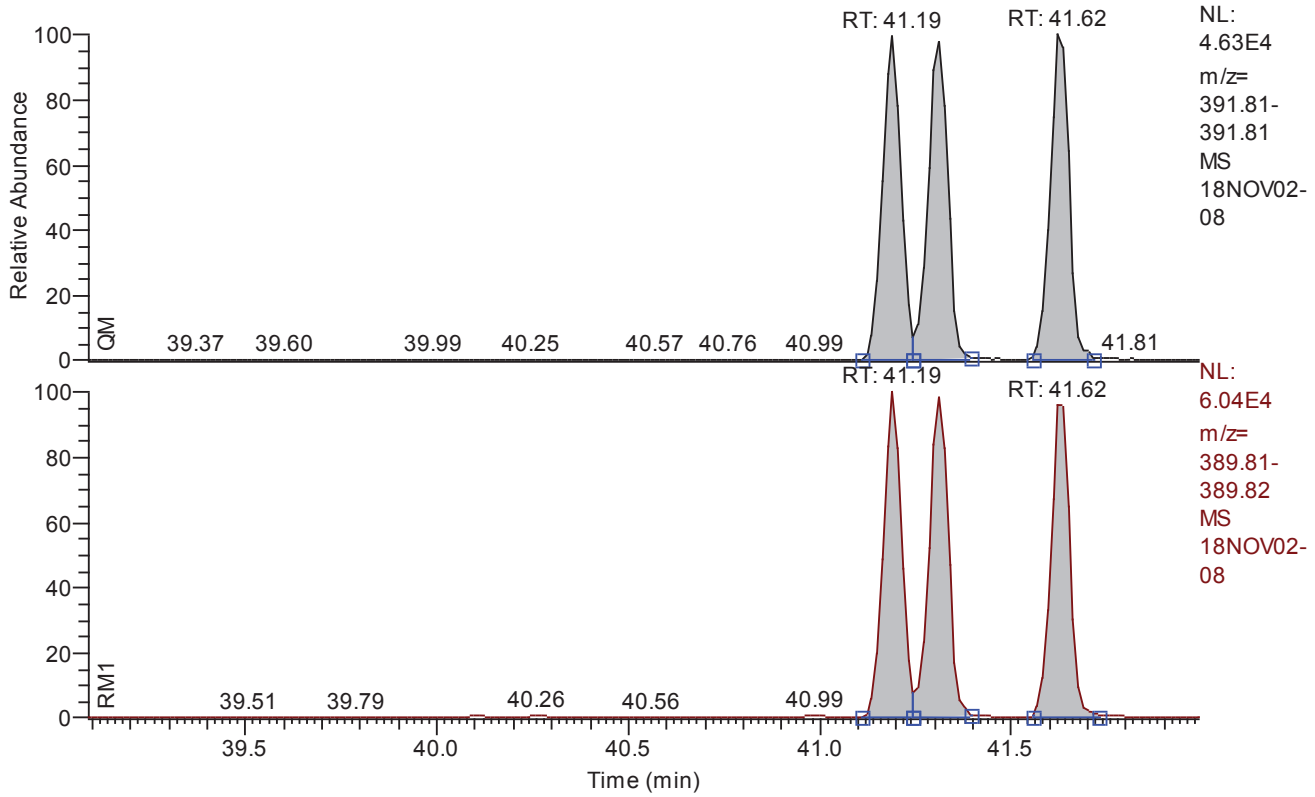
Chromatogram

RT: 39.09 - 41.99 SM: 3G



Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	478517
QM Integration Mode	A
RM1 Area	609018
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	30.0000
Signal-to-Noise	2891
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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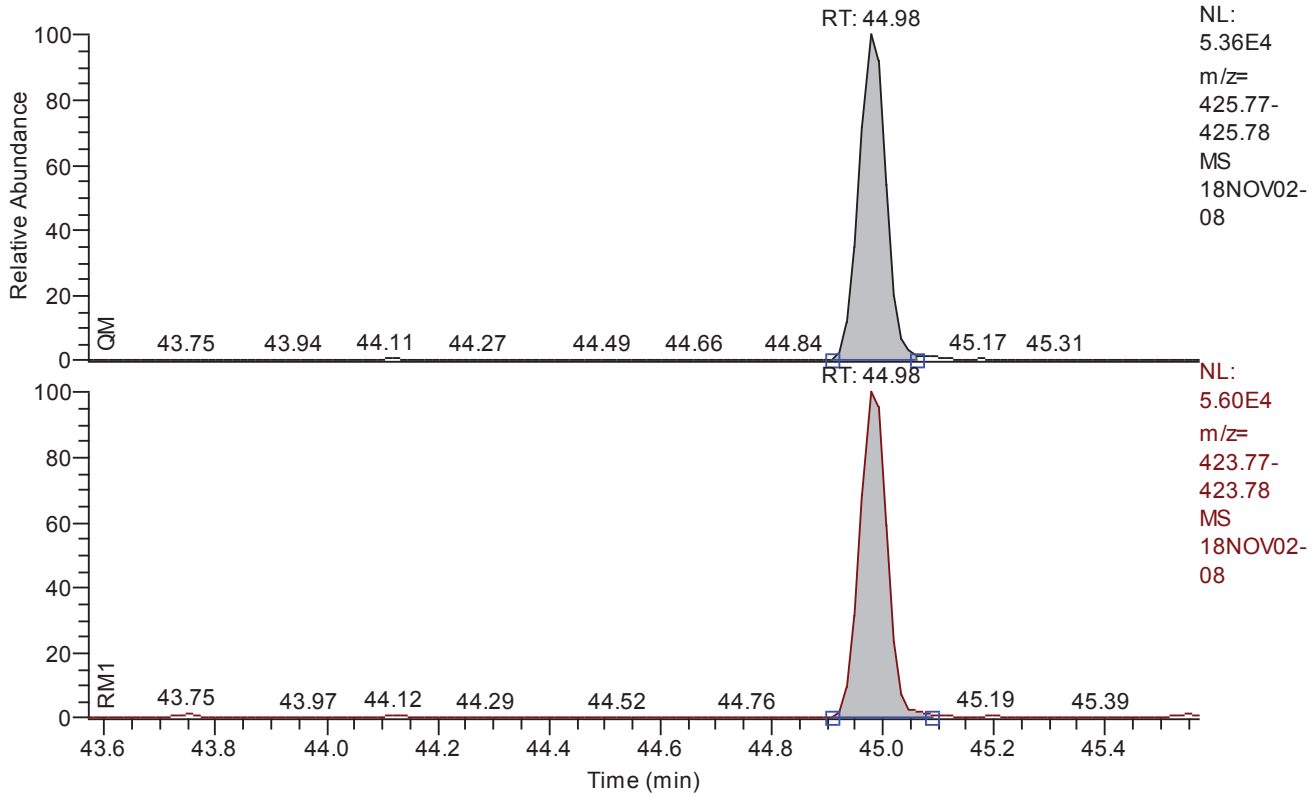
Chromatogram

RT: 43.57 - 45.57 SM: 3G



Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	176068
QM Integration Mode	A
RM1 Area	186638
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2254
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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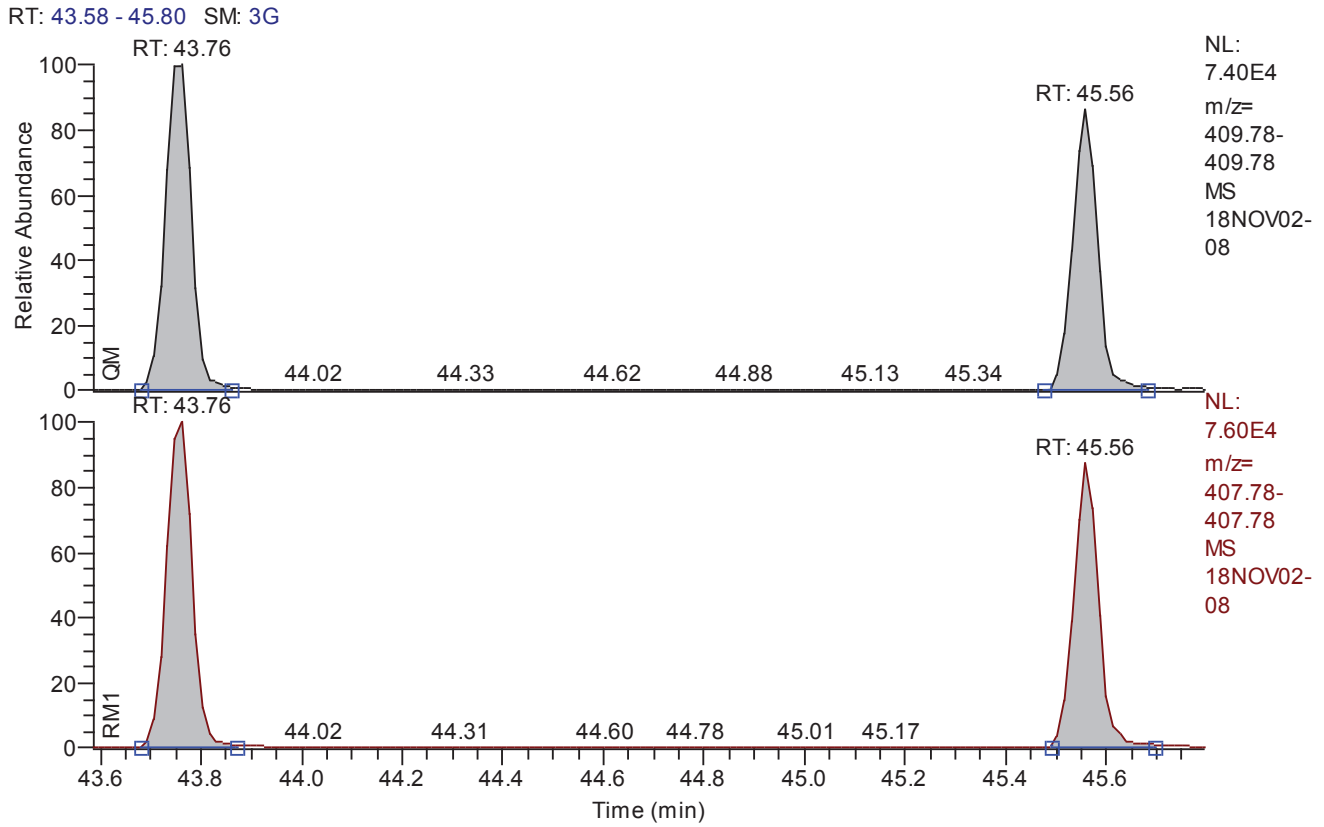
Chromatogram



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	482621
QM Integration Mode	A
RM1 Area	494510
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	2102
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.11	30.11	30.11	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.06	35.06	35.06	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.13	40.13	40.13	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.00	41.00	41.00	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.76	43.76	43.76	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.56	45.56	45.56	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.50	30.50	30.52	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.22	29.22	29.22	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.96	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.08	30.08	30.08	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.04	35.04	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.37	36.37	36.37	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.77	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.11	40.11	40.11	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.98	40.98	40.98	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.18	41.18	41.18	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.30	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.11	30.11	30.11	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.06	35.06	35.06	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.13	40.13	40.13	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	41.00	41.00	41.00	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.03	42.03	42.03	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.76	43.76	43.76	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.56	45.56	45.56	passed	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.11	0.8220	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.06	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5518	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.6071	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.13	1.2321	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.00	1.2512	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2849	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2574	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.03	1.2320	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.76	1.0130	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0600	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.56	1.0386	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8882	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.9325	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.50	0.7828	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.22	0.8032	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2644	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7552	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.08	0.8106	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.04	1.5874	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.37	1.5516	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5894	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.11	0.5238	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5288	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.98	0.5311	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.18	1.2648	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2295	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2394	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5284	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.75	0.4590	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0538	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.54	0.4507	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8900	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8938	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7866	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.8220	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5523	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.6071	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2397	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2727	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0600	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0246	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.11	0.8220	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.6071	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5518	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.06	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0600	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.27	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.13	1.2321	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.00	1.2512	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.03	1.2320	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2574	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2849	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.76	1.0130	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.56	1.0386	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	28.98	69072	A	54334	A	0.0063	2.000000	2.0000	2.000000	781	
2	2378-TCDD	passed	30.11	43810	A	36011	A	0.0064	2.000000	2.0000	2.000000	766	
3	12378-PeCDF	passed	35.06	201568	A	313007	A	0.0073	10.000000	10.0000	10.000000	3416	
4	23478-PeCDF	passed	36.38	225963	A	350650	A	0.0061	10.000000	10.0000	10.000000	4105	
5	12378-PeCDD	passed	36.78	125625	A	201892	A	0.0130	10.000000	10.0000	10.000000	1988	
6	123478-HxCDF	passed	40.13	242805	A	299149	A	0.0097	10.000000	10.0000	10.000000	2661	
7	123678-HxCDF	passed	40.27	246206	A	305853	A	0.0093	10.000000	10.0000	10.000000	2702	
8	234678-HxCDF	passed	41.00	243572	A	304749	A	0.0091	10.000000	10.0000	10.000000	2710	
9	123478-HxCDD	passed	41.19	156134	A	199235	A	0.0086	10.000000	10.0000	10.000000	2930	
10	123678-HxCDD	passed	41.31	160622	A	206379	A	0.0087	10.000000	10.0000	10.000000	2874	
11	123789-HxCDD	passed	41.62	161761	A	203405	A	0.0085	10.000000	10.0000	10.000000	2868	
12	123789-HxCDF	passed	42.03	203932	A	251236	A	0.0111	10.000000	10.0000	10.000000	2184	
13	1234678-HpCDF	passed	43.76	263652	A	267079	A	0.0109	10.000000	10.0000	10.000000	2247	
14	1234678-HpCDD	passed	44.98	176068	A	186638	A	0.0111	10.000000	10.0000	10.000000	2254	
15	1234789-HpCDF	passed	45.56	218969	A	227431	A	0.0127	10.000000	10.0000	10.000000	1957	
16	OCDD	passed	48.03	351622	A	312322	A	0.0113	20.000000	20.0000	20.000000	4488	
17	OCDF	passed	48.21	419850	A	391528	A	0.0082	20.000000	20.0000	20.000000	6210	
18	13C12-1278-TCDD (CRS)	passed	30.50	2230966	A	1746417	A	0.0203	100.000000	100.0000	100.000000	12068	
19	13C12-1234-TCDD	passed	29.22	2250576	A	1807747	A	0.0199	100.000000	100.0000	100.000000	12590	
20	13C12-123468-HxCDD	passed	40.02	1861044	A	2353160	A	0.0243	100.000000	100.0000	100.000000	10275	
21	13C12-2378-TCDF	passed	28.96	4050852	A	3059380	A	0.0164	100.000000	100.0000	100.000000	14848	
22	13C12-2378-TCDD	passed	30.08	2100540	A	1702715	A	0.0212	100.000000	100.0000	100.000000	11441	
23	13C12-12378-PeCDF	passed	35.04	2424408	A	3848538	A	0.0424	100.000000	100.0000	100.000000	7369	
24	13C12-23478-PeCDF	passed	36.37	2466410	A	3826881	A	0.0423	100.000000	100.0000	100.000000	7875	
25	13C12-12378-PeCDD	passed	36.75	1442200	A	2292275	A	0.0295	100.000000	100.0000	100.000000	11096	
26	13C12-123478-HxCDF	passed	40.11	3441966	A	1802963	A	0.0274	100.000000	100.0000	100.000000	8722	
27	13C12-123678-HxCDF	passed	40.26	3600758	A	1904151	A	0.0261	100.000000	100.0000	100.000000	9322	
28	13C12-234678-HxCDF	passed	40.98	3344551	A	1776381	A	0.0281	100.000000	100.0000	100.000000	8905	
29	13C12-123478-HxCDD	passed	41.18	1773805	A	2243479	A	0.0255	100.000000	100.0000	100.000000	10474	
30	13C12-123678-HxCDD	passed	41.30	1861251	A	2288457	A	0.0247	100.000000	100.0000	100.000000	10293	
31	13C12-123789-HxCDD	passed	41.61	1727949	A	2141671	A	0.0265	100.000000	100.0000	100.000000	9840	
32	13C12-123789-HxCDF	passed	42.01	3058286	A	1616135	A	0.0308	100.000000	100.0000	100.000000	8050	
33	13C12-1234678-HpCDF	passed	43.75	3300571	A	1514893	A	0.0346	100.000000	100.0000	100.000000	7497	
34	13C12-1234678-HpCDD	passed	44.96	1958345	A	2063631	A	0.0320	100.000000	100.0000	100.000000	8477	
35	13C12-1234789-HpCDF	passed	45.54	2711500	A	1221995	A	0.0423	100.000000	100.0000	100.000000	6231	
36	13C12-OCDD	passed	48.01	3980408	A	3542679	A	0.0129	200.000000	200.0000	200.000000	44081	
37	13C12-OCDF	passed	48.20	5350707	A	4782347	A	0.0126	200.000000	200.0000	200.000000	42959	
38	Total TCDF	passed (1)	28.02	69072	A	54334	A	0.0063	2.000000	2.0000	2.000000	781	
39	Total TCDD	passed (1)	28.72	43810	A	36011	A	0.0064	2.000000	2.0000	2.000000	766	
40	Total PeCDF	passed (2)	34.60	427531	A	663658	A	0.0067	10.000000	20.0000	10.000000	3760	
41	Total PeCDD	passed (1)	35.55	125625	A	201892	A	0.0130	10.000000	10.0000	10.000000	1988	
42	Total HxCDF	passed (4)	40.33	936516	A	1160986	A	0.0098	10.000000	40.0000	10.000000	2564	
43	Total HxCDD	passed (3)	40.54	478517	A	609018	A	0.0086	10.000000	30.0000	10.000000	2891	
44	Total HpCDD	passed (1)	44.57	176068	A	186638	A	0.0111	10.000000	10.0000	10.000000	2254	
45	Total HpCDF	passed (2)	44.69	482621	A	494510	A	0.0118	10.000000	20.0000	10.000000	2102	
46	Single TCDF	passed	28.98	69072	A	54334	A	0.0063	2.000000	2.0000	2.000000	781	
47	Single TCDD	passed	30.11	43810	A	36011	A	0.0064	2.000000	2.0000	2.000000	766	
48	Single PeCDD	passed	36.78	125625	A	201892	A	0.0130	10.000000	10.0000	10.000000	1988	
49	Single PeCDF	passed	36.38	225963	A	350650	A	0.0063	10.000000	10.0000	10.000000	4105	
50	Single PeCDF	passed	35.06	201568	A	313007	A	0.0071	10.000000	10.0000	10.000000	3416	
51	Single HpCDD	passed	44.98	176068	A	186638	A	0.0111	10.000000	10.0000	10.000000	2254	
52	Single HxCDF	passed	40.27	246206	A	305853	A	0.0093	10.000000	10.0000	10.000000	2702	
53	Single HxCDF	passed	40.13	242805	A	299149	A	0.0094	10.000000	10.0000	10.000000	2661	
54	Single HxCDF	passed	41.00	243572	A	304749	A	0.0093	10.000000	10.0000	10.000000	2710	
55	Single HxCDF	passed	42.03	203932	A	251236	A	0.0112	10.000000	10.0000	10.000000	2184	
56	Single HxCDD	passed	41.62	161761	A	203405	A	0.0085	10.000000	10.0000	10.000000	2868	
57	Single HxCDD	passed	41.19	156134	A	199235	A	0.0088	10.000000	10.0000	10.000000	2930	
58	Single HxCDD	passed	41.31	160622	A	206379	A	0.0085	10.000000	10.0000	10.000000	2874	
59	Single HpCDF	passed	43.76	263652	A	267079	A	0.0108	10.000000	10.0000	10.000000	2247	
60	Single HpCDF	passed	45.56	218969	A	227431	A	0.0128	10.000000	10.0000	10.000000	1957	

APPROVED
By uma9 at 11:21 am, 11/7/18

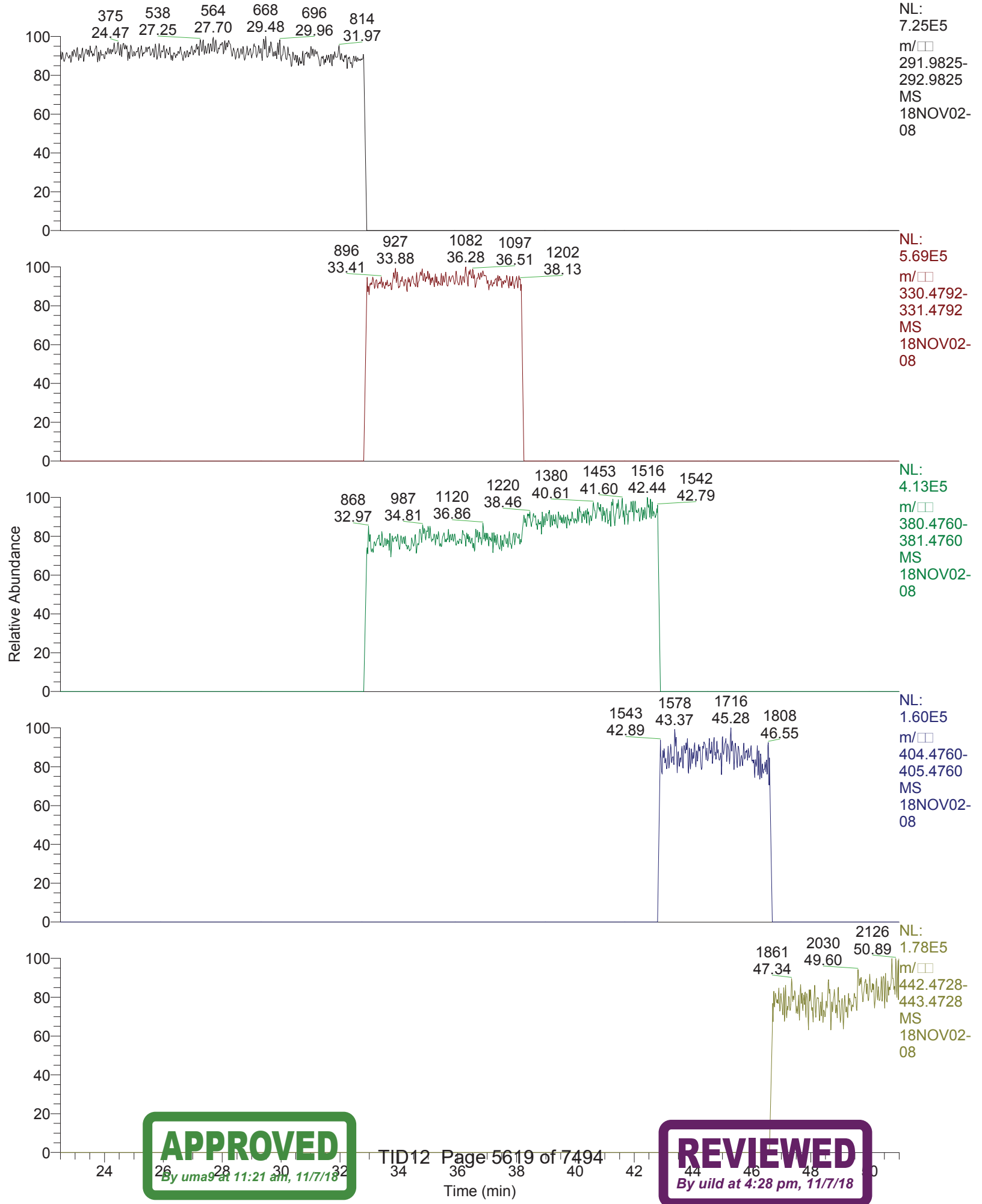
REVIEWED
By uild at 4:28 pm, 11/7/18

File Name: W:□18NOV02□18NOV02-08
Sample ID: CS201

Acq. Data: 11/2/2018 4:35:47 PM
Sample Name: CALDF31837B
PFK Reference Loc□Mass Traces

Instrument ID: DF17280-18NOV02

RT: 22.50 - 51.00



APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

*** file opened Fri Nov 02 16:41:28 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 02-Nov-18 16:41:27

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
```

```
MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          96.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0003   ECURR           1.0000
 EDAC        7969177.0000   EDACG           0.9998   EDACZ        1246.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           216.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           190.0000   EXSBR          -2.6700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.6000
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0181   FVINLET         0.0426   FVSRC           0.0329
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           96.0000   LKM           442.9723   MASS           96.0000
 MDAC        1414138.4416   MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2159.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9788   RELEN           0.0000
 RES          11155.0771   RPUSHER        -1.0476   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0227   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          96.0000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.7e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10191.
MID Time Window 2: Resolution is 11131.
MID Time Window 3: Resolution is 11166.
MID Time Window 4: Resolution is 10756.
```

```
                                        18NOV02-08
  MID Time Window 5: Resolution is 11100.
  MID Time Window 6: Resolution is 11155.

  Amplifier Offset: 90.


*** File closed Fri Nov 02 17:32:29 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 17:32
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-09.quan
Data	w:\18nov02\18nov02-09.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.09	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.06	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.13	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.03	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.56	passed	passed	passed	passed	passed	passed	
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	
17	OCDF	48.22	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.52	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.20	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.07	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.04	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.35	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.18	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.74	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.02	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.09	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.06	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.13	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.03	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.75	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.56	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 17:32
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-09.quan
Data	w:\18nov02\18nov02-09.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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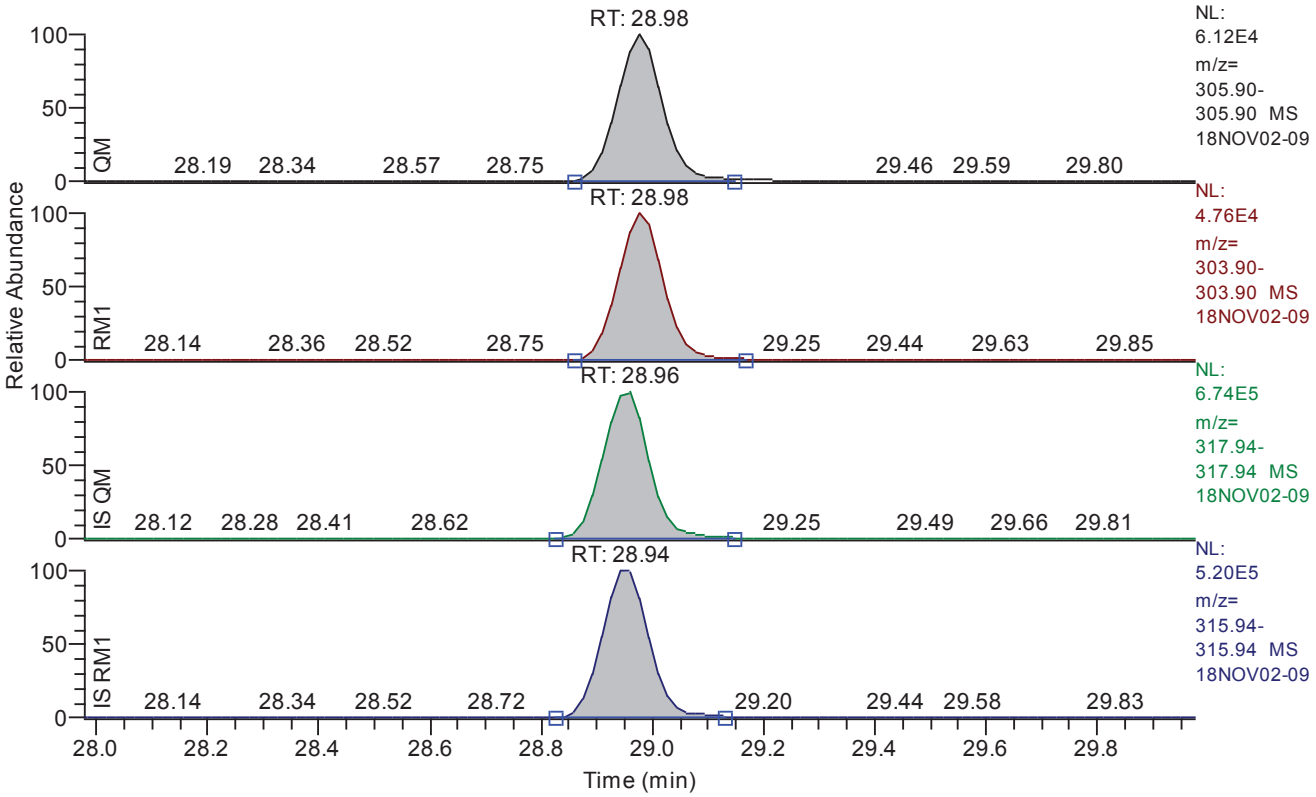
Chromatogram

RT: 27.98 - 29.98 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	351203
QM Integration Mode	A
RM1 Area	275325
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2660
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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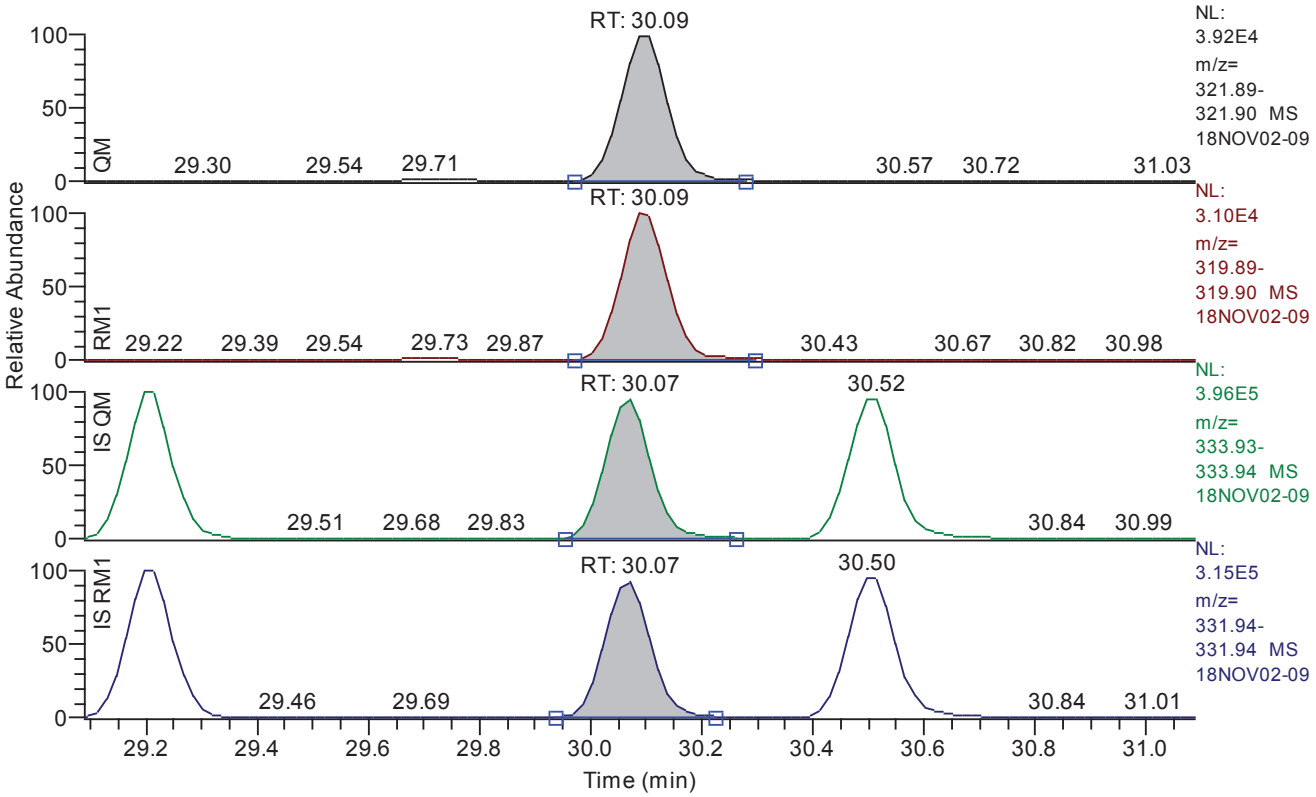
Chromatogram

RT: 29.09 - 31.09 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.09
QM Area	235178
QM Integration Mode	A
RM1 Area	185823
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0090
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2736
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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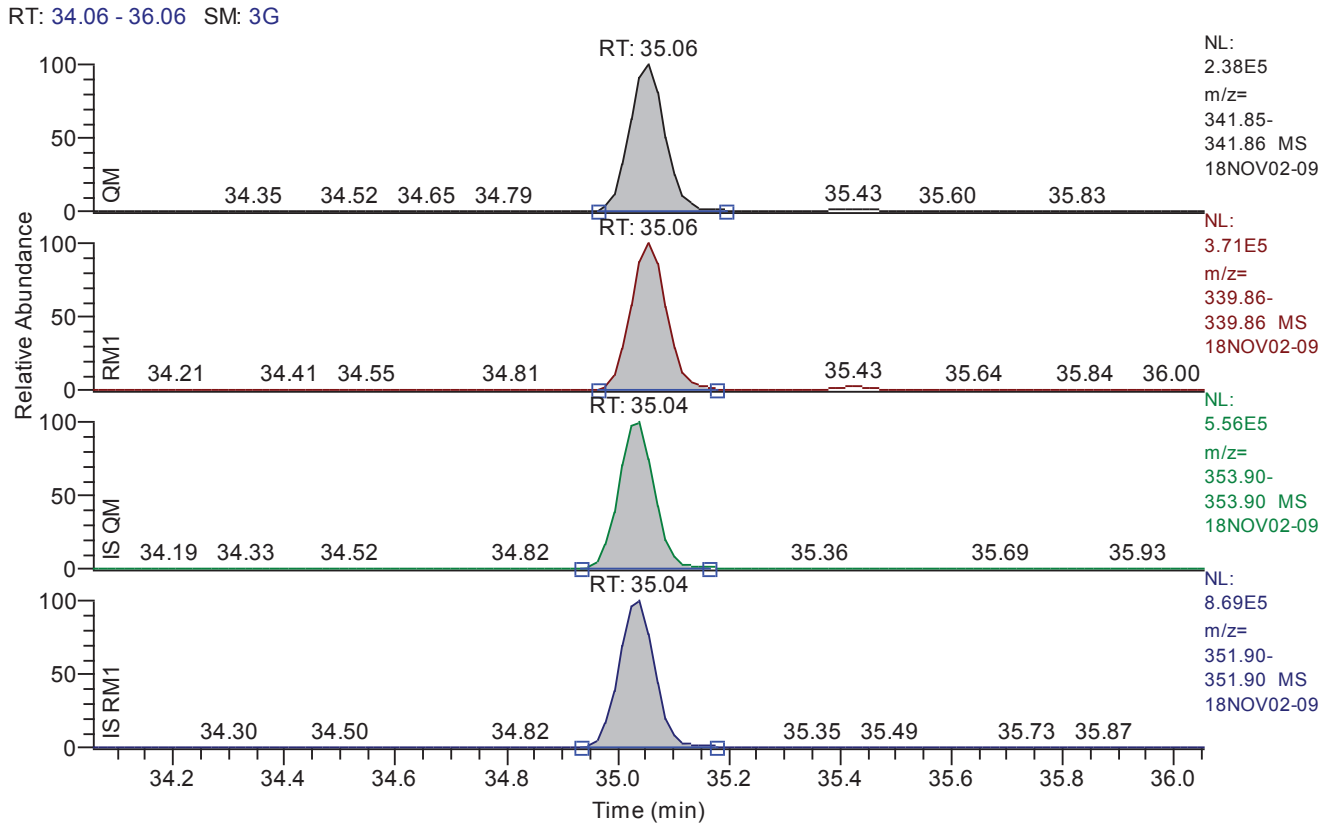
Chromatogram



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.06
QM Area	1060834
QM Integration Mode	A
RM1 Area	1658891
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0094
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	13446
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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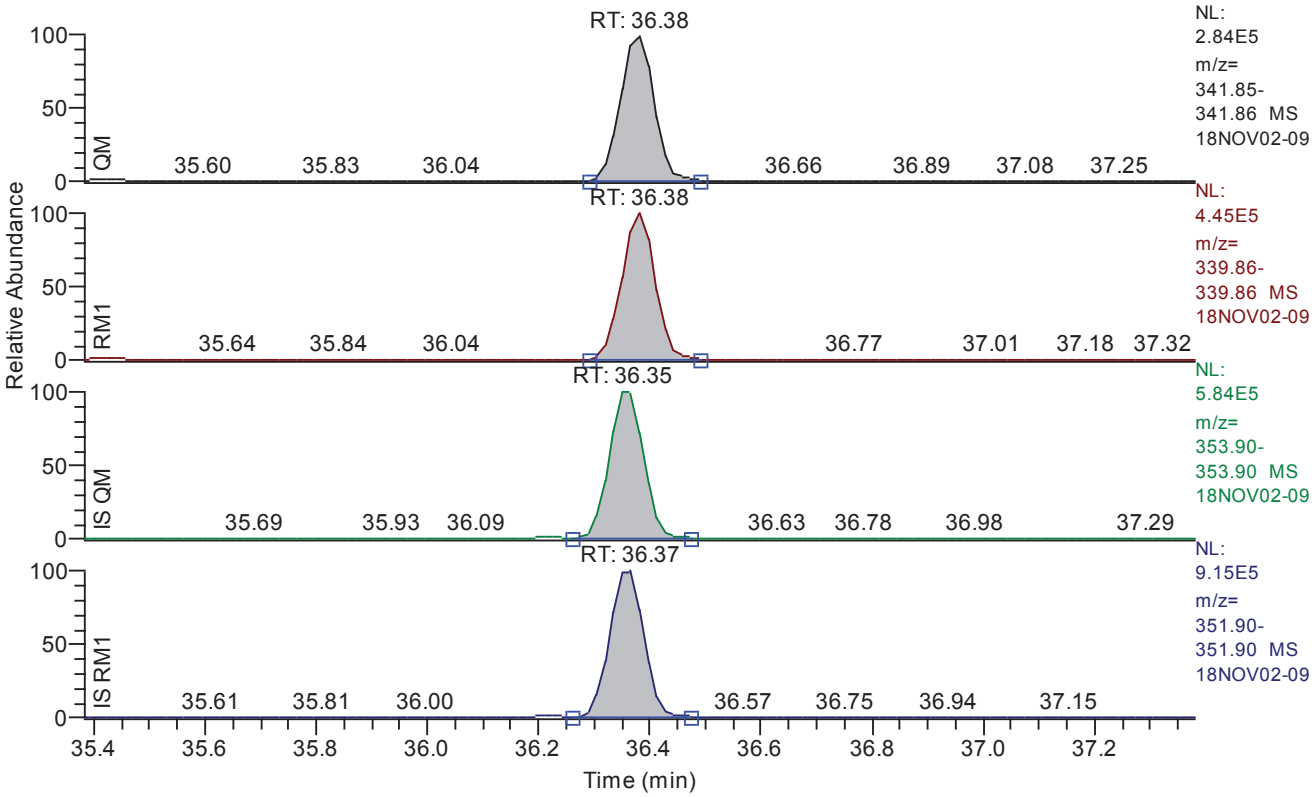
Chromatogram

RT: 35.38 - 37.38 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	1185234
QM Integration Mode	A
RM1 Area	1846165
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	16072
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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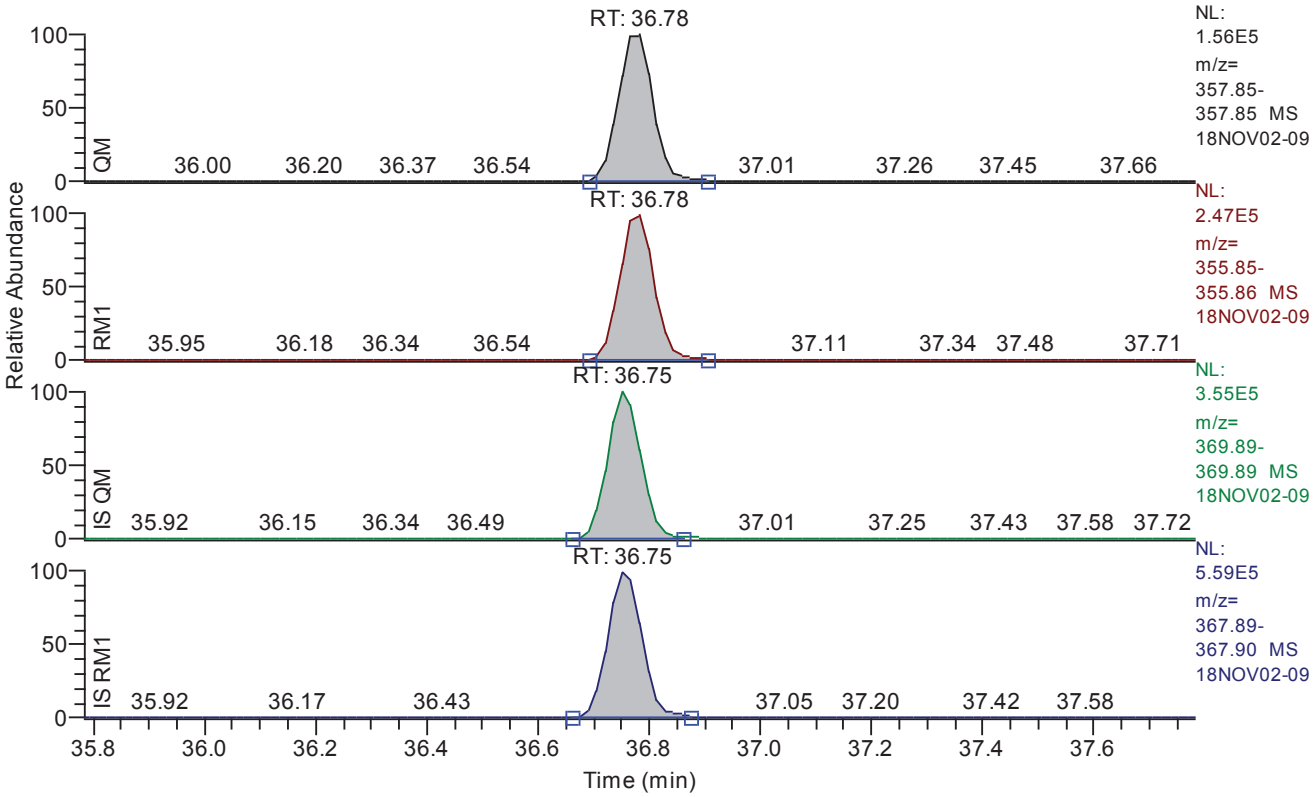
Chromatogram

RT: 35.78 - 37.78 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	680943
QM Integration Mode	A
RM1 Area	1061042
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0159
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7751
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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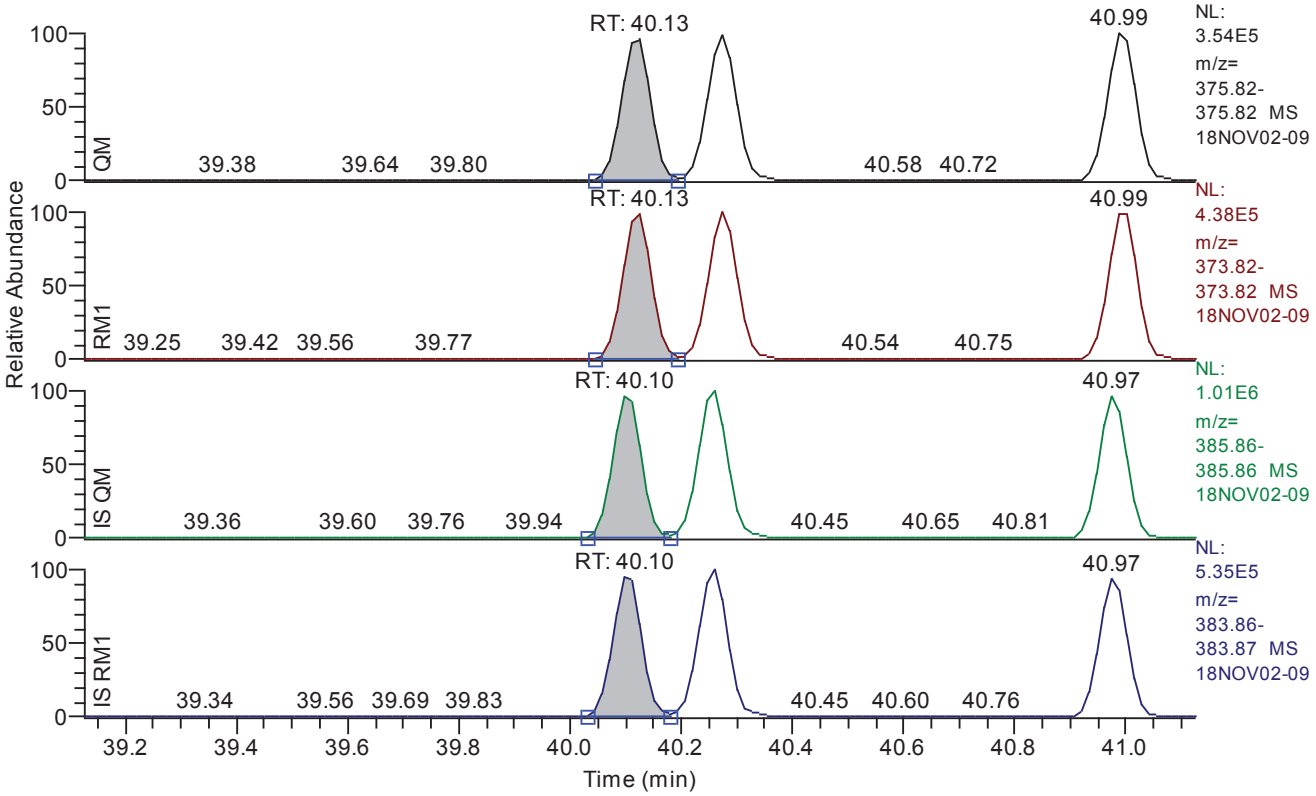
Chromatogram

RT: 39.13 - 41.13 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.13
QM Area	1256395
QM Integration Mode	A
RM1 Area	1579140
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0183
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6726
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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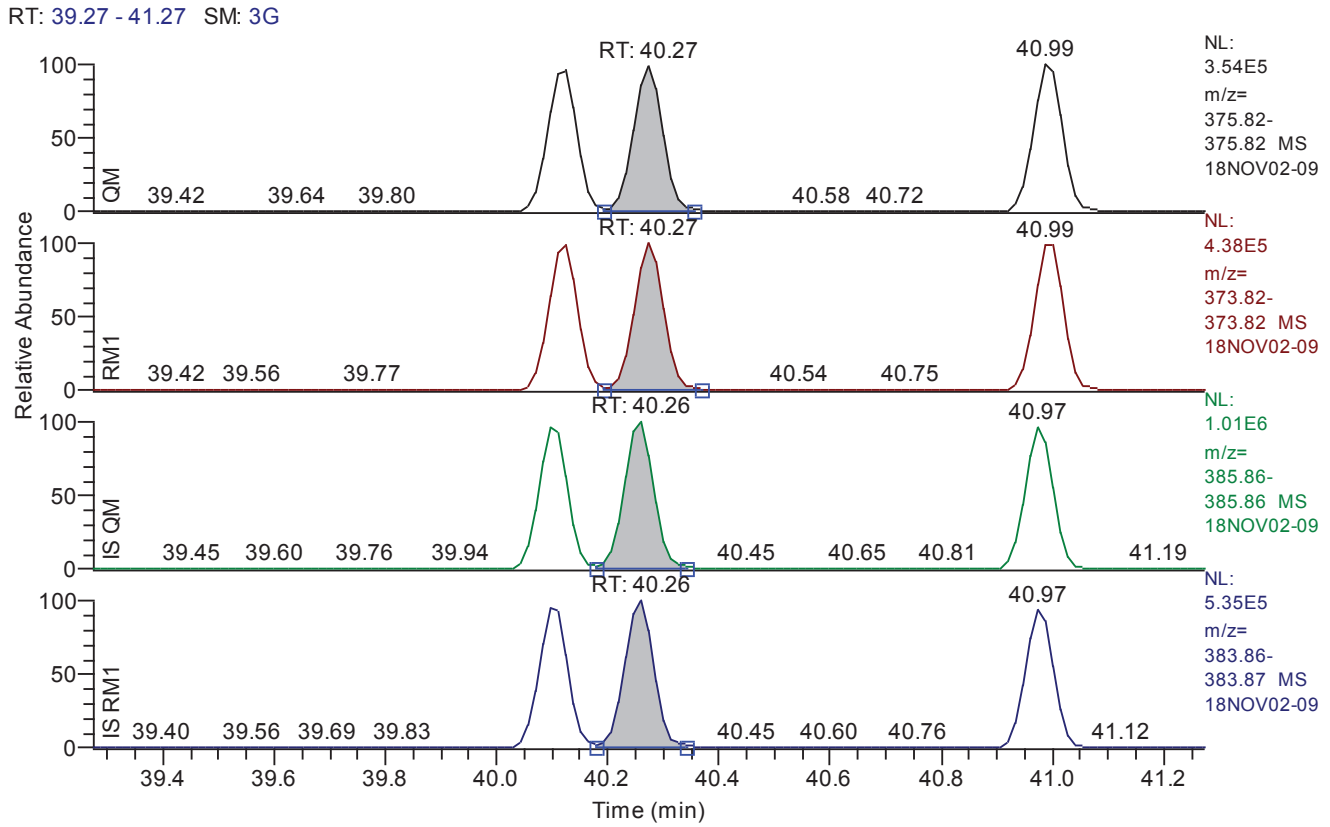
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	1280101
QM Integration Mode	A
RM1 Area	1600508
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0184
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6800
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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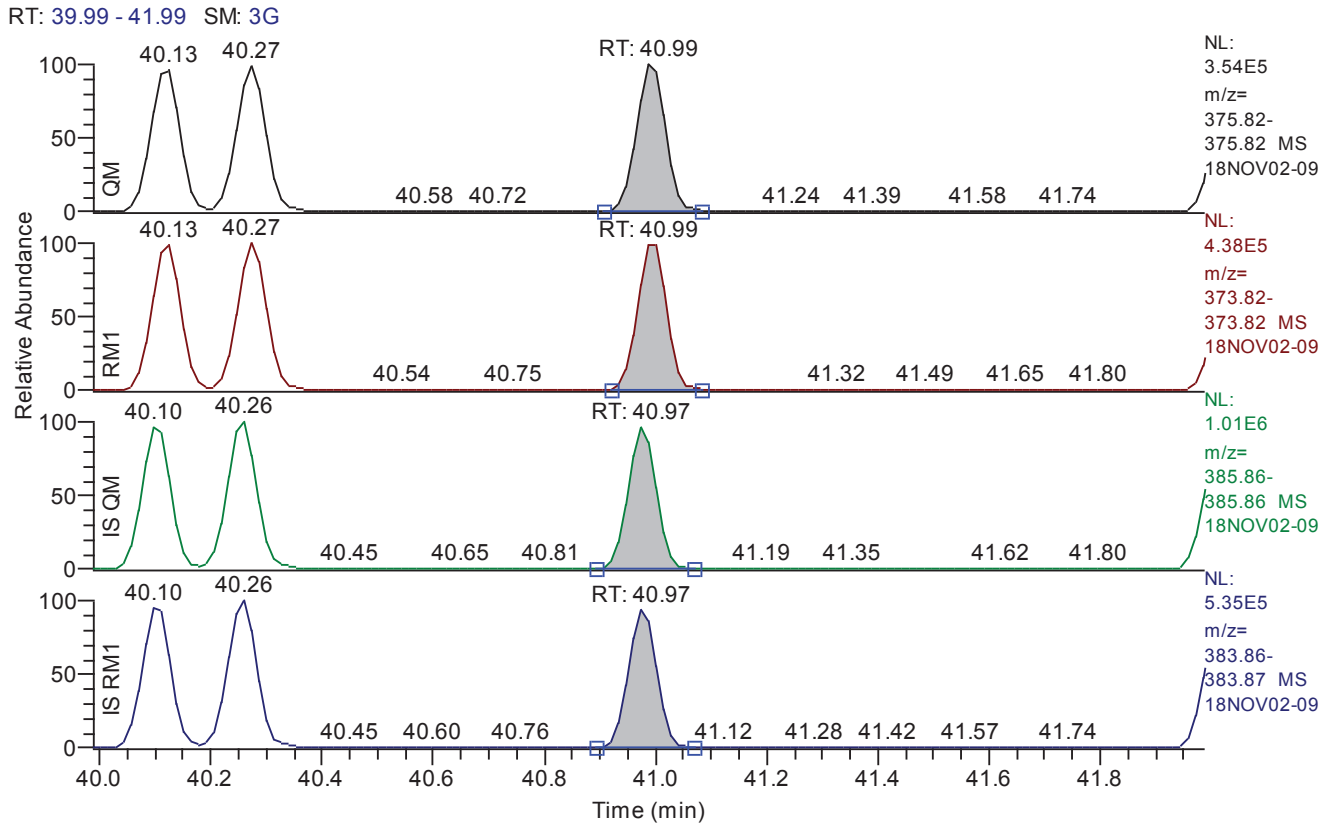
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	1287130
QM Integration Mode	A
RM1 Area	1595967
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0177
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6832
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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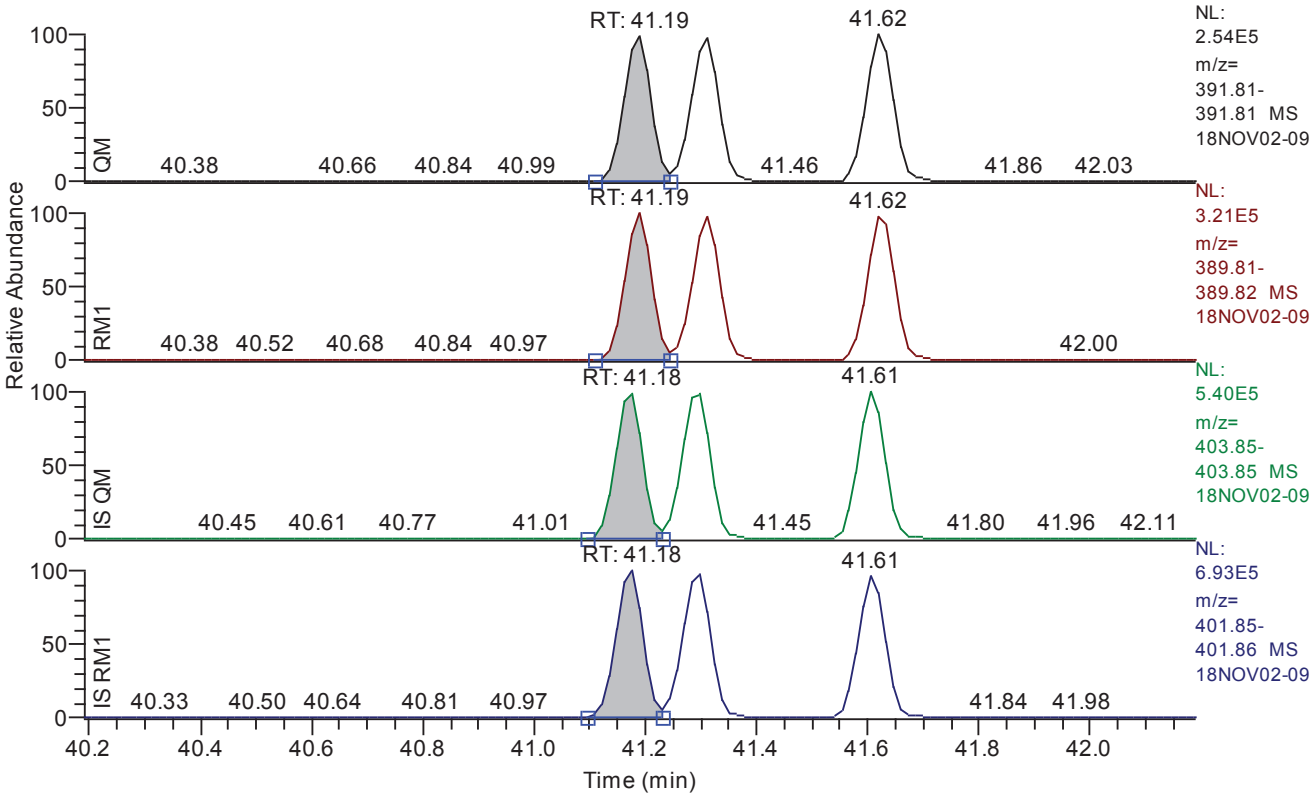
Chromatogram

RT: 40.19 - 42.19 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	853384
QM Integration Mode	A
RM1 Area	1066000
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0114
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11127
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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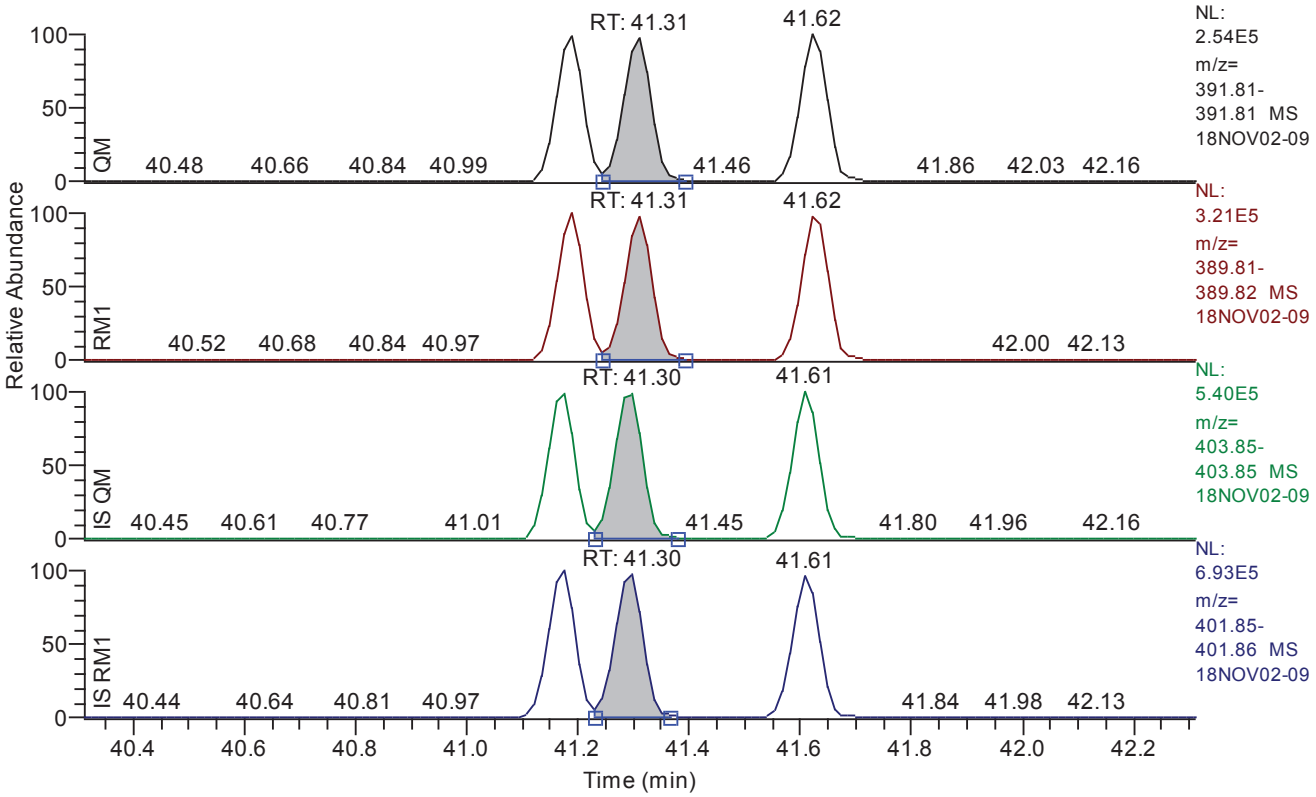
Chromatogram

RT: 40.31 - 42.31 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	860026
QM Integration Mode	A
RM1 Area	1074330
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	10860
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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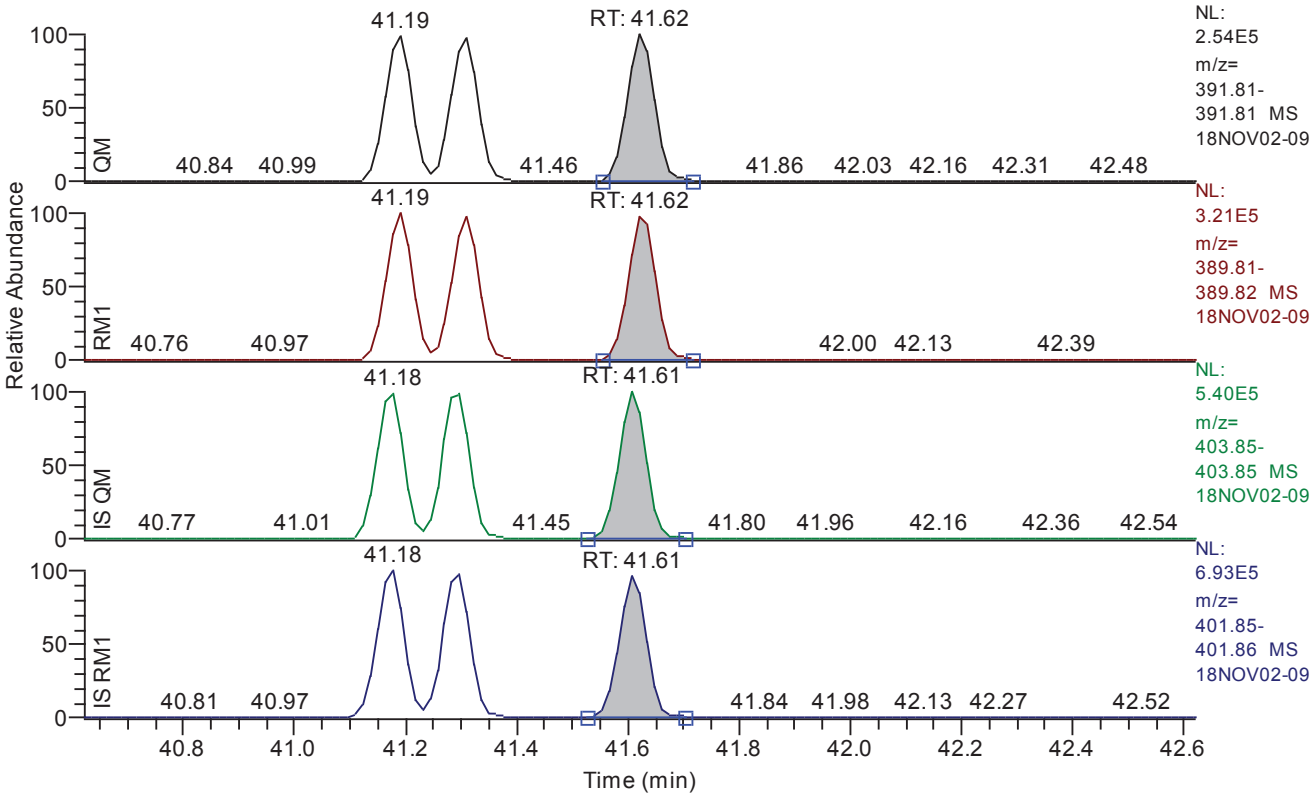
Chromatogram

RT: 40.62 - 42.62 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	871871
QM Integration Mode	A
RM1 Area	1089083
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11024
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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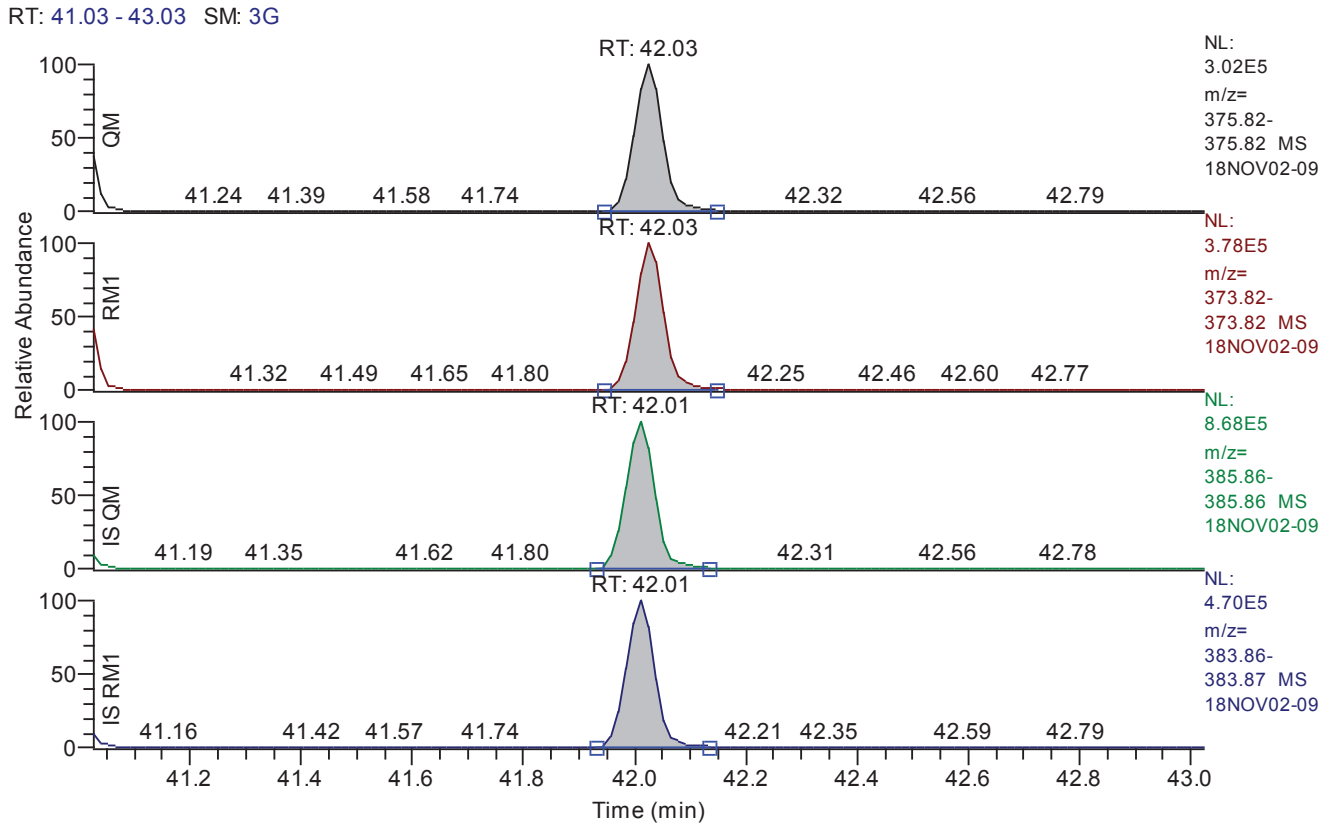
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.03
QM Area	1066839
QM Integration Mode	A
RM1 Area	1342470
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0215
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	5882
Client Flags	
Status Overview	passed
Status Info	

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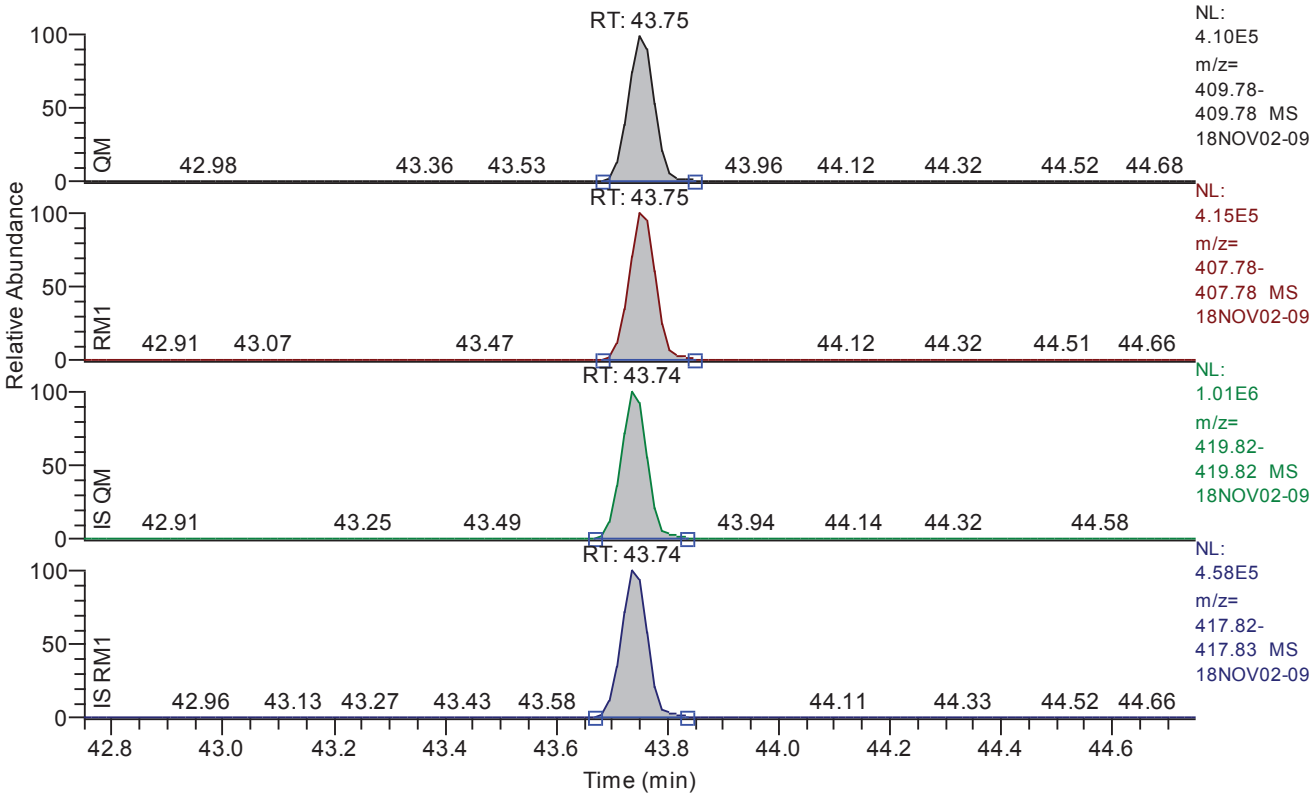
Chromatogram

RT: 42.75 - 44.75 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.75
QM Area	1374073
QM Integration Mode	A
RM1 Area	1425342
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0228
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	5436
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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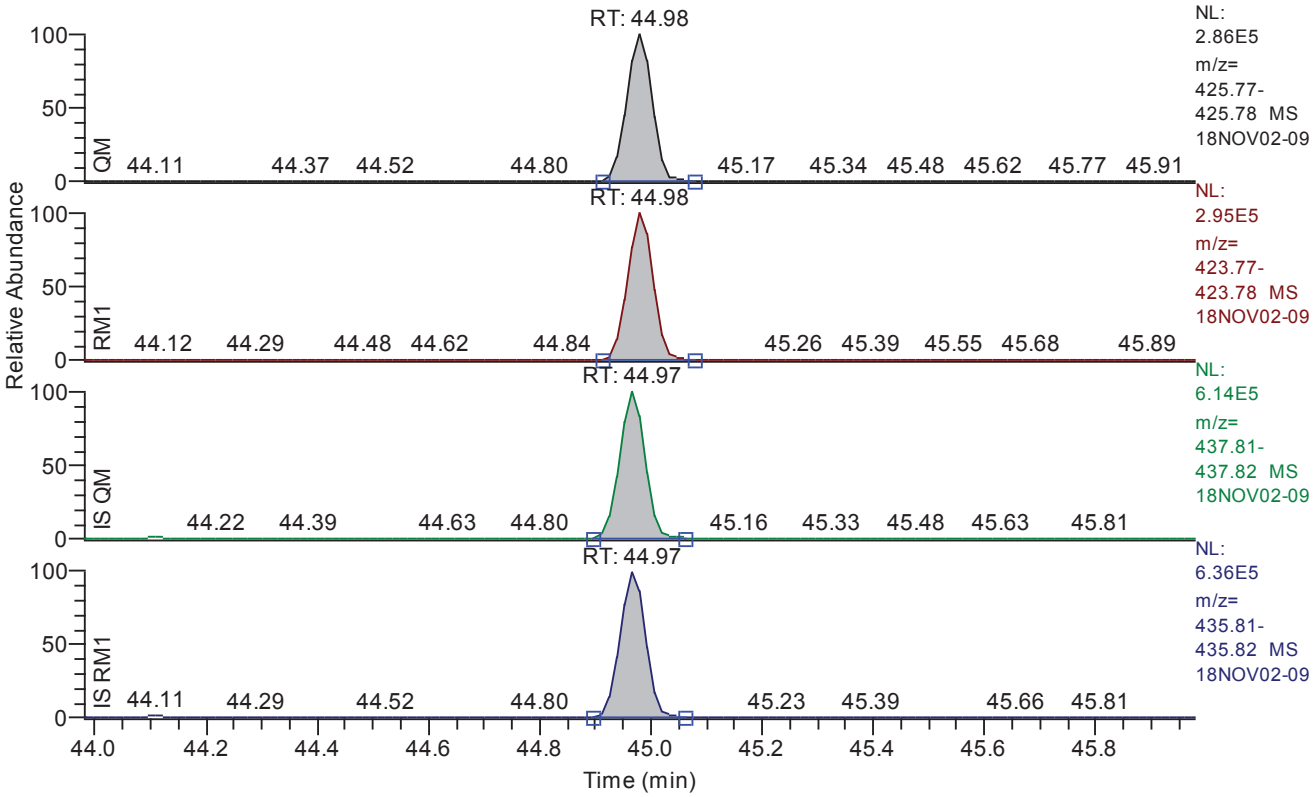
Chromatogram

RT: 43.98 - 45.98 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	941348
QM Integration Mode	A
RM1 Area	969036
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0194
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6426
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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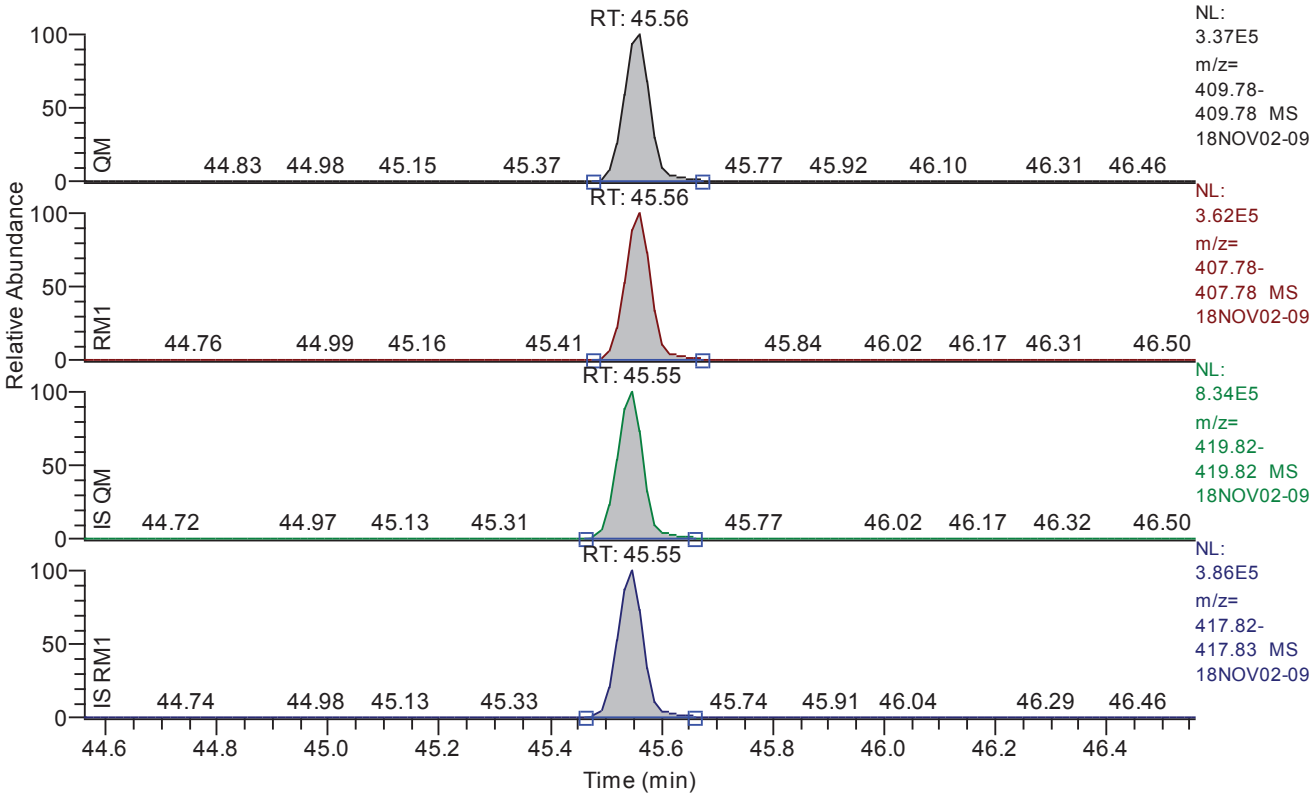
Chromatogram

RT: 44.56 - 46.56 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.56
QM Area	1145118
QM Integration Mode	A
RM1 Area	1198246
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0269
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	4600
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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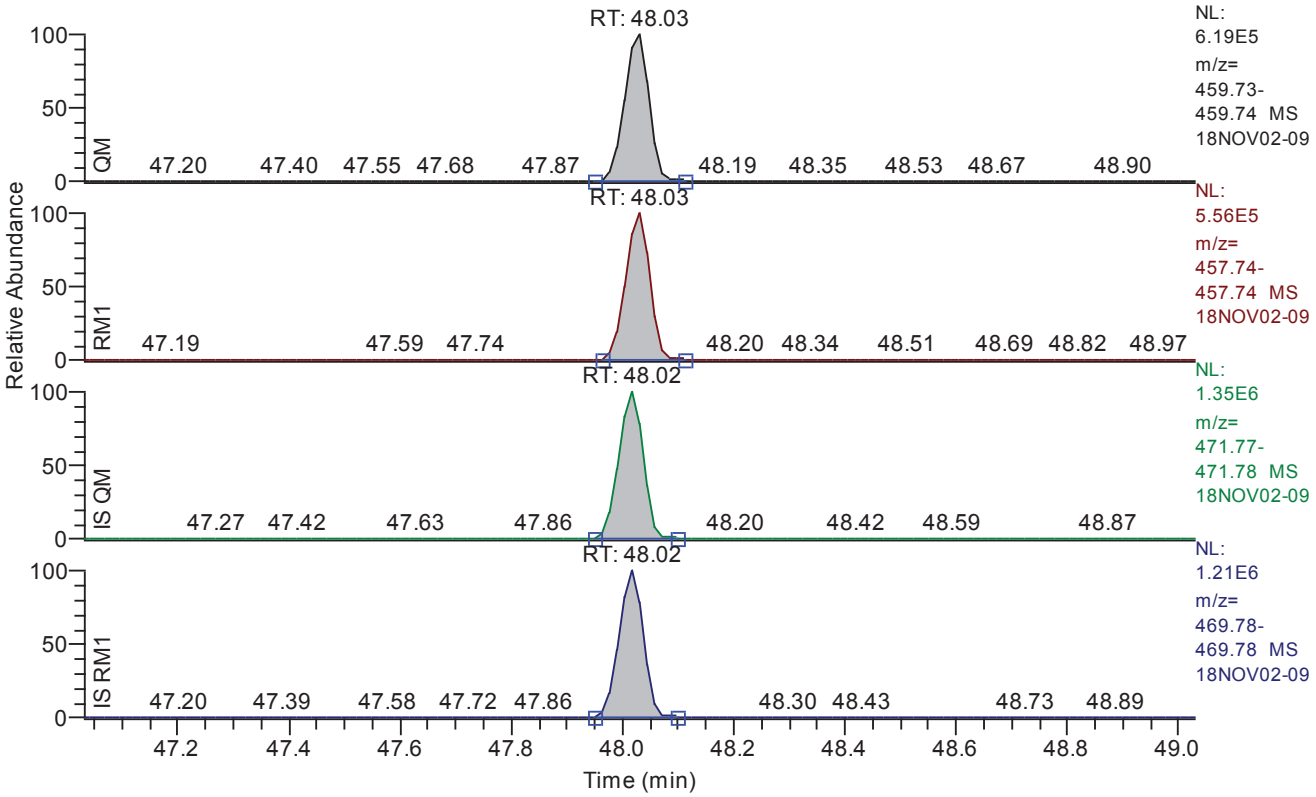
Chromatogram

RT: 47.03 - 49.03 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.03
QM Area	1902187
QM Integration Mode	A
RM1 Area	1686612
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	18885
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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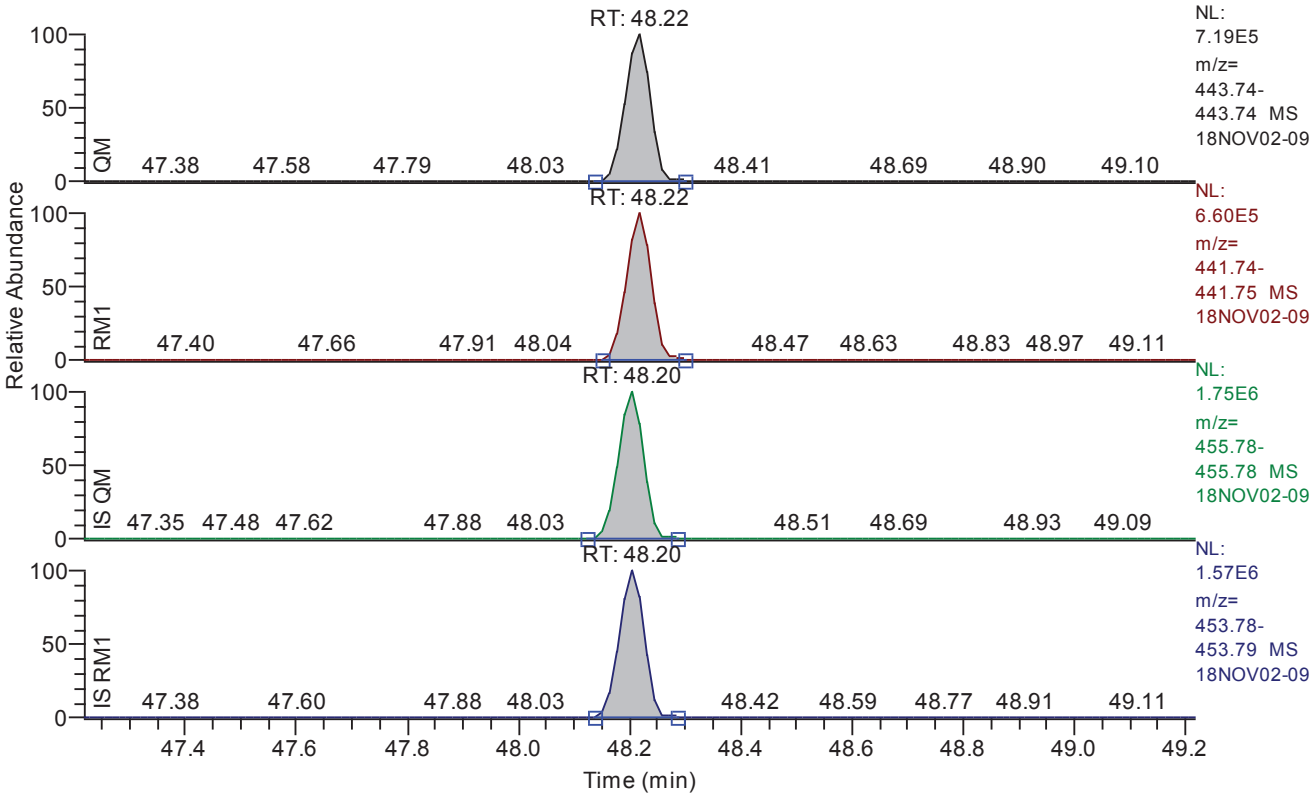
Chromatogram

RT: 47.22 - 49.22 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.22
QM Area	2258276
QM Integration Mode	A
RM1 Area	2056244
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	25896
Client Flags	
Status Overview	passed
Status Info	

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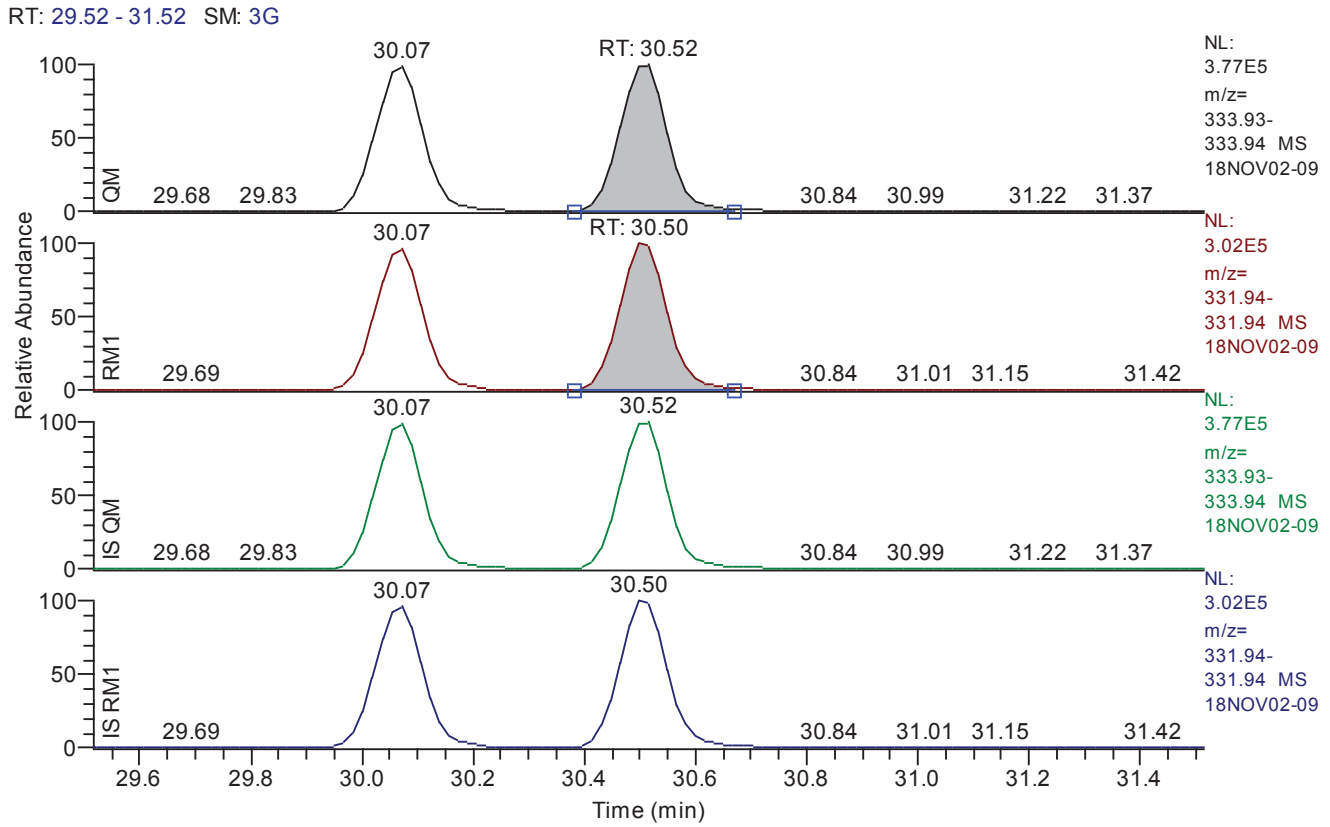
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.52
QM Area	2246029
QM Integration Mode	A
RM1 Area	1812279
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0212
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	11308
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 17:32
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-09.quan
Data	w:\18nov02\18nov02-09.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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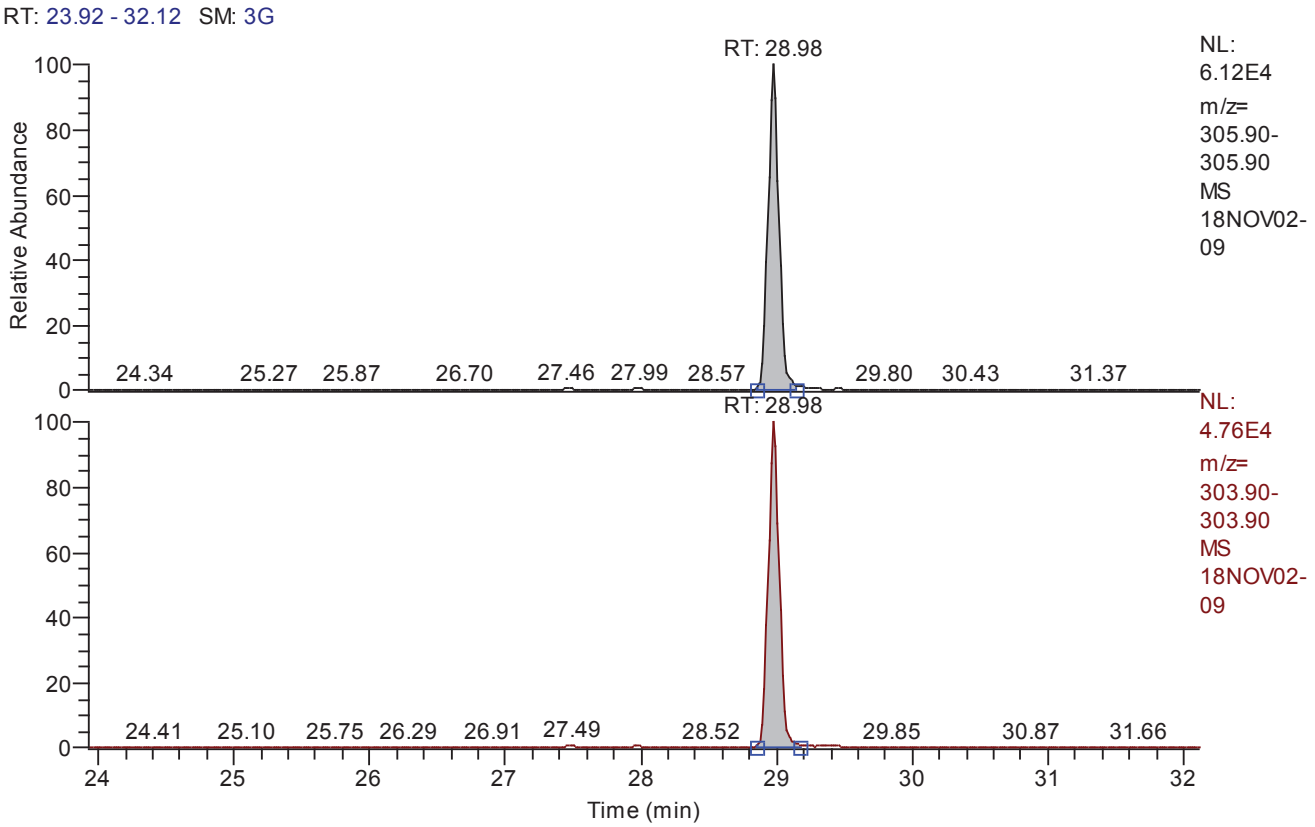
Chromatogram



Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	351203
QM Integration Mode	A
RM1 Area	275325
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2660
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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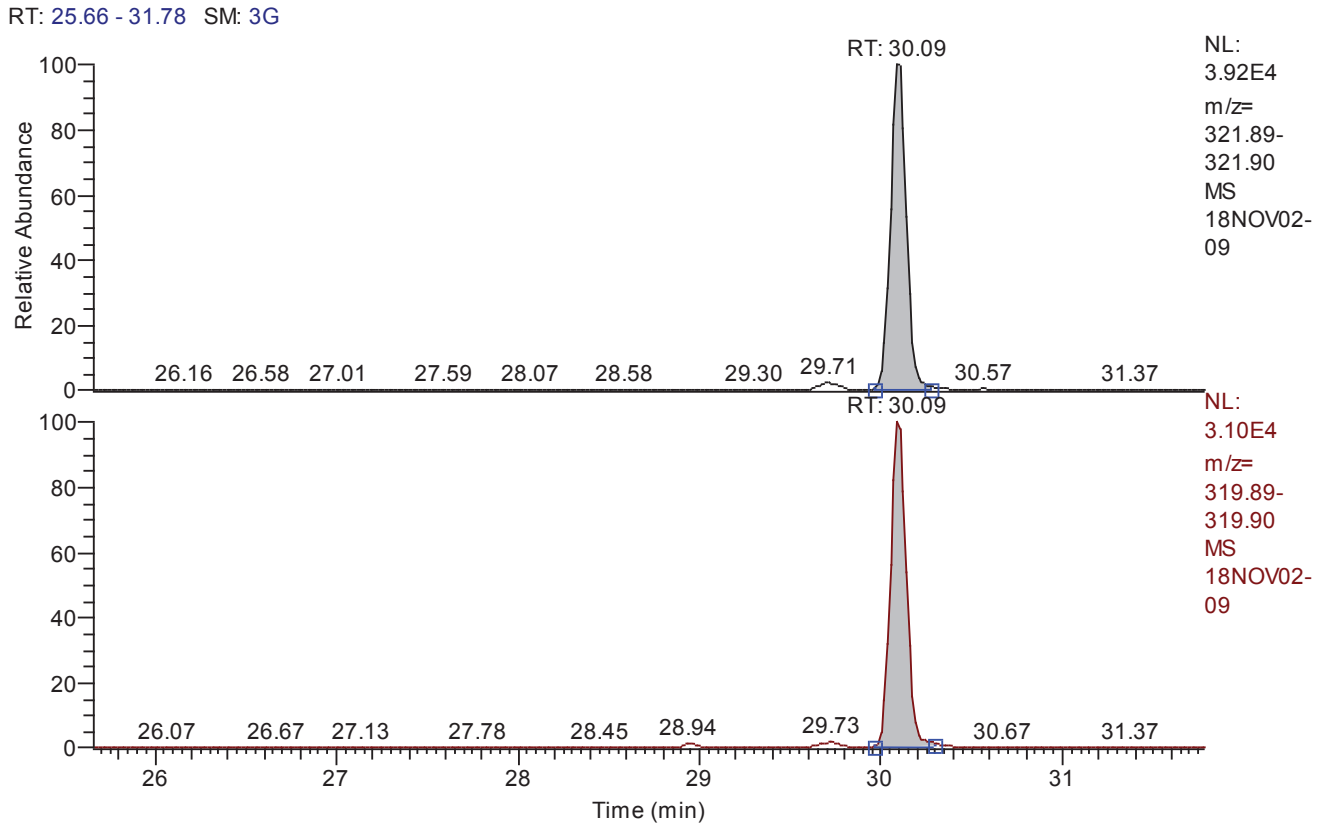
Chromatogram



Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	235178
QM Integration Mode	A
RM1 Area	185823
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0090
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2736
Client Flags	
Status Overview	passed (1)
Status Info	

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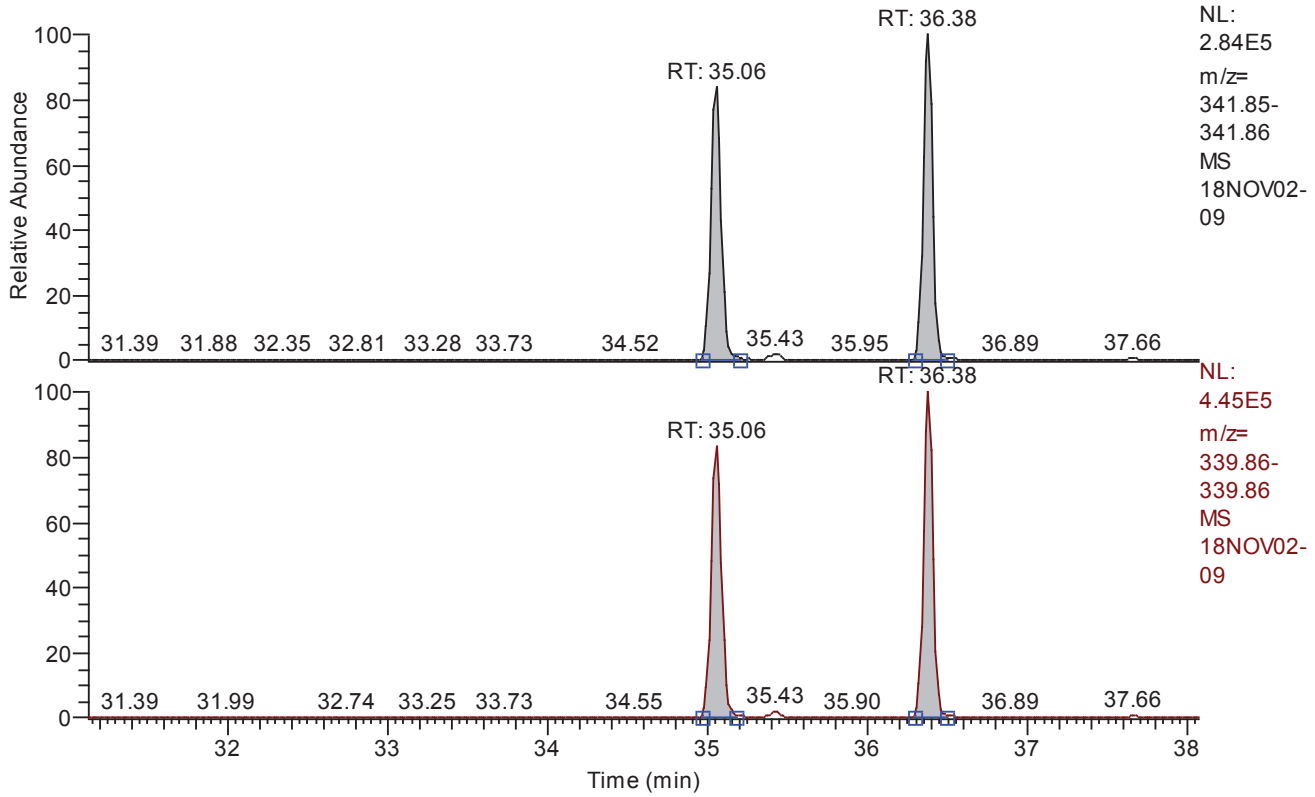
Chromatogram

RT: 31.12 - 38.08 SM: 3G



Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	2246069
QM Integration Mode	A
RM1 Area	3505056
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	14759
Client Flags	
Status Overview	passed (2)
Status Info	

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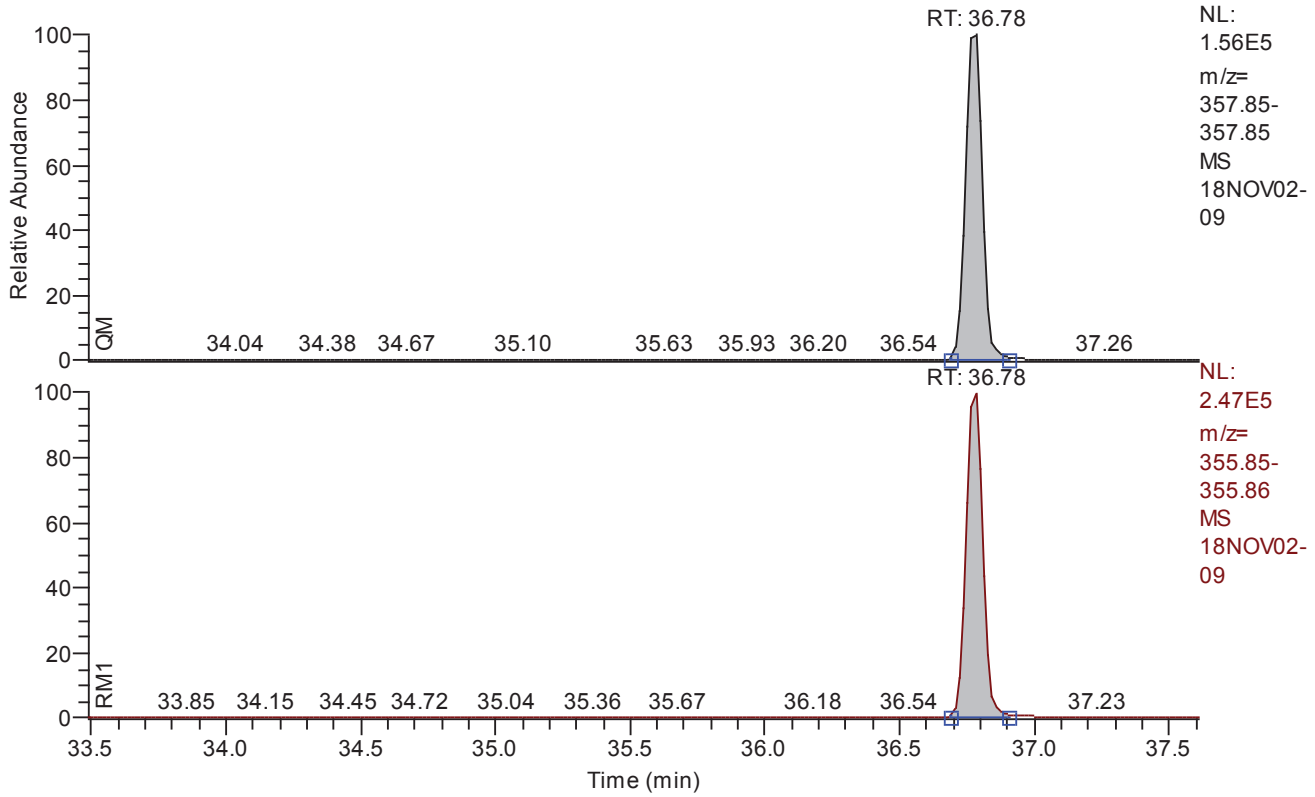
Chromatogram

RT: 33.49 - 37.61 SM: 3G



Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	680943
QM Integration Mode	A
RM1 Area	1061042
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0159
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7751
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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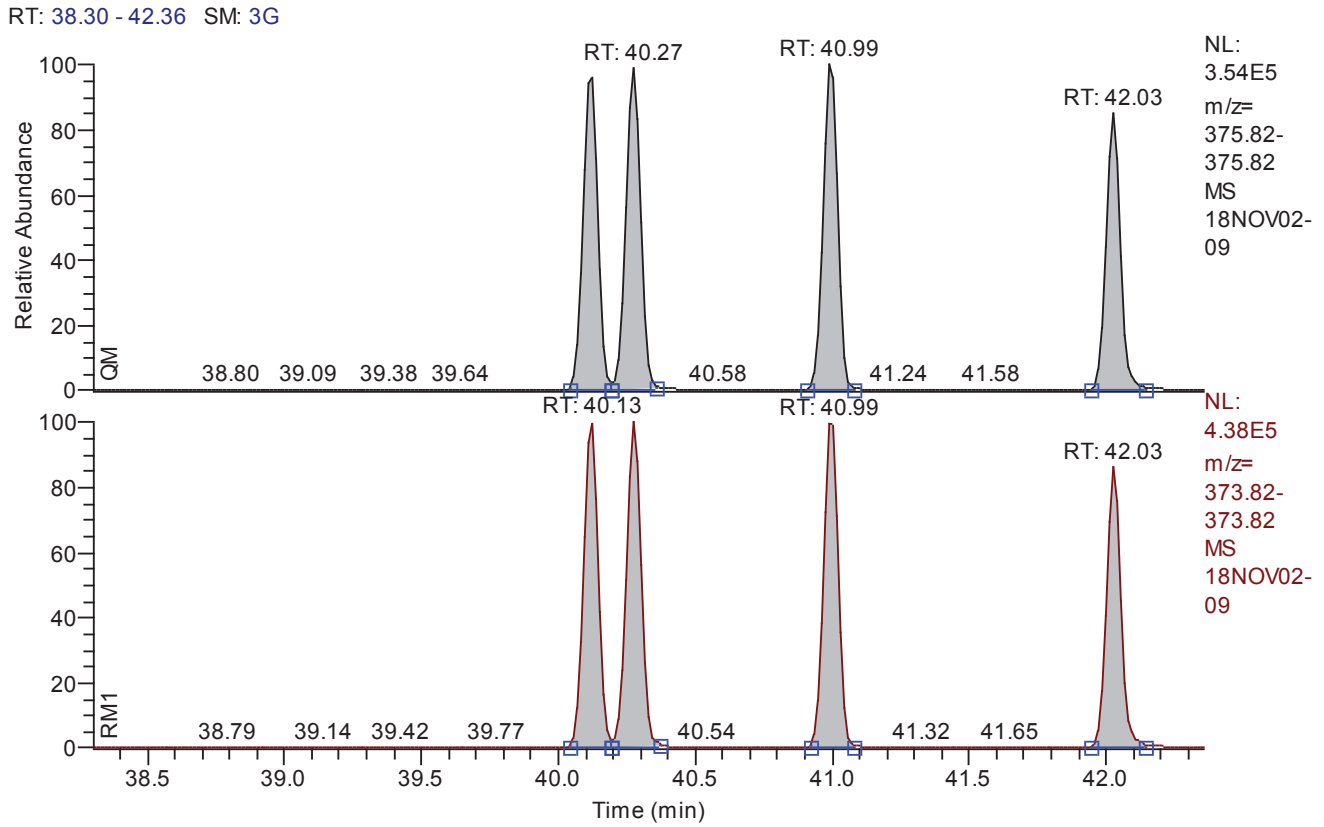
Chromatogram



Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	4890464
QM Integration Mode	A
RM1 Area	6118085
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0190
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	6560
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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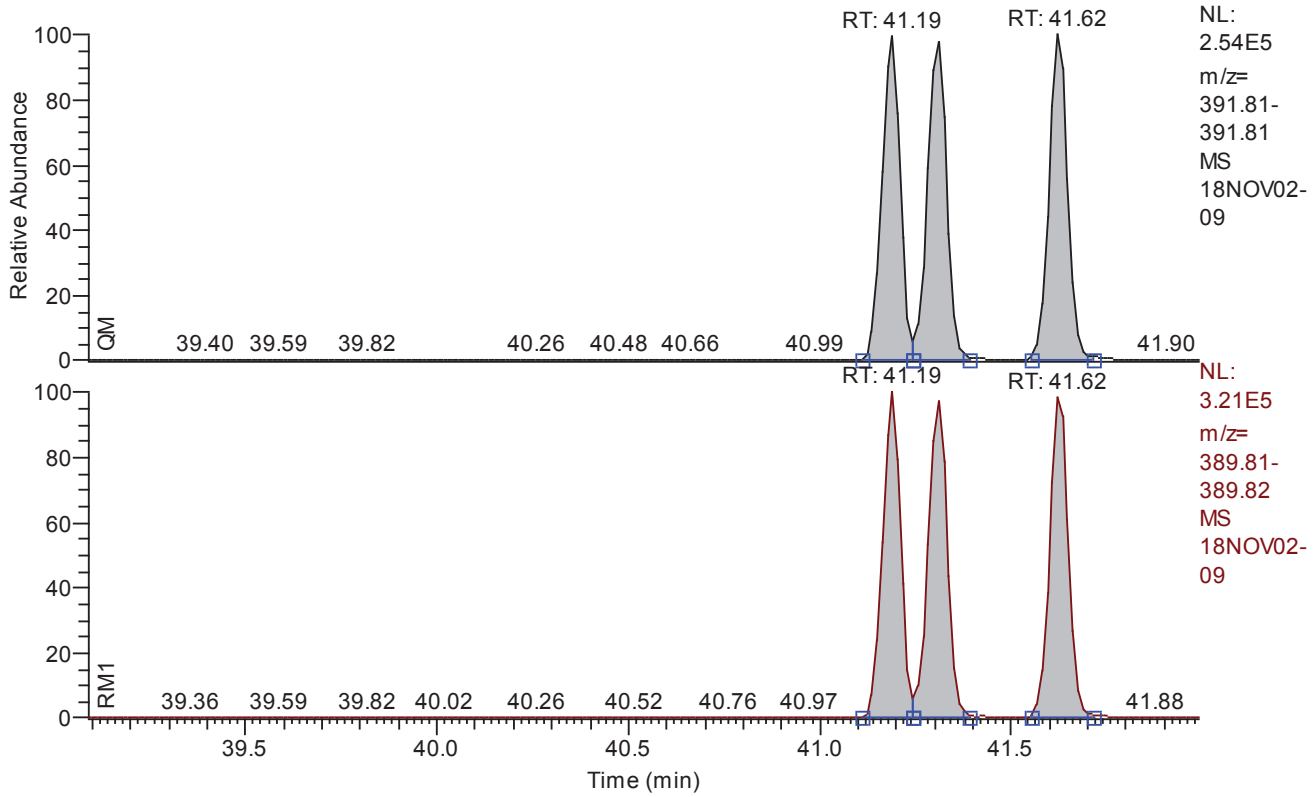
Chromatogram

RT: 39.09 - 41.99 SM: 3G



Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	2585280
QM Integration Mode	A
RM1 Area	3229413
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	150.0000
Signal-to-Noise	11004
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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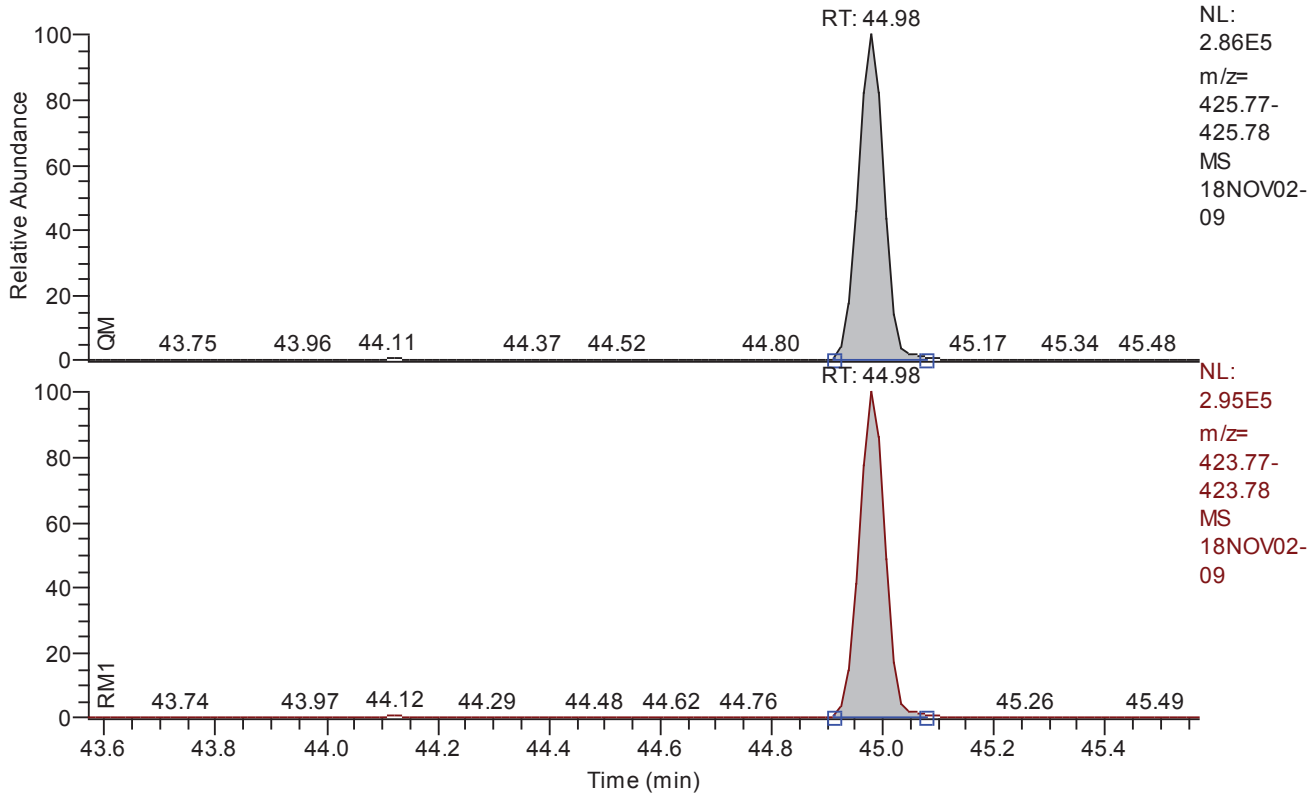
Chromatogram

RT: 43.57 - 45.57 SM: 3G



Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	941348
QM Integration Mode	A
RM1 Area	969036
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0194
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6426
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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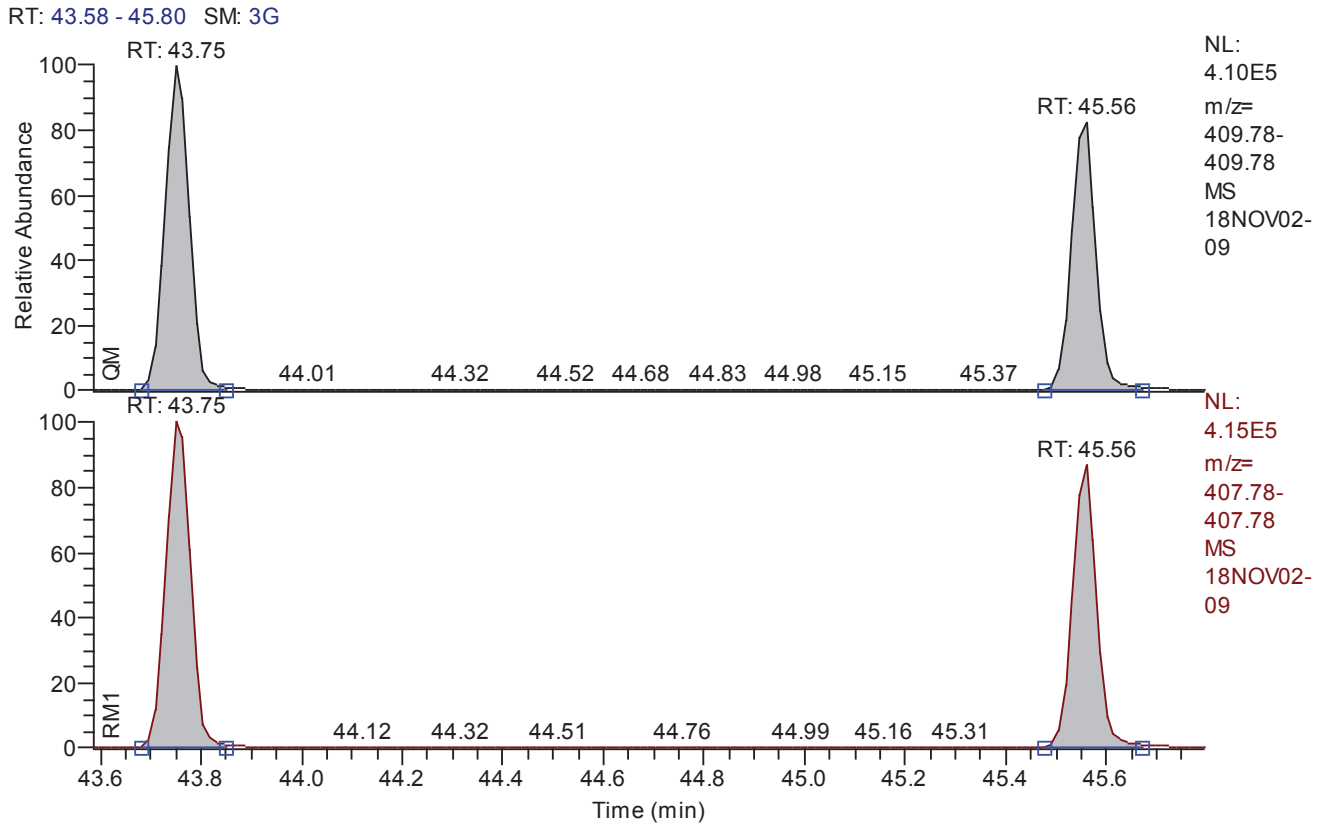
Chromatogram



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	2519191
QM Integration Mode	A
RM1 Area	2623588
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0249
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	5018
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.09	30.09	30.09	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.06	35.06	35.06	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.13	40.13	40.13	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.56	45.56	45.56	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.22	48.22	48.22	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.52	30.52	30.50	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.20	29.20	29.20	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.94	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.07	30.07	30.07	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.04	35.04	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.35	36.35	36.37	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.18	41.18	41.18	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.30	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.74	43.74	43.74	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.55	45.55	45.55	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.02	48.02	48.02	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.09	30.09	30.09	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.06	35.06	35.06	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	40.99	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.13	40.13	40.13	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.03	42.03	42.03	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.75	43.75	43.75	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.56	45.56	45.56	passed	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.7839	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.09	0.7901	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.06	1.5638	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5576	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.5582	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.13	1.2569	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2503	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.2399	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2492	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.03	1.2584	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.75	1.0373	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0294	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.56	1.0464	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8867	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.22	0.9105	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.52	0.8069	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.20	0.8061	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2562	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7785	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.07	0.7808	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.04	1.5681	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.35	1.5610	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.6036	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5252	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5283	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5228	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.18	1.2851	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2514	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2470	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5358	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.74	0.4574	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.97	1.0408	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.55	0.4620	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.02	0.8979	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8927	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7839	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7901	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5605	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5582	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2510	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2492	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0294	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0414	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.7839	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.09	0.7901	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.5582	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5576	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.06	1.5638	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0294	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.99	1.2399	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.13	1.2569	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.2503	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.03	1.2584	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2492	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.75	1.0373	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.56	1.0464	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	28.98	351203	A	275325	A	0.0097	10.000000	10.0000	10.000000	2660	
2	2378-TCDD	passed	30.09	235178	A	185823	A	0.0090	10.000000	10.0000	10.000000	2736	
3	12378-PeCDF	passed	35.06	1060834	A	1658891	A	0.0094	50.000000	50.0000	50.000000	13446	
4	23478-PeCDF	passed	36.38	1185234	A	1846165	A	0.0080	50.000000	50.0000	50.000000	16072	
5	12378-PeCDD	passed	36.78	680943	A	1061042	A	0.0159	50.000000	50.0000	50.000000	7751	
6	123478-HxCDF	passed	40.13	1256395	A	1579140	A	0.0183	50.000000	50.0000	50.000000	6726	
7	123678-HxCDF	passed	40.27	1280101	A	1600508	A	0.0184	50.000000	50.0000	50.000000	6800	
8	234678-HxCDF	passed	40.99	1287130	A	1595967	A	0.0177	50.000000	50.0000	50.000000	6832	
9	123478-HxCDD	passed	41.19	853384	A	1066000	A	0.0114	50.000000	50.0000	50.000000	11127	
10	123678-HxCDD	passed	41.31	860026	A	1074330	A	0.0118	50.000000	50.0000	50.000000	10860	
11	123789-HxCDD	passed	41.62	871871	A	1089083	A	0.0112	50.000000	50.0000	50.000000	11024	
12	123789-HxCDF	passed	42.03	1066839	A	1342470	A	0.0215	50.000000	50.0000	50.000000	5882	
13	1234678-HpCDF	passed	43.75	1374073	A	1425342	A	0.0228	50.000000	50.0000	50.000000	5436	
14	1234678-HpCDD	passed	44.98	941348	A	969036	A	0.0194	50.000000	50.0000	50.000000	6426	
15	1234789-HpCDF	passed	45.56	1145118	A	1198246	A	0.0269	50.000000	50.0000	50.000000	4600	
16	OCDD	passed	48.03	1902187	A	1686612	A	0.0132	100.000000	100.0000	100.000000	18885	
17	OCDF	passed	48.22	2258276	A	2056244	A	0.0097	100.000000	100.0000	100.000000	25896	
18	13C12-1278-TCDD (CRS)	passed	30.52	2246029	A	1812279	A	0.0212	100.000000	100.0000	100.000000	11308	
19	13C12-1234-TCDD	passed	29.20	2265383	A	1826137	A	0.0210	100.000000	100.0000	100.000000	11915	
20	13C12-123468-HxCDD	passed	40.02	1947853	A	2446919	A	0.0267	100.000000	100.0000	100.000000	9351	
21	13C12-2378-TCDF	passed	28.96	3984234	A	3101544	A	0.0155	100.000000	100.0000	100.000000	15594	
22	13C12-2378-TCDD	passed	30.07	2210645	A	1725968	A	0.0218	100.000000	100.0000	100.000000	11160	
23	13C12-12378-PeCDF	passed	35.04	2495984	A	3913883	A	0.0351	100.000000	100.0000	100.000000	9101	
24	13C12-23478-PeCDF	passed	36.35	2518549	A	3931344	A	0.0349	100.000000	100.0000	100.000000	9566	
25	13C12-12378-PeCDD	passed	36.75	1488522	A	2386983	A	0.0294	100.000000	100.0000	100.000000	11525	
26	13C12-123478-HxCDF	passed	40.10	3502375	A	1839485	A	0.0337	100.000000	100.0000	100.000000	7445	
27	13C12-123678-HxCDF	passed	40.26	3680895	A	1944782	A	0.0320	100.000000	100.0000	100.000000	7667	
28	13C12-234678-HxCDF	passed	40.97	3441741	A	1799273	A	0.0344	100.000000	100.0000	100.000000	7404	
29	13C12-123478-HxCDD	passed	41.18	1822336	A	2341853	A	0.0282	100.000000	100.0000	100.000000	9404	
30	13C12-123678-HxCDD	passed	41.30	1907725	A	2387283	A	0.0274	100.000000	100.0000	100.000000	9261	
31	13C12-123789-HxCDD	passed	41.61	1829664	A	2281573	A	0.0286	100.000000	100.0000	100.000000	9221	
32	13C12-123789-HxCDF	passed	42.01	3123109	A	1673430	A	0.0375	100.000000	100.0000	100.000000	6685	
33	13C12-1234678-HpCDF	passed	43.74	3377117	A	1544542	A	0.0343	100.000000	100.0000	100.000000	7808	
34	13C12-1234678-HpCDD	passed	44.97	2010553	A	2092611	A	0.0299	100.000000	100.0000	100.000000	9181	
35	13C12-1234789-HpCDF	passed	45.55	2765996	A	1277879	A	0.0418	100.000000	100.0000	100.000000	6490	
36	13C12-OCDD	passed	48.02	4130052	A	3708520	A	0.0109	200.000000	200.0000	200.000000	53898	
37	13C12-OCDF	passed	48.20	5543009	A	4948251	A	0.0117	200.000000	200.0000	200.000000	48750	
38	Total TCDF	passed (1)	28.02	351203	A	275325	A	0.0097	10.000000	10.0000	10.000000	2660	
39	Total TCDD	passed (1)	28.72	235178	A	185823	A	0.0090	10.000000	10.0000	10.000000	2736	
40	Total PeCDF	passed (2)	34.60	2246069	A	3505056	A	0.0087	50.000000	100.0000	50.000000	14759	
41	Total PeCDD	passed (1)	35.55	680943	A	1061042	A	0.0159	50.000000	50.0000	50.000000	7751	
42	Total HxCDF	passed (4)	40.33	4890464	A	6118085	A	0.0190	50.000000	200.0000	50.000000	6560	
43	Total HxCDD	passed (3)	40.54	2585280	A	3229413	A	0.0115	50.000000	150.0000	50.000000	11004	
44	Total HpCDD	passed (1)	44.57	941348	A	969036	A	0.0194	50.000000	50.0000	50.000000	6426	
45	Total HpCDF	passed (2)	44.69	2519191	A	2623588	A	0.0249	50.000000	100.0000	50.000000	5018	
46	Single TCDF	passed	28.98	351203	A	275325	A	0.0097	10.000000	10.0000	10.000000	2660	
47	Single TCDD	passed	30.09	235178	A	185823	A	0.0090	10.000000	10.0000	10.000000	2736	
48	Single PeCDD	passed	36.78	680943	A	1061042	A	0.0159	50.000000	50.0000	50.000000	7751	
49	Single PeCDF	passed	36.38	1185234	A	1846165	A	0.0082	50.000000	50.0000	50.000000	16072	
50	Single PeCDF	passed	35.06	1060834	A	1658891	A	0.0092	50.000000	50.0000	50.000000	13446	
51	Single HpCDD	passed	44.98	941348	A	969036	A	0.0194	50.000000	50.0000	50.000000	6426	
52	Single HxCDF	passed	40.99	1287130	A	1595967	A	0.0180	50.000000	50.0000	50.000000	6832	
53	Single HxCDF	passed	40.13	1256395	A	1579140	A	0.0183	50.000000	50.0000	50.000000	6726	
54	Single HxCDF	passed	40.27	1280101	A	1600508	A	0.0180	50.000000	50.0000	50.000000	6800	
55	Single HxCDF	passed	42.03	1066839	A	1342470	A	0.0215	50.000000	50.0000	50.000000	5882	
56	Single HxCDD	passed	41.62	871871	A	1089083	A	0.0113	50.000000	50.0000	50.000000	11024	
57	Single HxCDD	passed	41.19	853384	A	1066000	A	0.0116	50.000000	50.0000	50.000000	11127	
58	Single HxCDD	passed	41.31	860026	A	1074330	A	0.0115	50.000000	50.0000	50.000000	10860	
59	Single HpCDF	passed	43.75	1374073	A	1425342	A	0.0226	50.000000	50.0000	50.000000	5436	
60	Single HpCDF	passed	45.56	1145118	A	1198246	A	0.0271	50.000000	50.0000	50.000000	4600	

APPROVED
By uma9 at 11:21 am, 11/7/18

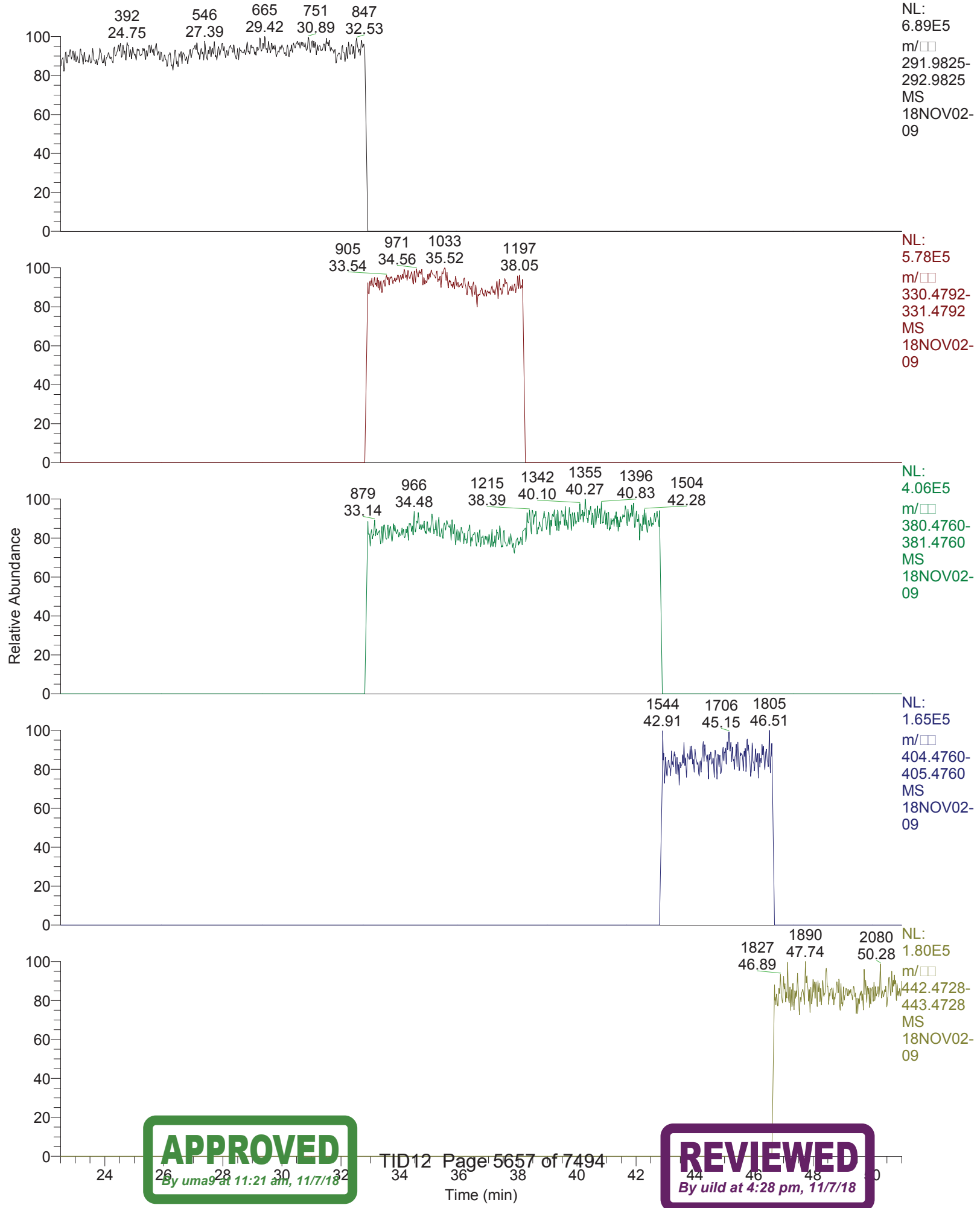
REVIEWED
By uild at 4:28 pm, 11/7/18

File Name: W:□18NOV02□18NOV02-09
Sample ID: CS301

Acq. Data: 11/2/2018 5:32:34 PM
Sample Name: CALDF41837H
PFK Reference Loc□Mass Traces

Instrument ID: DF17280-18NOV02

RT: 22.50 - 51.00



APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

*** file opened Fri Nov 02 17:38:19 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 02-Nov-18 17:38:18

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
```

```
MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          95.5000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0003   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ        1246.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           216.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           190.0000   EXSBR          -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.6000
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0184   FVINLET         0.0426   FVSRC           0.0329
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           95.5000   LKM           442.9723   MASS           95.5000
 MDAC        1407807.8555  MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2159.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9807   RELEN           0.0000
 RES          11575.3163   RPUSHER        -1.0623   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0227   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.5000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.7e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.2e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10533.
MID Time Window 2: Resolution is 10765.
MID Time Window 3: Resolution is 11341.
MID Time Window 4: Resolution is 11117.
```

```
                                        18NOV02-09
  MID Time Window 5: Resolution is 11299.
  MID Time Window 6: Resolution is 11575.

  Amplifier Offset: 91.


*** File closed Fri Nov 02 18:29:20 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 18:29
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-10.quan
Data	w:\18nov02\18nov02-10.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.10	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.05	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.12	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.51	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.22	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.07	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.04	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.36	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.16	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.74	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.10	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.05	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.12	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.75	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.55	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 18:29
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-10.quan
Data	w:\18nov02\18nov02-10.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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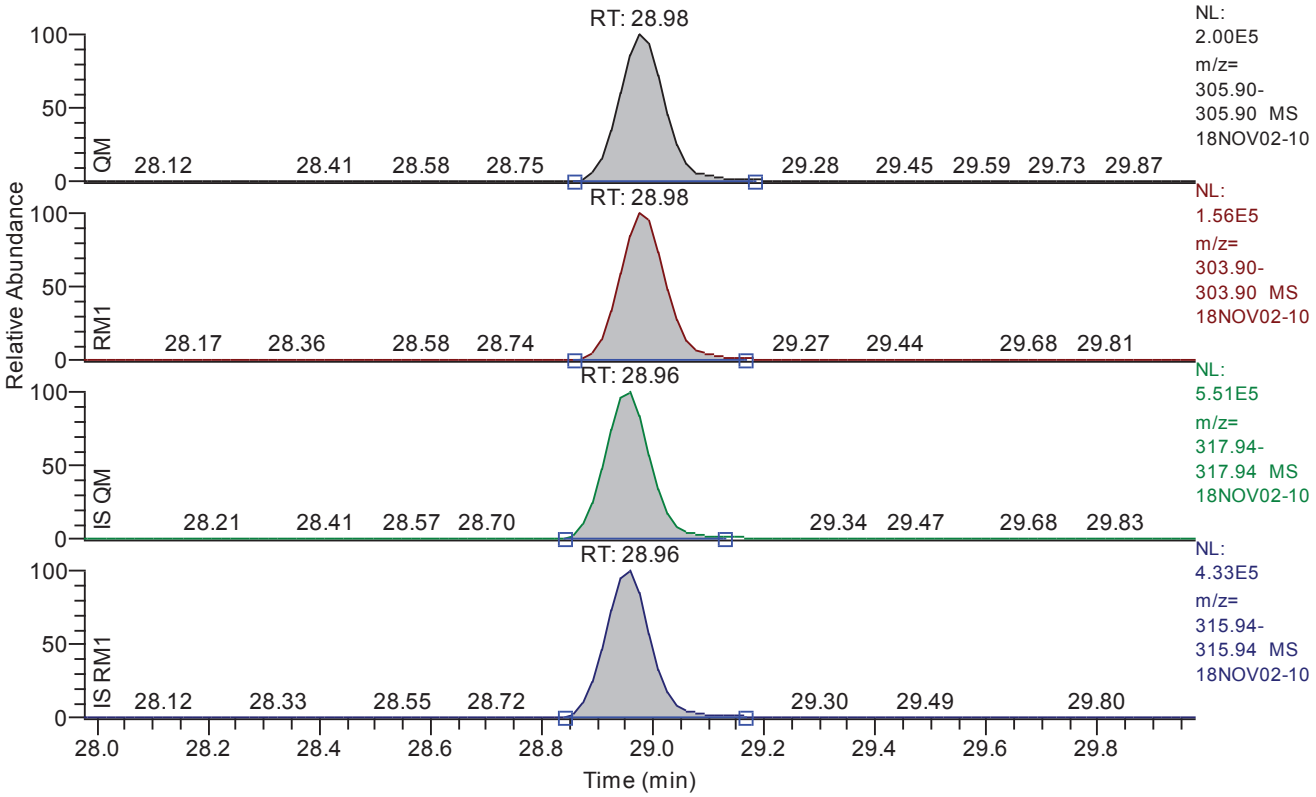
Chromatogram

RT: 27.98 - 29.98 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	1176218
QM Integration Mode	A
RM1 Area	915332
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0169
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	5852
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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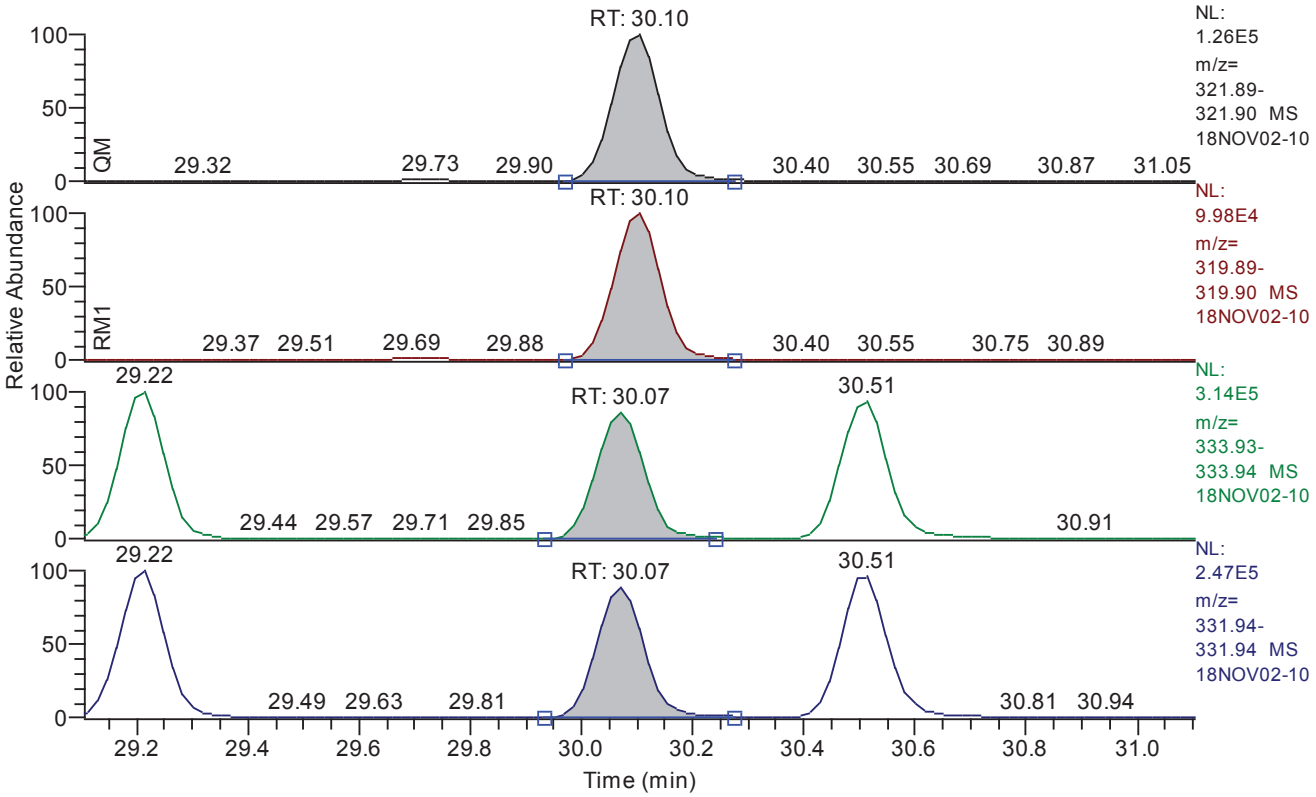
Chromatogram

RT: 29.10 - 31.10 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.10
QM Area	762400
QM Integration Mode	A
RM1 Area	599584
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0142
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	7106
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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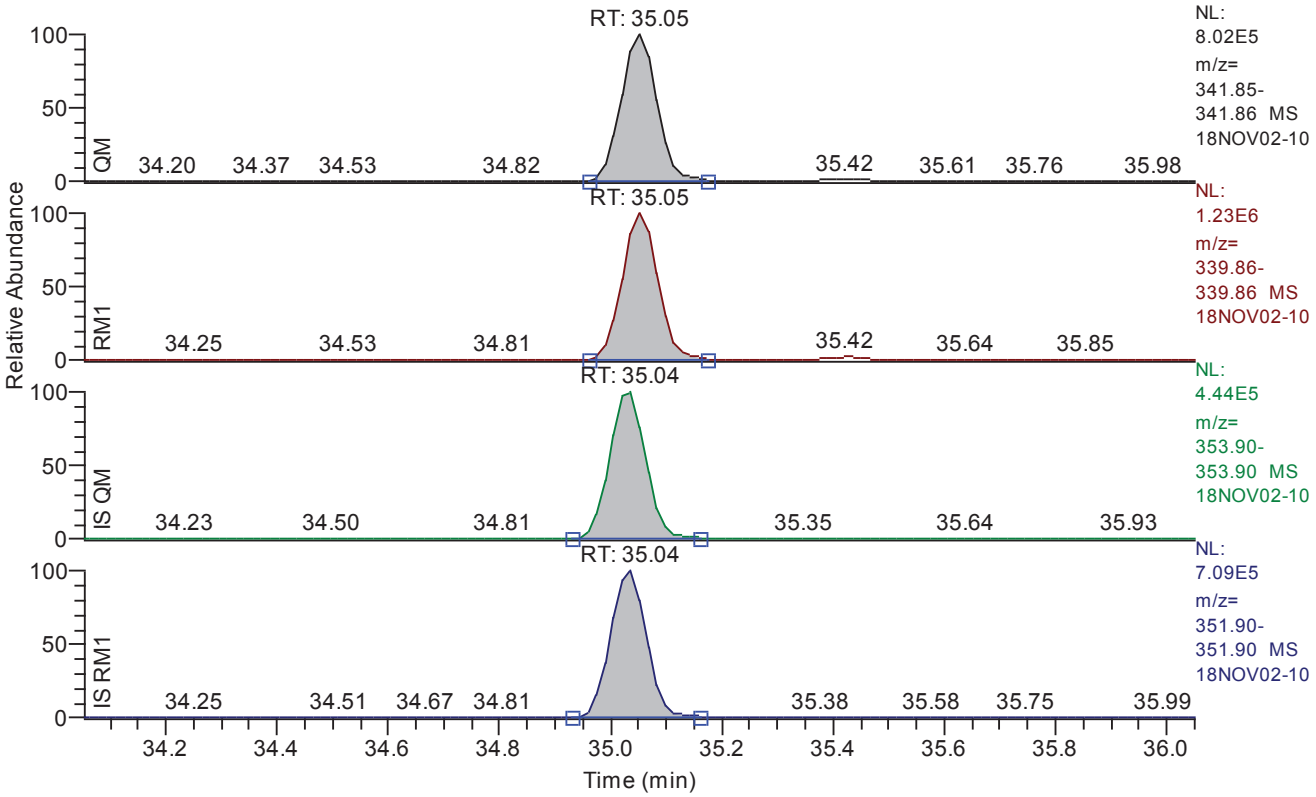
Chromatogram

RT: 34.05 - 36.05 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.05
QM Area	3571308
QM Integration Mode	A
RM1 Area	5494053
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0173
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	29442
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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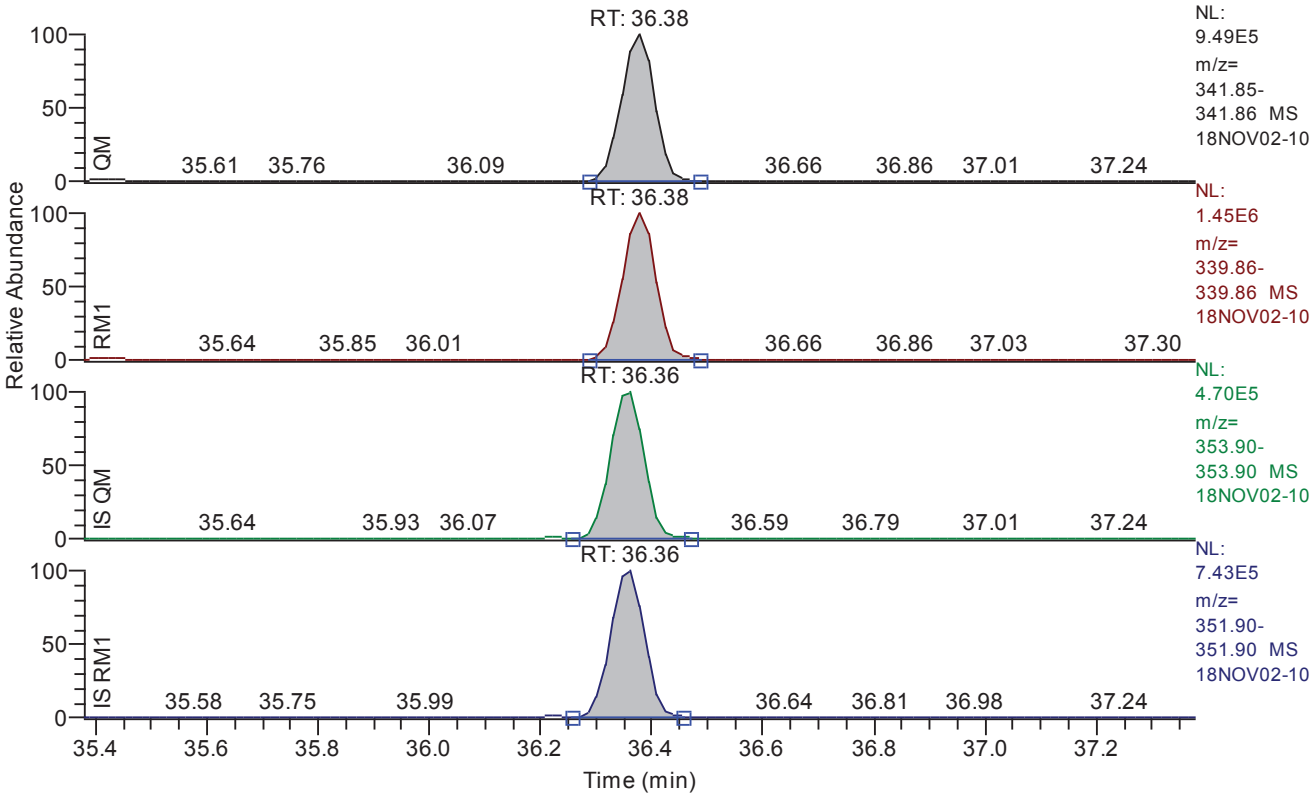
Chromatogram

RT: 35.38 - 37.38 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	3957071
QM Integration Mode	A
RM1 Area	6094680
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0147
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	34773
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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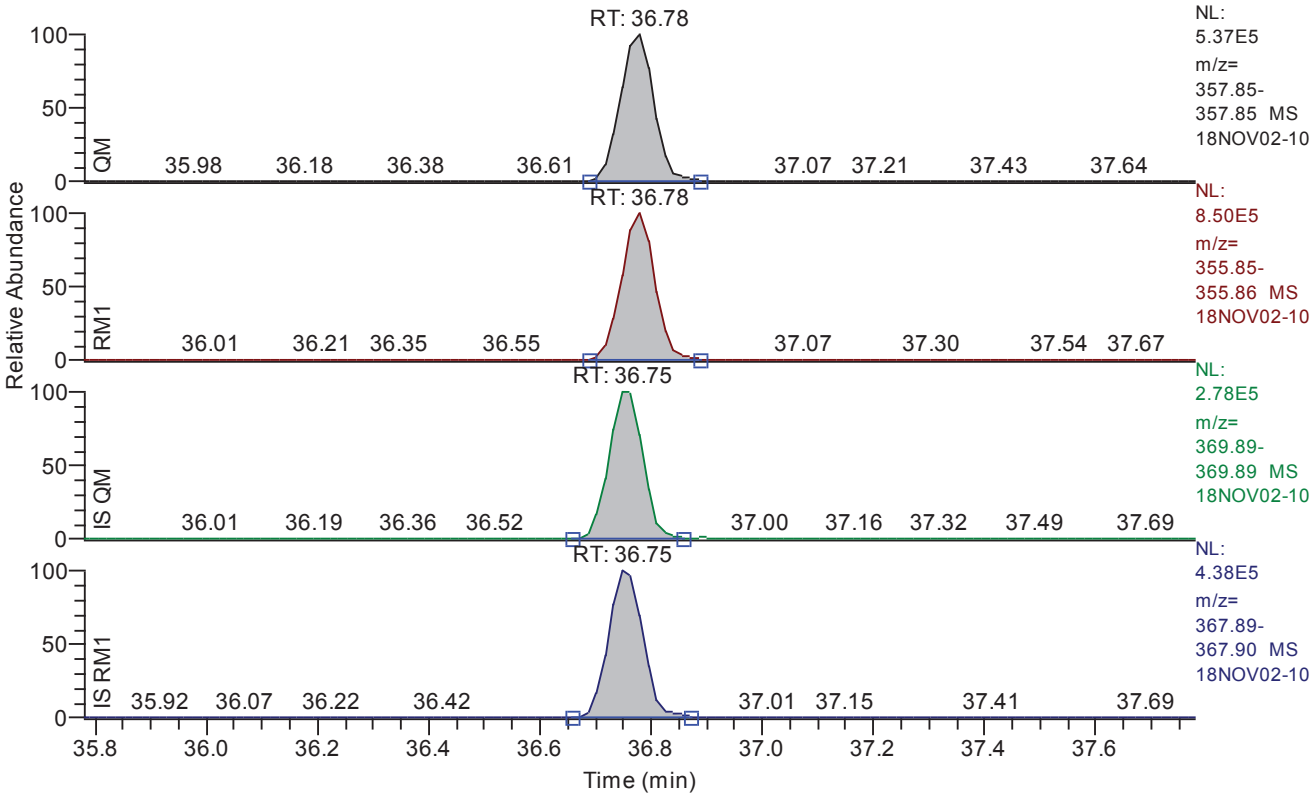
Chromatogram

RT: 35.78 - 37.78 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	2261182
QM Integration Mode	A
RM1 Area	3534515
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0335
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	15372
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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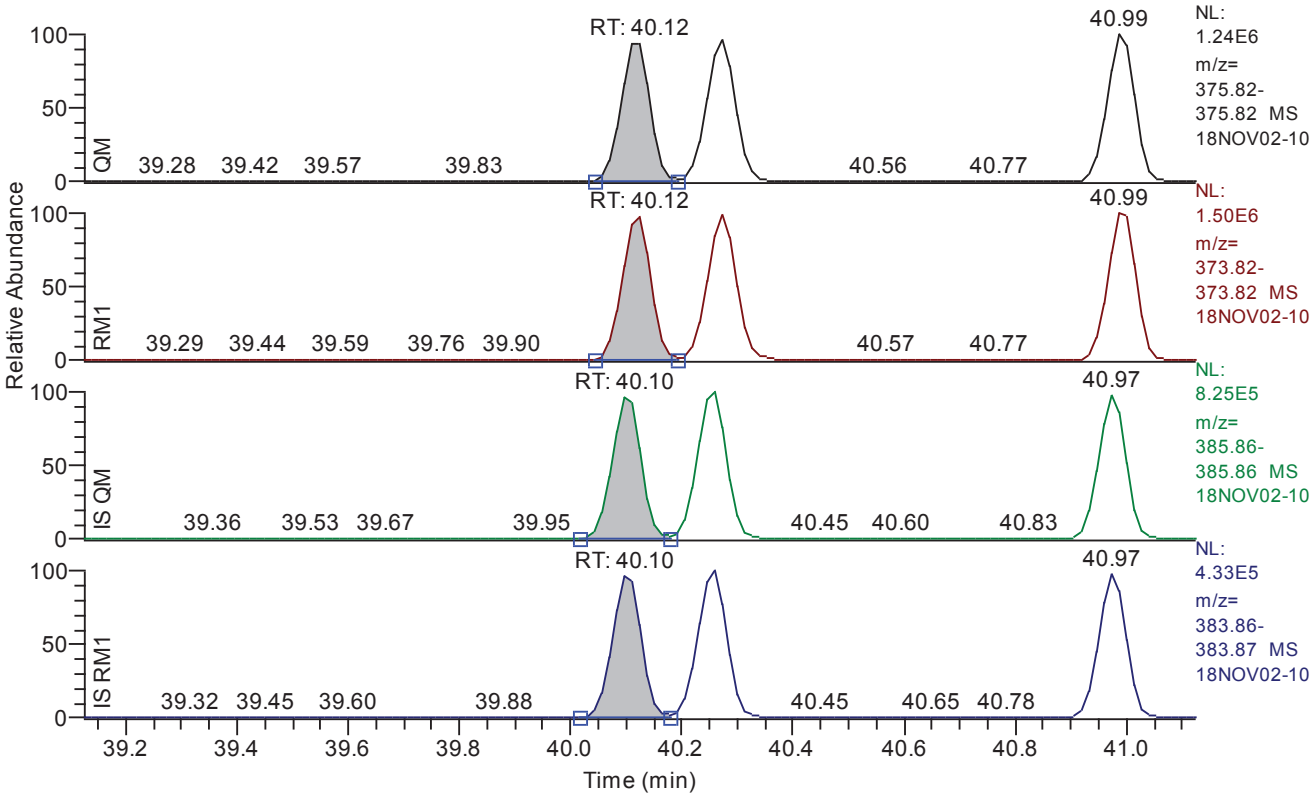
Chromatogram

RT: 39.12 - 41.12 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.12
QM Area	4252556
QM Integration Mode	A
RM1 Area	5251384
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0404
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12400
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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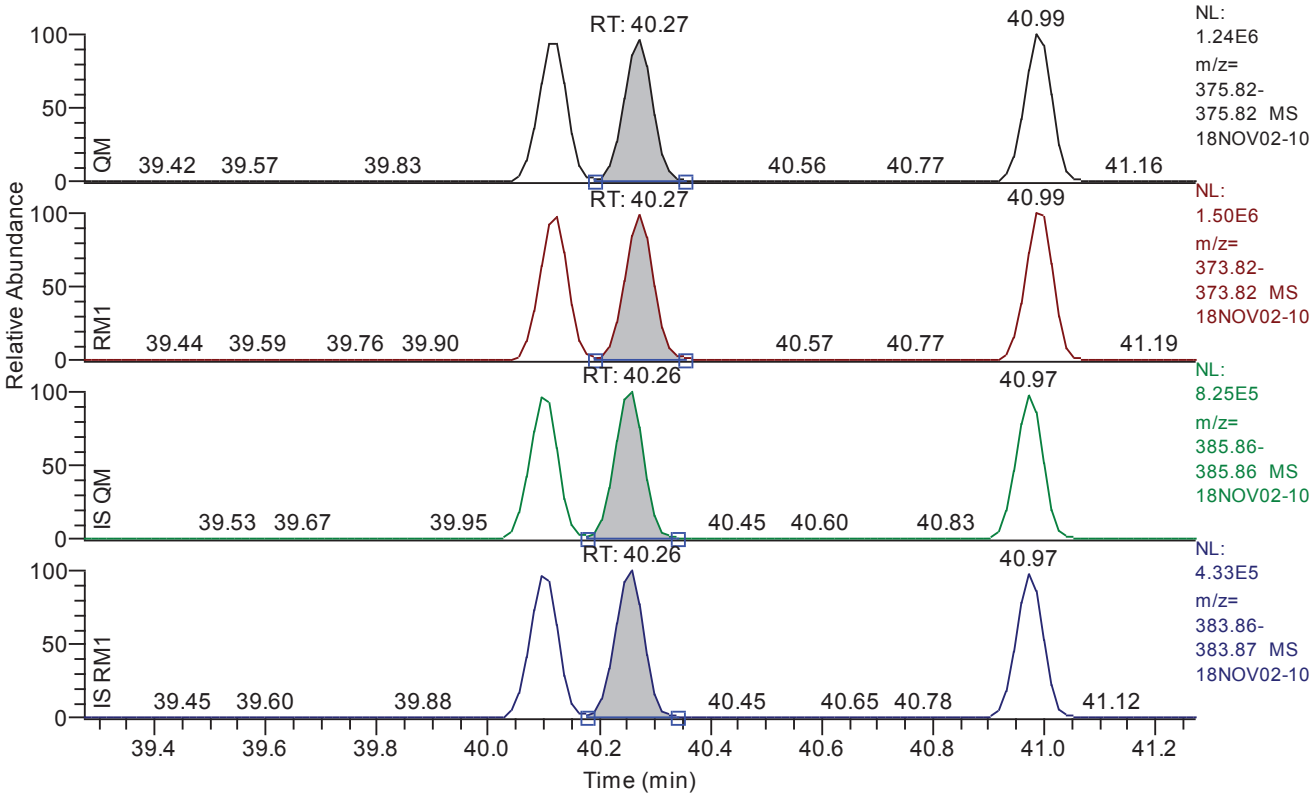
Chromatogram

RT: 39.27 - 41.27 SM: 3G



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	4312133
QM Integration Mode	A
RM1 Area	5351650
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0402
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12617
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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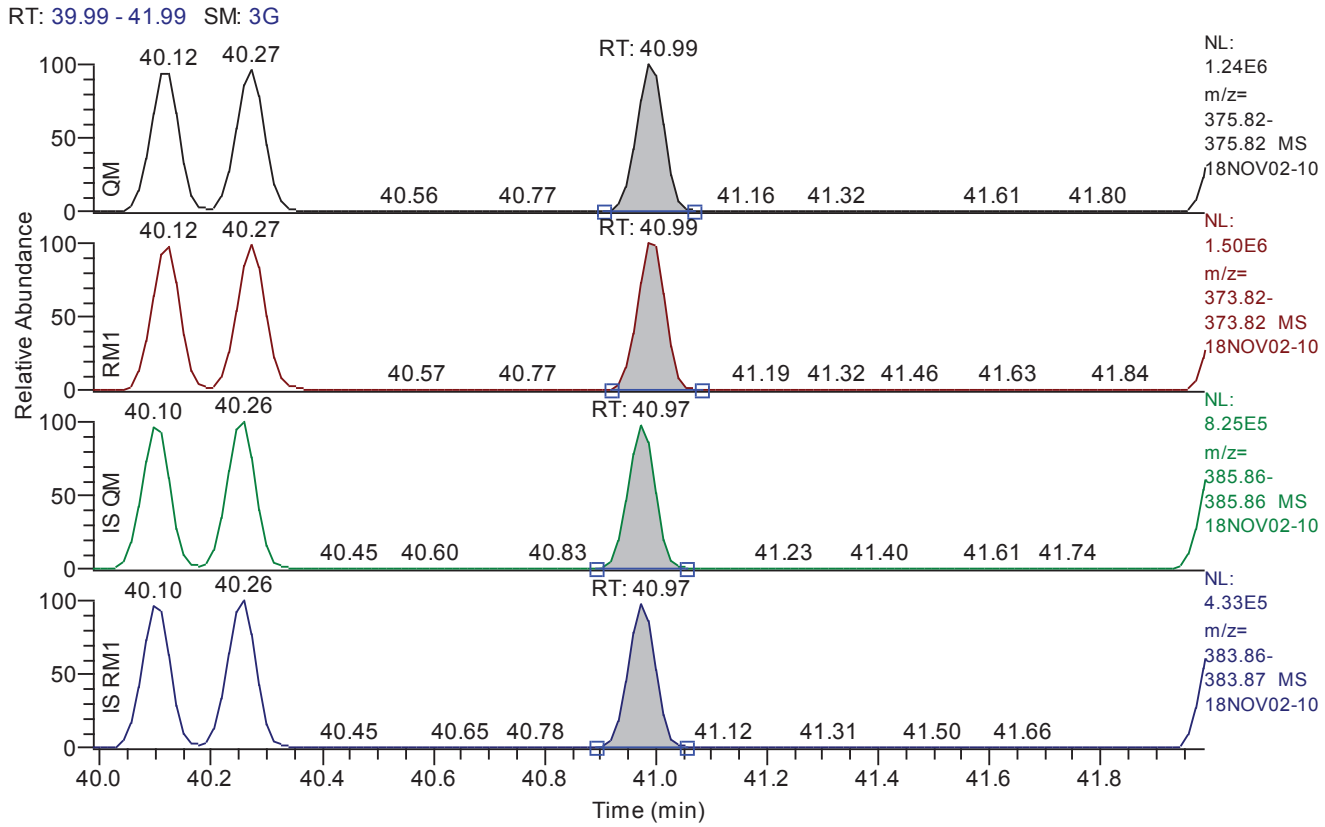
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	4290959
QM Integration Mode	A
RM1 Area	5314175
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0379
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12884
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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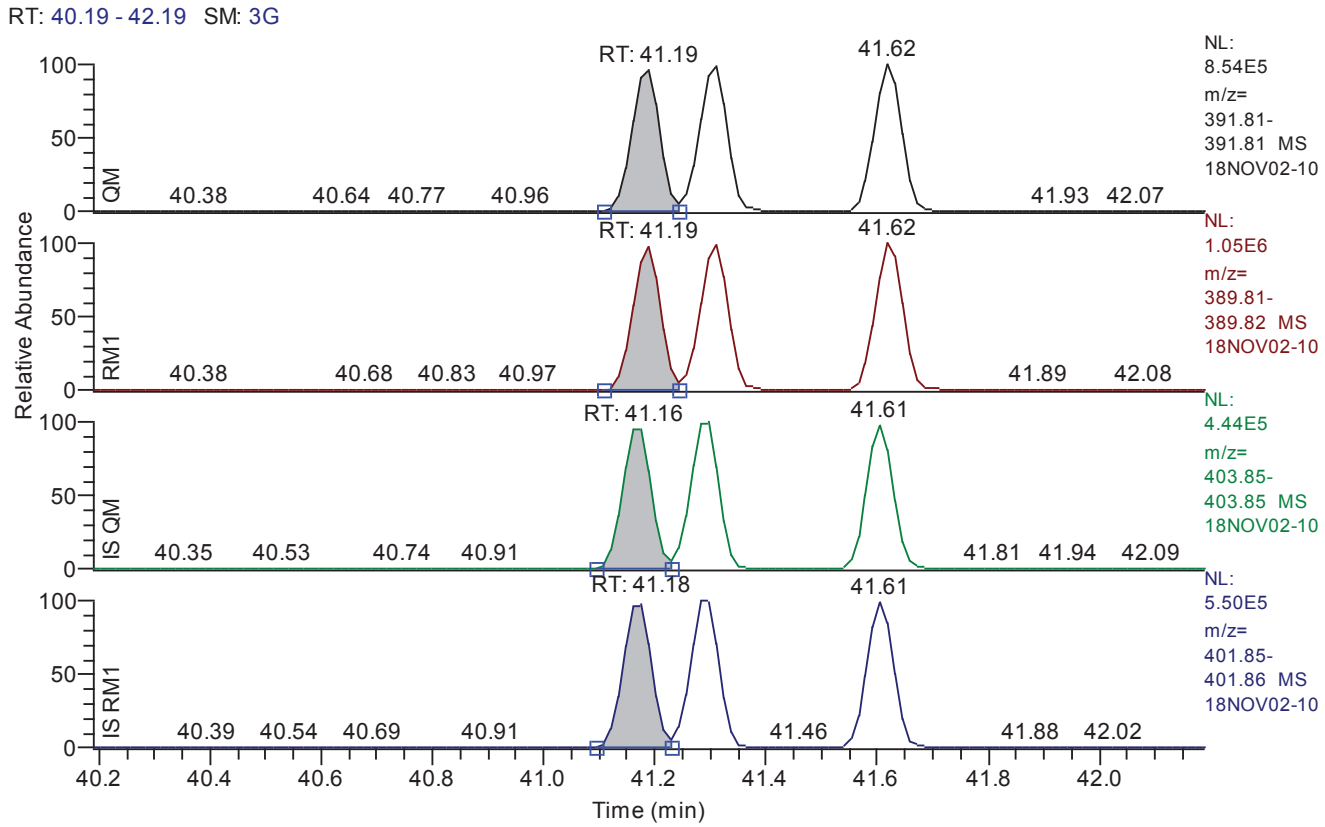
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	2886570
QM Integration Mode	A
RM1 Area	3561339
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0212
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24322
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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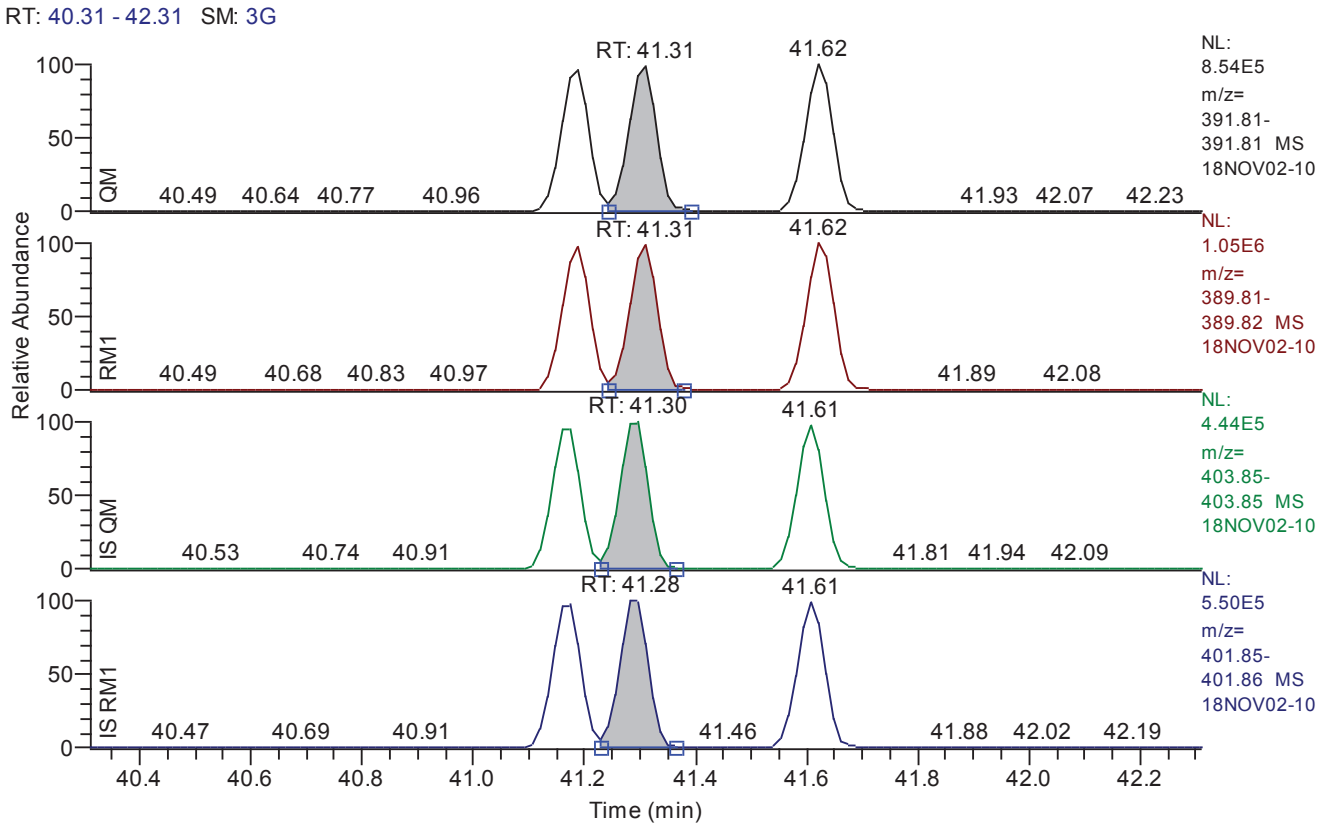
Chromatogram



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	2933470
QM Integration Mode	A
RM1 Area	3623089
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0207
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24713
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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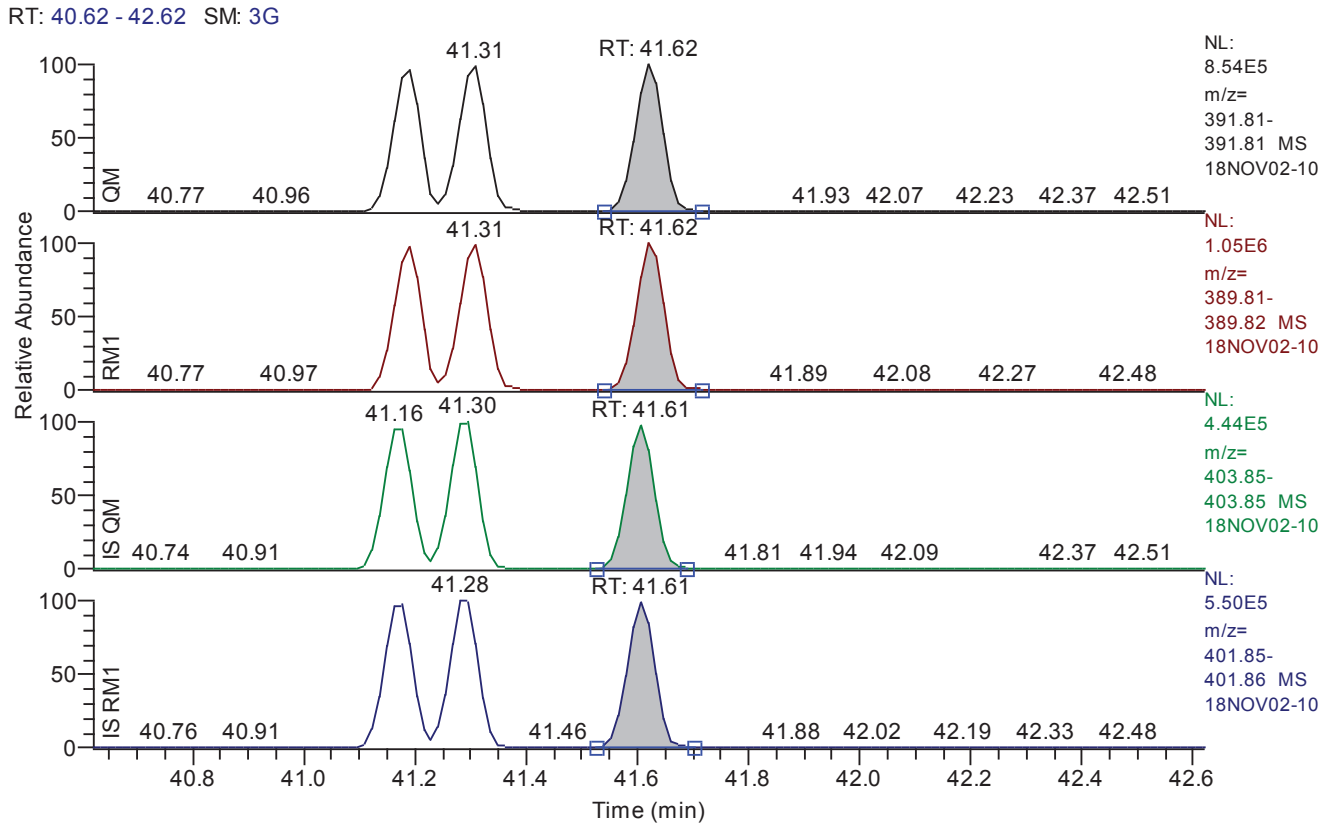
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	2949610
QM Integration Mode	A
RM1 Area	3674825
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0198
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24958
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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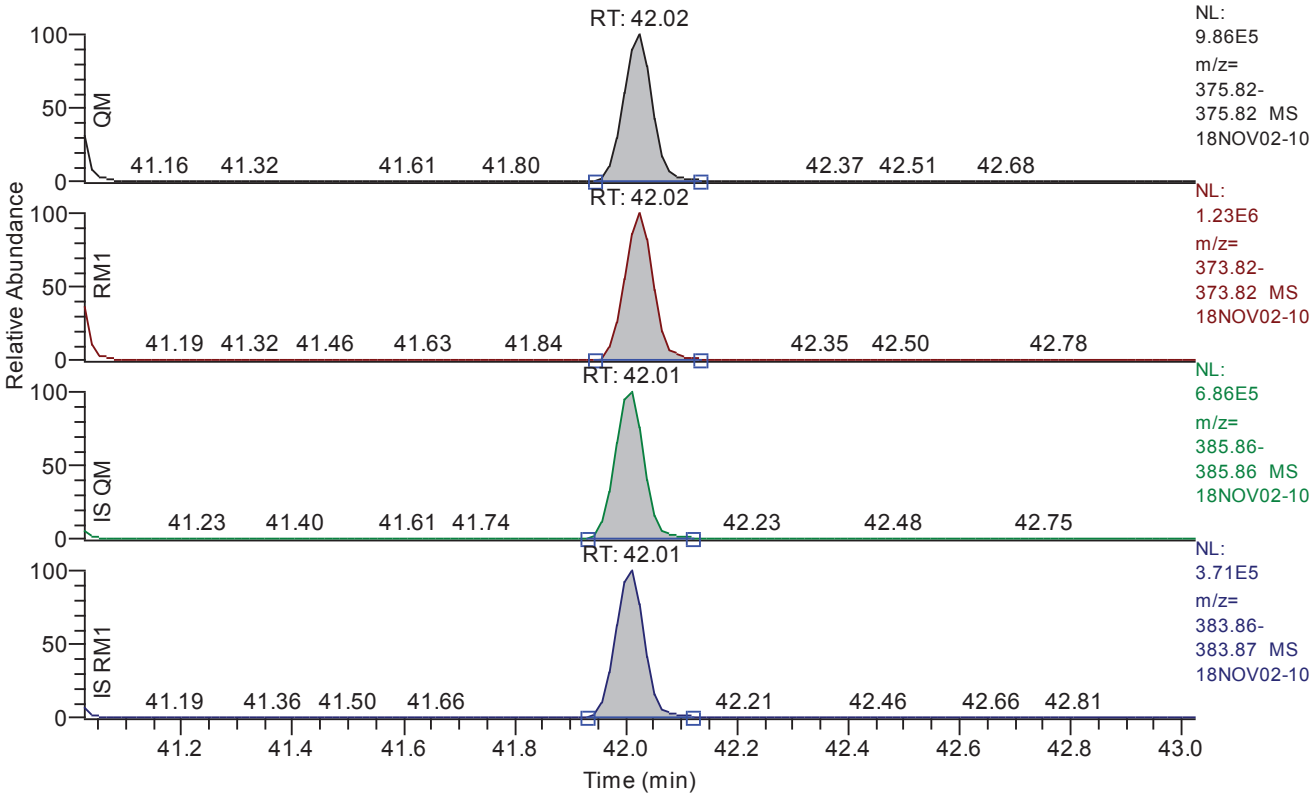
Chromatogram

RT: 41.02 - 43.02 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	3553962
QM Integration Mode	A
RM1 Area	4440521
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0485
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	10432
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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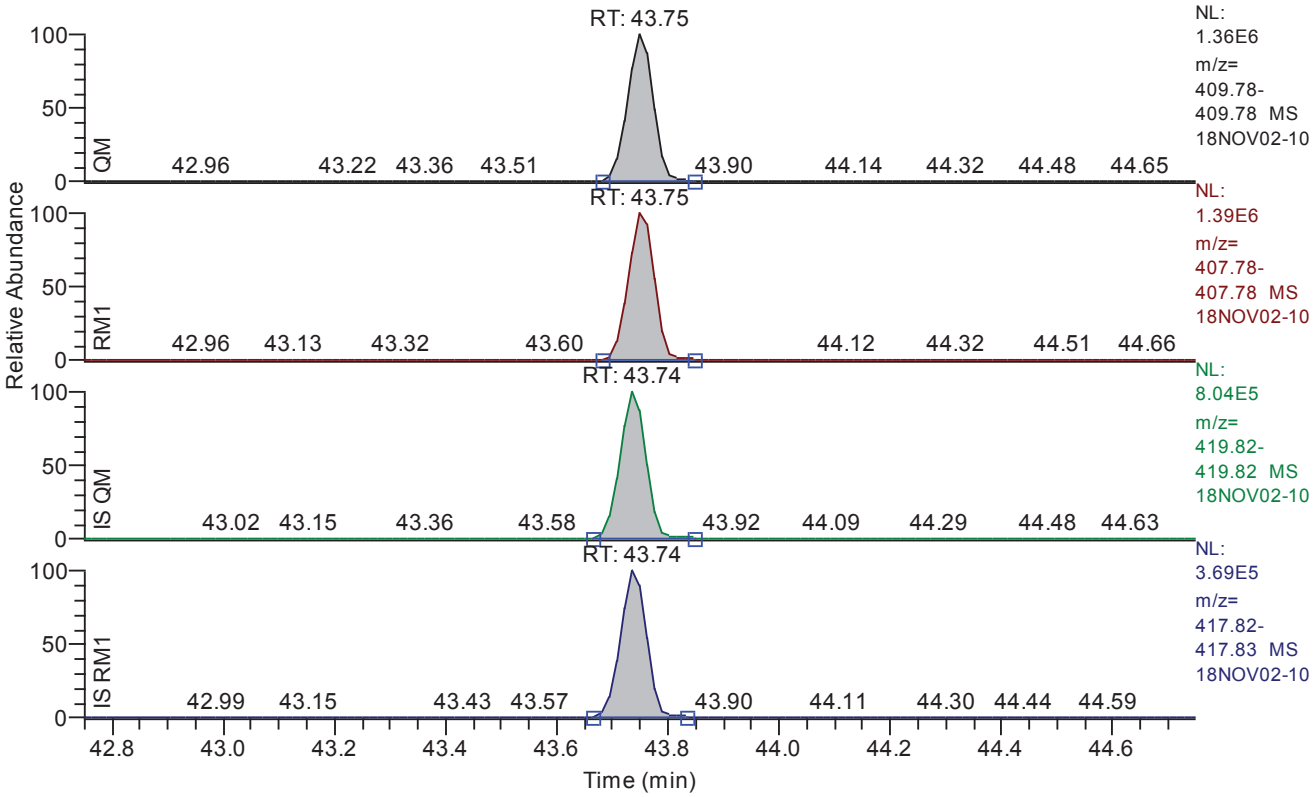
Chromatogram

RT: 42.75 - 44.75 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.75
QM Area	4529063
QM Integration Mode	A
RM1 Area	4709794
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0389
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12851
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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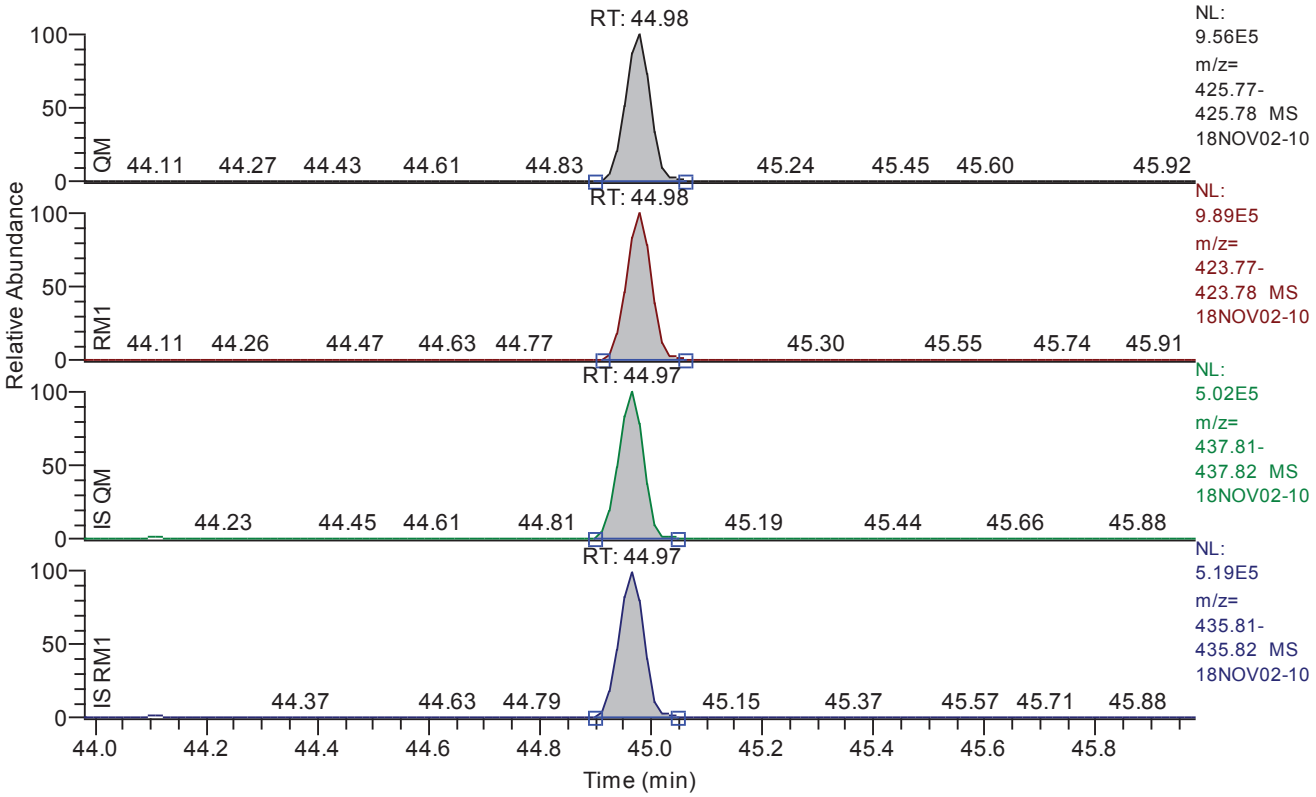
Chromatogram

RT: 43.98 - 45.98 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	3074744
QM Integration Mode	A
RM1 Area	3180412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0392
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12781
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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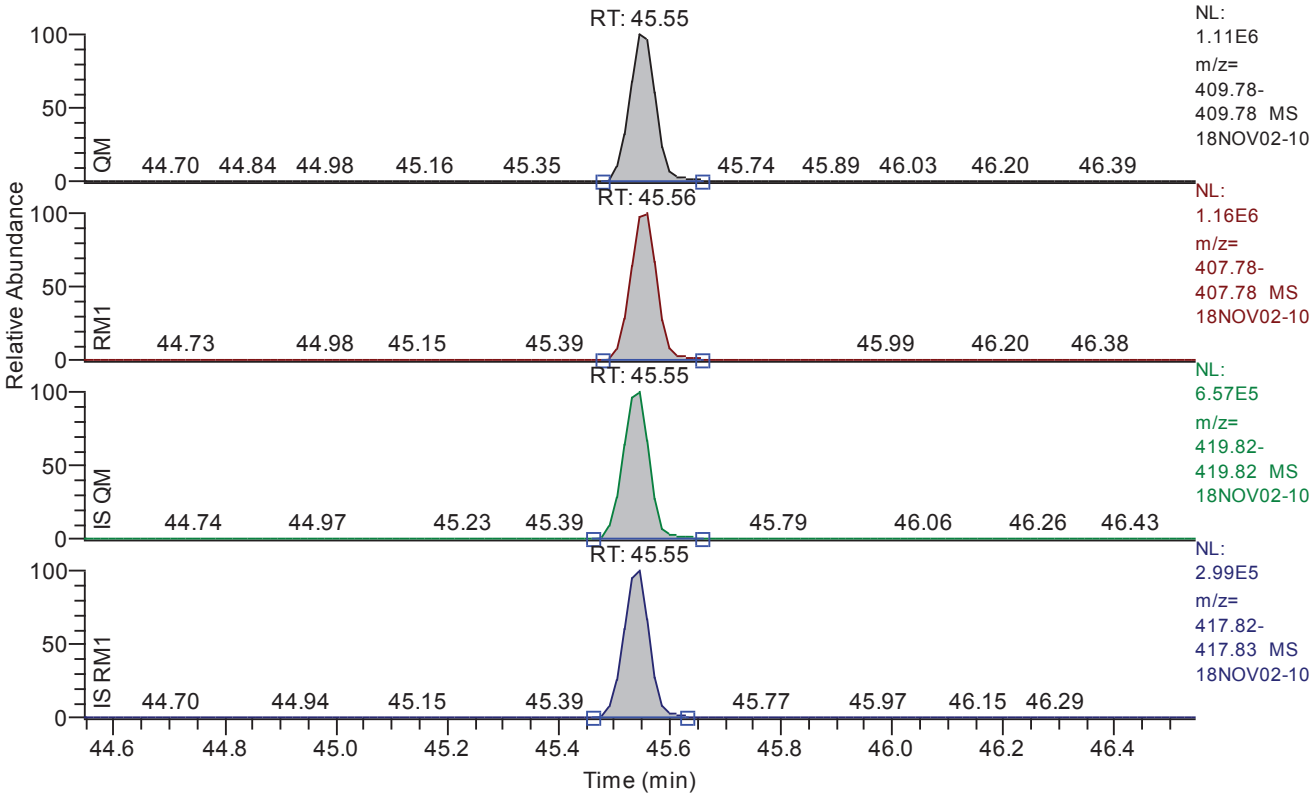
Chromatogram

RT: 44.55 - 46.55 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.55
QM Area	3760061
QM Integration Mode	A
RM1 Area	3954859
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0468
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	10601
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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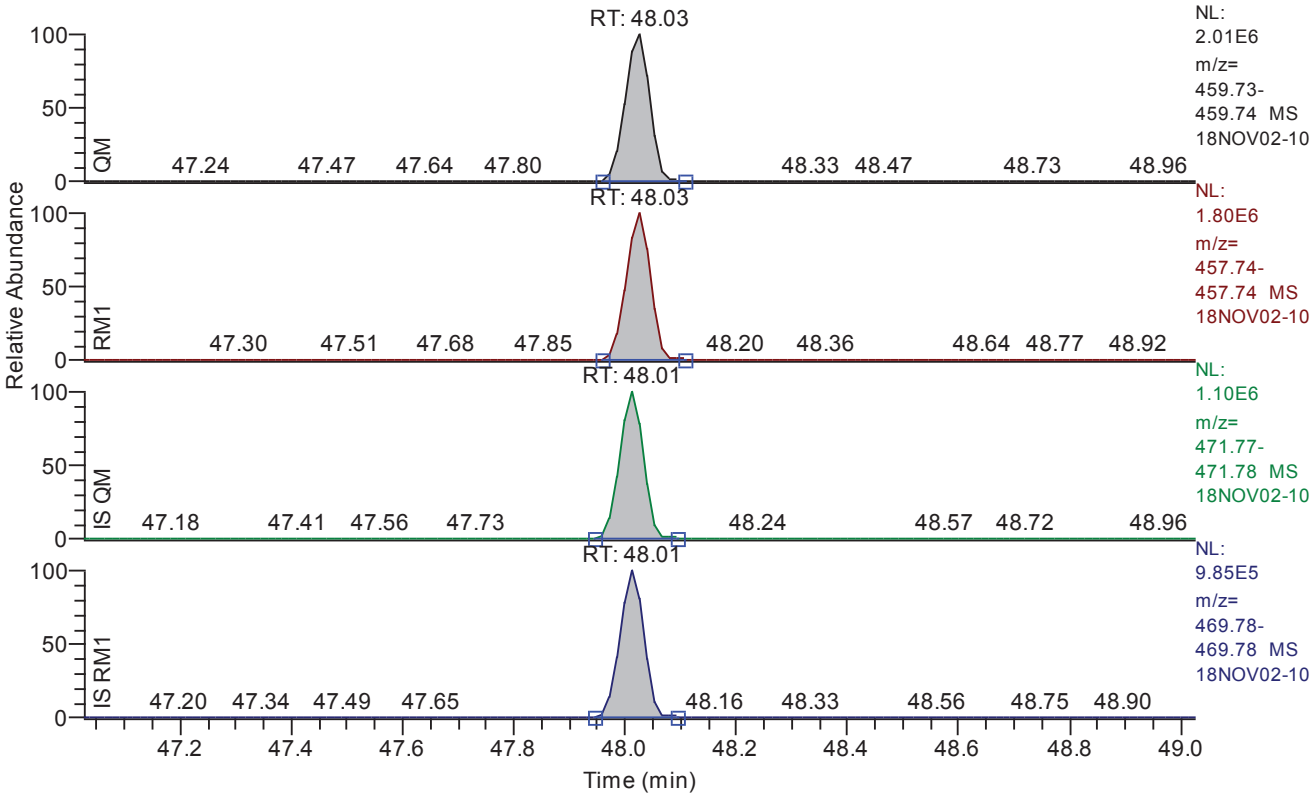
Chromatogram

RT: 47.03 - 49.03 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.03
QM Area	6184184
QM Integration Mode	A
RM1 Area	5473610
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0213
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	46183
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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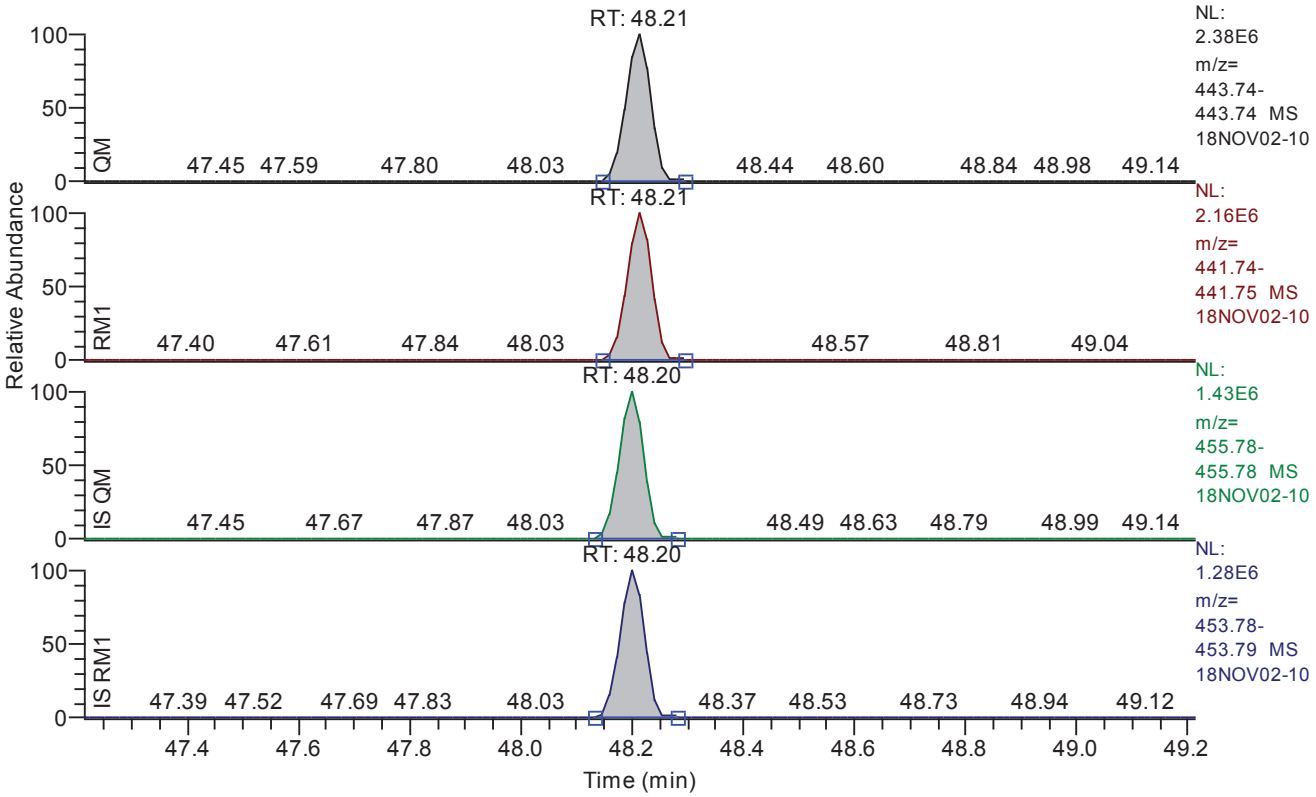
Chromatogram

RT: 47.21 - 49.21 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.21
QM Area	7341388
QM Integration Mode	A
RM1 Area	6637277
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0186
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	53915
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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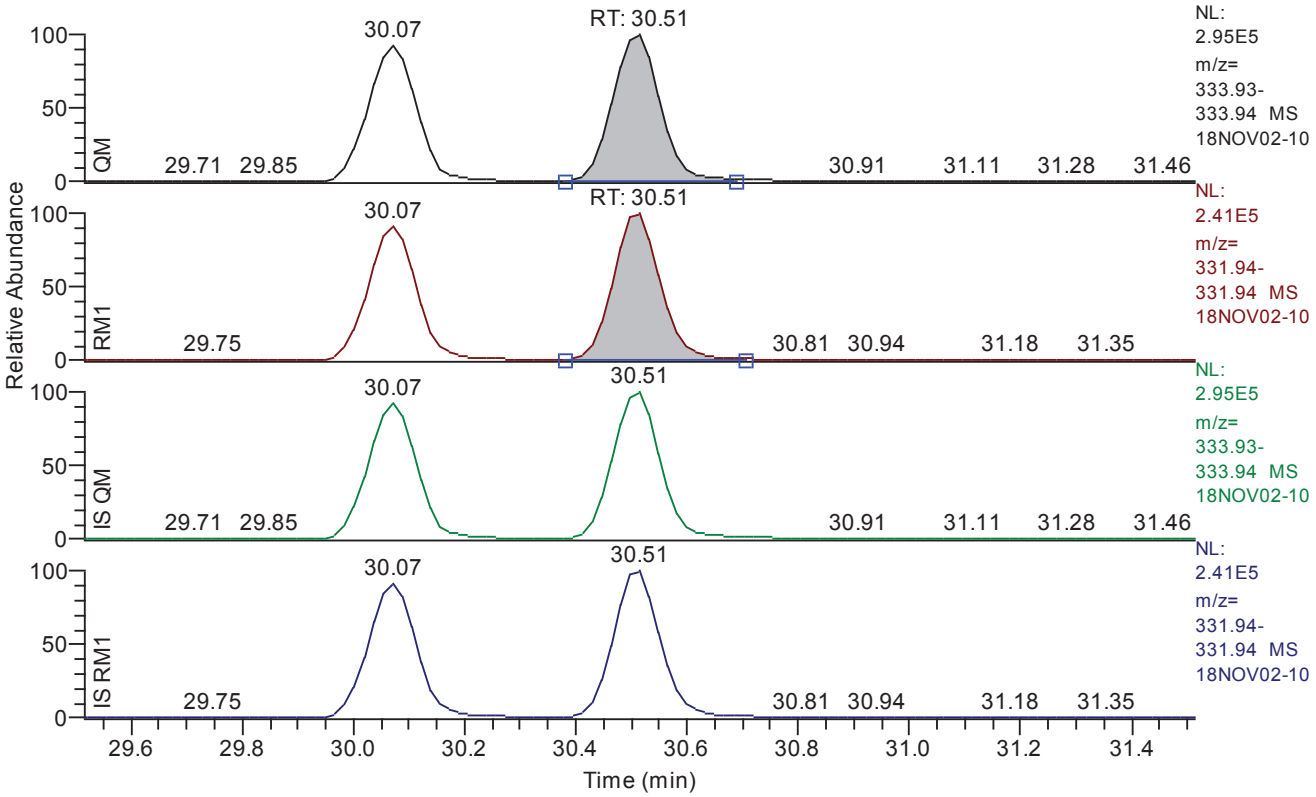
Chromatogram

RT: 29.51 - 31.51 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.51
QM Area	1750847
QM Integration Mode	A
RM1 Area	1426756
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0267
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	9130
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 18:29
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-10.quan
Data	w:\18nov02\18nov02-10.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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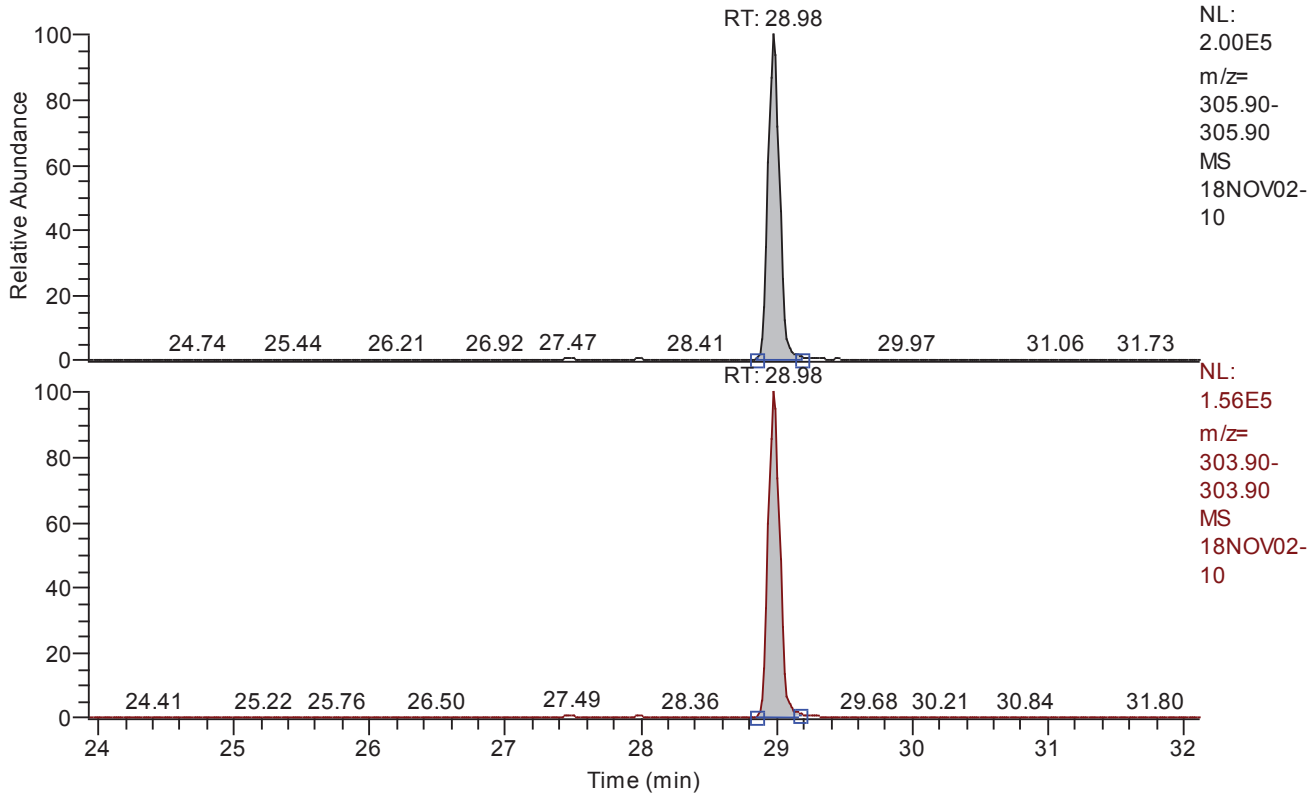
Chromatogram

RT: 23.92 - 32.12 SM: 3G



Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	1176218
QM Integration Mode	A
RM1 Area	915332
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0169
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	5852
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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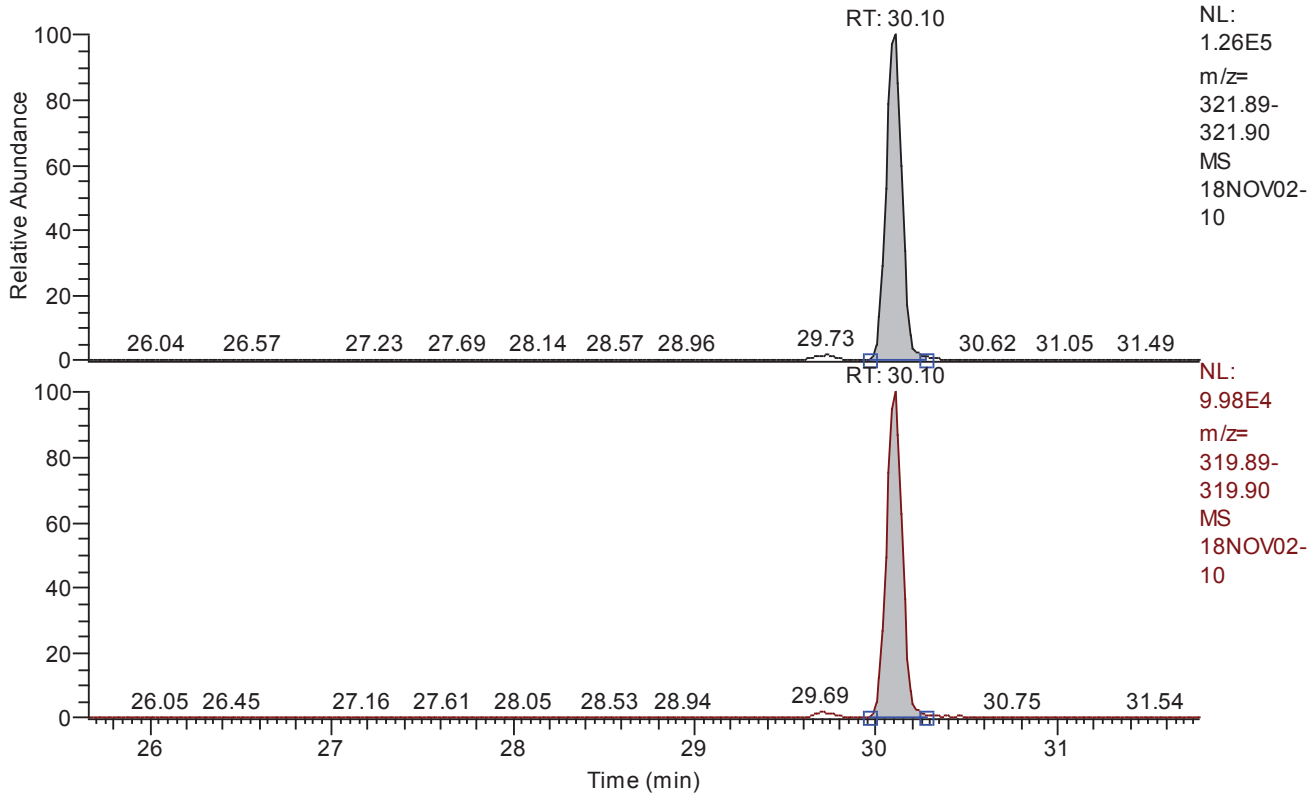
Chromatogram

RT: 25.66 - 31.78 SM: 3G



Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	762400
QM Integration Mode	A
RM1 Area	599584
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0142
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	7106
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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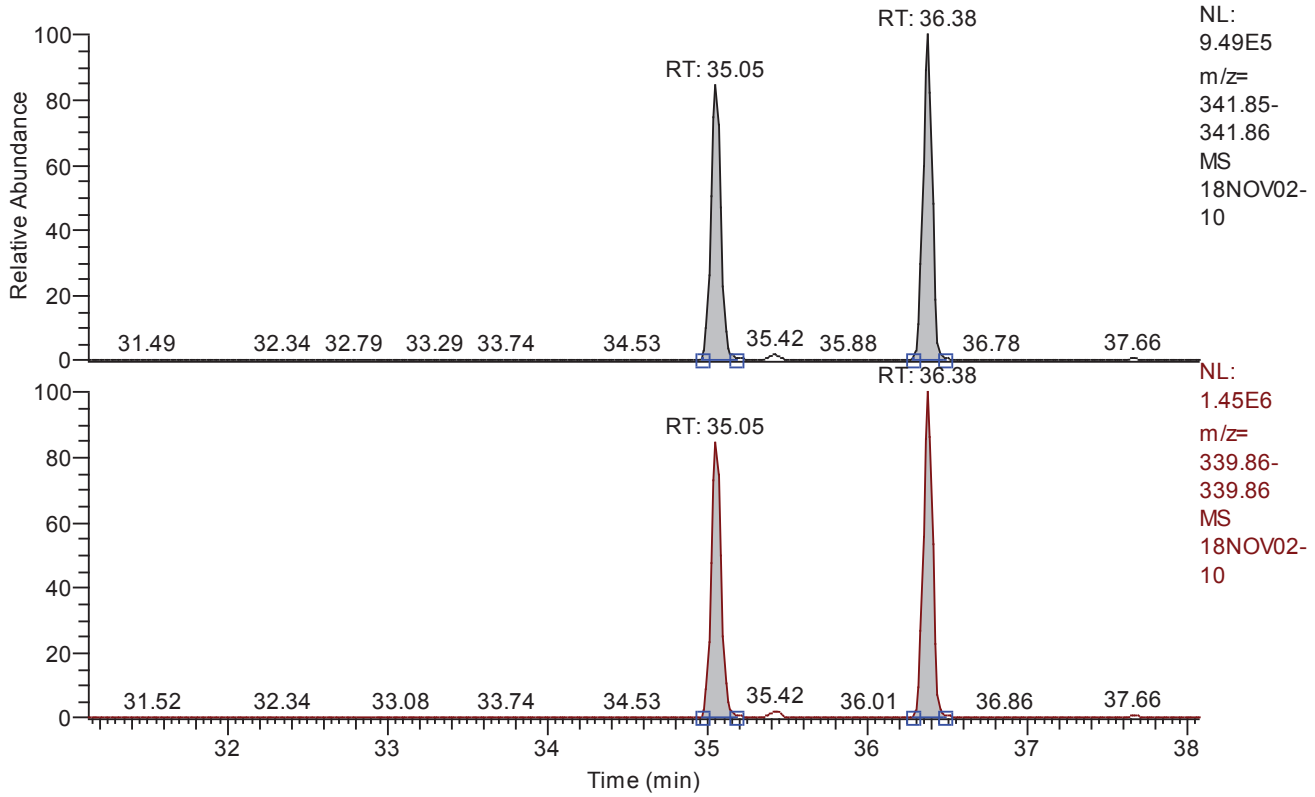
Chromatogram

RT: 31.12 - 38.08 SM: 3G



Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	7528379
QM Integration Mode	A
RM1 Area	11588733
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0159
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	32108
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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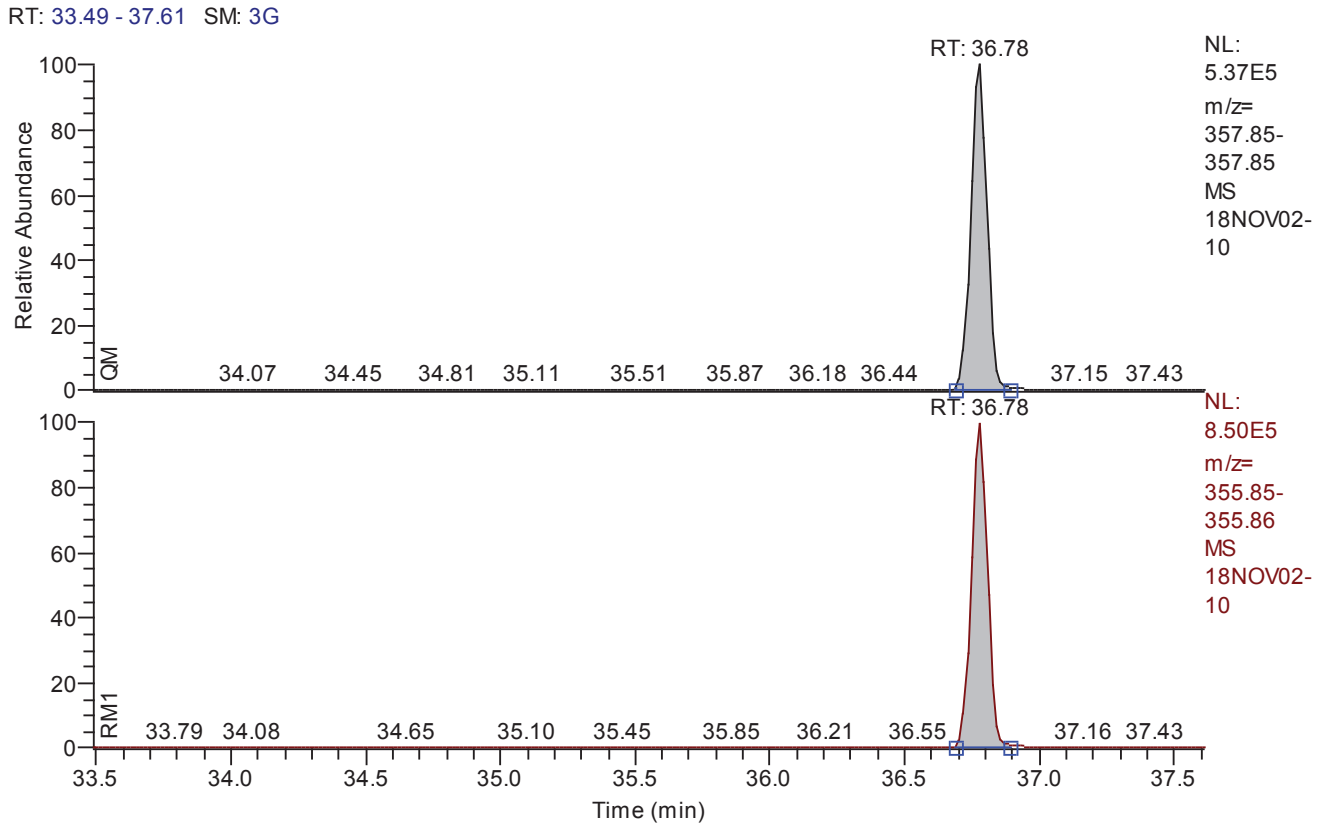
Chromatogram



Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	2261182
QM Integration Mode	A
RM1 Area	3534515
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0335
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	15372
Client Flags	
Status Overview	passed (1)
Status Info	

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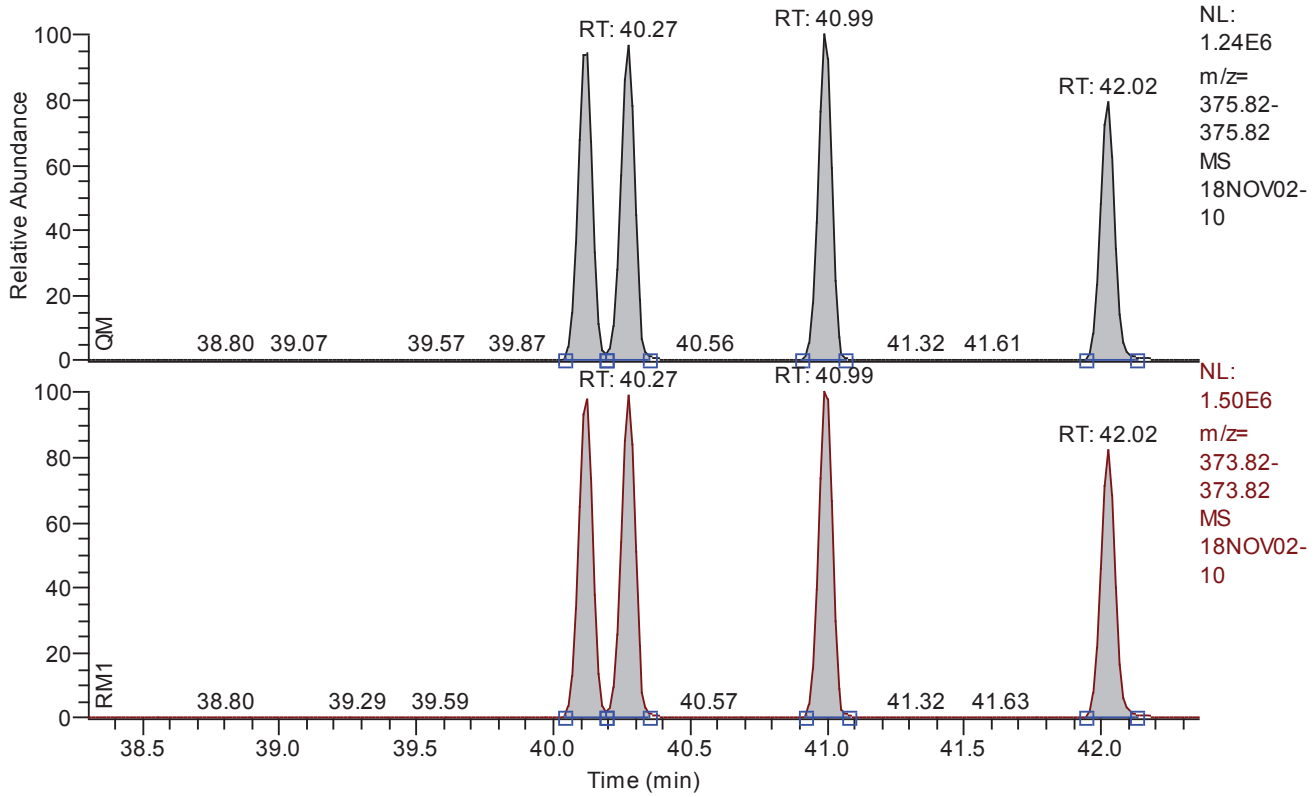
Chromatogram

RT: 38.30 - 42.36 SM: 3G



Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	16409610
QM Integration Mode	A
RM1 Area	20357730
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0417
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	800.0000
Signal-to-Noise	12083
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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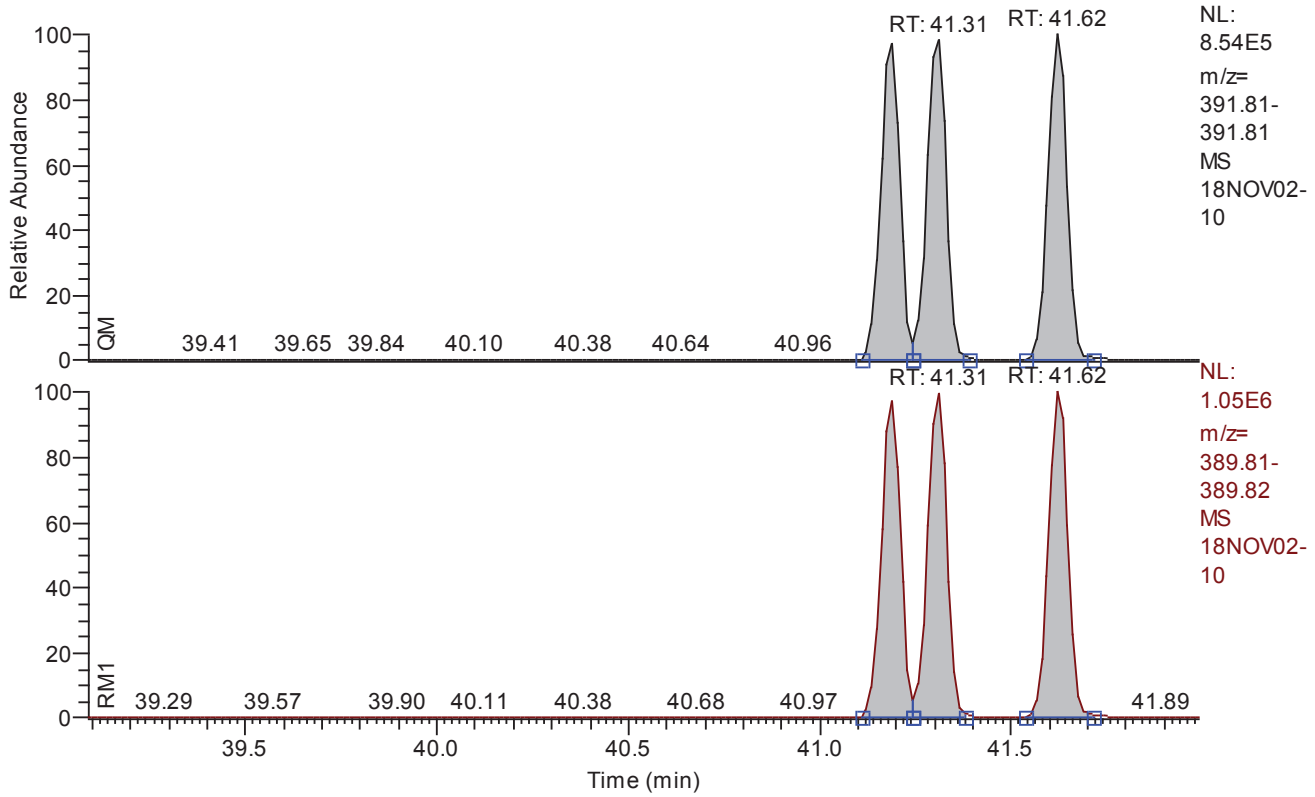
Chromatogram

RT: 39.09 - 41.99 SM: 3G



Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	8769649
QM Integration Mode	A
RM1 Area	10859253
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0206
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	600.0000
Signal-to-Noise	24664
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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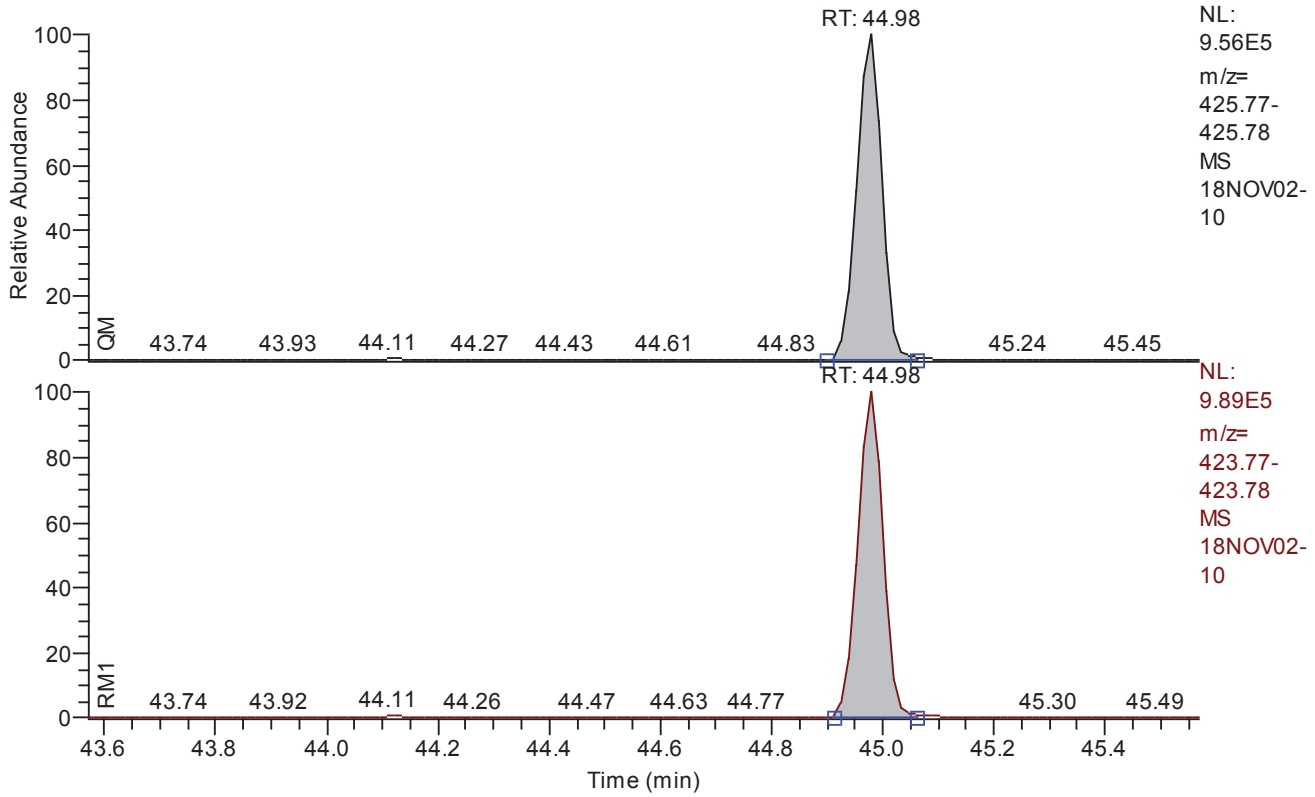
Chromatogram

RT: 43.57 - 45.57 SM: 3G



Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	3074744
QM Integration Mode	A
RM1 Area	3180412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0392
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12781
Client Flags	
Status Overview	passed (1)
Status Info	

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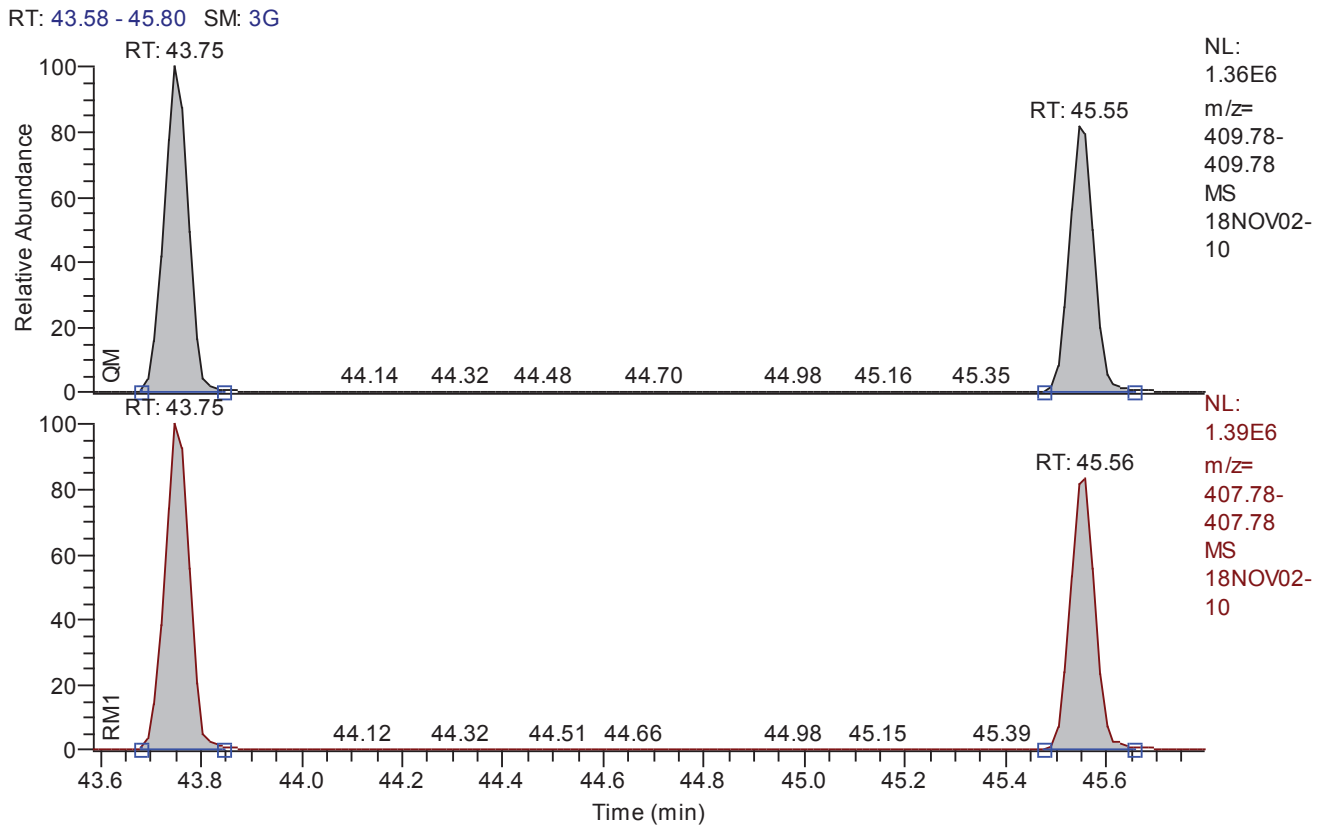
Chromatogram



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	8289123
QM Integration Mode	A
RM1 Area	8664653
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0429
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	11726
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.10	30.10	30.10	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.05	35.05	35.05	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.12	40.12	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.55	45.55	45.56	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.51	30.51	30.51	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.22	29.22	29.22	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.96	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.07	30.07	30.07	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.04	35.04	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.36	36.36	36.36	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.16	41.16	41.18	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.28	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.74	43.74	43.74	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.55	45.55	45.55	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.10	30.10	30.10	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.05	35.05	35.05	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	40.99	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.12	40.12	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.75	43.75	43.75	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.55	45.55	45.56	passed	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.7782	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.10	0.7864	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.05	1.5384	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5402	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.5631	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.12	1.2349	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2411	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.2385	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2338	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2351	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.2495	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.75	1.0399	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0344	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.55	1.0518	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8851	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.9041	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.51	0.8149	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.22	0.7867	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2522	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7926	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.07	0.8024	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.04	1.5936	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.36	1.5709	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5848	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5236	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5171	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5264	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.16	1.2629	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2432	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2548	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5366	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.74	0.4600	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.97	1.0377	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.55	0.4436	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8971	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.9003	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7782	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7864	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5393	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5631	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2406	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2383	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0344	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0453	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.7782	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.10	0.7864	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.5631	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5402	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.05	1.5384	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0344	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.99	1.2385	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.12	1.2349	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.2411	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.2495	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2338	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2351	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.75	1.0399	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.55	1.0518	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	28.98	1176218	A	915332	A	0.0169	40.000000	40.0000	40.000000	5852	
2	2378-TCDD	passed	30.10	762400	A	599584	A	0.0142	40.000000	40.0000	40.000000	7106	
3	12378-PeCDF	passed	35.05	3571308	A	5494053	A	0.0173	200.000000	200.0000	200.000000	29442	
4	23478-PeCDF	passed	36.38	3957071	A	6094680	A	0.0147	200.000000	200.0000	200.000000	34773	
5	12378-PeCDD	passed	36.78	2261182	A	3534515	A	0.0335	200.000000	200.0000	200.000000	15372	
6	123478-HxCDF	passed	40.12	4252556	A	5251384	A	0.0404	200.000000	200.0000	200.000000	12400	
7	123678-HxCDF	passed	40.27	4312133	A	5351650	A	0.0402	200.000000	200.0000	200.000000	12617	
8	234678-HxCDF	passed	40.99	4290959	A	5314175	A	0.0379	200.000000	200.0000	200.000000	12884	
9	123478-HxCDD	passed	41.19	2886570	A	3561339	A	0.0212	200.000000	200.0000	200.000000	24322	
10	123678-HxCDD	passed	41.31	2933470	A	3623089	A	0.0207	200.000000	200.0000	200.000000	24713	
11	123789-HxCDD	passed	41.62	2949610	A	3674825	A	0.0198	200.000000	200.0000	200.000000	24958	
12	123789-HxCDF	passed	42.02	3553962	A	4440521	A	0.0485	200.000000	200.0000	200.000000	10432	
13	1234678-HpCDF	passed	43.75	4529063	A	4709794	A	0.0389	200.000000	200.0000	200.000000	12851	
14	1234678-HpCDD	passed	44.98	3074744	A	3180412	A	0.0392	200.000000	200.0000	200.000000	12781	
15	1234789-HpCDF	passed	45.55	3760061	A	3954859	A	0.0468	200.000000	200.0000	200.000000	10601	
16	OCDD	passed	48.03	6184184	A	5473610	A	0.0213	400.000000	400.0000	400.000000	46183	
17	OCDF	passed	48.21	7341388	A	6637277	A	0.0186	400.000000	400.0000	400.000000	53915	
18	13C12-1278-TCDD (CRS)	passed	30.51	1750847	A	1426756	A	0.0267	100.000000	100.0000	100.000000	9130	
19	13C12-1234-TCDD	passed	29.22	1826575	A	1436947	A	0.0260	100.000000	100.0000	100.000000	9631	
20	13C12-123468-HxCDD	passed	40.02	1542648	A	1931753	A	0.0274	100.000000	100.0000	100.000000	9119	
21	13C12-2378-TCDF	passed	28.96	3187038	A	2525964	A	0.0184	100.000000	100.0000	100.000000	13559	
22	13C12-2378-TCDD	passed	30.07	1657896	A	1330365	A	0.0283	100.000000	100.0000	100.000000	8421	
23	13C12-12378-PeCDF	passed	35.04	2012362	A	3206998	A	0.0416	100.000000	100.0000	100.000000	7707	
24	13C12-23478-PeCDF	passed	36.36	2017163	A	3168710	A	0.0419	100.000000	100.0000	100.000000	8111	
25	13C12-12378-PeCDD	passed	36.75	1191430	A	1888209	A	0.0270	100.000000	100.0000	100.000000	12542	
26	13C12-123478-HxCDF	passed	40.10	2877199	A	1506403	A	0.0292	100.000000	100.0000	100.000000	8512	
27	13C12-123678-HxCDF	passed	40.26	3025563	A	1564489	A	0.0279	100.000000	100.0000	100.000000	8809	
28	13C12-234678-HxCDF	passed	40.97	2777382	A	1461910	A	0.0302	100.000000	100.0000	100.000000	8697	
29	13C12-123478-HxCDD	passed	41.16	1528602	A	1930433	A	0.0275	100.000000	100.0000	100.000000	9099	
30	13C12-123678-HxCDD	passed	41.30	1569760	A	1951538	A	0.0271	100.000000	100.0000	100.000000	9349	
31	13C12-123789-HxCDD	passed	41.61	1499148	A	1881165	A	0.0282	100.000000	100.0000	100.000000	9287	
32	13C12-123789-HxCDF	passed	42.01	2514701	A	1349492	A	0.0331	100.000000	100.0000	100.000000	7427	
33	13C12-1234678-HpCDF	passed	43.74	2700782	A	1242493	A	0.0327	100.000000	100.0000	100.000000	8182	
34	13C12-1234678-HpCDD	passed	44.97	1615714	A	1676665	A	0.0291	100.000000	100.0000	100.000000	9573	
35	13C12-1234789-HpCDF	passed	45.55	2230786	A	989605	A	0.0401	100.000000	100.0000	100.000000	6655	
36	13C12-OCDD	passed	48.01	3301810	A	2962166	A	0.0124	200.000000	200.0000	200.000000	48145	
37	13C12-OCDF	passed	48.20	4416099	A	3975709	A	0.0138	200.000000	200.0000	200.000000	42068	
38	Total TCDF	passed (1)	28.02	1176218	A	915332	A	0.0169	40.000000	40.0000	40.000000	5852	
39	Total TCDD	passed (1)	28.72	762400	A	599584	A	0.0142	40.000000	40.0000	40.000000	7106	
40	Total PeCDF	passed (2)	34.60	7528379	A	11588733	A	0.0159	200.000000	400.0000	200.000000	32108	
41	Total PeCDD	passed (1)	35.55	2261182	A	3534515	A	0.0335	200.000000	200.0000	200.000000	15372	
42	Total HxCDF	passed (4)	40.33	16409610	A	20357730	A	0.0417	200.000000	800.0000	200.000000	12083	
43	Total HxCDD	passed (3)	40.54	8769649	A	10859253	A	0.0206	200.000000	600.0000	200.000000	24664	
44	Total HpCDD	passed (1)	44.57	3074744	A	3180412	A	0.0392	200.000000	200.0000	200.000000	12781	
45	Total HpCDF	passed (2)	44.69	8289123	A	8664653	A	0.0429	200.000000	400.0000	200.000000	11726	
46	Single TCDF	passed	28.98	1176218	A	915332	A	0.0169	40.000000	40.0000	40.000000	5852	
47	Single TCDD	passed	30.10	762400	A	599584	A	0.0142	40.000000	40.0000	40.000000	7106	
48	Single PeCDD	passed	36.78	2261182	A	3534515	A	0.0335	200.000000	200.0000	200.000000	15372	
49	Single PeCDF	passed	36.38	3957071	A	6094680	A	0.0151	200.000000	200.0000	200.000000	34773	
50	Single PeCDF	passed	35.05	3571308	A	5494053	A	0.0168	200.000000	200.0000	200.000000	29442	
51	Single HpCDD	passed	44.98	3074744	A	3180412	A	0.0392	200.000000	200.0000	200.000000	12781	
52	Single HxCDF	passed	40.99	4290959	A	5314175	A	0.0396	200.000000	200.0000	200.000000	12884	
53	Single HxCDF	passed	40.12	4252556	A	5251384	A	0.0401	200.000000	200.0000	200.000000	12400	
54	Single HxCDF	passed	40.27	4312133	A	5351650	A	0.0394	200.000000	200.0000	200.000000	12617	
55	Single HxCDF	passed	42.02	3553962	A	4440521	A	0.0476	200.000000	200.0000	200.000000	10432	
56	Single HxCDD	passed	41.62	2949610	A	3674825	A	0.0203	200.000000	200.0000	200.000000	24958	
57	Single HxCDD	passed	41.19	2886570	A	3561339	A	0.0209	200.000000	200.0000	200.000000	24322	
58	Single HxCDD	passed	41.31	2933470	A	3623089	A	0.0205	200.000000	200.0000	200.000000	24713	
59	Single HpCDF	passed	43.75	4529063	A	4709794	A	0.0390	200.000000	200.0000	200.000000	12851	
60	Single HpCDF	passed	45.55	3760061	A	3954859	A	0.0467	200.000000	200.0000	200.000000	10601	

APPROVED
By uma9 at 11:21 am, 11/7/18

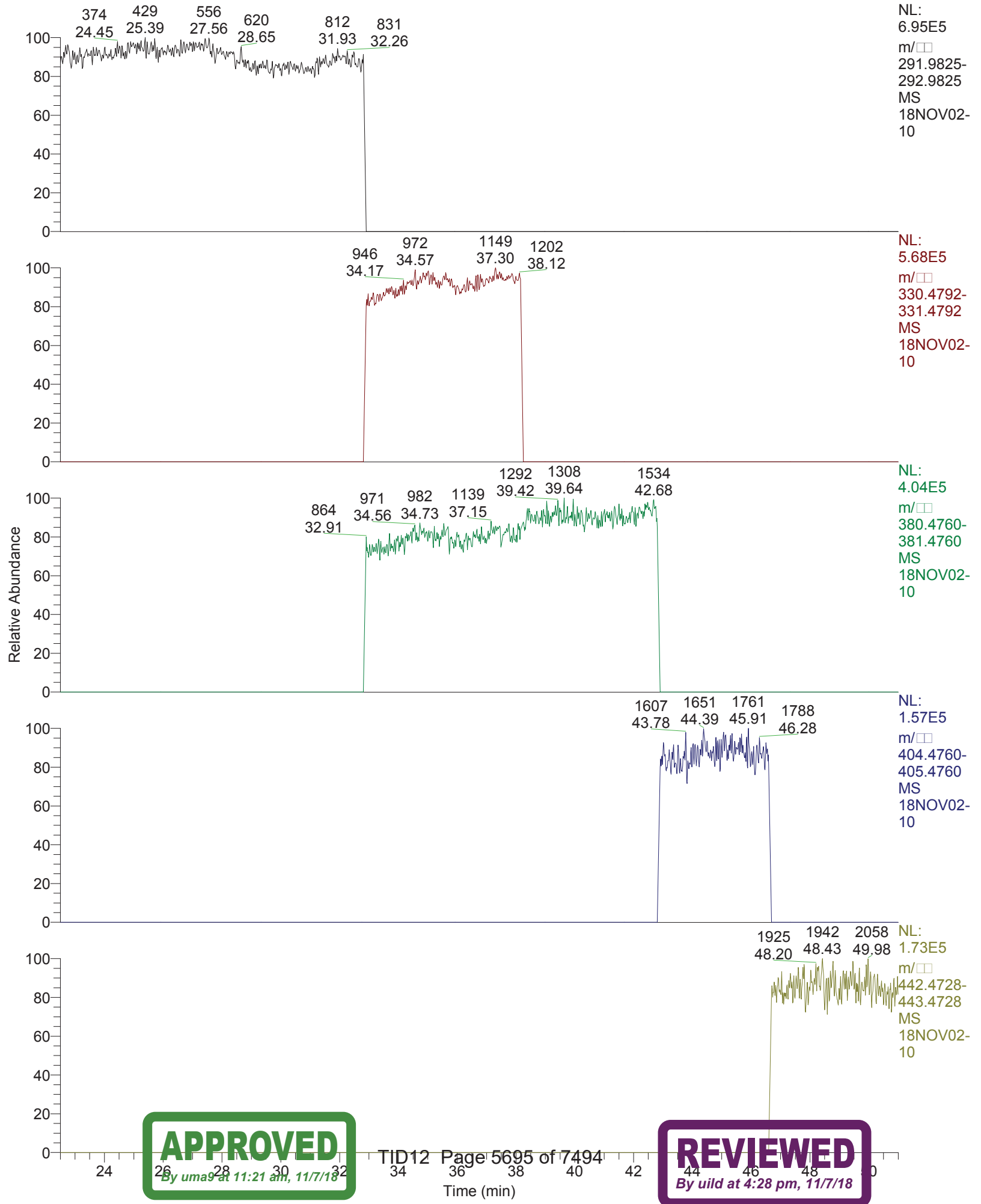
REVIEWED
By uild at 4:28 pm, 11/7/18

File Name: W:□18NOV02□18NOV02-10
Sample ID: CS401

Acq. Data: 11/2/2018 6:29:25 PM
Sample Name: CALDF51837B
PFK Reference Loc□Mass Traces

Instrument ID: DF17280-18NOV02

RT: 22.50 - 51.00



APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

*** file opened Fri Nov 02 18:35:10 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 02-Nov-18 18:35:09

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
```

```
MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          95.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0003   ECURR           1.0000
 EDAC        7969177.0000   EDACG           0.9998   EDACZ        1246.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           216.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           190.0000   EXSBR          -2.6700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.6000
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0184   FVINLET         0.0426   FVSRC           0.0331
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           95.0000   LKM           442.9723   MASS           95.0000
 MDAC        1401471.2988   MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2159.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9817   RELEN           0.0000
 RES          11044.8880   RPUSHER        -1.0769   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0227   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.0000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10837.
MID Time Window 2: Resolution is 11151.
MID Time Window 3: Resolution is 10939.
MID Time Window 4: Resolution is 11240.
```

```
                                    18NOV02-10
  MID Time Window 5: Resolution is 11863.
  MID Time Window 6: Resolution is 11044.

  Amplifier Offset: 91.


*** File closed Fri Nov 02 19:26:11 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 19:26
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-11.quan
Data	w:\18nov02\18nov02-11.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.97	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.08	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.05	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.37	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.76	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.11	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.98	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.18	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.74	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	
16	OCDD	48.02	passed	passed	passed	passed	passed	passed	
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.49	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.19	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.01	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.93	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.05	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.03	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.34	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.74	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.09	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.25	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.16	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.28	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.60	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.99	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.73	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.53	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	
46	Single TCDF	28.97	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.08	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.76	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.37	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.05	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	44.97	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.98	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.11	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.18	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.74	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.54	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 19:26
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-11.quan
Data	w:\18nov02\18nov02-11.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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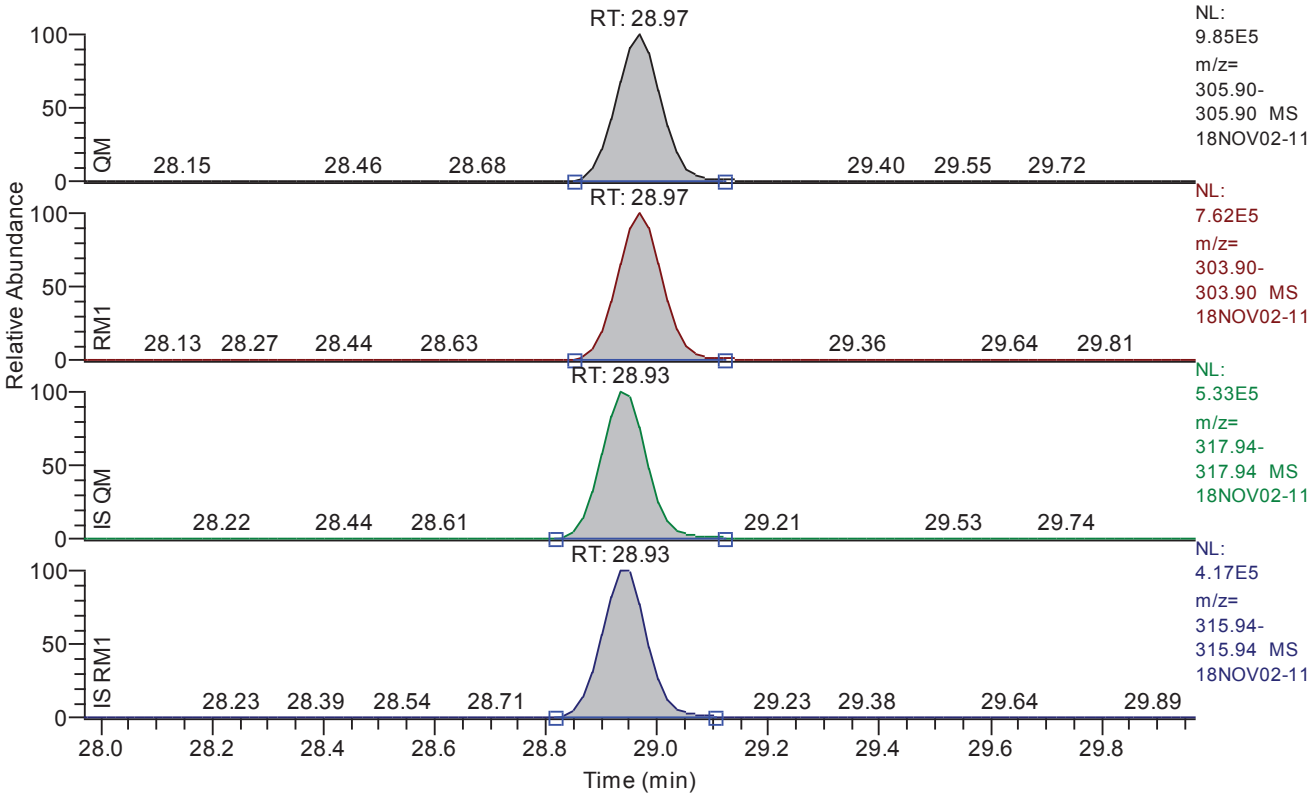
Chromatogram

RT: 27.97 - 29.97 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.97
QM Area	5622941
QM Integration Mode	A
RM1 Area	4356222
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0300
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	16896
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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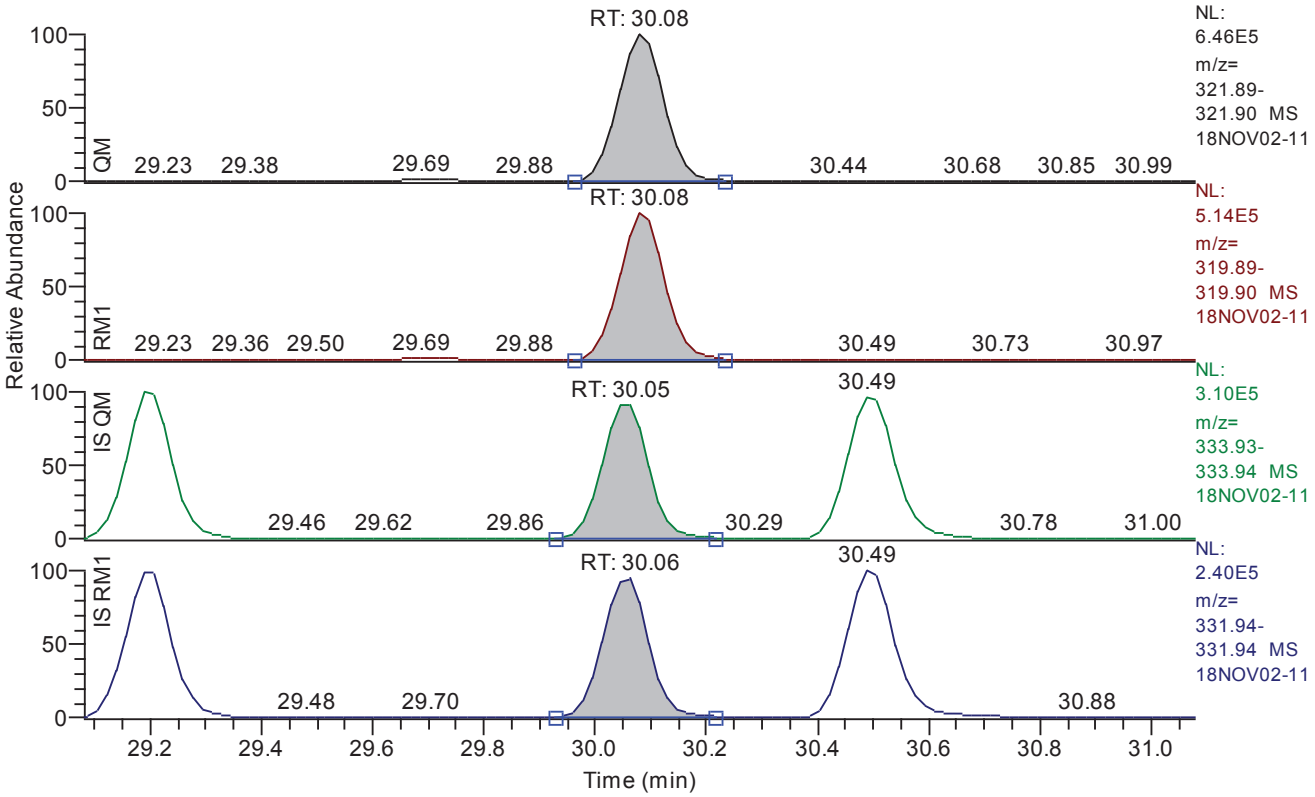
Chromatogram

RT: 29.08 - 31.08 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.08
QM Area	3769904
QM Integration Mode	A
RM1 Area	2965472
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0240
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21206
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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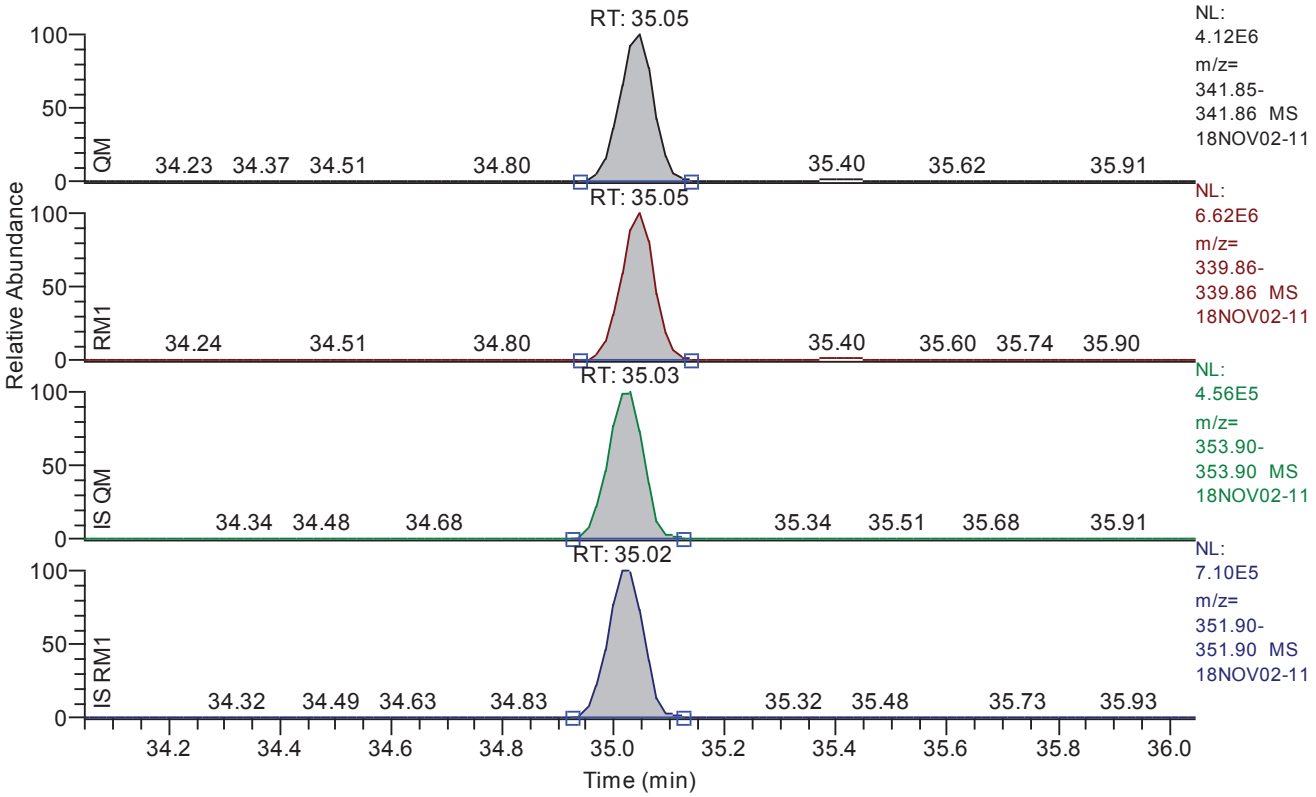
Chromatogram

RT: 34.05 - 36.05 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.05
QM Area	17613444
QM Integration Mode	A
RM1 Area	27777412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0218
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	122095
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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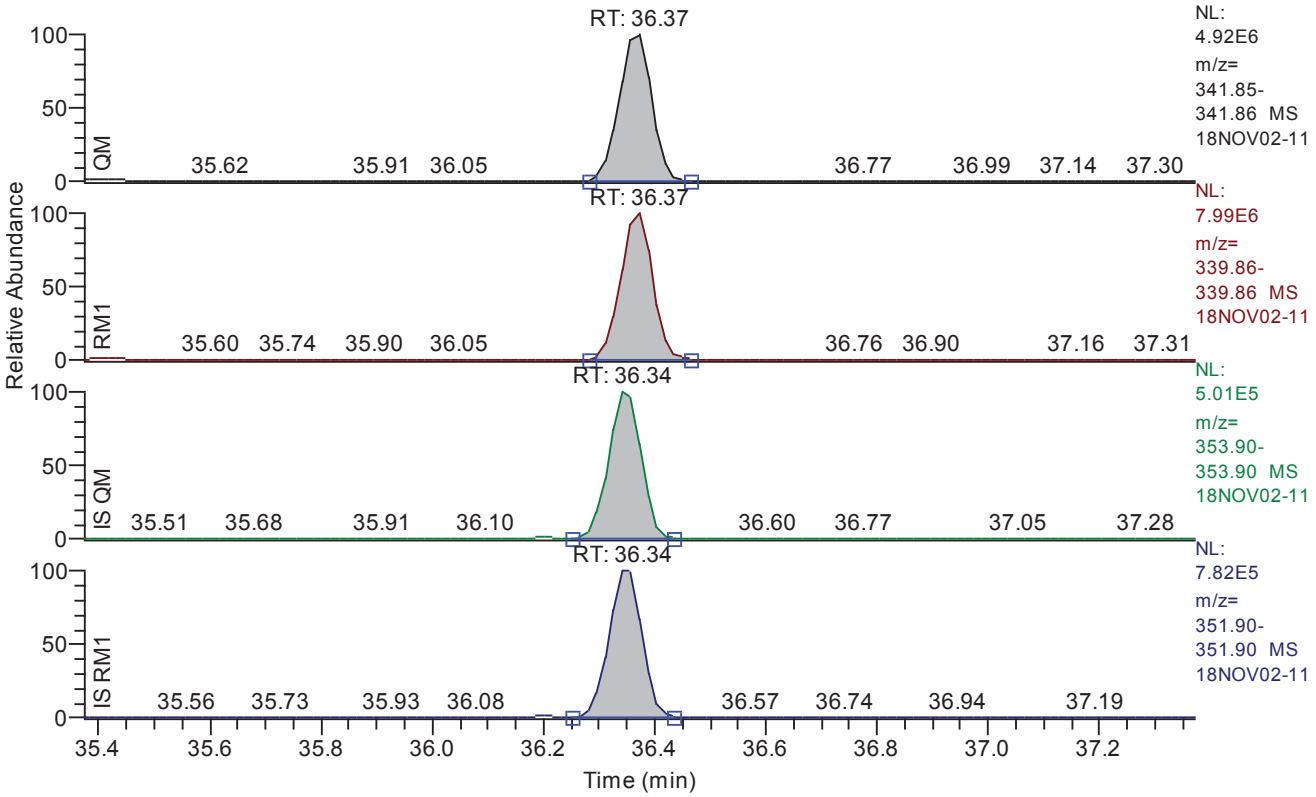
Chromatogram

RT: 35.37 - 37.37 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.37
QM Area	20198829
QM Integration Mode	A
RM1 Area	31878890
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0174
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	146843
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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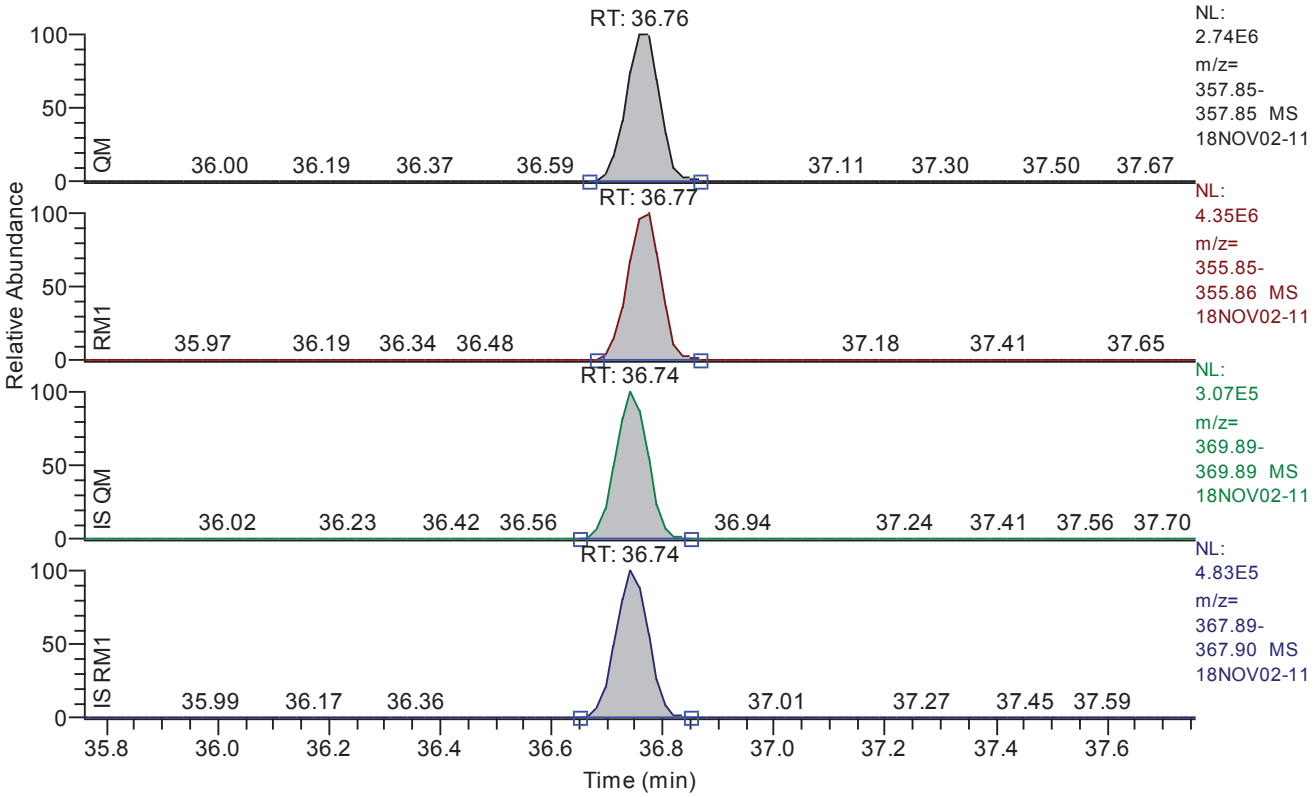
Chromatogram

RT: 35.76 - 37.76 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.76
QM Area	11594688
QM Integration Mode	A
RM1 Area	18005032
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0396
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	61968
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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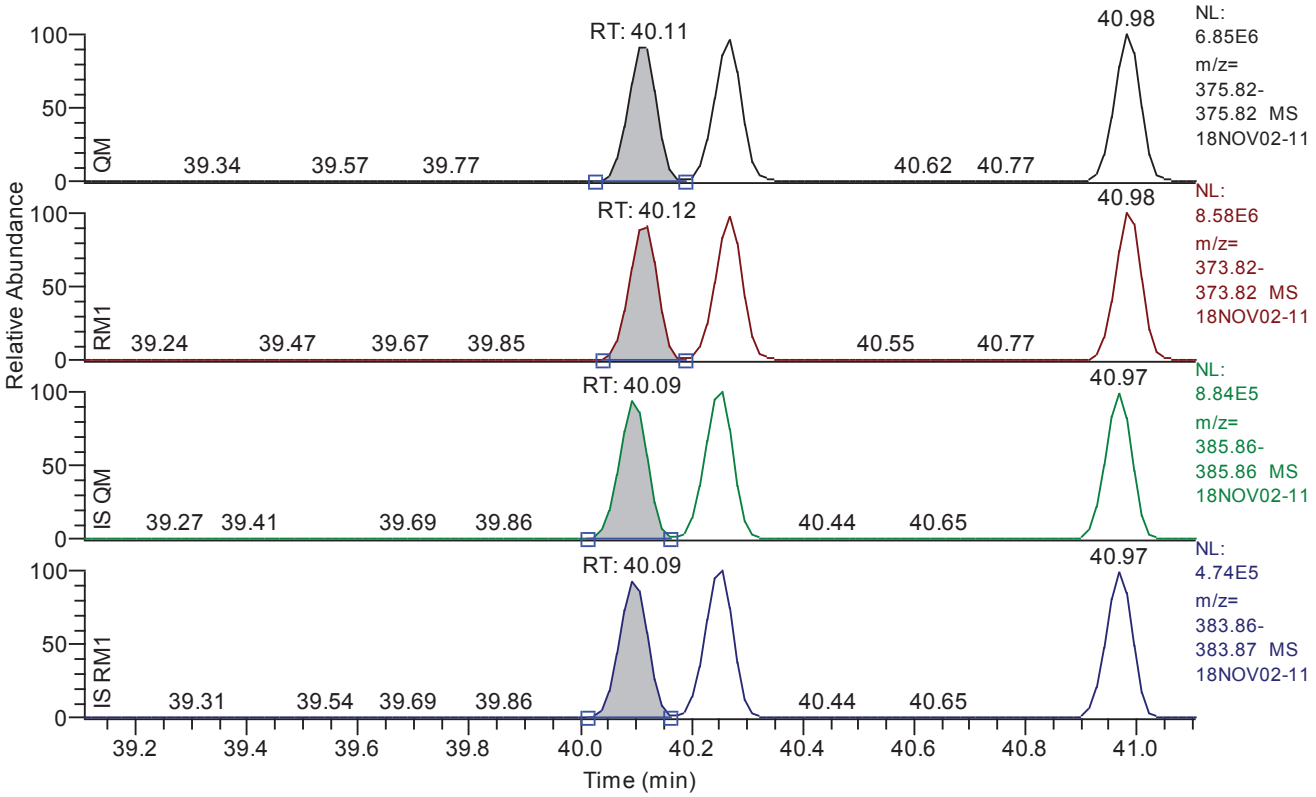
Chromatogram

RT: 39.11 - 41.11 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.11
QM Area	22589684
QM Integration Mode	A
RM1 Area	28106626
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0655
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	38279
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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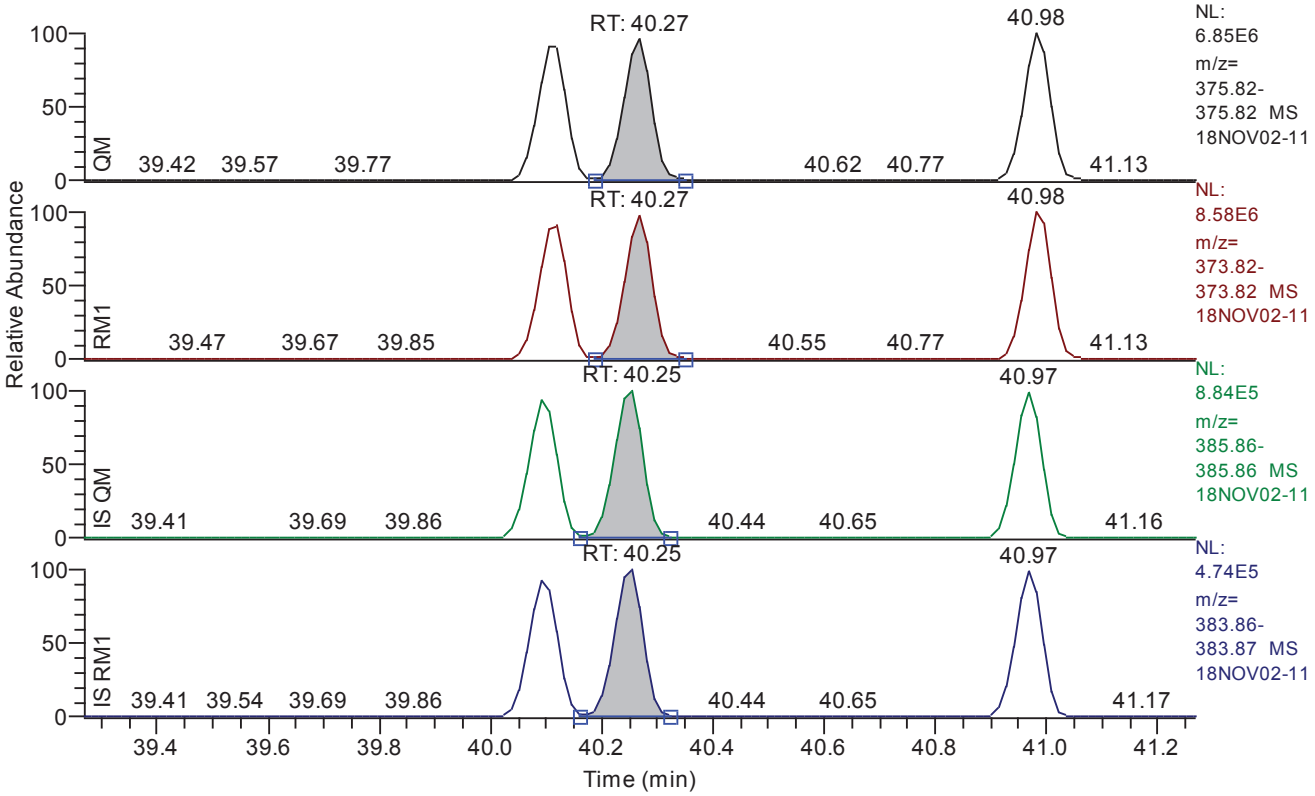
Chromatogram

RT: 39.27 - 41.27 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	22934090
QM Integration Mode	A
RM1 Area	28739820
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0645
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	40661
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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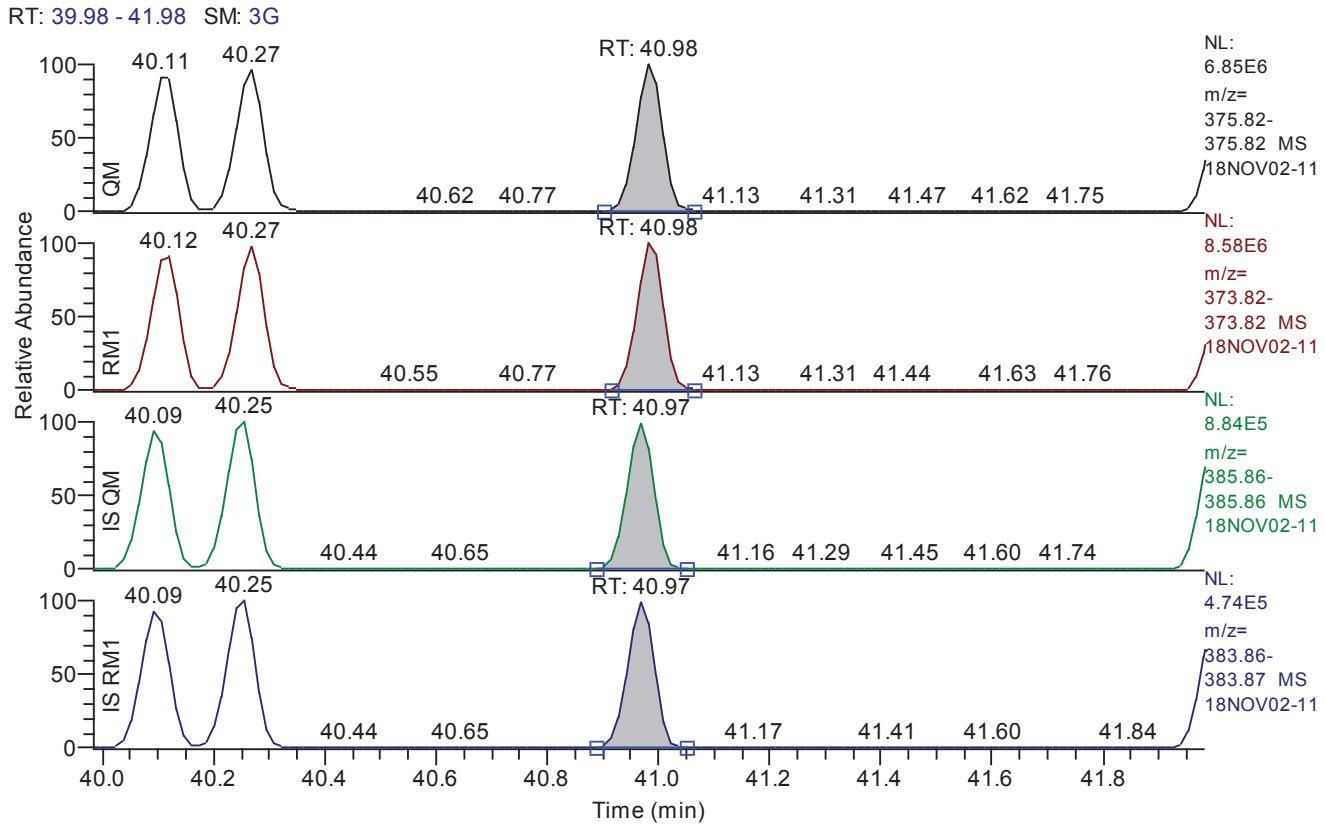
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.98
QM Area	22715121
QM Integration Mode	A
RM1 Area	28594617
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0605
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	41819
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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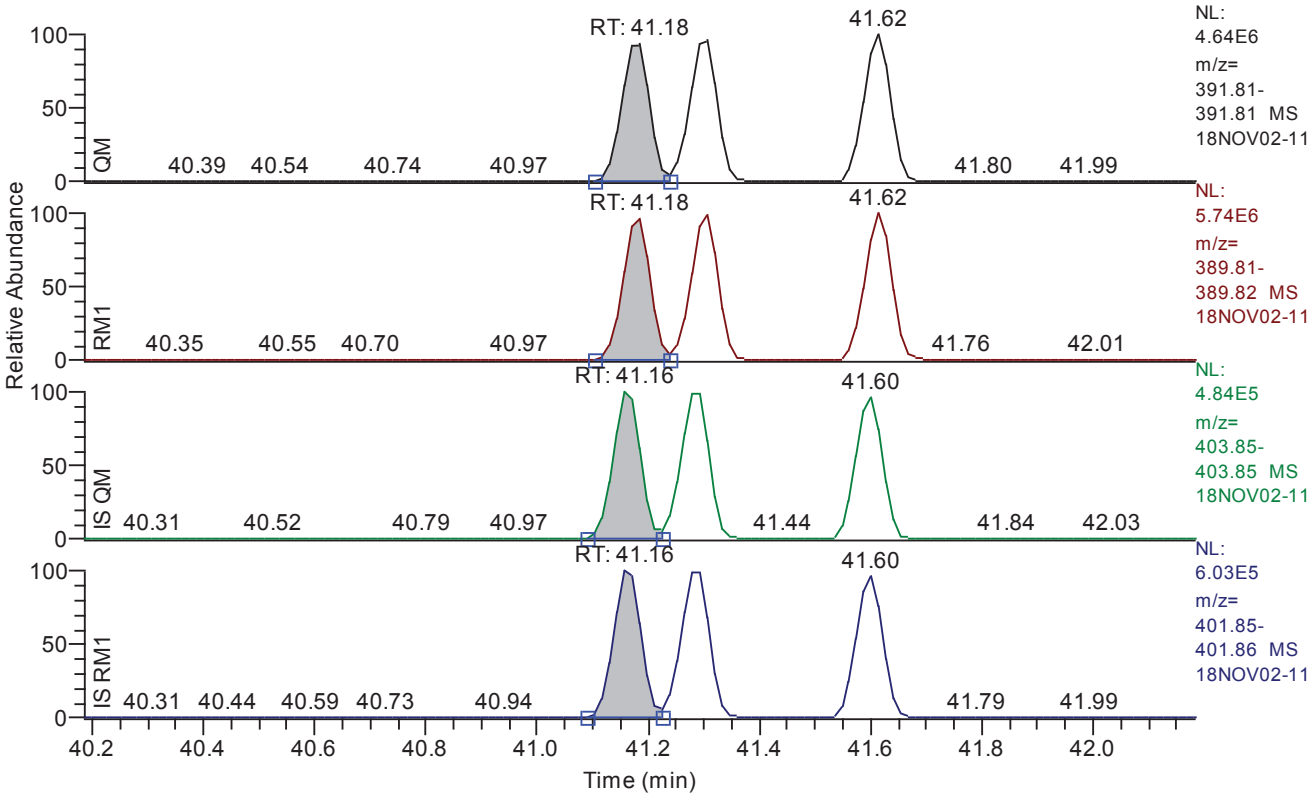
Chromatogram

RT: 40.18 - 42.18 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.18
QM Area	15252639
QM Integration Mode	A
RM1 Area	18948164
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0294
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	85120
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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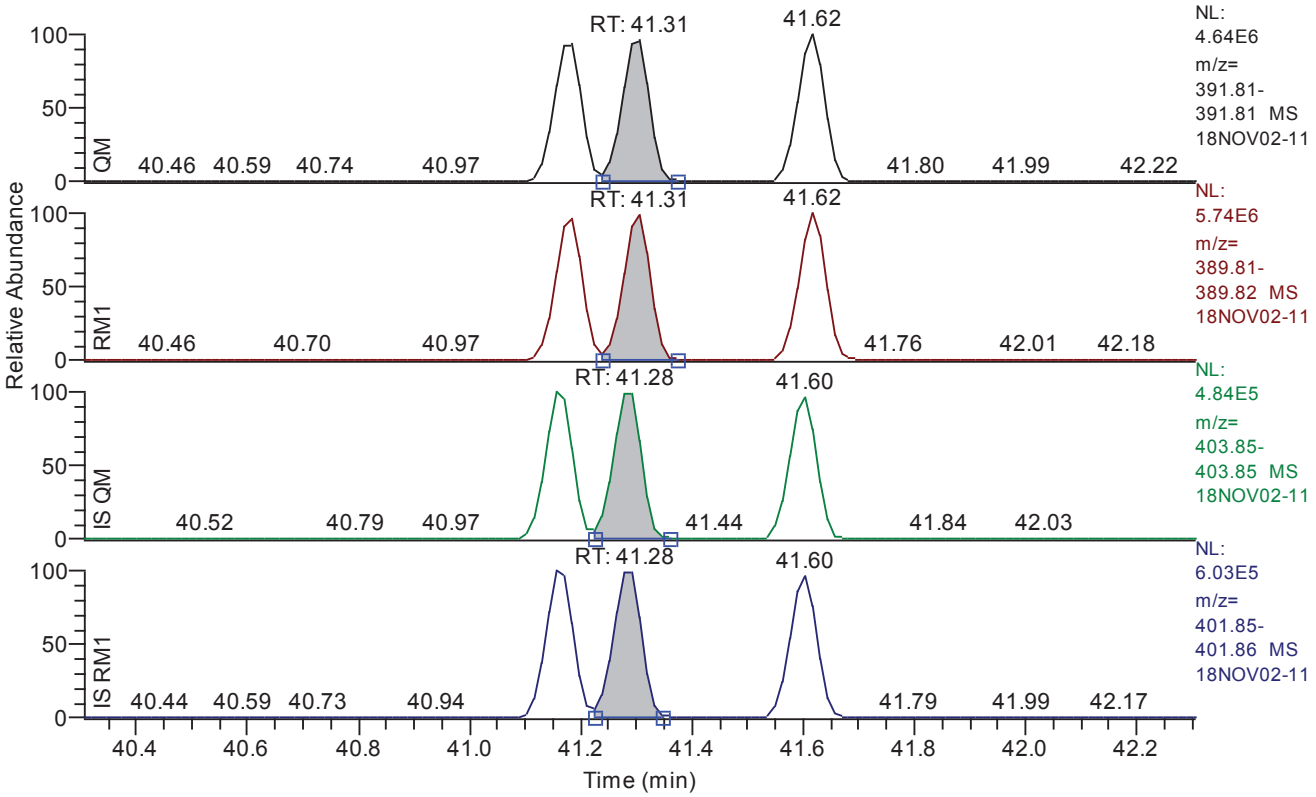
Chromatogram

RT: 40.31 - 42.31 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	15361094
QM Integration Mode	A
RM1 Area	19159253
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0296
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	87565
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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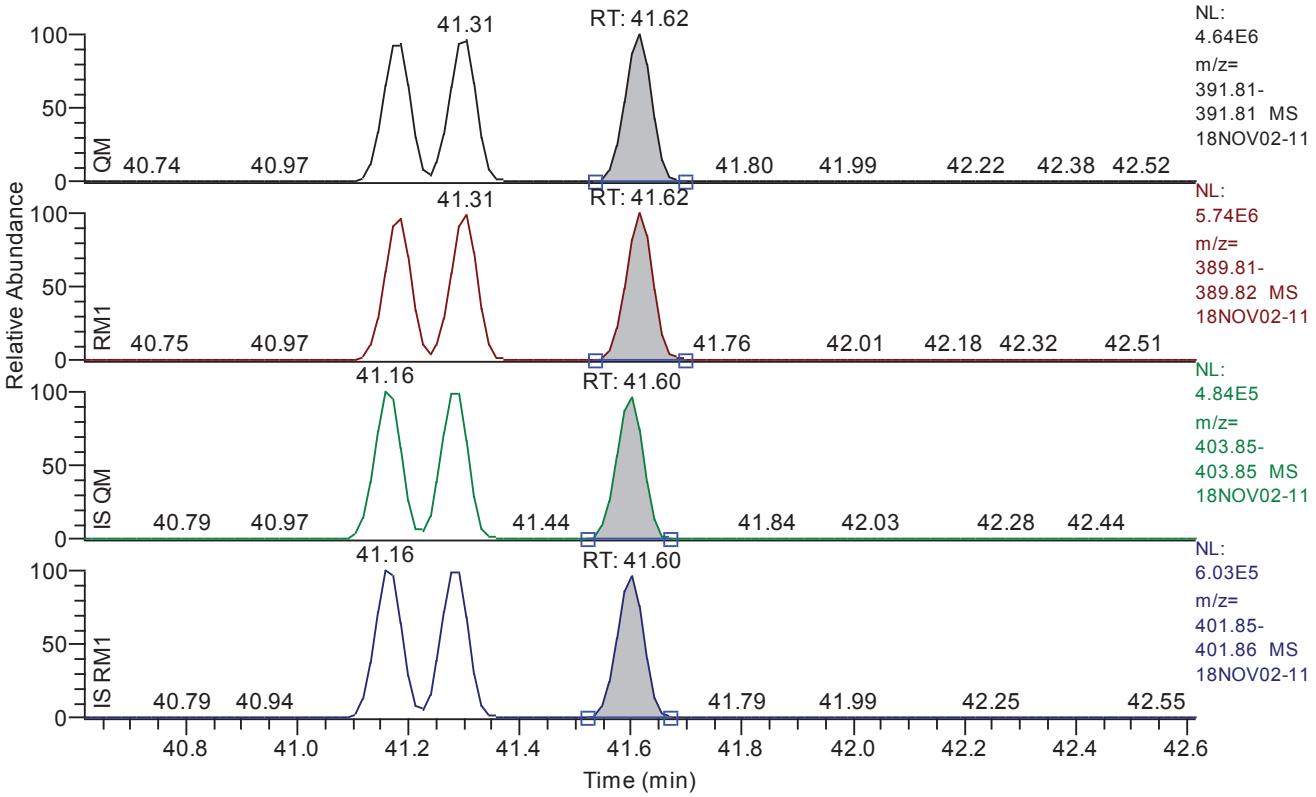
Chromatogram

RT: 40.62 - 42.62 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	15700412
QM Integration Mode	A
RM1 Area	19389530
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0283
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	88926
Client Flags	
Status Overview	passed
Status Info	

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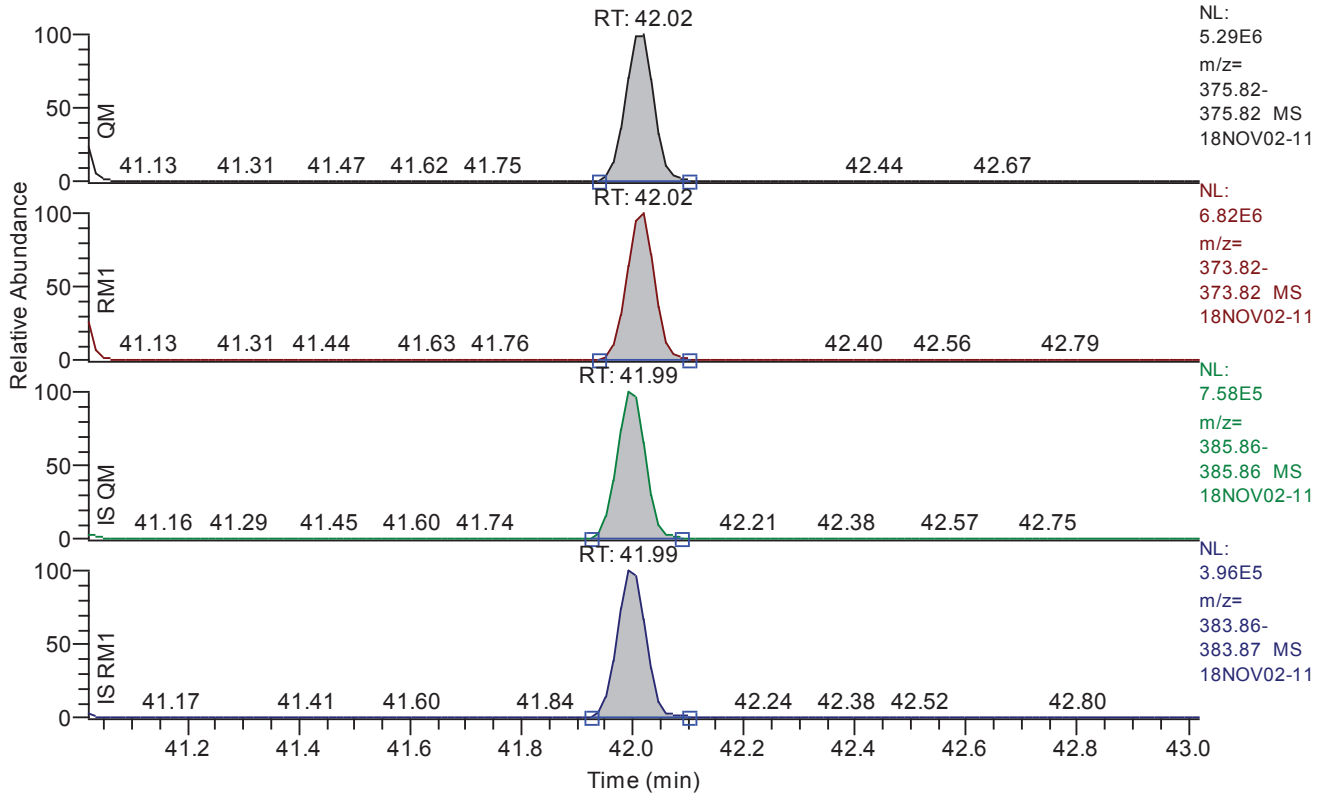
Chromatogram

RT: 41.02 - 43.02 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	18895806
QM Integration Mode	A
RM1 Area	23873284
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0773
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	32791
Client Flags	
Status Overview	passed
Status Info	

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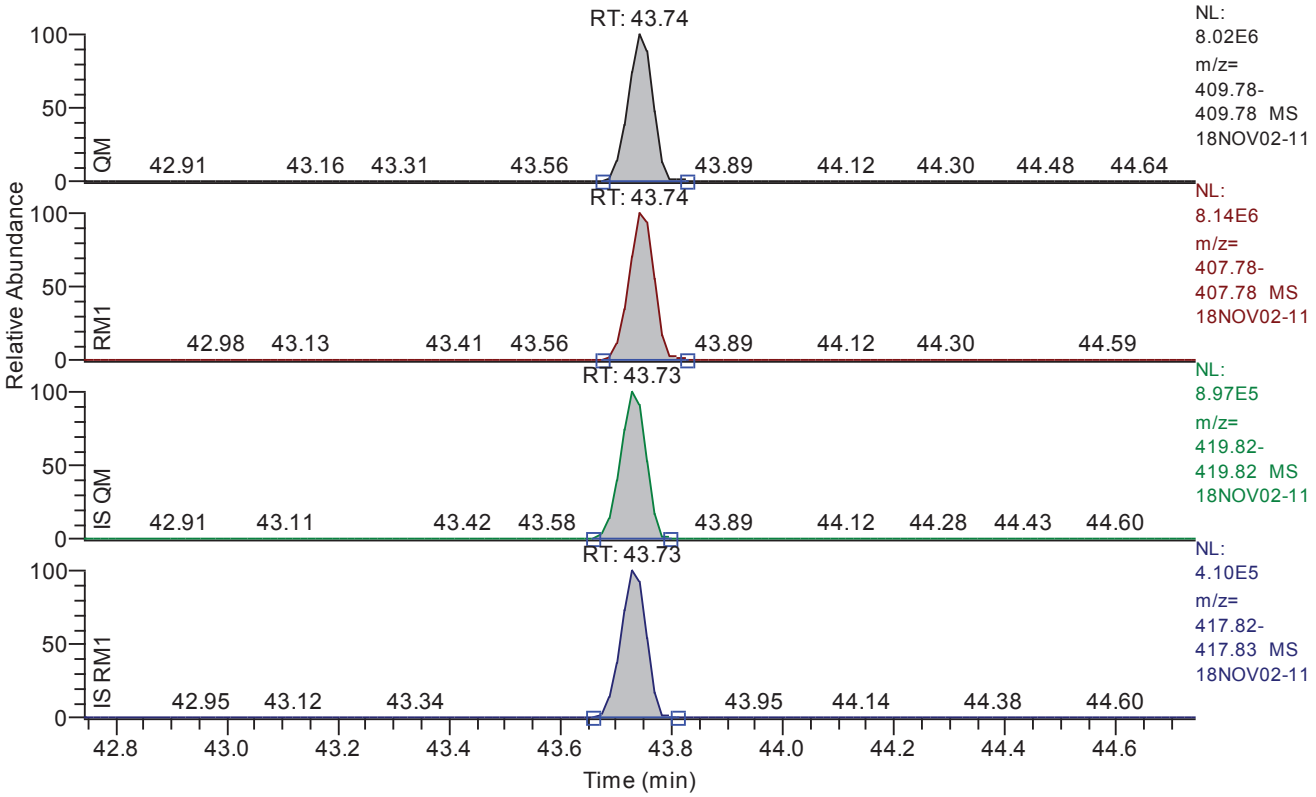
Chromatogram

RT: 42.74 - 44.74 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.74
QM Area	25695083
QM Integration Mode	A
RM1 Area	26607789
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0708
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	36113
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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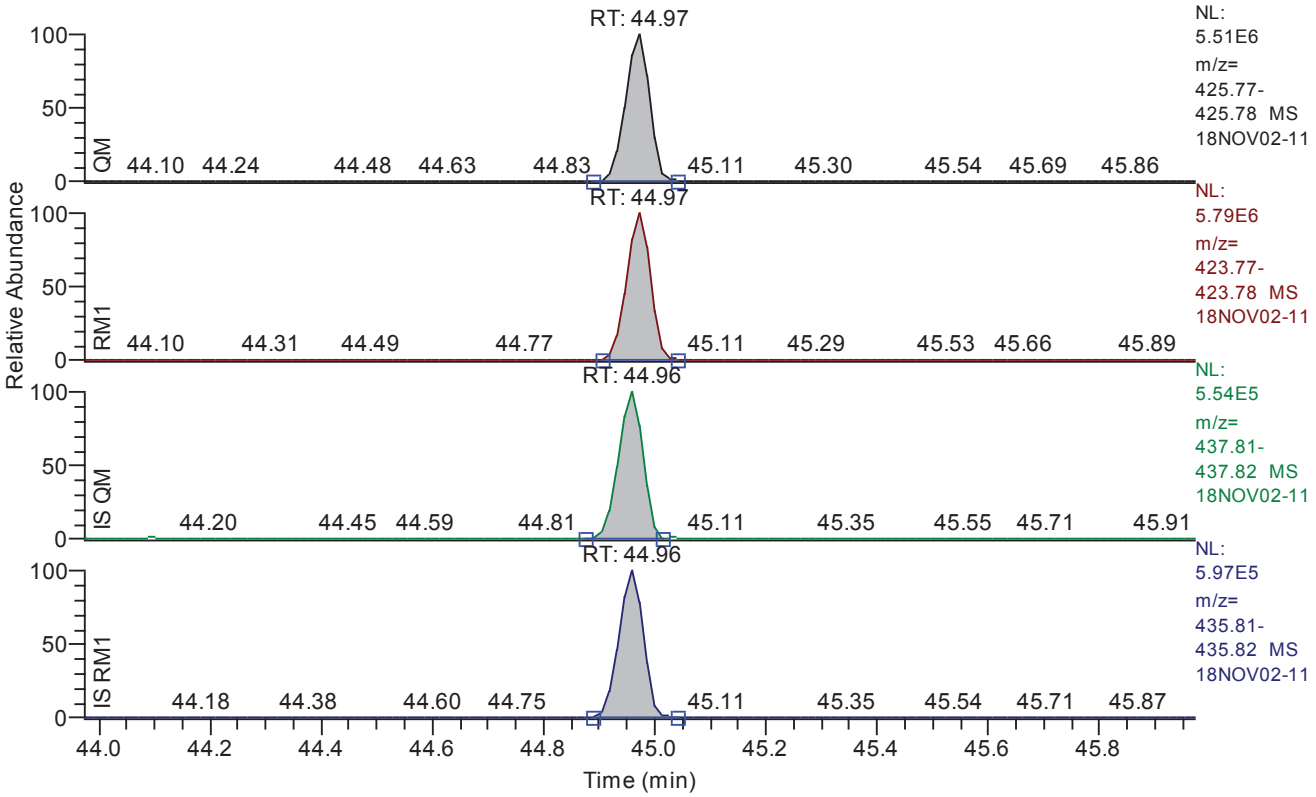
Chromatogram

RT: 43.97 - 45.97 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.97
QM Area	17168738
QM Integration Mode	A
RM1 Area	17860466
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0566
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	45055
Client Flags	
Status Overview	passed
Status Info	

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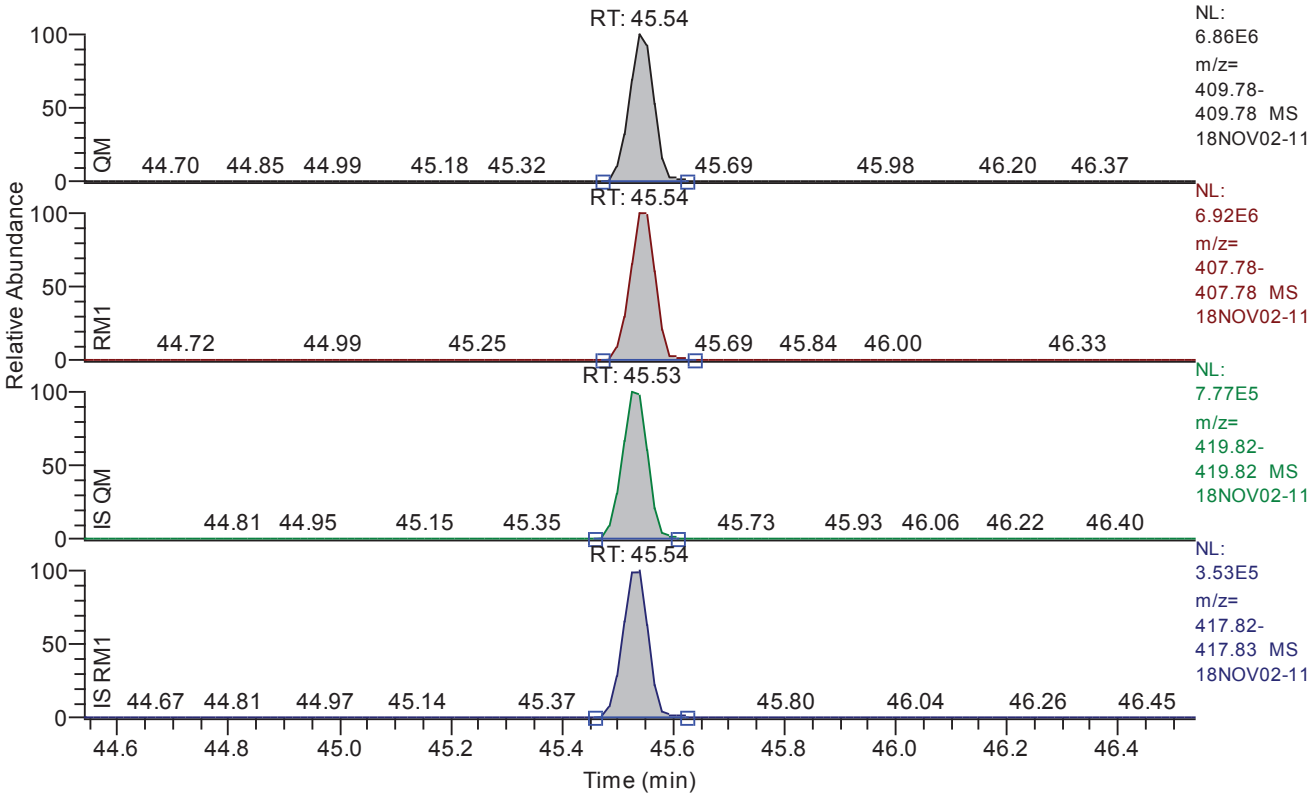
Chromatogram

RT: 44.54 - 46.54 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.54
QM Area	21779112
QM Integration Mode	A
RM1 Area	22635826
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0828
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	30758
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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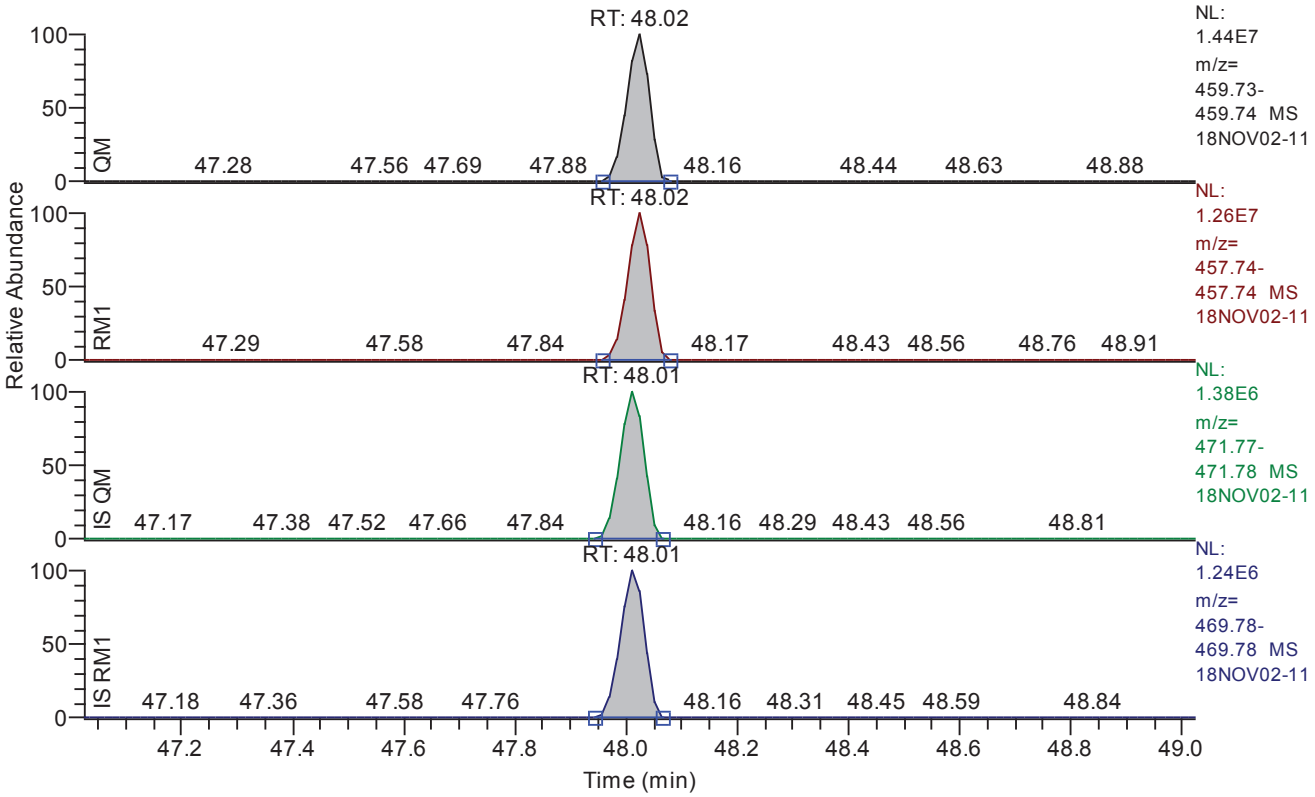
Chromatogram

RT: 47.02 - 49.02 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.02
QM Area	41351916
QM Integration Mode	A
RM1 Area	36071568
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0251
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	209286
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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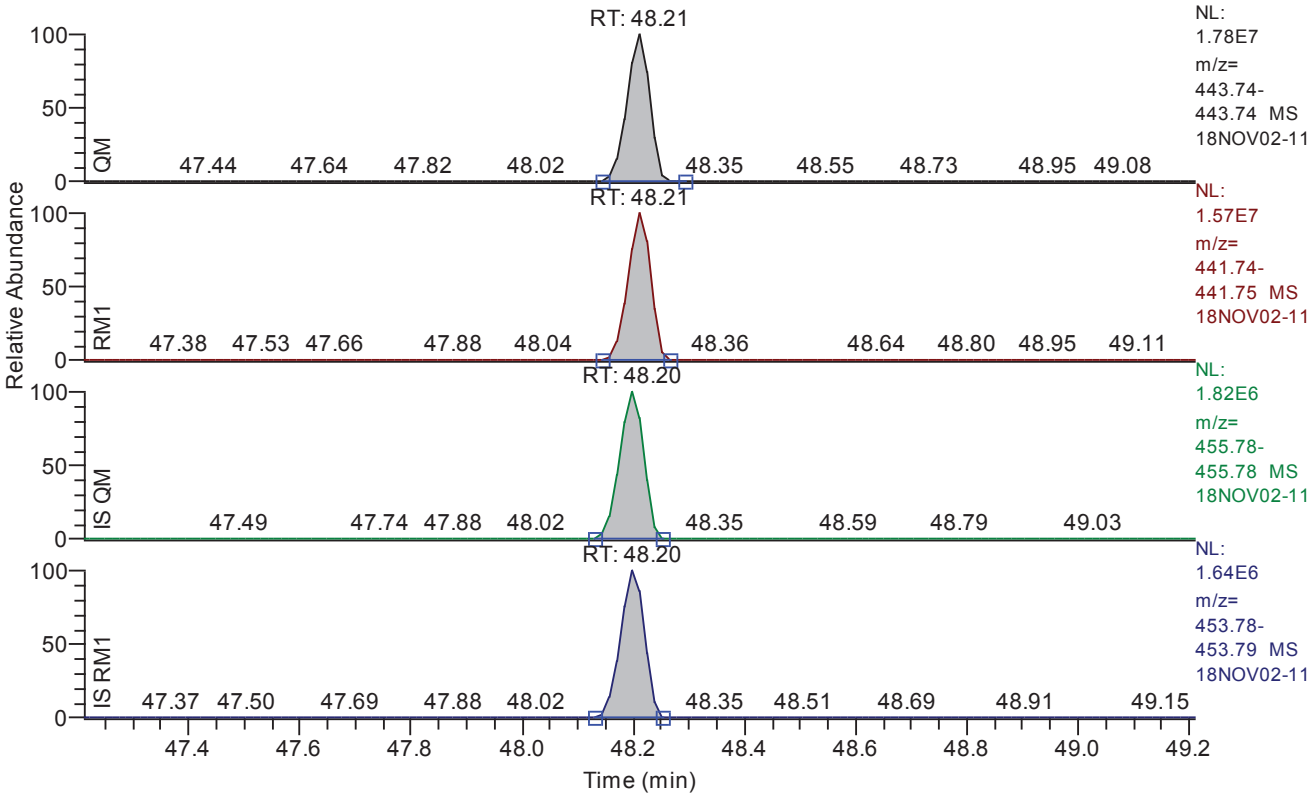
Chromatogram

RT: 47.21 - 49.21 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.21
QM Area	50865312
QM Integration Mode	A
RM1 Area	44958033
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0176
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	300340
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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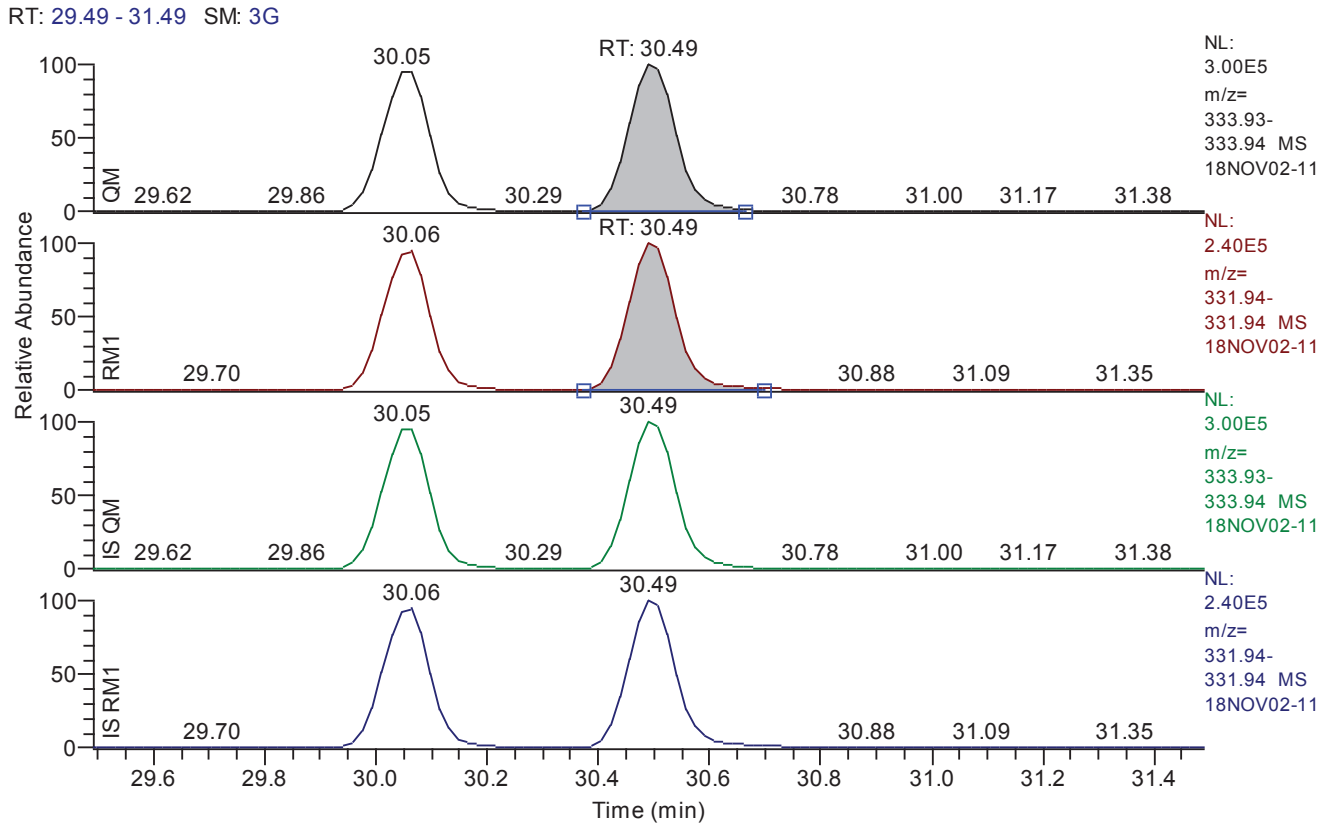
Chromatogram



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.49
QM Area	1813102
QM Integration Mode	A
RM1 Area	1433579
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0254
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	9407
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 19:26
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov02\18nov02-11.quan
Data	w:\18nov02\18nov02-11.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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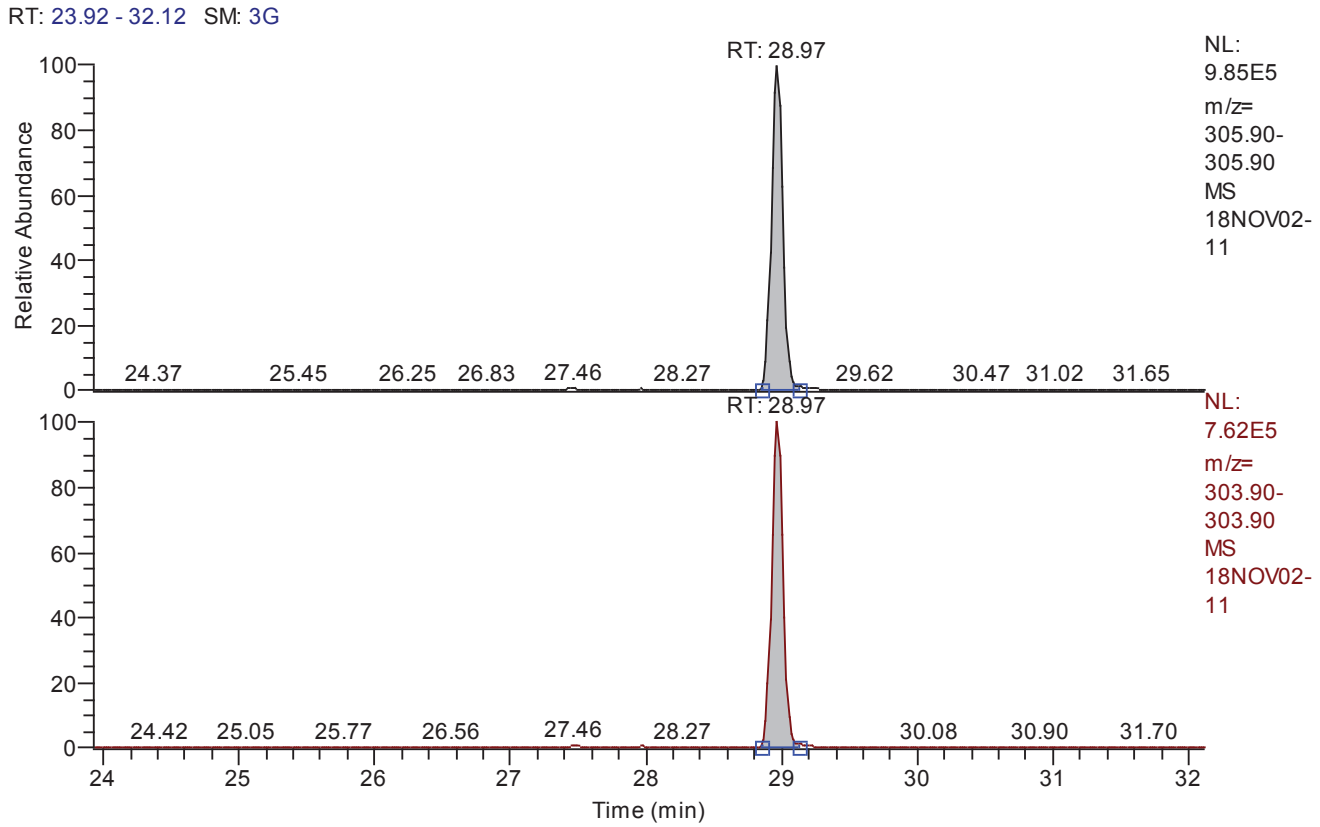
Chromatogram



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	5622941
QM Integration Mode	A
RM1 Area	4356222
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0300
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	16896
Client Flags	
Status Overview	passed (1)
Status Info	

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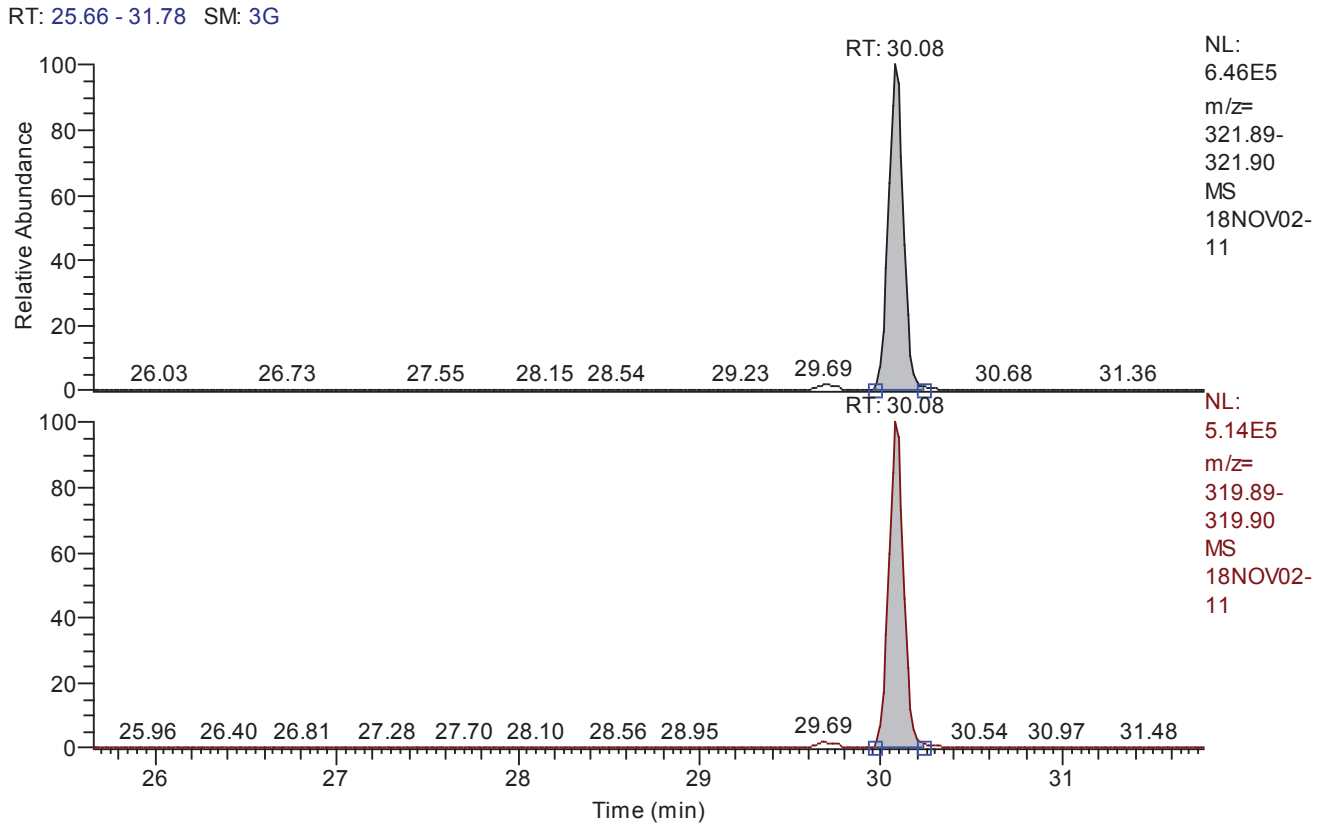
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	3769904
QM Integration Mode	A
RM1 Area	2965472
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0240
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21206
Client Flags	
Status Overview	passed (1)
Status Info	

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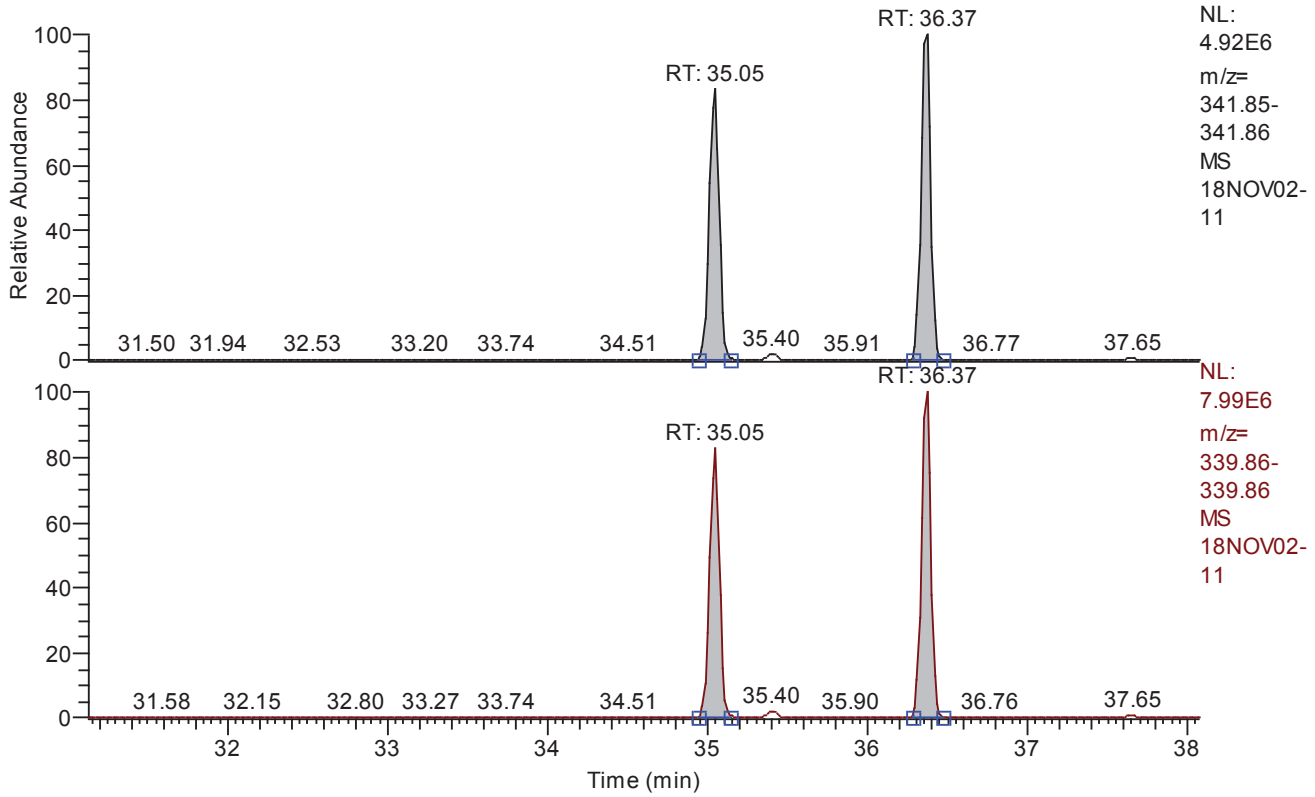
Chromatogram

RT: 31.12 - 38.08 SM: 3G



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	37812273
QM Integration Mode	A
RM1 Area	59656302
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0195
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	134469
Client Flags	
Status Overview	passed (2)
Status Info	

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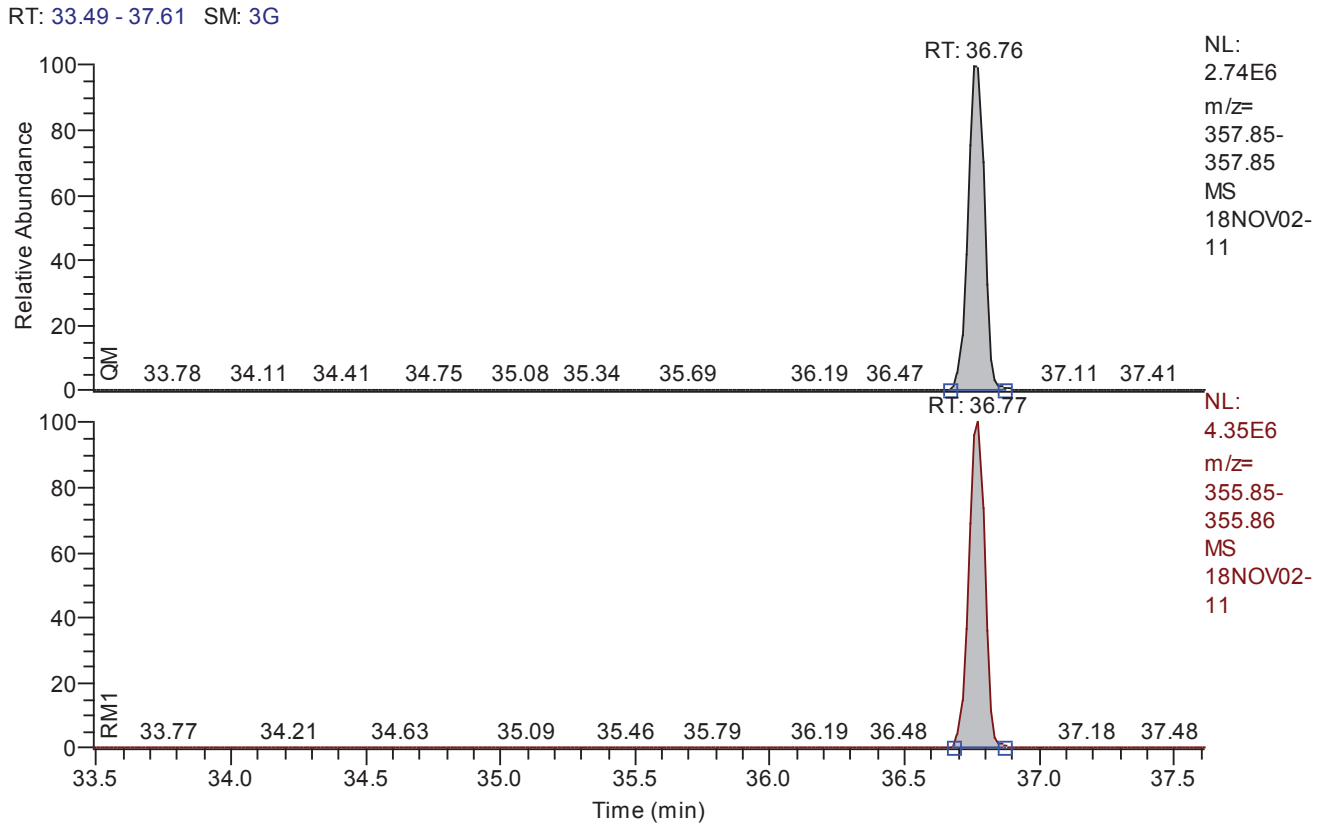
Chromatogram



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	11594688
QM Integration Mode	A
RM1 Area	18005032
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0396
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	61968
Client Flags	
Status Overview	passed (1)
Status Info	

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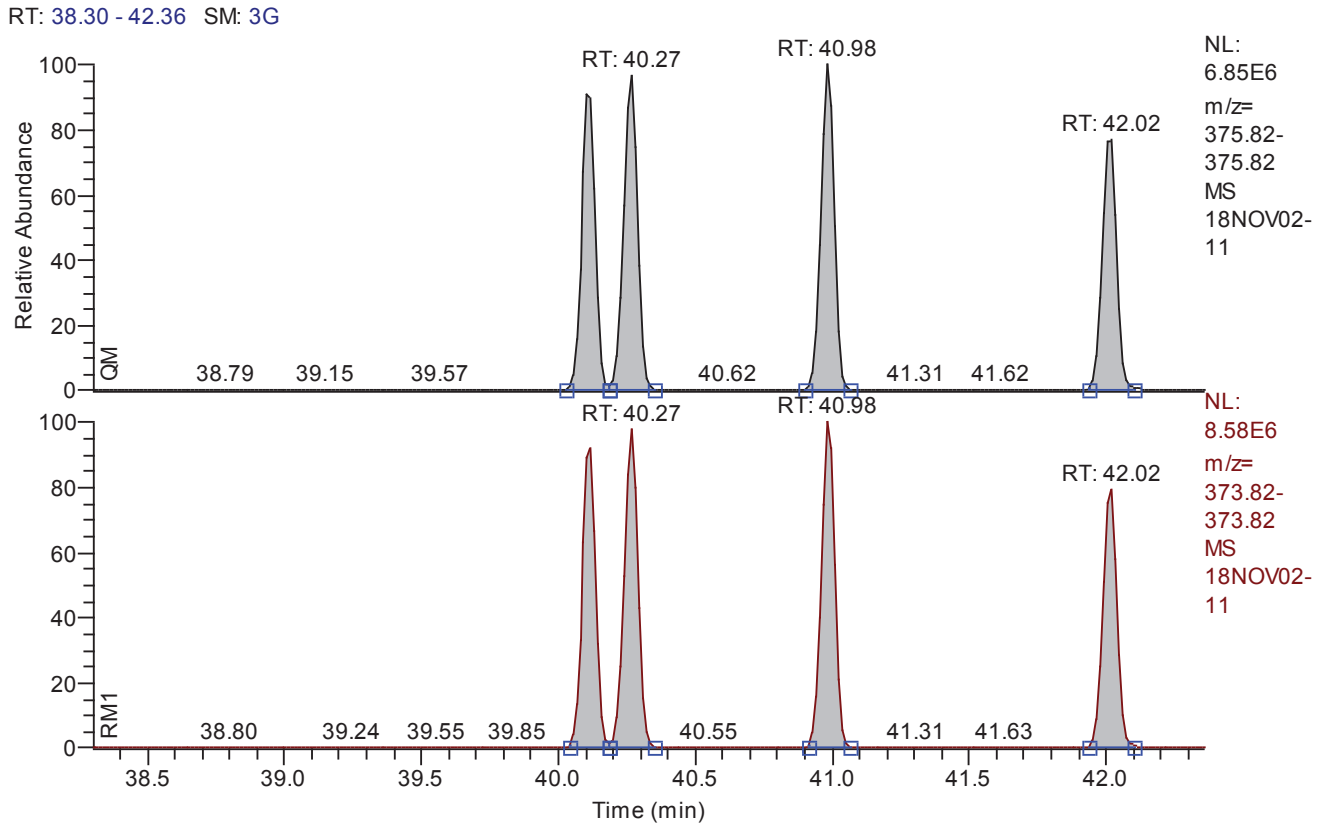
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	87134701
QM Integration Mode	A
RM1 Area	109314346
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0669
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	4000.0000
Signal-to-Noise	38388
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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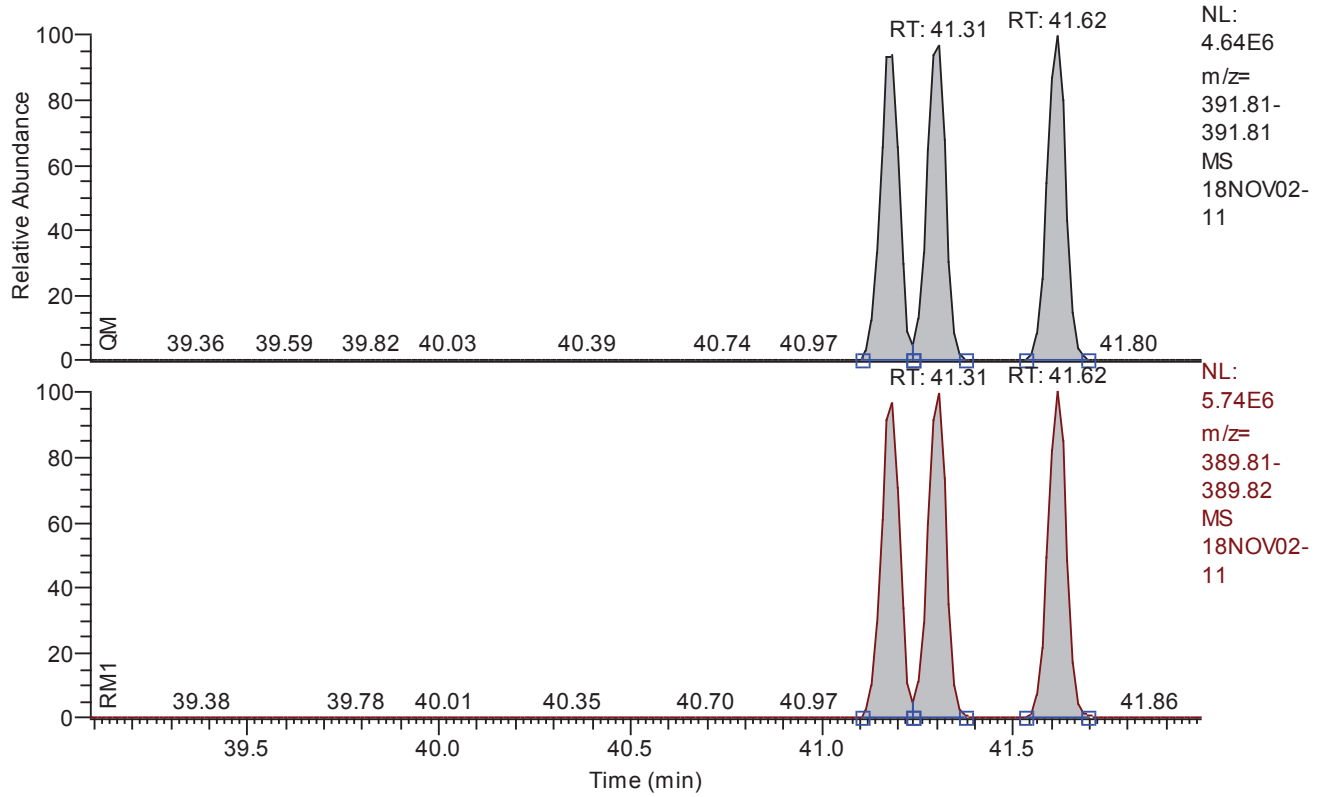
Chromatogram

RT: 39.09 - 41.99 SM: 3G



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	46314146
QM Integration Mode	A
RM1 Area	57496946
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0291
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	3000.0000
Signal-to-Noise	87204
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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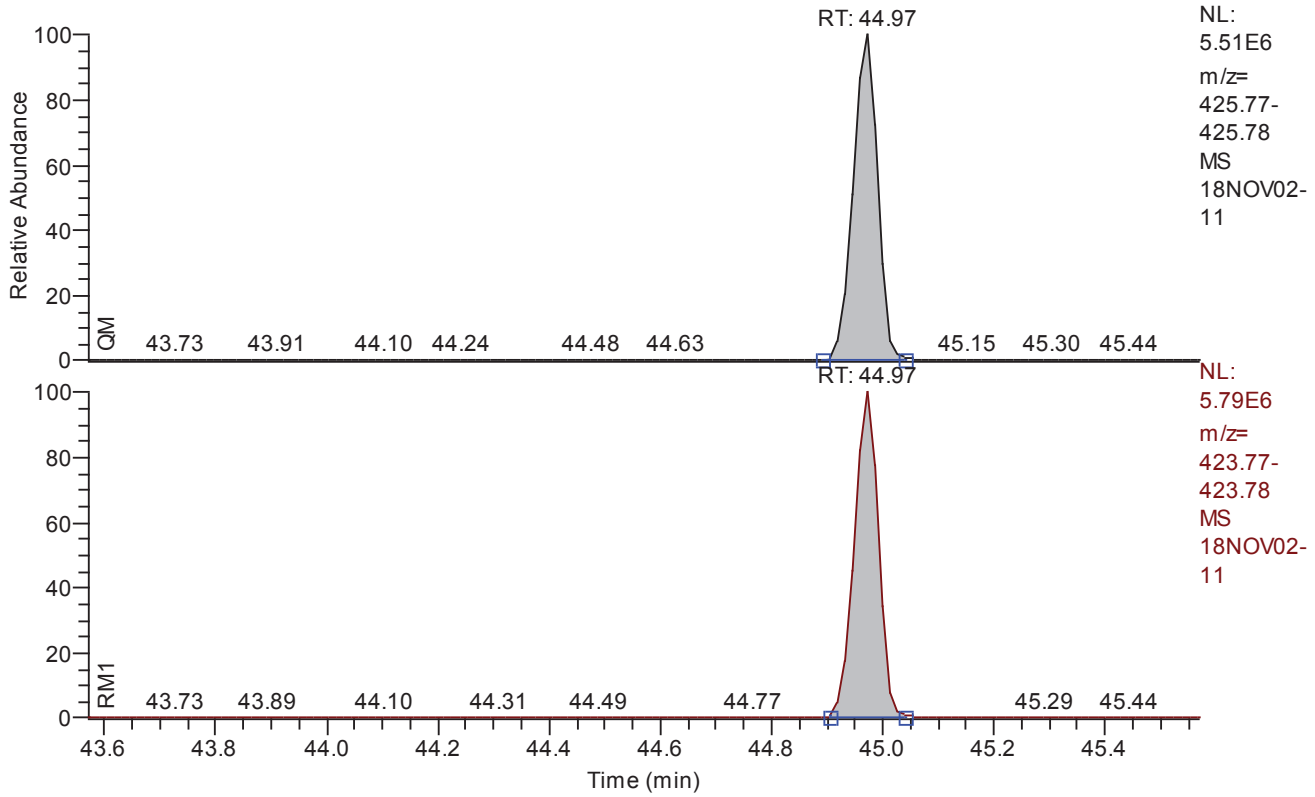
Chromatogram

RT: 43.57 - 45.57 SM: 3G



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	17168738
QM Integration Mode	A
RM1 Area	17860466
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0566
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	45055
Client Flags	
Status Overview	passed (1)
Status Info	

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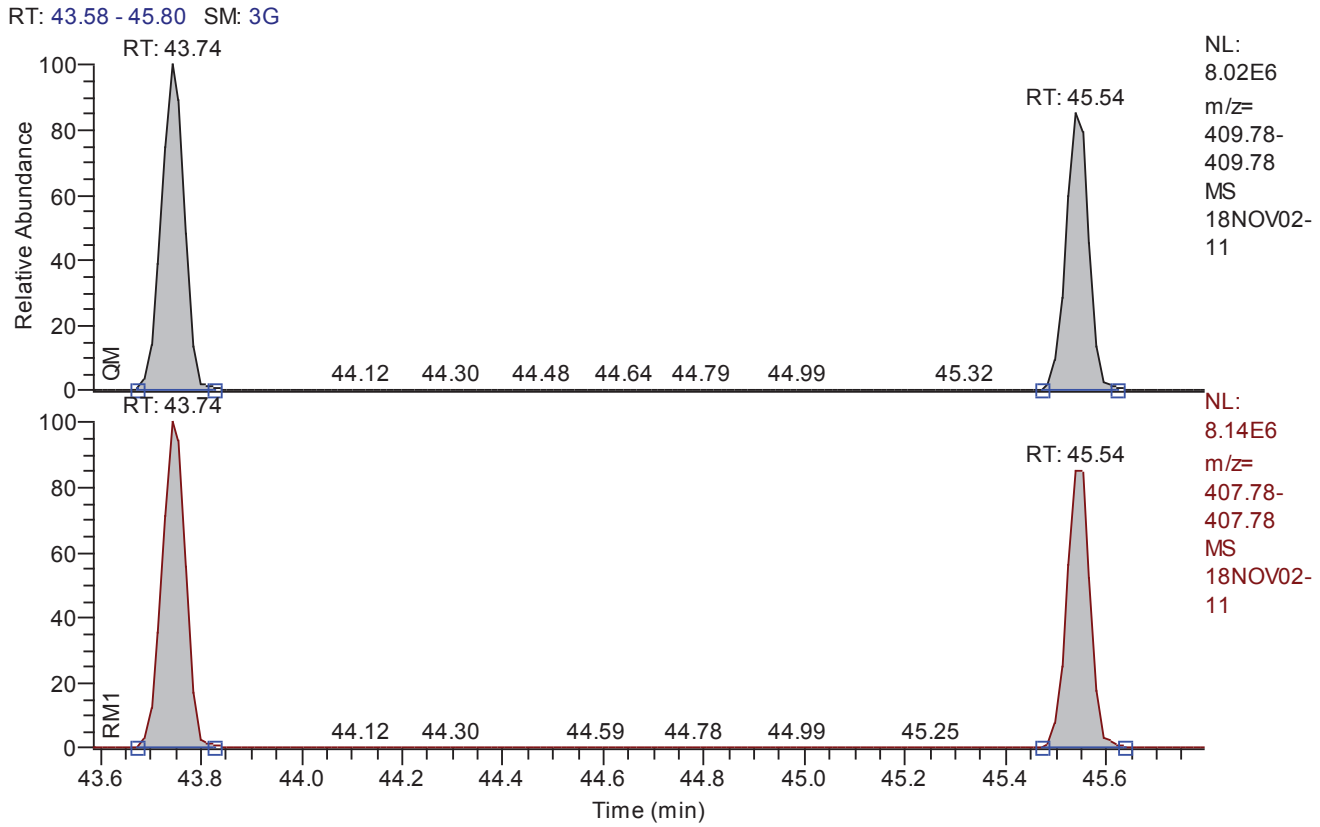
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	47474195
QM Integration Mode	A
RM1 Area	49243615
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0769
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	33436
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.97	28.97	28.97	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.08	30.08	30.08	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.05	35.05	35.05	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.37	36.37	36.37	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.76	36.76	36.77	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.11	40.11	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.98	40.98	40.98	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.18	41.18	41.18	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.74	43.74	43.74	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.02	48.02	48.02	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.49	30.49	30.49	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.19	29.19	29.19	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.01	40.01	40.01	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.93	28.93	28.93	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.05	30.05	30.06	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.03	35.03	35.02	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.34	36.34	36.34	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.74	36.74	36.74	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.09	40.09	40.09	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.25	40.25	40.25	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.28	41.28	41.28	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.60	41.60	41.60	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.99	41.99	41.99	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.73	43.73	43.73	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.53	45.53	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.97	28.97	28.97	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.08	30.08	30.08	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.76	36.76	36.77	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.37	36.37	36.37	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.05	35.05	35.05	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.97	44.97	44.97	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.98	40.98	40.98	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.11	40.11	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.18	41.18	41.18	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.74	43.74	43.74	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.54	45.54	45.54	passed	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.97	0.7747	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.08	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.05	1.5771	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.37	1.5783	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.76	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.11	1.2442	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2531	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.98	1.2588	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.18	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2473	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2350	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.2634	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.74	1.0355	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.97	1.0403	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.54	1.0393	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.02	0.8723	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.8839	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.49	0.7907	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.19	0.7815	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.01	1.2776	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.93	0.7807	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.05	0.7880	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.03	1.5608	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.34	1.5714	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.74	1.5976	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.09	0.5359	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.25	0.5349	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5352	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.16	1.2575	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.28	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.60	1.2407	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	41.99	0.5290	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.73	0.4561	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0716	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.53	0.4559	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.9023	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8991	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7747	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7866	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5777	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5529	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2545	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2415	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0403	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0373	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.97	0.7747	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.08	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.76	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.37	1.5783	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.05	1.5771	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.97	1.0403	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.98	1.2588	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.11	1.2442	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.2531	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.2634	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2350	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.18	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2473	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.74	1.0355	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.54	1.0393	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	28.97	5622941	A	4356222	A	0.0300	200.000000	200.0000	200.000000	16896	
2	2378-TCDD	passed	30.08	3769904	A	2965472	A	0.0240	200.000000	200.0000	200.000000	21206	
3	12378-PeCDF	passed	35.05	17613444	A	27777412	A	0.0218	1000.000000	1000.0000	1000.000000	122095	
4	23478-PeCDF	passed	36.37	20198829	A	31878890	A	0.0174	1000.000000	1000.0000	1000.000000	146843	
5	12378-PeCDD	passed	36.76	11594688	A	18005032	A	0.0396	1000.000000	1000.0000	1000.000000	61968	
6	123478-HxCDF	passed	40.11	22589684	A	28106626	A	0.0655	1000.000000	1000.0000	1000.000000	38279	
7	123678-HxCDF	passed	40.27	22934090	A	28739820	A	0.0645	1000.000000	1000.0000	1000.000000	40661	
8	234678-HxCDF	passed	40.98	22715121	A	28594617	A	0.0605	1000.000000	1000.0000	1000.000000	41819	
9	123478-HxCDD	passed	41.18	15252639	A	18948164	A	0.0294	1000.000000	1000.0000	1000.000000	85120	
10	123678-HxCDD	passed	41.31	15361094	A	19159253	A	0.0296	1000.000000	1000.0000	1000.000000	87565	
11	123789-HxCDD	passed	41.62	15700412	A	19389530	A	0.0283	1000.000000	1000.0000	1000.000000	88926	
12	123789-HxCDF	passed	42.02	18895806	A	23873284	A	0.0773	1000.000000	1000.0000	1000.000000	32791	
13	1234678-HpCDF	passed	43.74	25695083	A	26607789	A	0.0708	1000.000000	1000.0000	1000.000000	36113	
14	1234678-HpCDD	passed	44.97	17168738	A	17860466	A	0.0566	1000.000000	1000.0000	1000.000000	45055	
15	1234789-HpCDF	passed	45.54	21779112	A	22635826	A	0.0828	1000.000000	1000.0000	1000.000000	30758	
16	OCDD	passed	48.02	41351916	A	36071568	A	0.0251	2000.000000	2000.0000	2000.000000	209286	
17	OCDF	passed	48.21	50865312	A	44958033	A	0.0176	2000.000000	2000.0000	2000.000000	300340	
18	13C12-1278-TCDD (CRS)	passed	30.49	1813102	A	1433579	A	0.0254	100.000000	100.0000	100.000000	9407	
19	13C12-1234-TCDD	passed	29.19	1774541	A	1386829	A	0.0261	100.000000	100.0000	100.000000	9582	
20	13C12-123468-HxCDD	passed	40.01	1504485	A	1922156	A	0.0223	100.000000	100.0000	100.000000	11193	
21	13C12-2378-TCDF	passed	28.93	3096243	A	2417288	A	0.0168	100.000000	100.0000	100.000000	14815	
22	13C12-2378-TCDD	passed	30.05	1696109	A	1336571	A	0.0272	100.000000	100.0000	100.000000	8980	
23	13C12-12378-PeCDF	passed	35.03	2046486	A	3194237	A	0.0331	100.000000	100.0000	100.000000	9713	
24	13C12-23478-PeCDF	passed	36.34	2056557	A	3231663	A	0.0328	100.000000	100.0000	100.000000	10685	
25	13C12-12378-PeCDD	passed	36.74	1245314	A	1989545	A	0.0258	100.000000	100.0000	100.000000	13698	
26	13C12-123478-HxCDF	passed	40.09	2977106	A	1595399	A	0.0229	100.000000	100.0000	100.000000	10995	
27	13C12-123678-HxCDF	passed	40.25	3192081	A	1707397	A	0.0214	100.000000	100.0000	100.000000	11730	
28	13C12-234678-HxCDF	passed	40.97	2955095	A	1581649	A	0.0231	100.000000	100.0000	100.000000	11653	
29	13C12-123478-HxCDD	passed	41.16	1659487	A	2086779	A	0.0204	100.000000	100.0000	100.000000	12868	
30	13C12-123678-HxCDD	passed	41.28	1687111	A	2102039	A	0.0202	100.000000	100.0000	100.000000	12812	
31	13C12-123789-HxCDD	passed	41.60	1600303	A	1985470	A	0.0213	100.000000	100.0000	100.000000	12490	
32	13C12-123789-HxCDF	passed	41.99	2703200	A	1429966	A	0.0254	100.000000	100.0000	100.000000	9973	
33	13C12-1234678-HpCDF	passed	43.73	2971784	A	1355458	A	0.0314	100.000000	100.0000	100.000000	8734	
34	13C12-1234678-HpCDD	passed	44.96	1758192	A	1884070	A	0.0227	100.000000	100.0000	100.000000	12628	
35	13C12-1234789-HpCDF	passed	45.53	2547294	A	1161300	A	0.0366	100.000000	100.0000	100.000000	7546	
36	13C12-OCDD	passed	48.01	4153548	A	3747722	A	0.0079	200.000000	200.0000	200.000000	76067	
37	13C12-OCDF	passed	48.20	5497867	A	4942965	A	0.0084	200.000000	200.0000	200.000000	71237	
38	Total TCDF	passed (1)	28.02	5622941	A	4356222	A	0.0300	200.000000	200.0000	200.000000	16896	
39	Total TCDD	passed (1)	28.72	3769904	A	2965472	A	0.0240	200.000000	200.0000	200.000000	21206	
40	Total PeCDF	passed (2)	34.60	37812273	A	59656302	A	0.0195	1000.000000	2000.0000	1000.000000	134469	
41	Total PeCDD	passed (1)	35.55	11594688	A	18005032	A	0.0396	1000.000000	1000.0000	1000.000000	61968	
42	Total HxCDF	passed (4)	40.33	87134701	A	109314346	A	0.0669	1000.000000	4000.0000	1000.000000	38388	
43	Total HxCDD	passed (3)	40.54	46314146	A	57496946	A	0.0291	1000.000000	3000.0000	1000.000000	87204	
44	Total HpCDD	passed (1)	44.57	17168738	A	17860466	A	0.0566	1000.000000	1000.0000	1000.000000	45055	
45	Total HpCDF	passed (2)	44.69	47474195	A	49243615	A	0.0769	1000.000000	2000.0000	1000.000000	33436	
46	Single TCDF	passed	28.97	5622941	A	4356222	A	0.0300	200.000000	200.0000	200.000000	16896	
47	Single TCDD	passed	30.08	3769904	A	2965472	A	0.0240	200.000000	200.0000	200.000000	21206	
48	Single PeCDD	passed	36.76	11594688	A	18005032	A	0.0396	1000.000000	1000.0000	1000.000000	61968	
49	Single PeCDF	passed	36.37	20198829	A	31878890	A	0.0181	1000.000000	1000.0000	1000.000000	146843	
50	Single PeCDF	passed	35.05	17613444	A	27777412	A	0.0208	1000.000000	1000.0000	1000.000000	122095	
51	Single HpCDD	passed	44.97	17168738	A	17860466	A	0.0566	1000.000000	1000.0000	1000.000000	45055	
52	Single HxCDF	passed	40.98	22715121	A	28594617	A	0.0636	1000.000000	1000.0000	1000.000000	41819	
53	Single HxCDF	passed	40.11	22589684	A	28106626	A	0.0644	1000.000000	1000.0000	1000.000000	38279	
54	Single HxCDF	passed	40.27	22934090	A	28739820	A	0.0632	1000.000000	1000.0000	1000.000000	40661	
55	Single HxCDF	passed	42.02	18895806	A	23873284	A	0.0763	1000.000000	1000.0000	1000.000000	32791	
56	Single HxCDD	passed	41.62	15700412	A	19389530	A	0.0287	1000.000000	1000.0000	1000.000000	88926	
57	Single HxCDD	passed	41.18	15252639	A	18948164	A	0.0294	1000.000000	1000.0000	1000.000000	85120	
58	Single HxCDD	passed	41.31	15361094	A	19159253	A	0.0292	1000.000000	1000.0000	1000.000000	87565	
59	Single HpCDF	passed	43.74	25695083	A	26607789	A	0.0706	1000.000000	1000.0000	1000.000000	36113	
60	Single HpCDF	passed	45.54	21779112	A	22635826	A	0.0831	1000.000000	1000.0000	1000.000000	30758	

APPROVED
By uma9 at 11:21 am, 11/7/18

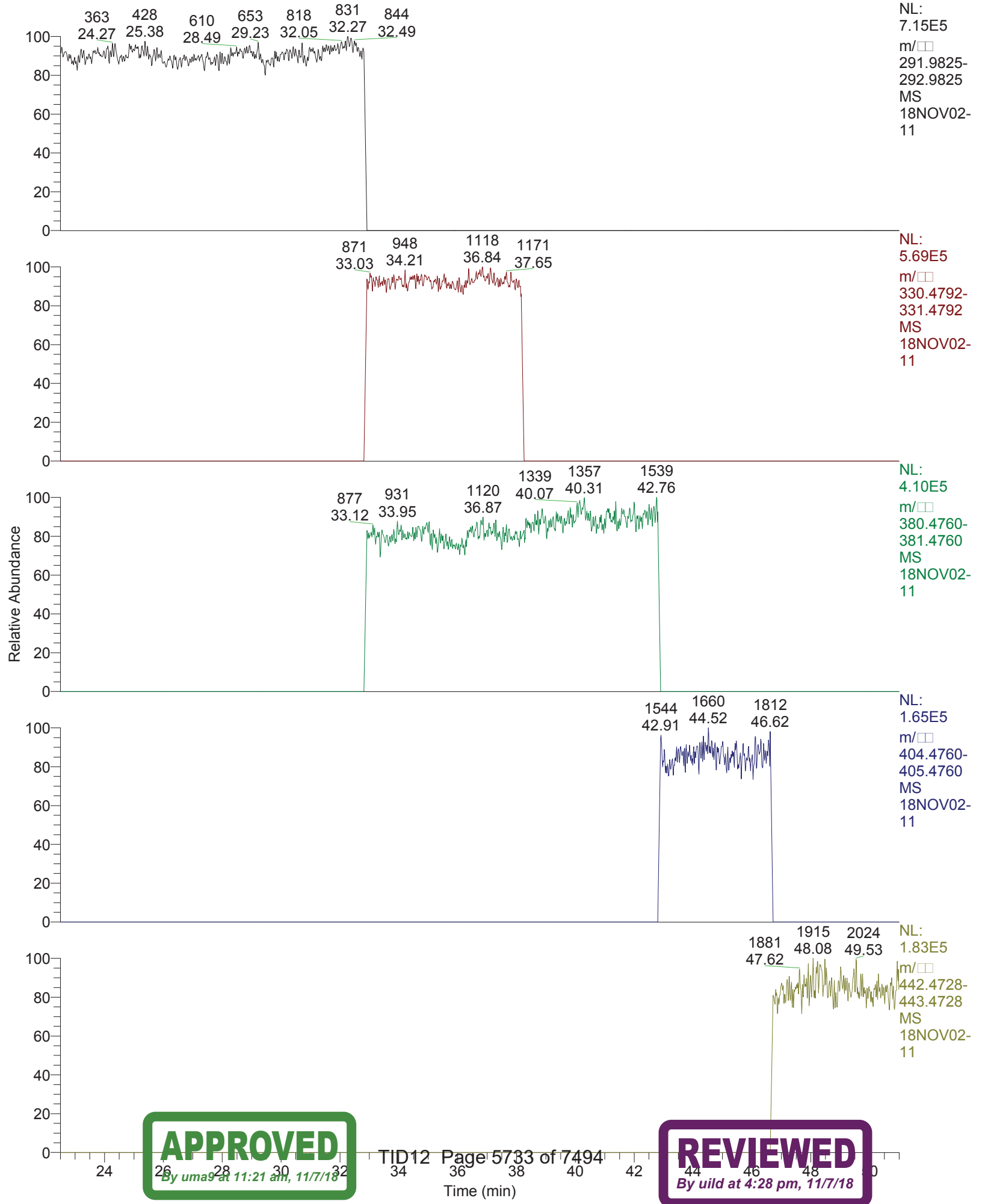
REVIEWED
By uild at 4:28 pm, 11/7/18

File Name: W:□18NOV02□18NOV02-11
Sample ID: CS501

Acq. Data: 11/2/2018 7:26:18 PM
Sample Name: CALDF61837B
PFK Reference Loc□Mass Traces

Instrument ID: DF17280-18NOV02

RT: 22.50 - 51.00



APPROVED
By uma9 at 11:21 am, 11/7/18

REVIEWED
By uild at 4:28 pm, 11/7/18

*** file opened Fri Nov 02 19:32:01 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 02-Nov-18 19:32:00

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
```

```
MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          94.5000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0003   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ        1246.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           216.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           190.0000   EXSBR          -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.6000
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0181   FVINLET         0.0428   FVSRC           0.0329
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           94.5000   LKM           442.9723   MASS           94.5000
 MDAC        1395128.6998  MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2159.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9817   RELEN           0.0000
 RES          11125.0841   RPUSHER        -1.0916   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0227   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.5000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.7e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10476.
MID Time Window 2: Resolution is 10998.
MID Time Window 3: Resolution is 11003.
MID Time Window 4: Resolution is 11229.
```

```
  MID Time Window 5: Resolution is 11228.
  MID Time Window 6: Resolution is 11125.

  Amplifier Offset: 91.


*** File closed Fri Nov 02 20:23:03 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 13:03
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1823737B
Sample ID	CPS02
Inst ID	DF17280-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov06\18nov06-06.quan
Data	w:\18nov06\18nov06-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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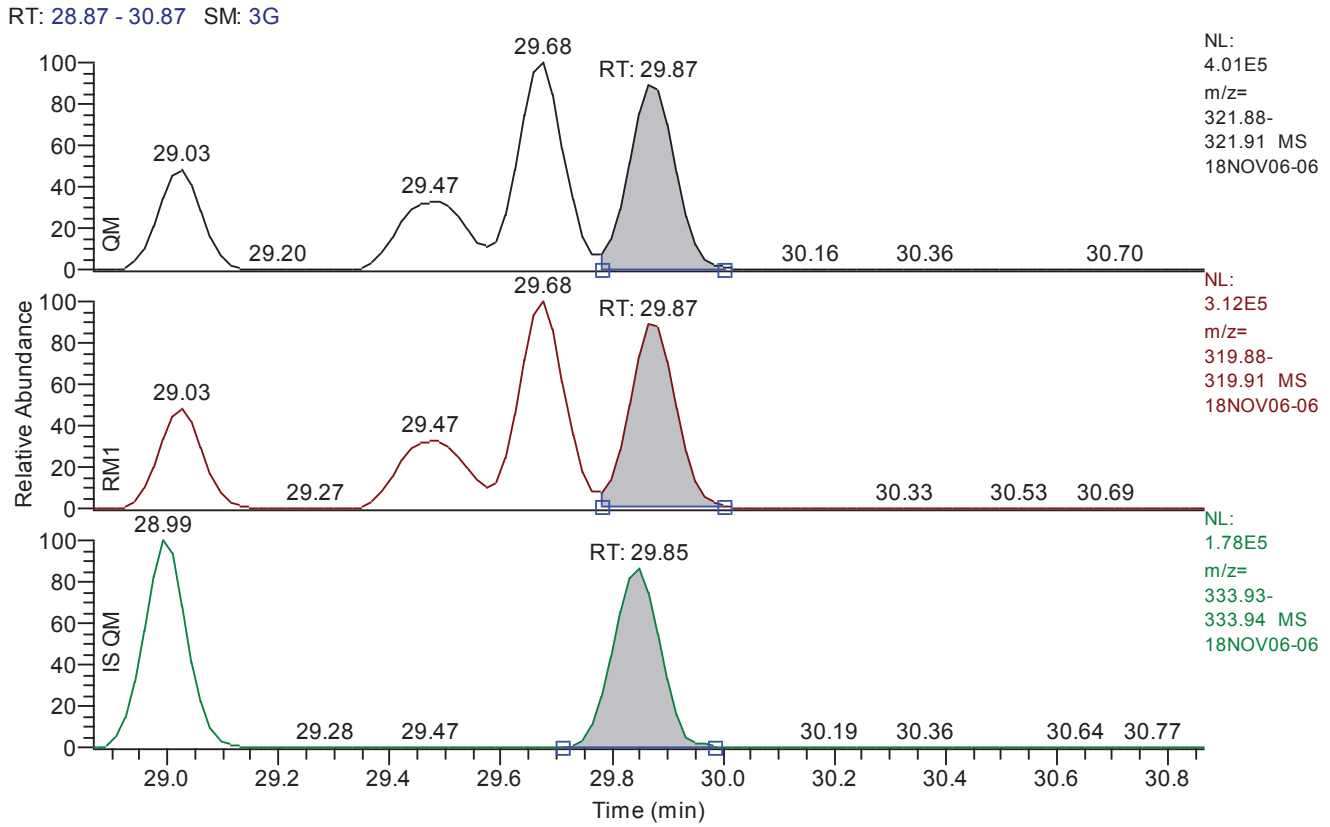
Chromatogram



Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	29.87
RM1 Left Baseline Height	3032.11
RM1 Left Height	20515
RM1 Height	275211
GC Res (%) left	7.537173

APPROVED
By uma9 at 1:23 pm, 11/8/18

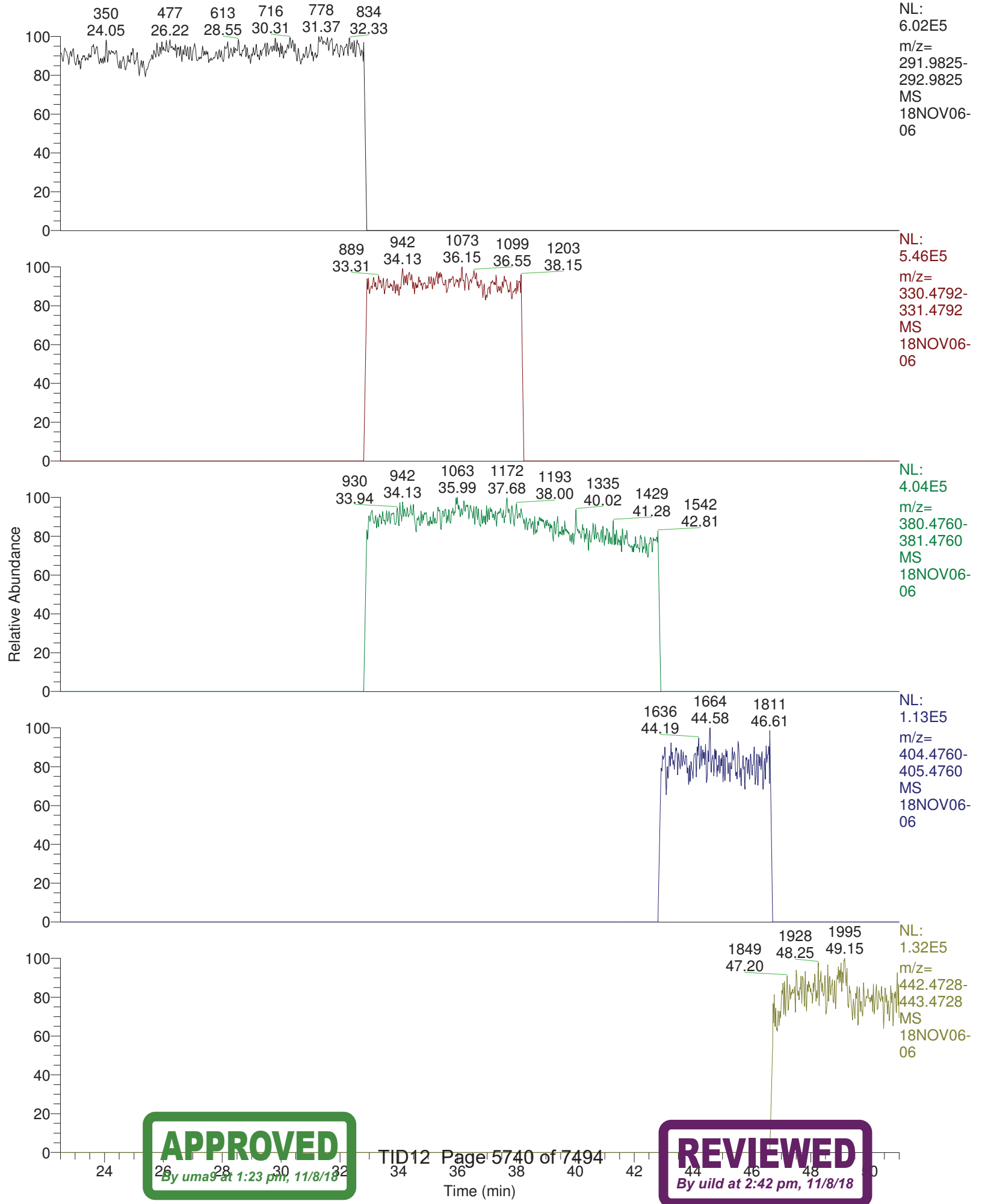
REVIEWED
By uild at 2:42 pm, 11/8/18

File Name: W:\18NOV06\18NOV06-06
Sample ID: CPS02

Acq. Data: 11/6/2018 1:03:44 PM
Sample Name: TDTFWD - ST1823737B
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV06

RT: 22.50 - 51.00



APPROVED
By umas at 1:23 pm, 11/8/18

REVIEWED
By uild at 2:42 pm, 11/8/18

*** file opened Tue Nov 06 13:06:39 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 06-Nov-18 13:06:38

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 8990ed8e-76d1-4e6e-a844-d7145c7a777a

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.800000 minutes
MID Window end time was 32.800000 minutes
```

```
MID Window terminated after 38.150000 minutes
MID Window end time was 38.150000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS           99.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ         1588.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS            210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR           -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             232.6644   FMII           50.0000   FQUAD            7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0184   FVINLET         0.0426   FVSRC            0.0327
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII           500.0000
 LMASS           99.0000   LKM           442.9723   MASS            99.0000
 MDAC        1451960.7165  MRANGE       1311.4489   NSAM           200.0000
 NSCAN         2158.0000   NSMAX           2.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER          -1.0000   RECURR          0.9788   RELEN            0.0000
 RES          12853.5934   RPUSHER        -1.0769   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0199   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0019   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT      752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM        2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11628.
MID Time Window 2: Resolution is 12075.
MID Time Window 3: Resolution is 12231.
MID Time Window 4: Resolution is 12480.
```

```
MID Time Window 5: Resolution is 13122.
MID Time Window 6: Resolution is 12853.

Amplifier Offset: 91.


*** File closed Tue Nov 06 13:57:40 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 14:54
Number of Entries	260
Comment	
Vial	9
Sample Name	SSDFX1837C
Sample ID	ICV
Inst ID	DF17280-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov06\18nov06-08.quan
Data	w:\18nov06\18nov06-08.raw
Response	w:\responsefiles\df17280-16aug24dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	passed	passed	passed	passed	passed	---	
2	2378-TCDD	29.95	passed	passed	passed	passed	passed	---	
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed	---	
4	23478-PeCDF	36.28	passed	passed	passed	passed	passed	---	
5	12378-PeCDD	36.68	passed	passed	passed	passed	passed	---	
6	123478-HxCDF	40.03	passed	passed	passed	passed	passed	---	
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	---	
8	234678-HxCDF	40.90	passed	passed	passed	passed	passed	---	
9	123478-HxCDD	41.09	passed	passed	passed	passed	passed	---	
10	123678-HxCDD	41.21	passed	passed	passed	passed	passed	---	
11	123789-HxCDD	41.54	passed	passed	passed	passed	passed	---	
12	123789-HxCDF	41.94	passed	passed	passed	passed	passed	---	
13	1234678-HpCDF	43.68	passed	passed	passed	passed	passed	---	
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	---	
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed	---	
16	OCDD	47.94	passed	passed	passed	passed	passed	---	
17	OCDF	48.13	passed	passed	passed	passed	passed	---	
18	13C12-1278-TCDD (CRS)	30.36	passed	passed	passed	passed	passed	---	
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	---	
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	---	
21	13C12-2378-TCDF	28.82	passed	passed	passed	passed	passed	---	
22	13C12-2378-TCDD	29.91	passed	passed	passed	passed	passed	---	
23	13C12-12378-PeCDF	34.92	passed	passed	passed	passed	passed	---	
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed	---	
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed	---	
26	13C12-123478-HxCDF	40.02	passed	passed	passed	passed	passed	---	
27	13C12-123678-HxCDF	40.16	passed	passed	passed	passed	passed	---	
28	13C12-234678-HxCDF	40.89	passed	passed	passed	passed	passed	---	
29	13C12-123478-HxCDD	41.08	passed	passed	passed	passed	passed	---	
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	---	
31	13C12-123789-HxCDD	41.52	passed	passed	passed	passed	passed	---	
32	13C12-123789-HxCDF	41.92	passed	passed	passed	passed	passed	---	
33	13C12-1234678-HpCDF	43.66	passed	passed	passed	passed	passed	---	
34	13C12-1234678-HpCDD	44.89	passed	passed	passed	passed	passed	---	
35	13C12-1234789-HpCDF	45.46	passed	passed	passed	passed	passed	---	
36	13C12-OCDD	47.94	passed	passed	passed	passed	passed	---	
37	13C12-OCDF	48.13	passed	passed	passed	passed	passed	---	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 14:54
Number of Entries	260
Comment	
Vial	9
Sample Name	SSDFX1837C
Sample ID	ICV
Inst ID	DF17280-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov06\18nov06-08.quan
Data	w:\18nov06\18nov06-08.raw
Response	w:\responsefiles\df17280-16aug24dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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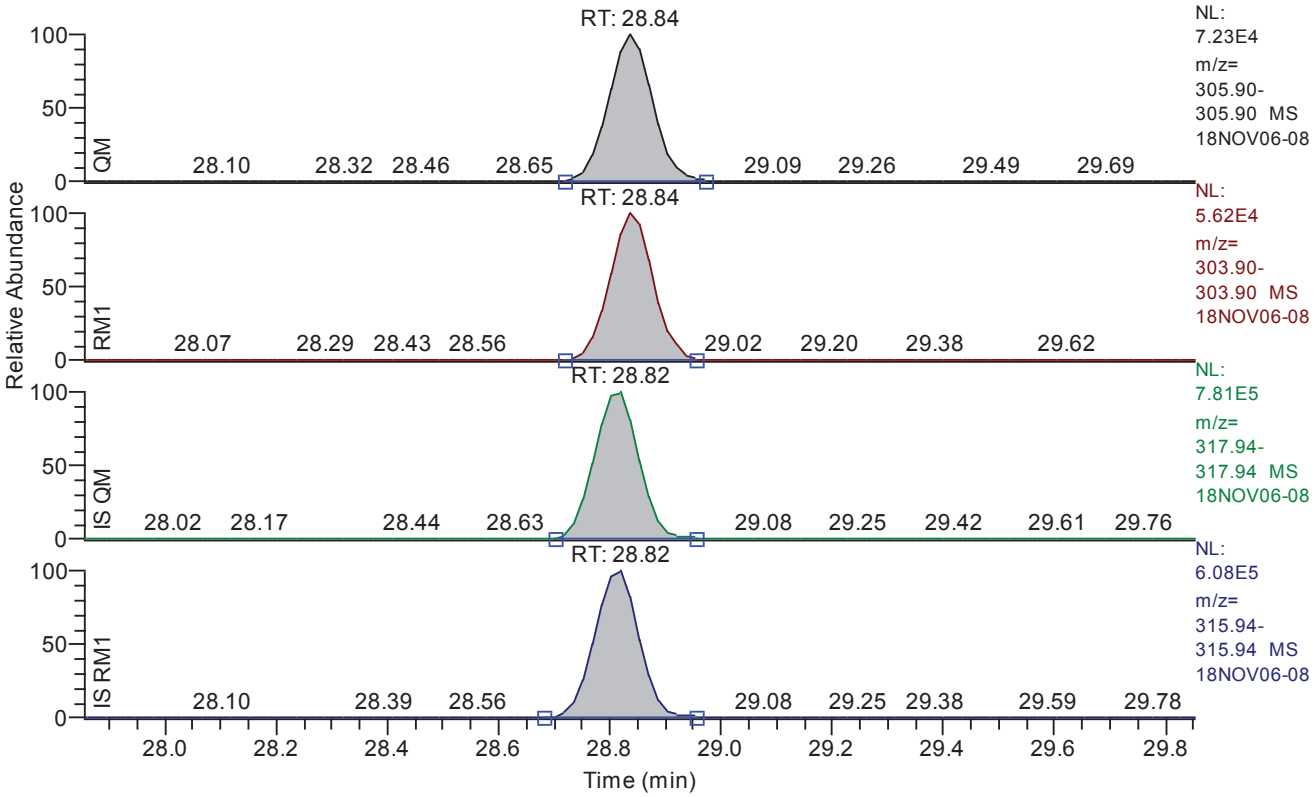
Chromatogram

RT: 27.85 - 29.85 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	405724
QM Integration Mode	A
RM1 Area	309526
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	9.808612
Adjusted Amount (A)	9.8086
Signal-to-Noise	3903
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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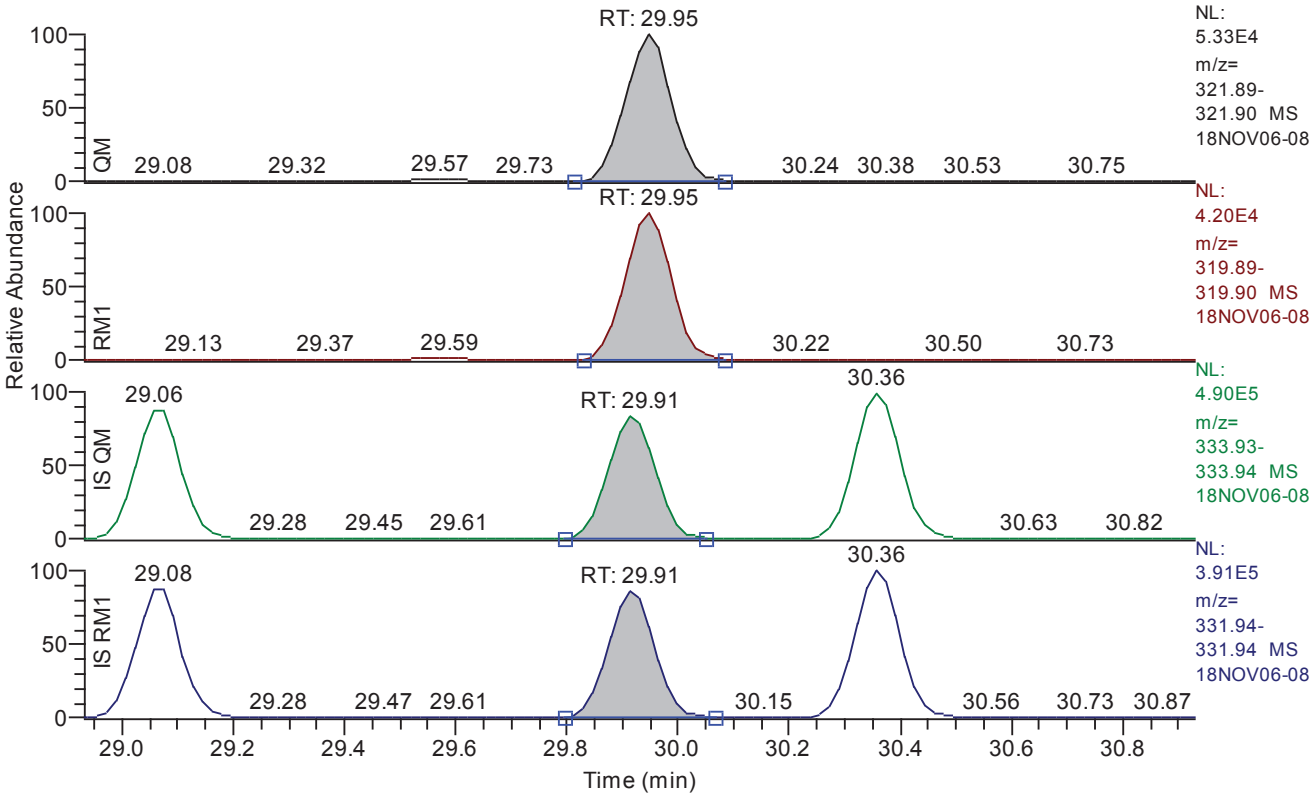
Chromatogram

RT: 28.93 - 30.93 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	29.95
QM Area	314323
QM Integration Mode	A
RM1 Area	247936
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	10.822871
Adjusted Amount (A)	10.8229
Signal-to-Noise	4221
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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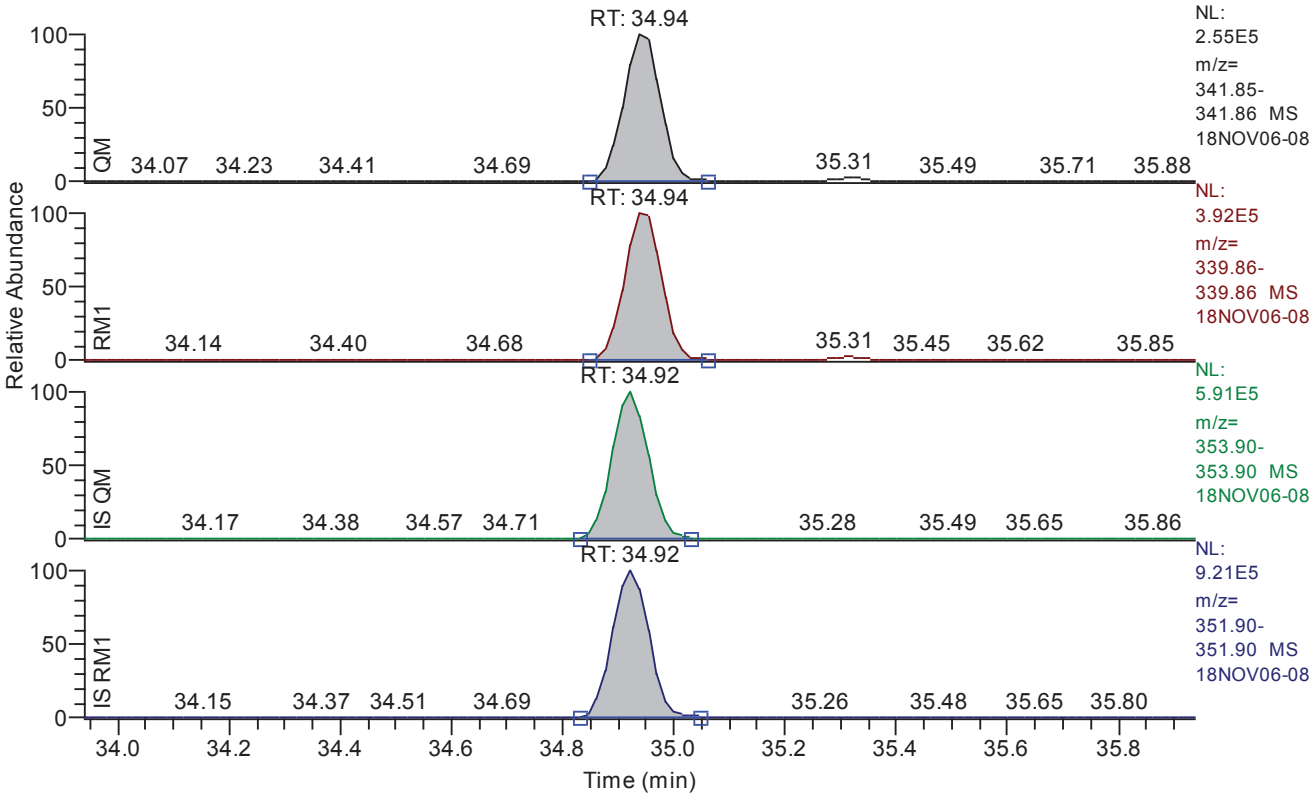
Chromatogram

RT: 33.94 - 35.94 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	1170998
QM Integration Mode	A
RM1 Area	1831063
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	44.491242
Adjusted Amount (A)	44.4912
Signal-to-Noise	16986
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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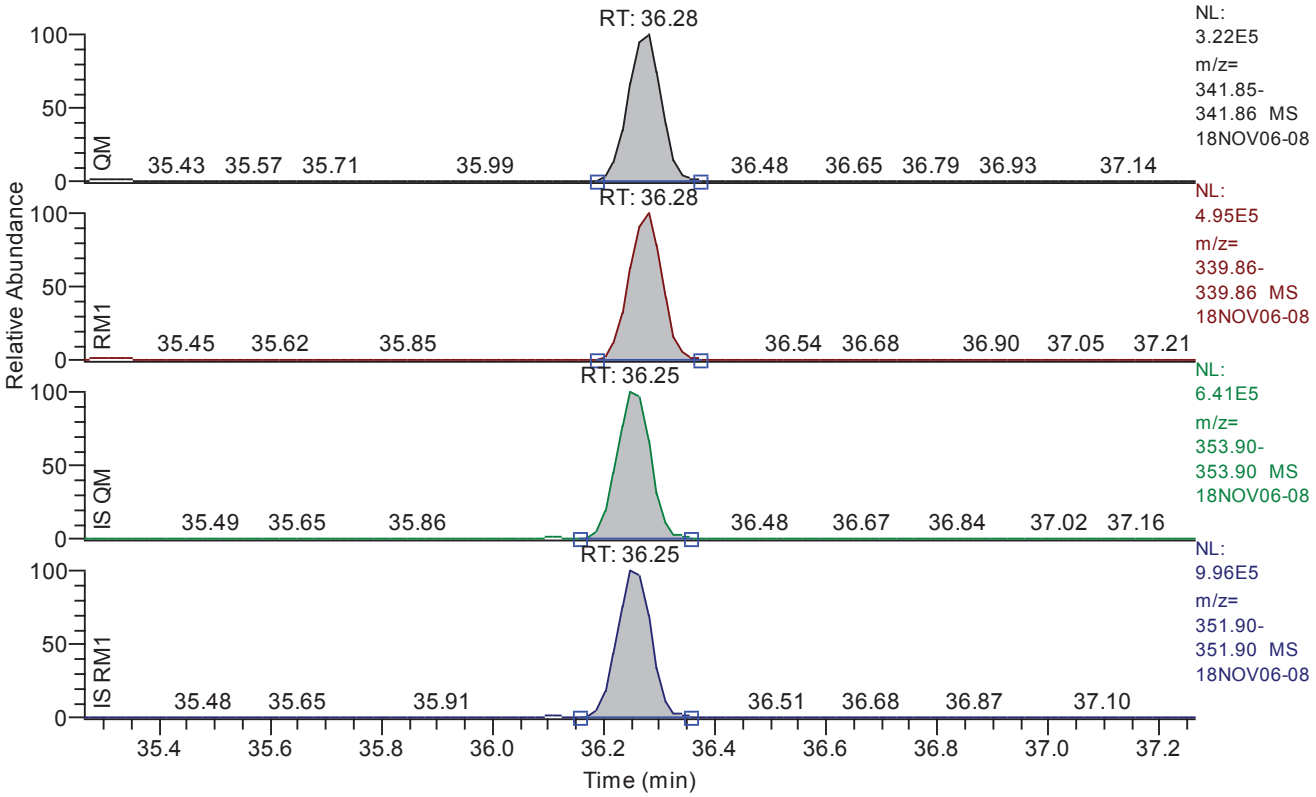
Chromatogram

RT: 35.26 - 37.26 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.28
QM Area	1348075
QM Integration Mode	A
RM1 Area	2059081
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	50.169385
Adjusted Amount (A)	50.1694
Signal-to-Noise	21455
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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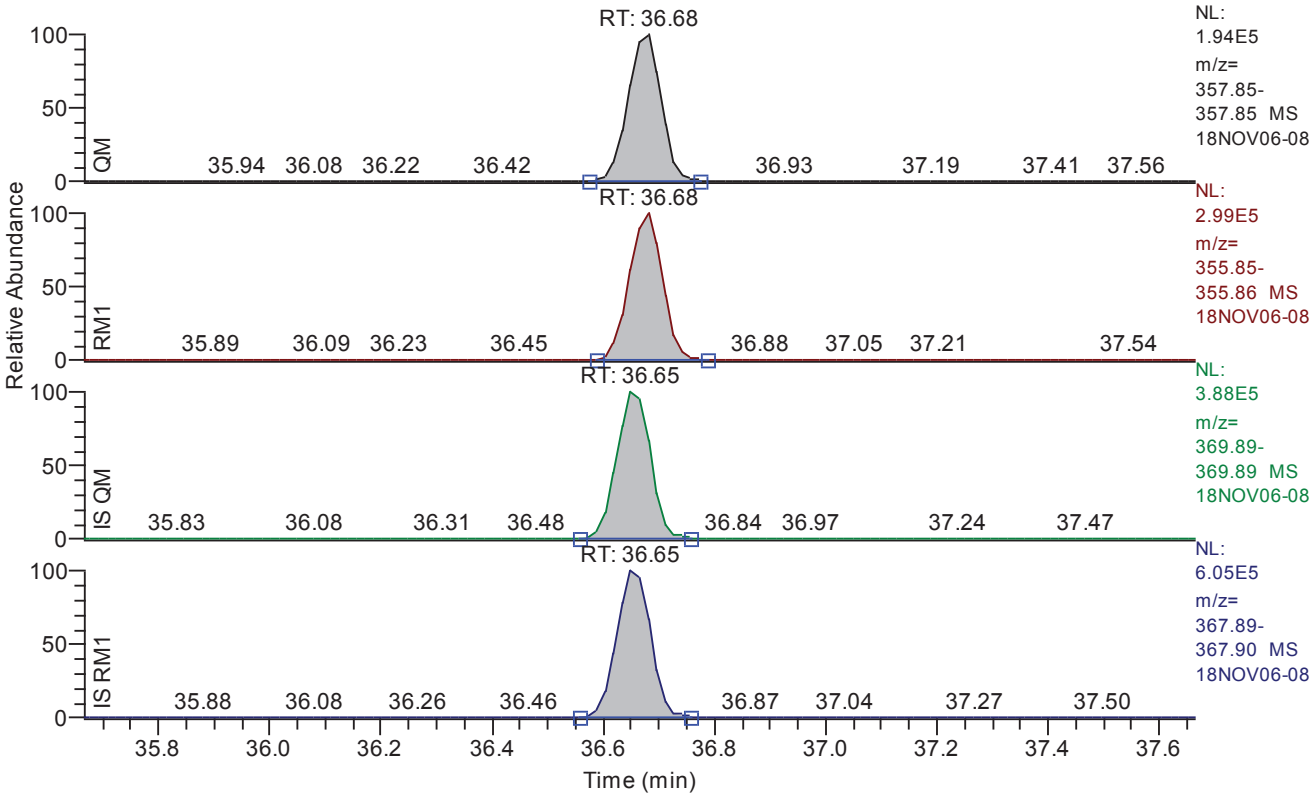
Chromatogram

RT: 35.67 - 37.67 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.68
QM Area	810009
QM Integration Mode	A
RM1 Area	1245523
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0107
Unqualified Amount (A)	50.424465
Adjusted Amount (A)	50.4245
Signal-to-Noise	11964
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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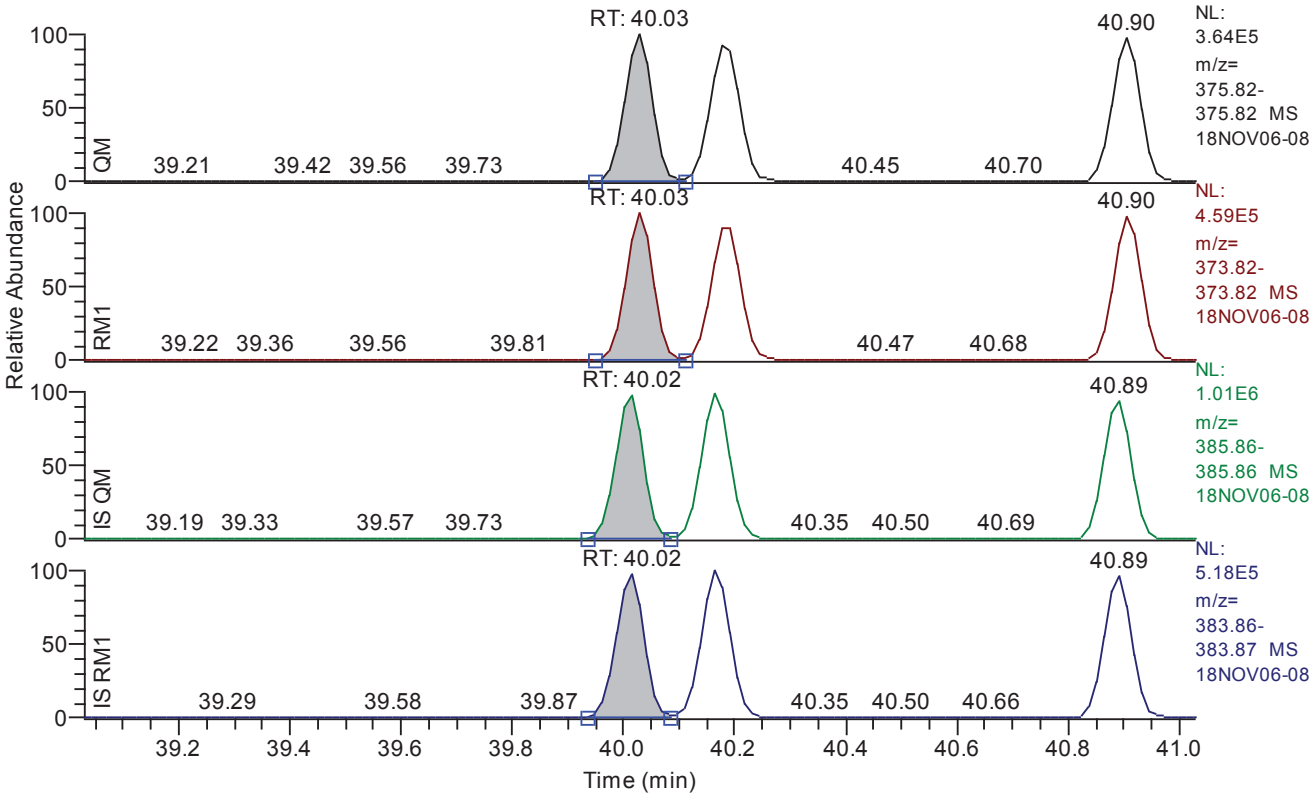
Chromatogram

RT: 39.03 - 41.03 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.03
QM Area	1257838
QM Integration Mode	A
RM1 Area	1568893
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0124
Unqualified Amount (A)	46.323483
Adjusted Amount (A)	46.3235
Signal-to-Noise	9455
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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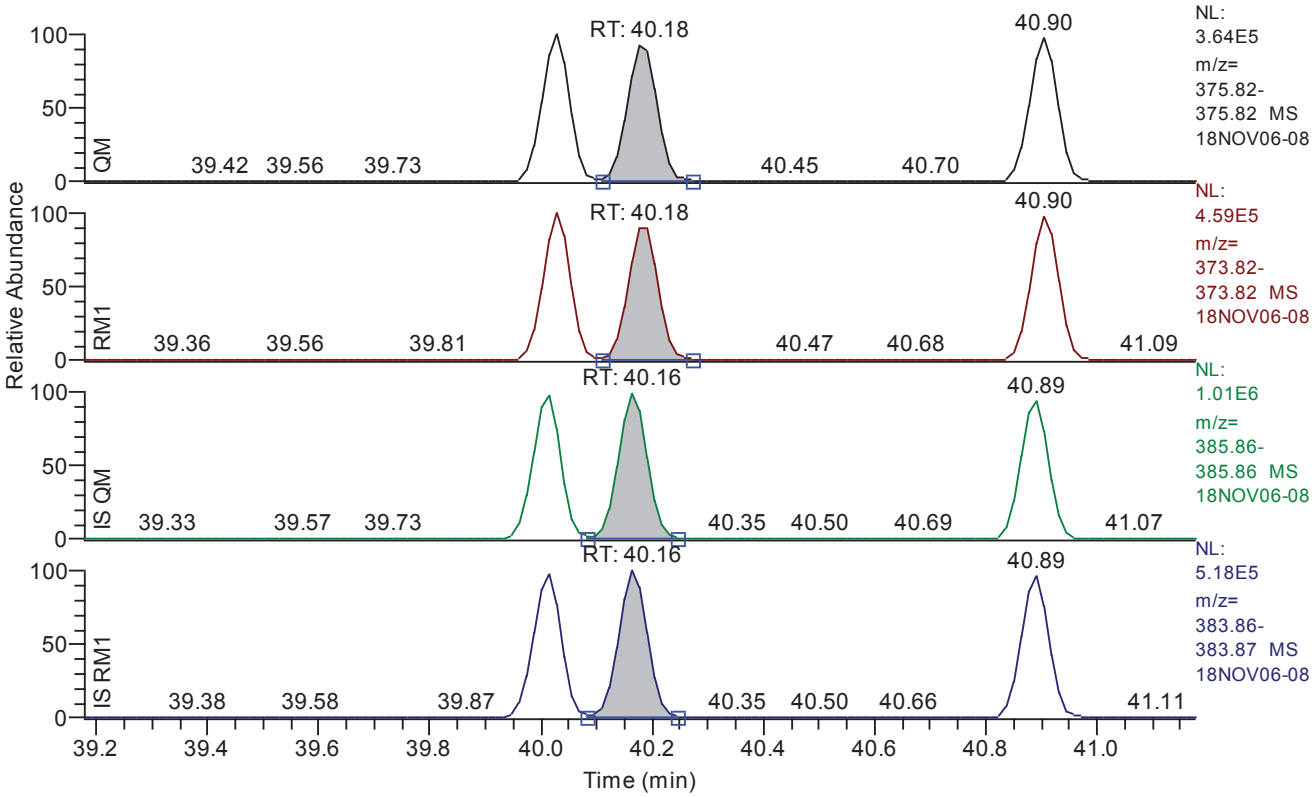
Chromatogram

RT: 39.18 - 41.18 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	1257404
QM Integration Mode	A
RM1 Area	1571230
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0126
Unqualified Amount (A)	45.529060
Adjusted Amount (A)	45.5291
Signal-to-Noise	8690
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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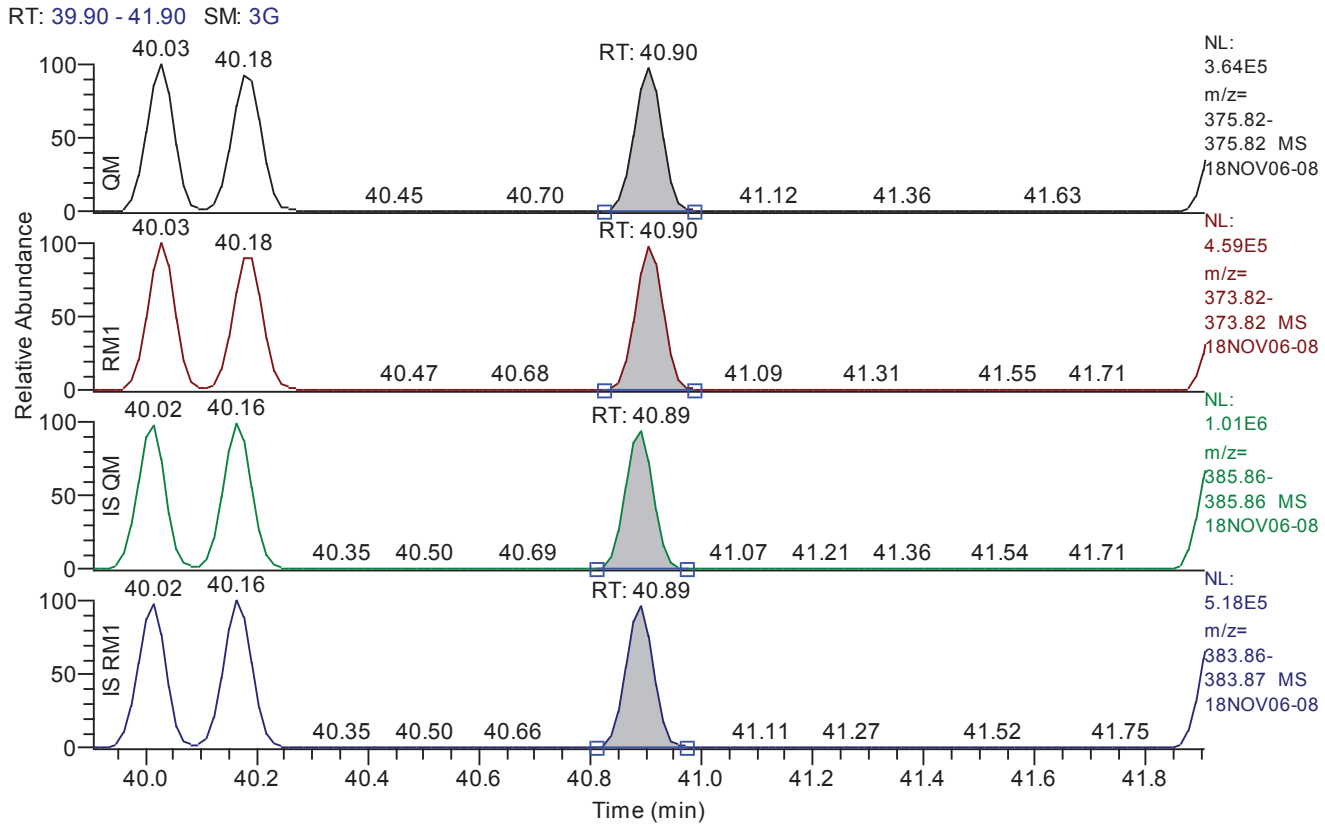
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.90
QM Area	1258628
QM Integration Mode	A
RM1 Area	1582334
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0122
Unqualified Amount (A)	45.388359
Adjusted Amount (A)	45.3884
Signal-to-Noise	9320
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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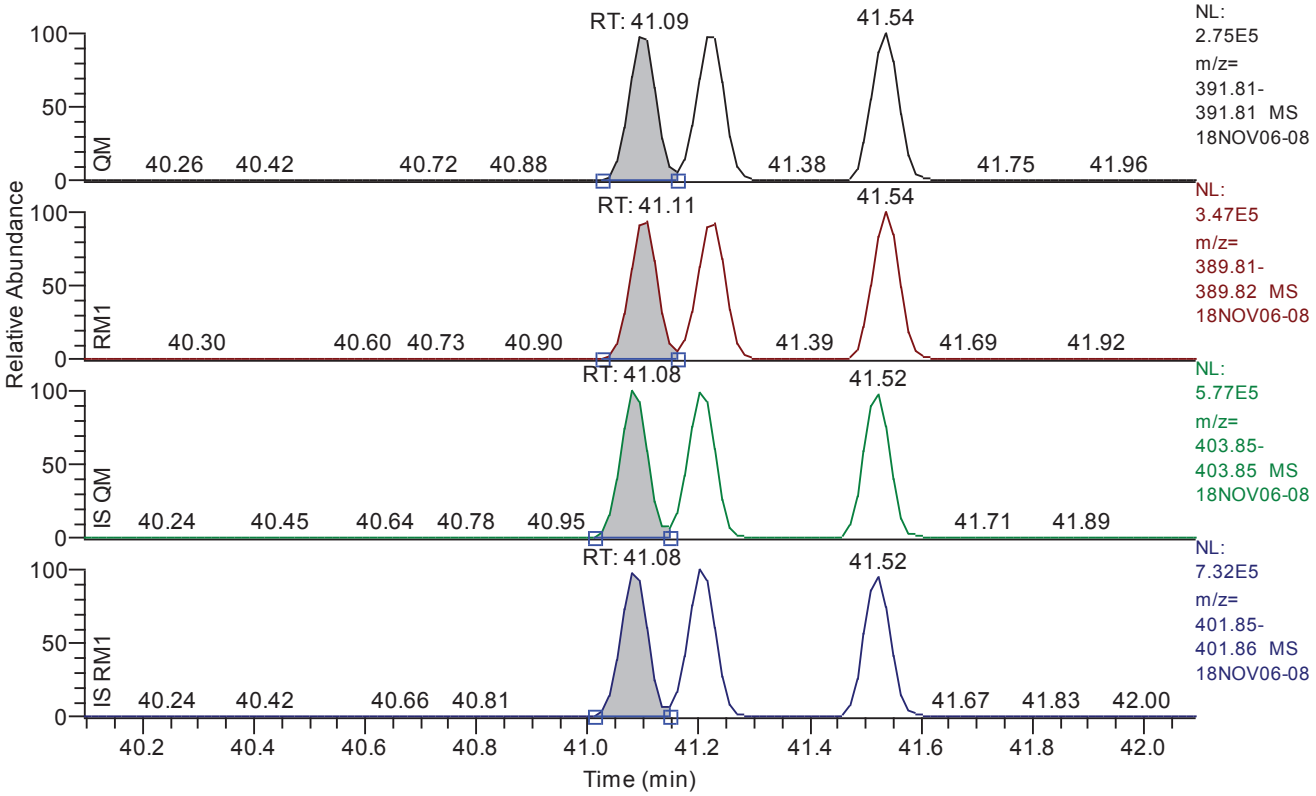
Chromatogram

RT: 40.09 - 42.09 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.09
QM Area	939206
QM Integration Mode	A
RM1 Area	1133182
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	45.678944
Adjusted Amount (A)	45.6789
Signal-to-Noise	13772
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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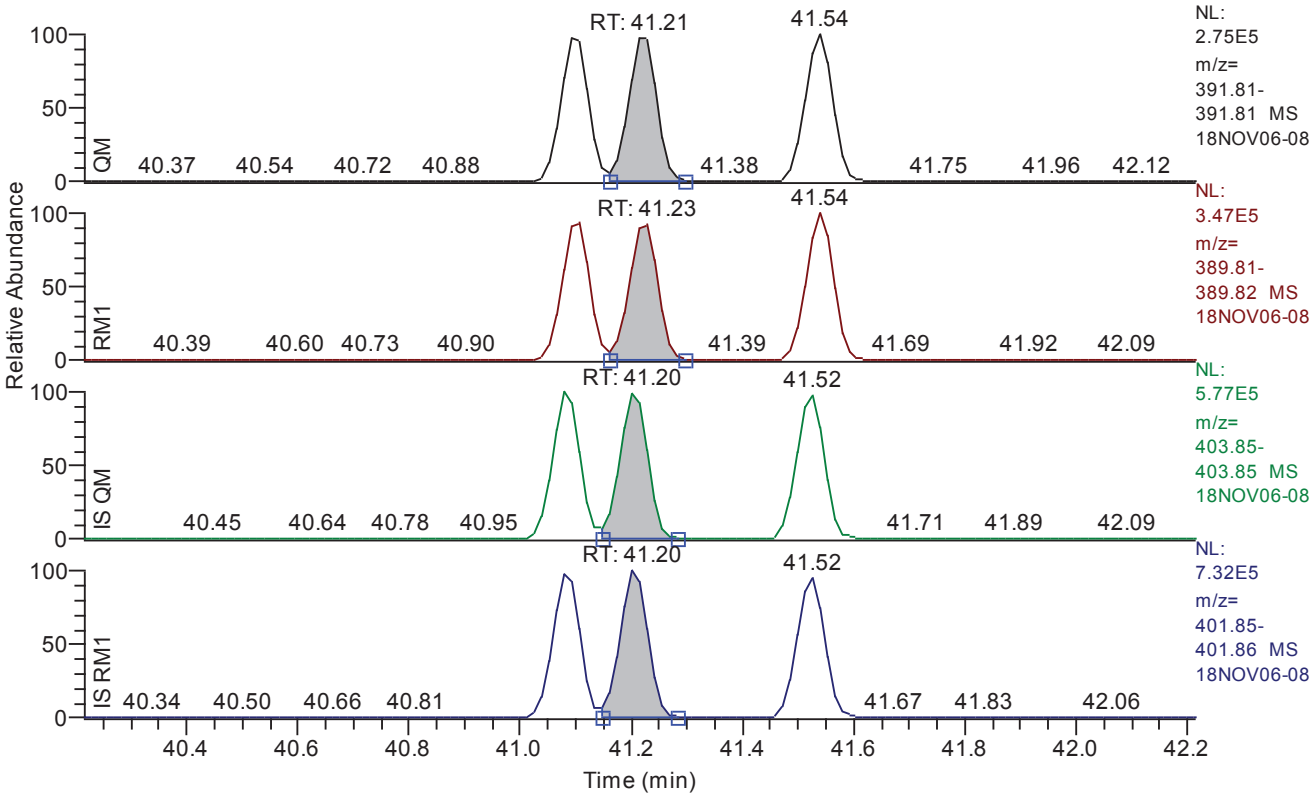
Chromatogram

RT: 40.21 - 42.21 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.21
QM Area	949025
QM Integration Mode	A
RM1 Area	1145217
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	47.754563
Adjusted Amount (A)	47.7546
Signal-to-Noise	13609
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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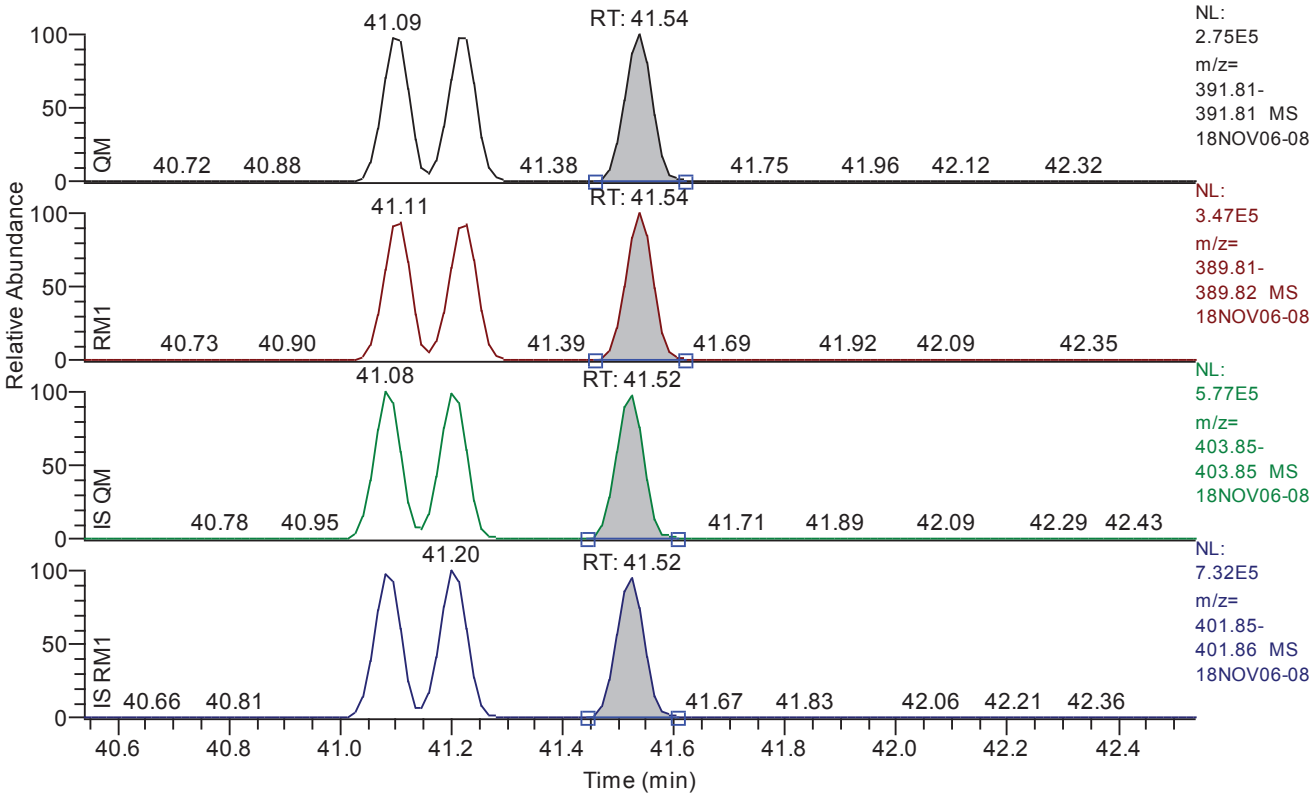
Chromatogram

RT: 40.54 - 42.54 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.54
QM Area	956668
QM Integration Mode	A
RM1 Area	1190479
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0083
Unqualified Amount (A)	47.067204
Adjusted Amount (A)	47.0672
Signal-to-Noise	14338
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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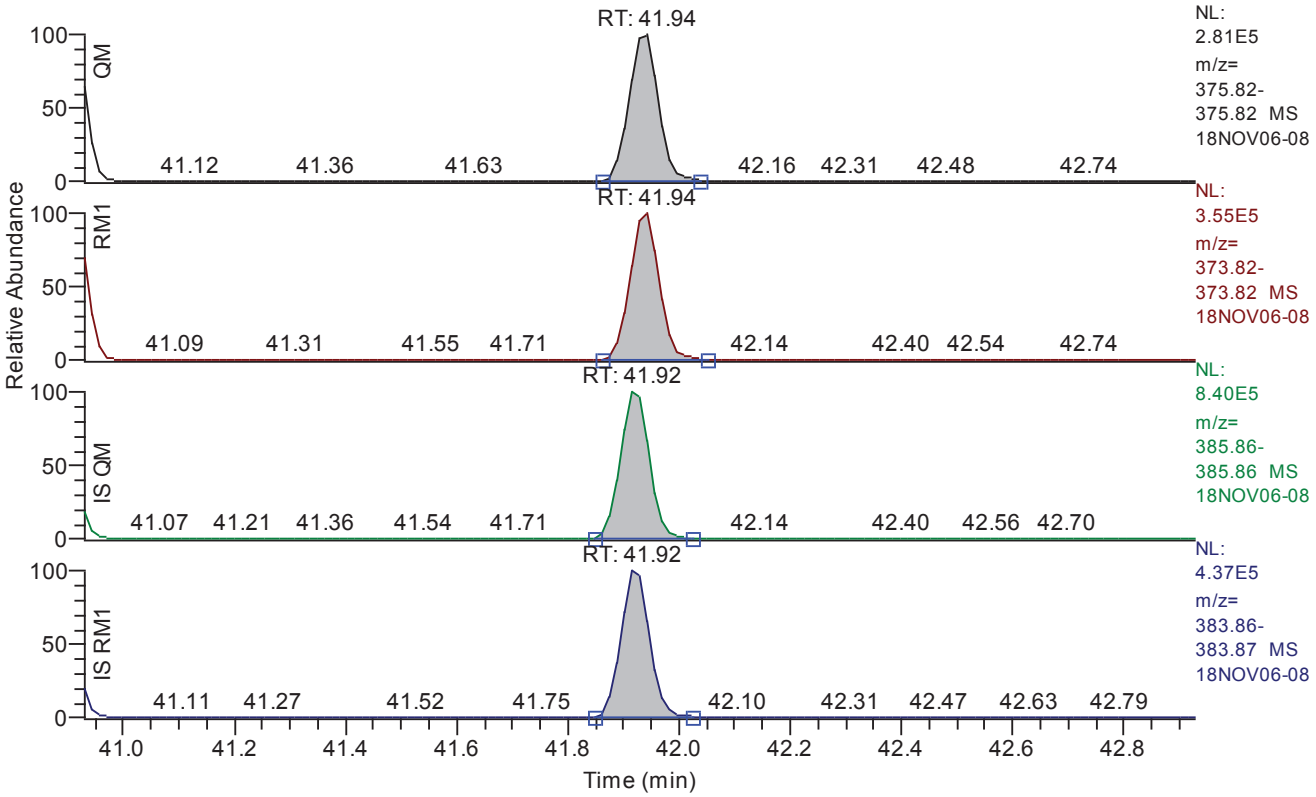
Chromatogram

RT: 40.93 - 42.93 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.94
QM Area	1038958
QM Integration Mode	A
RM1 Area	1296457
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0145
Unqualified Amount (A)	42.941907
Adjusted Amount (A)	42.9419
Signal-to-Noise	7305
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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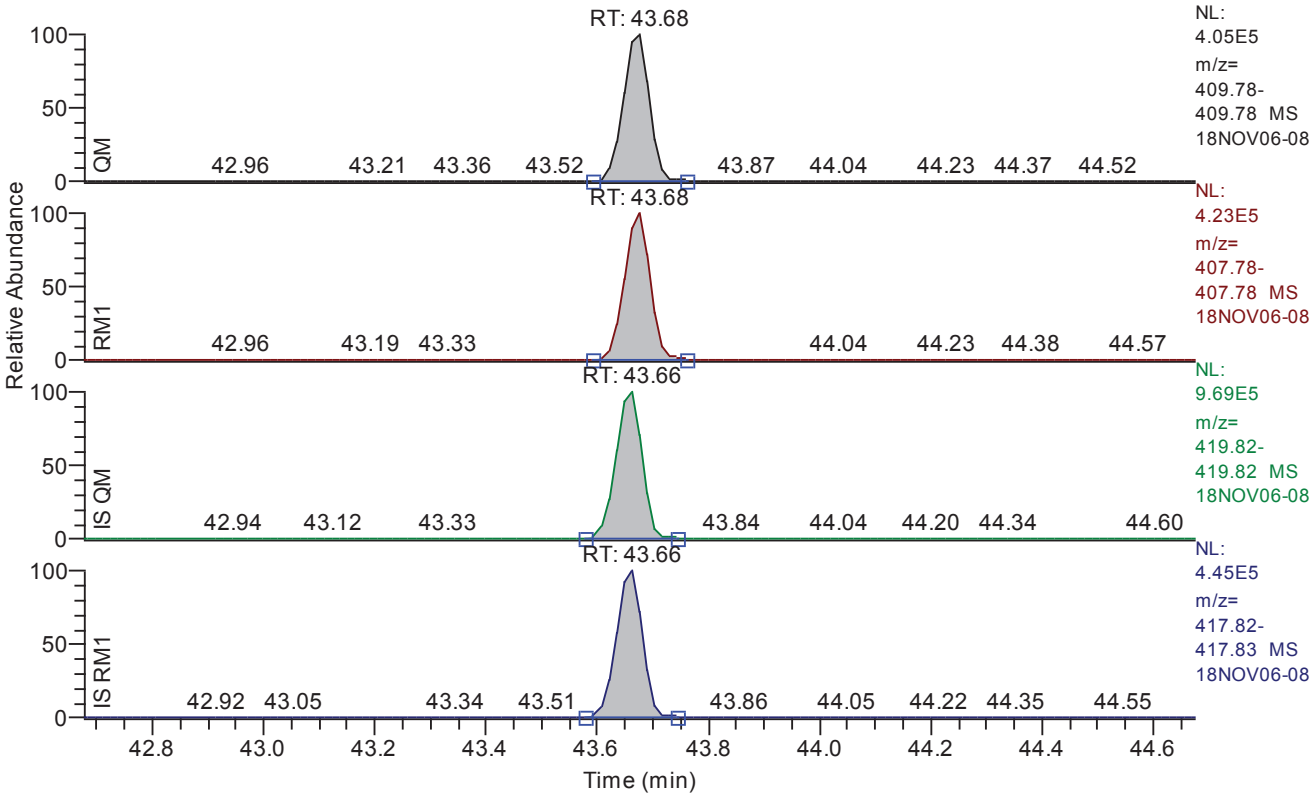
Chromatogram

RT: 42.68 - 44.68 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.68
QM Area	1359859
QM Integration Mode	A
RM1 Area	1396577
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0140
Unqualified Amount (A)	43.302175
Adjusted Amount (A)	43.3022
Signal-to-Noise	7814
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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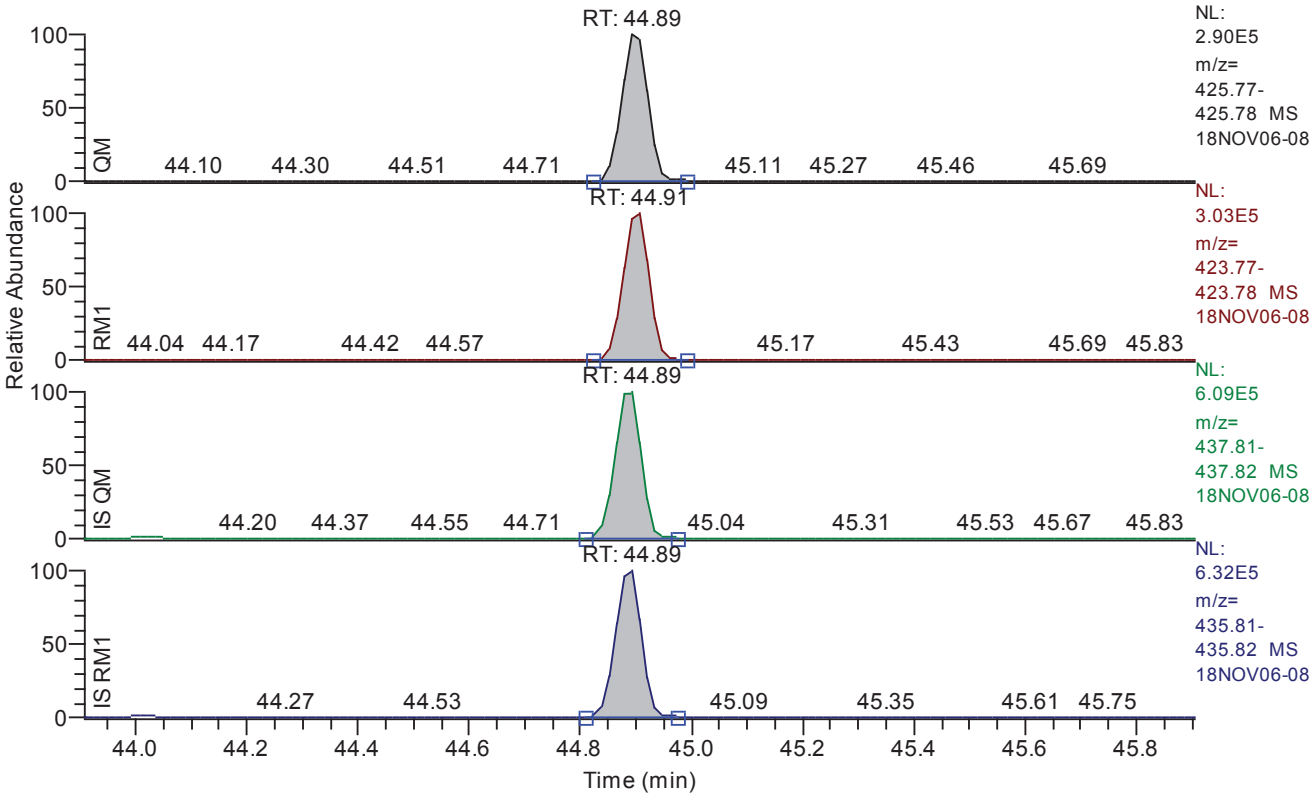
Chromatogram

RT: 43.91 - 45.91 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	986493
QM Integration Mode	A
RM1 Area	1019991
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0139
Unqualified Amount (A)	46.494002
Adjusted Amount (A)	46.4940
Signal-to-Noise	8359
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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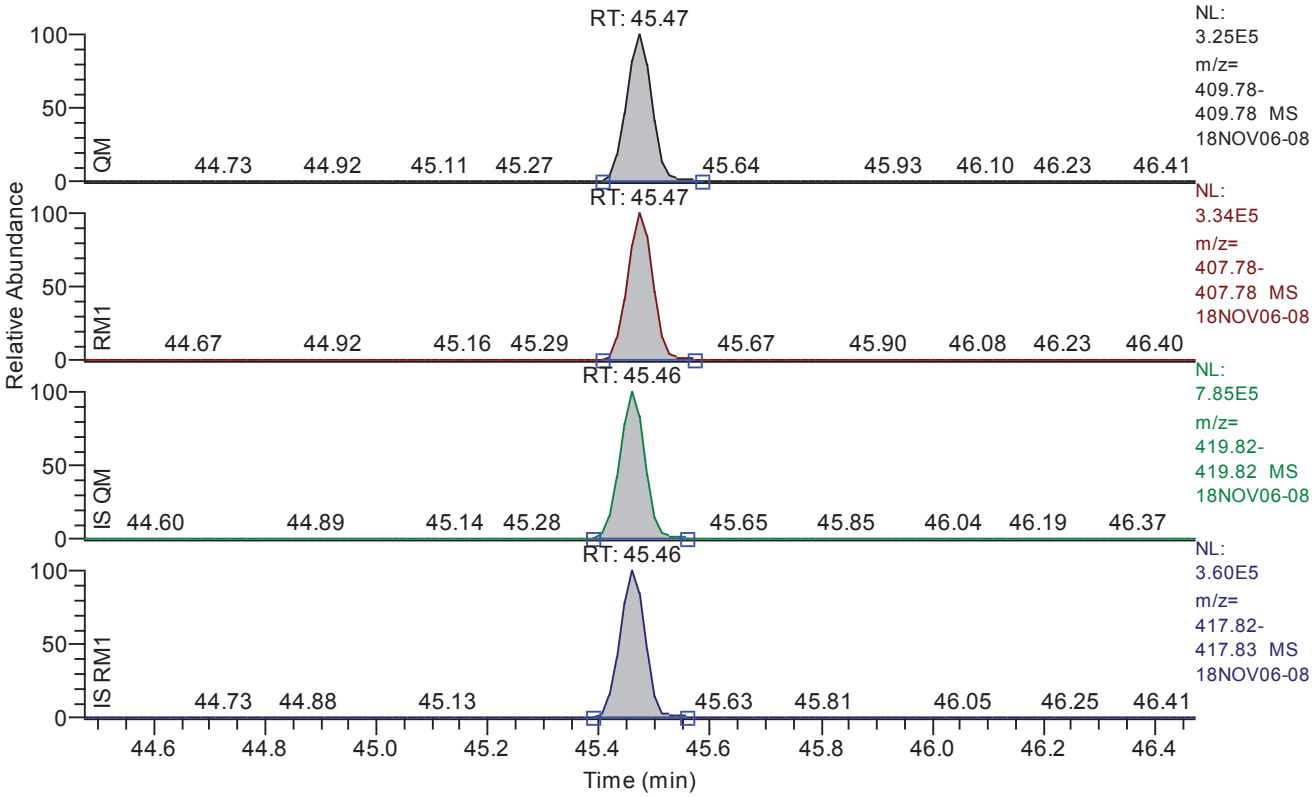
Chromatogram

RT: 44.47 - 46.47 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	1069245
QM Integration Mode	A
RM1 Area	1100107
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0173
Unqualified Amount (A)	43.411433
Adjusted Amount (A)	43.4114
Signal-to-Noise	6221
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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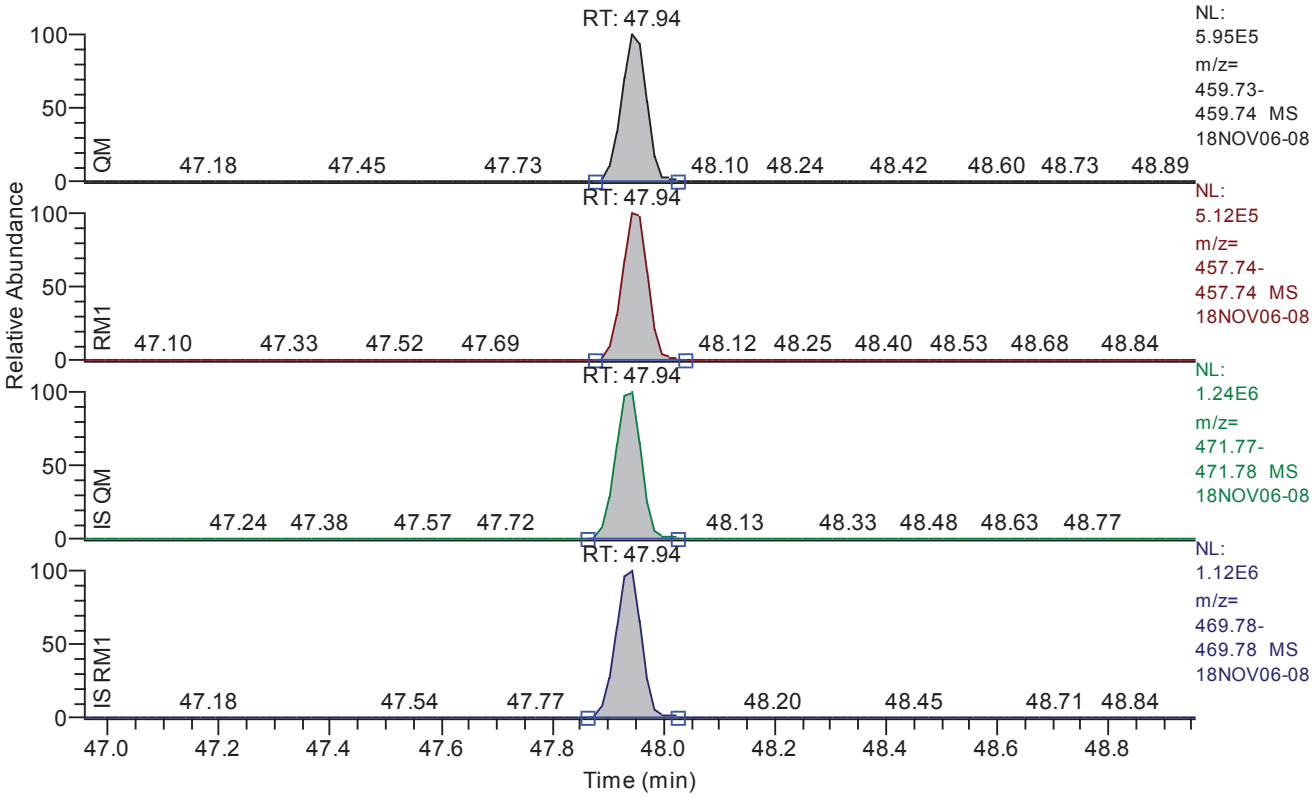
Chromatogram

RT: 46.96 - 48.96 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	47.94
QM Area	1868124
QM Integration Mode	A
RM1 Area	1638720
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	91.374174
Adjusted Amount (A)	91.3742
Signal-to-Noise	20927
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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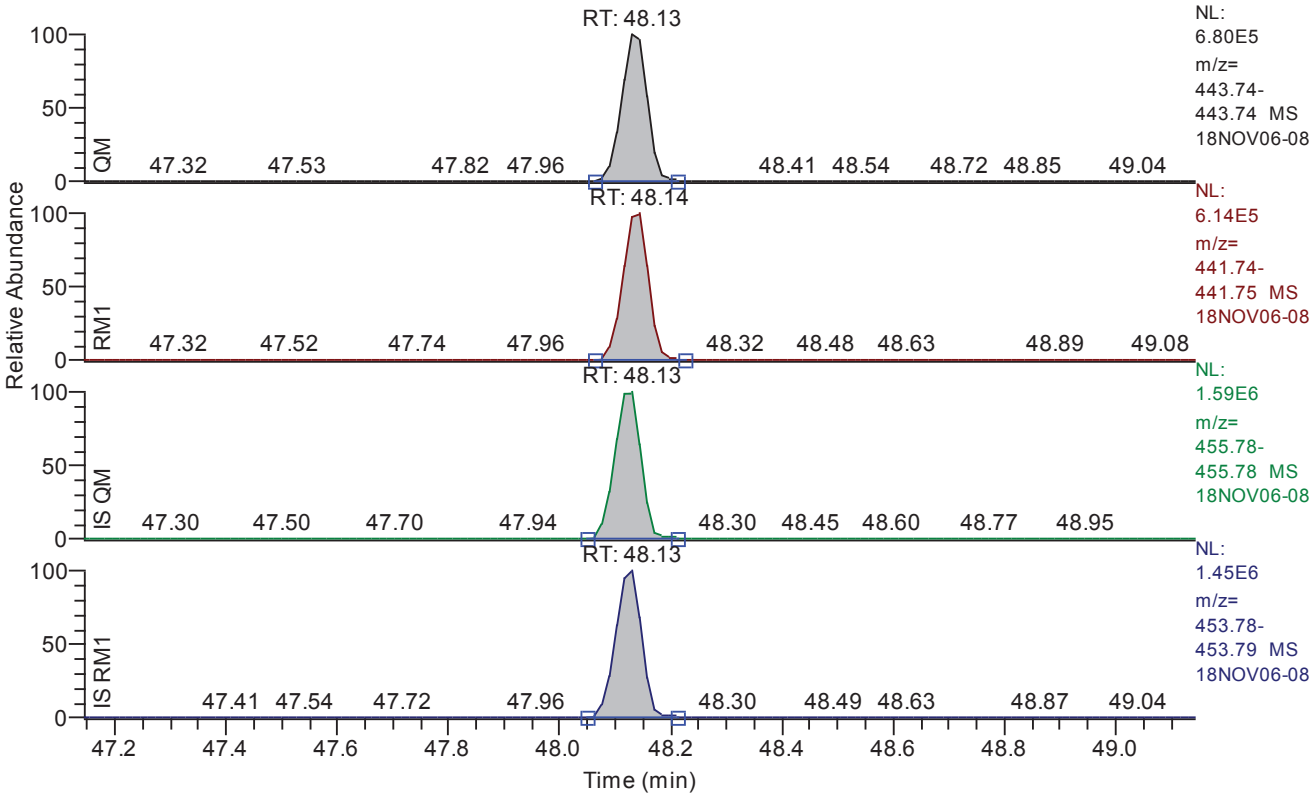
Chromatogram

RT: 47.14 - 49.14 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.13
QM Area	2175849
QM Integration Mode	A
RM1 Area	1968391
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	89.301297
Adjusted Amount (A)	89.3013
Signal-to-Noise	25153
Client Flags	
Status Overview	passed
Status Info	

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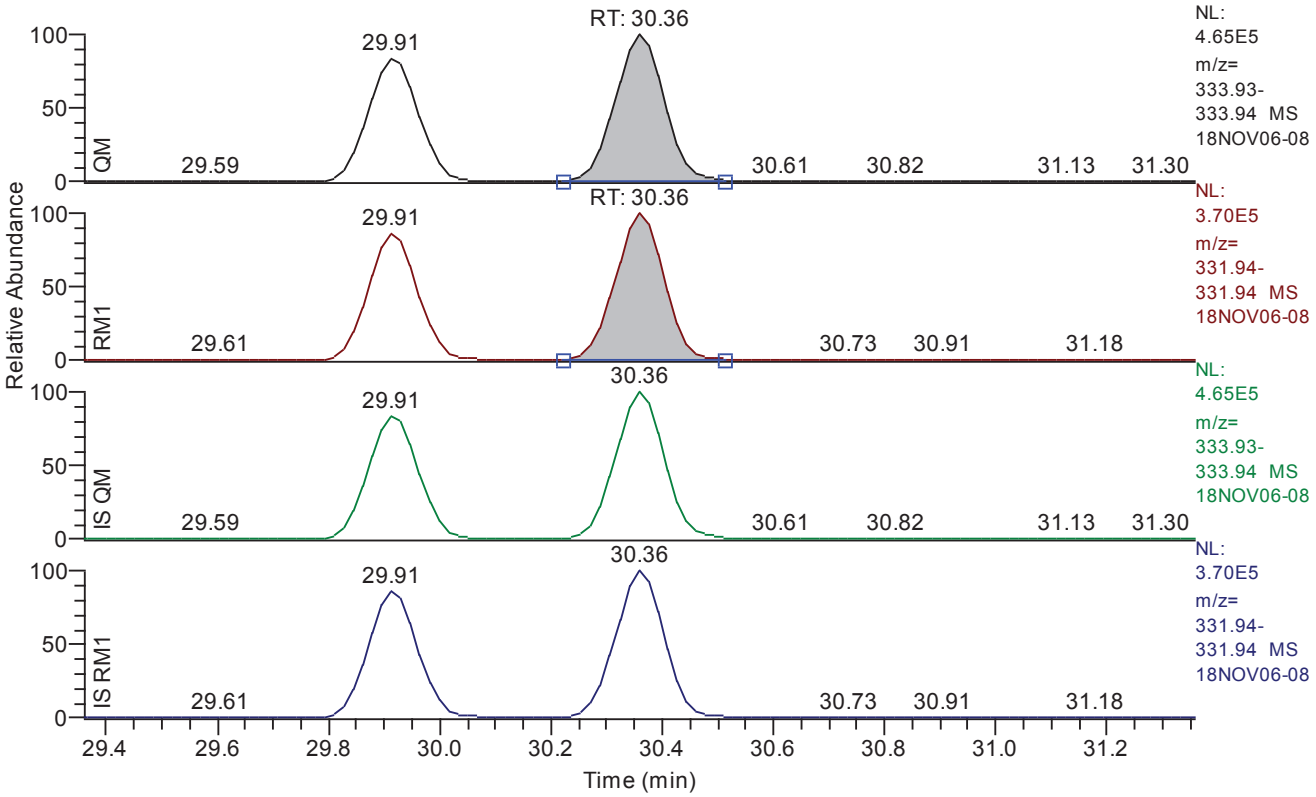
Chromatogram

RT: 29.36 - 31.36 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.36
QM Area	2837057
QM Integration Mode	A
RM1 Area	2241770
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0152
Unqualified Amount (A)	104.097215
Adjusted Amount (A)	104.0972
Signal-to-Noise	16162
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass		Ratio Mass 1		Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987	+/- 5 ppm	303.9016	+/- 5 ppm	28.81	28.84	28.84	0.00	passed	---
2	2378-TCDD	321.8936	+/- 5 ppm	319.8965	+/- 5 ppm	29.91	29.95	29.95	0.00	passed	---
3	12378-PeCDF	341.8567	+/- 5 ppm	339.8597	+/- 5 ppm	34.92	34.94	34.94	0.00	passed	---
4	23478-PeCDF	341.8567	+/- 5 ppm	339.8597	+/- 5 ppm	36.25	36.28	36.28	0.00	passed	---
5	12378-PeCDD	357.8516	+/- 5 ppm	355.8546	+/- 5 ppm	36.65	36.68	36.68	0.00	passed	---
6	123478-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	40.00	40.03	40.03	0.00	passed	---
7	123678-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	40.17	40.18	40.18	0.00	passed	---
8	234678-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	40.88	40.90	40.90	0.00	passed	---
9	123478-HxCDD	391.8127	+/- 5 ppm	389.8157	+/- 5 ppm	41.08	41.09	41.11	0.00	passed	---
10	123678-HxCDD	391.8127	+/- 5 ppm	389.8157	+/- 5 ppm	41.20	41.21	41.23	0.00	passed	---
11	123789-HxCDD	391.8127	+/- 5 ppm	389.8157	+/- 5 ppm	41.51	41.54	41.54	0.00	passed	---
12	123789-HxCDF	375.8178	+/- 5 ppm	373.8208	+/- 5 ppm	41.92	41.94	41.94	0.00	passed	---
13	1234678-HpCDF	409.7789	+/- 5 ppm	407.7818	+/- 5 ppm	43.65	43.68	43.68	0.00	passed	---
14	1234678-HpCDD	425.7737	+/- 5 ppm	423.7766	+/- 5 ppm	44.88	44.89	44.91	0.00	passed	---
15	1234789-HpCDF	409.7789	+/- 5 ppm	407.7818	+/- 5 ppm	45.46	45.47	45.47	0.00	passed	---
16	OCDD	459.7348	+/- 5 ppm	457.7377	+/- 5 ppm	47.93	47.94	47.94	0.00	passed	---
17	OCDF	443.7399	+/- 5 ppm	441.7428	+/- 5 ppm	48.12	48.13	48.14	0.00	passed	---
18	13C12-1278-TCDD (CRS)	333.9339	+/- 5 ppm	331.9368	+/- 5 ppm	30.34	30.36	30.36	0.00	passed	---
19	13C12-1234-TCDD	333.9339	+/- 5 ppm	331.9368	+/- 5 ppm	29.04	29.06	29.08	0.00	passed	---
20	13C12-123468-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	39.90	39.92	39.92	0.00	passed	---
21	13C12-2378-TCDF	317.9389	+/- 5 ppm	315.9419	+/- 5 ppm	28.78	28.82	28.82	0.00	passed	---
22	13C12-2378-TCDD	333.9339	+/- 5 ppm	331.9368	+/- 5 ppm	29.89	29.91	29.91	0.00	passed	---
23	13C12-12378-PeCDF	353.8970	+/- 5 ppm	351.9000	+/- 5 ppm	34.90	34.92	34.92	0.00	passed	---
24	13C12-23478-PeCDF	353.8970	+/- 5 ppm	351.9000	+/- 5 ppm	36.23	36.25	36.25	0.00	passed	---
25	13C12-12378-PeCDD	369.8919	+/- 5 ppm	367.8949	+/- 5 ppm	36.63	36.65	36.65	0.00	passed	---
26	13C12-123478-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	39.99	40.02	40.02	0.00	passed	---
27	13C12-123678-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	40.15	40.16	40.16	0.00	passed	---
28	13C12-234678-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	40.87	40.89	40.89	0.00	passed	---
29	13C12-123478-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	41.07	41.08	41.08	0.00	passed	---
30	13C12-123678-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	41.19	41.20	41.20	0.00	passed	---
31	13C12-123789-HxCDD	403.8529	+/- 5 ppm	401.8559	+/- 5 ppm	41.50	41.52	41.52	0.00	passed	---
32	13C12-123789-HxCDF	385.8610	+/- 5 ppm	383.8639	+/- 5 ppm	41.90	41.92	41.92	0.00	passed	---
33	13C12-1234678-HpCDF	419.8220	+/- 5 ppm	417.8253	+/- 5 ppm	43.64	43.66	43.66	0.00	passed	---
34	13C12-1234678-HpCDD	437.8140	+/- 5 ppm	435.8169	+/- 5 ppm	44.87	44.89	44.89	0.00	passed	---
35	13C12-1234789-HpCDF	419.8220	+/- 5 ppm	417.8253	+/- 5 ppm	45.45	45.46	45.46	0.00	passed	---
36	13C12-OCDD	471.7750	+/- 5 ppm	469.7779	+/- 5 ppm	47.92	47.94	47.94	0.00	passed	---
37	13C12-OCDF	455.7802	+/- 5 ppm	453.7831	+/- 5 ppm	48.11	48.13	48.13	0.00	passed	---

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.84	0.7629	0.6450 - 0.8950	passed	98.09	80 - 120	passed
2	2378-TCDD	29.95	0.7888	0.6450 - 0.8950	passed	108.23	80 - 120	passed
3	12378-PeCDF	34.94	1.5637	1.3150 - 1.7850	passed	88.98	80 - 120	passed
4	23478-PeCDF	36.28	1.5274	1.3150 - 1.7850	passed	100.34	80 - 120	passed
5	12378-PeCDD	36.68	1.5377	1.3150 - 1.7850	passed	100.85	80 - 120	passed
6	123478-HxCDF	40.03	1.2473	1.0450 - 1.4350	passed	92.65	80 - 120	passed
7	123678-HxCDF	40.18	1.2496	1.0450 - 1.4350	passed	91.06	80 - 120	passed
8	234678-HxCDF	40.90	1.2572	1.0450 - 1.4350	passed	90.78	80 - 120	passed
9	123478-HxCDD	41.09	1.2065	1.0450 - 1.4350	passed	91.36	80 - 120	passed
10	123678-HxCDD	41.21	1.2067	1.0450 - 1.4350	passed	95.51	80 - 120	passed
11	123789-HxCDD	41.54	1.2444	1.0450 - 1.4350	passed	94.13	80 - 120	passed
12	123789-HxCDF	41.94	1.2478	1.0450 - 1.4350	passed	85.88	80 - 120	passed
13	1234678-HpCDF	43.68	1.0270	0.8750 - 1.2050	passed	86.60	80 - 120	passed
14	1234678-HpCDD	44.89	1.0340	0.8750 - 1.2050	passed	92.99	80 - 120	passed
15	1234789-HpCDF	45.47	1.0289	0.8750 - 1.2050	passed	86.82	80 - 120	passed
16	OCDD	47.94	0.8772	0.7550 - 1.0250	passed	91.37	80 - 120	passed
17	OCDF	48.13	0.9047	0.7550 - 1.0250	passed	89.30	80 - 120	passed
18	13C12-1278-TCDD (CRS)	30.36	0.7902	0.6450 - 0.8950	passed	104.10	80 - 120	passed
19	13C12-1234-TCDD	29.06	0.7880	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.2551	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.82	0.7734	0.6450 - 0.8950	passed	106.97	80 - 120	passed
22	13C12-2378-TCDD	29.91	0.8091	0.6450 - 0.8950	passed	102.77	80 - 120	passed
23	13C12-12378-PeCDF	34.92	1.5686	1.3150 - 1.7850	passed	108.54	80 - 120	passed
24	13C12-23478-PeCDF	36.25	1.5613	1.3150 - 1.7850	passed	110.56	80 - 120	passed
25	13C12-12378-PeCDD	36.65	1.5632	1.3150 - 1.7850	passed	108.61	80 - 120	passed
26	13C12-123478-HxCDF	40.02	0.5144	0.4250 - 0.5950	passed	89.81	80 - 120	passed
27	13C12-123678-HxCDF	40.16	0.5178	0.4250 - 0.5950	passed	88.31	80 - 120	passed
28	13C12-234678-HxCDF	40.89	0.5204	0.4250 - 0.5950	passed	90.27	80 - 120	passed
29	13C12-123478-HxCDD	41.08	1.2535	1.0450 - 1.4350	passed	101.45	80 - 120	passed
30	13C12-123678-HxCDD	41.20	1.2676	1.0450 - 1.4350	passed	98.73	80 - 120	passed
31	13C12-123789-HxCDD	41.52	1.2369	1.0450 - 1.4350	passed	101.16	80 - 120	passed
32	13C12-123789-HxCDF	41.92	0.5151	0.4250 - 0.5950	passed	87.83	80 - 120	passed
33	13C12-1234678-HpCDF	43.66	0.4562	0.3650 - 0.5150	passed	92.63	80 - 120	passed
34	13C12-1234678-HpCDD	44.89	1.0271	0.8750 - 1.2050	passed	102.07	80 - 120	passed
35	13C12-1234789-HpCDF	45.46	0.4602	0.3650 - 0.5150	passed	87.33	80 - 120	passed
36	13C12-OCDD	47.94	0.8957	0.7550 - 1.0250	passed	97.69	80 - 120	passed
37	13C12-OCDF	48.13	0.8897	0.7550 - 1.0250	passed	91.26	80 - 120	passed

APPROVED
By uma9 at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.84	405724	A	309526	A	0.0064	9.808612	9.8086	10.000000	3903	
2	2378-TCDD	passed	29.95	314323	A	247936	A	0.0064	10.822871	10.8229	10.000000	4221	
3	12378-PeCDF	passed	34.94	1170998	A	1831063	A	0.0065	44.491242	44.4912	50.000000	16986	
4	23478-PeCDF	passed	36.28	1348075	A	2059081	A	0.0060	50.169385	50.1694	50.000000	21455	
5	12378-PeCDD	passed	36.68	810009	A	1245523	A	0.0107	50.424465	50.4245	50.000000	11964	
6	123478-HxCDF	passed	40.03	1257838	A	1568893	A	0.0124	46.323483	46.3235	50.000000	9455	
7	123678-HxCDF	passed	40.18	1257404	A	1571230	A	0.0126	45.529060	45.5291	50.000000	8690	
8	234678-HxCDF	passed	40.90	1258628	A	1582334	A	0.0122	45.388359	45.3884	50.000000	9320	
9	123478-HxCDD	passed	41.09	939206	A	1133182	A	0.0082	45.678944	45.6789	50.000000	13772	
10	123678-HxCDD	passed	41.21	949025	A	1145217	A	0.0085	47.754563	47.7546	50.000000	13609	
11	123789-HxCDD	passed	41.54	956668	A	1190479	A	0.0083	47.067204	47.0672	50.000000	14338	
12	123789-HxCDF	passed	41.94	1038958	A	1296457	A	0.0145	42.941907	42.9419	50.000000	7305	
13	1234678-HpCDF	passed	43.68	1359859	A	1396577	A	0.0140	43.302175	43.3022	50.000000	7814	
14	1234678-HpCDD	passed	44.89	986493	A	1019991	A	0.0139	46.494002	46.4940	50.000000	8359	
15	1234789-HpCDF	passed	45.47	1069245	A	1100107	A	0.0173	43.411433	43.4114	50.000000	6221	
16	OCDD	passed	47.94	1868124	A	1638720	A	0.0111	91.374174	91.3742	100.000000	20927	
17	OCDF	passed	48.13	2175849	A	1968391	A	0.0091	89.301297	89.3013	100.000000	25153	
18	13C12-1278-TCDD (CRS)	passed	30.36	2837057	A	2241770	A	0.0152	104.097215	104.0972	100.000000	16162	
19	13C12-1234-TCDD	passed	29.06	2494482	A	1965618	A	0.0157	100.000000	100.0000	100.000000	15916	
20	13C12-123468-HxCDD	passed	39.92	2016422	A	2530756	A	0.0177	100.000000	100.0000	100.000000	14123	
21	13C12-2378-TCDF	passed	28.82	4441602	A	3435064	A	0.0104	106.969240	106.9692	100.000000	25884	
22	13C12-2378-TCDD	passed	29.91	2455119	A	1986463	A	0.0162	102.765138	102.7651	100.000000	15315	
23	13C12-12378-PeCDF	passed	34.92	2703290	A	4240314	A	0.0316	108.544461	108.5445	100.000000	10730	
24	13C12-23478-PeCDF	passed	36.25	2722370	A	4250495	A	0.0320	110.558910	110.5589	100.000000	11611	
25	13C12-12378-PeCDD	passed	36.65	1644518	A	2570781	A	0.0190	108.607092	108.6071	100.000000	19341	
26	13C12-123478-HxCDF	passed	40.02	3437938	A	1768611	A	0.0263	89.808967	89.8090	100.000000	8659	
27	13C12-123678-HxCDF	passed	40.16	3606450	A	1867399	A	0.0246	88.311990	88.3120	100.000000	8819	
28	13C12-234678-HxCDF	passed	40.89	3351323	A	1744090	A	0.0270	90.274687	90.2747	100.000000	8414	
29	13C12-123478-HxCDD	passed	41.08	1982282	A	2484832	A	0.0183	101.448069	101.4481	100.000000	14193	
30	13C12-123678-HxCDD	passed	41.20	1990397	A	2523003	A	0.0176	98.732807	98.7328	100.000000	14285	
31	13C12-123789-HxCDD	passed	41.52	1965782	A	2431403	A	0.0185	101.162039	101.1620	100.000000	13784	
32	13C12-123789-HxCDF	passed	41.92	3054427	A	1573219	A	0.0289	87.826391	87.8264	100.000000	7383	
33	13C12-1234678-HpCDF	passed	43.66	3266637	A	1490356	A	0.0290	92.627000	92.6270	100.000000	8367	
34	13C12-1234678-HpCDD	passed	44.89	2077134	A	2133476	A	0.0244	102.072648	102.0726	100.000000	10881	
35	13C12-1234789-HpCDF	passed	45.46	2555509	A	1176023	A	0.0349	87.333609	87.3336	100.000000	6772	
36	13C12-OCDD	passed	47.94	3988450	A	3572486	A	0.0127	195.379002	195.3790	200.000000	42362	
37	13C12-OCDF	passed	48.13	5267806	A	4686775	A	0.0098	182.512342	182.5123	200.000000	50028	

APPROVED
By uma9 at 3:24 pm, 11/8/18

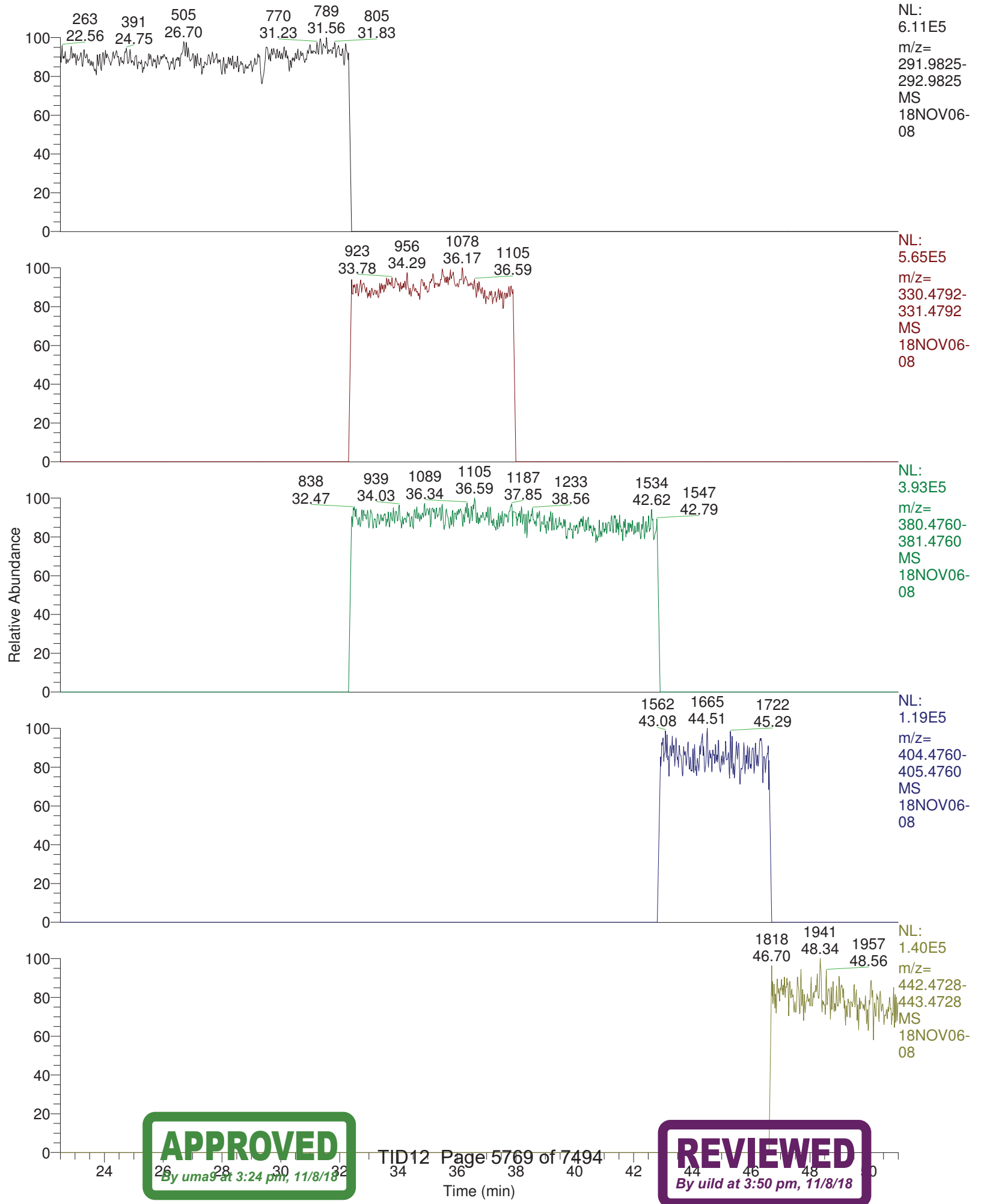
REVIEWED
By uild at 3:50 pm, 11/8/18

File Name: W:\18NOV06\18NOV06-08
Sample ID: ICV

Acq. Data: 11/6/2018 2:54:37 PM
Sample Name: SSDFX1837C
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV06

RT: 22.50 - 51.00



APPROVED
By umas at 3:24 pm, 11/8/18

REVIEWED
By uild at 3:50 pm, 11/8/18

*** file opened Tue Nov 06 15:00:17 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 06-Nov-18 15:00:17

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 8990ed8e-76d1-4e6e-a844-d7145c7a777a

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 21.500000 minutes
MID Window end time was 21.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
```

```
MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS           98.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ         1588.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS            210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR           -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             232.6644   FMII           50.0000   FQUAD            7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0185   FVINLET         0.0426   FVSRC            0.0329
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII           500.0000
 LMASS           98.0000   LKM           442.9723   MASS            98.0000
 MDAC        1439390.1347  MRANGE       1311.4489   NSAM           200.0000
 NSCAN         2165.0000   NSMAX           2.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER          -1.0000   RECURR          0.9827   RELEN            0.0000
 RES          12917.6312   RPUSHER        -1.0476   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0199   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0019   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          98.0000   XLENS_POT      752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM        2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 12029.
MID Time Window 2: Resolution is 12420.
MID Time Window 3: Resolution is 12510.
MID Time Window 4: Resolution is 12055.
```

```
                                        18NOV06-08
  MID Time Window 5: Resolution is 13349.
  MID Time Window 6: Resolution is 12917.

  Amplifier Offset: 91.


*** File closed Tue Nov 06 15:51:19 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 16:02
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1823737B
Sample ID	CPS02
Inst ID	DF17280-18NOV07
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-02.quan
Data	w:\18nov07\18nov07-02.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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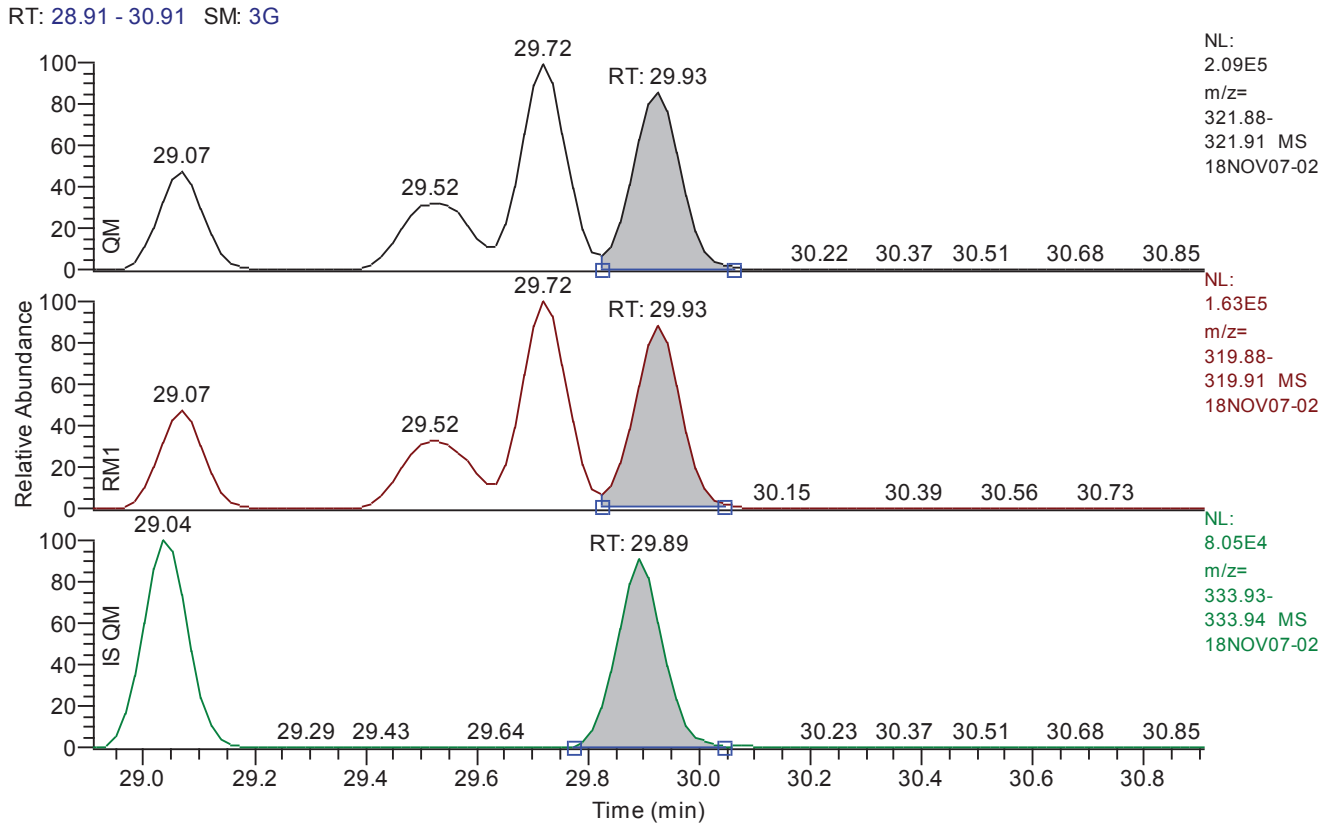
Chromatogram



Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	M
ManInt	1
RM1 Retention Time	29.93
RM1 Left Baseline Height	2686.89
RM1 Left Height	8593
RM1 Height	141399
GC Res (%) left	6.704013

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 16:02
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1823737B
Sample ID	CPS02
Inst ID	DF17280-18NOV07
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-02.quan
Data	w:\18nov07\18nov07-02.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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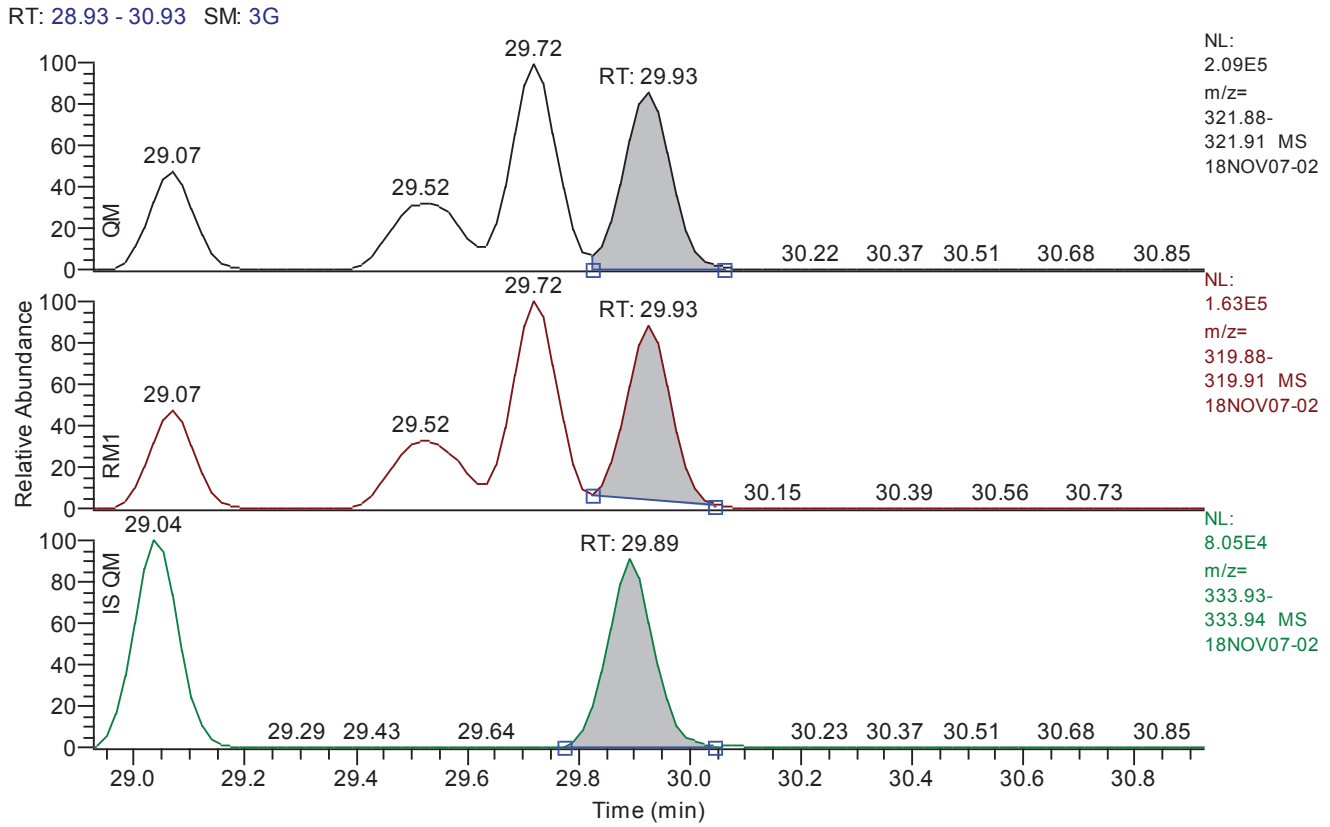
Chromatogram



Entry Parameters

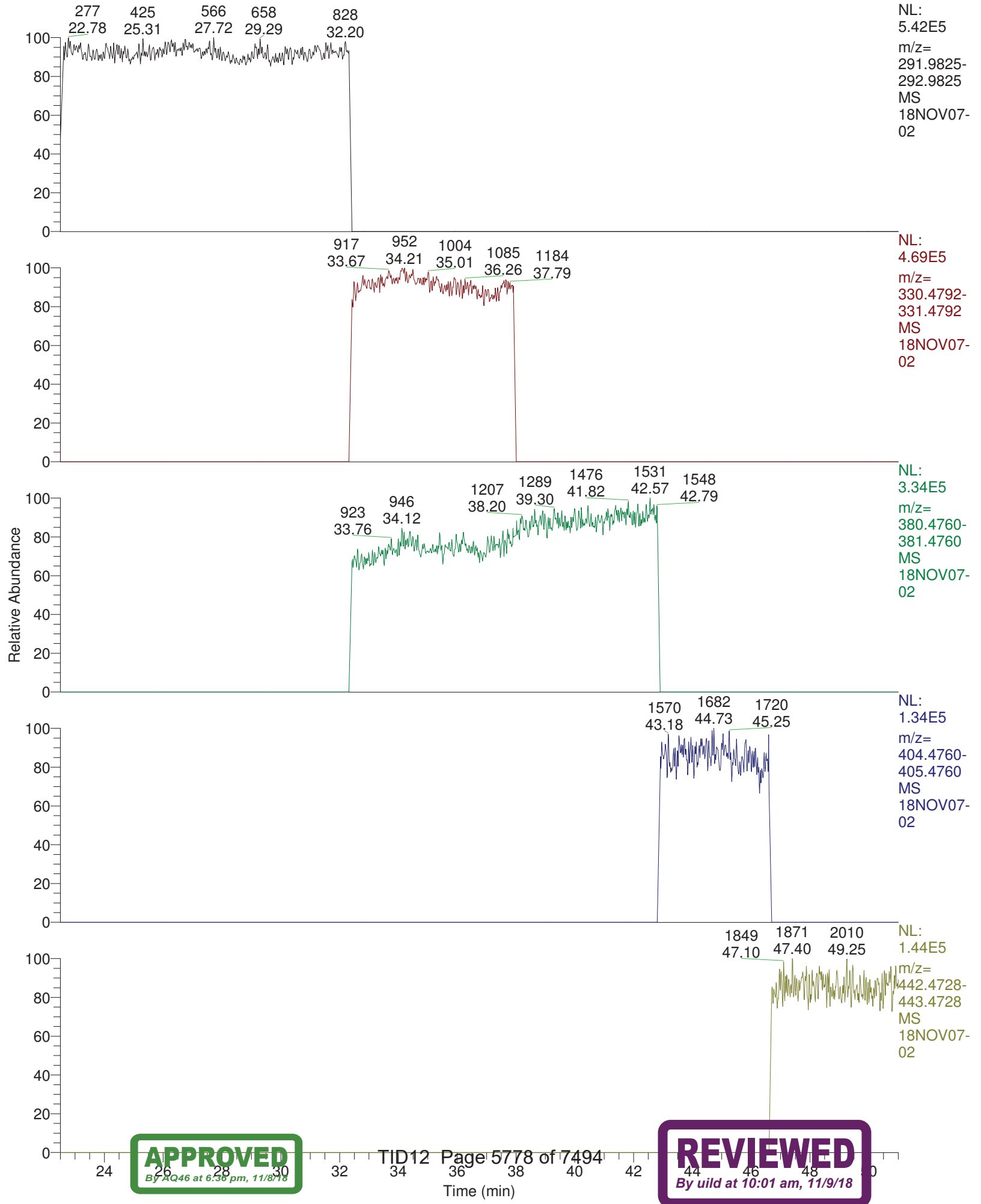
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	1
RM1 Retention Time	29.93
RM1 Left Baseline Height	11279.91
RM1 Left Height	0
RM1 Height	136774
GC Res (%) left	6.704013

File Name: W:\18NOV07\18NOV07-02
Sample ID: CPS02

Acq. Data: 11/7/2018 4:02:36 PM
Sample Name: TDTFWD - ST1823737B
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV07

RT: 22.50 - 51.00



APPROVED
By AQ46 at 6:36 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

*** file opened Wed Nov 07 16:05:30 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 07-Nov-18 16:05:29

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : b4b82f85-6de3-4e58-9f52-762d4c6e5254

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.500000 minutes
MID Window end time was 22.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
```

```
MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          99.0000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ        1449.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR          -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0185   FVINLET         0.0428   FVSRC           0.0327
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           99.0000   LKM           442.9723   MASS           99.0000
 MDAC        1451960.7165  MRANGE       1311.4489   NSAM          200.0000
 NSCAN         2167.0000   NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9812   RELEN           0.0000
 RES          12720.2437   RPUSHER        -1.0623   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.9e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11927.
MID Time Window 2: Resolution is 12526.
MID Time Window 3: Resolution is 12661.
MID Time Window 4: Resolution is 12914.
```

```
MID Time Window 5: Resolution is 12927.
MID Time Window 6: Resolution is 12720.

Amplifier Offset: 91.


*** File closed Wed Nov 07 16:56:32 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 16:56
Number of Entries	63
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF17280-18NOV07
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-03-8290.quan
Data	w:\18nov07\18nov07-03.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.80	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	29.93	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.92	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.65	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.88	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.46	passed	passed	passed	passed	passed	passed	
16	OCDD	47.93	passed	passed	passed	passed	passed	passed	
17	OCDF	48.12	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.34	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.04	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.91	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.78	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.89	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.91	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.23	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.63	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	39.99	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.15	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.86	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.07	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.19	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.50	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.90	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.45	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.92	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.10	passed	passed	passed	passed	passed	passed	

APPROVED
By AQ46 at 6:36 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 16:56
Number of Entries	63
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF17280-18NOV07
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-03-8290.quan
Data	w:\18nov07\18nov07-03.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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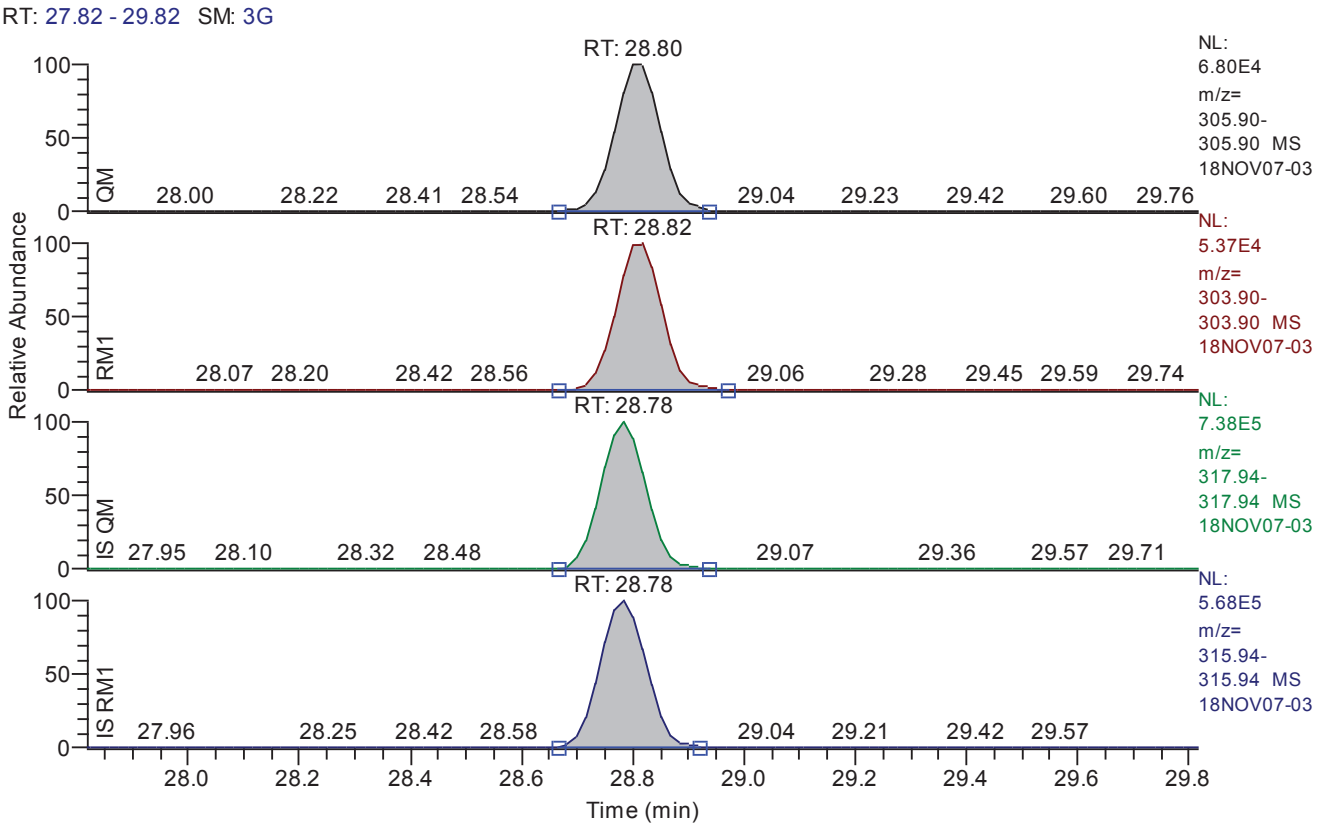
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.80
QM Area	397988
QM Integration Mode	A
RM1 Area	316326
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0090
Unqualified Amount (A)	10.155087
Adjusted Amount (A)	10.1551
Signal-to-Noise	2785
Client Flags	
Status Overview	passed
Status Info	

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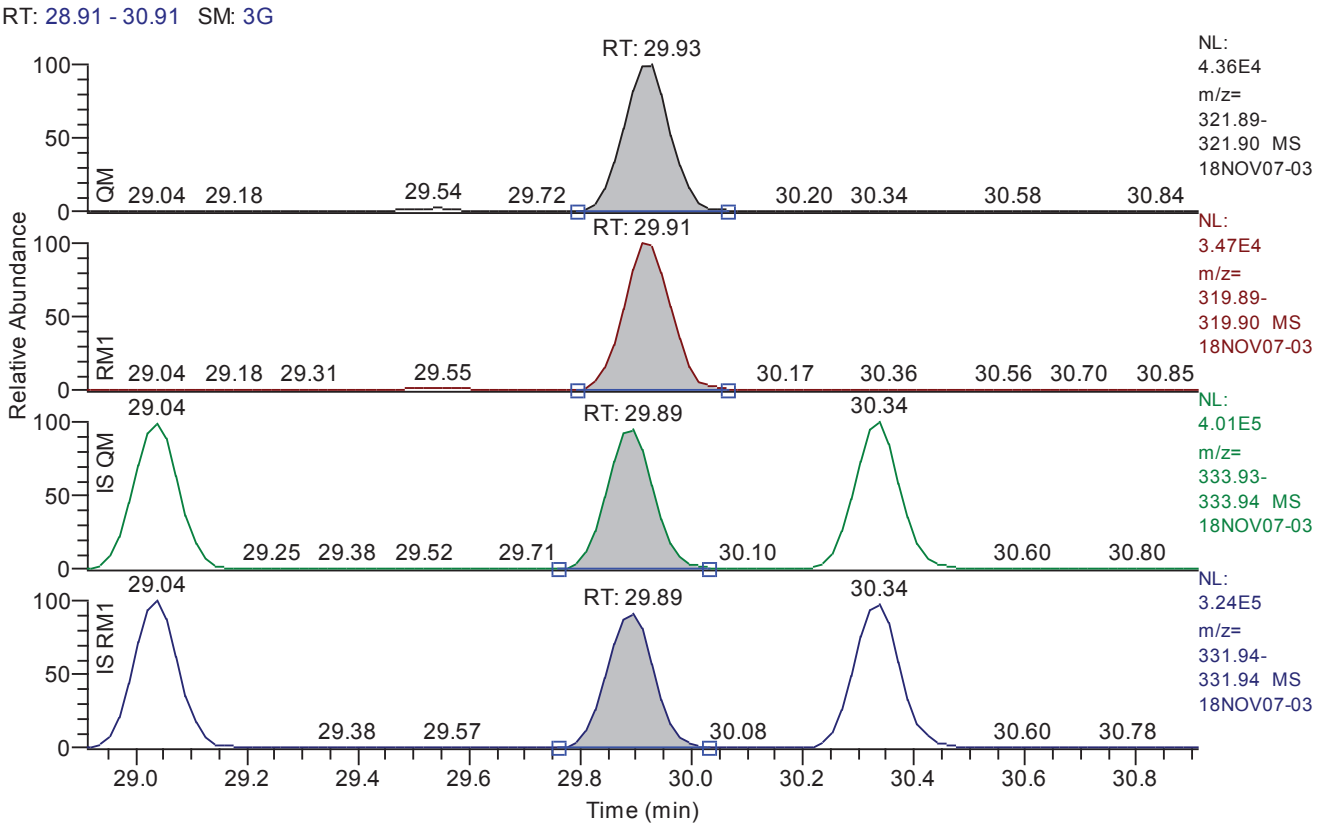
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	29.93
QM Area	260909
QM Integration Mode	A
RM1 Area	208699
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0078
Unqualified Amount (A)	10.528333
Adjusted Amount (A)	10.5283
Signal-to-Noise	3355
Client Flags	
Status Overview	passed
Status Info	

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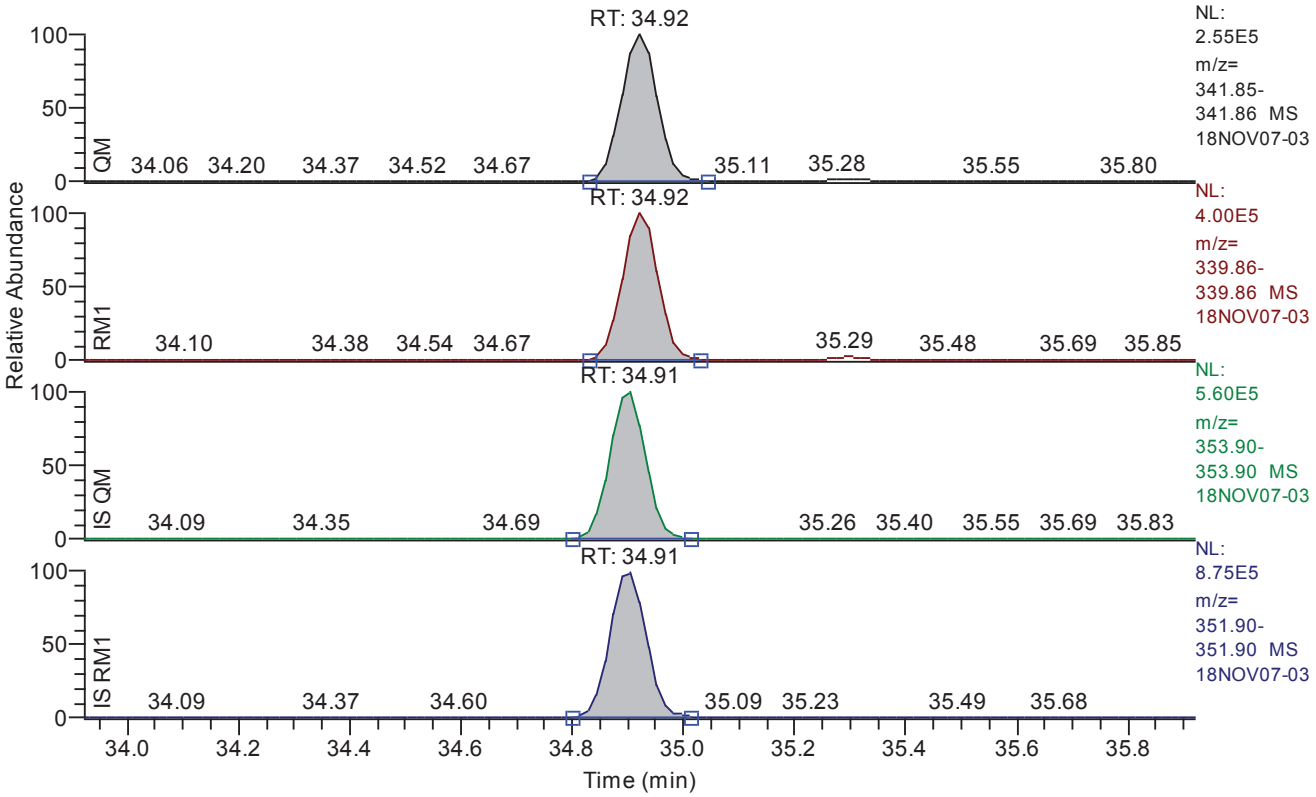
Chromatogram

RT: 33.92 - 35.92 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	34.92
QM Area	1144783
QM Integration Mode	A
RM1 Area	1789233
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	52.951228
Adjusted Amount (A)	52.9512
Signal-to-Noise	14415
Client Flags	
Status Overview	passed
Status Info	

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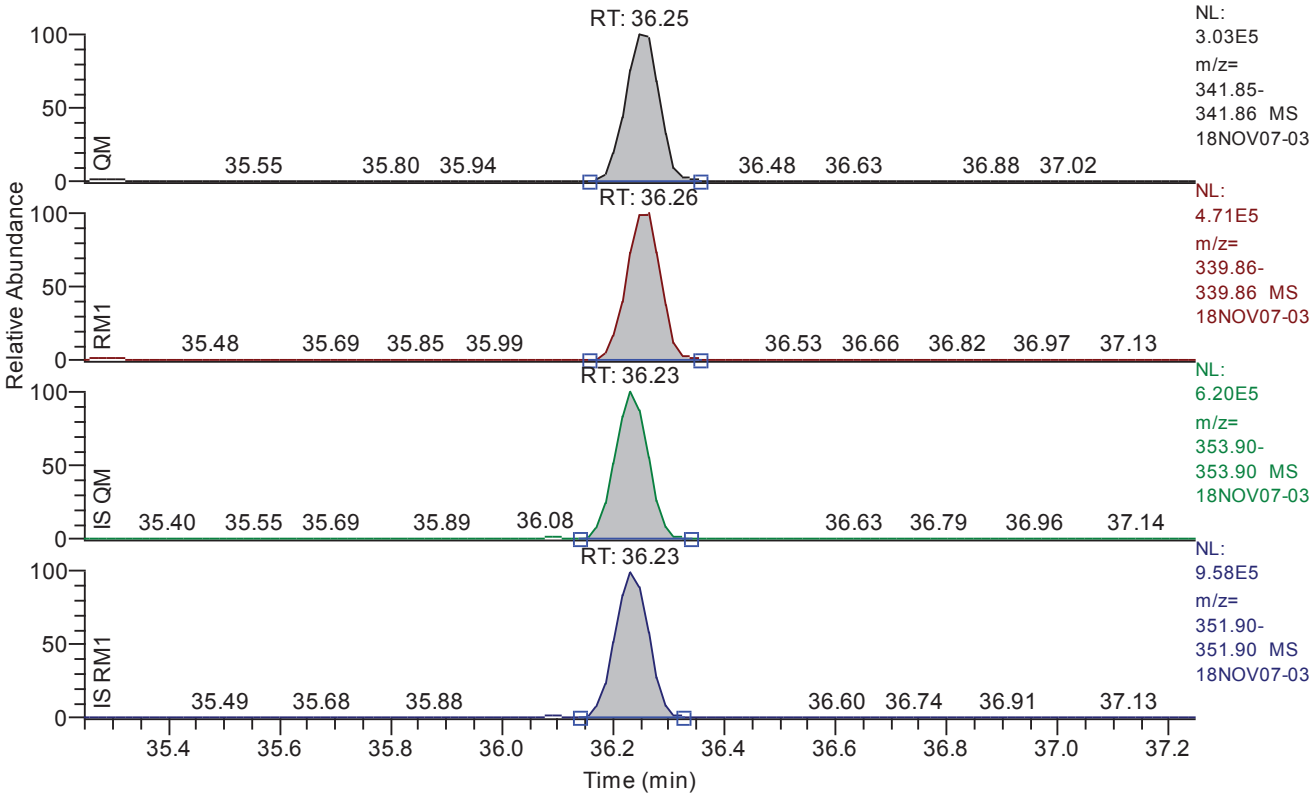
Chromatogram

RT: 35.25 - 37.25 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.25
QM Area	1295072
QM Integration Mode	A
RM1 Area	2023379
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	52.705020
Adjusted Amount (A)	52.7050
Signal-to-Noise	17042
Client Flags	
Status Overview	passed
Status Info	

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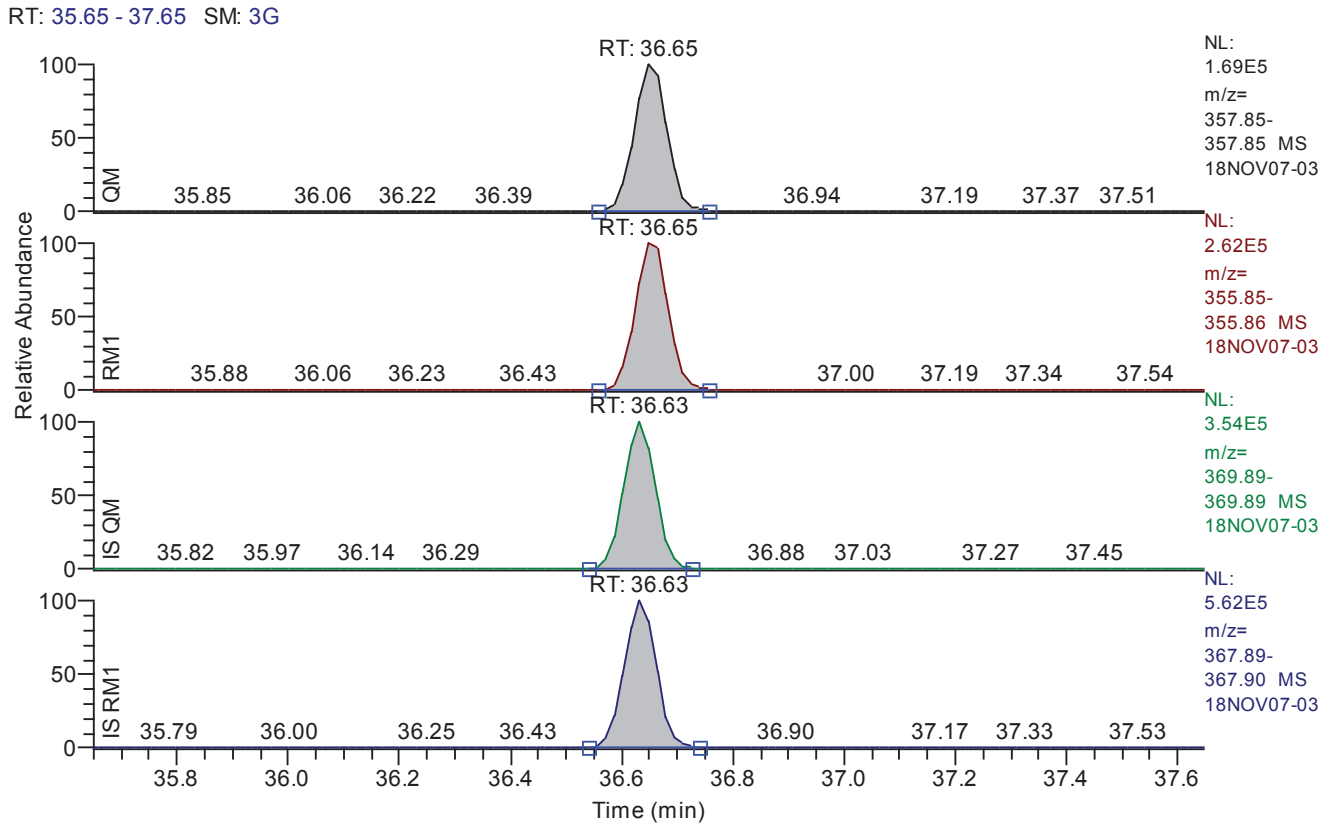
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.65
QM Area	694485
QM Integration Mode	A
RM1 Area	1085396
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0139
Unqualified Amount (A)	54.235252
Adjusted Amount (A)	54.2353
Signal-to-Noise	9461
Client Flags	
Status Overview	passed
Status Info	

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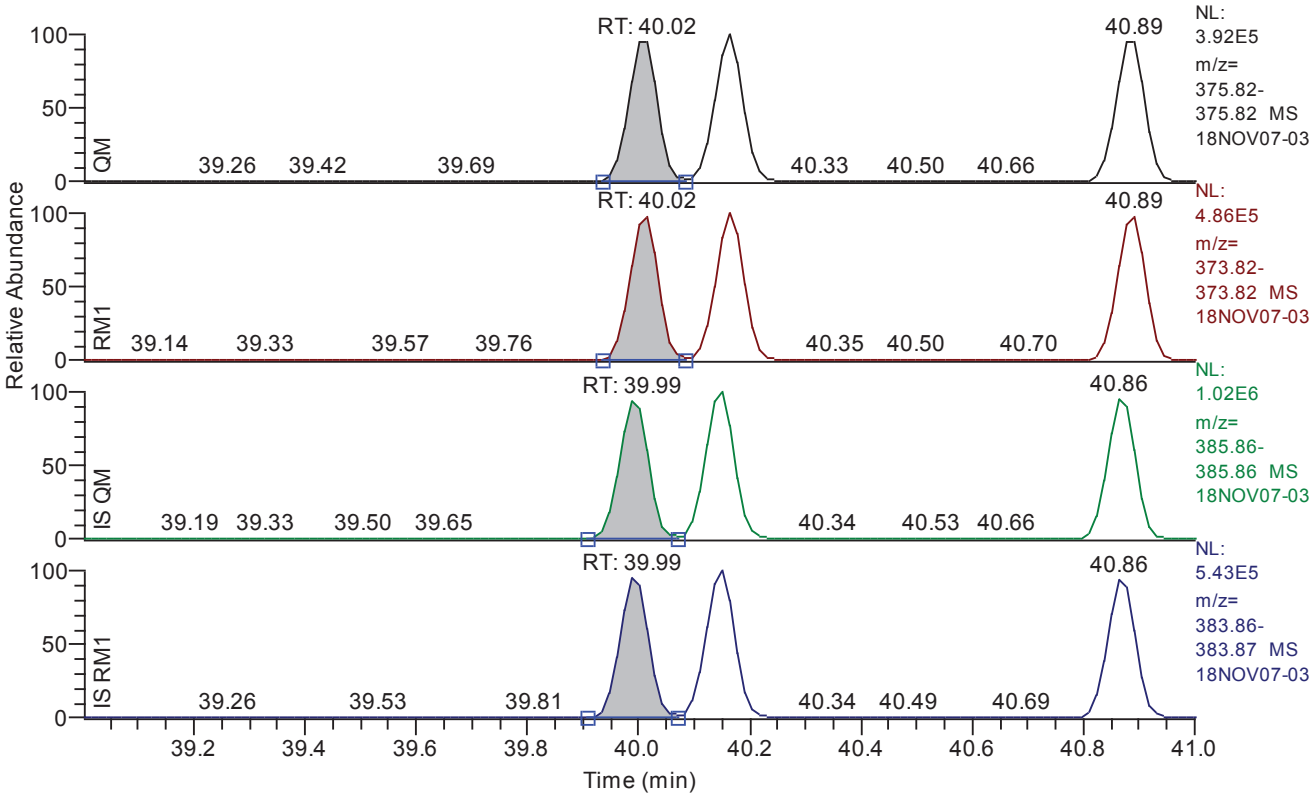
Chromatogram

RT: 39.00 - 41.00 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.02
QM Area	1368030
QM Integration Mode	A
RM1 Area	1700266
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	53.661242
Adjusted Amount (A)	53.6612
Signal-to-Noise	11655
Client Flags	
Status Overview	passed
Status Info	

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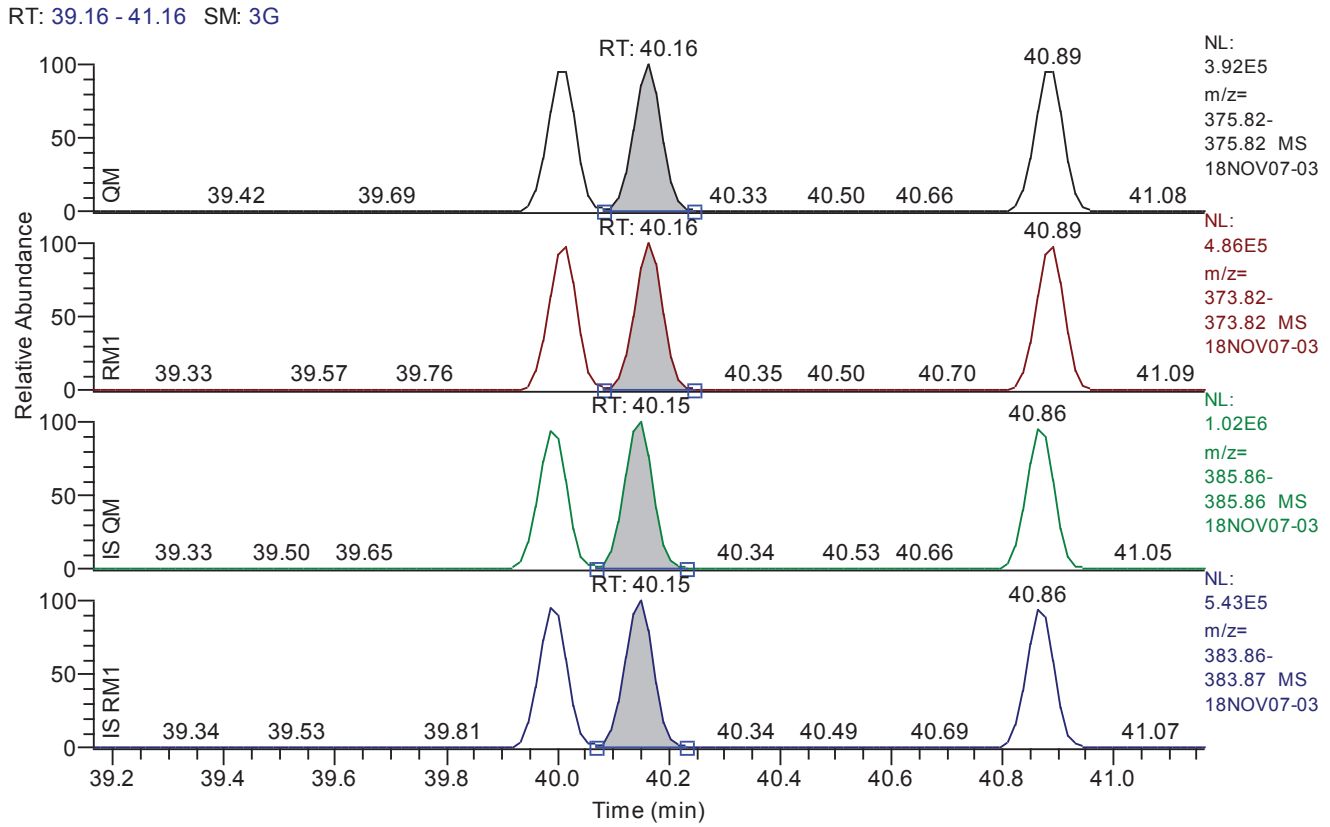
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.16
QM Area	1383564
QM Integration Mode	A
RM1 Area	1717282
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	52.880290
Adjusted Amount (A)	52.8803
Signal-to-Noise	11997
Client Flags	
Status Overview	passed
Status Info	

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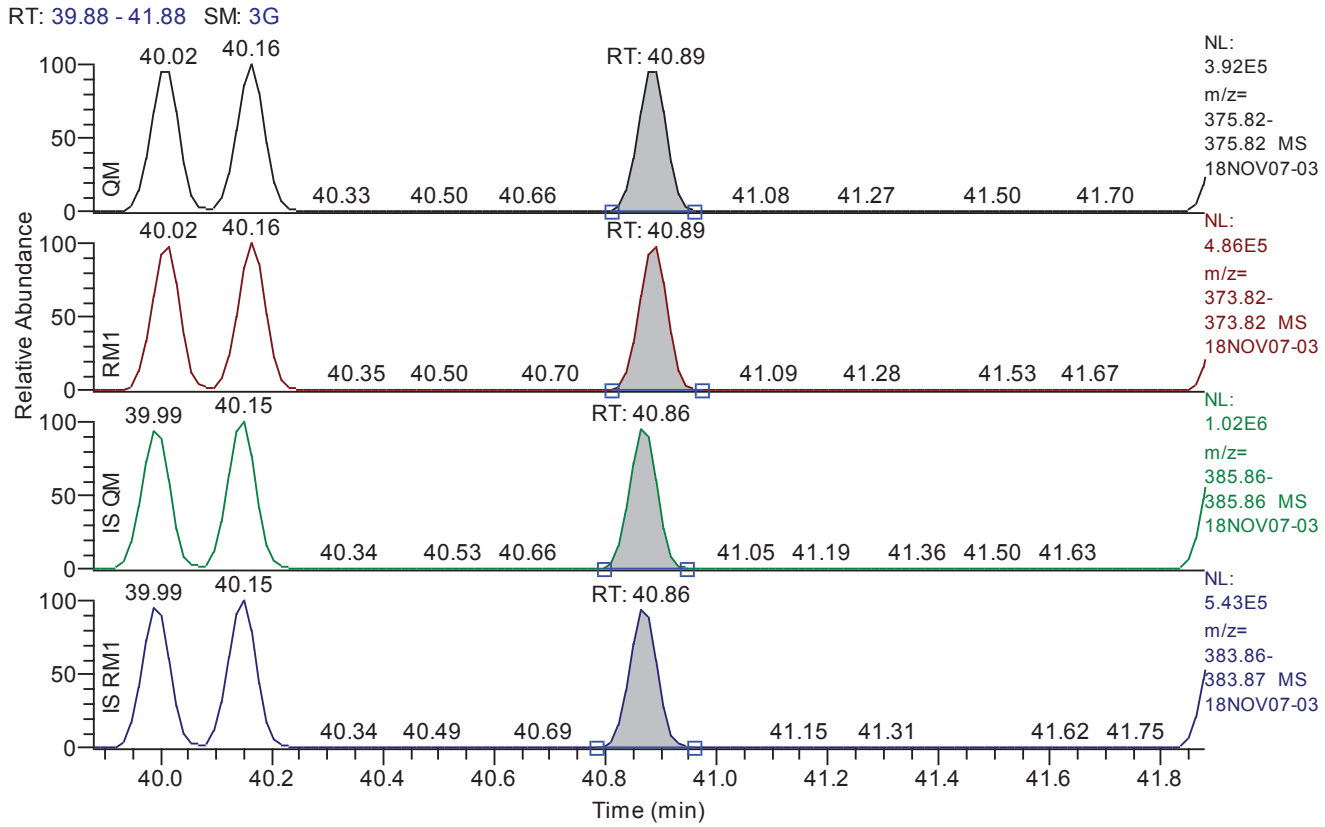
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.89
QM Area	1365832
QM Integration Mode	A
RM1 Area	1711908
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	52.955189
Adjusted Amount (A)	52.9552
Signal-to-Noise	11629
Client Flags	
Status Overview	passed
Status Info	

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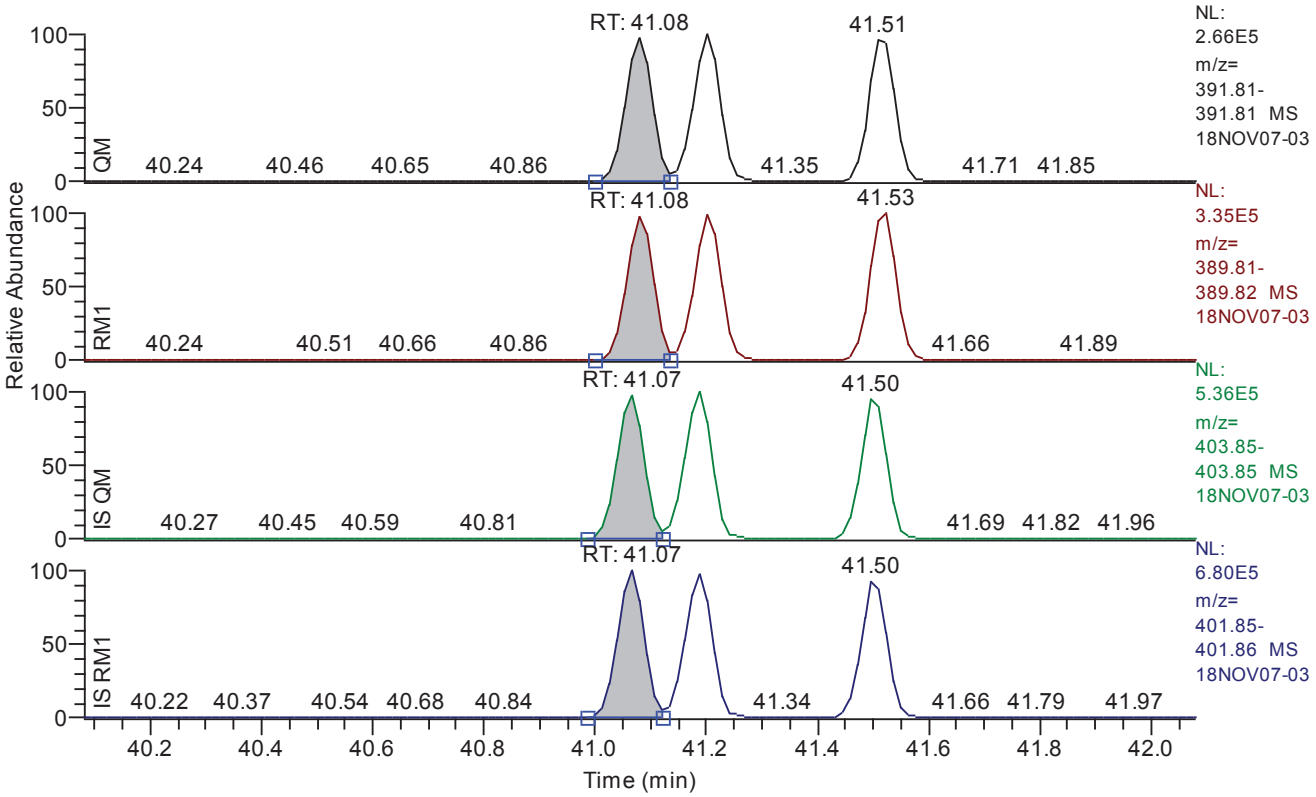
Chromatogram

RT: 40.08 - 42.08 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.08
QM Area	875722
QM Integration Mode	A
RM1 Area	1103217
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0096
Unqualified Amount (A)	54.038691
Adjusted Amount (A)	54.0387
Signal-to-Noise	14081
Client Flags	
Status Overview	passed
Status Info	

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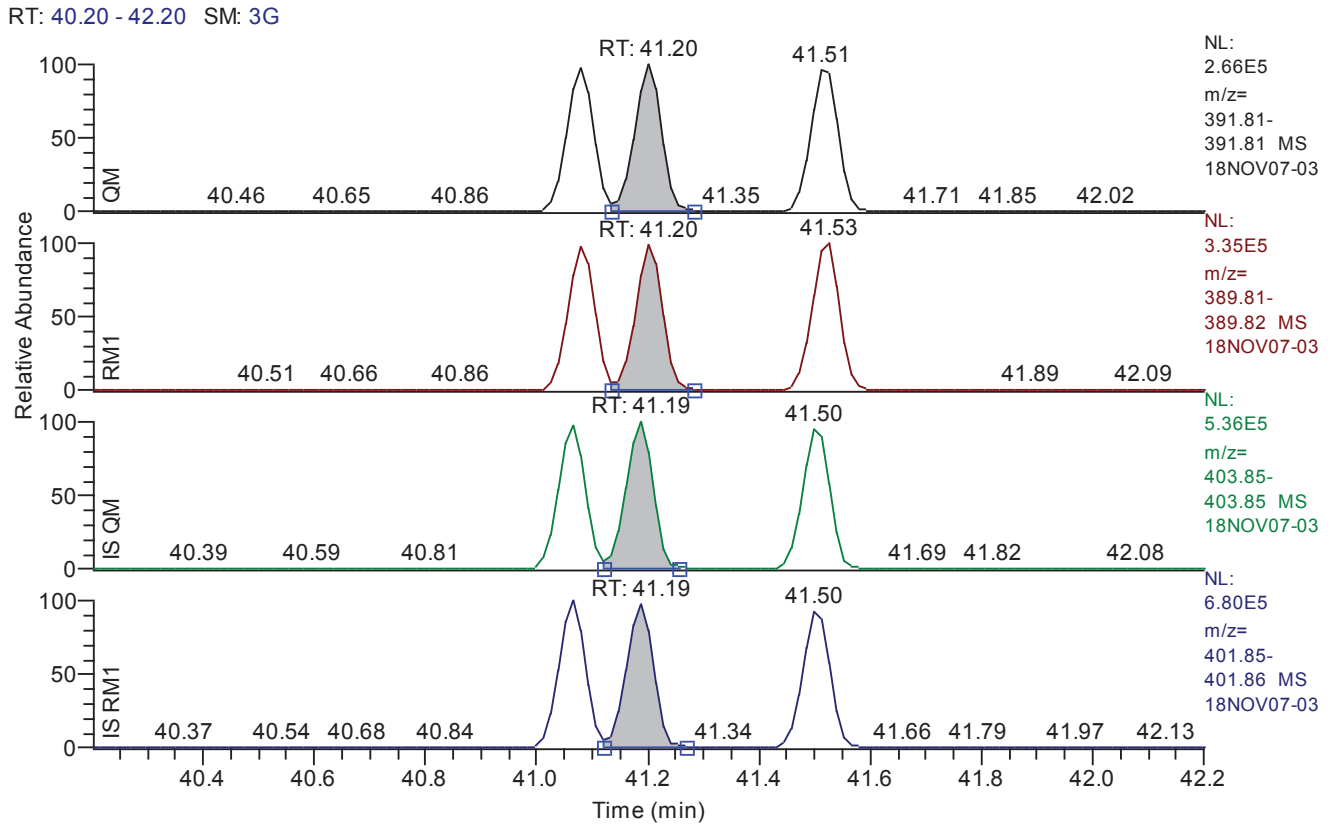
Chromatogram



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.20
QM Area	895718
QM Integration Mode	A
RM1 Area	1118564
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	54.465640
Adjusted Amount (A)	54.4656
Signal-to-Noise	14228
Client Flags	
Status Overview	passed
Status Info	

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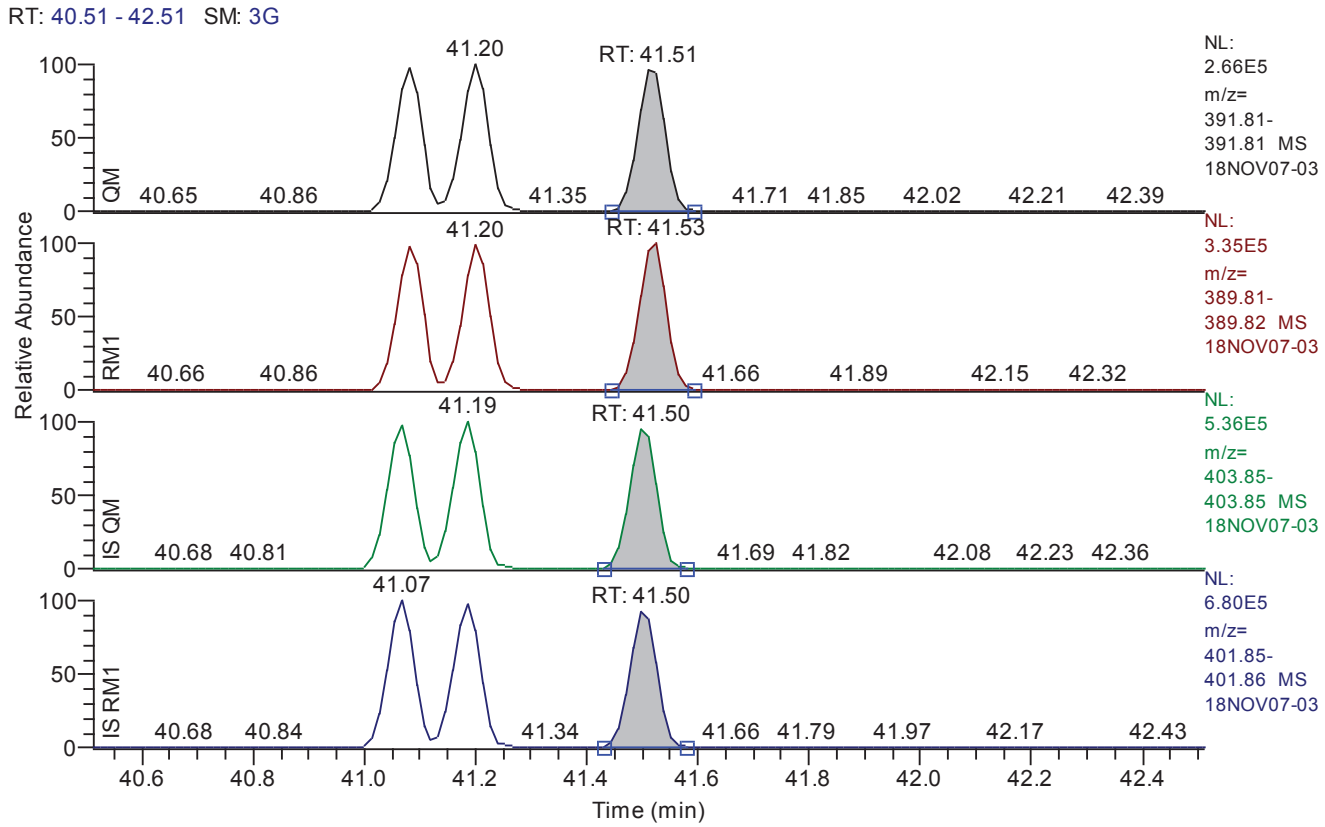
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.51
QM Area	891474
QM Integration Mode	A
RM1 Area	1150293
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	54.571429
Adjusted Amount (A)	54.5714
Signal-to-Noise	14109
Client Flags	
Status Overview	passed
Status Info	

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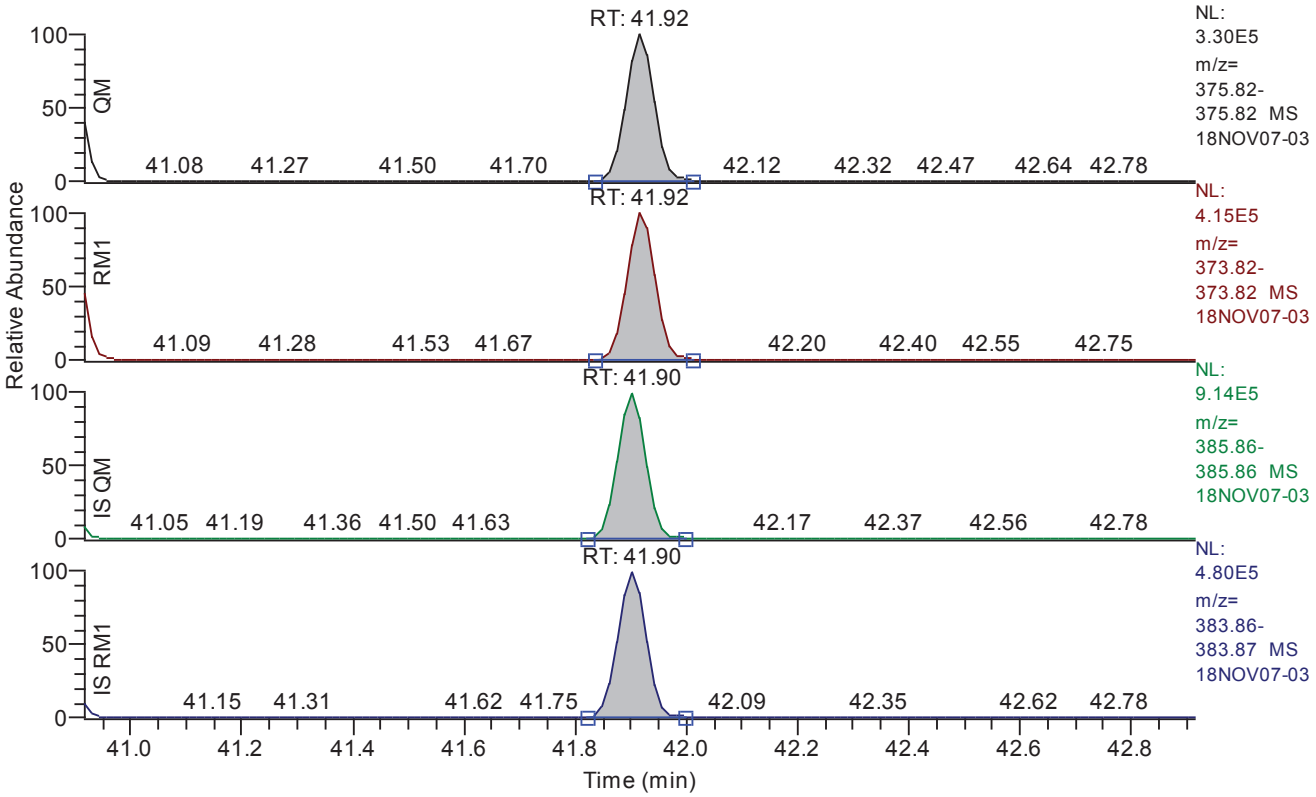
Chromatogram

RT: 40.92 - 42.92 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.92
QM Area	1176795
QM Integration Mode	A
RM1 Area	1482737
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0129
Unqualified Amount (A)	52.962191
Adjusted Amount (A)	52.9622
Signal-to-Noise	10210
Client Flags	
Status Overview	passed
Status Info	

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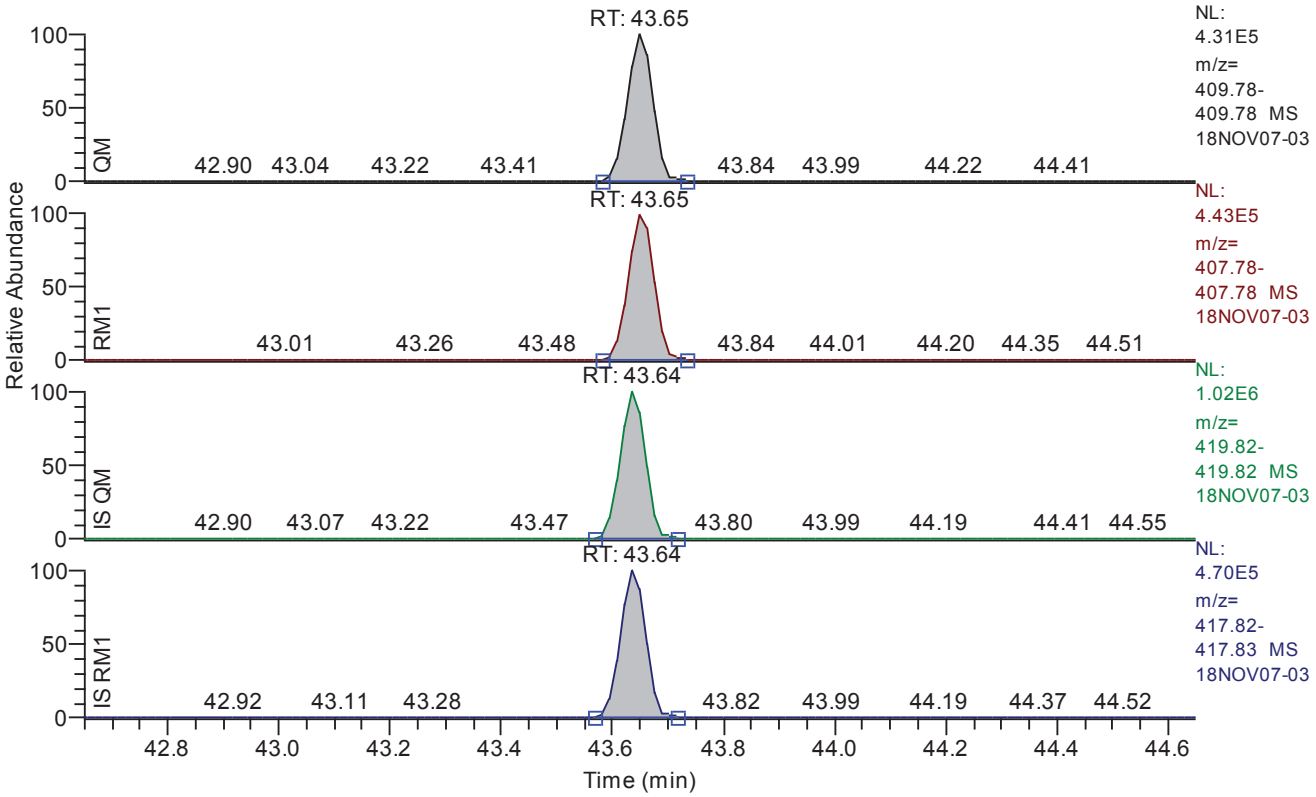
Chromatogram

RT: 42.65 - 44.65 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.65
QM Area	1414445
QM Integration Mode	A
RM1 Area	1462257
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0126
Unqualified Amount (A)	51.579814
Adjusted Amount (A)	51.5798
Signal-to-Noise	10112
Client Flags	
Status Overview	passed
Status Info	

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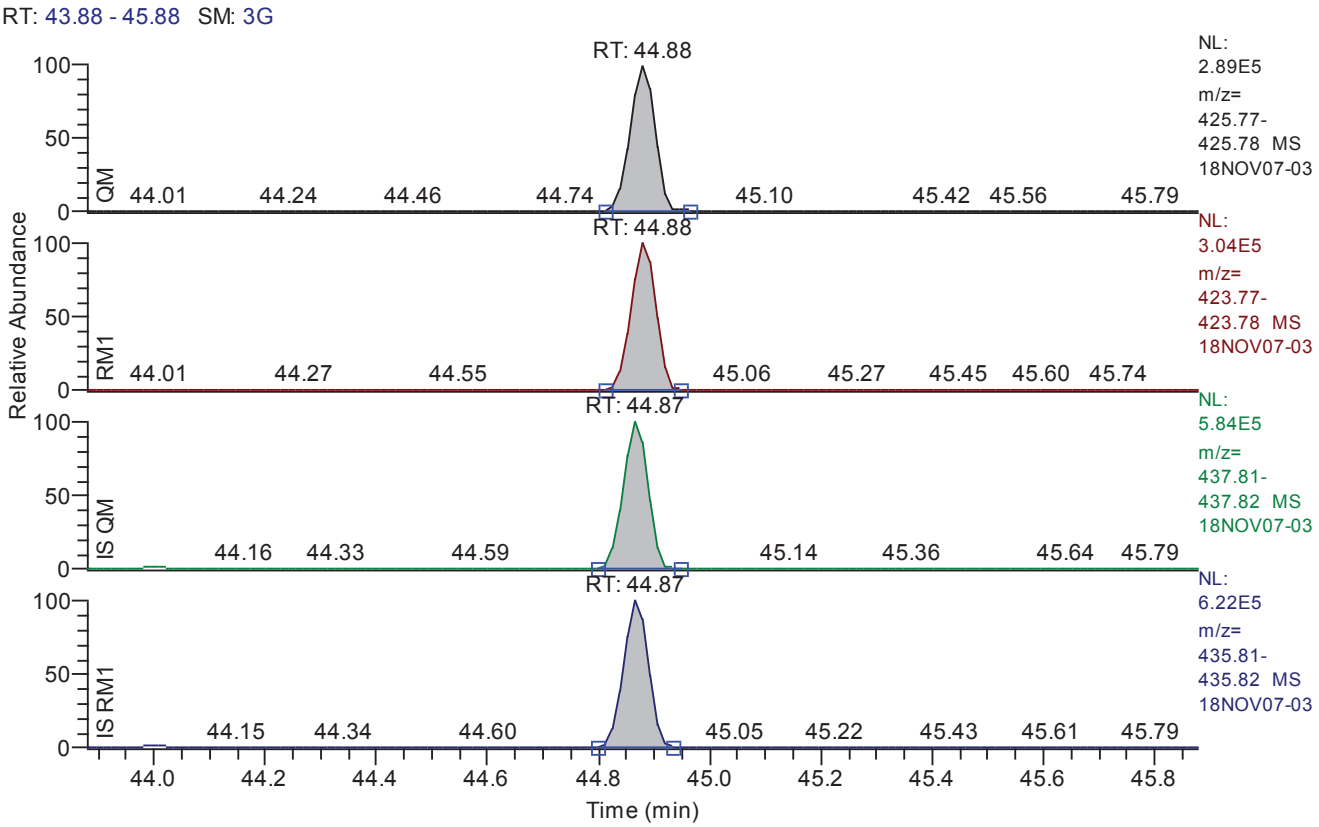
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.88
QM Area	929345
QM Integration Mode	A
RM1 Area	976982
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0184
Unqualified Amount (A)	52.450444
Adjusted Amount (A)	52.4504
Signal-to-Noise	7132
Client Flags	
Status Overview	passed
Status Info	

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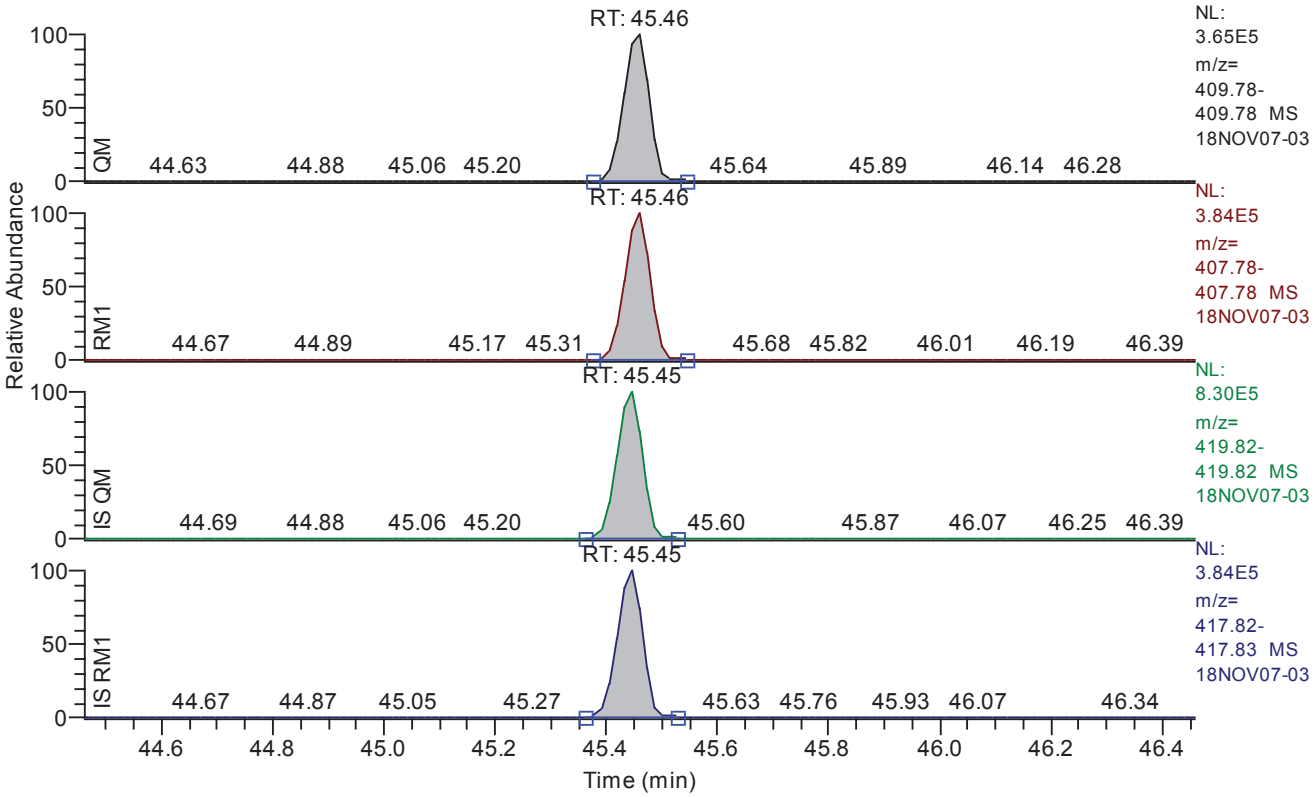
Chromatogram

RT: 44.46 - 46.46 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.46
QM Area	1210187
QM Integration Mode	A
RM1 Area	1262832
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0151
Unqualified Amount (A)	52.061459
Adjusted Amount (A)	52.0615
Signal-to-Noise	8662
Client Flags	
Status Overview	passed
Status Info	

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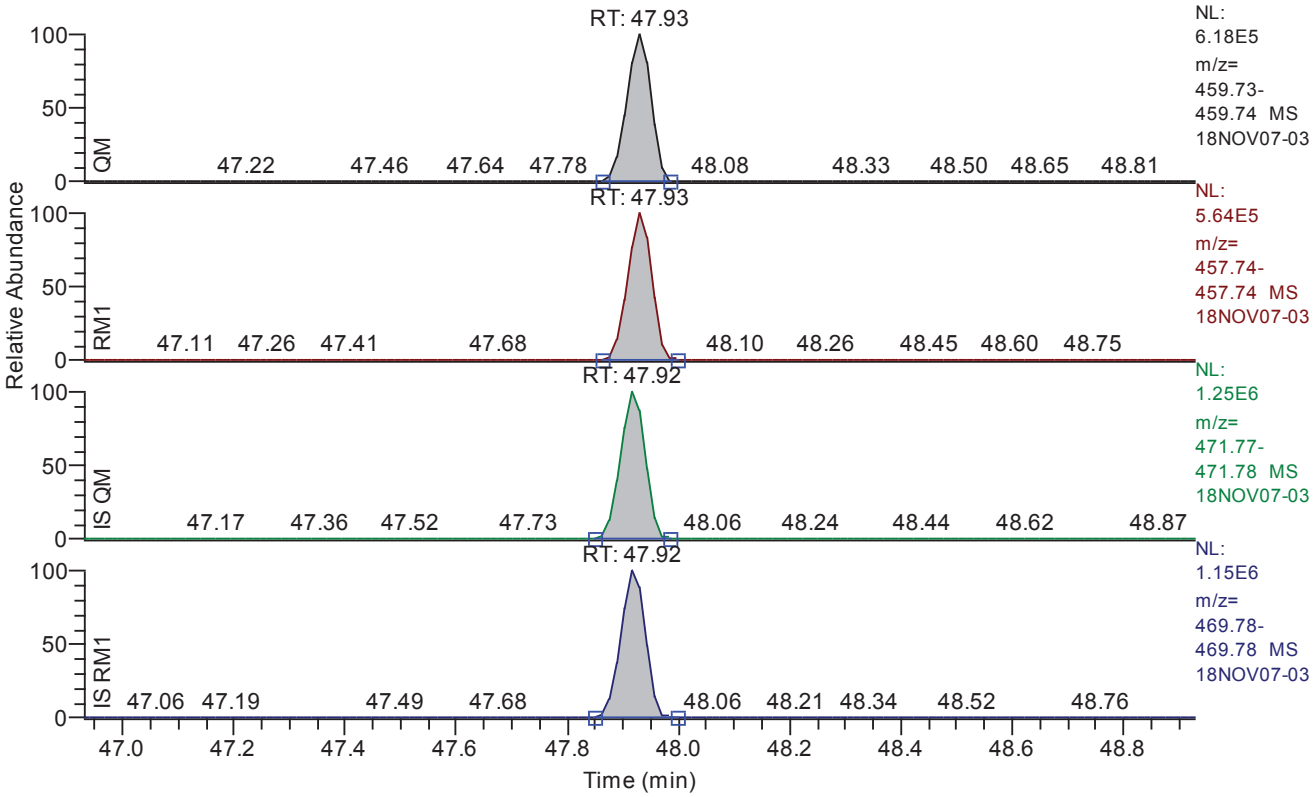
Chromatogram

RT: 46.93 - 48.93 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	47.93
QM Area	1880618
QM Integration Mode	A
RM1 Area	1714109
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0134
Unqualified Amount (A)	106.210925
Adjusted Amount (A)	106.2109
Signal-to-Noise	20175
Client Flags	
Status Overview	passed
Status Info	

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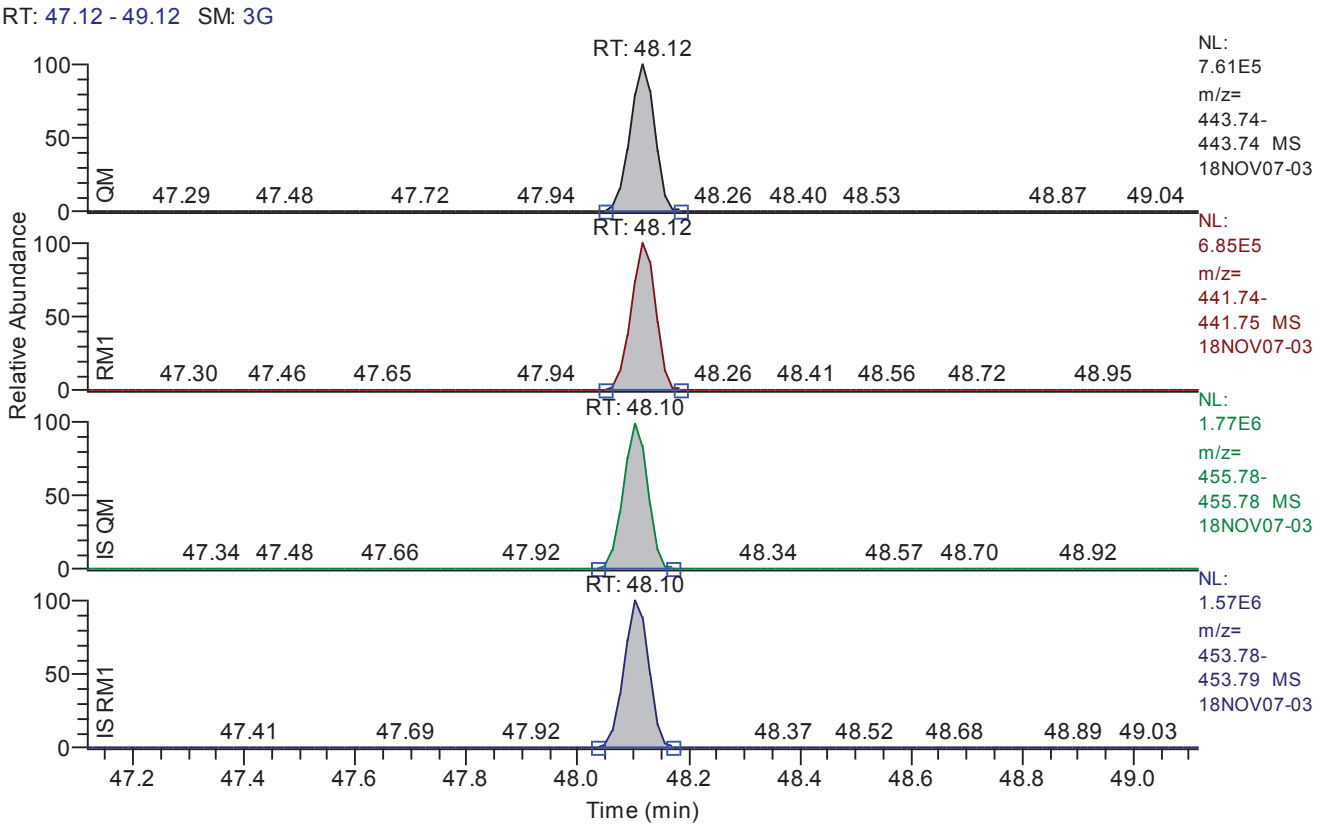
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.12
QM Area	2315117
QM Integration Mode	A
RM1 Area	2090820
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0089
Unqualified Amount (A)	102.261740
Adjusted Amount (A)	102.2617
Signal-to-Noise	28589
Client Flags	
Status Overview	passed
Status Info	

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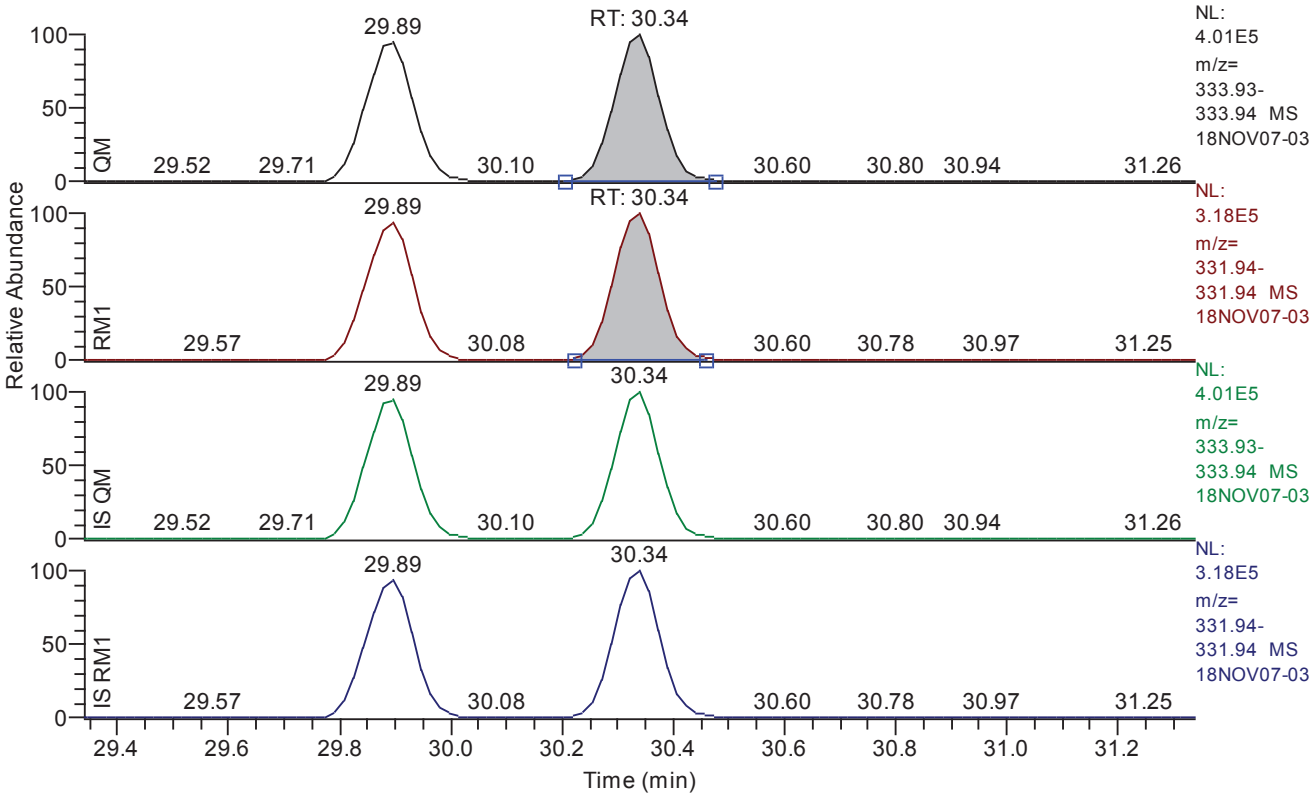
Chromatogram

RT: 29.34 - 31.34 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.34
QM Area	2316990
QM Integration Mode	A
RM1 Area	1857524
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0151
Unqualified Amount (A)	97.048524
Adjusted Amount (A)	97.0485
Signal-to-Noise	15841
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.80	28.80	28.82	28.78	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.93	29.93	29.91	29.89	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.92	34.92	34.91	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.25	36.25	36.26	36.23	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.65	36.65	36.65	36.63	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.02	40.02	40.02	39.99	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.16	40.16	40.15	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.89	40.89	40.89	40.86	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.08	41.08	41.07	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.20	41.20	41.19	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.51	41.53	41.50	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.92	41.92	41.92	41.90	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.65	43.65	43.65	43.64	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.88	44.88	44.88	44.87	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.46	45.46	45.46	45.45	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.93	47.93	47.92	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.12	48.12	48.12	48.10	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.34	30.34	30.34	30.34	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.04	29.04	29.04	29.04	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.91	39.91	39.91	39.91	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.78	28.78	28.78	28.82	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.89	29.89	29.89	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.91	34.91	34.91	34.97	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.23	36.23	36.23	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.63	36.63	36.63	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	39.99	39.99	40.02	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.15	40.15	40.15	40.16	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.86	40.86	40.88	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.07	41.07	41.07	41.07	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.19	41.19	41.19	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.50	41.50	41.50	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.90	41.90	41.90	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.64	43.64	43.64	43.62	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.87	44.87	44.87	44.87	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.45	45.45	45.45	45.38	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.92	47.92	47.92	47.92	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.10	48.10	48.12	passed	passed

APPROVED
By AQ46 at 6:36 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	28.80	0.7948	0.6450 - 0.8950	passed	0.9376	0.9233	0.7340 - 1.1126	passed
2	2378-TCDD	29.93	0.7999	0.6450 - 0.8950	passed	1.1520	1.0942	0.8699 - 1.3185	passed
3	12378-PeCDF	34.92	1.5629	1.3150 - 1.7850	passed	0.9003	0.8501	0.6758 - 1.0244	passed
4	23478-PeCDF	36.25	1.5624	1.3150 - 1.7850	passed	1.0023	0.9509	0.7560 - 1.1458	passed
5	12378-PeCDD	36.65	1.5629	1.3150 - 1.7850	passed	0.9716	0.8957	0.7121 - 1.0793	passed
6	123478-HxCDF	40.02	1.2429	1.0450 - 1.4350	passed	1.1462	1.0680	0.8491 - 1.2869	passed
7	123678-HxCDF	40.16	1.2412	1.0450 - 1.4350	passed	1.1040	1.0439	0.8299 - 1.2579	passed
8	234678-HxCDF	40.89	1.2534	1.0450 - 1.4350	passed	1.1739	1.1084	0.8812 - 1.3356	passed
9	123478-HxCDD	41.08	1.2598	1.0450 - 1.4350	passed	0.9842	0.9107	0.7240 - 1.0974	passed
10	123678-HxCDD	41.20	1.2488	1.0450 - 1.4350	passed	0.9850	0.9043	0.7189 - 1.0897	passed
11	123789-HxCDD	41.51	1.2903	1.0450 - 1.4350	passed	1.0414	0.9541	0.7585 - 1.1497	passed
12	123789-HxCDF	41.92	1.2600	1.0450 - 1.4350	passed	1.0781	1.0178	0.8092 - 1.2264	passed
13	1234678-HpCDF	43.65	1.0338	0.8750 - 1.2050	passed	1.1840	1.1477	0.9124 - 1.3830	passed
14	1234678-HpCDD	44.88	1.0513	0.8750 - 1.2050	passed	0.9825	0.9366	0.7446 - 1.1286	passed
15	1234789-HpCDF	45.46	1.0435	0.8750 - 1.2050	passed	1.2300	1.1813	0.9391 - 1.4235	passed
16	OCDD	47.93	0.9115	0.7550 - 1.0250	passed	0.9686	0.9120	0.7250 - 1.0990	passed
17	OCDF	48.12	0.9031	0.7550 - 1.0250	passed	0.8651	0.8459	0.6725 - 1.0193	passed
18	13C12-1278-TCDD (CRS)	30.34	0.8017	0.6450 - 0.8950	passed	1.0020	1.0324	0.7175 - 1.3473	passed
19	13C12-1234-TCDD	29.04	0.8039	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	39.91	1.2723	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	28.78	0.7858	0.6450 - 0.8950	passed	1.8286	1.7703	1.2304 - 2.3102	passed
22	13C12-2378-TCDD	29.89	0.7828	0.6450 - 0.8950	passed	0.9785	0.9769	0.6789 - 1.2749	passed
23	13C12-12378-PeCDF	34.91	1.5764	1.3150 - 1.7850	passed	1.5645	1.6320	1.1342 - 2.1298	passed
24	13C12-23478-PeCDF	36.23	1.5593	1.3150 - 1.7850	passed	1.5892	1.6333	1.1351 - 2.1315	passed
25	13C12-12378-PeCDD	36.63	1.6014	1.3150 - 1.7850	passed	0.8794	0.9751	0.6777 - 1.2725	passed
26	13C12-123478-HxCDF	39.99	0.5368	0.4250 - 0.5950	passed	1.3145	1.2659	0.8798 - 1.6520	passed
27	13C12-123678-HxCDF	40.15	0.5312	0.4250 - 0.5950	passed	1.3792	1.3355	0.9282 - 1.7428	passed
28	13C12-234678-HxCDF	40.86	0.5297	0.4250 - 0.5950	passed	1.2874	1.2366	0.8594 - 1.6138	passed
29	13C12-123478-HxCDD	41.07	1.2884	1.0450 - 1.4350	passed	0.9873	0.9892	0.6875 - 1.2909	passed
30	13C12-123678-HxCDD	41.19	1.2503	1.0450 - 1.4350	passed	1.0041	1.0149	0.7054 - 1.3244	passed
31	13C12-123789-HxCDD	41.50	1.2425	1.0450 - 1.4350	passed	0.9628	0.9622	0.6687 - 1.2557	passed
32	13C12-123789-HxCDF	41.90	0.5322	0.4250 - 0.5950	passed	1.2113	1.1265	0.7829 - 1.4701	passed
33	13C12-1234678-HpCDF	43.64	0.4617	0.3650 - 0.5150	passed	1.1931	1.1645	0.8093 - 1.5197	passed
34	13C12-1234678-HpCDD	44.87	1.0664	0.8750 - 1.2050	passed	0.9528	0.9693	0.6737 - 1.2649	passed
35	13C12-1234789-HpCDF	45.45	0.4553	0.3650 - 0.5150	passed	0.9873	0.9563	0.6646 - 1.2480	passed
36	13C12-OCDD	47.92	0.9135	0.7550 - 1.0250	passed	0.9112	0.9422	0.6548 - 1.2296	passed
37	13C12-OCDF	48.10	0.9010	0.7550 - 1.0250	passed	1.2505	1.2582	0.8744 - 1.6420	passed

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.80	397988	A	316326	A	0.0090	10.155087	10.1551	10.000000	2785	
2	2378-TCDD	passed	29.93	260909	A	208699	A	0.0078	10.528333	10.5283	10.000000	3355	
3	12378-PeCDF	passed	34.92	1144783	A	1789233	A	0.0093	52.951228	52.9512	50.000000	14415	
4	23478-PeCDF	passed	36.25	1295072	A	2023379	A	0.0076	52.705020	52.7050	50.000000	17042	
5	12378-PeCDD	passed	36.65	694485	A	1085396	A	0.0139	54.235252	54.2353	50.000000	9461	
6	123478-HxCDF	passed	40.02	1368030	A	1700266	A	0.0115	53.661242	53.6612	50.000000	11655	
7	123678-HxCDF	passed	40.16	1383564	A	1717282	A	0.0112	52.880290	52.8803	50.000000	11997	
8	234678-HxCDF	passed	40.89	1365832	A	1711908	A	0.0111	52.955189	52.9552	50.000000	11629	
9	123478-HxCDD	passed	41.08	875722	A	1103217	A	0.0096	54.038691	54.0387	50.000000	14081	
10	123678-HxCDD	passed	41.20	895718	A	1118564	A	0.0097	54.465640	54.4656	50.000000	14228	
11	123789-HxCDD	passed	41.51	891474	A	1150293	A	0.0097	54.571429	54.5714	50.000000	14109	
12	123789-HxCDF	passed	41.92	1176795	A	1482737	A	0.0129	52.962191	52.9622	50.000000	10210	
13	1234678-HpCDF	passed	43.65	1414445	A	1462257	A	0.0126	51.579814	51.5798	50.000000	10112	
14	1234678-HpCDD	passed	44.88	929345	A	976982	A	0.0184	52.450444	52.4504	50.000000	7132	
15	1234789-HpCDF	passed	45.46	1210187	A	1262832	A	0.0151	52.061459	52.0615	50.000000	8662	
16	OCDD	passed	47.93	1880618	A	1714109	A	0.0134	106.210925	106.2109	100.000000	20175	
17	OCDF	passed	48.12	2315117	A	2090820	A	0.0089	102.261740	102.2617	100.000000	28589	
18	13C12-1278-TCDD (CRS)	passed	30.34	2316990	A	1857524	A	0.0151	97.048524	97.0485	100.000000	15841	
19	13C12-1234-TCDD	passed	29.04	2309639	A	1856711	A	0.0156	100.000000	100.0000	100.000000	15984	
20	13C12-123468-HxCDD	passed	39.91	1792438	A	2280472	A	0.0177	100.000000	100.0000	100.000000	14099	
21	13C12-2378-TCDF	passed	28.78	4266177	A	3352338	A	0.0098	103.292526	103.2925	100.000000	25921	
22	13C12-2378-TCDD	passed	29.89	2286673	A	1789905	A	0.0160	100.160164	100.1602	100.000000	15041	
23	13C12-12378-PeCDF	passed	34.91	2529944	A	3988111	A	0.0228	95.859523	95.8595	100.000000	13329	
24	13C12-23478-PeCDF	passed	36.23	2587132	A	4034240	A	0.0227	97.301803	97.3018	100.000000	14658	
25	13C12-12378-PeCDD	passed	36.63	1408383	A	2255389	A	0.0162	90.183185	90.1832	100.000000	20063	
26	13C12-123478-HxCDF	passed	39.99	3483920	A	1870076	A	0.0207	103.843266	103.8433	100.000000	12536	
27	13C12-123678-HxCDF	passed	40.15	3668575	A	1948646	A	0.0196	103.270681	103.2707	100.000000	13164	
28	13C12-234678-HxCDF	passed	40.86	3427826	A	1815758	A	0.0212	104.114566	104.1146	100.000000	12513	
29	13C12-123478-HxCDD	passed	41.07	1757288	A	2264027	A	0.0179	99.811439	99.8114	100.000000	15054	
30	13C12-123678-HxCDD	passed	41.19	1817426	A	2272371	A	0.0175	98.939078	98.9391	100.000000	14986	
31	13C12-123789-HxCDD	passed	41.50	1748642	A	2172660	A	0.0184	100.064939	100.0649	100.000000	14238	
32	13C12-123789-HxCDF	passed	41.90	3219977	A	1713733	A	0.0233	107.532929	107.5329	100.000000	11799	
33	13C12-1234678-HpCDF	passed	43.64	3324458	A	1534969	A	0.0297	102.455501	102.4555	100.000000	9574	
34	13C12-1234678-HpCDD	passed	44.87	1878009	A	2002691	A	0.0245	98.303043	98.3030	100.000000	11260	
35	13C12-1234789-HpCDF	passed	45.45	2763226	A	1258045	A	0.0361	103.247737	103.2477	100.000000	7797	
36	13C12-OCDD	passed	47.92	3878954	A	3543341	A	0.0091	193.415183	193.4152	200.000000	62021	
37	13C12-OCDF	passed	48.10	5358573	A	4827865	A	0.0124	198.783345	198.7833	200.000000	47741	

APPROVED
By AQ46 at 6:36 pm, 11/8/18

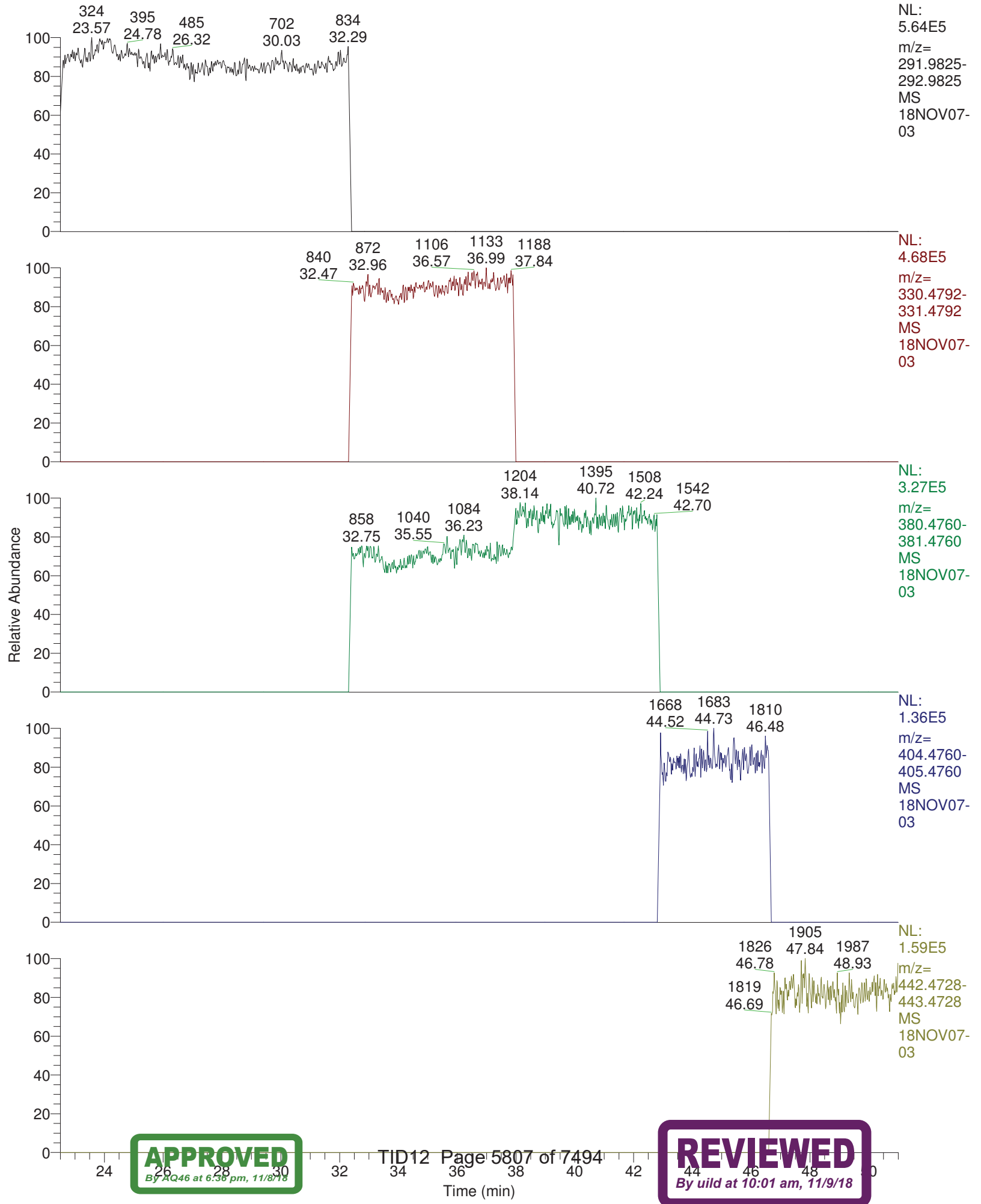
REVIEWED
By uild at 10:01 am, 11/9/18

File Name: W:\18NOV07\18NOV07-03
Sample ID: CS3CC02

Acq. Data: 11/7/2018 4:56:39 PM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV07

RT: 22.50 - 51.00



APPROVED
By AQ46 at 6:36 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

*** file opened Wed Nov 07 17:02:24 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 07-Nov-18 17:02:23

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a0a01fd6-72e8-45b2-b305-4c3908038902

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.500000 minutes
MID Window end time was 22.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
```

```
MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS          98.5000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ        1449.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS           210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR          -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             232.6644   FMII           50.0000   FQUAD           7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0185   FVINLET         0.0426   FVSRC           0.0327
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII          500.0000
 LMASS           98.5000   LKM           442.9723   MASS           98.5000
 MDAC        1445679.6411  MRANGE       1311.4489   NSAM          200.0000
 NSCAN          2167.0000  NSMAX           2.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER          -1.0000   RECURR          0.9817   RELEN           0.0000
 RES          11967.2692   RPUSHER        -1.0476   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0019   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          98.5000   XLENS_POT     752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM       2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11854.
MID Time Window 2: Resolution is 12401.
MID Time Window 3: Resolution is 12146.
MID Time Window 4: Resolution is 11937.
```

```
MID Time Window 5: Resolution is 12446.
MID Time Window 6: Resolution is 11967.

Amplifier Offset: 91.


*** File closed Wed Nov 07 17:53:25 2018
 ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 05:33
Number of Entries	59
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF17280-18NOV07
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-17.quan
Data	w:\18nov07\18nov07-17.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	29.92	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	34.91	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.26	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.66	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.01	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.45	failed	passed	passed	passed	passed	passed	failed on IS RF RF
16	OCDD	47.92	passed	passed	passed	passed	passed	passed	
17	OCDF	48.11	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.33	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.05	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.90	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.79	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.89	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.90	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.23	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.63	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	39.98	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.15	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.86	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.06	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.18	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.49	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.90	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.63	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.86	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.44	failed	passed	passed	passed	passed	passed	Failed on: RF
36	13C12-OCDD	47.91	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.10	passed	passed	passed	passed	passed	passed	

APPROVED
By AQ46 at 6:36 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 05:33
Number of Entries	59
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF17280-18NOV07
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	w:\18nov07\18nov07-17.quan
Data	w:\18nov07\18nov07-17.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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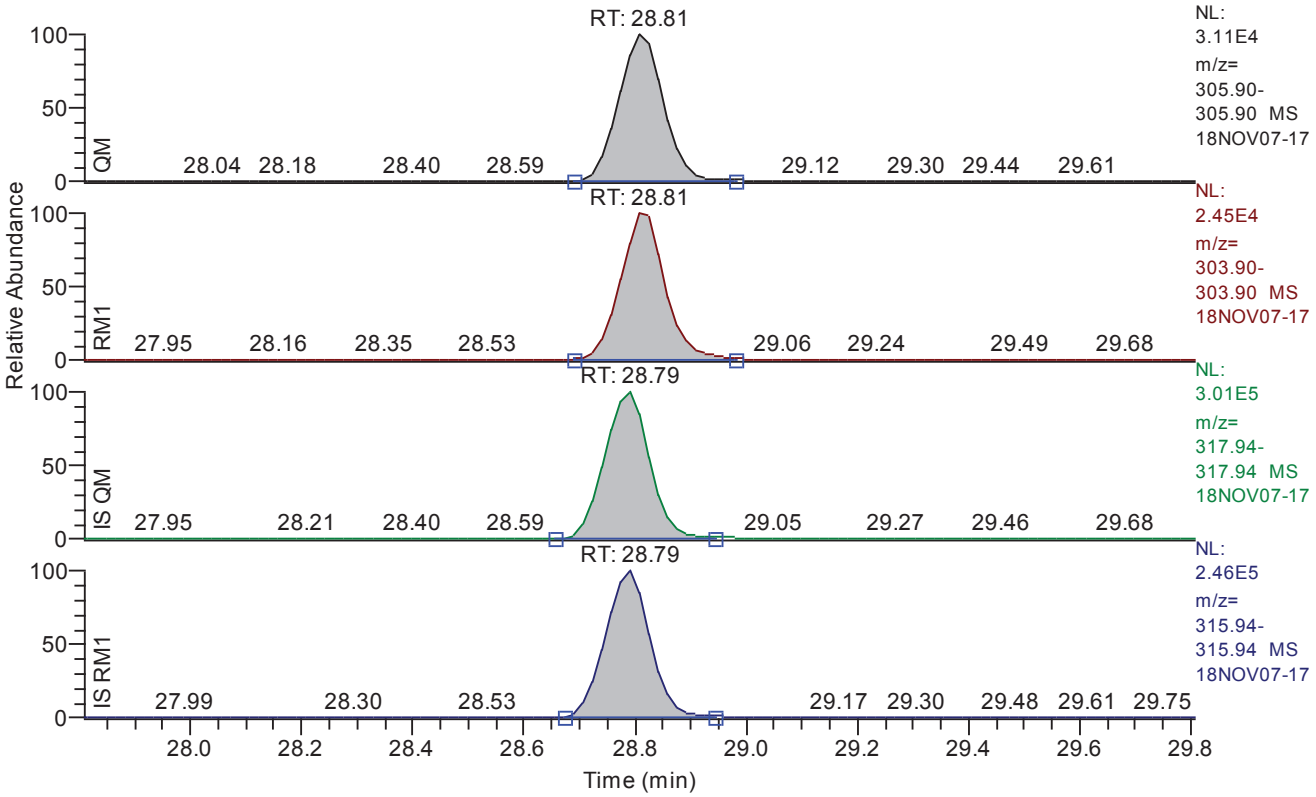
Chromatogram

RT: 27.81 - 29.81 SM: 3G



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	28.81
QM Area	176824
QM Integration Mode	A
RM1 Area	137559
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0140
Unqualified Amount (A)	10.952944
Adjusted Amount (A)	10.9529
Signal-to-Noise	1965
Client Flags	
Status Overview	passed
Status Info	

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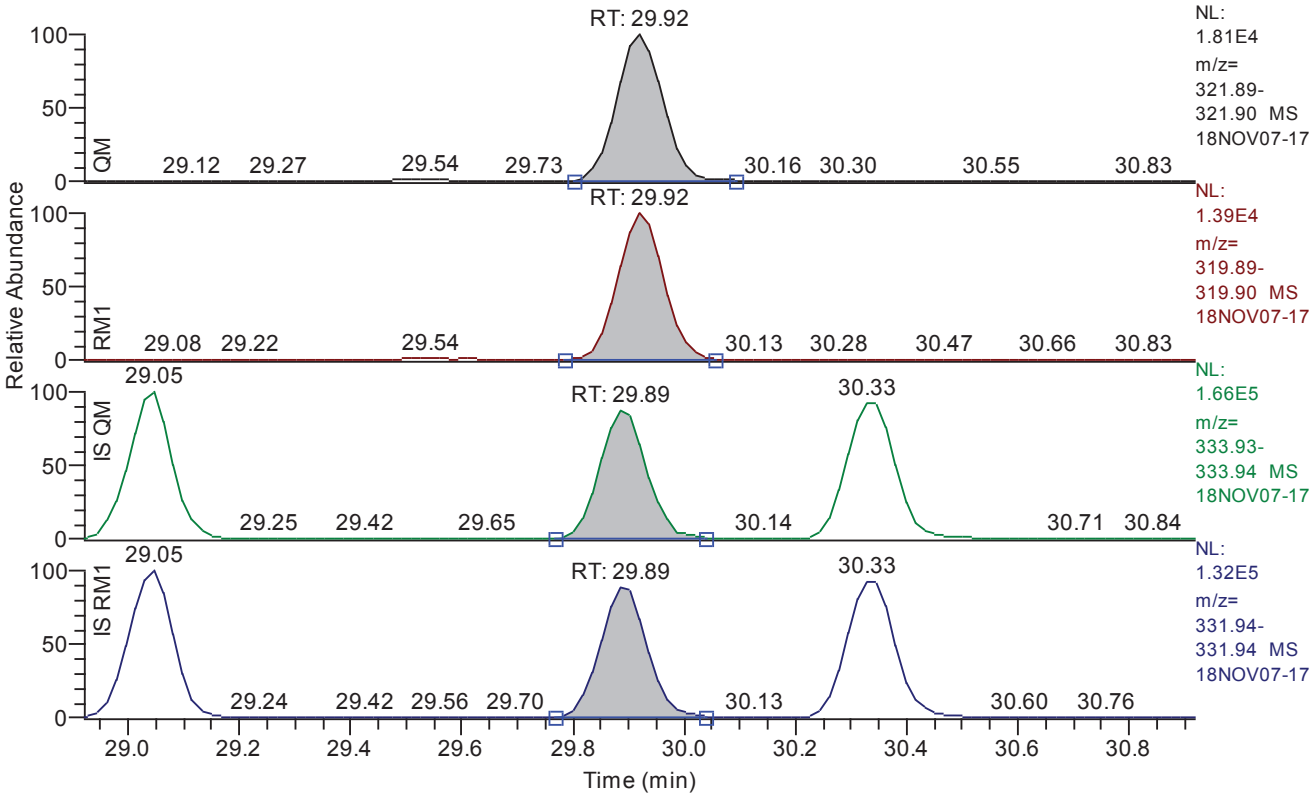
Chromatogram

RT: 28.92 - 30.92 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	29.92
QM Area	106257
QM Integration Mode	A
RM1 Area	81502
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0140
Unqualified Amount (A)	10.950388
Adjusted Amount (A)	10.9504
Signal-to-Noise	1986
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By AQ46 at 6:36 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

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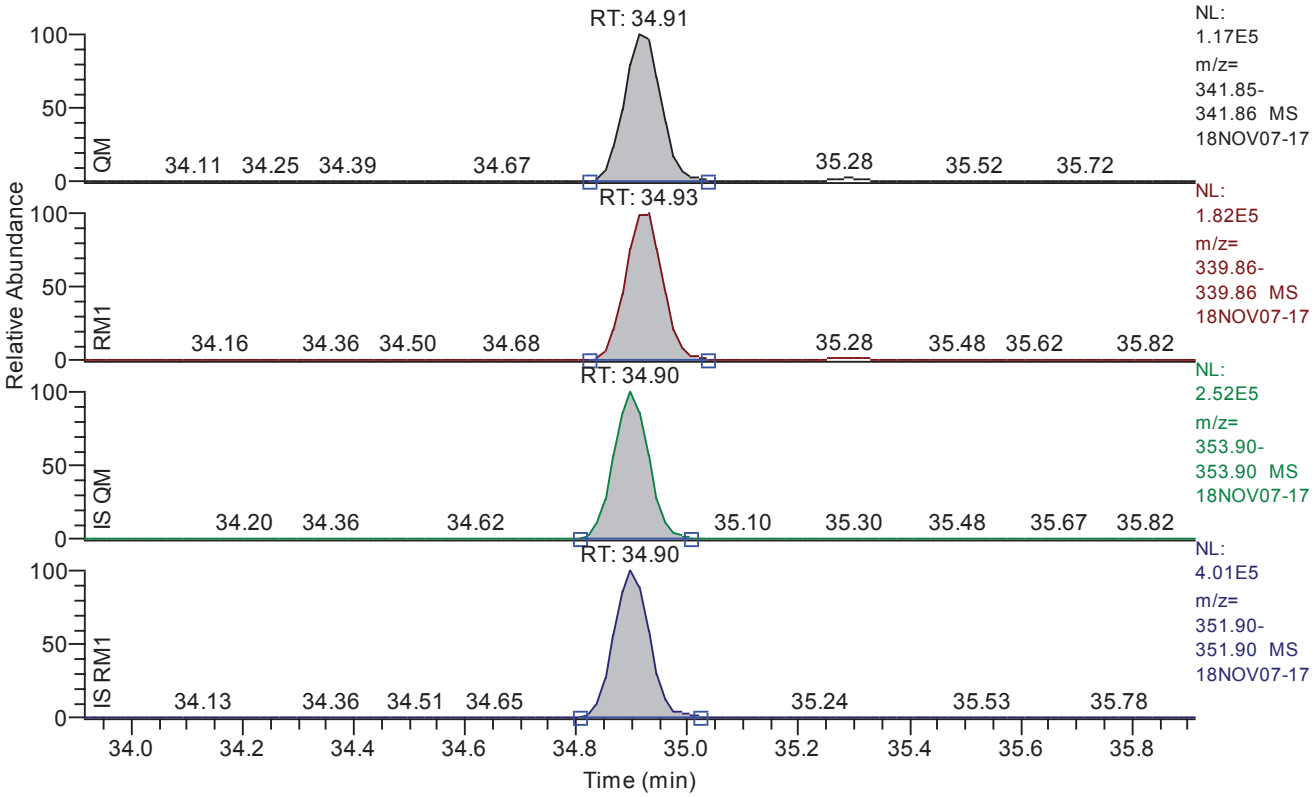
Chromatogram

RT: 33.91 - 35.91 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	34.91
QM Area	538363
QM Integration Mode	A
RM1 Area	856194
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0119
Unqualified Amount (A)	56.500954
Adjusted Amount (A)	56.5010
Signal-to-Noise	11265
Client Flags	
Status Overview	passed
Status Info	

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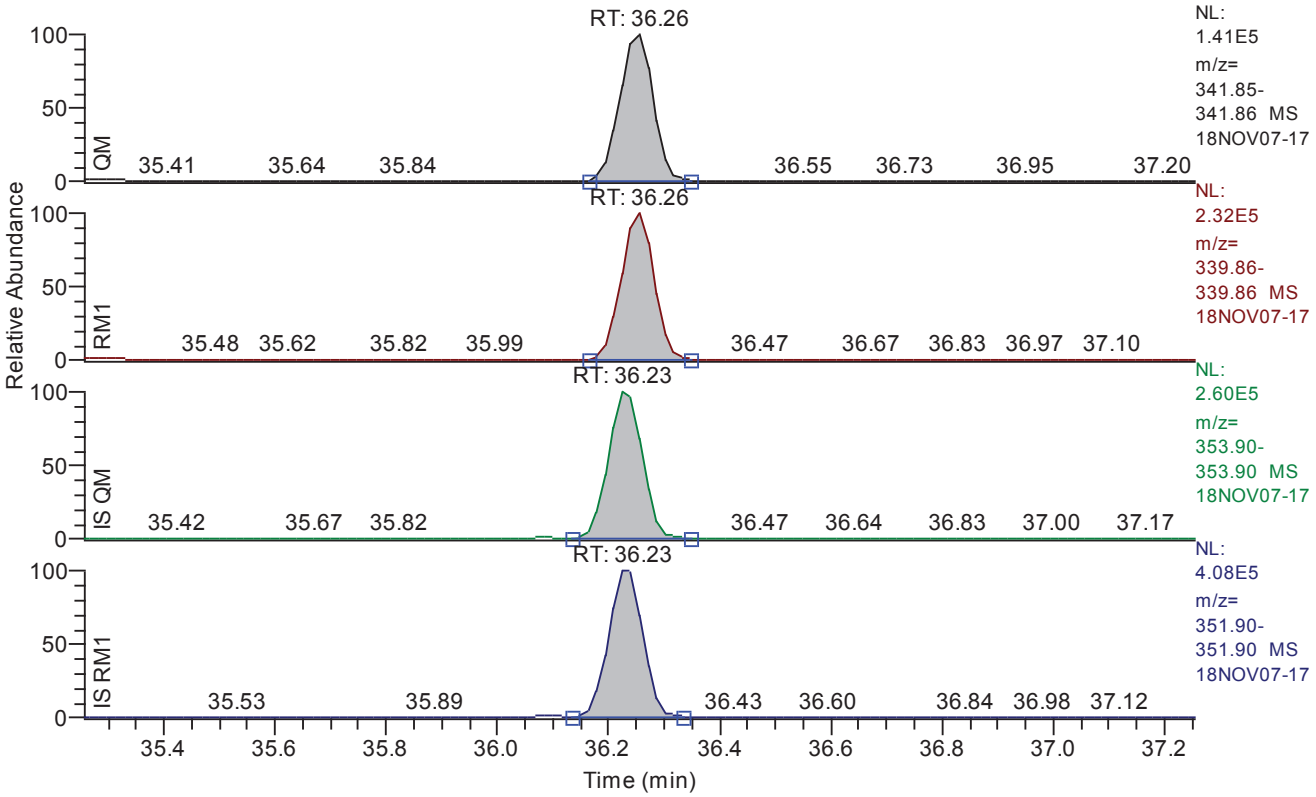
Chromatogram

RT: 35.26 - 37.26 SM: 3G



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.26
QM Area	587696
QM Integration Mode	A
RM1 Area	954060
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0104
Unqualified Amount (A)	56.515791
Adjusted Amount (A)	56.5158
Signal-to-Noise	14060
Client Flags	
Status Overview	passed
Status Info	

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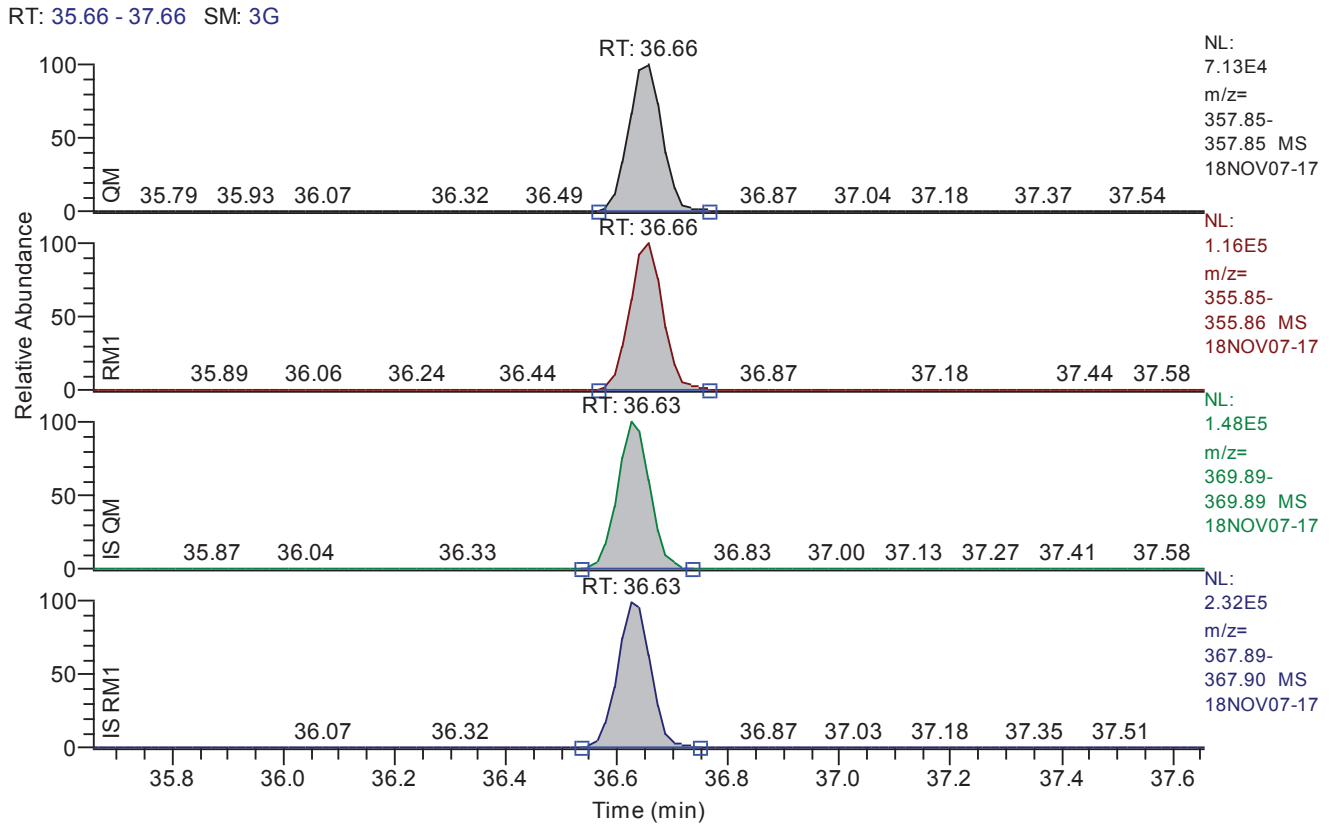
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.66
QM Area	299033
QM Integration Mode	A
RM1 Area	478429
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0241
Unqualified Amount (A)	55.758844
Adjusted Amount (A)	55.7588
Signal-to-Noise	5732
Client Flags	
Status Overview	passed
Status Info	

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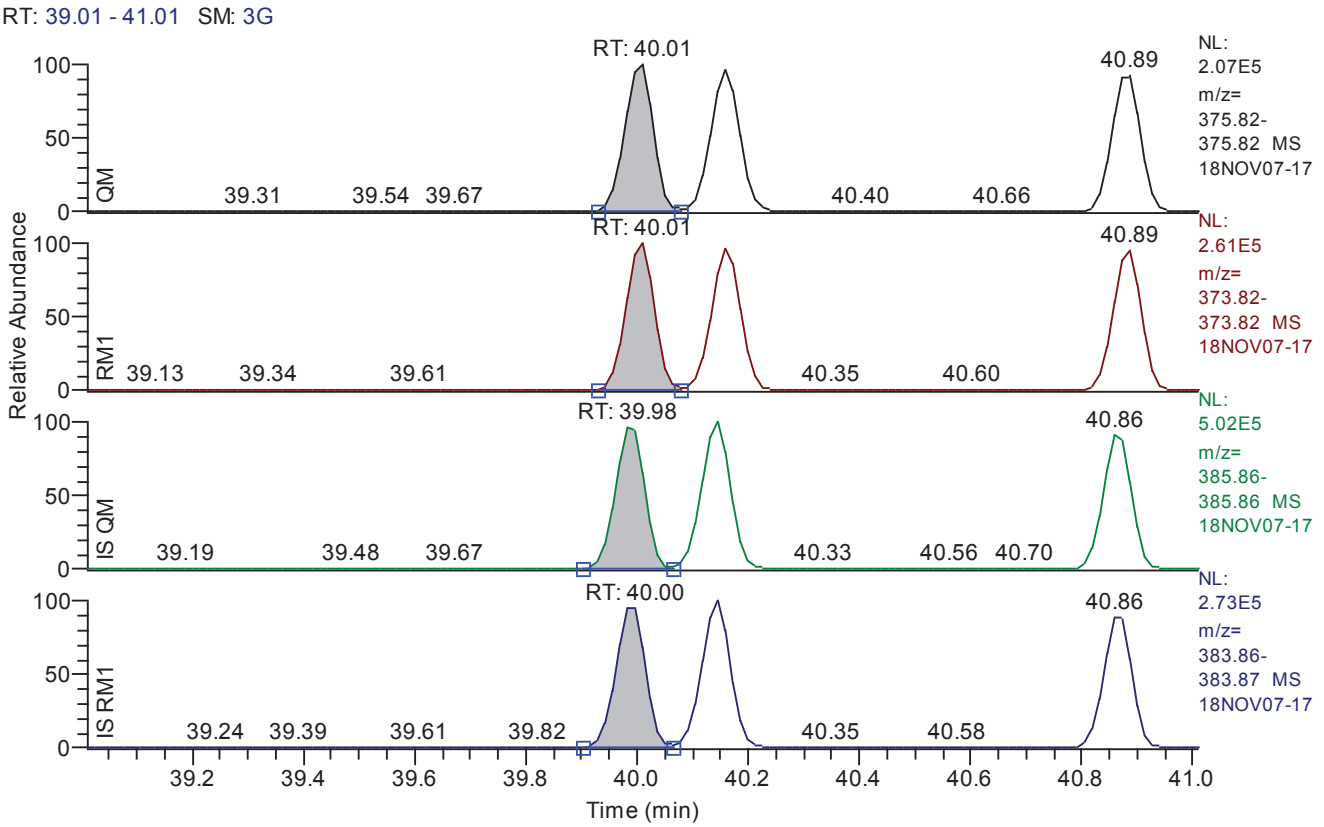
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.01
QM Area	745144
QM Integration Mode	A
RM1 Area	928728
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0128
Unqualified Amount (A)	56.845679
Adjusted Amount (A)	56.8457
Signal-to-Noise	11448
Client Flags	
Status Overview	passed
Status Info	

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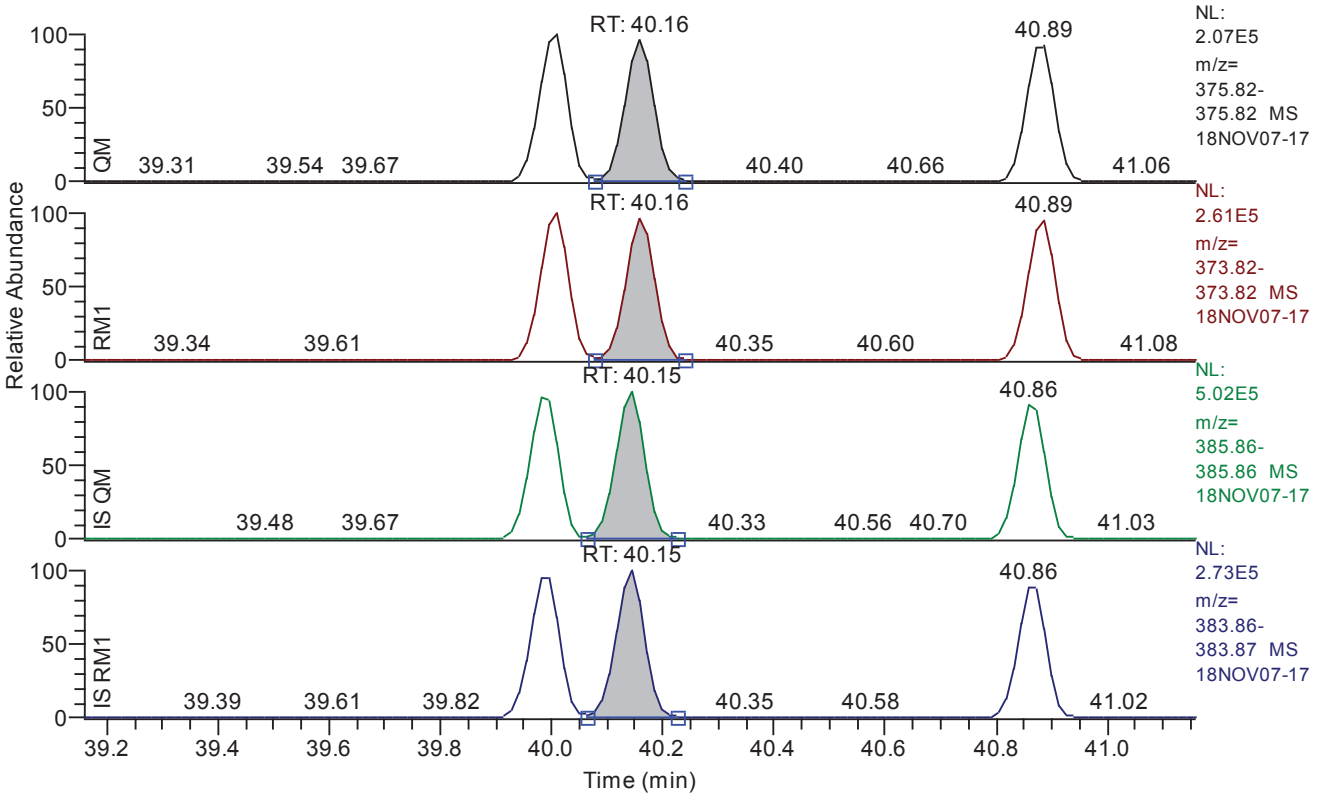
Chromatogram

RT: 39.16 - 41.16 SM: 3G



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.16
QM Area	723310
QM Integration Mode	A
RM1 Area	920533
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	56.123282
Adjusted Amount (A)	56.1233
Signal-to-Noise	11047
Client Flags	
Status Overview	passed
Status Info	

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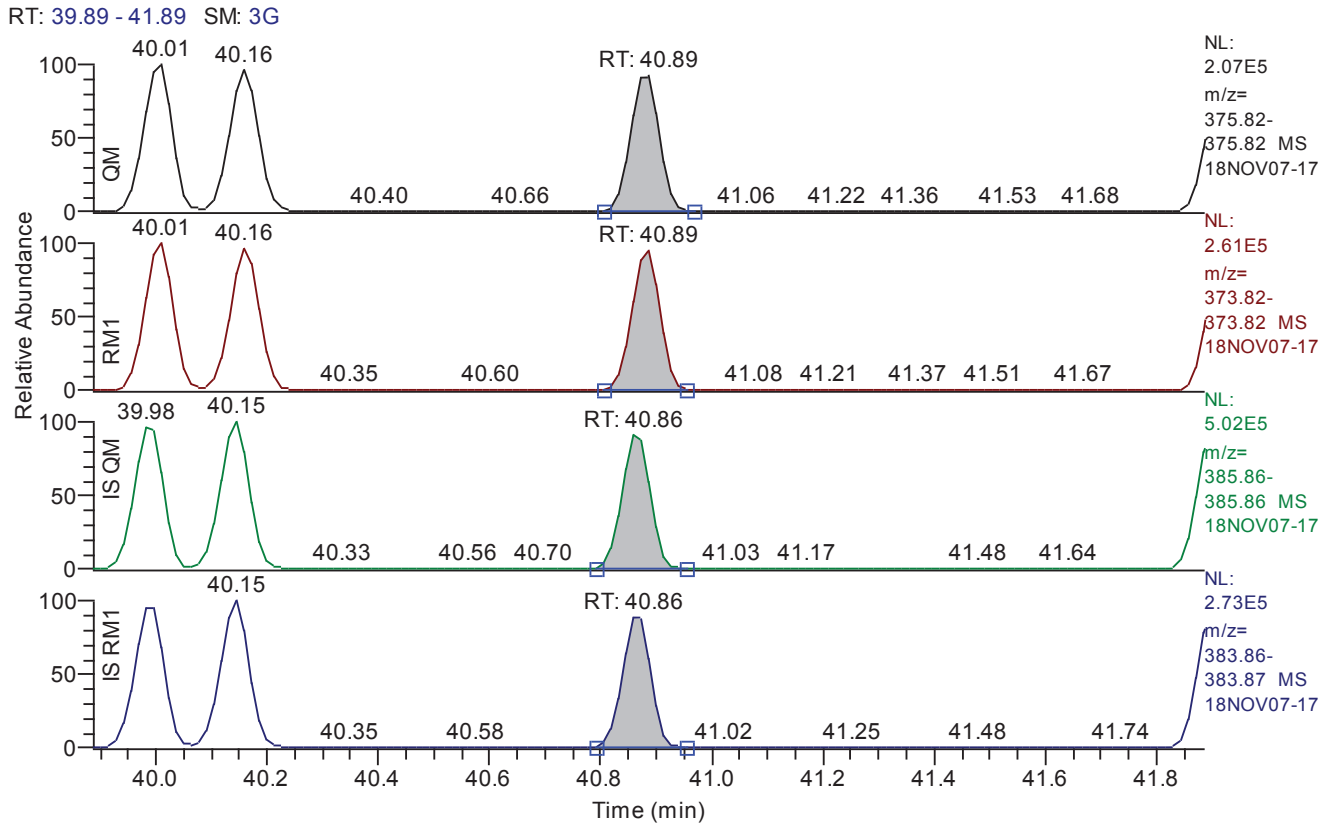
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.89
QM Area	698242
QM Integration Mode	A
RM1 Area	880145
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0131
Unqualified Amount (A)	56.635572
Adjusted Amount (A)	56.6356
Signal-to-Noise	10792
Client Flags	
Status Overview	passed
Status Info	

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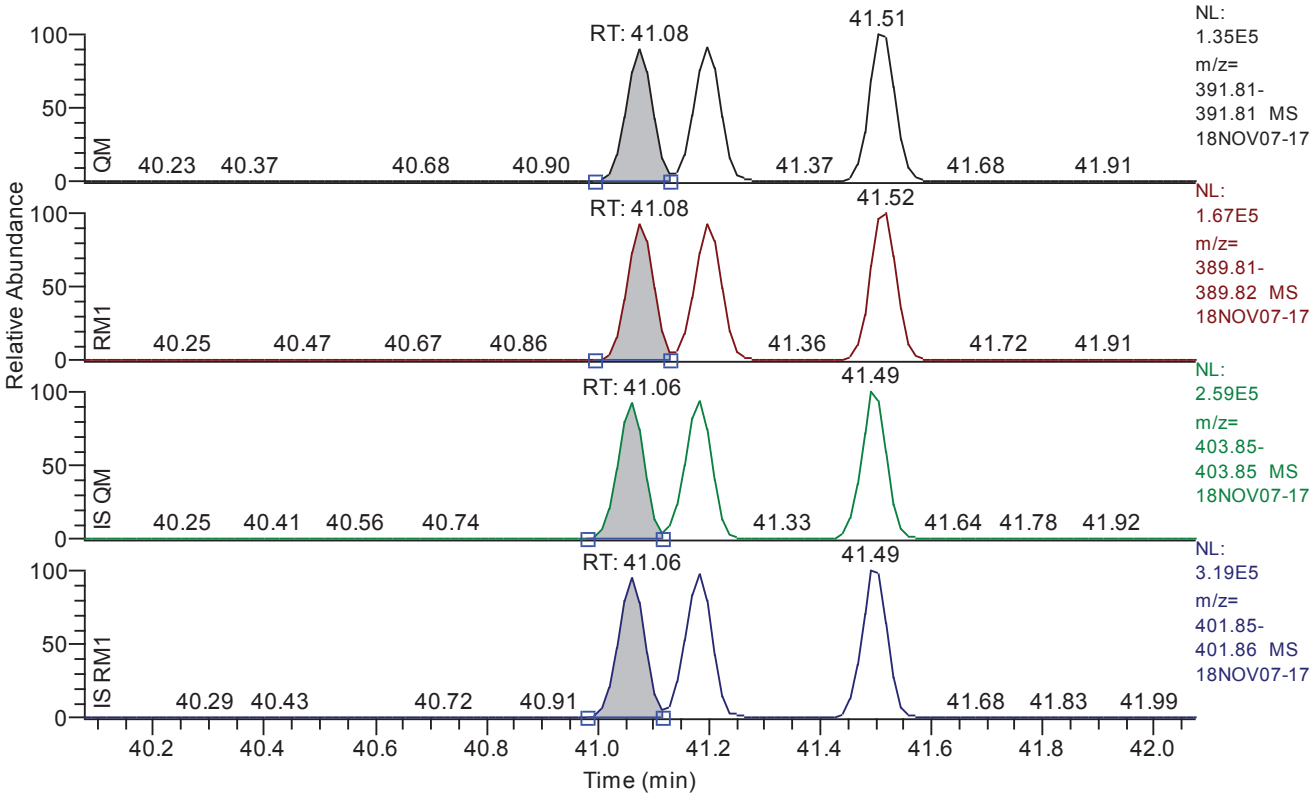
Chromatogram

RT: 40.08 - 42.08 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.08
QM Area	403029
QM Integration Mode	A
RM1 Area	518040
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0151
Unqualified Amount (A)	55.808801
Adjusted Amount (A)	55.8088
Signal-to-Noise	9249
Client Flags	
Status Overview	passed
Status Info	

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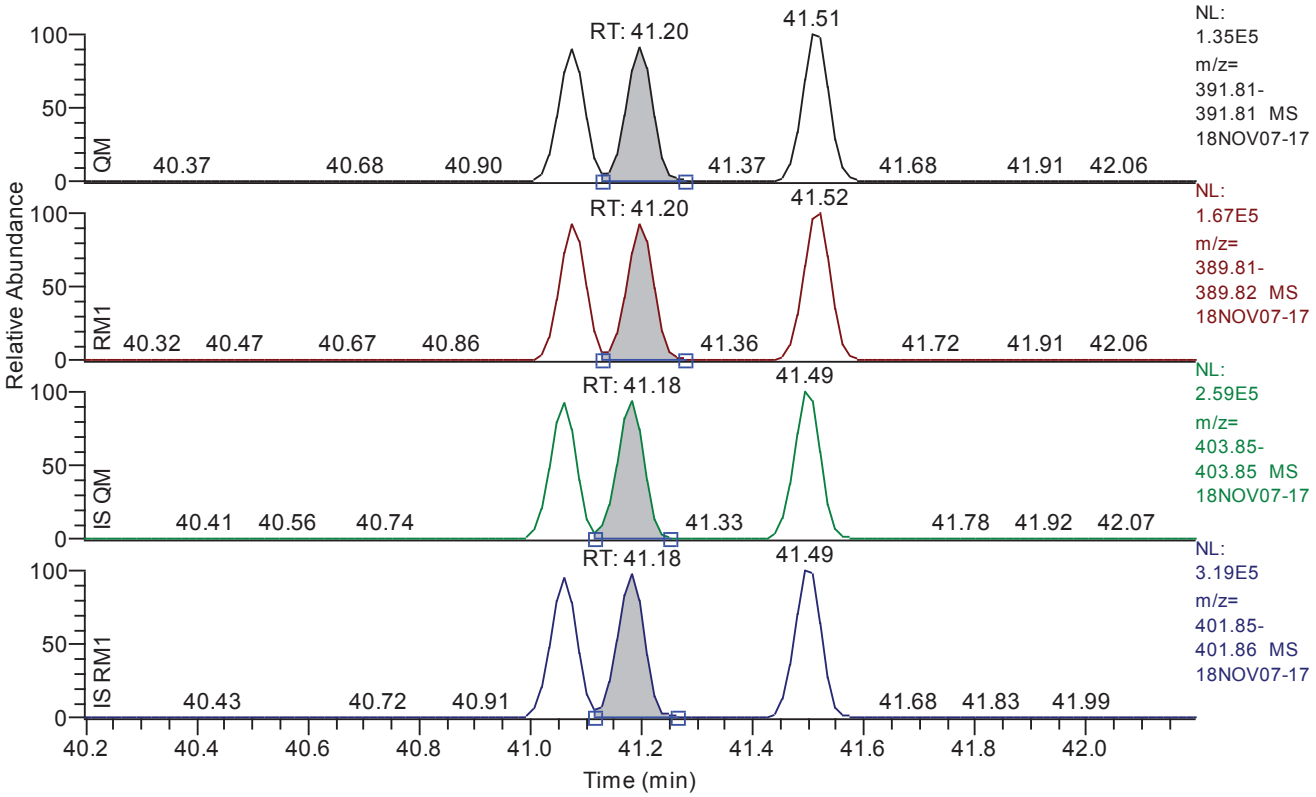
Chromatogram

RT: 40.20 - 42.20 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.20
QM Area	417257
QM Integration Mode	A
RM1 Area	530117
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0148
Unqualified Amount (A)	55.474014
Adjusted Amount (A)	55.4740
Signal-to-Noise	9283
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By AQ46 at 6:36 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

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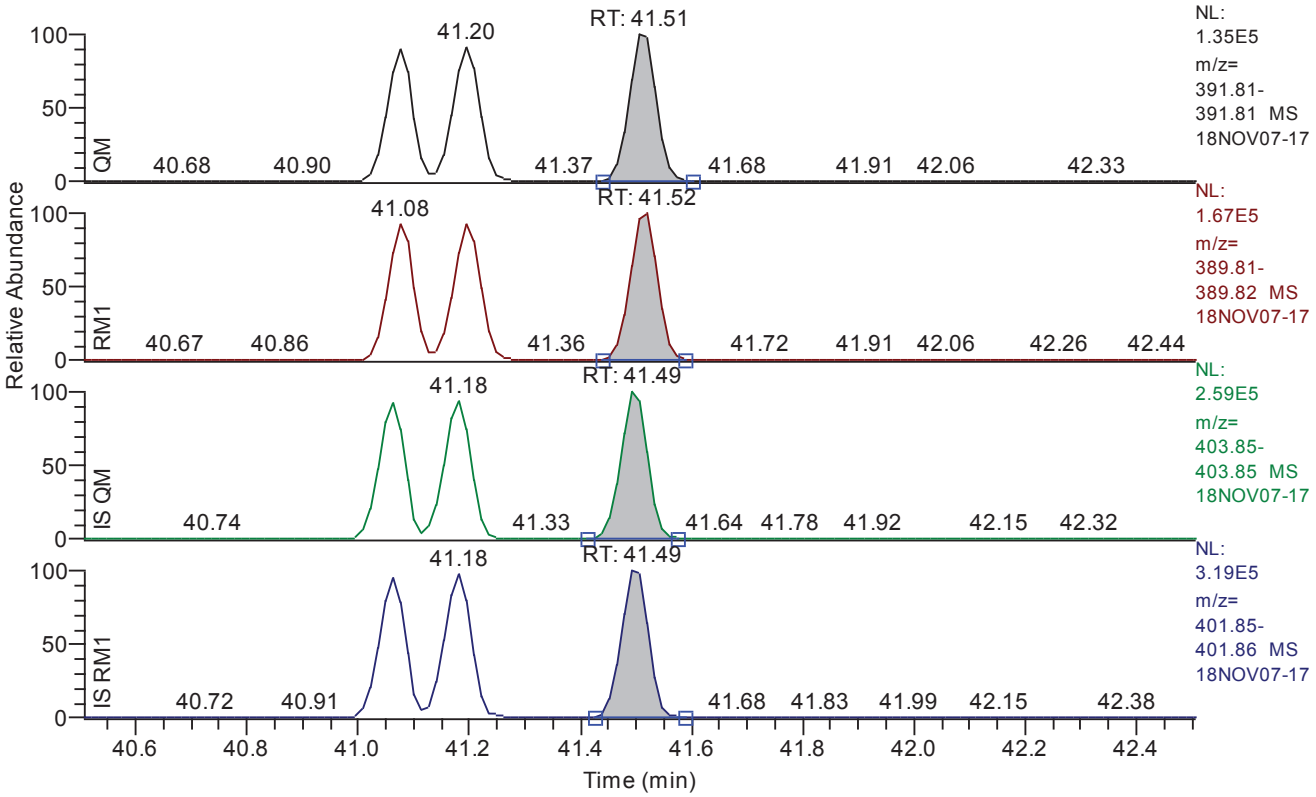
Chromatogram

RT: 40.51 - 42.51 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.51
QM Area	462089
QM Integration Mode	A
RM1 Area	576216
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0136
Unqualified Amount (A)	55.379858
Adjusted Amount (A)	55.3799
Signal-to-Noise	10071
Client Flags	
Status Overview	passed
Status Info	

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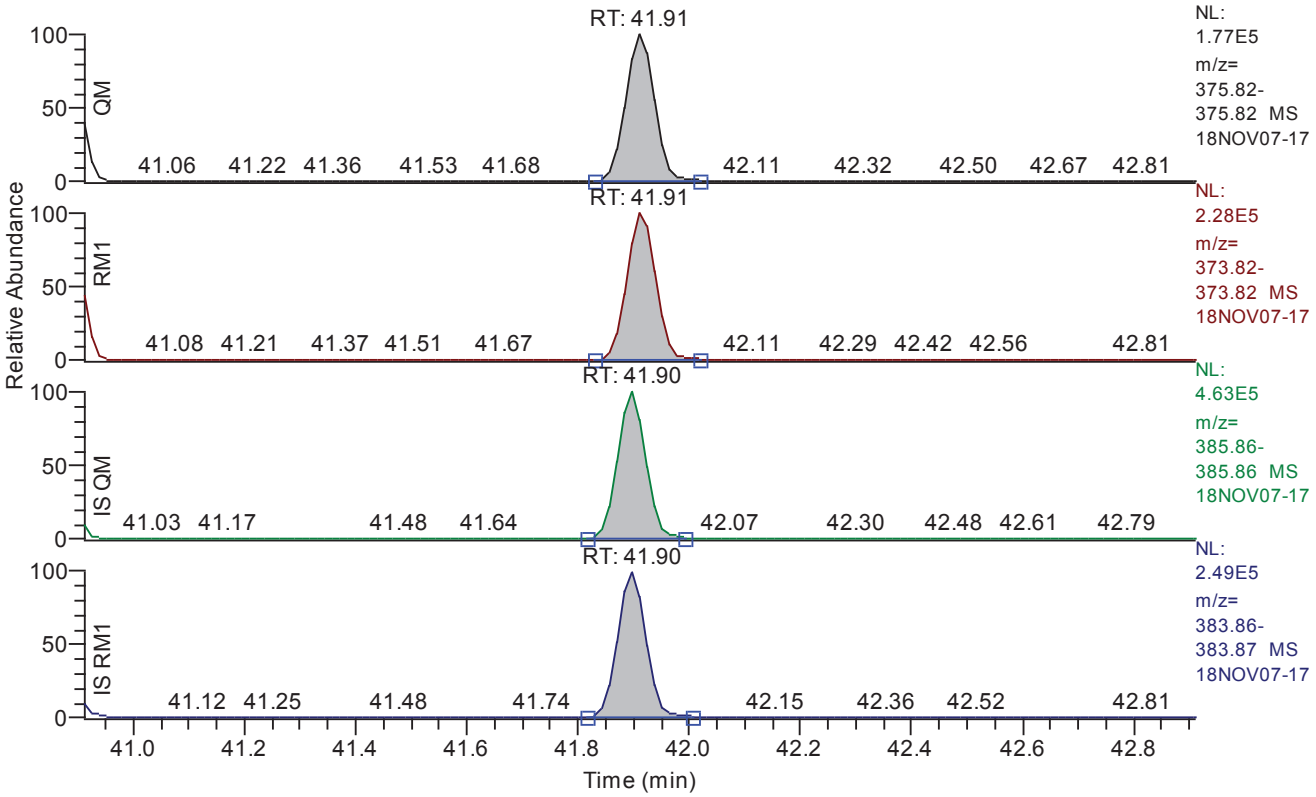
Chromatogram

RT: 40.91 - 42.91 SM: 3G



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.91
QM Area	640147
QM Integration Mode	A
RM1 Area	832708
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0141
Unqualified Amount (A)	57.524961
Adjusted Amount (A)	57.5250
Signal-to-Noise	9903
Client Flags	
Status Overview	passed
Status Info	

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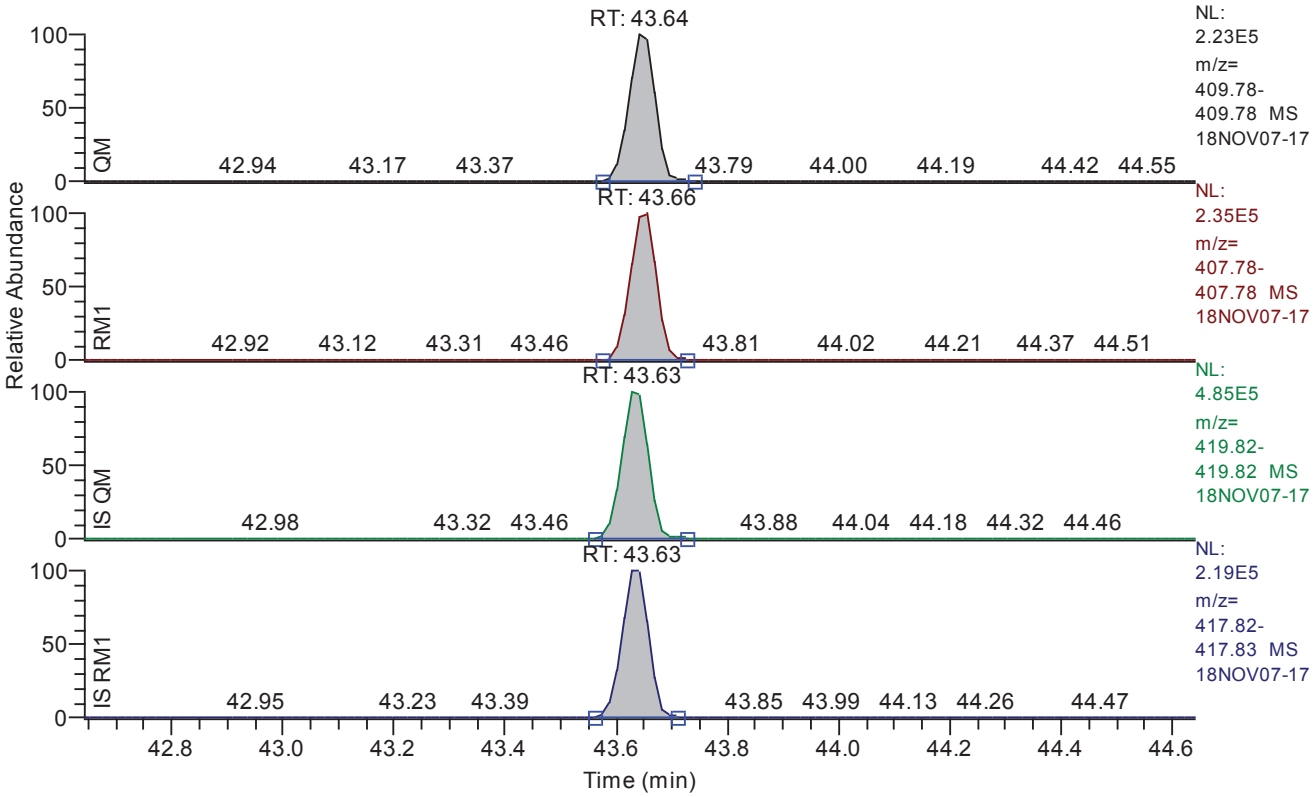
Chromatogram

RT: 42.64 - 44.64 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.64
QM Area	757899
QM Integration Mode	A
RM1 Area	804584
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0178
Unqualified Amount (A)	56.170896
Adjusted Amount (A)	56.1709
Signal-to-Noise	7975
Client Flags	
Status Overview	passed
Status Info	

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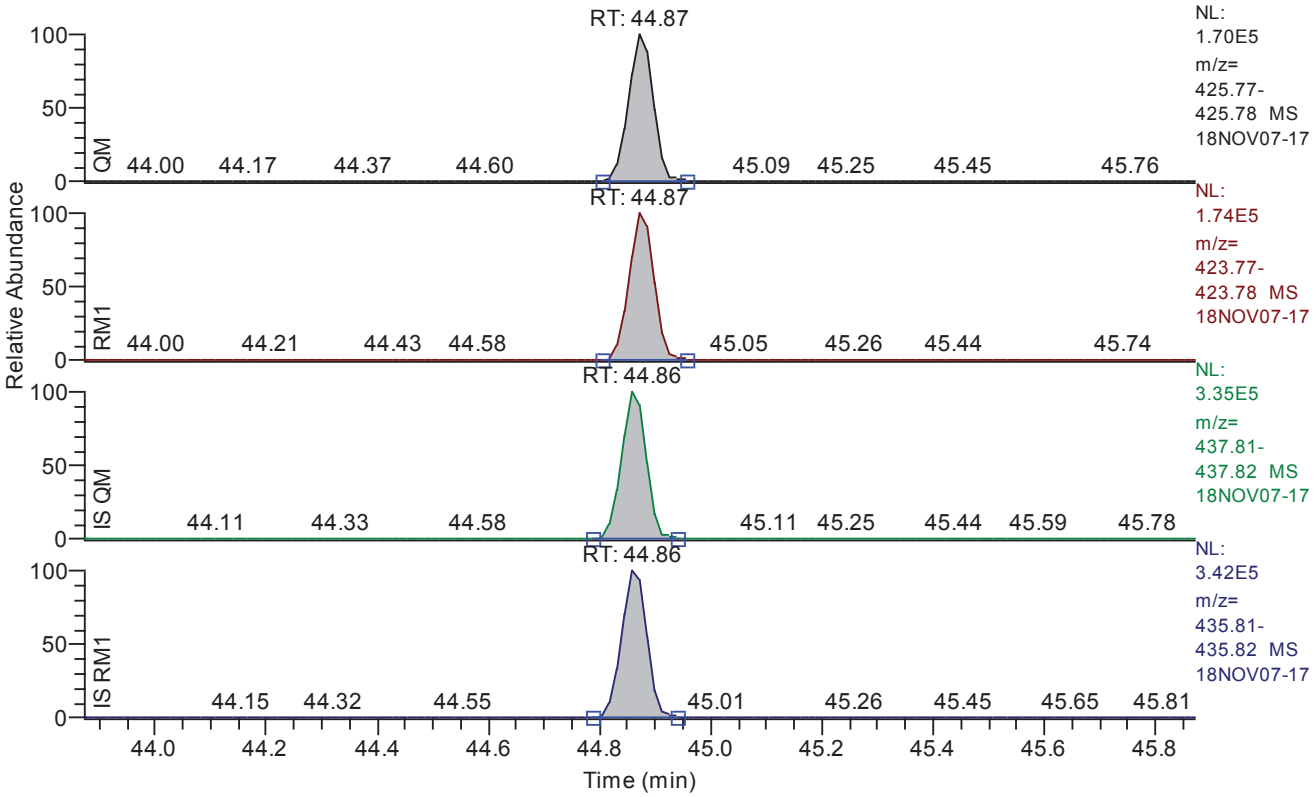
Chromatogram

RT: 43.87 - 45.87 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.87
QM Area	542773
QM Integration Mode	A
RM1 Area	561438
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0185
Unqualified Amount (A)	54.146800
Adjusted Amount (A)	54.1468
Signal-to-Noise	7344
Client Flags	
Status Overview	passed
Status Info	

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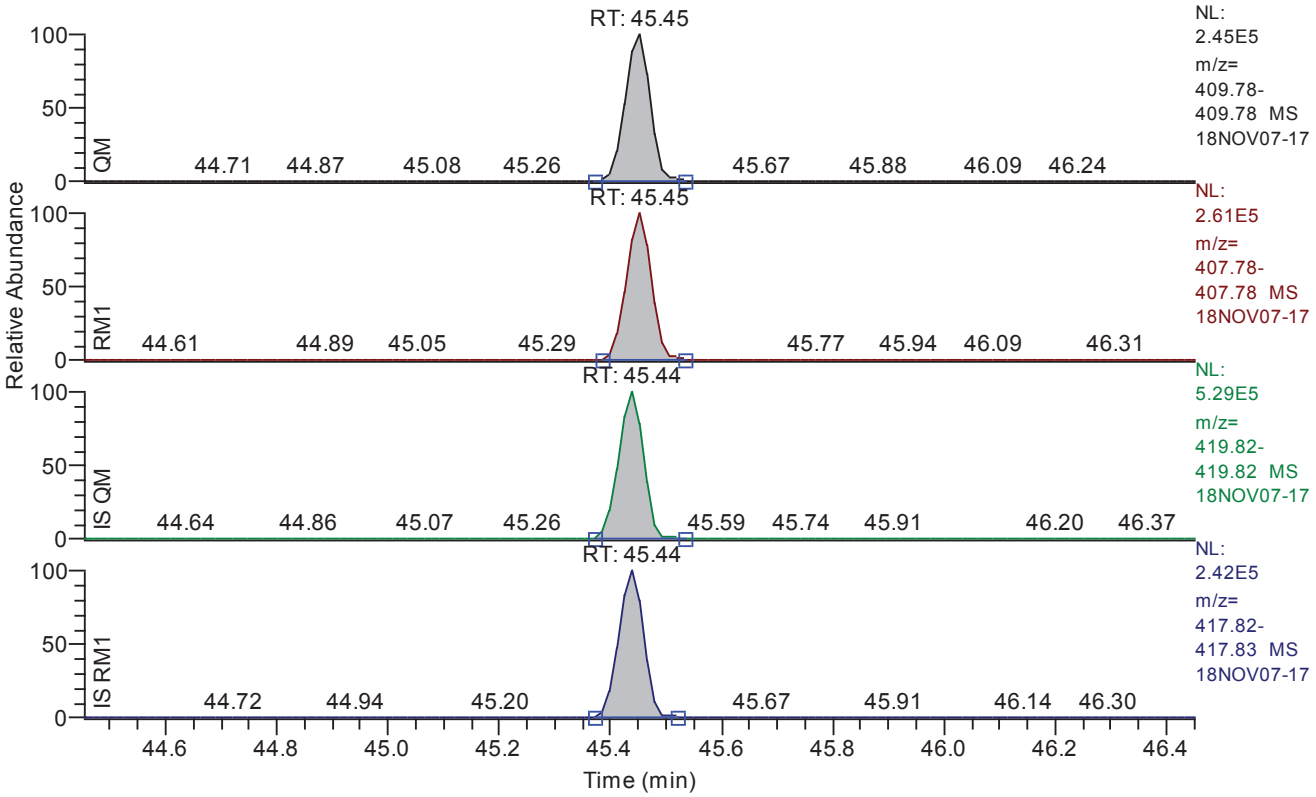
Chromatogram

RT: 44.45 - 46.45 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.45
QM Area	793768
QM Integration Mode	A
RM1 Area	836801
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0158
Unqualified Amount (A)	55.294266
Adjusted Amount (A)	n.d.
Signal-to-Noise	8807
Client Flags	
Status Overview	failed
Status Info	failed on IS RF RF

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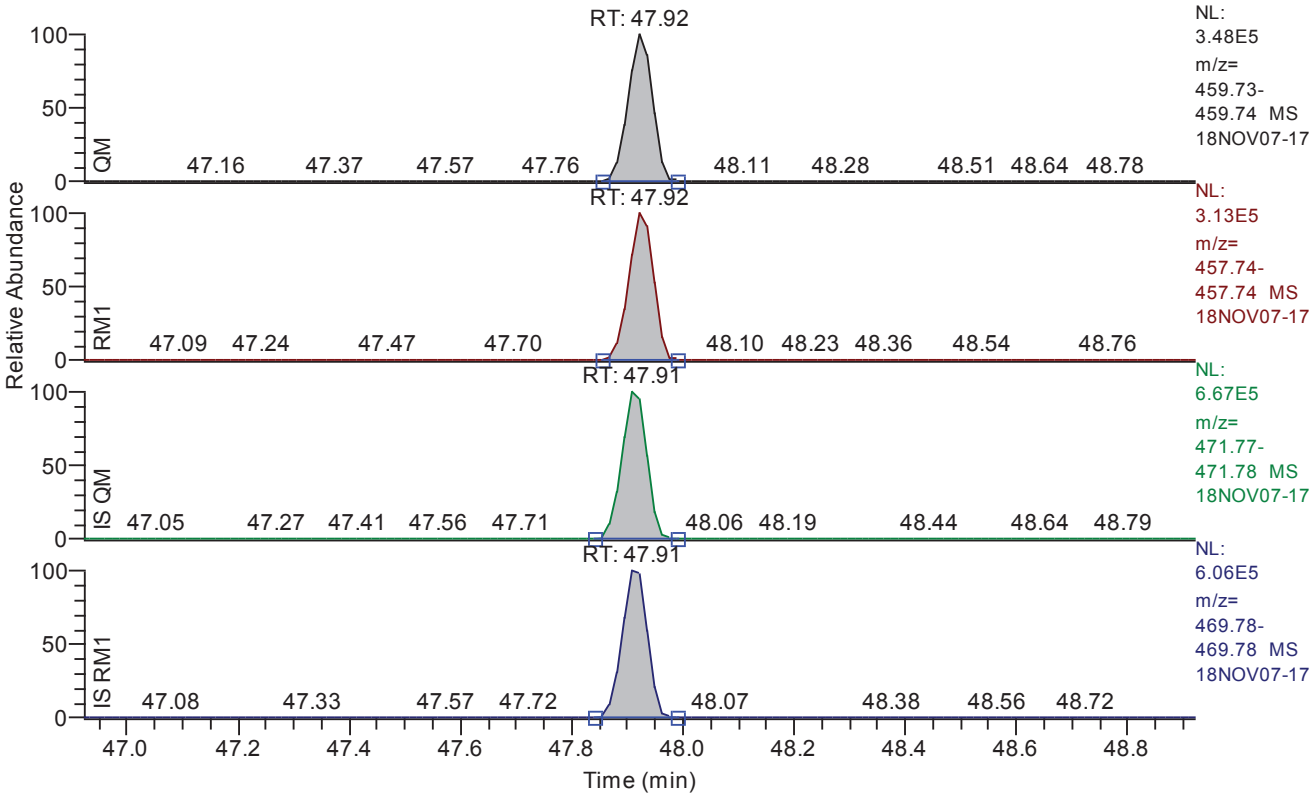
Chromatogram

RT: 46.92 - 48.92 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	47.92
QM Area	1060223
QM Integration Mode	A
RM1 Area	964729
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0168
Unqualified Amount (A)	110.634076
Adjusted Amount (A)	110.6341
Signal-to-Noise	16920
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By AQ46 at 6:37 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

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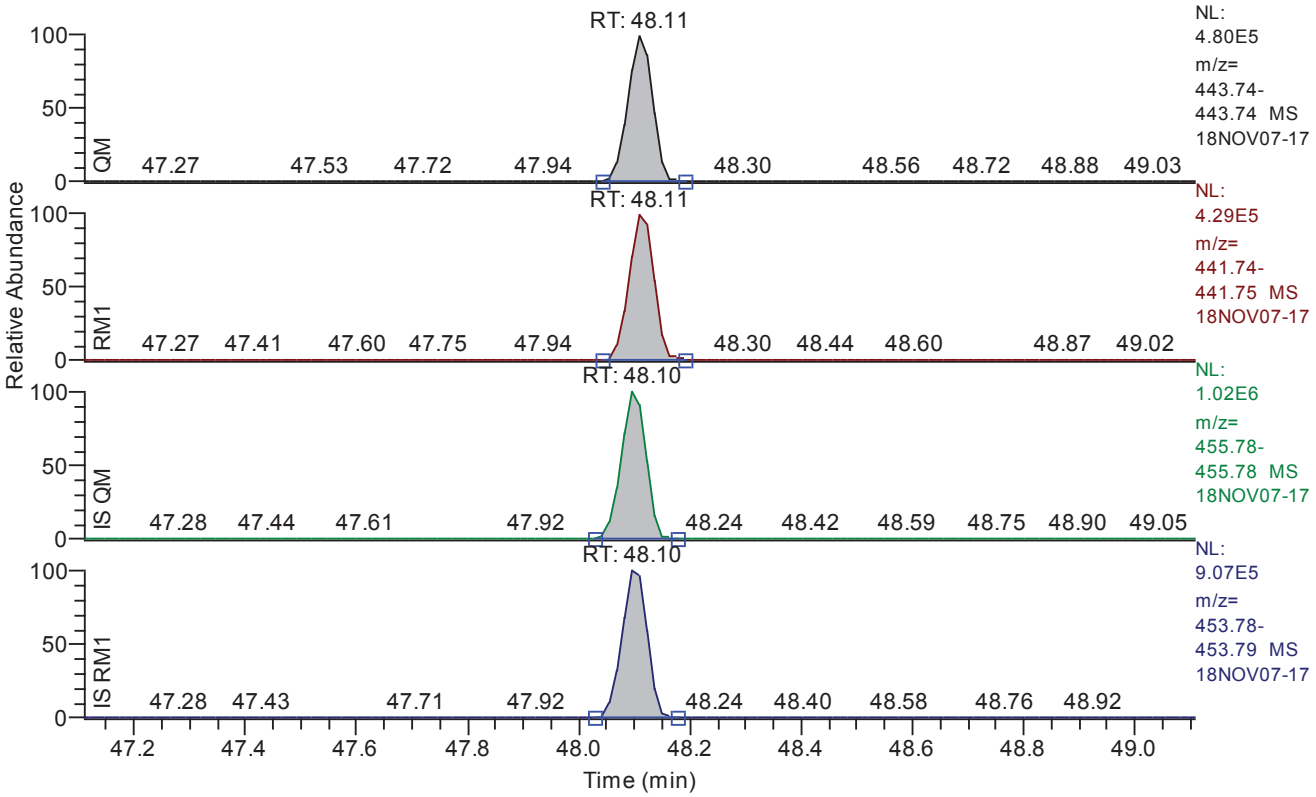
Chromatogram

RT: 47.11 - 49.11 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.11
QM Area	1475413
QM Integration Mode	A
RM1 Area	1338409
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0123
Unqualified Amount (A)	110.176886
Adjusted Amount (A)	110.1769
Signal-to-Noise	22736
Client Flags	
Status Overview	passed
Status Info	

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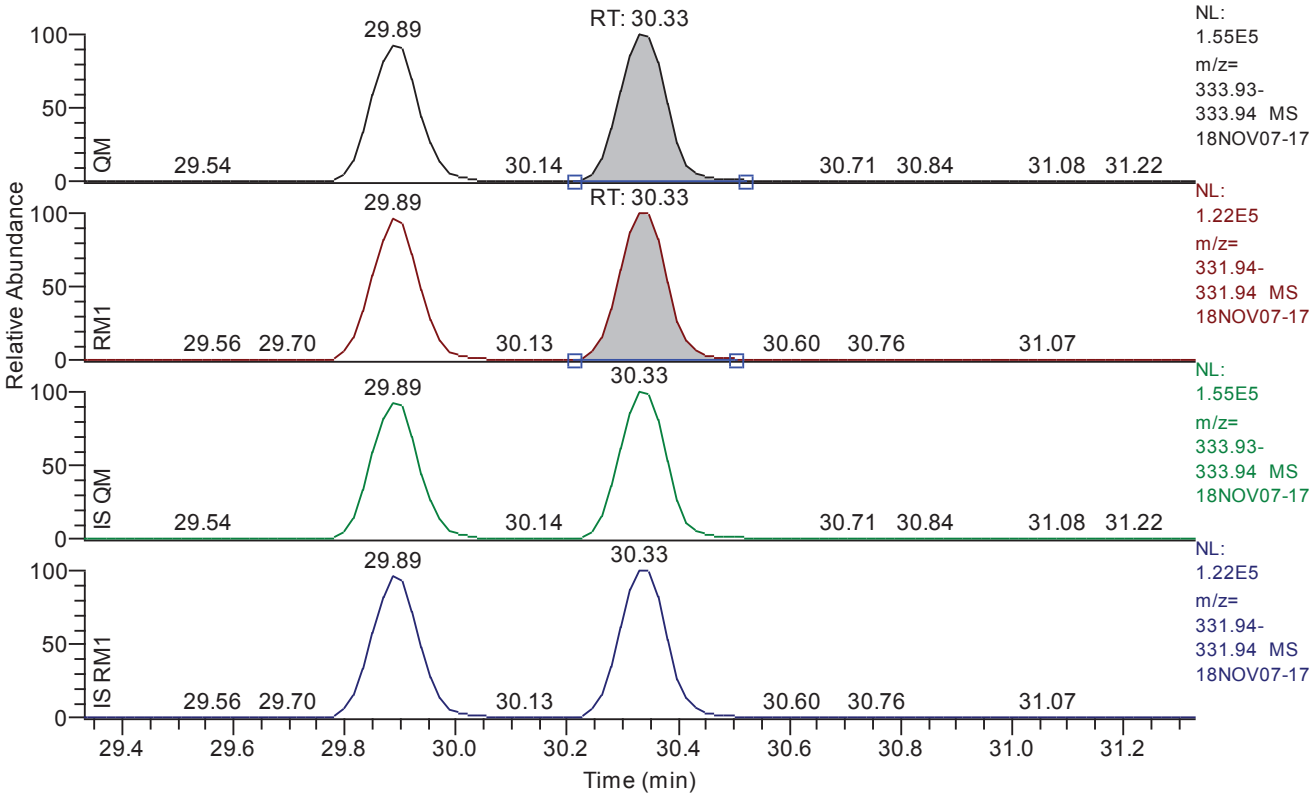
Chromatogram

RT: 29.33 - 31.33 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.33
QM Area	941621
QM Integration Mode	A
RM1 Area	742182
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0257
Unqualified Amount (A)	97.966055
Adjusted Amount (A)	97.9661
Signal-to-Noise	8735
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.81	28.81	28.79	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.92	29.92	29.89	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.91	34.91	34.93	34.90	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.26	36.26	36.26	36.23	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.66	36.66	36.66	36.63	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.01	40.01	40.01	39.98	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.16	40.16	40.15	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.89	40.89	40.89	40.86	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.08	41.08	41.06	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.20	41.20	41.18	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.51	41.52	41.49	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.91	41.91	41.90	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.64	43.66	43.63	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.87	44.87	44.86	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.45	45.45	45.45	45.44	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.92	47.92	47.92	47.91	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.11	48.11	48.10	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.33	30.33	30.33	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.05	29.05	29.05	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.90	39.90	39.90	39.90	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.79	28.79	28.72	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.89	29.89	29.89	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.90	34.90	35.07	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.23	36.23	36.29	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.63	36.63	36.63	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.98	39.98	40.00	40.17	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.15	40.15	40.15	40.17	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.86	40.86	41.14	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.06	41.06	41.06	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.18	41.18	41.18	41.18	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.49	41.49	41.49	41.49	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.90	41.90	41.94	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.63	43.63	43.57	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.86	44.86	44.86	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.44	45.44	45.44	45.44	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.91	47.91	47.91	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.10	48.10	47.99	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	28.81	0.7779	0.6450 - 0.8950	passed	1.0113	0.9233	0.7340 - 1.1126	passed
2	2378-TCDD	29.92	0.7670	0.6450 - 0.8950	passed	1.1981	1.0942	0.8699 - 1.3185	passed
3	12378-PeCDF	34.91	1.5904	1.3150 - 1.7850	passed	0.9606	0.8501	0.6758 - 1.0244	passed
4	23478-PeCDF	36.26	1.6234	1.3150 - 1.7850	passed	1.0748	0.9509	0.7560 - 1.1458	passed
5	12378-PeCDD	36.66	1.5999	1.3150 - 1.7850	passed	0.9989	0.8957	0.7121 - 1.0793	passed
6	123478-HxCDF	40.01	1.2464	1.0450 - 1.4350	passed	1.2142	1.0680	0.8491 - 1.2869	passed
7	123678-HxCDF	40.16	1.2727	1.0450 - 1.4350	passed	1.1718	1.0439	0.8299 - 1.2579	passed
8	234678-HxCDF	40.89	1.2605	1.0450 - 1.4350	passed	1.2555	1.1084	0.8812 - 1.3356	passed
9	123478-HxCDD	41.08	1.2854	1.0450 - 1.4350	passed	1.0165	0.9107	0.7240 - 1.0974	passed
10	123678-HxCDD	41.20	1.2705	1.0450 - 1.4350	passed	1.0033	0.9043	0.7189 - 1.0897	passed
11	123789-HxCDD	41.51	1.2470	1.0450 - 1.4350	passed	1.0568	0.9541	0.7585 - 1.1497	passed
12	123789-HxCDF	41.91	1.3008	1.0450 - 1.4350	passed	1.1710	1.0178	0.8092 - 1.2264	passed
13	1234678-HpCDF	43.64	1.0616	0.8750 - 1.2050	passed	1.2894	1.1477	0.9124 - 1.3830	passed
14	1234678-HpCDD	44.87	1.0344	0.8750 - 1.2050	passed	1.0142	0.9366	0.7446 - 1.1286	passed
15	1234789-HpCDF	45.45	1.0542	0.8750 - 1.2050	passed	1.3063	1.1813	0.9391 - 1.4235	failed on IS
16	OCDD	47.92	0.9099	0.7550 - 1.0250	passed	1.0090	0.9120	0.7250 - 1.0990	passed
17	OCDF	48.11	0.9071	0.7550 - 1.0250	passed	0.9320	0.8459	0.6725 - 1.0193	passed
18	13C12-1278-TCDD (CRS)	30.33	0.7882	0.6450 - 0.8950	passed	1.0114	1.0324	0.7175 - 1.3473	passed
19	13C12-1234-TCDD	29.05	0.8175	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	39.90	1.2704	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	28.79	0.8068	0.6450 - 0.8950	passed	1.8674	1.7703	1.2304 - 2.3102	passed
22	13C12-2378-TCDD	29.89	0.8084	0.6450 - 0.8950	passed	0.9413	0.9769	0.6789 - 1.2749	passed
23	13C12-12378-PeCDF	34.90	1.6181	1.3150 - 1.7850	passed	1.7440	1.6320	1.1342 - 2.1298	passed
24	13C12-23478-PeCDF	36.23	1.5851	1.3150 - 1.7850	passed	1.7233	1.6333	1.1351 - 2.1315	passed
25	13C12-12378-PeCDD	36.63	1.5860	1.3150 - 1.7850	passed	0.9350	0.9751	0.6777 - 1.2725	passed
26	13C12-123478-HxCDF	39.98	0.5444	0.4250 - 0.5950	passed	1.3809	1.2659	0.8798 - 1.6520	passed
27	13C12-123678-HxCDF	40.15	0.5358	0.4250 - 0.5950	passed	1.4052	1.3355	0.9282 - 1.7428	passed
28	13C12-234678-HxCDF	40.86	0.5281	0.4250 - 0.5950	passed	1.2593	1.2366	0.8594 - 1.6138	passed
29	13C12-123478-HxCDD	41.06	1.2766	1.0450 - 1.4350	passed	0.9077	0.9892	0.6875 - 1.2909	passed
30	13C12-123678-HxCDD	41.18	1.2957	1.0450 - 1.4350	passed	0.9459	1.0149	0.7054 - 1.3244	passed
31	13C12-123789-HxCDD	41.49	1.2562	1.0450 - 1.4350	passed	0.9841	0.9622	0.6687 - 1.2557	passed
32	13C12-123789-HxCDF	41.90	0.5391	0.4250 - 0.5950	passed	1.2599	1.1265	0.7829 - 1.4701	passed
33	13C12-1234678-HpCDF	43.63	0.4535	0.3650 - 0.5150	passed	1.2139	1.1645	0.8093 - 1.5197	passed
34	13C12-1234678-HpCDD	44.86	1.0405	0.8750 - 1.2050	passed	1.0905	0.9693	0.6737 - 1.2649	passed
35	13C12-1234789-HpCDF	45.44	0.4552	0.3650 - 0.5150	passed	1.2503	0.9563	0.6646 - 1.2480	failed
36	13C12-OCDD	47.91	0.9185	0.7550 - 1.0250	passed	1.0052	0.9422	0.6548 - 1.2296	passed
37	13C12-OCDF	48.10	0.9067	0.7550 - 1.0250	passed	1.5121	1.2582	0.8744 - 1.6420	passed

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.81	176824	A	137559	A	0.0140	10.952944	10.9529	10.000000	1965	
2	2378-TCDD	passed	29.92	106257	A	81502	A	0.0140	10.950388	10.9504	10.000000	1986	
3	12378-PeCDF	passed	34.91	538363	A	856194	A	0.0119	56.500954	56.5010	50.000000	11265	
4	23478-PeCDF	passed	36.26	587696	A	954060	A	0.0104	56.515791	56.5158	50.000000	14060	
5	12378-PeCDD	passed	36.66	299033	A	478429	A	0.0241	55.758844	55.7588	50.000000	5732	
6	123478-HxCDF	passed	40.01	745144	A	928728	A	0.0128	56.845679	56.8457	50.000000	11448	
7	123678-HxCDF	passed	40.16	723310	A	920533	A	0.0127	56.123282	56.1233	50.000000	11047	
8	234678-HxCDF	passed	40.89	698242	A	880145	A	0.0131	56.635572	56.6356	50.000000	10792	
9	123478-HxCDD	passed	41.08	403029	A	518040	A	0.0151	55.808801	55.8088	50.000000	9249	
10	123678-HxCDD	passed	41.20	417257	A	530117	A	0.0148	55.474014	55.4740	50.000000	9283	
11	123789-HxCDD	passed	41.51	462089	A	576216	A	0.0136	55.379858	55.3799	50.000000	10071	
12	123789-HxCDF	passed	41.91	640147	A	832708	A	0.0141	57.524961	57.5250	50.000000	9903	
13	1234678-HpCDF	passed	43.64	757899	A	804584	A	0.0178	56.170896	56.1709	50.000000	7975	
14	1234678-HpCDD	passed	44.87	542773	A	561438	A	0.0185	54.146800	54.1468	50.000000	7344	
15	1234789-HpCDF	failed	45.45	793768	A	836801	A	0.0158	55.294266	n.d.	50.000000	8807	
16	OCDD	passed	47.92	1060223	A	964729	A	0.0168	110.634076	110.6341	100.000000	16920	
17	OCDF	passed	48.11	1475413	A	1338409	A	0.0123	110.176886	110.1769	100.000000	22736	
18	13C12-1278-TCDD (CRS)	passed	30.33	941621	A	742182	A	0.0257	97.966055	97.9661	100.000000	8735	
19	13C12-1234-TCDD	passed	29.05	915975	A	748796	A	0.0265	100.000000	100.0000	100.000000	9429	
20	13C12-123468-HxCDD	passed	39.90	879452	A	1117217	A	0.0285	100.000000	100.0000	100.000000	8783	
21	13C12-2378-TCDF	passed	28.79	1720569	A	1388225	A	0.0156	105.485269	105.4853	100.000000	16630	
22	13C12-2378-TCDD	passed	29.89	866564	A	700520	A	0.0271	96.359134	96.3591	100.000000	8299	
23	13C12-12378-PeCDF	passed	34.90	1108970	A	1794464	A	0.0413	106.863763	106.8638	100.000000	8128	
24	13C12-23478-PeCDF	passed	36.23	1109784	A	1759083	A	0.0413	105.507806	105.5078	100.000000	8313	
25	13C12-12378-PeCDD	passed	36.63	601943	A	954683	A	0.0209	95.892090	95.8921	100.000000	15612	
26	13C12-123478-HxCDF	passed	39.98	1785261	A	971926	A	0.0304	109.085043	109.0850	100.000000	8704	
27	13C12-123678-HxCDF	passed	40.15	1826968	A	978804	A	0.0288	105.221984	105.2220	100.000000	8985	
28	13C12-234678-HxCDF	passed	40.86	1645439	A	868931	A	0.0312	101.838301	101.8383	100.000000	8186	
29	13C12-123478-HxCDD	passed	41.06	796059	A	1016242	A	0.0288	91.757402	91.7574	100.000000	8547	
30	13C12-123678-HxCDD	passed	41.18	822660	A	1065923	A	0.0280	93.196796	93.1968	100.000000	8763	
31	13C12-123789-HxCDD	passed	41.49	870920	A	1094080	A	0.0296	102.285238	102.2852	100.000000	9074	
32	13C12-123789-HxCDF	passed	41.90	1634399	A	881180	A	0.0342	111.841917	111.8419	100.000000	8273	
33	13C12-1234678-HpCDF	passed	43.63	1667460	A	756213	A	0.0375	104.237234	104.2372	100.000000	7214	
34	13C12-1234678-HpCDD	passed	44.86	1067113	A	1110302	A	0.0324	112.511458	112.5115	100.000000	9663	
35	13C12-1234789-HpCDF	failed	45.44	1715456	A	780927	A	0.0457	130.745609	n.d.	100.000000	7897	
36	13C12-OCDD	passed	47.91	2092186	A	1921722	A	0.0124	213.362687	213.3627	200.000000	48838	
37	13C12-OCDF	passed	48.10	3166726	A	2871417	A	0.0154	240.358643	240.3586	200.000000	44550	

APPROVED
By AQ46 at 6:37 pm, 11/8/18

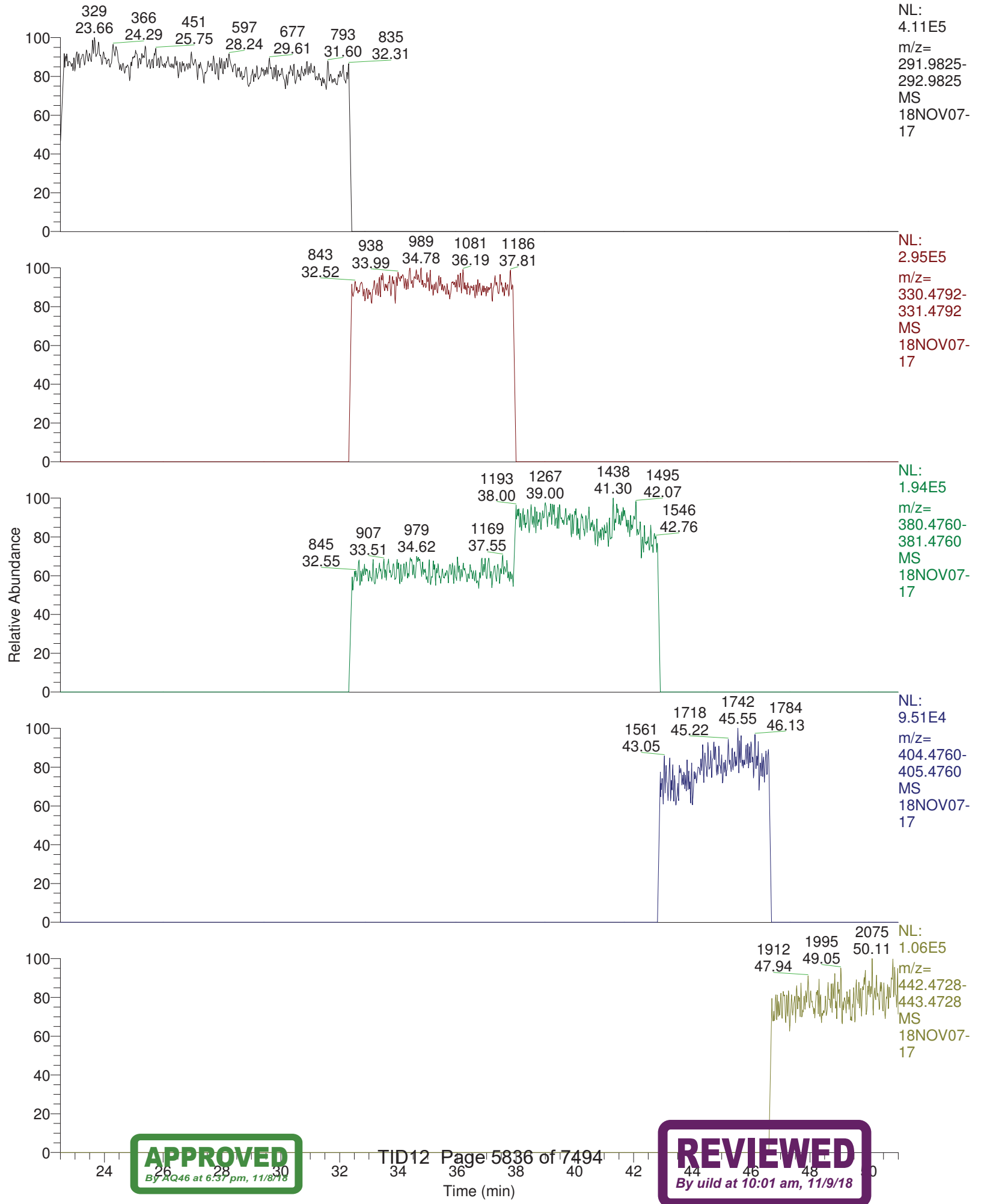
REVIEWED
By uild at 10:01 am, 11/9/18

File Name: W:\18NOV07\18NOV07-17
Sample ID: CS3CC03

Acq. Data: 11/8/2018 5:33:03 AM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF17280-18NOV07

RT: 22.50 - 51.00



APPROVED
By AQ46 at 6:37 pm, 11/8/18

REVIEWED
By uild at 10:01 am, 11/9/18

*** file opened Thu Nov 08 05:38:46 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07621
```

Analysis started at: 08-Nov-18 05:38:47

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 942b750e-bb72-49d7-85db-36b7fb54dc11

MID procedure: PFK18JUL21+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.500000 minutes
MID Window end time was 22.500000 minutes
MID Window terminated after 32.300000 minutes
MID Window end time was 32.300000 minutes
```

```
MID Window terminated after 37.900000 minutes
MID Window end time was 37.900000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.600000 minutes
MID Window end time was 46.600000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0178   BMASS           98.5000
 BQUAD           -2.2000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           1.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0004   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9998   EDACZ         1438.0000
 ELEN           -50.0000   EMULT        2119.0000   ENS            210.0000
 ENSBR           -2.2000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           187.0000   EXSBR           -2.6700
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             232.6644   FMII           50.0000   FQUAD            7.3500
 FQUADGAIN        8.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0187   FVINLET         0.0431   FVSRC            0.0327
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       610.0000
 LENS_SYM        -7.0000   LM            233.6644   LMII           500.0000
 LMASS           98.5000   LKM           442.9723   MASS            98.5000
 MDAC        1445679.6411  MRANGE       1311.4489   NSAM           200.0000
 NSCAN          2167.0000  NSMAX           2.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER          -1.0000   RECURR          0.9817   RELEN            0.0000
 RES          12434.0391   RPUSHER        -1.0623   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     750.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0204   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0019   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          98.5000   XLENS_POT      752.0000
 XLENS_SYM        7.3000   YLENS_POT     804.0000   YLENS_SYM        2.5000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.9e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11831.
MID Time Window 2: Resolution is 11766.
MID Time Window 3: Resolution is 11533.
MID Time Window 4: Resolution is 12001.
```

```
MID Time Window 5: Resolution is 12816.
MID Time Window 6: Resolution is 12434.

Amplifier Offset: 92.


*** File closed Thu Nov 08 06:29:49 2018
 ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 11:43
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD ST1828537B
Sample ID	CPS01
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-02.quan
Data	y:\18oct25\18oct25-02.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	
Mass Ref	

Quan Parameter

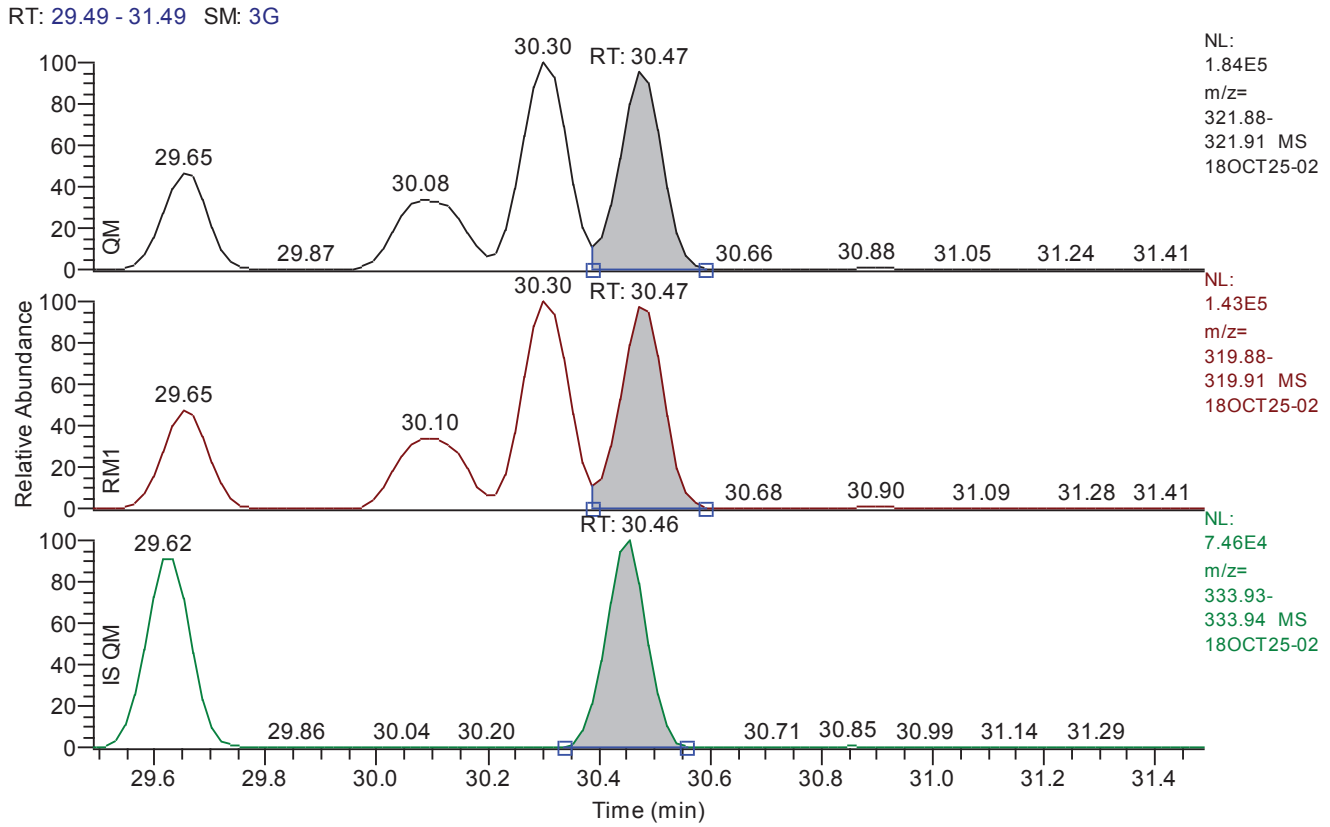
QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By uild at 2:56 pm, 11/19/18

eurofins | Lancaster Laboratories Environmental

Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

Entry Parameters

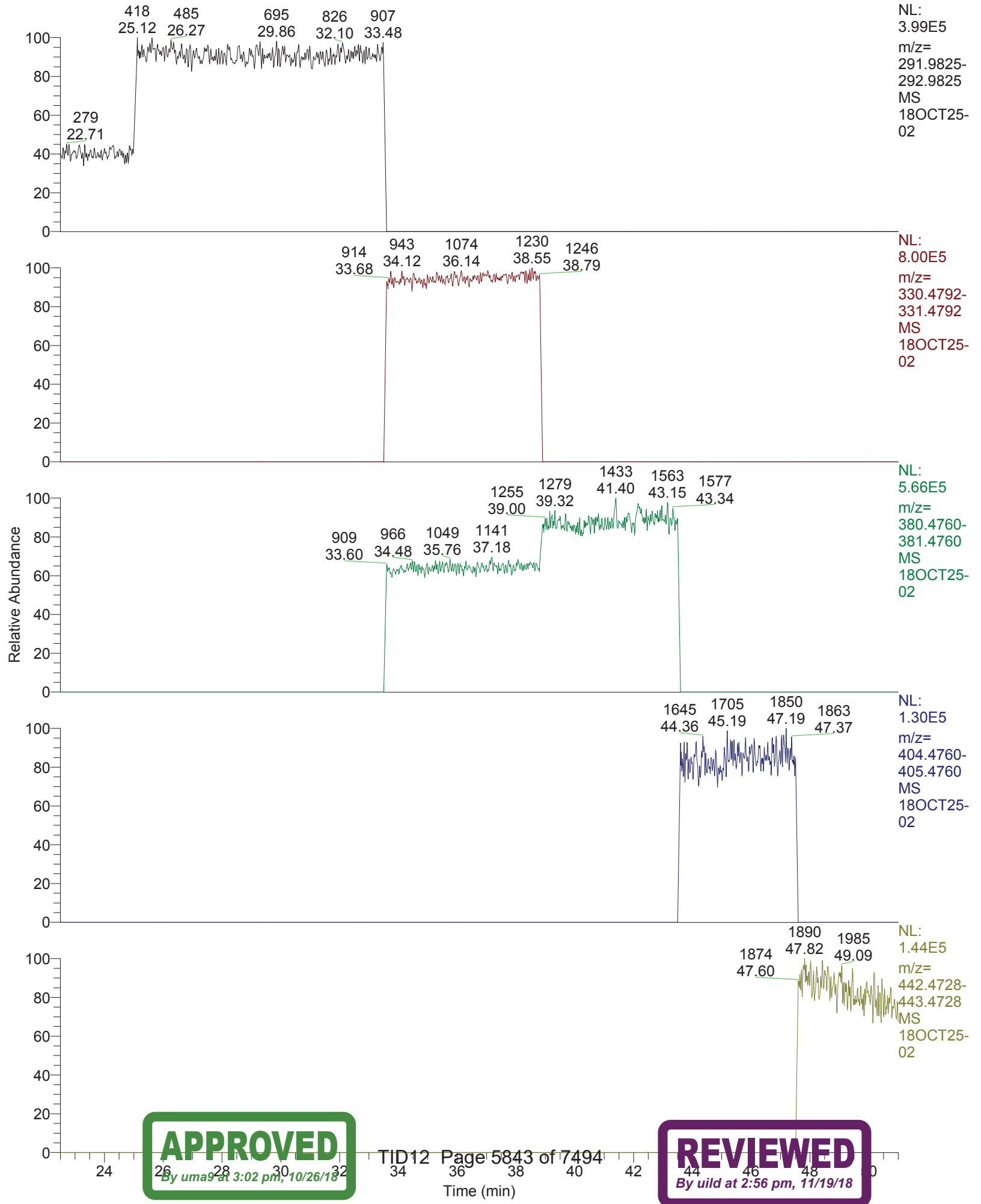
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	30.47
RM1 Left Baseline Height	967.95
RM1 Left Height	14860
RM1 Height	138782
GC Res (%) left	11.540650

File Name: Y:\18OCT25\18OCT25-02
Sample ID: CPS01

Acq. Data: 10/25/2018 11:43:26 AM
Sample Name: TDTFWD ST1828537B
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By uild at 2:56 pm, 11/19/18

*** file opened Thu Oct 25 11:46:20 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 11:46:20

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : a454ca02-cd71-4275-a299-75c8559f713e

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU           1000.0000   BCORRS           0.0170   BMASS           99.0000
 BQUAD             5.9500   CAPIL            0.0000   CAPTSET        200.0000
 CCURR             0.0000   COUNTING         0.0000   DELAY            0.0000
 DRAW            -25.0000   DRAWC            0.0000   DRAWS            0.0000
 DYNVOLTAGE       15.0000   ECORR            0.9995   ECURR            1.0000
 EDAC        7969177.0000   EDACG            1.0000   EDACZ          226.0000
 ELEN            -50.0000   EMULT         1775.0000   ENS            220.0000
 ENSBR             5.9500   ERATIO           1.0000   ESA            679.0600
 ESIPAR            0.0000   EXS            171.0000   EXSBR           -0.4700
 FDMA       18000000.0000   FILTER         100.0000   FLENS            1.0000
 FM               50.0000   FMII            50.0000   FQUAD            4.3500
 FQUADGAIN         1.0000   FREQ           400.0000   FSLOPE    36000000.0000
 FVANAL            0.0174   FVINLET          0.0346   FVSRC            0.0322
 FWIN              0.7000   HCURR            0.0000   HVANAL           0.0000
 HVSRC             0.0000   ICAL0            0.0011   ICAL1            0.4030
 ICAL2             0.5865   IONEN            0.0000   IST              0.0000
 ISTC            260.0000   ISTS           260.0000   LENS_POT       704.0000
 LENS_SYM         16.0000   LM             650.0000   LMII           500.0000
 LMASS            99.0000   LKM            442.9723   MASS            99.0000
 MDAC         963202.2819   MRANGE        1614.4523   NSAM           200.0000
 NSCAN          2154.0000   NSMAX            8.0000   NSMIN           66.0000
 NPEAK            11.0000   MULT            -2.0000   PSAM            10.0000
 PUSHER          -15.0000   RECURR           0.9670   RELEN            0.0000
 RES           10043.0820   RPUSHER        -14.7912   RDRAW            0.0000
 RDRAWC            0.0000   RWIN             2.0000   SCIDLE           0.0000
 SHIELD_POT      708.0000   SHIELD_SYM       0.0000   SHIGH          180.0000
 SKIM              7.0000   SLOW            60.0000   SS               2.0000
 SW                0.0223   TANAL            0.0000   TCURR            0.0000
 TD               30.0000   TS              33.4574   THRESH           2.0000
 TIS               0.2000   TREF           120.0000   TSAM           200.0000
 TSET              0.0000   TUBEL            0.0000   UROT             0.0000
 USERVAR           0.0000   UTQ1           150.0000   UTQ2           190.0000
 UTQ3             80.0000   VMASS           99.0000   XLENS_POT      924.0000
 XLENS_SYM         2.2500   YLENS_POT      750.0000   YLENS_SYM       -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.5e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10669.
MID Time Window 2: Resolution is 10720.
MID Time Window 3: Resolution is 10960.
MID Time Window 4: Resolution is 11217.
```

```
  MID Time Window 5: Resolution is 10984.
  MID Time Window 6: Resolution is 10043.

  Amplifier Offset: 88.


*** File closed Thu Oct 25 12:37:22 2018
  ***
```

		DF18471-18OCT25DFICAL							
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
	18OCT25-04	18OCT25-05	18OCT25-06	18OCT25-07	18OCT25-08	18OCT25-09			
2378-TCDF	1.1902	0.9543	0.9609	0.9843	0.9991	1.0175	1.0177	0.0877	8.62
2378-TCDD	1.4474	1.0976	1.1318	1.1848	1.1880	1.1943	1.2073	0.1236	10.24
12378-PeCDF	1.0052	0.8936	0.8945	0.9353	0.9282	0.9379	0.9324	0.0407	4.37
23478-PeCDF	1.0833	0.9856	1.0022	1.0616	1.0378	1.0377	1.0347	0.0362	3.50
12378-PeCDD	1.1536	0.9675	0.9726	0.9995	1.0081	1.0206	1.0203	0.0684	6.71
123478-HxCDF	1.2147	1.0903	1.1240	1.1636	1.1469	1.1844	1.1540	0.0441	3.82
123678-HxCDF	1.1859	1.0714	1.0698	1.1266	1.1056	1.1208	1.1133	0.0429	3.86
234678-HxCDF	1.3366	1.1321	1.1614	1.1951	1.1916	1.2140	1.2051	0.0706	5.85
123478-HxCDD	1.0589	0.9492	0.9597	0.9985	0.9955	1.0204	0.9970	0.0402	4.03
123678-HxCDD	0.9658	0.9346	0.9828	1.0045	1.0102	0.9831	0.9802	0.0275	2.81
123789-HxCDD	1.1264	0.9934	1.0409	1.0608	1.0600	1.0556	1.0562	0.0428	4.05
123789-HxCDF	1.2822	1.0729	1.0642	1.1108	1.0987	1.1033	1.1220	0.0805	7.18
1234678-HpCDF	1.2460	1.2128	1.2149	1.2459	1.2242	1.2580	1.2336	0.0188	1.52
1234678-HpCDD	1.0837	0.9993	0.9946	1.0333	1.0251	1.0163	1.0254	0.0322	3.14
1234789-HpCDF	1.3325	1.2437	1.2425	1.2802	1.2693	1.2973	1.2776	0.0342	2.68
OCDD	1.1051	0.9660	0.9658	0.9987	0.9963	1.0224	1.0090	0.0518	5.13
OCDF	0.9252	0.8634	0.8776	0.9050	0.8911	0.9343	0.8994	0.0274	3.05
13C12-1278-TCDD (CRS)	1.0851	1.0494	1.0859	1.0076	1.0468	1.0385	1.0522	0.0298	2.83
13C12-1234-TCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-123468-HxCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-2378-TCDF	1.9899	1.9473	1.9807	1.9156	1.9240	1.9422	1.9499	0.0299	1.53
13C12-2378-TCDD	1.0312	1.0091	1.0364	0.9759	0.9868	0.9812	1.0034	0.0261	2.61
13C12-12378-PeCDF	1.9401	1.8883	1.9432	1.8900	1.9392	1.9510	1.9253	0.0283	1.47
13C12-23478-PeCDF	1.9310	1.9098	1.9432	1.8923	1.9451	2.0083	1.9383	0.0399	2.06
13C12-12378-PeCDD	1.0547	1.0425	1.0505	1.0242	1.0504	1.0302	1.0421	0.0123	1.18
13C12-123478-HxCDF	1.4806	1.4356	1.3912	1.4286	1.4745	1.5728	1.4639	0.0626	4.27
13C12-123678-HxCDF	1.5186	1.4729	1.4649	1.4846	1.5520	1.6934	1.5311	0.0859	5.61
13C12-234678-HxCDF	1.4256	1.3498	1.3446	1.3723	1.4142	1.5432	1.4083	0.0739	5.25
13C12-123478-HxCDD	1.0207	0.9655	0.9607	0.9867	1.0269	1.0703	1.0051	0.0421	4.19
13C12-123678-HxCDD	1.0410	0.9931	0.9594	0.9888	1.0334	1.1220	1.0230	0.0572	5.59
13C12-123789-HxCDD	0.9861	0.9387	0.9129	0.9429	0.9804	1.0711	0.9720	0.0557	5.73
13C12-123789-HxCDF	1.3112	1.2589	1.2216	1.2501	1.3229	1.4994	1.3107	0.1001	7.63
13C12-1234678-HpCDF	1.3694	1.2883	1.2767	1.3298	1.3600	1.4750	1.3499	0.0717	5.31
13C12-1234678-HpCDD	0.9550	0.9224	0.9065	0.9415	0.9713	1.0596	0.9594	0.0542	5.65
13C12-1234789-HpCDF	1.0906	1.0553	1.0239	1.0791	1.1194	1.2227	1.0985	0.0689	6.27
13C12-OCDD	0.8913	0.8551	0.8099	0.8879	0.9198	1.0192	0.8972	0.0706	7.87
13C12-OCDF	1.3981	1.3349	1.2644	1.3814	1.4387	1.6487	1.4110	0.1309	9.27
Total TCDF	1.1902	0.9543	0.9609	0.9843	0.9991	1.0175	1.0177	0.0877	8.62
Total TCDD	1.4474	1.0976	1.1318	1.1848	1.1880	1.1943	1.2073	0.1236	10.24
Total PeCDD	1.1536	0.9675	0.9726	0.9995	1.0081	1.0206	1.0203	0.0684	6.71
Total PeCDF	1.0441	0.9399	0.9484	0.9985	0.9831	0.9885	0.9837	0.0376	3.82
Total HpCDD	1.0837	0.9993	0.9946	1.0333	1.0251	1.0163	1.0254	0.0322	3.14
Total HxCDF	1.2528	1.0915	1.1052	1.1496	1.1357	1.1553	1.1483	0.0570	4.96
Total HxCDD	1.0489	0.9585	0.9937	1.0206	1.0213	1.0191	1.0104	0.0308	3.05
Total HpCDF	1.2844	1.2267	1.2272	1.2613	1.2446	1.2758	1.2533	0.0245	1.95

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 13:34
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-04.quan
Data	y:\18oct25\18oct25-04.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	29.33	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.48	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.32	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.60	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.00	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.31	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.16	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.35	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.79	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.17	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.91	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.12	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.68	passed	passed	passed	passed	passed	passed	
16	OCDD	48.17	passed	passed	passed	passed	passed	passed	
17	OCDF	48.35	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.87	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.62	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.20	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.30	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.44	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.29	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.57	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.98	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.30	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.45	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.15	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.35	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.78	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.16	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.91	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.11	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.66	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.16	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.33	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.00	passed (1)	---	---	---	---	---	
39	Total TCDD	29.03	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.98	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.14	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.82	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.75	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.74	passed (2)	---	---	---	---	---	
46	Single TCDF	29.33	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.48	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.00	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.60	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.32	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.12	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.46	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.31	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.16	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.17	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.79	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.35	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.48	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.91	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.68	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 13:34
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-04.quan
Data	y:\18oct25\18oct25-04.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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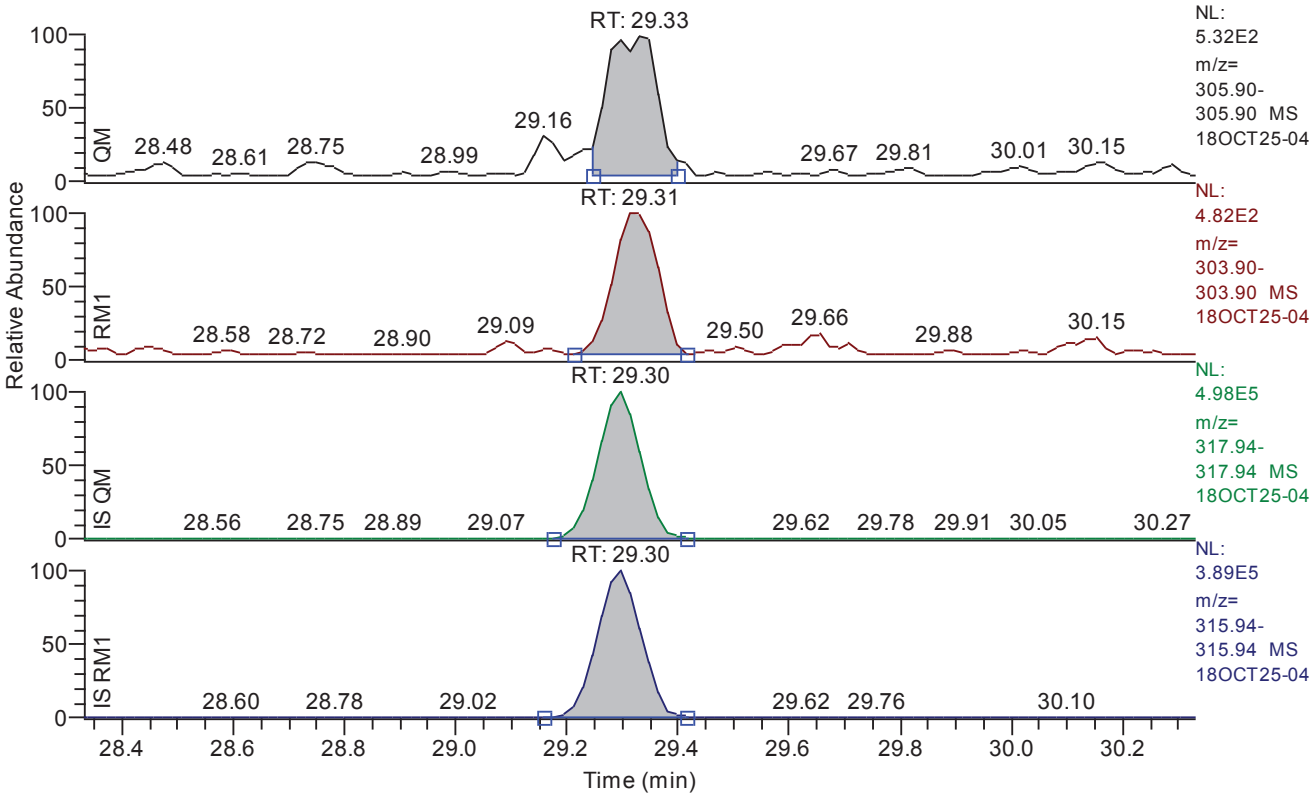
Chromatogram

RT: 28.33 - 30.33 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.33
QM Area	3193
QM Integration Mode	M
RM1 Area	2626
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	53
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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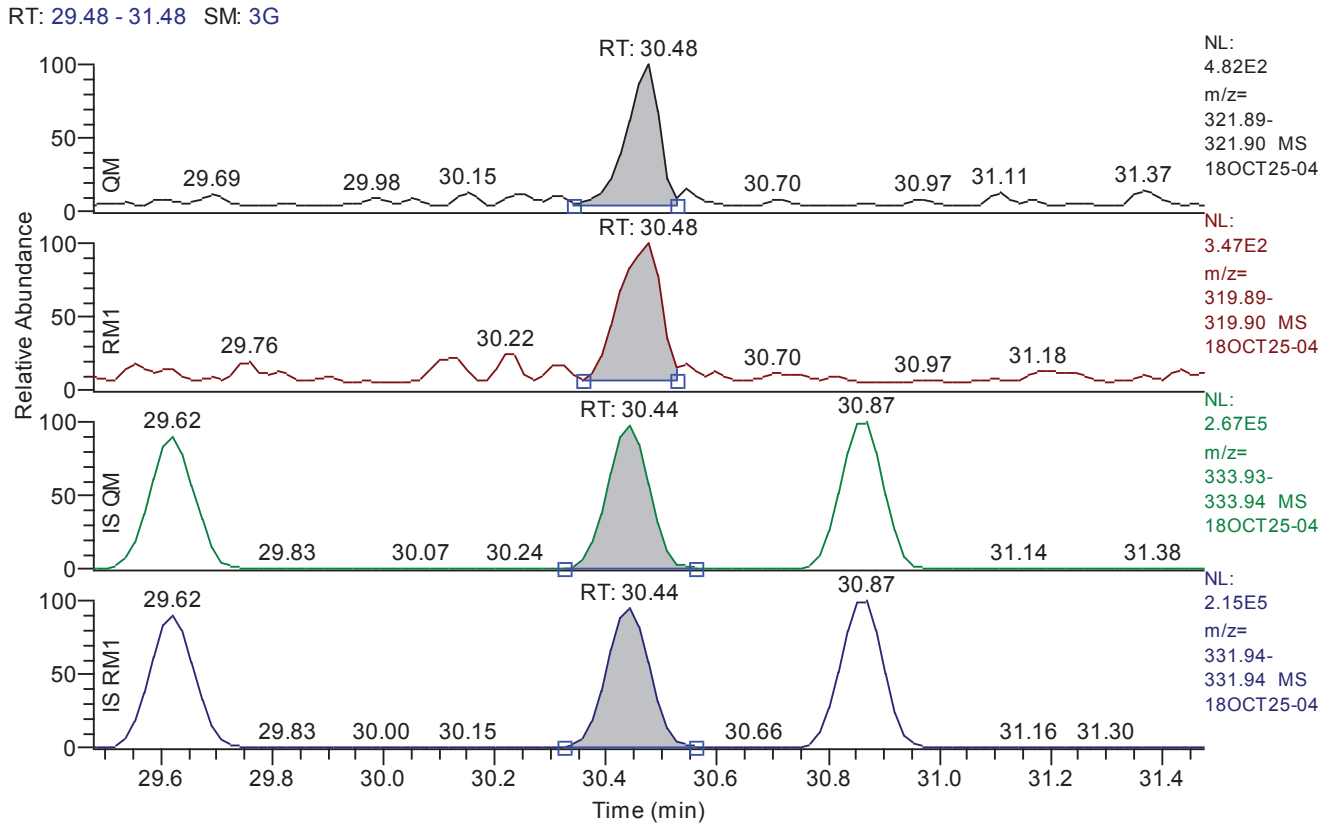
Chromatogram



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.48
QM Area	1936
QM Integration Mode	A
RM1 Area	1731
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	49
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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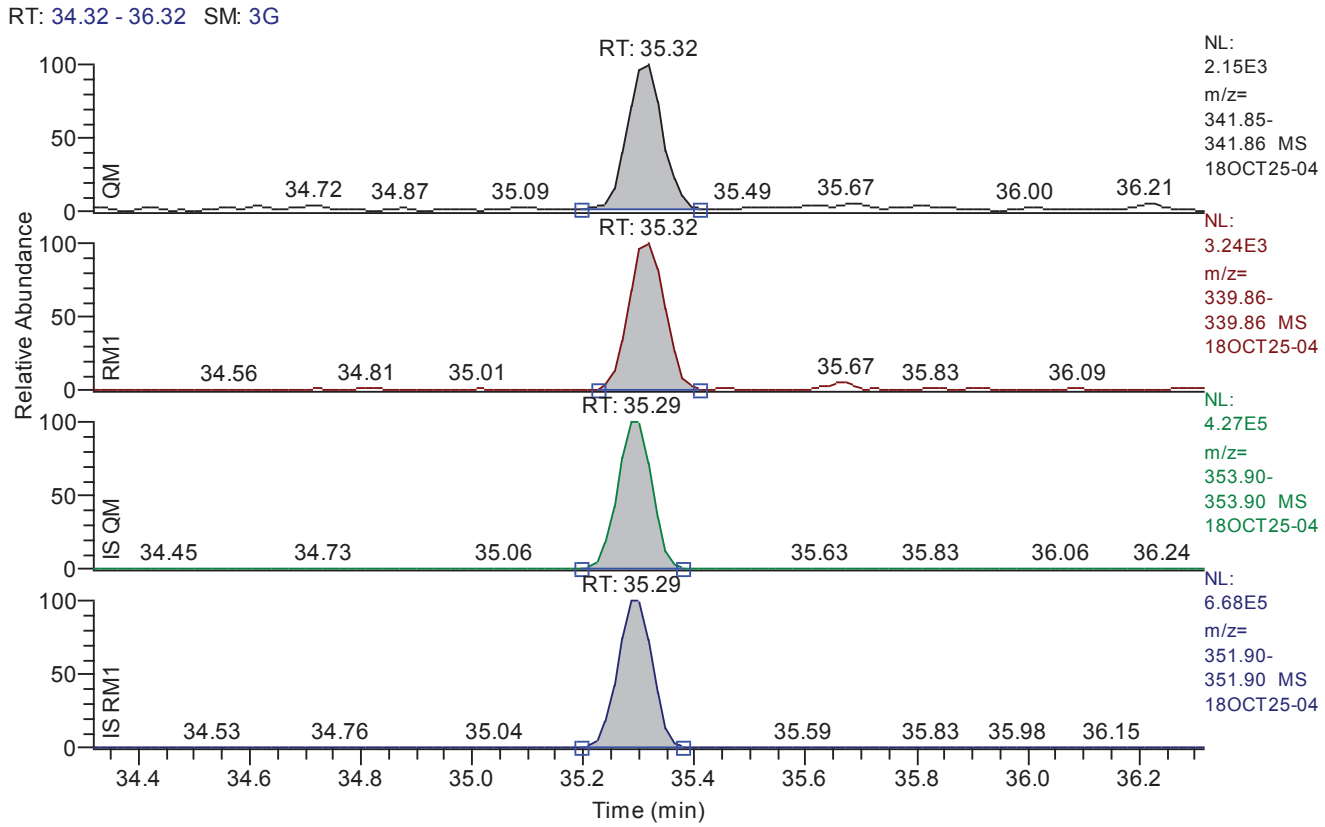
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.32
QM Area	9466
QM Integration Mode	A
RM1 Area	14491
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	243
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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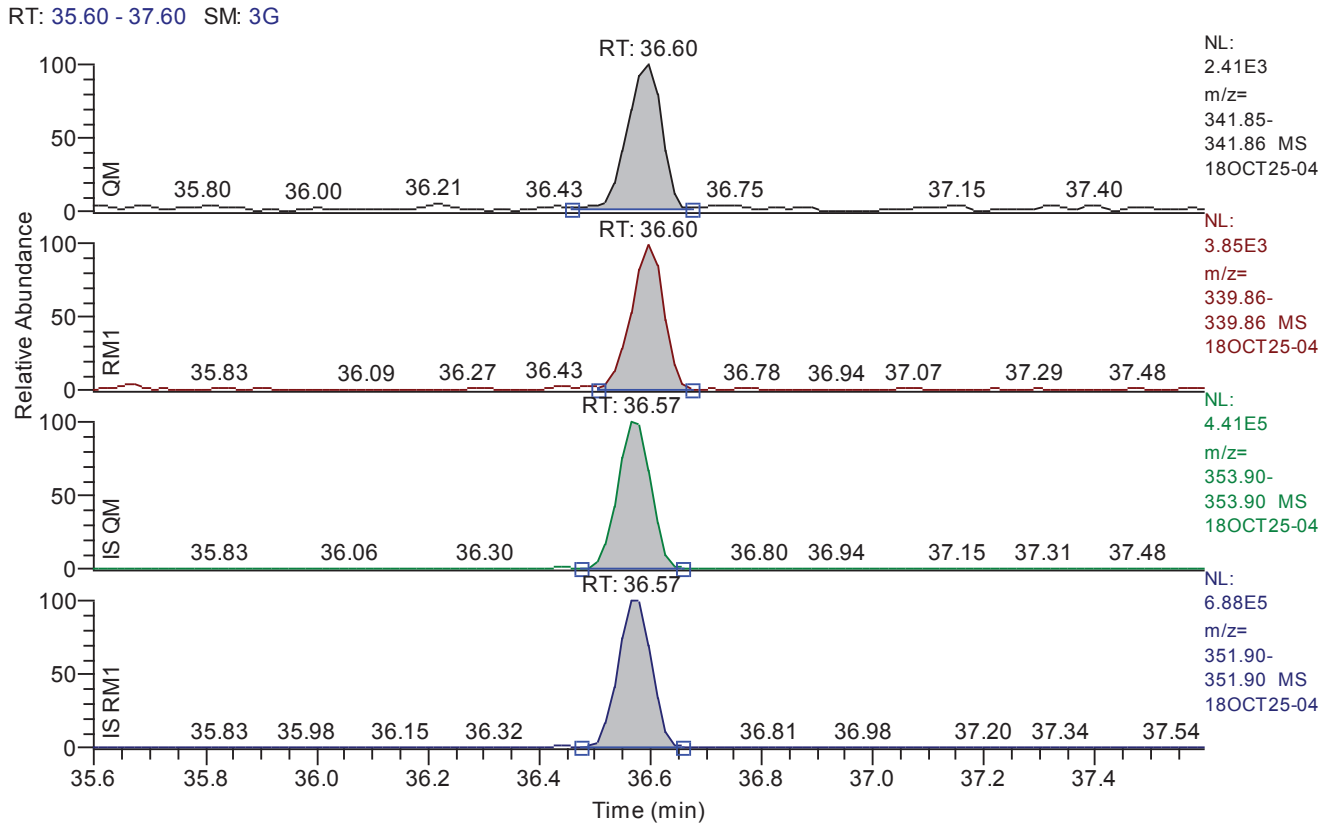
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.60
QM Area	10337
QM Integration Mode	A
RM1 Area	15361
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	282
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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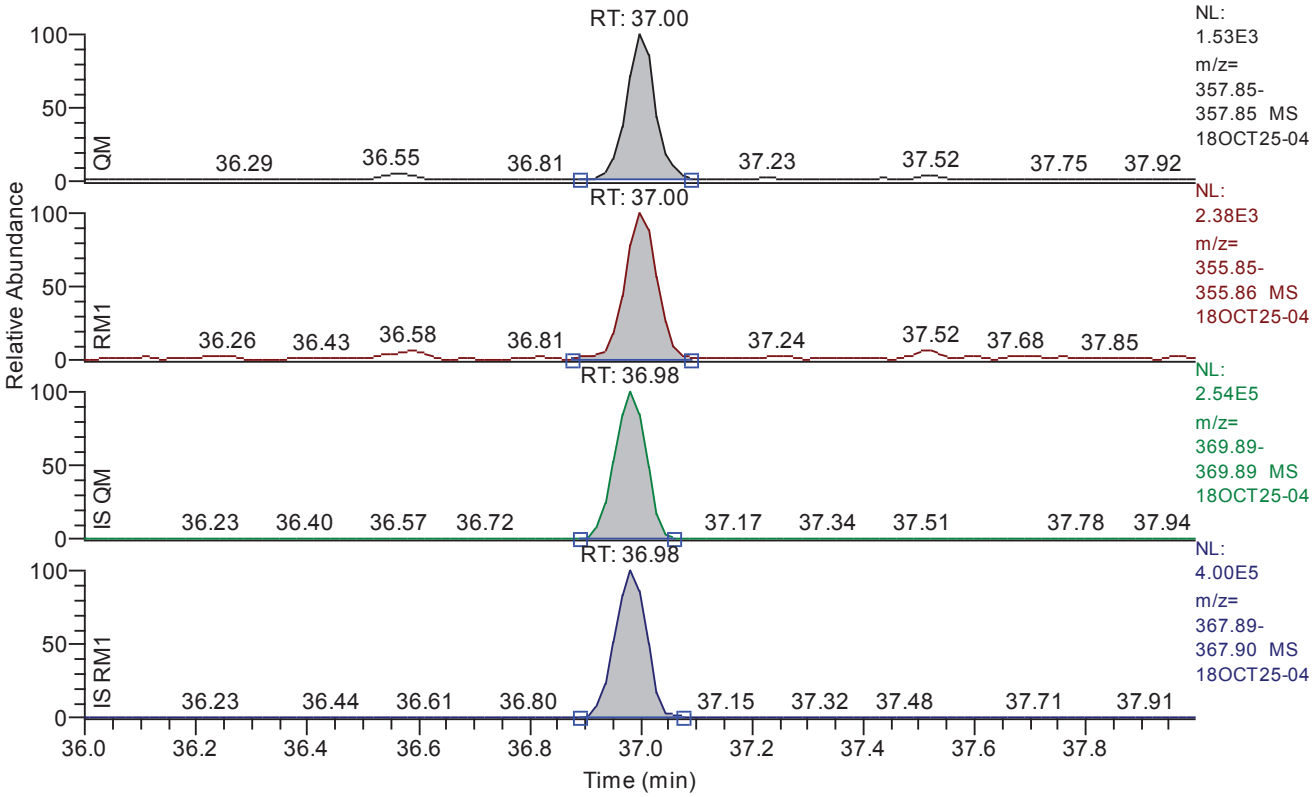
Chromatogram

RT: 36.00 - 38.00 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.00
QM Area	5490
QM Integration Mode	A
RM1 Area	9457
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0077
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	166
Client Flags	
Status Overview	passed
Status Info	

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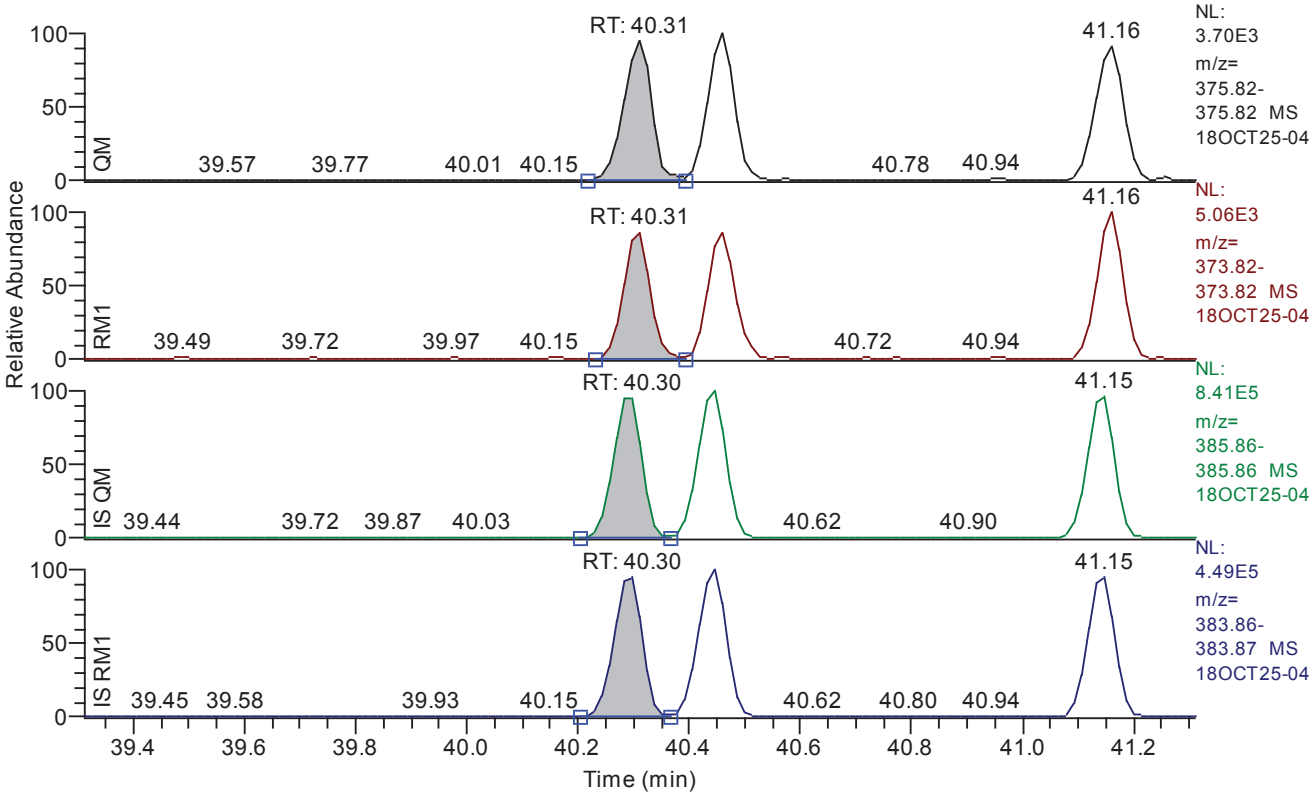
Chromatogram

RT: 39.31 - 41.31 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.31
QM Area	12236
QM Integration Mode	A
RM1 Area	14527
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0039
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	341
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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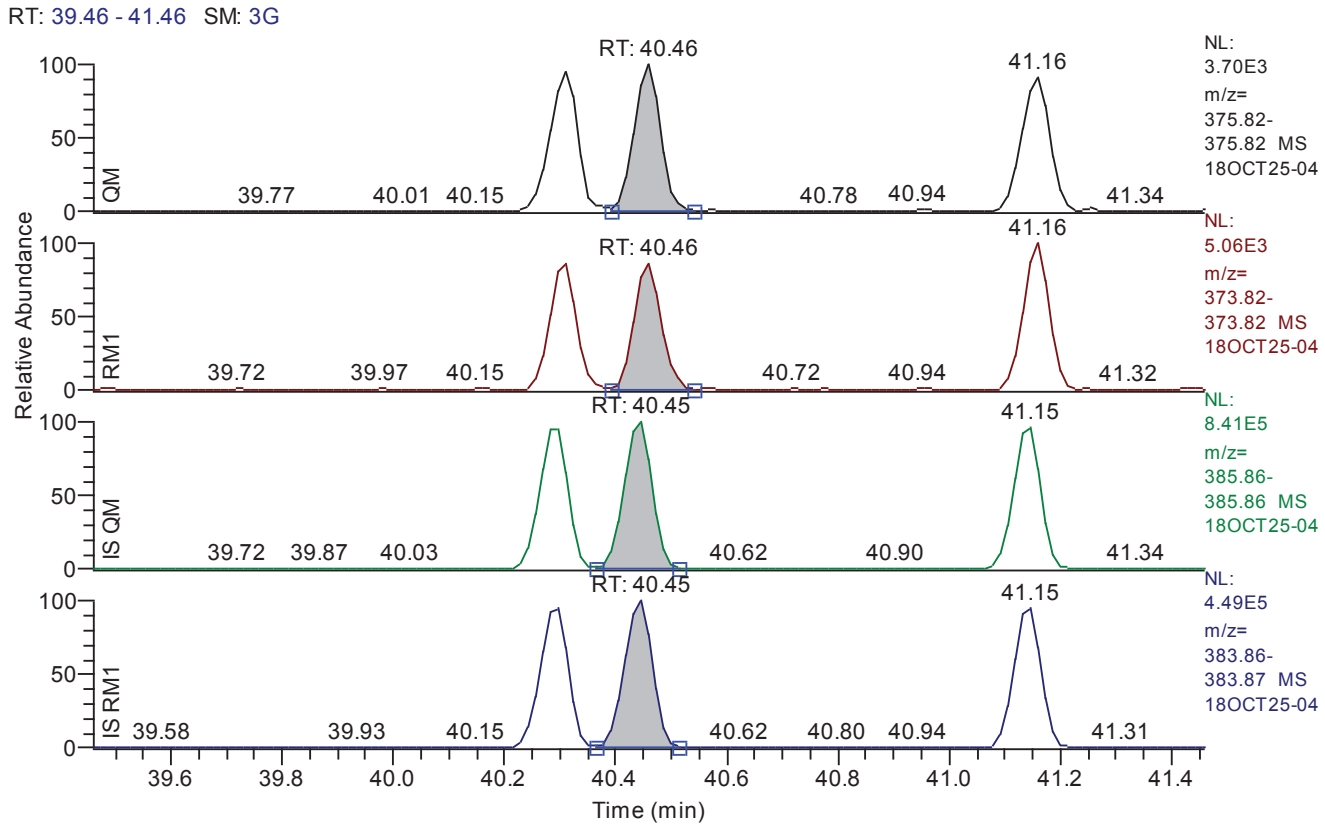
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.46
QM Area	12118
QM Integration Mode	A
RM1 Area	14682
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0038
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	347
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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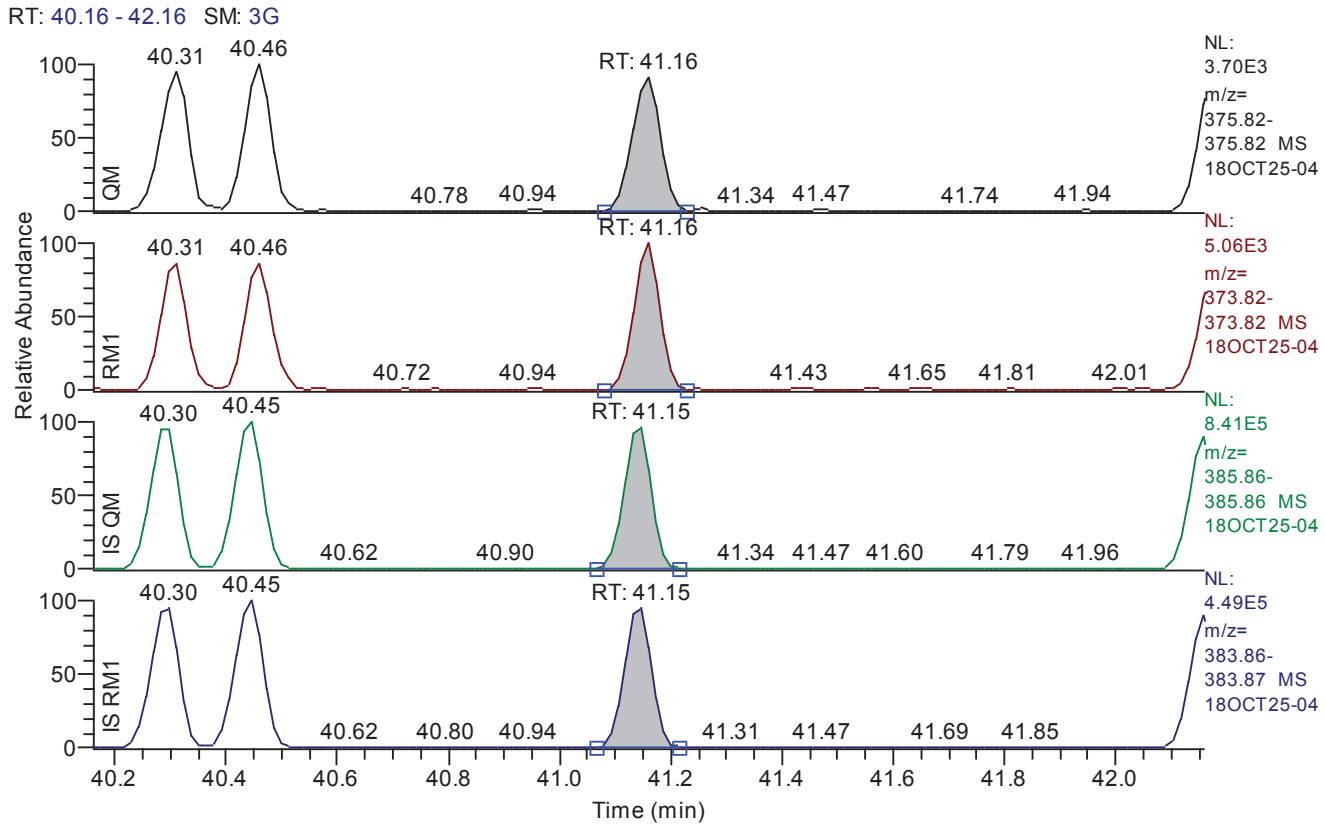
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.16
QM Area	11991
QM Integration Mode	A
RM1 Area	16365
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0035
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	364
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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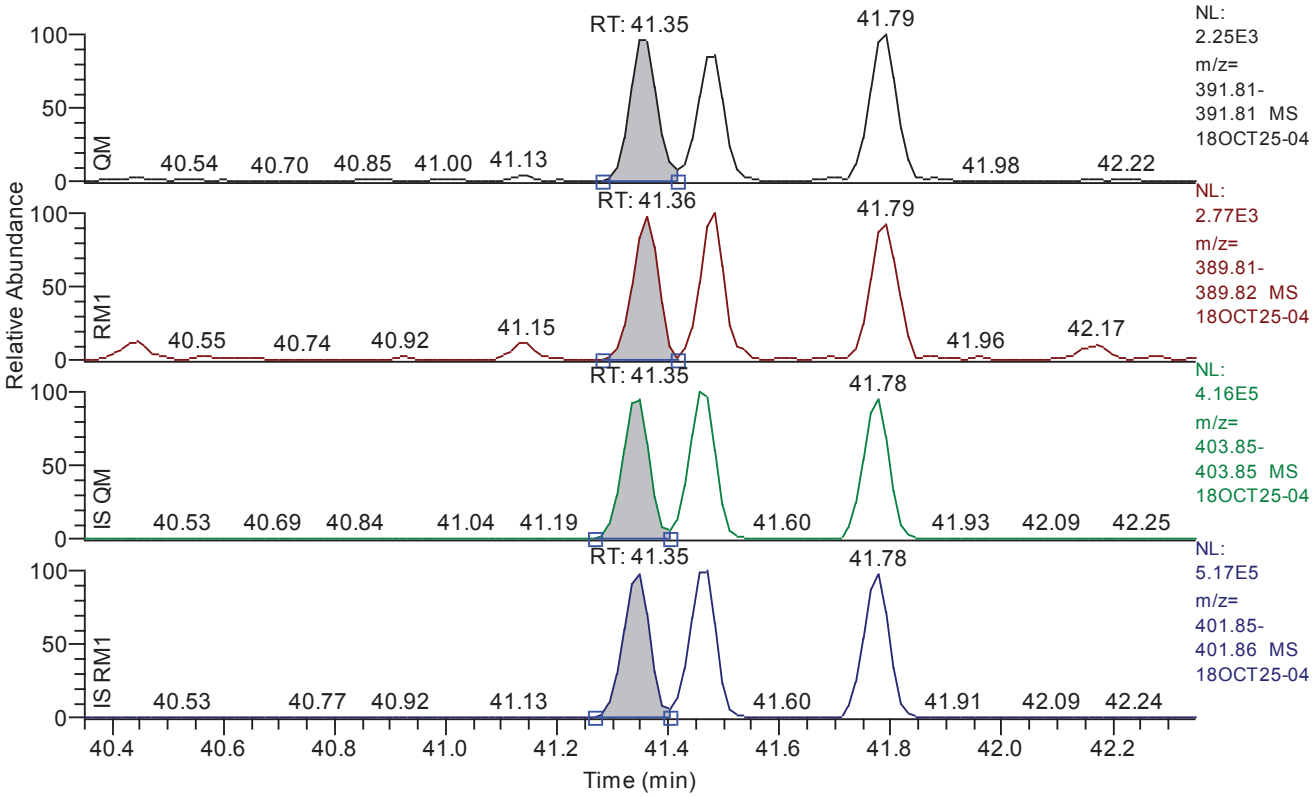
Chromatogram

RT: 40.35 - 42.35 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.35
QM Area	7398
QM Integration Mode	A
RM1 Area	8686
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0055
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	229
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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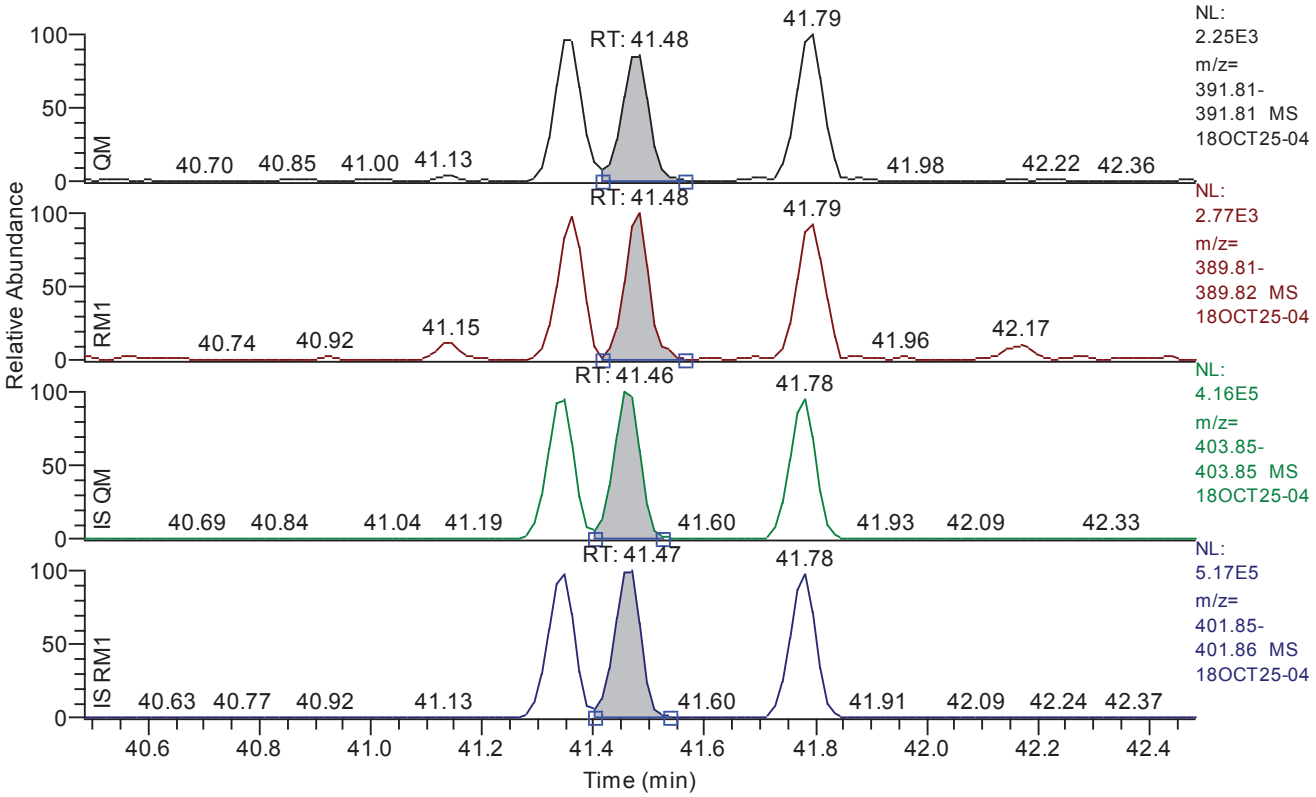
Chromatogram

RT: 40.48 - 42.48 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.48
QM Area	6548
QM Integration Mode	A
RM1 Area	8413
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0059
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	221
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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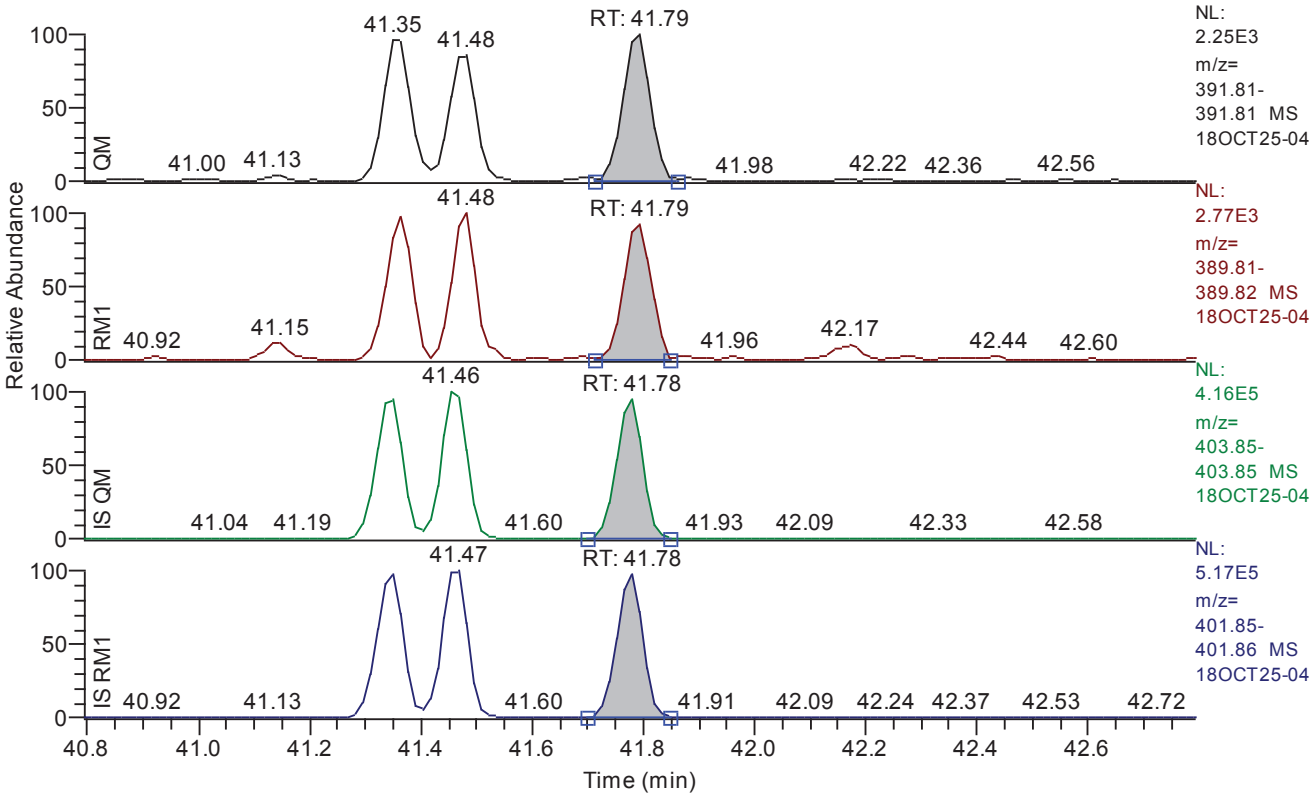
Chromatogram

RT: 40.79 - 42.79 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.79
QM Area	7701
QM Integration Mode	A
RM1 Area	8828
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0052
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	226
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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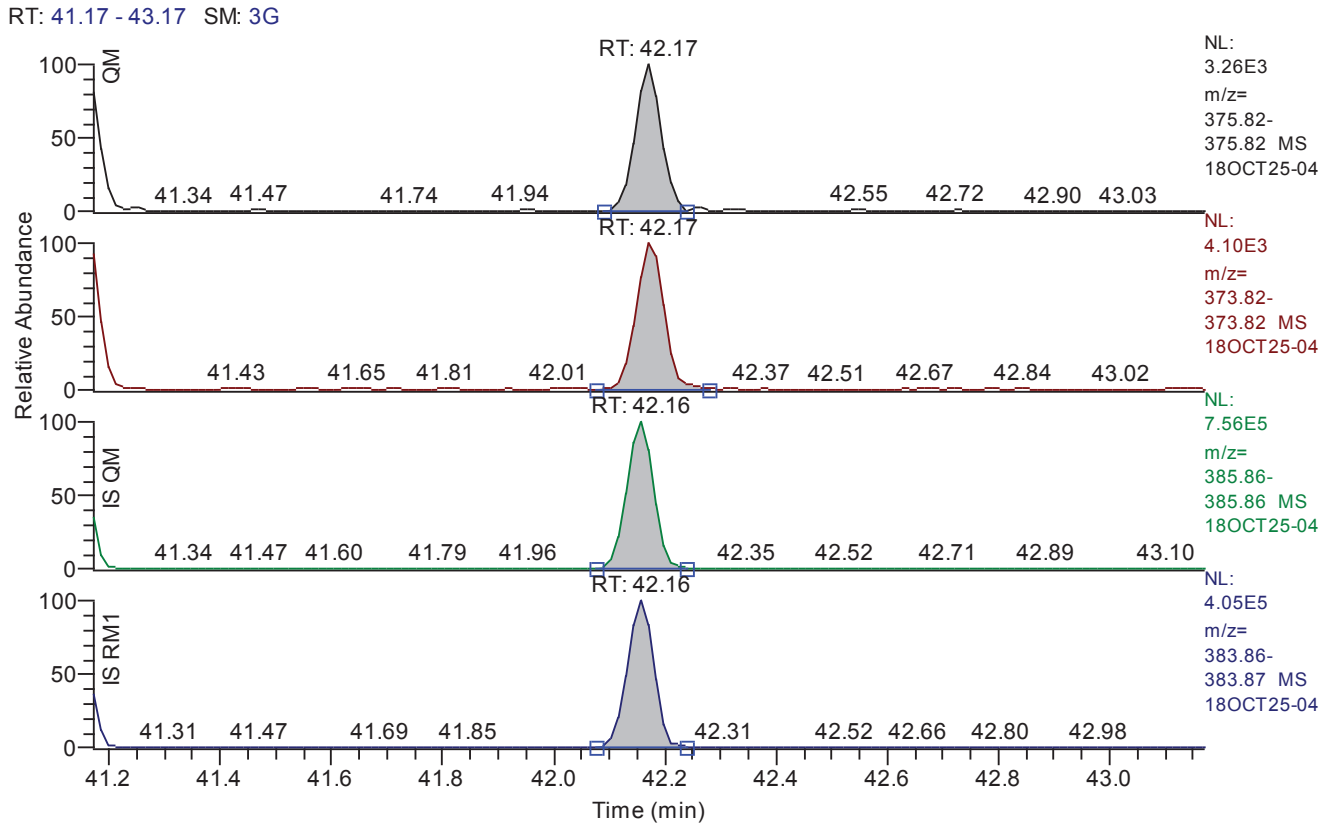
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.17
QM Area	10573
QM Integration Mode	A
RM1 Area	14446
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0039
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	317
Client Flags	
Status Overview	passed
Status Info	

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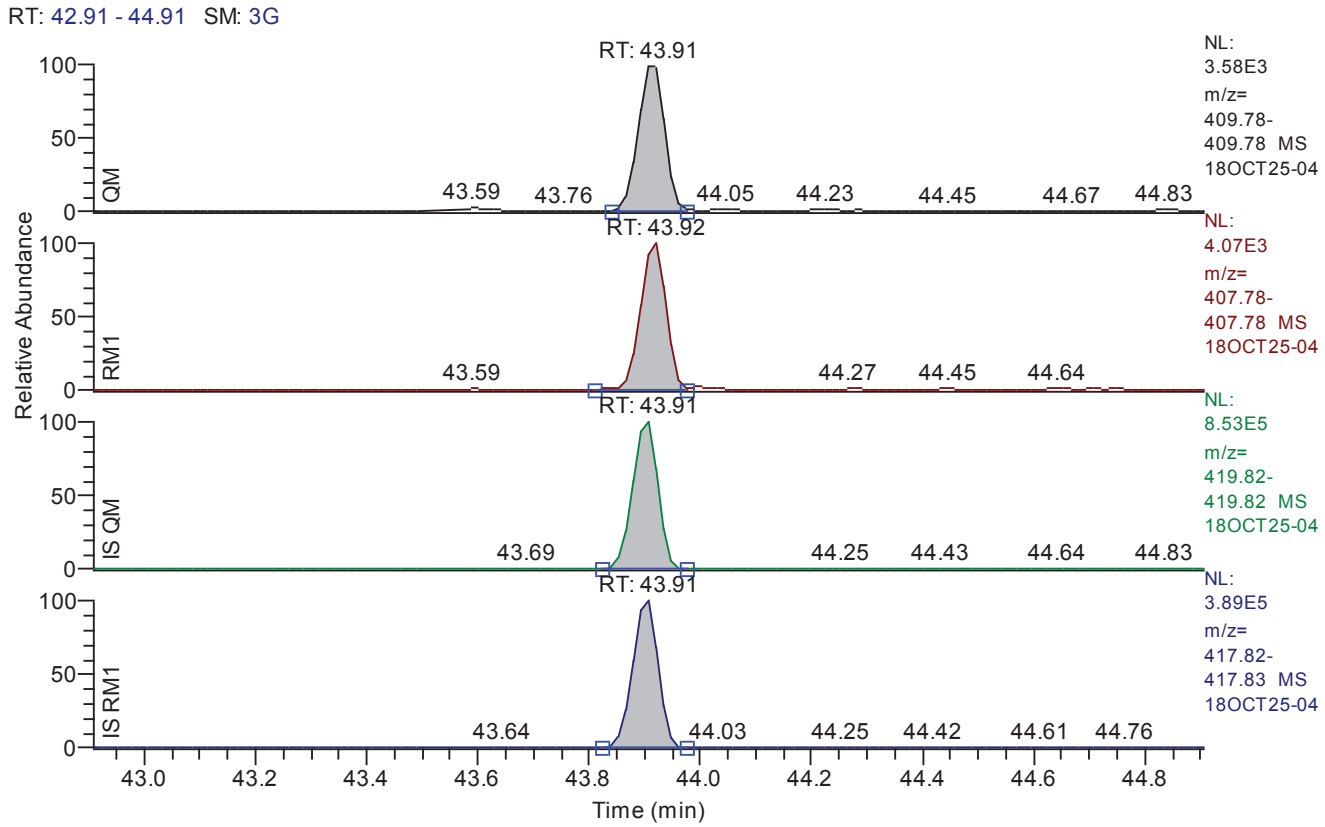
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.91
QM Area	12049
QM Integration Mode	A
RM1 Area	13342
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0044
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	278
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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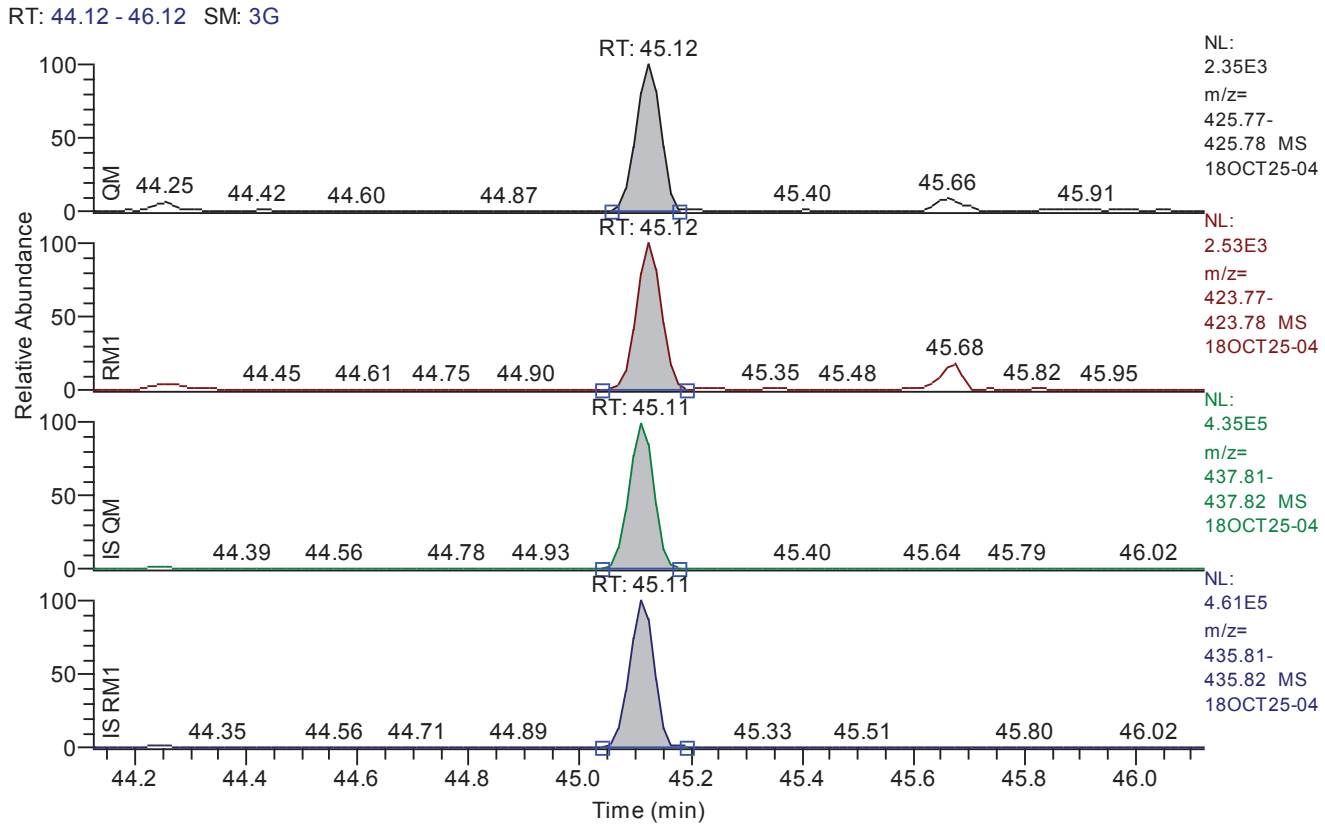
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.12
QM Area	7375
QM Integration Mode	A
RM1 Area	8027
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	313
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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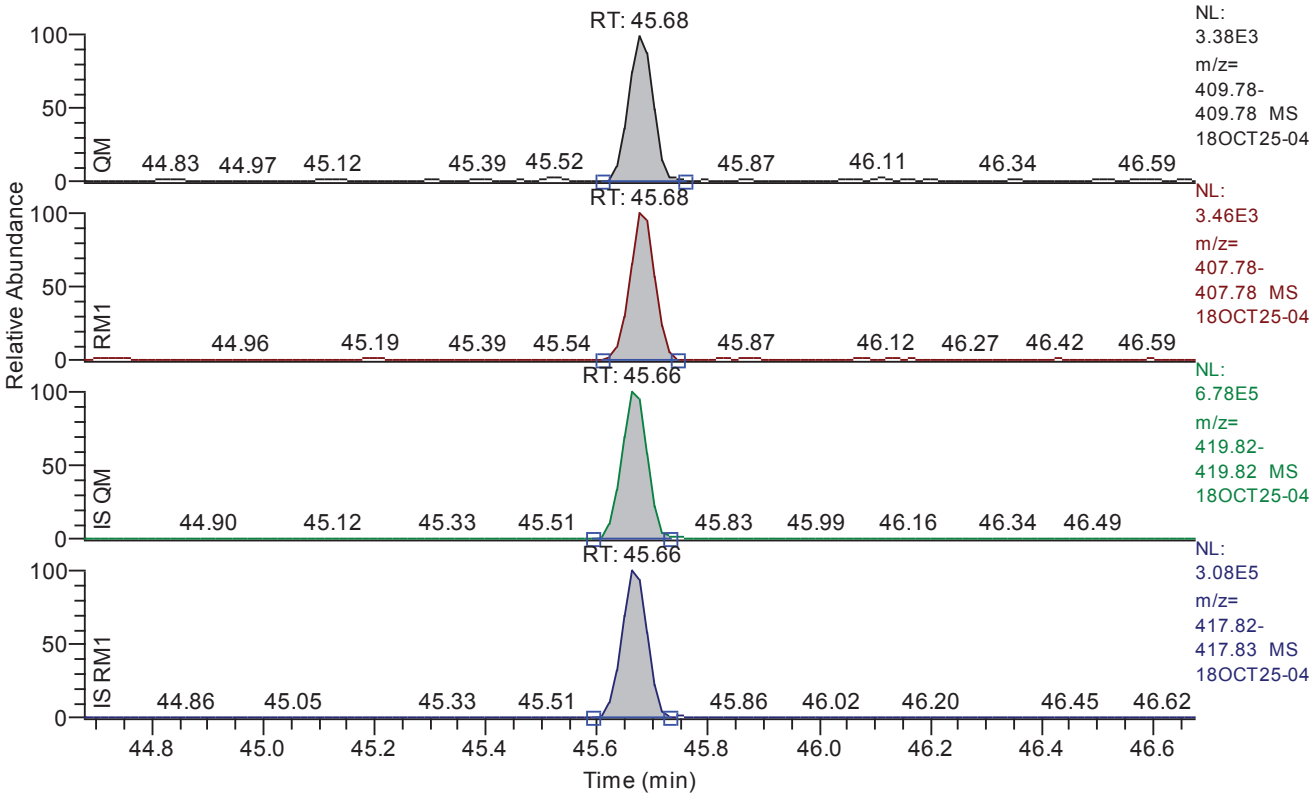
Chromatogram

RT: 44.68 - 46.68 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.68
QM Area	10565
QM Integration Mode	A
RM1 Area	11062
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0052
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	248
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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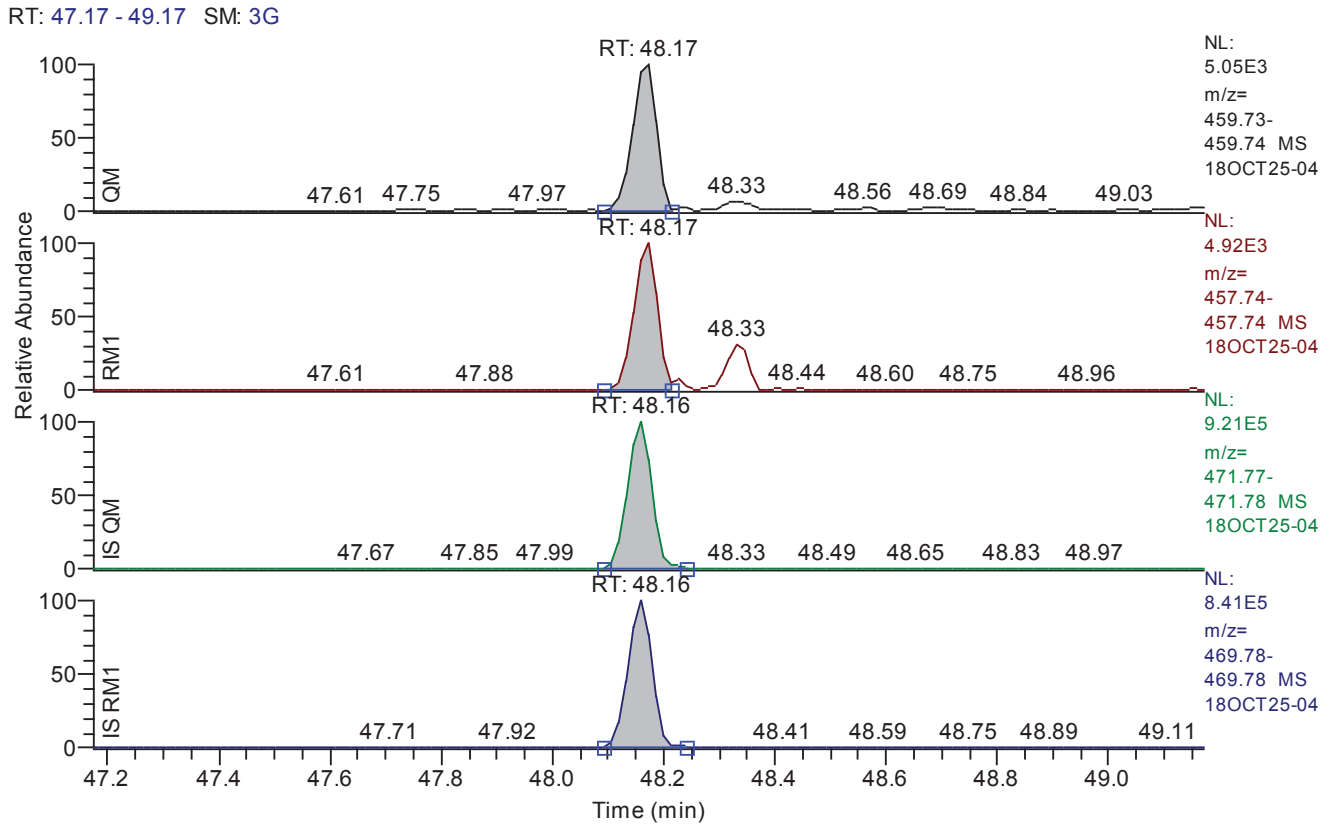
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.17
QM Area	15022
QM Integration Mode	A
RM1 Area	14295
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0094
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	271
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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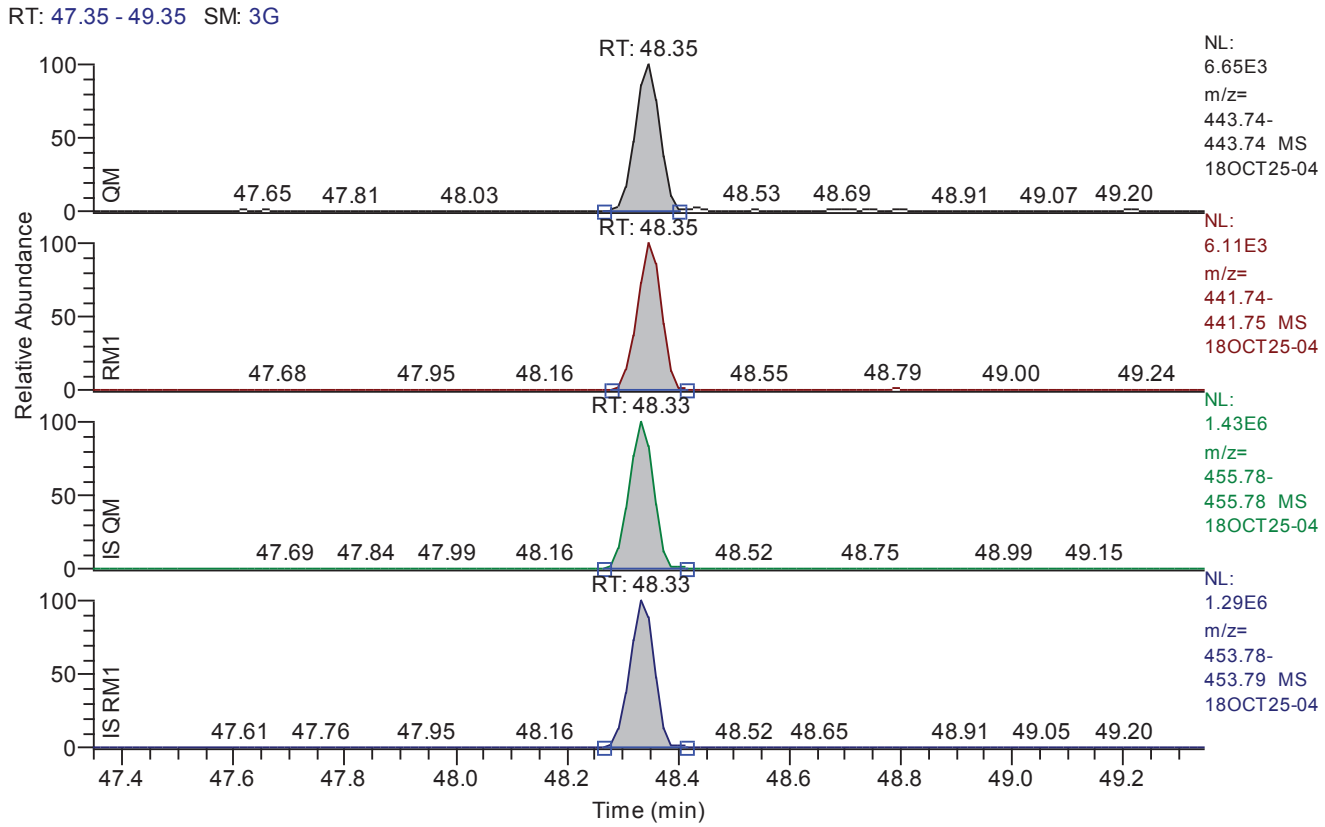
Chromatogram



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.35
QM Area	20194
QM Integration Mode	A
RM1 Area	18304
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	510
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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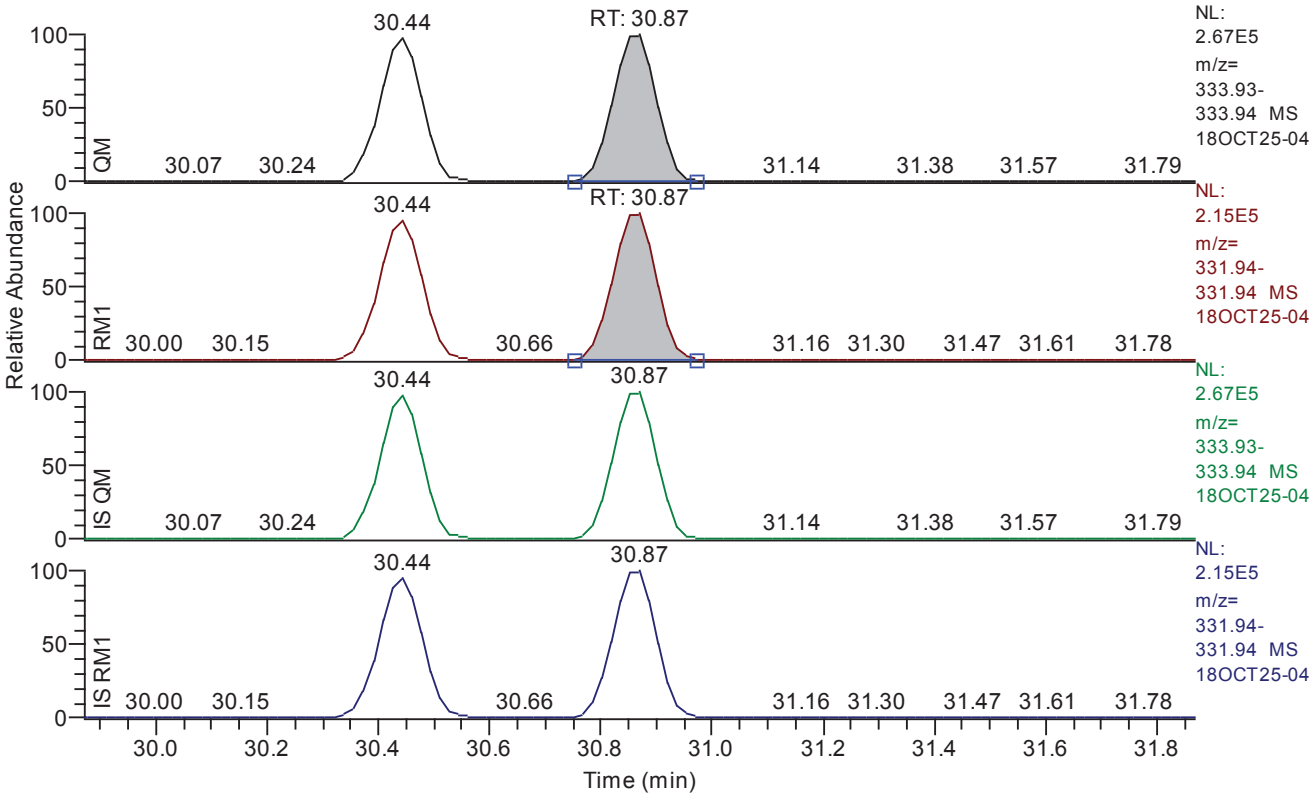
Chromatogram

RT: 29.87 - 31.87 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.87
QM Area	1471982
QM Integration Mode	A
RM1 Area	1194120
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0167
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	15314
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 13:34
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-04.quan
Data	y:\18oct25\18oct25-04.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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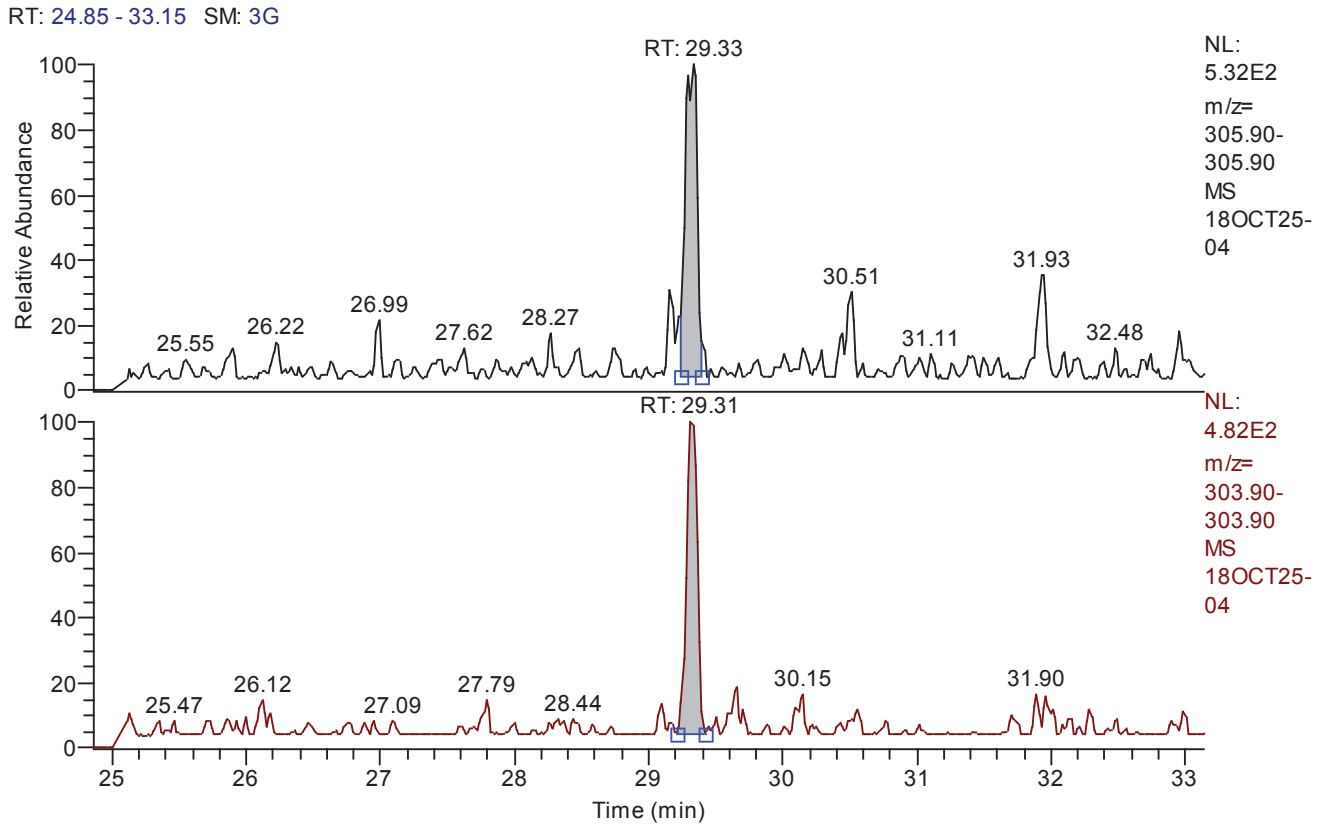
Chromatogram



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	29.00
QM Area	3193
QM Integration Mode	M
RM1 Area	2626
RM1 Integration Mode	M
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	53
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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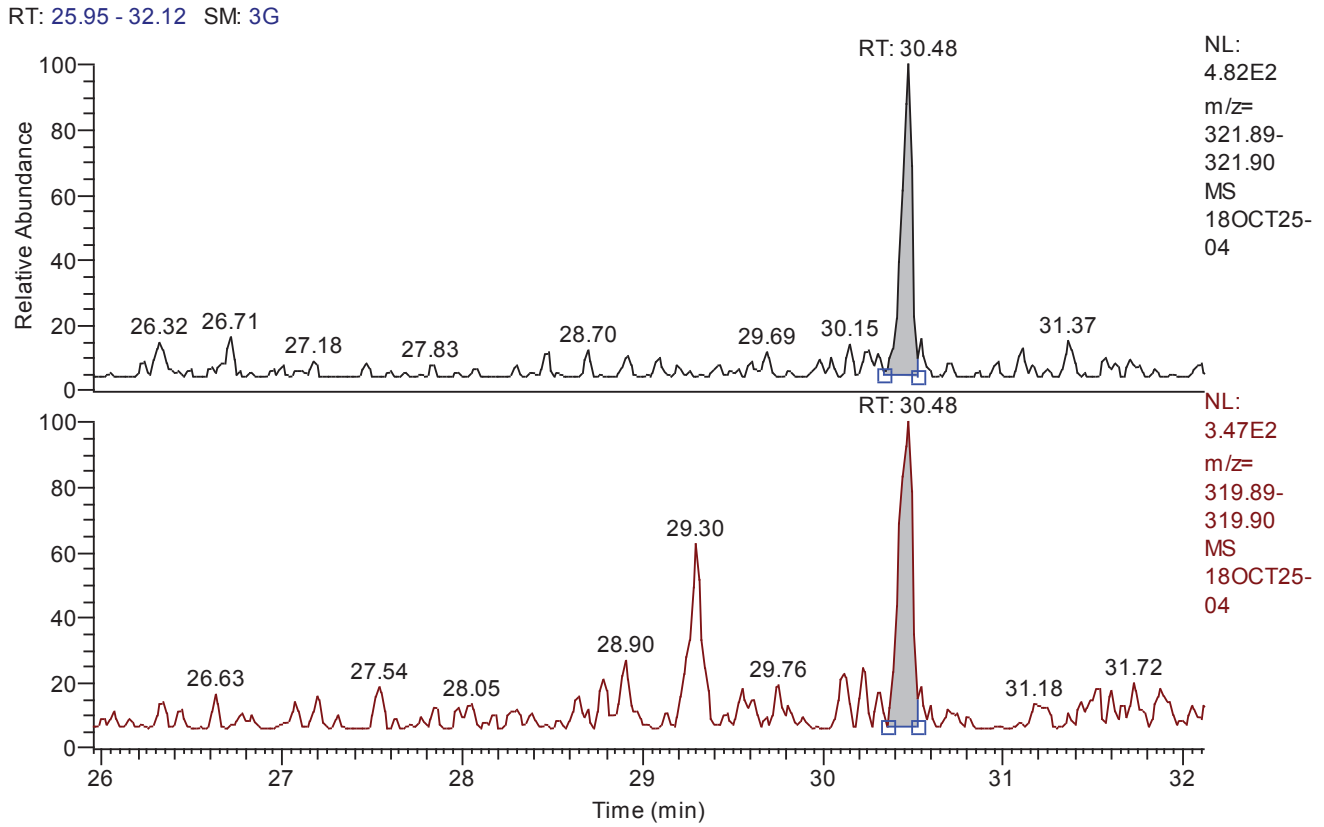
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.03
QM Area	1936
QM Integration Mode	A
RM1 Area	1731
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	49
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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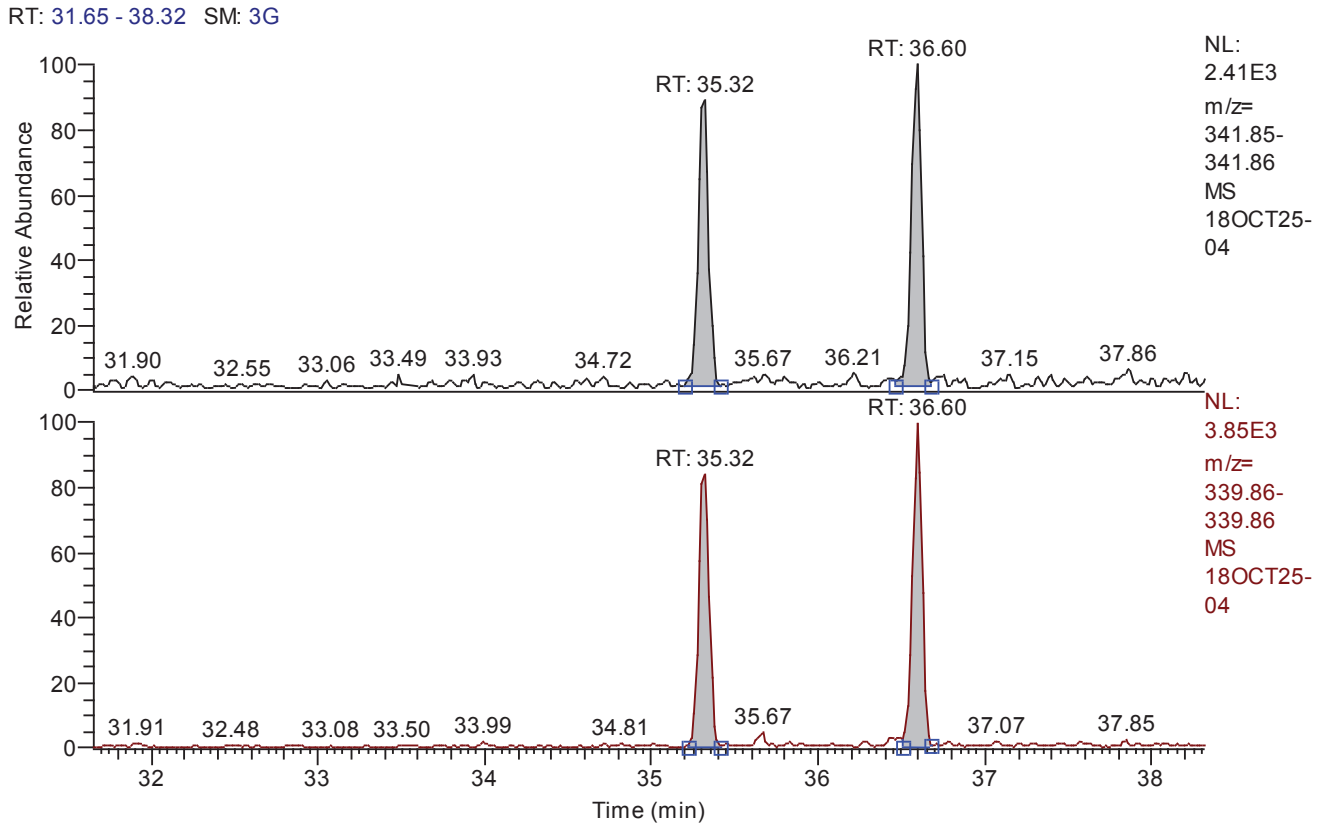
Chromatogram



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.98
QM Area	19803
QM Integration Mode	A
RM1 Area	29852
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	263
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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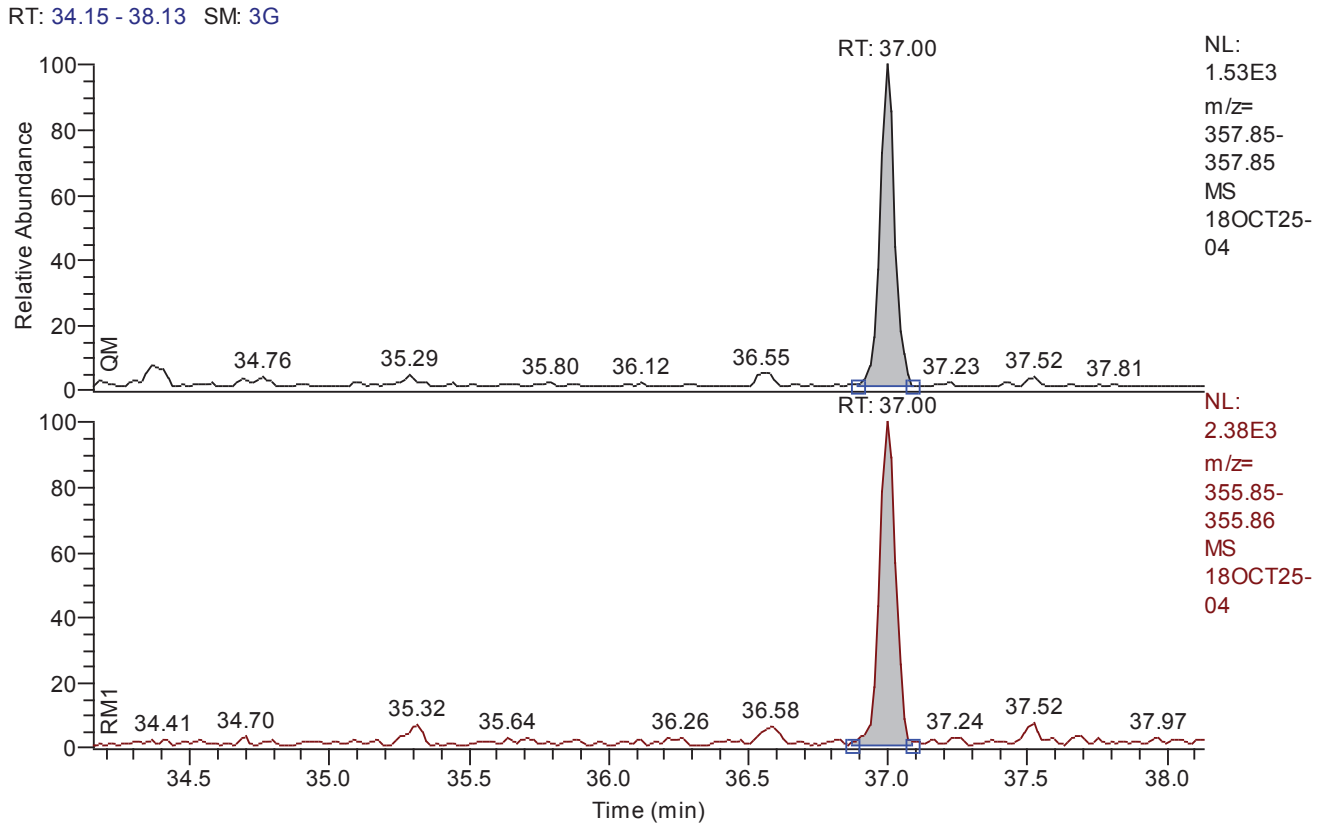
Chromatogram



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.14
QM Area	5490
QM Integration Mode	A
RM1 Area	9457
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0077
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	166
Client Flags	
Status Overview	passed (1)
Status Info	

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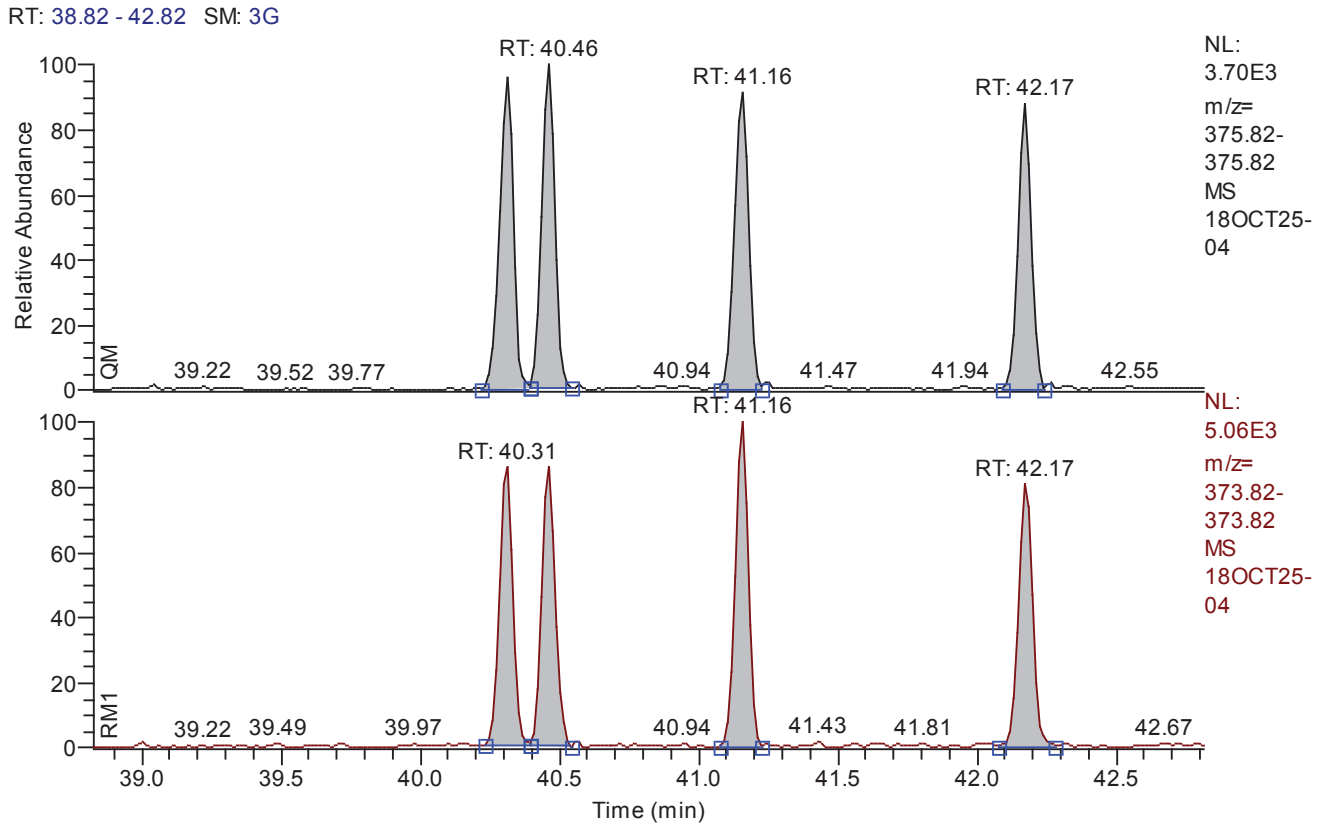
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.82
QM Area	46919
QM Integration Mode	A
RM1 Area	60021
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0037
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	2.0000
Signal-to-Noise	342
Client Flags	
Status Overview	passed (4)
Status Info	

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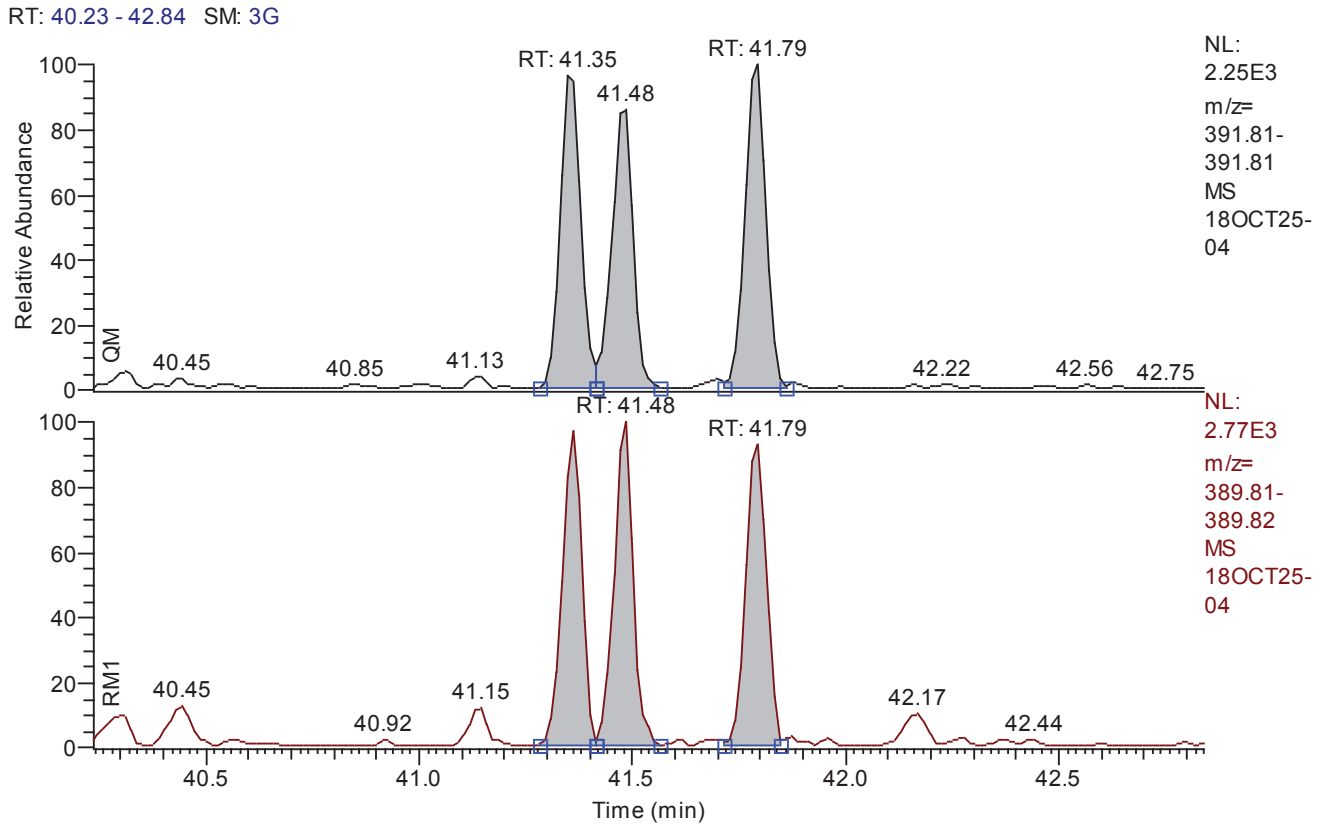
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.54
QM Area	21647
QM Integration Mode	A
RM1 Area	25927
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0055
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.5000
Signal-to-Noise	225
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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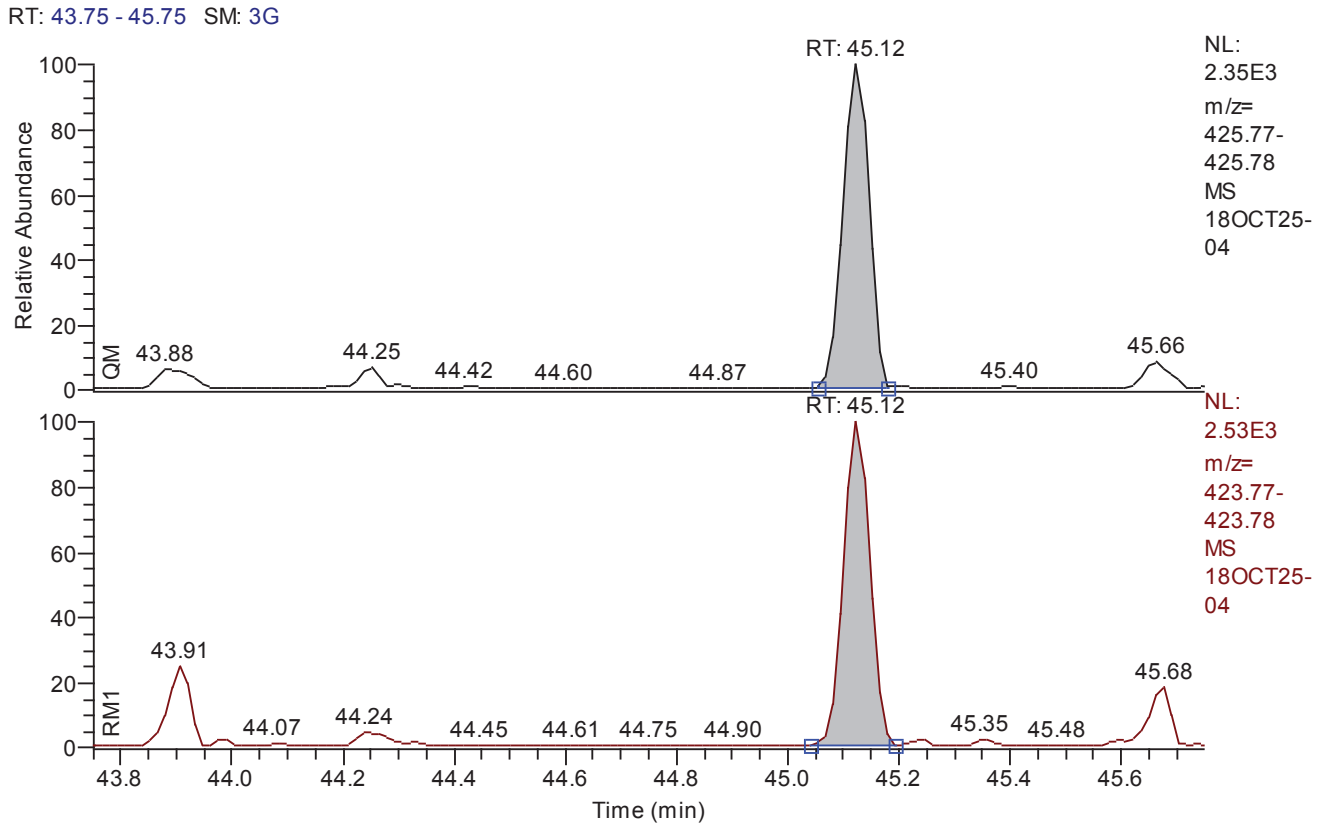
Chromatogram



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.75
QM Area	7375
QM Integration Mode	A
RM1 Area	8027
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	313
Client Flags	
Status Overview	passed (1)
Status Info	

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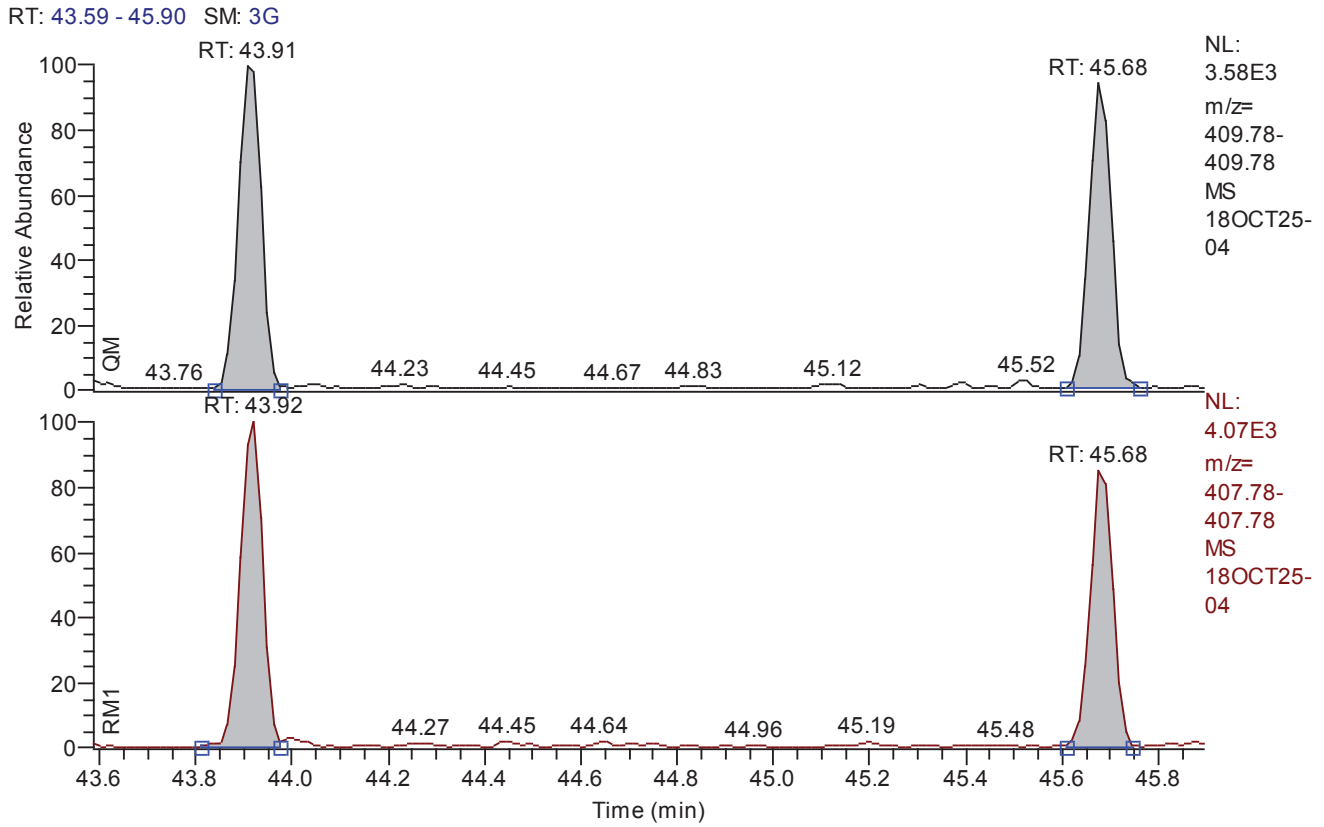
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.74
QM Area	22614
QM Integration Mode	A
RM1 Area	24404
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	263
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	29.33	29.33	29.31	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.48	30.48	30.48	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.32	35.32	35.32	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.60	36.60	36.60	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.00	37.00	37.00	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.31	40.31	40.31	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.46	40.46	40.46	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.35	41.35	41.36	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.48	41.48	41.48	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.79	41.79	41.79	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.17	42.17	42.17	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.91	43.91	43.92	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.12	45.12	45.12	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.68	45.68	45.68	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.17	48.17	48.17	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.35	48.35	48.35	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.87	30.87	30.87	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.62	29.62	29.62	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.20	40.20	40.20	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.30	29.30	29.30	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.44	30.44	30.44	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.29	35.29	35.29	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.57	36.57	36.57	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.98	36.98	36.98	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.30	40.30	40.30	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.45	40.45	40.45	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.15	41.15	41.15	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.35	41.35	41.35	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.46	41.46	41.47	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.78	41.78	41.78	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.16	42.16	42.16	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.91	43.91	43.91	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.11	45.11	45.11	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.66	45.66	45.66	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.16	48.16	48.16	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.33	48.33	48.33	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	29.00	29.00	29.00	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.03	29.03	29.03	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	34.98	34.98	34.98	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	36.14	36.14	36.14	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.82	40.82	40.82	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.54	41.54	41.54	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	44.75	44.75	44.75	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.74	44.74	44.74	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	29.33	29.33	29.31	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.48	30.48	30.48	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	37.00	37.00	37.00	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	36.60	36.60	36.60	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	35.32	35.32	35.32	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	45.12	45.12	45.12	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.46	40.46	40.46	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.31	40.31	40.31	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	41.16	41.16	41.16	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	42.17	42.17	42.17	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.79	41.79	41.79	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.35	41.35	41.36	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.48	41.48	41.48	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	43.91	43.91	43.92	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.68	45.68	45.68	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.33	0.8223	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.48	0.8944	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.32	1.5308	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.60	1.4860	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.00	1.7226	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.31	1.1872	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.46	1.2116	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.16	1.3648	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.35	1.1741	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.48	1.2848	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.79	1.1464	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.17	1.3663	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.91	1.1073	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.12	1.0884	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.68	1.0471	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.17	0.9516	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.35	0.9064	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.87	0.8112	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.62	0.8111	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.20	1.2929	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.30	0.8053	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.44	0.8026	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.29	1.5856	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.57	1.5753	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.98	1.5789	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.30	0.5341	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.45	0.5358	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.15	0.5330	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.35	1.2683	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.46	1.2555	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.78	1.2648	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.16	0.5347	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.91	0.4544	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.11	1.0658	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.66	0.4504	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.16	0.9094	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.33	0.9069	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	29.00	0.8223	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.03	0.8944	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.98	1.5074	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.14	1.7226	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.82	1.2793	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.54	1.1977	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.75	1.0884	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.74	1.0792	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.33	0.8223	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.48	0.8944	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.00	1.7226	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.60	1.4860	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.32	1.5308	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.12	1.0884	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.46	1.2116	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.31	1.1872	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.16	1.3648	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.17	1.3663	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.79	1.1464	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.35	1.1741	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.48	1.2848	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.91	1.1073	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.68	1.0471	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	29.33	3193	M	2626	A	0.0043	0.100000	0.1000	0.100000	53	
2	2378-TCDD	passed	30.48	1936	A	1731	A	0.0060	0.100000	0.1000	0.100000	49	
3	12378-PeCDF	passed	35.32	9466	A	14491	A	0.0050	0.500000	0.5000	0.500000	243	
4	23478-PeCDF	passed	36.60	10337	A	15361	A	0.0045	0.500000	0.5000	0.500000	282	
5	12378-PeCDD	passed	37.00	5490	A	9457	A	0.0077	0.500000	0.5000	0.500000	166	
6	123478-HxCDF	passed	40.31	12236	A	14527	A	0.0039	0.500000	0.5000	0.500000	341	
7	123678-HxCDF	passed	40.46	12118	A	14682	A	0.0038	0.500000	0.5000	0.500000	347	
8	234678-HxCDF	passed	41.16	11991	A	16365	A	0.0035	0.500000	0.5000	0.500000	364	
9	123478-HxCDD	passed	41.35	7398	A	8686	A	0.0055	0.500000	0.5000	0.500000	229	
10	123678-HxCDD	passed	41.48	6548	A	8413	A	0.0059	0.500000	0.5000	0.500000	221	
11	123789-HxCDD	passed	41.79	7701	A	8828	A	0.0052	0.500000	0.5000	0.500000	226	
12	123789-HxCDF	passed	42.17	10573	A	14446	A	0.0039	0.500000	0.5000	0.500000	317	
13	1234678-HpCDF	passed	43.91	12049	A	13342	A	0.0044	0.500000	0.5000	0.500000	278	
14	1234678-HpCDD	passed	45.12	7375	A	8027	A	0.0040	0.500000	0.5000	0.500000	313	
15	1234789-HpCDF	passed	45.68	10565	A	11062	A	0.0052	0.500000	0.5000	0.500000	248	
16	OCDD	passed	48.17	15022	A	14295	A	0.0094	1.000000	1.0000	1.000000	271	
17	OCDF	passed	48.35	20194	A	18304	A	0.0050	1.000000	1.0000	1.000000	510	
18	13C12-1278-TCDD (CRS)	passed	30.87	1471982	A	1194120	A	0.0167	100.000000	100.0000	100.000000	15314	
19	13C12-1234-TCDD	passed	29.62	1356684	A	1100347	A	0.0181	100.000000	100.0000	100.000000	13823	
20	13C12-123468-HxCDD	passed	40.20	1298073	A	1678243	A	0.0246	100.000000	100.0000	100.000000	10177	
21	13C12-2378-TCDF	passed	29.30	2708288	A	2180914	A	0.0159	100.000000	100.0000	100.000000	16092	
22	13C12-2378-TCDD	passed	30.44	1405591	A	1128175	A	0.0175	100.000000	100.0000	100.000000	14842	
23	13C12-12378-PeCDF	passed	35.29	1843603	A	2923162	A	0.0238	100.000000	100.0000	100.000000	13629	
24	13C12-23478-PeCDF	passed	36.57	1842275	A	2902156	A	0.0239	100.000000	100.0000	100.000000	14055	
25	13C12-12378-PeCDD	passed	36.98	1004866	A	1586546	A	0.0193	100.000000	100.0000	100.000000	18466	
26	13C12-123478-HxCDF	passed	40.30	2872494	A	1534180	A	0.0197	100.000000	100.0000	100.000000	12480	
27	13C12-123678-HxCDF	passed	40.45	2943010	A	1576962	A	0.0192	100.000000	100.0000	100.000000	13019	
28	13C12-234678-HxCDF	passed	41.15	2767804	A	1475232	A	0.0204	100.000000	100.0000	100.000000	12624	
29	13C12-123478-HxCDD	passed	41.35	1339293	A	1698577	A	0.0241	100.000000	100.0000	100.000000	10880	
30	13C12-123678-HxCDD	passed	41.46	1373666	A	1724692	A	0.0236	100.000000	100.0000	100.000000	11176	
31	13C12-123789-HxCDD	passed	41.78	1295910	A	1639024	A	0.0249	100.000000	100.0000	100.000000	10826	
32	13C12-123789-HxCDF	passed	42.16	2542912	A	1359627	A	0.0222	100.000000	100.0000	100.000000	11756	
33	13C12-1234678-HpCDF	passed	43.91	2802393	A	1273285	A	0.0378	100.000000	100.0000	100.000000	7078	
34	13C12-1234678-HpCDD	passed	45.11	1376003	A	1466511	A	0.0353	100.000000	100.0000	100.000000	7846	
35	13C12-1234789-HpCDF	passed	45.66	2238013	A	1007970	A	0.0475	100.000000	100.0000	100.000000	5616	
36	13C12-OCDD	passed	48.16	2778847	A	2526994	A	0.0175	200.000000	200.0000	200.000000	33261	
37	13C12-OCDF	passed	48.33	4364304	A	3957886	A	0.0133	200.000000	200.0000	200.000000	43015	
38	Total TCDF	passed (1)	29.00	3193	M	2626	M	0.0043	0.100000	0.1000	0.100000	53	
39	Total TCDD	passed (1)	29.03	1936	A	1731	A	0.0060	0.100000	0.1000	0.100000	49	
40	Total PeCDF	passed (2)	34.98	19803	A	29852	A	0.0047	0.500000	1.0000	0.500000	263	
41	Total PeCDD	passed (1)	36.14	5490	A	9457	A	0.0077	0.500000	0.5000	0.500000	166	
42	Total HxCDF	passed (4)	40.82	46919	A	60021	A	0.0037	0.500000	2.0000	0.500000	342	
43	Total HxCDD	passed (3)	41.54	21647	A	25927	A	0.0055	0.500000	1.5000	0.500000	225	
44	Total HpCDD	passed (1)	44.75	7375	A	8027	A	0.0040	0.500000	0.5000	0.500000	313	
45	Total HpCDF	passed (2)	44.74	22614	A	24404	A	0.0048	0.500000	1.0000	0.500000	263	
46	Single TCDF	passed	29.33	3193	M	2626	M	0.0043	0.100000	0.1000	0.100000	53	
47	Single TCDD	passed	30.48	1936	A	1731	A	0.0060	0.100000	0.1000	0.100000	49	
48	Single PeCDD	passed	37.00	5490	A	9457	A	0.0077	0.500000	0.5000	0.500000	166	
49	Single PeCDF	passed	36.60	10337	A	15361	A	0.0046	0.500000	0.5000	0.500000	282	
50	Single PeCDF	passed	35.32	9466	A	14491	A	0.0049	0.500000	0.5000	0.500000	243	
51	Single HpCDD	passed	45.12	7375	A	8027	A	0.0040	0.500000	0.5000	0.500000	313	
52	Single HxCDF	passed	40.46	12118	A	14682	A	0.0037	0.500000	0.5000	0.500000	347	
53	Single HxCDF	passed	40.31	12236	A	14527	A	0.0037	0.500000	0.5000	0.500000	341	
54	Single HxCDF	passed	41.16	11991	A	16365	A	0.0035	0.500000	0.5000	0.500000	364	
55	Single HxCDF	passed	42.17	10573	A	14446	A	0.0040	0.500000	0.5000	0.500000	317	
56	Single HxCDD	passed	41.79	7701	A	8828	A	0.0053	0.500000	0.5000	0.500000	226	
57	Single HxCDD	passed	41.35	7398	A	8686	A	0.0055	0.500000	0.5000	0.500000	229	
58	Single HxCDD	passed	41.48	6548	A	8413	A	0.0059	0.500000	0.5000	0.500000	221	
59	Single HpCDF	passed	43.91	12049	A	13342	A	0.0044	0.500000	0.5000	0.500000	278	
60	Single HpCDF	passed	45.68	10565	A	11062	A	0.0052	0.500000	0.5000	0.500000	248	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

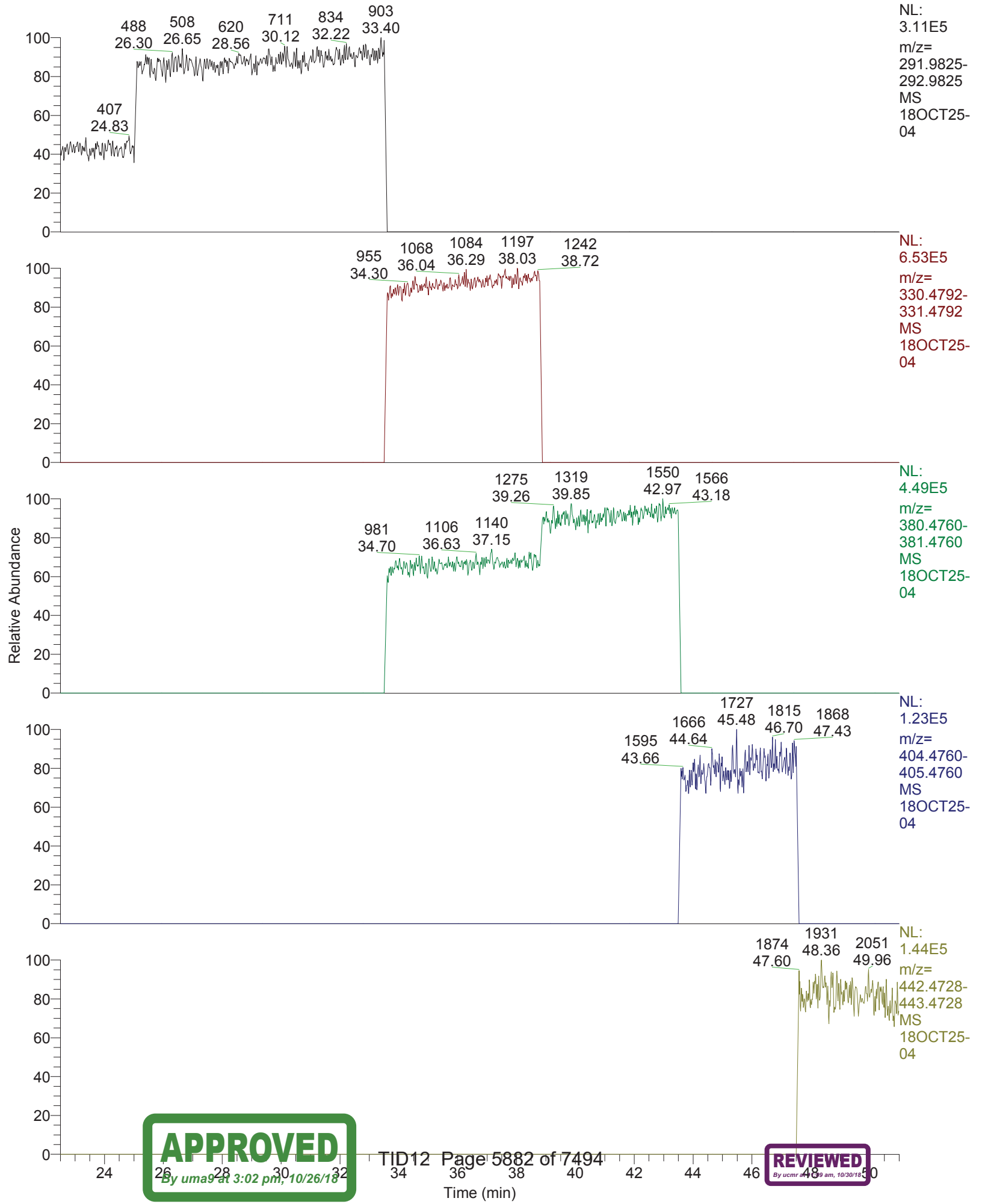
ThermoFisher Scientific

File Name: Y:\18OCT25\18OCT25-04
Sample ID: CSL01

Acq. Data: 10/25/2018 1:34:01 PM
Sample Name: CALDF11837C
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 9:39 am, 10/30/18

*** file opened Thu Oct 25 13:39:30 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 13:39:29

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : a454ca02-cd71-4275-a299-75c8559f713e

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          98.0000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC       7969177.0000   EDACG           1.0000   EDACZ         226.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           220.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           171.0000   EXSBR          -0.4700
 FDMA      18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM               50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN         1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0176   FVINLET         0.0346   FVSRC           0.0325
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      704.0000
 LENS_SYM         16.0000   LM            650.0000   LMII          500.0000
 LMASS            98.0000   LKM           442.9723   MASS           98.0000
 MDAC        952350.6733   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2153.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9670   RELEN           0.0000
 RES          11468.1960   RPUSHER       -14.8205   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     708.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0223   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          98.0000   XLENS_POT     924.0000
 XLENS_SYM        2.2500   YLENS_POT     750.0000   YLENS_SYM      -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.7e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10255.
MID Time Window 2: Resolution is 10649.
MID Time Window 3: Resolution is 11216.
MID Time Window 4: Resolution is 11013.
```

```
  MID Time Window 5: Resolution is 11419.
  MID Time Window 6: Resolution is 11468.

  Amplifier Offset: 87.


*** File closed Thu Oct 25 14:30:31 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 14:31
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-05.quan
Data	y:\18oct25\18oct25-05.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	29.32	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.46	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.32	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.60	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.00	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.30	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.15	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.36	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.47	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.79	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.17	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.92	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.12	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.67	passed	passed	passed	passed	passed	passed	
16	OCDD	48.17	passed	passed	passed	passed	passed	passed	
17	OCDF	48.34	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.86	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.63	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.20	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.30	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.43	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.29	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.57	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.98	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.29	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.43	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.13	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.34	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.78	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.16	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.91	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.11	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.66	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.16	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.33	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.17	passed (1)	---	---	---	---	---	
39	Total TCDD	29.02	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.99	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.14	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.82	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.54	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.75	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.81	passed (2)	---	---	---	---	---	
46	Single TCDF	29.32	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.46	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.00	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.60	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.32	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.12	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.30	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.46	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.15	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.17	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.47	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.36	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.79	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.92	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.67	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 14:31
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-05.quan
Data	y:\18oct25\18oct25-05.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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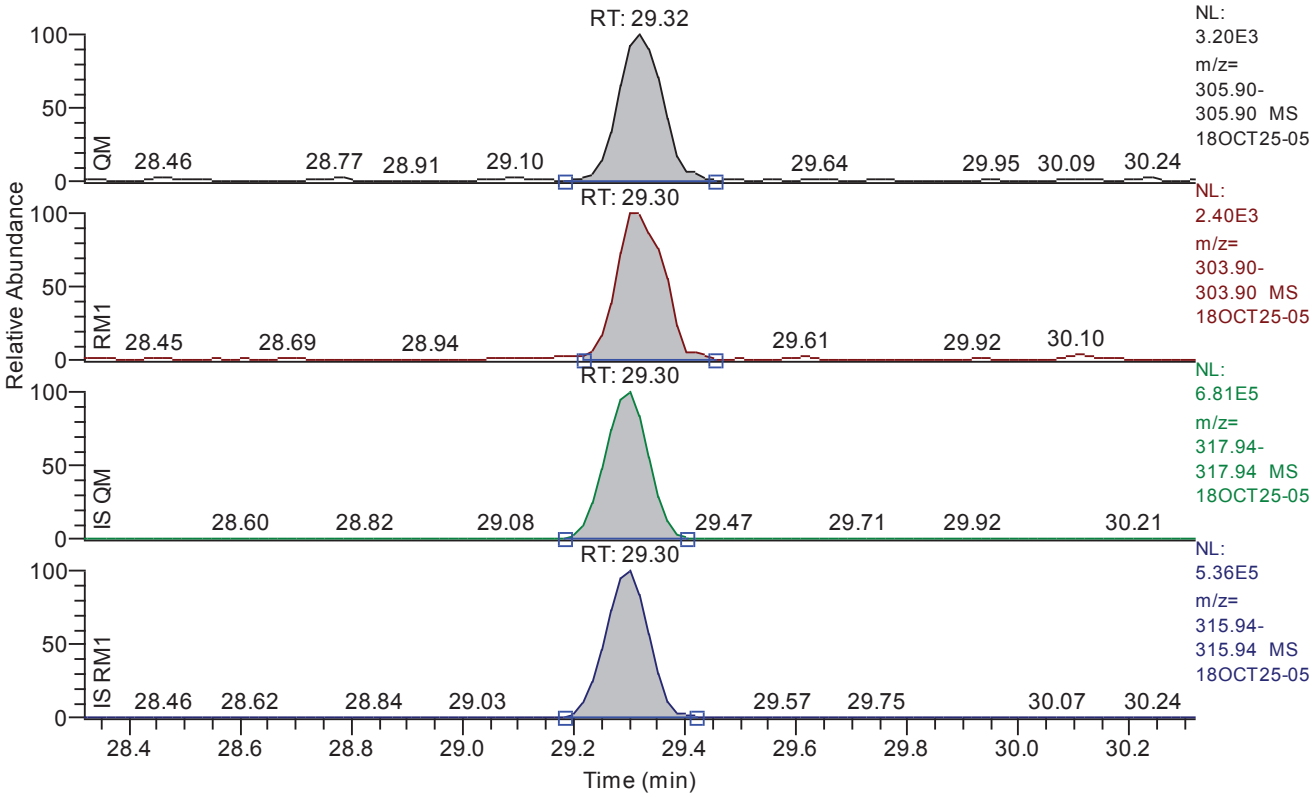
Chromatogram

RT: 28.32 - 30.32 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.32
QM Area	17923
QM Integration Mode	A
RM1 Area	14352
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	248
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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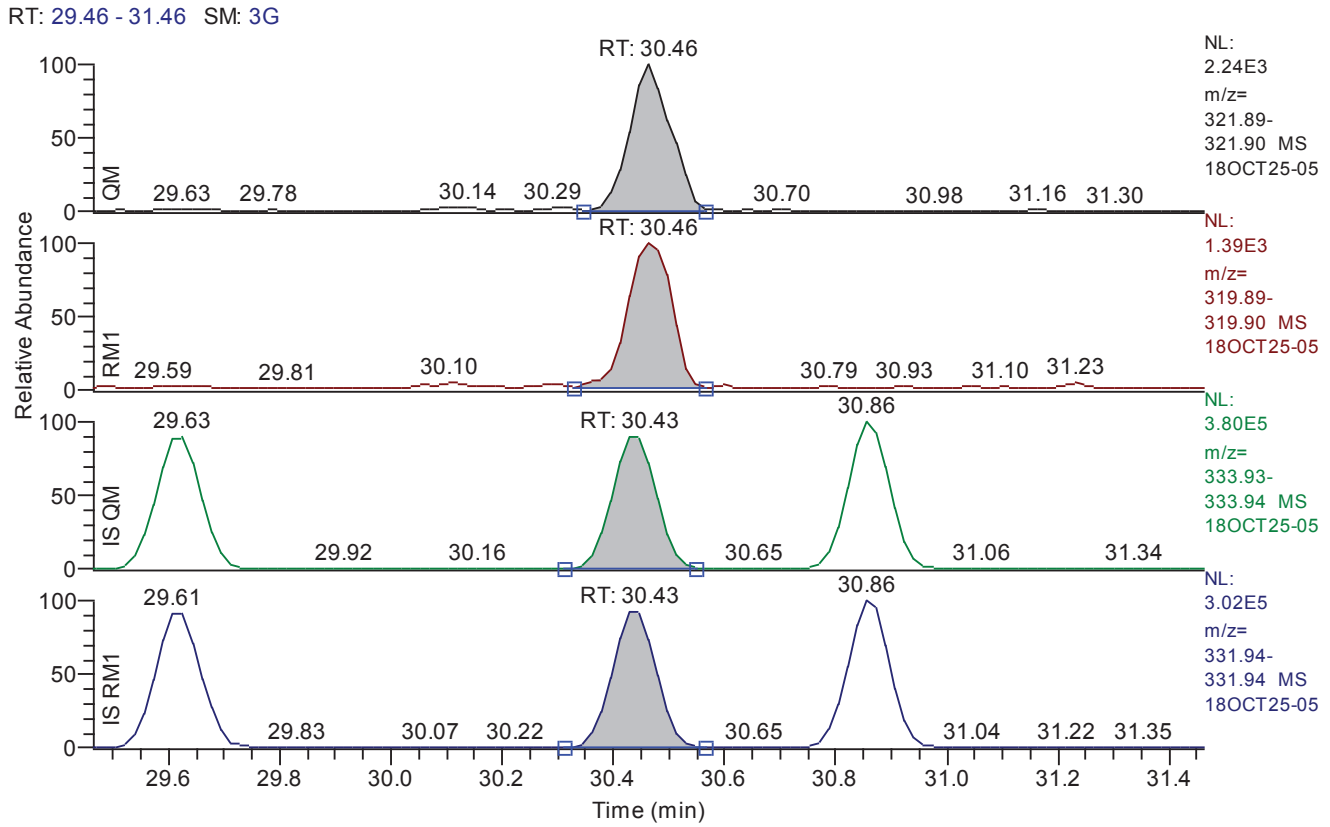
Chromatogram



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.46
QM Area	11559
QM Integration Mode	A
RM1 Area	7677
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	195
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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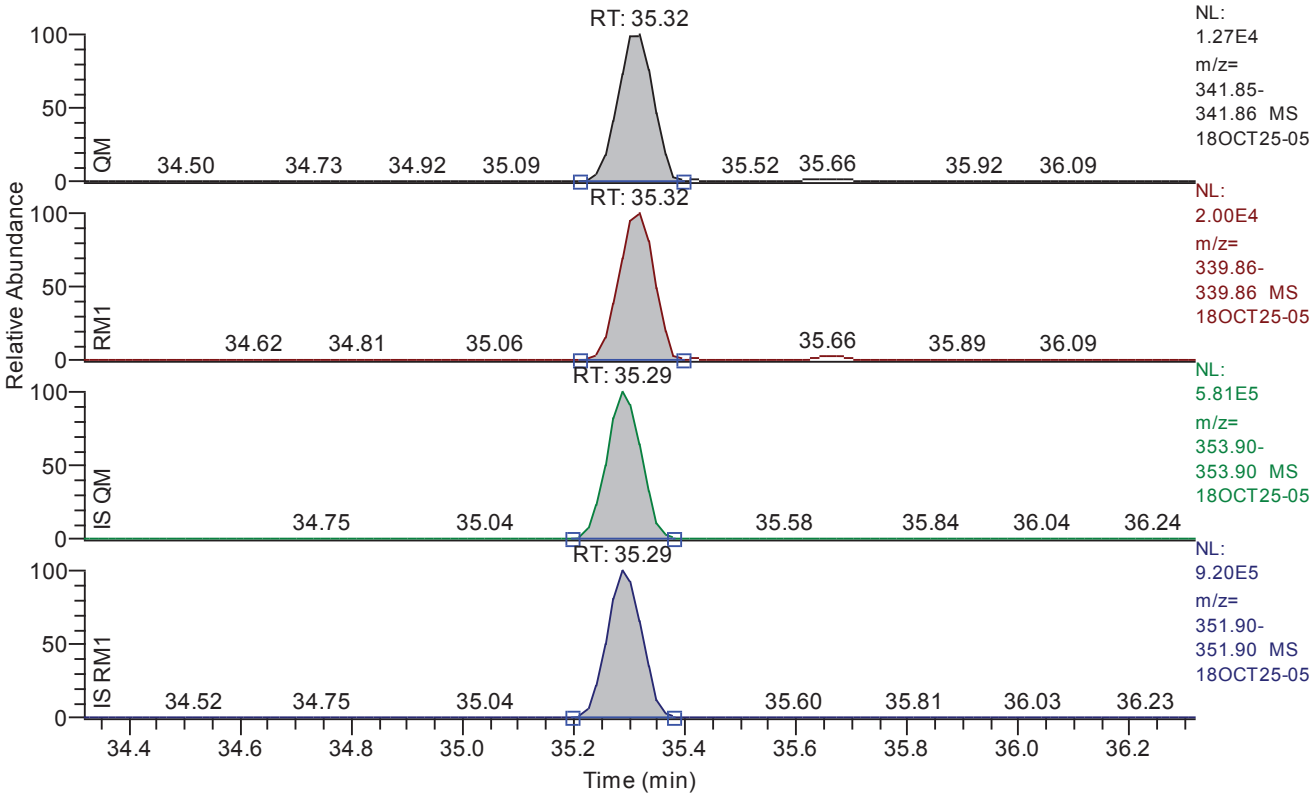
Chromatogram

RT: 34.32 - 36.32 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.32
QM Area	57200
QM Integration Mode	A
RM1 Area	89329
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0044
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1370
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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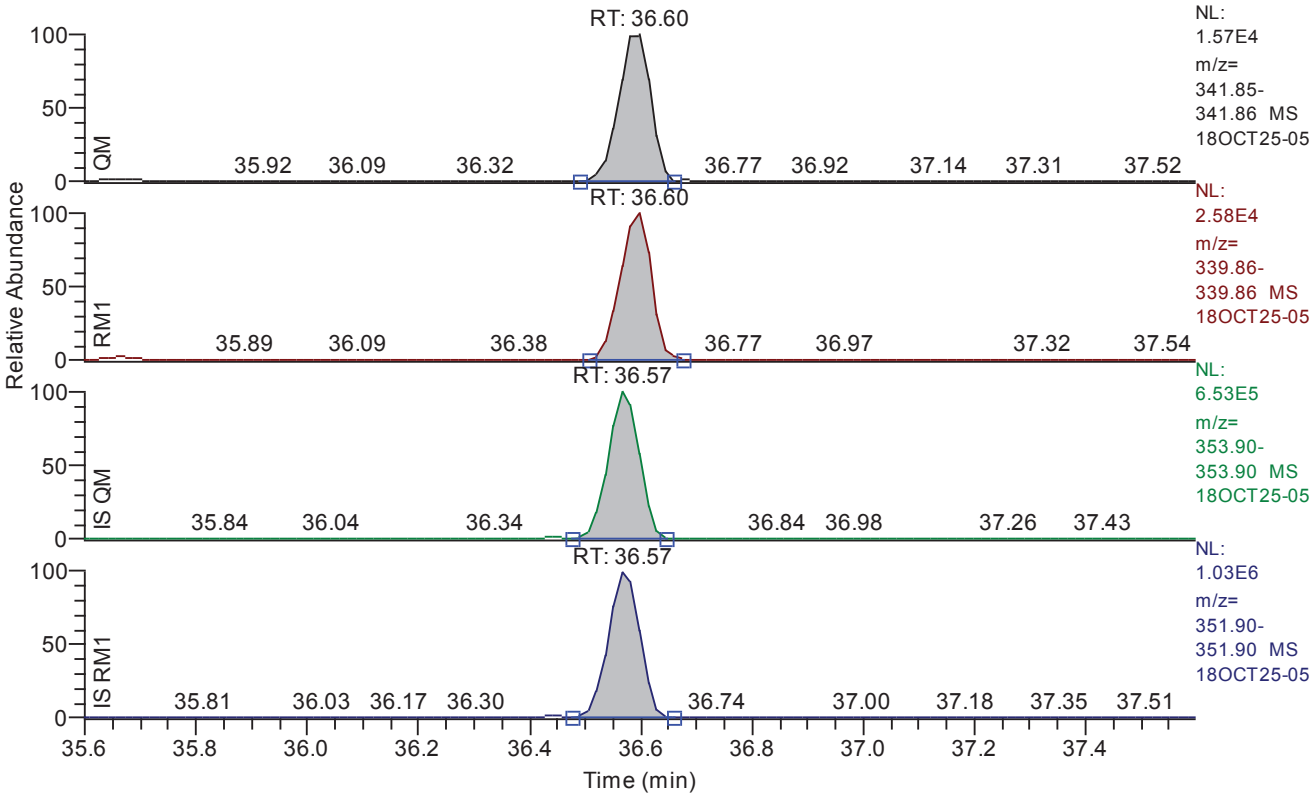
Chromatogram

RT: 35.60 - 37.60 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.60
QM Area	63076
QM Integration Mode	A
RM1 Area	100392
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0036
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1734
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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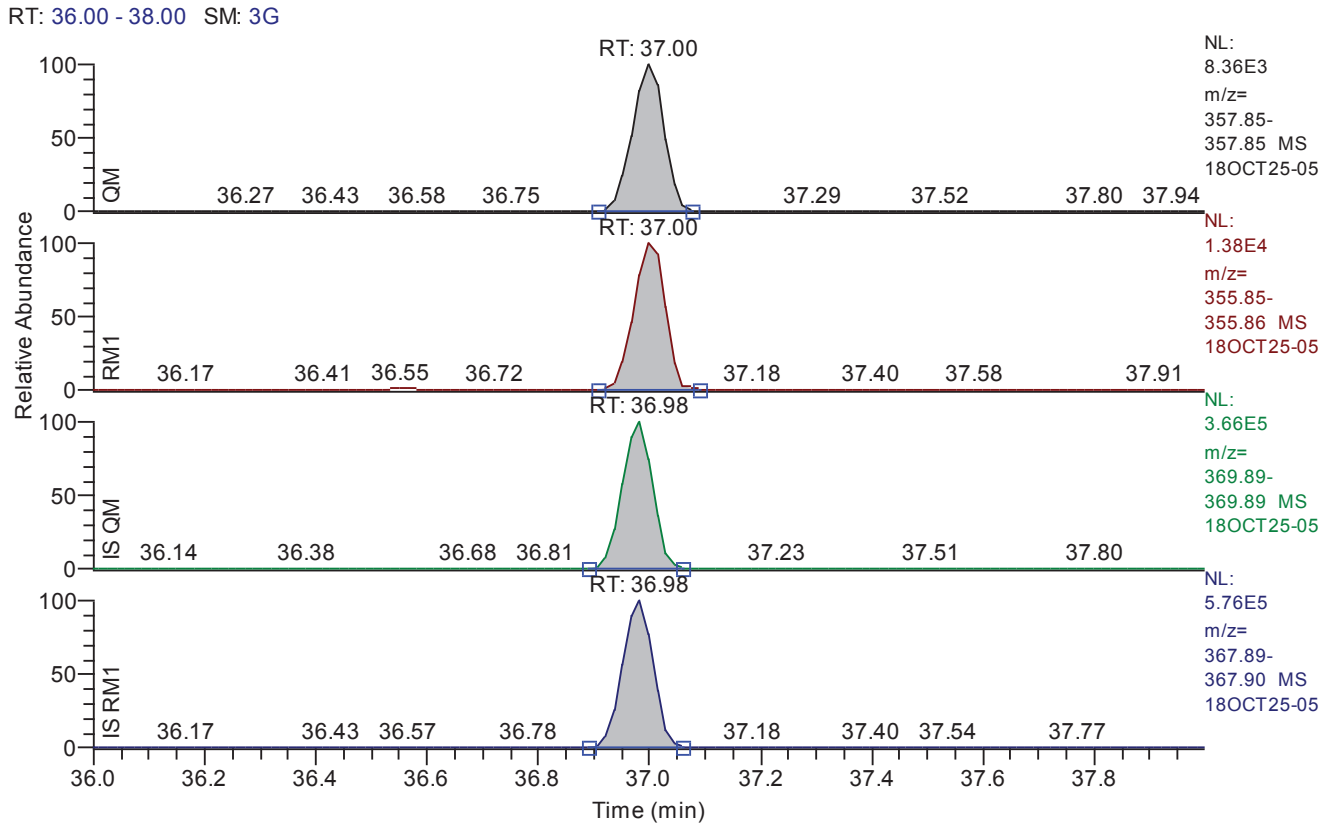
Chromatogram



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.00
QM Area	33091
QM Integration Mode	A
RM1 Area	54498
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1015
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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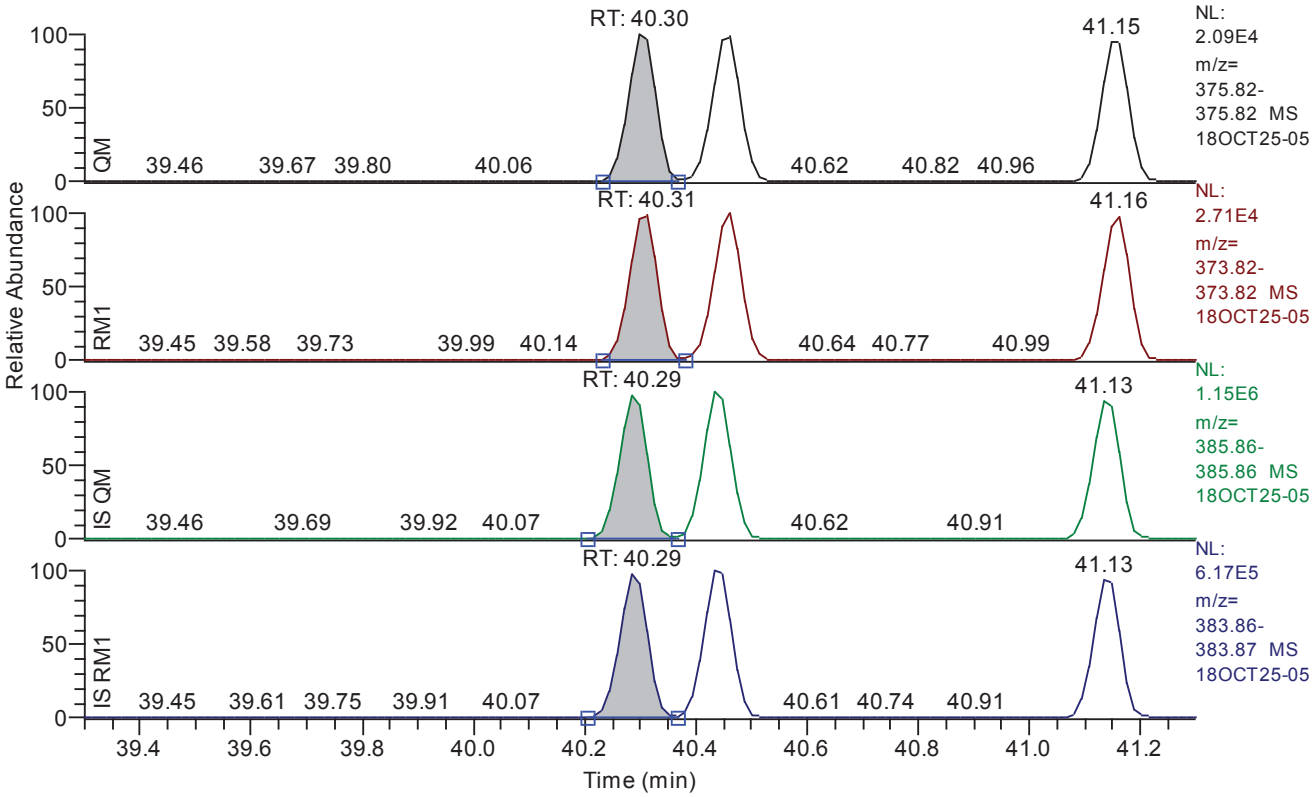
Chromatogram

RT: 39.30 - 41.30 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.30
QM Area	72649
QM Integration Mode	A
RM1 Area	93670
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0041
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1526
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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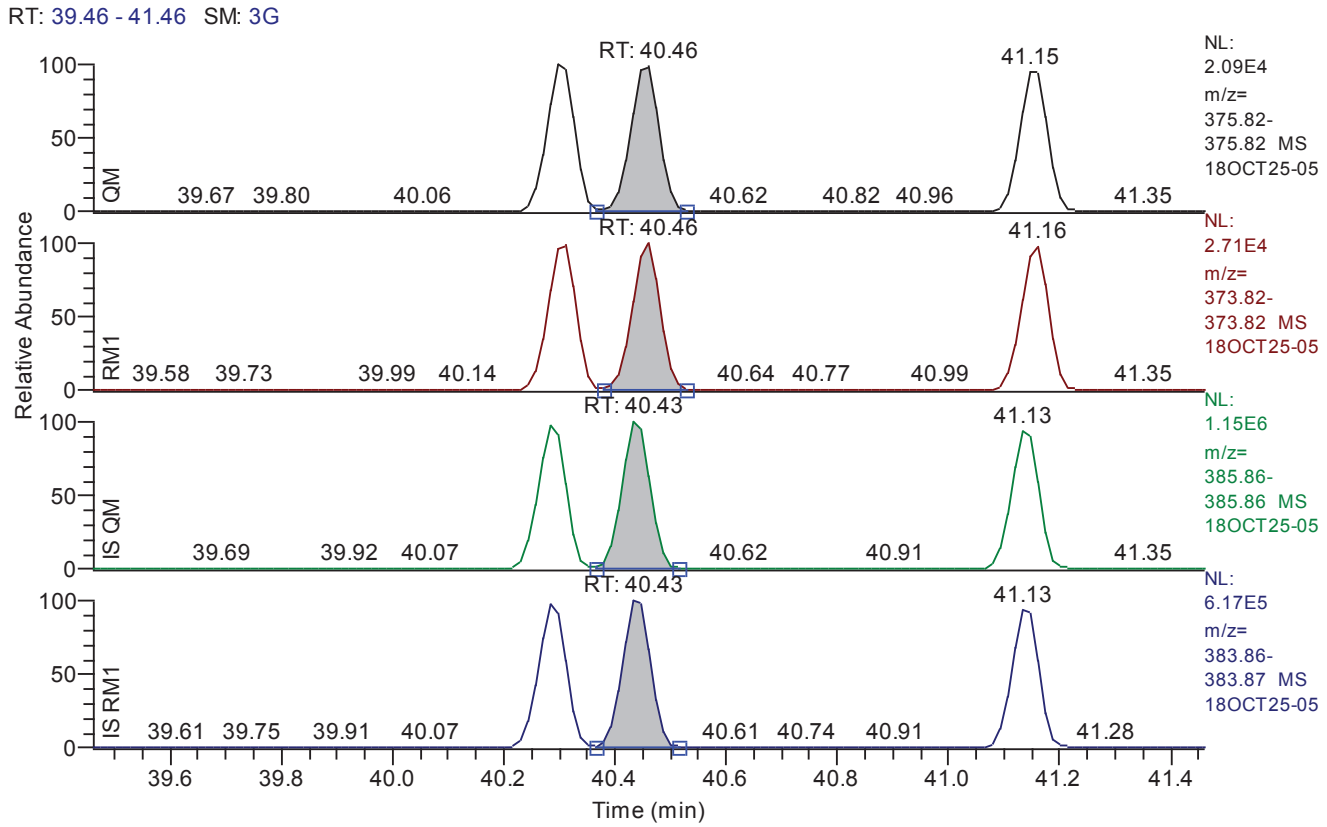
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.46
QM Area	73876
QM Integration Mode	A
RM1 Area	93806
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0041
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1530
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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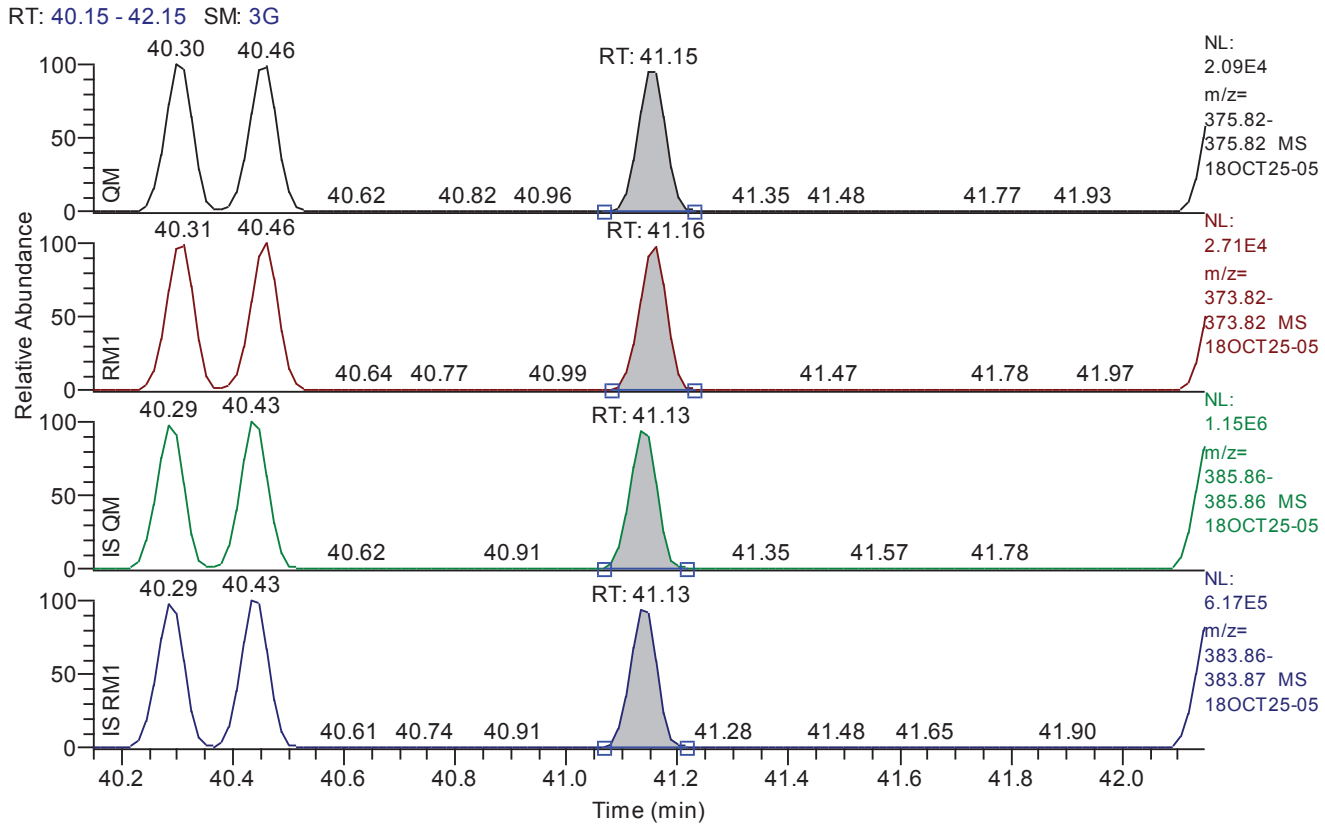
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.15
QM Area	70271
QM Integration Mode	A
RM1 Area	92102
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0041
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1499
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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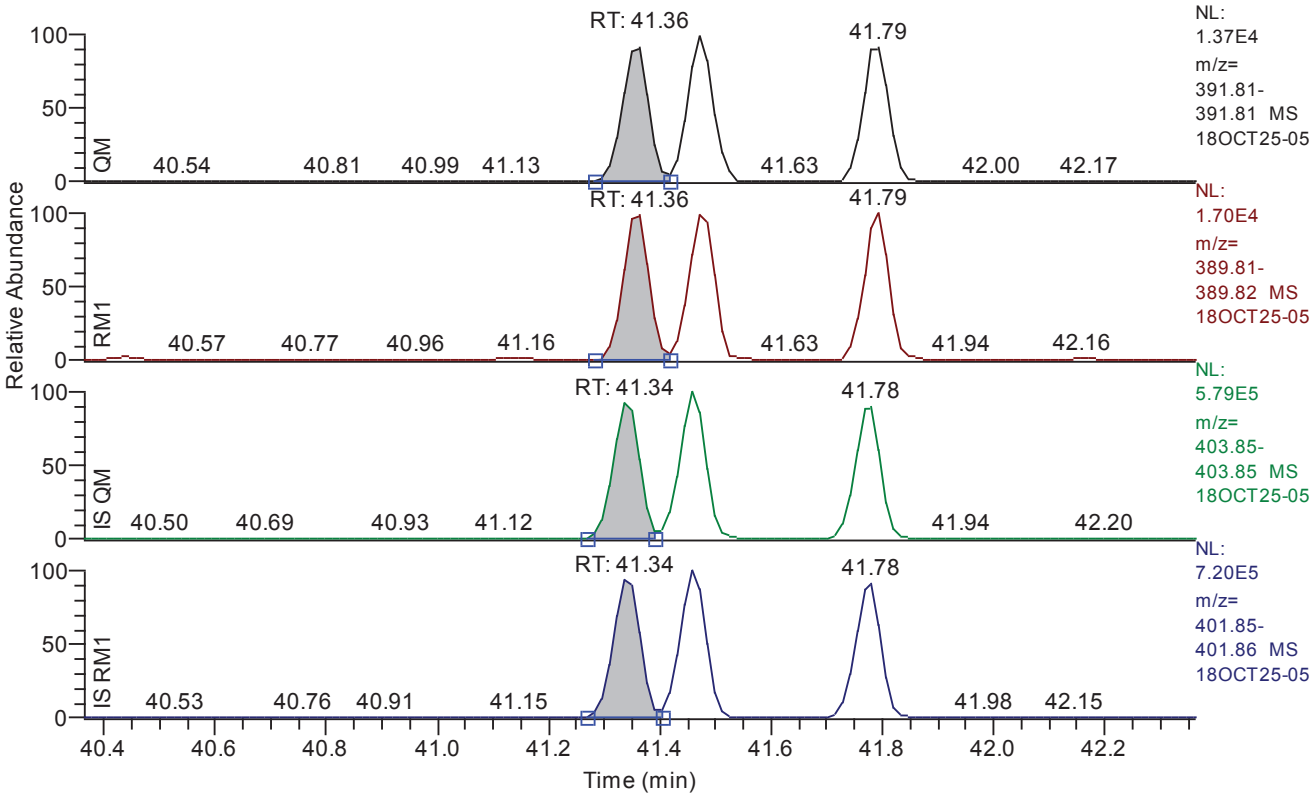
Chromatogram

RT: 40.36 - 42.36 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.36
QM Area	42036
QM Integration Mode	A
RM1 Area	55353
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1259
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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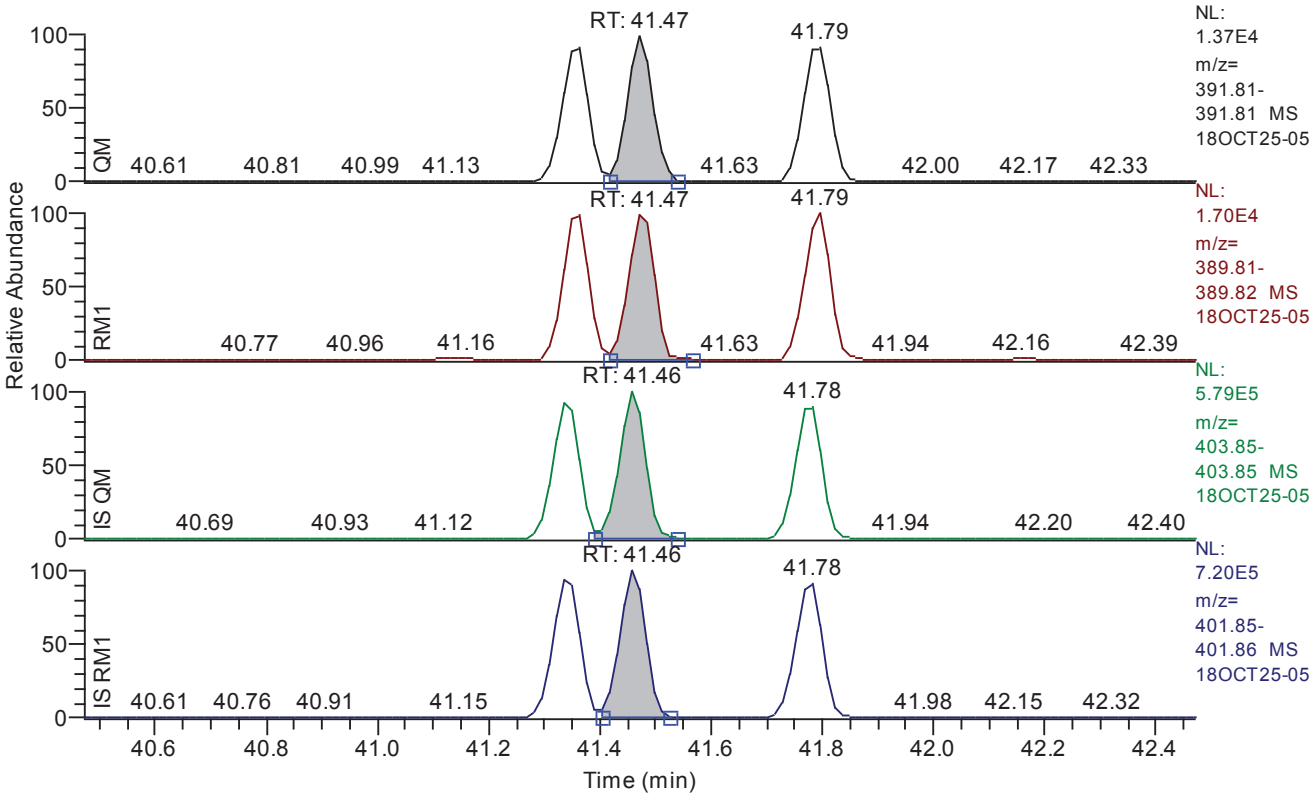
Chromatogram

RT: 40.47 - 42.47 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.47
QM Area	43333
QM Integration Mode	A
RM1 Area	55298
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1313
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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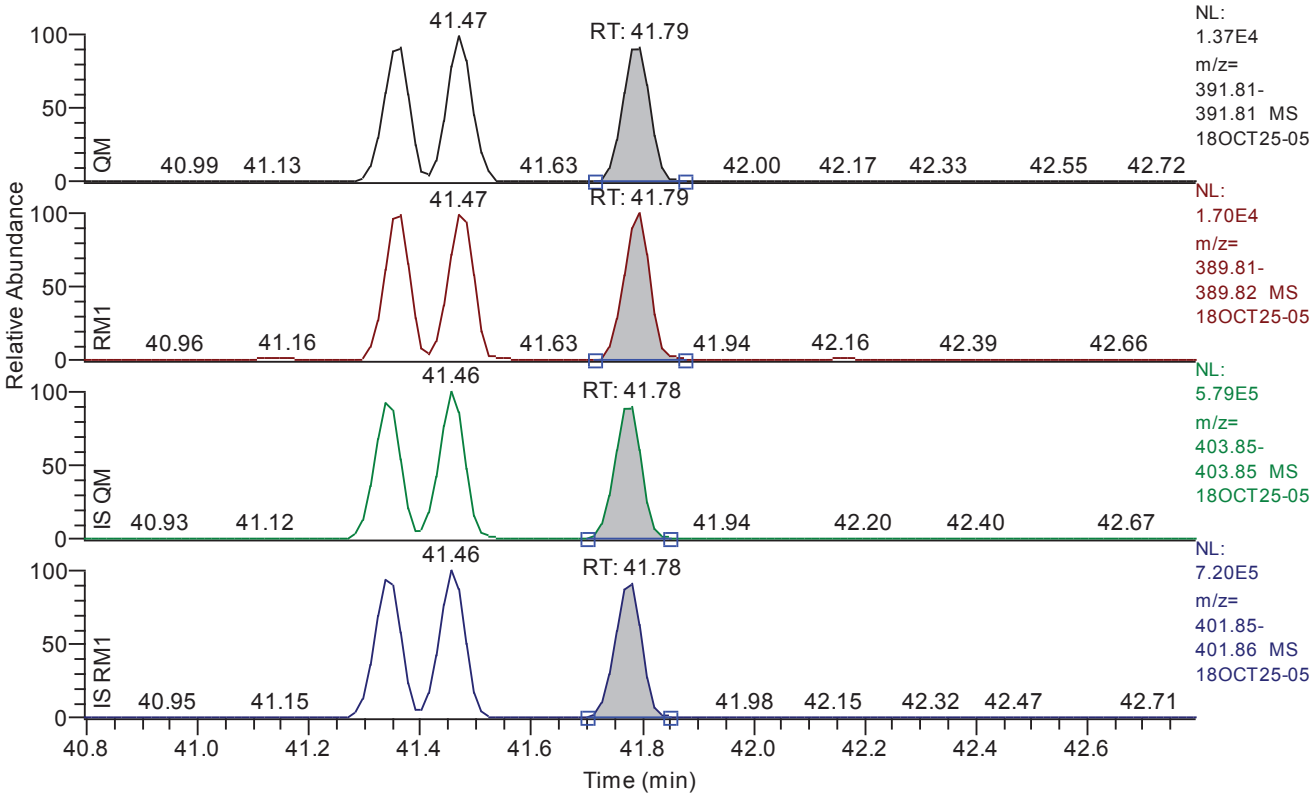
Chromatogram

RT: 40.79 - 42.79 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.79
QM Area	43552
QM Integration Mode	A
RM1 Area	55536
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1272
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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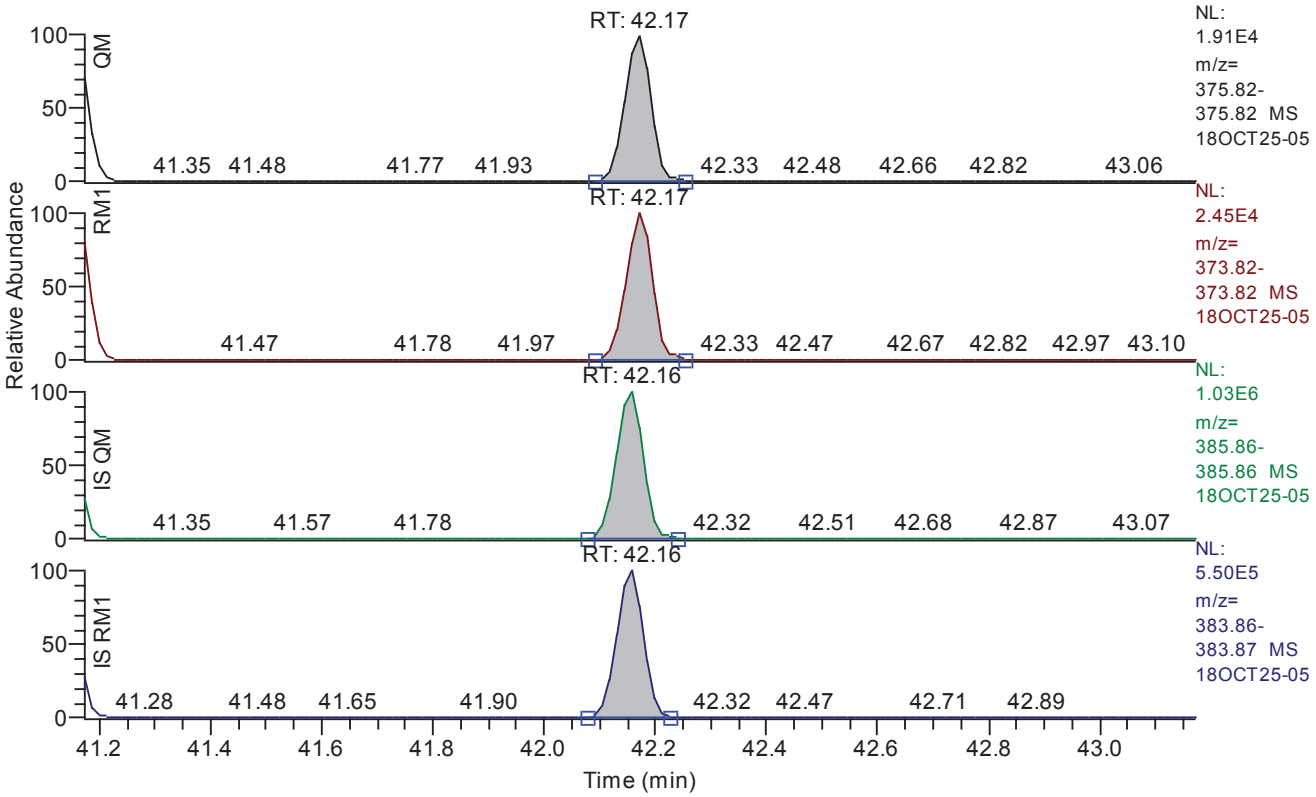
Chromatogram

RT: 41.17 - 43.17 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.17
QM Area	62845
QM Integration Mode	A
RM1 Area	80680
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1402
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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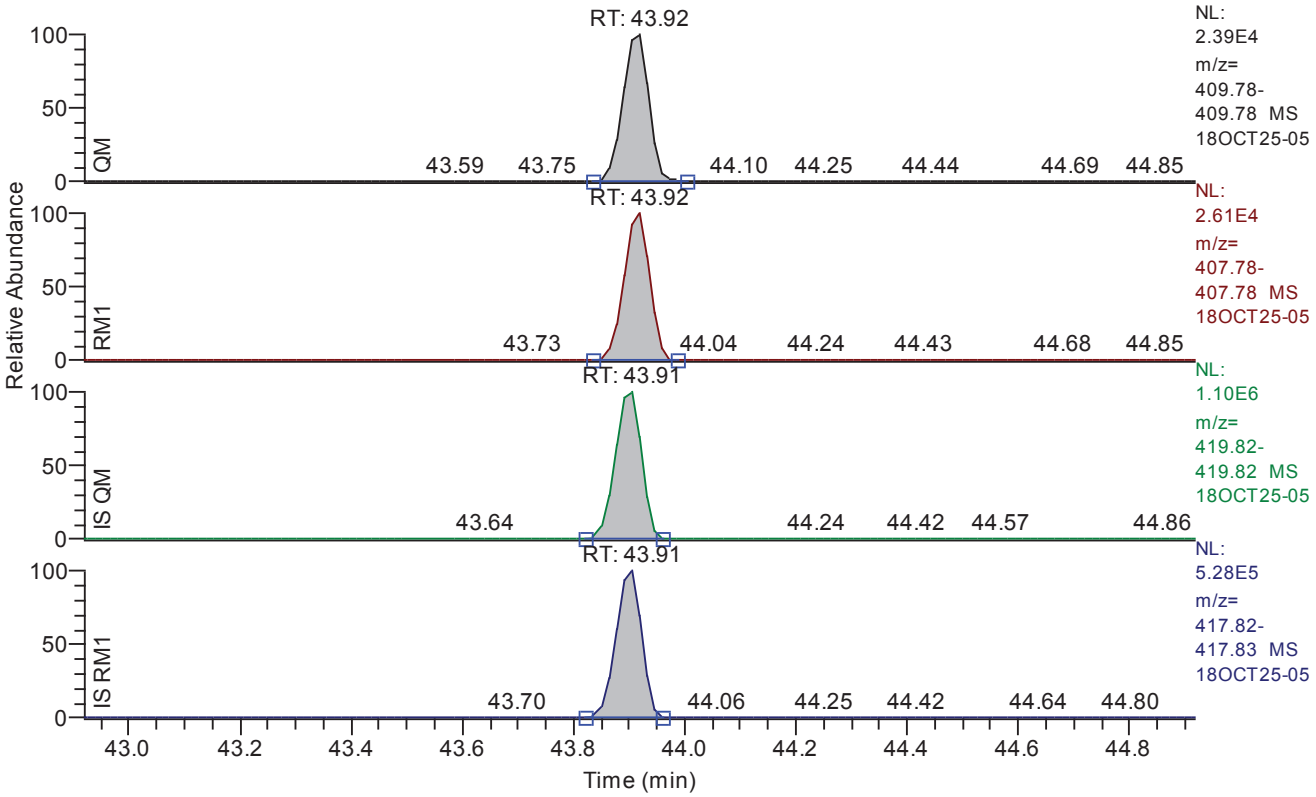
Chromatogram

RT: 42.92 - 44.92 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.92
QM Area	79816
QM Integration Mode	A
RM1 Area	86213
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1315
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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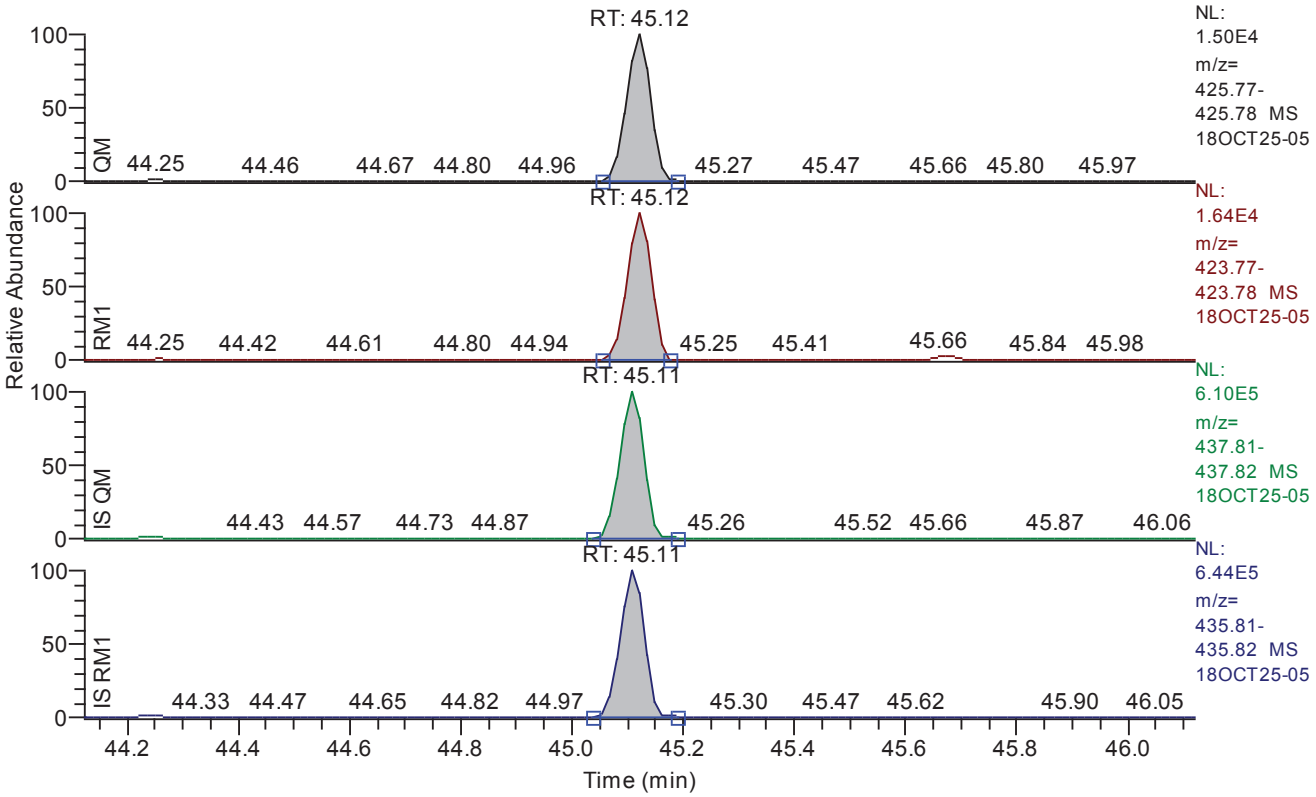
Chromatogram

RT: 44.12 - 46.12 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.12
QM Area	46801
QM Integration Mode	A
RM1 Area	51154
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1247
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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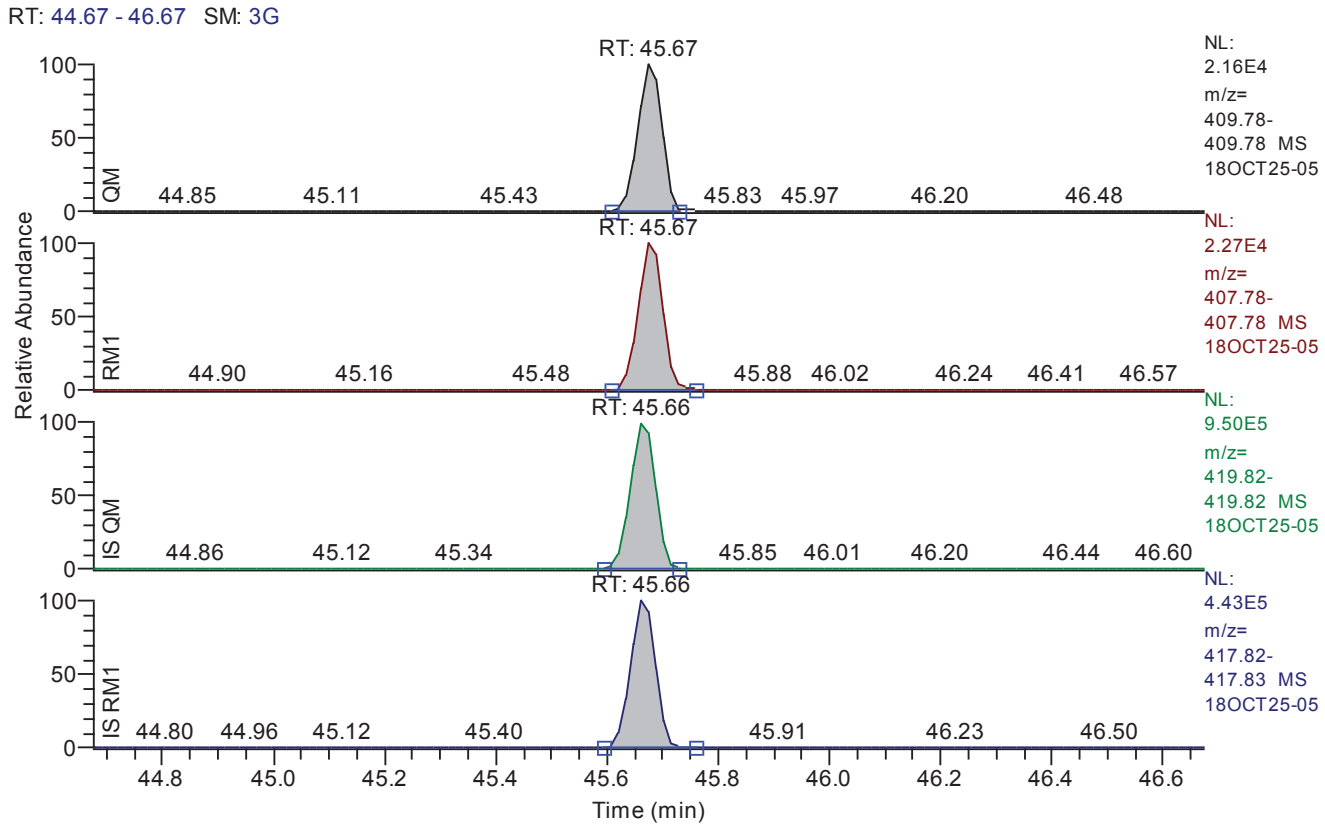
Chromatogram



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.67
QM Area	67824
QM Integration Mode	A
RM1 Area	71642
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0055
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1165
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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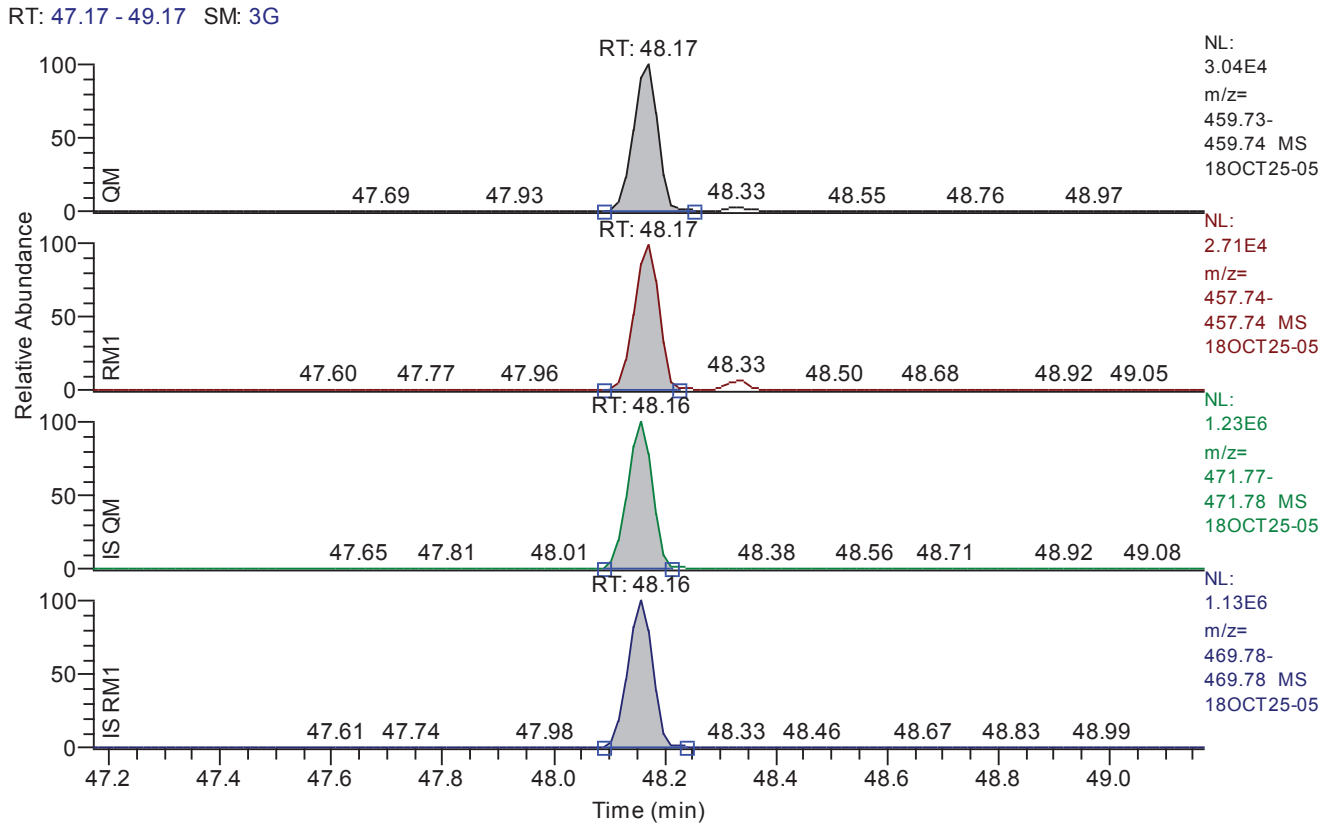
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.17
QM Area	92875
QM Integration Mode	A
RM1 Area	82669
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0084
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1494
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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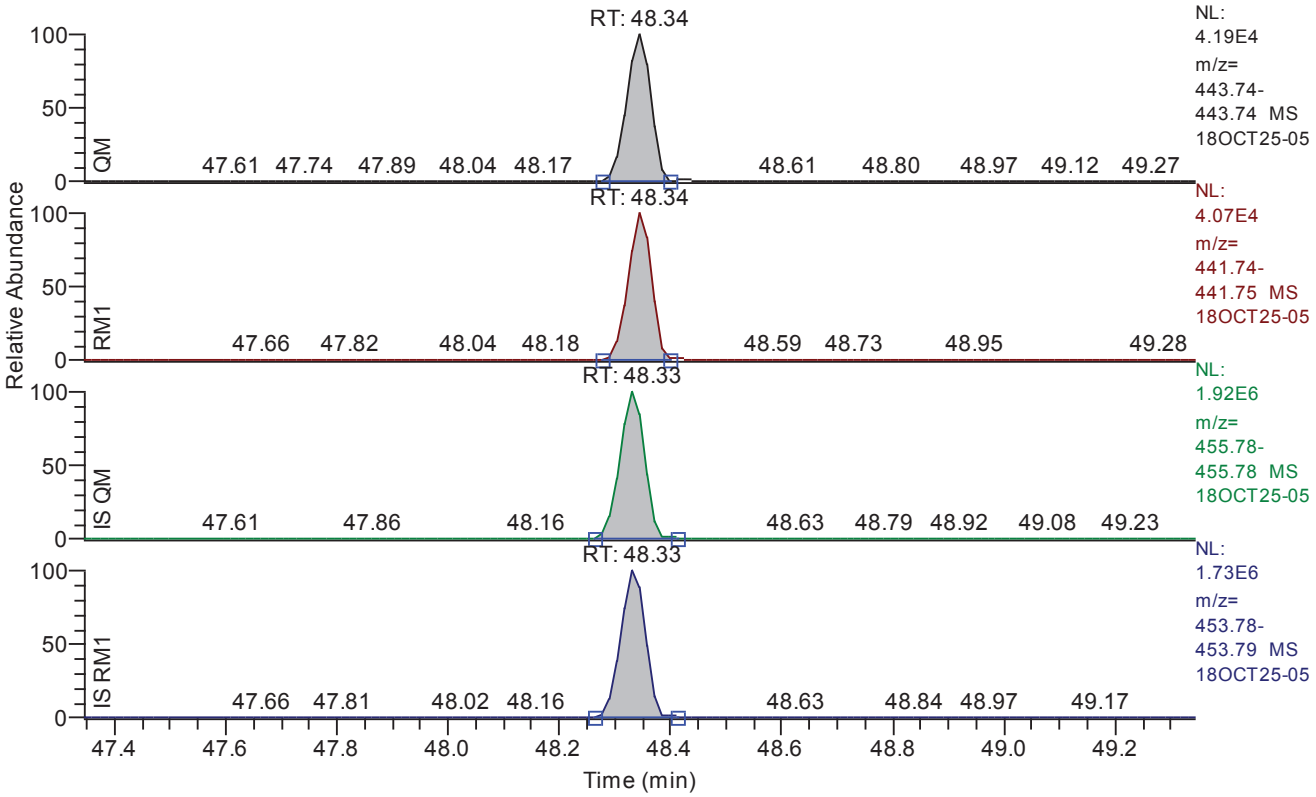
Chromatogram

RT: 47.34 - 49.34 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.34
QM Area	126302
QM Integration Mode	A
RM1 Area	118649
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	2900
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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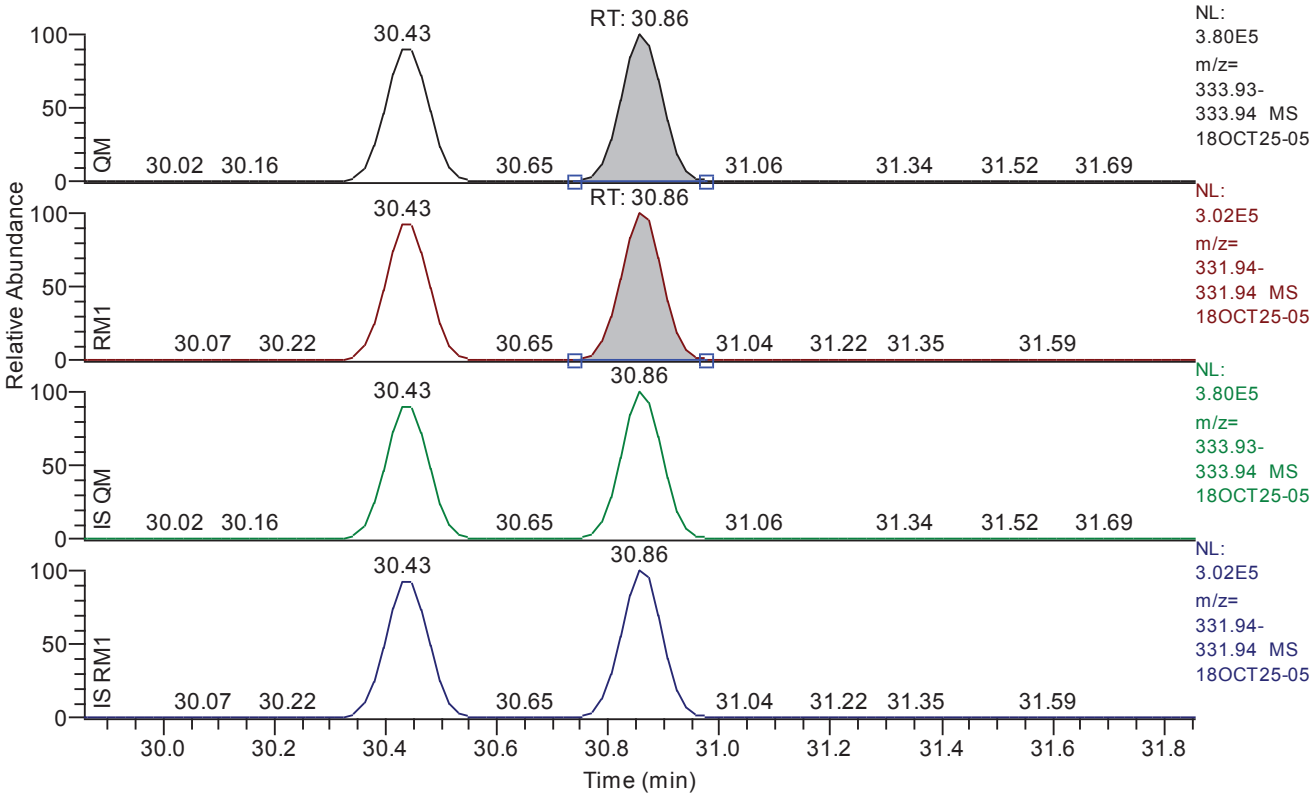
Chromatogram

RT: 29.86 - 31.86 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.86
QM Area	2027525
QM Integration Mode	A
RM1 Area	1617669
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0126
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	20749
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 14:31
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-05.quan
Data	y:\18oct25\18oct25-05.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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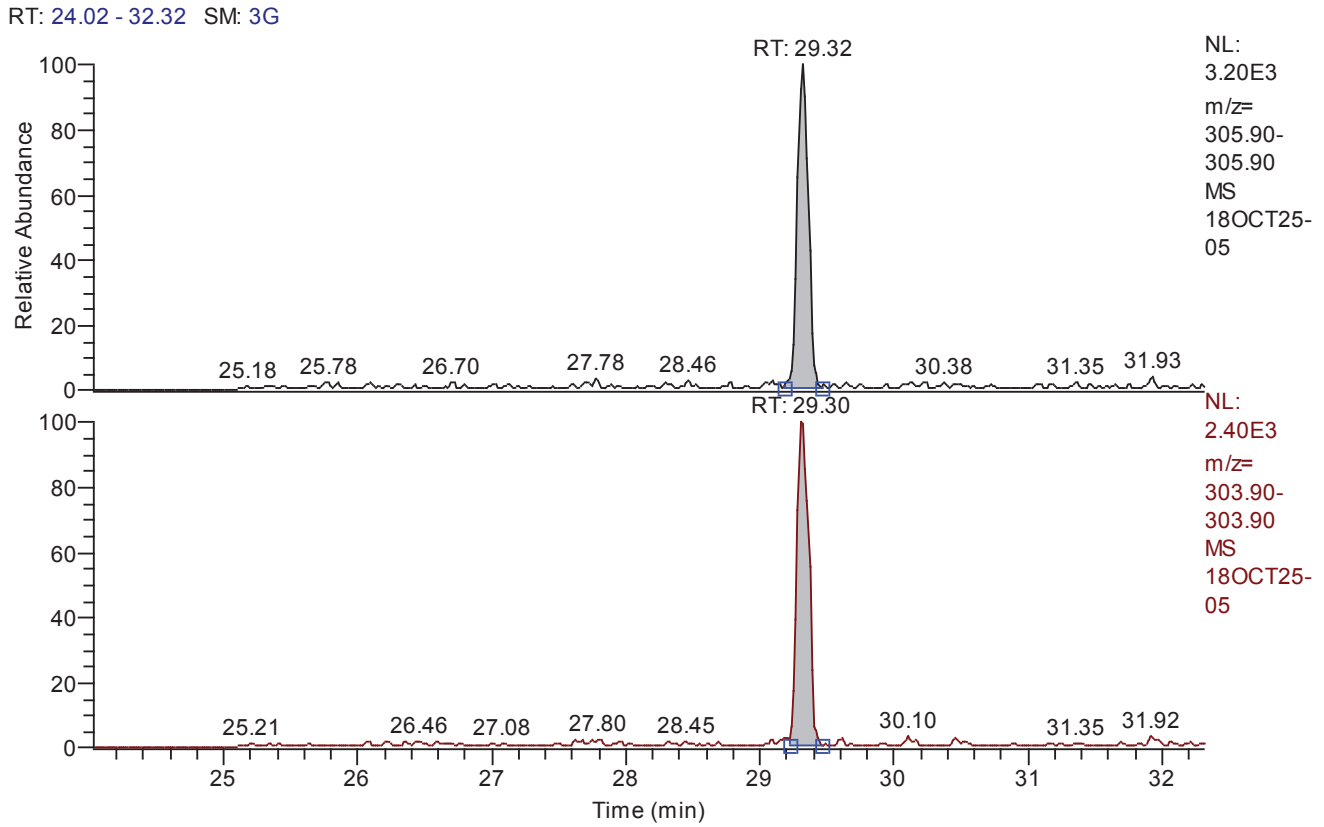
Chromatogram



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.17
QM Area	17923
QM Integration Mode	A
RM1 Area	14352
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	248
Client Flags	
Status Overview	passed (1)
Status Info	

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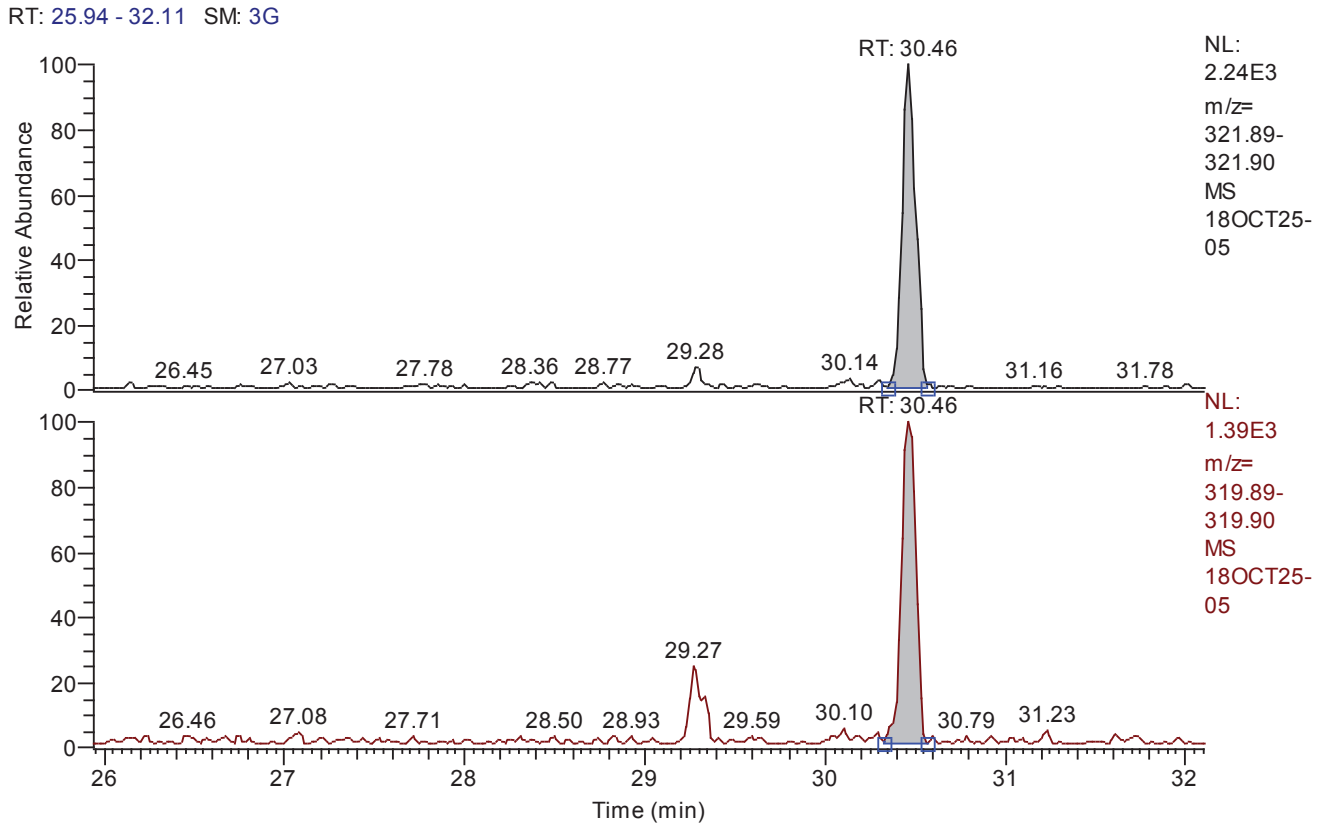
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.02
QM Area	11559
QM Integration Mode	A
RM1 Area	7677
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	195
Client Flags	
Status Overview	passed (1)
Status Info	

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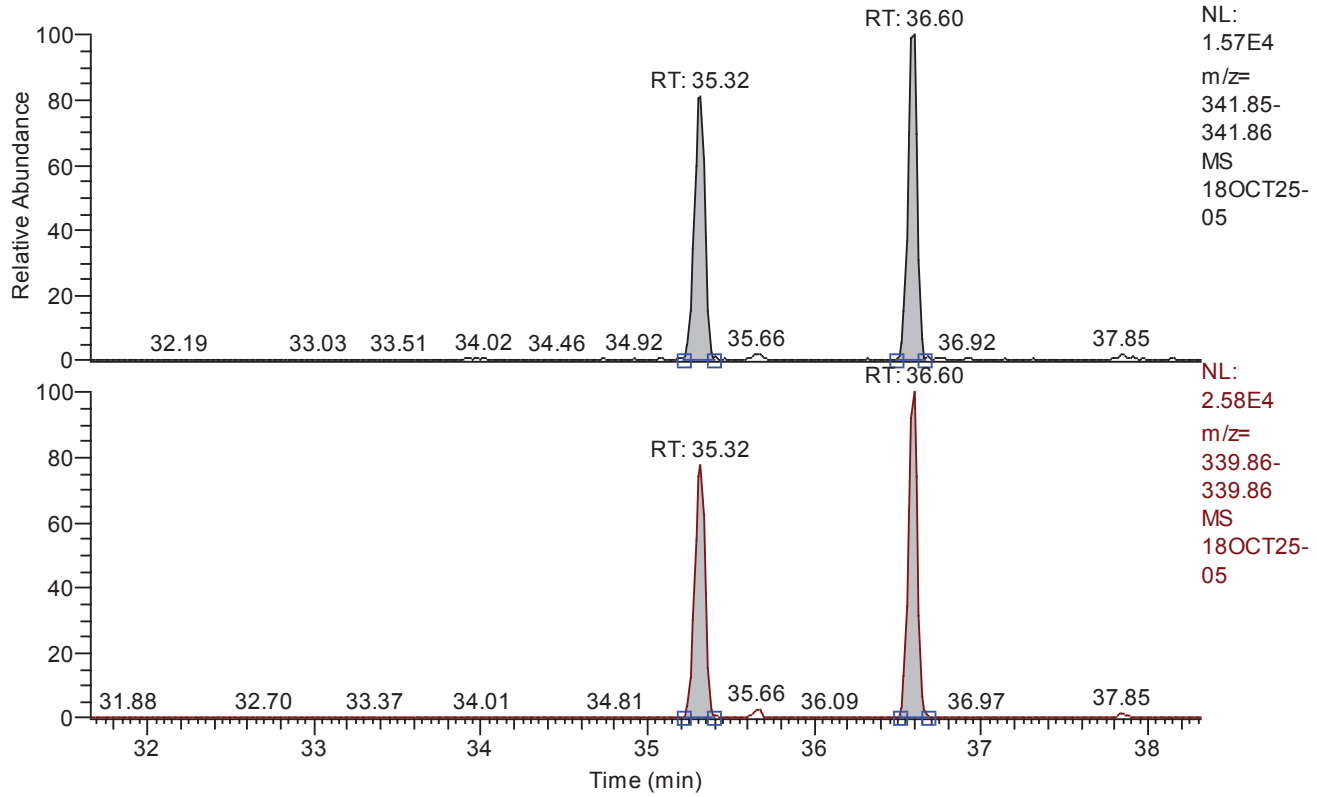
Chromatogram

RT: 31.66 - 38.32 SM: 3G



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.99
QM Area	120276
QM Integration Mode	A
RM1 Area	189720
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1552
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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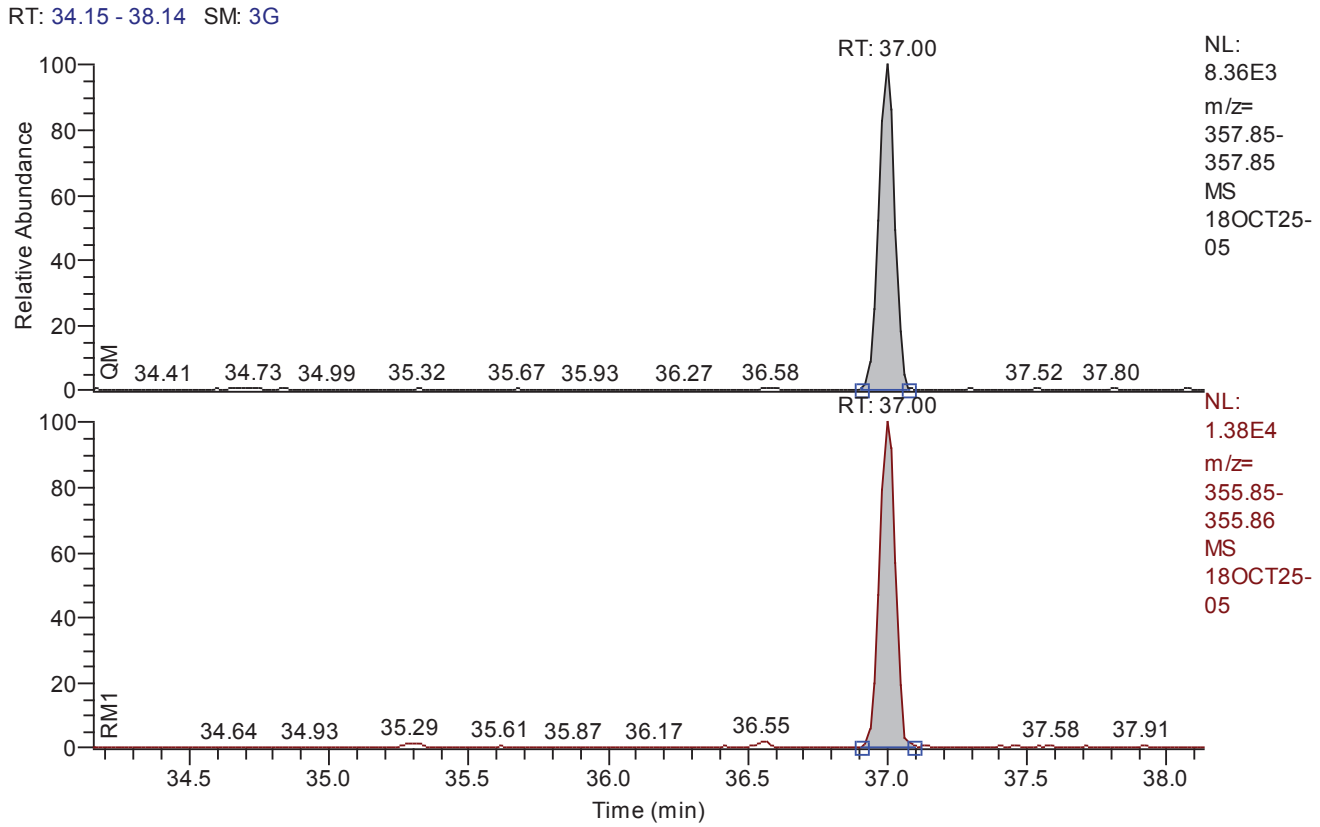
Chromatogram



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.14
QM Area	33091
QM Integration Mode	A
RM1 Area	54498
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1015
Client Flags	
Status Overview	passed (1)
Status Info	

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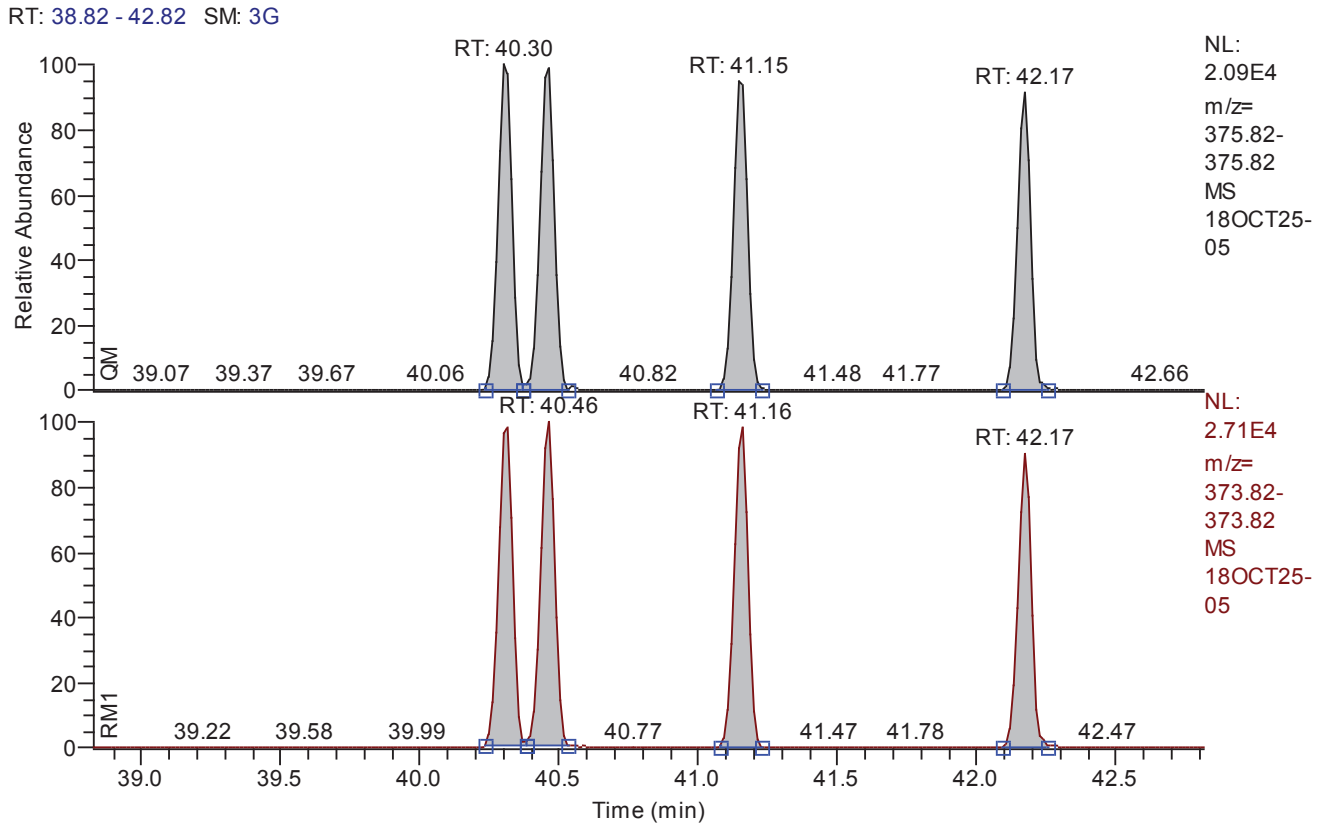
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.82
QM Area	279640
QM Integration Mode	A
RM1 Area	360259
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0042
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1489
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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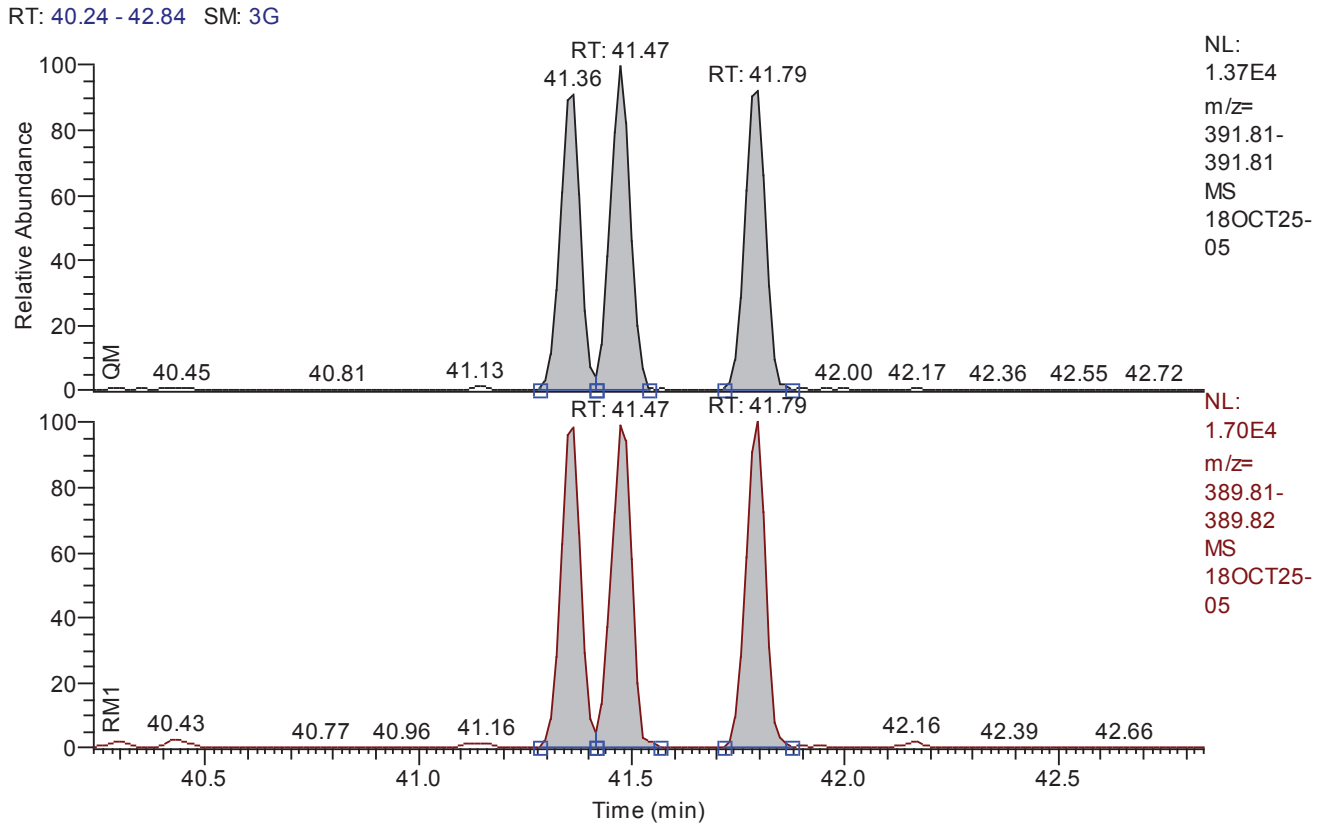
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.54
QM Area	128921
QM Integration Mode	A
RM1 Area	166187
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	7.5000
Signal-to-Noise	1281
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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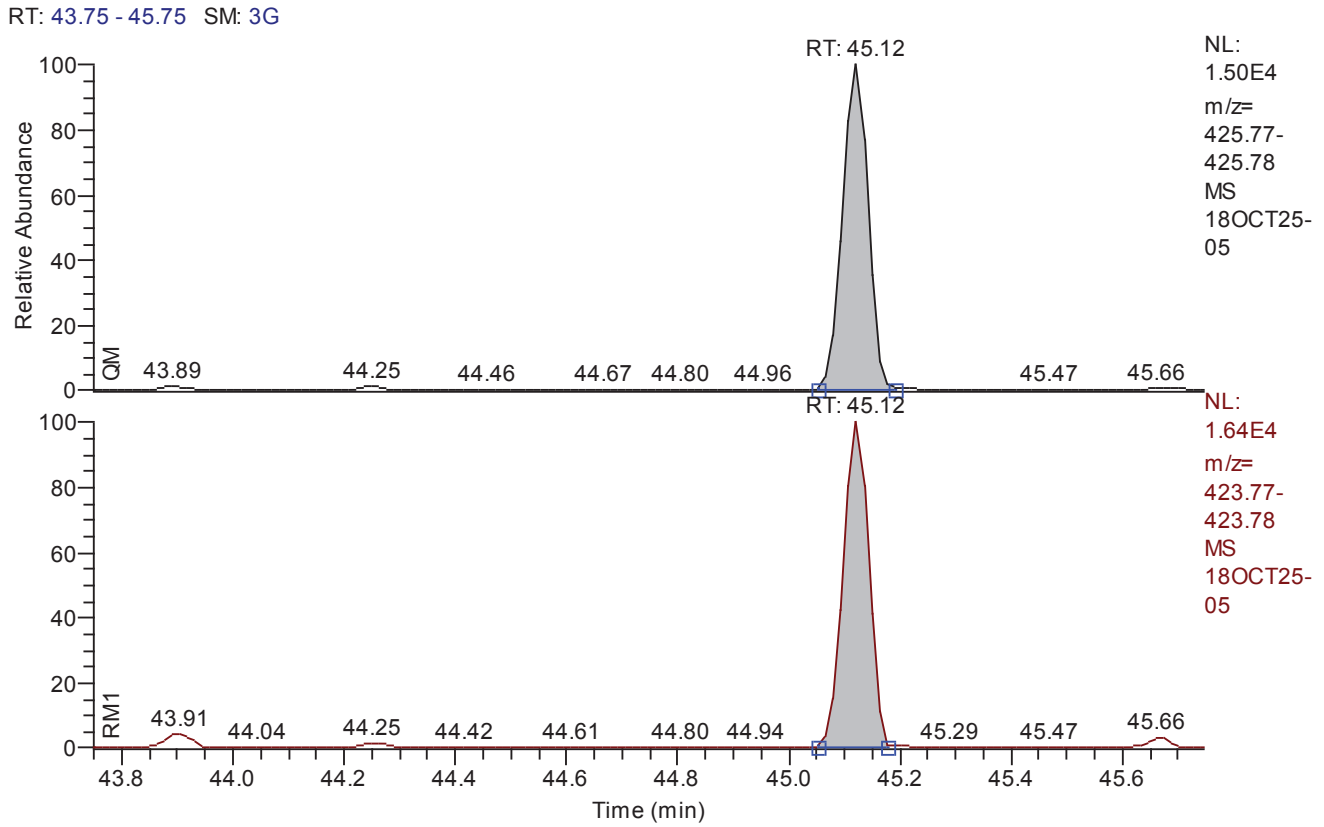
Chromatogram



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.75
QM Area	46801
QM Integration Mode	A
RM1 Area	51154
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1247
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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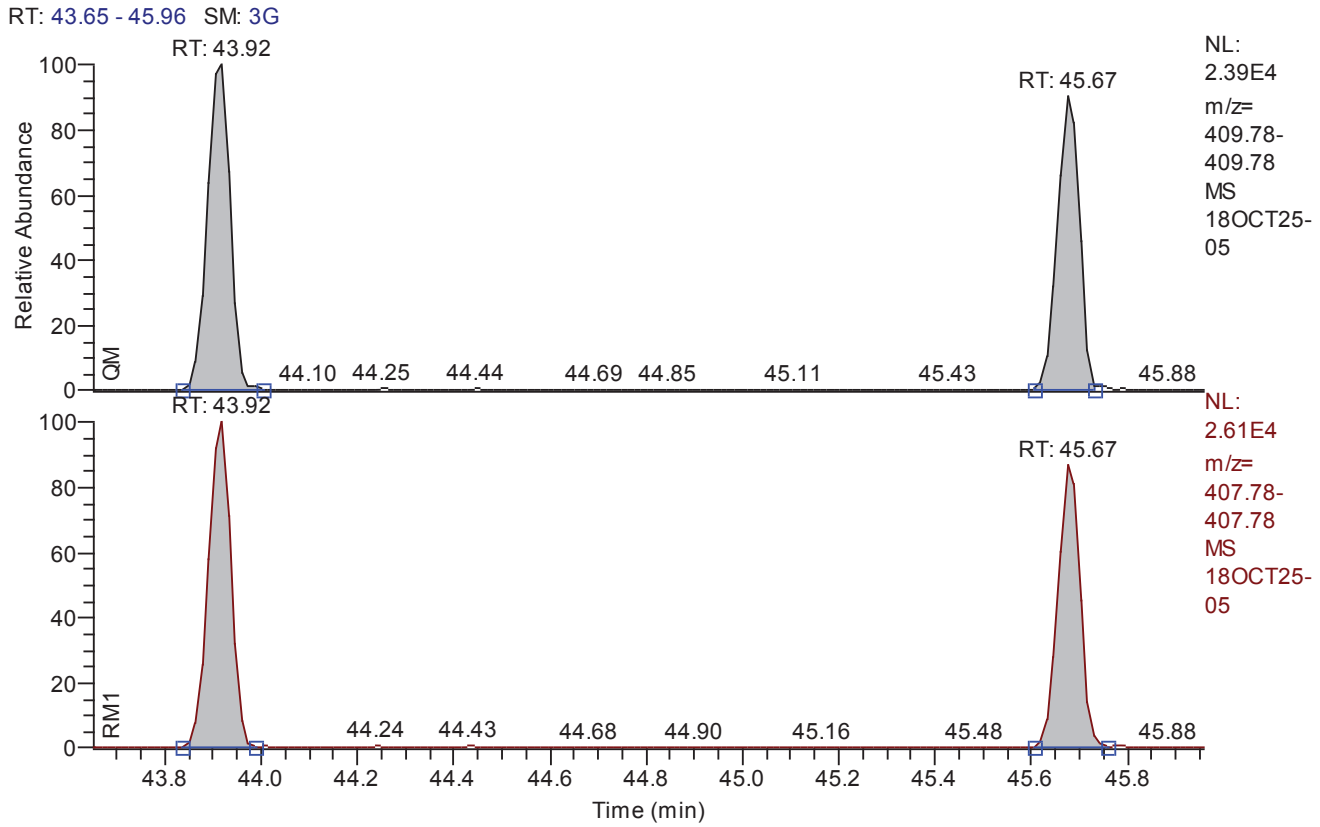
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.81
QM Area	147640
QM Integration Mode	A
RM1 Area	157855
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0052
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1240
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	29.32	29.32	29.30	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.46	30.46	30.46	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.32	35.32	35.32	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.60	36.60	36.60	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.00	37.00	37.00	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.30	40.30	40.31	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.46	40.46	40.46	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.15	41.15	41.16	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.36	41.36	41.36	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.47	41.47	41.47	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.79	41.79	41.79	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.17	42.17	42.17	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.92	43.92	43.92	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.12	45.12	45.12	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.67	45.67	45.67	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.17	48.17	48.17	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.34	48.34	48.34	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.86	30.86	30.86	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.63	29.63	29.61	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.20	40.20	40.20	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.30	29.30	29.30	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.43	30.43	30.43	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.29	35.29	35.29	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.57	36.57	36.57	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.98	36.98	36.98	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.29	40.29	40.29	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.43	40.43	40.43	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.13	41.13	41.13	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.34	41.34	41.34	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.46	41.46	41.46	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.78	41.78	41.78	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.16	42.16	42.16	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.91	43.91	43.91	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.11	45.11	45.11	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.66	45.66	45.66	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.16	48.16	48.16	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.33	48.33	48.33	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	28.17	28.17	28.17	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.02	29.02	29.02	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	34.99	34.99	34.99	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	36.14	36.14	36.14	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.82	40.82	40.82	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.54	41.54	41.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	44.75	44.75	44.75	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.81	44.81	44.81	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	29.32	29.32	29.30	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.46	30.46	30.46	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	37.00	37.00	37.00	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	36.60	36.60	36.60	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	35.32	35.32	35.32	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	45.12	45.12	45.12	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.30	40.30	40.31	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.46	40.46	40.46	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	41.15	41.15	41.16	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	42.17	42.17	42.17	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.47	41.47	41.47	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.36	41.36	41.36	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.79	41.79	41.79	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	43.92	43.92	43.92	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.67	45.67	45.67	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.32	0.8007	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.46	0.6642	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.32	1.5617	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.60	1.5916	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.00	1.6469	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.30	1.2894	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.46	1.2698	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.15	1.3107	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.36	1.3168	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.47	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.79	1.2752	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.17	1.2838	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.92	1.0802	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.12	1.0930	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.67	1.0563	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.17	0.8901	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.34	0.9394	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.86	0.7979	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.63	0.8194	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.20	1.2803	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.30	0.7909	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.43	0.8126	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.29	1.5945	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.57	1.5861	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.98	1.5819	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.29	0.5336	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.43	0.5430	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.13	0.5332	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.34	1.2959	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.46	1.2349	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.78	1.2592	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.16	0.5260	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.91	0.4658	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.11	1.0547	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.66	0.4661	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.16	0.9246	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.33	0.9117	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.17	0.8007	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.02	0.6642	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.99	1.5774	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.14	1.6469	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.82	1.2883	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.54	1.2891	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.75	1.0930	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.81	1.0692	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.32	0.8007	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.46	0.6642	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.00	1.6469	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.60	1.5916	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.32	1.5617	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.12	1.0930	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.30	1.2894	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.46	1.2698	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.15	1.3107	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.17	1.2838	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.47	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.36	1.3168	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.79	1.2752	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.92	1.0802	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.67	1.0563	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	29.32	17923	A	14352	A	0.0048	0.500000	0.5000	0.500000	248	
2	2378-TCDD	passed	30.46	11559	A	7677	A	0.0067	0.500000	0.5000	0.500000	195	
3	12378-PeCDF	passed	35.32	57200	A	89329	A	0.0044	2.500000	2.5000	2.500000	1370	
4	23478-PeCDF	passed	36.60	63076	A	100392	A	0.0036	2.500000	2.5000	2.500000	1734	
5	12378-PeCDD	passed	37.00	33091	A	54498	A	0.0060	2.500000	2.5000	2.500000	1015	
6	123478-HxCDF	passed	40.30	72649	A	93670	A	0.0041	2.500000	2.5000	2.500000	1526	
7	123678-HxCDF	passed	40.46	73876	A	93806	A	0.0041	2.500000	2.5000	2.500000	1530	
8	234678-HxCDF	passed	41.15	70271	A	92102	A	0.0041	2.500000	2.5000	2.500000	1499	
9	123478-HxCDD	passed	41.36	42036	A	55353	A	0.0050	2.500000	2.5000	2.500000	1259	
10	123678-HxCDD	passed	41.47	43333	A	55298	A	0.0048	2.500000	2.5000	2.500000	1313	
11	123789-HxCDD	passed	41.79	43552	A	55536	A	0.0050	2.500000	2.5000	2.500000	1272	
12	123789-HxCDF	passed	42.17	62845	A	80680	A	0.0046	2.500000	2.5000	2.500000	1402	
13	1234678-HpCDF	passed	43.92	79816	A	86213	A	0.0048	2.500000	2.5000	2.500000	1315	
14	1234678-HpCDD	passed	45.12	46801	A	51154	A	0.0050	2.500000	2.5000	2.500000	1247	
15	1234789-HpCDF	passed	45.67	67824	A	71642	A	0.0055	2.500000	2.5000	2.500000	1165	
16	OCDD	passed	48.17	92875	A	82669	A	0.0084	5.000000	5.0000	5.000000	1494	
17	OCDF	passed	48.34	126302	A	118649	A	0.0045	5.000000	5.0000	5.000000	2900	
18	13C12-1278-TCDD (CRS)	passed	30.86	2027525	A	1617669	A	0.0126	100.000000	100.0000	100.000000	20749	
19	13C12-1234-TCDD	passed	29.63	1909203	A	1564465	A	0.0132	100.000000	100.0000	100.000000	18910	
20	13C12-123468-HxCDD	passed	40.20	1864042	A	2386477	A	0.0197	100.000000	100.0000	100.000000	12718	
21	13C12-2378-TCDF	passed	29.30	3776925	A	2987174	A	0.0111	100.000000	100.0000	100.000000	22756	
22	13C12-2378-TCDD	passed	30.43	1933918	A	1571442	A	0.0131	100.000000	100.0000	100.000000	18919	
23	13C12-12378-PeCDF	passed	35.29	2528085	A	4031136	A	0.0187	100.000000	100.0000	100.000000	17145	
24	13C12-23478-PeCDF	passed	36.57	2565211	A	4068765	A	0.0185	100.000000	100.0000	100.000000	19183	
25	13C12-12378-PeCDD	passed	36.98	1402509	A	2218693	A	0.0164	100.000000	100.0000	100.000000	22113	
26	13C12-123478-HxCDF	passed	40.29	3978956	A	2123044	A	0.0204	100.000000	100.0000	100.000000	11893	
27	13C12-123678-HxCDF	passed	40.43	4057398	A	2203095	A	0.0198	100.000000	100.0000	100.000000	12071	
28	13C12-234678-HxCDF	passed	41.13	3742075	A	1995181	A	0.0217	100.000000	100.0000	100.000000	11390	
29	13C12-123478-HxCDD	passed	41.34	1787563	A	2316472	A	0.0204	100.000000	100.0000	100.000000	12349	
30	13C12-123678-HxCDD	passed	41.46	1888842	A	2332505	A	0.0198	100.000000	100.0000	100.000000	13206	
31	13C12-123789-HxCDD	passed	41.78	1766118	A	2223865	A	0.0209	100.000000	100.0000	100.000000	12008	
32	13C12-123789-HxCDF	passed	42.16	3506470	A	1844476	A	0.0232	100.000000	100.0000	100.000000	10821	
33	13C12-1234678-HpCDF	passed	43.91	3735908	A	1740017	A	0.0293	100.000000	100.0000	100.000000	8669	
34	13C12-1234678-HpCDD	passed	45.11	1908262	A	2012600	A	0.0299	100.000000	100.0000	100.000000	9093	
35	13C12-1234789-HpCDF	passed	45.66	3059502	A	1426010	A	0.0357	100.000000	100.0000	100.000000	7397	
36	13C12-OCDD	passed	48.16	3776889	A	3492002	A	0.0121	200.000000	200.0000	200.000000	45647	
37	13C12-OCDF	passed	48.33	5936269	A	5412126	A	0.0098	200.000000	200.0000	200.000000	55950	
38	Total TCDF	passed (1)	28.17	17923	A	14352	A	0.0048	0.500000	0.5000	0.500000	248	
39	Total TCDD	passed (1)	29.02	11559	A	7677	A	0.0067	0.500000	0.5000	0.500000	195	
40	Total PeCDF	passed (2)	34.99	120276	A	189720	A	0.0040	2.500000	5.0000	2.500000	1552	
41	Total PeCDD	passed (1)	36.14	33091	A	54498	A	0.0060	2.500000	2.5000	2.500000	1015	
42	Total HxCDF	passed (4)	40.82	279640	A	360259	A	0.0042	2.500000	10.0000	2.500000	1489	
43	Total HxCDD	passed (3)	41.54	128921	A	166187	A	0.0049	2.500000	7.5000	2.500000	1281	
44	Total HpCDD	passed (1)	44.75	46801	A	51154	A	0.0050	2.500000	2.5000	2.500000	1247	
45	Total HpCDF	passed (2)	44.81	147640	A	157855	A	0.0052	2.500000	5.0000	2.500000	1240	
46	Single TCDF	passed	29.32	17923	A	14352	A	0.0048	0.500000	0.5000	0.500000	248	
47	Single TCDD	passed	30.46	11559	A	7677	A	0.0067	0.500000	0.5000	0.500000	195	
48	Single PeCDD	passed	37.00	33091	A	54498	A	0.0060	2.500000	2.5000	2.500000	1015	
49	Single PeCDF	passed	36.60	63076	A	100392	A	0.0038	2.500000	2.5000	2.500000	1734	
50	Single PeCDF	passed	35.32	57200	A	89329	A	0.0042	2.500000	2.5000	2.500000	1370	
51	Single HpCDD	passed	45.12	46801	A	51154	A	0.0050	2.500000	2.5000	2.500000	1247	
52	Single HxCDF	passed	40.30	72649	A	93670	A	0.0041	2.500000	2.5000	2.500000	1526	
53	Single HxCDF	passed	40.46	73876	A	93806	A	0.0040	2.500000	2.5000	2.500000	1530	
54	Single HxCDF	passed	41.15	70271	A	92102	A	0.0042	2.500000	2.5000	2.500000	1499	
55	Single HxCDF	passed	42.17	62845	A	80680	A	0.0047	2.500000	2.5000	2.500000	1402	
56	Single HxCDD	passed	41.47	43333	A	55298	A	0.0049	2.500000	2.5000	2.500000	1313	
57	Single HxCDD	passed	41.36	42036	A	55353	A	0.0050	2.500000	2.5000	2.500000	1259	
58	Single HxCDD	passed	41.79	43552	A	55536	A	0.0049	2.500000	2.5000	2.500000	1272	
59	Single HpCDF	passed	43.92	79816	A	86213	A	0.0047	2.500000	2.5000	2.500000	1315	
60	Single HpCDF	passed	45.67	67824	A	71642	A	0.0056	2.500000	2.5000	2.500000	1165	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

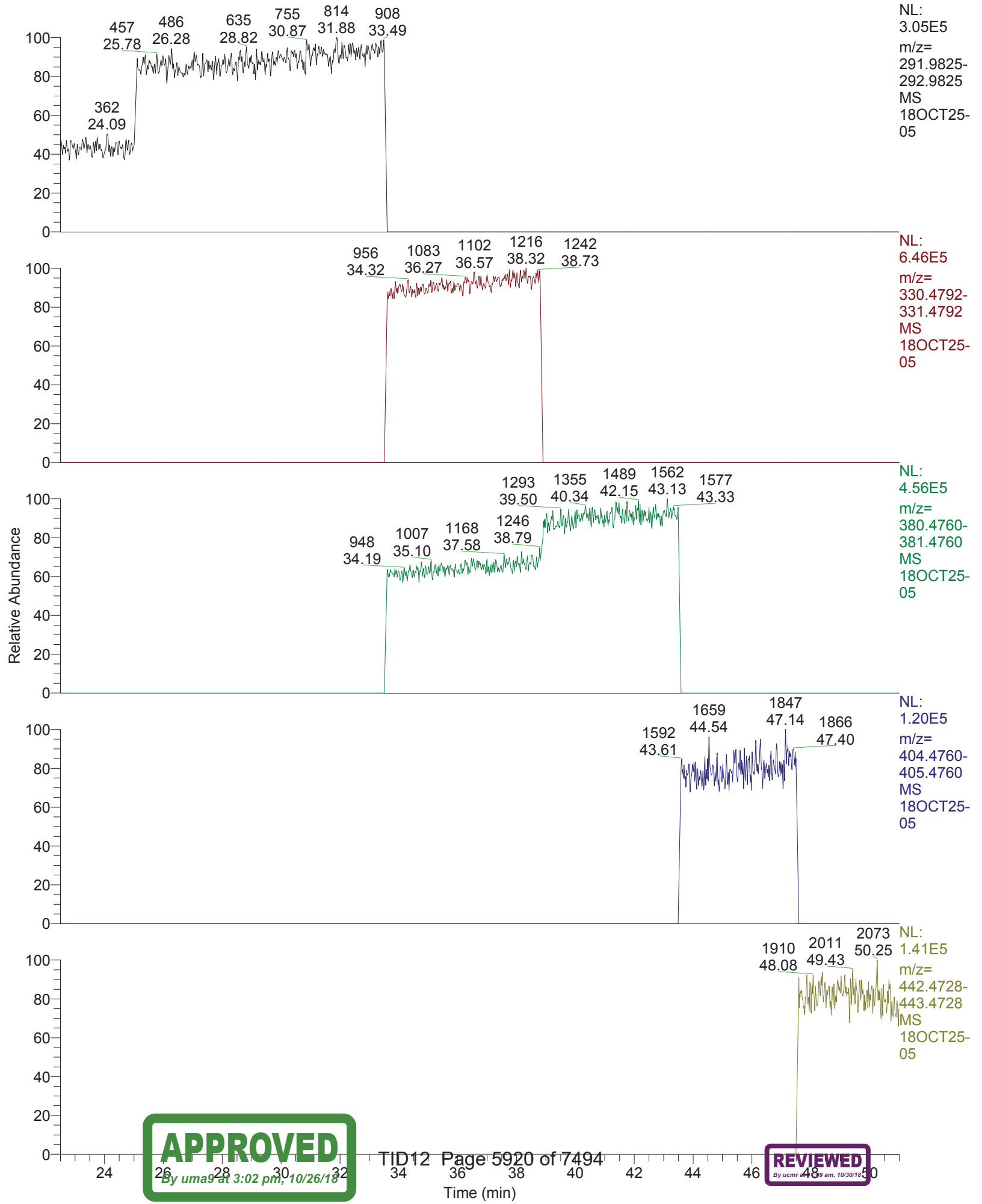
ThermoFisher Scientific

File Name: Y:\18OCT25\18OCT25-05
Sample ID: CS101

Acq. Data: 10/25/2018 2:31:58 PM
Sample Name: CALDF21837C
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 8:39 am, 10/30/18

*** file opened Thu Oct 25 14:36:07 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 14:36:06

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e5d9b8b7-a0ef-4b8d-a030-81b8f9081f1b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

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  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          97.5000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         226.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           220.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           171.0000   EXSBR          -0.4700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0175   FVINLET         0.0346   FVSRC           0.0322
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      704.0000
 LENS_SYM        16.0000   LM            650.0000   LMII          500.0000
 LMASS           97.5000   LKM           442.9723   MASS           97.5000
 MDAC         946908.7264   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2154.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9670   RELEN           0.0000
 RES          10925.5527   RPUSHER       -14.8498   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     708.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0223   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          97.5000   XLENS_POT     924.0000
 XLENS_SYM        2.2500   YLENS_POT     750.0000   YLENS_SYM      -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.7e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10616.
MID Time Window 2: Resolution is 11094.
MID Time Window 3: Resolution is 11411.
MID Time Window 4: Resolution is 11628.
```

```
MID Time Window 5: Resolution is 12032.
MID Time Window 6: Resolution is 10925.

Amplifier Offset: 89.


*** File closed Thu Oct 25 15:27:08 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 15:27
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-06.quan
Data	y:\18oct25\18oct25-06.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	29.32	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.47	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.32	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.59	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.00	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.30	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.17	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.37	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.80	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.18	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.91	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.13	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.68	passed	passed	passed	passed	passed	passed	
16	OCDD	48.17	passed	passed	passed	passed	passed	passed	
17	OCDF	48.35	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.86	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.63	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.21	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.30	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.43	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.29	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.57	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.99	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.29	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.45	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.34	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.79	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.16	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.91	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.11	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.67	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.16	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.33	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.12	passed (1)	---	---	---	---	---	
39	Total TCDD	29.02	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.99	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.14	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.82	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.53	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.74	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.65	passed (2)	---	---	---	---	---	
46	Single TCDF	29.32	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.47	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.00	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.59	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.32	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.13	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.46	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.30	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.17	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.18	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.48	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.37	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.80	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.91	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.68	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 15:27
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-06.quan
Data	y:\18oct25\18oct25-06.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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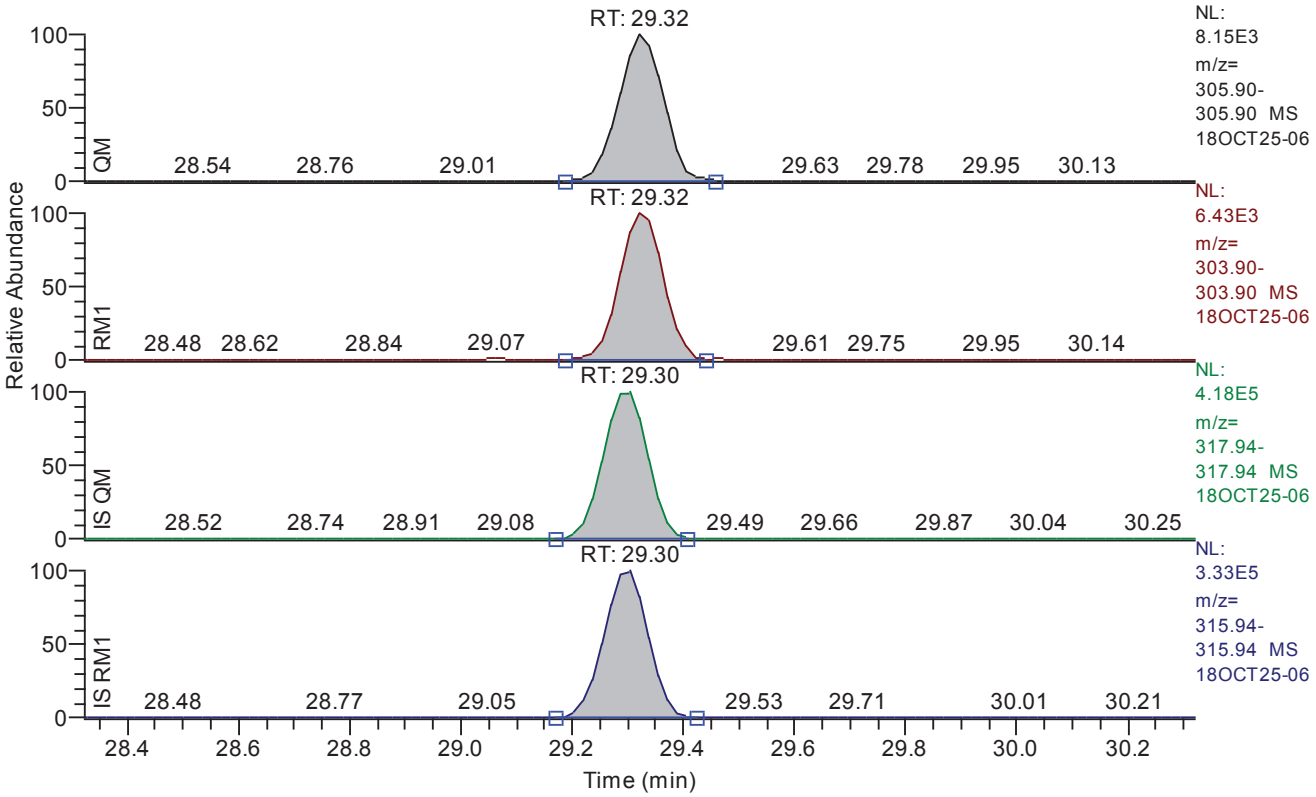
Chromatogram

RT: 28.32 - 30.32 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.32
QM Area	46434
QM Integration Mode	A
RM1 Area	35784
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0069
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	734
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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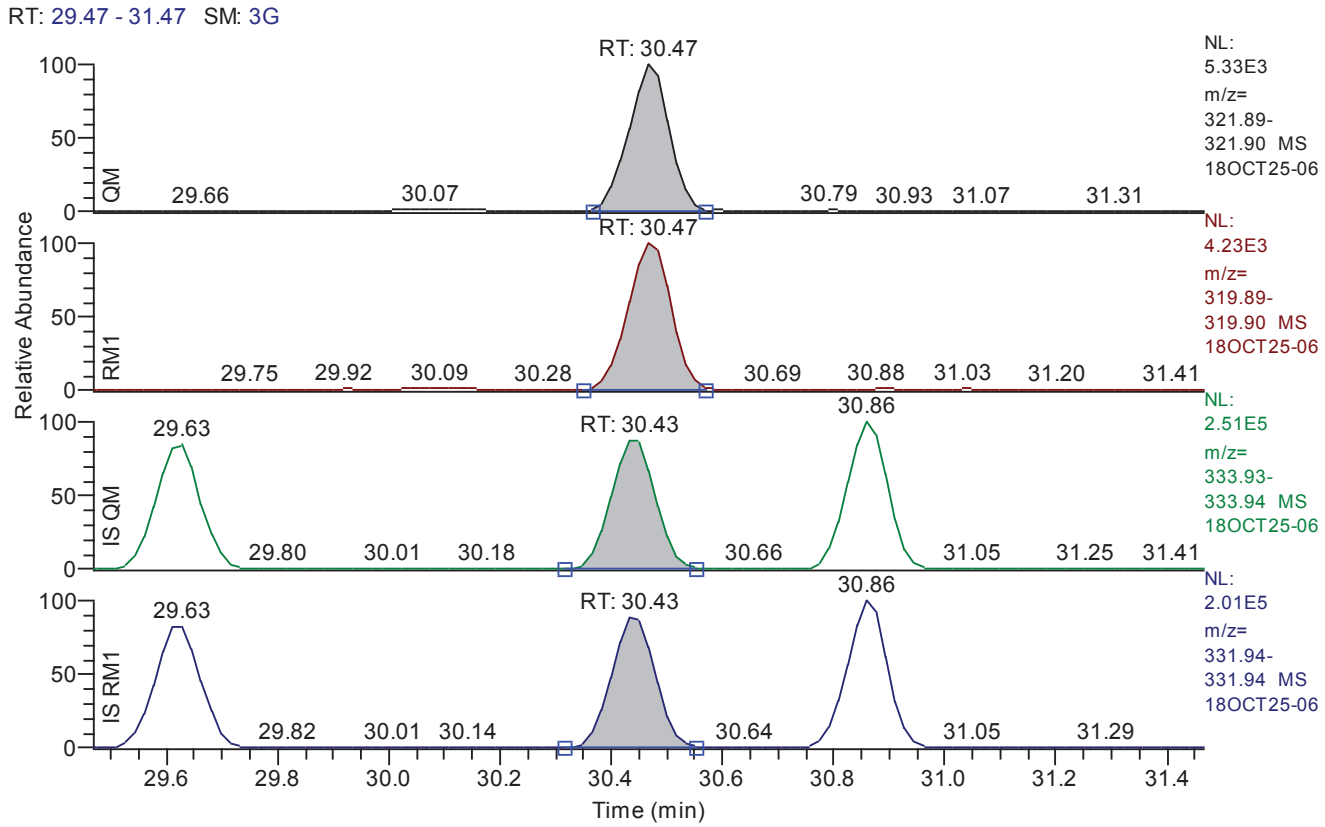
Chromatogram



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.47
QM Area	27395
QM Integration Mode	A
RM1 Area	23276
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	567
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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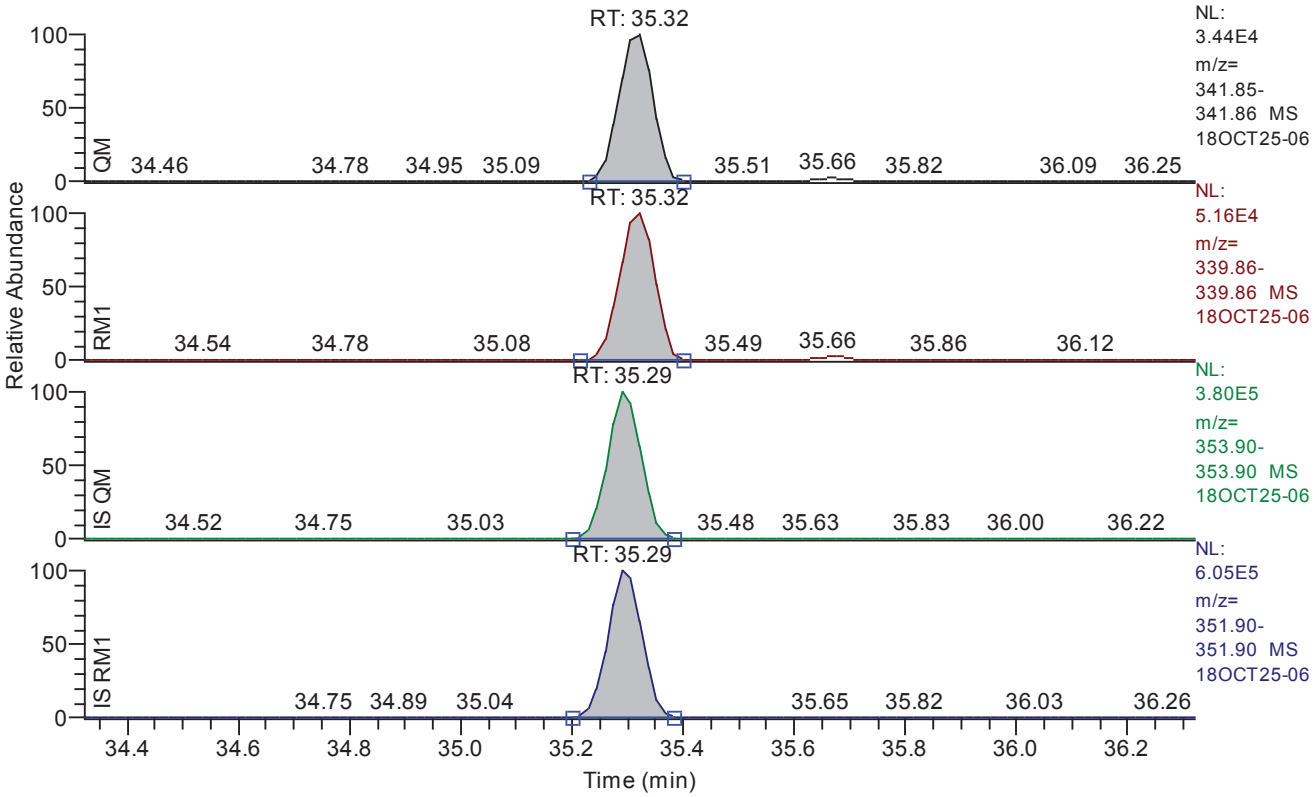
Chromatogram

RT: 34.32 - 36.32 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.32
QM Area	148181
QM Integration Mode	A
RM1 Area	227248
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3736
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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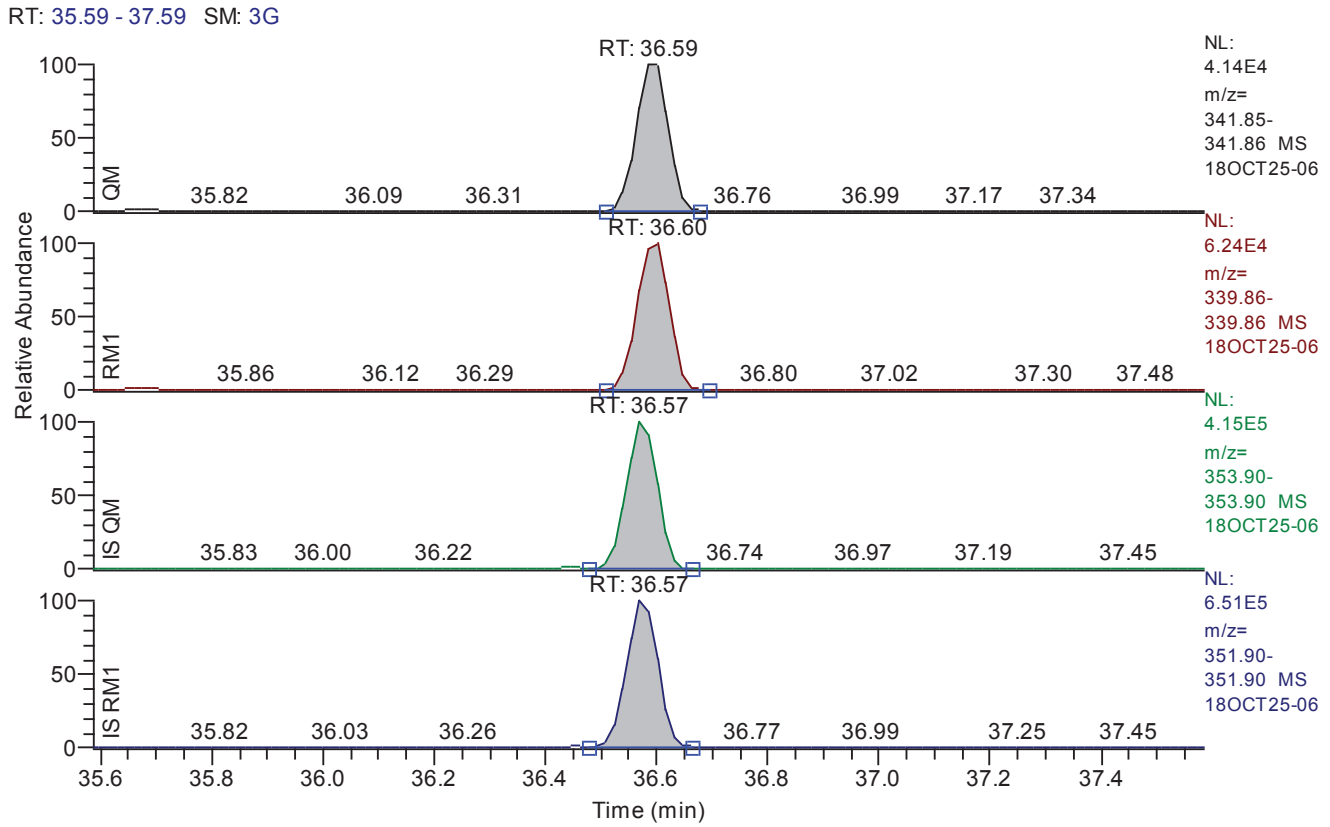
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.59
QM Area	166018
QM Integration Mode	A
RM1 Area	254639
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0054
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4509
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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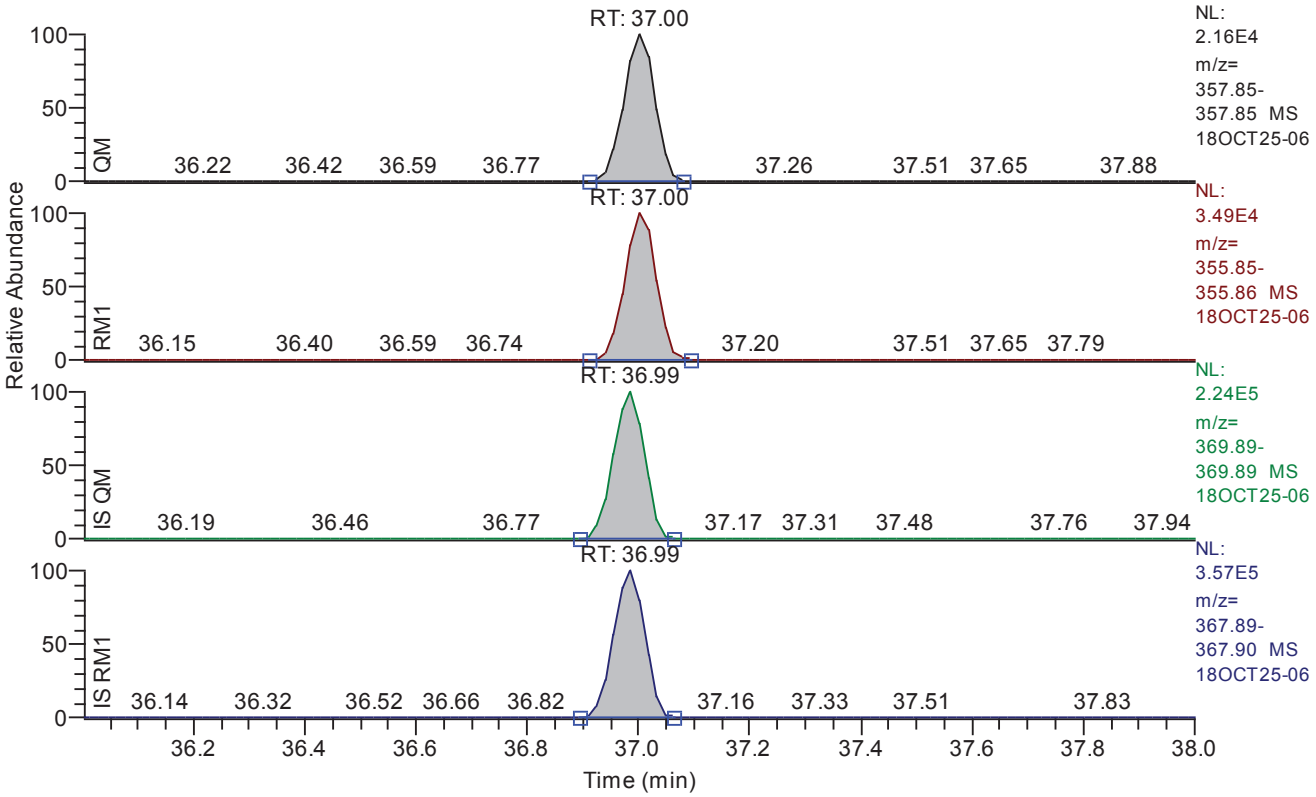
Chromatogram

RT: 36.00 - 38.00 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.00
QM Area	84113
QM Integration Mode	A
RM1 Area	136569
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2231
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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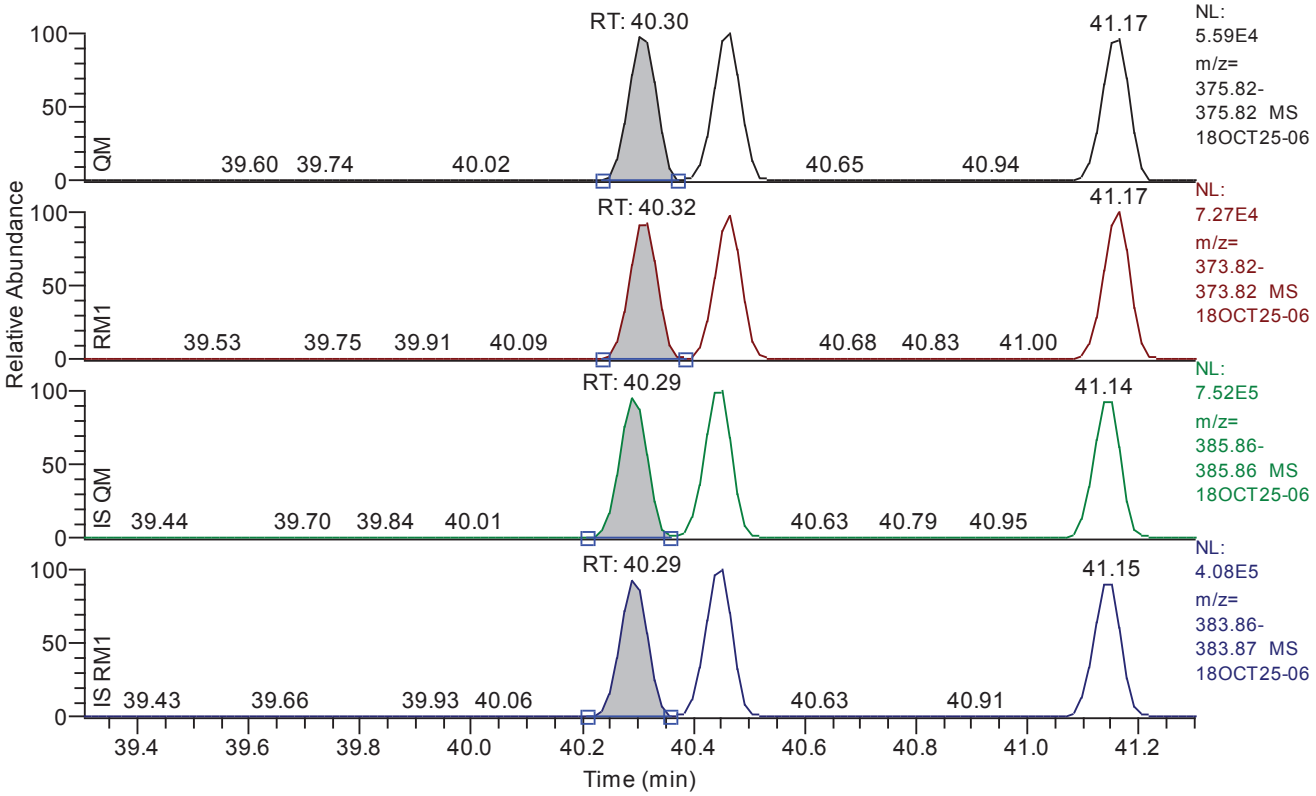
Chromatogram

RT: 39.30 - 41.30 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.30
QM Area	193235
QM Integration Mode	A
RM1 Area	239798
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3248
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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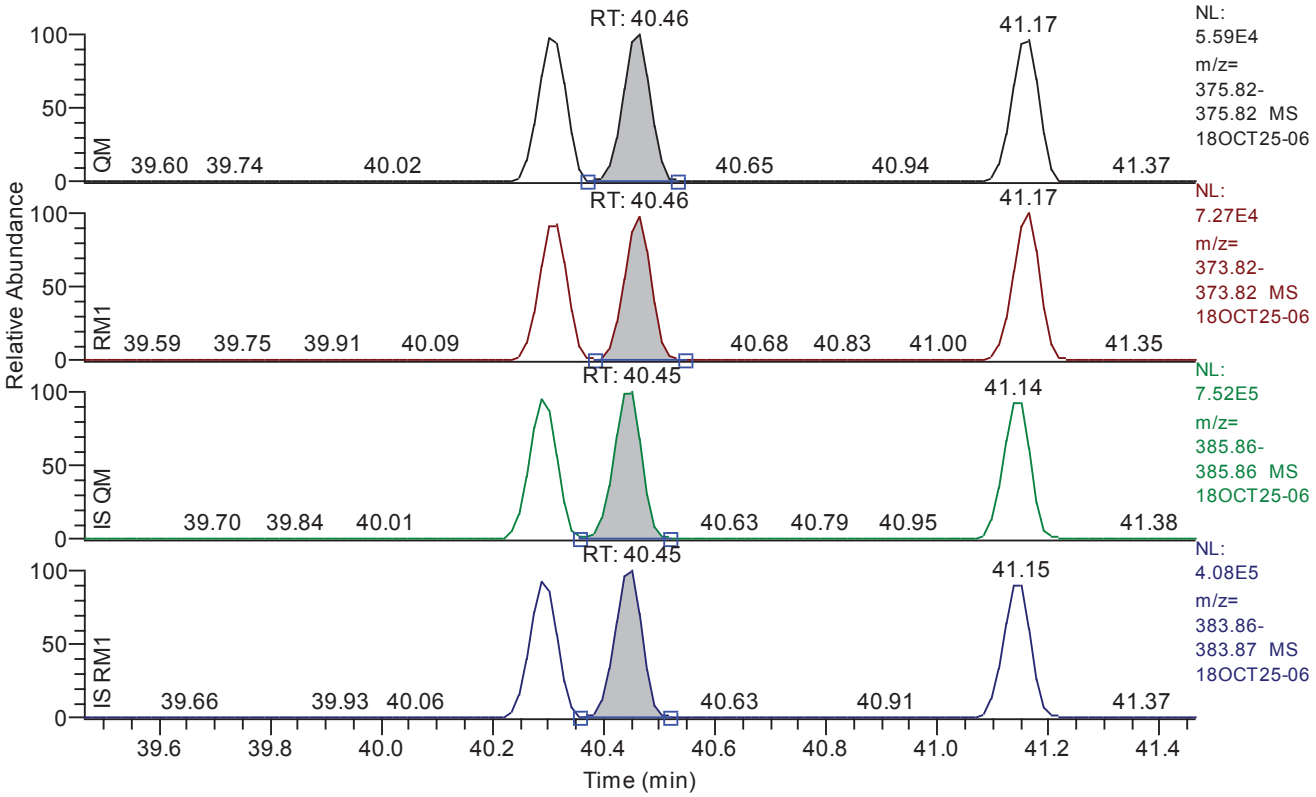
Chromatogram

RT: 39.46 - 41.46 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.46
QM Area	193454
QM Integration Mode	A
RM1 Area	240520
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3375
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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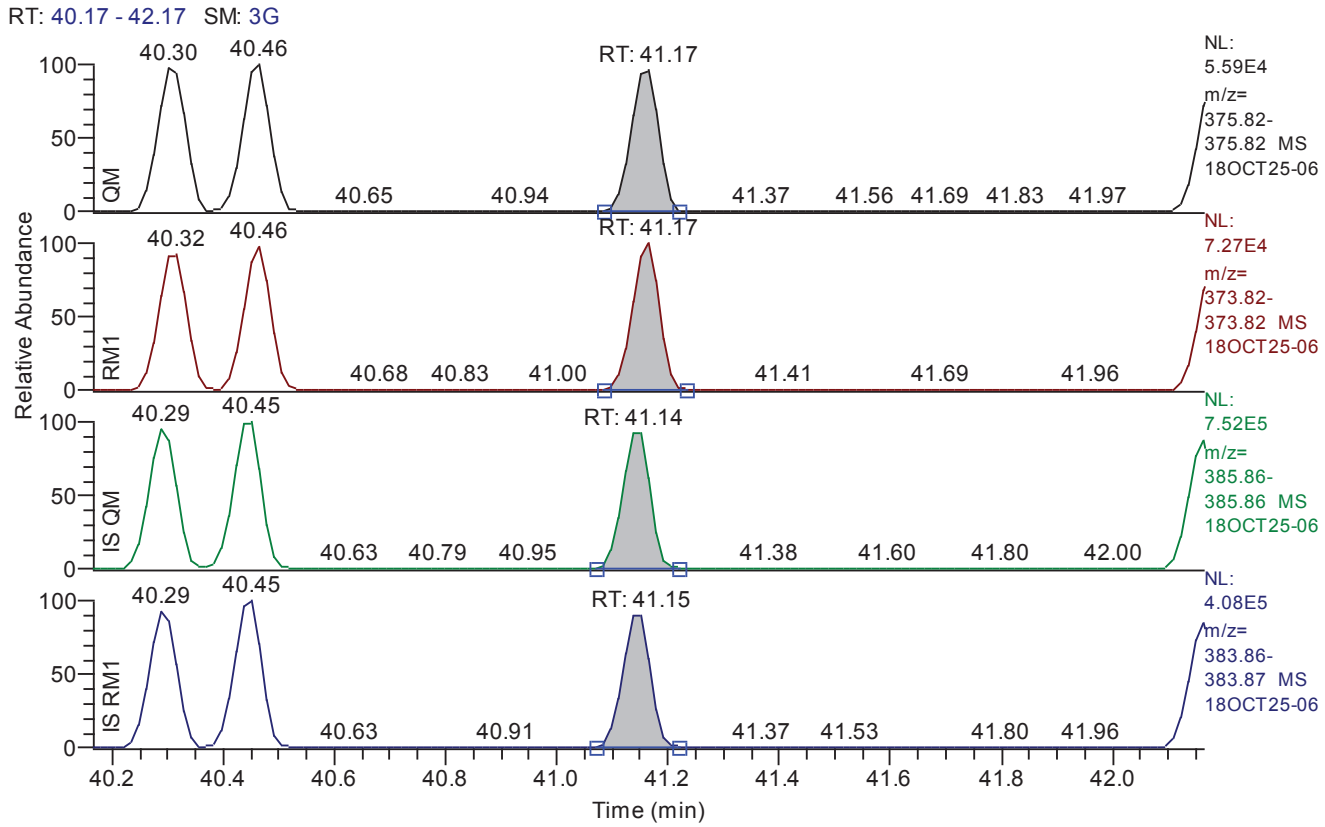
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.17
QM Area	187260
QM Integration Mode	A
RM1 Area	245169
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3374
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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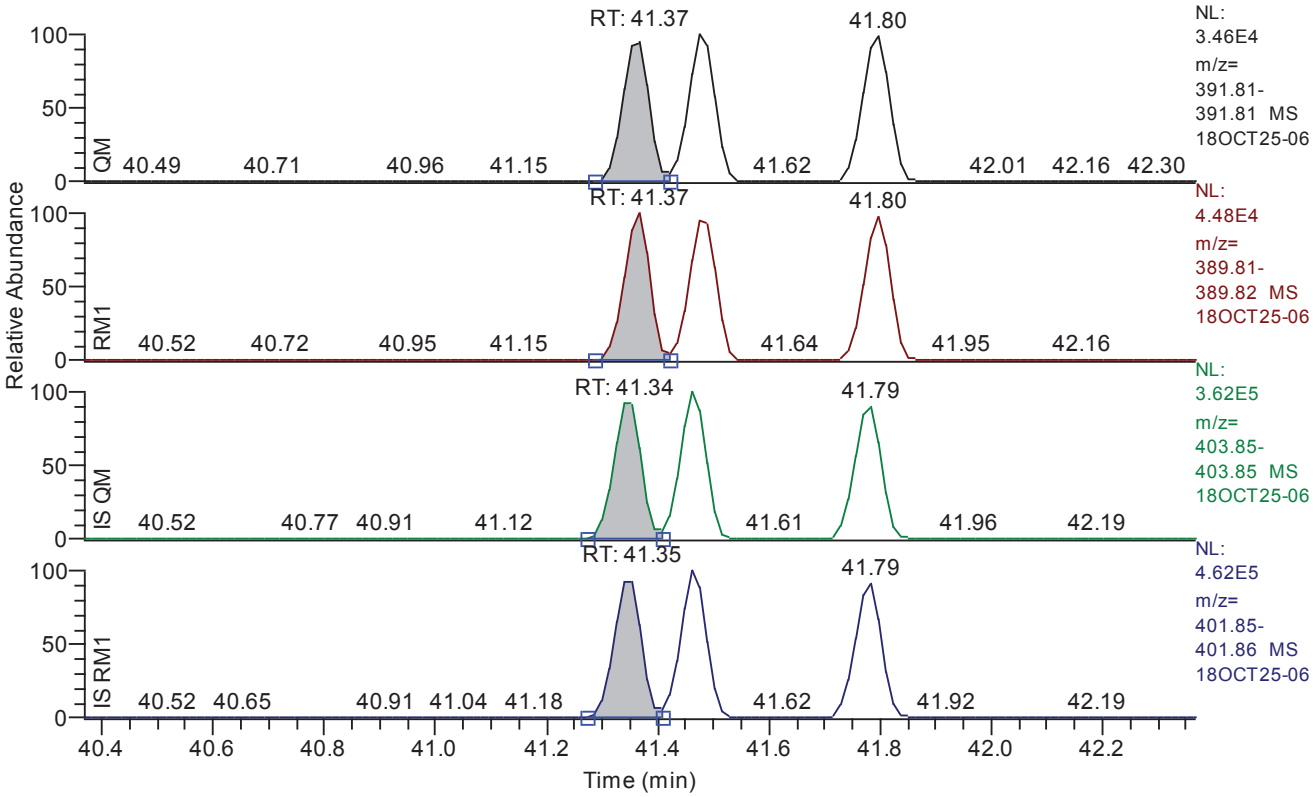
Chromatogram

RT: 40.37 - 42.37 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.37
QM Area	110720
QM Integration Mode	A
RM1 Area	144588
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0079
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3322
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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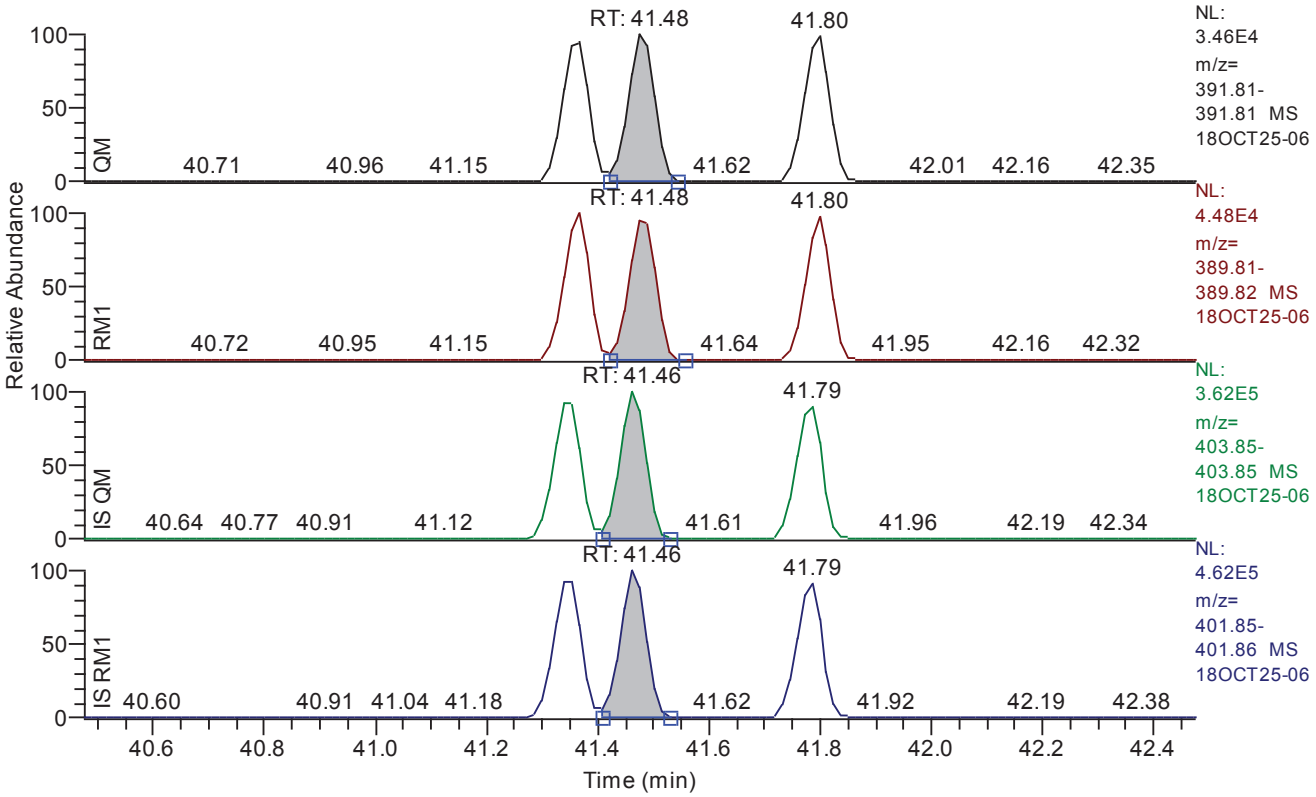
Chromatogram

RT: 40.48 - 42.48 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.48
QM Area	114695
QM Integration Mode	A
RM1 Area	146399
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3300
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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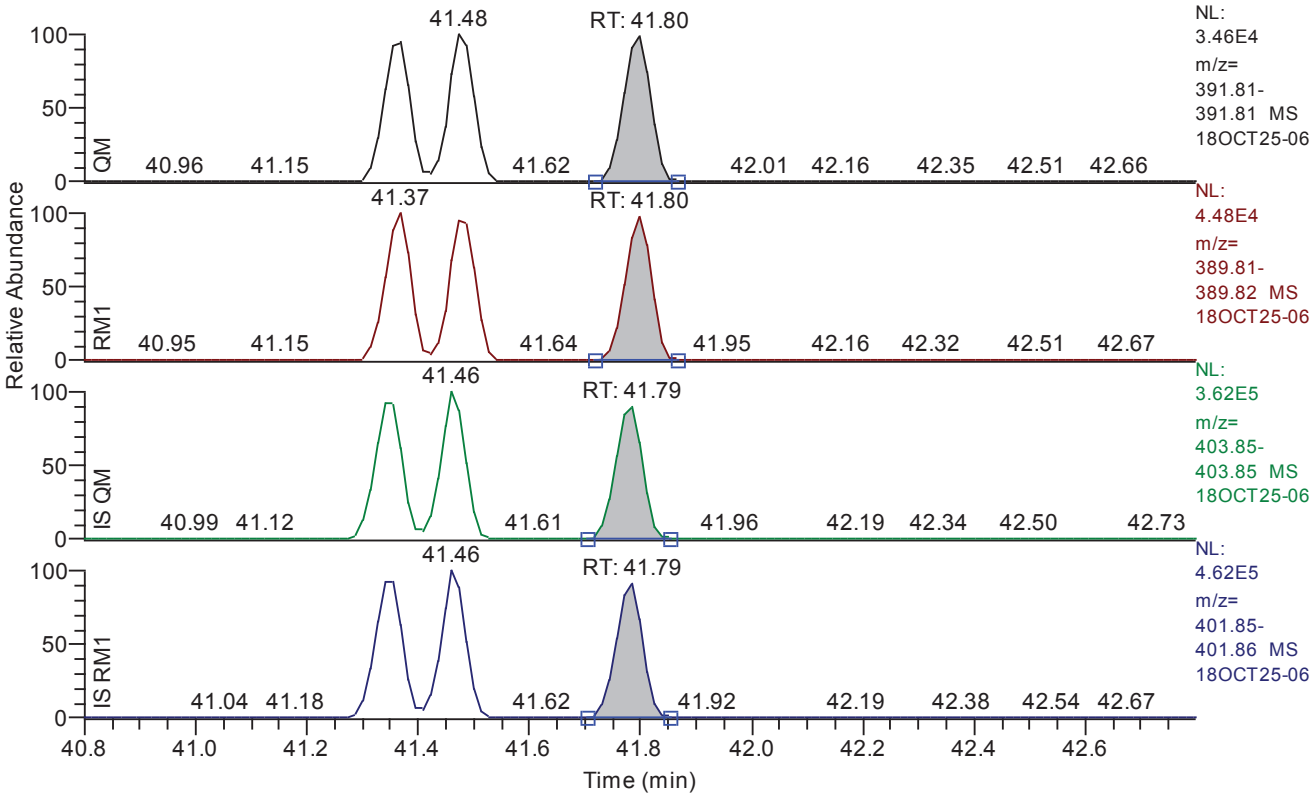
Chromatogram

RT: 40.80 - 42.80 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.80
QM Area	117905
QM Integration Mode	A
RM1 Area	145218
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3342
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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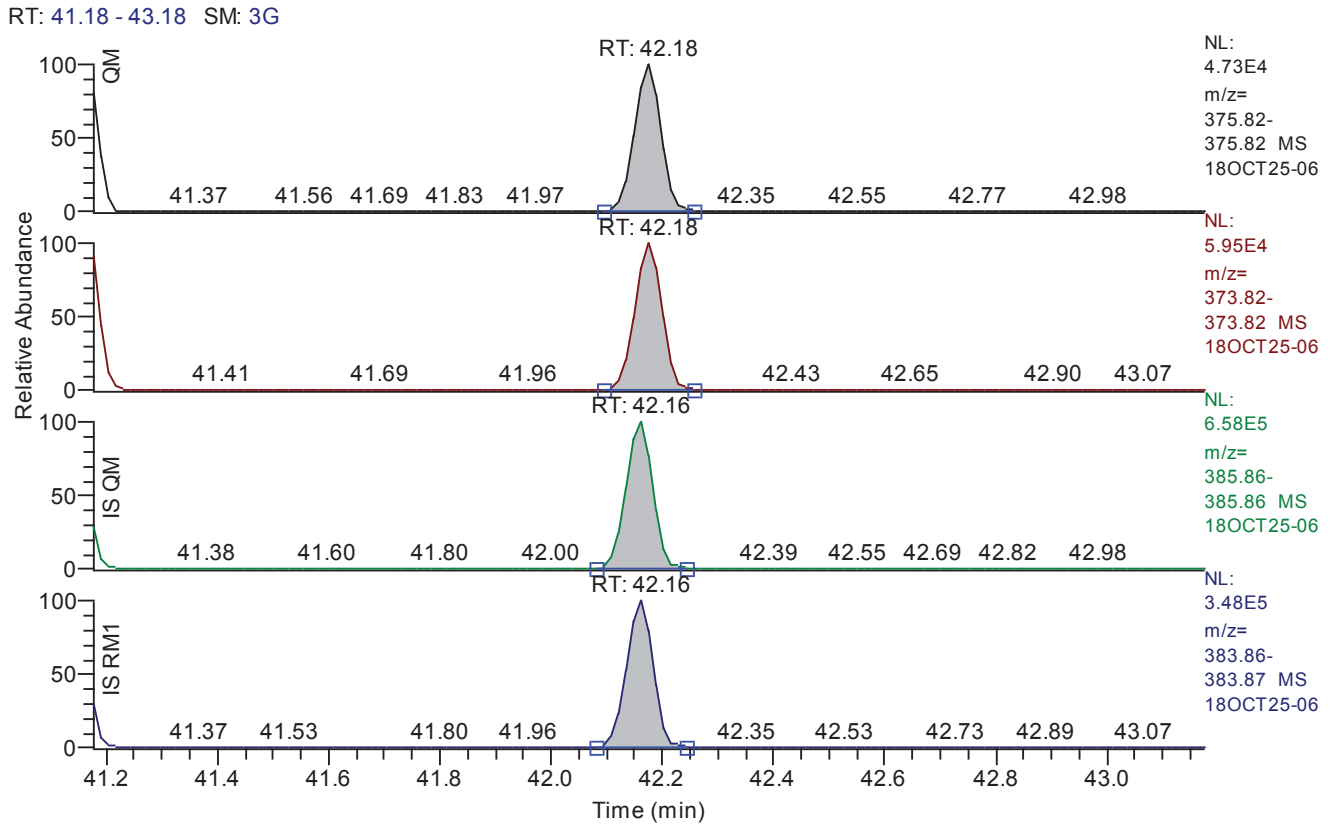
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.18
QM Area	157495
QM Integration Mode	A
RM1 Area	202506
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0088
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2848
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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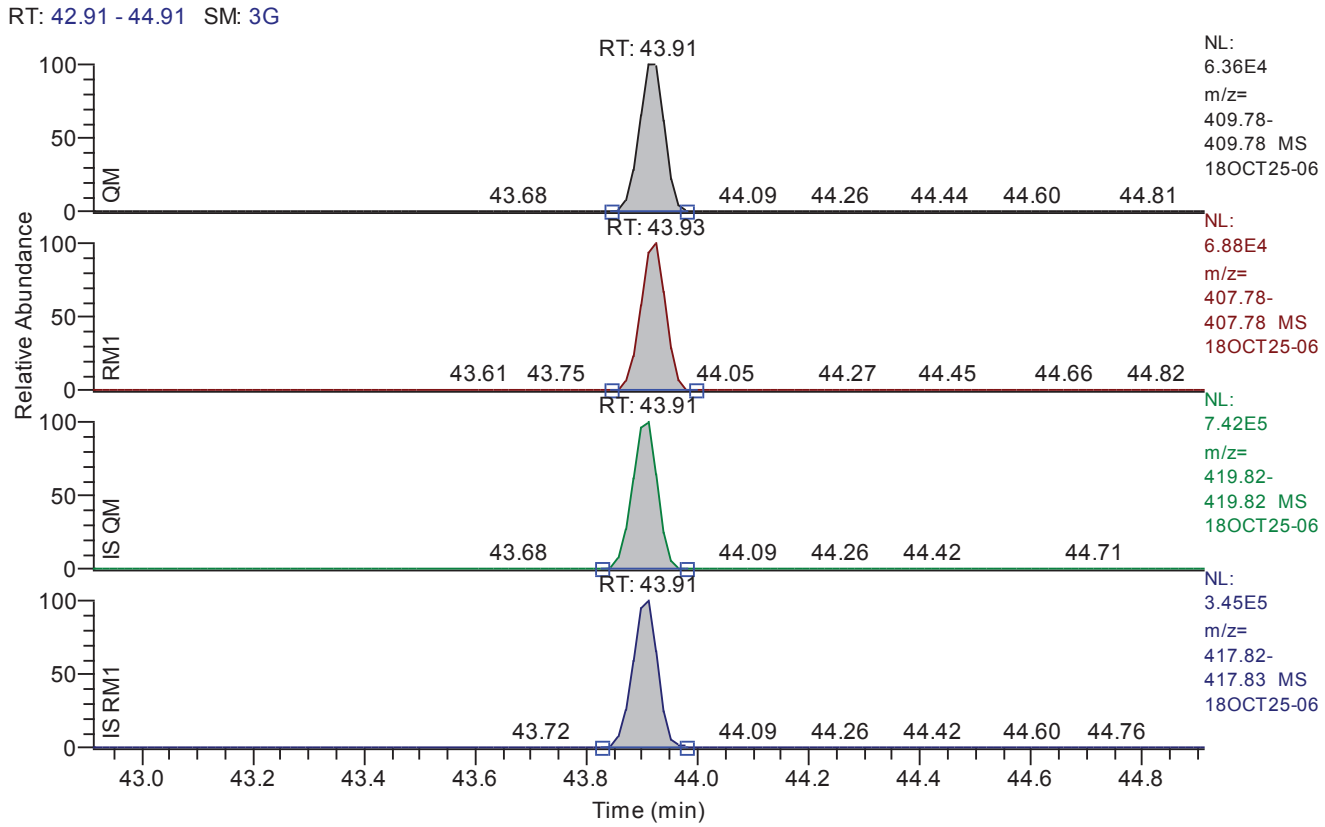
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.91
QM Area	207108
QM Integration Mode	A
RM1 Area	222396
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0096
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2600
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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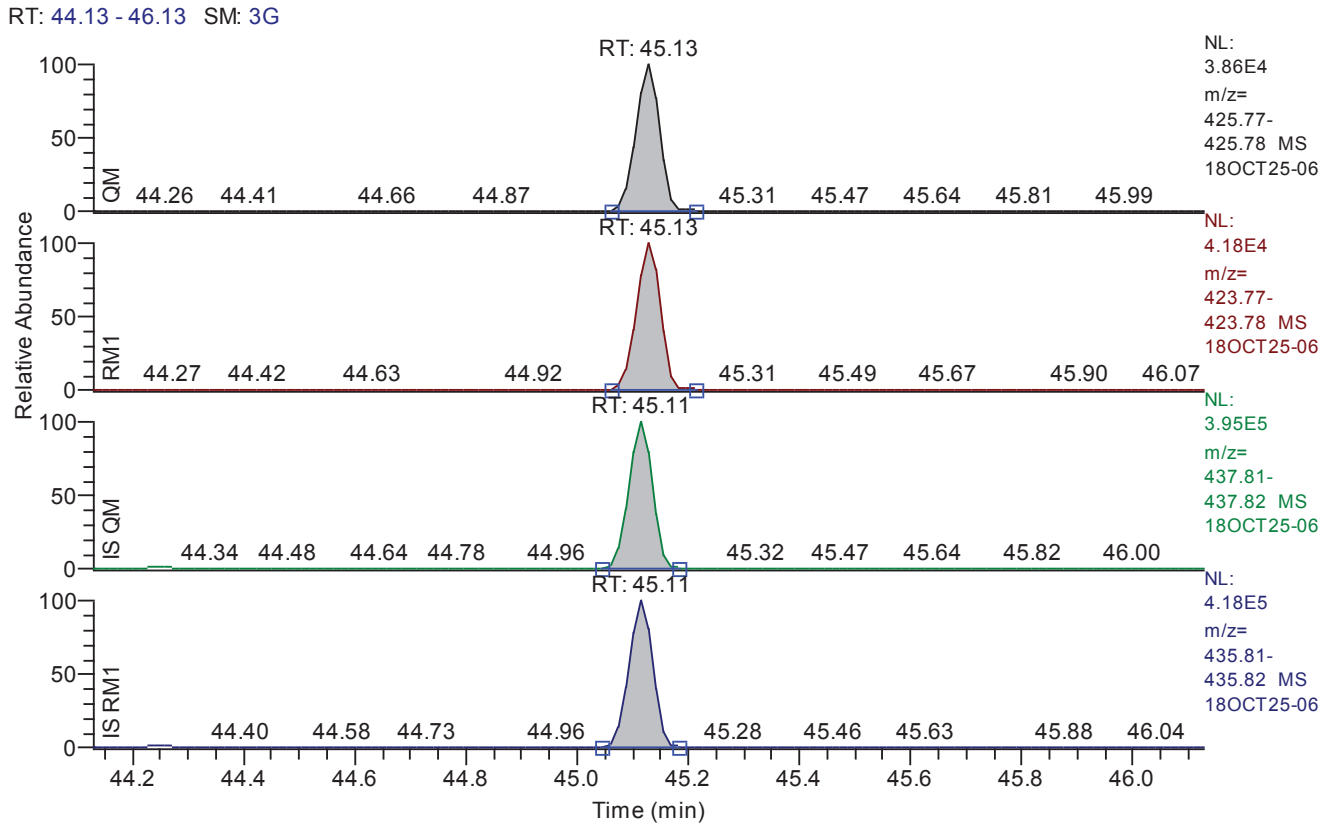
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.13
QM Area	119519
QM Integration Mode	A
RM1 Area	130162
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2289
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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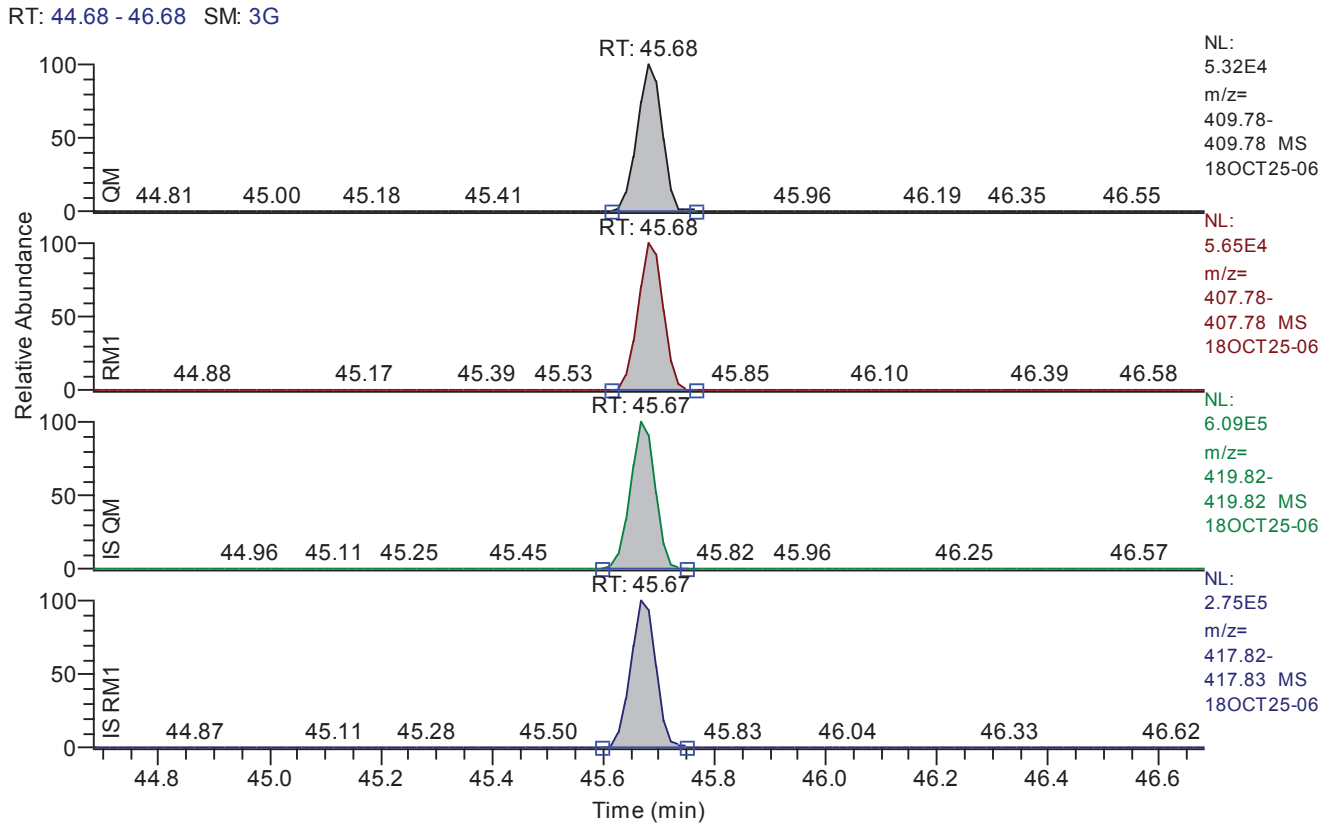
Chromatogram



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.68
QM Area	169327
QM Integration Mode	A
RM1 Area	182970
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2154
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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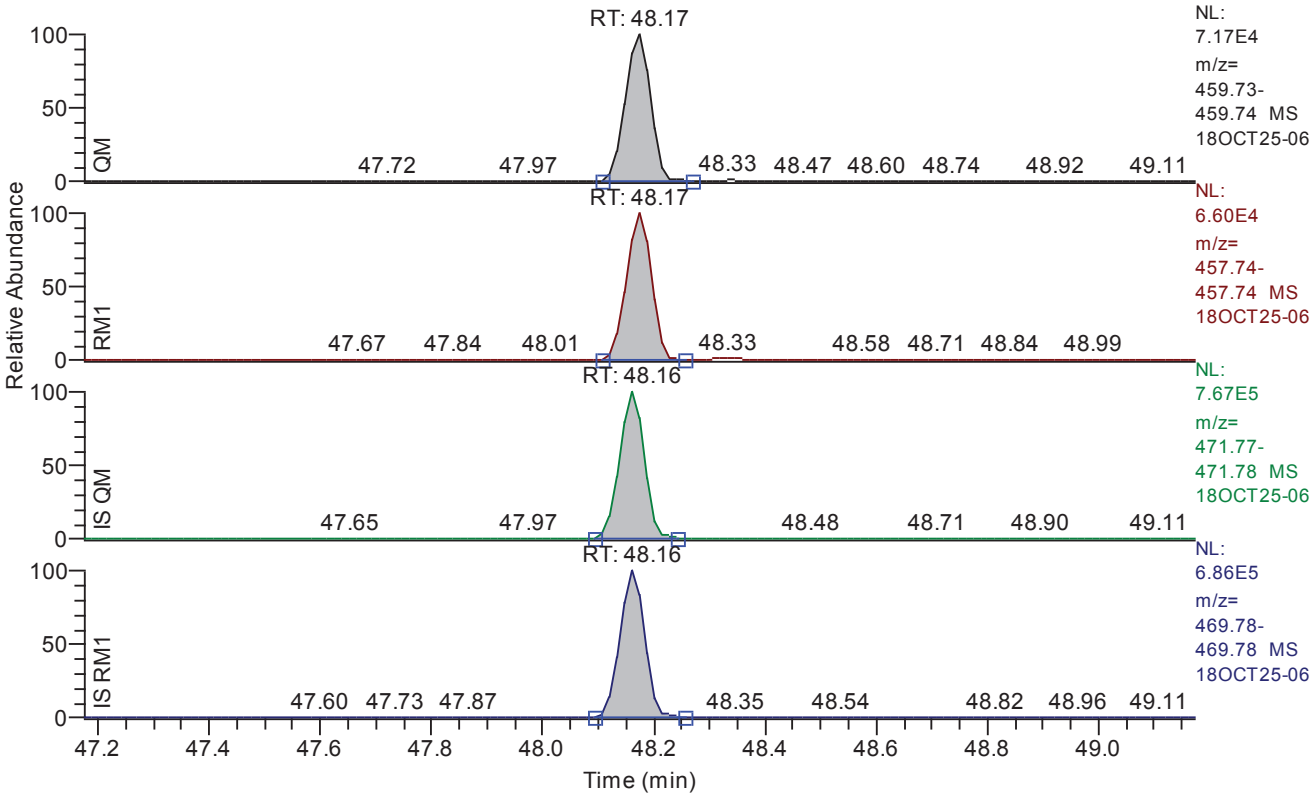
Chromatogram

RT: 47.17 - 49.17 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.17
QM Area	227289
QM Integration Mode	A
RM1 Area	205908
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0141
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	3475
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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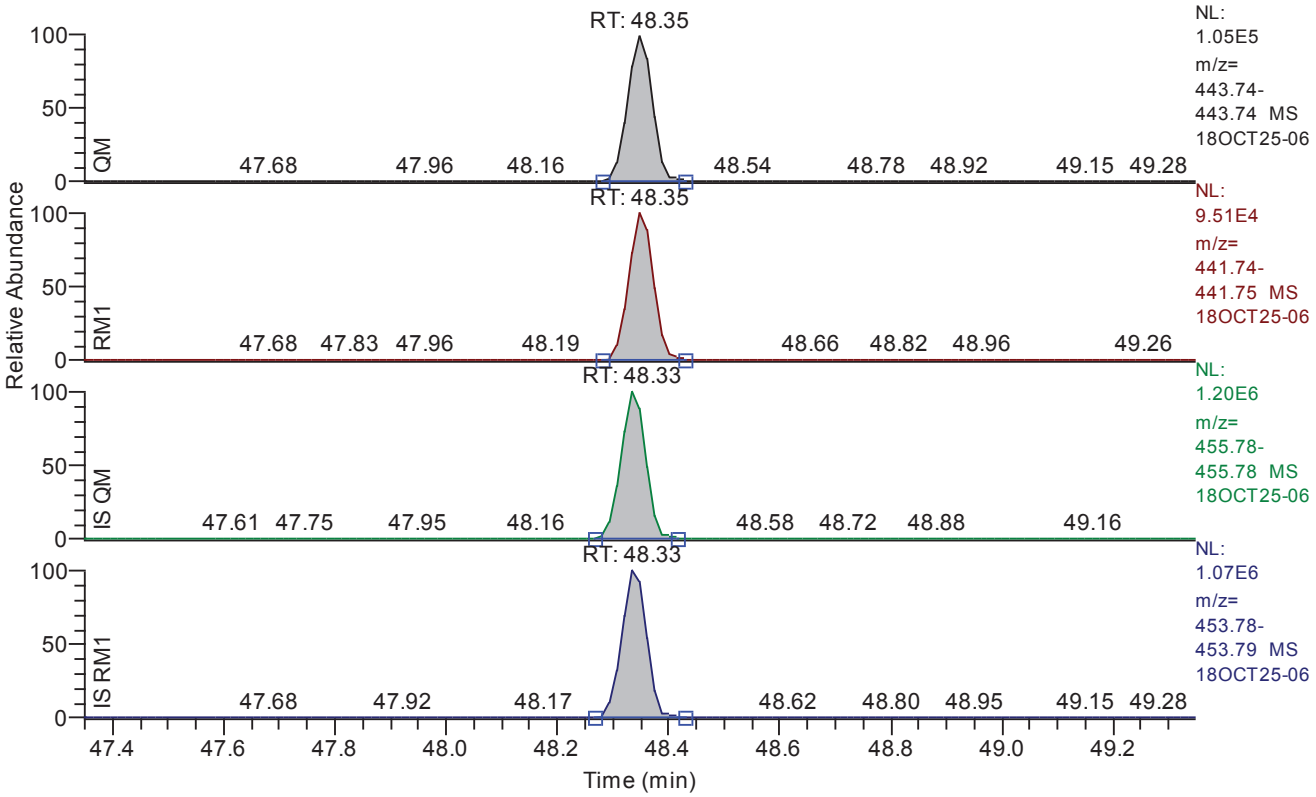
Chromatogram

RT: 47.35 - 49.35 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.35
QM Area	322210
QM Integration Mode	A
RM1 Area	292314
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0078
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	6442
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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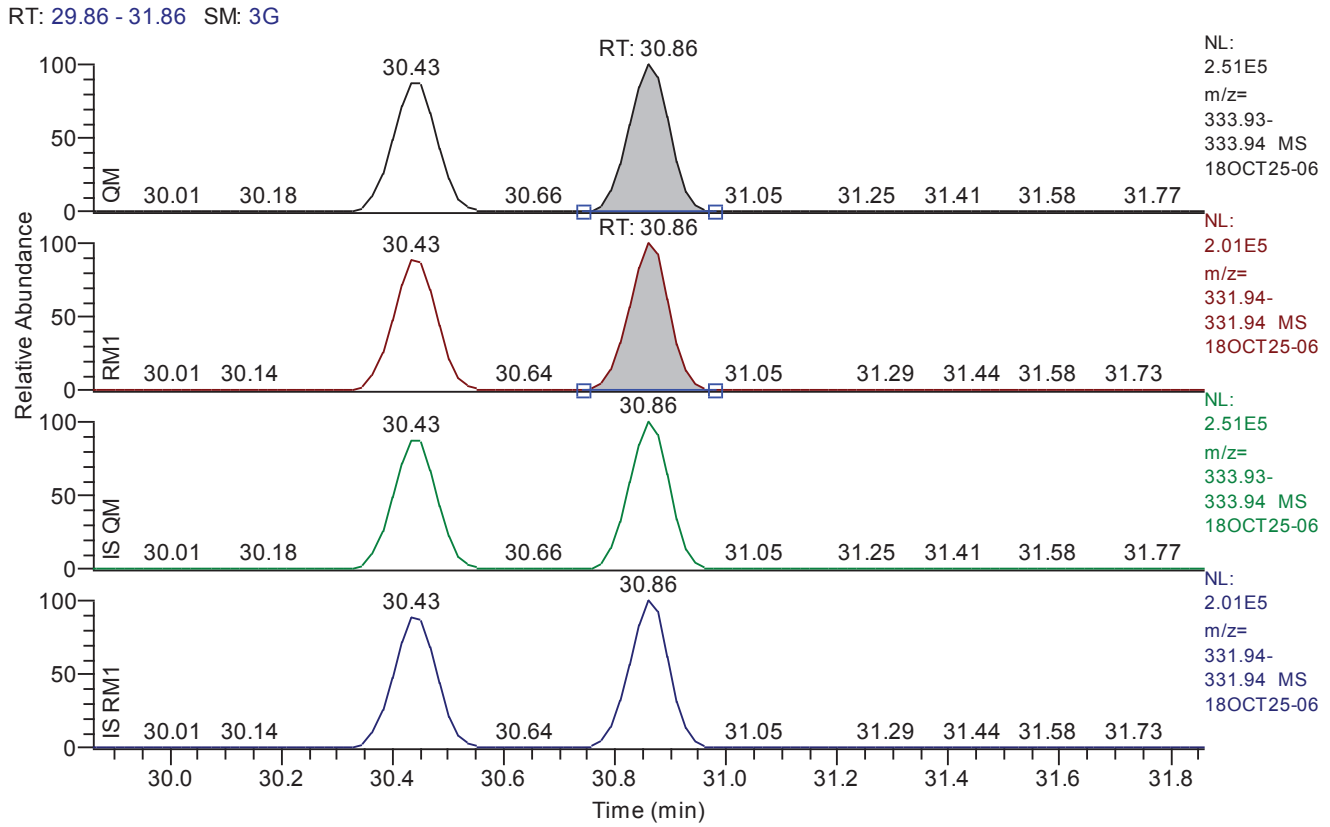
Chromatogram



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.86
QM Area	1310920
QM Integration Mode	A
RM1 Area	1034465
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0177
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	15517
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 15:27
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-06.quan
Data	y:\18oct25\18oct25-06.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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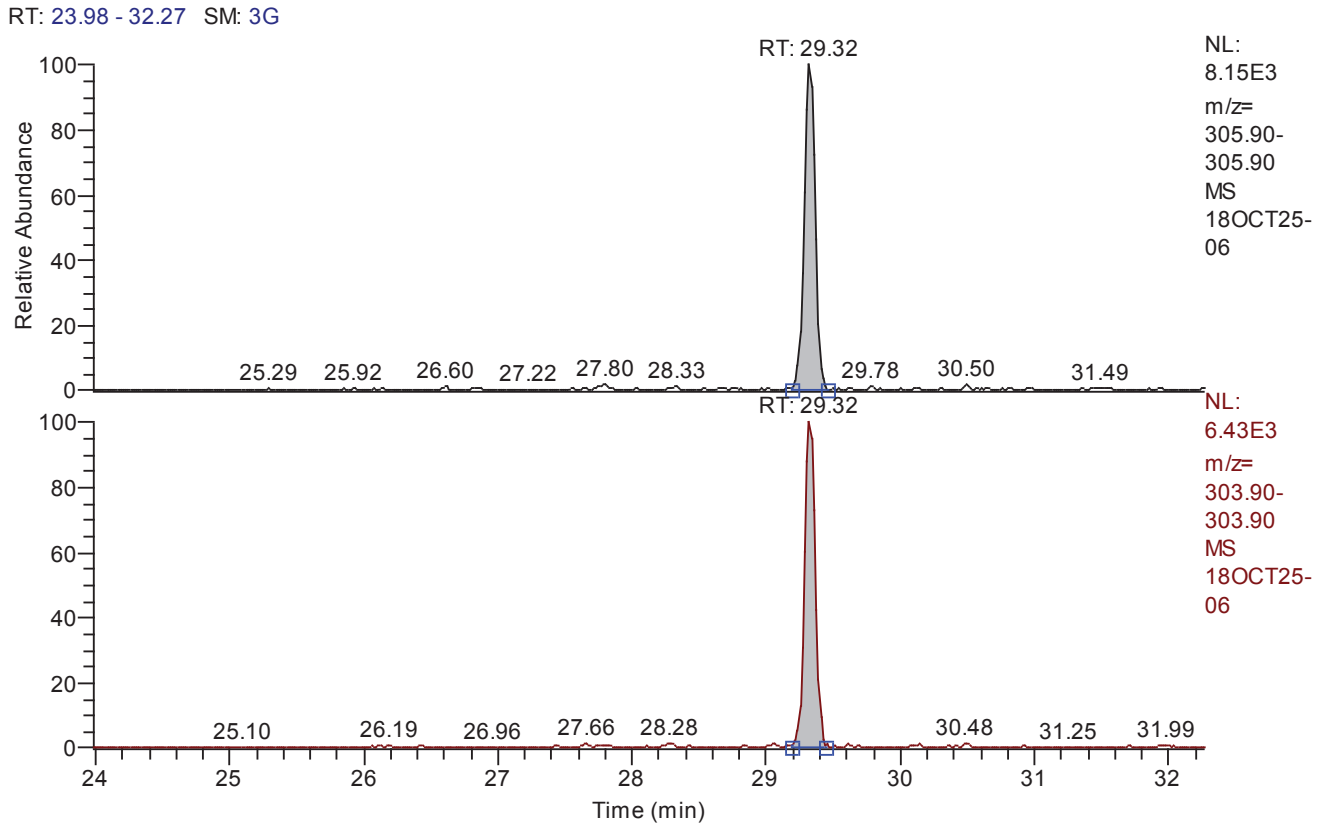
Chromatogram



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.12
QM Area	46434
QM Integration Mode	A
RM1 Area	35784
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0069
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	734
Client Flags	
Status Overview	passed (1)
Status Info	

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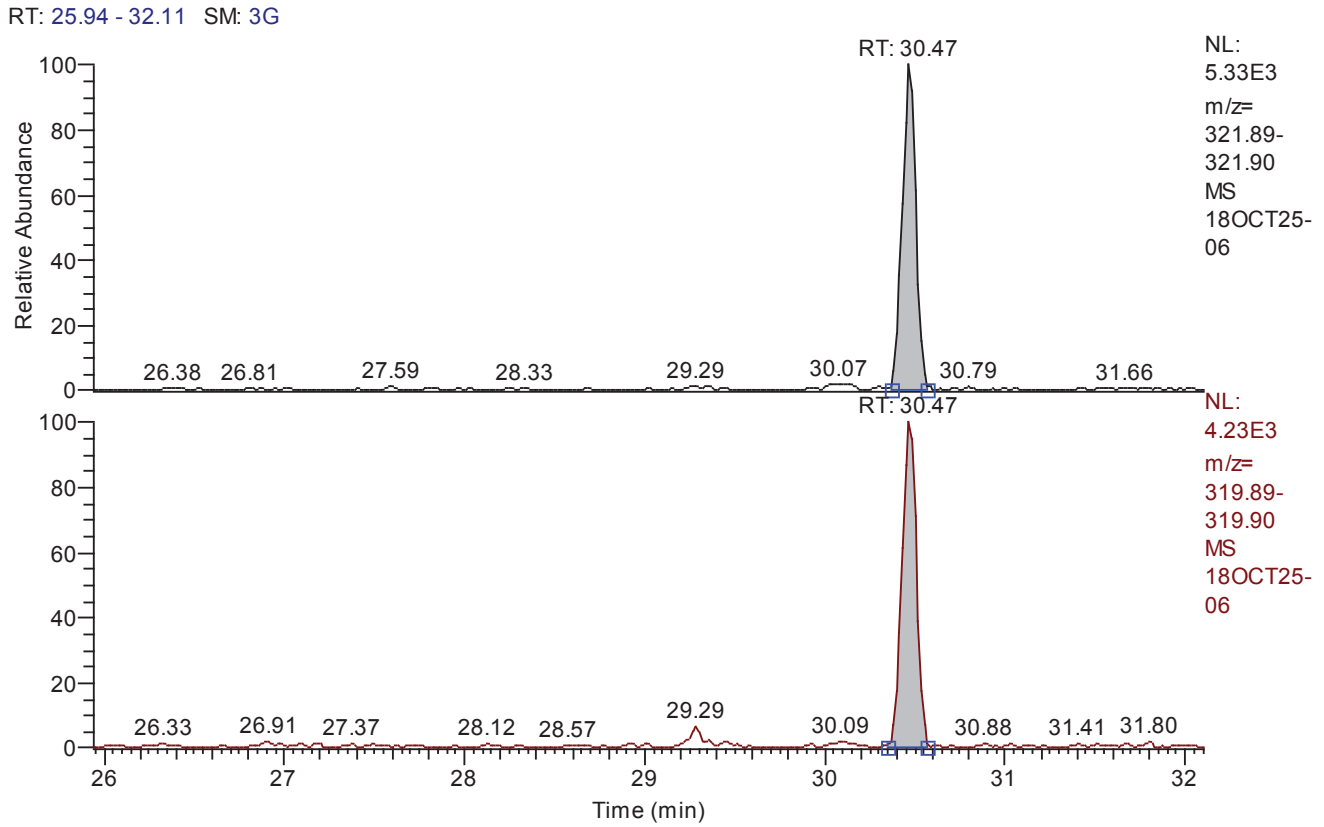
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.02
QM Area	27395
QM Integration Mode	A
RM1 Area	23276
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	567
Client Flags	
Status Overview	passed (1)
Status Info	

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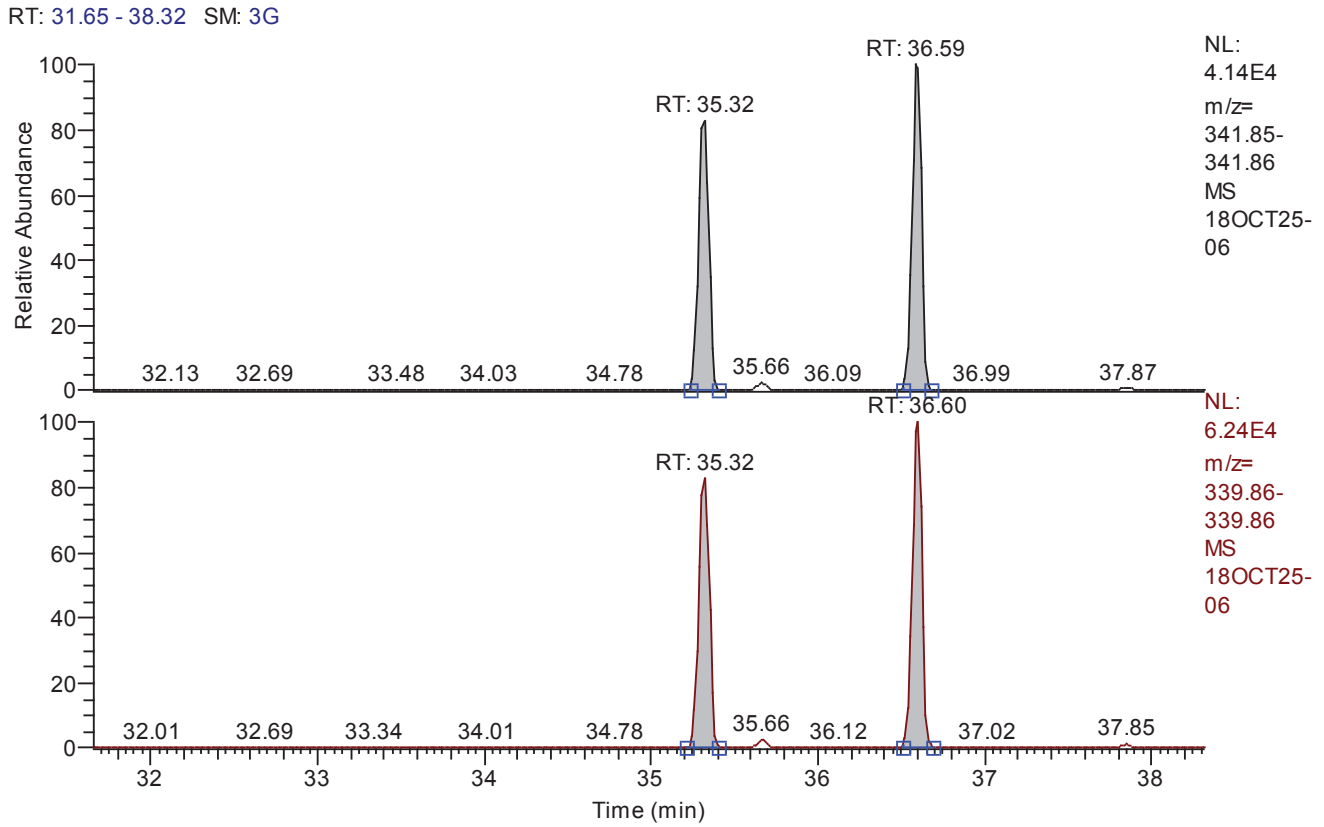
Chromatogram



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.99
QM Area	314200
QM Integration Mode	A
RM1 Area	481887
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0059
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	4122
Client Flags	
Status Overview	passed (2)
Status Info	

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By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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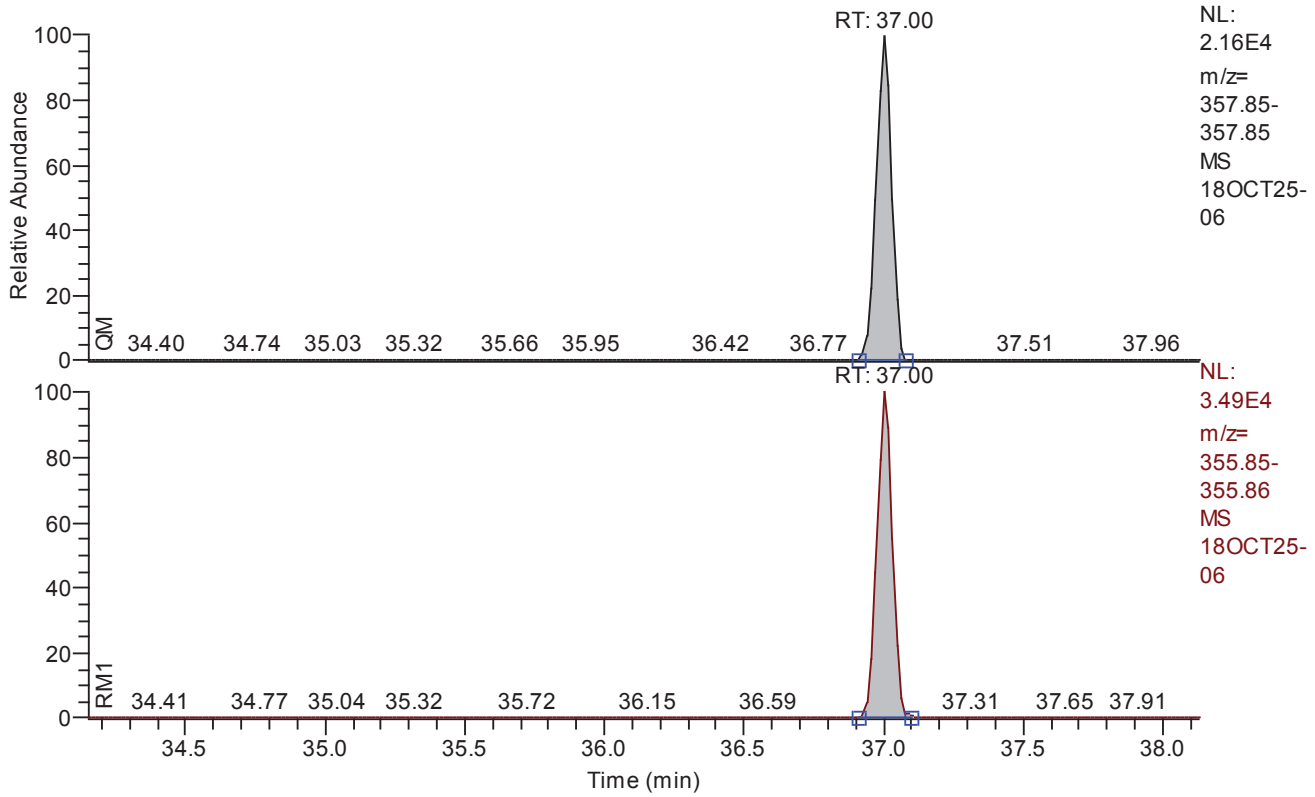
Chromatogram

RT: 34.15 - 38.13 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.14
QM Area	84113
QM Integration Mode	A
RM1 Area	136569
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2231
Client Flags	
Status Overview	passed (1)
Status Info	

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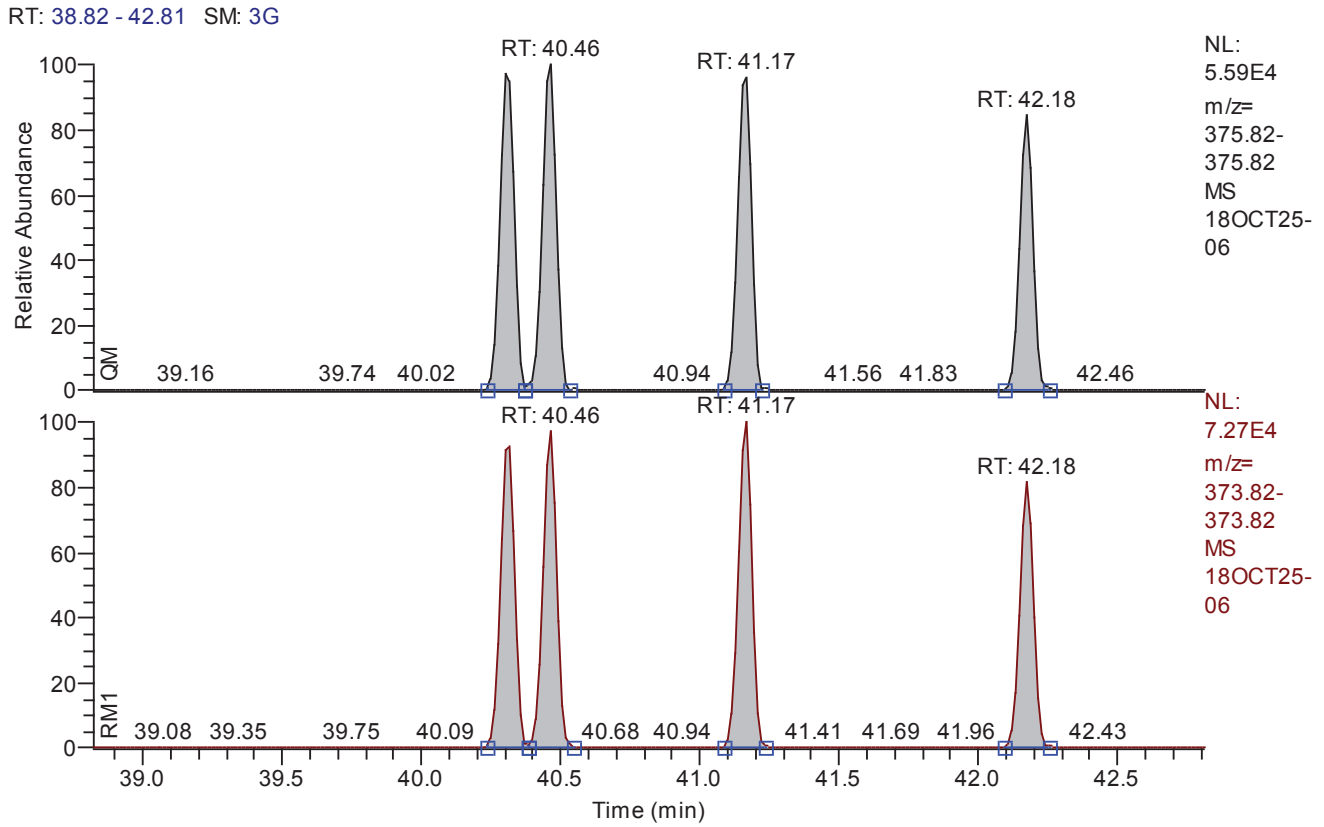
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.82
QM Area	731444
QM Integration Mode	A
RM1 Area	927993
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0079
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	3211
Client Flags	
Status Overview	passed (4)
Status Info	

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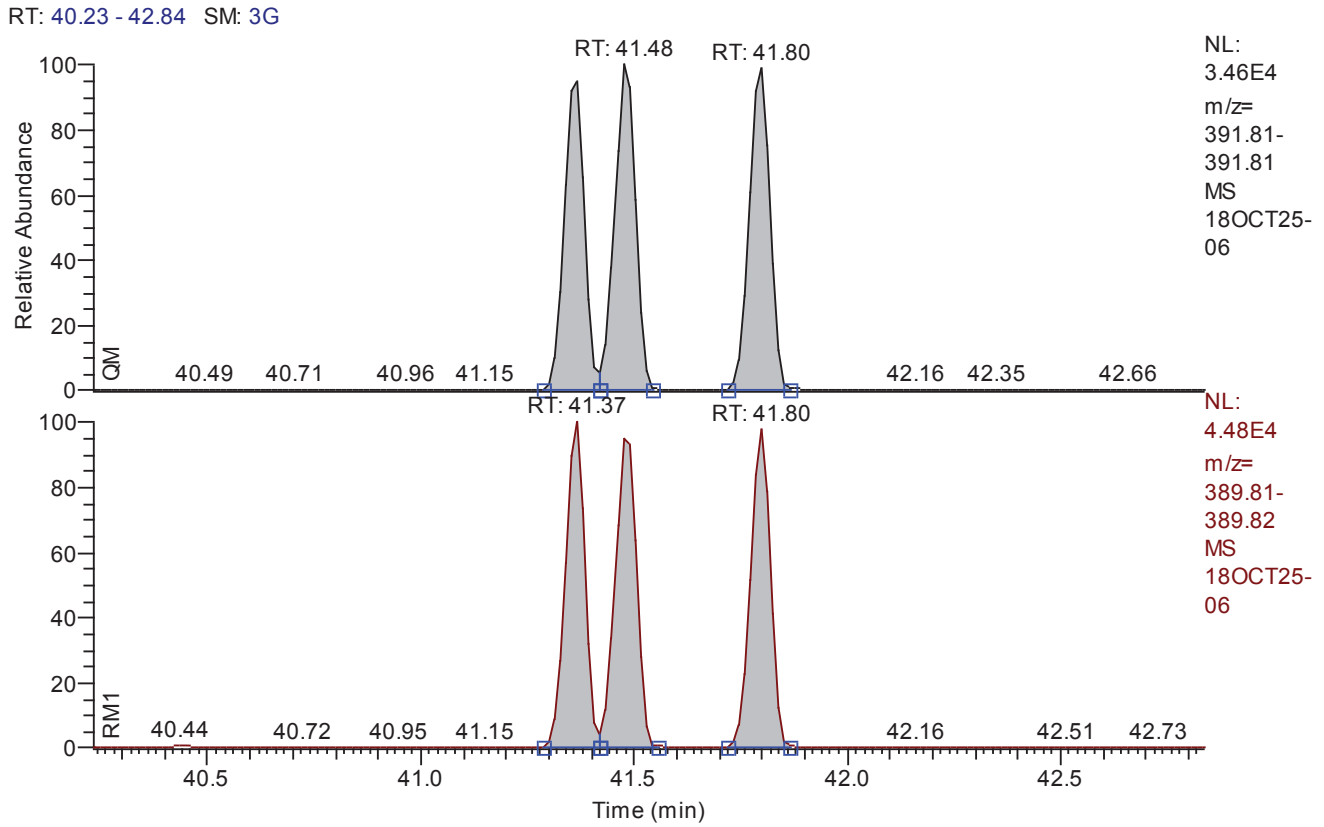
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.53
QM Area	343320
QM Integration Mode	A
RM1 Area	436205
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	30.0000
Signal-to-Noise	3321
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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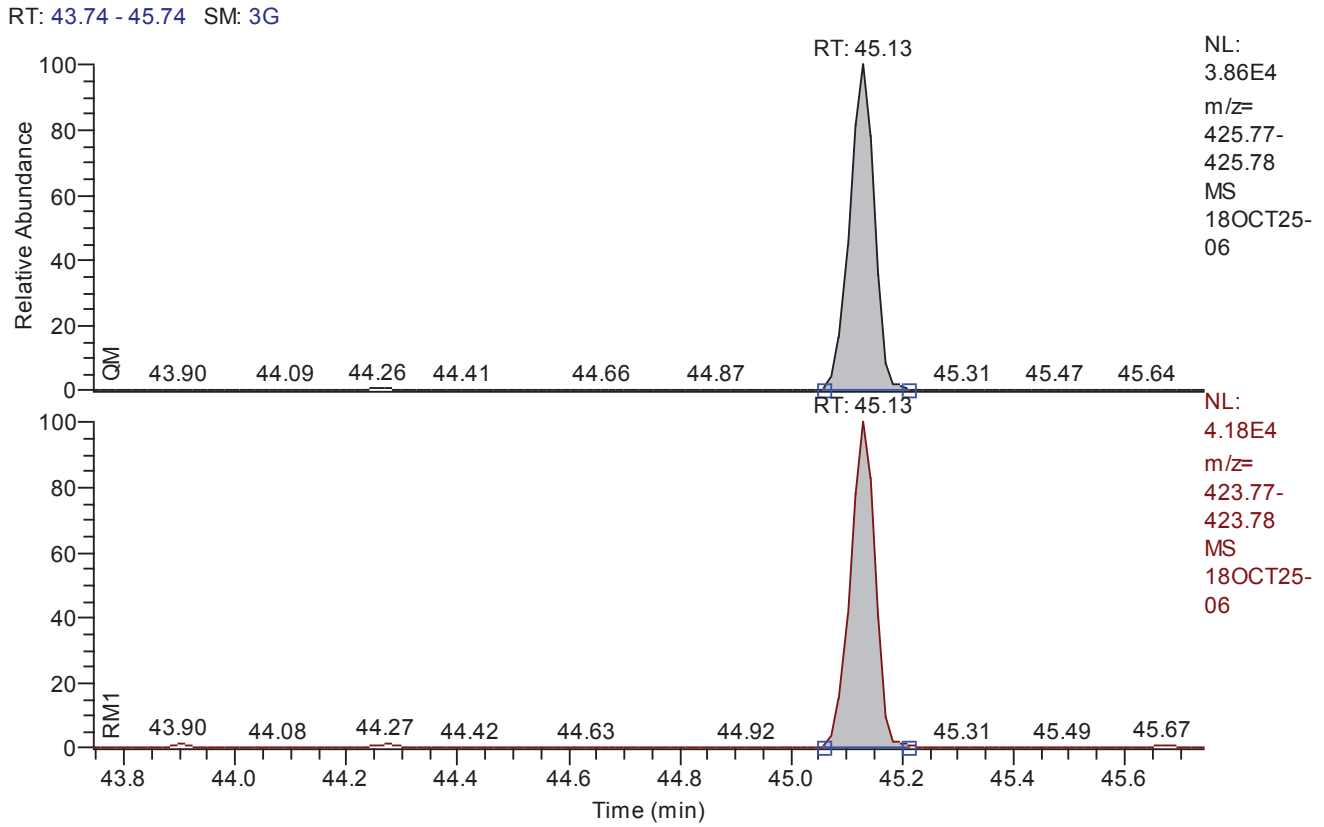
Chromatogram



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.74
QM Area	119519
QM Integration Mode	A
RM1 Area	130162
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2289
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
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By ucmr at 11:09 am, 10/30/18

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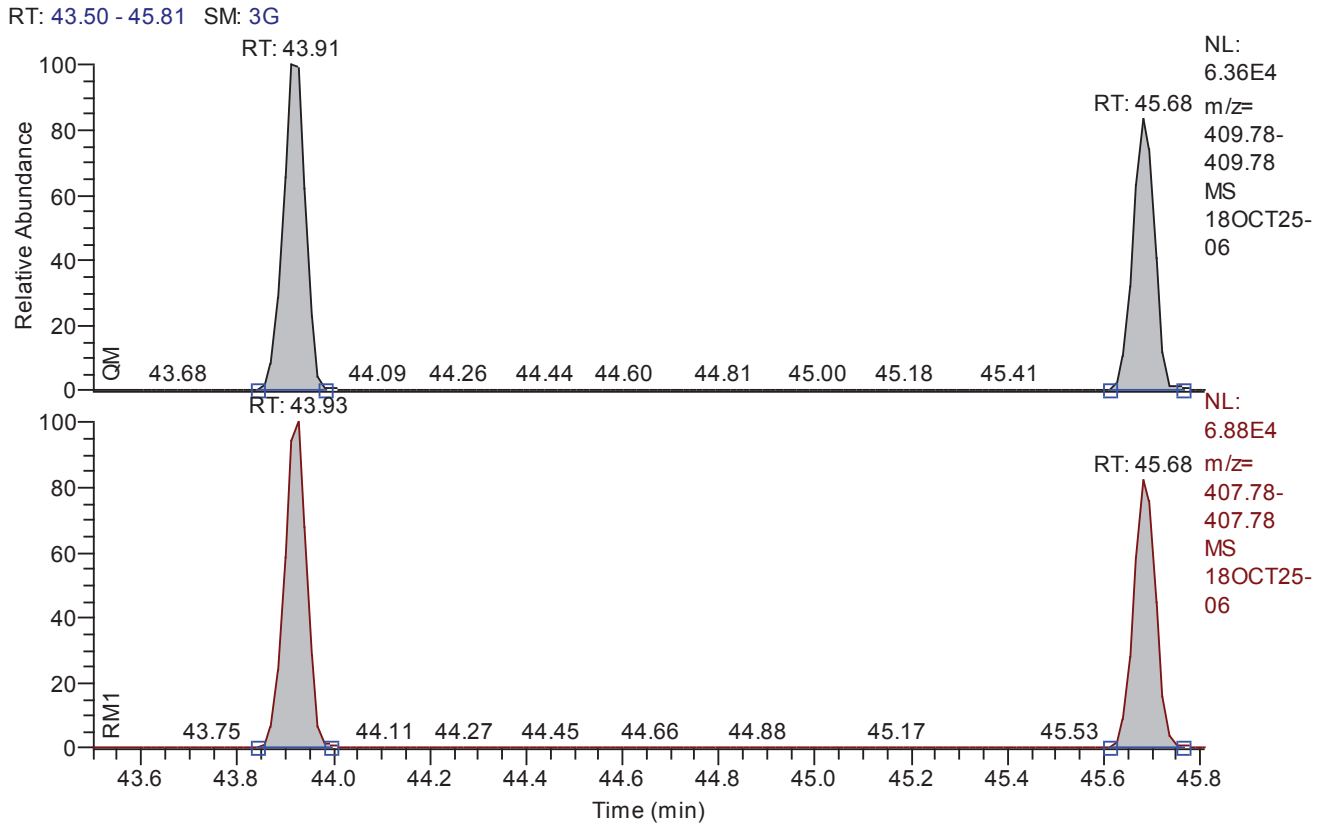
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.65
QM Area	376436
QM Integration Mode	A
RM1 Area	405367
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	2377
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	29.32	29.32	29.32	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.47	30.47	30.47	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.32	35.32	35.32	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.59	36.59	36.60	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.00	37.00	37.00	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.30	40.30	40.32	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.46	40.46	40.46	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.17	41.17	41.17	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.37	41.37	41.37	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.48	41.48	41.48	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.80	41.80	41.80	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.18	42.18	42.18	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.91	43.91	43.93	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.13	45.13	45.13	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.68	45.68	45.68	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.17	48.17	48.17	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.35	48.35	48.35	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.86	30.86	30.86	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.63	29.63	29.63	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.21	40.21	40.21	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.30	29.30	29.30	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.43	30.43	30.43	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.29	35.29	35.29	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.57	36.57	36.57	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.99	36.99	36.99	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.29	40.29	40.29	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.45	40.45	40.45	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.14	41.14	41.15	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.34	41.34	41.35	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.46	41.46	41.46	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.79	41.79	41.79	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.16	42.16	42.16	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.91	43.91	43.91	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.11	45.11	45.11	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.67	45.67	45.67	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.16	48.16	48.16	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.33	48.33	48.33	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	28.12	28.12	28.12	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.02	29.02	29.02	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	34.99	34.99	34.99	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	36.14	36.14	36.14	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.82	40.82	40.82	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.53	41.53	41.53	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	44.74	44.74	44.74	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.65	44.65	44.65	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	29.32	29.32	29.32	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.47	30.47	30.47	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	37.00	37.00	37.00	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	36.59	36.59	36.60	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	35.32	35.32	35.32	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	45.13	45.13	45.13	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.46	40.46	40.46	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	40.30	40.30	40.32	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	41.17	41.17	41.17	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	42.18	42.18	42.18	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.48	41.48	41.48	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.37	41.37	41.37	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	41.80	41.80	41.80	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	43.91	43.91	43.93	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.68	45.68	45.68	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.32	0.7706	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.47	0.8496	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.32	1.5336	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.59	1.5338	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.00	1.6236	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.30	1.2410	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.46	1.2433	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.17	1.3092	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.37	1.3059	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.48	1.2764	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.80	1.2317	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.18	1.2858	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.91	1.0738	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.13	1.0890	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.68	1.0806	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.17	0.9059	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.35	0.9072	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.86	0.7891	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.63	0.7972	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.21	1.2517	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.30	0.7900	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.43	0.8010	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.29	1.5975	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.57	1.5799	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.99	1.6008	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.29	0.5248	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.45	0.5331	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.14	0.5305	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.34	1.2767	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.46	1.2685	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.79	1.2710	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.16	0.5287	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.91	0.4600	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.11	1.0579	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.67	0.4578	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.16	0.9028	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.33	0.9014	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.12	0.7706	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.02	0.8496	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.99	1.5337	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.14	1.6236	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.82	1.2687	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.53	1.2705	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.74	1.0890	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.65	1.0769	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.32	0.7706	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.47	0.8496	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.00	1.6236	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.59	1.5338	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.32	1.5336	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.13	1.0890	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.46	1.2433	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.30	1.2410	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.17	1.3092	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.18	1.2858	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.48	1.2764	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.37	1.3059	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.80	1.2317	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.91	1.0738	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.68	1.0806	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	29.32	46434	A	35784	A	0.0069	2.000000	2.0000	2.000000	734	
2	2378-TCDD	passed	30.47	27395	A	23276	A	0.0093	2.000000	2.0000	2.000000	567	
3	12378-PeCDF	passed	35.32	148181	A	227248	A	0.0065	10.000000	10.0000	10.000000	3736	
4	23478-PeCDF	passed	36.59	166018	A	254639	A	0.0054	10.000000	10.0000	10.000000	4509	
5	12378-PeCDD	passed	37.00	84113	A	136569	A	0.0112	10.000000	10.0000	10.000000	2231	
6	123478-HxCDF	passed	40.30	193235	A	239798	A	0.0076	10.000000	10.0000	10.000000	3248	
7	123678-HxCDF	passed	40.46	193454	A	240520	A	0.0076	10.000000	10.0000	10.000000	3375	
8	234678-HxCDF	passed	41.17	187260	A	245169	A	0.0075	10.000000	10.0000	10.000000	3374	
9	123478-HxCDD	passed	41.37	110720	A	144588	A	0.0079	10.000000	10.0000	10.000000	3322	
10	123678-HxCDD	passed	41.48	114695	A	146399	A	0.0072	10.000000	10.0000	10.000000	3300	
11	123789-HxCDD	passed	41.80	117905	A	145218	A	0.0075	10.000000	10.0000	10.000000	3342	
12	123789-HxCDF	passed	42.18	157495	A	202506	A	0.0088	10.000000	10.0000	10.000000	2848	
13	1234678-HpCDF	passed	43.91	207108	A	222396	A	0.0096	10.000000	10.0000	10.000000	2600	
14	1234678-HpCDD	passed	45.13	119519	A	130162	A	0.0109	10.000000	10.0000	10.000000	2289	
15	1234789-HpCDF	passed	45.68	169327	A	182970	A	0.0116	10.000000	10.0000	10.000000	2154	
16	OCDD	passed	48.17	227289	A	205908	A	0.0141	20.000000	20.0000	20.000000	3475	
17	OCDF	passed	48.35	322210	A	292314	A	0.0078	20.000000	20.0000	20.000000	6442	
18	13C12-1278-TCDD (CRS)	passed	30.86	1310920	A	1034465	A	0.0177	100.000000	100.0000	100.000000	15517	
19	13C12-1234-TCDD	passed	29.63	1201810	A	958132	A	0.0192	100.000000	100.0000	100.000000	13038	
20	13C12-123468-HxCDD	passed	40.21	1229812	A	1539320	A	0.0239	100.000000	100.0000	100.000000	10470	
21	13C12-2378-TCDF	passed	29.30	2389982	A	1888180	A	0.0137	100.000000	100.0000	100.000000	18275	
22	13C12-2378-TCDD	passed	30.43	1242947	A	995553	A	0.0185	100.000000	100.0000	100.000000	13710	
23	13C12-12378-PeCDF	passed	35.29	1615854	A	2581297	A	0.0250	100.000000	100.0000	100.000000	13302	
24	13C12-23478-PeCDF	passed	36.57	1626886	A	2570331	A	0.0250	100.000000	100.0000	100.000000	14398	
25	13C12-12378-PeCDD	passed	36.99	872436	A	1396581	A	0.0244	100.000000	100.0000	100.000000	14928	
26	13C12-123478-HxCDF	passed	40.29	2526663	A	1325887	A	0.0234	100.000000	100.0000	100.000000	10449	
27	13C12-123678-HxCDF	passed	40.45	2646110	A	1410513	A	0.0222	100.000000	100.0000	100.000000	10984	
28	13C12-234678-HxCDF	passed	41.14	2432774	A	1290468	A	0.0242	100.000000	100.0000	100.000000	10167	
29	13C12-123478-HxCDD	passed	41.34	1168487	A	1491775	A	0.0249	100.000000	100.0000	100.000000	9899	
30	13C12-123678-HxCDD	passed	41.46	1171113	A	1485572	A	0.0249	100.000000	100.0000	100.000000	10634	
31	13C12-123789-HxCDD	passed	41.79	1113133	A	1414815	A	0.0262	100.000000	100.0000	100.000000	9706	
32	13C12-123789-HxCDF	passed	42.16	2212910	A	1169922	A	0.0266	100.000000	100.0000	100.000000	9536	
33	13C12-1234678-HpCDF	passed	43.91	2421365	A	1113885	A	0.0376	100.000000	100.0000	100.000000	6979	
34	13C12-1234678-HpCDD	passed	45.11	1219815	A	1290479	A	0.0383	100.000000	100.0000	100.000000	7219	
35	13C12-1234789-HpCDF	passed	45.67	1944975	A	890342	A	0.0469	100.000000	100.0000	100.000000	5673	
36	13C12-OCDD	passed	48.16	2357249	A	2128180	A	0.0156	200.000000	200.0000	200.000000	35538	
37	13C12-OCDF	passed	48.33	3682660	A	3319657	A	0.0140	200.000000	200.0000	200.000000	39566	
38	Total TCDF	passed (1)	28.12	46434	A	35784	A	0.0069	2.000000	2.0000	2.000000	734	
39	Total TCDD	passed (1)	29.02	27395	A	23276	A	0.0093	2.000000	2.0000	2.000000	567	
40	Total PeCDF	passed (2)	34.99	314200	A	481887	A	0.0059	10.000000	20.0000	10.000000	4122	
41	Total PeCDD	passed (1)	36.14	84113	A	136569	A	0.0112	10.000000	10.0000	10.000000	2231	
42	Total HxCDF	passed (4)	40.82	731444	A	927993	A	0.0079	10.000000	40.0000	10.000000	3211	
43	Total HxCDD	passed (3)	41.53	343320	A	436205	A	0.0075	10.000000	30.0000	10.000000	3321	
44	Total HpCDD	passed (1)	44.74	119519	A	130162	A	0.0109	10.000000	10.0000	10.000000	2289	
45	Total HpCDF	passed (2)	44.65	376436	A	405367	A	0.0106	10.000000	20.0000	10.000000	2377	
46	Single TCDF	passed	29.32	46434	A	35784	A	0.0069	2.000000	2.0000	2.000000	734	
47	Single TCDD	passed	30.47	27395	A	23276	A	0.0093	2.000000	2.0000	2.000000	567	
48	Single PeCDD	passed	37.00	84113	A	136569	A	0.0112	10.000000	10.0000	10.000000	2231	
49	Single PeCDF	passed	36.59	166018	A	254639	A	0.0056	10.000000	10.0000	10.000000	4509	
50	Single PeCDF	passed	35.32	148181	A	227248	A	0.0063	10.000000	10.0000	10.000000	3736	
51	Single HpCDD	passed	45.13	119519	A	130162	A	0.0109	10.000000	10.0000	10.000000	2289	
52	Single HxCDF	passed	40.46	193454	A	240520	A	0.0075	10.000000	10.0000	10.000000	3375	
53	Single HxCDF	passed	40.30	193235	A	239798	A	0.0075	10.000000	10.0000	10.000000	3248	
54	Single HxCDF	passed	41.17	187260	A	245169	A	0.0075	10.000000	10.0000	10.000000	3374	
55	Single HxCDF	passed	42.18	157495	A	202506	A	0.0090	10.000000	10.0000	10.000000	2848	
56	Single HxCDD	passed	41.48	114695	A	146399	A	0.0075	10.000000	10.0000	10.000000	3300	
57	Single HxCDD	passed	41.37	110720	A	144588	A	0.0077	10.000000	10.0000	10.000000	3322	
58	Single HxCDD	passed	41.80	117905	A	145218	A	0.0074	10.000000	10.0000	10.000000	3342	
59	Single HpCDF	passed	43.91	207108	A	222396	A	0.0096	10.000000	10.0000	10.000000	2600	
60	Single HpCDF	passed	45.68	169327	A	182970	A	0.0117	10.000000	10.0000	10.000000	2154	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

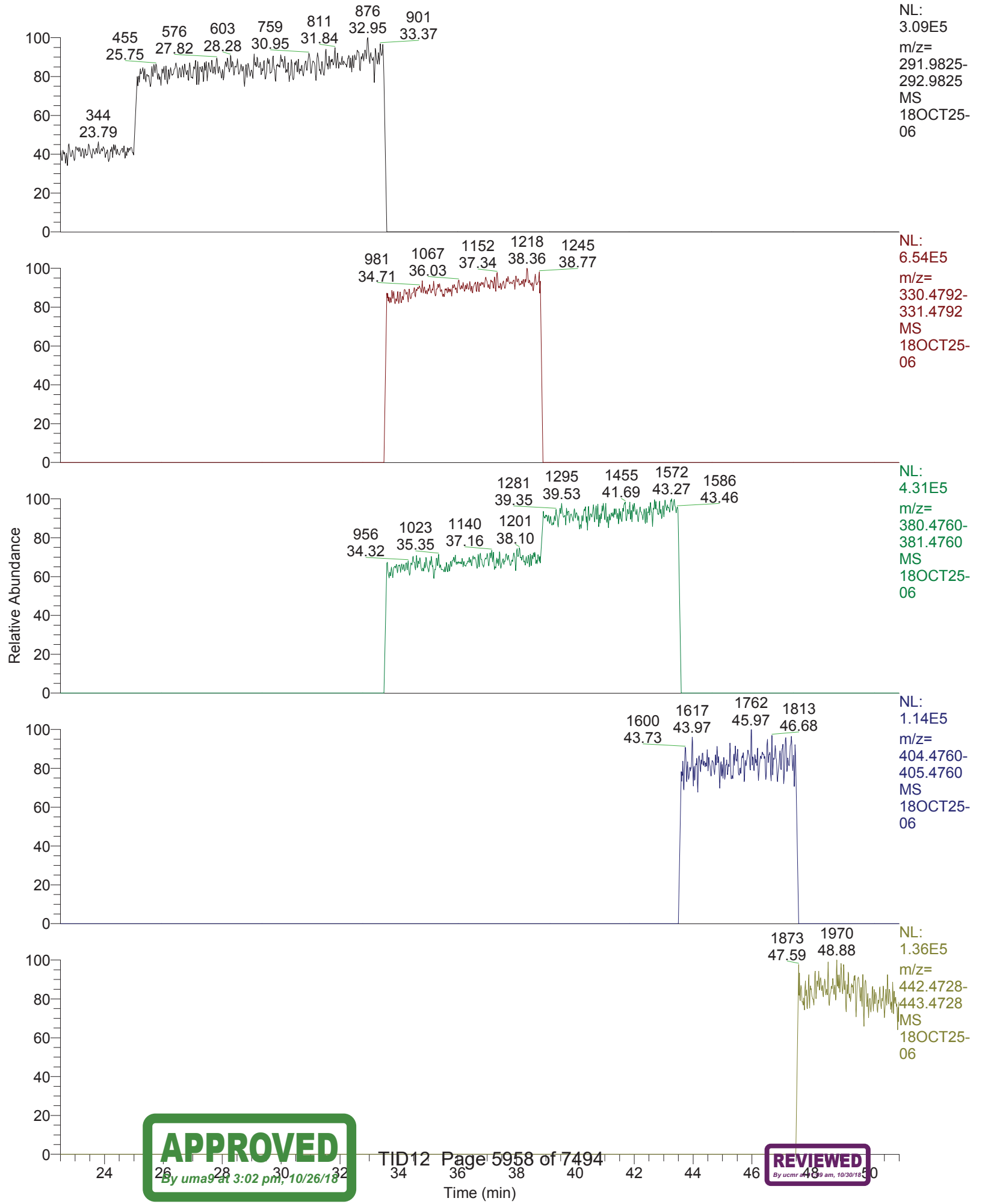
ThermoFisher Scientific

File Name: Y:\18OCT25\18OCT25-06
Sample ID: CS201

Acq. Data: 10/25/2018 3:27:15 PM
Sample Name: CALDF31837B
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 8:39 am, 10/30/18

*** file opened Thu Oct 25 15:32:42 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 15:32:41

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e5d9b8b7-a0ef-4b8d-a030-81b8f9081f1b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          97.0000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC       7969177.0000   EDACG           1.0000   EDACZ         226.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           220.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           171.0000   EXSBR          -0.4700
 FDMA      18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM               50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN         1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0176   FVINLET         0.0348   FVSRC           0.0325
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      704.0000
 LENS_SYM        16.0000   LM            650.0000   LMII          500.0000
 LMASS           97.0000   LKM           442.9723   MASS           97.0000
 MDAC        941456.7510   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2153.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9690   RELEN           0.0000
 RES          11182.8560   RPUSHER       -14.8059   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     708.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0223   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          97.0000   XLENS_POT     924.0000
 XLENS_SYM        2.2500   YLENS_POT     750.0000   YLENS_SYM      -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.7e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10626.
MID Time Window 2: Resolution is 11074.
MID Time Window 3: Resolution is 11105.
MID Time Window 4: Resolution is 11483.
```

```
MID Time Window 5: Resolution is 12567.
MID Time Window 6: Resolution is 11182.

Amplifier Offset: 88.


*** File closed Thu Oct 25 16:23:43 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 16:23
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-07.quan
Data	y:\18oct25\18oct25-07.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	29.34	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.49	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.33	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.61	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.02	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.32	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.48	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.18	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.39	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.49	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.82	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.19	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.94	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.15	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.70	passed	passed	passed	passed	passed	passed	
16	OCDD	48.19	passed	passed	passed	passed	passed	passed	
17	OCDF	48.37	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.88	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.63	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.23	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.31	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.46	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.31	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.59	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.01	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.31	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.16	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.37	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.80	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.18	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.93	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.13	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.69	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.18	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.37	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.14	passed (1)	---	---	---	---	---	
39	Total TCDD	28.98	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.98	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.17	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.83	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.55	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.76	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.67	passed (2)	---	---	---	---	---	
46	Single TCDF	29.34	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.49	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.02	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.61	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.33	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.15	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.48	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.32	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.18	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.19	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.49	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.39	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.82	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.94	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.70	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 16:23
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-07.quan
Data	y:\18oct25\18oct25-07.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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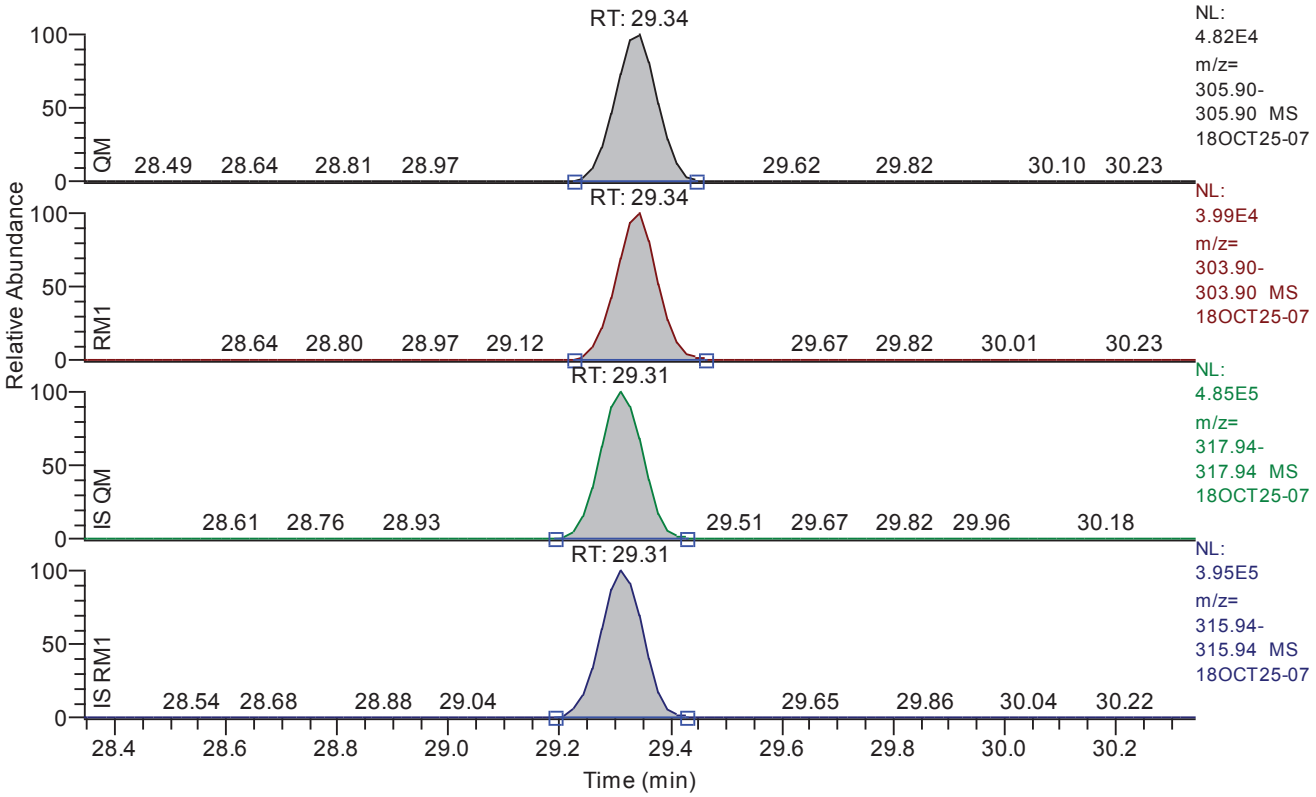
Chromatogram

RT: 28.34 - 30.34 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.34
QM Area	264208
QM Integration Mode	A
RM1 Area	213978
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3585
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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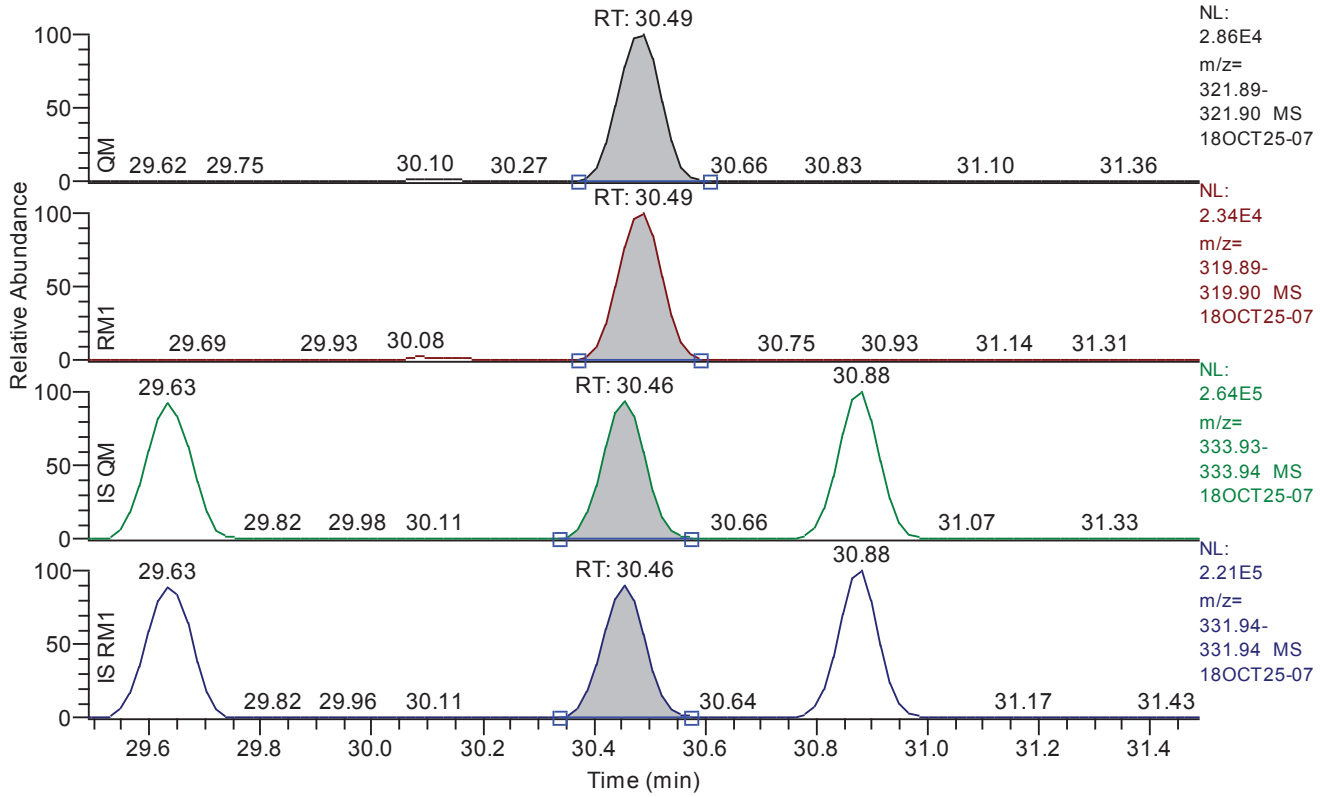
Chromatogram

RT: 29.49 - 31.49 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.49
QM Area	160713
QM Integration Mode	A
RM1 Area	132544
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0104
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2341
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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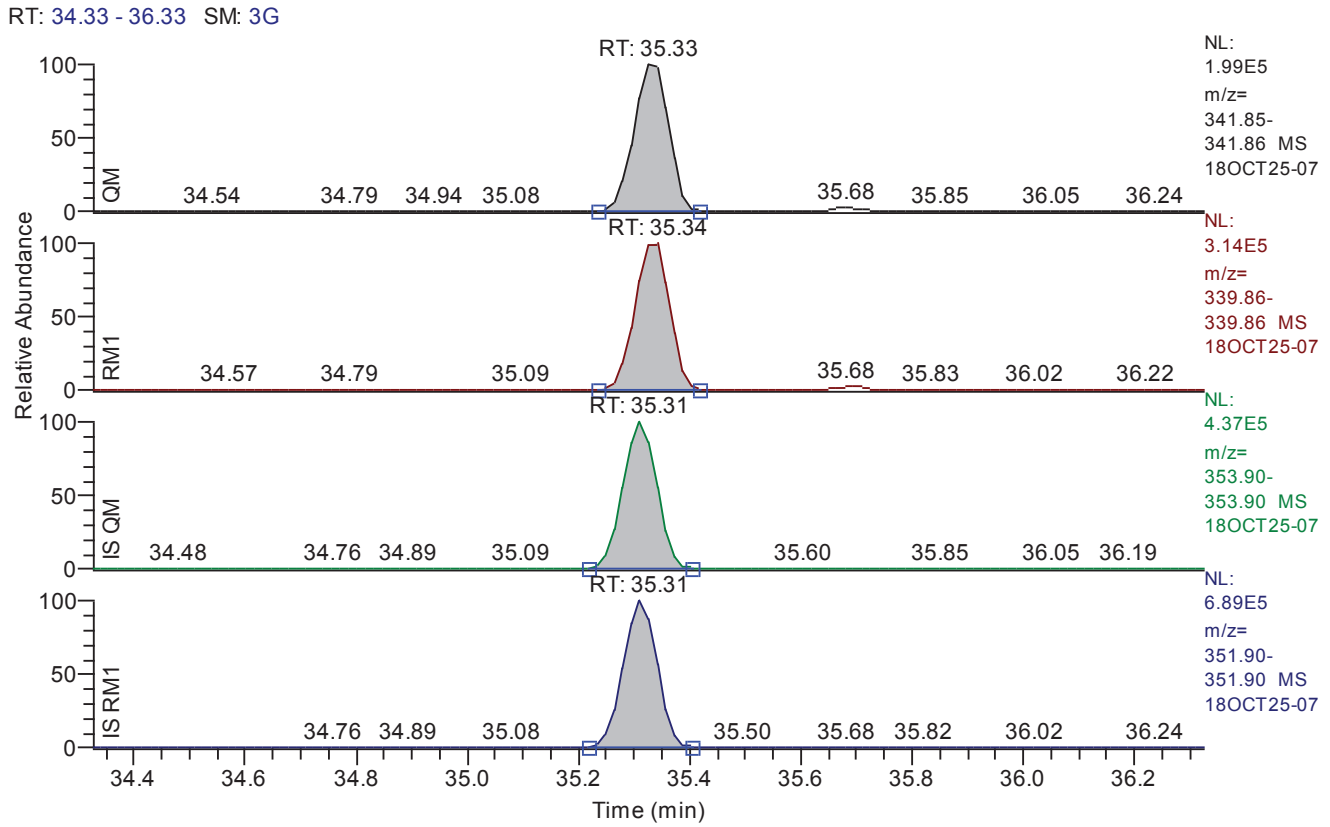
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.33
QM Area	868108
QM Integration Mode	A
RM1 Area	1373626
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	16273
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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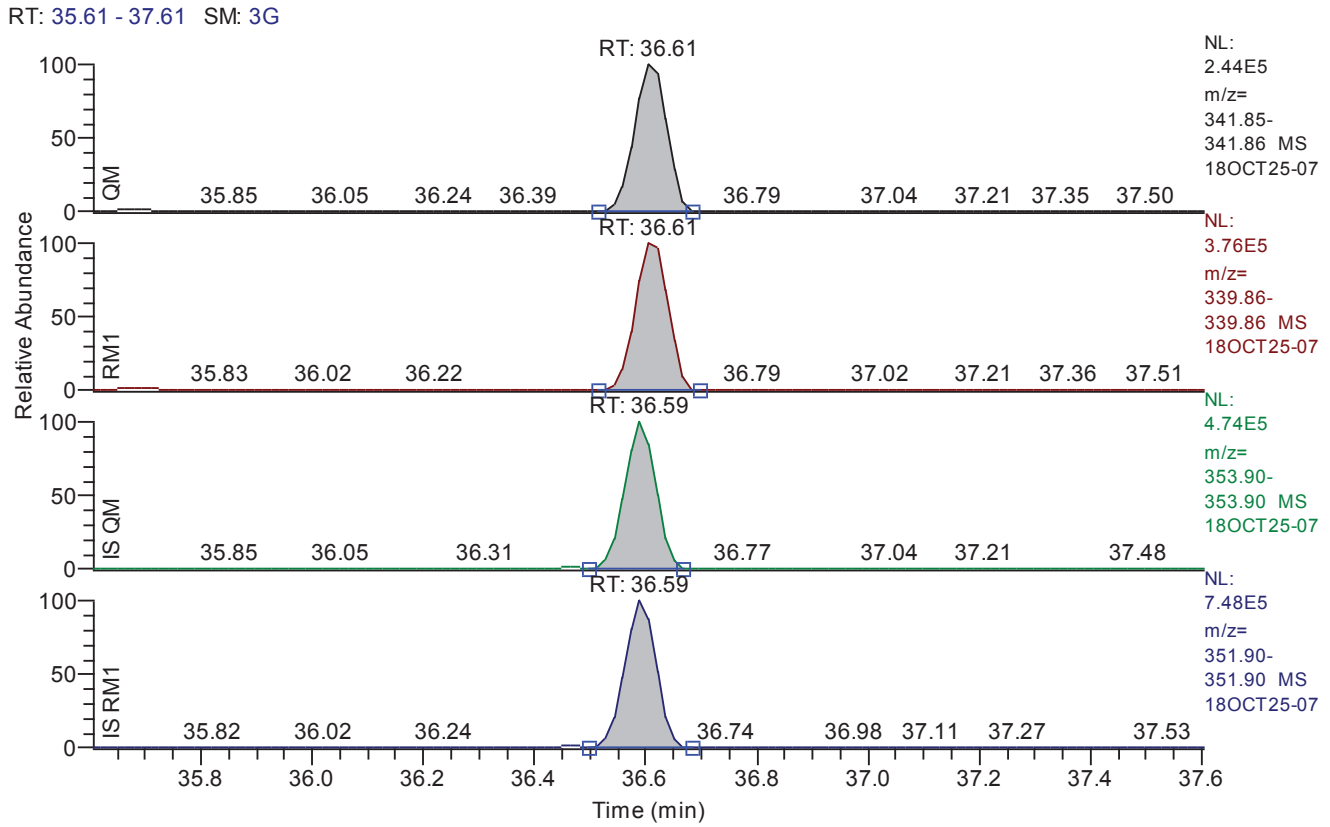

Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.61
QM Area	993709
QM Integration Mode	A
RM1 Area	1553599
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	19712
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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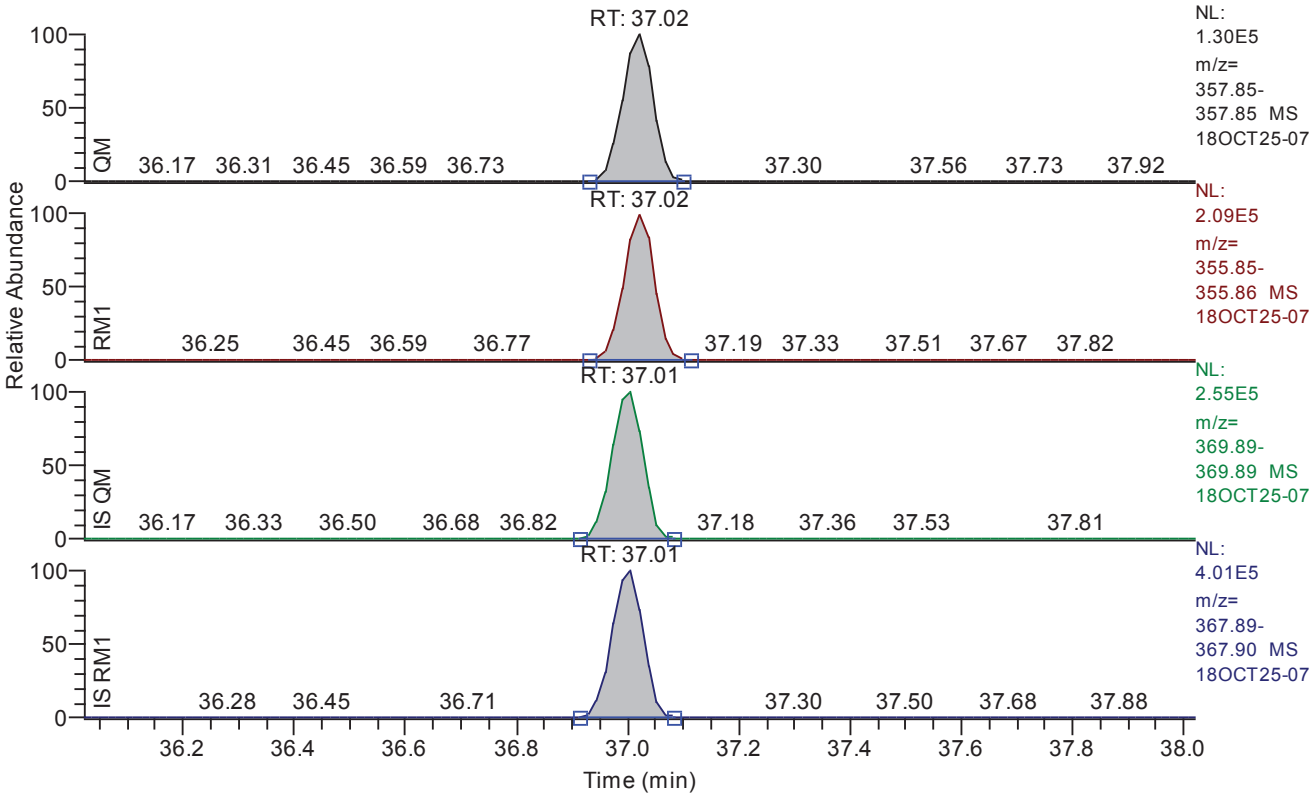
Chromatogram

RT: 36.02 - 38.02 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.02
QM Area	501882
QM Integration Mode	A
RM1 Area	796191
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0121
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	10687
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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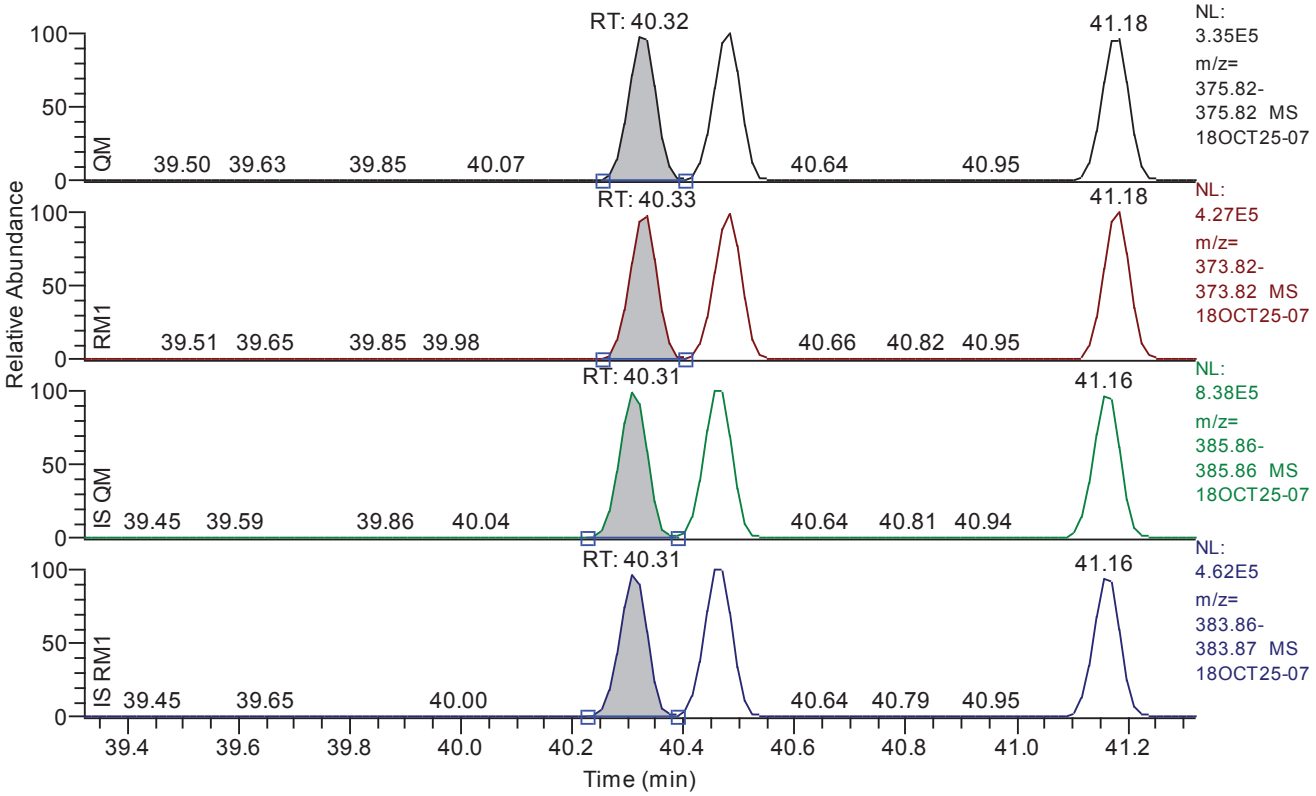
Chromatogram

RT: 39.32 - 41.32 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.32
QM Area	1159575
QM Integration Mode	A
RM1 Area	1460917
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0137
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	9103
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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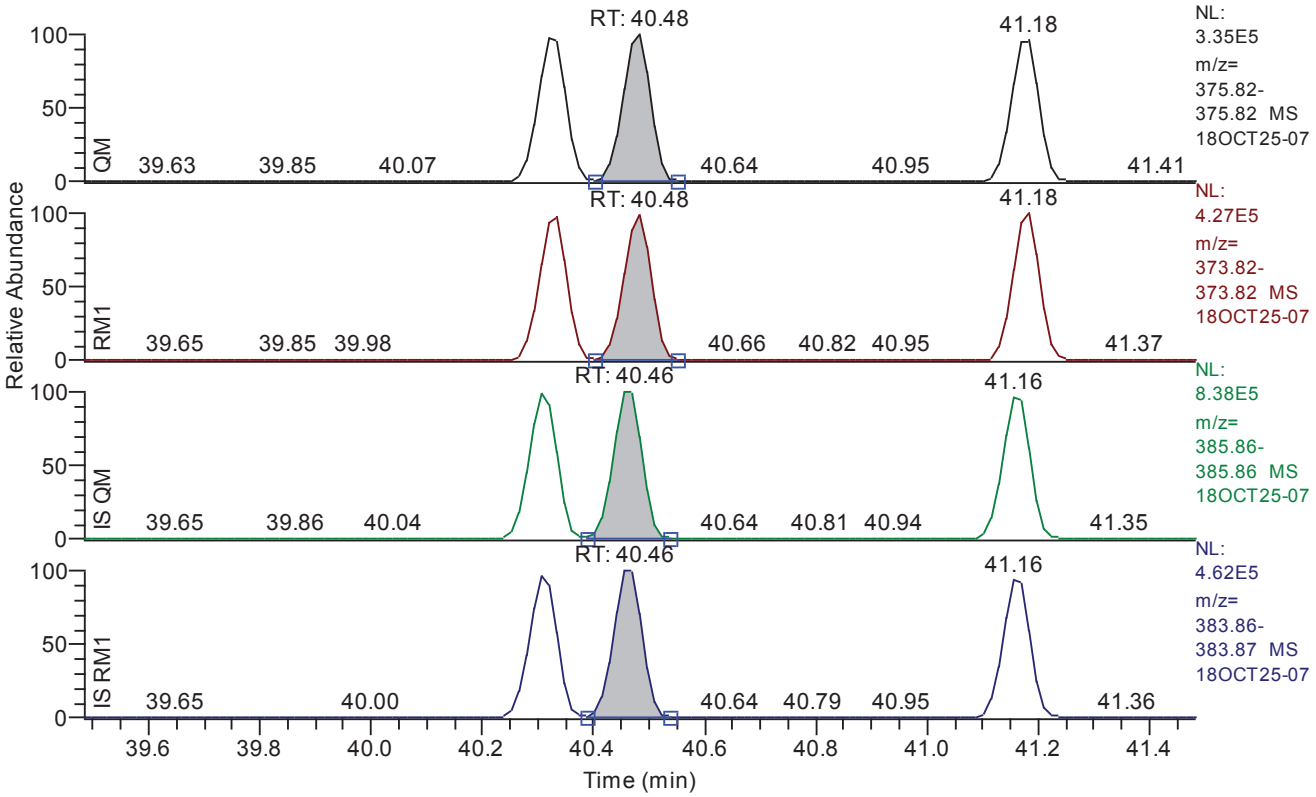
Chromatogram

RT: 39.48 - 41.48 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.48
QM Area	1167410
QM Integration Mode	A
RM1 Area	1469149
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0140
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	9264
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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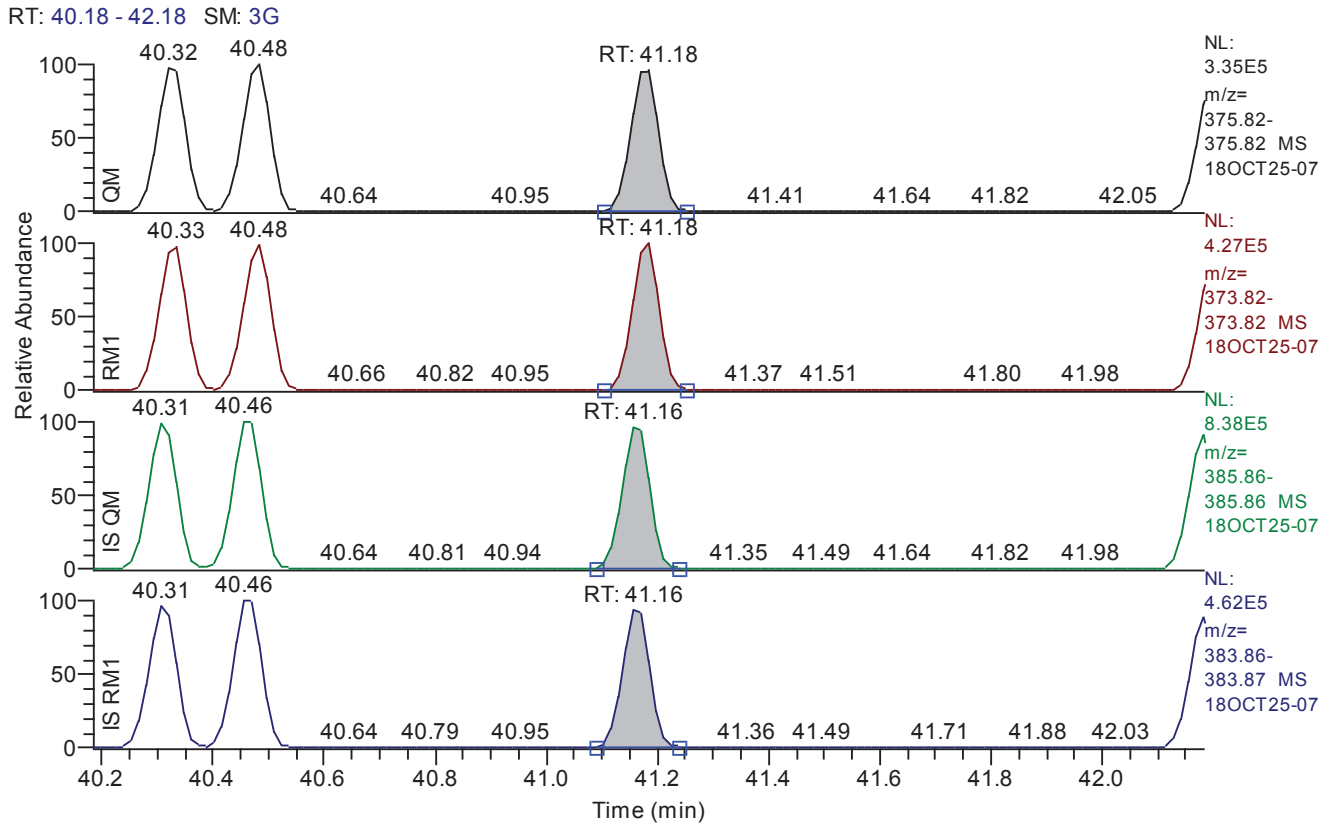
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.18
QM Area	1140515
QM Integration Mode	A
RM1 Area	1444911
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0137
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	9180
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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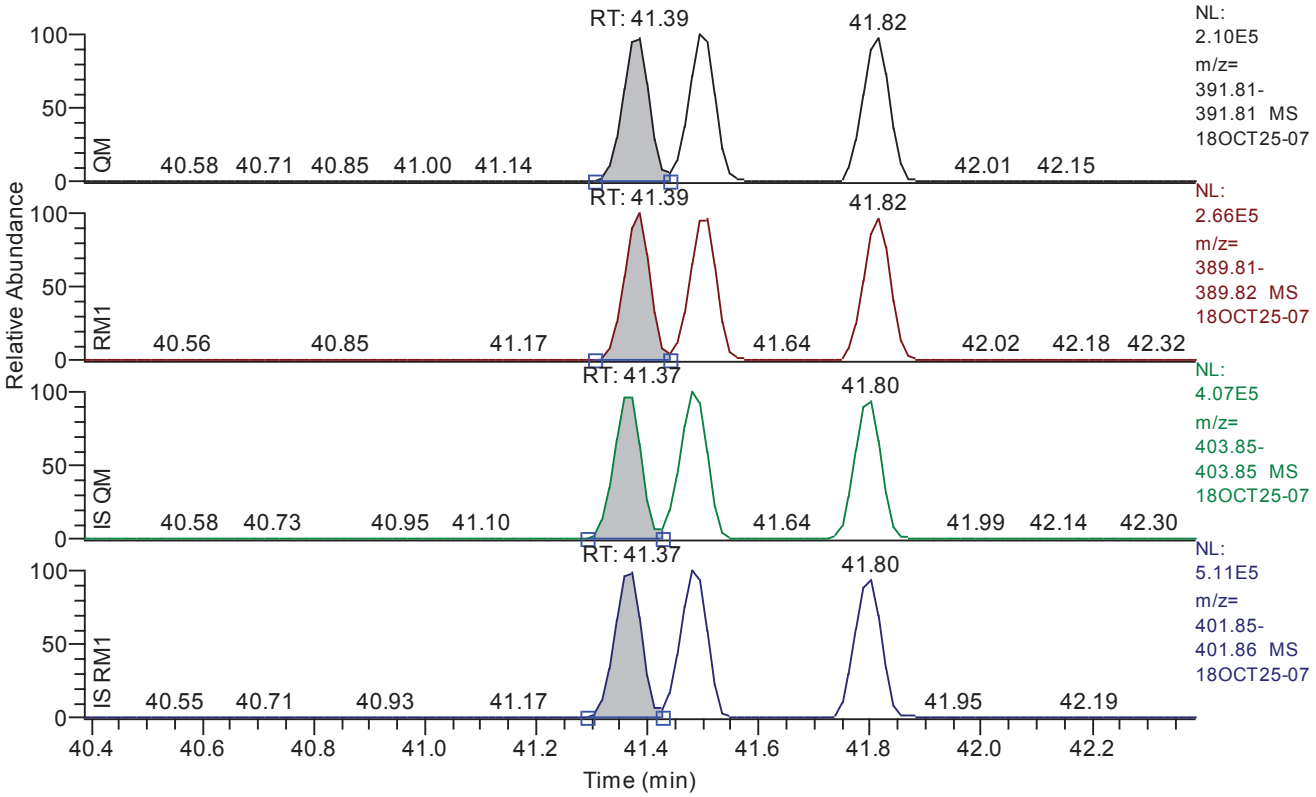
Chromatogram

RT: 40.39 - 42.39 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.39
QM Area	691754
QM Integration Mode	A
RM1 Area	861282
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11834
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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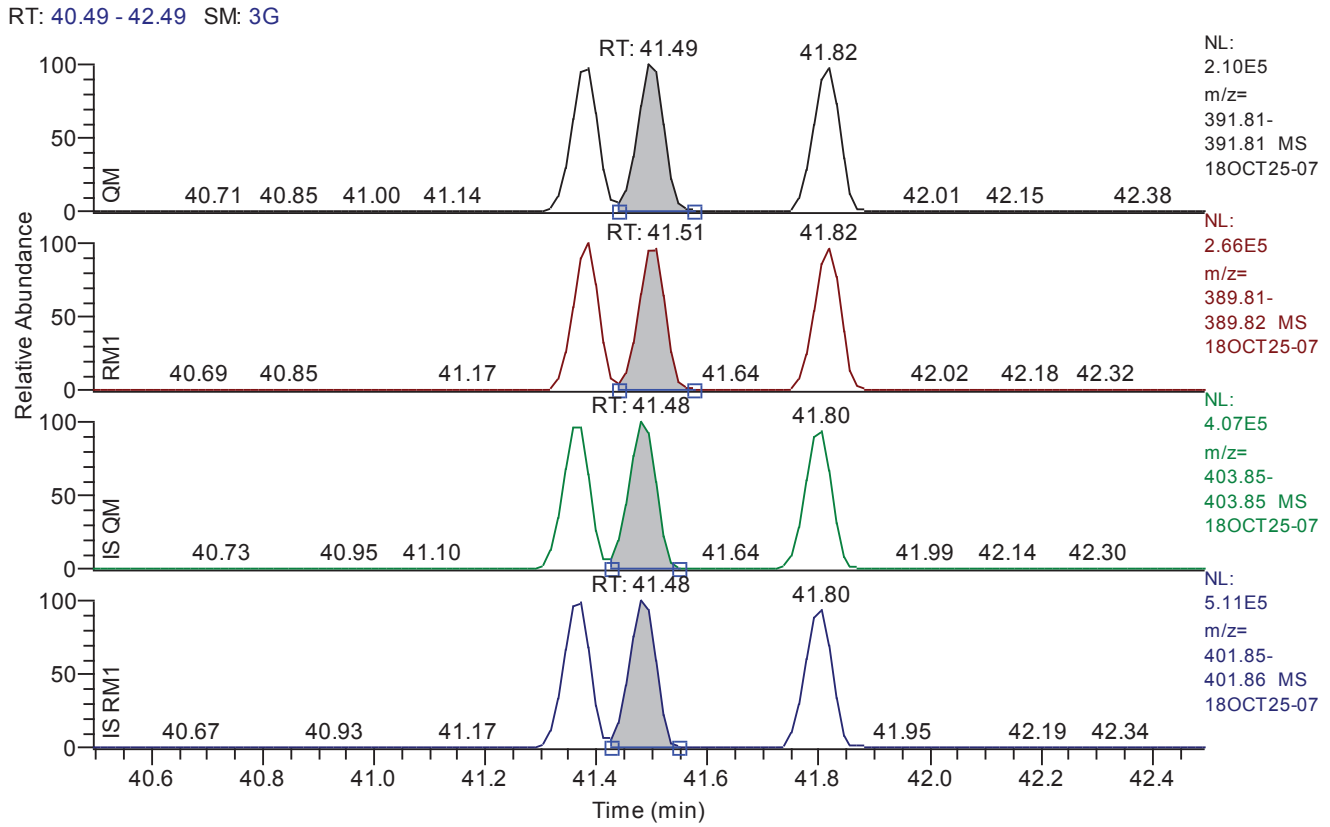
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.49
QM Area	698233
QM Integration Mode	A
RM1 Area	867603
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0108
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11703
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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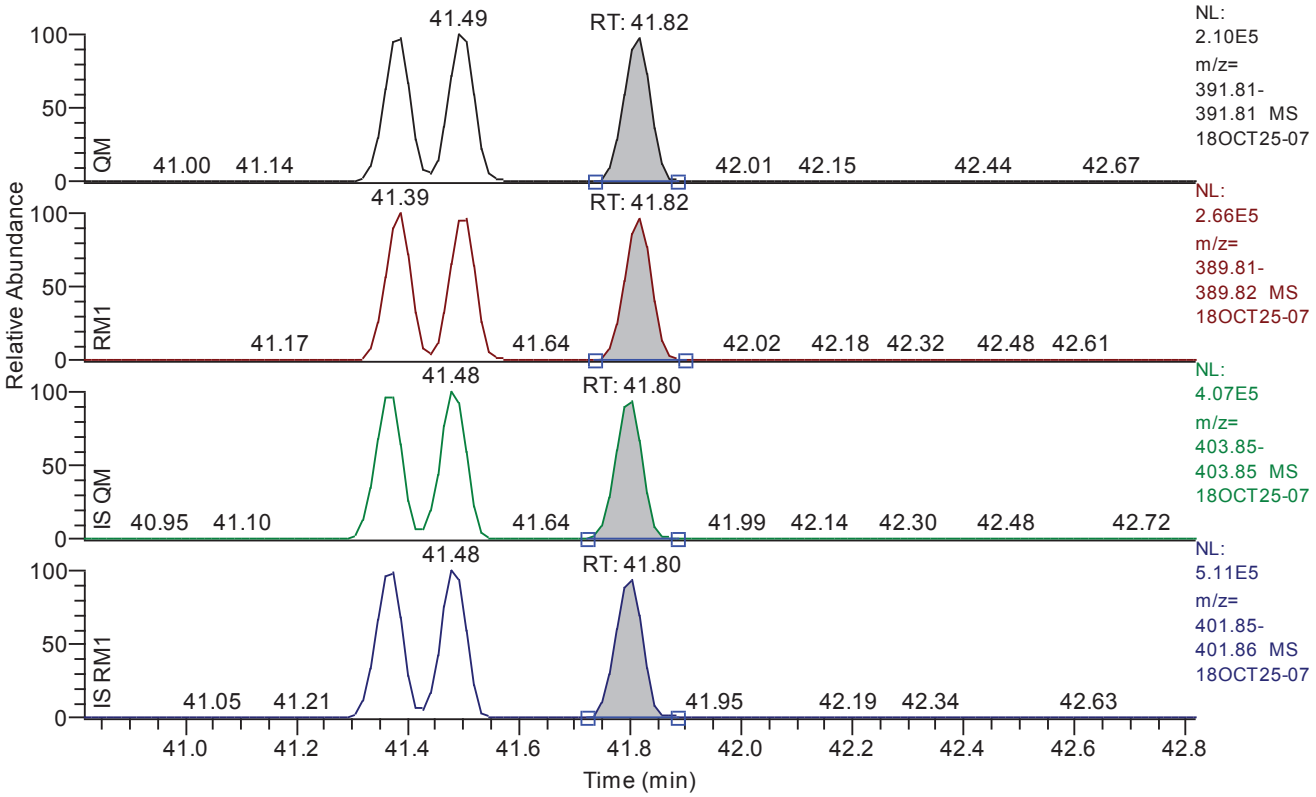
Chromatogram

RT: 40.82 - 42.82 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.82
QM Area	701668
QM Integration Mode	A
RM1 Area	875007
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11625
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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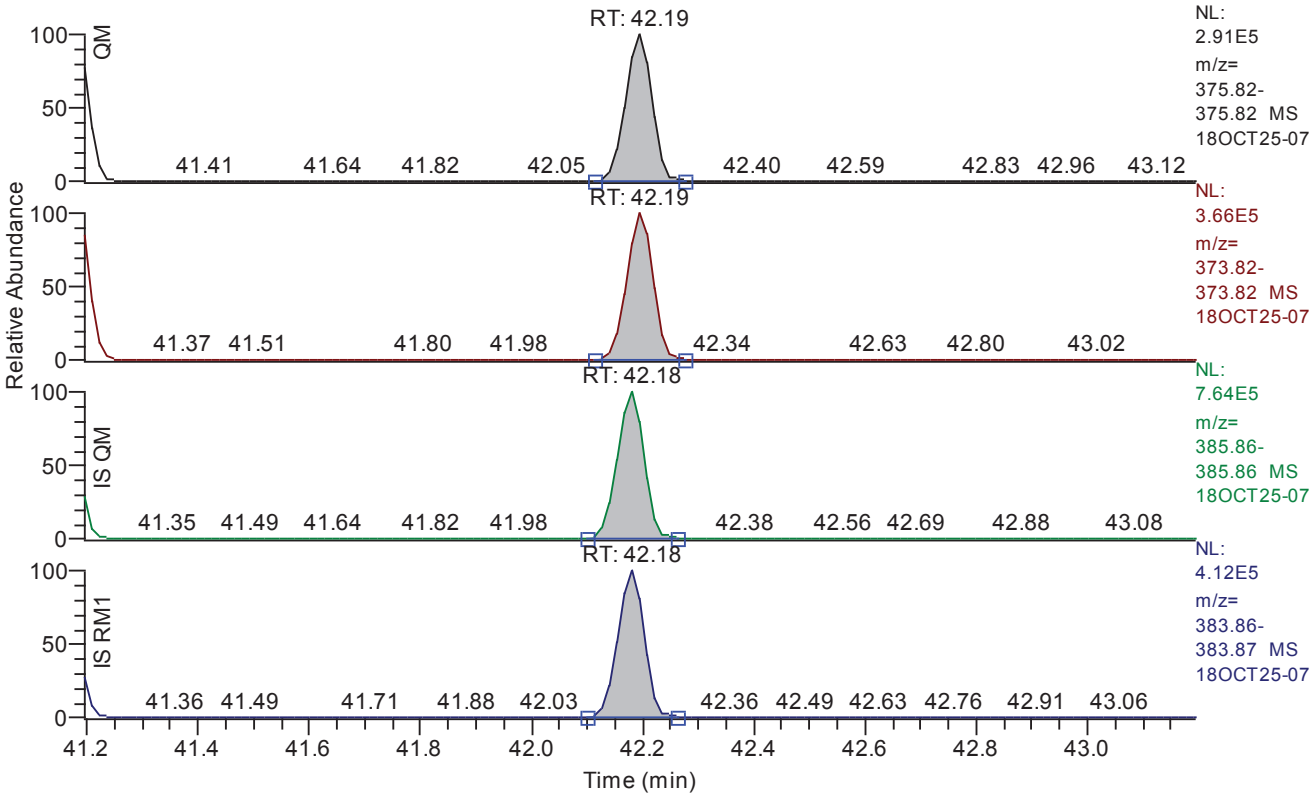
Chromatogram

RT: 41.19 - 43.19 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.19
QM Area	967340
QM Integration Mode	A
RM1 Area	1221651
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0157
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	8031
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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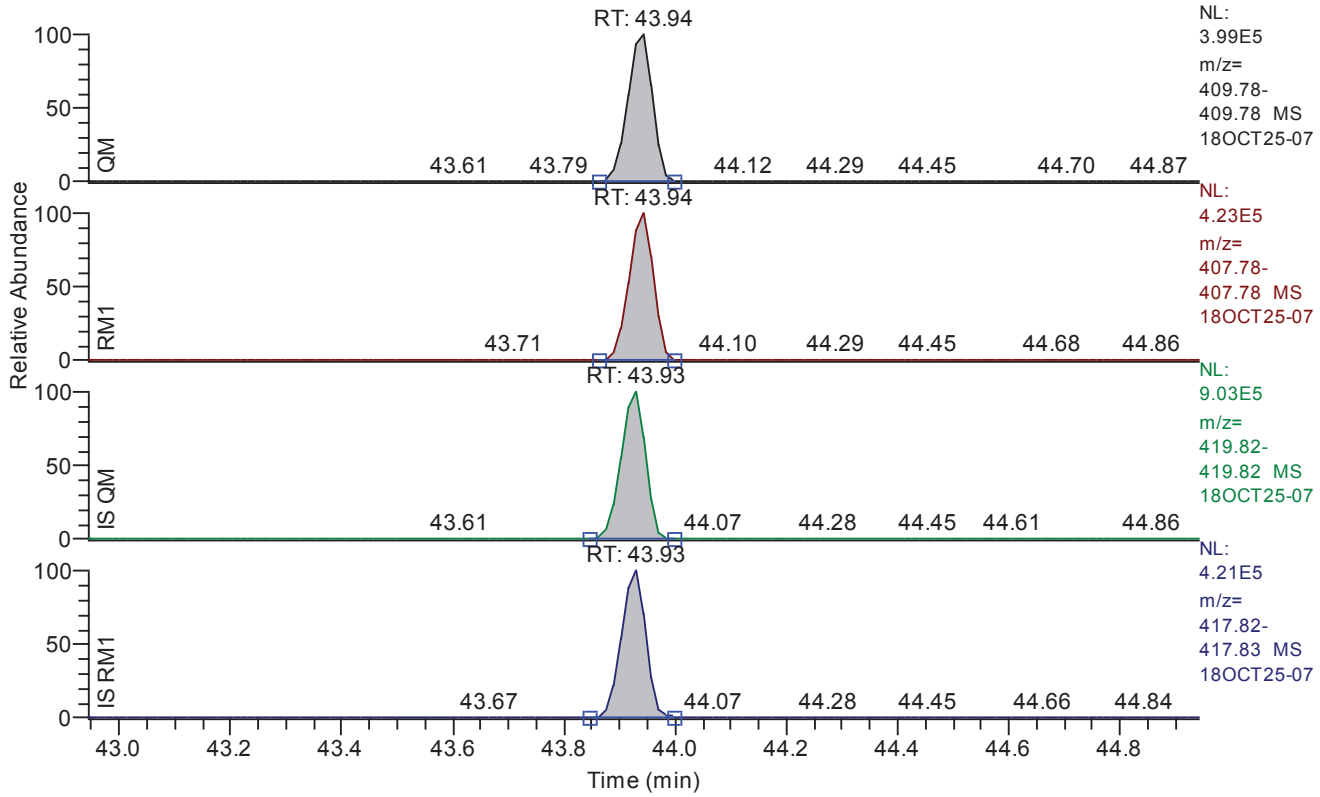
Chromatogram

RT: 42.94 - 44.94 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.94
QM Area	1278107
QM Integration Mode	A
RM1 Area	1333604
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0160
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7802
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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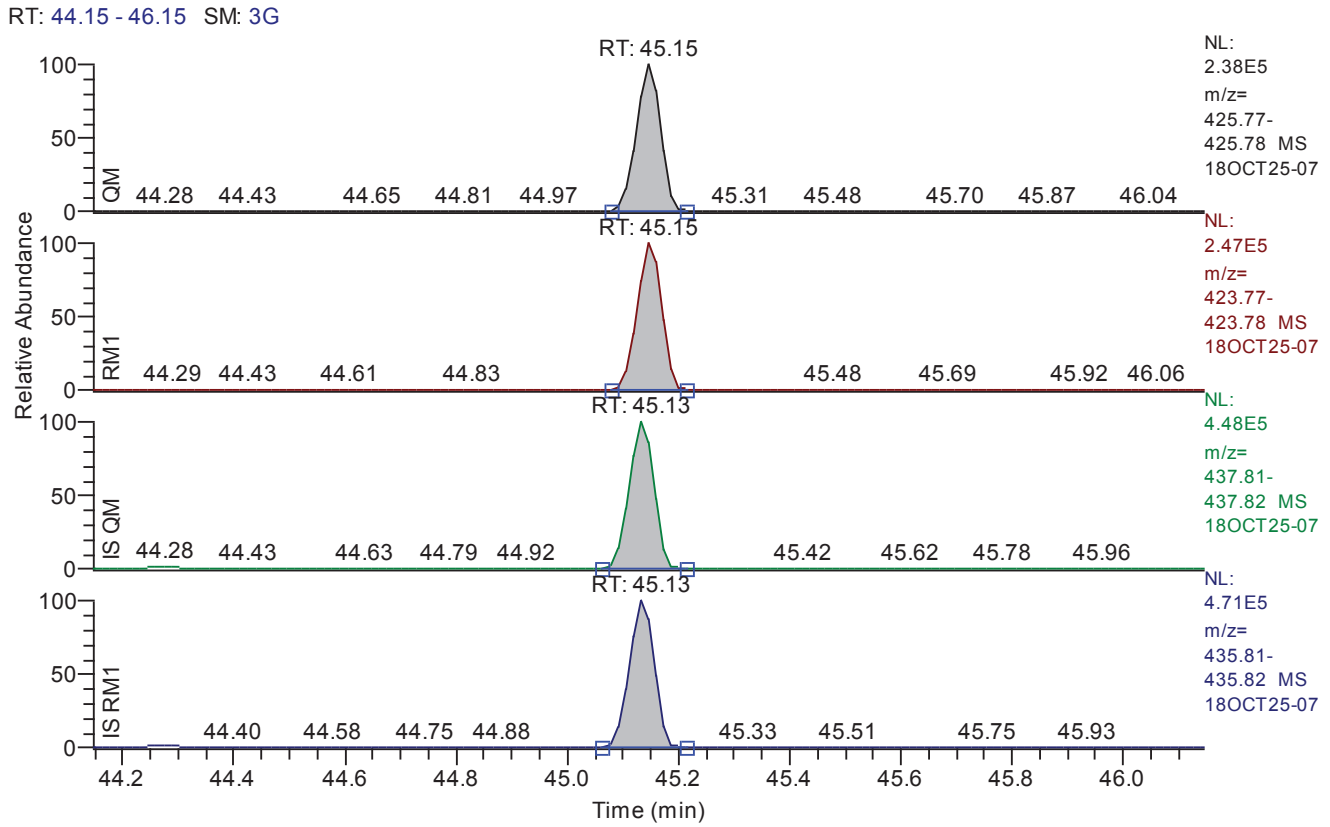
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.15
QM Area	748185
QM Integration Mode	A
RM1 Area	785442
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0200
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6385
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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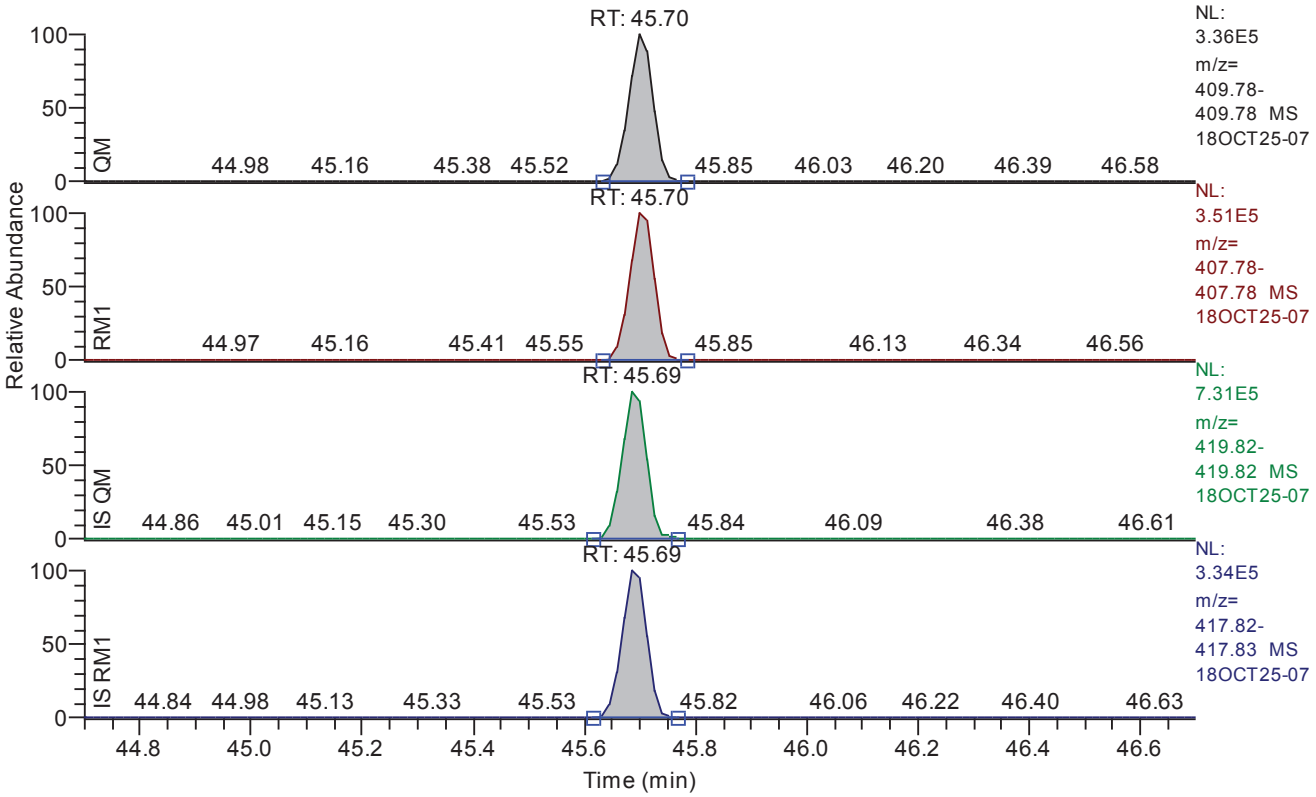
Chromatogram

RT: 44.70 - 46.70 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.70
QM Area	1053161
QM Integration Mode	A
RM1 Area	1124492
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0193
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6520
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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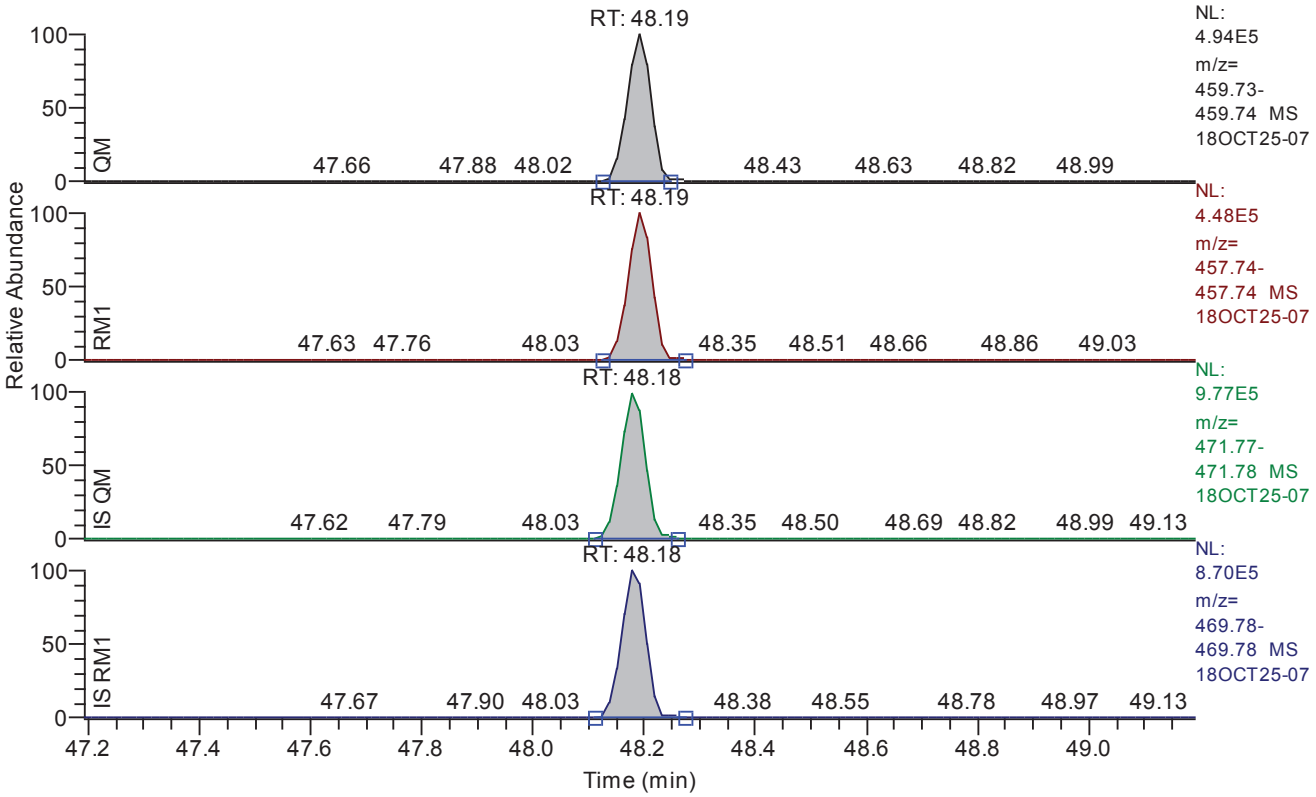
Chromatogram

RT: 47.19 - 49.19 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.19
QM Area	1463187
QM Integration Mode	A
RM1 Area	1332763
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0151
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	16883
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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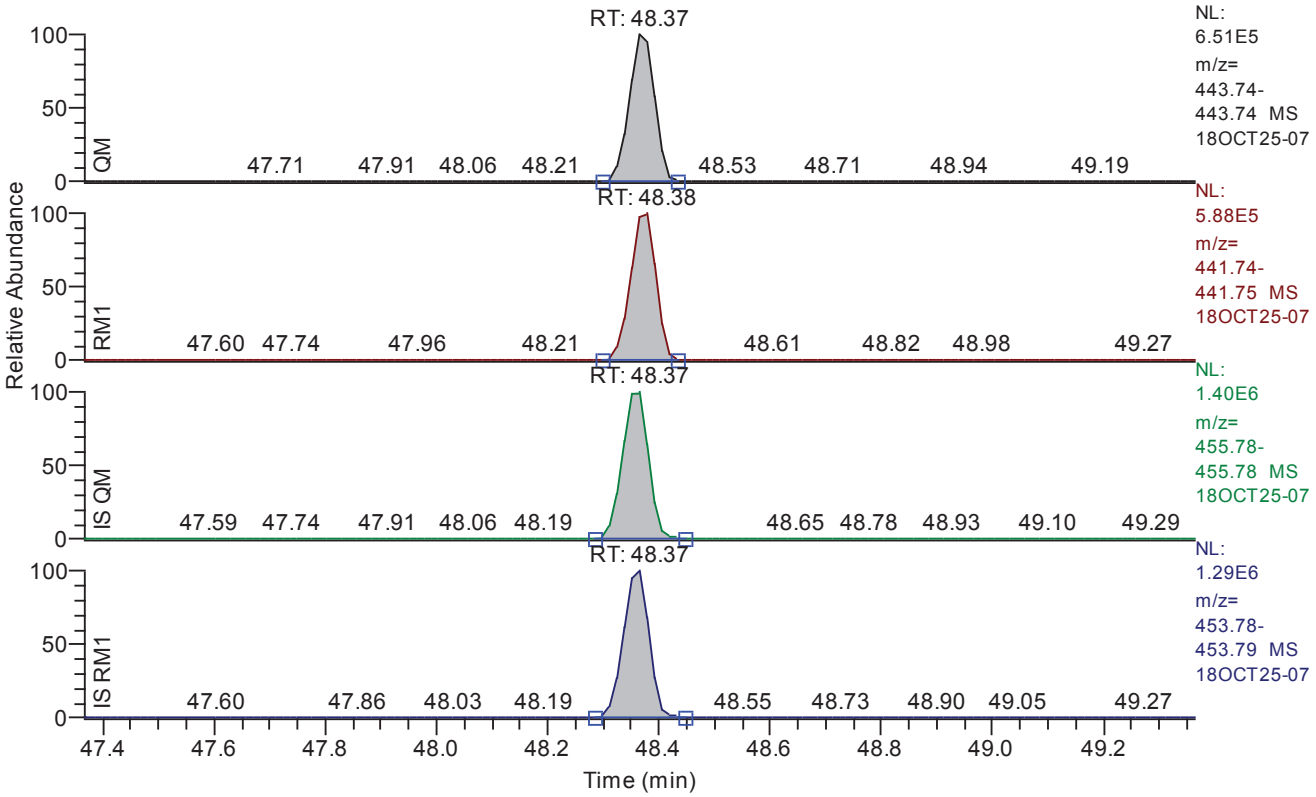
Chromatogram

RT: 47.37 - 49.37 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.37
QM Area	2066191
QM Integration Mode	A
RM1 Area	1875382
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	26938
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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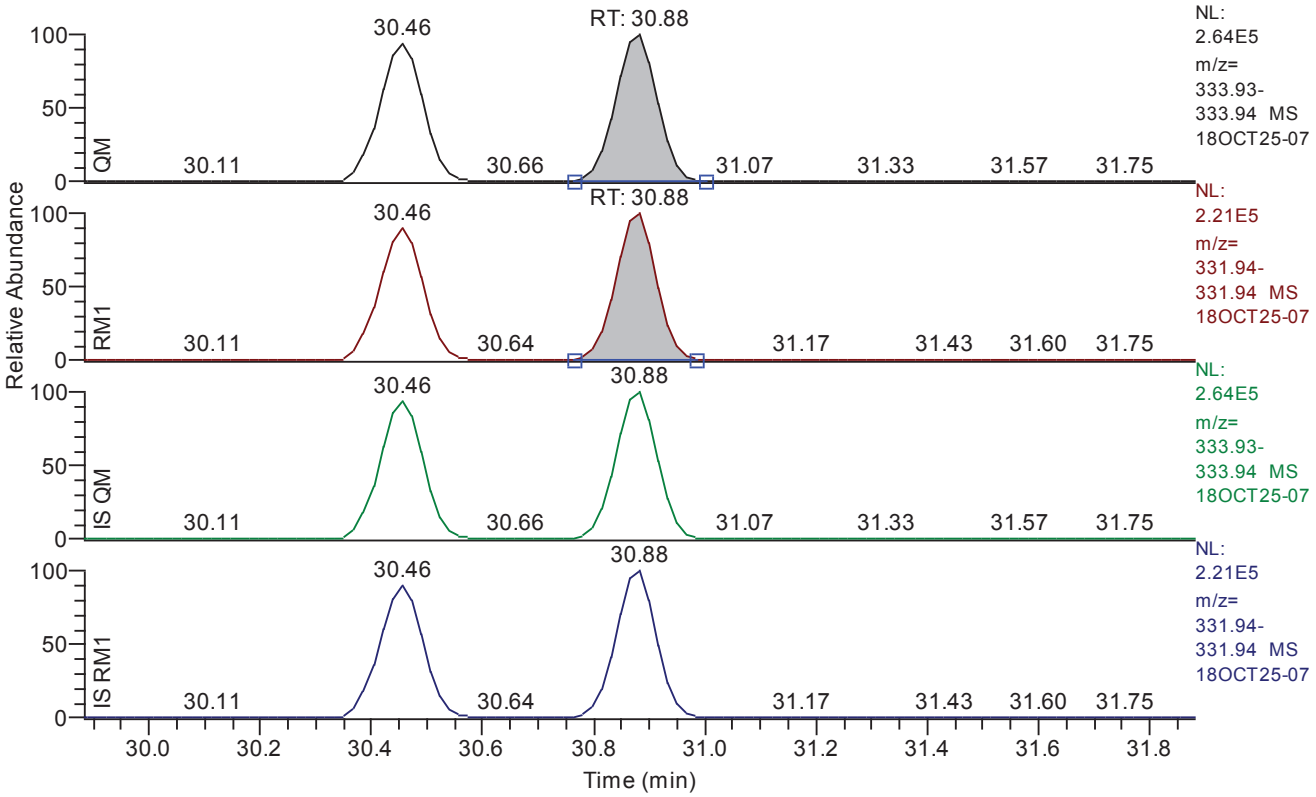
Chromatogram

RT: 29.88 - 31.88 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.88
QM Area	1411868
QM Integration Mode	A
RM1 Area	1143599
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0175
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	15575
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 16:23
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-07.quan
Data	y:\18oct25\18oct25-07.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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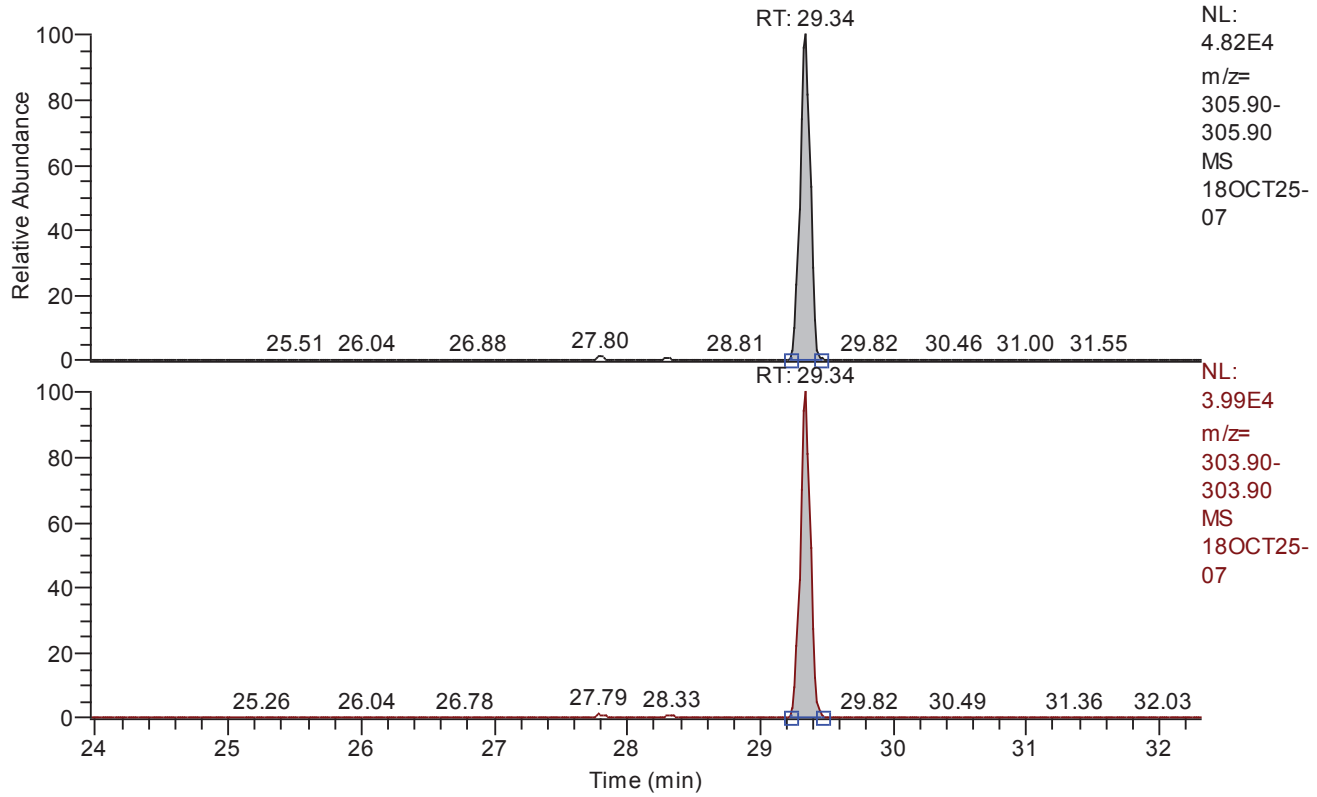
Chromatogram

RT: 23.96 - 32.32 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.14
QM Area	264208
QM Integration Mode	A
RM1 Area	213978
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3585
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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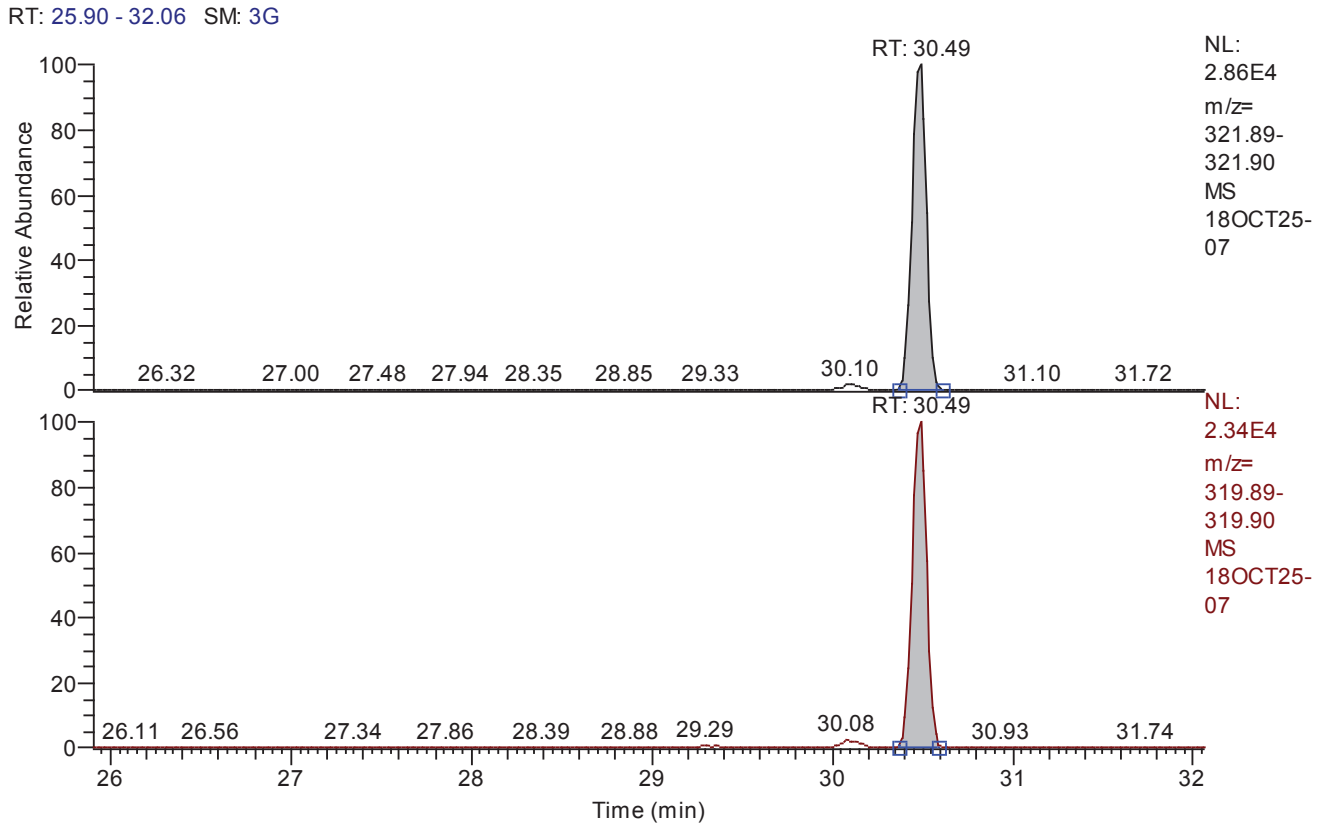
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.98
QM Area	160713
QM Integration Mode	A
RM1 Area	132544
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0104
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2341
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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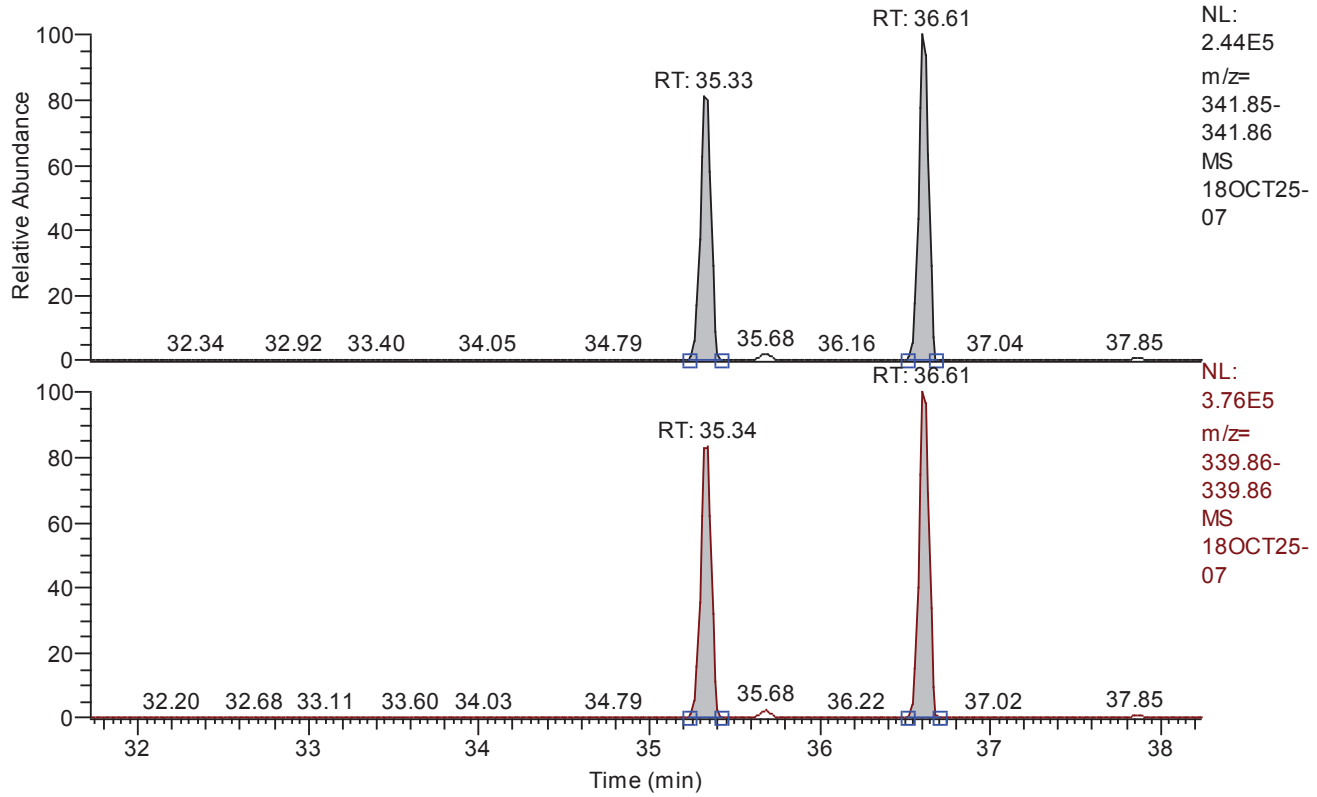
Chromatogram

RT: 31.72 - 38.24 SM: 3G



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.98
QM Area	1861817
QM Integration Mode	A
RM1 Area	2927225
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	17993
Client Flags	
Status Overview	passed (2)
Status Info	

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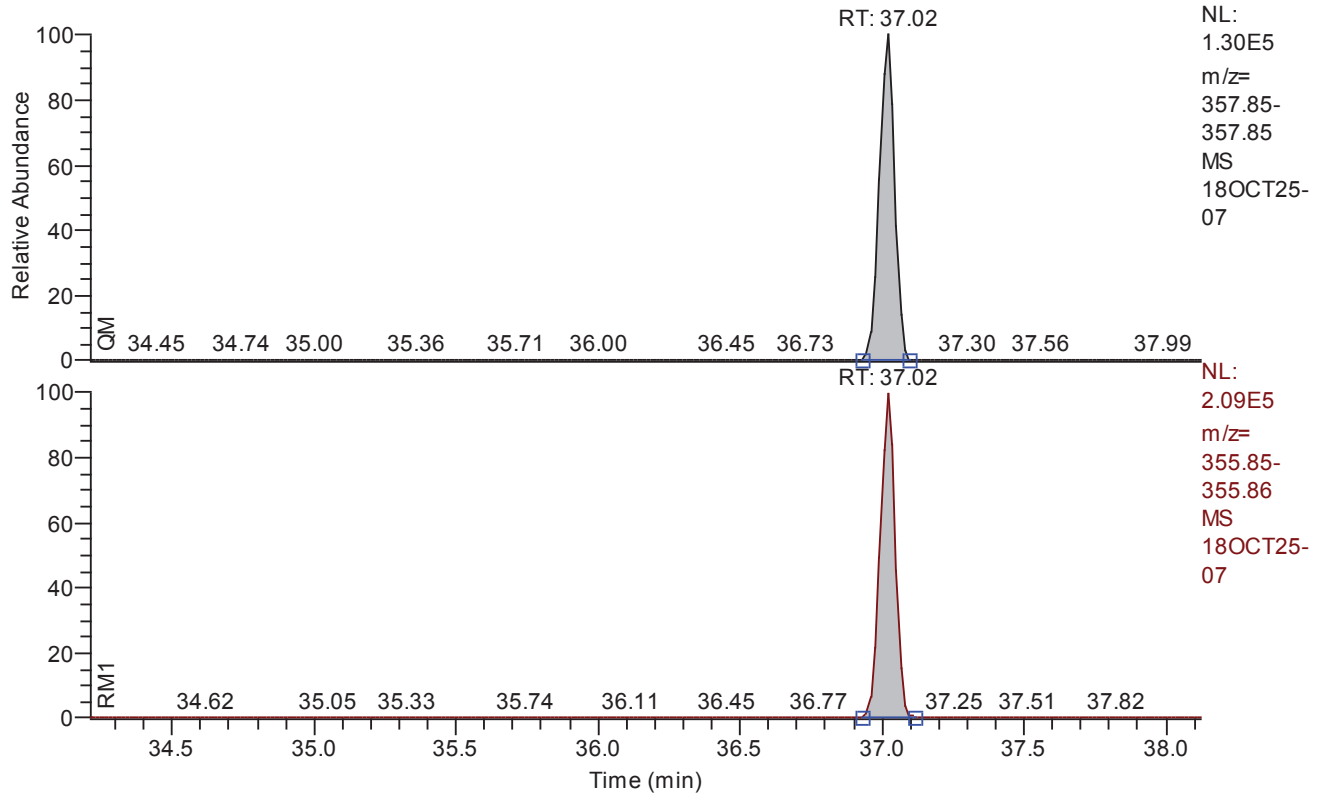
Chromatogram

RT: 34.21 - 38.13 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.17
QM Area	501882
QM Integration Mode	A
RM1 Area	796191
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0121
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	10687
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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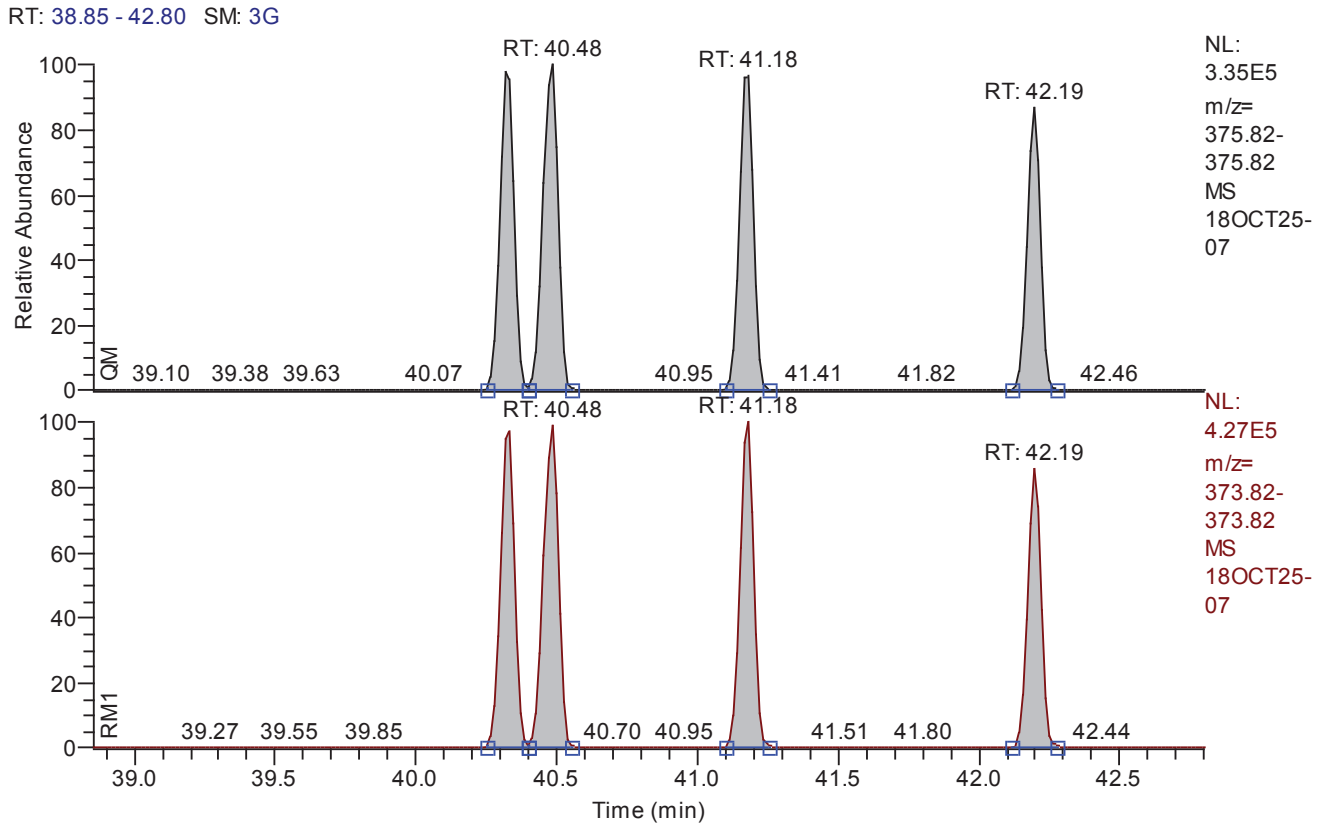
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.83
QM Area	4434839
QM Integration Mode	A
RM1 Area	5596628
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0143
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	8894
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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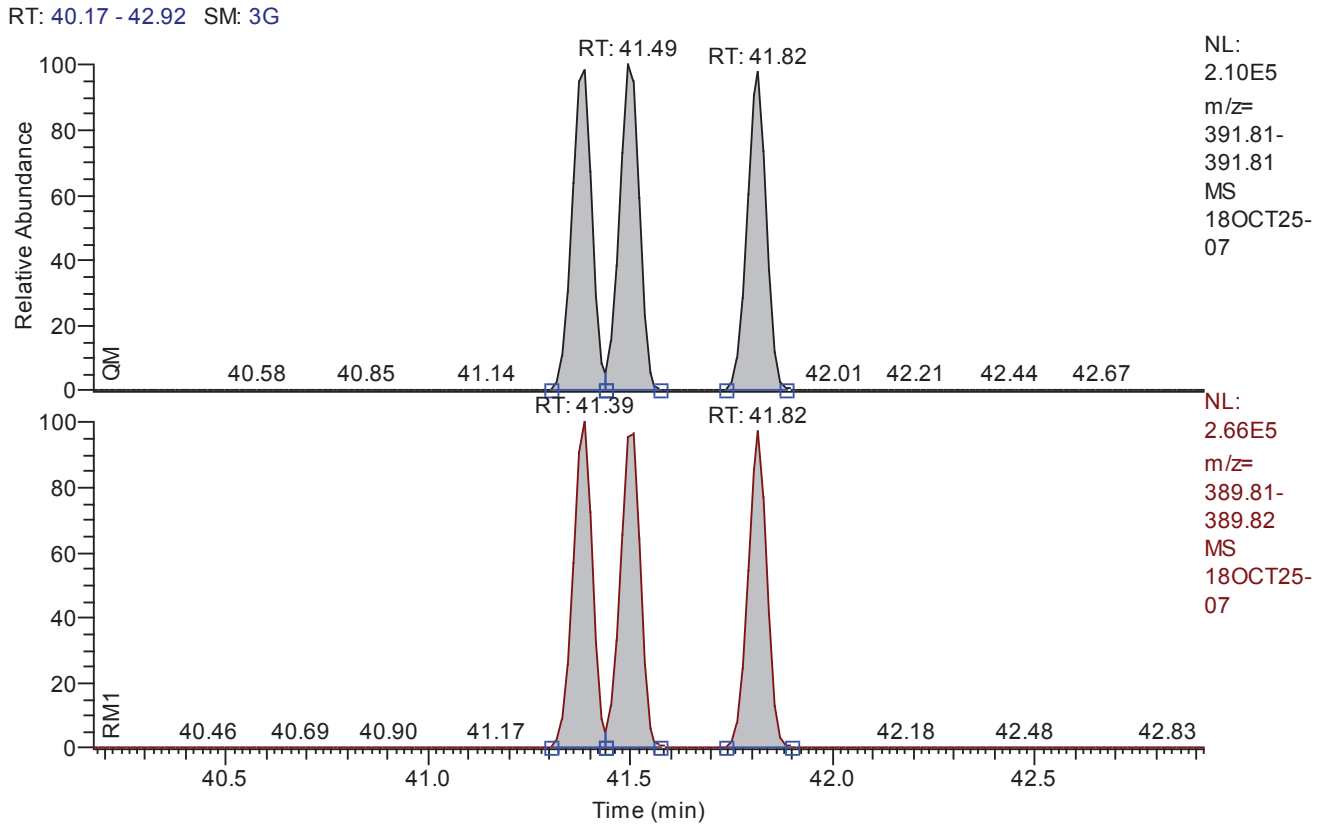
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.55
QM Area	2091655
QM Integration Mode	A
RM1 Area	2603892
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	150.0000
Signal-to-Noise	11721
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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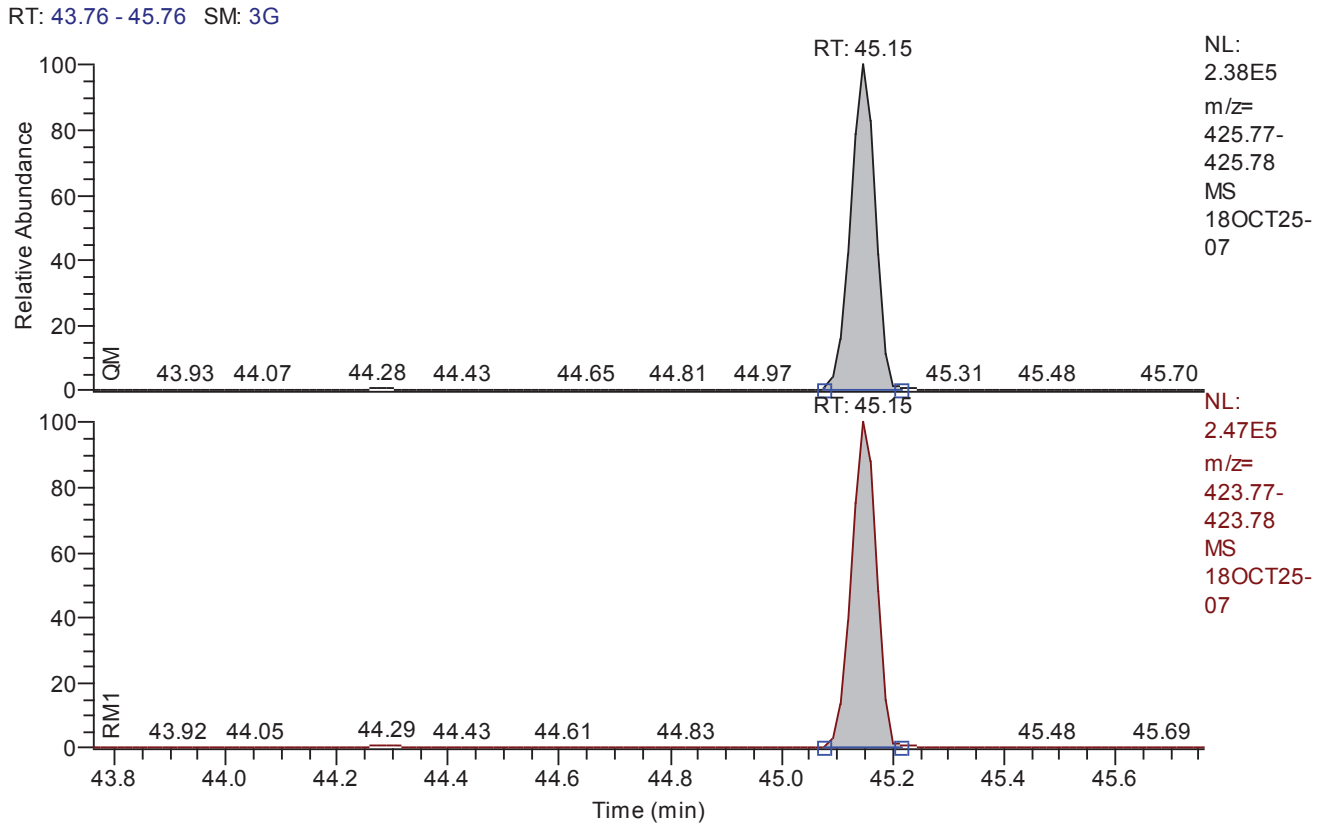
Chromatogram



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.76
QM Area	748185
QM Integration Mode	A
RM1 Area	785442
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0200
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6385
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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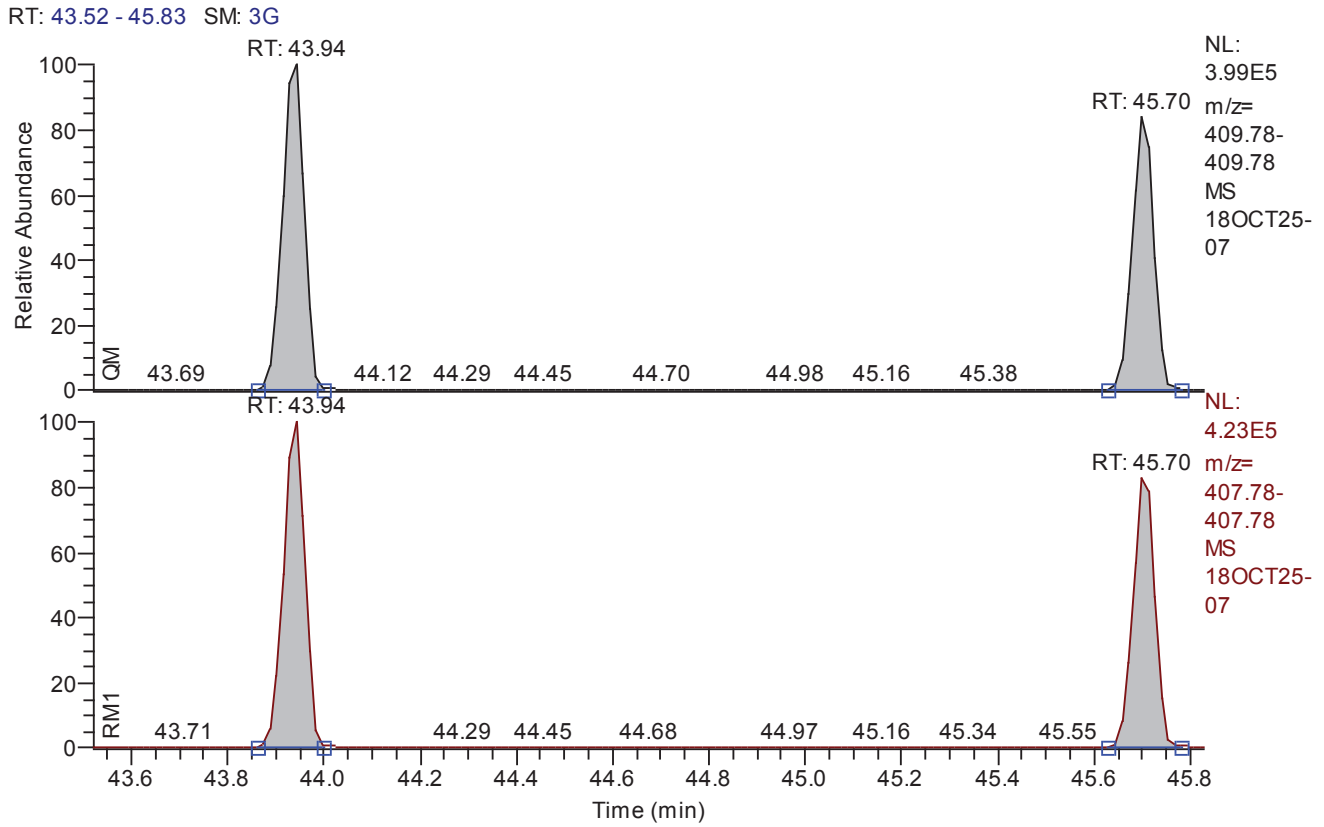
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.67
QM Area	2331268
QM Integration Mode	A
RM1 Area	2458096
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0176
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	7161
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	29.34	29.34	29.34	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.49	30.49	30.49	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.33	35.33	35.34	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.61	36.61	36.61	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.02	37.02	37.02	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.32	40.32	40.33	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.48	40.48	40.48	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.18	41.18	41.18	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.39	41.39	41.39	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.49	41.49	41.51	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.82	41.82	41.82	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.19	42.19	42.19	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.94	43.94	43.94	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.15	45.15	45.15	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.70	45.70	45.70	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.19	48.19	48.19	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.37	48.37	48.38	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.88	30.88	30.88	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.63	29.63	29.63	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.23	40.23	40.23	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.31	29.31	29.31	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.46	30.46	30.46	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.31	35.31	35.31	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.59	36.59	36.59	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.01	37.01	37.01	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.31	40.31	40.31	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.46	40.46	40.46	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.37	41.37	41.37	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.48	41.48	41.48	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.80	41.80	41.80	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.18	42.18	42.18	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.93	43.93	43.93	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.13	45.13	45.13	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.69	45.69	45.69	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.18	48.18	48.18	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.37	48.37	48.37	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	28.14	28.14	28.14	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	28.98	28.98	28.98	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	34.98	34.98	34.98	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	36.17	36.17	36.17	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.83	40.83	40.83	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.55	41.55	41.55	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	44.76	44.76	44.76	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.67	44.67	44.67	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.34	29.34	29.34	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	30.49	30.49	30.49	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	37.02	37.02	37.02	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.61	36.61	36.61	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	35.33	35.33	35.34	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.15	45.15	45.15	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.48	40.48	40.48	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.32	40.32	40.33	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.18	41.18	41.18	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	42.19	42.19	42.19	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.49	41.49	41.51	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.39	41.39	41.39	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.82	41.82	41.82	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	43.94	43.94	43.94	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.70	45.70	45.70	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.34	0.8099	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.49	0.8247	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.33	1.5823	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.61	1.5634	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.02	1.5864	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.32	1.2599	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.48	1.2585	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.18	1.2669	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.39	1.2451	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.49	1.2426	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.82	1.2470	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.19	1.2629	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.94	1.0434	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.15	1.0498	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.70	1.0677	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.19	0.9109	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.37	0.9077	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.88	0.8100	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.63	0.8176	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.23	1.2569	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.31	0.8094	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.46	0.8060	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.31	1.5790	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.59	1.5882	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.01	1.5704	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.31	0.5345	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.46	0.5502	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.16	0.5276	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.37	1.2730	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.48	1.2437	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.80	1.2773	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.18	0.5348	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.93	0.4630	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.13	1.0538	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.69	0.4601	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.18	0.8981	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.37	0.9100	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.14	0.8099	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.98	0.8247	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.98	1.5722	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.17	1.5864	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.83	1.2620	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.55	1.2449	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.76	1.0498	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.67	1.0544	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.34	0.8099	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.49	0.8247	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.02	1.5864	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.61	1.5634	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.33	1.5823	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.15	1.0498	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.48	1.2585	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.32	1.2599	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.18	1.2669	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.19	1.2629	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.49	1.2426	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.39	1.2451	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.82	1.2470	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.94	1.0434	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.70	1.0677	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	29.34	264208	A	213978	A	0.0071	10.000000	10.0000	10.000000	3585	
2	2378-TCDD	passed	30.49	160713	A	132544	A	0.0104	10.000000	10.0000	10.000000	2341	
3	12378-PeCDF	passed	35.33	868108	A	1373626	A	0.0075	50.000000	50.0000	50.000000	16273	
4	23478-PeCDF	passed	36.61	993709	A	1553599	A	0.0061	50.000000	50.0000	50.000000	19712	
5	12378-PeCDD	passed	37.02	501882	A	796191	A	0.0121	50.000000	50.0000	50.000000	10687	
6	123478-HxCDF	passed	40.32	1159575	A	1460917	A	0.0137	50.000000	50.0000	50.000000	9103	
7	123678-HxCDF	passed	40.48	1167410	A	1469149	A	0.0140	50.000000	50.0000	50.000000	9264	
8	234678-HxCDF	passed	41.18	1140515	A	1444911	A	0.0137	50.000000	50.0000	50.000000	9180	
9	123478-HxCDD	passed	41.39	691754	A	861282	A	0.0111	50.000000	50.0000	50.000000	11834	
10	123678-HxCDD	passed	41.49	698233	A	867603	A	0.0108	50.000000	50.0000	50.000000	11703	
11	123789-HxCDD	passed	41.82	701668	A	875007	A	0.0109	50.000000	50.0000	50.000000	11625	
12	123789-HxCDF	passed	42.19	967340	A	1221651	A	0.0157	50.000000	50.0000	50.000000	8031	
13	1234678-HpCDF	passed	43.94	1278107	A	1333604	A	0.0160	50.000000	50.0000	50.000000	7802	
14	1234678-HpCDD	passed	45.15	748185	A	785442	A	0.0200	50.000000	50.0000	50.000000	6385	
15	1234789-HpCDF	passed	45.70	1053161	A	1124492	A	0.0193	50.000000	50.0000	50.000000	6520	
16	OCDD	passed	48.19	1463187	A	1332763	A	0.0151	100.000000	100.0000	100.000000	16883	
17	OCDF	passed	48.37	2066191	A	1875382	A	0.0095	100.000000	100.0000	100.000000	26938	
18	13C12-1278-TCDD (CRS)	passed	30.88	1411868	A	1143599	A	0.0175	100.000000	100.0000	100.000000	15575	
19	13C12-1234-TCDD	passed	29.63	1395331	A	1140821	A	0.0176	100.000000	100.0000	100.000000	14214	
20	13C12-123468-HxCDD	passed	40.23	1396941	A	1755881	A	0.0200	100.000000	100.0000	100.000000	12511	
21	13C12-2378-TCDF	passed	29.31	2685011	A	2173323	A	0.0136	100.000000	100.0000	100.000000	19146	
22	13C12-2378-TCDD	passed	30.46	1370523	A	1104617	A	0.0180	100.000000	100.0000	100.000000	14452	
23	13C12-12378-PeCDF	passed	35.31	1858634	A	2934802	A	0.0291	100.000000	100.0000	100.000000	11574	
24	13C12-23478-PeCDF	passed	36.59	1854213	A	2944943	A	0.0291	100.000000	100.0000	100.000000	12556	
25	13C12-12378-PeCDD	passed	37.01	1010567	A	1586999	A	0.0186	100.000000	100.0000	100.000000	19441	
26	13C12-123478-HxCDF	passed	40.31	2935191	A	1568979	A	0.0192	100.000000	100.0000	100.000000	12608	
27	13C12-123678-HxCDF	passed	40.46	3019340	A	1661283	A	0.0185	100.000000	100.0000	100.000000	12791	
28	13C12-234678-HxCDF	passed	41.16	2832329	A	1494372	A	0.0200	100.000000	100.0000	100.000000	12342	
29	13C12-123478-HxCDD	passed	41.37	1368619	A	1742187	A	0.0203	100.000000	100.0000	100.000000	12189	
30	13C12-123678-HxCDD	passed	41.48	1389510	A	1728094	A	0.0202	100.000000	100.0000	100.000000	12396	
31	13C12-123789-HxCDD	passed	41.80	1305343	A	1667354	A	0.0212	100.000000	100.0000	100.000000	11711	
32	13C12-123789-HxCDF	passed	42.18	2567924	A	1373295	A	0.0219	100.000000	100.0000	100.000000	11583	
33	13C12-1234678-HpCDF	passed	43.93	2865692	A	1326812	A	0.0327	100.000000	100.0000	100.000000	8239	
34	13C12-1234678-HpCDD	passed	45.13	1445308	A	1523118	A	0.0340	100.000000	100.0000	100.000000	7759	
35	13C12-1234789-HpCDF	passed	45.69	2330000	A	1072087	A	0.0402	100.000000	100.0000	100.000000	6627	
36	13C12-OCDD	passed	48.18	2949745	A	2649172	A	0.0109	200.000000	200.0000	200.000000	51682	
37	13C12-OCDF	passed	48.37	4560398	A	4150174	A	0.0116	200.000000	200.0000	200.000000	45357	
38	Total TCDF	passed (1)	28.14	264208	A	213978	A	0.0071	10.000000	10.0000	10.000000	3585	
39	Total TCDD	passed (1)	28.98	160713	A	132544	A	0.0104	10.000000	10.0000	10.000000	2341	
40	Total PeCDF	passed (2)	34.98	1861817	A	2927225	A	0.0067	50.000000	100.0000	50.000000	17993	
41	Total PeCDD	passed (1)	36.17	501882	A	796191	A	0.0121	50.000000	50.0000	50.000000	10687	
42	Total HxCDF	passed (4)	40.83	4434839	A	5596628	A	0.0143	50.000000	200.0000	50.000000	8894	
43	Total HxCDD	passed (3)	41.55	2091655	A	2603892	A	0.0109	50.000000	150.0000	50.000000	11721	
44	Total HpCDD	passed (1)	44.76	748185	A	785442	A	0.0200	50.000000	50.0000	50.000000	6385	
45	Total HpCDF	passed (2)	44.67	2331268	A	2458096	A	0.0176	50.000000	100.0000	50.000000	7161	
46	Single TCDF	passed	29.34	264208	A	213978	A	0.0071	10.000000	10.0000	10.000000	3585	
47	Single TCDD	passed	30.49	160713	A	132544	A	0.0104	10.000000	10.0000	10.000000	2341	
48	Single PeCDD	passed	37.02	501882	A	796191	A	0.0121	50.000000	50.0000	50.000000	10687	
49	Single PeCDF	passed	36.61	993709	A	1553599	A	0.0063	50.000000	50.0000	50.000000	19712	
50	Single PeCDF	passed	35.33	868108	A	1373626	A	0.0072	50.000000	50.0000	50.000000	16273	
51	Single HpCDD	passed	45.15	748185	A	785442	A	0.0200	50.000000	50.0000	50.000000	6385	
52	Single HxCDF	passed	40.48	1167410	A	1469149	A	0.0135	50.000000	50.0000	50.000000	9264	
53	Single HxCDF	passed	40.32	1159575	A	1460917	A	0.0136	50.000000	50.0000	50.000000	9103	
54	Single HxCDF	passed	41.18	1140515	A	1444911	A	0.0138	50.000000	50.0000	50.000000	9180	
55	Single HxCDF	passed	42.19	967340	A	1221651	A	0.0163	50.000000	50.0000	50.000000	8031	
56	Single HxCDD	passed	41.49	698233	A	867603	A	0.0109	50.000000	50.0000	50.000000	11703	
57	Single HxCDD	passed	41.39	691754	A	861282	A	0.0110	50.000000	50.0000	50.000000	11834	
58	Single HxCDD	passed	41.82	701668	A	875007	A	0.0109	50.000000	50.0000	50.000000	11625	
59	Single HpCDF	passed	43.94	1278107	A	1333604	A	0.0160	50.000000	50.0000	50.000000	7802	
60	Single HpCDF	passed	45.70	1053161	A	1124492	A	0.0192	50.000000	50.0000	50.000000	6520	

APPROVED
By uma9 at 3:02 pm, 10/26/18

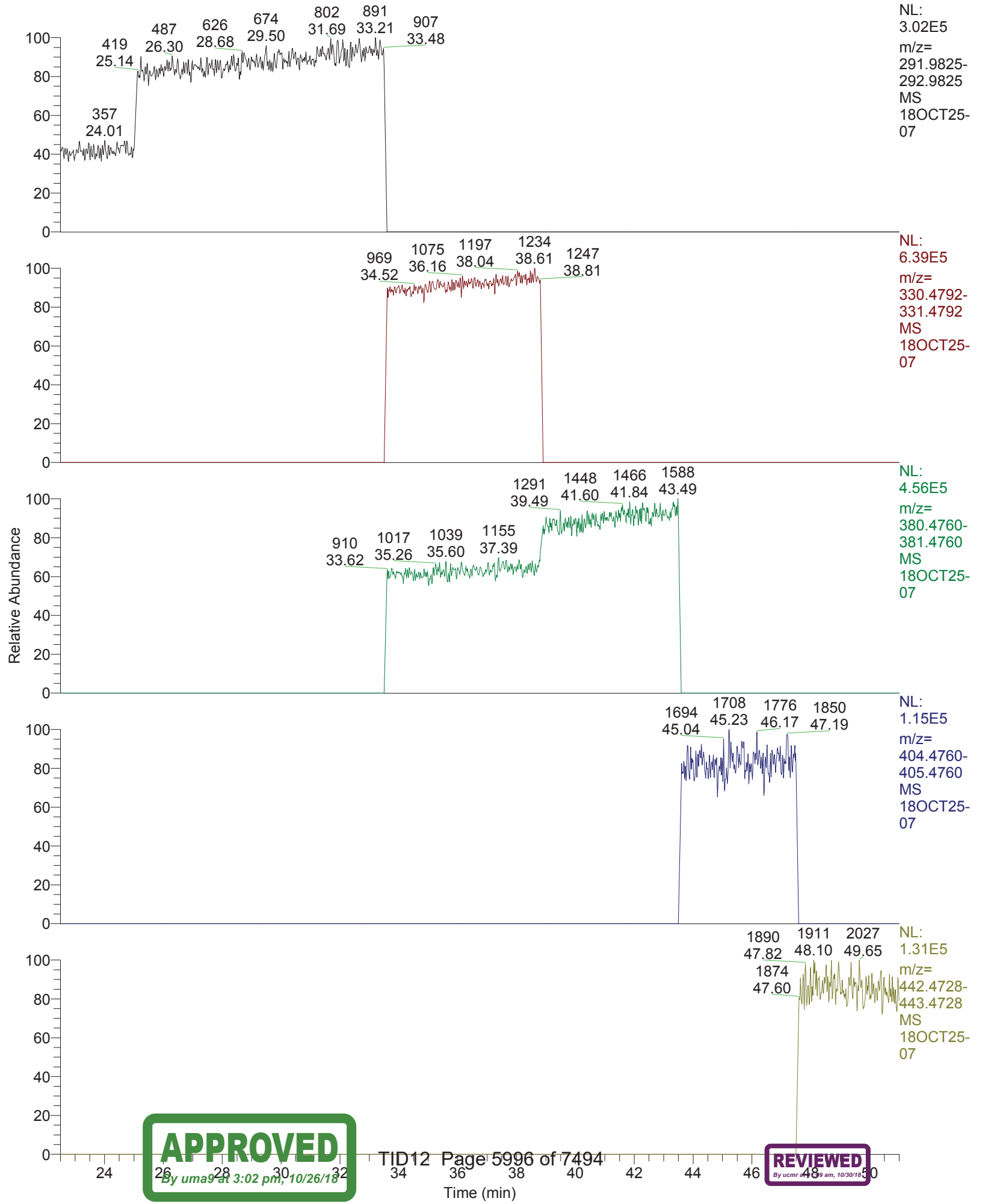
REVIEWED
By ucmr at 11:09 am, 10/30/18

File Name: Y:\18OCT25\18OCT25-07
Sample ID: CS301

Acq. Data: 10/25/2018 4:23:50 PM
Sample Name: CALDF41837H
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 8:39 am, 10/30/18

*** file opened Thu Oct 25 16:29:20 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 16:29:19

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e5d9b8b7-a0ef-4b8d-a030-81b8f9081f1b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          96.5000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         226.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           220.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           171.0000   EXSBR          -0.4700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0175   FVINLET         0.0348   FVSRC           0.0325
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      704.0000
 LENS_SYM        16.0000   LM            650.0000   LMII          500.0000
 LMASS           96.5000   LKM           442.9723   MASS           96.5000
 MDAC         935999.8554   MRANGE       1614.4523   NSAM          200.0000
 NSCAN          2154.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9695   RELEN           0.0000
 RES          11915.2423   RPUSHER       -14.8205   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     708.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0223   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          96.5000   XLENS_POT     924.0000
 XLENS_SYM        2.2500   YLENS_POT     750.0000   YLENS_SYM      -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10450.
MID Time Window 2: Resolution is 11514.
MID Time Window 3: Resolution is 11536.
MID Time Window 4: Resolution is 11400.
```

```
MID Time Window 5: Resolution is 12008.
MID Time Window 6: Resolution is 11915.

Amplifier Offset: 88.


*** File closed Thu Oct 25 17:20:21 2018
 ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 17:20
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-08.quan
Data	y:\18oct25\18oct25-08.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	29.33	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.47	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.31	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.59	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.99	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.31	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.16	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.36	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.79	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.17	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.92	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.12	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.69	passed	passed	passed	passed	passed	passed	
16	OCDD	48.17	passed	passed	passed	passed	passed	passed	
17	OCDF	48.35	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.86	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.62	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.21	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.29	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.44	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.30	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.58	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.98	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.29	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.44	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.35	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.47	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.78	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.15	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.90	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.12	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.67	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.17	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.34	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.10	passed (1)	---	---	---	---	---	
39	Total TCDD	28.95	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.96	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.14	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.83	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.55	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.75	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.66	passed (2)	---	---	---	---	---	
46	Single TCDF	29.33	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.47	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.99	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.59	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.31	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.12	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.46	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.31	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.16	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.17	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.79	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.36	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.48	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.92	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.69	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 17:20
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-08.quan
Data	y:\18oct25\18oct25-08.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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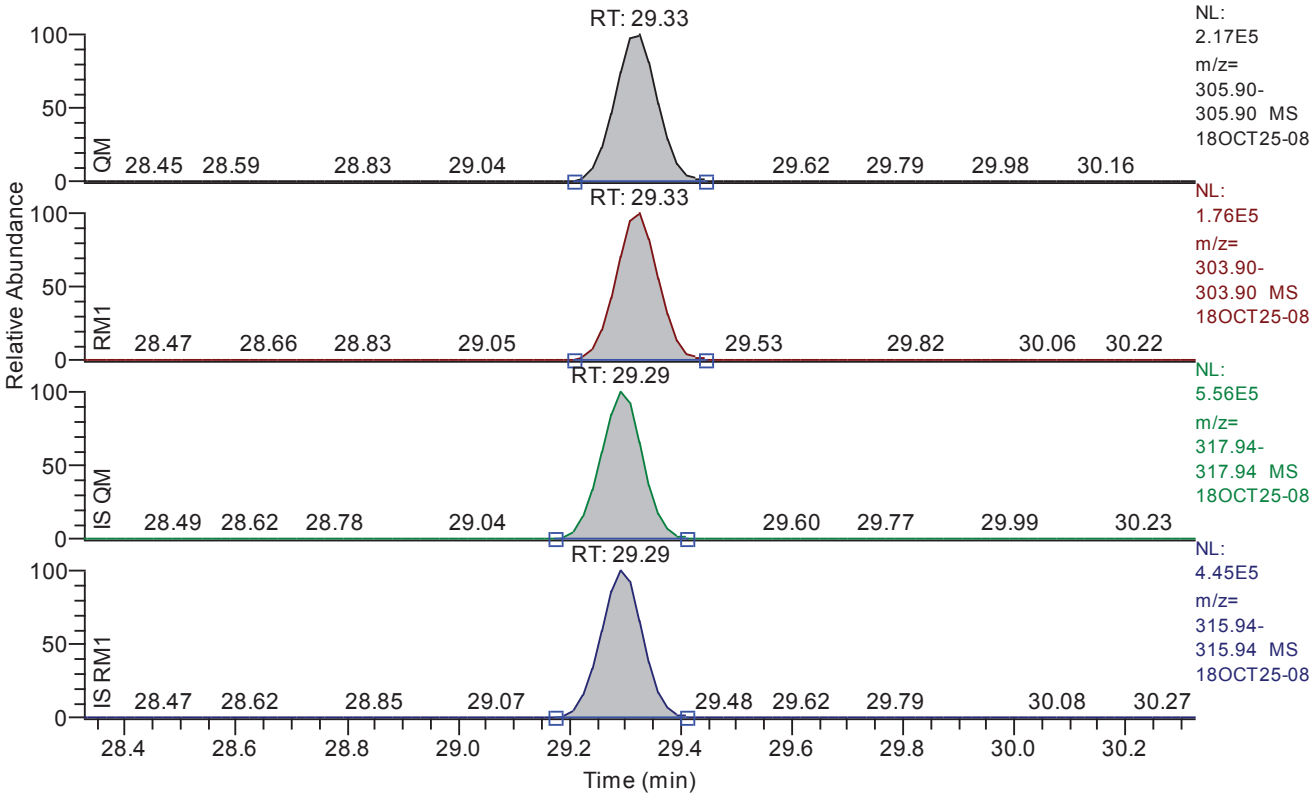
Chromatogram

RT: 28.33 - 30.33 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.33
QM Area	1196682
QM Integration Mode	A
RM1 Area	963005
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	10397
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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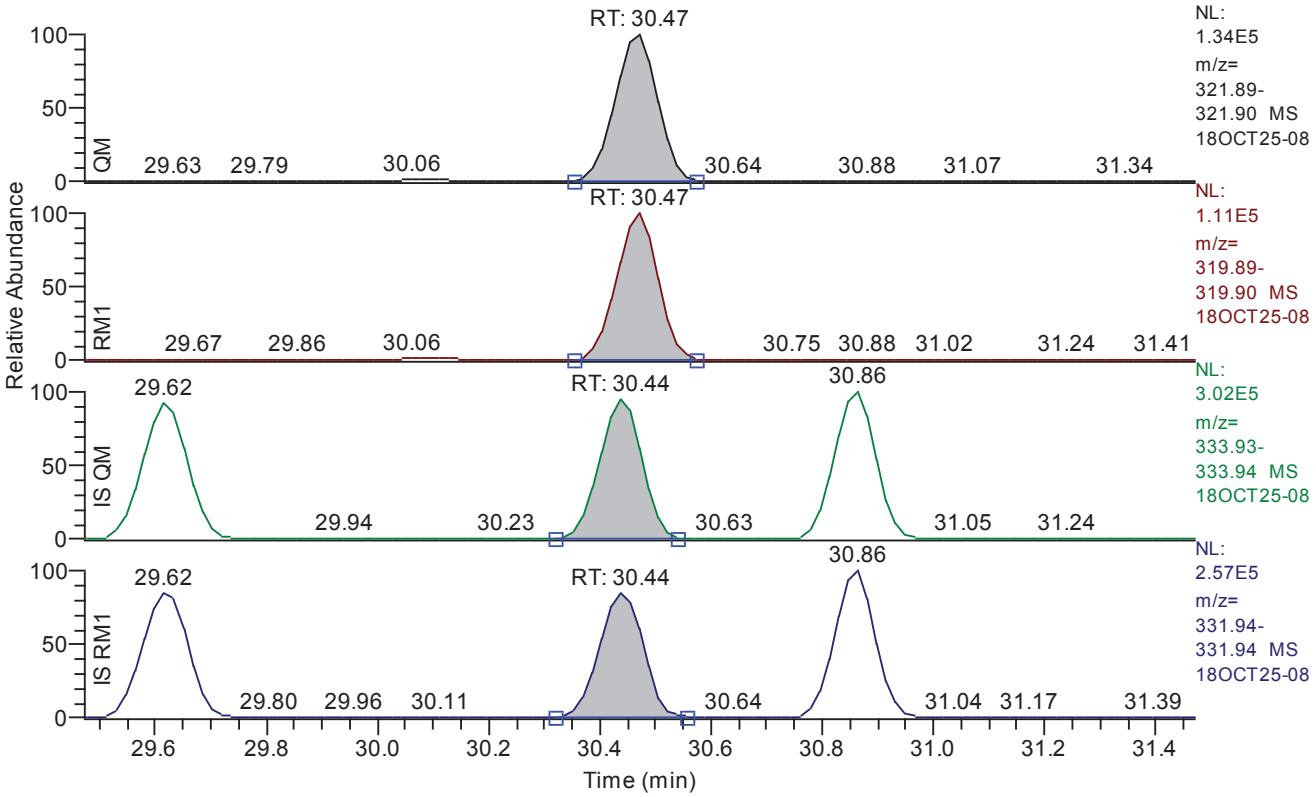
Chromatogram

RT: 29.47 - 31.47 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.47
QM Area	731847
QM Integration Mode	A
RM1 Area	585263
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	9167
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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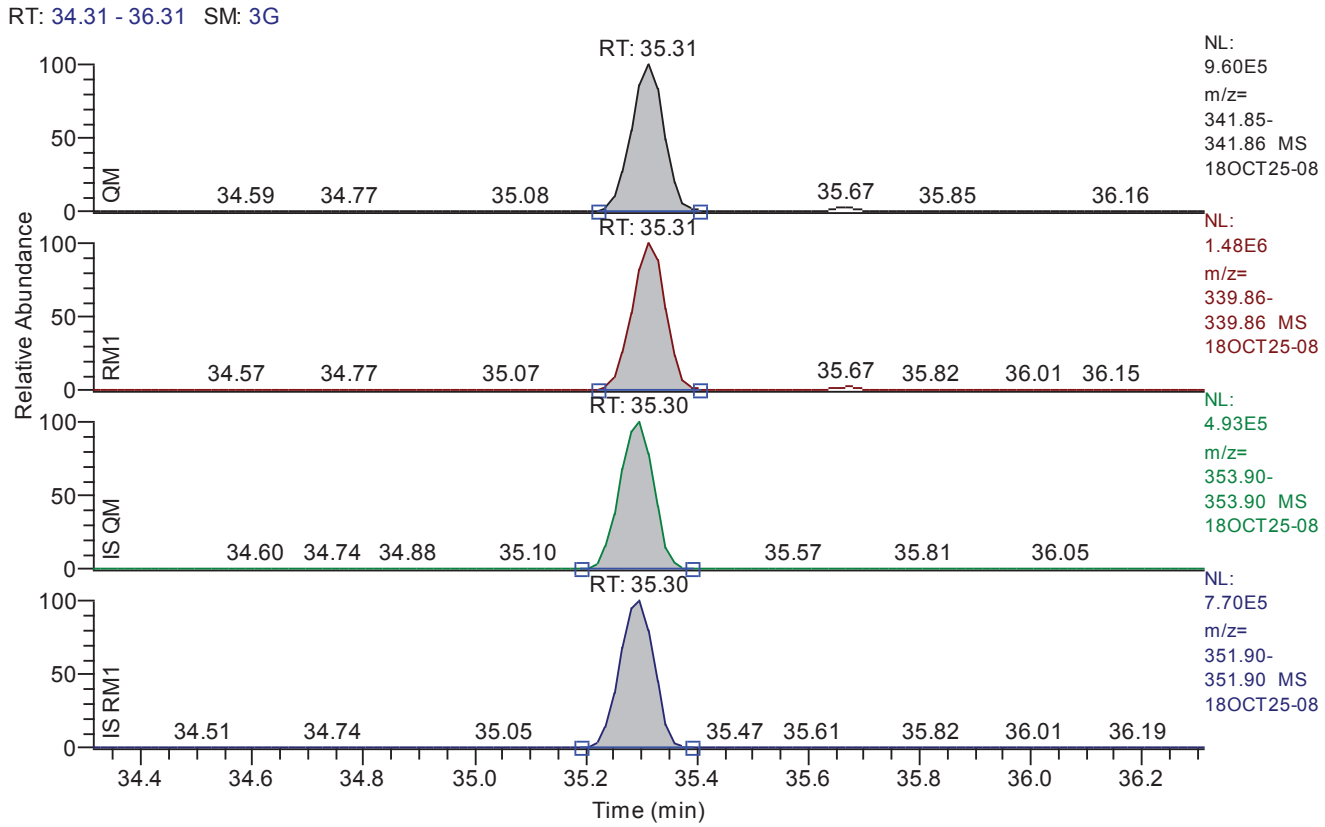
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.31
QM Area	3951810
QM Integration Mode	A
RM1 Area	6159996
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	49285
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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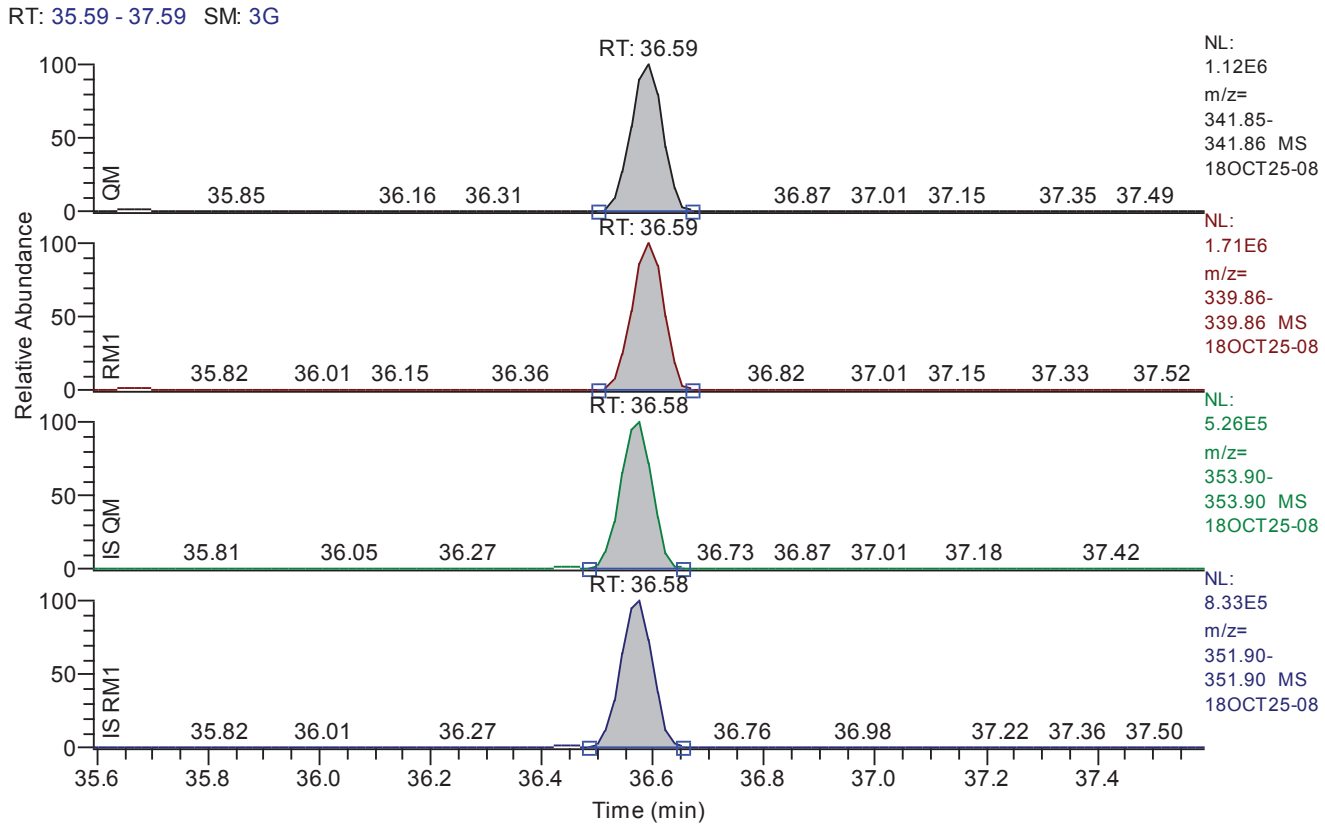
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.59
QM Area	4462511
QM Integration Mode	A
RM1 Area	6877534
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0088
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	57098
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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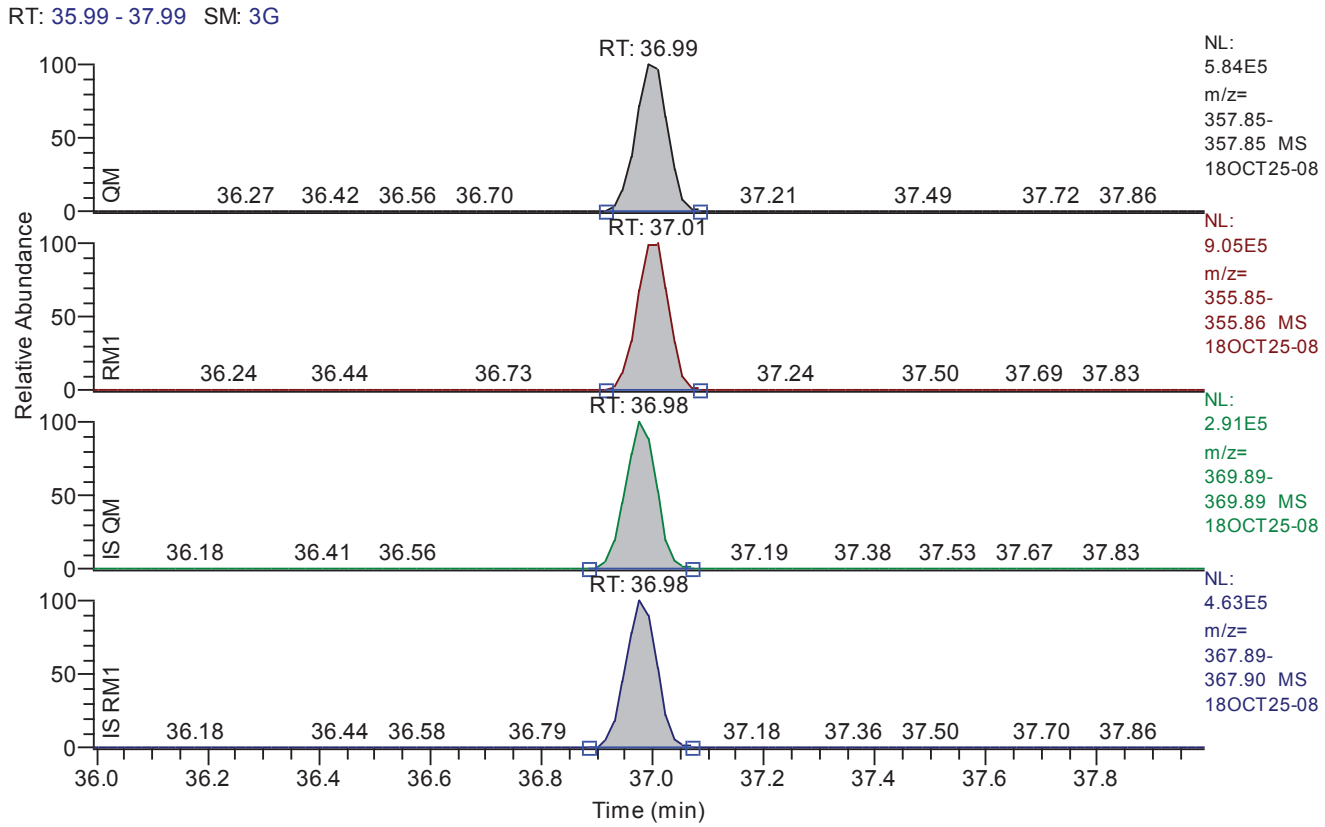
Chromatogram



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.99
QM Area	2323723
QM Integration Mode	A
RM1 Area	3624688
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0144
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	33965
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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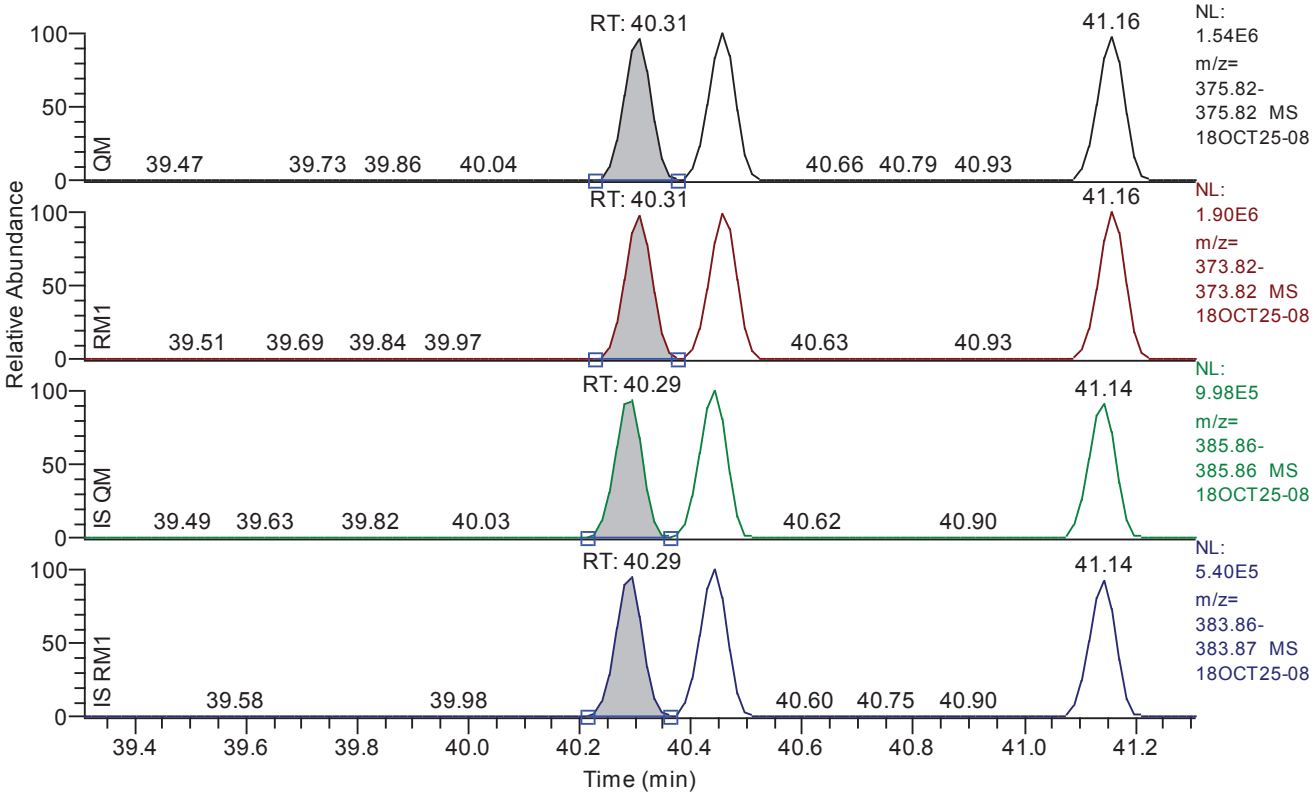
Chromatogram

RT: 39.31 - 41.31 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.31
QM Area	5201931
QM Integration Mode	A
RM1 Area	6455193
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0235
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21275
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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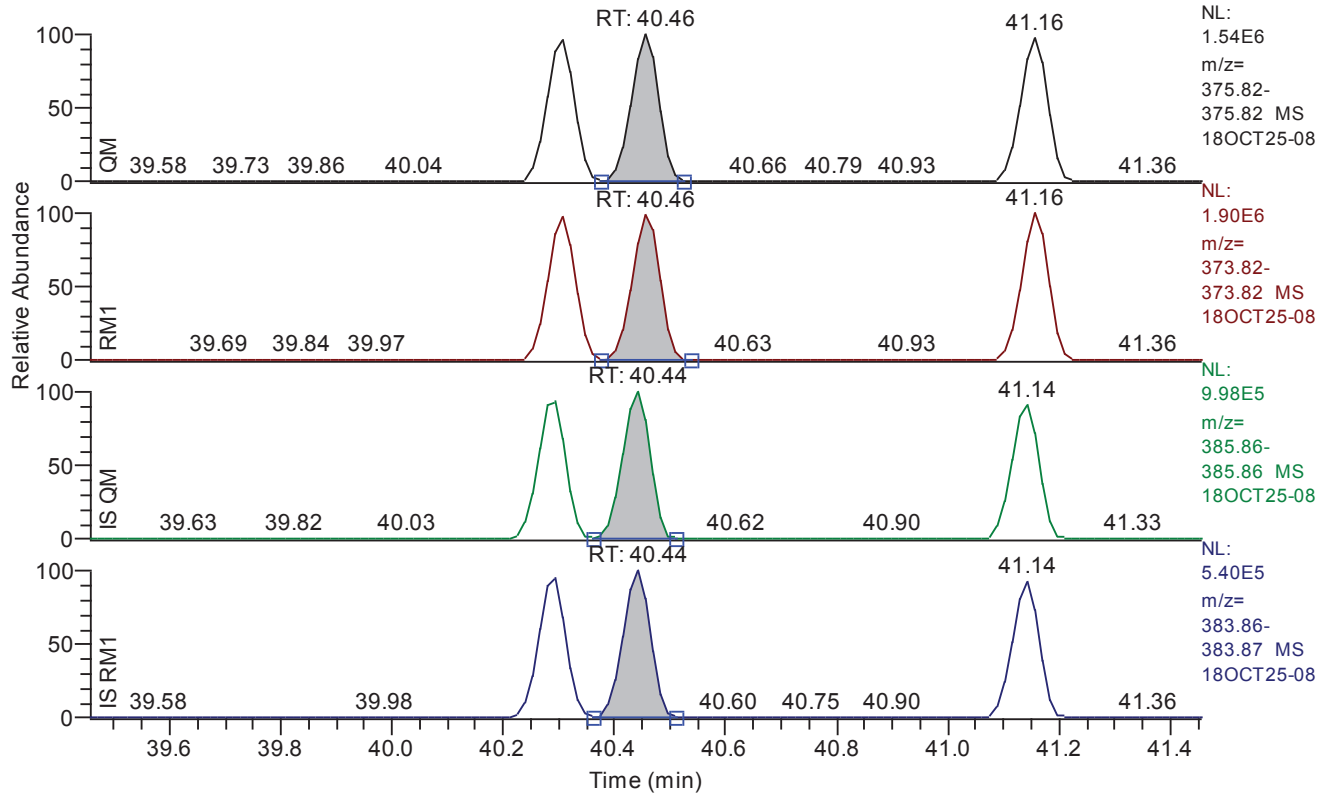
Chromatogram

RT: 39.46 - 41.46 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.46
QM Area	5272335
QM Integration Mode	A
RM1 Area	6554289
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0231
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21878
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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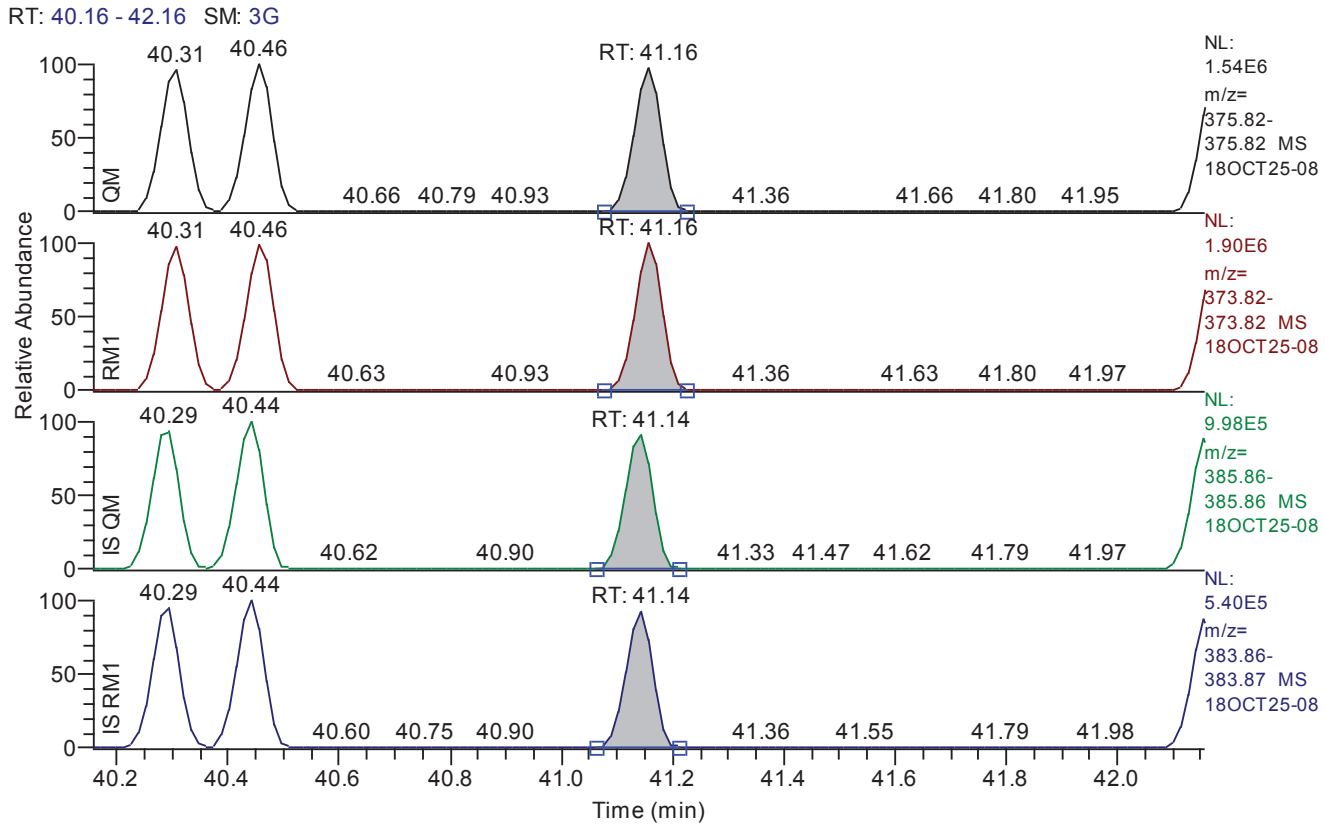
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.16
QM Area	5160021
QM Integration Mode	A
RM1 Area	6454985
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0232
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21778
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

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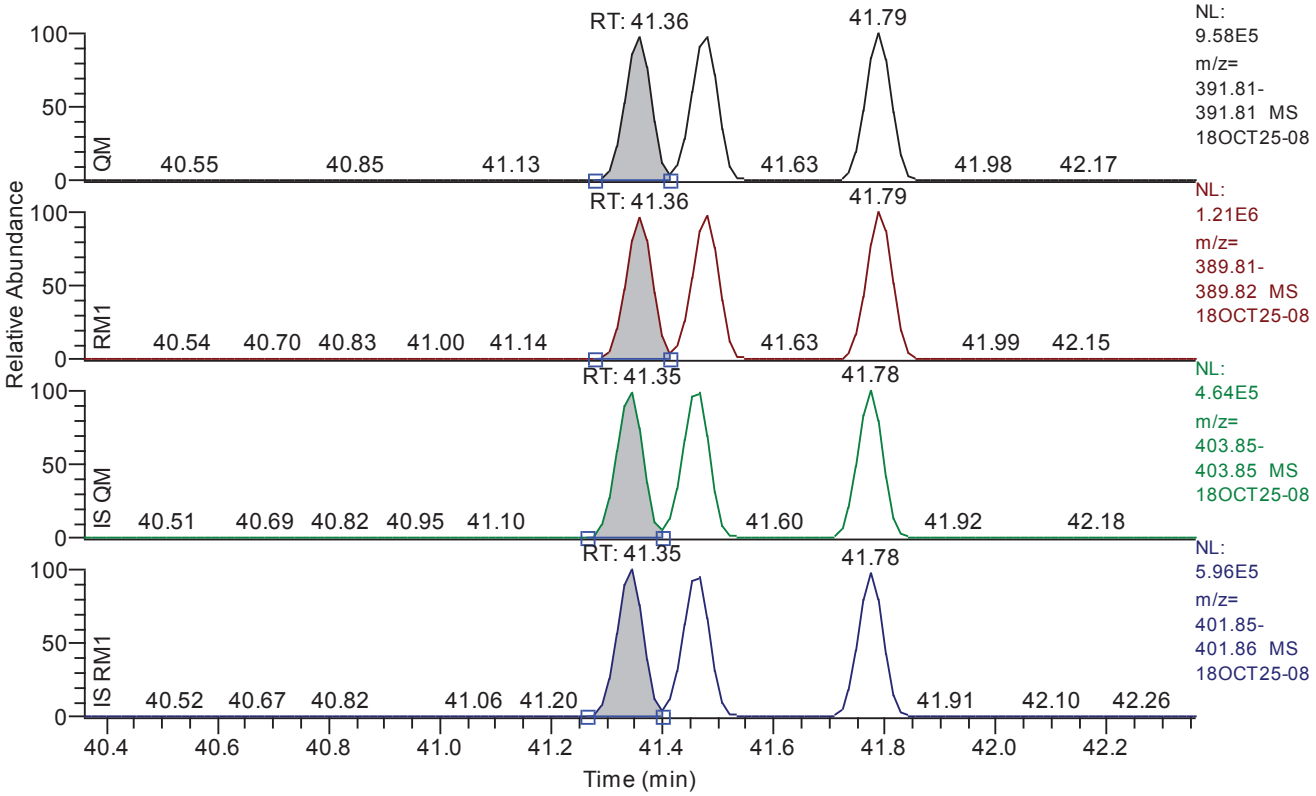
Chromatogram

RT: 40.36 - 42.36 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.36
QM Area	3129357
QM Integration Mode	A
RM1 Area	3917136
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0152
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	33264
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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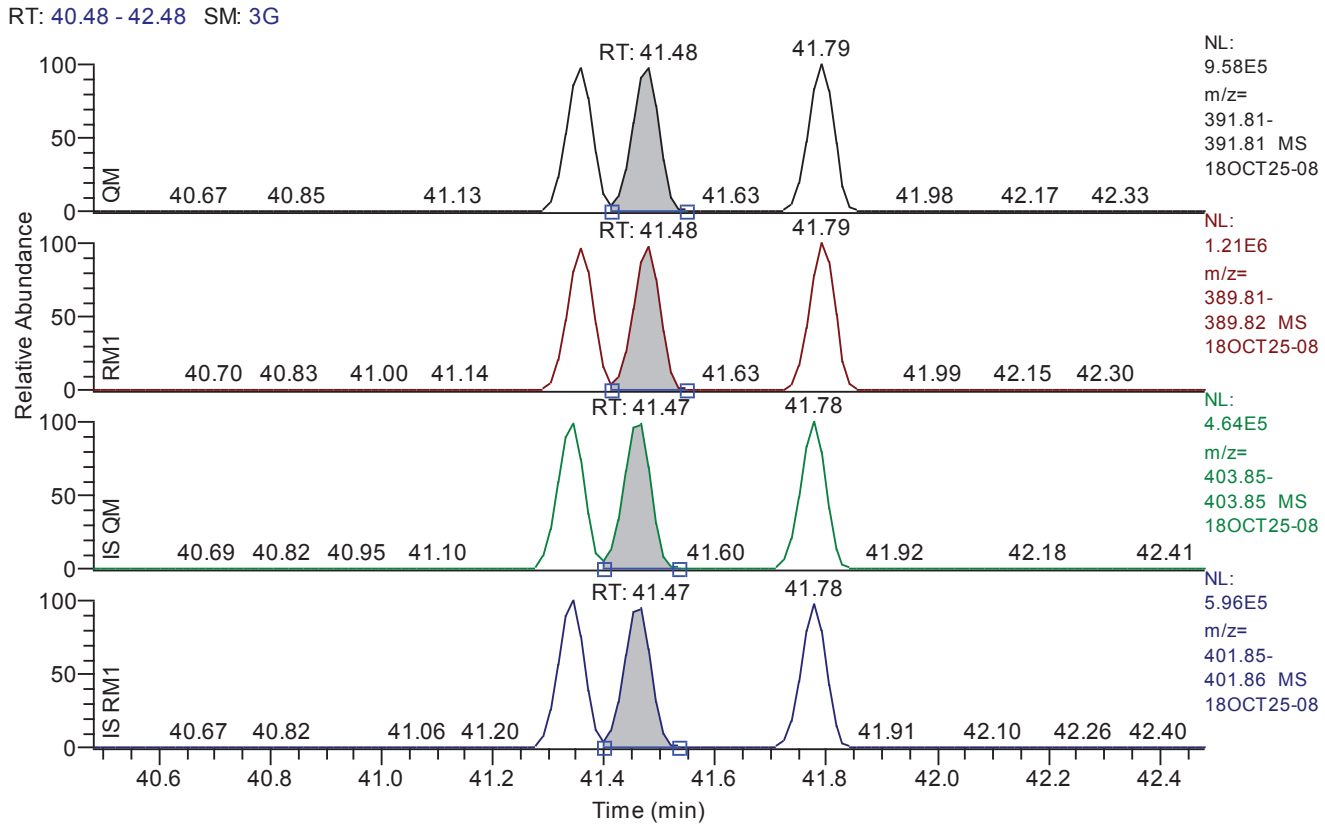
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.48
QM Area	3189837
QM Integration Mode	A
RM1 Area	4005710
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0153
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	33388
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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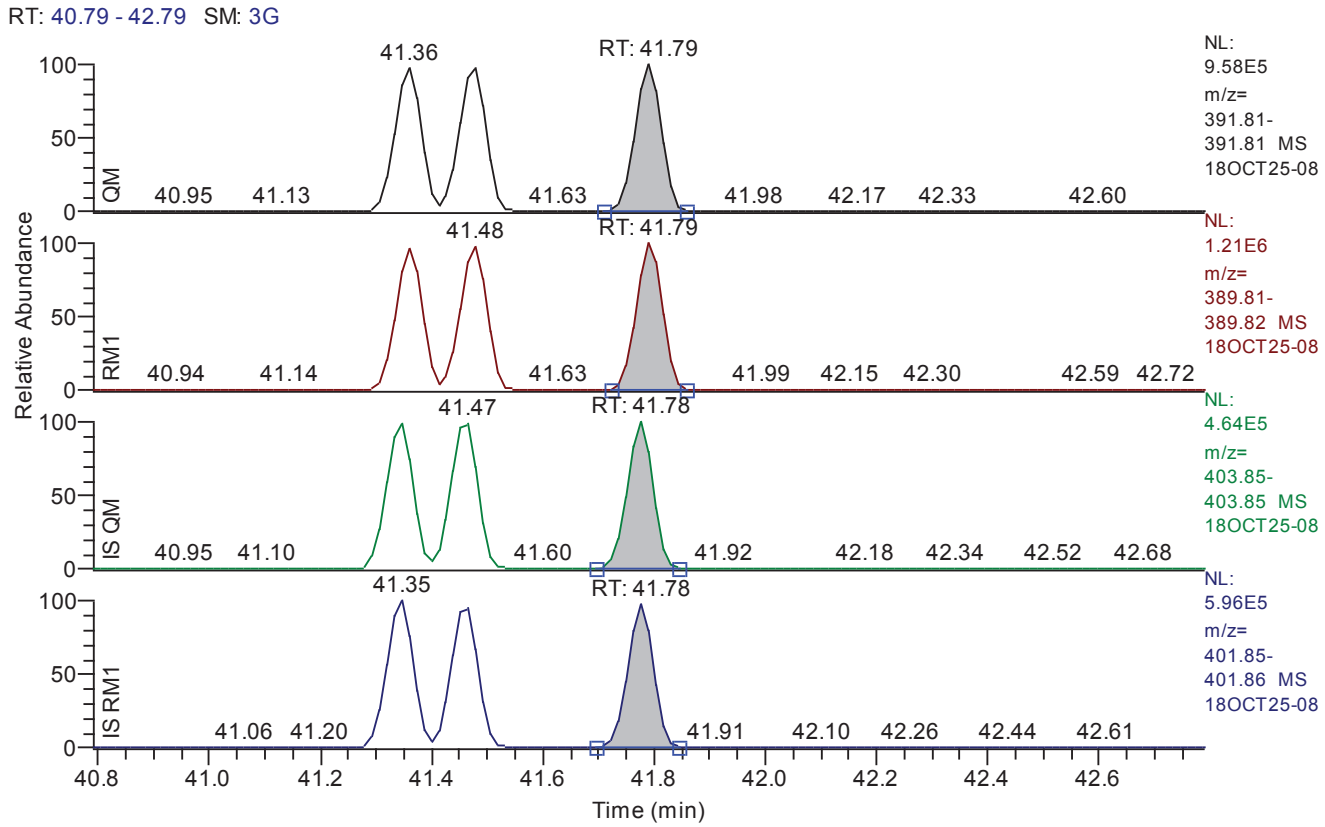
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.79
QM Area	3167837
QM Integration Mode	A
RM1 Area	3995270
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0143
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	34088
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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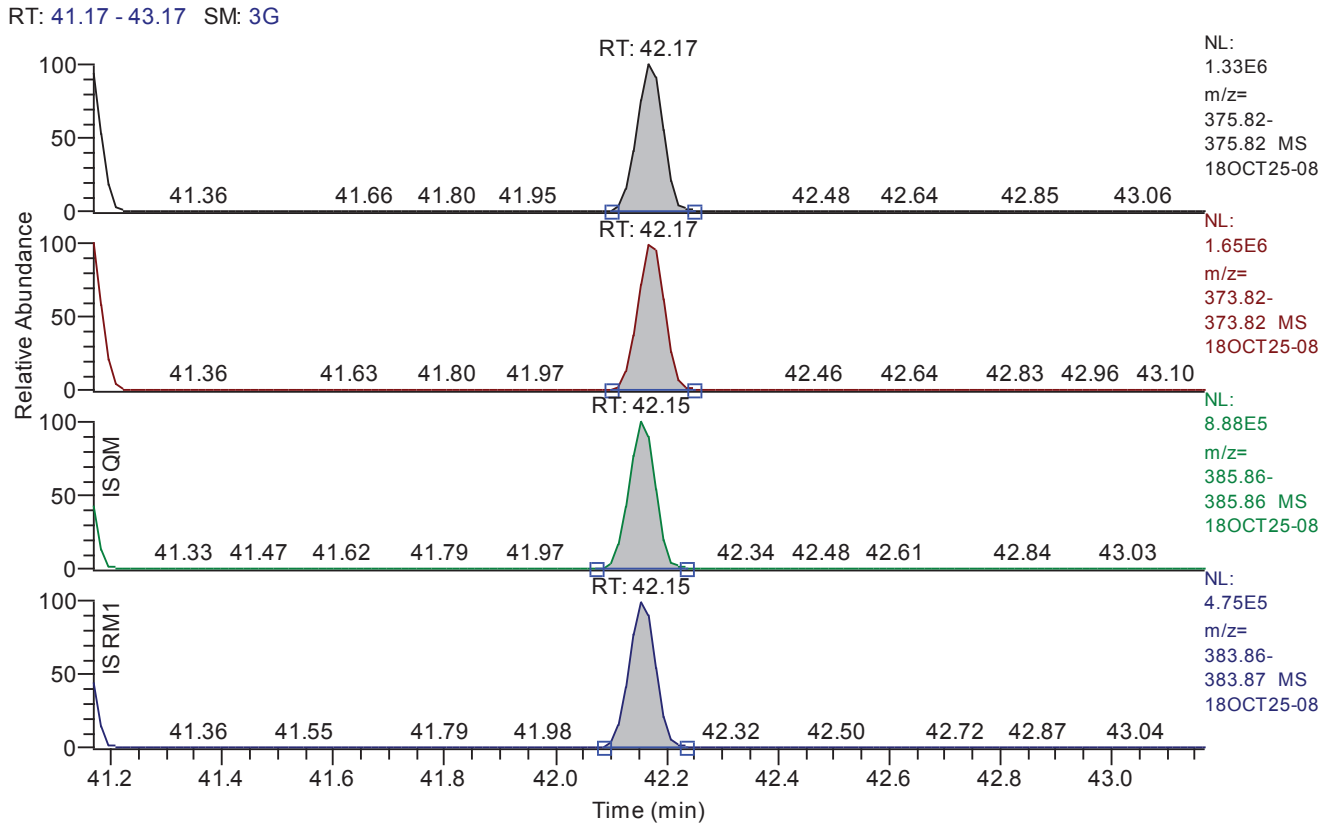
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.17
QM Area	4441153
QM Integration Mode	A
RM1 Area	5576928
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0262
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	18910
Client Flags	
Status Overview	passed
Status Info	

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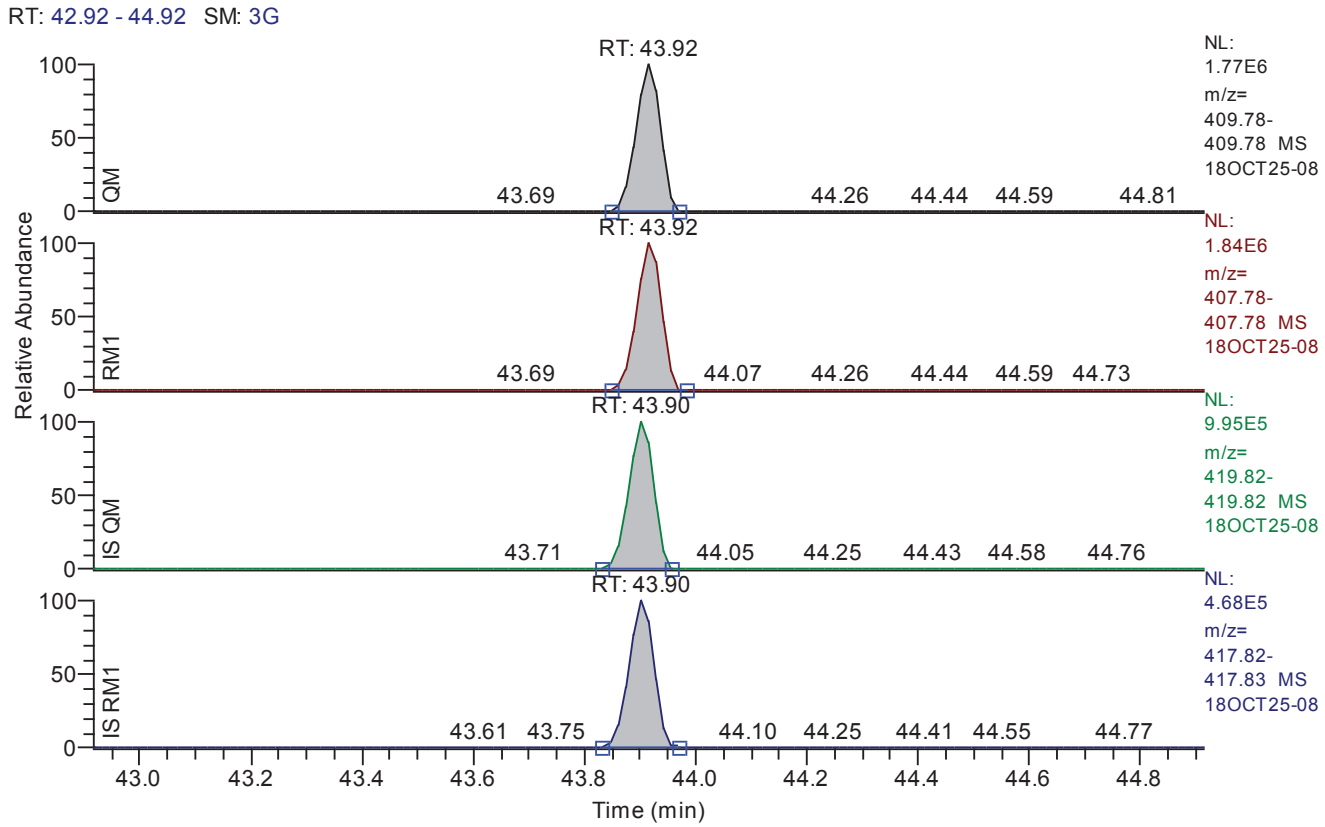
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.92
QM Area	5599368
QM Integration Mode	A
RM1 Area	5876546
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0316
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	15963
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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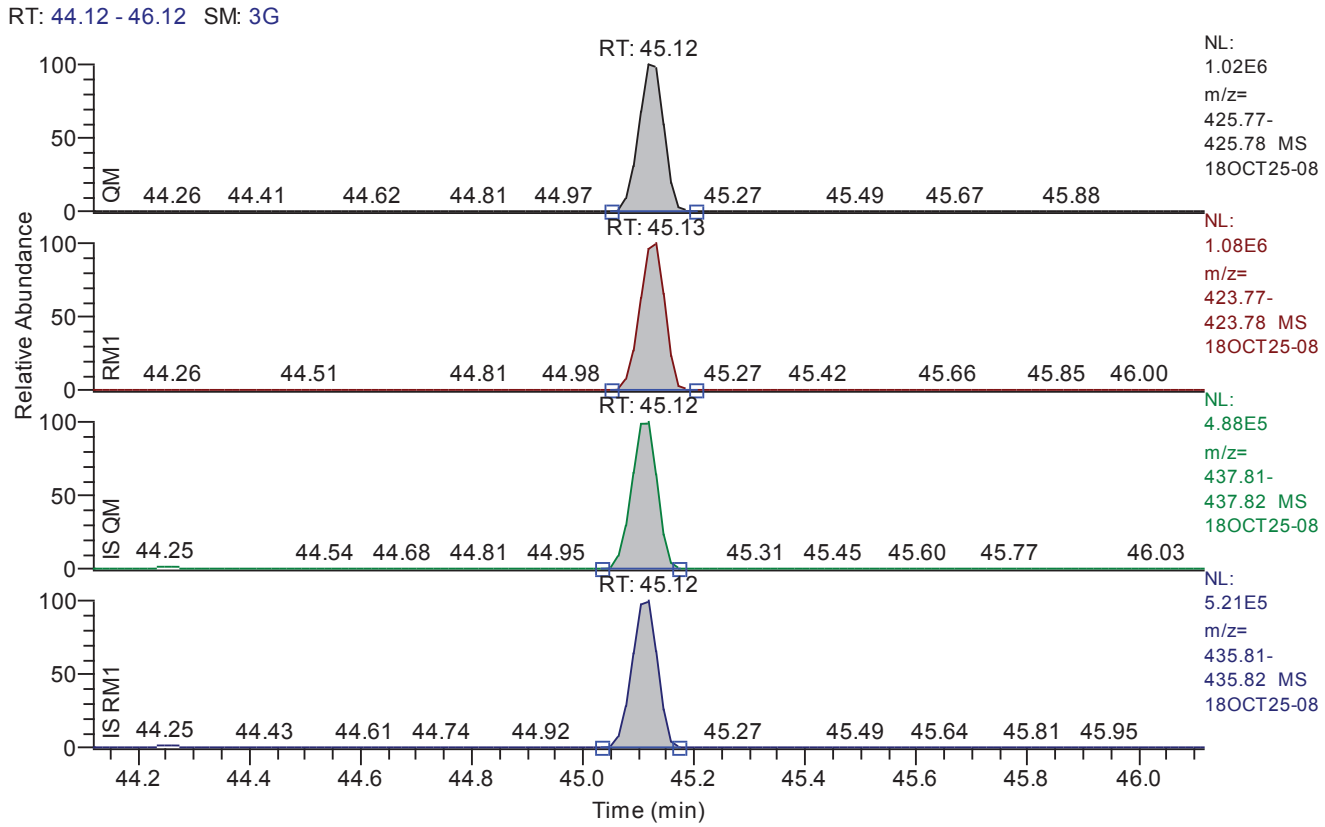
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.12
QM Area	3332303
QM Integration Mode	A
RM1 Area	3530899
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0395
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12868
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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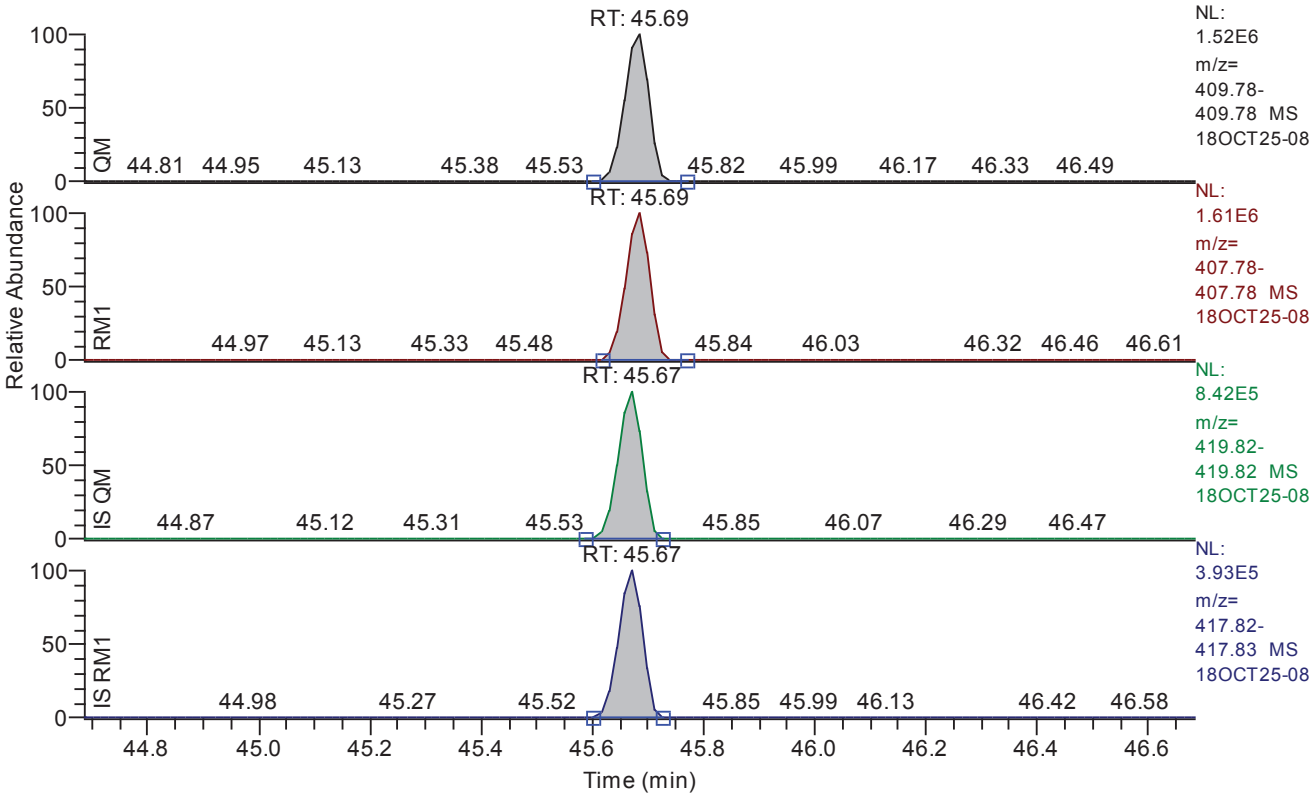
Chromatogram

RT: 44.69 - 46.69 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.69
QM Area	4775360
QM Integration Mode	A
RM1 Area	5018291
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0361
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	13816
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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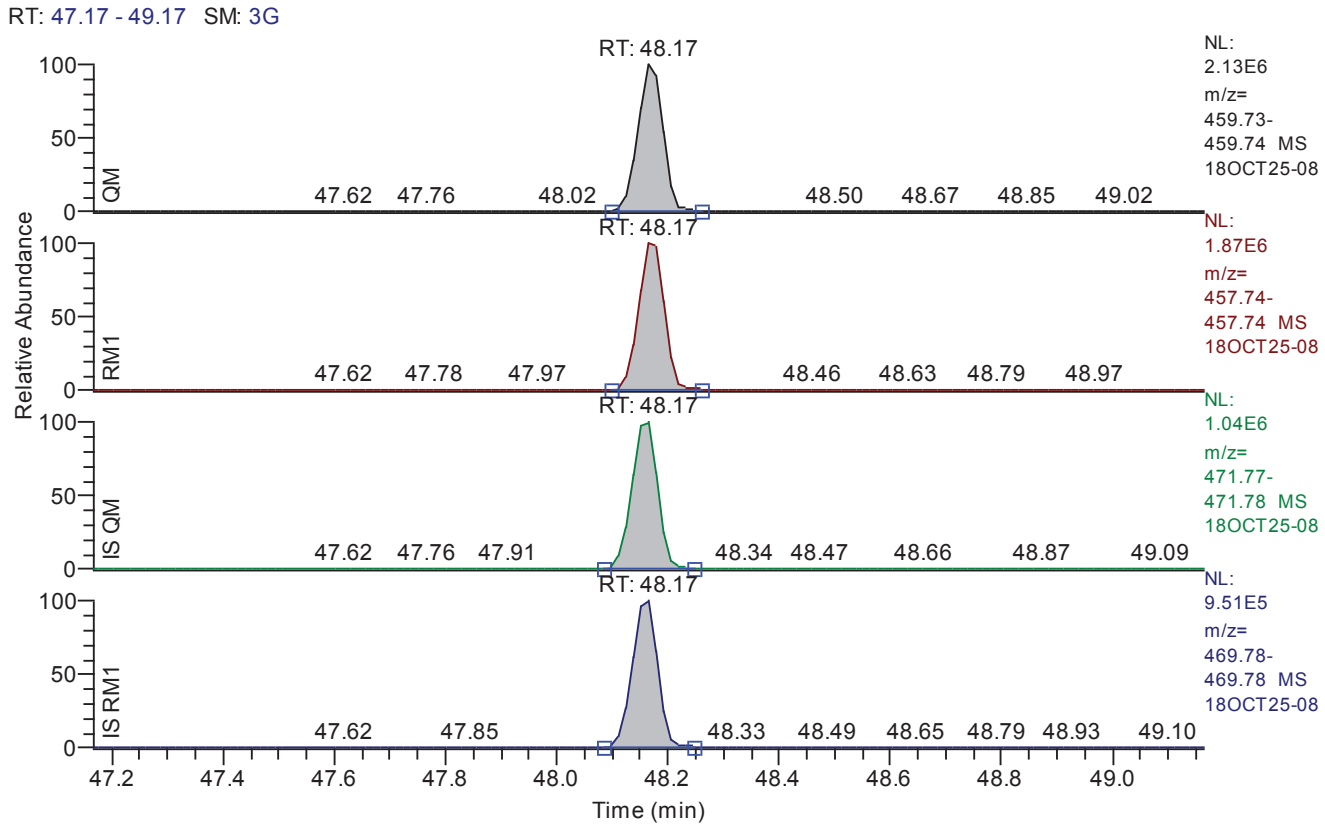
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.17
QM Area	6661775
QM Integration Mode	A
RM1 Area	5971560
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0206
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	48886
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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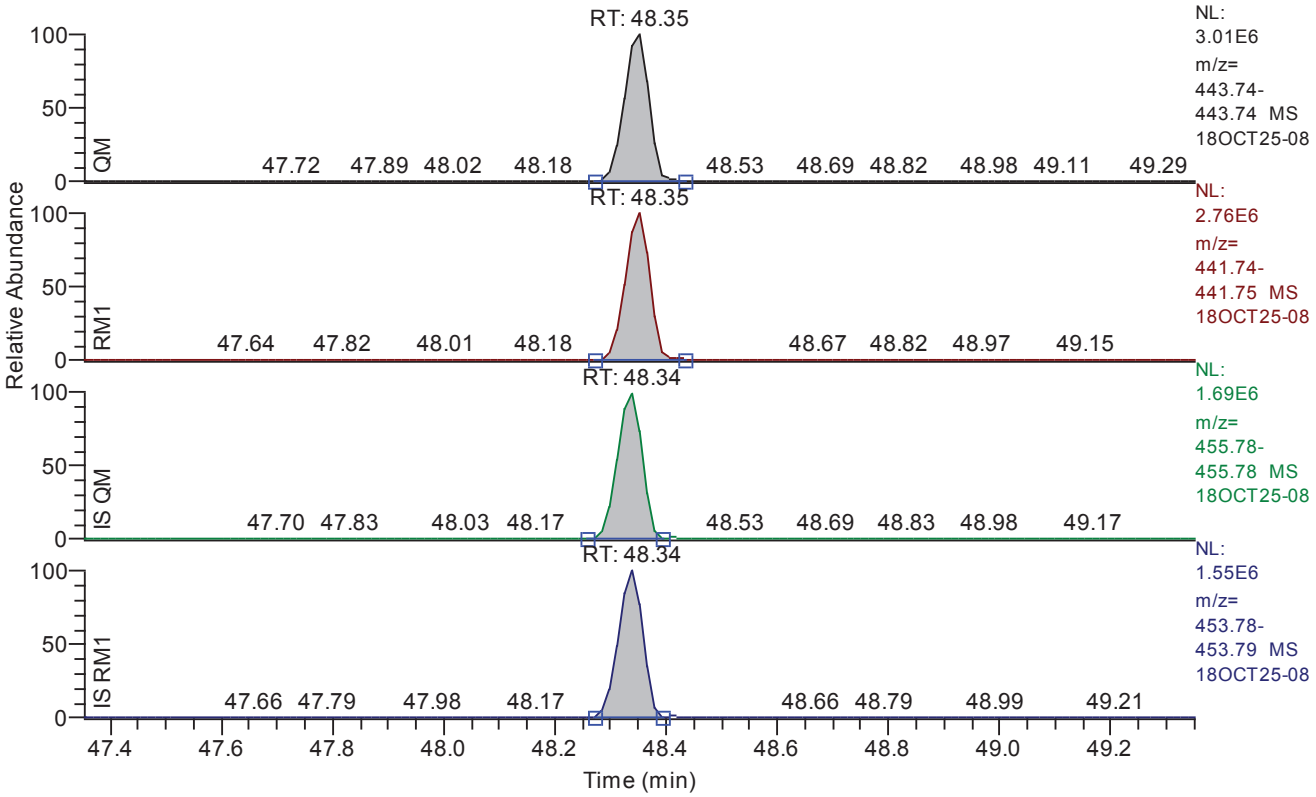
Chromatogram

RT: 47.35 - 49.35 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.35
QM Area	9275293
QM Integration Mode	A
RM1 Area	8398640
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0145
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	69213
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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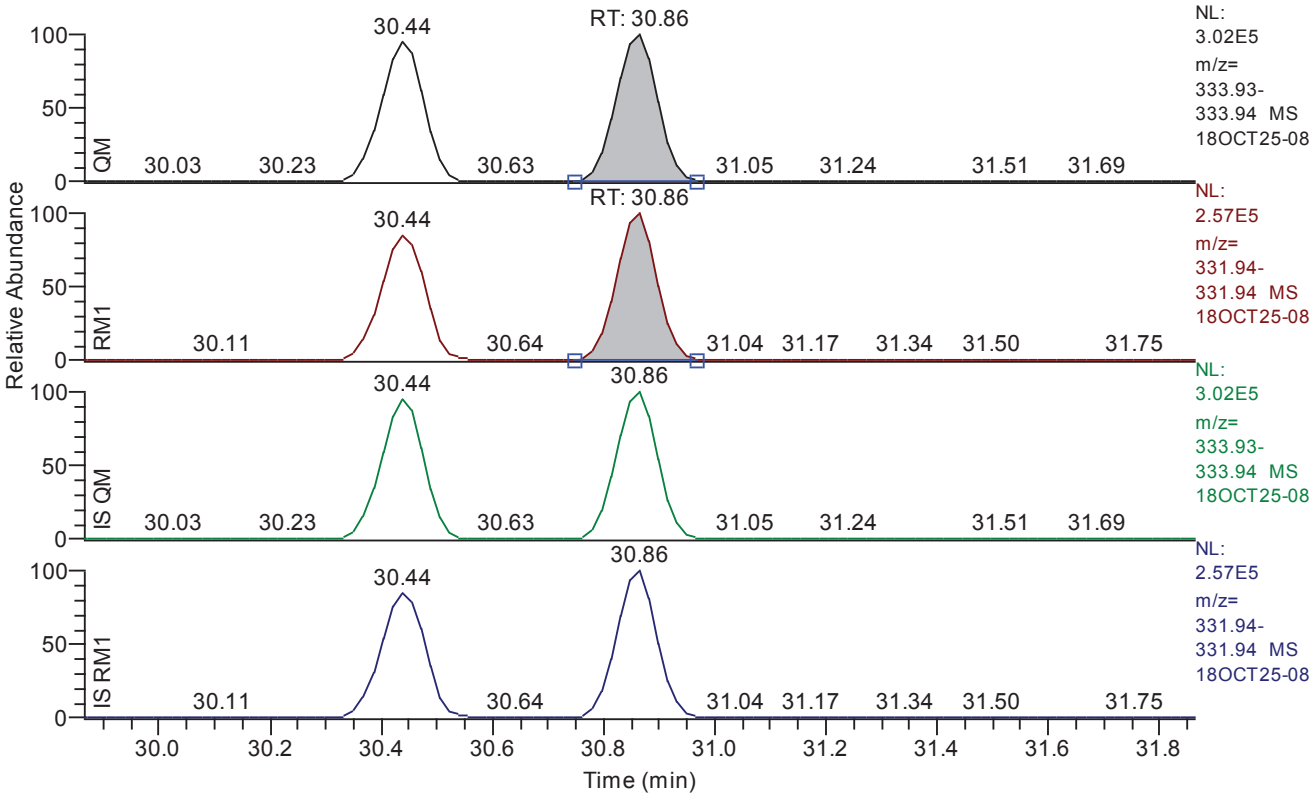
Chromatogram

RT: 29.86 - 31.86 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.86
QM Area	1609915
QM Integration Mode	A
RM1 Area	1330507
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0148
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	18109
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 17:20
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-08.quan
Data	y:\18oct25\18oct25-08.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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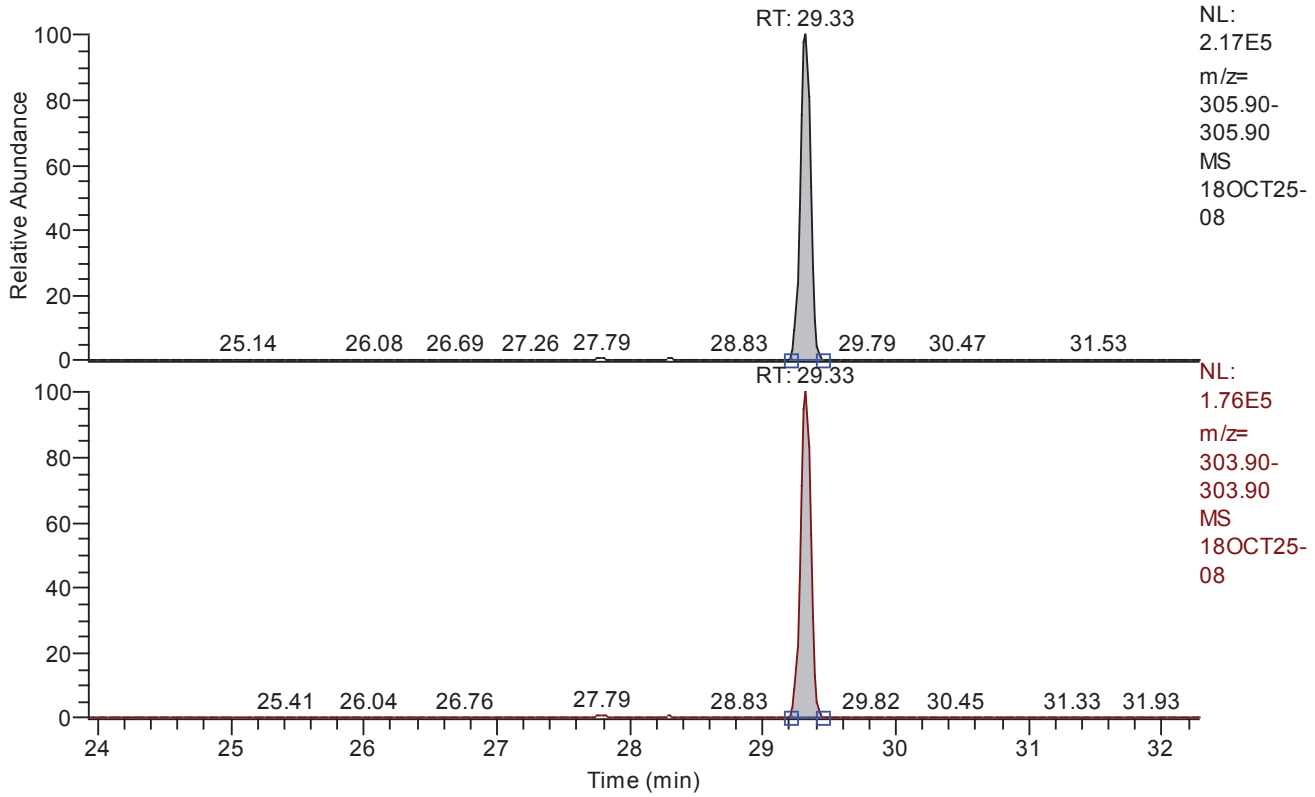
Chromatogram

RT: 23.92 - 32.28 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.10
QM Area	1196682
QM Integration Mode	A
RM1 Area	963005
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	10397
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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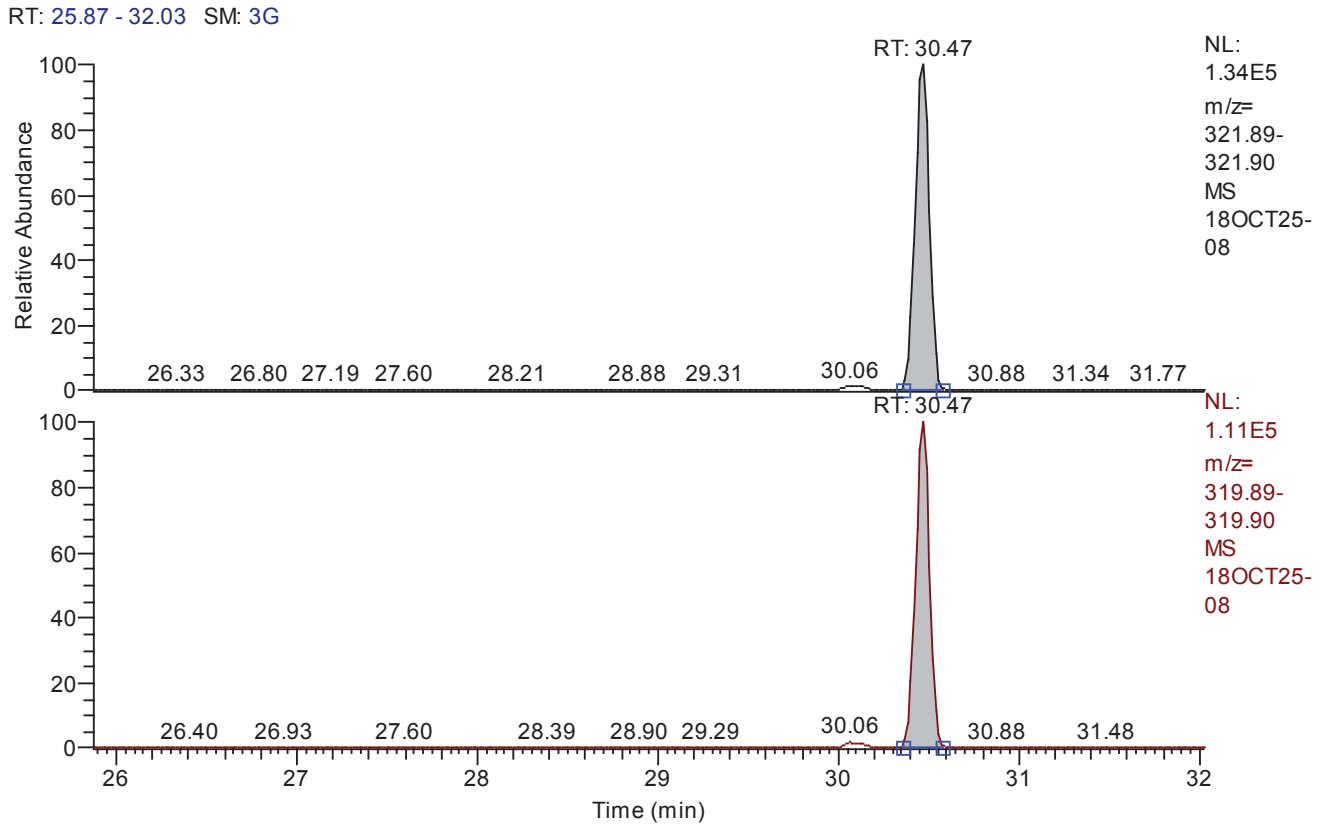
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.95
QM Area	731847
QM Integration Mode	A
RM1 Area	585263
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	9167
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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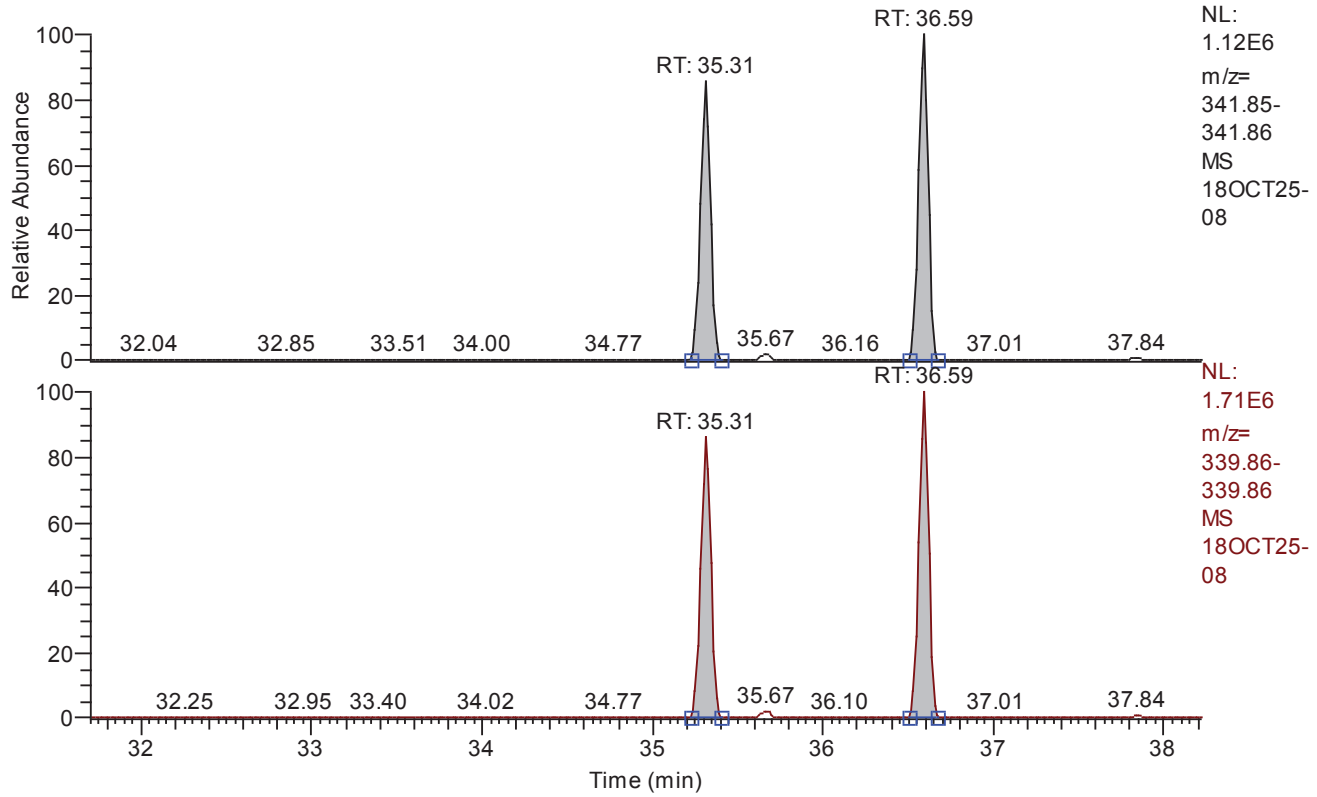
Chromatogram

RT: 31.70 - 38.22 SM: 3G



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.96
QM Area	8414321
QM Integration Mode	A
RM1 Area	13037530
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0096
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	53191
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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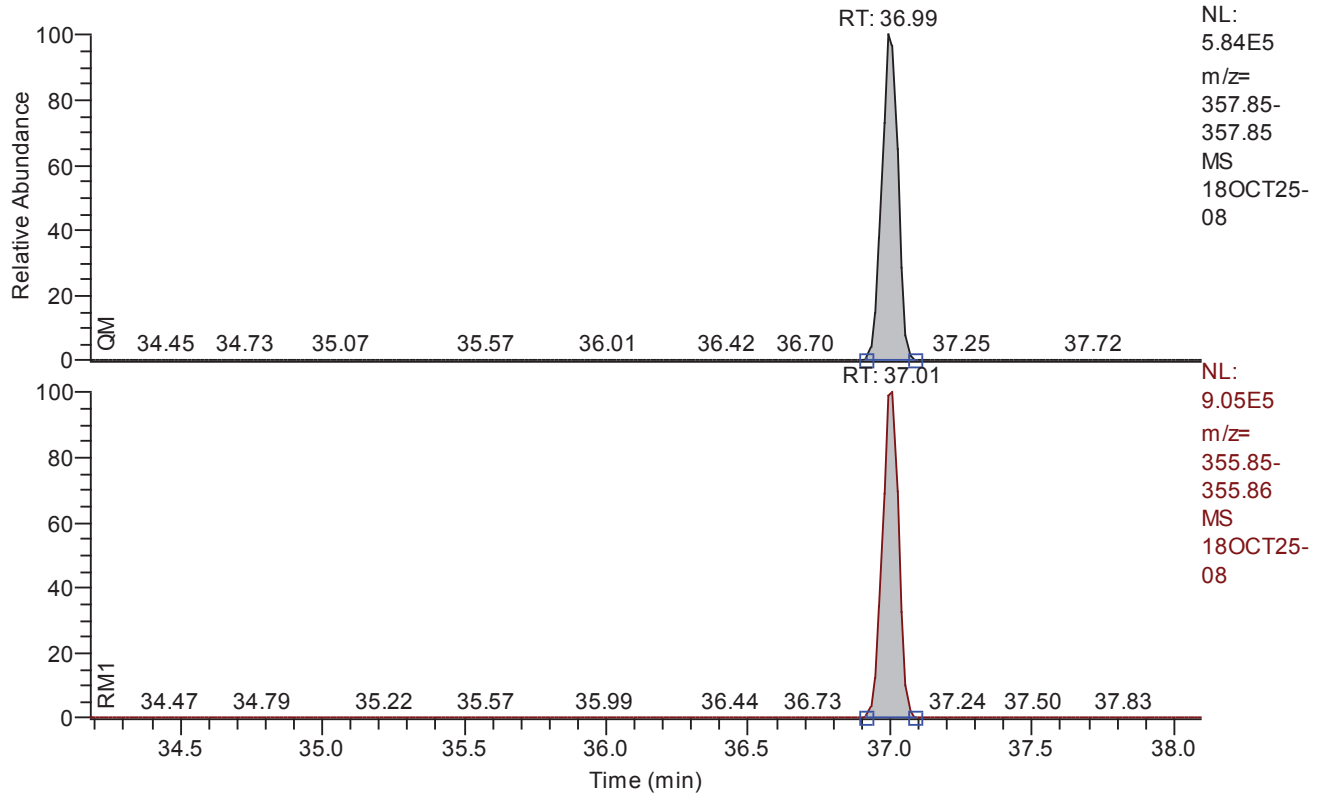
Chromatogram

RT: 34.18 - 38.10 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.14
QM Area	2323723
QM Integration Mode	A
RM1 Area	3624688
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0144
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	33965
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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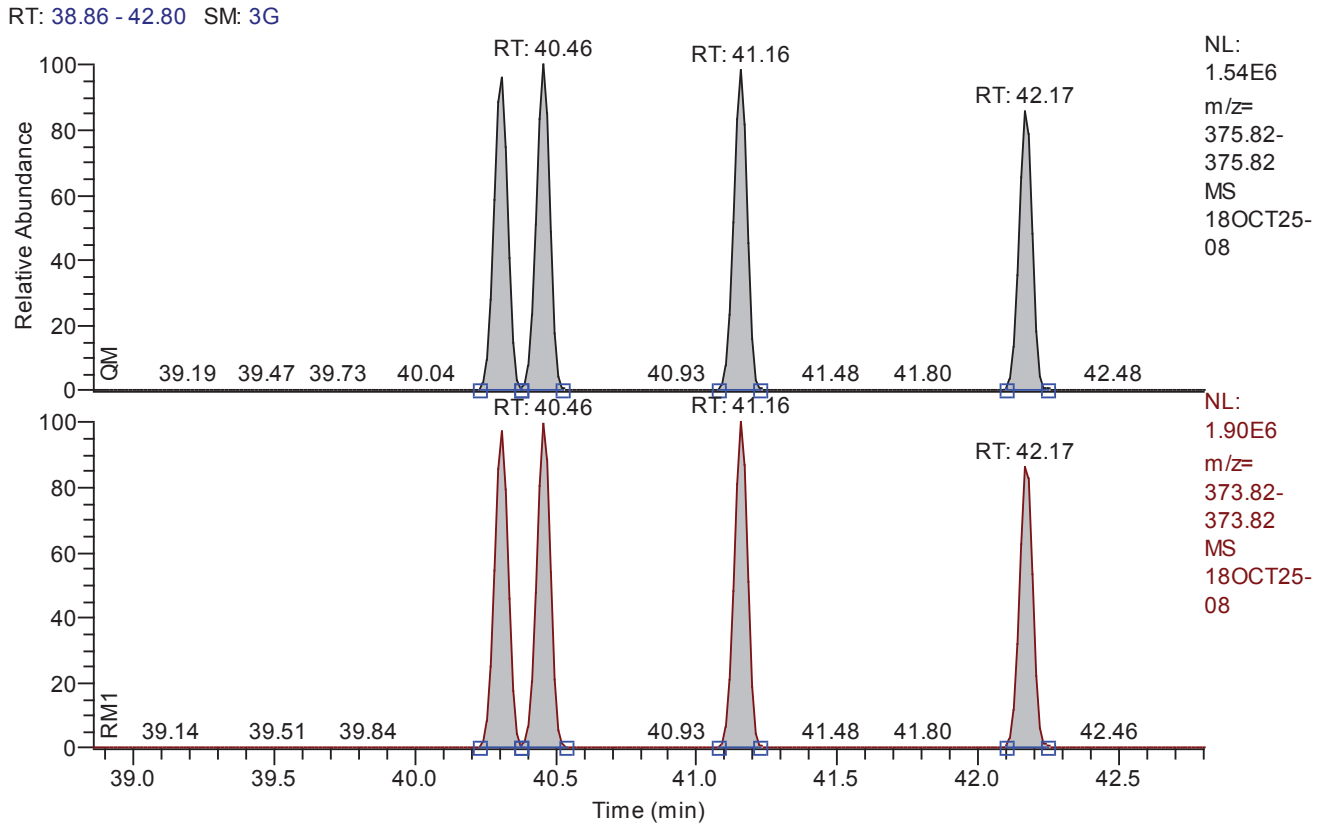
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.83
QM Area	20075440
QM Integration Mode	A
RM1 Area	25041395
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0240
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	800.0000
Signal-to-Noise	20960
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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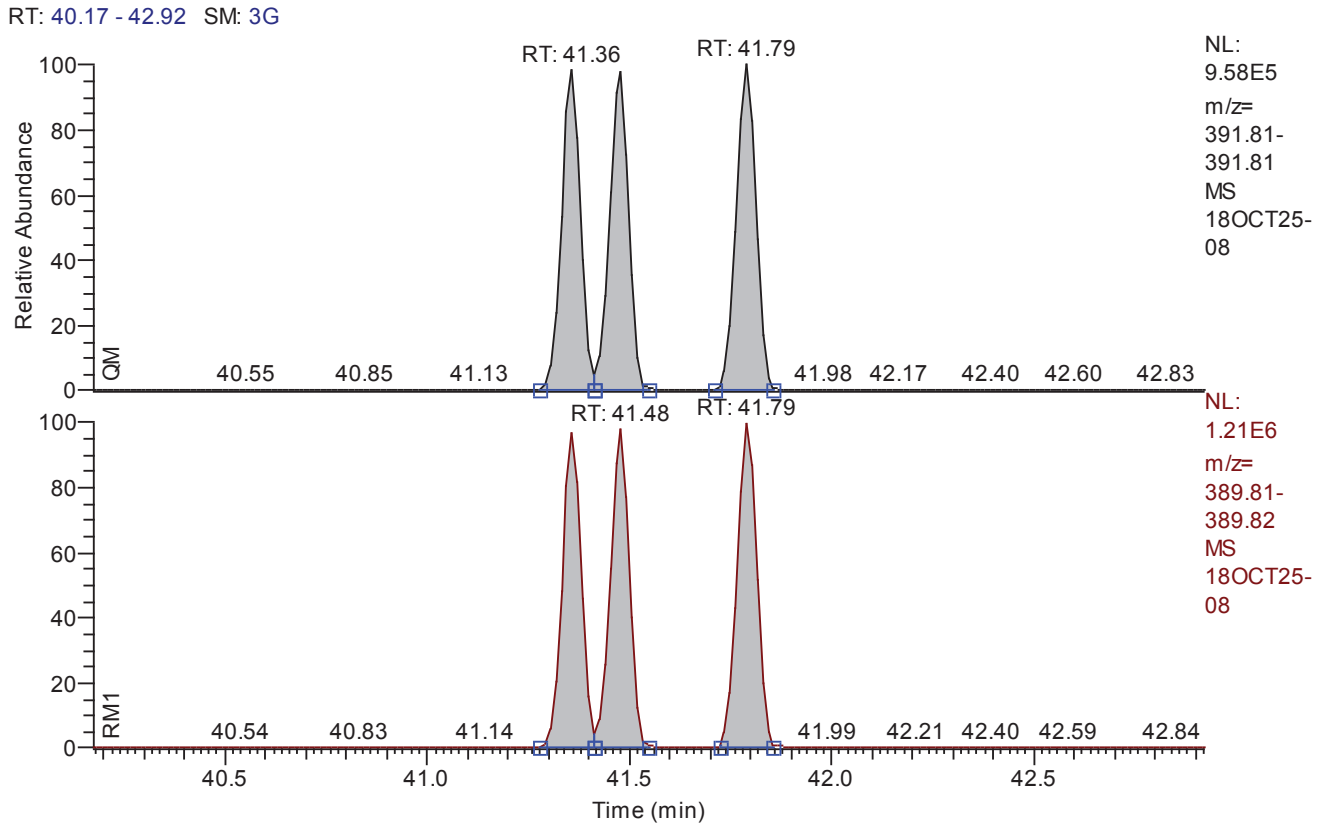
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.55
QM Area	9487032
QM Integration Mode	A
RM1 Area	11918117
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0149
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	600.0000
Signal-to-Noise	33580
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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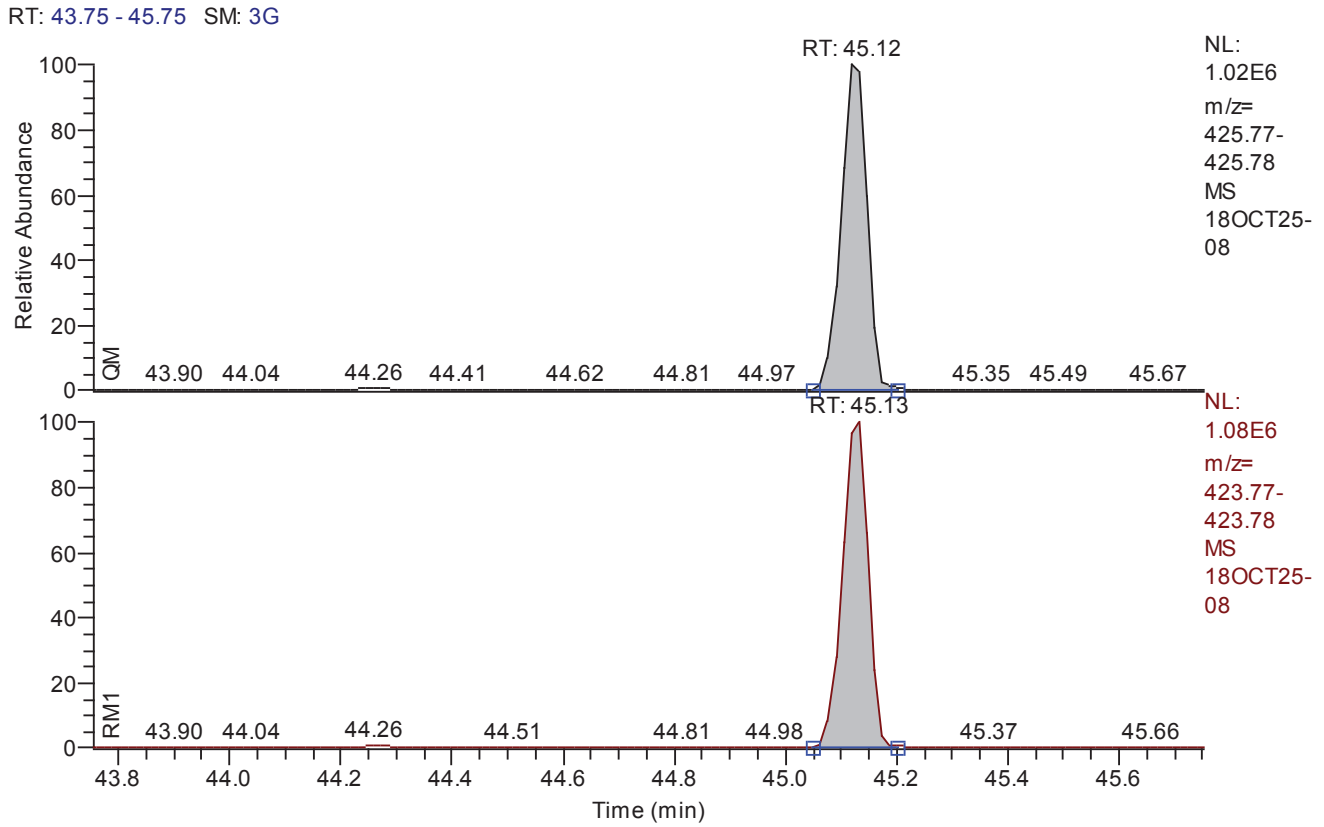
Chromatogram



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.75
QM Area	3332303
QM Integration Mode	A
RM1 Area	3530899
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0395
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12868
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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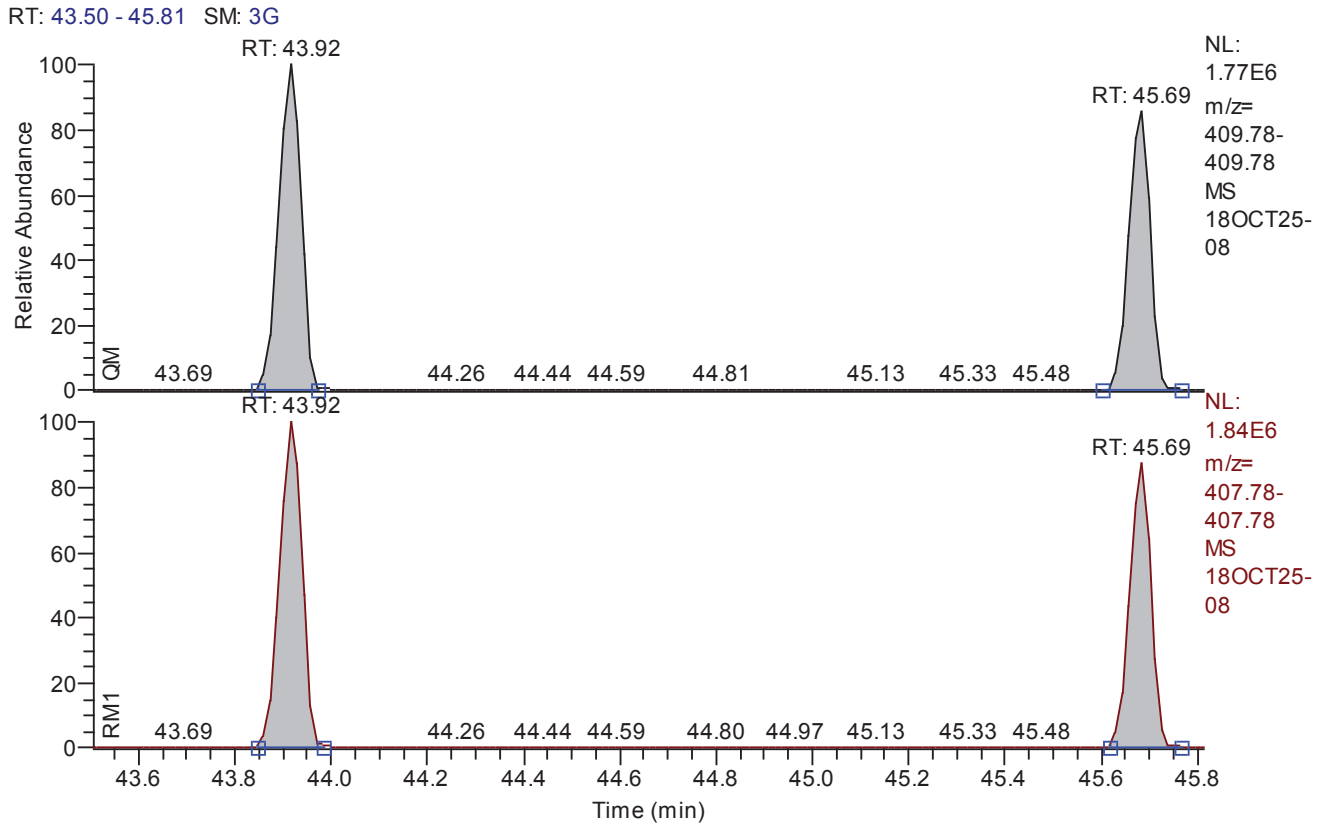
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.66
QM Area	10374728
QM Integration Mode	A
RM1 Area	10894837
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0339
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	14889
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	29.33	29.33	29.33	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.47	30.47	30.47	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.31	35.31	35.31	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.59	36.59	36.59	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.99	36.99	37.01	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.31	40.31	40.31	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.46	40.46	40.46	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.36	41.36	41.36	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.48	41.48	41.48	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.79	41.79	41.79	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.17	42.17	42.17	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.92	43.92	43.92	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.12	45.12	45.13	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.69	45.69	45.69	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.17	48.17	48.17	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.35	48.35	48.35	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.86	30.86	30.86	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.62	29.62	29.62	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.21	40.21	40.21	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.29	29.29	29.29	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.44	30.44	30.44	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.30	35.30	35.30	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.58	36.58	36.58	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.98	36.98	36.98	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.29	40.29	40.29	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.44	40.44	40.44	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.14	41.14	41.14	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.35	41.35	41.35	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.47	41.47	41.47	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.78	41.78	41.78	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.15	42.15	42.15	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.90	43.90	43.90	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.12	45.12	45.12	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.67	45.67	45.67	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.17	48.17	48.17	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.34	48.34	48.34	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	28.10	28.10	28.10	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	28.95	28.95	28.95	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	34.96	34.96	34.96	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	36.14	36.14	36.14	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.83	40.83	40.83	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.55	41.55	41.55	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	44.75	44.75	44.75	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.66	44.66	44.66	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.33	29.33	29.33	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	30.47	30.47	30.47	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	36.99	36.99	37.01	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.59	36.59	36.59	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	35.31	35.31	35.31	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.12	45.12	45.13	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.46	40.46	40.46	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.31	40.31	40.31	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.16	41.16	41.16	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	42.17	42.17	42.17	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.79	41.79	41.79	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.36	41.36	41.36	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.48	41.48	41.48	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	43.92	43.92	43.92	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.69	45.69	45.69	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.33	0.8047	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.47	0.7997	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.31	1.5588	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.59	1.5412	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.99	1.5599	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.31	1.2409	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.46	1.2431	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.16	1.2510	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.36	1.2517	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.48	1.2558	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.79	1.2612	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.17	1.2557	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.92	1.0495	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.12	1.0596	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.69	1.0509	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.17	0.8964	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.35	0.9055	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.86	0.8264	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.62	0.8006	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.21	1.2645	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.29	0.8044	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.44	0.7896	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.30	1.5714	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.58	1.5964	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.98	1.6009	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.29	0.5356	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.44	0.5366	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.14	0.5395	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.35	1.2829	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.47	1.2294	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.78	1.2508	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.15	0.5337	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.90	0.4722	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.12	1.0685	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.67	0.4607	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.17	0.9033	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.34	0.9069	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.10	0.8047	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.95	0.7997	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.96	1.5494	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.14	1.5599	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.83	1.2474	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.55	1.2563	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.75	1.0596	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.66	1.0501	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.33	0.8047	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.47	0.7997	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.99	1.5599	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.59	1.5412	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.31	1.5588	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.12	1.0596	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.46	1.2431	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.31	1.2409	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.16	1.2510	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.17	1.2557	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.79	1.2612	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.36	1.2517	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.48	1.2558	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.92	1.0495	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.69	1.0509	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	29.33	1196682	A	963005	A	0.0095	40.000000	40.0000	40.000000	10397	
2	2378-TCDD	passed	30.47	731847	A	585263	A	0.0111	40.000000	40.0000	40.000000	9167	
3	12378-PeCDF	passed	35.31	3951810	A	6159996	A	0.0106	200.000000	200.0000	200.000000	49285	
4	23478-PeCDF	passed	36.59	4462511	A	6877534	A	0.0088	200.000000	200.0000	200.000000	57098	
5	12378-PeCDD	passed	36.99	2323723	A	3624688	A	0.0144	200.000000	200.0000	200.000000	33965	
6	123478-HxCDF	passed	40.31	5201931	A	6455193	A	0.0235	200.000000	200.0000	200.000000	21275	
7	123678-HxCDF	passed	40.46	5272335	A	6554289	A	0.0231	200.000000	200.0000	200.000000	21878	
8	234678-HxCDF	passed	41.16	5160021	A	6454985	A	0.0232	200.000000	200.0000	200.000000	21778	
9	123478-HxCDD	passed	41.36	3129357	A	3917136	A	0.0152	200.000000	200.0000	200.000000	33264	
10	123678-HxCDD	passed	41.48	3189837	A	4005710	A	0.0153	200.000000	200.0000	200.000000	33388	
11	123789-HxCDD	passed	41.79	3167837	A	3995270	A	0.0143	200.000000	200.0000	200.000000	34088	
12	123789-HxCDF	passed	42.17	4441153	A	5576928	A	0.0262	200.000000	200.0000	200.000000	18910	
13	1234678-HpCDF	passed	43.92	5599368	A	5876546	A	0.0316	200.000000	200.0000	200.000000	15963	
14	1234678-HpCDD	passed	45.12	3332303	A	3530899	A	0.0395	200.000000	200.0000	200.000000	12868	
15	1234789-HpCDF	passed	45.69	4775360	A	5018291	A	0.0361	200.000000	200.0000	200.000000	13816	
16	OCDD	passed	48.17	6661775	A	5971560	A	0.0206	400.000000	400.0000	400.000000	48886	
17	OCDF	passed	48.35	9275293	A	8398640	A	0.0145	400.000000	400.0000	400.000000	69213	
18	13C12-1278-TCDD (CRS)	passed	30.86	1609915	A	1330507	A	0.0148	100.000000	100.0000	100.000000	18109	
19	13C12-1234-TCDD	passed	29.62	1559909	A	1248928	A	0.0155	100.000000	100.0000	100.000000	16175	
20	13C12-123468-HxCDD	passed	40.21	1521898	A	1924470	A	0.0178	100.000000	100.0000	100.000000	14052	
21	13C12-2378-TCDF	passed	29.29	2995114	A	2409204	A	0.0151	100.000000	100.0000	100.000000	17248	
22	13C12-2378-TCDD	passed	30.44	1548806	A	1222921	A	0.0157	100.000000	100.0000	100.000000	16406	
23	13C12-12378-PeCDF	passed	35.30	2118272	A	3328758	A	0.0216	100.000000	100.0000	100.000000	15063	
24	13C12-23478-PeCDF	passed	36.58	2104247	A	3359157	A	0.0216	100.000000	100.0000	100.000000	16203	
25	13C12-12378-PeCDD	passed	36.98	1134365	A	1816048	A	0.0185	100.000000	100.0000	100.000000	19355	
26	13C12-123478-HxCDF	passed	40.29	3309423	A	1772406	A	0.0198	100.000000	100.0000	100.000000	12439	
27	13C12-123678-HxCDF	passed	40.44	3480987	A	1867758	A	0.0188	100.000000	100.0000	100.000000	13103	
28	13C12-234678-HxCDF	passed	41.14	3165959	A	1707909	A	0.0206	100.000000	100.0000	100.000000	12105	
29	13C12-123478-HxCDD	passed	41.35	1550242	A	1988816	A	0.0173	100.000000	100.0000	100.000000	14737	
30	13C12-123678-HxCDD	passed	41.47	1597464	A	1963956	A	0.0172	100.000000	100.0000	100.000000	14435	
31	13C12-123789-HxCDD	passed	41.78	1501170	A	1877722	A	0.0181	100.000000	100.0000	100.000000	14641	
32	13C12-123789-HxCDF	passed	42.15	2972635	A	1586528	A	0.0220	100.000000	100.0000	100.000000	11622	
33	13C12-1234678-HpCDF	passed	43.90	3183717	A	1503305	A	0.0312	100.000000	100.0000	100.000000	8575	
34	13C12-1234678-HpCDD	passed	45.12	1618340	A	1729142	A	0.0318	100.000000	100.0000	100.000000	8129	
35	13C12-1234789-HpCDF	passed	45.67	2641180	A	1216846	A	0.0379	100.000000	100.0000	100.000000	7239	
36	13C12-OCDD	passed	48.17	3331127	A	3008985	A	0.0172	200.000000	200.0000	200.000000	31319	
37	13C12-OCDF	passed	48.34	5200400	A	4716426	A	0.0102	200.000000	200.0000	200.000000	54768	
38	Total TCDF	passed (1)	28.10	1196682	A	963005	A	0.0095	40.000000	40.0000	40.000000	10397	
39	Total TCDD	passed (1)	28.95	731847	A	585263	A	0.0111	40.000000	40.0000	40.000000	9167	
40	Total PeCDF	passed (2)	34.96	8414321	A	13037530	A	0.0096	200.000000	400.0000	200.000000	53191	
41	Total PeCDD	passed (1)	36.14	2323723	A	3624688	A	0.0144	200.000000	200.0000	200.000000	33965	
42	Total HxCDF	passed (4)	40.83	20075440	A	25041395	A	0.0240	200.000000	800.0000	200.000000	20960	
43	Total HxCDD	passed (3)	41.55	9487032	A	11918117	A	0.0149	200.000000	600.0000	200.000000	33580	
44	Total HpCDD	passed (1)	44.75	3332303	A	3530899	A	0.0395	200.000000	200.0000	200.000000	12868	
45	Total HpCDF	passed (2)	44.66	10374728	A	10894837	A	0.0339	200.000000	400.0000	200.000000	14889	
46	Single TCDF	passed	29.33	1196682	A	963005	A	0.0095	40.000000	40.0000	40.000000	10397	
47	Single TCDD	passed	30.47	731847	A	585263	A	0.0111	40.000000	40.0000	40.000000	9167	
48	Single PeCDD	passed	36.99	2323723	A	3624688	A	0.0144	200.000000	200.0000	200.000000	33965	
49	Single PeCDF	passed	36.59	4462511	A	6877534	A	0.0091	200.000000	200.0000	200.000000	57098	
50	Single PeCDF	passed	35.31	3951810	A	6159996	A	0.0102	200.000000	200.0000	200.000000	49285	
51	Single HpCDD	passed	45.12	3332303	A	3530899	A	0.0395	200.000000	200.0000	200.000000	12868	
52	Single HxCDF	passed	40.46	5272335	A	6554289	A	0.0228	200.000000	200.0000	200.000000	21878	
53	Single HxCDF	passed	40.31	5201931	A	6455193	A	0.0231	200.000000	200.0000	200.000000	21275	
54	Single HxCDF	passed	41.16	5160021	A	6454985	A	0.0232	200.000000	200.0000	200.000000	21778	
55	Single HxCDF	passed	42.17	4441153	A	5576928	A	0.0269	200.000000	200.0000	200.000000	18910	
56	Single HxCDD	passed	41.79	3167837	A	3995270	A	0.0149	200.000000	200.0000	200.000000	34088	
57	Single HxCDD	passed	41.36	3129357	A	3917136	A	0.0151	200.000000	200.0000	200.000000	33264	
58	Single HxCDD	passed	41.48	3189837	A	4005710	A	0.0148	200.000000	200.0000	200.000000	33388	
59	Single HpCDF	passed	43.92	5599368	A	5876546	A	0.0312	200.000000	200.0000	200.000000	15963	
60	Single HpCDF	passed	45.69	4775360	A	5018291	A	0.0366	200.000000	200.0000	200.000000	13816	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

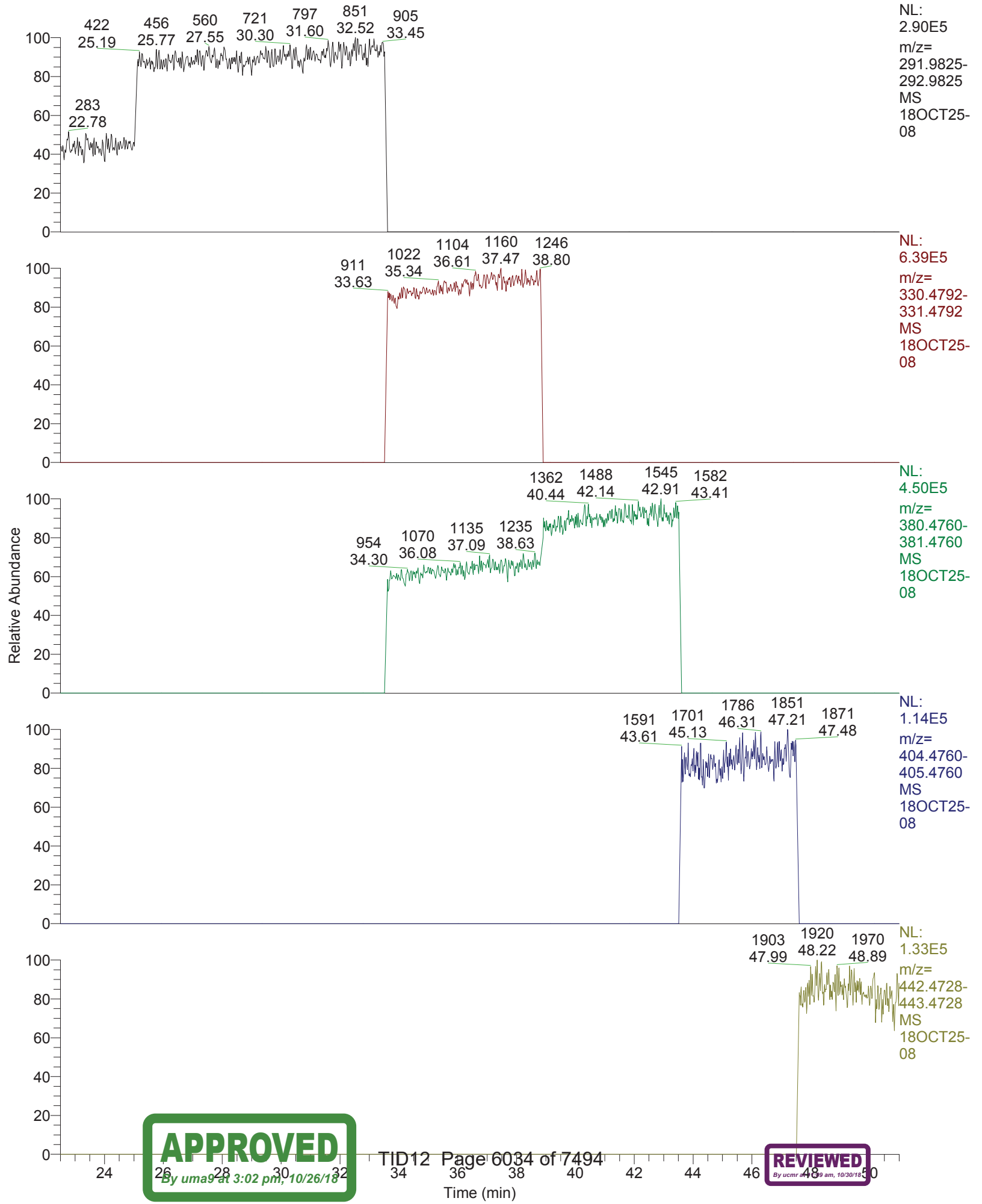
ThermoFisher Scientific

File Name: Y:\18OCT25\18OCT25-08
Sample ID: CS401

Acq. Data: 10/25/2018 5:20:29 PM
Sample Name: CALDF51837B
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 8:39 am, 10/30/18

*** file opened Thu Oct 25 17:25:56 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 17:25:55

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e5d9b8b7-a0ef-4b8d-a030-81b8f9081f1b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          96.0000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC       7969177.0000   EDACG           1.0000   EDACZ         226.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           220.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           171.0000   EXSBR          -0.4700
 FDMA      18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM               50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN         1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0175   FVINLET         0.0346   FVSRC           0.0323
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      704.0000
 LENS_SYM         16.0000   LM            650.0000   LMII          500.0000
 LMASS            96.0000   LKM           442.9723   MASS           96.0000
 MDAC        930538.0265   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2154.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9700   RELEN           0.0000
 RES          11607.0833   RPUSHER       -14.8352   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     708.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0223   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          96.0000   XLENS_POT     924.0000
 XLENS_SYM        2.2500   YLENS_POT     750.0000   YLENS_SYM      -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10441.
MID Time Window 2: Resolution is 11326.
MID Time Window 3: Resolution is 12285.
MID Time Window 4: Resolution is 11864.
```

```
MID Time Window 5: Resolution is 12212.
MID Time Window 6: Resolution is 11607.

Amplifier Offset: 87.


*** File closed Thu Oct 25 18:16:58 2018
 ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 18:17
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-09.quan
Data	y:\18oct25\18oct25-09.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	29.32	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.47	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.31	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.59	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.00	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.30	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.45	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.15	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.35	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.80	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.18	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.91	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.13	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.68	passed	passed	passed	passed	passed	passed	
16	OCDD	48.18	passed	passed	passed	passed	passed	passed	
17	OCDF	48.35	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.86	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.61	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.21	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.29	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.43	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.29	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.57	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.99	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.29	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.44	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.34	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.78	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.16	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.90	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.11	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.67	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.16	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.34	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.10	passed (1)	---	---	---	---	---	
39	Total TCDD	28.94	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.95	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.15	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.81	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.52	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.74	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.90	passed (2)	---	---	---	---	---	
46	Single TCDF	29.32	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.47	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.00	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.59	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	35.31	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.13	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.15	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.30	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.45	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.18	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.80	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.35	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.48	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.91	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.68	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 18:17
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-09.quan
Data	y:\18oct25\18oct25-09.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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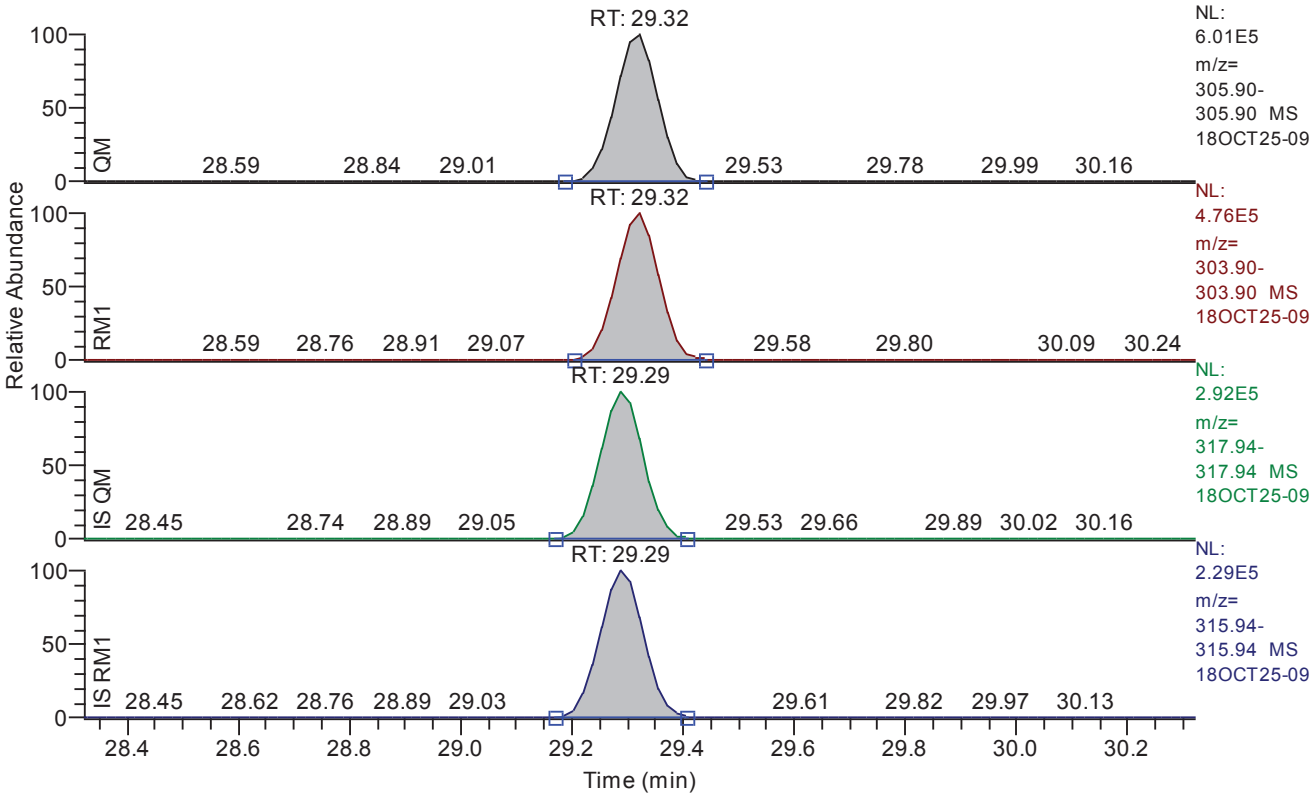
Chromatogram

RT: 28.32 - 30.32 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.32
QM Area	3298914
QM Integration Mode	A
RM1 Area	2610275
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0252
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	20118
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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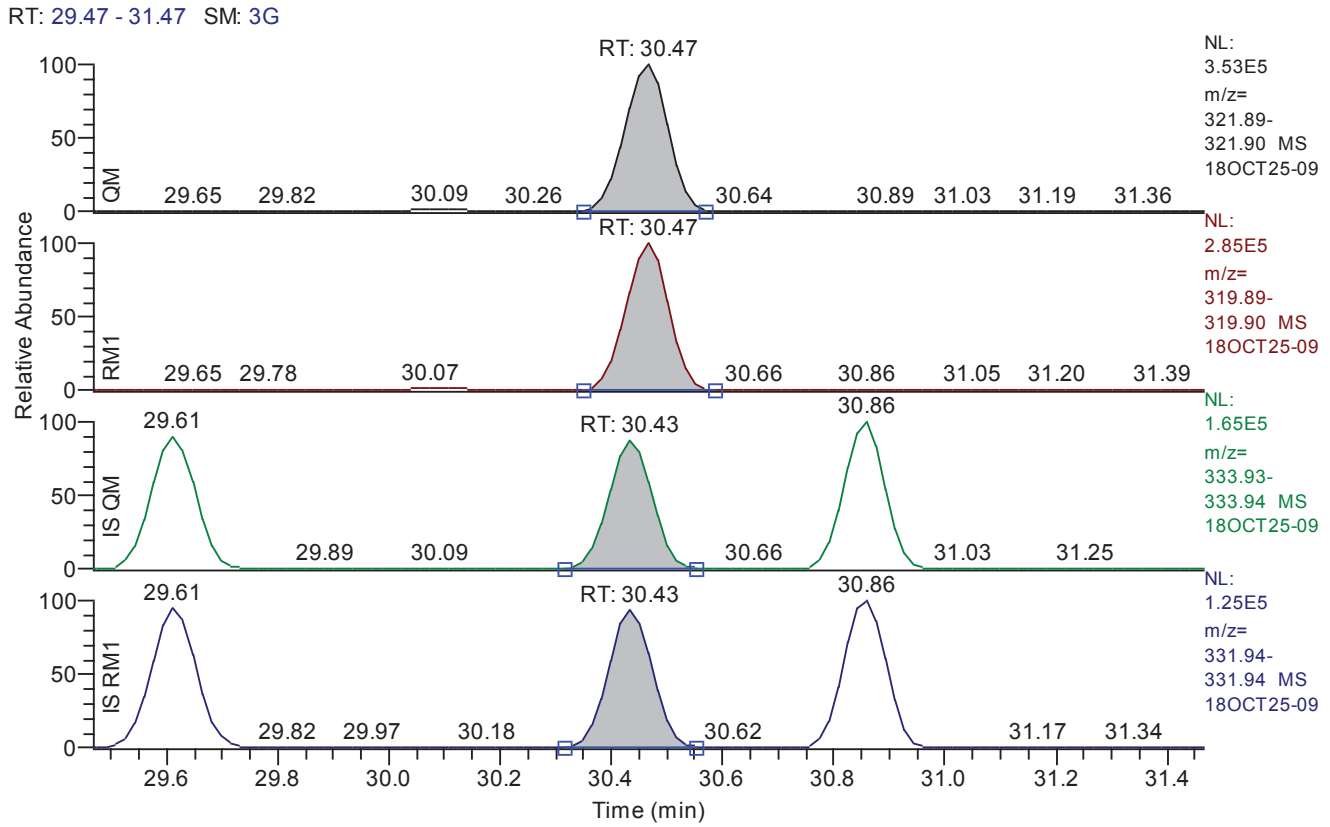
Chromatogram



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.47
QM Area	1947560
QM Integration Mode	A
RM1 Area	1556587
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0333
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	15192
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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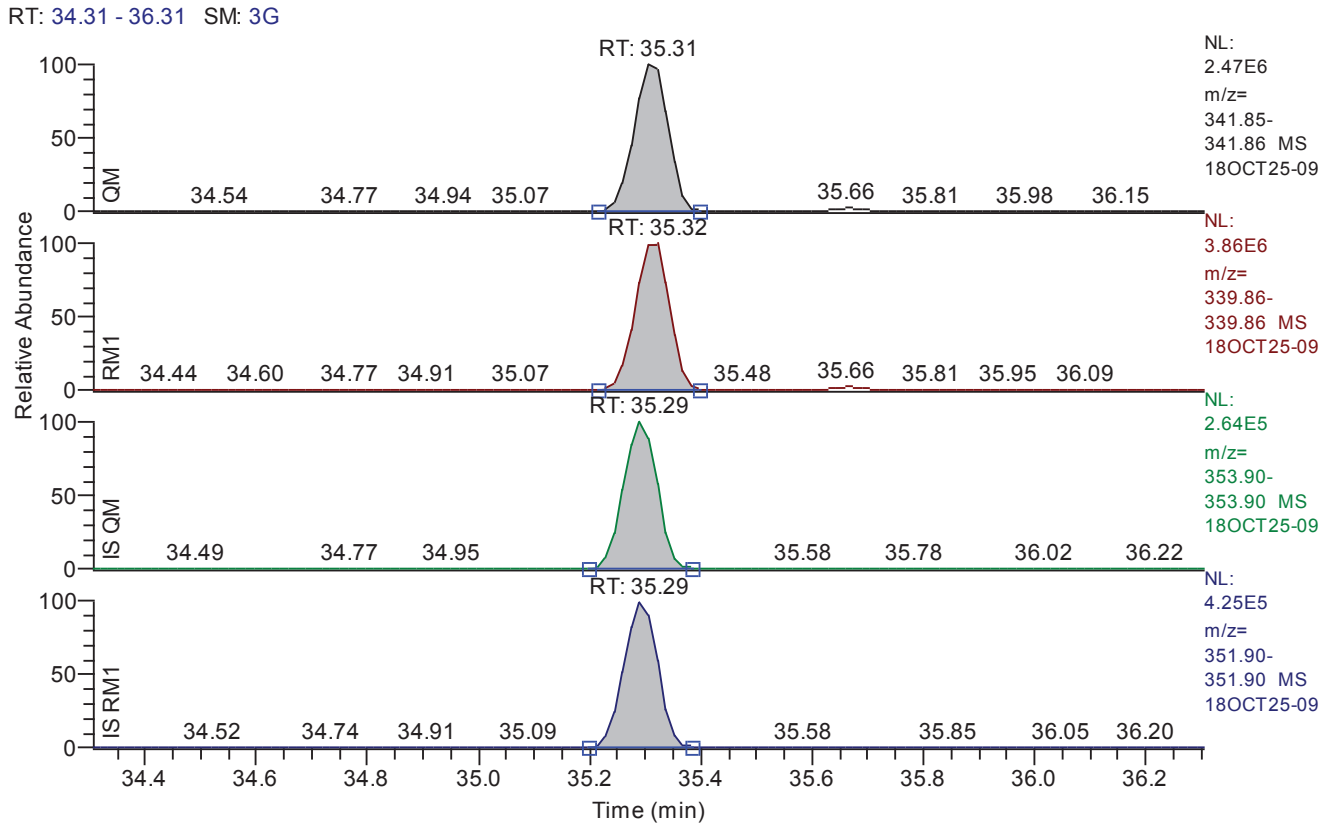
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.31
QM Area	10629283
QM Integration Mode	A
RM1 Area	16728837
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0239
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	102684
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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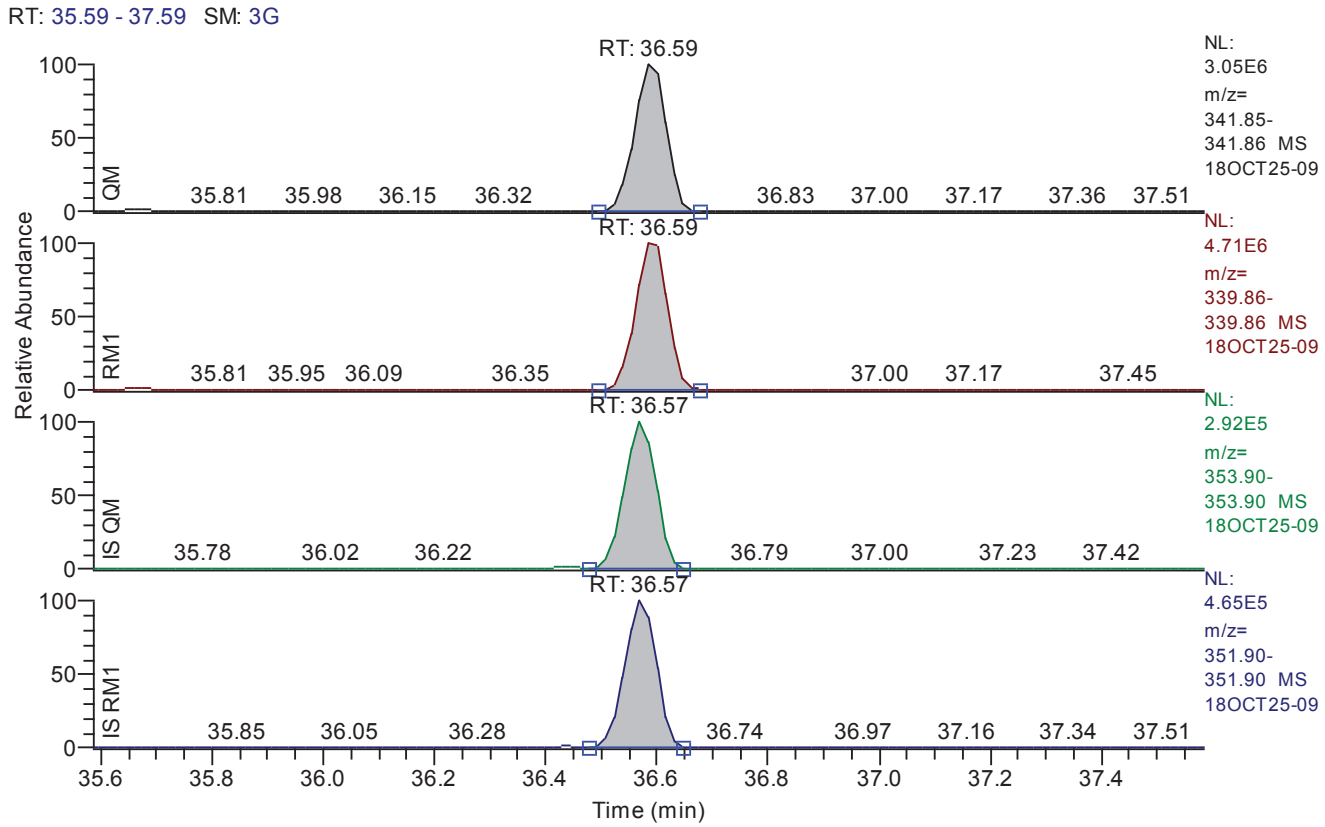
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.59
QM Area	12155359
QM Integration Mode	A
RM1 Area	19002156
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0196
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	125627
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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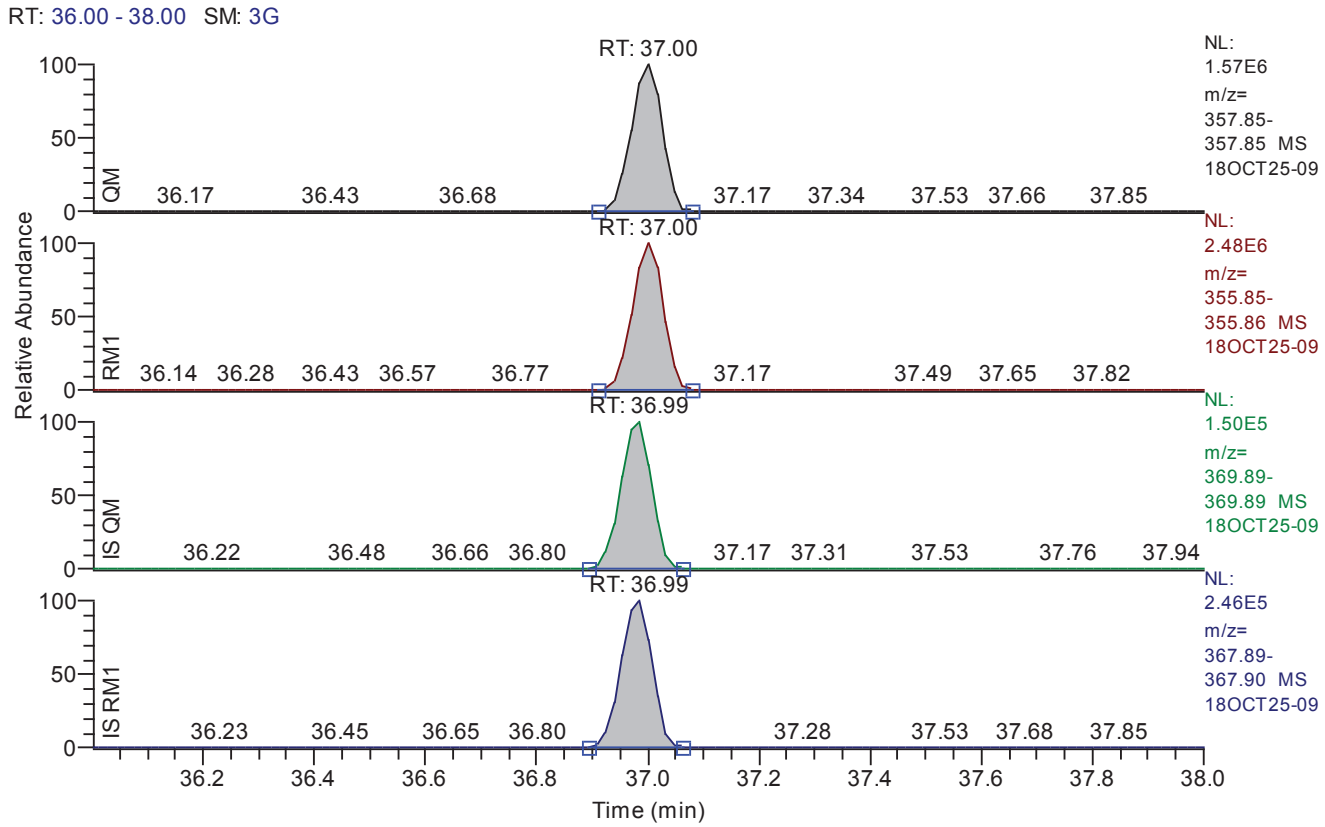
Chromatogram



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.00
QM Area	6112880
QM Integration Mode	A
RM1 Area	9606348
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0378
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	66460
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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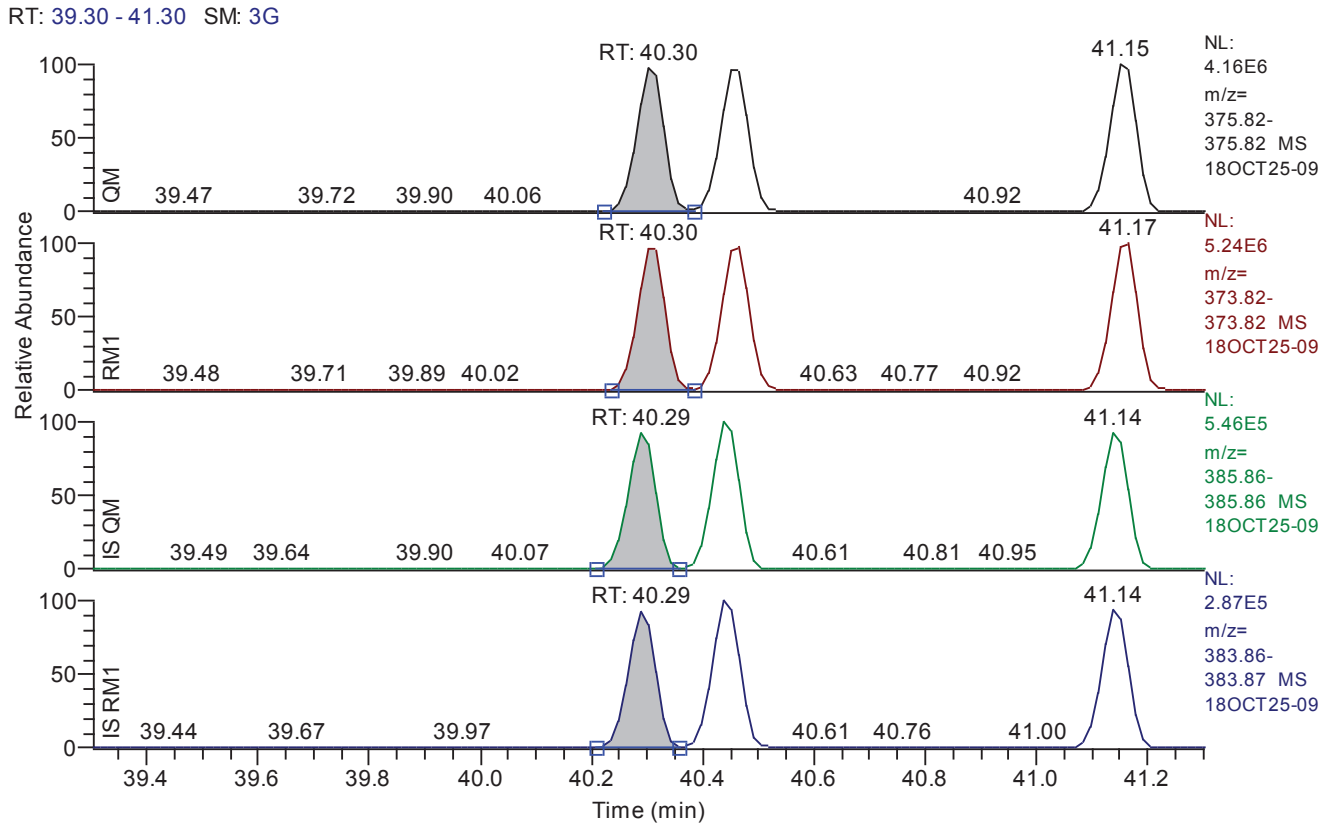
Chromatogram



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.30
QM Area	14035527
QM Integration Mode	A
RM1 Area	17666939
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0609
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	41091
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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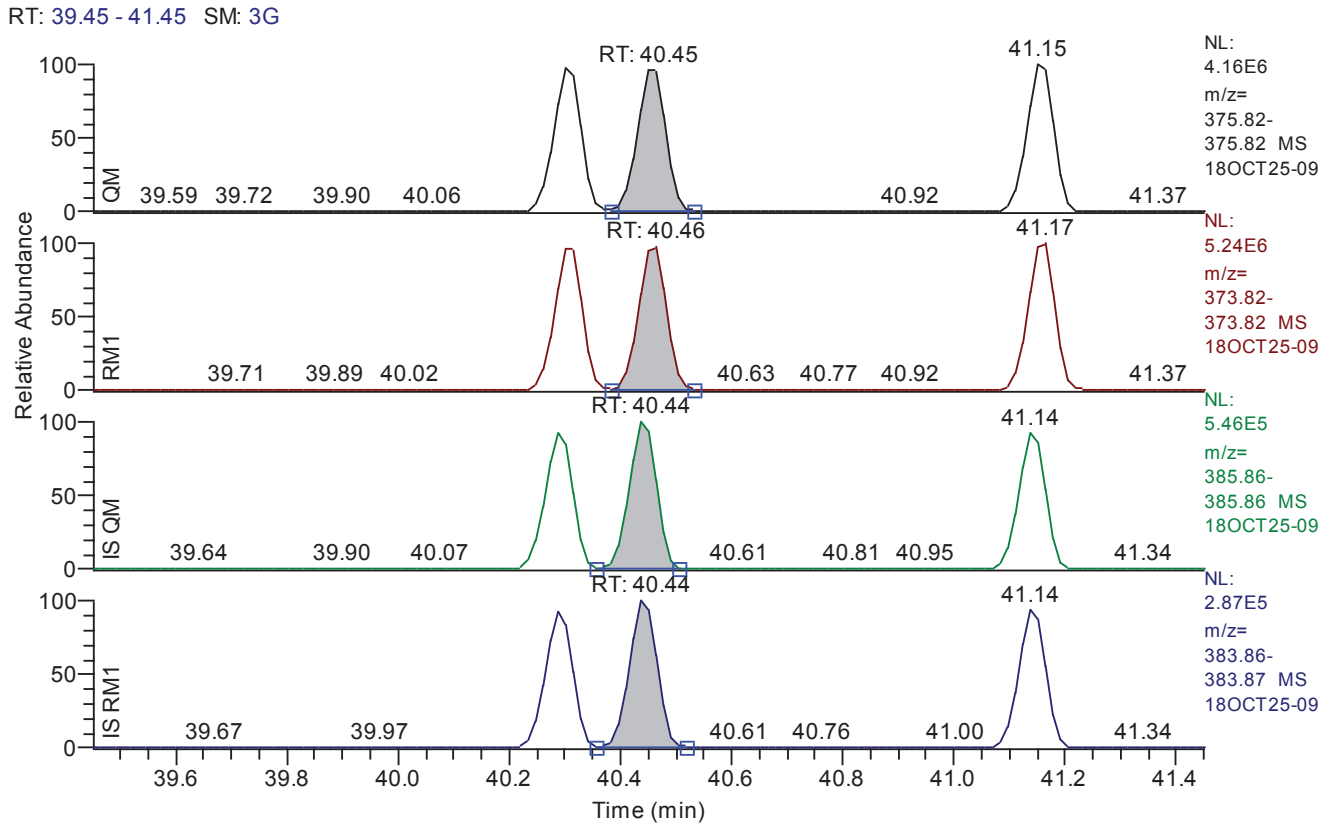
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.45
QM Area	14316979
QM Integration Mode	A
RM1 Area	17984008
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0598
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	41077
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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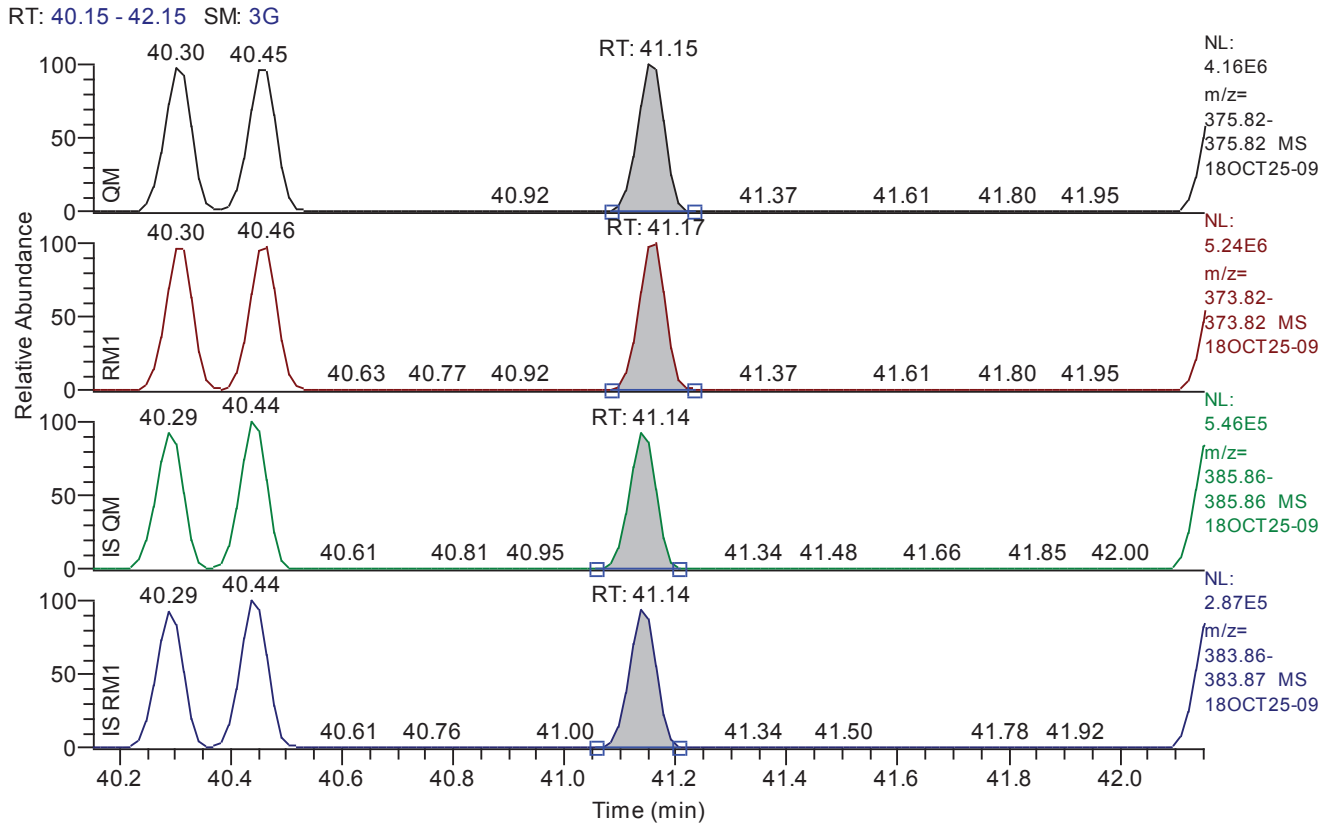
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.15
QM Area	14113941
QM Integration Mode	A
RM1 Area	17769990
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0592
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	42152
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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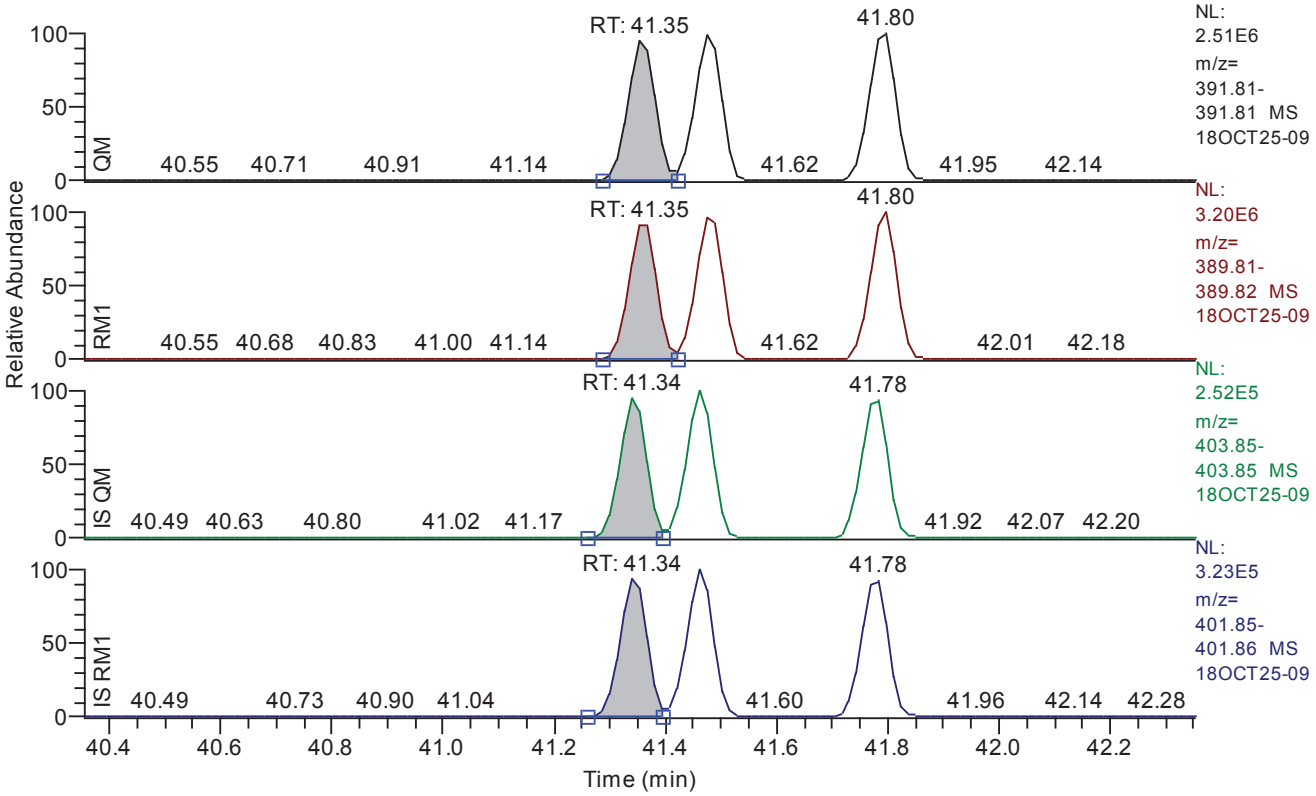
Chromatogram

RT: 40.35 - 42.35 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.35
QM Area	8256224
QM Integration Mode	A
RM1 Area	10330875
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0445
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	53880
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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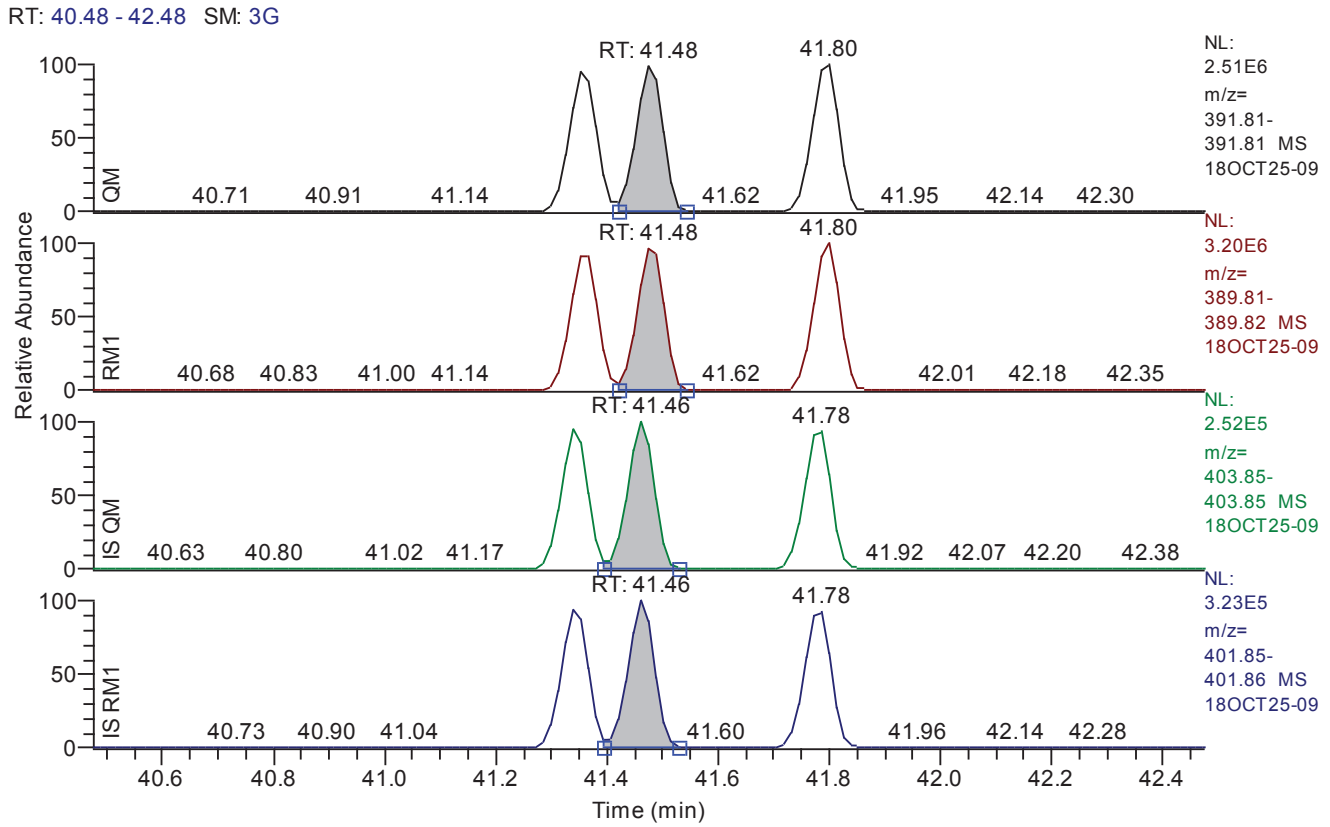
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.48
QM Area	8316514
QM Integration Mode	A
RM1 Area	10456672
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0438
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	56746
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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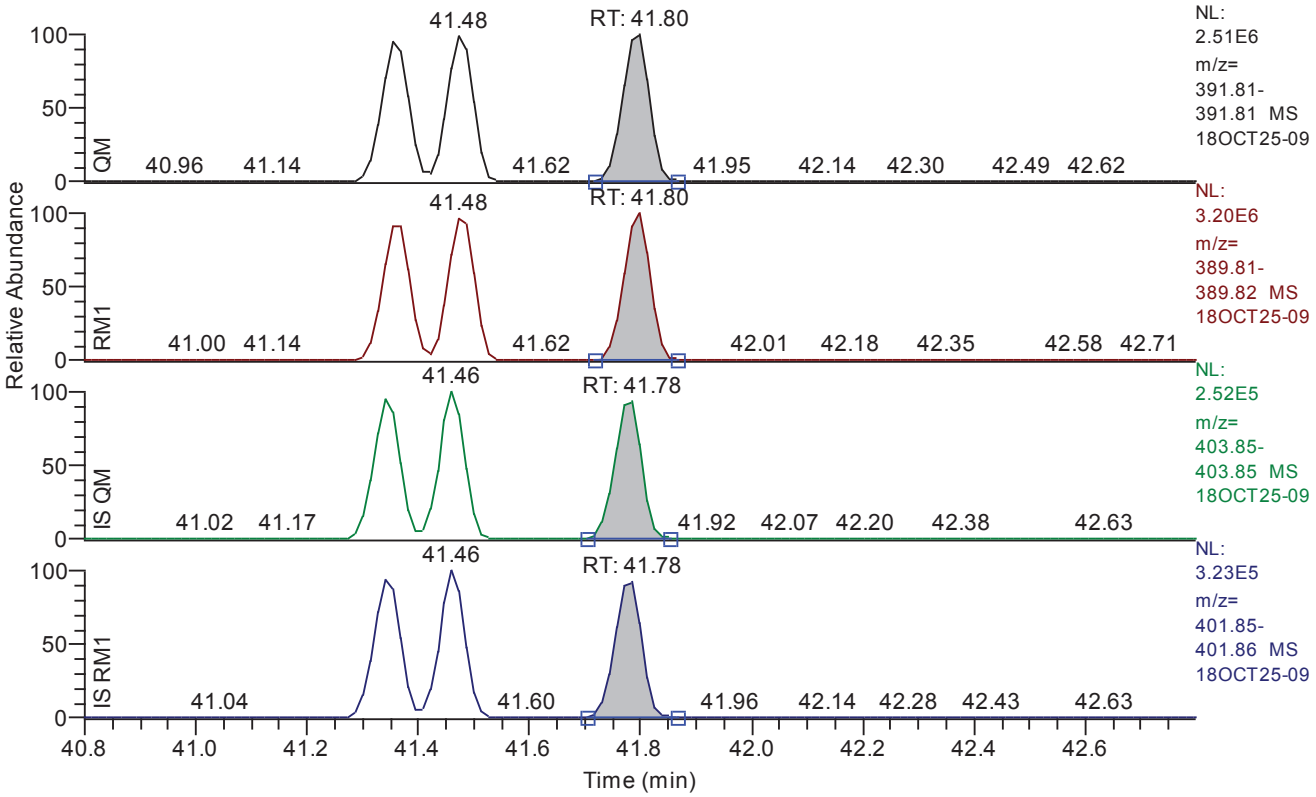
Chromatogram

RT: 40.80 - 42.80 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.80
QM Area	8544470
QM Integration Mode	A
RM1 Area	10696848
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0437
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	57687
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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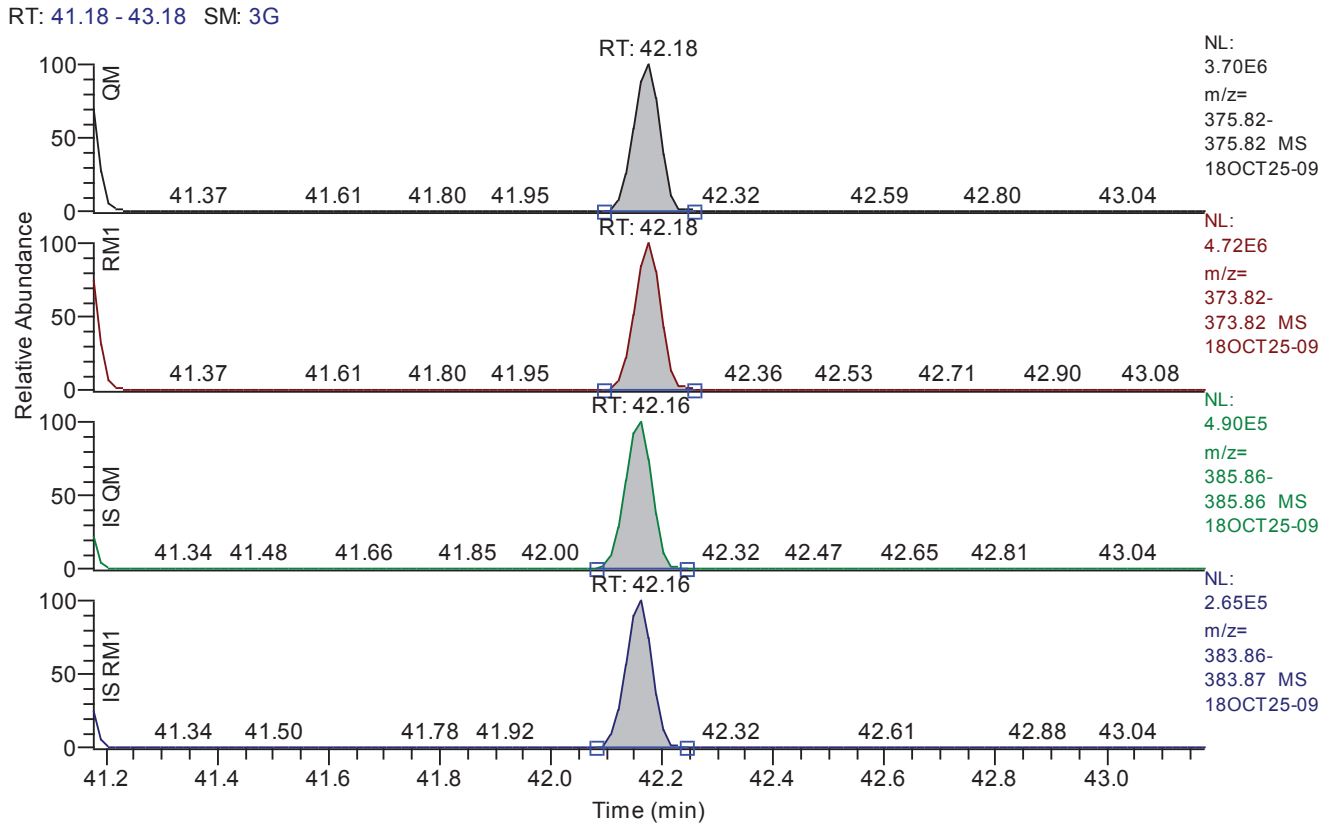
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.18
QM Area	12466169
QM Integration Mode	A
RM1 Area	15688383
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0670
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	37728
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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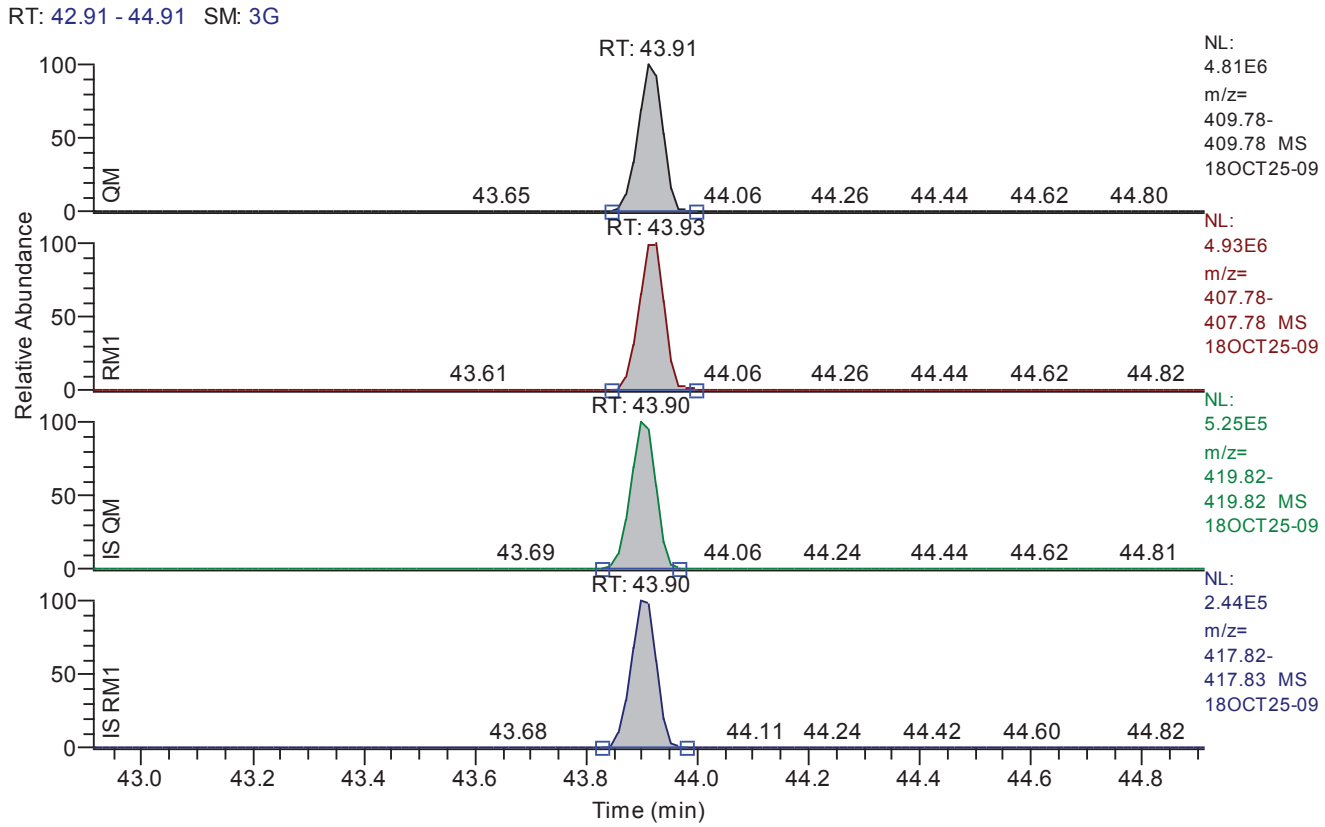
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.91
QM Area	15382931
QM Integration Mode	A
RM1 Area	16196168
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0912
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	27599
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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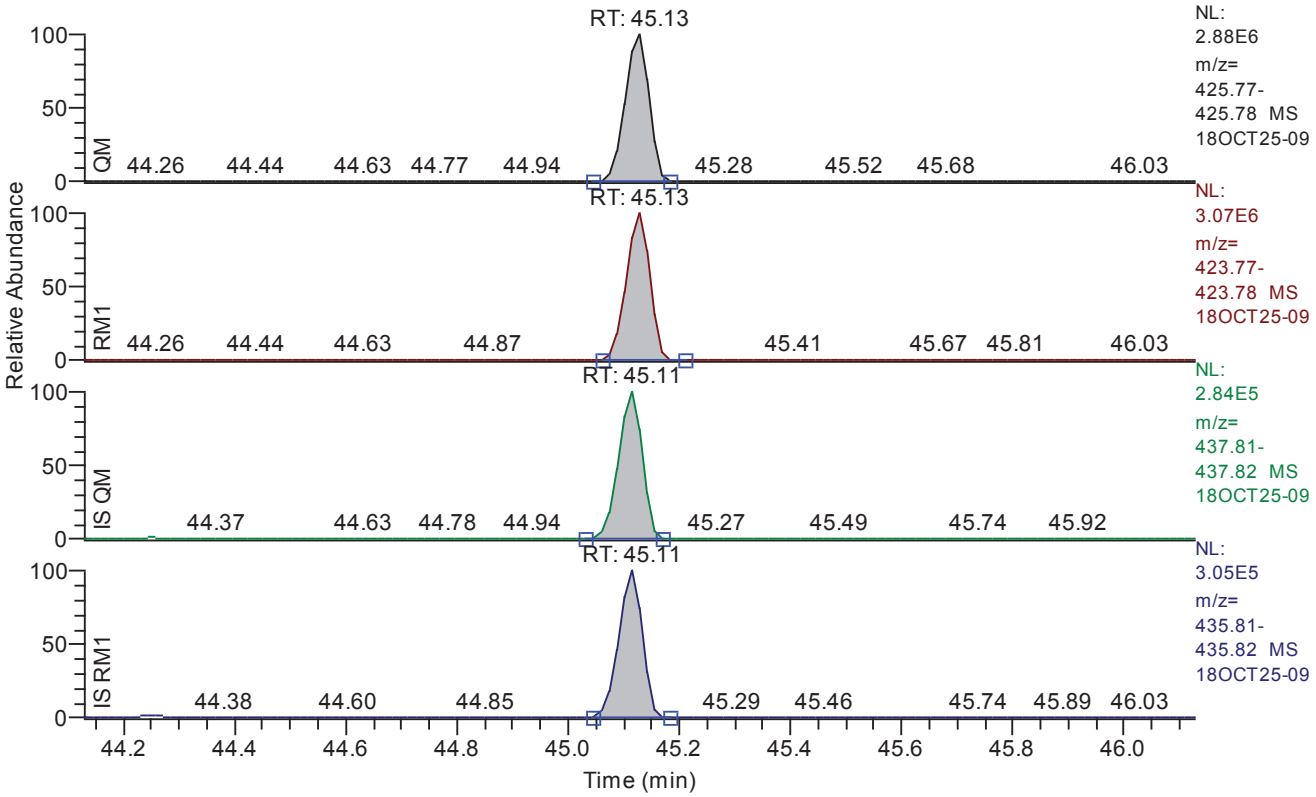
Chromatogram

RT: 44.13 - 46.13 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.13
QM Area	8923134
QM Integration Mode	A
RM1 Area	9404100
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1091
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	22760
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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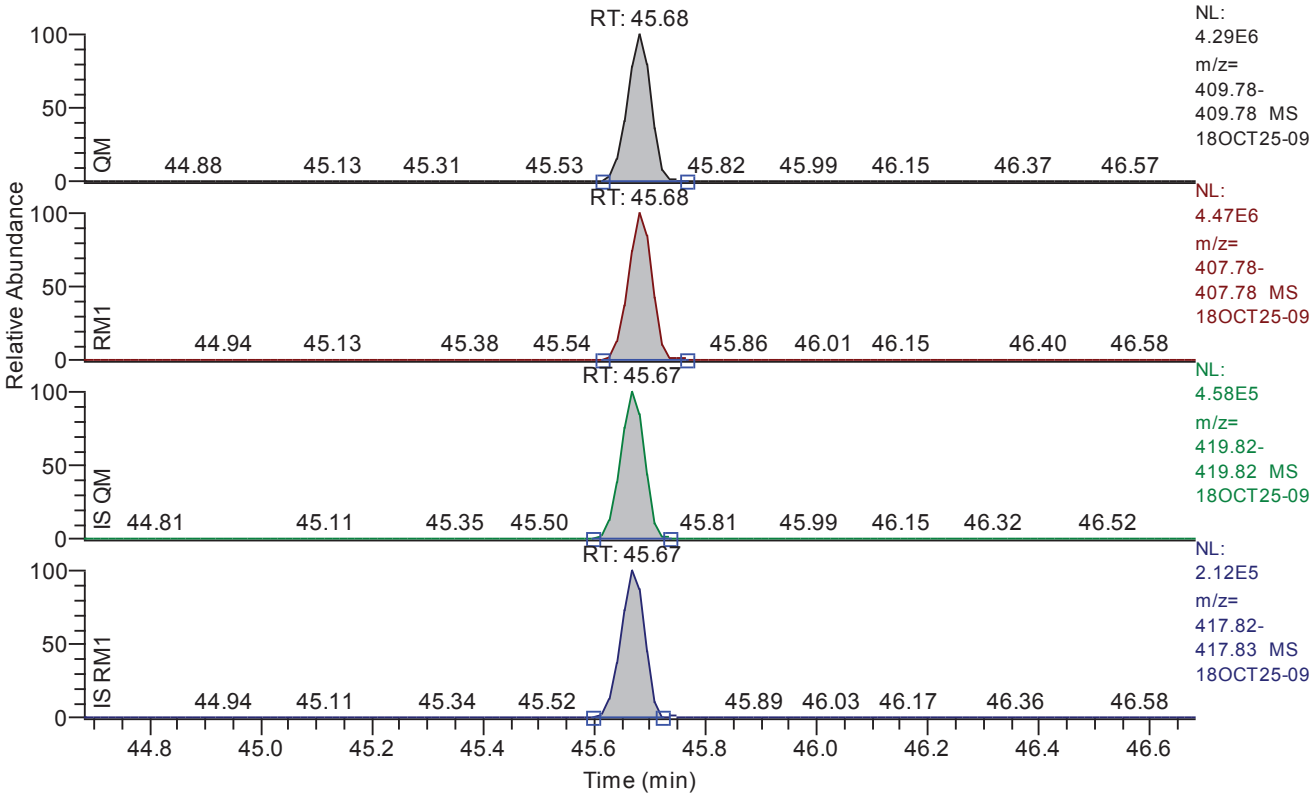
Chromatogram

RT: 44.68 - 46.68 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.68
QM Area	13162028
QM Integration Mode	A
RM1 Area	13833150
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1015
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	24813
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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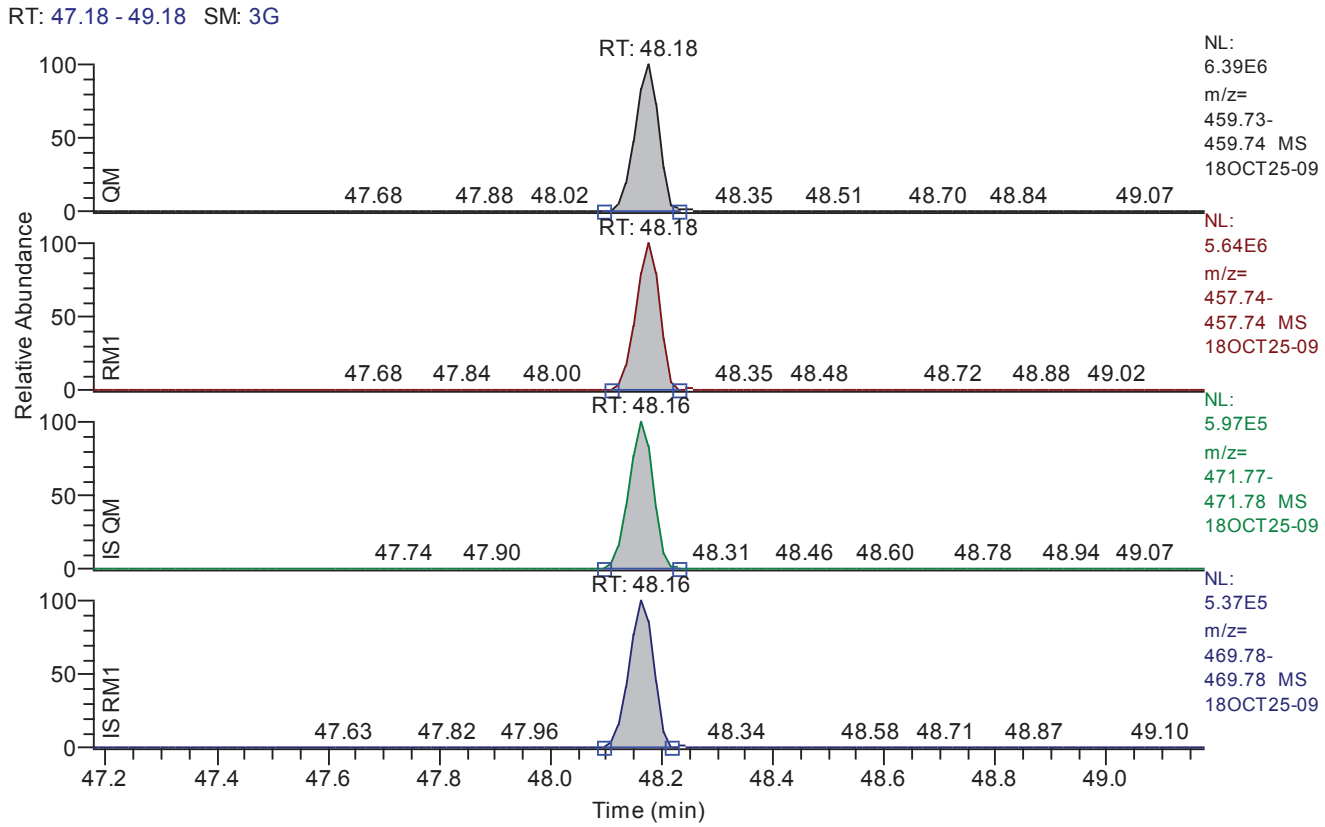
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.18
QM Area	18804410
QM Integration Mode	A
RM1 Area	16660973
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0470
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	110336
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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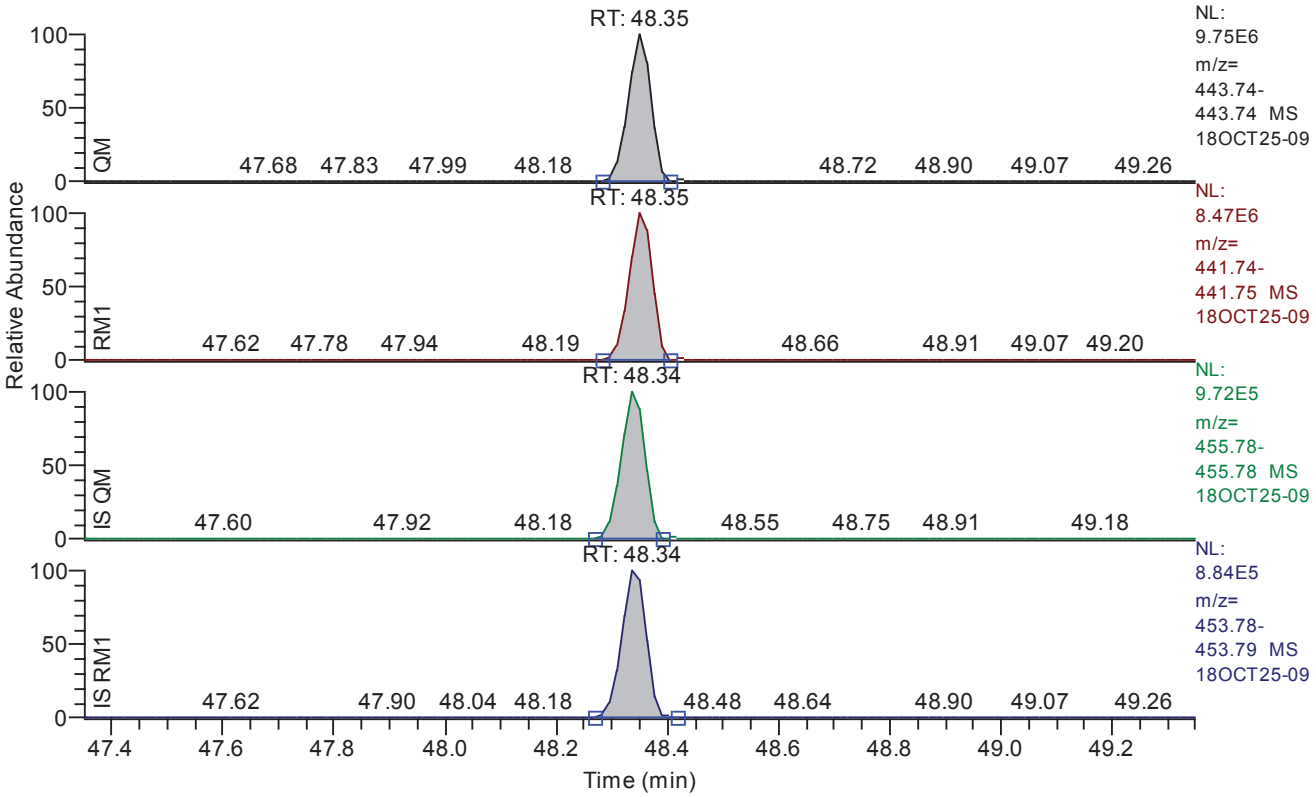
Chromatogram

RT: 47.35 - 49.35 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.35
QM Area	27729166
QM Integration Mode	A
RM1 Area	24701352
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0313
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	167655
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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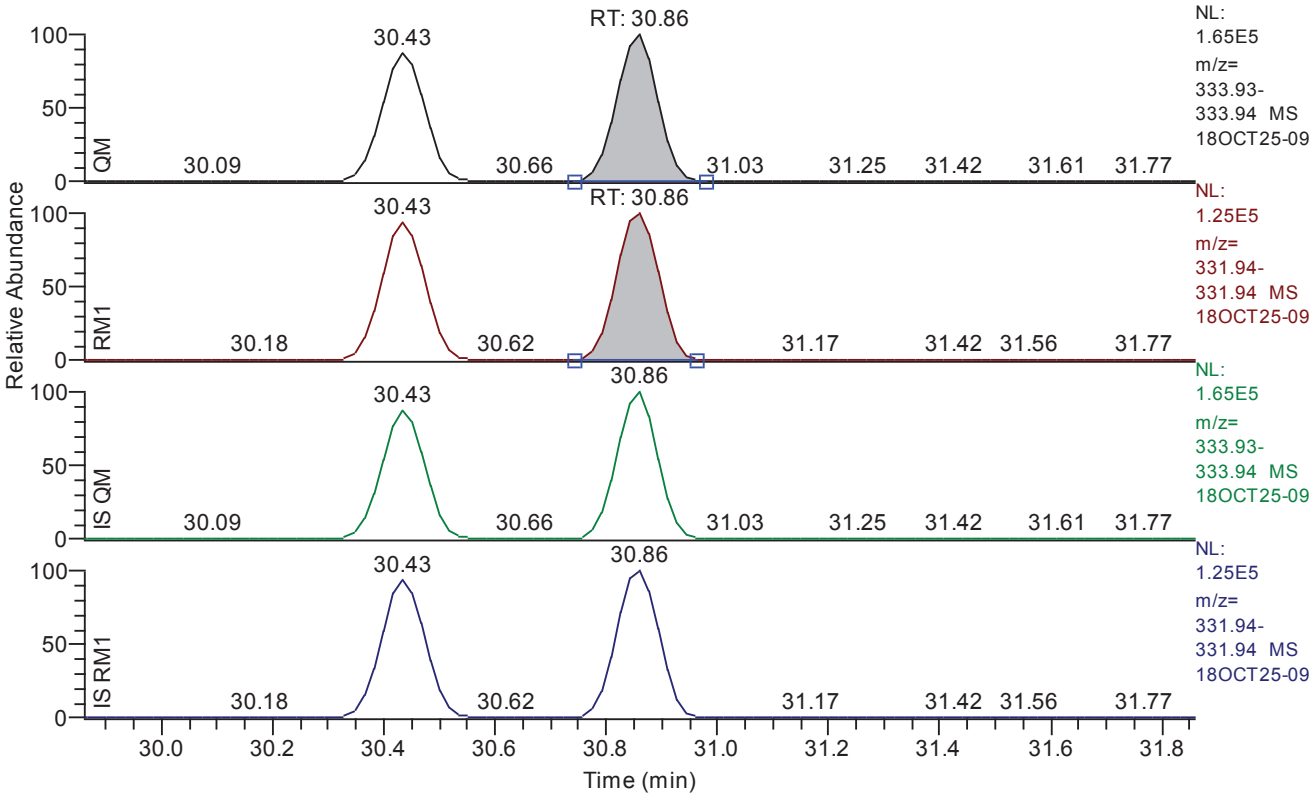
Chromatogram

RT: 29.86 - 31.86 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.86
QM Area	864713
QM Integration Mode	A
RM1 Area	687986
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0280
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	9292
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 18:17
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-09.quan
Data	y:\18oct25\18oct25-09.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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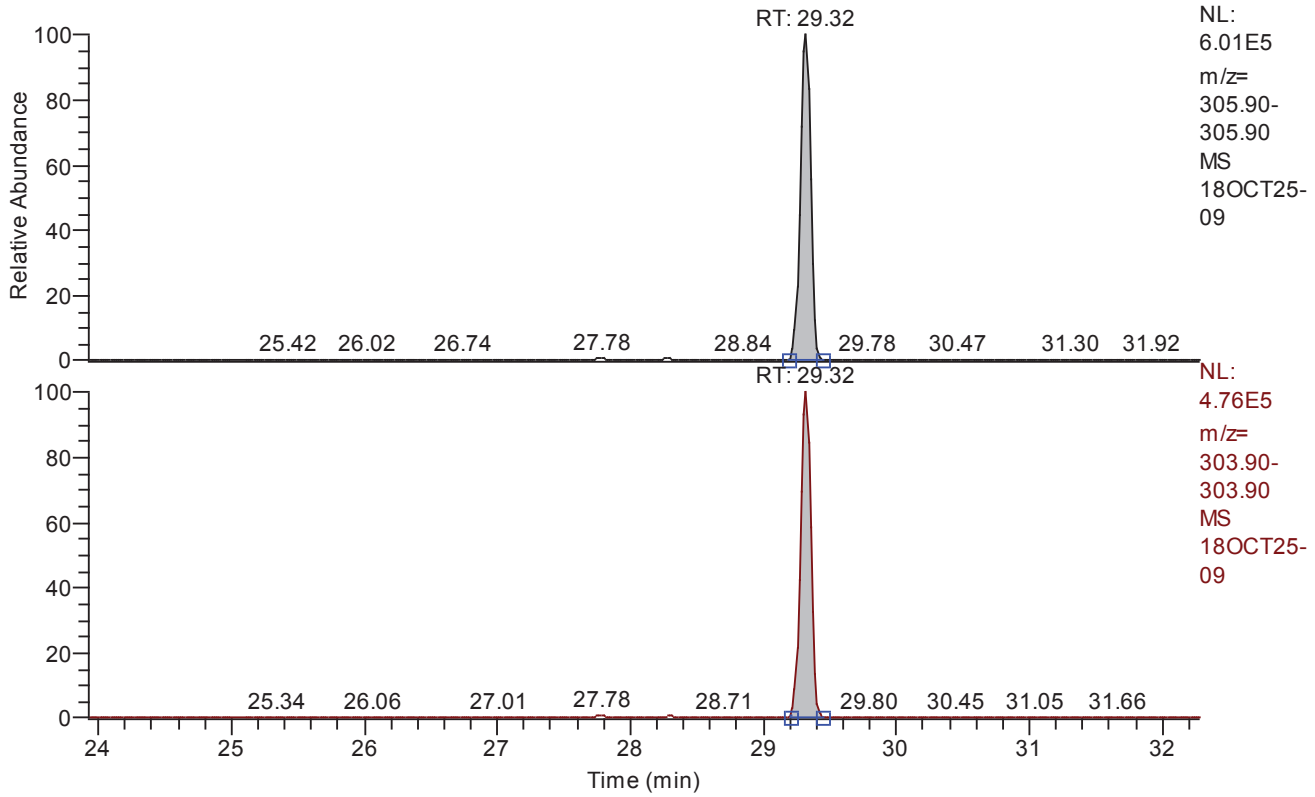
Chromatogram

RT: 23.92 - 32.28 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.10
QM Area	3298914
QM Integration Mode	A
RM1 Area	2610275
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0252
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	20118
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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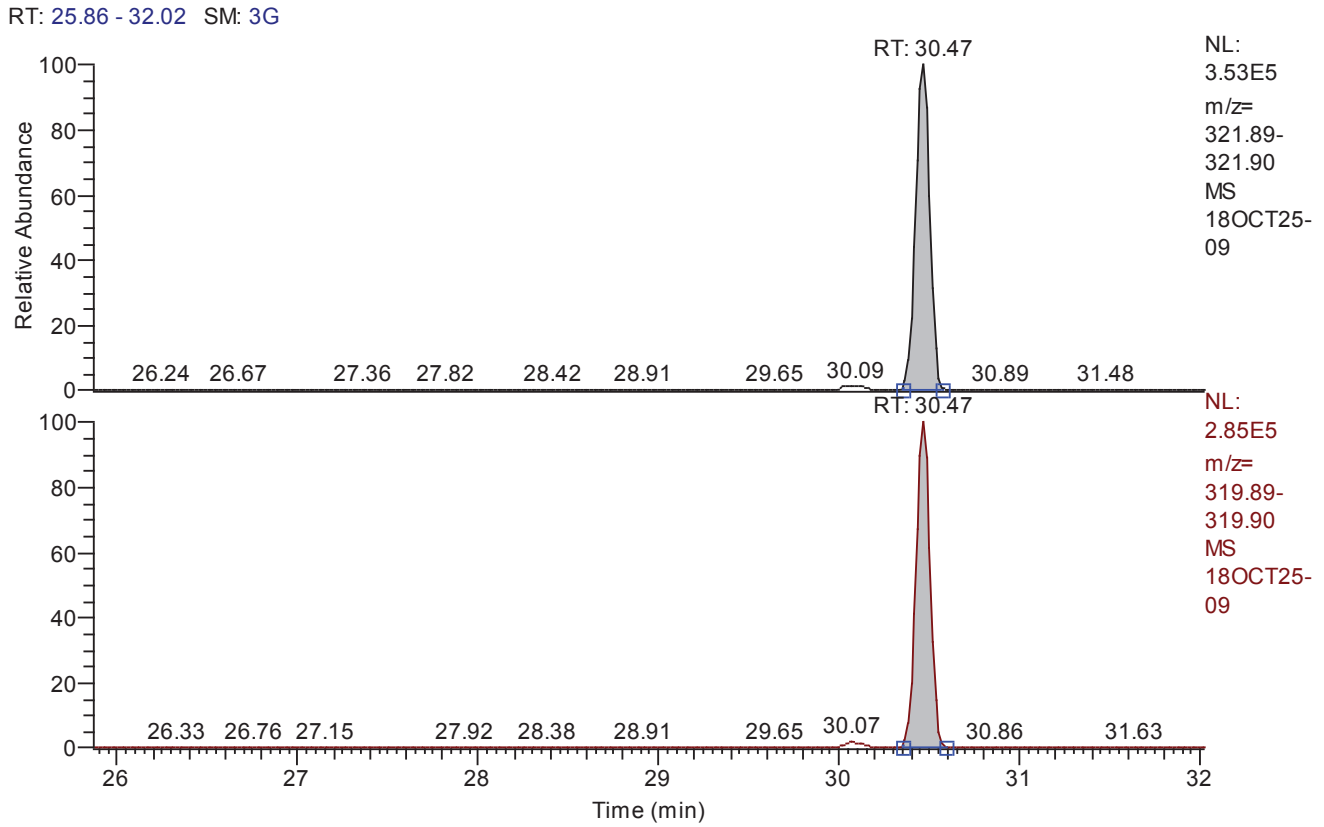
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.94
QM Area	1947560
QM Integration Mode	A
RM1 Area	1556587
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0333
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	15192
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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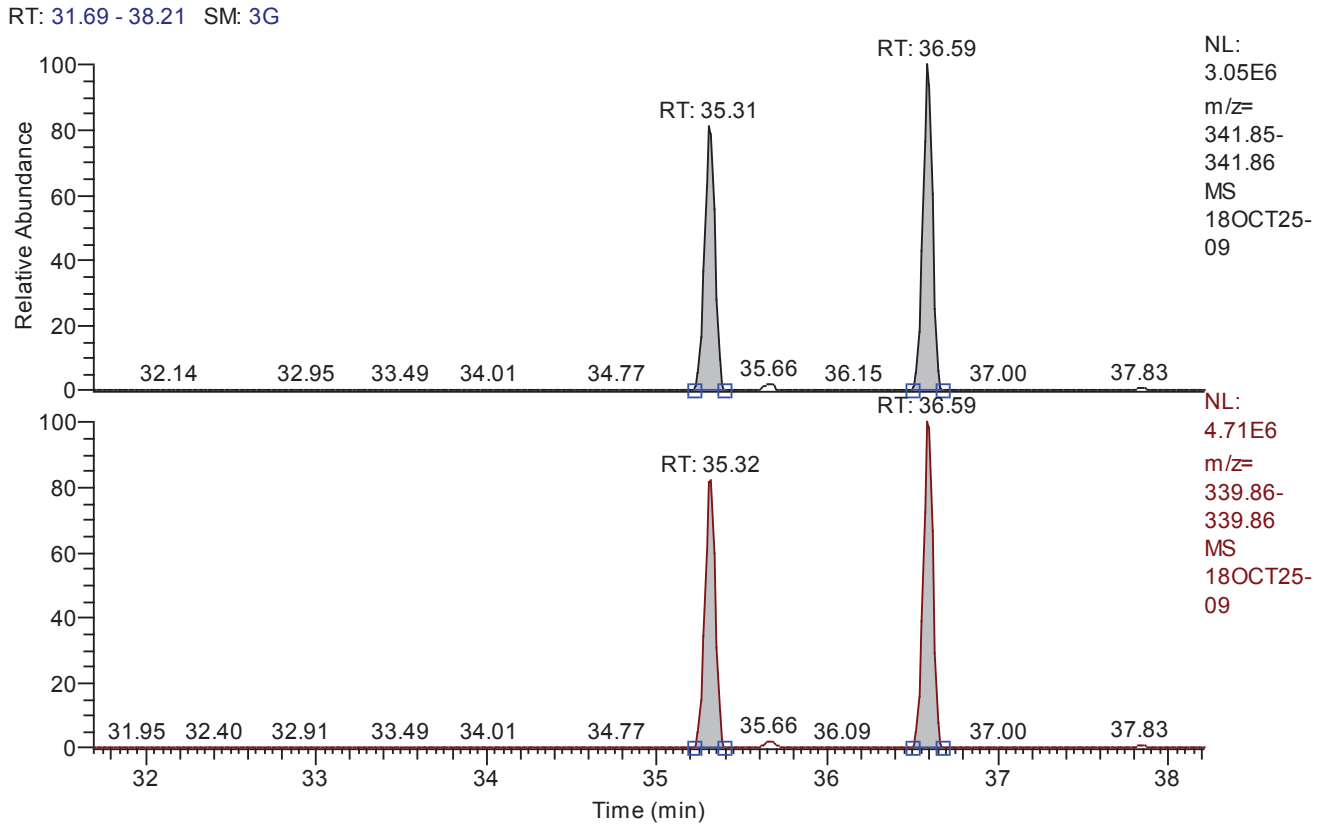
Chromatogram



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.95
QM Area	22784642
QM Integration Mode	A
RM1 Area	35730993
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0217
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	114155
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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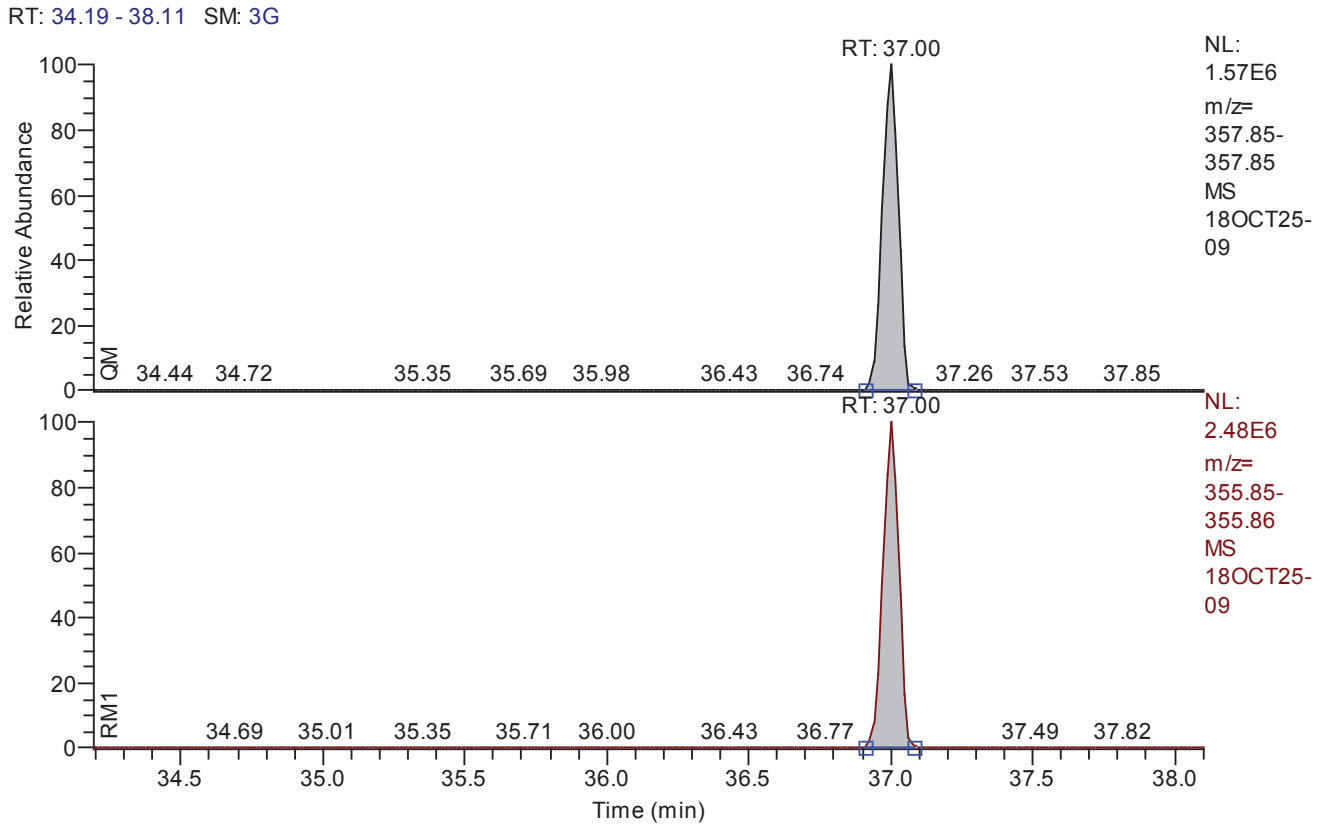
Chromatogram



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.15
QM Area	6112880
QM Integration Mode	A
RM1 Area	9606348
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0378
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	66460
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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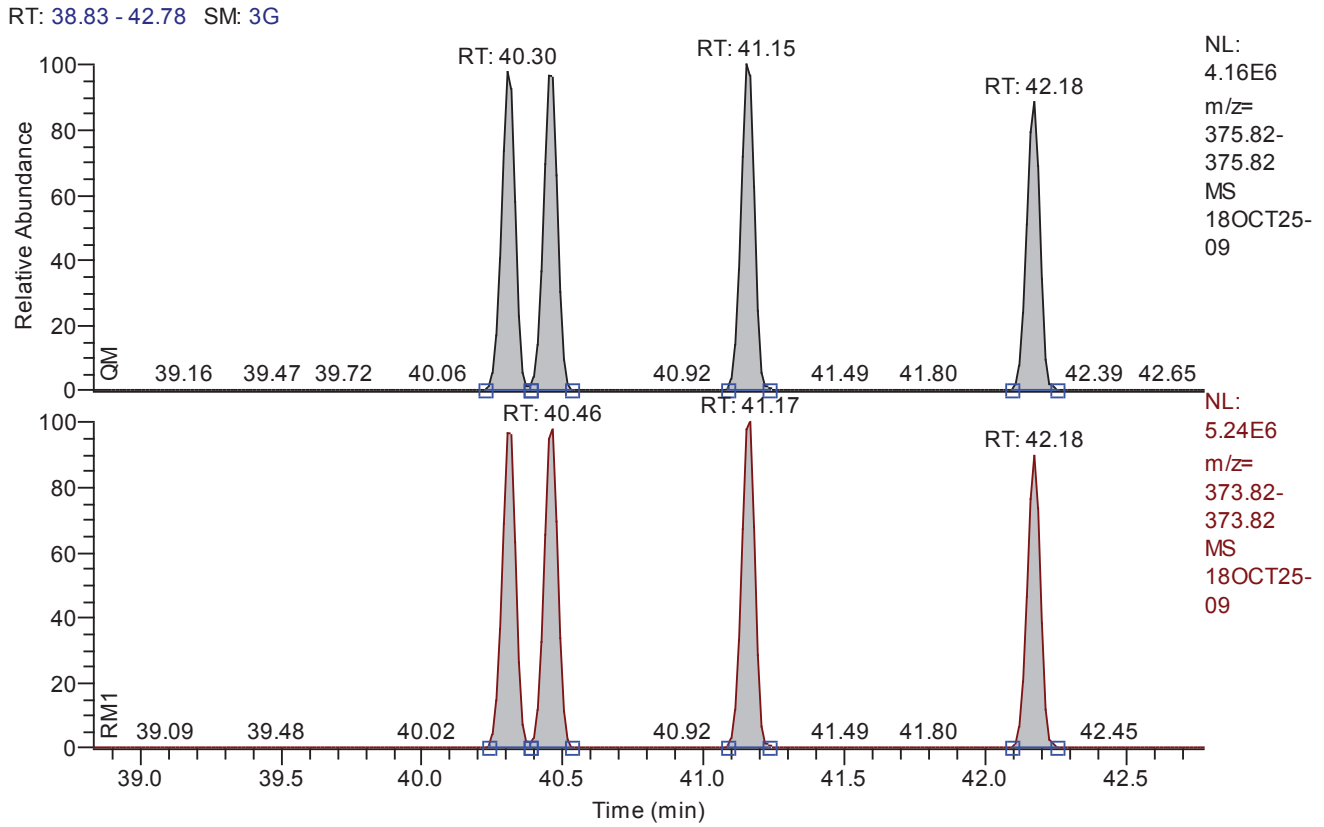
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.81
QM Area	54932616
QM Integration Mode	A
RM1 Area	69109321
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0618
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	4000.0000
Signal-to-Noise	40512
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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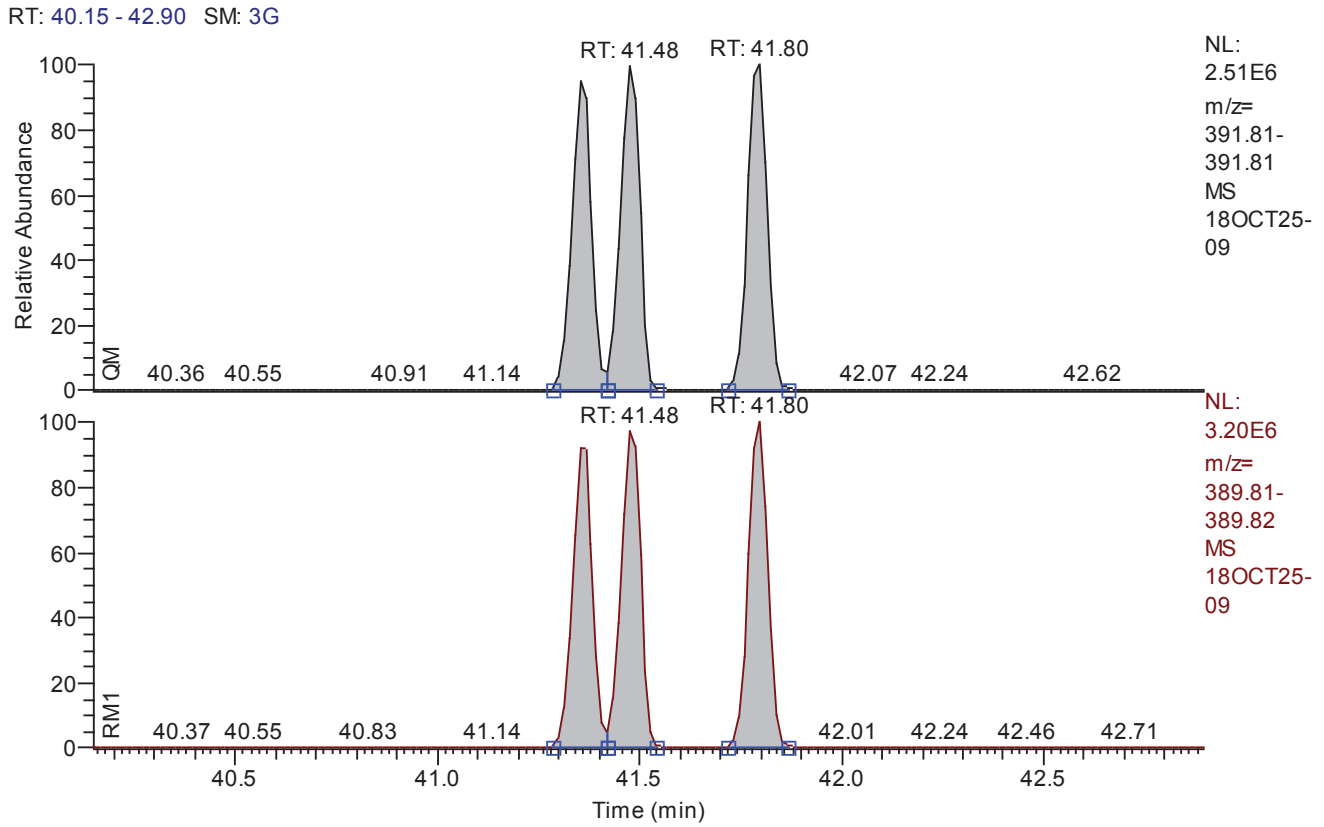
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.52
QM Area	25117208
QM Integration Mode	A
RM1 Area	31484395
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0440
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	3000.0000
Signal-to-Noise	56104
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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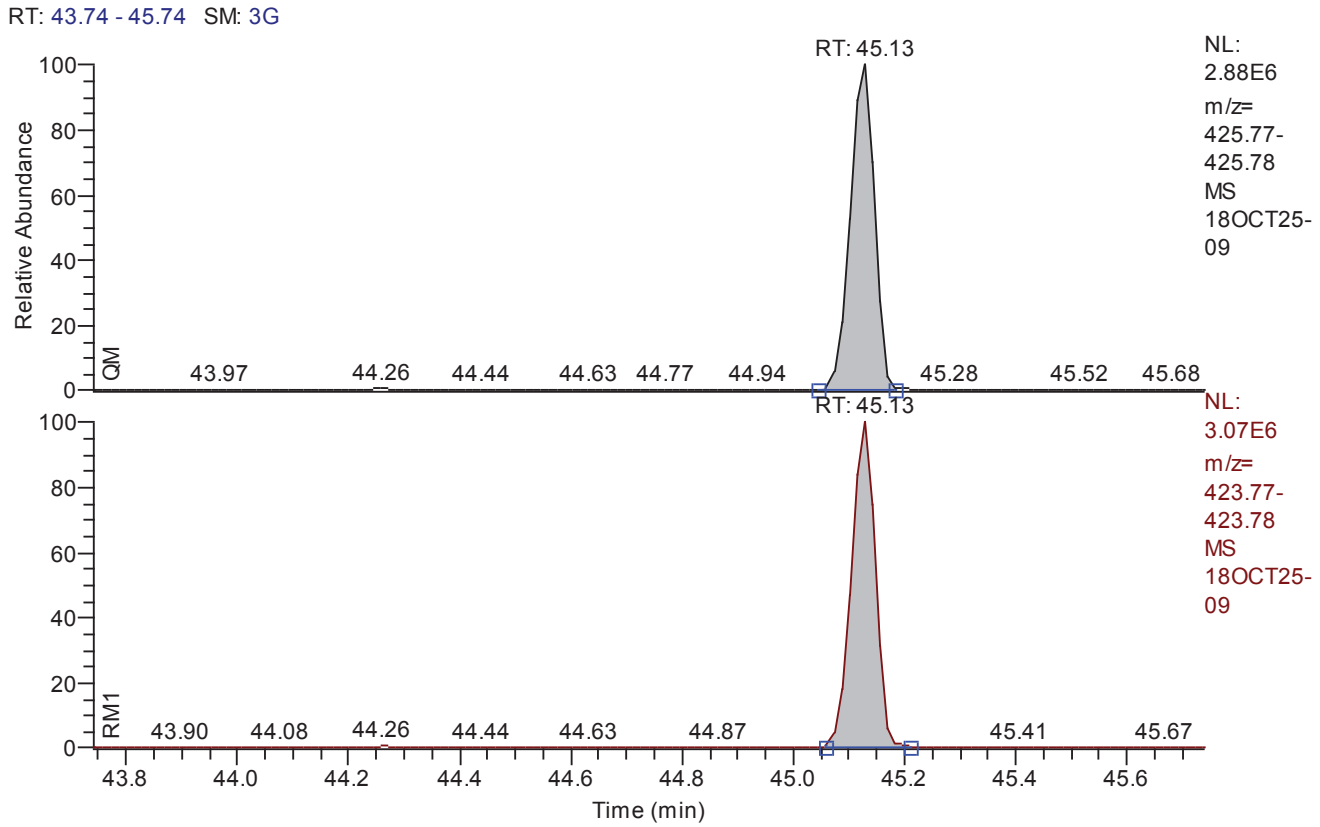
Chromatogram



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.74
QM Area	8923134
QM Integration Mode	A
RM1 Area	9404100
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1091
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	22760
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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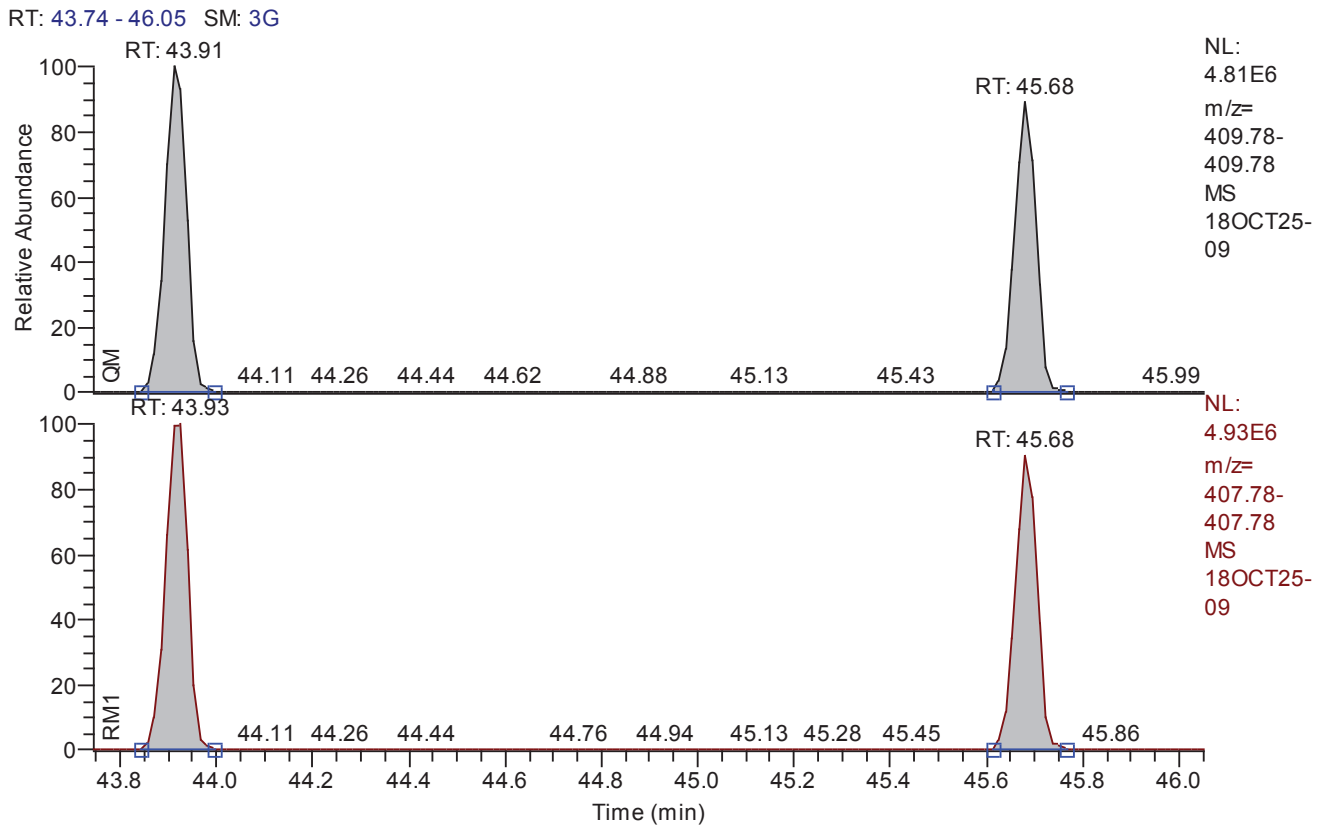
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.90
QM Area	28544960
QM Integration Mode	A
RM1 Area	30029318
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0967
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	26206
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	29.32	29.32	29.32	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.47	30.47	30.47	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.31	35.31	35.32	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.59	36.59	36.59	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.00	37.00	37.00	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.30	40.30	40.30	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.45	40.45	40.46	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.15	41.15	41.17	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.35	41.35	41.35	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.48	41.48	41.48	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.80	41.80	41.80	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.18	42.18	42.18	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.91	43.91	43.93	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.13	45.13	45.13	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.68	45.68	45.68	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.18	48.18	48.18	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.35	48.35	48.35	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.86	30.86	30.86	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.61	29.61	29.61	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.21	40.21	40.21	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.29	29.29	29.29	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.43	30.43	30.43	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.29	35.29	35.29	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.57	36.57	36.57	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.99	36.99	36.99	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.29	40.29	40.29	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.44	40.44	40.44	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.14	41.14	41.14	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.34	41.34	41.34	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.46	41.46	41.46	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.78	41.78	41.78	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.16	42.16	42.16	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.90	43.90	43.90	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.11	45.11	45.11	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.67	45.67	45.67	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.16	48.16	48.16	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.34	48.34	48.34	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	28.10	28.10	28.10	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	28.94	28.94	28.94	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	34.95	34.95	34.95	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	36.15	36.15	36.15	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.81	40.81	40.81	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.52	41.52	41.52	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	44.74	44.74	44.74	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.90	44.90	44.90	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.32	29.32	29.32	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	30.47	30.47	30.47	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	37.00	37.00	37.00	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.59	36.59	36.59	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	35.31	35.31	35.32	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.13	45.13	45.13	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.15	41.15	41.17	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.30	40.30	40.30	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	40.45	40.45	40.46	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	42.18	42.18	42.18	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.80	41.80	41.80	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.35	41.35	41.35	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	41.48	41.48	41.48	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	43.91	43.91	43.93	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.68	45.68	45.68	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.32	0.7913	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.47	0.7992	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.31	1.5738	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.59	1.5633	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.00	1.5715	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.30	1.2587	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.45	1.2561	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.15	1.2590	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.35	1.2513	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.48	1.2573	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.80	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.18	1.2585	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.91	1.0529	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.13	1.0539	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.68	1.0510	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.18	0.8860	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.35	0.8908	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.86	0.7956	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.61	0.8054	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.21	1.2593	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.29	0.7915	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.43	0.8215	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.29	1.6075	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.57	1.5974	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.99	1.6444	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.29	0.5237	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.44	0.5356	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.14	0.5398	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.34	1.2832	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.46	1.2734	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.78	1.2726	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.16	0.5288	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.90	0.4679	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.11	1.0673	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.67	0.4629	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.16	0.9084	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.34	0.9281	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.10	0.7913	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.94	0.7992	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.95	1.5682	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.15	1.5715	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.81	1.2581	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.52	1.2535	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.74	1.0539	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.90	1.0520	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.32	0.7913	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.47	0.7992	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.00	1.5715	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.59	1.5633	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.31	1.5738	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.13	1.0539	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.15	1.2590	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.30	1.2587	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.45	1.2561	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.18	1.2585	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.80	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.35	1.2513	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.48	1.2573	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.91	1.0529	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.68	1.0510	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

ThermoFisher Scientific

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	29.32	3298914	A	2610275	A	0.0252	200.000000	200.0000	200.000000	20118	
2	2378-TCDD	passed	30.47	1947560	A	1556587	A	0.0333	200.000000	200.0000	200.000000	15192	
3	12378-PeCDF	passed	35.31	10629283	A	16728837	A	0.0239	1000.000000	1000.0000	1000.000000	102684	
4	23478-PeCDF	passed	36.59	12155359	A	19002156	A	0.0196	1000.000000	1000.0000	1000.000000	125627	
5	12378-PeCDD	passed	37.00	6112880	A	9606348	A	0.0378	1000.000000	1000.0000	1000.000000	66460	
6	123478-HxCDF	passed	40.30	14035527	A	17666939	A	0.0609	1000.000000	1000.0000	1000.000000	41091	
7	123678-HxCDF	passed	40.45	14316979	A	17984008	A	0.0598	1000.000000	1000.0000	1000.000000	41077	
8	234678-HxCDF	passed	41.15	14113941	A	17769990	A	0.0592	1000.000000	1000.0000	1000.000000	42152	
9	123478-HxCDD	passed	41.35	8256224	A	10330875	A	0.0445	1000.000000	1000.0000	1000.000000	53880	
10	123678-HxCDD	passed	41.48	8316514	A	10456672	A	0.0438	1000.000000	1000.0000	1000.000000	56746	
11	123789-HxCDD	passed	41.80	8544470	A	10696848	A	0.0437	1000.000000	1000.0000	1000.000000	57687	
12	123789-HxCDF	passed	42.18	12466169	A	15688383	A	0.0670	1000.000000	1000.0000	1000.000000	37728	
13	1234678-HpCDF	passed	43.91	15382931	A	16196168	A	0.0912	1000.000000	1000.0000	1000.000000	27599	
14	1234678-HpCDD	passed	45.13	8923134	A	9404100	A	0.1091	1000.000000	1000.0000	1000.000000	22760	
15	1234789-HpCDF	passed	45.68	13162028	A	13833150	A	0.1015	1000.000000	1000.0000	1000.000000	24813	
16	OCDD	passed	48.18	18804410	A	16660973	A	0.0470	2000.000000	2000.0000	2000.000000	110336	
17	OCDF	passed	48.35	27729166	A	24701352	A	0.0313	2000.000000	2000.0000	2000.000000	167655	
18	13C12-1278-TCDD (CRS)	passed	30.86	864713	A	687986	A	0.0280	100.000000	100.0000	100.000000	9292	
19	13C12-1234-TCDD	passed	29.61	828097	A	666989	A	0.0290	100.000000	100.0000	100.000000	8609	
20	13C12-123468-HxCDD	passed	40.21	753258	A	948602	A	0.0283	100.000000	100.0000	100.000000	8825	
21	13C12-2378-TCDF	passed	29.29	1620880	A	1282864	A	0.0175	100.000000	100.0000	100.000000	14296	
22	13C12-2378-TCDD	passed	30.43	805380	A	661604	A	0.0296	100.000000	100.0000	100.000000	8450	
23	13C12-12378-PeCDF	passed	35.29	1118690	A	1798257	A	0.0269	100.000000	100.0000	100.000000	12227	
24	13C12-23478-PeCDF	passed	36.57	1155998	A	1846623	A	0.0261	100.000000	100.0000	100.000000	13419	
25	13C12-12378-PeCDD	passed	36.99	582456	A	957762	A	0.0214	100.000000	100.0000	100.000000	16691	
26	13C12-123478-HxCDF	passed	40.29	1756641	A	919983	A	0.0279	100.000000	100.0000	100.000000	8900	
27	13C12-123678-HxCDF	passed	40.44	1876663	A	1005216	A	0.0260	100.000000	100.0000	100.000000	9571	
28	13C12-234678-HxCDF	passed	41.14	1705606	A	920735	A	0.0285	100.000000	100.0000	100.000000	8921	
29	13C12-123478-HxCDD	passed	41.34	797812	A	1023719	A	0.0265	100.000000	100.0000	100.000000	9718	
30	13C12-123678-HxCDD	passed	41.46	839957	A	1069614	A	0.0252	100.000000	100.0000	100.000000	10244	
31	13C12-123789-HxCDD	passed	41.78	802096	A	1020717	A	0.0264	100.000000	100.0000	100.000000	9573	
32	13C12-123789-HxCDF	passed	42.16	1669163	A	882607	A	0.0293	100.000000	100.0000	100.000000	8678	
33	13C12-1234678-HpCDF	passed	43.90	1710166	A	800127	A	0.0363	100.000000	100.0000	100.000000	7267	
34	13C12-1234678-HpCDD	passed	45.11	872324	A	931030	A	0.0381	100.000000	100.0000	100.000000	7383	
35	13C12-1234789-HpCDF	passed	45.67	1422384	A	658477	A	0.0438	100.000000	100.0000	100.000000	6328	
36	13C12-OCDD	passed	48.16	1817724	A	1651224	A	0.0118	200.000000	200.0000	200.000000	47518	
37	13C12-OCDF	passed	48.34	2910577	A	2701248	A	0.0129	200.000000	200.0000	200.000000	44225	
38	Total TCDF	passed (1)	28.10	3298914	A	2610275	A	0.0252	200.000000	200.0000	200.000000	20118	
39	Total TCDD	passed (1)	28.94	1947560	A	1556587	A	0.0333	200.000000	200.0000	200.000000	15192	
40	Total PeCDF	passed (2)	34.95	22784642	A	35730993	A	0.0217	1000.000000	2000.0000	1000.000000	114155	
41	Total PeCDD	passed (1)	36.15	6112880	A	9606348	A	0.0378	1000.000000	1000.0000	1000.000000	66460	
42	Total HxCDF	passed (4)	40.81	54932616	A	69109321	A	0.0618	1000.000000	4000.0000	1000.000000	40512	
43	Total HxCDD	passed (3)	41.52	25117208	A	31484395	A	0.0440	1000.000000	3000.0000	1000.000000	56104	
44	Total HpCDD	passed (1)	44.74	8923134	A	9404100	A	0.1091	1000.000000	1000.0000	1000.000000	22760	
45	Total HpCDF	passed (2)	44.90	28544960	A	30029318	A	0.0967	1000.000000	2000.0000	1000.000000	26206	
46	Single TCDF	passed	29.32	3298914	A	2610275	A	0.0252	200.000000	200.0000	200.000000	20118	
47	Single TCDD	passed	30.47	1947560	A	1556587	A	0.0333	200.000000	200.0000	200.000000	15192	
48	Single PeCDD	passed	37.00	6112880	A	9606348	A	0.0378	1000.000000	1000.0000	1000.000000	66460	
49	Single PeCDF	passed	36.59	12155359	A	19002156	A	0.0203	1000.000000	1000.0000	1000.000000	125627	
50	Single PeCDF	passed	35.31	10629283	A	16728837	A	0.0231	1000.000000	1000.0000	1000.000000	102684	
51	Single HpCDD	passed	45.13	8923134	A	9404100	A	0.1091	1000.000000	1000.0000	1000.000000	22760	
52	Single HxCDF	passed	41.15	14113941	A	17769990	A	0.0599	1000.000000	1000.0000	1000.000000	42152	
53	Single HxCDF	passed	40.30	14035527	A	17666939	A	0.0602	1000.000000	1000.0000	1000.000000	41091	
54	Single HxCDF	passed	40.45	14316979	A	17984008	A	0.0591	1000.000000	1000.0000	1000.000000	41077	
55	Single HxCDF	passed	42.18	12466169	A	15688383	A	0.0678	1000.000000	1000.0000	1000.000000	37728	
56	Single HxCDD	passed	41.80	8544470	A	10696848	A	0.0431	1000.000000	1000.0000	1000.000000	57687	
57	Single HxCDD	passed	41.35	8256224	A	10330875	A	0.0447	1000.000000	1000.0000	1000.000000	53880	
58	Single HxCDD	passed	41.48	8316514	A	10456672	A	0.0442	1000.000000	1000.0000	1000.000000	56746	
59	Single HpCDF	passed	43.91	15382931	A	16196168	A	0.0891	1000.000000	1000.0000	1000.000000	27599	
60	Single HpCDF	passed	45.68	13162028	A	13833150	A	0.1043	1000.000000	1000.0000	1000.000000	24813	

APPROVED
By uma9 at 3:02 pm, 10/26/18

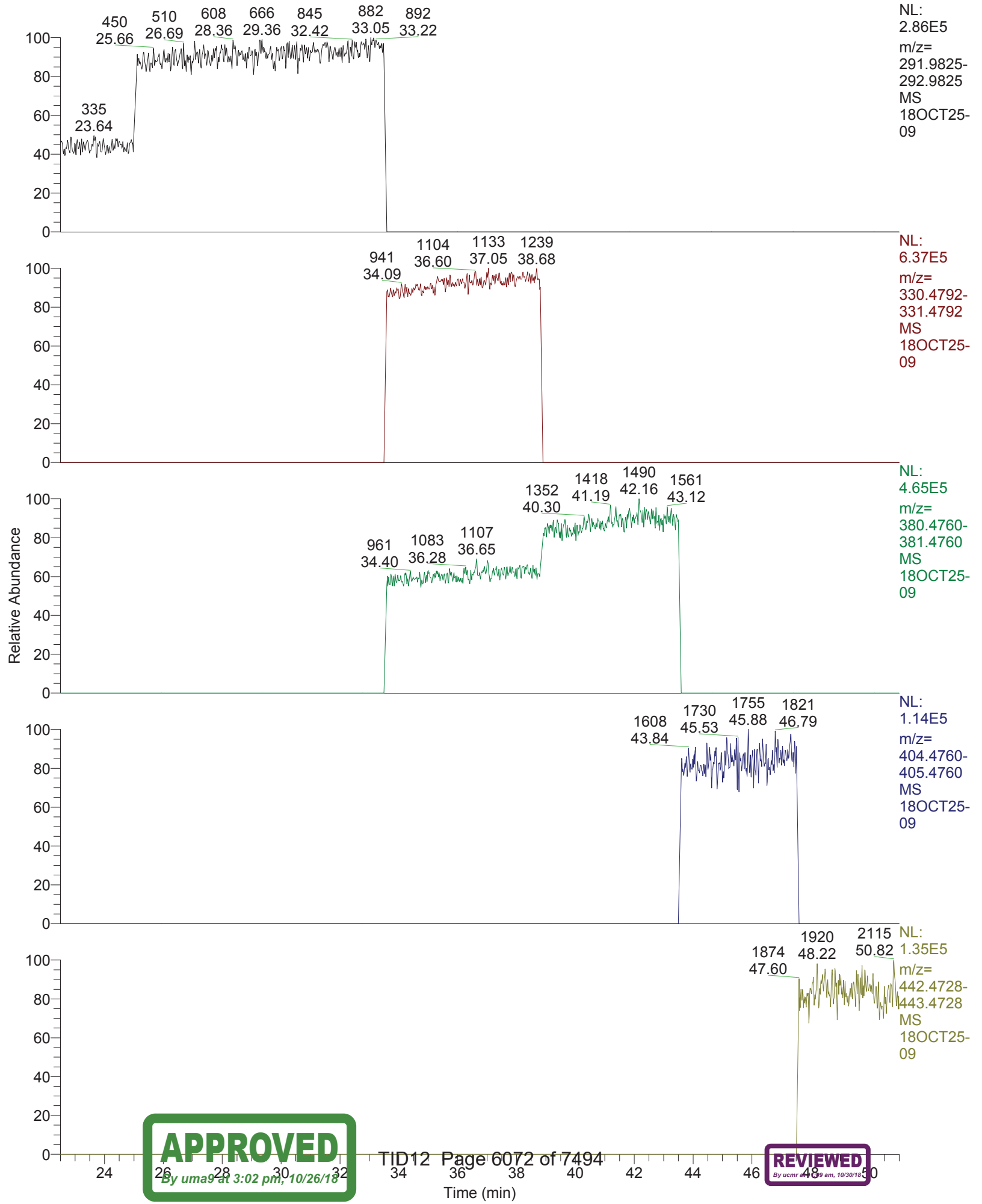
REVIEWED
By ucmr at 11:09 am, 10/30/18

File Name: Y:\18OCT25\18OCT25-09
Sample ID: CS501

Acq. Data: 10/25/2018 6:17:04 PM
Sample Name: CALDF61837B
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 9:39 am, 10/30/18

*** file opened Thu Oct 25 18:22:31 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 18:22:30

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e5d9b8b7-a0ef-4b8d-a030-81b8f9081f1b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          95.5000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         226.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           220.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           171.0000   EXSBR          -0.4700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0176   FVINLET         0.0346   FVSRC           0.0325
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      704.0000
 LENS_SYM        16.0000   LM            650.0000   LMII          500.0000
 LMASS           95.5000   LKM           442.9723   MASS           95.5000
 MDAC         925071.2508   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2153.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9695   RELEN           0.0000
 RES          10274.6254   RPUSHER       -14.7766   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     708.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0223   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.5000   XLENS_POT     924.0000
 XLENS_SYM        2.2500   YLENS_POT     750.0000   YLENS_SYM      -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10627.
MID Time Window 2: Resolution is 11296.
MID Time Window 3: Resolution is 11720.
MID Time Window 4: Resolution is 11906.
```

```
MID Time Window 5: Resolution is 13798.
MID Time Window 6: Resolution is 10274.

Amplifier Offset: 88.


*** File closed Thu Oct 25 19:13:32 2018
  ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 20:10
Number of Entries	275
Comment	
Vial	9
Sample Name	SSDFX1837B
Sample ID	ICV
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-11.quan
Data	y:\18oct25\18oct25-11.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	29.30	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.45	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.30	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.58	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.98	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.30	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.45	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.15	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.35	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.47	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.78	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.16	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.91	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.11	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.68	passed	passed	passed	passed	passed	passed	
16	OCDD	48.16	passed	passed	passed	passed	passed	passed	
17	OCDF	48.35	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.86	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.61	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.21	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.28	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.43	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.29	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.57	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.97	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.29	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.44	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.34	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.77	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.15	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.90	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.11	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.67	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.15	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.33	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.11	passed (5)	---	---	---	---	---	
39	Total TCDD	28.99	passed (3)	---	---	---	---	---	
40	Total PeCDF	34.39	passed (7)	---	---	---	---	---	
41	Total PeCDD	35.82	passed (6)	---	---	---	---	---	
42	Total HxCDF	40.51	passed (6)	---	---	---	---	---	
43	Total HxCDD	40.60	passed (2)	---	---	---	---	---	
44	Total HpCDD	44.71	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.66	passed (4)	---	---	---	---	---	
46	Single TCDF	29.30	passed	passed	passed	passed	passed	passed	
47	Single TCDF	25.18	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
48	Single TCDF	25.57	passed	passed	passed	passed	passed	passed	
49	Single TCDF	25.62	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
50	Single TCDF	25.81	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
51	Single TCDF	26.07	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
52	Single TCDF	26.50	passed	passed	passed	passed	passed	passed	
53	Single TCDF	27.06	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
54	Single TCDF	27.54	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
55	Single TCDF	27.68	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
56	Single TCDF	27.76	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
57	Single TCDF	28.26	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
58	Single TCDF	29.08	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
59	Single TCDF	29.59	passed	passed	passed	passed	passed	passed	
60	Single TCDF	29.68	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
61	Single TCDF	29.76	failed	passed	failed	passed	passed	passed	Failed on: RM1Time2 > max
62	Single TCDF	30.10	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
63	Single TCDF	30.87	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
64	Single TCDF	31.61	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
65	Single TCDD	30.45	passed	passed	passed	passed	passed	passed	
66	Single TCDD	27.11	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
67	Single TCDD	27.21	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
68	Single TCDD	27.49	passed	passed	passed	passed	passed	passed	
69	Single TCDD	27.93	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
70	Single TCDD	28.45	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
71	Single TCDD	28.62	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
72	Single TCDD	28.89	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
73	Single TCDD	29.06	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
74	Single TCDD	29.32	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
75	Single TCDD	30.07	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
76	Single TCDD	30.57	failed	passed	failed	failed	passed	passed	Failed on: Ratio1A RM1Time2 > max
77	Single TCDD	30.74	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
78	Single TCDD	30.84	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
79	Single TCDD	30.91	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
80	Single TCDD	30.96	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
81	Single TCDD	31.06	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
82	Single TCDD	31.37	failed	passed	failed	failed	passed	passed	Failed on: Ratio1A RM1Time < min
83	Single TCDD	31.66	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
84	Single PeCDD	36.98	passed	passed	passed	passed	passed	passed	
85	Single PeCDD	35.44	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
86	Single PeCDD	35.58	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
87	Single PeCDD	35.64	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
88	Single PeCDD	35.67	passed	passed	passed	passed	passed	passed	
89	Single PeCDD	35.80	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
90	Single PeCDD	36.14	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
91	Single PeCDD	36.43	passed	passed	passed	passed	passed	passed	
92	Single PeCDD	37.20	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
93	Single PeCDD	37.29	passed	passed	passed	passed	passed	passed	
94	Single PeCDD	37.45	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
95	Single PeCDF	36.58	passed	passed	passed	passed	passed	passed	
96	Single PeCDF	33.28	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
97	Single PeCDF	33.89	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
98	Single PeCDF	33.99	passed	passed	passed	passed	passed	passed	
99	Single PeCDF	34.61	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
100	Single PeCDF	34.72	failed	passed	failed	failed	passed	passed	Failed on: Ratio1A RM1Time < min
101	Single PeCDF	34.86	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
102	Single PeCDF	35.06	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
103	Single PeCDF	35.30	passed	passed	passed	passed	passed	passed	
104	Single PeCDF	35.52	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
105	Single PeCDF	35.66	passed	passed	passed	passed	passed	passed	
106	Single PeCDF	35.81	passed	passed	passed	passed	passed	passed	
107	Single PeCDF	36.01	passed	passed	passed	passed	passed	passed	
108	Single PeCDF	36.11	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
109	Single PeCDF	36.75	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
110	Single PeCDF	36.78	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
111	Single PeCDF	36.85	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
112	Single PeCDF	37.00	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
113	Single PeCDF	37.09	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
114	Single PeCDF	37.23	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
115	Single PeCDF	37.34	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
116	Single HpCDD	45.11	passed	passed	passed	passed	passed	passed	
117	Single HpCDD	44.26	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
118	Single HpCDD	45.20	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
119	Single HxCDF	41.15	passed	passed	passed	passed	passed	passed	
120	Single HxCDF	38.98	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
121	Single HxCDF	40.17	passed	passed	passed	passed	passed	passed	
122	Single HxCDF	40.30	passed	passed	passed	passed	passed	passed	
123	Single HxCDF	40.45	passed	passed	passed	passed	passed	passed	
124	Single HxCDF	40.81	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
125	Single HxCDF	40.92	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
126	Single HxCDF	41.22	failed	passed	failed	failed	passed	passed	Failed on: Ratio1A RM1Time2 > max
127	Single HxCDF	41.37	passed	passed	passed	passed	passed	passed	
128	Single HxCDF	41.49	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
129	Single HxCDF	41.58	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
130	Single HxCDF	41.64	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
131	Single HxCDF	41.80	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
132	Single HxCDF	42.16	passed	passed	passed	passed	passed	passed	
133	Single HxCDD	41.47	passed	passed	passed	passed	passed	passed	
134	Single HxCDD	40.26	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
135	Single HxCDD	40.42	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
136	Single HxCDD	40.56	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
137	Single HxCDD	41.12	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
138	Single HxCDD	41.35	passed	passed	passed	passed	passed	passed	
139	Single HxCDD	41.65	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
140	Single HpCDF	43.91	passed	passed	passed	passed	passed	passed	
141	Single HpCDF	43.98	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
142	Single HpCDF	44.26	passed	passed	passed	passed	passed	passed	
143	Single HpCDF	44.44	passed	passed	passed	passed	passed	passed	
144	Single HpCDF	45.13	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/25 20:10
Number of Entries	275
Comment	
Vial	9
Sample Name	SSDFX1837B
Sample ID	ICV
Inst ID	DF18471-18OCT25
Client	
Analyst	jda02741
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct25\18oct25-11.quan
Data	y:\18oct25\18oct25-11.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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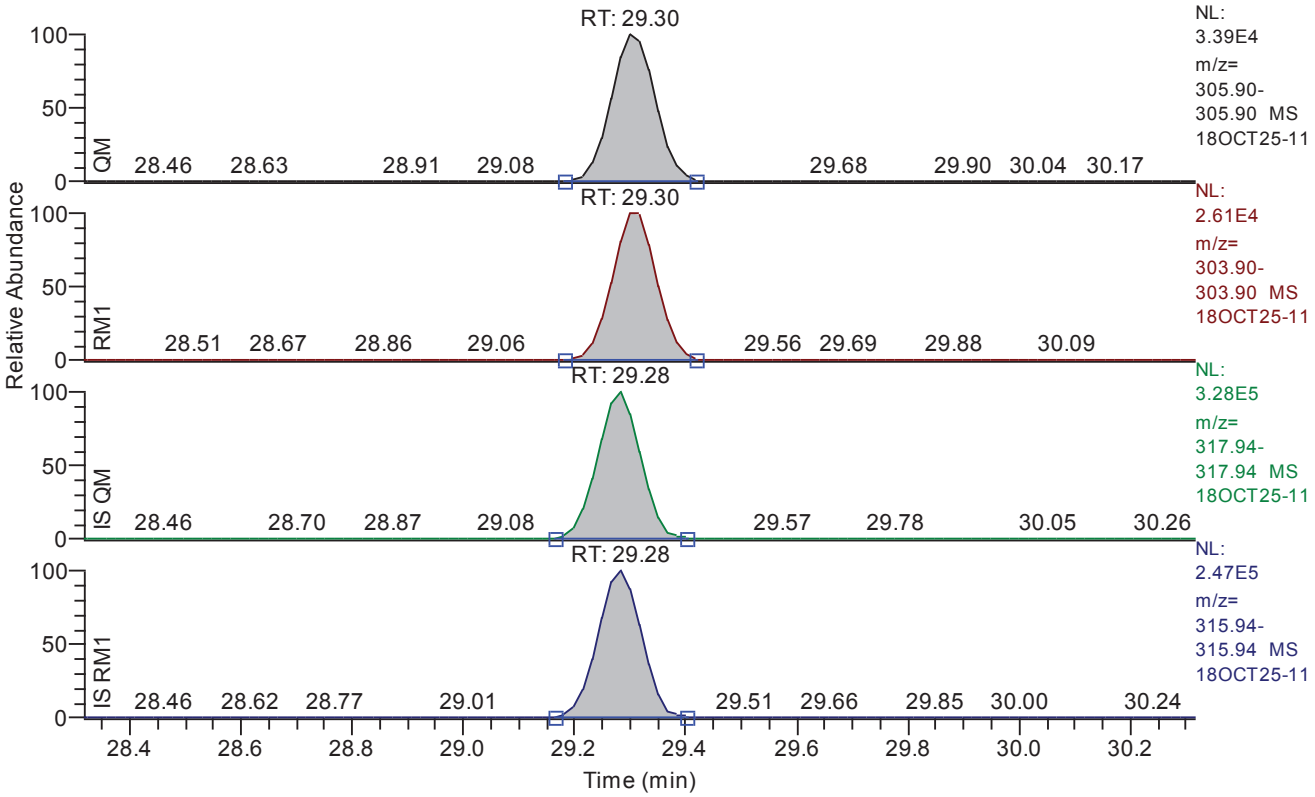
Chromatogram

RT: 28.32 - 30.32 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.30
QM Area	190743
QM Integration Mode	A
RM1 Area	149147
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0099
Unqualified Amount (A)	10.498321
Adjusted Amount (A)	10.4983
Signal-to-Noise	2600
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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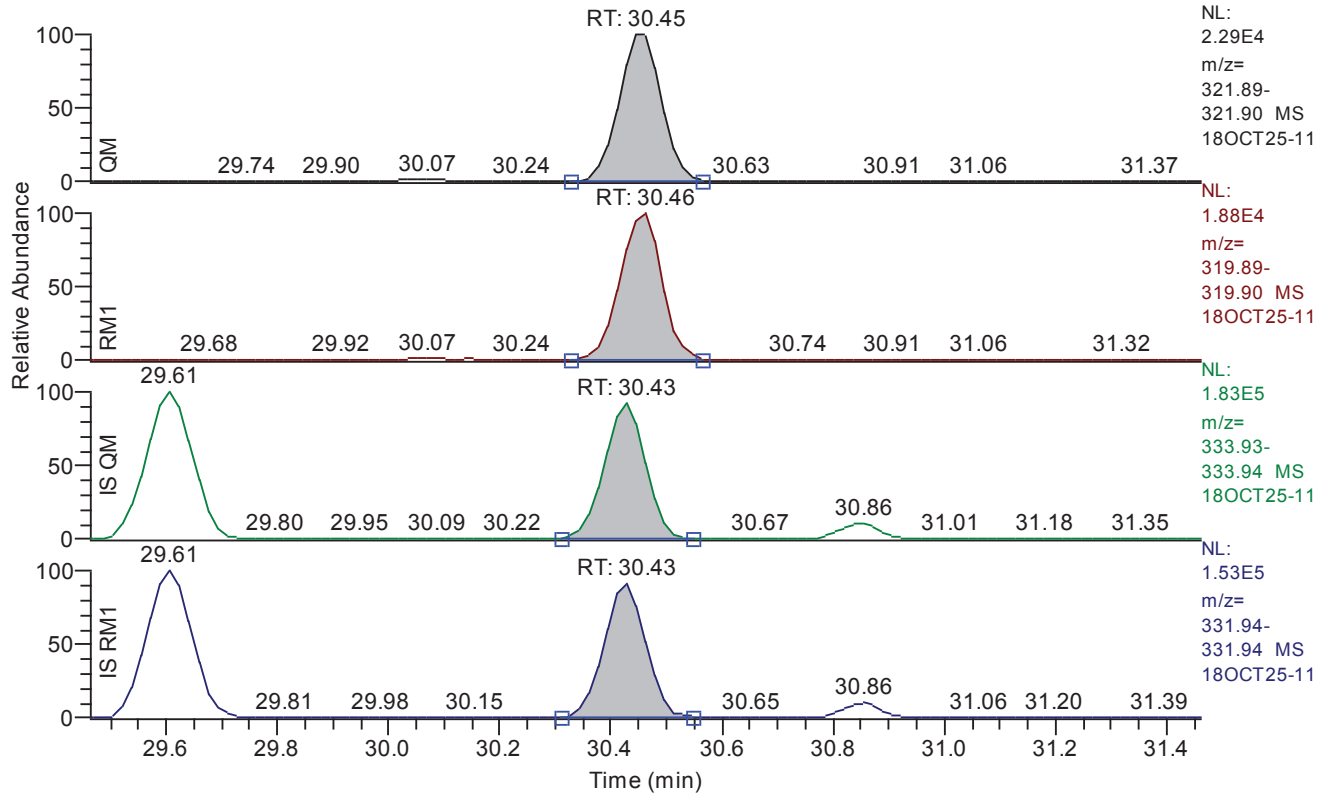
Chromatogram

RT: 29.46 - 31.46 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.45
QM Area	124456
QM Integration Mode	A
RM1 Area	99850
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	11.402498
Adjusted Amount (A)	11.4025
Signal-to-Noise	2197
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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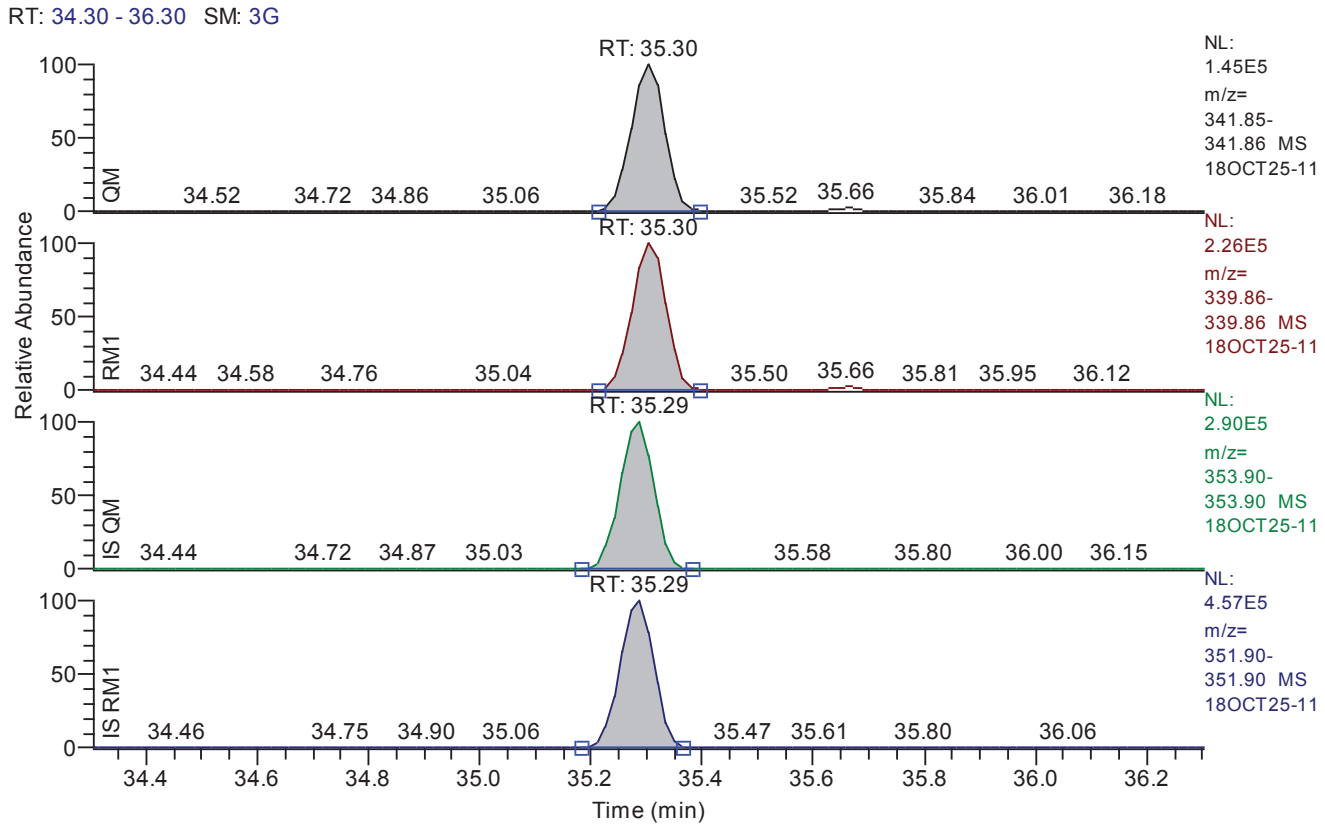
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.30
QM Area	612905
QM Integration Mode	A
RM1 Area	958764
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	52.908487
Adjusted Amount (A)	52.9085
Signal-to-Noise	10456
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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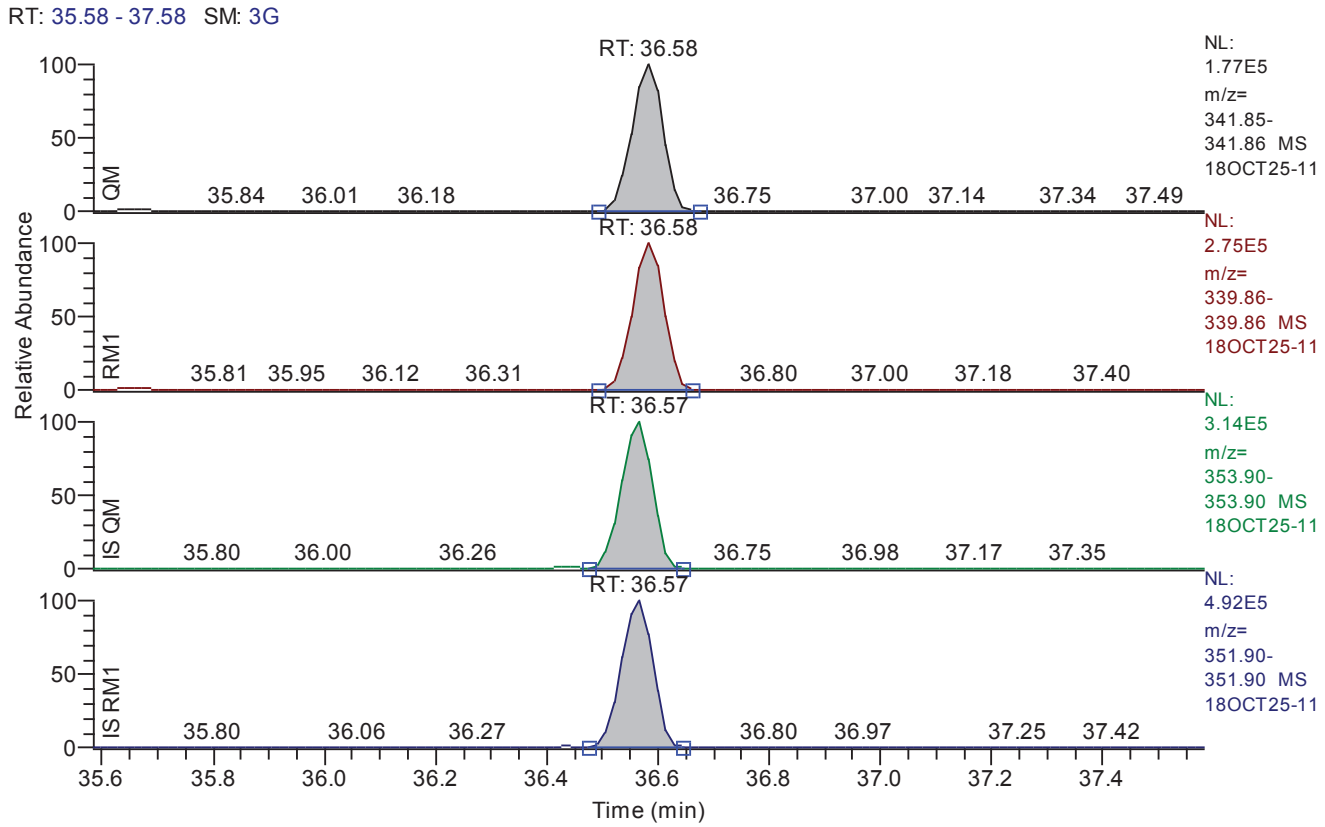
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.58
QM Area	688640
QM Integration Mode	A
RM1 Area	1084197
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	53.517218
Adjusted Amount (A)	53.5172
Signal-to-Noise	12728
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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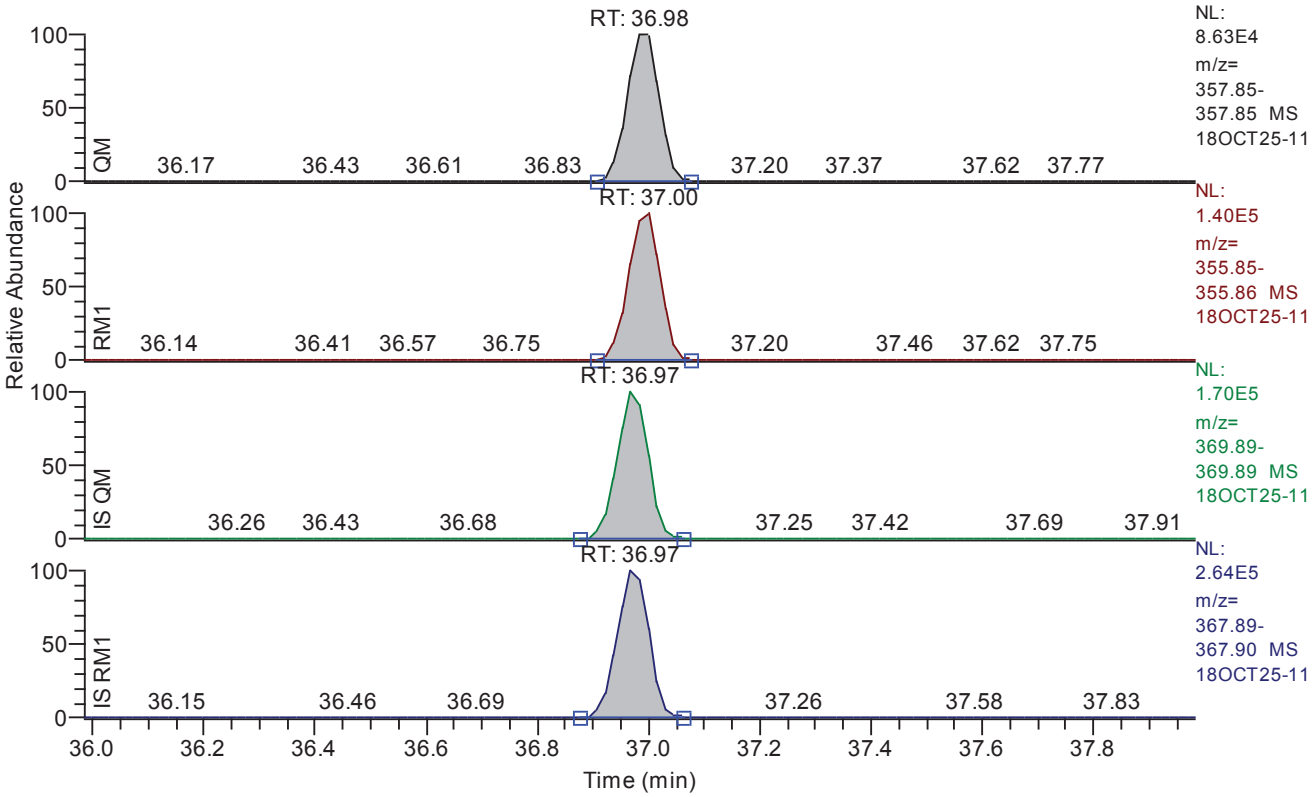
Chromatogram

RT: 35.98 - 37.98 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.98
QM Area	348032
QM Integration Mode	A
RM1 Area	556233
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0156
Unqualified Amount (A)	51.665286
Adjusted Amount (A)	51.6653
Signal-to-Noise	8147
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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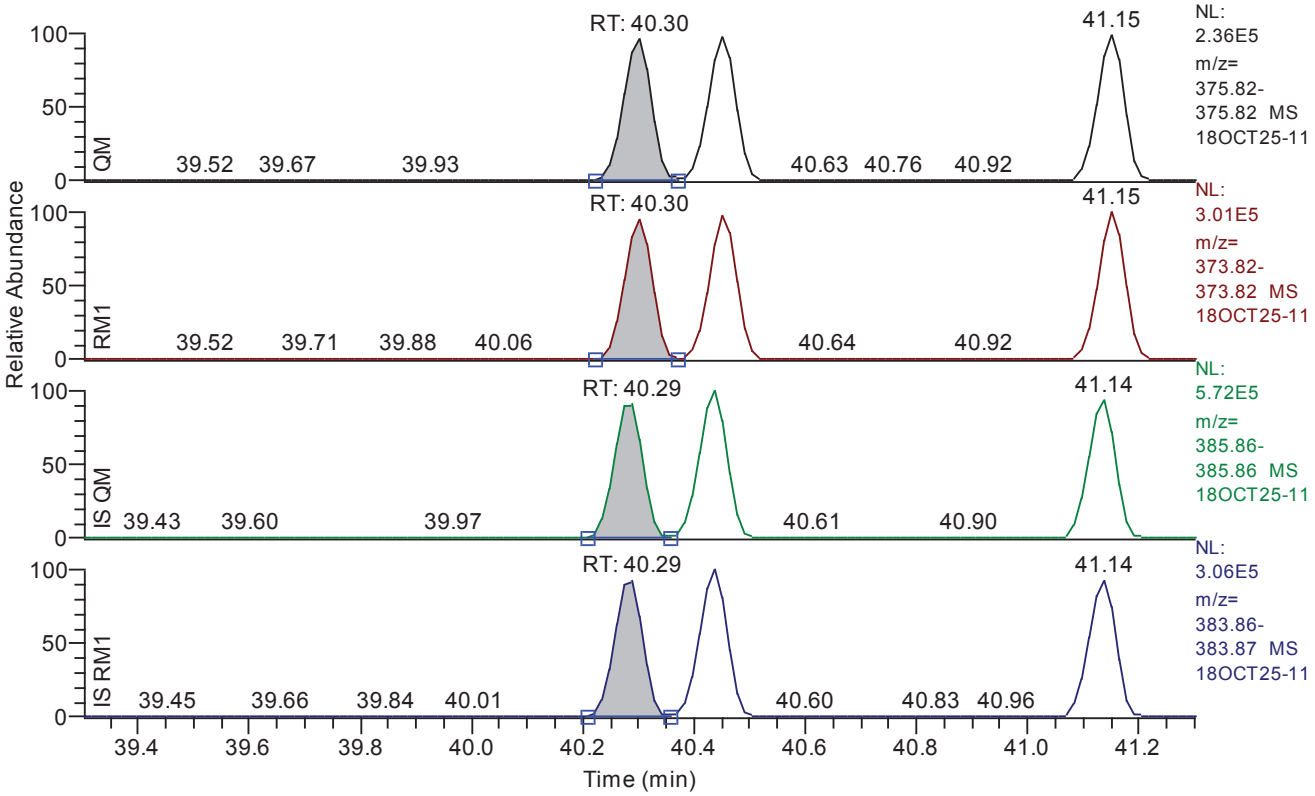
Chromatogram

RT: 39.30 - 41.30 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.30
QM Area	800091
QM Integration Mode	A
RM1 Area	1007863
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0213
Unqualified Amount (A)	53.537518
Adjusted Amount (A)	53.5375
Signal-to-Noise	6457
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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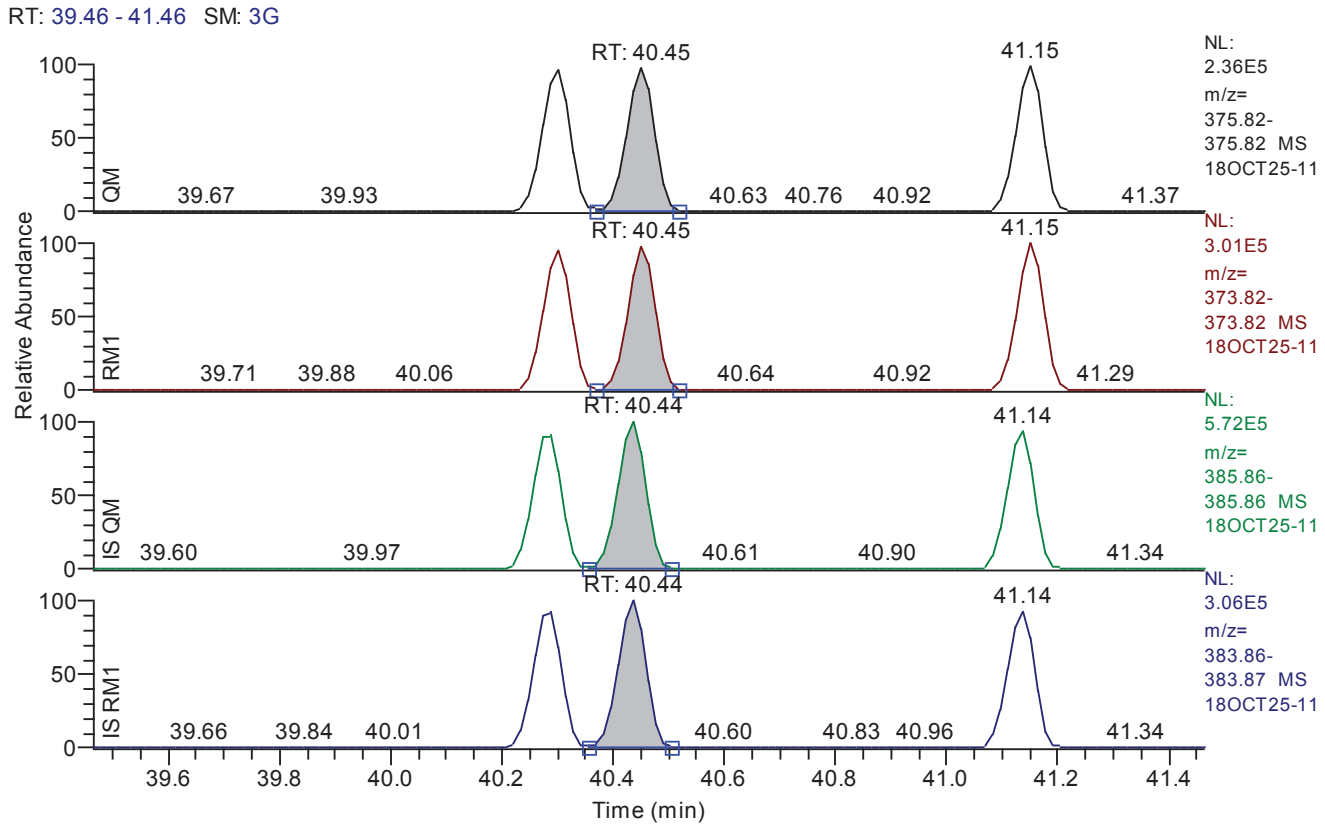
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.45
QM Area	799029
QM Integration Mode	A
RM1 Area	1012209
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0204
Unqualified Amount (A)	52.919708
Adjusted Amount (A)	52.9197
Signal-to-Noise	6576
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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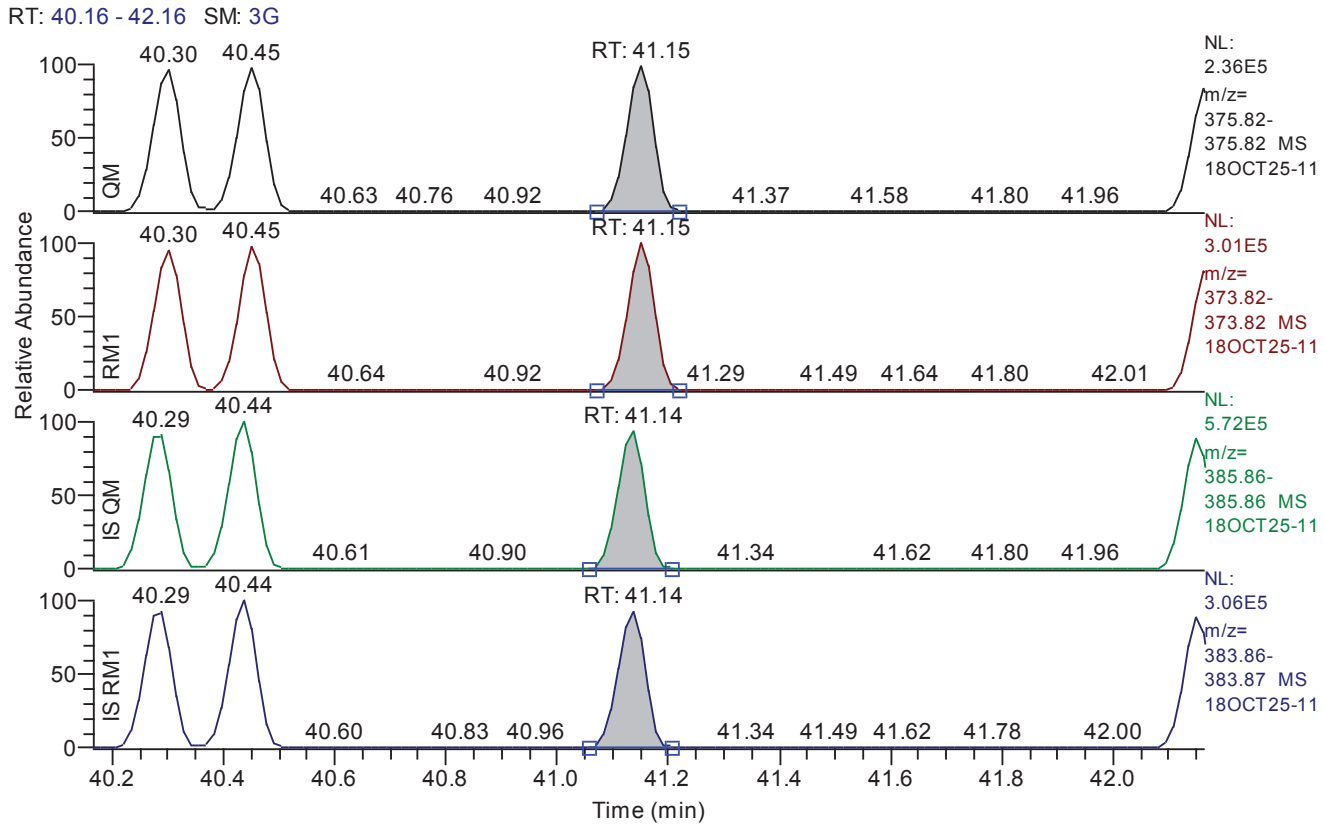
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.15
QM Area	789706
QM Integration Mode	A
RM1 Area	1009012
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0201
Unqualified Amount (A)	52.987641
Adjusted Amount (A)	52.9876
Signal-to-Noise	6726
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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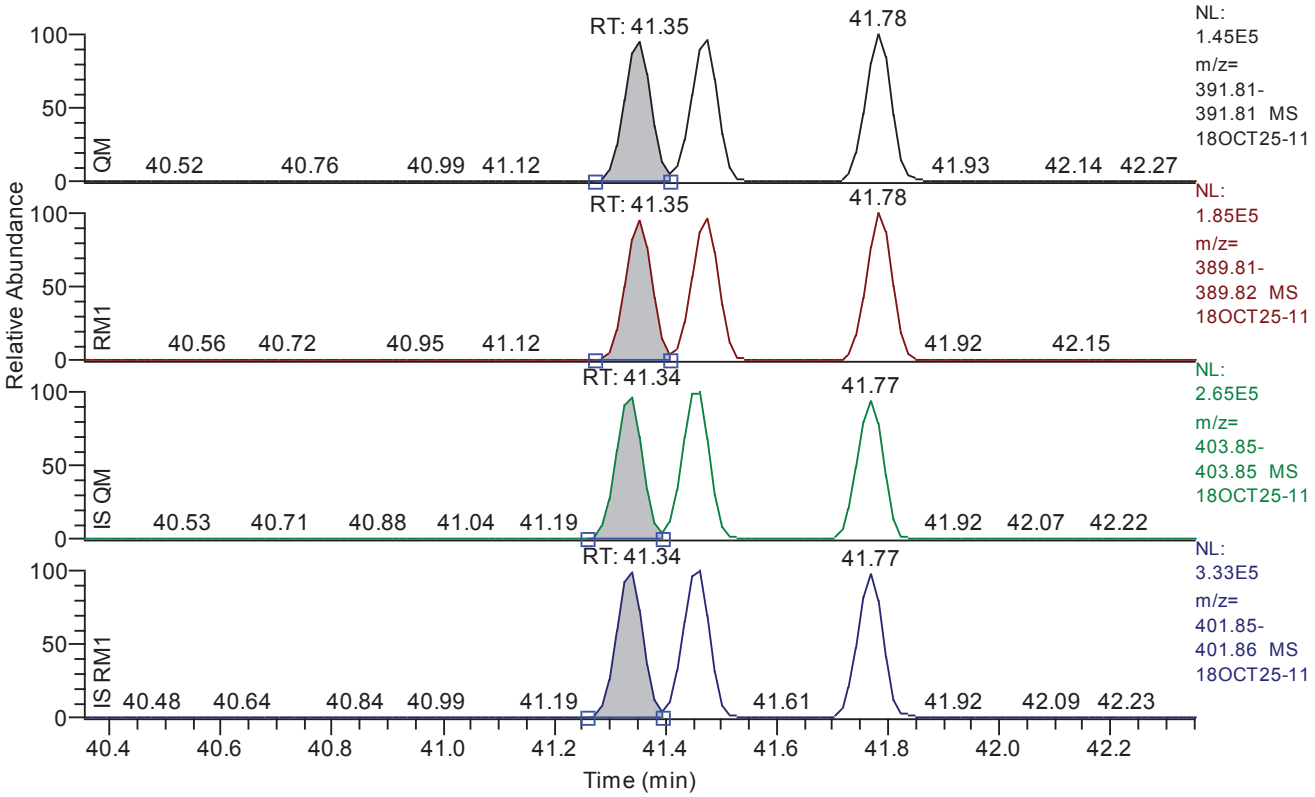
Chromatogram

RT: 40.35 - 42.35 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.35
QM Area	471017
QM Integration Mode	A
RM1 Area	590142
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0170
Unqualified Amount (A)	53.880617
Adjusted Amount (A)	53.8806
Signal-to-Noise	7965
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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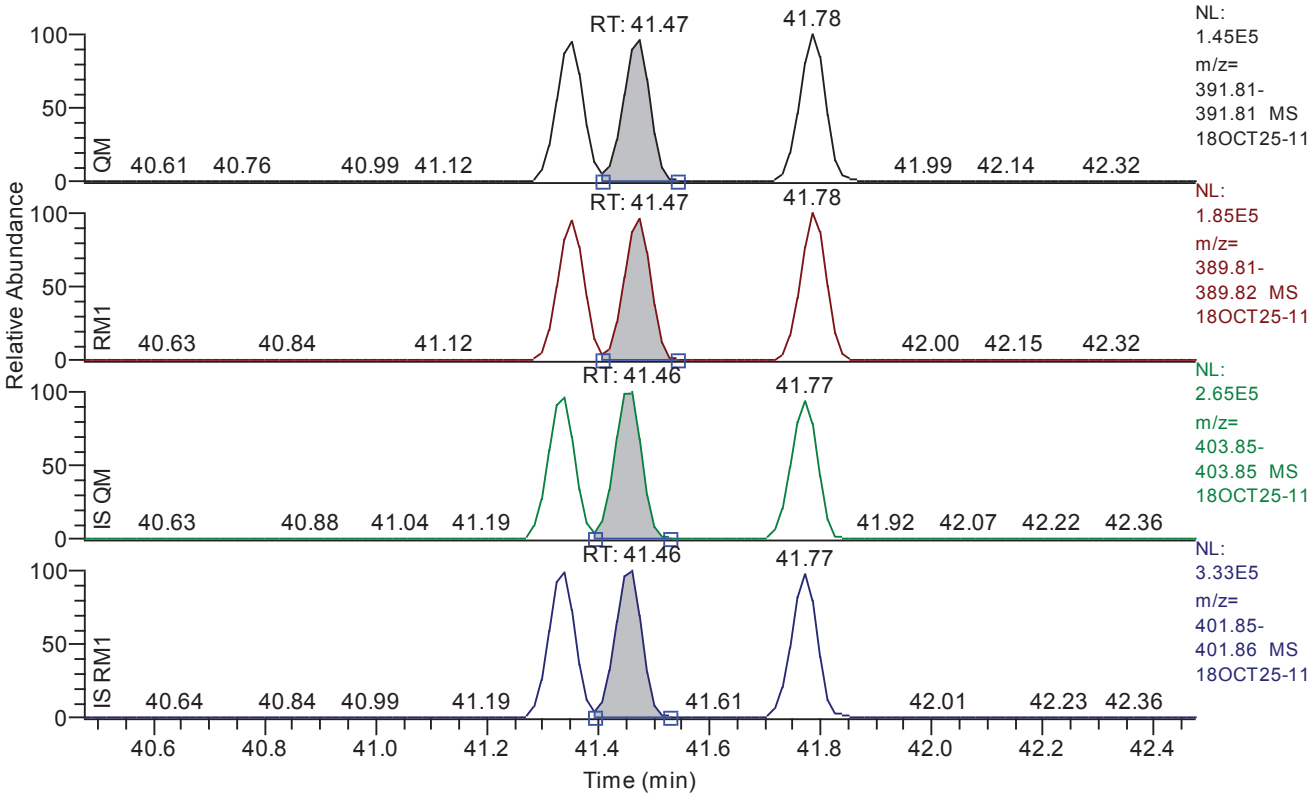
Chromatogram

RT: 40.47 - 42.47 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.47
QM Area	469958
QM Integration Mode	A
RM1 Area	604051
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0170
Unqualified Amount (A)	53.674730
Adjusted Amount (A)	53.6747
Signal-to-Noise	8013
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

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By ucmr at 11:09 am, 10/30/18

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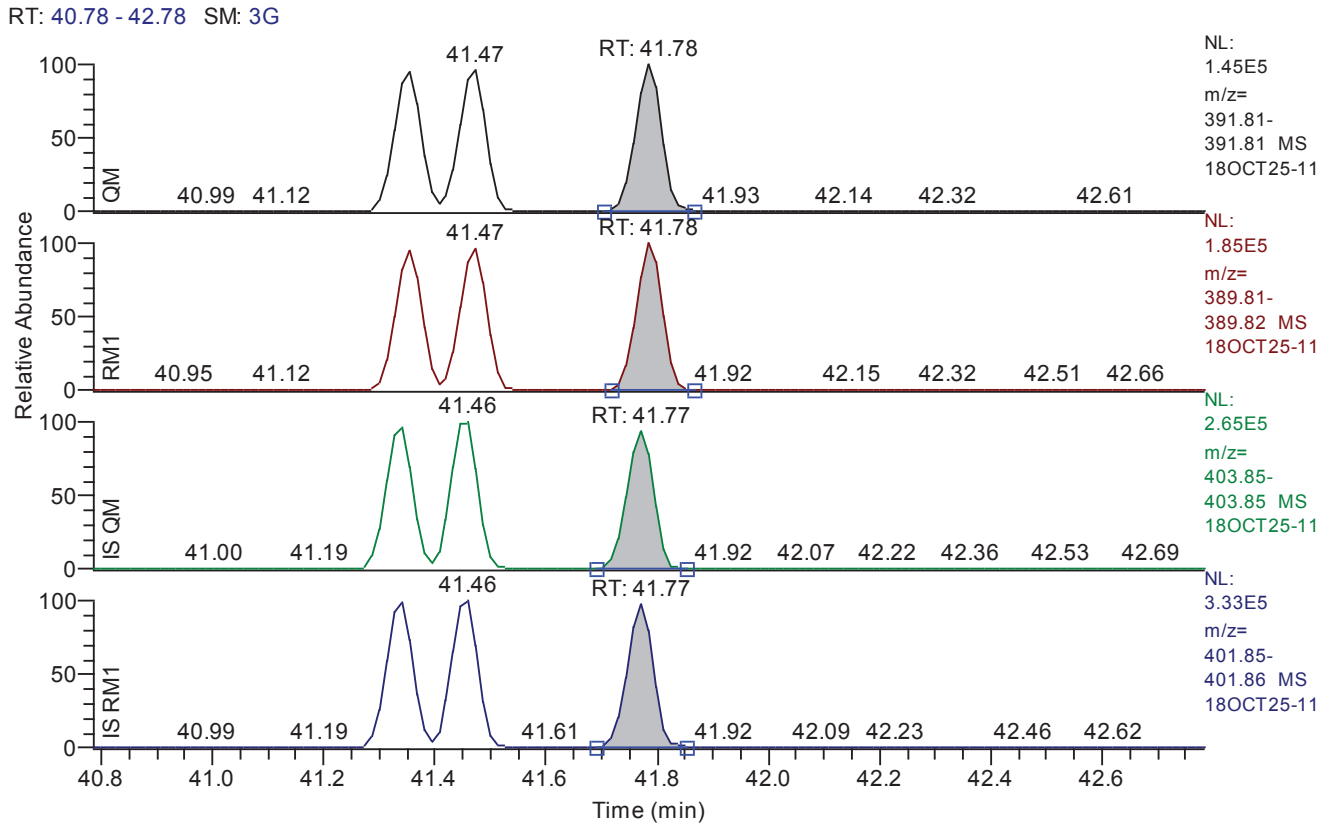

Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.78
QM Area	475961
QM Integration Mode	A
RM1 Area	605669
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0163
Unqualified Amount (A)	53.702287
Adjusted Amount (A)	53.7023
Signal-to-Noise	8308
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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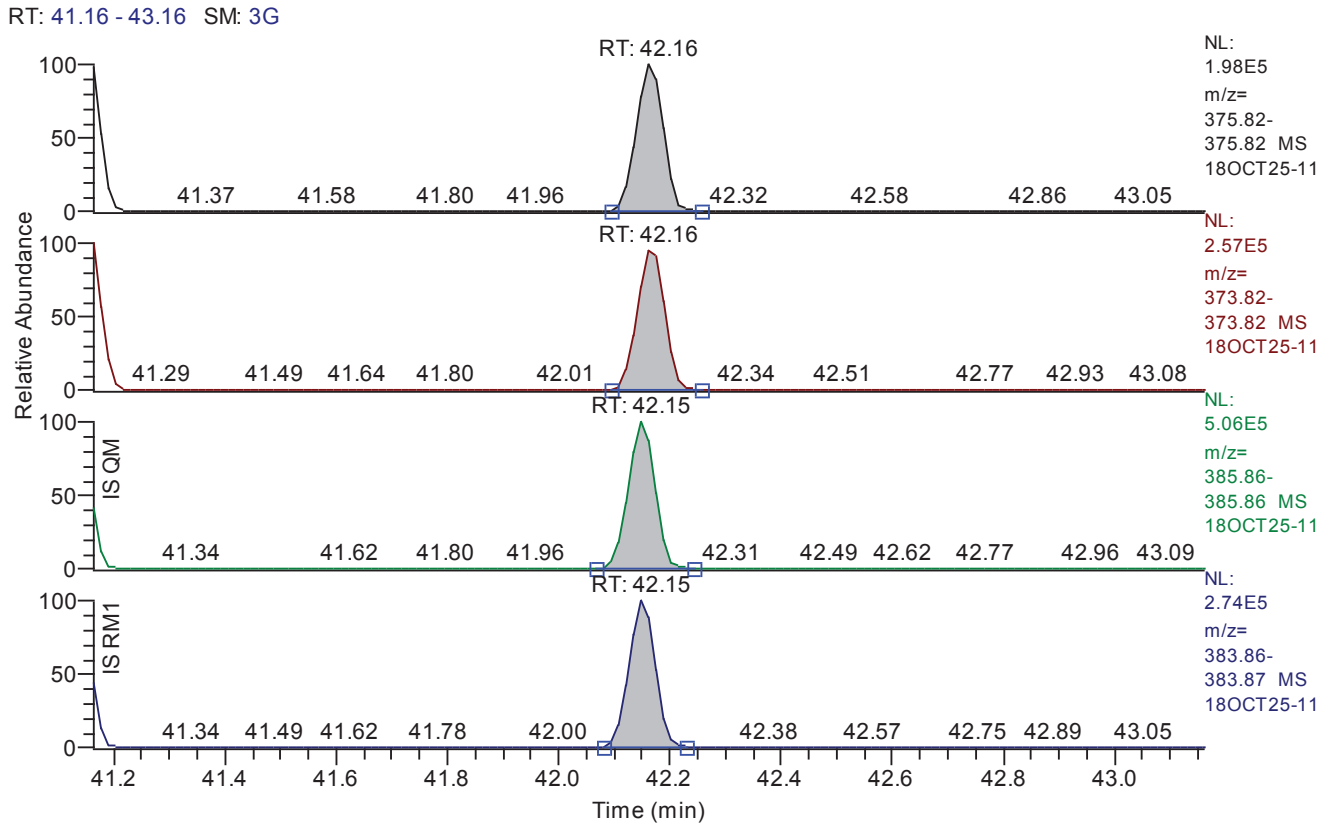
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.16
QM Area	678444
QM Integration Mode	A
RM1 Area	857493
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0228
Unqualified Amount (A)	52.250423
Adjusted Amount (A)	52.2504
Signal-to-Noise	5576
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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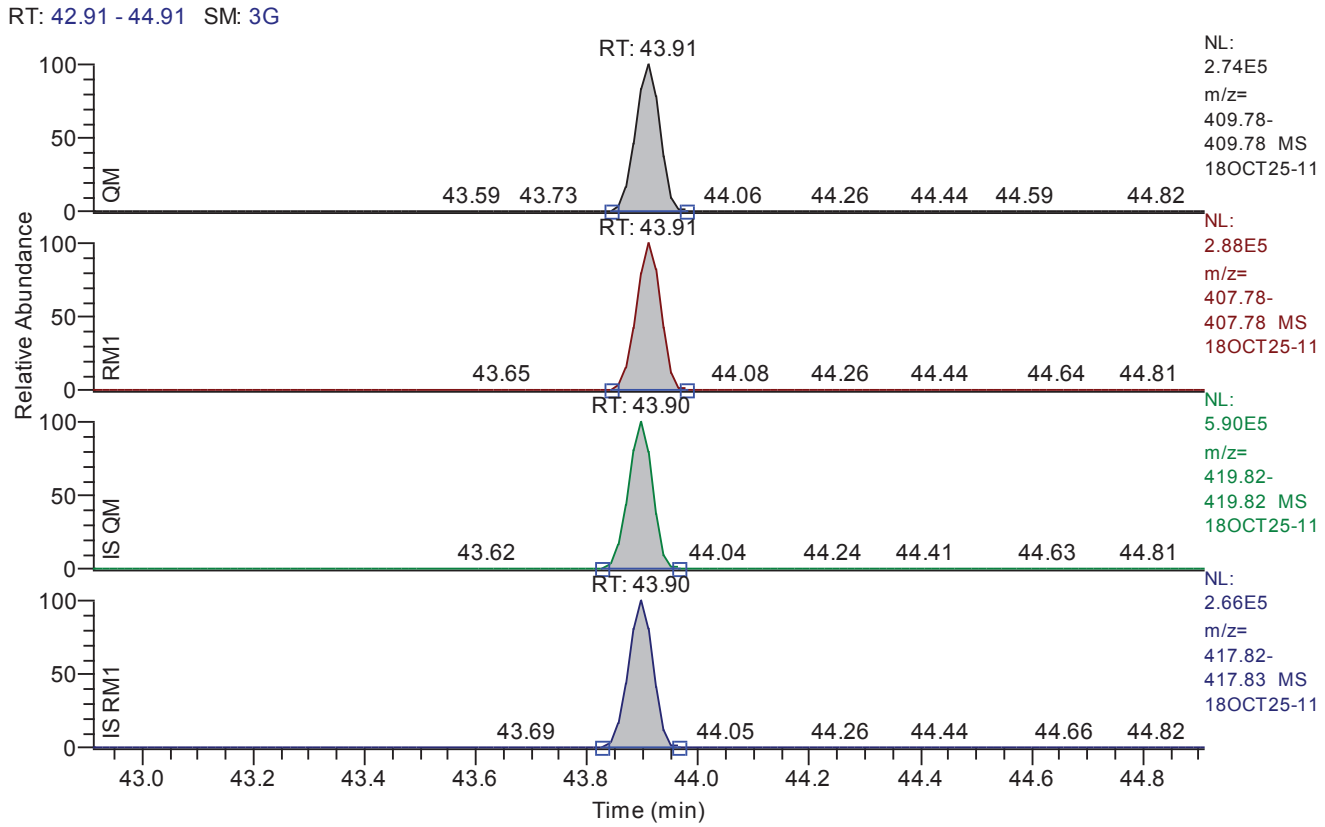
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.91
QM Area	865235
QM Integration Mode	A
RM1 Area	910890
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0236
Unqualified Amount (A)	53.305103
Adjusted Amount (A)	53.3051
Signal-to-Noise	5644
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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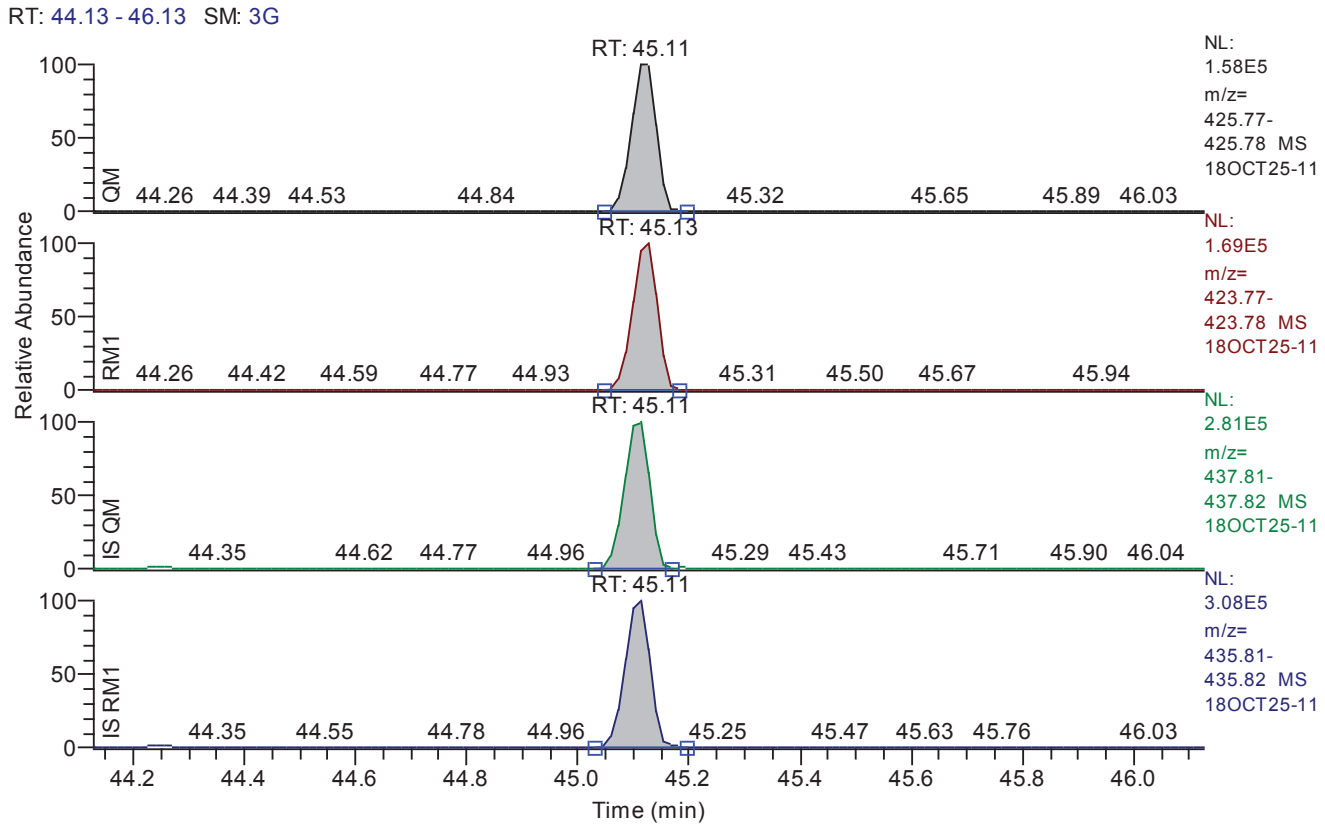
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.11
QM Area	510336
QM Integration Mode	A
RM1 Area	540475
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0322
Unqualified Amount (A)	53.461787
Adjusted Amount (A)	53.4618
Signal-to-Noise	4213
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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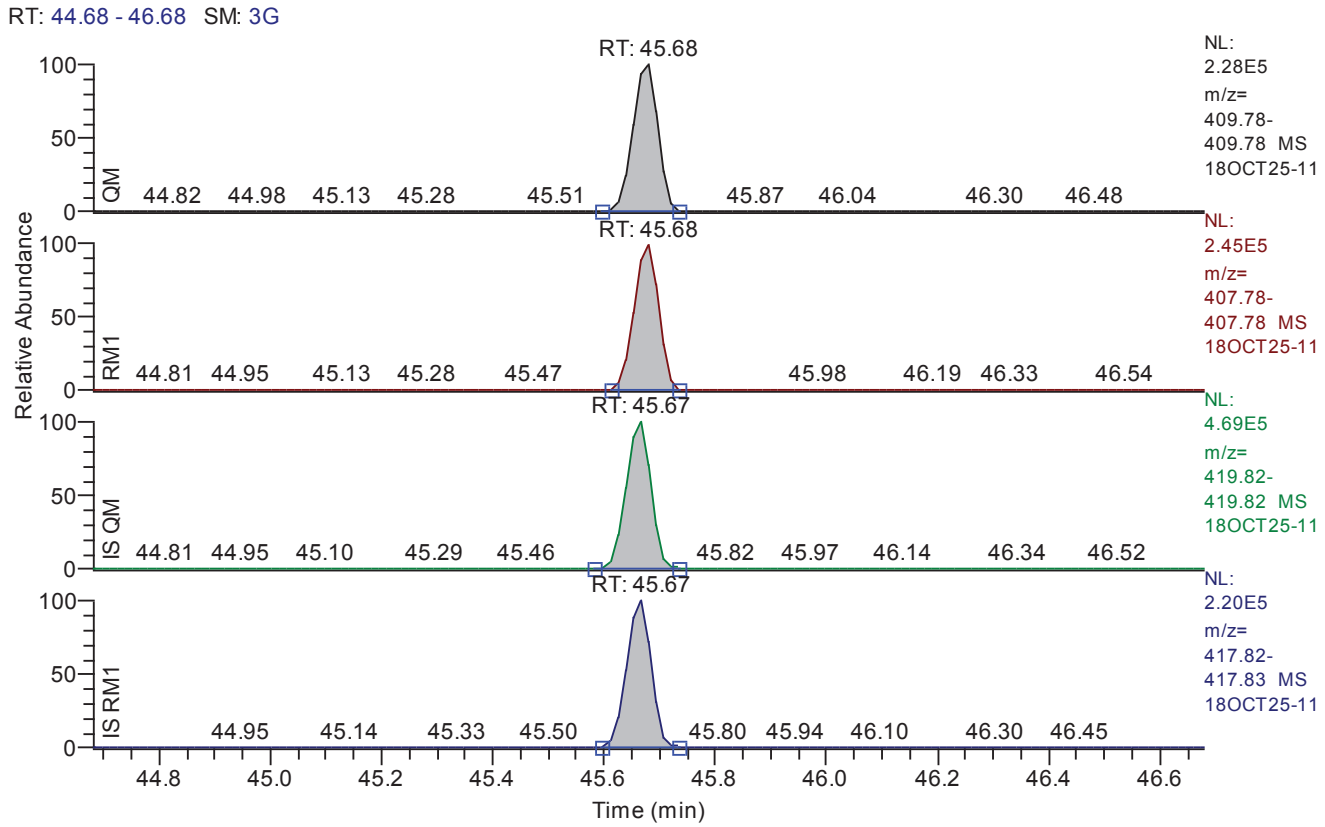
Chromatogram



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.68
QM Area	737372
QM Integration Mode	A
RM1 Area	770877
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0283
Unqualified Amount (A)	53.564271
Adjusted Amount (A)	53.5643
Signal-to-Noise	4755
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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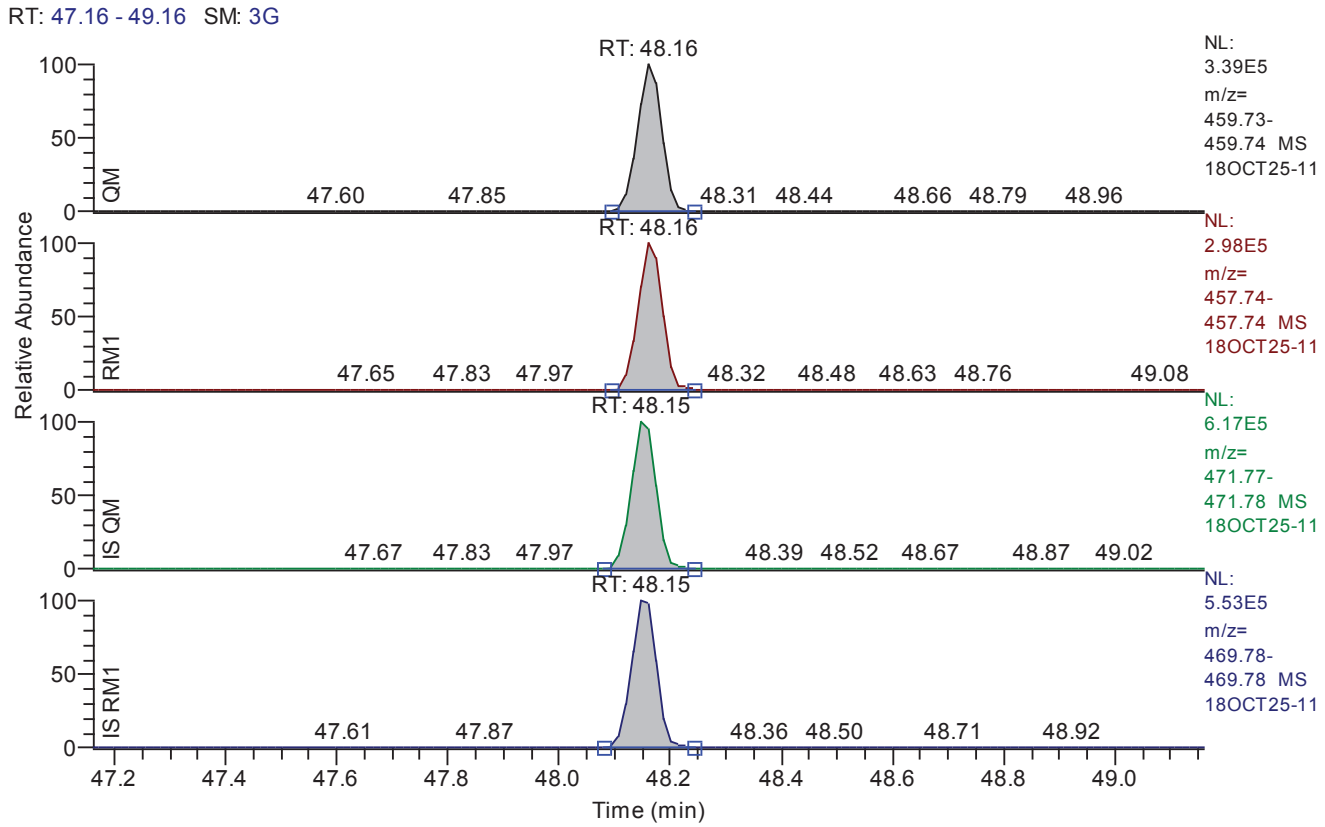
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.16
QM Area	1024387
QM Integration Mode	A
RM1 Area	908065
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0197
Unqualified Amount (A)	104.315097
Adjusted Amount (A)	104.3151
Signal-to-Noise	13686
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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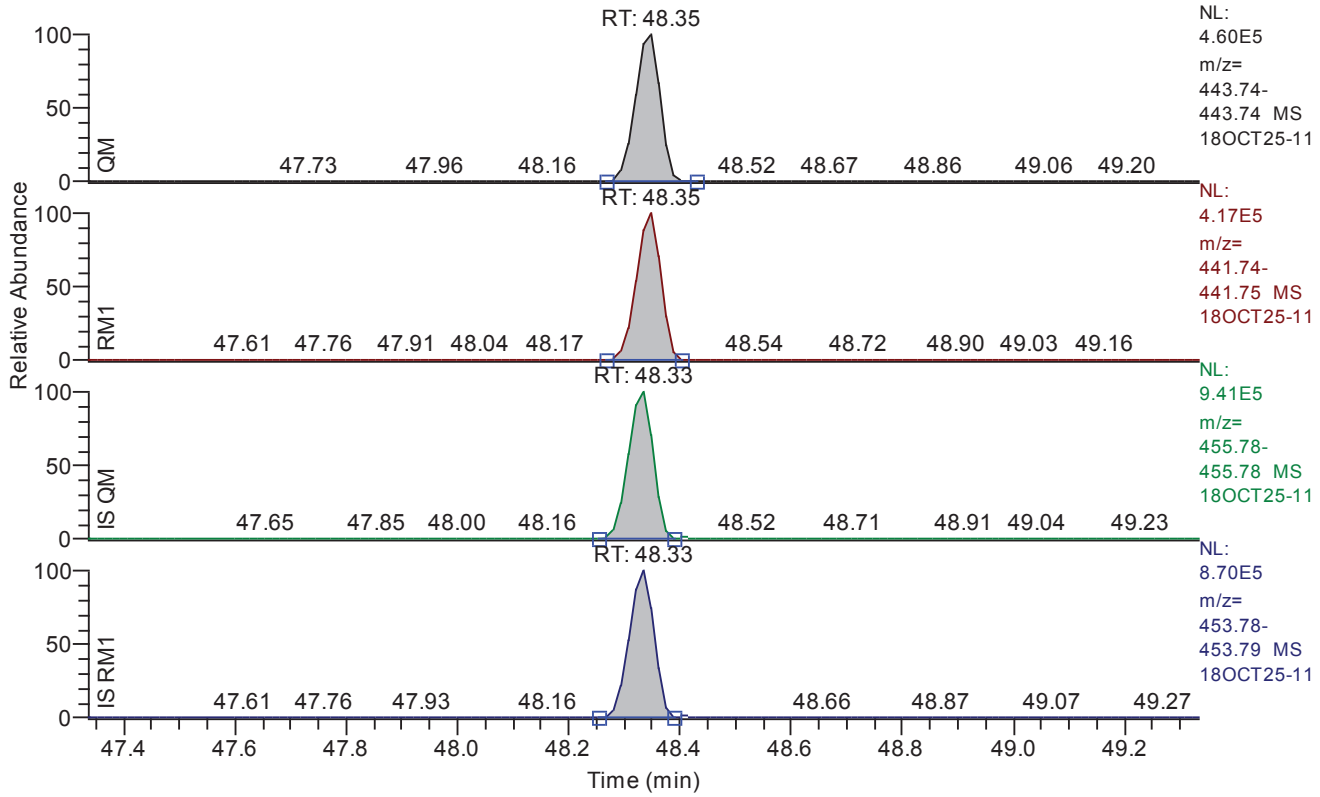
Chromatogram

RT: 47.33 - 49.33 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.35
QM Area	1428682
QM Integration Mode	A
RM1 Area	1274882
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	106.666359
Adjusted Amount (A)	106.6664
Signal-to-Noise	20310
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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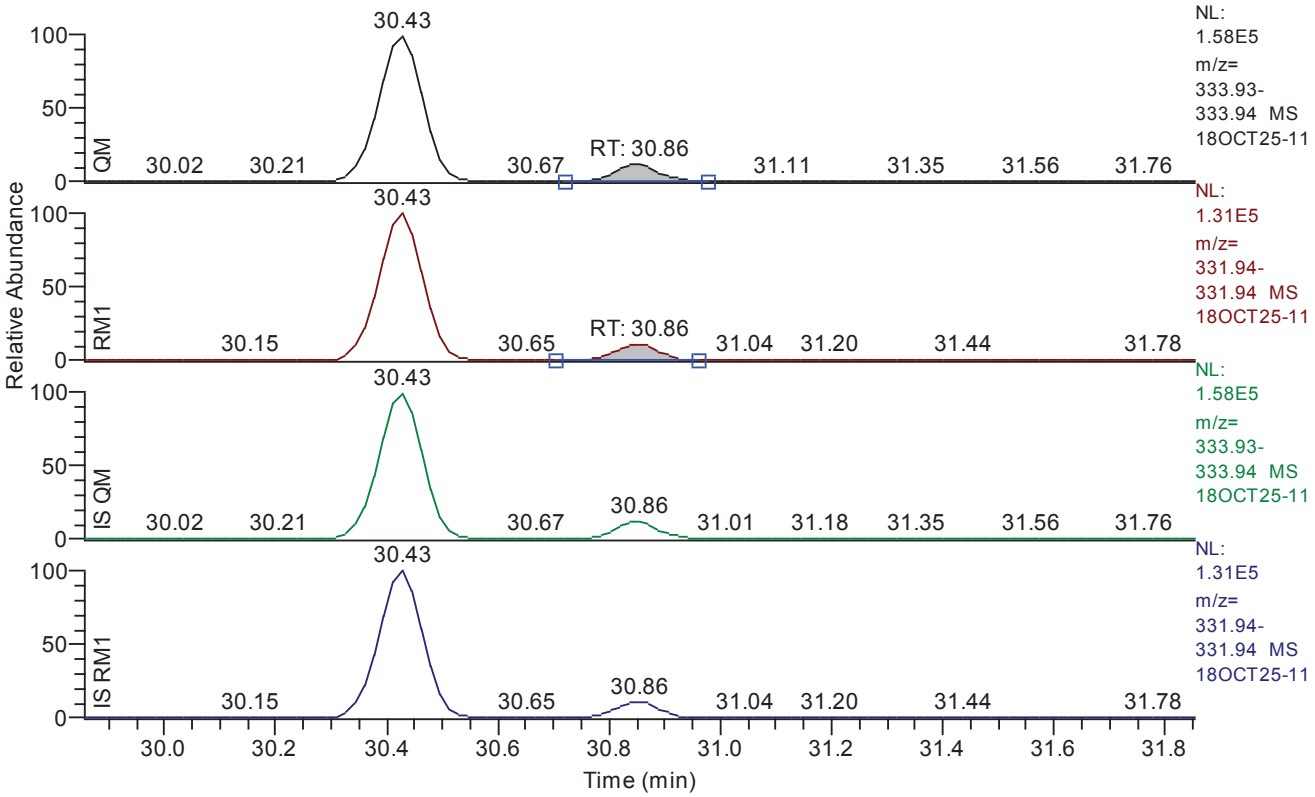
Chromatogram

RT: 29.85 - 31.85 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.86
QM Area	107502
QM Integration Mode	A
RM1 Area	80913
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0182
Unqualified Amount (A)	9.266541
Adjusted Amount (A)	9.2665
Signal-to-Noise	1320
Client Flags	
Status Overview	passed
Status Info	

APPROVED By uma9 at 3:02 pm, 10/26/18

REVIEWED By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	29.34	29.30	29.30	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.49	30.45	30.46	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.33	35.30	35.30	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.61	36.58	36.58	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.02	36.98	37.00	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.32	40.30	40.30	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.48	40.45	40.45	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.18	41.15	41.15	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.39	41.35	41.35	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.49	41.47	41.47	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.82	41.78	41.78	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.19	42.16	42.16	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.94	43.91	43.91	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.15	45.11	45.13	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.70	45.68	45.68	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.19	48.16	48.16	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.37	48.35	48.35	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.88	30.86	30.86	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.63	29.61	29.61	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.23	40.21	40.21	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.31	29.28	29.28	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.46	30.43	30.43	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.31	35.29	35.29	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.59	36.57	36.57	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.01	36.97	36.97	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.31	40.29	40.29	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.46	40.44	40.44	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.16	41.14	41.14	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.37	41.34	41.34	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.48	41.46	41.46	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.80	41.77	41.77	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.18	42.15	42.15	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.93	43.90	43.90	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.13	45.11	45.11	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.69	45.67	45.67	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.18	48.15	48.15	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.37	48.33	48.33	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	28.13	28.11	28.11	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.01	28.99	28.99	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.42	34.39	34.39	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	35.86	35.82	35.82	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.53	40.51	40.51	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	40.62	40.60	40.60	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.73	44.71	44.71	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	44.68	44.66	44.66	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	29.30	29.30	29.30	passed	passed
47	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	25.18	25.18	25.20	passed	passed
48	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	25.57	25.57	25.56	passed	passed
49	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	25.62	25.62	25.62	passed	passed
50	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	25.81	25.81	25.81	passed	passed
51	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	26.07	26.07	26.05	passed	passed
52	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	26.50	26.50	26.50	passed	passed
53	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	27.06	27.06	27.06	passed	passed
54	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	27.54	27.54	27.50	passed	passed
55	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	27.68	27.68	27.66	passed	passed
56	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	27.76	27.76	27.76	passed	passed
57	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	28.26	28.26	28.29	passed	passed
58	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	29.08	29.08	29.06	passed	passed
59	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	29.59	29.59	29.56	passed	passed
60	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	29.68	29.68	29.69	passed	passed
61	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	29.76	29.76	29.81	failed	passed
62	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	30.10	30.10	30.09	passed	passed
63	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	30.87	30.87	30.91	passed	passed
64	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	31.61	31.61	31.63	passed	passed
65	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.45	30.45	30.46	passed	passed
66	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	27.11	27.11	27.13	passed	passed
67	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	27.21	27.21	27.20	passed	passed
68	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	27.49	27.49	27.45	passed	passed
69	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	27.93	27.93	27.92	passed	passed
70	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.45	28.45	28.43	passed	passed
71	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.62	28.62	28.60	passed	passed
72	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.89	28.89	28.91	passed	passed
73	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.06	29.06	29.06	passed	passed
74	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.32	29.32	29.30	passed	passed
75	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.07	30.07	30.07	passed	passed
76	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.57	30.57	30.65	failed	passed
77	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.74	30.74	30.74	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
78	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.84	30.84	30.84	passed	passed
79	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.91	30.91	30.91	passed	passed
80	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.96	30.96	30.98	passed	passed
81	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.06	31.06	31.06	passed	passed
82	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.37	31.37	31.32	failed	passed
83	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.66	31.66	31.64	passed	passed
84	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.98	36.98	37.00	passed	passed
85	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	35.44	35.44	35.46	passed	passed
86	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	35.58	35.58	35.57	passed	passed
87	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	35.64	35.64	35.64	passed	passed
88	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	35.67	35.67	35.69	passed	passed
89	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	35.80	35.80	35.77	passed	passed
90	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.14	36.14	36.14	passed	passed
91	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.43	36.43	36.41	passed	passed
92	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.20	37.20	37.20	passed	passed
93	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.29	37.29	37.32	passed	passed
94	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.45	37.45	37.46	passed	passed
95	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.58	36.58	36.58	passed	passed
96	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	33.28	33.28	33.27	passed	passed
97	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	33.89	33.89	33.85	passed	passed
98	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	33.99	33.99	34.01	passed	passed
99	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.61	34.61	34.58	passed	passed
100	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.72	34.72	34.67	failed	passed
101	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.86	34.86	34.86	passed	passed
102	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.06	35.06	35.04	passed	passed
103	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.30	35.30	35.30	passed	passed
104	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.52	35.52	35.50	passed	passed
105	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.66	35.66	35.66	passed	passed
106	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.81	35.81	35.81	passed	passed
107	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.01	36.01	36.01	passed	passed
108	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.11	36.11	36.12	passed	passed
109	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.75	36.75	36.75	passed	passed
110	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.78	36.78	36.80	passed	passed
111	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.85	36.85	36.86	passed	passed
112	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.00	37.00	37.00	passed	passed
113	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.09	37.09	37.11	passed	passed
114	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.23	37.23	37.26	passed	passed
115	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.34	37.34	37.34	passed	passed
116	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.11	45.11	45.13	passed	passed
117	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.26	44.26	44.26	passed	passed
118	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.20	45.20	45.24	passed	passed
119	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.15	41.15	41.15	passed	passed
120	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	38.98	38.98	39.00	passed	passed
121	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.17	40.17	40.17	passed	passed
122	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.30	40.30	40.30	passed	passed
123	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.45	40.45	40.45	passed	passed
124	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.81	40.81	40.80	passed	passed
125	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.92	40.92	40.92	passed	passed
126	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.22	41.22	41.29	failed	passed
127	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.37	41.37	41.33	passed	passed
128	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.49	41.49	41.49	passed	passed
129	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.58	41.58	41.60	passed	passed
130	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.64	41.64	41.64	passed	passed
131	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.80	41.80	41.80	passed	passed
132	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.16	42.16	42.16	passed	passed
133	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.47	41.47	41.47	passed	passed
134	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	40.26	40.26	40.29	passed	passed
135	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	40.42	40.42	40.44	passed	passed
136	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	40.56	40.56	40.56	passed	passed
137	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.12	41.12	41.12	passed	passed
138	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.35	41.35	41.35	passed	passed
139	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.65	41.65	41.66	passed	passed
140	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	43.91	43.91	43.91	passed	passed
141	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	43.98	43.98	43.99	passed	passed
142	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	44.26	44.26	44.27	passed	passed
143	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	44.44	44.44	44.44	passed	passed
144	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.13	45.13	45.13	passed	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.30	0.7819	0.6450 - 0.8950	passed	104.98	80 - 120	passed
2	2378-TCDD	30.45	0.8023	0.6450 - 0.8950	passed	114.02	80 - 120	passed
3	12378-PeCDF	35.30	1.5643	1.3150 - 1.7850	passed	105.82	80 - 120	passed
4	23478-PeCDF	36.58	1.5744	1.3150 - 1.7850	passed	107.03	80 - 120	passed
5	12378-PeCDD	36.98	1.5982	1.3150 - 1.7850	passed	103.33	80 - 120	passed
6	123478-HxCDF	40.30	1.2597	1.0450 - 1.4350	passed	107.08	80 - 120	passed
7	123678-HxCDF	40.45	1.2668	1.0450 - 1.4350	passed	105.84	80 - 120	passed
8	234678-HxCDF	41.15	1.2777	1.0450 - 1.4350	passed	105.98	80 - 120	passed
9	123478-HxCDD	41.35	1.2529	1.0450 - 1.4350	passed	107.76	80 - 120	passed
10	123678-HxCDD	41.47	1.2853	1.0450 - 1.4350	passed	107.35	80 - 120	passed
11	123789-HxCDD	41.78	1.2725	1.0450 - 1.4350	passed	107.40	80 - 120	passed
12	123789-HxCDF	42.16	1.2639	1.0450 - 1.4350	passed	104.50	80 - 120	passed
13	1234678-HpCDF	43.91	1.0528	0.8750 - 1.2050	passed	106.61	80 - 120	passed
14	1234678-HpCDD	45.11	1.0591	0.8750 - 1.2050	passed	106.92	80 - 120	passed
15	1234789-HpCDF	45.68	1.0454	0.8750 - 1.2050	passed	107.13	80 - 120	passed
16	OCDD	48.16	0.8864	0.7550 - 1.0250	passed	104.32	80 - 120	passed
17	OCDF	48.35	0.8923	0.7550 - 1.0250	passed	106.67	80 - 120	passed
18	13C12-1278-TCDD (CRS)	30.86	0.7527	0.6450 - 0.8950	passed	92.67	80 - 120	passed
19	13C12-1234-TCDD	29.61	0.8163	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.21	1.2846	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.28	0.7654	0.6450 - 0.8950	passed	84.43	80 - 120	passed
22	13C12-2378-TCDD	30.43	0.8329	0.6450 - 0.8950	passed	84.03	80 - 120	passed
23	13C12-12378-PeCDF	35.29	1.5782	1.3150 - 1.7850	passed	85.63	80 - 120	passed
24	13C12-23478-PeCDF	36.57	1.5909	1.3150 - 1.7850	passed	85.48	80 - 120	passed
25	13C12-12378-PeCDD	36.97	1.5860	1.3150 - 1.7850	passed	85.19	80 - 120	passed
26	13C12-123478-HxCDF	40.29	0.5359	0.4250 - 0.5950	passed	81.01	80 - 120	passed
27	13C12-123678-HxCDF	40.44	0.5347	0.4250 - 0.5950	passed	81.37	80 - 120	passed
28	13C12-234678-HxCDF	41.14	0.5362	0.4250 - 0.5950	passed	81.05	80 - 120	passed
29	13C12-123478-HxCDD	41.34	1.2756	1.0450 - 1.4350	passed	79.64	80 - 120	passed
30	13C12-123678-HxCDD	41.46	1.2401	1.0450 - 1.4350	passed	80.87	80 - 120	passed
31	13C12-123789-HxCDD	41.77	1.2801	1.0450 - 1.4350	passed	79.51	80 - 120	passed
32	13C12-123789-HxCDF	42.15	0.5316	0.4250 - 0.5950	passed	81.00	80 - 120	passed
33	13C12-1234678-HpCDF	43.90	0.4580	0.3650 - 0.5150	passed	81.09	80 - 120	passed
34	13C12-1234678-HpCDD	45.11	1.0799	0.8750 - 1.2050	passed	80.96	80 - 120	passed
35	13C12-1234789-HpCDF	45.67	0.4611	0.3650 - 0.5150	passed	81.30	80 - 120	passed
36	13C12-OCDD	48.15	0.9005	0.7550 - 1.0250	passed	82.92	80 - 120	passed
37	13C12-OCDF	48.33	0.9179	0.7550 - 1.0250	passed	80.93	80 - 120	passed
38	Total TCDF	28.11	0.7819	0.6450 - 0.8950	---	2.45	0 - 0	---
39	Total TCDD	28.99	0.8023	0.6450 - 0.8950	---	2.93	0 - 0	---
40	Total PeCDF	34.39	1.5701	1.3150 - 1.7850	---	4.60	0 - 0	---
41	Total PeCDD	35.82	1.5981	1.3150 - 1.7850	---	3.84	0 - 0	---
42	Total HxCDF	40.51	1.2670	1.0450 - 1.4350	---	19.26	0 - 0	---
43	Total HxCDD	40.60	1.2691	1.0450 - 1.4350	---	10.70	0 - 0	---
44	Total HpCDD	44.71	1.0591	0.8750 - 1.2050	---	8.91	0 - 0	---
45	Total HpCDF	44.66	1.0527	0.8750 - 1.2050	---	7.75	0 - 0	---
46	Single TCDF	29.30	0.7819	0.6450 - 0.8950	passed	104.98	0 - 0	passed
47	Single TCDF	25.18	0.2713	0.6450 - 0.8950	failed	0.09	0 - 0	passed
48	Single TCDF	25.57	0.7392	0.6450 - 0.8950	passed	0.07	0 - 0	passed
49	Single TCDF	25.62	0.3471	0.6450 - 0.8950	failed	0.04	0 - 0	passed
50	Single TCDF	25.81	0.5348	0.6450 - 0.8950	failed	0.07	0 - 0	passed
51	Single TCDF	26.07	2.1374	0.6450 - 0.8950	failed	0.06	0 - 0	passed
52	Single TCDF	26.50	0.8183	0.6450 - 0.8950	passed	0.10	0 - 0	passed
53	Single TCDF	27.06	0.1551	0.6450 - 0.8950	failed	0.06	0 - 0	passed
54	Single TCDF	27.54	2.6109	0.6450 - 0.8950	failed	0.05	0 - 0	passed
55	Single TCDF	27.68	1.1685	0.6450 - 0.8950	failed	0.19	0 - 0	passed
56	Single TCDF	27.76	0.3860	0.6450 - 0.8950	failed	0.83	0 - 0	passed
57	Single TCDF	28.26	1.2294	0.6450 - 0.8950	failed	0.72	0 - 0	passed
58	Single TCDF	29.08	0.5939	0.6450 - 0.8950	failed	0.07	0 - 0	passed
59	Single TCDF	29.59	0.7095	0.6450 - 0.8950	passed	0.13	0 - 0	passed
60	Single TCDF	29.68	0.3140	0.6450 - 0.8950	failed	0.12	0 - 0	passed
61	Single TCDF	29.76	0.6653	0.6450 - 0.8950	passed	0.07	0 - 0	passed
62	Single TCDF	30.10	3.7093	0.6450 - 0.8950	failed	0.06	0 - 0	passed
63	Single TCDF	30.87	0.3475	0.6450 - 0.8950	failed	0.14	0 - 0	passed
64	Single TCDF	31.61	0.1783	0.6450 - 0.8950	failed	0.06	0 - 0	passed
65	Single TCDD	30.45	0.8023	0.6450 - 0.8950	passed	114.02	0 - 0	passed
66	Single TCDD	27.11	1.3063	0.6450 - 0.8950	failed	0.07	0 - 0	passed
67	Single TCDD	27.21	0.4666	0.6450 - 0.8950	failed	0.09	0 - 0	passed
68	Single TCDD	27.49	0.8700	0.6450 - 0.8950	passed	0.09	0 - 0	passed
69	Single TCDD	27.93	0.1127	0.6450 - 0.8950	failed	0.06	0 - 0	passed
70	Single TCDD	28.45	2.4666	0.6450 - 0.8950	failed	0.09	0 - 0	passed
71	Single TCDD	28.62	2.6685	0.6450 - 0.8950	failed	0.06	0 - 0	passed
72	Single TCDD	28.89	1.4941	0.6450 - 0.8950	failed	0.10	0 - 0	passed
73	Single TCDD	29.06	0.1891	0.6450 - 0.8950	failed	0.07	0 - 0	passed
74	Single TCDD	29.32	1.2091	0.6450 - 0.8950	failed	0.43	0 - 0	passed
75	Single TCDD	30.07	0.5541	0.6450 - 0.8950	failed	2.45	0 - 0	passed
76	Single TCDD	30.57	0.0835	0.6450 - 0.8950	failed	0.28	0 - 0	passed
77	Single TCDD	30.74	1.9054	0.6450 - 0.8950	failed	0.20	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
78	Single TCDD	30.84	1.4877	0.6450 - 0.8950	failed	0.06	0 - 0	passed
79	Single TCDD	30.91	0.5542	0.6450 - 0.8950	failed	0.15	0 - 0	passed
80	Single TCDD	30.96	1.0806	0.6450 - 0.8950	failed	0.08	0 - 0	passed
81	Single TCDD	31.06	2.2349	0.6450 - 0.8950	failed	0.14	0 - 0	passed
82	Single TCDD	31.37	0.4917	0.6450 - 0.8950	failed	0.09	0 - 0	passed
83	Single TCDD	31.66	1.2192	0.6450 - 0.8950	failed	0.11	0 - 0	passed
84	Single PeCDD	36.98	1.5982	1.3150 - 1.7850	passed	103.33	0 - 0	passed
85	Single PeCDD	35.44	3.2901	1.3150 - 1.7850	failed	0.03	0 - 0	passed
86	Single PeCDD	35.58	1.3105	1.3150 - 1.7850	failed	0.08	0 - 0	passed
87	Single PeCDD	35.64	1.0391	1.3150 - 1.7850	failed	0.02	0 - 0	passed
88	Single PeCDD	35.67	1.5695	1.3150 - 1.7850	passed	0.02	0 - 0	passed
89	Single PeCDD	35.80	3.5381	1.3150 - 1.7850	failed	0.04	0 - 0	passed
90	Single PeCDD	36.14	8.0820	1.3150 - 1.7850	failed	0.02	0 - 0	passed
91	Single PeCDD	36.43	1.4719	1.3150 - 1.7850	passed	0.16	0 - 0	passed
92	Single PeCDD	37.20	3.4222	1.3150 - 1.7850	failed	0.07	0 - 0	passed
93	Single PeCDD	37.29	1.6941	1.3150 - 1.7850	passed	0.04	0 - 0	passed
94	Single PeCDD	37.45	7.4050	1.3150 - 1.7850	failed	0.10	0 - 0	passed
95	Single PeCDF	36.58	1.5744	1.3150 - 1.7850	passed	112.86	0 - 0	passed
96	Single PeCDF	33.28	0.0720	1.3150 - 1.7850	failed	0.02	0 - 0	passed
97	Single PeCDF	33.89	0.0967	1.3150 - 1.7850	failed	0.02	0 - 0	passed
98	Single PeCDF	33.99	1.4212	1.3150 - 1.7850	passed	0.43	0 - 0	passed
99	Single PeCDF	34.61	0.6171	1.3150 - 1.7850	failed	0.02	0 - 0	passed
100	Single PeCDF	34.72	0.0005	1.3150 - 1.7850	failed	0.05	0 - 0	passed
101	Single PeCDF	34.86	0.7779	1.3150 - 1.7850	failed	0.02	0 - 0	passed
102	Single PeCDF	35.06	1.0120	1.3150 - 1.7850	failed	0.08	0 - 0	passed
103	Single PeCDF	35.30	1.5643	1.3150 - 1.7850	passed	100.05	0 - 0	passed
104	Single PeCDF	35.52	0.5750	1.3150 - 1.7850	failed	0.06	0 - 0	passed
105	Single PeCDF	35.66	1.6296	1.3150 - 1.7850	passed	2.95	0 - 0	passed
106	Single PeCDF	35.81	1.5918	1.3150 - 1.7850	passed	0.05	0 - 0	passed
107	Single PeCDF	36.01	1.4915	1.3150 - 1.7850	passed	0.01	0 - 0	passed
108	Single PeCDF	36.11	2.0056	1.3150 - 1.7850	failed	0.02	0 - 0	passed
109	Single PeCDF	36.75	0.7045	1.3150 - 1.7850	failed	0.03	0 - 0	passed
110	Single PeCDF	36.78	2.4640	1.3150 - 1.7850	failed	0.05	0 - 0	passed
111	Single PeCDF	36.85	2.0909	1.3150 - 1.7850	failed	0.02	0 - 0	passed
112	Single PeCDF	37.00	0.6289	1.3150 - 1.7850	failed	0.11	0 - 0	passed
113	Single PeCDF	37.09	0.6176	1.3150 - 1.7850	failed	0.03	0 - 0	passed
114	Single PeCDF	37.23	0.6620	1.3150 - 1.7850	failed	0.03	0 - 0	passed
115	Single PeCDF	37.34	0.9794	1.3150 - 1.7850	failed	0.03	0 - 0	passed
116	Single HpCDD	45.11	1.0591	0.8750 - 1.2050	passed	106.92	0 - 0	passed
117	Single HpCDD	44.26	1.2533	0.8750 - 1.2050	failed	0.91	0 - 0	passed
118	Single HpCDD	45.20	0.5957	0.8750 - 1.2050	failed	0.32	0 - 0	passed
119	Single HxCDF	41.15	1.2777	1.0450 - 1.4350	passed	109.56	0 - 0	passed
120	Single HxCDF	38.98	0.9370	1.0450 - 1.4350	failed	0.15	0 - 0	passed
121	Single HxCDF	40.17	1.2995	1.0450 - 1.4350	passed	0.10	0 - 0	passed
122	Single HxCDF	40.30	1.2597	1.0450 - 1.4350	passed	110.13	0 - 0	passed
123	Single HxCDF	40.45	1.2668	1.0450 - 1.4350	passed	110.33	0 - 0	passed
124	Single HxCDF	40.81	0.7568	1.0450 - 1.4350	failed	0.02	0 - 0	passed
125	Single HxCDF	40.92	1.4632	1.0450 - 1.4350	failed	0.08	0 - 0	passed
126	Single HxCDF	41.22	0.1506	1.0450 - 1.4350	failed	0.21	0 - 0	passed
127	Single HxCDF	41.37	1.0578	1.0450 - 1.4350	passed	0.13	0 - 0	passed
128	Single HxCDF	41.49	0.8059	1.0450 - 1.4350	failed	0.10	0 - 0	passed
129	Single HxCDF	41.58	1.0210	1.0450 - 1.4350	failed	0.03	0 - 0	passed
130	Single HxCDF	41.64	0.6480	1.0450 - 1.4350	failed	0.03	0 - 0	passed
131	Single HxCDF	41.80	0.9692	1.0450 - 1.4350	failed	0.06	0 - 0	passed
132	Single HxCDF	42.16	1.2639	1.0450 - 1.4350	passed	93.56	0 - 0	passed
133	Single HxCDD	41.47	1.2853	1.0450 - 1.4350	passed	107.67	0 - 0	passed
134	Single HxCDD	40.26	3.7803	1.0450 - 1.4350	failed	0.10	0 - 0	passed
135	Single HxCDD	40.42	5.0505	1.0450 - 1.4350	failed	0.09	0 - 0	passed
136	Single HxCDD	40.56	3.3985	1.0450 - 1.4350	failed	0.06	0 - 0	passed
137	Single HxCDD	41.12	5.0649	1.0450 - 1.4350	failed	0.11	0 - 0	passed
138	Single HxCDD	41.35	1.2529	1.0450 - 1.4350	passed	106.38	0 - 0	passed
139	Single HxCDD	41.65	0.7842	1.0450 - 1.4350	failed	0.03	0 - 0	passed
140	Single HpCDF	43.91	1.0528	0.8750 - 1.2050	passed	115.57	0 - 0	passed
141	Single HpCDF	43.98	0.6640	0.8750 - 1.2050	failed	0.37	0 - 0	passed
142	Single HpCDF	44.26	1.1724	0.8750 - 1.2050	passed	0.26	0 - 0	passed
143	Single HpCDF	44.44	0.9758	0.8750 - 1.2050	passed	0.41	0 - 0	passed
144	Single HpCDF	45.13	1.2385	0.8750 - 1.2050	failed	0.17	0 - 0	passed

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	29.30	190743	A	149147	A	0.0099	10.498321	10.4983	10.000000	2600	
2	2378-TCDD	passed	30.45	124456	A	99850	A	0.0127	11.402498	11.4025	10.000000	2197	
3	12378-PeCDF	passed	35.30	612905	A	958764	A	0.0127	52.908487	52.9085	50.000000	10456	
4	23478-PeCDF	passed	36.58	688640	A	1084197	A	0.0106	53.517218	53.5172	50.000000	12728	
5	12378-PeCDD	passed	36.98	348032	A	556233	A	0.0156	51.665286	51.6653	50.000000	8147	
6	123478-HxCDF	passed	40.30	800091	A	1007863	A	0.0213	53.537518	53.5375	50.000000	6457	
7	123678-HxCDF	passed	40.45	799029	A	1012209	A	0.0204	52.919708	52.9197	50.000000	6576	
8	234678-HxCDF	passed	41.15	789706	A	1009012	A	0.0201	52.987641	52.9876	50.000000	6726	
9	123478-HxCDD	passed	41.35	471017	A	590142	A	0.0170	53.880617	53.8806	50.000000	7965	
10	123678-HxCDD	passed	41.47	469958	A	604051	A	0.0170	53.674730	53.6747	50.000000	8013	
11	123789-HxCDD	passed	41.78	475961	A	605669	A	0.0163	53.702287	53.7023	50.000000	8308	
12	123789-HxCDF	passed	42.16	678444	A	857493	A	0.0228	52.250423	52.2504	50.000000	5576	
13	1234678-HpCDF	passed	43.91	865235	A	910890	A	0.0236	53.305103	53.3051	50.000000	5644	
14	1234678-HpCDD	passed	45.11	510336	A	540475	A	0.0322	53.461787	53.4618	50.000000	4213	
15	1234789-HpCDF	passed	45.68	737372	A	770877	A	0.0283	53.564271	53.5643	50.000000	4755	
16	OCDD	passed	48.16	1024387	A	908065	A	0.0197	104.315097	104.3151	100.000000	13686	
17	OCDF	passed	48.35	1428682	A	1274882	A	0.0132	106.666359	106.6664	100.000000	20310	
18	13C12-1278-TCDD (CRS)	passed	30.86	107502	A	80913	A	0.0182	9.266541	9.2665	10.000000	1320	
19	13C12-1234-TCDD	passed	29.61	1063918	A	868456	A	0.0233	100.000000	100.0000	100.000000	10726	
20	13C12-123468-HxCDD	passed	40.21	1080130	A	1387563	A	0.0250	100.000000	100.0000	100.000000	9995	
21	13C12-2378-TCDF	passed	29.28	1802010	A	1379232	A	0.0142	84.427270	84.4273	100.000000	15478	
22	13C12-2378-TCDD	passed	30.43	888988	A	740394	A	0.0232	84.030859	84.0309	100.000000	9888	
23	13C12-12378-PeCDF	passed	35.29	1235655	A	1950107	A	0.0245	85.629485	85.6295	100.000000	11774	
24	13C12-23478-PeCDF	passed	36.57	1235676	A	1965879	A	0.0244	85.477932	85.4779	100.000000	12717	
25	13C12-12378-PeCDD	passed	36.97	663360	A	1052066	A	0.0204	85.188402	85.1884	100.000000	15240	
26	13C12-123478-HxCDF	passed	40.29	1905335	A	1021030	A	0.0254	81.008154	81.0082	100.000000	7818	
27	13C12-123678-HxCDF	passed	40.44	2003135	A	1071070	A	0.0243	81.366712	81.3667	100.000000	8443	
28	13C12-234678-HxCDF	passed	41.14	1833626	A	983181	A	0.0264	81.054449	81.0544	100.000000	7934	
29	13C12-123478-HxCDD	passed	41.34	868027	A	1107276	A	0.0249	79.637889	79.6379	100.000000	8406	
30	13C12-123678-HxCDD	passed	41.46	911306	A	1130151	A	0.0245	80.870091	80.8701	100.000000	8562	
31	13C12-123789-HxCDD	passed	41.77	836386	A	1070653	A	0.0257	79.505526	79.5055	100.000000	8260	
32	13C12-123789-HxCDF	passed	42.15	1710609	A	909276	A	0.0284	81.001915	81.0019	100.000000	7516	
33	13C12-1234678-HpCDF	passed	43.90	1852500	A	848461	A	0.0352	81.085106	81.0851	100.000000	6448	
34	13C12-1234678-HpCDD	passed	45.11	921630	A	995233	A	0.0392	80.964488	80.9645	100.000000	5604	
35	13C12-1234789-HpCDF	passed	45.67	1508444	A	695534	A	0.0433	81.304795	81.3048	100.000000	5189	
36	13C12-OCDD	passed	48.15	1932062	A	1739744	A	0.0121	165.843478	165.8435	200.000000	38689	
37	13C12-OCDF	passed	48.33	2938611	A	2697402	A	0.0103	161.860990	161.8610	200.000000	44595	
38	Total TCDF	passed (5)	28.11	198106	A	153916	A	0.0099	0.244979	10.8730	10.000000	523	
39	Total TCDD	passed (3)	28.99	130405	A	104479	A	0.0127	0.292709	11.9402	10.000000	734	
40	Total PeCDF	passed (7)	34.39	1330288	A	2080941	A	0.0116	2.301591	108.5781	50.000000	3359	
41	Total PeCDD	passed (6)	35.82	350363	A	560755	A	0.0156	1.918146	52.0568	50.000000	1362	
42	Total HxCDF	passed (6)	40.51	3076827	A	3893616	A	0.0211	9.631799	212.2910	50.000000	4225	
43	Total HxCDD	passed (2)	40.60	942448	A	1197639	A	0.0168	5.351132	107.2692	50.000000	7989	
44	Total HpCDD	passed (1)	44.71	516825	A	546951	A	0.0322	4.455149	54.1215	50.000000	4213	
45	Total HpCDF	passed (4)	44.66	876902	A	921700	A	0.0257	3.874952	58.5155	50.000000	1419	
46	Single TCDF	passed	29.30	190743	A	149147	A	0.0099	10.498320	10.4983	10.000000	2600	
47	Single TCDF	failed	25.18	235	A	64	A	0.0099	0.009211	n.d.	10.000000	4	
48	Single TCDF	passed	25.57	139	A	103	A	0.0099	0.007462	0.0075	10.000000	4	
49	Single TCDF	failed	25.62	98	A	34	A	0.0099	0.004058	n.d.	10.000000	3	
50	Single TCDF	failed	25.81	151	A	81	A	0.0099	0.007155	n.d.	10.000000	4	
51	Single TCDF	failed	26.07	67	A	143	A	0.0099	0.006494	n.d.	10.000000	3	
52	Single TCDF	passed	26.50	180	A	147	A	0.0099	0.010092	0.0101	10.000000	4	
53	Single TCDF	failed	27.06	178	A	28	A	0.0099	0.006369	n.d.	10.000000	3	
54	Single TCDF	failed	27.54	45	A	116	A	0.0099	0.004965	n.d.	10.000000	3	
55	Single TCDF	failed	27.68	279	A	326	A	0.0099	0.018660	n.d.	10.000000	7	
56	Single TCDF	failed	27.76	1950	A	753	A	0.0099	0.083490	n.d.	10.000000	25	
57	Single TCDF	failed	28.26	1041	A	1280	A	0.0099	0.071687	n.d.	10.000000	23	
58	Single TCDF	failed	29.08	143	A	85	A	0.0099	0.007029	n.d.	10.000000	3	
59	Single TCDF	passed	29.59	241	A	171	A	0.0099	0.012742	0.0127	10.000000	5	
60	Single TCDF	failed	29.68	294	A	92	A	0.0099	0.011916	n.d.	10.000000	5	
61	Single TCDF	failed	29.76	133	A	88	A	0.0099	0.006817	n.d.	10.000000	3	
62	Single TCDF	failed	30.10	40	A	147	A	0.0099	0.005757	n.d.	10.000000	3	
63	Single TCDF	failed	30.87	337	A	117	A	0.0099	0.014026	n.d.	10.000000	5	
64	Single TCDF	failed	31.61	175	A	31	A	0.0099	0.006368	n.d.	10.000000	3	
65	Single TCDD	passed	30.45	124456	A	99850	A	0.0127	11.402498	11.4025	10.000000	2197	
66	Single TCDD	failed	27.11	58	A	76	A	0.0127	0.006827	n.d.	10.000000	3	
67	Single TCDD	failed	27.21	114	A	53	A	0.0127	0.008514	n.d.	10.000000	3	
68	Single TCDD	passed	27.49	91	A	79	A	0.0127	0.008656	0.0087	10.000000	3	
69	Single TCDD	failed	27.93	103	A	12	A	0.0127	0.005801	n.d.	10.000000	3	
70	Single TCDD	failed	28.45	48	A	119	A	0.0127	0.008520	n.d.	10.000000	3	
71	Single TCDD	failed	28.62	32	A	85	A	0.0127	0.005975	n.d.	10.000000	3	
72	Single TCDD	failed	28.89	78	A	116	A	0.0127	0.009878	n.d.	10.000000	3	
73	Single TCDD	failed	29.06	119	A	23	A	0.0127	0.007211	n.d.	10.000000	3	
74	Single TCDD	failed	29.32	384	A	464	A	0.0127	0.043071	n.d.	10.000000	14	
75	Single TCDD	failed	30.07	3104	A	1720	A	0.0127	0.245264	n.d.	10.000000	45	
76	Single TCDD	failed	30.57	516	A	43	A	0.0127	0.028401	n.d.	10.000000	5	
77	Single TCDD	failed	30.74	133	A	253	A	0.0127	0.019590	n.d.	10.000000	5	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

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No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
78	Single TCDD	failed	30.84	44	A	65	A	0.0127	0.005551	n.d.	10.000000	3	
79	Single TCDD	failed	30.91	190	A	106	A	0.0127	0.015049	n.d.	10.000000	5	
80	Single TCDD	failed	30.96	73	A	78	A	0.0127	0.007679	n.d.	10.000000	4	
81	Single TCDD	failed	31.06	85	A	189	A	0.0127	0.013918	n.d.	10.000000	5	
82	Single TCDD	failed	31.37	123	A	60	A	0.0127	0.009303	n.d.	10.000000	3	
83	Single TCDD	failed	31.66	96	A	117	A	0.0127	0.010862	n.d.	10.000000	3	
84	Single PeCDD	passed	36.98	348032	A	556233	A	0.0156	51.665286	51.6653	50.000000	8147	
85	Single PeCDD	failed	35.44	58	A	190	A	0.0156	0.014129	n.d.	50.000000	4	
86	Single PeCDD	failed	35.58	307	A	402	A	0.0156	0.040483	n.d.	50.000000	8	
87	Single PeCDD	failed	35.64	103	A	107	A	0.0156	0.011972	n.d.	50.000000	3	
88	Single PeCDD	passed	35.67	72	A	113	A	0.0156	0.010525	0.0105	50.000000	3	
89	Single PeCDD	failed	35.80	84	A	296	A	0.0156	0.021672	n.d.	50.000000	4	
90	Single PeCDD	failed	36.14	23	A	182	A	0.0156	0.011693	n.d.	50.000000	3	
91	Single PeCDD	passed	36.43	562	A	828	A	0.0156	0.079426	0.0794	50.000000	13	
92	Single PeCDD	failed	37.20	136	A	464	A	0.0156	0.034278	n.d.	50.000000	7	
93	Single PeCDD	passed	37.29	121	A	205	A	0.0156	0.018589	0.0186	50.000000	5	
94	Single PeCDD	failed	37.45	100	A	740	A	0.0156	0.047981	n.d.	50.000000	5	
95	Single PeCDF	passed	36.58	688640	A	1084197	A	0.0116	56.428688	56.4287	50.000000	12728	
96	Single PeCDF	failed	33.28	310	A	22	A	0.0116	0.010589	n.d.	50.000000	3	
97	Single PeCDF	failed	33.89	323	A	31	A	0.0116	0.011291	n.d.	50.000000	4	
98	Single PeCDF	passed	33.99	2792	A	3968	A	0.0116	0.215187	0.2152	50.000000	38	
99	Single PeCDF	failed	34.61	176	A	109	A	0.0116	0.009075	n.d.	50.000000	3	
100	Single PeCDF	failed	34.72	808	A	0	A	0.0116	0.025743	n.d.	50.000000	5	
101	Single PeCDF	failed	34.86	159	A	123	A	0.0116	0.008980	n.d.	50.000000	3	
102	Single PeCDF	failed	35.06	657	A	665	A	0.0116	0.042072	n.d.	50.000000	8	
103	Single PeCDF	passed	35.30	612905	A	958764	A	0.0116	50.025598	50.0256	50.000000	10456	
104	Single PeCDF	failed	35.52	609	A	350	A	0.0116	0.030522	n.d.	50.000000	11	
105	Single PeCDF	passed	35.66	17598	A	28678	A	0.0116	1.472961	1.4730	50.000000	282	
106	Single PeCDF	passed	35.81	276	A	439	A	0.0116	0.022755	0.0228	50.000000	6	
107	Single PeCDF	passed	36.01	88	A	131	A	0.0116	0.006965	0.0070	50.000000	3	
108	Single PeCDF	failed	36.11	111	A	223	A	0.0116	0.010616	n.d.	50.000000	4	
109	Single PeCDF	failed	36.75	258	A	182	A	0.0116	0.013985	n.d.	50.000000	8	
110	Single PeCDF	failed	36.78	206	A	508	A	0.0116	0.022714	n.d.	50.000000	10	
111	Single PeCDF	failed	36.85	80	A	168	A	0.0116	0.007883	n.d.	50.000000	3	
112	Single PeCDF	failed	37.00	1089	A	685	A	0.0116	0.056477	n.d.	50.000000	12	
113	Single PeCDF	failed	37.09	264	A	163	A	0.0116	0.013570	n.d.	50.000000	4	
114	Single PeCDF	failed	37.23	243	A	161	A	0.0116	0.012857	n.d.	50.000000	4	
115	Single PeCDF	failed	37.34	248	A	242	A	0.0116	0.015596	n.d.	50.000000	4	
116	Single HpCDD	passed	45.11	510336	A	540475	A	0.0322	53.461787	53.4618	50.000000	4213	
117	Single HpCDD	failed	44.26	3973	A	4979	A	0.0322	0.455466	n.d.	50.000000	35	
118	Single HpCDD	failed	45.20	1994	A	1188	A	0.0322	0.161859	n.d.	50.000000	17	
119	Single HxCDF	passed	41.15	789706	A	1009012	A	0.0211	54.781519	54.7815	50.000000	6726	
120	Single HxCDF	failed	38.98	1274	A	1193	A	0.0211	0.075127	n.d.	50.000000	8	
121	Single HxCDF	passed	40.17	679	A	882	A	0.0211	0.047536	0.0475	50.000000	9	
122	Single HxCDF	passed	40.30	800091	A	1007863	A	0.0211	55.062847	55.0628	50.000000	6457	
123	Single HxCDF	passed	40.45	799029	A	1012209	A	0.0211	55.162845	55.1628	50.000000	6576	
124	Single HxCDF	failed	40.81	218	A	165	A	0.0211	0.011643	n.d.	50.000000	3	
125	Single HxCDF	failed	40.92	531	A	777	A	0.0211	0.039829	n.d.	50.000000	5	
126	Single HxCDF	failed	41.22	3005	A	453	A	0.0211	0.105310	n.d.	50.000000	7	
127	Single HxCDF	passed	41.37	1062	A	1123	A	0.0211	0.066527	0.0665	50.000000	7	
128	Single HxCDF	failed	41.49	891	A	718	A	0.0211	0.049014	n.d.	50.000000	7	
129	Single HxCDF	failed	41.58	269	A	275	A	0.0211	0.016579	n.d.	50.000000	3	
130	Single HxCDF	failed	41.64	285	A	185	A	0.0211	0.014303	n.d.	50.000000	3	
131	Single HxCDF	failed	41.80	529	A	513	A	0.0211	0.031751	n.d.	50.000000	5	
132	Single HxCDF	passed	42.16	678444	A	857493	A	0.0211	46.778313	46.7783	50.000000	5576	
133	Single HxCDD	passed	41.47	469958	A	604051	A	0.0168	53.833349	53.8333	50.000000	8013	
134	Single HxCDD	failed	40.26	200	A	757	A	0.0168	0.047980	n.d.	50.000000	8	
135	Single HxCDD	failed	40.42	151	A	760	A	0.0168	0.045647	n.d.	50.000000	7	
136	Single HxCDD	failed	40.56	134	A	457	A	0.0168	0.029646	n.d.	50.000000	5	
137	Single HxCDD	failed	41.12	181	A	918	A	0.0168	0.055124	n.d.	50.000000	9	
138	Single HxCDD	passed	41.35	471017	A	590142	A	0.0168	53.189300	53.1893	50.000000	7965	
139	Single HxCDD	failed	41.65	169	A	132	A	0.0168	0.015081	n.d.	50.000000	4	
140	Single HpCDF	passed	43.91	865235	A	910890	A	0.0257	57.784190	57.7842	50.000000	5644	
141	Single HpCDF	failed	43.98	3407	A	2262	A	0.0257	0.184454	n.d.	50.000000	24	
142	Single HpCDF	passed	44.26	1824	A	2138	A	0.0257	0.128912	0.1289	50.000000	11	
143	Single HpCDF	passed	44.44	3163	A	3086	A	0.0257	0.203293	0.2033	50.000000	22	
144	Single HpCDF	failed	45.13	1165	A	1443	A	0.0257	0.084839	n.d.	50.000000	7	

APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 11:09 am, 10/30/18

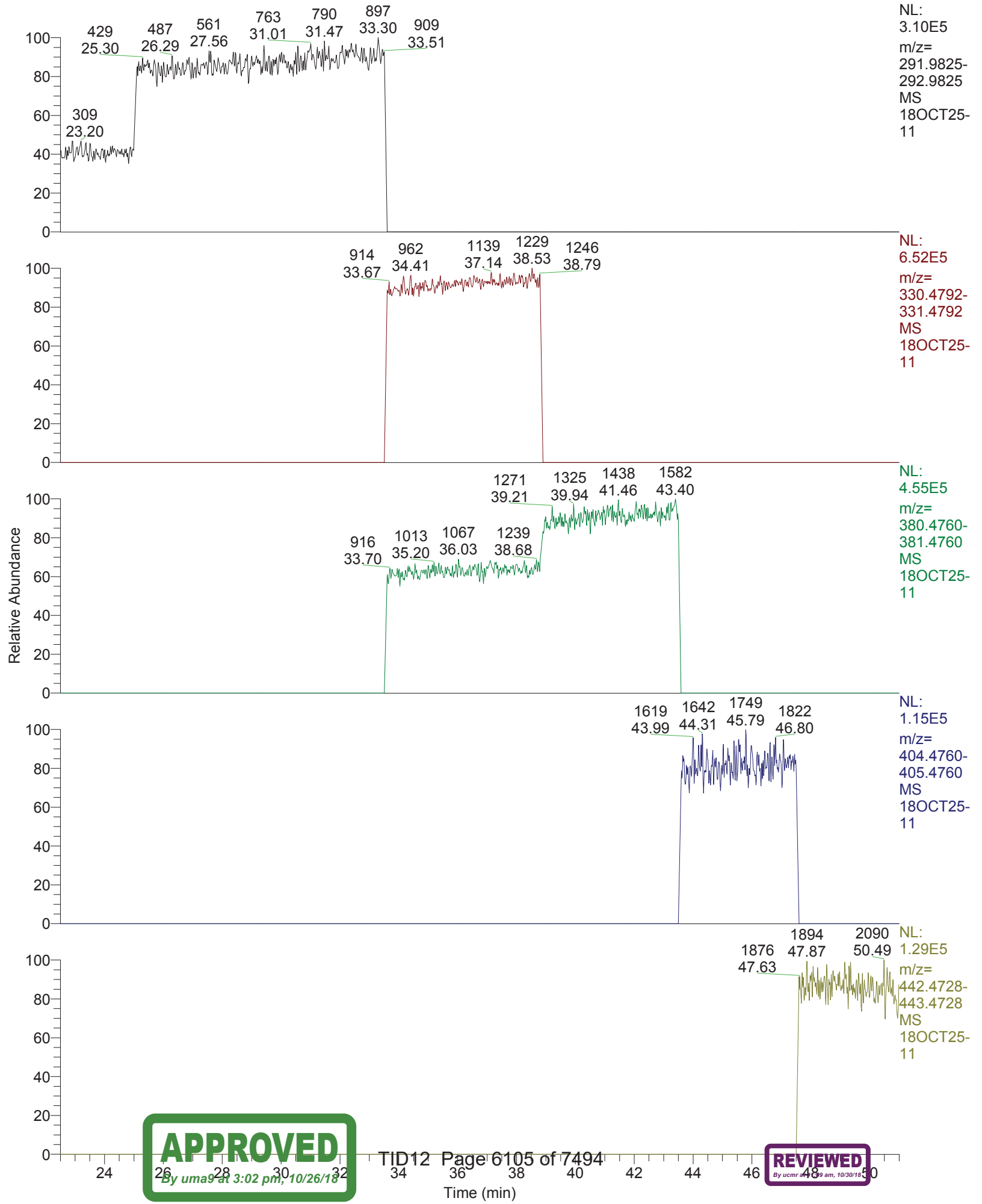
ThermoFisher Scientific

File Name: Y:\18OCT25\18OCT25-11
Sample ID: ICV

Acq. Data: 10/25/2018 8:10:14 PM
Sample Name: SSDFX1837B
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT25

RT: 22.50 - 51.00



APPROVED
By uma9 at 3:02 pm, 10/26/18

REVIEWED
By ucmr at 9:39 am, 10/30/18

*** file opened Thu Oct 25 20:15:43 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 25-Oct-18 20:15:42

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e5d9b8b7-a0ef-4b8d-a030-81b8f9081f1b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	7:00 min	25:00 min	1.00 sec
# 2	25:00 min	8:30 min	33:30 min	1.00 sec
# 3	33:30 min	5:17 min	38:47 min	0.90 sec
# 4	38:47 min	4:42 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

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  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 25.000000 minutes
MID Window end time was 25.000000 minutes
MID Window terminated after 33.500000 minutes
MID Window end time was 33.500000 minutes
```

```
MID Window terminated after 38.800000 minutes
MID Window end time was 38.800000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          94.5000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC       7969177.0000   EDACG           1.0000   EDACZ         226.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           220.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           171.0000   EXSBR          -0.4700
 FDMA      18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM               50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN         1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0175   FVINLET         0.0348   FVSRC           0.0323
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      704.0000
 LENS_SYM         16.0000   LM            650.0000   LMII          500.0000
 LMASS            94.5000   LKM           442.9723   MASS           94.5000
 MDAC        914124.4195   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2153.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9705   RELEN           0.0000
 RES          12589.9743   RPUSHER       -14.7766   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     708.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0223   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.5000   XLENS_POT     924.0000
 XLENS_SYM        2.2500   YLENS_POT     750.0000   YLENS_SYM      -4.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.8e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10834.
MID Time Window 2: Resolution is 11958.
MID Time Window 3: Resolution is 12190.
MID Time Window 4: Resolution is 11825.
```

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MID Time Window 5: Resolution is 12348.
MID Time Window 6: Resolution is 12589.

Amplifier Offset: 87.


*** File closed Thu Oct 25 21:06:44 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 12:52
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD ST1828537B
Sample ID	CPS02
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-05.quan
Data	y:\18nov01\18nov01-05.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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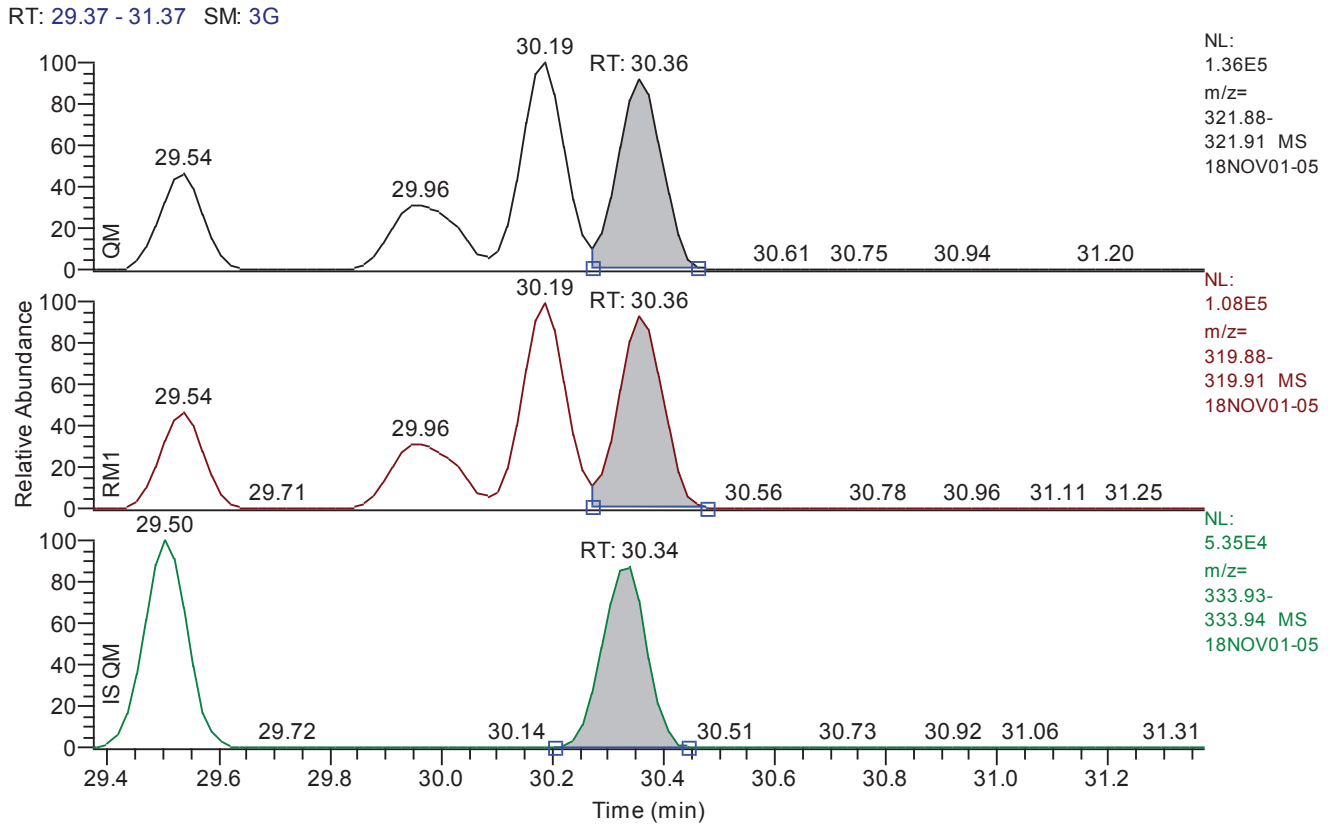
Chromatogram



Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	M
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	M
ManInt	1
RM1 Retention Time	30.36
RM1 Left Baseline Height	1050.87
RM1 Left Height	11624
RM1 Height	100114
GC Res (%) left	9.506018

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 12:52
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD ST1828537B
Sample ID	CPS02
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-05.quan
Data	y:\18nov01\18nov01-05.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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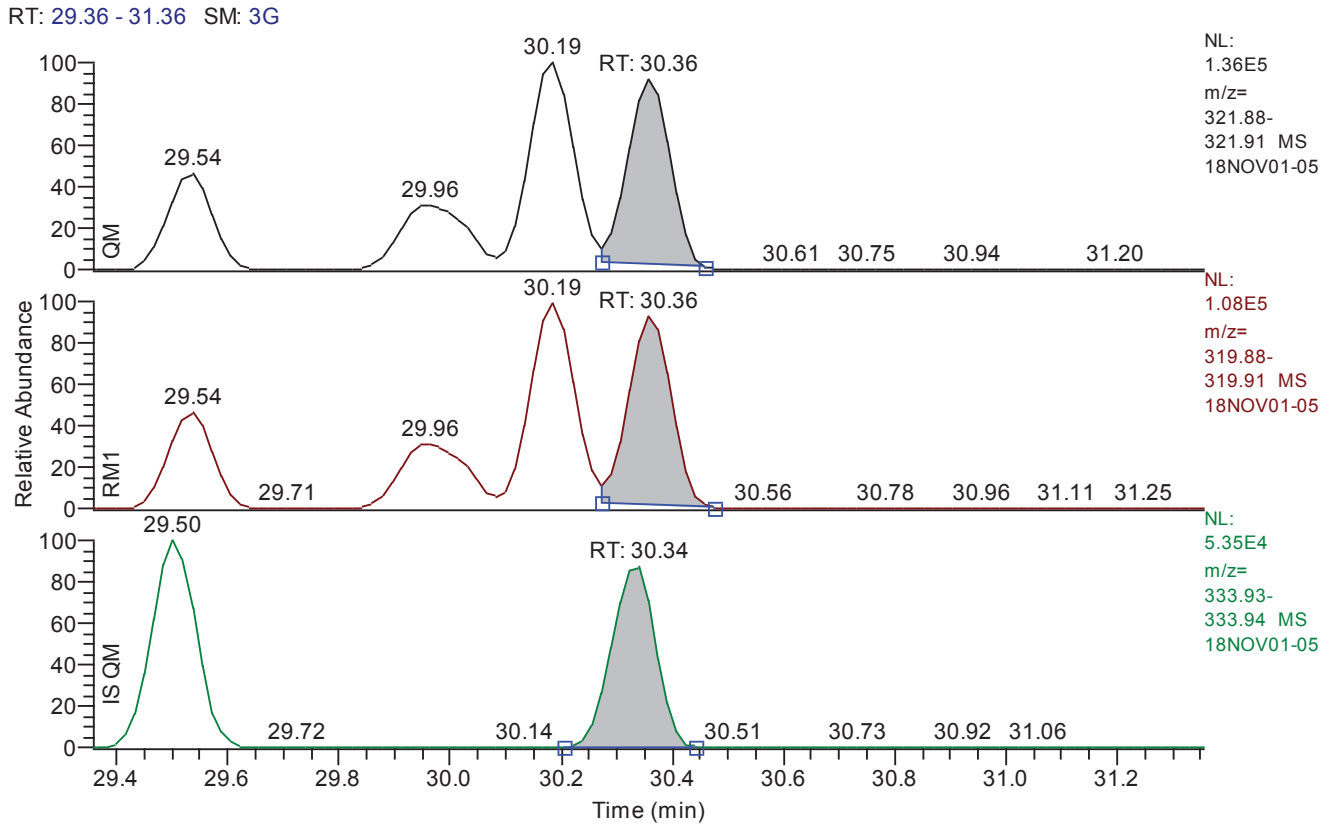
Chromatogram



Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	1
RM1 Retention Time	30.36
RM1 Left Baseline Height	3745.47
RM1 Left Height	8929
RM1 Height	98542
GC Res (%) left	7.335988

APPROVED
By uma9 at 4:10 pm, 11/9/18

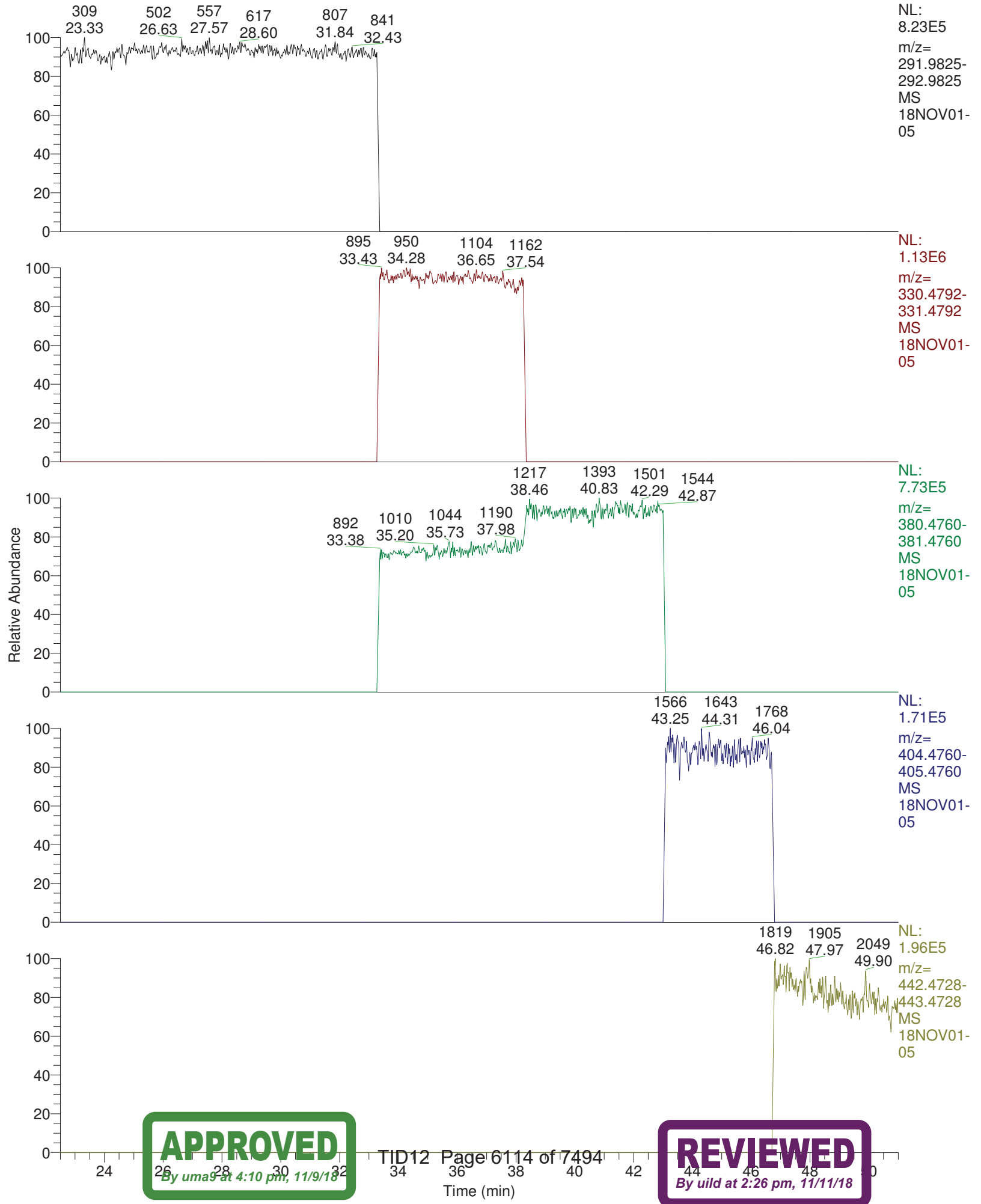
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-05
Sample ID: CPS02

Acq. Data: 11/1/2018 12:52:32 PM
Sample Name: TDTFWD ST1828537B
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV01

RT: 22.50 - 51.00



APPROVED
By umas at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

*** file opened Thu Nov 01 12:55:25 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 01-Nov-18 12:55:25

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : d4ce380f-151c-43cc-8216-577a72a91799

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	11:15 min	33:15 min	1.00 sec
# 3	33:15 min	5:00 min	38:15 min	0.90 sec
# 4	38:15 min	4:45 min	43:00 min	0.80 sec
# 5	43:00 min	3:42 min	46:42 min	0.80 sec
# 6	46:42 min	4:17 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS           99.0000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS            0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR            1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         -242.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS            217.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           169.0000   EXSBR           -0.4700
 FDMA       18000000.0000   FILTER        100.0000   FLENS            1.0000
 FM              50.0000   FMII           50.0000   FQUAD            4.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0173   FVINLET         0.0362   FVSRC            0.0333
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       670.0000
 LENS_SYM        11.5000   LM            650.0000   LMII           500.0000
 LMASS           99.0000   LKM           442.9723   MASS            99.0000
 MDAC         963202.2819   MRANGE       1614.4523   NSAM           200.0000
 NSCAN          2157.0000   NSMAX           8.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER         -13.0000   RECURR          0.9685   RELEN            0.0000
 RES          13079.6700   RPUSHER       -12.7985   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     690.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0193   TANAL           0.0000   TCURR            0.0000
 TD              30.0000   TS             33.4574   THRESH           2.0000
 TIS              0.2000   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT      928.0000
 XLENS_SYM        6.5000   YLENS_POT     836.0000   YLENS_SYM        8.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.5e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10946.
MID Time Window 2: Resolution is 11344.
MID Time Window 3: Resolution is 12021.
MID Time Window 4: Resolution is 12399.
```

```
  MID Time Window 5: Resolution is 12805.
  MID Time Window 6: Resolution is 13079.

  Amplifier Offset: 87.


*** File closed Thu Nov 01 13:46:26 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 13:46
Number of Entries	156
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-06-8290.quan
Data	y:\18nov01\18nov01-06.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.19	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.34	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.22	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.51	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.91	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.23	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.10	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.29	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.41	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.73	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.11	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.85	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.07	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.62	passed	passed	passed	passed	passed	passed	
16	OCDD	48.12	passed	passed	passed	passed	passed	passed	
17	OCDF	48.29	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.73	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.48	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.14	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.16	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.32	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.20	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.48	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.90	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.22	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.37	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.07	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.27	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.39	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.72	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.09	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.85	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.05	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.61	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.10	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.29	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 13:46
Number of Entries	156
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-06-8290.quan
Data	y:\18nov01\18nov01-06.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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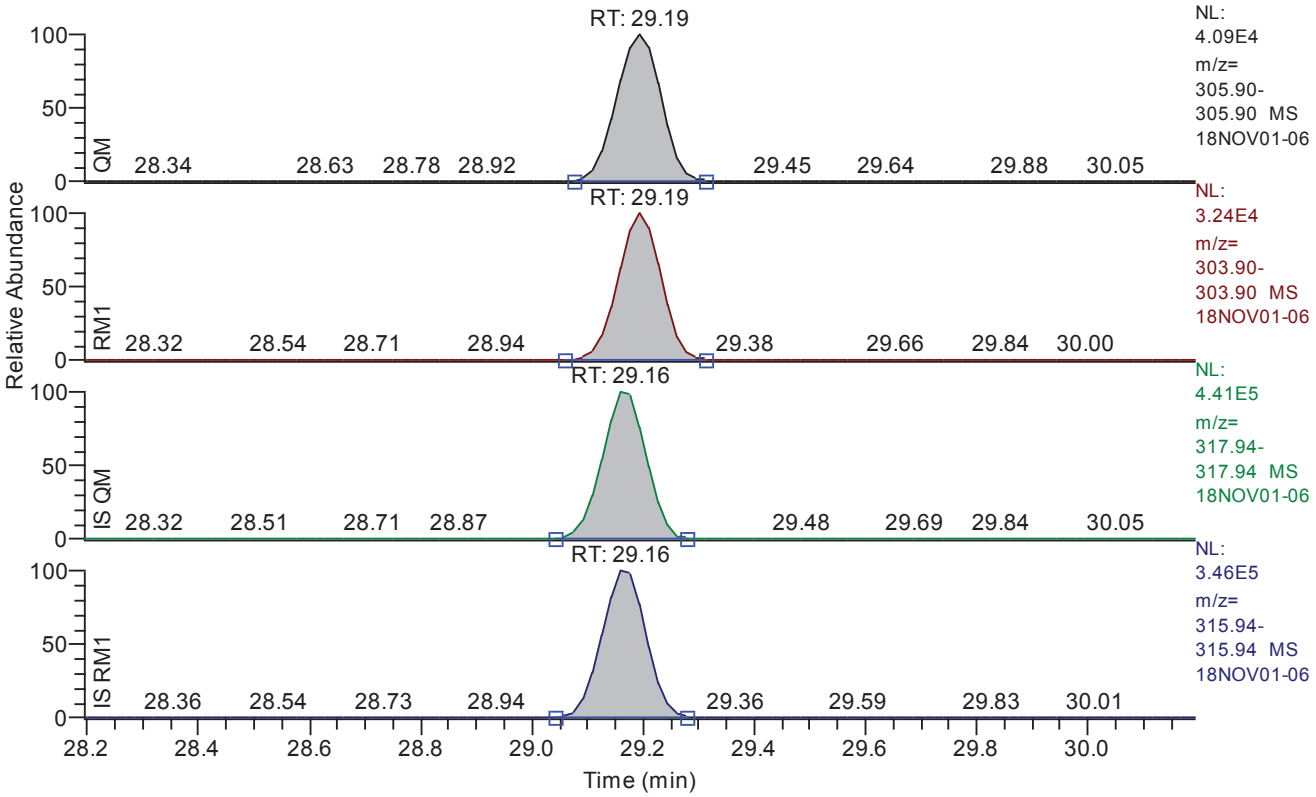
Chromatogram

RT: 28.19 - 30.19 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.19
QM Area	233768
QM Integration Mode	A
RM1 Area	177903
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0079
Unqualified Amount (A)	9.118045
Adjusted Amount (A)	9.1180
Signal-to-Noise	2884
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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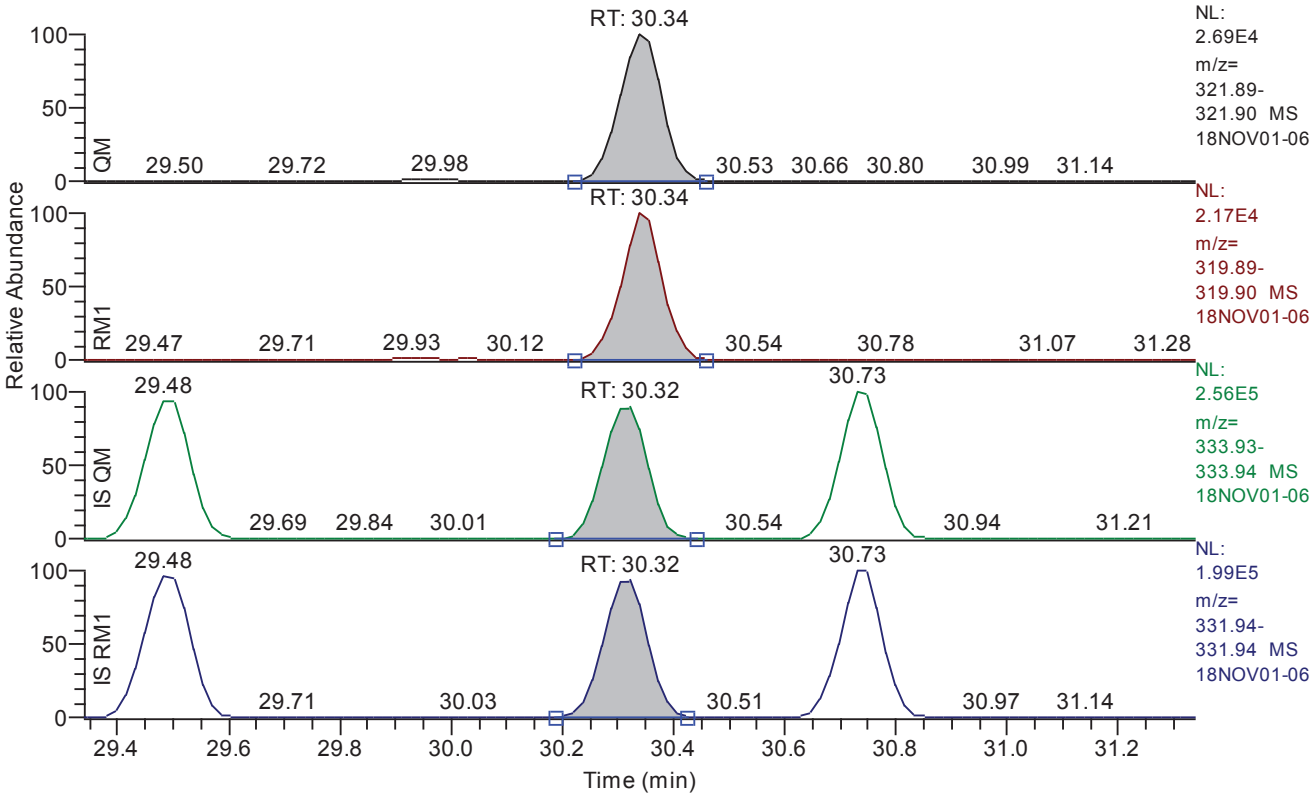
Chromatogram

RT: 29.34 - 31.34 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.34
QM Area	145848
QM Integration Mode	A
RM1 Area	113680
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	9.020448
Adjusted Amount (A)	9.0204
Signal-to-Noise	2458
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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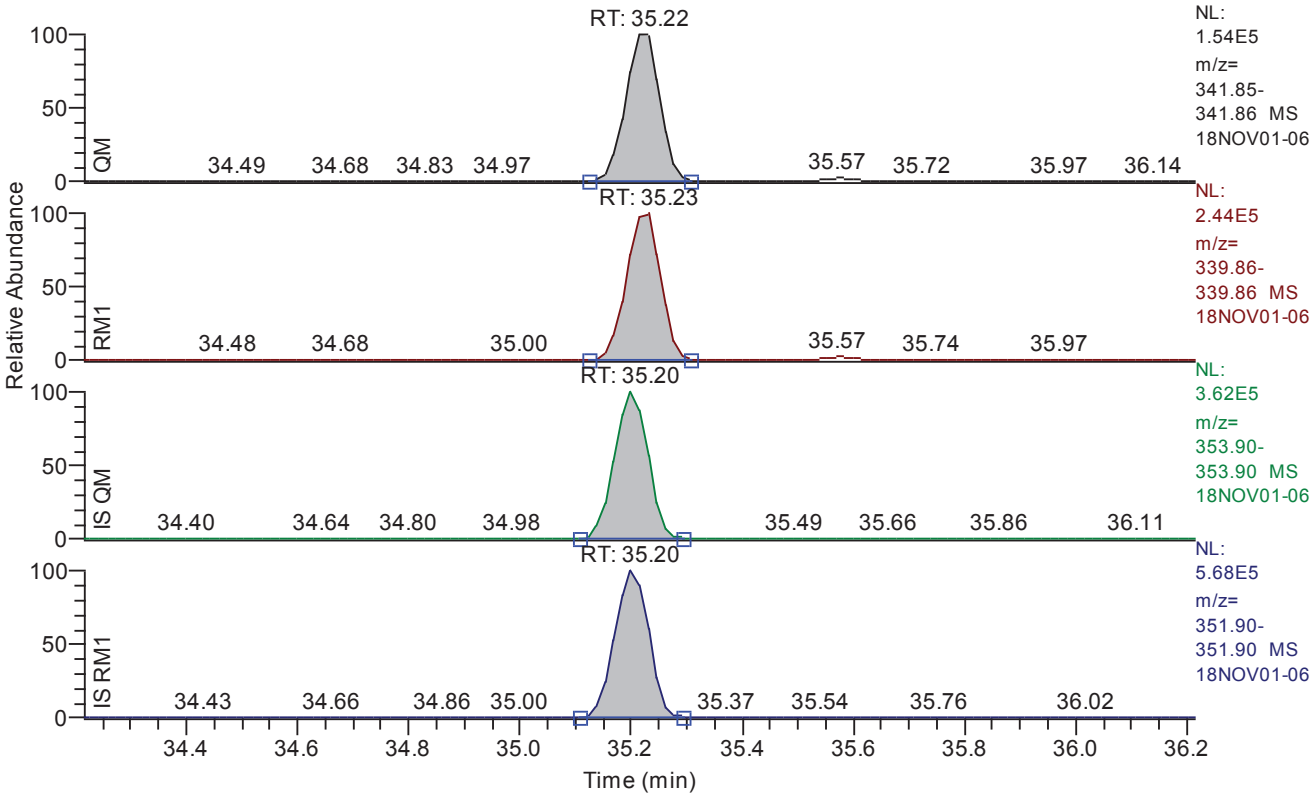
Chromatogram

RT: 34.22 - 36.22 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.22
QM Area	658775
QM Integration Mode	A
RM1 Area	1039487
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	46.113887
Adjusted Amount (A)	46.1139
Signal-to-Noise	15309
Client Flags	
Status Overview	passed
Status Info	

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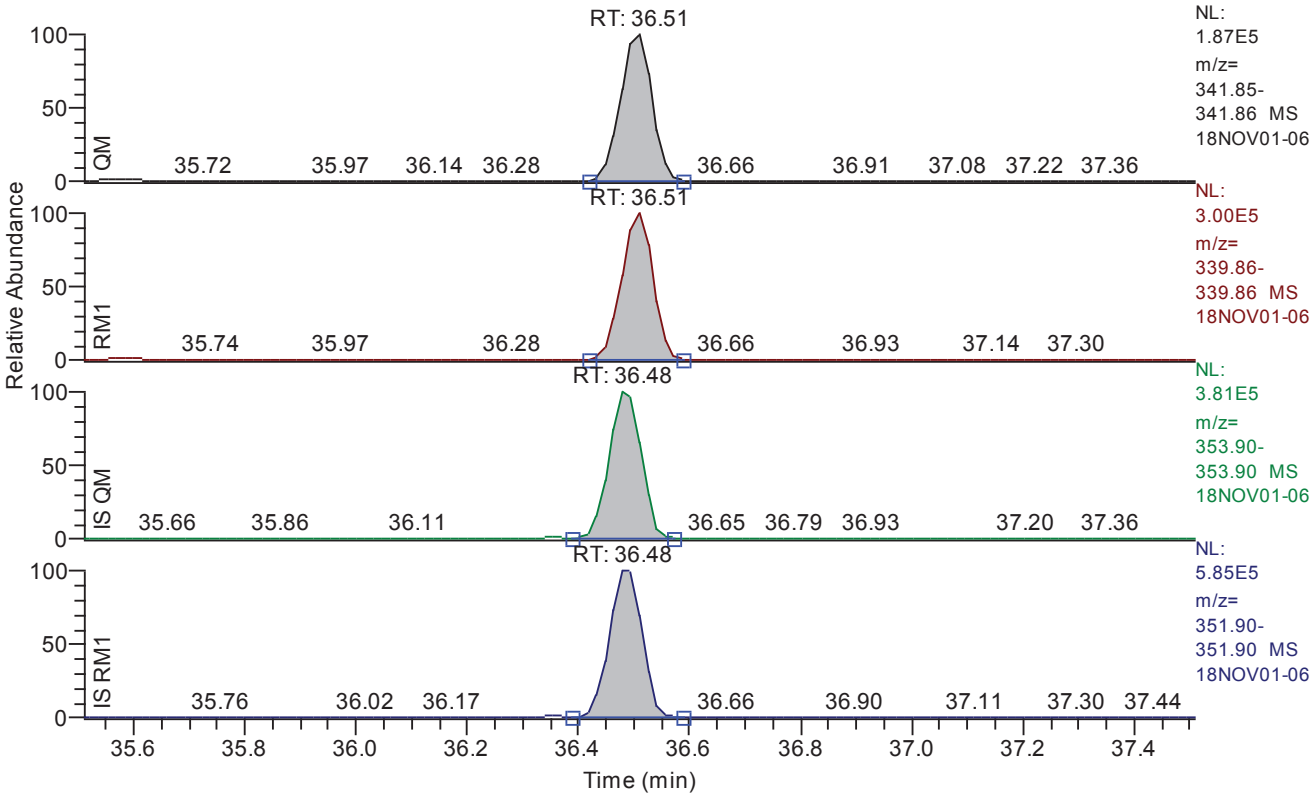
Chromatogram

RT: 35.51 - 37.51 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.51
QM Area	741385
QM Integration Mode	A
RM1 Area	1174741
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	46.635051
Adjusted Amount (A)	46.6351
Signal-to-Noise	18735
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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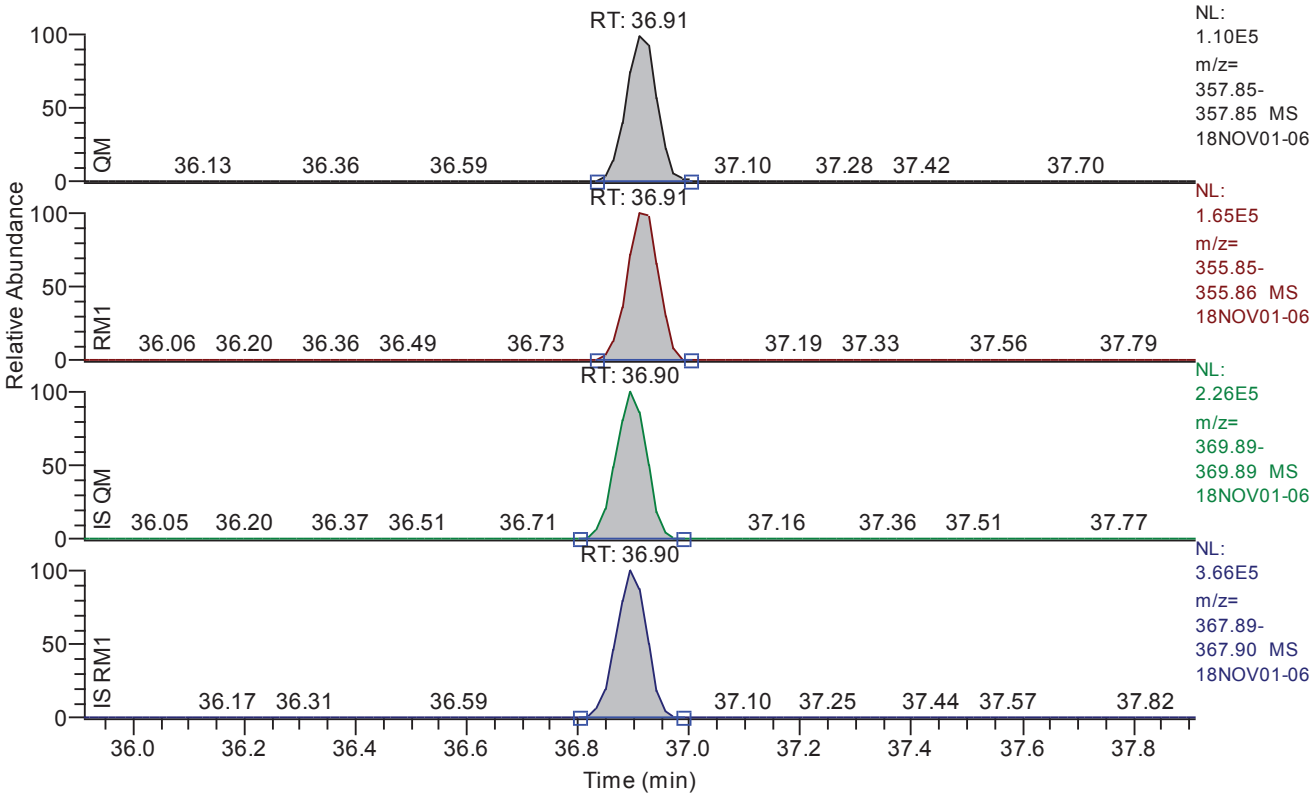
Chromatogram

RT: 35.91 - 37.91 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.91
QM Area	421341
QM Integration Mode	A
RM1 Area	654662
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0128
Unqualified Amount (A)	46.016103
Adjusted Amount (A)	46.0161
Signal-to-Noise	8918
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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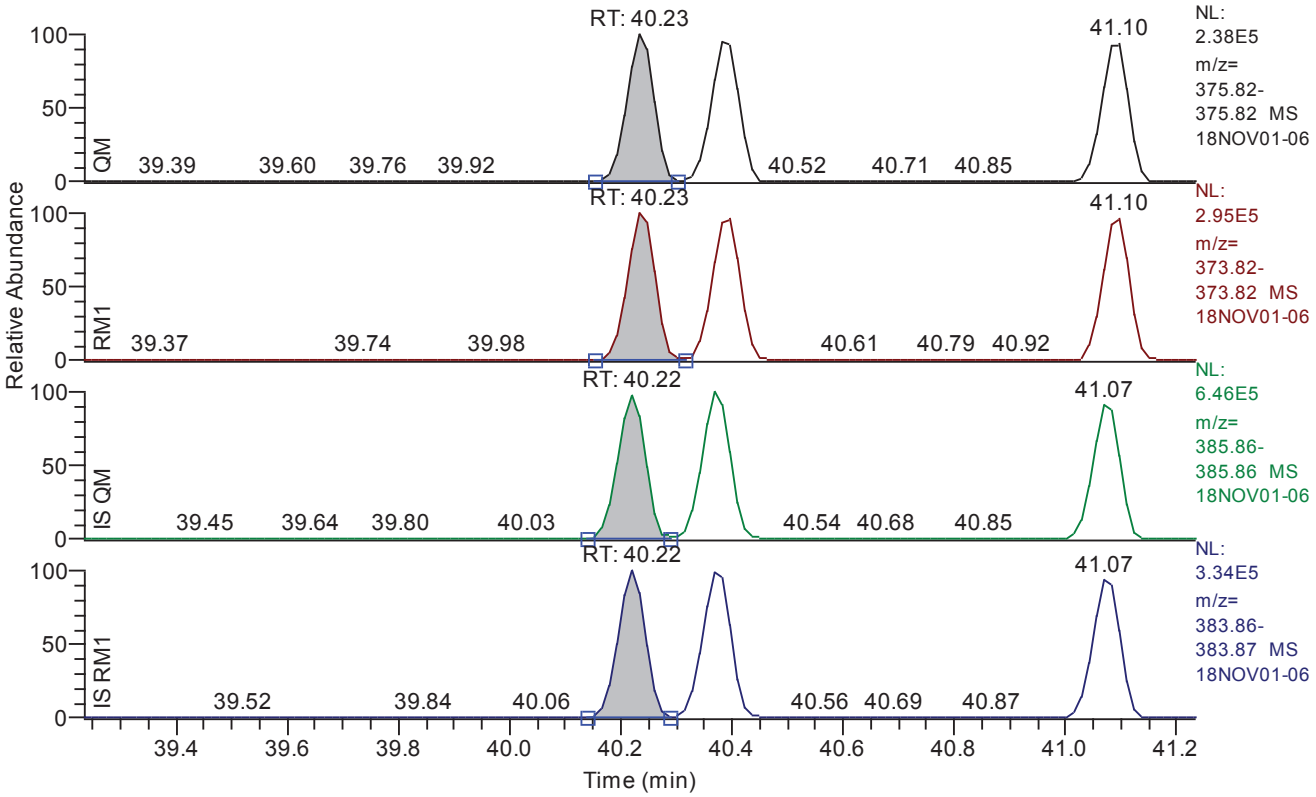
Chromatogram

RT: 39.23 - 41.23 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.23
QM Area	807235
QM Integration Mode	A
RM1 Area	1022670
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	47.660533
Adjusted Amount (A)	47.6605
Signal-to-Noise	12871
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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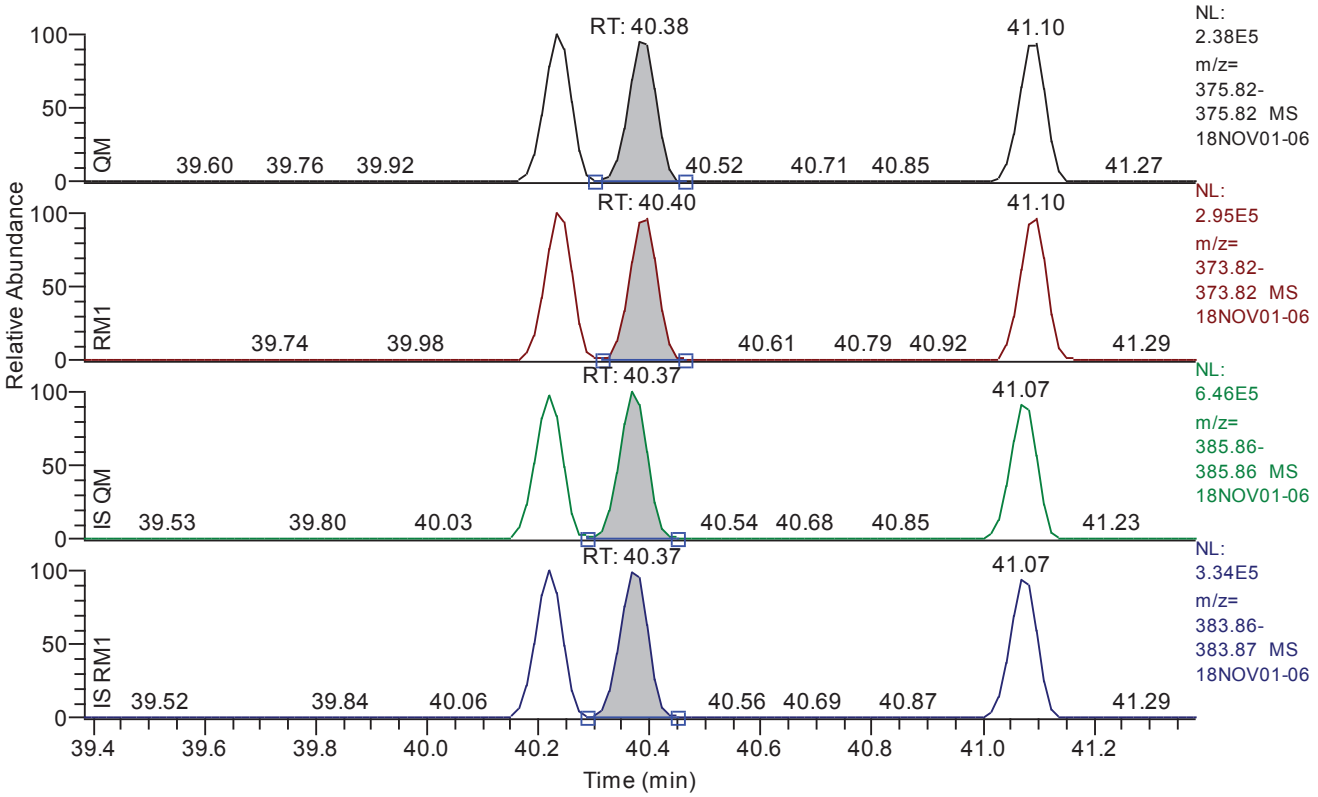
Chromatogram

RT: 39.38 - 41.38 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.38
QM Area	803426
QM Integration Mode	A
RM1 Area	1013426
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	47.134794
Adjusted Amount (A)	47.1348
Signal-to-Noise	12315
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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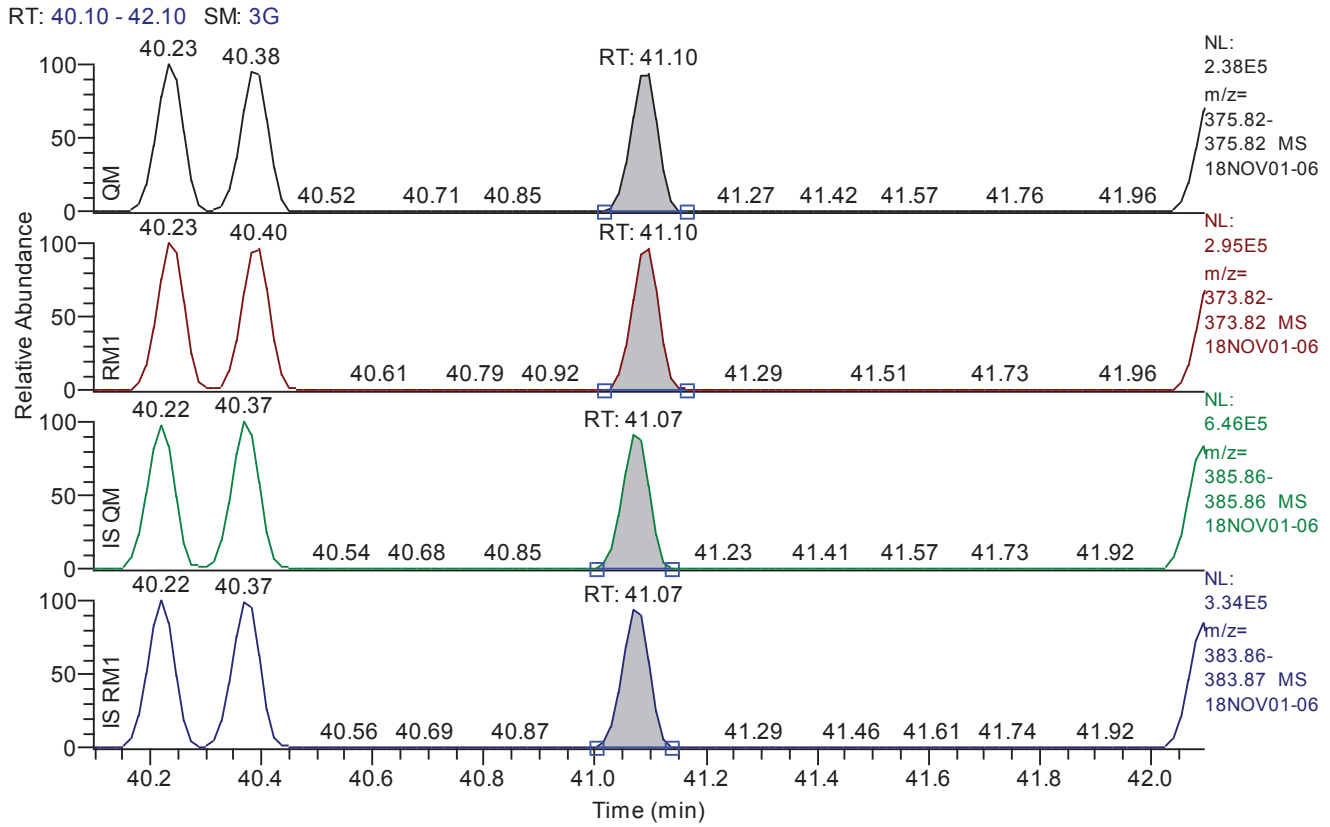
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.10
QM Area	770058
QM Integration Mode	A
RM1 Area	971923
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	46.722790
Adjusted Amount (A)	46.7228
Signal-to-Noise	12326
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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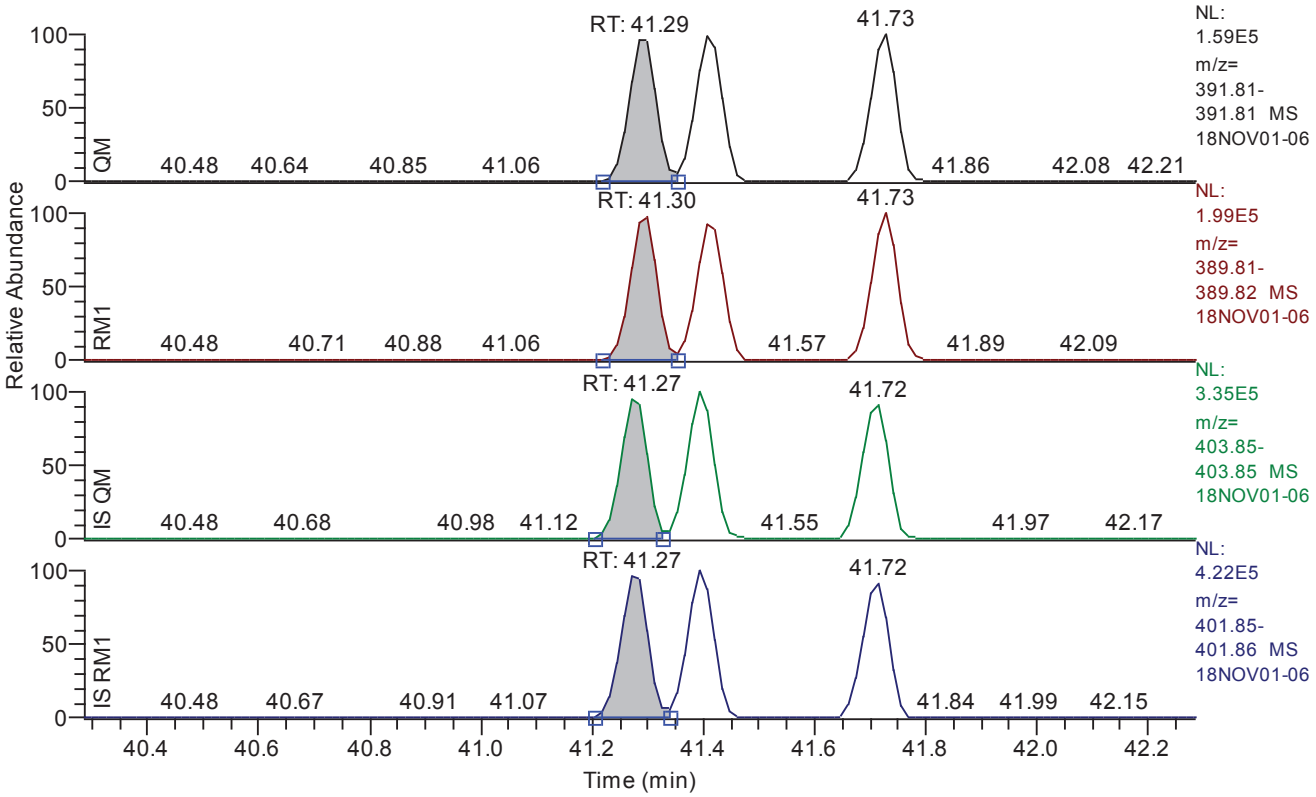
Chromatogram

RT: 40.29 - 42.29 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.29
QM Area	526696
QM Integration Mode	A
RM1 Area	655561
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0108
Unqualified Amount (A)	47.917855
Adjusted Amount (A)	47.9179
Signal-to-Noise	11124
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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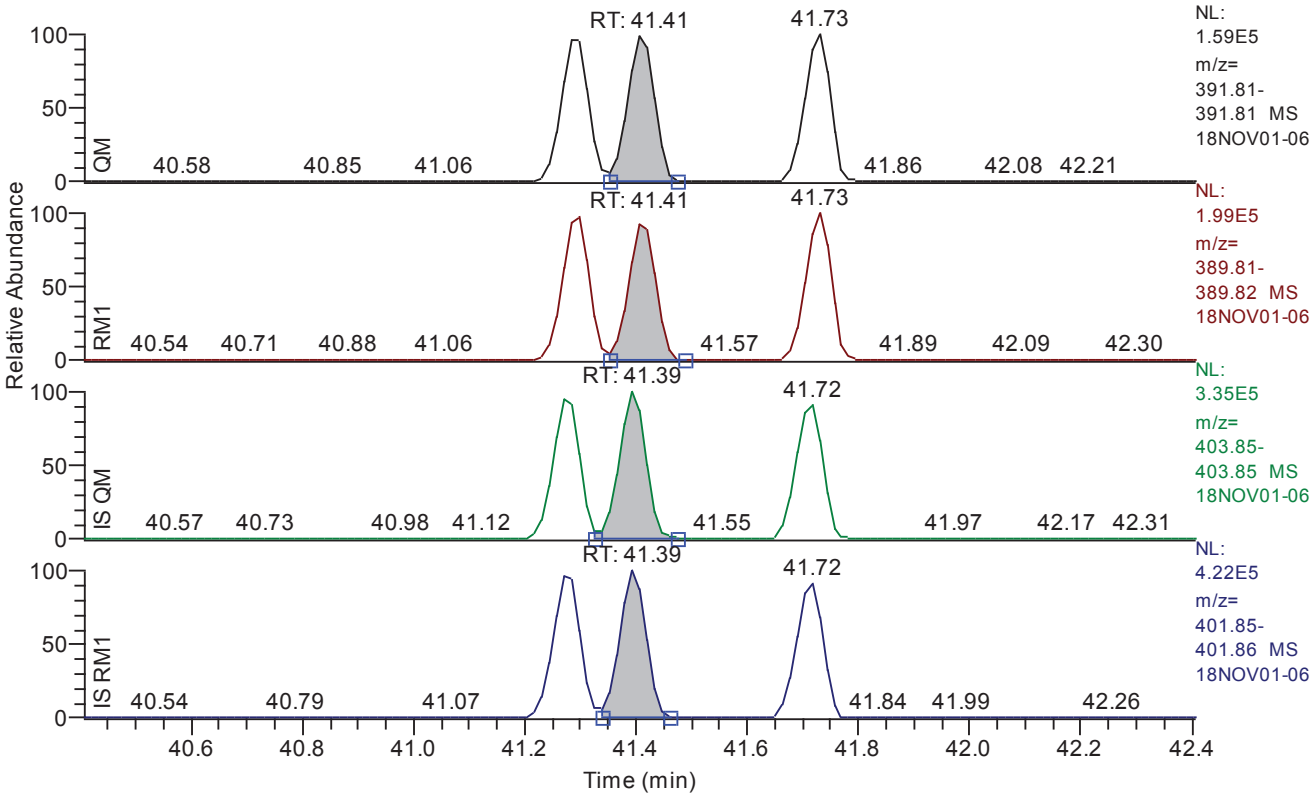
Chromatogram

RT: 40.41 - 42.41 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.41
QM Area	527285
QM Integration Mode	A
RM1 Area	629079
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	47.294107
Adjusted Amount (A)	47.2941
Signal-to-Noise	10880
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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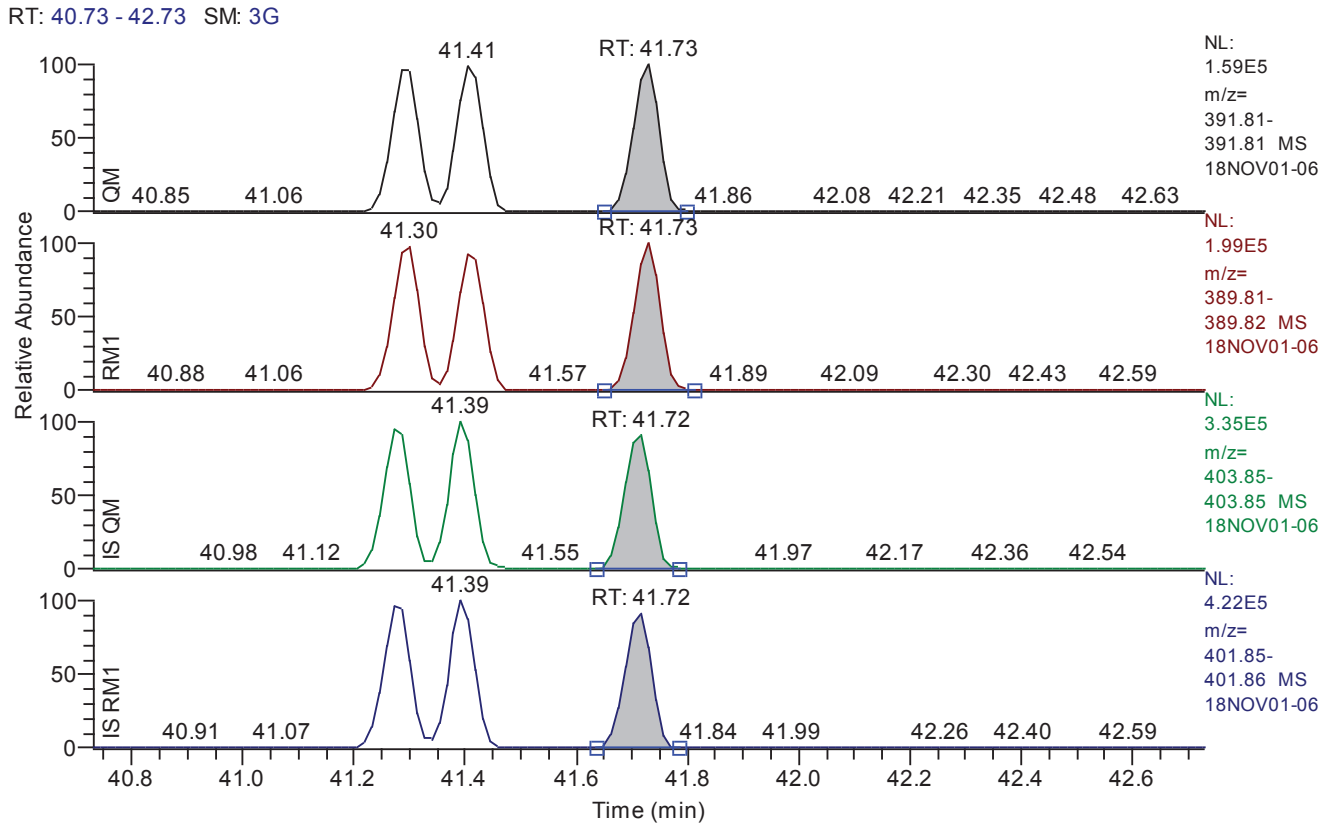
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.73
QM Area	518027
QM Integration Mode	A
RM1 Area	647685
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	46.798890
Adjusted Amount (A)	46.7989
Signal-to-Noise	11415
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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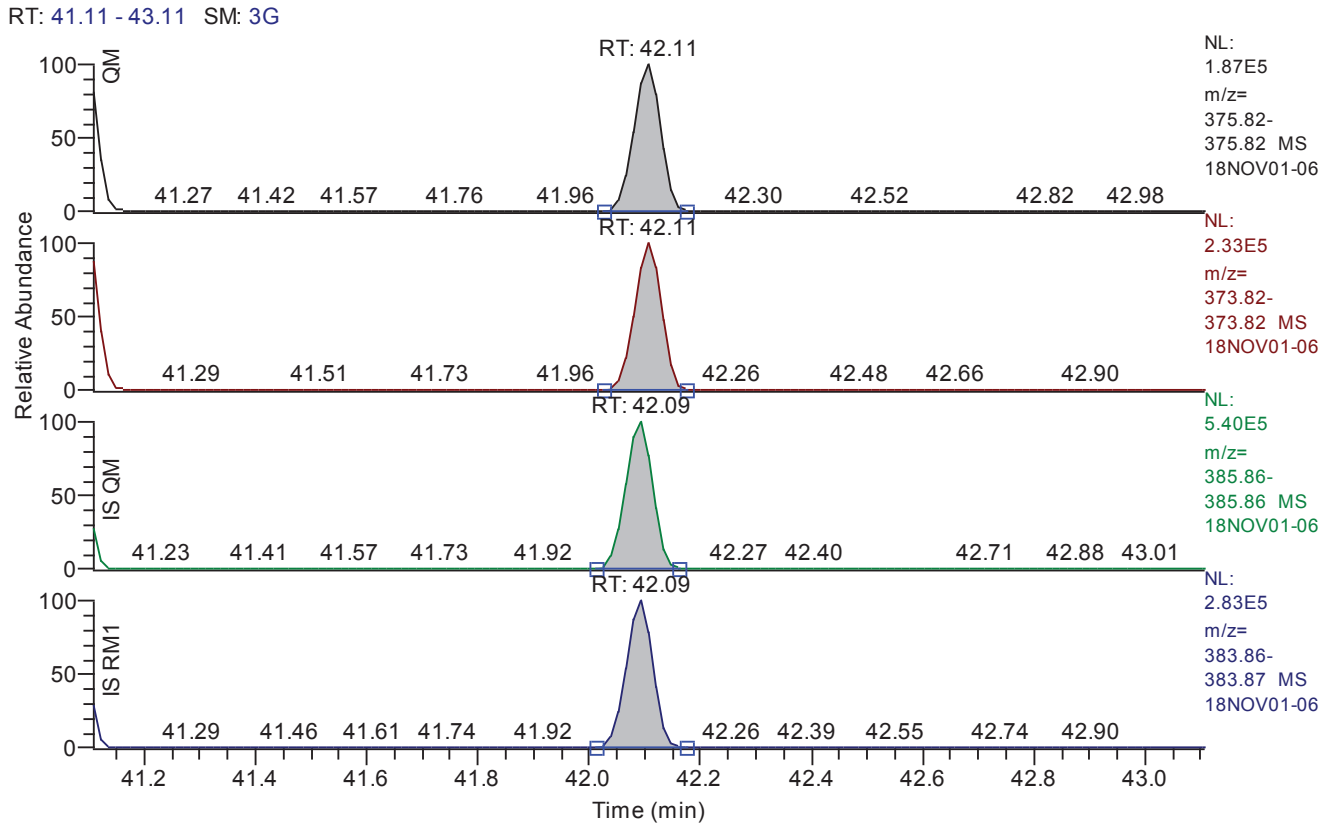
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.11
QM Area	632196
QM Integration Mode	A
RM1 Area	788191
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	45.134619
Adjusted Amount (A)	45.1346
Signal-to-Noise	10146
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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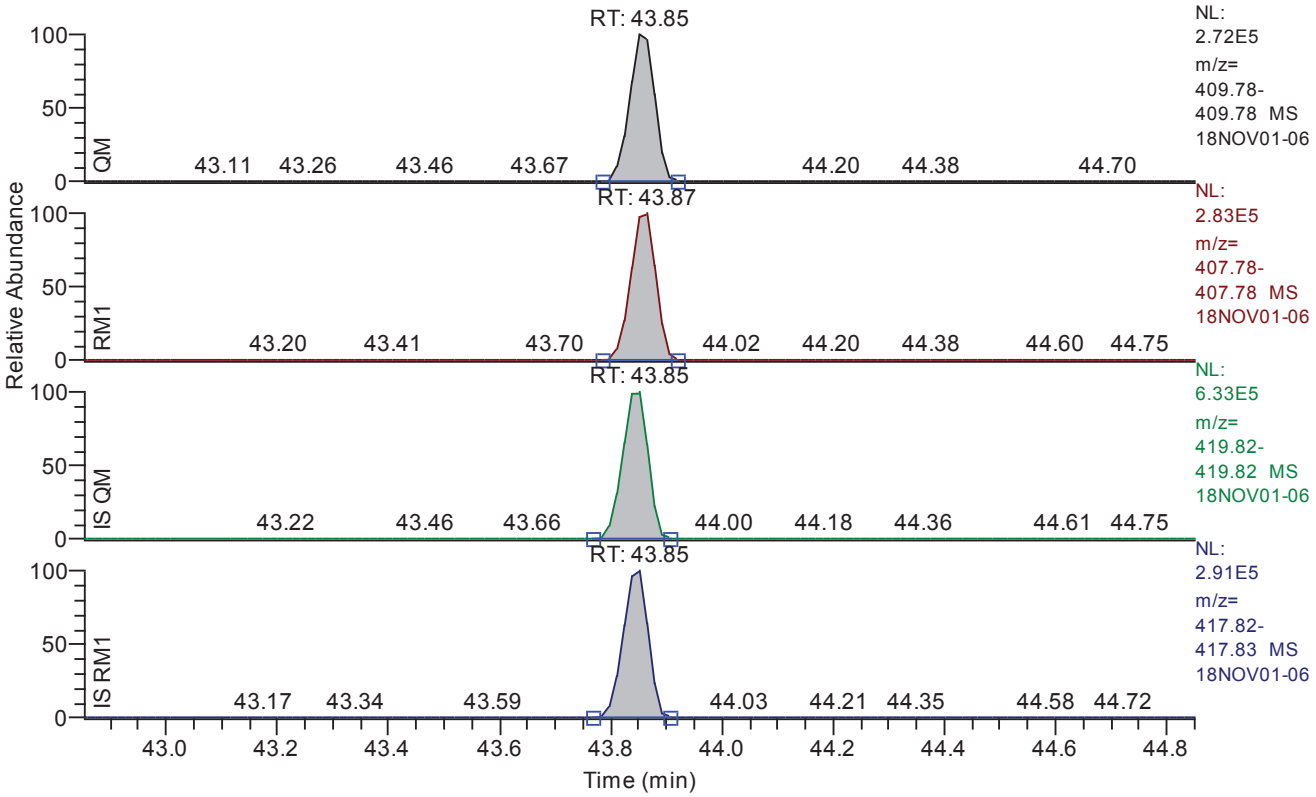
Chromatogram

RT: 42.85 - 44.85 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.85
QM Area	888980
QM Integration Mode	A
RM1 Area	923339
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0105
Unqualified Amount (A)	48.240120
Adjusted Amount (A)	48.2401
Signal-to-Noise	11639
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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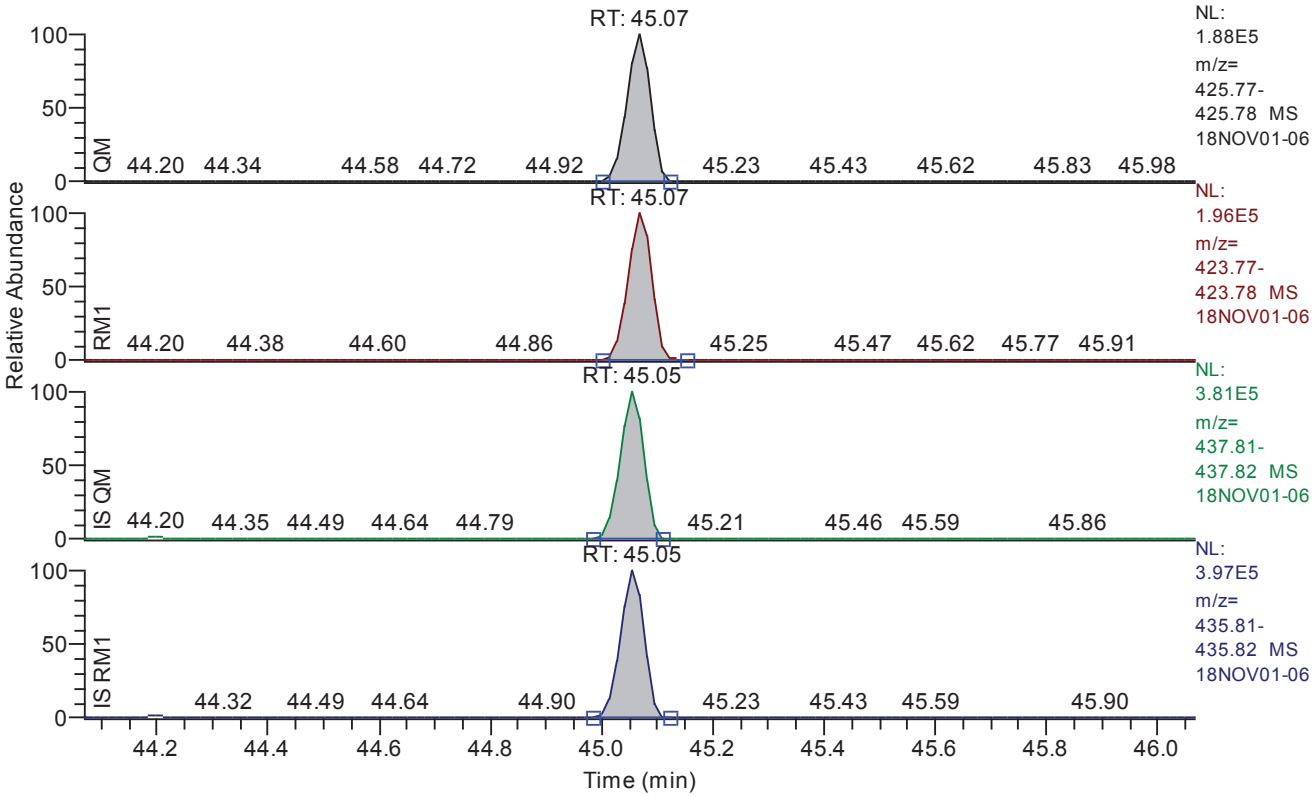
Chromatogram

RT: 44.07 - 46.07 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.07
QM Area	573155
QM Integration Mode	A
RM1 Area	603273
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	48.019254
Adjusted Amount (A)	48.0193
Signal-to-Noise	10622
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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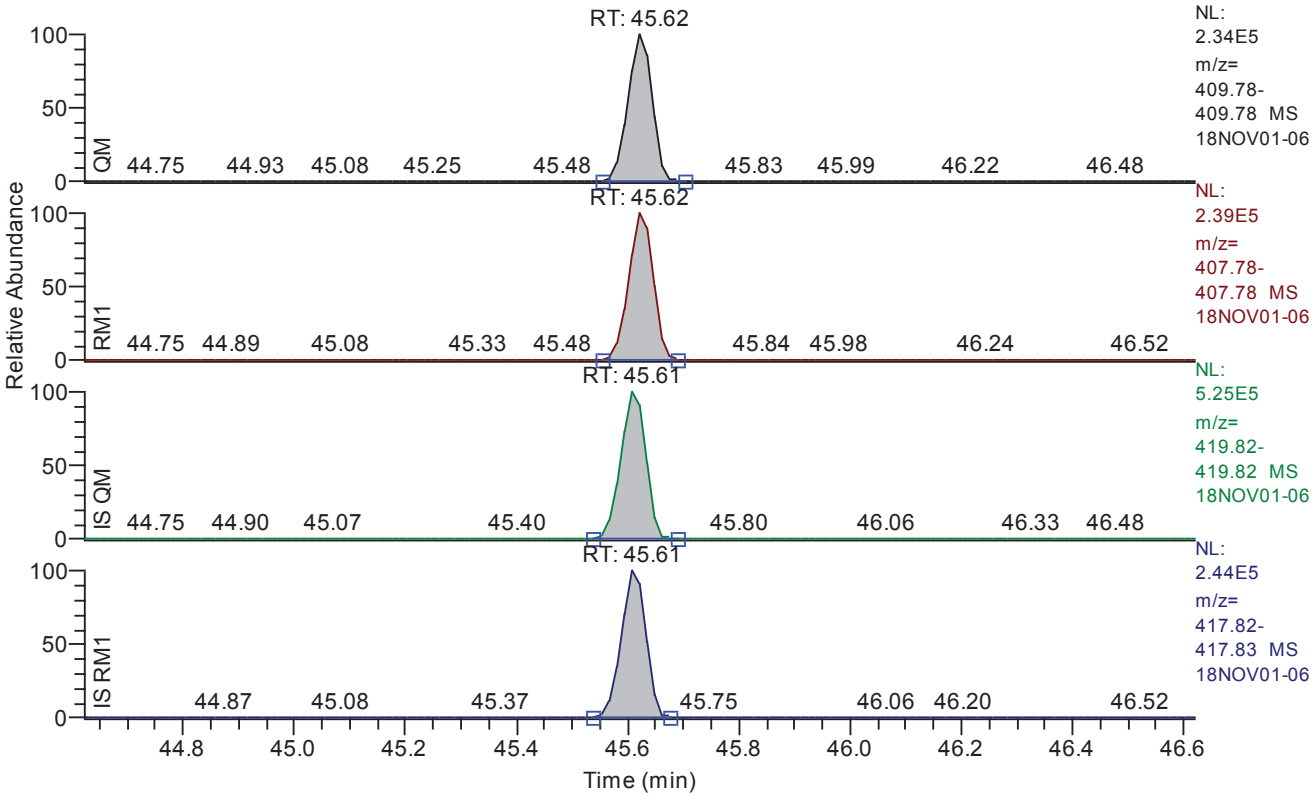
Chromatogram

RT: 44.62 - 46.62 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.62
QM Area	733463
QM Integration Mode	A
RM1 Area	757033
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0121
Unqualified Amount (A)	47.254099
Adjusted Amount (A)	47.2541
Signal-to-Noise	9887
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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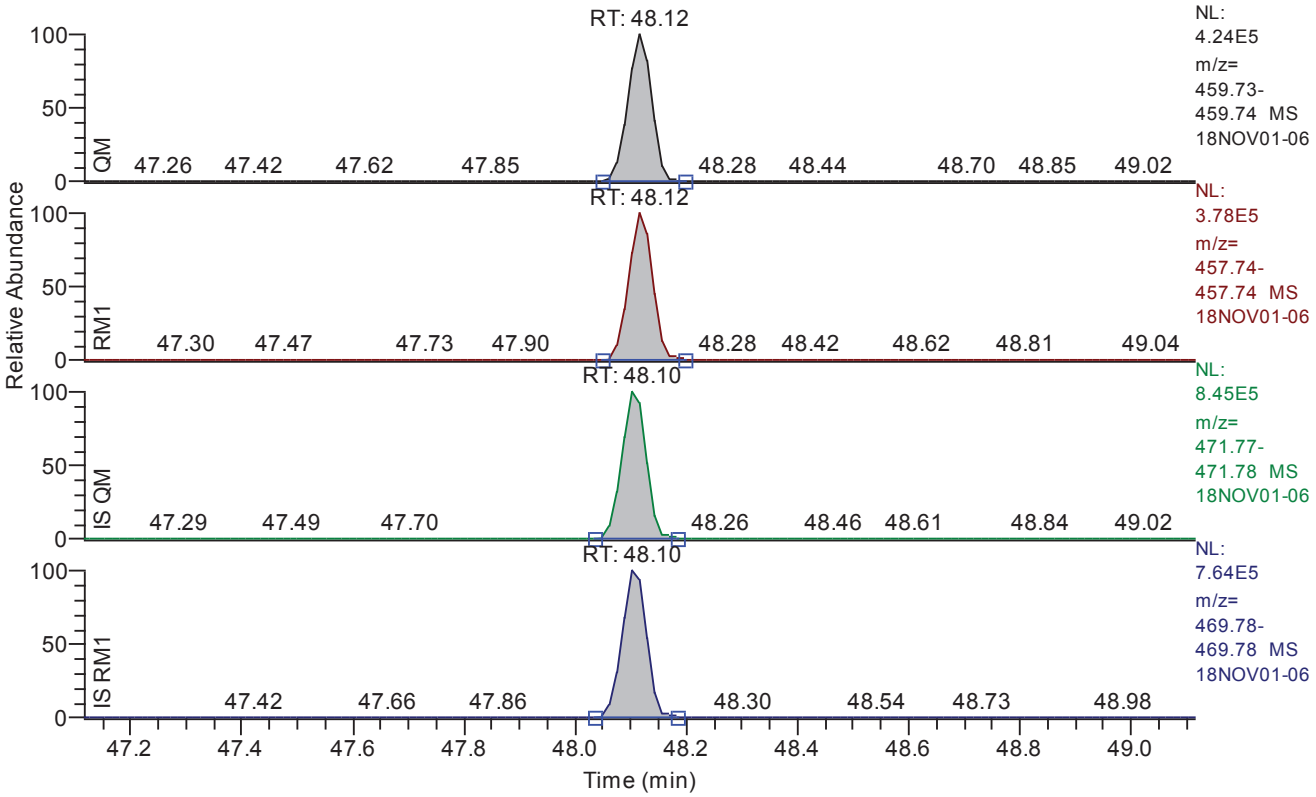
Chromatogram

RT: 47.12 - 49.12 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.12
QM Area	1261869
QM Integration Mode	A
RM1 Area	1129086
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0119
Unqualified Amount (A)	96.509083
Adjusted Amount (A)	96.5091
Signal-to-Noise	20760
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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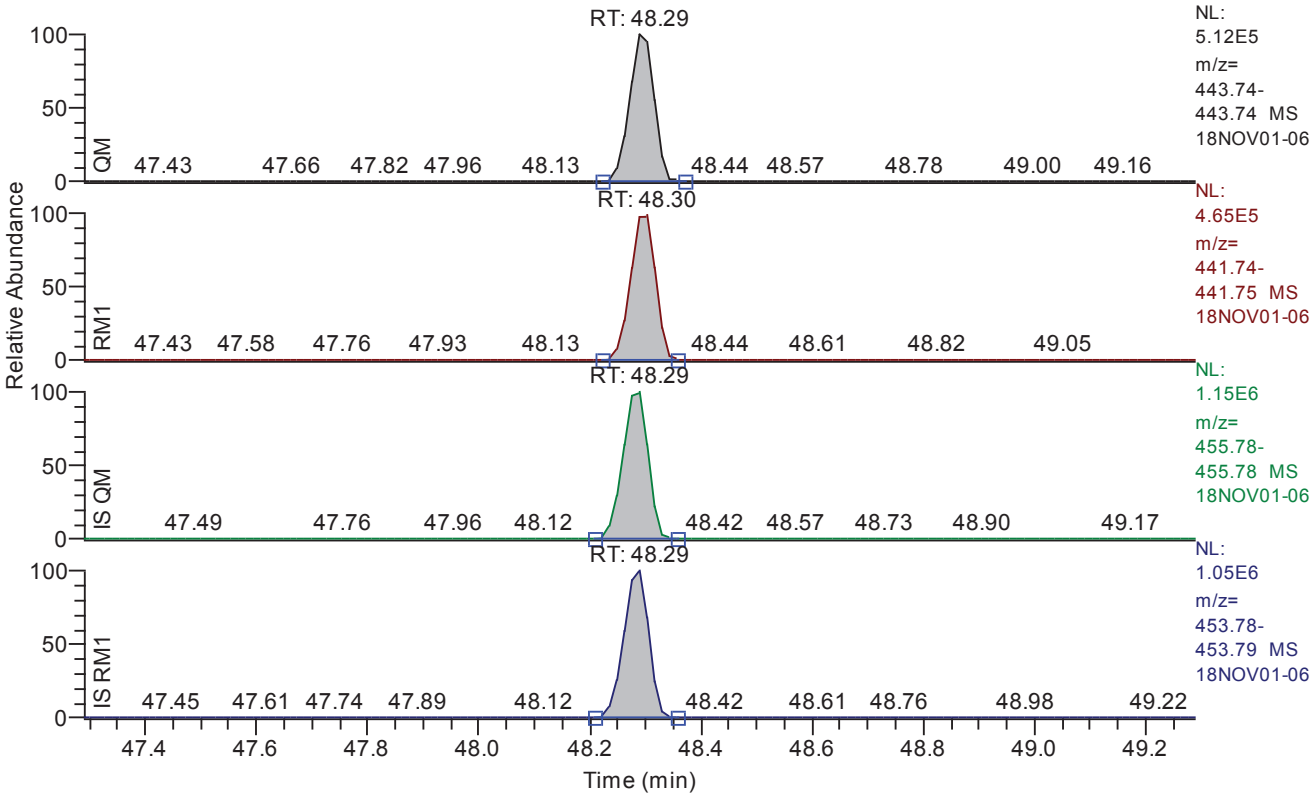
Chromatogram

RT: 47.29 - 49.29 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.29
QM Area	1583887
QM Integration Mode	A
RM1 Area	1448069
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	97.523880
Adjusted Amount (A)	97.5239
Signal-to-Noise	30850
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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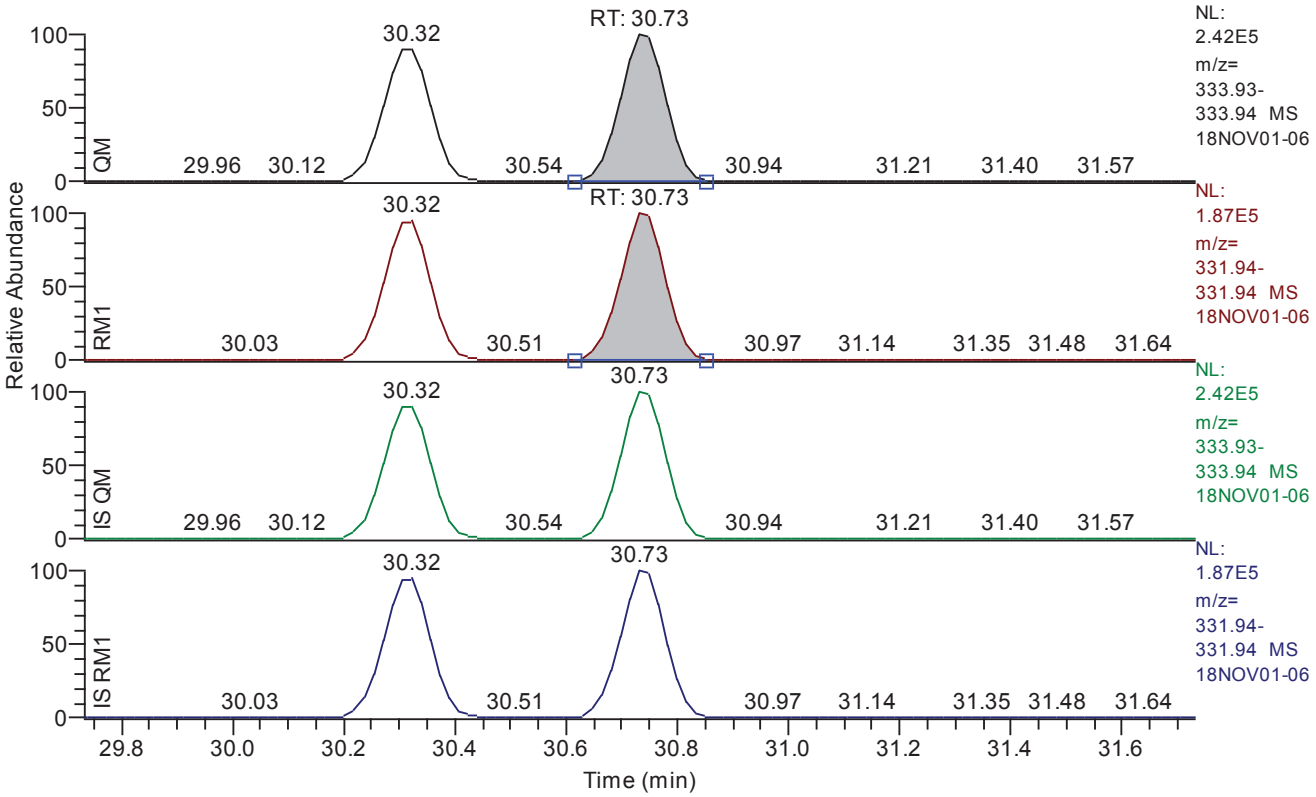
Chromatogram

RT: 29.73 - 31.73 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.73
QM Area	1400696
QM Integration Mode	A
RM1 Area	1076982
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0191
Unqualified Amount (A)	94.668457
Adjusted Amount (A)	94.6685
Signal-to-Noise	12230
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.19	29.19	29.19	29.16	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.34	30.34	30.34	30.32	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.22	35.22	35.23	35.20	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.51	36.51	36.51	36.48	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.91	36.91	36.91	36.90	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.23	40.23	40.23	40.22	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.38	40.38	40.40	40.37	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.10	41.10	41.10	41.07	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.29	41.29	41.30	41.27	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.41	41.41	41.41	41.39	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.73	41.73	41.73	41.72	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.11	42.11	42.11	42.09	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.85	43.85	43.87	43.85	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.07	45.07	45.07	45.05	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.62	45.62	45.62	45.61	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.12	48.12	48.12	48.10	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.29	48.29	48.30	48.29	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.73	30.73	30.73	30.73	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.48	29.48	29.48	29.48	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.14	40.14	40.14	40.14	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.16	29.16	29.16	29.19	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.32	30.32	30.32	30.32	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.20	35.20	35.20	35.00	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.48	36.48	36.48	36.57	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.90	36.90	36.90	36.90	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.22	40.22	40.22	40.26	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.37	40.37	40.37	40.38	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.07	41.07	41.07	41.07	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.27	41.27	41.27	41.27	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.39	41.39	41.39	41.39	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.72	41.72	41.72	41.72	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.09	42.09	42.09	42.12	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.85	43.85	43.85	43.70	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.05	45.05	45.05	45.05	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.61	45.61	45.61	45.58	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.10	48.10	48.10	48.10	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.29	48.29	48.29	48.29	passed	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	29.19	0.7610	0.6450 - 0.8950	passed	0.9279	1.0177	0.8091 - 1.2263	passed
2	2378-TCDD	30.34	0.7794	0.6450 - 0.8950	passed	1.0890	1.2073	0.9598 - 1.4548	passed
3	12378-PeCDF	35.22	1.5779	1.3150 - 1.7850	passed	0.8600	0.9324	0.7413 - 1.1235	passed
4	23478-PeCDF	36.51	1.5845	1.3150 - 1.7850	passed	0.9651	1.0347	0.8226 - 1.2468	passed
5	12378-PeCDD	36.91	1.5538	1.3150 - 1.7850	passed	0.9390	1.0203	0.8111 - 1.2295	passed
6	123478-HxCDF	40.23	1.2669	1.0450 - 1.4350	passed	1.1000	1.1540	0.9174 - 1.3906	passed
7	123678-HxCDF	40.38	1.2614	1.0450 - 1.4350	passed	1.0495	1.1133	0.8851 - 1.3415	passed
8	234678-HxCDF	41.10	1.2621	1.0450 - 1.4350	passed	1.1261	1.2051	0.9581 - 1.4521	passed
9	123478-HxCDD	41.29	1.2447	1.0450 - 1.4350	passed	0.9555	0.9970	0.7926 - 1.2014	passed
10	123678-HxCDD	41.41	1.1931	1.0450 - 1.4350	passed	0.9271	0.9802	0.7793 - 1.1811	passed
11	123789-HxCDD	41.73	1.2503	1.0450 - 1.4350	passed	0.9885	1.0562	0.8397 - 1.2727	passed
12	123789-HxCDF	42.11	1.2468	1.0450 - 1.4350	passed	1.0128	1.1220	0.8920 - 1.3520	passed
13	1234678-HpCDF	43.85	1.0387	0.8750 - 1.2050	passed	1.1902	1.2336	0.9807 - 1.4865	passed
14	1234678-HpCDD	45.07	1.0525	0.8750 - 1.2050	passed	0.9848	1.0254	0.8152 - 1.2356	passed
15	1234789-HpCDF	45.62	1.0321	0.8750 - 1.2050	passed	1.2074	1.2776	1.0157 - 1.5395	passed
16	OCDD	48.12	0.8948	0.7550 - 1.0250	passed	0.9738	1.0090	0.8022 - 1.2158	passed
17	OCDF	48.29	0.9142	0.7550 - 1.0250	passed	0.8772	0.8994	0.7150 - 1.0838	passed
18	13C12-1278-TCDD (CRS)	30.73	0.7689	0.6450 - 0.8950	passed	0.9961	1.0522	0.7313 - 1.3731	passed
19	13C12-1234-TCDD	29.48	0.8103	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.14	1.2577	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.16	0.7895	0.6450 - 0.8950	passed	1.7836	1.9499	1.3552 - 2.5446	passed
22	13C12-2378-TCDD	30.32	0.8034	0.6450 - 0.8950	passed	0.9581	1.0034	0.6974 - 1.3094	passed
23	13C12-12378-PeCDF	35.20	1.5881	1.3150 - 1.7850	passed	1.5879	1.9253	1.3381 - 2.5125	passed
24	13C12-23478-PeCDF	36.48	1.5587	1.3150 - 1.7850	passed	1.5965	1.9383	1.3471 - 2.5295	passed
25	13C12-12378-PeCDD	36.90	1.5975	1.3150 - 1.7850	passed	0.9214	1.0421	0.7243 - 1.3599	passed
26	13C12-123478-HxCDF	40.22	0.5235	0.4250 - 0.5950	passed	1.2870	1.4639	1.0174 - 1.9104	passed
27	13C12-123678-HxCDF	40.37	0.5213	0.4250 - 0.5950	passed	1.3392	1.5311	1.0641 - 1.9981	passed
28	13C12-234678-HxCDF	41.07	0.5341	0.4250 - 0.5950	passed	1.1967	1.4083	0.9788 - 1.8378	passed
29	13C12-123478-HxCDD	41.27	1.3038	1.0450 - 1.4350	passed	0.9572	1.0051	0.6985 - 1.3117	passed
30	13C12-123678-HxCDD	41.39	1.2384	1.0450 - 1.4350	passed	0.9649	1.0230	0.7110 - 1.3350	passed
31	13C12-123789-HxCDD	41.72	1.2431	1.0450 - 1.4350	passed	0.9123	0.9720	0.6755 - 1.2685	passed
32	13C12-123789-HxCDF	42.09	0.5161	0.4250 - 0.5950	passed	1.0849	1.3107	0.9109 - 1.7105	passed
33	13C12-1234678-HpCDF	43.85	0.4545	0.3650 - 0.5150	passed	1.1780	1.3499	0.9382 - 1.7616	passed
34	13C12-1234678-HpCDD	45.05	1.0398	0.8750 - 1.2050	passed	0.9242	0.9594	0.6668 - 1.2520	passed
35	13C12-1234789-HpCDF	45.61	0.4581	0.3650 - 0.5150	passed	0.9550	1.0985	0.7635 - 1.4335	passed
36	13C12-OCDD	48.10	0.9097	0.7550 - 1.0250	passed	0.9497	0.8972	0.6236 - 1.1708	passed
37	13C12-OCDF	48.29	0.8930	0.7550 - 1.0250	passed	1.3371	1.4110	0.9806 - 1.8414	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.19	233768	A	177903	A	0.0079	9.118045	9.1180	10.000000	2884	
2	2378-TCDD	passed	30.34	145848	A	113680	A	0.0098	9.020448	9.0204	10.000000	2458	
3	12378-PeCDF	passed	35.22	658775	A	1039487	A	0.0075	46.113887	46.1139	50.000000	15309	
4	23478-PeCDF	passed	36.51	741385	A	1174741	A	0.0065	46.635051	46.6351	50.000000	18735	
5	12378-PeCDD	passed	36.91	421341	A	654662	A	0.0128	46.016103	46.0161	50.000000	8918	
6	123478-HxCDF	passed	40.23	807235	A	1022670	A	0.0093	47.660533	47.6605	50.000000	12871	
7	123678-HxCDF	passed	40.38	803426	A	1013426	A	0.0095	47.134794	47.1348	50.000000	12315	
8	234678-HxCDF	passed	41.10	770058	A	971923	A	0.0095	46.722790	46.7228	50.000000	12326	
9	123478-HxCDD	passed	41.29	526696	A	655561	A	0.0108	47.917855	47.9179	50.000000	11124	
10	123678-HxCDD	passed	41.41	527285	A	629079	A	0.0106	47.294107	47.2941	50.000000	10880	
11	123789-HxCDD	passed	41.73	518027	A	647685	A	0.0106	46.798890	46.7989	50.000000	11415	
12	123789-HxCDF	passed	42.11	632196	A	788191	A	0.0112	45.134619	45.1346	50.000000	10146	
13	1234678-HpCDF	passed	43.85	888980	A	923339	A	0.0105	48.240120	48.2401	50.000000	11639	
14	1234678-HpCDD	passed	45.07	573155	A	603273	A	0.0113	48.019254	48.0193	50.000000	10622	
15	1234789-HpCDF	passed	45.62	733463	A	757033	A	0.0121	47.254099	47.2541	50.000000	9887	
16	OCDD	passed	48.12	1261869	A	1129086	A	0.0119	96.509083	96.5091	100.000000	20760	
17	OCDF	passed	48.29	1583887	A	1448069	A	0.0080	97.523880	97.5239	100.000000	30850	
18	13C12-1278-TCDD (CRS)	passed	30.73	1400696	A	1076982	A	0.0191	94.668457	94.6685	100.000000	12230	
19	13C12-1234-TCDD	passed	29.48	1373980	A	1113346	A	0.0242	100.000000	100.0000	100.000000	10342	
20	13C12-123468-HxCDD	passed	40.14	1145043	A	1440162	A	0.0159	100.000000	100.0000	100.000000	15728	
21	13C12-2378-TCDF	passed	29.16	2479066	A	1957304	A	0.0107	91.468629	91.4686	100.000000	21809	
22	13C12-2378-TCDD	passed	30.32	1321412	A	1061660	A	0.0241	95.479830	95.4798	100.000000	9964	
23	13C12-12378-PeCDF	passed	35.20	1526050	A	2423525	A	0.0189	82.474327	82.4743	100.000000	14700	
24	13C12-23478-PeCDF	passed	36.48	1551948	A	2419030	A	0.0188	82.366167	82.3662	100.000000	15268	
25	13C12-12378-PeCDD	passed	36.90	882304	A	1409506	A	0.0152	88.418981	88.4190	100.000000	21465	
26	13C12-123478-HxCDF	passed	40.22	2183879	A	1143242	A	0.0122	87.915415	87.9154	100.000000	17506	
27	13C12-123678-HxCDF	passed	40.37	2275752	A	1186452	A	0.0117	87.470761	87.4708	100.000000	17708	
28	13C12-234678-HxCDF	passed	41.07	2016585	A	1077150	A	0.0127	84.976553	84.9766	100.000000	16415	
29	13C12-123478-HxCDD	passed	41.27	1074126	A	1400447	A	0.0158	95.231858	95.2319	100.000000	14878	
30	13C12-123678-HxCDD	passed	41.39	1114442	A	1380096	A	0.0155	94.326503	94.3265	100.000000	15446	
31	13C12-123789-HxCDD	passed	41.72	1051430	A	1307035	A	0.0164	93.856262	93.8563	100.000000	14246	
32	13C12-123789-HxCDF	passed	42.09	1849961	A	954797	A	0.0137	82.776036	82.7760	100.000000	14943	
33	13C12-1234678-HpCDF	passed	43.85	2093766	A	951604	A	0.0159	87.268794	87.2688	100.000000	14032	
34	13C12-1234678-HpCDD	passed	45.05	1171331	A	1217911	A	0.0128	96.329608	96.3296	100.000000	20590	
35	13C12-1234789-HpCDF	passed	45.61	1693210	A	775674	A	0.0195	86.937212	86.9372	100.000000	11674	
36	13C12-OCDD	passed	48.10	2571340	A	2339112	A	0.0104	211.707516	211.7075	200.000000	55839	
37	13C12-OCDF	passed	48.29	3651850	A	3261282	A	0.0088	189.513964	189.5140	200.000000	57689	

APPROVED
By uma9 at 4:10 pm, 11/9/18

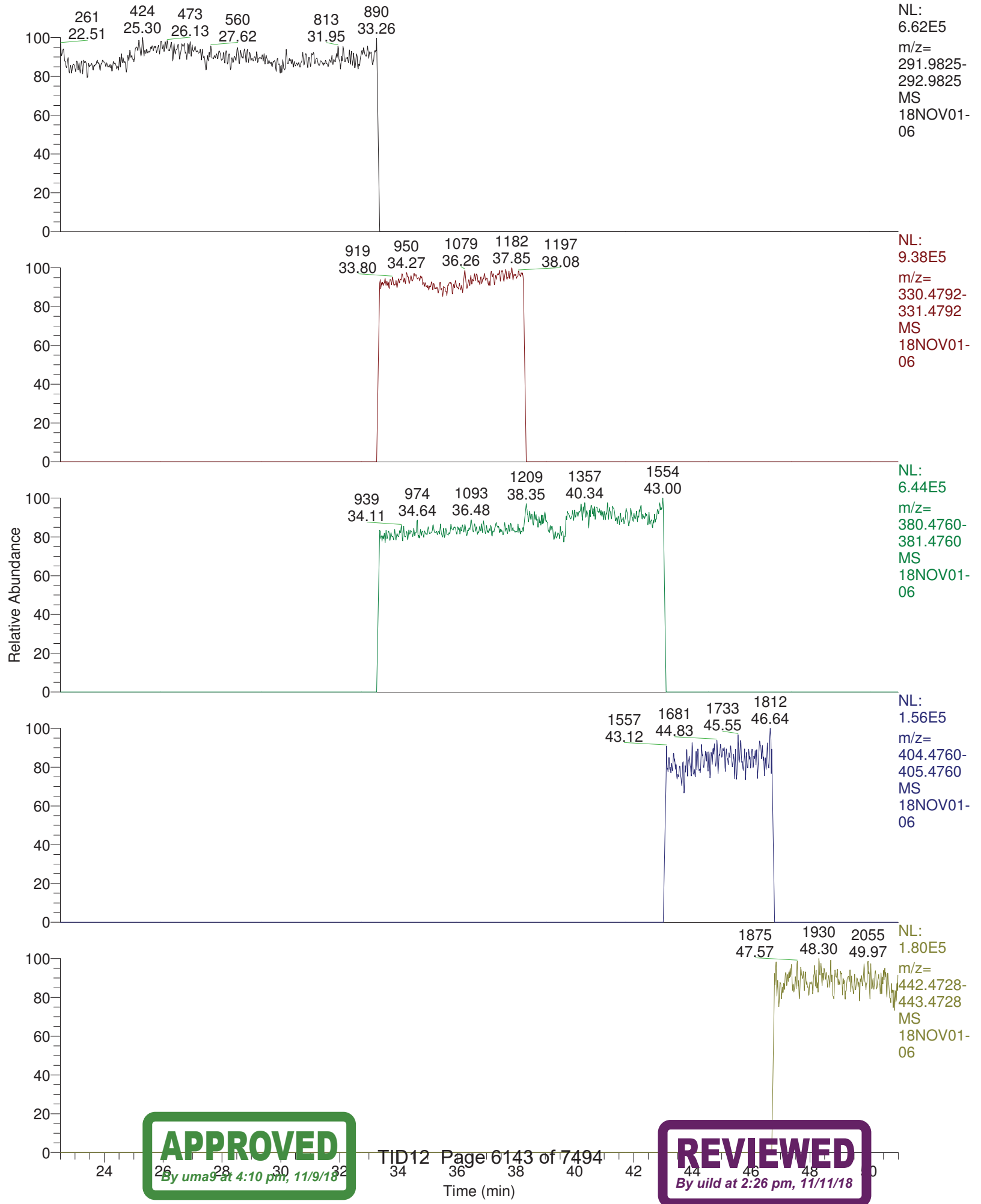
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-06
Sample ID: CS3CC02

Acq. Data: 11/1/2018 1:46:33 PM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV01

RT: 22.50 - 51.00



APPROVED
By umas at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

*** file opened Thu Nov 01 13:52:00 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 01-Nov-18 13:51:59

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : d4ce380f-151c-43cc-8216-577a72a91799

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	11:15 min	33:15 min	1.00 sec
# 3	33:15 min	5:00 min	38:15 min	0.90 sec
# 4	38:15 min	4:45 min	43:00 min	0.80 sec
# 5	43:00 min	3:42 min	46:42 min	0.80 sec
# 6	46:42 min	4:17 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU           1000.0000   BCORRS           0.0170   BMASS           98.5000
 BQUAD             5.9500   CAPIL            0.0000   CAPTSET        200.0000
 CCURR             0.0000   COUNTING         0.0000   DELAY            0.0000
 DRAW            -25.0000   DRAWC            0.0000   DRAWS            0.0000
 DYNVOLTAGE       15.0000   ECORR            0.9995   ECURR            1.0000
 EDAC        7969177.0000   EDACG            1.0000   EDACZ         -242.0000
 ELEN            -50.0000   EMULT         1775.0000   ENS            217.0000
 ENSBR             5.9500   ERATIO           1.0000   ESA            679.0600
 ESIPAR            0.0000   EXS            169.0000   EXSBR           -0.4700
 FDMA       18000000.0000   FILTER         100.0000   FLENS            1.0000
 FM               50.0000   FMII            50.0000   FQUAD            4.3500
 FQUADGAIN         1.0000   FREQ           400.0000   FSLOPE    36000000.0000
 FVANAL            0.0172   FVINLET          0.0362   FVSRC            0.0333
 FWIN              0.7000   HCURR            0.0000   HVANAL           0.0000
 HVSRC             0.0000   ICAL0            0.0011   ICAL1            0.4030
 ICAL2             0.5865   IONEN            0.0000   IST              0.0000
 ISTC            260.0000   ISTS           260.0000   LENS_POT       670.0000
 LENS_SYM         11.5000   LM             650.0000   LMII           500.0000
 LMASS            98.5000   LKM            442.9723   MASS            98.5000
 MDAC         957780.3869   MRANGE        1614.4523   NSAM           200.0000
 NSCAN          2157.0000   NSMAX            8.0000   NSMIN           66.0000
 NPEAK            11.0000   MULT            -2.0000   PSAM            10.0000
 PUSHER          -13.0000   RECURR           0.9714   RELEN            0.0000
 RES           13353.3973   RPUSHER        -12.8132   RDRAW            0.0000
 RDRAWC            0.0000   RWIN             2.0000   SCIDLE           0.0000
 SHIELD_POT      690.0000   SHIELD_SYM       0.0000   SHIGH          180.0000
 SKIM              7.0000   SLOW            60.0000   SS               2.0000
 SW                0.0193   TANAL            0.0000   TCURR            0.0000
 TD               30.0000   TS              33.4574   THRESH           2.0000
 TIS               0.2000   TREF           120.0000   TSAM           200.0000
 TSET              0.0000   TUBEL            0.0000   UROT             0.0000
 USERVAR           0.0000   UTQ1           150.0000   UTQ2           190.0000
 UTQ3             80.0000   VMASS           98.5000   XLENS_POT      928.0000
 XLENS_SYM         6.5000   YLENS_POT      836.0000   YLENS_SYM        8.8000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.4e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10601.
MID Time Window 2: Resolution is 11552.
MID Time Window 3: Resolution is 12288.
MID Time Window 4: Resolution is 12724.
```

```
  MID Time Window 5: Resolution is 13013.
  MID Time Window 6: Resolution is 13353.

  Amplifier Offset: 88.


*** File closed Thu Nov 01 14:43:01 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 00:42
Number of Entries	167
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC04
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-18.quan
Data	y:\18nov01\18nov01-18.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.21	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.35	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.24	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.52	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.94	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.26	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.41	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.11	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.43	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.74	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.12	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.88	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.09	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.64	passed	passed	passed	passed	passed	passed	
16	OCDD	48.14	passed	passed	passed	passed	passed	passed	
17	OCDF	48.31	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.76	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.51	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.16	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.17	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.33	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.21	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.51	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.91	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.25	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.09	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.30	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.42	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.73	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.10	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.86	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.08	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.63	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.13	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.30	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 00:42
Number of Entries	167
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC04
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-18.quan
Data	y:\18nov01\18nov01-18.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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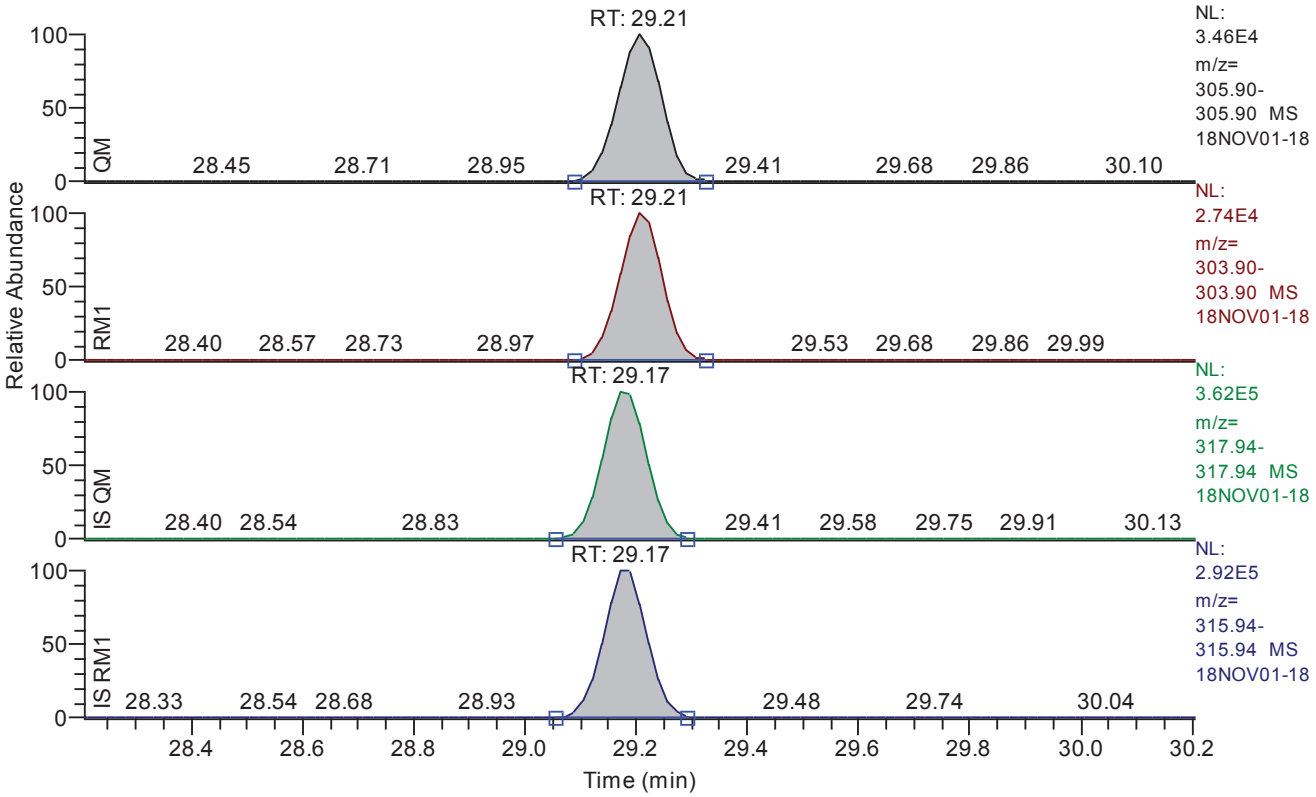
Chromatogram

RT: 28.21 - 30.21 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.21
QM Area	195350
QM Integration Mode	A
RM1 Area	150567
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	9.246961
Adjusted Amount (A)	9.2470
Signal-to-Noise	3406
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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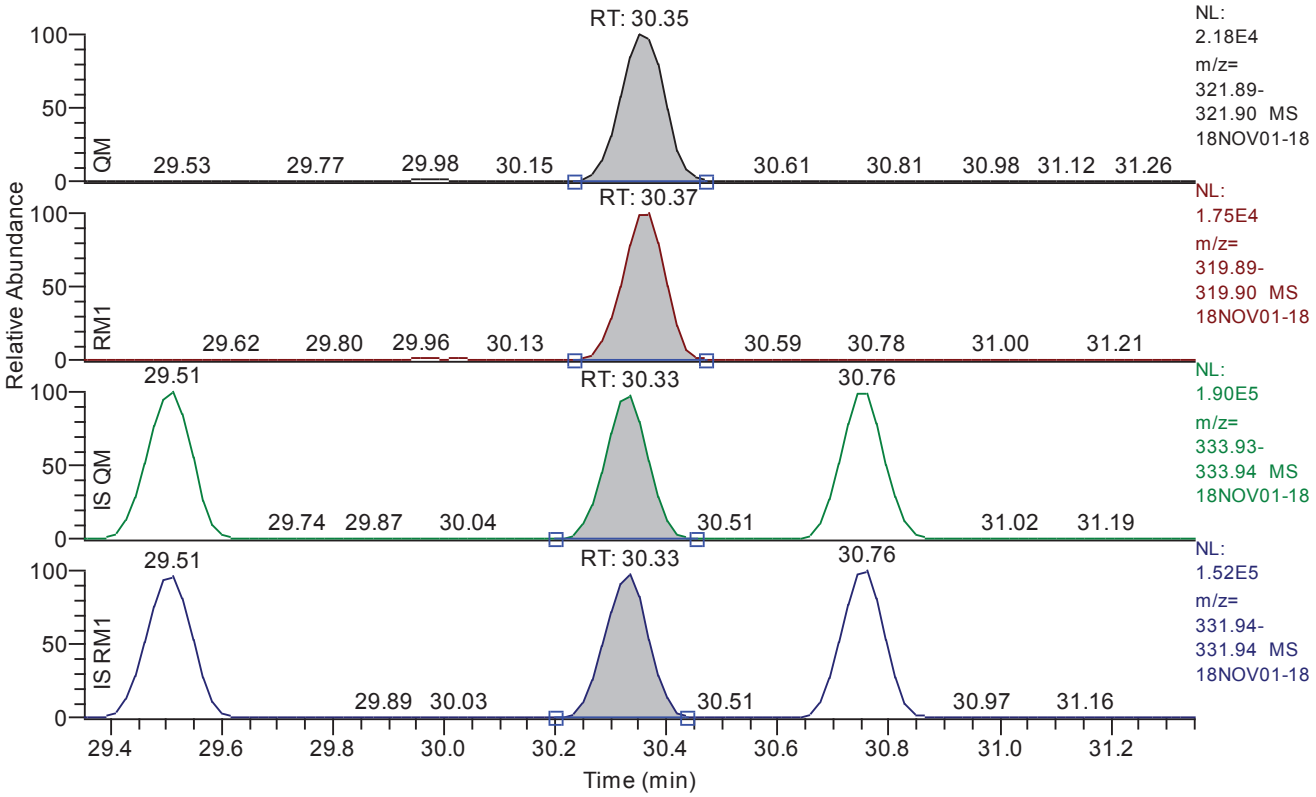
Chromatogram

RT: 29.35 - 31.35 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.35
QM Area	123862
QM Integration Mode	A
RM1 Area	96840
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0100
Unqualified Amount (A)	9.810438
Adjusted Amount (A)	9.8104
Signal-to-Noise	2430
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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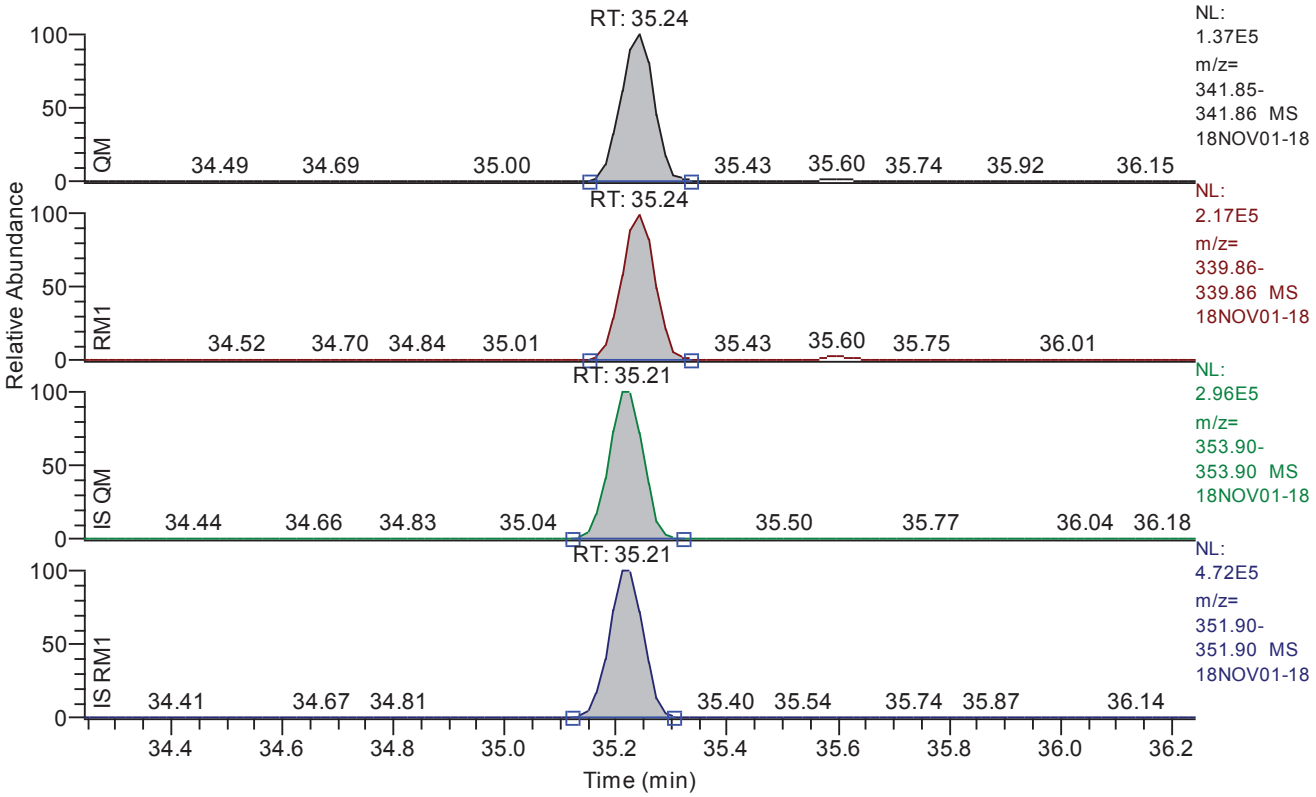
Chromatogram

RT: 34.24 - 36.24 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.24
QM Area	569840
QM Integration Mode	A
RM1 Area	905226
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0077
Unqualified Amount (A)	47.594785
Adjusted Amount (A)	47.5948
Signal-to-Noise	16018
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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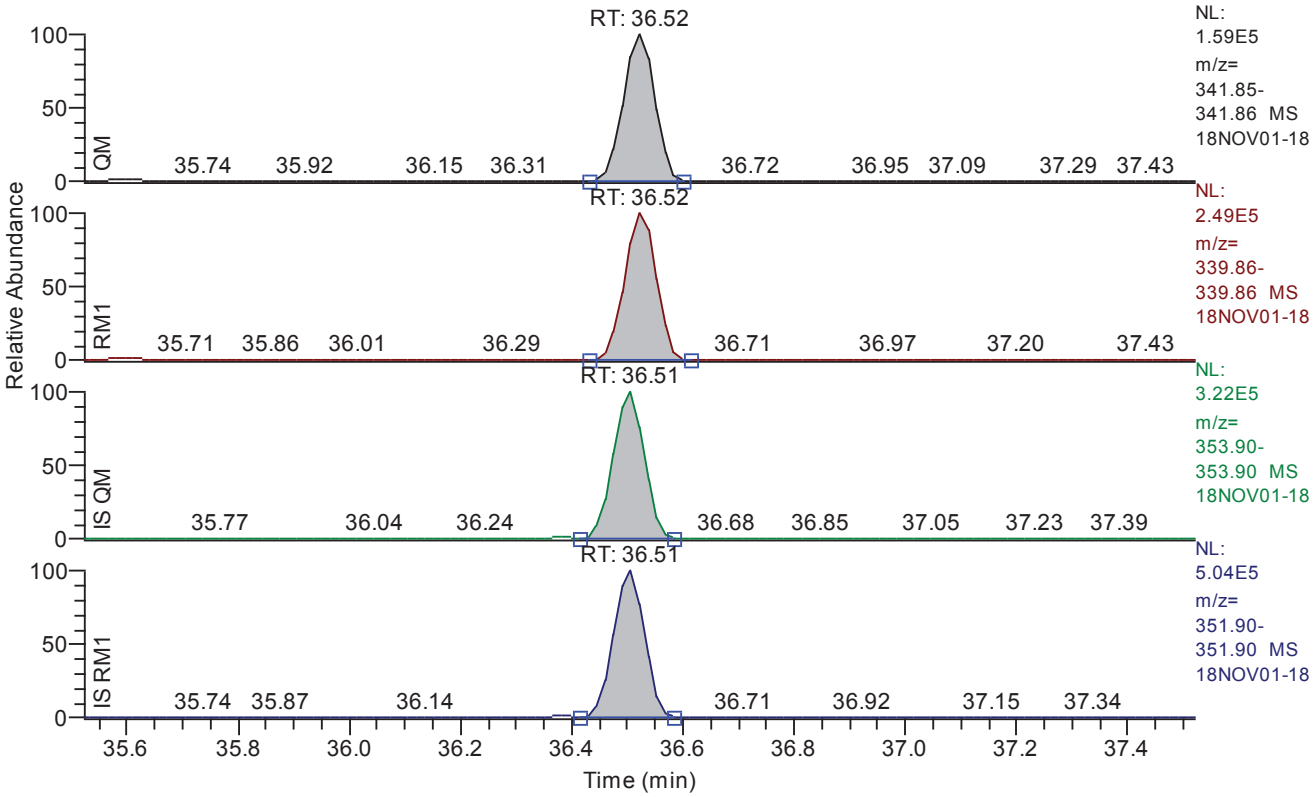
Chromatogram

RT: 35.52 - 37.52 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.52
QM Area	628527
QM Integration Mode	A
RM1 Area	987254
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	48.415540
Adjusted Amount (A)	48.4155
Signal-to-Noise	18447
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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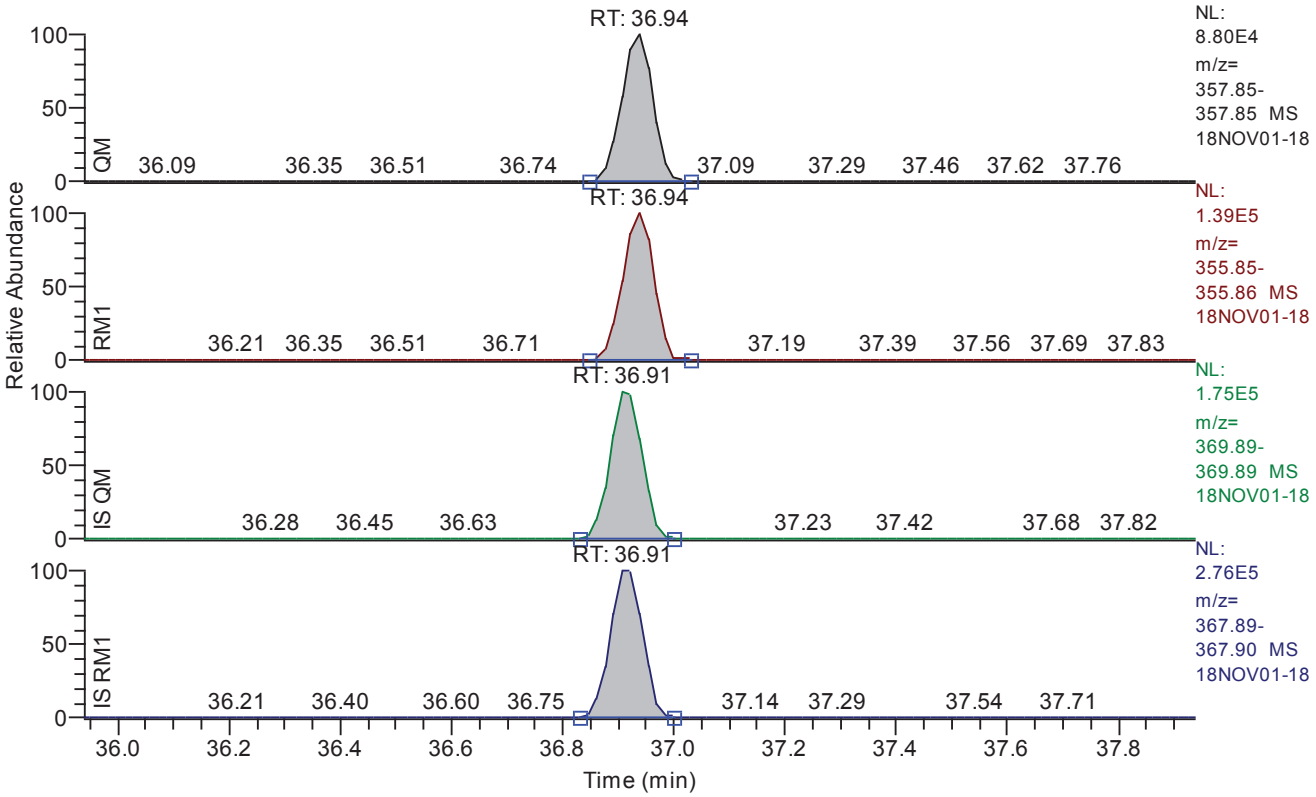
Chromatogram

RT: 35.94 - 37.94 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.94
QM Area	344067
QM Integration Mode	A
RM1 Area	542799
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0131
Unqualified Amount (A)	47.550470
Adjusted Amount (A)	47.5505
Signal-to-Noise	9397
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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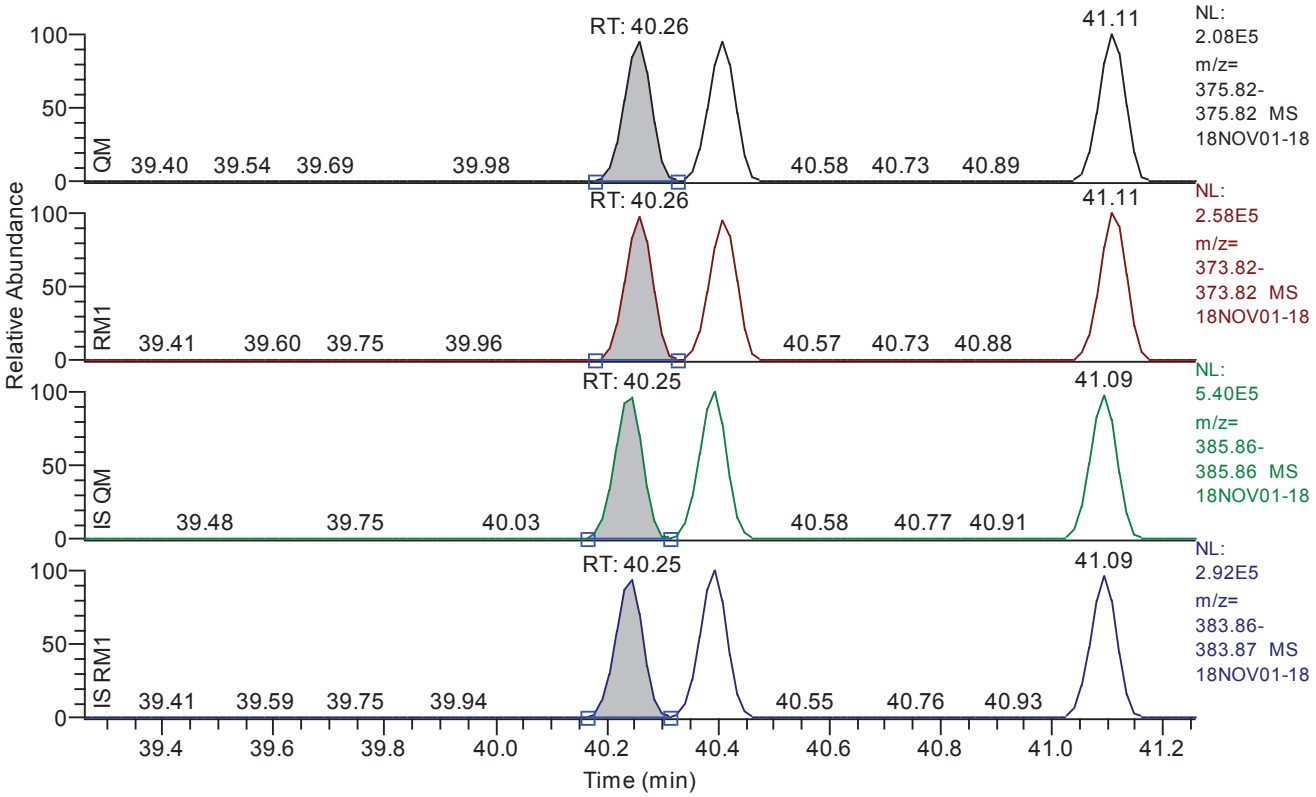
Chromatogram

RT: 39.26 - 41.26 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.26
QM Area	685123
QM Integration Mode	A
RM1 Area	873101
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0155
Unqualified Amount (A)	48.028907
Adjusted Amount (A)	48.0289
Signal-to-Noise	7884
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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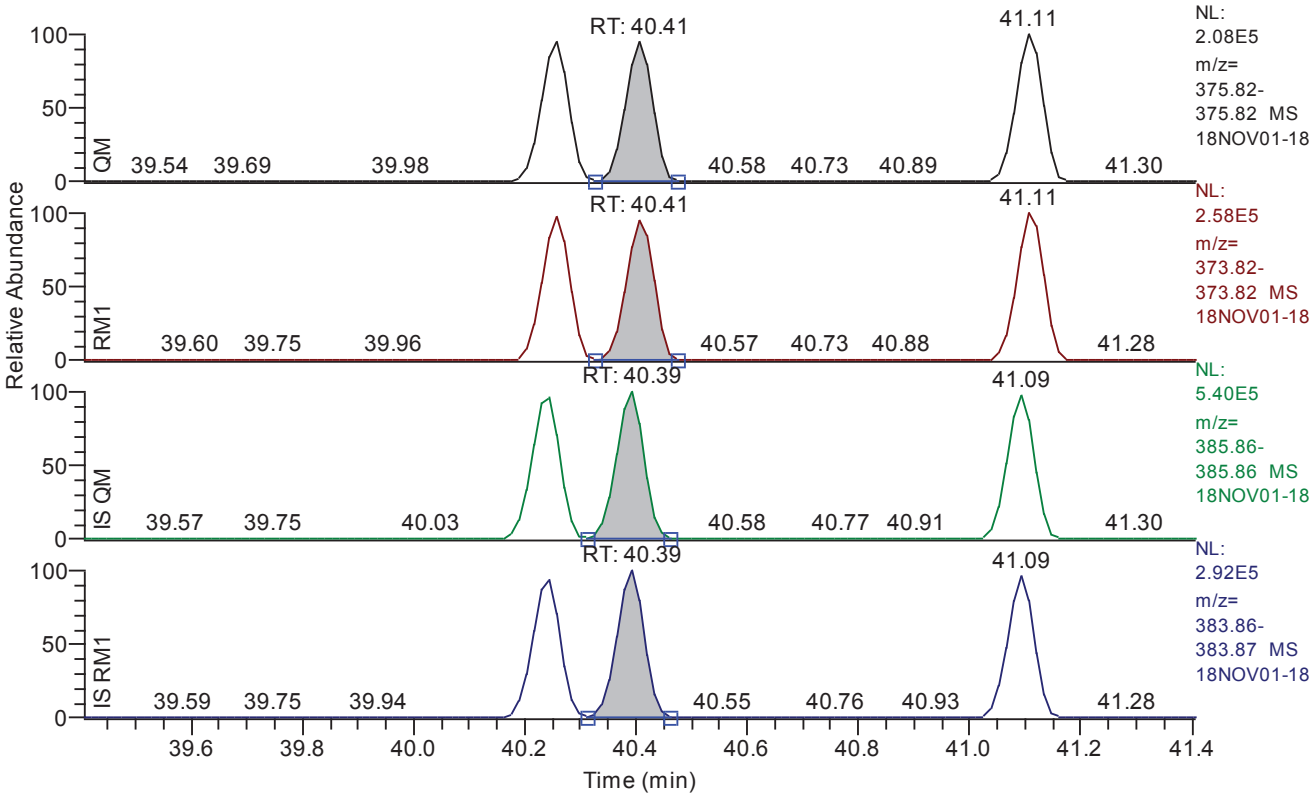
Chromatogram

RT: 39.41 - 41.41 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.41
QM Area	682869
QM Integration Mode	A
RM1 Area	861883
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0154
Unqualified Amount (A)	48.405455
Adjusted Amount (A)	48.4055
Signal-to-Noise	7776
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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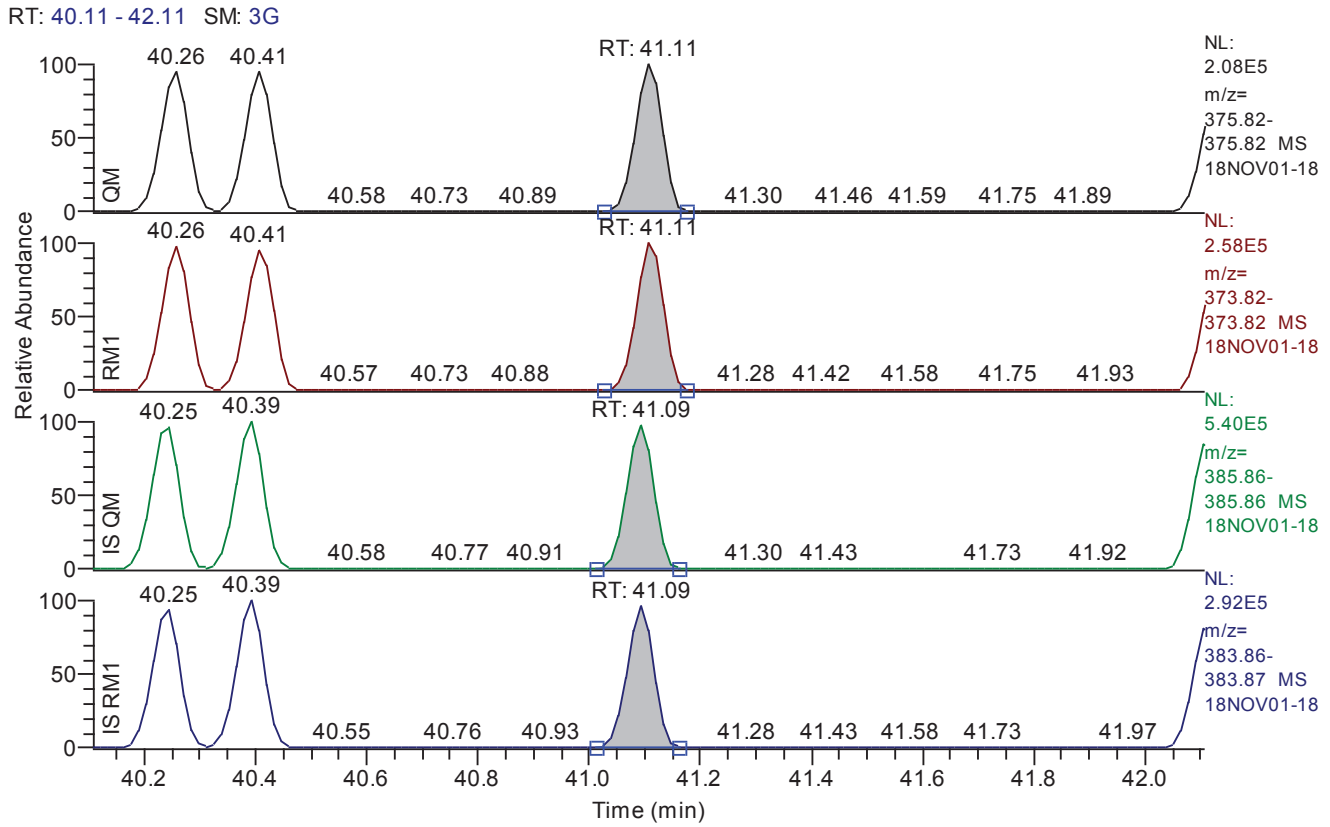
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.11
QM Area	702858
QM Integration Mode	A
RM1 Area	883154
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0146
Unqualified Amount (A)	47.918787
Adjusted Amount (A)	47.9188
Signal-to-Noise	8159
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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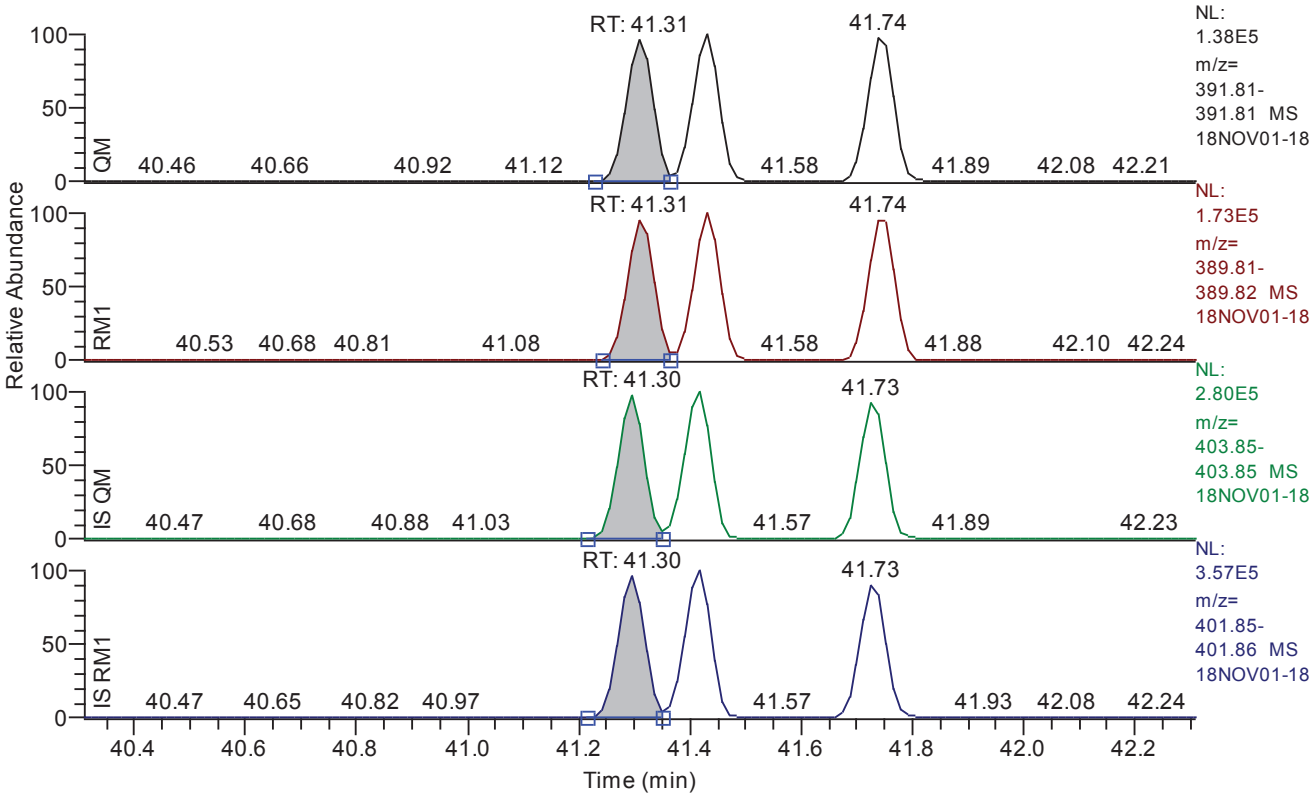
Chromatogram

RT: 40.31 - 42.31 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.31
QM Area	451667
QM Integration Mode	A
RM1 Area	557422
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0094
Unqualified Amount (A)	49.473790
Adjusted Amount (A)	49.4738
Signal-to-Noise	12949
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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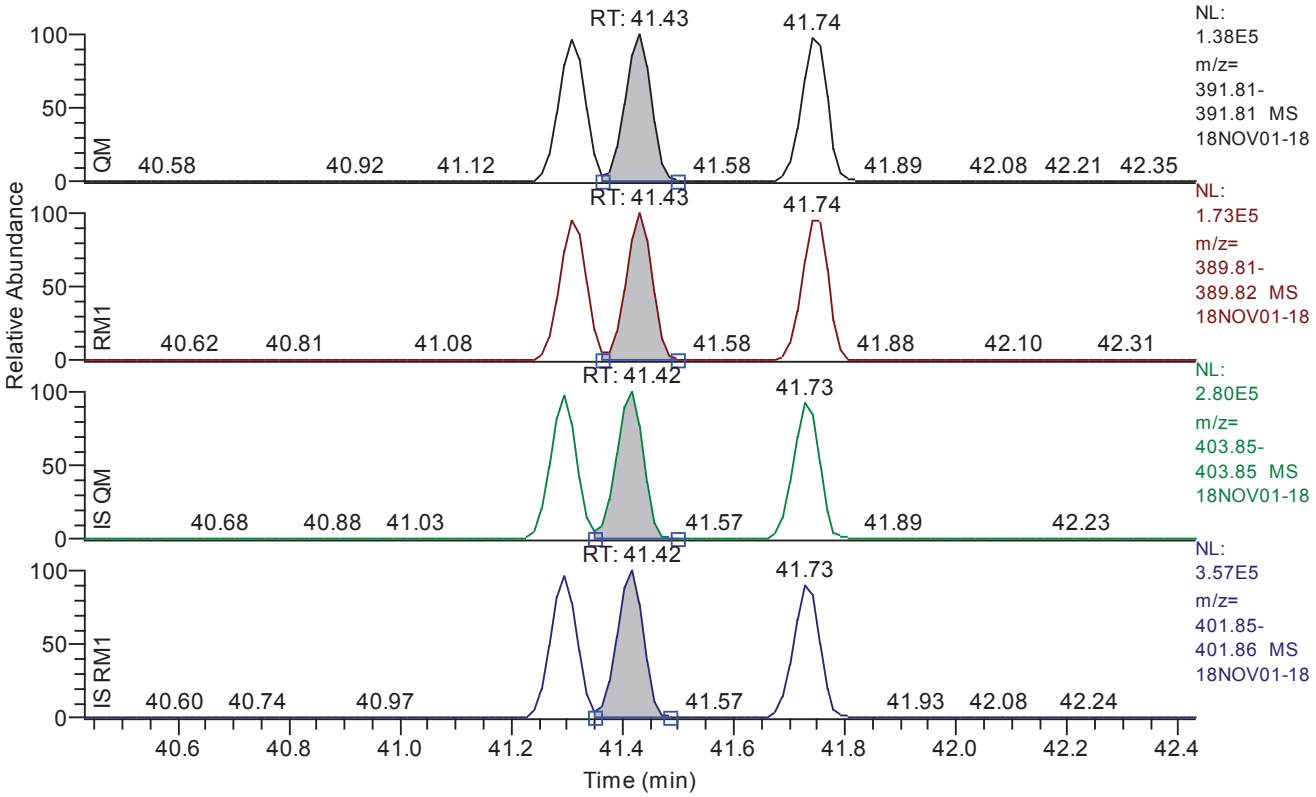
Chromatogram

RT: 40.43 - 42.43 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.43
QM Area	455450
QM Integration Mode	A
RM1 Area	566758
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	48.925705
Adjusted Amount (A)	48.9257
Signal-to-Noise	13406
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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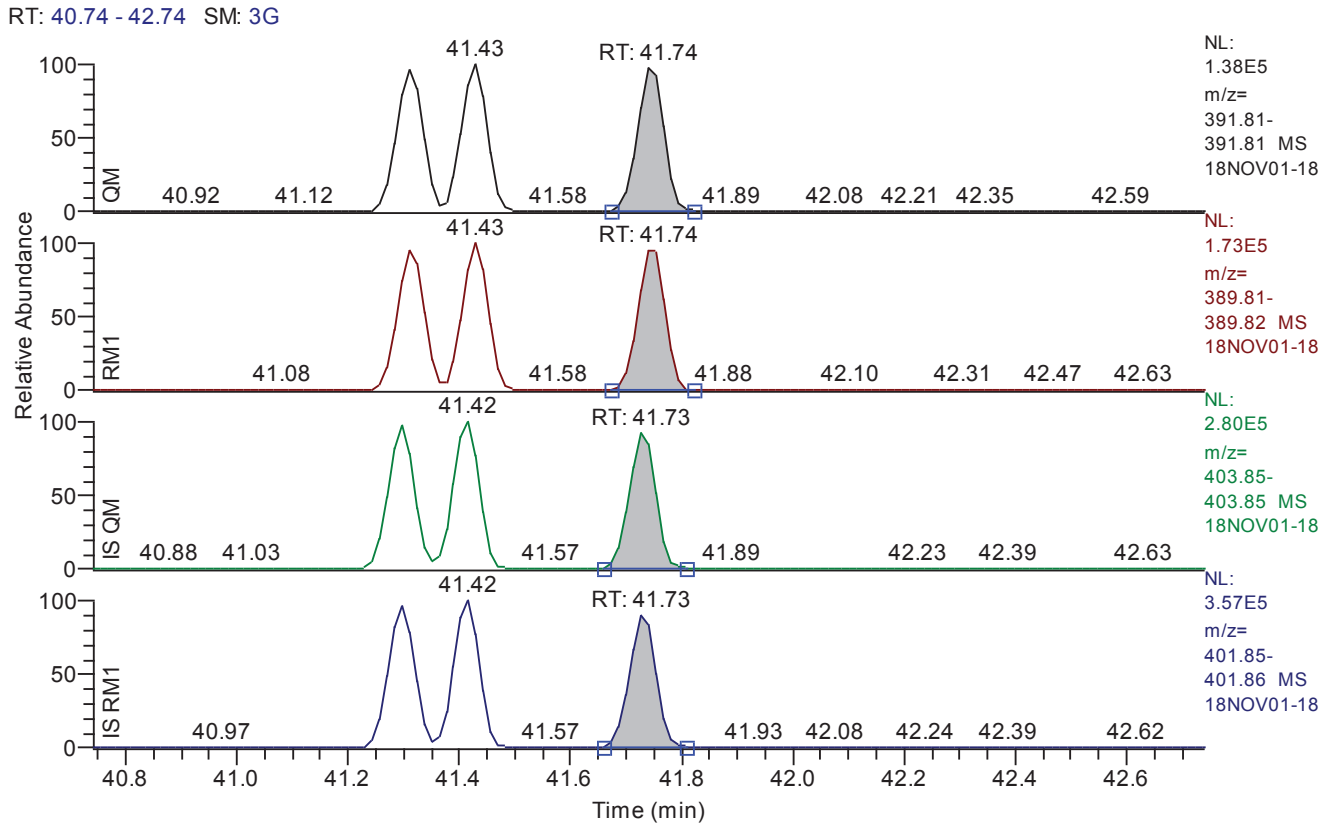
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.74
QM Area	452998
QM Integration Mode	A
RM1 Area	567522
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	49.570408
Adjusted Amount (A)	49.5704
Signal-to-Noise	12995
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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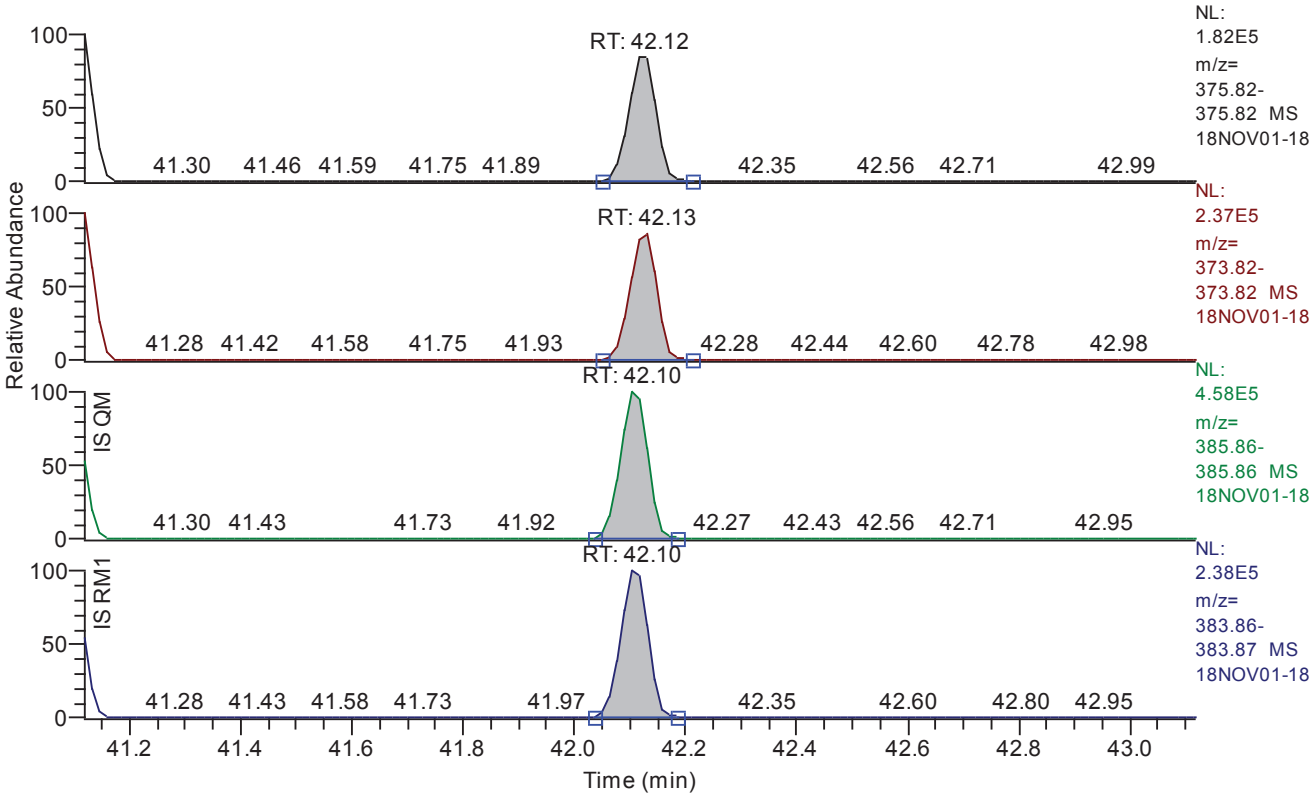
Chromatogram

RT: 41.12 - 43.12 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.12
QM Area	538734
QM Integration Mode	A
RM1 Area	698364
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0183
Unqualified Amount (A)	46.019900
Adjusted Amount (A)	46.0199
Signal-to-Noise	6294
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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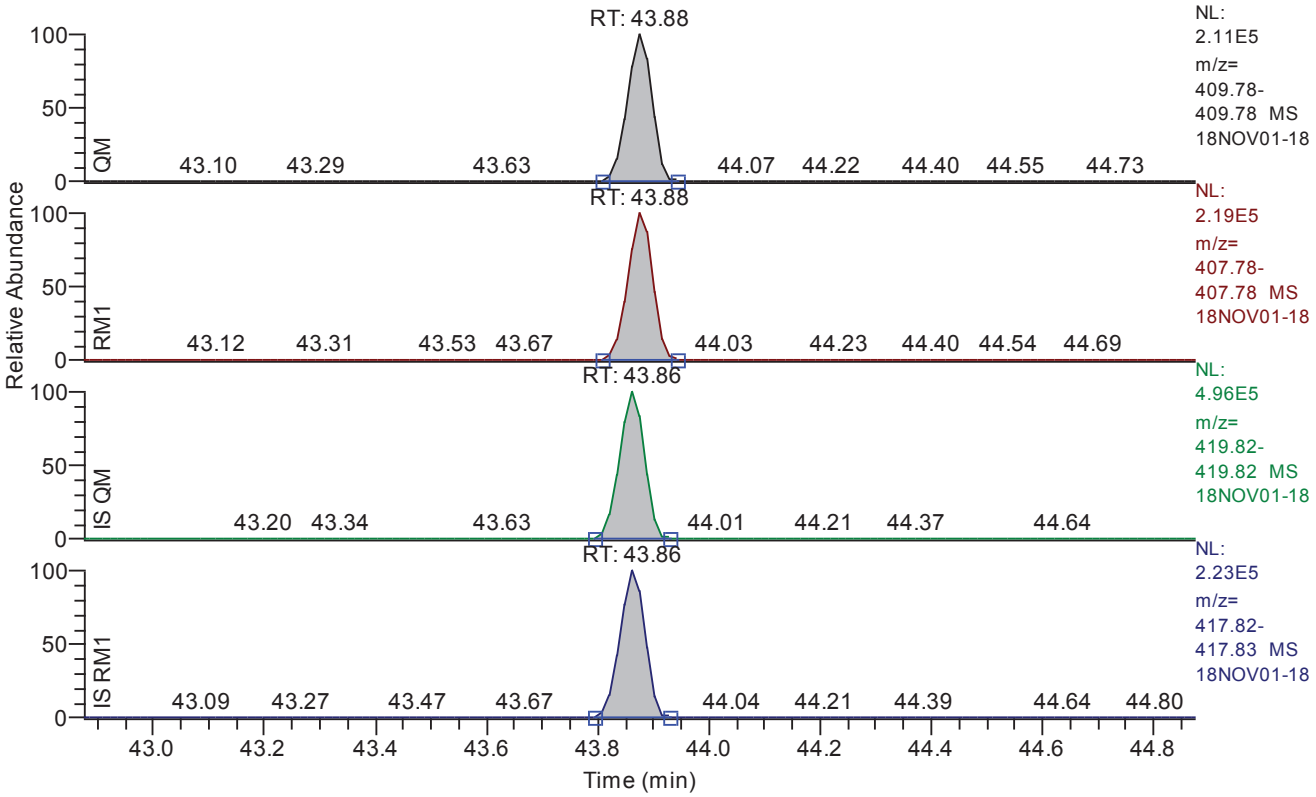
Chromatogram

RT: 42.88 - 44.88 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.88
QM Area	673501
QM Integration Mode	A
RM1 Area	705151
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0119
Unqualified Amount (A)	47.832460
Adjusted Amount (A)	47.8325
Signal-to-Noise	10188
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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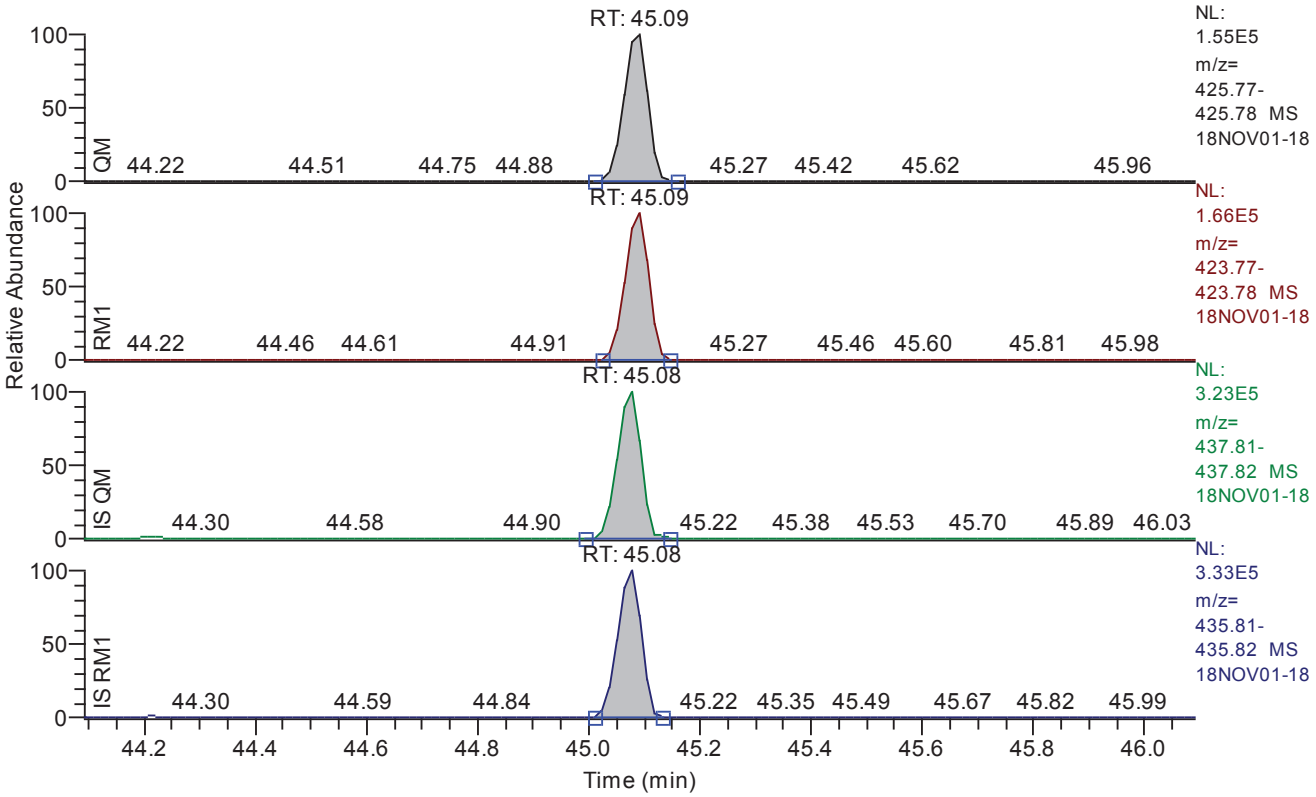
Chromatogram

RT: 44.09 - 46.09 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.09
QM Area	481209
QM Integration Mode	A
RM1 Area	507840
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0120
Unqualified Amount (A)	47.924402
Adjusted Amount (A)	47.9244
Signal-to-Noise	9934
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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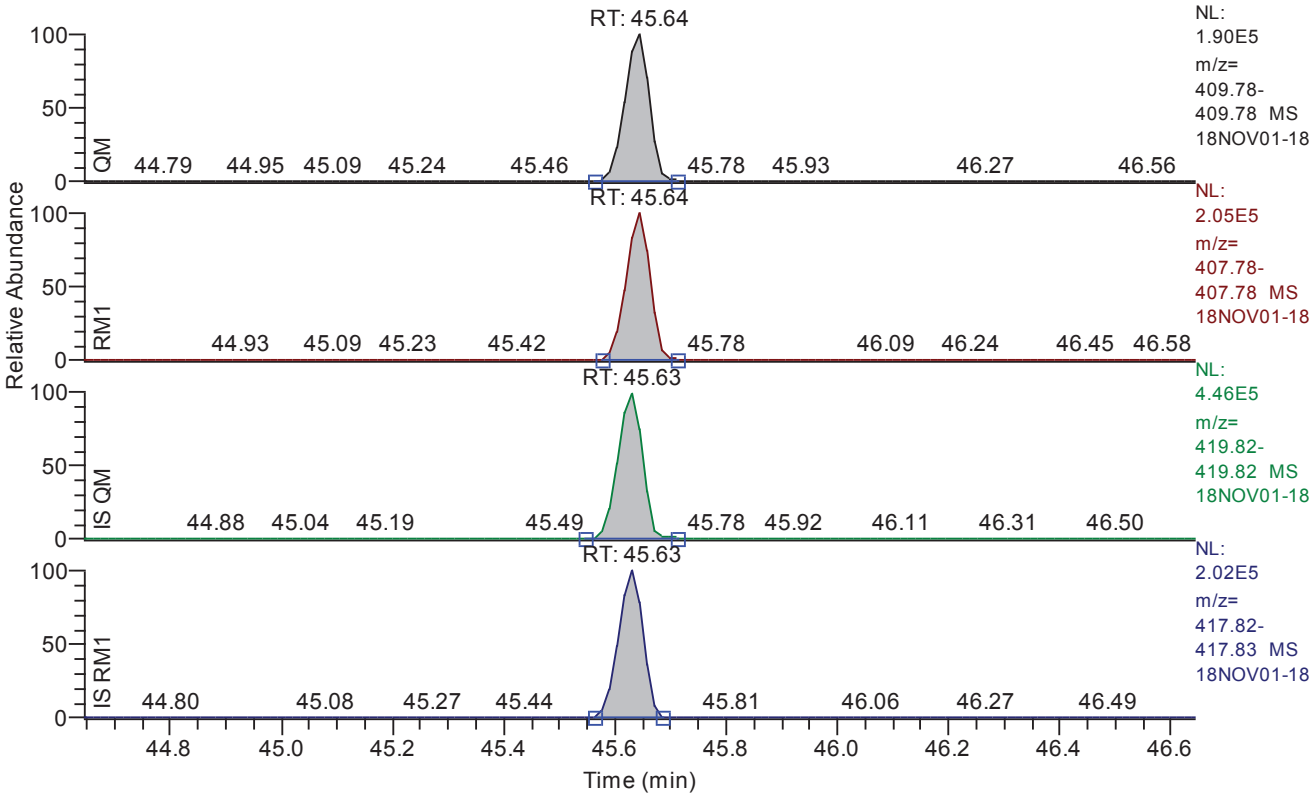
Chromatogram

RT: 44.64 - 46.64 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.64
QM Area	599784
QM Integration Mode	A
RM1 Area	633101
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	46.949017
Adjusted Amount (A)	46.9490
Signal-to-Noise	9347
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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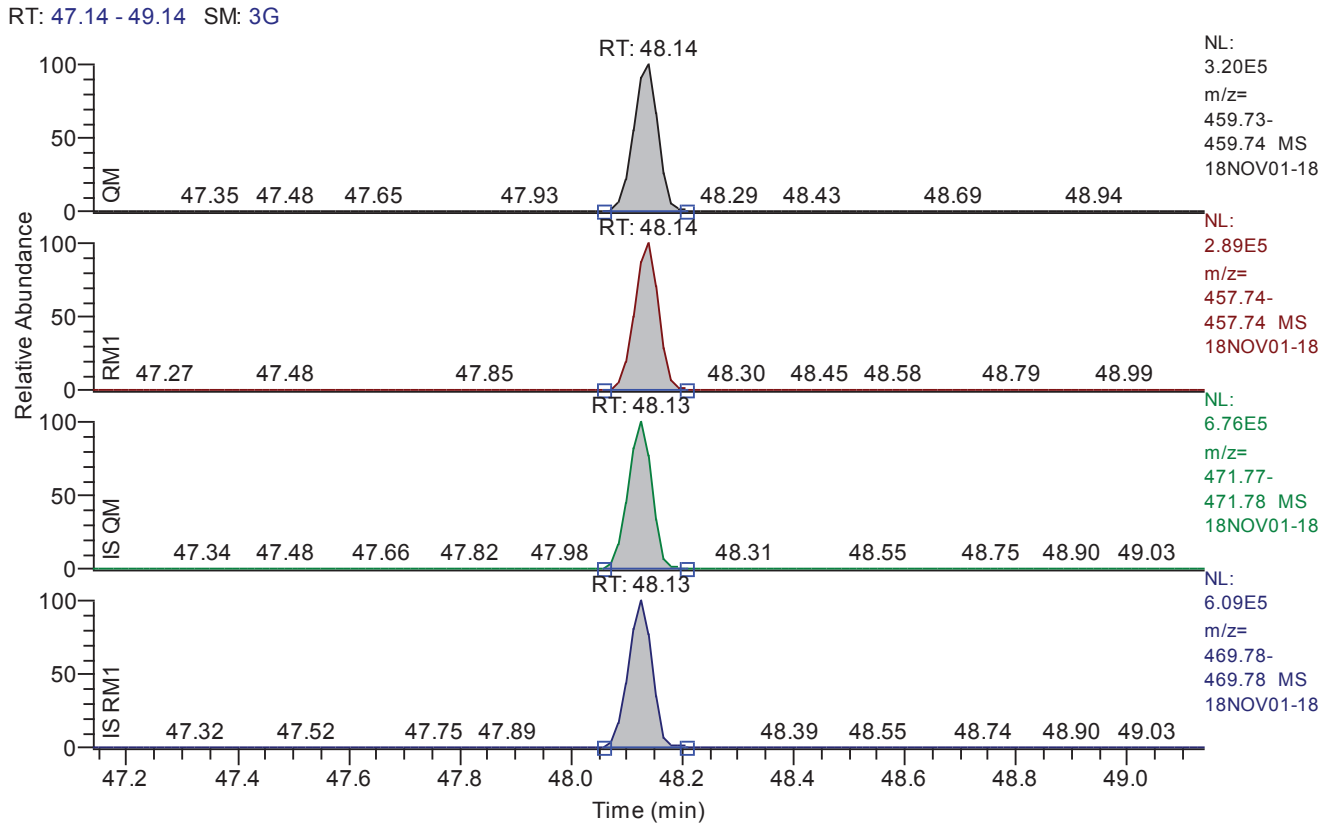
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.14
QM Area	975285
QM Integration Mode	A
RM1 Area	861084
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	94.906891
Adjusted Amount (A)	94.9069
Signal-to-Noise	28788
Client Flags	
Status Overview	passed
Status Info	

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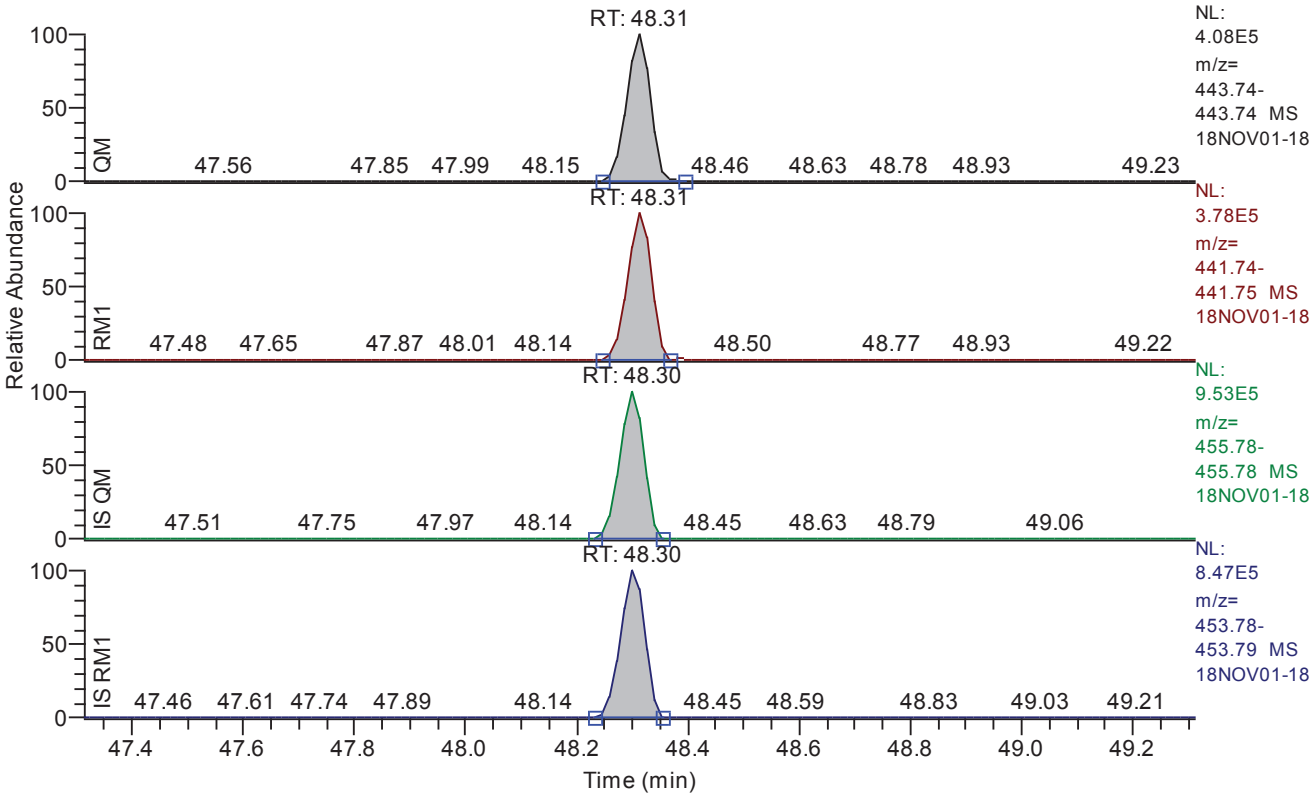
Chromatogram

RT: 47.31 - 49.31 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.31
QM Area	1215456
QM Integration Mode	A
RM1 Area	1128508
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	95.708891
Adjusted Amount (A)	95.7089
Signal-to-Noise	34153
Client Flags	
Status Overview	passed
Status Info	

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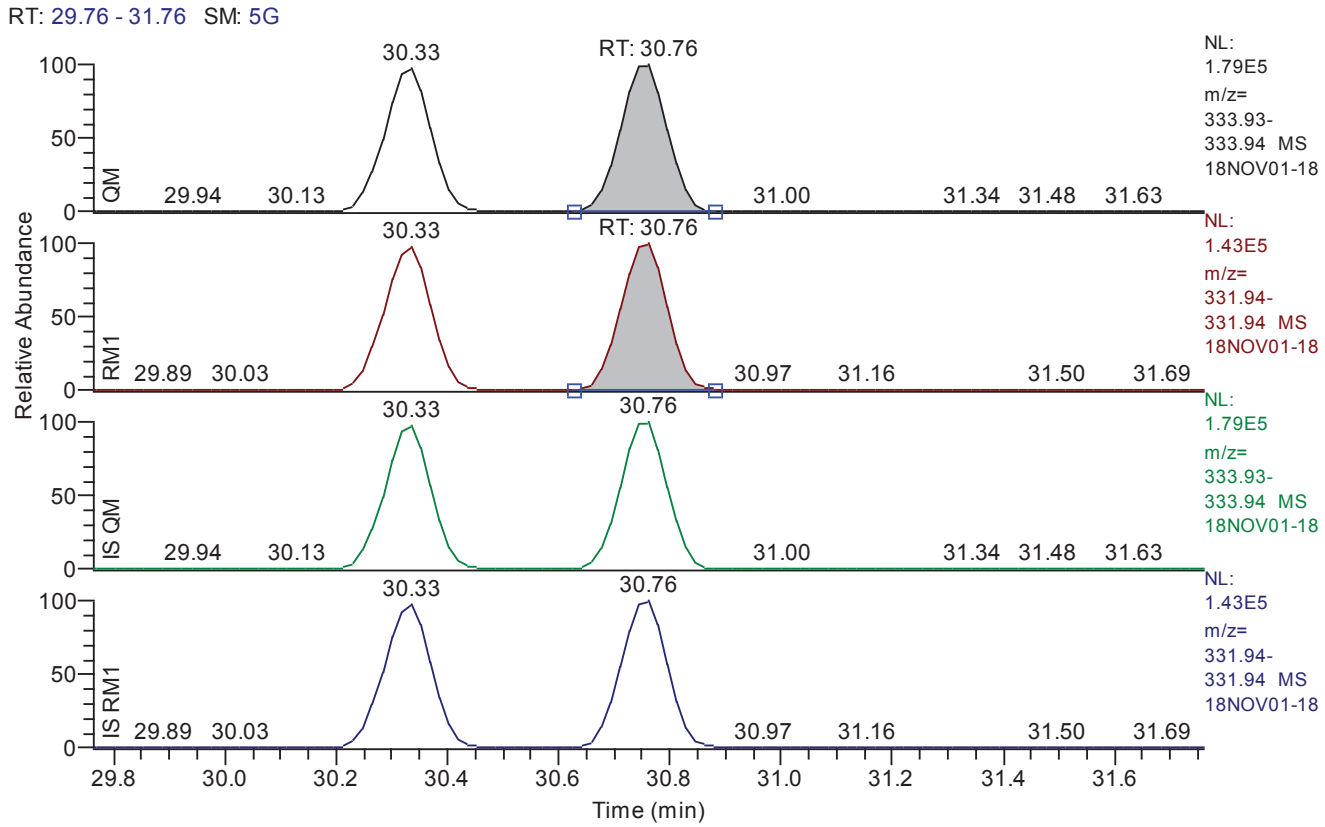
Chromatogram



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.76
QM Area	1068617
QM Integration Mode	A
RM1 Area	847992
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0274
Unqualified Amount (A)	94.184257
Adjusted Amount (A)	94.1843
Signal-to-Noise	8271
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.21	29.21	29.21	29.17	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.35	30.35	30.37	30.33	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.24	35.24	35.24	35.21	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.52	36.52	36.52	36.51	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.94	36.94	36.94	36.91	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.26	40.26	40.26	40.25	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.41	40.41	40.41	40.39	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.11	41.11	41.11	41.09	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.31	41.31	41.31	41.30	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.43	41.43	41.43	41.42	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.74	41.74	41.74	41.73	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.12	42.12	42.13	42.10	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.88	43.88	43.88	43.86	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.09	45.09	45.09	45.08	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.64	45.64	45.64	45.63	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.14	48.14	48.14	48.13	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.31	48.31	48.31	48.30	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.76	30.76	30.76	30.76	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.51	29.51	29.51	29.51	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.16	40.16	40.16	40.16	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.17	29.17	29.17	29.22	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.33	30.33	30.33	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.21	35.21	35.21	35.30	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.51	36.51	36.51	36.51	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.91	36.91	36.91	36.91	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.25	40.25	40.25	40.26	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.39	40.39	40.39	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.09	41.09	41.09	41.11	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.30	41.30	41.30	41.30	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.42	41.42	41.42	41.42	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.73	41.73	41.73	41.73	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.10	42.10	42.10	42.13	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.86	43.86	43.86	43.86	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.08	45.08	45.08	45.08	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.63	45.63	45.63	45.62	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.13	48.13	48.13	48.13	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.30	48.30	48.30	48.11	passed	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	29.21	0.7708	0.6450 - 0.8950	passed	0.9411	1.0177	0.8091 - 1.2263	passed
2	2378-TCDD	30.35	0.7818	0.6450 - 0.8950	passed	1.1844	1.2073	0.9598 - 1.4548	passed
3	12378-PeCDF	35.24	1.5886	1.3150 - 1.7850	passed	0.8876	0.9324	0.7413 - 1.1235	passed
4	23478-PeCDF	36.52	1.5707	1.3150 - 1.7850	passed	1.0019	1.0347	0.8226 - 1.2468	passed
5	12378-PeCDD	36.94	1.5776	1.3150 - 1.7850	passed	0.9703	1.0203	0.8111 - 1.2295	passed
6	123478-HxCDF	40.26	1.2744	1.0450 - 1.4350	passed	1.1085	1.1540	0.9174 - 1.3906	passed
7	123678-HxCDF	40.41	1.2621	1.0450 - 1.4350	passed	1.0778	1.1133	0.8851 - 1.3415	passed
8	234678-HxCDF	41.11	1.2565	1.0450 - 1.4350	passed	1.1550	1.2051	0.9581 - 1.4521	passed
9	123478-HxCDD	41.31	1.2341	1.0450 - 1.4350	passed	0.9866	0.9970	0.7926 - 1.2014	passed
10	123678-HxCDD	41.43	1.2444	1.0450 - 1.4350	passed	0.9591	0.9802	0.7793 - 1.1811	passed
11	123789-HxCDD	41.74	1.2528	1.0450 - 1.4350	passed	1.0471	1.0562	0.8397 - 1.2727	passed
12	123789-HxCDF	42.12	1.2963	1.0450 - 1.4350	passed	1.0327	1.1220	0.8920 - 1.3520	passed
13	1234678-HpCDF	43.88	1.0470	0.8750 - 1.2050	passed	1.1802	1.2336	0.9807 - 1.4865	passed
14	1234678-HpCDD	45.09	1.0553	0.8750 - 1.2050	passed	0.9828	1.0254	0.8152 - 1.2356	passed
15	1234789-HpCDF	45.64	1.0555	0.8750 - 1.2050	passed	1.1996	1.2776	1.0157 - 1.5395	passed
16	OCDD	48.14	0.8829	0.7550 - 1.0250	passed	0.9577	1.0090	0.8022 - 1.2158	passed
17	OCDF	48.31	0.9285	0.7550 - 1.0250	passed	0.8608	0.8994	0.7150 - 1.0838	passed
18	13C12-1278-TCDD (CRS)	30.76	0.7935	0.6450 - 0.8950	passed	0.9910	1.0522	0.7313 - 1.3731	passed
19	13C12-1234-TCDD	29.51	0.7891	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.16	1.2672	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.17	0.7944	0.6450 - 0.8950	passed	1.9007	1.9499	1.3552 - 2.5446	passed
22	13C12-2378-TCDD	30.33	0.8120	0.6450 - 0.8950	passed	0.9635	1.0034	0.6974 - 1.3094	passed
23	13C12-12378-PeCDF	35.21	1.5954	1.3150 - 1.7850	passed	1.7186	1.9253	1.3381 - 2.5125	passed
24	13C12-23478-PeCDF	36.51	1.5644	1.3150 - 1.7850	passed	1.6678	1.9383	1.3471 - 2.5295	passed
25	13C12-12378-PeCDD	36.91	1.5963	1.3150 - 1.7850	passed	0.9452	1.0421	0.7243 - 1.3599	passed
26	13C12-123478-HxCDF	40.25	0.5188	0.4250 - 0.5950	passed	1.3445	1.4639	1.0174 - 1.9104	passed
27	13C12-123678-HxCDF	40.39	0.5350	0.4250 - 0.5950	passed	1.3708	1.5311	1.0641 - 1.9981	passed
28	13C12-234678-HxCDF	41.09	0.5258	0.4250 - 0.5950	passed	1.3134	1.4083	0.9788 - 1.8378	passed
29	13C12-123478-HxCDD	41.30	1.2790	1.0450 - 1.4350	passed	0.9783	1.0051	0.6985 - 1.3117	passed
30	13C12-123678-HxCDD	41.42	1.2479	1.0450 - 1.4350	passed	1.0194	1.0230	0.7110 - 1.3350	passed
31	13C12-123789-HxCDD	41.73	1.2489	1.0450 - 1.4350	passed	0.9322	0.9720	0.6755 - 1.2685	passed
32	13C12-123789-HxCDF	42.10	0.5207	0.4250 - 0.5950	passed	1.1458	1.3107	0.9109 - 1.7105	passed
33	13C12-1234678-HpCDF	43.86	0.4485	0.3650 - 0.5150	passed	1.1173	1.3499	0.9382 - 1.7616	passed
34	13C12-1234678-HpCDD	45.08	1.0313	0.8750 - 1.2050	passed	0.9625	0.9594	0.6668 - 1.2520	passed
35	13C12-1234789-HpCDF	45.63	0.4533	0.3650 - 0.5150	passed	0.9830	1.0985	0.7635 - 1.4335	passed
36	13C12-OCDD	48.13	0.8993	0.7550 - 1.0250	passed	0.9170	0.8972	0.6236 - 1.1708	passed
37	13C12-OCDF	48.30	0.8965	0.7550 - 1.0250	passed	1.3022	1.4110	0.9806 - 1.8414	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.21	195350	A	150567	A	0.0068	9.246961	9.2470	10.000000	3406	
2	2378-TCDD	passed	30.35	123862	A	96840	A	0.0100	9.810438	9.8104	10.000000	2430	
3	12378-PeCDF	passed	35.24	569840	A	905226	A	0.0077	47.594785	47.5948	50.000000	16018	
4	23478-PeCDF	passed	36.52	628527	A	987254	A	0.0065	48.415540	48.4155	50.000000	18447	
5	12378-PeCDD	passed	36.94	344067	A	542799	A	0.0131	47.550470	47.5505	50.000000	9397	
6	123478-HxCDF	passed	40.26	685123	A	873101	A	0.0155	48.028907	48.0289	50.000000	7884	
7	123678-HxCDF	passed	40.41	682869	A	861883	A	0.0154	48.405455	48.4055	50.000000	7776	
8	234678-HxCDF	passed	41.11	702858	A	883154	A	0.0146	47.918787	47.9188	50.000000	8159	
9	123478-HxCDD	passed	41.31	451667	A	557422	A	0.0094	49.473790	49.4738	50.000000	12949	
10	123678-HxCDD	passed	41.43	455450	A	566758	A	0.0093	48.925705	48.9257	50.000000	13406	
11	123789-HxCDD	passed	41.74	452998	A	567522	A	0.0095	49.570408	49.5704	50.000000	12995	
12	123789-HxCDF	passed	42.12	538734	A	698364	A	0.0183	46.019900	46.0199	50.000000	6294	
13	1234678-HpCDF	passed	43.88	673501	A	705151	A	0.0119	47.832460	47.8325	50.000000	10188	
14	1234678-HpCDD	passed	45.09	481209	A	507840	A	0.0120	47.924402	47.9244	50.000000	9934	
15	1234789-HpCDF	passed	45.64	599784	A	633101	A	0.0127	46.949017	46.9490	50.000000	9347	
16	OCDD	passed	48.14	975285	A	861084	A	0.0082	94.906891	94.9069	100.000000	28788	
17	OCDF	passed	48.31	1215456	A	1128508	A	0.0071	95.708891	95.7089	100.000000	34153	
18	13C12-1278-TCDD (CRS)	passed	30.76	1068617	A	847992	A	0.0274	94.184257	94.1843	100.000000	8271	
19	13C12-1234-TCDD	passed	29.51	1080951	A	853013	A	0.0242	100.000000	100.0000	100.000000	10322	
20	13C12-123468-HxCDD	passed	40.16	922304	A	1168727	A	0.0175	100.000000	100.0000	100.000000	14326	
21	13C12-2378-TCDF	passed	29.17	2048474	A	1627321	A	0.0093	97.472054	97.4721	100.000000	26651	
22	13C12-2378-TCDD	passed	30.33	1028367	A	835000	A	0.0241	96.019027	96.0190	100.000000	10230	
23	13C12-12378-PeCDF	passed	35.21	1280626	A	2043135	A	0.0231	89.265280	89.2653	100.000000	12788	
24	13C12-23478-PeCDF	passed	36.51	1257783	A	1967615	A	0.0229	86.043712	86.0437	100.000000	13743	
25	13C12-12378-PeCDD	passed	36.91	704094	A	1123914	A	0.0144	90.704639	90.7046	100.000000	22229	
26	13C12-123478-HxCDF	passed	40.25	1851037	A	960387	A	0.0184	91.845381	91.8454	100.000000	12610	
27	13C12-123678-HxCDF	passed	40.39	1867312	A	999102	A	0.0176	89.533121	89.5331	100.000000	13158	
28	13C12-234678-HxCDF	passed	41.09	1799944	A	946491	A	0.0192	93.265271	93.2653	100.000000	12855	
29	13C12-123478-HxCDD	passed	41.30	897621	A	1148070	A	0.0174	97.332255	97.3323	100.000000	15125	
30	13C12-123678-HxCDD	passed	41.42	948261	A	1183334	A	0.0171	99.651306	99.6513	100.000000	15594	
31	13C12-123789-HxCDD	passed	41.73	866764	A	1082510	A	0.0180	95.905047	95.9050	100.000000	14247	
32	13C12-123789-HxCDF	passed	42.10	1575462	A	820374	A	0.0206	87.418031	87.4180	100.000000	11027	
33	13C12-1234678-HpCDF	passed	43.86	1613000	A	723392	A	0.0185	82.775042	82.7750	100.000000	12328	
34	13C12-1234678-HpCDD	passed	45.08	990842	A	1021821	A	0.0147	100.324113	100.3241	100.000000	19818	
35	13C12-1234789-HpCDF	passed	45.63	1414362	A	641081	A	0.0227	89.483940	89.4839	100.000000	11114	
36	13C12-OCDD	passed	48.13	2019228	A	1815906	A	0.0108	204.423072	204.4231	200.000000	56558	
37	13C12-OCDF	passed	48.30	2871507	A	2574289	A	0.0100	184.570537	184.5705	200.000000	54459	

APPROVED
By uma9 at 4:10 pm, 11/9/18

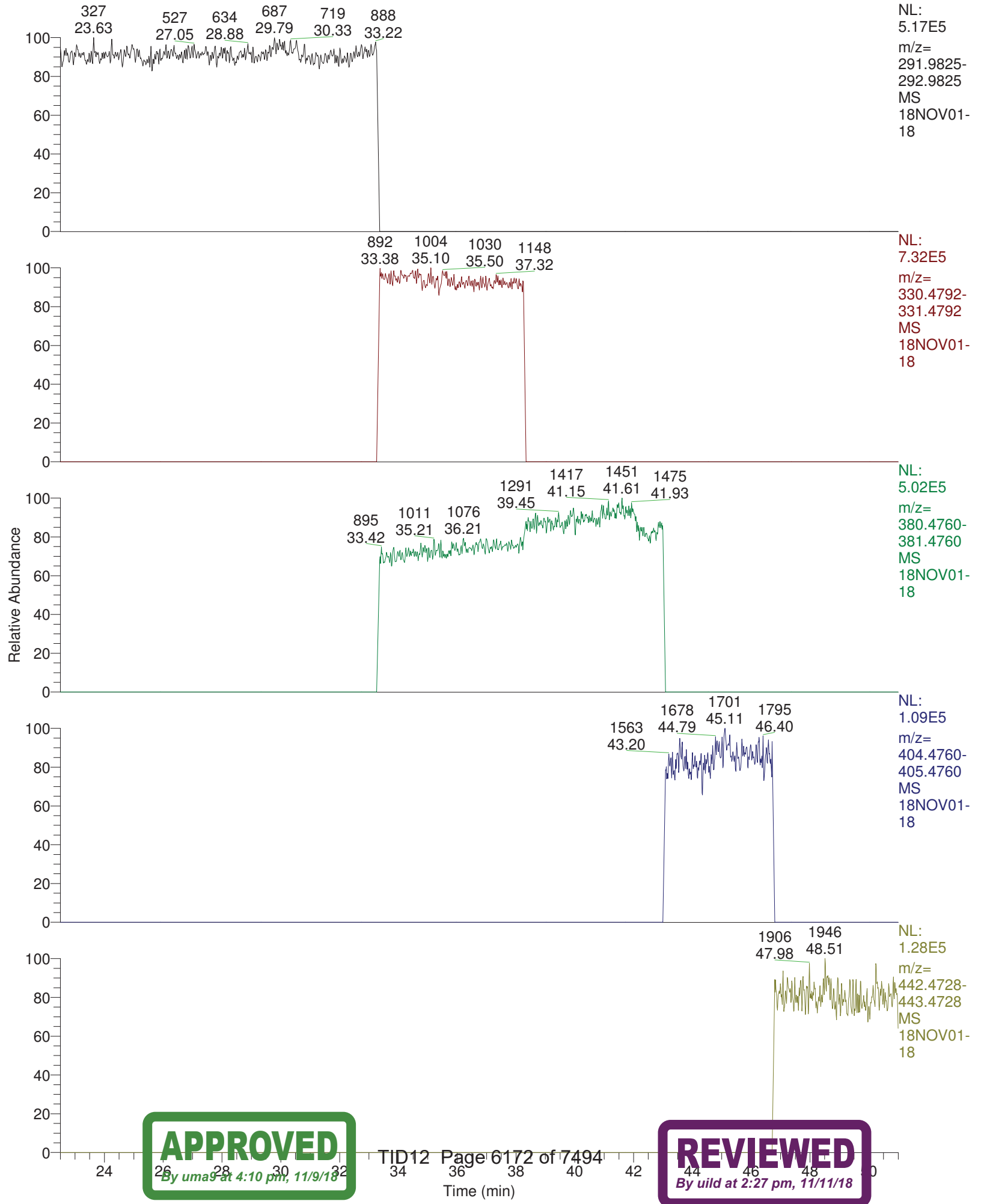
REVIEWED
By uild at 2:27 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-18
Sample ID: CS3CC04

Acq. Data: 11/2/2018 12:42:52 AM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV01

RT: 22.50 - 51.00



APPROVED
By umas at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:27 pm, 11/11/18

```
*** file opened Fri Nov 02 00:45:45 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 02-Nov-18 00:45:45


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : 2e2e36e6-6cf8-4b51-9519-fc338622507b


  MID procedure: PFK16MAR24+MDT



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  18:00 min   4:00 min  22:00 min   1.00 sec
  # 2  22:00 min  11:15 min  33:15 min   1.00 sec
  # 3  33:15 min   5:00 min  38:15 min   0.90 sec
  # 4  38:15 min   4:45 min  43:00 min   0.80 sec
  # 5  43:00 min   3:42 min  46:42 min   0.80 sec
  # 6  46:42 min   4:17 min  51:00 min   0.80 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    218.0129     1  1       95
    218.9851 l  20  1        4
    220.0100     1  1       95
    230.0532     2  1       47
    232.0502     2  1       47
    251.9739     1  1       95
    253.9710     1  1       95
    264.0142     2  1       47
    266.0112     2  1       47
    285.9350     1  1       95
    287.9320     1  1       95
    292.9819 c  20  1        4
    297.9752     2  1       47
    299.9723     2  1       47
   Window # 2
        mass F  int  gr  time (ms)
    292.9819 l  20  1        5
    303.9011     1  1      118
    305.8981     1  1      118
    315.9413     5  1       23
    317.9384     5  1       23
    319.8960     1  1      118
    321.8930     1  1      118
```

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  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
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MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          99.0000
 BQUAD            5.9500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ        -219.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           216.0000
 ENSBR            5.9500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           167.0000   EXSBR          -0.4700
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           4.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0175   FVINLET         0.0366   FVSRC           0.0333
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      670.0000
 LENS_SYM        11.5000   LM            650.0000   LMII          500.0000
 LMASS           99.0000   LKM           442.9723   MASS           99.0000
 MDAC         963202.2819   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2157.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -13.0000   RECURR          0.9661   RELEN           0.0000
 RES          14662.5287   RPUSHER       -12.8132   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     690.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0173   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT     928.0000
 XLENS_SYM        6.5000   YLENS_POT     836.0000   YLENS_SYM       8.8000

Source Gauge:        2.2e-005 mbar
Analyzer Penning:    7.6e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11514.
MID Time Window 2: Resolution is 13079.
MID Time Window 3: Resolution is 13523.
MID Time Window 4: Resolution is 13749.
```

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                                    18NOV01-18
  MID Time Window 5: Resolution is 13957.
  MID Time Window 6: Resolution is 14662.

  Amplifier Offset: 88.


*** File closed Fri Nov 02 01:36:47 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 14:18
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD ST1828537B
Sample ID	CPS02
Inst ID	DF18471-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-05.quan
Data	y:\18nov02\18nov02-05.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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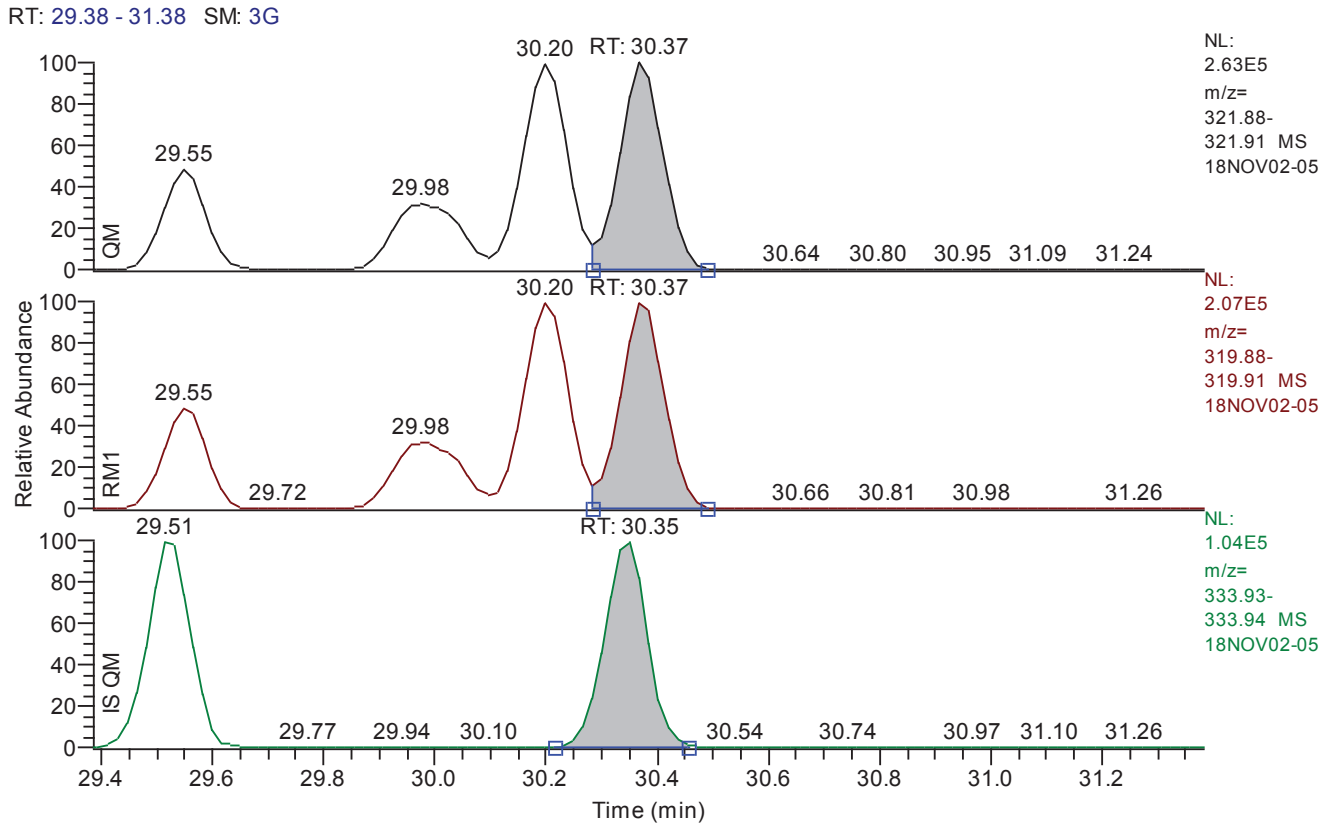
Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	M
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	M
ManInt	1
RM1 Retention Time	30.37
RM1 Left Baseline Height	1700.62
RM1 Left Height	22642
RM1 Height	204980
GC Res (%) left	11.174472

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 14:18
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD ST1828537B
Sample ID	CPS02
Inst ID	DF18471-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-05.quan
Data	y:\18nov02\18nov02-05.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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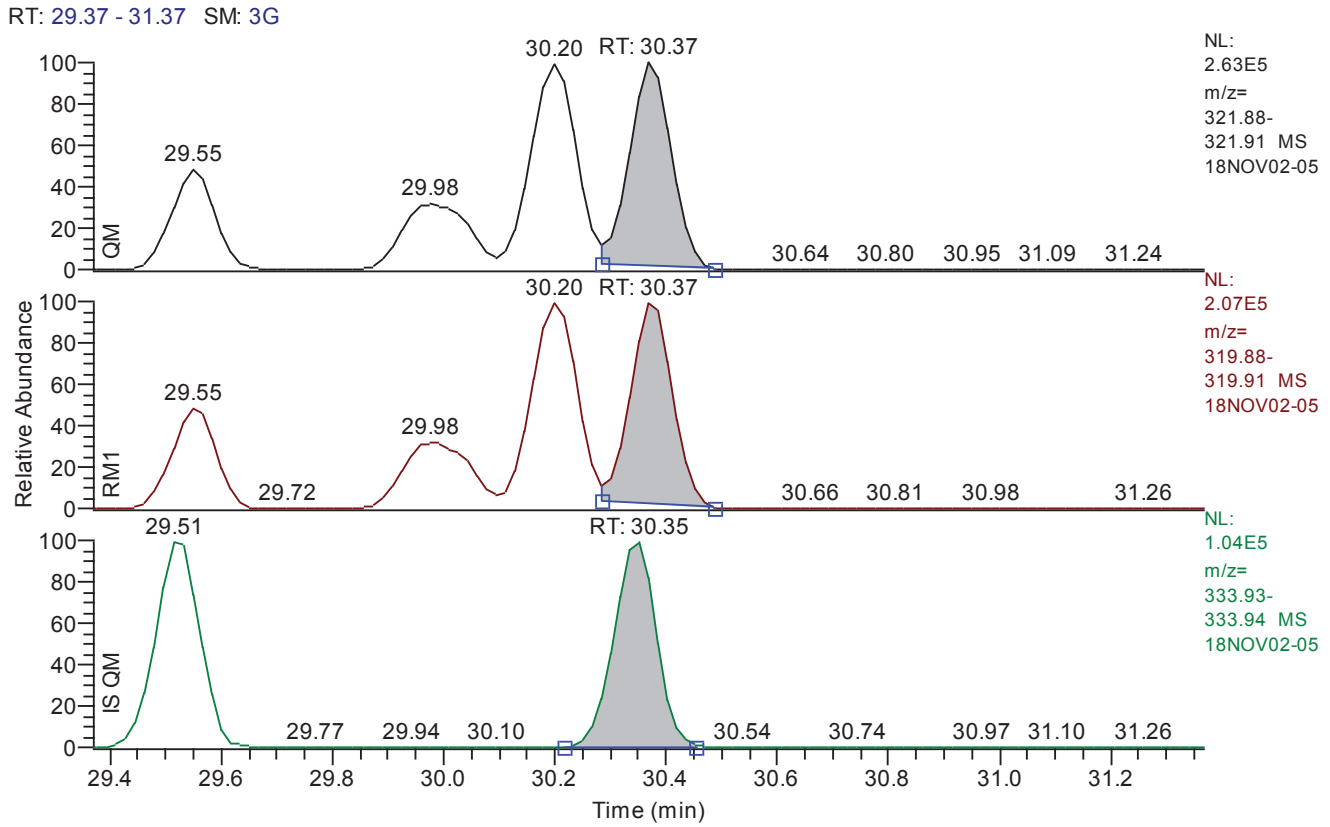
Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

Entry Parameters

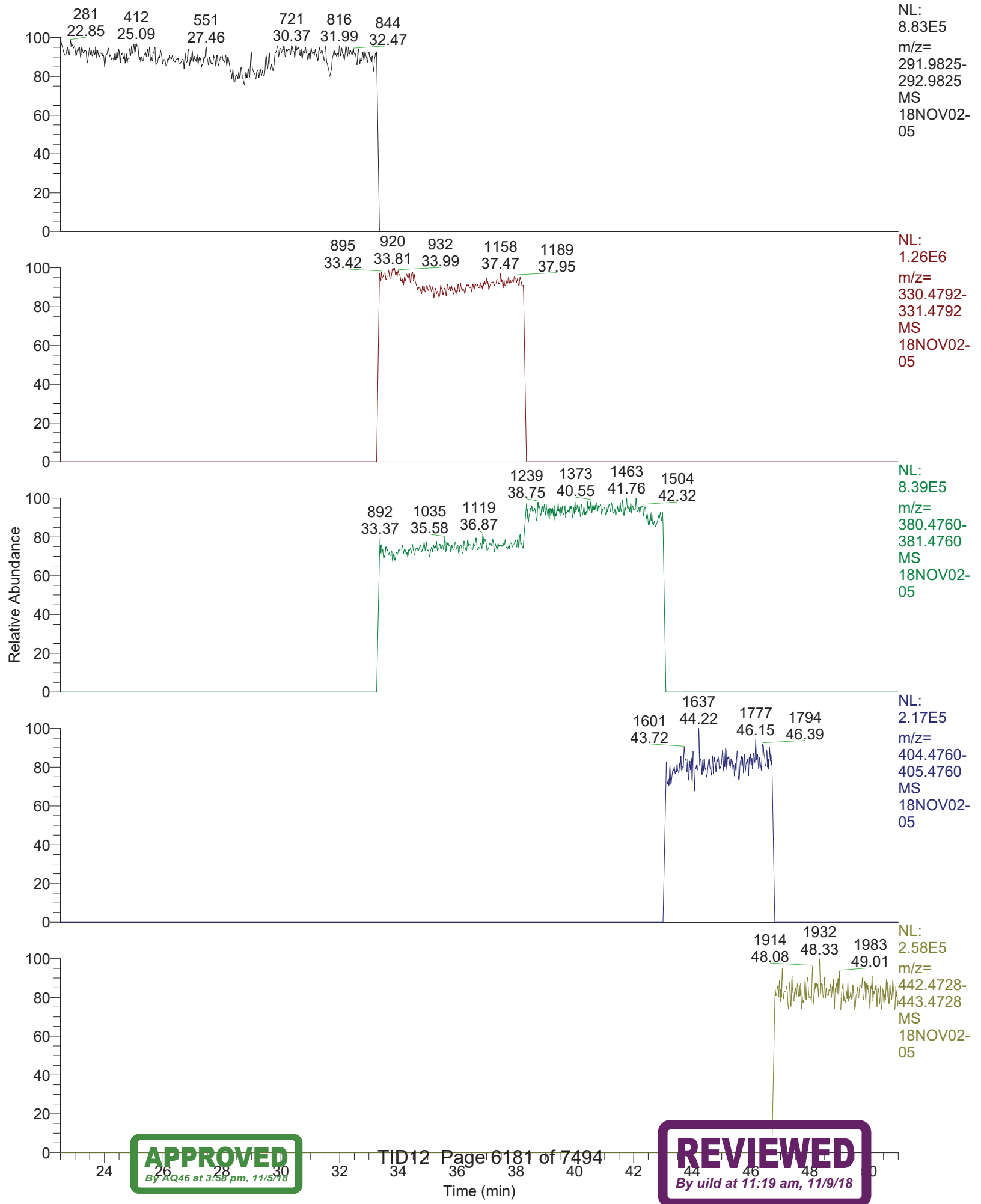
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	1
RM1 Retention Time	30.37
RM1 Left Baseline Height	8093.73
RM1 Left Height	16249
RM1 Height	201249
GC Res (%) left	8.490469

File Name: Y:\18NOV02\18NOV02-05
Sample ID: CPS02

Acq. Data: 11/2/2018 2:18:57 PM
Sample Name: TDTFWD ST1828537B
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02

RT: 22.50 - 51.00



APPROVED
By AQ46 at 3:58 pm, 11/5/18

REVIEWED
By uild at 11:19 am, 11/9/18

*** file opened Fri Nov 02 14:21:49 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

Analysis started at: 02-Nov-18 14:21:49

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 111c4aba-2268-4ea2-a711-2925d1867bdb

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	11:15 min	33:15 min	1.00 sec
# 3	33:15 min	5:00 min	38:15 min	0.90 sec
# 4	38:15 min	4:45 min	43:00 min	0.80 sec
# 5	43:00 min	3:42 min	46:42 min	0.80 sec
# 6	46:42 min	4:17 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          99.0000
 BQUAD            6.3500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ        -174.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           219.0000
 ENSBR            6.3500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           172.0000   EXSBR          -0.7300
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           3.7000
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0171   FVINLET         0.0376   FVSRC           0.0342
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      652.0000
 LENS_SYM         3.7500   LM            650.0000   LMII          500.0000
 LMASS           99.0000   LKM           442.9723   MASS           99.0000
 MDAC         963202.2819   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2157.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9680   RELEN           0.0000
 RES          12134.8153   RPUSHER       -14.8205   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     680.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0215   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT     930.0000
 XLENS_SYM        7.5000   YLENS_POT     862.0000   YLENS_SYM      14.7500

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11405.
MID Time Window 2: Resolution is 11609.
MID Time Window 3: Resolution is 11632.
MID Time Window 4: Resolution is 12331.
```

```
MID Time Window 5: Resolution is 12448.
MID Time Window 6: Resolution is 12134.

Amplifier Offset: 86.


*** File closed Fri Nov 02 15:12:50 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 15:12
Number of Entries	182
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF18471-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-06.quan
Data	y:\18nov02\18nov02-06.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.20	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.35	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.22	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.51	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.91	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.24	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.09	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.29	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.41	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.73	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.11	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.86	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.07	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.63	passed	passed	passed	passed	passed	passed	
16	OCDD	48.12	passed	passed	passed	passed	passed	passed	
17	OCDF	48.29	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.74	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.49	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.14	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.17	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.33	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.20	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.48	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.90	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.23	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.37	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.07	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.28	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.40	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.72	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.10	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.84	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.06	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.61	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.11	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.28	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 15:12
Number of Entries	182
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF18471-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-06.quan
Data	y:\18nov02\18nov02-06.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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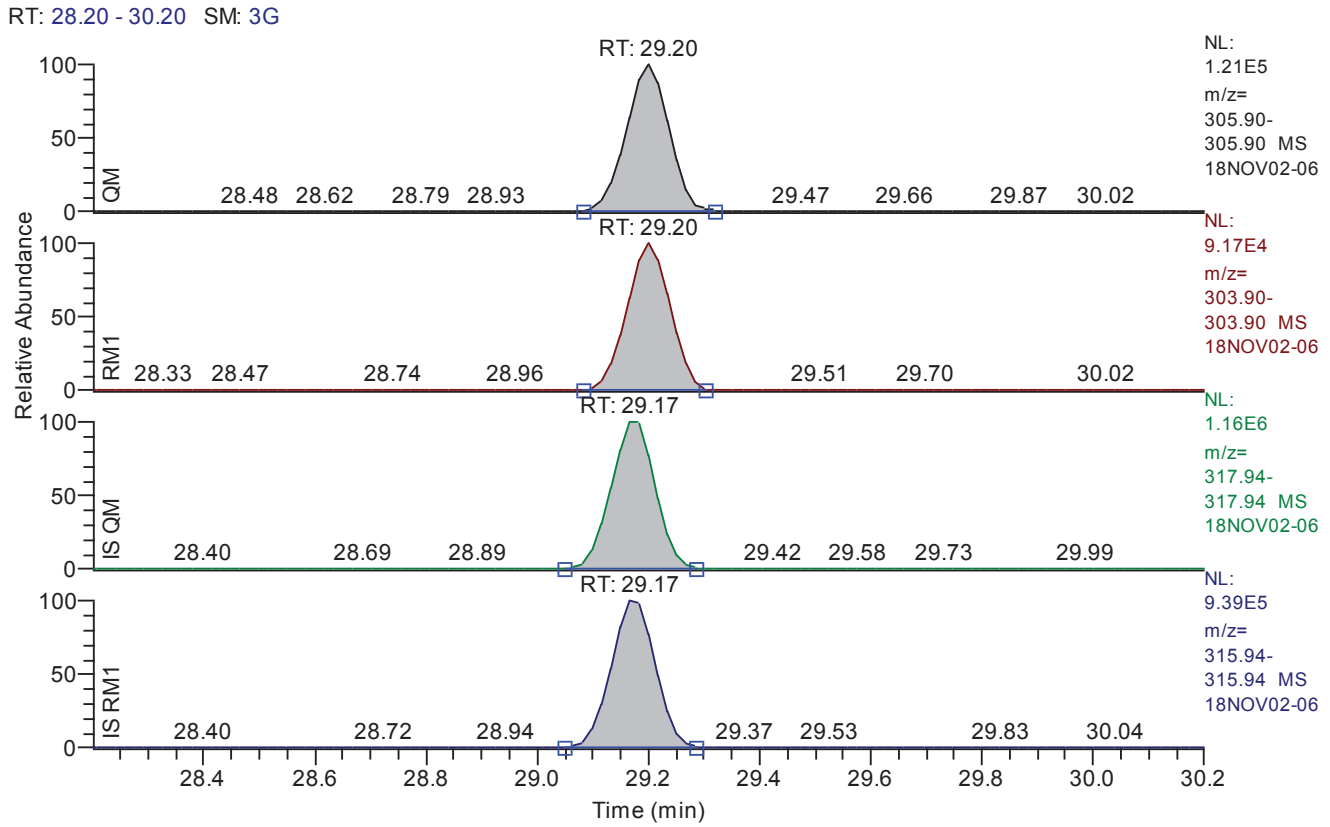
Chromatogram



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.20
QM Area	654982
QM Integration Mode	A
RM1 Area	505181
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	9.644720
Adjusted Amount (A)	9.6447
Signal-to-Noise	5229
Client Flags	
Status Overview	passed
Status Info	

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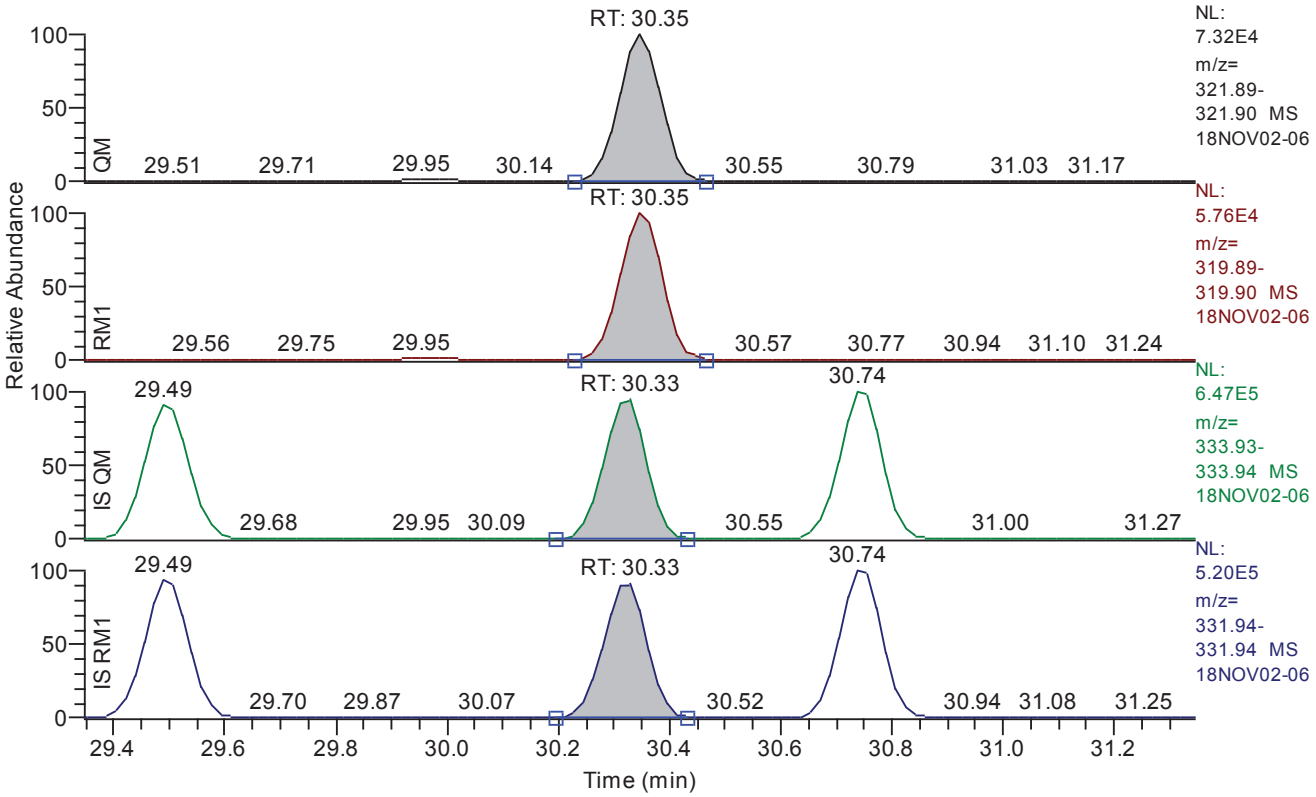
Chromatogram

RT: 29.35 - 31.35 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.35
QM Area	393580
QM Integration Mode	A
RM1 Area	314500
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	9.807558
Adjusted Amount (A)	9.8076
Signal-to-Noise	4386
Client Flags	
Status Overview	passed
Status Info	

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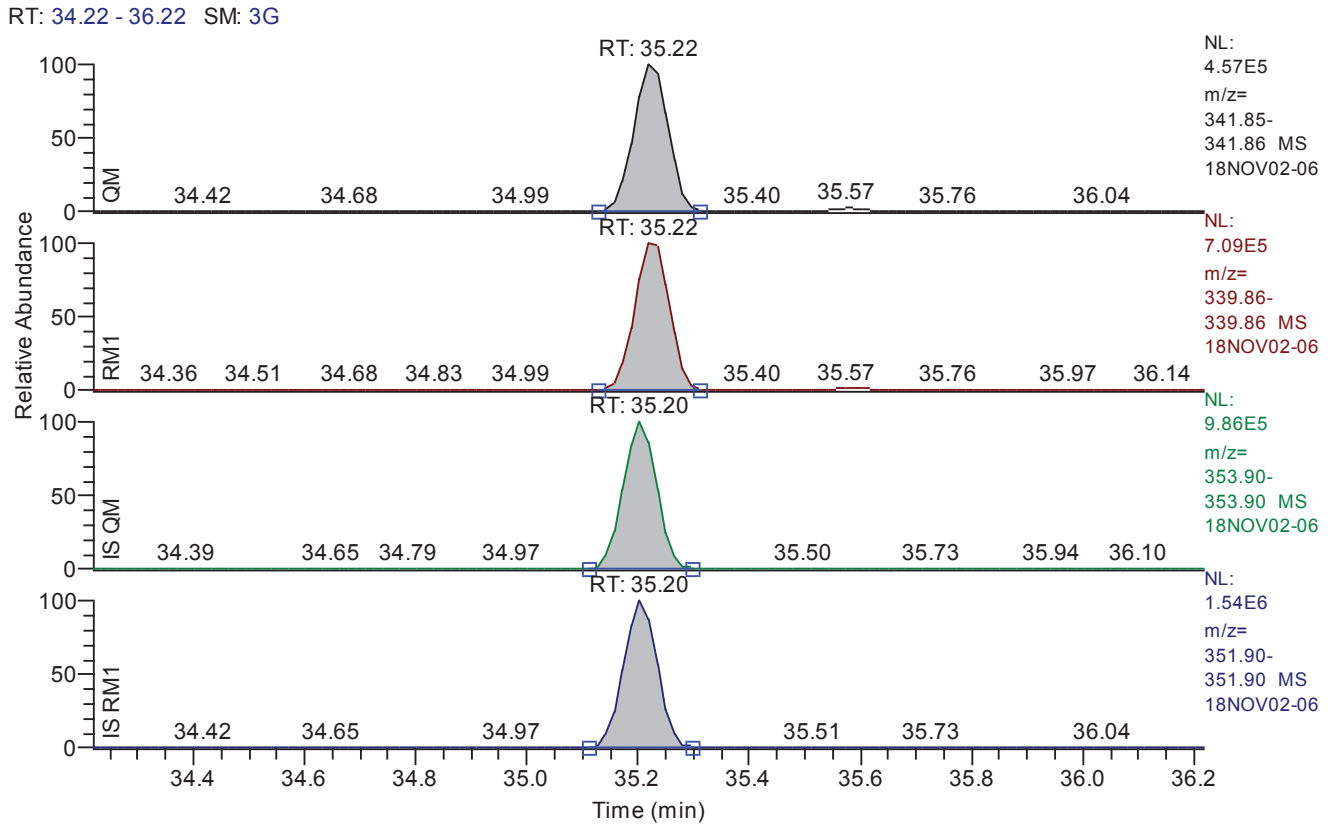
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.22
QM Area	1976425
QM Integration Mode	A
RM1 Area	3099990
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0039
Unqualified Amount (A)	50.973507
Adjusted Amount (A)	50.9735
Signal-to-Noise	31787
Client Flags	
Status Overview	passed
Status Info	

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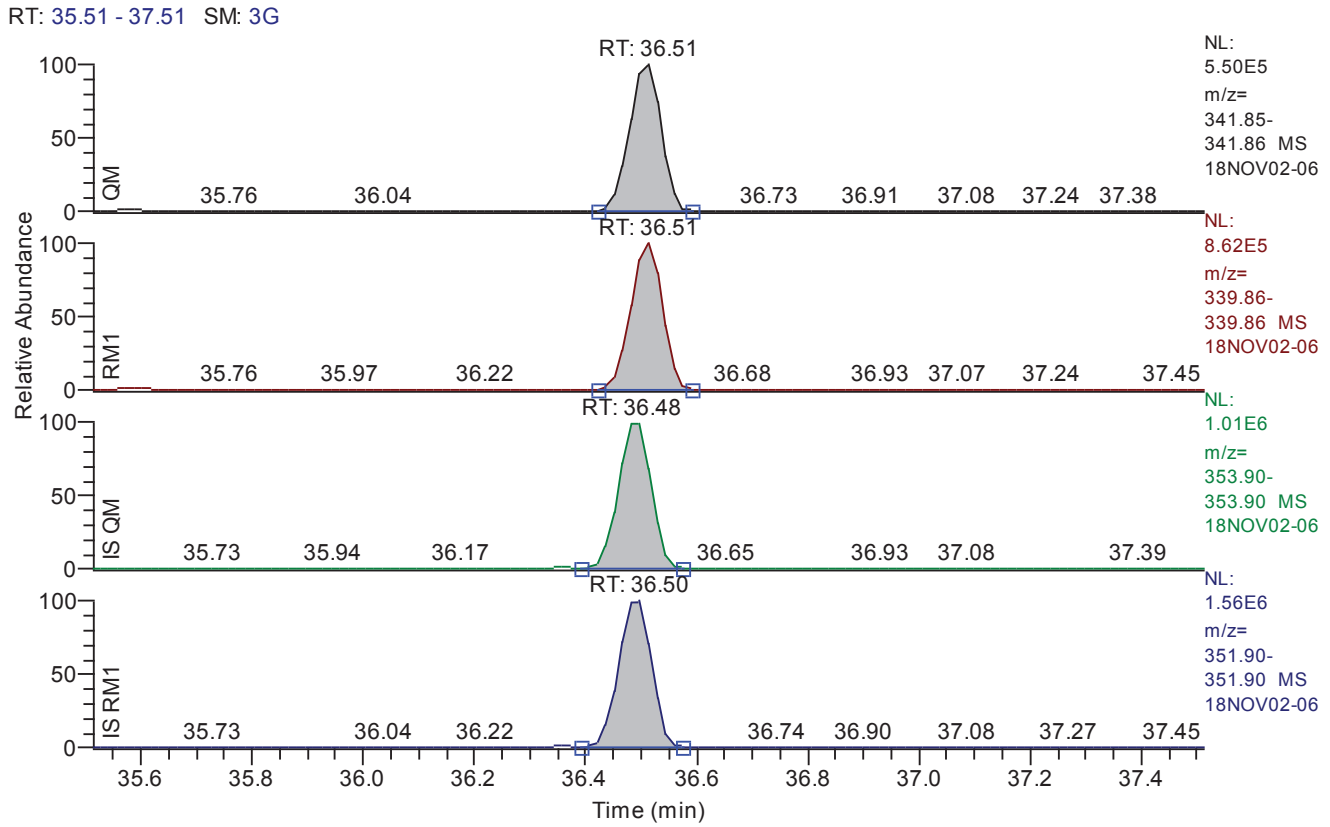
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.51
QM Area	2188150
QM Integration Mode	A
RM1 Area	3424947
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0035
Unqualified Amount (A)	51.012669
Adjusted Amount (A)	51.0127
Signal-to-Noise	38479
Client Flags	
Status Overview	passed
Status Info	

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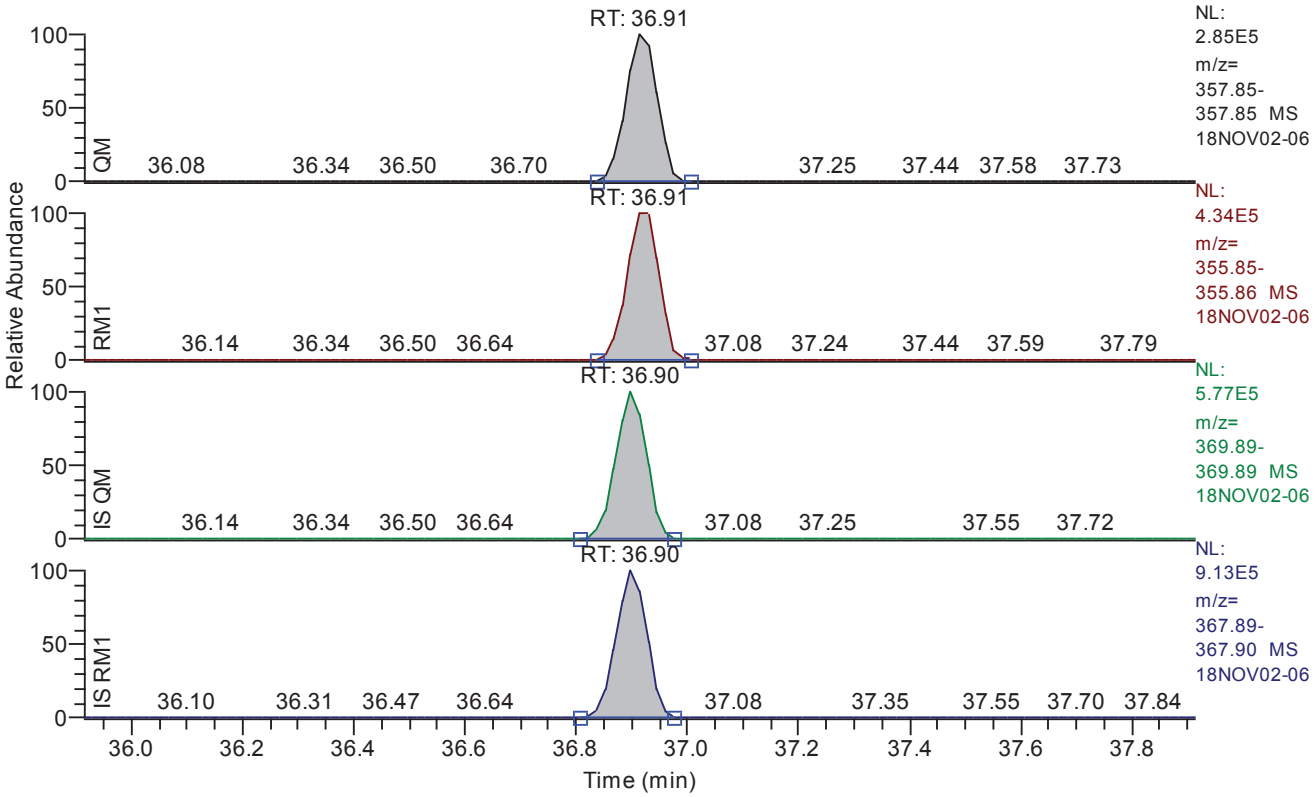
Chromatogram

RT: 35.91 - 37.91 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.91
QM Area	1123611
QM Integration Mode	A
RM1 Area	1762579
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	49.166920
Adjusted Amount (A)	49.1669
Signal-to-Noise	17412
Client Flags	
Status Overview	passed
Status Info	

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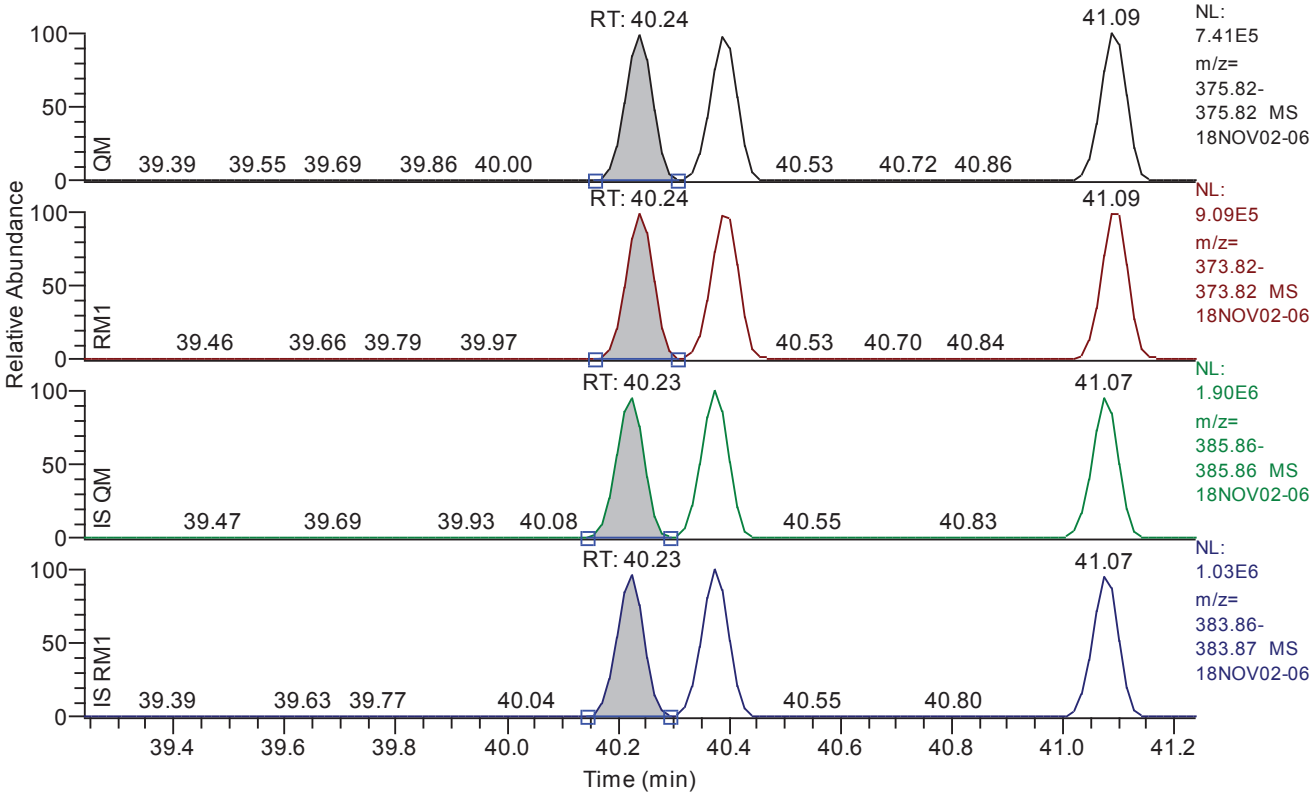
Chromatogram

RT: 39.24 - 41.24 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.24
QM Area	2536957
QM Integration Mode	A
RM1 Area	3127184
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	50.069229
Adjusted Amount (A)	50.0692
Signal-to-Noise	15396
Client Flags	
Status Overview	passed
Status Info	

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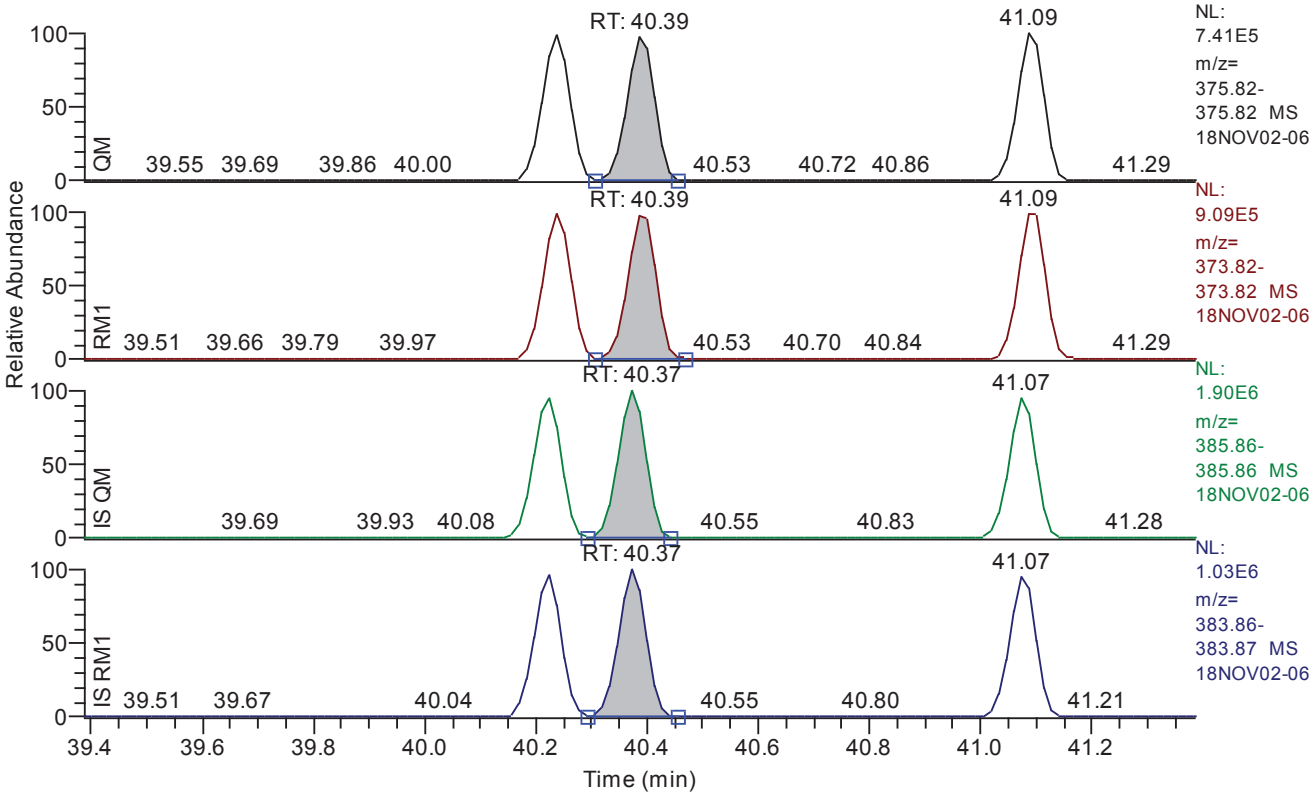
Chromatogram

RT: 39.39 - 41.39 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.39
QM Area	2510254
QM Integration Mode	A
RM1 Area	3162753
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	50.304538
Adjusted Amount (A)	50.3045
Signal-to-Noise	15108
Client Flags	
Status Overview	passed
Status Info	

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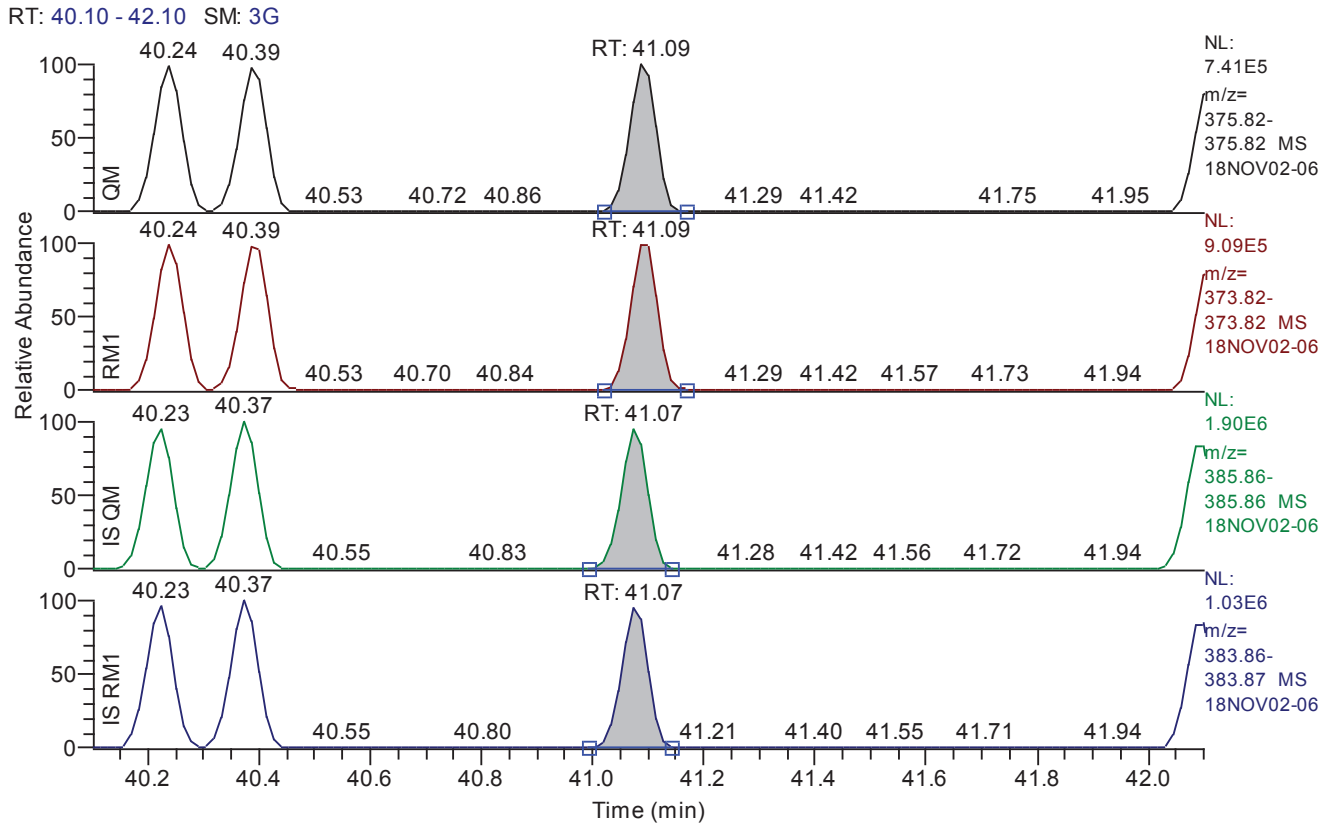
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.09
QM Area	2477217
QM Integration Mode	A
RM1 Area	3109542
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	49.618141
Adjusted Amount (A)	49.6181
Signal-to-Noise	15439
Client Flags	
Status Overview	passed
Status Info	

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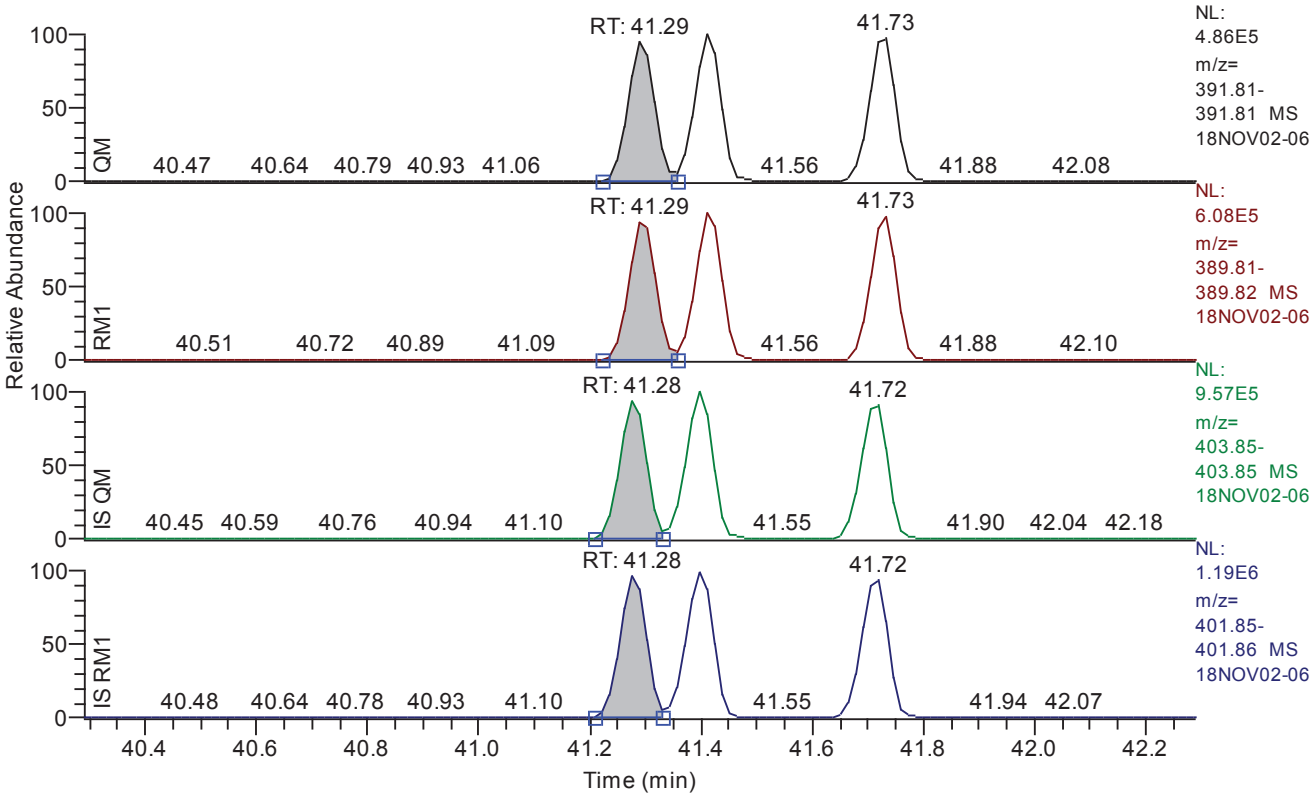
Chromatogram

RT: 40.29 - 42.29 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.29
QM Area	1562976
QM Integration Mode	A
RM1 Area	1960578
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0059
Unqualified Amount (A)	51.808933
Adjusted Amount (A)	51.8089
Signal-to-Noise	21550
Client Flags	
Status Overview	passed
Status Info	

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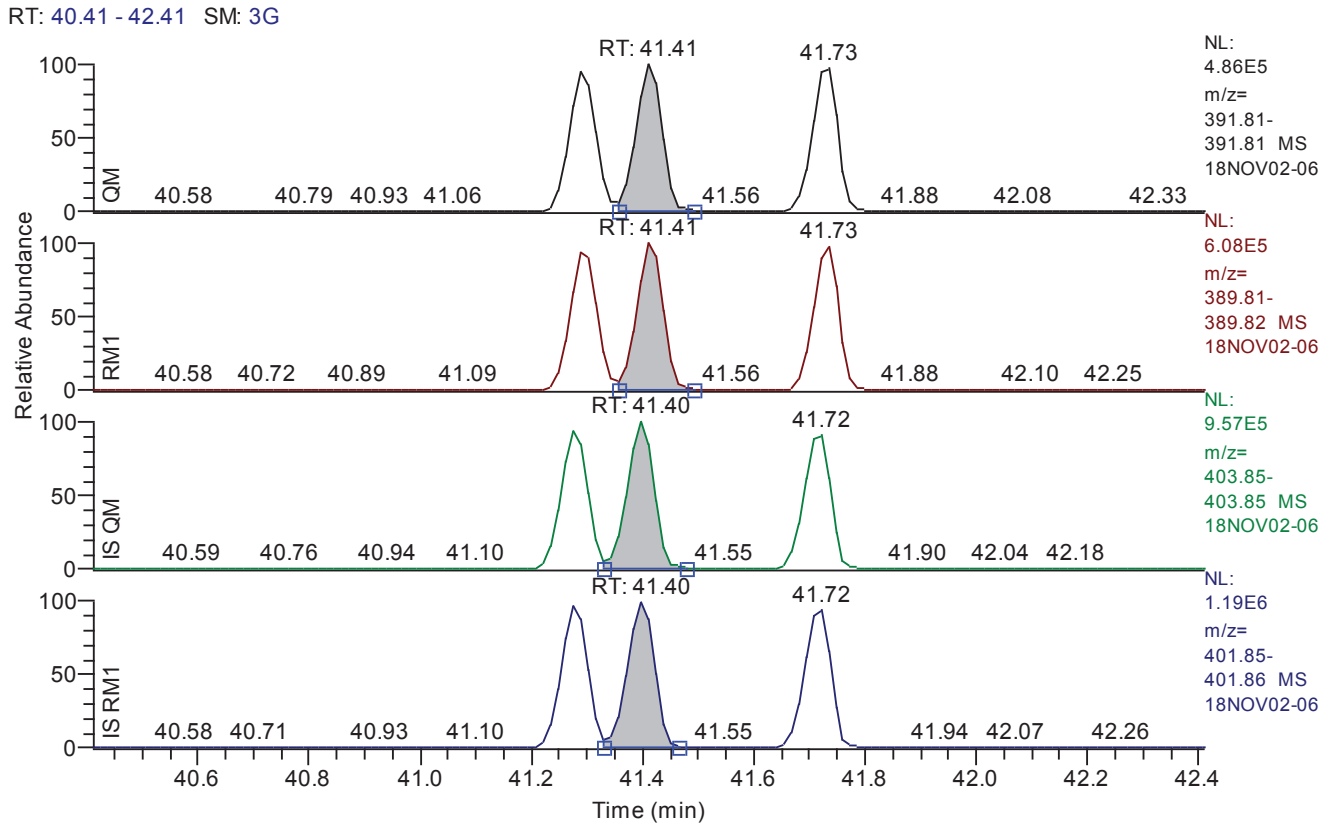
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.41
QM Area	1575034
QM Integration Mode	A
RM1 Area	1979610
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	50.260278
Adjusted Amount (A)	50.2603
Signal-to-Noise	22761
Client Flags	
Status Overview	passed
Status Info	

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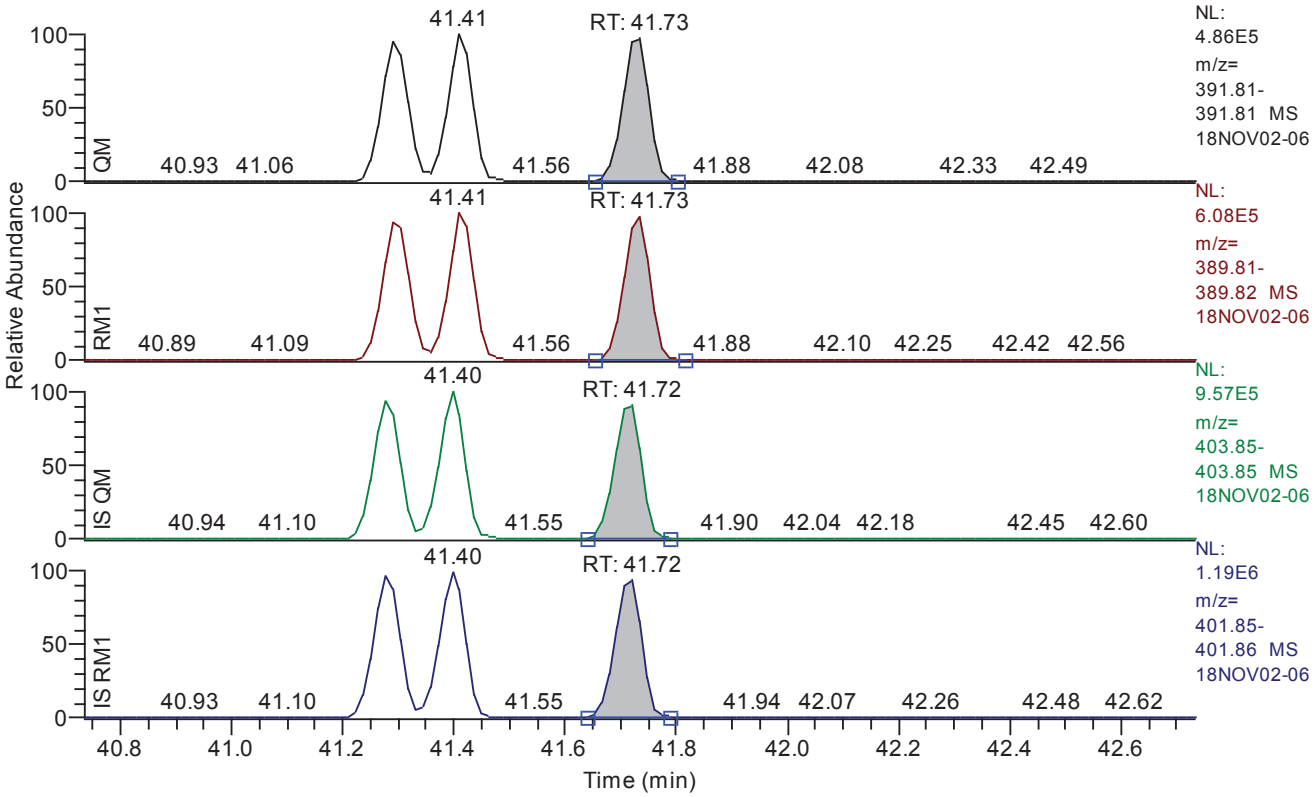
Chromatogram

RT: 40.73 - 42.73 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.73
QM Area	1576002
QM Integration Mode	A
RM1 Area	1957296
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	49.561603
Adjusted Amount (A)	49.5616
Signal-to-Noise	22409
Client Flags	
Status Overview	passed
Status Info	

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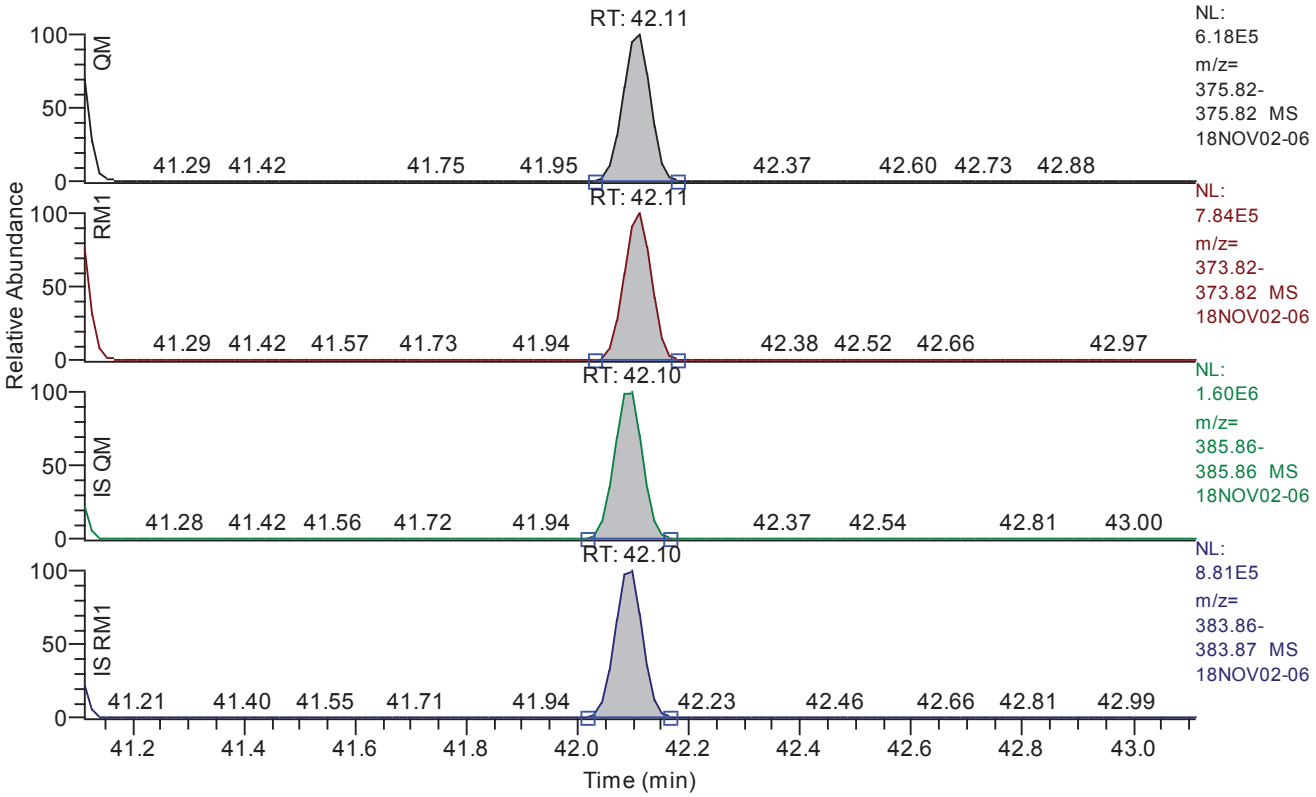
Chromatogram

RT: 41.11 - 43.11 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.11
QM Area	2153702
QM Integration Mode	A
RM1 Area	2715908
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0096
Unqualified Amount (A)	49.310853
Adjusted Amount (A)	49.3109
Signal-to-Noise	13115
Client Flags	
Status Overview	passed
Status Info	

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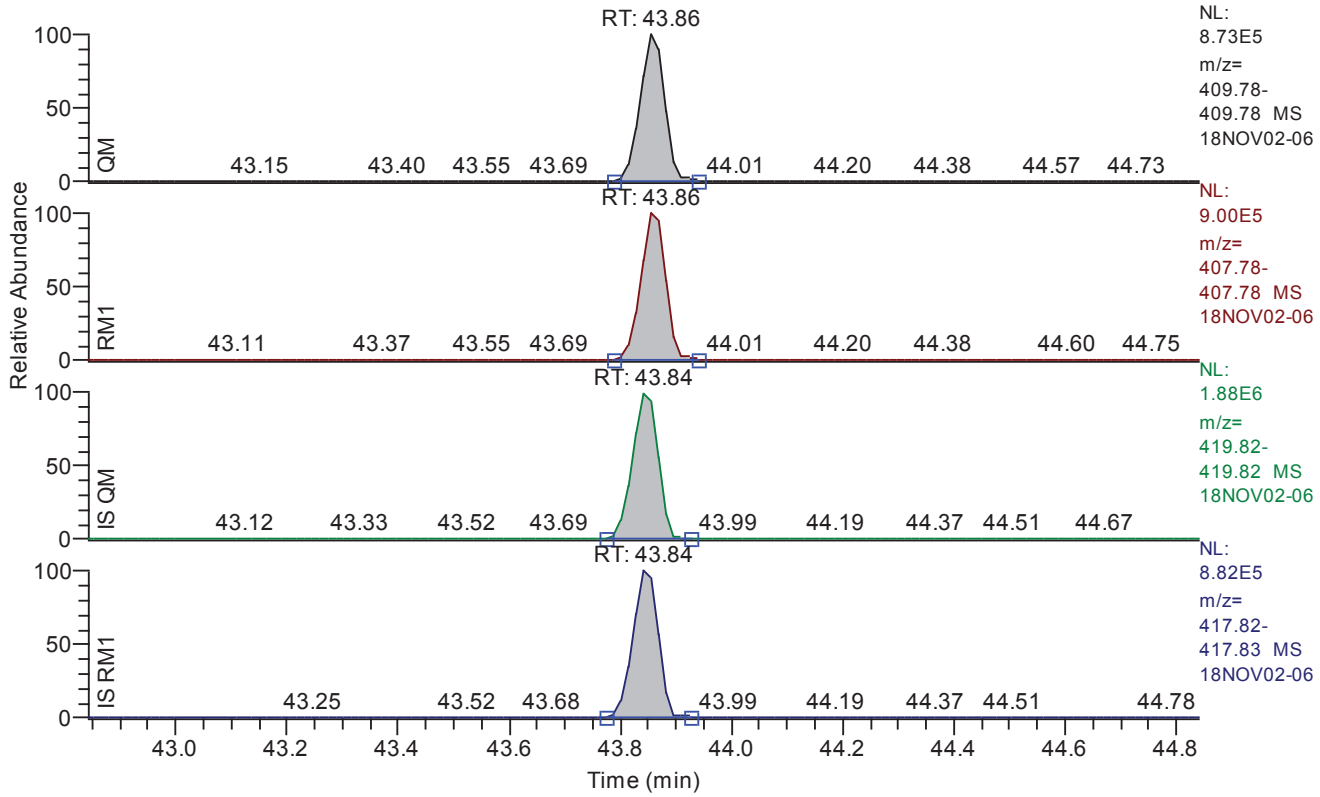
Chromatogram

RT: 42.84 - 44.84 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.86
QM Area	2759147
QM Integration Mode	A
RM1 Area	2887429
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	50.533584
Adjusted Amount (A)	50.5336
Signal-to-Noise	19694
Client Flags	
Status Overview	passed
Status Info	

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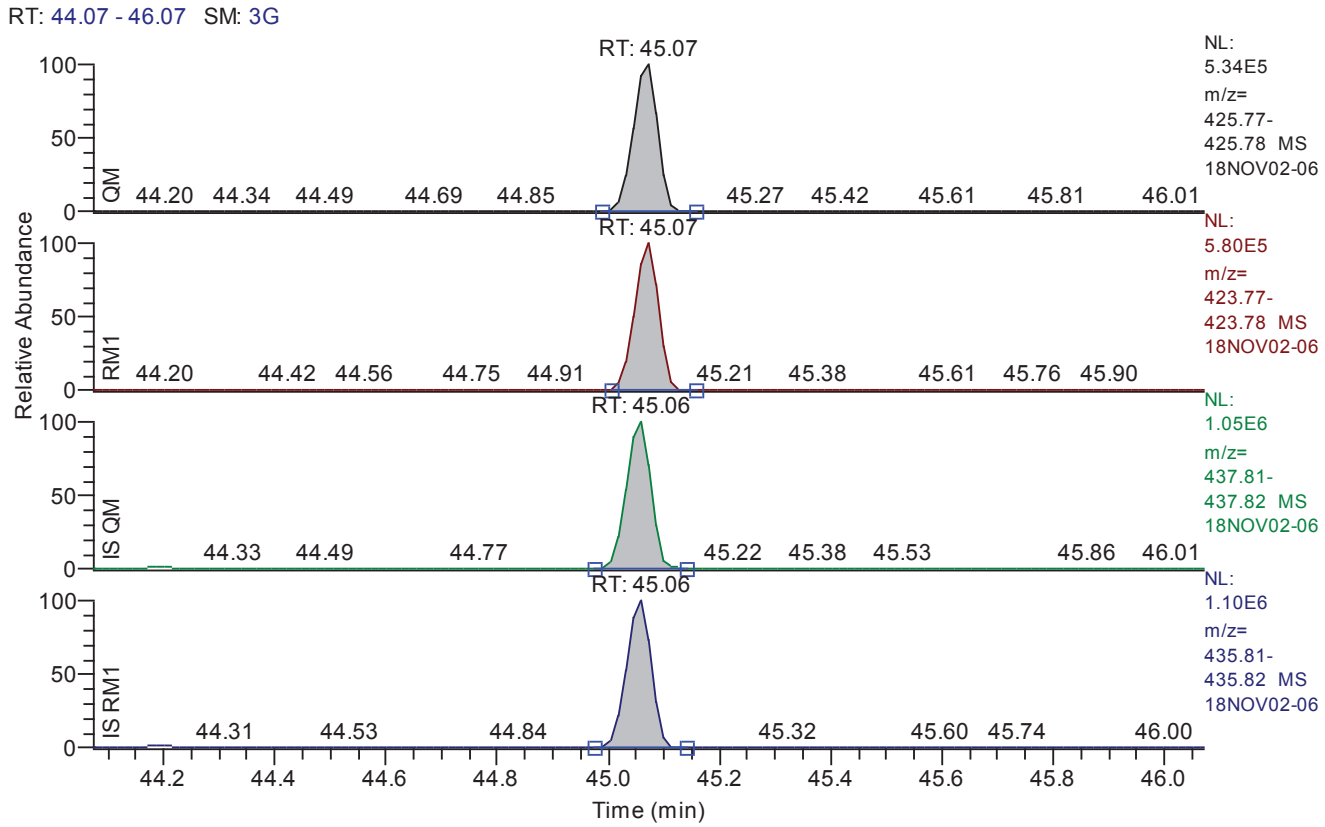
Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.07
QM Area	1697574
QM Integration Mode	A
RM1 Area	1800210
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	49.621007
Adjusted Amount (A)	49.6210
Signal-to-Noise	19152
Client Flags	
Status Overview	passed
Status Info	

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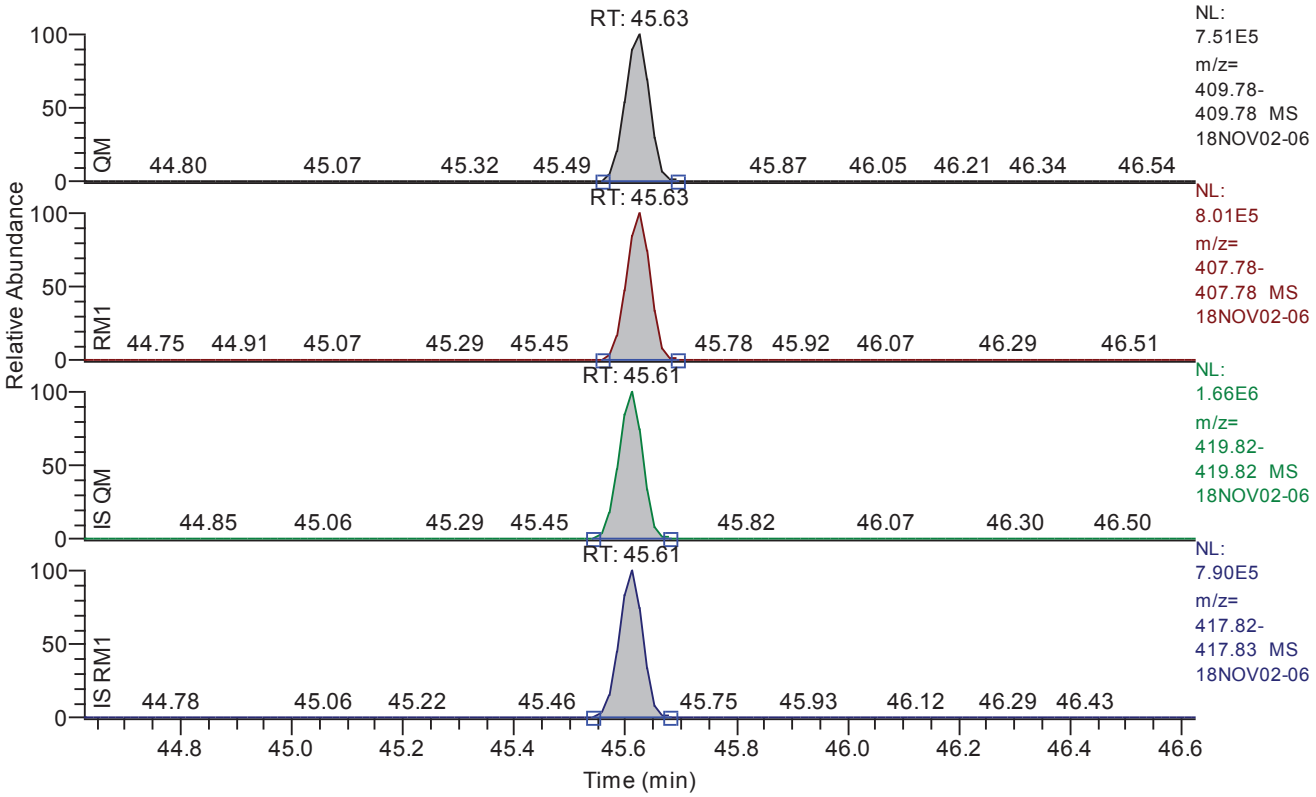
Chromatogram

RT: 44.63 - 46.63 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.63
QM Area	2368361
QM Integration Mode	A
RM1 Area	2498379
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	50.013558
Adjusted Amount (A)	50.0136
Signal-to-Noise	17237
Client Flags	
Status Overview	passed
Status Info	

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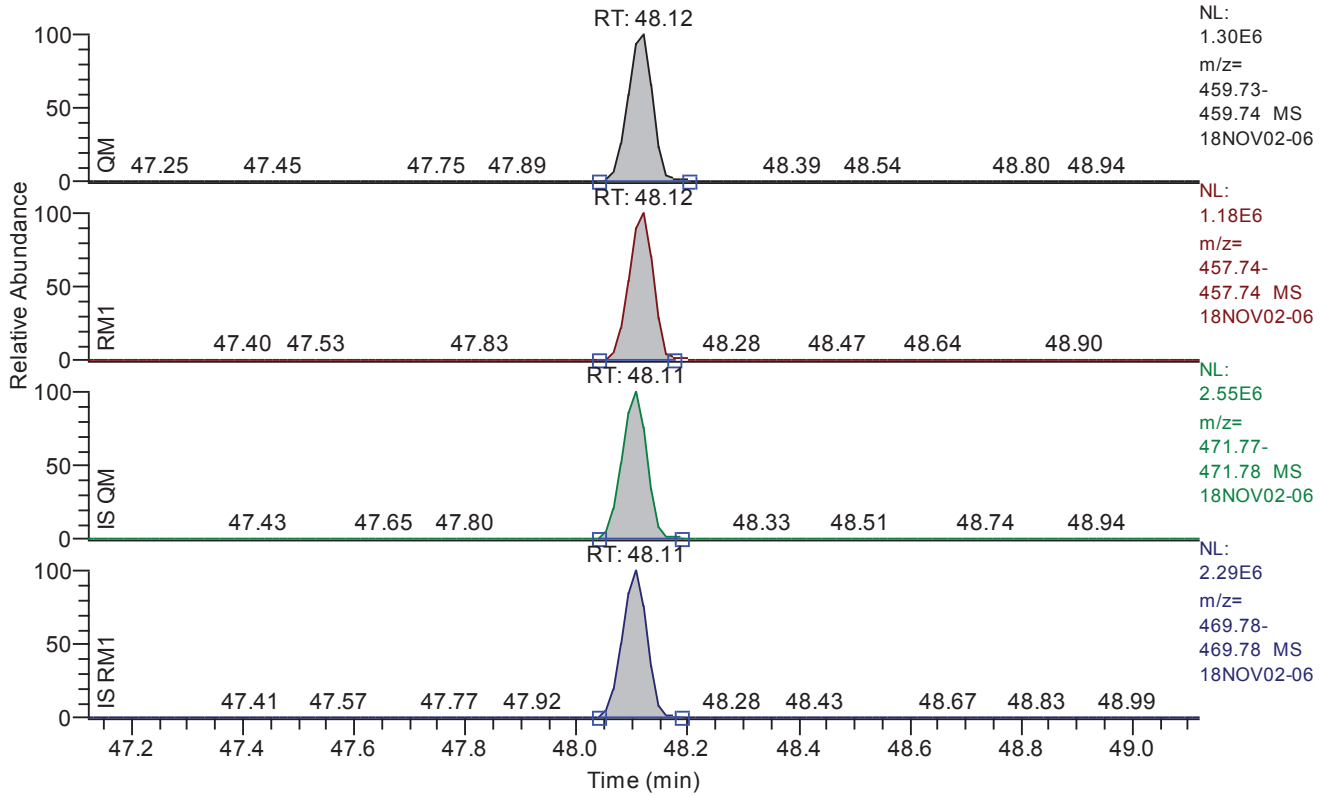
Chromatogram

RT: 47.12 - 49.12 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.12
QM Area	4026261
QM Integration Mode	A
RM1 Area	3578403
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0052
Unqualified Amount (A)	100.672302
Adjusted Amount (A)	100.6723
Signal-to-Noise	48919
Client Flags	
Status Overview	passed
Status Info	

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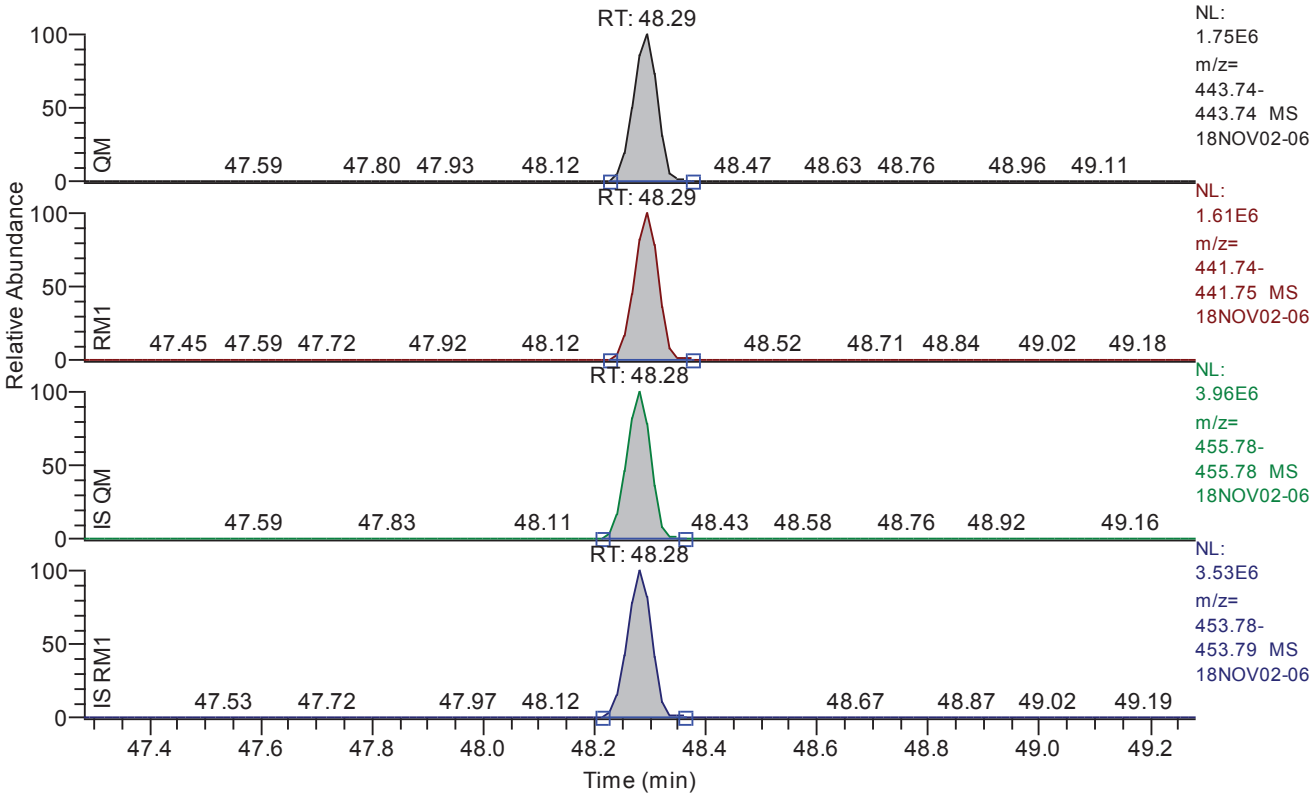
Chromatogram

RT: 47.28 - 49.28 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.29
QM Area	5307999
QM Integration Mode	A
RM1 Area	4861441
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	99.384916
Adjusted Amount (A)	99.3849
Signal-to-Noise	58075
Client Flags	
Status Overview	passed
Status Info	

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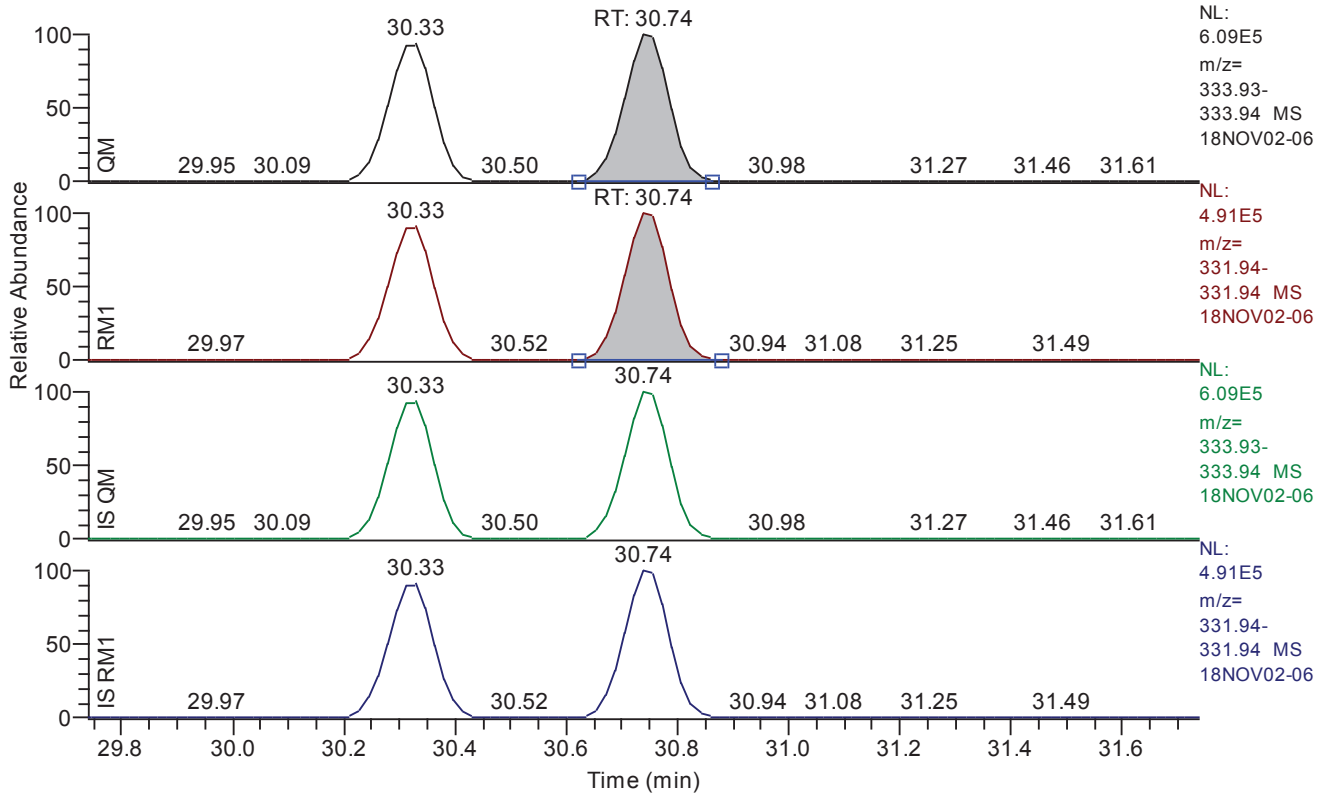
Chromatogram

RT: 29.74 - 31.74 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.74
QM Area	3494091
QM Integration Mode	A
RM1 Area	2817514
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	98.690496
Adjusted Amount (A)	98.6905
Signal-to-Noise	20419
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.20	29.20	29.20	29.17	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.35	30.35	30.35	30.33	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.22	35.22	35.22	35.20	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.51	36.51	36.51	36.48	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.91	36.91	36.91	36.90	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.24	40.24	40.24	40.23	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.39	40.39	40.39	40.37	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.09	41.09	41.09	41.07	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.29	41.29	41.29	41.28	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.41	41.41	41.41	41.40	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.73	41.73	41.73	41.72	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.11	42.11	42.11	42.10	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.86	43.86	43.86	43.84	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.07	45.07	45.07	45.06	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.63	45.63	45.63	45.61	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.12	48.12	48.12	48.11	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.29	48.29	48.29	48.28	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.74	30.74	30.74	30.74	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.49	29.49	29.49	29.49	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.14	40.14	40.14	40.14	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.17	29.17	29.17	29.12	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.33	30.33	30.33	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.20	35.20	35.20	35.20	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.48	36.48	36.50	36.50	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.90	36.90	36.90	36.90	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.23	40.23	40.23	40.33	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.37	40.37	40.37	40.37	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.07	41.07	41.07	41.13	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.28	41.28	41.28	41.28	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.40	41.40	41.40	41.40	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.72	41.72	41.72	41.72	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.10	42.10	42.10	42.08	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.84	43.84	43.84	43.86	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.06	45.06	45.06	45.06	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.61	45.61	45.61	45.61	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.11	48.11	48.11	48.11	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.28	48.28	48.28	48.32	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	29.20	0.7713	0.6450 - 0.8950	passed	0.9815	1.0177	0.8091 - 1.2263	passed
2	2378-TCDD	30.35	0.7991	0.6450 - 0.8950	passed	1.1841	1.2073	0.9598 - 1.4548	passed
3	12378-PeCDF	35.22	1.5685	1.3150 - 1.7850	passed	0.9506	0.9324	0.7413 - 1.1235	passed
4	23478-PeCDF	36.51	1.5652	1.3150 - 1.7850	passed	1.0557	1.0347	0.8226 - 1.2468	passed
5	12378-PeCDD	36.91	1.5687	1.3150 - 1.7850	passed	1.0033	1.0203	0.8111 - 1.2295	passed
6	123478-HxCDF	40.24	1.2327	1.0450 - 1.4350	passed	1.1556	1.1540	0.9174 - 1.3906	passed
7	123678-HxCDF	40.39	1.2599	1.0450 - 1.4350	passed	1.1201	1.1133	0.8851 - 1.3415	passed
8	234678-HxCDF	41.09	1.2553	1.0450 - 1.4350	passed	1.1959	1.2051	0.9581 - 1.4521	passed
9	123478-HxCDD	41.29	1.2544	1.0450 - 1.4350	passed	1.0331	0.9970	0.7926 - 1.2014	passed
10	123678-HxCDD	41.41	1.2569	1.0450 - 1.4350	passed	0.9853	0.9802	0.7793 - 1.1811	passed
11	123789-HxCDD	41.73	1.2419	1.0450 - 1.4350	passed	1.0469	1.0562	0.8397 - 1.2727	passed
12	123789-HxCDF	42.11	1.2610	1.0450 - 1.4350	passed	1.1066	1.1220	0.8920 - 1.3520	passed
13	1234678-HpCDF	43.86	1.0465	0.8750 - 1.2050	passed	1.2468	1.2336	0.9807 - 1.4865	passed
14	1234678-HpCDD	45.07	1.0605	0.8750 - 1.2050	passed	1.0176	1.0254	0.8152 - 1.2356	passed
15	1234789-HpCDF	45.63	1.0549	0.8750 - 1.2050	passed	1.2779	1.2776	1.0157 - 1.5395	passed
16	OCDD	48.12	0.8888	0.7550 - 1.0250	passed	1.0158	1.0090	0.8022 - 1.2158	passed
17	OCDF	48.29	0.9159	0.7550 - 1.0250	passed	0.8939	0.8994	0.7150 - 1.0838	passed
18	13C12-1278-TCDD (CRS)	30.74	0.8064	0.6450 - 0.8950	passed	1.0384	1.0522	0.7313 - 1.3731	passed
19	13C12-1234-TCDD	29.49	0.8090	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.14	1.2671	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.17	0.8046	0.6450 - 0.8950	passed	1.9447	1.9499	1.3552 - 2.5446	passed
22	13C12-2378-TCDD	30.33	0.7897	0.6450 - 0.8950	passed	0.9839	1.0034	0.6974 - 1.3094	passed
23	13C12-12378-PeCDF	35.20	1.5739	1.3150 - 1.7850	passed	1.7572	1.9253	1.3381 - 2.5125	passed
24	13C12-23478-PeCDF	36.48	1.5546	1.3150 - 1.7850	passed	1.7497	1.9383	1.3471 - 2.5295	passed
25	13C12-12378-PeCDD	36.90	1.5828	1.3150 - 1.7850	passed	0.9466	1.0421	0.7243 - 1.3599	passed
26	13C12-123478-HxCDF	40.23	0.5345	0.4250 - 0.5950	passed	1.4351	1.4639	1.0174 - 1.9104	passed
27	13C12-123678-HxCDF	40.37	0.5384	0.4250 - 0.5950	passed	1.4828	1.5311	1.0641 - 1.9981	passed
28	13C12-234678-HxCDF	41.07	0.5411	0.4250 - 0.5950	passed	1.3677	1.4083	0.9788 - 1.8378	passed
29	13C12-123478-HxCDD	41.28	1.2668	1.0450 - 1.4350	passed	0.9986	1.0051	0.6985 - 1.3117	passed
30	13C12-123678-HxCDD	41.40	1.2550	1.0450 - 1.4350	passed	1.0563	1.0230	0.7110 - 1.3350	passed
31	13C12-123789-HxCDD	41.72	1.2609	1.0450 - 1.4350	passed	0.9881	0.9720	0.6755 - 1.2685	passed
32	13C12-123789-HxCDF	42.10	0.5385	0.4250 - 0.5950	passed	1.2884	1.3107	0.9109 - 1.7105	passed
33	13C12-1234678-HpCDF	43.84	0.4688	0.3650 - 0.5150	passed	1.3260	1.3499	0.9382 - 1.7616	passed
34	13C12-1234678-HpCDD	45.06	1.0476	0.8750 - 1.2050	passed	1.0063	0.9594	0.6668 - 1.2520	passed
35	13C12-1234789-HpCDF	45.61	0.4677	0.3650 - 0.5150	passed	1.1150	1.0985	0.7635 - 1.4335	passed
36	13C12-OCDD	48.11	0.8967	0.7550 - 1.0250	passed	1.0959	0.8972	0.6236 - 1.1708	passed
37	13C12-OCDF	48.28	0.8958	0.7550 - 1.0250	passed	1.6654	1.4110	0.9806 - 1.8414	passed

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Entry Parameters

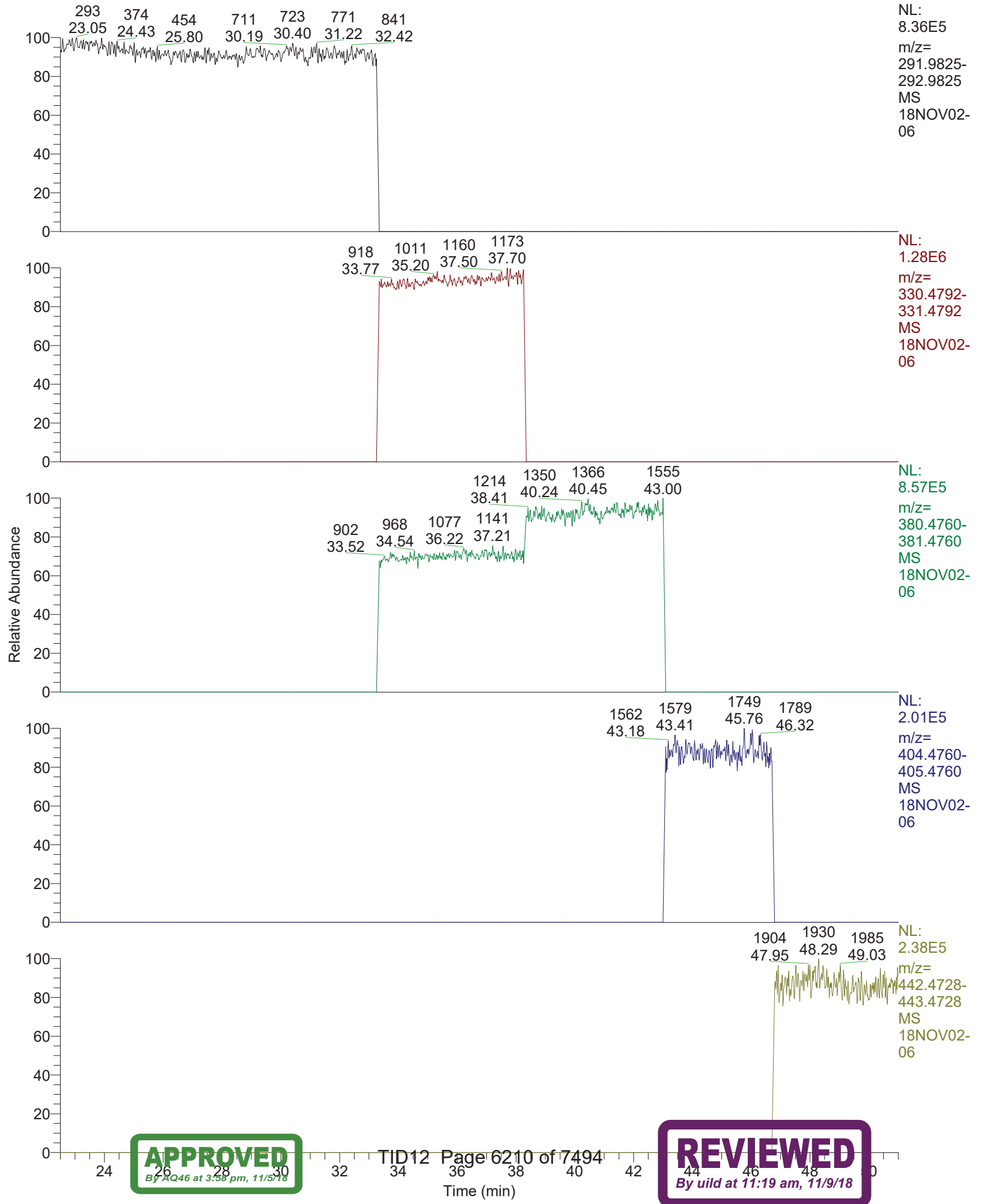
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.20	654982	A	505181	A	0.0047	9.644720	9.6447	10.000000	5229	
2	2378-TCDD	passed	30.35	393580	A	314500	A	0.0057	9.807558	9.8076	10.000000	4386	
3	12378-PeCDF	passed	35.22	1976425	A	3099990	A	0.0039	50.973507	50.9735	50.000000	31787	
4	23478-PeCDF	passed	36.51	2188150	A	3424947	A	0.0035	51.012669	51.0127	50.000000	38479	
5	12378-PeCDD	passed	36.91	1123611	A	1762579	A	0.0068	49.166920	49.1669	50.000000	17412	
6	123478-HxCDF	passed	40.24	2536957	A	3127184	A	0.0082	50.069229	50.0692	50.000000	15396	
7	123678-HxCDF	passed	40.39	2510254	A	3162753	A	0.0082	50.304538	50.3045	50.000000	15108	
8	234678-HxCDF	passed	41.09	2477217	A	3109542	A	0.0080	49.618141	49.6181	50.000000	15439	
9	123478-HxCDD	passed	41.29	1562976	A	1960578	A	0.0059	51.808933	51.8089	50.000000	21550	
10	123678-HxCDD	passed	41.41	1575034	A	1979610	A	0.0057	50.260278	50.2603	50.000000	22761	
11	123789-HxCDD	passed	41.73	1576002	A	1957296	A	0.0057	49.561603	49.5616	50.000000	22409	
12	123789-HxCDF	passed	42.11	2153702	A	2715908	A	0.0096	49.310853	49.3109	50.000000	13115	
13	1234678-HpCDF	passed	43.86	2759147	A	2887429	A	0.0066	50.533584	50.5336	50.000000	19694	
14	1234678-HpCDD	passed	45.07	1697574	A	1800210	A	0.0066	49.621007	49.6210	50.000000	19152	
15	1234789-HpCDF	passed	45.63	2368361	A	2498379	A	0.0072	50.013558	50.0136	50.000000	17237	
16	OCDD	passed	48.12	4026261	A	3578403	A	0.0052	100.672302	100.6723	100.000000	48919	
17	OCDF	passed	48.29	5307999	A	4861441	A	0.0043	99.384916	99.3849	100.000000	58075	
18	13C12-1278-TCDD (CRS)	passed	30.74	3494091	A	2817514	A	0.0118	98.690496	98.6905	100.000000	20419	
19	13C12-1234-TCDD	passed	29.49	3359846	A	2718112	A	0.0113	100.000000	100.0000	100.000000	22211	
20	13C12-123468-HxCDD	passed	40.14	3013147	A	3817962	A	0.0082	100.000000	100.0000	100.000000	30494	
21	13C12-2378-TCDF	passed	29.17	6549685	A	5270055	A	0.0059	99.730388	99.7304	100.000000	42546	
22	13C12-2378-TCDD	passed	30.33	3341405	A	2638620	A	0.0112	98.051111	98.0511	100.000000	22423	
23	13C12-12378-PeCDF	passed	35.20	4149481	A	6530984	A	0.0160	91.271181	91.2712	100.000000	18926	
24	13C12-23478-PeCDF	passed	36.48	4162891	A	6471440	A	0.0159	90.268606	90.2686	100.000000	19235	
25	13C12-12378-PeCDD	passed	36.90	2227551	A	3525876	A	0.0116	90.838230	90.8382	100.000000	28601	
26	13C12-123478-HxCDF	passed	40.23	6388322	A	3414754	A	0.0119	98.030812	98.0308	100.000000	20336	
27	13C12-123678-HxCDF	passed	40.37	6584400	A	3544933	A	0.0114	96.848948	96.8489	100.000000	21181	
28	13C12-234678-HxCDF	passed	41.07	6062560	A	3280476	A	0.0124	97.119827	97.1198	100.000000	20169	
29	13C12-123478-HxCDD	passed	41.28	3009194	A	3812026	A	0.0082	99.345455	99.3455	100.000000	31656	
30	13C12-123678-HxCDD	passed	41.40	3199887	A	4015734	A	0.0080	103.257426	103.2574	100.000000	32974	
31	13C12-123789-HxCDD	passed	41.72	2985541	A	3764536	A	0.0084	101.659137	101.6591	100.000000	30778	
32	13C12-123789-HxCDF	passed	42.10	5720707	A	3080662	A	0.0133	98.302216	98.3022	100.000000	17953	
33	13C12-1234678-HpCDF	passed	43.84	6166608	A	2891111	A	0.0122	98.229433	98.2294	100.000000	21228	
34	13C12-1234678-HpCDD	passed	45.06	3357248	A	3517196	A	0.0106	104.891706	104.8917	100.000000	26602	
35	13C12-1234789-HpCDF	passed	45.61	5189492	A	2427083	A	0.0150	101.500615	101.5006	100.000000	18777	
36	13C12-OCDD	passed	48.11	7893784	A	7078506	A	0.0082	244.290678	244.2907	200.000000	83340	
37	13C12-OCDF	passed	48.28	12001524	A	10751515	A	0.0061	236.053076	236.0531	200.000000	110253	

File Name: Y:\18NOV02\18NOV02-06
Sample ID: CS3CC02

Acq. Data: 11/2/2018 3:12:57 PM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02

RT: 22.50 - 51.00



APPROVED
By AQ46 at 3:58 pm, 11/5/18

REVIEWED
By uild at 11:19 am, 11/9/18

*** file opened Fri Nov 02 15:18:22 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 02-Nov-18 15:18:22

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 111c4aba-2268-4ea2-a711-2925d1867bdb

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	11:15 min	33:15 min	1.00 sec
# 3	33:15 min	5:00 min	38:15 min	0.90 sec
# 4	38:15 min	4:45 min	43:00 min	0.80 sec
# 5	43:00 min	3:42 min	46:42 min	0.80 sec
# 6	46:42 min	4:17 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU           1000.0000   BCORRS           0.0170   BMASS           98.5000
 BQUAD             6.3500   CAPIL            0.0000   CAPTSET        200.0000
 CCURR             0.0000   COUNTING         0.0000   DELAY            0.0000
 DRAW            -25.0000   DRAWC            0.0000   DRAWS            0.0000
 DYNVOLTAGE       15.0000   ECORR            0.9995   ECURR            1.0000
 EDAC        7969177.0000   EDACG            1.0000   EDACZ         -174.0000
 ELEN            -50.0000   EMULT         1775.0000   ENS            219.0000
 ENSBR             6.3500   ERATIO           1.0000   ESA            679.0600
 ESIPAR            0.0000   EXS            172.0000   EXSBR           -0.7300
 FDMA       18000000.0000   FILTER         100.0000   FLENS            1.0000
 FM               50.0000   FMII            50.0000   FQUAD            3.7000
 FQUADGAIN         1.0000   FREQ           400.0000   FSLOPE    36000000.0000
 FVANAL            0.0171   FVINLET          0.0370   FVSRC            0.0338
 FWIN              0.7000   HCURR            0.0000   HVANAL           0.0000
 HVSRC             0.0000   ICAL0            0.0011   ICAL1            0.4030
 ICAL2             0.5865   IONEN            0.0000   IST              0.0000
 ISTC            260.0000   ISTS           260.0000   LENS_POT       652.0000
 LENS_SYM          3.7500   LM             650.0000   LMII           500.0000
 LMASS            98.5000   LKM            442.9723   MASS            98.5000
 MDAC         957780.3869   MRANGE        1614.4523   NSAM           200.0000
 NSCAN          2157.0000   NSMAX            8.0000   NSMIN           66.0000
 NPEAK            11.0000   MULT            -2.0000   PSAM            10.0000
 PUSHER          -15.0000   RECURR           0.9685   RELEN            0.0000
 RES           11578.1295   RPUSHER        -14.7766   RDRAW            0.0000
 RDRAWC            0.0000   RWIN             2.0000   SCIDLE           0.0000
 SHIELD_POT      680.0000   SHIELD_SYM       0.0000   SHIGH          180.0000
 SKIM              7.0000   SLOW            60.0000   SS               2.0000
 SW                0.0215   TANAL            0.0000   TCURR            0.0000
 TD               30.0000   TS              33.4574   THRESH           2.0000
 TIS               0.2000   TREF           120.0000   TSAM           200.0000
 TSET              0.0000   TUBEL            0.0000   UROT             0.0000
 USERVAR           0.0000   UTQ1           150.0000   UTQ2           190.0000
 UTQ3             80.0000   VMASS           98.5000   XLENS_POT      930.0000
 XLENS_SYM         7.5000   YLENS_POT      862.0000   YLENS_SYM       14.7500

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    7.2e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.4e-002 mbar
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10915.
MID Time Window 2: Resolution is 11407.
MID Time Window 3: Resolution is 11301.
MID Time Window 4: Resolution is 11162.
```

```
MID Time Window 5: Resolution is 12176.
MID Time Window 6: Resolution is 11578.

Amplifier Offset: 89.


*** File closed Fri Nov 02 16:09:23 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 04:43
Number of Entries	177
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF18471-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-21-8290.quan
Data	y:\18nov02\18nov02-21.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.19	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.33	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.21	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.49	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.91	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.23	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.08	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.28	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.40	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.72	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.10	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.85	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.06	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.62	passed	passed	passed	passed	passed	passed	
16	OCDD	48.11	passed	passed	passed	passed	passed	passed	
17	OCDF	48.29	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.72	failed	passed	passed	passed	passed	passed	Failed on: RF
19	13C12-1234-TCDD	29.48	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.13	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.15	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.30	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.19	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.47	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.89	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.22	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.36	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.06	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.27	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.39	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.70	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.09	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.83	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.05	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.60	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.10	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.27	passed	passed	passed	passed	passed	passed	

APPROVED
By AQ46 at 3:58 pm, 11/5/18

REVIEWED
By uild at 11:19 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 04:43
Number of Entries	177
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF18471-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02\18nov02-21-8290.quan
Data	y:\18nov02\18nov02-21.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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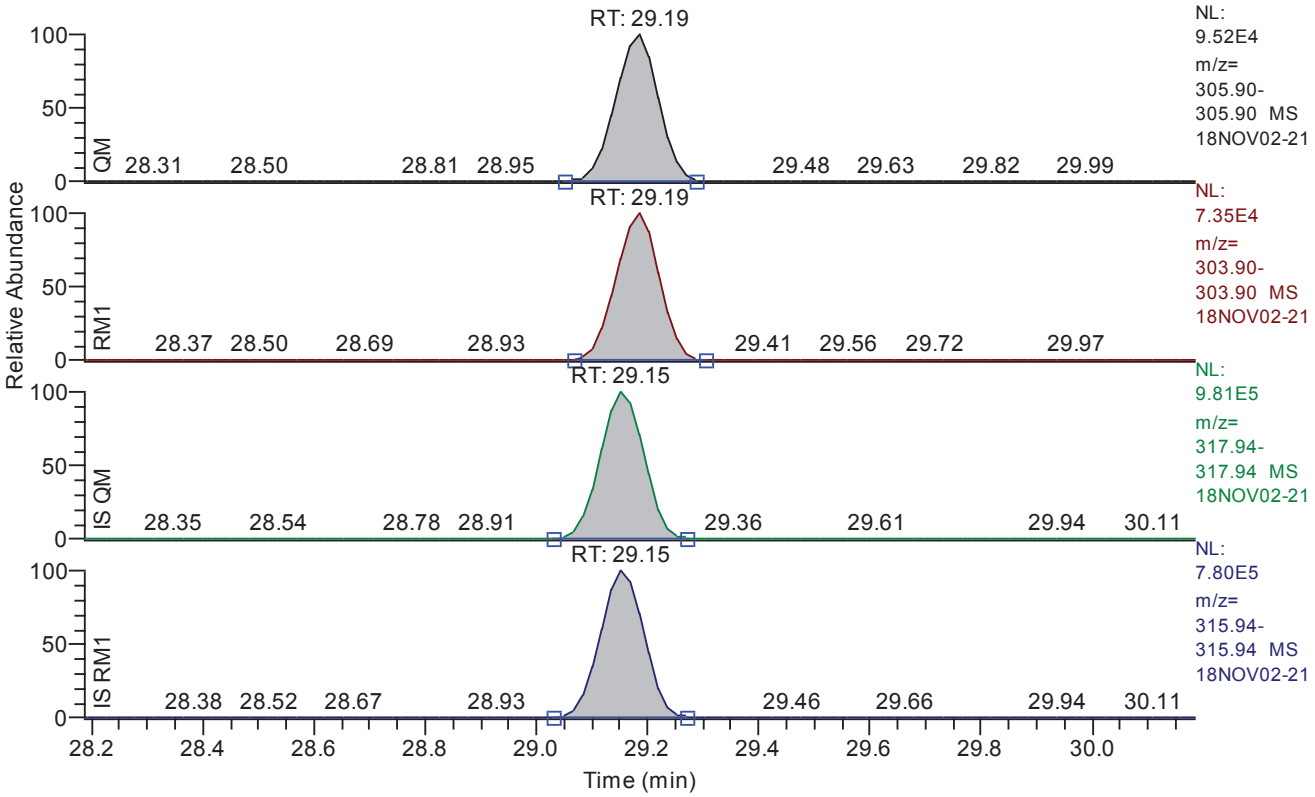
Chromatogram

RT: 28.19 - 30.19 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.19
QM Area	524132
QM Integration Mode	A
RM1 Area	405508
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	9.264709
Adjusted Amount (A)	9.2647
Signal-to-Noise	4939
Client Flags	
Status Overview	passed
Status Info	

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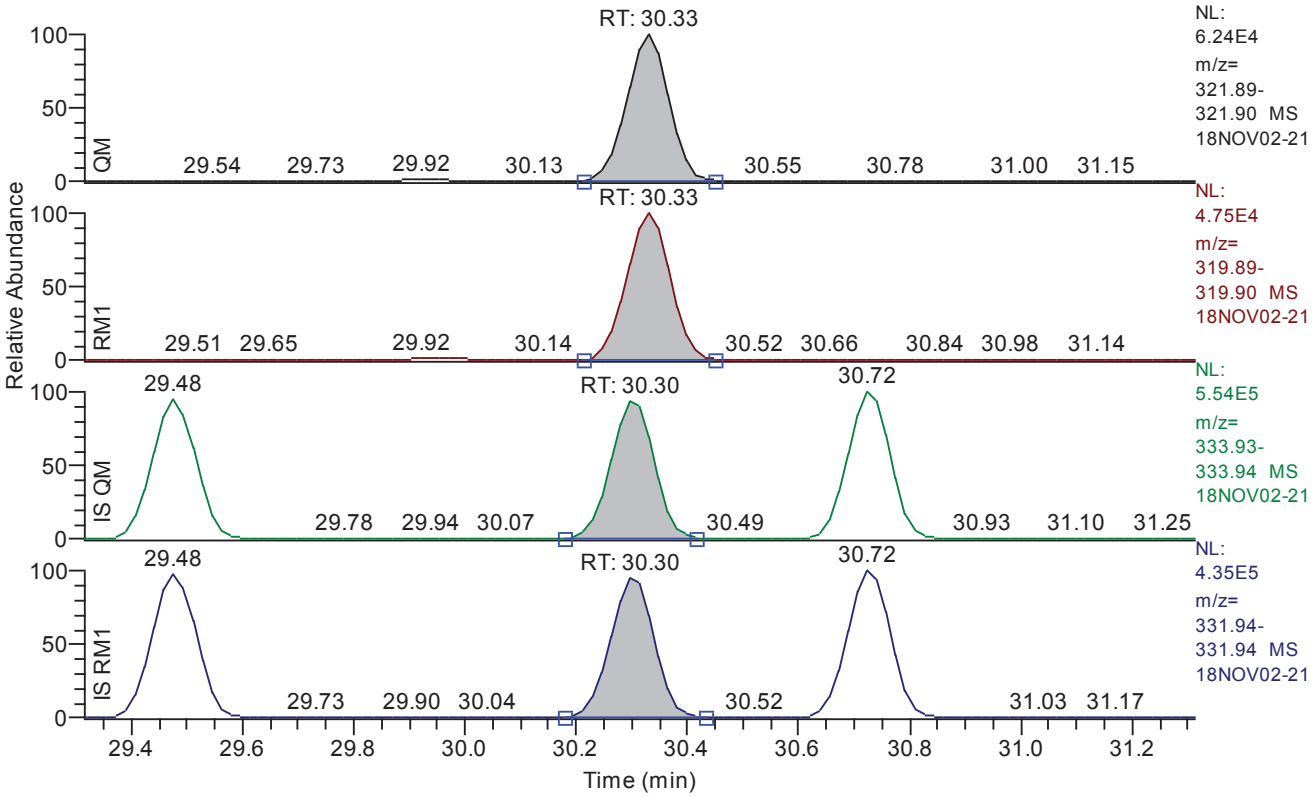
Chromatogram

RT: 29.31 - 31.31 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.33
QM Area	334951
QM Integration Mode	A
RM1 Area	263239
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	9.554070
Adjusted Amount (A)	9.5541
Signal-to-Noise	3553
Client Flags	
Status Overview	passed
Status Info	

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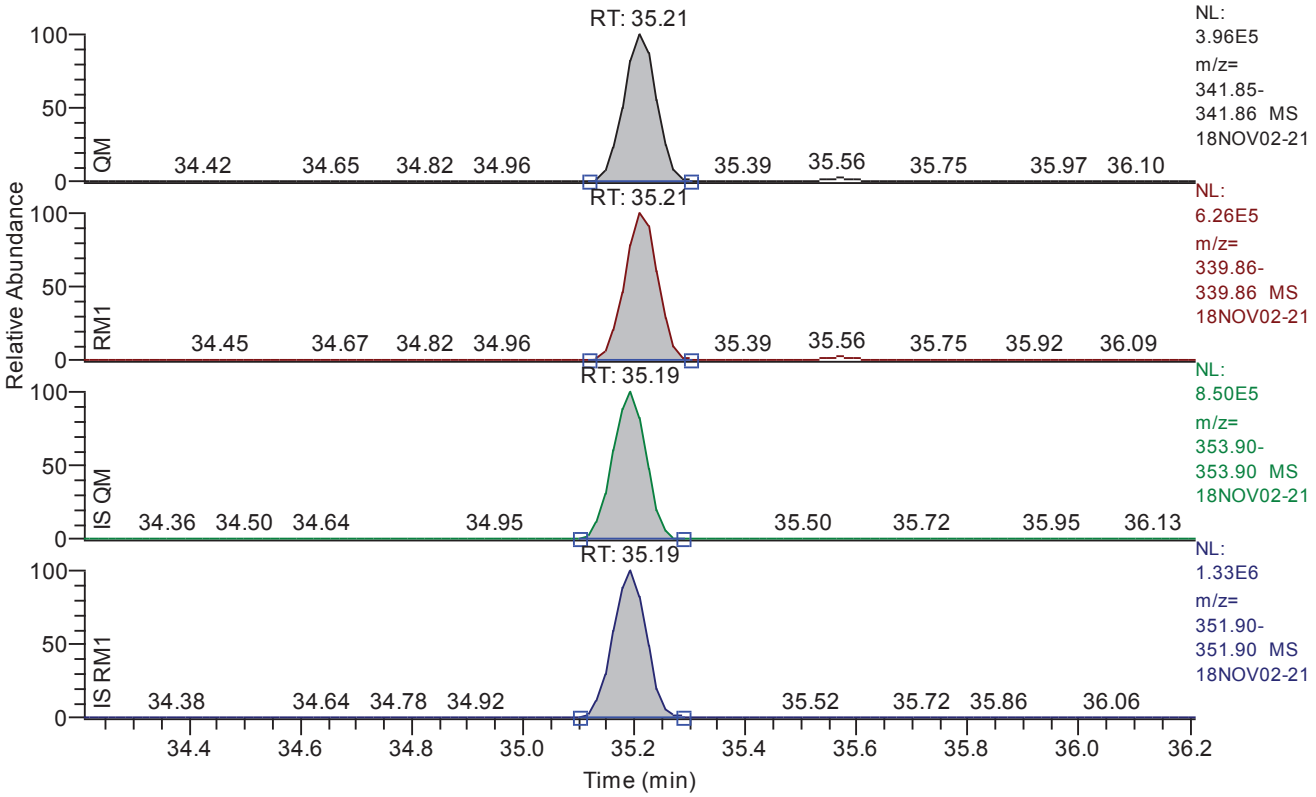
Chromatogram

RT: 34.21 - 36.21 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.21
QM Area	1630533
QM Integration Mode	A
RM1 Area	2598596
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	49.463963
Adjusted Amount (A)	49.4640
Signal-to-Noise	28008
Client Flags	
Status Overview	passed
Status Info	

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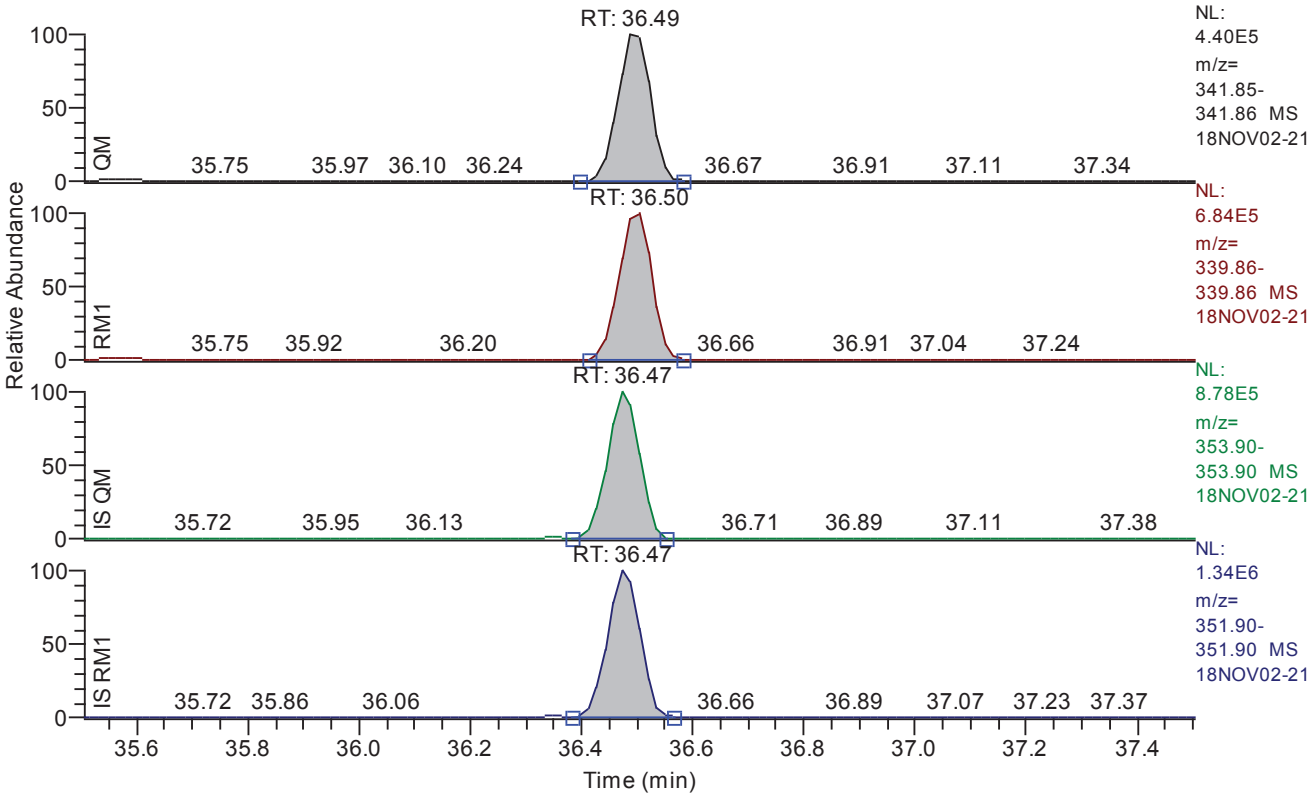
Chromatogram

RT: 35.50 - 37.50 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.49
QM Area	1821421
QM Integration Mode	A
RM1 Area	2827087
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	49.593501
Adjusted Amount (A)	49.5935
Signal-to-Noise	30784
Client Flags	
Status Overview	passed
Status Info	

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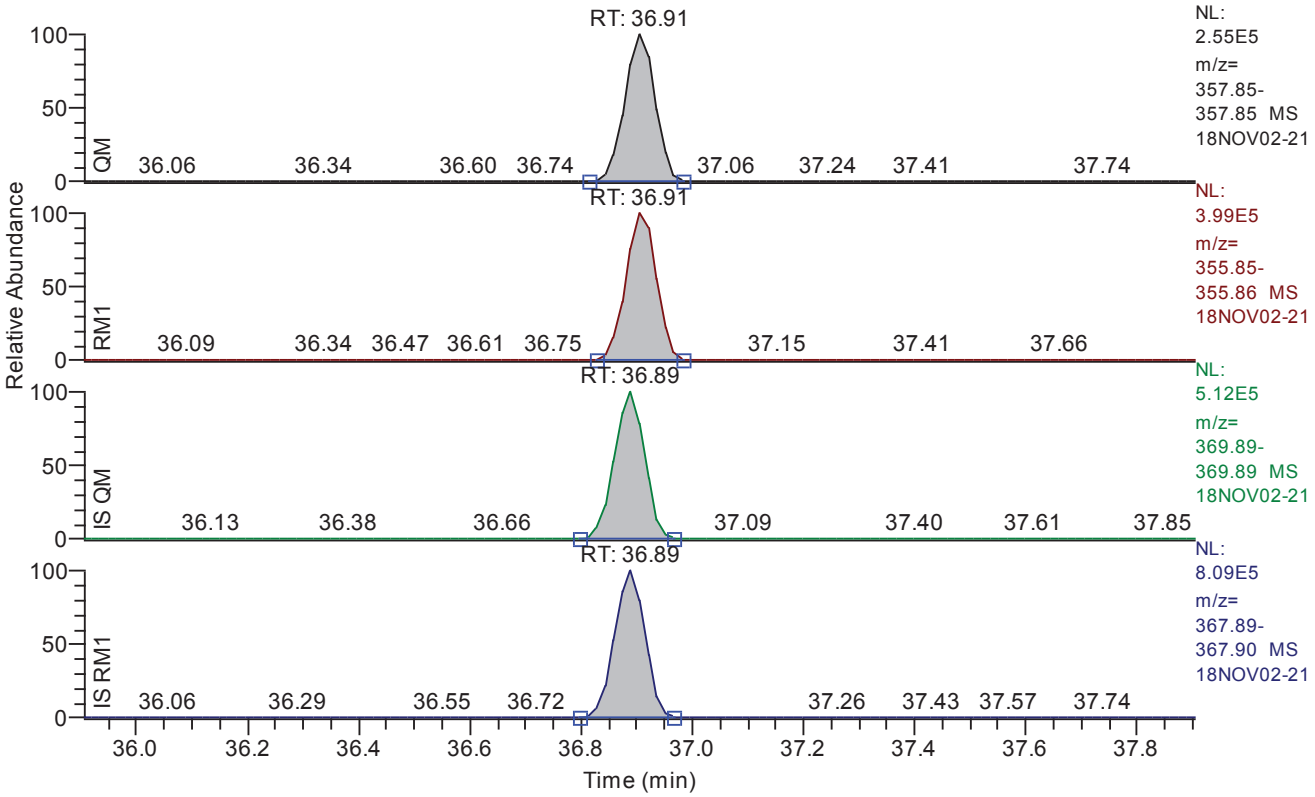
Chromatogram

RT: 35.91 - 37.91 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.91
QM Area	969863
QM Integration Mode	A
RM1 Area	1518406
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	48.350196
Adjusted Amount (A)	48.3502
Signal-to-Noise	16236
Client Flags	
Status Overview	passed
Status Info	

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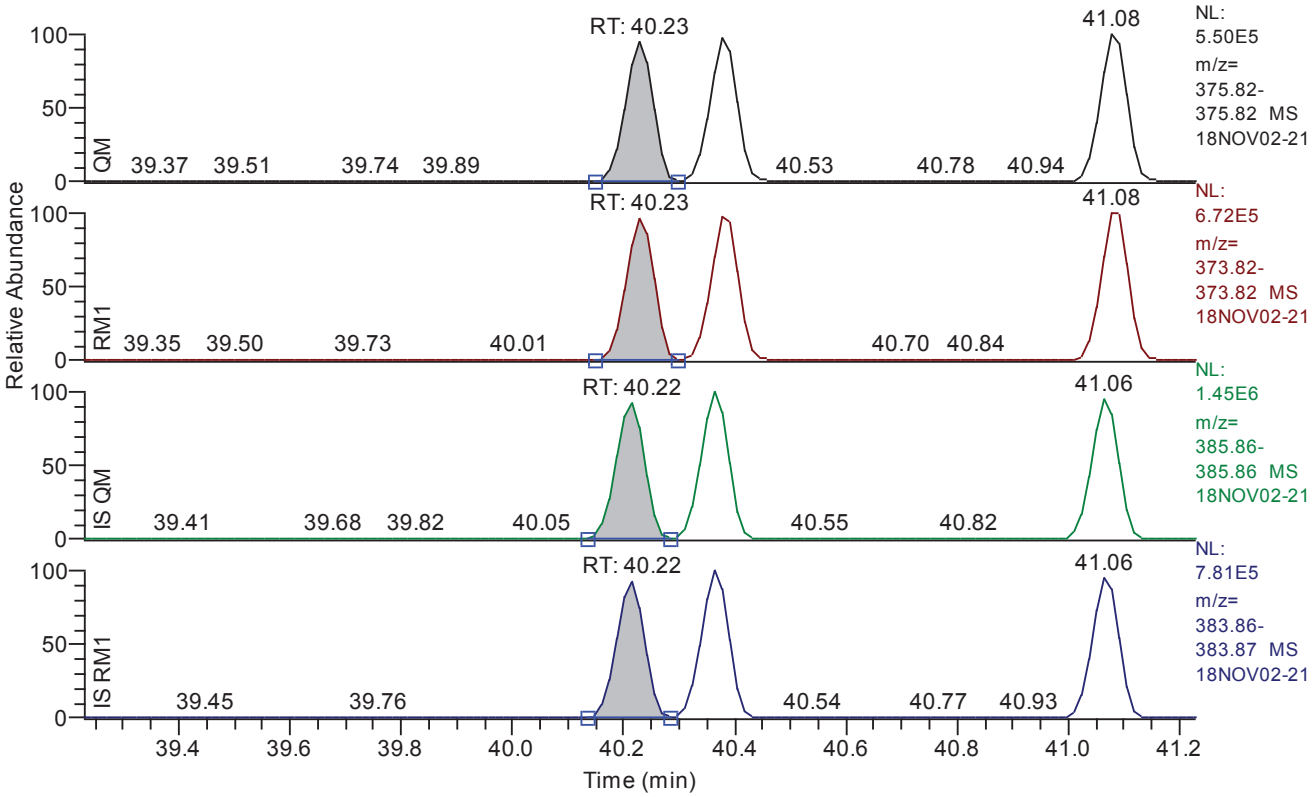
Chromatogram

RT: 39.23 - 41.23 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.23
QM Area	1819192
QM Integration Mode	A
RM1 Area	2284413
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	48.096727
Adjusted Amount (A)	48.0967
Signal-to-Noise	12664
Client Flags	
Status Overview	passed
Status Info	

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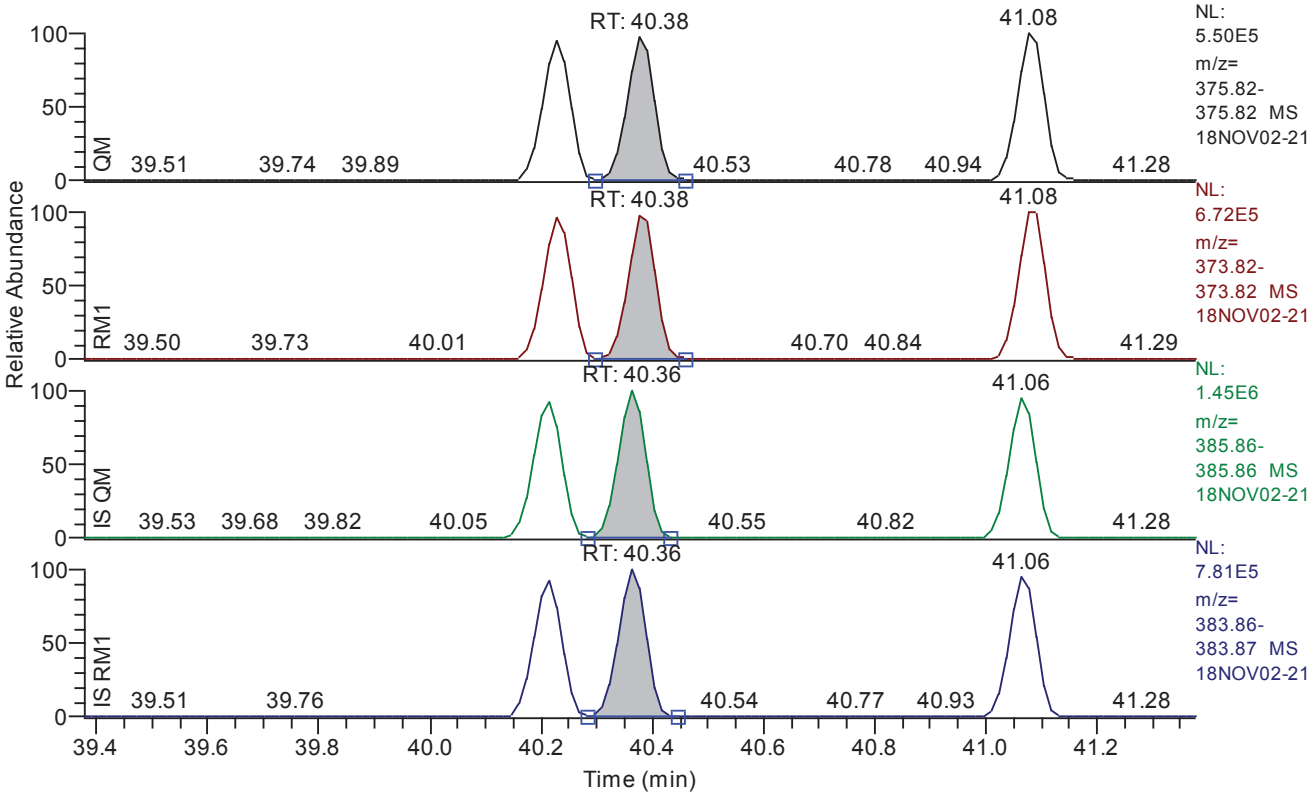
Chromatogram

RT: 39.38 - 41.38 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.38
QM Area	1818316
QM Integration Mode	A
RM1 Area	2278109
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	47.765057
Adjusted Amount (A)	47.7651
Signal-to-Noise	12873
Client Flags	
Status Overview	passed
Status Info	

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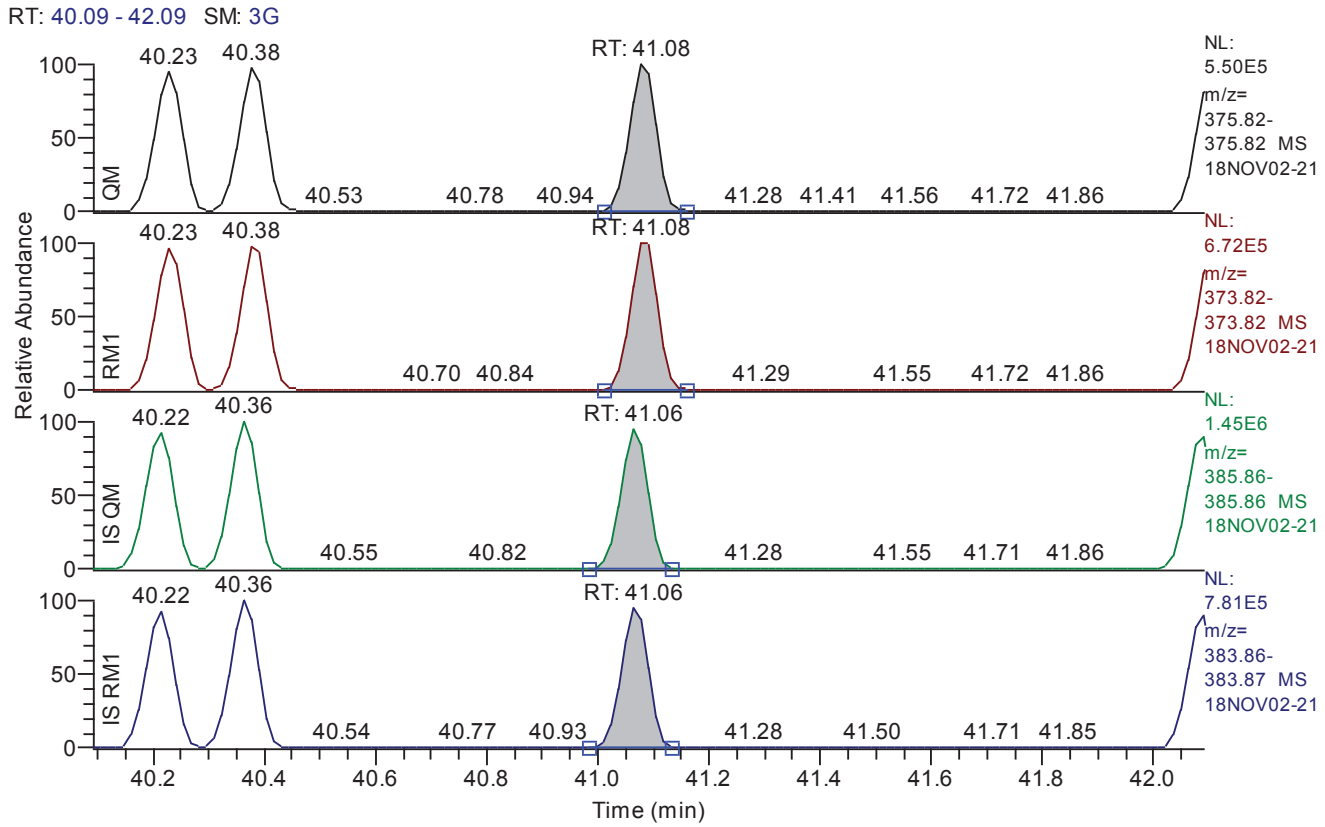
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.08
QM Area	1864233
QM Integration Mode	A
RM1 Area	2324303
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0090
Unqualified Amount (A)	48.311987
Adjusted Amount (A)	48.3120
Signal-to-Noise	13223
Client Flags	
Status Overview	passed
Status Info	

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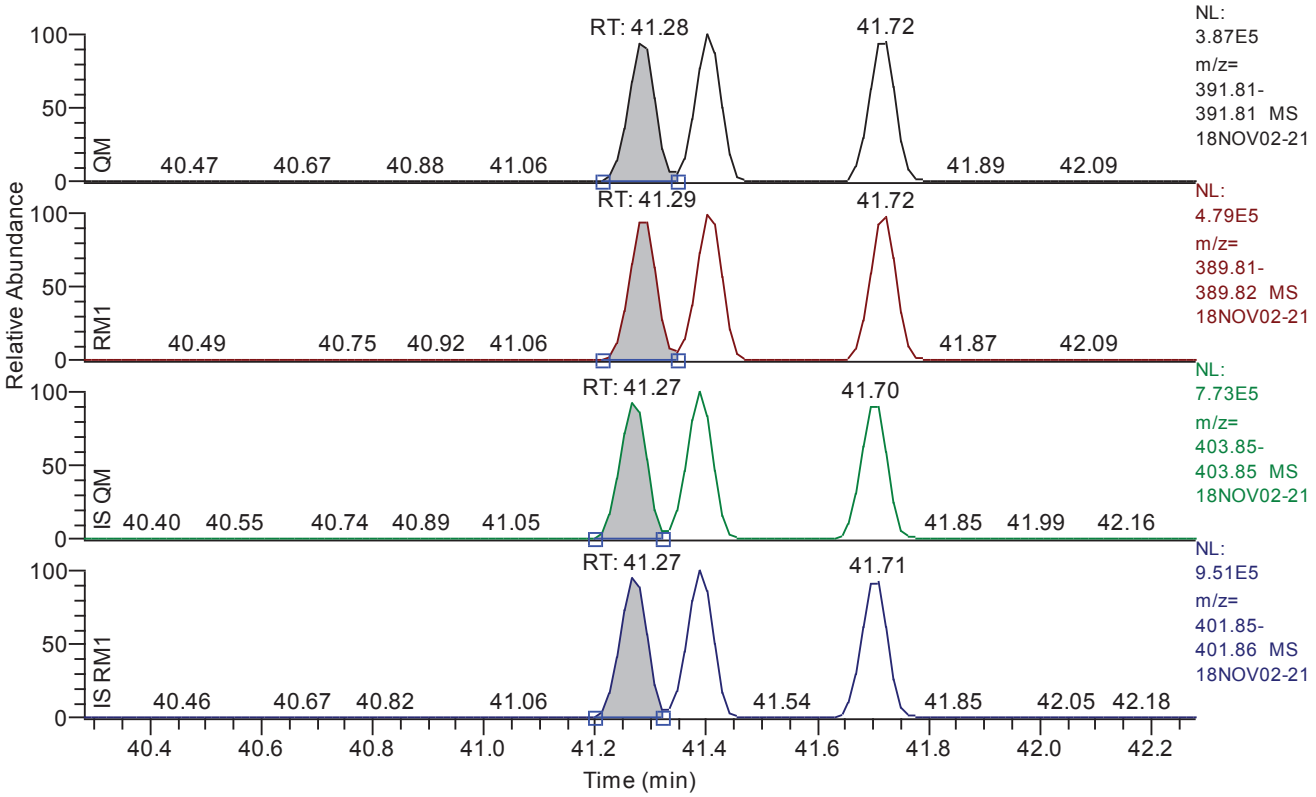
Chromatogram

RT: 40.28 - 42.28 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.28
QM Area	1243999
QM Integration Mode	A
RM1 Area	1568916
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0081
Unqualified Amount (A)	50.787242
Adjusted Amount (A)	50.7872
Signal-to-Noise	15587
Client Flags	
Status Overview	passed
Status Info	

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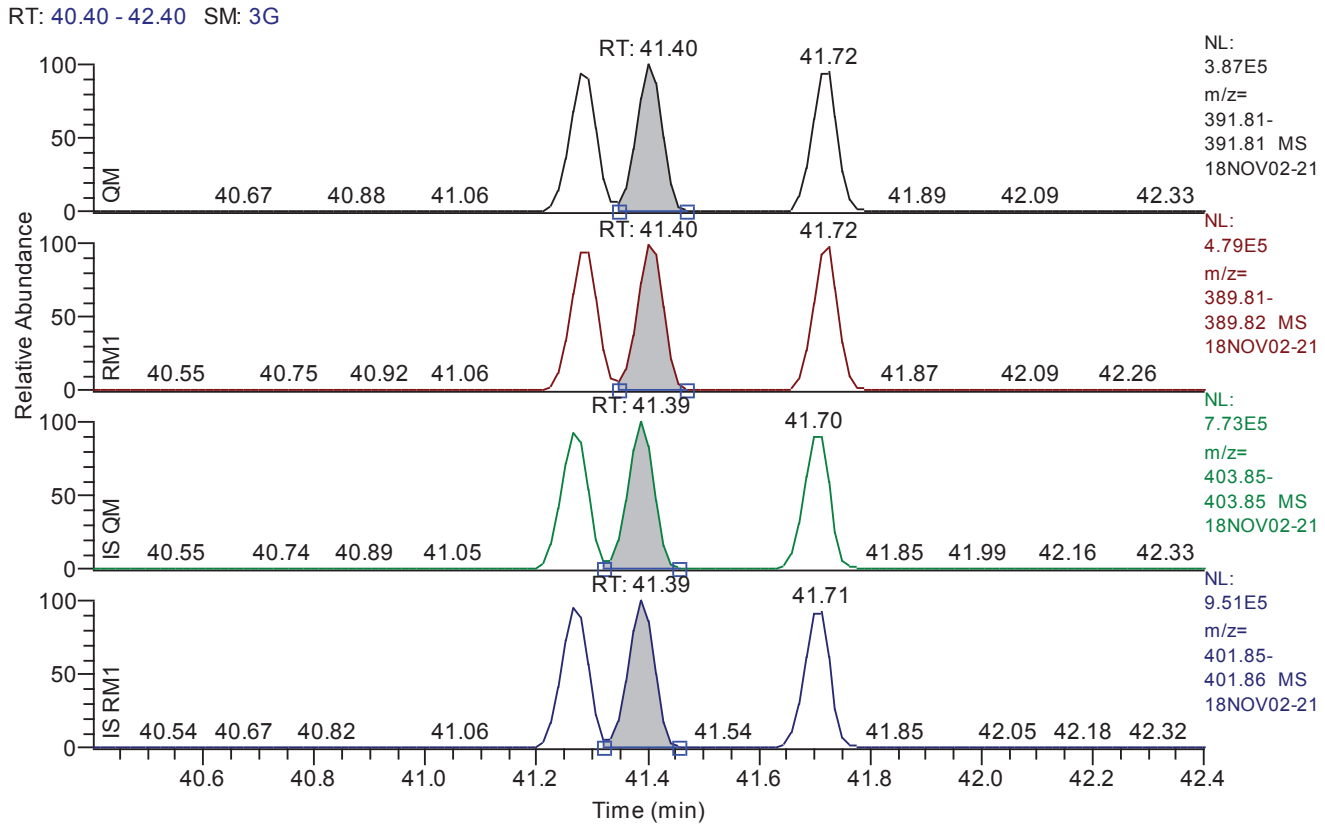
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.40
QM Area	1248463
QM Integration Mode	A
RM1 Area	1563592
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0078
Unqualified Amount (A)	50.136543
Adjusted Amount (A)	50.1365
Signal-to-Noise	16495
Client Flags	
Status Overview	passed
Status Info	

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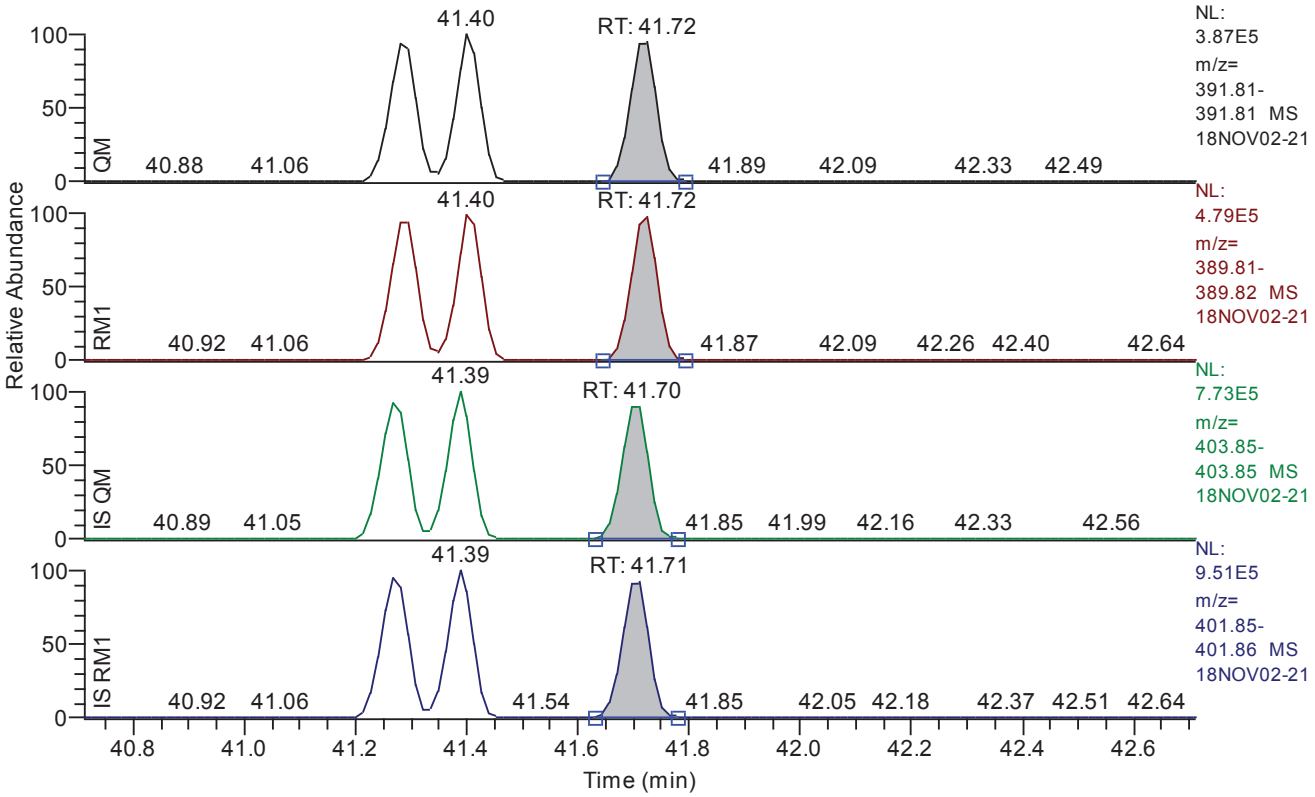
Chromatogram

RT: 40.71 - 42.71 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.72
QM Area	1240590
QM Integration Mode	A
RM1 Area	1567048
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0078
Unqualified Amount (A)	49.683254
Adjusted Amount (A)	49.6833
Signal-to-Noise	16013
Client Flags	
Status Overview	passed
Status Info	

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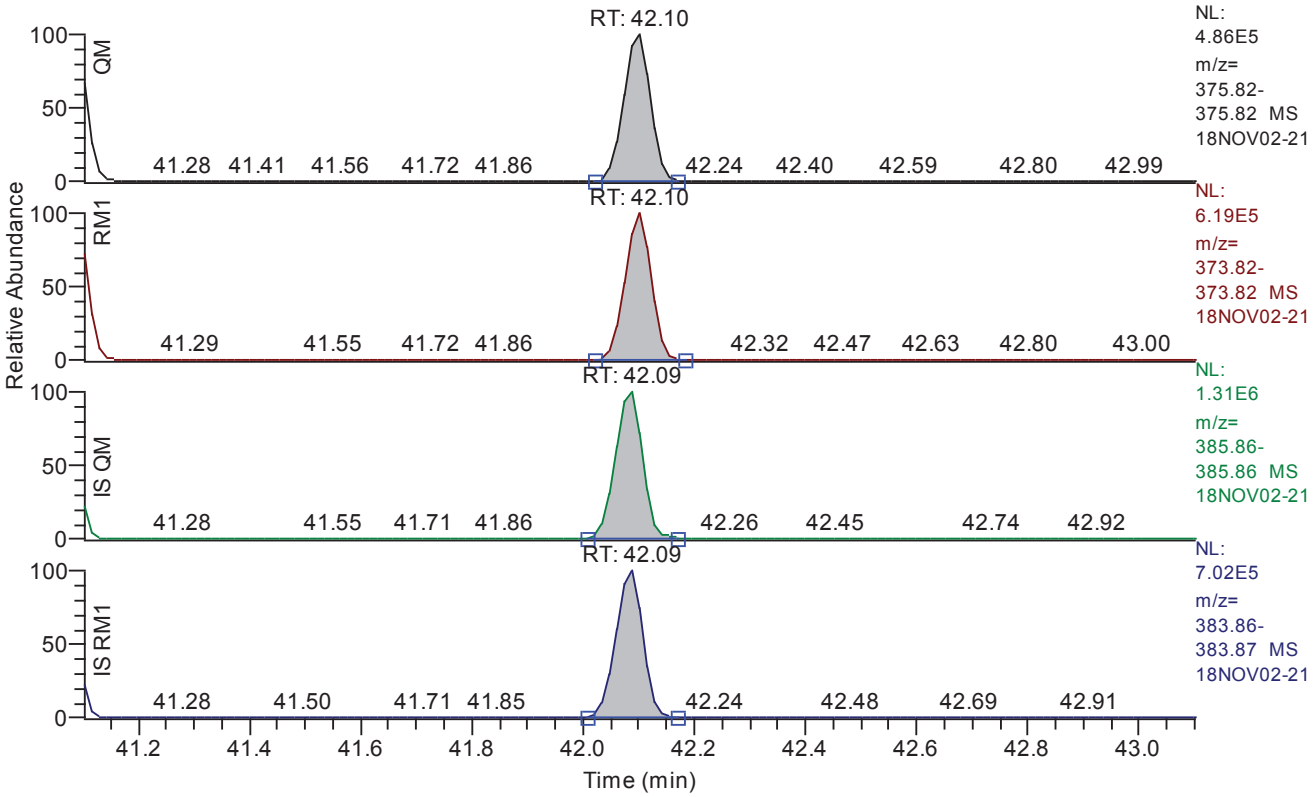
Chromatogram

RT: 41.10 - 43.10 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.10
QM Area	1637862
QM Integration Mode	A
RM1 Area	2051918
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0103
Unqualified Amount (A)	47.824932
Adjusted Amount (A)	47.8249
Signal-to-Noise	11958
Client Flags	
Status Overview	passed
Status Info	

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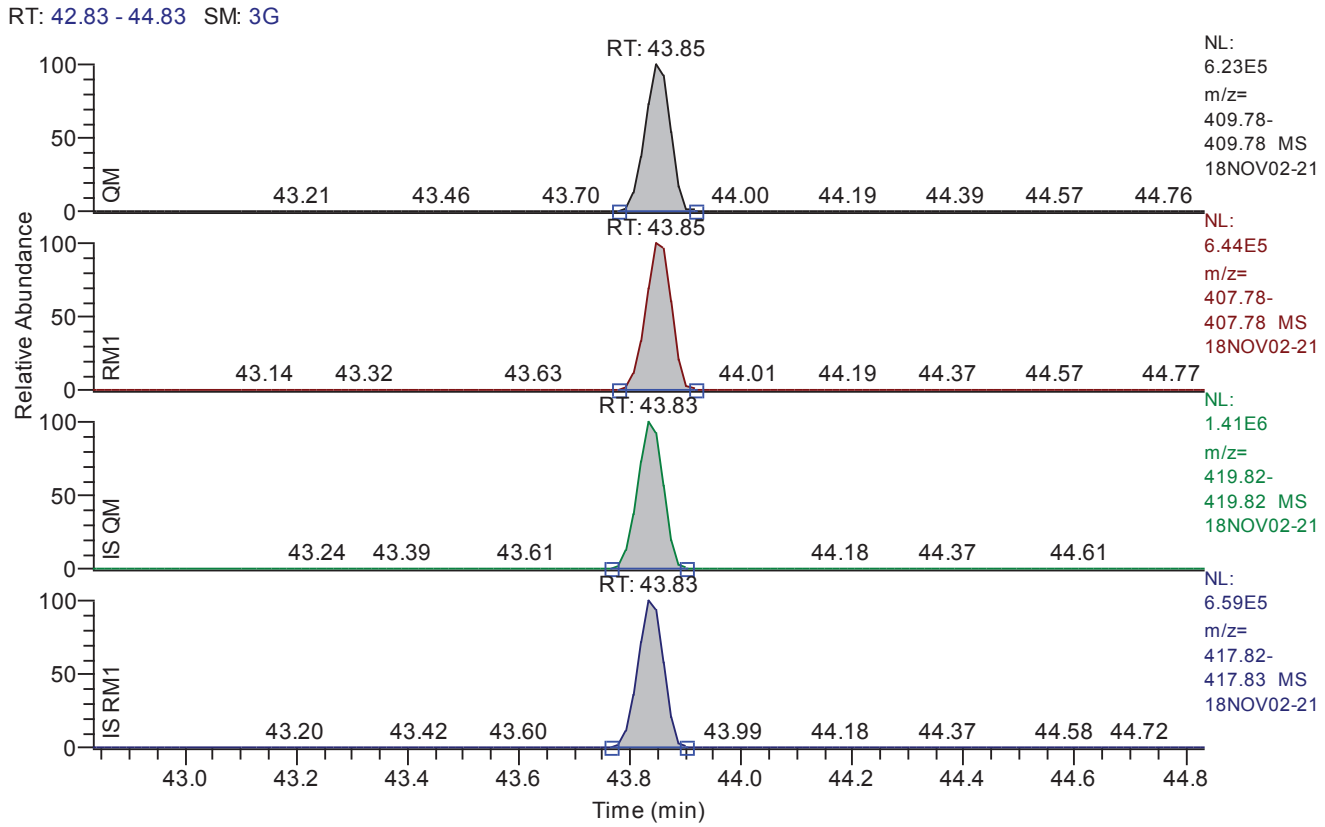
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.85
QM Area	2039751
QM Integration Mode	A
RM1 Area	2140545
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	49.097923
Adjusted Amount (A)	49.0979
Signal-to-Noise	16372
Client Flags	
Status Overview	passed
Status Info	

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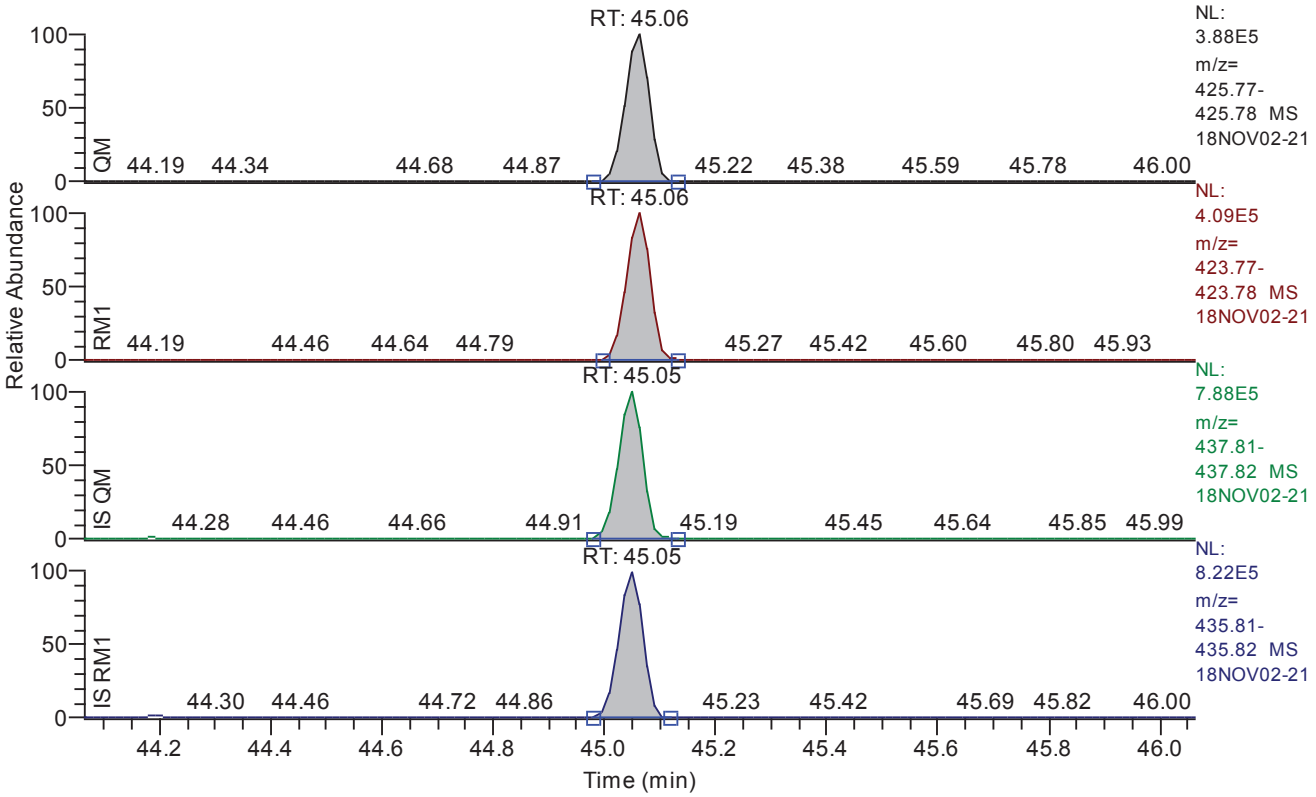
Chromatogram

RT: 44.06 - 46.06 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.06
QM Area	1210294
QM Integration Mode	A
RM1 Area	1256429
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0077
Unqualified Amount (A)	47.892268
Adjusted Amount (A)	47.8923
Signal-to-Noise	15742
Client Flags	
Status Overview	passed
Status Info	

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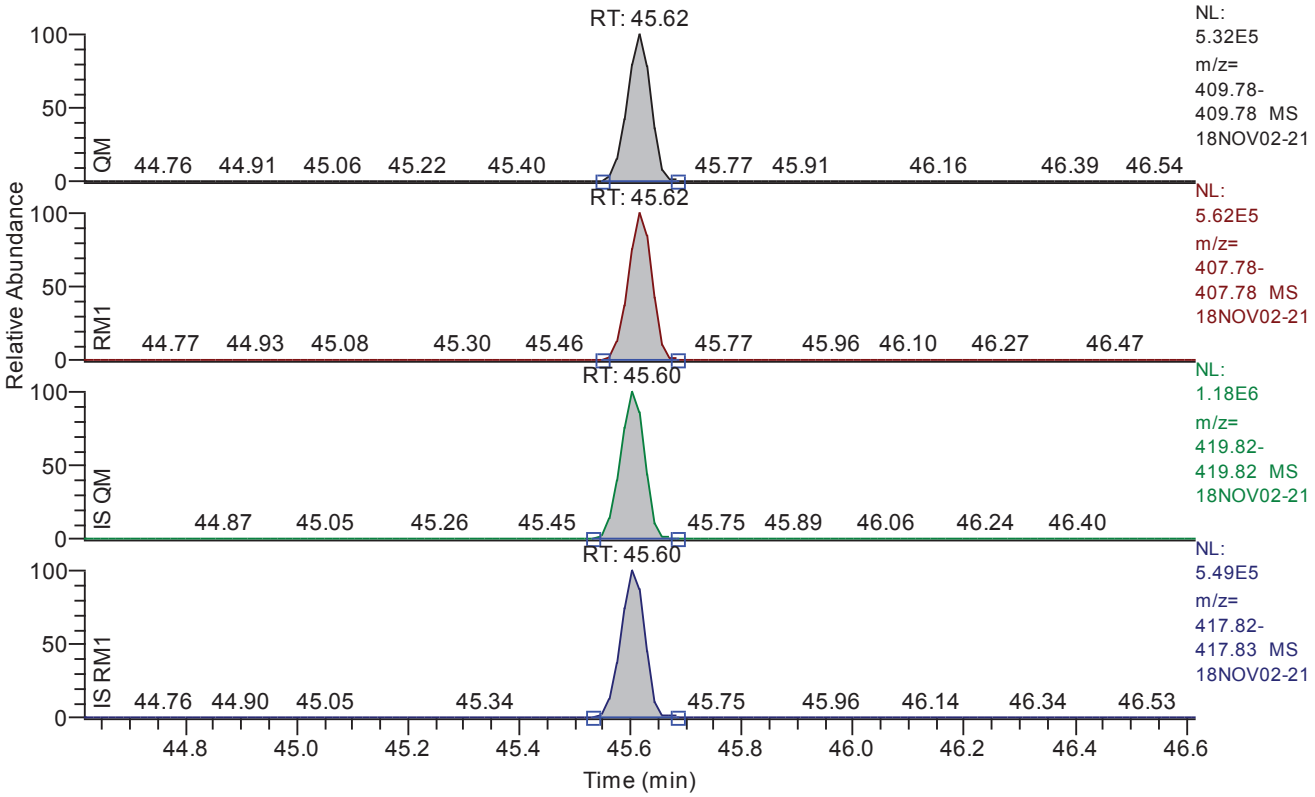
Chromatogram

RT: 44.62 - 46.62 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.62
QM Area	1624727
QM Integration Mode	A
RM1 Area	1726110
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	48.270659
Adjusted Amount (A)	48.2707
Signal-to-Noise	14137
Client Flags	
Status Overview	passed
Status Info	

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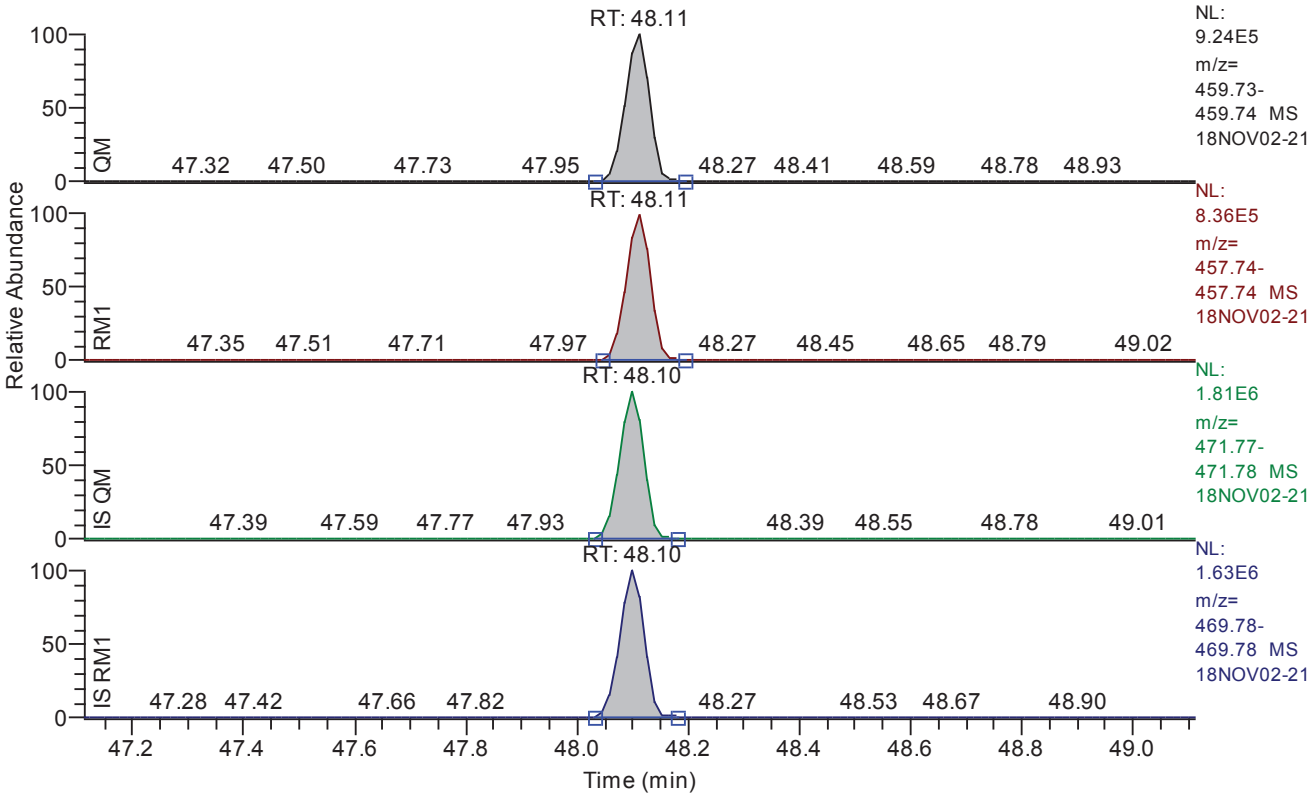
Chromatogram

RT: 47.11 - 49.11 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.11
QM Area	2802329
QM Integration Mode	A
RM1 Area	2513419
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	100.688295
Adjusted Amount (A)	100.6883
Signal-to-Noise	39376
Client Flags	
Status Overview	passed
Status Info	

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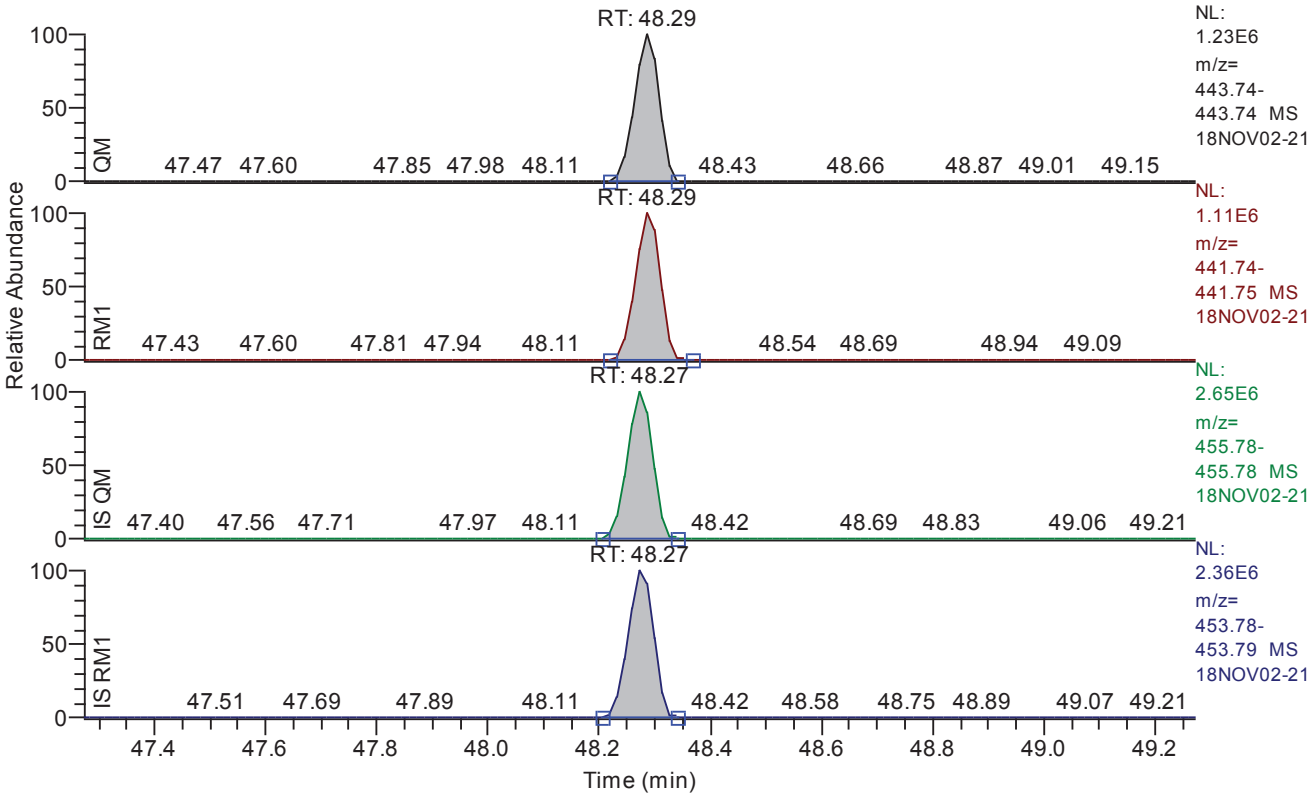
Chromatogram

RT: 47.27 - 49.27 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.29
QM Area	3781947
QM Integration Mode	A
RM1 Area	3442616
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0052
Unqualified Amount (A)	101.053991
Adjusted Amount (A)	101.0540
Signal-to-Noise	50069
Client Flags	
Status Overview	passed
Status Info	

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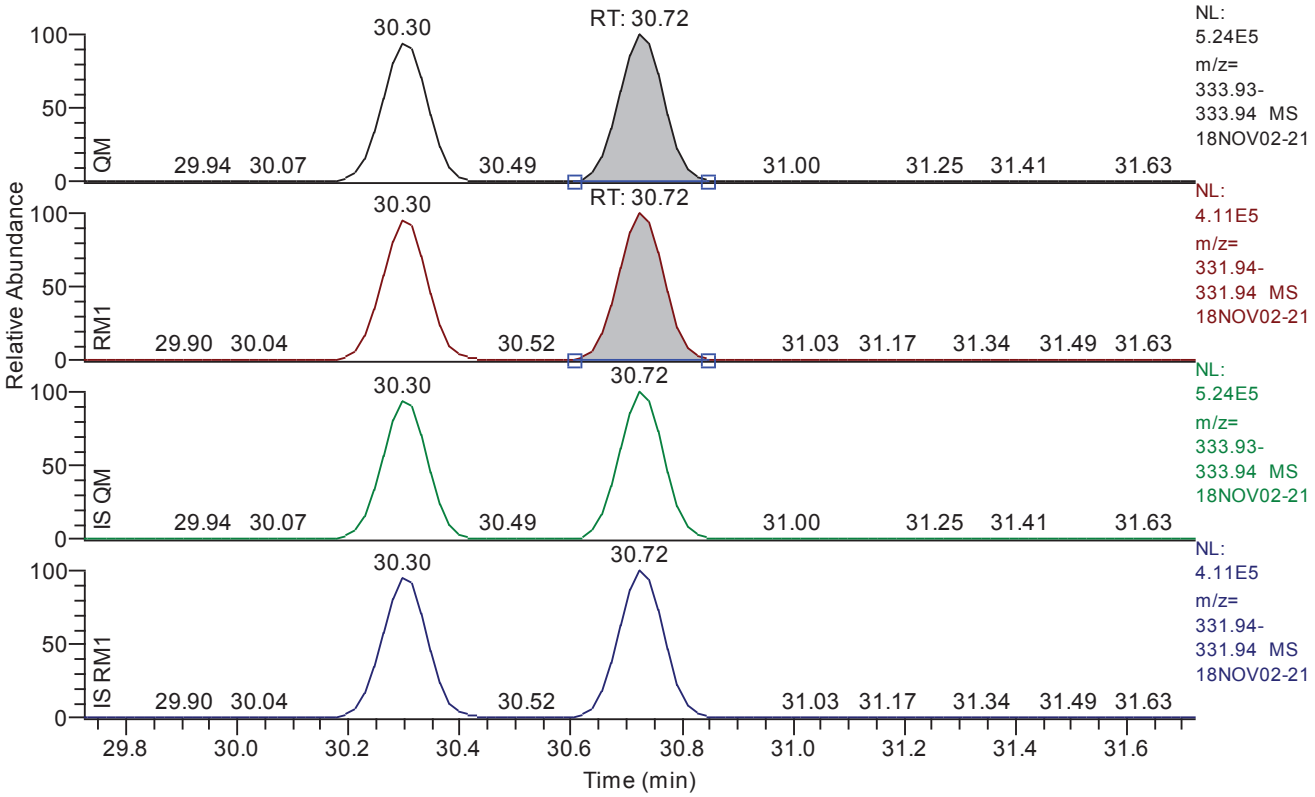
Chromatogram

RT: 29.72 - 31.72 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.72
QM Area	3013152
QM Integration Mode	A
RM1 Area	2384501
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	97.863451
Adjusted Amount (A)	n.d.
Signal-to-Noise	21315
Client Flags	
Status Overview	failed
Status Info	Failed on: RF

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.19	29.19	29.19	29.15	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.34	30.33	30.33	30.30	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.22	35.21	35.21	35.19	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.51	36.49	36.50	36.47	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.91	36.91	36.91	36.89	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.23	40.23	40.23	40.22	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.38	40.38	40.38	40.36	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.10	41.08	41.08	41.06	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.29	41.28	41.29	41.27	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.41	41.40	41.40	41.39	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.73	41.72	41.72	41.70	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.11	42.10	42.10	42.09	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.85	43.85	43.85	43.83	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.07	45.06	45.06	45.05	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.62	45.62	45.62	45.60	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.12	48.11	48.11	48.10	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.29	48.29	48.29	48.27	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.73	30.72	30.72	30.72	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.48	29.48	29.48	29.48	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.14	40.13	40.13	40.13	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.16	29.15	29.15	29.15	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.32	30.30	30.30	30.30	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.20	35.19	35.19	35.24	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.48	36.47	36.47	36.49	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.90	36.89	36.89	36.89	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.22	40.22	40.22	40.19	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.37	40.36	40.36	40.30	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.07	41.06	41.06	41.09	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.27	41.27	41.27	41.27	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.39	41.39	41.39	41.39	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.72	41.70	41.71	41.71	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.09	42.09	42.09	42.13	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.85	43.83	43.83	43.86	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.05	45.05	45.05	45.05	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.61	45.60	45.60	45.66	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.10	48.10	48.10	48.10	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.29	48.27	48.27	48.29	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	29.19	0.7737	0.6450 - 0.8950	passed	0.9429	1.0177	0.8091 - 1.2263	passed
2	2378-TCDD	30.33	0.7859	0.6450 - 0.8950	passed	1.1535	1.2073	0.9598 - 1.4548	passed
3	12378-PeCDF	35.21	1.5937	1.3150 - 1.7850	passed	0.9224	0.9324	0.7413 - 1.1235	passed
4	23478-PeCDF	36.49	1.5521	1.3150 - 1.7850	passed	1.0263	1.0347	0.8226 - 1.2468	passed
5	12378-PeCDD	36.91	1.5656	1.3150 - 1.7850	passed	0.9866	1.0203	0.8111 - 1.2295	passed
6	123478-HxCDF	40.23	1.2557	1.0450 - 1.4350	passed	1.1101	1.1540	0.9174 - 1.3906	passed
7	123678-HxCDF	40.38	1.2529	1.0450 - 1.4350	passed	1.0636	1.1133	0.8851 - 1.3415	passed
8	234678-HxCDF	41.08	1.2468	1.0450 - 1.4350	passed	1.1644	1.2051	0.9581 - 1.4521	passed
9	123478-HxCDD	41.28	1.2612	1.0450 - 1.4350	passed	1.0127	0.9970	0.7926 - 1.2014	passed
10	123678-HxCDD	41.40	1.2524	1.0450 - 1.4350	passed	0.9828	0.9802	0.7793 - 1.1811	passed
11	123789-HxCDD	41.72	1.2631	1.0450 - 1.4350	passed	1.0495	1.0562	0.8397 - 1.2727	passed
12	123789-HxCDF	42.10	1.2528	1.0450 - 1.4350	passed	1.0732	1.1220	0.8920 - 1.3520	passed
13	1234678-HpCDF	43.85	1.0494	0.8750 - 1.2050	passed	1.2114	1.2336	0.9807 - 1.4865	passed
14	1234678-HpCDD	45.06	1.0381	0.8750 - 1.2050	passed	0.9822	1.0254	0.8152 - 1.2356	passed
15	1234789-HpCDF	45.62	1.0624	0.8750 - 1.2050	passed	1.2334	1.2776	1.0157 - 1.5395	passed
16	OCDD	48.11	0.8969	0.7550 - 1.0250	passed	1.0160	1.0090	0.8022 - 1.2158	passed
17	OCDF	48.29	0.9103	0.7550 - 1.0250	passed	0.9089	0.8994	0.7150 - 1.0838	passed
18	13C12-1278-TCDD (CRS)	30.72	0.7914	0.6450 - 0.8950	passed	10.2974	1.0522	0.7313 - 1.3731	failed
19	13C12-1234-TCDD	29.48	0.8197	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.13	1.2527	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.15	0.7939	0.6450 - 0.8950	passed	1.8810	1.9499	1.3552 - 2.5446	passed
22	13C12-2378-TCDD	30.30	0.7975	0.6450 - 0.8950	passed	0.9894	1.0034	0.6974 - 1.3094	passed
23	13C12-12378-PeCDF	35.19	1.5704	1.3150 - 1.7850	passed	1.7493	1.9253	1.3381 - 2.5125	passed
24	13C12-23478-PeCDF	36.47	1.5537	1.3150 - 1.7850	passed	1.7282	1.9383	1.3471 - 2.5295	passed
25	13C12-12378-PeCDD	36.89	1.5854	1.3150 - 1.7850	passed	0.9623	1.0421	0.7243 - 1.3599	passed
26	13C12-123478-HxCDF	40.22	0.5276	0.4250 - 0.5950	passed	1.3344	1.4639	1.0174 - 1.9104	passed
27	13C12-123678-HxCDF	40.36	0.5375	0.4250 - 0.5950	passed	1.3903	1.5311	1.0641 - 1.9981	passed
28	13C12-234678-HxCDF	41.06	0.5366	0.4250 - 0.5950	passed	1.2985	1.4083	0.9788 - 1.8378	passed
29	13C12-123478-HxCDD	41.27	1.2662	1.0450 - 1.4350	passed	1.0026	1.0051	0.6985 - 1.3117	passed
30	13C12-123678-HxCDD	41.39	1.2540	1.0450 - 1.4350	passed	1.0328	1.0230	0.7110 - 1.3350	passed
31	13C12-123789-HxCDD	41.70	1.2456	1.0450 - 1.4350	passed	0.9657	0.9720	0.6755 - 1.2685	passed
32	13C12-123789-HxCDF	42.09	0.5333	0.4250 - 0.5950	passed	1.2411	1.3107	0.9109 - 1.7105	passed
33	13C12-1234678-HpCDF	43.83	0.4616	0.3650 - 0.5150	passed	1.2457	1.3499	0.9382 - 1.7616	passed
34	13C12-1234678-HpCDD	45.05	1.0422	0.8750 - 1.2050	passed	0.9066	0.9594	0.6668 - 1.2520	passed
35	13C12-1234789-HpCDF	45.60	0.4598	0.3650 - 0.5150	passed	0.9807	1.0985	0.7635 - 1.4335	passed
36	13C12-OCDD	48.10	0.9013	0.7550 - 1.0250	passed	0.9443	0.8972	0.6236 - 1.1708	passed
37	13C12-OCDF	48.27	0.9032	0.7550 - 1.0250	passed	1.4346	1.4110	0.9806 - 1.8414	passed

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Entry Parameters

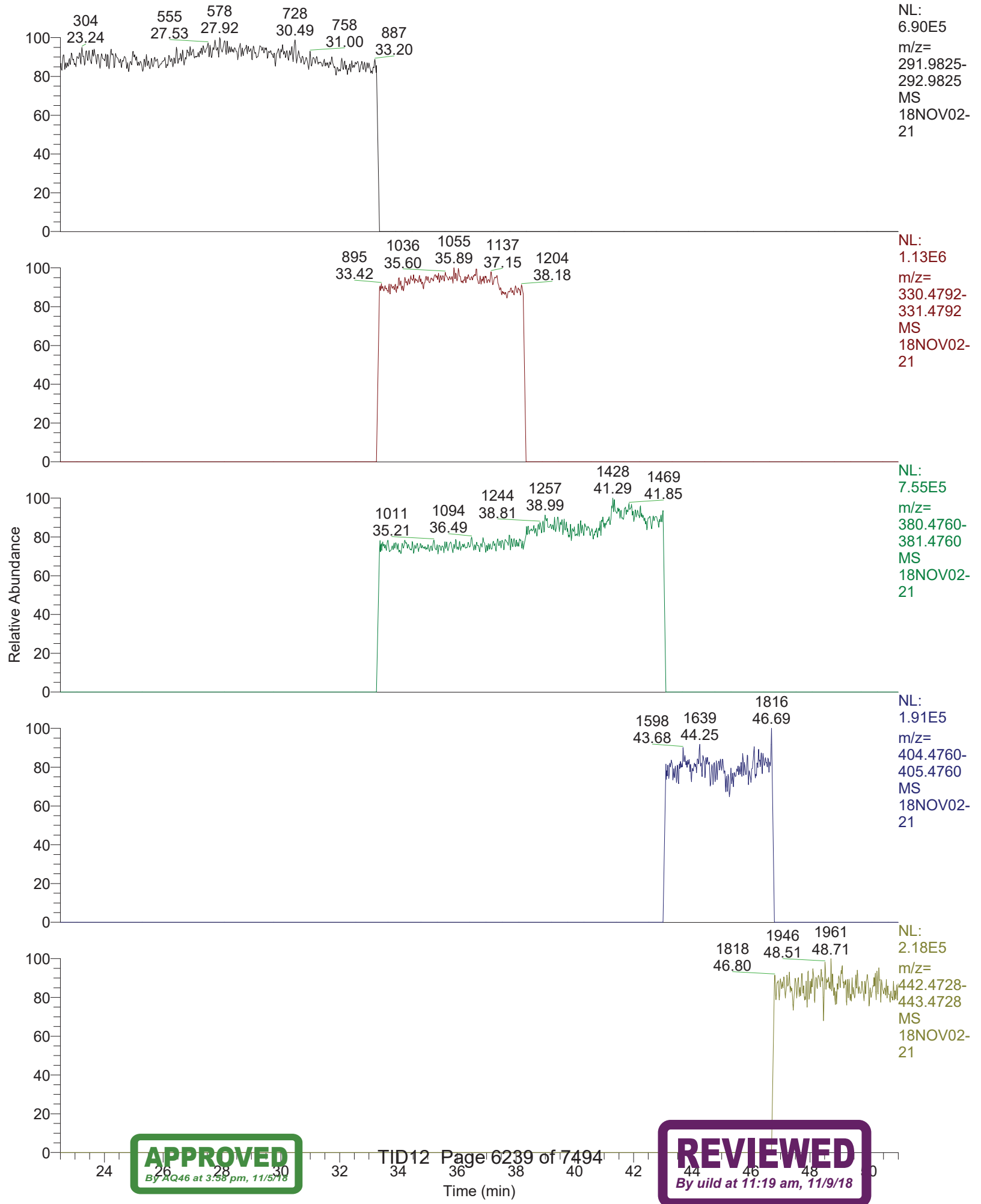
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.19	524132	A	405508	A	0.0048	9.264709	9.2647	10.000000	4939	
2	2378-TCDD	passed	30.33	334951	A	263239	A	0.0068	9.554070	9.5541	10.000000	3553	
3	12378-PeCDF	passed	35.21	1630533	A	2598596	A	0.0045	49.463963	49.4640	50.000000	28008	
4	23478-PeCDF	passed	36.49	1821421	A	2827087	A	0.0040	49.593501	49.5935	50.000000	30784	
5	12378-PeCDD	passed	36.91	969863	A	1518406	A	0.0075	48.350196	48.3502	50.000000	16236	
6	123478-HxCDF	passed	40.23	1819192	A	2284413	A	0.0097	48.096727	48.0967	50.000000	12664	
7	123678-HxCDF	passed	40.38	1818316	A	2278109	A	0.0093	47.765057	47.7651	50.000000	12873	
8	234678-HxCDF	passed	41.08	1864233	A	2324303	A	0.0090	48.311987	48.3120	50.000000	13223	
9	123478-HxCDD	passed	41.28	1243999	A	1568916	A	0.0081	50.787242	50.7872	50.000000	15587	
10	123678-HxCDD	passed	41.40	1248463	A	1563592	A	0.0078	50.136543	50.1365	50.000000	16495	
11	123789-HxCDD	passed	41.72	1240590	A	1567048	A	0.0078	49.683254	49.6833	50.000000	16013	
12	123789-HxCDF	passed	42.10	1637862	A	2051918	A	0.0103	47.824932	47.8249	50.000000	11958	
13	1234678-HpCDF	passed	43.85	2039751	A	2140545	A	0.0076	49.097923	49.0979	50.000000	16372	
14	1234678-HpCDD	passed	45.06	1210294	A	1256429	A	0.0077	47.892268	47.8923	50.000000	15742	
15	1234789-HpCDF	passed	45.62	1624727	A	1726110	A	0.0087	48.270659	48.2707	50.000000	14137	
16	OCDD	passed	48.11	2802329	A	2513419	A	0.0064	100.688295	100.6883	100.000000	39376	
17	OCDF	passed	48.29	3781947	A	3442616	A	0.0052	101.053991	101.0540	100.000000	50069	
18	13C12-1278-TCDD (CRS)	failed	30.72	3013152	A	2384501	A	0.0109	97.863451	n.d.	10.000000	21315	
19	13C12-1234-TCDD	passed	29.48	2880507	A	2361261	A	0.0139	100.000000	100.0000	100.000000	18027	
20	13C12-123468-HxCDD	passed	40.13	2459495	A	3080998	A	0.0129	100.000000	100.0000	100.000000	19429	
21	13C12-2378-TCDF	passed	29.15	5496145	A	4363502	A	0.0061	96.463033	96.4630	100.000000	38614	
22	13C12-2378-TCDD	passed	30.30	2885067	A	2300928	A	0.0138	98.596527	98.5965	100.000000	17603	
23	13C12-12378-PeCDF	passed	35.19	3567226	A	5602144	A	0.0194	90.857963	90.8580	100.000000	15248	
24	13C12-23478-PeCDF	passed	36.47	3547330	A	5511548	A	0.0193	89.162243	89.1622	100.000000	15532	
25	13C12-12378-PeCDD	passed	36.89	1950983	A	3093003	A	0.0124	92.341282	92.3413	100.000000	26651	
26	13C12-123478-HxCDF	passed	40.22	4839917	A	2553569	A	0.0133	91.157468	91.1575	100.000000	16928	
27	13C12-123678-HxCDF	passed	40.36	5010248	A	2692919	A	0.0127	90.808434	90.8084	100.000000	18175	
28	13C12-234678-HxCDF	passed	41.06	4681837	A	2512255	A	0.0138	92.201642	92.2016	100.000000	17438	
29	13C12-123478-HxCDD	passed	41.27	2451287	A	3103759	A	0.0128	99.750795	99.7508	100.000000	20046	
30	13C12-123678-HxCDD	passed	41.39	2538736	A	3183581	A	0.0126	100.963011	100.9630	100.000000	21284	
31	13C12-123789-HxCDD	passed	41.70	2382764	A	2967865	A	0.0132	99.354004	99.3540	100.000000	19531	
32	13C12-123789-HxCDF	passed	42.09	4484575	A	2391567	A	0.0149	94.689251	94.6893	100.000000	16392	
33	13C12-1234678-HpCDF	passed	43.83	4721889	A	2179836	A	0.0142	92.283326	92.2833	100.000000	17141	
34	13C12-1234678-HpCDD	passed	45.05	2459563	A	2563460	A	0.0112	94.495588	94.4956	100.000000	23721	
35	13C12-1234789-HpCDF	passed	45.60	3722019	A	1711477	A	0.0175	89.275267	89.2753	100.000000	14322	
36	13C12-OCDD	passed	48.10	5503536	A	4960605	A	0.0086	210.506250	210.5063	200.000000	70931	
37	13C12-OCDF	passed	48.27	8353035	A	7544178	A	0.0060	203.345255	203.3453	200.000000	93864	

File Name: Y:\18NOV02\18NOV02-21
Sample ID: CS3CC03

Acq. Data: 11/3/2018 4:43:18 AM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02

RT: 22.50 - 51.00



APPROVED
By AQ46 at 3:58 pm, 11/5/18

REVIEWED
By uild at 11:19 am, 11/9/18

*** file opened Sat Nov 03 04:48:47 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 03-Nov-18 04:48:46

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 44d0baaa-8ec9-423d-9ed2-7b00fcbd57b2

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	11:15 min	33:15 min	1.00 sec
# 3	33:15 min	5:00 min	38:15 min	0.90 sec
# 4	38:15 min	4:45 min	43:00 min	0.80 sec
# 5	43:00 min	3:42 min	46:42 min	0.80 sec
# 6	46:42 min	4:17 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          98.5000
 BQUAD            6.3500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000  EDACG           1.0000   EDACZ        -260.0000
 ELEN           -50.0000   EMULT        1775.0000   ENS           219.0000
 ENSBR            6.3500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           172.0000   EXSBR          -0.7300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           3.7000
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0170   FVINLET         0.0372   FVSRC           0.0336
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      652.0000
 LENS_SYM         3.7500   LM            650.0000   LMII          500.0000
 LMASS           98.5000   LKM           442.9723   MASS           98.5000
 MDAC         957780.3869  MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2157.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -15.0000   RECURR          0.9709   RELEN           0.0000
 RES          10705.0895   RPUSHER       -14.8205   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     680.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0214   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          98.5000   XLENS_POT     930.0000
 XLENS_SYM        7.5000   YLENS_POT     862.0000   YLENS_SYM      14.7500

Source Gauge:        2.2e-005 mbar
Analyzer Penning:    7.2e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.4e-002 mbar
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11050.
MID Time Window 2: Resolution is 10951.
MID Time Window 3: Resolution is 11463.
MID Time Window 4: Resolution is 11240.
```

```
MID Time Window 5: Resolution is 10988.
MID Time Window 6: Resolution is 10705.

Amplifier Offset: 87.


*** File closed Sat Nov 03 05:39:48 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 14:55
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1808937C
Sample ID	CPS01
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-06.quan
Data	z:\18may09\18may09-06.raw
Response	z:\responsefiles\df19780-17dec01dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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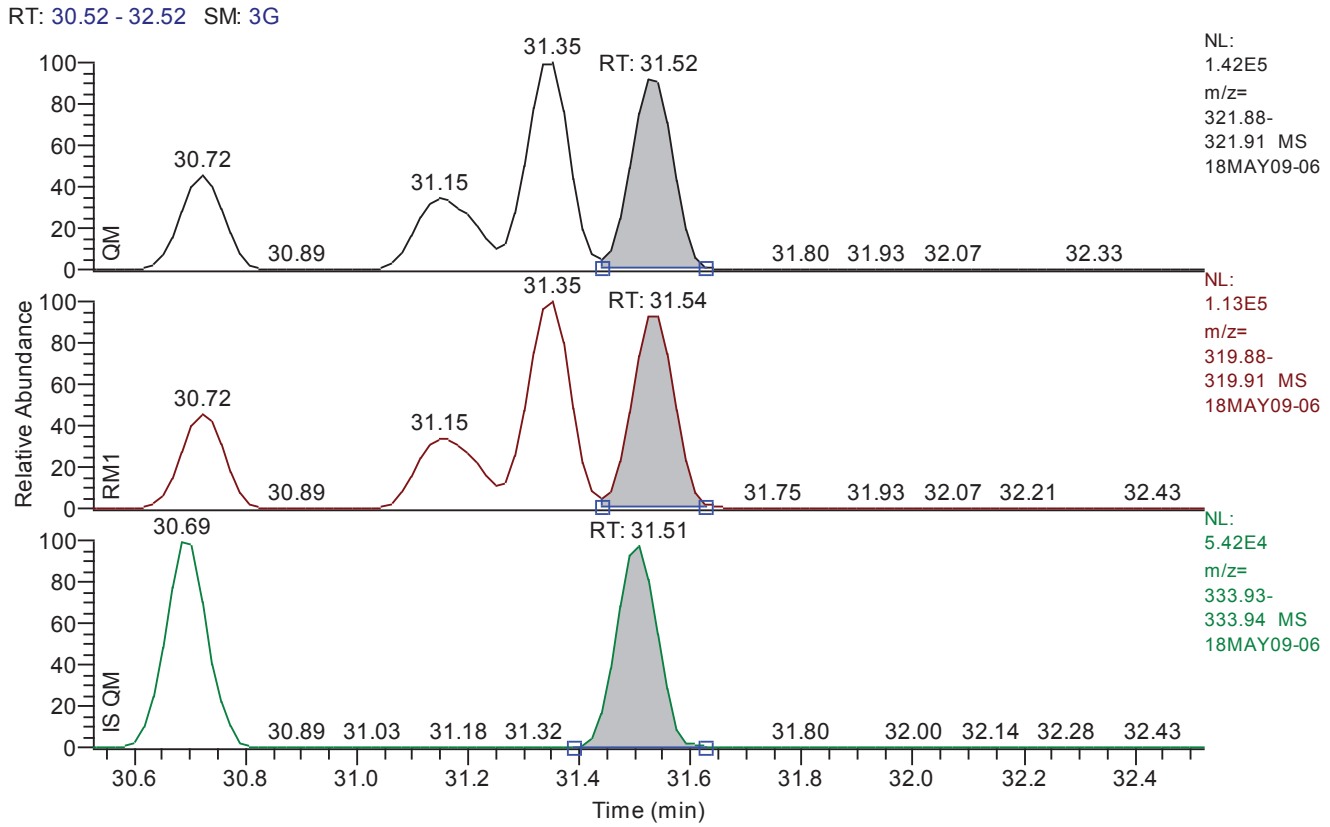
Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	M
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	M
ManInt	1
RM1 Retention Time	31.54
RM1 Left Baseline Height	1374.41
RM1 Left Height	4449
RM1 Height	103956
GC Res (%) left	3.946109

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 14:55
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1808937C
Sample ID	CPS01
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-06.quan
Data	z:\18may09\18may09-06.raw
Response	z:\responsefiles\df19780-17dec01dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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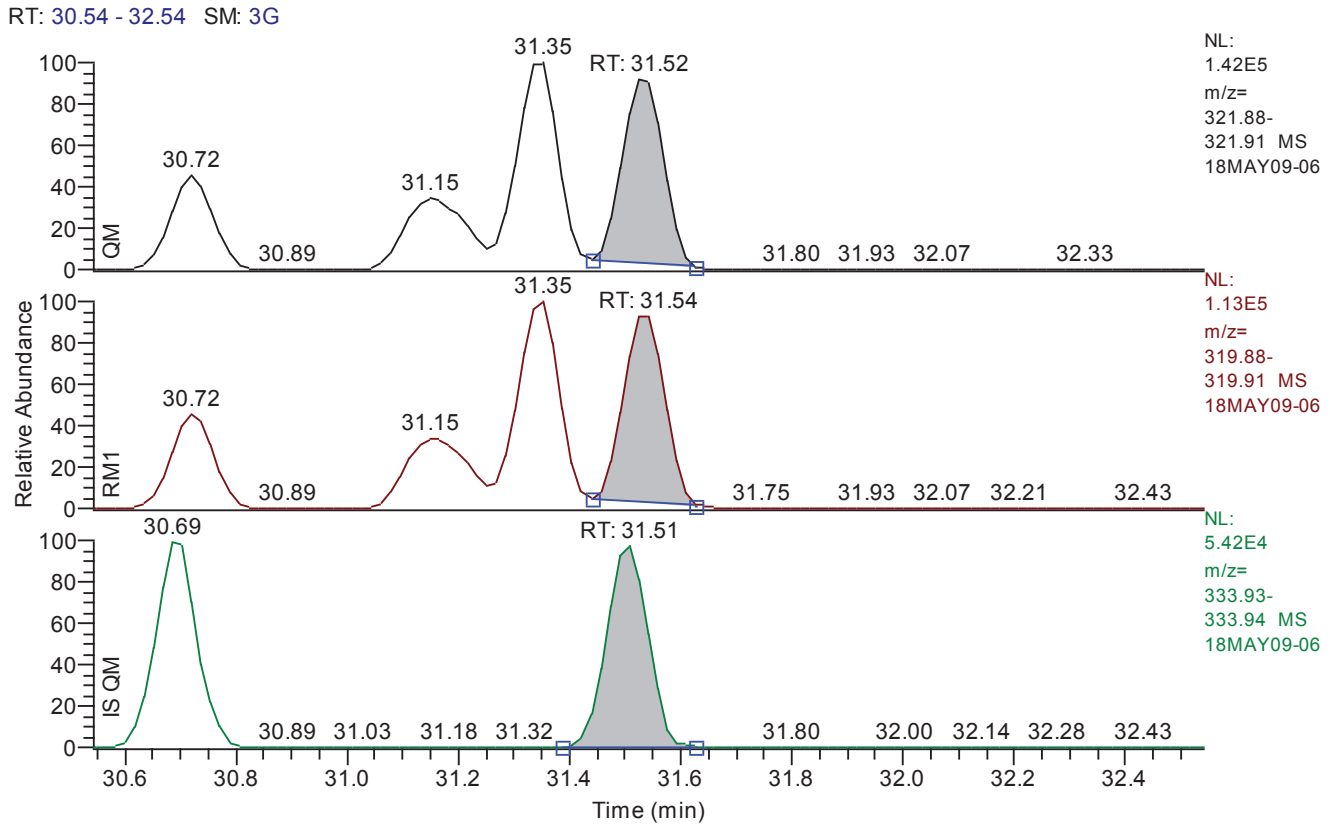
Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

Entry Parameters

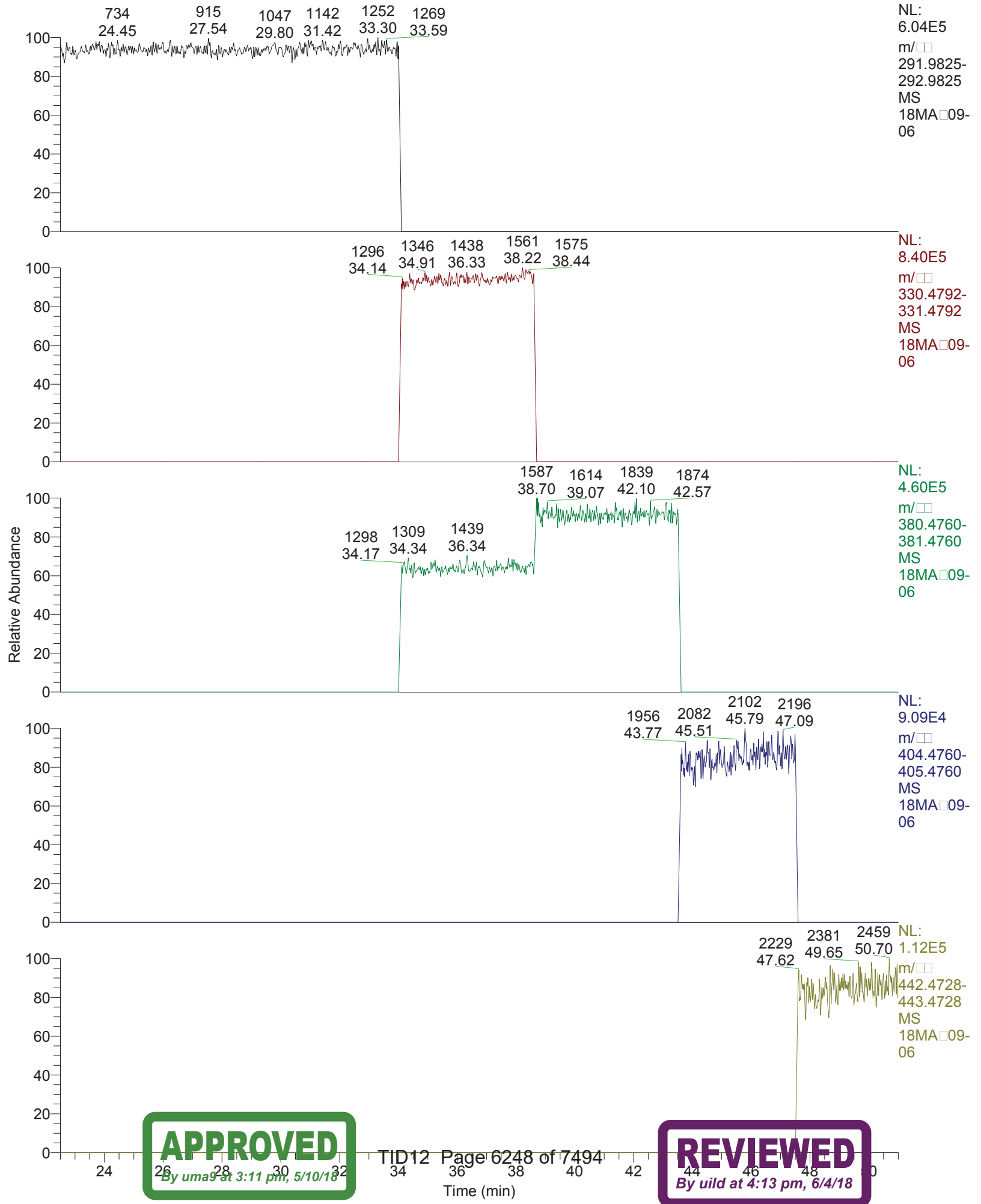
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	31.54
RM1 Left Baseline Height	5823.68
RM1 Left Height	0
RM1 Height	101935
GC Res (%) left	0.000000

File Name: □:□18MA□09□18MA□09-06
Sample ID: CPS01

Acq. Data: 5/9/2018 2:55:51 PM
Sample Name: TDTFWD - ST1808937C
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By umas at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

*** file opened Wed May 09 14:58:47 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 09-May-18 14:58:47

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

```
MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          99.0000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0166   FVINLET         0.0354   FVSRC           0.0309
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           99.0000   LKM           442.9723   MASS           99.0000
 MDAC        1504026.1113  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2507.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9685   RELEN           0.0000
 RES          11699.8824   RPUSHER       -20.0952   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.3e-008 mbar
Pirani Analyse:      1.6e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10769.
MID Time Window 2: Resolution is 11320.
MID Time Window 3: Resolution is 11570.
MID Time Window 4: Resolution is 11318.
```

```
  MID Time Window 5: Resolution is 11391.
  MID Time Window 6: Resolution is 11699.

  Amplifier Offset: 85.


*** File closed Wed May 09 15:49:48 2018
  ***
```

		DF19780-18MAY09DFICAL							
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
	18MAY09-10	18MAY09-11	18MAY09-13	18MAY09-14	18MAY09-15	18MAY09-16			
2378-TCDF	1.3280	1.0700	1.0670	1.0205	1.0700	1.0509	1.1011	0.1128	10.24
2378-TCDD	1.3277	1.1689	1.1931	1.1506	1.2436	1.2395	1.2206	0.0643	5.27
12378-PeCDF	1.0618	0.9574	0.9983	0.9368	1.0051	0.9816	0.9902	0.0434	4.38
23478-PeCDF	1.1294	1.0980	1.1283	1.0554	1.1379	1.1063	1.1092	0.0304	2.74
12378-PeCDD	1.0432	1.0232	1.0506	1.0034	1.0725	1.0305	1.0372	0.0239	2.30
123478-HxCDF	1.2195	1.1878	1.2087	1.1515	1.2169	1.2058	1.1984	0.0255	2.13
123678-HxCDF	1.2058	1.1205	1.1536	1.1029	1.1727	1.1642	1.1533	0.0371	3.22
234678-HxCDF	1.2965	1.2176	1.2630	1.1747	1.2563	1.2325	1.2401	0.0420	3.38
123478-HxCDD	0.9649	0.9978	1.0498	0.9953	1.0748	1.0365	1.0199	0.0408	4.00
123678-HxCDD	1.0537	1.0122	1.0403	0.9867	1.0585	1.0240	1.0292	0.0272	2.64
123789-HxCDD	1.1110	1.0916	1.1002	1.0457	1.1217	1.0878	1.0930	0.0263	2.41
123789-HxCDF	1.2653	1.1363	1.1526	1.0889	1.1499	1.1274	1.1534	0.0594	5.15
1234678-HpCDF	1.3391	1.2683	1.3224	1.2253	1.3079	1.2983	1.2936	0.0411	3.18
1234678-HpCDD	1.1218	1.0452	1.0878	1.0133	1.0927	1.0306	1.0652	0.0419	3.93
1234789-HpCDF	1.2550	1.2732	1.3346	1.2523	1.3431	1.3092	1.2946	0.0400	3.09
OCDD	1.0679	1.0318	1.0511	0.9955	1.0447	1.0662	1.0429	0.0269	2.58
OCDF	0.9586	0.9198	0.9521	0.8981	0.9410	0.9703	0.9400	0.0267	2.84
13C12-1234-TCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-123468-HxCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-2378-TCDF	1.7416	1.7637	1.8823	1.9217	1.8688	1.9278	1.8510	0.0798	4.31
13C12-2378-TCDD	0.8877	0.8773	0.9569	0.9384	0.9461	0.9666	0.9288	0.0373	4.01
13C12-12378-PeCDF	1.6120	1.6046	1.7128	1.7859	1.6939	1.8623	1.7119	0.0999	5.84
13C12-23478-PeCDF	1.6061	1.5624	1.6742	1.6878	1.6597	1.8845	1.6791	0.1110	6.61
13C12-12378-PeCDD	0.8760	0.8527	0.9153	0.9222	0.9153	1.0128	0.9157	0.0548	5.99
13C12-123478-HxCDF	1.2146	1.2439	1.3177	1.3610	1.3171	1.4666	1.3202	0.0895	6.78
13C12-123678-HxCDF	1.3092	1.2946	1.3877	1.4592	1.3935	1.5898	1.4057	0.1085	7.72
13C12-234678-HxCDF	1.1732	1.1855	1.2444	1.2900	1.2604	1.4156	1.2615	0.0877	6.95
13C12-123478-HxCDD	0.8496	0.8605	0.9138	0.9564	0.9234	1.0398	0.9239	0.0695	7.52
13C12-123678-HxCDD	0.8572	0.8674	0.9105	0.9670	0.9377	1.0846	0.9374	0.0832	8.88
13C12-123789-HxCDD	0.8218	0.8269	0.8884	0.9178	0.8922	1.0081	0.8925	0.0683	7.65
13C12-123789-HxCDF	1.1235	1.1318	1.1869	1.2040	1.2112	1.3768	1.2057	0.0915	7.59
13C12-1234678-HpCDF	1.0416	1.0390	1.0897	1.1632	1.1048	1.2388	1.1128	0.0769	6.91
13C12-1234678-HpCDD	0.7598	0.7552	0.8012	0.8337	0.8012	0.9128	0.8106	0.0580	7.15
13C12-1234789-HpCDF	0.8660	0.8562	0.9050	0.9269	0.9146	1.0140	0.9138	0.0564	6.17
13C12-OCDD	0.6758	0.6541	0.7067	0.7355	0.7141	0.7892	0.7126	0.0473	6.64
13C12-OCDF	1.0349	1.0000	1.0612	1.1084	1.0796	1.2422	1.0877	0.0843	7.75
Total TCDF	1.3280	1.0700	1.0670	1.0205	1.0700	1.0509	1.1011	0.1128	10.24
Total TCDD	1.3277	1.1689	1.1931	1.1506	1.2436	1.2395	1.2206	0.0643	5.27
Total PeCDD	1.0432	1.0232	1.0506	1.0034	1.0725	1.0305	1.0372	0.0239	2.30
Total PeCDF	1.0955	1.0268	1.0626	0.9944	1.0708	1.0443	1.0491	0.0355	3.39
Total HpCDD	1.1218	1.0452	1.0878	1.0133	1.0927	1.0306	1.0652	0.0419	3.93
Total HxCDF	1.2452	1.1651	1.1940	1.1296	1.1989	1.1825	1.1859	0.0384	3.24
Total HxCDD	1.0425	1.0330	1.0631	1.0087	1.0845	1.0487	1.0467	0.0259	2.47
Total HpCDF	1.3009	1.2705	1.3279	1.2373	1.3239	1.3032	1.2940	0.0345	2.67
13C12-1278-TCDD (CRS)	---	1.6431	1.3308	1.1035	1.1292	1.1200	1.2653	0.2307	18.23

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 18:39
Number of Entries	63
Comment	
Vial	3
Sample Name	CALDF11837B
Sample ID	CSL01
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-10.quan
Data	z:\18may09\18may09-10.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	30.48	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	31.54	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.15	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.41	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.78	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.00	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.16	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.85	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.04	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.16	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.47	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.88	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.55	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.75	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.32	passed	passed	passed	passed	passed	passed	
16	OCDD	48.75	passed	passed	passed	passed	passed	passed	
17	OCDF	48.95	passed	passed	passed	passed	passed	passed	
18	13C12-1234-TCDD	30.71	passed	passed	passed	passed	passed	passed	
19	13C12-123468-HxCDD	40.89	passed	passed	passed	passed	passed	passed	
20	13C12-2378-TCDF	30.47	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDD	31.51	passed	passed	passed	passed	passed	passed	
22	13C12-12378-PeCDF	36.13	passed	passed	passed	passed	passed	passed	
23	13C12-23478-PeCDF	37.40	passed	passed	passed	passed	passed	passed	
24	13C12-12378-PeCDD	37.77	passed	passed	passed	passed	passed	passed	
25	13C12-123478-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
26	13C12-123678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
27	13C12-234678-HxCDF	41.84	passed	passed	passed	passed	passed	passed	
28	13C12-123478-HxCDD	42.03	passed	passed	passed	passed	passed	passed	
29	13C12-123678-HxCDD	42.15	passed	passed	passed	passed	passed	passed	
30	13C12-123789-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDF	42.86	passed	passed	passed	passed	passed	passed	
32	13C12-1234678-HpCDF	44.53	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDD	45.74	passed	passed	passed	passed	passed	passed	
34	13C12-1234789-HpCDF	46.32	passed	passed	passed	passed	passed	passed	
35	13C12-OCDD	48.75	passed	passed	passed	passed	passed	passed	
36	13C12-OCDF	48.94	passed	passed	passed	passed	passed	passed	
37	Total TCDF	29.20	passed (1)	---	---	---	---	---	
38	Total TCDD	29.99	passed (1)	---	---	---	---	---	
39	Total PeCDF	36.42	passed (2)	---	---	---	---	---	
40	Total PeCDD	36.59	passed (1)	---	---	---	---	---	
41	Total HxCDF	41.46	passed (4)	---	---	---	---	---	
42	Total HxCDD	42.19	passed (3)	---	---	---	---	---	
43	Total HpCDD	45.29	passed (1)	---	---	---	---	---	
44	Total HpCDF	45.40	passed (2)	---	---	---	---	---	
45	Single TCDF	30.48	passed	passed	passed	passed	passed	passed	
46	Single TCDD	31.54	passed	passed	passed	passed	passed	passed	
47	Single PeCDD	37.78	passed	passed	passed	passed	passed	passed	
48	Single PeCDF	37.41	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.15	passed	passed	passed	passed	passed	passed	
50	Single HpCDD	45.75	passed	passed	passed	passed	passed	passed	
51	Single HxCDF	41.16	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.00	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.85	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	42.88	passed	passed	passed	passed	passed	passed	
55	Single HxCDD	42.47	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	42.04	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	42.16	passed	passed	passed	passed	passed	passed	
58	Single HpCDF	44.55	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	46.32	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 18:39
Number of Entries	63
Comment	
Vial	3
Sample Name	CALDF11837B
Sample ID	CSL01
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-10.quan
Data	z:\18may09\18may09-10.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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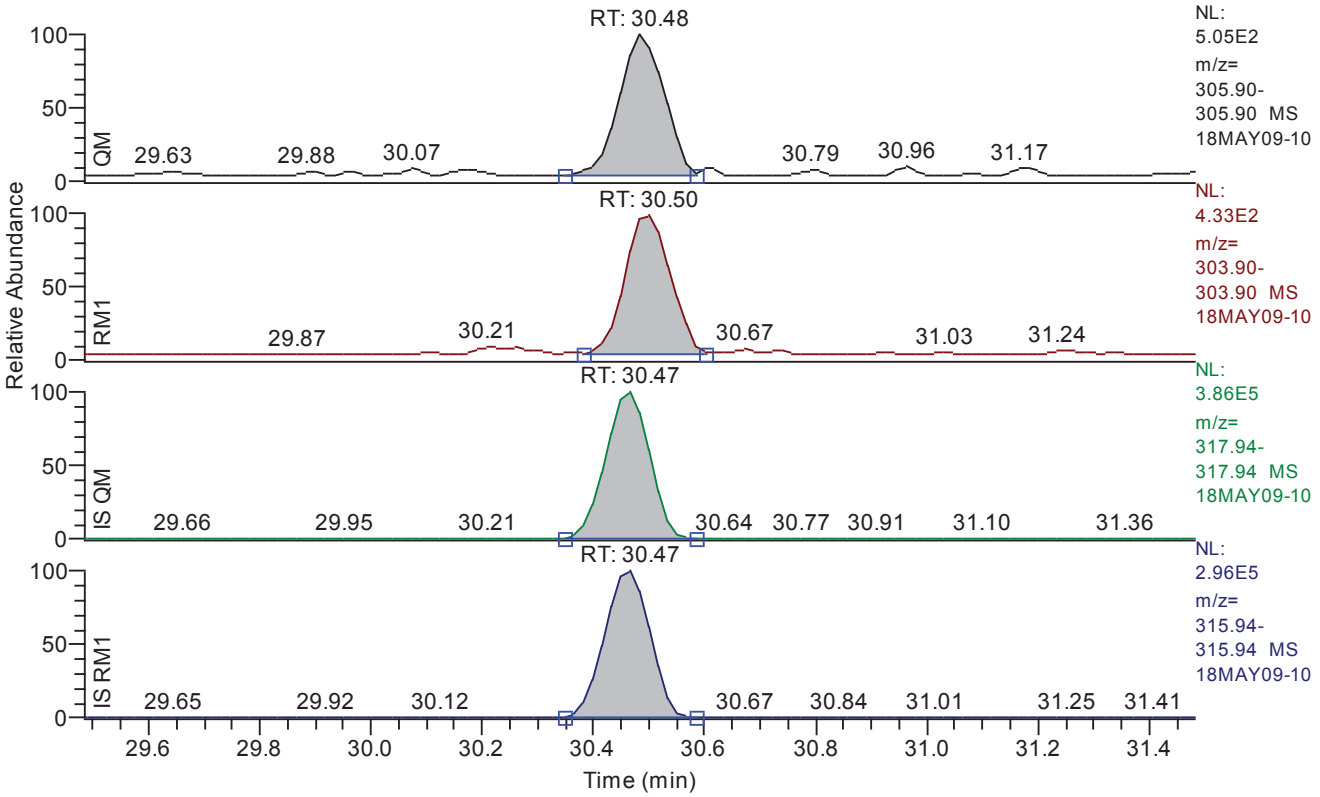
Chromatogram

RT: 29.48 - 31.48 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	30.48
QM Area	2777
QM Integration Mode	A
RM1 Area	2370
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0021
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.0922
Signal-to-Noise	109
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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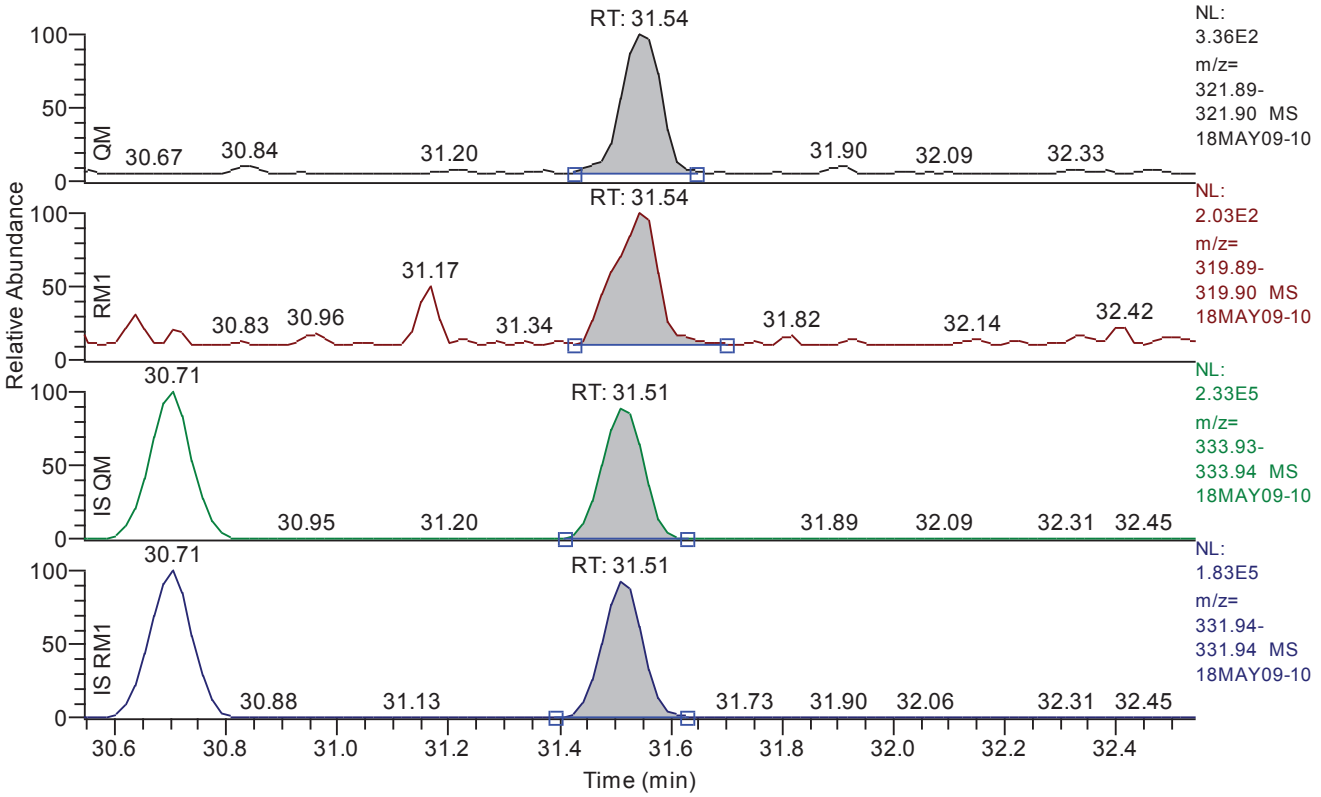
Chromatogram

RT: 30.54 - 32.54 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	31.54
QM Area	1587
QM Integration Mode	A
RM1 Area	1036
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0033
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.0872
Signal-to-Noise	66
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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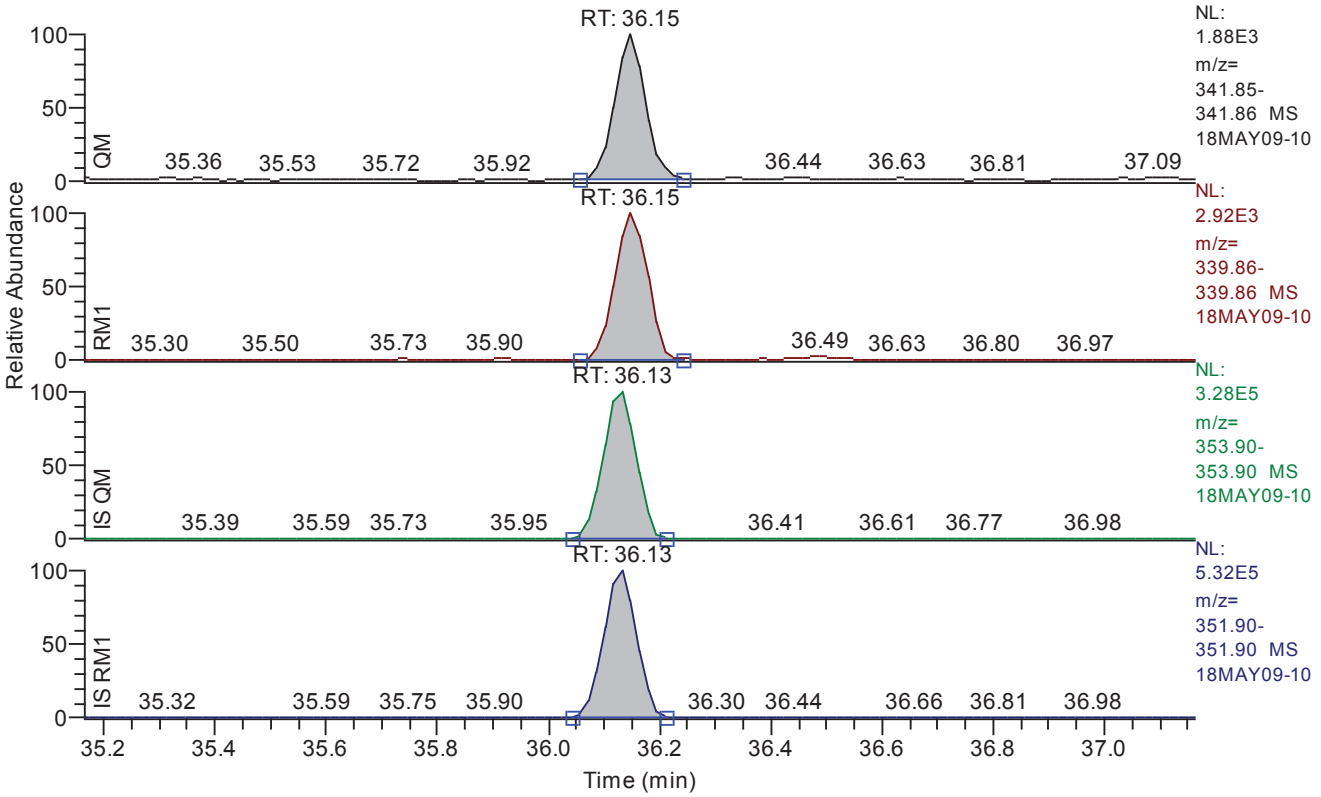
Chromatogram

RT: 35.16 - 37.16 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	36.15
QM Area	7163
QM Integration Mode	A
RM1 Area	11882
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0028
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4829
Signal-to-Noise	454
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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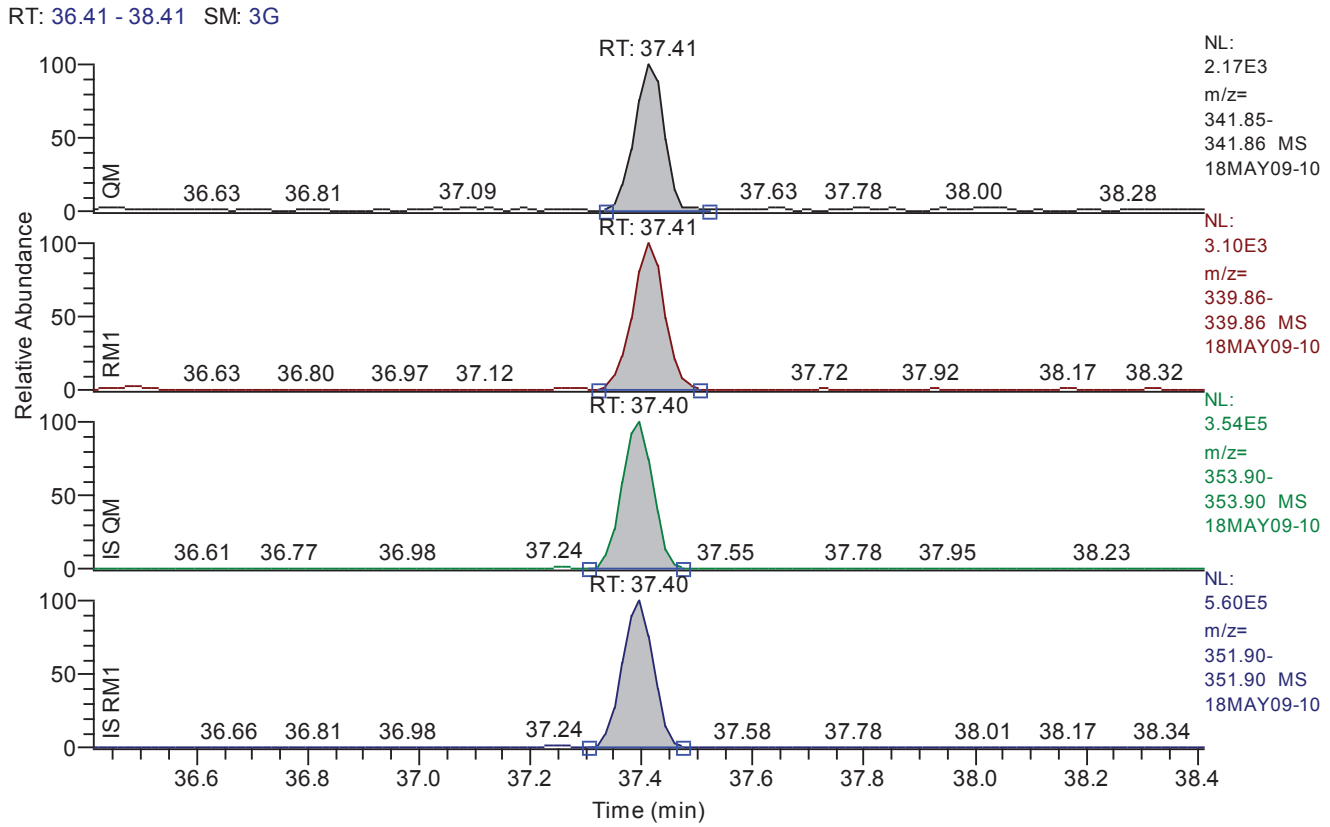
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	37.41
QM Area	7933
QM Integration Mode	A
RM1 Area	12250
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0023
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4575
Signal-to-Noise	498
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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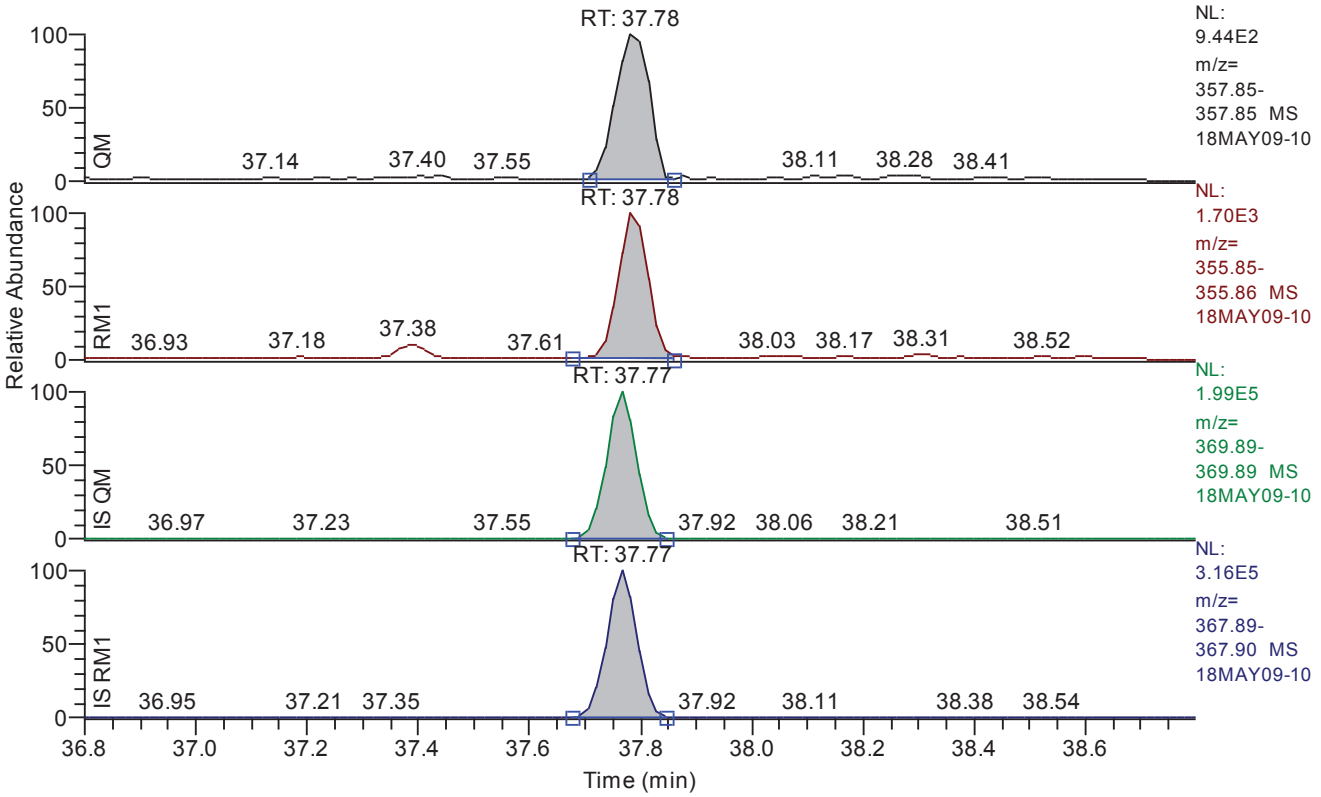
Chromatogram

RT: 36.80 - 38.80 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.78
QM Area	3885
QM Integration Mode	A
RM1 Area	6282
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4280
Signal-to-Noise	159
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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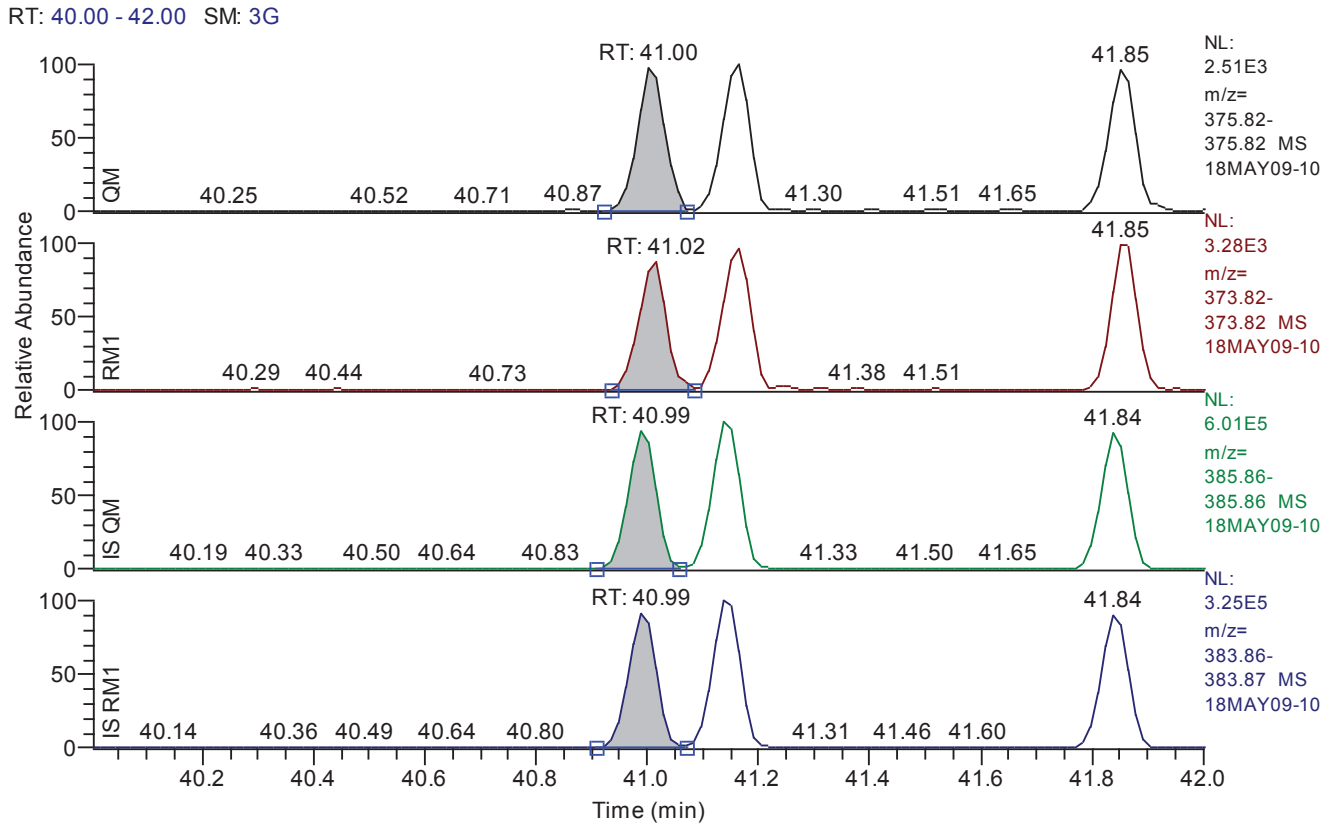
Chromatogram



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	41.00
QM Area	8496
QM Integration Mode	A
RM1 Area	9801
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0027
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4930
Signal-to-Noise	467
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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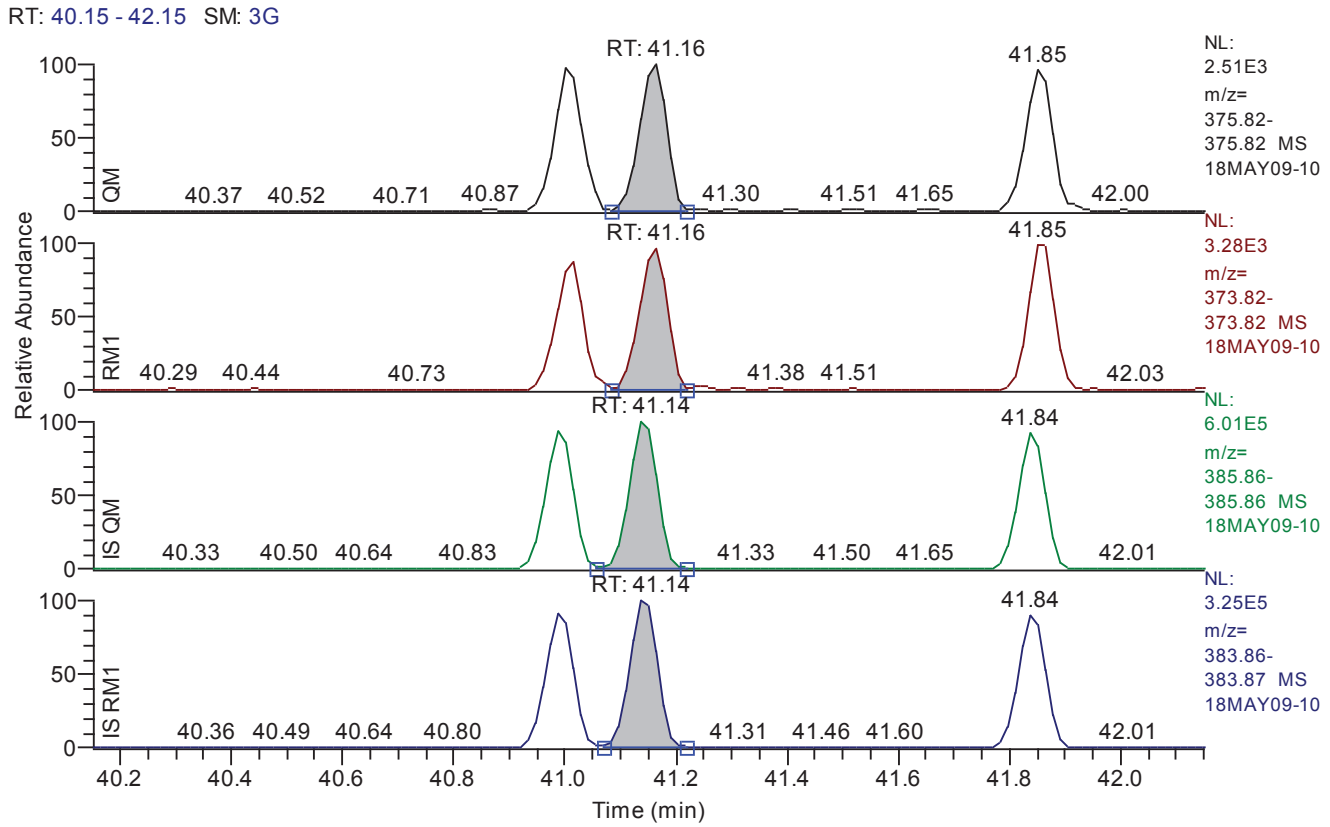
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	41.16
QM Area	8475
QM Integration Mode	A
RM1 Area	11028
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0027
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5333
Signal-to-Noise	497
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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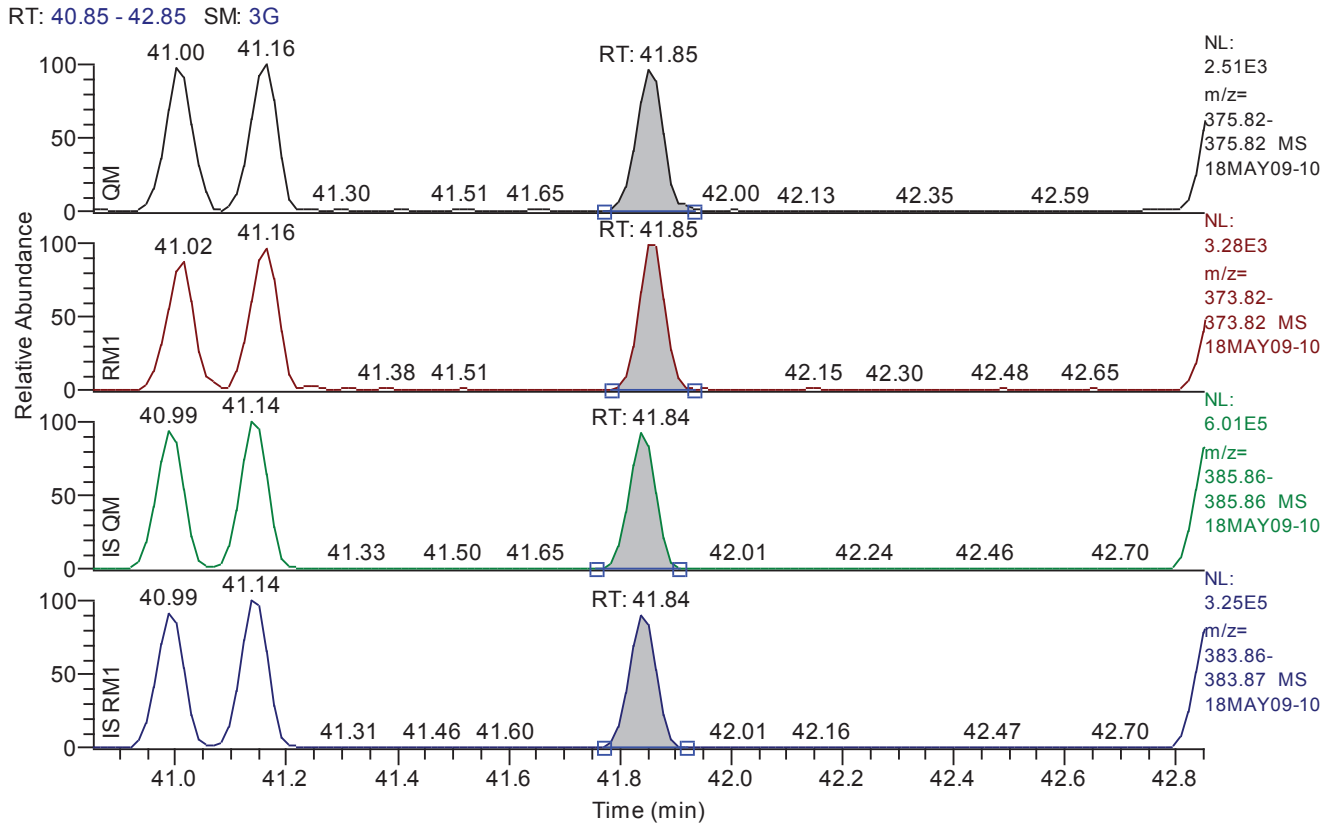
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.85
QM Area	8180
QM Integration Mode	A
RM1 Area	10610
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0027
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5275
Signal-to-Noise	500
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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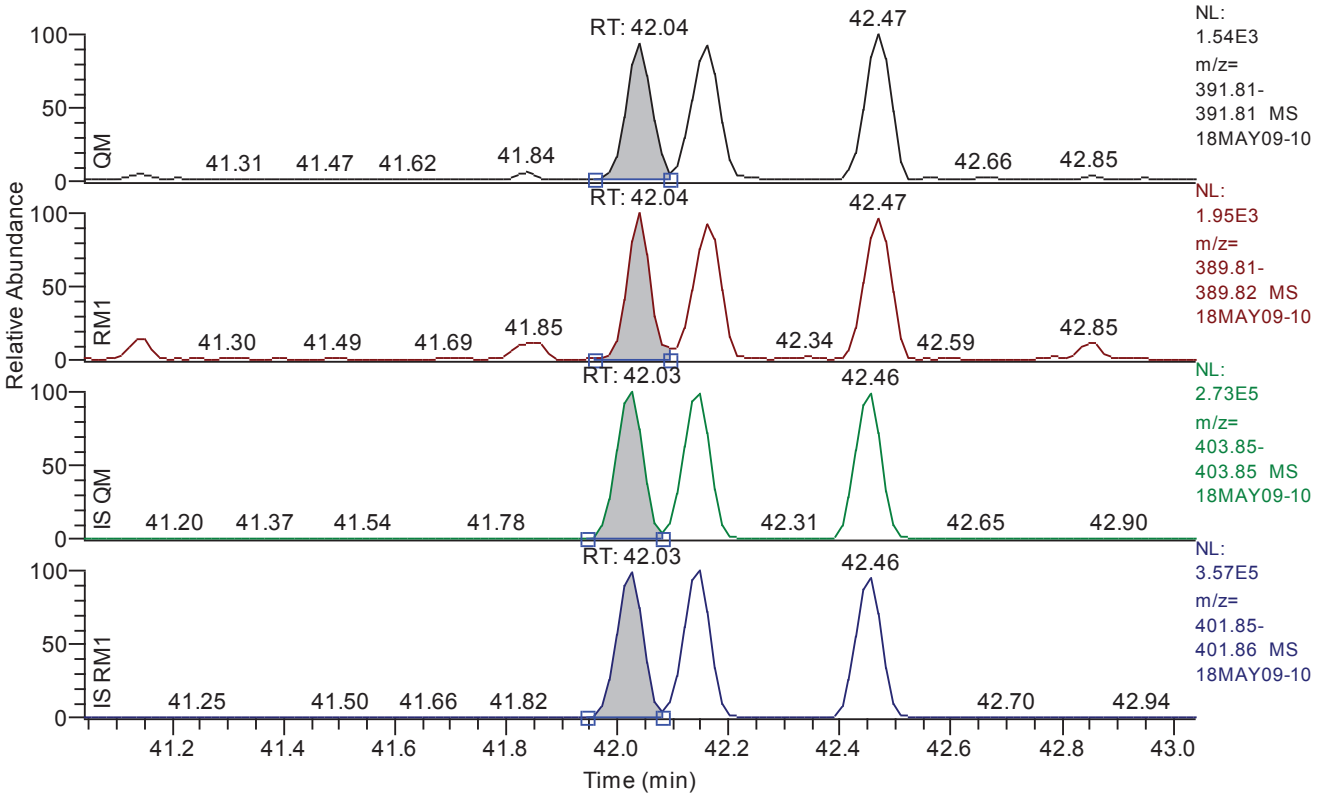
Chromatogram

RT: 41.04 - 43.04 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	42.04
QM Area	4576
QM Integration Mode	A
RM1 Area	5551
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4225
Signal-to-Noise	251
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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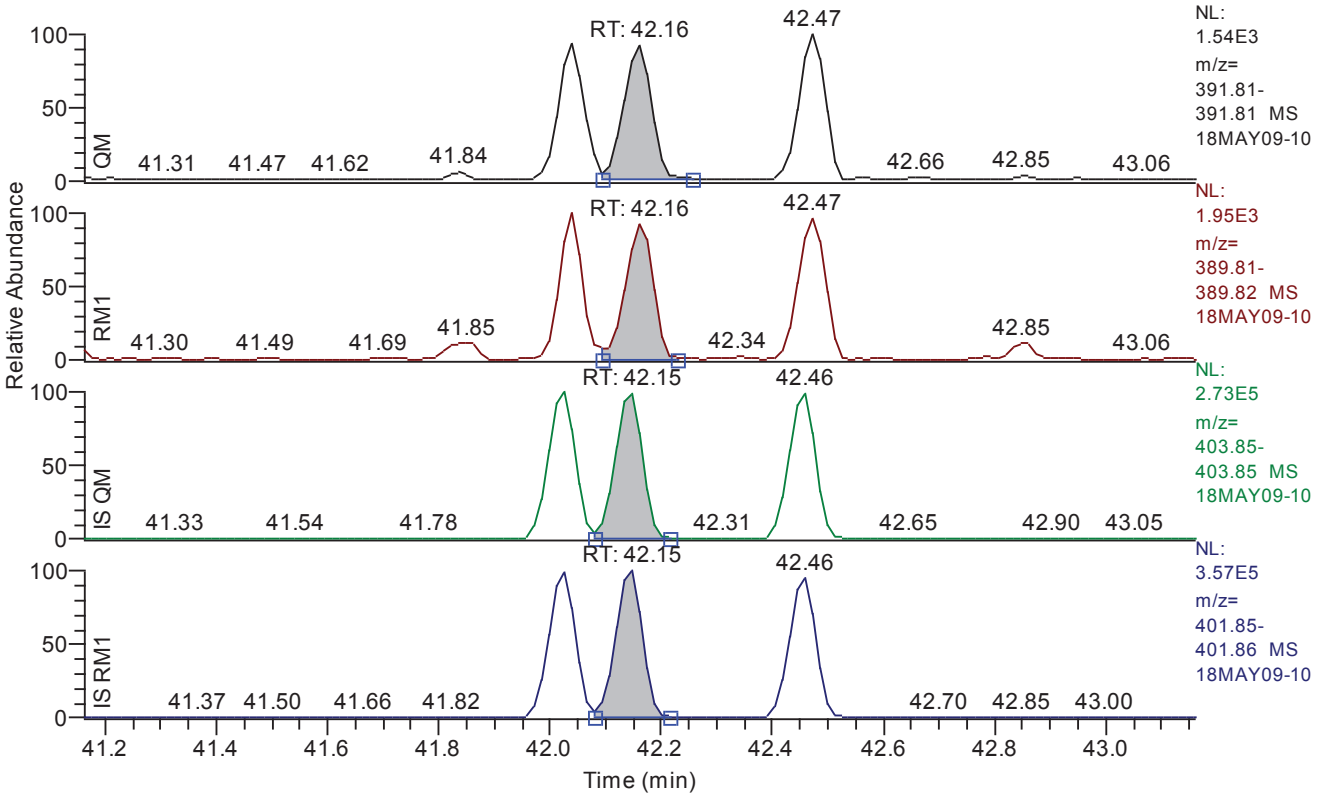
Chromatogram

RT: 41.16 - 43.16 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	42.16
QM Area	4961
QM Integration Mode	A
RM1 Area	6197
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4424
Signal-to-Noise	238
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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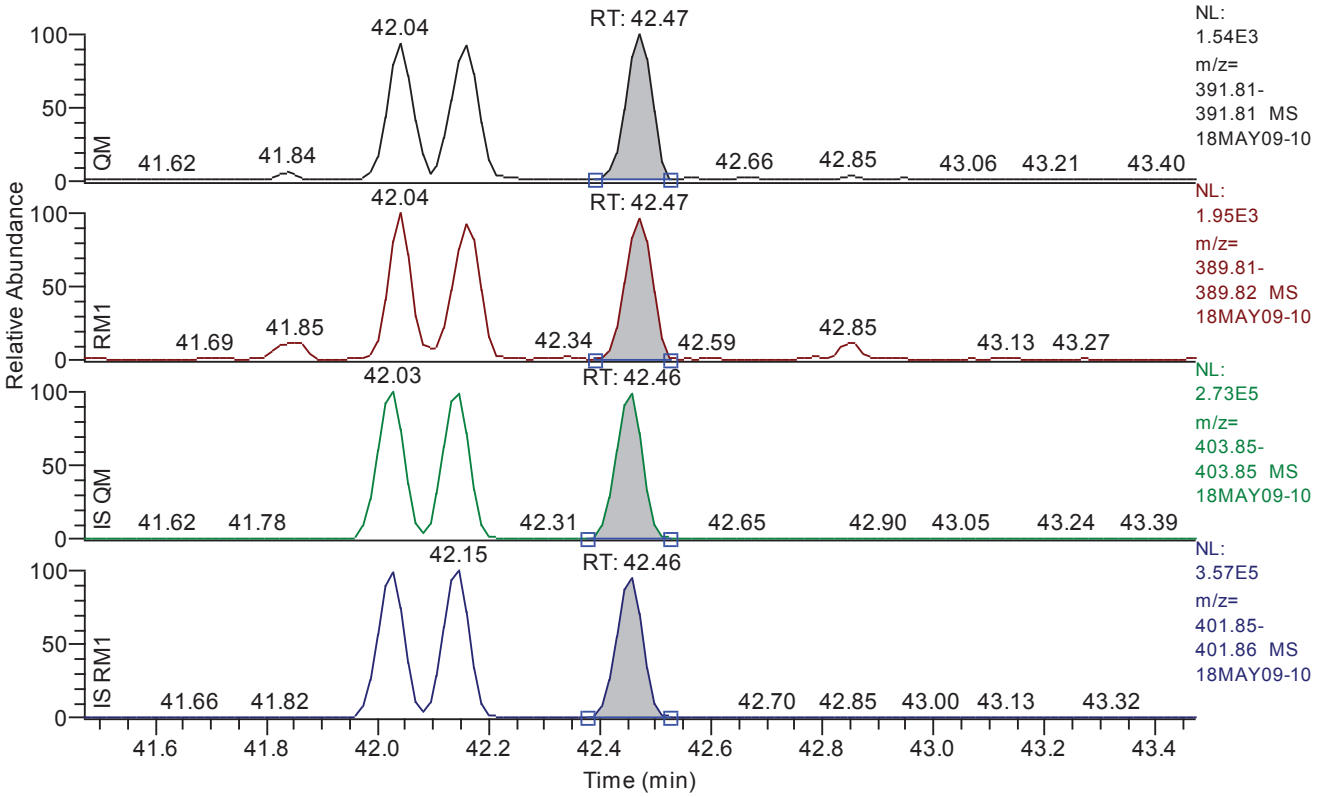
Chromatogram

RT: 41.47 - 43.47 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	42.47
QM Area	4975
QM Integration Mode	A
RM1 Area	6304
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4315
Signal-to-Noise	252
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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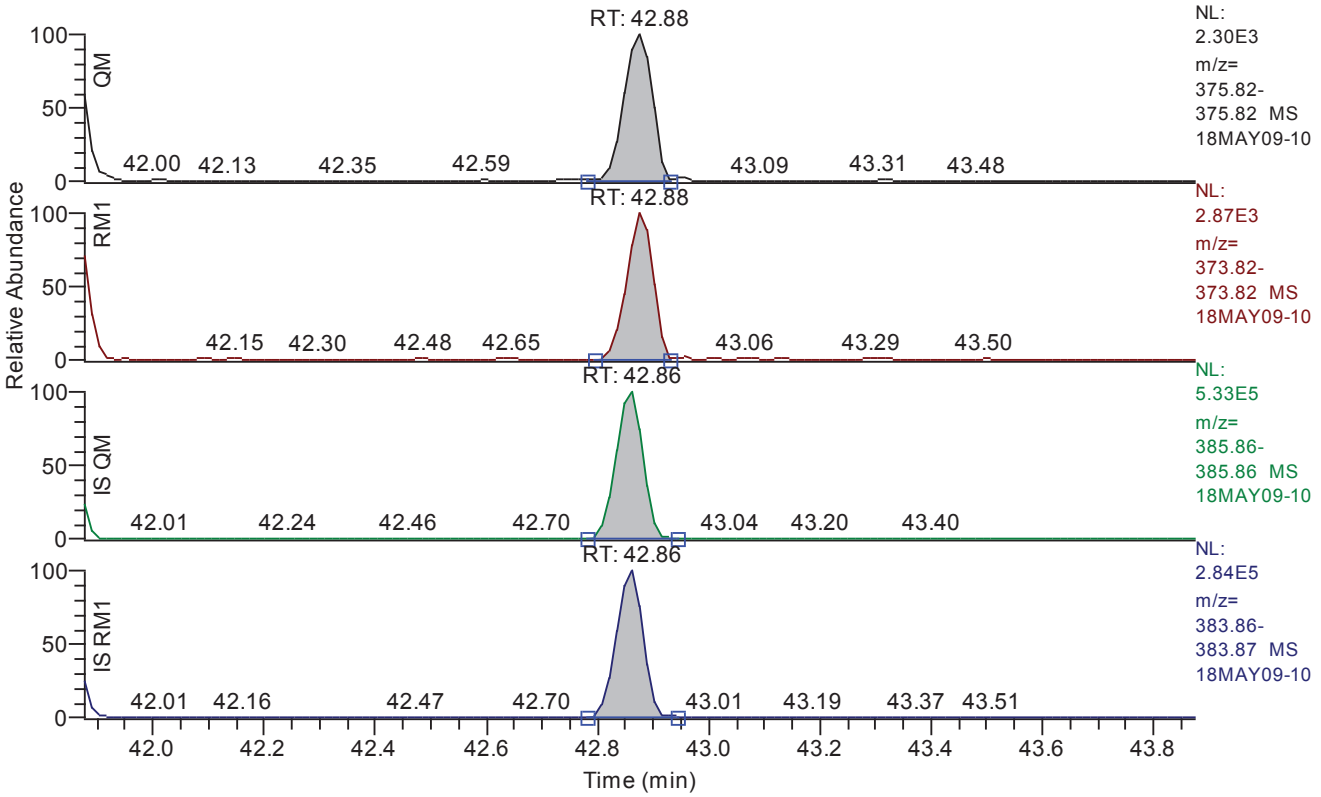
Chromatogram

RT: 41.88 - 43.88 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.88
QM Area	8095
QM Integration Mode	A
RM1 Area	9465
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0029
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5234
Signal-to-Noise	454
Client Flags	
Status Overview	passed
Status Info	

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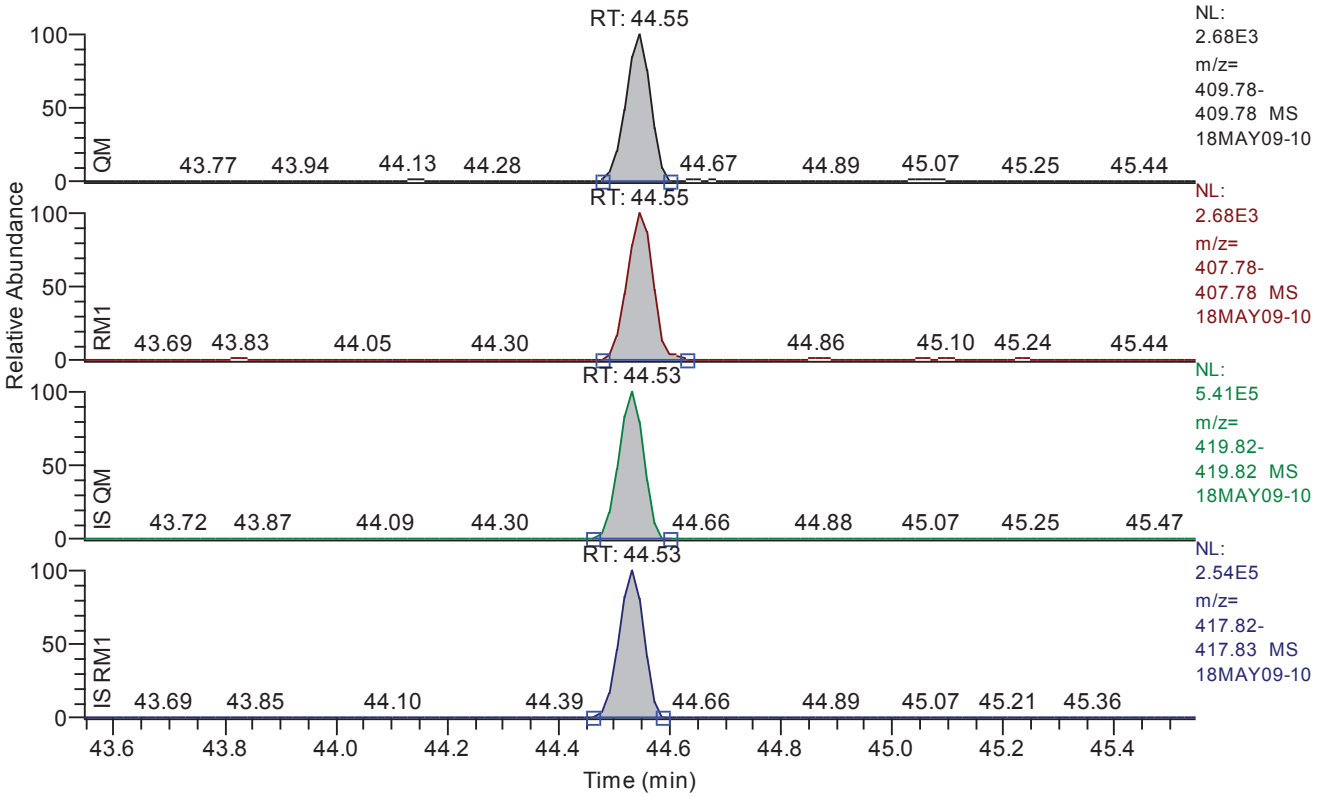
Chromatogram

RT: 43.55 - 45.55 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.55
QM Area	8431
QM Integration Mode	A
RM1 Area	8799
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0028
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5439
Signal-to-Noise	482
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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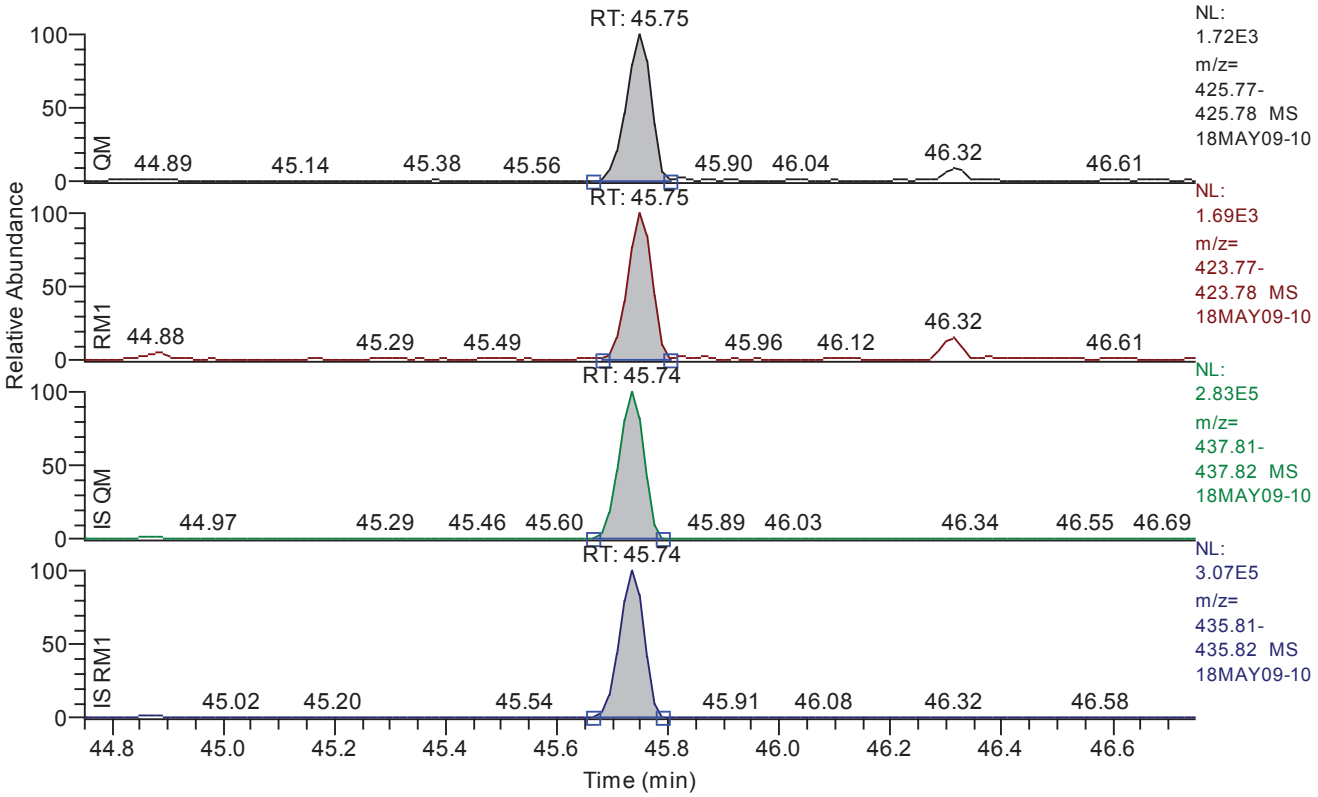
Chromatogram

RT: 44.75 - 46.75 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.75
QM Area	5360
QM Integration Mode	A
RM1 Area	5170
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0031
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4877
Signal-to-Noise	403
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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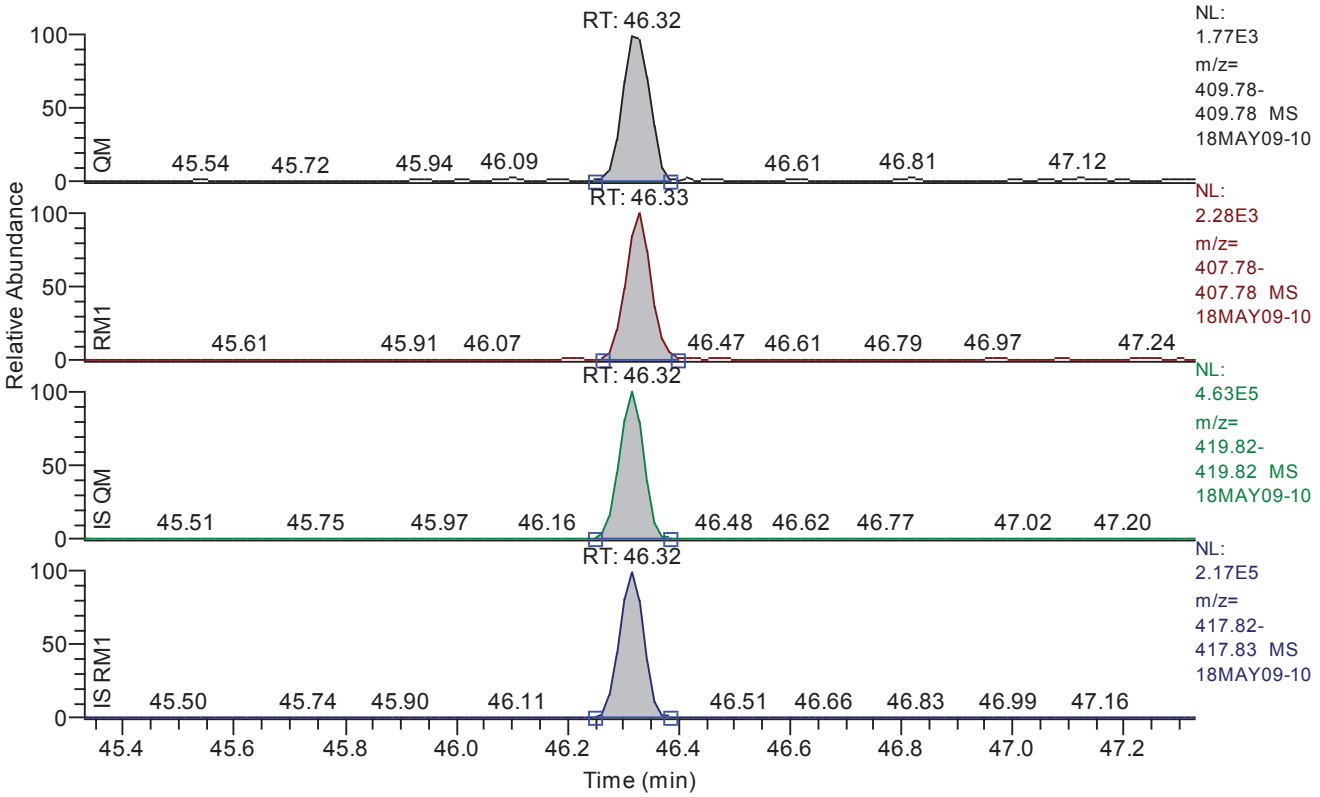
Chromatogram

RT: 45.33 - 47.33 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	46.32
QM Area	6104
QM Integration Mode	A
RM1 Area	7321
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0032
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4909
Signal-to-Noise	364
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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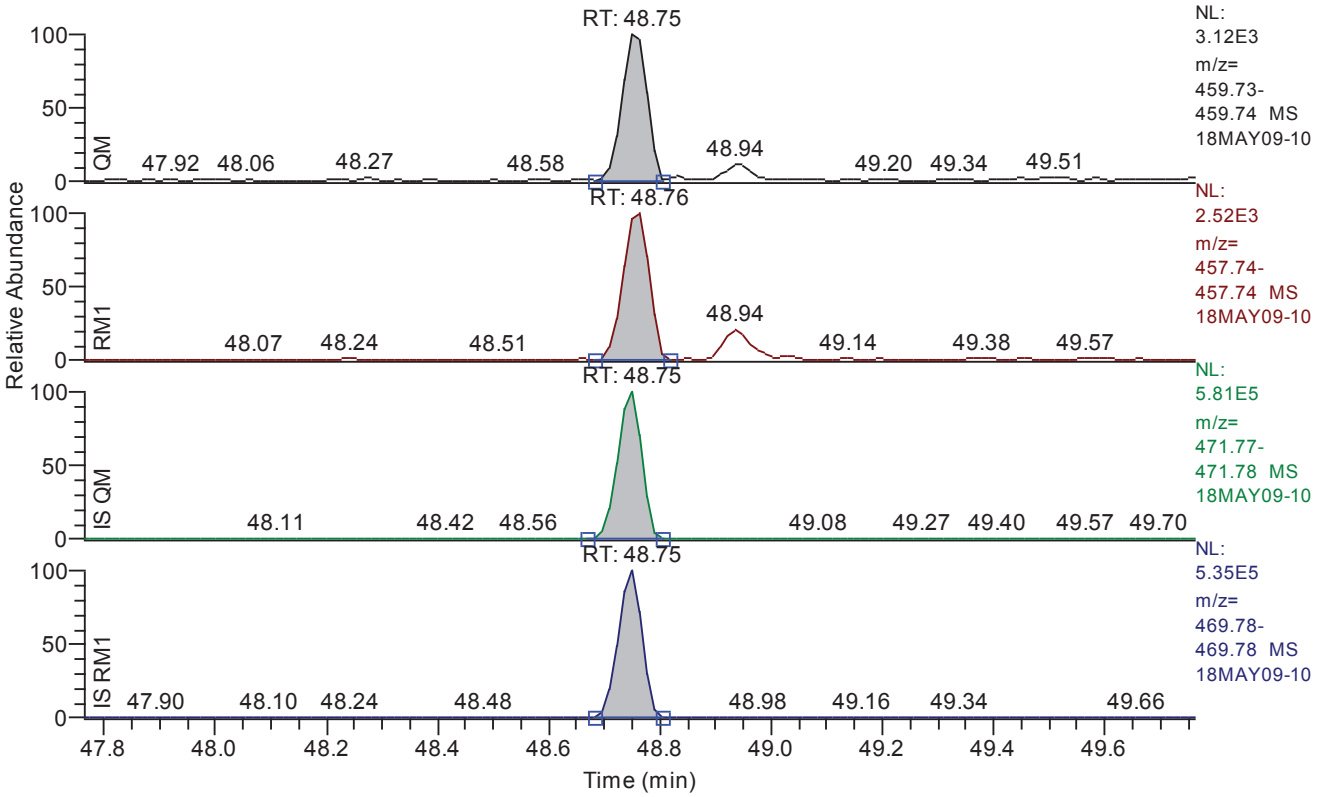
Chromatogram

RT: 47.76 - 49.76 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.75
QM Area	9690
QM Integration Mode	A
RM1 Area	8139
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.1580
Signal-to-Noise	209
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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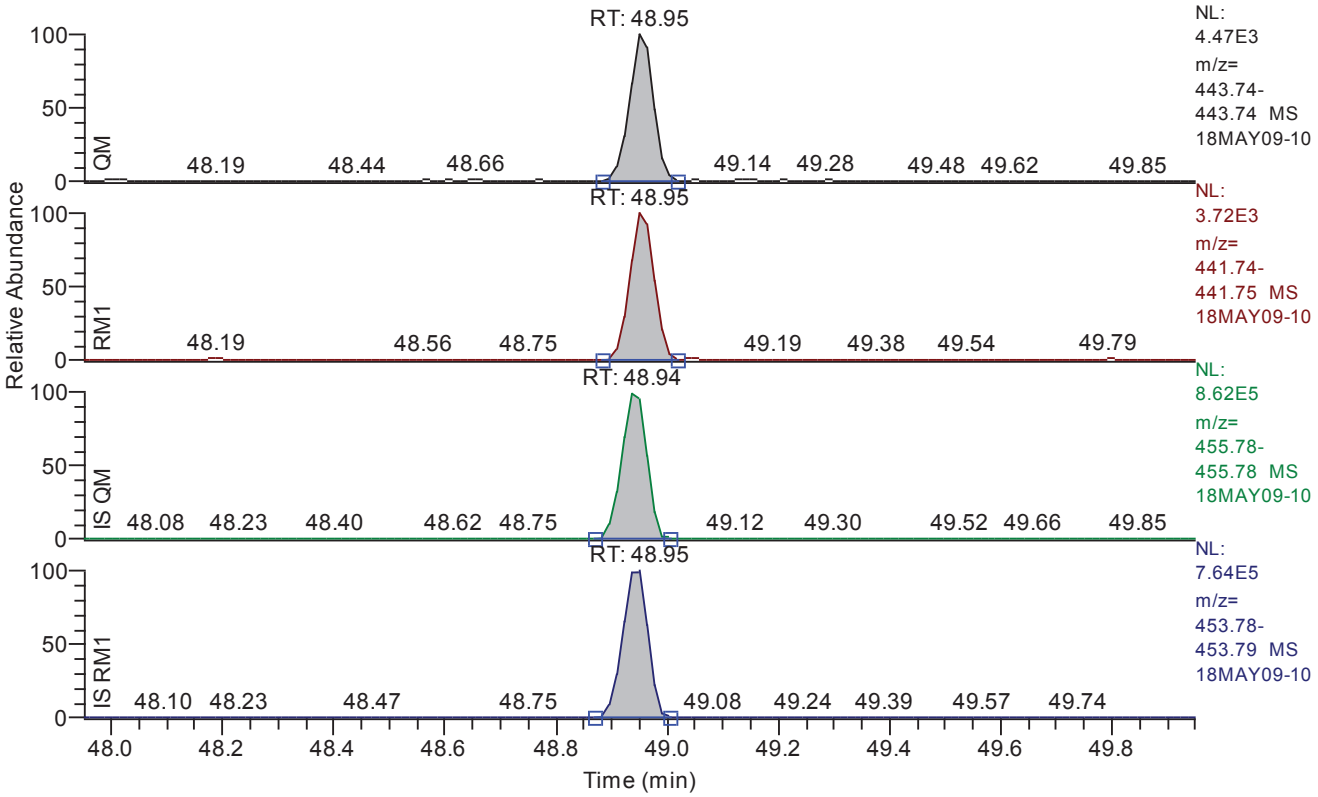
Chromatogram

RT: 47.95 - 49.95 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.95
QM Area	13237
QM Integration Mode	A
RM1 Area	11274
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.1064
Signal-to-Noise	441
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 18:39
Number of Entries	63
Comment	
Vial	3
Sample Name	CALDF11837B
Sample ID	CSL01
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-10.quan
Data	z:\18may09\18may09-10.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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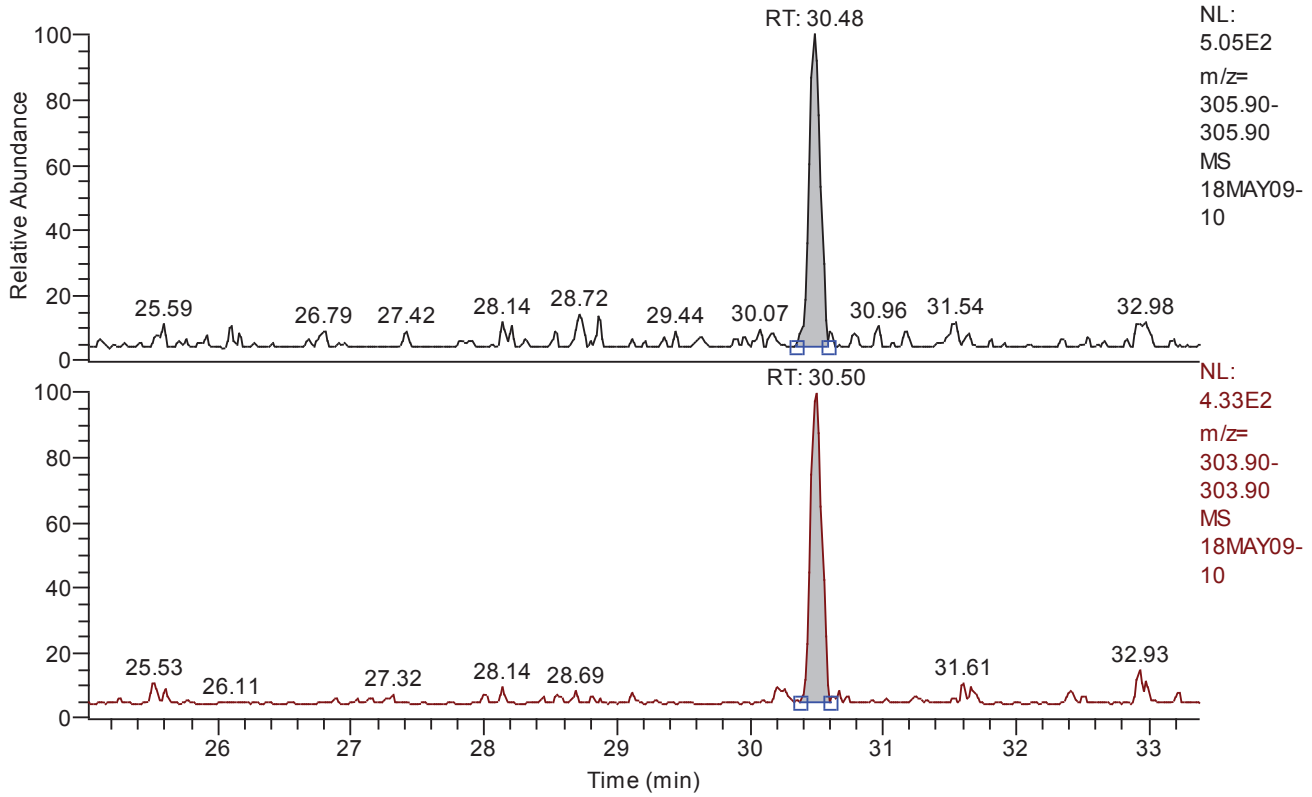
Chromatogram

RT: 25.02 - 33.38 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	29.20
QM Area	2777
QM Integration Mode	A
RM1 Area	2370
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0021
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.0922
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

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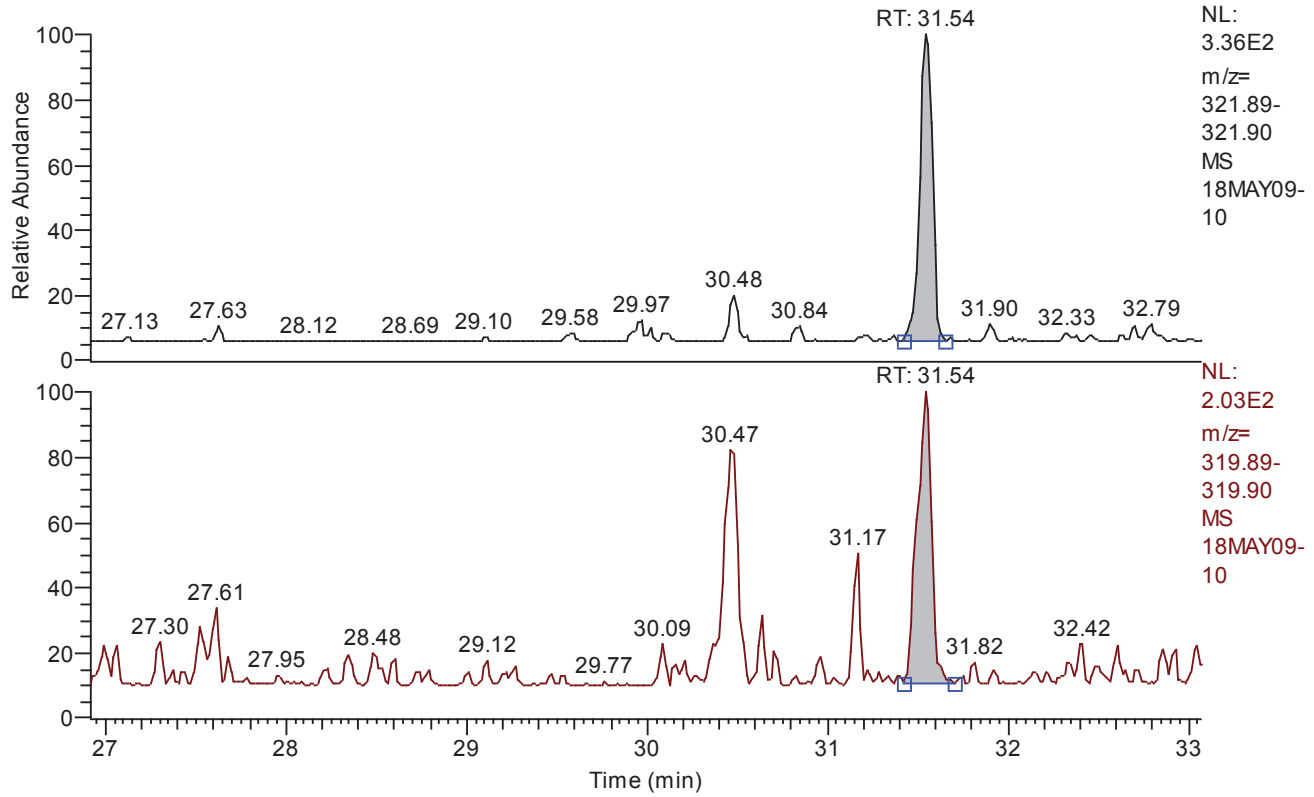
Chromatogram

RT: 26.91 - 33.07 SM: 3G



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.99
QM Area	1587
QM Integration Mode	A
RM1 Area	1036
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0033
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.0872
Signal-to-Noise	---
Client Flags	
Status Overview	passed (5)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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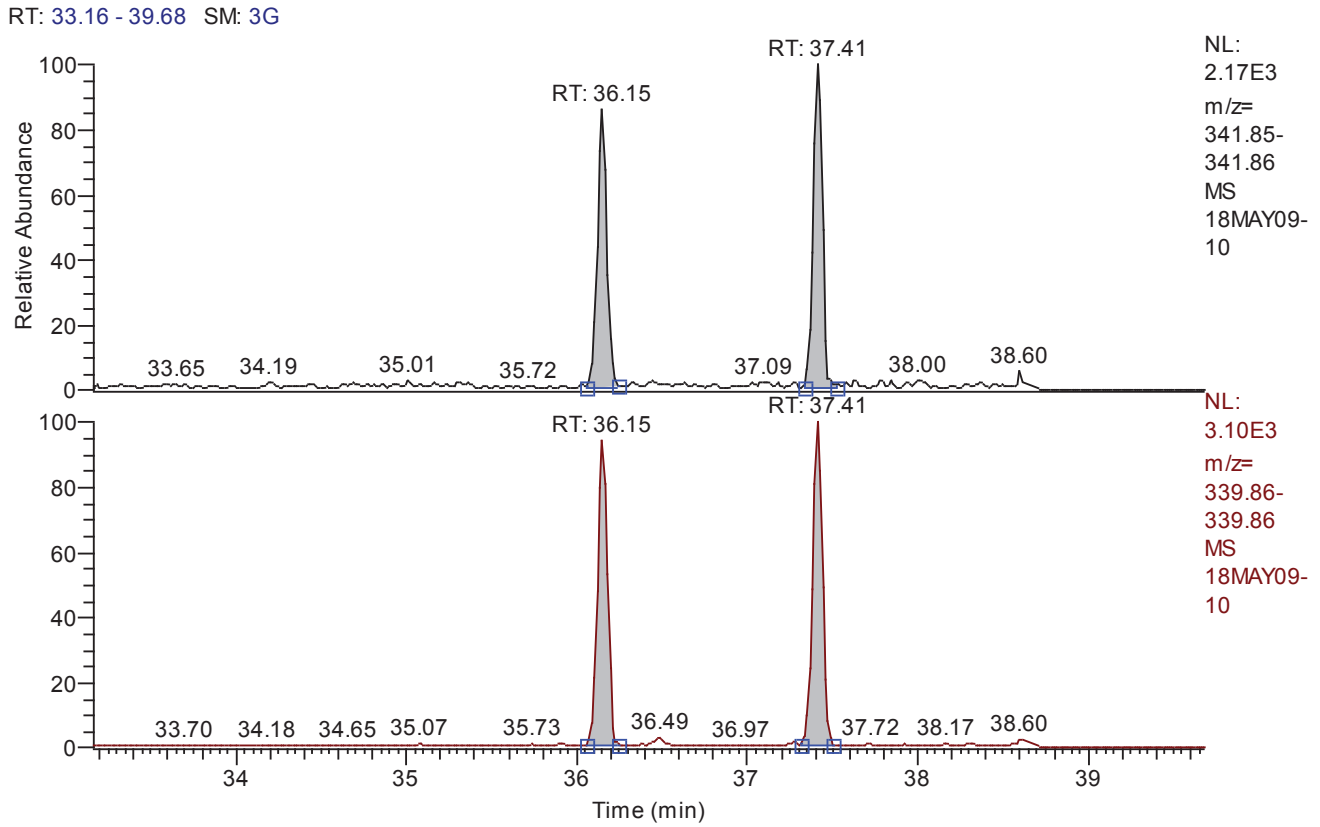
Chromatogram



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	36.42
QM Area	15096
QM Integration Mode	A
RM1 Area	24131
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0025
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.9393
Signal-to-Noise	---
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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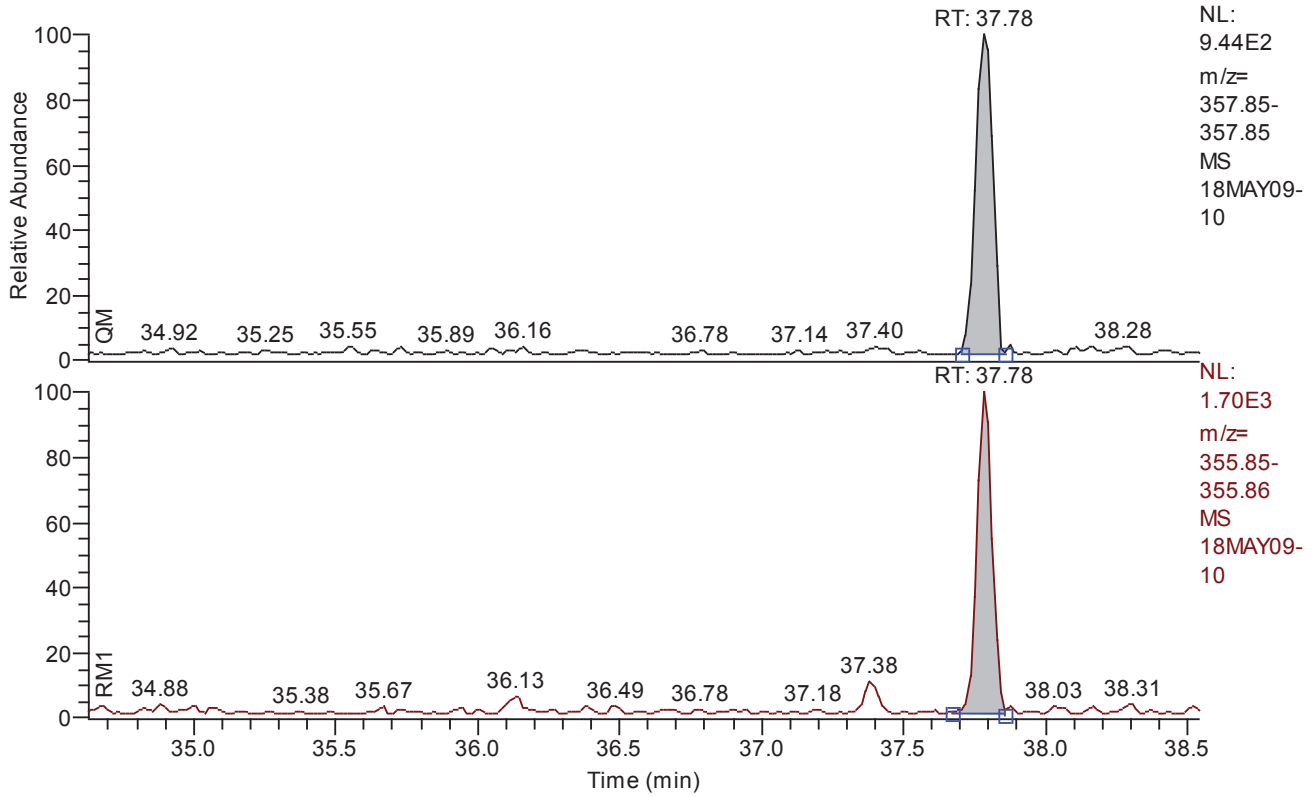
Chromatogram

RT: 34.63 - 38.54 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.59
QM Area	3885
QM Integration Mode	A
RM1 Area	6282
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4280
Signal-to-Noise	---
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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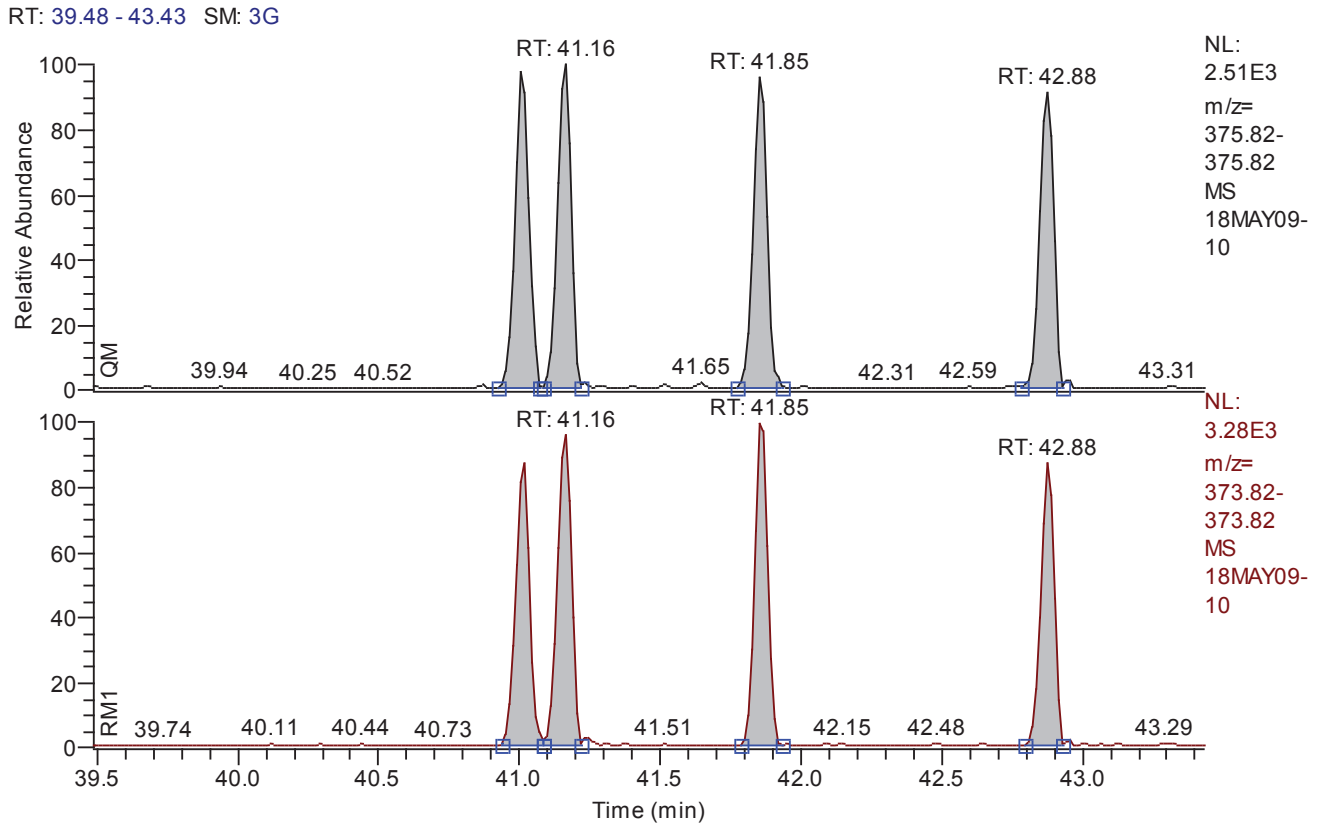
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	41.46
QM Area	33246
QM Integration Mode	A
RM1 Area	40905
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0027
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	2.0755
Signal-to-Noise	---
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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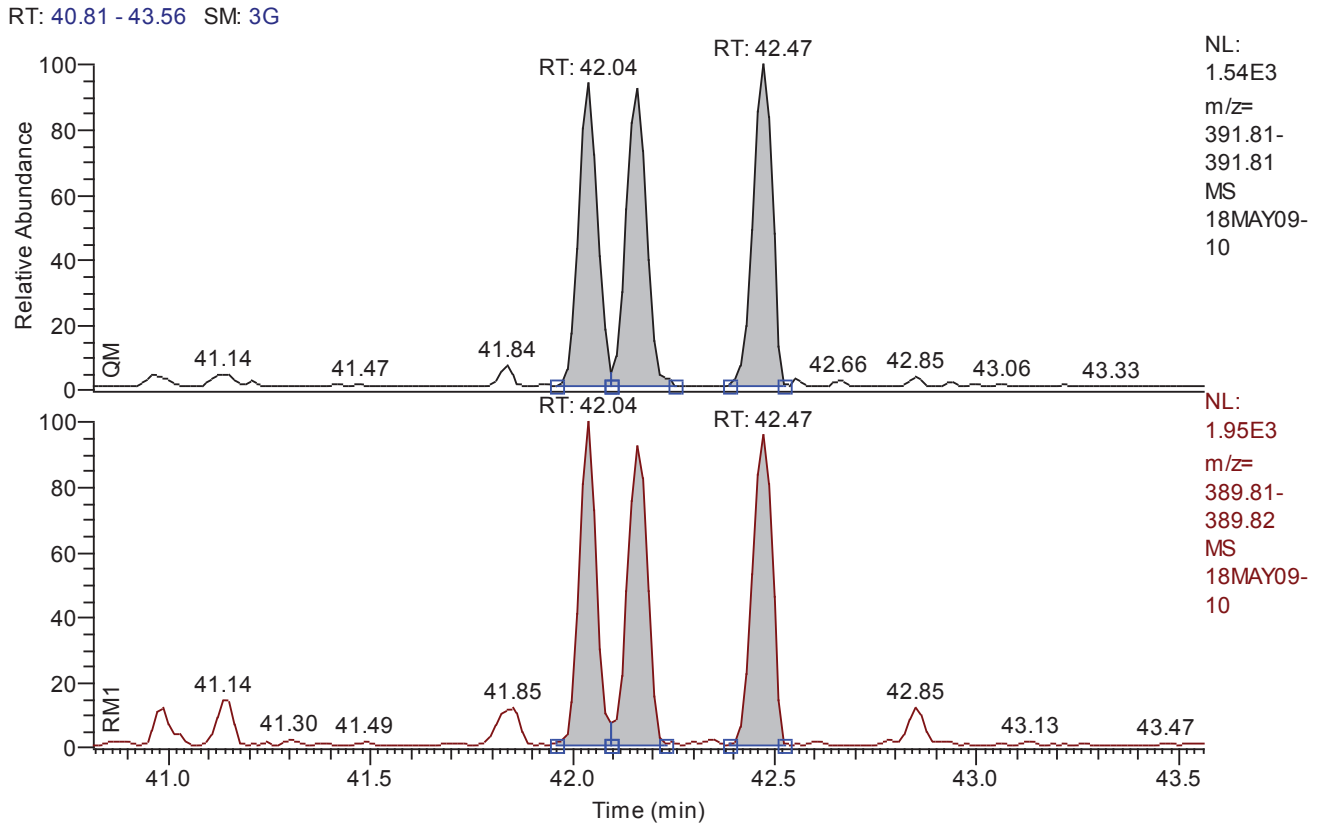
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	42.19
QM Area	14511
QM Integration Mode	A
RM1 Area	18052
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.2960
Signal-to-Noise	---
Client Flags	
Status Overview	passed (4)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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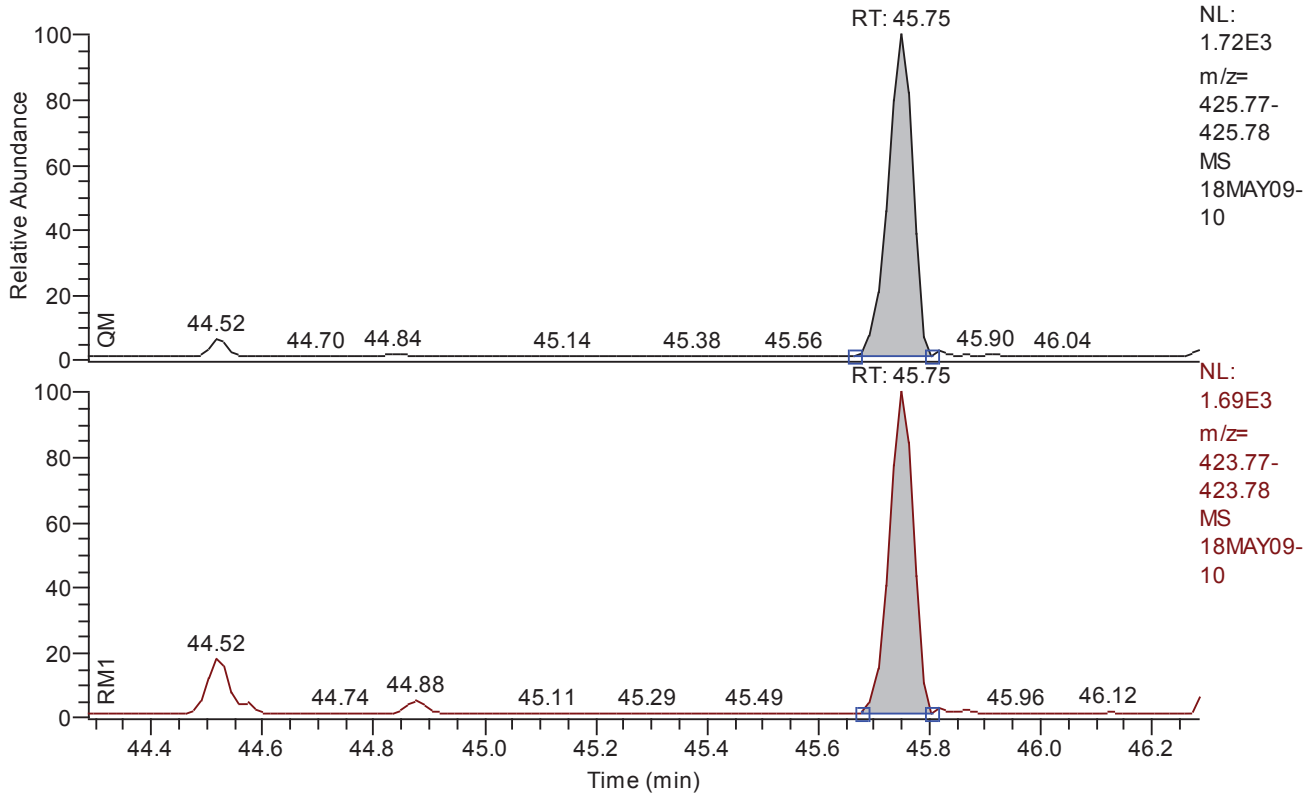
Chromatogram

RT: 44.29 - 46.29 SM: 3G



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	45.29
QM Area	5360
QM Integration Mode	A
RM1 Area	5170
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0031
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.4877
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

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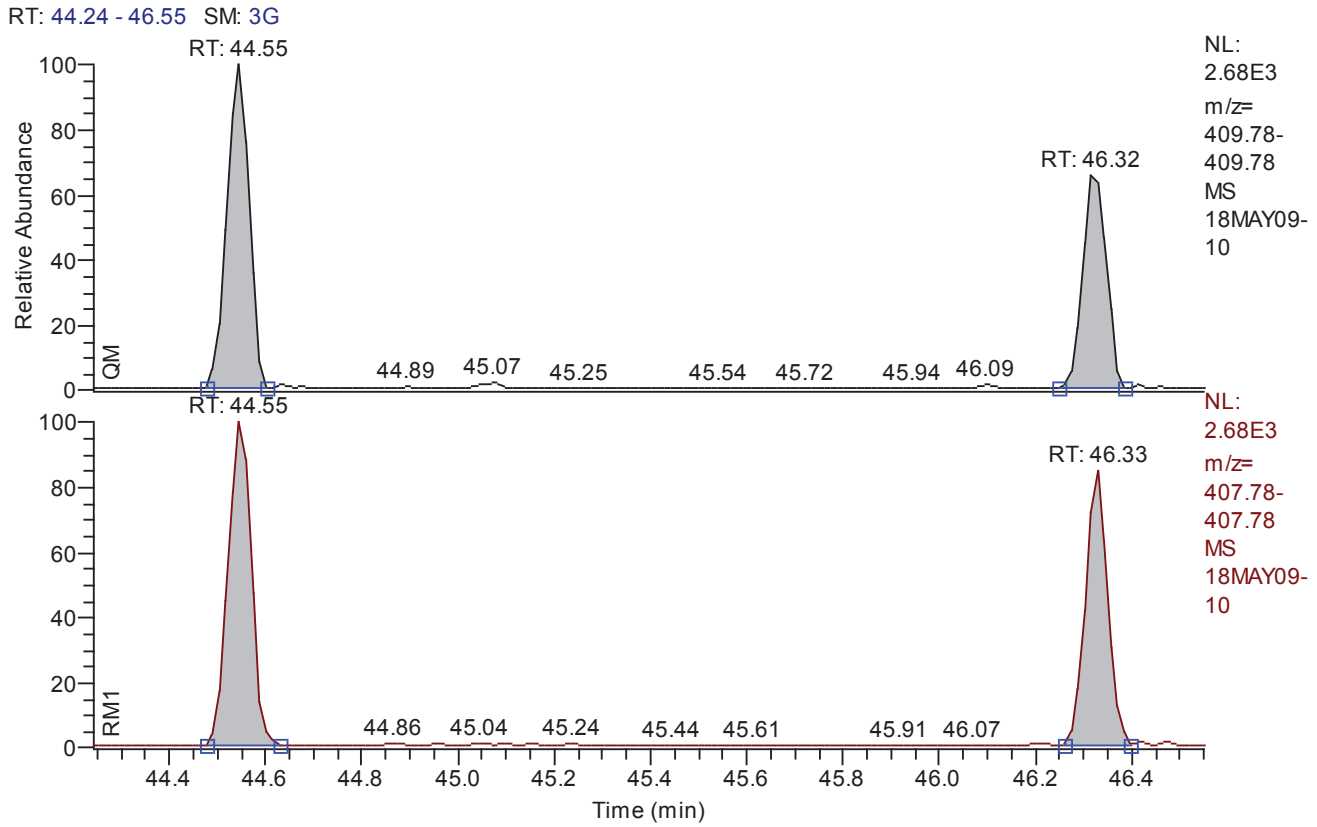
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	45.40
QM Area	14535
QM Integration Mode	A
RM1 Area	16121
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0030
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0383
Signal-to-Noise	423
Client Flags	
Status Overview	passed (3)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	30.48	30.48	30.50	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	31.54	31.54	31.54	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.15	36.15	36.15	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.41	37.41	37.41	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.78	37.78	37.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.00	41.00	41.02	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.85	41.85	41.85	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.04	42.04	42.04	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.16	42.16	42.16	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.47	42.47	42.47	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.88	42.88	42.88	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.55	44.55	44.55	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.75	45.75	45.75	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.32	46.32	46.33	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.75	48.75	48.76	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.95	48.95	48.95	passed	passed
18	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.71	30.71	30.71	passed	passed
19	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.89	40.89	40.89	passed	passed
20	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	30.47	30.47	30.47	passed	passed
21	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.51	31.51	31.51	passed	passed
22	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.13	36.13	36.13	passed	passed
23	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.40	37.40	37.40	passed	passed
24	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.77	37.77	37.77	passed	passed
25	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
26	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.14	41.14	41.14	passed	passed
27	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.84	41.84	41.84	passed	passed
28	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
29	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.15	42.15	42.15	passed	passed
30	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.46	42.46	42.46	passed	passed
31	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.86	42.86	42.86	passed	passed
32	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.53	44.53	44.53	passed	passed
33	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.74	45.74	45.74	passed	passed
34	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.32	46.32	46.32	passed	passed
35	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.75	48.75	48.75	passed	passed
36	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.94	48.94	48.95	passed	passed
37	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.20	29.20	29.20	---	---
38	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	29.99	29.99	29.99	---	---
39	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.42	36.42	36.42	---	---
40	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	36.59	36.59	36.59	---	---
41	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.46	41.46	41.46	---	---
42	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.19	42.19	42.19	---	---
43	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.29	45.29	45.29	---	---
44	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.40	45.40	45.40	---	---
45	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	30.48	30.48	30.50	passed	passed
46	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	31.54	31.54	31.54	passed	passed
47	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	37.78	37.78	37.78	passed	passed
48	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	37.41	37.41	37.41	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.15	36.15	36.15	passed	passed
50	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.75	45.75	45.75	passed	passed
51	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.16	41.16	41.16	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.00	41.00	41.02	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.85	41.85	41.85	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	42.88	42.88	42.88	passed	passed
55	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.47	42.47	42.47	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.04	42.04	42.04	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.16	42.16	42.16	passed	passed
58	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.55	44.55	44.55	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	46.32	46.32	46.33	passed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	30.48	0.8537	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	31.54	0.6526	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	36.15	1.6588	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	37.41	1.5442	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.78	1.6169	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	41.00	1.1536	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	41.16	1.3012	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.85	1.2971	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	42.04	1.2130	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	42.16	1.2493	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	42.47	1.2672	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.88	1.1693	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	44.55	1.0437	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.75	0.9646	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	46.32	1.1994	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.75	0.8399	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.95	0.8517	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1234-TCDD	30.71	0.7969	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-123468-HxCDD	40.89	1.2941	1.0450 - 1.4350	passed	100.00	0 - 0	passed
20	13C12-2378-TCDF	30.47	0.7897	0.6450 - 0.8950	passed	100.00	0 - 0	passed
21	13C12-2378-TCDD	31.51	0.7914	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-12378-PeCDF	36.13	1.5946	1.3150 - 1.7850	passed	100.00	0 - 0	passed
23	13C12-23478-PeCDF	37.40	1.5778	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-12378-PeCDD	37.77	1.5851	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-123478-HxCDF	40.99	0.5304	0.4250 - 0.5950	passed	100.00	0 - 0	passed
26	13C12-123678-HxCDF	41.14	0.5416	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-234678-HxCDF	41.84	0.5375	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-123478-HxCDD	42.03	1.2774	1.0450 - 1.4350	passed	100.00	0 - 0	passed
29	13C12-123678-HxCDD	42.15	1.2927	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123789-HxCDD	42.46	1.2573	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDF	42.86	0.5272	0.4250 - 0.5950	passed	100.00	0 - 0	passed
32	13C12-1234678-HpCDF	44.53	0.4660	0.3650 - 0.5150	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDD	45.74	1.0663	0.8750 - 1.2050	passed	100.00	0 - 0	passed
34	13C12-1234789-HpCDF	46.32	0.4667	0.3650 - 0.5150	passed	100.00	0 - 0	passed
35	13C12-OCDD	48.75	0.9107	0.7550 - 1.0250	passed	100.00	0 - 0	passed
36	13C12-OCDF	48.94	0.9041	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	Total TCDF	29.20	---	0.6450 - 0.8950	---	100.00	0 - 0	---
38	Total TCDD	29.99	---	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total PeCDF	36.42	---	1.3150 - 1.7850	---	100.00	0 - 0	---
40	Total PeCDD	36.59	---	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total HxCDF	41.46	---	1.0450 - 1.4350	---	100.00	0 - 0	---
42	Total HxCDD	42.19	---	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HpCDD	45.29	---	0.8750 - 1.2050	---	100.00	0 - 0	---
44	Total HpCDF	45.40	1.1091	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Single TCDF	30.48	0.8537	0.6450 - 0.8950	passed	100.00	0 - 0	passed
46	Single TCDD	31.54	0.6526	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single PeCDD	37.78	1.6169	1.3150 - 1.7850	passed	100.00	0 - 0	passed
48	Single PeCDF	37.41	1.5442	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.15	1.6588	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single HpCDD	45.75	0.9646	0.8750 - 1.2050	passed	100.00	0 - 0	passed
51	Single HxCDF	41.16	1.3012	1.0450 - 1.4350	passed	100.00	0 - 0	passed
52	Single HxCDF	41.00	1.1536	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	41.85	1.2971	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	42.88	1.1693	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDD	42.47	1.2672	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	42.04	1.2130	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	42.16	1.2493	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HpCDF	44.55	1.0437	0.8750 - 1.2050	passed	100.00	0 - 0	passed
59	Single HpCDF	46.32	1.1994	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	30.48	2777	A	2370	A	0.0021	0.100000	0.0922	0.100000	109	
2	2378-TCDD	passed	31.54	1587	A	1036	A	0.0033	0.100000	0.0872	0.100000	66	
3	12378-PeCDF	passed	36.15	7163	A	11882	A	0.0028	0.500000	0.4829	0.500000	454	
4	23478-PeCDF	passed	37.41	7933	A	12250	A	0.0023	0.500000	0.4575	0.500000	498	
5	12378-PeCDD	passed	37.78	3885	A	6282	A	0.0065	0.500000	0.4280	0.500000	159	
6	123478-HxCDF	passed	41.00	8496	A	9801	A	0.0027	0.500000	0.4930	0.500000	467	
7	123678-HxCDF	passed	41.16	8475	A	11028	A	0.0027	0.500000	0.5333	0.500000	497	
8	234678-HxCDF	passed	41.85	8180	A	10610	A	0.0027	0.500000	0.5275	0.500000	500	
9	123478-HxCDD	passed	42.04	4576	A	5551	A	0.0047	0.500000	0.4225	0.500000	251	
10	123678-HxCDD	passed	42.16	4961	A	6197	A	0.0045	0.500000	0.4424	0.500000	238	
11	123789-HxCDD	passed	42.47	4975	A	6304	A	0.0043	0.500000	0.4315	0.500000	252	
12	123789-HxCDF	passed	42.88	8095	A	9465	A	0.0029	0.500000	0.5234	0.500000	454	
13	1234678-HpCDF	passed	44.55	8431	A	8799	A	0.0028	0.500000	0.5439	0.500000	482	
14	1234678-HpCDD	passed	45.75	5360	A	5170	A	0.0031	0.500000	0.4877	0.500000	403	
15	1234789-HpCDF	passed	46.32	6104	A	7321	A	0.0032	0.500000	0.4909	0.500000	364	
16	OCDD	passed	48.75	9690	A	8139	A	0.0130	1.000000	1.1580	1.000000	209	
17	OCDF	passed	48.95	13237	A	11274	A	0.0066	1.000000	1.1064	1.000000	441	
18	13C12-1234-TCDD	passed	30.71	1238451	A	986880	A	0.0167	100.000000	100.0000	100.000000	14942	
19	13C12-123468-HxCDD	passed	40.89	1076974	A	1393695	A	0.0193	100.000000	100.0000	100.000000	12945	
20	13C12-2378-TCDF	passed	30.47	2165476	A	1710081	A	0.0058	100.000000	83.2556	100.000000	33736	
21	13C12-2378-TCDD	passed	31.51	1102641	A	872683	A	0.0176	100.000000	93.2652	100.000000	13566	
22	13C12-12378-PeCDF	passed	36.13	1382553	A	2204611	A	0.0237	100.000000	100.0000	100.000000	13525	
23	13C12-23478-PeCDF	passed	37.40	1386526	A	2187668	A	0.0238	100.000000	100.0000	100.000000	14362	
24	13C12-12378-PeCDD	passed	37.77	754059	A	1195245	A	0.0138	100.000000	80.6262	100.000000	20719	
25	13C12-123478-HxCDF	passed	40.99	1960955	A	1040009	A	0.0192	100.000000	100.0000	100.000000	12973	
26	13C12-123678-HxCDF	passed	41.14	2098256	A	1136458	A	0.0178	100.000000	100.0000	100.000000	13976	
27	13C12-234678-HxCDF	passed	41.84	1885202	A	1013264	A	0.0199	100.000000	100.0000	100.000000	12894	
28	13C12-123478-HxCDD	passed	42.03	921663	A	1177330	A	0.0227	100.000000	100.0000	100.000000	11426	
29	13C12-123678-HxCDD	passed	42.15	923726	A	1194106	A	0.0225	100.000000	100.0000	100.000000	11479	
30	13C12-123789-HxCDD	passed	42.46	899468	A	1130945	A	0.0235	100.000000	100.0000	100.000000	11174	
31	13C12-123789-HxCDF	passed	42.86	1817564	A	958189	A	0.0208	100.000000	100.0000	100.000000	12343	
32	13C12-1234678-HpCDF	passed	44.53	1755433	A	817968	A	0.0241	100.000000	100.0000	100.000000	11210	
33	13C12-1234678-HpCDD	passed	45.74	908443	A	968702	A	0.0150	100.000000	77.5718	100.000000	14206	
34	13C12-1234789-HpCDF	passed	46.32	1458696	A	680789	A	0.0289	100.000000	100.0000	100.000000	9578	
35	13C12-OCDD	passed	48.75	1747577	A	1591536	A	0.0117	200.000000	135.8669	200.000000	33958	
36	13C12-OCDF	passed	48.94	2685726	A	2428231	A	0.0141	200.000000	164.5718	200.000000	32370	
37	Total TCDF	passed (1)	29.20	2777	A	2370	A	0.0021	0.100000	0.0922	0.100000	---	
38	Total TCDD	passed (5)	29.99	1587	A	1036	A	0.0033	0.100000	0.0872	0.100000	---	
39	Total PeCDF	passed (4)	36.42	15096	A	24131	A	0.0025	0.500000	0.9393	0.500000	---	
40	Total PeCDD	passed (4)	36.59	3885	A	6282	A	0.0065	0.500000	0.4280	0.500000	---	
41	Total HxCDF	passed (4)	41.46	33246	A	40905	A	0.0027	0.500000	2.0755	0.500000	---	
42	Total HxCDD	passed (4)	42.19	14511	A	18052	A	0.0045	0.500000	1.2960	0.500000	---	
43	Total HpCDD	passed (1)	45.29	5360	A	5170	A	0.0031	0.500000	0.4877	0.500000	---	
44	Total HpCDF	passed (3)	45.40	14535	A	16121	A	0.0030	0.500000	1.0383	0.500000	423	
45	Single TCDF	passed	30.48	2777	A	2370	A	0.0021	0.100000	0.0922	0.100000	109	
46	Single TCDD	passed	31.54	1587	A	1036	A	0.0033	0.100000	0.0872	0.100000	66	
47	Single PeCDD	passed	37.78	3885	A	6282	A	0.0065	0.500000	0.4280	0.500000	159	
48	Single PeCDF	passed	37.41	7933	A	12250	A	0.0025	0.500000	0.4833	0.500000	498	
49	Single PeCDF	passed	36.15	7163	A	11882	A	0.0025	0.500000	0.4560	0.500000	454	
50	Single HpCDD	passed	45.75	5360	A	5170	A	0.0031	0.500000	0.4877	0.500000	403	
51	Single HxCDF	passed	41.16	8475	A	11028	A	0.0027	0.500000	0.5459	0.500000	497	
52	Single HxCDF	passed	41.00	8496	A	9801	A	0.0027	0.500000	0.5122	0.500000	467	
53	Single HxCDF	passed	41.85	8180	A	10610	A	0.0027	0.500000	0.5259	0.500000	500	
54	Single HxCDF	passed	42.88	8095	A	9465	A	0.0027	0.500000	0.4915	0.500000	454	
55	Single HxCDD	passed	42.47	4975	A	6304	A	0.0045	0.500000	0.4489	0.500000	252	
56	Single HxCDD	passed	42.04	4576	A	5551	A	0.0045	0.500000	0.4030	0.500000	251	
57	Single HxCDD	passed	42.16	4961	A	6197	A	0.0045	0.500000	0.4441	0.500000	238	
58	Single HpCDF	passed	44.55	8431	A	8799	A	0.0030	0.500000	0.5836	0.500000	482	
59	Single HpCDF	passed	46.32	6104	A	7321	A	0.0030	0.500000	0.4547	0.500000	364	

APPROVED
By uma9 at 3:11 pm, 5/10/18

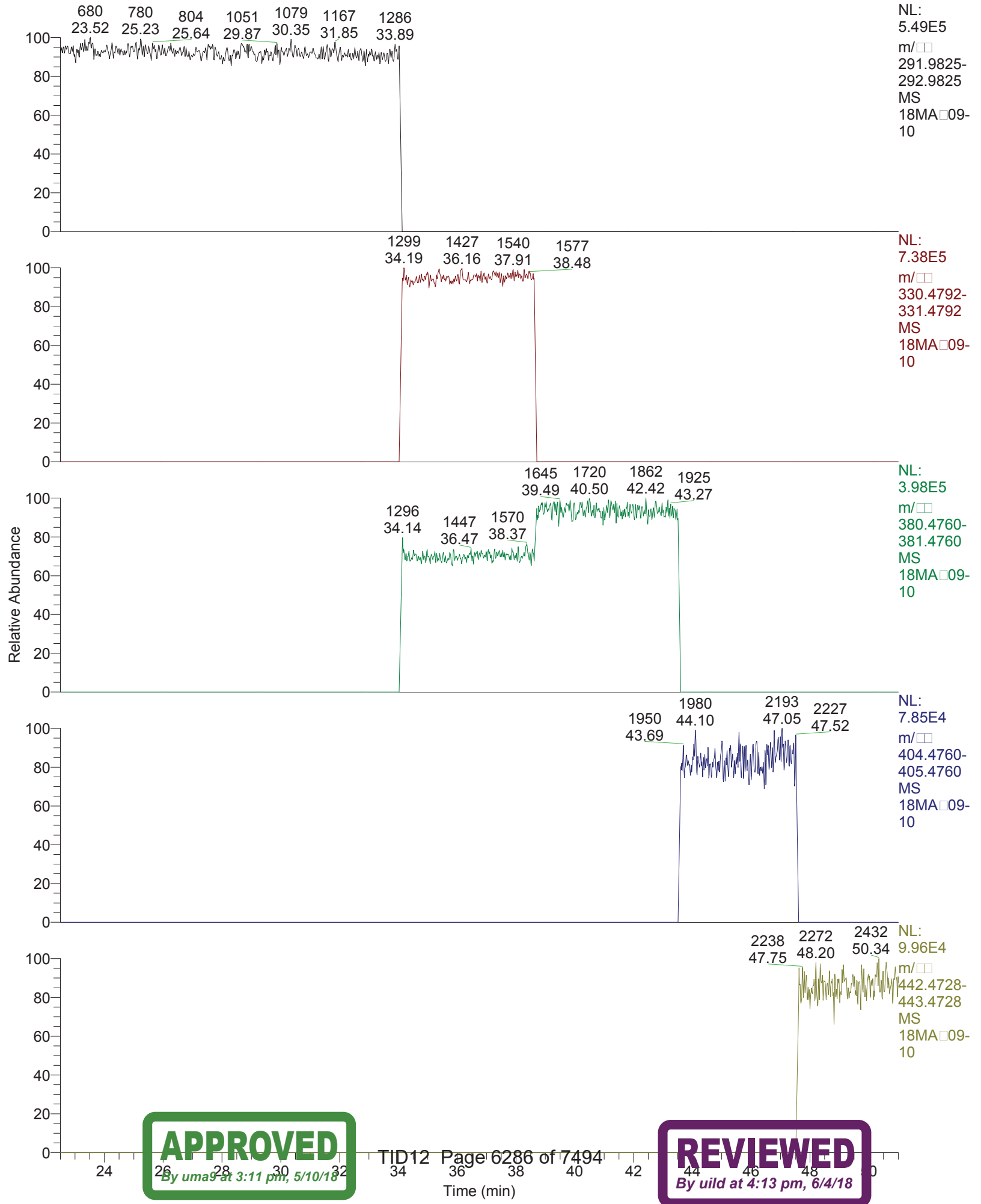
REVIEWED
By uild at 4:13 pm, 6/4/18

File Name: □:□18MA□09□18MA□09-10
Sample ID: CSL01

Acq. Data: 5/9/2018 6:39:53 PM
Sample Name: CALDF11837B
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By umas at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

*** file opened Wed May 09 18:45:24 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 09-May-18 18:45:23

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

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MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          97.0000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0169   FVINLET         0.0356   FVSRC           0.0307
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           97.0000   LKM           442.9723   MASS           97.0000
 MDAC        1478234.7552  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2508.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9685   RELEN           0.0000
 RES          12176.7342   RPUSHER       -20.0806   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          97.0000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11390.
MID Time Window 2: Resolution is 11796.
MID Time Window 3: Resolution is 11185.
MID Time Window 4: Resolution is 11583.
```

```
MID Time Window 5: Resolution is 11835.
MID Time Window 6: Resolution is 12176.

Amplifier Offset: 85.


*** File closed Wed May 09 19:36:27 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 19:36
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837B
Sample ID	CS101
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-11.quan
Data	z:\18may09\18may09-11.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	30.50	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	31.54	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.15	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.41	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.80	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.00	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.17	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.85	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.04	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.16	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.47	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.88	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.55	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.75	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.33	passed	passed	passed	passed	passed	passed	
16	OCDD	48.75	passed	passed	passed	passed	passed	passed	
17	OCDF	48.95	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.92	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	30.71	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.90	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.47	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.53	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.13	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.39	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.76	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.84	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.03	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.15	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.86	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.53	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.73	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.31	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.75	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.94	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.24	passed (1)	---	---	---	---	---	
39	Total TCDD	29.99	passed (1)	---	---	---	---	---	
40	Total PeCDF	35.71	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.58	passed (1)	---	---	---	---	---	
42	Total HxCDF	41.18	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.37	passed (3)	---	---	---	---	---	
44	Total HpCDD	45.30	passed (1)	---	---	---	---	---	
45	Total HpCDF	45.42	passed (2)	---	---	---	---	---	
46	Single TCDF	30.50	passed	passed	passed	passed	passed	passed	
47	Single TCDD	31.54	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.80	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	37.41	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	36.15	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.75	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.85	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.00	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.17	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.88	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	42.04	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	42.16	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	42.47	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	44.55	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	46.33	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 19:36
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837B
Sample ID	CS101
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-11.quan
Data	z:\18may09\18may09-11.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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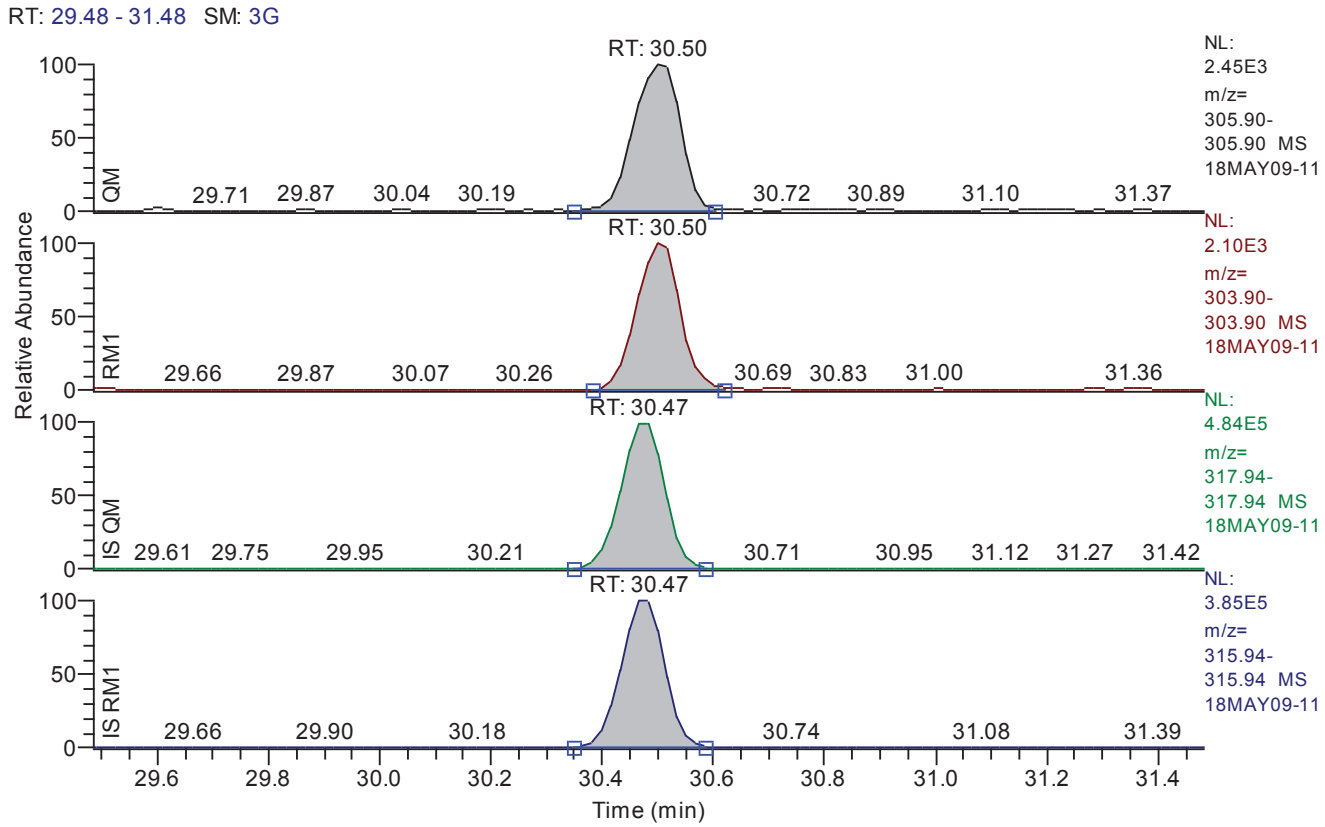
Chromatogram



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	30.50
QM Area	14482
QM Integration Mode	A
RM1 Area	11468
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0026
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	462
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By AQ46 at 4:42 pm, 6/4/18

REVIEWED
By uild at 1:13 pm, 7/24/18

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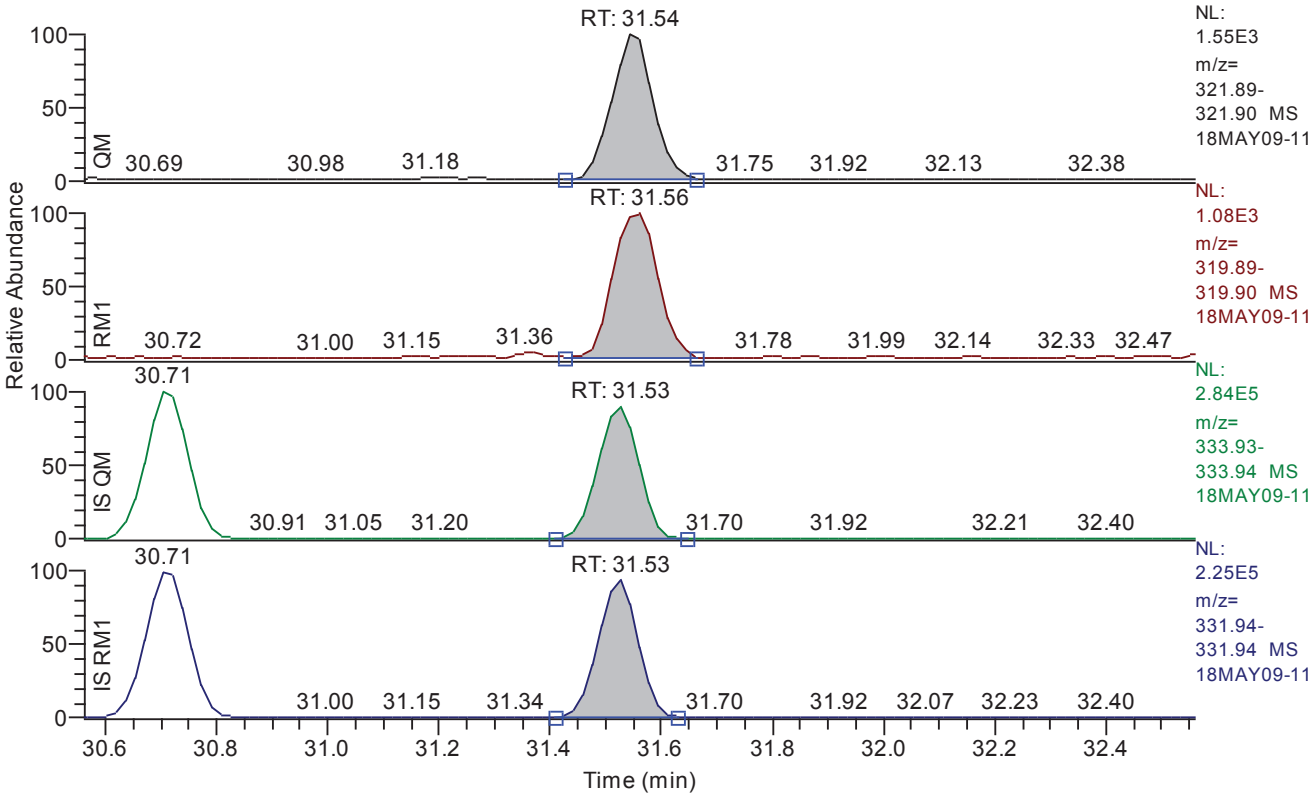
Chromatogram

RT: 30.56 - 32.56 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	31.54
QM Area	8061
QM Integration Mode	A
RM1 Area	6040
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	275
Client Flags	
Status Overview	passed
Status Info	

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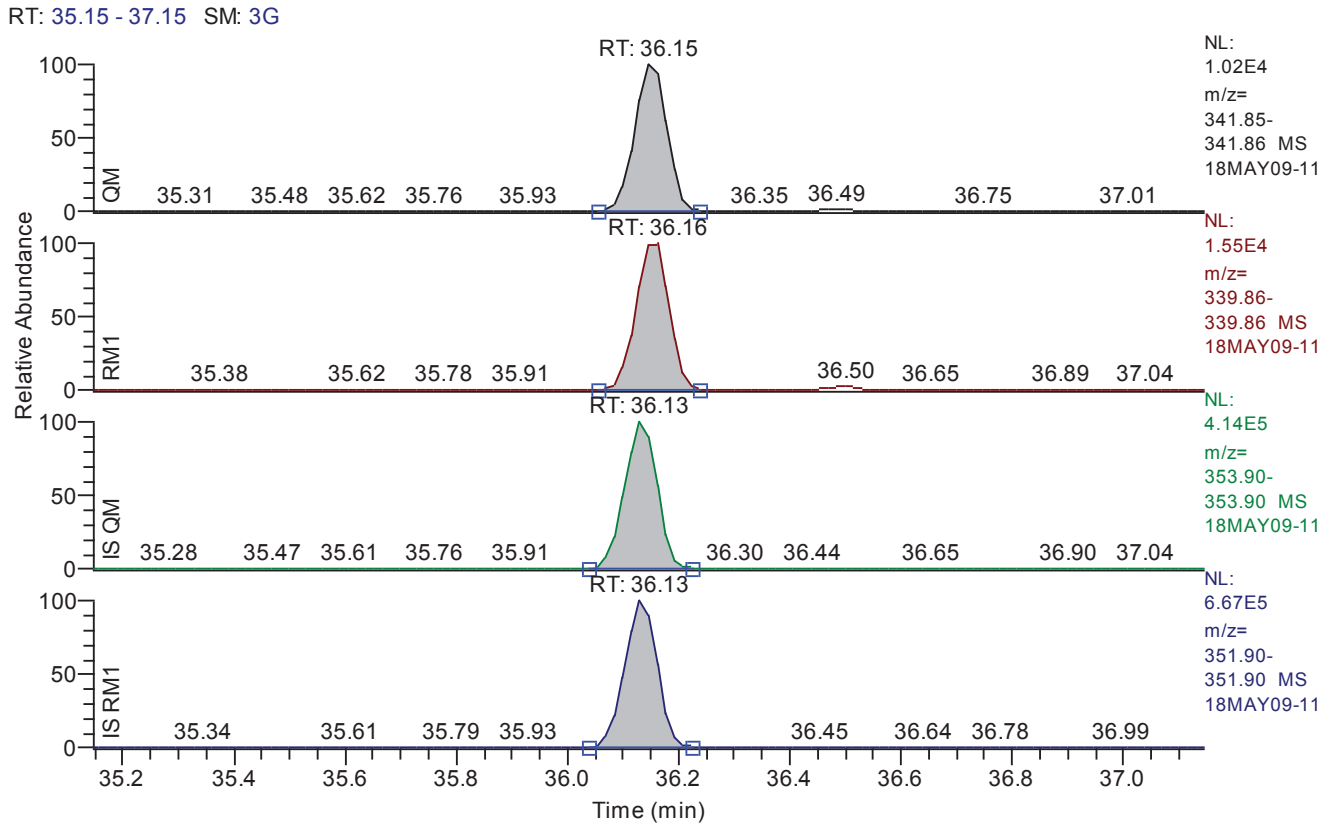
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	36.15
QM Area	41084
QM Integration Mode	A
RM1 Area	64545
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0027
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	2268
Client Flags	
Status Overview	passed
Status Info	

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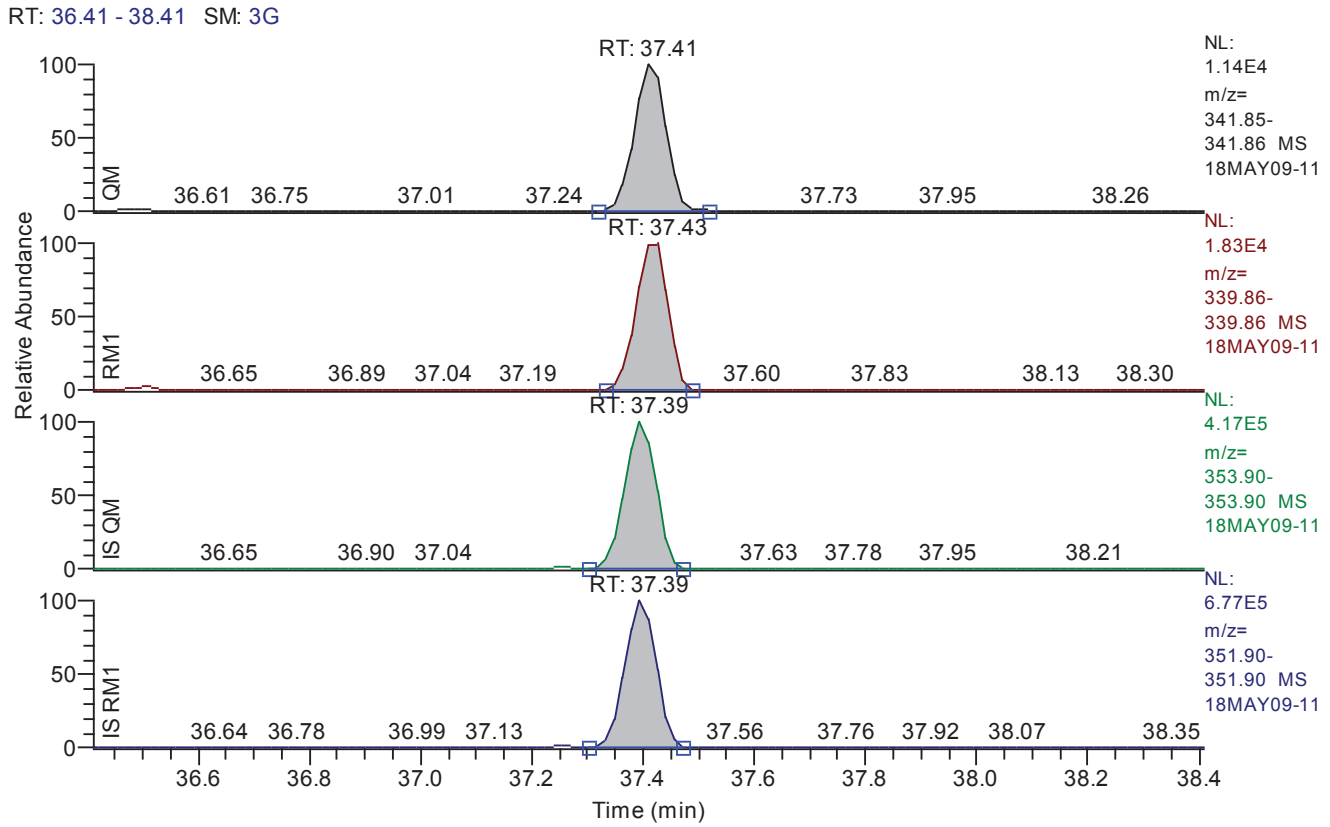
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	37.41
QM Area	44951
QM Integration Mode	A
RM1 Area	73004
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0024
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	2623
Client Flags	
Status Overview	passed
Status Info	

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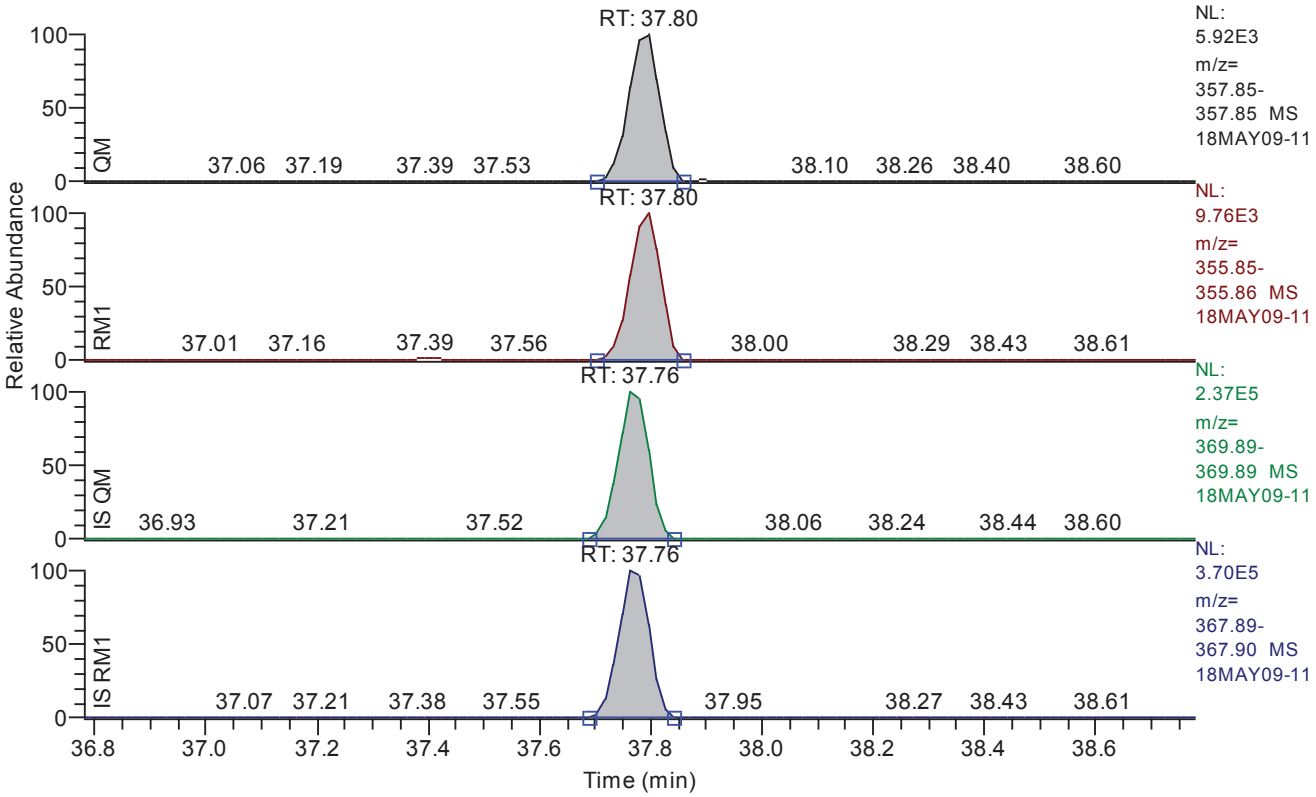
Chromatogram

RT: 36.78 - 38.78 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.80
QM Area	22961
QM Integration Mode	A
RM1 Area	37024
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	990
Client Flags	
Status Overview	passed
Status Info	

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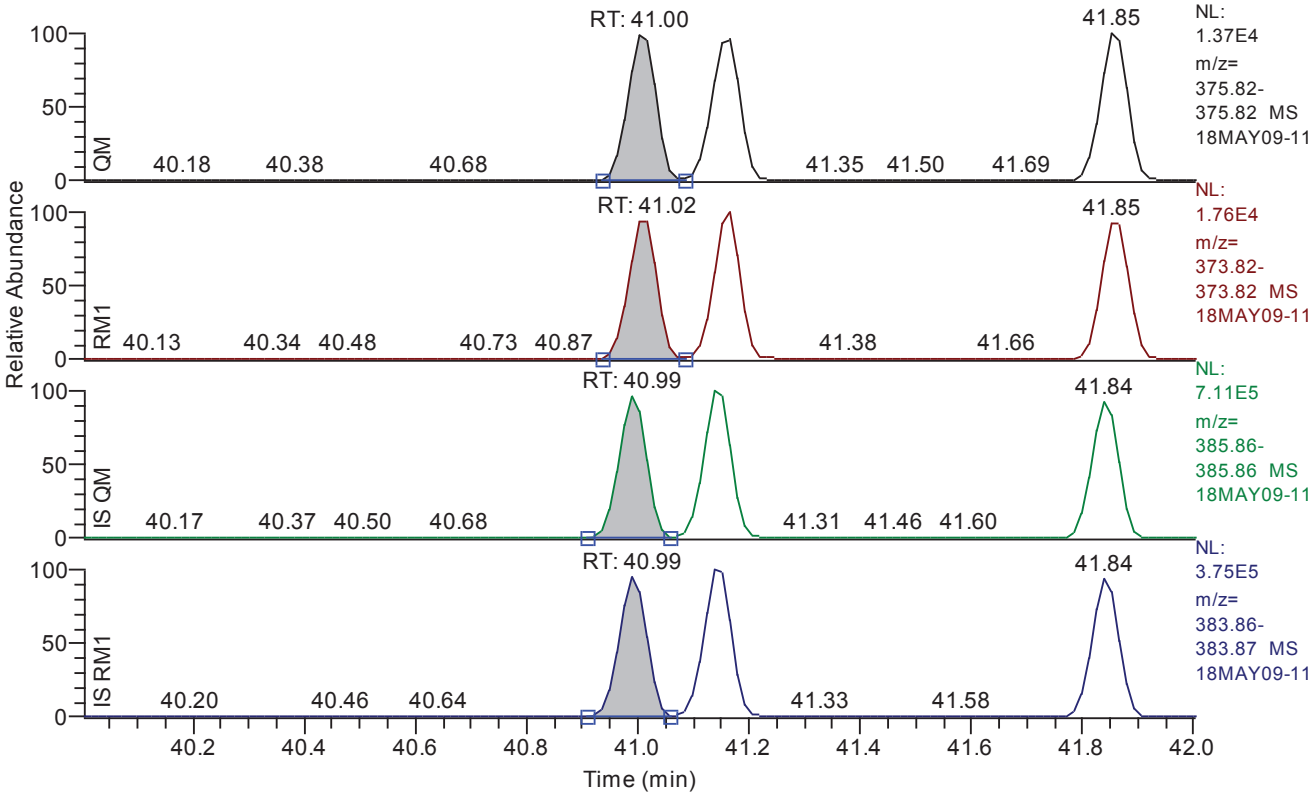
Chromatogram

RT: 40.00 - 42.00 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	41.00
QM Area	48146
QM Integration Mode	A
RM1 Area	59080
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0031
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1928
Client Flags	
Status Overview	passed
Status Info	

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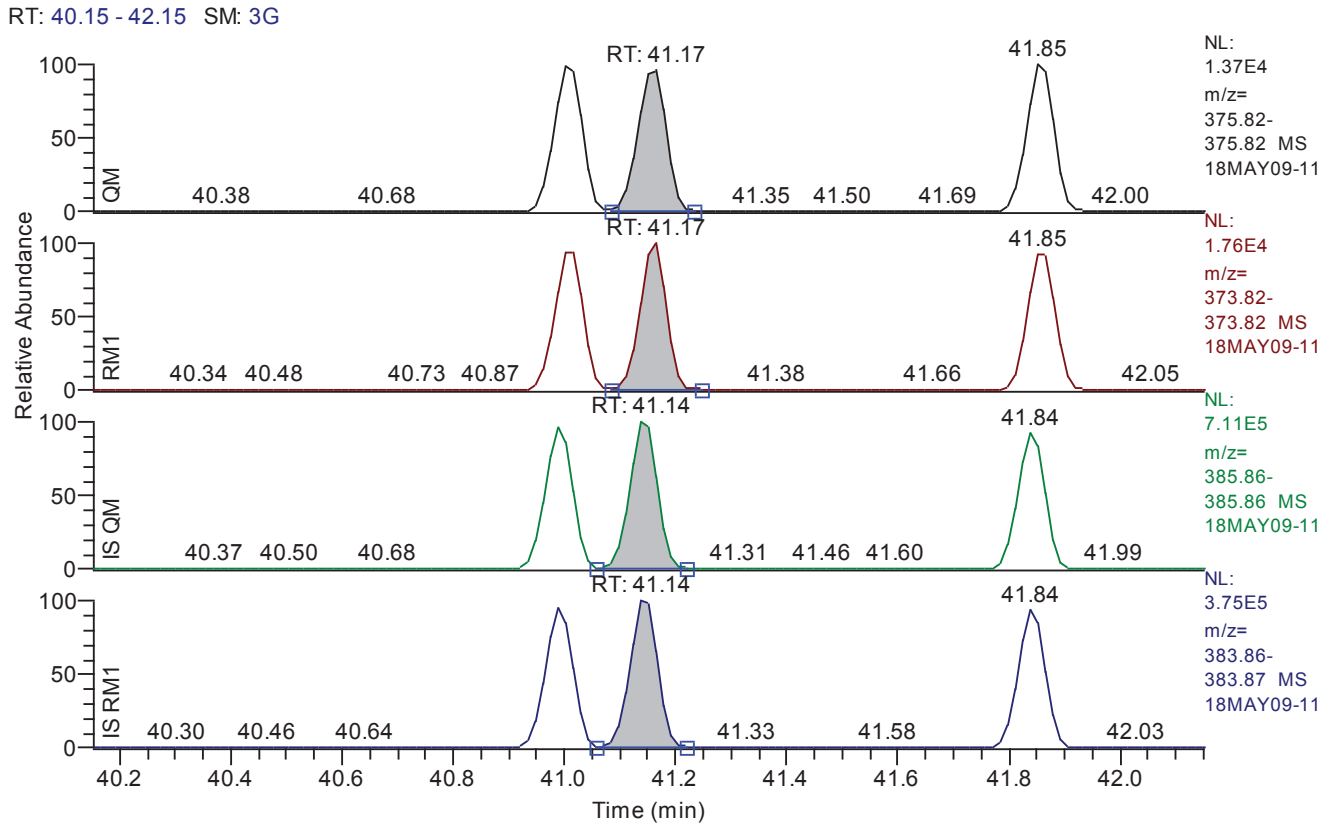
Chromatogram



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	41.17
QM Area	47094
QM Integration Mode	A
RM1 Area	58185
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0032
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1980
Client Flags	
Status Overview	passed
Status Info	

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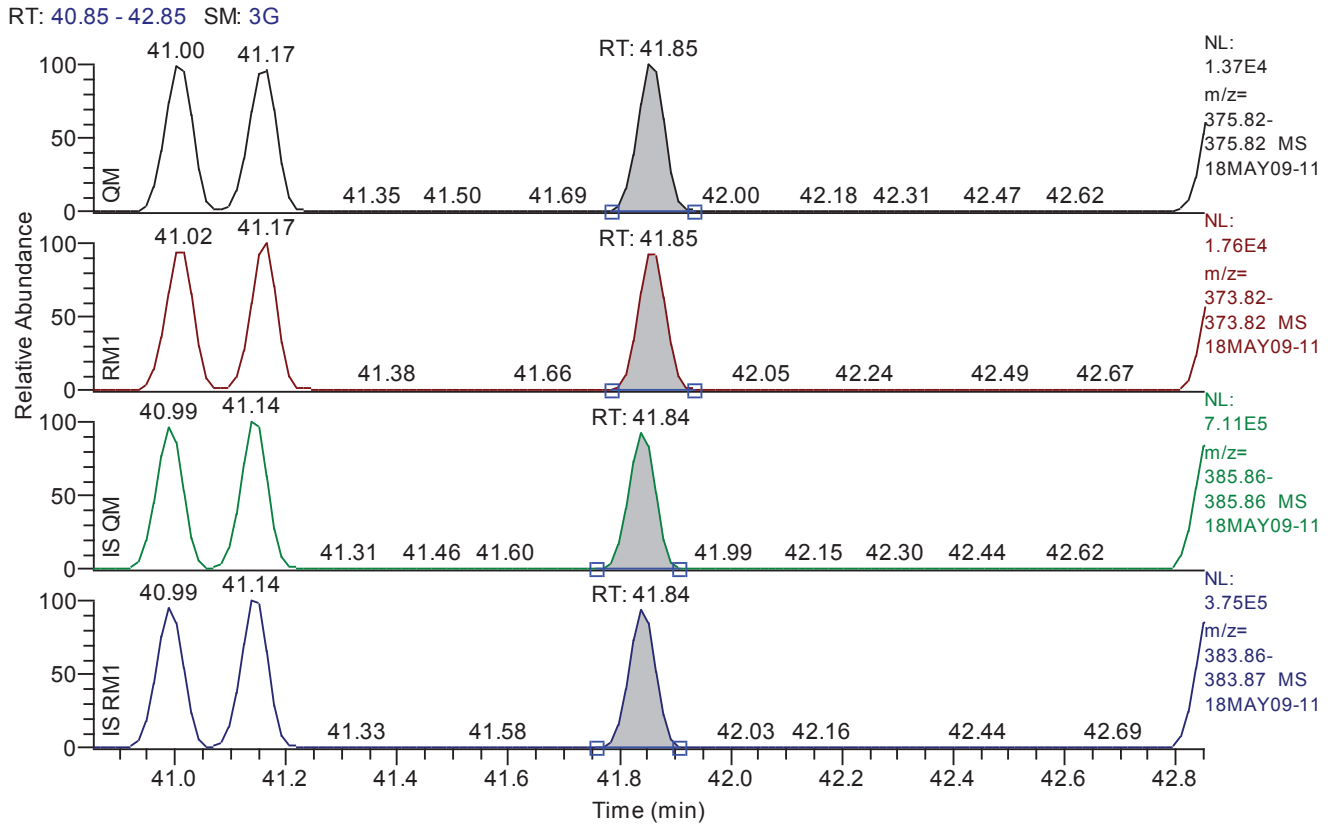
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.85
QM Area	47101
QM Integration Mode	A
RM1 Area	57662
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0031
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1921
Client Flags	
Status Overview	passed
Status Info	

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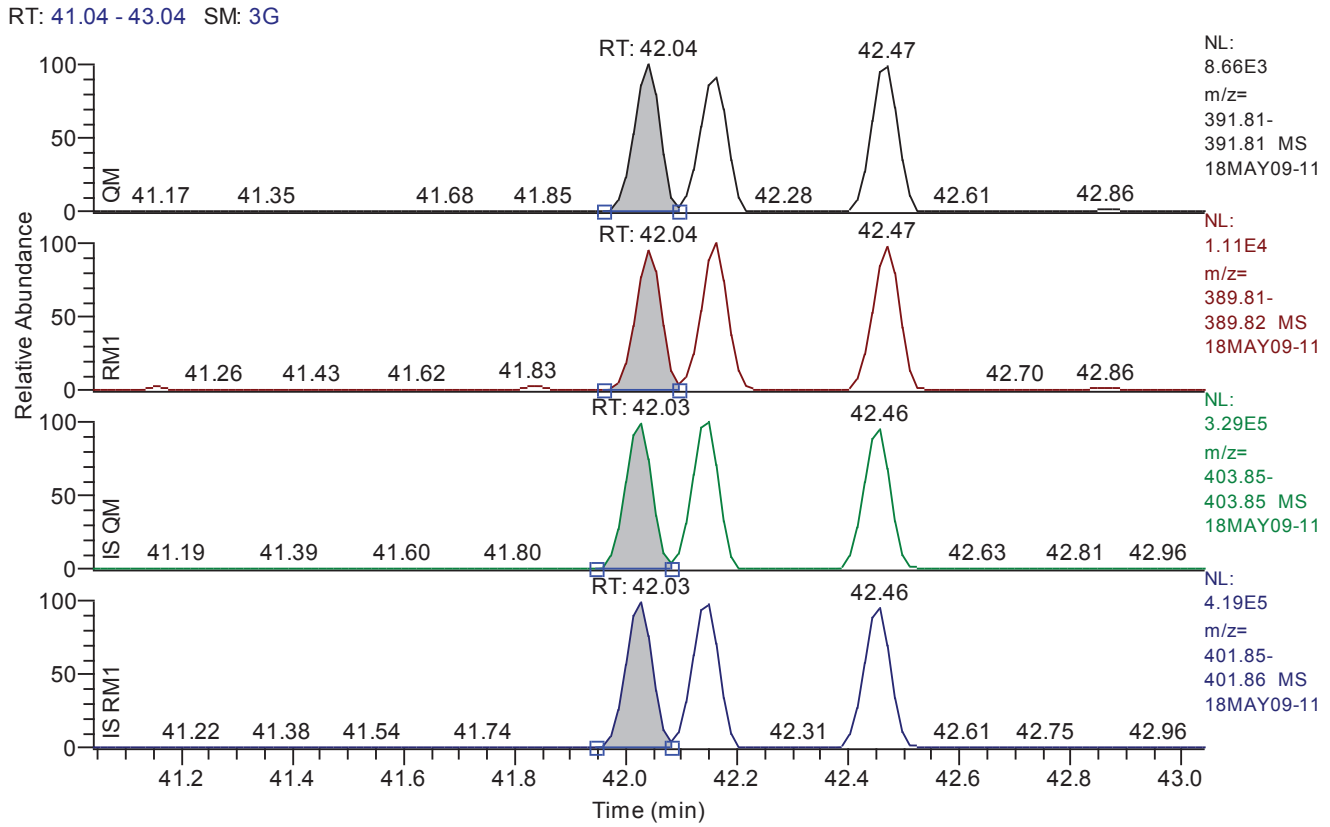
Chromatogram



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	42.04
QM Area	28193
QM Integration Mode	A
RM1 Area	34123
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0053
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1217
Client Flags	
Status Overview	passed
Status Info	

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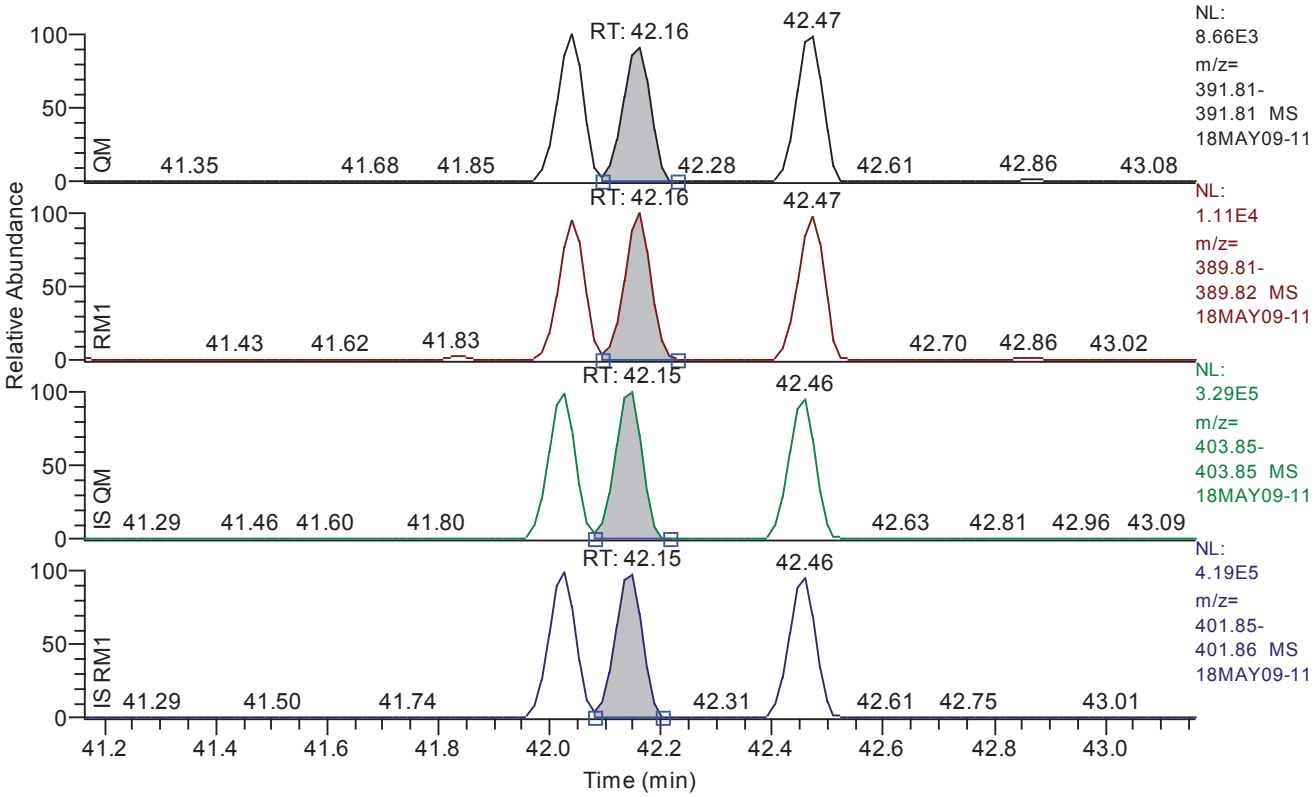
Chromatogram

RT: 41.16 - 43.16 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	42.16
QM Area	27395
QM Integration Mode	A
RM1 Area	36322
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0053
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1203
Client Flags	
Status Overview	passed
Status Info	

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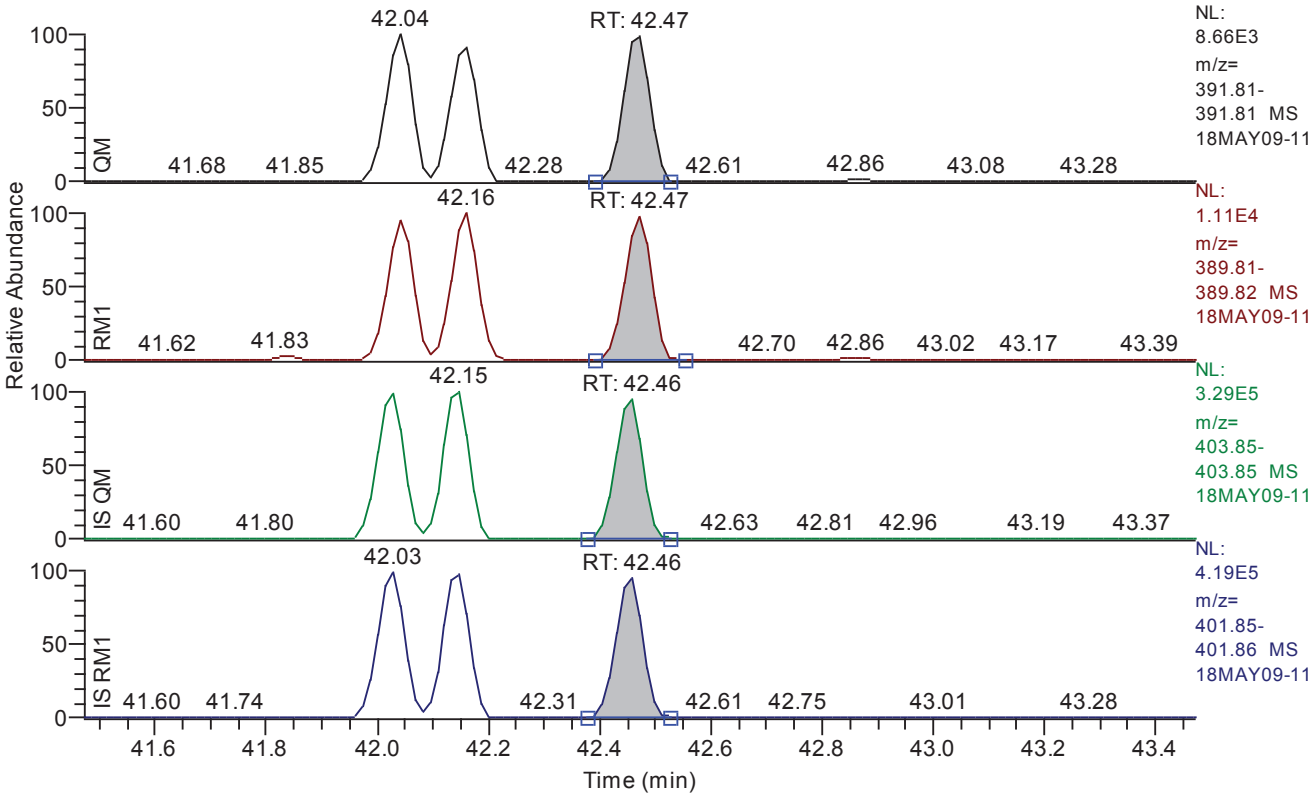
Chromatogram

RT: 41.47 - 43.47 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	42.47
QM Area	28735
QM Integration Mode	A
RM1 Area	36777
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0051
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1234
Client Flags	
Status Overview	passed
Status Info	

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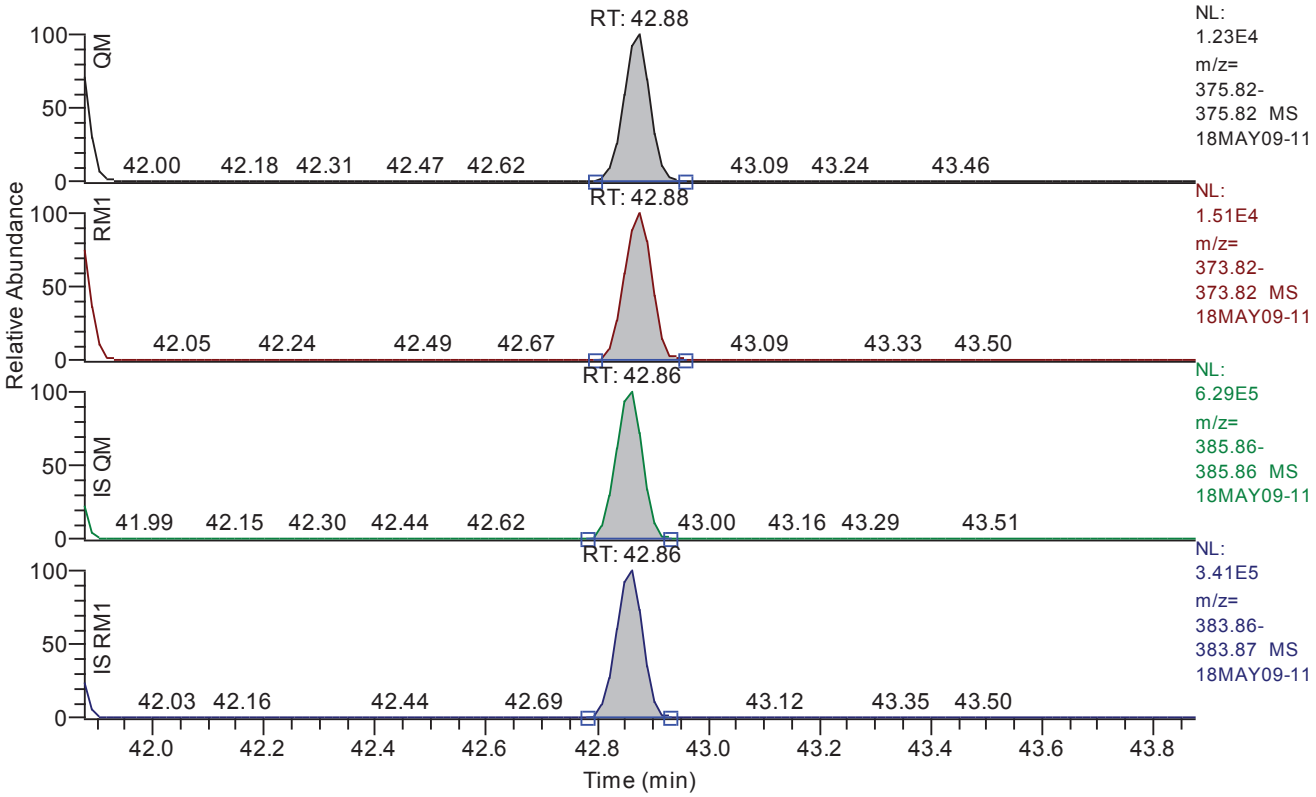
Chromatogram

RT: 41.88 - 43.88 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.88
QM Area	40512
QM Integration Mode	A
RM1 Area	52818
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0035
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1756
Client Flags	
Status Overview	passed
Status Info	

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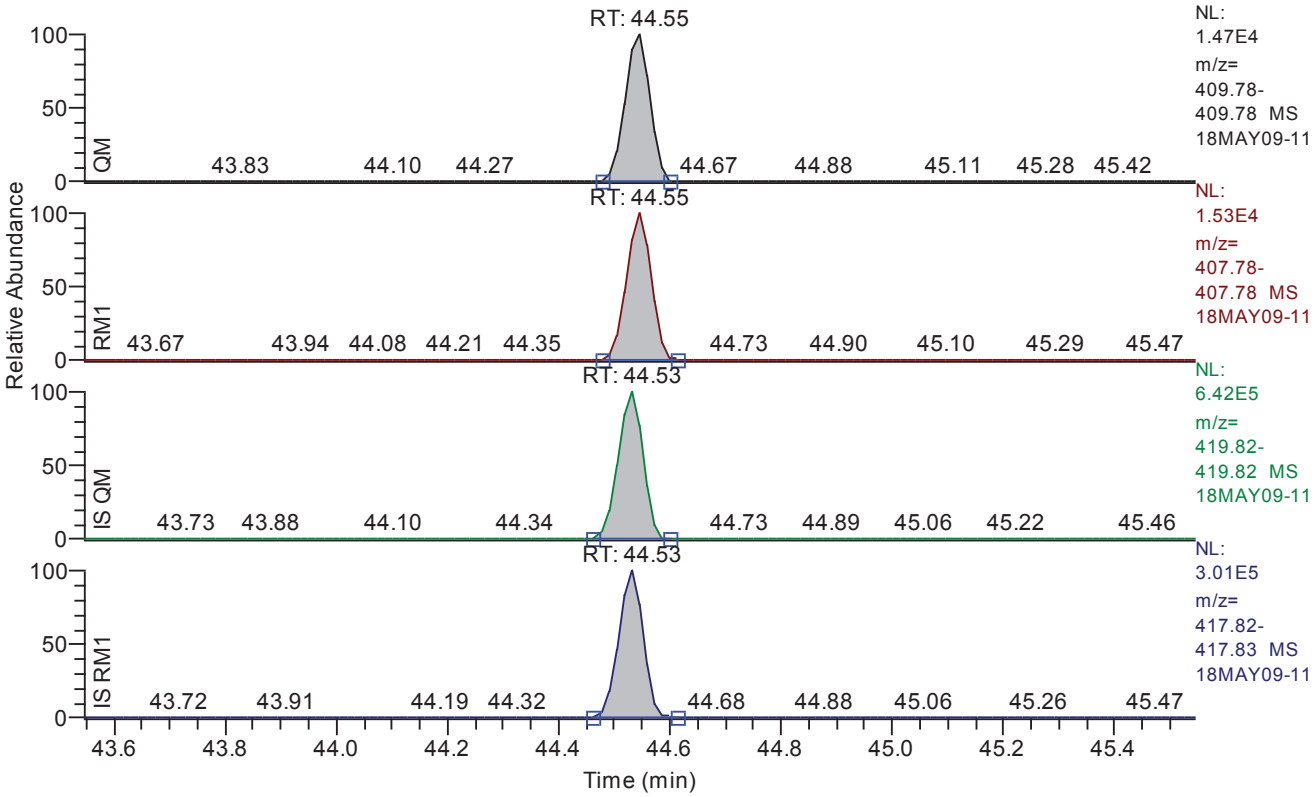
Chromatogram

RT: 43.55 - 45.55 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.55
QM Area	46916
QM Integration Mode	A
RM1 Area	48722
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0029
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	2172
Client Flags	
Status Overview	passed
Status Info	

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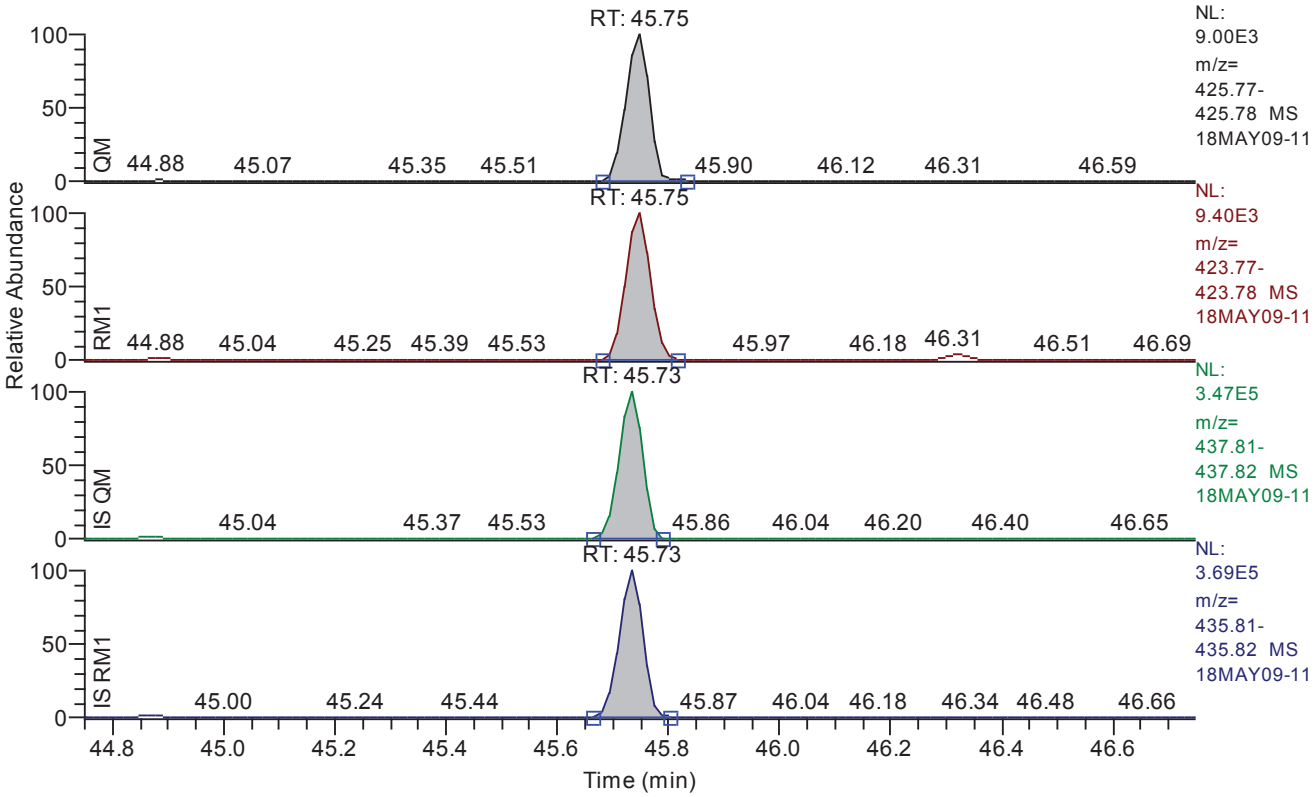
Chromatogram

RT: 44.75 - 46.75 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.75
QM Area	27398
QM Integration Mode	A
RM1 Area	29891
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1543
Client Flags	
Status Overview	passed
Status Info	

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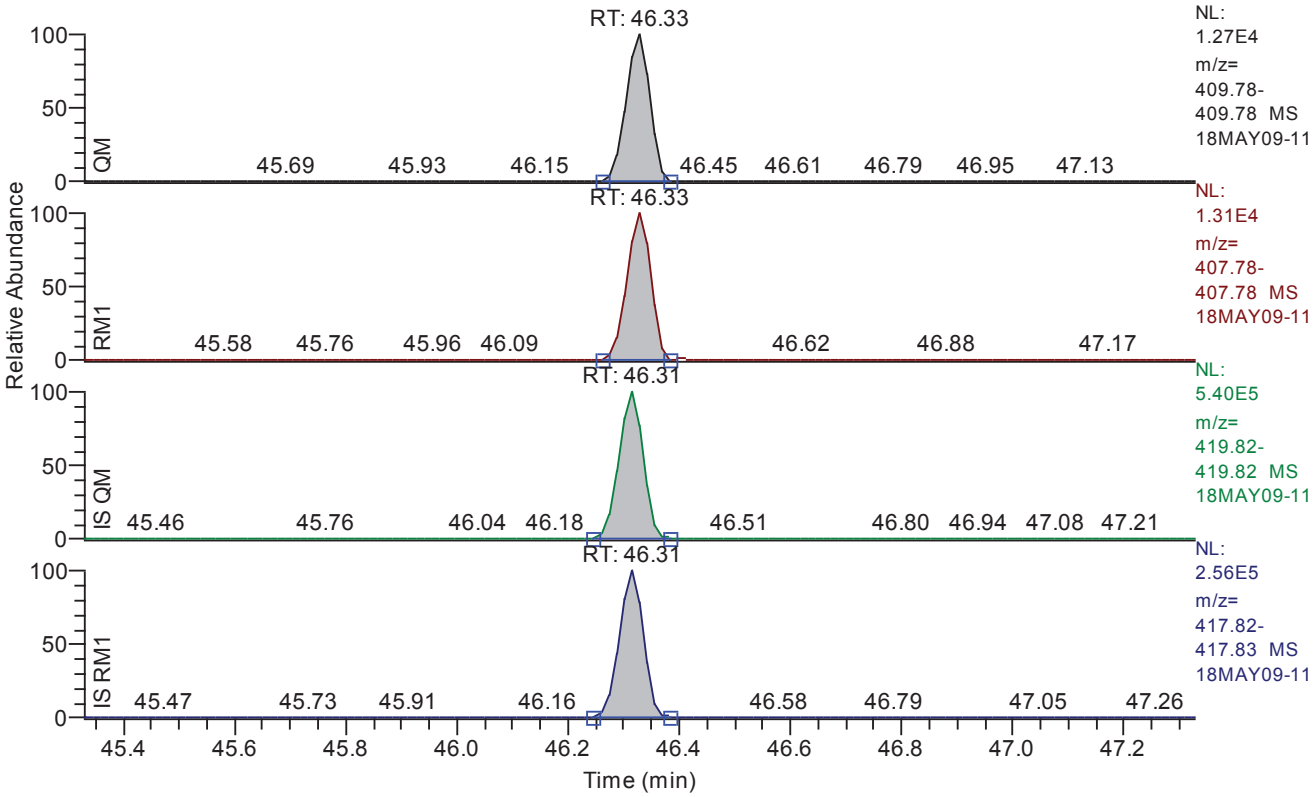
Chromatogram

RT: 45.33 - 47.33 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	46.33
QM Area	38846
QM Integration Mode	A
RM1 Area	40266
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0034
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1867
Client Flags	
Status Overview	passed
Status Info	

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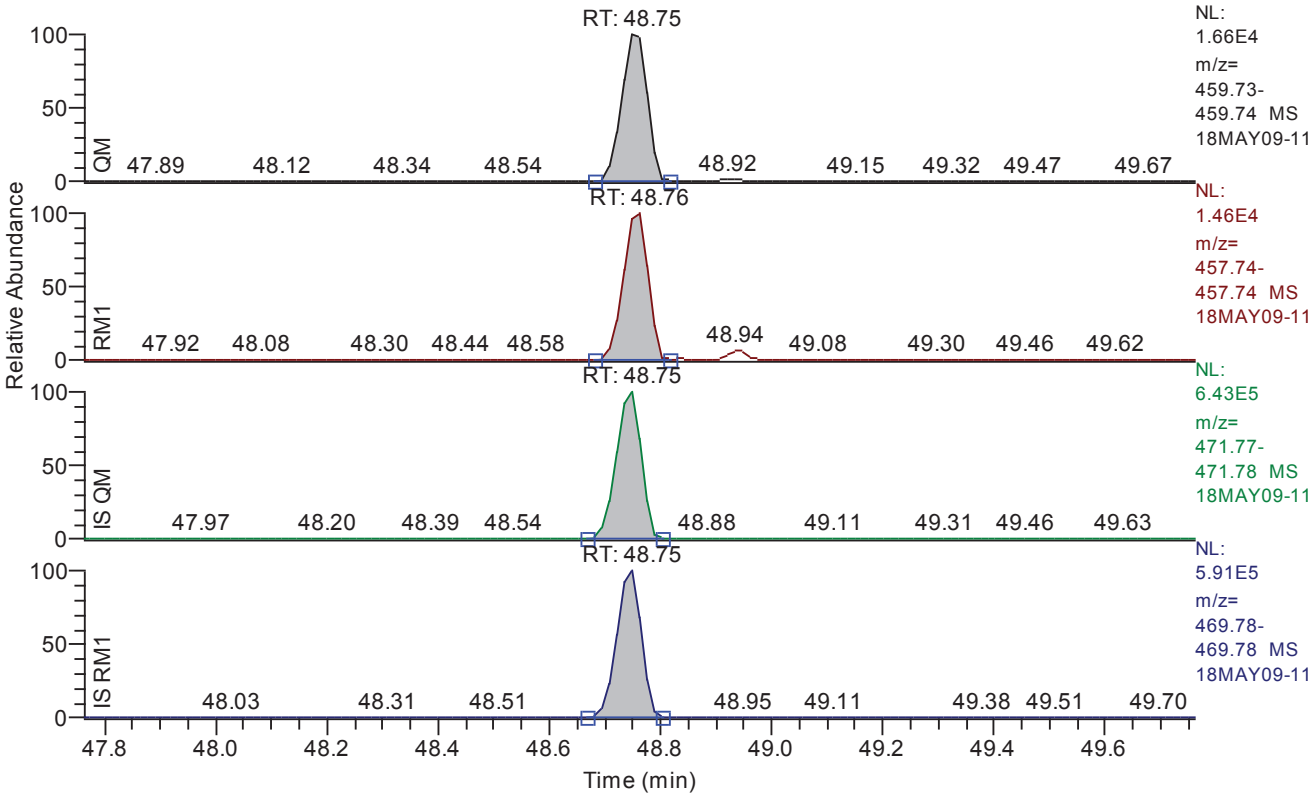
Chromatogram

RT: 47.76 - 49.76 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.75
QM Area	52431
QM Integration Mode	A
RM1 Area	45537
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1425
Client Flags	
Status Overview	passed
Status Info	

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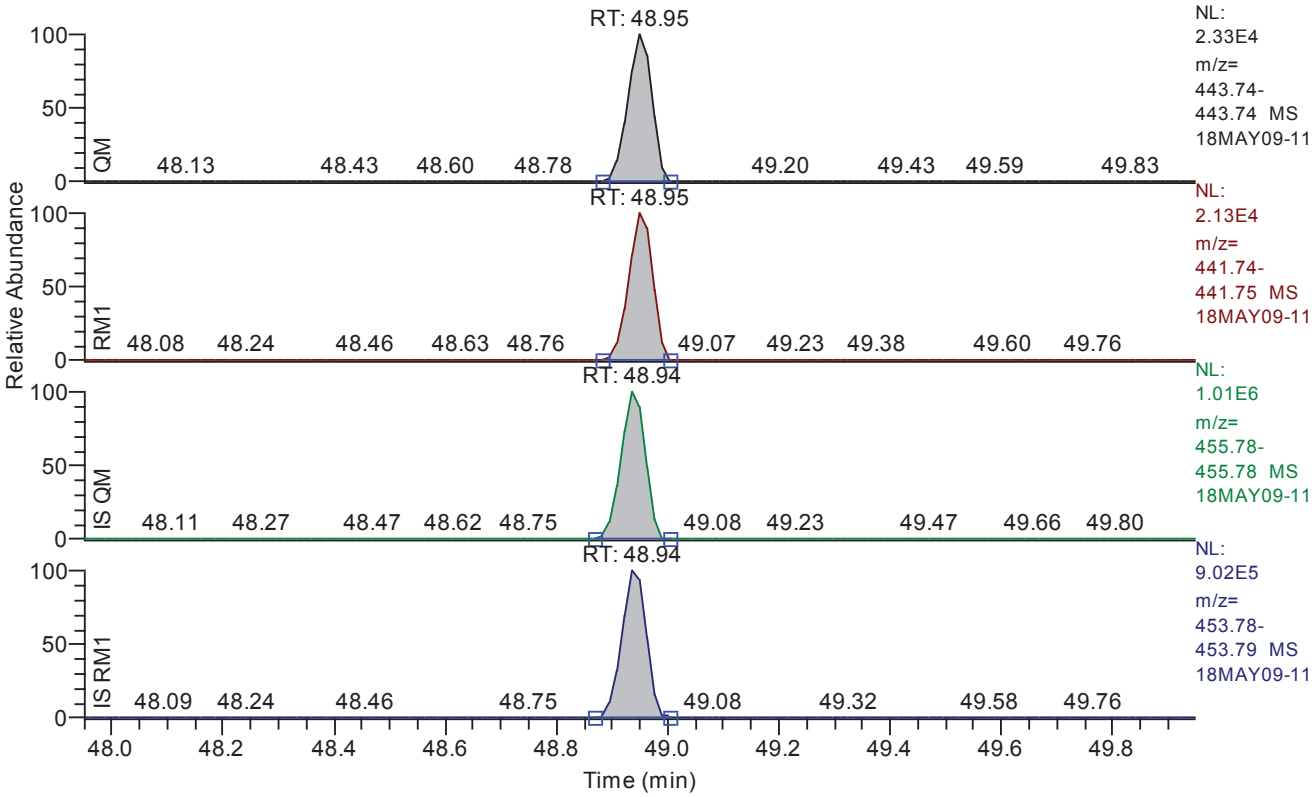
Chromatogram

RT: 47.95 - 49.95 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.95
QM Area	70000
QM Integration Mode	A
RM1 Area	63516
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0051
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	2480
Client Flags	
Status Overview	passed
Status Info	

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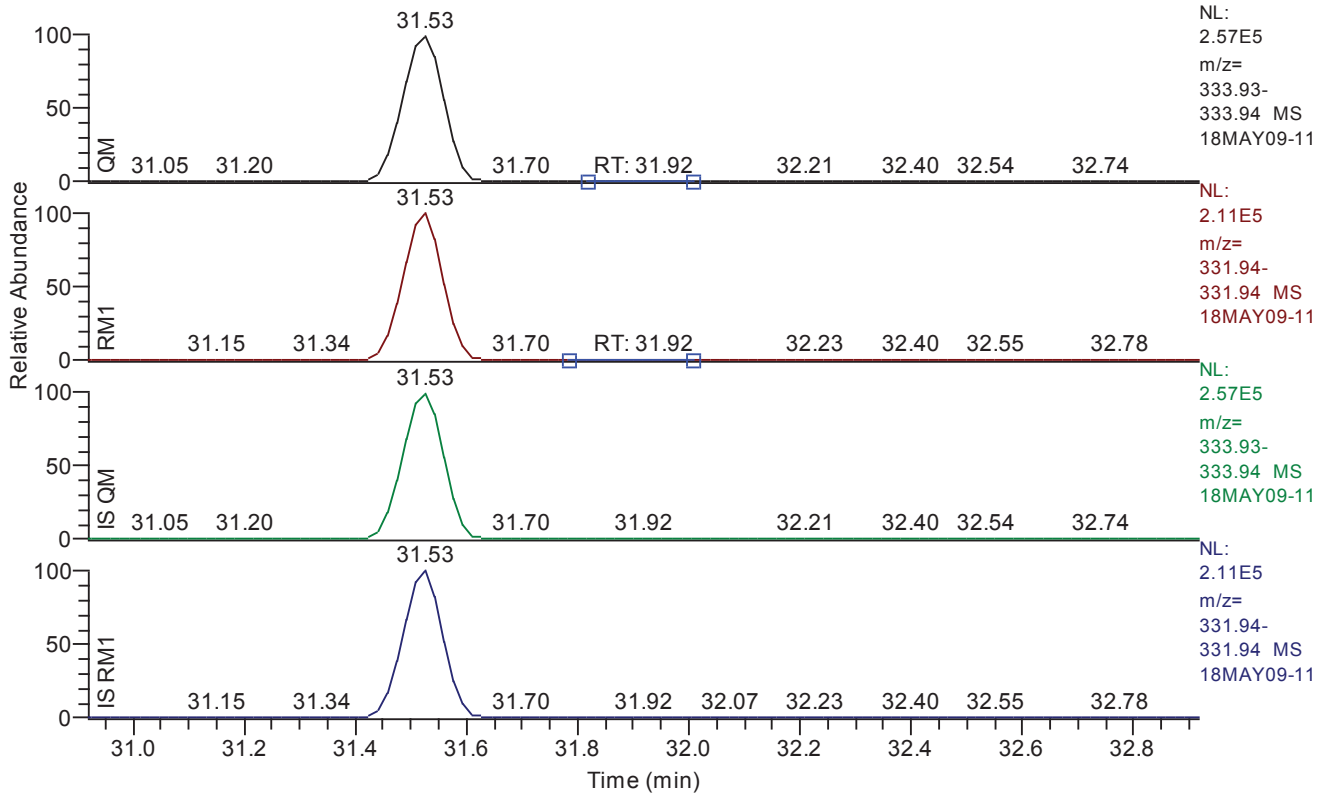
Chromatogram

RT: 30.92 - 32.92 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.92
QM Area	13639
QM Integration Mode	M
RM1 Area	8955
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0086
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	136
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 19:36
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837B
Sample ID	CS101
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-11.quan
Data	z:\18may09\18may09-11.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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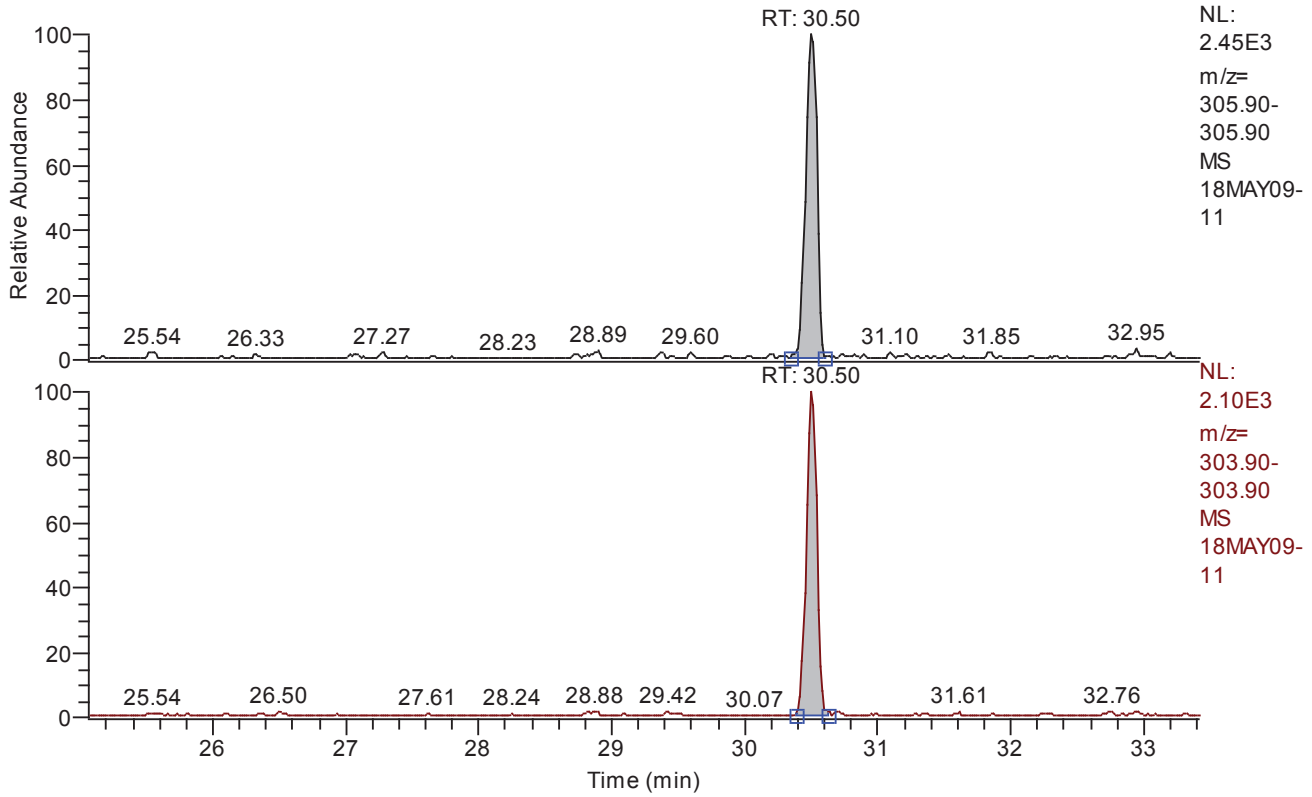
Chromatogram

RT: 25.06 - 33.42 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	29.24
QM Area	14482
QM Integration Mode	A
RM1 Area	11468
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0026
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	462
Client Flags	
Status Overview	passed (1)
Status Info	

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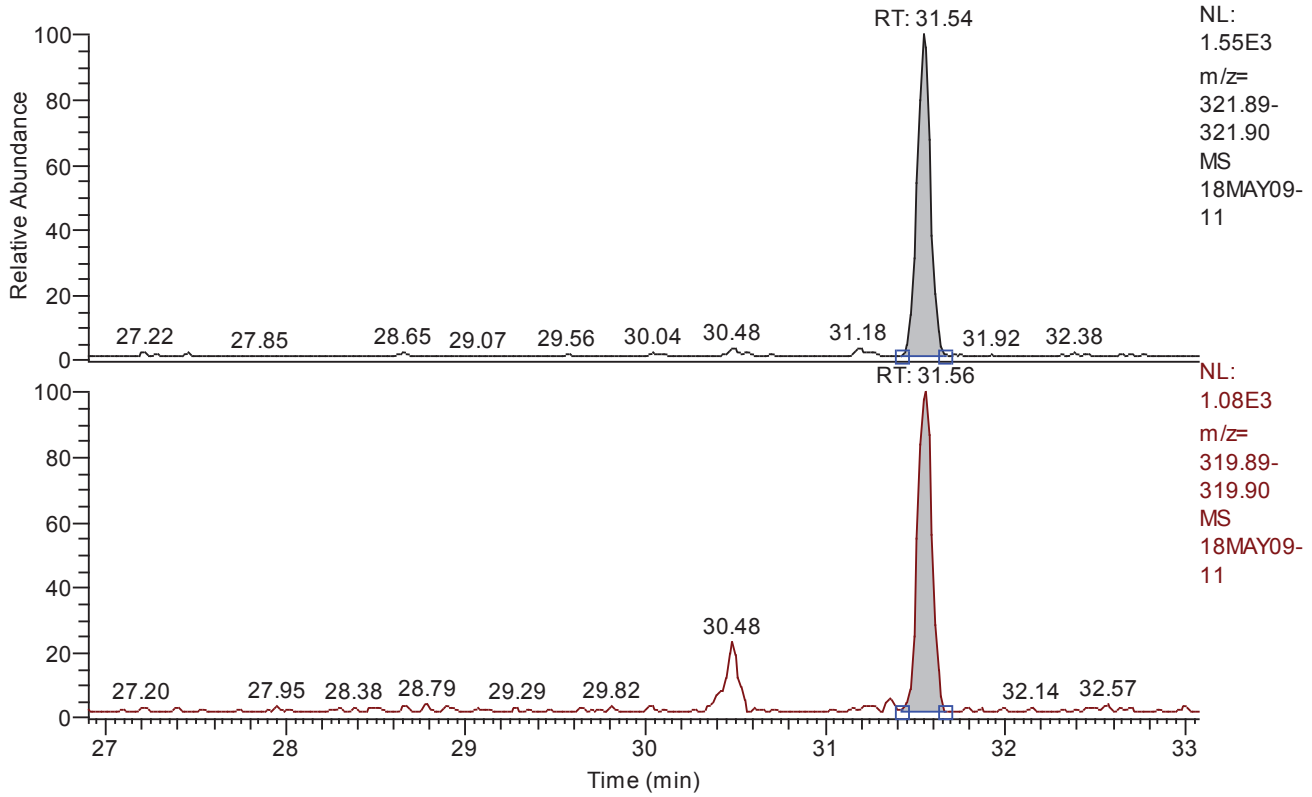
Chromatogram

RT: 26.90 - 33.08 SM: 3G



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.99
QM Area	8061
QM Integration Mode	A
RM1 Area	6040
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0252
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	2.9348
Signal-to-Noise	275
Client Flags	
Status Overview	passed (1)
Status Info	

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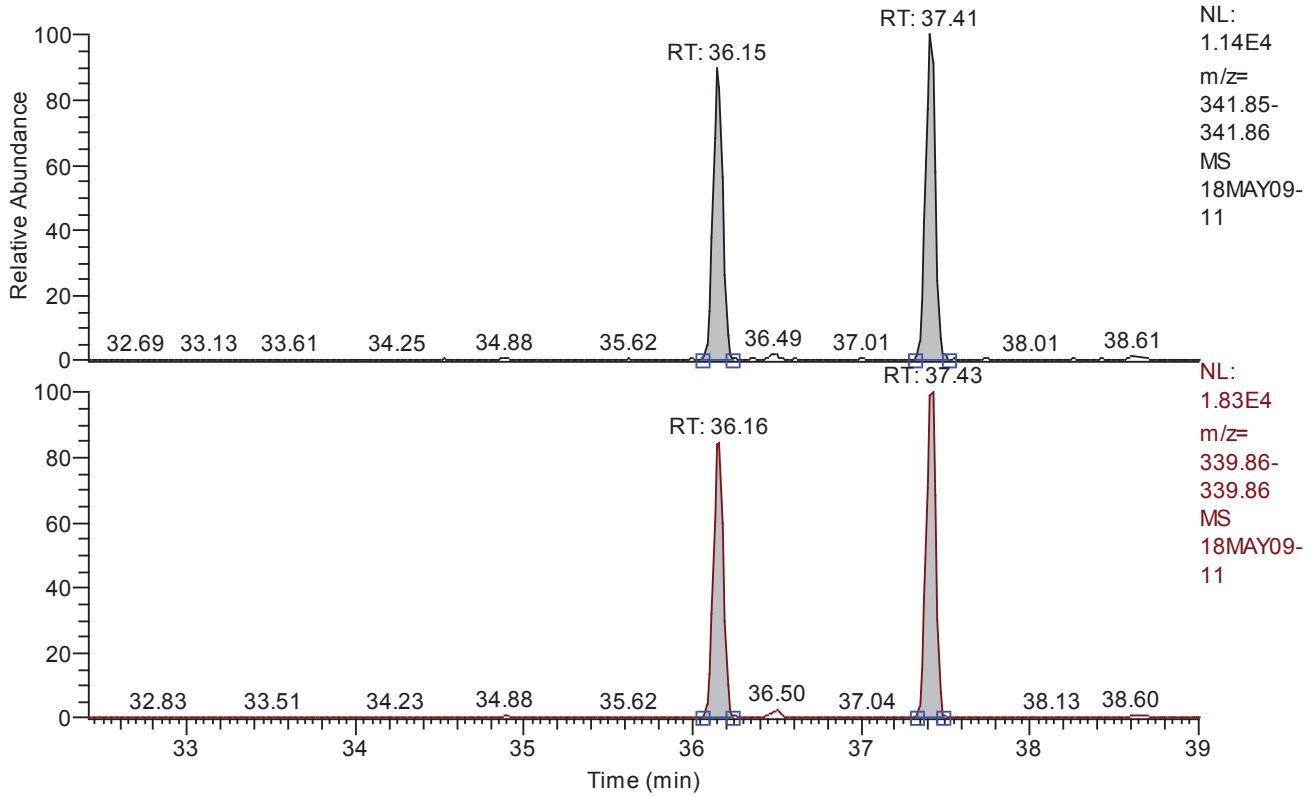
Chromatogram

RT: 32.41 - 39.01 SM: 3G



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	35.71
QM Area	86035
QM Integration Mode	A
RM1 Area	137549
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	14.9597
Signal-to-Noise	2445
Client Flags	
Status Overview	passed (2)
Status Info	

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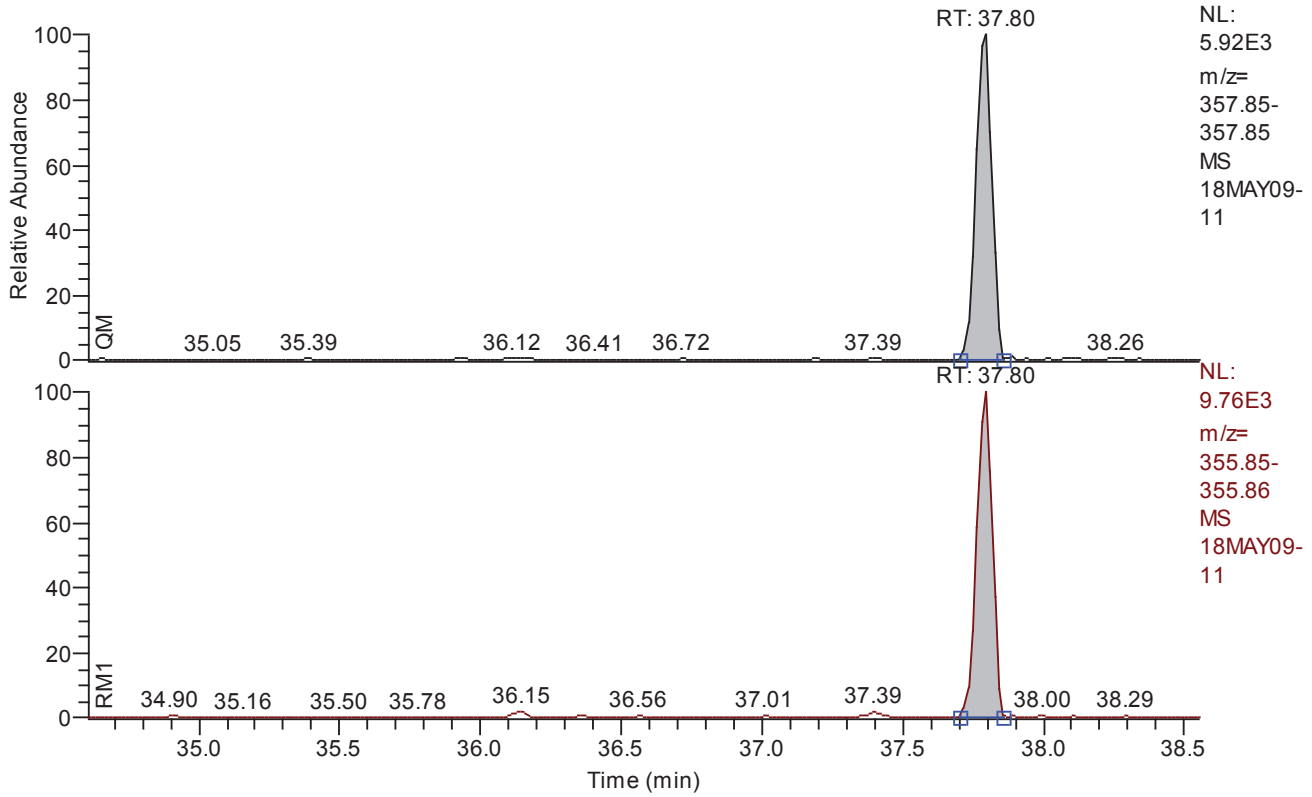
Chromatogram

RT: 34.61 - 38.55 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.58
QM Area	22961
QM Integration Mode	A
RM1 Area	37024
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0377
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	14.8508
Signal-to-Noise	990
Client Flags	
Status Overview	passed (1)
Status Info	

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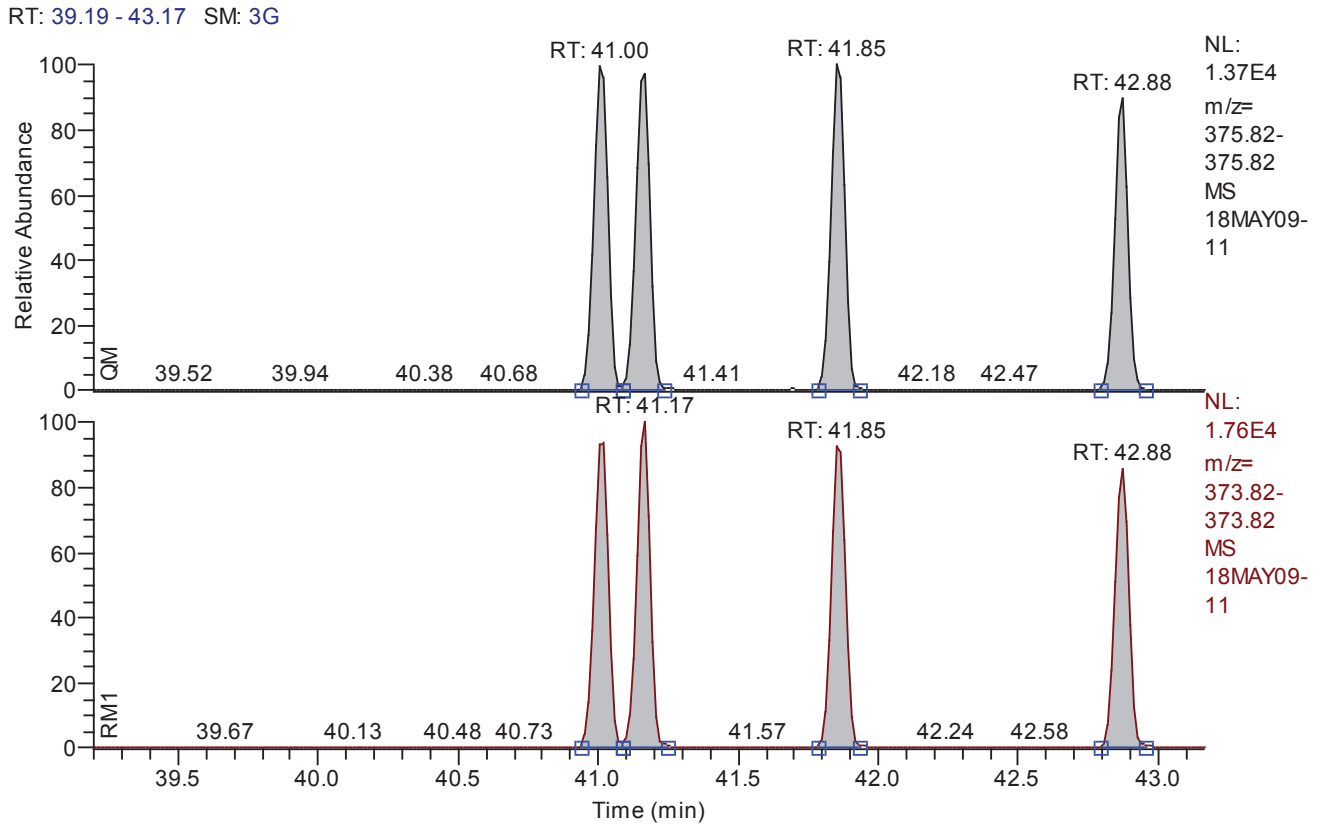
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	41.18
QM Area	182854
QM Integration Mode	A
RM1 Area	227745
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0041
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	12.4995
Signal-to-Noise	1896
Client Flags	
Status Overview	passed (4)
Status Info	

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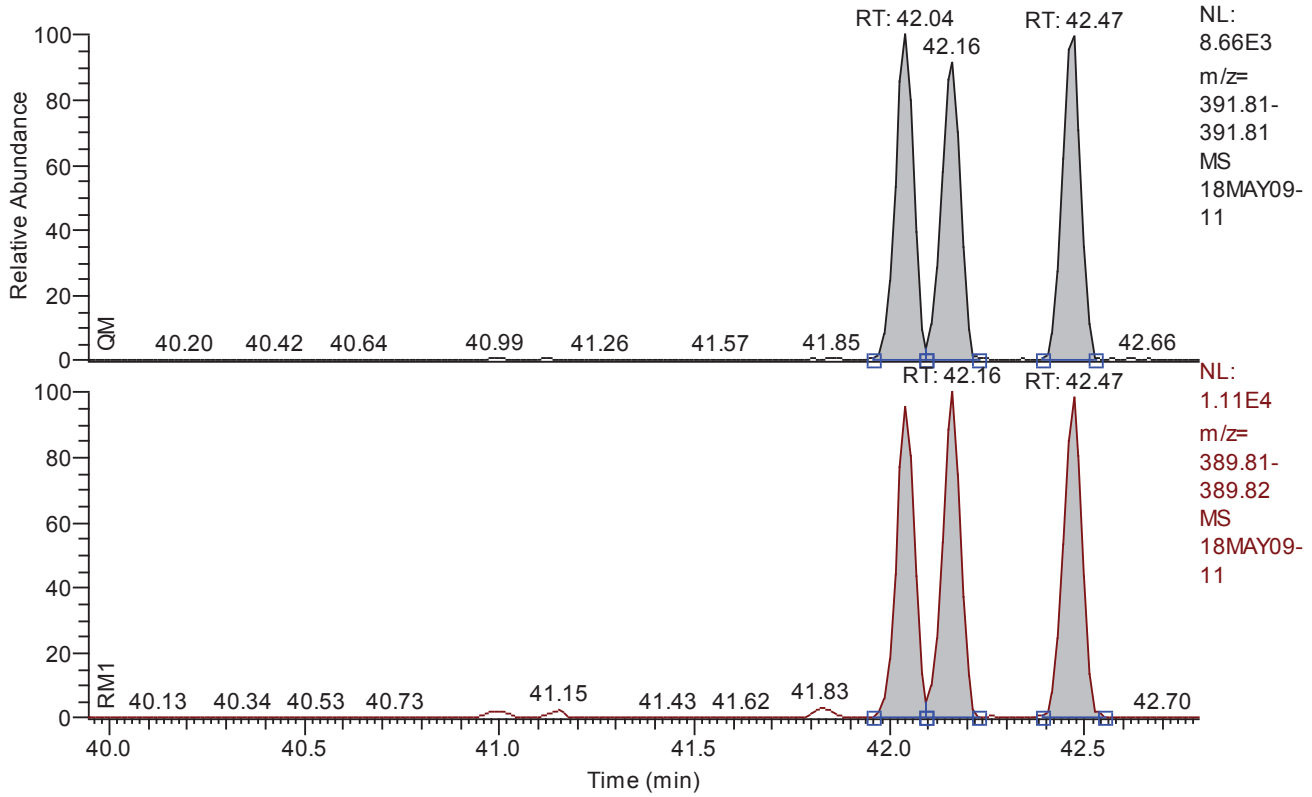
Chromatogram

RT: 39.95 - 42.79 SM: 3G



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.37
QM Area	84322
QM Integration Mode	A
RM1 Area	107221
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	9.9986
Signal-to-Noise	1218
Client Flags	
Status Overview	passed (3)
Status Info	

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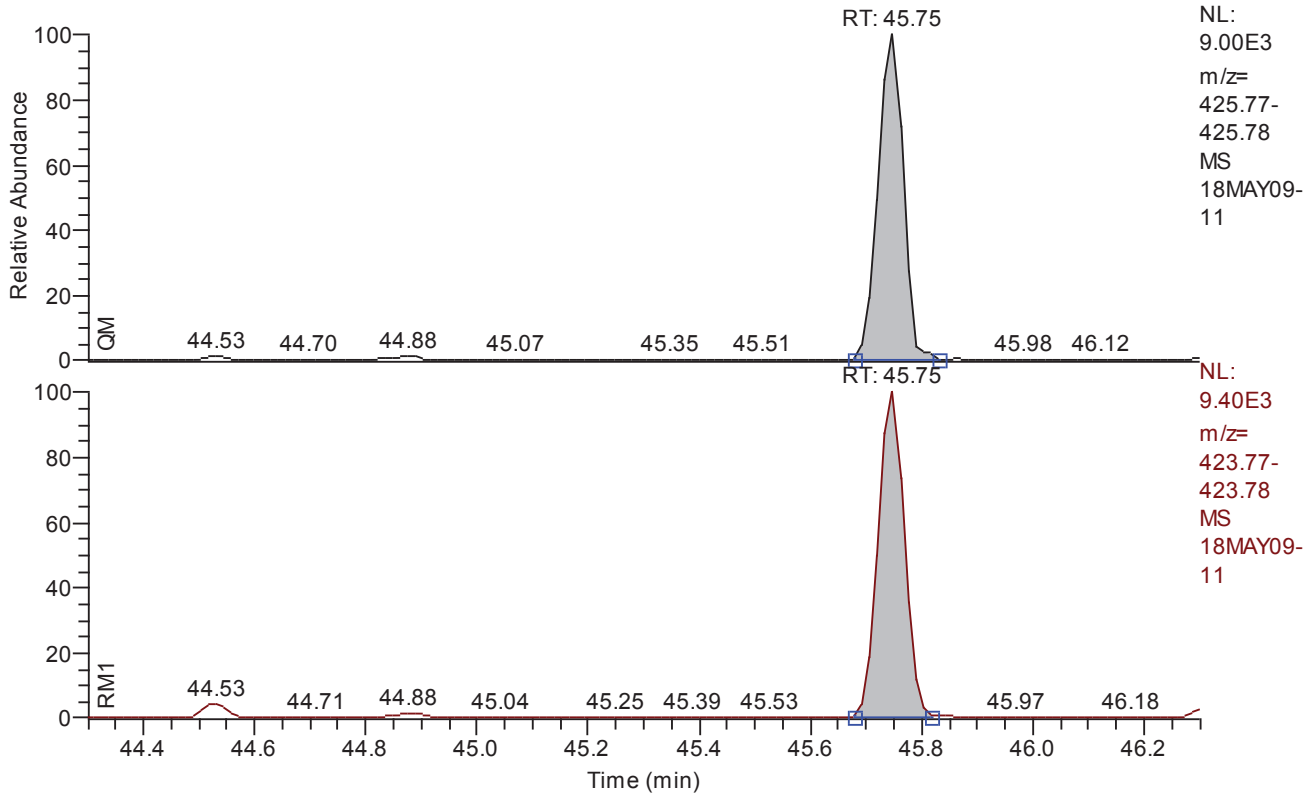
Chromatogram

RT: 44.30 - 46.30 SM: 3G



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	45.30
QM Area	27398
QM Integration Mode	A
RM1 Area	29891
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0078
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	4.9239
Signal-to-Noise	1543
Client Flags	
Status Overview	passed (1)
Status Info	

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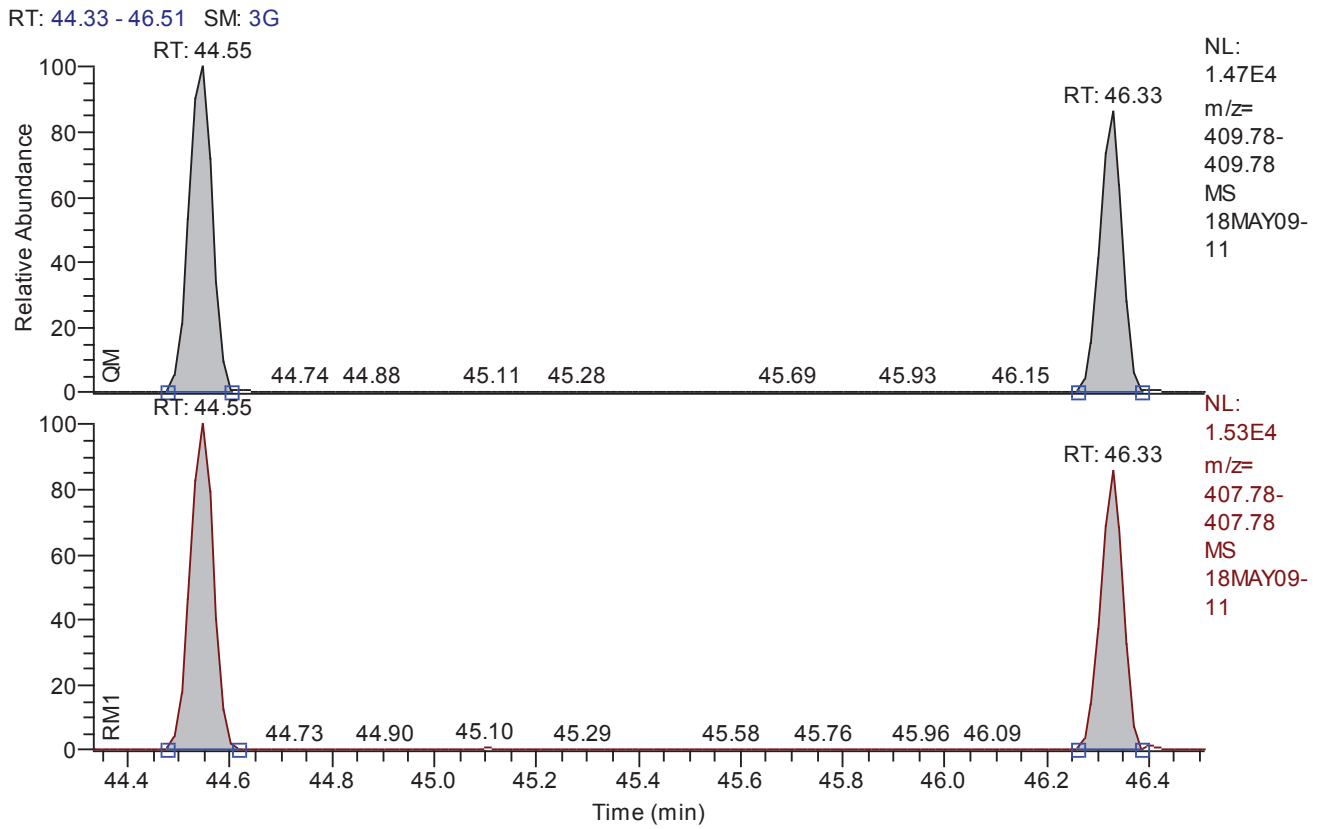
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	45.42
QM Area	85762
QM Integration Mode	A
RM1 Area	88989
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	7.4856
Signal-to-Noise	2020
Client Flags	
Status Overview	passed (2)
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 19:36
Number of Entries	247
Comment	
Vial	4
Sample Name	CALDF21837B
Sample ID	CS101
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-11.quan
Data	z:\18may09\18may09-11.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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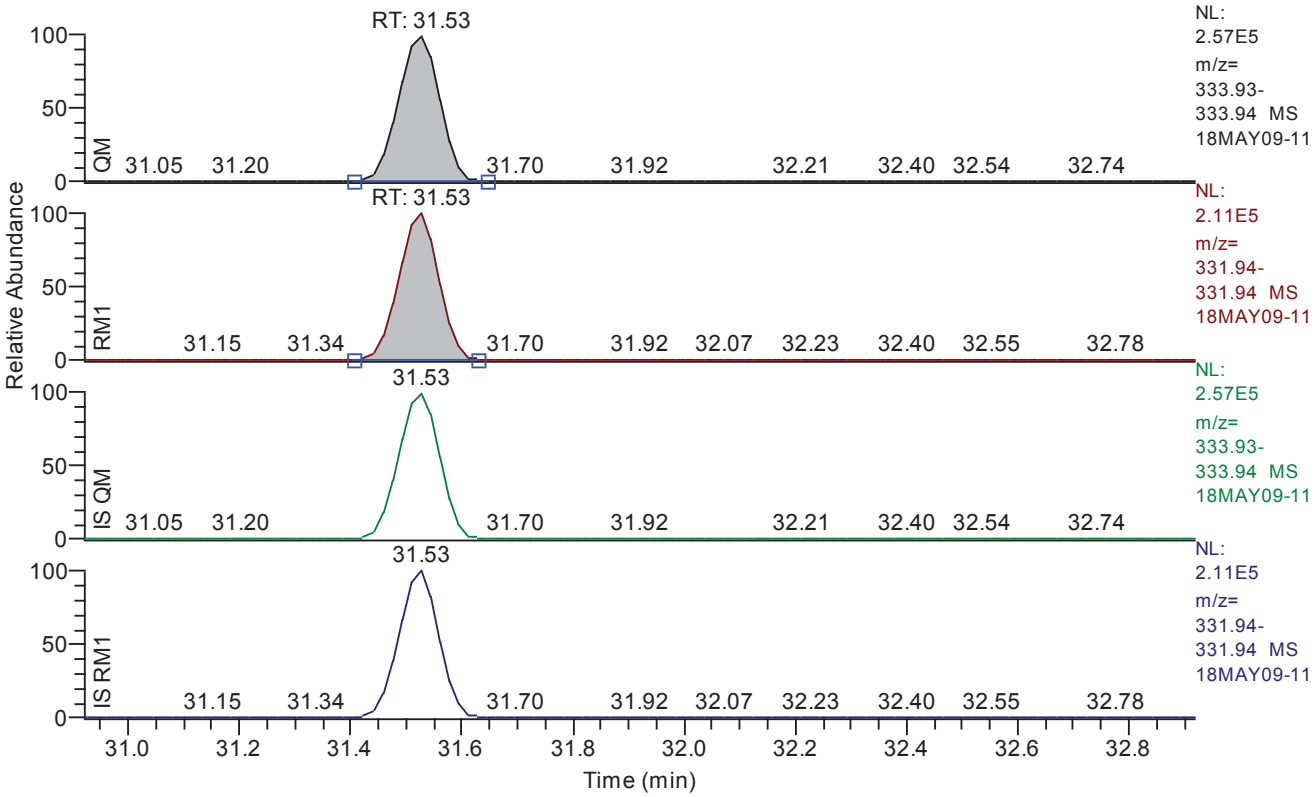
Chromatogram

RT: 30.92 - 32.92 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.53
QM Area	1343290
QM Integration Mode	A
RM1 Area	1069479
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0086
Unqualified Amount (A)	53.392621
Adjusted Amount (A)	n.d.
Signal-to-Noise	16247
Client Flags	
Status Overview	failed
Status Info	Failed on: RT

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	30.50	30.50	30.50	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	31.54	31.54	31.56	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.15	36.15	36.16	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.41	37.41	37.43	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.80	37.80	37.80	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.00	41.00	41.02	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.17	41.17	41.17	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.85	41.85	41.85	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.04	42.04	42.04	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.16	42.16	42.16	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.47	42.47	42.47	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.88	42.88	42.88	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.55	44.55	44.55	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.75	45.75	45.75	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.33	46.33	46.33	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.75	48.75	48.76	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.95	48.95	48.95	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	31.92	31.92	31.92	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.71	30.71	30.71	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.90	40.90	40.90	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	30.47	30.47	30.47	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.53	31.53	31.53	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.13	36.13	36.13	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.39	37.39	37.39	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.76	37.76	37.76	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.14	41.14	41.14	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.84	41.84	41.84	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.15	42.15	42.15	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.46	42.46	42.46	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.86	42.86	42.86	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.53	44.53	44.53	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.73	45.73	45.73	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.31	46.31	46.31	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.75	48.75	48.75	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.94	48.94	48.94	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.24	29.24	29.24	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.62	29.99	29.99	29.99	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	35.71	35.71	35.71	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	36.58	36.58	36.58	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.18	41.18	41.18	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.37	41.37	41.37	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.30	45.30	45.30	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	45.42	45.42	45.42	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	30.50	30.50	30.50	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.62	31.54	31.54	31.56	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	37.80	37.80	37.80	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	37.41	37.41	37.43	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	36.15	36.15	36.16	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.75	45.75	45.75	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.85	41.85	41.85	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.00	41.00	41.02	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.17	41.17	41.17	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	42.88	42.88	42.88	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.04	42.04	42.04	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.16	42.16	42.16	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.47	42.47	42.47	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	44.55	44.55	44.55	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	46.33	46.33	46.33	passed	passed

APPROVED
By AQ46 at 4:42 pm, 6/4/18

REVIEWED
By uild at 1:13 pm, 7/24/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	30.50	0.7919	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	31.54	0.7493	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	36.15	1.5710	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	37.41	1.6241	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.80	1.6124	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	41.00	1.2271	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	41.17	1.2355	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.85	1.2242	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	42.04	1.2103	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	42.16	1.3258	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	42.47	1.2799	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.88	1.3037	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	44.55	1.0385	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.75	1.0910	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	46.33	1.0366	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.75	0.8685	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.95	0.9074	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.92	0.6566	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	30.71	0.7977	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.90	1.2794	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	30.47	0.7981	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	31.53	0.7962	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	36.13	1.6102	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	37.39	1.6145	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.76	1.5739	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.99	0.5218	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	41.14	0.5285	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.84	0.5320	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	42.03	1.2722	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	42.15	1.2592	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	42.46	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.86	0.5373	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	44.53	0.4611	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.73	1.0713	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	46.31	0.4702	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.75	0.9097	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.94	0.9076	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	29.24	0.7919	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.99	0.7493	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	35.71	1.5988	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.58	1.6124	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	41.18	1.2455	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.37	1.2716	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	45.30	1.0910	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	45.42	1.0376	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	30.50	0.7919	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	31.54	0.7493	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.80	1.6124	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	37.41	1.6241	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	36.15	1.5710	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.75	1.0910	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.85	1.2242	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	41.00	1.2271	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.17	1.2355	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.88	1.3037	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	42.04	1.2103	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	42.16	1.3258	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	42.47	1.2799	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	44.55	1.0385	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	46.33	1.0366	0.8750 - 1.2050	passed	100.00	0 - 0	passed

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Entry Parameters

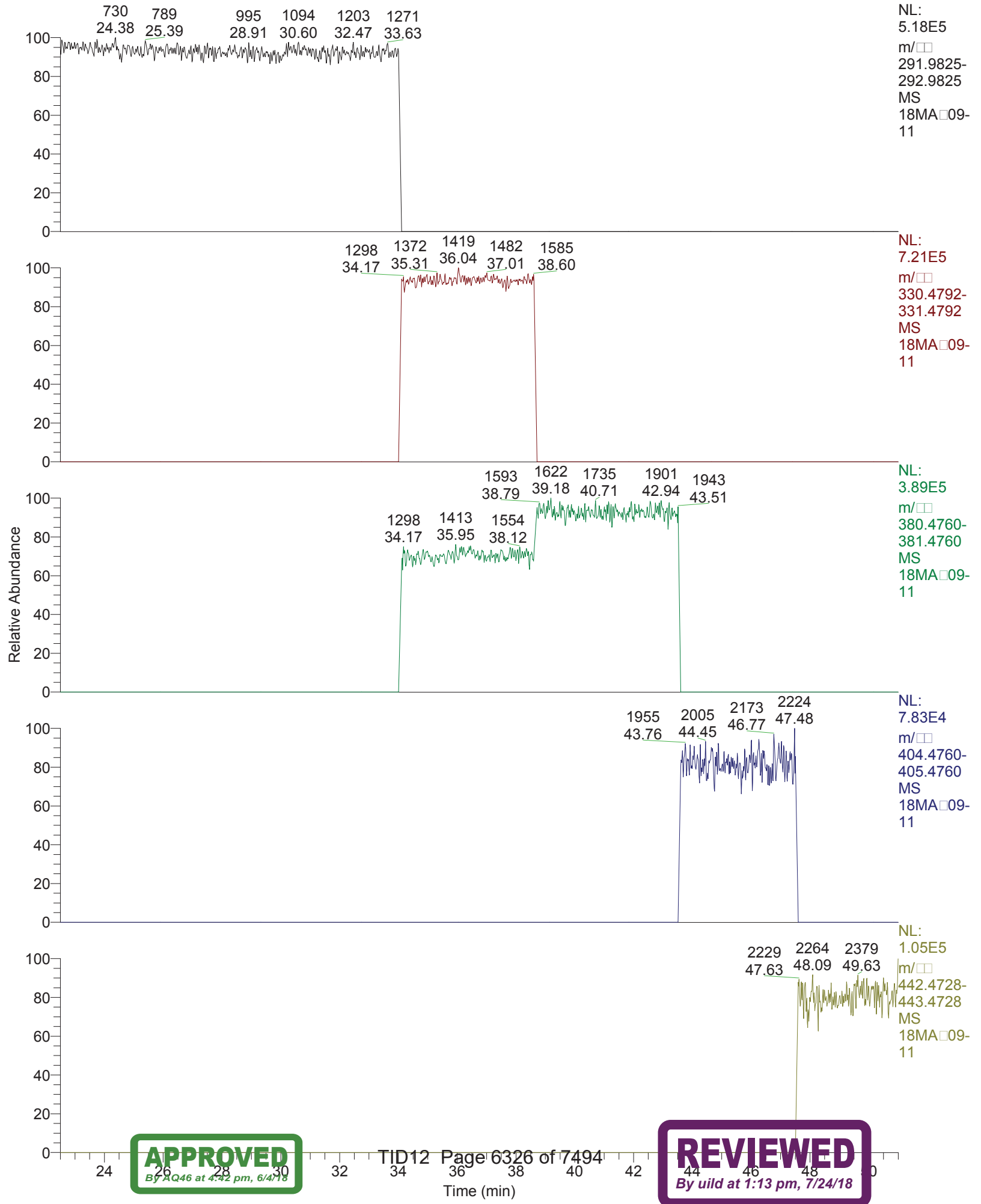
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	30.50	14482	A	11468	A	0.0026	0.500000	0.5000	0.500000	462	
2	2378-TCDD	passed	31.54	8061	A	6040	A	0.0043	0.500000	0.5000	0.500000	275	
3	12378-PeCDF	passed	36.15	41084	A	64545	A	0.0027	2.500000	2.5000	2.500000	2268	
4	23478-PeCDF	passed	37.41	44951	A	73004	A	0.0024	2.500000	2.5000	2.500000	2623	
5	12378-PeCDD	passed	37.80	22961	A	37024	A	0.0063	2.500000	2.5000	2.500000	990	
6	123478-HxCDF	passed	41.00	48146	A	59080	A	0.0031	2.500000	2.5000	2.500000	1928	
7	123678-HxCDF	passed	41.17	47094	A	58185	A	0.0032	2.500000	2.5000	2.500000	1980	
8	234678-HxCDF	passed	41.85	47101	A	57662	A	0.0031	2.500000	2.5000	2.500000	1921	
9	123478-HxCDD	passed	42.04	28193	A	34123	A	0.0053	2.500000	2.5000	2.500000	1217	
10	123678-HxCDD	passed	42.16	27395	A	36322	A	0.0053	2.500000	2.5000	2.500000	1203	
11	123789-HxCDD	passed	42.47	28735	A	36777	A	0.0051	2.500000	2.5000	2.500000	1234	
12	123789-HxCDF	passed	42.88	40512	A	52818	A	0.0035	2.500000	2.5000	2.500000	1756	
13	1234678-HpCDF	passed	44.55	46916	A	48722	A	0.0029	2.500000	2.5000	2.500000	2172	
14	1234678-HpCDD	passed	45.75	27398	A	29891	A	0.0040	2.500000	2.5000	2.500000	1543	
15	1234789-HpCDF	passed	46.33	38846	A	40266	A	0.0034	2.500000	2.5000	2.500000	1867	
16	OCDD	passed	48.75	52431	A	45537	A	0.0086	5.000000	5.0000	5.000000	1425	
17	OCDF	passed	48.95	70000	A	63516	A	0.0051	5.000000	5.0000	5.000000	2480	
18	13C12-1278-TCDD (CRS)	passed	31.92	13639	M	8955	M	0.0086	0.500000	0.5000	0.500000	136	
19	13C12-1234-TCDD	passed	30.71	1529793	A	1220382	A	0.0142	100.000000	100.0000	100.000000	17657	
20	13C12-123468-HxCDD	passed	40.90	1273582	A	1629429	A	0.0184	100.000000	100.0000	100.000000	13582	
21	13C12-2378-TCDF	passed	30.47	2697529	A	2152878	A	0.0075	100.000000	100.0000	100.000000	32390	
22	13C12-2378-TCDD	passed	31.53	1343290	A	1069479	A	0.0161	100.000000	100.0000	100.000000	16247	
23	13C12-12378-PeCDF	passed	36.13	1690682	A	2722380	A	0.0244	100.000000	100.0000	100.000000	13585	
24	13C12-23478-PeCDF	passed	37.39	1643460	A	2653430	A	0.0250	100.000000	100.0000	100.000000	13743	
25	13C12-12378-PeCDD	passed	37.76	911119	A	1433966	A	0.0164	100.000000	100.0000	100.000000	21395	
26	13C12-123478-HxCDF	passed	40.99	2372886	A	1238148	A	0.0158	100.000000	100.0000	100.000000	15886	
27	13C12-123678-HxCDF	passed	41.14	2458918	A	1299463	A	0.0152	100.000000	100.0000	100.000000	16518	
28	13C12-234678-HxCDF	passed	41.84	2246413	A	1195107	A	0.0166	100.000000	100.0000	100.000000	15518	
29	13C12-123478-HxCDD	passed	42.03	1099363	A	1398661	A	0.0214	100.000000	100.0000	100.000000	12125	
30	13C12-123678-HxCDD	passed	42.15	1114550	A	1403447	A	0.0212	100.000000	100.0000	100.000000	12021	
31	13C12-123789-HxCDD	passed	42.46	1054711	A	1345924	A	0.0223	100.000000	100.0000	100.000000	11536	
32	13C12-123789-HxCDF	passed	42.86	2137175	A	1148349	A	0.0174	100.000000	100.0000	100.000000	14787	
33	13C12-1234678-HpCDF	passed	44.53	2064379	A	951855	A	0.0216	100.000000	100.0000	100.000000	12568	
34	13C12-1234678-HpCDD	passed	45.73	1058509	A	1133944	A	0.0197	100.000000	100.0000	100.000000	14435	
35	13C12-1234789-HpCDF	passed	46.31	1690619	A	794911	A	0.0262	100.000000	100.0000	100.000000	10602	
36	13C12-OCDD	passed	48.75	1988727	A	1809152	A	0.0170	200.000000	200.0000	200.000000	33172	
37	13C12-OCDF	passed	48.94	3043633	A	2762486	A	0.0134	200.000000	200.0000	200.000000	42562	
38	Total TCDF	passed (1)	29.24	14482	A	11468	A	0.0026	0.500000	0.5000	0.500000	462	
39	Total TCDD	passed (1)	29.99	8061	A	6040	A	0.0043	0.500000	0.5000	0.500000	275	
40	Total PeCDF	passed (2)	35.71	86035	A	137549	A	0.0025	2.500000	5.0000	2.500000	2445	
41	Total PeCDD	passed (1)	36.58	22961	A	37024	A	0.0063	2.500000	2.5000	2.500000	990	
42	Total HxCDF	passed (4)	41.18	182854	A	227745	A	0.0033	2.500000	10.0000	2.500000	1896	
43	Total HxCDD	passed (3)	41.37	84322	A	107221	A	0.0052	2.500000	7.5000	2.500000	1218	
44	Total HpCDD	passed (1)	45.30	27398	A	29891	A	0.0040	2.500000	2.5000	2.500000	1543	
45	Total HpCDF	passed (2)	45.42	85762	A	88989	A	0.0031	2.500000	5.0000	2.500000	2020	
46	Single TCDF	passed	30.50	14482	A	11468	A	0.0026	0.500000	0.5000	0.500000	462	
47	Single TCDD	passed	31.54	8061	A	6040	A	0.0043	0.500000	0.5000	0.500000	275	
48	Single PeCDD	passed	37.80	22961	A	37024	A	0.0063	2.500000	2.5000	2.500000	990	
49	Single PeCDF	passed	37.41	44951	A	73004	A	0.0024	2.500000	2.5000	2.500000	2623	
50	Single PeCDF	passed	36.15	41084	A	64545	A	0.0027	2.500000	2.5000	2.500000	2268	
51	Single HpCDD	passed	45.75	27398	A	29891	A	0.0040	2.500000	2.5000	2.500000	1543	
52	Single HxCDF	passed	41.85	47101	A	57662	A	0.0032	2.500000	2.5000	2.500000	1921	
53	Single HxCDF	passed	41.00	48146	A	59080	A	0.0031	2.500000	2.5000	2.500000	1928	
54	Single HxCDF	passed	41.17	47094	A	58185	A	0.0032	2.500000	2.5000	2.500000	1980	
55	Single HxCDF	passed	42.88	40512	A	52818	A	0.0036	2.500000	2.5000	2.500000	1756	
56	Single HxCDD	passed	42.04	28193	A	34123	A	0.0053	2.500000	2.5000	2.500000	1217	
57	Single HxCDD	passed	42.16	27395	A	36322	A	0.0052	2.500000	2.5000	2.500000	1203	
58	Single HxCDD	passed	42.47	28735	A	36777	A	0.0051	2.500000	2.5000	2.500000	1234	
59	Single HpCDF	passed	44.55	46916	A	48722	A	0.0028	2.500000	2.5000	2.500000	2172	
60	Single HpCDF	passed	46.33	38846	A	40266	A	0.0034	2.500000	2.5000	2.500000	1867	

File Name: □:□18MA□09□18MA□09-11
Sample ID: CS101

Acq. Data: 5/9/2018 7:36:33 PM
Sample Name: CALDF21837B
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By AQ46 at 4:42 pm, 6/4/18

REVIEWED
By uild at 1:13 pm, 7/24/18

*** file opened Wed May 09 19:42:02 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 09-May-18 19:42:01

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

```
MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          96.5000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0169   FVINLET         0.0358   FVSRC           0.0307
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           96.5000   LKM           442.9723   MASS           96.5000
 MDAC        1471761.9161  MRANGE       1272.8365   NSAM          200.0000
 NSCAN        2507.0000    NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9695   RELEN           0.0000
 RES          11715.8348   RPUSHER       -20.1685   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          96.5000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11442.
MID Time Window 2: Resolution is 11320.
MID Time Window 3: Resolution is 11228.
MID Time Window 4: Resolution is 11603.
```

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MID Time Window 5: Resolution is 14224.
MID Time Window 6: Resolution is 11715.

Amplifier Offset: 85.


*** File closed Wed May 09 20:33:04 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 21:29
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837A
Sample ID	CS201
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-13.quan
Data	z:\18may09\18may09-13.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	30.49	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	31.55	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.15	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.41	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.78	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.00	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.15	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.85	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.03	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.15	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.87	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.54	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.73	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.31	passed	passed	passed	passed	passed	passed	
16	OCDD	48.75	passed	passed	passed	passed	passed	passed	
17	OCDF	48.95	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.90	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	30.71	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.88	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.47	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.51	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.13	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.39	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.76	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.84	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.01	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.13	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.44	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.85	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.53	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.73	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.31	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.74	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.94	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.24	passed (1)	---	---	---	---	---	
39	Total TCDD	29.99	passed (1)	---	---	---	---	---	
40	Total PeCDF	35.71	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.58	passed (1)	---	---	---	---	---	
42	Total HxCDF	41.18	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.37	passed (3)	---	---	---	---	---	
44	Total HpCDD	45.30	passed (1)	---	---	---	---	---	
45	Total HpCDF	45.42	passed (2)	---	---	---	---	---	
46	Single TCDF	30.49	passed	passed	passed	passed	passed	passed	
47	Single TCDD	31.55	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.78	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	37.41	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	36.15	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.73	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.85	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.00	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.15	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.87	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	42.46	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	42.03	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	42.15	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	44.54	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	46.31	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 21:29
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837A
Sample ID	CS201
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-13.quan
Data	z:\18may09\18may09-13.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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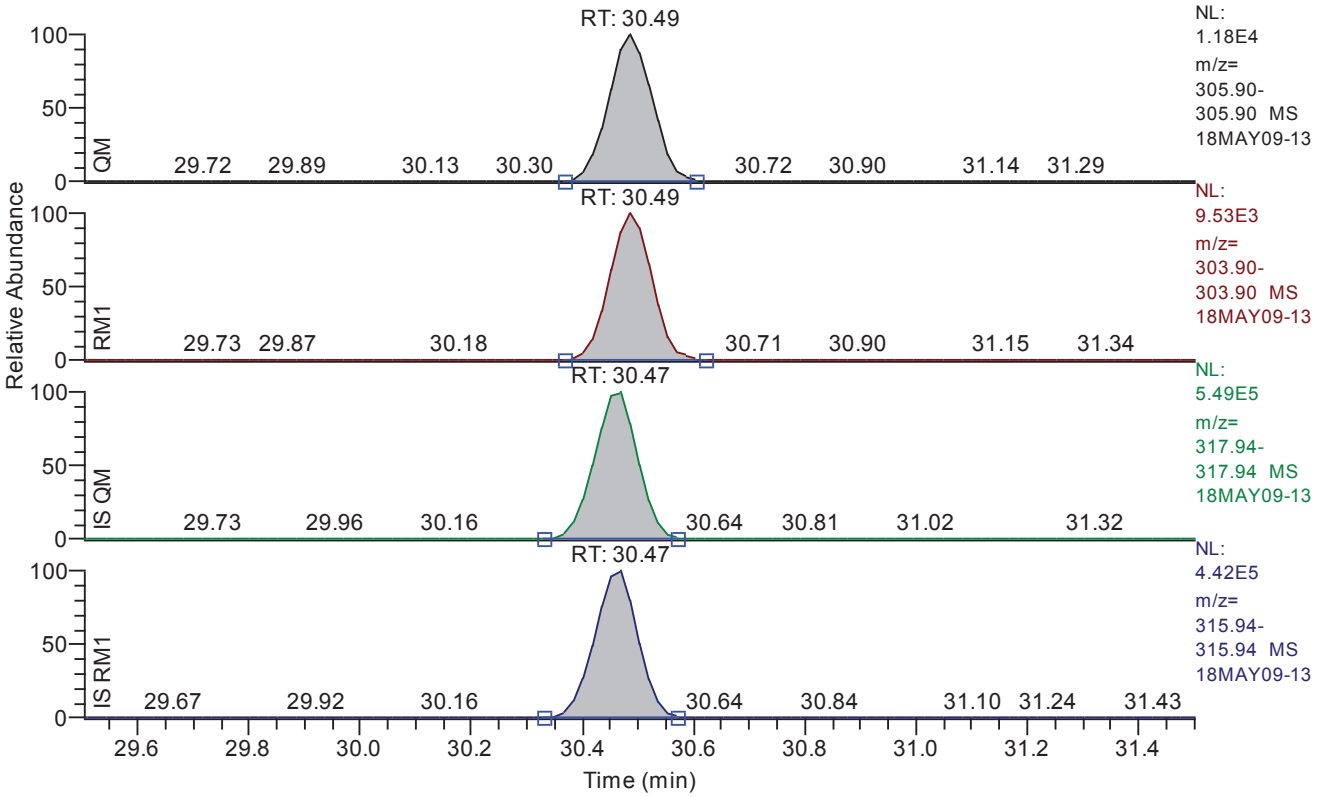
Chromatogram

RT: 29.50 - 31.50 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	30.49
QM Area	65500
QM Integration Mode	A
RM1 Area	51441
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0024
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	2090
Client Flags	
Status Overview	passed
Status Info	

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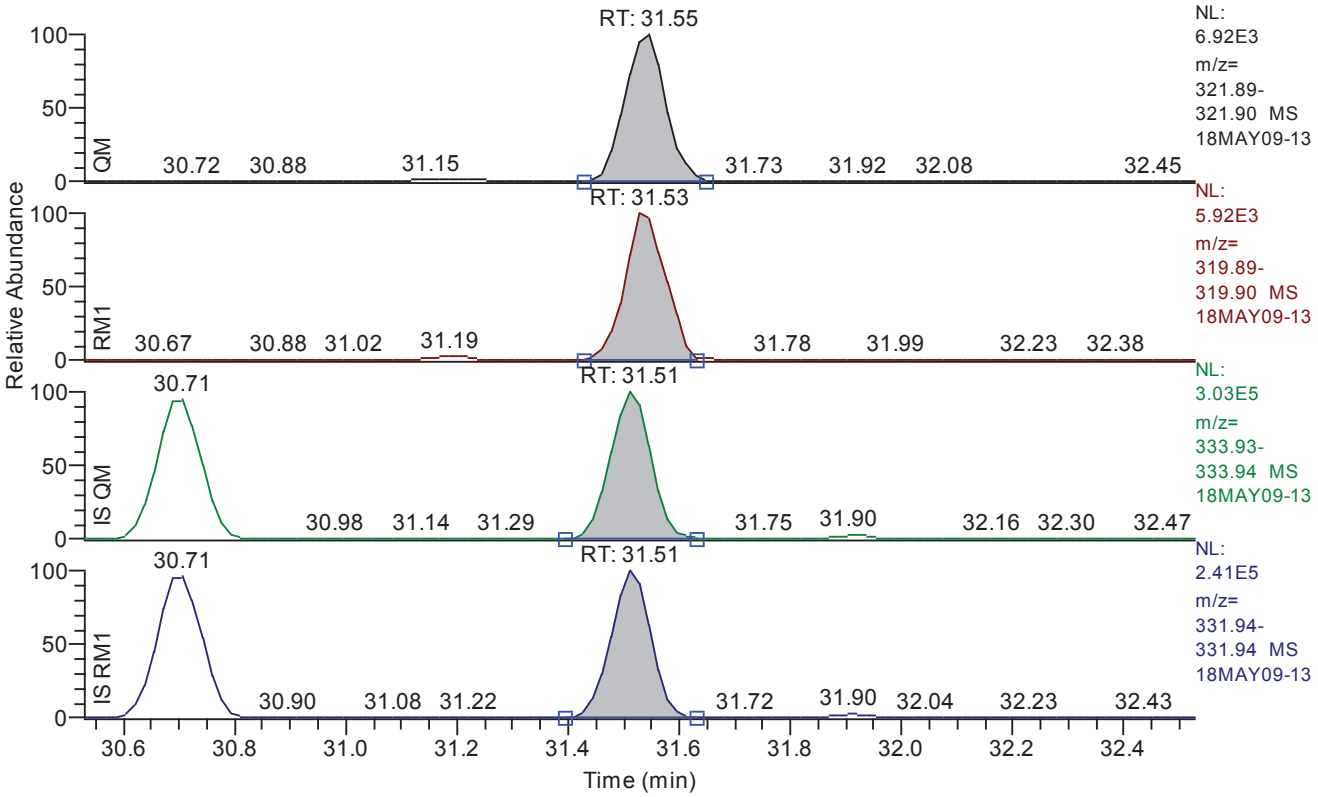
Chromatogram

RT: 30.53 - 32.53 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	31.55
QM Area	35814
QM Integration Mode	A
RM1 Area	30663
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0042
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	1170
Client Flags	
Status Overview	passed
Status Info	

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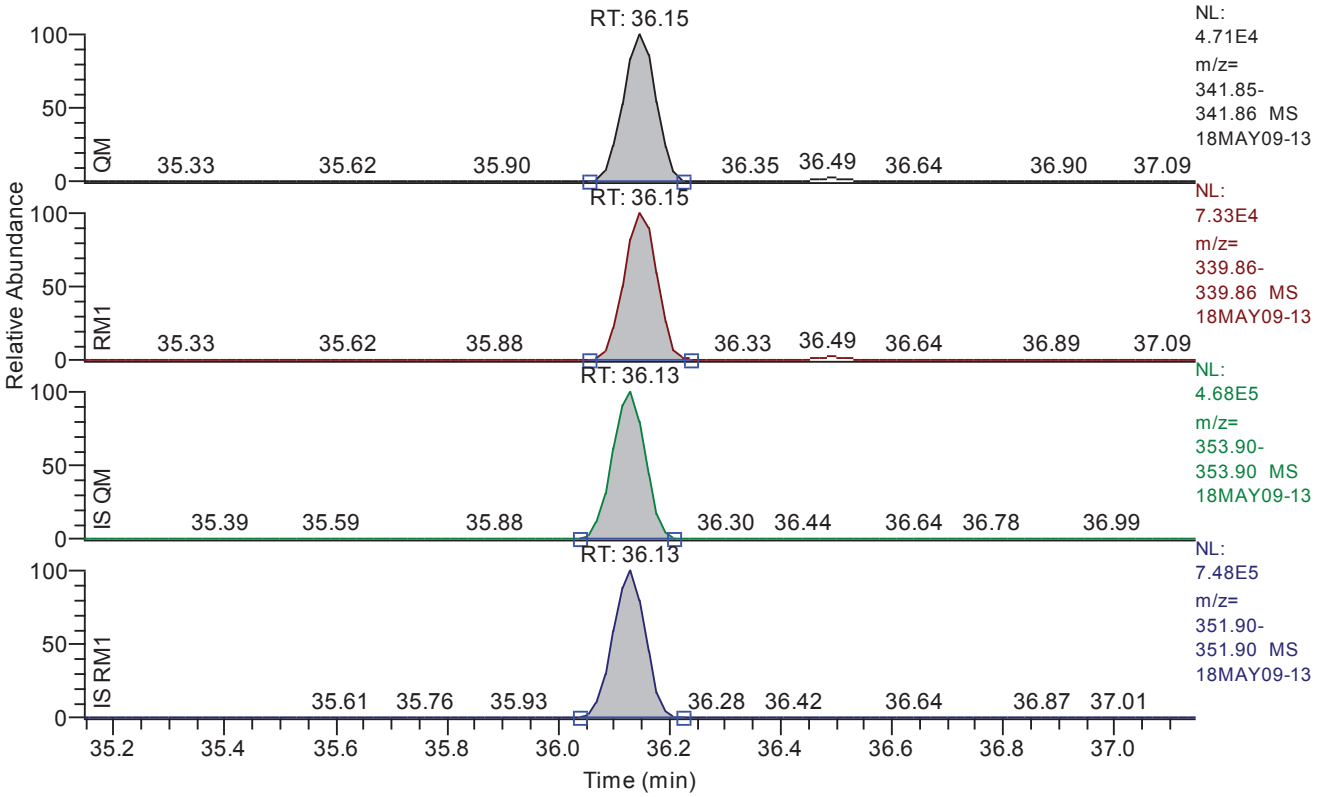
Chromatogram

RT: 35.15 - 37.15 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	36.15
QM Area	193595
QM Integration Mode	A
RM1 Area	304214
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0027
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	9217
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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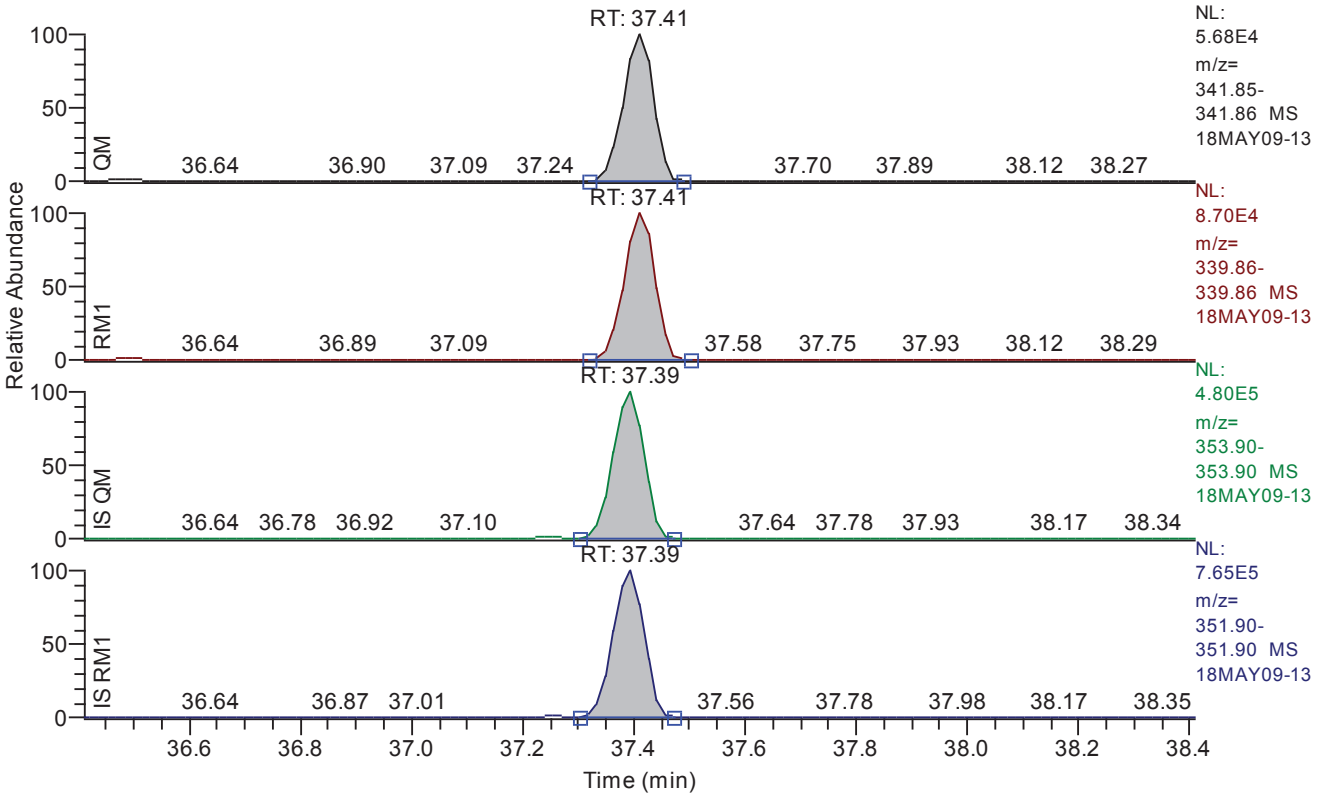
Chromatogram

RT: 36.41 - 38.41 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	37.41
QM Area	214870
QM Integration Mode	A
RM1 Area	335083
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0023
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	11003
Client Flags	
Status Overview	passed
Status Info	

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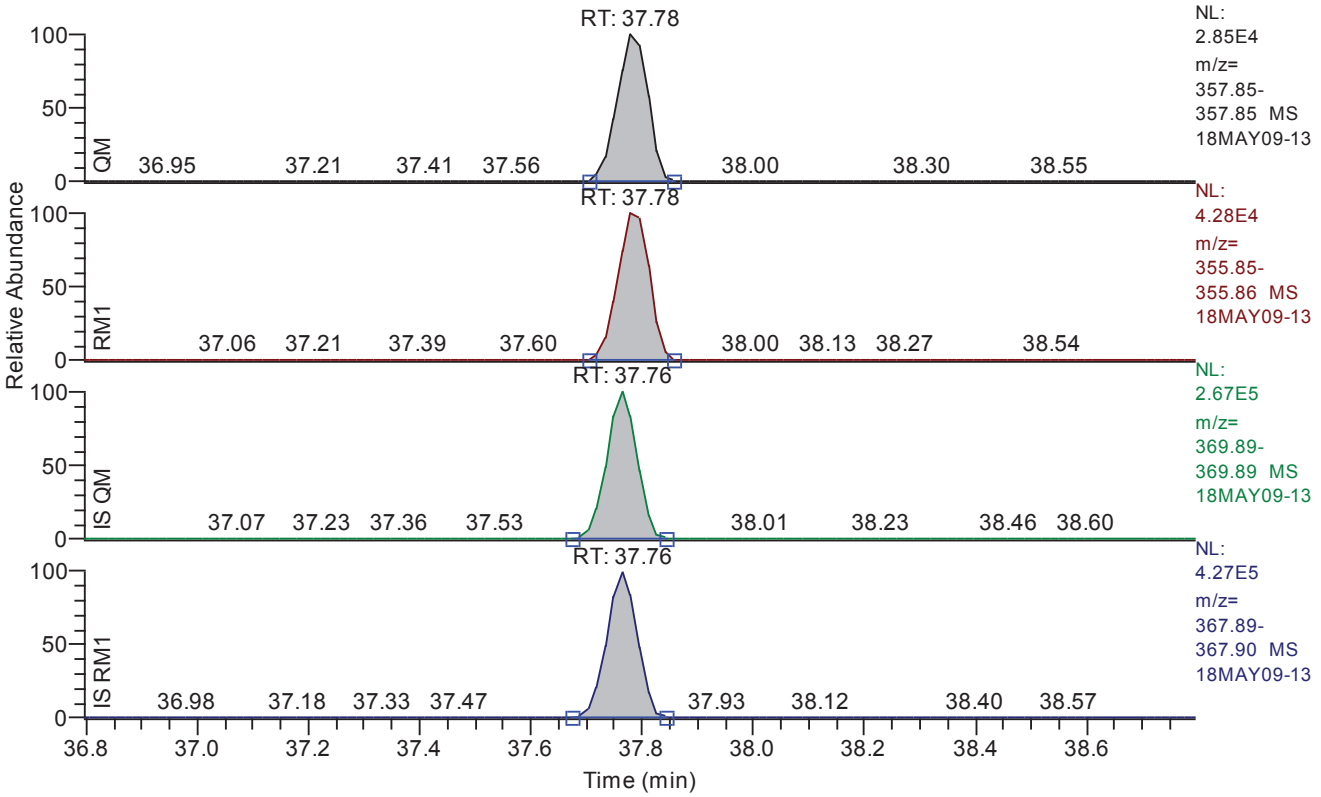
Chromatogram

RT: 36.80 - 38.80 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.78
QM Area	110138
QM Integration Mode	A
RM1 Area	169810
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4867
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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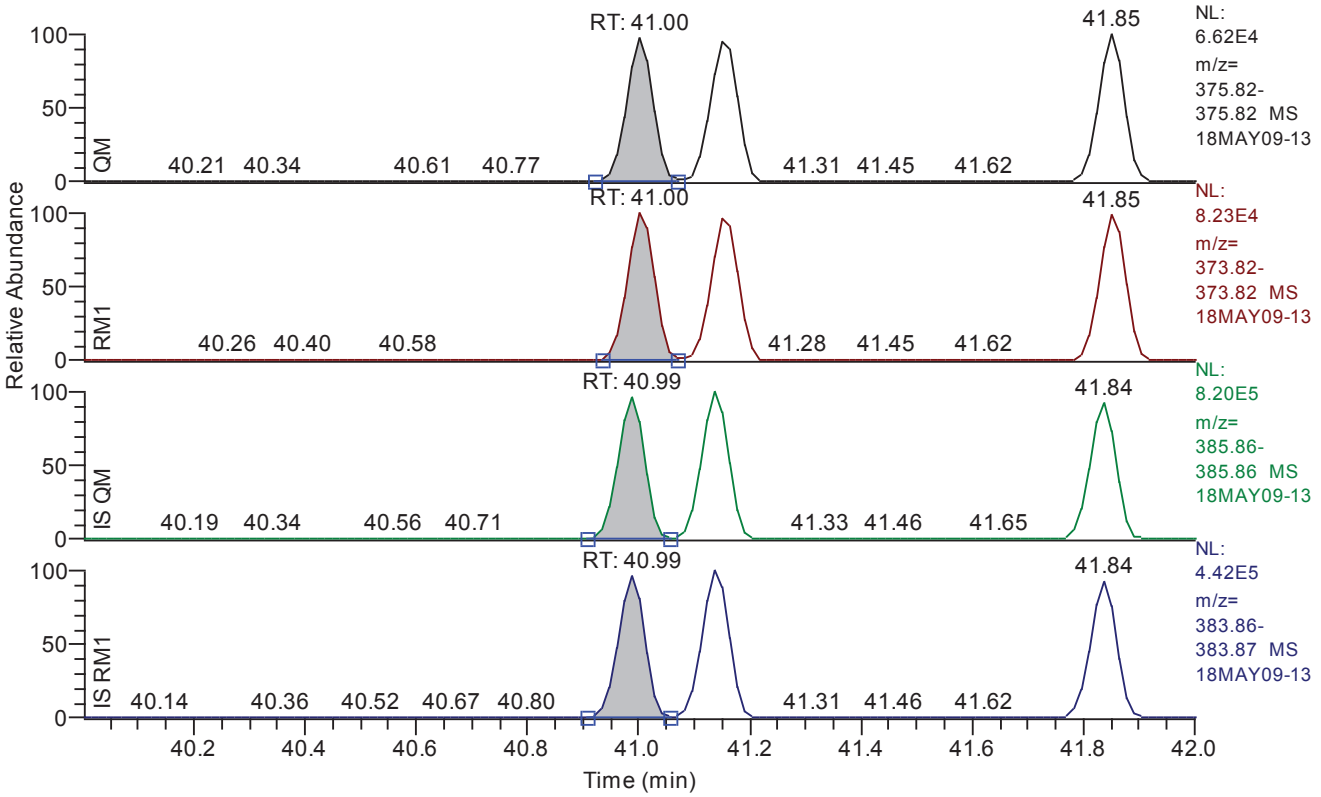
Chromatogram

RT: 40.00 - 42.00 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	41.00
QM Area	213780
QM Integration Mode	A
RM1 Area	278579
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	5157
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 3:11 pm, 5/10/18

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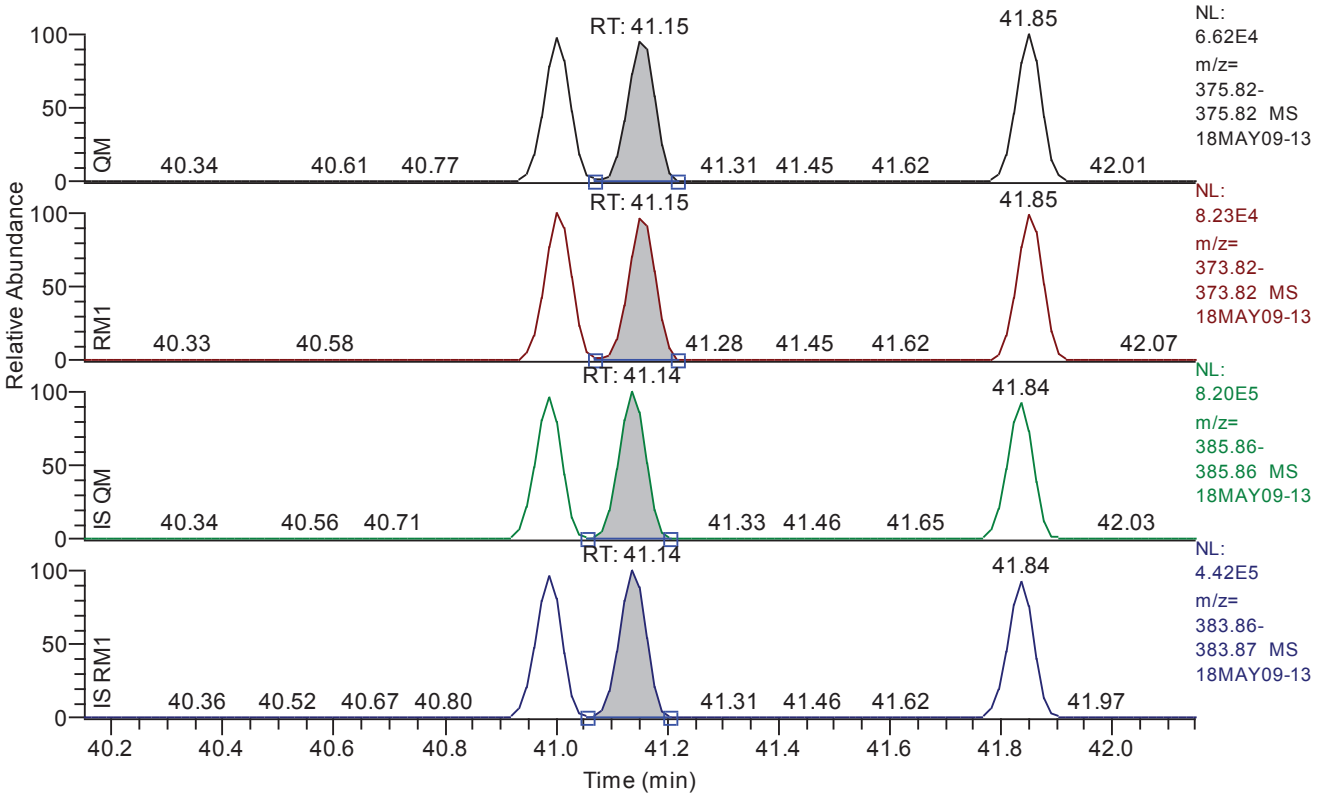
Chromatogram

RT: 40.15 - 42.15 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	41.15
QM Area	220390
QM Integration Mode	A
RM1 Area	274516
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	5007
Client Flags	
Status Overview	passed
Status Info	

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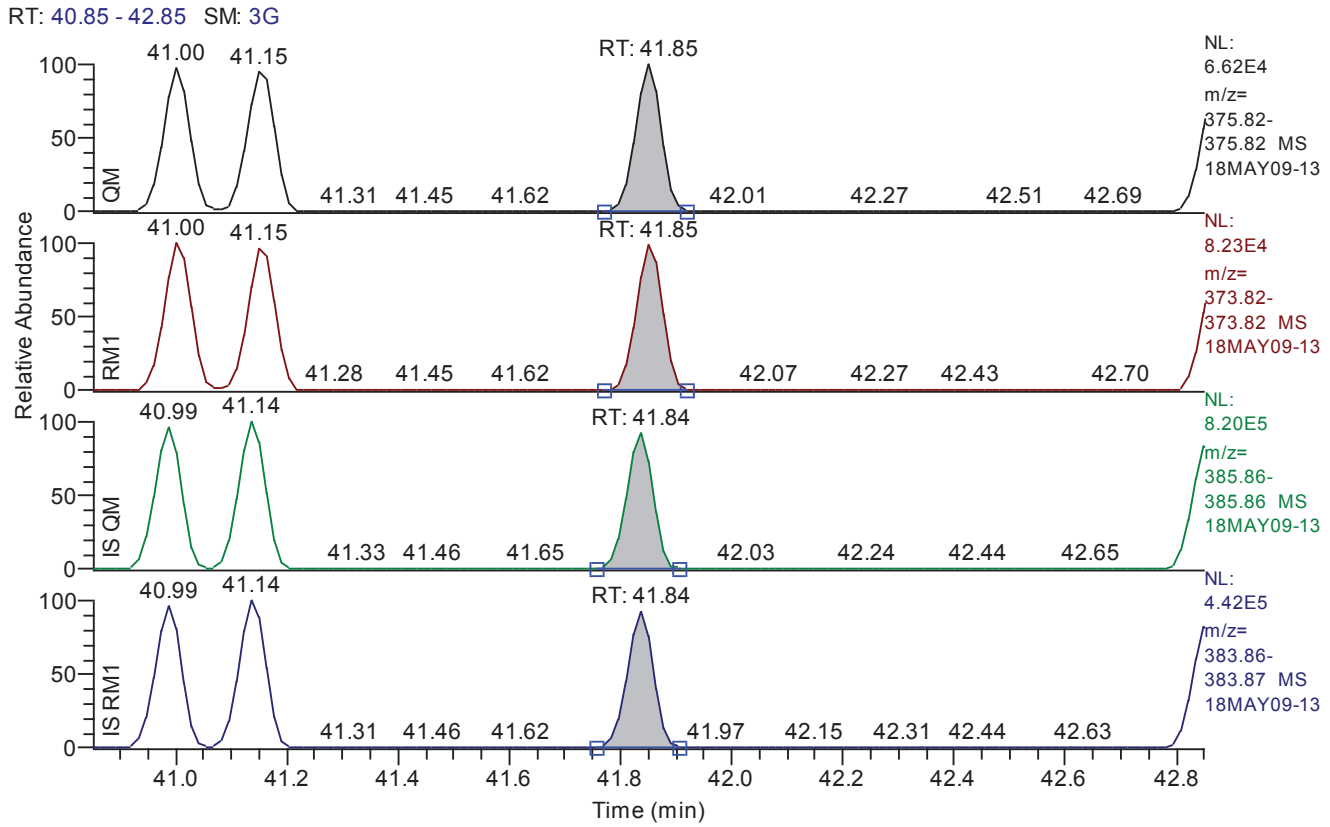
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.85
QM Area	214266
QM Integration Mode	A
RM1 Area	271605
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	5197
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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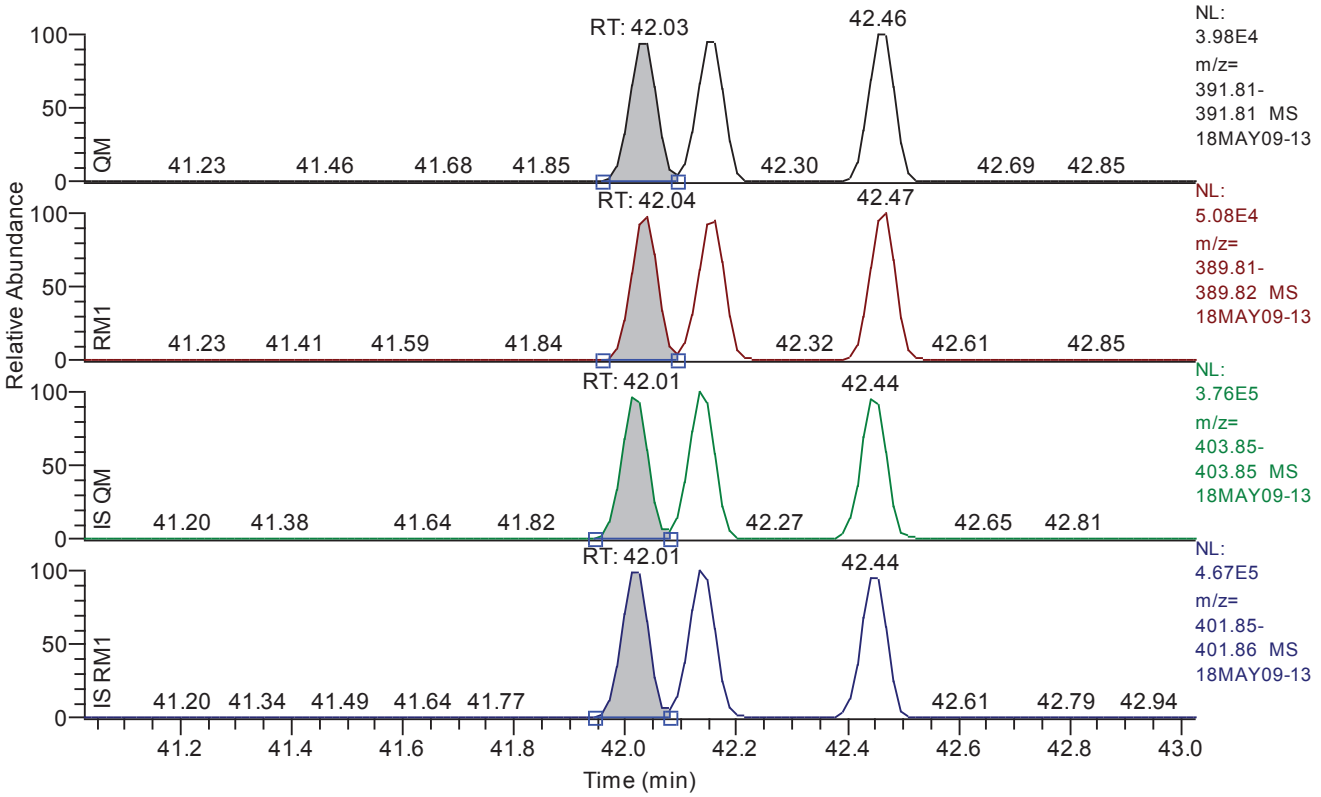
Chromatogram

RT: 41.03 - 43.03 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	42.03
QM Area	129927
QM Integration Mode	A
RM1 Area	166625
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4394
Client Flags	
Status Overview	passed
Status Info	

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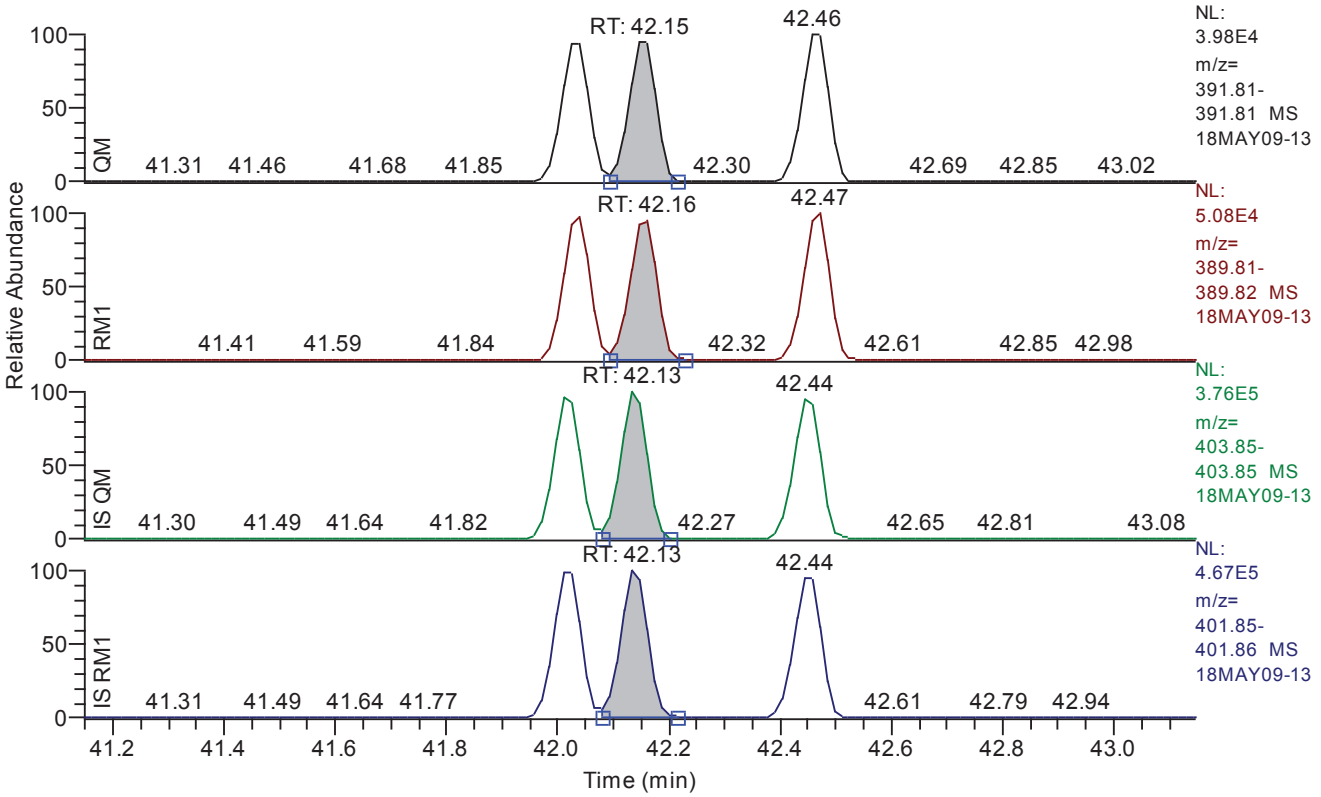
Chromatogram

RT: 41.15 - 43.15 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	42.15
QM Area	128999
QM Integration Mode	A
RM1 Area	163790
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4329
Client Flags	
Status Overview	passed
Status Info	

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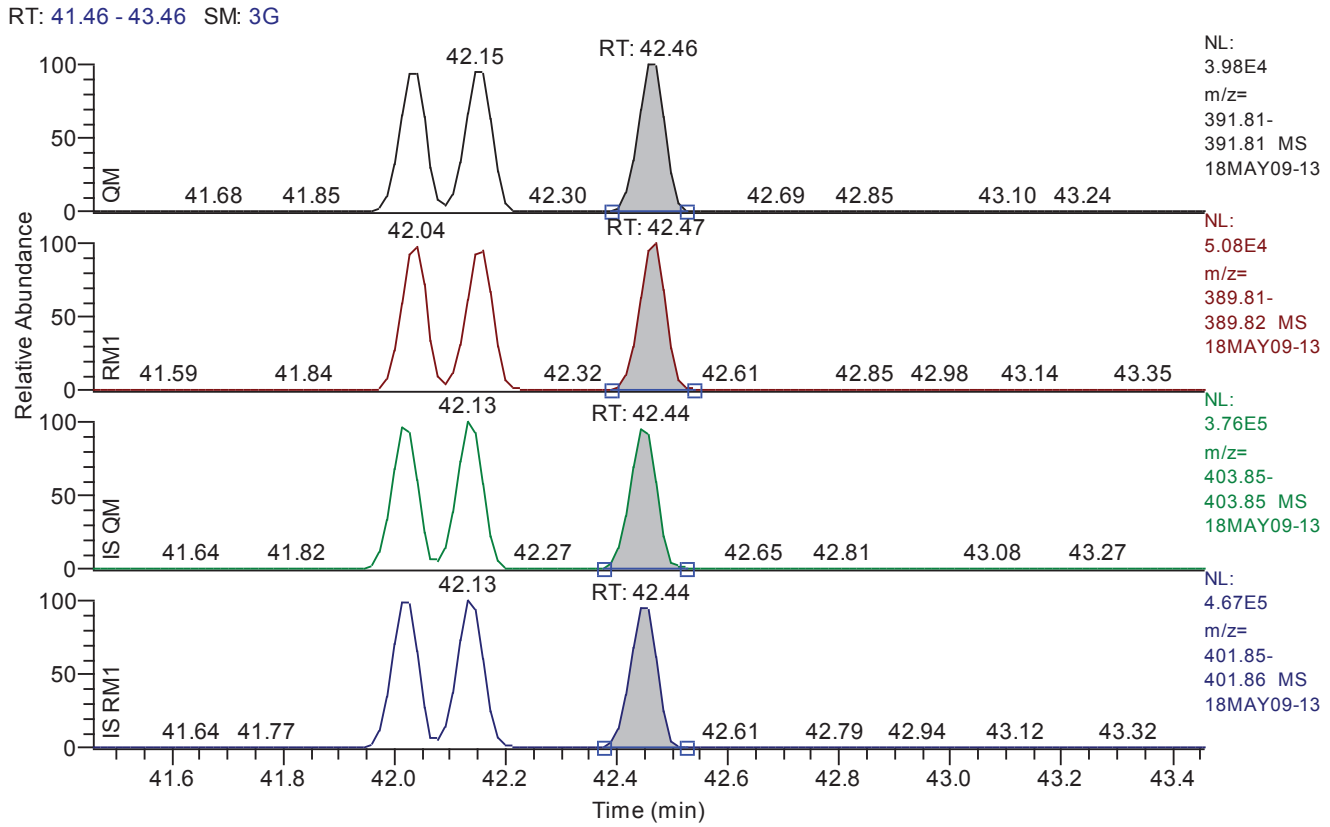
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	42.46
QM Area	134245
QM Integration Mode	A
RM1 Area	167906
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0056
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4545
Client Flags	
Status Overview	passed
Status Info	

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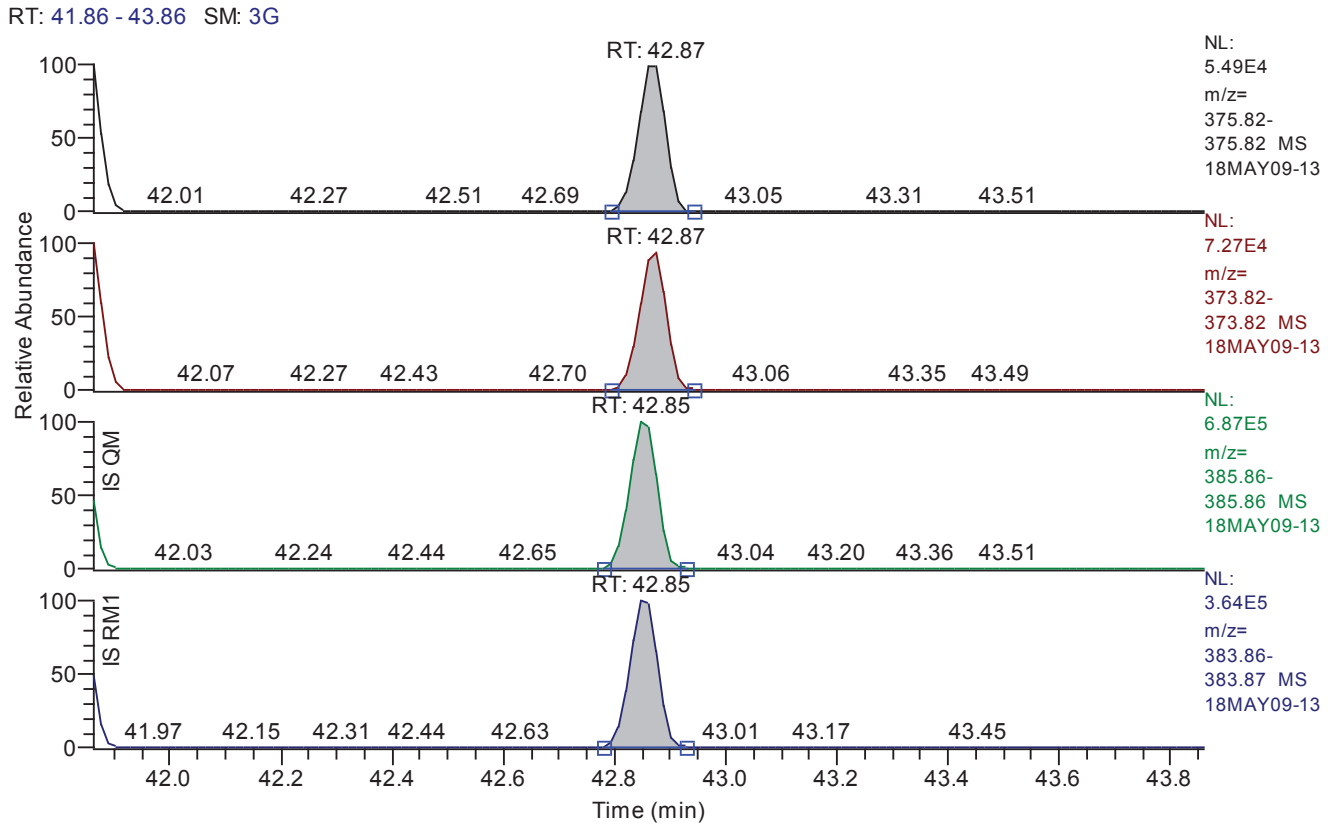
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.87
QM Area	189821
QM Integration Mode	A
RM1 Area	233061
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0059
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4334
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 3:11 pm, 5/10/18

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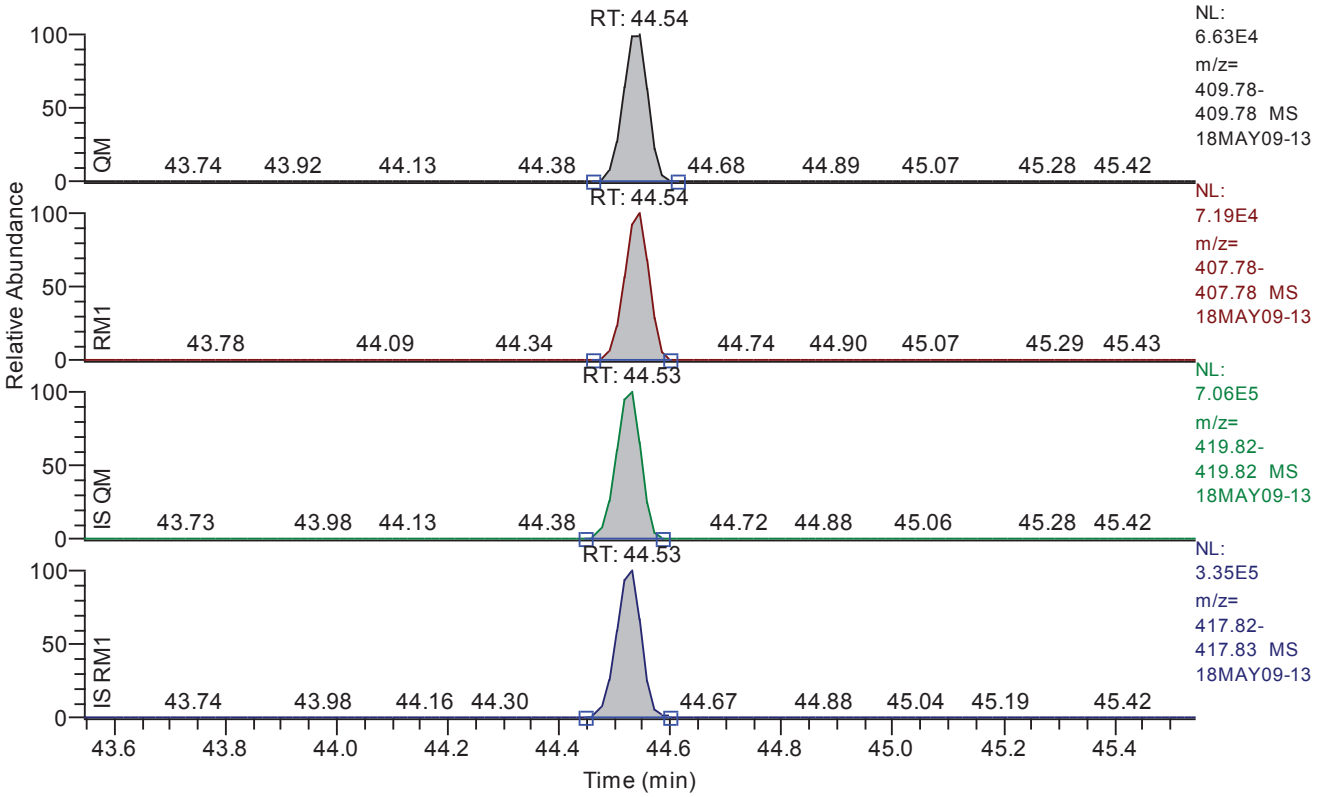
Chromatogram

RT: 43.54 - 45.54 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.54
QM Area	215487
QM Integration Mode	A
RM1 Area	229982
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3942
Client Flags	
Status Overview	passed
Status Info	

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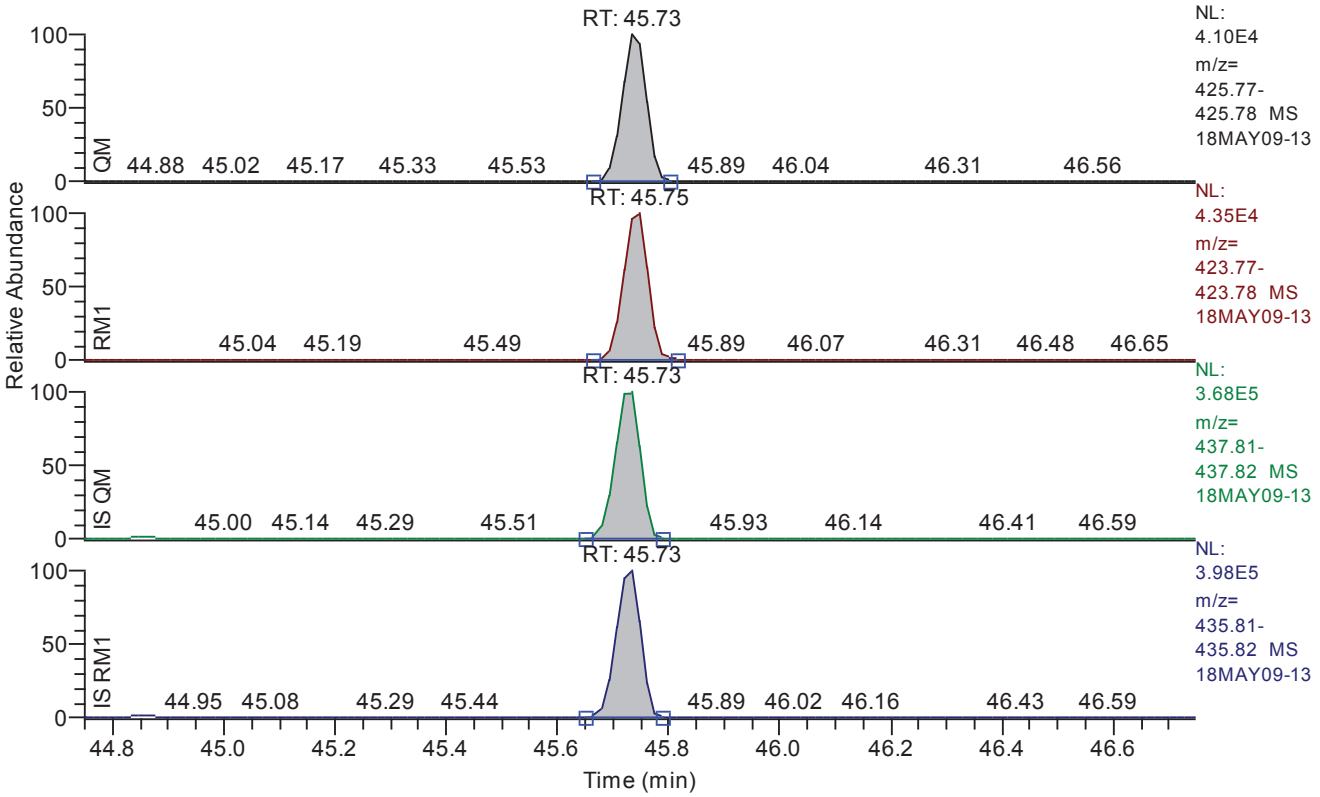
Chromatogram

RT: 44.75 - 46.75 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.73
QM Area	130115
QM Integration Mode	A
RM1 Area	139332
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4035
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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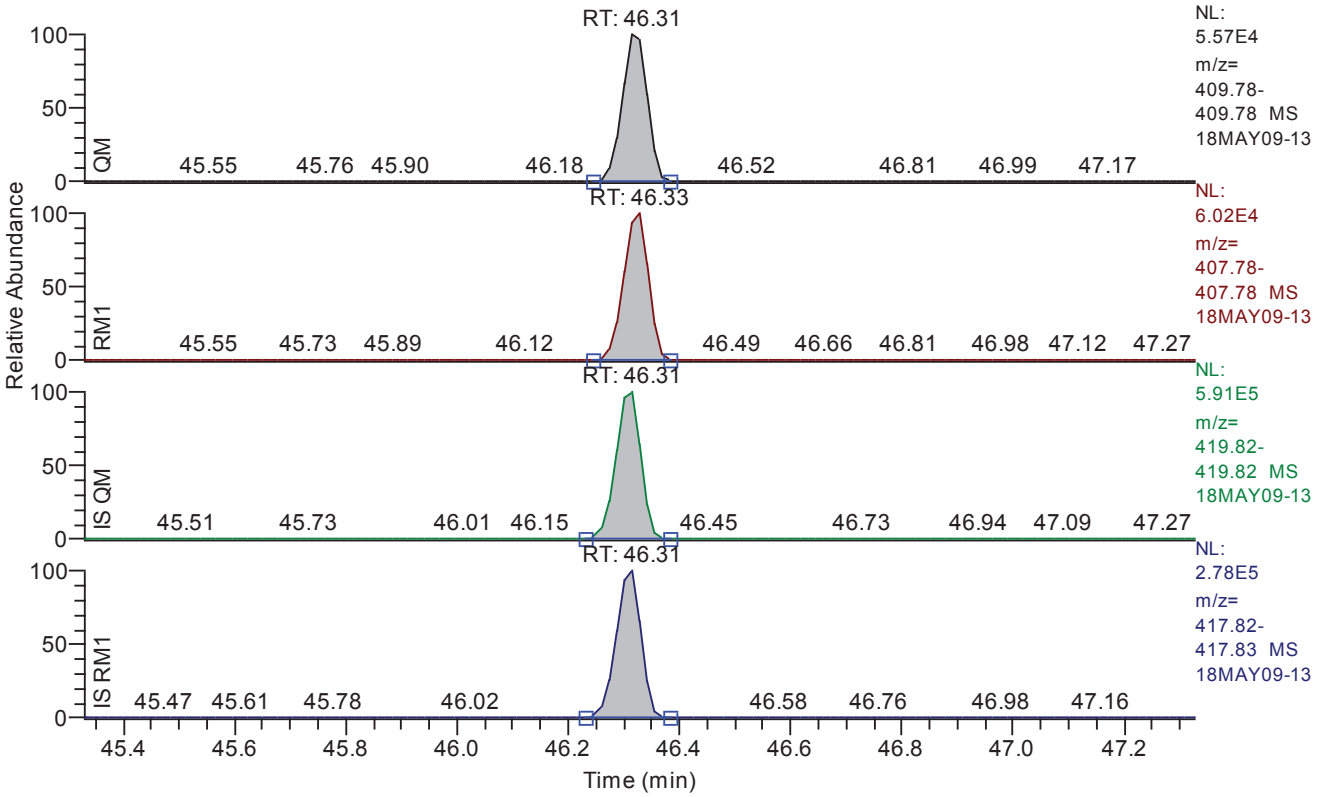
Chromatogram

RT: 45.33 - 47.33 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	46.31
QM Area	180602
QM Integration Mode	A
RM1 Area	192766
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3309
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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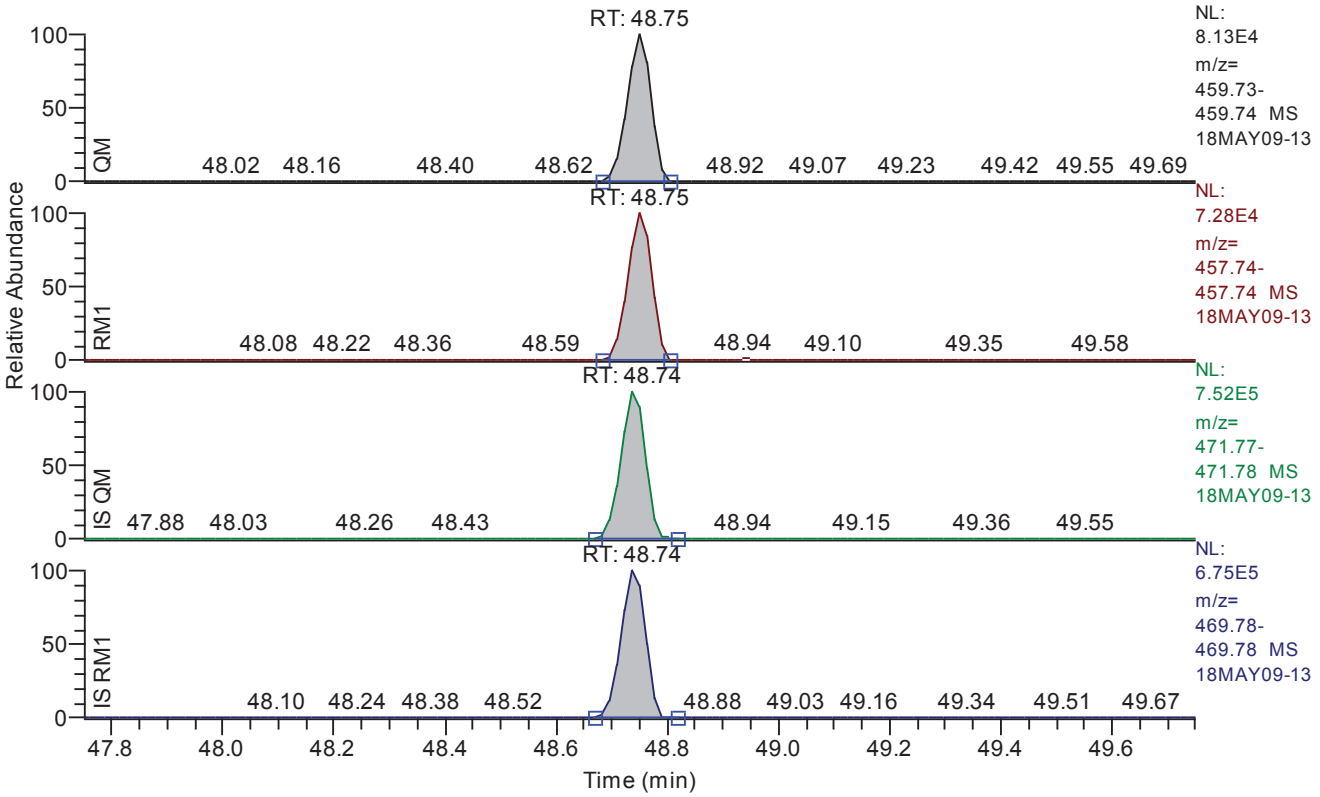
Chromatogram

RT: 47.75 - 49.75 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.75
QM Area	240209
QM Integration Mode	A
RM1 Area	219046
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0092
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	5581
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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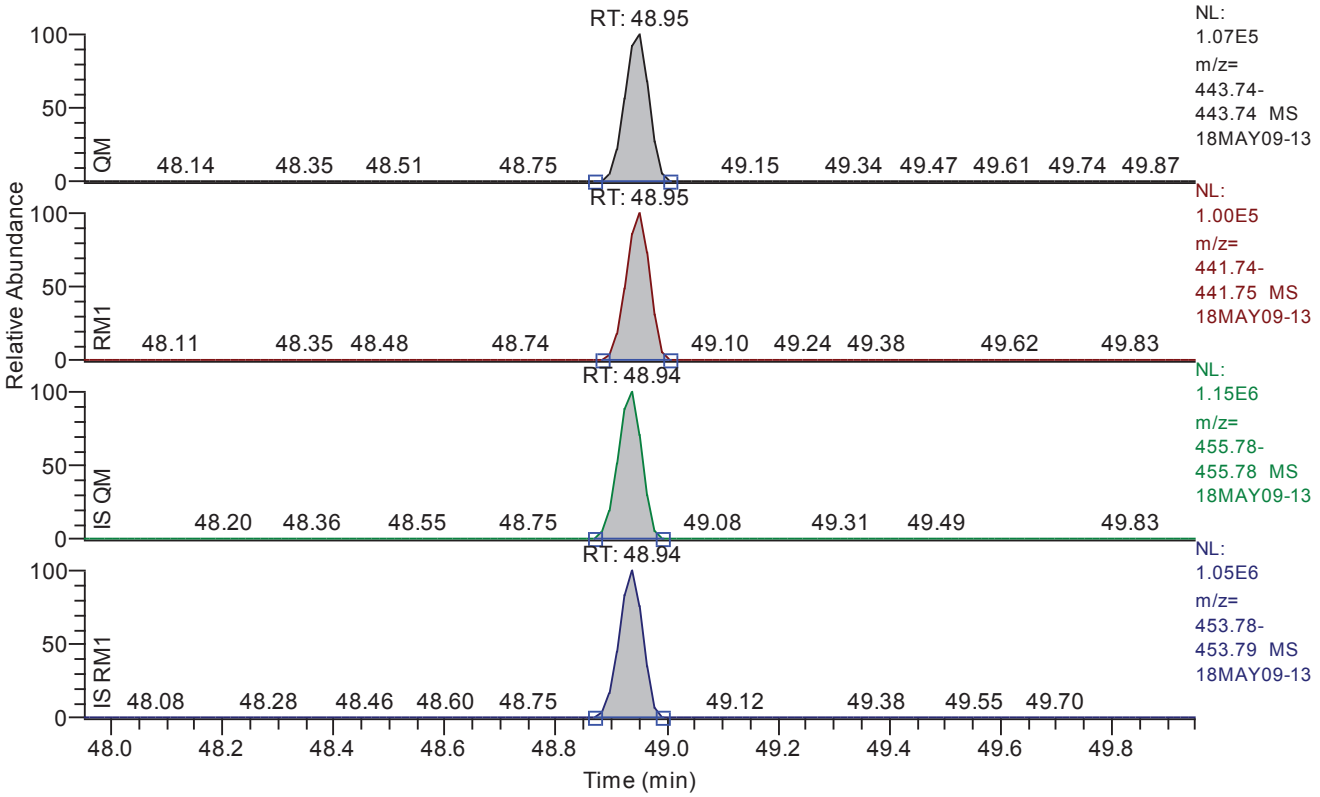
Chromatogram

RT: 47.95 - 49.95 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.95
QM Area	328219
QM Integration Mode	A
RM1 Area	296439
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	7758
Client Flags	
Status Overview	passed
Status Info	

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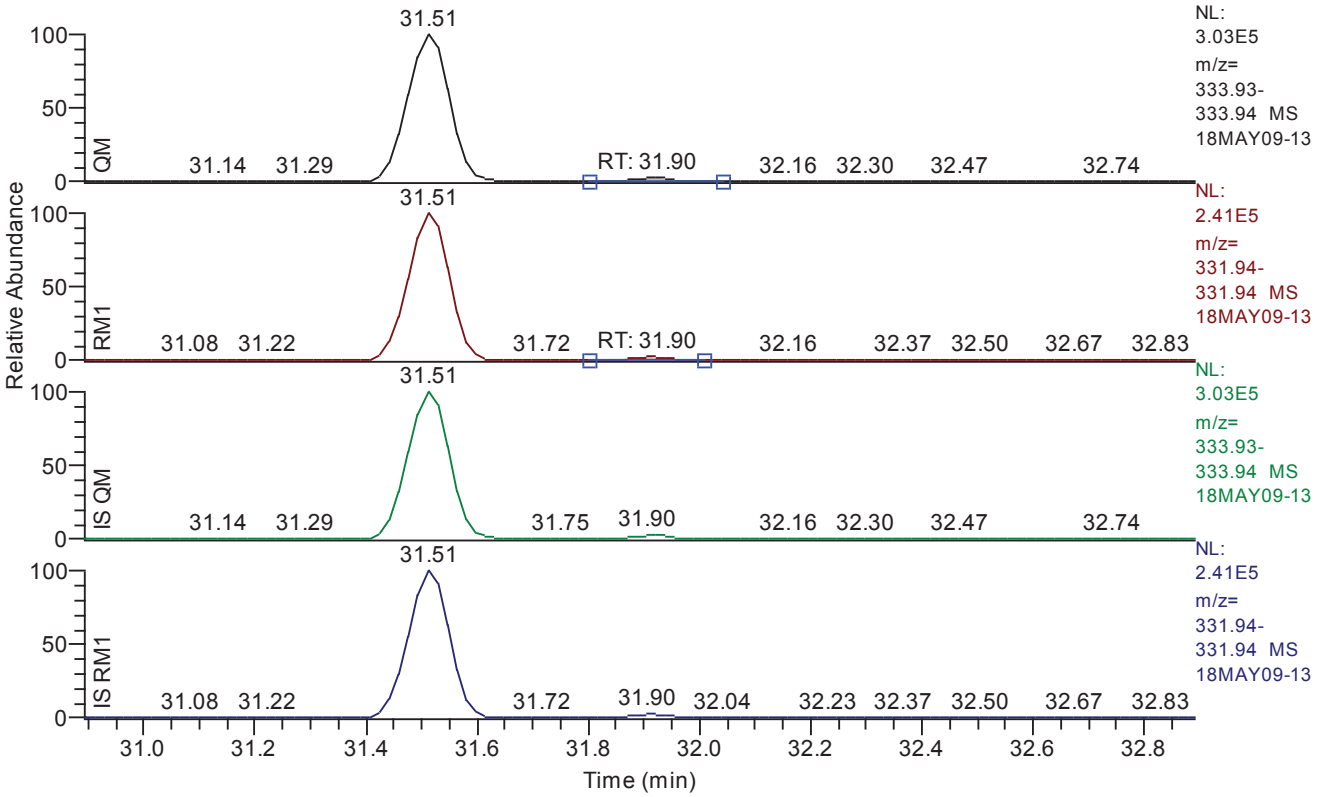
Chromatogram

RT: 30.89 - 32.89 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.90
QM Area	42467
QM Integration Mode	A
RM1 Area	35018
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0123
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	448
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 21:29
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837A
Sample ID	CS201
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-13.quan
Data	z:\18may09\18may09-13.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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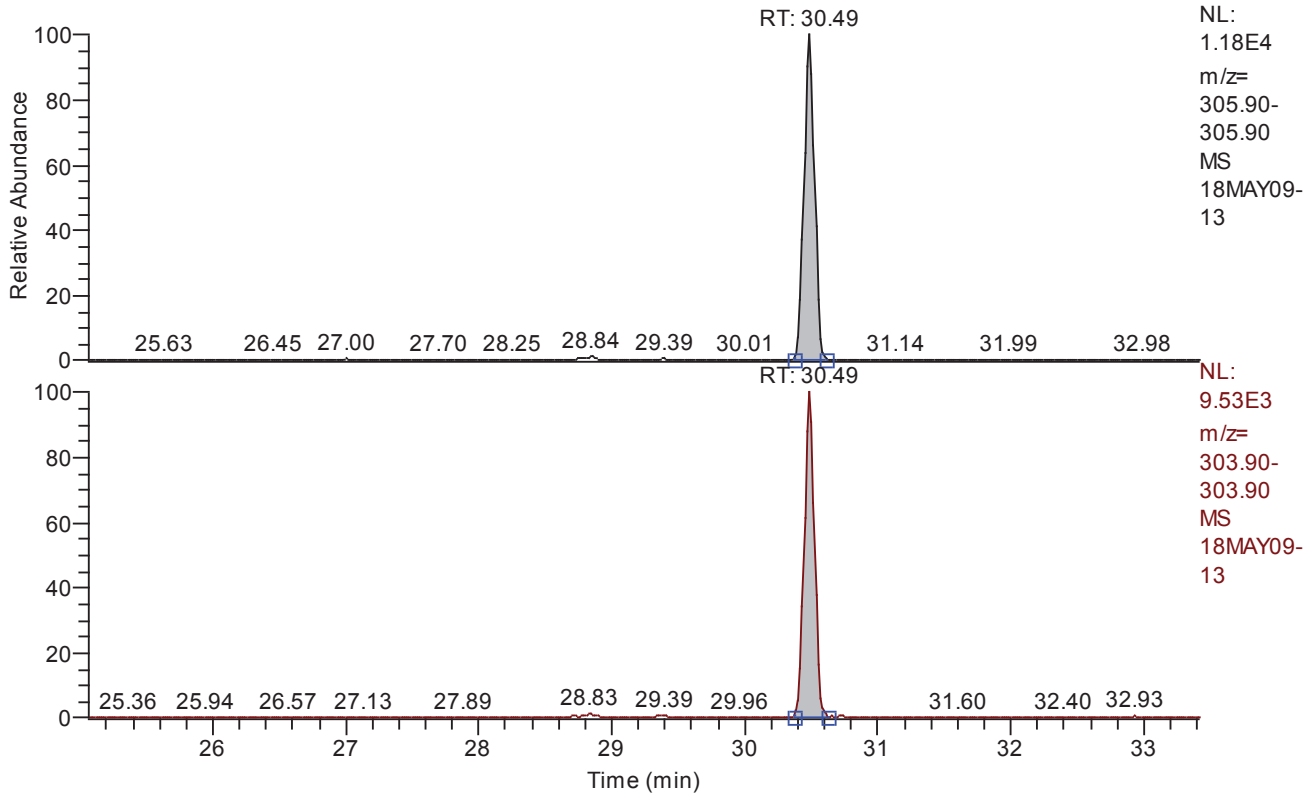
Chromatogram

RT: 25.06 - 33.42 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	29.24
QM Area	65500
QM Integration Mode	A
RM1 Area	51441
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0024
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	2090
Client Flags	
Status Overview	passed (1)
Status Info	

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By uild at 4:13 pm, 6/4/18

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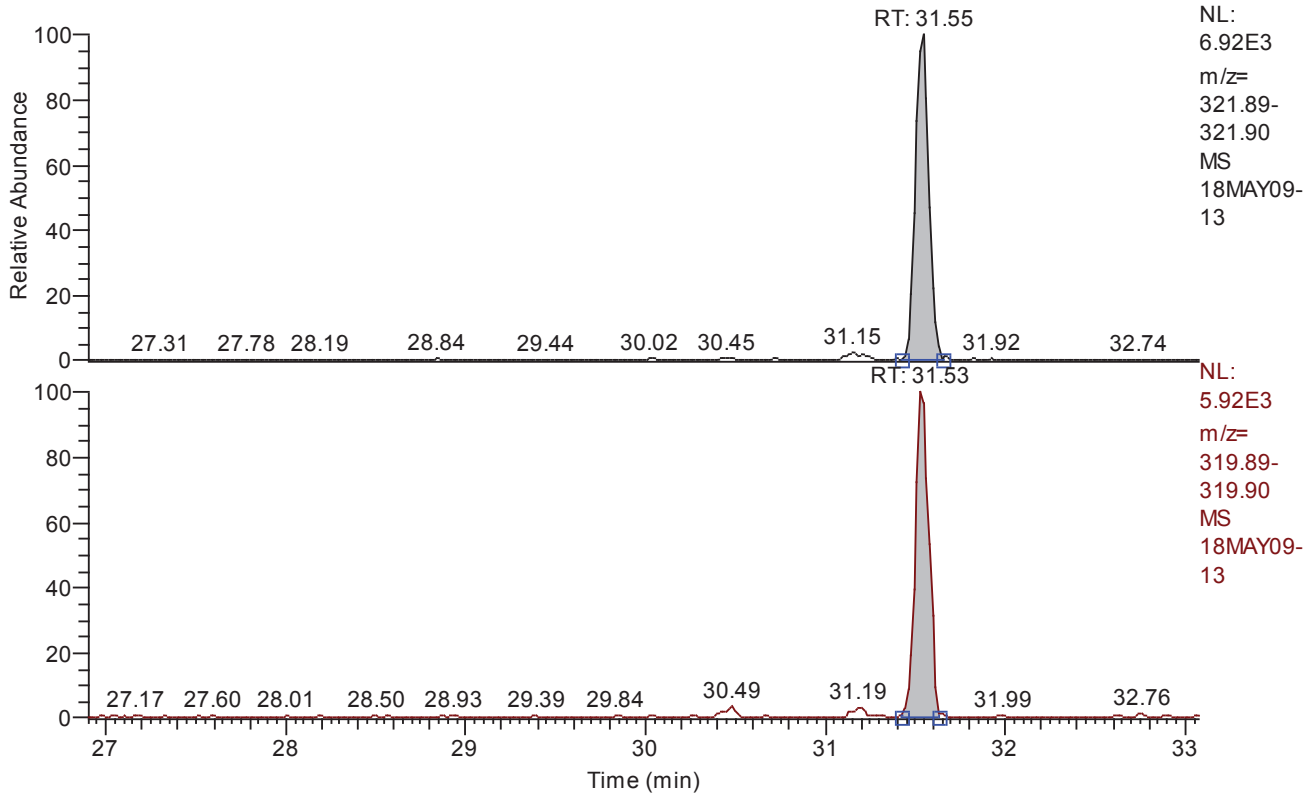
Chromatogram

RT: 26.90 - 33.08 SM: 3G



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.99
QM Area	35814
QM Integration Mode	A
RM1 Area	30663
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0042
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	1170
Client Flags	
Status Overview	passed (1)
Status Info	

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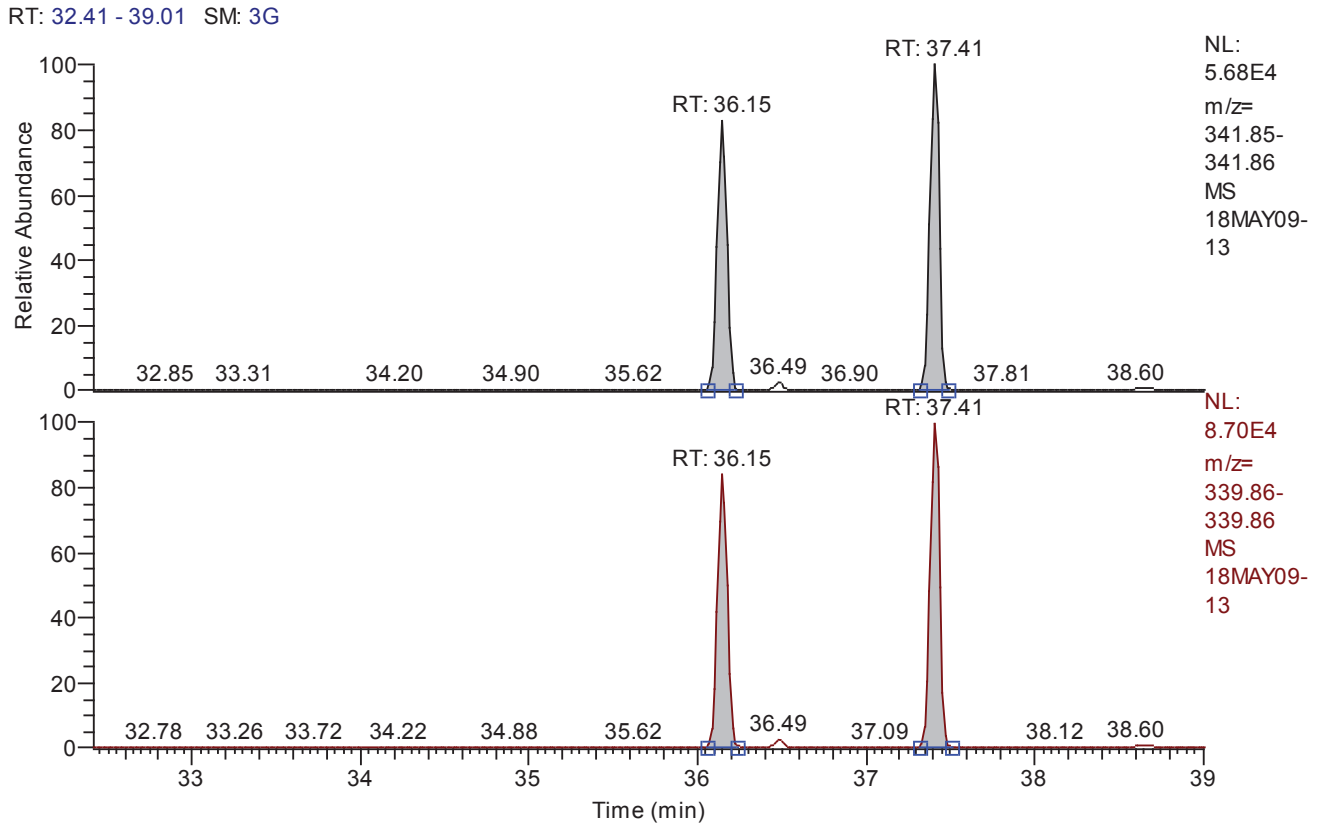
Chromatogram



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	35.71
QM Area	408465
QM Integration Mode	A
RM1 Area	639297
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0025
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	10110
Client Flags	
Status Overview	passed (2)
Status Info	

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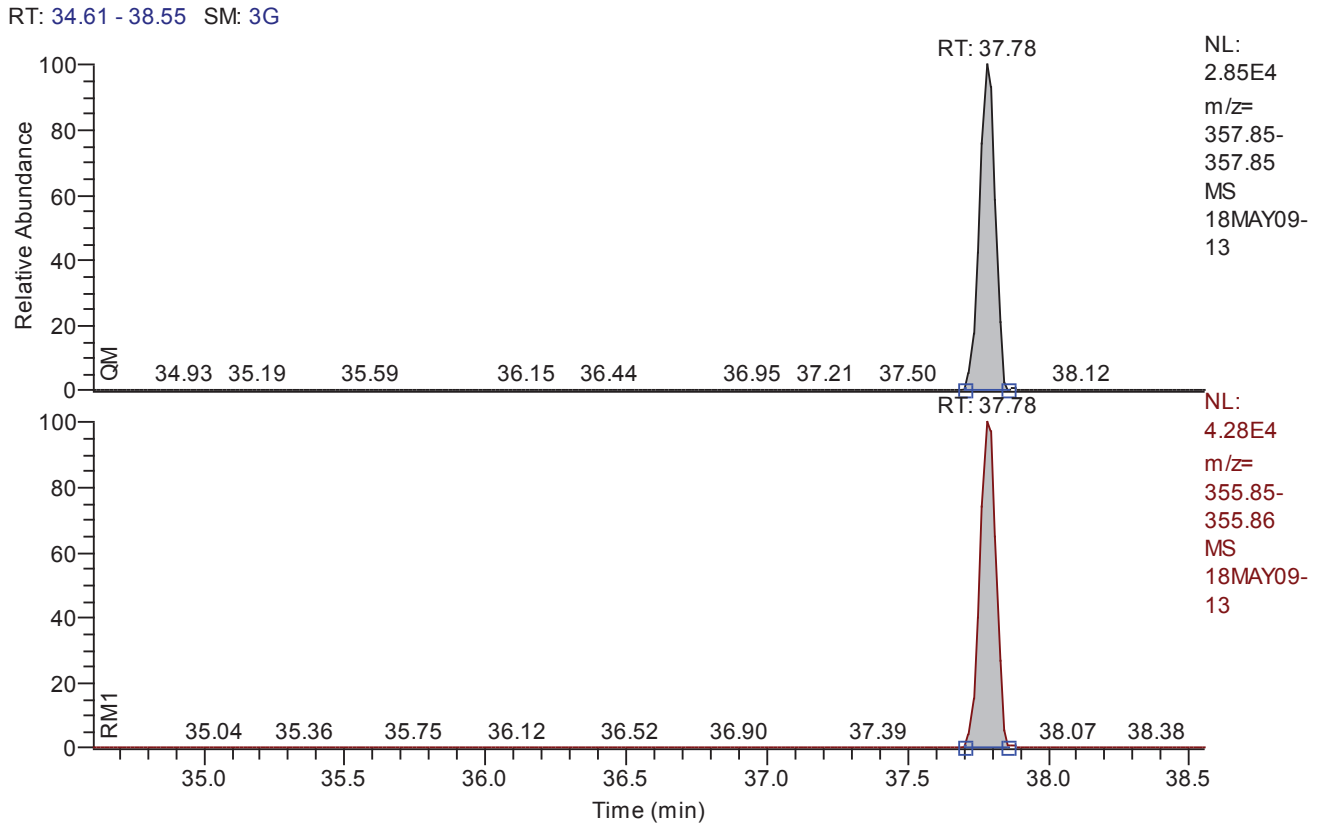
Chromatogram



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.58
QM Area	110138
QM Integration Mode	A
RM1 Area	169810
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4867
Client Flags	
Status Overview	passed (1)
Status Info	

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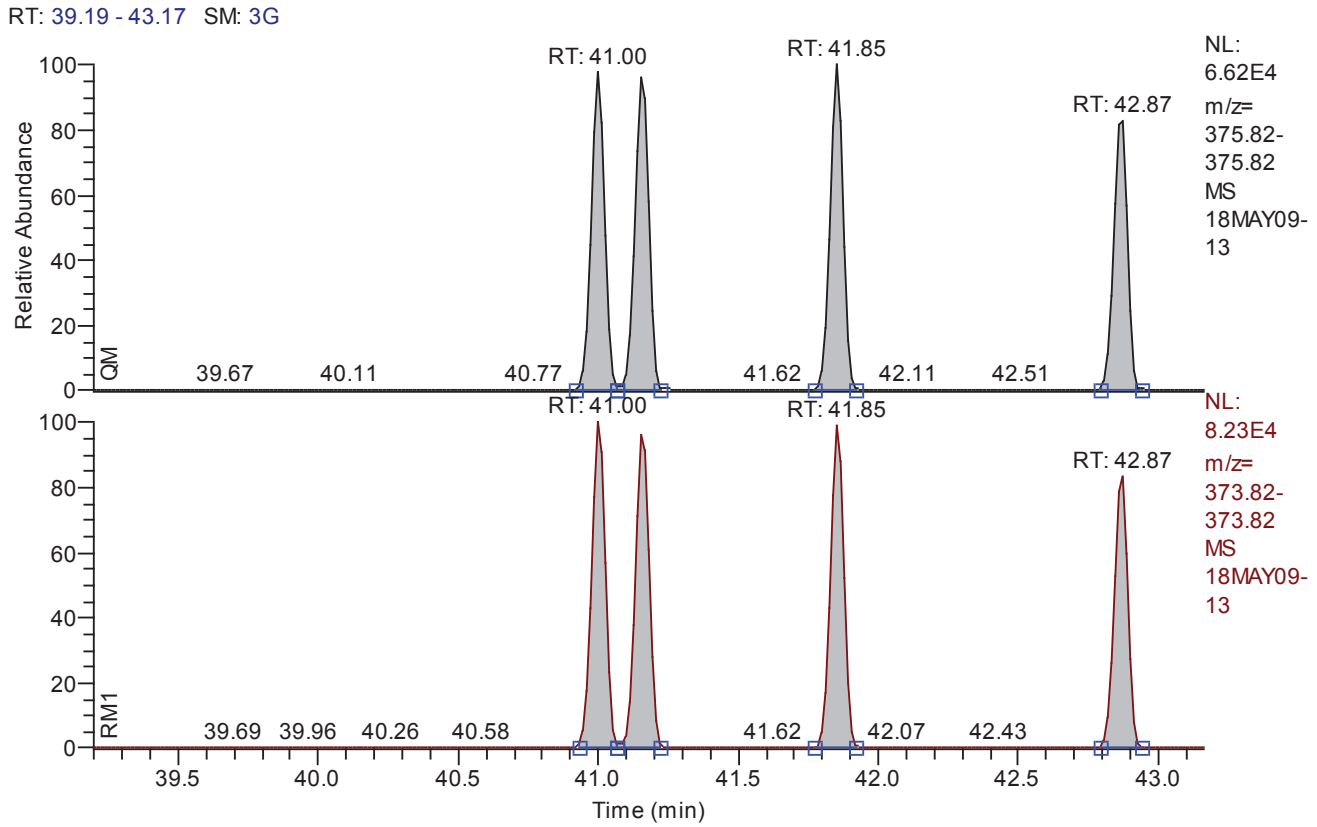
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	41.18
QM Area	838257
QM Integration Mode	A
RM1 Area	1057761
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0051
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	4924
Client Flags	
Status Overview	passed (4)
Status Info	

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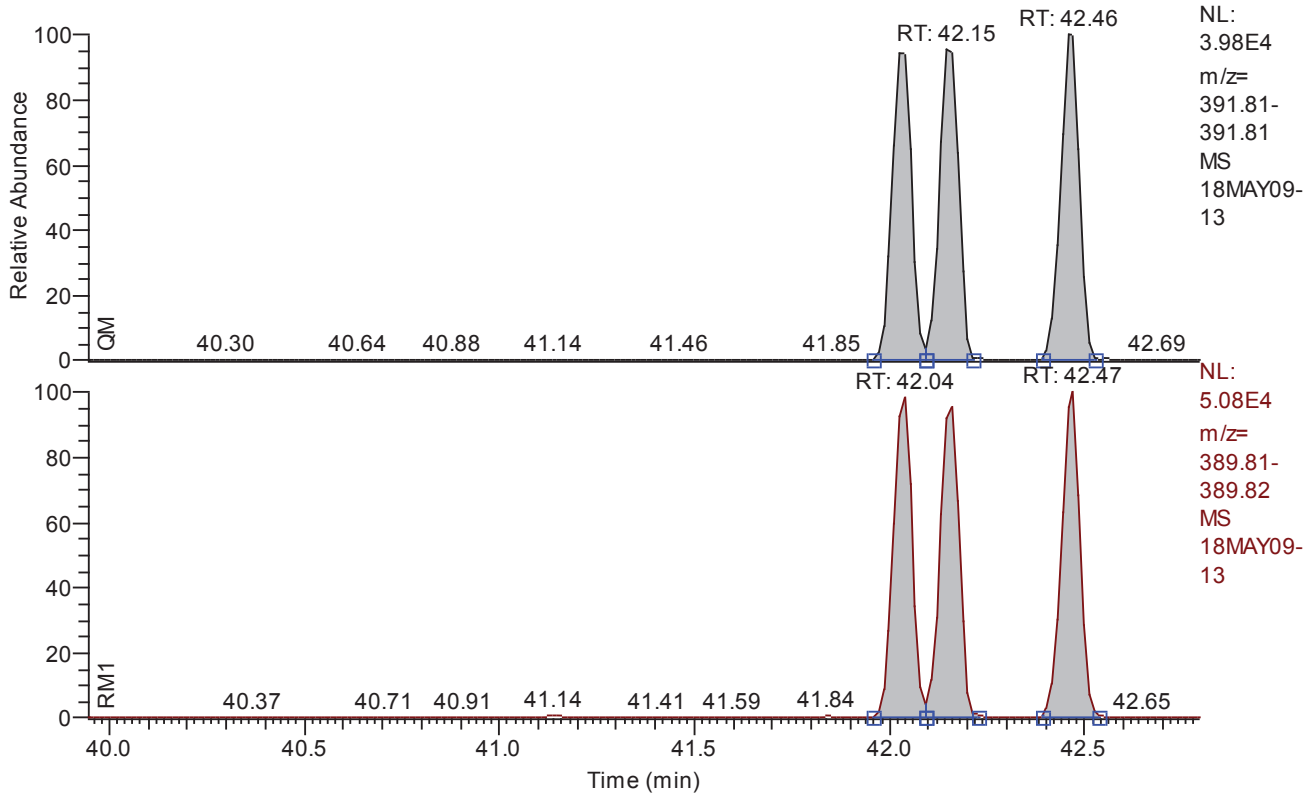
Chromatogram

RT: 39.95 - 42.79 SM: 3G



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.37
QM Area	393171
QM Integration Mode	A
RM1 Area	498322
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	30.0000
Signal-to-Noise	4422
Client Flags	
Status Overview	passed (3)
Status Info	

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By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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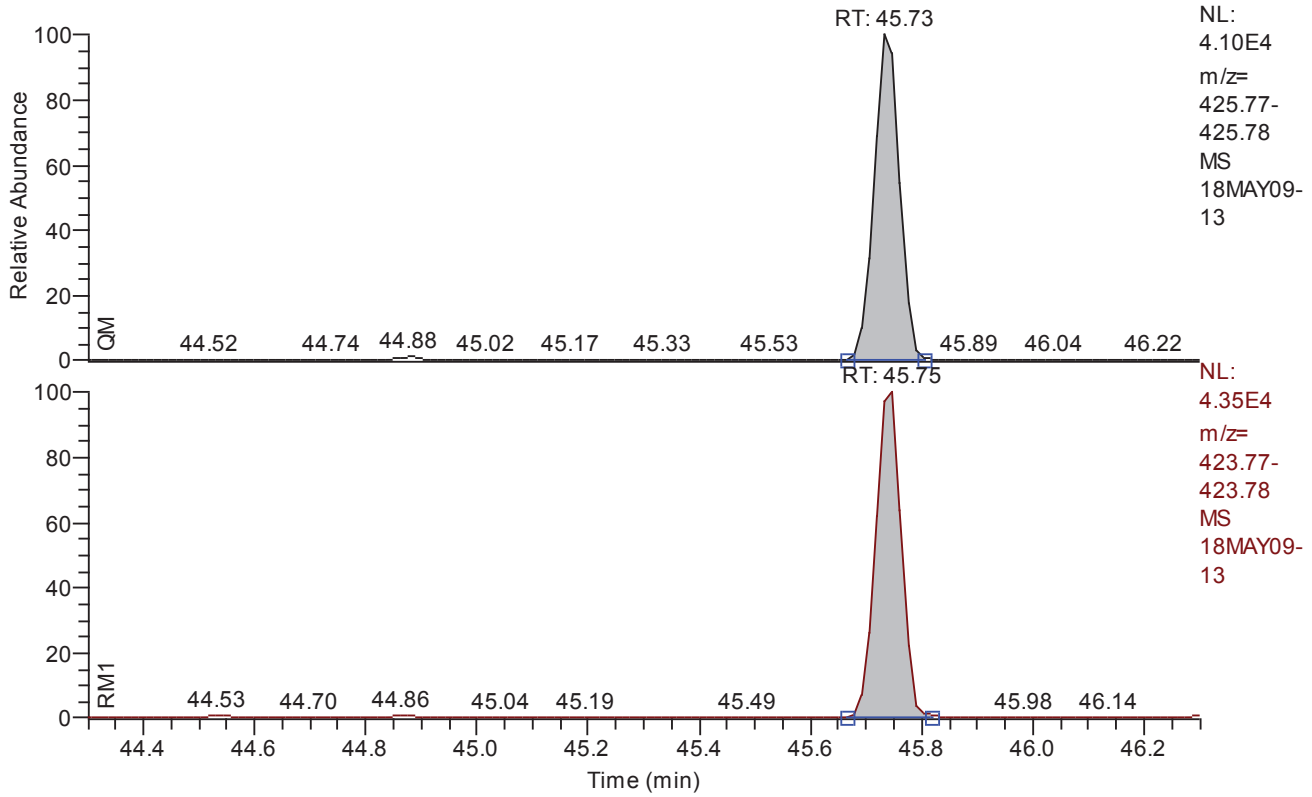
Chromatogram

RT: 44.30 - 46.30 SM: 3G



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	45.30
QM Area	130115
QM Integration Mode	A
RM1 Area	139332
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4035
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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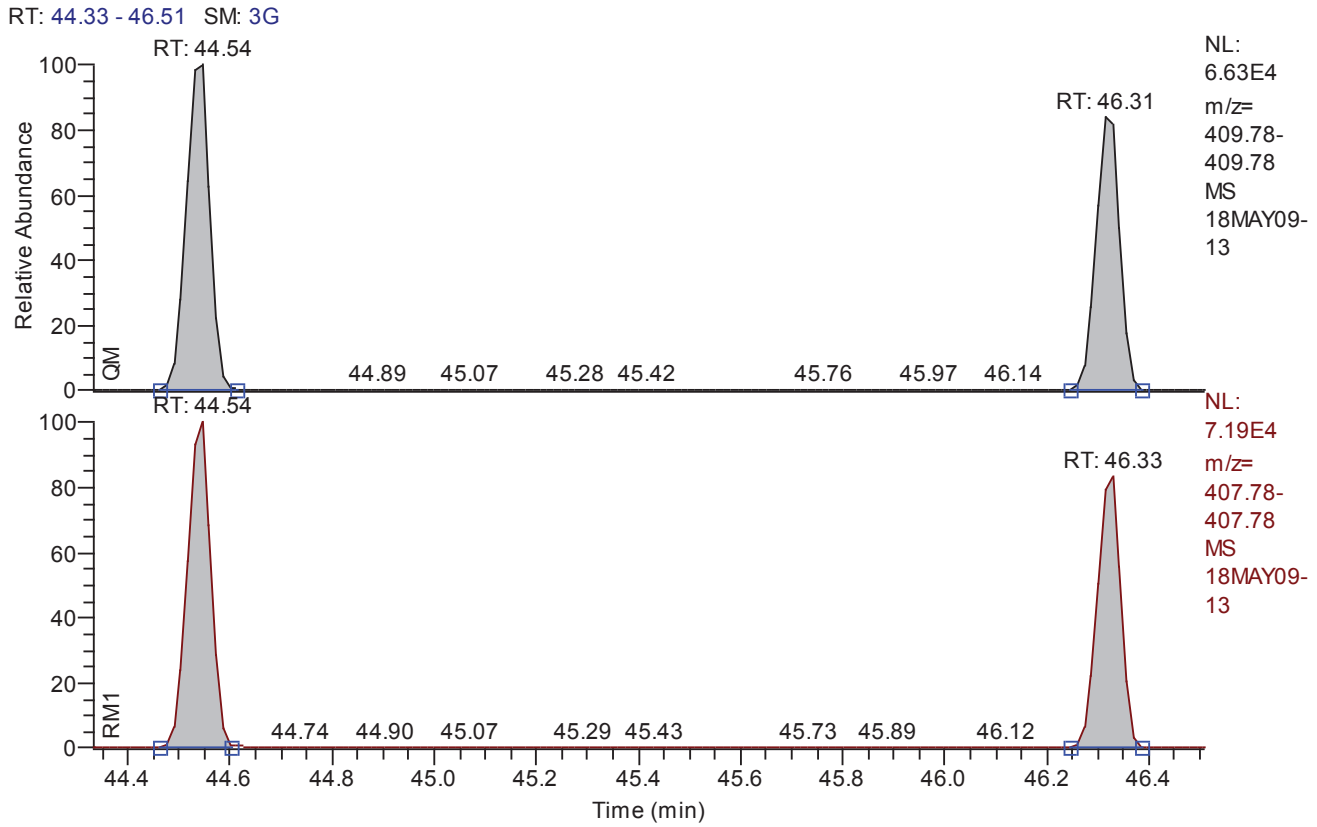
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	45.42
QM Area	396088
QM Integration Mode	A
RM1 Area	422748
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	3626
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	30.49	30.49	30.49	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	31.55	31.55	31.53	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.15	36.15	36.15	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.41	37.41	37.41	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.78	37.78	37.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.00	41.00	41.00	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.15	41.15	41.15	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.85	41.85	41.85	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.03	42.03	42.04	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.15	42.15	42.16	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.46	42.46	42.47	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.87	42.87	42.87	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.54	44.54	44.54	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.73	45.73	45.75	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.31	46.31	46.33	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.75	48.75	48.75	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.95	48.95	48.95	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	31.90	31.90	31.90	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.71	30.71	30.71	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.88	40.88	40.88	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	30.47	30.47	30.47	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.51	31.51	31.51	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.13	36.13	36.13	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.39	37.39	37.39	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.76	37.76	37.76	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.14	41.14	41.14	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.84	41.84	41.84	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.13	42.13	42.13	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.44	42.44	42.44	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.85	42.85	42.85	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.53	44.53	44.53	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.73	45.73	45.73	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.31	46.31	46.31	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.74	48.74	48.74	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.94	48.94	48.94	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.24	29.24	29.24	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.62	29.99	29.99	29.99	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	35.71	35.71	35.71	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	36.58	36.58	36.58	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.18	41.18	41.18	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.37	41.37	41.37	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.30	45.30	45.30	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	45.42	45.42	45.42	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	30.49	30.49	30.49	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.62	31.55	31.55	31.53	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	37.78	37.78	37.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	37.41	37.41	37.41	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	36.15	36.15	36.15	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.73	45.73	45.75	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.85	41.85	41.85	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.00	41.00	41.00	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.15	41.15	41.15	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	42.87	42.87	42.87	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.46	42.46	42.47	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.03	42.03	42.04	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.15	42.15	42.16	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	44.54	44.54	44.54	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	46.31	46.31	46.33	passed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	30.49	0.7854	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	31.55	0.8562	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	36.15	1.5714	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	37.41	1.5595	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.78	1.5418	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	41.00	1.3031	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	41.15	1.2456	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.85	1.2676	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	42.03	1.2825	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	42.15	1.2697	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	42.46	1.2507	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.87	1.2278	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	44.54	1.0673	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.73	1.0708	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	46.31	1.0674	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.75	0.9119	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.95	0.9032	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.90	0.8246	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	30.71	0.8147	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.88	1.2744	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	30.47	0.8017	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	31.51	0.7789	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	36.13	1.5874	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	37.39	1.5989	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.76	1.6133	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.99	0.5347	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	41.14	0.5388	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.84	0.5371	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	42.01	1.3043	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	42.13	1.2679	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	42.44	1.2660	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.85	0.5307	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	44.53	0.4703	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.73	1.0608	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	46.31	0.4675	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.74	0.9039	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.94	0.9089	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	29.24	0.7854	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.99	0.8562	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	35.71	1.5651	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.58	1.5418	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	41.18	1.2619	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.37	1.2674	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	45.30	1.0708	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	45.42	1.0673	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	30.49	0.7854	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	31.55	0.8562	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.78	1.5418	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	37.41	1.5595	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	36.15	1.5714	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.73	1.0708	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.85	1.2676	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	41.00	1.3031	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.15	1.2456	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.87	1.2278	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	42.46	1.2507	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	42.03	1.2825	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	42.15	1.2697	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	44.54	1.0673	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	46.31	1.0674	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	30.49	65500	A	51441	A	0.0024	2.000000	2.0000	2.000000	2090	
2	2378-TCDD	passed	31.55	35814	A	30663	A	0.0042	2.000000	2.0000	2.000000	1170	
3	12378-PeCDF	passed	36.15	193595	A	304214	A	0.0027	10.000000	10.0000	10.000000	9217	
4	23478-PeCDF	passed	37.41	214870	A	335083	A	0.0023	10.000000	10.0000	10.000000	11003	
5	12378-PeCDD	passed	37.78	110138	A	169810	A	0.0050	10.000000	10.0000	10.000000	4867	
6	123478-HxCDF	passed	41.00	213780	A	278579	A	0.0048	10.000000	10.0000	10.000000	5157	
7	123678-HxCDF	passed	41.15	220390	A	274516	A	0.0049	10.000000	10.0000	10.000000	5007	
8	234678-HxCDF	passed	41.85	214266	A	271605	A	0.0048	10.000000	10.0000	10.000000	5197	
9	123478-HxCDD	passed	42.03	129927	A	166625	A	0.0057	10.000000	10.0000	10.000000	4394	
10	123678-HxCDD	passed	42.15	128999	A	163790	A	0.0057	10.000000	10.0000	10.000000	4329	
11	123789-HxCDD	passed	42.46	134245	A	167906	A	0.0056	10.000000	10.0000	10.000000	4545	
12	123789-HxCDF	passed	42.87	189821	A	233061	A	0.0059	10.000000	10.0000	10.000000	4334	
13	1234678-HpCDF	passed	44.54	215487	A	229982	A	0.0064	10.000000	10.0000	10.000000	3942	
14	1234678-HpCDD	passed	45.73	130115	A	139332	A	0.0063	10.000000	10.0000	10.000000	4035	
15	1234789-HpCDF	passed	46.31	180602	A	192766	A	0.0076	10.000000	10.0000	10.000000	3309	
16	OCDD	passed	48.75	240209	A	219046	A	0.0092	20.000000	20.0000	20.000000	5581	
17	OCDF	passed	48.95	328219	A	296439	A	0.0064	20.000000	20.0000	20.000000	7758	
18	13C12-1278-TCDD (CRS)	passed	31.90	42467	A	35018	A	0.0123	2.000000	2.0000	2.000000	448	
19	13C12-1234-TCDD	passed	30.71	1604326	A	1306969	A	0.0163	100.000000	100.0000	100.000000	15291	
20	13C12-123468-HxCDD	passed	40.88	1359196	A	1732198	A	0.0151	100.000000	100.0000	100.000000	16565	
21	13C12-2378-TCDF	passed	30.47	3041415	A	2438409	A	0.0056	100.000000	100.0000	100.000000	44998	
22	13C12-2378-TCDD	passed	31.51	1566053	A	1219846	A	0.0171	100.000000	100.0000	100.000000	15888	
23	13C12-12378-PeCDF	passed	36.13	1927192	A	3059176	A	0.0258	100.000000	100.0000	100.000000	13145	
24	13C12-23478-PeCDF	passed	37.39	1875487	A	2998668	A	0.0264	100.000000	100.0000	100.000000	13458	
25	13C12-12378-PeCDD	passed	37.76	1019638	A	1645025	A	0.0142	100.000000	100.0000	100.000000	25566	
26	13C12-123478-HxCDF	passed	40.99	2654282	A	1419204	A	0.0149	100.000000	100.0000	100.000000	17667	
27	13C12-123678-HxCDF	passed	41.14	2787802	A	1502159	A	0.0141	100.000000	100.0000	100.000000	18272	
28	13C12-234678-HxCDF	passed	41.84	2502811	A	1344166	A	0.0157	100.000000	100.0000	100.000000	16968	
29	13C12-123478-HxCDD	passed	42.01	1225980	A	1598996	A	0.0165	100.000000	100.0000	100.000000	15581	
30	13C12-123678-HxCDD	passed	42.13	1241032	A	1573536	A	0.0166	100.000000	100.0000	100.000000	15848	
31	13C12-123789-HxCDD	passed	42.44	1212018	A	1534431	A	0.0170	100.000000	100.0000	100.000000	15127	
32	13C12-123789-HxCDF	passed	42.85	2396914	A	1272118	A	0.0165	100.000000	100.0000	100.000000	15237	
33	13C12-1234678-HpCDF	passed	44.53	2291096	A	1077513	A	0.0230	100.000000	100.0000	100.000000	11819	
34	13C12-1234678-HpCDD	passed	45.73	1201964	A	1275005	A	0.0178	100.000000	100.0000	100.000000	15283	
35	13C12-1234789-HpCDF	passed	46.31	1906439	A	891170	A	0.0277	100.000000	100.0000	100.000000	9862	
36	13C12-OCDD	passed	48.74	2294920	A	2074285	A	0.0150	200.000000	200.0000	200.000000	38184	
37	13C12-OCDF	passed	48.94	3437016	A	3124007	A	0.0127	200.000000	200.0000	200.000000	46451	
38	Total TCDF	passed (1)	29.24	65500	A	51441	A	0.0024	2.000000	2.0000	2.000000	2090	
39	Total TCDD	passed (1)	29.99	35814	A	30663	A	0.0042	2.000000	2.0000	2.000000	1170	
40	Total PeCDF	passed (2)	35.71	408465	A	639297	A	0.0025	10.000000	20.0000	10.000000	10110	
41	Total PeCDD	passed (1)	36.58	110138	A	169810	A	0.0050	10.000000	10.0000	10.000000	4867	
42	Total HxCDF	passed (4)	41.18	838257	A	1057761	A	0.0051	10.000000	40.0000	10.000000	4924	
43	Total HxCDD	passed (3)	41.37	393171	A	498322	A	0.0057	10.000000	30.0000	10.000000	4422	
44	Total HpCDD	passed (1)	45.30	130115	A	139332	A	0.0063	10.000000	10.0000	10.000000	4035	
45	Total HpCDF	passed (2)	45.42	396088	A	422748	A	0.0070	10.000000	20.0000	10.000000	3626	
46	Single TCDF	passed	30.49	65500	A	51441	A	0.0024	2.000000	2.0000	2.000000	2090	
47	Single TCDD	passed	31.55	35814	A	30663	A	0.0042	2.000000	2.0000	2.000000	1170	
48	Single PeCDD	passed	37.78	110138	A	169810	A	0.0050	10.000000	10.0000	10.000000	4867	
49	Single PeCDF	passed	37.41	214870	A	335083	A	0.0024	10.000000	10.0000	10.000000	11003	
50	Single PeCDF	passed	36.15	193595	A	304214	A	0.0026	10.000000	10.0000	10.000000	9217	
51	Single HpCDD	passed	45.73	130115	A	139332	A	0.0063	10.000000	10.0000	10.000000	4035	
52	Single HxCDF	passed	41.85	214266	A	271605	A	0.0050	10.000000	10.0000	10.000000	5197	
53	Single HxCDF	passed	41.00	213780	A	278579	A	0.0049	10.000000	10.0000	10.000000	5157	
54	Single HxCDF	passed	41.15	220390	A	274516	A	0.0049	10.000000	10.0000	10.000000	5007	
55	Single HxCDF	passed	42.87	189821	A	233061	A	0.0057	10.000000	10.0000	10.000000	4334	
56	Single HxCDD	passed	42.46	134245	A	167906	A	0.0056	10.000000	10.0000	10.000000	4545	
57	Single HxCDD	passed	42.03	129927	A	166625	A	0.0057	10.000000	10.0000	10.000000	4394	
58	Single HxCDD	passed	42.15	128999	A	163790	A	0.0058	10.000000	10.0000	10.000000	4329	
59	Single HpCDF	passed	44.54	215487	A	229982	A	0.0064	10.000000	10.0000	10.000000	3942	
60	Single HpCDF	passed	46.31	180602	A	192766	A	0.0076	10.000000	10.0000	10.000000	3309	

APPROVED
By uma9 at 3:11 pm, 5/10/18

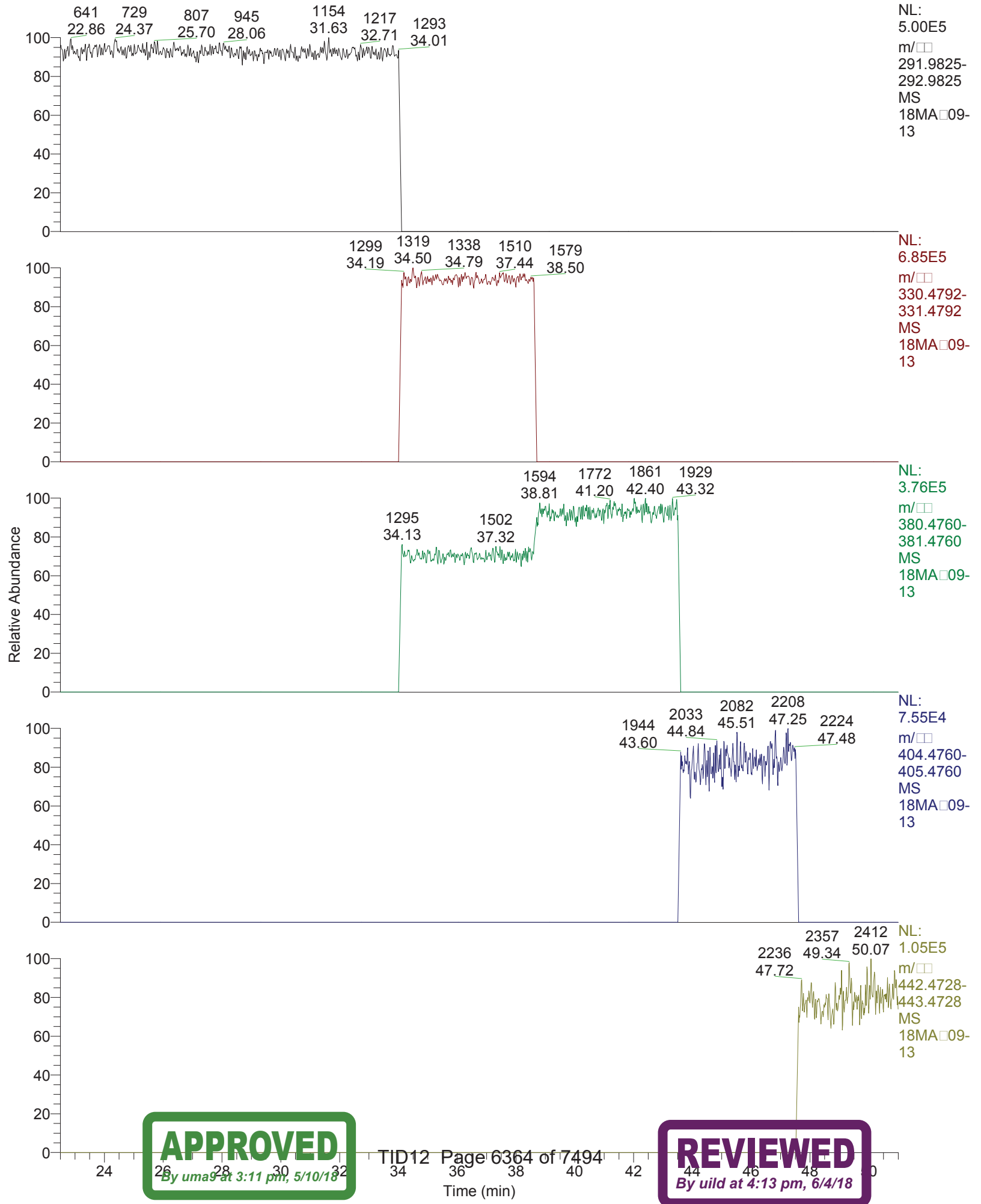
REVIEWED
By uild at 4:13 pm, 6/4/18

File Name: □:□18MA□09□18MA□09-13
Sample ID: CS201

Acq. Data: 5/9/2018 9:29:45 PM
Sample Name: CALDF31837A
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By umas at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

*** file opened Wed May 09 21:35:14 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 09-May-18 21:35:13

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

```
MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          95.5000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0168   FVINLET         0.0356   FVSRC           0.0309
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           95.5000   LKM           442.9723   MASS           95.5000
 MDAC        1458795.8685  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2507.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9636   RELEN           0.0000
 RES          13525.5134   RPUSHER       -20.1685   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.5000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11153.
MID Time Window 2: Resolution is 11083.
MID Time Window 3: Resolution is 11768.
MID Time Window 4: Resolution is 11191.
```

```
MID Time Window 5: Resolution is 11351.
MID Time Window 6: Resolution is 13525.

Amplifier Offset: 86.


*** File closed Wed May 09 22:26:16 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 22:26
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837C
Sample ID	CS301
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-14.quan
Data	z:\18may09\18may09-14.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	30.47	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	31.53	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.14	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.41	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.78	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.00	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.84	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.03	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.15	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.87	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.54	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.74	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.32	passed	passed	passed	passed	passed	passed	
16	OCDD	48.74	passed	passed	passed	passed	passed	passed	
17	OCDF	48.94	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.91	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	30.69	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.87	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.45	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.50	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.13	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.39	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.76	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.98	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.13	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.83	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.02	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.13	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.44	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.84	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.52	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.73	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.31	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.74	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.93	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.24	passed (1)	---	---	---	---	---	
39	Total TCDD	29.99	passed (1)	---	---	---	---	---	
40	Total PeCDF	35.71	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.58	passed (1)	---	---	---	---	---	
42	Total HxCDF	41.18	passed (4)	---	---	---	---	---	
43	Total HxCDD	41.37	passed (3)	---	---	---	---	---	
44	Total HpCDD	45.30	passed (1)	---	---	---	---	---	
45	Total HpCDF	45.42	passed (2)	---	---	---	---	---	
46	Single TCDF	30.47	passed	passed	passed	passed	passed	passed	
47	Single TCDD	31.53	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.78	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	37.41	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	36.14	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.74	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.14	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.00	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.84	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.87	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	42.03	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	42.15	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	42.46	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	44.54	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	46.32	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 22:26
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837C
Sample ID	CS301
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-14.quan
Data	z:\18may09\18may09-14.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
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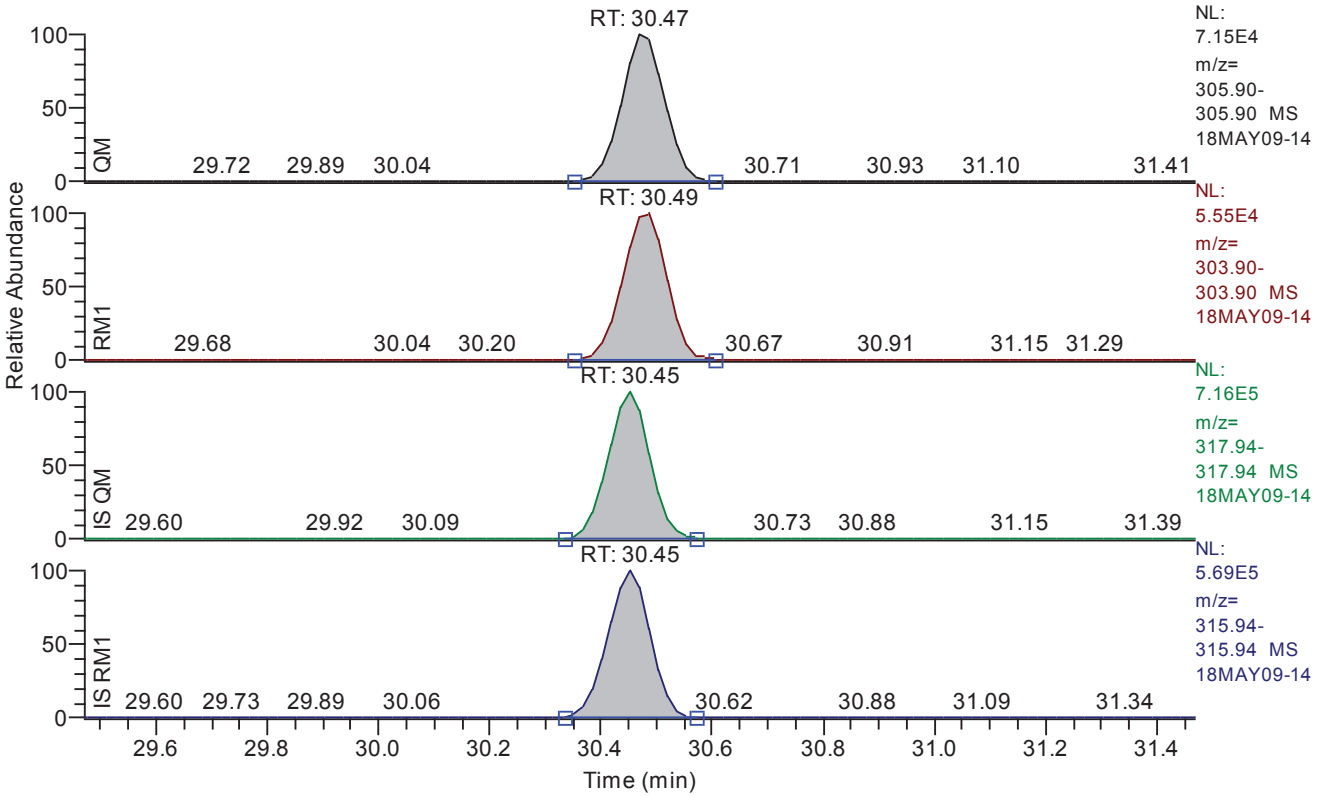
Chromatogram

RT: 29.47 - 31.47 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	30.47
QM Area	392628
QM Integration Mode	A
RM1 Area	313559
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0034
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	7171
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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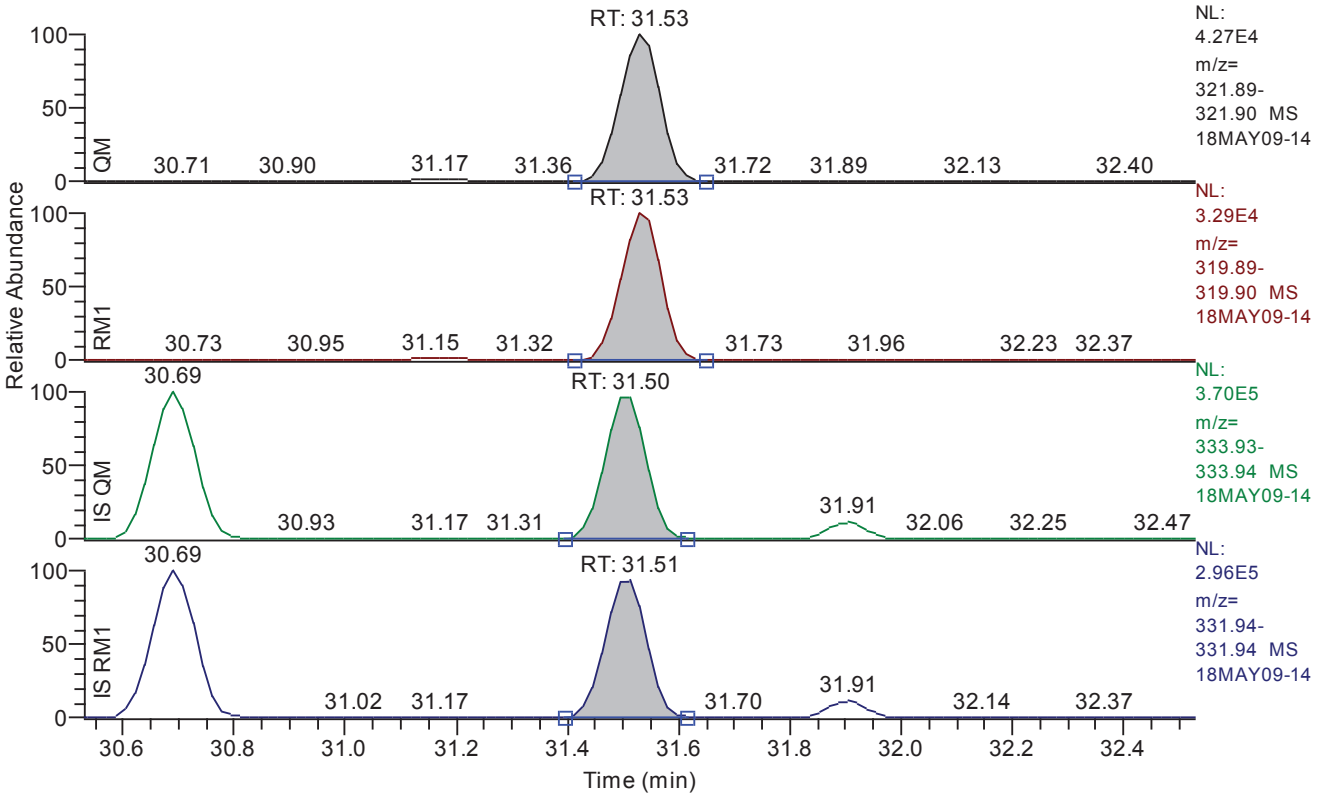
Chromatogram

RT: 30.53 - 32.53 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	31.53
QM Area	220023
QM Integration Mode	A
RM1 Area	168796
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	5948
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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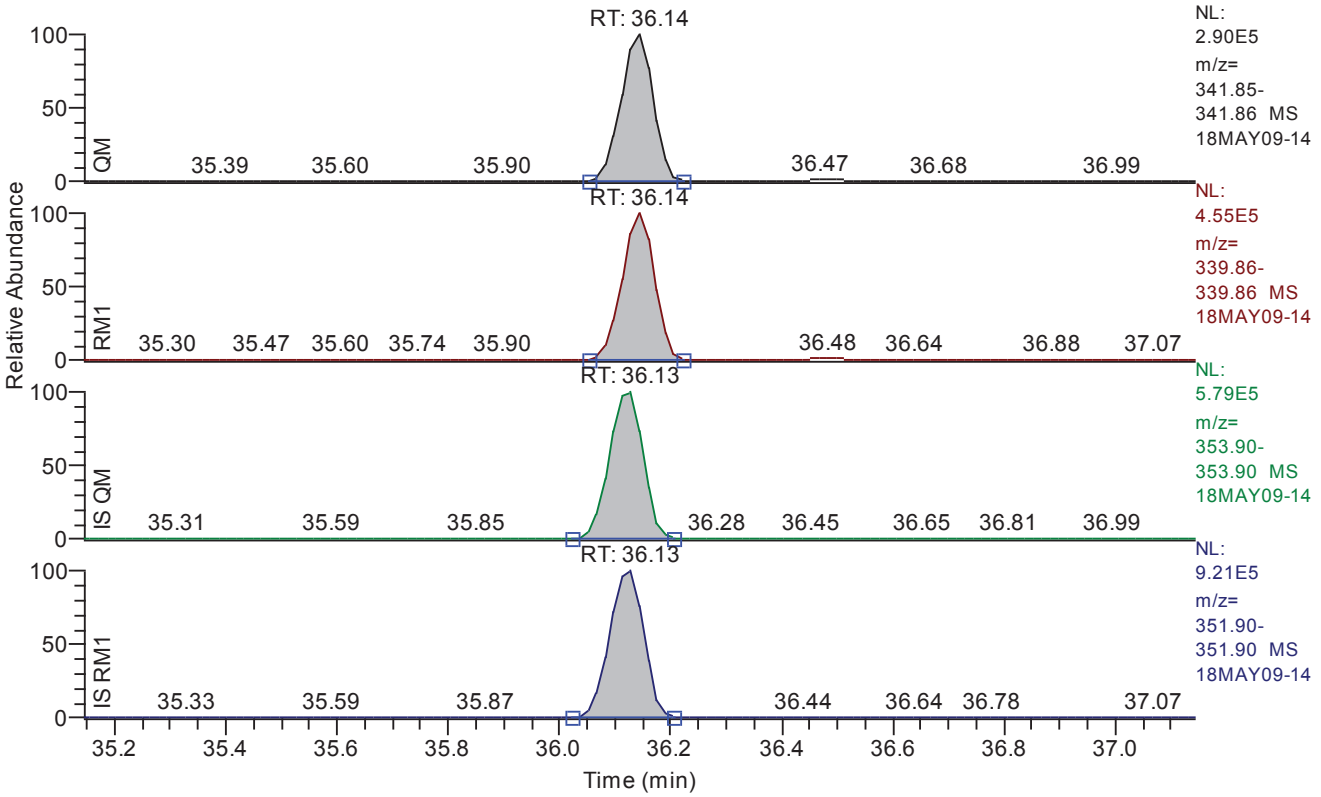
Chromatogram

RT: 35.14 - 37.14 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	36.14
QM Area	1170750
QM Integration Mode	A
RM1 Area	1841550
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0041
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	32019
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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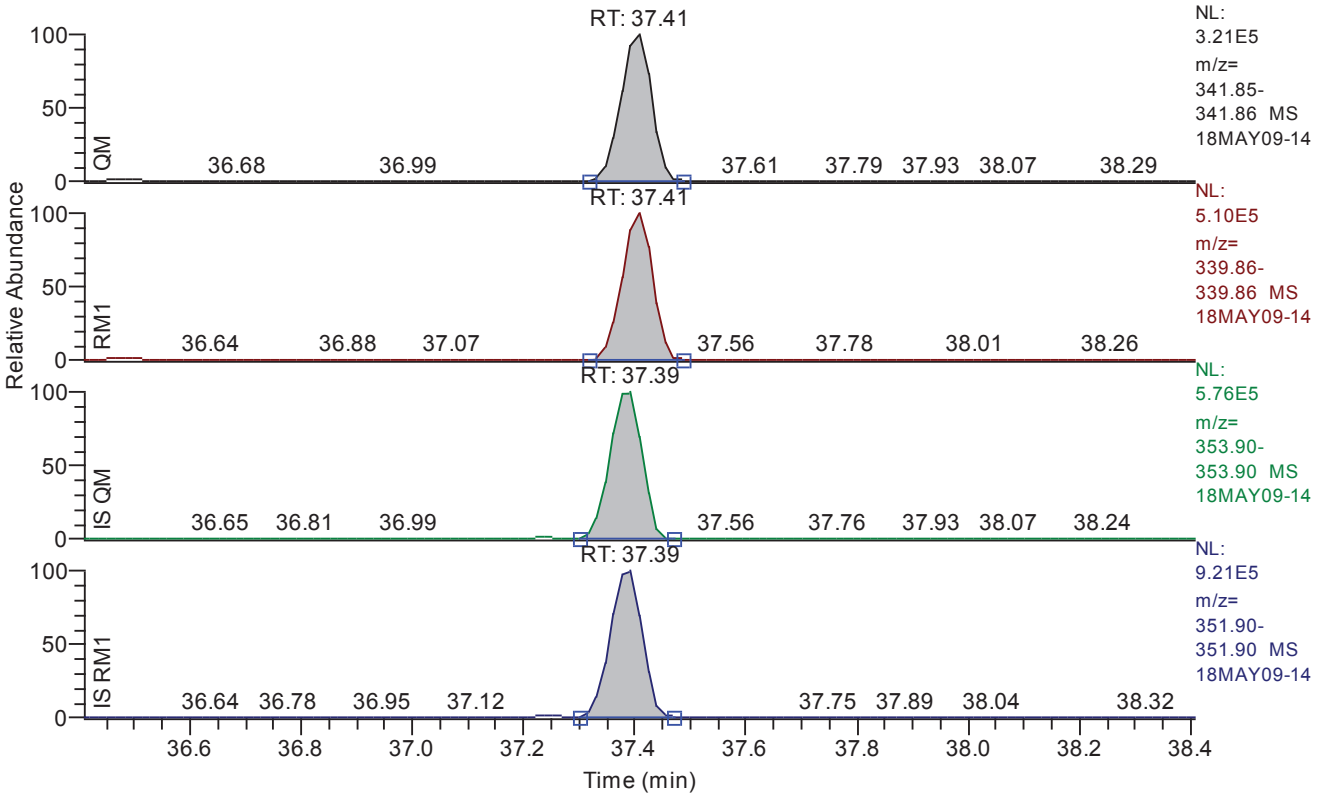
Chromatogram

RT: 36.41 - 38.41 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	37.41
QM Area	1248837
QM Integration Mode	A
RM1 Area	1958410
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0037
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	35719
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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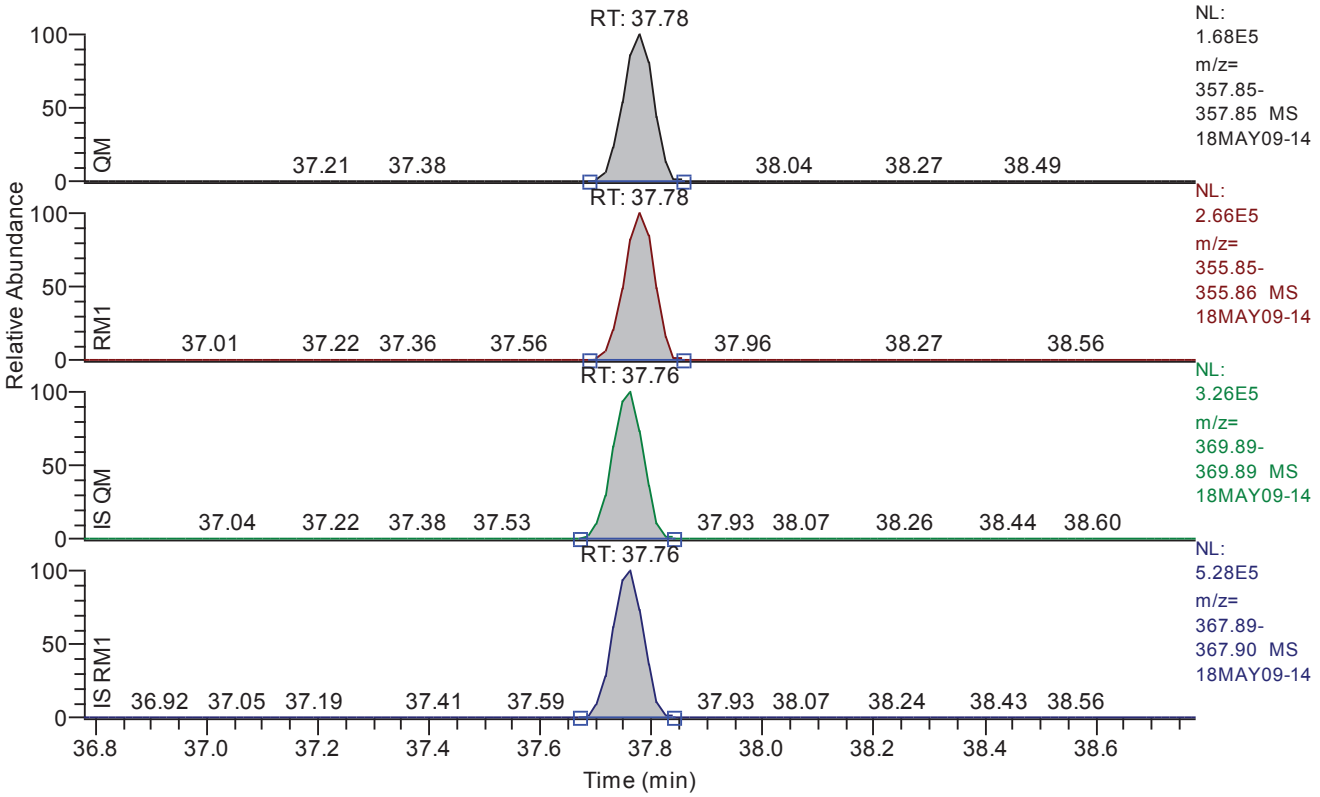
Chromatogram

RT: 36.78 - 38.78 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.78
QM Area	644866
QM Integration Mode	A
RM1 Area	1021236
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	16850
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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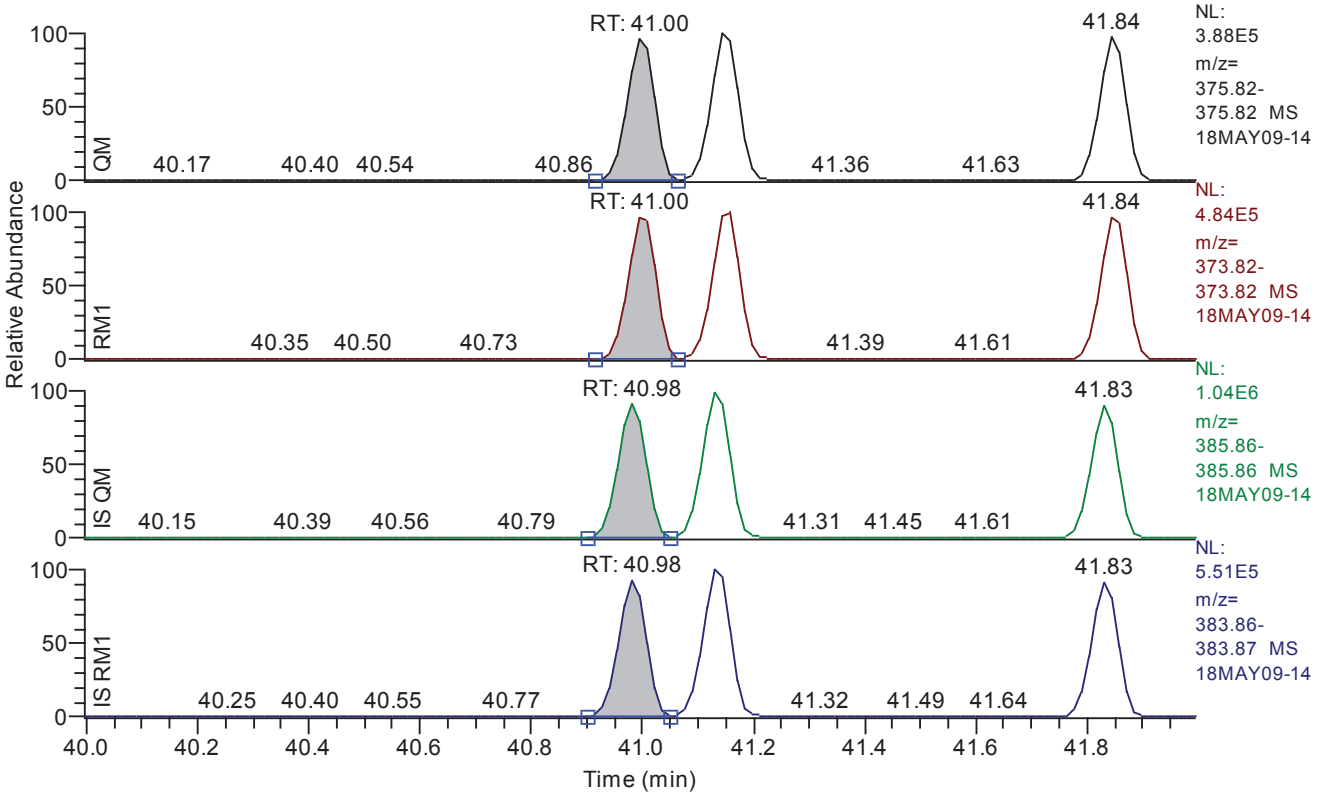
Chromatogram

RT: 40.00 - 42.00 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	41.00
QM Area	1298999
QM Integration Mode	A
RM1 Area	1644382
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	15086
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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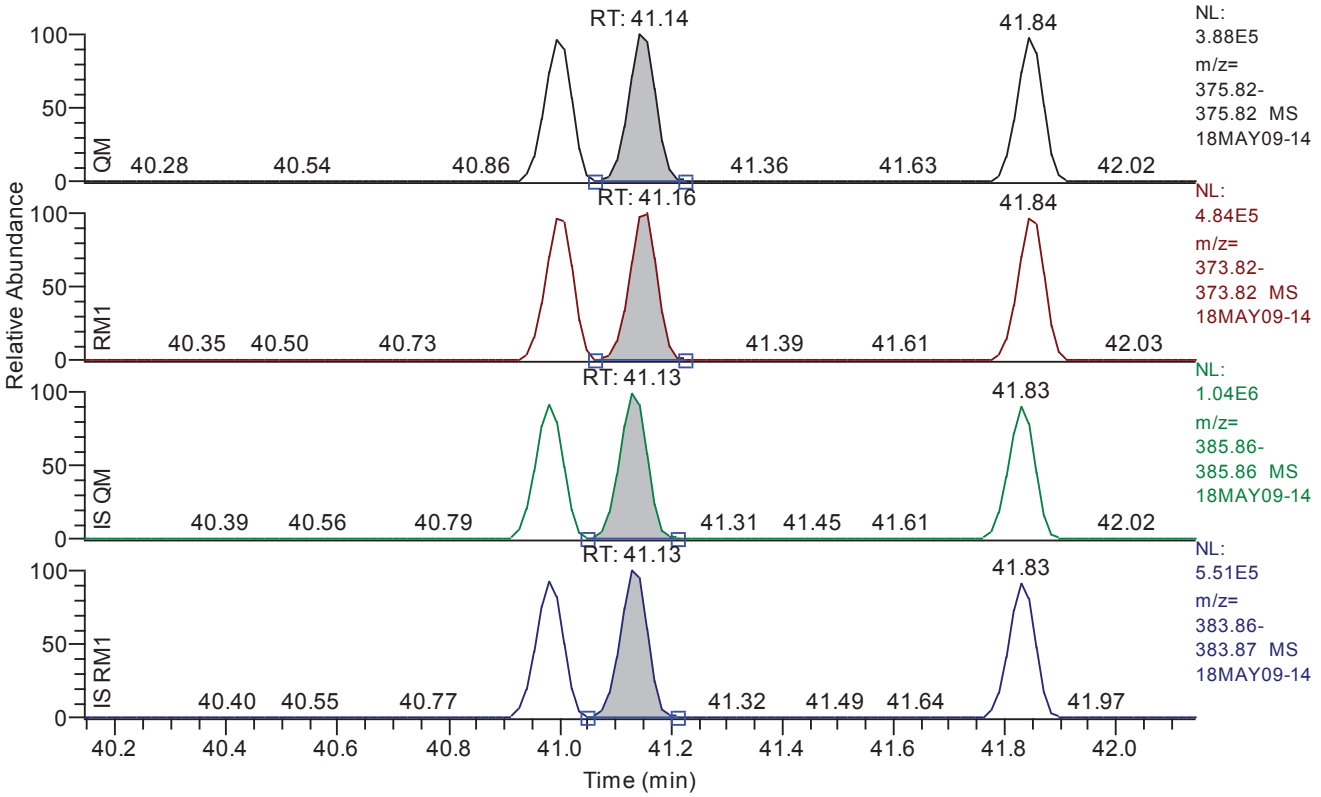
Chromatogram

RT: 40.14 - 42.14 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	41.14
QM Area	1342220
QM Integration Mode	A
RM1 Area	1680316
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	15620
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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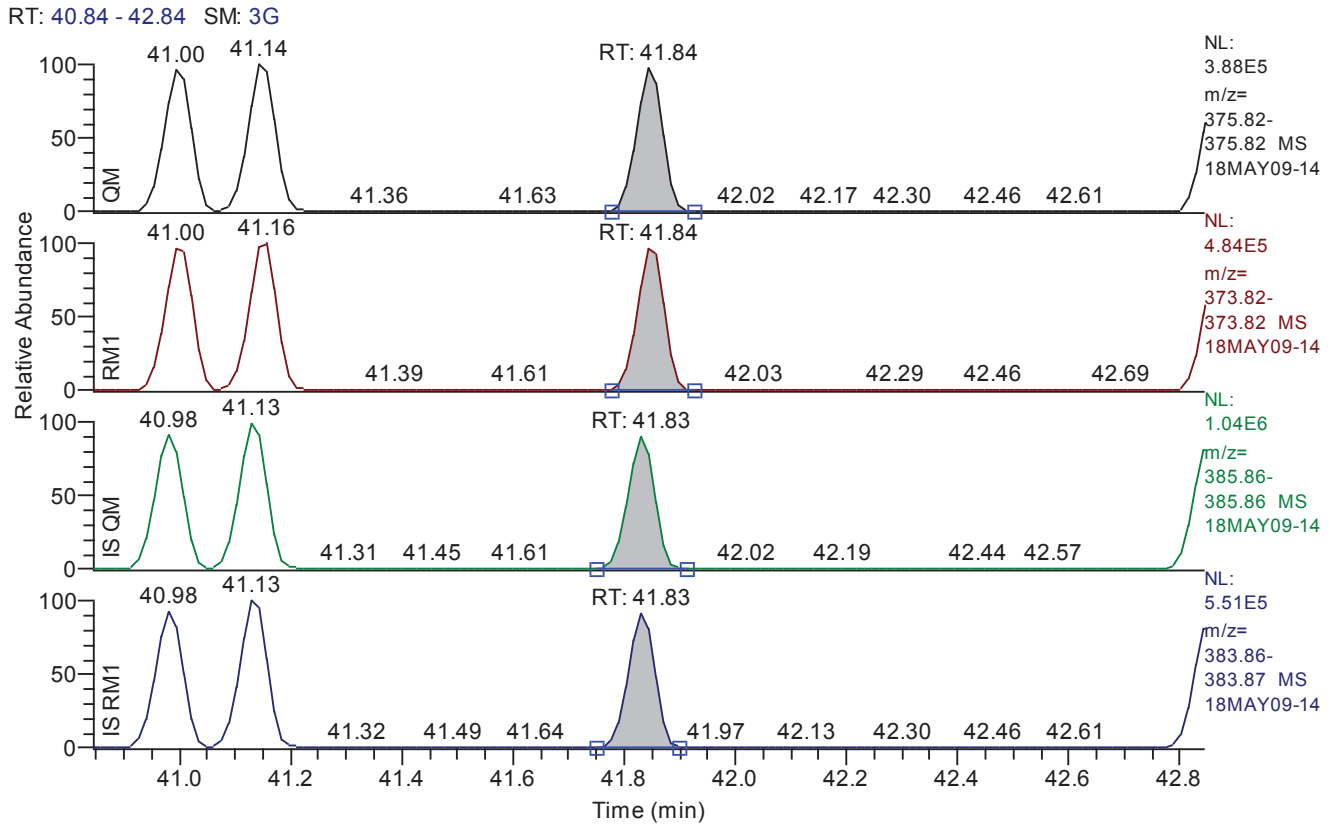
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.84
QM Area	1257902
QM Integration Mode	A
RM1 Area	1588264
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	15185
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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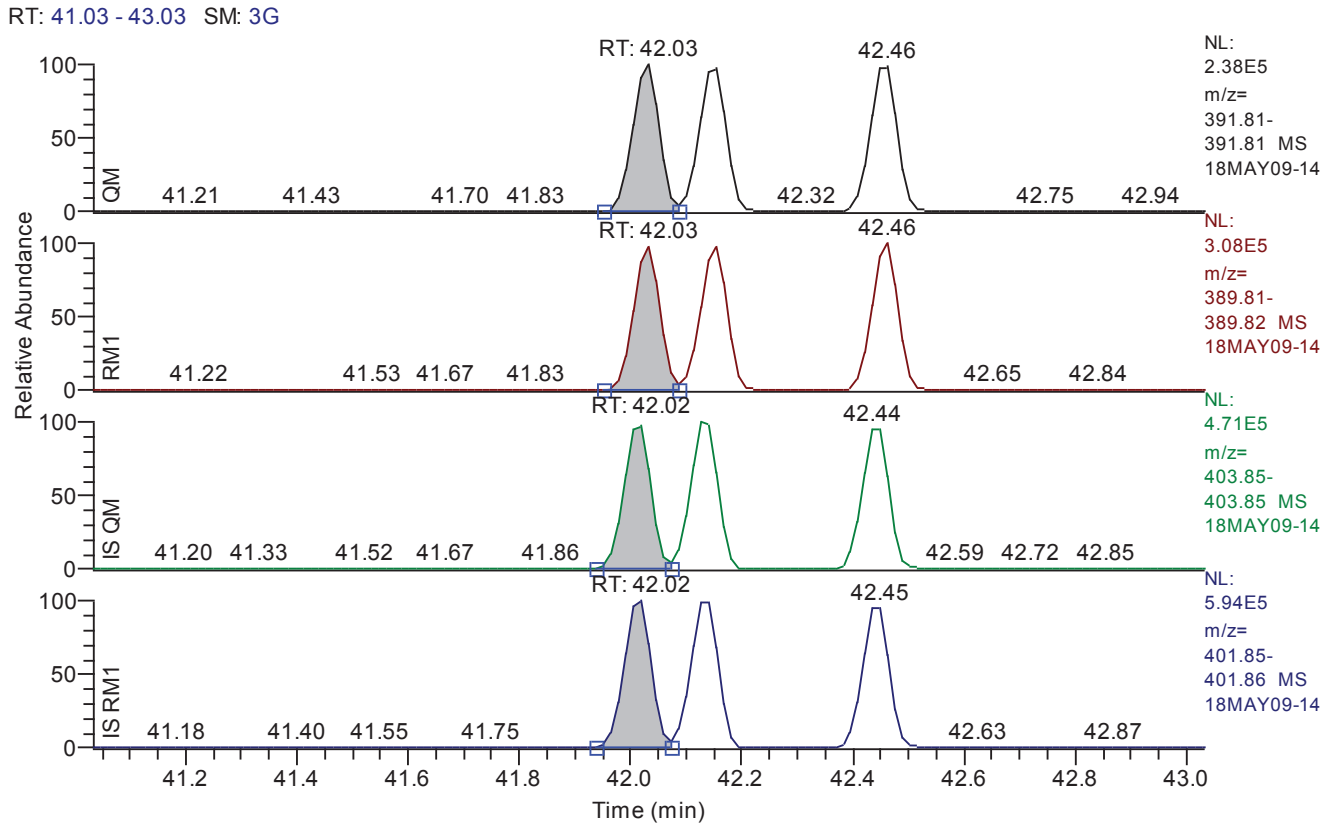
Chromatogram



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	42.03
QM Area	792431
QM Integration Mode	A
RM1 Area	995289
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	17911
Client Flags	
Status Overview	passed
Status Info	

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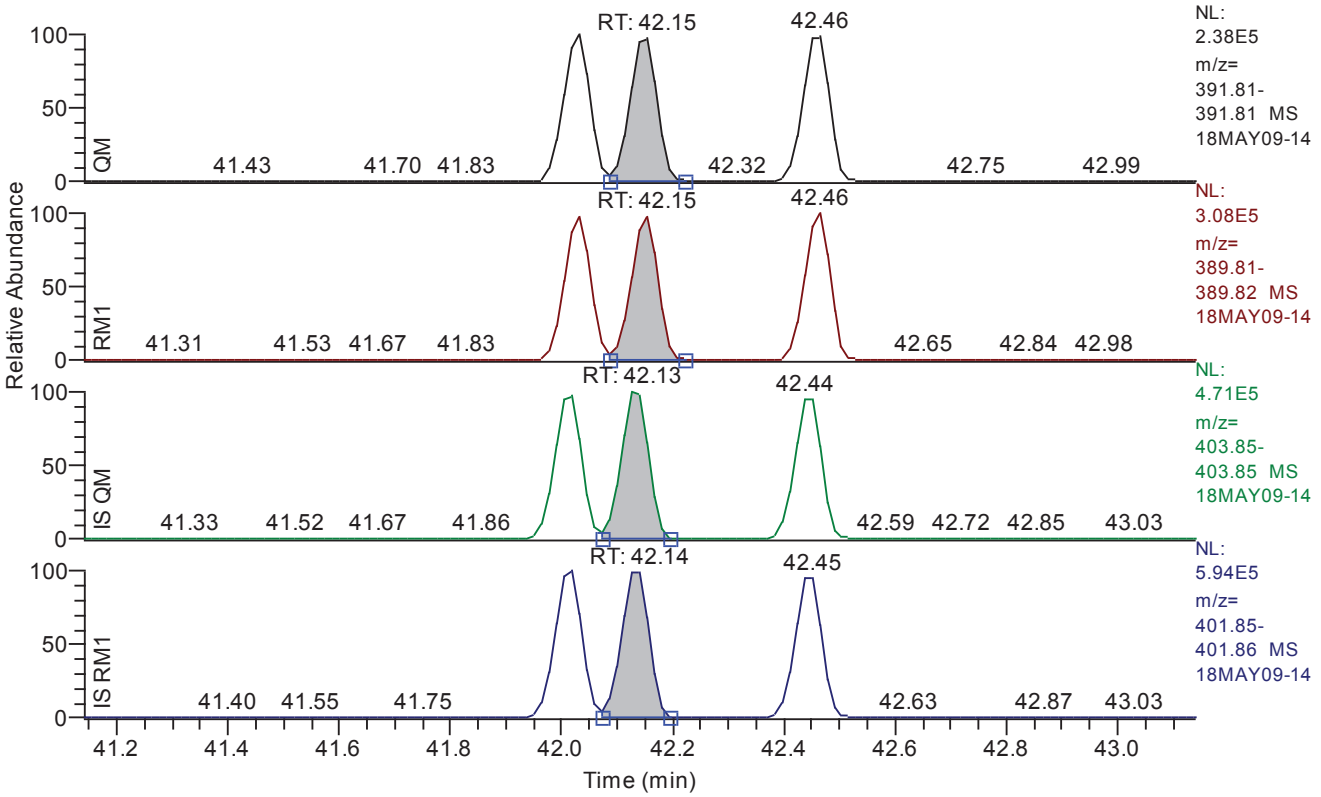
Chromatogram

RT: 41.14 - 43.14 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	42.15
QM Area	791510
QM Integration Mode	A
RM1 Area	1000525
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	17721
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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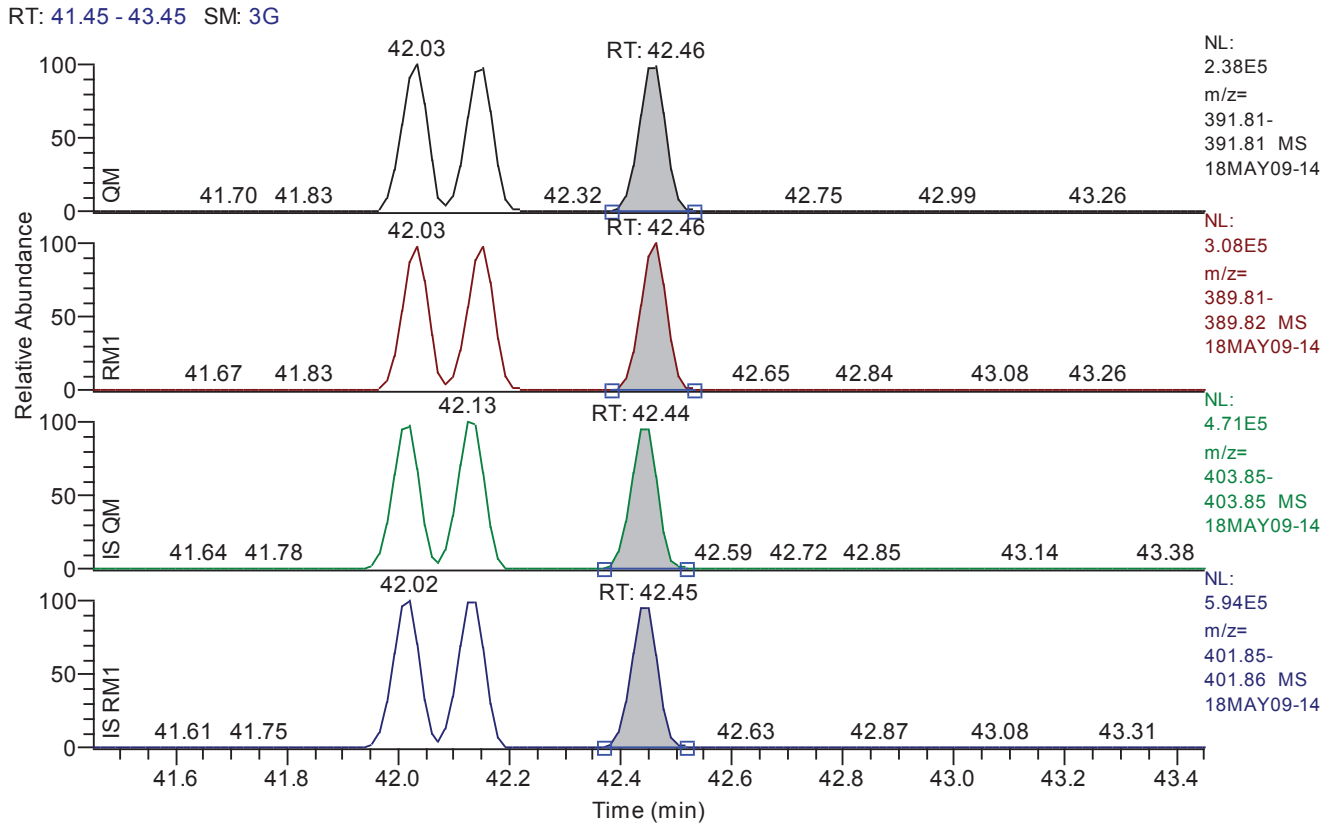
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	42.46
QM Area	796078
QM Integration Mode	A
RM1 Area	1006572
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	17987
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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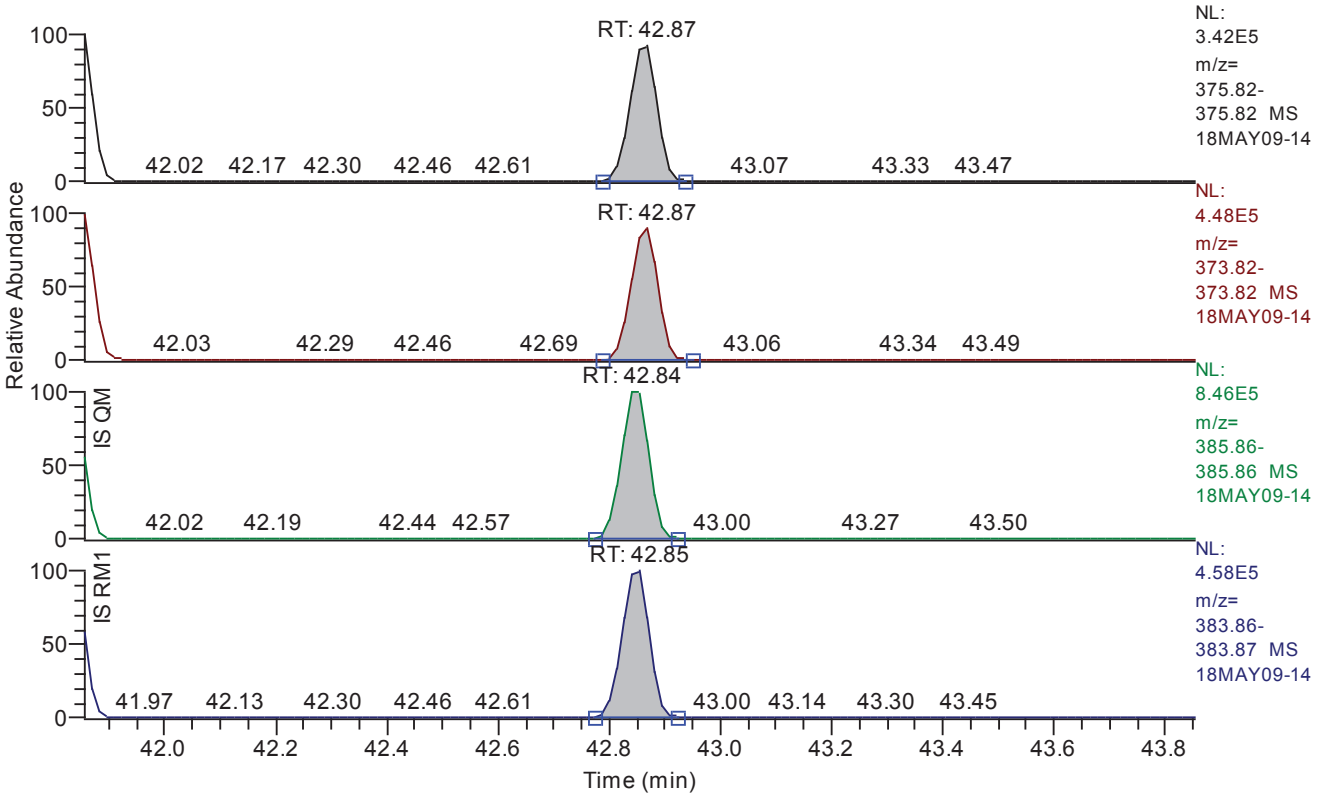
Chromatogram

RT: 41.85 - 43.85 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.87
QM Area	1089921
QM Integration Mode	A
RM1 Area	1372342
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	12972
Client Flags	
Status Overview	passed
Status Info	

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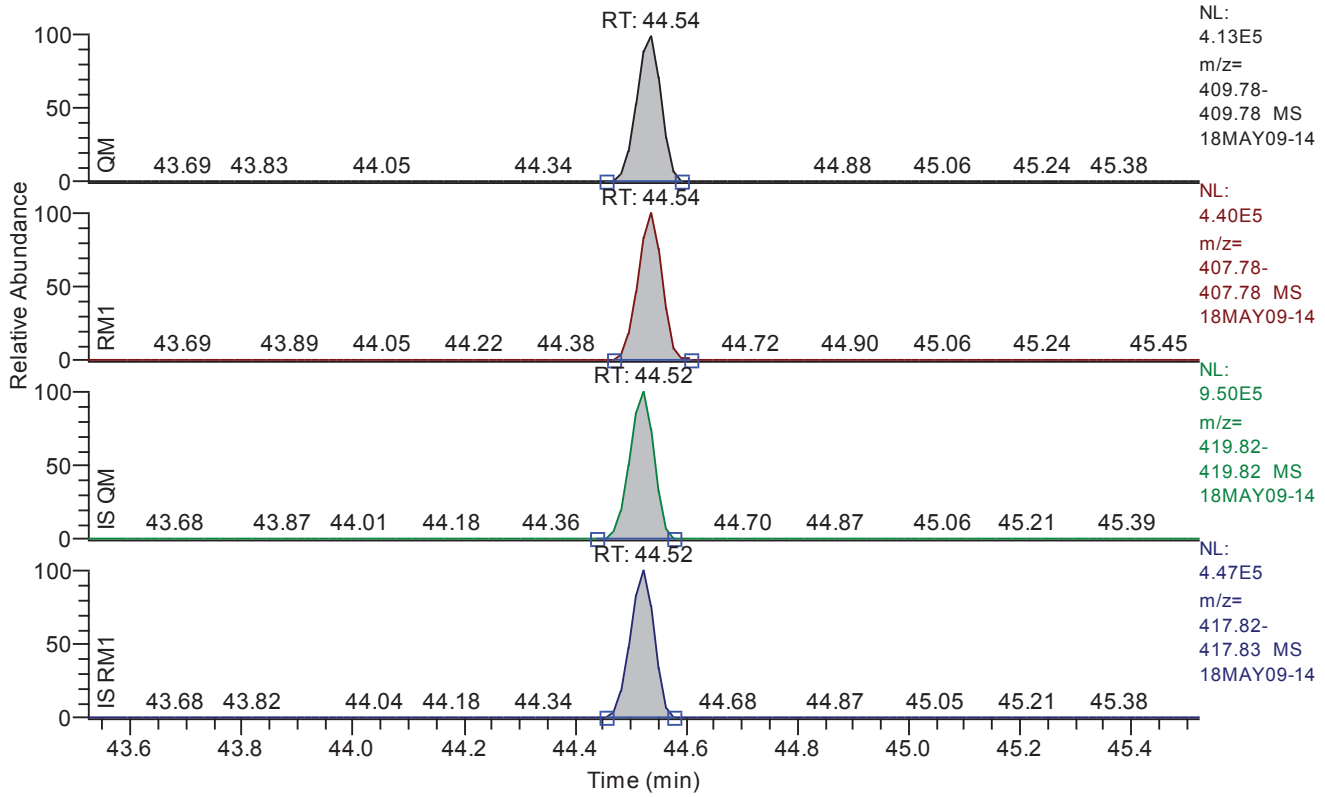
Chromatogram

RT: 43.52 - 45.52 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.54
QM Area	1303733
QM Integration Mode	A
RM1 Area	1373093
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0089
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	13941
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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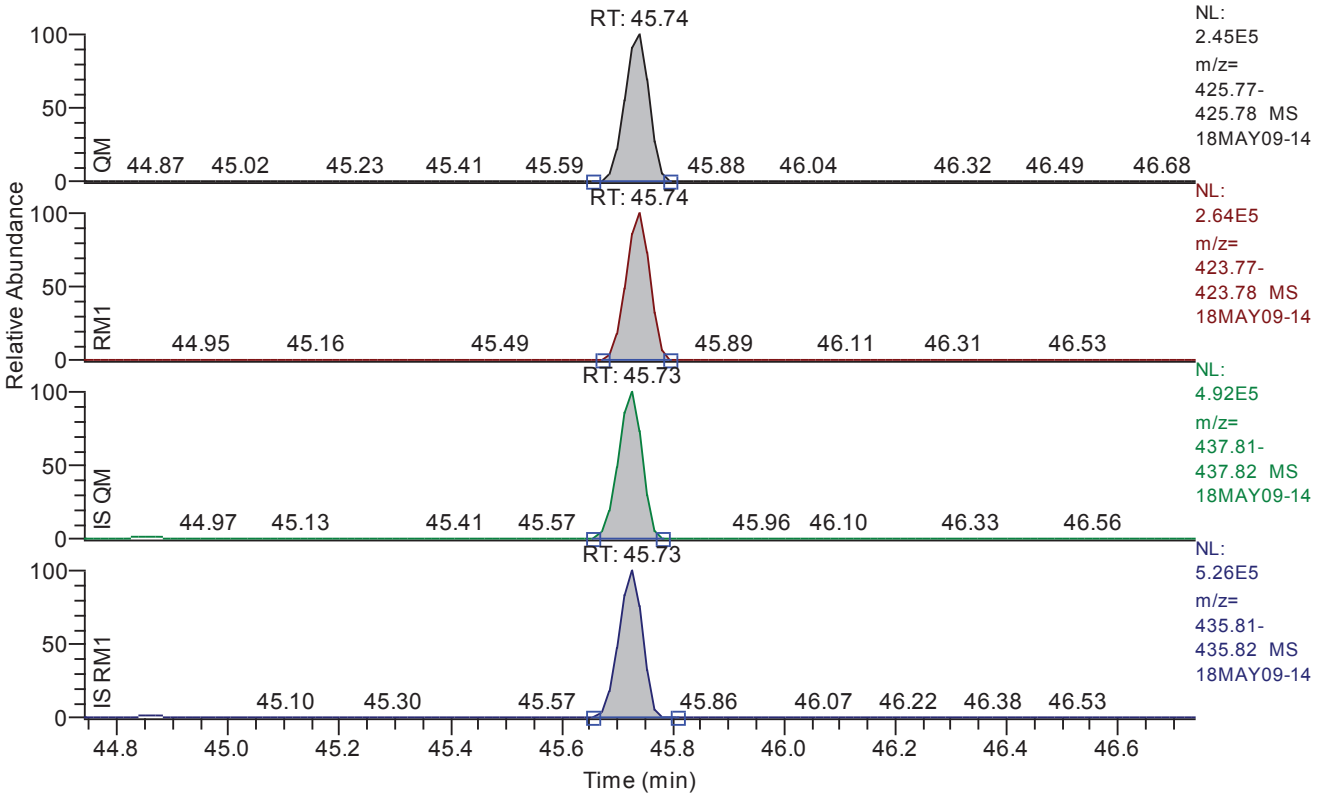
Chromatogram

RT: 44.74 - 46.74 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.74
QM Area	769792
QM Integration Mode	A
RM1 Area	816860
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	12590
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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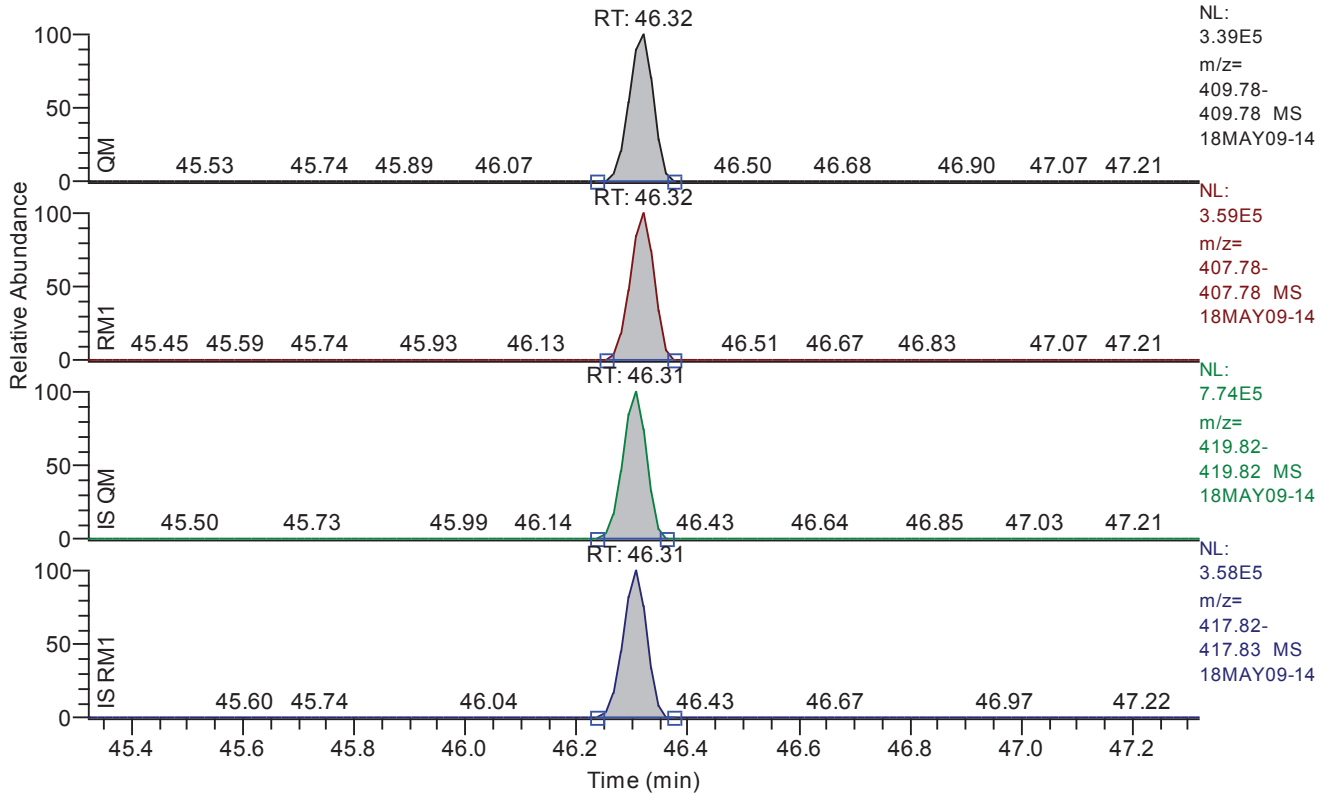
Chromatogram

RT: 45.32 - 47.32 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	46.32
QM Area	1064628
QM Integration Mode	A
RM1 Area	1115546
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0108
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11418
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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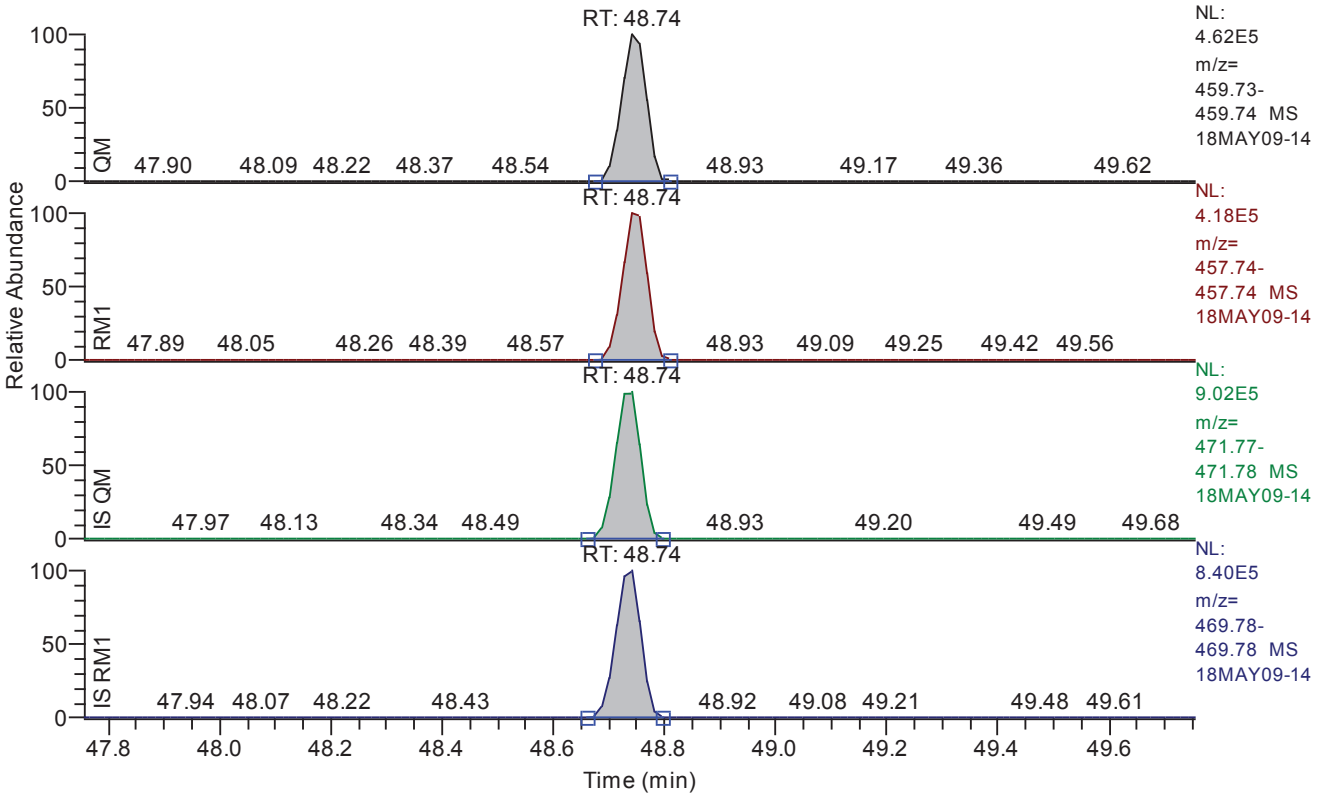
Chromatogram

RT: 47.76 - 49.76 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.74
QM Area	1437489
QM Integration Mode	A
RM1 Area	1312769
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	22597
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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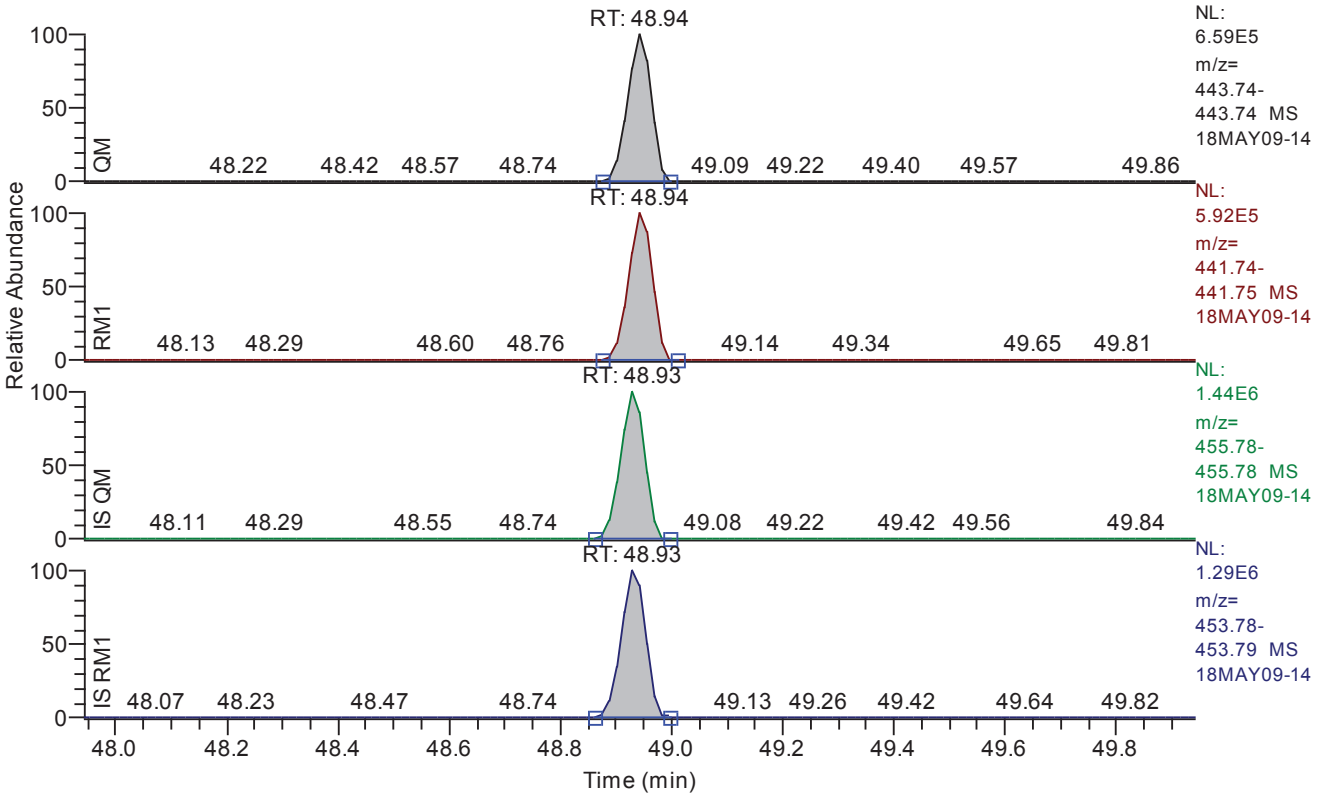
Chromatogram

RT: 47.94 - 49.94 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.94
QM Area	1956897
QM Integration Mode	A
RM1 Area	1782376
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	31892
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:13 pm, 6/4/18

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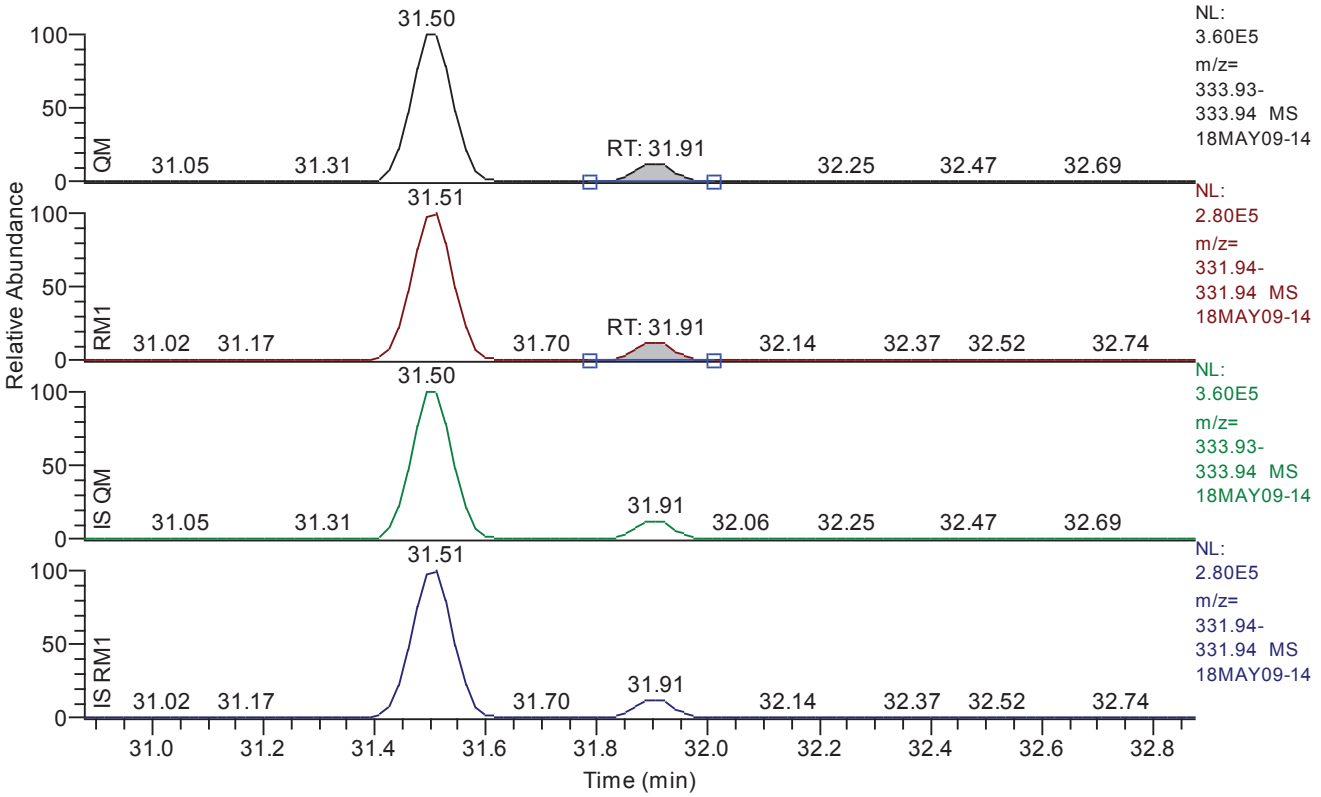
Chromatogram

RT: 30.88 - 32.88 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.91
QM Area	223508
QM Integration Mode	A
RM1 Area	173863
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2445
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 22:26
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837C
Sample ID	CS301
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-14.quan
Data	z:\18may09\18may09-14.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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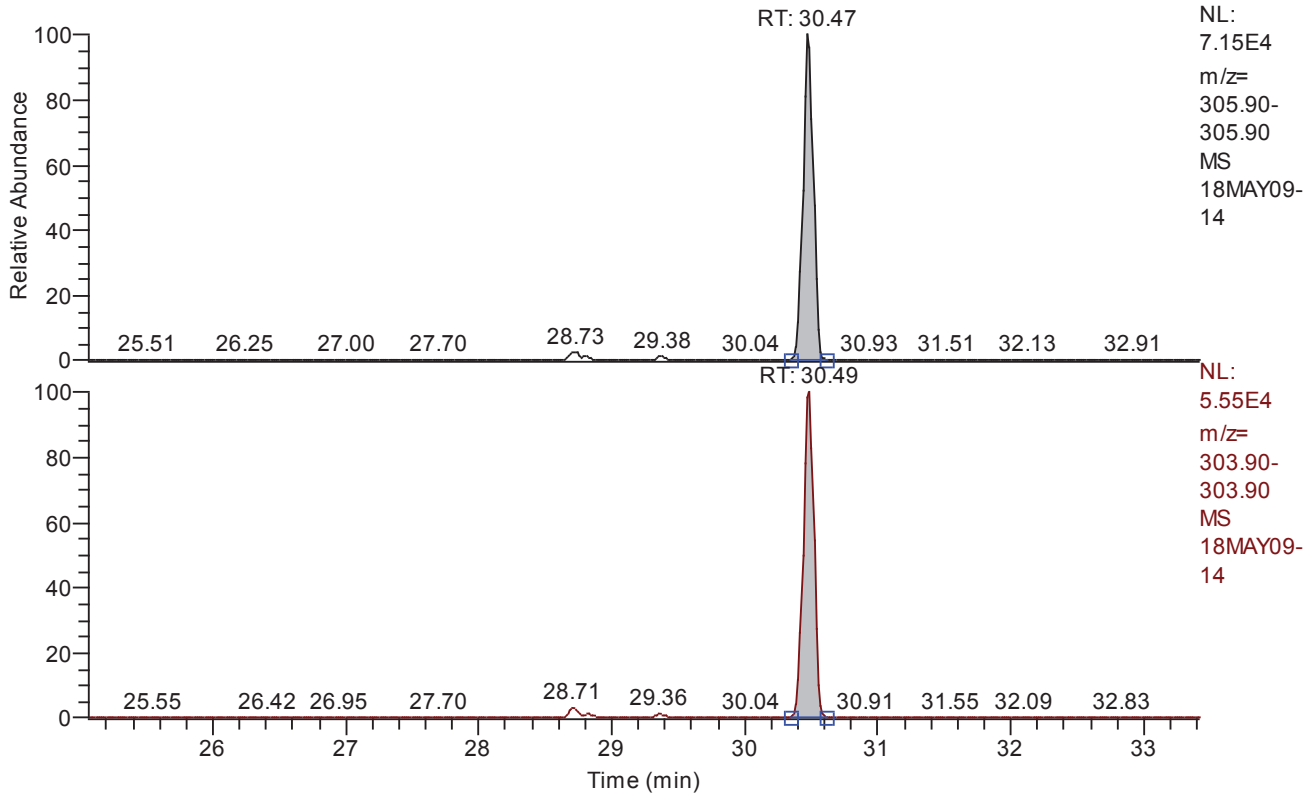
Chromatogram

RT: 25.06 - 33.42 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	29.24
QM Area	392628
QM Integration Mode	A
RM1 Area	313559
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0034
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	7171
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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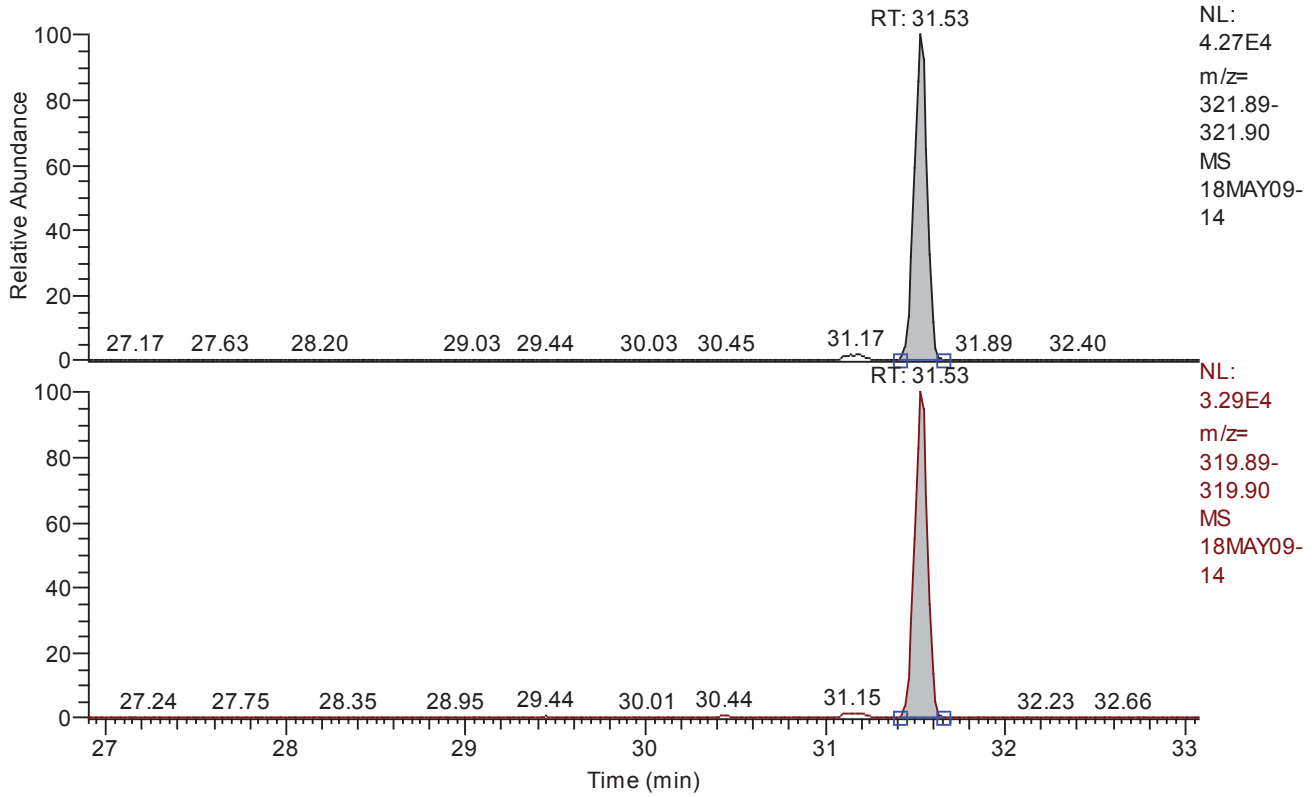
Chromatogram

RT: 26.90 - 33.08 SM: 3G



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.99
QM Area	220023
QM Integration Mode	A
RM1 Area	168796
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	5948
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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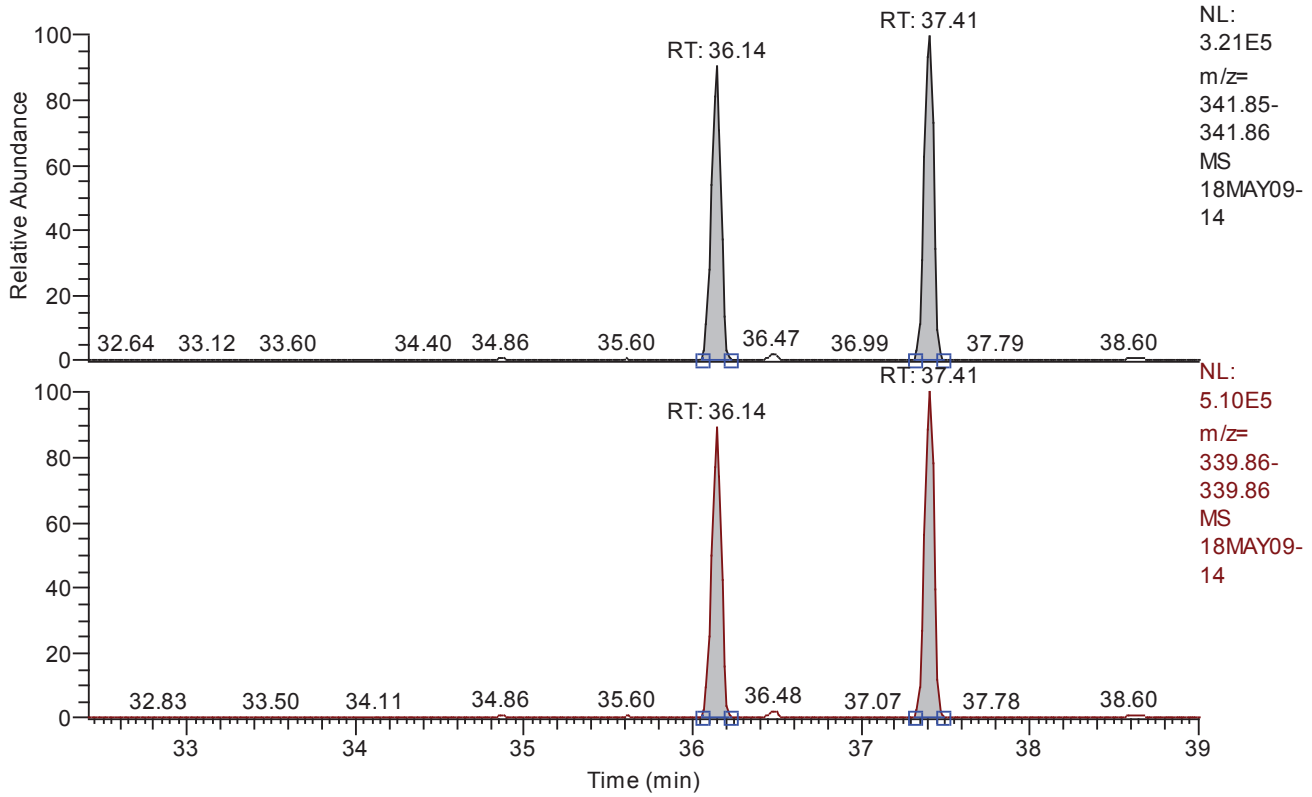
Chromatogram

RT: 32.41 - 39.01 SM: 3G



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	35.71
QM Area	2419587
QM Integration Mode	A
RM1 Area	3799961
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0039
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	33869
Client Flags	
Status Overview	passed (2)
Status Info	

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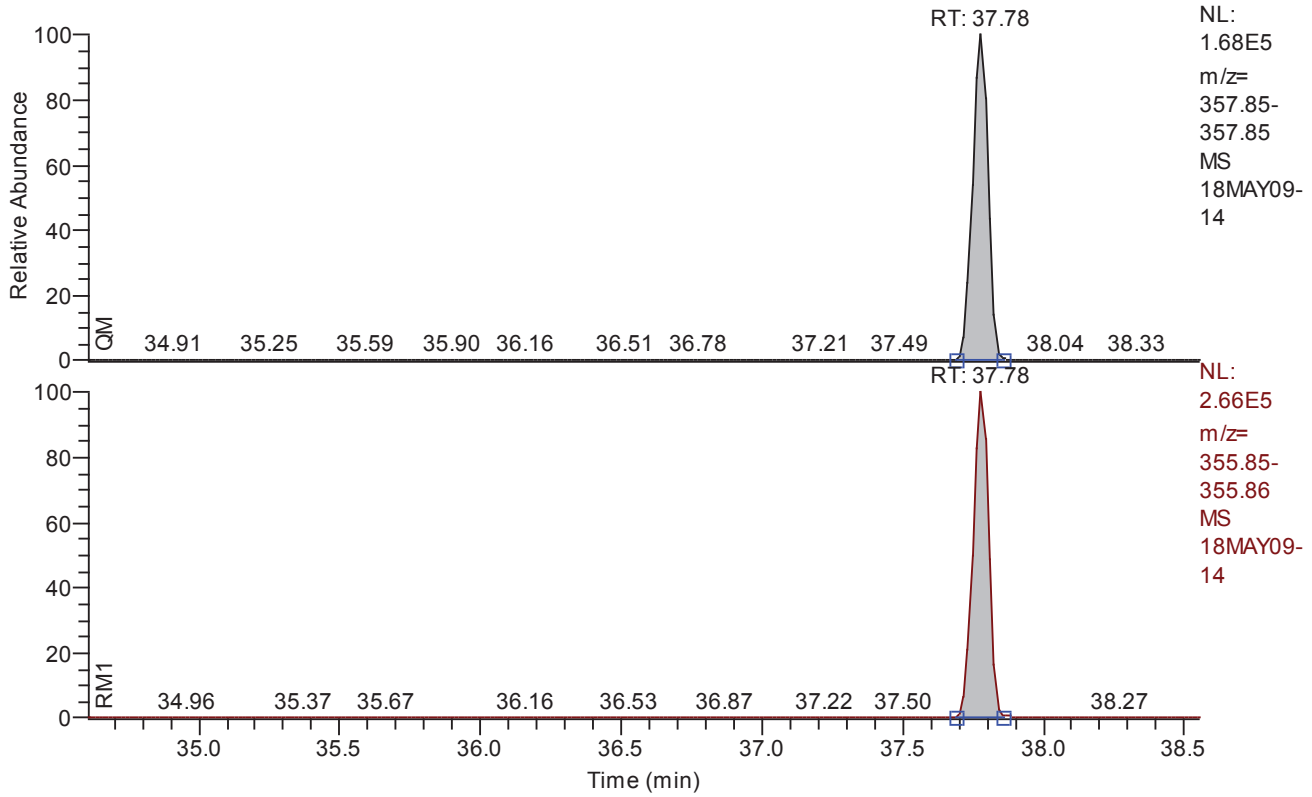
Chromatogram

RT: 34.61 - 38.55 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.58
QM Area	644866
QM Integration Mode	A
RM1 Area	1021236
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	16850
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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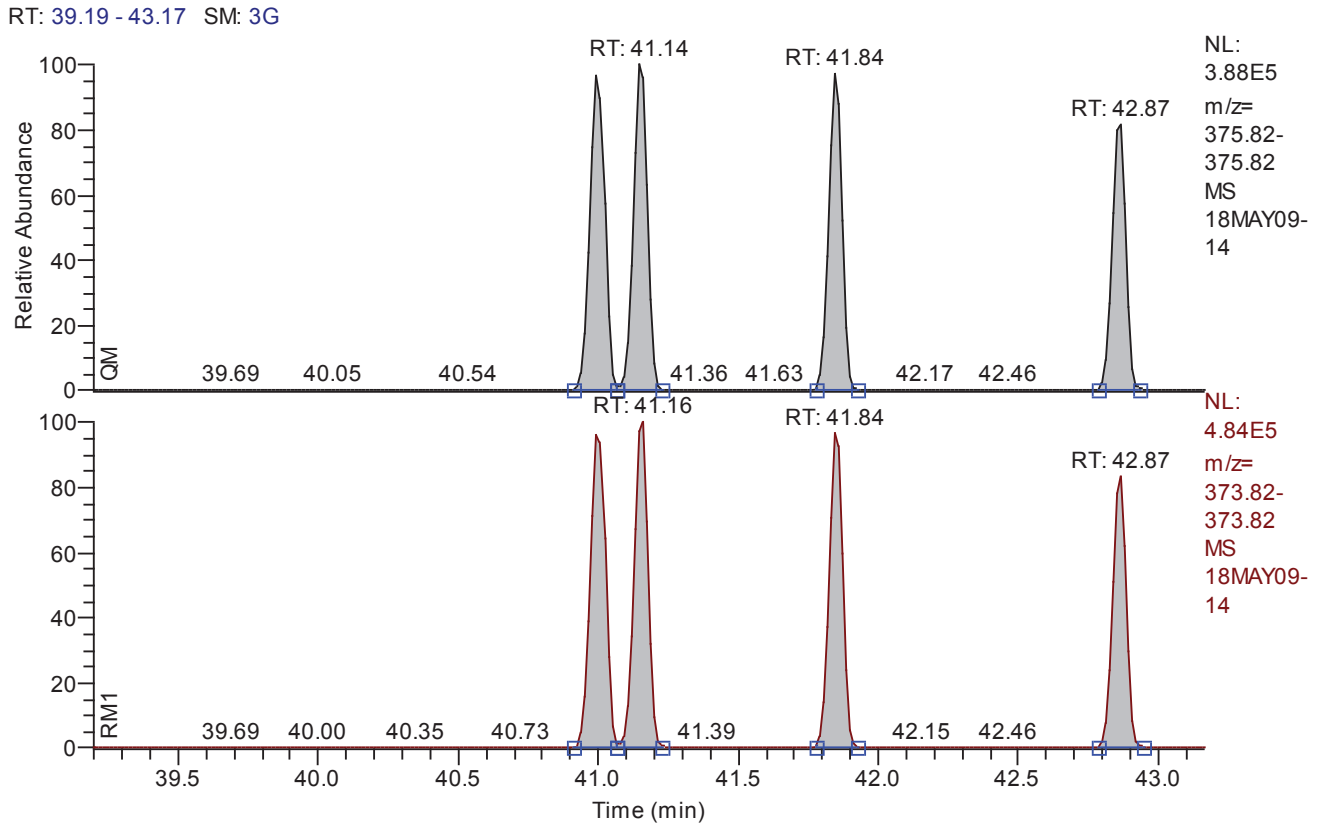
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	41.18
QM Area	4989042
QM Integration Mode	A
RM1 Area	6285304
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	14716
Client Flags	
Status Overview	passed (4)
Status Info	

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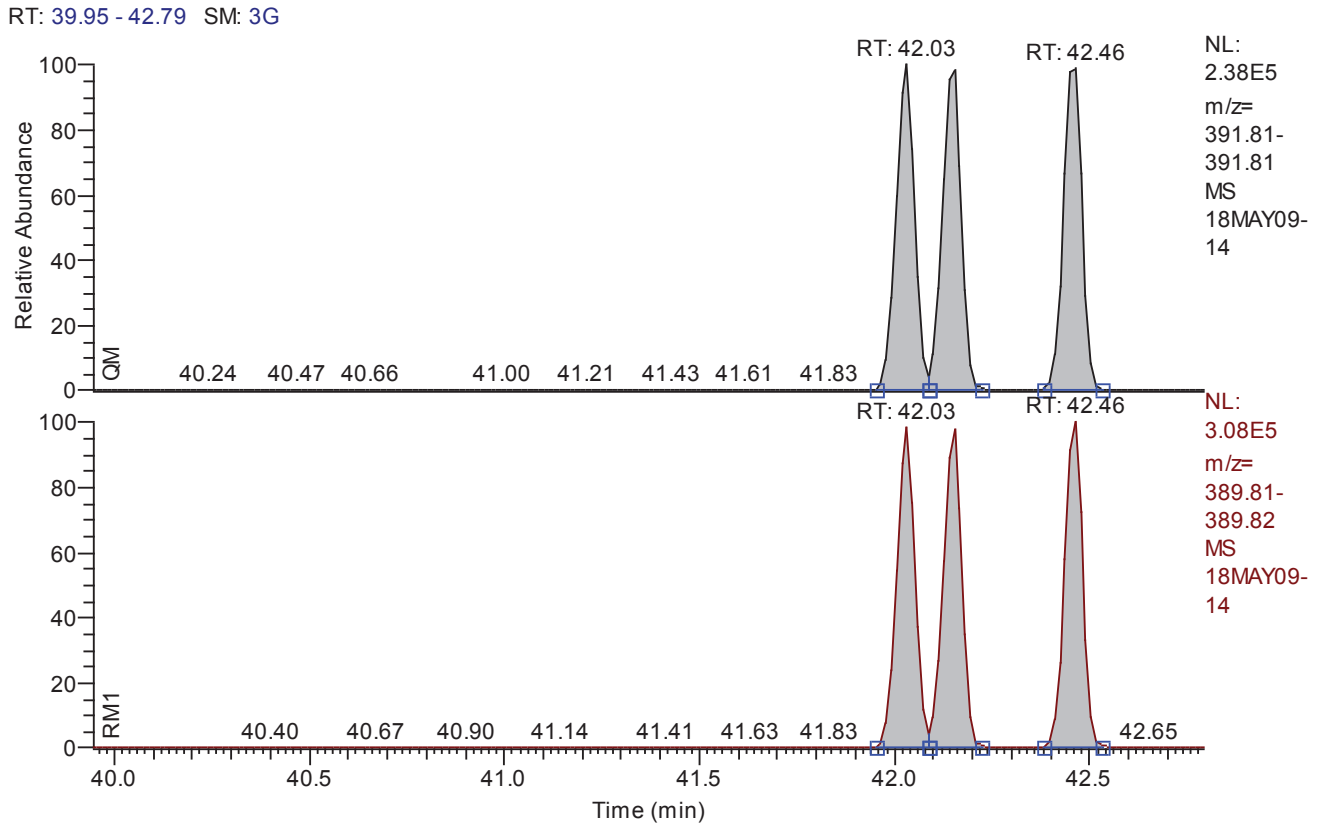
Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	41.37
QM Area	2380018
QM Integration Mode	A
RM1 Area	3002386
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	150.0000
Signal-to-Noise	17873
Client Flags	
Status Overview	passed (3)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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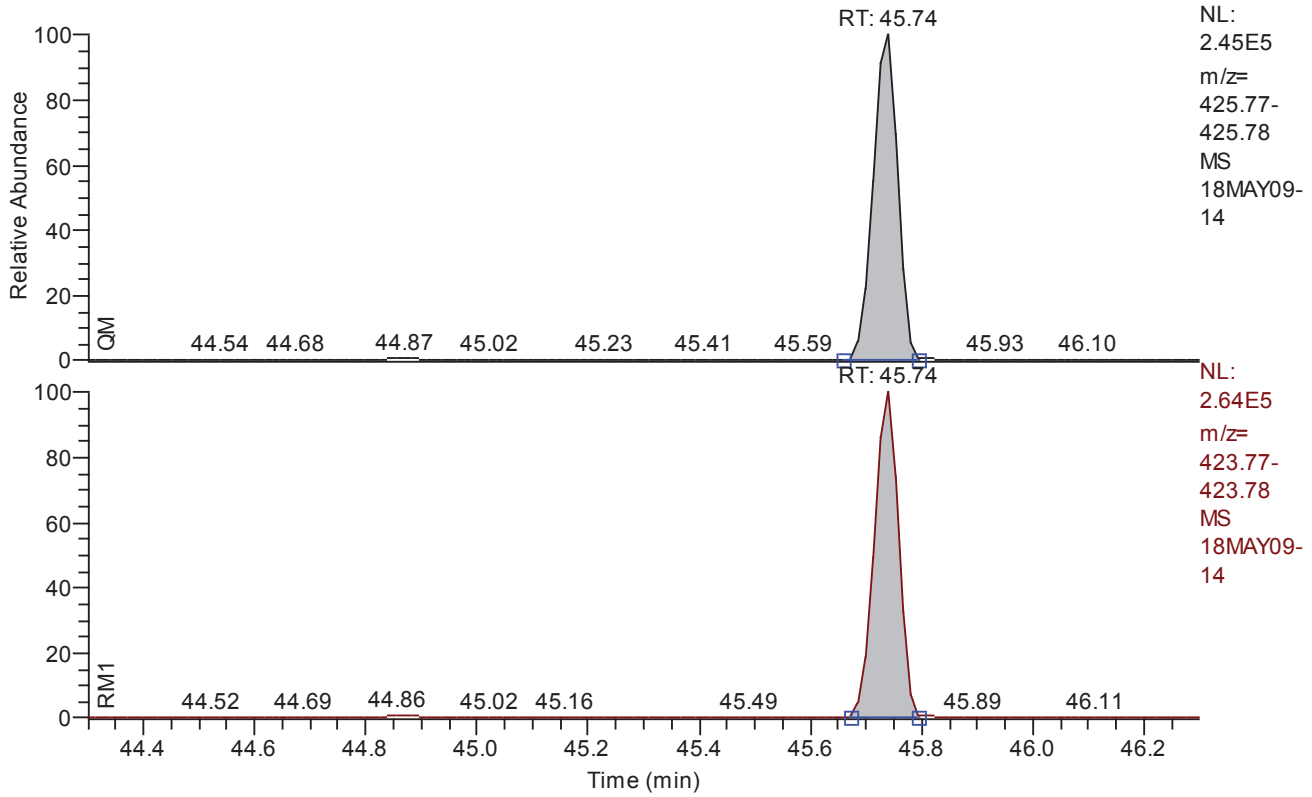
Chromatogram

RT: 44.30 - 46.30 SM: 3G



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	45.30
QM Area	769792
QM Integration Mode	A
RM1 Area	816860
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	12590
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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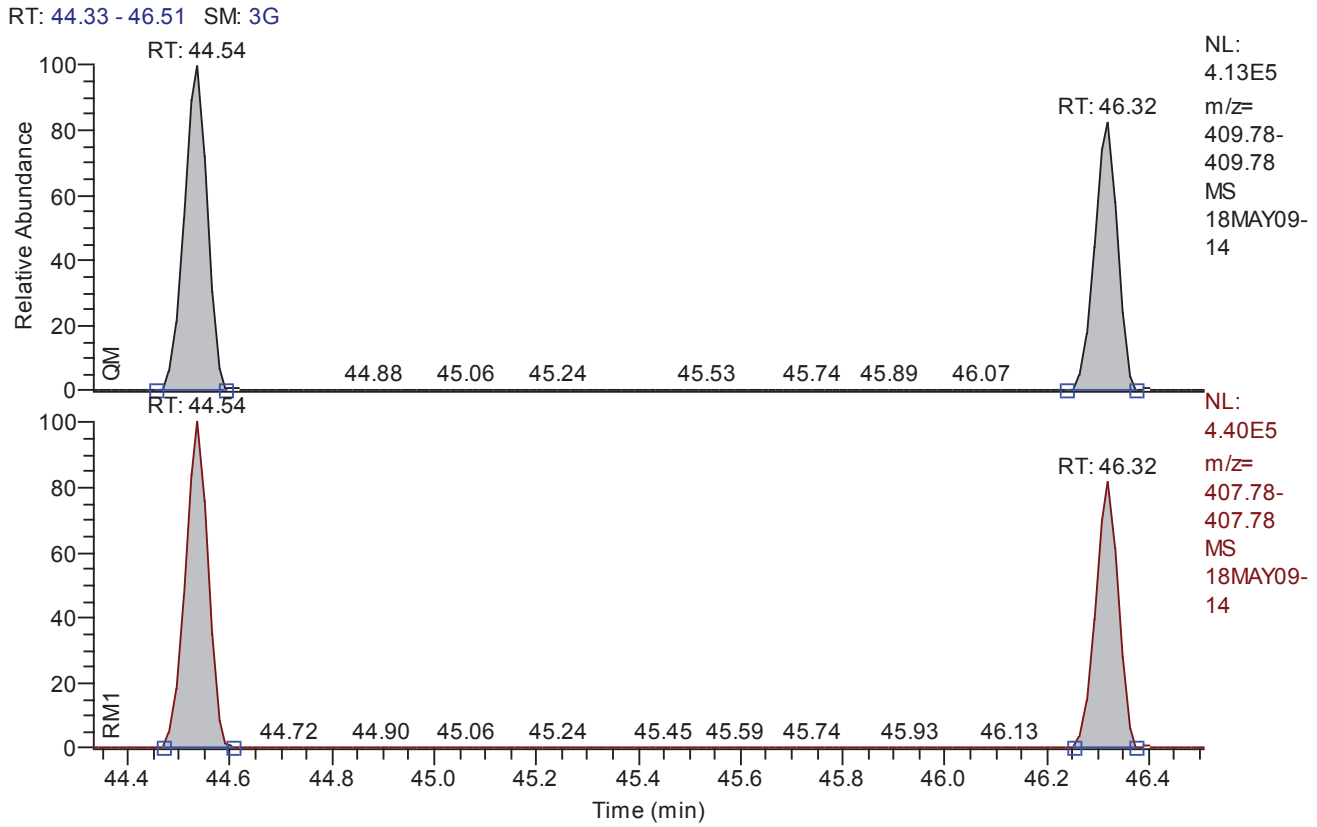
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	45.42
QM Area	2368360
QM Integration Mode	A
RM1 Area	2488638
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0099
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	12679
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	30.47	30.47	30.49	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	31.53	31.53	31.53	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.14	36.14	36.14	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.41	37.41	37.41	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.78	37.78	37.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.00	41.00	41.00	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.14	41.14	41.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.84	41.84	41.84	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.15	42.15	42.15	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.46	42.46	42.46	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.87	42.87	42.87	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.54	44.54	44.54	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.74	45.74	45.74	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.32	46.32	46.32	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.74	48.74	48.74	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.94	48.94	48.94	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	31.91	31.91	31.91	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.69	30.69	30.69	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.87	40.87	40.89	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	30.45	30.45	30.45	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.50	31.50	31.51	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.13	36.13	36.13	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.39	37.39	37.39	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.76	37.76	37.76	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.98	40.98	40.98	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.13	41.13	41.13	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.83	41.83	41.83	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.13	42.13	42.14	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.44	42.44	42.45	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.84	42.84	42.85	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.52	44.52	44.52	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.73	45.73	45.73	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.31	46.31	46.31	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.74	48.74	48.74	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.93	48.93	48.93	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.24	29.24	29.24	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.62	29.99	29.99	29.99	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	35.71	35.71	35.71	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	36.58	36.58	36.58	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.18	41.18	41.18	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.37	41.37	41.37	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.30	45.30	45.30	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	45.42	45.42	45.42	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	30.47	30.47	30.49	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.62	31.53	31.53	31.53	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	37.78	37.78	37.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	37.41	37.41	37.41	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.00	36.14	36.14	36.14	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.74	45.74	45.74	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.14	41.14	41.16	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.00	41.00	41.00	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.84	41.84	41.84	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	42.87	42.87	42.87	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.03	42.03	42.03	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.15	42.15	42.15	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.46	42.46	42.46	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	44.54	44.54	44.54	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	46.32	46.32	46.32	passed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	30.47	0.7986	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	31.53	0.7672	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	36.14	1.5730	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	37.41	1.5682	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.78	1.5836	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	41.00	1.2659	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	41.14	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.84	1.2626	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	42.03	1.2560	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	42.15	1.2641	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	42.46	1.2644	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.87	1.2591	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	44.54	1.0532	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.74	1.0611	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	46.32	1.0478	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.74	0.9132	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.94	0.9108	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.91	0.7779	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	30.69	0.7937	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.87	1.2764	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	30.45	0.8088	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	31.50	0.7804	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	36.13	1.6013	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	37.39	1.5934	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.76	1.6060	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.98	0.5340	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	41.13	0.5327	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.83	0.5385	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	42.02	1.2816	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	42.13	1.2551	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	42.44	1.2602	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.84	0.5351	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	44.52	0.4632	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.73	1.0724	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	46.31	0.4624	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.74	0.9199	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.93	0.9060	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	29.24	0.7986	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.99	0.7672	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	35.71	1.5705	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.58	1.5836	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	41.18	1.2598	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	41.37	1.2615	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	45.30	1.0611	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	45.42	1.0508	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	30.47	0.7986	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	31.53	0.7672	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.78	1.5836	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	37.41	1.5682	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	36.14	1.5730	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.74	1.0611	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.14	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	41.00	1.2659	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.84	1.2626	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.87	1.2591	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	42.03	1.2560	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	42.15	1.2641	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	42.46	1.2644	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	44.54	1.0532	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	46.32	1.0478	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	30.47	392628	A	313559	A	0.0034	10.000000	10.0000	10.000000	7171	
2	2378-TCDD	passed	31.53	220023	A	168796	A	0.0043	10.000000	10.0000	10.000000	5948	
3	12378-PeCDF	passed	36.14	1170750	A	1841550	A	0.0041	50.000000	50.0000	50.000000	32019	
4	23478-PeCDF	passed	37.41	1248837	A	1958410	A	0.0037	50.000000	50.0000	50.000000	35719	
5	12378-PeCDD	passed	37.78	644866	A	1021236	A	0.0075	50.000000	50.0000	50.000000	16850	
6	123478-HxCDF	passed	41.00	1298999	A	1644382	A	0.0082	50.000000	50.0000	50.000000	15086	
7	123678-HxCDF	passed	41.14	1342220	A	1680316	A	0.0080	50.000000	50.0000	50.000000	15620	
8	234678-HxCDF	passed	41.84	1257902	A	1588264	A	0.0082	50.000000	50.0000	50.000000	15185	
9	123478-HxCDD	passed	42.03	792431	A	995289	A	0.0072	50.000000	50.0000	50.000000	17911	
10	123678-HxCDD	passed	42.15	791510	A	1000525	A	0.0072	50.000000	50.0000	50.000000	17721	
11	123789-HxCDD	passed	42.46	796078	A	1006572	A	0.0071	50.000000	50.0000	50.000000	17987	
12	123789-HxCDF	passed	42.87	1089921	A	1372342	A	0.0098	50.000000	50.0000	50.000000	12972	
13	1234678-HpCDF	passed	44.54	1303733	A	1373093	A	0.0089	50.000000	50.0000	50.000000	13941	
14	1234678-HpCDD	passed	45.74	769792	A	816860	A	0.0098	50.000000	50.0000	50.000000	12590	
15	1234789-HpCDF	passed	46.32	1064628	A	1115546	A	0.0108	50.000000	50.0000	50.000000	11418	
16	OCDD	passed	48.74	1437489	A	1312769	A	0.0112	100.000000	100.0000	100.000000	22597	
17	OCDF	passed	48.94	1956897	A	1782376	A	0.0080	100.000000	100.0000	100.000000	31892	
18	13C12-1278-TCDD (CRS)	passed	31.91	223508	A	173863	A	0.0112	10.000000	10.0000	10.000000	2445	
19	13C12-1234-TCDD	passed	30.69	2007474	A	1593424	A	0.0124	100.000000	100.0000	100.000000	20187	
20	13C12-123468-HxCDD	passed	40.87	1650132	A	2106236	A	0.0142	100.000000	100.0000	100.000000	17581	
21	13C12-2378-TCDF	passed	30.45	3825789	A	3094214	A	0.0067	100.000000	100.0000	100.000000	37446	
22	13C12-2378-TCDD	passed	31.50	1897961	A	1481176	A	0.0132	100.000000	100.0000	100.000000	19370	
23	13C12-12378-PeCDF	passed	36.13	2472241	A	3958697	A	0.0183	100.000000	100.0000	100.000000	17234	
24	13C12-23478-PeCDF	passed	37.39	2343526	A	3734242	A	0.0193	100.000000	100.0000	100.000000	17201	
25	13C12-12378-PeCDD	passed	37.76	1274289	A	2046495	A	0.0120	100.000000	100.0000	100.000000	28973	
26	13C12-123478-HxCDF	passed	40.98	3332816	A	1779566	A	0.0127	100.000000	100.0000	100.000000	19564	
27	13C12-123678-HxCDF	passed	41.13	3576353	A	1904966	A	0.0119	100.000000	100.0000	100.000000	21103	
28	13C12-234678-HxCDF	passed	41.83	3149687	A	1695995	A	0.0134	100.000000	100.0000	100.000000	19249	
29	13C12-123478-HxCDD	passed	42.02	1574563	A	2017890	A	0.0149	100.000000	100.0000	100.000000	17110	
30	13C12-123678-HxCDD	passed	42.13	1610677	A	2021585	A	0.0147	100.000000	100.0000	100.000000	17211	
31	13C12-123789-HxCDD	passed	42.44	1525389	A	1922228	A	0.0155	100.000000	100.0000	100.000000	16452	
32	13C12-123789-HxCDF	passed	42.84	2946116	A	1576496	A	0.0144	100.000000	100.0000	100.000000	17375	
33	13C12-1234678-HpCDF	passed	44.52	2986196	A	1383128	A	0.0171	100.000000	100.0000	100.000000	16231	
34	13C12-1234678-HpCDD	passed	45.73	1511067	A	1620455	A	0.0177	100.000000	100.0000	100.000000	15930	
35	13C12-1234789-HpCDF	passed	46.31	2380931	A	1100899	A	0.0214	100.000000	100.0000	100.000000	13144	
36	13C12-OCDD	passed	48.74	2877996	A	2647371	A	0.0152	200.000000	200.0000	200.000000	35811	
37	13C12-OCDF	passed	48.93	4368760	A	3958124	A	0.0118	200.000000	200.0000	200.000000	48353	
38	Total TCDF	passed (1)	29.24	392628	A	313559	A	0.0034	10.000000	10.0000	10.000000	7171	
39	Total TCDD	passed (1)	29.99	220023	A	168796	A	0.0043	10.000000	10.0000	10.000000	5948	
40	Total PeCDF	passed (2)	35.71	2419587	A	3799961	A	0.0039	50.000000	100.0000	50.000000	33869	
41	Total PeCDD	passed (1)	36.58	644866	A	1021236	A	0.0075	50.000000	50.0000	50.000000	16850	
42	Total HxCDF	passed (4)	41.18	4989042	A	6285304	A	0.0086	50.000000	200.0000	50.000000	14716	
43	Total HxCDD	passed (3)	41.37	2380018	A	3002386	A	0.0072	50.000000	150.0000	50.000000	17873	
44	Total HpCDD	passed (1)	45.30	769792	A	816860	A	0.0098	50.000000	50.0000	50.000000	12590	
45	Total HpCDF	passed (2)	45.42	2368360	A	2488638	A	0.0099	50.000000	100.0000	50.000000	12679	
46	Single TCDF	passed	30.47	392628	A	313559	A	0.0034	10.000000	10.0000	10.000000	7171	
47	Single TCDD	passed	31.53	220023	A	168796	A	0.0043	10.000000	10.0000	10.000000	5948	
48	Single PeCDD	passed	37.78	644866	A	1021236	A	0.0075	50.000000	50.0000	50.000000	16850	
49	Single PeCDF	passed	37.41	1248837	A	1958410	A	0.0038	50.000000	50.0000	50.000000	35719	
50	Single PeCDF	passed	36.14	1170750	A	1841550	A	0.0040	50.000000	50.0000	50.000000	32019	
51	Single HpCDD	passed	45.74	769792	A	816860	A	0.0098	50.000000	50.0000	50.000000	12590	
52	Single HxCDF	passed	41.14	1342220	A	1680316	A	0.0079	50.000000	50.0000	50.000000	15620	
53	Single HxCDF	passed	41.00	1298999	A	1644382	A	0.0081	50.000000	50.0000	50.000000	15086	
54	Single HxCDF	passed	41.84	1257902	A	1588264	A	0.0084	50.000000	50.0000	50.000000	15185	
55	Single HxCDF	passed	42.87	1089921	A	1372342	A	0.0097	50.000000	50.0000	50.000000	12972	
56	Single HxCDD	passed	42.03	792431	A	995289	A	0.0072	50.000000	50.0000	50.000000	17911	
57	Single HxCDD	passed	42.15	791510	A	1000525	A	0.0072	50.000000	50.0000	50.000000	17721	
58	Single HxCDD	passed	42.46	796078	A	1006572	A	0.0071	50.000000	50.0000	50.000000	17987	
59	Single HpCDF	passed	44.54	1303733	A	1373093	A	0.0089	50.000000	50.0000	50.000000	13941	
60	Single HpCDF	passed	46.32	1064628	A	1115546	A	0.0109	50.000000	50.0000	50.000000	11418	

APPROVED
By uma9 at 3:11 pm, 5/10/18

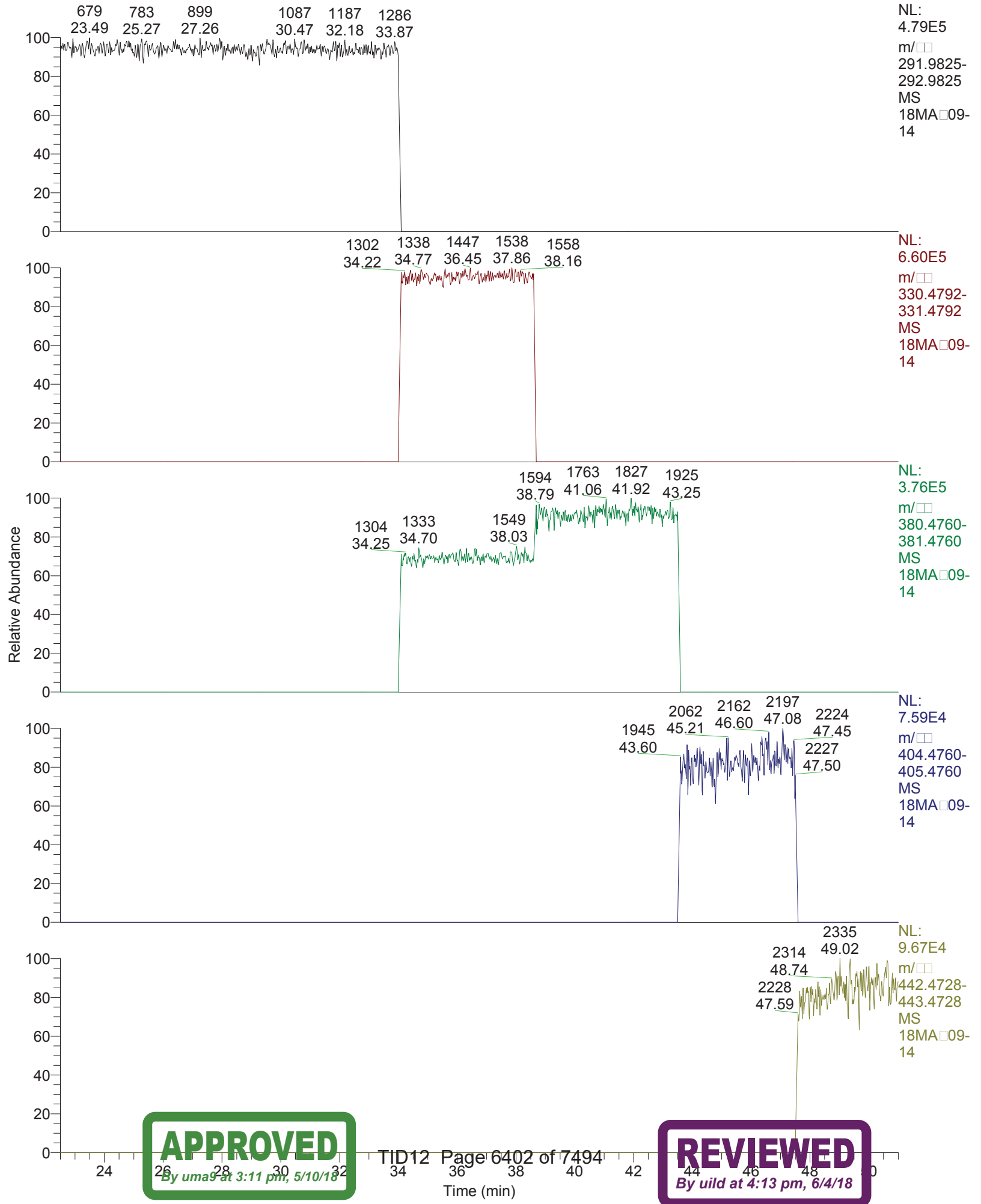
REVIEWED
By uild at 4:13 pm, 6/4/18

File Name: □:□18MA□09□18MA□09-14
Sample ID: CS301

Acq. Data: 5/9/2018 10:26:23 PM
Sample Name: CALDF41837C
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By umas at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

*** file opened Wed May 09 22:31:53 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 09-May-18 22:31:51

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

```
MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          95.0000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0169   FVINLET         0.0354   FVSRC           0.0307
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           95.0000   LKM           442.9723   MASS           95.0000
 MDAC        1452303.1012  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2508.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9690   RELEN           0.0000
 RES          12734.2164   RPUSHER       -20.1392   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.0000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11258.
MID Time Window 2: Resolution is 11660.
MID Time Window 3: Resolution is 11319.
MID Time Window 4: Resolution is 11268.
```

```
MID Time Window 5: Resolution is 12258.
MID Time Window 6: Resolution is 12734.

Amplifier Offset: 86.


*** File closed Wed May 09 23:22:54 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 23:23
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837A
Sample ID	CS401
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-15.quan
Data	z:\18may09\18may09-15.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	30.49	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	31.53	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.15	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.42	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.79	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.01	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.15	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.85	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.03	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.15	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.86	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.53	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.74	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.32	passed	passed	passed	passed	passed	passed	
16	OCDD	48.75	passed	passed	passed	passed	passed	passed	
17	OCDF	48.95	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.91	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	30.70	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.88	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.46	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.52	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.12	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.38	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.77	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.99	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.84	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.02	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.14	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.45	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.85	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.52	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.72	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.32	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.74	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.94	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.22	passed (1)	---	---	---	---	---	
39	Total TCDD	29.98	passed (1)	---	---	---	---	---	
40	Total PeCDF	36.23	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.91	passed (1)	---	---	---	---	---	
42	Total HxCDF	41.51	passed (4)	---	---	---	---	---	
43	Total HxCDD	42.24	passed (3)	---	---	---	---	---	
44	Total HpCDD	45.35	passed (1)	---	---	---	---	---	
45	Total HpCDF	45.40	passed (2)	---	---	---	---	---	
46	Single TCDF	30.49	passed	passed	passed	passed	passed	passed	
47	Single TCDD	31.53	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.79	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	37.42	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	36.15	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.74	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.15	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.01	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.85	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.86	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	42.46	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	42.03	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	42.15	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	44.53	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	46.32	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 23:23
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837A
Sample ID	CS401
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-15.quan
Data	z:\18may09\18may09-15.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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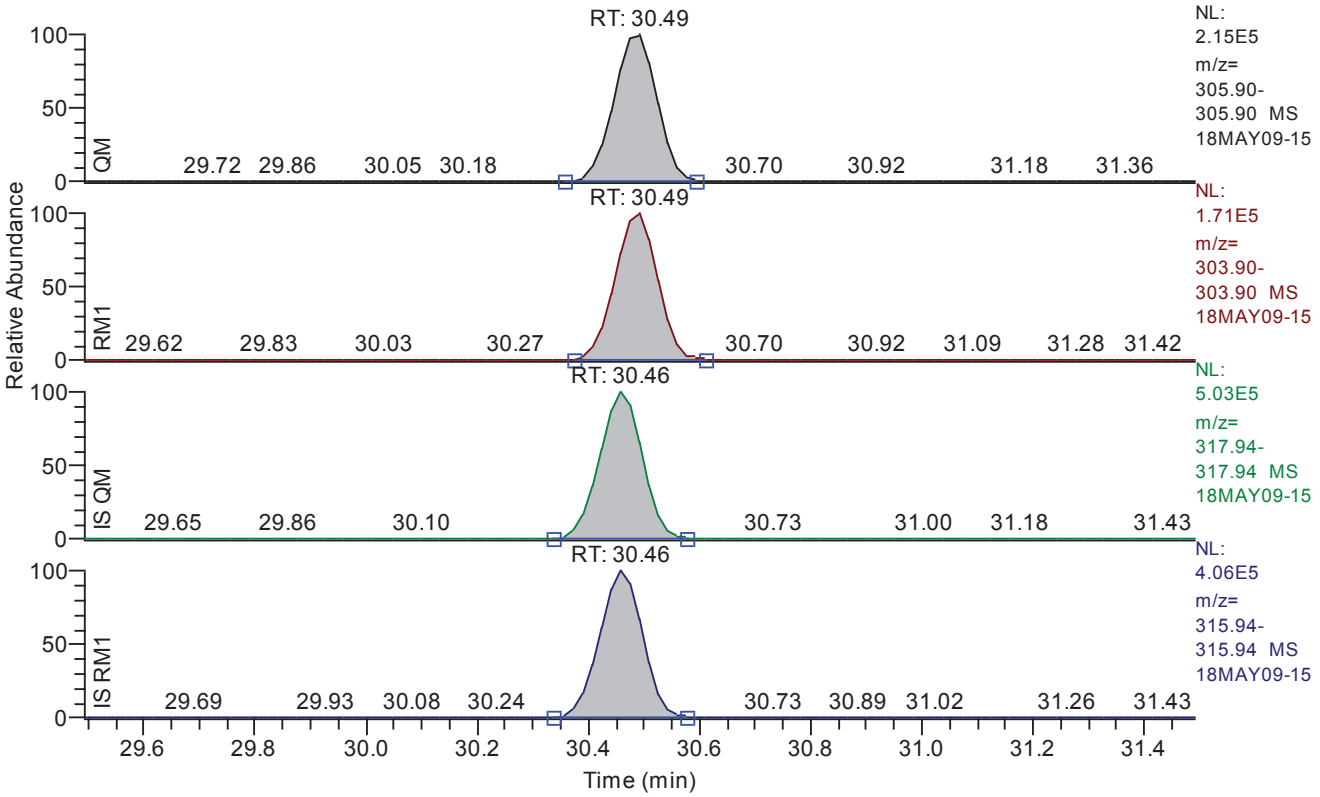
Chromatogram

RT: 29.49 - 31.49 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	30.49
QM Area	1188553
QM Integration Mode	A
RM1 Area	933998
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0055
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	18158
Client Flags	
Status Overview	passed
Status Info	

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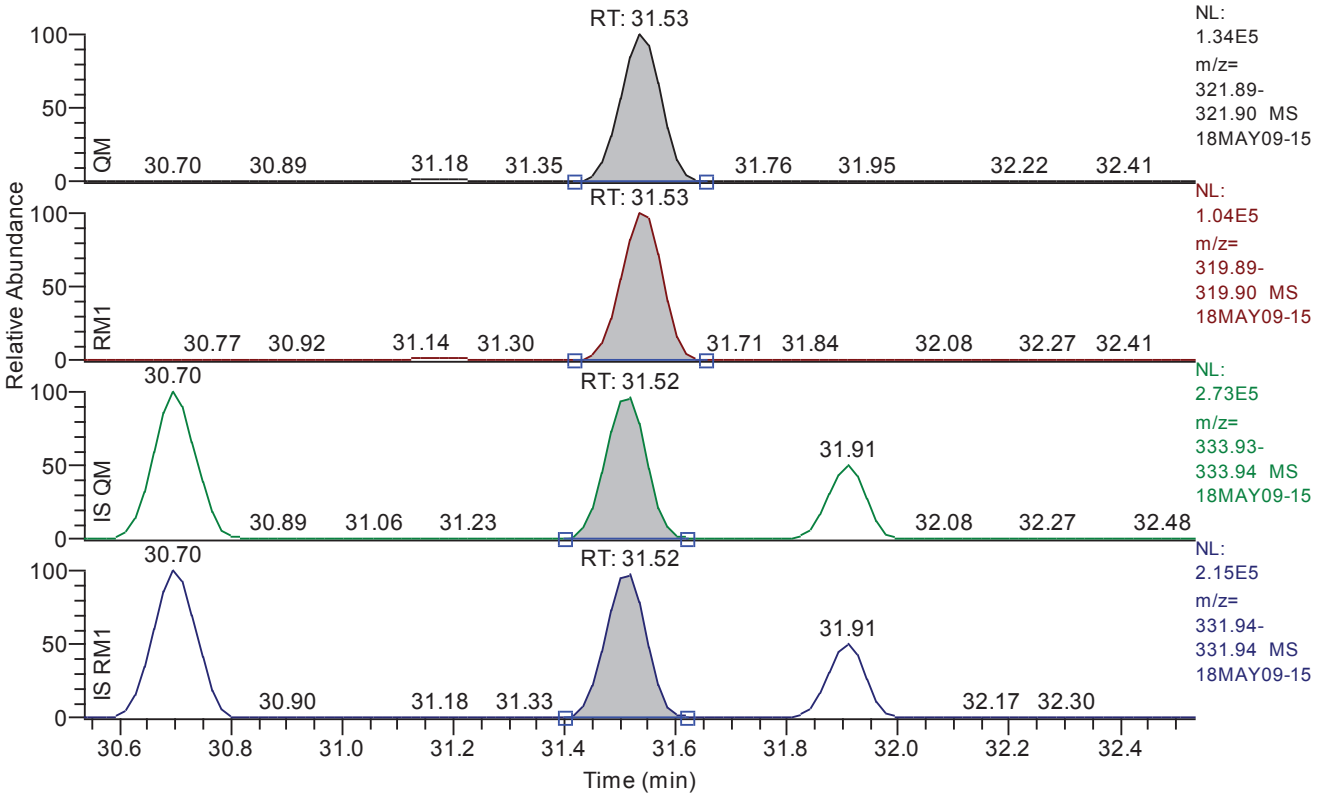
Chromatogram

RT: 30.54 - 32.54 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	31.53
QM Area	699861
QM Integration Mode	A
RM1 Area	549034
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	11082
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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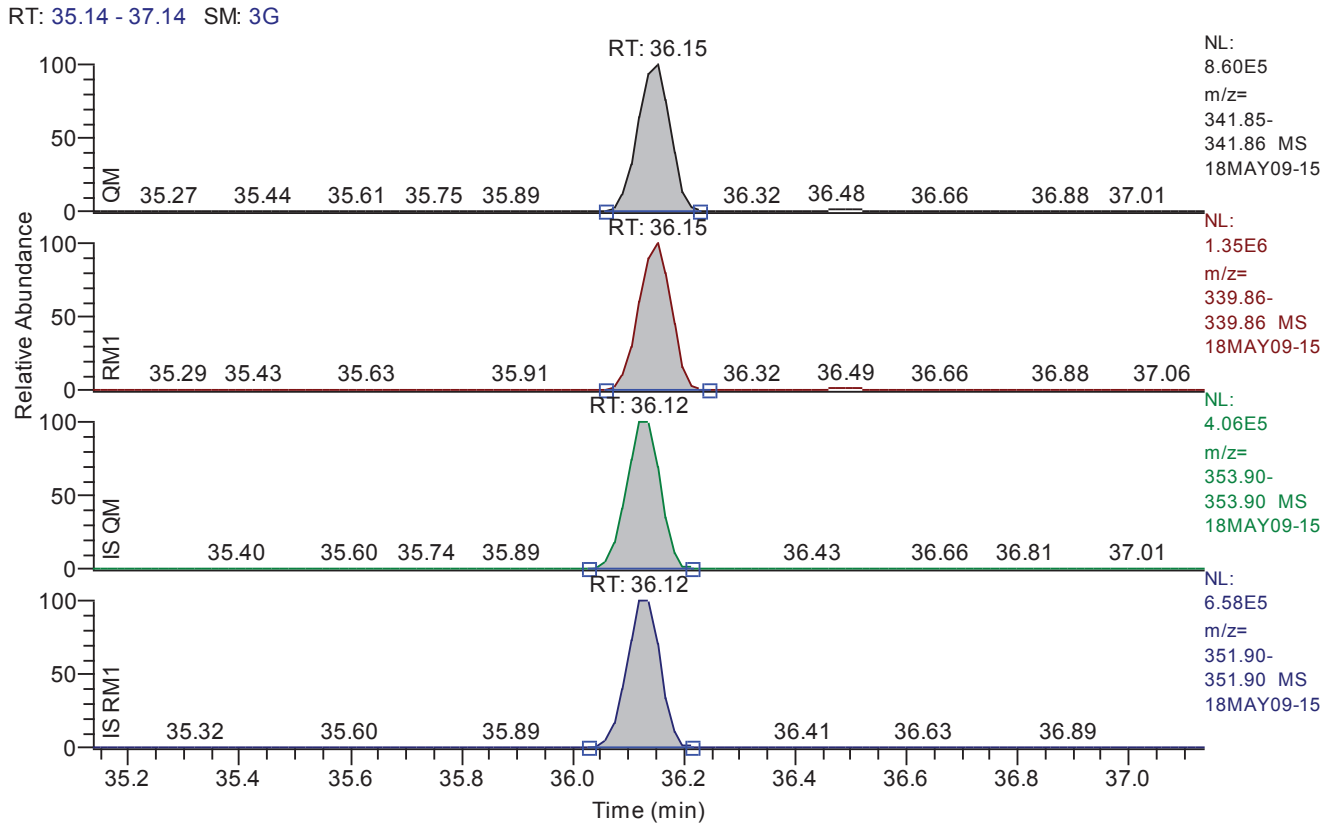
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	36.15
QM Area	3503908
QM Integration Mode	A
RM1 Area	5532264
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	71509
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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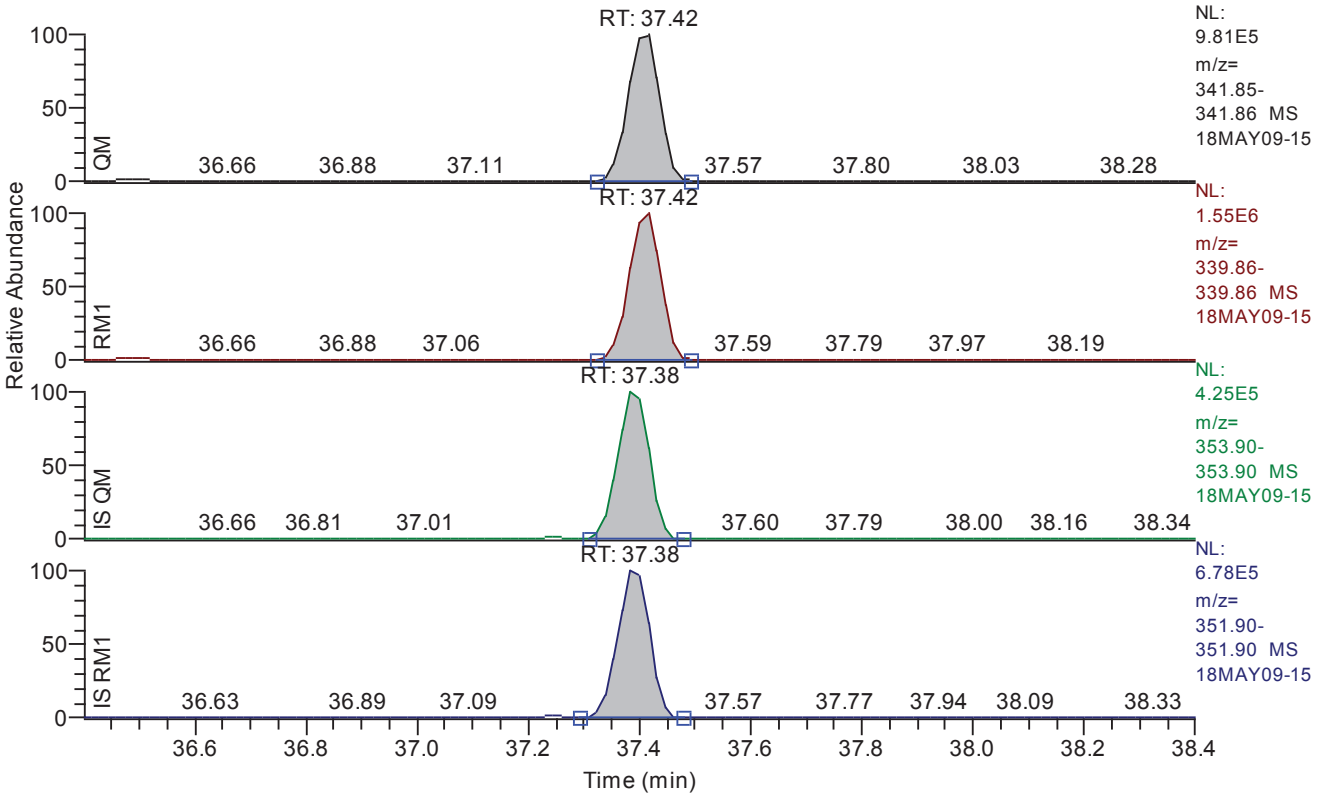
Chromatogram

RT: 36.40 - 38.40 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	37.42
QM Area	3907819
QM Integration Mode	A
RM1 Area	6115642
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0062
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	81628
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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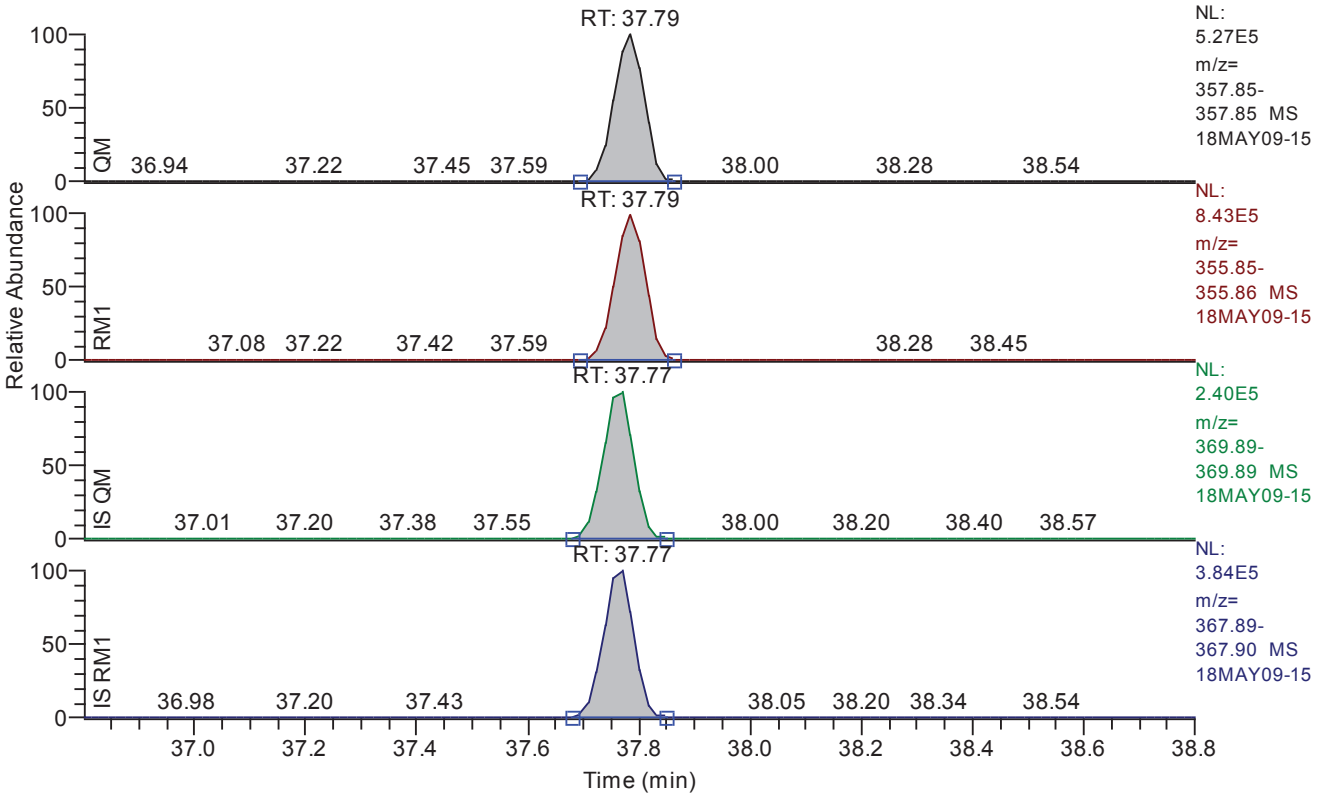
Chromatogram

RT: 36.80 - 38.80 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.79
QM Area	2012634
QM Integration Mode	A
RM1 Area	3197981
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0125
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	41054
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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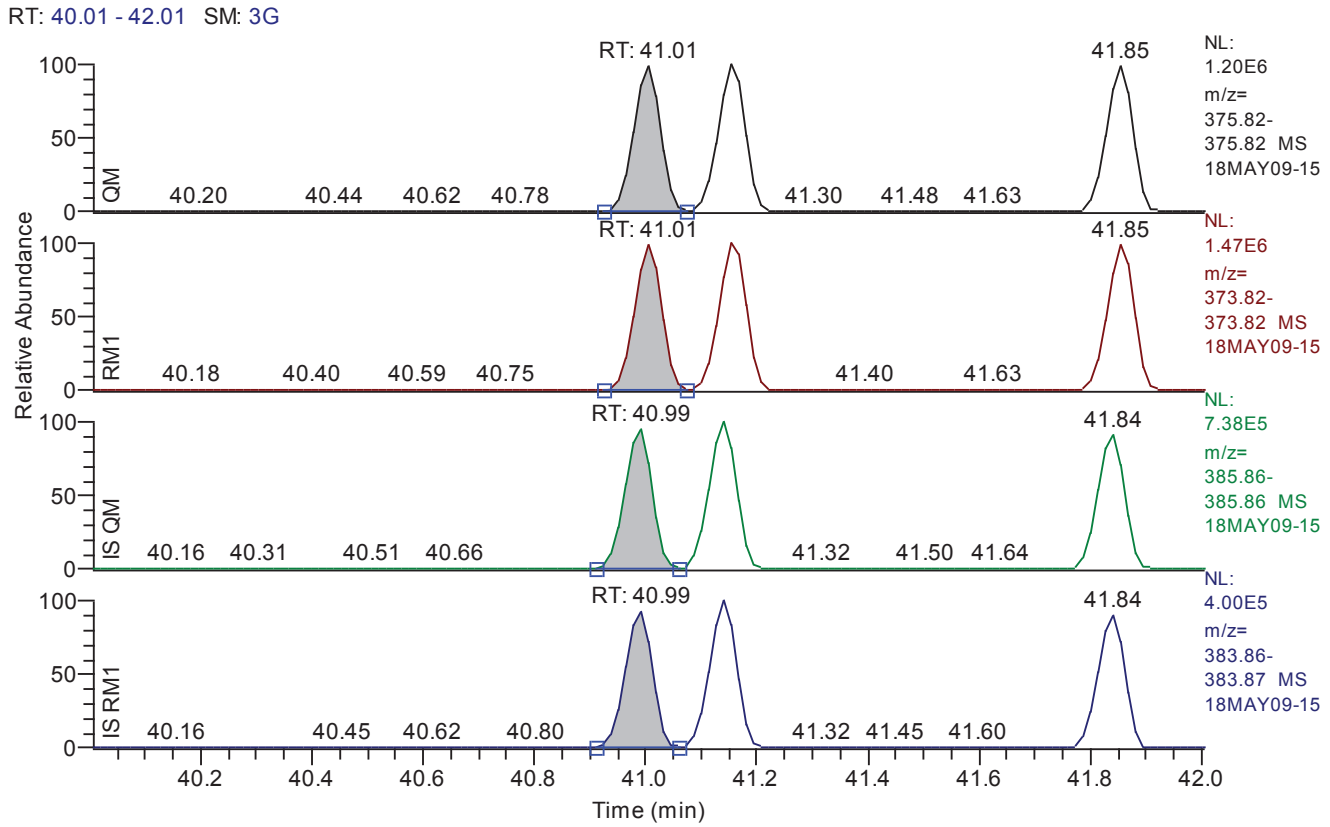
Chromatogram



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	41.01
QM Area	3993323
QM Integration Mode	A
RM1 Area	4957051
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0182
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	27765
Client Flags	
Status Overview	passed
Status Info	

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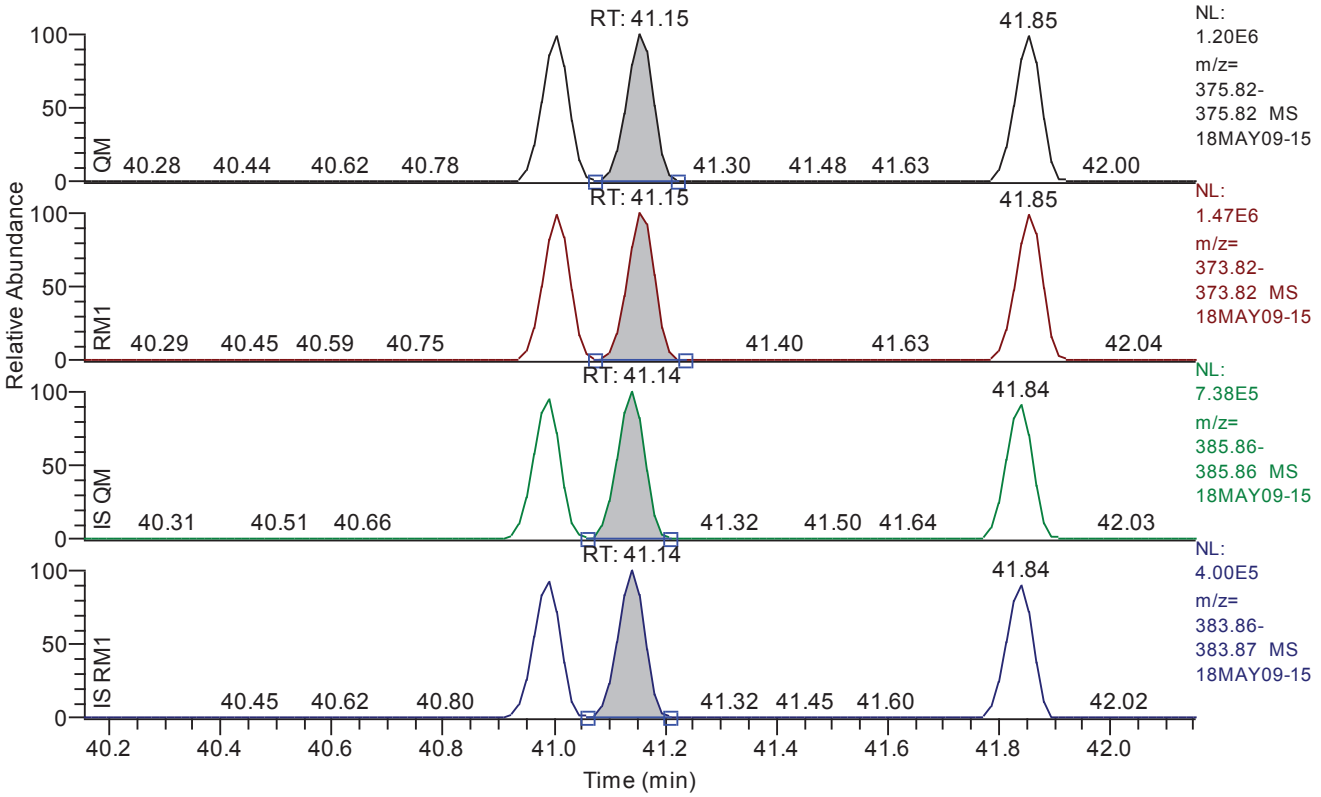
Chromatogram

RT: 40.15 - 42.15 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	41.15
QM Area	4056647
QM Integration Mode	A
RM1 Area	5068015
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0178
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	28052
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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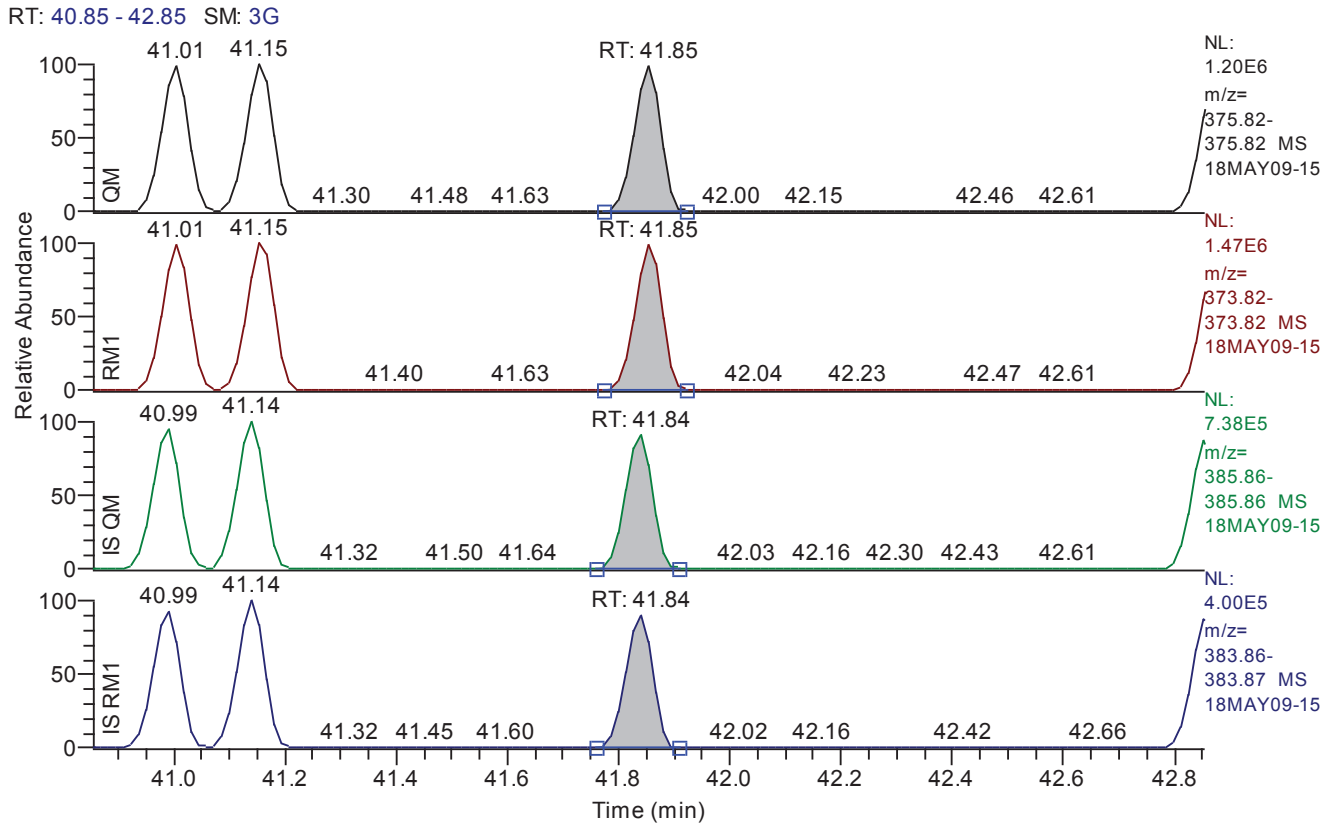
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.85
QM Area	3957424
QM Integration Mode	A
RM1 Area	4883852
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0183
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	27910
Client Flags	
Status Overview	passed
Status Info	

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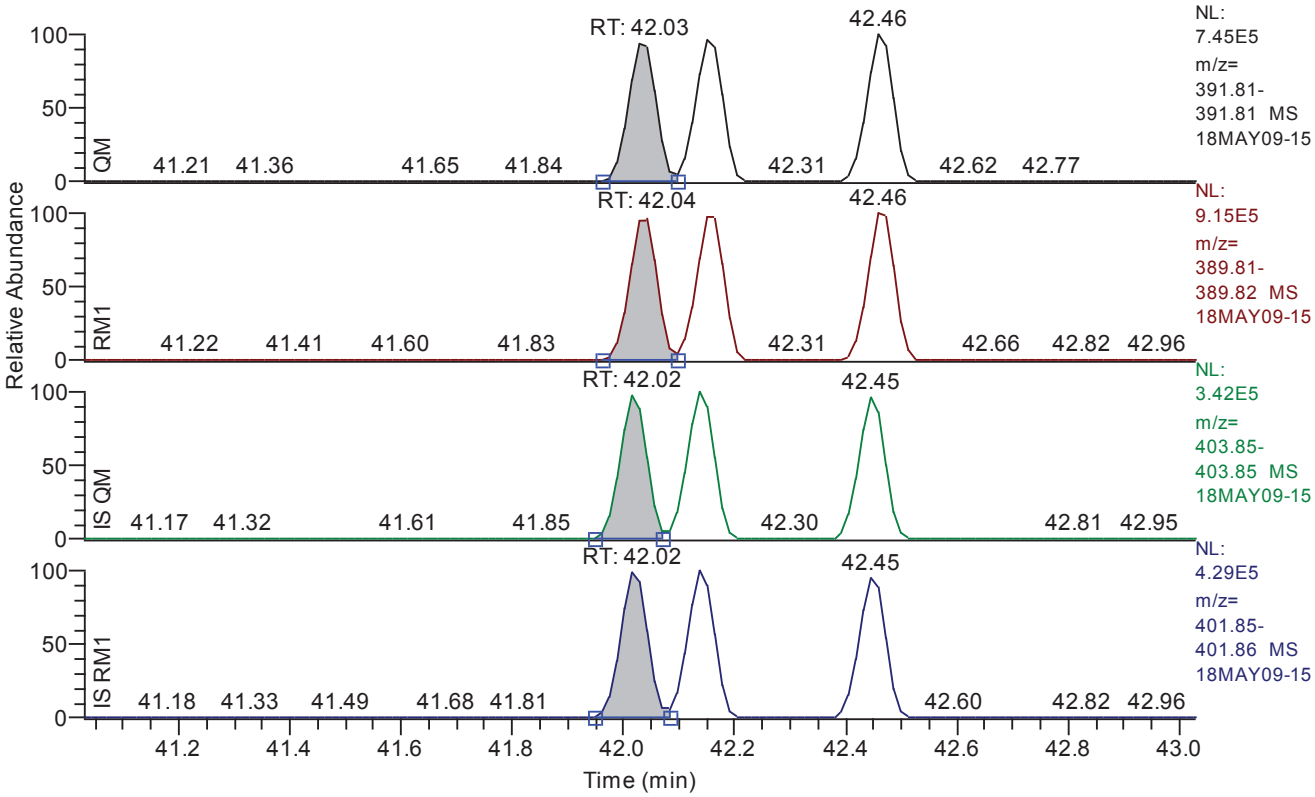
Chromatogram

RT: 41.03 - 43.03 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	42.03
QM Area	2461699
QM Integration Mode	A
RM1 Area	3080590
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0156
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	30943
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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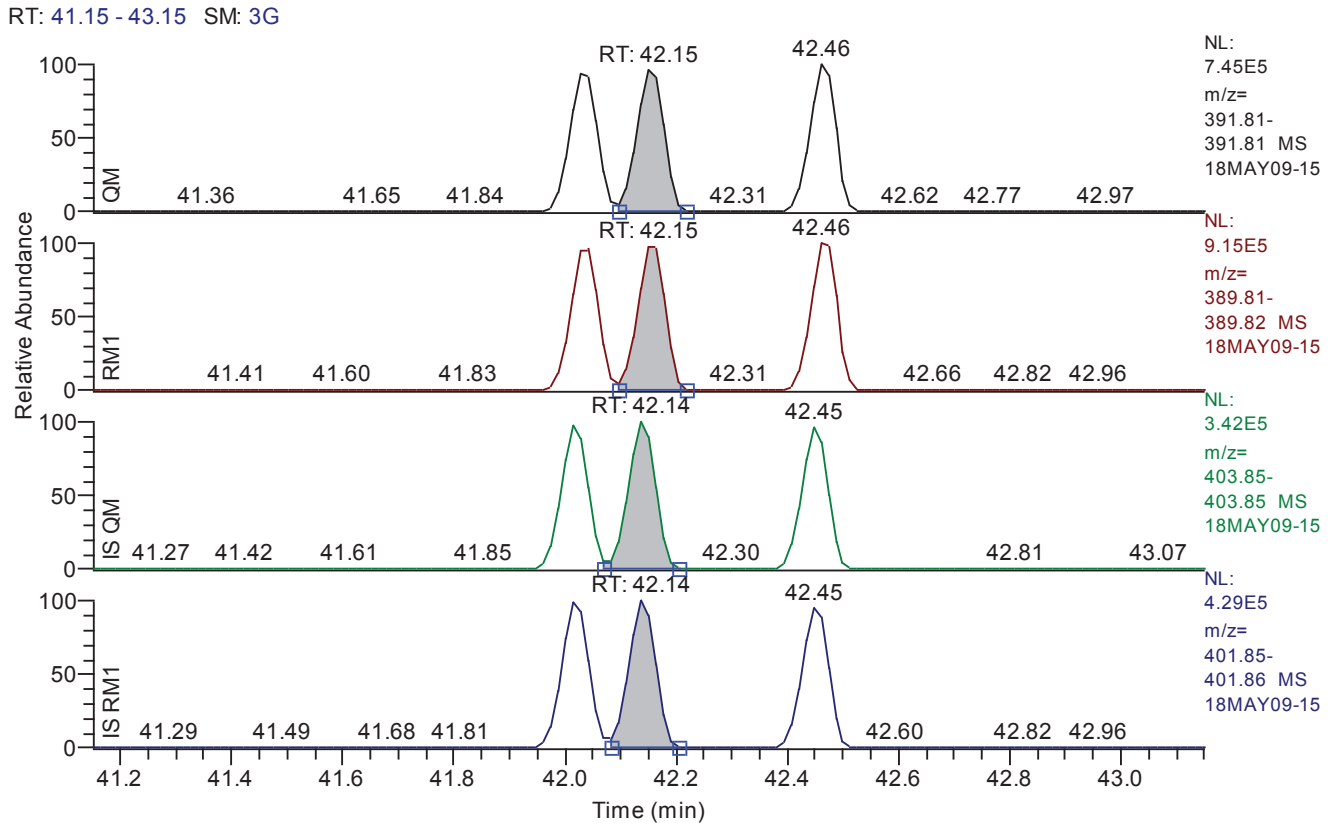
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	42.15
QM Area	2451069
QM Integration Mode	A
RM1 Area	3090791
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0157
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	31341
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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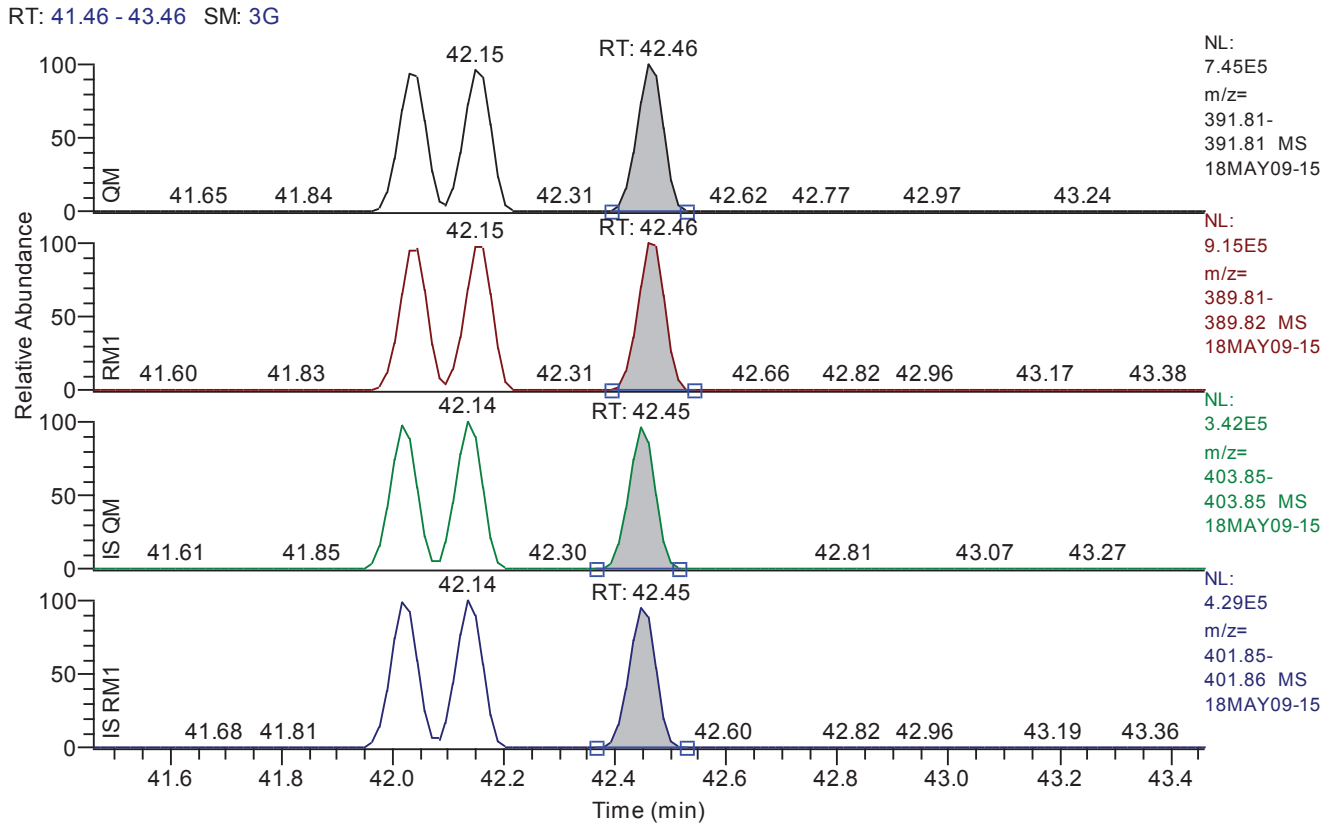
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	42.46
QM Area	2477145
QM Integration Mode	A
RM1 Area	3111607
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0154
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	32307
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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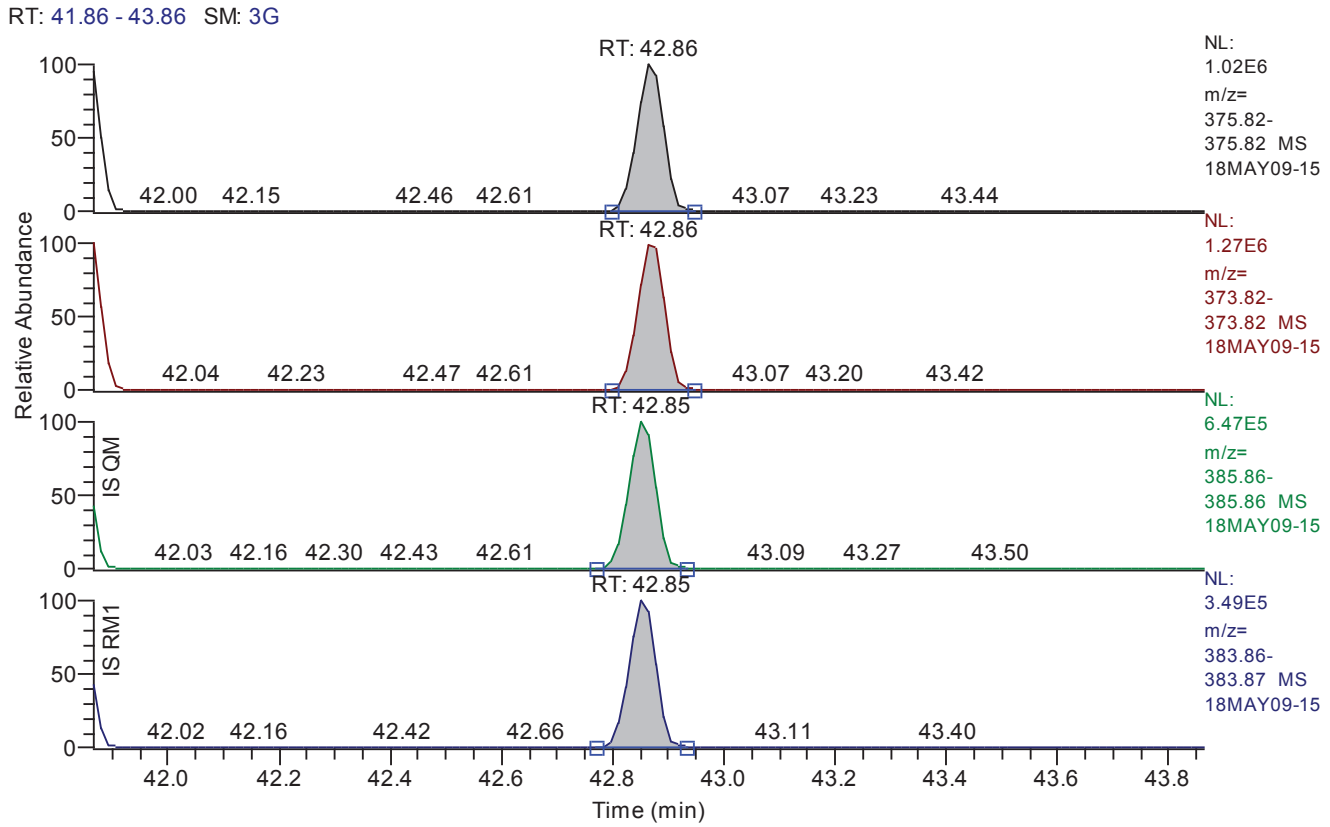
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.86
QM Area	3445773
QM Integration Mode	A
RM1 Area	4331271
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0207
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24006
Client Flags	
Status Overview	passed
Status Info	

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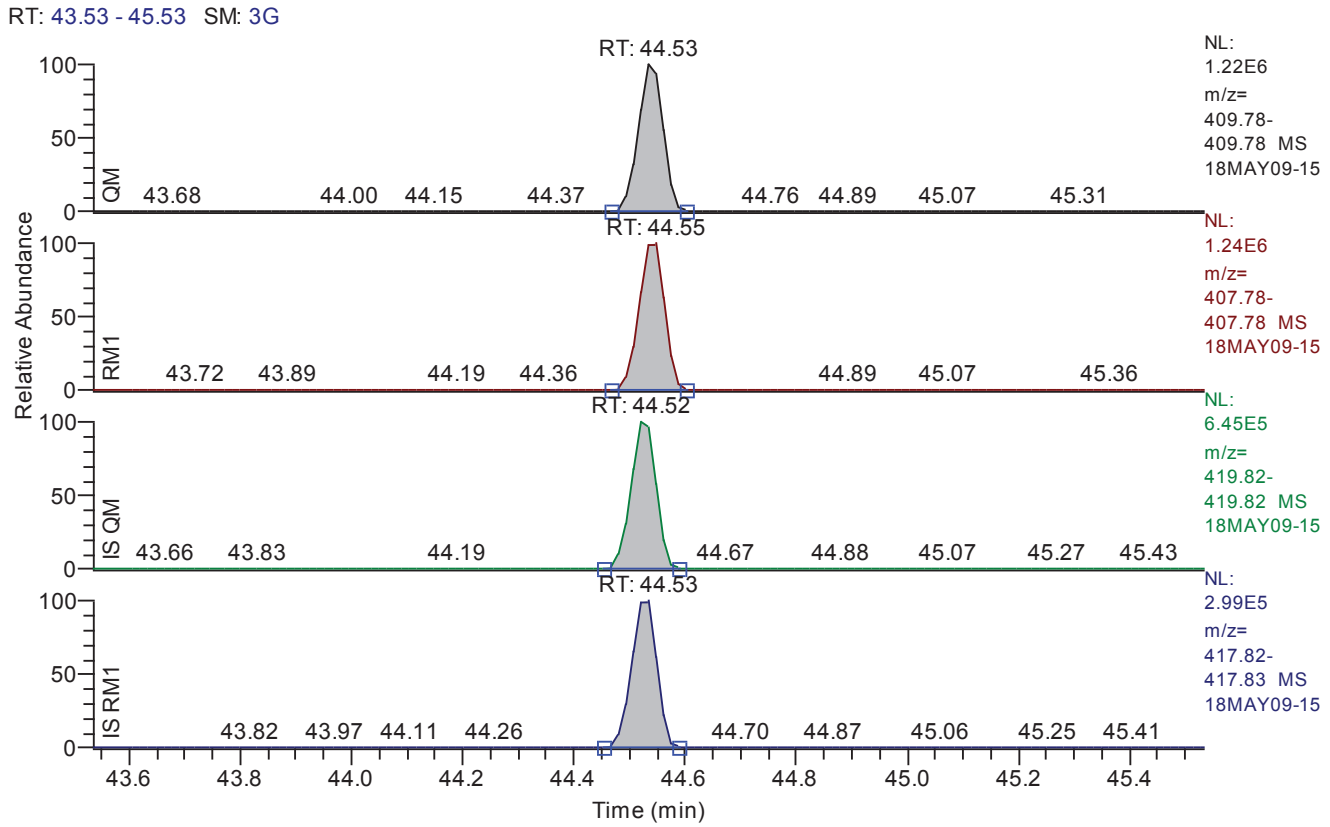
Chromatogram



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.53
QM Area	3941433
QM Integration Mode	A
RM1 Area	4127298
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0195
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	25518
Client Flags	
Status Overview	passed
Status Info	

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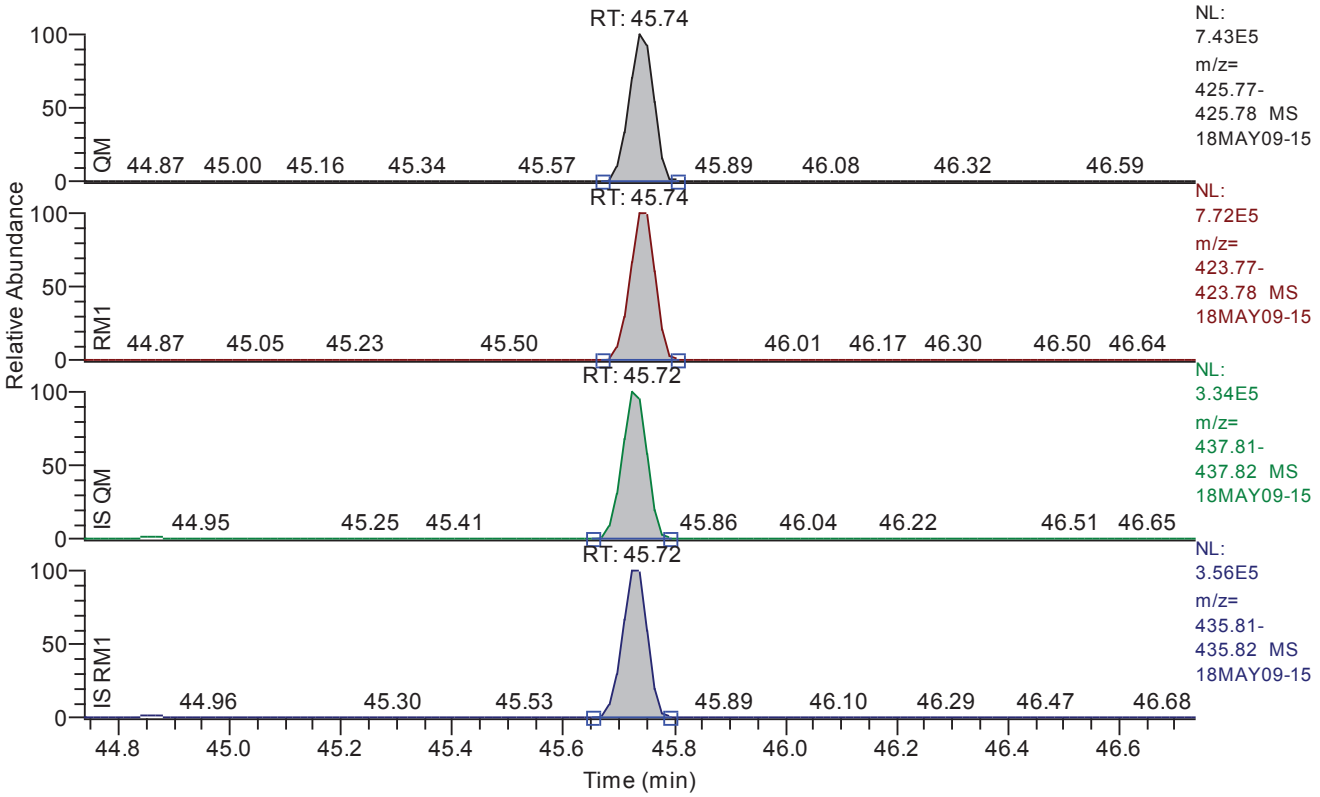
Chromatogram

RT: 44.74 - 46.74 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.74
QM Area	2373392
QM Integration Mode	A
RM1 Area	2515043
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0228
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21989
Client Flags	
Status Overview	passed
Status Info	

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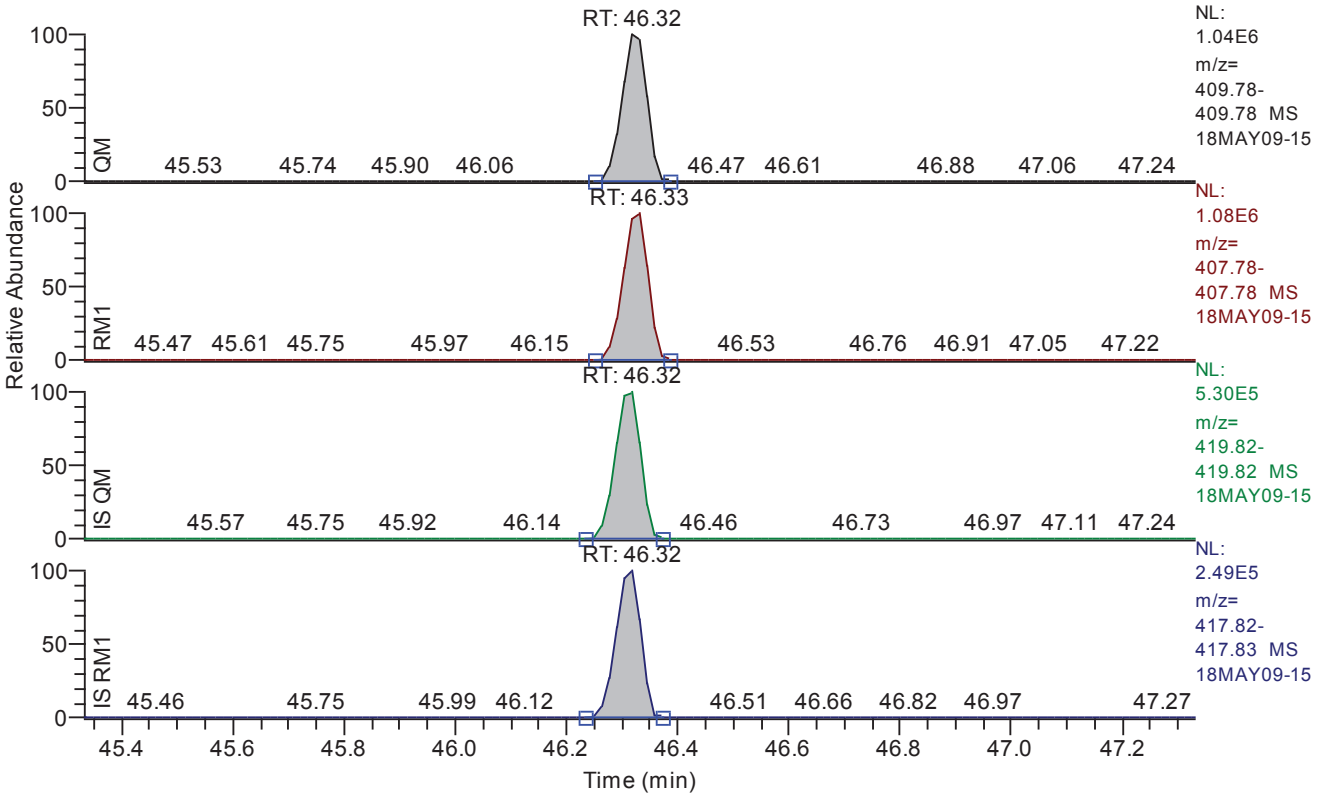
Chromatogram

RT: 45.33 - 47.33 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	46.32
QM Area	3347515
QM Integration Mode	A
RM1 Area	3511996
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0231
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21962
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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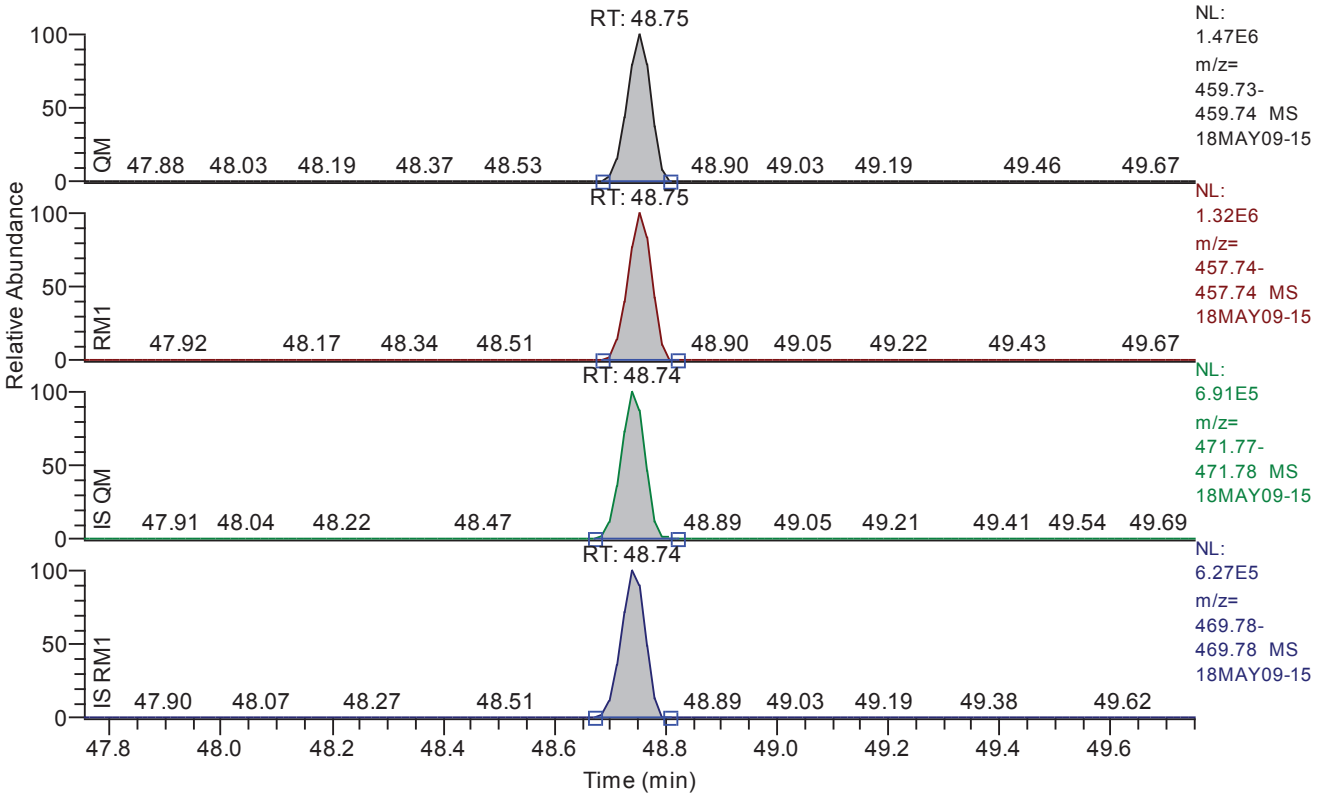
Chromatogram

RT: 47.75 - 49.75 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.75
QM Area	4368228
QM Integration Mode	A
RM1 Area	3963381
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0233
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	43454
Client Flags	
Status Overview	passed
Status Info	

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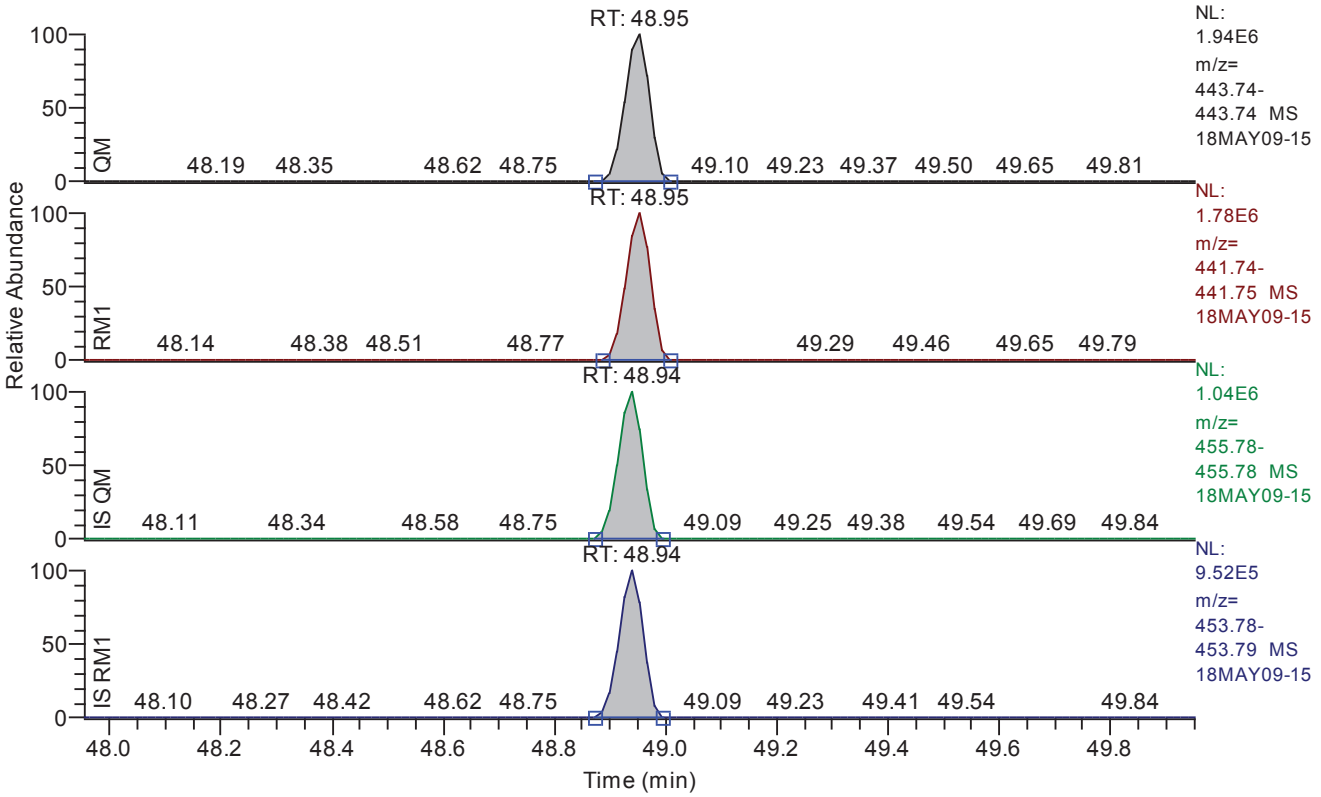
Chromatogram

RT: 47.95 - 49.95 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.95
QM Area	5951258
QM Integration Mode	A
RM1 Area	5393937
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0168
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	58973
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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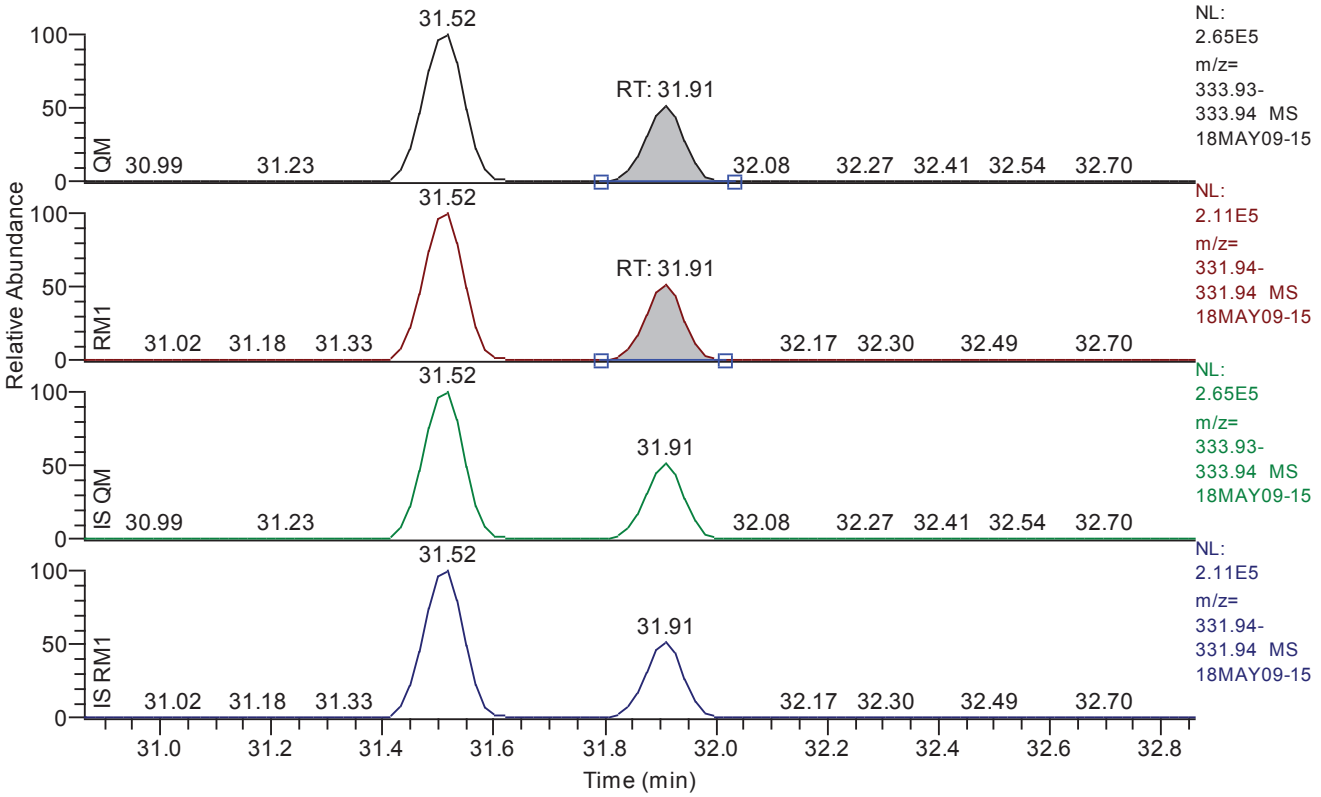
Chromatogram

RT: 30.86 - 32.86 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.91
QM Area	670603
QM Integration Mode	A
RM1 Area	528026
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0162
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	6903
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/09 23:23
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837A
Sample ID	CS401
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-15.quan
Data	z:\18may09\18may09-15.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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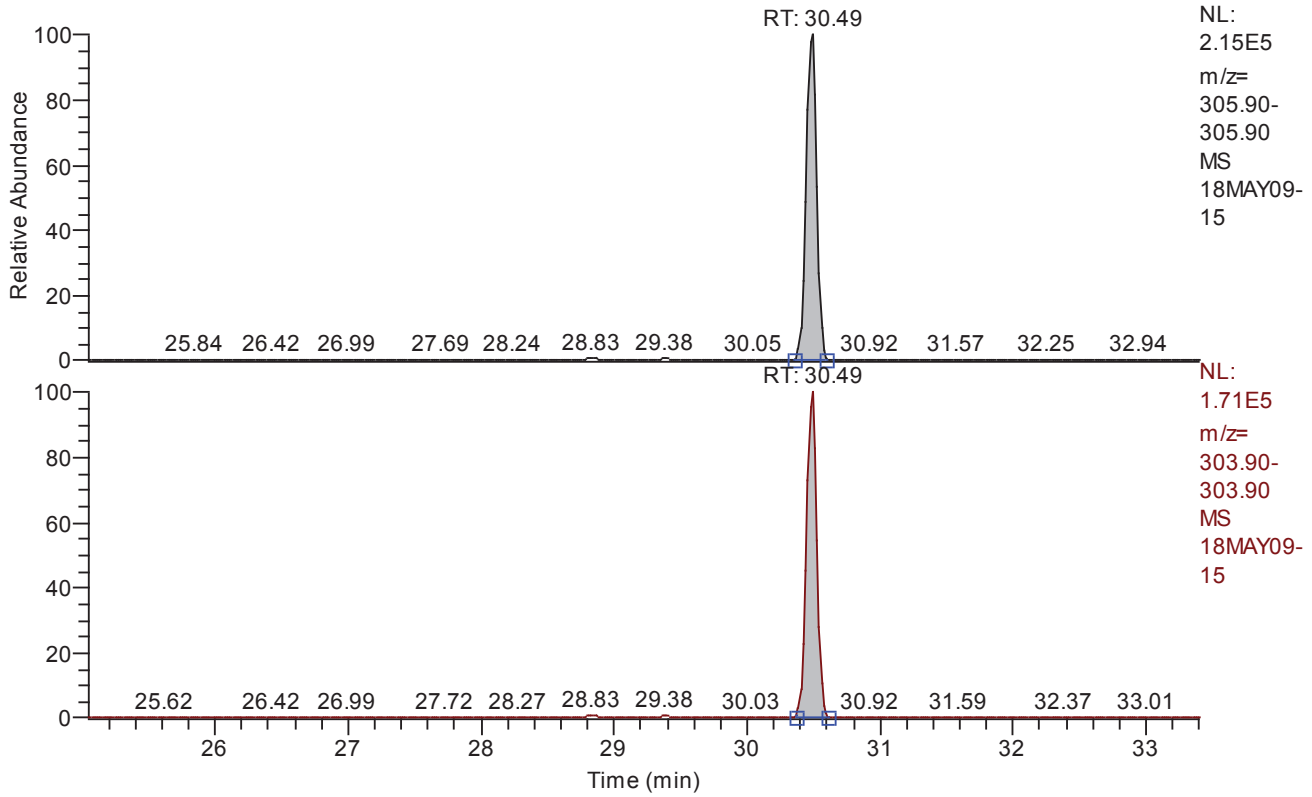
Chromatogram

RT: 25.04 - 33.40 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	29.22
QM Area	1188553
QM Integration Mode	A
RM1 Area	933998
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0055
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	18158
Client Flags	
Status Overview	passed (1)
Status Info	

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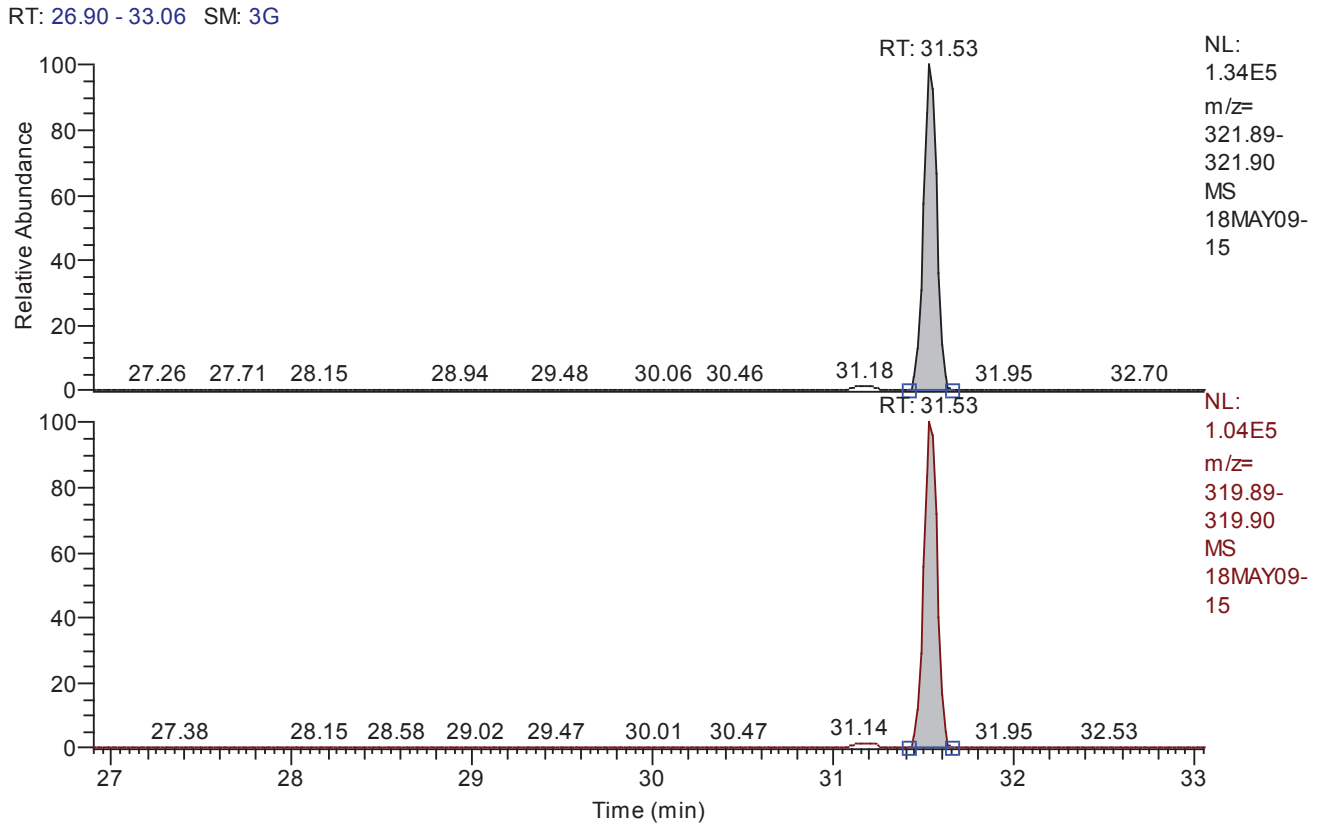
Chromatogram



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.98
QM Area	699861
QM Integration Mode	A
RM1 Area	549034
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	11082
Client Flags	
Status Overview	passed (1)
Status Info	

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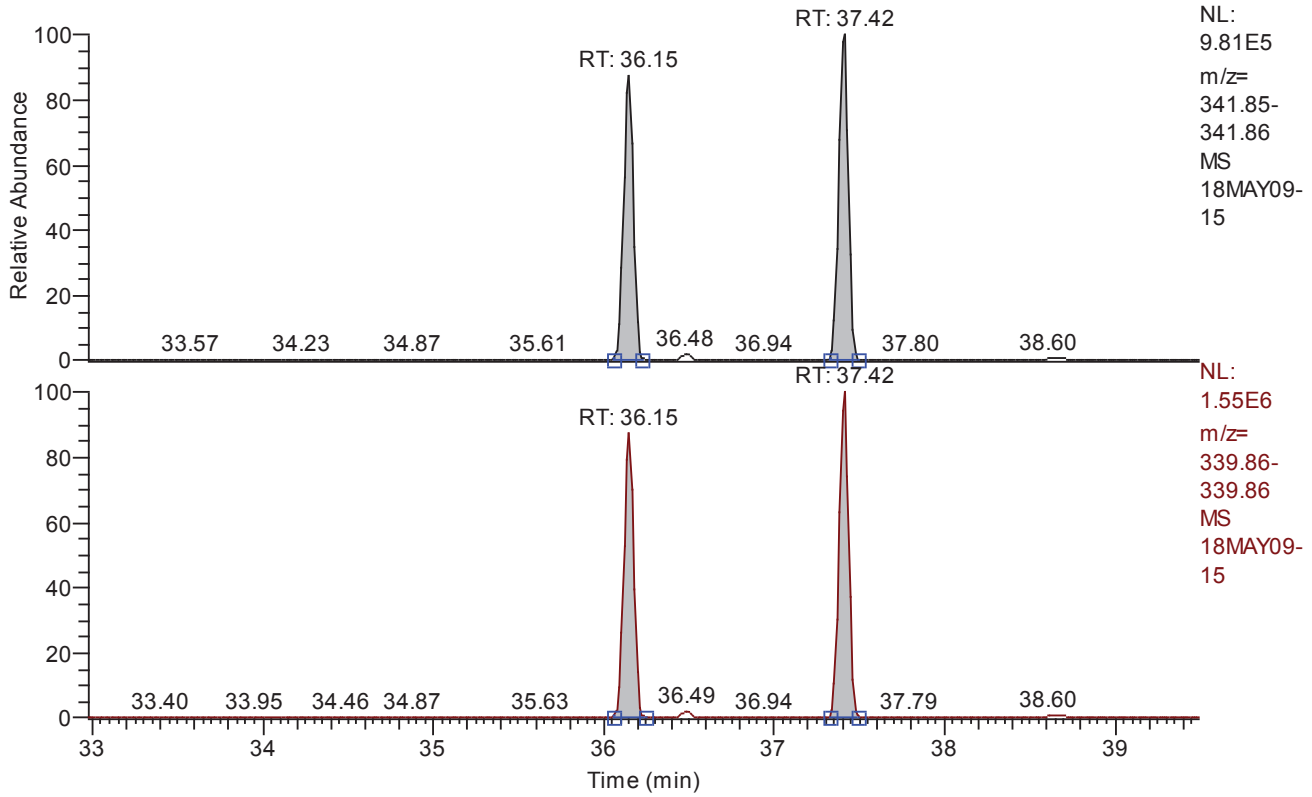
Chromatogram

RT: 32.97 - 39.50 SM: 3G



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	36.23
QM Area	7411728
QM Integration Mode	A
RM1 Area	11647905
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	76569
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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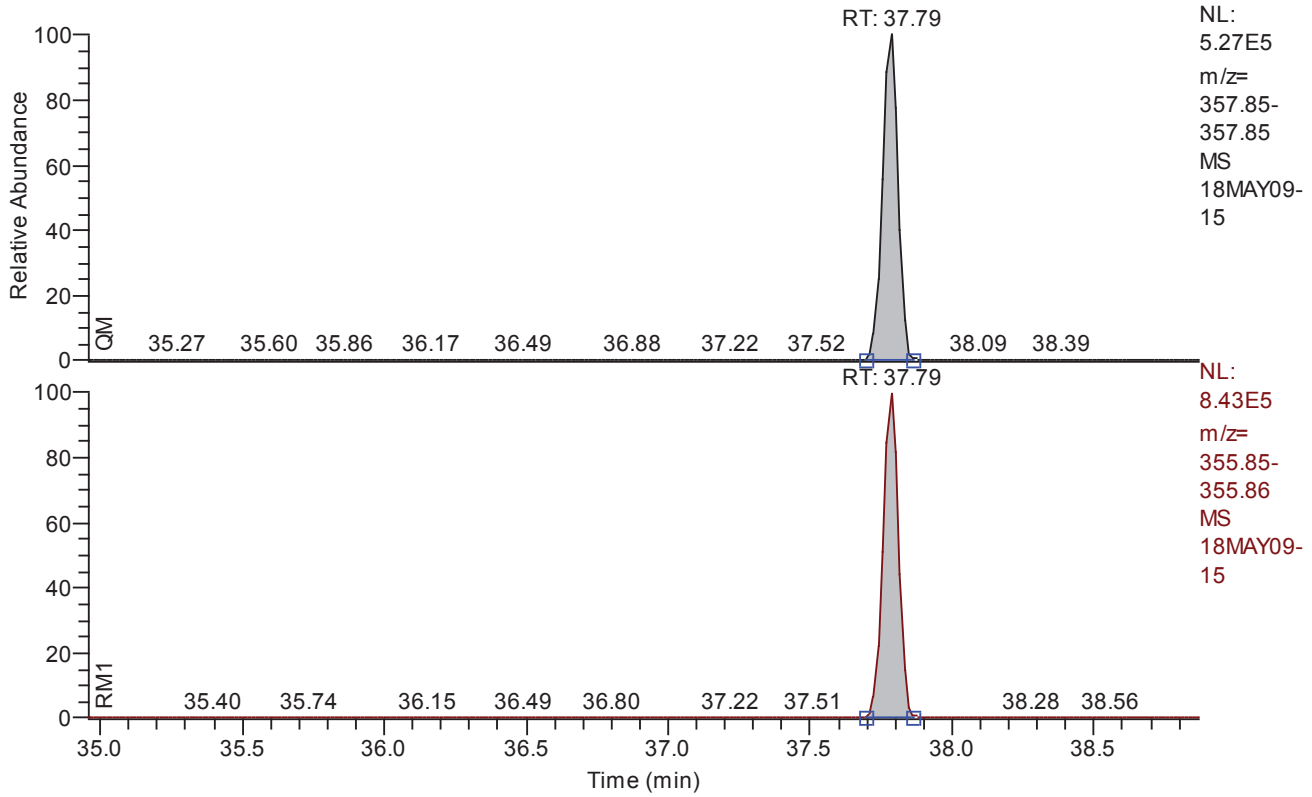
Chromatogram

RT: 34.96 - 38.87 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.91
QM Area	2012634
QM Integration Mode	A
RM1 Area	3197981
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0125
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	41054
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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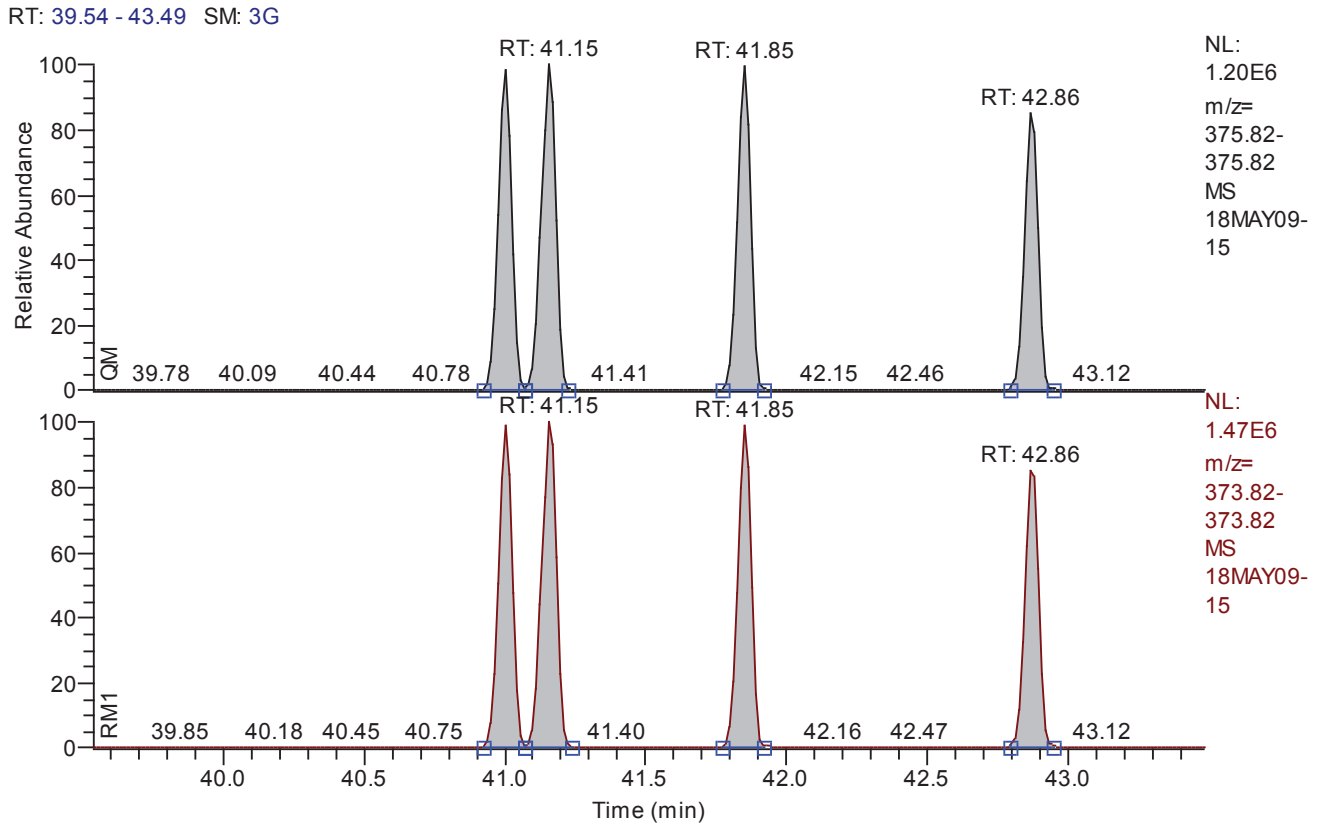
Chromatogram



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	41.51
QM Area	15453167
QM Integration Mode	A
RM1 Area	19240189
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0188
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	800.0000
Signal-to-Noise	26933
Client Flags	
Status Overview	passed (4)
Status Info	

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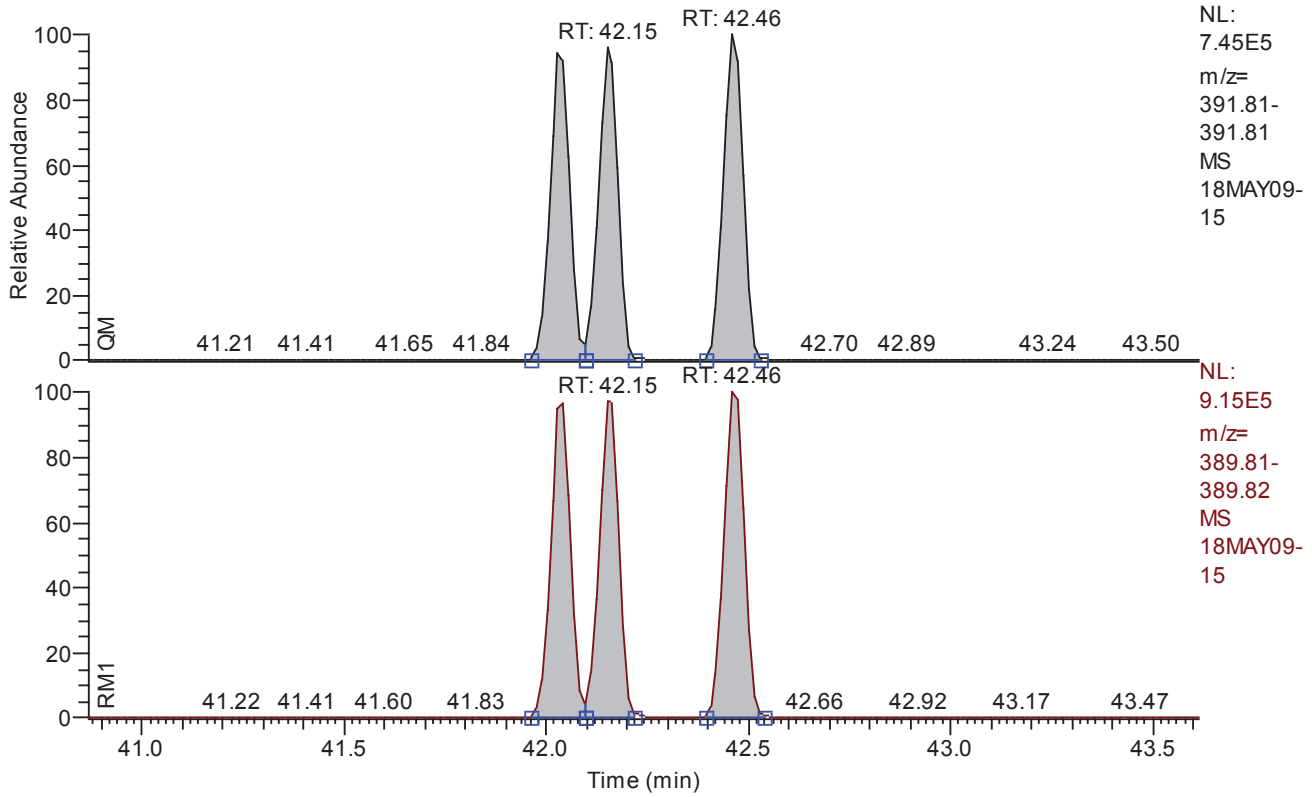
Chromatogram

RT: 40.87 - 43.62 SM: 3G



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	42.24
QM Area	7389913
QM Integration Mode	A
RM1 Area	9282987
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0156
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	600.0000
Signal-to-Noise	31531
Client Flags	
Status Overview	passed (3)
Status Info	

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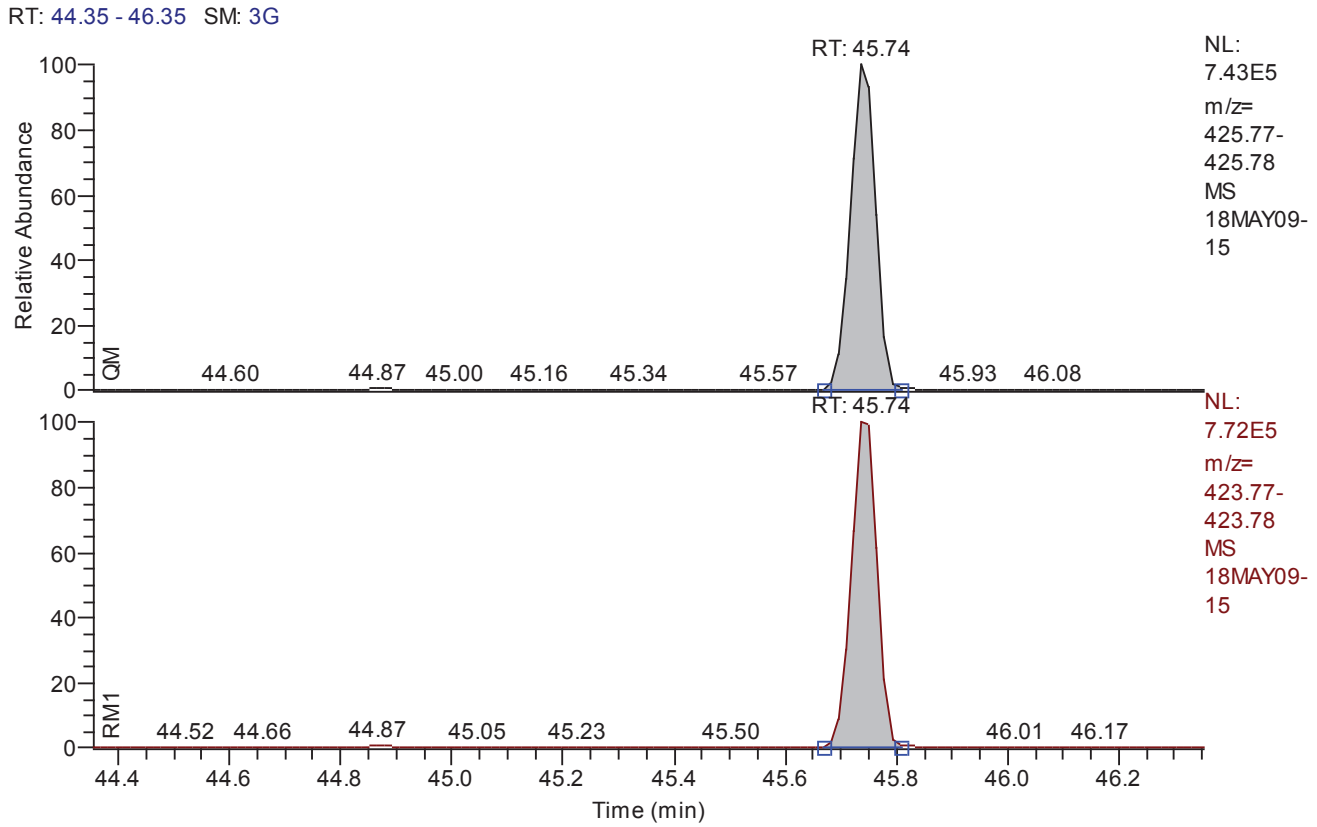
Chromatogram



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	45.35
QM Area	2373392
QM Integration Mode	A
RM1 Area	2515043
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0228
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21989
Client Flags	
Status Overview	passed (1)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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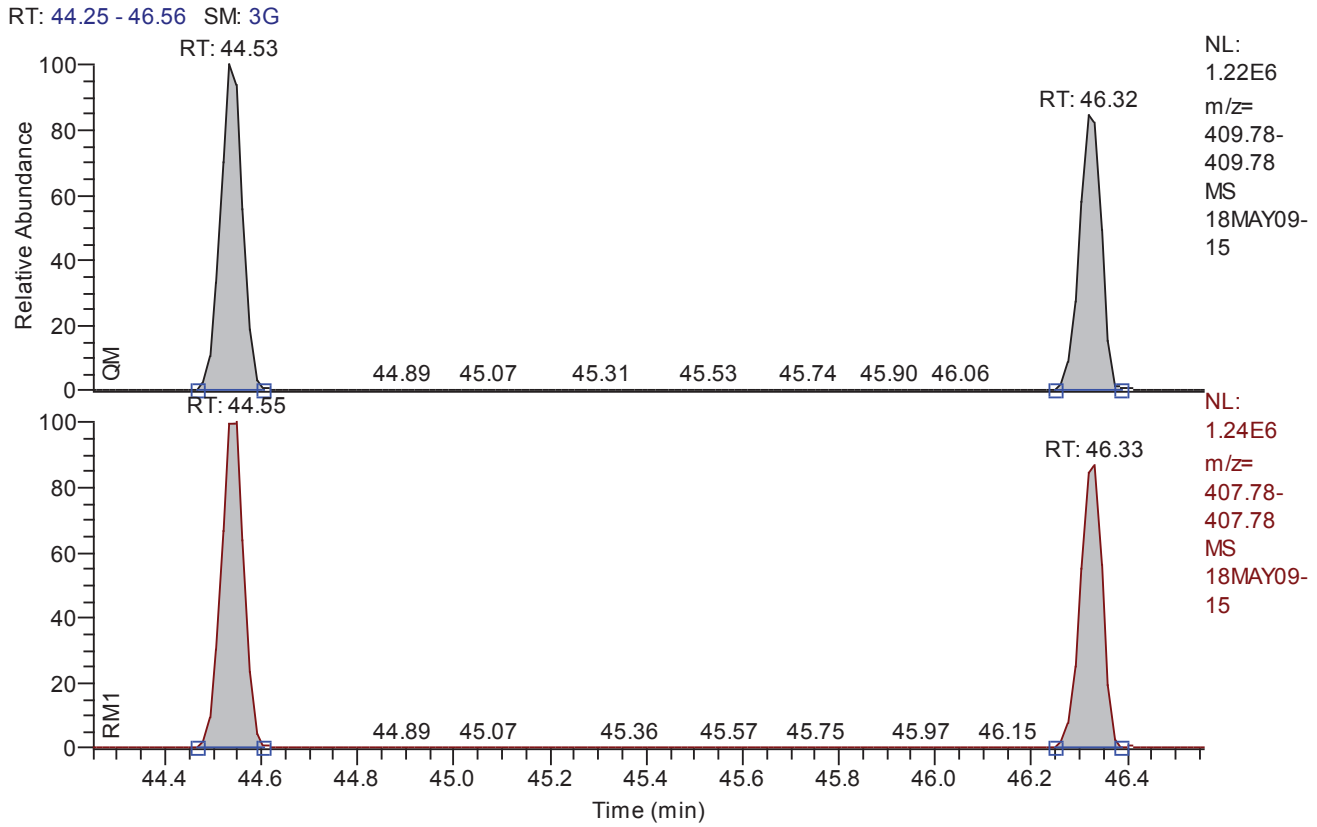
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	45.40
QM Area	7288948
QM Integration Mode	A
RM1 Area	7639293
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0213
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	23740
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	30.49	30.49	30.49	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	31.53	31.53	31.53	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.15	36.15	36.15	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.42	37.42	37.42	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.79	37.79	37.79	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.01	41.01	41.01	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.15	41.15	41.15	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.85	41.85	41.85	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.03	42.03	42.04	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.15	42.15	42.15	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.46	42.46	42.46	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.86	42.86	42.86	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.53	44.53	44.55	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.74	45.74	45.74	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.32	46.32	46.33	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.75	48.75	48.75	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.95	48.95	48.95	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	31.91	31.91	31.91	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.70	30.70	30.70	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.88	40.88	40.88	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	30.46	30.46	30.46	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.52	31.52	31.52	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.12	36.12	36.12	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.38	37.38	37.38	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.77	37.77	37.77	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.14	41.14	41.14	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.84	41.84	41.84	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.14	42.14	42.14	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.45	42.45	42.45	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.85	42.85	42.85	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.52	44.52	44.53	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.72	45.72	45.72	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.32	46.32	46.32	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.74	48.74	48.74	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.94	48.94	48.94	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.22	29.22	29.22	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	29.98	29.98	29.98	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.23	36.23	36.23	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	36.91	36.91	36.91	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.51	41.51	41.51	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.24	42.24	42.24	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.35	45.35	45.35	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.40	45.40	45.40	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	30.49	30.49	30.49	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	31.53	31.53	31.53	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	37.79	37.79	37.79	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	37.42	37.42	37.42	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.15	36.15	36.15	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.74	45.74	45.74	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.15	41.15	41.15	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.01	41.01	41.01	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.85	41.85	41.85	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	42.86	42.86	42.86	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.46	42.46	42.46	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.03	42.03	42.04	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.15	42.15	42.15	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.53	44.53	44.55	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	46.32	46.32	46.33	passed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	30.49	0.7858	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	31.53	0.7845	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	36.15	1.5789	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	37.42	1.5650	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.79	1.5890	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	41.01	1.2413	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	41.15	1.2493	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.85	1.2341	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	42.03	1.2514	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	42.15	1.2610	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	42.46	1.2561	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.86	1.2570	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	44.53	1.0472	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.74	1.0597	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	46.32	1.0491	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.75	0.9073	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.95	0.9064	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.91	0.7874	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	30.70	0.8069	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.88	1.2838	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	30.46	0.8097	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	31.52	0.7929	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	36.12	1.6073	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	37.38	1.6130	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.77	1.5743	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.99	0.5279	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	41.14	0.5310	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.84	0.5306	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	42.02	1.2910	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	42.14	1.2315	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	42.45	1.2594	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.85	0.5389	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	44.52	0.4717	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.72	1.0674	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	46.32	0.4605	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.74	0.9103	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.94	0.9067	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	29.22	0.7858	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.98	0.7845	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	36.23	1.5716	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.91	1.5890	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	41.51	1.2451	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	42.24	1.2562	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	45.35	1.0597	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	45.40	1.0481	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	30.49	0.7858	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	31.53	0.7845	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.79	1.5890	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	37.42	1.5650	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	36.15	1.5789	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.74	1.0597	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.15	1.2493	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	41.01	1.2413	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.85	1.2341	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.86	1.2570	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	42.46	1.2561	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	42.03	1.2514	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	42.15	1.2610	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	44.53	1.0472	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	46.32	1.0491	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	30.49	1188553	A	933998	A	0.0055	40.000000	40.0000	40.000000	18158	
2	2378-TCDD	passed	31.53	699861	A	549034	A	0.0091	40.000000	40.0000	40.000000	11082	
3	12378-PeCDF	passed	36.15	3503908	A	5532264	A	0.0072	200.000000	200.0000	200.000000	71509	
4	23478-PeCDF	passed	37.42	3907819	A	6115642	A	0.0062	200.000000	200.0000	200.000000	81628	
5	12378-PeCDD	passed	37.79	2012634	A	3197981	A	0.0125	200.000000	200.0000	200.000000	41054	
6	123478-HxCDF	passed	41.01	3993323	A	4957051	A	0.0182	200.000000	200.0000	200.000000	27765	
7	123678-HxCDF	passed	41.15	4056647	A	5068015	A	0.0178	200.000000	200.0000	200.000000	28052	
8	234678-HxCDF	passed	41.85	3957424	A	4883852	A	0.0183	200.000000	200.0000	200.000000	27910	
9	123478-HxCDD	passed	42.03	2461699	A	3080590	A	0.0156	200.000000	200.0000	200.000000	30943	
10	123678-HxCDD	passed	42.15	2451069	A	3090791	A	0.0157	200.000000	200.0000	200.000000	31341	
11	123789-HxCDD	passed	42.46	2477145	A	3111607	A	0.0154	200.000000	200.0000	200.000000	32307	
12	123789-HxCDF	passed	42.86	3445773	A	4331271	A	0.0207	200.000000	200.0000	200.000000	24006	
13	1234678-HpCDF	passed	44.53	3941433	A	4127298	A	0.0195	200.000000	200.0000	200.000000	25518	
14	1234678-HpCDD	passed	45.74	2373392	A	2515043	A	0.0228	200.000000	200.0000	200.000000	21989	
15	1234789-HpCDF	passed	46.32	3347515	A	3511996	A	0.0231	200.000000	200.0000	200.000000	21962	
16	OCDD	passed	48.75	4368228	A	3963381	A	0.0233	400.000000	400.0000	400.000000	43454	
17	OCDF	passed	48.95	5951258	A	5393937	A	0.0168	400.000000	400.0000	400.000000	58973	
18	13C12-1278-TCDD (CRS)	passed	31.91	670603	A	528026	A	0.0162	40.000000	40.0000	40.000000	6903	
19	13C12-1234-TCDD	passed	30.70	1468681	A	1185057	A	0.0182	100.000000	100.0000	100.000000	13705	
20	13C12-123468-HxCDD	passed	40.88	1222488	A	1569487	A	0.0184	100.000000	100.0000	100.000000	13556	
21	13C12-2378-TCDF	passed	30.46	2740545	A	2218885	A	0.0085	100.000000	100.0000	100.000000	29398	
22	13C12-2378-TCDD	passed	31.52	1400364	A	1110314	A	0.0193	100.000000	100.0000	100.000000	13361	
23	13C12-12378-PeCDF	passed	36.12	1724099	A	2771169	A	0.0219	100.000000	100.0000	100.000000	14694	
24	13C12-23478-PeCDF	passed	37.38	1685543	A	2718791	A	0.0224	100.000000	100.0000	100.000000	15225	
25	13C12-12378-PeCDD	passed	37.77	943601	A	1485496	A	0.0150	100.000000	100.0000	100.000000	23316	
26	13C12-123478-HxCDF	passed	40.99	2406900	A	1270499	A	0.0211	100.000000	100.0000	100.000000	11584	
27	13C12-123678-HxCDF	passed	41.14	2541226	A	1349360	A	0.0199	100.000000	100.0000	100.000000	12255	
28	13C12-234678-HxCDF	passed	41.84	2298998	A	1219867	A	0.0220	100.000000	100.0000	100.000000	11159	
29	13C12-123478-HxCDD	passed	42.02	1125333	A	1452839	A	0.0200	100.000000	100.0000	100.000000	12397	
30	13C12-123678-HxCDD	passed	42.14	1173154	A	1444747	A	0.0197	100.000000	100.0000	100.000000	12506	
31	13C12-123789-HxCDD	passed	42.45	1102530	A	1388564	A	0.0207	100.000000	100.0000	100.000000	12060	
32	13C12-123789-HxCDF	passed	42.85	2197448	A	1184143	A	0.0229	100.000000	100.0000	100.000000	10755	
33	13C12-1234678-HpCDF	passed	44.52	2095914	A	988639	A	0.0255	100.000000	100.0000	100.000000	10034	
34	13C12-1234678-HpCDD	passed	45.72	1081988	A	1154951	A	0.0188	100.000000	100.0000	100.000000	13707	
35	13C12-1234789-HpCDF	passed	46.32	1748422	A	805137	A	0.0308	100.000000	100.0000	100.000000	8278	
36	13C12-OCDD	passed	48.74	2087442	A	1900293	A	0.0153	200.000000	200.0000	200.000000	36196	
37	13C12-OCDF	passed	48.94	3161686	A	2866835	A	0.0127	200.000000	200.0000	200.000000	43591	
38	Total TCDF	passed (1)	29.22	1188553	A	933998	A	0.0055	40.000000	40.0000	40.000000	18158	
39	Total TCDD	passed (1)	29.98	699861	A	549034	A	0.0091	40.000000	40.0000	40.000000	11082	
40	Total PeCDF	passed (2)	36.23	7411728	A	11647905	A	0.0067	200.000000	400.0000	200.000000	76569	
41	Total PeCDD	passed (1)	36.91	2012634	A	3197981	A	0.0125	200.000000	200.0000	200.000000	41054	
42	Total HxCDF	passed (4)	41.51	15453167	A	19240189	A	0.0188	200.000000	800.0000	200.000000	26933	
43	Total HxCDD	passed (3)	42.24	7389913	A	9282987	A	0.0156	200.000000	600.0000	200.000000	31531	
44	Total HpCDD	passed (1)	45.35	2373392	A	2515043	A	0.0228	200.000000	200.0000	200.000000	21989	
45	Total HpCDF	passed (2)	45.40	7288948	A	7639293	A	0.0213	200.000000	400.0000	200.000000	23740	
46	Single TCDF	passed	30.49	1188553	A	933998	A	0.0055	40.000000	40.0000	40.000000	18158	
47	Single TCDD	passed	31.53	699861	A	549034	A	0.0091	40.000000	40.0000	40.000000	11082	
48	Single PeCDD	passed	37.79	2012634	A	3197981	A	0.0125	200.000000	200.0000	200.000000	41054	
49	Single PeCDF	passed	37.42	3907819	A	6115642	A	0.0063	200.000000	200.0000	200.000000	81628	
50	Single PeCDF	passed	36.15	3503908	A	5532264	A	0.0070	200.000000	200.0000	200.000000	71509	
51	Single HpCDD	passed	45.74	2373392	A	2515043	A	0.0228	200.000000	200.0000	200.000000	21989	
52	Single HxCDF	passed	41.15	4056647	A	5068015	A	0.0178	200.000000	200.0000	200.000000	28052	
53	Single HxCDF	passed	41.01	3993323	A	4957051	A	0.0181	200.000000	200.0000	200.000000	27765	
54	Single HxCDF	passed	41.85	3957424	A	4883852	A	0.0183	200.000000	200.0000	200.000000	27910	
55	Single HxCDF	passed	42.86	3445773	A	4331271	A	0.0208	200.000000	200.0000	200.000000	24006	
56	Single HxCDD	passed	42.46	2477145	A	3111607	A	0.0155	200.000000	200.0000	200.000000	32307	
57	Single HxCDD	passed	42.03	2461699	A	3080590	A	0.0156	200.000000	200.0000	200.000000	30943	
58	Single HxCDD	passed	42.15	2451069	A	3090791	A	0.0156	200.000000	200.0000	200.000000	31341	
59	Single HpCDF	passed	44.53	3941433	A	4127298	A	0.0196	200.000000	200.0000	200.000000	25518	
60	Single HpCDF	passed	46.32	3347515	A	3511996	A	0.0230	200.000000	200.0000	200.000000	21962	

APPROVED
By uma9 at 3:11 pm, 5/10/18

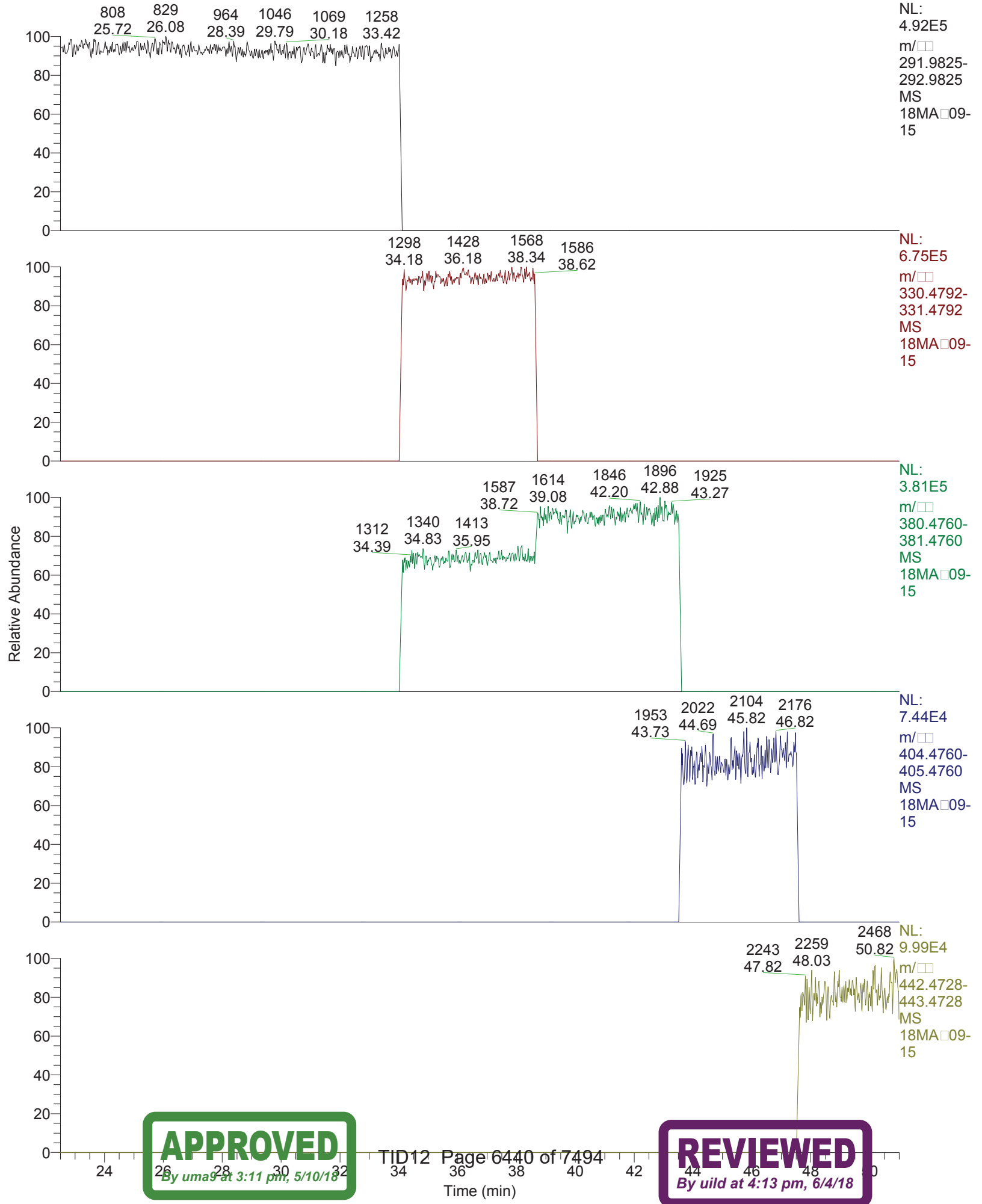
REVIEWED
By uild at 4:13 pm, 6/4/18

File Name: □:□18MA□09□18MA□09-15
Sample ID: CS401

Acq. Data: 5/9/2018 11:23:01 PM
Sample Name: CALDF51837A
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By umas at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

*** file opened Wed May 09 23:28:28 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 09-May-18 23:28:27

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

```
MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          94.5000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0168   FVINLET         0.0356   FVSRC           0.0311
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           94.5000   LKM           442.9723   MASS           94.5000
 MDAC        1445803.8122  MRANGE       1272.8365   NSAM          200.0000
 NSCAN          2507.0000  NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9675   RELEN           0.0000
 RES          12322.3314   RPUSHER       -20.1978   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.5000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.5e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11182.
MID Time Window 2: Resolution is 11224.
MID Time Window 3: Resolution is 11390.
MID Time Window 4: Resolution is 11254.
```

```
MID Time Window 5: Resolution is 11768.
MID Time Window 6: Resolution is 12322.

Amplifier Offset: 85.


*** File closed Thu May 10 00:19:30 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/10 00:19
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837A
Sample ID	CS501
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-16.quan
Data	z:\18may09\18may09-16.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	30.48	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	31.54	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.14	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.41	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.79	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.01	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.16	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.86	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.03	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.16	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.47	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.87	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.54	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.74	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.32	passed	passed	passed	passed	passed	passed	
16	OCDD	48.76	passed	passed	passed	passed	passed	passed	
17	OCDF	48.96	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.90	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	30.70	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.89	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.47	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.51	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.13	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.39	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.76	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	41.00	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.15	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.85	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.02	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.14	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.45	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.86	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.53	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.73	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.31	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.75	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.95	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.23	passed (1)	---	---	---	---	---	
39	Total TCDD	29.97	passed (1)	---	---	---	---	---	
40	Total PeCDF	36.24	passed (2)	---	---	---	---	---	
41	Total PeCDD	36.90	passed (1)	---	---	---	---	---	
42	Total HxCDF	41.50	passed (4)	---	---	---	---	---	
43	Total HxCDD	42.23	passed (3)	---	---	---	---	---	
44	Total HpCDD	45.30	passed (1)	---	---	---	---	---	
45	Total HpCDF	45.42	passed (2)	---	---	---	---	---	
46	Single TCDF	30.48	passed	passed	passed	passed	passed	passed	
47	Single TCDD	31.54	passed	passed	passed	passed	passed	passed	
48	Single PeCDF	37.41	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.14	passed	passed	passed	passed	passed	passed	
50	Single PeCDD	37.79	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.74	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.16	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.01	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.86	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.87	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	42.16	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	42.03	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	42.47	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	44.54	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	46.32	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/10 00:19
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837A
Sample ID	CS501
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-16.quan
Data	z:\18may09\18may09-16.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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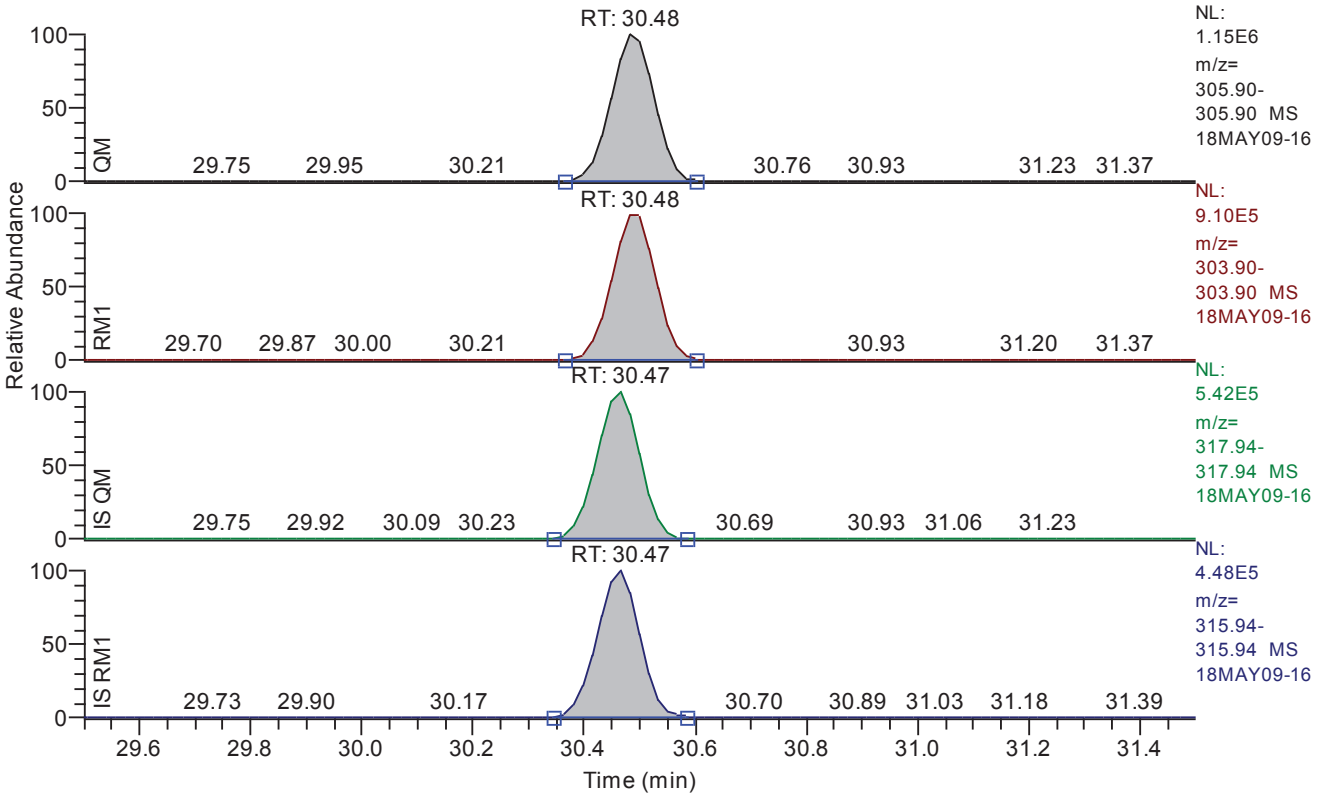
Chromatogram

RT: 29.50 - 31.50 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	30.48
QM Area	6354034
QM Integration Mode	A
RM1 Area	5072394
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	56847
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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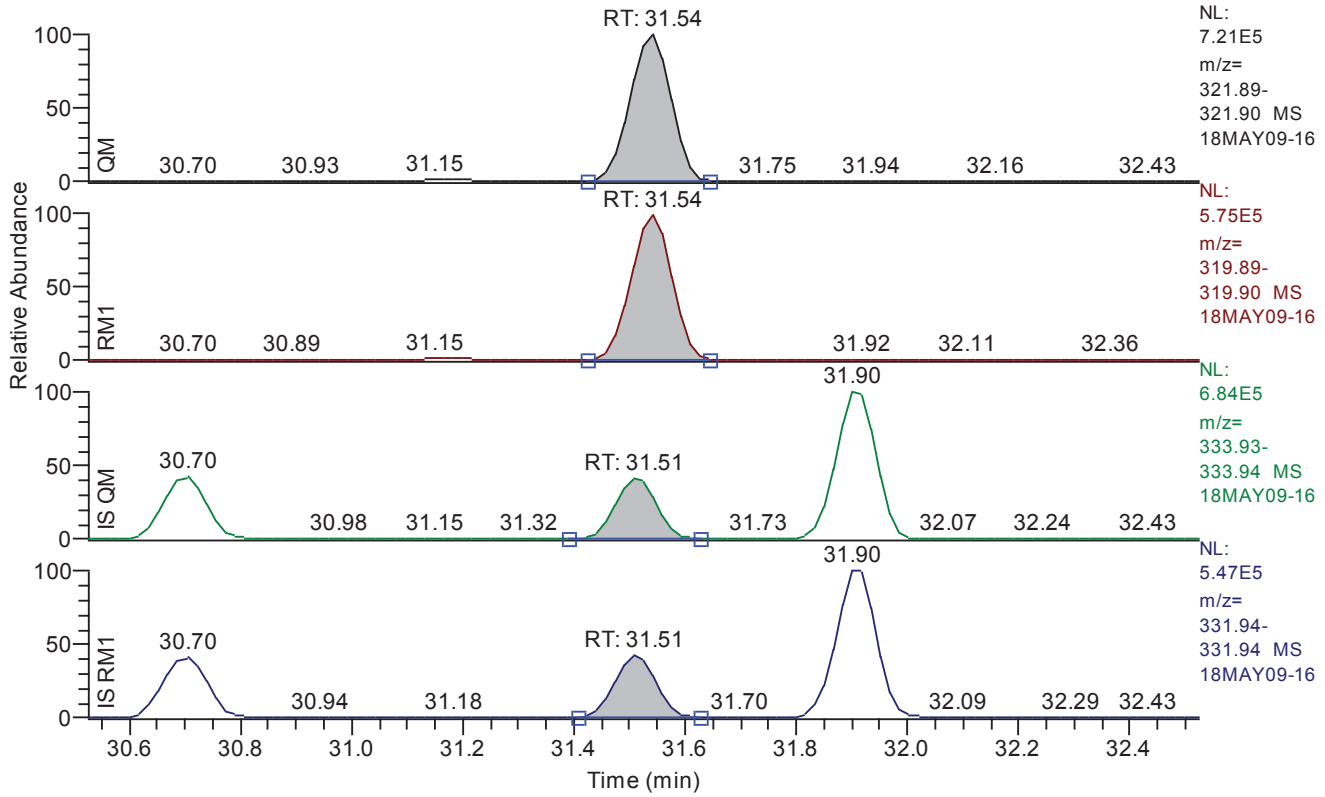
Chromatogram

RT: 30.53 - 32.53 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	31.54
QM Area	3771189
QM Integration Mode	A
RM1 Area	2985998
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0123
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	40960
Client Flags	
Status Overview	passed
Status Info	

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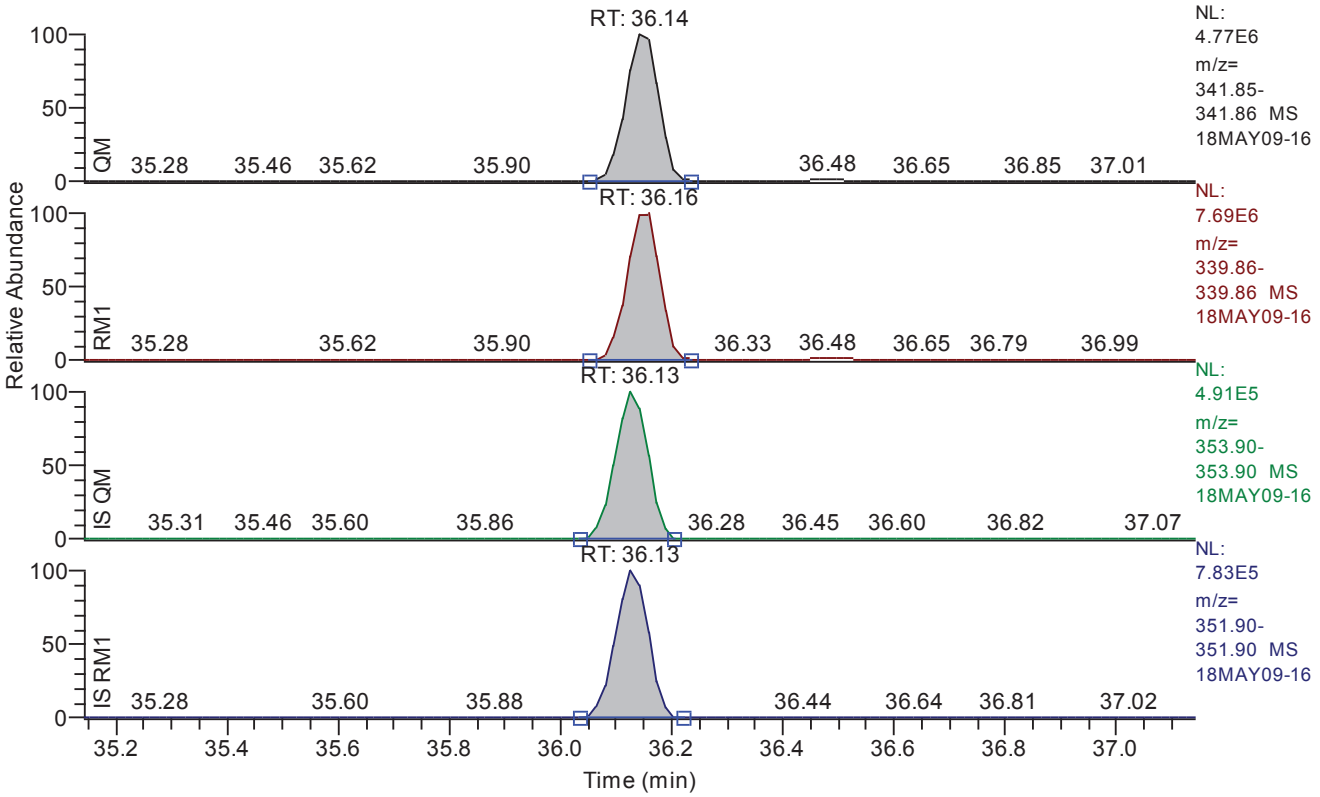
Chromatogram

RT: 35.14 - 37.14 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	36.14
QM Area	19838934
QM Integration Mode	A
RM1 Area	31713701
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0077
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	321622
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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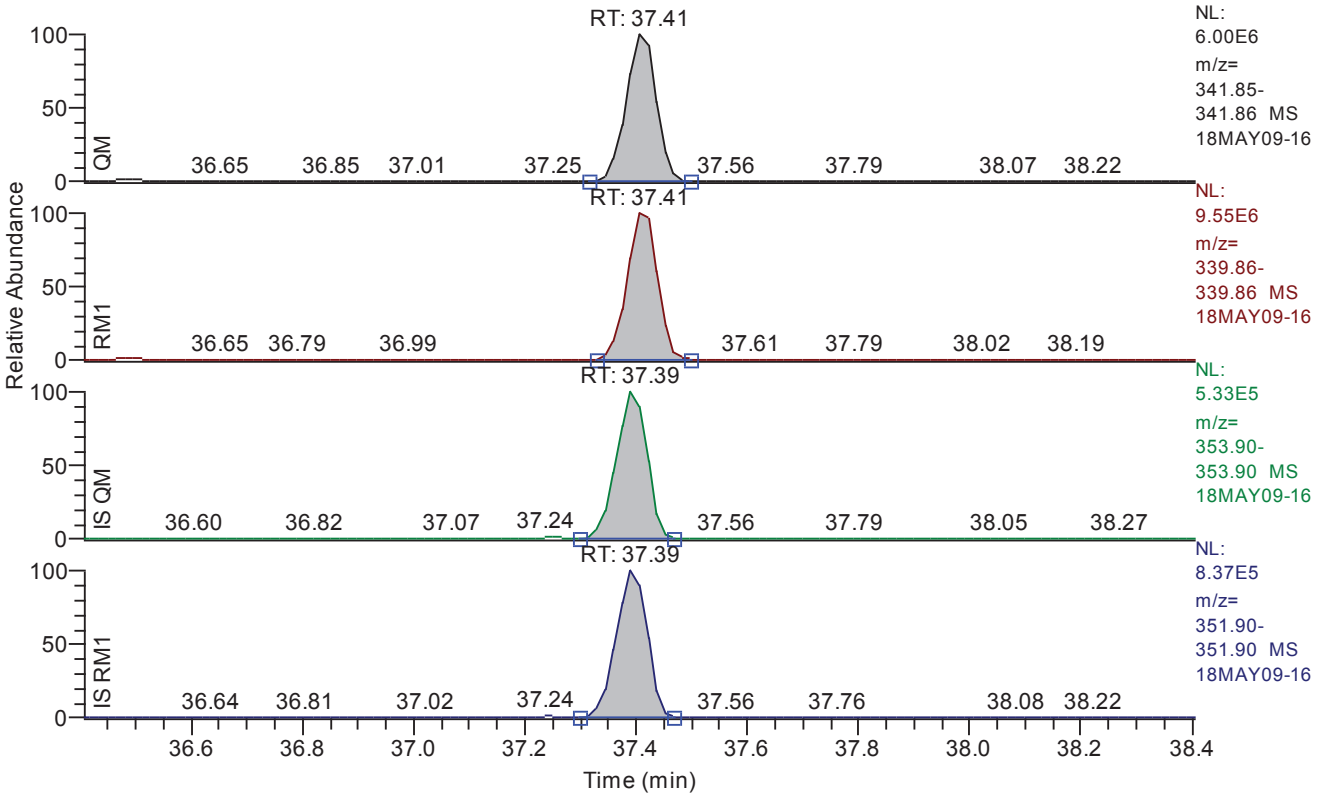
Chromatogram

RT: 36.41 - 38.41 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	37.41
QM Area	22544623
QM Integration Mode	A
RM1 Area	36250496
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	401563
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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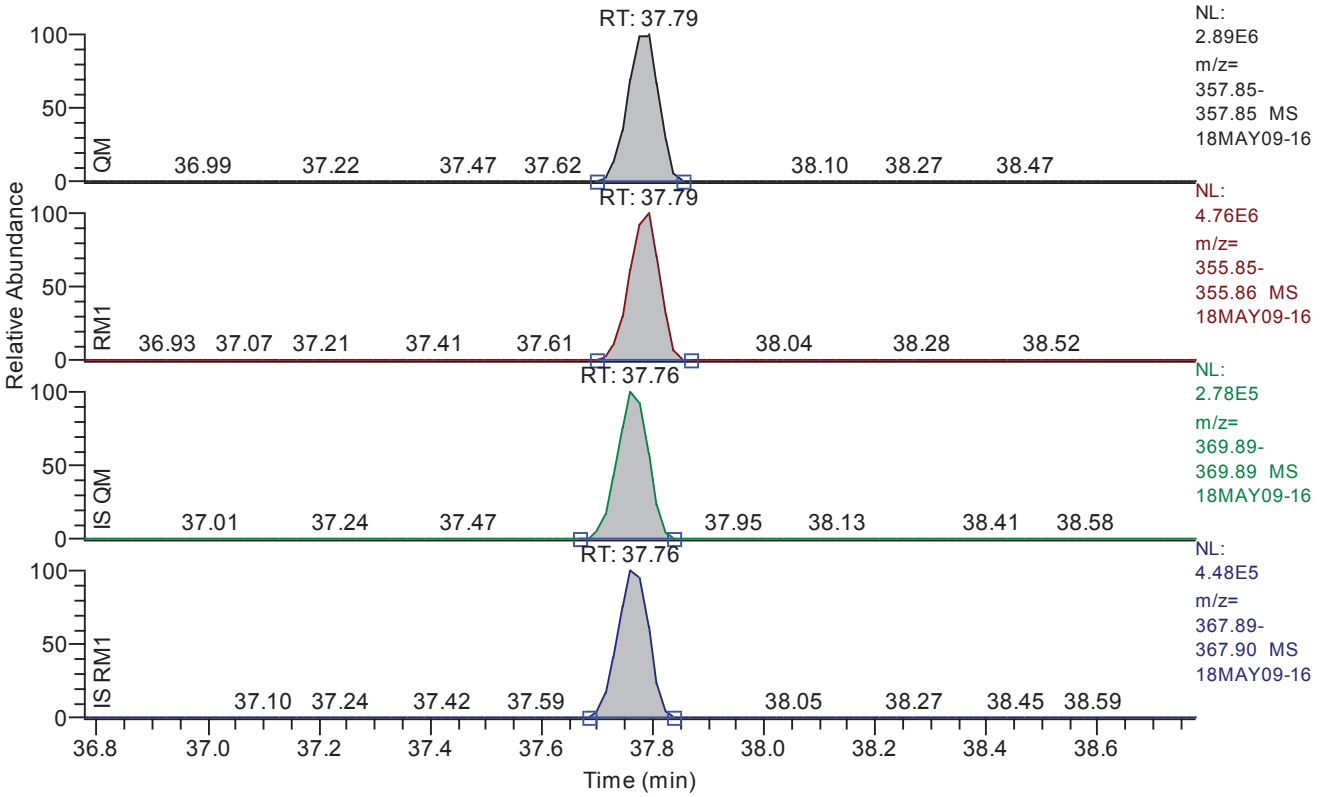
Chromatogram

RT: 36.78 - 38.78 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.79
QM Area	11353271
QM Integration Mode	A
RM1 Area	18081976
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0320
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	79672
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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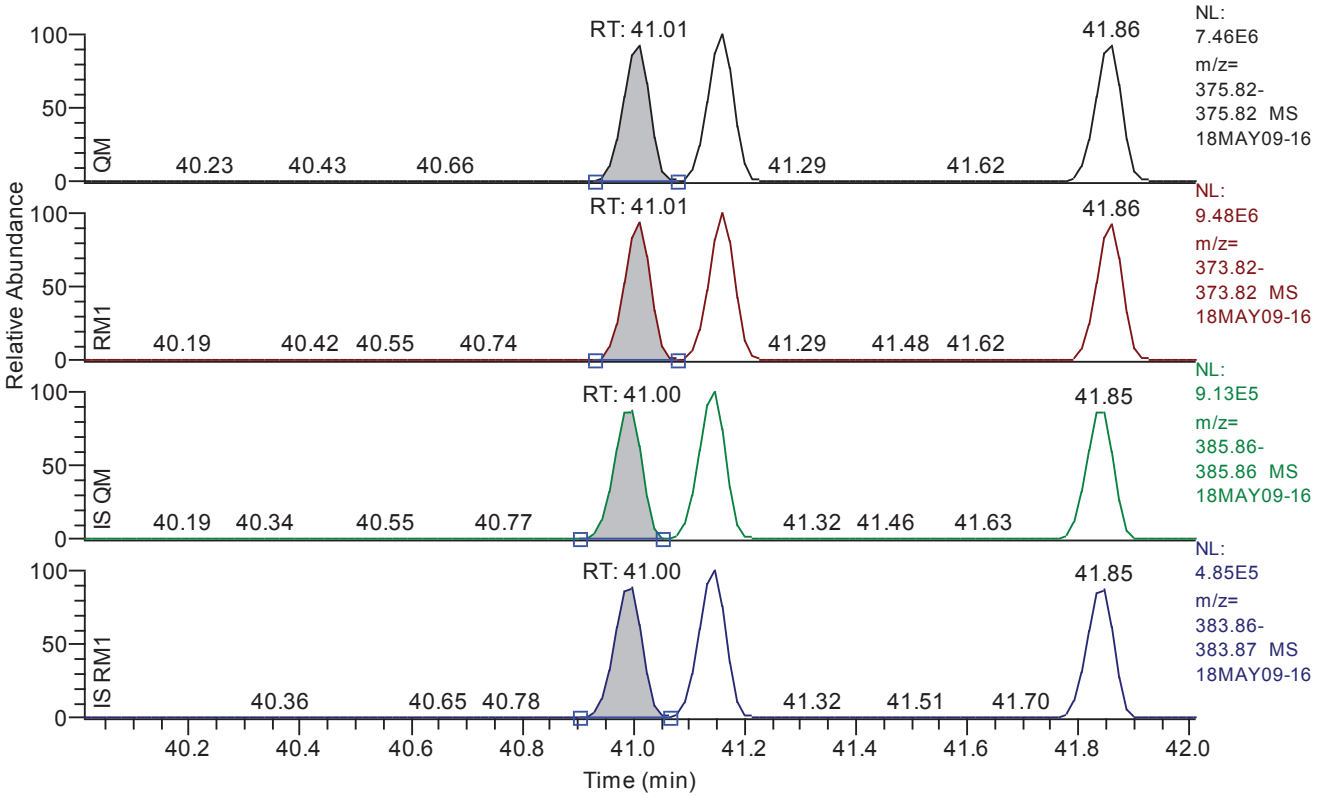
Chromatogram

RT: 40.01 - 42.01 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	41.01
QM Area	23373379
QM Integration Mode	A
RM1 Area	29477585
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0339
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	78267
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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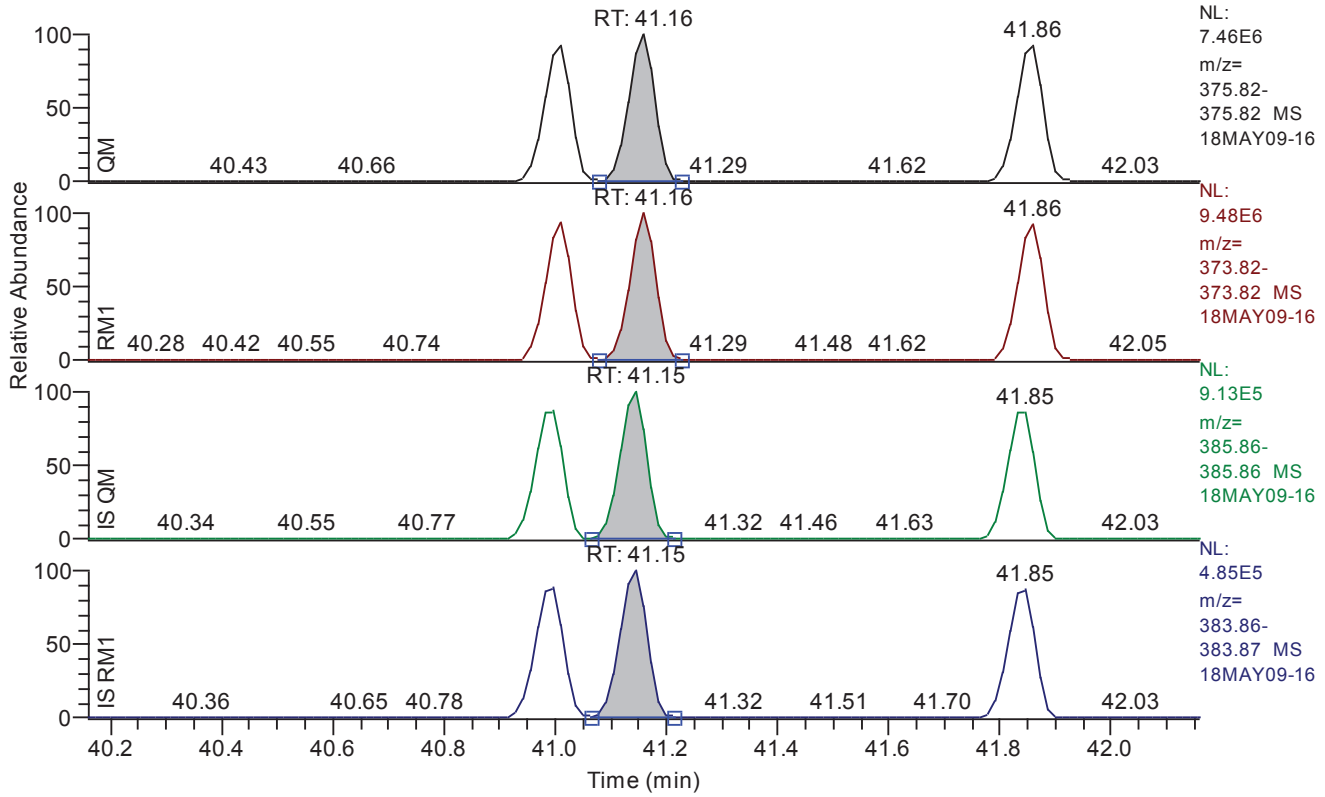
Chromatogram

RT: 40.16 - 42.16 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	41.16
QM Area	24458037
QM Integration Mode	A
RM1 Area	30854459
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0310
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	83836
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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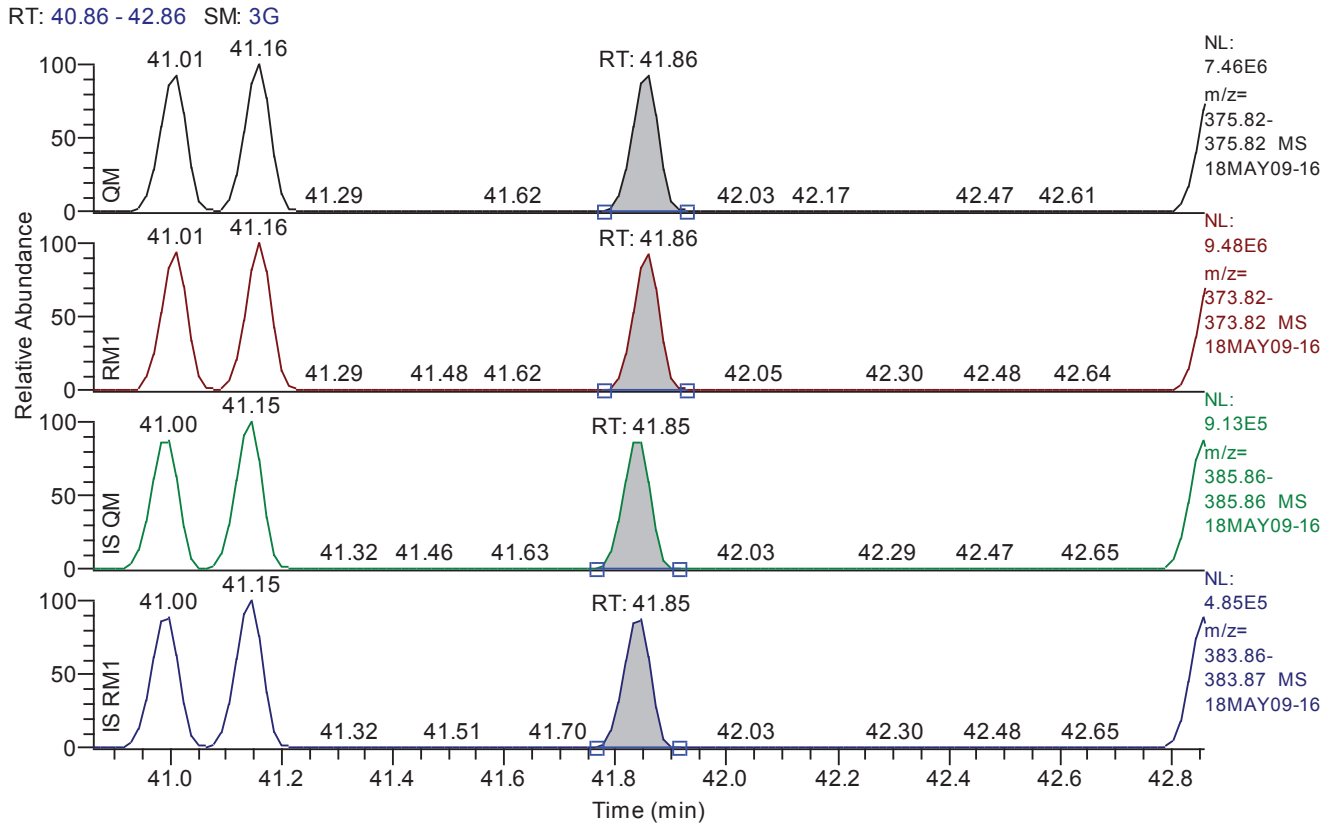
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.86
QM Area	23139571
QM Integration Mode	A
RM1 Area	29004814
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0338
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	78186
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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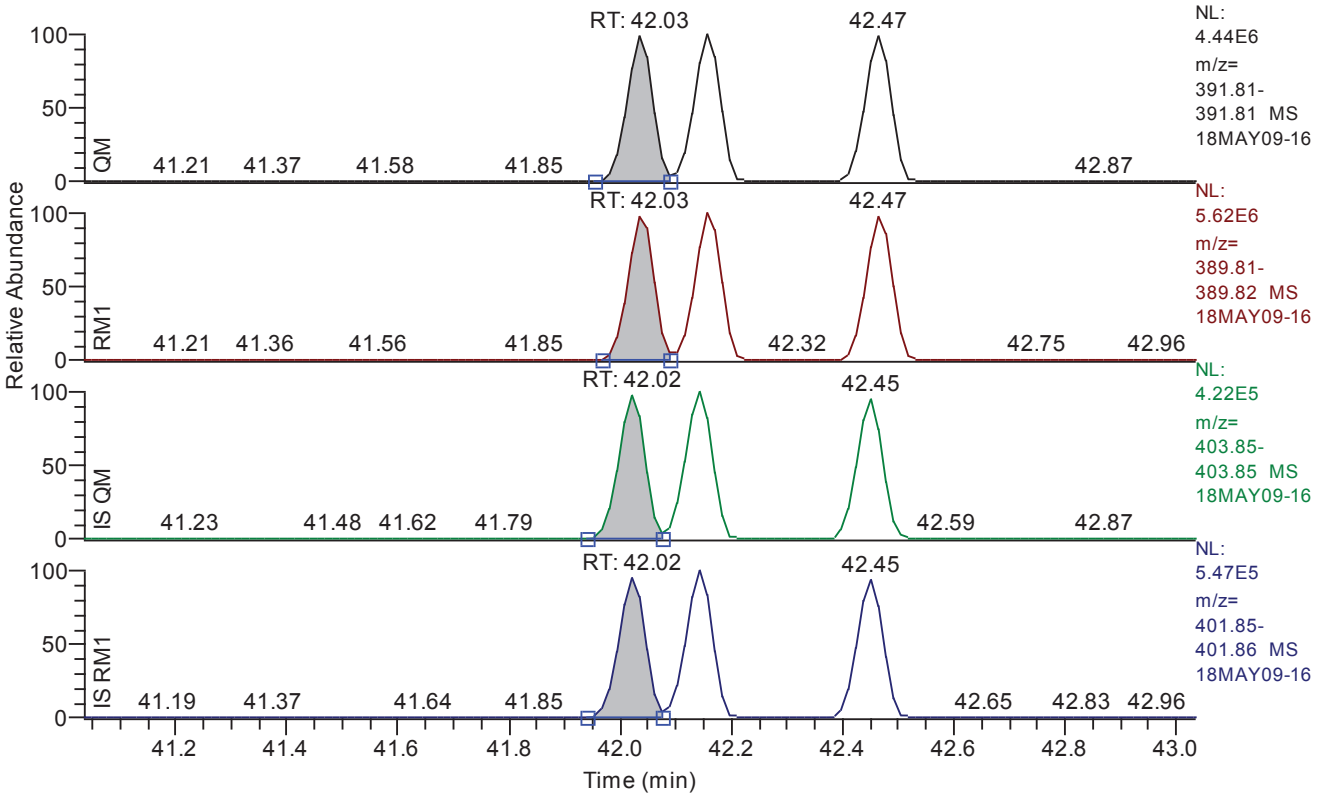
Chromatogram

RT: 41.03 - 43.03 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	42.03
QM Area	14252834
QM Integration Mode	A
RM1 Area	17958215
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0227
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	112493
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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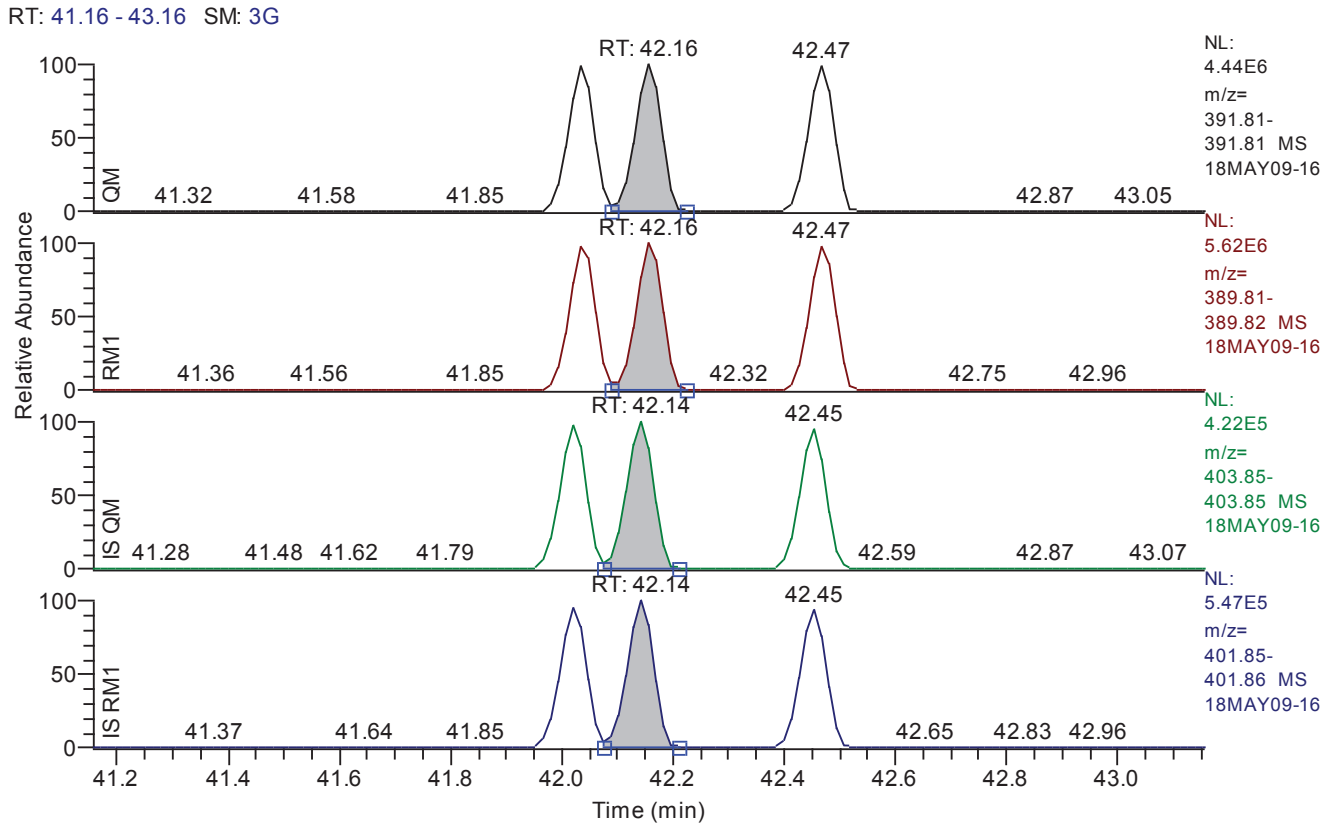
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	42.16
QM Area	14623537
QM Integration Mode	A
RM1 Area	18570030
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0222
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	114035
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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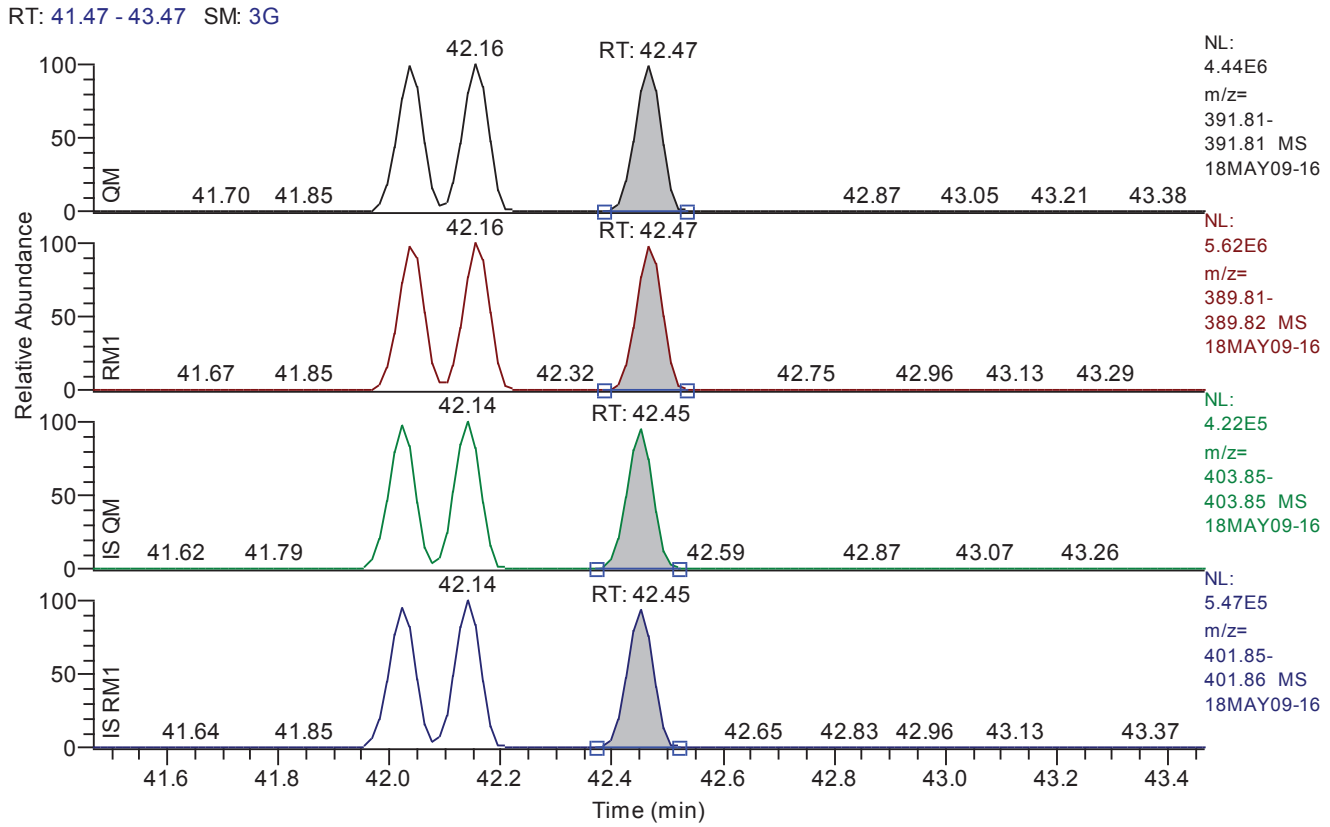
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	42.47
QM Area	14495389
QM Integration Mode	A
RM1 Area	18274419
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0220
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	112795
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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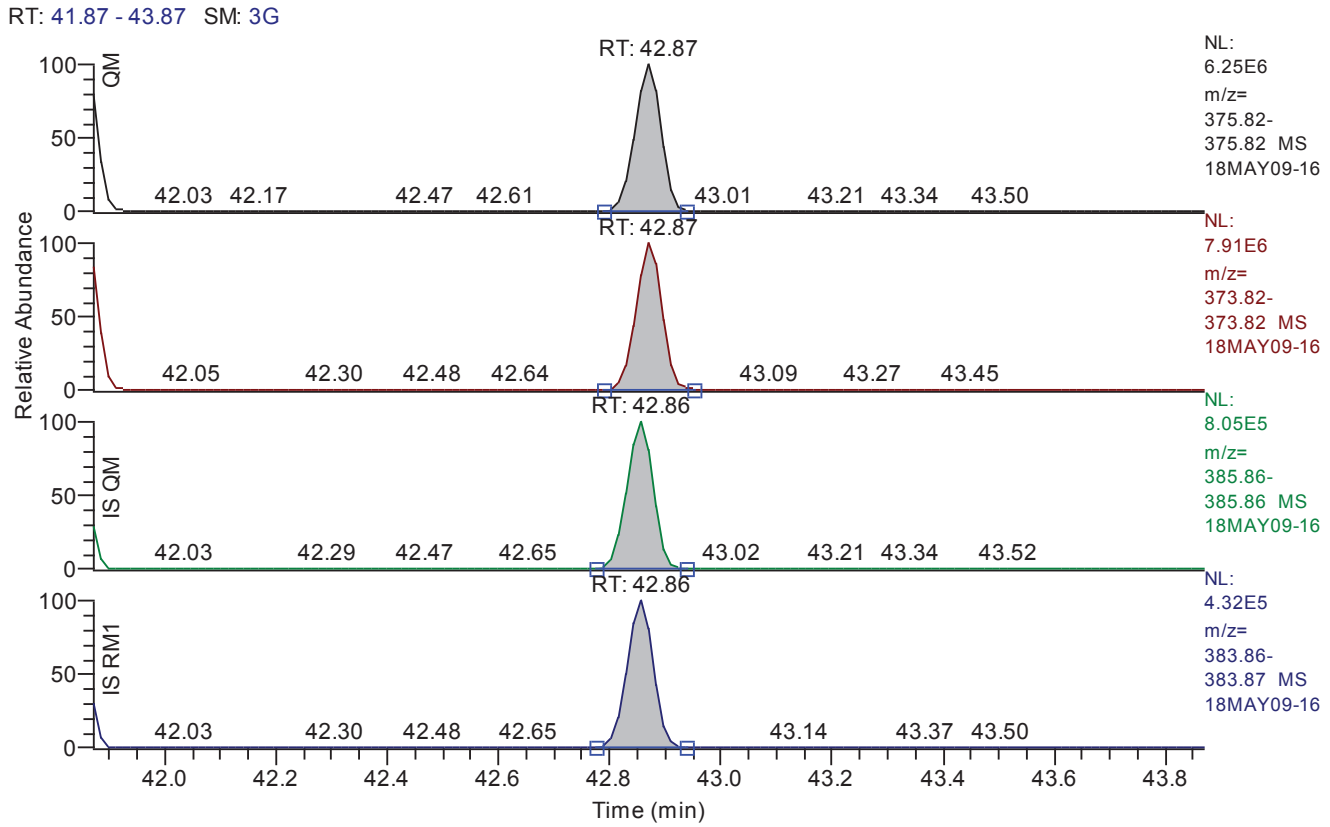
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.87
QM Area	20503571
QM Integration Mode	A
RM1 Area	25886049
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0361
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	70149
Client Flags	
Status Overview	passed
Status Info	

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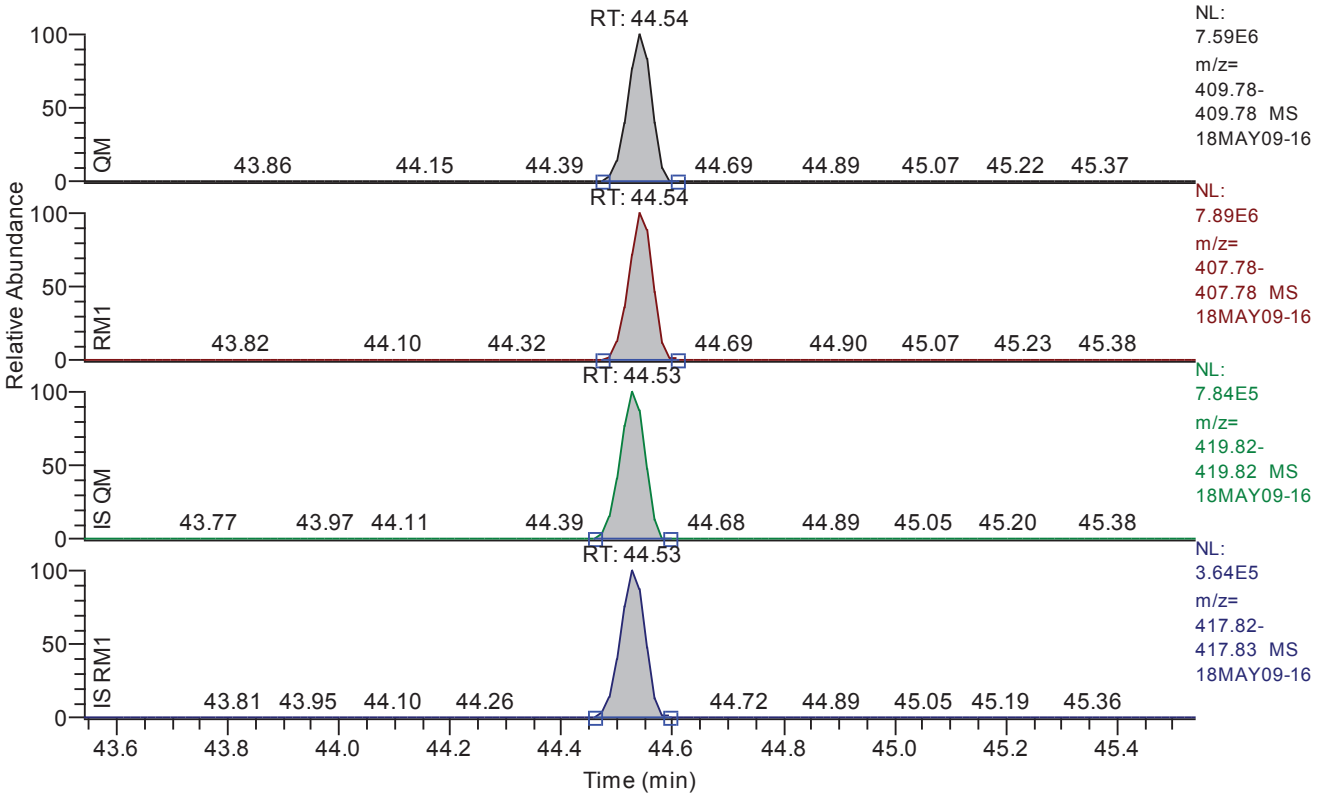
Chromatogram

RT: 43.54 - 45.54 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.54
QM Area	23466792
QM Integration Mode	A
RM1 Area	24601678
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0347
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	74831
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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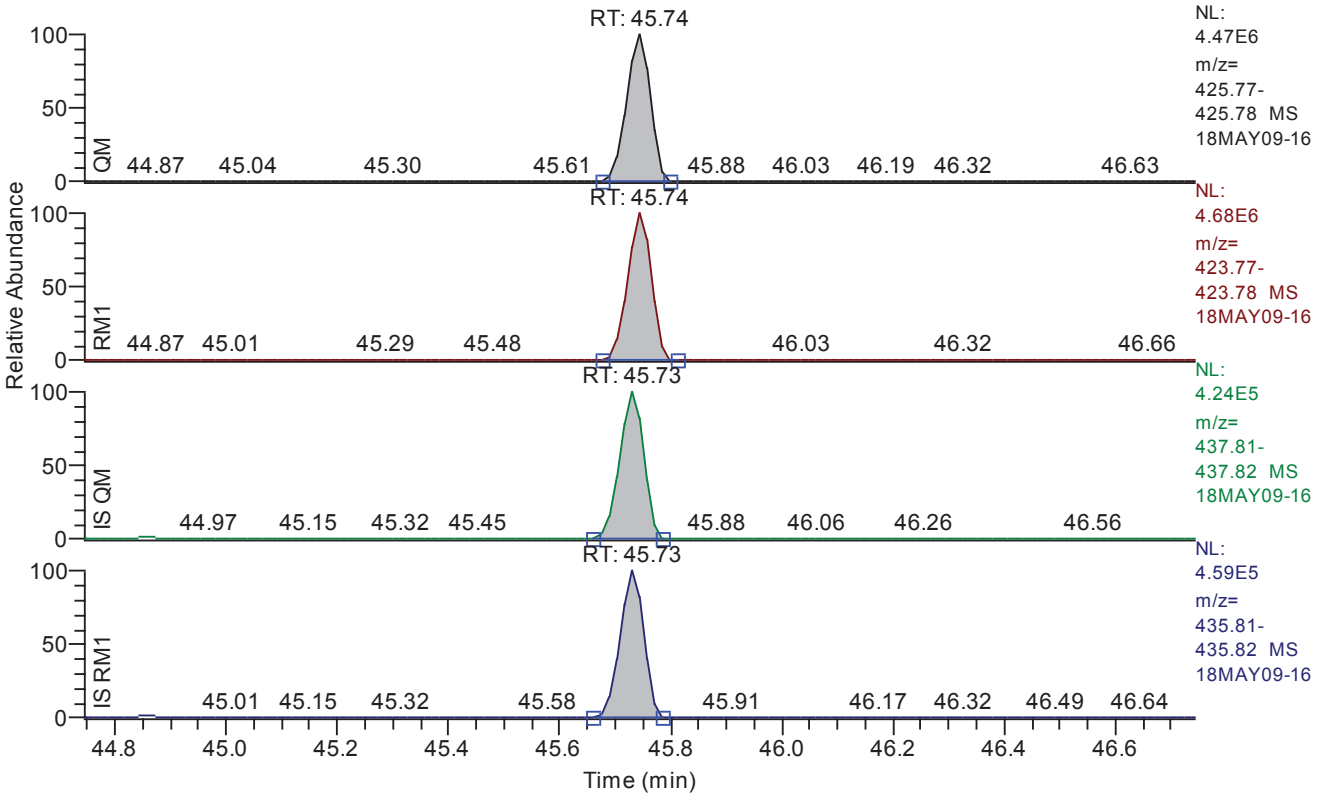
Chromatogram

RT: 44.74 - 46.74 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.74
QM Area	13711008
QM Integration Mode	A
RM1 Area	14400519
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0426
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	58914
Client Flags	
Status Overview	passed
Status Info	

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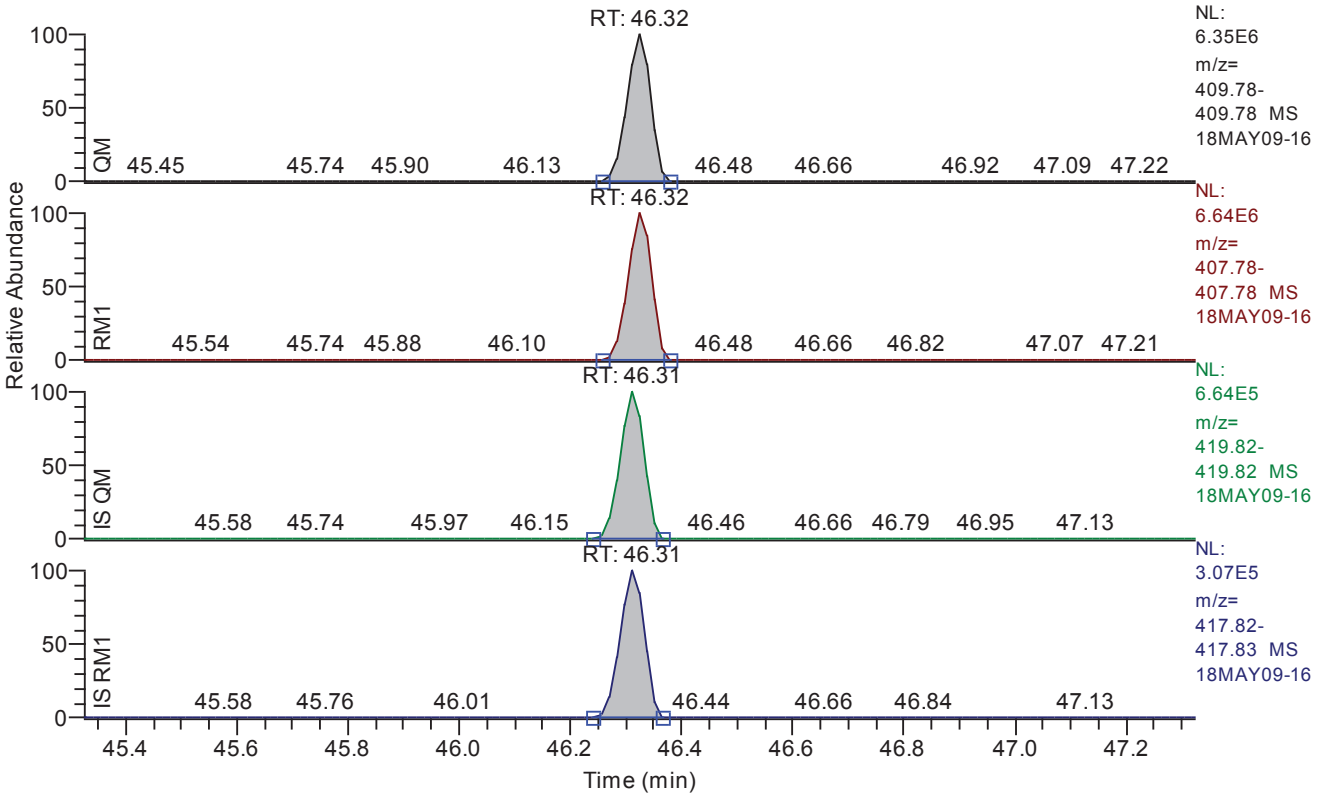
Chromatogram

RT: 45.32 - 47.32 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	46.32
QM Area	19361341
QM Integration Mode	A
RM1 Area	20312255
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0406
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	62795
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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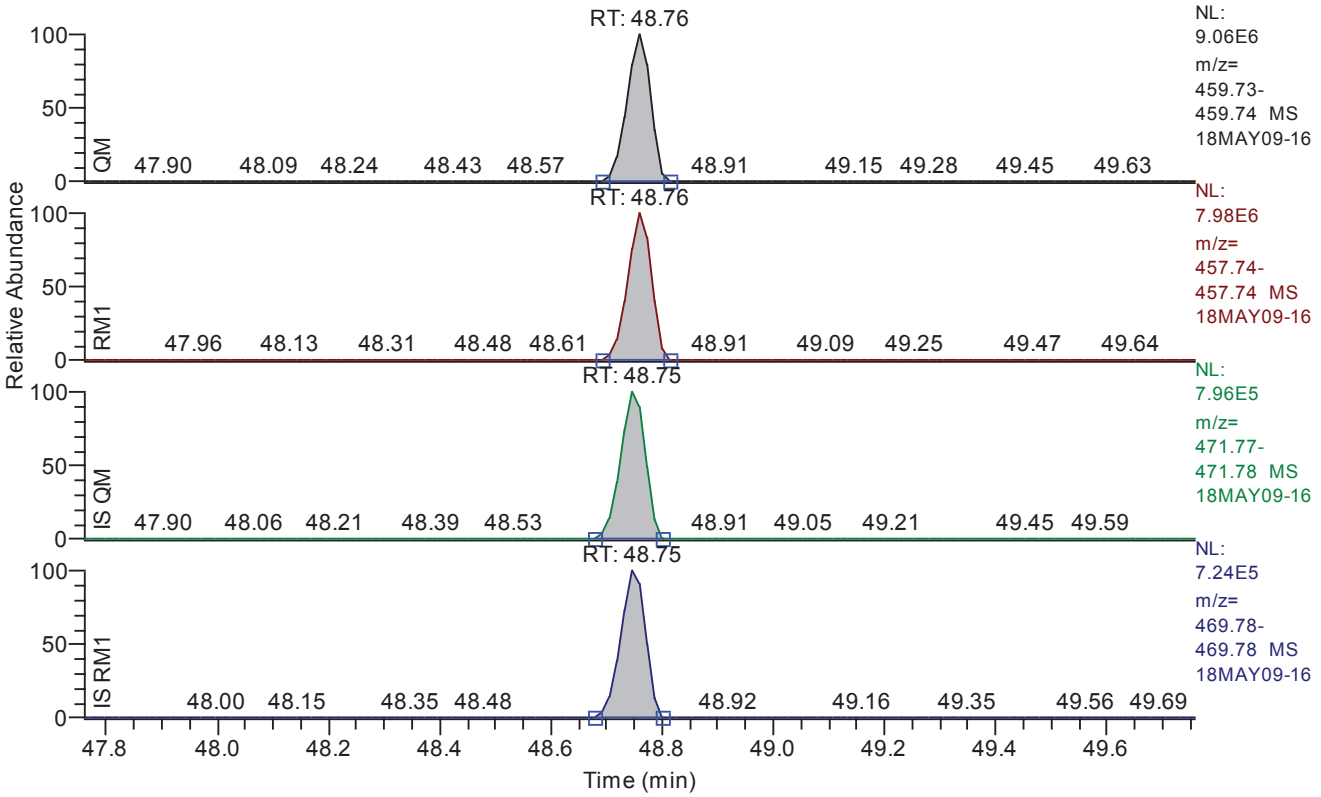
Chromatogram

RT: 47.76 - 49.76 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.76
QM Area	26615834
QM Integration Mode	A
RM1 Area	23678939
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0385
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	136453
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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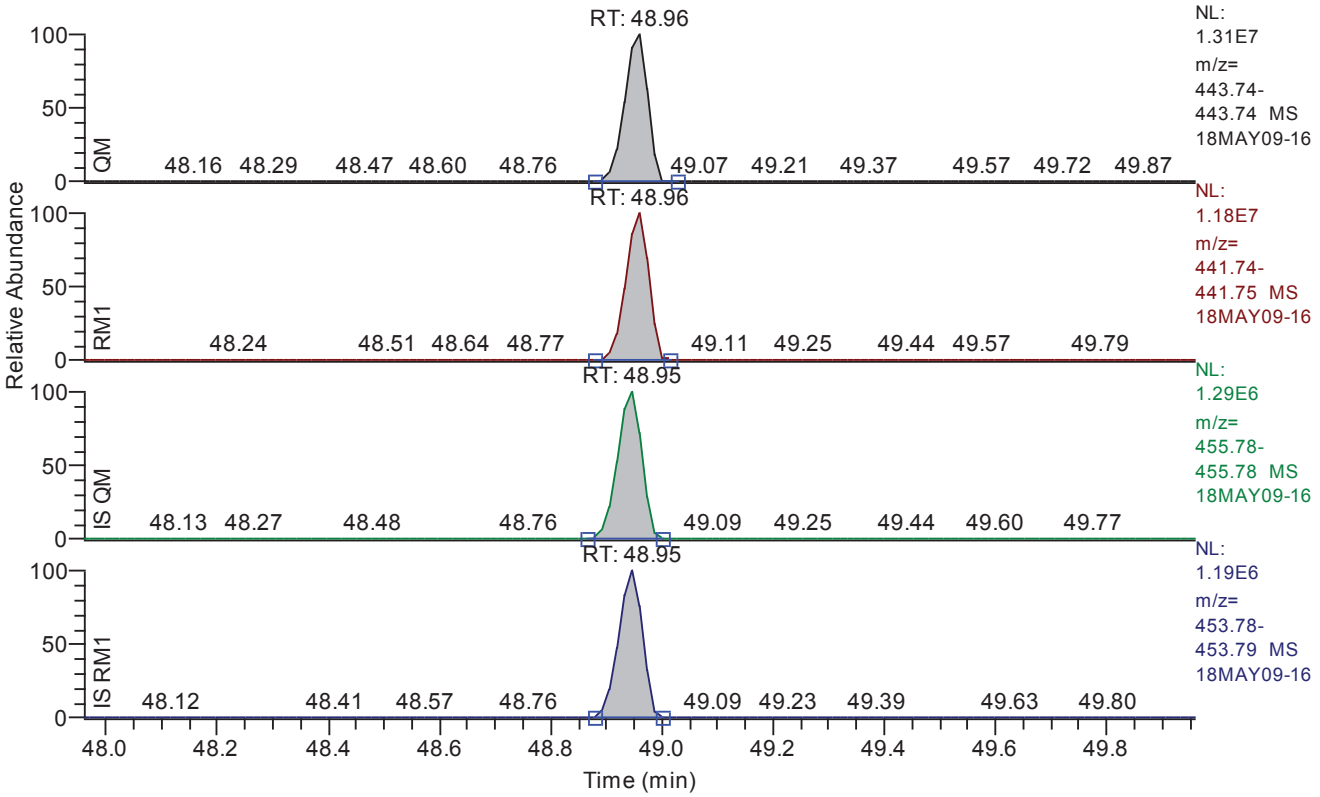
Chromatogram

RT: 47.96 - 49.96 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.96
QM Area	38189817
QM Integration Mode	A
RM1 Area	33848373
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0249
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	208482
Client Flags	
Status Overview	passed
Status Info	

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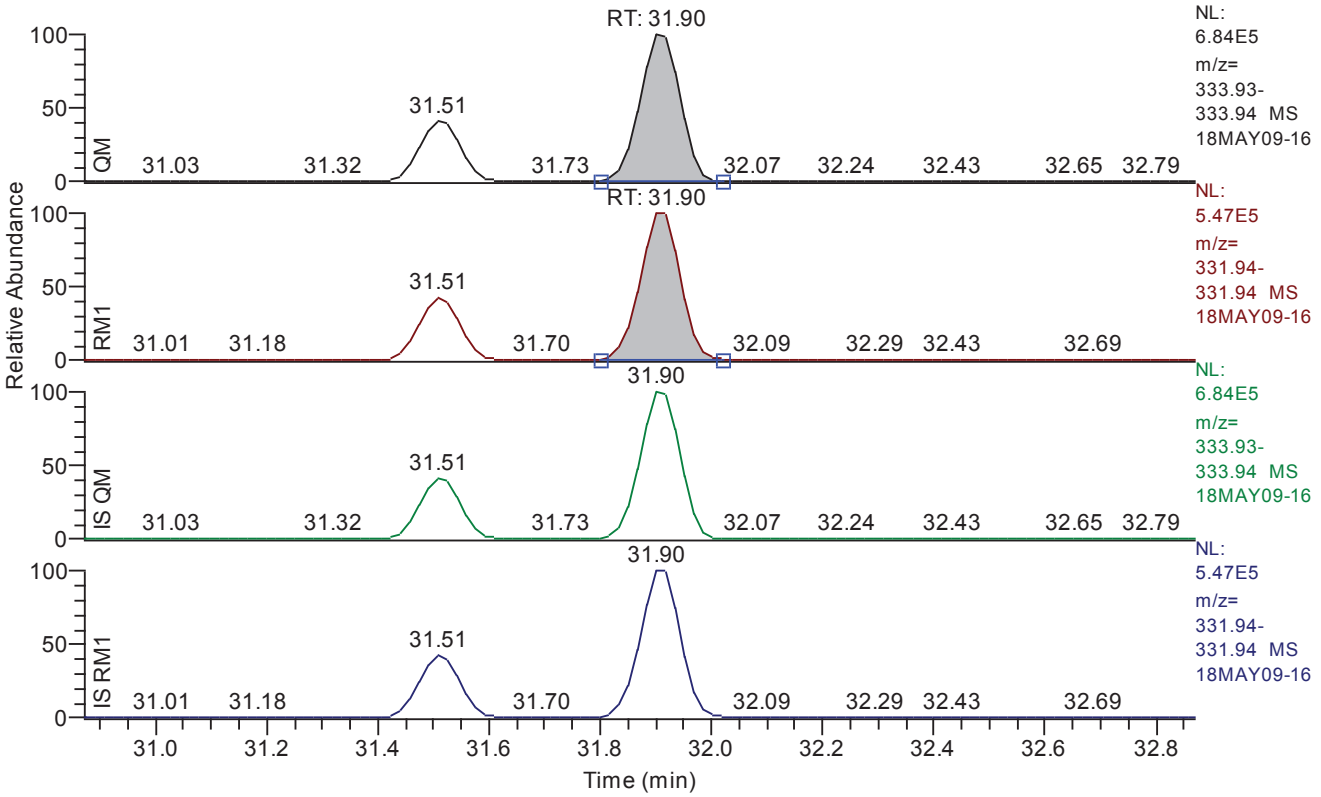
Chromatogram

RT: 30.87 - 32.87 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.90
QM Area	3514625
QM Integration Mode	A
RM1 Area	2802292
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0167
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	31452
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/10 00:19
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837A
Sample ID	CS501
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-16.quan
Data	z:\18may09\18may09-16.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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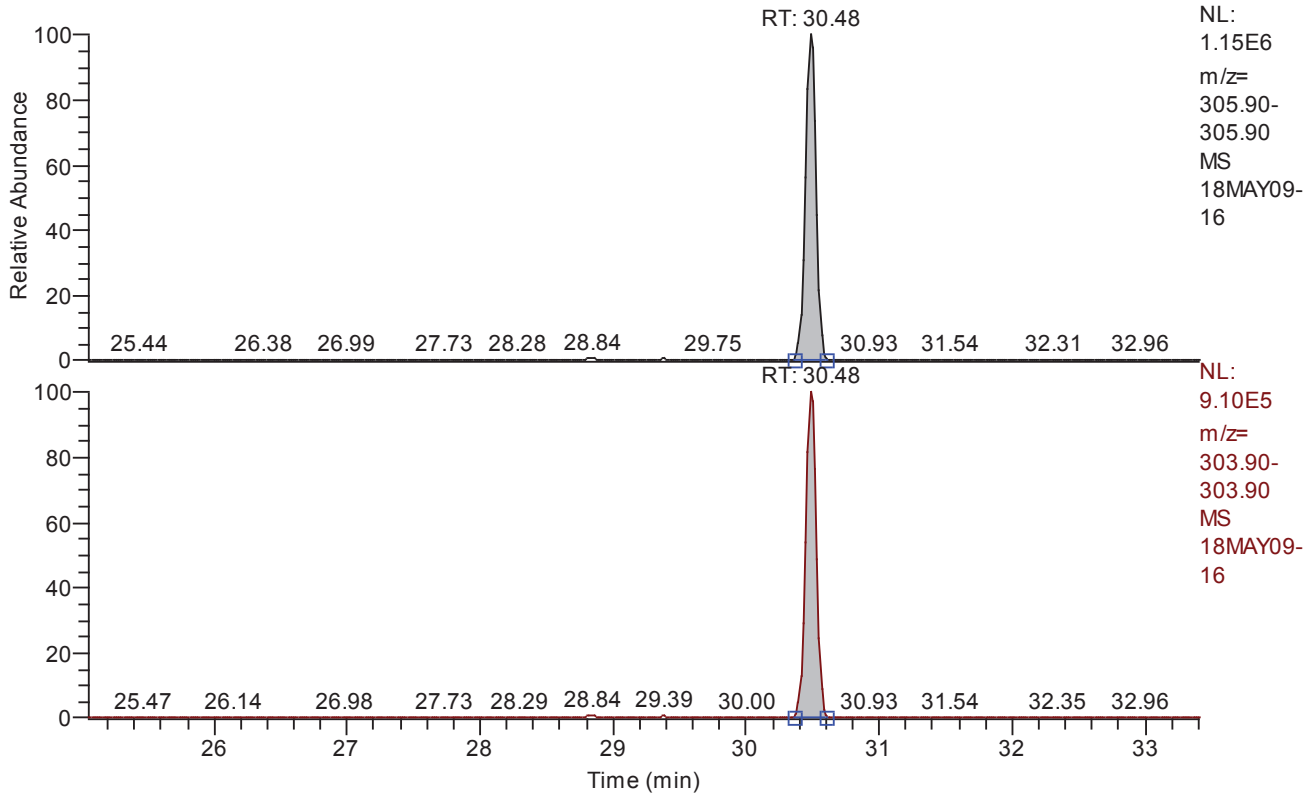
Chromatogram

RT: 25.05 - 33.41 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	29.23
QM Area	6354034
QM Integration Mode	A
RM1 Area	5072394
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	56847
Client Flags	
Status Overview	passed (1)
Status Info	

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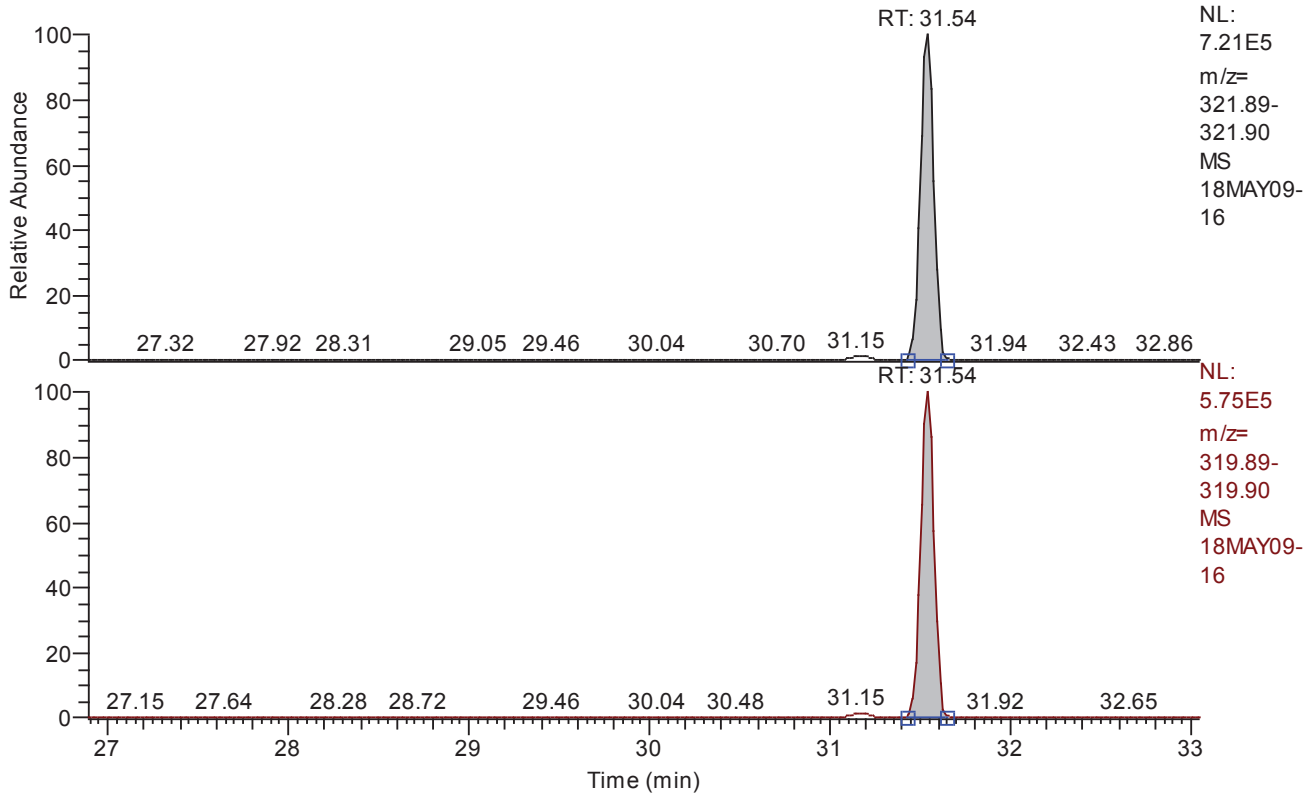
Chromatogram

RT: 26.89 - 33.05 SM: 3G



Entry: total-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	Total TCDD
QM Retention Time	29.97
QM Area	3771189
QM Integration Mode	A
RM1 Area	2985998
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0123
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	40960
Client Flags	
Status Overview	passed (1)
Status Info	

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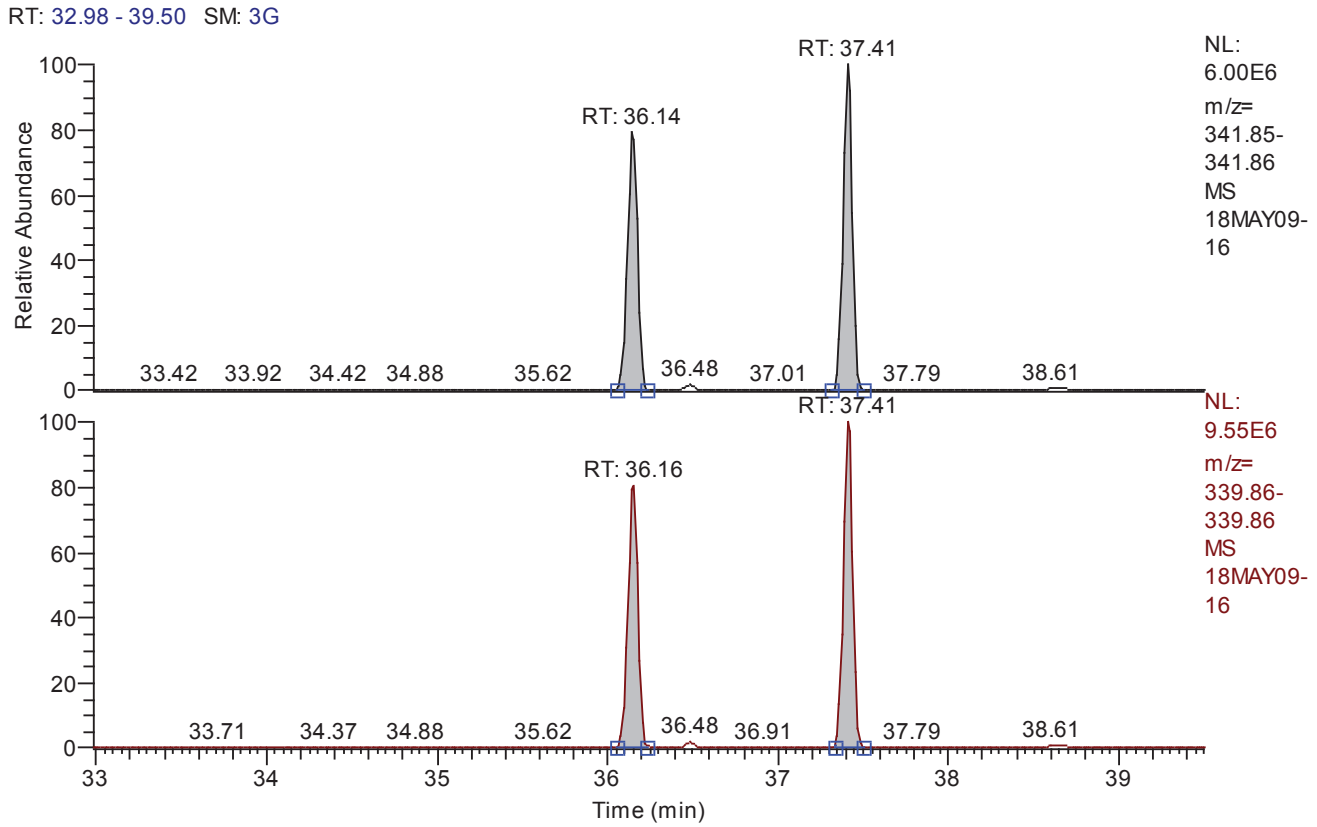
Chromatogram



Entry: total-pecdf IS: 13C12-PeCDF_AVG

Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	36.24
QM Area	42383557
QM Integration Mode	A
RM1 Area	67964197
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	361593
Client Flags	
Status Overview	passed (2)
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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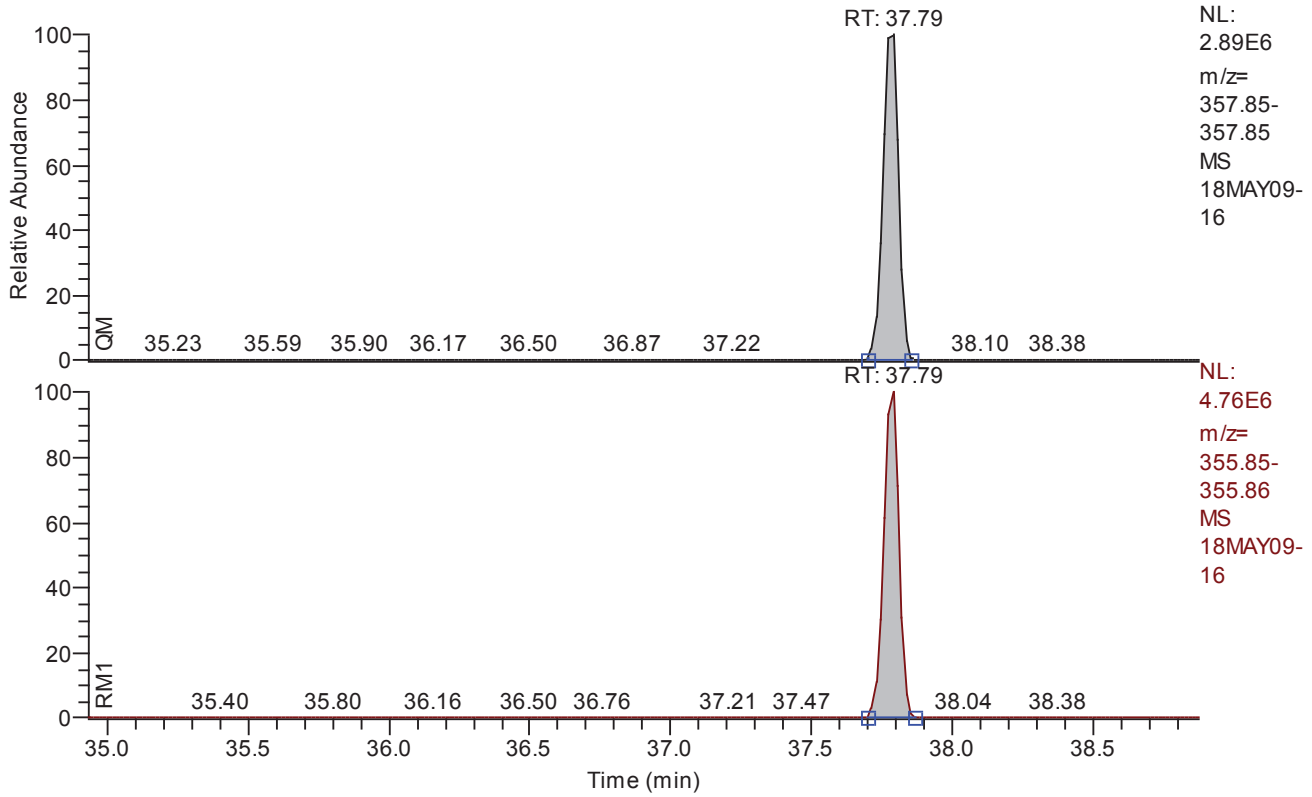
Chromatogram

RT: 34.93 - 38.88 SM: 3G



Entry: total-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	36.90
QM Area	11353271
QM Integration Mode	A
RM1 Area	18081976
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0320
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	79672
Client Flags	
Status Overview	passed (1)
Status Info	

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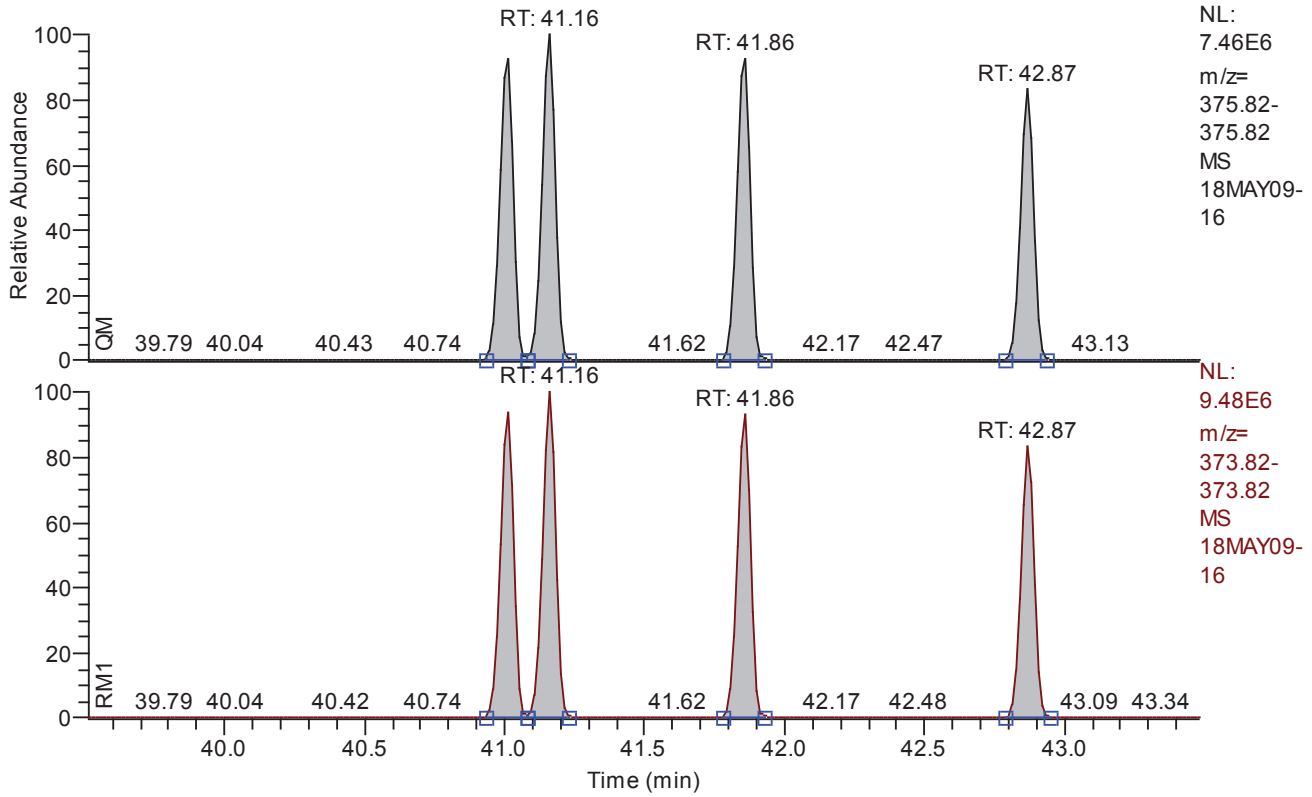
Chromatogram

RT: 39.51 - 43.48 SM: 3G



Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	41.50
QM Area	91474557
QM Integration Mode	A
RM1 Area	115222907
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0337
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	4000.0000
Signal-to-Noise	77609
Client Flags	
Status Overview	passed (4)
Status Info	

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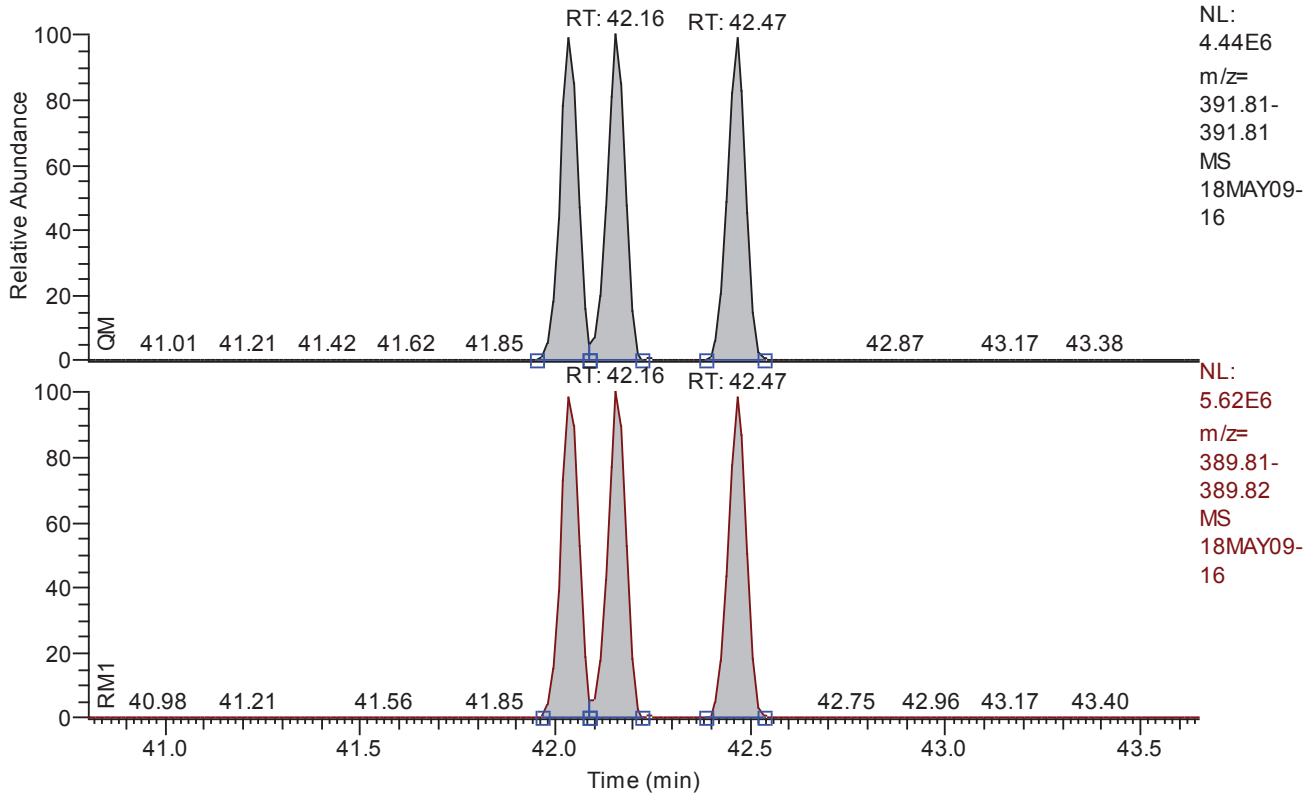
Chromatogram

RT: 40.80 - 43.65 SM: 3G



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	42.23
QM Area	43371760
QM Integration Mode	A
RM1 Area	54802664
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0223
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	3000.0000
Signal-to-Noise	113108
Client Flags	
Status Overview	passed (3)
Status Info	

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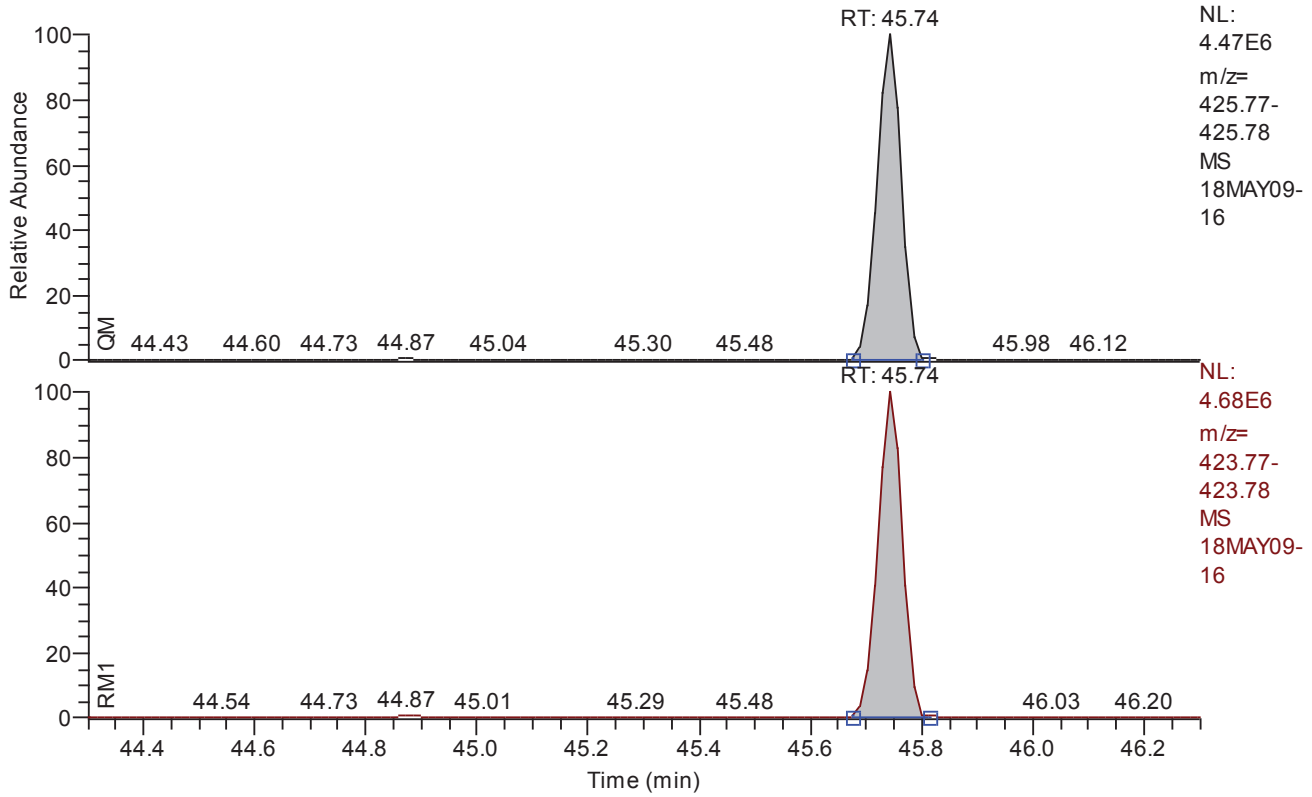
Chromatogram

RT: 44.30 - 46.30 SM: 3G



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	45.30
QM Area	13711008
QM Integration Mode	A
RM1 Area	14400519
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0426
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	58914
Client Flags	
Status Overview	passed (1)
Status Info	

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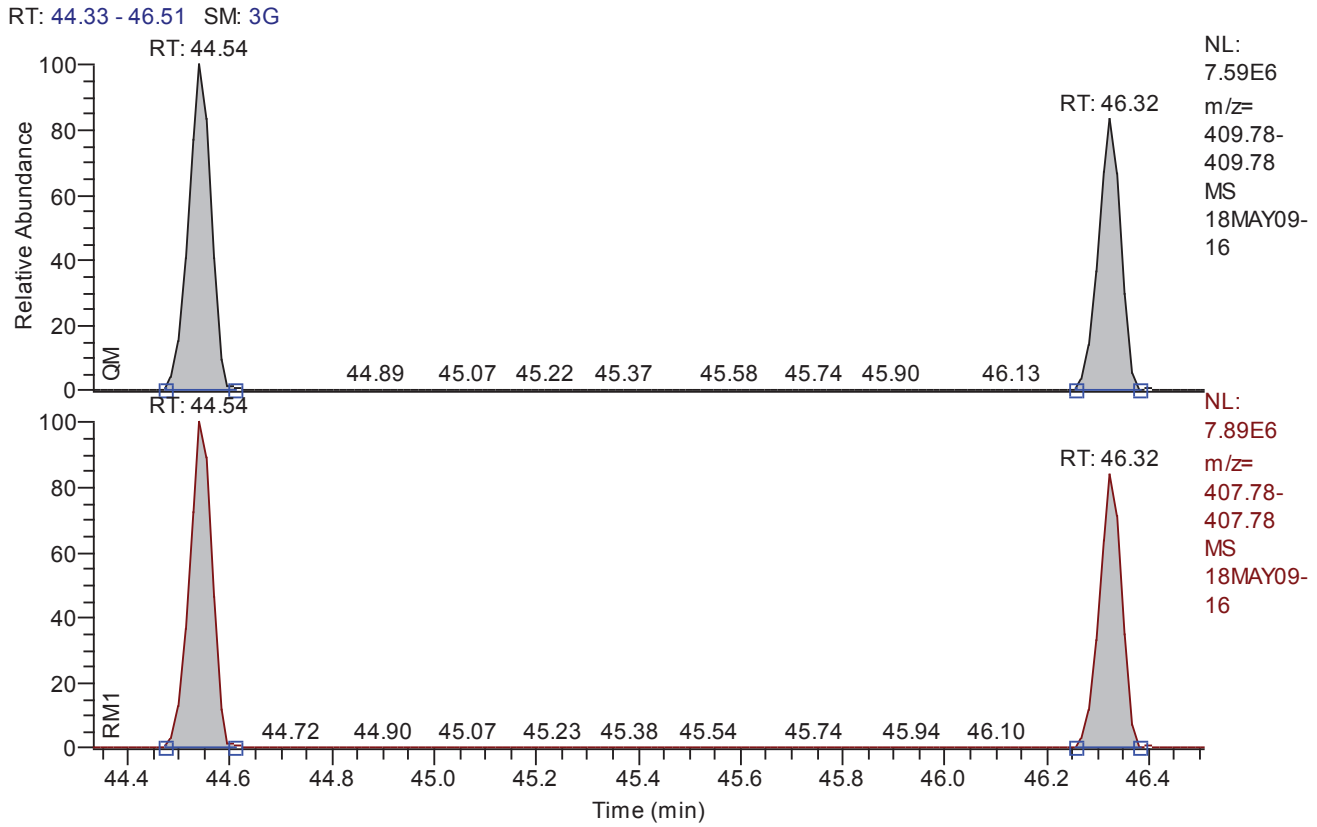
Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	45.42
QM Area	42828133
QM Integration Mode	A
RM1 Area	44913932
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0378
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	68813
Client Flags	
Status Overview	passed (2)
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	30.48	30.48	30.48	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	31.54	31.54	31.54	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.14	36.14	36.16	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.41	37.41	37.41	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.79	37.79	37.79	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.01	41.01	41.01	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.86	41.86	41.86	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.16	42.16	42.16	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.47	42.47	42.47	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.87	42.87	42.87	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.54	44.54	44.54	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.74	45.74	45.74	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.32	46.32	46.32	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.76	48.76	48.76	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.96	48.96	48.96	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	31.90	31.90	31.90	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.70	30.70	30.70	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.89	40.89	40.89	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	30.47	30.47	30.47	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.51	31.51	31.51	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.13	36.13	36.13	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.39	37.39	37.39	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.76	37.76	37.76	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.00	41.00	41.00	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.15	41.15	41.15	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.85	41.85	41.85	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.14	42.14	42.14	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.45	42.45	42.45	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.86	42.86	42.86	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.53	44.53	44.53	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.73	45.73	45.73	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.31	46.31	46.31	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.75	48.75	48.75	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.95	48.95	48.95	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.23	29.23	29.23	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	29.97	29.97	29.97	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.24	36.24	36.24	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	36.90	36.90	36.90	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.50	41.50	41.50	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.23	42.23	42.23	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.30	45.30	45.30	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	45.42	45.42	45.42	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	30.48	30.48	30.48	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	31.54	31.54	31.54	passed	passed
48	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	37.41	37.41	37.41	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.14	36.14	36.16	passed	passed
50	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.59	37.79	37.79	37.79	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.74	45.74	45.74	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.16	41.16	41.16	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.01	41.01	41.01	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	41.86	41.86	41.86	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.61	42.87	42.87	42.87	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.16	42.16	42.16	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.03	42.03	42.03	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	42.47	42.47	42.47	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	44.54	44.54	44.54	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.98	46.32	46.32	46.32	passed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	30.48	0.7983	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	31.54	0.7918	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	36.14	1.5986	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	37.41	1.6079	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.79	1.5927	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	41.01	1.2612	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	41.16	1.2615	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.86	1.2535	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	42.03	1.2600	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	42.16	1.2699	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	42.47	1.2607	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.87	1.2625	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	44.54	1.0484	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.74	1.0503	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	46.32	1.0491	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.76	0.8897	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.96	0.8863	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.90	0.7973	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	30.70	0.7971	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.89	1.2948	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	30.47	0.8128	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	31.51	0.8084	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	36.13	1.5999	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	37.39	1.5895	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.76	1.6254	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	41.00	0.5396	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	41.15	0.5376	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.85	0.5344	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	42.02	1.2801	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	42.14	1.2664	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	42.45	1.2894	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.86	0.5318	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	44.53	0.4638	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.73	1.0725	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	46.31	0.4693	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.75	0.9122	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.95	0.9094	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	29.23	0.7983	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	29.97	0.7918	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	36.24	1.6036	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	36.90	1.5927	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	41.50	1.2596	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	42.23	1.2636	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	45.30	1.0503	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	45.42	1.0487	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	30.48	0.7983	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	31.54	0.7918	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDF	37.41	1.6079	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.14	1.5986	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDD	37.79	1.5927	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.74	1.0503	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.16	1.2615	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	41.01	1.2612	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.86	1.2535	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.87	1.2625	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	42.16	1.2699	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	42.03	1.2600	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	42.47	1.2607	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	44.54	1.0484	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	46.32	1.0491	0.8750 - 1.2050	passed	100.00	0 - 0	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	30.48	6354034	A	5072394	A	0.0087	200.000000	200.0000	200.000000	56847	
2	2378-TCDD	passed	31.54	3771189	A	2985998	A	0.0123	200.000000	200.0000	200.000000	40960	
3	12378-PeCDF	passed	36.14	19838934	A	31713701	A	0.0077	1000.000000	1000.0000	1000.000000	321622	
4	23478-PeCDF	passed	37.41	22544623	A	36250496	A	0.0064	1000.000000	1000.0000	1000.000000	401563	
5	12378-PeCDD	passed	37.79	11353271	A	18081976	A	0.0320	1000.000000	1000.0000	1000.000000	79672	
6	123478-HxCDF	passed	41.01	23373379	A	29477585	A	0.0339	1000.000000	1000.0000	1000.000000	78267	
7	123678-HxCDF	passed	41.16	24458037	A	30854459	A	0.0310	1000.000000	1000.0000	1000.000000	83836	
8	234678-HxCDF	passed	41.86	23139571	A	29004814	A	0.0338	1000.000000	1000.0000	1000.000000	78186	
9	123478-HxCDD	passed	42.03	14252834	A	17958215	A	0.0227	1000.000000	1000.0000	1000.000000	112493	
10	123678-HxCDD	passed	42.16	14623537	A	18570030	A	0.0222	1000.000000	1000.0000	1000.000000	114035	
11	123789-HxCDD	passed	42.47	14495389	A	18274419	A	0.0220	1000.000000	1000.0000	1000.000000	112795	
12	123789-HxCDF	passed	42.87	20503571	A	25886049	A	0.0361	1000.000000	1000.0000	1000.000000	70149	
13	1234678-HpCDF	passed	44.54	23466792	A	24601678	A	0.0347	1000.000000	1000.0000	1000.000000	74831	
14	1234678-HpCDD	passed	45.74	13711008	A	14400519	A	0.0426	1000.000000	1000.0000	1000.000000	58914	
15	1234789-HpCDF	passed	46.32	19361341	A	20312255	A	0.0406	1000.000000	1000.0000	1000.000000	62795	
16	OCDD	passed	48.76	26615834	A	23678939	A	0.0385	2000.000000	2000.0000	2000.000000	136453	
17	OCDF	passed	48.96	38189817	A	33848373	A	0.0249	2000.000000	2000.0000	2000.000000	208482	
18	13C12-1278-TCDD (CRS)	passed	31.90	3514625	A	2802292	A	0.0167	200.000000	200.0000	200.000000	31452	
19	13C12-1234-TCDD	passed	30.70	1569245	A	1250837	A	0.0187	100.000000	100.0000	100.000000	13345	
20	13C12-123468-HxCDD	passed	40.89	1302287	A	1686233	A	0.0137	100.000000	100.0000	100.000000	18275	
21	13C12-2378-TCDF	passed	30.47	2999007	A	2437564	A	0.0076	100.000000	100.0000	100.000000	32557	
22	13C12-2378-TCDD	passed	31.51	1507286	A	1218517	A	0.0194	100.000000	100.0000	100.000000	13218	
23	13C12-12378-PeCDF	passed	36.13	2020023	A	3231806	A	0.0212	100.000000	100.0000	100.000000	15444	
24	13C12-23478-PeCDF	passed	37.39	2052273	A	3262074	A	0.0210	100.000000	100.0000	100.000000	16610	
25	13C12-12378-PeCDD	passed	37.76	1087955	A	1768364	A	0.0136	100.000000	100.0000	100.000000	25259	
26	13C12-123478-HxCDF	passed	41.00	2846842	A	1536257	A	0.0146	100.000000	100.0000	100.000000	16237	
27	13C12-123678-HxCDF	passed	41.15	3090084	A	1661209	A	0.0134	100.000000	100.0000	100.000000	18377	
28	13C12-234678-HxCDF	passed	41.85	2757225	A	1473409	A	0.0151	100.000000	100.0000	100.000000	15957	
29	13C12-123478-HxCDD	passed	42.02	1362921	A	1744682	A	0.0132	100.000000	100.0000	100.000000	19271	
30	13C12-123678-HxCDD	passed	42.14	1430209	A	1811199	A	0.0126	100.000000	100.0000	100.000000	19891	
31	13C12-123789-HxCDD	passed	42.45	1315881	A	1696706	A	0.0136	100.000000	100.0000	100.000000	18889	
32	13C12-123789-HxCDF	passed	42.86	2686154	A	1428509	A	0.0155	100.000000	100.0000	100.000000	16289	
33	13C12-1234678-HpCDF	passed	44.53	2529279	A	1173012	A	0.0174	100.000000	100.0000	100.000000	14942	
34	13C12-1234678-HpCDD	passed	45.73	1316210	A	1411581	A	0.0158	100.000000	100.0000	100.000000	17185	
35	13C12-1234789-HpCDF	passed	46.31	2062458	A	967924	A	0.0213	100.000000	100.0000	100.000000	12649	
36	13C12-OCDD	passed	48.75	2466928	A	2250309	A	0.0175	200.000000	200.0000	200.000000	30857	
37	13C12-OCDF	passed	48.95	3888560	A	3536080	A	0.0100	200.000000	200.0000	200.000000	55743	
38	Total TCDF	passed (1)	29.23	6354034	A	5072394	A	0.0087	200.000000	200.0000	200.000000	56847	
39	Total TCDD	passed (1)	29.97	3771189	A	2985998	A	0.0123	200.000000	200.0000	200.000000	40960	
40	Total PeCDF	passed (2)	36.24	42383557	A	67964197	A	0.0070	1000.000000	2000.0000	1000.000000	361593	
41	Total PeCDD	passed (1)	36.90	11353271	A	18081976	A	0.0320	1000.000000	1000.0000	1000.000000	79672	
42	Total HxCDF	passed (4)	41.50	91474557	A	115222907	A	0.0337	1000.000000	4000.0000	1000.000000	77609	
43	Total HxCDD	passed (3)	42.23	43371760	A	54802664	A	0.0223	1000.000000	3000.0000	1000.000000	113108	
44	Total HpCDD	passed (1)	45.30	13711008	A	14400519	A	0.0426	1000.000000	1000.0000	1000.000000	58914	
45	Total HpCDF	passed (2)	45.42	42828133	A	44913932	A	0.0378	1000.000000	2000.0000	1000.000000	68813	
46	Single TCDF	passed	30.48	6354034	A	5072394	A	0.0087	200.000000	200.0000	200.000000	56847	
47	Single TCDD	passed	31.54	3771189	A	2985998	A	0.0123	200.000000	200.0000	200.000000	40960	
48	Single PeCDF	passed	37.41	22544623	A	36250496	A	0.0066	1000.000000	1000.0000	1000.000000	401563	
49	Single PeCDF	passed	36.14	19838934	A	31713701	A	0.0075	1000.000000	1000.0000	1000.000000	321622	
50	Single PeCDD	passed	37.79	11353271	A	18081976	A	0.0320	1000.000000	1000.0000	1000.000000	79672	
51	Single HpCDD	passed	45.74	13711008	A	14400519	A	0.0426	1000.000000	1000.0000	1000.000000	58914	
52	Single HxCDF	passed	41.16	24458037	A	30854459	A	0.0314	1000.000000	1000.0000	1000.000000	83836	
53	Single HxCDF	passed	41.01	23373379	A	29477585	A	0.0328	1000.000000	1000.0000	1000.000000	78267	
54	Single HxCDF	passed	41.86	23139571	A	29004814	A	0.0333	1000.000000	1000.0000	1000.000000	78186	
55	Single HxCDF	passed	42.87	20503571	A	25886049	A	0.0374	1000.000000	1000.0000	1000.000000	70149	
56	Single HxCDD	passed	42.16	14623537	A	18570030	A	0.0220	1000.000000	1000.0000	1000.000000	114035	
57	Single HxCDD	passed	42.03	14252834	A	17958215	A	0.0227	1000.000000	1000.0000	1000.000000	112493	
58	Single HxCDD	passed	42.47	14495389	A	18274419	A	0.0223	1000.000000	1000.0000	1000.000000	112795	
59	Single HpCDF	passed	44.54	23466792	A	24601678	A	0.0342	1000.000000	1000.0000	1000.000000	74831	
60	Single HpCDF	passed	46.32	19361341	A	20312255	A	0.0414	1000.000000	1000.0000	1000.000000	62795	

APPROVED
By uma9 at 3:11 pm, 5/10/18

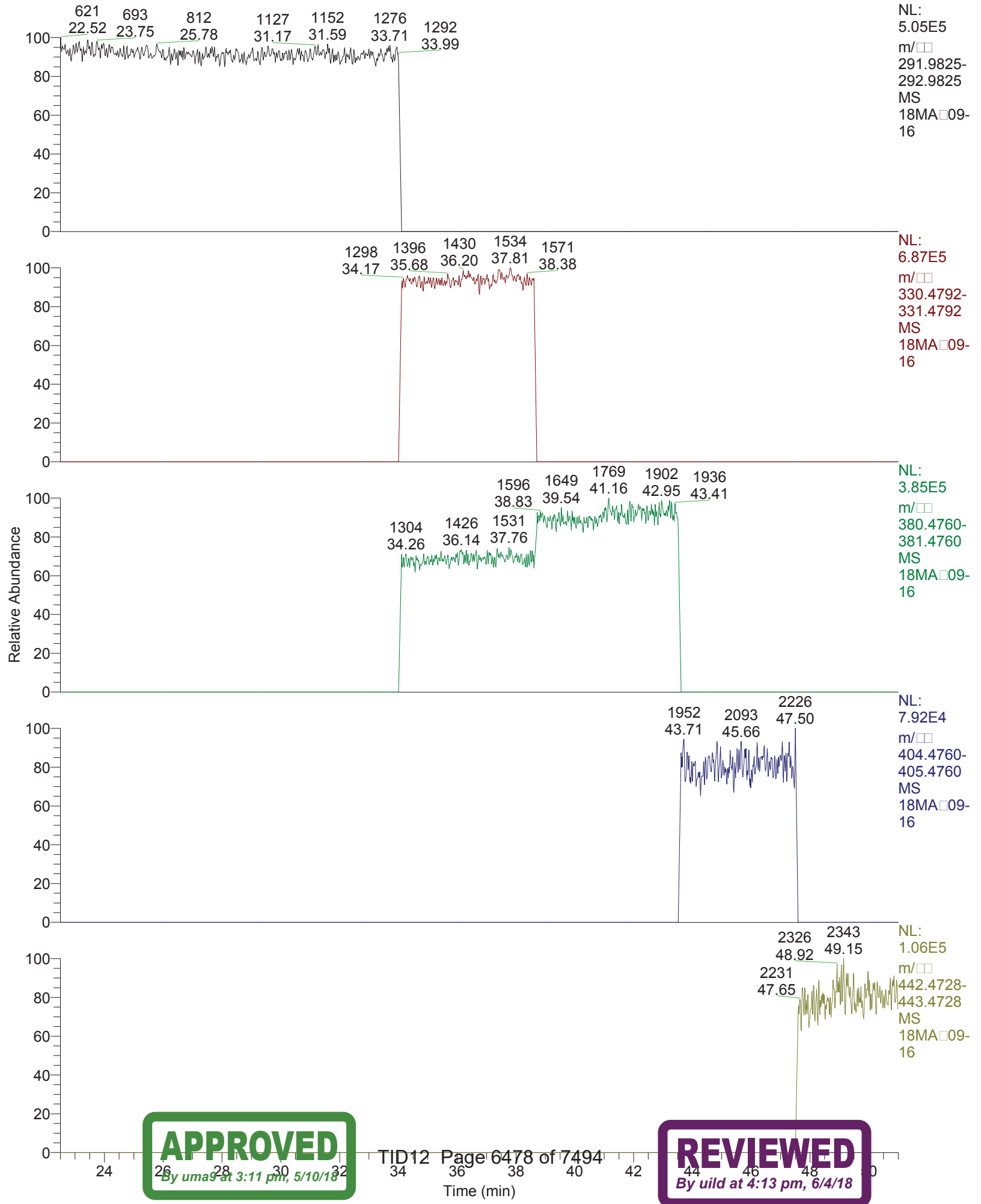
REVIEWED
By uild at 4:13 pm, 6/4/18

File Name: □:□18MA□09□18MA□09-16
Sample ID: CS501

Acq. Data: 5/10/2018 12:19:37 AM
Sample Name: CALDF61837A
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By umas at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:13 pm, 6/4/18

*** file opened Thu May 10 00:25:08 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 10-May-18 00:25:07

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

```
MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          94.0000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0168   FVINLET         0.0354   FVSRC           0.0309
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           94.0000   LKM           442.9723   MASS           94.0000
 MDAC        1439298.3323  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2507.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9695   RELEN           0.0000
 RES          12514.8081   RPUSHER       -20.1245   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.0000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.3e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11212.
MID Time Window 2: Resolution is 11320.
MID Time Window 3: Resolution is 11711.
MID Time Window 4: Resolution is 11369.
```

```
MID Time Window 5: Resolution is 12532.
MID Time Window 6: Resolution is 12514.

Amplifier Offset: 84.


*** File closed Thu May 10 01:16:09 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/10 02:13
Number of Entries	284
Comment	
Vial	9
Sample Name	SSDFX1837B
Sample ID	ICV
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-18.quan
Data	z:\18may09\18may09-18.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	30.50	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	31.54	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.16	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.42	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.79	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.01	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.16	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.86	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.03	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.15	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.87	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.54	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.74	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.32	passed	passed	passed	passed	passed	passed	
16	OCDD	48.76	passed	passed	passed	passed	passed	passed	
17	OCDF	48.96	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.92	failed	passed	passed	passed	failed	passed	Failed on: RecovA
19	13C12-1234-TCDD	30.70	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.89	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.46	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.52	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.13	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.39	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.78	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	41.00	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.14	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.84	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.02	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.14	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.45	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.86	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.53	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.73	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.31	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.74	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.94	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.24	passed (9)	---	---	---	---	---	
39	Total TCDD	30.03	passed (3)	---	---	---	---	---	
40	Total PeCDF	35.66	passed (13)	---	---	---	---	---	
41	Total PeCDD	36.61	passed (3)	---	---	---	---	---	
42	Total HxCDF	41.20	passed (10)	---	---	---	---	---	
43	Total HxCDD	41.48	passed (7)	---	---	---	---	---	
44	Total HpCDD	45.32	passed (2)	---	---	---	---	---	
45	Total HpCDF	45.42	passed (3)	---	---	---	---	---	
46	Single TCDF	30.50	passed	passed	passed	passed	passed	passed	
47	Single TCDF	25.52	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
48	Single TCDF	25.75	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
49	Single TCDF	26.99	passed	passed	passed	passed	passed	passed	
50	Single TCDF	28.43	passed	passed	passed	passed	passed	passed	
51	Single TCDF	28.74	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
52	Single TCDF	28.82	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
53	Single TCDF	29.39	passed	passed	passed	passed	passed	passed	
54	Single TCDF	30.16	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
55	Single TCDF	30.60	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
56	Single TCDF	30.94	passed	passed	passed	passed	passed	passed	
57	Single TCDF	31.17	failed	passed	failed	passed	passed	passed	Failed on: RM1Time2 > max
58	Single TCDF	31.27	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
59	Single TCDF	31.42	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
60	Single TCDF	31.54	passed	passed	passed	passed	passed	passed	
61	Single TCDF	31.63	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
62	Single TCDF	31.70	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
63	Single TCDF	32.57	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
64	Single TCDF	32.94	passed	passed	passed	passed	passed	passed	
65	Single TCDD	31.54	passed	passed	passed	passed	passed	passed	
66	Single TCDD	27.76	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
67	Single TCDD	28.79	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
68	Single TCDD	29.30	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
69	Single TCDD	29.49	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
70	Single TCDD	29.59	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
71	Single TCDD	30.05	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
72	Single TCDD	30.46	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
73	Single TCDD	31.13	passed	passed	passed	passed	passed	passed	
74	Single TCDD	31.66	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
75	Single TCDD	31.75	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
76	Single TCDD	31.80	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
77	Single TCDD	31.90	failed	passed	failed	failed	passed	passed	Failed on: Ratio1A RM1Time < min

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
78	Single TCDD	31.95	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
79	Single PeCDD	37.79	passed	passed	passed	passed	passed	passed	
80	Single PeCDD	36.16	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
81	Single PeCDD	36.39	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
82	Single PeCDD	36.50	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
83	Single PeCDD	36.62	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
84	Single PeCDD	37.22	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
85	Single PeCDD	37.30	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
86	Single PeCDD	37.39	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
87	Single PeCDD	37.96	passed	passed	passed	passed	passed	passed	
88	Single PeCDD	38.22	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
89	Single PeCDD	38.28	passed	passed	passed	passed	passed	passed	
90	Single PeCDD	38.35	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
91	Single PeCDF	37.42	passed	passed	passed	passed	passed	passed	
92	Single PeCDF	33.58	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
93	Single PeCDF	34.00	passed	passed	passed	passed	passed	passed	
94	Single PeCDF	34.40	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
95	Single PeCDF	34.65	passed	passed	passed	passed	passed	passed	
96	Single PeCDF	34.86	passed	passed	passed	passed	passed	passed	
97	Single PeCDF	35.09	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
98	Single PeCDF	35.31	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
99	Single PeCDF	35.62	passed	passed	passed	passed	passed	passed	
100	Single PeCDF	35.71	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
101	Single PeCDF	35.90	passed	passed	passed	passed	passed	passed	
102	Single PeCDF	36.16	passed	passed	passed	passed	passed	passed	
103	Single PeCDF	36.33	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
104	Single PeCDF	36.48	passed	passed	passed	passed	passed	passed	
105	Single PeCDF	36.68	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
106	Single PeCDF	36.79	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
107	Single PeCDF	36.97	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
108	Single PeCDF	37.05	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
109	Single PeCDF	37.28	passed	passed	passed	passed	passed	passed	
110	Single PeCDF	37.70	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
111	Single PeCDF	37.79	passed	passed	passed	passed	passed	passed	
112	Single PeCDF	37.96	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
113	Single PeCDF	38.08	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
114	Single PeCDF	38.21	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
115	Single PeCDF	38.28	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
116	Single PeCDF	38.41	passed	passed	passed	passed	passed	passed	
117	Single PeCDF	38.47	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
118	Single PeCDF	38.61	passed	passed	passed	passed	passed	passed	
119	Single HpCDD	45.74	passed	passed	passed	passed	passed	passed	
120	Single HpCDD	44.87	passed	passed	passed	passed	passed	passed	
121	Single HpCDD	45.80	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
122	Single HxCDF	41.16	passed	passed	passed	passed	passed	passed	
123	Single HxCDF	39.47	passed	passed	passed	passed	passed	passed	
124	Single HxCDF	39.69	passed	passed	passed	passed	passed	passed	
125	Single HxCDF	40.87	passed	passed	passed	passed	passed	passed	
126	Single HxCDF	41.01	passed	passed	passed	passed	passed	passed	
127	Single HxCDF	41.29	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
128	Single HxCDF	41.35	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
129	Single HxCDF	41.49	passed	passed	passed	passed	passed	passed	
130	Single HxCDF	41.58	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
131	Single HxCDF	41.64	passed	passed	passed	passed	passed	passed	
132	Single HxCDF	41.86	passed	passed	passed	passed	passed	passed	
133	Single HxCDF	42.17	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
134	Single HxCDF	42.33	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
135	Single HxCDF	42.56	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
136	Single HxCDF	42.87	passed	passed	passed	passed	passed	passed	
137	Single HxCDD	42.15	passed	passed	passed	passed	passed	passed	
138	Single HxCDD	40.92	passed	passed	passed	passed	passed	passed	
139	Single HxCDD	41.00	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
140	Single HxCDD	41.14	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
141	Single HxCDD	41.23	passed	passed	passed	passed	passed	passed	
142	Single HxCDD	41.84	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
143	Single HxCDD	42.03	passed	passed	passed	passed	passed	passed	
144	Single HxCDD	42.46	passed	passed	passed	passed	passed	passed	
145	Single HxCDD	42.61	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
146	Single HxCDD	42.64	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
147	Single HpCDF	44.54	passed	passed	passed	passed	passed	passed	
148	Single HpCDF	44.69	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
149	Single HpCDF	44.90	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
150	Single HpCDF	45.08	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
151	Single HpCDF	45.22	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
152	Single HpCDF	45.31	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
153	Single HpCDF	45.37	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
154	Single HpCDF	45.76	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A

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No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
155	Single HpCDF	45.87	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
156	Single HpCDF	46.32	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/05/10 02:13
Number of Entries	284
Comment	
Vial	9
Sample Name	SSDFX1837B
Sample ID	ICV
Inst ID	DF19780-18MAY09
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18may09\18may09-18.quan
Data	z:\18may09\18may09-18.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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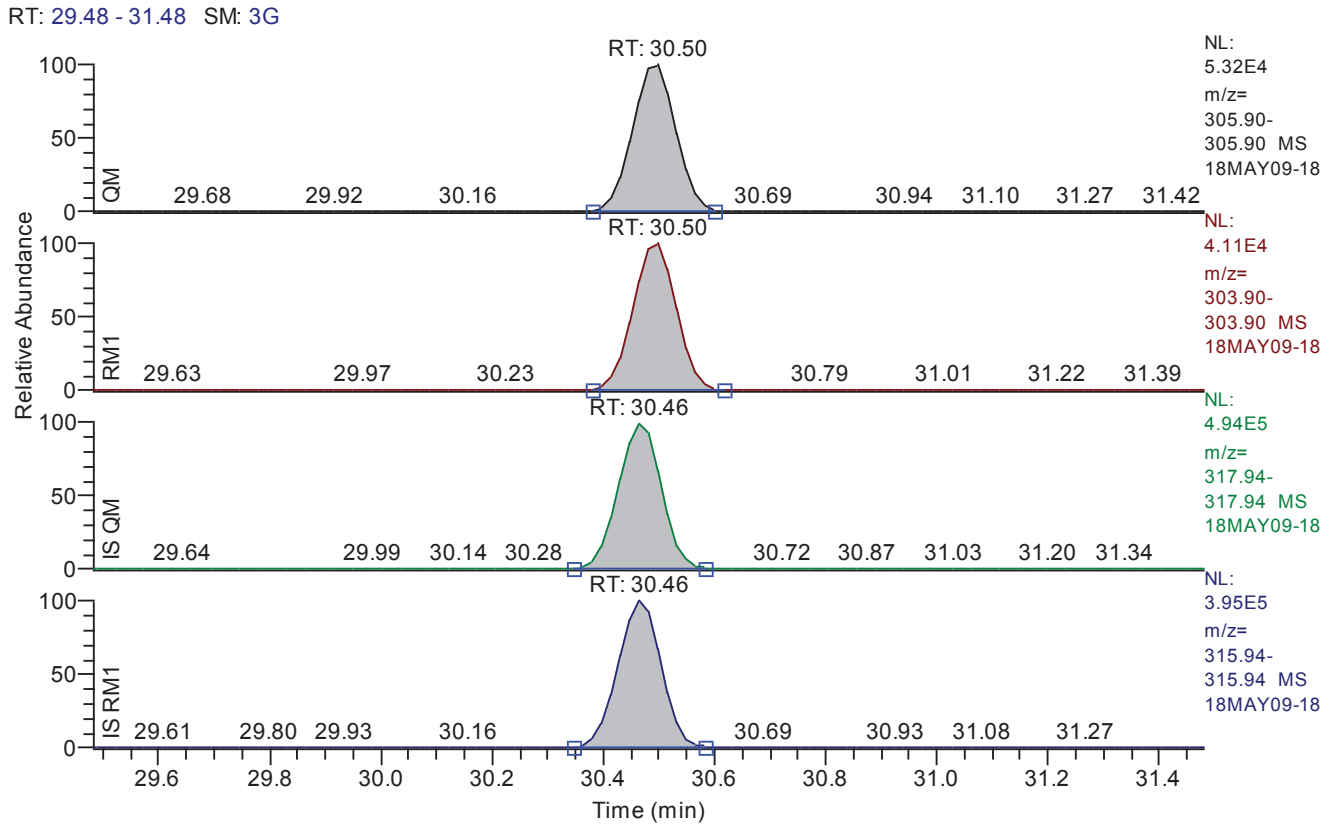
Chromatogram



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	30.50
QM Area	293963
QM Integration Mode	A
RM1 Area	226277
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	9.679247
Adjusted Amount (A)	9.6792
Signal-to-Noise	5547
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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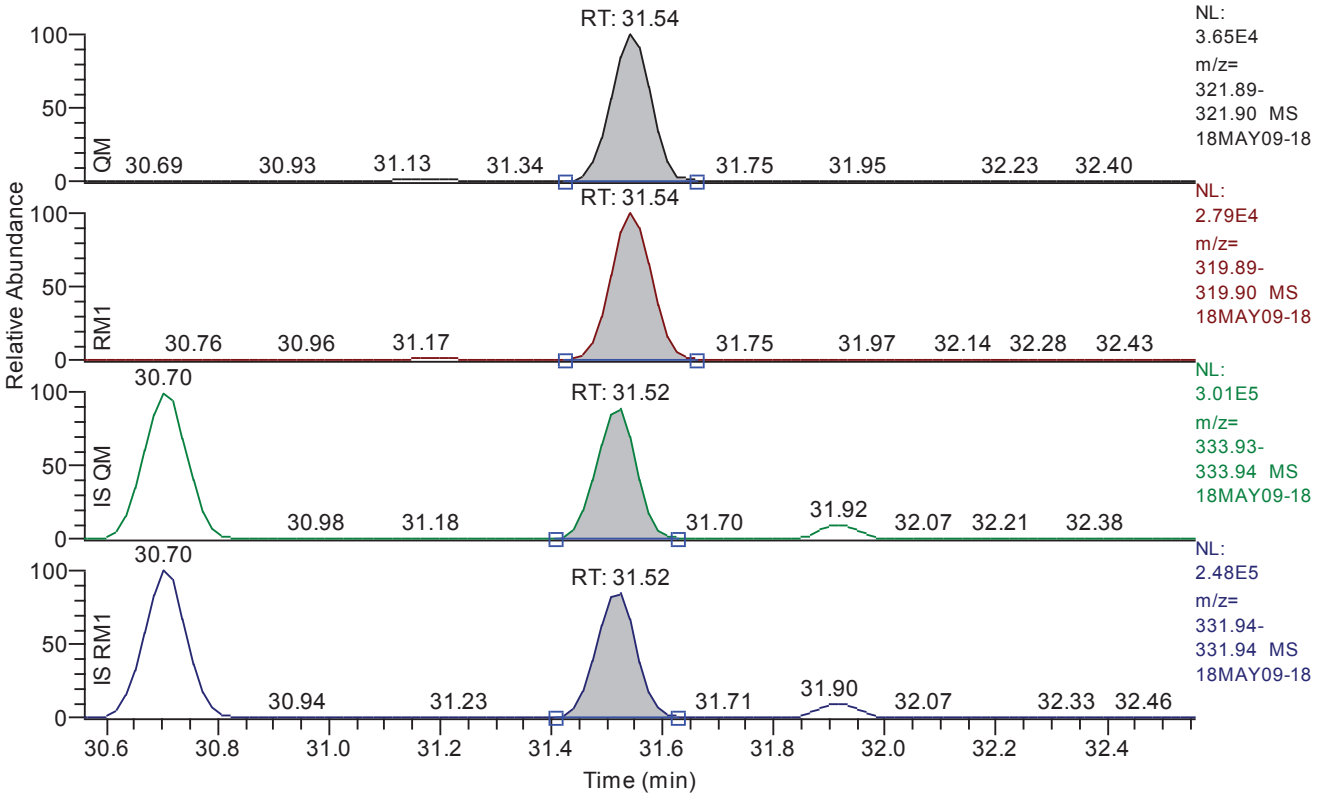
Chromatogram

RT: 30.56 - 32.56 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	31.54
QM Area	187007
QM Integration Mode	A
RM1 Area	147107
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	11.083698
Adjusted Amount (A)	11.0837
Signal-to-Noise	4817
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:15 pm, 6/4/18

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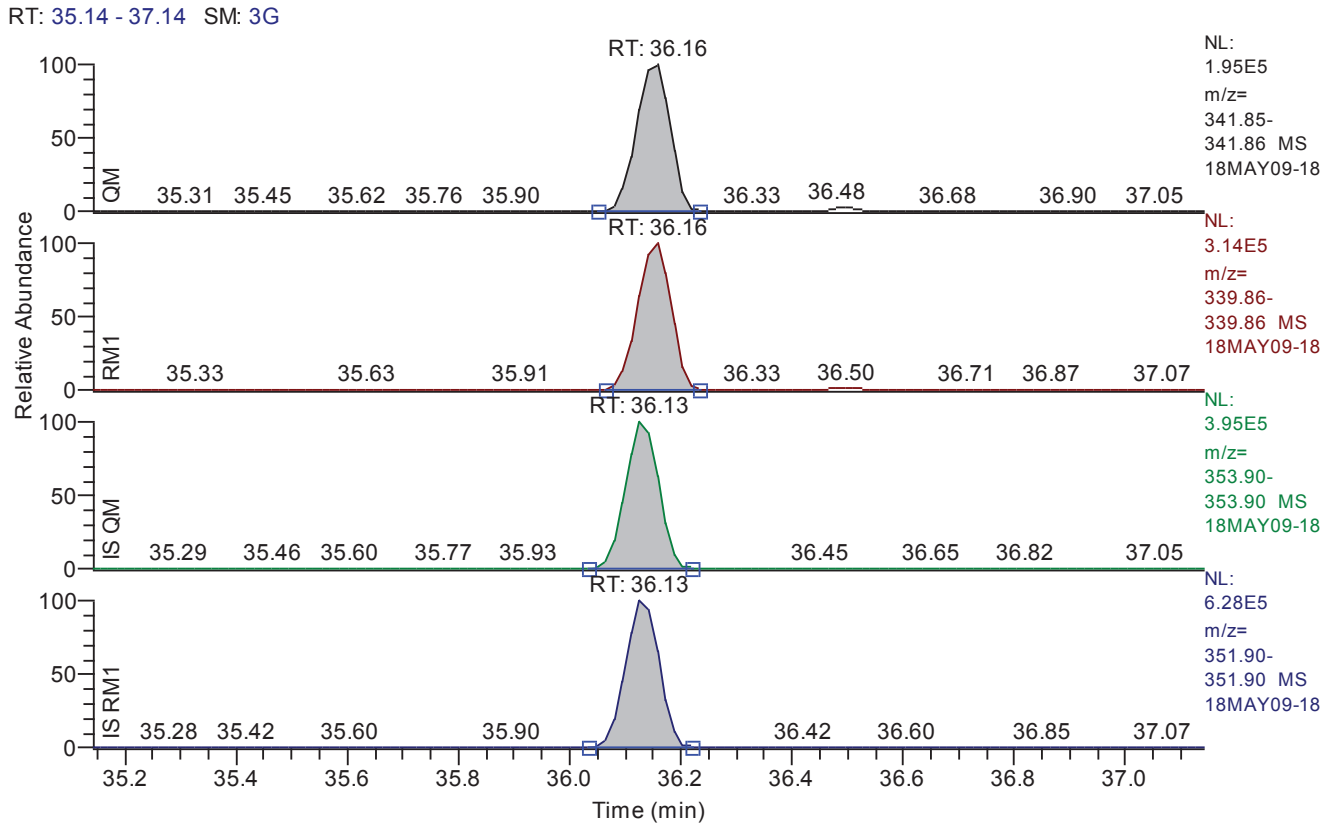
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	36.16
QM Area	829400
QM Integration Mode	A
RM1 Area	1316026
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0069
Unqualified Amount (A)	50.400752
Adjusted Amount (A)	50.4008
Signal-to-Noise	18328
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 3:11 pm, 5/10/18

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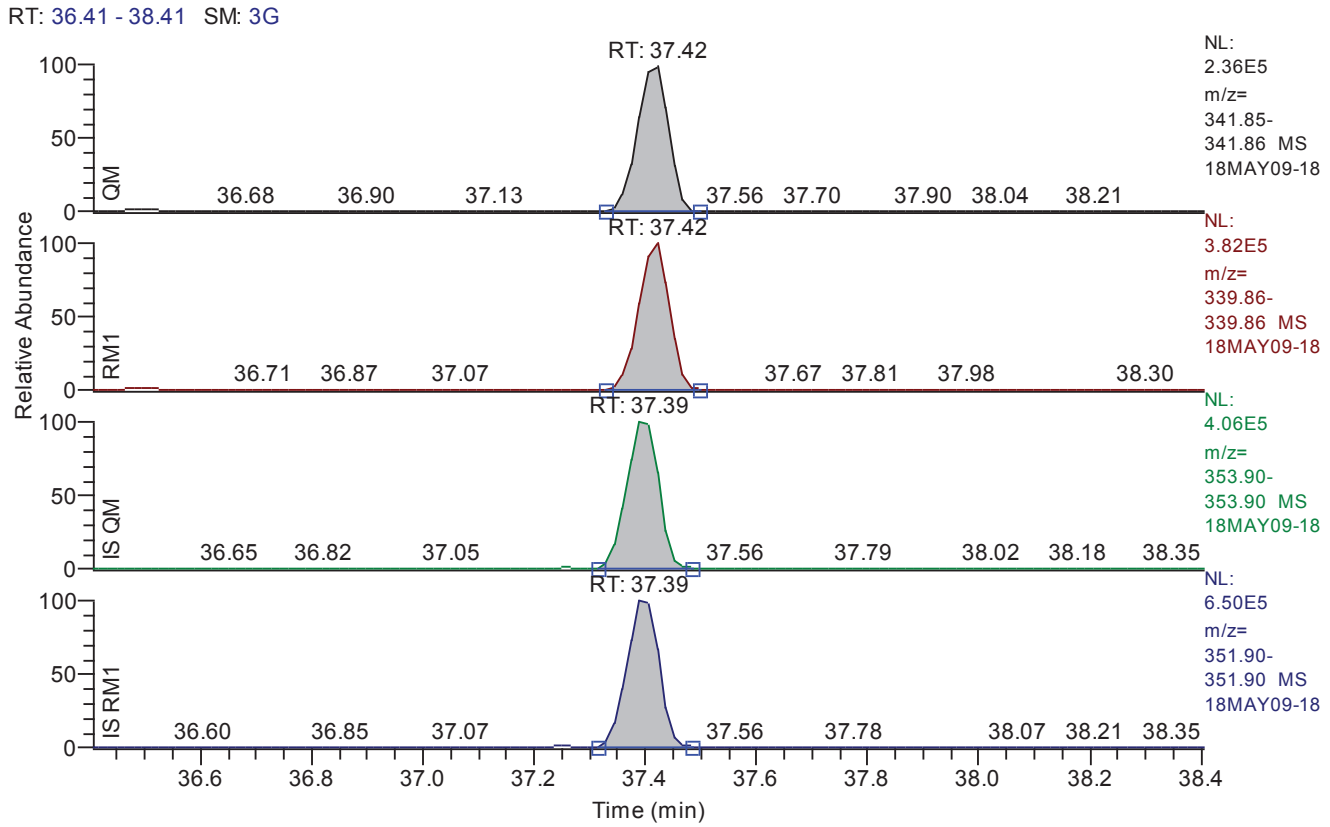
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	37.42
QM Area	923202
QM Integration Mode	A
RM1 Area	1471779
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0059
Unqualified Amount (A)	50.595913
Adjusted Amount (A)	50.5959
Signal-to-Noise	22253
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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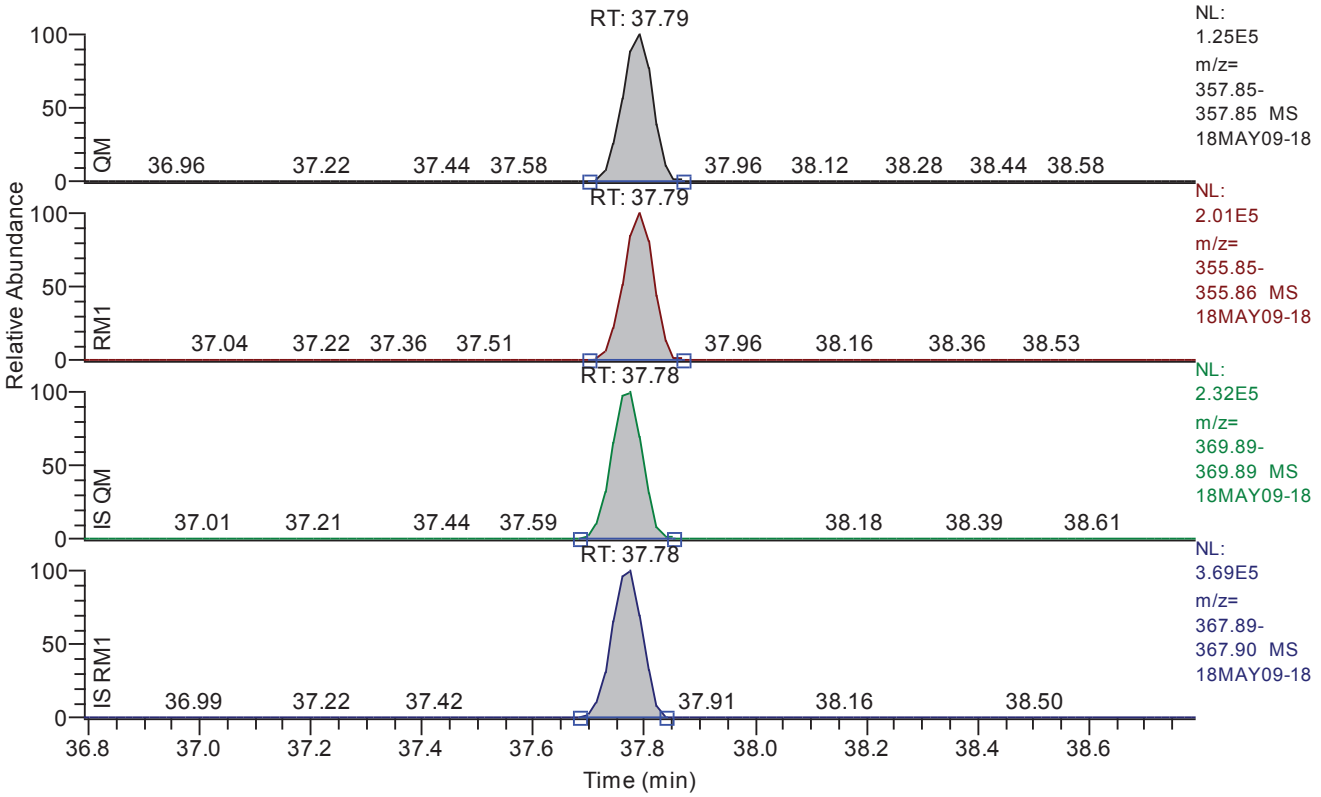
Chromatogram

RT: 36.79 - 38.79 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.79
QM Area	479394
QM Integration Mode	A
RM1 Area	764601
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0101
Unqualified Amount (A)	51.220548
Adjusted Amount (A)	51.2205
Signal-to-Noise	12908
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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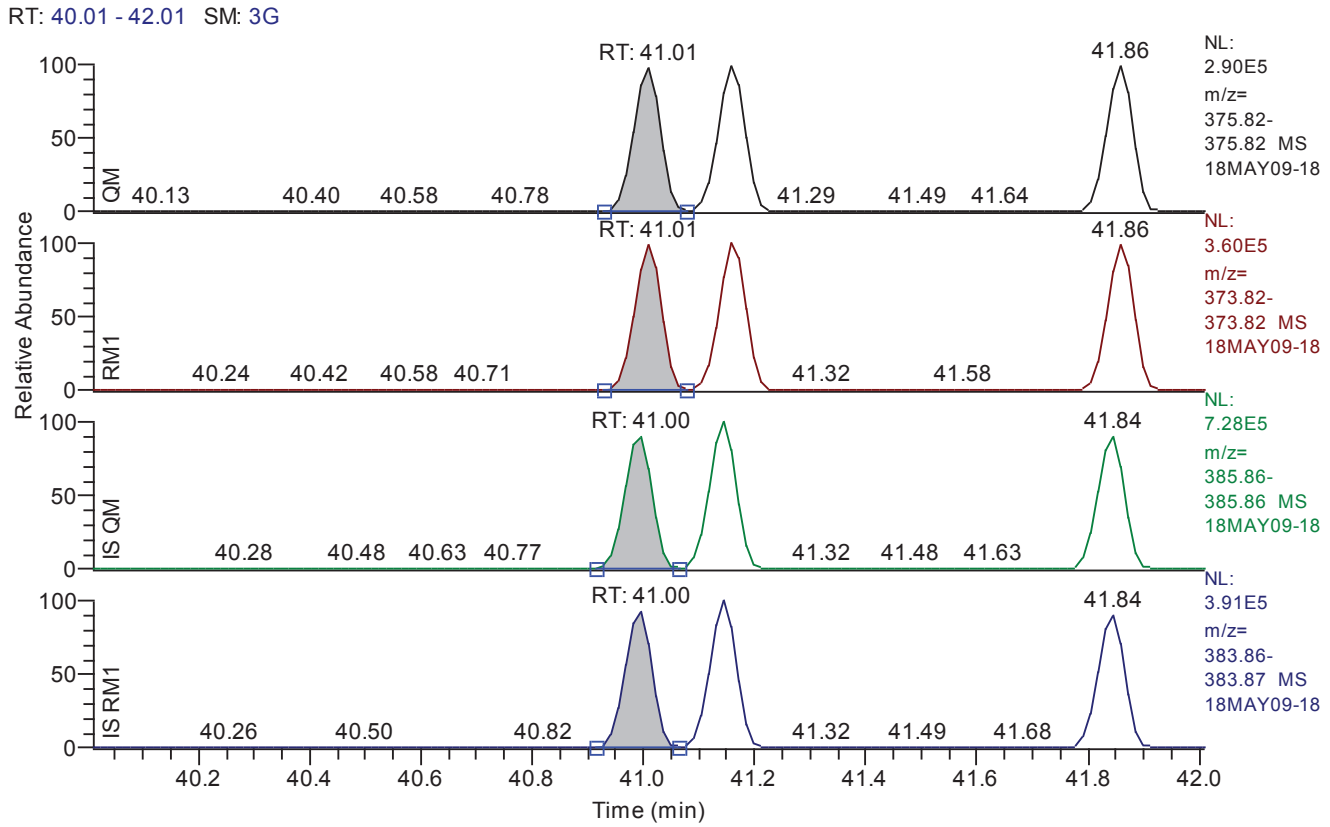
Chromatogram



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	41.01
QM Area	962410
QM Integration Mode	A
RM1 Area	1200520
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0120
Unqualified Amount (A)	51.195211
Adjusted Amount (A)	51.1952
Signal-to-Noise	10938
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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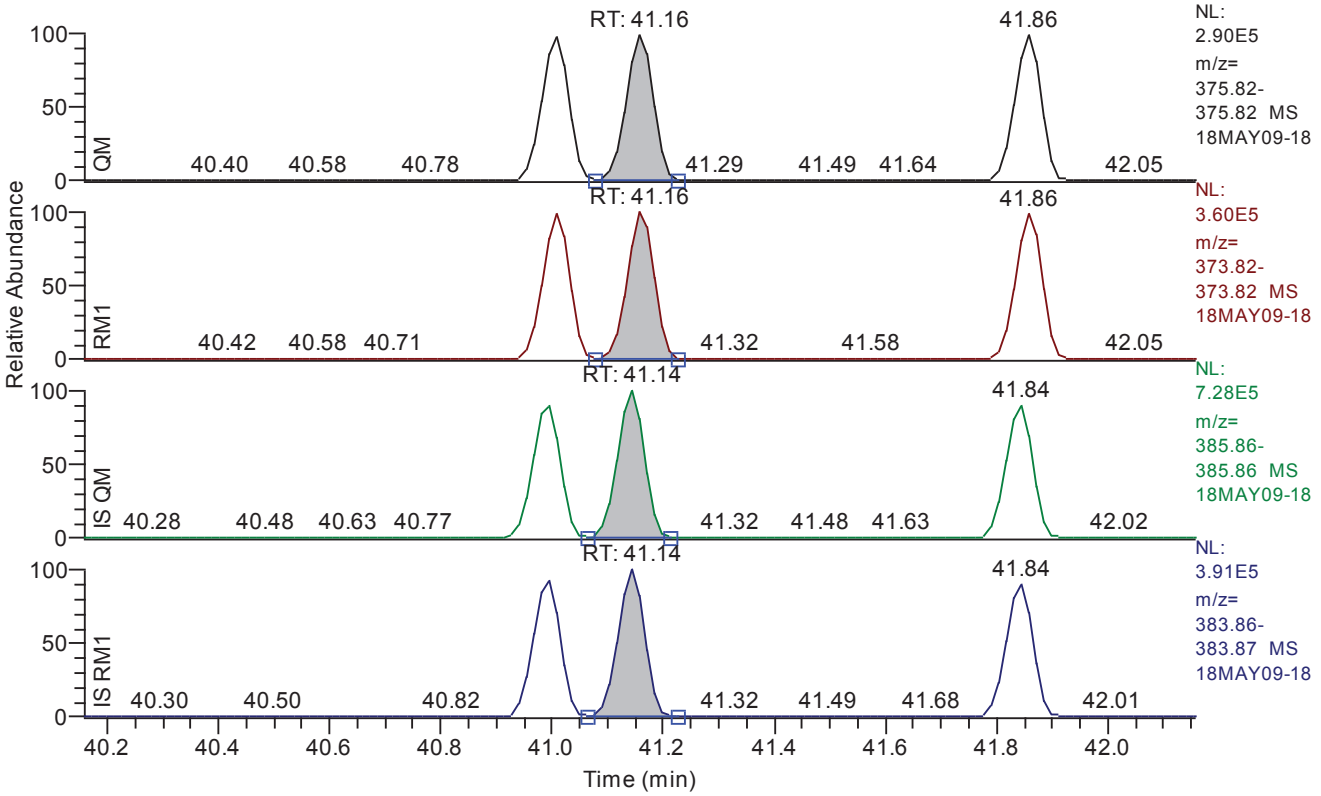
Chromatogram

RT: 40.16 - 42.16 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	41.16
QM Area	977883
QM Integration Mode	A
RM1 Area	1222205
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0114
Unqualified Amount (A)	50.467101
Adjusted Amount (A)	50.4671
Signal-to-Noise	11062
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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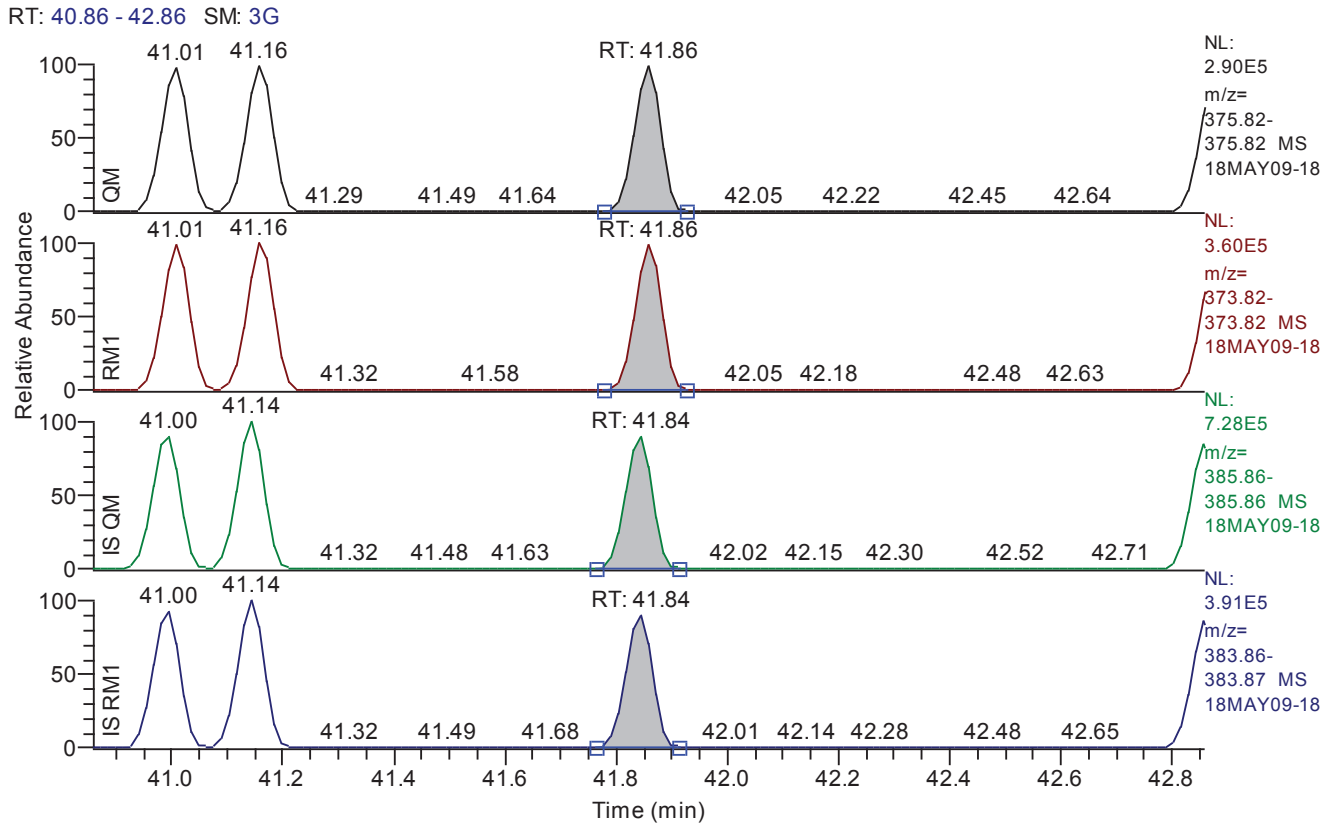
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.86
QM Area	951359
QM Integration Mode	A
RM1 Area	1184606
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	50.144042
Adjusted Amount (A)	50.1440
Signal-to-Noise	11002
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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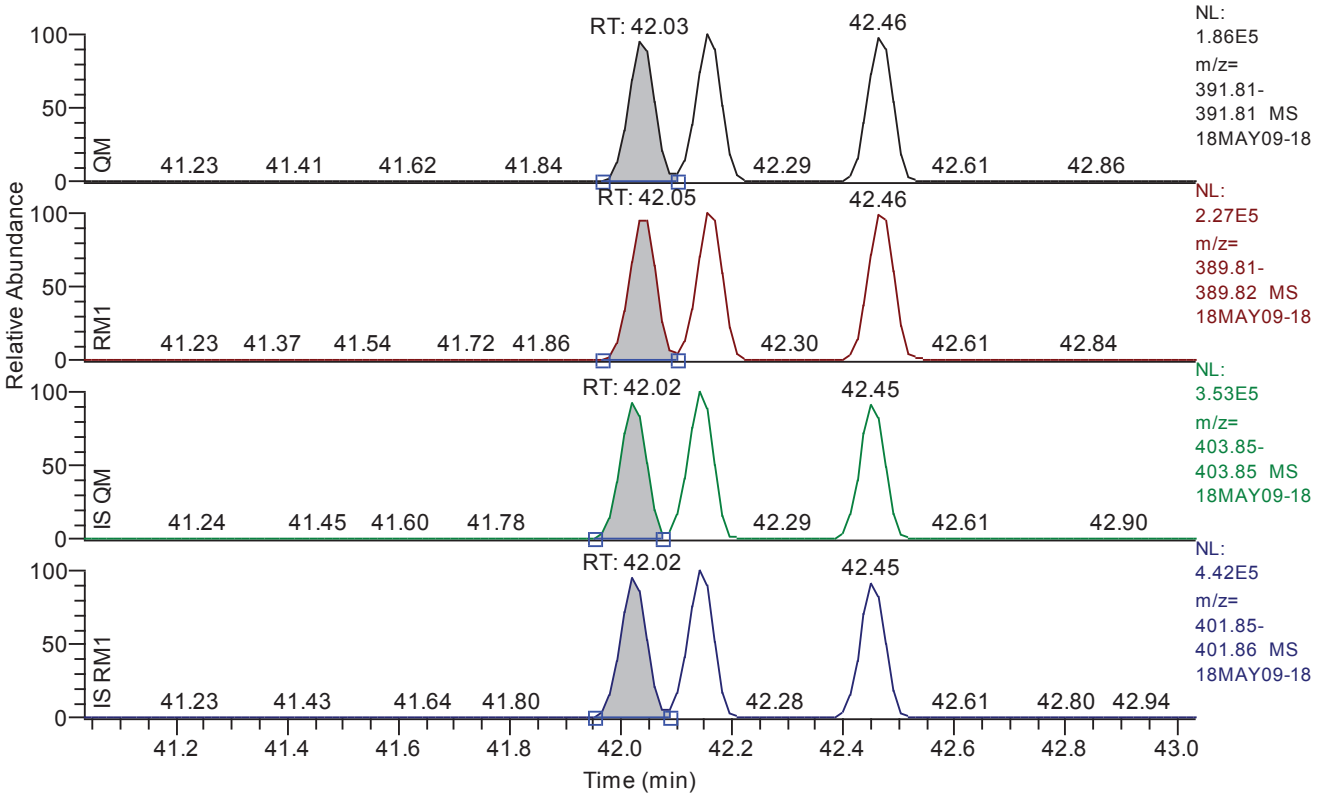
Chromatogram

RT: 41.03 - 43.03 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	42.03
QM Area	585579
QM Integration Mode	A
RM1 Area	749765
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0117
Unqualified Amount (A)	52.361871
Adjusted Amount (A)	52.3619
Signal-to-Noise	10979
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 3:11 pm, 5/10/18

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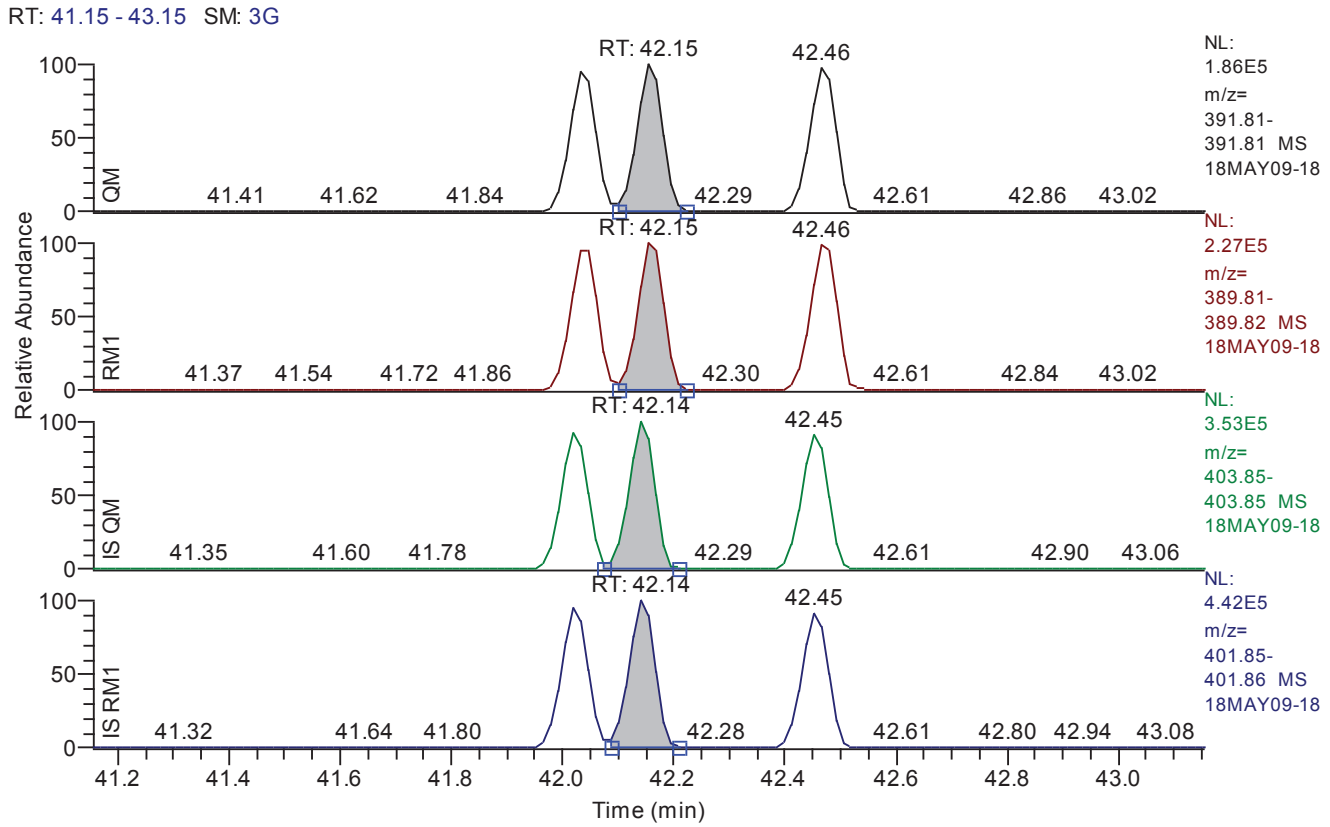
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	42.15
QM Area	592983
QM Integration Mode	A
RM1 Area	741493
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0110
Unqualified Amount (A)	50.558575
Adjusted Amount (A)	50.5586
Signal-to-Noise	11495
Client Flags	
Status Overview	passed
Status Info	

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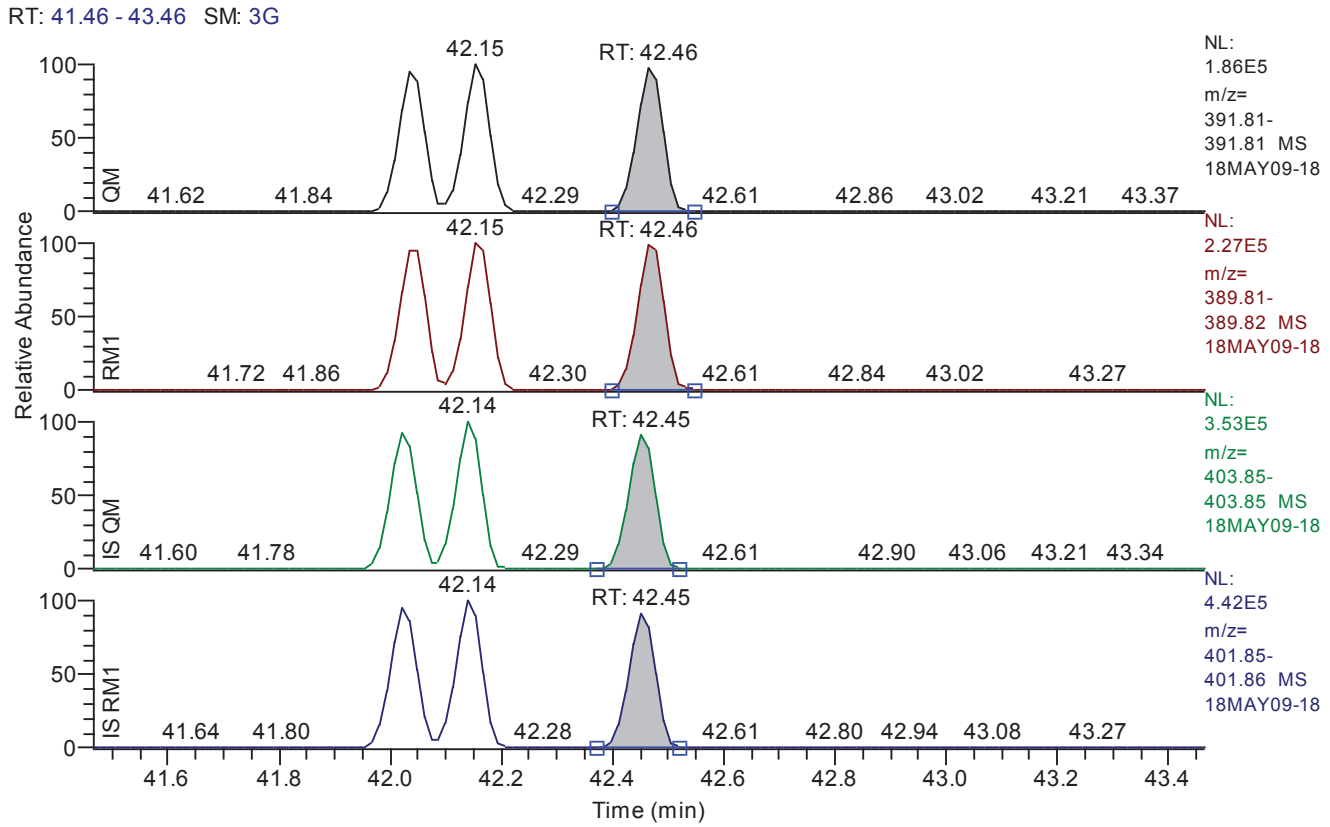
Chromatogram



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	42.46
QM Area	602653
QM Integration Mode	A
RM1 Area	758279
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	51.384899
Adjusted Amount (A)	51.3849
Signal-to-Noise	11346
Client Flags	
Status Overview	passed
Status Info	

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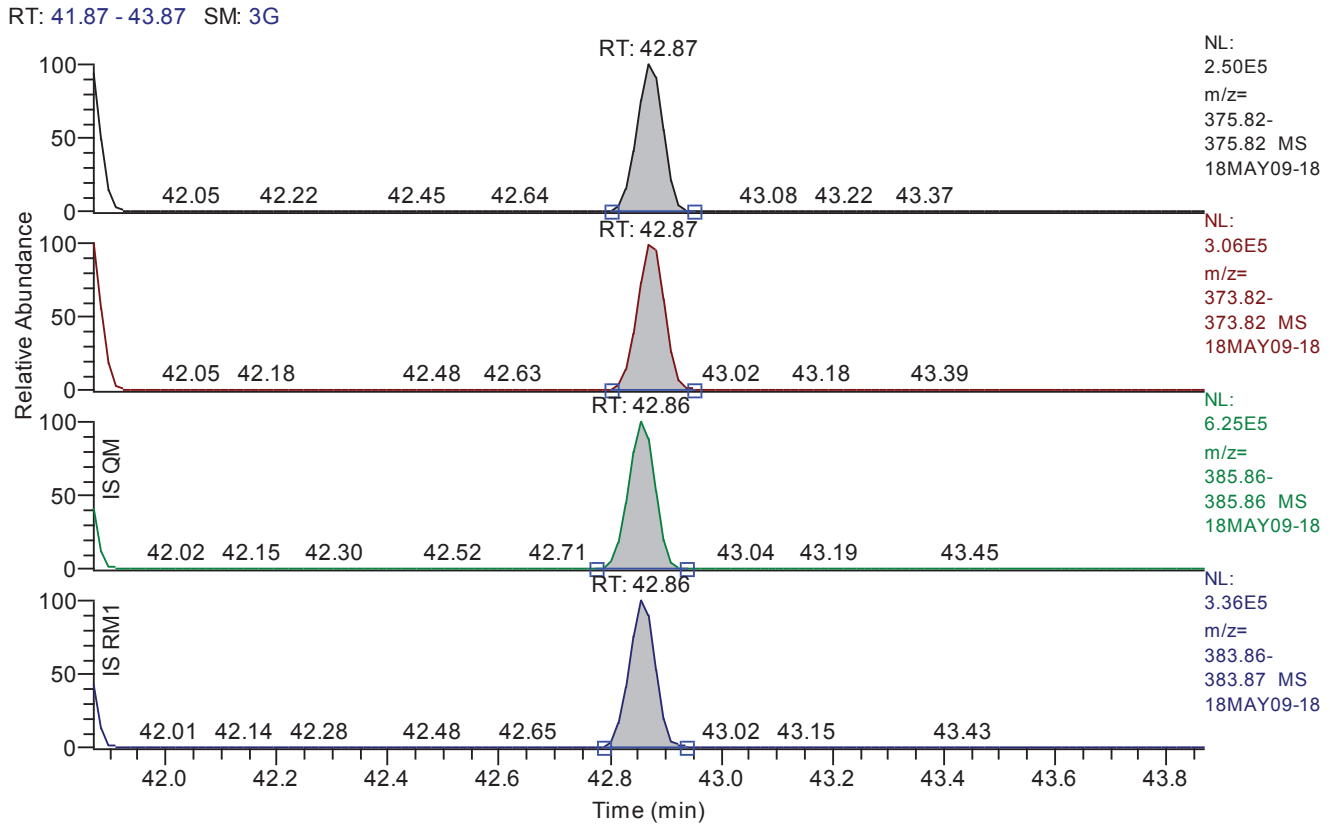
Chromatogram



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.87
QM Area	837413
QM Integration Mode	A
RM1 Area	1045339
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	50.523085
Adjusted Amount (A)	50.5231
Signal-to-Noise	9426
Client Flags	
Status Overview	passed
Status Info	

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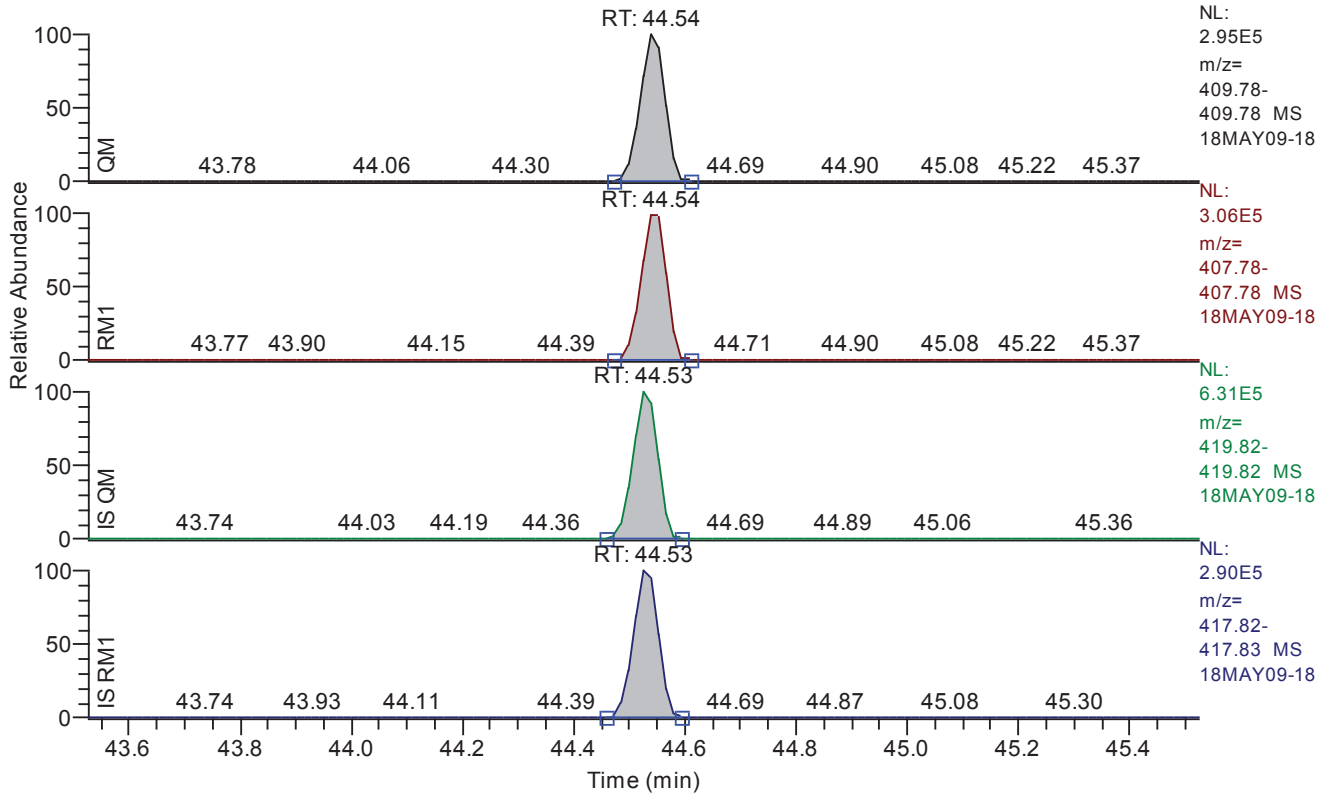
Chromatogram

RT: 43.53 - 45.53 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.54
QM Area	942291
QM Integration Mode	A
RM1 Area	1003412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0120
Unqualified Amount (A)	50.668170
Adjusted Amount (A)	50.6682
Signal-to-Noise	10501
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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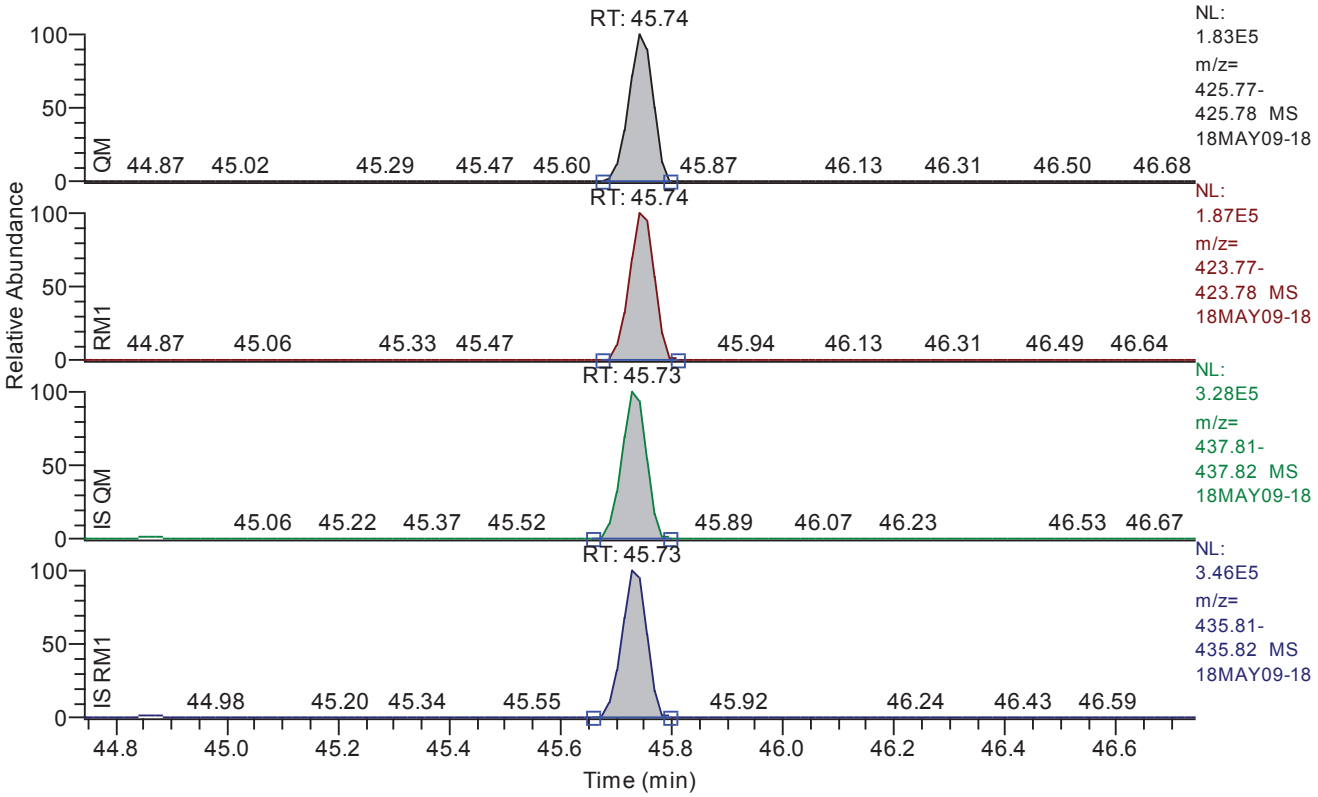
Chromatogram

RT: 44.74 - 46.74 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.74
QM Area	573164
QM Integration Mode	A
RM1 Area	600240
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0133
Unqualified Amount (A)	50.985102
Adjusted Amount (A)	50.9851
Signal-to-Noise	9683
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:15 pm, 6/4/18

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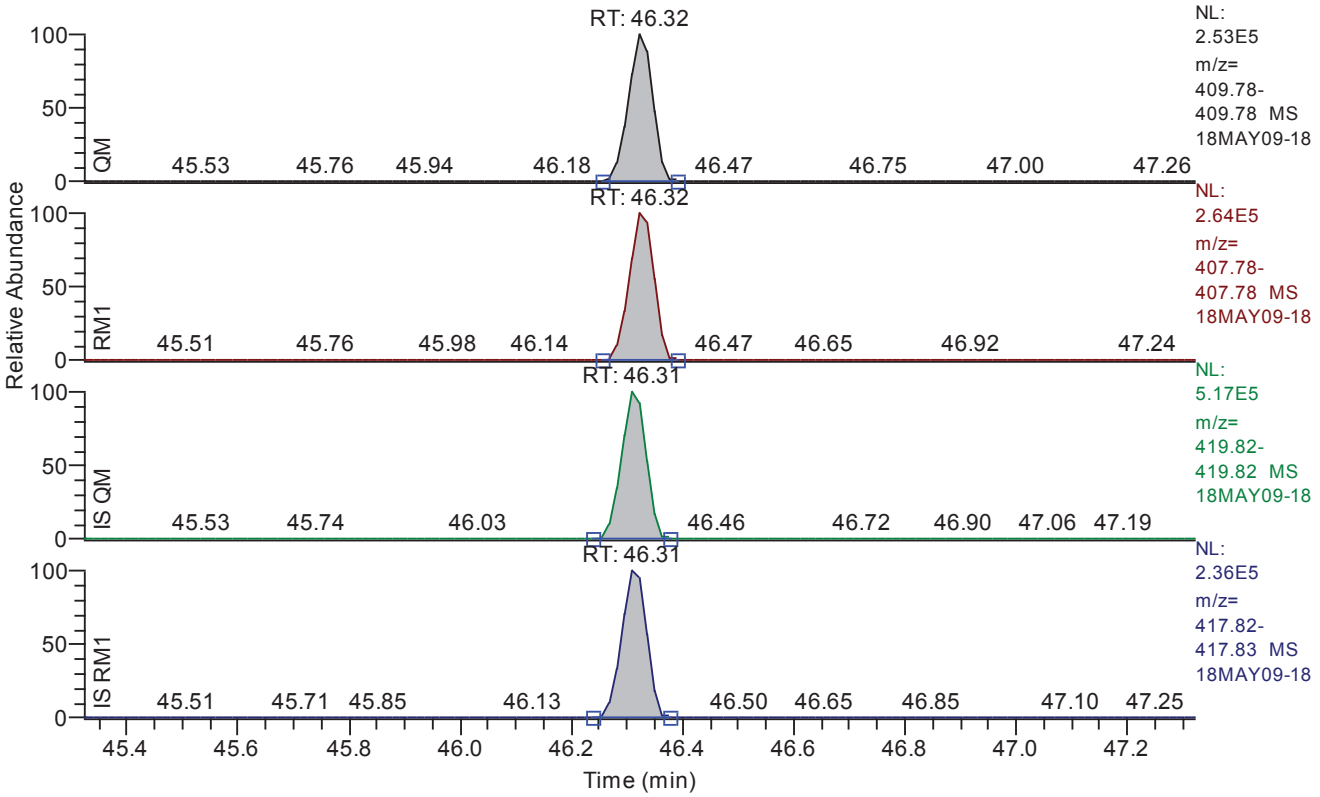
Chromatogram

RT: 45.32 - 47.32 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	46.32
QM Area	798655
QM Integration Mode	A
RM1 Area	847998
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0147
Unqualified Amount (A)	52.372976
Adjusted Amount (A)	52.3730
Signal-to-Noise	9036
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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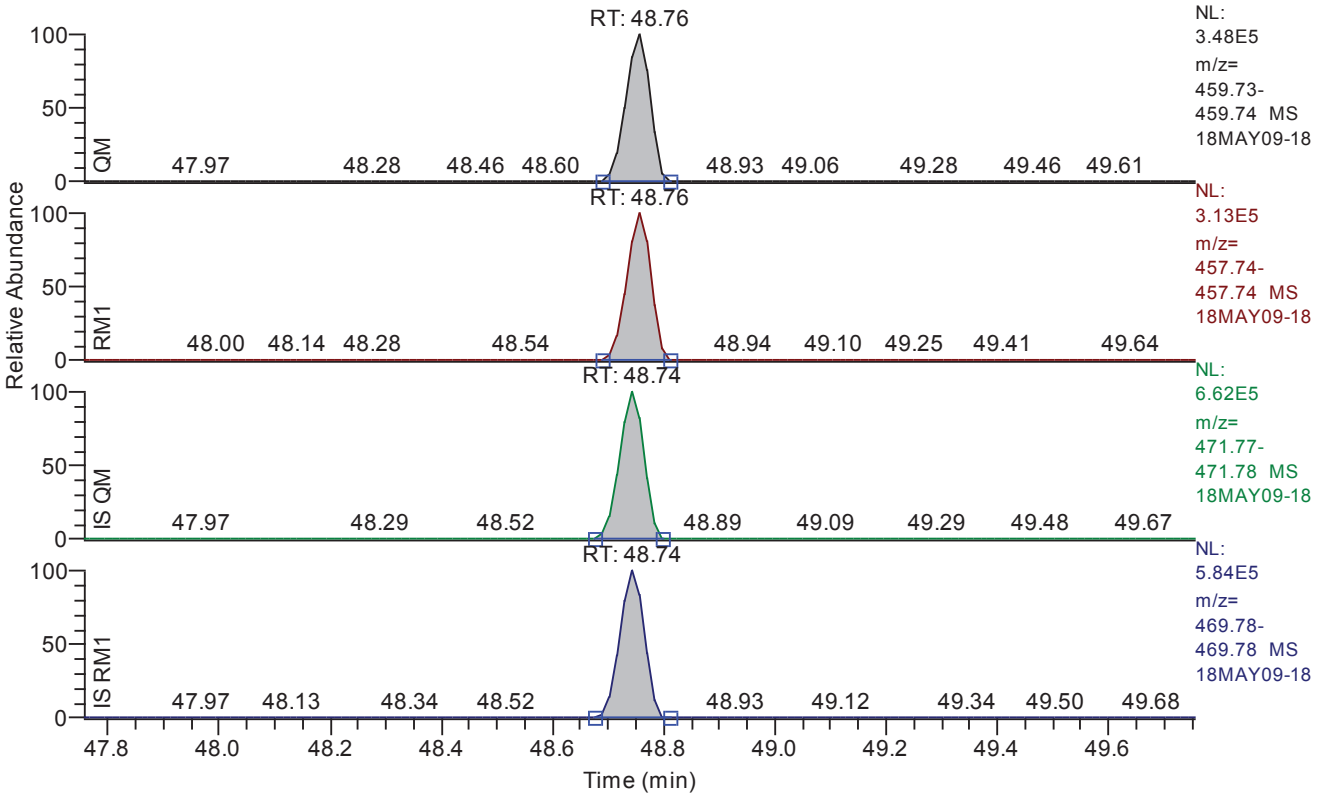
Chromatogram

RT: 47.76 - 49.76 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.76
QM Area	1055739
QM Integration Mode	A
RM1 Area	946596
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0161
Unqualified Amount (A)	100.911518
Adjusted Amount (A)	100.9115
Signal-to-Noise	15775
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 3:11 pm, 5/10/18

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By uild at 4:15 pm, 6/4/18

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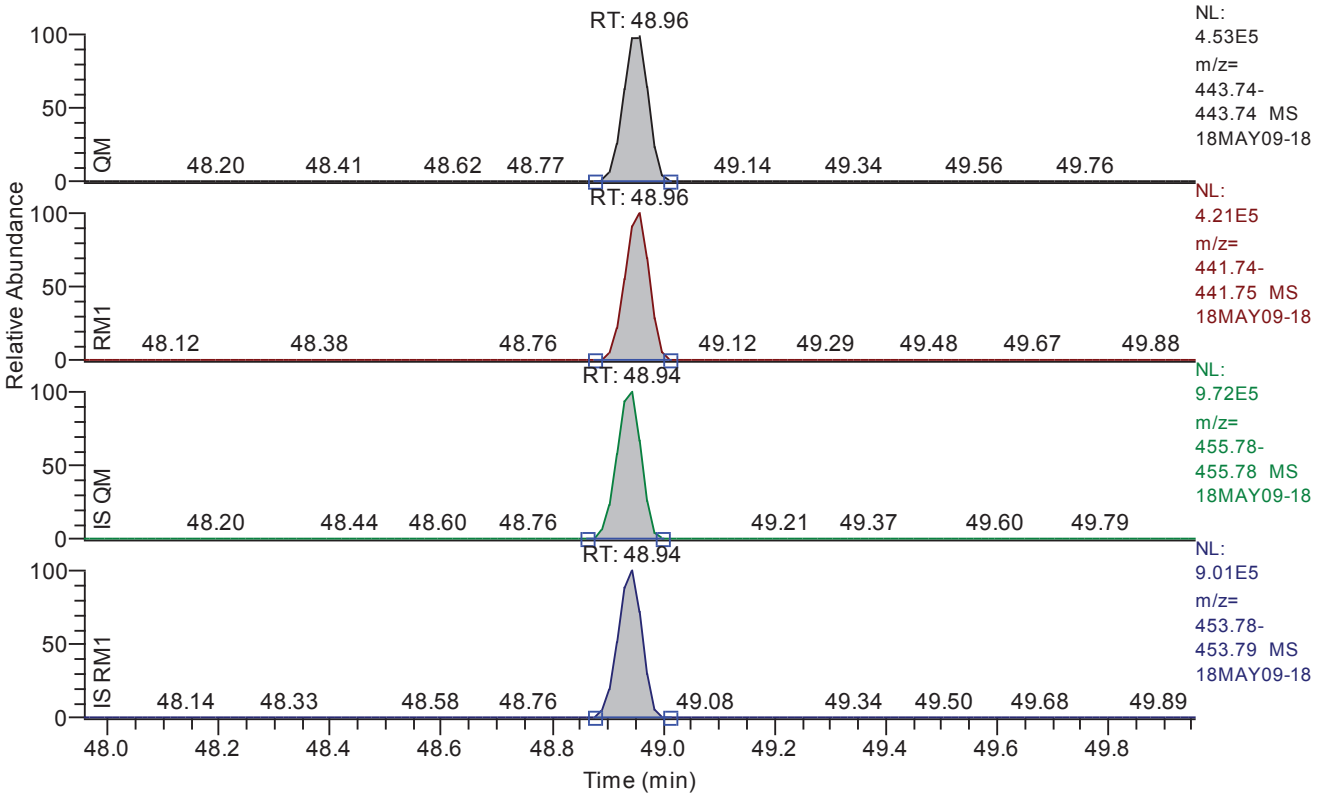
Chromatogram

RT: 47.96 - 49.96 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.96
QM Area	1409850
QM Integration Mode	A
RM1 Area	1284007
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	100.671269
Adjusted Amount (A)	100.6713
Signal-to-Noise	21337
Client Flags	
Status Overview	passed
Status Info	

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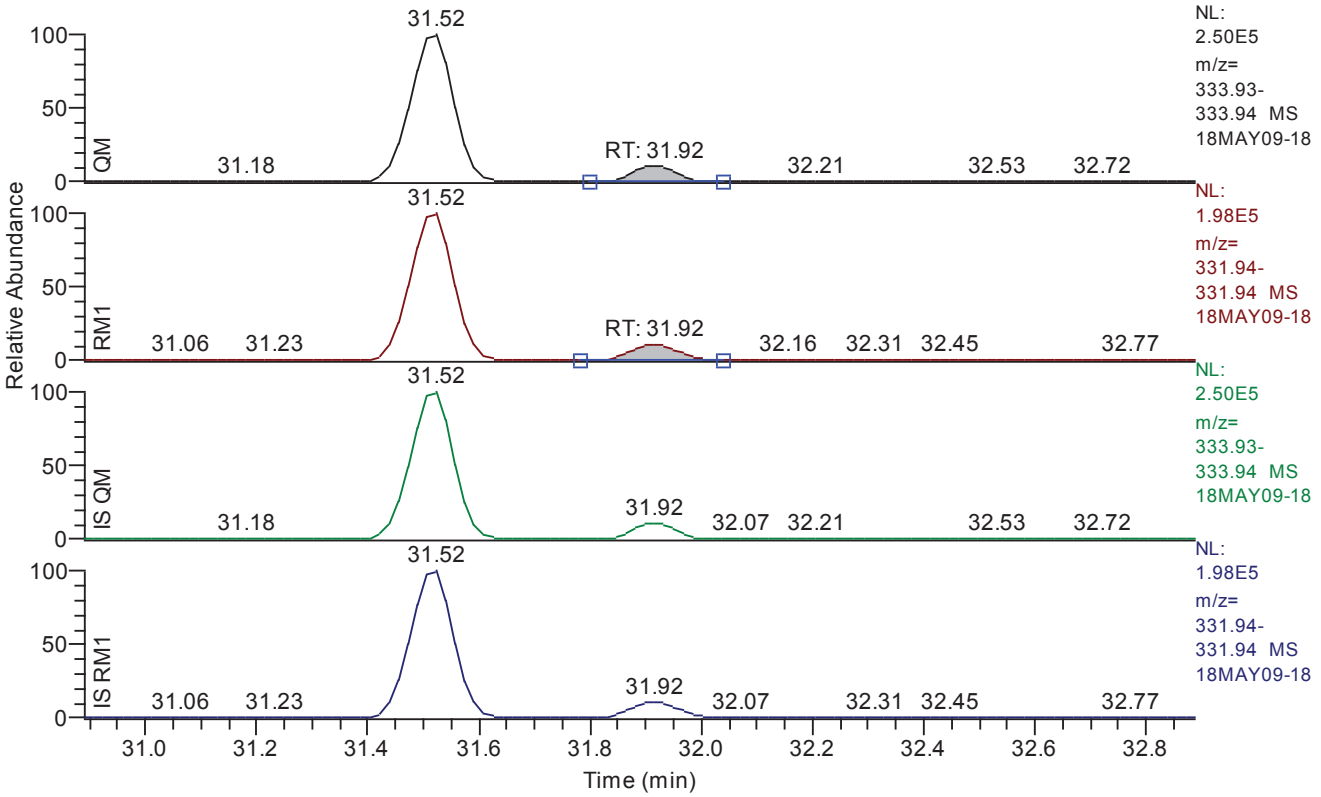
Chromatogram

RT: 30.89 - 32.89 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.92
QM Area	153187
QM Integration Mode	A
RM1 Area	126457
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	7.423416
Adjusted Amount (A)	n.d.
Signal-to-Noise	2088
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	30.28	30.50	30.50	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	31.37	31.54	31.54	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.02	36.16	36.16	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.25	37.42	37.42	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.65	37.79	37.79	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.89	41.01	41.01	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.04	41.16	41.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.72	41.86	41.86	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.93	42.03	42.05	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.03	42.15	42.15	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.36	42.46	42.46	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.73	42.87	42.87	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.45	44.54	44.54	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.65	45.74	45.74	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.20	46.32	46.32	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.67	48.76	48.76	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.86	48.96	48.96	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	31.75	31.92	31.92	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.57	30.70	30.70	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.79	40.89	40.89	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	30.26	30.46	30.46	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.34	31.52	31.52	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.00	36.13	36.13	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.23	37.39	37.39	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.63	37.78	37.78	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.88	41.00	41.00	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.02	41.14	41.14	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.71	41.84	41.84	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.91	42.02	42.02	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.02	42.14	42.14	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.34	42.45	42.45	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.72	42.86	42.86	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.45	44.53	44.53	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.64	45.73	45.73	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.19	46.31	46.31	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.66	48.74	48.74	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.84	48.94	48.94	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	29.04	29.24	29.24	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.85	30.03	30.03	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.50	35.66	35.66	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.47	36.61	36.61	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.10	41.20	41.20	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.38	41.48	41.48	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.23	45.32	45.32	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.31	45.42	45.42	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	30.50	30.50	30.50	passed	passed
47	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	25.52	25.52	25.56	passed	passed
48	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	25.75	25.75	25.75	passed	passed
49	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	26.99	26.99	26.98	passed	passed
50	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	28.43	28.43	28.41	passed	passed
51	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	28.74	28.74	28.72	passed	passed
52	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	28.82	28.82	28.84	passed	passed
53	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	29.39	29.39	29.39	passed	passed
54	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	30.16	30.16	30.12	passed	passed
55	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	30.60	30.60	30.62	passed	passed
56	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	30.94	30.94	30.93	passed	passed
57	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	31.17	31.17	31.22	failed	passed
58	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	31.27	31.27	31.29	passed	passed
59	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	31.42	31.42	31.39	passed	passed
60	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	31.54	31.54	31.54	passed	passed
61	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	31.63	31.63	31.61	passed	passed
62	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	31.70	31.70	31.73	passed	passed
63	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	32.57	32.57	32.53	passed	passed
64	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.61	32.94	32.94	32.96	passed	passed
65	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.54	31.54	31.54	passed	passed
66	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	27.76	27.76	27.76	passed	passed
67	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.79	28.79	28.75	passed	passed
68	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.30	29.30	29.28	passed	passed
69	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.49	29.49	29.47	passed	passed
70	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	29.59	29.59	29.63	passed	passed
71	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.05	30.05	30.05	passed	passed
72	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.46	30.46	30.46	passed	passed
73	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.13	31.13	31.17	passed	passed
74	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.66	31.66	31.70	passed	passed
75	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.75	31.75	31.75	passed	passed
76	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.80	31.80	31.82	passed	passed
77	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.90	31.90	31.85	failed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
78	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	31.95	31.95	31.97	passed	passed
79	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.79	37.79	37.79	passed	passed
80	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.16	36.16	36.16	passed	passed
81	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.39	36.39	36.39	passed	passed
82	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.50	36.50	36.50	passed	passed
83	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	36.62	36.62	36.62	passed	passed
84	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.22	37.22	37.22	passed	passed
85	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.30	37.30	37.31	passed	passed
86	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.39	37.39	37.41	passed	passed
87	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	37.96	37.96	37.96	passed	passed
88	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	38.22	38.22	38.22	passed	passed
89	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	38.28	38.28	38.27	passed	passed
90	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.58	38.35	38.35	38.36	passed	passed
91	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.42	37.42	37.42	passed	passed
92	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	33.58	33.58	33.54	passed	passed
93	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.00	34.00	34.02	passed	passed
94	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.40	34.40	34.37	passed	passed
95	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.65	34.65	34.63	passed	passed
96	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	34.86	34.86	34.88	passed	passed
97	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.09	35.09	35.11	passed	passed
98	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.31	35.31	35.33	passed	passed
99	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.62	35.62	35.63	passed	passed
100	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.71	35.71	35.73	passed	passed
101	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	35.90	35.90	35.91	passed	passed
102	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.16	36.16	36.16	passed	passed
103	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.33	36.33	36.33	passed	passed
104	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.48	36.48	36.50	passed	passed
105	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.68	36.68	36.67	passed	passed
106	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.79	36.79	36.77	passed	passed
107	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	36.97	36.97	36.97	passed	passed
108	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.05	37.05	37.04	passed	passed
109	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.28	37.28	37.27	passed	passed
110	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.70	37.70	37.70	passed	passed
111	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.79	37.79	37.81	passed	passed
112	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	37.96	37.96	37.98	passed	passed
113	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	38.08	38.08	38.08	passed	passed
114	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	38.21	38.21	38.19	passed	passed
115	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	38.28	38.28	38.30	passed	passed
116	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	38.41	38.41	38.39	passed	passed
117	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	38.47	38.47	38.47	passed	passed
118	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.95	38.61	38.61	38.61	passed	passed
119	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.74	45.74	45.74	passed	passed
120	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.87	44.87	44.87	passed	passed
121	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.80	45.80	45.83	passed	passed
122	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.16	41.16	41.16	passed	passed
123	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	39.47	39.47	39.47	passed	passed
124	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	39.69	39.69	39.70	passed	passed
125	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.87	40.87	40.87	passed	passed
126	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.01	41.01	41.01	passed	passed
127	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.29	41.29	41.28	passed	passed
128	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.35	41.35	41.36	passed	passed
129	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.49	41.49	41.49	passed	passed
130	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.58	41.58	41.58	passed	passed
131	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.64	41.64	41.63	passed	passed
132	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.86	41.86	41.86	passed	passed
133	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.17	42.17	42.18	passed	passed
134	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.33	42.33	42.33	passed	passed
135	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.56	42.56	42.57	passed	passed
136	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.87	42.87	42.87	passed	passed
137	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	42.15	42.15	42.15	passed	passed
138	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	40.92	40.92	40.90	passed	passed
139	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.00	41.00	40.97	passed	passed
140	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.14	41.14	41.14	passed	passed
141	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.23	41.23	41.23	passed	passed
142	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	41.84	41.84	41.86	passed	passed
143	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	42.03	42.03	42.05	passed	passed
144	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	42.46	42.46	42.46	passed	passed
145	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	42.61	42.61	42.61	passed	passed
146	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.35	42.64	42.64	42.65	passed	passed
147	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	44.54	44.54	44.54	passed	passed
148	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	44.69	44.69	44.71	passed	passed
149	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	44.90	44.90	44.90	passed	passed
150	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.08	45.08	45.08	passed	passed
151	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.22	45.22	45.22	passed	passed
152	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.31	45.31	45.30	passed	passed
153	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.37	45.37	45.37	passed	passed
154	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.76	45.76	45.76	passed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
155	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	45.87	45.87	45.87	passed	passed
156	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.97	46.32	46.32	46.32	passed	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	30.50	0.7697	0.6450 - 0.8950	passed	96.79	80 - 120	passed
2	2378-TCDD	31.54	0.7866	0.6450 - 0.8950	passed	110.84	80 - 120	passed
3	12378-PeCDF	36.16	1.5867	1.3150 - 1.7850	passed	100.80	80 - 120	passed
4	23478-PeCDF	37.42	1.5942	1.3150 - 1.7850	passed	101.19	80 - 120	passed
5	12378-PeCDD	37.79	1.5949	1.3150 - 1.7850	passed	102.44	80 - 120	passed
6	123478-HxCDF	41.01	1.2474	1.0450 - 1.4350	passed	102.39	80 - 120	passed
7	123678-HxCDF	41.16	1.2498	1.0450 - 1.4350	passed	100.93	80 - 120	passed
8	234678-HxCDF	41.86	1.2452	1.0450 - 1.4350	passed	100.29	80 - 120	passed
9	123478-HxCDD	42.03	1.2804	1.0450 - 1.4350	passed	104.72	80 - 120	passed
10	123678-HxCDD	42.15	1.2504	1.0450 - 1.4350	passed	101.12	80 - 120	passed
11	123789-HxCDD	42.46	1.2582	1.0450 - 1.4350	passed	102.77	80 - 120	passed
12	123789-HxCDF	42.87	1.2483	1.0450 - 1.4350	passed	101.05	80 - 120	passed
13	1234678-HpCDF	44.54	1.0649	0.8750 - 1.2050	passed	101.34	80 - 120	passed
14	1234678-HpCDD	45.74	1.0472	0.8750 - 1.2050	passed	101.97	80 - 120	passed
15	1234789-HpCDF	46.32	1.0618	0.8750 - 1.2050	passed	104.75	80 - 120	passed
16	OCDD	48.76	0.8966	0.7550 - 1.0250	passed	100.91	80 - 120	passed
17	OCDF	48.96	0.9107	0.7550 - 1.0250	passed	100.67	80 - 120	passed
18	13C12-1278-TCDD (CRS)	31.92	0.8255	0.6450 - 0.8950	passed	74.23	80 - 120	failed
19	13C12-1234-TCDD	30.70	0.8001	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.89	1.2579	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	30.46	0.8078	0.6450 - 0.8950	passed	88.58	80 - 120	passed
22	13C12-2378-TCDD	31.52	0.7932	0.6450 - 0.8950	passed	89.31	80 - 120	passed
23	13C12-12378-PeCDF	36.13	1.6081	1.3150 - 1.7850	passed	84.35	80 - 120	passed
24	13C12-23478-PeCDF	37.39	1.6144	1.3150 - 1.7850	passed	85.37	80 - 120	passed
25	13C12-12378-PeCDD	37.78	1.5813	1.3150 - 1.7850	passed	85.89	80 - 120	passed
26	13C12-123478-HxCDF	41.00	0.5399	0.4250 - 0.5950	passed	87.41	80 - 120	passed
27	13C12-123678-HxCDF	41.14	0.5334	0.4250 - 0.5950	passed	88.02	80 - 120	passed
28	13C12-234678-HxCDF	41.84	0.5360	0.4250 - 0.5950	passed	89.13	80 - 120	passed
29	13C12-123478-HxCDD	42.02	1.2918	1.0450 - 1.4350	passed	88.59	80 - 120	passed
30	13C12-123678-HxCDD	42.14	1.2446	1.0450 - 1.4350	passed	89.55	80 - 120	passed
31	13C12-123789-HxCDD	42.45	1.2450	1.0450 - 1.4350	passed	88.87	80 - 120	passed
32	13C12-123789-HxCDF	42.86	0.5286	0.4250 - 0.5950	passed	87.72	80 - 120	passed
33	13C12-1234678-HpCDF	44.53	0.4642	0.3650 - 0.5150	passed	87.32	80 - 120	passed
34	13C12-1234678-HpCDD	45.73	1.0660	0.8750 - 1.2050	passed	87.24	80 - 120	passed
35	13C12-1234789-HpCDF	46.31	0.4625	0.3650 - 0.5150	passed	87.00	80 - 120	passed
36	13C12-OCDD	48.74	0.8877	0.7550 - 1.0250	passed	87.40	80 - 120	passed
37	13C12-OCDF	48.94	0.9071	0.7550 - 1.0250	passed	85.67	80 - 120	passed
38	Total TCDF	29.24	0.7695	0.6450 - 0.8950	---	10.88	0 - 0	---
39	Total TCDD	30.03	0.7843	0.6450 - 0.8950	---	37.82	0 - 0	---
40	Total PeCDF	35.66	1.5894	1.3150 - 1.7850	---	15.92	0 - 0	---
41	Total PeCDD	36.61	1.5948	1.3150 - 1.7850	---	34.18	0 - 0	---
42	Total HxCDF	41.20	1.2476	1.0450 - 1.4350	---	40.52	0 - 0	---
43	Total HxCDD	41.48	1.2628	1.0450 - 1.4350	---	44.10	0 - 0	---
44	Total HpCDD	45.32	1.0467	0.8750 - 1.2050	---	51.52	0 - 0	---
45	Total HpCDF	45.42	1.0635	0.8750 - 1.2050	---	68.59	0 - 0	---
46	Single TCDF	30.50	0.7697	0.6450 - 0.8950	passed	96.79	0 - 0	passed
47	Single TCDF	25.52	0.2136	0.6450 - 0.8950	failed	0.03	0 - 0	passed
48	Single TCDF	25.75	6.5705	0.6450 - 0.8950	failed	0.03	0 - 0	passed
49	Single TCDF	26.99	0.7256	0.6450 - 0.8950	passed	0.08	0 - 0	passed
50	Single TCDF	28.43	0.6675	0.6450 - 0.8950	passed	0.03	0 - 0	passed
51	Single TCDF	28.74	1.2028	0.6450 - 0.8950	failed	0.51	0 - 0	passed
52	Single TCDF	28.82	0.5421	0.6450 - 0.8950	failed	0.96	0 - 0	passed
53	Single TCDF	29.39	0.7485	0.6450 - 0.8950	passed	0.77	0 - 0	passed
54	Single TCDF	30.16	0.2405	0.6450 - 0.8950	failed	0.02	0 - 0	passed
55	Single TCDF	30.60	1.0901	0.6450 - 0.8950	failed	0.22	0 - 0	passed
56	Single TCDF	30.94	0.7776	0.6450 - 0.8950	passed	0.11	0 - 0	passed
57	Single TCDF	31.17	0.7658	0.6450 - 0.8950	passed	0.04	0 - 0	passed
58	Single TCDF	31.27	1.1478	0.6450 - 0.8950	failed	0.03	0 - 0	passed
59	Single TCDF	31.42	1.9372	0.6450 - 0.8950	failed	0.03	0 - 0	passed
60	Single TCDF	31.54	0.7131	0.6450 - 0.8950	passed	0.11	0 - 0	passed
61	Single TCDF	31.63	0.5986	0.6450 - 0.8950	failed	0.02	0 - 0	passed
62	Single TCDF	31.70	3.4678	0.6450 - 0.8950	failed	0.04	0 - 0	passed
63	Single TCDF	32.57	0.2151	0.6450 - 0.8950	failed	0.02	0 - 0	passed
64	Single TCDF	32.94	0.8871	0.6450 - 0.8950	passed	0.05	0 - 0	passed
65	Single TCDD	31.54	0.7866	0.6450 - 0.8950	passed	110.84	0 - 0	passed
66	Single TCDD	27.76	8.1501	0.6450 - 0.8950	failed	0.04	0 - 0	passed
67	Single TCDD	28.79	2.0875	0.6450 - 0.8950	failed	0.03	0 - 0	passed
68	Single TCDD	29.30	6.4392	0.6450 - 0.8950	failed	0.05	0 - 0	passed
69	Single TCDD	29.49	1.2730	0.6450 - 0.8950	failed	0.15	0 - 0	passed
70	Single TCDD	29.59	0.3727	0.6450 - 0.8950	failed	0.03	0 - 0	passed
71	Single TCDD	30.05	0.9068	0.6450 - 0.8950	failed	0.15	0 - 0	passed
72	Single TCDD	30.46	2.5270	0.6450 - 0.8950	failed	0.48	0 - 0	passed
73	Single TCDD	31.13	0.6883	0.6450 - 0.8950	passed	2.61	0 - 0	passed
74	Single TCDD	31.66	0.2329	0.6450 - 0.8950	failed	0.14	0 - 0	passed
75	Single TCDD	31.75	0.9477	0.6450 - 0.8950	failed	0.10	0 - 0	passed
76	Single TCDD	31.80	1.1378	0.6450 - 0.8950	failed	0.05	0 - 0	passed
77	Single TCDD	31.90	1.3253	0.6450 - 0.8950	failed	0.05	0 - 0	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
78	Single TCDD	31.95	1.4387	0.6450 - 0.8950	failed	0.13	0 - 0	passed
79	Single PeCDD	37.79	1.5949	1.3150 - 1.7850	passed	102.44	0 - 0	passed
80	Single PeCDD	36.16	3.2199	1.3150 - 1.7850	failed	0.19	0 - 0	passed
81	Single PeCDD	36.39	2.2972	1.3150 - 1.7850	failed	0.08	0 - 0	passed
82	Single PeCDD	36.50	0.9530	1.3150 - 1.7850	failed	0.05	0 - 0	passed
83	Single PeCDD	36.62	0.7940	1.3150 - 1.7850	failed	0.01	0 - 0	passed
84	Single PeCDD	37.22	2.1240	1.3150 - 1.7850	failed	0.18	0 - 0	passed
85	Single PeCDD	37.30	1.2022	1.3150 - 1.7850	failed	0.02	0 - 0	passed
86	Single PeCDD	37.39	2.5746	1.3150 - 1.7850	failed	0.02	0 - 0	passed
87	Single PeCDD	37.96	1.5623	1.3150 - 1.7850	passed	0.05	0 - 0	passed
88	Single PeCDD	38.22	0.8358	1.3150 - 1.7850	failed	0.03	0 - 0	passed
89	Single PeCDD	38.28	1.3912	1.3150 - 1.7850	passed	0.04	0 - 0	passed
90	Single PeCDD	38.35	4.0444	1.3150 - 1.7850	failed	0.02	0 - 0	passed
91	Single PeCDF	37.42	1.5942	1.3150 - 1.7850	passed	106.60	0 - 0	passed
92	Single PeCDF	33.58	0.4297	1.3150 - 1.7850	failed	0.01	0 - 0	passed
93	Single PeCDF	34.00	1.7557	1.3150 - 1.7850	passed	0.01	0 - 0	passed
94	Single PeCDF	34.40	1.8465	1.3150 - 1.7850	failed	0.01	0 - 0	passed
95	Single PeCDF	34.65	1.3941	1.3150 - 1.7850	passed	0.02	0 - 0	passed
96	Single PeCDF	34.86	1.5104	1.3150 - 1.7850	passed	0.52	0 - 0	passed
97	Single PeCDF	35.09	0.5548	1.3150 - 1.7850	failed	0.01	0 - 0	passed
98	Single PeCDF	35.31	1.1465	1.3150 - 1.7850	failed	0.01	0 - 0	passed
99	Single PeCDF	35.62	1.5314	1.3150 - 1.7850	passed	0.19	0 - 0	passed
100	Single PeCDF	35.71	1.1797	1.3150 - 1.7850	failed	0.02	0 - 0	passed
101	Single PeCDF	35.90	1.7294	1.3150 - 1.7850	passed	0.09	0 - 0	passed
102	Single PeCDF	36.16	1.5867	1.3150 - 1.7850	passed	95.49	0 - 0	passed
103	Single PeCDF	36.33	1.2240	1.3150 - 1.7850	failed	0.03	0 - 0	passed
104	Single PeCDF	36.48	1.4848	1.3150 - 1.7850	passed	2.48	0 - 0	passed
105	Single PeCDF	36.68	1.7994	1.3150 - 1.7850	failed	0.01	0 - 0	passed
106	Single PeCDF	36.79	2.0066	1.3150 - 1.7850	failed	0.01	0 - 0	passed
107	Single PeCDF	36.97	0.5012	1.3150 - 1.7850	failed	0.01	0 - 0	passed
108	Single PeCDF	37.05	1.9556	1.3150 - 1.7850	failed	0.01	0 - 0	passed
109	Single PeCDF	37.28	1.5637	1.3150 - 1.7850	passed	0.09	0 - 0	passed
110	Single PeCDF	37.70	0.2437	1.3150 - 1.7850	failed	0.02	0 - 0	passed
111	Single PeCDF	37.79	1.7487	1.3150 - 1.7850	passed	0.07	0 - 0	passed
112	Single PeCDF	37.96	2.3855	1.3150 - 1.7850	failed	0.02	0 - 0	passed
113	Single PeCDF	38.08	0.9421	1.3150 - 1.7850	failed	0.02	0 - 0	passed
114	Single PeCDF	38.21	0.5223	1.3150 - 1.7850	failed	0.03	0 - 0	passed
115	Single PeCDF	38.28	1.0318	1.3150 - 1.7850	failed	0.03	0 - 0	passed
116	Single PeCDF	38.41	1.5180	1.3150 - 1.7850	passed	0.03	0 - 0	passed
117	Single PeCDF	38.47	0.3655	1.3150 - 1.7850	failed	0.02	0 - 0	passed
118	Single PeCDF	38.61	1.6209	1.3150 - 1.7850	passed	1.35	0 - 0	passed
119	Single HpCDD	45.74	1.0472	0.8750 - 1.2050	passed	101.97	0 - 0	passed
120	Single HpCDD	44.87	0.9992	0.8750 - 1.2050	passed	1.08	0 - 0	passed
121	Single HpCDD	45.80	0.4275	0.8750 - 1.2050	failed	0.48	0 - 0	passed
122	Single HxCDF	41.16	1.2498	1.0450 - 1.4350	passed	106.23	0 - 0	passed
123	Single HxCDF	39.47	1.3848	1.0450 - 1.4350	passed	0.09	0 - 0	passed
124	Single HxCDF	39.69	1.0912	1.0450 - 1.4350	passed	0.21	0 - 0	passed
125	Single HxCDF	40.87	1.2739	1.0450 - 1.4350	passed	0.11	0 - 0	passed
126	Single HxCDF	41.01	1.2474	1.0450 - 1.4350	passed	104.44	0 - 0	passed
127	Single HxCDF	41.29	0.2977	1.0450 - 1.4350	failed	0.03	0 - 0	passed
128	Single HxCDF	41.35	0.9978	1.0450 - 1.4350	failed	0.02	0 - 0	passed
129	Single HxCDF	41.49	1.3817	1.0450 - 1.4350	passed	0.03	0 - 0	passed
130	Single HxCDF	41.58	6.2686	1.0450 - 1.4350	failed	0.04	0 - 0	passed
131	Single HxCDF	41.64	1.2652	1.0450 - 1.4350	passed	0.05	0 - 0	passed
132	Single HxCDF	41.86	1.2452	1.0450 - 1.4350	passed	103.13	0 - 0	passed
133	Single HxCDF	42.17	1.5884	1.0450 - 1.4350	failed	0.11	0 - 0	passed
134	Single HxCDF	42.33	0.7235	1.0450 - 1.4350	failed	0.02	0 - 0	passed
135	Single HxCDF	42.56	0.4698	1.0450 - 1.4350	failed	0.02	0 - 0	passed
136	Single HxCDF	42.87	1.2483	1.0450 - 1.4350	passed	90.91	0 - 0	passed
137	Single HxCDD	42.15	1.2504	1.0450 - 1.4350	passed	102.15	0 - 0	passed
138	Single HxCDD	40.92	1.1073	1.0450 - 1.4350	passed	0.03	0 - 0	passed
139	Single HxCDD	41.00	4.3267	1.0450 - 1.4350	failed	0.07	0 - 0	passed
140	Single HxCDD	41.14	5.7605	1.0450 - 1.4350	failed	0.07	0 - 0	passed
141	Single HxCDD	41.23	1.0813	1.0450 - 1.4350	passed	0.09	0 - 0	passed
142	Single HxCDD	41.84	3.2927	1.0450 - 1.4350	failed	0.08	0 - 0	passed
143	Single HxCDD	42.03	1.2804	1.0450 - 1.4350	passed	102.22	0 - 0	passed
144	Single HxCDD	42.46	1.2582	1.0450 - 1.4350	passed	104.18	0 - 0	passed
145	Single HxCDD	42.61	3.6627	1.0450 - 1.4350	failed	0.06	0 - 0	passed
146	Single HxCDD	42.64	3.1928	1.0450 - 1.4350	failed	0.04	0 - 0	passed
147	Single HpCDF	44.54	1.0649	0.8750 - 1.2050	passed	111.44	0 - 0	passed
148	Single HpCDF	44.69	1.8131	0.8750 - 1.2050	failed	0.10	0 - 0	passed
149	Single HpCDF	44.90	1.5682	0.8750 - 1.2050	failed	0.28	0 - 0	passed
150	Single HpCDF	45.08	0.8408	0.8750 - 1.2050	failed	0.50	0 - 0	passed
151	Single HpCDF	45.22	1.9540	0.8750 - 1.2050	failed	0.03	0 - 0	passed
152	Single HpCDF	45.31	7.0676	0.8750 - 1.2050	failed	0.02	0 - 0	passed
153	Single HpCDF	45.37	0.8467	0.8750 - 1.2050	failed	0.02	0 - 0	passed
154	Single HpCDF	45.76	0.6799	0.8750 - 1.2050	failed	0.09	0 - 0	passed

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
155	Single HpCDF	45.87	0.8054	0.8750 - 1.2050	failed	0.02	0 - 0	passed
156	Single HpCDF	46.32	1.0618	0.8750 - 1.2050	passed	94.31	0 - 0	passed

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	30.50	293963	A	226277	A	0.0043	9.679247	9.6792	10.000000	5547	
2	2378-TCDD	passed	31.54	187007	A	147107	A	0.0057	11.083698	11.0837	10.000000	4817	
3	12378-PeCDF	passed	36.16	829400	A	1316026	A	0.0069	50.400752	50.4008	50.000000	18328	
4	23478-PeCDF	passed	37.42	923202	A	1471779	A	0.0059	50.595913	50.5959	50.000000	22253	
5	12378-PeCDD	passed	37.79	479394	A	764601	A	0.0101	51.220548	51.2205	50.000000	12908	
6	123478-HxCDF	passed	41.01	962410	A	1200520	A	0.0120	51.195211	51.1952	50.000000	10938	
7	123678-HxCDF	passed	41.16	977883	A	1222205	A	0.0114	50.467101	50.4671	50.000000	11062	
8	234678-HxCDF	passed	41.86	951359	A	1184606	A	0.0116	50.144042	50.1440	50.000000	11002	
9	123478-HxCDD	passed	42.03	585579	A	749765	A	0.0117	52.361871	52.3619	50.000000	10979	
10	123678-HxCDD	passed	42.15	592983	A	741493	A	0.0110	50.558575	50.5586	50.000000	11495	
11	123789-HxCDD	passed	42.46	602653	A	758279	A	0.0113	51.384899	51.3849	50.000000	11346	
12	123789-HxCDF	passed	42.87	837413	A	1045339	A	0.0132	50.523085	50.5231	50.000000	9426	
13	1234678-HpCDF	passed	44.54	942291	A	1003412	A	0.0120	50.668170	50.6682	50.000000	10501	
14	1234678-HpCDD	passed	45.74	573164	A	600240	A	0.0133	50.985102	50.9851	50.000000	9683	
15	1234789-HpCDF	passed	46.32	798655	A	847998	A	0.0147	52.372976	52.3730	50.000000	9036	
16	OCDD	passed	48.76	1055739	A	946596	A	0.0161	100.911518	100.9115	100.000000	15775	
17	OCDF	passed	48.96	1409850	A	1284007	A	0.0116	100.671269	100.6713	100.000000	21337	
18	13C12-1278-TCDD (CRS)	failed	31.92	153187	A	126457	A	0.0087	7.423416	n.d.	10.000000	2088	
19	13C12-1234-TCDD	passed	30.70	1653838	A	1323306	A	0.0128	100.000000	100.0000	100.000000	19528	
20	13C12-123468-HxCDD	passed	40.89	1353048	A	1702031	A	0.0155	100.000000	100.0000	100.000000	16176	
21	13C12-2378-TCDF	passed	30.46	2700200	A	2181255	A	0.0057	88.582344	88.5823	100.000000	38619	
22	13C12-2378-TCDD	passed	31.52	1377269	A	1092446	A	0.0138	89.312343	89.3123	100.000000	17100	
23	13C12-12378-PeCDF	passed	36.13	1648335	A	2650620	A	0.0199	84.348755	84.3488	100.000000	13658	
24	13C12-23478-PeCDF	passed	37.39	1632298	A	2635130	A	0.0203	85.365673	85.3657	100.000000	14103	
25	13C12-12378-PeCDD	passed	37.78	907097	A	1434405	A	0.0148	85.887307	85.8873	100.000000	20226	
26	13C12-123478-HxCDF	passed	41.00	2289396	A	1236157	A	0.0128	87.413206	87.4132	100.000000	16999	
27	13C12-123678-HxCDF	passed	41.14	2465156	A	1314930	A	0.0120	88.021554	88.0216	100.000000	18612	
28	13C12-234678-HxCDF	passed	41.84	2236277	A	1198610	A	0.0134	89.125232	89.1252	100.000000	16943	
29	13C12-123478-HxCDD	passed	42.02	1091108	A	1409463	A	0.0167	88.589659	88.5897	100.000000	13624	
30	13C12-123678-HxCDD	passed	42.14	1142546	A	1421958	A	0.0165	89.550396	89.5504	100.000000	14427	
31	13C12-123789-HxCDD	passed	42.45	1079353	A	1343813	A	0.0173	88.865068	88.8651	100.000000	13182	
32	13C12-123789-HxCDF	passed	42.86	2113611	A	1117346	A	0.0140	87.715419	87.7154	100.000000	16006	
33	13C12-1234678-HpCDF	passed	44.53	2027457	A	941155	A	0.0187	87.316599	87.3166	100.000000	12438	
34	13C12-1234678-HpCDD	passed	45.73	1045761	A	1114756	A	0.0193	87.237807	87.2378	100.000000	12085	
35	13C12-1234789-HpCDF	passed	46.31	1660620	A	768055	A	0.0228	86.997859	86.9979	100.000000	10167	
36	13C12-OCDD	passed	48.74	2015913	A	1789484	A	0.0154	174.804807	174.8048	200.000000	31884	
37	13C12-OCDF	passed	48.94	2985509	A	2708064	A	0.0127	171.335106	171.3351	200.000000	38007	
38	Total TCDF	passed (9)	29.24	297510	A	228935	A	0.0043	1.088298	9.7947	10.000000	625	
39	Total TCDD	passed (3)	30.03	191678	A	150325	A	0.0057	3.781804	11.3454	10.000000	1633	
40	Total PeCDF	passed (13)	35.66	1795733	A	2854057	A	0.0064	7.959995	103.4799	50.000000	3189	
41	Total PeCDD	passed (3)	36.61	479850	A	765278	A	0.0101	17.089063	51.2672	50.000000	4309	
42	Total HxCDF	passed (10)	41.20	3733569	A	4658144	A	0.0120	20.259319	202.5932	50.000000	4248	
43	Total HxCDD	passed (7)	41.48	1782038	A	2250445	A	0.0113	22.048426	154.3390	50.000000	4834	
44	Total HpCDD	passed (2)	45.32	579367	A	606438	A	0.0133	25.761973	51.5239	50.000000	4888	
45	Total HpCDF	passed (3)	45.42	1741057	A	1851534	A	0.0132	34.294208	102.8826	50.000000	6513	
46	Single TCDF	passed	30.50	293963	A	226277	A	0.0043	9.679247	9.6792	10.000000	5547	
47	Single TCDF	failed	25.52	118	A	25	A	0.0043	0.002671	n.d.	10.000000	3	
48	Single TCDF	failed	25.75	21	A	138	A	0.0043	0.002954	n.d.	10.000000	3	
49	Single TCDF	passed	26.99	237	A	172	A	0.0043	0.007600	0.0076	10.000000	7	
50	Single TCDF	passed	28.43	100	A	66	A	0.0043	0.003088	0.0031	10.000000	3	
51	Single TCDF	failed	28.74	1233	A	1483	A	0.0043	0.050533	n.d.	10.000000	35	
52	Single TCDF	failed	28.82	3350	A	1816	A	0.0043	0.096114	n.d.	10.000000	64	
53	Single TCDF	passed	29.39	2377	A	1779	A	0.0043	0.077327	0.0773	10.000000	48	
54	Single TCDF	failed	30.16	104	A	25	A	0.0043	0.002407	n.d.	10.000000	3	
55	Single TCDF	failed	30.60	562	A	612	A	0.0043	0.021848	n.d.	10.000000	15	
56	Single TCDF	passed	30.94	323	A	251	A	0.0043	0.010696	0.0107	10.000000	9	
57	Single TCDF	failed	31.17	118	A	91	A	0.0043	0.003890	n.d.	10.000000	4	
58	Single TCDF	failed	31.27	64	A	73	A	0.0043	0.002545	n.d.	10.000000	3	
59	Single TCDF	failed	31.42	56	A	108	A	0.0043	0.003039	n.d.	10.000000	3	
60	Single TCDF	passed	31.54	345	A	246	A	0.0043	0.010984	0.0110	10.000000	8	
61	Single TCDF	failed	31.63	70	A	42	A	0.0043	0.002088	n.d.	10.000000	3	
62	Single TCDF	failed	31.70	43	A	149	A	0.0043	0.003569	n.d.	10.000000	4	
63	Single TCDF	failed	32.57	97	A	21	A	0.0043	0.002203	n.d.	10.000000	3	
64	Single TCDF	passed	32.94	148	A	132	A	0.0043	0.005210	0.0052	10.000000	4	
65	Single TCDD	passed	31.54	187007	A	147107	A	0.0057	11.083698	11.0837	10.000000	4817	
66	Single TCDD	failed	27.76	12	A	102	A	0.0057	0.003788	n.d.	10.000000	3	
67	Single TCDD	failed	28.79	30	A	63	A	0.0057	0.003097	n.d.	10.000000	3	
68	Single TCDD	failed	29.30	20	A	130	A	0.0057	0.004997	n.d.	10.000000	4	
69	Single TCDD	failed	29.49	206	A	262	A	0.0057	0.015500	n.d.	10.000000	11	
70	Single TCDD	failed	29.59	65	A	24	A	0.0057	0.002960	n.d.	10.000000	3	
71	Single TCDD	failed	30.05	240	A	217	A	0.0057	0.015168	n.d.	10.000000	7	
72	Single TCDD	failed	30.46	411	A	1040	A	0.0057	0.048145	n.d.	10.000000	23	
73	Single TCDD	passed	31.13	4658	A	3206	A	0.0057	0.260859	0.2609	10.000000	80	
74	Single TCDD	failed	31.66	333	A	77	A	0.0057	0.013604	n.d.	10.000000	13	
75	Single TCDD	failed	31.75	158	A	150	A	0.0057	0.010227	n.d.	10.000000	10	
76	Single TCDD	failed	31.80	68	A	78	A	0.0057	0.004851	n.d.	10.000000	5	
77	Single TCDD	failed	31.90	60	A	80	A	0.0057	0.004654	n.d.	10.000000	4	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
78	Single TCDD	failed	31.95	163	A	234	A	0.0057	0.013147	n.d.	10.000000	8	
79	Single PeCDD	passed	37.79	479394	A	764601	A	0.0101	51.220548	51.2205	50.000000	12908	
80	Single PeCDD	failed	36.16	539	A	1735	A	0.0101	0.093620	n.d.	50.000000	17	
81	Single PeCDD	failed	36.39	311	A	715	A	0.0101	0.042228	n.d.	50.000000	9	
82	Single PeCDD	failed	36.50	311	A	296	A	0.0101	0.024977	n.d.	50.000000	7	
83	Single PeCDD	failed	36.62	88	A	70	A	0.0101	0.006516	n.d.	50.000000	3	
84	Single PeCDD	failed	37.22	684	A	1454	A	0.0101	0.088032	n.d.	50.000000	21	
85	Single PeCDD	failed	37.30	97	A	116	A	0.0101	0.008779	n.d.	50.000000	4	
86	Single PeCDD	failed	37.39	81	A	208	A	0.0101	0.011872	n.d.	50.000000	4	
87	Single PeCDD	passed	37.96	246	A	385	A	0.0101	0.025977	0.0260	50.000000	12	
88	Single PeCDD	failed	38.22	217	A	182	A	0.0101	0.016429	n.d.	50.000000	6	
89	Single PeCDD	passed	38.28	210	A	292	A	0.0101	0.020662	0.0207	50.000000	7	
90	Single PeCDD	failed	38.35	40	A	164	A	0.0101	0.008410	n.d.	50.000000	3	
91	Single PeCDF	passed	37.42	923202	A	1471779	A	0.0064	53.299717	53.2997	50.000000	22253	
92	Single PeCDF	failed	33.58	145	A	62	A	0.0064	0.004618	n.d.	50.000000	3	
93	Single PeCDF	passed	34.00	103	A	181	A	0.0064	0.006339	0.0063	50.000000	3	
94	Single PeCDF	failed	34.40	76	A	140	A	0.0064	0.004787	n.d.	50.000000	3	
95	Single PeCDF	passed	34.65	232	A	324	A	0.0064	0.012366	0.0124	50.000000	6	
96	Single PeCDF	passed	34.86	4644	A	7014	A	0.0064	0.259436	0.2594	50.000000	70	
97	Single PeCDF	failed	35.09	116	A	65	A	0.0064	0.004029	n.d.	50.000000	3	
98	Single PeCDF	failed	35.31	112	A	128	A	0.0064	0.005331	n.d.	50.000000	3	
99	Single PeCDF	passed	35.62	1645	A	2520	A	0.0064	0.092687	0.0927	50.000000	32	
100	Single PeCDF	failed	35.71	175	A	207	A	0.0064	0.008508	n.d.	50.000000	4	
101	Single PeCDF	passed	35.90	779	A	1347	A	0.0064	0.047294	0.0473	50.000000	17	
102	Single PeCDF	passed	36.16	829400	A	1316026	A	0.0064	47.745936	47.7459	50.000000	18328	
103	Single PeCDF	failed	36.33	263	A	322	A	0.0064	0.013035	n.d.	50.000000	13	
104	Single PeCDF	passed	36.48	22426	A	33298	A	0.0064	1.240130	1.2401	50.000000	455	
105	Single PeCDF	failed	36.68	104	A	188	A	0.0064	0.006497	n.d.	50.000000	5	
106	Single PeCDF	failed	36.79	64	A	129	A	0.0064	0.004308	n.d.	50.000000	4	
107	Single PeCDF	failed	36.97	133	A	67	A	0.0064	0.004449	n.d.	50.000000	3	
108	Single PeCDF	failed	37.05	74	A	144	A	0.0064	0.004837	n.d.	50.000000	3	
109	Single PeCDF	passed	37.28	810	A	1267	A	0.0064	0.046238	0.0462	50.000000	23	
110	Single PeCDF	failed	37.70	399	A	97	A	0.0064	0.011030	n.d.	50.000000	6	
111	Single PeCDF	passed	37.79	597	A	1044	A	0.0064	0.036535	0.0365	50.000000	16	
112	Single PeCDF	failed	37.96	144	A	343	A	0.0064	0.010825	n.d.	50.000000	5	
113	Single PeCDF	failed	38.08	259	A	244	A	0.0064	0.011205	n.d.	50.000000	6	
114	Single PeCDF	failed	38.21	420	A	220	A	0.0064	0.014242	n.d.	50.000000	7	
115	Single PeCDF	failed	38.28	366	A	378	A	0.0064	0.016564	n.d.	50.000000	7	
116	Single PeCDF	passed	38.41	254	A	386	A	0.0064	0.014233	0.0142	50.000000	7	
117	Single PeCDF	failed	38.47	281	A	103	A	0.0064	0.008525	n.d.	50.000000	5	
118	Single PeCDF	passed	38.61	11609	A	18817	A	0.0064	0.677139	0.6771	50.000000	244	
119	Single HpCDD	passed	45.74	573164	A	600240	A	0.0133	50.985102	50.9851	50.000000	9683	
120	Single HpCDD	passed	44.87	6203	A	6198	A	0.0133	0.538844	0.5388	50.000000	93	
121	Single HpCDD	failed	45.80	3875	A	1656	A	0.0133	0.240325	n.d.	50.000000	46	
122	Single HxCDF	passed	41.16	977883	A	1222205	A	0.0120	53.114640	53.1146	50.000000	11062	
123	Single HxCDF	passed	39.47	807	A	1118	A	0.0120	0.046483	0.0465	50.000000	9	
124	Single HxCDF	passed	39.69	2039	A	2225	A	0.0120	0.102949	0.1029	50.000000	19	
125	Single HxCDF	passed	40.87	959	A	1222	A	0.0120	0.052648	0.0526	50.000000	13	
126	Single HxCDF	passed	41.01	962410	A	1200520	A	0.0120	52.217558	52.2176	50.000000	10938	
127	Single HxCDF	failed	41.29	462	A	138	A	0.0120	0.014474	n.d.	50.000000	5	
128	Single HxCDF	failed	41.35	229	A	228	A	0.0120	0.011033	n.d.	50.000000	5	
129	Single HxCDF	passed	41.49	223	A	309	A	0.0120	0.012847	0.0128	50.000000	4	
130	Single HxCDF	failed	41.58	114	A	713	A	0.0120	0.019951	n.d.	50.000000	5	
131	Single HxCDF	passed	41.64	455	A	576	A	0.0120	0.024884	0.0249	50.000000	5	
132	Single HxCDF	passed	41.86	951359	A	1184606	A	0.0120	51.566589	51.5666	50.000000	11002	
133	Single HxCDF	failed	42.17	870	A	1381	A	0.0120	0.054338	n.d.	50.000000	9	
134	Single HxCDF	failed	42.33	226	A	164	A	0.0120	0.009419	n.d.	50.000000	3	
135	Single HxCDF	failed	42.56	235	A	110	A	0.0120	0.008331	n.d.	50.000000	3	
136	Single HxCDF	passed	42.87	837413	A	1045339	A	0.0120	45.453505	45.4535	50.000000	9426	
137	Single HxCDD	passed	42.15	592983	A	741493	A	0.0113	51.075652	51.0757	50.000000	11495	
138	Single HxCDD	passed	40.92	201	A	222	A	0.0113	0.016200	0.0162	50.000000	4	
139	Single HxCDD	failed	41.00	166	A	718	A	0.0113	0.033849	n.d.	50.000000	7	
140	Single HxCDD	failed	41.14	139	A	802	A	0.0113	0.036020	n.d.	50.000000	9	
141	Single HxCDD	passed	41.23	535	A	578	A	0.0113	0.042595	0.0426	50.000000	9	
142	Single HxCDD	failed	41.84	237	A	780	A	0.0113	0.038943	n.d.	50.000000	8	
143	Single HxCDD	passed	42.03	585579	A	749765	A	0.0113	51.108885	51.1089	50.000000	10979	
144	Single HxCDD	passed	42.46	602653	A	758279	A	0.0113	52.088234	52.0882	50.000000	11346	
145	Single HxCDD	failed	42.61	161	A	589	A	0.0113	0.028715	n.d.	50.000000	11	
146	Single HxCDD	failed	42.64	127	A	406	A	0.0113	0.020393	n.d.	50.000000	8	
147	Single HpCDF	passed	44.54	942291	A	1003412	A	0.0132	55.719974	55.7200	50.000000	10501	
148	Single HpCDF	failed	44.69	595	A	1080	A	0.0132	0.047967	n.d.	50.000000	11	
149	Single HpCDF	failed	44.90	1896	A	2973	A	0.0132	0.139427	n.d.	50.000000	22	
150	Single HpCDF	failed	45.08	4744	A	3989	A	0.0132	0.250085	n.d.	50.000000	44	
151	Single HpCDF	failed	45.22	157	A	306	A	0.0132	0.013246	n.d.	50.000000	3	
152	Single HpCDF	failed	45.31	46	A	328	A	0.0132	0.010733	n.d.	50.000000	3	
153	Single HpCDF	failed	45.37	228	A	193	A	0.0132	0.012031	n.d.	50.000000	3	
154	Single HpCDF	failed	45.76	936	A	636	A	0.0132	0.045008	n.d.	50.000000	8	

APPROVED
By uma9 at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

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No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
155	Single HpCDF	failed	45.87	207	A	167	A	0.0132	0.010688	n.d.	50.000000	3	
156	Single HpCDF	passed	46.32	798655	A	847998	A	0.0132	47.155951	47.1560	50.000000	9036	

APPROVED
By uma9 at 3:11 pm, 5/10/18

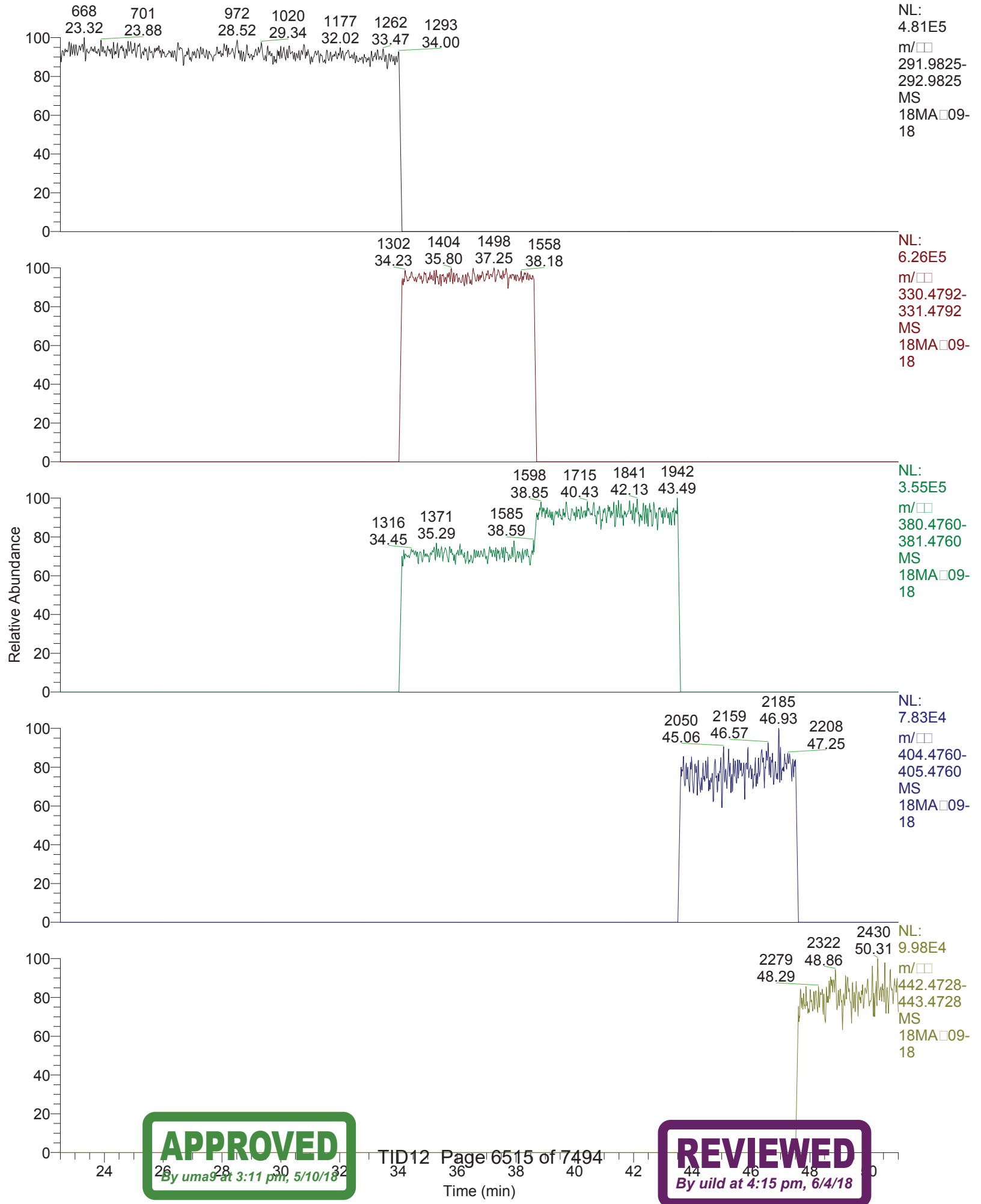
REVIEWED
By uild at 4:15 pm, 6/4/18

File Name: □:□18MA□09□18MA□09-18
Sample ID: ICV

Acq. Data: 5/10/2018 2:13:05 AM
Sample Name: SSDF□1837B
PFK Reference Loc□Mass Traces

Instrument ID: DF19780-18MA□09

RT: 22.50 - 51.00



APPROVED
By umas at 3:11 pm, 5/10/18

REVIEWED
By uild at 4:15 pm, 6/4/18

*** file opened Thu May 10 02:18:32 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 10-May-18 02:18:32

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 2ce2c721-9a99-4fd1-8799-7d46fc5716f8

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	12:00 min	10:11 min	22:11 min	1.00 sec
# 2	22:11 min	11:48 min	34:00 min	1.00 sec
# 3	34:00 min	4:36 min	38:36 min	0.90 sec
# 4	38:36 min	4:53 min	43:30 min	0.80 sec
# 5	43:30 min	4:00 min	47:30 min	0.80 sec
# 6	47:30 min	3:30 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.200000 minutes
MID Window end time was 22.200000 minutes
MID Window terminated after 34.000000 minutes
MID Window end time was 34.000000 minutes
```

```
MID Window terminated after 38.600000 minutes
MID Window end time was 38.600000 minutes
MID Window terminated after 43.500000 minutes
MID Window end time was 43.500000 minutes
MID Window terminated after 47.500000 minutes
MID Window end time was 47.500000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\system\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          93.0000
 BQUAD            0.9000   CAPIL           0.0000   CAPTSET         0.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      18.0000   ECORR           0.9998   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9996   EDACZ        2926.0000
 ELEN           -50.0000   EMULT        1500.0000   ENS           189.0000
 ENSBR            0.9000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           180.0000   EXSBR           0.2300
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             148.2347   FMII           50.0000   FQUAD           6.9500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0168   FVINLET         0.0356   FVSRC           0.0309
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      594.0000
 LENS_SYM        11.0000   LM            149.2347   LMII          500.0000
 LMASS           93.0000   LKM           442.9723   MASS           93.0000
 MDAC        1426267.1740  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2508.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT            0.0000   PSAM           10.0000
 PUSHER         -20.0000   RECURR          0.9685   RELEN           0.0000
 RES          11690.4821   RPUSHER       -20.1392   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     542.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             0.0000   SLOW           60.0000   SS              2.0000
 SW               0.0225   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0029   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          93.0000   XLENS_POT     840.0000
 XLENS_SYM       -7.0000   YLENS_POT     576.0000   YLENS_SYM       2.7500

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.4e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.1e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11278.
MID Time Window 2: Resolution is 11604.
MID Time Window 3: Resolution is 11579.
MID Time Window 4: Resolution is 11787.
```

```
MID Time Window 5: Resolution is 12000.
MID Time Window 6: Resolution is 11690.

Amplifier Offset: 86.


*** File closed Thu May 10 03:09:34 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 09:45
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1828537A
Sample ID	CPS02
Inst ID	DF19780-18NOV05
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-02.quan
Data	z:\18nov05\18nov05-02.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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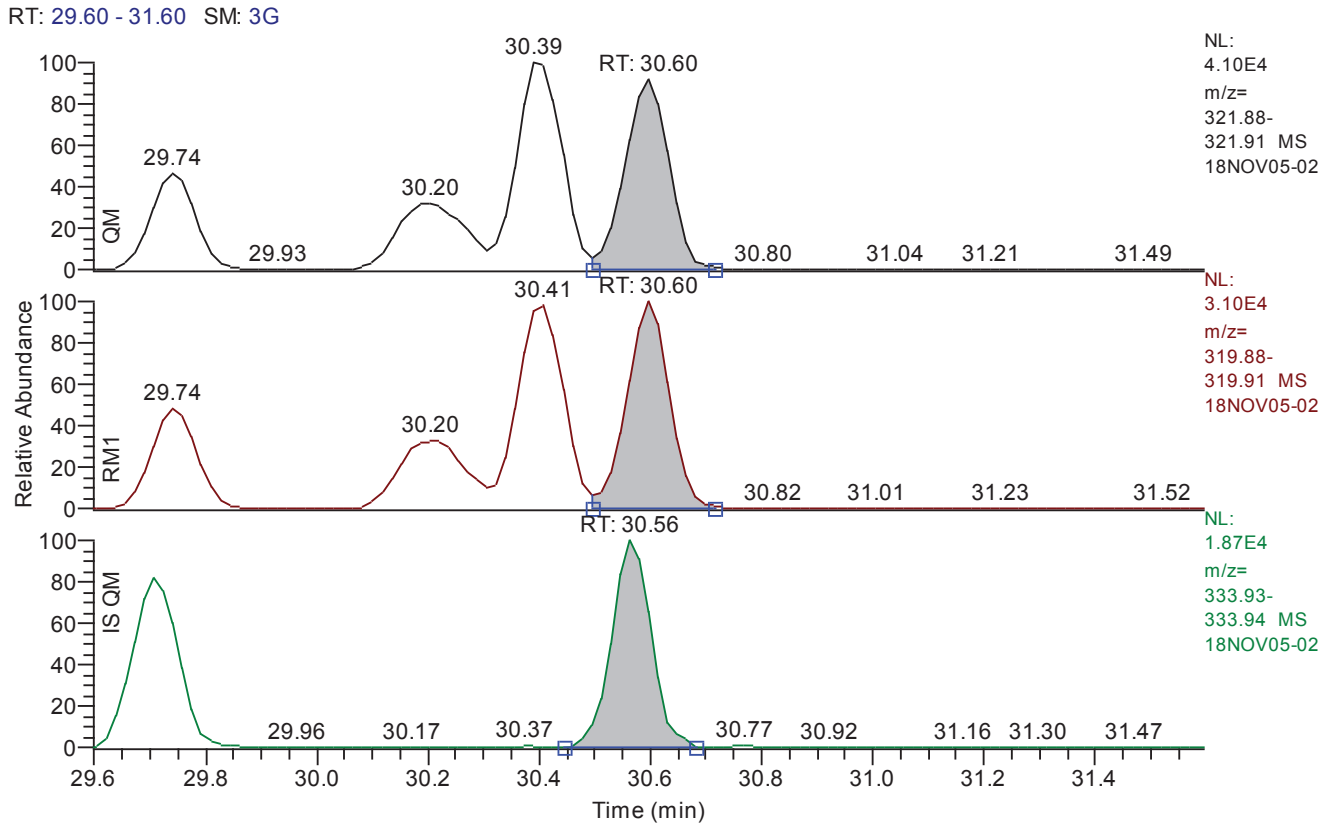
Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

Entry Parameters

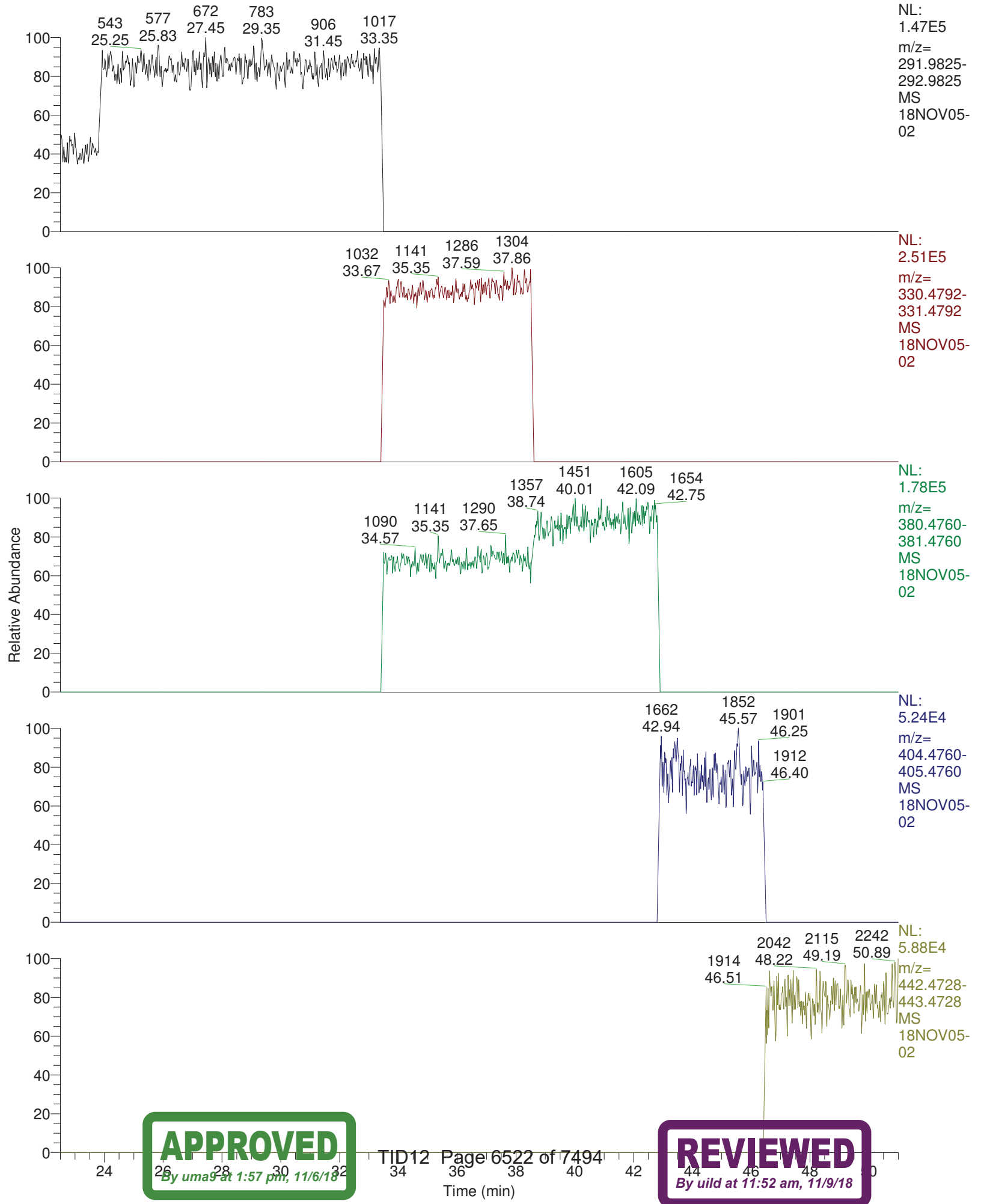
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	30.60
RM1 Left Baseline Height	157.10
RM1 Left Height	1871
RM1 Height	30818
GC Res (%) left	6.118003

File Name: Z:\18NOV05\18NOV05-02
Sample ID: CPS02

Acq. Data: 11/5/2018 9:45:34 AM
Sample Name: TDTFWD - ST1828537A
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV05

RT: 22.50 - 51.00



APPROVED
By umas at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

*** file opened Mon Nov 05 09:48:46 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J

Analysis started at: 05-Nov-18 09:48:45

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 878ac120-35fd-4bfb-911b-274b4532b96c

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS           99.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ         2593.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS            171.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           178.0000   EXSBR            0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             254.9851   FMII           50.0000   FQUAD            8.7000
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0209   FVINLET         0.0410   FVSRC            0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       700.0000
 LENS_SYM         8.0000   LM            254.9851   LMII           500.0000
 LMASS           99.0000   LKM           442.9723   MASS            99.0000
 MDAC        1504026.1113  MRANGE       1272.8365   NSAM           200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER         -17.0000   RECURR          0.9665   RELEN            0.0000
 RES          13964.9697   RPUSHER       -17.1648   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     738.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0198   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0002   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT      848.0000
 XLENS_SYM        3.0000   YLENS_POT     780.0000   YLENS_SYM       16.0000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.5e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10910.
MID Time Window 2: Resolution is 11691.
MID Time Window 3: Resolution is 12518.
MID Time Window 4: Resolution is 12108.
```

```
                                        18NOV05-02
  MID Time Window 5: Resolution is 13582.
  MID Time Window 6: Resolution is 13964.

  Amplifier Offset: 85.


*** File closed Mon Nov 05 10:39:48 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 10:39
Number of Entries	61
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF19780-18NOV05
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-03.quan
Data	z:\18nov05\18nov05-03.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.48	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.61	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.43	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.73	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.13	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.42	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.58	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.28	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.47	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.59	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.91	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.30	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.03	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.24	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.82	passed	passed	passed	passed	passed	passed	
16	OCDD	48.29	passed	passed	passed	passed	passed	passed	
17	OCDF	48.47	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.99	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.72	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.31	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.47	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.58	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.41	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.71	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.10	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.40	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.27	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.58	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.90	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.29	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.24	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.27	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.46	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 10:39
Number of Entries	61
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF19780-18NOV05
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-03.quan
Data	z:\18nov05\18nov05-03.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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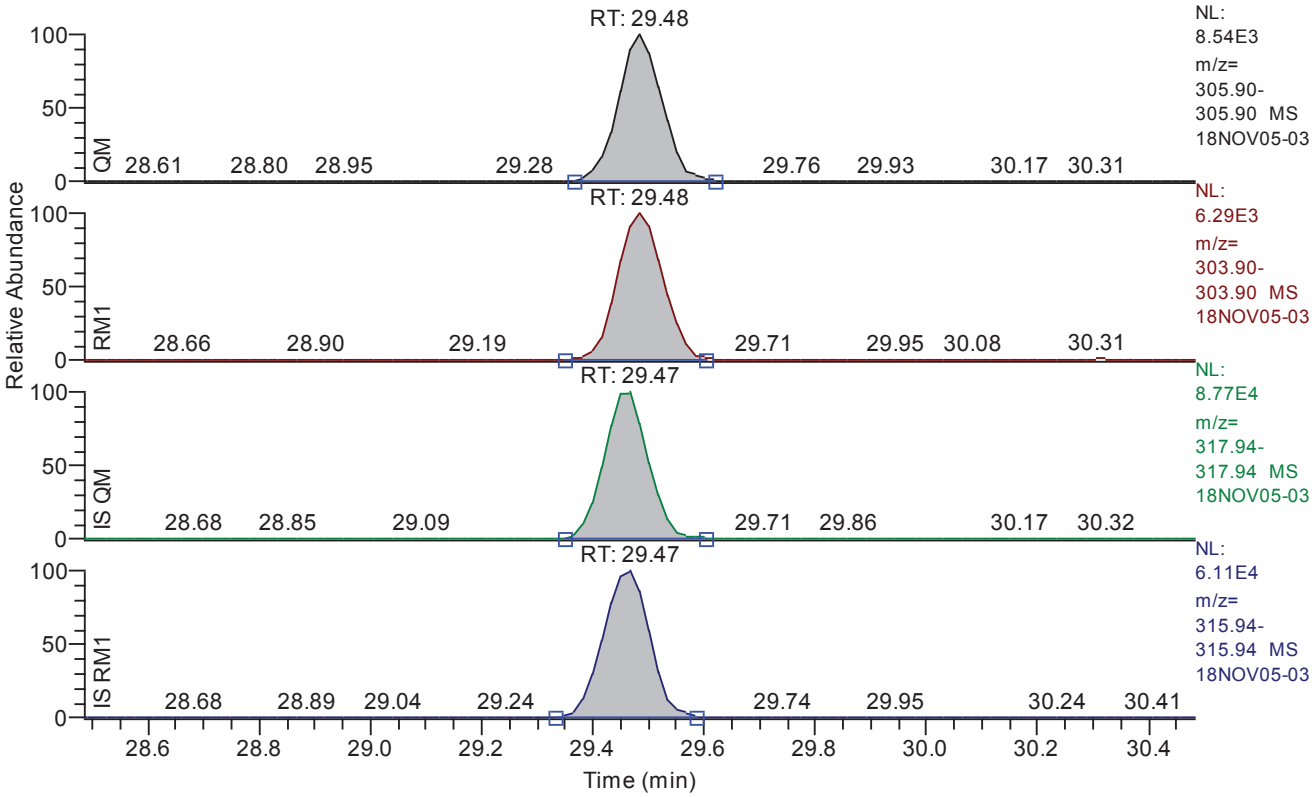
Chromatogram

RT: 28.48 - 30.48 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.48
QM Area	47340
QM Integration Mode	A
RM1 Area	36479
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0230
Unqualified Amount (A)	8.894156
Adjusted Amount (A)	8.8942
Signal-to-Noise	982
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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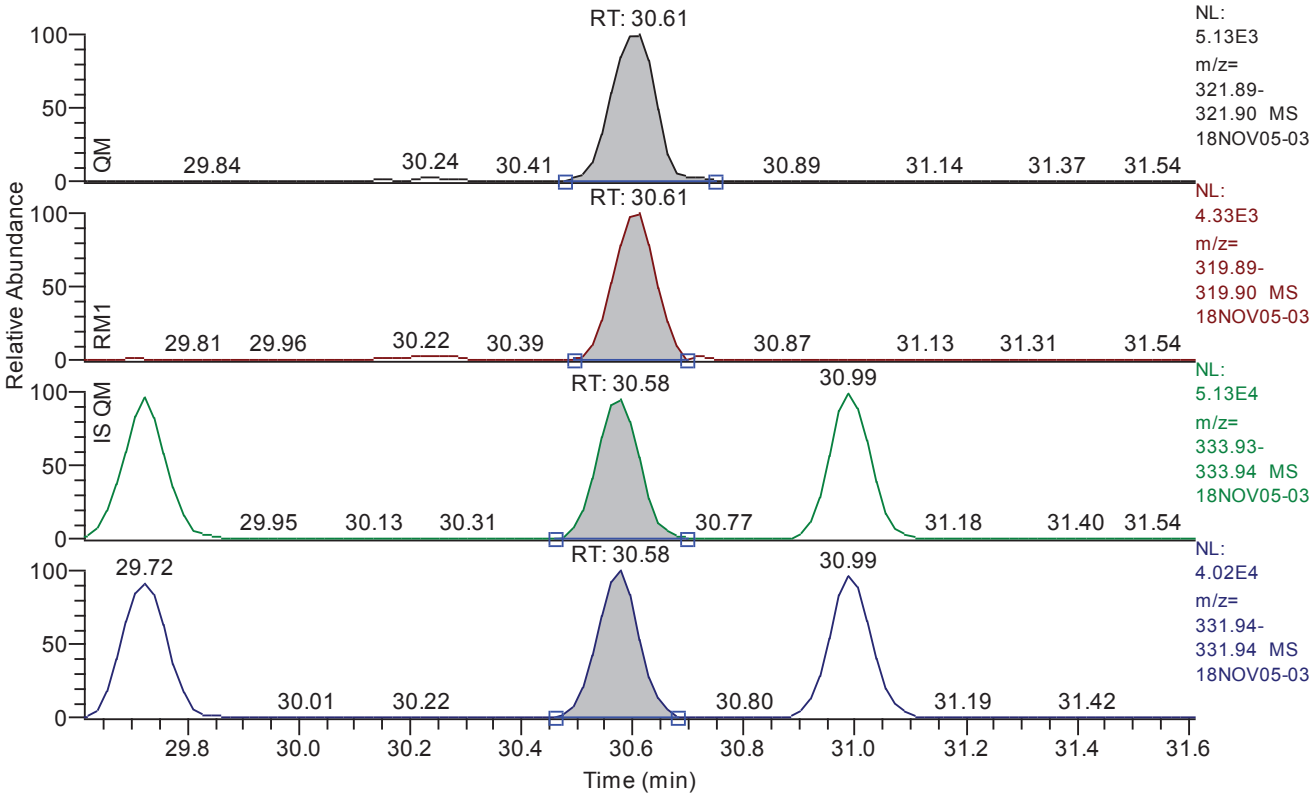
Chromatogram

RT: 29.61 - 31.61 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.61
QM Area	29498
QM Integration Mode	A
RM1 Area	23572
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0262
Unqualified Amount (A)	8.963959
Adjusted Amount (A)	8.9640
Signal-to-Noise	828
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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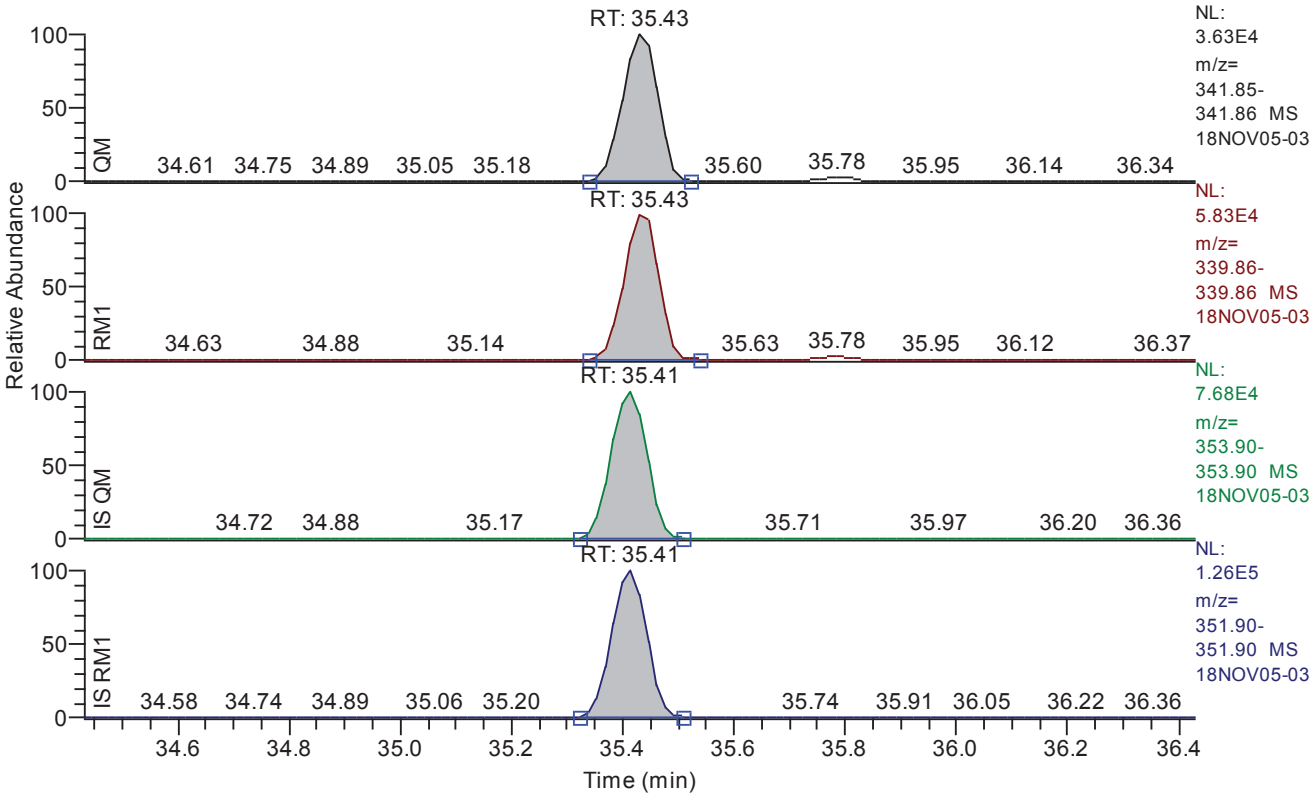
Chromatogram

RT: 34.43 - 36.43 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.43
QM Area	161200
QM Integration Mode	A
RM1 Area	253376
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0232
Unqualified Amount (A)	46.383157
Adjusted Amount (A)	46.3832
Signal-to-Noise	5087
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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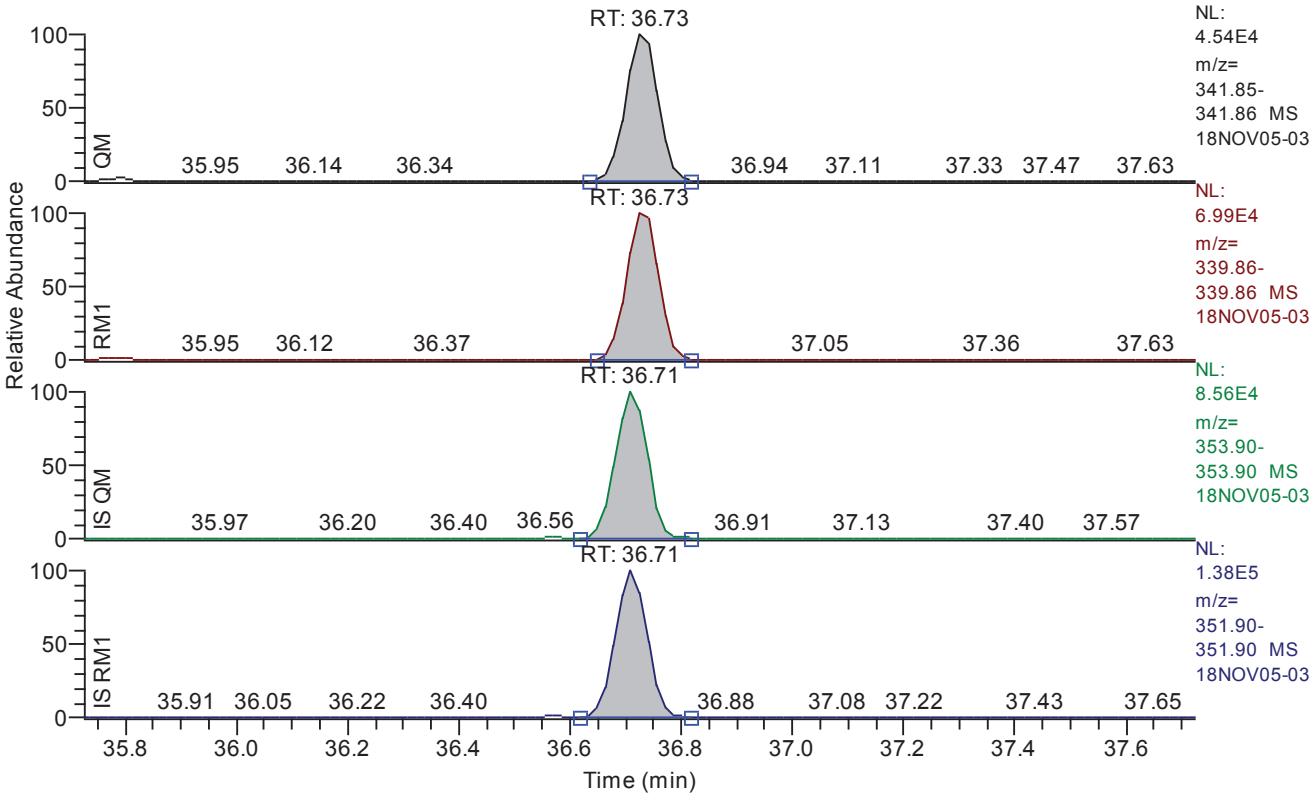
Chromatogram

RT: 35.73 - 37.73 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.73
QM Area	183958
QM Integration Mode	A
RM1 Area	283557
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0188
Unqualified Amount (A)	47.135934
Adjusted Amount (A)	47.1359
Signal-to-Noise	6194
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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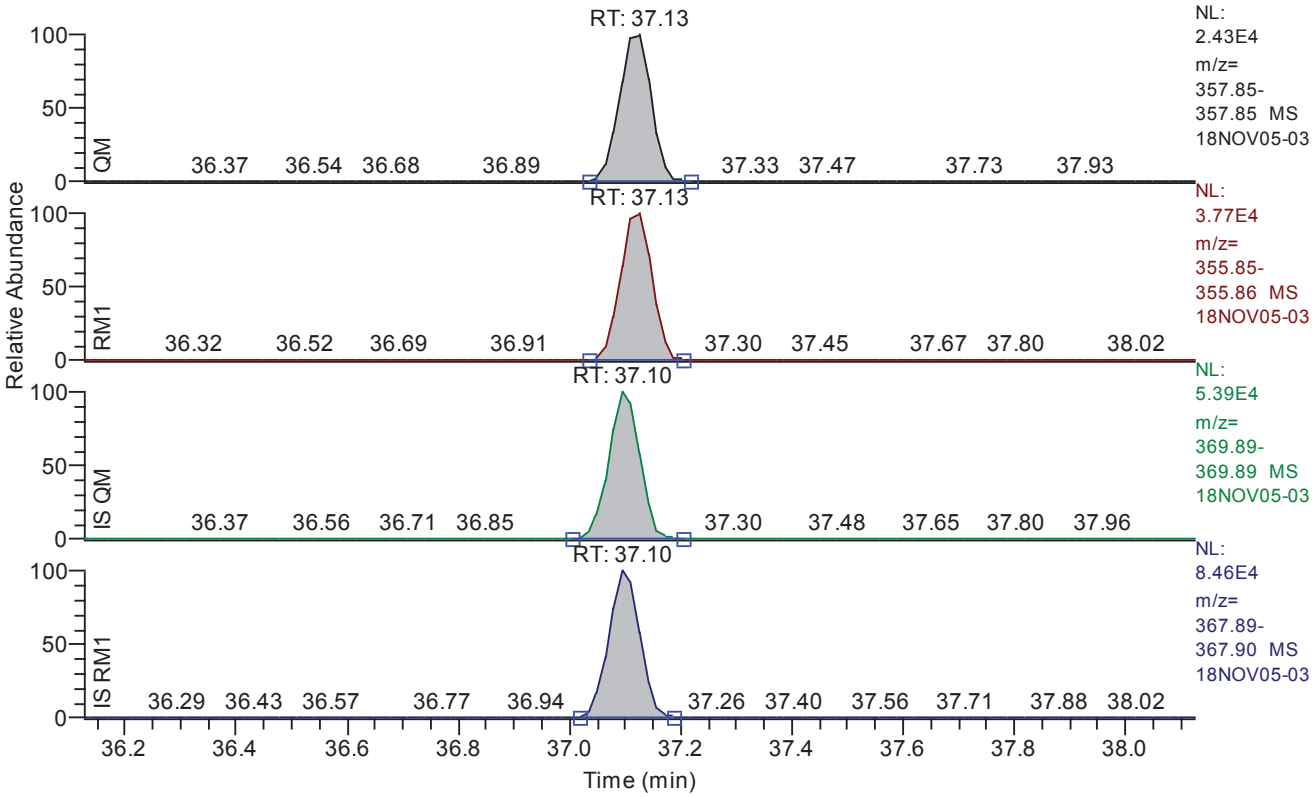
Chromatogram

RT: 36.13 - 38.13 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.13
QM Area	96663
QM Integration Mode	A
RM1 Area	149206
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0308
Unqualified Amount (A)	43.682097
Adjusted Amount (A)	43.6821
Signal-to-Noise	3493
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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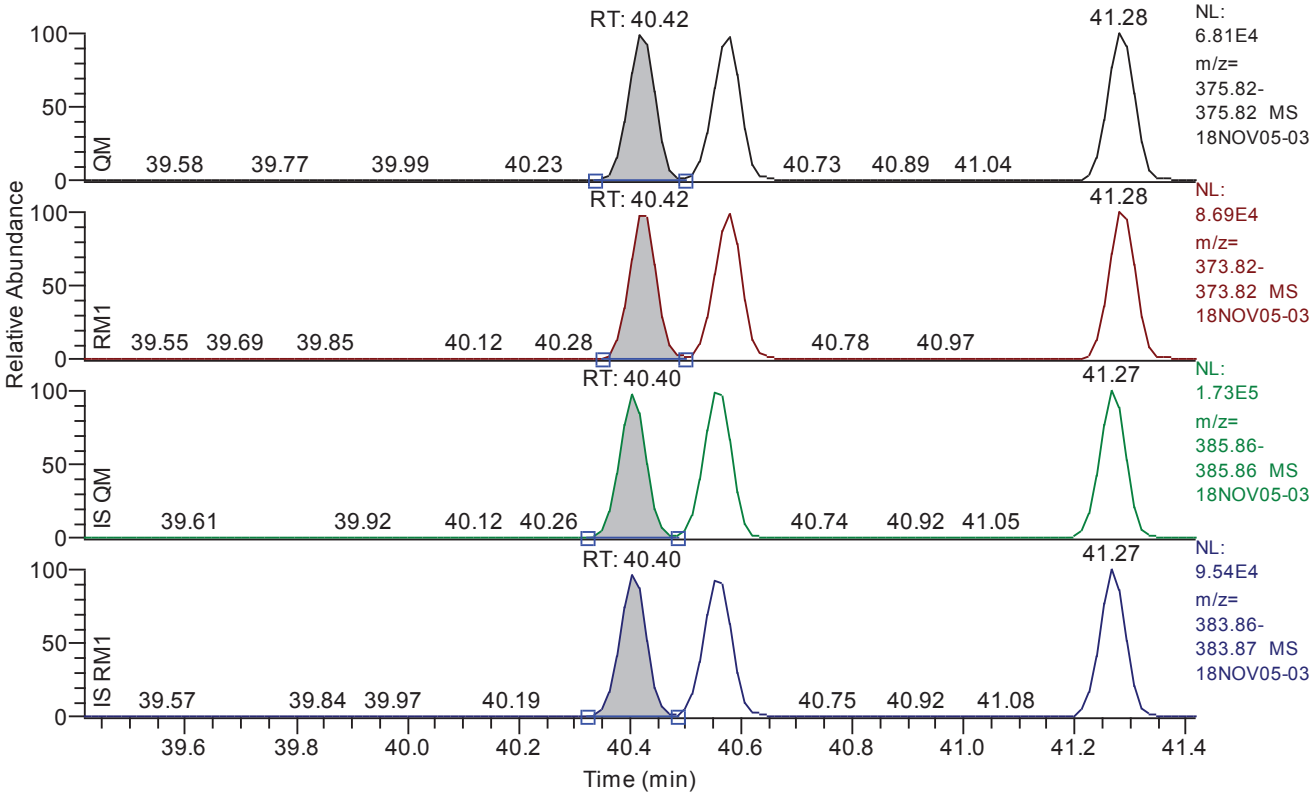
Chromatogram

RT: 39.42 - 41.42 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.42
QM Area	232129
QM Integration Mode	A
RM1 Area	295062
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0452
Unqualified Amount (A)	49.654316
Adjusted Amount (A)	49.6543
Signal-to-Noise	2686
Client Flags	
Status Overview	passed
Status Info	

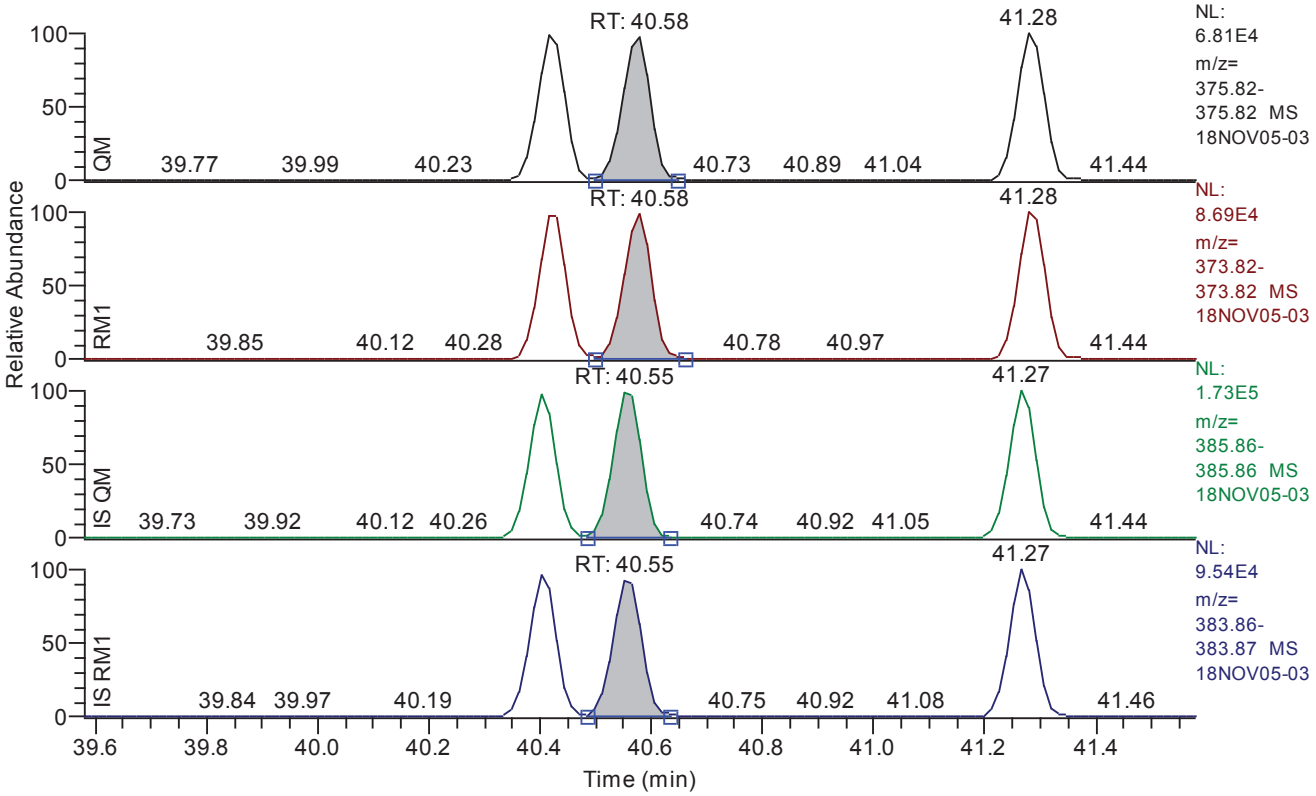
APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

eurofins | Lancaster Laboratories Environmental

Chromatogram

RT: 39.58 - 41.58 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.58
QM Area	232121
QM Integration Mode	A
RM1 Area	297655
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0474
Unqualified Amount (A)	49.282538
Adjusted Amount (A)	49.2825
Signal-to-Noise	2677
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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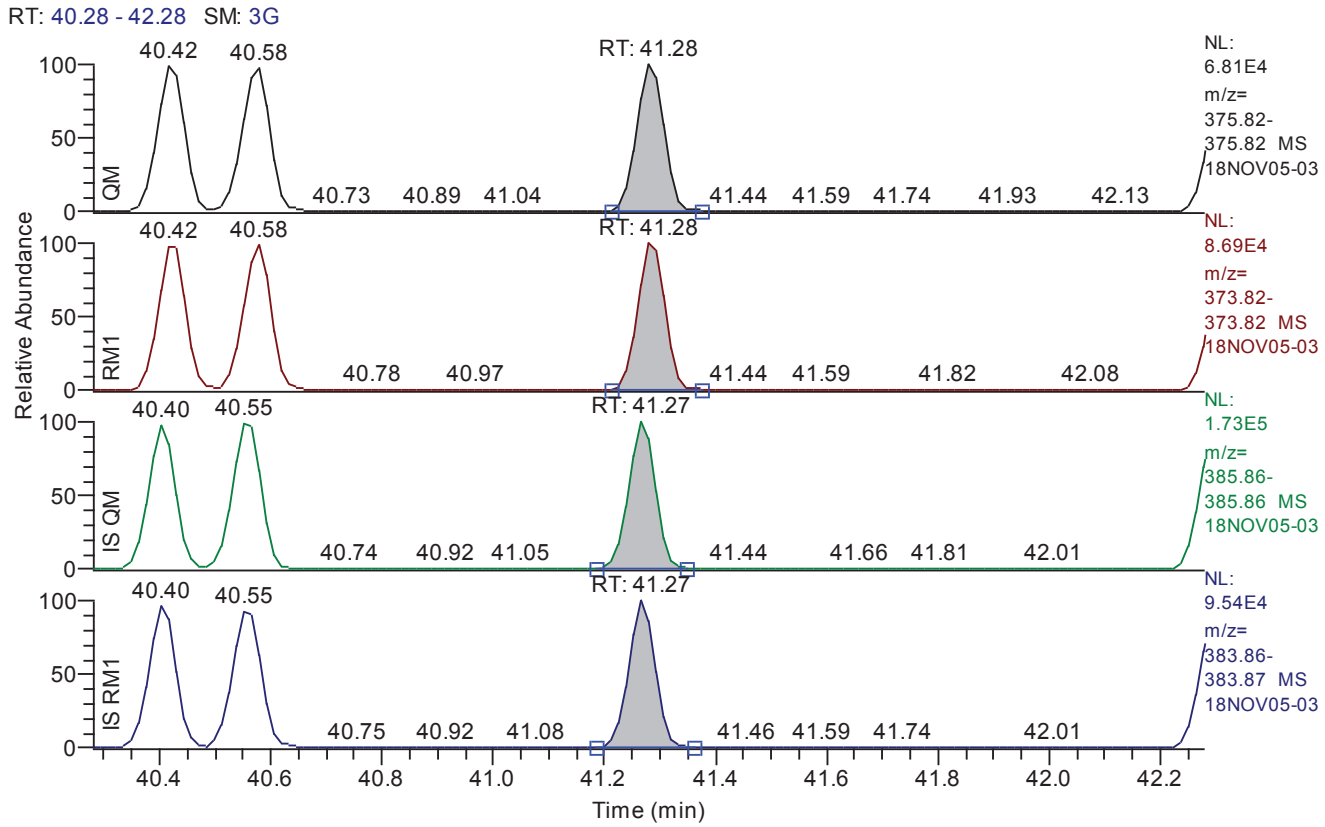
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.28
QM Area	234060
QM Integration Mode	A
RM1 Area	299056
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0426
Unqualified Amount (A)	47.846211
Adjusted Amount (A)	47.8462
Signal-to-Noise	2731
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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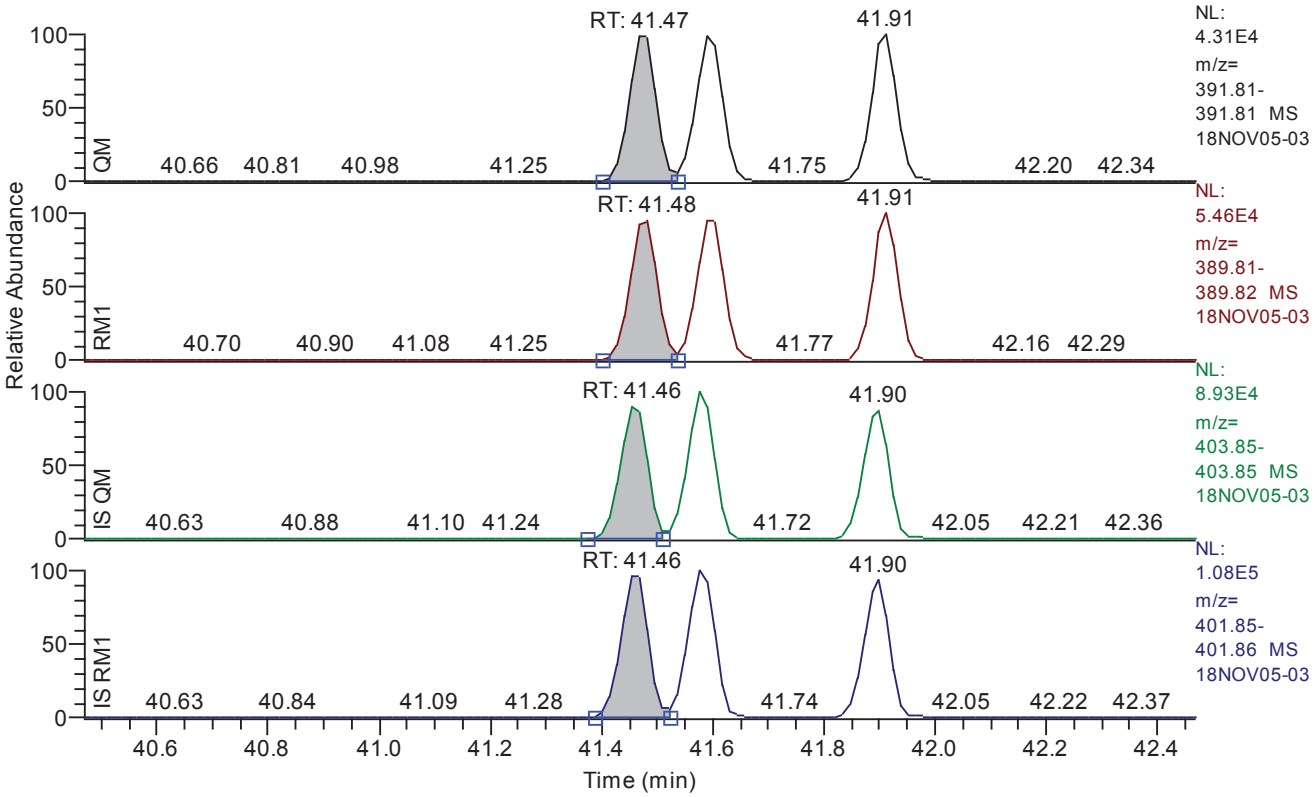
Chromatogram

RT: 40.47 - 42.47 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.47
QM Area	145828
QM Integration Mode	A
RM1 Area	177244
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0367
Unqualified Amount (A)	50.042224
Adjusted Amount (A)	50.0422
Signal-to-Noise	3438
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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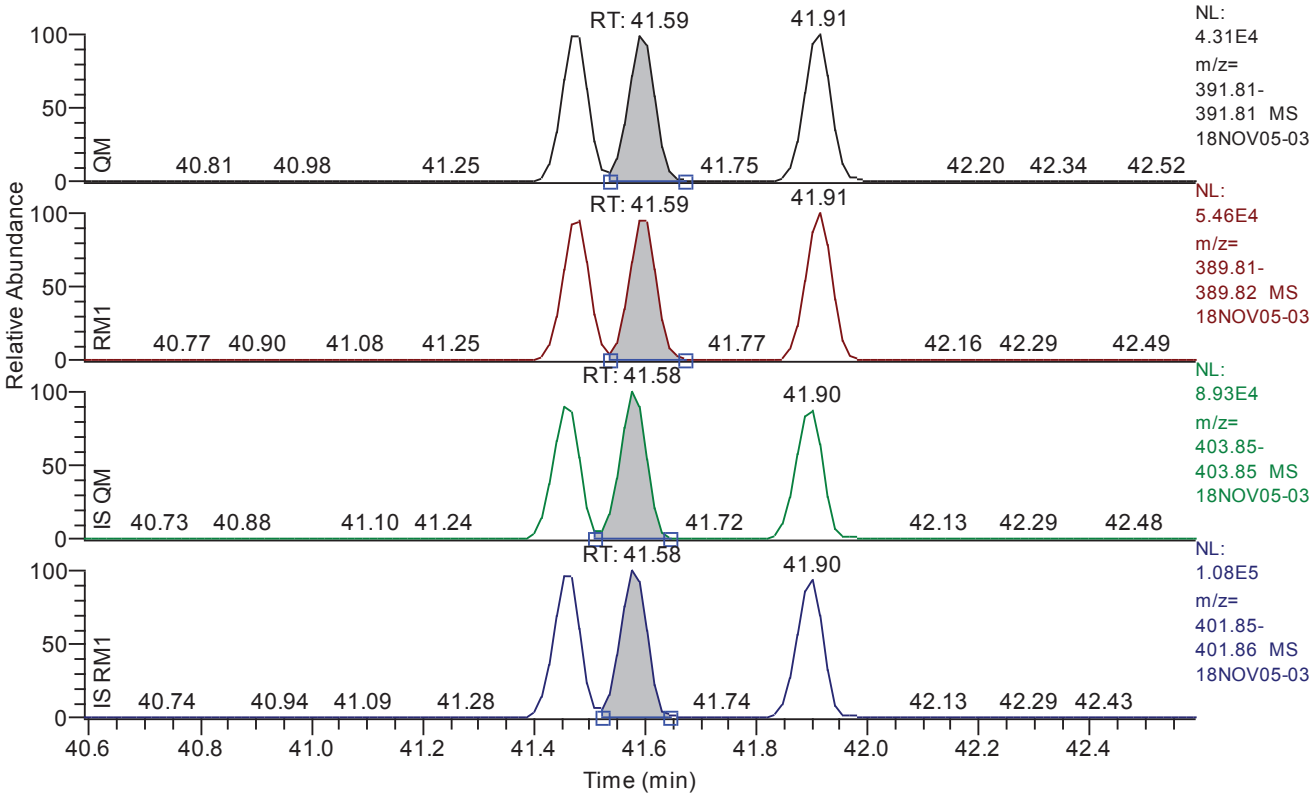
Chromatogram

RT: 40.59 - 42.59 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.59
QM Area	144013
QM Integration Mode	A
RM1 Area	177710
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0341
Unqualified Amount (A)	47.077153
Adjusted Amount (A)	47.0772
Signal-to-Noise	3406
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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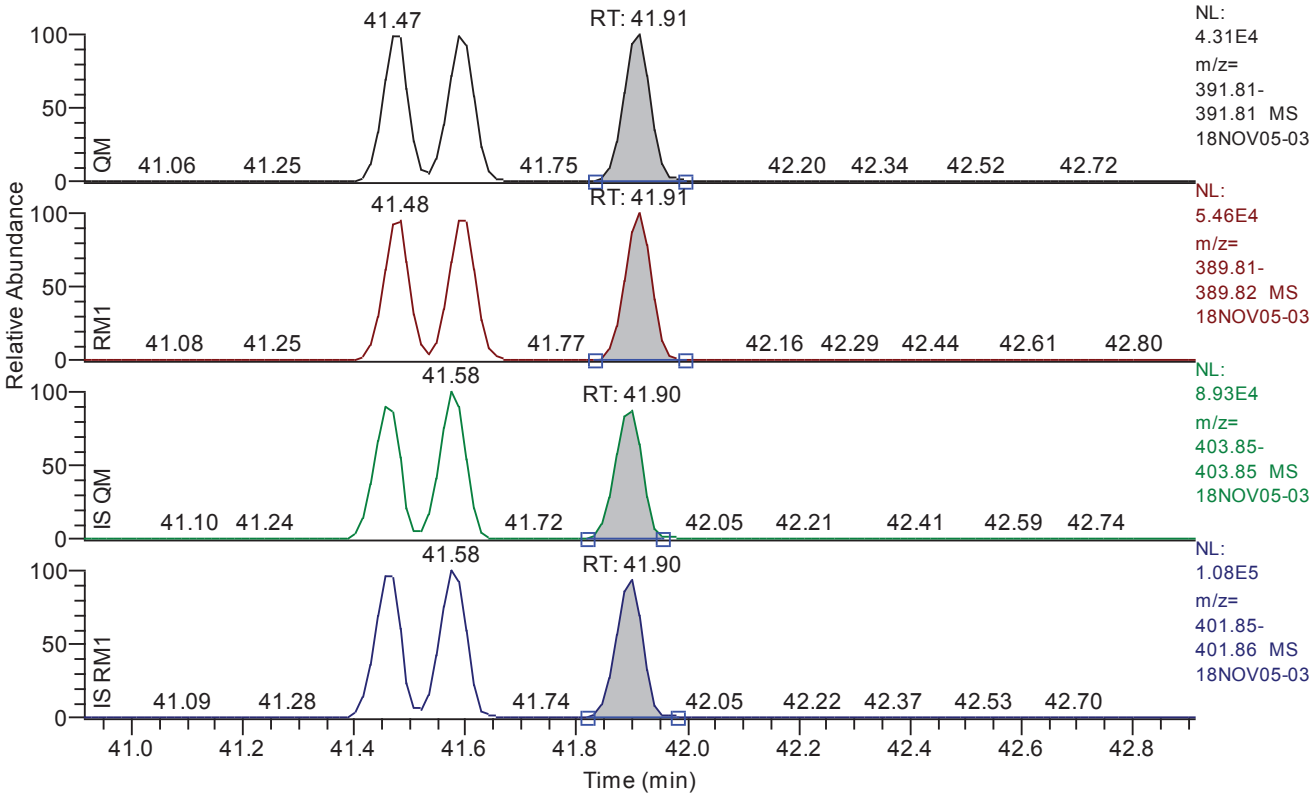
Chromatogram

RT: 40.91 - 42.91 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.91
QM Area	146019
QM Integration Mode	A
RM1 Area	182280
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0351
Unqualified Amount (A)	49.100013
Adjusted Amount (A)	49.1000
Signal-to-Noise	3532
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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By uild at 11:52 am, 11/9/18

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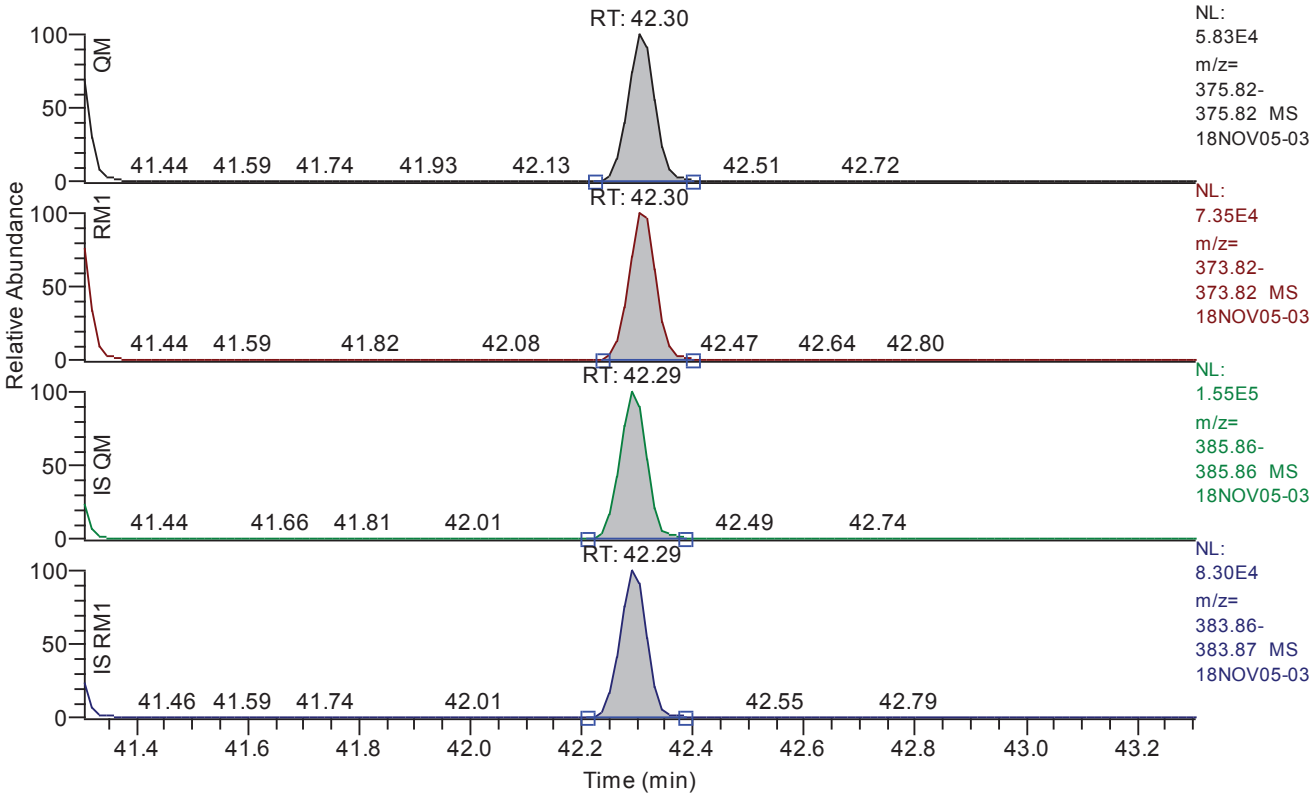
Chromatogram

RT: 41.30 - 43.30 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.30
QM Area	197878
QM Integration Mode	A
RM1 Area	252414
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0515
Unqualified Amount (A)	48.212828
Adjusted Amount (A)	48.2128
Signal-to-Noise	2324
Client Flags	
Status Overview	passed
Status Info	

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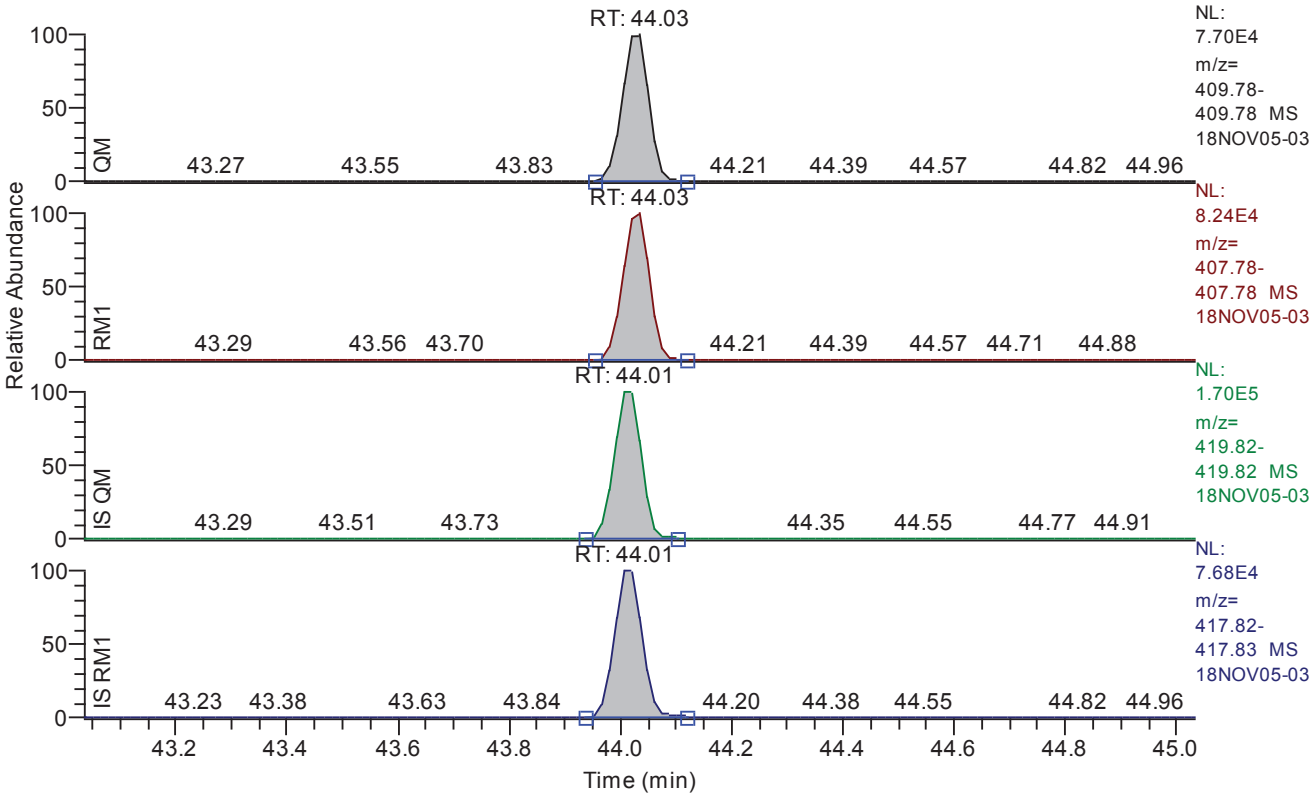
Chromatogram

RT: 43.03 - 45.03 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.03
QM Area	264193
QM Integration Mode	A
RM1 Area	282009
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0348
Unqualified Amount (A)	48.385495
Adjusted Amount (A)	48.3855
Signal-to-Noise	3582
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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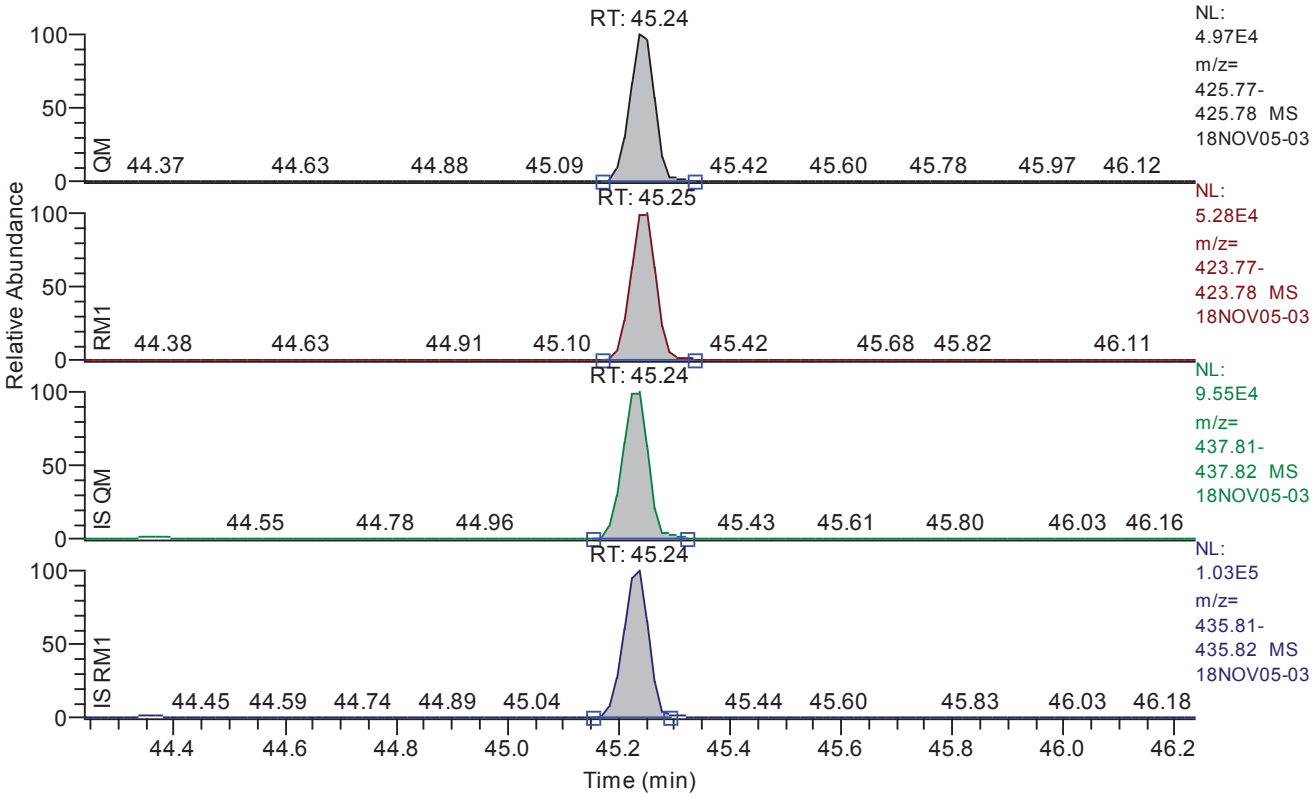
Chromatogram

RT: 44.24 - 46.24 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.24
QM Area	160428
QM Integration Mode	A
RM1 Area	173198
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0441
Unqualified Amount (A)	48.245550
Adjusted Amount (A)	48.2456
Signal-to-Noise	2755
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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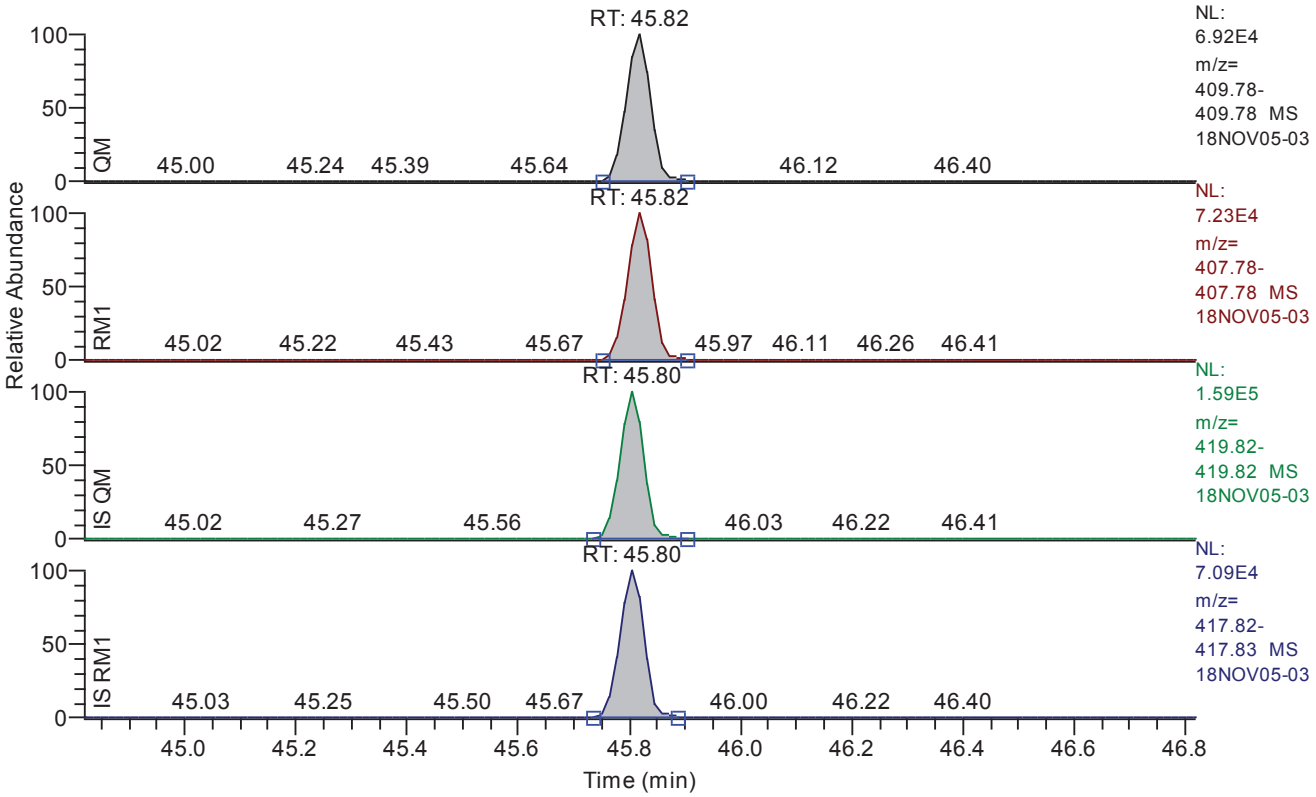
Chromatogram

RT: 44.82 - 46.82 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.82
QM Area	218564
QM Integration Mode	A
RM1 Area	229604
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0373
Unqualified Amount (A)	48.704629
Adjusted Amount (A)	48.7046
Signal-to-Noise	3179
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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By uild at 11:52 am, 11/9/18

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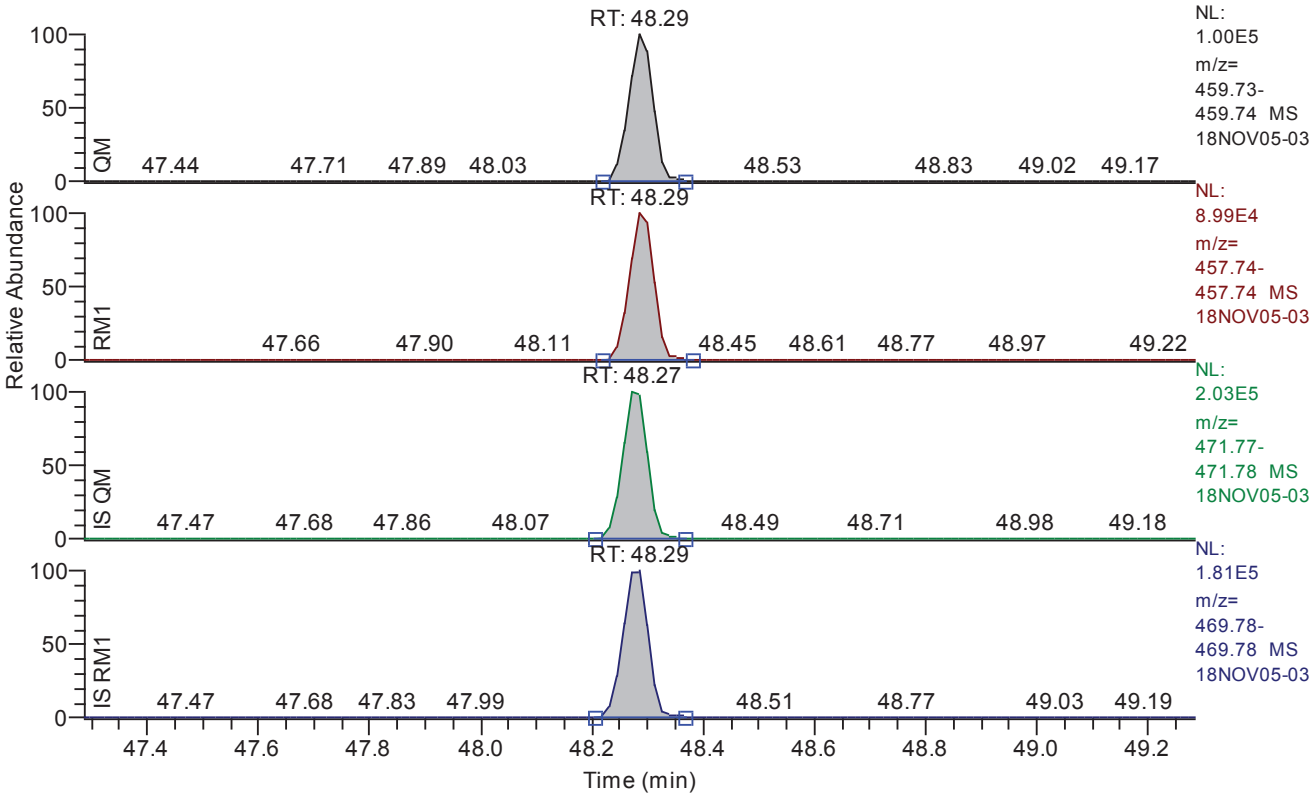
Chromatogram

RT: 47.29 - 49.29 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.29
QM Area	304294
QM Integration Mode	A
RM1 Area	276198
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0307
Unqualified Amount (A)	92.102384
Adjusted Amount (A)	92.1024
Signal-to-Noise	7737
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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By uild at 11:52 am, 11/9/18

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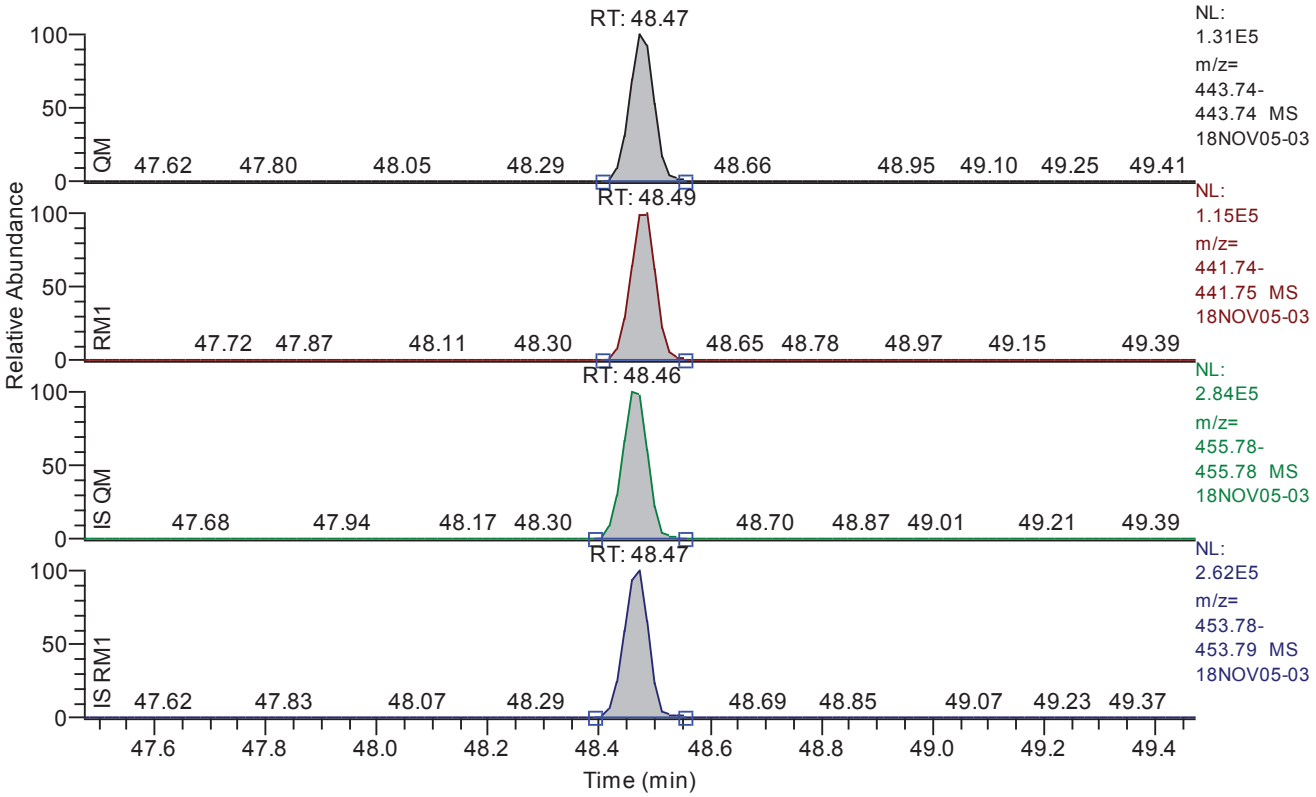
Chromatogram

RT: 47.47 - 49.47 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.47
QM Area	401702
QM Integration Mode	A
RM1 Area	364662
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0208
Unqualified Amount (A)	94.620507
Adjusted Amount (A)	94.6205
Signal-to-Noise	11472
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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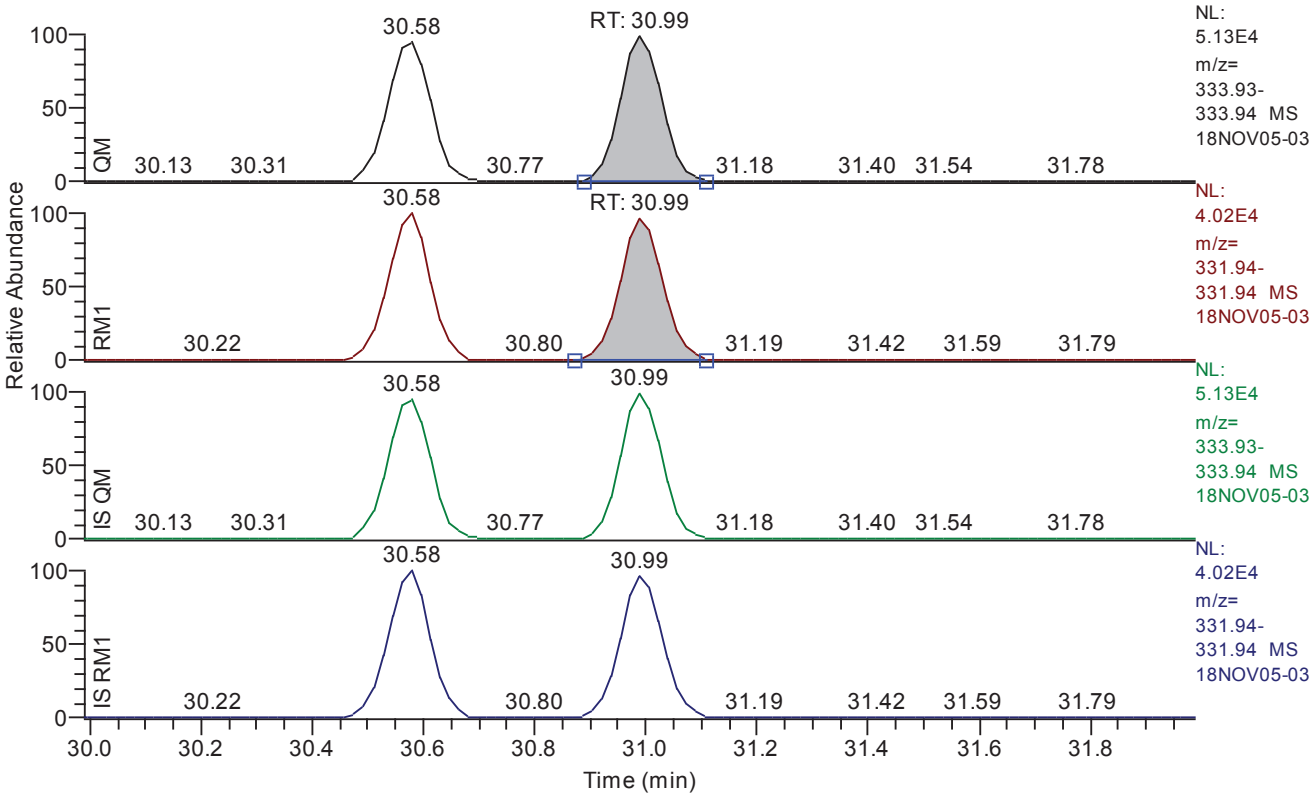
Chromatogram

RT: 29.99 - 31.99 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.99
QM Area	269561
QM Integration Mode	A
RM1 Area	212608
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0335
Unqualified Amount (A)	78.772694
Adjusted Amount (A)	78.7727
Signal-to-Noise	6162
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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By uild at 11:52 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.48	29.48	29.48	29.47	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.61	30.61	30.61	30.58	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.43	35.43	35.43	35.41	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.73	36.73	36.73	36.71	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.13	37.13	37.13	37.10	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.42	40.42	40.42	40.40	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.58	40.58	40.58	40.55	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.28	41.28	41.27	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.47	41.47	41.48	41.46	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.59	41.59	41.59	41.58	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.91	41.91	41.90	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.30	42.30	42.30	42.29	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.03	44.03	44.03	44.01	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.24	45.24	45.25	45.24	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.82	45.82	45.82	45.80	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.29	48.29	48.29	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.47	48.49	48.46	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.99	30.99	30.99	30.99	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.72	29.72	29.72	29.72	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.31	40.31	40.31	40.31	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.47	29.47	29.47	29.54	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.58	30.58	30.58	30.58	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.41	35.41	35.41	35.40	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.71	36.71	36.71	36.76	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.10	37.10	37.10	37.10	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.40	40.40	40.40	40.30	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.55	40.55	40.55	40.30	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.27	41.27	41.25	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.46	41.46	41.46	41.46	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.58	41.58	41.58	41.58	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.90	41.90	41.90	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.29	42.29	42.29	42.30	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.01	44.01	44.02	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.24	45.24	45.24	45.24	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.80	45.80	45.80	45.80	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.27	48.29	48.29	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.46	48.46	48.47	48.45	passed	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.48	0.7706	0.6450 - 0.8950	passed	88.94	0 - 0	passed
2	2378-TCDD	30.61	0.7991	0.6450 - 0.8950	passed	89.64	0 - 0	passed
3	12378-PeCDF	35.43	1.5718	1.3150 - 1.7850	passed	92.77	0 - 0	passed
4	23478-PeCDF	36.73	1.5414	1.3150 - 1.7850	passed	94.27	0 - 0	passed
5	12378-PeCDD	37.13	1.5436	1.3150 - 1.7850	passed	87.36	0 - 0	passed
6	123478-HxCDF	40.42	1.2711	1.0450 - 1.4350	passed	99.31	0 - 0	passed
7	123678-HxCDF	40.58	1.2823	1.0450 - 1.4350	passed	98.57	0 - 0	passed
8	234678-HxCDF	41.28	1.2777	1.0450 - 1.4350	passed	95.69	0 - 0	passed
9	123478-HxCDD	41.47	1.2154	1.0450 - 1.4350	passed	100.08	0 - 0	passed
10	123678-HxCDD	41.59	1.2340	1.0450 - 1.4350	passed	94.15	0 - 0	passed
11	123789-HxCDD	41.91	1.2483	1.0450 - 1.4350	passed	98.20	0 - 0	passed
12	123789-HxCDF	42.30	1.2756	1.0450 - 1.4350	passed	96.43	0 - 0	passed
13	1234678-HpCDF	44.03	1.0674	0.8750 - 1.2050	passed	96.77	0 - 0	passed
14	1234678-HpCDD	45.24	1.0796	0.8750 - 1.2050	passed	96.49	0 - 0	passed
15	1234789-HpCDF	45.82	1.0505	0.8750 - 1.2050	passed	97.41	0 - 0	passed
16	OCDD	48.29	0.9077	0.7550 - 1.0250	passed	92.10	0 - 0	passed
17	OCDF	48.47	0.9078	0.7550 - 1.0250	passed	94.62	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.99	0.7887	0.6450 - 0.8950	passed	78.77	0 - 0	passed
19	13C12-1234-TCDD	29.72	0.8048	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.31	1.2852	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.47	0.7346	0.6450 - 0.8950	passed	95.59	0 - 0	passed
22	13C12-2378-TCDD	30.58	0.8083	0.6450 - 0.8950	passed	107.95	0 - 0	passed
23	13C12-12378-PeCDF	35.41	1.5996	1.3150 - 1.7850	passed	109.00	0 - 0	passed
24	13C12-23478-PeCDF	36.71	1.6077	1.3150 - 1.7850	passed	110.08	0 - 0	passed
25	13C12-12378-PeCDD	37.10	1.5758	1.3150 - 1.7850	passed	122.50	0 - 0	passed
26	13C12-123478-HxCDF	40.40	0.5442	0.4250 - 0.5950	passed	99.44	0 - 0	passed
27	13C12-123678-HxCDF	40.55	0.5228	0.4250 - 0.5950	passed	98.26	0 - 0	passed
28	13C12-234678-HxCDF	41.27	0.5460	0.4250 - 0.5950	passed	105.54	0 - 0	passed
29	13C12-123478-HxCDD	41.46	1.3092	1.0450 - 1.4350	passed	101.52	0 - 0	passed
30	13C12-123678-HxCDD	41.58	1.2174	1.0450 - 1.4350	passed	104.96	0 - 0	passed
31	13C12-123789-HxCDD	41.90	1.2727	1.0450 - 1.4350	passed	101.56	0 - 0	passed
32	13C12-123789-HxCDF	42.29	0.5281	0.4250 - 0.5950	passed	99.52	0 - 0	passed
33	13C12-1234678-HpCDF	44.01	0.4574	0.3650 - 0.5150	passed	116.20	0 - 0	passed
34	13C12-1234678-HpCDD	45.24	1.0410	0.8750 - 1.2050	passed	118.66	0 - 0	passed
35	13C12-1234789-HpCDF	45.80	0.4531	0.3650 - 0.5150	passed	115.26	0 - 0	passed
36	13C12-OCDD	48.27	0.9061	0.7550 - 1.0250	passed	125.68	0 - 0	passed
37	13C12-OCDF	48.46	0.8972	0.7550 - 1.0250	passed	117.38	0 - 0	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.48	47340	A	36479	A	0.0230	8.894156	8.8942	10.000000	982	
2	2378-TCDD	passed	30.61	29498	A	23572	A	0.0262	8.963959	8.9640	10.000000	828	
3	12378-PeCDF	passed	35.43	161200	A	253376	A	0.0232	46.383157	46.3832	50.000000	5087	
4	23478-PeCDF	passed	36.73	183958	A	283557	A	0.0188	47.135934	47.1359	50.000000	6194	
5	12378-PeCDD	passed	37.13	96663	A	149206	A	0.0308	43.682097	43.6821	50.000000	3493	
6	123478-HxCDF	passed	40.42	232129	A	295062	A	0.0452	49.654316	49.6543	50.000000	2686	
7	123678-HxCDF	passed	40.58	232121	A	297655	A	0.0474	49.282538	49.2825	50.000000	2677	
8	234678-HxCDF	passed	41.28	234060	A	299056	A	0.0426	47.846211	47.8462	50.000000	2731	
9	123478-HxCDD	passed	41.47	145828	A	177244	A	0.0367	50.042224	50.0422	50.000000	3438	
10	123678-HxCDD	passed	41.59	144013	A	177710	A	0.0341	47.077153	47.0772	50.000000	3406	
11	123789-HxCDD	passed	41.91	146019	A	182280	A	0.0351	49.100013	49.1000	50.000000	3532	
12	123789-HxCDF	passed	42.30	197878	A	252414	A	0.0515	48.212828	48.2128	50.000000	2324	
13	1234678-HpCDF	passed	44.03	264193	A	282009	A	0.0348	48.385495	48.3855	50.000000	3582	
14	1234678-HpCDD	passed	45.24	160428	A	173198	A	0.0441	48.245550	48.2456	50.000000	2755	
15	1234789-HpCDF	passed	45.82	218564	A	229604	A	0.0373	48.704629	48.7046	50.000000	3179	
16	OCDD	passed	48.29	304294	A	276198	A	0.0307	92.102384	92.1024	100.000000	7737	
17	OCDF	passed	48.47	401702	A	364662	A	0.0208	94.620507	94.6205	100.000000	11472	
18	13C12-1278-TCDD (CRS)	passed	30.99	269561	A	212608	A	0.0335	78.772694	78.7727	100.000000	6162	
19	13C12-1234-TCDD	passed	29.72	268035	A	215717	A	0.0424	100.000000	100.0000	100.000000	5894	
20	13C12-123468-HxCDD	passed	40.31	295323	A	379547	A	0.0544	100.000000	100.0000	100.000000	4597	
21	13C12-2378-TCDF	passed	29.47	493424	A	362478	A	0.0229	95.587080	95.5871	100.000000	10141	
22	13C12-2378-TCDD	passed	30.58	268233	A	216813	A	0.0457	107.950439	107.9504	100.000000	6064	
23	13C12-12378-PeCDF	passed	35.41	347237	A	555436	A	0.1007	108.999092	108.9991	100.000000	3395	
24	13C12-23478-PeCDF	passed	36.71	342894	A	551282	A	0.1027	110.082184	110.0822	100.000000	3740	
25	13C12-12378-PeCDD	passed	37.10	210671	A	331978	A	0.0965	122.498570	122.4986	100.000000	4531	
26	13C12-123478-HxCDF	passed	40.40	573768	A	312216	A	0.0645	99.443985	99.4440	100.000000	3976	
27	13C12-123678-HxCDF	passed	40.55	612121	A	319992	A	0.0606	98.255940	98.2559	100.000000	3933	
28	13C12-234678-HxCDF	passed	41.27	581153	A	317334	A	0.0675	105.536521	105.5365	100.000000	4074	
29	13C12-123478-HxCDD	passed	41.46	274137	A	358891	A	0.0589	101.524255	101.5243	100.000000	4389	
30	13C12-123678-HxCDD	passed	41.58	299440	A	364548	A	0.0580	104.960687	104.9607	100.000000	4680	
31	13C12-123789-HxCDD	passed	41.90	269165	A	342579	A	0.0609	101.559512	101.5595	100.000000	4278	
32	13C12-123789-HxCDF	passed	42.29	529924	A	279841	A	0.0706	99.519109	99.5191	100.000000	3620	
33	13C12-1234678-HpCDF	passed	44.01	598791	A	273879	A	0.0742	116.197298	116.1973	100.000000	3864	
34	13C12-1234678-HpCDD	passed	45.24	318059	A	331108	A	0.0561	118.660422	118.6604	100.000000	5628	
35	13C12-1234789-HpCDF	passed	45.80	489142	A	221653	A	0.0904	115.262067	115.2621	100.000000	3600	
36	13C12-OCDD	passed	48.27	634149	A	574580	A	0.0355	251.353675	251.3537	200.000000	19669	
37	13C12-OCDF	passed	48.46	908339	A	814979	A	0.0297	234.763083	234.7631	200.000000	21864	

APPROVED
By uma9 at 1:57 pm, 11/6/18

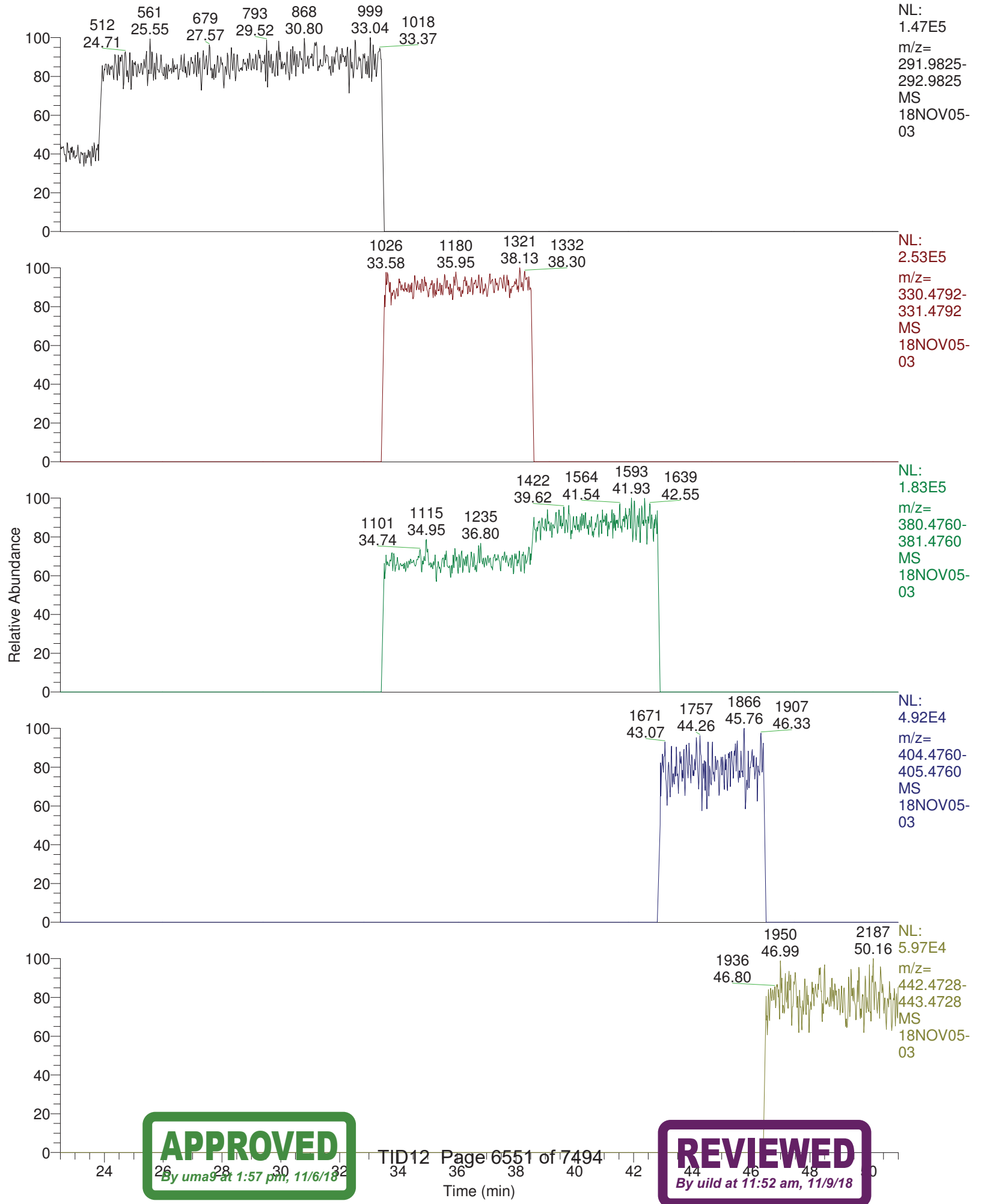
REVIEWED
By uild at 11:52 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-03
Sample ID: CS3CC02

Acq. Data: 11/5/2018 10:39:53 AM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV05

RT: 22.50 - 51.00



APPROVED
By umas at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

*** file opened Mon Nov 05 10:45:20 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 05-Nov-18 10:45:20

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 878ac120-35fd-4bfb-911b-274b4532b96c

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          98.5000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2593.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           171.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           178.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.7000
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0209   FVINLET         0.0405   FVSRC           0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      700.0000
 LENS_SYM         8.0000   LM            254.9851   LMII          500.0000
 LMASS           98.5000   LKM           442.9723   MASS           98.5000
 MDAC        1497590.9001  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9695   RELEN           0.0000
 RES          13520.4032   RPUSHER       -17.1648   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     738.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0198   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          98.5000   XLENS_POT     848.0000
 XLENS_SYM        3.0000   YLENS_POT     780.0000   YLENS_SYM      16.0000

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.6e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10618.
MID Time Window 2: Resolution is 11989.
MID Time Window 3: Resolution is 11769.
MID Time Window 4: Resolution is 12520.
```

```
                                        18NOV05-03
  MID Time Window 5: Resolution is 13776.
  MID Time Window 6: Resolution is 13520.

  Amplifier Offset: 85.


*** File closed Mon Nov 05 11:36:22 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 23:14
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF19780-18NOV05
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-17.quan
Data	z:\18nov05\18nov05-17.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.46	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.57	failed	passed	passed	failed on	passed	passed	failed on IS Ratio1
3	12378-PeCDF	35.43	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.72	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.11	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.40	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.57	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.27	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.47	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.59	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.90	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.30	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.02	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.24	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
16	OCDD	48.28	passed	passed	passed	passed	passed	passed	
17	OCDF	48.47	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.97	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.70	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.30	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.45	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.56	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
23	13C12-12378-PeCDF	35.40	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.71	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.09	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.25	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.44	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.56	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.89	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.27	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.46	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/05 23:14
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF19780-18NOV05
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov05\18nov05-17.quan
Data	z:\18nov05\18nov05-17.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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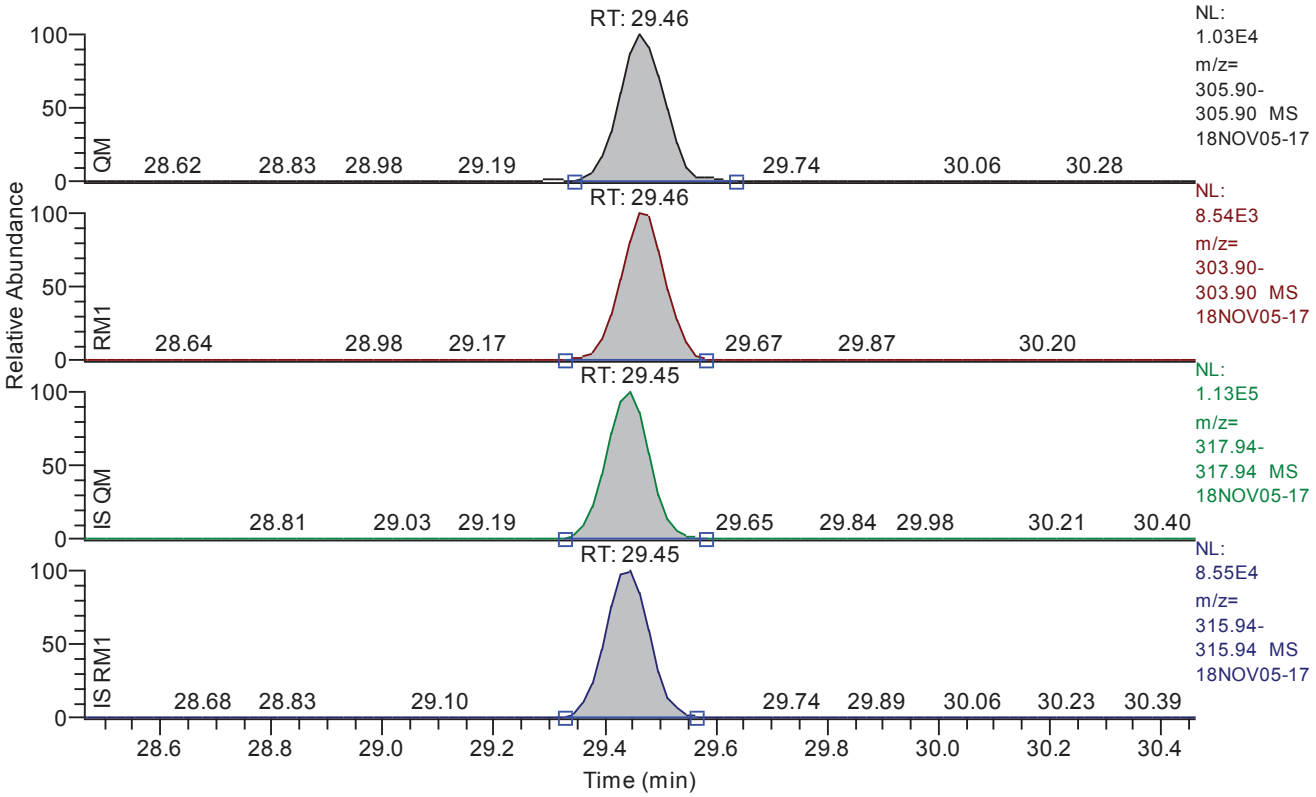
Chromatogram

RT: 28.46 - 30.46 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.46
QM Area	59485
QM Integration Mode	A
RM1 Area	48540
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0194
Unqualified Amount (A)	8.737462
Adjusted Amount (A)	8.7375
Signal-to-Noise	1102
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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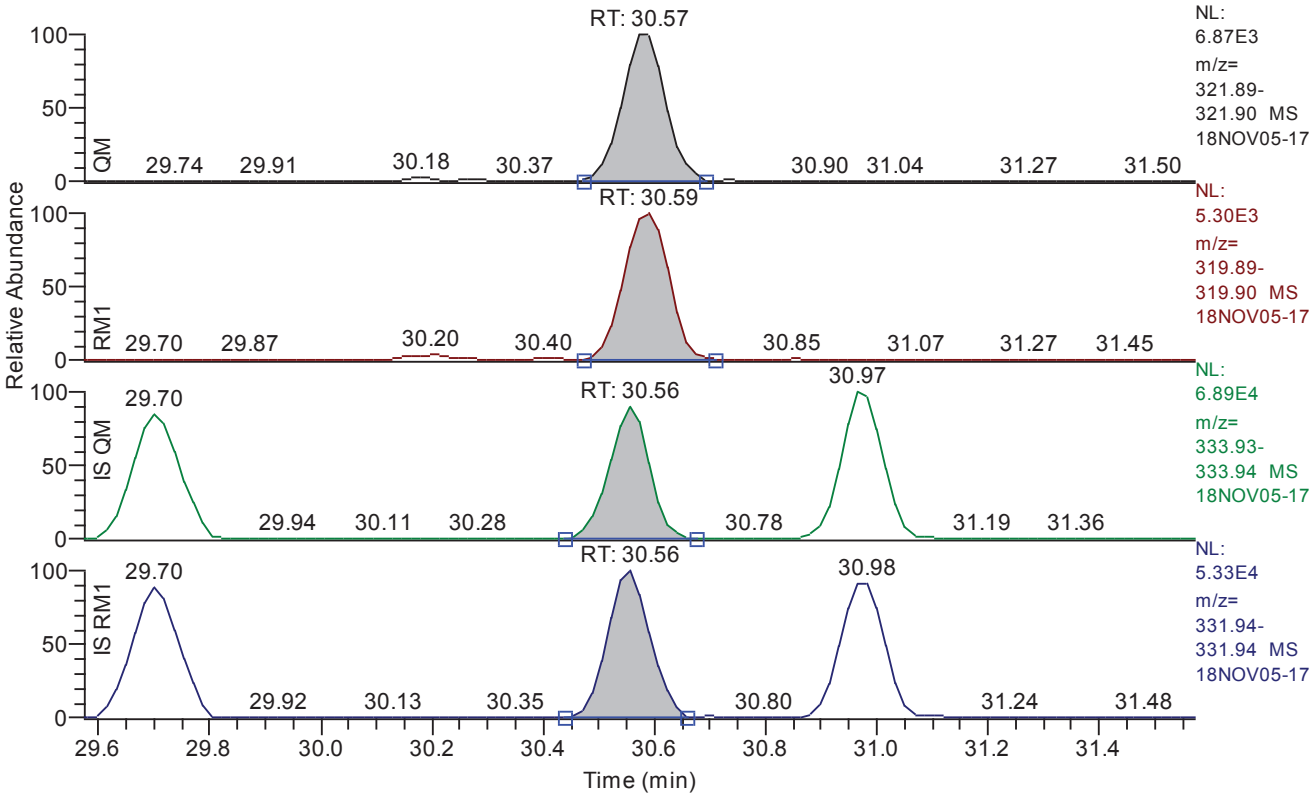
Chromatogram

RT: 29.57 - 31.57 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.57
QM Area	37881
QM Integration Mode	A
RM1 Area	30247
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0202
Unqualified Amount (A)	9.160471
Adjusted Amount (A)	n.d.
Signal-to-Noise	1062
Client Flags	
Status Overview	failed
Status Info	failed on IS Ratio1

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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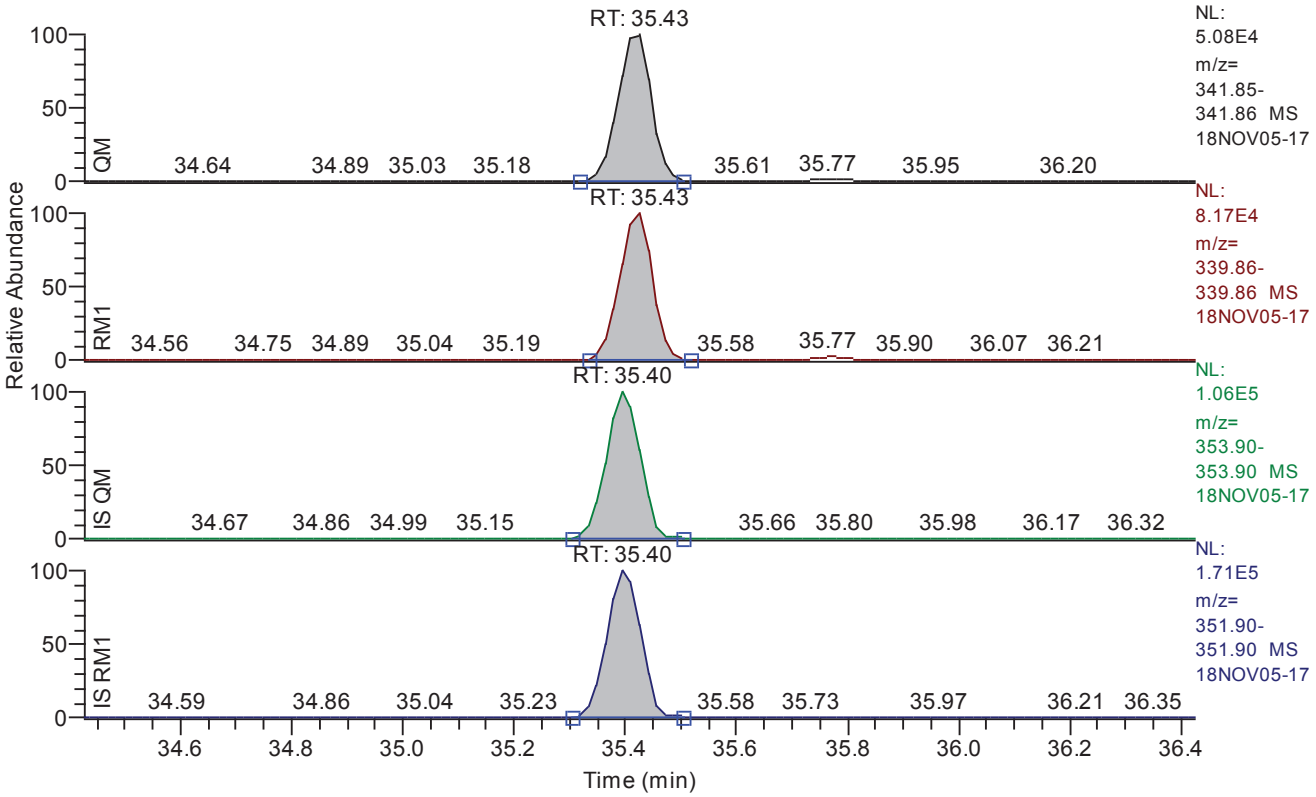
Chromatogram

RT: 34.43 - 36.43 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.43
QM Area	213594
QM Integration Mode	A
RM1 Area	336707
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0173
Unqualified Amount (A)	46.906075
Adjusted Amount (A)	46.9061
Signal-to-Noise	6982
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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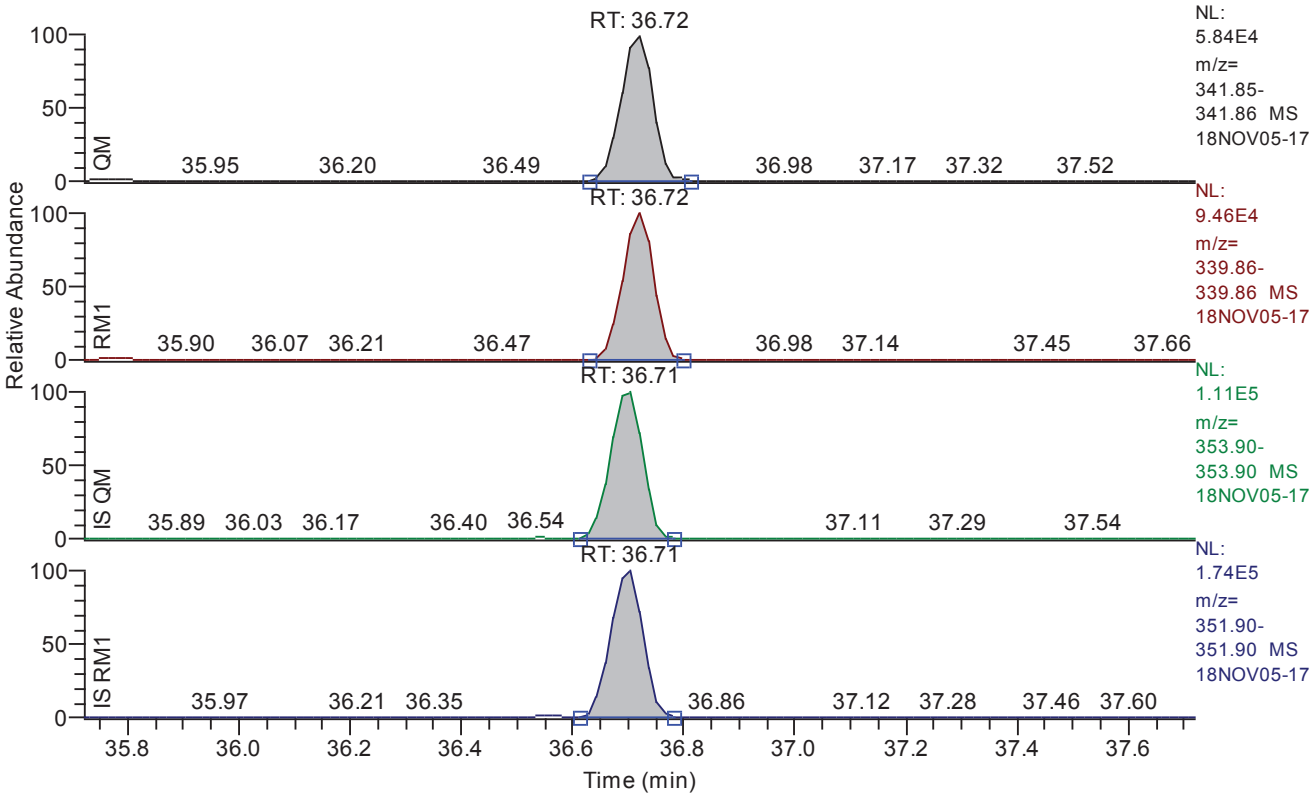
Chromatogram

RT: 35.72 - 37.72 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.72
QM Area	232285
QM Integration Mode	A
RM1 Area	367881
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0150
Unqualified Amount (A)	46.426587
Adjusted Amount (A)	46.4266
Signal-to-Noise	8066
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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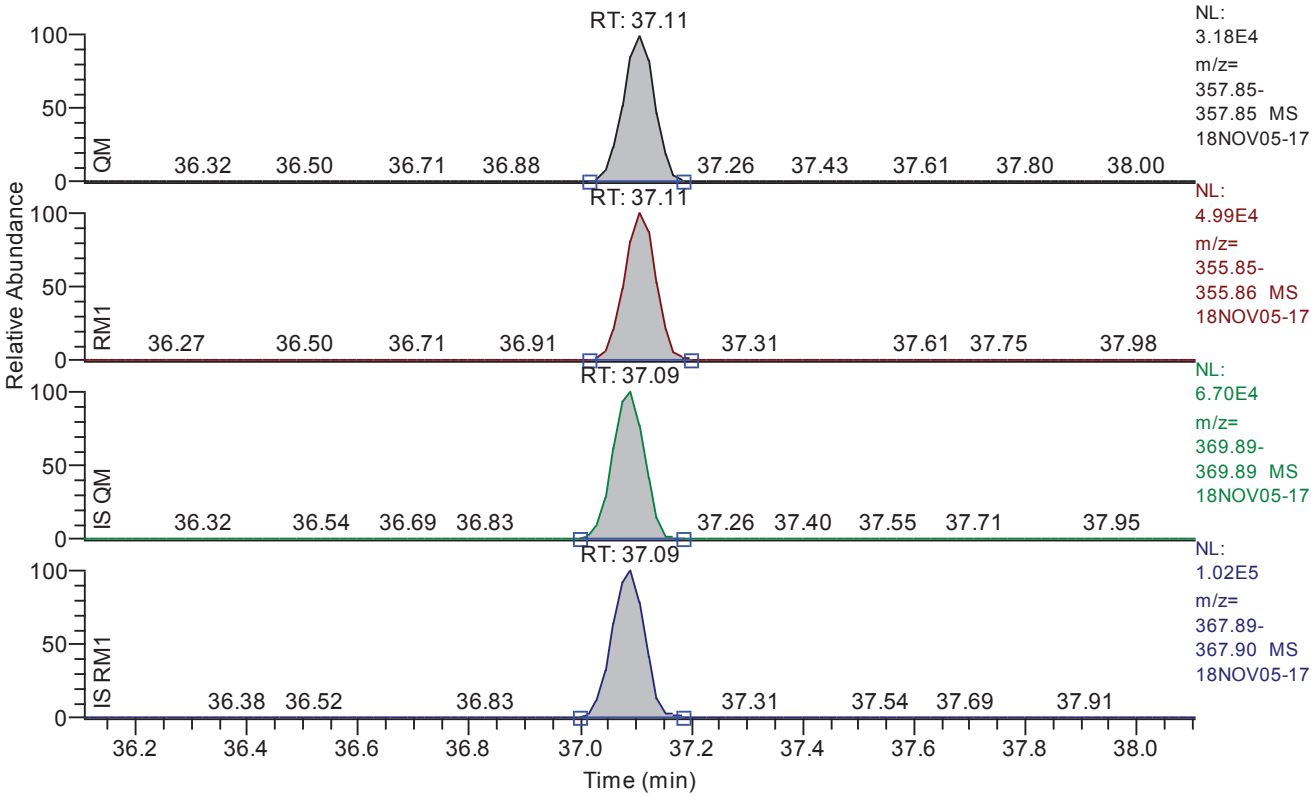
Chromatogram

RT: 36.11 - 38.11 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.11
QM Area	124779
QM Integration Mode	A
RM1 Area	197825
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0271
Unqualified Amount (A)	45.134994
Adjusted Amount (A)	45.1350
Signal-to-Noise	4296
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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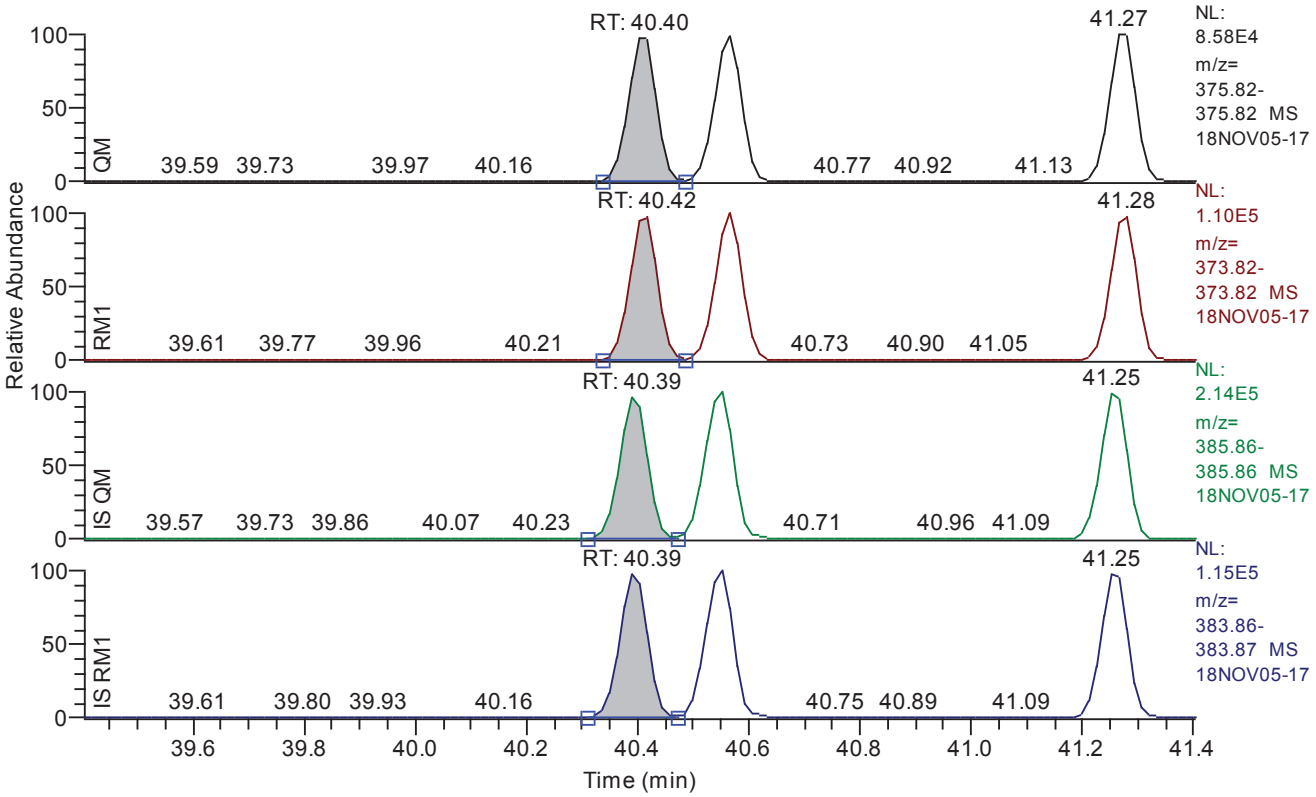
Chromatogram

RT: 39.40 - 41.40 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.40
QM Area	294784
QM Integration Mode	A
RM1 Area	374974
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0346
Unqualified Amount (A)	50.011310
Adjusted Amount (A)	50.0113
Signal-to-Noise	3603
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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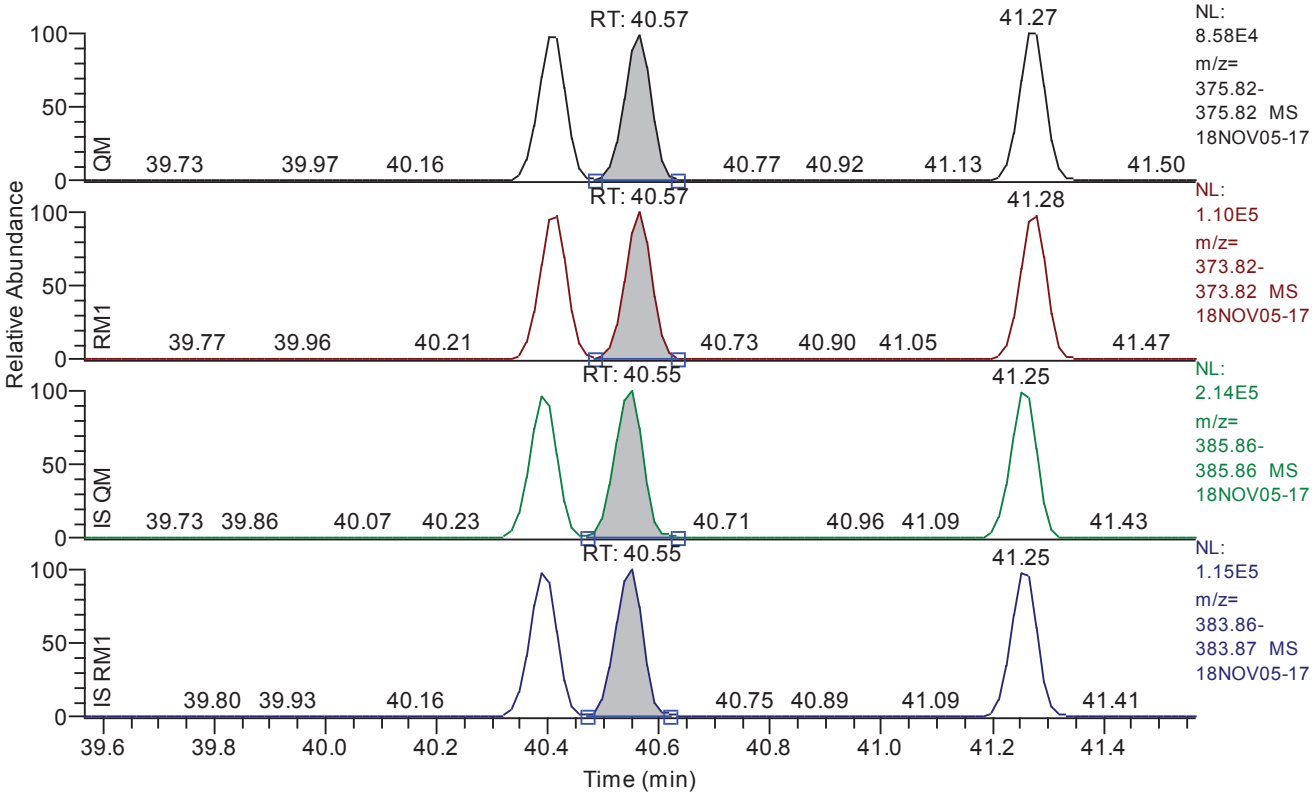
Chromatogram

RT: 39.57 - 41.57 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.57
QM Area	289028
QM Integration Mode	A
RM1 Area	370066
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0353
Unqualified Amount (A)	49.255310
Adjusted Amount (A)	49.2553
Signal-to-Noise	3652
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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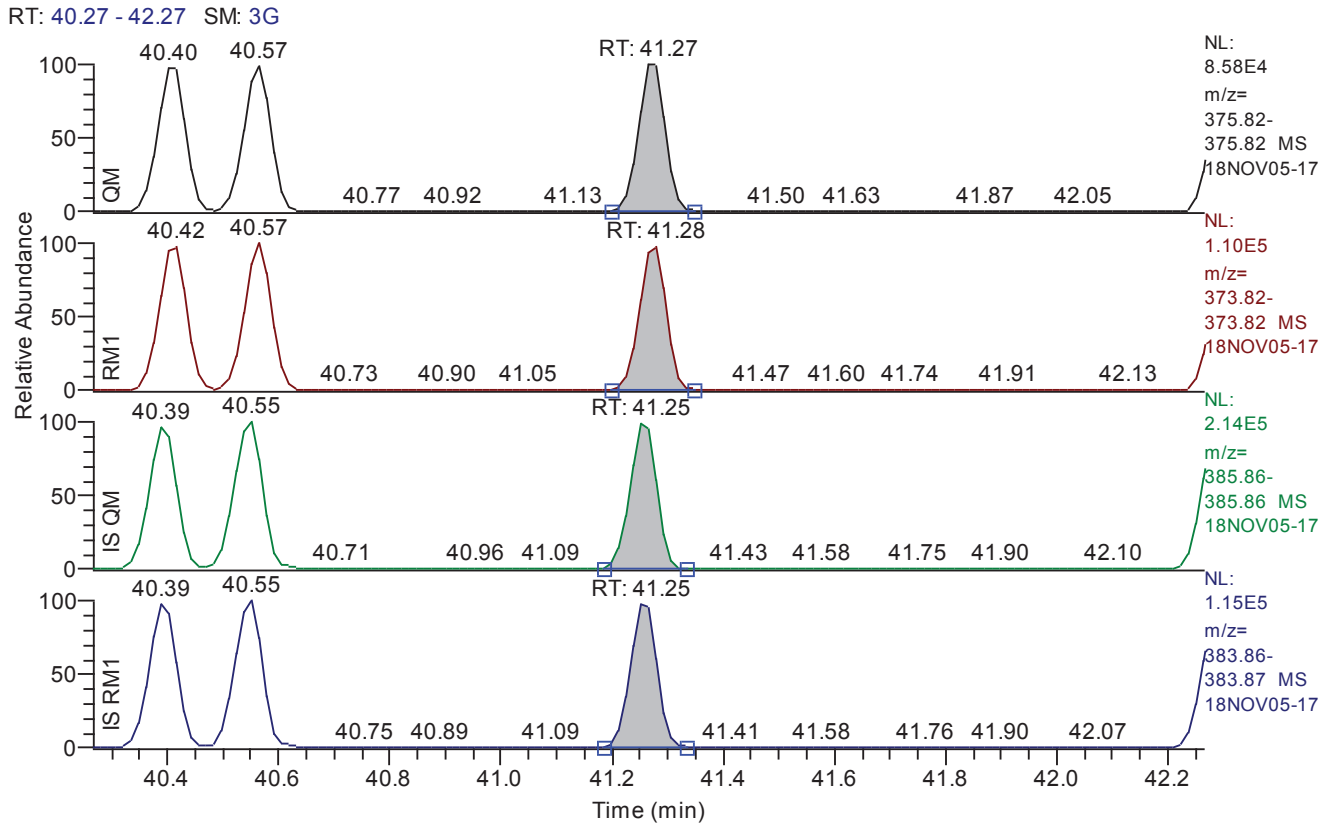
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.27
QM Area	289918
QM Integration Mode	A
RM1 Area	362563
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0331
Unqualified Amount (A)	48.015359
Adjusted Amount (A)	48.0154
Signal-to-Noise	3626
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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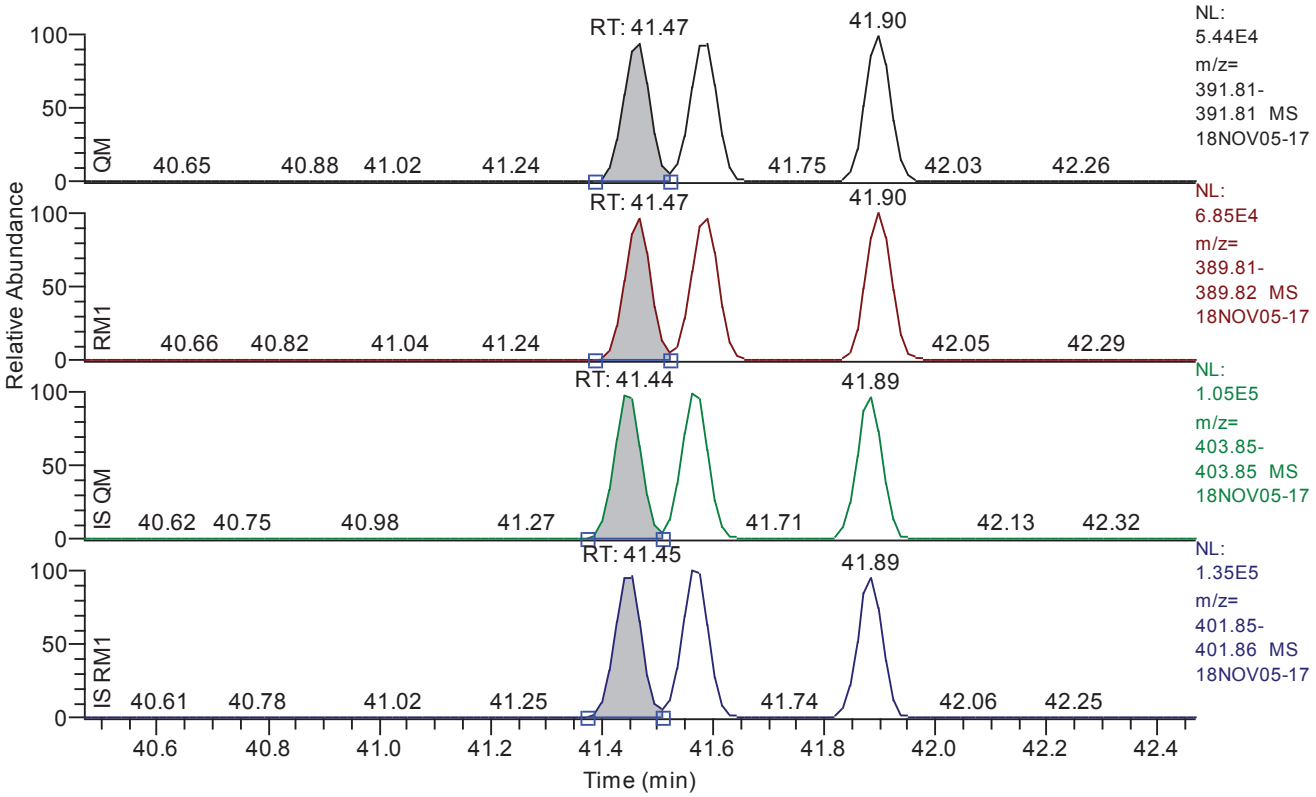
Chromatogram

RT: 40.47 - 42.47 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.47
QM Area	174549
QM Integration Mode	A
RM1 Area	220004
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0259
Unqualified Amount (A)	48.154045
Adjusted Amount (A)	48.1540
Signal-to-Noise	4741
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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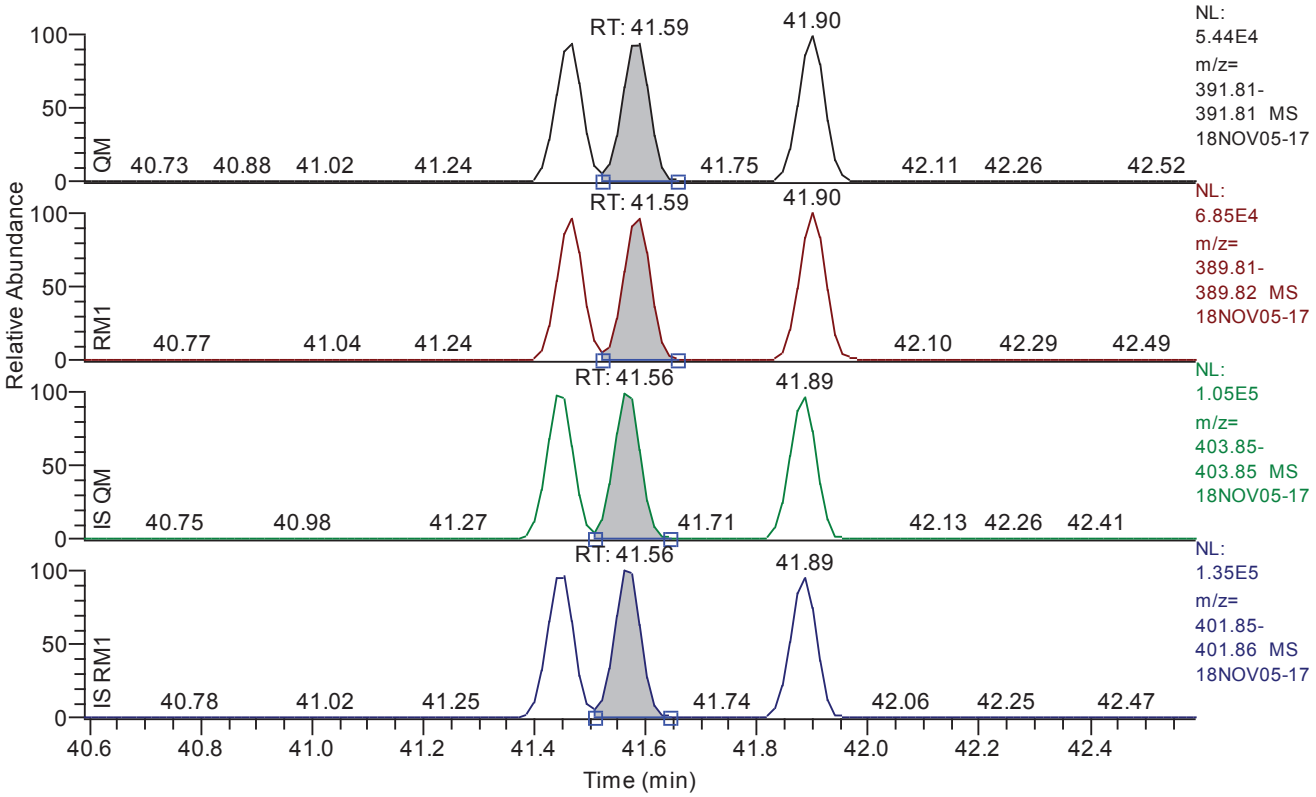
Chromatogram

RT: 40.59 - 42.59 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.59
QM Area	177344
QM Integration Mode	A
RM1 Area	229276
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0251
Unqualified Amount (A)	48.943575
Adjusted Amount (A)	48.9436
Signal-to-Noise	4743
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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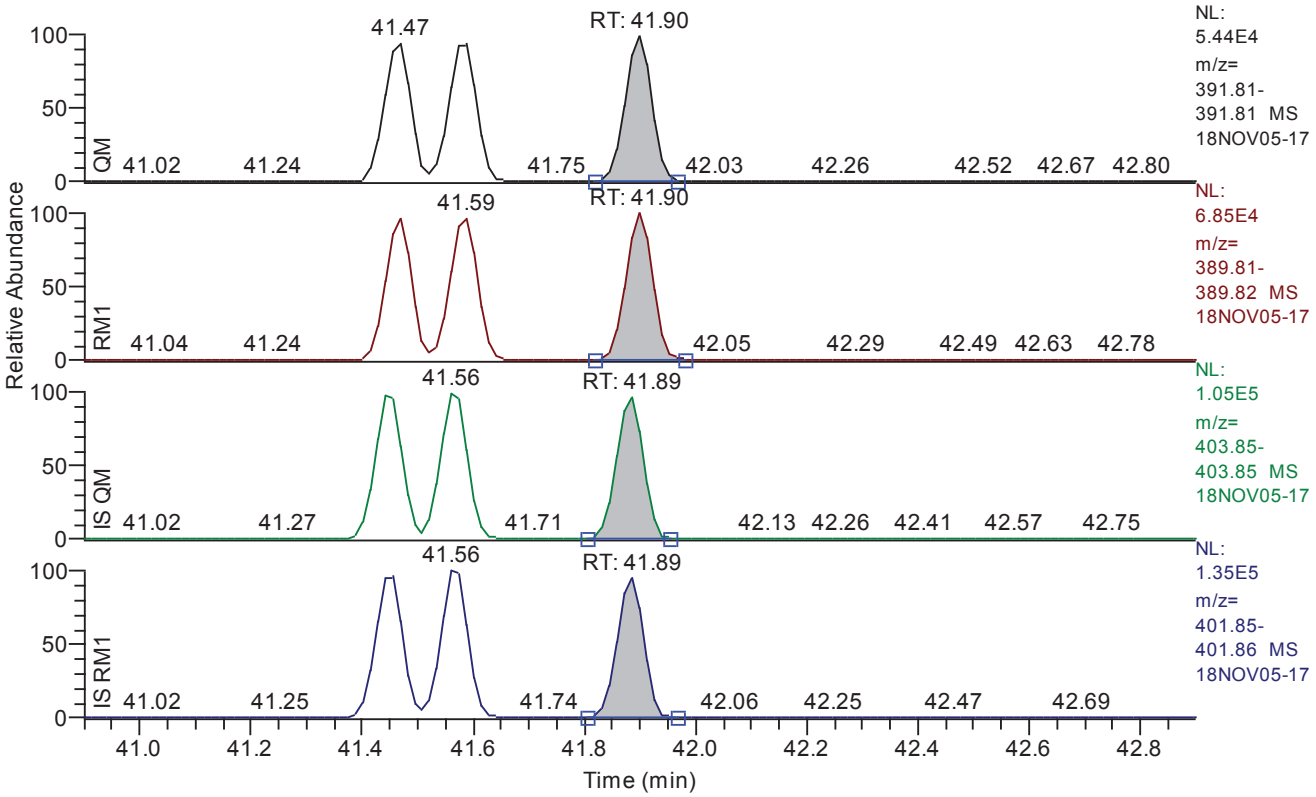
Chromatogram

RT: 40.90 - 42.90 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.90
QM Area	179760
QM Integration Mode	A
RM1 Area	229726
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0246
Unqualified Amount (A)	48.684168
Adjusted Amount (A)	48.6842
Signal-to-Noise	4953
Client Flags	
Status Overview	passed
Status Info	

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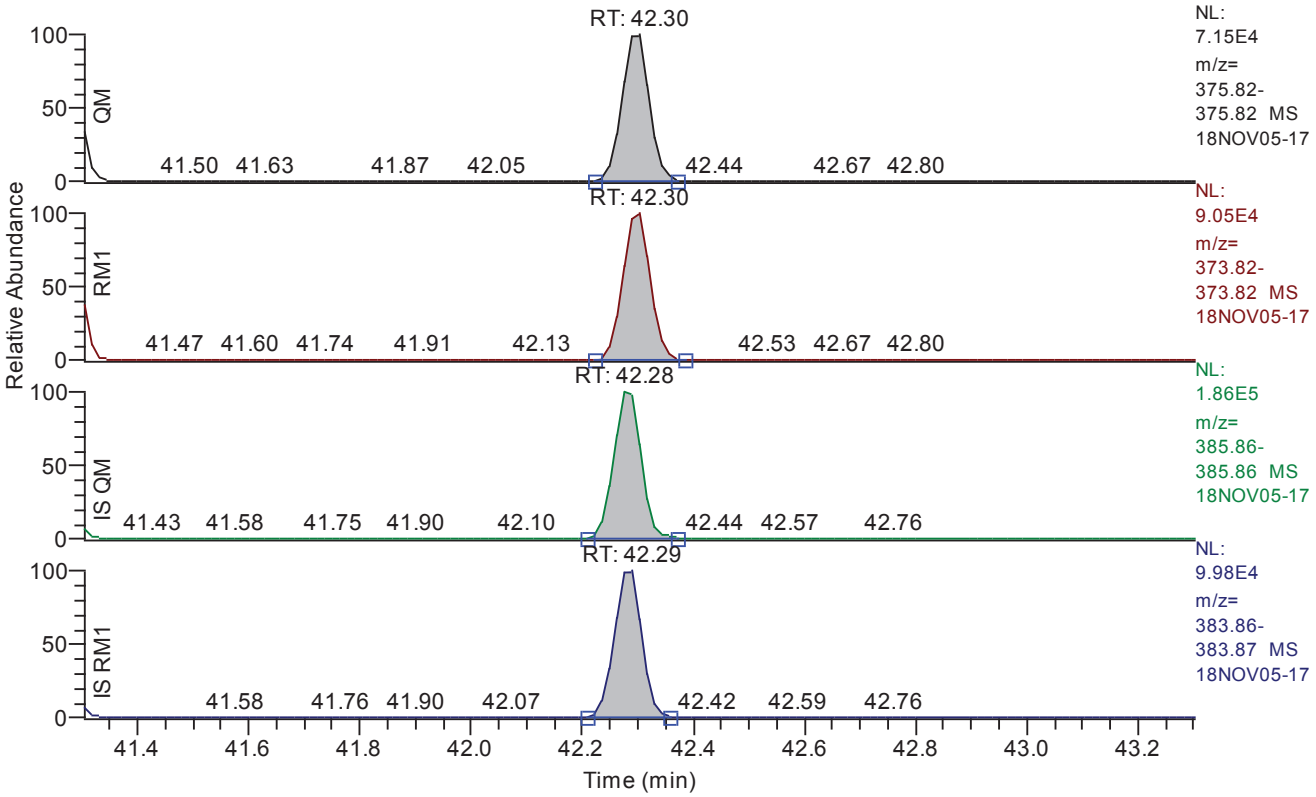
Chromatogram

RT: 41.30 - 43.30 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.30
QM Area	246561
QM Integration Mode	A
RM1 Area	313655
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0406
Unqualified Amount (A)	49.121061
Adjusted Amount (A)	49.1211
Signal-to-Noise	3029
Client Flags	
Status Overview	passed
Status Info	

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By uma9 at 1:57 pm, 11/6/18

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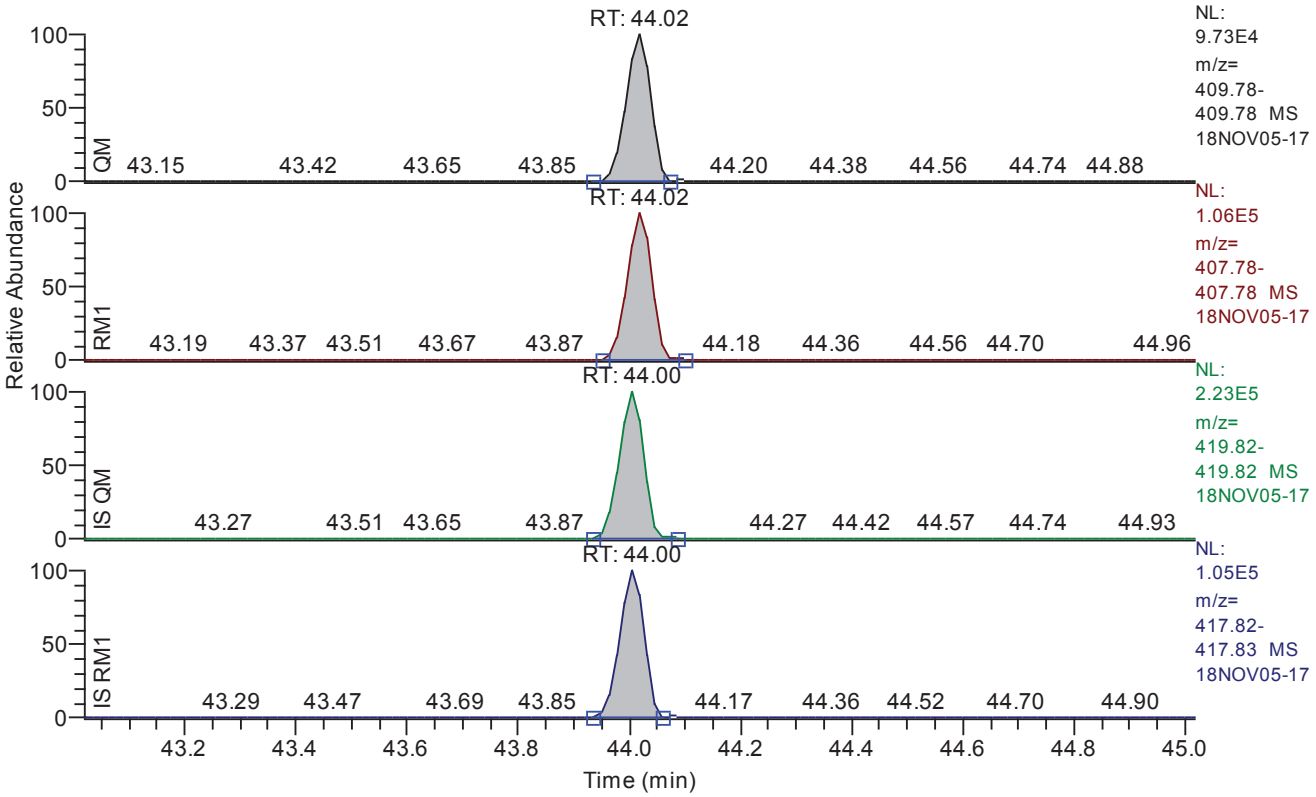
Chromatogram

RT: 43.02 - 45.02 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.02
QM Area	309900
QM Integration Mode	A
RM1 Area	336996
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0264
Unqualified Amount (A)	48.163858
Adjusted Amount (A)	48.1639
Signal-to-Noise	4525
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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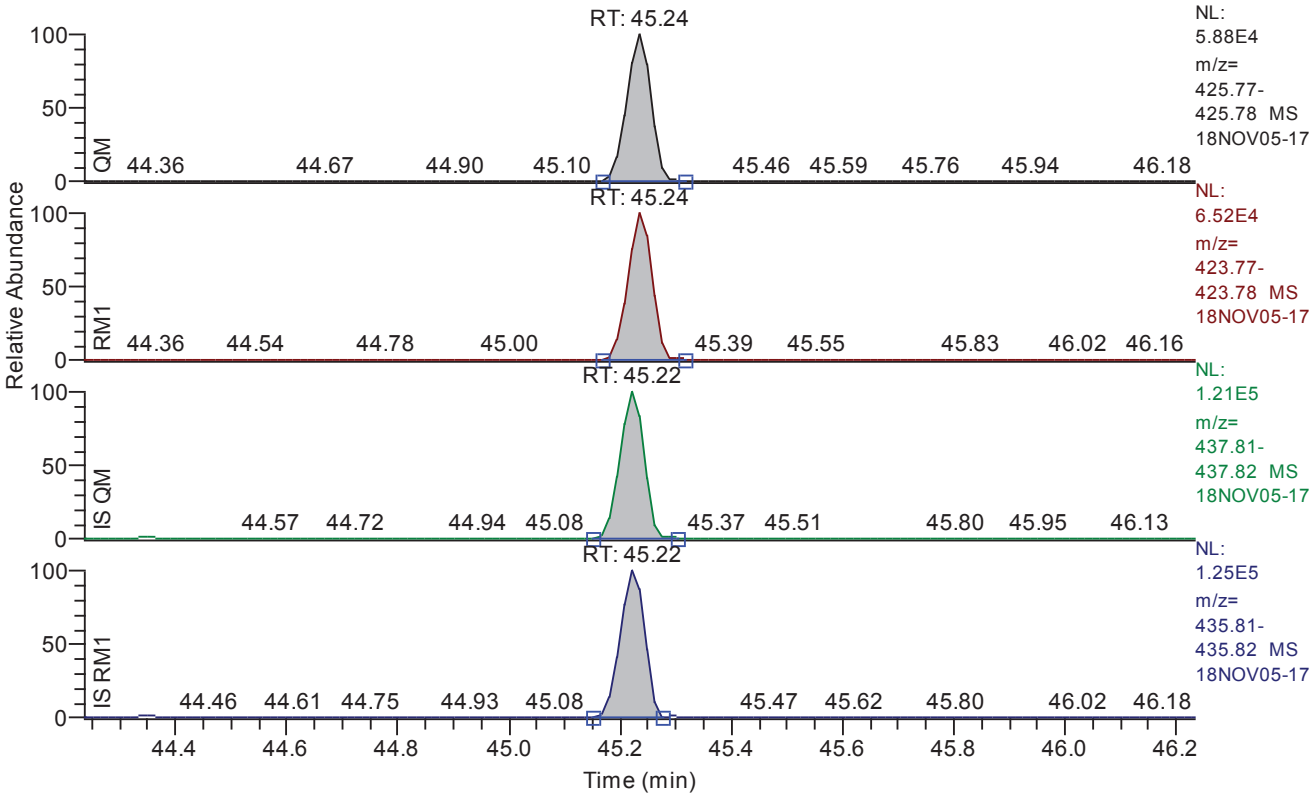
Chromatogram

RT: 44.24 - 46.24 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.24
QM Area	185503
QM Integration Mode	A
RM1 Area	204962
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0317
Unqualified Amount (A)	47.162316
Adjusted Amount (A)	47.1623
Signal-to-Noise	3726
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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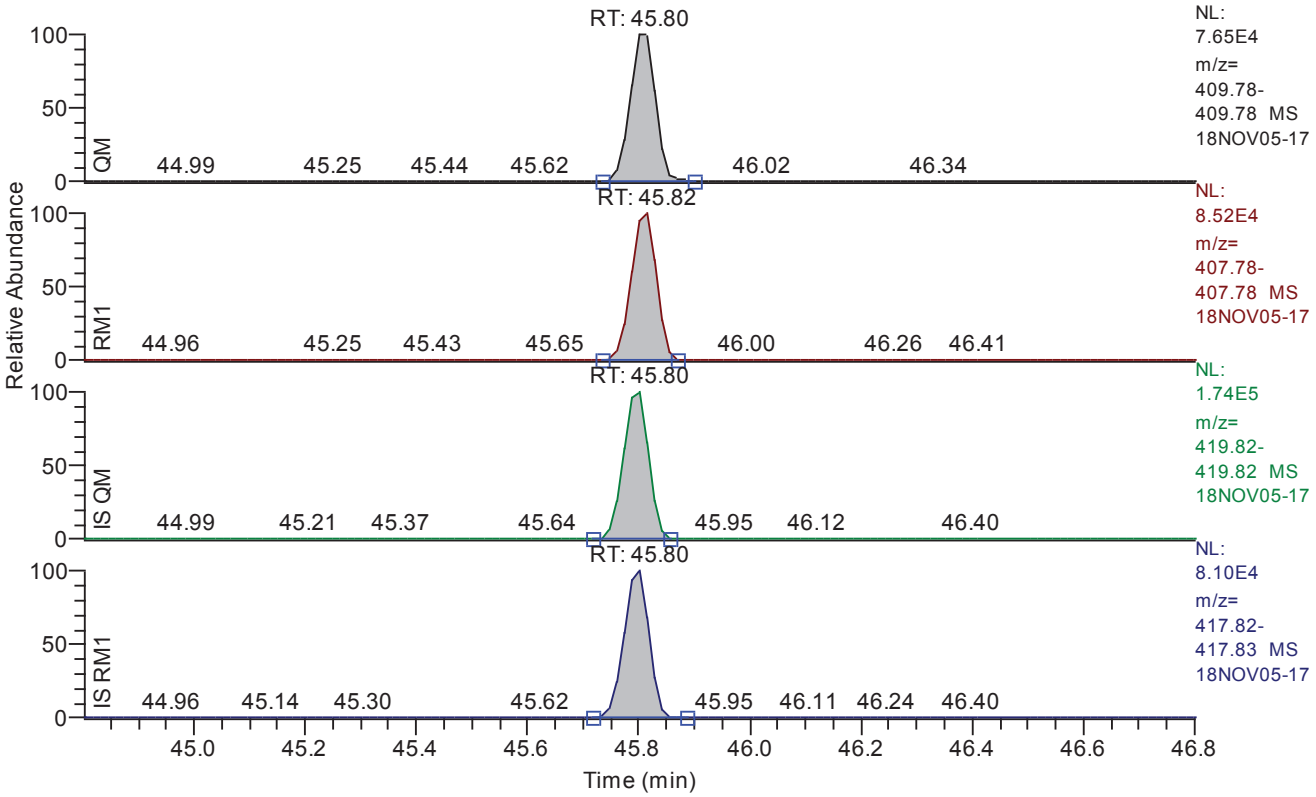
Chromatogram

RT: 44.80 - 46.80 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.80
QM Area	252093
QM Integration Mode	A
RM1 Area	275790
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0341
Unqualified Amount (A)	49.410750
Adjusted Amount (A)	49.4108
Signal-to-Noise	3597
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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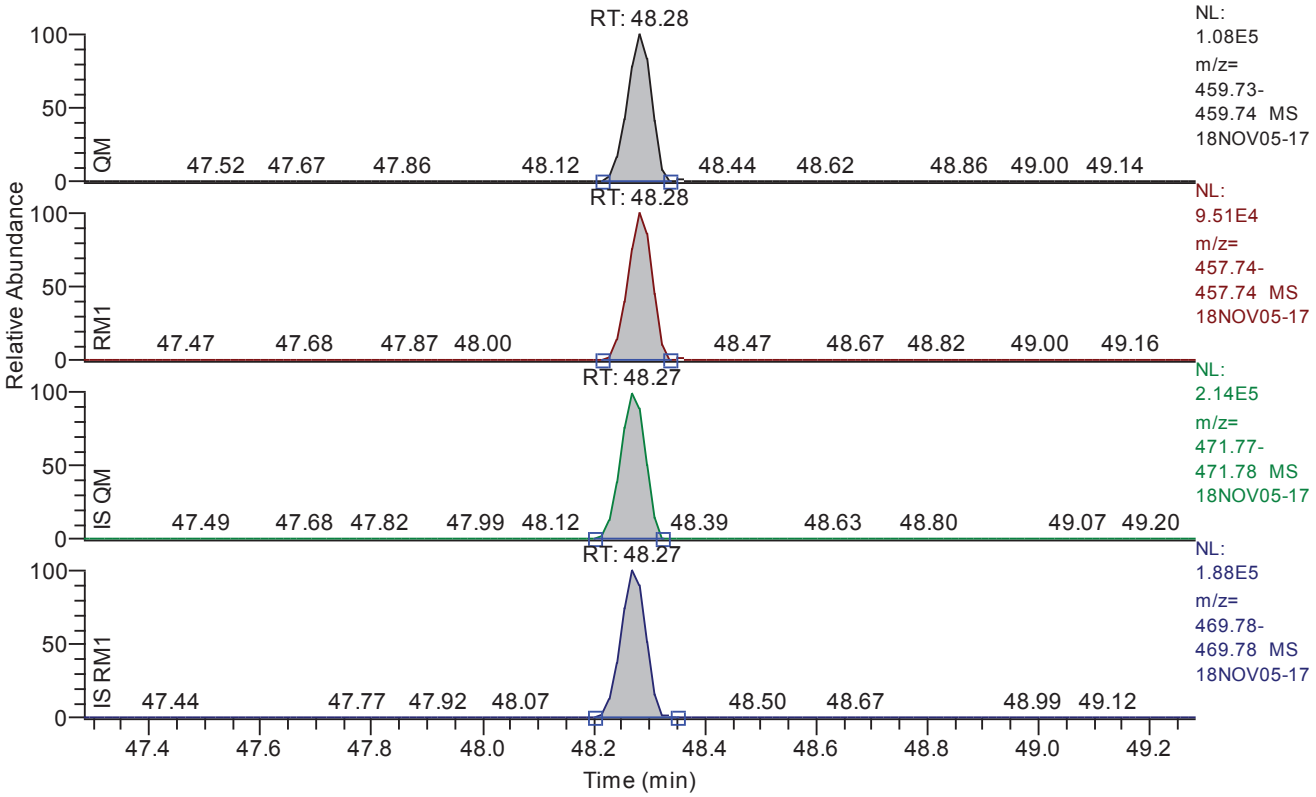
Chromatogram

RT: 47.28 - 49.28 SM: 3G



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.28
QM Area	326942
QM Integration Mode	A
RM1 Area	288077
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0278
Unqualified Amount (A)	94.126325
Adjusted Amount (A)	94.1263
Signal-to-Noise	8671
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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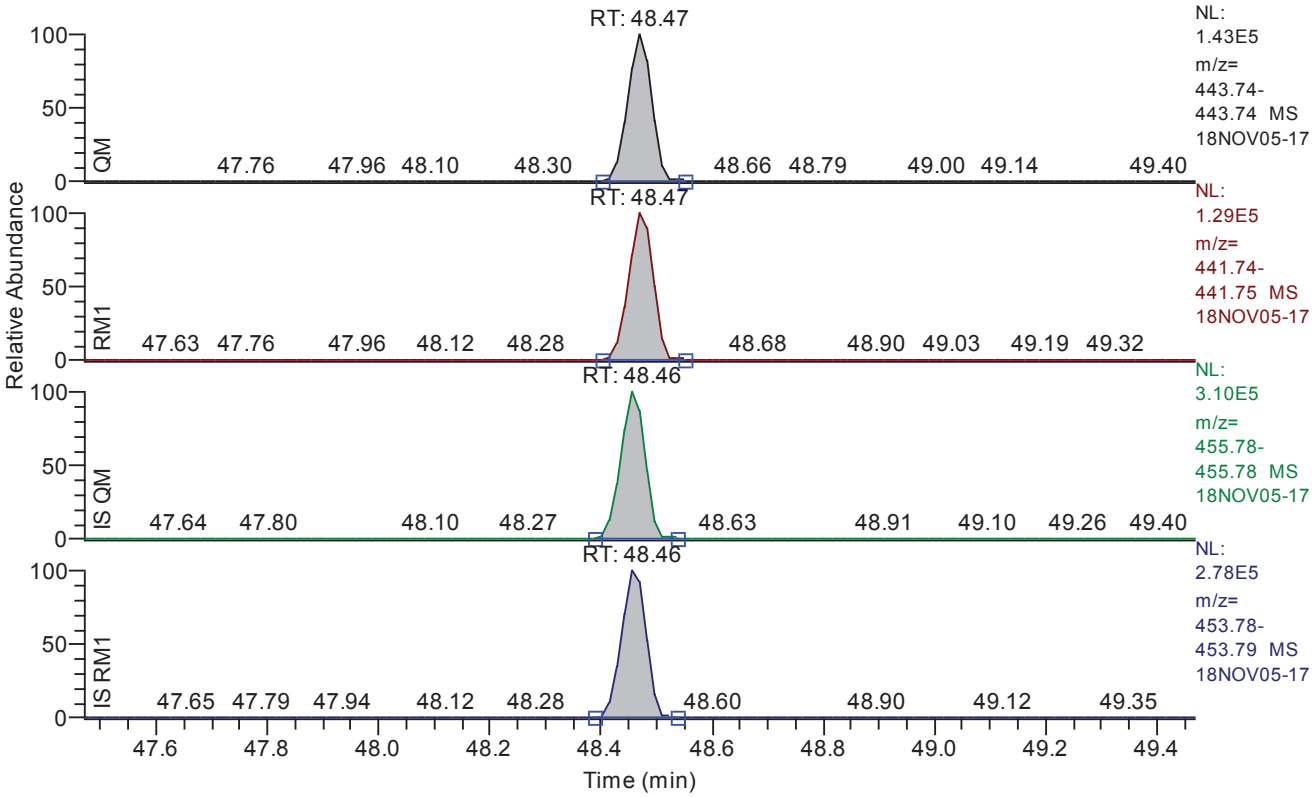
Chromatogram

RT: 47.47 - 49.47 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.47
QM Area	430320
QM Integration Mode	A
RM1 Area	396438
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0180
Unqualified Amount (A)	97.536400
Adjusted Amount (A)	97.5364
Signal-to-Noise	13669
Client Flags	
Status Overview	passed
Status Info	

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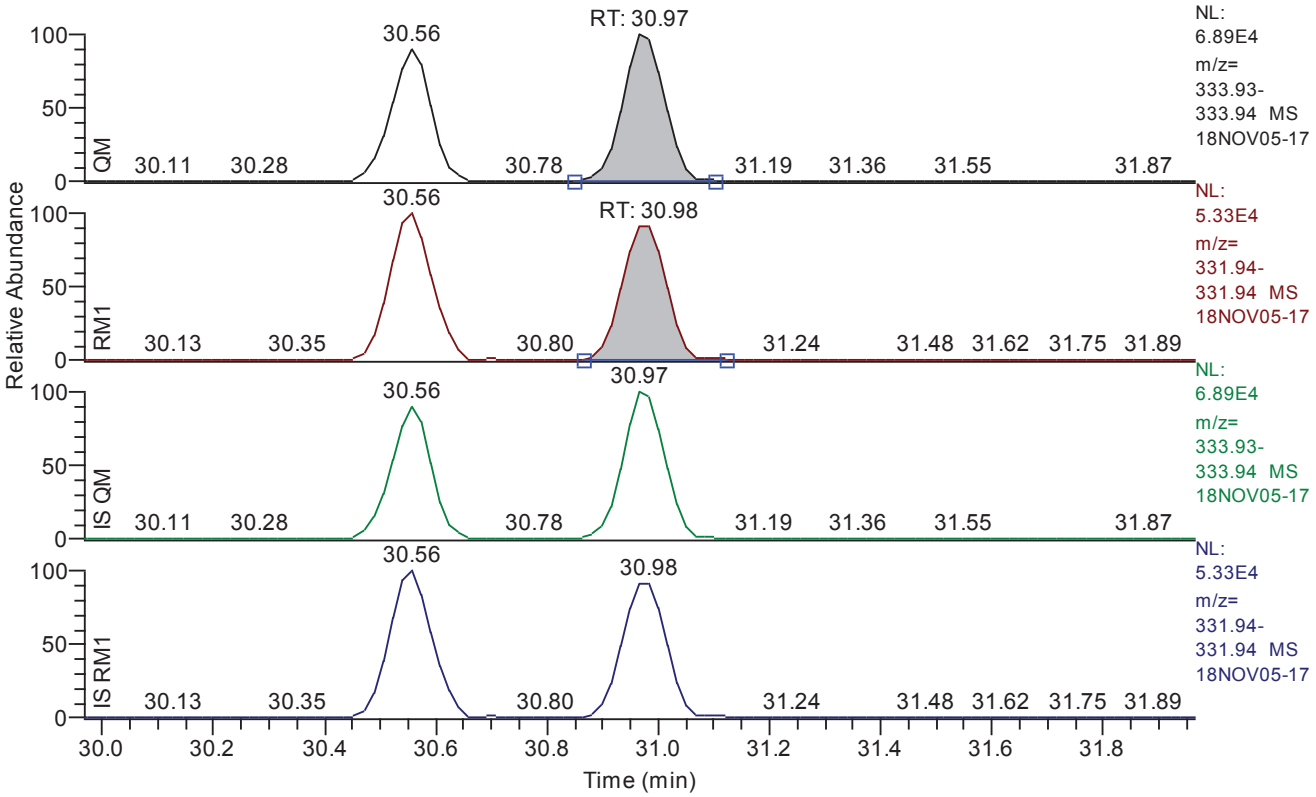
Chromatogram

RT: 29.97 - 31.97 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.97
QM Area	368311
QM Integration Mode	A
RM1 Area	277228
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0358
Unqualified Amount (A)	81.460230
Adjusted Amount (A)	81.4602
Signal-to-Noise	6111
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 1:57 pm, 11/6/18

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By uild at 11:52 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.46	29.46	29.46	29.45	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.57	30.57	30.59	30.56	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.43	35.43	35.43	35.40	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.72	36.72	36.72	36.71	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.11	37.11	37.11	37.09	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.40	40.40	40.42	40.39	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.57	40.57	40.57	40.55	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.27	41.27	41.28	41.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.47	41.47	41.47	41.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.59	41.59	41.59	41.56	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.90	41.90	41.90	41.89	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.30	42.30	42.30	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.02	44.02	44.00	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.24	45.24	45.24	45.22	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.80	45.80	45.82	45.80	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.28	48.28	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.47	48.47	48.46	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.97	30.97	30.98	30.97	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.70	29.70	29.70	29.70	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.30	40.30	40.31	40.30	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.45	29.45	29.45	29.50	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.56	30.56	30.56	30.56	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.40	35.40	35.40	35.44	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.71	36.71	36.71	36.74	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.09	37.09	37.09	37.09	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.39	40.39	40.39	40.43	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.55	40.55	40.55	40.54	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.25	41.25	41.25	41.25	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.44	41.44	41.45	41.45	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.56	41.56	41.56	41.56	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.89	41.89	41.89	41.89	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.28	42.29	42.30	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.00	44.00	44.00	44.02	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.22	45.22	45.22	45.22	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.80	45.80	45.80	45.76	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.46	48.46	48.46	48.46	passed	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.46	0.8160	0.6450 - 0.8950	passed	87.37	0 - 0	passed
2	2378-TCDD	30.57	0.7985	0.6450 - 0.8950	failed on	91.60	0 - 0	passed
3	12378-PeCDF	35.43	1.5764	1.3150 - 1.7850	passed	93.81	0 - 0	passed
4	23478-PeCDF	36.72	1.5838	1.3150 - 1.7850	passed	92.85	0 - 0	passed
5	12378-PeCDD	37.11	1.5854	1.3150 - 1.7850	passed	90.27	0 - 0	passed
6	123478-HxCDF	40.40	1.2720	1.0450 - 1.4350	passed	100.02	0 - 0	passed
7	123678-HxCDF	40.57	1.2804	1.0450 - 1.4350	passed	98.51	0 - 0	passed
8	234678-HxCDF	41.27	1.2506	1.0450 - 1.4350	passed	96.03	0 - 0	passed
9	123478-HxCDD	41.47	1.2604	1.0450 - 1.4350	passed	96.31	0 - 0	passed
10	123678-HxCDD	41.59	1.2928	1.0450 - 1.4350	passed	97.89	0 - 0	passed
11	123789-HxCDD	41.90	1.2780	1.0450 - 1.4350	passed	97.37	0 - 0	passed
12	123789-HxCDF	42.30	1.2721	1.0450 - 1.4350	passed	98.24	0 - 0	passed
13	1234678-HpCDF	44.02	1.0874	0.8750 - 1.2050	passed	96.33	0 - 0	passed
14	1234678-HpCDD	45.24	1.1049	0.8750 - 1.2050	passed	94.32	0 - 0	passed
15	1234789-HpCDF	45.80	1.0940	0.8750 - 1.2050	passed	98.82	0 - 0	passed
16	OCDD	48.28	0.8811	0.7550 - 1.0250	passed	94.13	0 - 0	passed
17	OCDF	48.47	0.9213	0.7550 - 1.0250	passed	97.54	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.97	0.7527	0.6450 - 0.8950	passed	81.46	0 - 0	passed
19	13C12-1234-TCDD	29.70	0.7996	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.30	1.2433	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.45	0.7724	0.6450 - 0.8950	passed	96.86	0 - 0	passed
22	13C12-2378-TCDD	30.56	0.9046	0.6450 - 0.8950	failed	104.74	0 - 0	passed
23	13C12-12378-PeCDF	35.40	1.6102	1.3150 - 1.7850	passed	110.51	0 - 0	passed
24	13C12-23478-PeCDF	36.71	1.5502	1.3150 - 1.7850	passed	110.82	0 - 0	passed
25	13C12-12378-PeCDD	37.09	1.5583	1.3150 - 1.7850	passed	120.15	0 - 0	passed
26	13C12-123478-HxCDF	40.39	0.5462	0.4250 - 0.5950	passed	99.94	0 - 0	passed
27	13C12-123678-HxCDF	40.55	0.5216	0.4250 - 0.5950	passed	97.45	0 - 0	passed
28	13C12-234678-HxCDF	41.25	0.5291	0.4250 - 0.5950	passed	102.55	0 - 0	passed
29	13C12-123478-HxCDD	41.44	1.2755	1.0450 - 1.4350	passed	102.66	0 - 0	passed
30	13C12-123678-HxCDD	41.56	1.2842	1.0450 - 1.4350	passed	101.67	0 - 0	passed
31	13C12-123789-HxCDD	41.89	1.2470	1.0450 - 1.4350	passed	101.79	0 - 0	passed
32	13C12-123789-HxCDF	42.28	0.5364	0.4250 - 0.5950	passed	96.83	0 - 0	passed
33	13C12-1234678-HpCDF	44.00	0.4727	0.3650 - 0.5150	passed	110.15	0 - 0	passed
34	13C12-1234678-HpCDD	45.22	1.0378	0.8750 - 1.2050	passed	113.19	0 - 0	passed
35	13C12-1234789-HpCDF	45.80	0.4653	0.3650 - 0.5150	passed	106.63	0 - 0	passed
36	13C12-OCDD	48.27	0.8849	0.7550 - 1.0250	passed	103.81	0 - 0	passed
37	13C12-OCDF	48.46	0.9138	0.7550 - 1.0250	passed	97.88	0 - 0	passed

APPROVED
By uma9 at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.46	59485	A	48540	A	0.0194	8.737462	8.7375	10.000000	1102	
2	2378-TCDD	failed	30.57	37881	A	30247	A	0.0202	9.160471	n.d.	10.000000	1062	
3	12378-PeCDF	passed	35.43	213594	A	336707	A	0.0173	46.906075	46.9061	50.000000	6982	
4	23478-PeCDF	passed	36.72	232285	A	367881	A	0.0150	46.426587	46.4266	50.000000	8066	
5	12378-PeCDD	passed	37.11	124779	A	197825	A	0.0271	45.134994	45.1350	50.000000	4296	
6	123478-HxCDF	passed	40.40	294784	A	374974	A	0.0346	50.011310	50.0113	50.000000	3603	
7	123678-HxCDF	passed	40.57	289028	A	370066	A	0.0353	49.255310	49.2553	50.000000	3652	
8	234678-HxCDF	passed	41.27	289918	A	362563	A	0.0331	48.015359	48.0154	50.000000	3626	
9	123478-HxCDD	passed	41.47	174549	A	220004	A	0.0259	48.154045	48.1540	50.000000	4741	
10	123678-HxCDD	passed	41.59	177344	A	229276	A	0.0251	48.943575	48.9436	50.000000	4743	
11	123789-HxCDD	passed	41.90	179760	A	229726	A	0.0246	48.684168	48.6842	50.000000	4953	
12	123789-HxCDF	passed	42.30	246561	A	313655	A	0.0406	49.121061	49.1211	50.000000	3029	
13	1234678-HpCDF	passed	44.02	309900	A	336996	A	0.0264	48.163858	48.1639	50.000000	4525	
14	1234678-HpCDD	passed	45.24	185503	A	204962	A	0.0317	47.162316	47.1623	50.000000	3726	
15	1234789-HpCDF	passed	45.80	252093	A	275790	A	0.0341	49.410750	49.4108	50.000000	3597	
16	OCDD	passed	48.28	326942	A	288077	A	0.0278	94.126325	94.1263	100.000000	8671	
17	OCDF	passed	48.47	430320	A	396438	A	0.0180	97.536400	97.5364	100.000000	13669	
18	13C12-1278-TCDD (CRS)	passed	30.97	368311	A	277228	A	0.0358	81.460230	81.4602	100.000000	6111	
19	13C12-1234-TCDD	passed	29.70	348025	A	278265	A	0.0454	100.000000	100.0000	100.000000	5512	
20	13C12-123468-HxCDD	passed	40.30	377572	A	469439	A	0.0495	100.000000	100.0000	100.000000	5047	
21	13C12-2378-TCDF	passed	29.45	633538	A	489323	A	0.0251	96.860819	96.8608	100.000000	10069	
22	13C12-2378-TCDD	failed	30.56	319914	A	289402	A	0.0488	104.744525	n.d.	100.000000	5983	
23	13C12-12378-PeCDF	passed	35.40	453919	A	730914	A	0.0663	110.508849	110.5088	100.000000	5724	
24	13C12-23478-PeCDF	passed	36.71	456998	A	708426	A	0.0676	110.821825	110.8218	100.000000	5904	
25	13C12-12378-PeCDD	passed	37.09	269353	A	419739	A	0.0642	120.153299	120.1533	100.000000	6773	
26	13C12-123478-HxCDF	passed	40.39	722762	A	394779	A	0.0511	99.941716	99.9417	100.000000	5012	
27	13C12-123678-HxCDF	passed	40.55	762527	A	397757	A	0.0480	97.450680	97.4507	100.000000	5117	
28	13C12-234678-HxCDF	passed	41.25	716610	A	379174	A	0.0535	102.552612	102.5526	100.000000	5071	
29	13C12-123478-HxCDD	passed	41.44	353068	A	450336	A	0.0536	102.662409	102.6624	100.000000	4969	
30	13C12-123678-HxCDD	passed	41.56	353376	A	453822	A	0.0528	101.666549	101.6665	100.000000	5080	
31	13C12-123789-HxCDD	passed	41.89	342475	A	427070	A	0.0555	101.792355	101.7924	100.000000	4873	
32	13C12-123789-HxCDF	passed	42.28	643592	A	345224	A	0.0559	96.826444	96.8264	100.000000	4442	
33	13C12-1234678-HpCDF	passed	44.00	705051	A	333256	A	0.0672	110.154503	110.1545	100.000000	4614	
34	13C12-1234678-HpCDD	passed	45.22	381406	A	395807	A	0.0482	113.193267	113.1933	100.000000	6615	
35	13C12-1234789-HpCDF	passed	45.80	563191	A	262070	A	0.0818	106.626129	106.6261	100.000000	3572	
36	13C12-OCDD	passed	48.27	664810	A	588280	A	0.0179	207.619891	207.6199	200.000000	33139	
37	13C12-OCDF	passed	48.46	942387	A	861159	A	0.0207	195.759183	195.7592	200.000000	27355	

APPROVED
By uma9 at 1:57 pm, 11/6/18

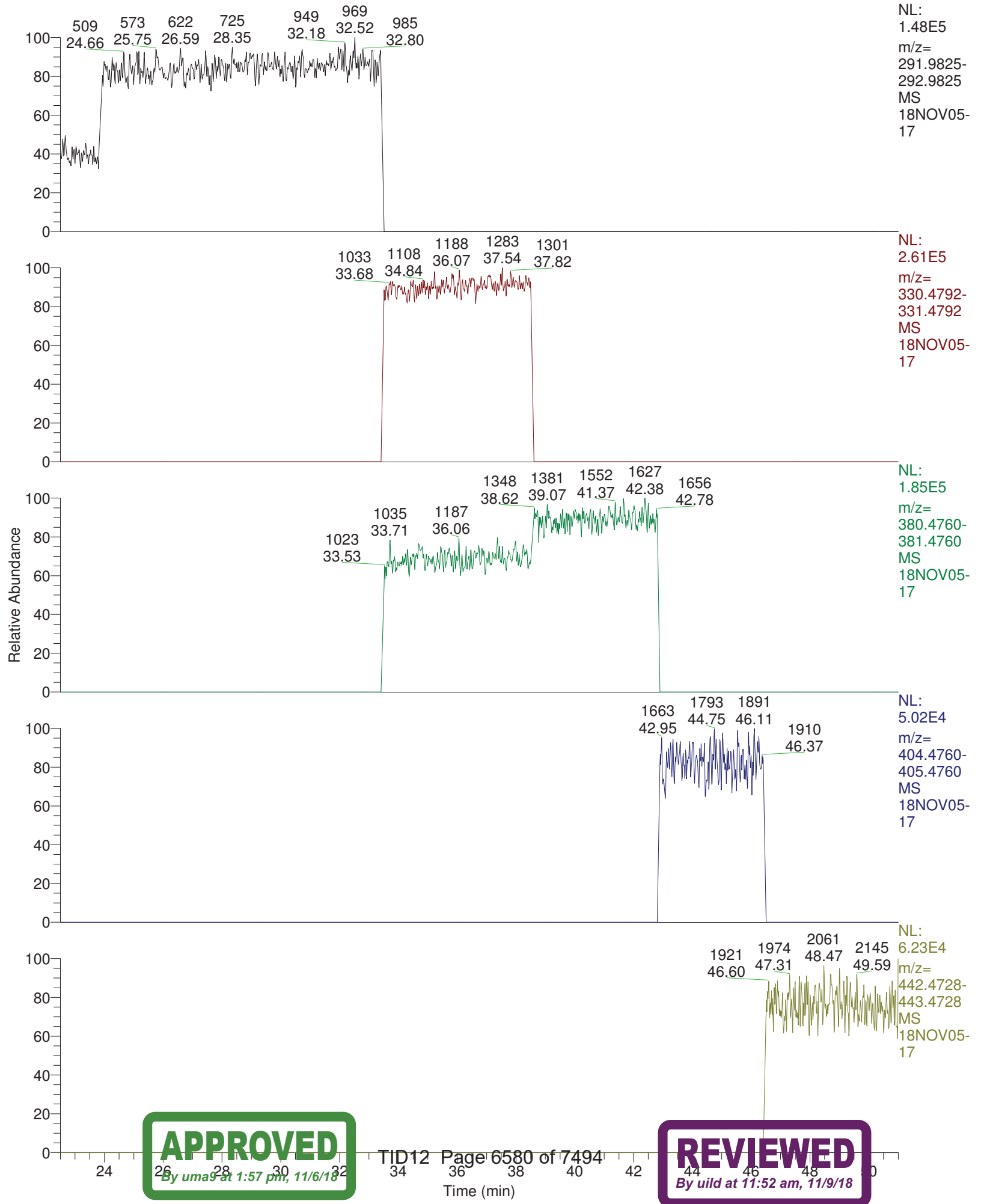
REVIEWED
By uild at 11:52 am, 11/9/18

File Name: Z:\18NOV05\18NOV05-17
Sample ID: CS3CC03

Acq. Data: 11/5/2018 11:14:08 PM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV05

RT: 22.50 - 51.00



APPROVED
By umas at 1:57 pm, 11/6/18

REVIEWED
By uild at 11:52 am, 11/9/18

*** file opened Mon Nov 05 23:19:35 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 05-Nov-18 23:19:35

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : ed73f7bd-3065-4700-8093-8c7e4fdbe210

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          98.5000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0002   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2724.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           171.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           178.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.7000
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0210   FVINLET         0.0407   FVSRC           0.0333
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      700.0000
 LENS_SYM         8.0000   LM            254.9851   LMII          500.0000
 LMASS           98.5000   LKM           442.9723   MASS           98.5000
 MDAC        1497590.9001  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9675   RELEN           0.0000
 RES          12897.9852   RPUSHER       -17.1648   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     738.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0182   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          98.5000   XLENS_POT     848.0000
 XLENS_SYM        3.0000   YLENS_POT     780.0000   YLENS_SYM      16.0000

Source Gauge:        1.9e-005 mbar
Analyzer Penning:    6.7e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11563.
MID Time Window 2: Resolution is 12647.
MID Time Window 3: Resolution is 12475.
MID Time Window 4: Resolution is 13093.
```

```
                                        18NOV05-17
  MID Time Window 5: Resolution is 14763.
  MID Time Window 6: Resolution is 12897.

  Amplifier Offset: 86.


*** File closed Tue Nov 06 00:10:36 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 08:29
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1828537A
Sample ID	CPS02
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-02.quan
Data	z:\18nov06\18nov06-02.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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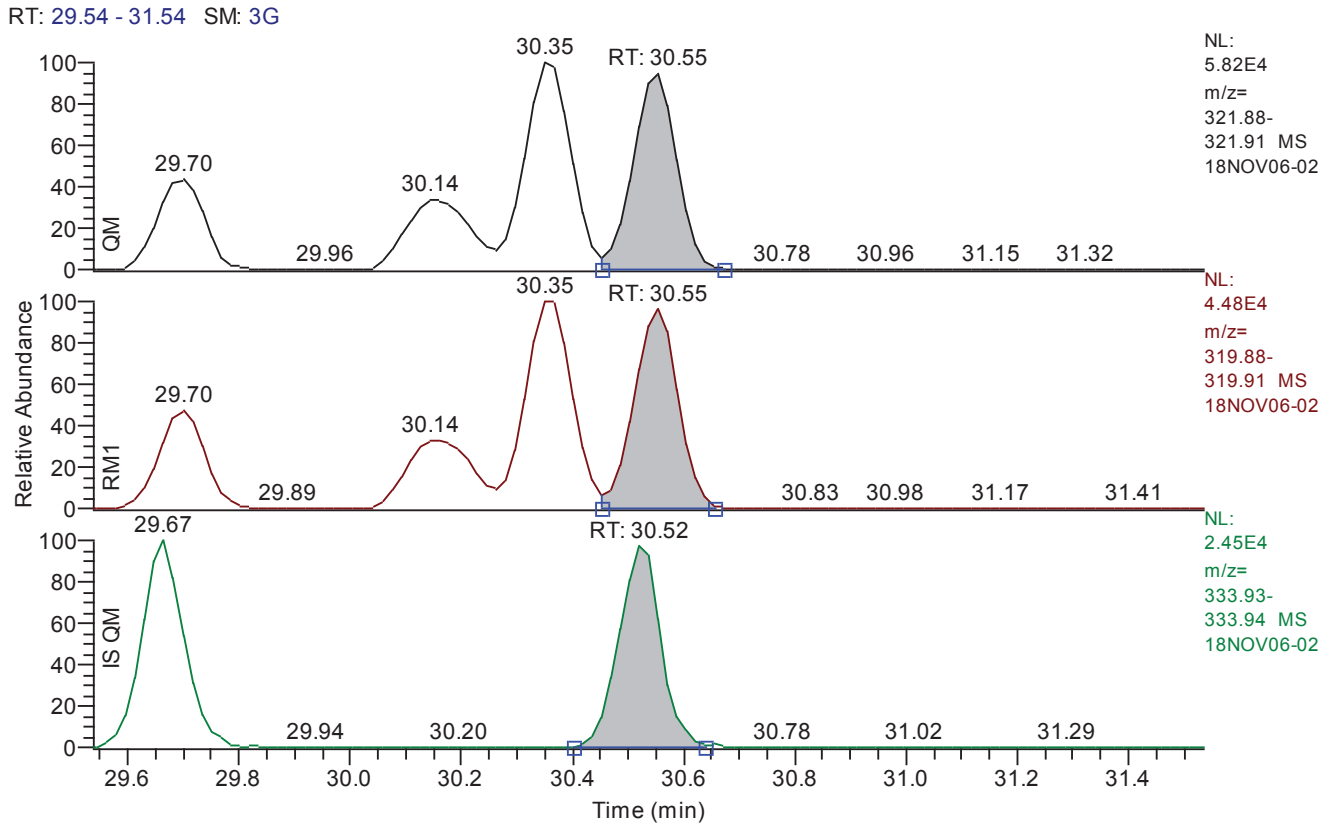
Chromatogram



Entry Parameters

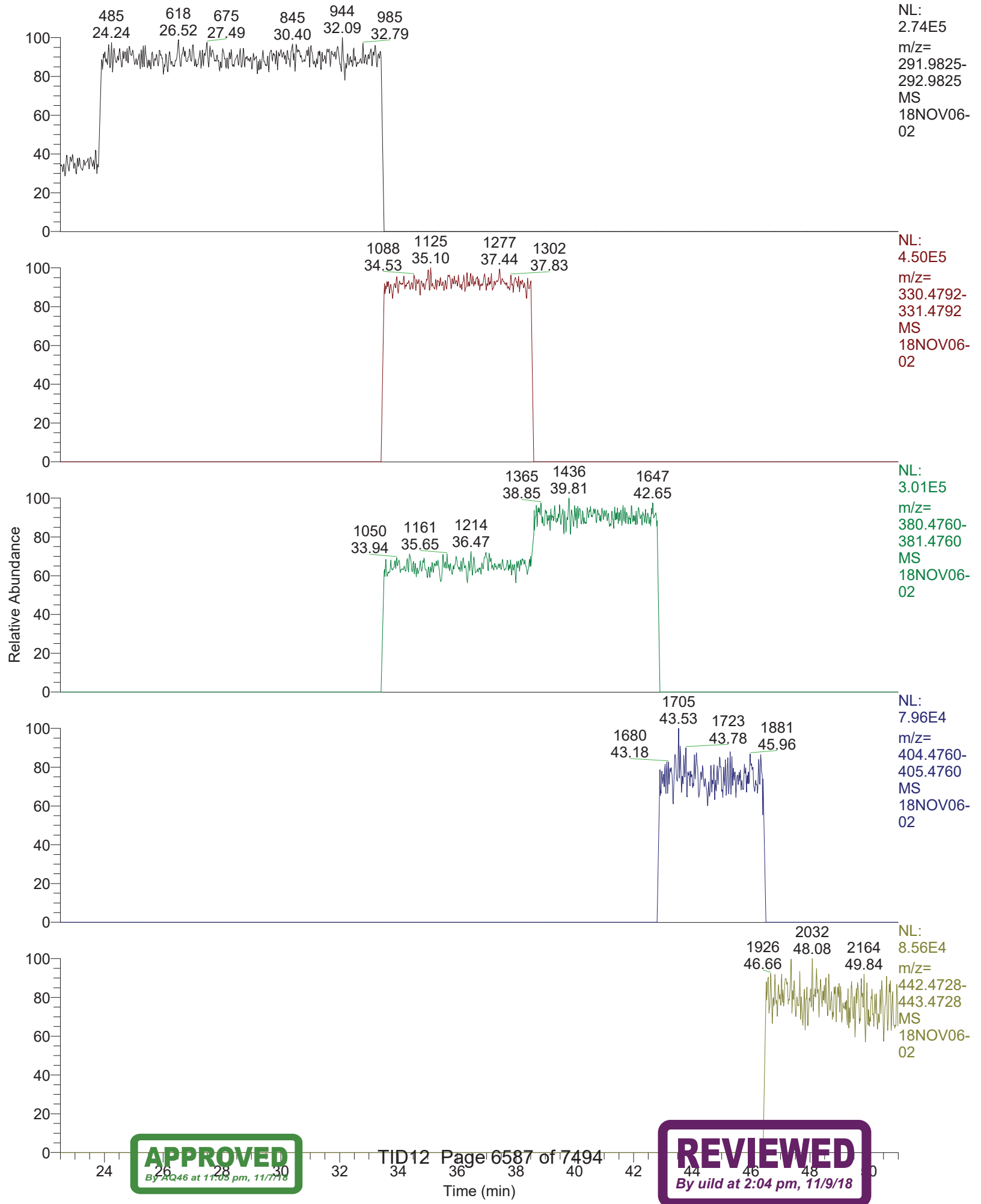
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	30.55
RM1 Left Baseline Height	323.57
RM1 Left Height	2619
RM1 Height	43052
GC Res (%) left	6.069199

File Name: Z:\18NOV06\18NOV06-02
Sample ID: CPS02

Acq. Data: 11/6/2018 8:29:24 AM
Sample Name: TDTFWD - ST1828537A
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

*** file opened Tue Nov 06 08:32:36 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J

Analysis started at: 06-Nov-18 08:32:36

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a094f1ce-3208-437a-b5ff-3e612575fe98

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          99.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2535.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0204   FVINLET         0.0410   FVSRC           0.0333
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           99.0000   LKM           442.9723   MASS           99.0000
 MDAC        1504026.1113  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9675   RELEN           0.0000
 RES          13453.3498   RPUSHER       -17.1209   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0210   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.0e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10983.
MID Time Window 2: Resolution is 12056.
MID Time Window 3: Resolution is 11603.
MID Time Window 4: Resolution is 11820.
```

```
MID Time Window 5: Resolution is 12892.
MID Time Window 6: Resolution is 13453.

Amplifier Offset: 85.


*** File closed Tue Nov 06 09:23:38 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 09:23
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-03-8290.quan
Data	z:\18nov06\18nov06-03.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.43	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.40	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.71	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.09	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.40	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.26	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.45	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.57	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.88	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
16	OCDD	48.28	passed	passed	passed	passed	passed	passed	
17	OCDF	48.47	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.95	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.69	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.29	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.41	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.53	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.38	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.08	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.53	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.25	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.44	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.56	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.87	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.27	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.99	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.27	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.45	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 09:23
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-03-8290.quan
Data	z:\18nov06\18nov06-03.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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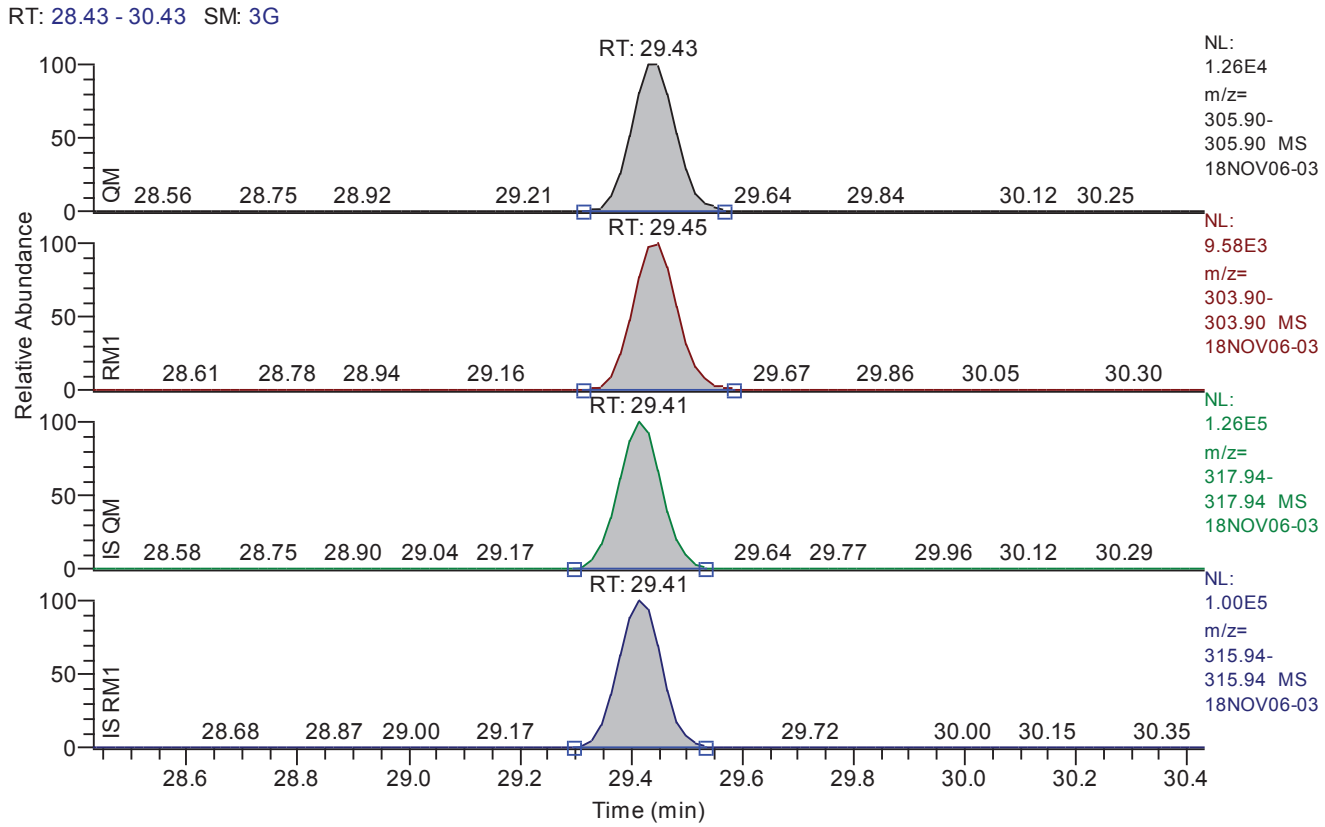
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.43
QM Area	71516
QM Integration Mode	A
RM1 Area	55182
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0209
Unqualified Amount (A)	9.124108
Adjusted Amount (A)	9.1241
Signal-to-Noise	1065
Client Flags	
Status Overview	passed
Status Info	

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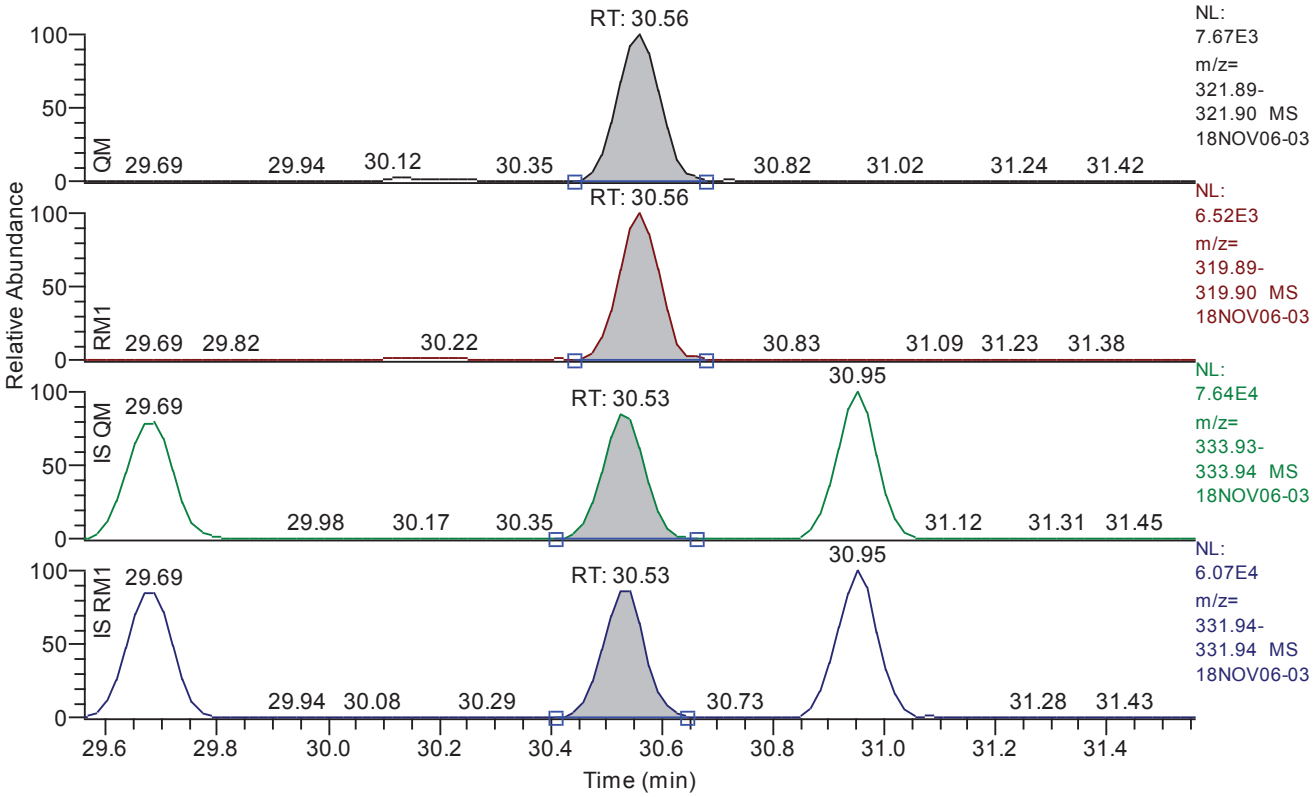
Chromatogram

RT: 29.56 - 31.56 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.56
QM Area	42020
QM Integration Mode	A
RM1 Area	33816
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0231
Unqualified Amount (A)	9.698826
Adjusted Amount (A)	9.6988
Signal-to-Noise	1065
Client Flags	
Status Overview	passed
Status Info	

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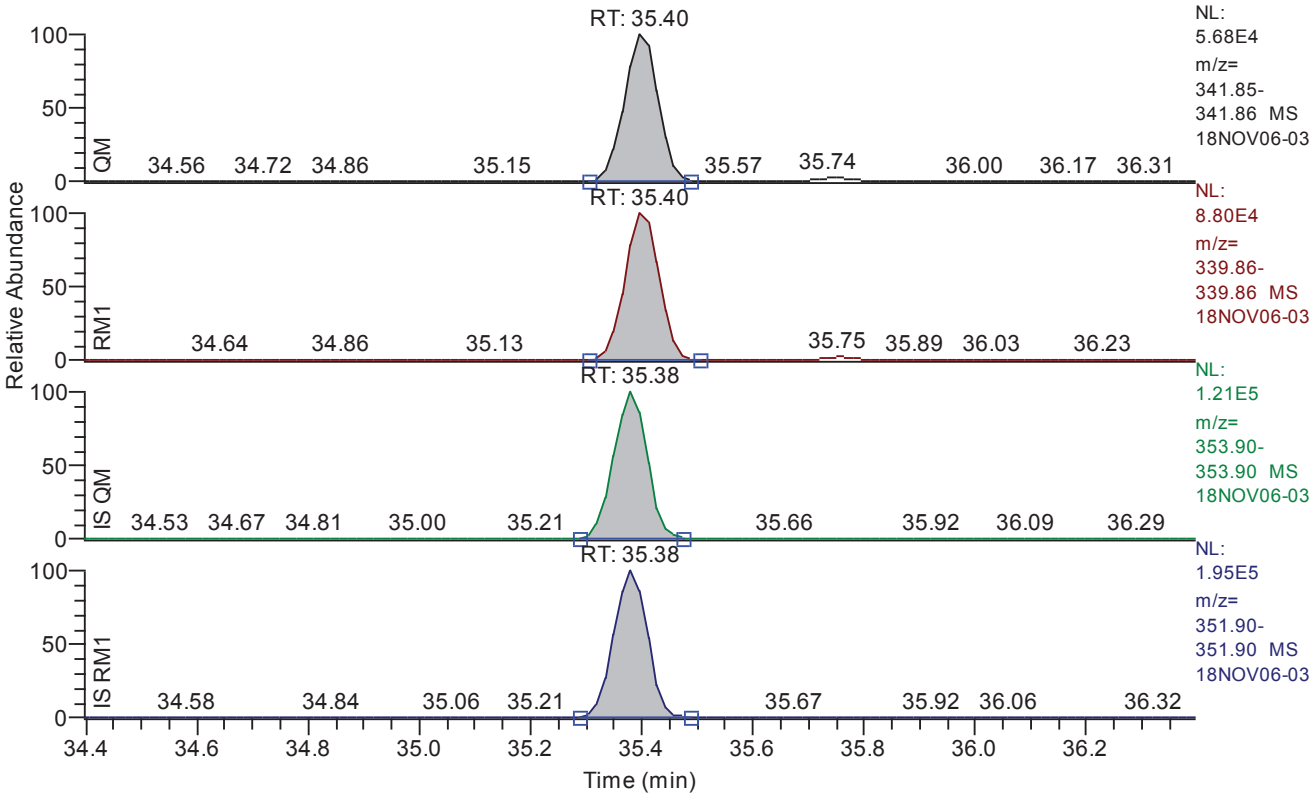
Chromatogram

RT: 34.40 - 36.40 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.40
QM Area	241298
QM Integration Mode	A
RM1 Area	379941
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0175
Unqualified Amount (A)	47.085331
Adjusted Amount (A)	47.0853
Signal-to-Noise	6608
Client Flags	
Status Overview	passed
Status Info	

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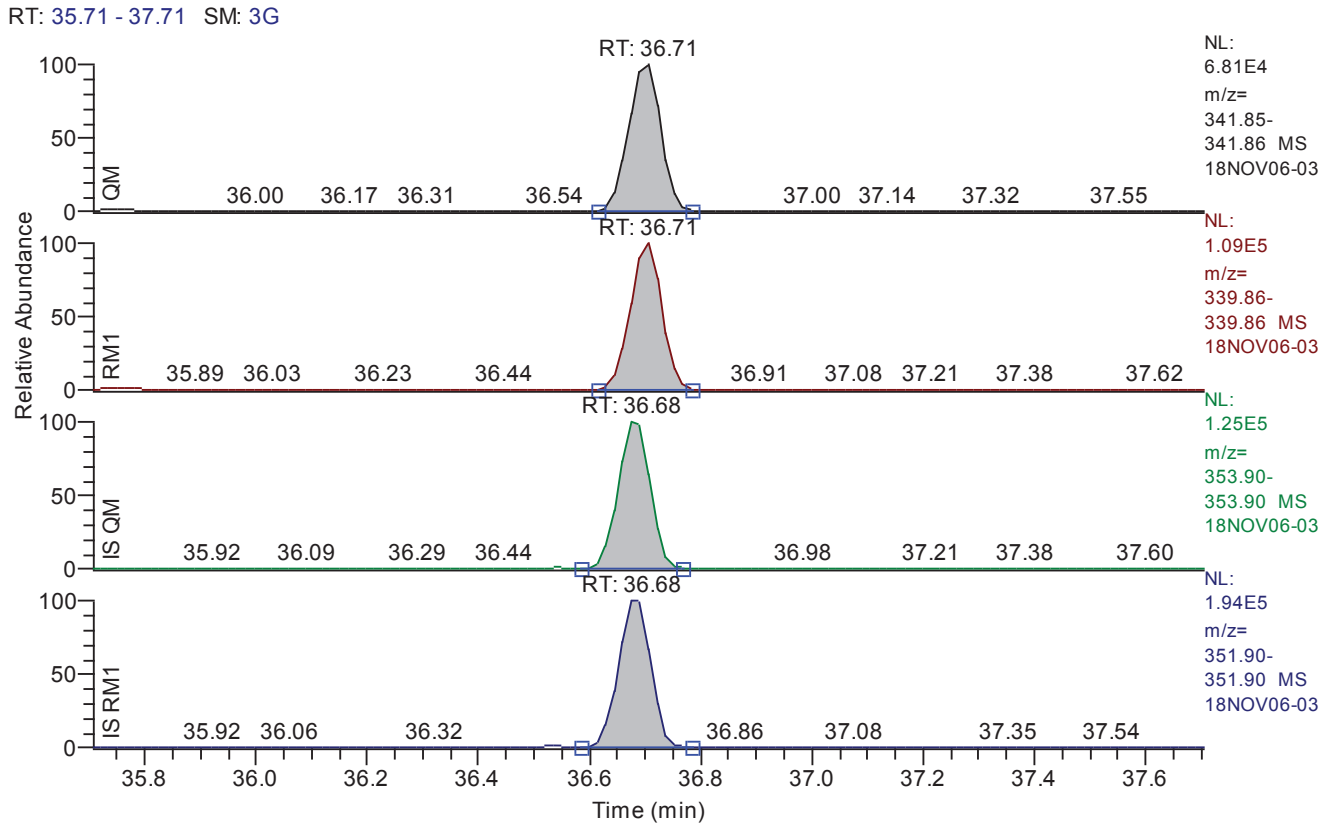
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.71
QM Area	276480
QM Integration Mode	A
RM1 Area	430358
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0155
Unqualified Amount (A)	49.076068
Adjusted Amount (A)	49.0761
Signal-to-Noise	8098
Client Flags	
Status Overview	passed
Status Info	

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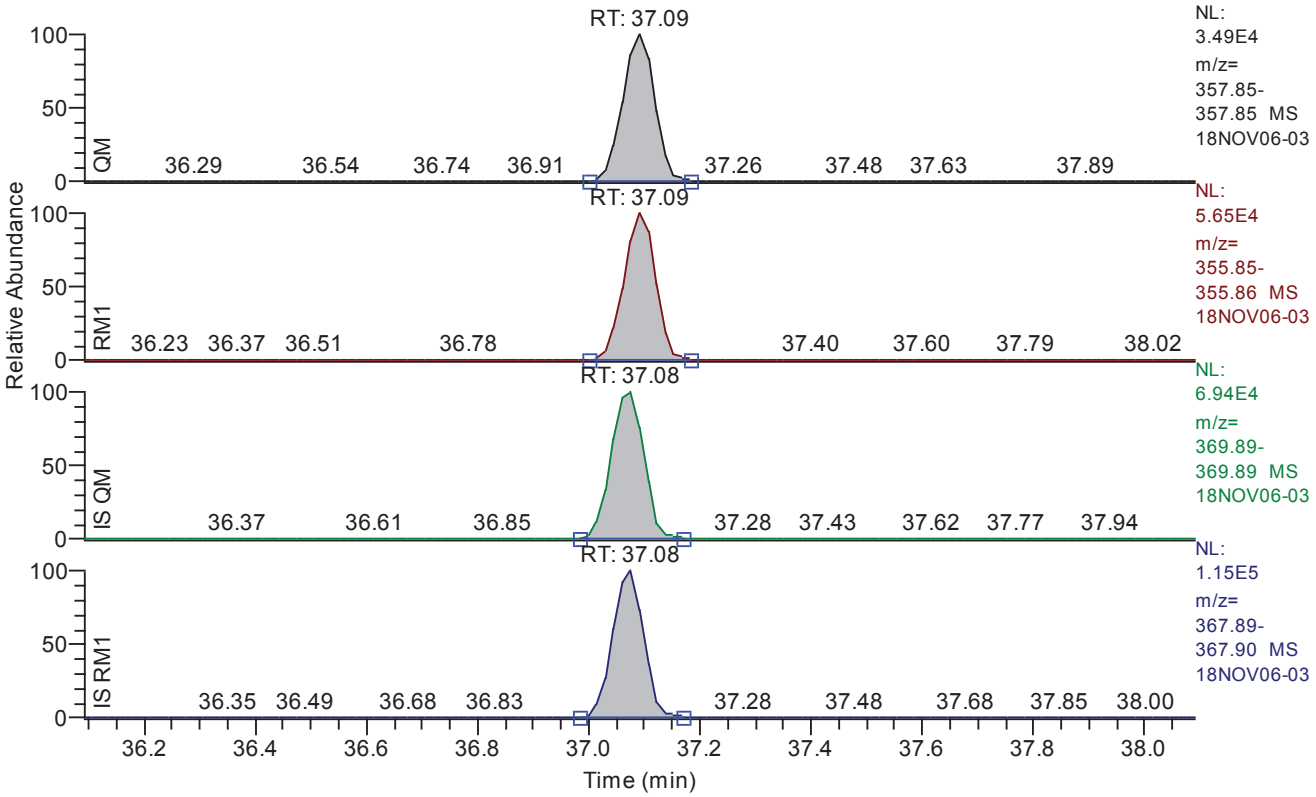
Chromatogram

RT: 36.09 - 38.09 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.09
QM Area	139658
QM Integration Mode	A
RM1 Area	222315
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0330
Unqualified Amount (A)	47.706806
Adjusted Amount (A)	47.7068
Signal-to-Noise	3621
Client Flags	
Status Overview	passed
Status Info	

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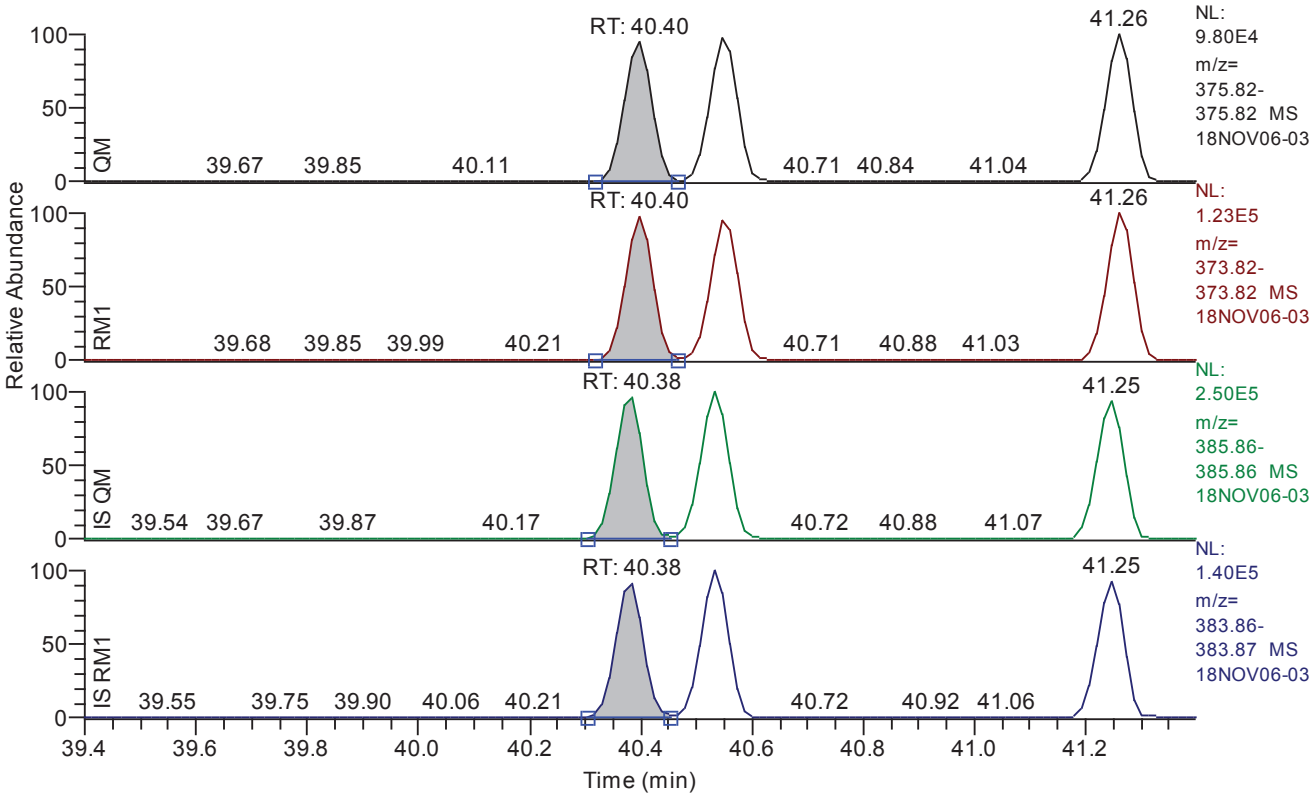
Chromatogram

RT: 39.40 - 41.40 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.40
QM Area	326189
QM Integration Mode	A
RM1 Area	415481
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0317
Unqualified Amount (A)	47.888220
Adjusted Amount (A)	47.8882
Signal-to-Noise	3801
Client Flags	
Status Overview	passed
Status Info	

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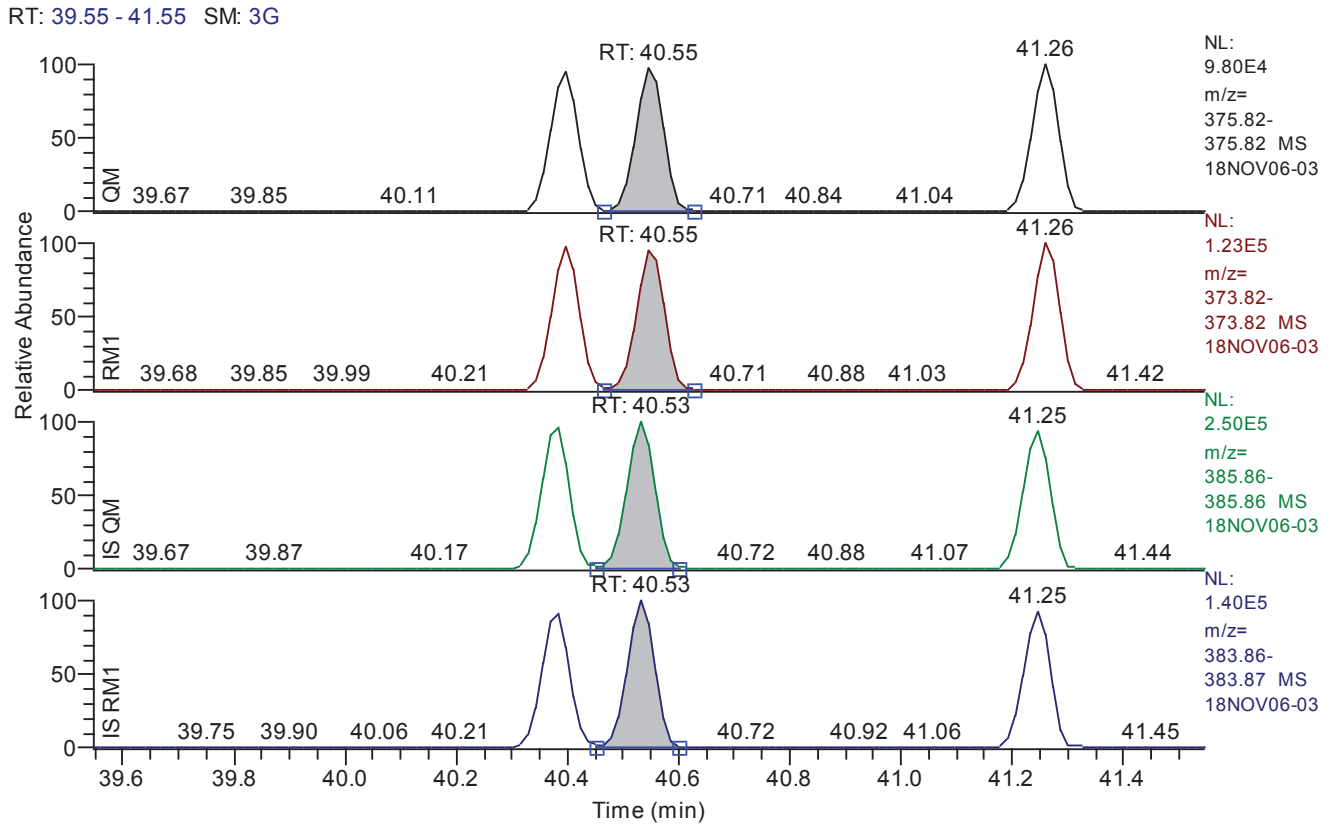
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.55
QM Area	331074
QM Integration Mode	A
RM1 Area	413151
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0314
Unqualified Amount (A)	47.954123
Adjusted Amount (A)	47.9541
Signal-to-Noise	3778
Client Flags	
Status Overview	passed
Status Info	

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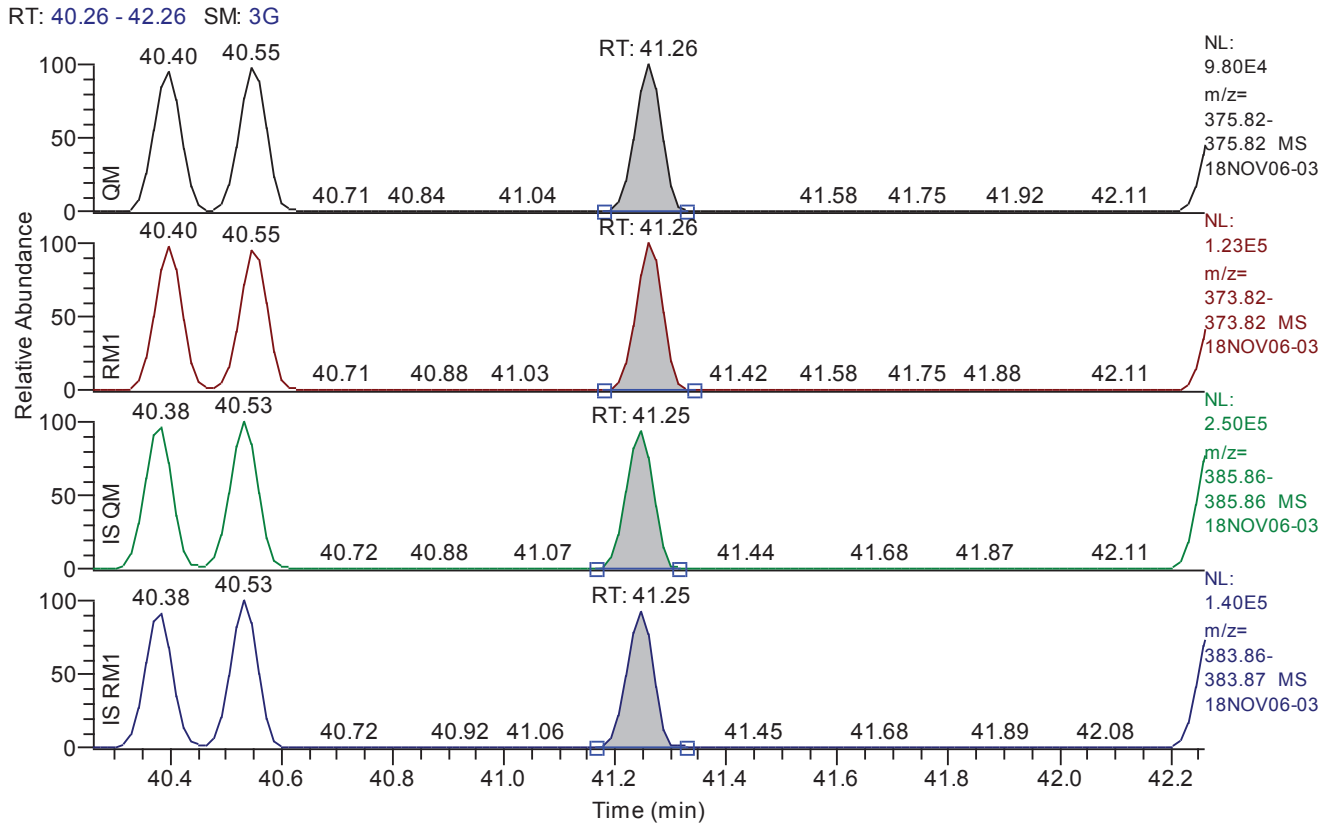
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.26
QM Area	327362
QM Integration Mode	A
RM1 Area	415679
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0310
Unqualified Amount (A)	48.280064
Adjusted Amount (A)	48.2801
Signal-to-Noise	3940
Client Flags	
Status Overview	passed
Status Info	

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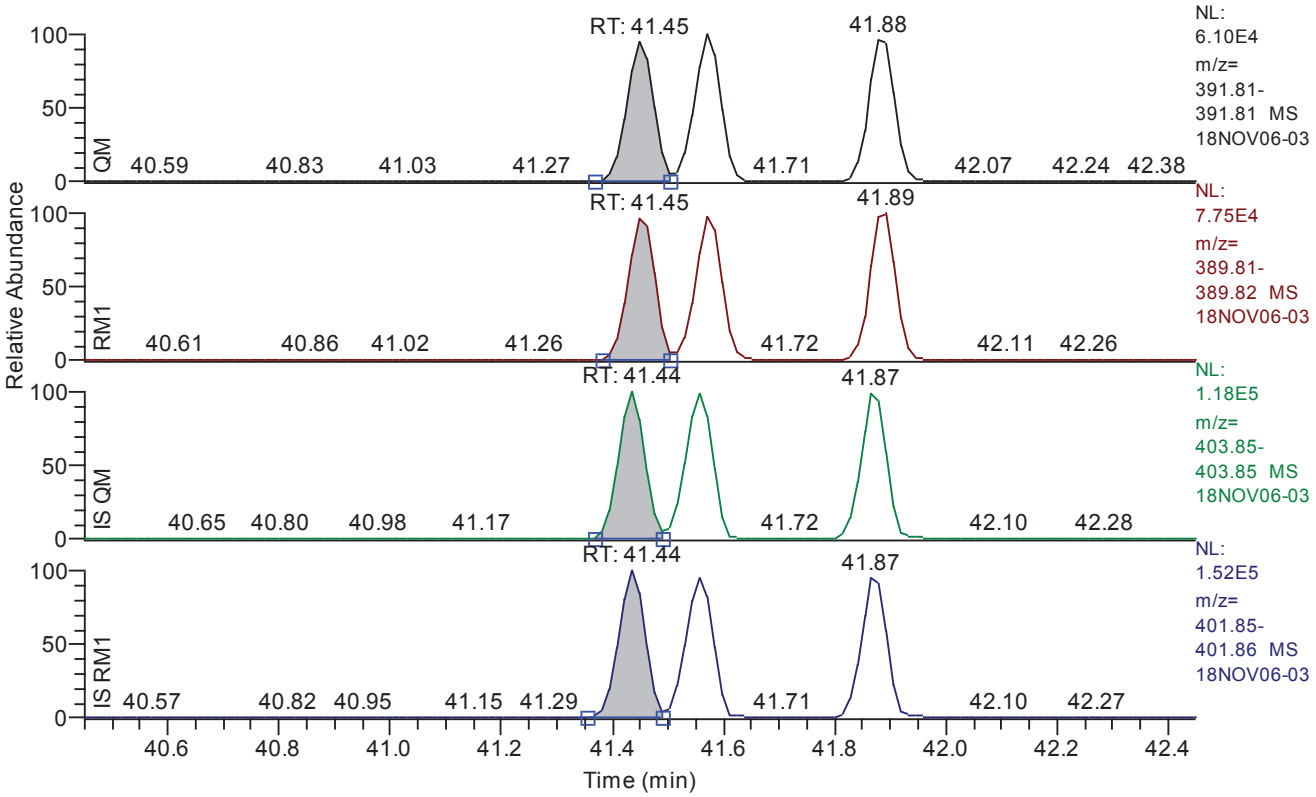
Chromatogram

RT: 40.45 - 42.45 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.45
QM Area	195213
QM Integration Mode	A
RM1 Area	252077
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0196
Unqualified Amount (A)	49.391254
Adjusted Amount (A)	49.3913
Signal-to-Noise	6196
Client Flags	
Status Overview	passed
Status Info	

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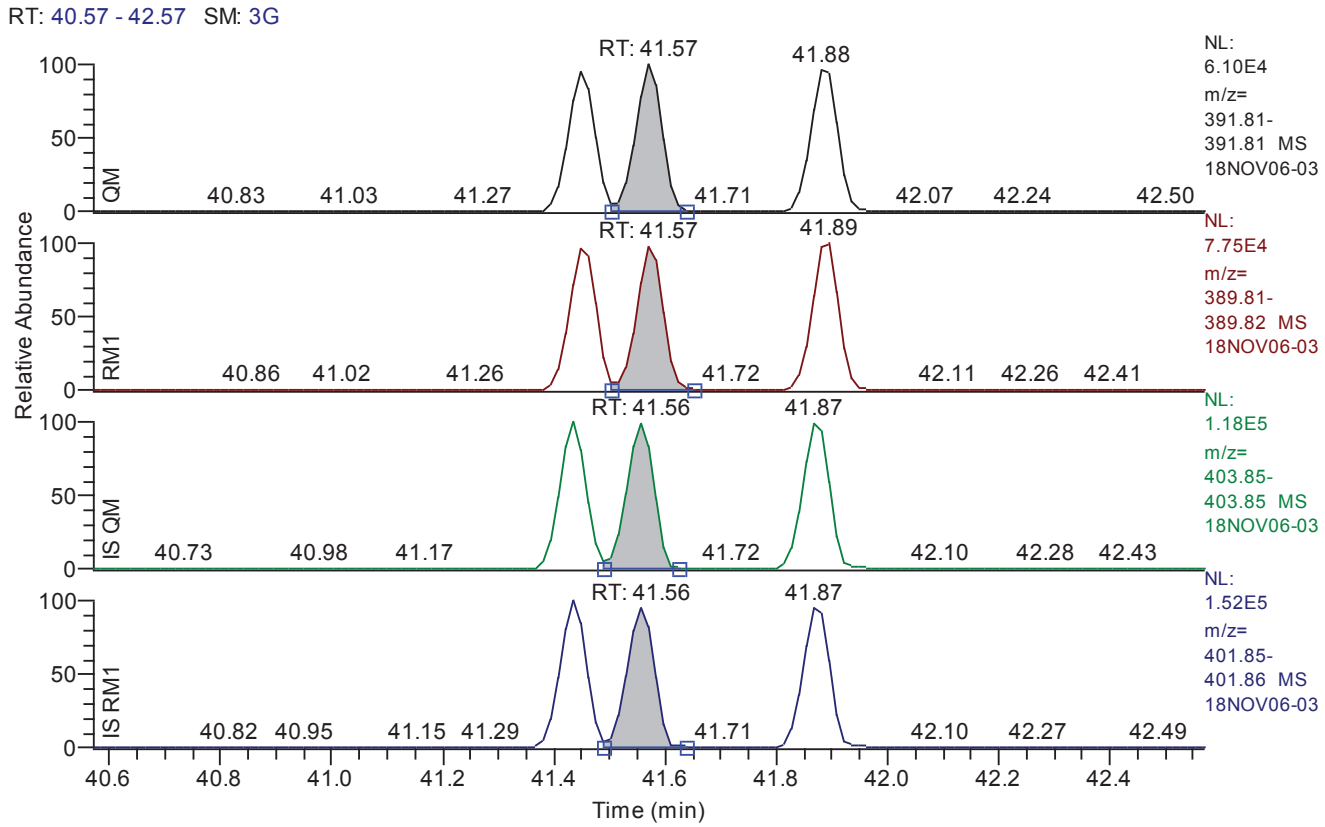
Chromatogram



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.57
QM Area	201620
QM Integration Mode	A
RM1 Area	252263
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0199
Unqualified Amount (A)	49.264827
Adjusted Amount (A)	49.2648
Signal-to-Noise	6364
Client Flags	
Status Overview	passed
Status Info	

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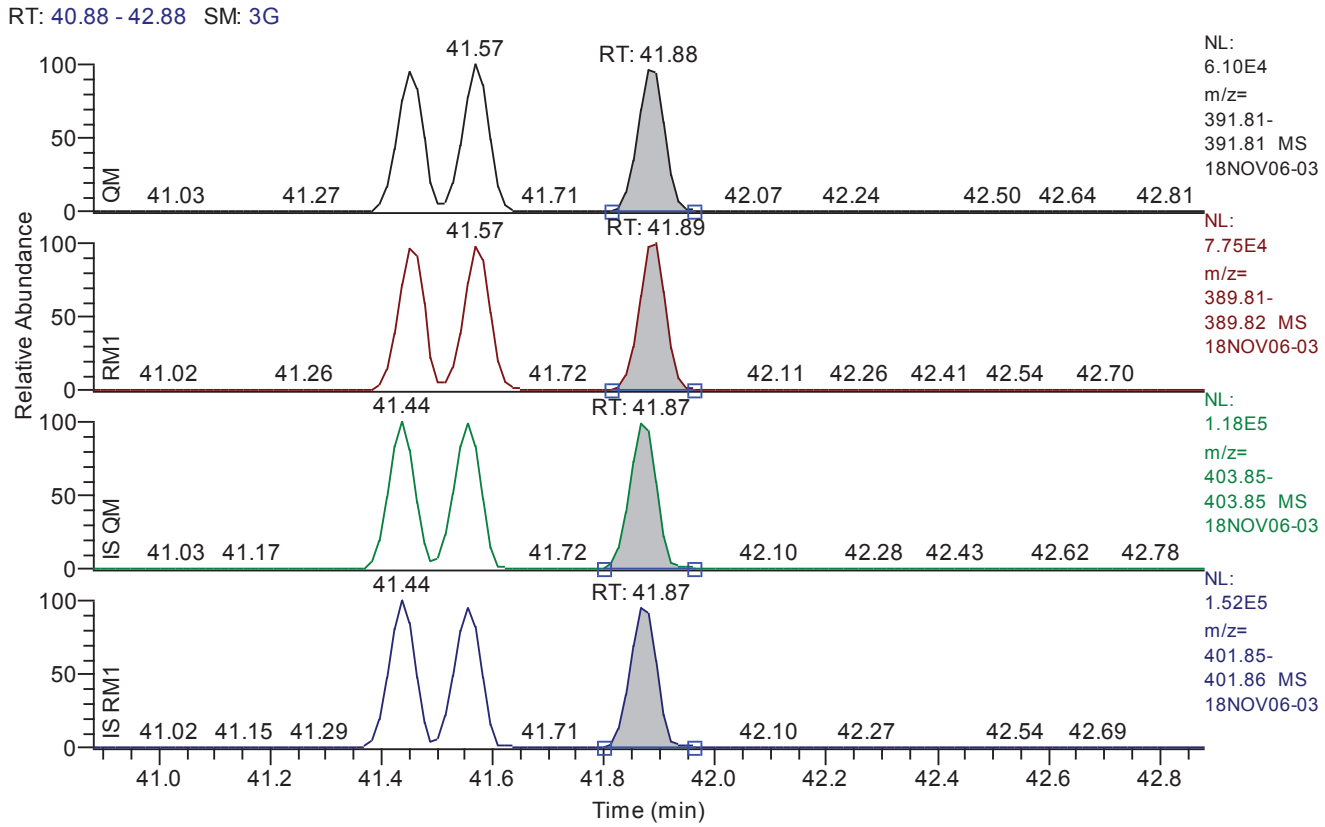
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.88
QM Area	201575
QM Integration Mode	A
RM1 Area	256988
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0188
Unqualified Amount (A)	47.510226
Adjusted Amount (A)	47.5102
Signal-to-Noise	6380
Client Flags	
Status Overview	passed
Status Info	

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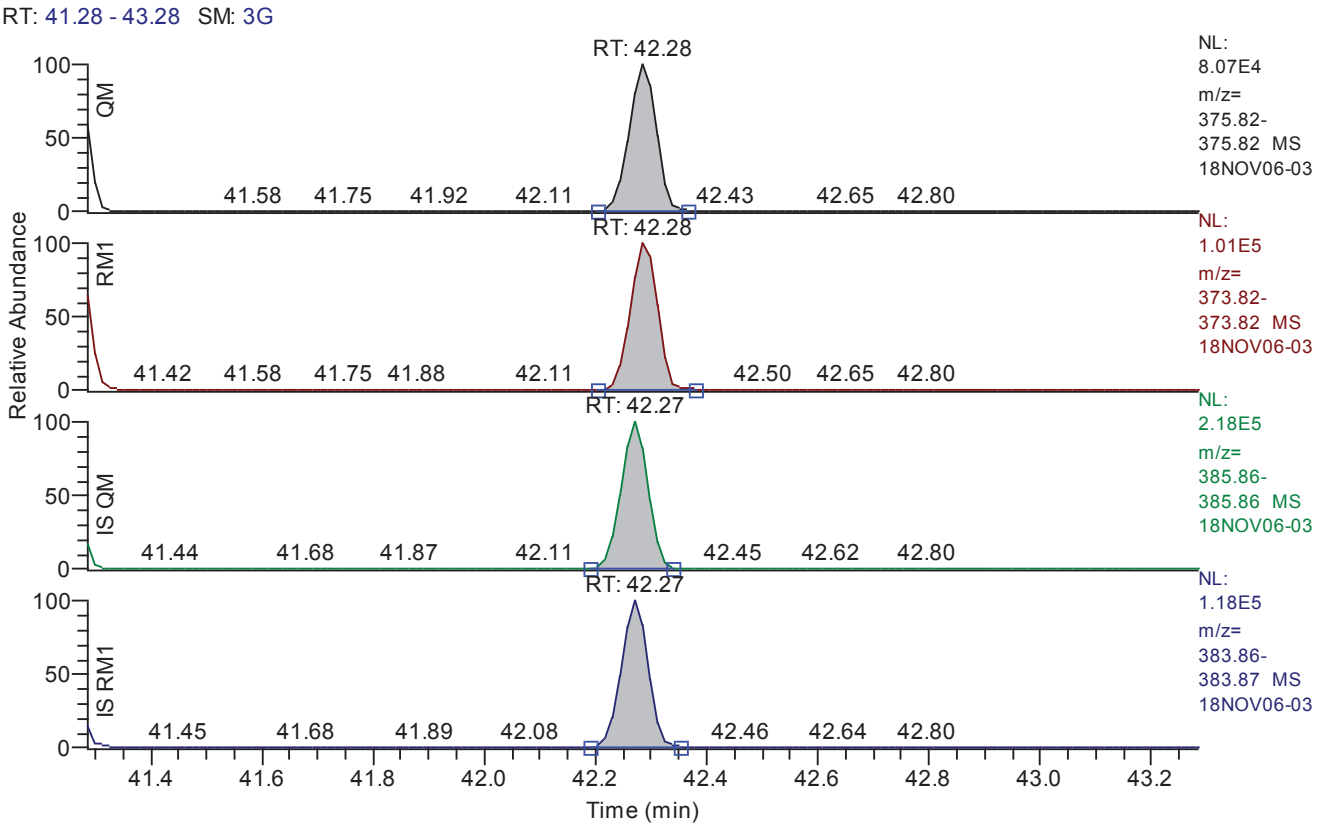
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.28
QM Area	275248
QM Integration Mode	A
RM1 Area	349243
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0362
Unqualified Amount (A)	47.875204
Adjusted Amount (A)	47.8752
Signal-to-Noise	3239
Client Flags	
Status Overview	passed
Status Info	

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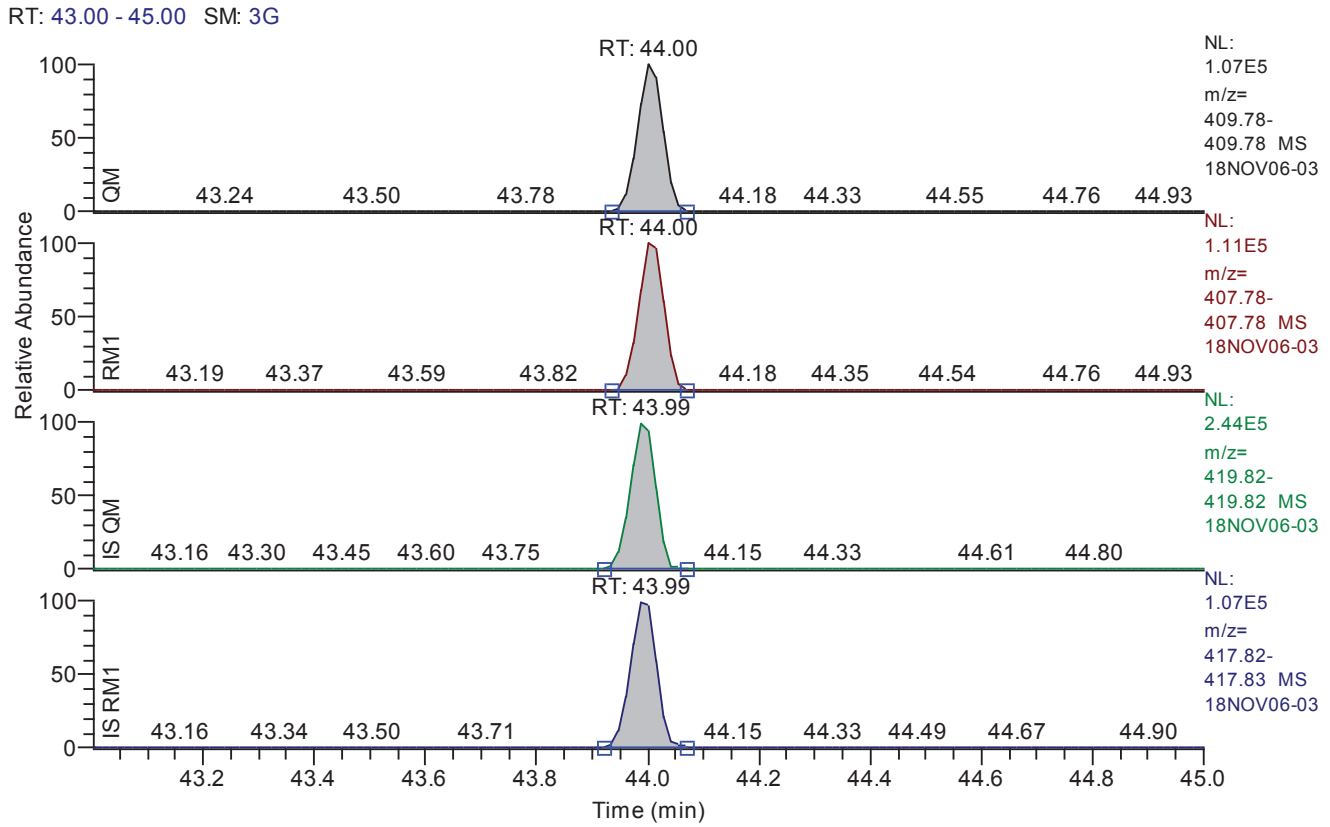
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.00
QM Area	350552
QM Integration Mode	A
RM1 Area	370099
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0297
Unqualified Amount (A)	48.228764
Adjusted Amount (A)	48.2288
Signal-to-Noise	4042
Client Flags	
Status Overview	passed
Status Info	

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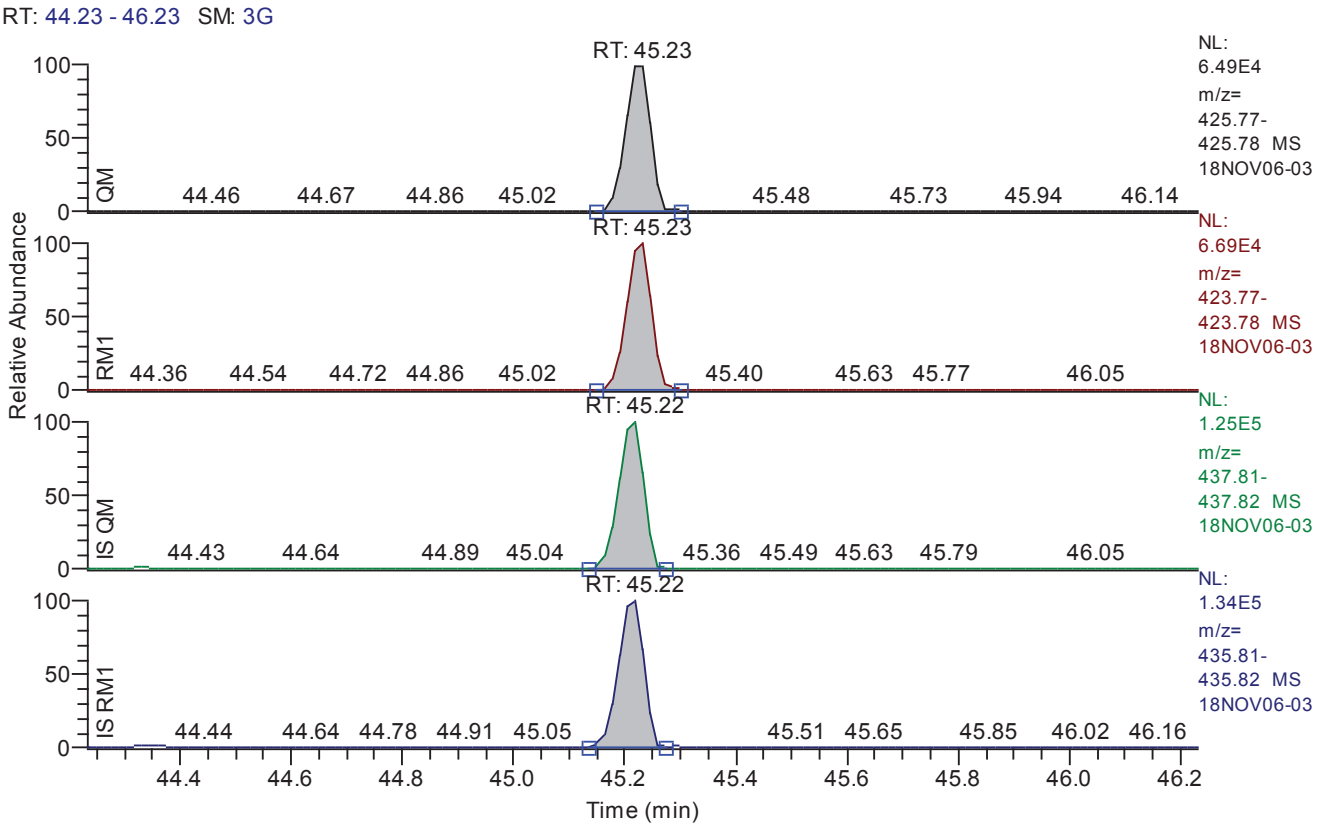
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	211318
QM Integration Mode	A
RM1 Area	215204
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0313
Unqualified Amount (A)	47.250239
Adjusted Amount (A)	47.2502
Signal-to-Noise	3815
Client Flags	
Status Overview	passed
Status Info	

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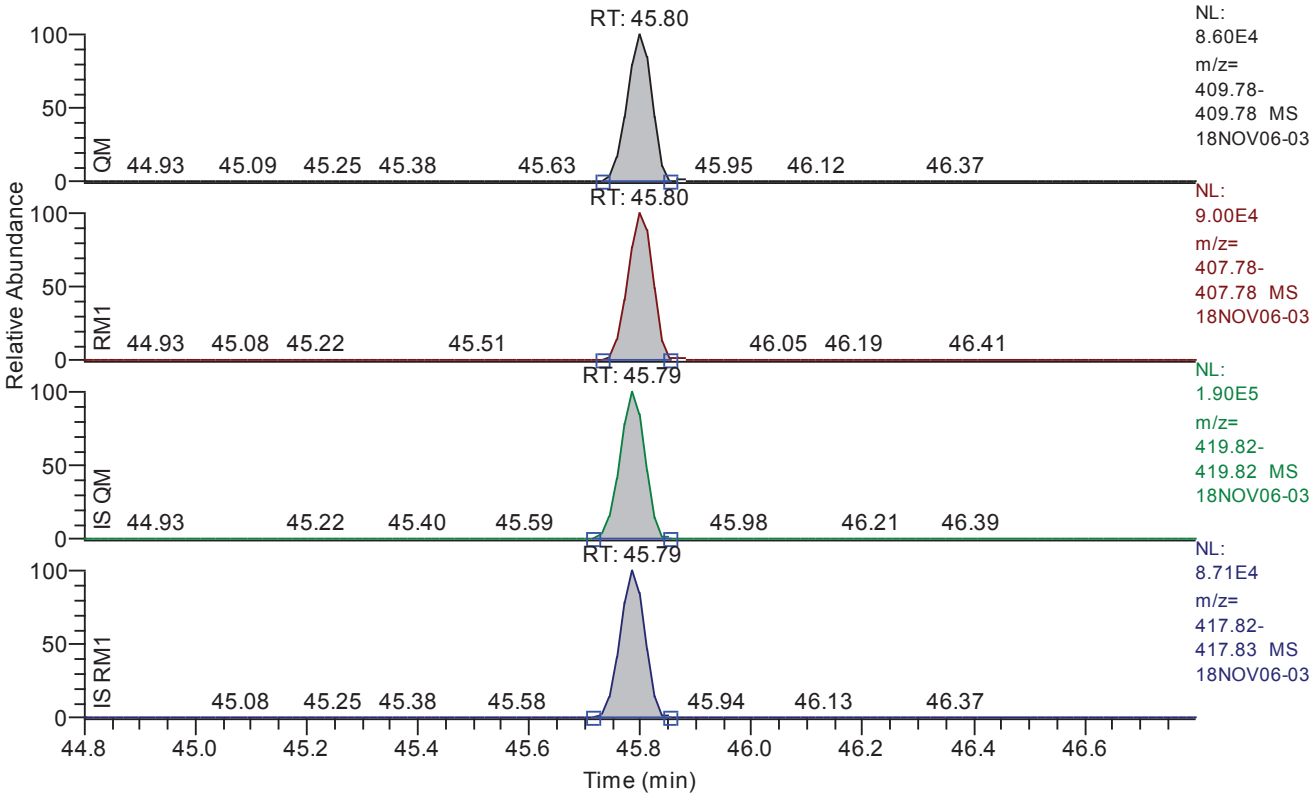
Chromatogram

RT: 44.80 - 46.80 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.80
QM Area	276101
QM Integration Mode	A
RM1 Area	289702
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0376
Unqualified Amount (A)	48.943755
Adjusted Amount (A)	48.9438
Signal-to-Noise	3263
Client Flags	
Status Overview	passed
Status Info	

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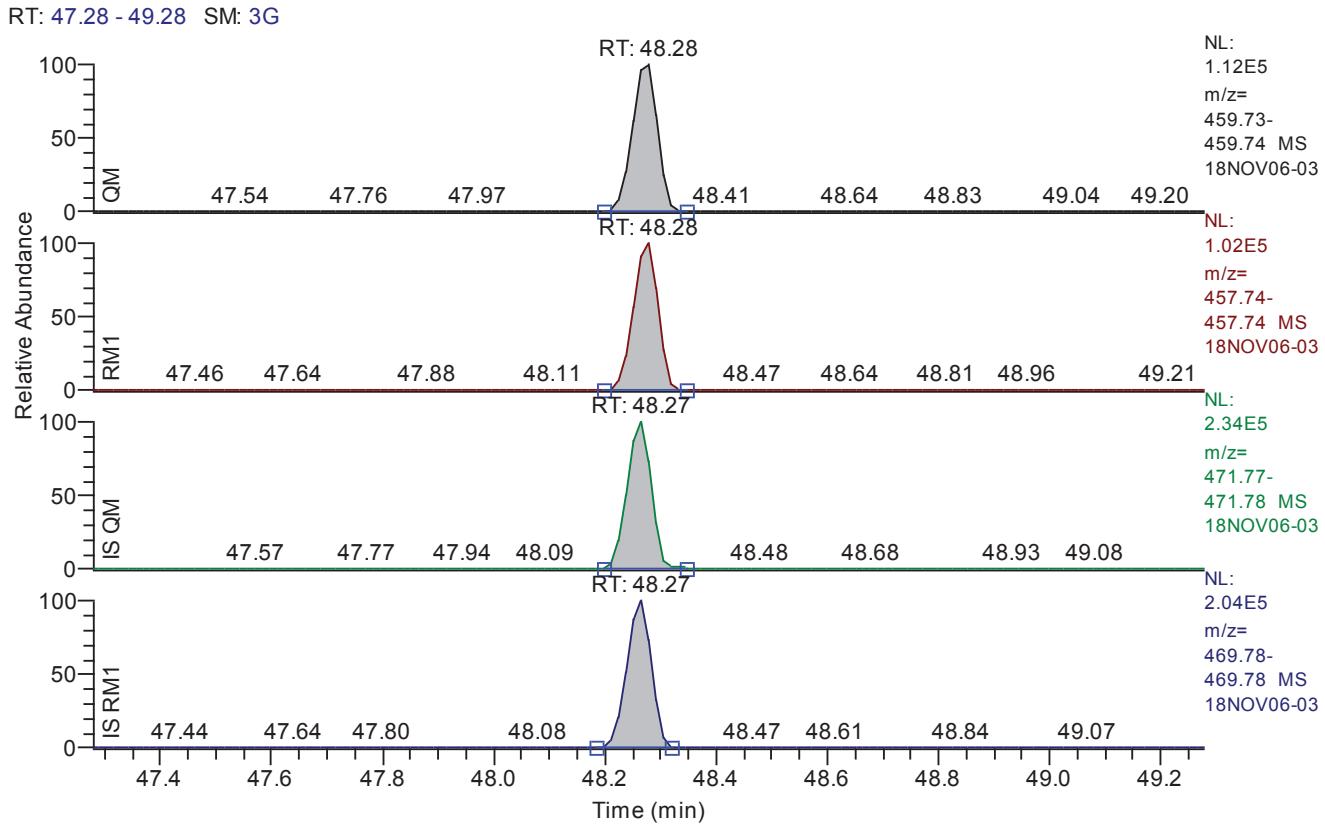
Chromatogram



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.28
QM Area	354024
QM Integration Mode	A
RM1 Area	312817
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0322
Unqualified Amount (A)	96.161625
Adjusted Amount (A)	96.1616
Signal-to-Noise	7294
Client Flags	
Status Overview	passed
Status Info	

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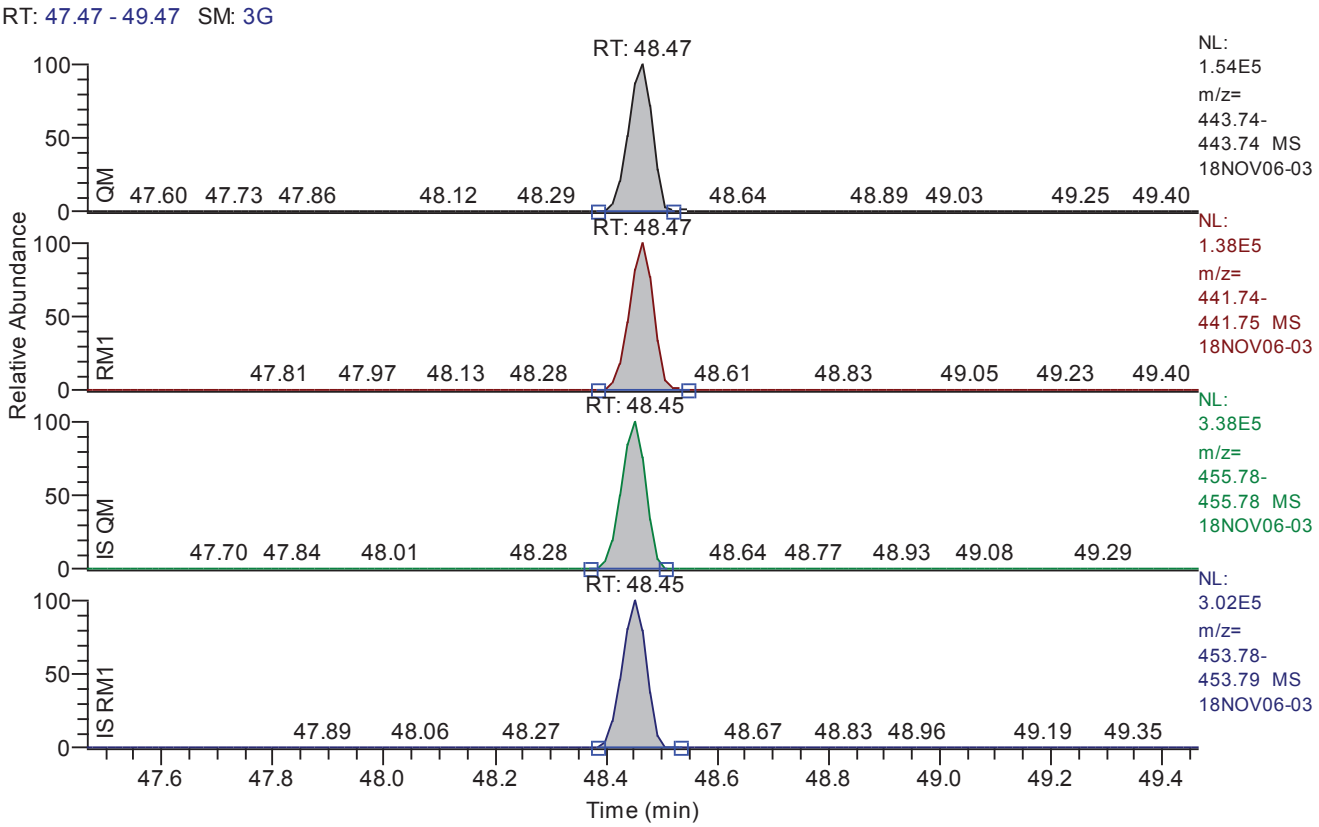
Chromatogram



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.47
QM Area	459492
QM Integration Mode	A
RM1 Area	418072
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0183
Unqualified Amount (A)	95.665705
Adjusted Amount (A)	95.6657
Signal-to-Noise	13286
Client Flags	
Status Overview	passed
Status Info	

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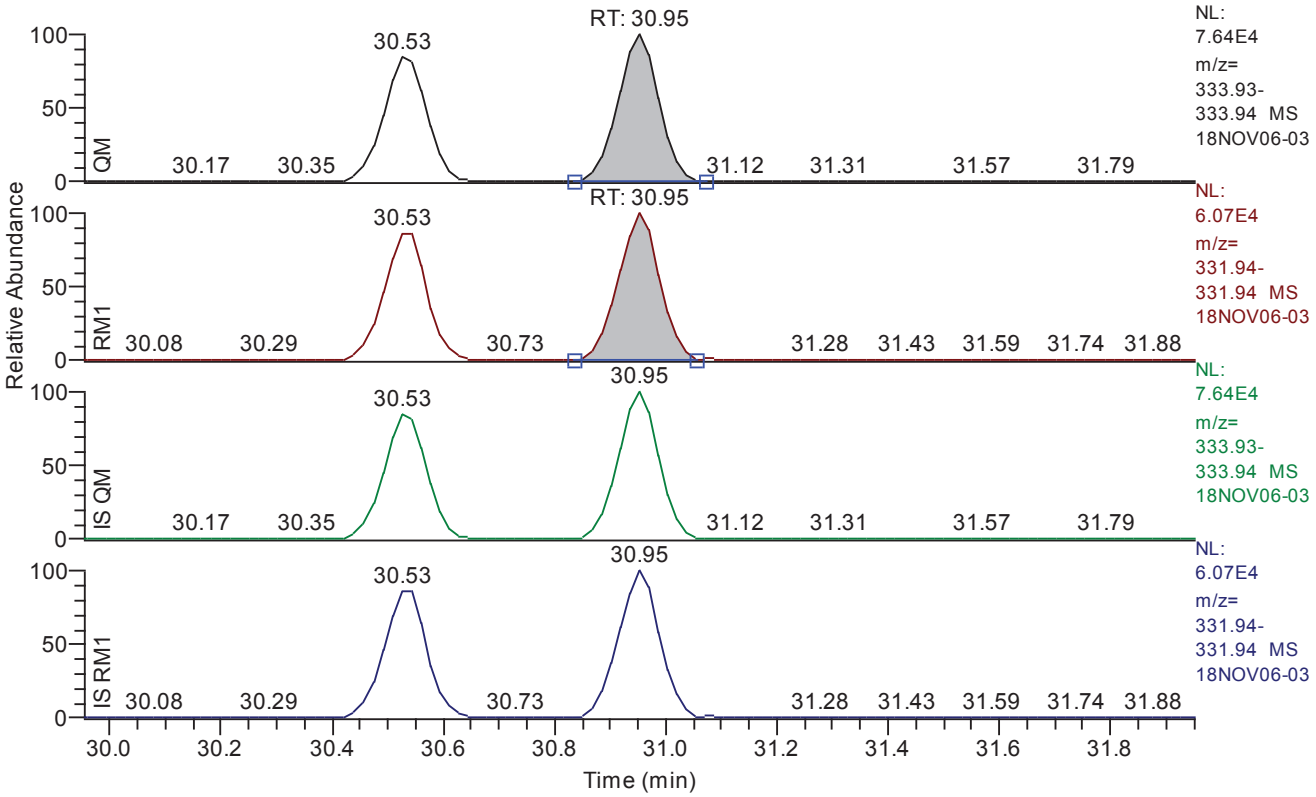
Chromatogram

RT: 29.95 - 31.95 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.95
QM Area	396405
QM Integration Mode	A
RM1 Area	320853
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0386
Unqualified Amount (A)	83.610848
Adjusted Amount (A)	83.6108
Signal-to-Noise	6204
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.43	29.43	29.45	29.41	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.56	30.56	30.53	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.40	35.40	35.38	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.71	36.71	36.71	36.68	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.09	37.09	37.08	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.40	40.40	40.40	40.38	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.55	40.55	40.53	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.26	41.26	41.26	41.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.45	41.45	41.45	41.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.57	41.57	41.57	41.56	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.88	41.88	41.89	41.87	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.28	42.28	42.28	42.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.00	44.00	44.00	43.99	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.23	45.23	45.22	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.80	45.80	45.80	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.28	48.28	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.47	48.47	48.47	48.45	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.95	30.95	30.95	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.69	29.69	29.69	29.69	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.29	40.29	40.29	40.29	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.41	29.41	29.45	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.53	30.53	30.53	30.53	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.38	35.38	35.38	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.68	36.68	36.64	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.08	37.08	37.08	37.08	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.38	40.38	40.38	40.38	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.53	40.53	40.51	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.25	41.25	41.25	41.23	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.44	41.44	41.44	41.44	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.56	41.56	41.56	41.56	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.87	41.87	41.87	41.87	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.27	42.27	42.27	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.99	43.99	43.99	43.97	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.22	45.22	45.22	45.22	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.79	45.79	45.79	45.81	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.27	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.45	48.45	48.45	48.49	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	29.43	0.7716	0.6450 - 0.8950	passed	1.0046	1.1011	0.8754 - 1.3268	passed
2	2378-TCDD	30.56	0.8048	0.6450 - 0.8950	passed	1.1838	1.2206	0.9704 - 1.4708	passed
3	12378-PeCDF	35.40	1.5746	1.3150 - 1.7850	passed	0.9325	0.9902	0.7872 - 1.1932	passed
4	23478-PeCDF	36.71	1.5566	1.3150 - 1.7850	passed	1.0887	1.1092	0.8818 - 1.3366	passed
5	12378-PeCDD	37.09	1.5918	1.3150 - 1.7850	passed	0.9897	1.0372	0.8246 - 1.2498	passed
6	123478-HxCDF	40.40	1.2737	1.0450 - 1.4350	passed	1.1477	1.1984	0.9527 - 1.4441	passed
7	123678-HxCDF	40.55	1.2479	1.0450 - 1.4350	passed	1.1061	1.1533	0.9169 - 1.3897	passed
8	234678-HxCDF	41.26	1.2698	1.0450 - 1.4350	passed	1.1975	1.2401	0.9859 - 1.4943	passed
9	123478-HxCDD	41.45	1.2913	1.0450 - 1.4350	passed	1.0074	1.0199	0.8108 - 1.2290	passed
10	123678-HxCDD	41.57	1.2512	1.0450 - 1.4350	passed	1.0141	1.0292	0.8182 - 1.2402	passed
11	123789-HxCDD	41.88	1.2749	1.0450 - 1.4350	passed	1.0386	1.0930	0.8689 - 1.3171	passed
12	123789-HxCDF	42.28	1.2688	1.0450 - 1.4350	passed	1.1044	1.1534	0.9170 - 1.3898	passed
13	1234678-HpCDF	44.00	1.0558	0.8750 - 1.2050	passed	1.2477	1.2936	1.0284 - 1.5588	passed
14	1234678-HpCDD	45.23	1.0184	0.8750 - 1.2050	passed	1.0067	1.0652	0.8468 - 1.2836	passed
15	1234789-HpCDF	45.80	1.0493	0.8750 - 1.2050	passed	1.2672	1.2946	1.0292 - 1.5600	passed
16	OCDD	48.28	0.8836	0.7550 - 1.0250	passed	1.0028	1.0429	0.8291 - 1.2567	passed
17	OCDF	48.47	0.9099	0.7550 - 1.0250	passed	0.8992	0.9400	0.7473 - 1.1327	passed
18	13C12-1278-TCDD (CRS)	30.95	0.8094	0.6450 - 0.8950	passed	1.0579	1.2653	0.8794 - 1.6512	passed
19	13C12-1234-TCDD	29.69	0.8284	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.29	1.2413	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.41	0.8004	0.6450 - 0.8950	passed	1.8602	1.8510	1.2864 - 2.4156	passed
22	13C12-2378-TCDD	30.53	0.8093	0.6450 - 0.8950	passed	0.9449	0.9288	0.6455 - 1.2121	passed
23	13C12-12378-PeCDF	35.38	1.6151	1.3150 - 1.7850	passed	1.9654	1.7119	1.1898 - 2.2340	passed
24	13C12-23478-PeCDF	36.68	1.5727	1.3150 - 1.7850	passed	1.9152	1.6791	1.1670 - 2.1912	passed
25	13C12-12378-PeCDD	37.08	1.5624	1.3150 - 1.7850	passed	1.0790	0.9157	0.6364 - 1.1950	passed
26	13C12-123478-HxCDF	40.38	0.5320	0.4250 - 0.5950	passed	1.3593	1.3202	0.9459 - 1.7761	passed
27	13C12-123678-HxCDF	40.53	0.5447	0.4250 - 0.5950	passed	1.4153	1.4057	0.9770 - 1.8344	passed
28	13C12-234678-HxCDF	41.25	0.5426	0.4250 - 0.5950	passed	1.3052	1.2615	0.8767 - 1.6463	passed
29	13C12-123478-HxCDD	41.44	1.2914	1.0450 - 1.4350	passed	0.9339	0.9239	0.6421 - 1.2057	passed
30	13C12-123678-HxCDD	41.56	1.2525	1.0450 - 1.4350	passed	0.9415	0.9374	0.6515 - 1.2233	passed
31	13C12-123789-HxCDD	41.87	1.2402	1.0450 - 1.4350	passed	0.9288	0.8925	0.6203 - 1.1647	passed
32	13C12-123789-HxCDF	42.27	0.5384	0.4250 - 0.5950	passed	1.1895	1.2057	0.8380 - 1.5734	passed
33	13C12-1234678-HpCDF	43.99	0.4494	0.3650 - 0.5150	passed	1.2149	1.1128	0.7734 - 1.4522	passed
34	13C12-1234678-HpCDD	45.22	1.0882	0.8750 - 1.2050	passed	0.8913	0.8106	0.5634 - 1.0578	passed
35	13C12-1234789-HpCDF	45.79	0.4587	0.3650 - 0.5150	passed	0.9392	0.9138	0.6351 - 1.1925	passed
36	13C12-OCDD	48.27	0.8857	0.7550 - 1.0250	passed	0.6994	0.7126	0.4953 - 0.9299	passed
37	13C12-OCDF	48.45	0.8964	0.7550 - 1.0250	passed	1.0264	1.0877	0.7560 - 1.4194	passed

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Entry Parameters

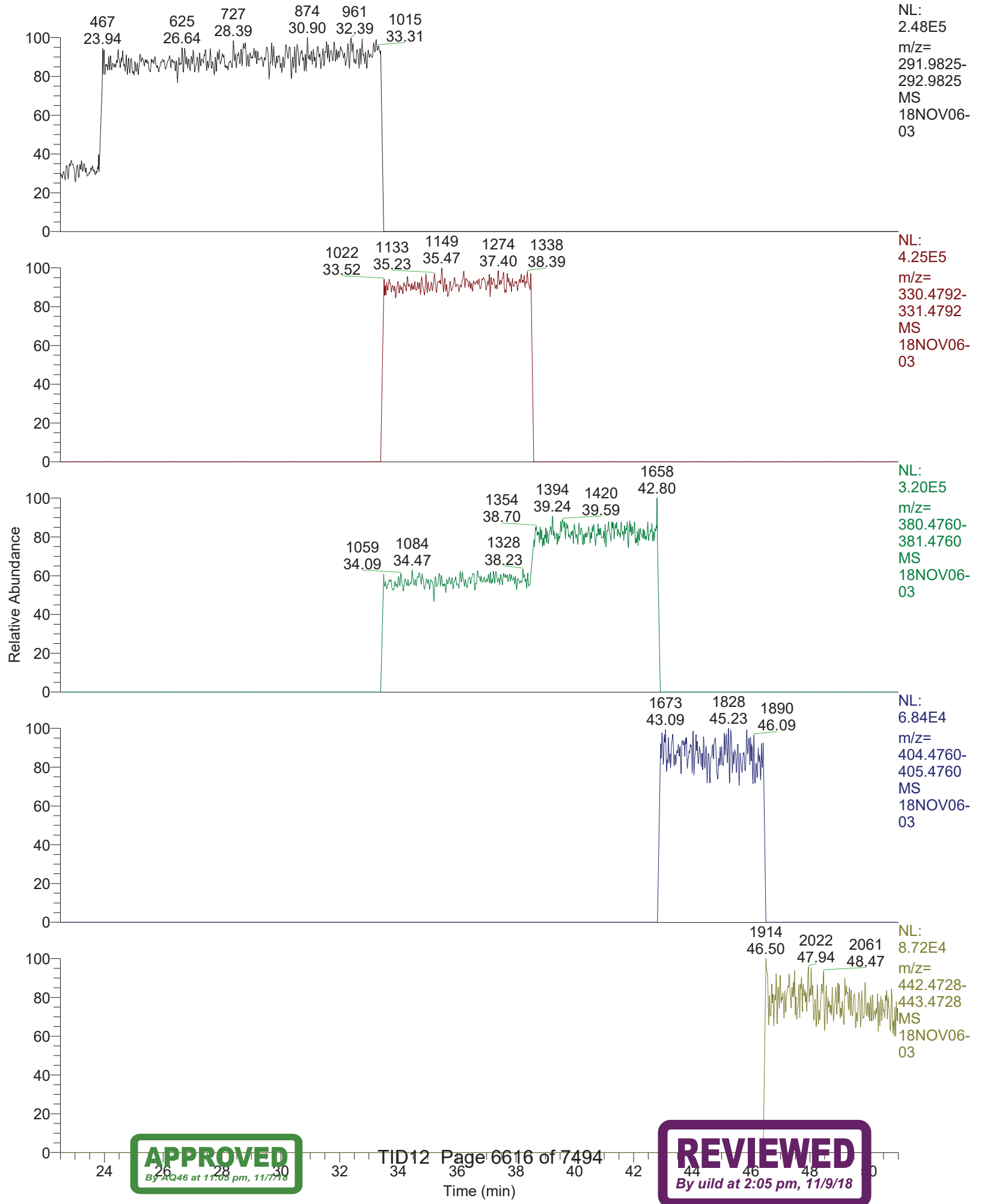
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.43	71516	A	55182	A	0.0209	9.124108	9.1241	10.000000	1065	
2	2378-TCDD	passed	30.56	42020	A	33816	A	0.0231	9.698826	9.6988	10.000000	1065	
3	12378-PeCDF	passed	35.40	241298	A	379941	A	0.0175	47.085331	47.0853	50.000000	6608	
4	23478-PeCDF	passed	36.71	276480	A	430358	A	0.0155	49.076068	49.0761	50.000000	8098	
5	12378-PeCDD	passed	37.09	139658	A	222315	A	0.0330	47.706806	47.7068	50.000000	3621	
6	123478-HxCDF	passed	40.40	326189	A	415481	A	0.0317	47.888220	47.8882	50.000000	3801	
7	123678-HxCDF	passed	40.55	331074	A	413151	A	0.0314	47.954123	47.9541	50.000000	3778	
8	234678-HxCDF	passed	41.26	327362	A	415679	A	0.0310	48.280064	48.2801	50.000000	3940	
9	123478-HxCDD	passed	41.45	195213	A	252077	A	0.0196	49.391254	49.3913	50.000000	6196	
10	123678-HxCDD	passed	41.57	201620	A	252263	A	0.0199	49.264827	49.2648	50.000000	6364	
11	123789-HxCDD	passed	41.88	201575	A	256988	A	0.0188	47.510226	47.5102	50.000000	6380	
12	123789-HxCDF	passed	42.28	275248	A	349243	A	0.0362	47.875204	47.8752	50.000000	3239	
13	1234678-HpCDF	passed	44.00	350552	A	370099	A	0.0297	48.228764	48.2288	50.000000	4042	
14	1234678-HpCDD	passed	45.23	211318	A	215204	A	0.0313	47.250239	47.2502	50.000000	3815	
15	1234789-HpCDF	passed	45.80	276101	A	289702	A	0.0376	48.943755	48.9438	50.000000	3263	
16	OCDD	passed	48.28	354024	A	312817	A	0.0322	96.161625	96.1616	100.000000	7294	
17	OCDF	passed	48.47	459492	A	418072	A	0.0183	95.665705	95.6657	100.000000	13286	
18	13C12-1278-TCDD (CRS)	passed	30.95	396405	A	320853	A	0.0386	83.610848	83.6108	100.000000	6204	
19	13C12-1234-TCDD	passed	29.69	370795	A	307176	A	0.0488	100.000000	100.0000	100.000000	5120	
20	13C12-123468-HxCDD	passed	40.29	424228	A	526574	A	0.0362	100.000000	100.0000	100.000000	6915	
21	13C12-2378-TCDF	passed	29.41	700469	A	560678	A	0.0272	100.496671	100.4967	100.000000	9906	
22	13C12-2378-TCDD	passed	30.53	354072	A	286540	A	0.0526	101.729667	101.7297	100.000000	5333	
23	13C12-12378-PeCDF	passed	35.38	509540	A	822935	A	0.0918	114.805595	114.8056	100.000000	4438	
24	13C12-23478-PeCDF	passed	36.68	504708	A	793755	A	0.0936	114.060438	114.0604	100.000000	4488	
25	13C12-12378-PeCDD	passed	37.08	285472	A	446030	A	0.0674	117.825318	117.8253	100.000000	6608	
26	13C12-123478-HxCDF	passed	40.38	843601	A	448797	A	0.0438	102.962420	102.9624	100.000000	5603	
27	13C12-123678-HxCDF	passed	40.53	871183	A	474518	A	0.0412	100.685934	100.6859	100.000000	5890	
28	13C12-234678-HxCDF	passed	41.25	804491	A	436540	A	0.0459	103.467419	103.4674	100.000000	5535	
29	13C12-123478-HxCDD	passed	41.44	387518	A	500456	A	0.0391	101.082765	101.0828	100.000000	6525	
30	13C12-123678-HxCDD	passed	41.56	397394	A	497753	A	0.0386	100.436351	100.4364	100.000000	6344	
31	13C12-123789-HxCDD	passed	41.87	394190	A	488877	A	0.0405	104.057772	104.0578	100.000000	6324	
32	13C12-123789-HxCDF	passed	42.27	735128	A	395822	A	0.0480	98.655422	98.6554	100.000000	5096	
33	13C12-1234678-HpCDF	passed	43.99	796965	A	358166	A	0.0513	109.171021	109.1710	100.000000	5389	
34	13C12-1234678-HpCDD	passed	45.22	405813	A	441594	A	0.0530	109.943963	109.9440	100.000000	5297	
35	13C12-1234789-HpCDF	passed	45.79	612166	A	280814	A	0.0625	102.781282	102.7813	100.000000	4259	
36	13C12-OCDD	passed	48.27	705252	A	624665	A	0.0137	196.295792	196.2958	200.000000	39345	
37	13C12-OCDF	passed	48.45	1029244	A	922568	A	0.0177	188.726201	188.7262	200.000000	29144	

File Name: Z:\18NOV06\18NOV06-03
Sample ID: CS3CC02

Acq. Data: 11/6/2018 9:23:43 AM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:05 pm, 11/9/18

*** file opened Tue Nov 06 09:29:10 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 06-Nov-18 09:29:10

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a094f1ce-3208-437a-b5ff-3e612575fe98

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

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  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
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MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          98.5000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0001   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2535.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0205   FVINLET         0.0407   FVSRC           0.0331
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           98.5000   LKM           442.9723   MASS           98.5000
 MDAC        1497590.9001  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9670   RELEN           0.0000
 RES          13108.1840   RPUSHER       -17.1209   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0210   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          98.5000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.0e-002 mbar
Pirani Source:       3.4e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10259.
MID Time Window 2: Resolution is 12110.
MID Time Window 3: Resolution is 11996.
MID Time Window 4: Resolution is 12337.
```

```
MID Time Window 5: Resolution is 12560.
MID Time Window 6: Resolution is 13108.

Amplifier Offset: 85.


*** File closed Tue Nov 06 10:20:11 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 21:34
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1828537A
Sample ID	CPS03
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-16.quan
Data	z:\18nov06\18nov06-16.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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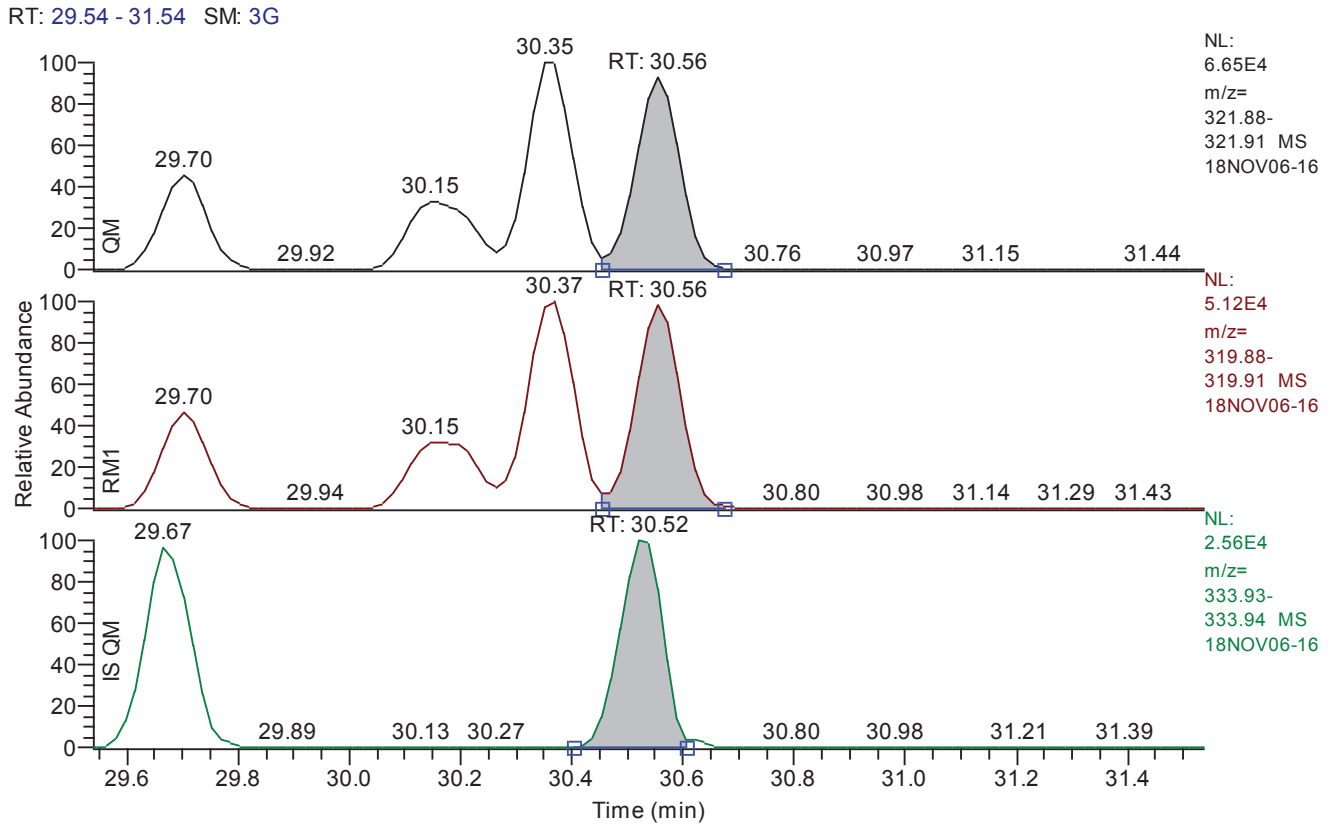
Chromatogram



Entry Parameters

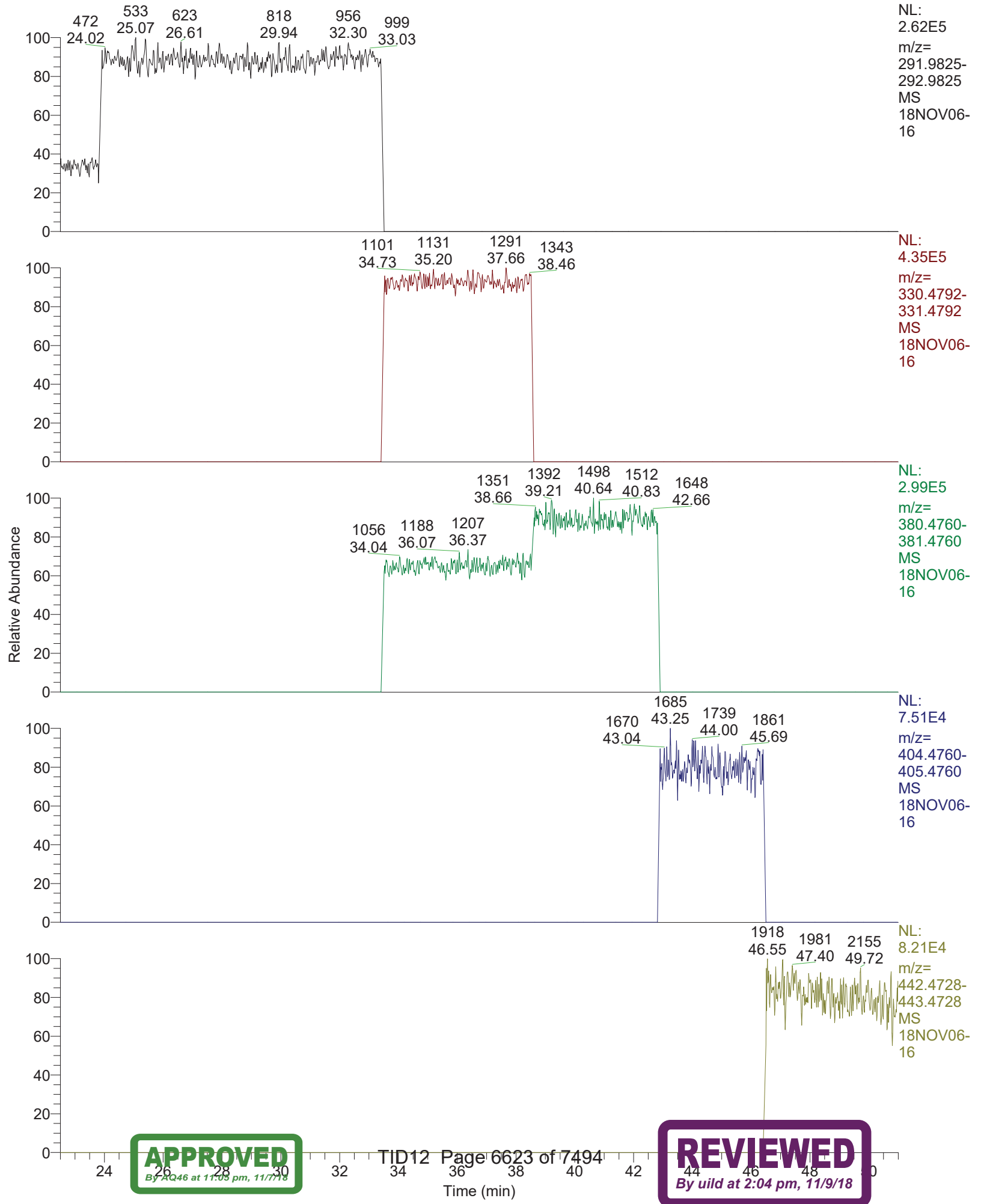
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	30.56
RM1 Left Baseline Height	319.03
RM1 Left Height	3420
RM1 Height	50305
GC Res (%) left	5.701570

File Name: Z:\18NOV06\18NOV06-16
Sample ID: CPS03

Acq. Data: 11/6/2018 9:34:05 PM
Sample Name: TDTFWD - ST1828537A
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

*** file opened Tue Nov 06 21:37:17 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 06-Nov-18 21:37:17

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f50533d2-f9c1-41a2-b71e-4157fb85ab75

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS           99.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0002   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ         2531.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS            170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR            0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             254.9851   FMII           50.0000   FQUAD            8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0209   FVINLET         0.0407   FVSRC            0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII           500.0000
 LMASS           99.0000   LKM           442.9723   MASS            99.0000
 MDAC        1504026.1113  MRANGE       1272.8365   NSAM           200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER         -17.0000   RECURR          0.9665   RELEN            0.0000
 RES          13090.0469   RPUSHER       -17.1795   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0207   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0002   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT      860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM        7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.4e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10675.
MID Time Window 2: Resolution is 11782.
MID Time Window 3: Resolution is 11612.
MID Time Window 4: Resolution is 12445.
```

```
MID Time Window 5: Resolution is 14410.
MID Time Window 6: Resolution is 13090.

Amplifier Offset: 85.


*** File closed Tue Nov 06 22:28:18 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 22:28
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-17-8290.quan
Data	z:\18nov06\18nov06-17.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.45	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.40	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.69	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.09	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.27	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.46	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.58	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.89	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.29	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
16	OCDD	48.28	passed	passed	passed	passed	passed	passed	
17	OCDF	48.46	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.95	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.67	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.28	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.41	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.52	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.38	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.06	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.53	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.24	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.43	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.55	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.87	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.27	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.26	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.45	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 22:28
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-17-8290.quan
Data	z:\18nov06\18nov06-17.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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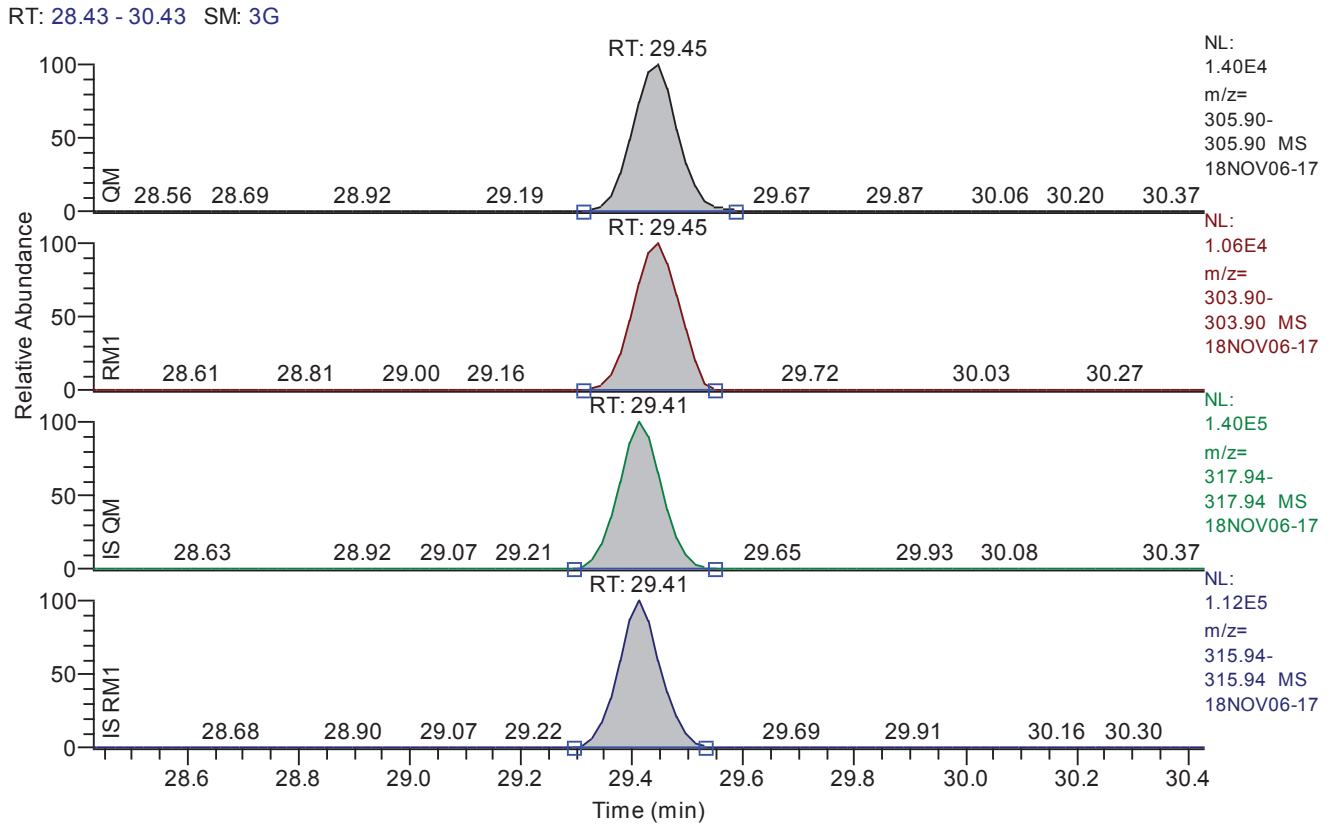
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.45
QM Area	80260
QM Integration Mode	A
RM1 Area	62034
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0220
Unqualified Amount (A)	9.380521
Adjusted Amount (A)	9.3805
Signal-to-Noise	1004
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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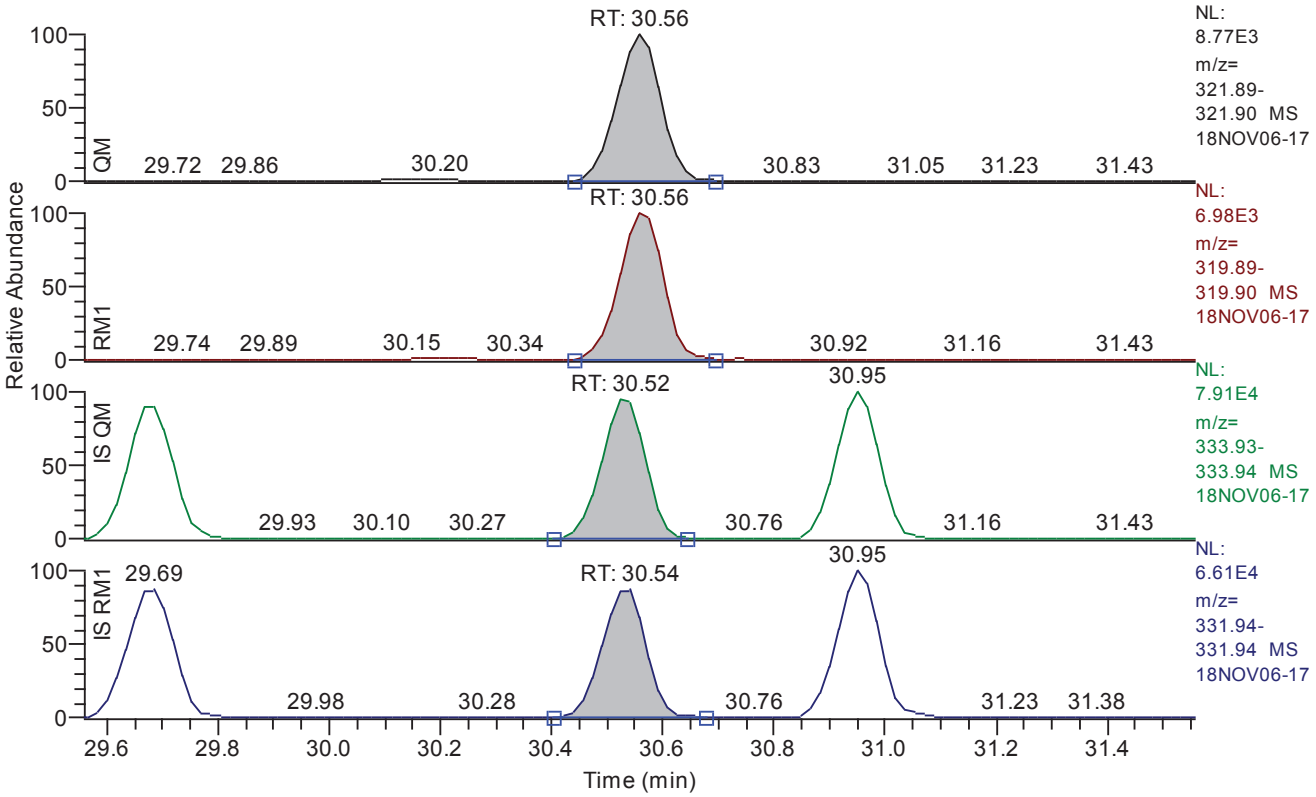
Chromatogram

RT: 29.56 - 31.56 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.56
QM Area	49027
QM Integration Mode	A
RM1 Area	39223
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0202
Unqualified Amount (A)	9.698015
Adjusted Amount (A)	9.6980
Signal-to-Noise	1196
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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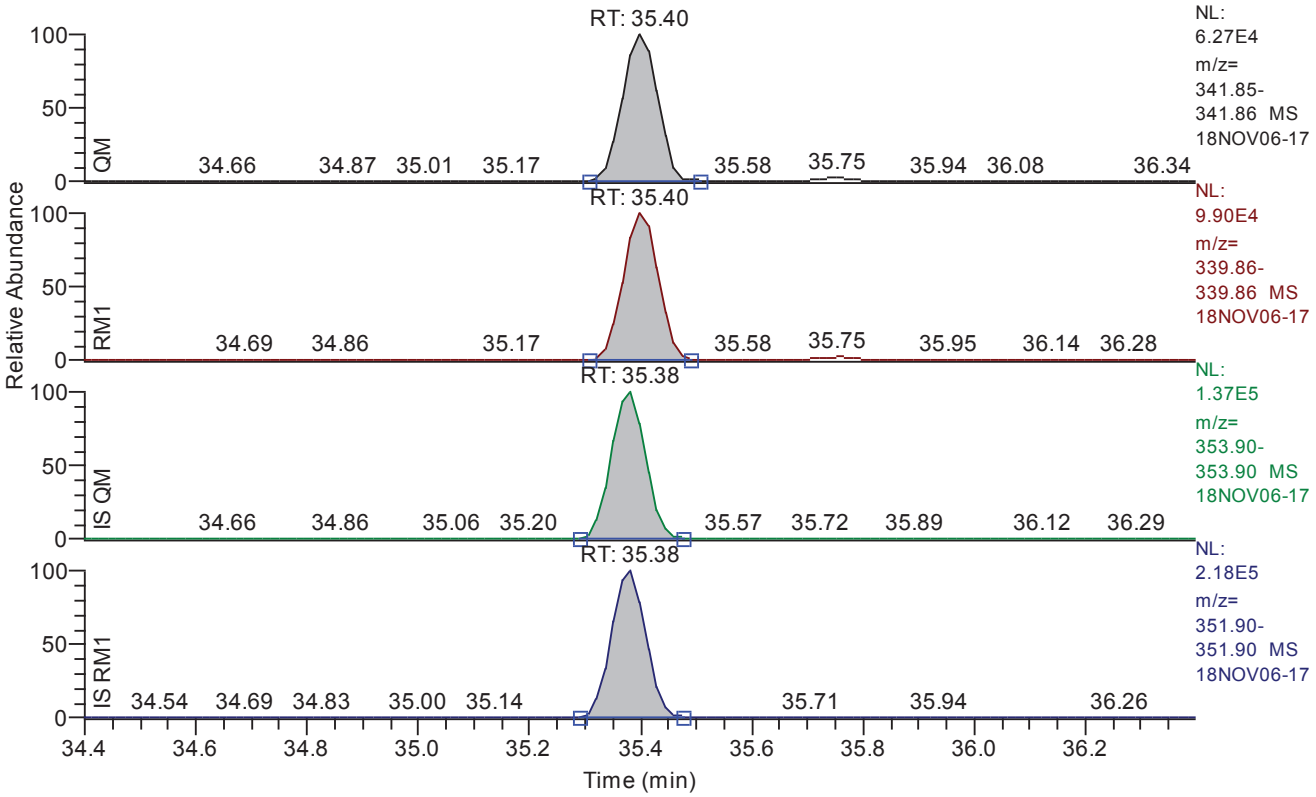
Chromatogram

RT: 34.40 - 36.40 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.40
QM Area	277246
QM Integration Mode	A
RM1 Area	434046
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0175
Unqualified Amount (A)	46.949489
Adjusted Amount (A)	46.9495
Signal-to-Noise	6598
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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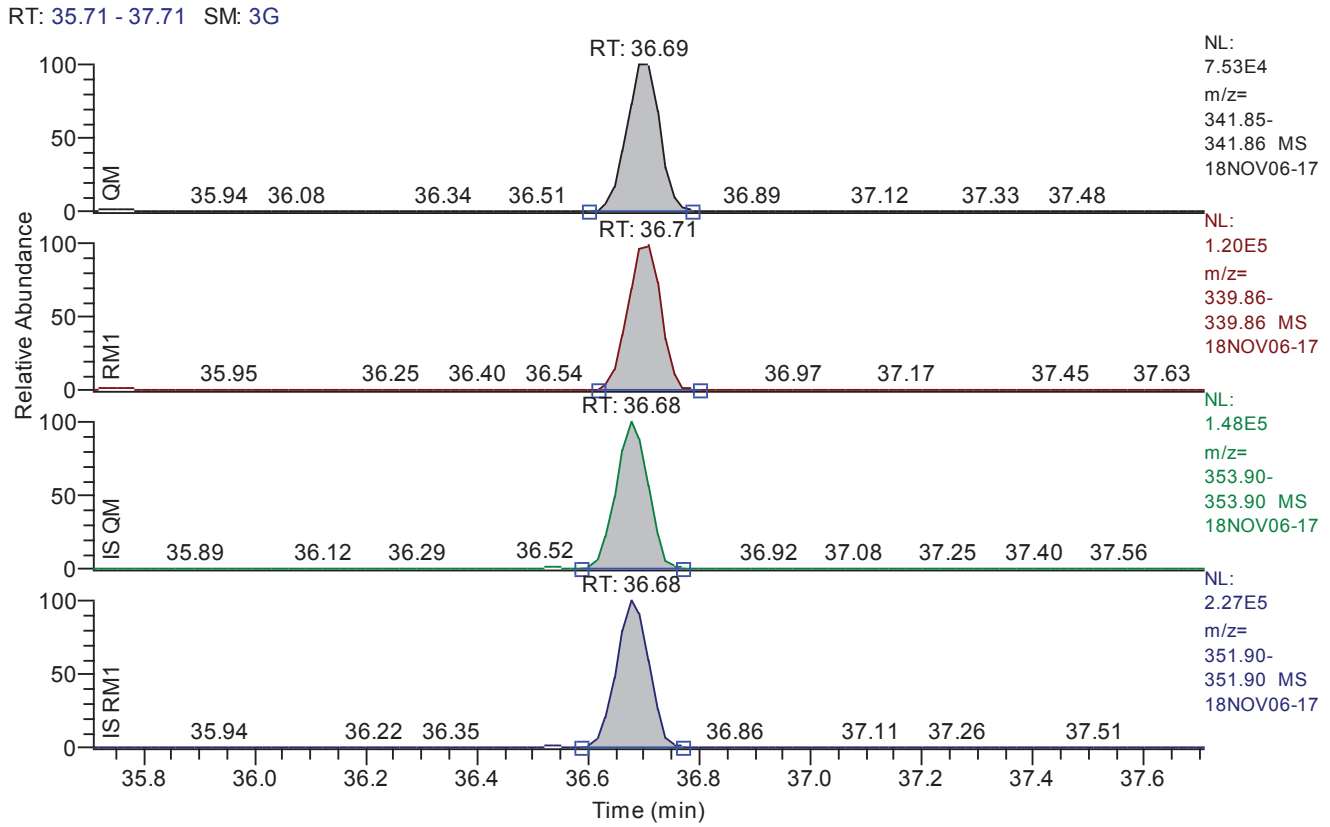
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.69
QM Area	314513
QM Integration Mode	A
RM1 Area	497274
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0147
Unqualified Amount (A)	47.872177
Adjusted Amount (A)	47.8722
Signal-to-Noise	7965
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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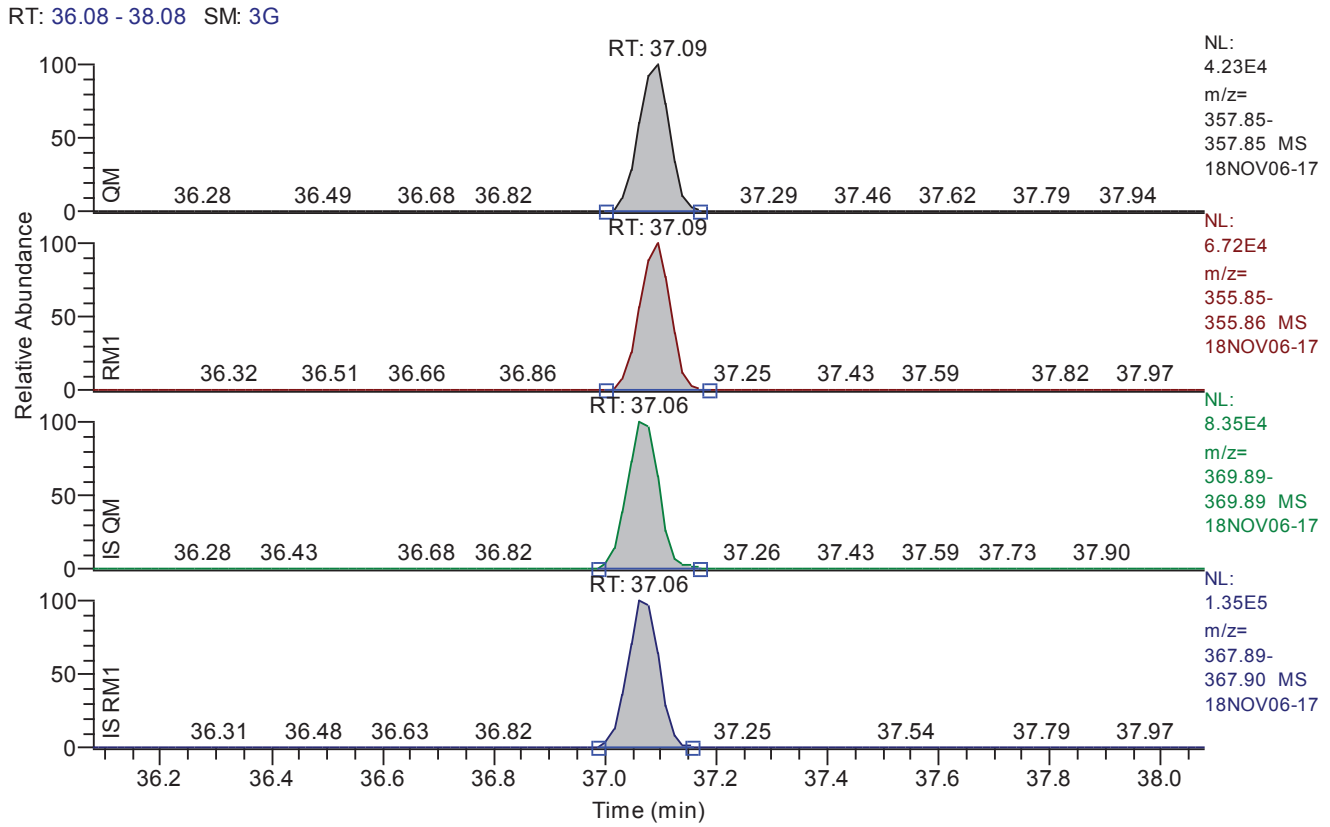
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.09
QM Area	163116
QM Integration Mode	A
RM1 Area	259067
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0300
Unqualified Amount (A)	47.023707
Adjusted Amount (A)	47.0237
Signal-to-Noise	4019
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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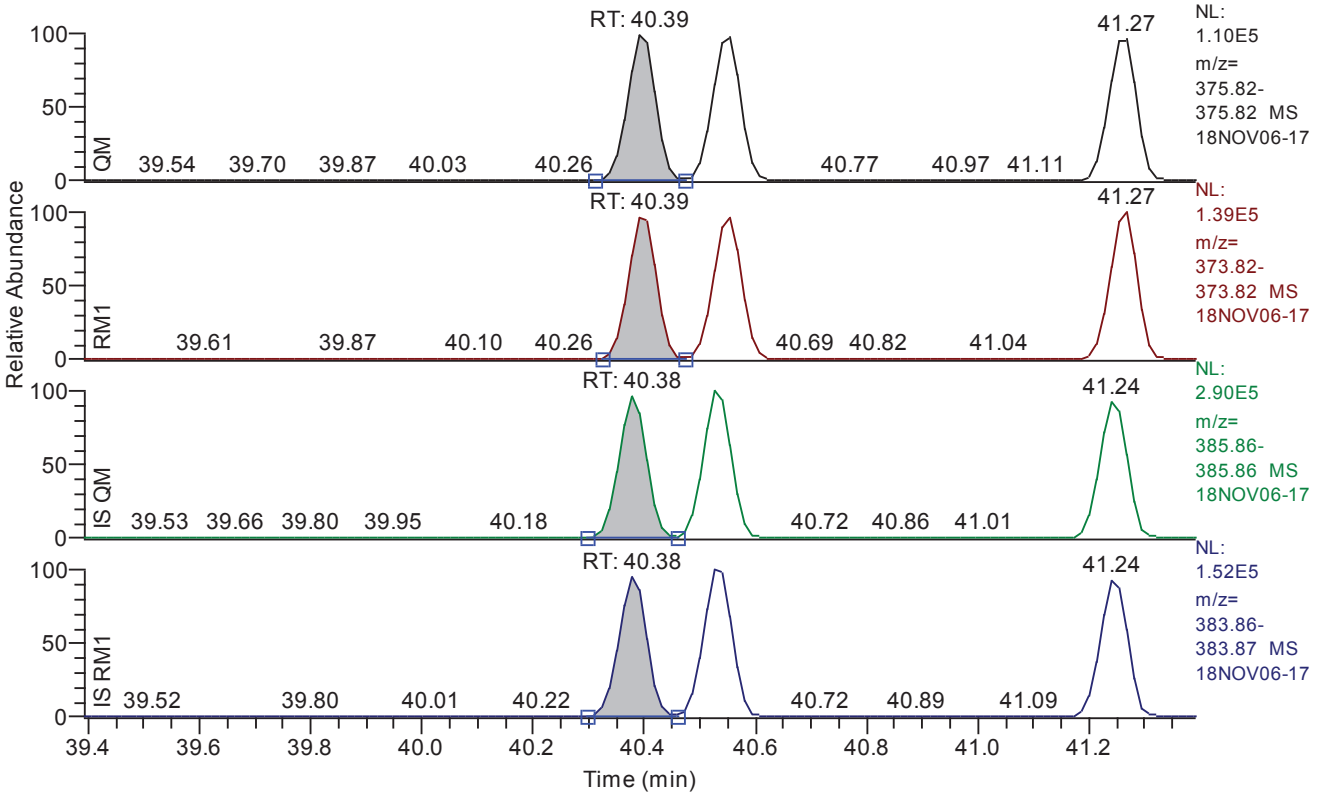
Chromatogram

RT: 39.39 - 41.39 SM: 3G



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.39
QM Area	382958
QM Integration Mode	A
RM1 Area	481286
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0286
Unqualified Amount (A)	48.663732
Adjusted Amount (A)	48.6637
Signal-to-Noise	4206
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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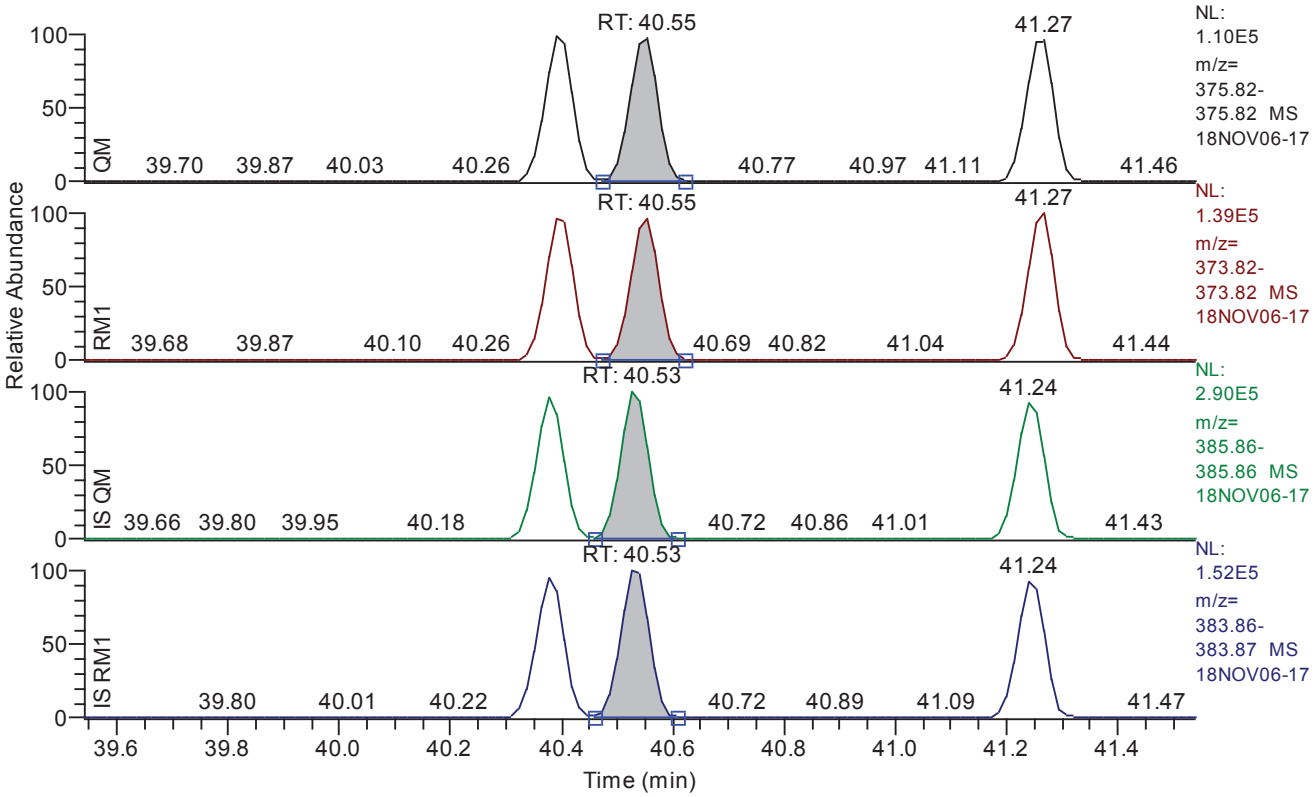
Chromatogram

RT: 39.54 - 41.54 SM: 3G



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.55
QM Area	381078
QM Integration Mode	A
RM1 Area	478663
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0287
Unqualified Amount (A)	47.776018
Adjusted Amount (A)	47.7760
Signal-to-Noise	4168
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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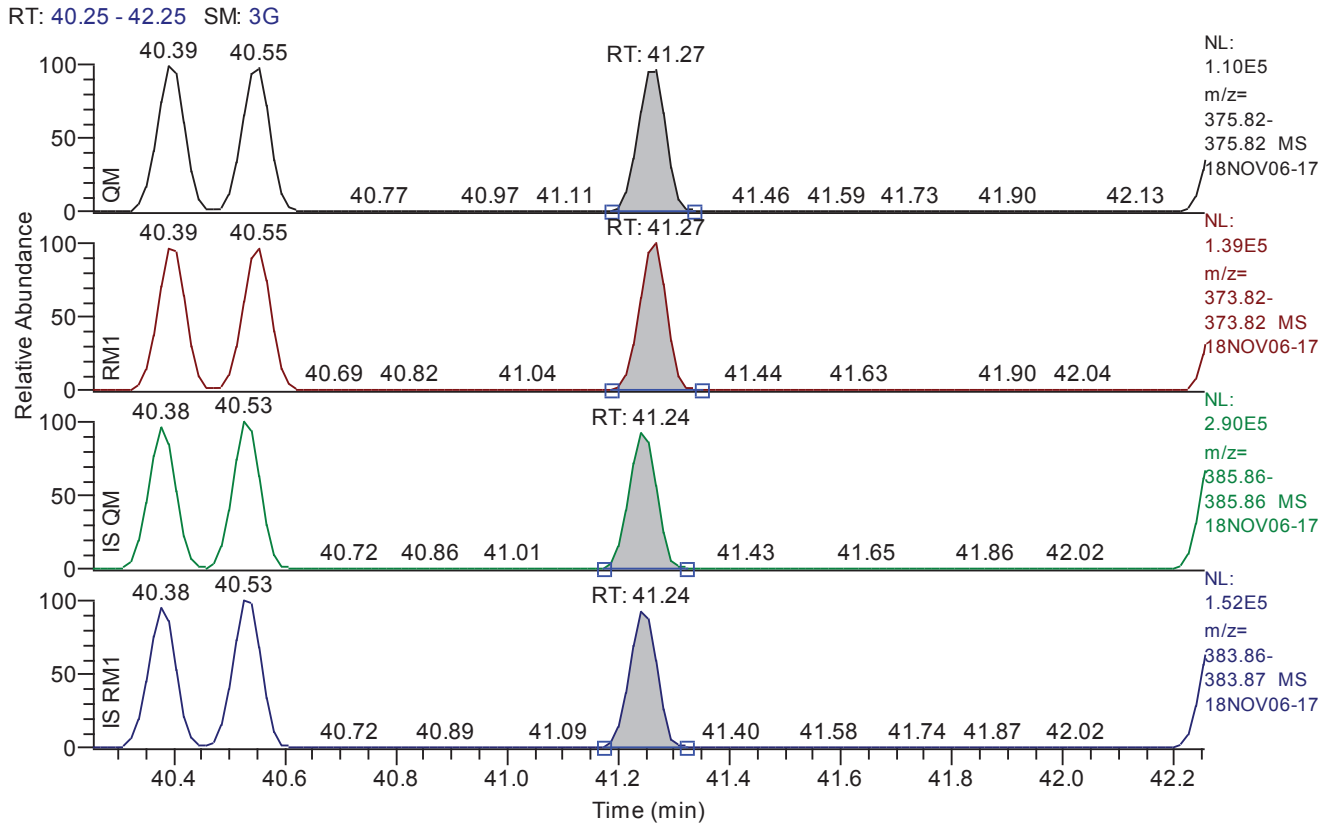
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.27
QM Area	374396
QM Integration Mode	A
RM1 Area	479166
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0287
Unqualified Amount (A)	48.121595
Adjusted Amount (A)	48.1216
Signal-to-Noise	4205
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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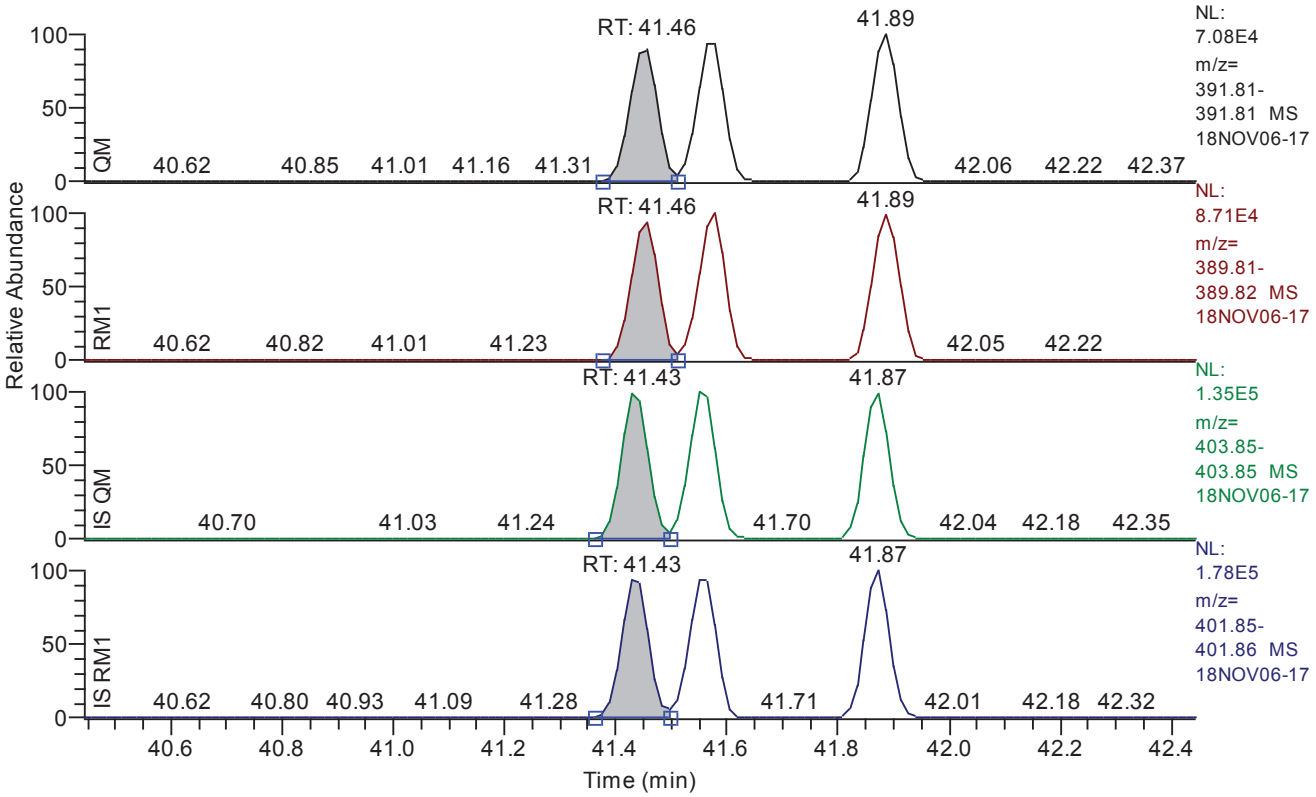
Chromatogram

RT: 40.44 - 42.44 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.46
QM Area	225342
QM Integration Mode	A
RM1 Area	283174
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0221
Unqualified Amount (A)	48.332071
Adjusted Amount (A)	48.3321
Signal-to-Noise	5383
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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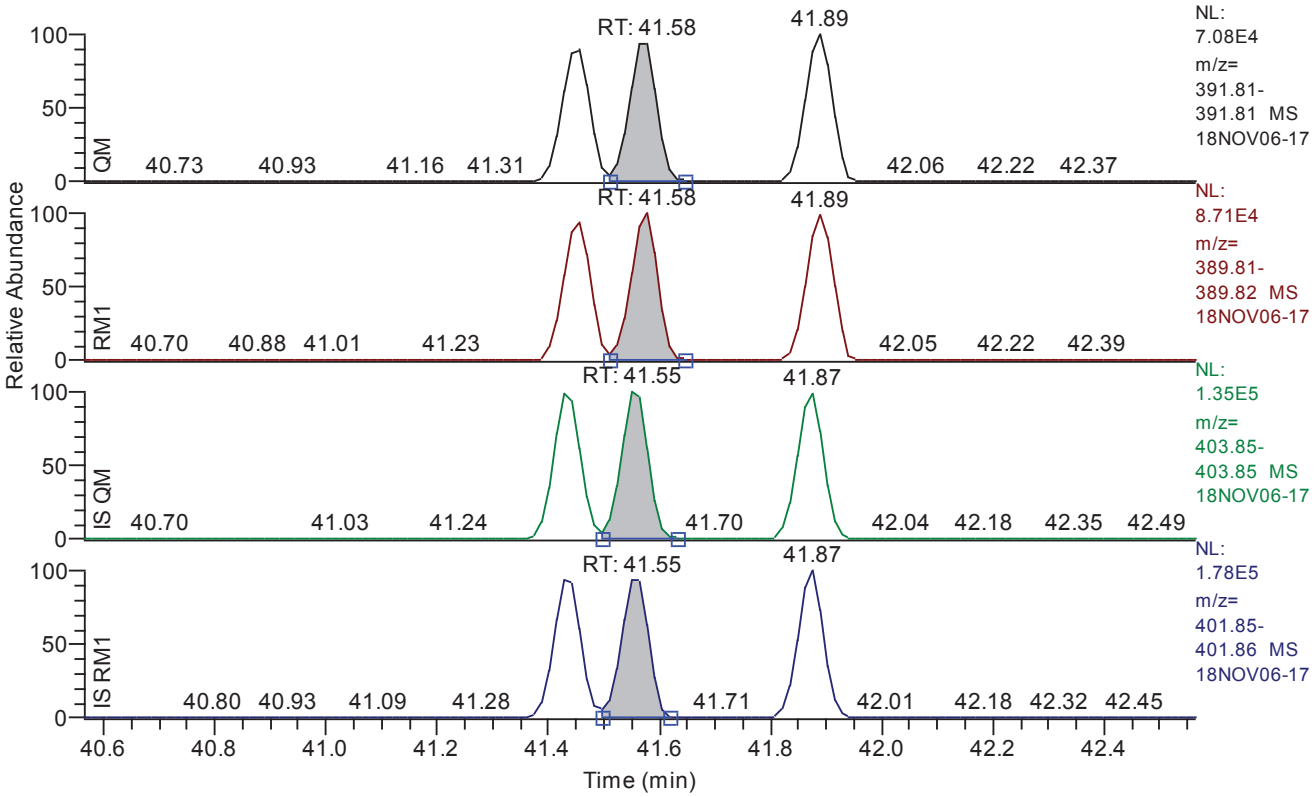
Chromatogram

RT: 40.56 - 42.56 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.58
QM Area	230335
QM Integration Mode	A
RM1 Area	289716
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0218
Unqualified Amount (A)	49.025923
Adjusted Amount (A)	49.0259
Signal-to-Noise	5661
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

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By uild at 1:00 pm, 11/12/18

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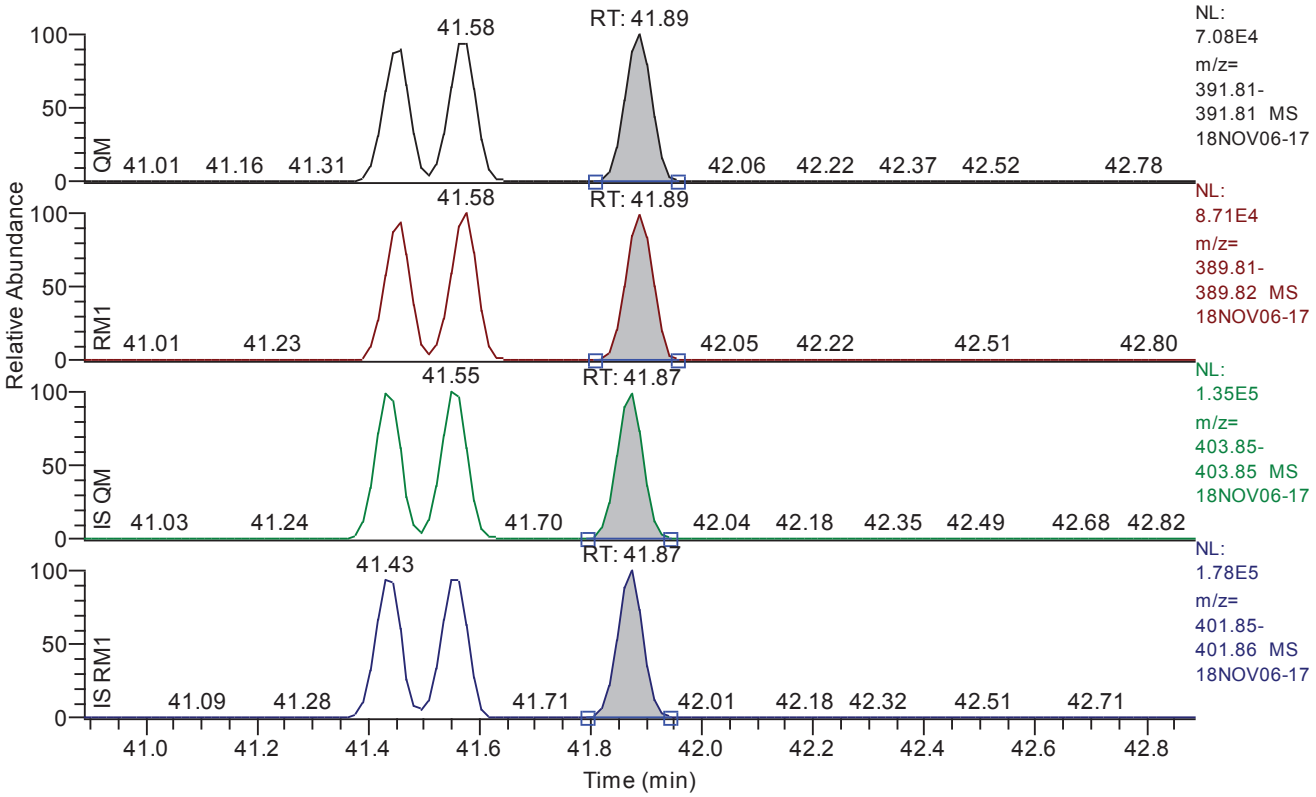
Chromatogram

RT: 40.89 - 42.89 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.89
QM Area	239775
QM Integration Mode	A
RM1 Area	296055
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0200
Unqualified Amount (A)	48.311499
Adjusted Amount (A)	48.3115
Signal-to-Noise	5796
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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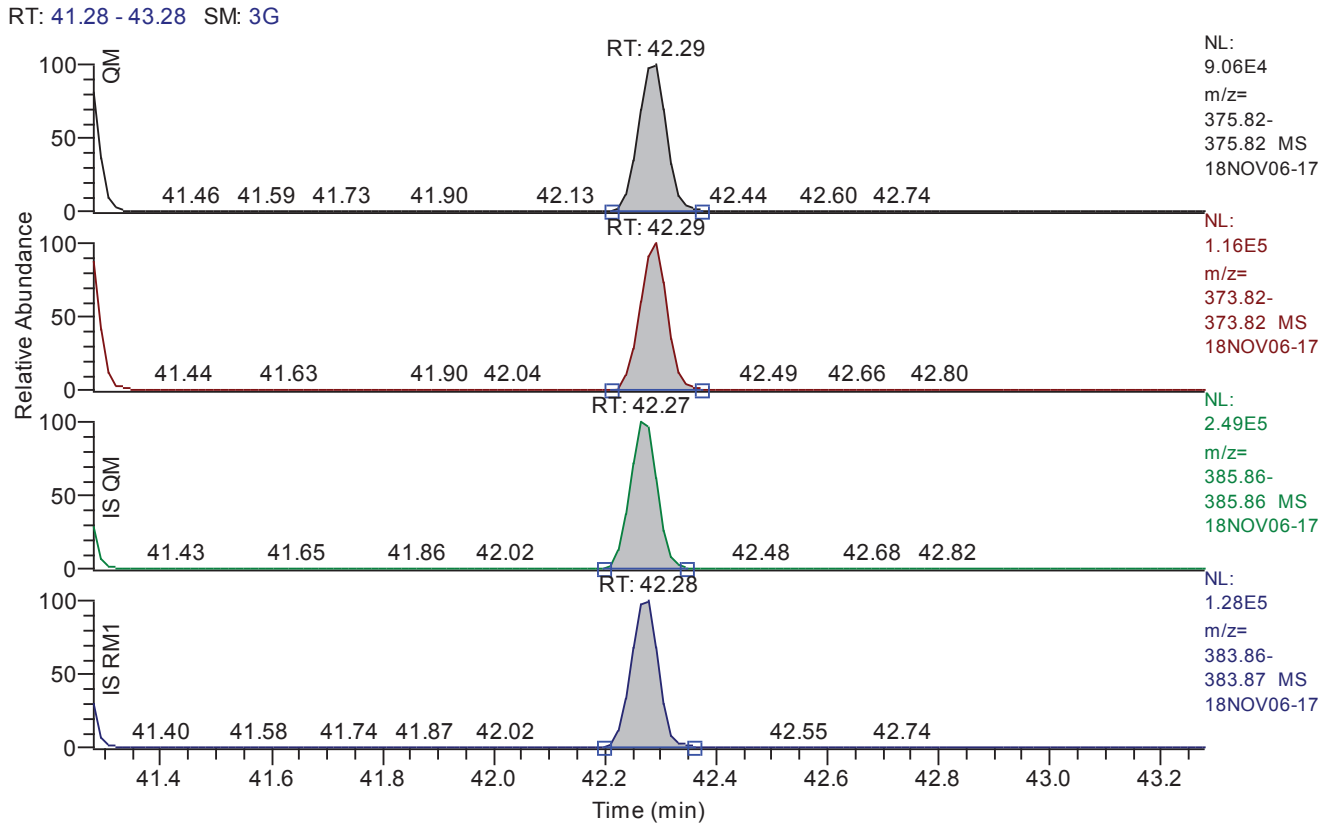
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.29
QM Area	320271
QM Integration Mode	A
RM1 Area	395780
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0335
Unqualified Amount (A)	47.908460
Adjusted Amount (A)	47.9085
Signal-to-Noise	3546
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

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By uild at 1:00 pm, 11/12/18

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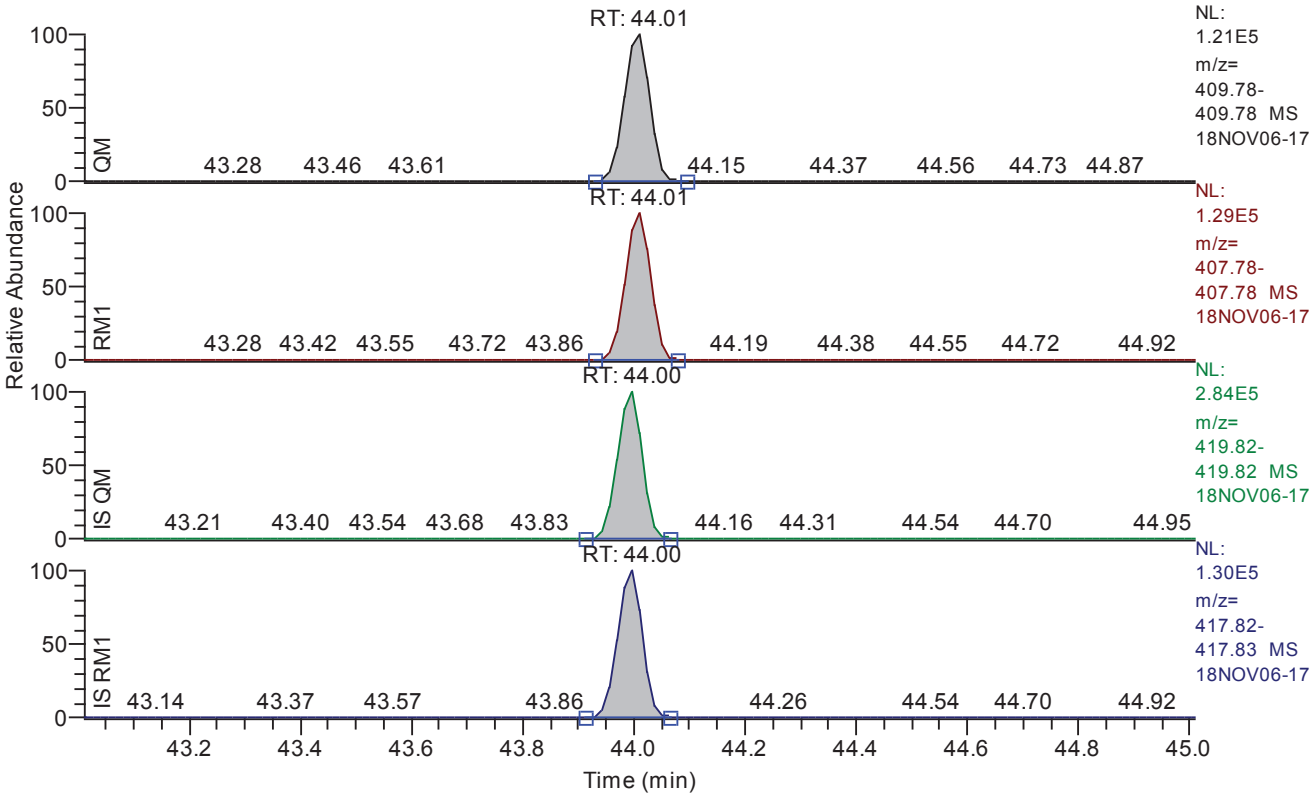
Chromatogram

RT: 43.01 - 45.01 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.01
QM Area	399013
QM Integration Mode	A
RM1 Area	419473
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0302
Unqualified Amount (A)	47.668083
Adjusted Amount (A)	47.6681
Signal-to-Noise	3865
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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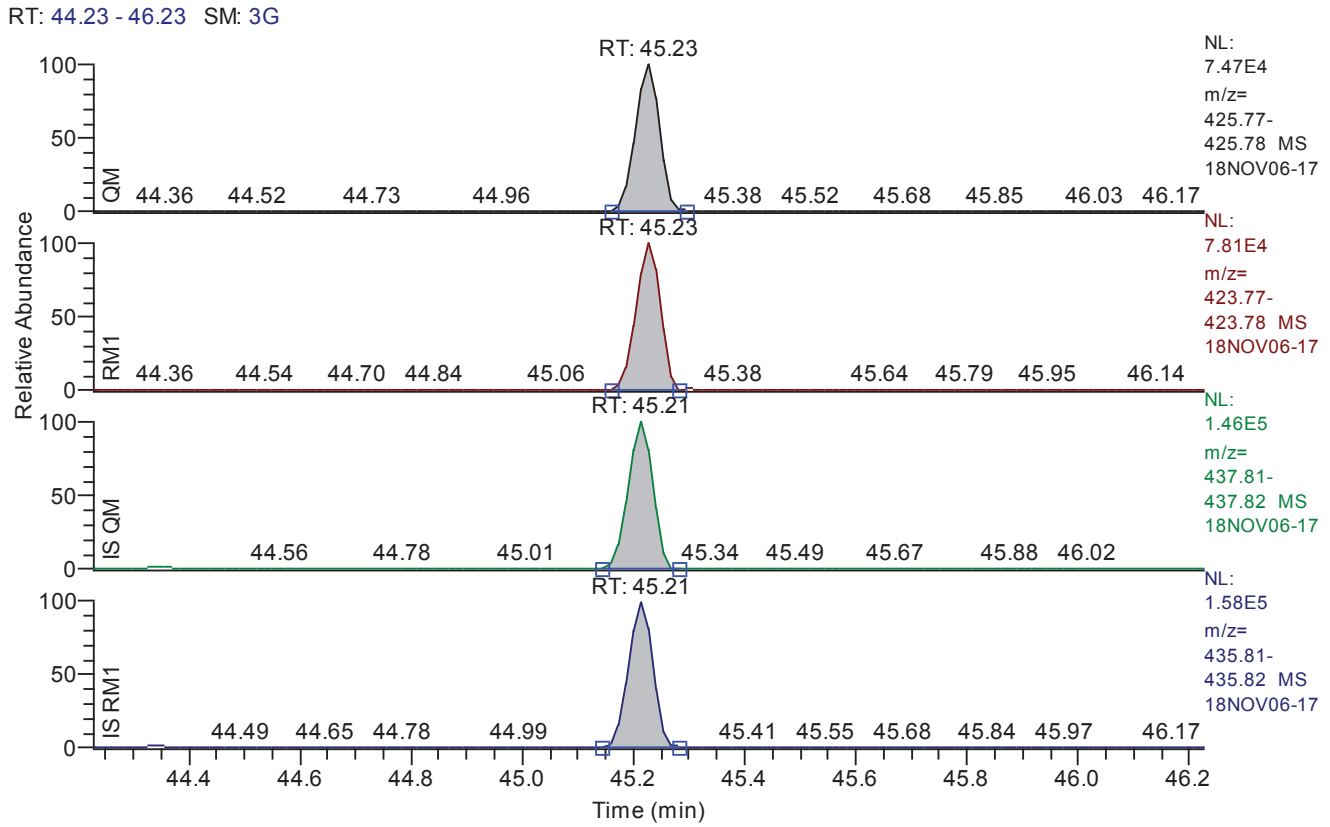
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	232393
QM Integration Mode	A
RM1 Area	245885
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0268
Unqualified Amount (A)	46.827683
Adjusted Amount (A)	46.8277
Signal-to-Noise	4407
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

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By uild at 1:00 pm, 11/12/18

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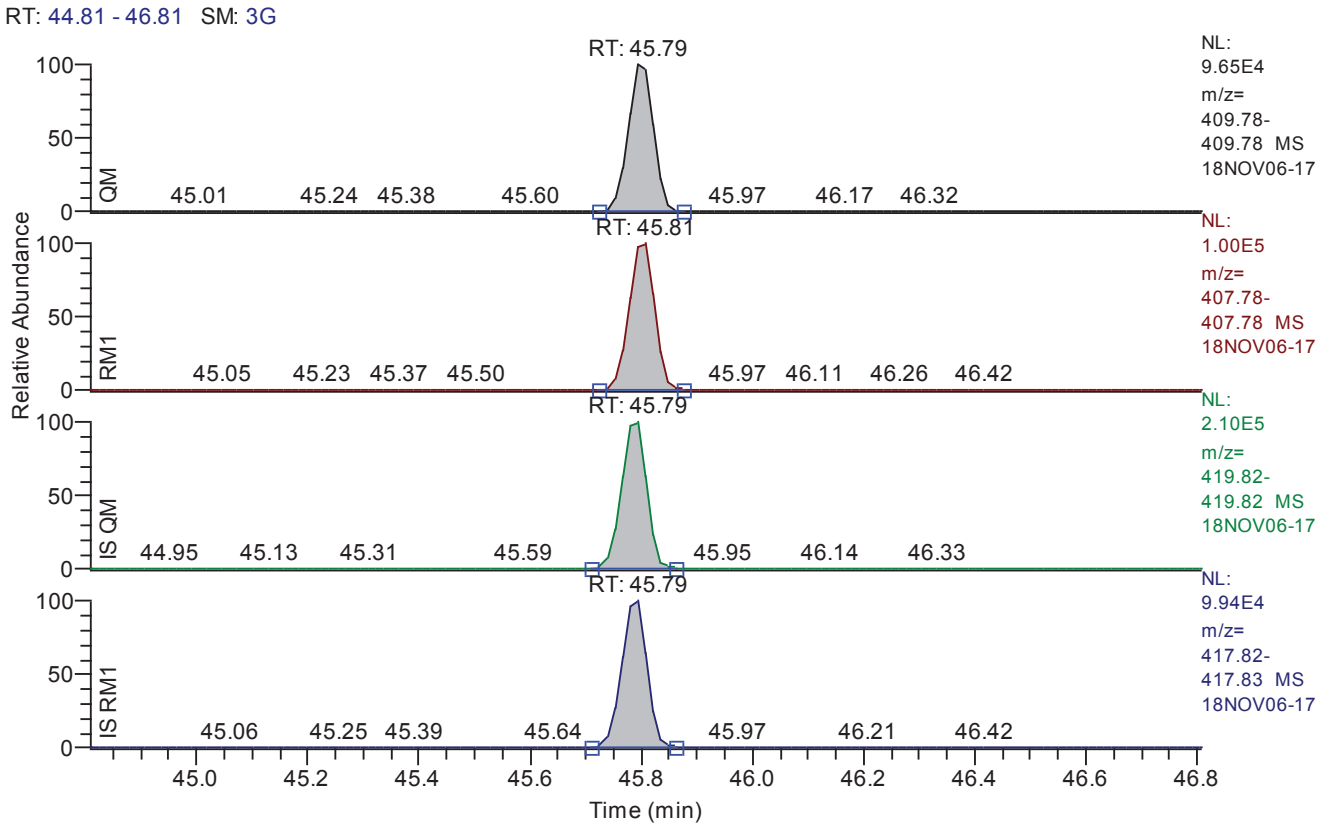
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.79
QM Area	315509
QM Integration Mode	A
RM1 Area	331419
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0402
Unqualified Amount (A)	49.433068
Adjusted Amount (A)	49.4331
Signal-to-Noise	3046
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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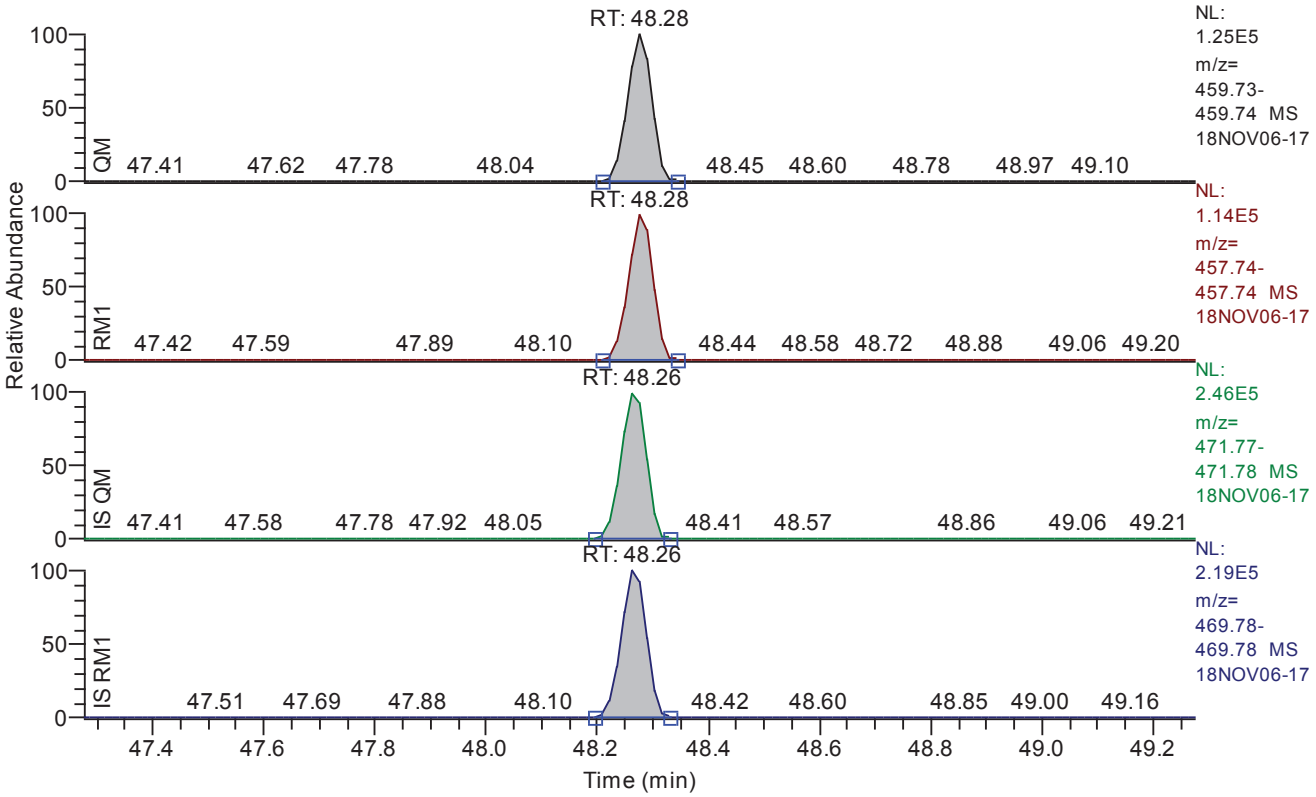
Chromatogram

RT: 47.28 - 49.28 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.28
QM Area	380387
QM Integration Mode	A
RM1 Area	347391
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0257
Unqualified Amount (A)	95.417125
Adjusted Amount (A)	95.4171
Signal-to-Noise	9566
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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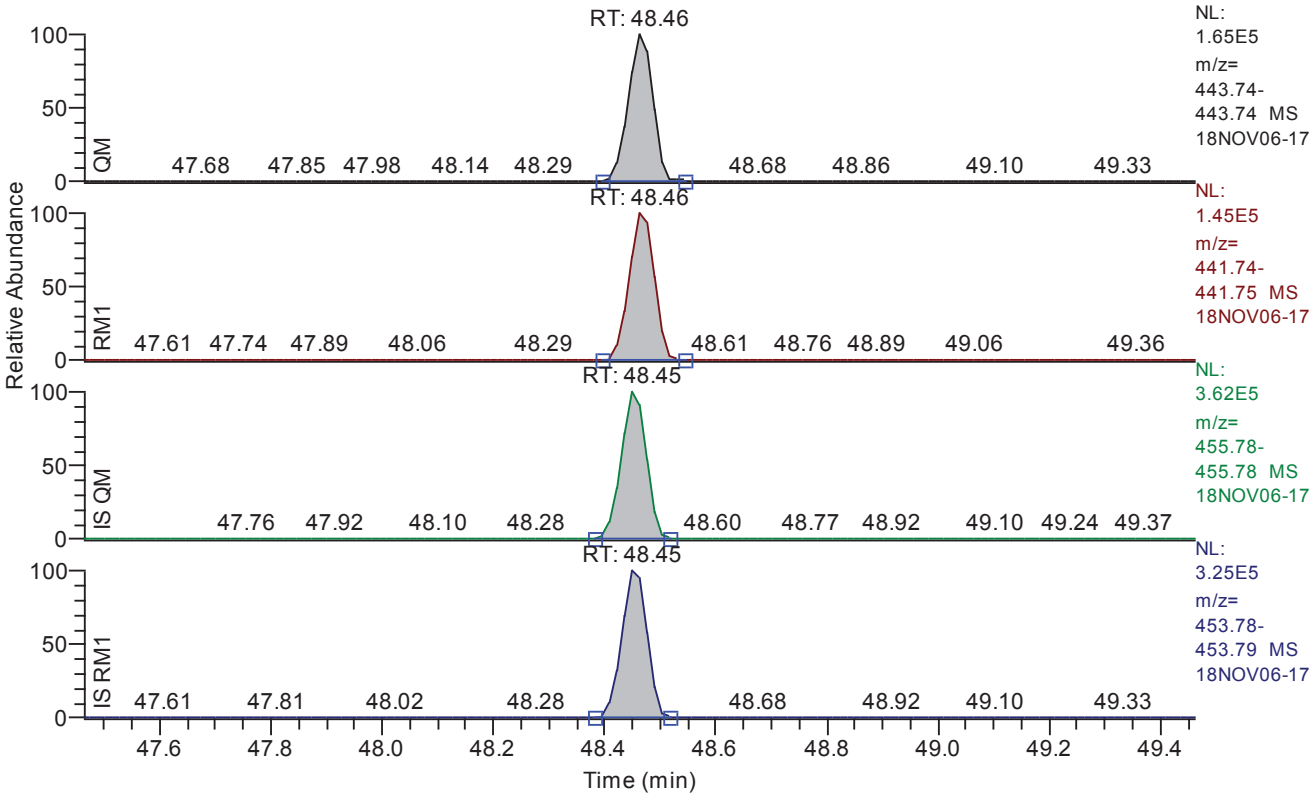
Chromatogram

RT: 47.46 - 49.46 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.46
QM Area	511415
QM Integration Mode	A
RM1 Area	459876
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0203
Unqualified Amount (A)	95.689157
Adjusted Amount (A)	95.6892
Signal-to-Noise	11866
Client Flags	
Status Overview	passed
Status Info	

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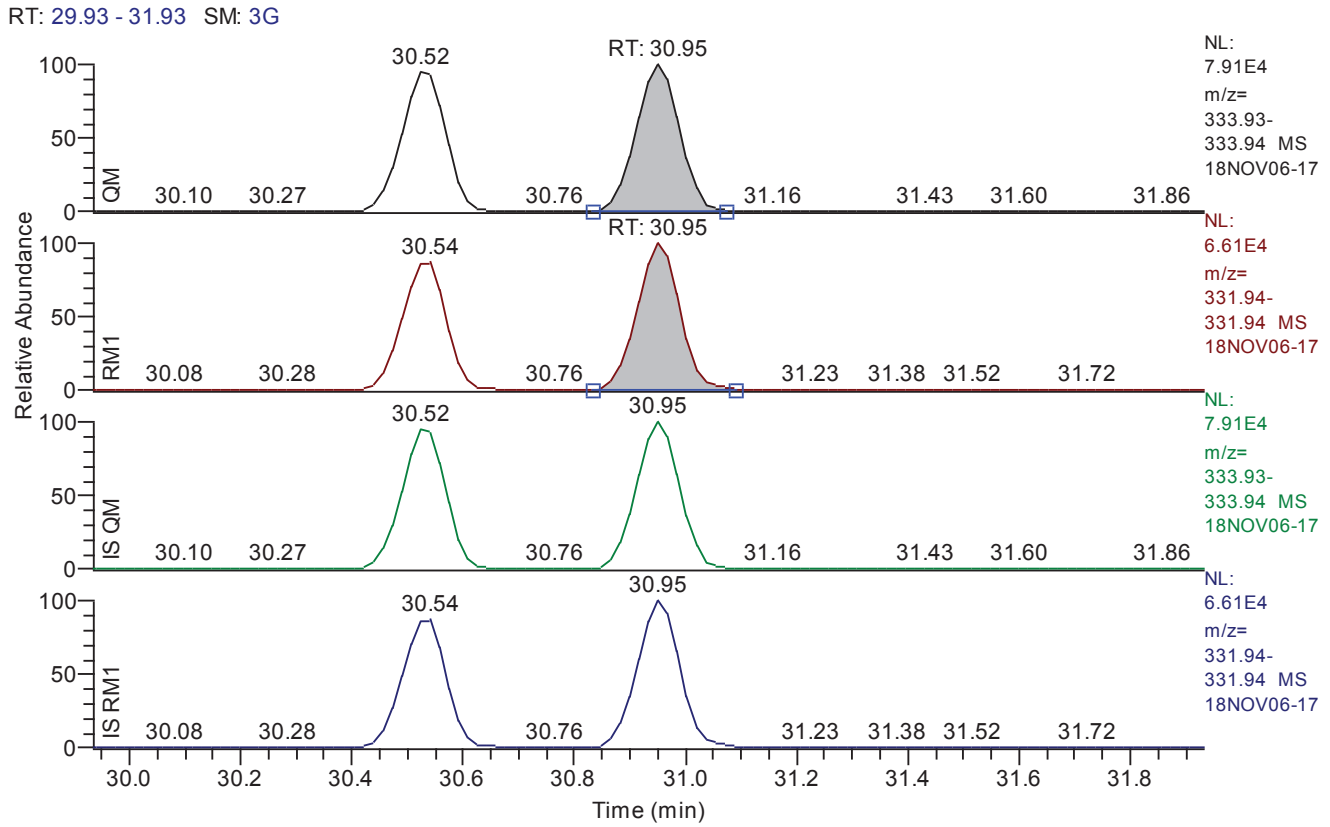
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.95
QM Area	432612
QM Integration Mode	A
RM1 Area	357496
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0316
Unqualified Amount (A)	82.026844
Adjusted Amount (A)	82.0268
Signal-to-Noise	7005
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.45	29.45	29.45	29.41	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.56	30.56	30.52	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.40	35.40	35.38	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.69	36.69	36.71	36.68	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.09	37.09	37.06	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.39	40.39	40.39	40.38	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.55	40.55	40.53	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.27	41.27	41.27	41.24	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.46	41.46	41.46	41.43	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.58	41.58	41.58	41.55	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.89	41.89	41.89	41.87	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.29	42.29	42.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.01	44.01	44.01	44.00	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.23	45.23	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.79	45.79	45.81	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.28	48.28	48.26	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.46	48.46	48.46	48.45	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.95	30.95	30.95	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.67	29.67	29.69	29.67	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.28	40.28	40.28	40.28	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.41	29.41	29.38	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.52	30.52	30.54	30.54	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.38	35.38	35.38	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.68	36.68	36.63	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.06	37.06	37.06	37.06	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.38	40.38	40.38	40.36	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.53	40.53	40.51	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.24	41.24	41.24	41.21	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.43	41.43	41.43	41.43	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.55	41.55	41.55	41.55	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.87	41.87	41.87	41.87	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.27	42.28	42.25	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.00	44.00	44.00	44.00	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.21	45.21	45.21	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.79	45.79	45.79	45.75	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.26	48.26	48.26	48.26	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.45	48.45	48.45	48.45	passed	passed

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	29.45	0.7729	0.6450 - 0.8950	passed	1.0329	1.1011	0.8754 - 1.3268	passed
2	2378-TCDD	30.56	0.8000	0.6450 - 0.8950	passed	1.1837	1.2206	0.9704 - 1.4708	passed
3	12378-PeCDF	35.40	1.5656	1.3150 - 1.7850	passed	0.9298	0.9902	0.7872 - 1.1932	passed
4	23478-PeCDF	36.69	1.5811	1.3150 - 1.7850	passed	1.0620	1.1092	0.8818 - 1.3366	passed
5	12378-PeCDD	37.09	1.5882	1.3150 - 1.7850	passed	0.9755	1.0372	0.8246 - 1.2498	passed
6	123478-HxCDF	40.39	1.2568	1.0450 - 1.4350	passed	1.1663	1.1984	0.9527 - 1.4441	passed
7	123678-HxCDF	40.55	1.2561	1.0450 - 1.4350	passed	1.1020	1.1533	0.9169 - 1.3897	passed
8	234678-HxCDF	41.27	1.2798	1.0450 - 1.4350	passed	1.1935	1.2401	0.9859 - 1.4943	passed
9	123478-HxCDD	41.46	1.2566	1.0450 - 1.4350	passed	0.9858	1.0199	0.8108 - 1.2290	passed
10	123678-HxCDD	41.58	1.2578	1.0450 - 1.4350	passed	1.0092	1.0292	0.8182 - 1.2402	passed
11	123789-HxCDD	41.89	1.2347	1.0450 - 1.4350	passed	1.0561	1.0930	0.8689 - 1.3171	passed
12	123789-HxCDF	42.29	1.2358	1.0450 - 1.4350	passed	1.1051	1.1534	0.9170 - 1.3898	passed
13	1234678-HpCDF	44.01	1.0513	0.8750 - 1.2050	passed	1.2332	1.2936	1.0284 - 1.5588	passed
14	1234678-HpCDD	45.23	1.0581	0.8750 - 1.2050	passed	0.9977	1.0652	0.8468 - 1.2836	passed
15	1234789-HpCDF	45.79	1.0504	0.8750 - 1.2050	passed	1.2799	1.2946	1.0292 - 1.5600	passed
16	OCDD	48.28	0.9133	0.7550 - 1.0250	passed	0.9951	1.0429	0.8291 - 1.2567	passed
17	OCDF	48.46	0.8992	0.7550 - 1.0250	passed	0.8994	0.9400	0.7473 - 1.1327	passed
18	13C12-1278-TCDD (CRS)	30.95	0.8264	0.6450 - 0.8950	passed	1.0379	1.2653	0.8794 - 1.6512	passed
19	13C12-1234-TCDD	29.67	0.8260	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.28	1.2478	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.41	0.7780	0.6450 - 0.8950	passed	1.8098	1.8510	1.2864 - 2.4156	passed
22	13C12-2378-TCDD	30.52	0.7739	0.6450 - 0.8950	passed	0.9794	0.9288	0.6455 - 1.2121	passed
23	13C12-12378-PeCDF	35.38	1.6050	1.3150 - 1.7850	passed	2.0099	1.7119	1.1898 - 2.2340	passed
24	13C12-23478-PeCDF	36.68	1.5574	1.3150 - 1.7850	passed	2.0082	1.6791	1.1670 - 2.1912	passed
25	13C12-12378-PeCDD	37.06	1.6070	1.3150 - 1.7850	passed	1.1370	0.9157	0.6364 - 1.1950	passed
26	13C12-123478-HxCDF	40.38	0.5228	0.4250 - 0.5950	passed	1.3763	1.3202	0.9175 - 1.7229	passed
27	13C12-123678-HxCDF	40.53	0.5416	0.4250 - 0.5950	passed	1.4491	1.4057	0.9770 - 1.8344	passed
28	13C12-234678-HxCDF	41.24	0.5251	0.4250 - 0.5950	passed	1.3283	1.2615	0.8767 - 1.6463	passed
29	13C12-123478-HxCDD	41.43	1.2520	1.0450 - 1.4350	passed	0.9581	0.9239	0.6421 - 1.2057	passed
30	13C12-123678-HxCDD	41.55	1.2673	1.0450 - 1.4350	passed	0.9571	0.9374	0.6515 - 1.2233	passed
31	13C12-123789-HxCDD	41.87	1.2946	1.0450 - 1.4350	passed	0.9424	0.8925	0.6203 - 1.1647	passed
32	13C12-123789-HxCDF	42.27	0.5212	0.4250 - 0.5950	passed	1.2034	1.2057	0.8380 - 1.5734	passed
33	13C12-1234678-HpCDF	44.00	0.4541	0.3650 - 0.5150	passed	1.2327	1.1128	0.7734 - 1.4522	passed
34	13C12-1234678-HpCDD	45.21	1.0751	0.8750 - 1.2050	passed	0.8904	0.8106	0.5634 - 1.0578	passed
35	13C12-1234789-HpCDF	45.79	0.4756	0.3650 - 0.5150	passed	0.9388	0.9138	0.6351 - 1.1925	passed
36	13C12-OCDD	48.26	0.8909	0.7550 - 1.0250	passed	0.6792	0.7126	0.4953 - 0.9299	passed
37	13C12-OCDF	48.45	0.9033	0.7550 - 1.0250	passed	1.0028	1.0877	0.7560 - 1.4194	passed

APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.45	80260	A	62034	A	0.0220	9.380521	9.3805	10.000000	1004	
2	2378-TCDD	passed	30.56	49027	A	39223	A	0.0202	9.698015	9.6980	10.000000	1196	
3	12378-PeCDF	passed	35.40	277246	A	434046	A	0.0175	46.949489	46.9495	50.000000	6598	
4	23478-PeCDF	passed	36.69	314513	A	497274	A	0.0147	47.872177	47.8722	50.000000	7965	
5	12378-PeCDD	passed	37.09	163116	A	259067	A	0.0300	47.023707	47.0237	50.000000	4019	
6	123478-HxCDF	passed	40.39	382958	A	481286	A	0.0286	48.663732	48.6637	50.000000	4206	
7	123678-HxCDF	passed	40.55	381078	A	478663	A	0.0287	47.776018	47.7760	50.000000	4168	
8	234678-HxCDF	passed	41.27	374396	A	479166	A	0.0287	48.121595	48.1216	50.000000	4205	
9	123478-HxCDD	passed	41.46	225342	A	283174	A	0.0221	48.332071	48.3321	50.000000	5383	
10	123678-HxCDD	passed	41.58	230335	A	289716	A	0.0218	49.025923	49.0259	50.000000	5661	
11	123789-HxCDD	passed	41.89	239775	A	296055	A	0.0200	48.311499	48.3115	50.000000	5796	
12	123789-HxCDF	passed	42.29	320271	A	395780	A	0.0335	47.908460	47.9085	50.000000	3546	
13	1234678-HpCDF	passed	44.01	399013	A	419473	A	0.0302	47.668083	47.6681	50.000000	3865	
14	1234678-HpCDD	passed	45.23	232393	A	245885	A	0.0268	46.827683	46.8277	50.000000	4407	
15	1234789-HpCDF	passed	45.79	315509	A	331419	A	0.0402	49.433068	49.4331	50.000000	3046	
16	OCDD	passed	48.28	380387	A	347391	A	0.0257	95.417125	95.4171	100.000000	9566	
17	OCDF	passed	48.46	511415	A	459876	A	0.0203	95.689157	95.6892	100.000000	11866	
18	13C12-1278-TCDD (CRS)	passed	30.95	432612	A	357496	A	0.0316	82.026844	82.0268	100.000000	7005	
19	13C12-1234-TCDD	passed	29.67	416905	A	344349	A	0.0400	100.000000	100.0000	100.000000	6256	
20	13C12-123468-HxCDD	passed	40.28	479044	A	597768	A	0.0375	100.000000	100.0000	100.000000	6661	
21	13C12-2378-TCDF	passed	29.41	774847	A	602832	A	0.0276	97.772457	97.7725	100.000000	9497	
22	13C12-2378-TCDD	passed	30.52	420275	A	325265	A	0.0430	105.440209	105.4402	100.000000	6418	
23	13C12-12378-PeCDF	passed	35.38	587357	A	942686	A	0.0736	117.405847	117.4058	100.000000	5417	
24	13C12-23478-PeCDF	passed	36.68	597766	A	930990	A	0.0751	119.598518	119.5985	100.000000	5727	
25	13C12-12378-PeCDD	passed	37.06	332025	A	533549	A	0.0726	124.167843	124.1678	100.000000	6334	
26	13C12-123478-HxCDF	passed	40.38	973191	A	508797	A	0.0435	104.250314	104.2503	100.000000	5901	
27	13C12-123678-HxCDF	passed	40.53	1012207	A	548163	A	0.0409	103.085533	103.0855	100.000000	6119	
28	13C12-234678-HxCDF	passed	41.24	937845	A	492474	A	0.0455	105.294050	105.2941	100.000000	5686	
29	13C12-123478-HxCDD	passed	41.43	458110	A	573534	A	0.0406	103.694723	103.6947	100.000000	6391	
30	13C12-123678-HxCDD	passed	41.55	454576	A	576065	A	0.0400	102.106719	102.1067	100.000000	6411	
31	13C12-123789-HxCDD	passed	41.87	442229	A	572520	A	0.0421	105.581885	105.5819	100.000000	6606	
32	13C12-123789-HxCDF	passed	42.27	851879	A	443987	A	0.0476	99.813128	99.8131	100.000000	5240	
33	13C12-1234678-HpCDF	passed	44.00	912856	A	414525	A	0.0531	110.769823	110.7698	100.000000	5578	
34	13C12-1234678-HpCDD	passed	45.21	462052	A	496755	A	0.0445	109.840144	109.8401	100.000000	6720	
35	13C12-1234789-HpCDF	passed	45.79	685082	A	325829	A	0.0646	102.738782	102.7388	100.000000	4180	
36	13C12-OCDD	passed	48.26	773574	A	689198	A	0.0155	190.639403	190.6394	200.000000	33613	
37	13C12-OCDF	passed	48.45	1134722	A	1025023	A	0.0177	184.393936	184.3939	200.000000	28462	

APPROVED
By uma9 at 12:14 pm, 11/12/18

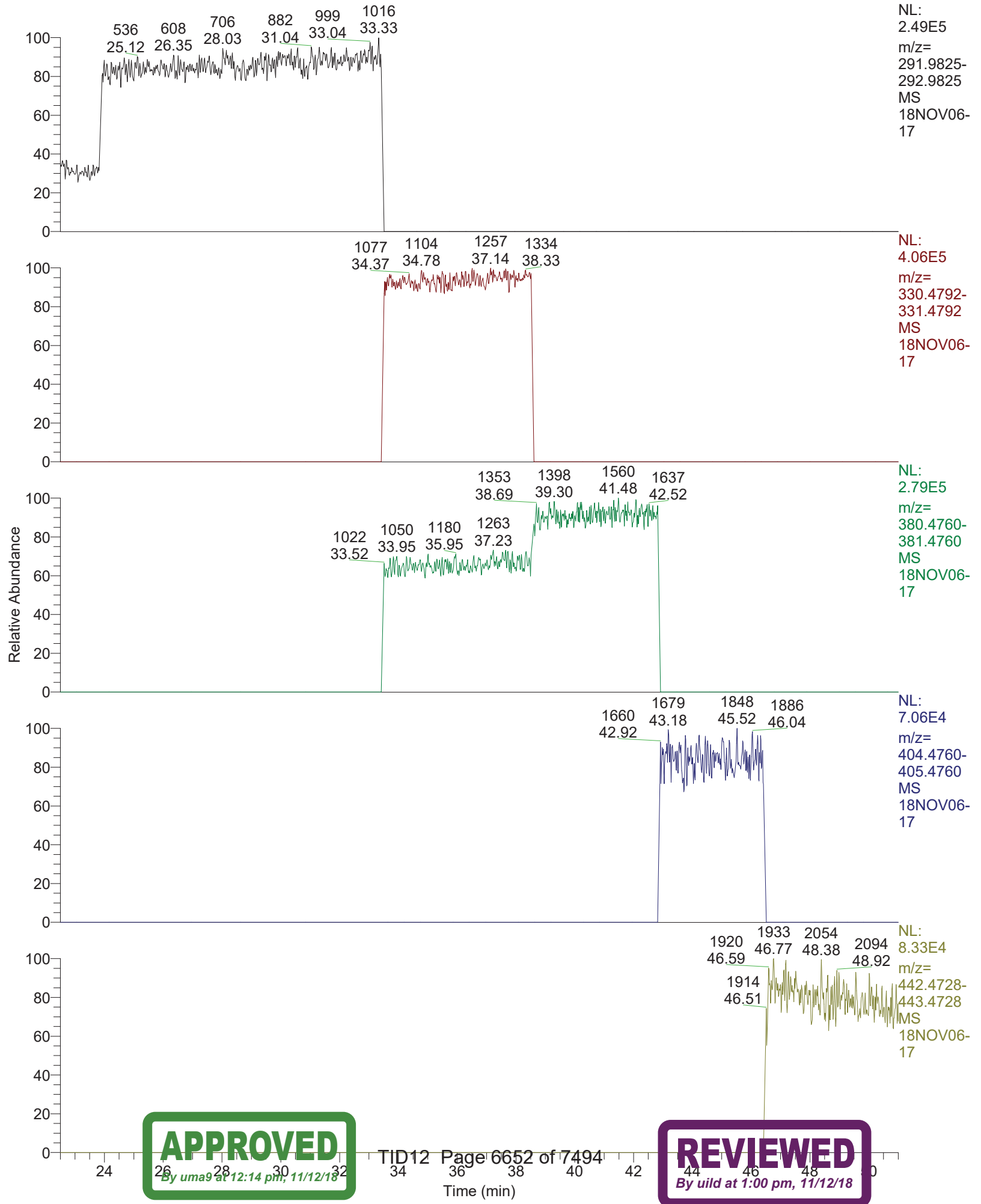
REVIEWED
By uild at 1:00 pm, 11/12/18

File Name: Z:\18NOV06\18NOV06-17
Sample ID: CS3CC03

Acq. Data: 11/6/2018 10:28:24 PM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By uma9 at 12:14 pm, 11/12/18

REVIEWED
By uild at 1:00 pm, 11/12/18

*** file opened Tue Nov 06 22:33:53 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 06-Nov-18 22:33:52

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f50533d2-f9c1-41a2-b71e-4157fb85ab75

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          98.5000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0002   ECURR           1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ        2531.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS           170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR           0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS           1.0000
 FM             254.9851   FMII           50.0000   FQUAD           8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0209   FVINLET         0.0414   FVSRC           0.0335
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII          500.0000
 LMASS           98.5000   LKM           442.9723   MASS           98.5000
 MDAC        1497590.9001  MRANGE       1272.8365   NSAM          200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -17.0000   RECURR          0.9670   RELEN           0.0000
 RES          12714.7564   RPUSHER       -17.0769   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0207   TANAL           0.0000   TCURR           0.0000
 TD               1.0000   TS              0.0002   THRESH          2.0000
 TIS              0.0010   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          98.5000   XLENS_POT     860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM       7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.8e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10633.
MID Time Window 2: Resolution is 11785.
MID Time Window 3: Resolution is 11818.
MID Time Window 4: Resolution is 11275.
```

```
                                        18NOV06-17
  MID Time Window 5: Resolution is 13408.
  MID Time Window 6: Resolution is 12714.

  Amplifier Offset: 85.


*** File closed Tue Nov 06 23:24:55 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 10:26
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-31.quan
Data	z:\18nov06\18nov06-31.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.45	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.40	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.71	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.09	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.40	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.55	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.26	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.45	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.57	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.90	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.29	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
16	OCDD	48.28	passed	passed	passed	passed	passed	passed	
17	OCDF	48.46	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.95	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.69	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.29	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.41	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.52	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.38	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.08	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.53	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.25	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.44	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.56	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.88	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.27	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.00	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.80	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.28	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.46	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 10:26
Number of Entries	64
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF19780-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	z:\18nov06\18nov06-31.quan
Data	z:\18nov06\18nov06-31.raw
Response	z:\responsefiles\df19780-18may09dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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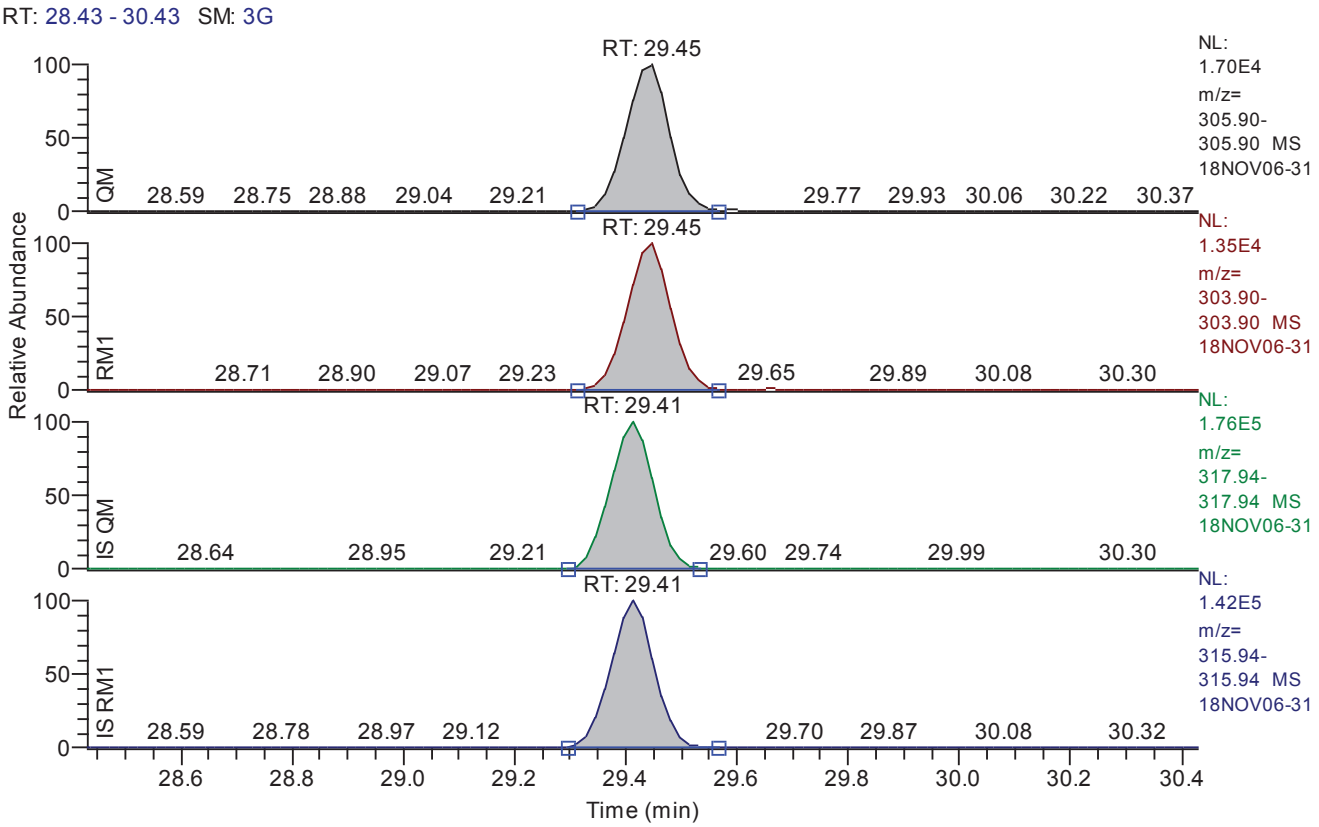
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.45
QM Area	95179
QM Integration Mode	A
RM1 Area	75713
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0154
Unqualified Amount (A)	8.776721
Adjusted Amount (A)	8.7767
Signal-to-Noise	1415
Client Flags	
Status Overview	passed
Status Info	

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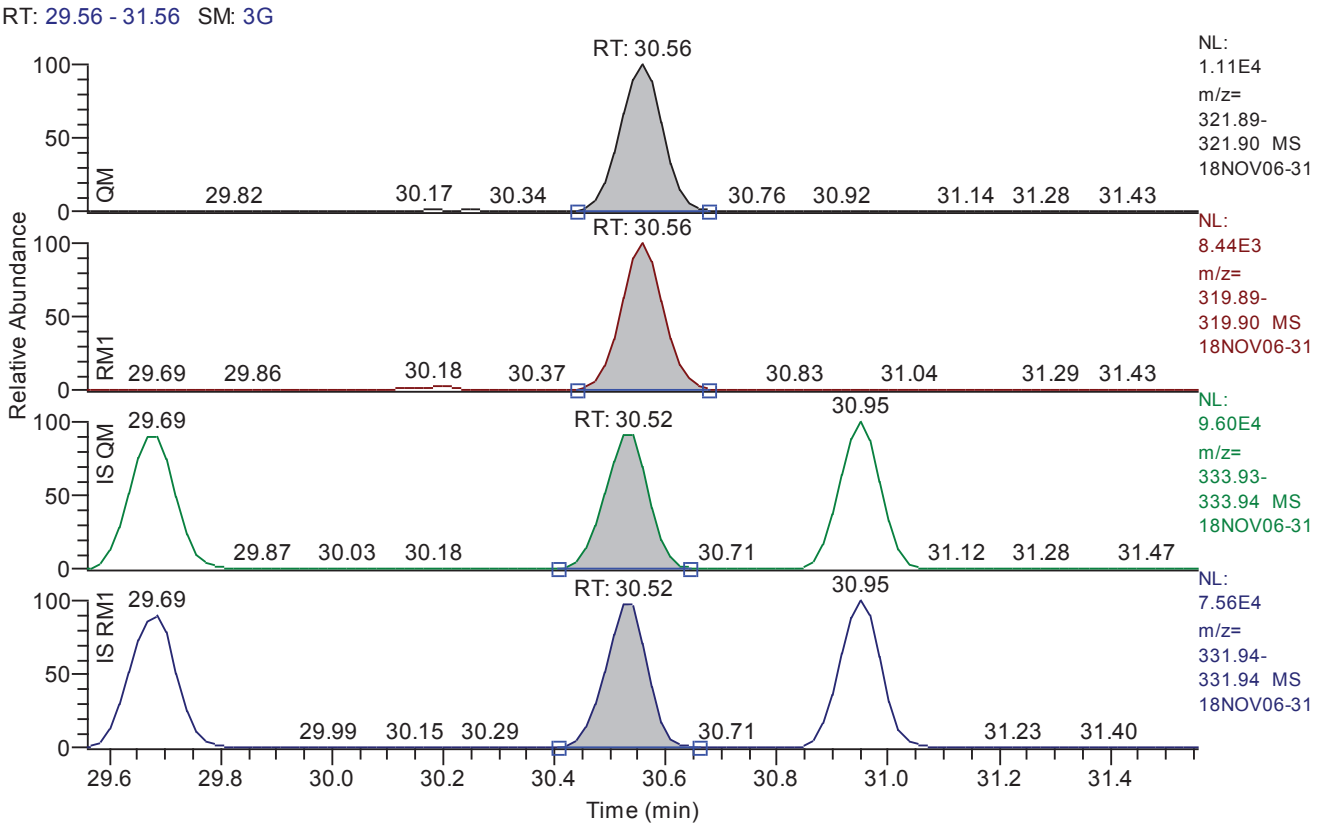
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.56
QM Area	60303
QM Integration Mode	A
RM1 Area	45490
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0169
Unqualified Amount (A)	9.670170
Adjusted Amount (A)	9.6702
Signal-to-Noise	1447
Client Flags	
Status Overview	passed
Status Info	

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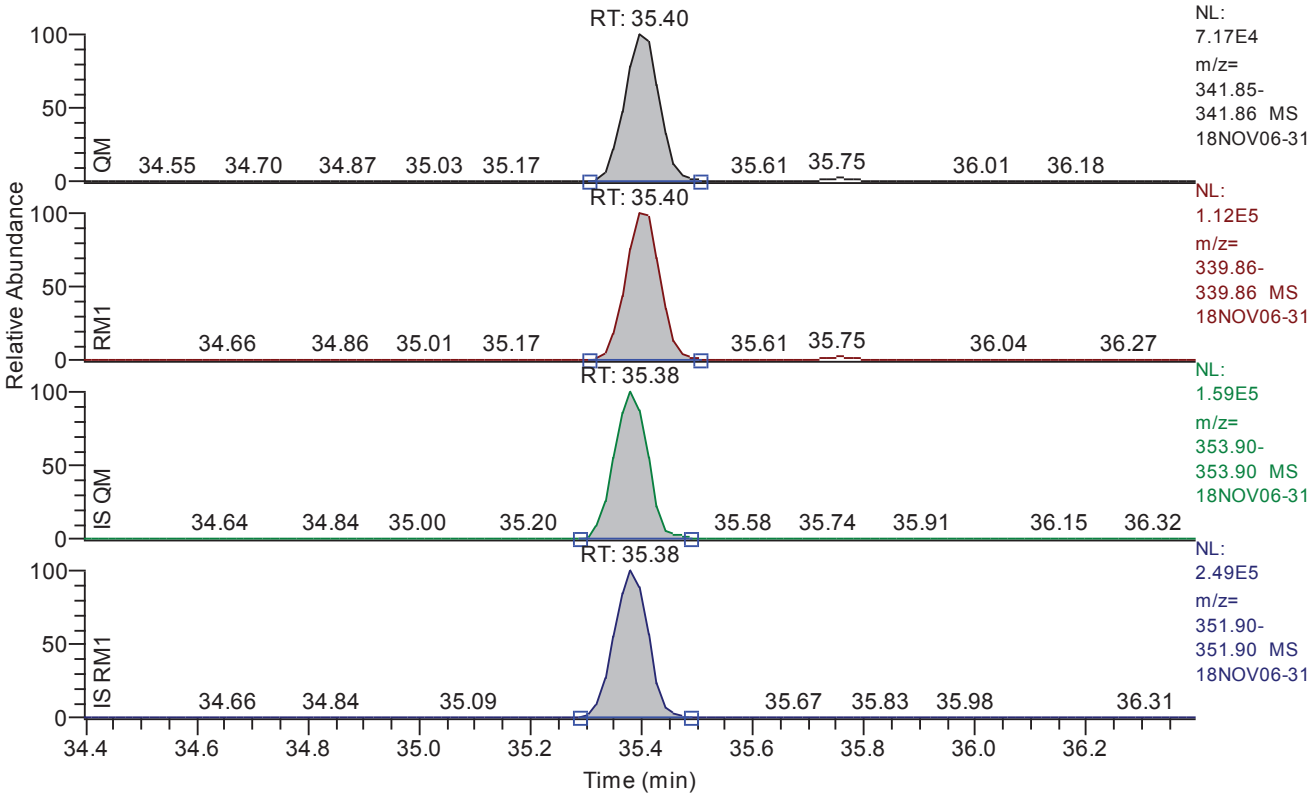
Chromatogram

RT: 34.40 - 36.40 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.40
QM Area	310401
QM Integration Mode	A
RM1 Area	487293
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0149
Unqualified Amount (A)	46.491943
Adjusted Amount (A)	46.4919
Signal-to-Noise	7615
Client Flags	
Status Overview	passed
Status Info	

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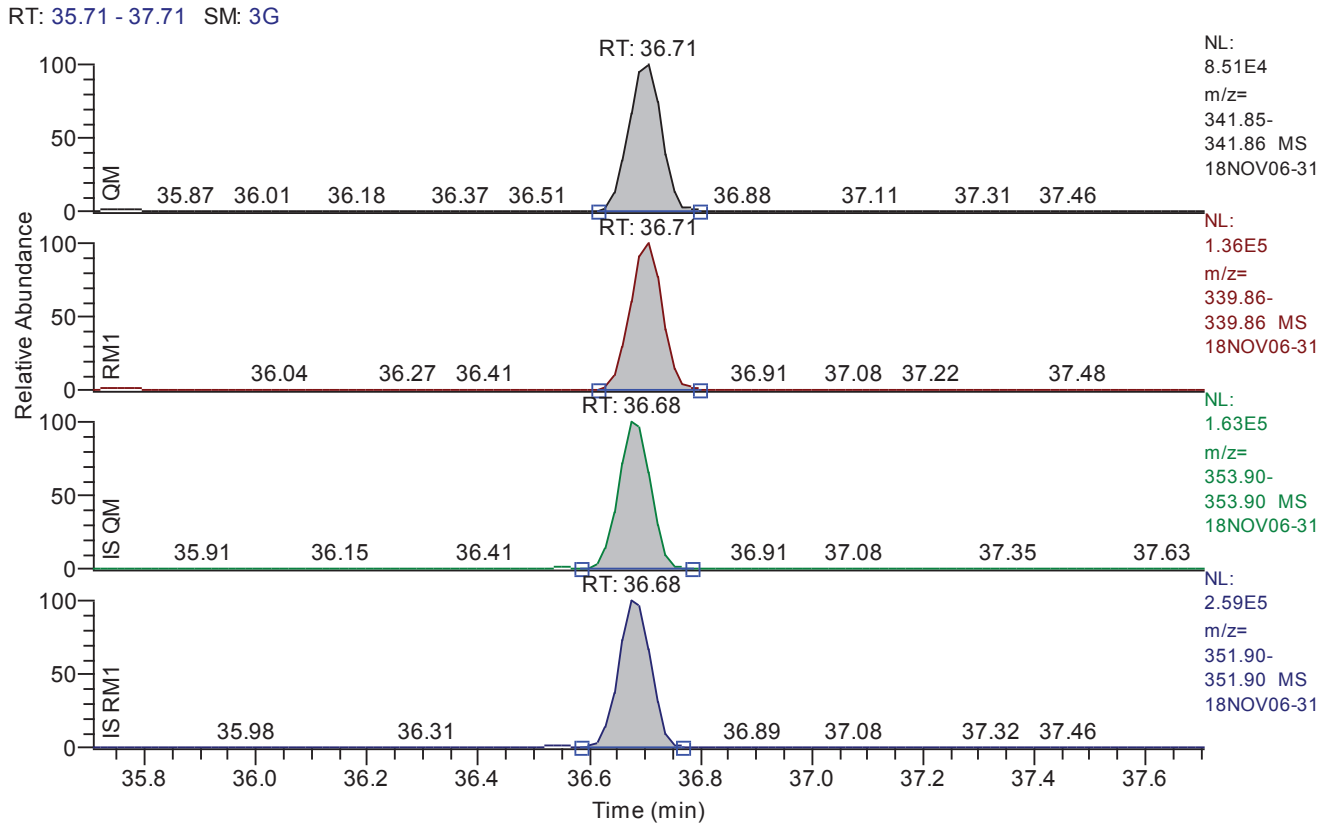
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.71
QM Area	350467
QM Integration Mode	A
RM1 Area	548276
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0129
Unqualified Amount (A)	47.366910
Adjusted Amount (A)	47.3669
Signal-to-Noise	9161
Client Flags	
Status Overview	passed
Status Info	

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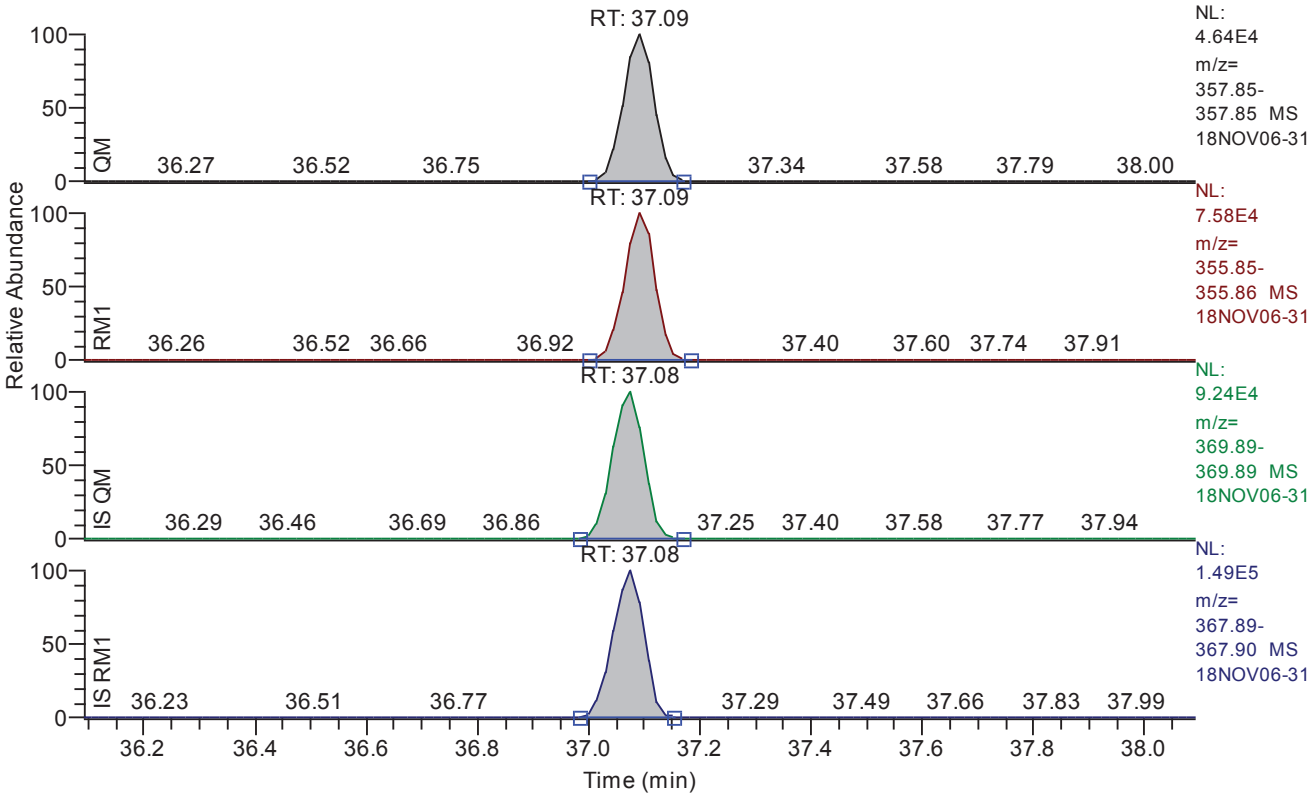
Chromatogram

RT: 36.09 - 38.09 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.09
QM Area	178590
QM Integration Mode	A
RM1 Area	290648
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0250
Unqualified Amount (A)	47.167928
Adjusted Amount (A)	47.1679
Signal-to-Noise	4880
Client Flags	
Status Overview	passed
Status Info	

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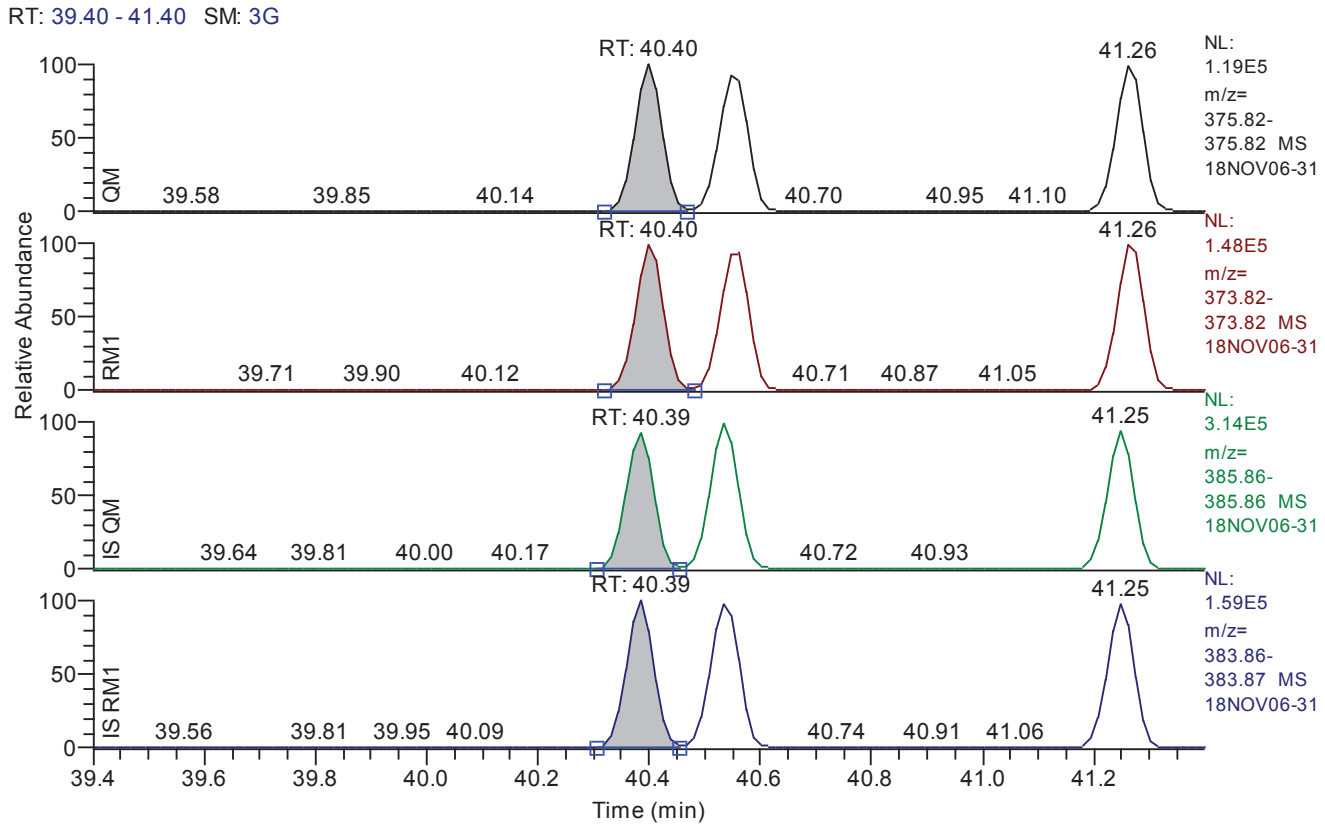
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.40
QM Area	406098
QM Integration Mode	A
RM1 Area	510139
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0312
Unqualified Amount (A)	48.750439
Adjusted Amount (A)	48.7504
Signal-to-Noise	3950
Client Flags	
Status Overview	passed
Status Info	

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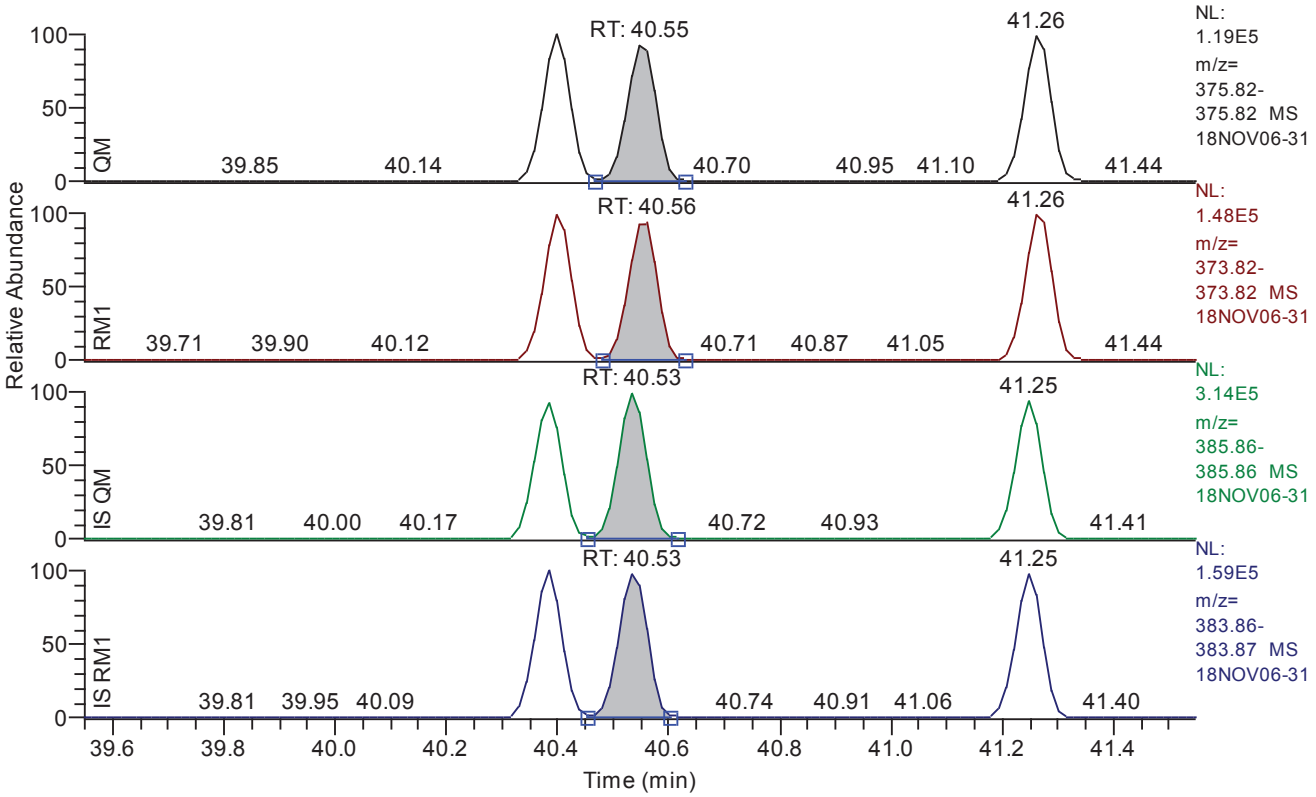
Chromatogram

RT: 39.55 - 41.55 SM: 3G



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.55
QM Area	403297
QM Integration Mode	A
RM1 Area	506075
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0312
Unqualified Amount (A)	47.356900
Adjusted Amount (A)	47.3569
Signal-to-Noise	3686
Client Flags	
Status Overview	passed
Status Info	

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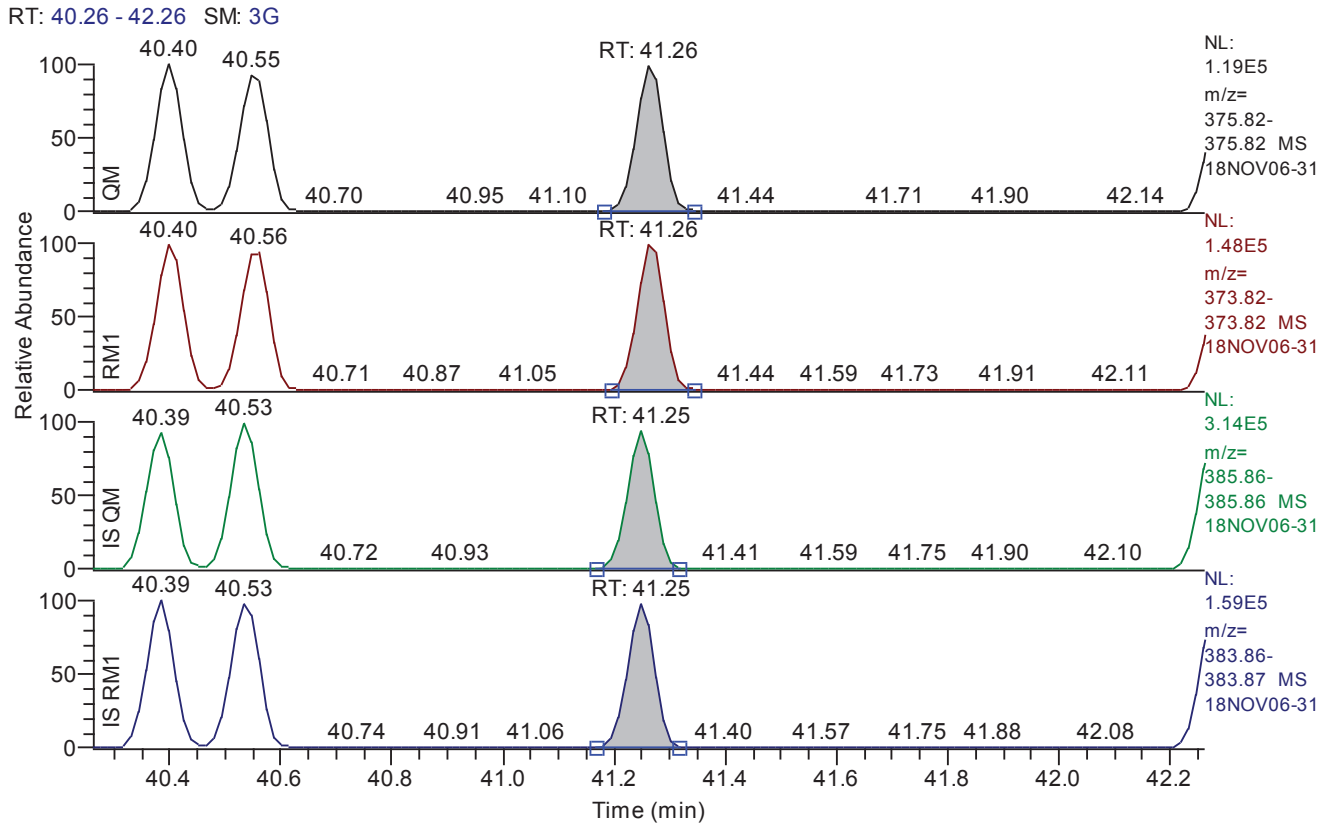
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.26
QM Area	400108
QM Integration Mode	A
RM1 Area	504780
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0302
Unqualified Amount (A)	48.159430
Adjusted Amount (A)	48.1594
Signal-to-Noise	3924
Client Flags	
Status Overview	passed
Status Info	

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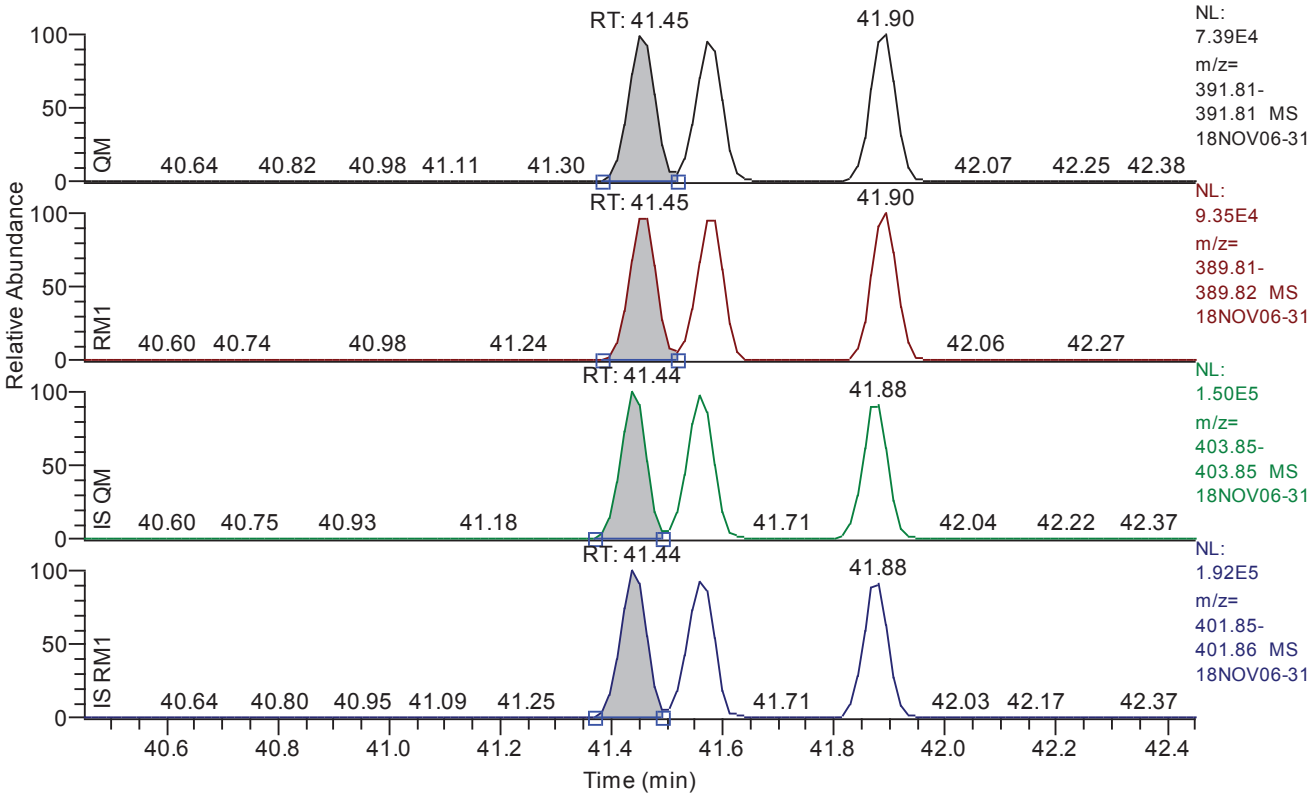
Chromatogram

RT: 40.45 - 42.45 SM: 3G



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.45
QM Area	249239
QM Integration Mode	A
RM1 Area	312372
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0227
Unqualified Amount (A)	49.639240
Adjusted Amount (A)	49.6392
Signal-to-Noise	5190
Client Flags	
Status Overview	passed
Status Info	

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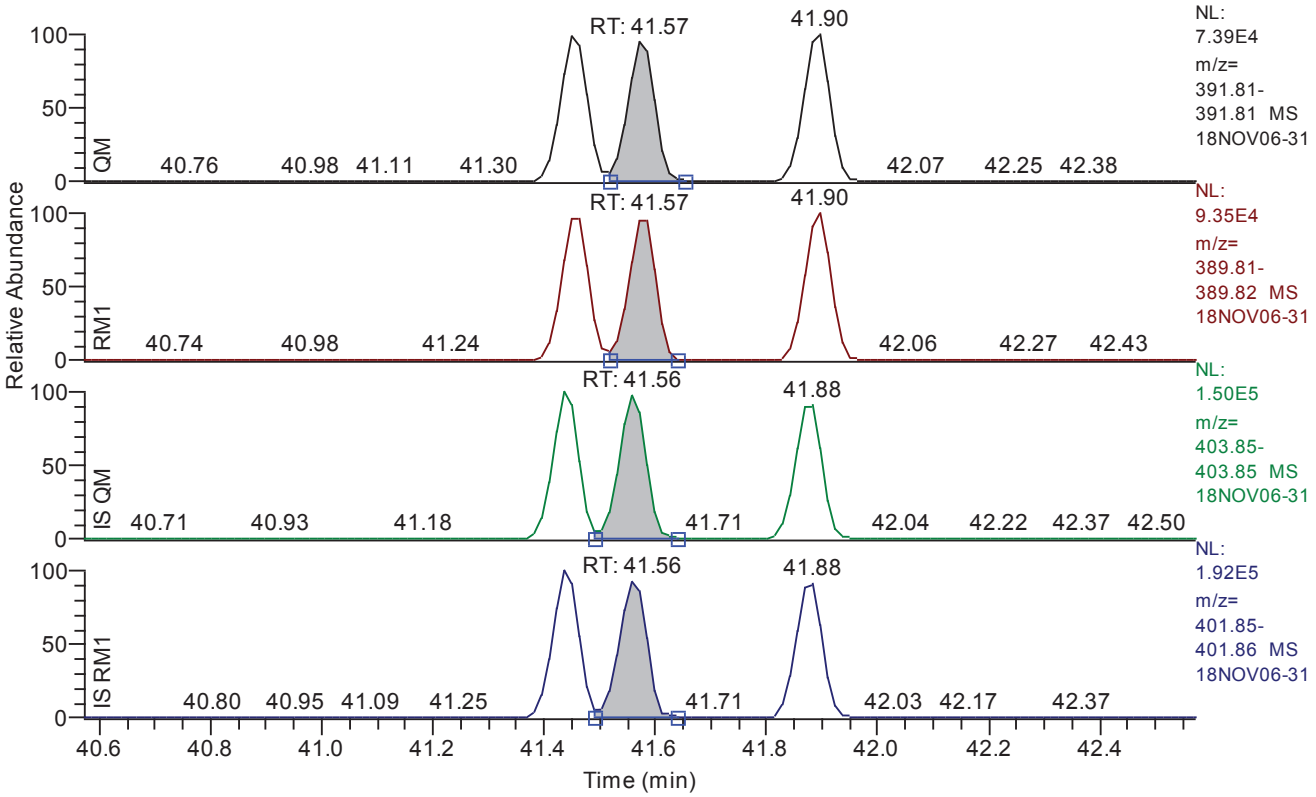
Chromatogram

RT: 40.57 - 42.57 SM: 3G



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.57
QM Area	237422
QM Integration Mode	A
RM1 Area	302854
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0235
Unqualified Amount (A)	47.095652
Adjusted Amount (A)	47.0957
Signal-to-Noise	5051
Client Flags	
Status Overview	passed
Status Info	

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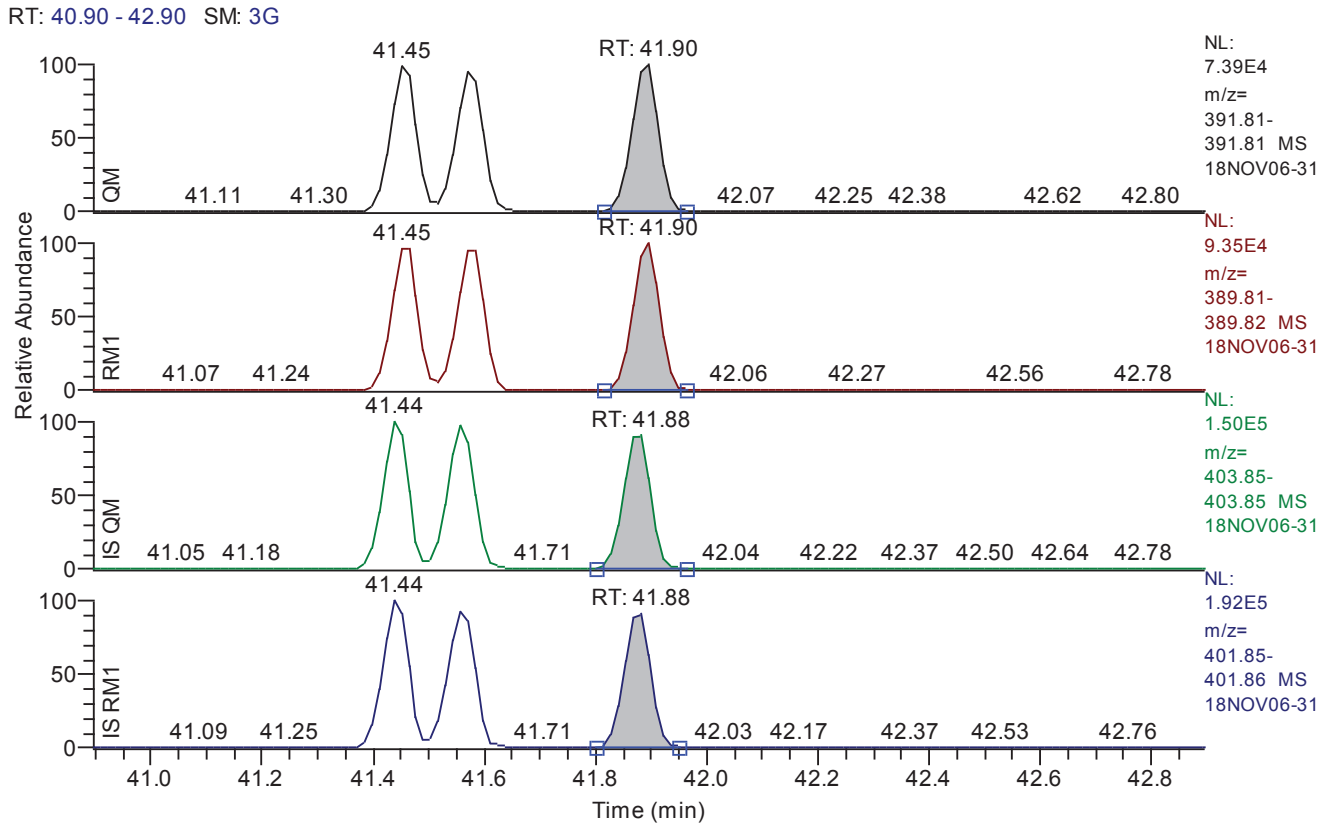
Chromatogram



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.90
QM Area	247875
QM Integration Mode	A
RM1 Area	310558
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0231
Unqualified Amount (A)	48.164811
Adjusted Amount (A)	48.1648
Signal-to-Noise	5304
Client Flags	
Status Overview	passed
Status Info	

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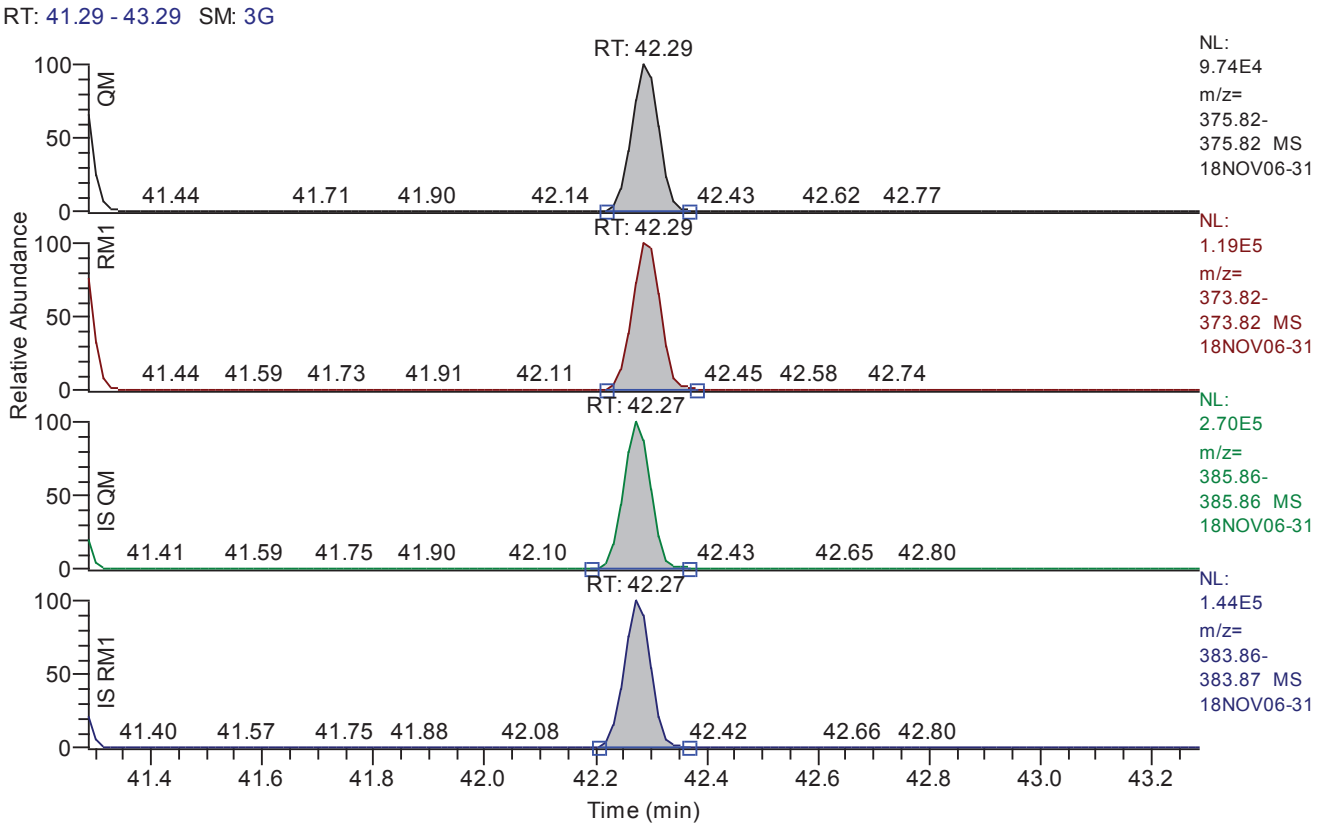
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.29
QM Area	332447
QM Integration Mode	A
RM1 Area	419995
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0354
Unqualified Amount (A)	46.831278
Adjusted Amount (A)	46.8313
Signal-to-Noise	3209
Client Flags	
Status Overview	passed
Status Info	

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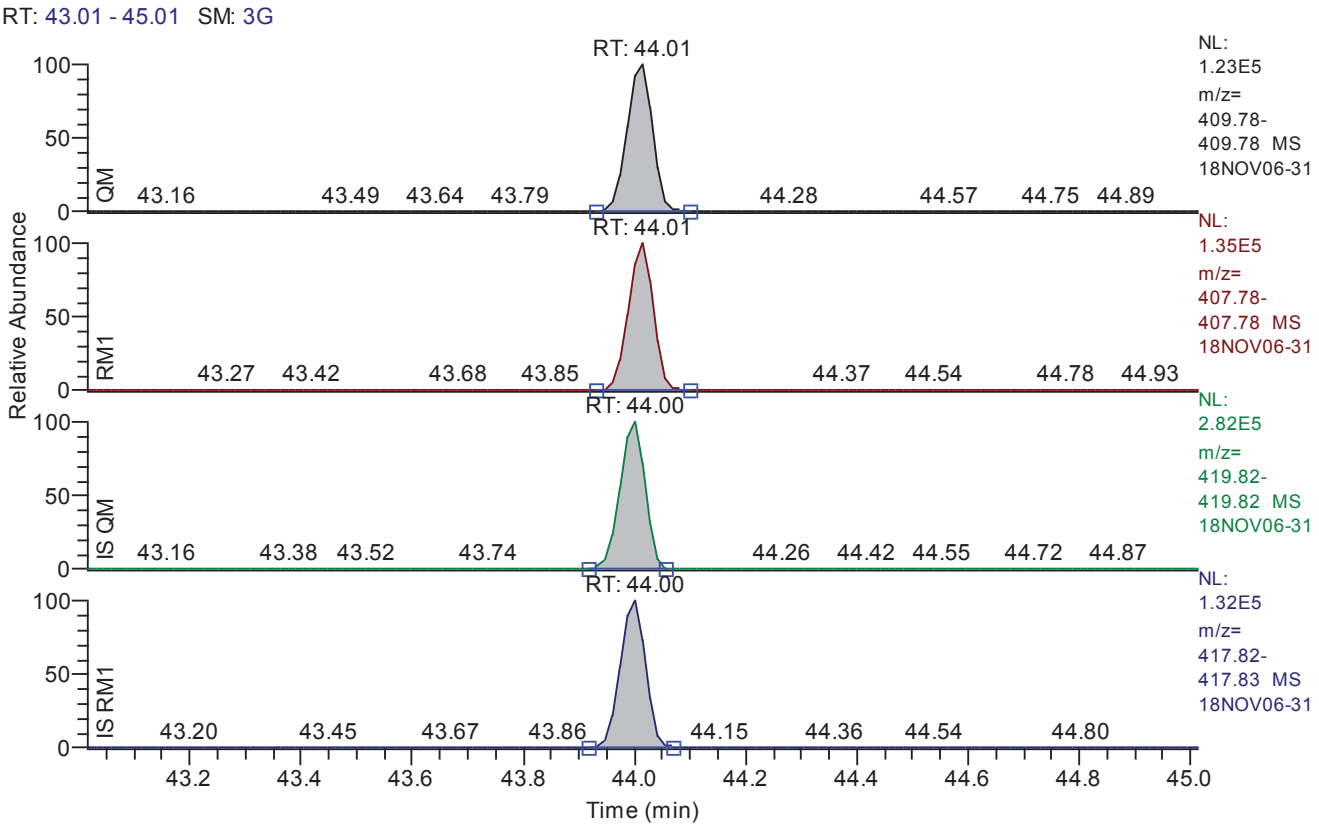
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.01
QM Area	403062
QM Integration Mode	A
RM1 Area	433535
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0274
Unqualified Amount (A)	48.156165
Adjusted Amount (A)	48.1562
Signal-to-Noise	4394
Client Flags	
Status Overview	passed
Status Info	

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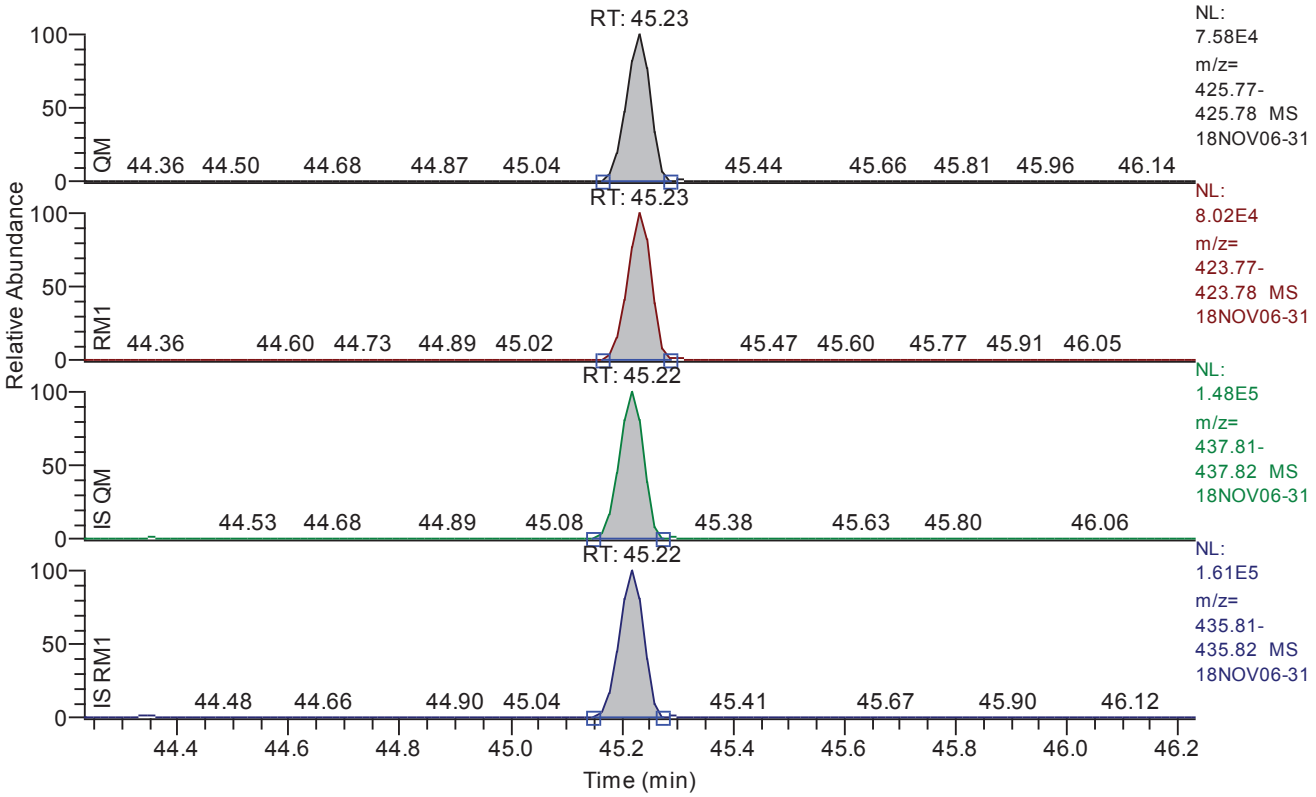
Chromatogram

RT: 44.23 - 46.23 SM: 3G



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	235541
QM Integration Mode	A
RM1 Area	246954
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0273
Unqualified Amount (A)	46.573766
Adjusted Amount (A)	46.5738
Signal-to-Noise	4335
Client Flags	
Status Overview	passed
Status Info	

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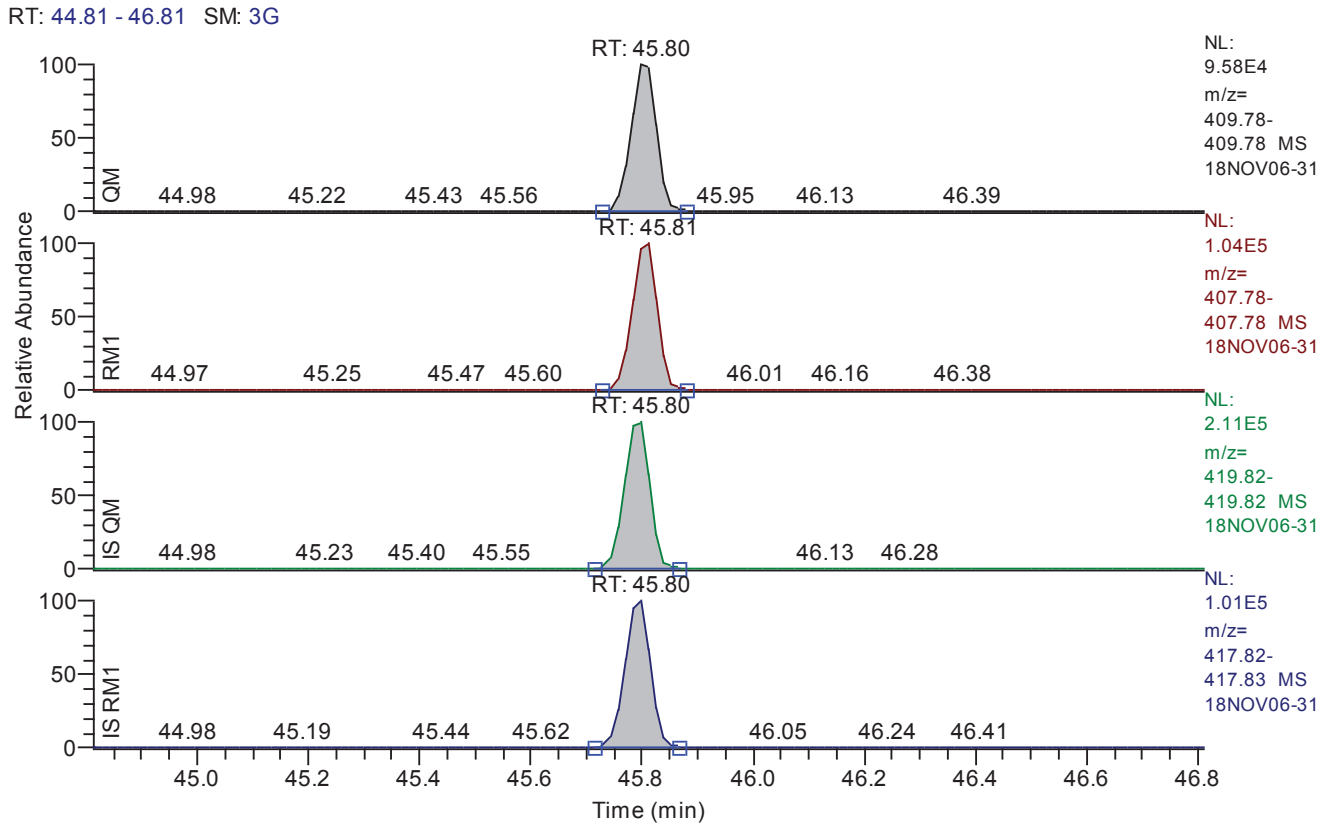
Chromatogram



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.80
QM Area	313980
QM Integration Mode	A
RM1 Area	337303
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0364
Unqualified Amount (A)	49.185736
Adjusted Amount (A)	49.1857
Signal-to-Noise	3401
Client Flags	
Status Overview	passed
Status Info	

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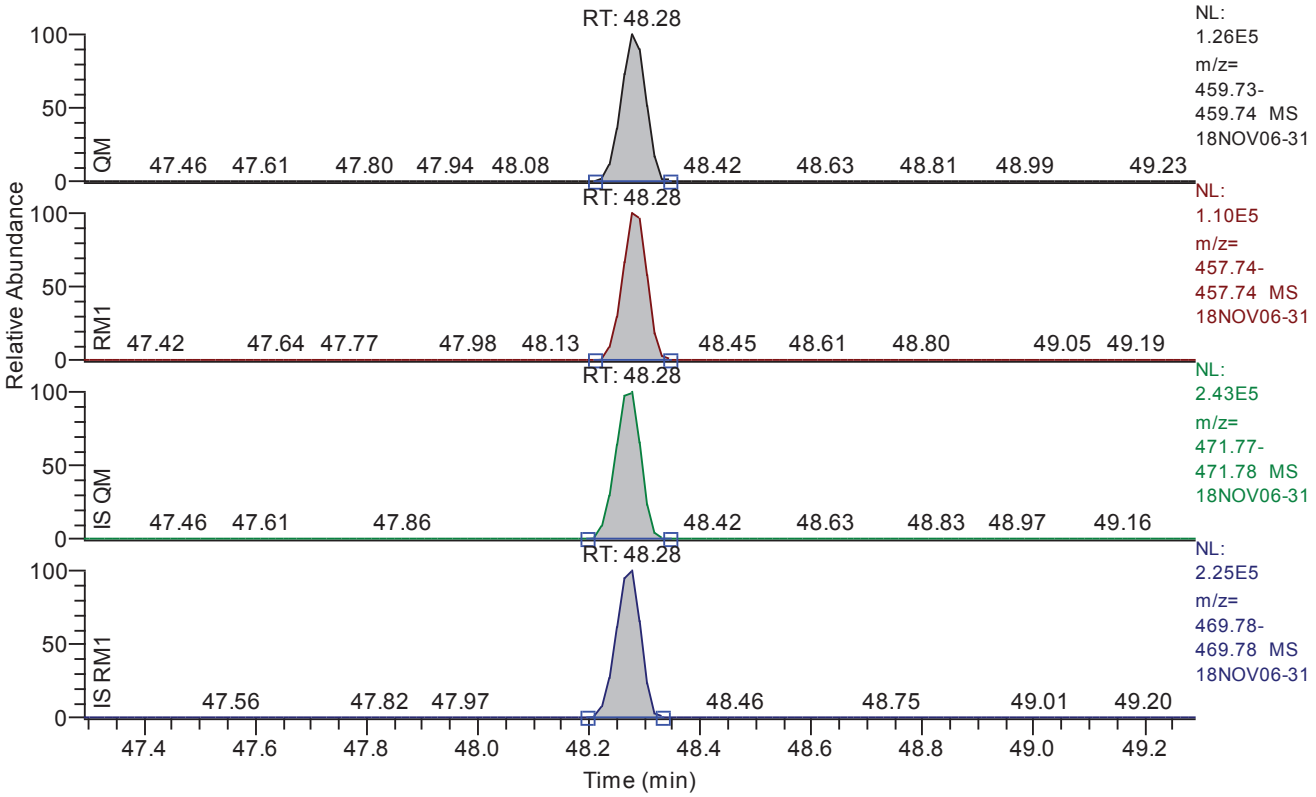
Chromatogram

RT: 47.29 - 49.29 SM: 3G



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.28
QM Area	389216
QM Integration Mode	A
RM1 Area	340459
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0250
Unqualified Amount (A)	94.674332
Adjusted Amount (A)	94.6743
Signal-to-Noise	9660
Client Flags	
Status Overview	passed
Status Info	

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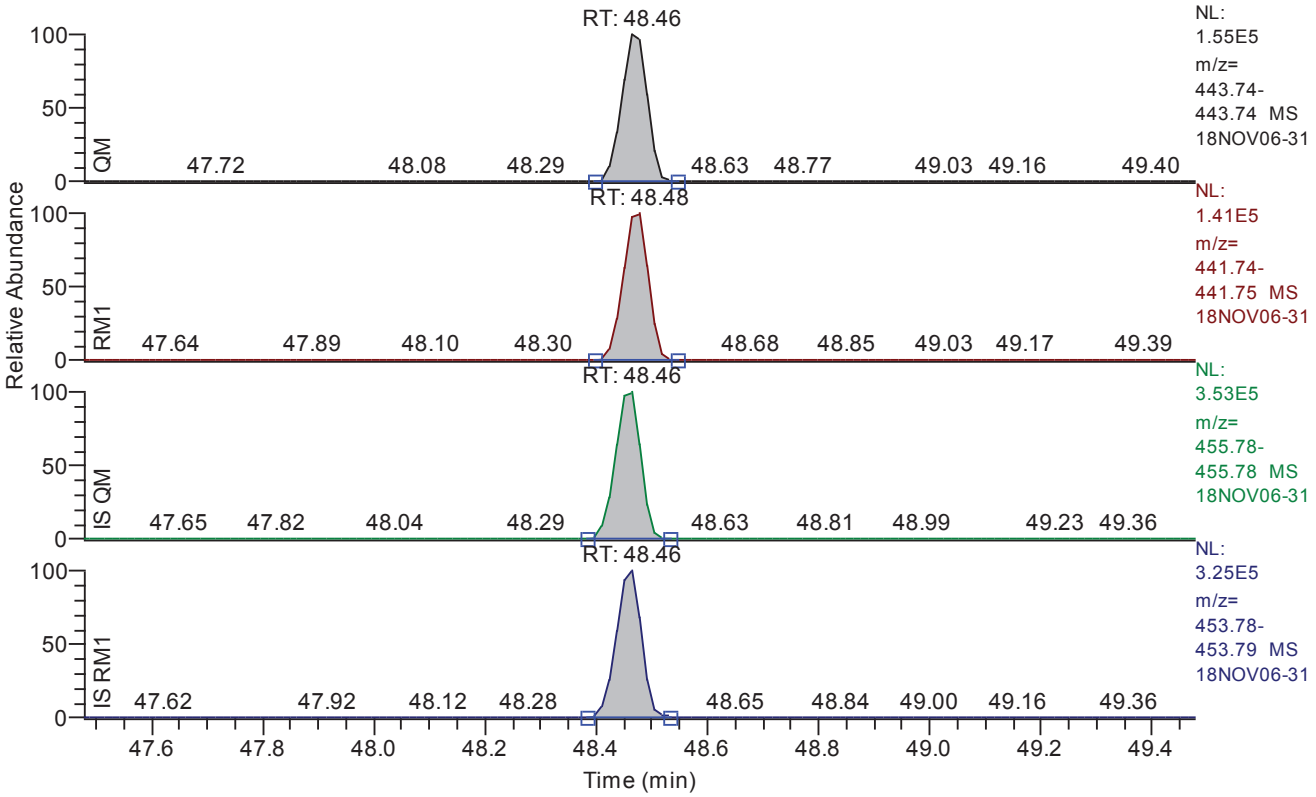
Chromatogram

RT: 47.48 - 49.48 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.46
QM Area	496192
QM Integration Mode	A
RM1 Area	447203
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0158
Unqualified Amount (A)	93.807642
Adjusted Amount (A)	93.8076
Signal-to-Noise	14657
Client Flags	
Status Overview	passed
Status Info	

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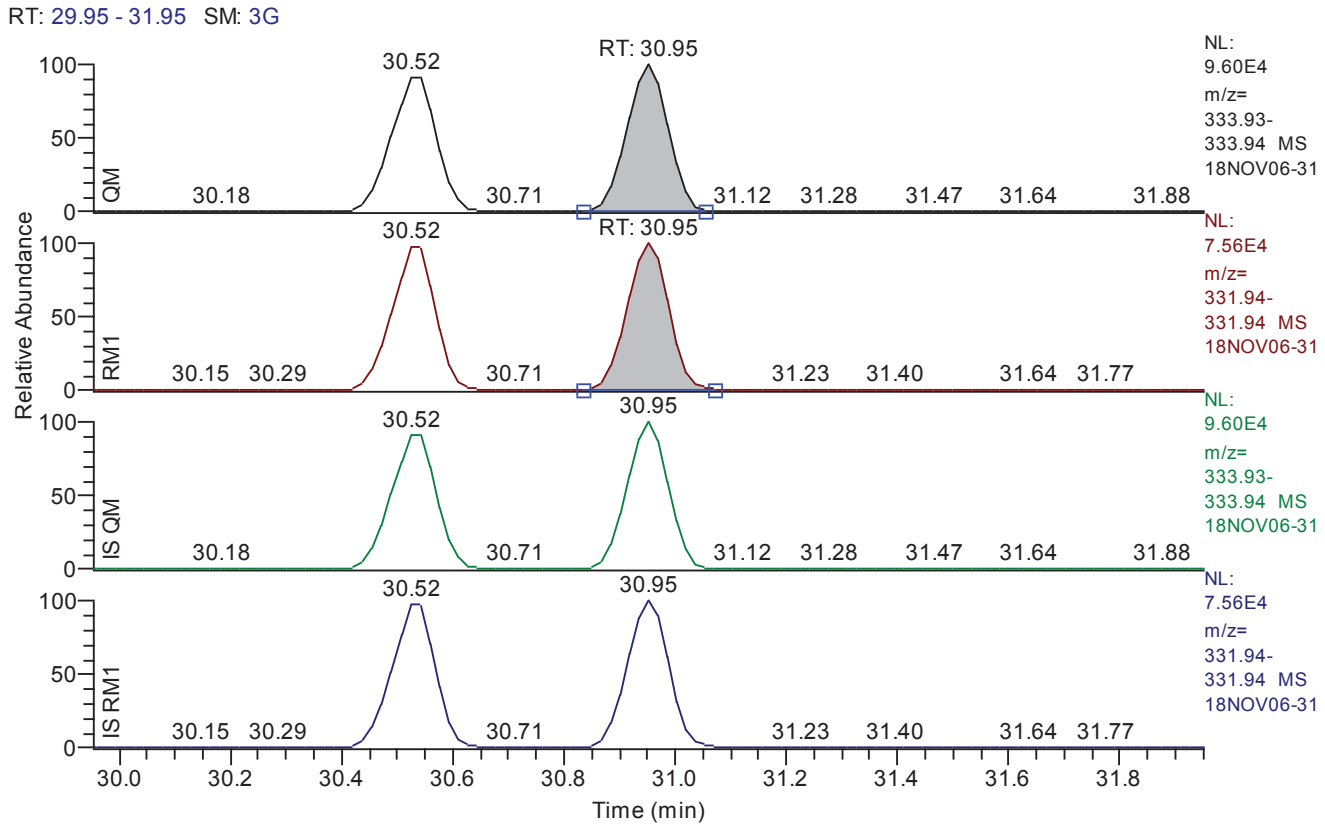
Chromatogram



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.95
QM Area	506954
QM Integration Mode	A
RM1 Area	401950
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0337
Unqualified Amount (A)	78.341202
Adjusted Amount (A)	78.3412
Signal-to-Noise	6496
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.45	29.45	29.45	29.41	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.56	30.56	30.56	30.52	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.40	35.40	35.40	35.38	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.71	36.71	36.71	36.68	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.09	37.09	37.09	37.08	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.40	40.40	40.40	40.39	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.55	40.55	40.56	40.53	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.26	41.26	41.26	41.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.45	41.45	41.45	41.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.57	41.57	41.57	41.56	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.90	41.90	41.90	41.88	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.29	42.29	42.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.01	44.01	44.01	44.00	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.23	45.23	45.23	45.22	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.80	45.80	45.81	45.80	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.28	48.28	48.28	48.28	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.46	48.46	48.48	48.46	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.95	30.95	30.95	30.95	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.69	29.69	29.69	29.69	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.29	40.29	40.29	40.29	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.41	29.41	29.41	29.45	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.52	30.52	30.52	30.52	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.38	35.38	35.38	35.40	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.68	36.68	36.68	36.69	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.08	37.08	37.08	37.08	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.39	40.39	40.39	40.40	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.53	40.53	40.53	40.55	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.25	41.25	41.25	41.29	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.44	41.44	41.44	41.44	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.56	41.56	41.56	41.56	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.88	41.88	41.88	41.88	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.27	42.27	42.27	42.27	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.00	44.00	44.00	43.99	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.22	45.22	45.22	45.22	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.80	45.80	45.80	45.78	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.28	48.28	48.28	48.28	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.46	48.46	48.46	48.45	passed	passed

APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	29.45	0.7955	0.6450 - 0.8950	passed	0.9664	1.1011	0.8754 - 1.3268	passed
2	2378-TCDD	30.56	0.7544	0.6450 - 0.8950	passed	1.1803	1.2206	0.9704 - 1.4708	passed
3	12378-PeCDF	35.40	1.5699	1.3150 - 1.7850	passed	0.9207	0.9902	0.7872 - 1.1932	passed
4	23478-PeCDF	36.71	1.5644	1.3150 - 1.7850	passed	1.0508	1.1092	0.8818 - 1.3366	passed
5	12378-PeCDD	37.09	1.6275	1.3150 - 1.7850	passed	0.9785	1.0372	0.8246 - 1.2498	passed
6	123478-HxCDF	40.40	1.2562	1.0450 - 1.4350	passed	1.1684	1.1984	0.9527 - 1.4441	passed
7	123678-HxCDF	40.55	1.2548	1.0450 - 1.4350	passed	1.0923	1.1533	0.9169 - 1.3897	passed
8	234678-HxCDF	41.26	1.2616	1.0450 - 1.4350	passed	1.1945	1.2401	0.9859 - 1.4943	passed
9	123478-HxCDD	41.45	1.2533	1.0450 - 1.4350	passed	1.0125	1.0199	0.8108 - 1.2290	passed
10	123678-HxCDD	41.57	1.2756	1.0450 - 1.4350	passed	0.9694	1.0292	0.8182 - 1.2402	passed
11	123789-HxCDD	41.90	1.2529	1.0450 - 1.4350	passed	1.0529	1.0930	0.8689 - 1.3171	passed
12	123789-HxCDF	42.29	1.2633	1.0450 - 1.4350	passed	1.0803	1.1534	0.9170 - 1.3898	passed
13	1234678-HpCDF	44.01	1.0756	0.8750 - 1.2050	passed	1.2459	1.2936	1.0284 - 1.5588	passed
14	1234678-HpCDD	45.23	1.0485	0.8750 - 1.2050	passed	0.9922	1.0652	0.8468 - 1.2836	passed
15	1234789-HpCDF	45.80	1.0743	0.8750 - 1.2050	passed	1.2735	1.2946	1.0292 - 1.5600	passed
16	OCDD	48.28	0.8747	0.7550 - 1.0250	passed	0.9873	1.0429	0.8291 - 1.2567	passed
17	OCDF	48.46	0.9013	0.7550 - 1.0250	passed	0.8818	0.9400	0.7473 - 1.1327	passed
18	13C12-1278-TCDD (CRS)	30.95	0.7929	0.6450 - 0.8950	passed	0.9913	1.2653	0.8794 - 1.6512	passed
19	13C12-1234-TCDD	29.69	0.7926	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.29	1.2640	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.41	0.8082	0.6450 - 0.8950	passed	1.9286	1.8510	1.2864 - 2.4156	passed
22	13C12-2378-TCDD	30.52	0.8039	0.6450 - 0.8950	passed	0.9775	0.9288	0.6455 - 1.2121	passed
23	13C12-12378-PeCDF	35.38	1.5763	1.3150 - 1.7850	passed	1.8898	1.7119	1.1898 - 2.2340	passed
24	13C12-23478-PeCDF	36.68	1.5874	1.3150 - 1.7850	passed	1.8656	1.6791	1.1670 - 2.1912	passed
25	13C12-12378-PeCDD	37.08	1.5937	1.3150 - 1.7850	passed	1.0460	0.9157	0.6364 - 1.1950	passed
26	13C12-123478-HxCDF	40.39	0.5312	0.4250 - 0.5950	passed	1.3487	1.3202	0.9175 - 1.7229	passed
27	13C12-123678-HxCDF	40.53	0.5132	0.4250 - 0.5950	passed	1.4318	1.4057	0.9770 - 1.8344	passed
28	13C12-234678-HxCDF	41.25	0.5338	0.4250 - 0.5950	passed	1.3029	1.2615	0.8767 - 1.6463	passed
29	13C12-123478-HxCDD	41.44	1.3058	1.0450 - 1.4350	passed	0.9540	0.9239	0.6421 - 1.2057	passed
30	13C12-123678-HxCDD	41.56	1.2449	1.0450 - 1.4350	passed	0.9585	0.9374	0.6515 - 1.2233	passed
31	13C12-123789-HxCDD	41.88	1.2713	1.0450 - 1.4350	passed	0.9122	0.8925	0.6203 - 1.1647	passed
32	13C12-123789-HxCDF	42.27	0.5231	0.4250 - 0.5950	passed	1.1979	1.2057	0.8380 - 1.5734	passed
33	13C12-1234678-HpCDF	44.00	0.4700	0.3650 - 0.5150	passed	1.1549	1.1128	0.7734 - 1.4522	passed
34	13C12-1234678-HpCDD	45.22	1.0950	0.8750 - 1.2050	passed	0.8363	0.8106	0.5634 - 1.0578	passed
35	13C12-1234789-HpCDF	45.80	0.4759	0.3650 - 0.5150	passed	0.8796	0.9138	0.6351 - 1.1925	passed
36	13C12-OCDD	48.28	0.9038	0.7550 - 1.0250	passed	0.6355	0.7126	0.4953 - 0.9299	passed
37	13C12-OCDF	48.46	0.9061	0.7550 - 1.0250	passed	0.9200	1.0877	0.7560 - 1.4194	passed

APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.45	95179	A	75713	A	0.0154	8.776721	8.7767	10.000000	1415	
2	2378-TCDD	passed	30.56	60303	A	45490	A	0.0169	9.670170	9.6702	10.000000	1447	
3	12378-PeCDF	passed	35.40	310401	A	487293	A	0.0149	46.491943	46.4919	50.000000	7615	
4	23478-PeCDF	passed	36.71	350467	A	548276	A	0.0129	47.366910	47.3669	50.000000	9161	
5	12378-PeCDD	passed	37.09	178590	A	290648	A	0.0250	47.167928	47.1679	50.000000	4880	
6	123478-HxCDF	passed	40.40	406098	A	510139	A	0.0312	48.750439	48.7504	50.000000	3950	
7	123678-HxCDF	passed	40.55	403297	A	506075	A	0.0312	47.356900	47.3569	50.000000	3686	
8	234678-HxCDF	passed	41.26	400108	A	504780	A	0.0302	48.159430	48.1594	50.000000	3924	
9	123478-HxCDD	passed	41.45	249239	A	312372	A	0.0227	49.639240	49.6392	50.000000	5190	
10	123678-HxCDD	passed	41.57	237422	A	302854	A	0.0235	47.095652	47.0957	50.000000	5051	
11	123789-HxCDD	passed	41.90	247875	A	310558	A	0.0231	48.164811	48.1648	50.000000	5304	
12	123789-HxCDF	passed	42.29	332447	A	419995	A	0.0354	46.831278	46.8313	50.000000	3209	
13	1234678-HpCDF	passed	44.01	403062	A	433535	A	0.0274	48.156165	48.1562	50.000000	4394	
14	1234678-HpCDD	passed	45.23	235541	A	246954	A	0.0273	46.573766	46.5738	50.000000	4335	
15	1234789-HpCDF	passed	45.80	313980	A	337303	A	0.0364	49.185736	49.1857	50.000000	3401	
16	OCDD	passed	48.28	389216	A	340459	A	0.0250	94.674332	94.6743	100.000000	9660	
17	OCDF	passed	48.46	496192	A	447203	A	0.0158	93.807642	93.8076	100.000000	14657	
18	13C12-1278-TCDD (CRS)	passed	30.95	506954	A	401950	A	0.0337	78.341202	78.3412	100.000000	6496	
19	13C12-1234-TCDD	passed	29.69	511503	A	405407	A	0.0427	100.000000	100.0000	100.000000	5860	
20	13C12-123468-HxCDD	passed	40.29	513647	A	649256	A	0.0296	100.000000	100.0000	100.000000	8448	
21	13C12-2378-TCDF	passed	29.41	978002	A	790386	A	0.0295	104.195402	104.1954	100.000000	9408	
22	13C12-2378-TCDD	passed	30.52	496868	A	399444	A	0.0459	105.243951	105.2440	100.000000	6166	
23	13C12-12378-PeCDF	passed	35.38	672593	A	1060193	A	0.0973	110.391041	110.3910	100.000000	3957	
24	13C12-23478-PeCDF	passed	36.68	661107	A	1049458	A	0.0992	111.104057	111.1041	100.000000	4082	
25	13C12-12378-PeCDD	passed	37.08	369782	A	589324	A	0.0754	114.228405	114.2284	100.000000	5657	
26	13C12-123478-HxCDF	passed	40.39	1024236	A	544116	A	0.0481	102.157993	102.1580	100.000000	5222	
27	13C12-123678-HxCDF	passed	40.53	1100344	A	564709	A	0.0452	101.857832	101.8578	100.000000	5437	
28	13C12-234678-HxCDF	passed	41.25	987823	A	527311	A	0.0504	103.280533	103.2805	100.000000	5215	
29	13C12-123478-HxCDD	passed	41.44	481109	A	628250	A	0.0320	103.251149	103.2511	100.000000	8482	
30	13C12-123678-HxCDD	passed	41.56	496505	A	618103	A	0.0316	102.250485	102.2505	100.000000	8093	
31	13C12-123789-HxCDD	passed	41.88	467043	A	593733	A	0.0332	102.199909	102.1999	100.000000	7782	
32	13C12-123789-HxCDF	passed	42.27	914616	A	478429	A	0.0527	99.354827	99.3548	100.000000	4785	
33	13C12-1234678-HpCDF	passed	44.00	913605	A	429395	A	0.0458	103.776414	103.7764	100.000000	5983	
34	13C12-1234678-HpCDD	passed	45.22	464218	A	508316	A	0.0464	103.164645	103.1646	100.000000	6067	
35	13C12-1234789-HpCDF	passed	45.80	693011	A	329823	A	0.0557	96.255091	96.2551	100.000000	4505	
36	13C12-OCDD	passed	48.28	776376	A	701716	A	0.0131	178.375074	178.3751	200.000000	36910	
37	13C12-OCDF	passed	48.46	1122597	A	1017192	A	0.0150	169.165407	169.1654	200.000000	30659	

APPROVED
By AQ46 at 11:05 pm, 11/7/18

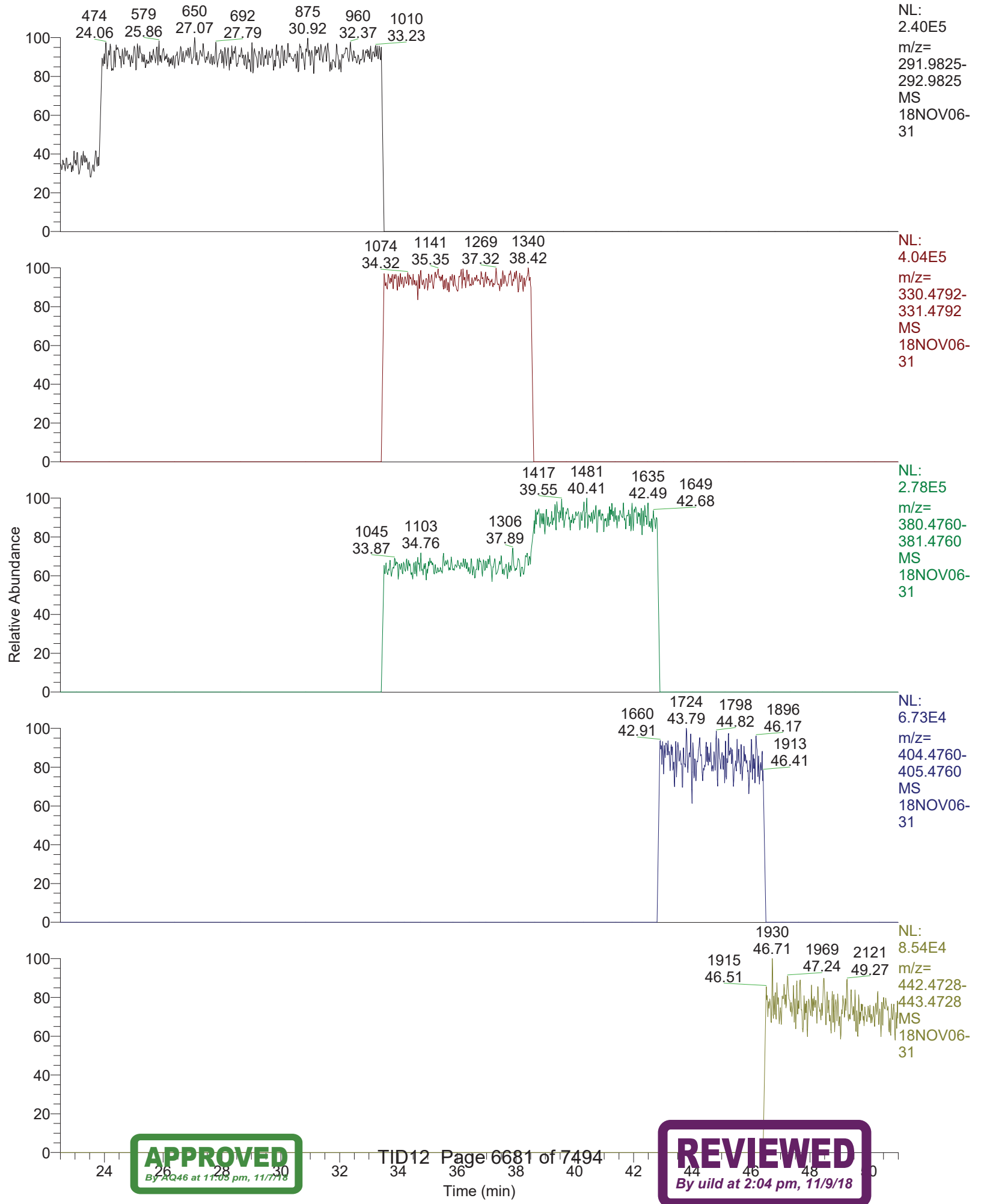
REVIEWED
By uild at 2:04 pm, 11/9/18

File Name: Z:\18NOV06\18NOV06-31
Sample ID: CS3CC03

Acq. Data: 11/7/2018 10:26:40 AM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF19780-18NOV06

RT: 22.50 - 51.00



APPROVED
By AQ46 at 11:05 pm, 11/7/18

REVIEWED
By uild at 2:04 pm, 11/9/18

*** file opened Wed Nov 07 10:29:52 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - 0000
Workstation internet name - DH2S3W4J
```

Analysis started at: 07-Nov-18 10:29:51

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 7a18b427-83c6-4143-b931-70680f393098

MID procedure: PFK15FEB02+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	7:48 min	23:48 min	1.00 sec
# 2	23:48 min	9:35 min	33:23 min	1.00 sec
# 3	33:23 min	5:06 min	38:30 min	0.90 sec
# 4	38:30 min	4:17 min	42:47 min	0.80 sec
# 5	42:47 min	3:36 min	46:23 min	0.80 sec
# 6	46:23 min	4:36 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 23.800000 minutes
MID Window end time was 23.800000 minutes
MID Window terminated after 33.400000 minutes
MID Window end time was 33.400000 minutes
```

```
MID Window terminated after 38.500000 minutes
MID Window end time was 38.500000 minutes
MID Window terminated after 42.800000 minutes
MID Window end time was 42.800000 minutes
MID Window terminated after 46.400000 minutes
MID Window end time was 46.400000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18MAY09Tune.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS           99.0000
 BQUAD            2.1000   CAPIL           0.0000   CAPTSET        200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY            0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS            0.0000
 DYNVOLTAGE      20.0000   ECORR           1.0002   ECURR            1.0000
 EDAC        7969177.0000  EDACG           0.9997   EDACZ         2354.0000
 ELEN           -50.0000   EMULT        1955.0000   ENS            170.0000
 ENSBR            2.1000   ERATIO          1.0000   ESA            679.0600
 ESIPAR           0.0000   EXS           177.0000   EXSBR            0.2000
 FDMA       18000000.0000  FILTER        100.0000   FLENS            1.0000
 FM             254.9851   FMII           50.0000   FQUAD            8.8500
 FQUADGAIN        0.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0206   FVINLET         0.0407   FVSRC            0.0336
 FWIN             0.7000   HCURR           0.0000   HVANAL           0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1            0.4030
 ICAL2            0.5865   IONEN           0.0000   IST              0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT       692.0000
 LENS_SYM        10.2500   LM            254.9851   LMII           500.0000
 LMASS           99.0000   LKM           442.9723   MASS            99.0000
 MDAC        1504026.1113  MRANGE       1272.8365   NSAM           200.0000
 NSCAN         2276.0000   NSMAX           8.0000   NSMIN           66.0000
 NPEAK           11.0000   MULT           -2.0000   PSAM            10.0000
 PUSHER         -17.0000   RECURR          0.9665   RELEN            0.0000
 RES          13519.6661   RPUSHER       -17.1209   RDRAW            0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE           0.0000
 SHIELD_POT     704.0000   SHIELD_SYM      0.0000   SHIGH          180.0000
 SKIM             7.0000   SLOW           60.0000   SS               2.0000
 SW               0.0213   TANAL           0.0000   TCURR            0.0000
 TD               1.0000   TS              0.0002   THRESH           2.0000
 TIS              0.0010   TREF          120.0000   TSAM           200.0000
 TSET             0.0000   TUBEL           0.0000   UROT             0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2           190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT      860.0000
 XLENS_SYM        6.5000   YLENS_POT     706.0000   YLENS_SYM        7.7500

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    6.9e-008 mbar
Pirani Analyse:      2.1e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 4.1e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10449.
MID Time Window 2: Resolution is 11359.
MID Time Window 3: Resolution is 11331.
MID Time Window 4: Resolution is 11286.
```

```
MID Time Window 5: Resolution is 13310.
MID Time Window 6: Resolution is 13519.

Amplifier Offset: 87.


*** File closed Wed Nov 07 11:20:53 2018
  ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 15:14
Number of Entries	3
Comment	
Vial	2
Sample Name	TDTFWD ST1828537B
Sample ID	CPS01
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-12.quan
Data	y:\18oct17conf\18oct17-12.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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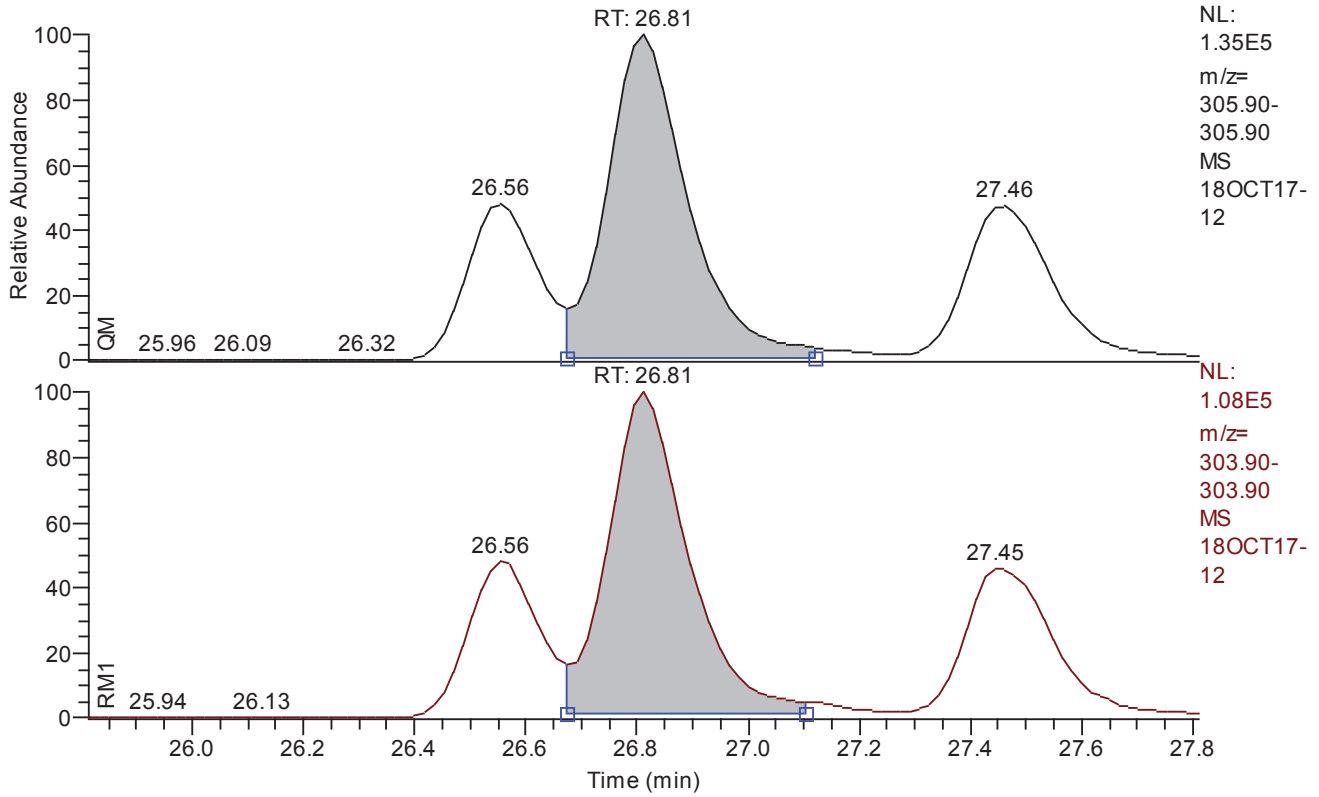
Chromatogram

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	M
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	M
ManInt	1
QM Retention Time	26.81
QM Left Baseline Height	1316.65
QM Height	134111
QM Right Height	3795
GC Res (%) left	15.231855

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 15:14
Number of Entries	3
Comment	
Vial	2
Sample Name	TDTFWD ST1828537B
Sample ID	CPS01
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-12.quan
Data	y:\18oct17conf\18oct17-12.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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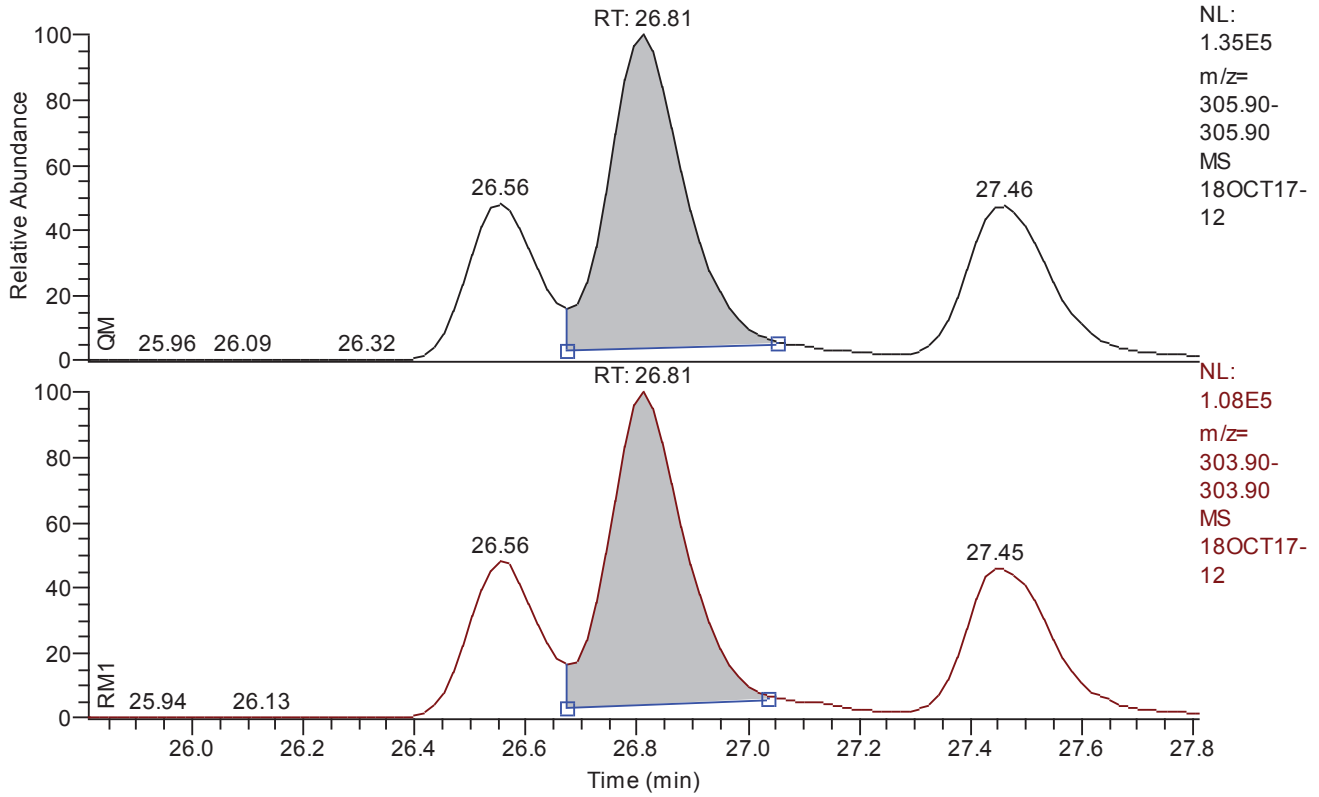
Chromatogram

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

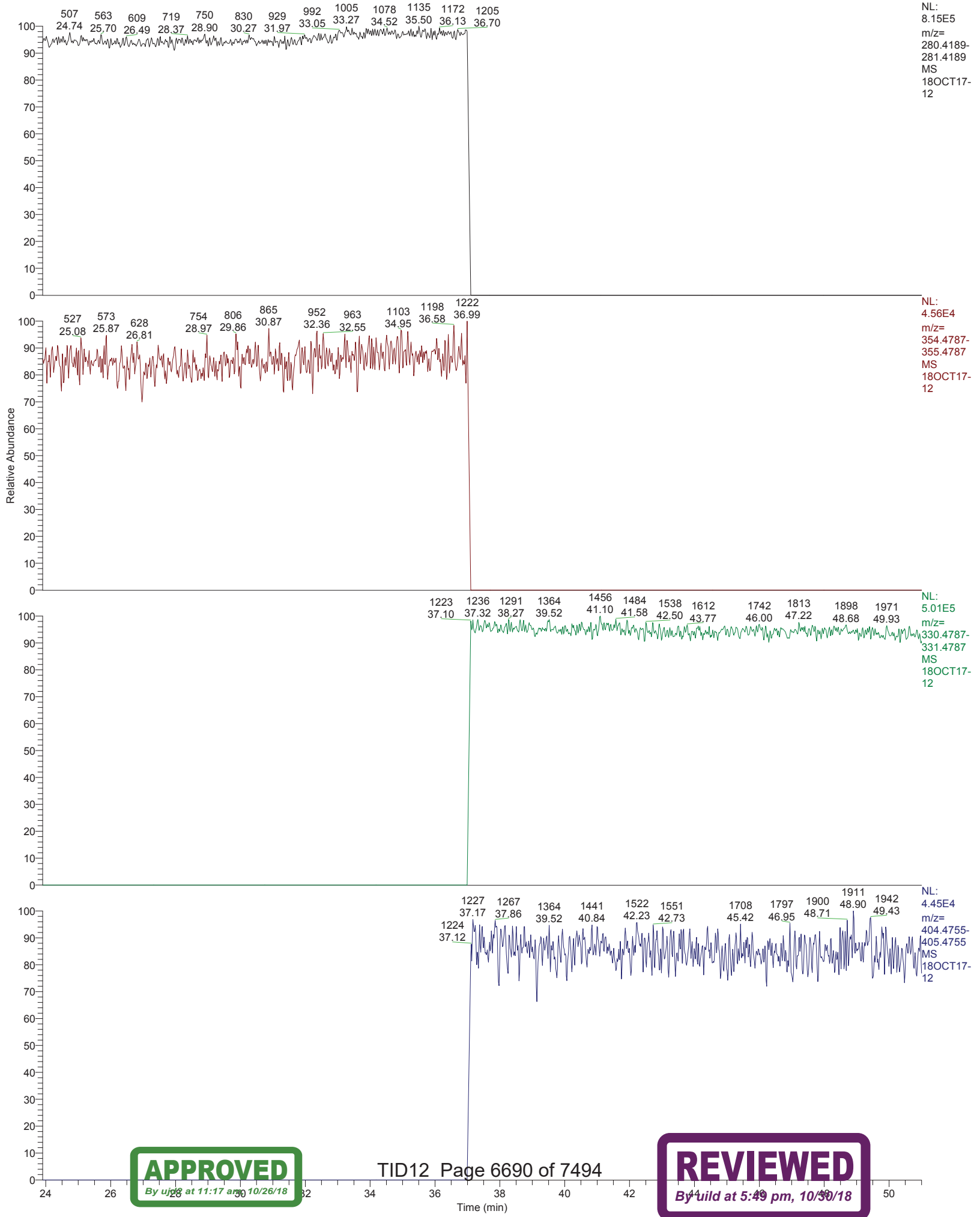
Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	A
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	A
ManInt	1
QM Retention Time	26.81
QM Left Baseline Height	3948.84
QM Height	130101
QM Right Height	0
GC Res (%) left	13.678143

File Name: Y:\18OCT17Conf\18OCT17-12
Sample ID: CPS01

Acq. Data: 10/18/2018 3:14:50 PM
Sample Name: TDTFWD ST1828537B
PFK Reference Loc□Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
*** file opened Thu Oct 18 15:19:24 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 18-Oct-18 15:19:23


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```

```
MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          99.0000
 BQUAD            6.5500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE       15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         116.0000
 ELEN           -50.0000   EMULT        1688.0000   ENS           235.0000
 ENSBR            6.5500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           176.0000   EXSBR          -0.6000
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           5.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0161   FVINLET         0.0336   FVSRC           0.0322
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      738.0000
 LENS_SYM        13.3000   LM            650.0000   LMII          500.0000
 LMASS           99.0000   LKM           330.9792   MASS           99.0000
 MDAC         963202.2819   MRANGE       1614.4523   NSAM          200.0000
 NSCAN          2130.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           14.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -16.0000   RECURR          0.9695   RELEN           0.0000
 RES          10605.0684   RPUSHER       -15.8168   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     726.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0196   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          99.0000   XLENS_POT     928.0000
 XLENS_SYM        0.0000   YLENS_POT     724.0000   YLENS_SYM      -1.5000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    8.5e-008 mbar
Pirani Analyse:      1.6e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10285.
MID Time Window 2: Resolution is 10605.

Amplifier Offset: 88.


*** File closed Thu Oct 18 16:11:55 2018
  ***
```


APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

		DF18471-18OCT17ConfICAL							
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
	18OCT17-14	18OCT17-15	18OCT17-16	18OCT17-17	18OCT17-18	18OCT17-19			
2378-TCDF	1.0354	0.9830	1.0027	1.0255	1.0124	1.0497	1.0181	0.0239	2.35
13C12-1234-TCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-2378-TCDF	2.0584	1.9586	2.0822	1.9822	2.0203	2.1255	2.0379	0.0629	3.08

APPROVED
By ujd2 at 11:22 am, 10/26/18

REVIEWED
By uild at 5:48 pm, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 17:20
Number of Entries	3
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-14.quan
Data	y:\18oct17conf\18oct17-14.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.81	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.86	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.76	passed	passed	passed	passed	passed	passed	

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 17:20
Number of Entries	3
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-14.quan
Data	y:\18oct17conf\18oct17-14.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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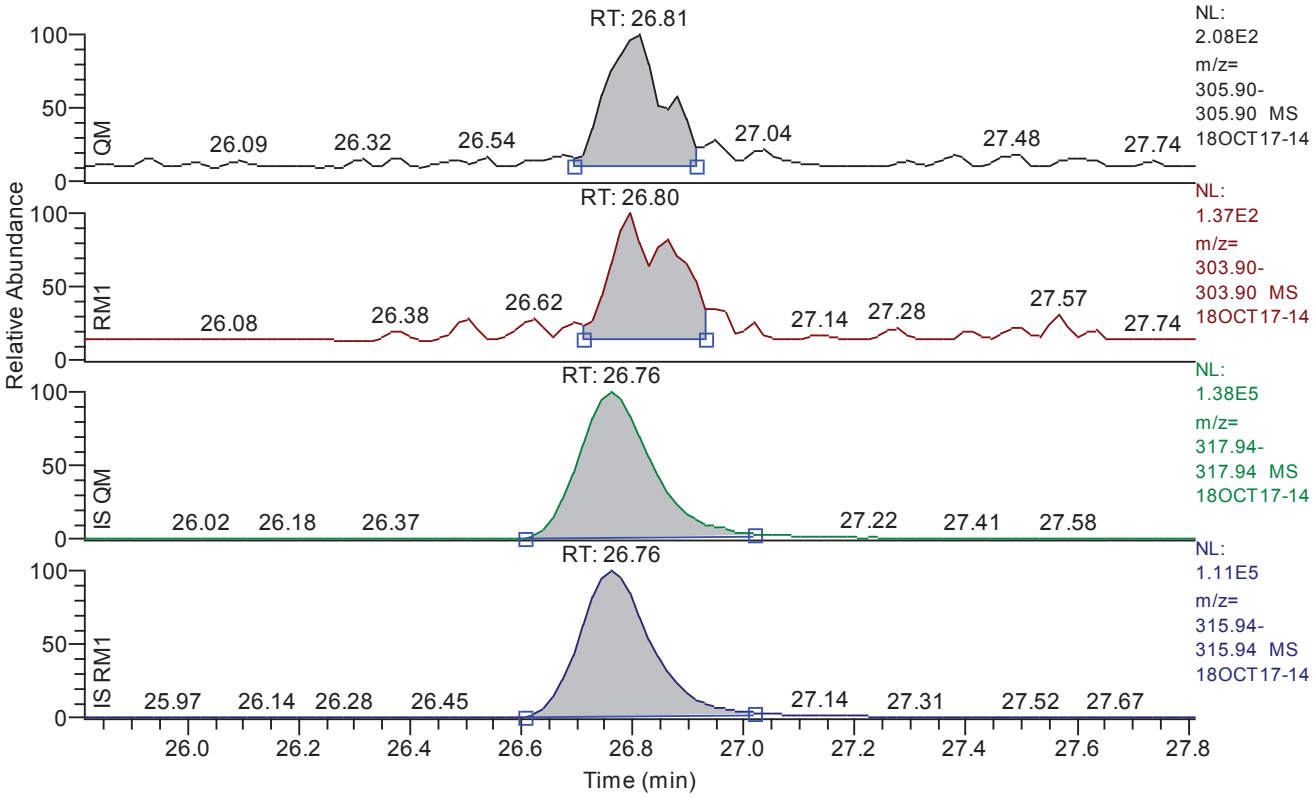
Chromatogram

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	1352
QM Integration Mode	M
RM1 Area	933
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0094
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	32
Client Flags	
Status Overview	passed
Status Info	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 17:20
Number of Entries	3
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-14.quan
Data	y:\18oct17conf\18oct17-14.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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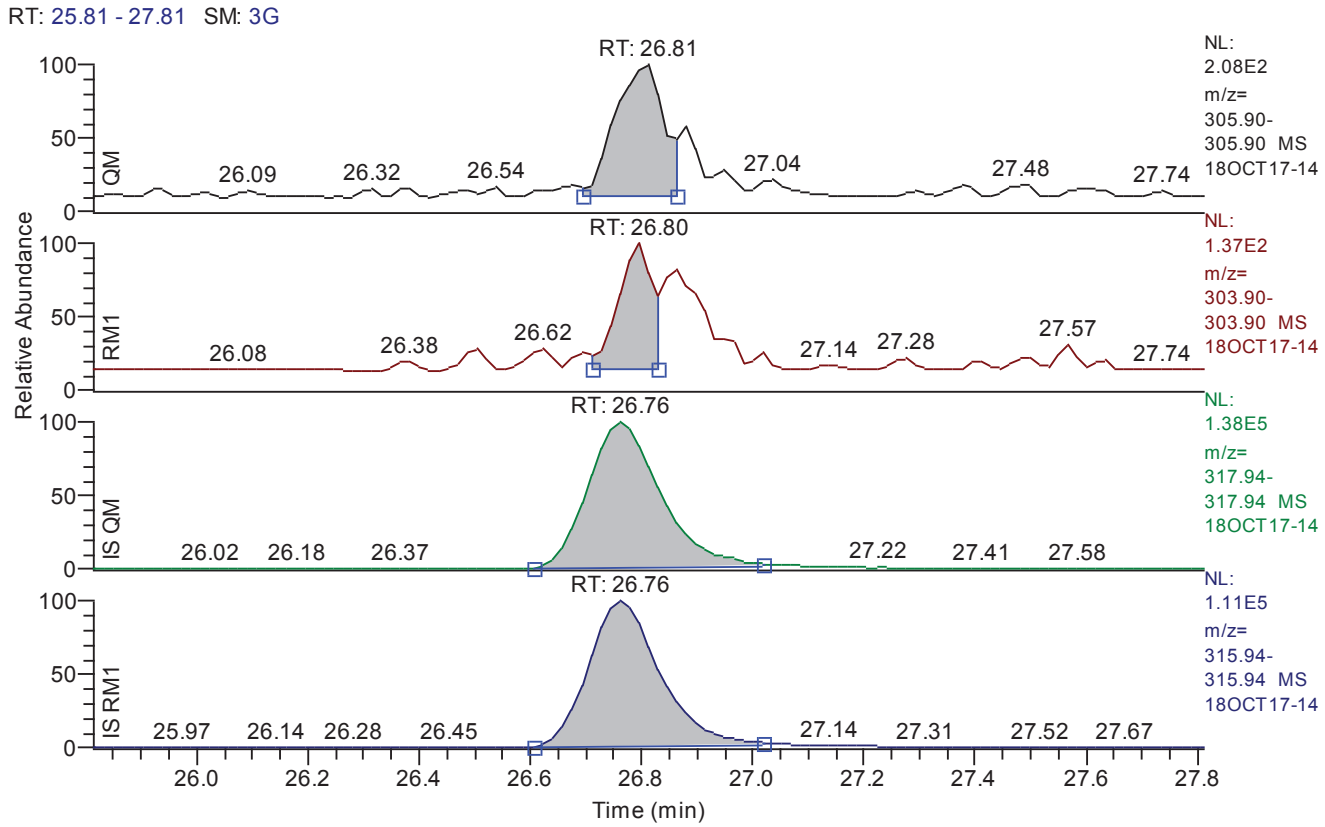
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	1126
QM Integration Mode	A
RM1 Area	493
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0094
Unqualified Amount (A)	0.070894
Adjusted Amount (A)	n.d.
Signal-to-Noise	32
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.81	26.81	26.80	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.86	24.86	24.86	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.76	26.76	26.76	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.81	0.6900	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.86	0.8010	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.76	0.7946	0.6450 - 0.8950	passed	100.00	0 - 0	passed

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Entry Parameters

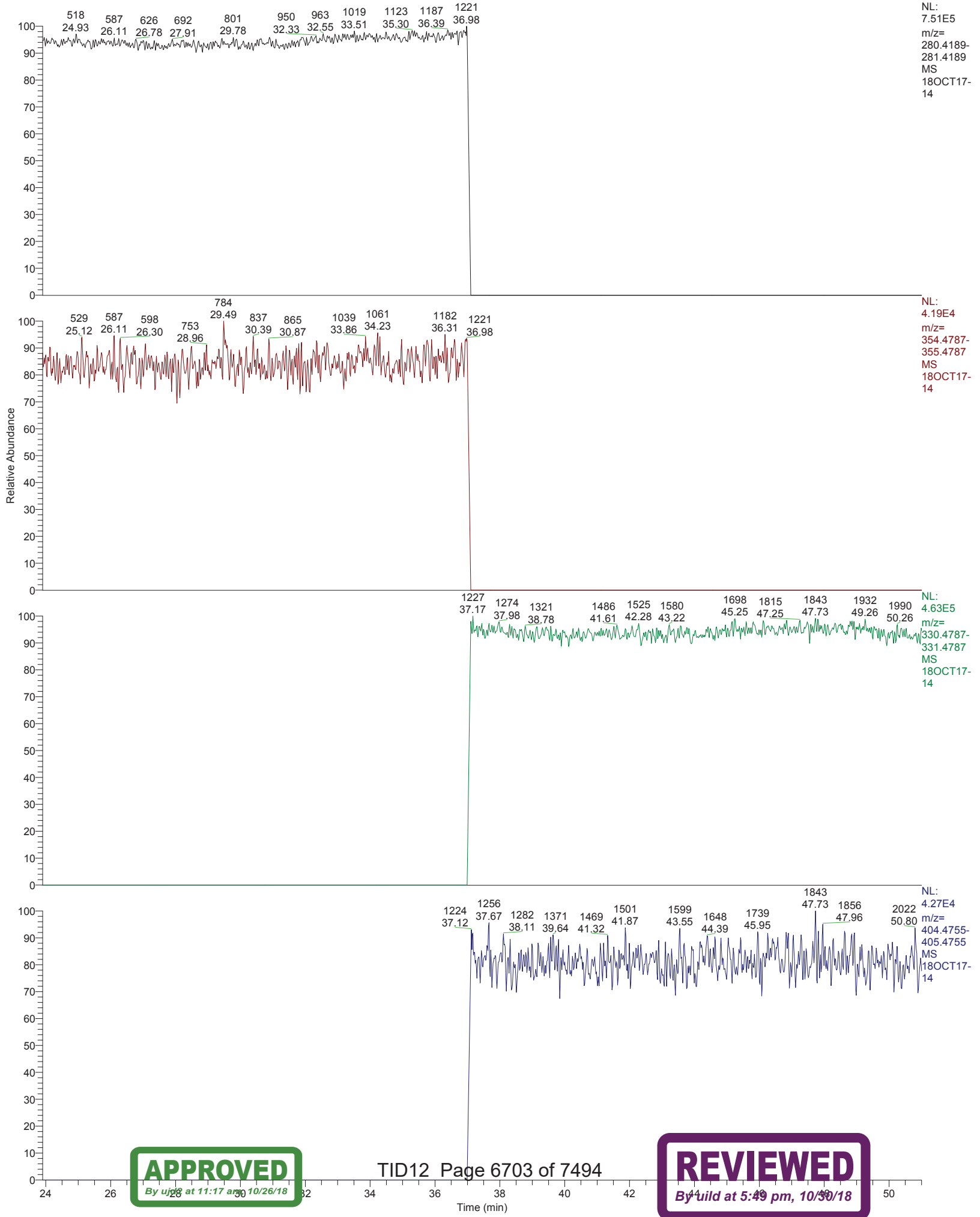
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.81	1352	M	933	M	0.009423	0.100000	0.1000	0.1	32
2	13C12-1234-TCDD	passed	24.86	595072	A	476656	A	0.116997	100.000000	100.0000	100.0	2137
3	13C12-2378-TCDF	passed	26.76	1229285	A	976795	A	0.042800	100.000000	100.0000	100.0	5373

File Name: Y:\18OCT17Conf\18OCT17-14
Sample ID: CSL01

Acq. Data: 10/18/2018 5:20:40 PM
Sample Name: CALDF11837C
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
*** file opened Thu Oct 18 17:25:13 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 18-Oct-18 17:25:12


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.0000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	116.0000
ELEN	-50.0000	EMULT	1688.0000	ENS	234.0000
ENSBR	6.5500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	175.0000	EXSBR	-0.6000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	5.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0168	FVINLET	0.0335	FVSRC	0.0320
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	738.0000
LENS_SYM	13.3000	LM	650.0000	LMII	500.0000
LMASS	98.0000	LKM	330.9792	MASS	98.0000
MDAC	952350.6733	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9675	RELEN	0.0000
RES	10973.0305	RPUSHER	-15.7875	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0196	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.0000	XLENS_POT	928.0000
XLENS_SYM	0.0000	YLENS_POT	724.0000	YLENS_SYM	-1.5000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 8.6e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10675.
MID Time Window 2: Resolution is 10973.

Amplifier Offset: 88.

*** File closed Thu Oct 18 18:17:44 2018 ***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 18:23
Number of Entries	3
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-15.quan
Data	y:\18oct17conf\18oct17-15.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.81	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.89	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.79	passed	passed	passed	passed	passed	passed	

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 18:23
Number of Entries	3
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-15.quan
Data	y:\18oct17conf\18oct17-15.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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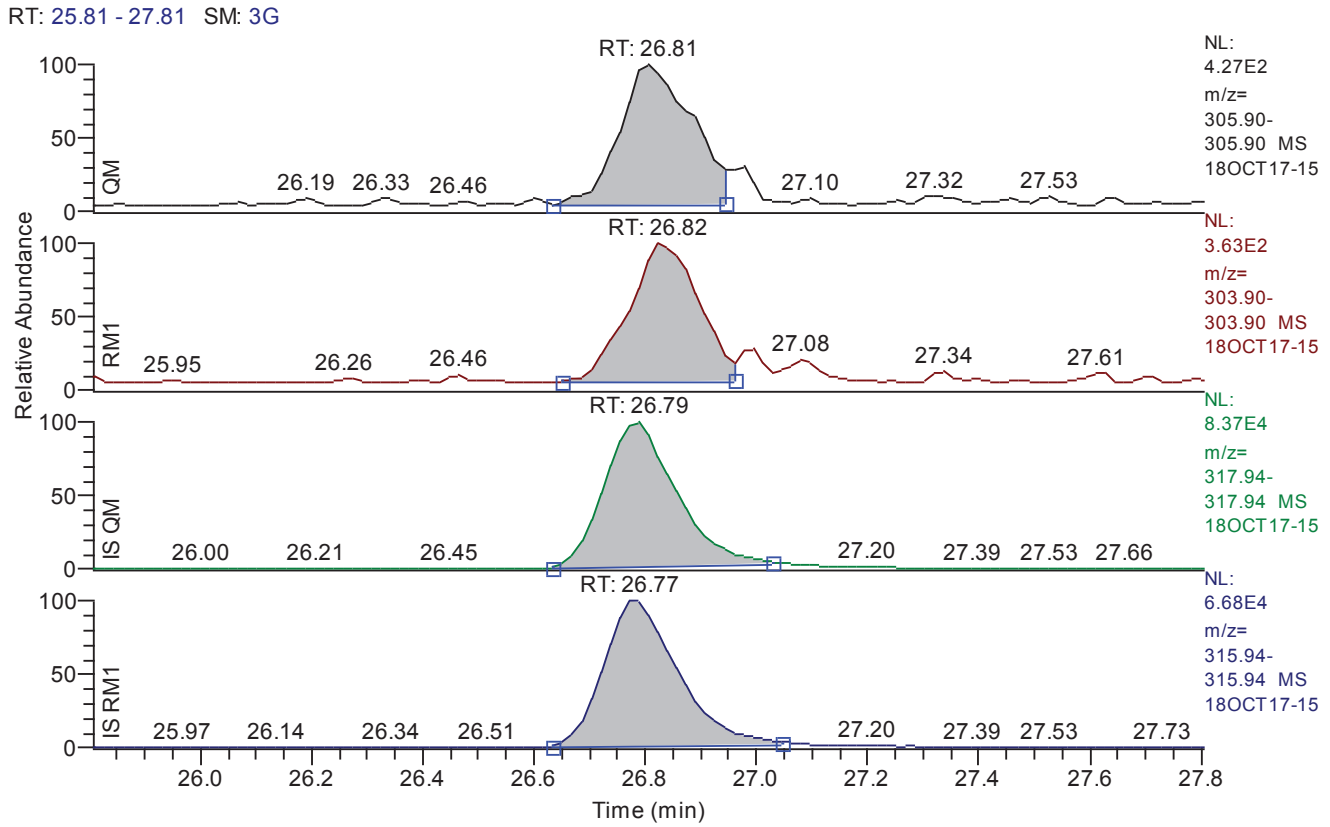
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	3673
QM Integration Mode	A
RM1 Area	2995
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0180
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	71
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.81	26.81	26.82	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.89	24.89	24.87	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.79	26.79	26.77	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.81	0.8154	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.89	0.8452	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.79	0.8162	0.6450 - 0.8950	passed	100.00	0 - 0	passed

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Entry Parameters

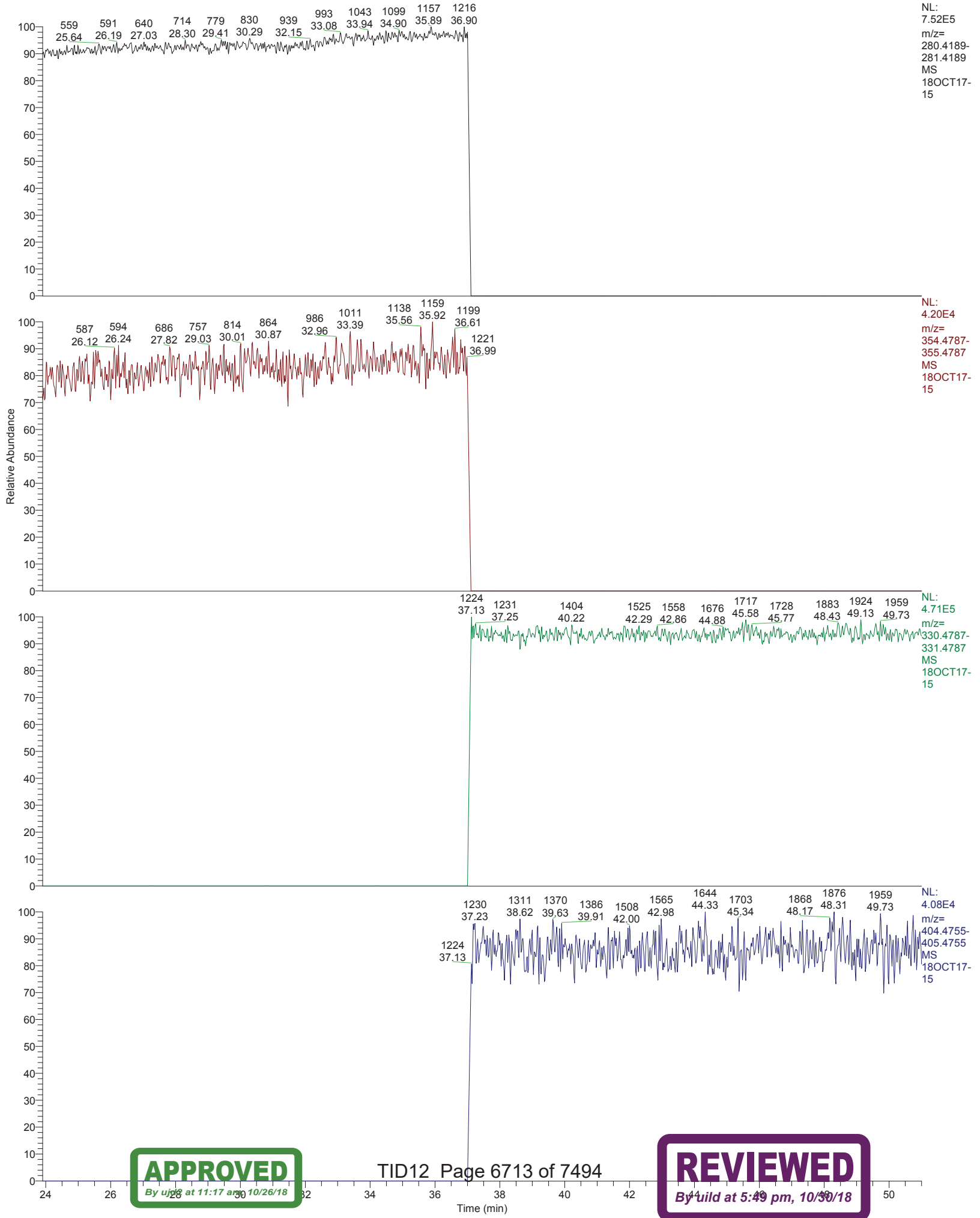
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.81	3673	A	2995	A	0.018006	0.500000	0.5000	0.5	71
2	13C12-1234-TCDD	passed	24.89	375361	A	317250	A	0.159423	100.000000	100.0000	100.0	1568
3	13C12-2378-TCDF	passed	26.79	746912	A	609621	A	0.074500	100.000000	100.0000	100.0	3100

File Name: Y:\18OCT17Conf\18OCT17-15
Sample ID: CS101

Acq. Data: 10/18/2018 6:23:33 PM
Sample Name: CALDF21837C
PFK Reference Loc□Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
*** file opened Thu Oct 18 18:27:54 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 18-Oct-18 18:27:54


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```


APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          97.5000
 BQUAD            6.5500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE       15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         116.0000
 ELEN           -50.0000   EMULT        1688.0000   ENS           234.0000
 ENSBR            6.5500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           175.0000   EXSBR          -0.6000
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           5.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0176   FVINLET         0.0336   FVSRC           0.0322
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      738.0000
 LENS_SYM        13.3000   LM            650.0000   LMII          500.0000
 LMASS           97.5000   LKM           330.9792   MASS           97.5000
 MDAC         946908.7264   MRANGE       1614.4523   NSAM          200.0000
 NSCAN          2130.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           14.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -16.0000   RECURR          0.9714   RELEN           0.0000
 RES          10930.4592   RPUSHER       -15.8022   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     726.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0196   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          97.5000   XLENS_POT     928.0000
 XLENS_SYM        0.0000   YLENS_POT     724.0000   YLENS_SYM      -1.5000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    8.6e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10648.
MID Time Window 2: Resolution is 10930.

Amplifier Offset: 88.


*** File closed Thu Oct 18 19:20:26 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 19:26
Number of Entries	3
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-16.quan
Data	y:\18oct17conf\18oct17-16.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.79	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.37	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.74	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 19:26
Number of Entries	3
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-16.quan
Data	y:\18oct17conf\18oct17-16.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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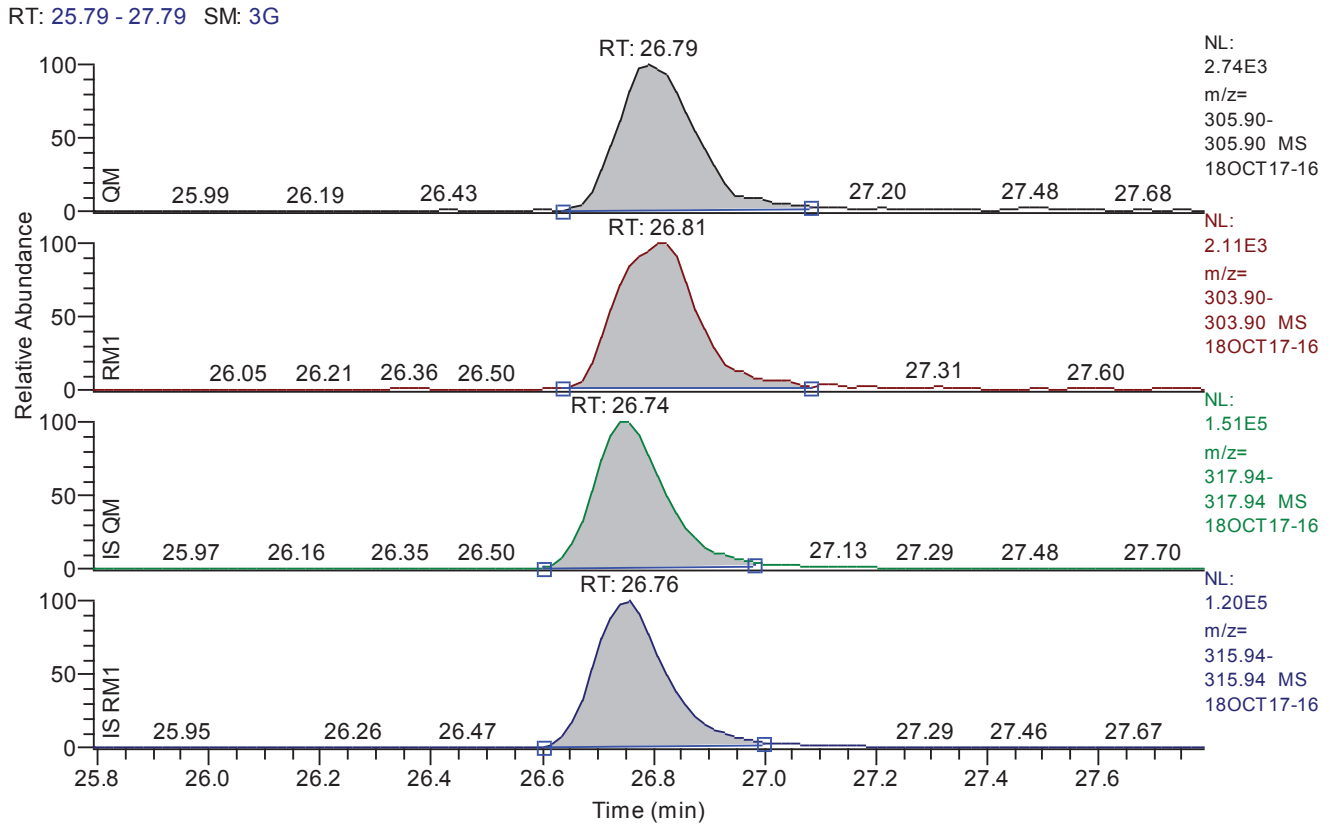
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.79
QM Area	26249
QM Integration Mode	A
RM1 Area	21476
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	350
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.79	26.79	26.81	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.37	24.37	24.37	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.74	26.74	26.76	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.79	0.8182	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.37	0.7816	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.74	0.7968	0.6450 - 0.8950	passed	100.00	0 - 0	passed

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Entry Parameters

No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.79	26249	A	21476	A	0.012749	2.000000	2.0000	2.0	350
2	13C12-1234-TCDD	passed	24.37	641529	A	501430	A	0.102481	100.000000	100.0000	100.0	2439
3	13C12-2378-TCDF	passed	26.74	1324524	A	1055320	A	0.045428	100.000000	100.0000	100.0	5099

APPROVED
By ujd2 at 11:17 am, 10/26/18

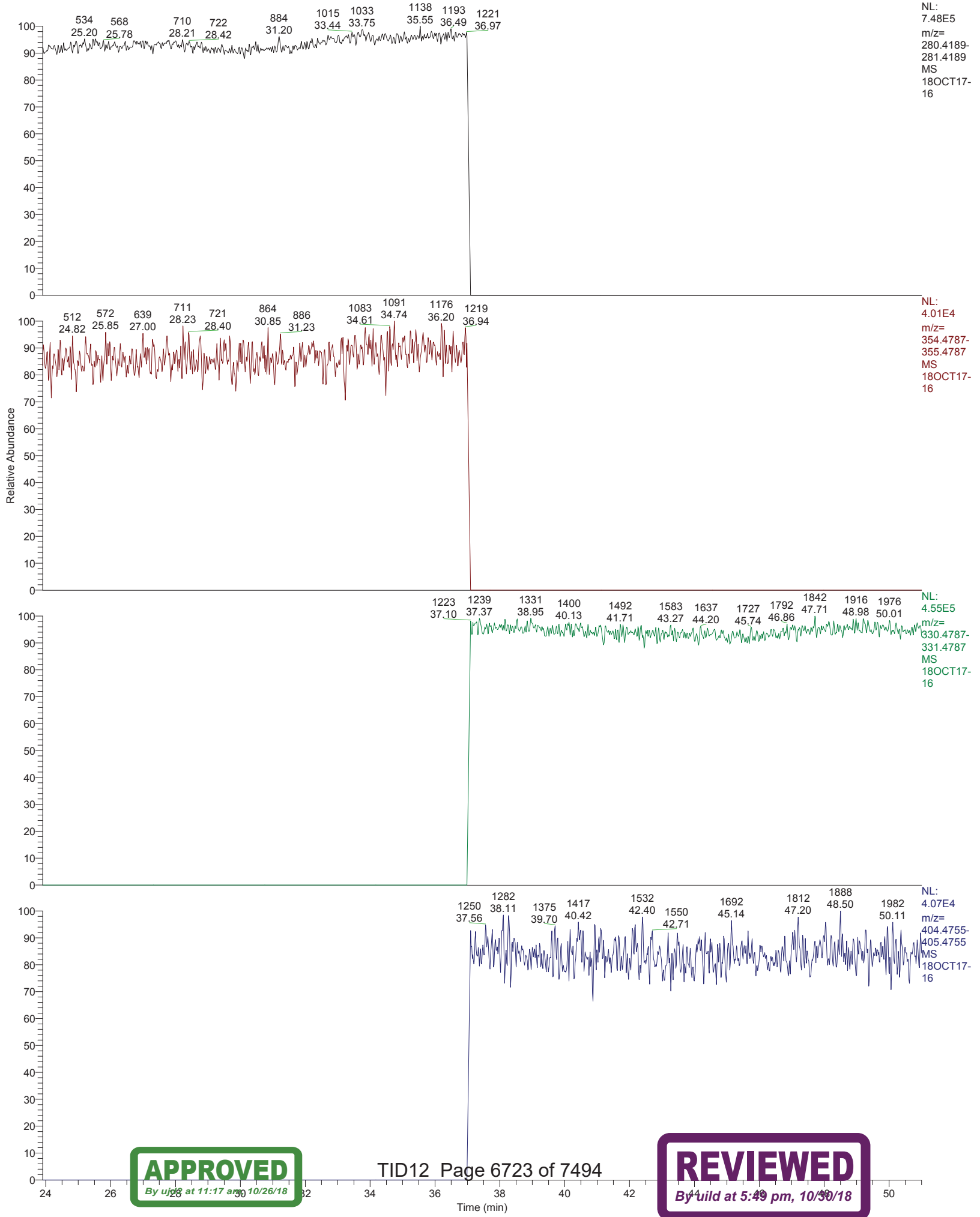
REVIEWED
By uild at 5:49 pm, 10/30/18

File Name: Y:\18OCT17Conf\18OCT17-16
Sample ID: CS201

Acq. Data: 10/18/2018 7:26:16 PM
Sample Name: CALDF31837B
PFK Reference Loc□Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
*** file opened Thu Oct 18 19:30:39 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 18-Oct-18 19:30:38


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```

```
MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          97.0000
 BQUAD            6.5500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE       15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         116.0000
 ELEN           -50.0000   EMULT        1688.0000   ENS           234.0000
 ENSBR            6.5500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           175.0000   EXSBR          -0.6000
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           5.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0175   FVINLET         0.0338   FVSRC           0.0316
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      738.0000
 LENS_SYM        13.3000   LM            650.0000   LMII          500.0000
 LMASS           97.0000   LKM           330.9792   MASS           97.0000
 MDAC         941456.7510   MRANGE       1614.4523   NSAM          200.0000
 NSCAN          2130.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           14.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -16.0000   RECURR          0.9680   RELEN           0.0000
 RES          11080.5089   RPUSHER       -15.8168   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     726.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0196   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          97.0000   XLENS_POT     928.0000
 XLENS_SYM        0.0000   YLENS_POT     724.0000   YLENS_SYM      -1.5000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    8.5e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10408.
MID Time Window 2: Resolution is 11080.

Amplifier Offset: 88.


*** File closed Thu Oct 18 20:23:10 2018
  ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 20:28
Number of Entries	3
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-17.quan
Data	y:\18oct17conf\18oct17-17.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.81	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.85	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 20:28
Number of Entries	3
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-17.quan
Data	y:\18oct17conf\18oct17-17.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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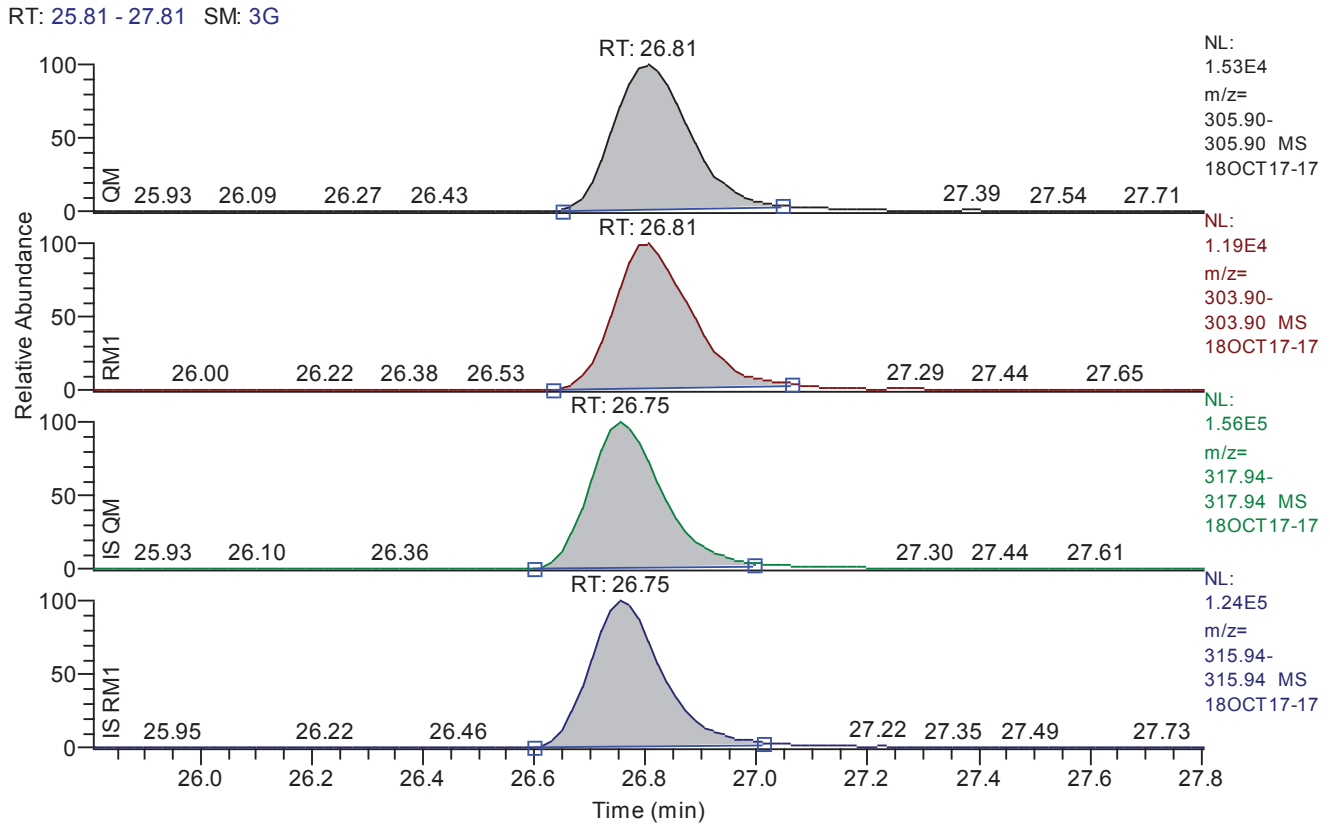
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	143171
QM Integration Mode	A
RM1 Area	111669
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0199
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1186
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.81	26.81	26.81	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.85	24.85	24.85	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.75	26.75	26.75	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.81	0.7800	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.85	0.8103	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.75	0.7872	0.6450 - 0.8950	passed	100.00	0 - 0	passed

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Entry Parameters

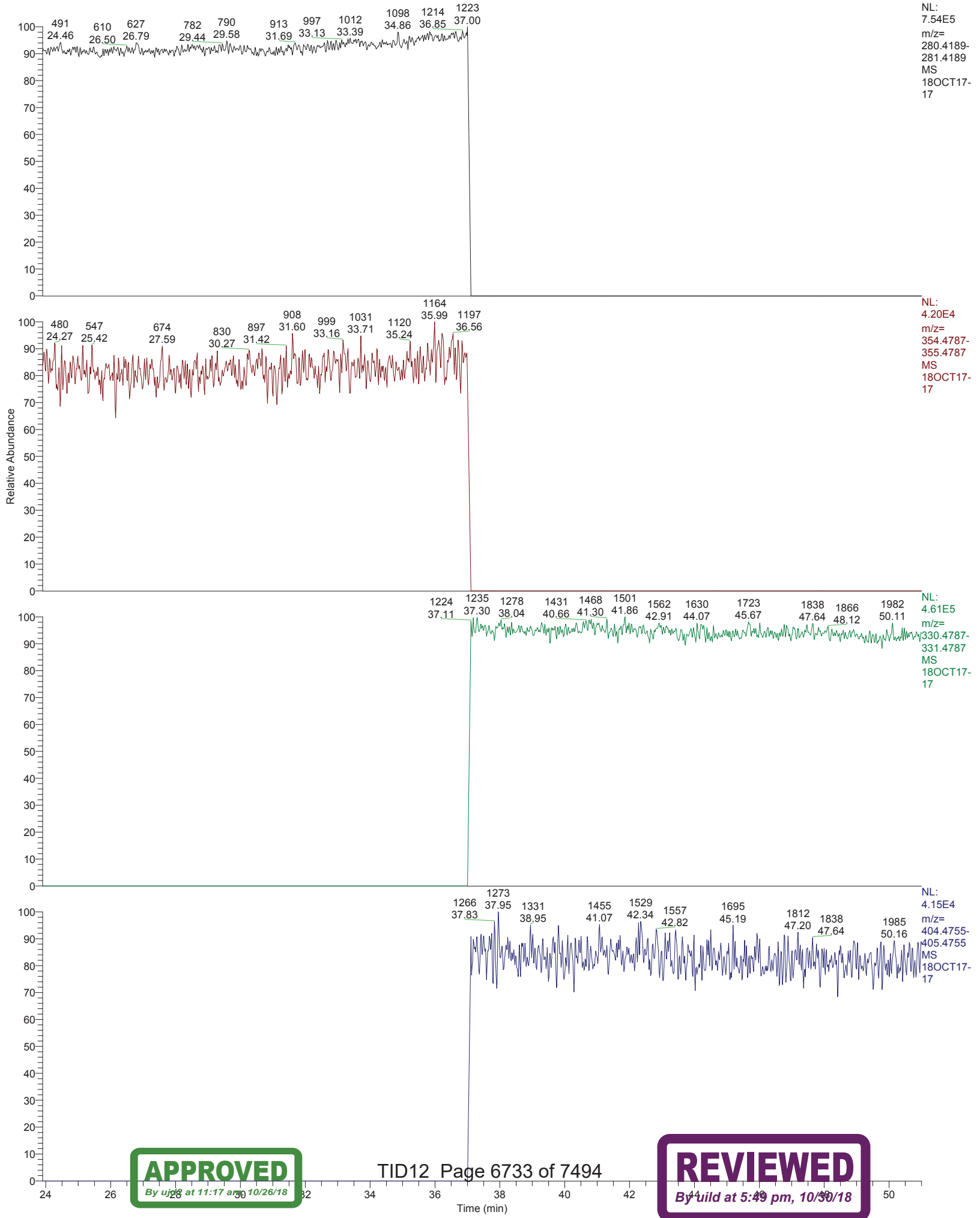
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.81	143171	A	111669	A	0.019885	10.000000	10.0000	10.0	1186
2	13C12-1234-TCDD	passed	24.85	692509	A	561162	A	0.105905	100.000000	100.0000	100.0	2361
3	13C12-2378-TCDF	passed	26.75	1390450	A	1094626	A	0.041227	100.000000	100.0000	100.0	5694

File Name: Y:\18OCT17Conf\18OCT17-17
Sample ID: CS301

Acq. Data: 10/18/2018 8:28:59 PM
Sample Name: CALDF41837H
PFK Reference Loc□Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
*** file opened Thu Oct 18 20:33:32 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 18-Oct-18 20:33:32


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```


APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          96.5000
 BQUAD            6.5500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE       15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         116.0000
 ELEN           -50.0000   EMULT        1688.0000   ENS           234.0000
 ENSBR            6.5500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           175.0000   EXSBR          -0.6000
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           5.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0178   FVINLET         0.0338   FVSRC           0.0318
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      738.0000
 LENS_SYM        13.3000   LM            650.0000   LMII          500.0000
 LMASS           96.5000   LKM           330.9792   MASS           96.5000
 MDAC         935999.8554   MRANGE       1614.4523   NSAM          200.0000
 NSCAN          2130.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           14.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -16.0000   RECURR          0.9685   RELEN           0.0000
 RES          10544.5217   RPUSHER       -15.8168   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     726.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0196   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          96.5000   XLENS_POT     928.0000
 XLENS_SYM        0.0000   YLENS_POT     724.0000   YLENS_SYM      -1.5000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    8.5e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10542.
MID Time Window 2: Resolution is 10544.

Amplifier Offset: 87.


*** File closed Thu Oct 18 21:26:03 2018
  ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 21:31
Number of Entries	3
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-18.quan
Data	y:\18oct17conf\18oct17-18.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.79	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.84	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.74	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 21:31
Number of Entries	3
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-18.quan
Data	y:\18oct17conf\18oct17-18.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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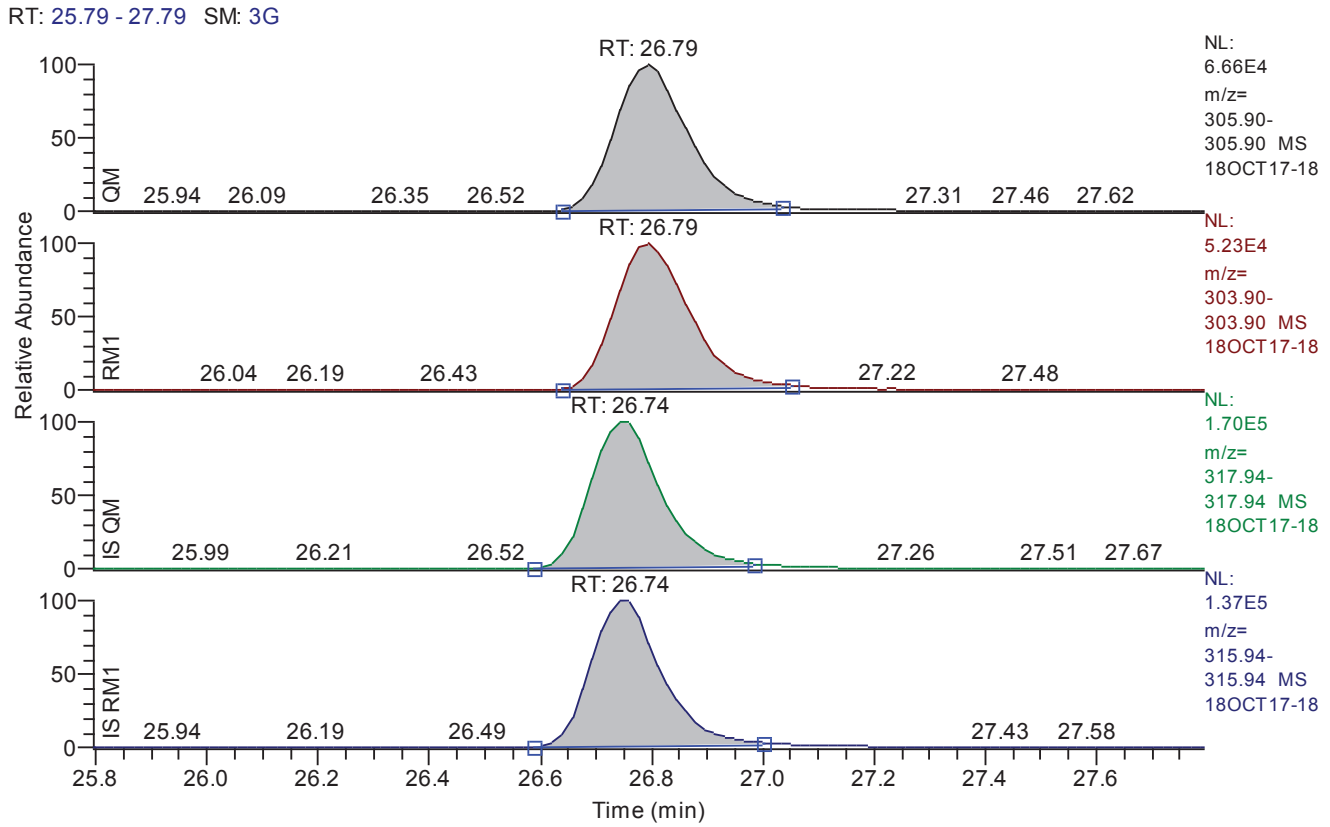
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.79
QM Area	609469
QM Integration Mode	A
RM1 Area	487059
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0305
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	3138
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.79	26.79	26.79	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.84	24.84	24.84	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.74	26.74	26.74	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.79	0.7992	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.84	0.8023	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.74	0.7957	0.6450 - 0.8950	passed	100.00	0 - 0	passed

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Entry Parameters

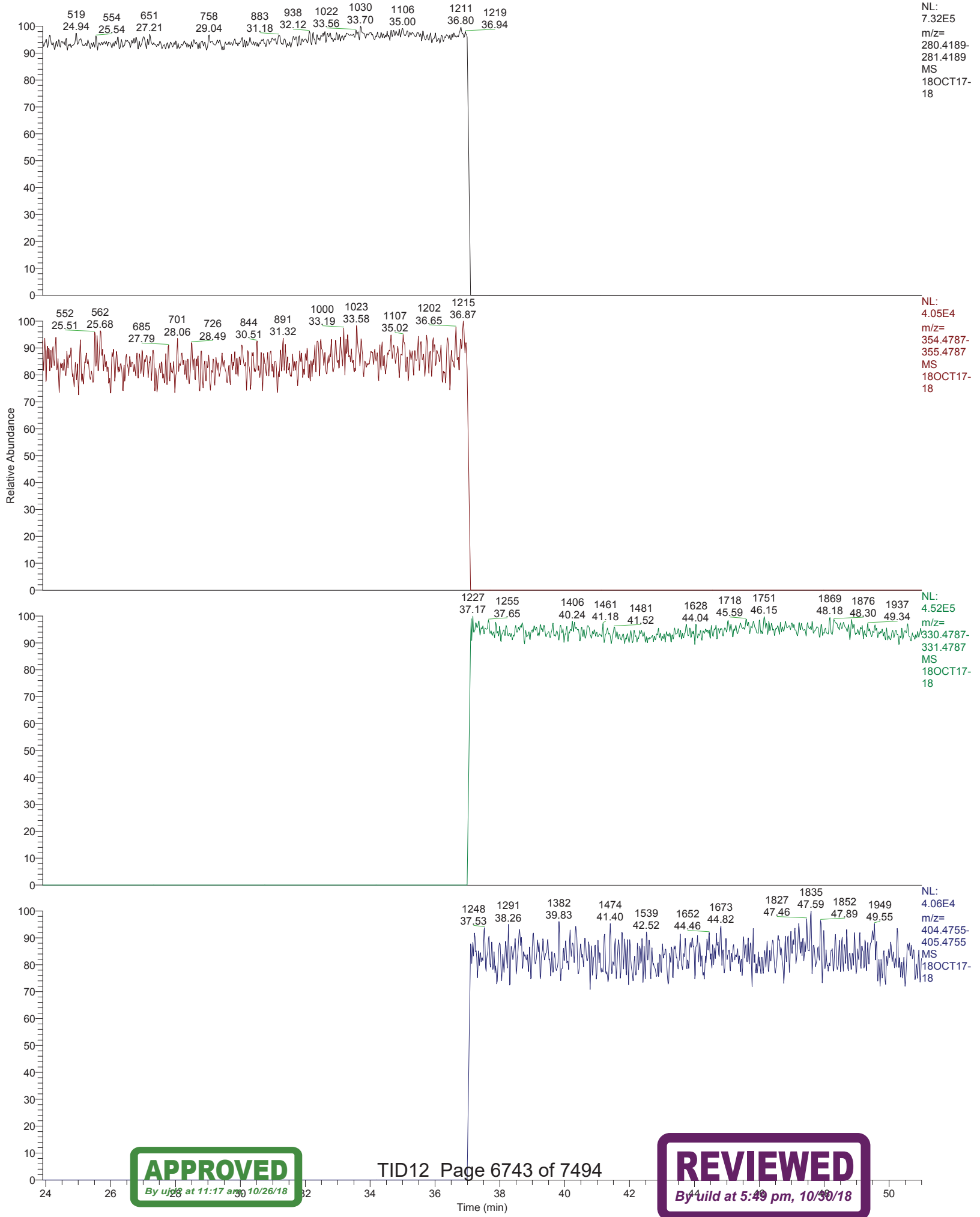
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.79	609469	A	487059	A	0.030454	40.000000	40.0000	40.0	3138
2	13C12-1234-TCDD	passed	24.84	743666	A	596628	A	0.102466	100.000000	100.0000	100.0	2440
3	13C12-2378-TCDF	passed	26.74	1507912	A	1199874	A	0.036022	100.000000	100.0000	100.0	6446

File Name: Y:\18OCT17Conf\18OCT17-18
Sample ID: CS401

Acq. Data: 10/18/2018 9:31:53 PM
Sample Name: CALDF51837B
PFK Reference Loc□Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
*** file opened Thu Oct 18 21:36:18 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 18-Oct-18 21:36:17


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```


APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	96.0000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	116.0000
ELEN	-50.0000	EMULT	1688.0000	ENS	234.0000
ENSBR	6.5500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	175.0000	EXSBR	-0.6000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	5.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0178	FVINLET	0.0338	FVSRC	0.0322
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	738.0000
LENS_SYM	13.3000	LM	650.0000	LMII	500.0000
LMASS	96.0000	LKM	330.9792	MASS	96.0000
MDAC	930538.0265	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9665	RELEN	0.0000
RES	10916.2989	RPUSHER	-15.8022	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0196	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.0000	XLENS_POT	928.0000
XLENS_SYM	0.0000	YLENS_POT	724.0000	YLENS_SYM	-1.5000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 8.7e-008 mbar
Pirani Analyse: 1.8e-002 mbar
Pirani Source: 3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10441.
MID Time Window 2: Resolution is 10916.

Amplifier Offset: 88.

*** File closed Thu Oct 18 22:28:49 2018 ***

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 22:34
Number of Entries	3
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-19.quan
Data	y:\18oct17conf\18oct17-19.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.78	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.85	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:48 pm, 10/30/18

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/18 22:34
Number of Entries	3
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

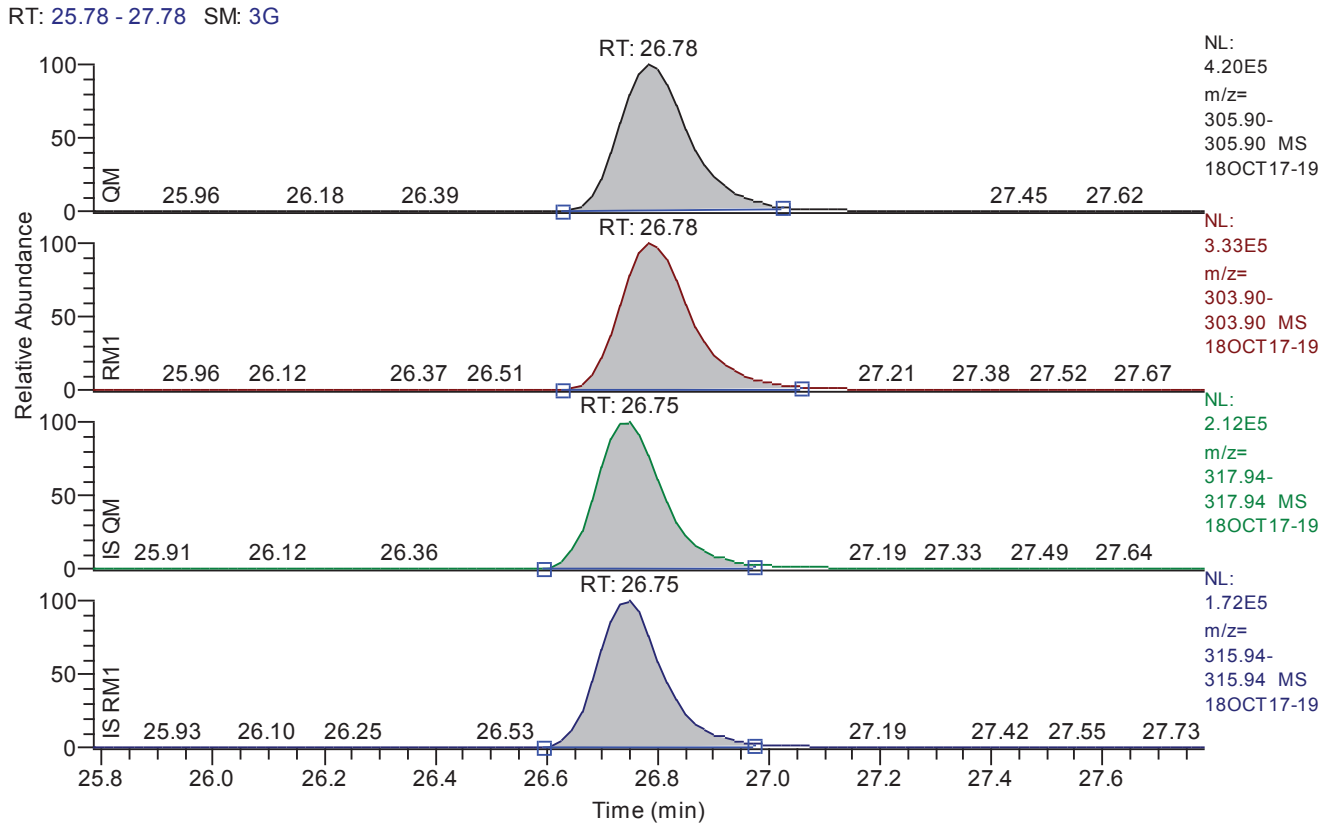
Quan	y:\18oct17conf\18oct17-19.quan
Data	y:\18oct17conf\18oct17-19.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

eurofins | Lancaster Laboratories Environmental

Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.78
QM Area	3661032
QM Integration Mode	A
RM1 Area	2973278
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0373
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12534
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.78	26.78	26.78	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.85	24.85	24.85	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.75	26.75	26.75	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.78	0.8121	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.85	0.8118	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.75	0.8039	0.6450 - 0.8950	passed	100.00	0 - 0	passed

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:48 pm, 10/30/18

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Entry Parameters

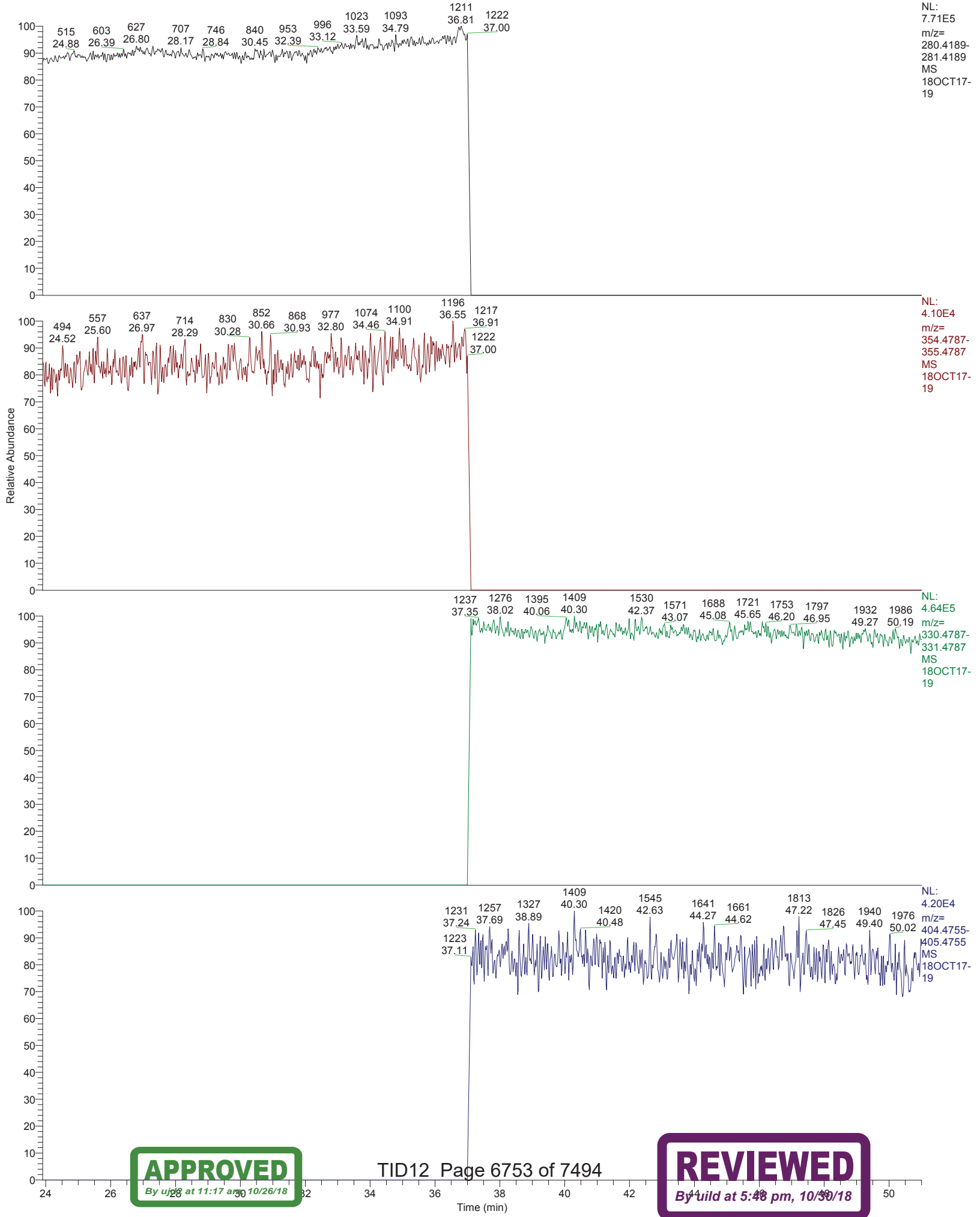
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.78	3661032	A	2973278	A	0.037347	200.000000	200.0000	200.0	12534
2	13C12-1234-TCDD	passed	24.85	820599	A	666180	A	0.081925	100.000000	100.0000	100.0	3052
3	13C12-2378-TCDF	passed	26.75	1751840	A	1408311	A	0.030305	100.000000	100.0000	100.0	8099

File Name: Y:\18OCT17Conf\18OCT17-19
Sample ID: CS501

Acq. Data: 10/18/2018 10:34:36 PM
Sample Name: CALDF61837B
PFK Reference Loc Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:48 pm, 10/30/18

```
*** file opened Thu Oct 18 22:39:10 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 18-Oct-18 22:39:08


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```


APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:48 pm, 10/30/18

```
MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          95.5000
 BQUAD            6.5500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE       15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         116.0000
 ELEN           -50.0000   EMULT        1688.0000   ENS           234.0000
 ENSBR            6.5500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           175.0000   EXSBR          -0.6000
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           5.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0178   FVINLET         0.0335   FVSRC           0.0318
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      738.0000
 LENS_SYM        13.3000   LM            650.0000   LMII          500.0000
 LMASS           95.5000   LKM           330.9792   MASS           95.5000
 MDAC         925071.2508   MRANGE       1614.4523   NSAM          200.0000
 NSCAN          2130.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           14.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -16.0000   RECURR          0.9680   RELEN           0.0000
 RES          10552.1630   RPUSHER       -15.7729   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     726.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0196   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          95.5000   XLENS_POT     928.0000
 XLENS_SYM        0.0000   YLENS_POT     724.0000   YLENS_SYM      -1.5000

Source Gauge:        2.0e-005 mbar
Analyzer Penning:    8.6e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10382.
MID Time Window 2: Resolution is 10552.

Amplifier Offset: 87.


*** File closed Thu Oct 18 23:31:42 2018
  ***
```

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/10/19 00:40
Number of Entries	3
Comment	
Vial	9
Sample Name	SSDFX1837B
Sample ID	ICV
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-22.quan
Data	y:\18oct17conf\18oct17-22.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.81	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.71	passed	passed	passed	passed	passed	passed	

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/10/19 00:40
Number of Entries	3
Comment	
Vial	9
Sample Name	SSDFX1837B
Sample ID	ICV
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18oct17conf\18oct17-22.quan
Data	y:\18oct17conf\18oct17-22.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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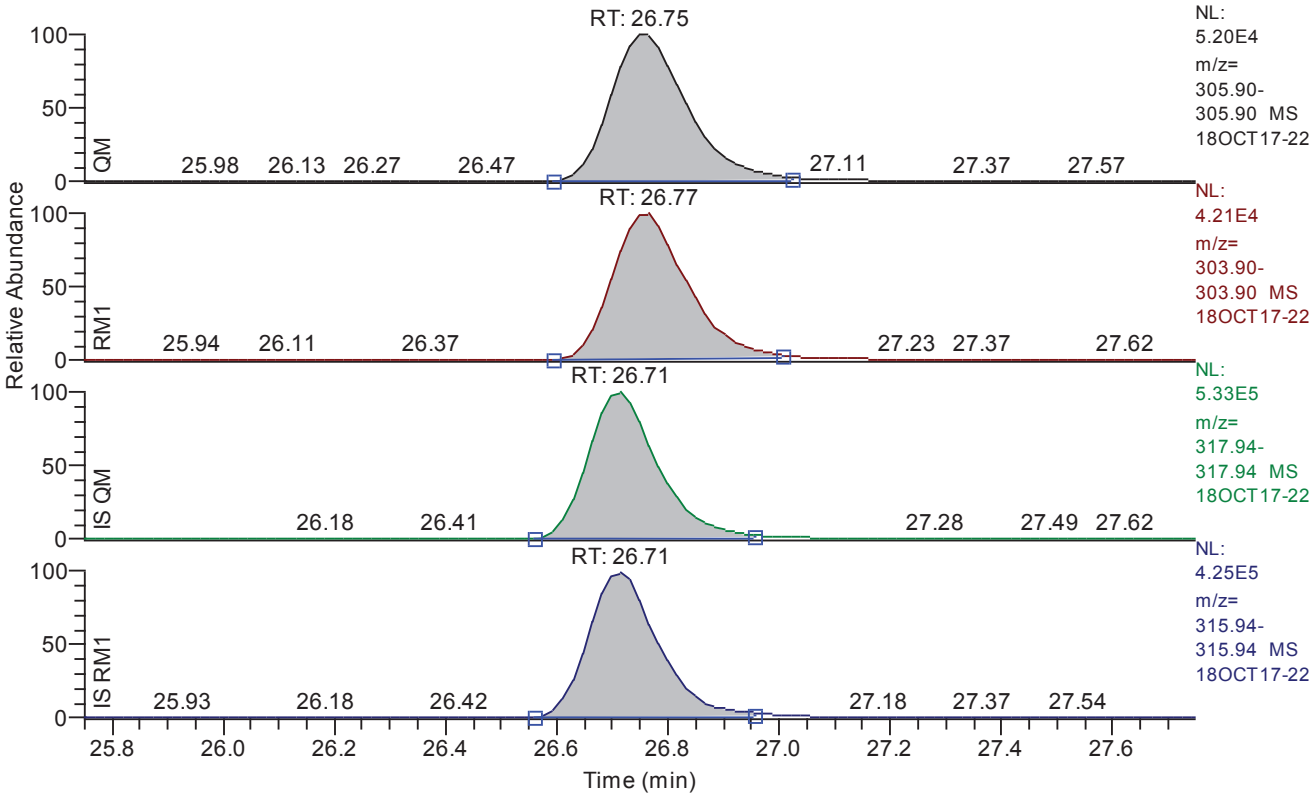
Chromatogram

RT: 25.75 - 27.75 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.75
QM Area	496701
QM Integration Mode	A
RM1 Area	388014
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	10.573154
Adjusted Amount (A)	10.5732
Signal-to-Noise	2957
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.75	26.75	26.77	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.81	24.81	24.81	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.71	26.71	26.71	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.75	0.7812	0.6450 - 0.8950	passed	105.73	80 - 120	passed
2	13C12-1234-TCDD	24.81	0.8066	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.71	0.7892	0.6450 - 0.8950	passed	82.94	80 - 120	passed

APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Entry Parameters

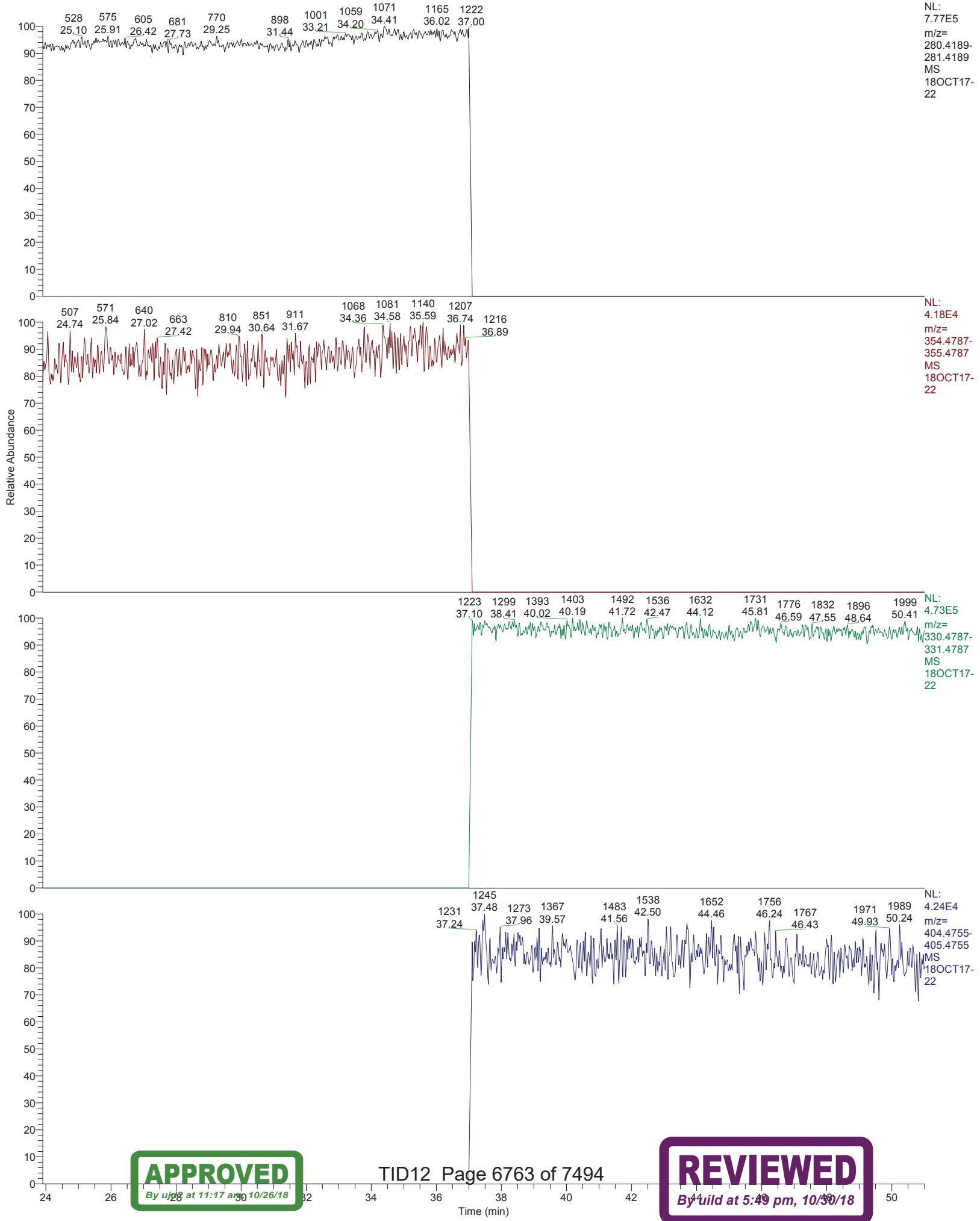
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.75	496701	A	388014	A	0.008159	10.573154	10.5732	10.0	2957
2	13C12-1234-TCDD	passed	24.81	2691477	A	2171007	A	0.029032	100.000000	100.0000	100.0	8611
3	13C12-2378-TCDF	passed	26.71	4593523	A	3625257	A	0.013595	82.941647	82.9416	100.0	14364

File Name: Y:\18OCT17Conf\18OCT17-22
Sample ID: ICV

Acq. Data: 10/19/2018 12:40:13 AM
Sample Name: SSDFX1837B
PFK Reference Loc□Mass Traces

Instrument ID: DF18471-18OCT17Conf

RT: 23.90 - 51.00



APPROVED
By uid2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
*** file opened Fri Oct 19 00:44:33 2018 ***

Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622

  Analysis started at: 19-Oct-18 00:44:33


  Analysis will stop at user request


  Firmware Version: 2.02


  MCAL file name:


  Sequence : b9367d33-0067-487e-b88e-71401e7e3694


  MID procedure: PFK17MAR13 DB-DIOXINCONF



  Mid Time Windows:
        Start        Measure      End       Cycletime

  # 1  16:00 min  21:00 min  37:00 min   1.00 sec
  # 2  37:00 min  15:30 min  52:30 min   1.00 sec

  Mid Masses:
   Window # 1
        mass F  int  gr  time (ms)
    280.9819 l  10  1       12
    303.9016     1  1      122
    305.8987     1  1      122
    315.9419     2  1       61
    317.9389     2  1       61
    331.9368     2  1       61
    333.9339     2  1       61
    339.8597     1  1      122
    341.8567     1  1      122
    351.9000     2  1       61
    353.8970     2  1       61
    354.9792 c  10  1       12
   Window # 2
        mass F  int  gr  time (ms)
    330.9792 l  10  1        9
    339.8597     1  1       95
    341.8567     1  1       95
    351.9000     2  1       47
    353.8970     2  1       47
    373.8208     1  1       95
    375.8178     1  1       95
    383.8639     2  1       47
    385.8610     2  1       47
    401.8559     2  1       47
    403.8529     2  1       47
    404.9760 c  10  1        9
    417.8253     1  1       95
    419.8220     1  1       95
```


APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

```
MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU          1000.0000   BCORRS          0.0170   BMASS          94.5000
 BQUAD            6.5500   CAPIL           0.0000   CAPTSET       200.0000
 CCURR            0.0000   COUNTING        0.0000   DELAY           0.0000
 DRAW           -25.0000   DRAWC           0.0000   DRAWS           0.0000
 DYNVOLTAGE       15.0000   ECORR           0.9995   ECURR           1.0000
 EDAC        7969177.0000   EDACG           1.0000   EDACZ         116.0000
 ELEN           -50.0000   EMULT        1688.0000   ENS           234.0000
 ENSBR            6.5500   ERATIO          1.0000   ESA           679.0600
 ESIPAR           0.0000   EXS           175.0000   EXSBR          -0.6000
 FDMA       18000000.0000   FILTER        100.0000   FLENS           1.0000
 FM              50.0000   FMII           50.0000   FQUAD           5.3500
 FQUADGAIN        1.0000   FREQ          400.0000   FSLOPE    36000000.0000
 FVANAL           0.0178   FVINLET         0.0336   FVSRC           0.0318
 FWIN             0.7000   HCURR           0.0000   HVANAL          0.0000
 HVSRC            0.0000   ICAL0           0.0011   ICAL1           0.4030
 ICAL2            0.5865   IONEN           0.0000   IST             0.0000
 ISTC           260.0000   ISTS          260.0000   LENS_POT      738.0000
 LENS_SYM        13.3000   LM            650.0000   LMII          500.0000
 LMASS           94.5000   LKM           330.9792   MASS           94.5000
 MDAC         914124.4195   MRANGE       1614.4523   NSAM          200.0000
 NSCAN         2130.0000   NSMAX           8.0000   NSMIN          66.0000
 NPEAK           14.0000   MULT           -2.0000   PSAM           10.0000
 PUSHER         -16.0000   RECURR          0.9685   RELEN           0.0000
 RES          10628.7183   RPUSHER       -15.7875   RDRAW           0.0000
 RDRAWC           0.0000   RWIN            2.0000   SCIDLE          0.0000
 SHIELD_POT     726.0000   SHIELD_SYM      0.0000   SHIGH         180.0000
 SKIM             7.0000   SLOW           60.0000   SS              2.0000
 SW               0.0196   TANAL           0.0000   TCURR           0.0000
 TD              30.0000   TS             33.4574   THRESH          2.0000
 TIS              0.2000   TREF          120.0000   TSAM          200.0000
 TSET             0.0000   TUBEL           0.0000   UROT            0.0000
 USERVAR          0.0000   UTQ1          150.0000   UTQ2          190.0000
 UTQ3            80.0000   VMASS          94.5000   XLENS_POT     928.0000
 XLENS_SYM        0.0000   YLENS_POT     724.0000   YLENS_SYM      -1.5000

Source Gauge:        2.1e-005 mbar
Analyzer Penning:    8.5e-008 mbar
Pirani Analyse:      1.8e-002 mbar
Pirani Source:       3.2e-002 mbar
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 10463.
MID Time Window 2: Resolution is 10628.

Amplifier Offset: 87.


*** File closed Fri Oct 19 01:37:05 2018
  ***
```


APPROVED
By ujd2 at 11:17 am, 10/26/18

REVIEWED
By uild at 5:49 pm, 10/30/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 14:39
Number of Entries	3
Comment	
Vial	2
Sample Name	TDTFWD ST1828537A
Sample ID	CPS02
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-02.quan
Data	y:\18nov02conf\18nov02-02.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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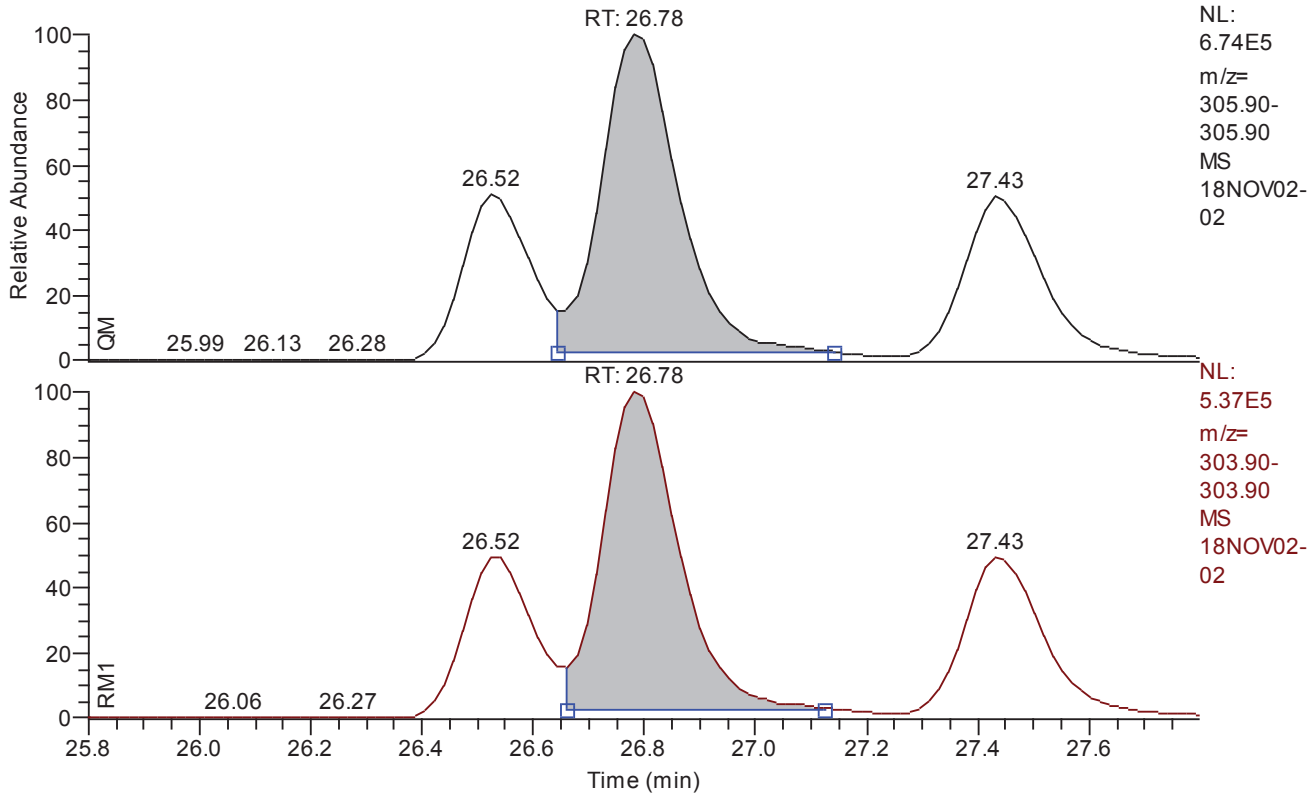
Chromatogram

RT: 25.80 - 27.80 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	M
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	M
ManInt	1
QM Retention Time	26.78
QM Left Baseline Height	16957.93
QM Height	657250
QM Right Height	1481
GC Res (%) left	13.350040

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 14:39
Number of Entries	3
Comment	
Vial	2
Sample Name	TDTFWD ST1828537A
Sample ID	CPS02
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-02.quan
Data	y:\18nov02conf\18nov02-02.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

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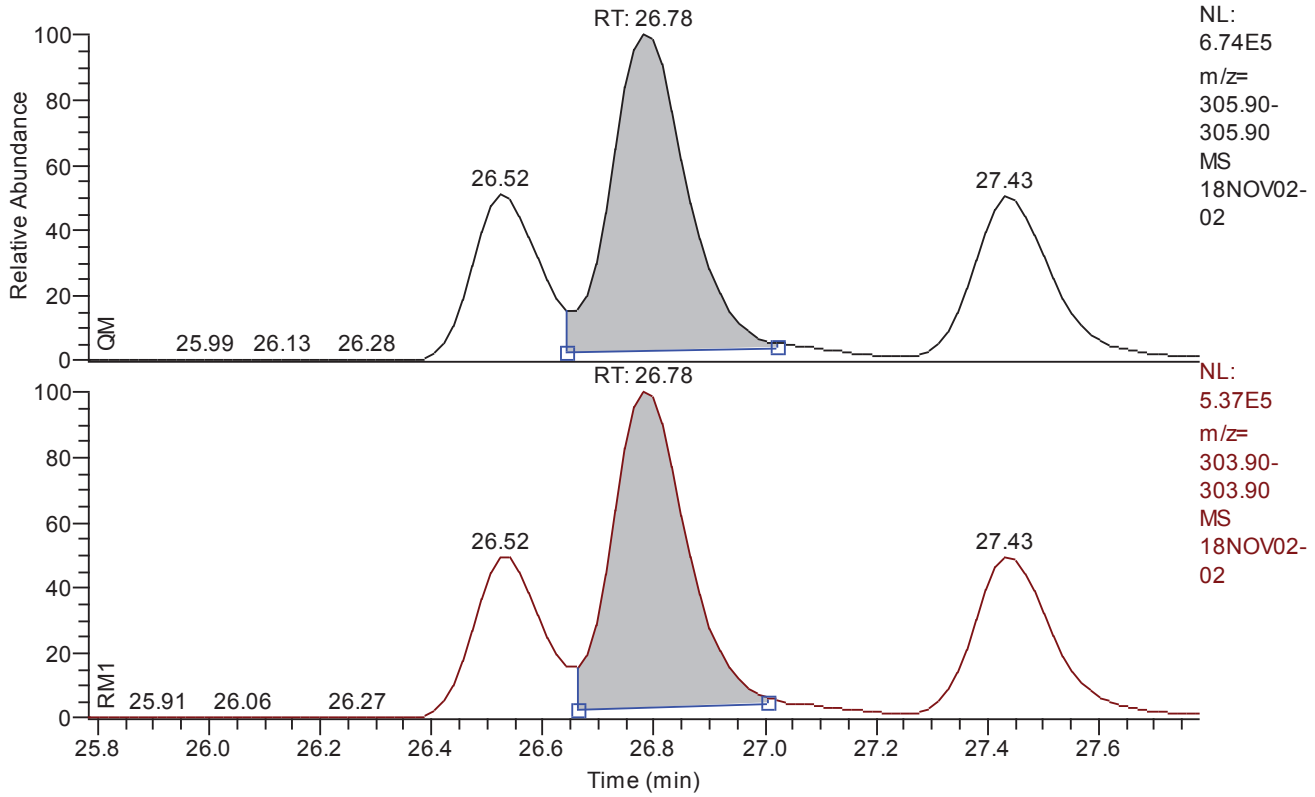
Chromatogram

RT: 25.78 - 27.78 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

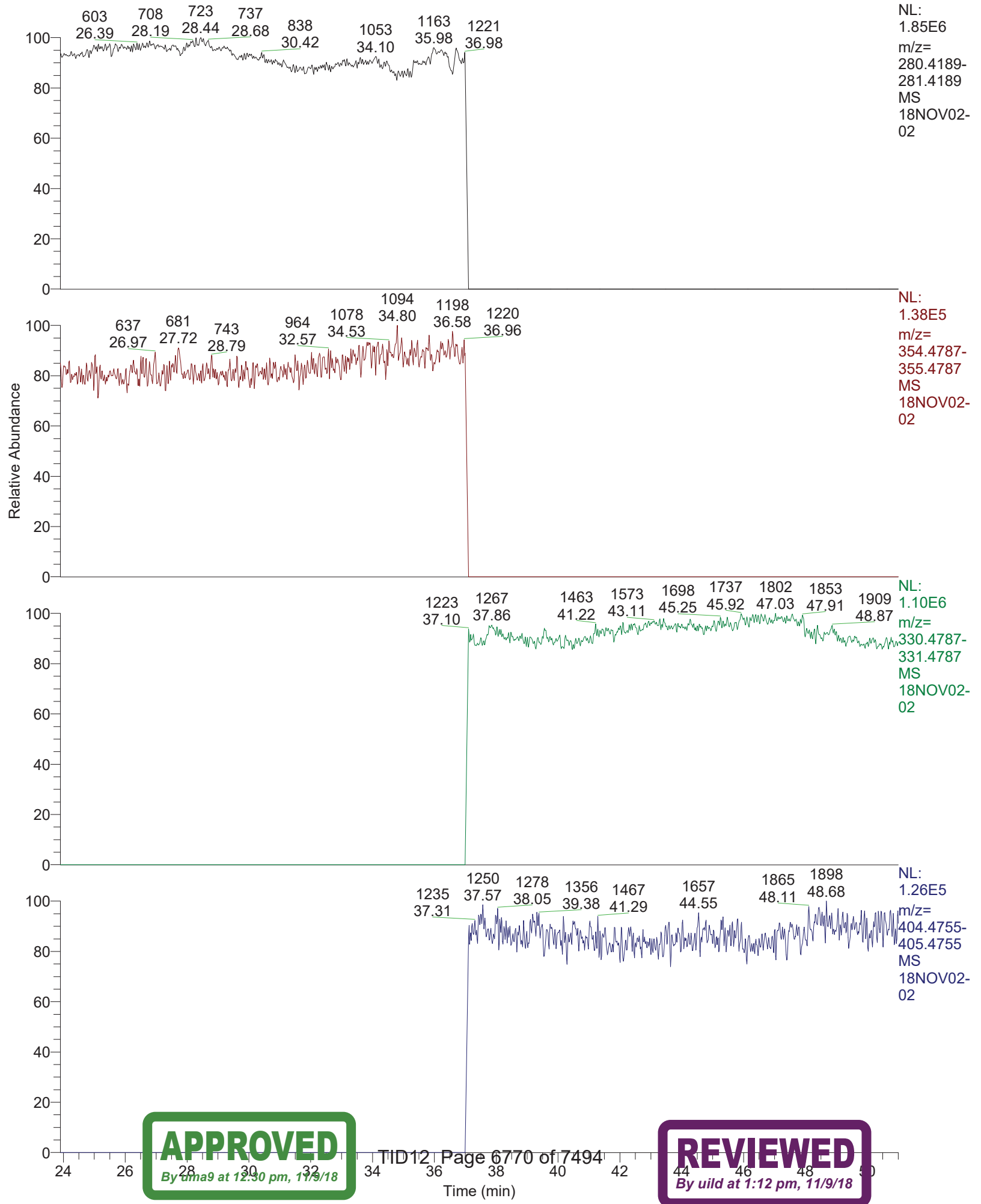
Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	A
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	A
ManInt	1
QM Retention Time	26.78
QM Left Baseline Height	16957.93
QM Height	652190
QM Right Height	4513
GC Res (%) left	13.453606

File Name: Y:\18NOV02Conf\18NOV02-02
Sample ID: CPS02

Acq. Data: 11/3/2018 2:39:56 PM
Sample Name: TDTFWD ST1828537A
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02Conf

RT: 23.90 - 51.00



APPROVED
By uma9 at 12:30 pm, 11/9/18

REVIEWED
By uild at 1:12 pm, 11/9/18

*** file opened Sat Nov 03 14:44:30 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 03-Nov-18 14:44:29

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0d86c2a9-4f6a-43e5-8f3c-d5023df8b2d3

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-261.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	219.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	3.7000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0169	FVINLET	0.0372	FVSRC	0.0333
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	652.0000
LENS_SYM	3.7500	LM	650.0000	LMII	500.0000
LMASS	99.0000	LKM	330.9792	MASS	99.0000
MDAC	963202.2819	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.9670	RELEN	0.0000
RES	10613.8950	RPUSHER	-14.8059	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	680.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0194	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	930.0000
XLENS_SYM	7.5000	YLENS_POT	862.0000	YLENS_SYM	14.7500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.1e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11033.
MID Time Window 2: Resolution is 10613.

Amplifier Offset: 88.

*** File closed Sat Nov 03 15:37:01 2018
***

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 15:42
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-03.quan
Data	y:\18nov02conf\18nov02-03.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.72	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.78	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.68	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 15:42
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-03.quan
Data	y:\18nov02conf\18nov02-03.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

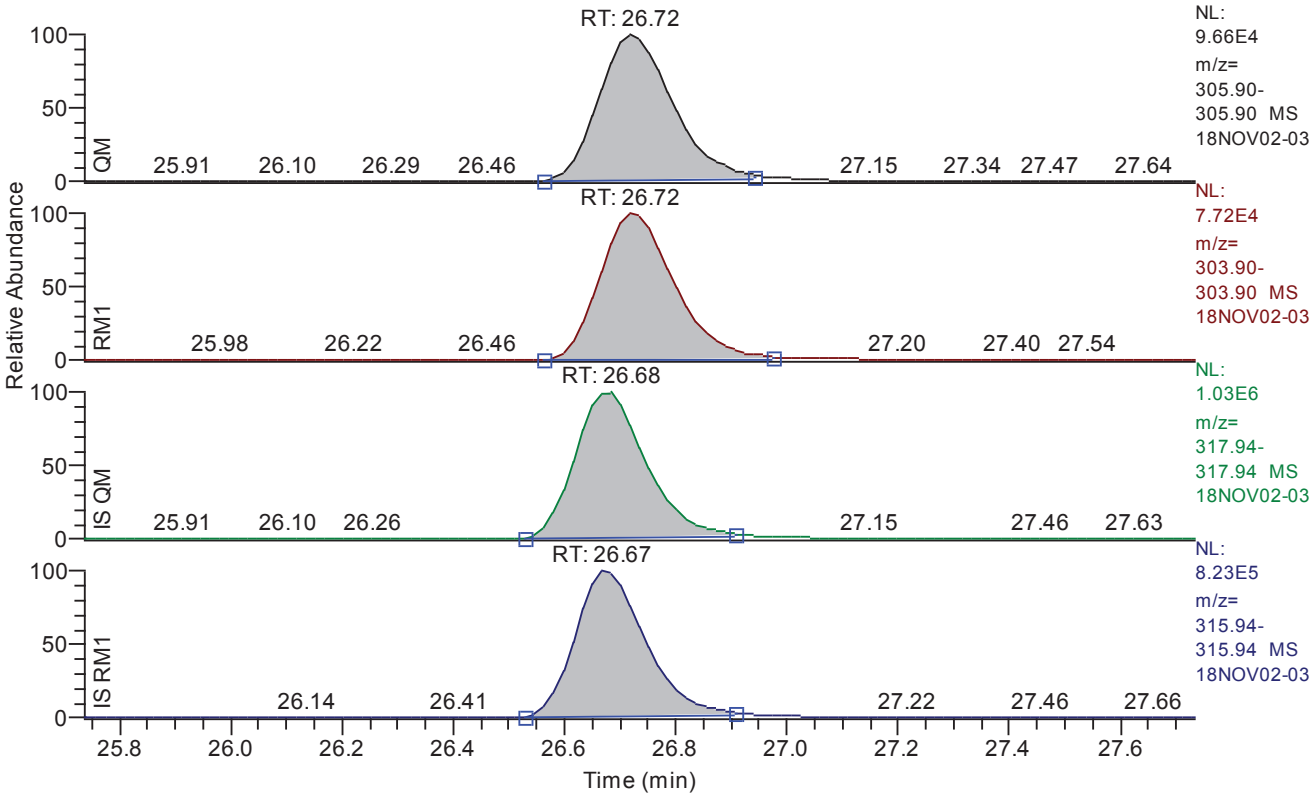
Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

eurofins | Lancaster Laboratories Environmental

Chromatogram

RT: 25.74 - 27.74 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.72
QM Area	874625
QM Integration Mode	A
RM1 Area	710456
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	9.636364
Adjusted Amount (A)	9.6364
Signal-to-Noise	3018
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.81	26.72	26.72	26.68	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.85	24.78	24.78	24.78	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.75	26.68	26.67	26.67	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	26.72	0.8123	0.6450 - 0.8950	passed	0.9811	1.0181	0.8094 - 1.2268	passed
2	13C12-1234-TCDD	24.78	0.8078	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
3	13C12-2378-TCDF	26.68	0.7928	0.6450 - 0.8950	passed	1.9230	2.0379	1.4163 - 2.6595	passed

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.72	874625	A	710456	A	0.0076	9.636364	9.6364	10.000000	3018	
2	13C12-1234-TCDD	passed	24.78	4647365	A	3754160	A	0.0304	100.000000	100.0000	100.000000	8229	
3	13C12-2378-TCDF	passed	26.68	9012042	A	7144454	A	0.0135	94.365345	94.3653	100.000000	16334	

APPROVED
By AQ46 at 4:29 pm, 11/5/18

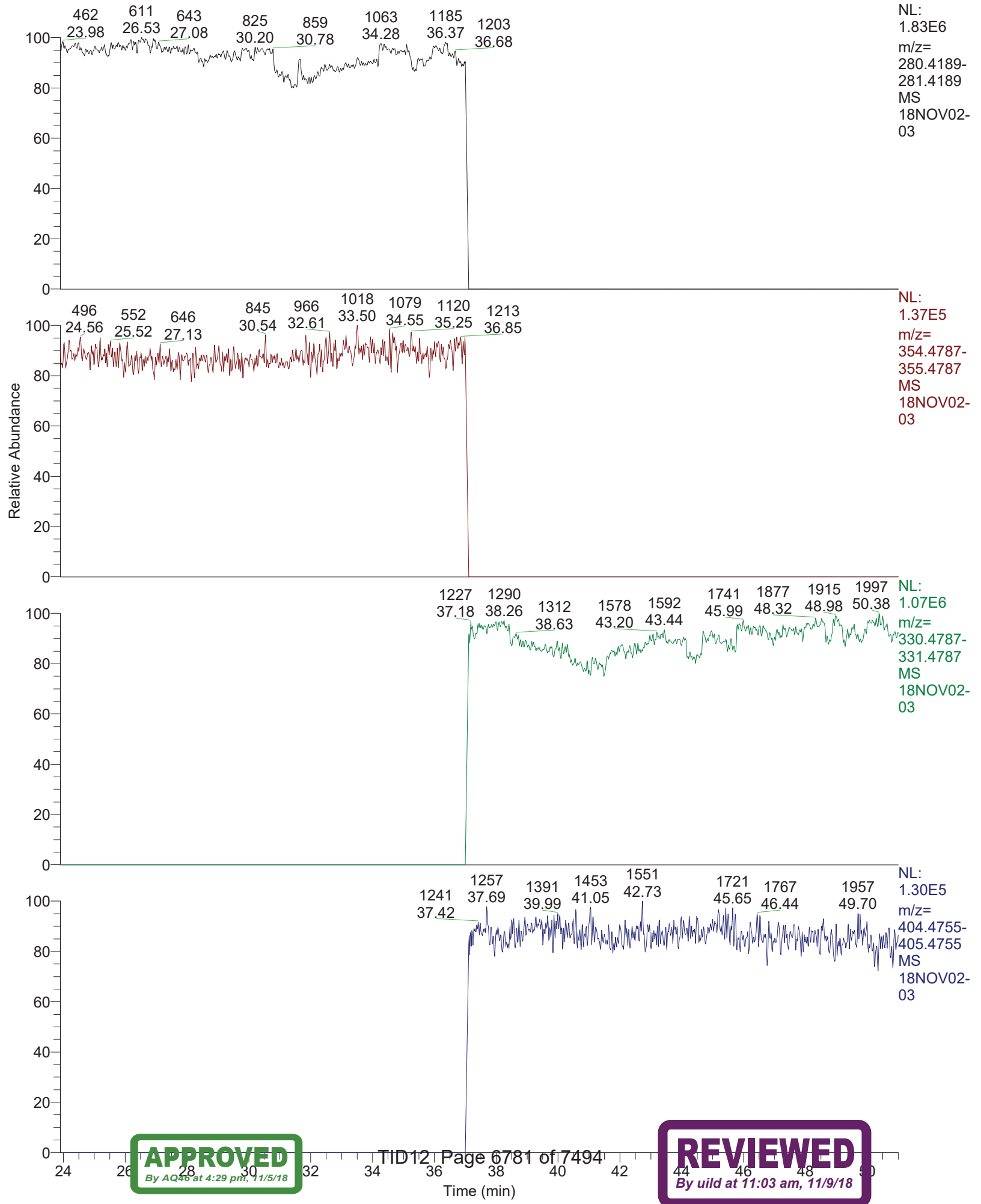
REVIEWED
By uild at 11:03 am, 11/9/18

File Name: Y:\18NOV02Conf\18NOV02-03
Sample ID: CS3CC02

Acq. Data: 11/3/2018 3:42:49 PM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02Conf

RT: 23.90 - 51.00



APPROVED
By AQ46 at 4:29 pm, 11/5/18

REVIEWED
By uild at 11:03 am, 11/9/18

*** file opened Sat Nov 03 15:47:25 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 03-Nov-18 15:47:24

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0d86c2a9-4f6a-43e5-8f3c-d5023df8b2d3

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-261.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	219.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	3.7000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0168	FVINLET	0.0376	FVSRC	0.0336
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	652.0000
LENS_SYM	3.7500	LM	650.0000	LMII	500.0000
LMASS	98.5000	LKM	330.9792	MASS	98.5000
MDAC	957780.3869	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.9631	RELEN	0.0000
RES	11207.4318	RPUSHER	-14.7912	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	680.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0194	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	930.0000
XLENS_SYM	7.5000	YLENS_POT	862.0000	YLENS_SYM	14.7500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.2e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.3e-002 mbar
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10275.
MID Time Window 2: Resolution is 11207.

Amplifier Offset: 87.

*** File closed Sat Nov 03 16:39:57 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/04 01:23
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-14.quan
Data	y:\18nov02conf\18nov02-14.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.74	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.81	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.69	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/04 01:23
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC03
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-14.quan
Data	y:\18nov02conf\18nov02-14.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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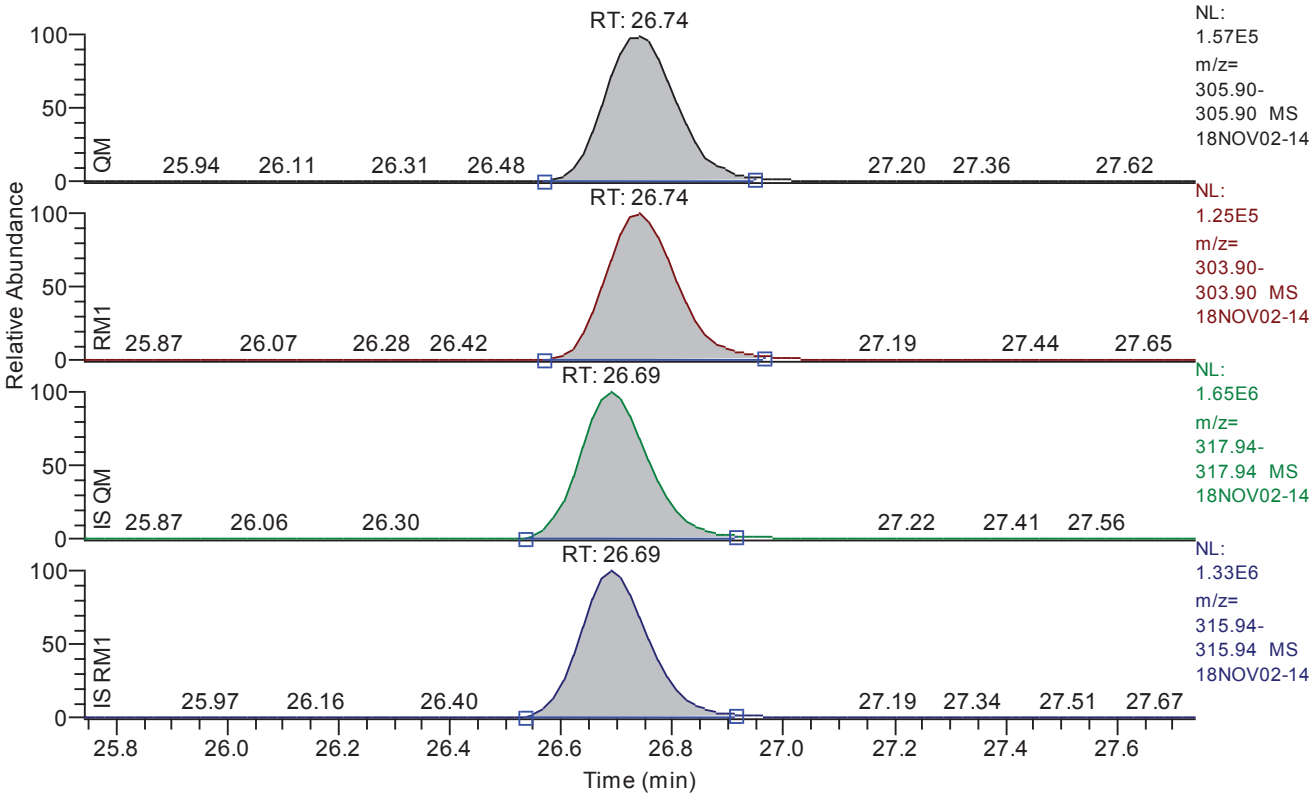
Chromatogram

RT: 25.74 - 27.74 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.74
QM Area	1402397
QM Integration Mode	A
RM1 Area	1104153
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	9.651198
Adjusted Amount (A)	9.6512
Signal-to-Noise	2678
Client Flags	
Status Overview	passed
Status Info	

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.81	26.74	26.74	26.69	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.85	24.81	24.81	24.81	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.75	26.69	26.69	26.69	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	26.74	0.7873	0.6450 - 0.8950	passed	0.9826	1.0181	0.8094 - 1.2268	passed
2	13C12-1234-TCDD	24.81	0.8089	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
3	13C12-2378-TCDF	26.69	0.8018	0.6450 - 0.8950	passed	1.8736	2.0379	1.4163 - 2.6595	passed

APPROVED
By AQ46 at 4:29 pm, 11/5/18

REVIEWED
By uild at 11:03 am, 11/9/18

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Entry Parameters

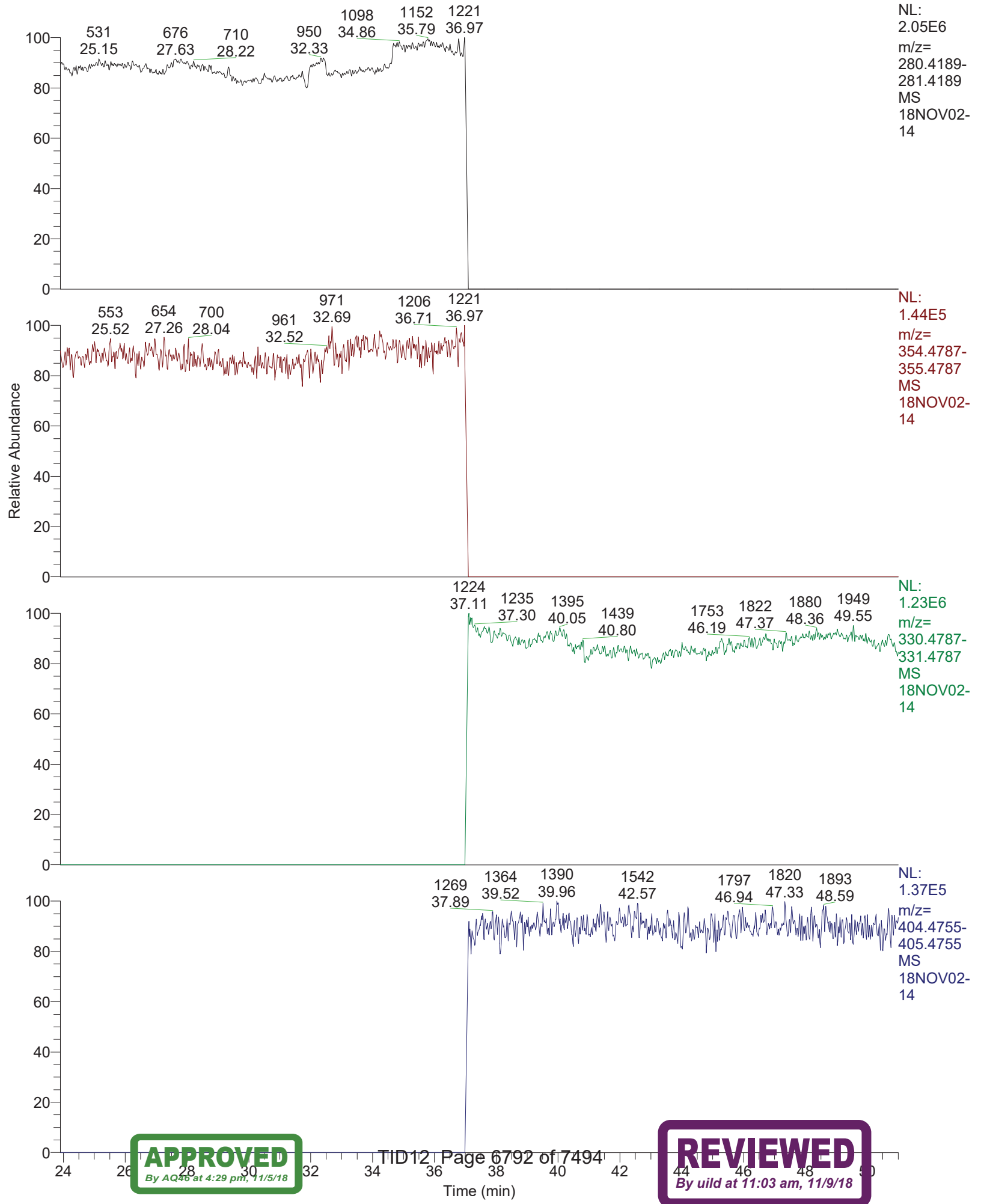
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.74	1402397	A	1104153	A	0.0087	9.651198	9.6512	10.000000	2678	
2	13C12-1234-TCDD	passed	24.81	7526619	A	6088349	A	0.0292	100.000000	100.0000	100.000000	8568	
3	13C12-2378-TCDF	passed	26.69	14157769	A	11351853	A	0.0112	91.941344	91.9413	100.000000	19513	

File Name: Y:\18NOV02Conf\18NOV02-14
Sample ID: CS3CC03

Acq. Data: 11/4/2018 1:23:39 AM
Sample Name: VER-CALDF41837H
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02Conf

RT: 23.90 - 51.00



APPROVED
By AQ46 at 4:29 pm, 11/5/18

REVIEWED
By uild at 11:03 am, 11/9/18

*** file opened Sun Nov 04 01:28:09 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 04-Nov-18 02:28:08

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0d86c2a9-4f6a-43e5-8f3c-d5023df8b2d3

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-231.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	219.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	3.7000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0168	FVINLET	0.0374	FVSRC	0.0333
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	652.0000
LENS_SYM	3.7500	LM	650.0000	LMII	500.0000
LMASS	99.0000	LKM	330.9792	MASS	99.0000
MDAC	963202.2819	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.9680	RELEN	0.0000
RES	10334.6384	RPUSHER	-14.8059	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	680.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0193	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	930.0000
XLENS_SYM	7.5000	YLENS_POT	862.0000	YLENS_SYM	14.7500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.0e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.3e-002 mbar
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10144.
MID Time Window 2: Resolution is 10334.

Amplifier Offset: 88.

*** File closed Sun Nov 04 02:20:40 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 12:45
Number of Entries	3
Comment	
Vial	2
Sample Name	TDTFWD ST1808937C
Sample ID	CPS02
Inst ID	DF18471-18NOV07Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-02.quan
Data	y:\18nov07conf\18nov07-02.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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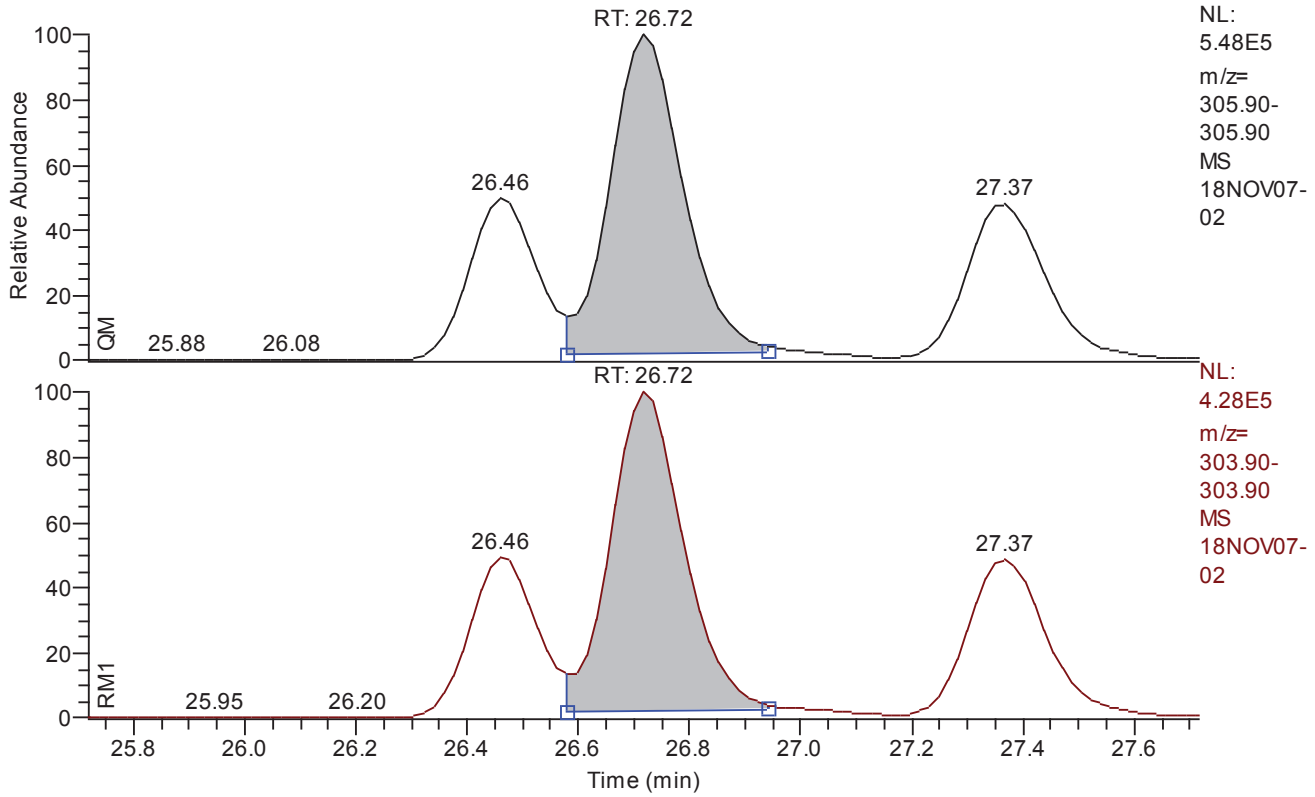
Chromatogram

RT: 25.72 - 27.72 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

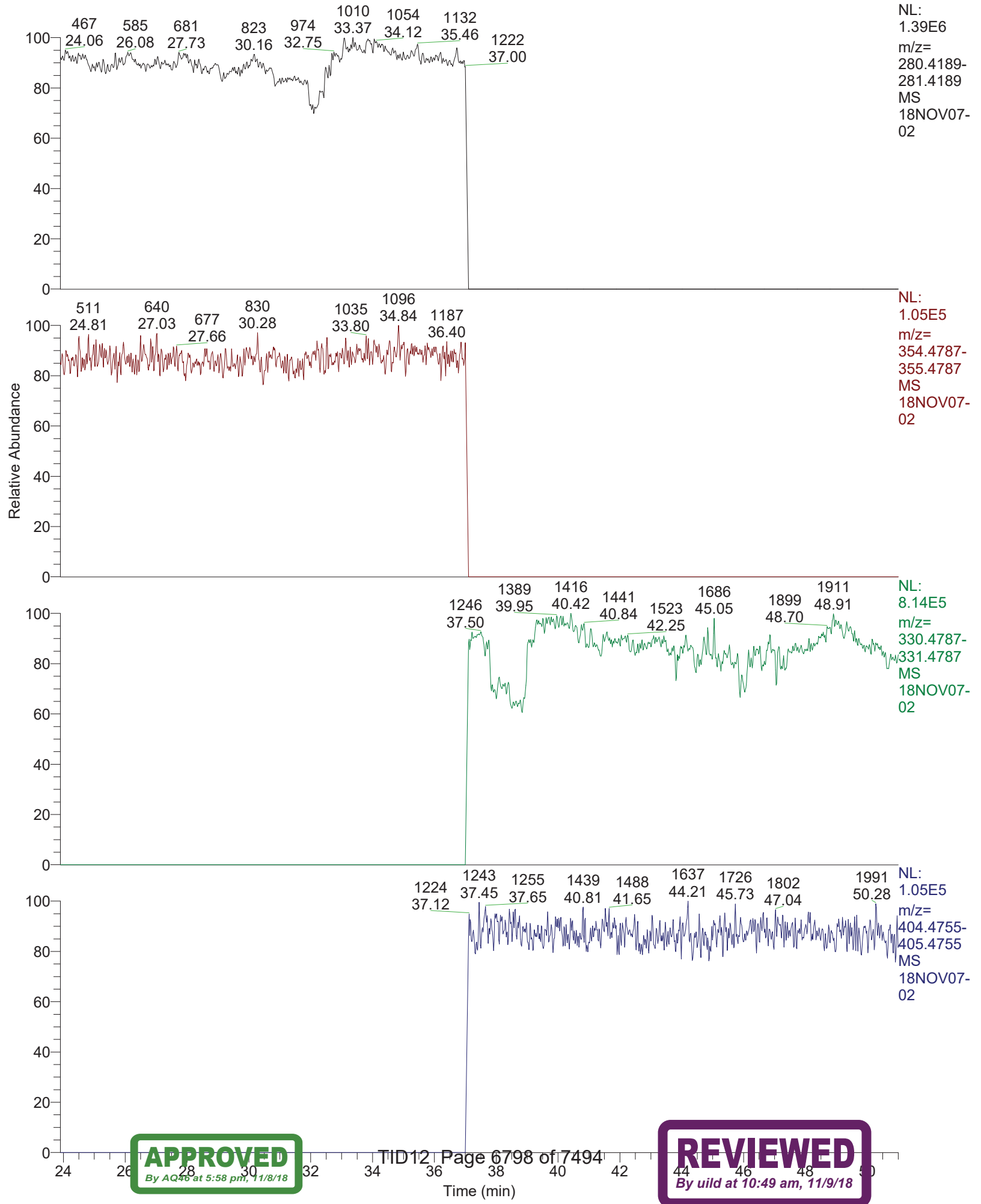
Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	A
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	A
ManInt	0
QM Retention Time	26.72
QM Left Baseline Height	10647.42
QM Height	534797
QM Right Height	3868
GC Res (%) left	11.748999

File Name: Y:\18NOV07Conf\18NOV07-02
Sample ID: CPS02

Acq. Data: 11/7/2018 12:45:27 PM
Sample Name: TDTFWD ST1808937C
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV07Conf

RT: 23.90 - 51.00



APPROVED
By AQ46 at 5:58 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

*** file opened Wed Nov 07 12:50:00 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 07-Nov-18 12:50:00

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0a0e1537-9d58-4e6a-836a-86ce9b191391

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-99.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0169	FVINLET	0.0379	FVSRC	0.0335
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.2500	LM	650.0000	LMII	500.0000
LMASS	99.0000	LKM	330.9792	MASS	99.0000
MDAC	963202.2819	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9656	RELEN	0.0000
RES	12617.7703	RPUSHER	-15.8168	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0169	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	932.0000
XLENS_SYM	6.7500	YLENS_POT	864.0000	YLENS_SYM	12.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.2e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12084.
MID Time Window 2: Resolution is 12617.

Amplifier Offset: 87.

*** File closed Wed Nov 07 13:42:32 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 13:48
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837C
Sample ID	CS3CC02
Inst ID	DF18471-18NOV07Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-03.quan
Data	y:\18nov07conf\18nov07-03.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.71	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.77	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.66	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/07 13:48
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837C
Sample ID	CS3CC02
Inst ID	DF18471-18NOV07Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-03.quan
Data	y:\18nov07conf\18nov07-03.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

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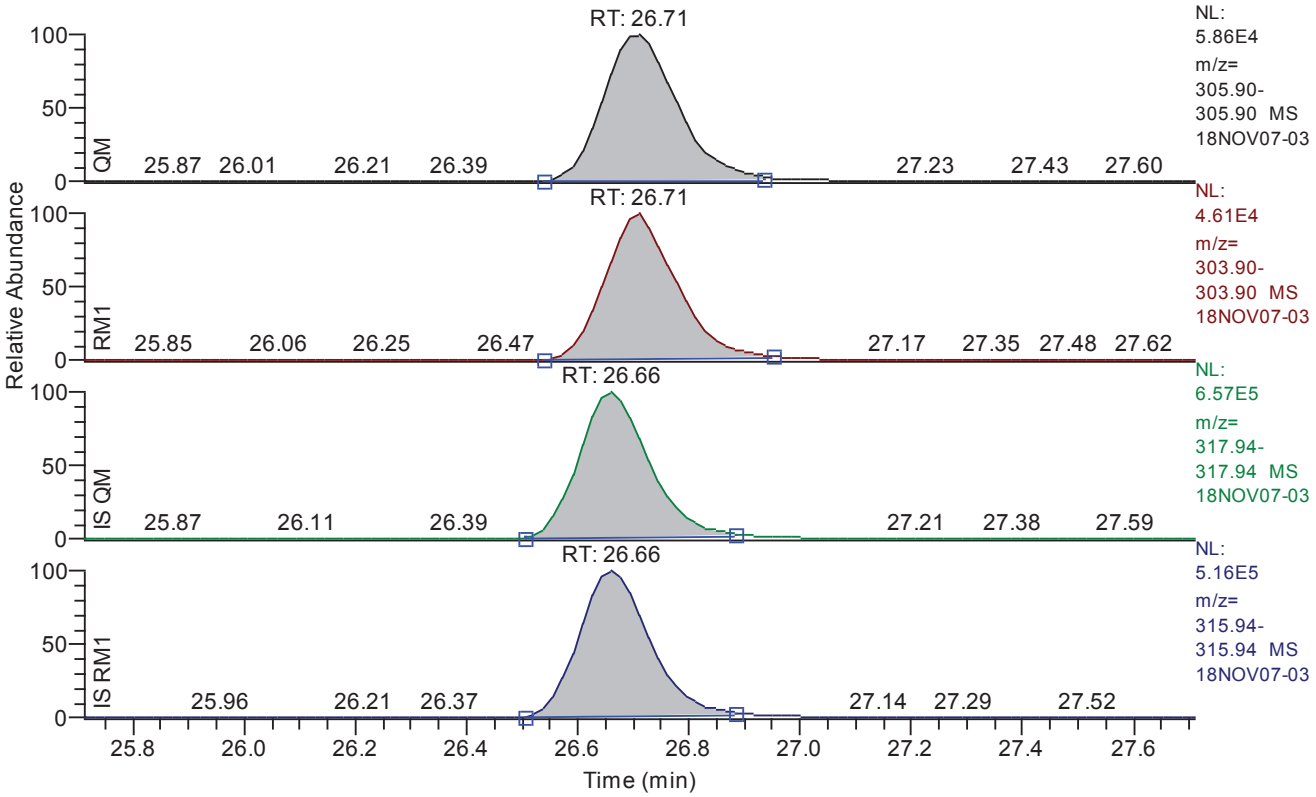
Chromatogram

RT: 25.71 - 27.71 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.71
QM Area	537469
QM Integration Mode	A
RM1 Area	403521
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0104
Unqualified Amount (A)	9.065895
Adjusted Amount (A)	9.0659
Signal-to-Noise	2109
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.71	26.71	26.71	26.66	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.77	24.77	24.77	24.77	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.66	26.66	26.66	26.66	passed	passed

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.71	0.7508	0.6450 - 0.8950	passed	90.66	0 - 0	passed
2	13C12-1234-TCDD	24.77	0.7987	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.66	0.7899	0.6450 - 0.8950	passed	88.66	0 - 0	passed

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.71	537469	A	403521	A	0.0104	9.065895	9.0659	10.000000	2109	
2	13C12-1234-TCDD	passed	24.77	3137253	A	2505607	A	0.0429	100.000000	100.0000	100.000000	5832	
3	13C12-2378-TCDF	passed	26.66	5695768	A	4499131	A	0.0161	88.655803	88.6558	100.000000	13027	

APPROVED
By uma9 at 2:07 pm, 11/8/18

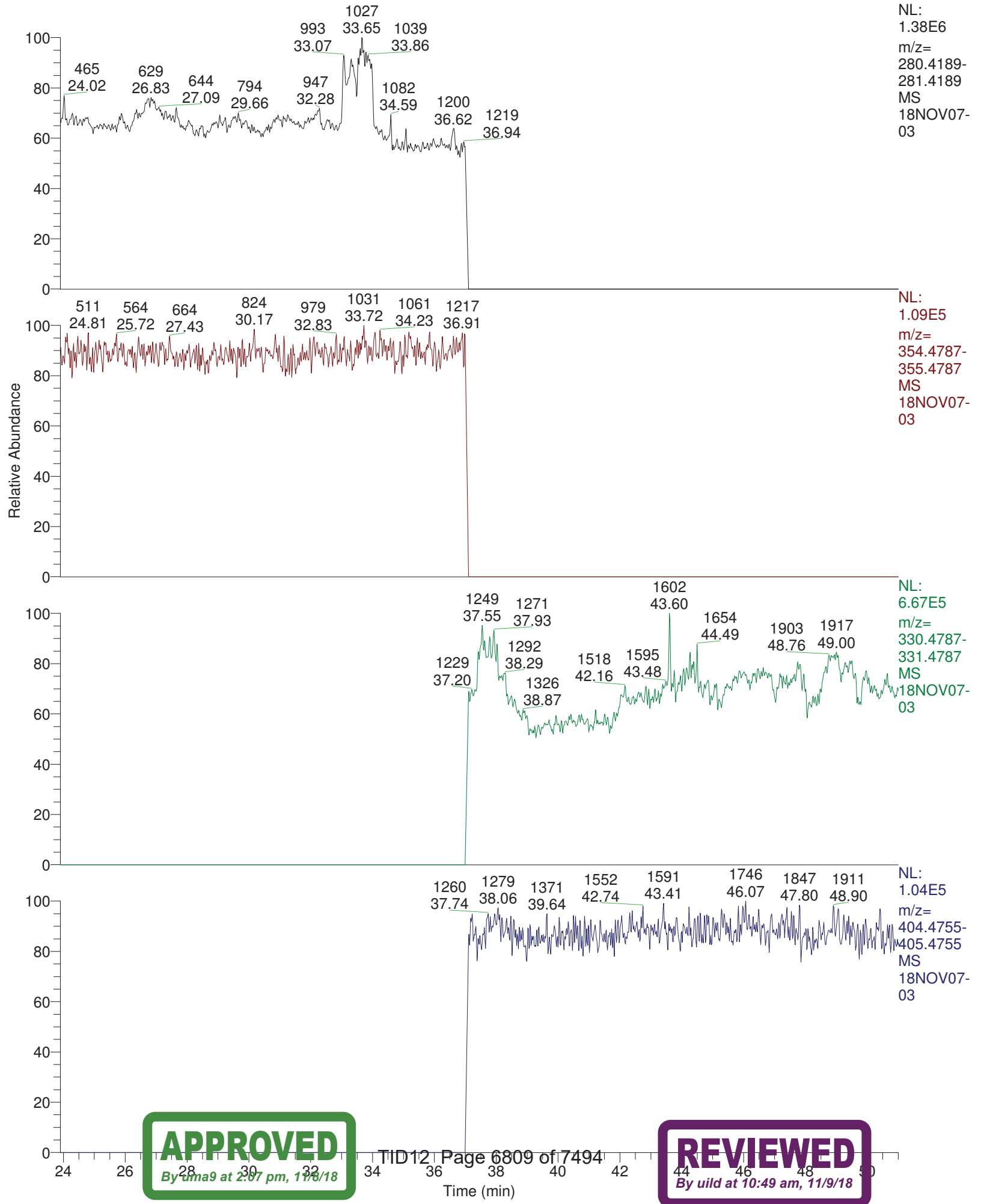
REVIEWED
By uild at 10:49 am, 11/9/18

File Name: Y:\18NOV07Conf\18NOV07-03
Sample ID: CS3CC02

Acq. Data: 11/7/2018 1:48:19 PM
Sample Name: VER-CALDF41837C
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV07Conf

RT: 23.90 - 51.00



APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

*** file opened Wed Nov 07 13:52:52 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 07-Nov-18 13:52:51

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0a0e1537-9d58-4e6a-836a-86ce9b191391

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-99.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0374	FVSRC	0.0336
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.2500	LM	650.0000	LMII	500.0000
LMASS	98.5000	LKM	330.9792	MASS	98.5000
MDAC	957780.3869	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9700	RELEN	0.0000
RES	12284.9087	RPUSHER	-15.8315	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0169	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	932.0000
XLENS_SYM	6.7500	YLENS_POT	864.0000	YLENS_SYM	12.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.2e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12011.
MID Time Window 2: Resolution is 12284.

Amplifier Offset: 88.

*** File closed Wed Nov 07 14:45:24 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 04:02
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837C
Sample ID	CS3CC03
Inst ID	DF18471-18NOV07Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-17.quan
Data	y:\18nov07conf\18nov07-17.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

eurofins | Lancaster Laboratories Environmental

Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.67	passed	passed	passed	passed	passed	passed	
2	13C12-1234-TCDD	24.74	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.62	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

eurofins | Lancaster Laboratories Environmental

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/08 04:02
Number of Entries	3
Comment	
Vial	6
Sample Name	VER-CALDF41837C
Sample ID	CS3CC03
Inst ID	DF18471-18NOV07Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	y:\18nov07conf\18nov07-17.quan
Data	y:\18nov07conf\18nov07-17.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

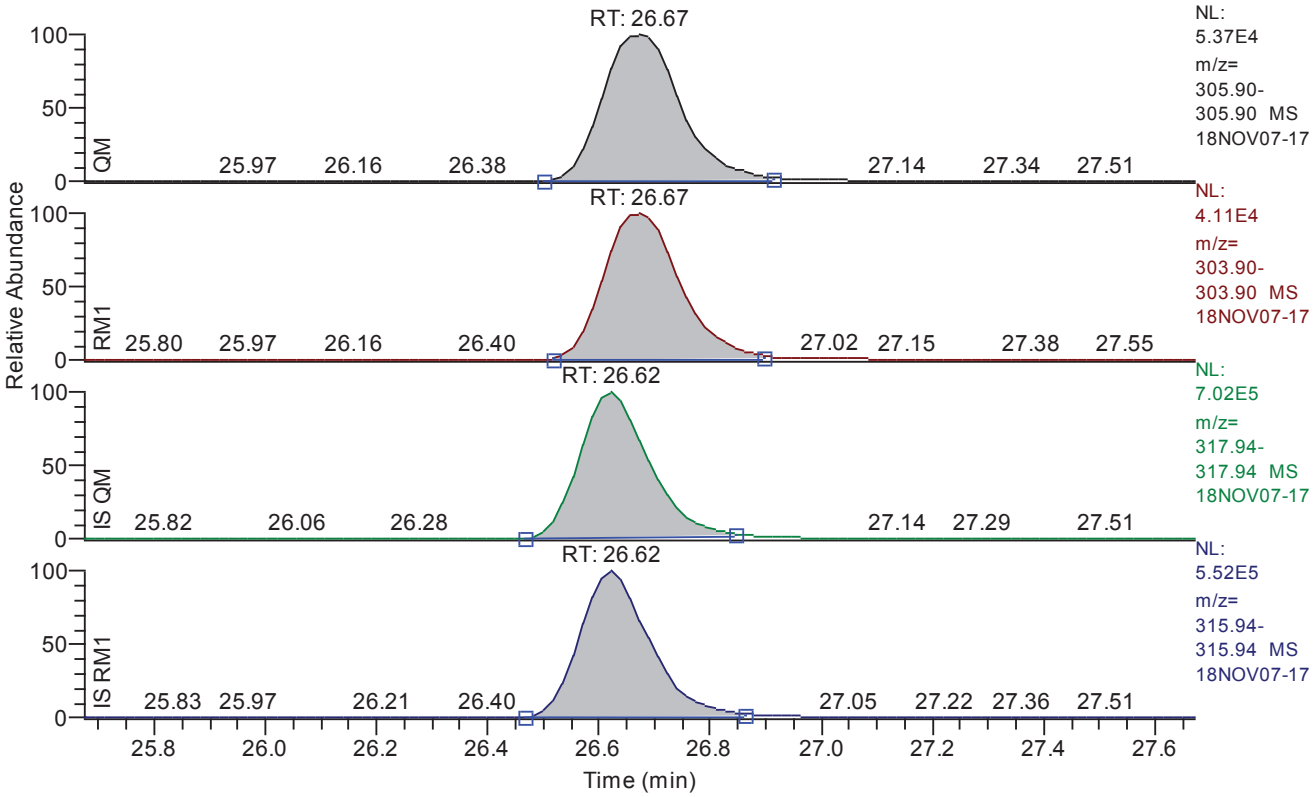
Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

eurofins | Lancaster Laboratories Environmental

Chromatogram

RT: 25.67 - 27.67 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.67
QM Area	518802
QM Integration Mode	A
RM1 Area	388303
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	8.287015
Adjusted Amount (A)	8.2870
Signal-to-Noise	2184
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.67	26.67	26.67	26.62	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.74	24.74	24.74	24.74	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.62	26.62	26.62	26.62	passed	passed

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

eurofins | Lancaster Laboratories Environmental

Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.67	0.7485	0.6450 - 0.8950	passed	82.87	0 - 0	passed
2	13C12-1234-TCDD	24.74	0.7949	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.62	0.7904	0.6450 - 0.8950	passed	85.52	0 - 0	passed

APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.67	518802	A	388303	A	0.0085	8.287015	8.2870	10.000000	2184	
2	13C12-1234-TCDD	passed	24.74	3437148	A	2732176	A	0.0342	100.000000	100.0000	100.000000	7306	
3	13C12-2378-TCDF	passed	26.62	6005128	A	4746363	A	0.0139	85.517417	85.5174	100.000000	14548	

APPROVED
By uma9 at 2:07 pm, 11/8/18

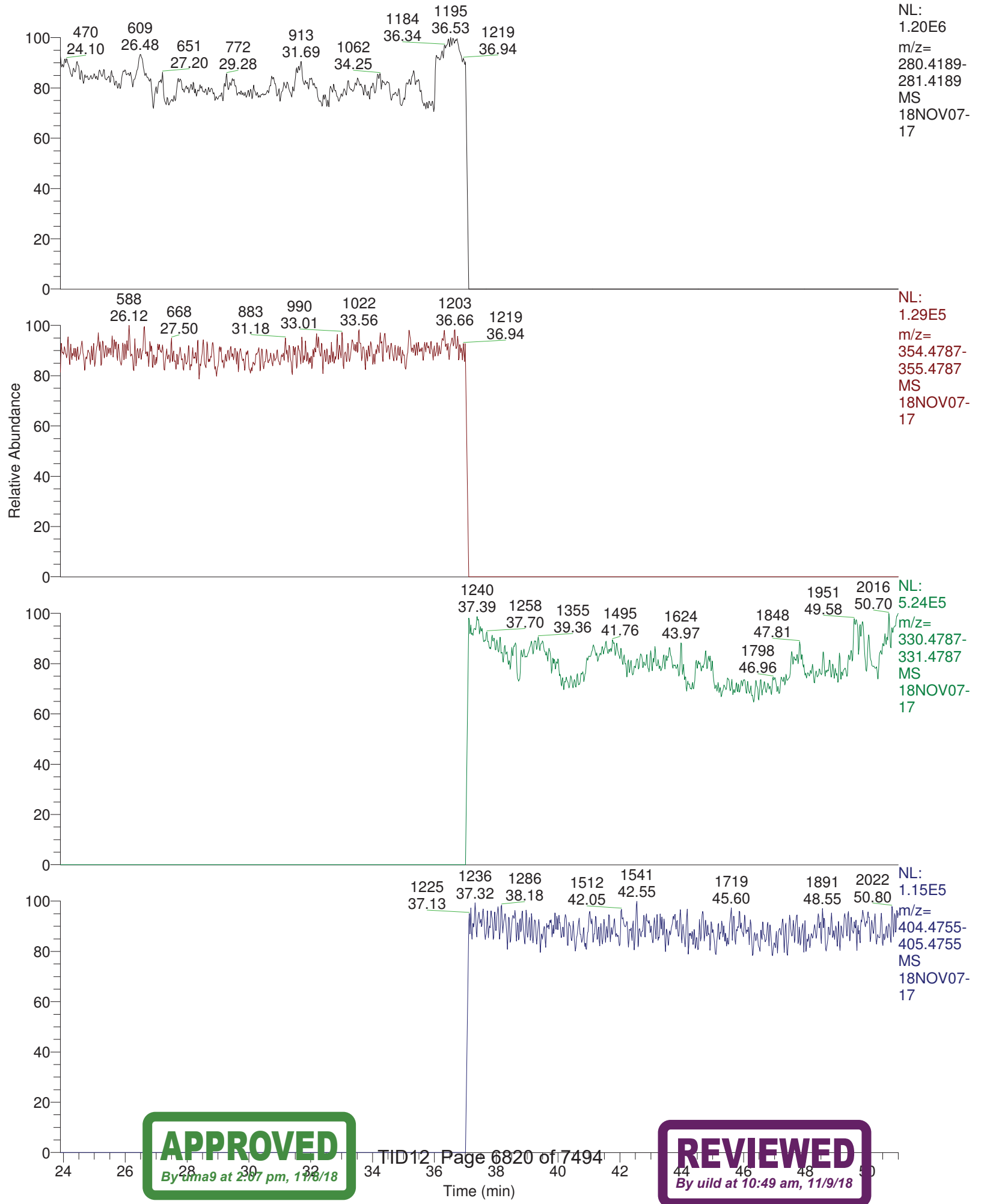
REVIEWED
By uild at 10:49 am, 11/9/18

File Name: Y:\18NOV07Conf\18NOV07-17
Sample ID: CS3CC03

Acq. Data: 11/8/2018 4:02:36 AM
Sample Name: VER-CALDF41837C
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV07Conf

RT: 23.90 - 51.00



APPROVED
By uma9 at 2:07 pm, 11/8/18

REVIEWED
By uild at 10:49 am, 11/9/18

*** file opened Thu Nov 08 04:07:01 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 08-Nov-18 04:07:00

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9996	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-199.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0381	FVSRC	0.0340
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	98.5000	LKM	330.9792	MASS	98.5000
MDAC	957780.3869	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9685	RELEN	0.0000
RES	12870.3600	RPUSHER	-15.8315	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0172	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.4e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.4e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12934.
MID Time Window 2: Resolution is 12870.

Amplifier Offset: 87.

18NOV07-17
*** File closed Thu Nov 08 04:59:32 2018
***

Raw QC Data

Dioxins/Furans by HRMS

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 23:25
Number of Entries	284
Comment	BLK:11030:12937
Vial	32
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	BLK302007
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-16.quan
Data	y:\18nov01\18nov01-16.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.20	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	30.36	failed	failed	passed	passed	passed	passed	Failed on: CAA
3	12378-PeCDF	35.26	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.51	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.90	failed	passed	failed	failed	passed	passed	Failed on: Ratio1A RM1Time2 > max
6	123478-HxCDF	40.25	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.39	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
8	234678-HxCDF	41.12	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.30	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.43	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
11	123789-HxCDD	41.72	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
12	123789-HxCDF	42.13	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.86	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
14	1234678-HpCDD	45.08	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.61	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
16	OCDD	48.12	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
17	OCDF	48.31	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
18	13C12-1278-TCDD (CRS)	30.75	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.51	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.15	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.18	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.33	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.22	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.50	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.91	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.23	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.37	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.09	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.29	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.41	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.72	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.10	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.86	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.06	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.61	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.11	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.28	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 23:25
Number of Entries	284
Comment	BLK:11030:12937
Vial	32
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	BLK302007
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-16.quan
Data	y:\18nov01\18nov01-16.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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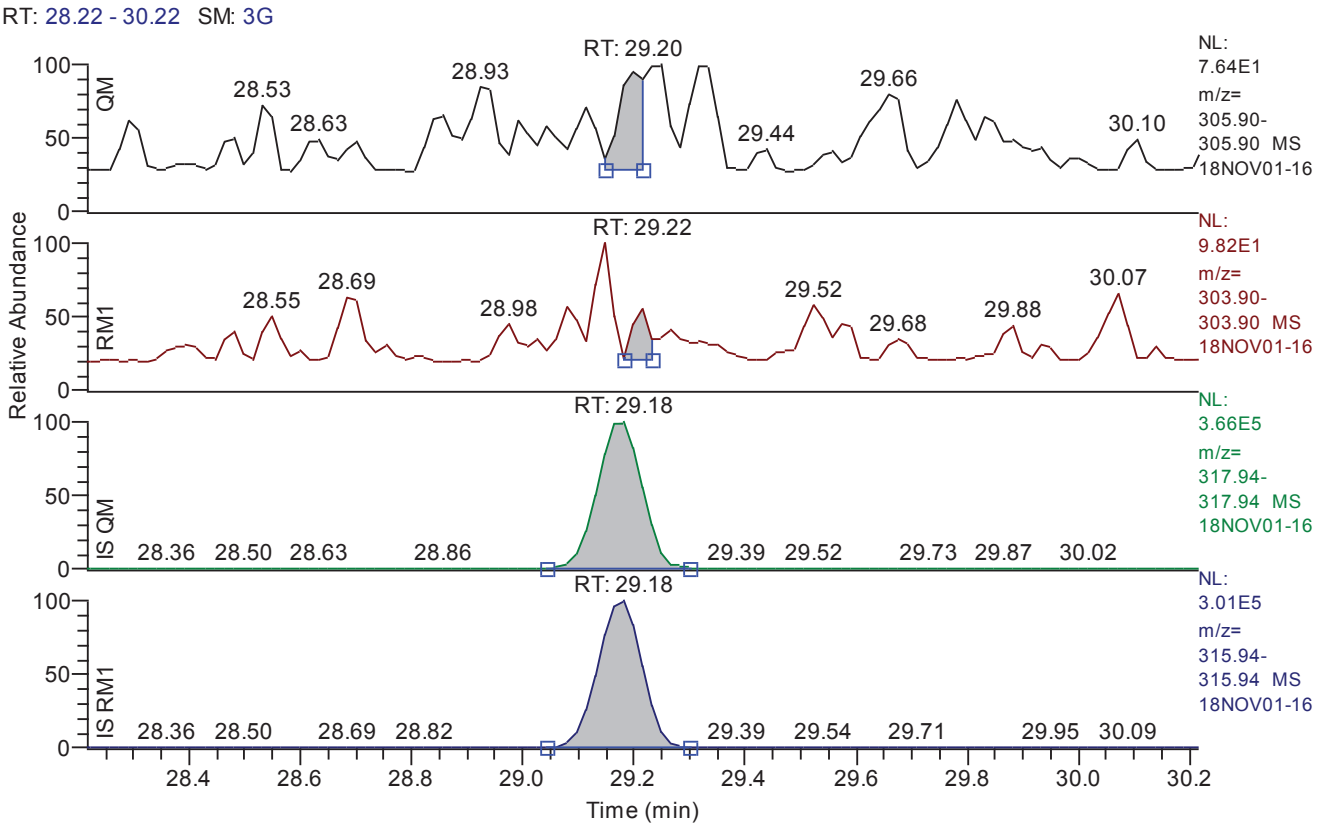
Chromatogram



Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.20
QM Area	144
QM Integration Mode	A
RM1 Area	68
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0105
Unqualified Amount (A)	0.011048
Adjusted Amount (A)	n.d.
Signal-to-Noise	6
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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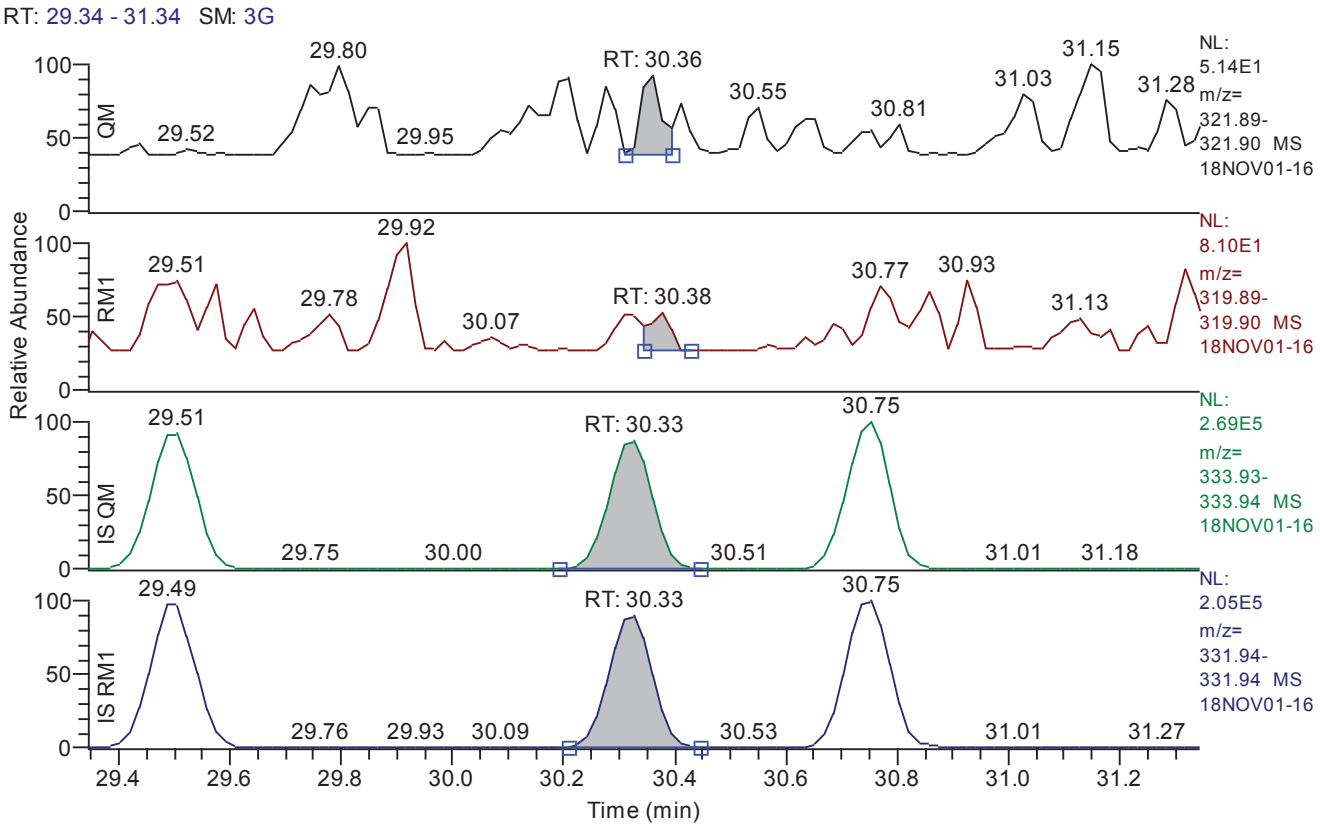
Chromatogram



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.36
QM Area	74
QM Integration Mode	A
RM1 Area	59
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	0.009388
Adjusted Amount (A)	n.d. < 0.0130
Signal-to-Noise	4
Client Flags	
Status Overview	failed
Status Info	Failed on: CAA

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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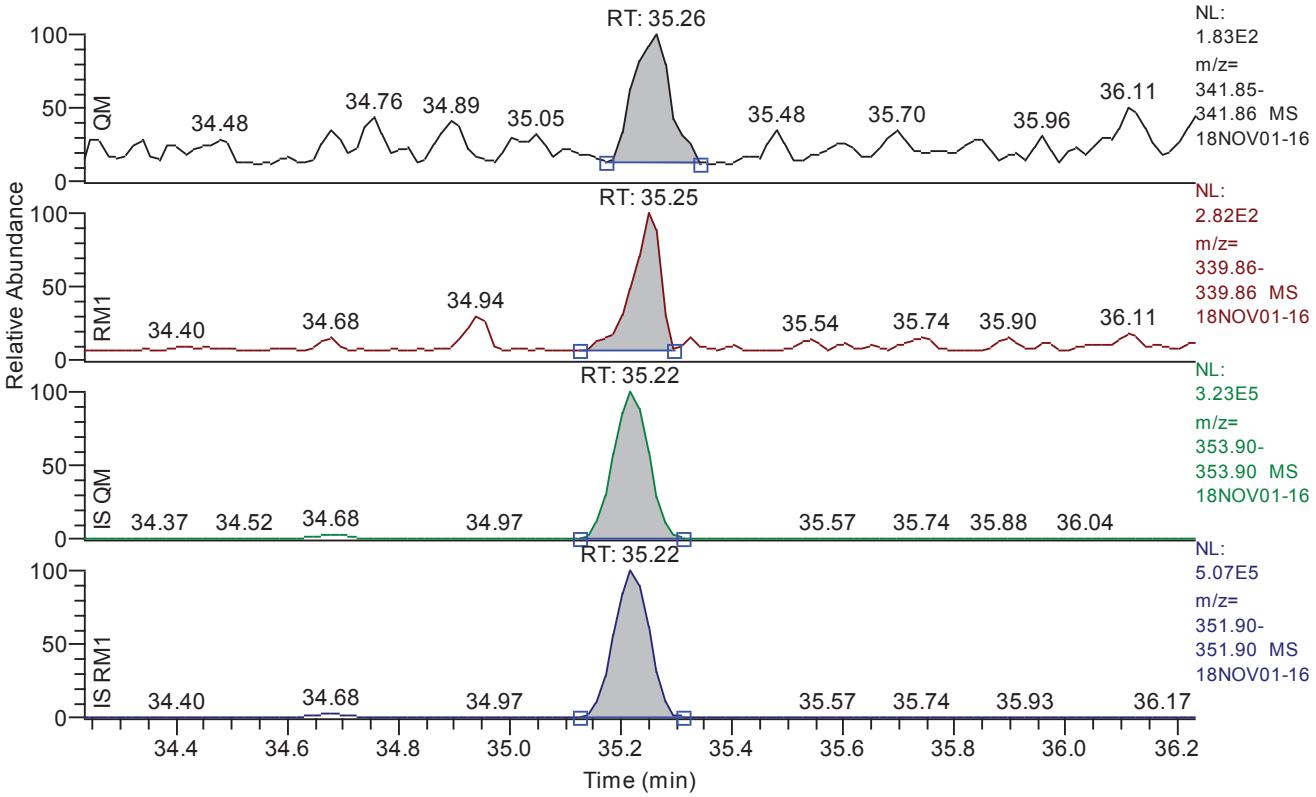
Chromatogram

RT: 34.23 - 36.23 SM: 3G



Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.26
QM Area	750
QM Integration Mode	A
RM1 Area	927
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0094
Unqualified Amount (A)	0.097107
Adjusted Amount (A)	n.d.
Signal-to-Noise	29
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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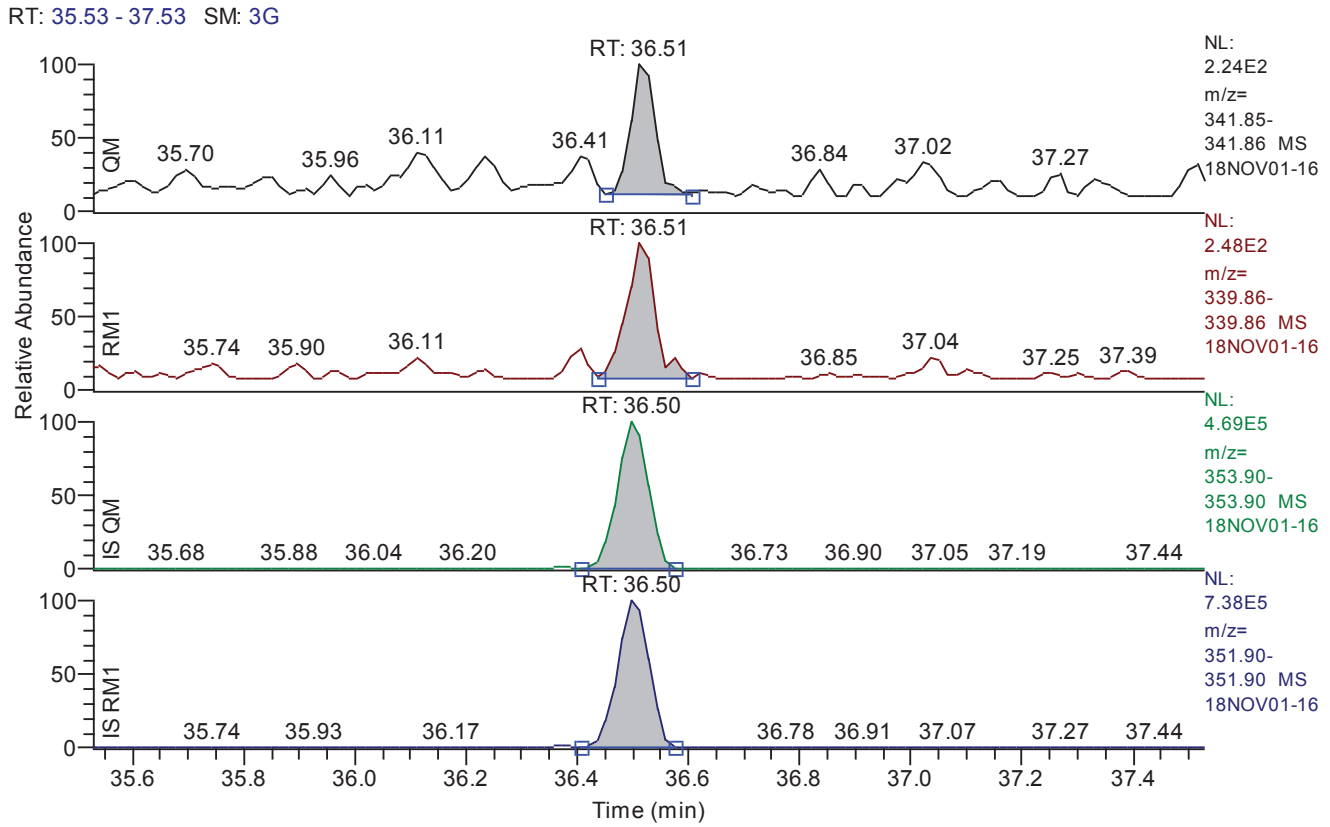
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.51
QM Area	613
QM Integration Mode	A
RM1 Area	813
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0059
Unqualified Amount (A)	0.057589
Adjusted Amount (A)	0.0576
Signal-to-Noise	29
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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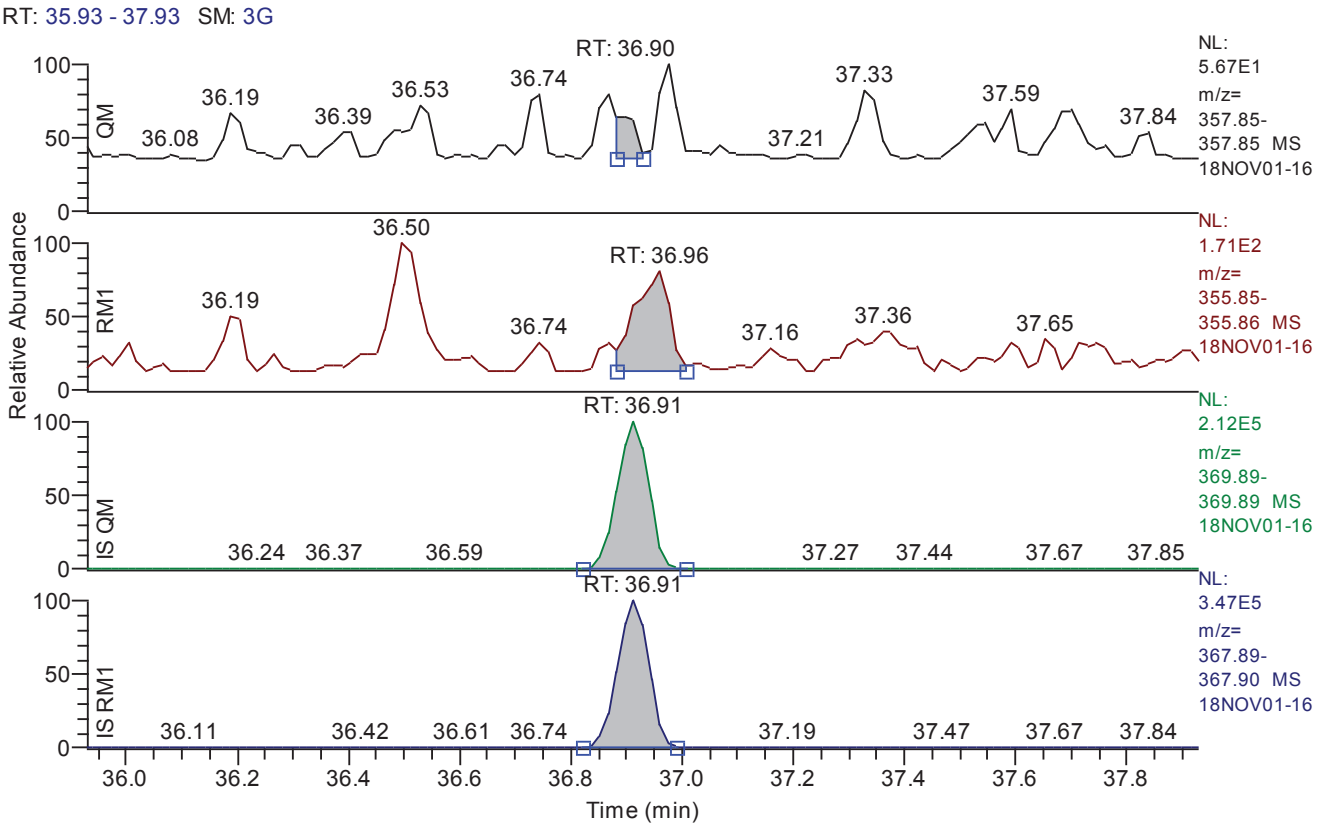
Chromatogram



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.90
QM Area	36
QM Integration Mode	A
RM1 Area	507
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0161
Unqualified Amount (A)	0.048806
Adjusted Amount (A)	n.d.
Signal-to-Noise	7
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time2 > max

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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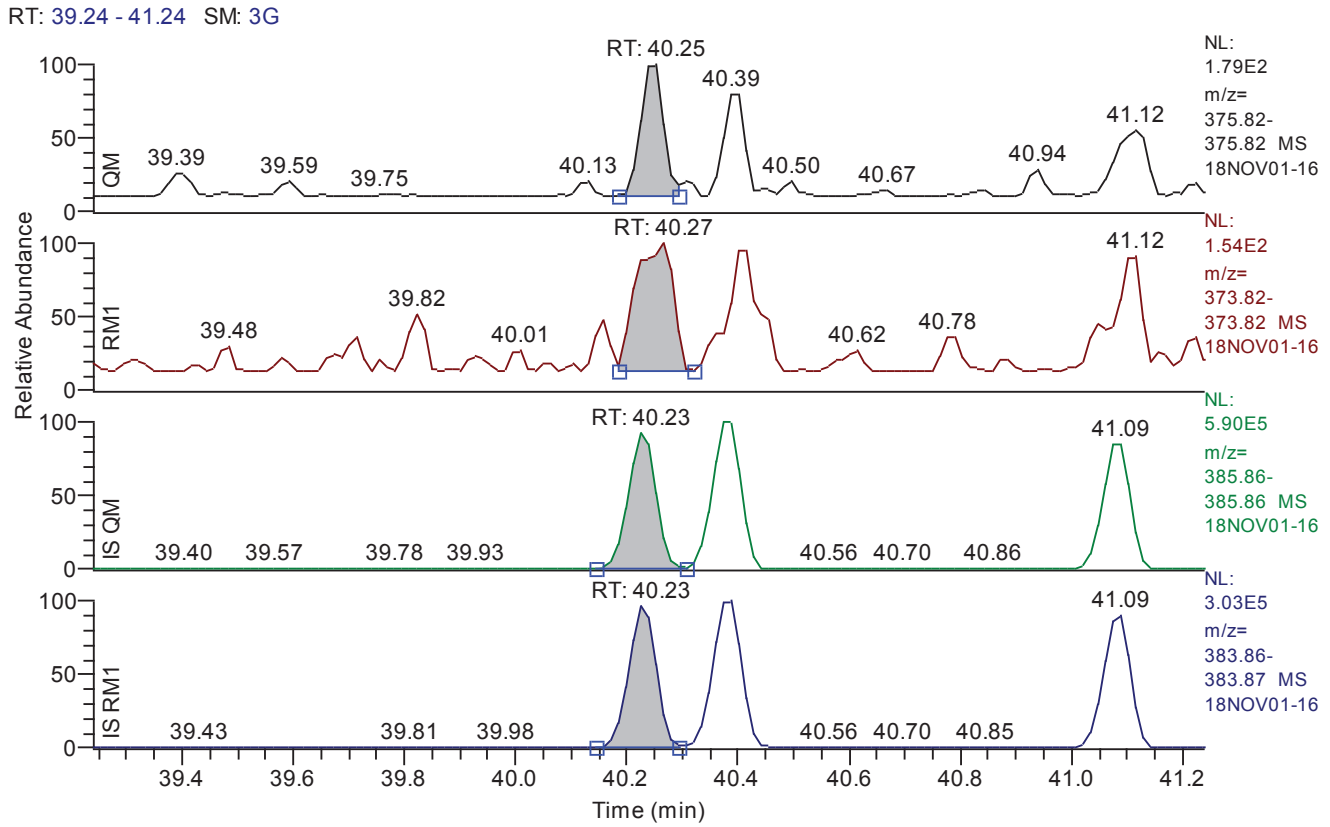
Chromatogram



Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.25
QM Area	451
QM Integration Mode	A
RM1 Area	623
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0074
Unqualified Amount (A)	0.064438
Adjusted Amount (A)	0.0644
Signal-to-Noise	20
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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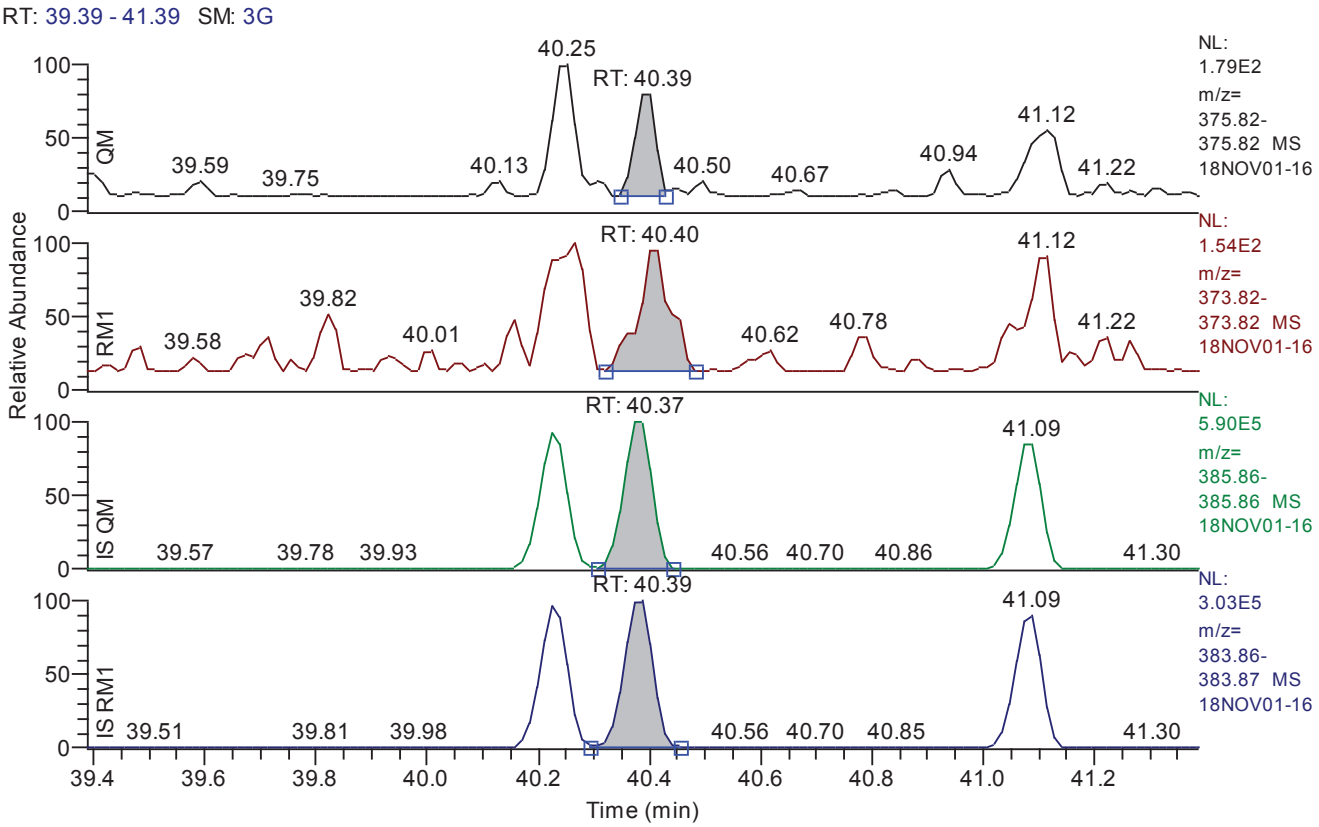
Chromatogram



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.39
QM Area	322
QM Integration Mode	A
RM1 Area	516
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	0.047344
Adjusted Amount (A)	n.d.
Signal-to-Noise	18
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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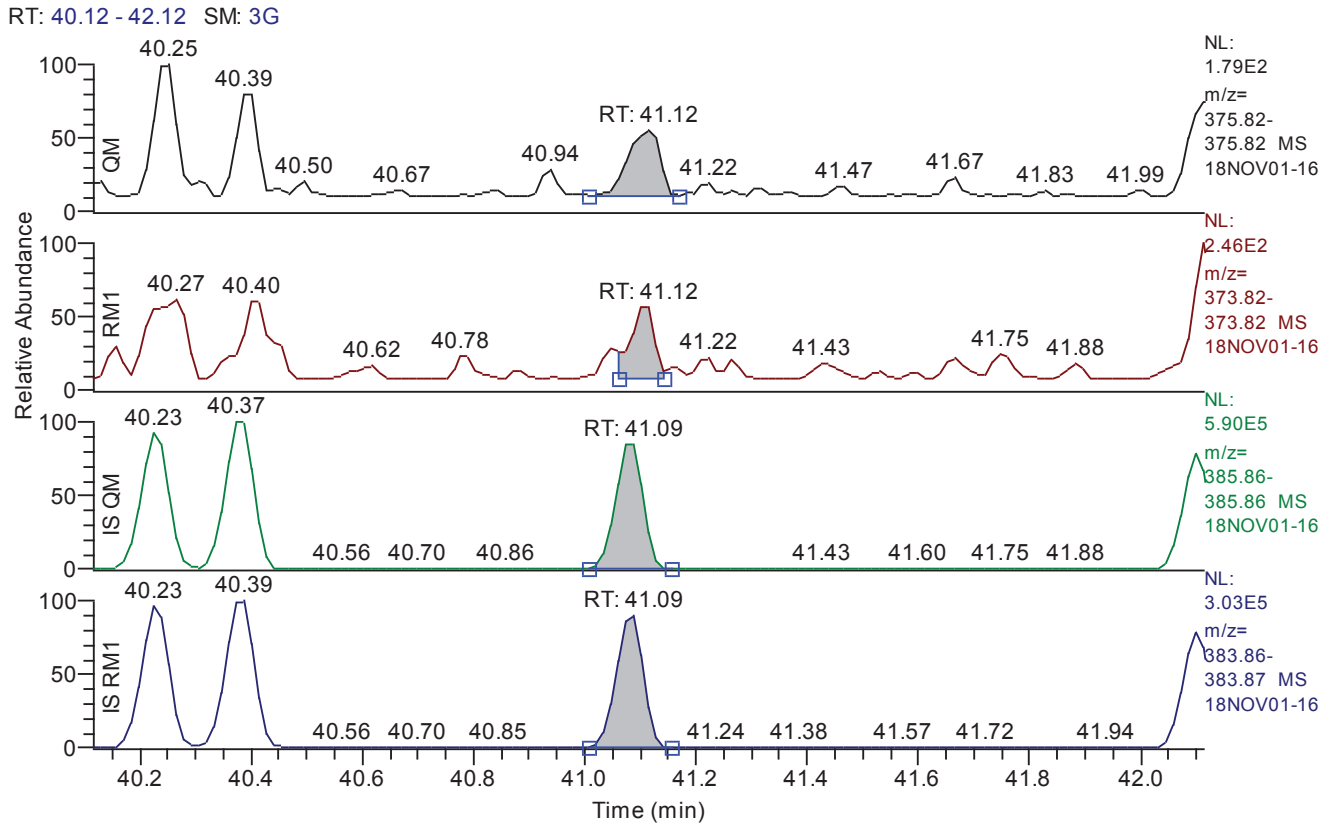
Chromatogram



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.12
QM Area	312
QM Integration Mode	A
RM1 Area	356
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	0.041620
Adjusted Amount (A)	0.0416
Signal-to-Noise	14
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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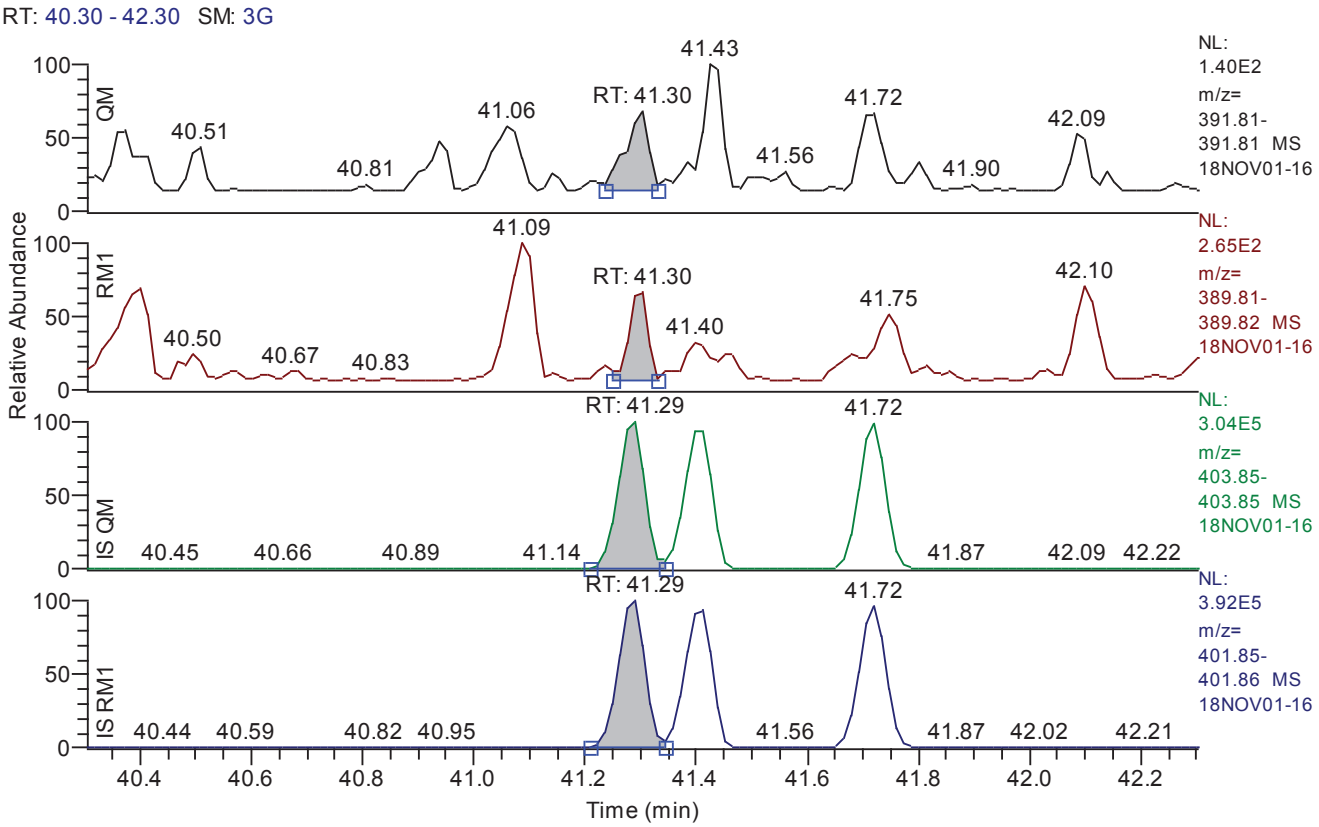
Chromatogram



Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.30
QM Area	221
QM Integration Mode	A
RM1 Area	375
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0107
Unqualified Amount (A)	0.051466
Adjusted Amount (A)	n.d.
Signal-to-Noise	16
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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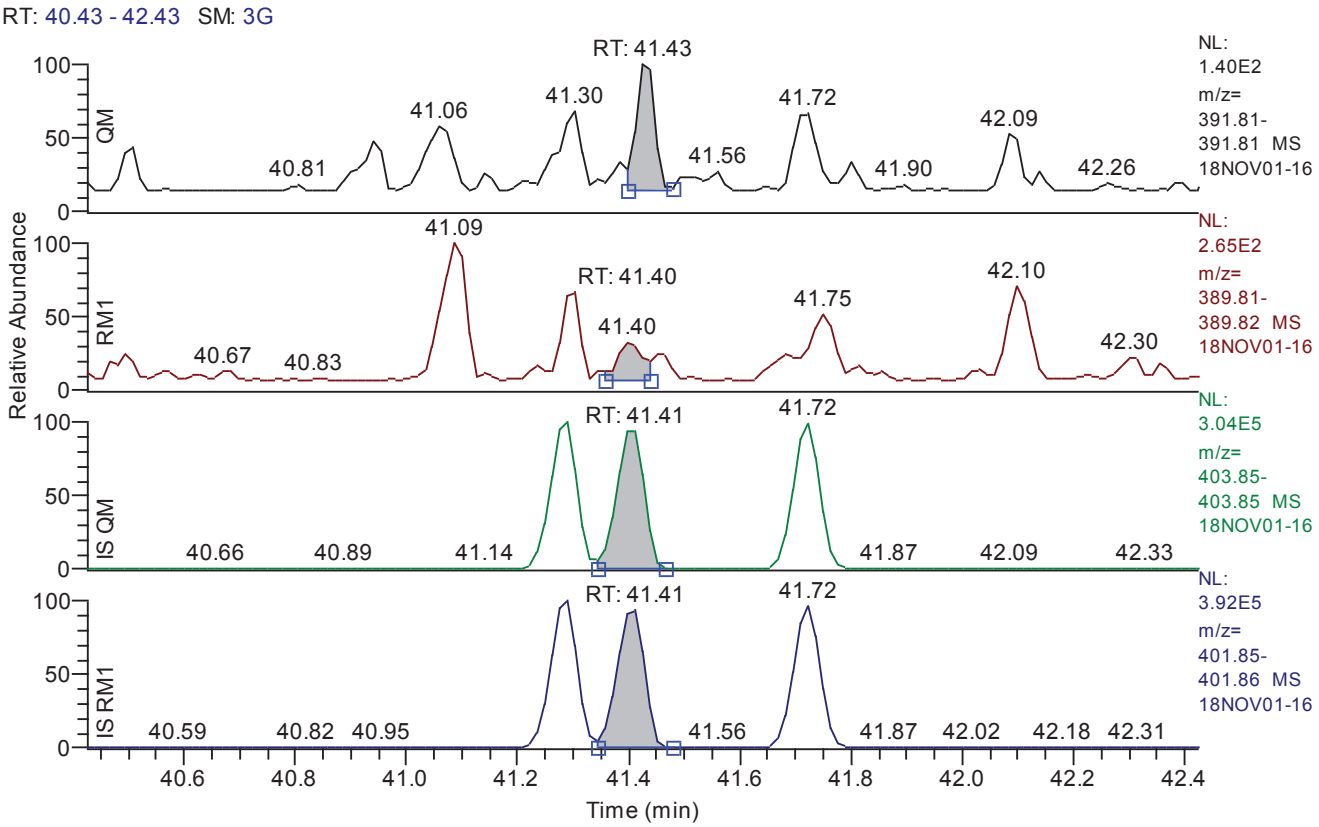
Chromatogram



Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.43
QM Area	273
QM Integration Mode	A
RM1 Area	202
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0117
Unqualified Amount (A)	0.042855
Adjusted Amount (A)	n.d.
Signal-to-Noise	12
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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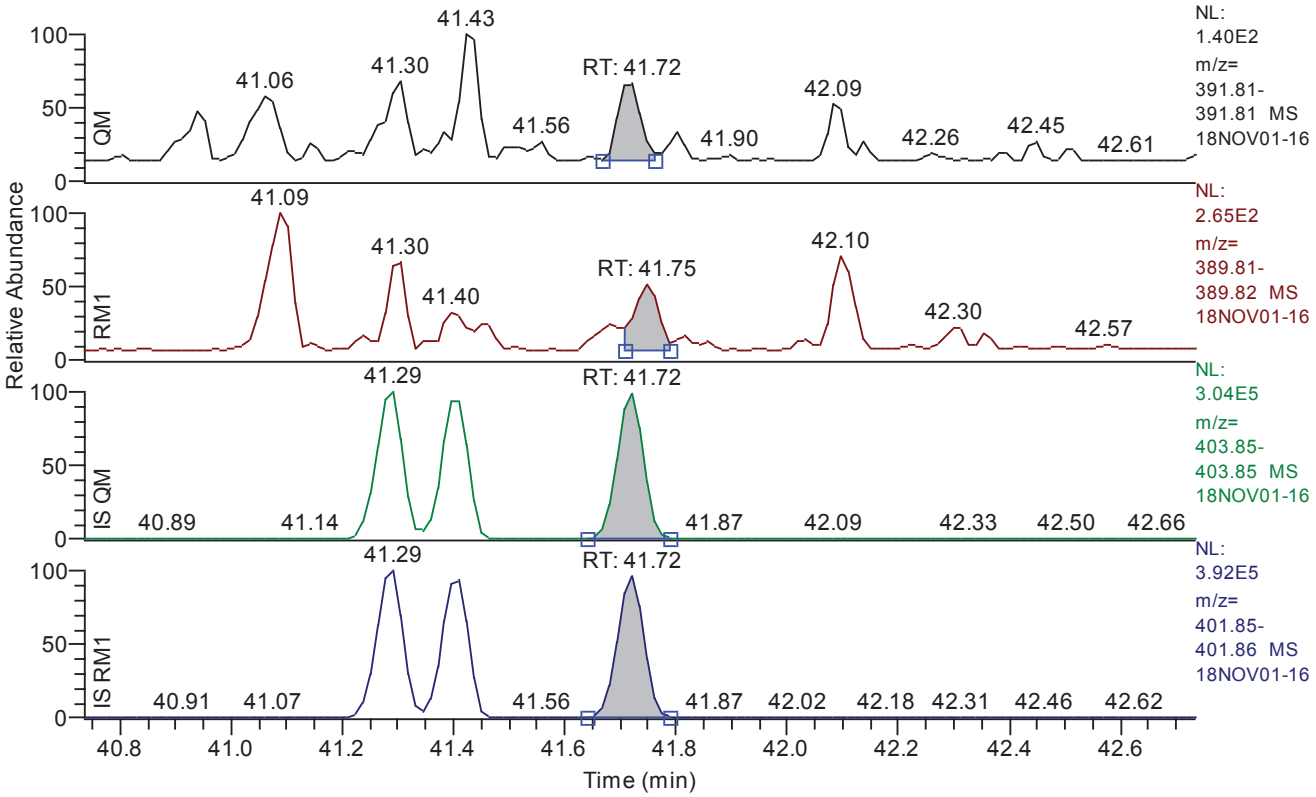
Chromatogram

RT: 40.73 - 42.73 SM: 3G



Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.72
QM Area	209
QM Integration Mode	A
RM1 Area	354
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0103
Unqualified Amount (A)	0.047277
Adjusted Amount (A)	n.d.
Signal-to-Noise	13
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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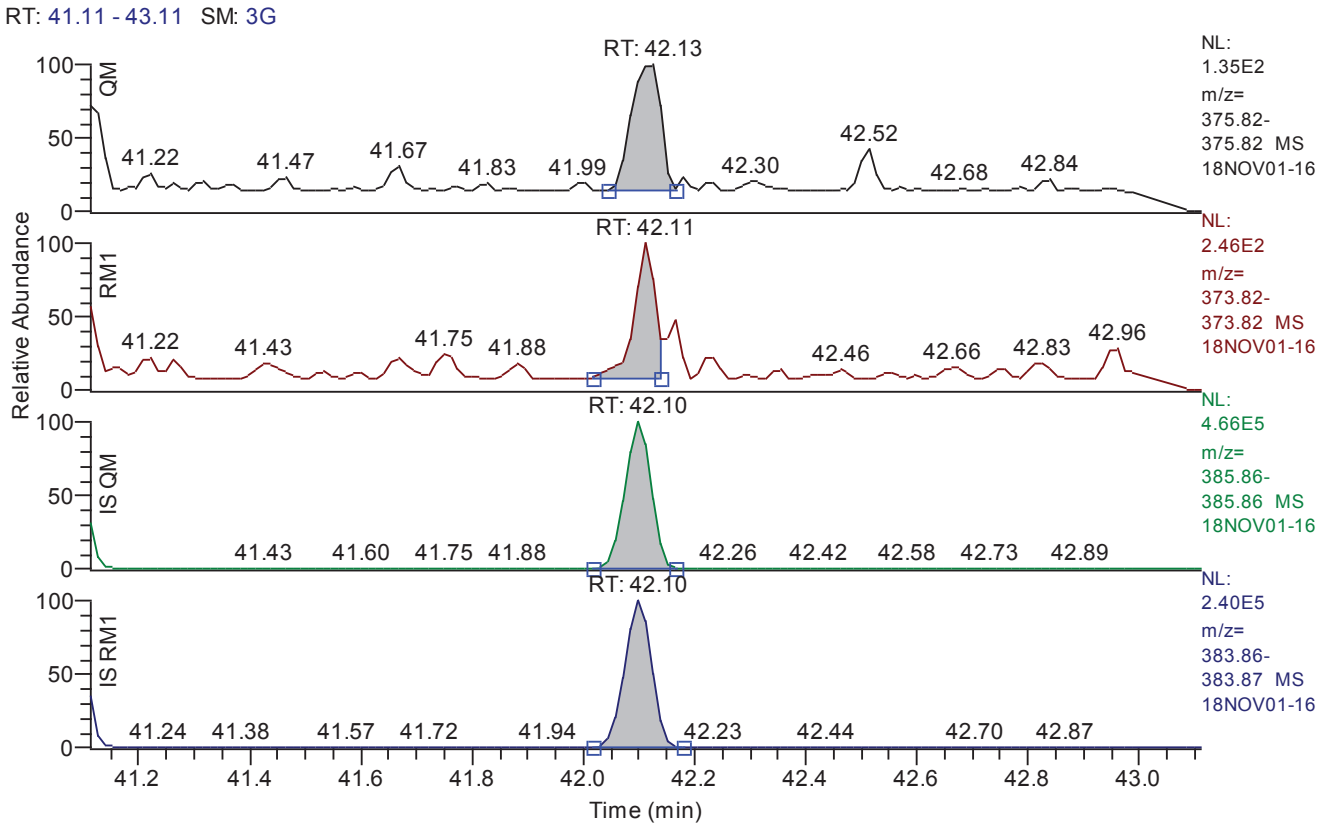
Chromatogram



Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.13
QM Area	427
QM Integration Mode	A
RM1 Area	587
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	0.077022
Adjusted Amount (A)	0.0770
Signal-to-Noise	24
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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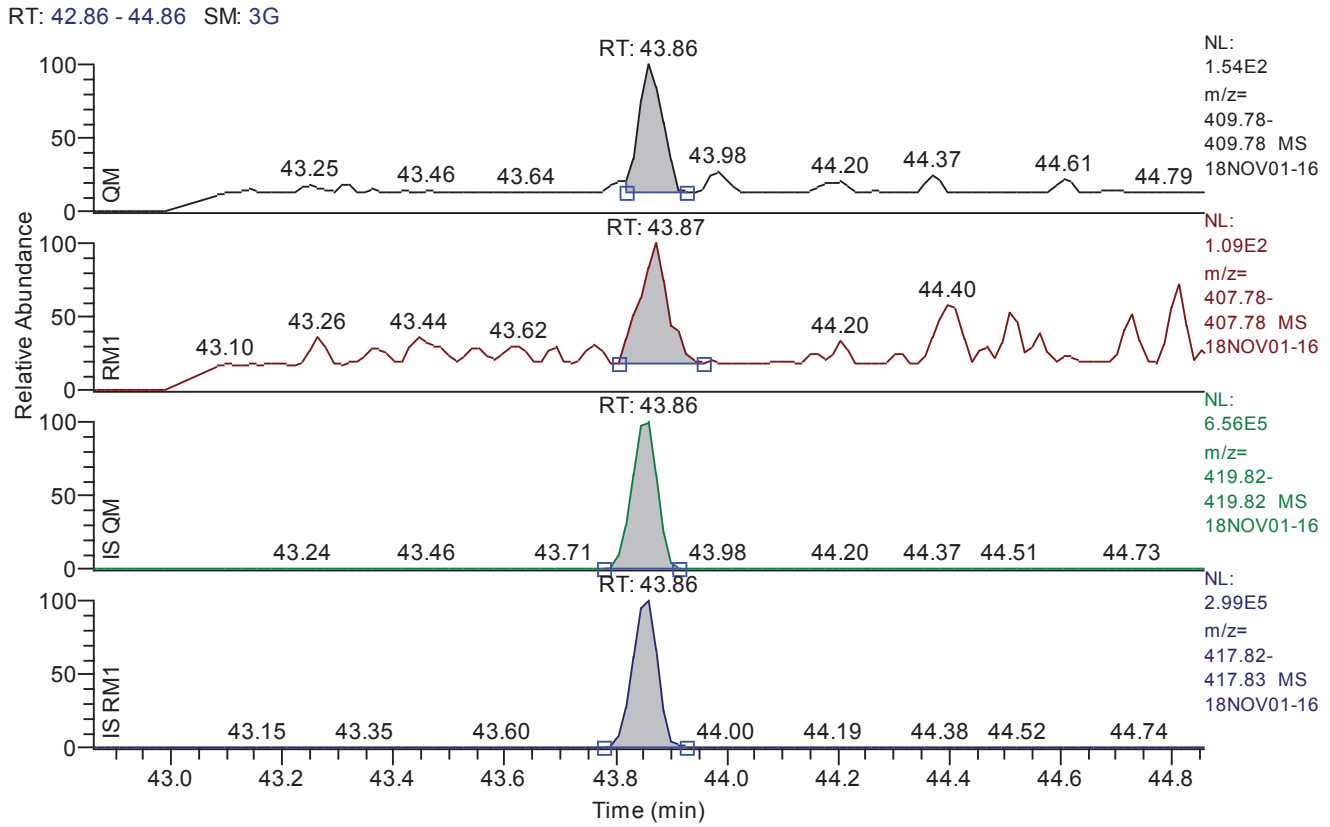
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.86
QM Area	411
QM Integration Mode	A
RM1 Area	321
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	0.037712
Adjusted Amount (A)	n.d.
Signal-to-Noise	19
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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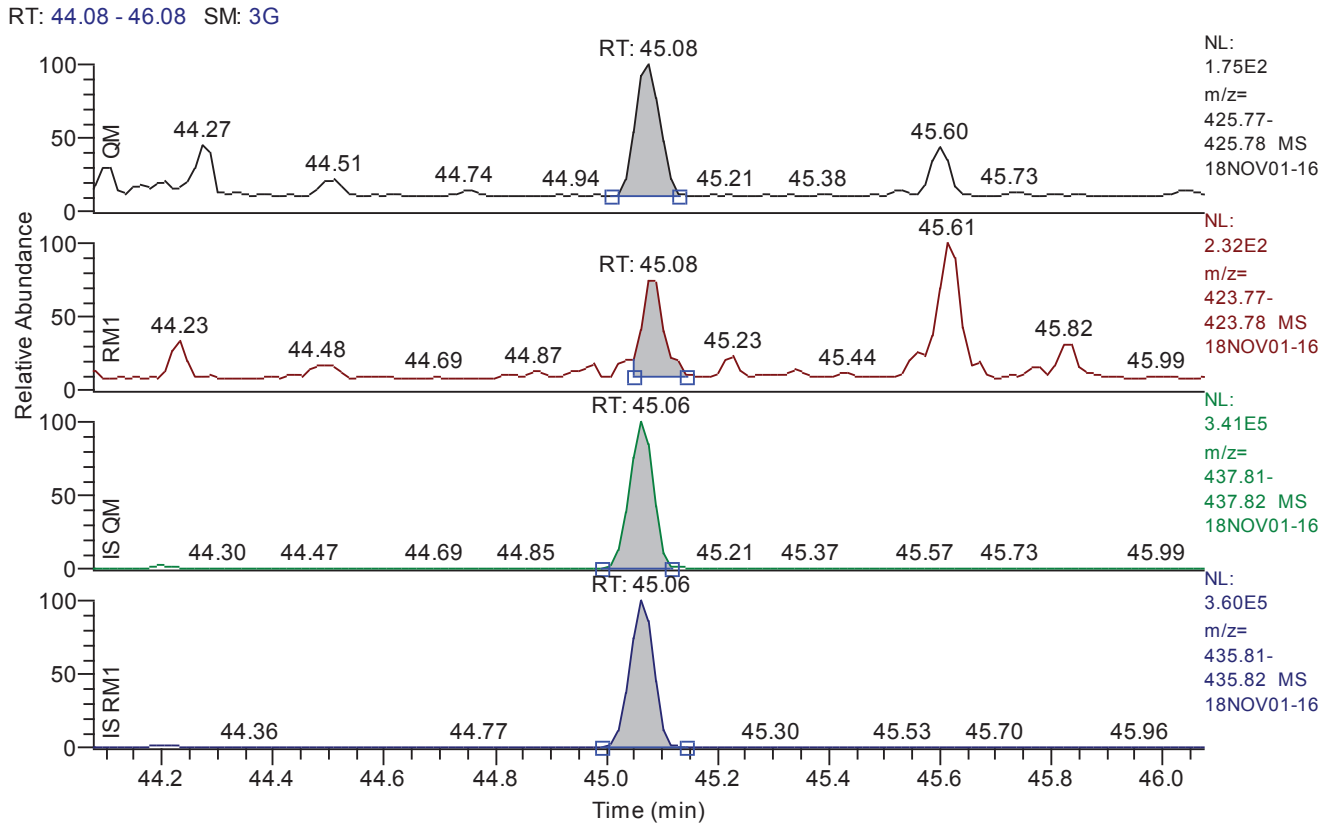
Chromatogram



Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.08
QM Area	491
QM Integration Mode	A
RM1 Area	432
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	0.083186
Adjusted Amount (A)	0.0832
Signal-to-Noise	25
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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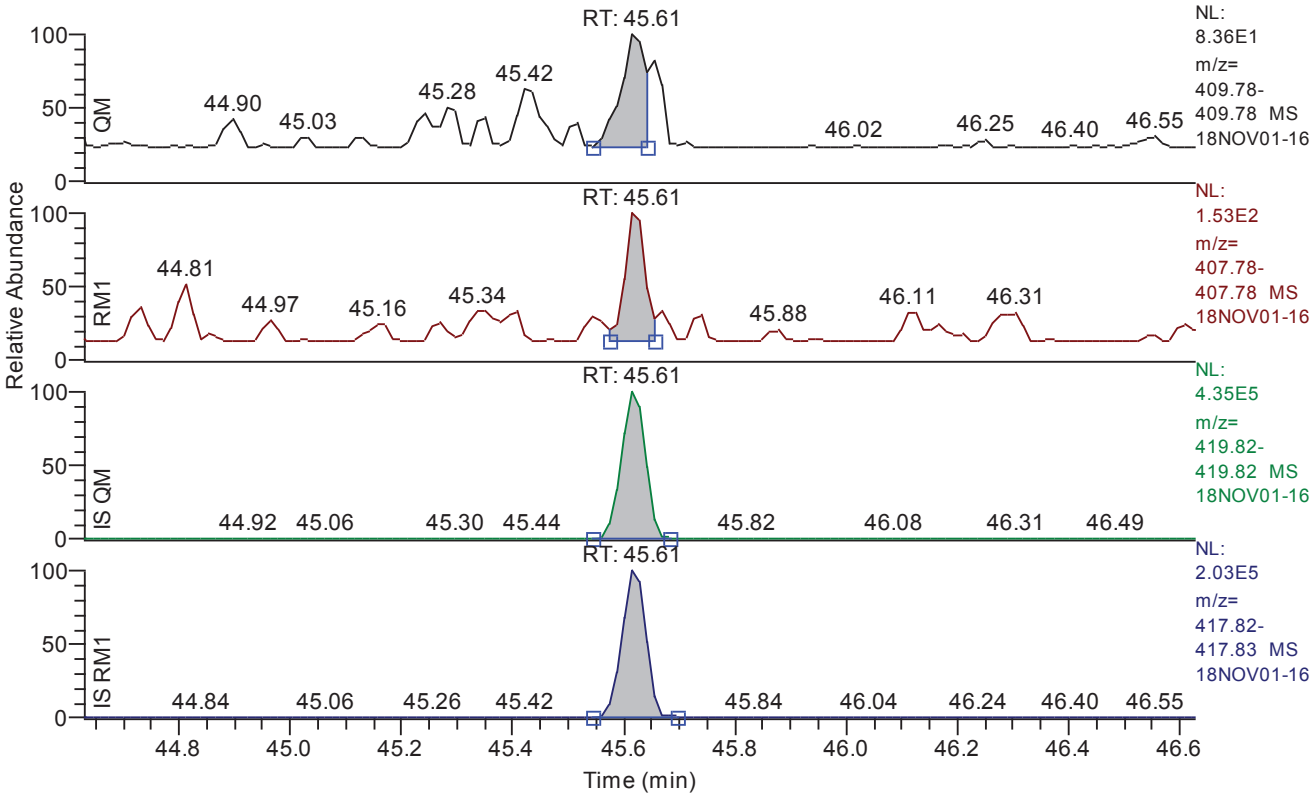
Chromatogram

RT: 44.63 - 46.63 SM: 3G



Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.61
QM Area	189
QM Integration Mode	A
RM1 Area	346
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	0.042189
Adjusted Amount (A)	n.d.
Signal-to-Noise	17
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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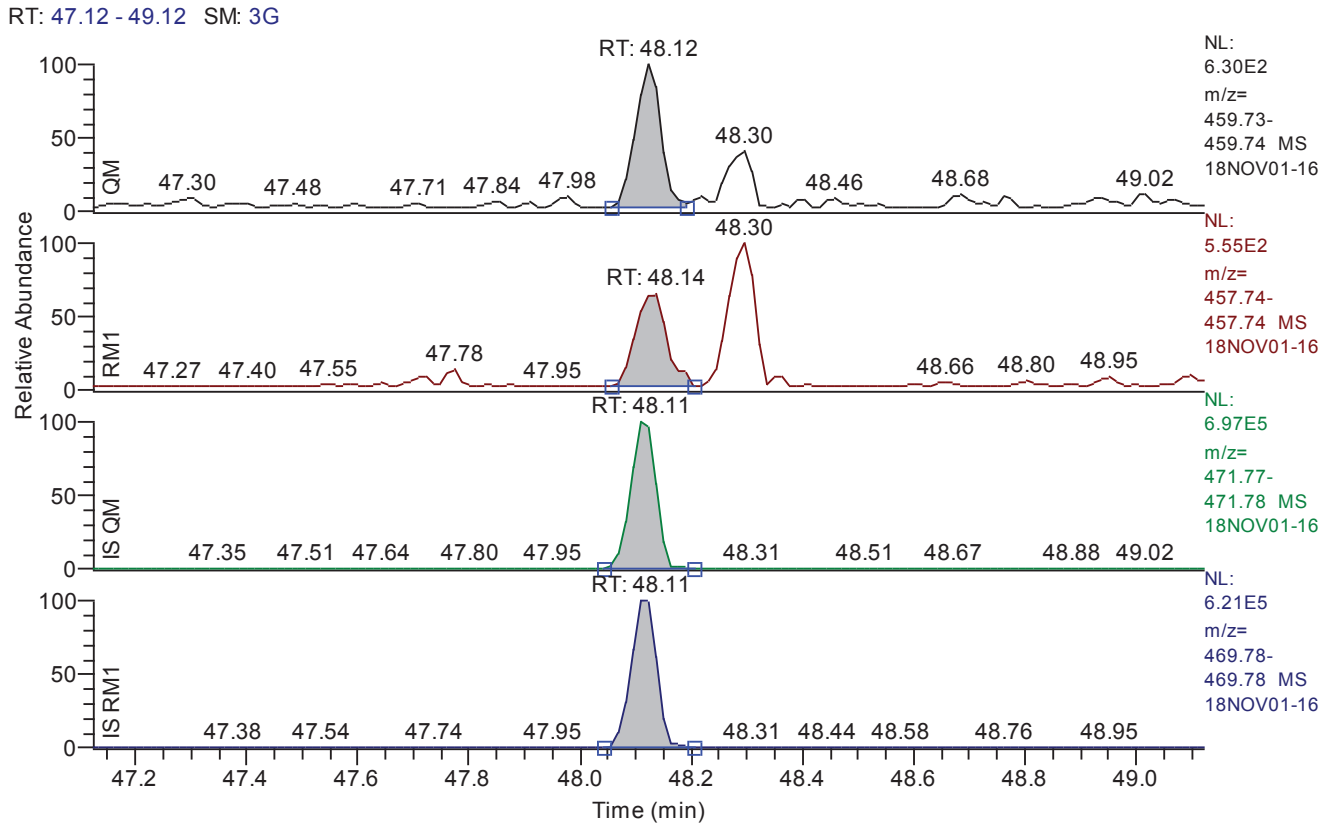
Chromatogram



Entry Parameters

Compound Name	OCDD
QM Retention Time	48.12
QM Area	1913
QM Integration Mode	A
RM1 Area	1343
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0144
Unqualified Amount (A)	0.307294
Adjusted Amount (A)	n.d.
Signal-to-Noise	50
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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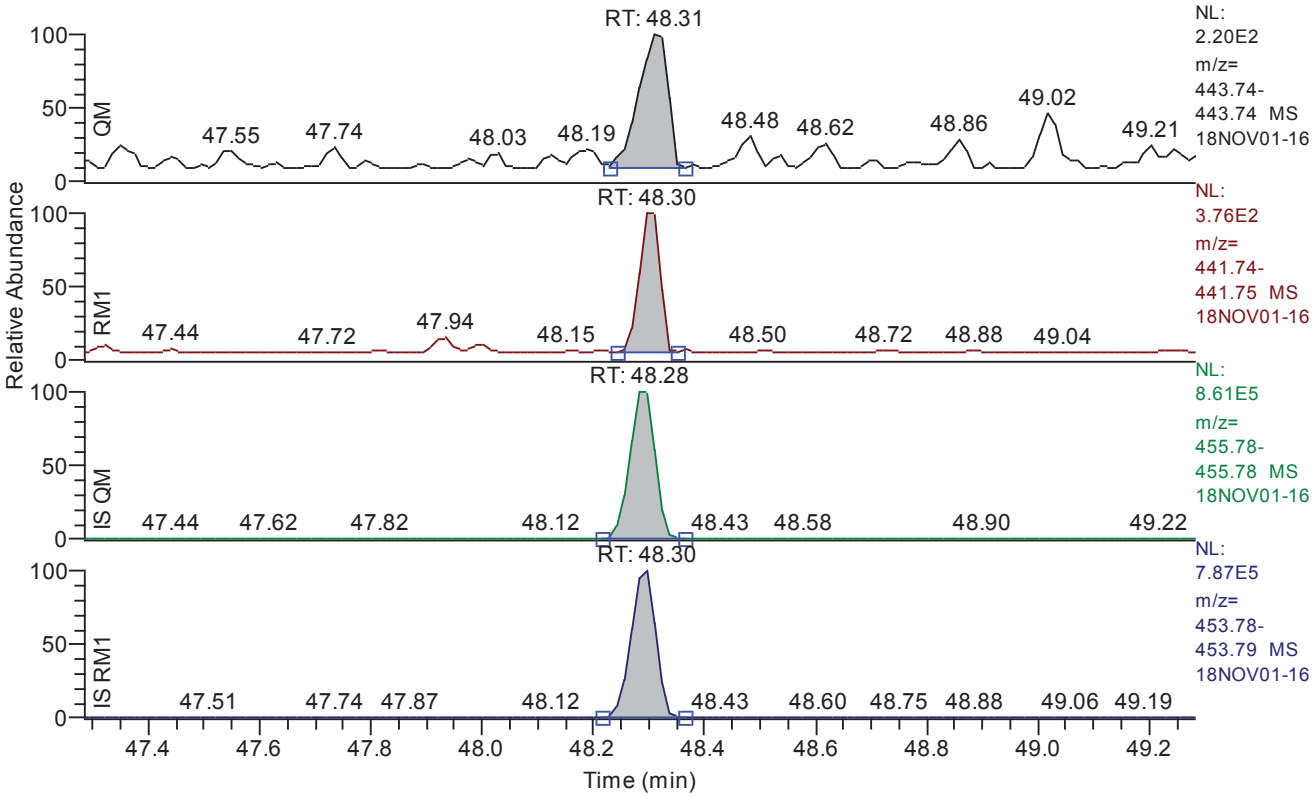
Chromatogram

RT: 47.28 - 49.28 SM: 3G



Entry Parameters

Compound Name	OCDF
QM Retention Time	48.31
QM Area	727
QM Integration Mode	A
RM1 Area	921
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	0.142365
Adjusted Amount (A)	n.d.
Signal-to-Noise	38
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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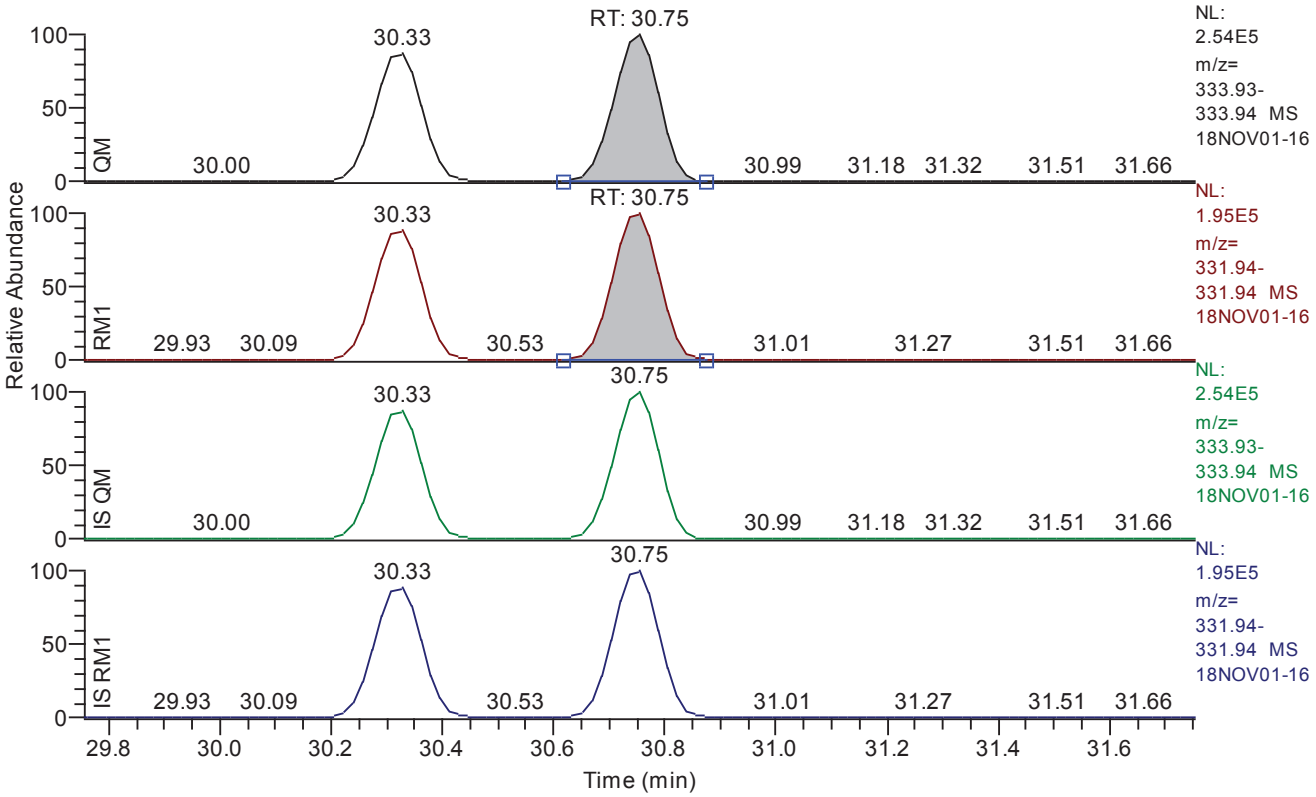
Chromatogram

RT: 29.75 - 31.75 SM: 5G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.75
QM Area	1478649
QM Integration Mode	A
RM1 Area	1154499
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0333
Unqualified Amount (A)	197.794532
Adjusted Amount (A)	197.7945
Signal-to-Noise	14164
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 23:25
Number of Entries	284
Comment	BLK:11030:12937
Vial	32
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	BLK302007
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-16.quan
Data	y:\18nov01\18nov01-16.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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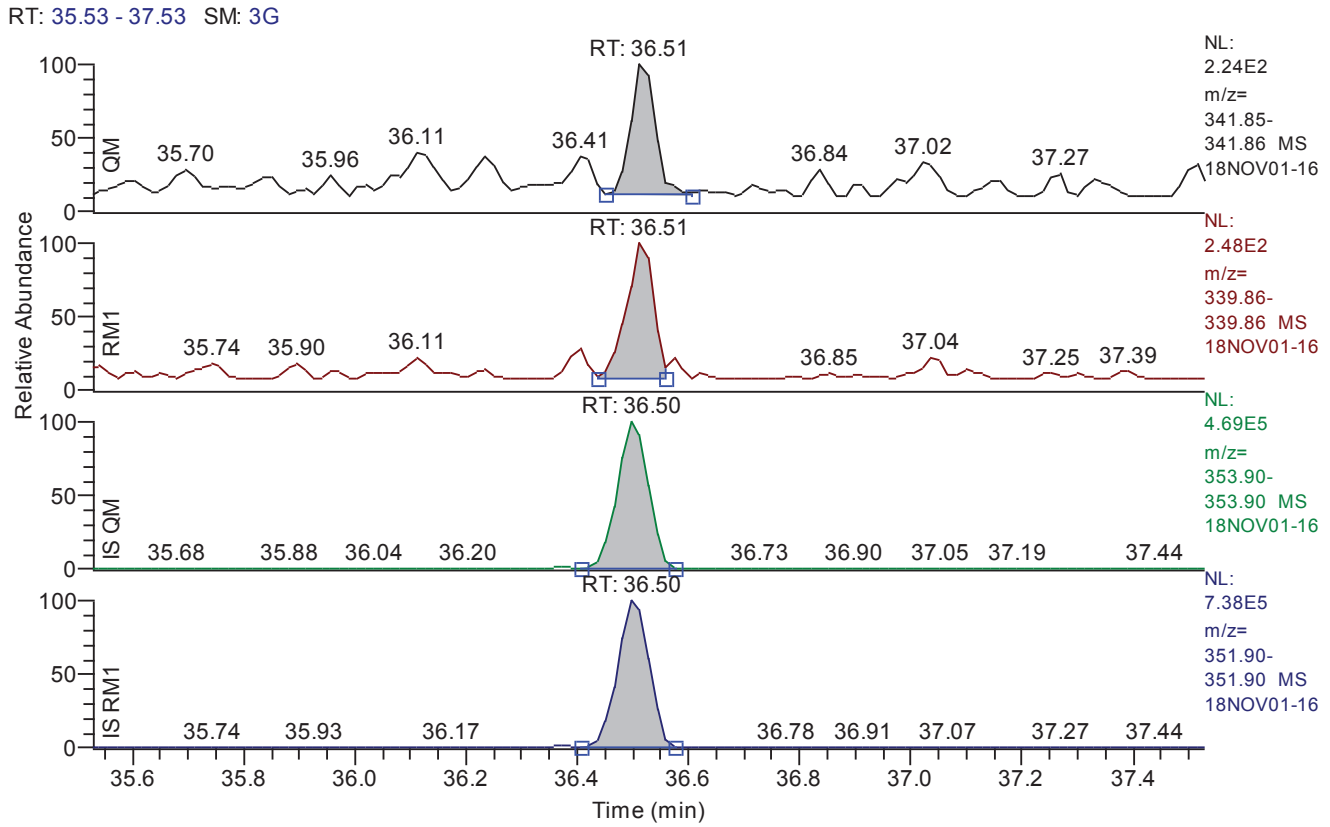
Chromatogram



Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.51
QM Area	613
QM Integration Mode	A
RM1 Area	760
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0059
Unqualified Amount (A)	0.055446
Adjusted Amount (A)	n.d.
Signal-to-Noise	29
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.19	29.20	29.22	29.18	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.34	30.36	30.38	30.33	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.22	35.26	35.25	35.22	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.51	36.51	36.51	36.50	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.91	36.90	36.96	36.91	failed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.23	40.25	40.27	40.23	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.38	40.39	40.40	40.37	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.10	41.12	41.12	41.09	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.29	41.30	41.30	41.29	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.41	41.43	41.40	41.41	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.73	41.72	41.75	41.72	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.11	42.13	42.11	42.10	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.85	43.86	43.87	43.86	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.07	45.08	45.08	45.06	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.62	45.61	45.61	45.61	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.12	48.12	48.14	48.11	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.29	48.31	48.30	48.28	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.73	30.75	30.75	30.75	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.48	29.51	29.49	29.51	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.14	40.15	40.15	40.15	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.16	29.18	29.18	29.16	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.32	30.33	30.33	30.33	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.20	35.22	35.22	35.25	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.48	36.50	36.50	36.59	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.90	36.91	36.91	36.91	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.22	40.23	40.23	40.47	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.37	40.37	40.39	40.47	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.07	41.09	41.09	41.07	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.27	41.29	41.29	41.29	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.39	41.41	41.41	41.41	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.72	41.72	41.72	41.72	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.09	42.10	42.10	42.10	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.85	43.86	43.86	43.96	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.05	45.06	45.06	45.06	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.61	45.61	45.61	45.61	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.10	48.11	48.11	48.11	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.29	48.28	48.30	48.34	passed	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.20	0.4723	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	30.36	0.7950	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	35.26	1.2351	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.51	1.3256	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.90	14.1462	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.25	1.3810	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.39	1.6030	1.0450 - 1.4350	failed	---	0 - 0	passed
8	234678-HxCDF	41.12	1.1393	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.30	1.6976	1.0450 - 1.4350	failed	---	0 - 0	passed
10	123678-HxCDD	41.43	0.7422	1.0450 - 1.4350	failed	---	0 - 0	passed
11	123789-HxCDD	41.72	1.6945	1.0450 - 1.4350	failed	---	0 - 0	passed
12	123789-HxCDF	42.13	1.3750	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.86	0.7796	0.8750 - 1.2050	failed	---	0 - 0	passed
14	1234678-HpCDD	45.08	0.8798	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.61	1.8239	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	48.12	0.7021	0.7550 - 1.0250	failed	---	0 - 0	passed
17	OCDF	48.31	1.2657	0.7550 - 1.0250	failed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.75	0.7808	0.6450 - 0.8950	passed	98.90	35 - 197	passed
19	13C12-1234-TCDD	29.51	0.8039	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.15	1.2707	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.18	0.8146	0.6450 - 0.8950	passed	76.61	40 - 135	passed
22	13C12-2378-TCDD	30.33	0.7817	0.6450 - 0.8950	passed	91.88	40 - 135	passed
23	13C12-12378-PeCDF	35.22	1.5776	1.3150 - 1.7850	passed	76.05	40 - 135	passed
24	13C12-23478-PeCDF	36.50	1.6006	1.3150 - 1.7850	passed	97.63	40 - 135	passed
25	13C12-12378-PeCDD	36.91	1.6348	1.3150 - 1.7850	passed	82.71	40 - 135	passed
26	13C12-123478-HxCDF	40.23	0.5311	0.4250 - 0.5950	passed	70.41	40 - 135	passed
27	13C12-123678-HxCDF	40.37	0.5203	0.4250 - 0.5950	passed	74.02	40 - 135	passed
28	13C12-234678-HxCDF	41.09	0.5346	0.4250 - 0.5950	passed	67.47	40 - 135	passed
29	13C12-123478-HxCDD	41.29	1.2925	1.0450 - 1.4350	passed	82.35	40 - 135	passed
30	13C12-123678-HxCDD	41.41	1.2891	1.0450 - 1.4350	passed	78.89	40 - 135	passed
31	13C12-123789-HxCDD	41.72	1.2587	1.0450 - 1.4350	passed	82.79	40 - 135	passed
32	13C12-123789-HxCDF	42.10	0.5271	0.4250 - 0.5950	passed	63.89	40 - 135	passed
33	13C12-1234678-HpCDF	43.86	0.4525	0.3650 - 0.5150	passed	83.18	40 - 135	passed
34	13C12-1234678-HpCDD	45.06	1.0694	0.8750 - 1.2050	passed	80.52	40 - 135	passed
35	13C12-1234789-HpCDF	45.61	0.4672	0.3650 - 0.5150	passed	64.47	40 - 135	passed
36	13C12-OCDD	48.11	0.9010	0.7550 - 1.0250	passed	83.52	40 - 135	passed
37	13C12-OCDF	48.28	0.9011	0.7550 - 1.0250	passed	65.10	40 - 135	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	29.20	144	A	68	A	0.0105	0.011048	n.d.	0.000000	6	
2	2378-TCDD	failed	30.36	74	A	59	A	0.0130	0.009388	n.d. < 0.0130	0.000000	4	
3	12378-PeCDF	failed	35.26	750	A	927	A	0.0094	0.097107	n.d.	0.000000	29	
4	23478-PeCDF	passed	36.51	613	A	813	M	0.0059	0.057589	0.0576	0.000000	29	
5	12378-PeCDD	failed	36.90	36	A	507	A	0.0161	0.048806	n.d.	0.000000	7	
6	123478-HxCDF	passed	40.25	451	A	623	A	0.0074	0.064438	0.0644	0.000000	20	
7	123678-HxCDF	failed	40.39	322	A	516	A	0.0072	0.047344	n.d.	0.000000	18	
8	234678-HxCDF	passed	41.12	312	A	356	A	0.0076	0.041620	0.0416	0.000000	14	
9	123478-HxCDD	failed	41.30	221	A	375	A	0.0107	0.051466	n.d.	0.000000	16	
10	123678-HxCDD	failed	41.43	273	A	202	A	0.0117	0.042855	n.d.	0.000000	12	
11	123789-HxCDD	failed	41.72	209	A	354	A	0.0103	0.047277	n.d.	0.000000	13	
12	123789-HxCDF	passed	42.13	427	A	587	A	0.0091	0.077022	0.0770	0.000000	24	
13	1234678-HpCDF	failed	43.86	411	A	321	A	0.0049	0.037712	n.d.	0.000000	19	
14	1234678-HpCDD	passed	45.08	491	A	432	A	0.0086	0.083186	0.0832	0.000000	25	
15	1234789-HpCDF	failed	45.61	189	A	346	A	0.0071	0.042189	n.d.	0.000000	17	
16	OCDD	failed	48.12	1913	A	1343	A	0.0144	0.307294	n.d.	0.000000	50	
17	OCDF	failed	48.31	727	A	921	A	0.0098	0.142365	n.d.	0.000000	38	
18	13C12-1278-TCDD (CRS)	passed	30.75	1478649	A	1154499	A	0.0333	197.794532	197.7945	200.000000	14164	
19	13C12-1234-TCDD	passed	29.51	1402746	A	1127625	A	0.0330	200.000000	200.0000	200.000000	15155	
20	13C12-123468-HxCDD	passed	40.15	1234286	A	1568438	A	0.0347	200.000000	200.0000	200.000000	14408	
21	13C12-2378-TCDF	passed	29.18	2082999	A	1696792	A	0.0200	153.211306	153.2113	200.000000	18902	
22	13C12-2378-TCDD	passed	30.33	1309321	A	1023523	A	0.0329	183.754826	183.7548	200.000000	14116	
23	13C12-12378-PeCDF	passed	35.22	1437300	A	2267437	A	0.0593	152.091290	152.0913	200.000000	8023	
24	13C12-23478-PeCDF	passed	36.50	1841235	A	2947116	A	0.0590	195.261221	195.2612	200.000000	11652	
25	13C12-12378-PeCDD	passed	36.91	827740	A	1353169	A	0.0342	165.418142	165.4181	200.000000	17287	
26	13C12-123478-HxCDF	passed	40.23	1886815	A	1002165	A	0.0277	140.826892	140.8269	200.000000	12866	
27	13C12-123678-HxCDF	passed	40.37	2089159	A	1087074	A	0.0265	148.036004	148.0360	200.000000	13631	
28	13C12-234678-HxCDF	passed	41.09	1735428	A	927726	A	0.0288	134.945114	134.9451	200.000000	11928	
29	13C12-123478-HxCDD	passed	41.29	1011973	A	1308019	A	0.0345	164.707426	164.7074	200.000000	12442	
30	13C12-123678-HxCDD	passed	41.41	988041	A	1273668	A	0.0339	157.770325	157.7703	200.000000	11675	
31	13C12-123789-HxCDD	passed	41.72	998520	A	1256843	A	0.0357	165.575094	165.5751	200.000000	12200	
32	13C12-123789-HxCDF	passed	42.10	1536939	A	810169	A	0.0310	127.787111	127.7871	200.000000	10783	
33	13C12-1234678-HpCDF	passed	43.86	2166447	A	980293	A	0.0276	166.350643	166.3506	200.000000	15895	
34	13C12-1234678-HpCDD	passed	45.06	1046210	A	1118862	A	0.0240	161.033704	161.0337	200.000000	18917	
35	13C12-1234789-HpCDF	passed	45.61	1352927	A	632043	A	0.0340	128.944790	128.9448	200.000000	10610	
36	13C12-OCDD	passed	48.11	2209503	A	1990809	A	0.0137	334.072834	334.0728	400.000000	66641	
37	13C12-OCDF	passed	48.28	2708278	A	2440430	A	0.0175	260.381064	260.3811	400.000000	41480	

APPROVED
By uma9 at 4:10 pm, 11/9/18

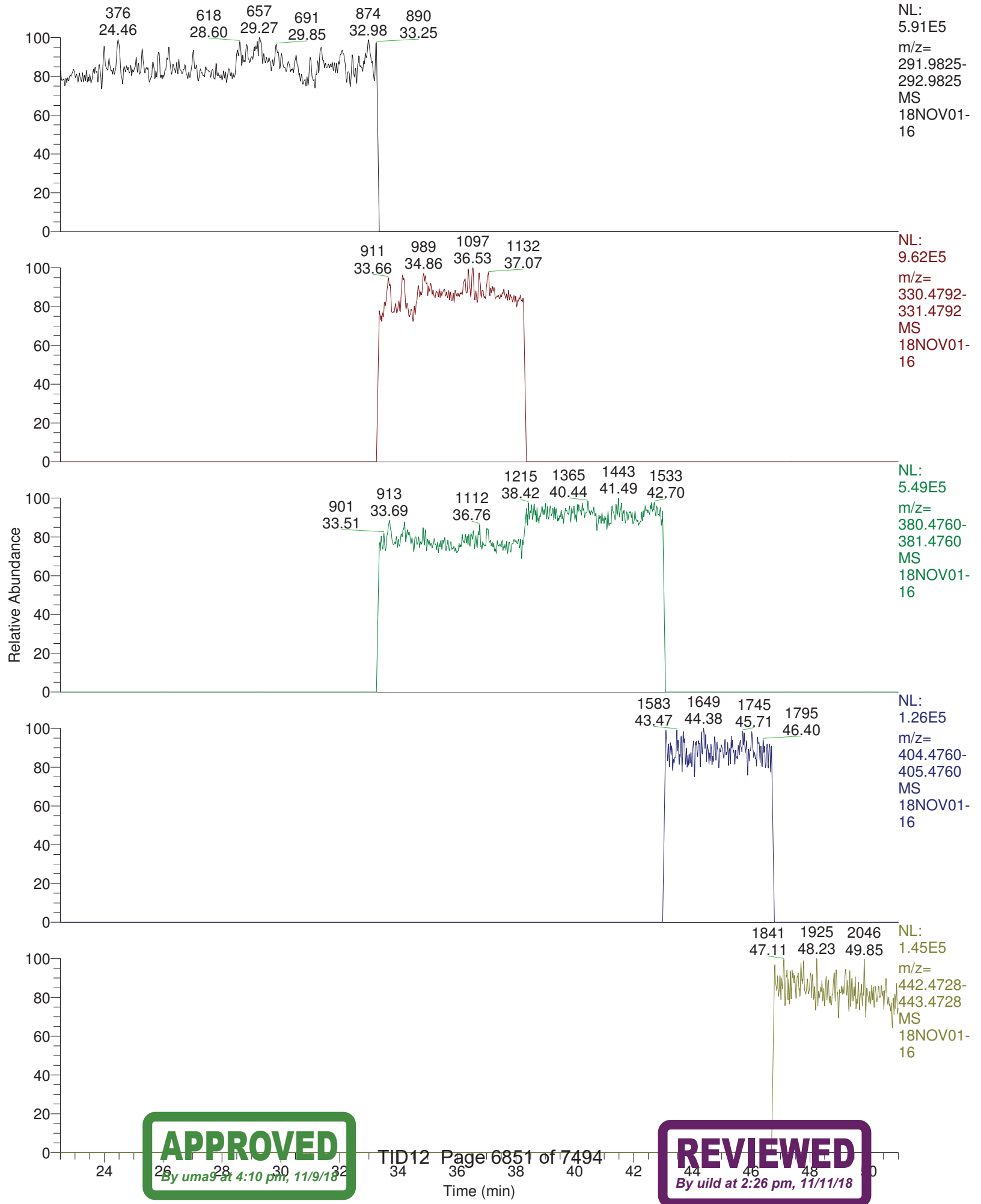
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-16
Sample ID: BLK302007

Acq. Data: 11/1/2018 11:25:50 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV01

RT: 22.50 - 51.00



APPROVED
By umas at 4:10 pm, 11/9/18

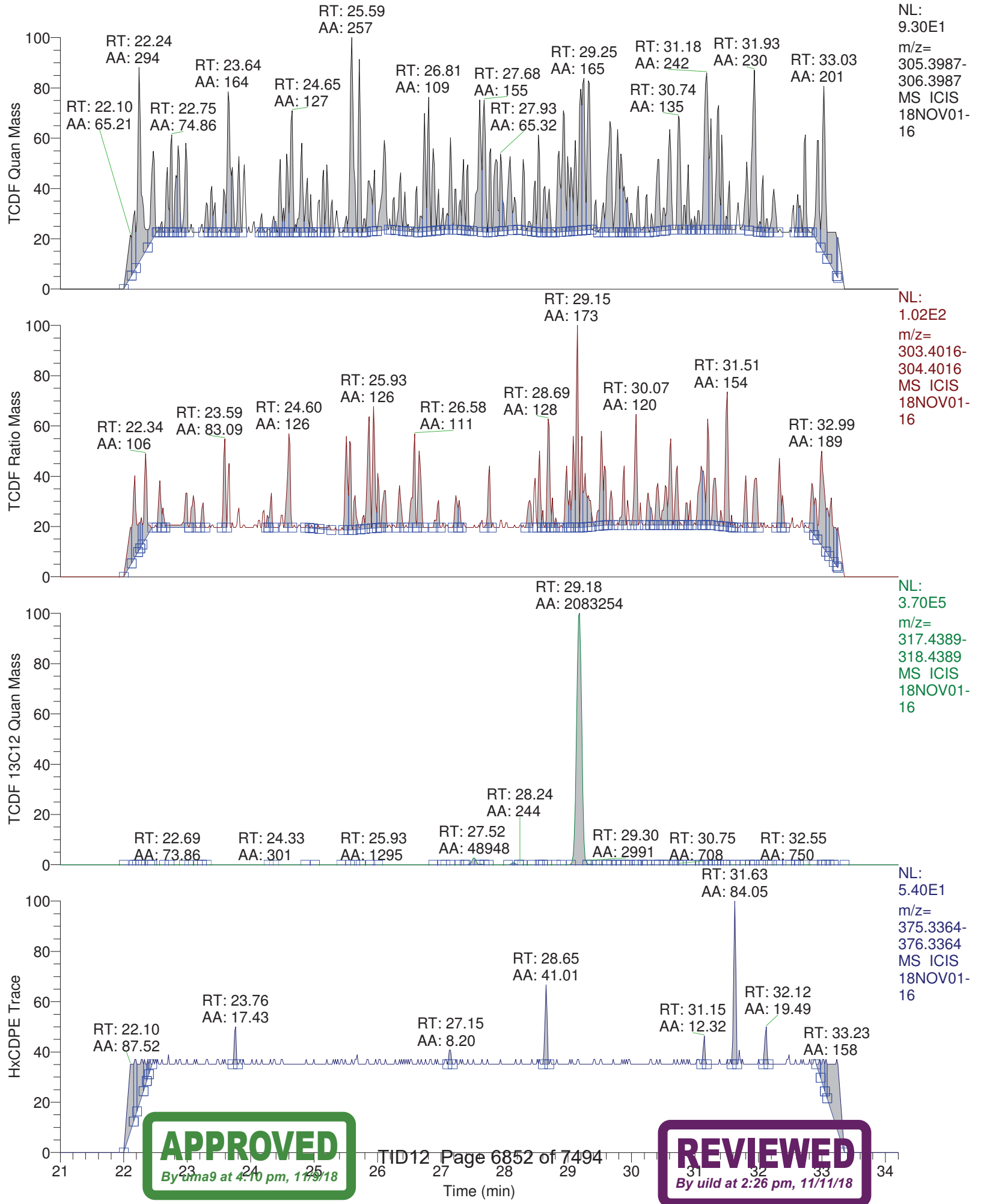
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-16
Sample ID: BLK302007

Acq. Data: 11/1/2018 11:25:50 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV01

RT: 21.00 - 34.20



APPROVED
By uma9 at 4:10 pm, 11/9/18

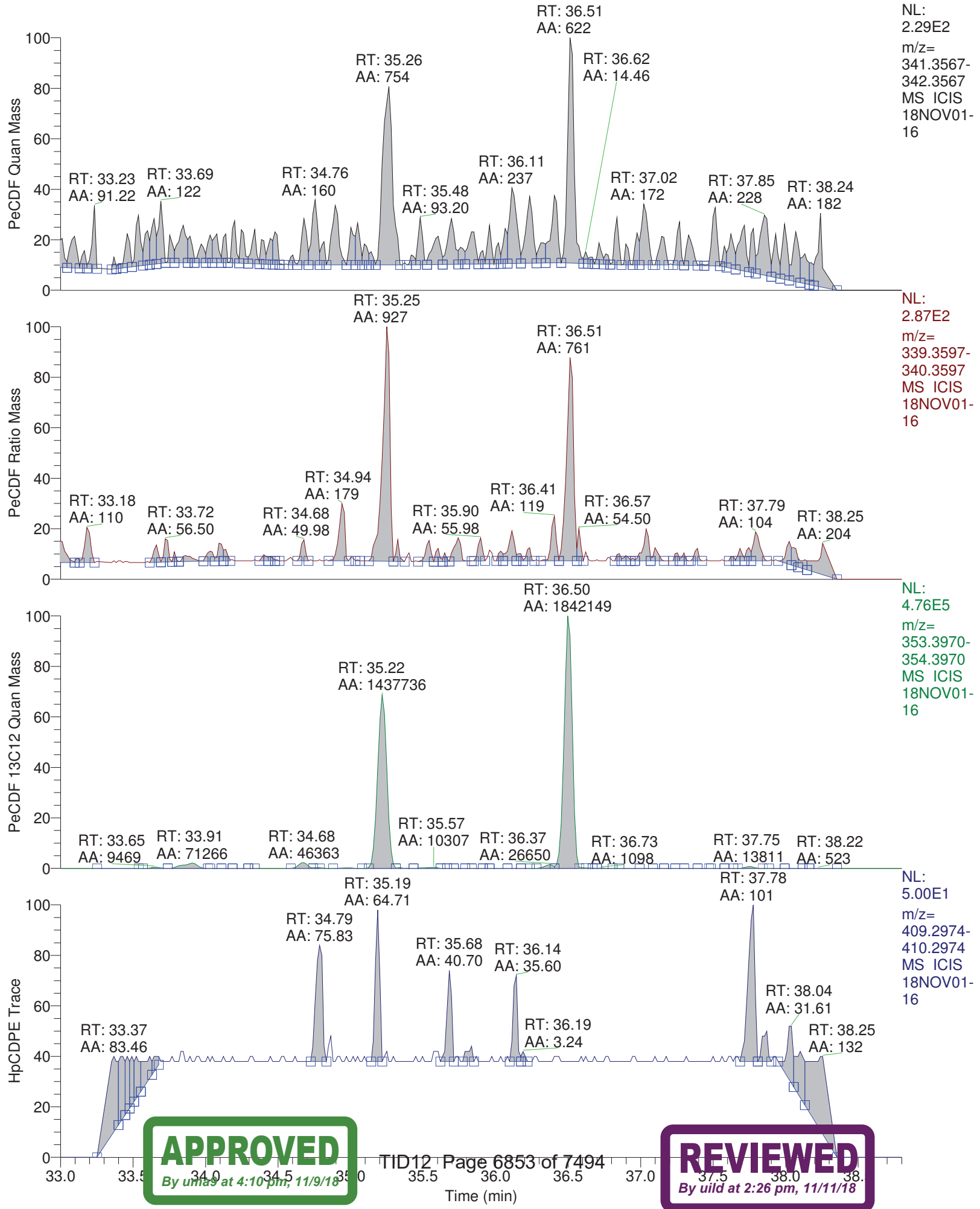
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-16
Sample ID: BLK302007

Acq. Data: 11/1/2018 11:25:50 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV01

RT: 33.00 - 38.80



APPROVED
By umas at 4:10 pm, 11/9/18

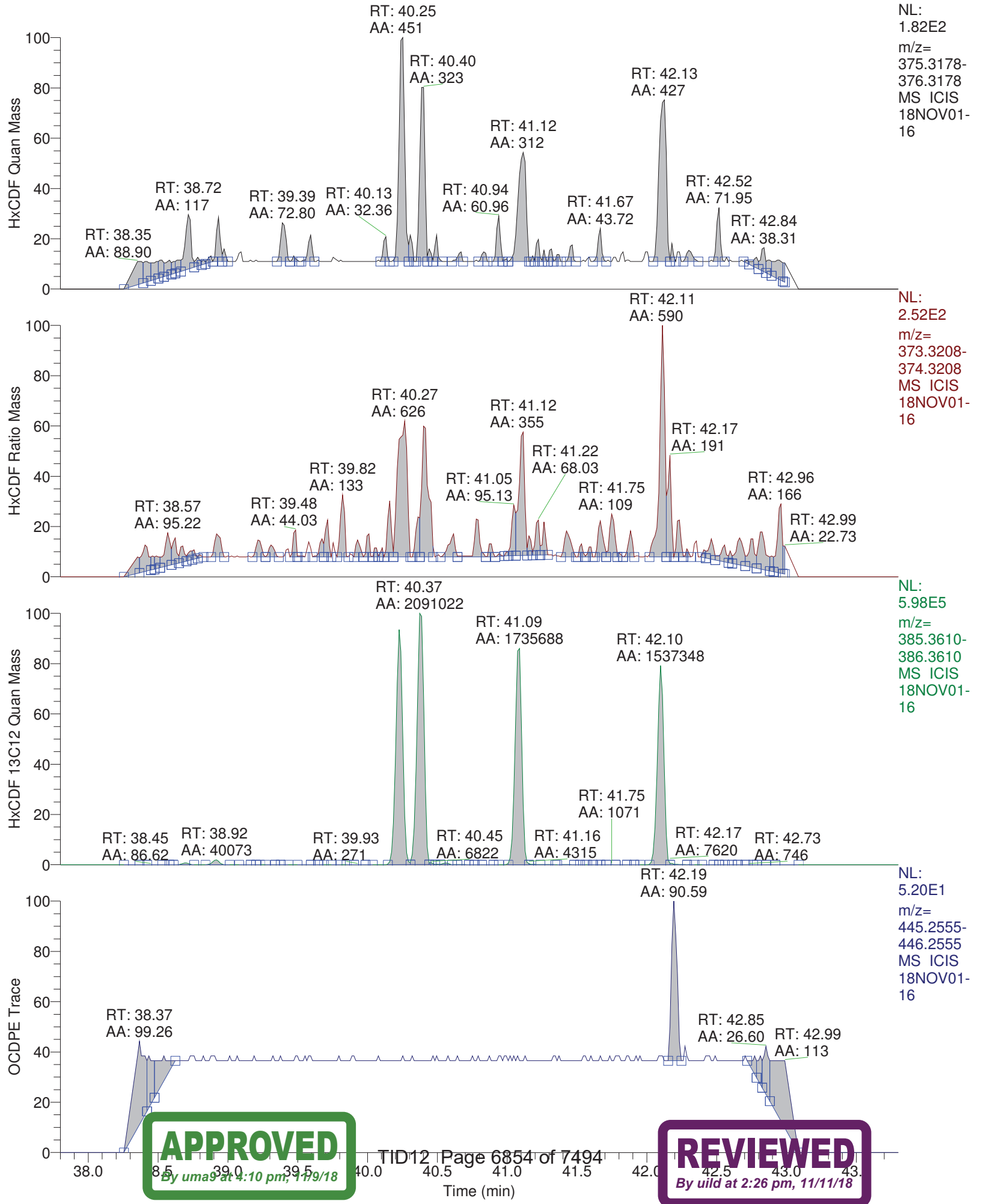
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-16
Sample ID: BLK302007

Acq. Data: 11/1/2018 11:25:50 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV01

RT: 37.80 - 43.80



APPROVED
By umas at 4:10 pm, 11/9/18

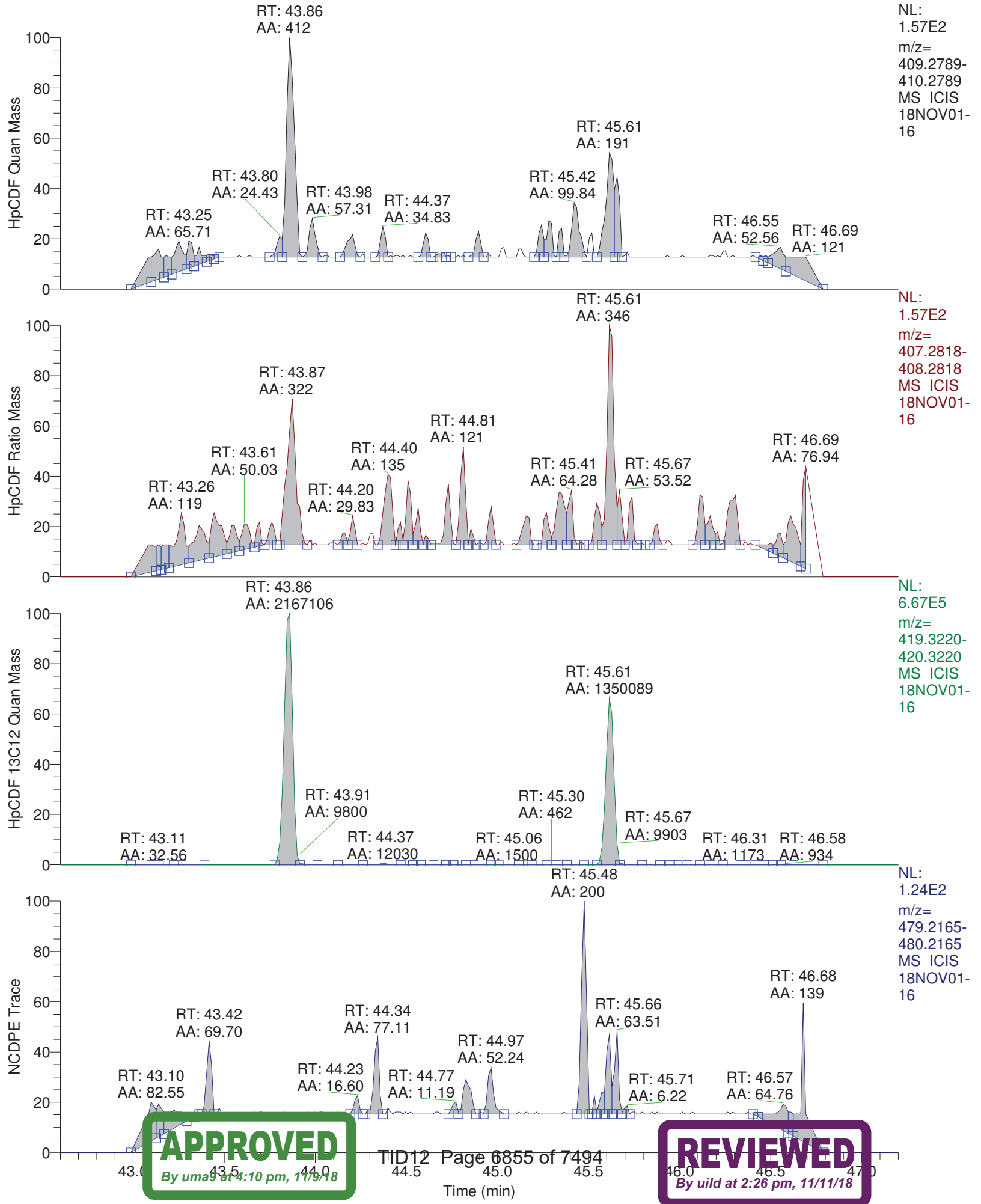
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-16
Sample ID: BLK302007

Acq. Data: 11/1/2018 11:25:50 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV01

RT: 42.60 - 47.20



APPROVED
By uma9 at 4:10 pm, 11/9/18

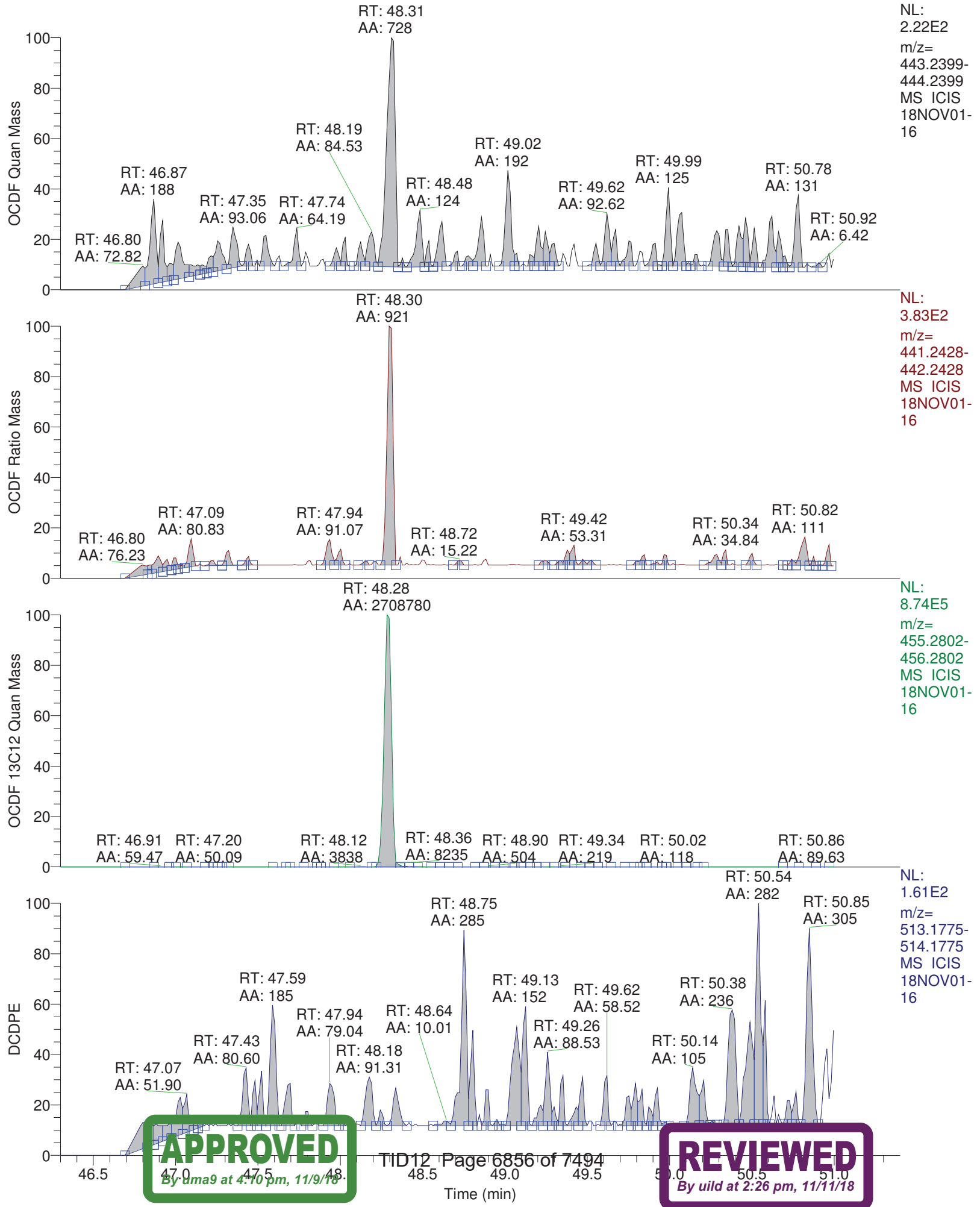
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-16
Sample ID: BLK302007

Acq. Data: 11/1/2018 11:25:50 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
Chlorodiphenylether Interference Traces

Instrument ID: DF18471-18NOV01

RT: 46.30 - 51.40



APPROVED
By dma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

*** file opened Thu Nov 01 23:31:21 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 01-Nov-18 23:31:20

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 2e2e36e6-6cf8-4b51-9519-fc338622507b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	11:15 min	33:15 min	1.00 sec
# 3	33:15 min	5:00 min	38:15 min	0.90 sec
# 4	38:15 min	4:45 min	43:00 min	0.80 sec
# 5	43:00 min	3:42 min	46:42 min	0.80 sec
# 6	46:42 min	4:17 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU           1000.0000   BCORRS           0.0170   BMASS           93.5000
 BQUAD             5.9500   CAPIL            0.0000   CAPTSET        200.0000
 CCURR             0.0000   COUNTING         0.0000   DELAY            0.0000
 DRAW            -25.0000   DRAWC            0.0000   DRAWS            0.0000
 DYNVOLTAGE       15.0000   ECORR            0.9995   ECURR            1.0000
 EDAC        7969177.0000   EDACG            1.0000   EDACZ         -242.0000
 ELEN            -50.0000   EMULT         1775.0000   ENS            216.0000
 ENSBR             5.9500   ERATIO           1.0000   ESA            679.0600
 ESIPAR            0.0000   EXS            167.0000   EXSBR           -0.4700
 FDMA       18000000.0000   FILTER         100.0000   FLENS            1.0000
 FM               50.0000   FMII            50.0000   FQUAD            4.3500
 FQUADGAIN         1.0000   FREQ           400.0000   FSLOPE    36000000.0000
 FVANAL            0.0175   FVINLET          0.0362   FVSRC            0.0335
 FWIN              0.7000   HCURR            0.0000   HVANAL           0.0000
 HVSRC             0.0000   ICAL0            0.0011   ICAL1            0.4030
 ICAL2             0.5865   IONEN            0.0000   IST              0.0000
 ISTC            260.0000   ISTS           260.0000   LENS_POT       670.0000
 LENS_SYM         11.5000   LM             650.0000   LMII           500.0000
 LMASS            93.5000   LKM            442.9723   MASS            93.5000
 MDAC         903166.7744   MRANGE        1614.4523   NSAM           200.0000
 NSCAN          2157.0000   NSMAX            8.0000   NSMIN           66.0000
 NPEAK            11.0000   MULT            -2.0000   PSAM            10.0000
 PUSHER          -13.0000   RECURR           0.9724   RELEN            0.0000
 RES           15728.3769   RPUSHER        -12.8132   RDRAW            0.0000
 RDRAWC            0.0000   RWIN             2.0000   SCIDLE           0.0000
 SHIELD_POT      690.0000   SHIELD_SYM       0.0000   SHIGH          180.0000
 SKIM              7.0000   SLOW            60.0000   SS               2.0000
 SW                0.0193   TANAL            0.0000   TCURR            0.0000
 TD               30.0000   TS              33.4574   THRESH           2.0000
 TIS               0.2000   TREF           120.0000   TSAM           200.0000
 TSET              0.0000   TUBEL            0.0000   UROT             0.0000
 USERVAR           0.0000   UTQ1           150.0000   UTQ2           190.0000
 UTQ3             80.0000   VMASS           93.5000   XLENS_POT      928.0000
 XLENS_SYM         6.5000   YLENS_POT      836.0000   YLENS_SYM        8.8000

Source Gauge:        2.2e-005 mbar
Analyzer Penning:    7.5e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11266.
MID Time Window 2: Resolution is 12400.
MID Time Window 3: Resolution is 13890.
MID Time Window 4: Resolution is 13338.
```

```
  MID Time Window 5: Resolution is 14567.
  MID Time Window 6: Resolution is 15728.

  Amplifier Offset: 87.


*** File closed Fri Nov 02 00:22:22 2018
  ***
```

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 18:51
Number of Entries	3
Comment	BLK:11030:12937
Vial	32
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	BLK302007
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-06.quan
Data	y:\18nov02conf\18nov02-06.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.68	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	13C12-1234-TCDD	24.80	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.68	passed	passed	passed	passed	passed	passed	

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 18:51
Number of Entries	3
Comment	BLK:11030:12937
Vial	32
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	BLK302007
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-06.quan
Data	y:\18nov02conf\18nov02-06.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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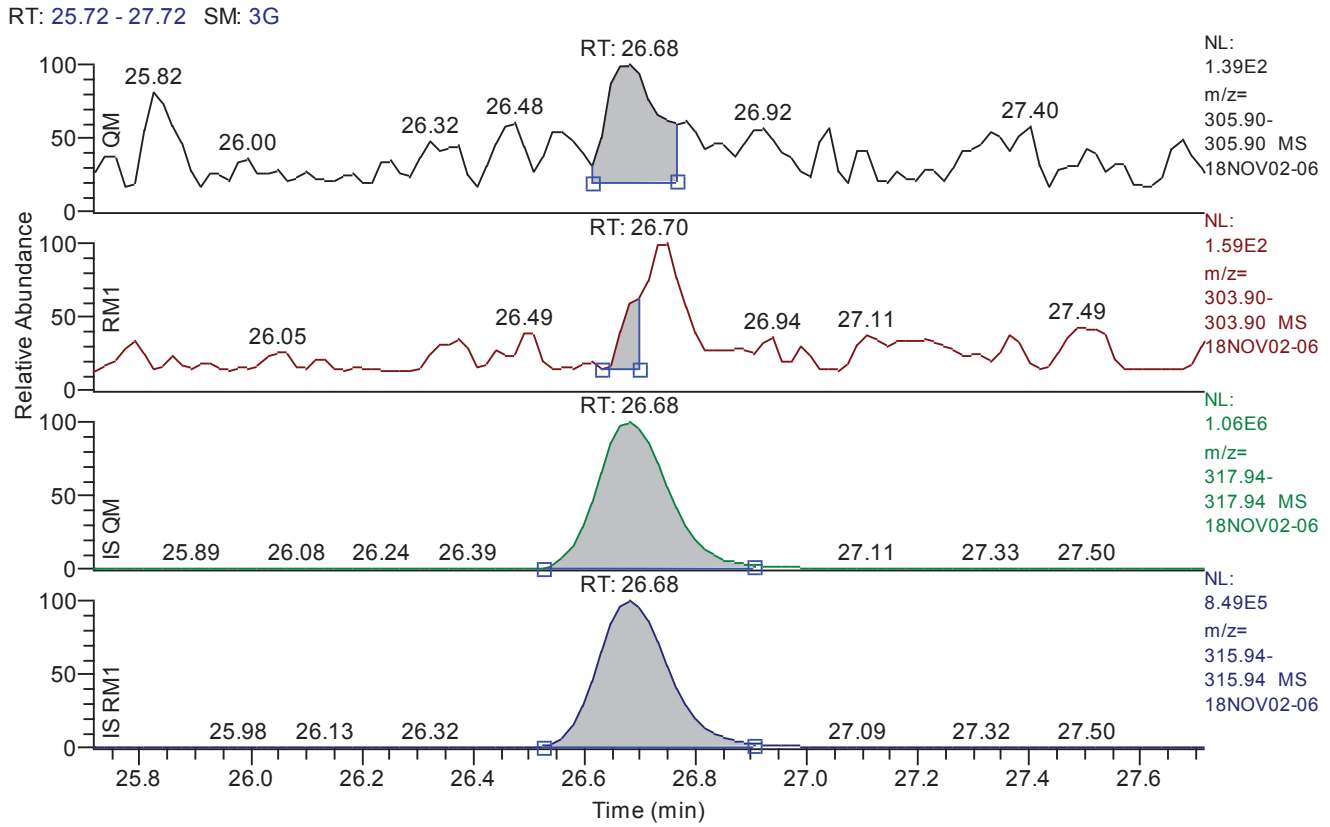
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.68
QM Area	709
QM Integration Mode	A
RM1 Area	162
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0078
Unqualified Amount (A)	0.010165
Adjusted Amount (A)	n.d.
Signal-to-Noise	6
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/03 18:51
Number of Entries	3
Comment	BLK:11030:12937
Vial	32
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	BLK302007
Inst ID	DF18471-18NOV02Conf
Client	
Analyst	maz02012
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov02conf\18nov02-06.quan
Data	y:\18nov02conf\18nov02-06.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

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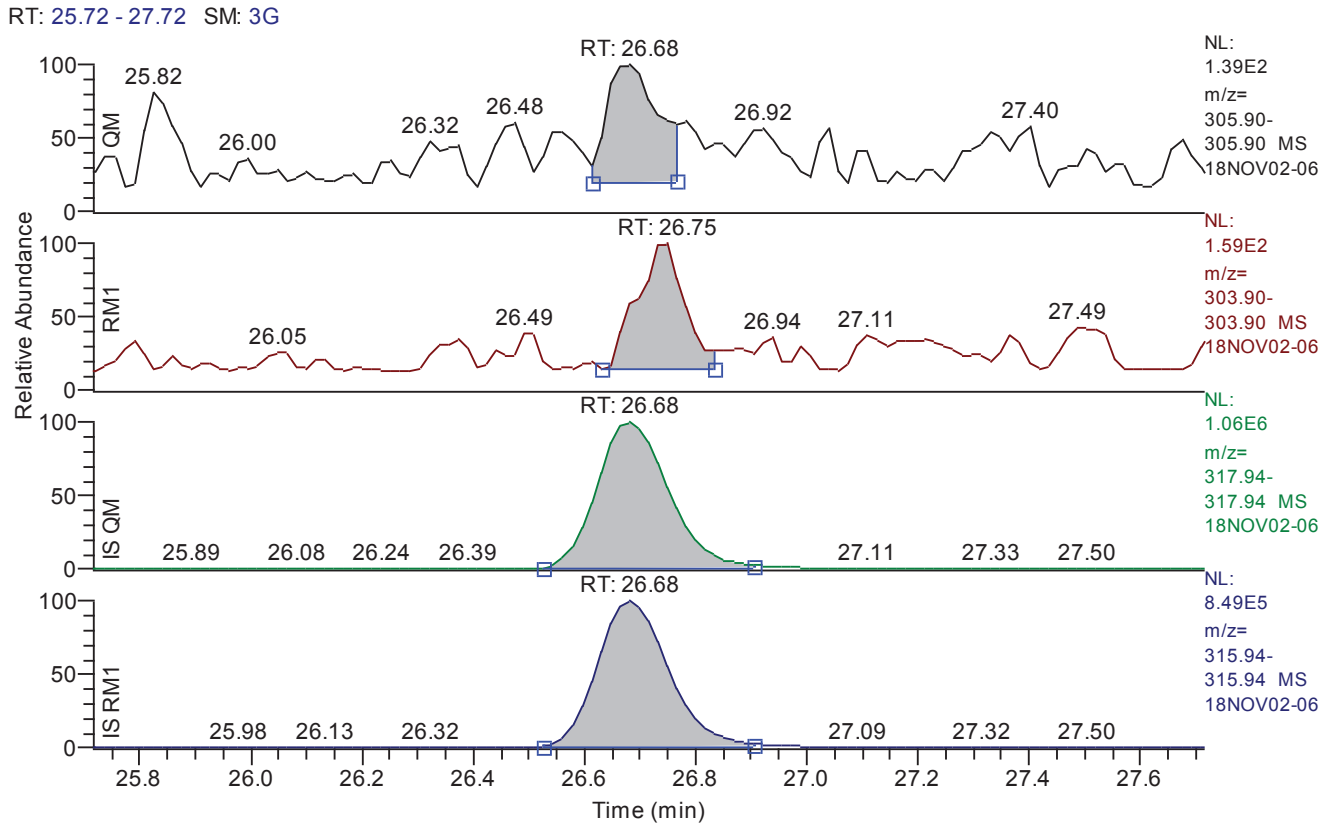
Chromatogram



Entry: 2378-TCDF IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	26.68
QM Area	709
QM Integration Mode	A
RM1 Area	827
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0078
Unqualified Amount (A)	0.017915
Adjusted Amount (A)	n.d.
Signal-to-Noise	8
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time2 > max

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.72	26.68	26.70	26.68	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.78	24.80	24.80	24.80	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.68	26.68	26.68	26.68	passed	passed

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.68	0.2289	0.6450 - 0.8950	failed	---	0 - 0	passed
2	13C12-1234-TCDD	24.80	0.8134	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.68	0.7997	0.6450 - 0.8950	passed	61.33	40 - 135	passed

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Entry Parameters

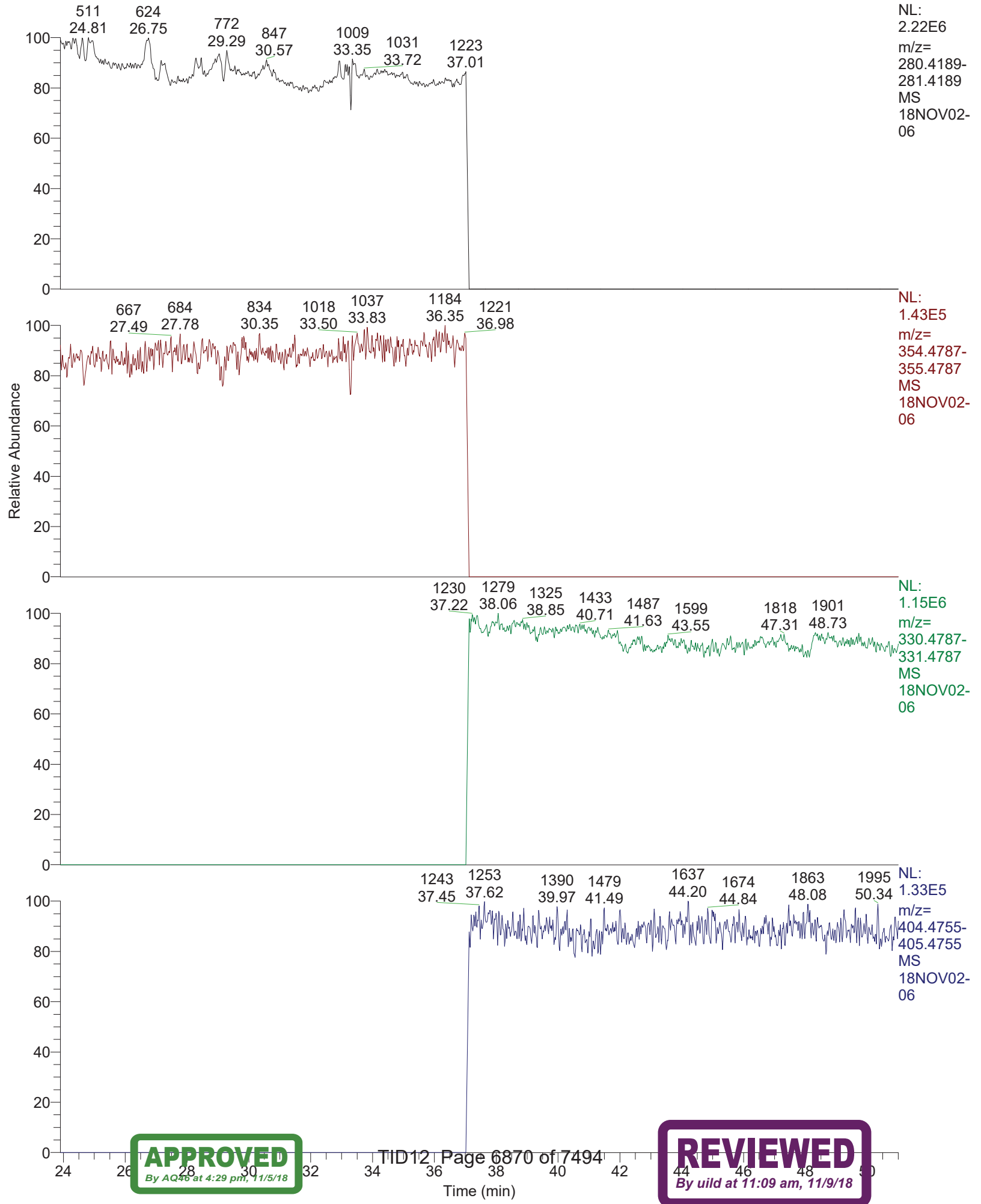
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	26.68	709	A	162	M	0.0078	0.010165	n.d.	0.000000	6	
2	13C12-1234-TCDD	passed	24.80	7432680	A	6045976	A	0.0374	200.000000	200.0000	200.000000	13375	
3	13C12-2378-TCDF	passed	26.68	9360353	A	7485581	A	0.0183	122.659726	122.6597	200.000000	15152	

File Name: Y:\18NOV02Conf\18NOV02-06
Sample ID: BLK302007

Acq. Data: 11/3/2018 6:51:39 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV02Conf

RT: 23.90 - 51.00



APPROVED
By AQ46 at 4:29 pm, 11/5/18

REVIEWED
By uild at 11:09 am, 11/9/18

*** file opened Sat Nov 03 18:55:59 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 03-Nov-18 18:55:58

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 0d86c2a9-4f6a-43e5-8f3c-d5023df8b2d3

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	l	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	l	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95

419.8220 1 1 95

MID Window terminated after 37.000000 minutes
MID Window end time was 37.000000 minutes
MID Window terminated after 52.500000 minutes
MID Window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	97.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-261.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	219.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	3.7000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0169	FVINLET	0.0370	FVSRC	0.0333
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	652.0000
LENS_SYM	3.7500	LM	650.0000	LMII	500.0000
LMASS	97.0000	LKM	330.9792	MASS	97.0000
MDAC	941456.7510	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2131.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.9680	RELEN	0.0000
RES	10586.3091	RPUSHER	-14.8352	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	680.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0194	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	97.0000	XLENS_POT	930.0000
XLENS_SYM	7.5000	YLENS_POT	862.0000	YLENS_SYM	14.7500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 7.1e-008 mbar
Pirani Analyse: 1.7e-002 mbar
Pirani Source: 3.3e-002 mbar
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10665.
MID Time Window 2: Resolution is 10586.

Amplifier Offset: 88.

*** File closed Sat Nov 03 19:48:32 2018
***

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 21:32
Number of Entries	64
Comment	LCS:11030:12937
Vial	31
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	OPR302007
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-14.quan
Data	y:\18nov01\18nov01-14.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	29.20	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.35	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.24	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.52	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.93	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.24	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.39	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.09	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.29	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.41	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.74	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.11	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.86	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.08	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.63	passed	passed	passed	passed	passed	passed	
16	OCDD	48.12	passed	passed	passed	passed	passed	passed	
17	OCDF	48.30	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.76	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.51	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.15	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.19	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.33	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.22	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.50	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.90	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.23	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.37	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.08	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.28	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.40	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.71	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.10	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.85	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.06	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.62	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.11	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.28	passed	passed	passed	passed	passed	passed	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Quantitation Settings

Data File Parameter

Acq. Data	2018/11/01 21:32
Number of Entries	64
Comment	LCS:11030:12937
Vial	31
Sample Name	SW-846 8290A Feb 2007 Rev 1 18302007
Sample ID	OPR302007
Inst ID	DF18471-18NOV01
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18302007
Barcode	

Files Parameter

Quan	y:\18nov01\18nov01-14.quan
Data	y:\18nov01\18nov01-14.raw
Response	y:\responsefiles\df18471-18oct25dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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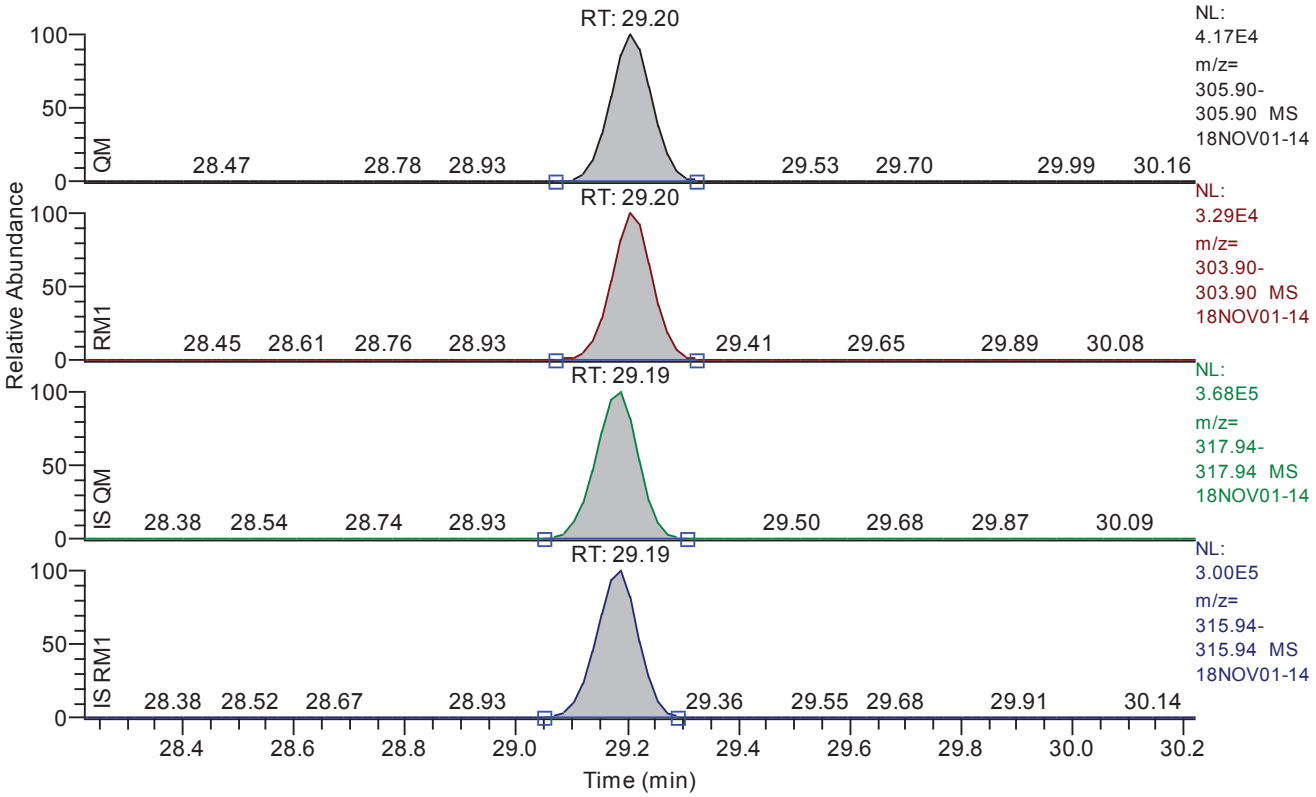
Chromatogram

RT: 28.22 - 30.22 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.20
QM Area	223318
QM Integration Mode	A
RM1 Area	173206
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0175
Unqualified Amount (A)	21.388043
Adjusted Amount (A)	21.3880
Signal-to-Noise	3145
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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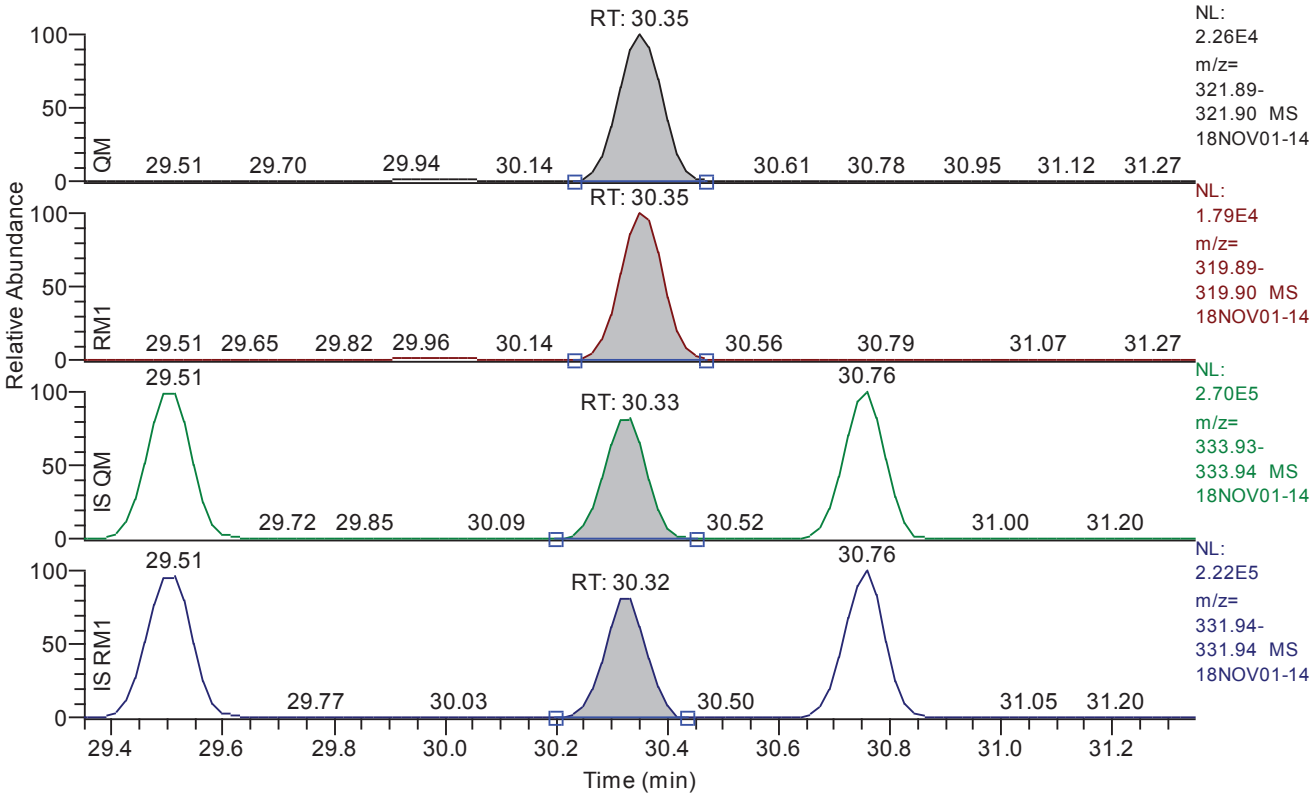
Chromatogram

RT: 29.35 - 31.35 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.35
QM Area	127032
QM Integration Mode	A
RM1 Area	99915
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0195
Unqualified Amount (A)	17.026289
Adjusted Amount (A)	17.0263
Signal-to-Noise	2131
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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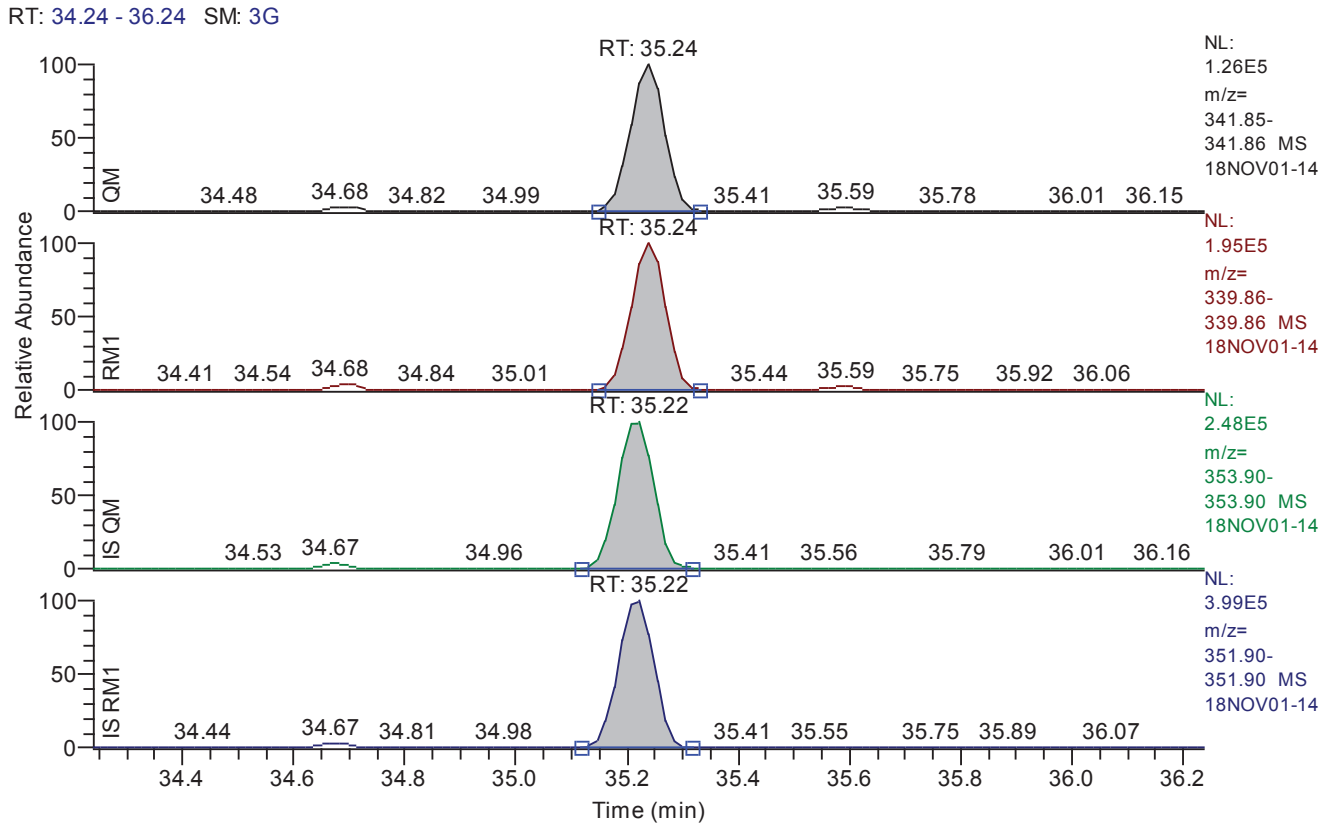
Chromatogram



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.24
QM Area	542270
QM Integration Mode	A
RM1 Area	847444
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0214
Unqualified Amount (A)	101.831258
Adjusted Amount (A)	101.8313
Signal-to-Noise	12445
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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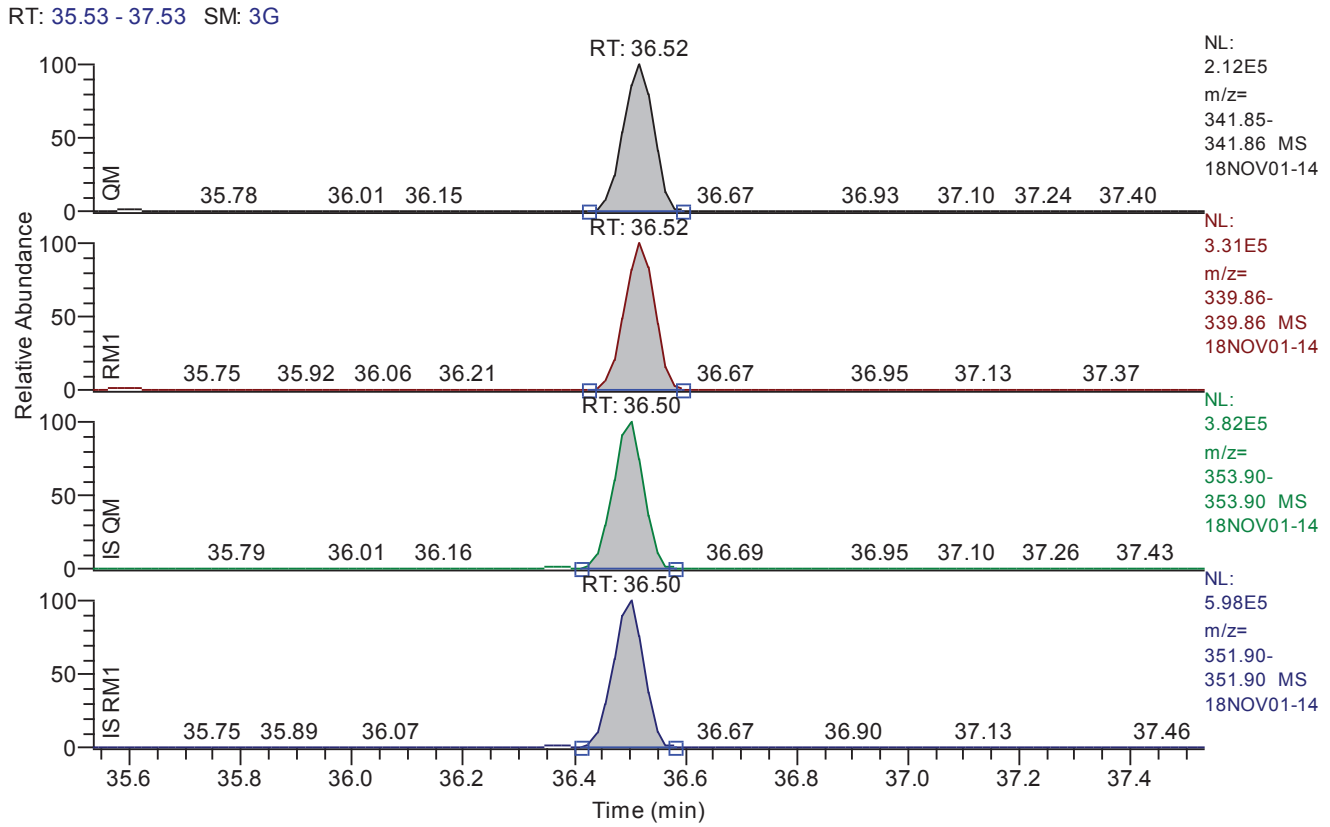
Chromatogram



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.52
QM Area	808771
QM Integration Mode	A
RM1 Area	1255158
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	104.002895
Adjusted Amount (A)	104.0029
Signal-to-Noise	21037
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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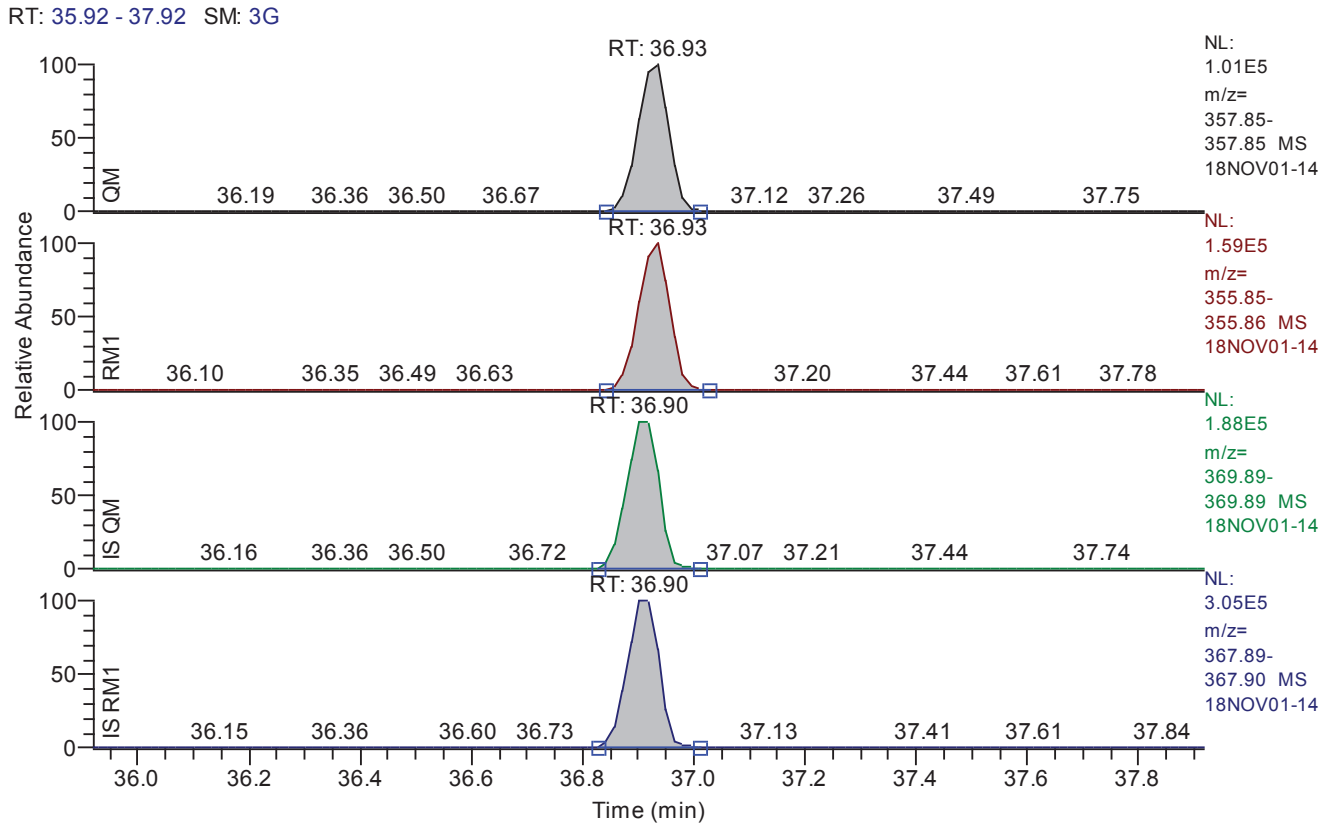
Chromatogram



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.93
QM Area	389125
QM Integration Mode	A
RM1 Area	619256
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0313
Unqualified Amount (A)	99.628986
Adjusted Amount (A)	99.6290
Signal-to-Noise	8246
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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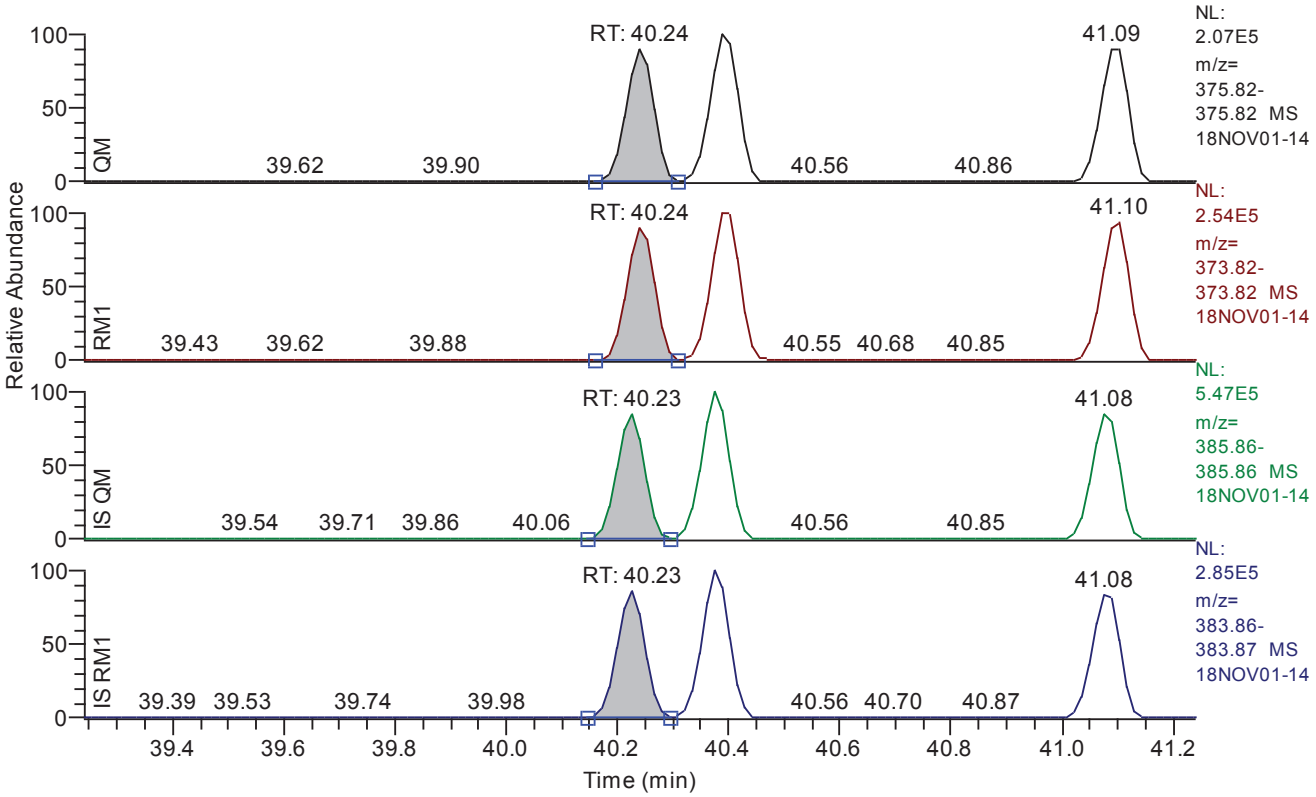
Chromatogram

RT: 39.24 - 41.24 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.24
QM Area	645964
QM Integration Mode	A
RM1 Area	803403
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0327
Unqualified Amount (A)	101.735787
Adjusted Amount (A)	101.7358
Signal-to-Noise	7748
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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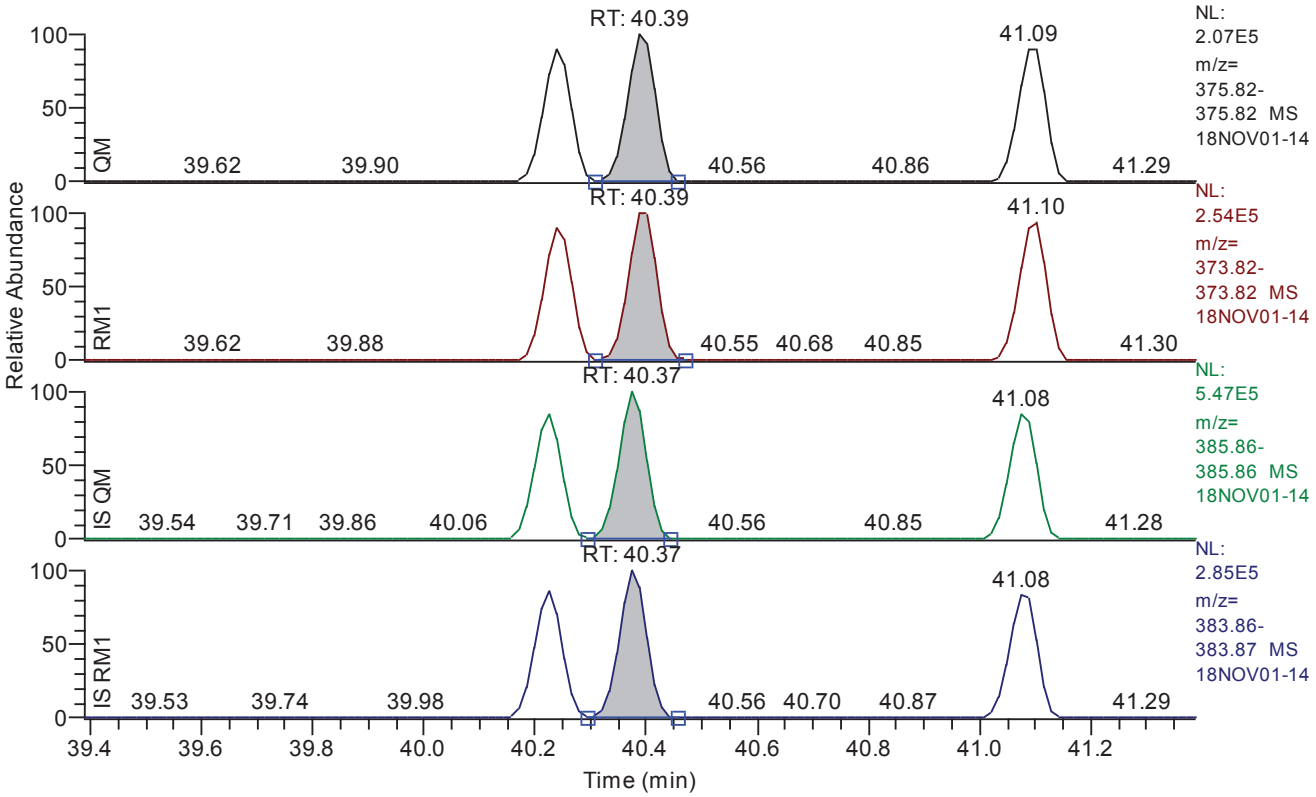
Chromatogram

RT: 39.39 - 41.39 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.39
QM Area	730375
QM Integration Mode	A
RM1 Area	911493
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0291
Unqualified Amount (A)	103.384021
Adjusted Amount (A)	103.3840
Signal-to-Noise	8559
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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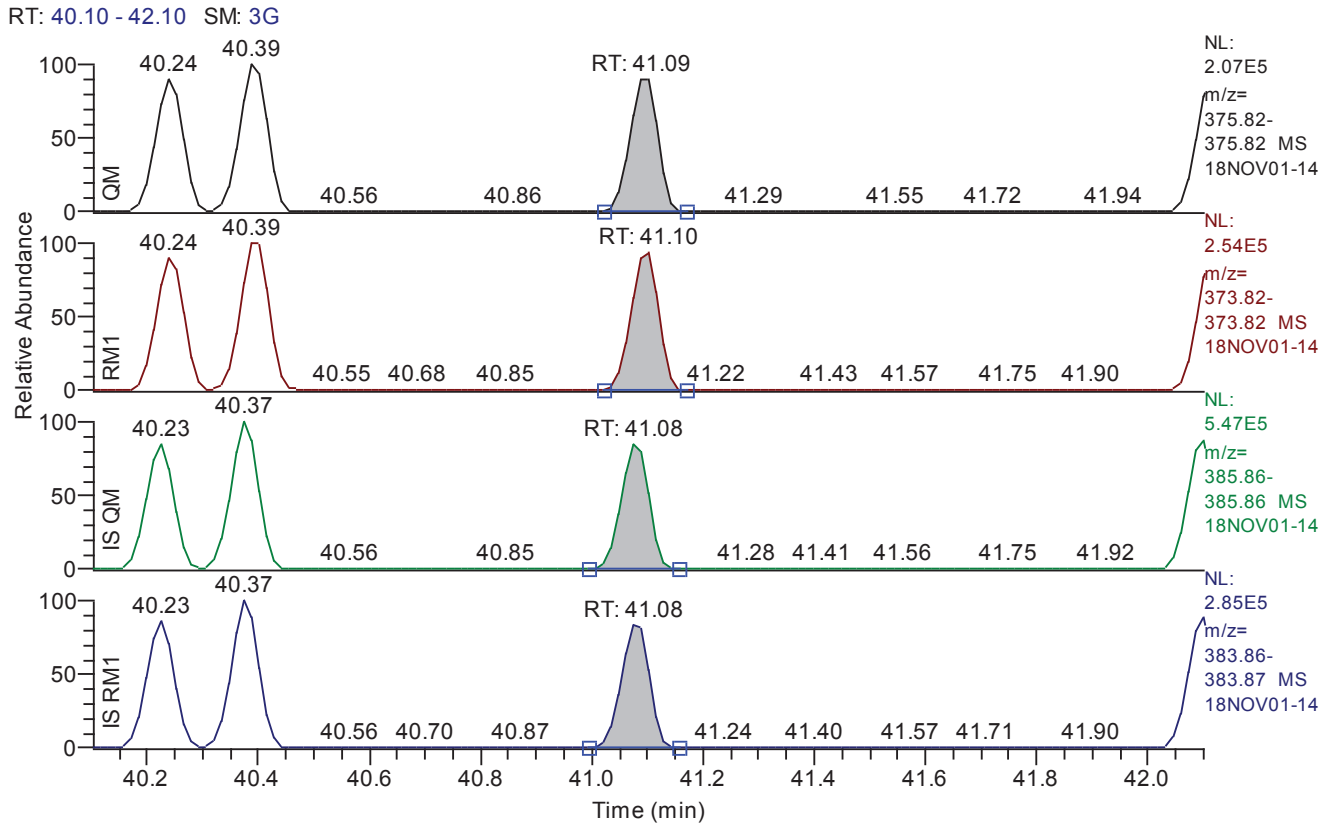
Chromatogram



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.09
QM Area	663573
QM Integration Mode	A
RM1 Area	830745
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0317
Unqualified Amount (A)	100.796049
Adjusted Amount (A)	100.7960
Signal-to-Noise	7930
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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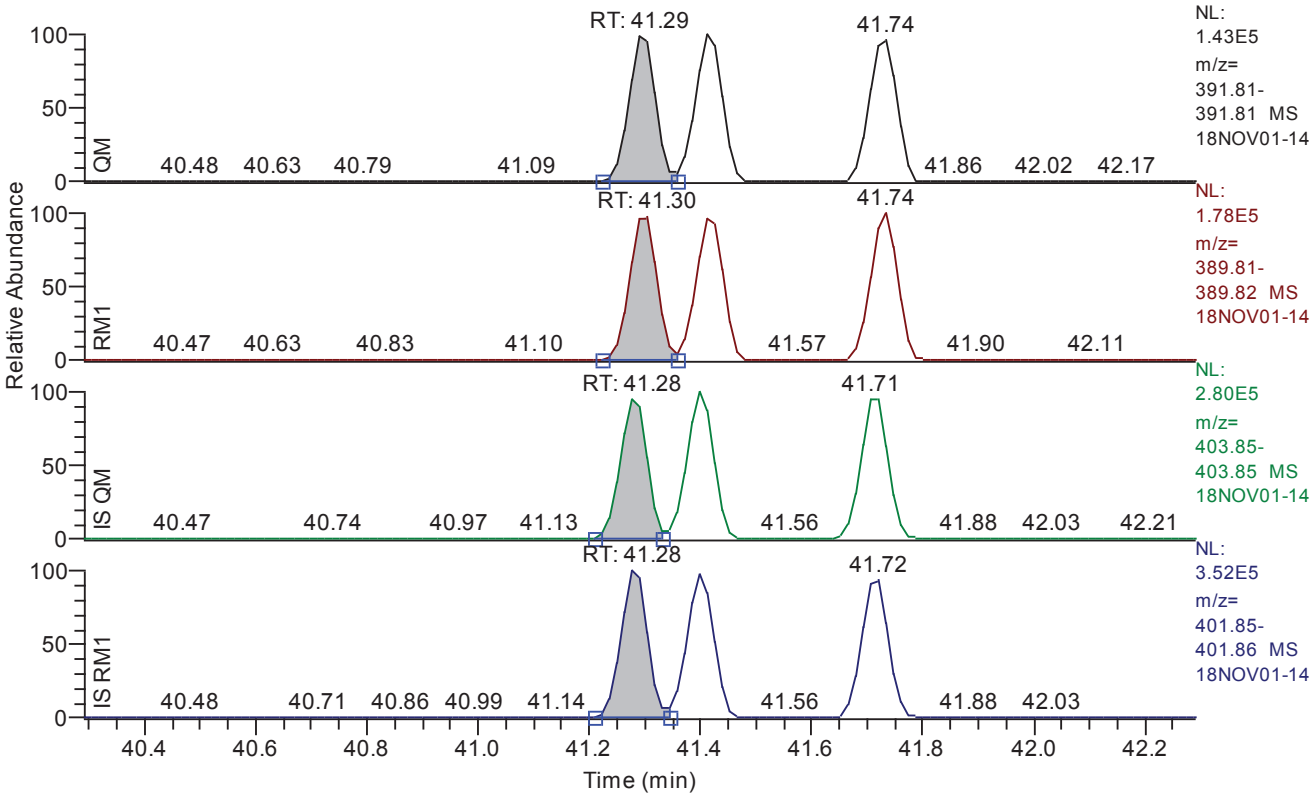
Chromatogram

RT: 40.29 - 42.29 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.29
QM Area	472473
QM Integration Mode	A
RM1 Area	601402
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0257
Unqualified Amount (A)	104.060378
Adjusted Amount (A)	104.0604
Signal-to-Noise	9902
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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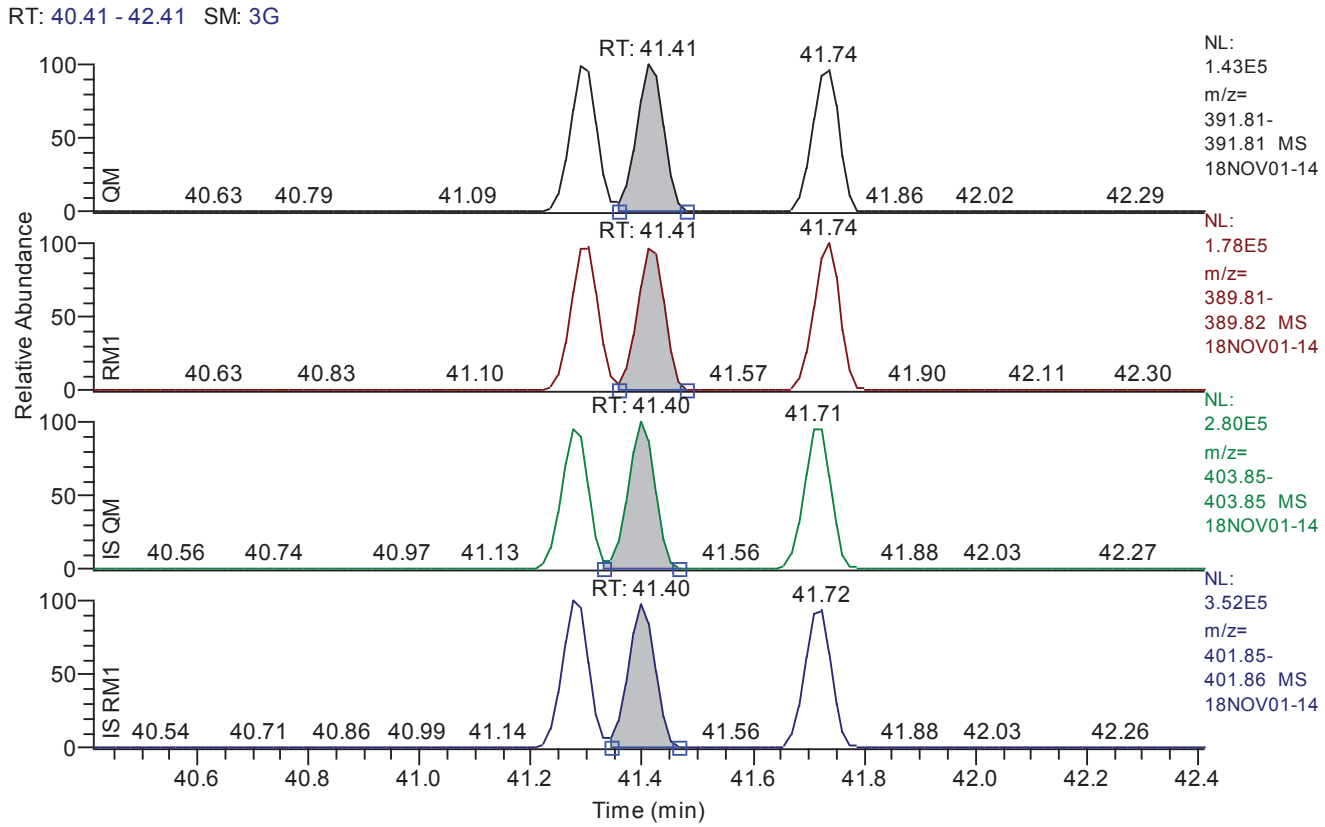
Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.41
QM Area	480096
QM Integration Mode	A
RM1 Area	587730
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0260
Unqualified Amount (A)	104.336516
Adjusted Amount (A)	104.3365
Signal-to-Noise	9874
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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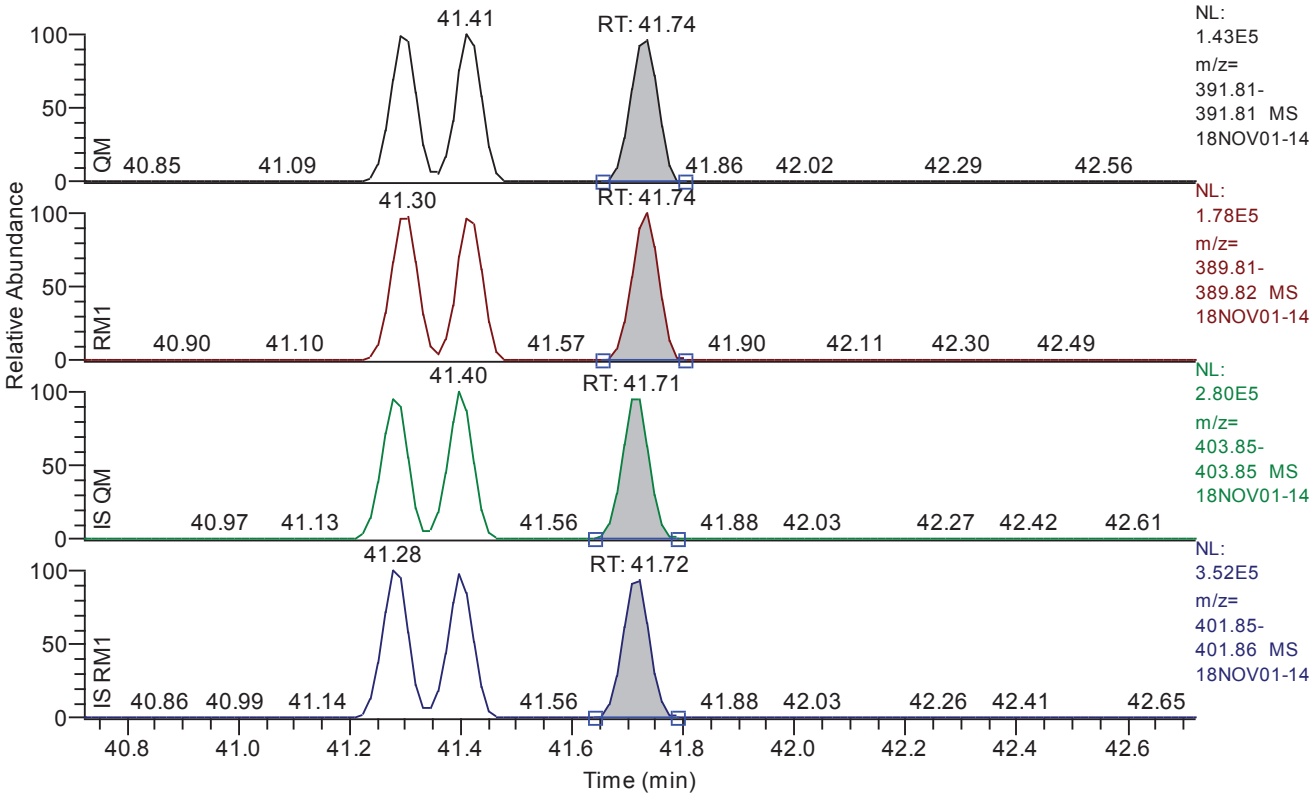
Chromatogram

RT: 40.72 - 42.72 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.74
QM Area	481729
QM Integration Mode	A
RM1 Area	601575
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0251
Unqualified Amount (A)	100.616196
Adjusted Amount (A)	100.6162
Signal-to-Noise	9950
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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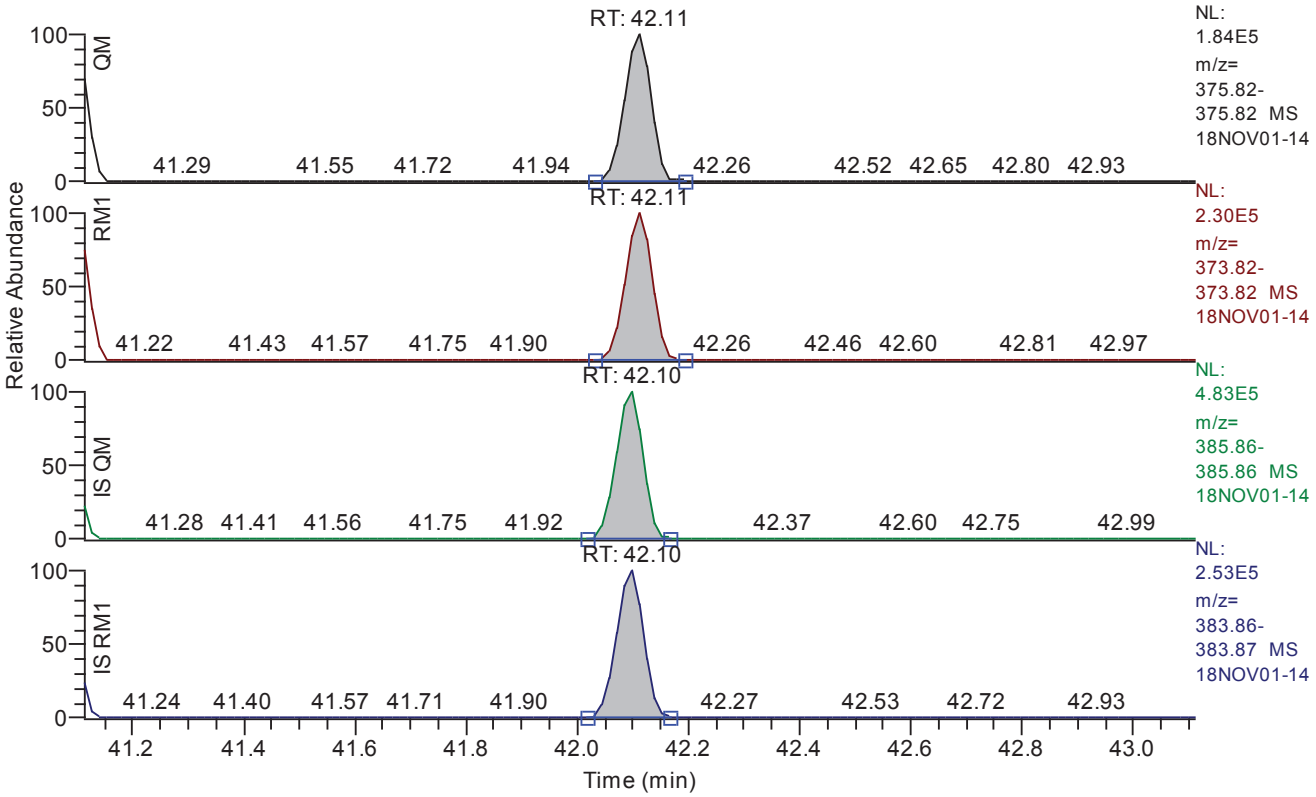
Chromatogram

RT: 41.11 - 43.11 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.11
QM Area	618131
QM Integration Mode	A
RM1 Area	775431
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0326
Unqualified Amount (A)	99.703063
Adjusted Amount (A)	99.7031
Signal-to-Noise	7695
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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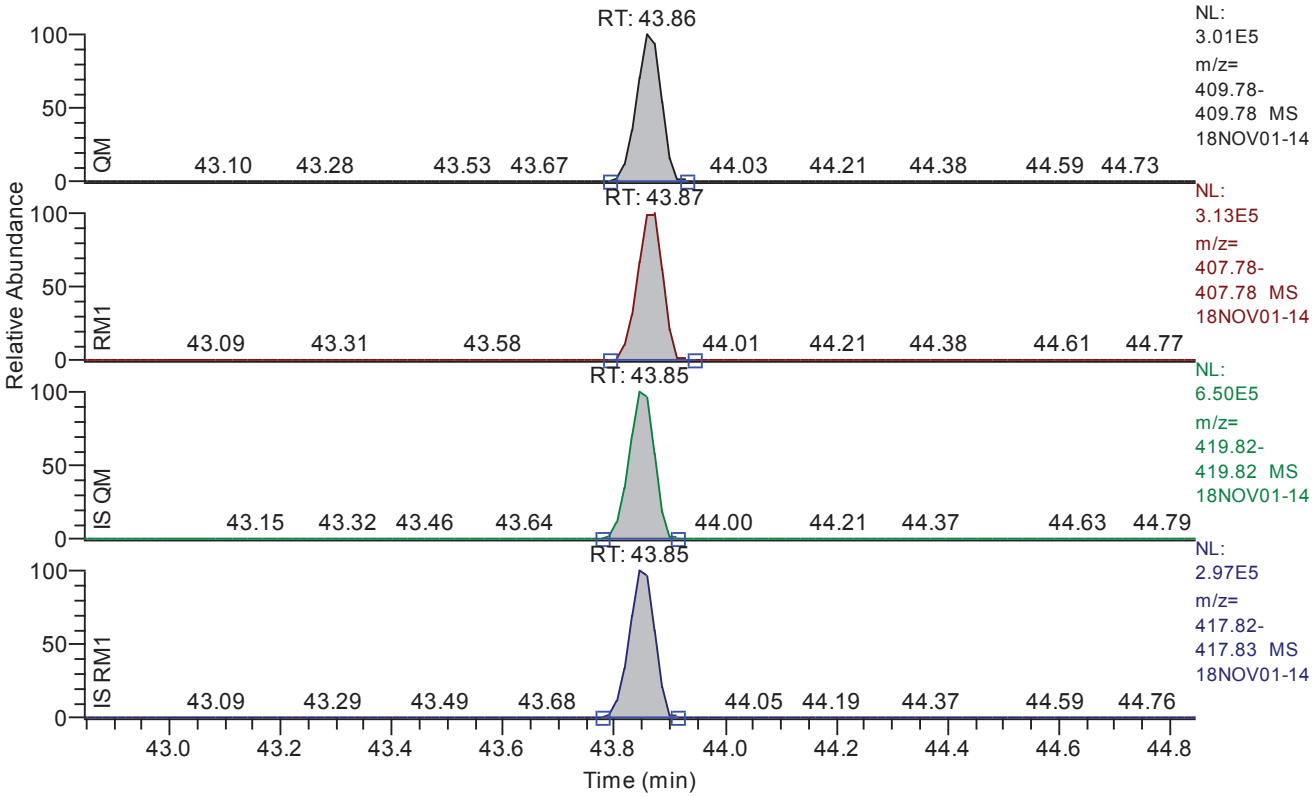
Chromatogram

RT: 42.85 - 44.85 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.86
QM Area	973855
QM Integration Mode	A
RM1 Area	1036762
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0266
Unqualified Amount (A)	104.529177
Adjusted Amount (A)	104.5292
Signal-to-Noise	9909
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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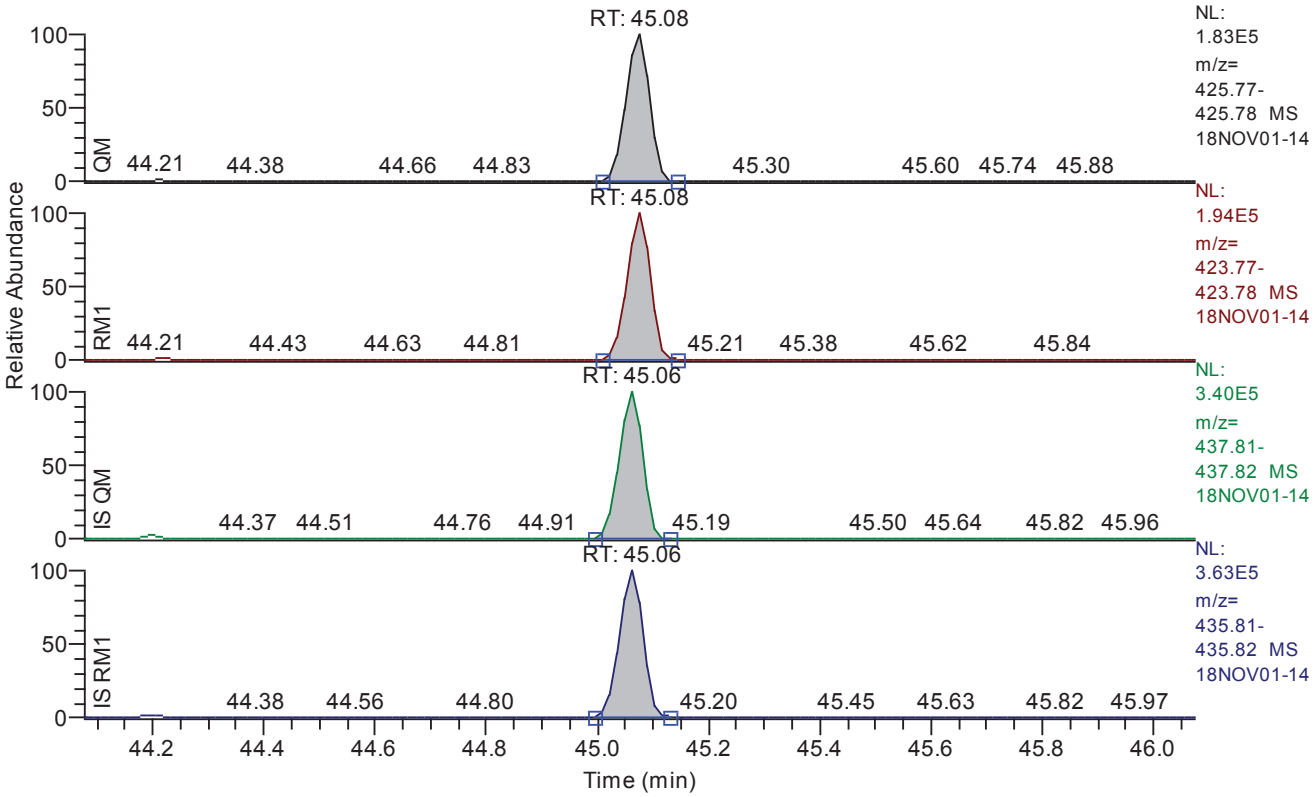
Chromatogram

RT: 44.08 - 46.08 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.08
QM Area	561527
QM Integration Mode	A
RM1 Area	586965
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0224
Unqualified Amount (A)	104.092250
Adjusted Amount (A)	104.0923
Signal-to-Noise	11659
Client Flags	
Status Overview	passed
Status Info	

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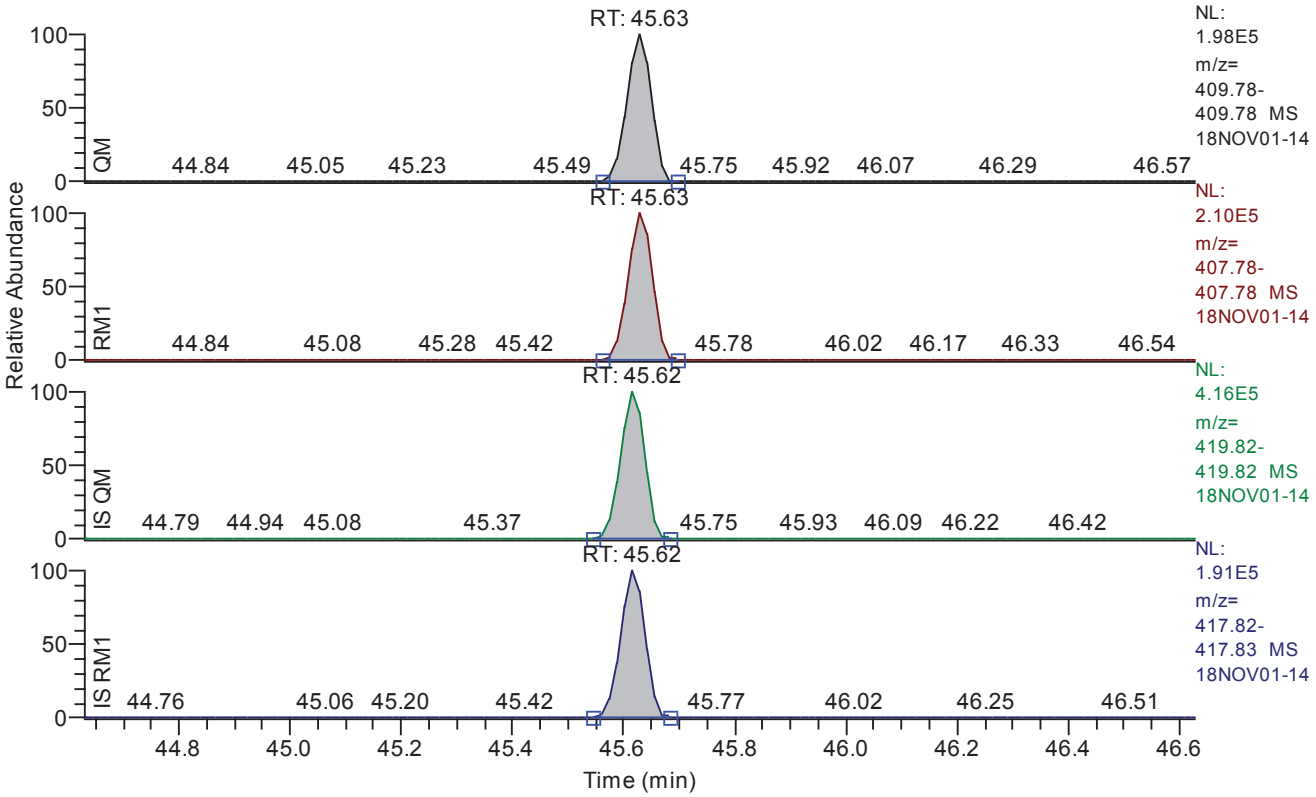
Chromatogram

RT: 44.63 - 46.63 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.63
QM Area	623657
QM Integration Mode	A
RM1 Area	659190
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0400
Unqualified Amount (A)	105.044210
Adjusted Amount (A)	105.0442
Signal-to-Noise	6572
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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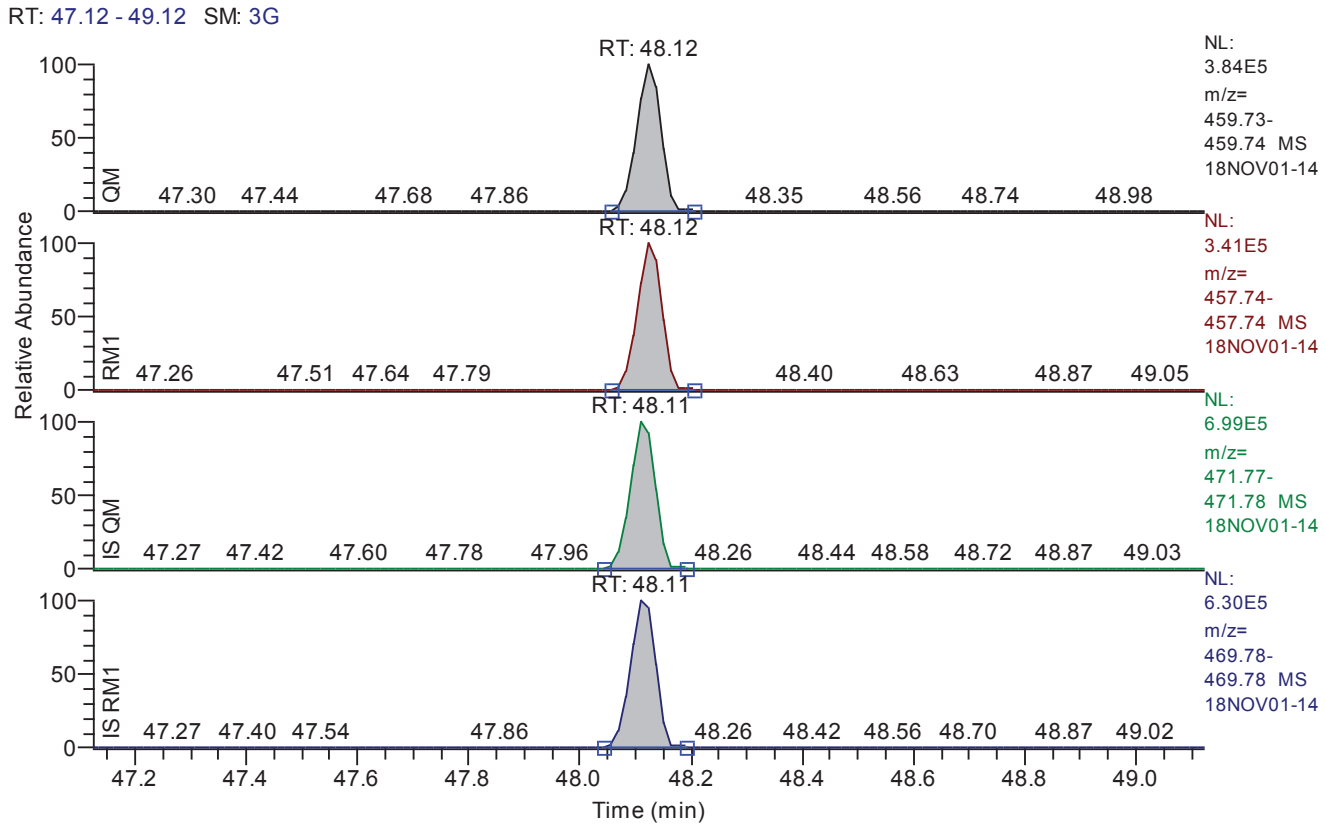
Chromatogram



Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.12
QM Area	1168242
QM Integration Mode	A
RM1 Area	1047184
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0226
Unqualified Amount (A)	209.766033
Adjusted Amount (A)	209.7660
Signal-to-Noise	23865
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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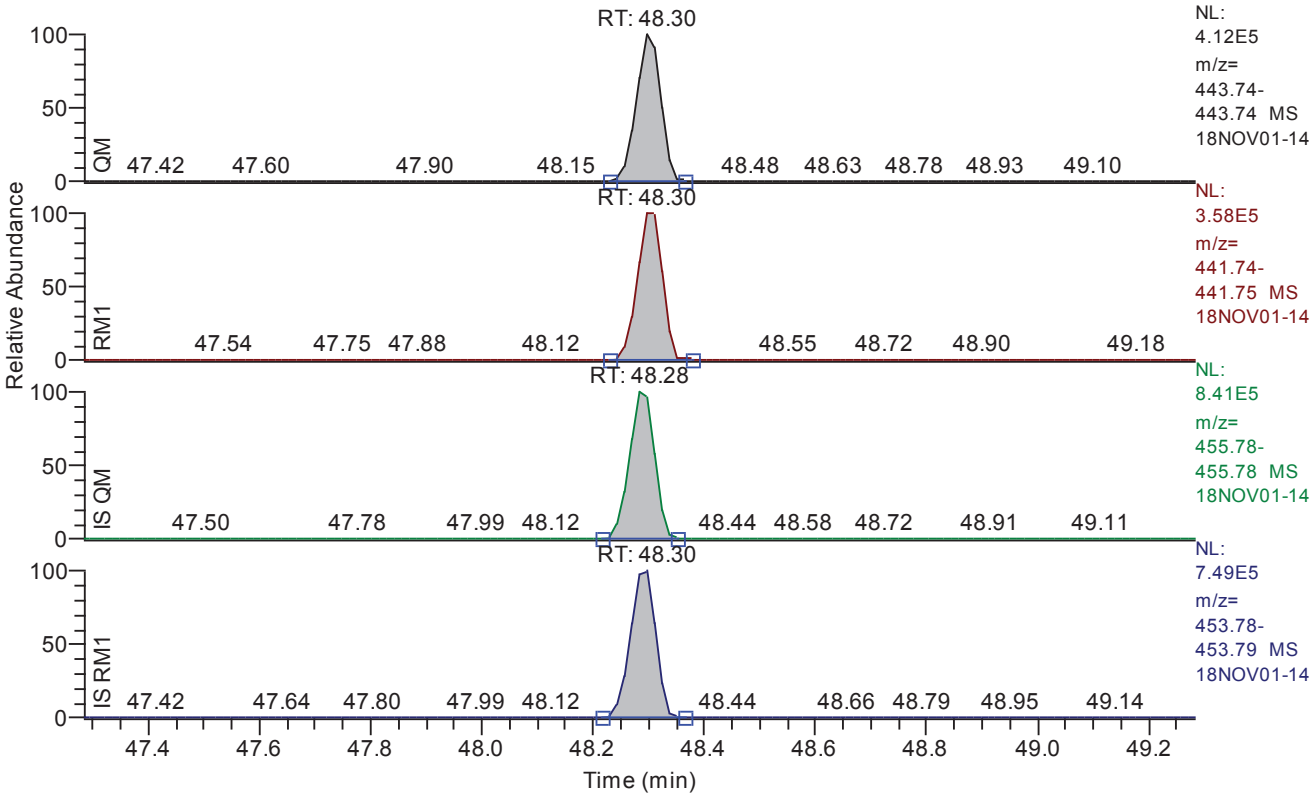
Chromatogram

RT: 47.28 - 49.28 SM: 3G



Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.30
QM Area	1252381
QM Integration Mode	A
RM1 Area	1127318
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0196
Unqualified Amount (A)	211.410798
Adjusted Amount (A)	211.4108
Signal-to-Noise	27476
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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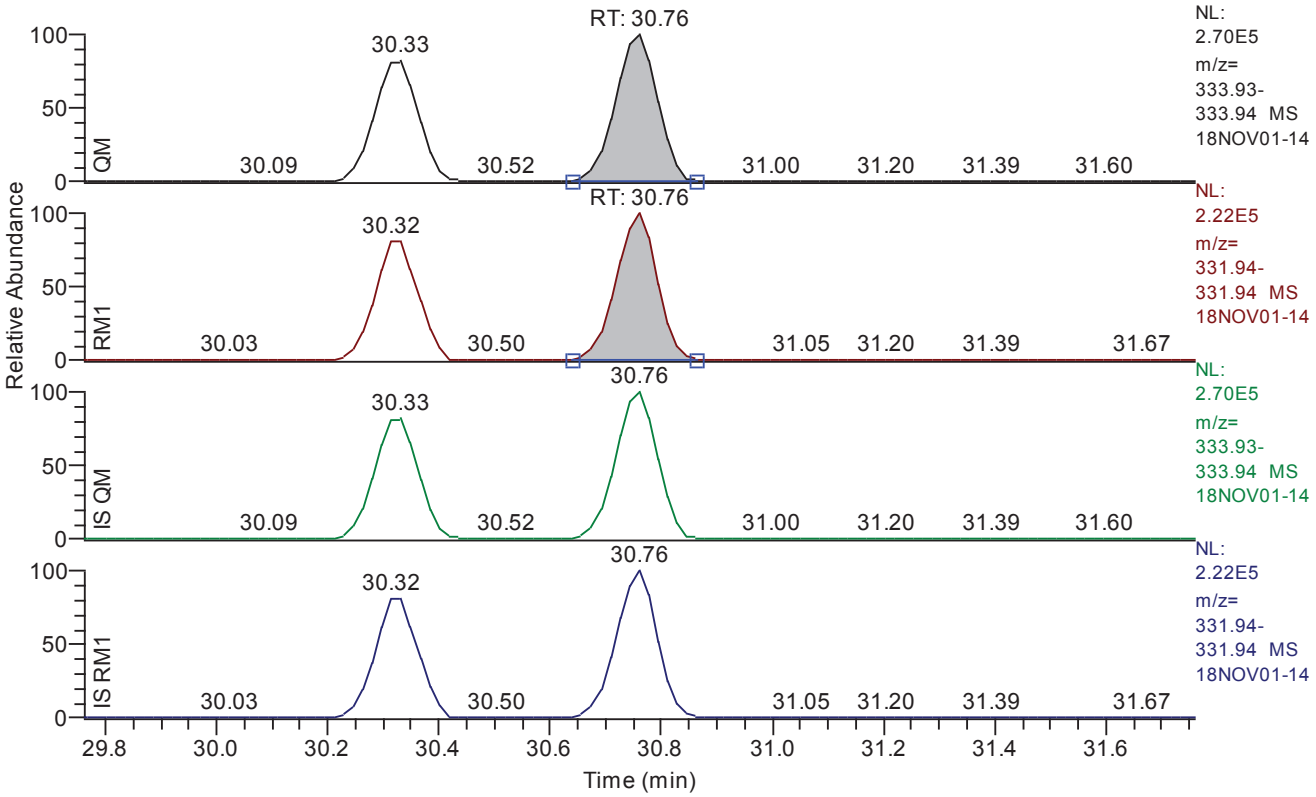
Chromatogram

RT: 29.76 - 31.76 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.76
QM Area	1441473
QM Integration Mode	A
RM1 Area	1151151
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0303
Unqualified Amount (A)	179.002073
Adjusted Amount (A)	179.0021
Signal-to-Noise	15852
Client Flags	
Status Overview	passed
Status Info	

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.19	29.20	29.20	29.19	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.34	30.35	30.35	30.33	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.22	35.24	35.24	35.22	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.51	36.52	36.52	36.50	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.91	36.93	36.93	36.90	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.23	40.24	40.24	40.23	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.38	40.39	40.39	40.37	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.10	41.09	41.10	41.08	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.29	41.29	41.30	41.28	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.41	41.41	41.41	41.40	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.73	41.74	41.74	41.71	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.11	42.11	42.11	42.10	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.85	43.86	43.87	43.85	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.07	45.08	45.08	45.06	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.62	45.63	45.63	45.62	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.12	48.12	48.12	48.11	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.29	48.30	48.30	48.28	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.73	30.76	30.76	30.76	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.48	29.51	29.51	29.51	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.14	40.15	40.15	40.15	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.16	29.19	29.19	29.15	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.32	30.33	30.32	30.32	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.20	35.22	35.22	35.18	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.48	36.50	36.50	36.41	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.90	36.90	36.90	36.90	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.22	40.23	40.23	40.23	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.37	40.37	40.37	40.36	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.07	41.08	41.08	41.09	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.27	41.28	41.28	41.28	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.39	41.40	41.40	41.40	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.72	41.71	41.72	41.72	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.09	42.10	42.10	42.04	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.85	43.85	43.85	43.87	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.05	45.06	45.06	45.06	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.61	45.62	45.62	45.60	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.10	48.11	48.11	48.11	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.29	48.28	48.30	48.30	passed	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.20	0.7756	0.6450 - 0.8950	passed	106.94	75 - 135	passed
2	2378-TCDD	30.35	0.7865	0.6450 - 0.8950	passed	85.13	70 - 128	passed
3	12378-PeCDF	35.24	1.5628	1.3150 - 1.7850	passed	101.83	77 - 131	passed
4	23478-PeCDF	36.52	1.5519	1.3150 - 1.7850	passed	104.00	75 - 128	passed
5	12378-PeCDD	36.93	1.5914	1.3150 - 1.7850	passed	99.63	74 - 125	passed
6	123478-HxCDF	40.24	1.2437	1.0450 - 1.4350	passed	101.74	77 - 130	passed
7	123678-HxCDF	40.39	1.2480	1.0450 - 1.4350	passed	103.38	73 - 134	passed
8	234678-HxCDF	41.09	1.2519	1.0450 - 1.4350	passed	100.80	74 - 133	passed
9	123478-HxCDD	41.29	1.2729	1.0450 - 1.4350	passed	104.06	72 - 131	passed
10	123678-HxCDD	41.41	1.2242	1.0450 - 1.4350	passed	104.34	74 - 134	passed
11	123789-HxCDD	41.74	1.2488	1.0450 - 1.4350	passed	100.62	71 - 138	passed
12	123789-HxCDF	42.11	1.2545	1.0450 - 1.4350	passed	99.70	74 - 135	passed
13	1234678-HpCDF	43.86	1.0646	0.8750 - 1.2050	passed	104.53	73 - 135	passed
14	1234678-HpCDD	45.08	1.0453	0.8750 - 1.2050	passed	104.09	76 - 125	passed
15	1234789-HpCDF	45.63	1.0570	0.8750 - 1.2050	passed	105.04	72 - 131	passed
16	OCDD	48.12	0.8964	0.7550 - 1.0250	passed	104.88	73 - 135	passed
17	OCDF	48.30	0.9001	0.7550 - 1.0250	passed	105.71	66 - 144	passed
18	13C12-1278-TCDD (CRS)	30.76	0.7986	0.6450 - 0.8950	passed	89.50	31 - 191	passed
19	13C12-1234-TCDD	29.51	0.8062	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.15	1.2510	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.19	0.7961	0.6450 - 0.8950	passed	67.87	40 - 135	passed
22	13C12-2378-TCDD	30.33	0.7964	0.6450 - 0.8950	passed	79.93	40 - 135	passed
23	13C12-12378-PeCDF	35.22	1.5854	1.3150 - 1.7850	passed	55.23	40 - 135	passed
24	13C12-23478-PeCDF	36.50	1.5814	1.3150 - 1.7850	passed	71.89	40 - 135	passed
25	13C12-12378-PeCDD	36.90	1.5953	1.3150 - 1.7850	passed	69.16	40 - 135	passed
26	13C12-123478-HxCDF	40.23	0.5277	0.4250 - 0.5950	passed	62.27	40 - 135	passed
27	13C12-123678-HxCDF	40.37	0.5201	0.4250 - 0.5950	passed	68.79	40 - 135	passed
28	13C12-234678-HxCDF	41.08	0.5247	0.4250 - 0.5950	passed	64.50	40 - 135	passed
29	13C12-123478-HxCDD	41.28	1.3072	1.0450 - 1.4350	passed	76.03	40 - 135	passed
30	13C12-123678-HxCDD	41.40	1.2237	1.0450 - 1.4350	passed	75.37	40 - 135	passed
31	13C12-123789-HxCDD	41.71	1.2323	1.0450 - 1.4350	passed	77.44	40 - 135	passed
32	13C12-123789-HxCDF	42.10	0.5262	0.4250 - 0.5950	passed	70.18	40 - 135	passed
33	13C12-1234678-HpCDF	43.85	0.4575	0.3650 - 0.5150	passed	85.29	40 - 135	passed
34	13C12-1234678-HpCDD	45.06	1.0755	0.8750 - 1.2050	passed	82.81	40 - 135	passed
35	13C12-1234789-HpCDF	45.62	0.4580	0.3650 - 0.5150	passed	64.25	40 - 135	passed
36	13C12-OCDD	48.11	0.9080	0.7550 - 1.0250	passed	86.14	40 - 135	passed
37	13C12-OCDF	48.28	0.8978	0.7550 - 1.0250	passed	65.49	40 - 135	passed

APPROVED
By uma9 at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

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Entry Parameters

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	29.20	223318	A	173206	A	0.0175	21.388043	21.3880	20.000000	3145	
2	2378-TCDD	passed	30.35	127032	A	99915	A	0.0195	17.026289	17.0263	20.000000	2131	
3	12378-PeCDF	passed	35.24	542270	A	847444	A	0.0214	101.831258	101.8313	100.000000	12445	
4	23478-PeCDF	passed	36.52	808771	A	1255158	A	0.0127	104.002895	104.0029	100.000000	21037	
5	12378-PeCDD	passed	36.93	389125	A	619256	A	0.0313	99.628986	99.6290	100.000000	8246	
6	123478-HxCDF	passed	40.24	645964	A	803403	A	0.0327	101.735787	101.7358	100.000000	7748	
7	123678-HxCDF	passed	40.39	730375	A	911493	A	0.0291	103.384021	103.3840	100.000000	8559	
8	234678-HxCDF	passed	41.09	663573	A	830745	A	0.0317	100.796049	100.7960	100.000000	7930	
9	123478-HxCDD	passed	41.29	472473	A	601402	A	0.0257	104.060378	104.0604	100.000000	9902	
10	123678-HxCDD	passed	41.41	480096	A	587730	A	0.0260	104.336516	104.3365	100.000000	9874	
11	123789-HxCDD	passed	41.74	481729	A	601575	A	0.0251	100.616196	100.6162	100.000000	9950	
12	123789-HxCDF	passed	42.11	618131	A	775431	A	0.0326	99.703063	99.7031	100.000000	7695	
13	1234678-HpCDF	passed	43.86	973855	A	1036762	A	0.0266	104.529177	104.5292	100.000000	9909	
14	1234678-HpCDD	passed	45.08	561527	A	586965	A	0.0224	104.092250	104.0923	100.000000	11659	
15	1234789-HpCDF	passed	45.63	623657	A	659190	A	0.0400	105.044210	105.0442	100.000000	6572	
16	OCDD	passed	48.12	1168242	A	1047184	A	0.0226	209.766033	209.7660	200.000000	23865	
17	OCDF	passed	48.30	1252381	A	1127318	A	0.0196	211.410798	211.4108	200.000000	27476	
18	13C12-1278-TCDD (CRS)	passed	30.76	1441473	A	1151151	A	0.0303	179.002073	179.0021	200.000000	15852	
19	13C12-1234-TCDD	passed	29.51	1524217	A	1228773	A	0.0319	200.000000	200.0000	200.000000	15666	
20	13C12-123468-HxCDD	passed	40.15	1203352	A	1505351	A	0.0440	200.000000	200.0000	200.000000	11372	
21	13C12-2378-TCDF	passed	29.19	2028462	A	1614935	A	0.0176	135.740391	135.7404	200.000000	19972	
22	13C12-2378-TCDD	passed	30.33	1229159	A	978927	A	0.0318	159.863236	159.8632	200.000000	12991	
23	13C12-12378-PeCDF	passed	35.22	1132195	A	1795002	A	0.0510	110.453259	110.4533	200.000000	6772	
24	13C12-23478-PeCDF	passed	36.50	1485968	A	2349913	A	0.0507	143.772146	143.7721	200.000000	10243	
25	13C12-12378-PeCDD	passed	36.90	764469	A	1219540	A	0.0305	138.314779	138.3148	200.000000	15949	
26	13C12-123478-HxCDF	passed	40.23	1616254	A	852819	A	0.0299	124.535716	124.5357	200.000000	10464	
27	13C12-123678-HxCDF	passed	40.37	1876759	A	976160	A	0.0286	137.582554	137.5826	200.000000	12183	
28	13C12-234678-HxCDF	passed	41.08	1613677	A	846679	A	0.0310	128.996439	128.9964	200.000000	10337	
29	13C12-123478-HxCDD	passed	41.28	897225	A	1172840	A	0.0437	152.065191	152.0652	200.000000	9036	
30	13C12-123678-HxCDD	passed	41.40	939129	A	1149190	A	0.0430	150.731570	150.7316	200.000000	9065	
31	13C12-123789-HxCDD	passed	41.71	913338	A	1125516	A	0.0452	154.875832	154.8758	200.000000	8720	
32	13C12-123789-HxCDF	passed	42.10	1632421	A	858995	A	0.0334	140.352167	140.3522	200.000000	10785	
33	13C12-1234678-HpCDF	passed	43.85	2139577	A	978850	A	0.0281	170.576086	170.5761	200.000000	15975	
34	13C12-1234678-HpCDD	passed	45.06	1036865	A	1115171	A	0.0249	165.620071	165.6201	200.000000	18870	
35	13C12-1234789-HpCDF	passed	45.62	1311253	A	600544	A	0.0346	128.502235	128.5022	200.000000	10235	
36	13C12-OCDD	passed	48.11	2194276	A	1992409	A	0.0150	344.547240	344.5472	400.000000	63329	
37	13C12-OCDF	passed	48.28	2637721	A	2368243	A	0.0145	261.949624	261.9496	400.000000	49945	

APPROVED
By uma9 at 4:10 pm, 11/9/18

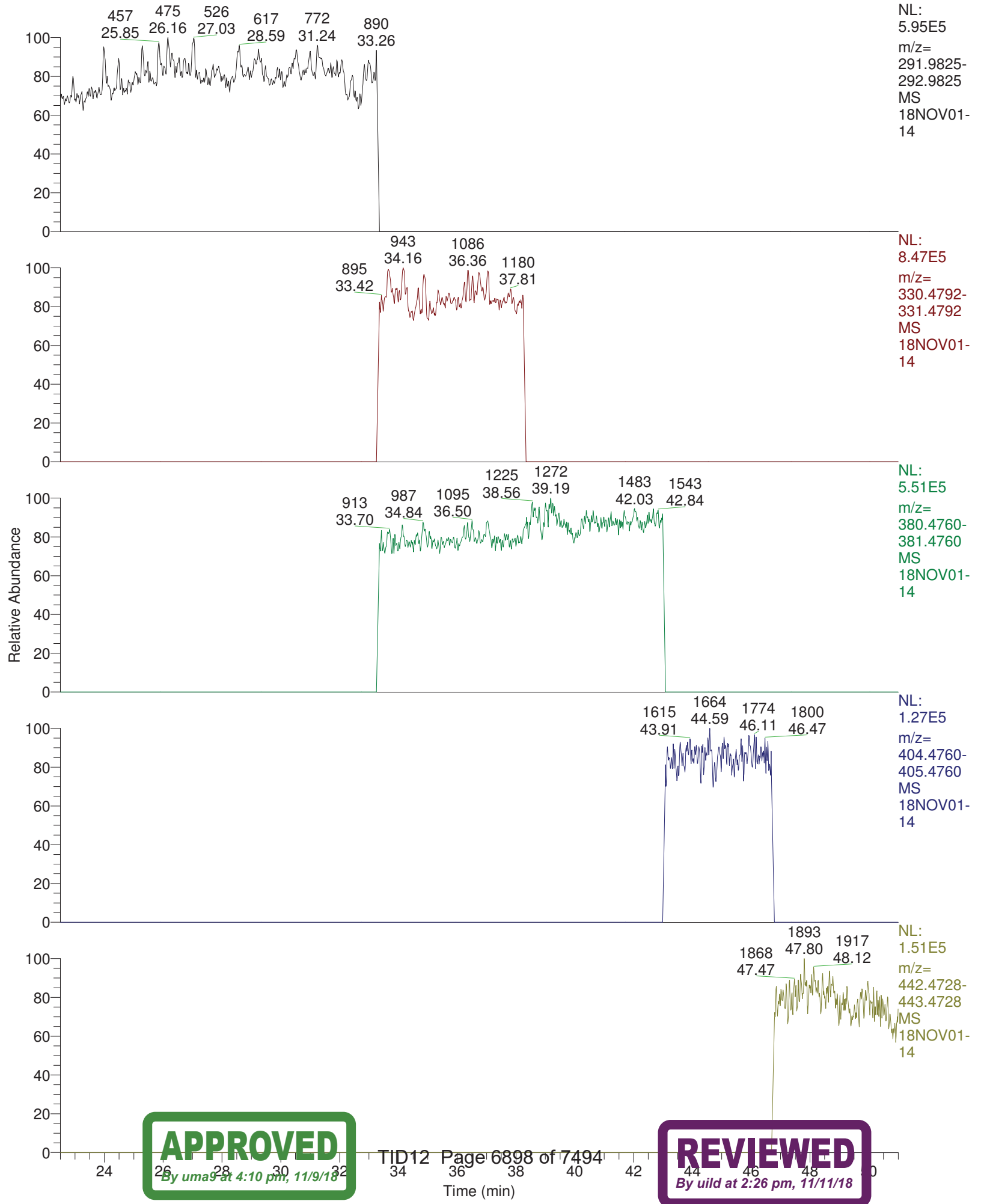
REVIEWED
By uild at 2:26 pm, 11/11/18

File Name: Y:\18NOV01\18NOV01-14
Sample ID: OPR302007

Acq. Data: 11/1/2018 9:32:40 PM
Sample Name: SW-846 8290A Feb 2007 Rev 1 18302007
PFK Reference Lock Mass Traces

Instrument ID: DF18471-18NOV01

RT: 22.50 - 51.00



APPROVED
By umas at 4:10 pm, 11/9/18

REVIEWED
By uild at 2:26 pm, 11/11/18

*** file opened Thu Nov 01 21:38:07 2018 ***

```
Started by                - Xcalibur
Instrument Internet name  - DFS MS
Instrument model          - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - US19INS07622
```

Analysis started at: 01-Nov-18 21:38:06

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 2e2e36e6-6cf8-4b51-9519-fc338622507b

MID procedure: PFK16MAR24+MDT

Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	11:15 min	33:15 min	1.00 sec
# 3	33:15 min	5:00 min	38:15 min	0.90 sec
# 4	38:15 min	4:45 min	43:00 min	0.80 sec
# 5	43:00 min	3:42 min	46:42 min	0.80 sec
# 6	46:42 min	4:17 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118

```
  331.9363     5  1       23
  333.9333     5  1       23
  339.8592     1  1      118
  341.8562     1  1      118
  354.9787 c  20  1        5
  375.8364     2  1       59
 Window # 3
      mass F  int  gr  time (ms)
  330.9787 l  20  1        6
  339.8592     1  1      133
  341.8562     1  1      133
  351.8994     3  1       44
  353.8965     3  1       44
  355.8541     1  1      133
  357.8511     1  1      133
  367.8943     3  1       44
  369.8914     3  1       44
  380.9755 c  20  1        6
  409.7969     2  1       66
 Window # 4
      mass F  int  gr  time (ms)
  373.8201     1  1      117
  375.8172     1  1      117
  380.9755 l  20  1        5
  383.8634     3  1       39
  385.8604     3  1       39
  389.8151     1  1      117
  391.8121     1  1      117
  401.8554     3  1       39
  403.8524     3  1       39
  430.9723 c  20  1        5
  445.7550     2  1       58
 Window # 5
      mass F  int  gr  time (ms)
  404.9755 l  20  1        5
  407.7812     1  1      117
  409.7783     1  1      117
  417.8244     3  1       39
  419.8215     3  1       39
  423.7761     1  1      117
  425.7732     1  1      117
  435.8164     3  1       39
  437.8134     3  1       39
  479.7160     2  1       58
  480.9691 c  20  1        5
 Window # 6
      mass F  int  gr  time (ms)
  441.7422     1  1       95
  442.9723 l  20  1        4
  443.7393     1  1       95
  453.7825     1  1       95
  455.7795     1  1       95
  457.7372     1  1       95
  459.7342     1  1       95
  469.7774     3  1       31
  471.7745     3  1       31
  492.9691 c  20  1        4
  513.6770     2  1       47

MID Window terminated after 22.000000 minutes
MID Window end time was 22.000000 minutes
MID Window terminated after 33.250000 minutes
MID Window end time was 33.250000 minutes
```

```
MID Window terminated after 38.250000 minutes
MID Window end time was 38.250000 minutes
MID Window terminated after 43.000000 minutes
MID Window end time was 43.000000 minutes
MID Window terminated after 46.700000 minutes
MID Window end time was 46.700000 minutes
MID Window terminated after 51.000000 minutes
MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

 ACCU           1000.0000   BCORRS           0.0170   BMASS           94.5000
 BQUAD             5.9500   CAPIL            0.0000   CAPTSET        200.0000
 CCURR             0.0000   COUNTING         0.0000   DELAY            0.0000
 DRAW            -25.0000   DRAWC            0.0000   DRAWS            0.0000
 DYNVOLTAGE       15.0000   ECORR            0.9995   ECURR            1.0000
 EDAC        7969177.0000   EDACG            1.0000   EDACZ         -242.0000
 ELEN            -50.0000   EMULT         1775.0000   ENS            216.0000
 ENSBR             5.9500   ERATIO           1.0000   ESA            679.0600
 ESIPAR            0.0000   EXS            167.0000   EXSBR           -0.4700
 FDMA       18000000.0000   FILTER         100.0000   FLENS            1.0000
 FM               50.0000   FMII            50.0000   FQUAD            4.3500
 FQUADGAIN         1.0000   FREQ           400.0000   FSLOPE    36000000.0000
 FVANAL            0.0174   FVINLET          0.0360   FVSRC            0.0333
 FWIN              0.7000   HCURR            0.0000   HVANAL           0.0000
 HVSRC             0.0000   ICAL0            0.0011   ICAL1            0.4030
 ICAL2             0.5865   IONEN            0.0000   IST              0.0000
 ISTC            260.0000   ISTS           260.0000   LENS_POT       670.0000
 LENS_SYM         11.5000   LM             650.0000   LMII           500.0000
 LMASS            94.5000   LKM            442.9723   MASS            94.5000
 MDAC         914124.4195   MRANGE        1614.4523   NSAM           200.0000
 NSCAN          2157.0000   NSMAX            8.0000   NSMIN           66.0000
 NPEAK            11.0000   MULT            -2.0000   PSAM            10.0000
 PUSHER          -13.0000   RECURR           0.9641   RELEN            0.0000
 RES           14923.5943   RPUSHER        -12.8278   RDRAW            0.0000
 RDRAWC            0.0000   RWIN             2.0000   SCIDLE           0.0000
 SHIELD_POT      690.0000   SHIELD_SYM       0.0000   SHIGH          180.0000
 SKIM              7.0000   SLOW            60.0000   SS               2.0000
 SW                0.0193   TANAL            0.0000   TCURR            0.0000
 TD               30.0000   TS              33.4574   THRESH           2.0000
 TIS               0.2000   TREF           120.0000   TSAM           200.0000
 TSET              0.0000   TUBEL            0.0000   UROT             0.0000
 USERVAR           0.0000   UTQ1           150.0000   UTQ2           190.0000
 UTQ3             80.0000   VMASS           94.5000   XLENS_POT      928.0000
 XLENS_SYM         6.5000   YLENS_POT      836.0000   YLENS_SYM        8.8000

Source Gauge:        2.2e-005 mbar
Analyzer Penning:    7.6e-008 mbar
Pirani Analyse:      1.7e-002 mbar
Pirani Source:       3.3e-002 mbar
Pirani Inlet System: 3.6e-002 mbar

Scantype is magnetic


Sourcemode is EI POS

MID Time Window 1: Resolution is 11750.
MID Time Window 2: Resolution is 12935.
MID Time Window 3: Resolution is 12858.
MID Time Window 4: Resolution is 13607.
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  MID Time Window 5: Resolution is 14238.
  MID Time Window 6: Resolution is 14923.

  Amplifier Offset: 87.


*** File closed Thu Nov 01 22:29:08 2018
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Extraction Logs

Dioxins/Furans by HRMS

Organic Extraction Batchlog

18302007

Assigned to: 0

Reviewed by: A051731

Start Date: 10/29/18

Start time: 15:45

Tech 1: ABG 25082

Tech 2:

Sox Start: 20:48

Sox Stop: 10/30/18 14:47

Dry Start: ~~NA~~ (7) ABG 25082 10/29/18

Dry Stop: NA

Analyses on Batch: Dioxins/Furans in Solids-8290

Dept: 37 Prep Analysis: 11030 Dioxins/Furans in Solids - Sox

QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (uL)	Filter (Y/N)	IS amt (uL)	BC	Comments
BLANKA	BLK302007	10.0	LCSDFX1837AQ	0.1	—	—	20	N	10	Z	
LCSA	OPR302007	10.0	LCSDFX1837AQ	0.1	PARDFX1837AO	0.1	20	N	10	Z	

Solvent Used	Lot No.
1:1 MeCl2:Hexane	NA
Canola Oil	NA
Dry Start	NA
Dry Stop	NA
Isolute	NA
M-vap	15615
Microvap Temp	50
Quartz Sand (7) ABG 25082 10/29/18	~~MT~~ MKCF2652
Sox Start	20:48
Sox Stop	10/30/18 14:47
Witness	LT12610
glass fiber thimble	1687246102
hexane	NA
methylene chloride	NA
toluene	184506

ABG 25082 10/29/18

Spike Solutions:
PARDFX1837AO
LCSDFX1837AQ

Witness: LT12613

DF Perform and Rec Spike
DF Labeled Comp Spike

Instrument: DF 19760 DF159971 DF17286

Sequence: W:18Nov07 Y:18Nov01 Y:18Nov02 Y:18Nov02cont Z:18Nov05 Z:18Nov06

Micro Temp 100? ☐

	Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (uL)	Filter Y/N	IS amt (uL)	BC	Comments	Analyses	Due Date	Prio
1	9870251	T1102	10.14	LCSDFX1837AQ	0.1	20	N	10	053a		12937	11/08/2018	N
2	9870252	T1103	10.26	LCSDFX1837AQ	0.1	20		10	053a		12937	11/08/2018	N
3	9870253	T1104	10.04	LCSDFX1837AQ	0.1	20		10	053a		12937	11/08/2018	N
4	9870254	T1105	10.1	LCSDFX1837AQ	0.1	20		10	053a		12937	11/08/2018	N
5	9872060	12T02	10.07	LCSDFX1837AQ	0.1	20		10	053a		12937	11/09/2018	N
6	9872061	12T03	10.09	LCSDFX1837AQ	0.1	20		10	053a		12937	11/09/2018	N
7	9872062	12T04	10.04	LCSDFX1837AQ	0.1	20		10	053a		12937	11/09/2018	N

IS Added by: AB 8885 Date: 10/31/18

Internal Standard	IS182743A	Balance #	17779

S-bath ID	NA	NA C	Micro Unit	NA	M-vap	15615	50 C	18302007

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

	Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (uL)	Filter Y/N	IS amt (uL)	BC	Comments	Analyses	Due Date	Prio
8	9872063	12T05	10.13	LCSDFX1837AQ	0.1	20	N	10	053a		12937	11/09/2018	N
9	9872064	12T06	10.14	LCSDFX1837AQ	0.1	20	↓	10	053a		12937	11/09/2018	N
10	9872065	12T07	10.08	LCSDFX1837AQ	0.1	20	↓	10	053a		12937	11/09/2018	N

ABG 25082
10/29/18

IS Added by: _____ Date: _____

Internal Standard		Balance #	17779

S-bath ID	NA	NA C	Micro Unit	NA	M-vap	15615	50 C	18302007

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

H2SO4 Shake
Prep: 11030 Dioxins/Furans in Solids - Sox
Batch: 18302007

Reviewed by: AB 8884
Start Date: 10/30/18
Start Time: 20:00
Tech 1: ABG 25082
Tech 2:

	Sample #	Aliquot (g) E=entire extract	Comments	Analyses
1	9870251	E		12937
2	9870252			12937
3	9870253			12937
4	9870254			12937
5	9872060			12937
6	9872061			12937
7	9872062			12937
8	9872063			12937
9	9872064			12937
10	9872065			12937
11	BLANKA			
12	LCSA			

ABG 25082 10/30/18 ~~10/2~~ 3

Additional Comment:

DF = Dilution Factor FV = Final Volume

Media Used	Lot No.	Solvent Used	Lot No.
sodium sulfate	NA	hexane	184810
acid silica gel	NA	H_2SO_4	184517

Miscellaneous	Lot No.
13 mm filter paper	NA
nonane	NA

ABG 25082 10/30/18

steam bath	NA C

The documented temperatures are NIST corrected.

DF Cleanup
Prep: 11030 Dioxins/Furans in Solids - Sox
Batch: 18302007

Reviewed by: AB 8884
Start Date: 10/30/18
Start Time: 20:30
Tech 1: ABG 25082
Tech 2:

	Sample #	Aliquot (mL) E=entire extract	Cleanup std CSPDFX1837AI	amt (mL)	Comments	Analyses
1	9870251	E	✓	0.1		12937
2	9870252					12937
3	9870253					12937
4	9870254					12937
5	9872060				may have received cleanup spike 2x	12937
6	9872061					12937
7	9872062					12937
8	9872063					12937
9	9872064					12937
10	9872065					12937
11	BLANKA					
12	LCSA					

ABG
25082
10/30/18

Additional Comment:

DF = Dilution Factor FV = Final Volume

Media Used	Lot No.	Solvent Used	Lot No.
sodium sulfate	308102418D	hexane	184810
silica gel	888610141 8F	5% methylene chloride: hexane	888610291 8A, 268091029 18A
acid silica gel	308102518B		
basic silica gel	126101022186	methylene chloride	187356
AgNO3 silica gel	not available	2:1 Toluene:Hexane	NA
alumina	0108035		

Miscellaneous	Lot No.
13mm filter paper	71126702
Nonane	NA

M-Evap	15615	40 C

The documented temperatures are NIST corrected.

Metals in Solid Data

Case Narrative/Conformance Summary

Metals in Solid

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Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID12

ICP Metals

Fraction: Metals in Solid

Sample #	Client ID	Matrix Liquid	Matrix Solid	Comments
9872060	OU2-1-SU005-06		X	
9872061	OU2-1-SU005-06-DUP		X	Field Duplicate Sample
9872062	OU2-1-SU005-16		X	
9872063	OU2-1-SU006-05		X	
9872064	OU2-1-SU006-14		X	
9872065	OU2-1-SU008-02		X	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Method defined actions are taken for any failed matrix QC.

Batch#: 183041063801 (Sample number(s): 9872060-9872065, UNSPK: 9872060, BKG: 9872060)
The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: Mercury

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Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID12

ICP Metals

Fraction: Metals in Solid

Sample Duplicate

Batch#: 183041063801 (Sample number(s): 9872060-9872065, UNSPK: 9872060, BKG: 9872060)
The duplicate RPD for the following analyte(s) is outside the acceptance window: Mercury

SAMPLE ANALYSIS:

Refer to analysis run log for samples requiring dilutions.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

(Sample number(s): 9872060-9872065: Analysis: 13499)
Reporting limits for metals were raised due to interference from the sample matrix.
The ICV RSD is greater than 5% for Thorium.
Outlier recovery/result: ICV RSDs > 5%; Acceptance limits: < 5%
ICV RSD%- 12.5%, reading 0.62, acceptance limits: 0.54-0.66

No other problems were encountered with the analysis of the samples.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Solid

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 9872060, 9872060BKG % Solids: 77.9
Concentration Units: MG/KG Date Received: 10/27/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6070			MS
7440-36-0	Antimony	16.0			MS
7440-38-2	Arsenic	32.8			MS
7440-39-3	Barium	565			MS
7440-41-7	Beryllium	0.36			MS
7440-43-9	Cadmium	3.0			MS
7440-70-2	Calcium	28800			MS
7440-47-3	Chromium	66.6			MS
7440-48-4	Cobalt	17.0			MS
7440-50-8	Copper	483			MS
7439-89-6	Iron	142000			MS
7439-92-1	Lead	1270			MS
7439-95-4	Magnesium	2560			MS
7439-96-5	Manganese	467			MS
7439-97-6	Mercury	1.3			CV
7440-02-0	Nickel	76.8			MS
7440-09-7	Potassium	794			MS
7782-49-2	Selenium	1.3			MS
7440-22-4	Silver	2.9			MS
7440-23-5	Sodium	711			MS
7440-28-0	Thallium	0.17			MS
7440-29-1	Thorium	60.8	B		P
7440-61-1	Uranium	0.45			MS
7440-62-2	Vanadium	22.9			MS
7440-66-6	Zinc	1600			MS

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 9872061 % Solids: 77.8
Concentration Units: MG/KG Date Received: 10/27/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6200			MS
7440-36-0	Antimony	12.7			MS
7440-38-2	Arsenic	115			MS
7440-39-3	Barium	889			MS
7440-41-7	Beryllium	0.53			MS
7440-43-9	Cadmium	4.5			MS
7440-70-2	Calcium	30000			MS
7440-47-3	Chromium	47.6			MS
7440-48-4	Cobalt	14.3			MS
7440-50-8	Copper	426			MS
7439-89-6	Iron	136000			MS
7439-92-1	Lead	1440			MS
7439-95-4	Magnesium	835			MS
7439-96-5	Manganese	369			MS
7439-97-6	Mercury	2.2			CV
7440-02-0	Nickel	79.1			MS
7440-09-7	Potassium	570			MS
7782-49-2	Selenium	1.1			MS
7440-22-4	Silver	3.4			MS
7440-23-5	Sodium	591			MS
7440-28-0	Thallium	0.24			MS
7440-29-1	Thorium	47.3	B		P
7440-61-1	Uranium	0.58			MS
7440-62-2	Vanadium	24.4			MS
7440-66-6	Zinc	1460			MS

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence
NR = Not Required

CONCENTRATION QUALIFIERS:
U = Below MDL,
B = Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 9872062 % Solids: 74.3
Concentration Units: MG/KG Date Received: 10/27/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5540			MS
7440-36-0	Antimony	10.3			MS
7440-38-2	Arsenic	31.0			MS
7440-39-3	Barium	1170			MS
7440-41-7	Beryllium	0.48			MS
7440-43-9	Cadmium	8.6			MS
7440-70-2	Calcium	36600			MS
7440-47-3	Chromium	276			MS
7440-48-4	Cobalt	14.3			MS
7440-50-8	Copper	538			MS
7439-89-6	Iron	127000			MS
7439-92-1	Lead	1040			MS
7439-95-4	Magnesium	2550			MS
7439-96-5	Manganese	479			MS
7439-97-6	Mercury	0.88			CV
7440-02-0	Nickel	100			MS
7440-09-7	Potassium	1340			MS
7782-49-2	Selenium	2.6			MS
7440-22-4	Silver	6.5			MS
7440-23-5	Sodium	959			MS
7440-28-0	Thallium	0.25			MS
7440-29-1	Thorium	52.3	B		P
7440-61-1	Uranium	0.59			MS
7440-62-2	Vanadium	30.5			MS
7440-66-6	Zinc	2010			MS

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 9872063 % Solids: 78.9
Concentration Units: MG/KG Date Received: 10/27/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9490			MS
7440-36-0	Antimony	14.5			MS
7440-38-2	Arsenic	35.1			MS
7440-39-3	Barium	786			MS
7440-41-7	Beryllium	0.66			MS
7440-43-9	Cadmium	12.8			MS
7440-70-2	Calcium	8400			MS
7440-47-3	Chromium	111			MS
7440-48-4	Cobalt	8.2			MS
7440-50-8	Copper	1600			MS
7439-89-6	Iron	90600			MS
7439-92-1	Lead	6100			MS
7439-95-4	Magnesium	3770			MS
7439-96-5	Manganese	325			MS
7439-97-6	Mercury	0.48			CV
7440-02-0	Nickel	134			MS
7440-09-7	Potassium	1250			MS
7782-49-2	Selenium	2.6			MS
7440-22-4	Silver	28.4			MS
7440-23-5	Sodium	749			MS
7440-28-0	Thallium	0.13			MS
7440-29-1	Thorium	39.3	U		P
7440-61-1	Uranium	0.54	B		MS
7440-62-2	Vanadium	38.4			MS
7440-66-6	Zinc	1570			MS

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 9872064 % Solids: 67.4
Concentration Units: MG/KG Date Received: 10/27/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8840			MS
7440-36-0	Antimony	10.8			MS
7440-38-2	Arsenic	27.7			MS
7440-39-3	Barium	1130			MS
7440-41-7	Beryllium	0.59			MS
7440-43-9	Cadmium	0.075	B		MS
7440-70-2	Calcium	18900			MS
7440-47-3	Chromium	46.5			MS
7440-48-4	Cobalt	15.5			MS
7440-50-8	Copper	30.4			MS
7439-89-6	Iron	84800			MS
7439-92-1	Lead	1310			MS
7439-95-4	Magnesium	2920			MS
7439-96-5	Manganese	163			MS
7439-97-6	Mercury	1.3			CV
7440-02-0	Nickel	125			MS
7440-09-7	Potassium	1250			MS
7782-49-2	Selenium	0.15	U		MS
7440-22-4	Silver	0.045	U		MS
7440-23-5	Sodium	106	B		MS
7440-28-0	Thallium	0.10	B		MS
7440-29-1	Thorium	46.7	U		P
7440-61-1	Uranium	1.4			MS
7440-62-2	Vanadium	29.6			MS
7440-66-6	Zinc	40.1			MS

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

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QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Lab Sample ID: 9872065 % Solids: 44.7
Concentration Units: MG/KG Date Received: 10/27/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9110			MS
7440-36-0	Antimony	5.1			MS
7440-38-2	Arsenic	12.2			MS
7440-39-3	Barium	1030			MS
7440-41-7	Beryllium	0.93			MS
7440-43-9	Cadmium	3.6			MS
7440-70-2	Calcium	25900			MS
7440-47-3	Chromium	90.3			MS
7440-48-4	Cobalt	13.9			MS
7440-50-8	Copper	382			MS
7439-89-6	Iron	50000			MS
7439-92-1	Lead	890			MS
7439-95-4	Magnesium	3050			MS
7439-96-5	Manganese	442			MS
7439-97-6	Mercury	12.9	B		CV
7440-02-0	Nickel	67.0			MS
7440-09-7	Potassium	2230			MS
7782-49-2	Selenium	2.4			MS
7440-22-4	Silver	11.3			MS
7440-23-5	Sodium	1980			MS
7440-28-0	Thallium	0.19			MS
7440-29-1	Thorium	65.1	U		P
7440-61-1	Uranium	0.85			MS
7440-62-2	Vanadium	76.5			MS
7440-66-6	Zinc	948			MS

Comments:

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U = Below MDL,
MS = ICP Mass Spectrometry	B = Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	
NR = Not Required	

Quality Control and Calibration Summary Forms

Metals in Solid

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QUALITY CONTROL REFERENCE LIST

SDG No.: TID12
Matrix: SOIL

Analyte	Batch Number	Lab Sample ID
Thorium	183041063701	*70251BKG
		9872060
		9872061
		9872062
		9872063
		9872064
		9872065
		P30463AB
		P30463AQ

LEGEND:

BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY CONTROL REFERENCE LIST

SDG No.: TID12
Matrix: SOIL

Analyte	Batch Number	Lab Sample ID
Aluminum	183041063701	*70251BKG
Antimony		9872060
Arsenic		9872061
Barium		9872062
Beryllium		9872063
Cadmium		9872064
Calcium		9872065
Chromium		P30463AB
Cobalt		P30463AQ
Copper		
Iron		
Lead		
Magnesium		
Manganese		
Nickel		
Potassium		
Selenium		
Silver		
Sodium		
Thallium		
Uranium		
Vanadium		
Zinc		

LEGEND:

BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY CONTROL REFERENCE LIST

SDG No.: TID12
Matrix: SOIL

Analyte	Batch Number	Lab Sample ID
Mercury	183041063801	9872060BKG
		9872060MS
		9872060MSD
		9872060DUP
		9872061
		9872062
		9872063
		9872064
		9872065
		P30463AB
		P30463AQ

LEGEND:

BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: P
Run Name: 1831302T71
Calibration Date(s): 11/09/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Thorium		600.0	570.44	95.1	500.0	471.44	94.3	500.0	491.08	98.2

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: P
Run Name: 1833102T73
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Thorium		600.0	618.11	103.0	500.0	486.22	97.2	500.0	489.69	97.9

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: P
Run Name: 1833102T73
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Thorium					500.0	502.36	100.5			

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1831212E05
Calibration Date(s): 11/08/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum	27	5000.0	5165.19	103.3	2500.0	2569.88	102.8	2500.0	2615.29	104.6
Antimony										
Arsenic										
Barium	137	500.0	501.24	100.2	250.0	254.95	102.0	250.0	246.64	98.7
Beryllium	9	50.0	51.32	102.6	25.0	25.65	102.6	25.0	24.90	99.6
Cadmium	111	50.0	52.29	104.6	25.0	25.96	103.8	25.0	24.89	99.6
Calcium	44	5000.0	5130.35	102.6	2500.0	2436.72	97.5	2500.0	2728.85	109.2
Chromium	52	500.0	543.97	108.8	250.0	263.23	105.3	250.0	268.75	107.5
Cobalt	59	500.0	524.03	104.8	250.0	267.35	106.9	250.0	261.60	104.6
Copper	63	500.0	529.15	105.8	250.0	270.16	108.1	250.0	263.05	105.2
Iron										
Lead										
Magnesium	24	5000.0	5430.09	108.6	2500.0	2590.79	103.6	2500.0	2557.34	102.3
Manganese	55	500.0	539.38	107.9	250.0	265.83	106.3	250.0	262.90	105.2
Nickel	60	500.0	516.86	103.4	250.0	268.91	107.6	250.0	263.73	105.5
Potassium	39	5000.0	5218.53	104.4	2500.0	2607.83	104.3	2500.0	2645.80	105.8
Selenium	78	50.0	50.92	101.8	25.0	24.75	99.0	25.0	25.09	100.4
Silver	107	50.0	52.31	104.6	25.0	26.62	106.5	25.0	26.24	105.0
Sodium	23	5000.0	5103.42	102.1	2500.0	2671.94	106.9	2500.0	2696.40	107.9
Thallium	203	50.0	52.44	104.9	25.0	25.86	103.4	25.0	24.68	98.7
Uranium	238	50.0	50.99	102.0	25.0	25.02	100.1	25.0	24.57	98.3
Vanadium	51	500.0	533.18	106.6	250.0	266.02	106.4	250.0	268.63	107.5
Zinc	66	500.0	516.37	103.3	250.0	260.69	104.3	250.0	260.24	104.1

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1831212E05
Calibration Date(s): 11/08/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum	27				2500.0	2613.44	104.5			
Antimony										
Arsenic										
Barium	137				250.0	248.67	99.5			
Beryllium	9				25.0	25.56	102.2			
Cadmium	111				25.0	26.64	106.6			
Calcium										
Chromium	52				250.0	270.99	108.4			
Cobalt	59				250.0	265.84	106.3			
Copper	63				250.0	266.11	106.4			
Iron										
Lead										
Magnesium	24				2500.0	2618.73	104.7			
Manganese	55				250.0	264.85	105.9			
Nickel	60				250.0	262.78	105.1			
Potassium	39				2500.0	2638.95	105.6			
Selenium	78				25.0	24.84	99.4			
Silver	107				25.0	26.28	105.1			
Sodium	23				2500.0	2647.71	105.9			
Thallium	203				25.0	25.66	102.6			
Uranium	238				25.0	25.51	102.0			
Vanadium	51				250.0	271.44	108.6			
Zinc	66				250.0	258.68	103.5			

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1831608E05
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony	121	50.0	54.69	109.4	25.0	27.67	110.7*	25.0	26.34	105.4
Arsenic	75	500.0	512.33	102.5	250.0	252.41	101.0	250.0	256.83	102.7
Barium	137	500.0	488.09	97.6	250.0	256.72	102.7	250.0	257.91	103.2
Beryllium										
Cadmium										
Calcium	44	5000.0	4569.11	91.4	2500.0	2595.29	103.8	2500.0	2508.79	100.4
Chromium										
Cobalt										
Copper	63	500.0	518.89	103.8	250.0	257.33	102.9	250.0	262.29	104.9
Iron	57	5000.0	5053.33	101.1	2500.0	2568.94	102.8	2500.0	2511.21	100.4
Lead	208	50.0	51.08	102.2	25.0	26.49	106.0	25.0	26.01	104.0
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium	203	50.0	52.26	104.5	25.0	26.48	105.9	25.0	26.32	105.3
Uranium	238	50.0	48.89	97.8	25.0	24.62	98.5	25.0	24.89	99.6
Vanadium										
Zinc	66	500.0	520.52	104.1	250.0	258.19	103.3	250.0	263.44	105.4

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1831608E05
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony	121				25.0	25.27	101.1	25.0	26.88	107.5
Arsenic	75				250.0	267.06	106.8	250.0	248.84	99.5
Barium	137				250.0	245.83	98.3	250.0	263.15	105.3
Beryllium										
Cadmium										
Calcium	44				2500.0	2333.13	93.3	2500.0	2487.65	99.5
Chromium										
Cobalt										
Copper	63				250.0	271.69	108.7	250.0	252.28	100.9
Iron	57				2500.0	2543.56	101.7	2500.0	2618.99	104.8
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium	203				25.0	26.02	104.1	25.0	26.08	104.3
Uranium	238				25.0	25.25	101.0	25.0	25.38	101.5
Vanadium										
Zinc	66				250.0	271.28	108.5	250.0	253.22	101.3

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1831608E05
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony	121				25.0	27.32	109.3			
Arsenic	75				250.0	261.30	104.5			
Barium	137				250.0	259.48	103.8			
Beryllium										
Cadmium										
Calcium	44				2500.0	2331.26	93.3			
Chromium										
Cobalt										
Copper										
Iron	57				2500.0	2592.40	103.7			
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1831807E05
Calibration Date(s): 11/14/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium	137	500.0	512.77	102.6	250.0	263.73	105.5	250.0	271.53	108.6
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1832201E05
Calibration Date(s): 11/18/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron	57	5000.0	5071.72	101.4	2500.0	2475.22	99.0	2500.0	2560.43	102.4
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1832201E05
Calibration Date(s): 11/18/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron	57				2500.0	2643.29	105.7			
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1832503E05
Calibration Date(s): 11/21/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony	121	50.0	51.69	103.4	25.0	26.20	104.8	25.0	27.10	108.4
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium	238	50.0	50.48	101.0	25.0	25.09	100.4	25.0	25.03	100.1
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1832503E05
Calibration Date(s): 11/21/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium	238				25.0	25.12	100.5			
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1833101E07
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	208	50.0	51.05	102.1	25.0	26.73	106.9	25.0	26.68	106.7
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1833101E07
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	208				25.0	26.54	106.2			
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	208	50.0	52.23	104.5	25.0	26.35	105.4	25.0	26.46	105.8
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	208				25.0	25.76	103.0	25.0	26.06	104.2
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	208				25.0	25.68	102.7	25.0	26.14	104.6
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	208				25.0	25.87	103.5	25.0	26.03	104.1
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: CV
Run Name: 1830502M08
Calibration Date(s): 11/01/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury		2.5	2.45	98.0	1.0	1.02	102.0	1.0	0.99	99.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: CV
Run Name: 1830502M08
Calibration Date(s): 11/01/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury					1.0	1.00	100.0	1.0	1.03	103.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: TID12

Method: CV
Run Name: 1830502M08
Calibration Date(s): 11/01/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(2)
Mercury					1.0	1.03	103.0			

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: P
Run Name: 1831302T71
Calibration Date(s): 11/09/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Thorium		500.0	488.73	97.7		

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: P
Run Name: 1833102T73
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Thorium		500.0	509.93	102.0	434.26	86.9

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: MS
Run Name: 1831212E05
Calibration Date(s): 11/08/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum	27	400.0	419.58	104.9		
Antimony						
Arsenic						
Barium	137	4.0	5.31	132.8		
Beryllium	9	0.5	0.45	90.0		
Cadmium	111	1.0	1.08	108.0		
Calcium	44	700.0	886.66	126.7		
Chromium	52	4.0	4.56	114.0		
Cobalt	59	1.0	1.15	115.0		
Copper	63	40.0	42.84	107.1		
Iron						
Lead						
Magnesium	24	100.0	107.53	107.5		
Manganese	55	10.0	10.13	101.3		
Nickel	60	4.0	3.95	98.8		
Potassium	39	400.0	406.91	101.7		
Selenium	78	2.0	2.06	103.0		
Silver	107	0.5	0.55	110.0		
Sodium	23	900.0	936.29	104.0		
Thallium	203	0.5	0.50	100.0		
Uranium	238	0.5	0.50	100.0		
Vanadium	51	1.0	0.97	97.0		
Zinc	66	15.0	16.16	107.7		

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: MS
Run Name: 1831608E05
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony	121	2.0	2.13	106.5		
Arsenic	75	2.0	2.04	102.0		
Barium	137	4.0	3.08	77.0		
Beryllium						
Cadmium						
Calcium	44	700.0	673.06	96.2		
Chromium						
Cobalt						
Copper	63	40.0	42.13	105.3		
Iron	57	100.0	107.31	107.3		
Lead	208	3.0	3.18	106.0		
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium	203	0.5	0.58	116.0		
Uranium	238	0.5	0.49	98.0		
Vanadium						
Zinc	66	15.0	15.65	104.3		

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: MS
Run Name: 1831807E05
Calibration Date(s): 11/14/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony						
Arsenic						
Barium	137	4.0	3.85	96.3		
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Uranium						
Vanadium						
Zinc						

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: MS
Run Name: 1832201E05
Calibration Date(s): 11/18/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	57	100.0	116.48	116.5		
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Uranium						
Vanadium						
Zinc						

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: MS
Run Name: 1832503E05
Calibration Date(s): 11/21/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony	121	2.0	1.92	96.0		
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Uranium	238	0.5	0.48	96.0		
Vanadium						
Zinc						

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: MS
Run Name: 1833101E07
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	208	3.0	3.07	102.3		
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Uranium						
Vanadium						
Zinc						

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018
Concentration Units: UG/L

Analyte	Mass	True	Initial Found	Initial %R	Final Found	Final %R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	208	3.0	3.08	102.7	3.14	104.7
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Uranium						
Vanadium						
Zinc						

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: TID12

Method: CV
Run Name: 1830502M08
Calibration Date(s): 11/01/2018
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.8	0.81	101.3	0.81	101.3

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: P
Run Name: 1831302T71
Calibration Date(s): 11/09/2018
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Thorium		59.8	U	59.8	U	59.8	U				8.400	U	183041063701

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: P
Run Name: 1833102T73
Calibration Date(s): 11/27/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Thorium		59.8	U	83.9	B	59.8	U	59.8	U				

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1831212E05
Calibration Date(s): 11/08/2018
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum	27	30.8	U	30.8	U	30.8	U	30.8	U	27	33.400	U	183041063701A
Antimony													
Arsenic													
Barium	137	0.73	U	0.73	U	0.73	U	0.73	U	137	0.390	U	183041063701A
Beryllium	9	0.067	U	0.067	U	0.067	U	0.067	U	9	0.023	U	183041063701A
Cadmium	111	0.17	U	0.17	U	0.17	U	0.17	U	111	0.050	U	183041063701A
Calcium	44	101	U	101	U	101	U			44	68.200	U	183041063701A
Chromium	52	0.94	B	0.78	B	0.73	B	0.50	U	52	0.330	U	183041063701A
Cobalt	59	0.37	B	0.21	U	0.21	B	0.21	U	59	0.058	U	183041063701A
Copper	63	1.1	U	1.1	U	1.1	U	1.1	U	63	3.600	U	183041063701A
Iron													
Lead													
Magnesium	24	11.6	U	11.6	U	11.6	U	11.6	U	24	3.100	U	183041063701A
Manganese	55	0.95	U	0.95	U	0.95	U	0.95	U	55	0.400	U	183041063701A
Nickel	60	0.41	U	0.41	U	0.41	U	0.41	U	60	0.340	U	183041063701A
Potassium	39	41.2	U	55.8	B	77.6	B	73.2	B	39	36.200	U	183041063701A
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	0.130	U	183041063701A
Silver	107	0.098	U	0.098	U	0.098	U	0.098	U	107	0.041	U	183041063701A
Sodium	23	50.0	U	77.8	B	89.2	B	89.3	B	23	80.400	U	183041063701A
Thallium	203	0.13	U	0.13	U	0.13	U	0.13	U	203	0.039	U	183041063701A
Uranium	238	0.080	U	0.080	U	0.080	U	0.080	U	238	0.039	U	183041063701A
Vanadium	51	0.42	B	0.21	B	0.23	B	0.21	U	51	0.086	U	183041063701A
Zinc	66	2.0	U	5.0	B	2.0	U	2.0	U	66	1.200	U	183041063701A

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1831608E05
Calibration Date(s): 11/12/2018
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony	121	0.52	U	0.52	U	0.52	U	0.52	U				
Arsenic	75	0.40	U	0.40	U	0.40	U	0.40	U	75	0.130	U	183041063701A
Barium	137	0.73	U	0.73	U	0.73	U	0.73	U				
Beryllium													
Cadmium													
Calcium	44	101	U	101	U	101	U	101	U				
Chromium													
Cobalt													
Copper	63	1.1	U	1.1	U	1.1	U	1.1	U				
Iron	57	14.9	U	14.9	U	14.9	U	14.9	U	57	7.500	U	183041063701A
Lead	208	0.21	U	0.21	U	0.21	U			208	0.050	U	183041063701A
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium	203	0.13	U	0.13	U	0.13	U	0.13	U				
Uranium	238	0.080	U	0.080	U	0.080	U	0.080	U				
Vanadium													
Zinc	66	2.0	U	2.0	U	2.0	U	2.0	U				

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1831608E05
Calibration Date(s): 11/12/2018

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank (MG/KG) Mass		C	Batch Number
Aluminum													
Antimony	121			0.52	U	0.52	U						
Arsenic	75			0.40	U	0.40	U						
Barium	137			0.73	U	0.73	U						
Beryllium													
Cadmium													
Calcium	44			101	U	101	U						
Chromium													
Cobalt													
Copper	63			1.1	U								
Iron	57			14.9	U	14.9	U						
Lead													
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium	203			0.13	U								
Uranium	238			0.080	U								
Vanadium													
Zinc	66			2.0	U								

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1831807E05
Calibration Date(s): 11/14/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium	137	0.73	U	0.73	U	0.73	U						
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead													
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium													
Vanadium													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1832201E05
Calibration Date(s): 11/18/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron	57	14.9	U	14.9	U	14.9	U	14.9	U				
Lead													
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium													
Vanadium													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1832503E05
Calibration Date(s): 11/21/2018
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony	121	0.52	U	0.52	U	0.52	U			121	0.130	U	183041063701A
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead													
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium	238	0.080	U	0.080	U	0.080	U	0.080	U				
Vanadium													
Zinc													

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1833101E07
Calibration Date(s): 11/27/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead	208	0.21	U	0.21	U	0.24	B	0.21	U				
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium													
Vanadium													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead	208	0.21	U	0.21	U	0.21	U	0.21	U				
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium													
Vanadium													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead	208			0.21	U	0.21	U	0.21	U				
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium													
Vanadium													
Zinc													

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: MS
Run Name: 1833202E05
Calibration Date(s): 11/28/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium													
Chromium													
Cobalt													
Copper													
Iron													
Lead	208			0.21	U	0.21	U						
Magnesium													
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium													
Vanadium													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: CV
Run Name: 1830502M08
Calibration Date(s): 11/01/2018
Preparation Blank Matrix: SOIL

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury		-0.059	B	0.050	U	0.050	U	-0.050	B		0.031	U	183041063801

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID12

Method: CV
Run Name: 1830502M08
Calibration Date(s): 11/01/2018

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury				0.050	U	0.050	U						

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 16315
Run Name: 1831302T71
Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found %R	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found %R	Final Found Sol. AB	Final Found %R
Aluminum	500000		510099	102.0						
Calcium	500000		499681	99.9						
Iron	200000		201937	101.0						
Magnesium	500000		499521	99.9						
Thorium	0		-74							

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4A
ICP-AES INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 18255
Run Name: 1833102T73
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000	500000	490193	98.0	494300.4	98.9	489035	97.8	494844.9	99.0
Calcium	500000	500000	501338	100.3	503443.9	100.7	498587	99.7	503611.4	100.7
Iron	200000	200000	201958	101.0	202959.8	101.5	200373	100.2	202126.0	101.1
Magnesium	500000	500000	524776	105.0	509204.5	101.8	527167	105.4	518708.3	103.7
Thorium	0	0	80		75.0		88		66.0	

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 19204
Run Name: 1831212E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	Found %R	Found Sol. AB	Found %R
Aluminum	27	100000		97236	97.2		
Antimony							
Arsenic							
Barium	137	0		1			
Beryllium	9	0		0			
Cadmium	111	0		0			
Calcium	44	300000		281965	94.0		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium	52	0		1			
Cobalt	59	0		1			
Copper	63	0		1			
Iron	57	250000		253284	101.3		
Lead							
Magnesium	24	100000		98116	98.1		
Manganese	55	0		3			
Molybdenum	98	2000		2057	102.9		
Nickel	60	0		1			
Phosphorus	31	10000		NA			
Potassium	39	100000		97431	97.4		
Selenium	78	0		0			
Silver	107	0		0			
Sodium	23	250000		238788	95.5		
Sulfur	34	10000		NA			
Thallium	203	0		0			
Titanium	47	2000		2058	102.9		
Uranium	238	0		0			
Vanadium	51	0		0			
Zinc	66	0		2			

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 19204
Run Name: 1831608E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	Found %R	Found Sol. AB	Found %R
Aluminum	27	100000		101056	101.1		
Antimony	121	0		1			
Arsenic	75	0		1			
Barium	137	0		0			
Beryllium							
Cadmium							
Calcium	44	300000		283089	94.4		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper	63	0		1			
Iron	57	250000		252227	100.9		
Lead	208	0		1			
Magnesium	24	100000		101704	101.7		
Manganese							
Molybdenum	98	2000		2053	102.7		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		102015	102.0		
Selenium							
Silver							
Sodium	23	250000		245044	98.0		
Sulfur	34	10000		NA			
Thallium	203	0		0			
Titanium	47	2000		2062	103.1		
Uranium	238	0		0			
Vanadium							
Zinc	66	0		2			

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 19204
Run Name: 1831807E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	Found %R	Found Sol. AB	Found %R
Aluminum	27	100000		109028	109.0		
Antimony							
Arsenic							
Barium	137	0		1			
Beryllium							
Cadmium							
Calcium	44	300000		298252	99.4		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper							
Iron	57	250000		271161	108.5		
Lead							
Magnesium	24	100000		106945	106.9		
Manganese							
Molybdenum	98	2000		2167	108.4		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		103668	103.7		
Selenium							
Silver							
Sodium	23	250000		263549	105.4		
Sulfur	34	10000		NA			
Thallium							
Titanium	47	2000		1989	99.5		
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 19204
Run Name: 1832201E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	Found %R	Found Sol. AB	Found %R
Aluminum	27	100000		96967	97.0		
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000		283889	94.6		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper							
Iron	57	250000		242142	96.9		
Lead							
Magnesium	24	100000		96587	96.6		
Manganese							
Molybdenum	98	2000		2071	103.6		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		96518	96.5		
Selenium							
Silver							
Sodium	23	250000		233047	93.2		
Sulfur	34	10000		NA			
Thallium							
Titanium	47	2000		1906	95.3		
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 19204
Run Name: 1832503E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	Found %R	Found Sol. AB	Found %R
Aluminum	27	100000		110567	110.6		
Antimony	121	0		1			
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000		309718	103.2		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper							
Iron	57	250000		261954	104.8		
Lead							
Magnesium	24	100000		103864	103.9		
Manganese							
Molybdenum	98	2000		2212	110.6		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		107036	107.0		
Selenium							
Silver							
Sodium	23	250000		248498	99.4		
Sulfur	34	10000		NA			
Thallium							
Titanium	47	2000		2206	110.3		
Uranium	238	0		0			
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 27813
Run Name: 1833101E07
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	Found %R	Found Sol. AB	Found %R
Aluminum	27	100000		102970	103.0		
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000		287865	96.0		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper							
Iron	57	250000		239385	95.8		
Lead	208	0		1			
Magnesium	24	100000		96971	97.0		
Manganese							
Molybdenum	98	2000		2039	102.0		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		101370	101.4		
Selenium							
Silver							
Sodium	23	250000		229351	91.7		
Sulfur	34	10000		NA			
Thallium							
Titanium	47	2000		1977	98.9		
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 19204
Run Name: 1833202E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	%R	Found Sol. AB	%R
Aluminum	27	100000	100000	97149	97.1	97261.3	97.3
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	283247	94.4	293667.7	97.9
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	245454	98.2	246248.6	98.5
Lead	208	0	0	1		0.8	
Magnesium	24	100000	100000	95129	95.1	96252.7	96.3
Manganese							
Molybdenum	98	2000	2000	2264	113.2	2236.6	111.8
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	98379	98.4	100003.3	100.0
Selenium							
Silver							
Sodium	23	250000	250000	232836	93.1	237078.3	94.8
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	1981	99.1	2001.1	100.1
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: TID12

Instrument ID: 19204
Run Name: 1833202E05
Concentration Units: ug/L

Analyte	Mass	True Sol. A	True Sol. AB	Found Sol. A	%R	Found Sol. AB	%R
Aluminum	27	100000	100000	89295	89.3	92087.8	92.1
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	277251	92.4	279952.4	93.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	237842	95.1	245488.2	98.2
Lead	208	0	0	1		0.9	
Magnesium	24	100000	100000	88551	88.6	92037.9	92.0
Manganese							
Molybdenum	98	2000	2000	2267	113.4	2314.6	115.7
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	95825	95.8	100738.1	100.7
Selenium							
Silver							
Sodium	23	250000	250000	221352	88.5	229740.4	91.9
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	1878	93.9	1959.0	98.0
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

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QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 9872060BKG Matrix Spike Lab Sample ID: 9872060MS Matrix Spike Duplicate Lab Sample ID: 9872060MSD
Batch Number(s): 183041063801

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Mercury		0.9770		1.5051		1.7874		0.1583	0.1620	MG/KG	334		500		17			20	CV

Note: Results shown are reported on an as-received basis.
If Matrix Spike/ Matrix Spike Duplicate were out of specification, see Post Digestion Spike form.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

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QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: 9872060BKG 9872060DUP
Batch Number(s): 1830410638
01
Concentration Units: MG/KG

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Max RPD	Q	M
Mercury		0.7	0.9770		1.5389		45		CV	

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > Max OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

FLAGS:
* = Duplicate Out of Spec

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QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: TID12
Matrix: SOIL

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Aluminum	27	183041063701	MG/KG	200.000	206.164		78 - 124	103	MS	Yes
Antimony	121	183041063701	MG/KG	0.600	0.586		72 - 124	98	MS	Yes
Arsenic	75	183041063701	MG/KG	1.000	1.089		82 - 118	109	MS	Yes
Barium	137	183041063701	MG/KG	5.000	5.493		86 - 116	110	MS	Yes
Beryllium	9	183041063701	MG/KG	0.400	0.411		80 - 120	103	MS	Yes
Cadmium	111	183041063701	MG/KG	0.500	0.538		84 - 116	108	MS	Yes
Calcium	44	183041063701	MG/KG	400.000	420.049		86 - 118	105	MS	Yes
Chromium	52	183041063701	MG/KG	5.000	5.472		83 - 119	109	MS	Yes
Cobalt	59	183041063701	MG/KG	25.000	27.346		84 - 115	109	MS	Yes
Copper	63	183041063701	MG/KG	5.000	5.684	B	84 - 119	114	MS	Yes
Iron	57	183041063701	MG/KG	100.000	105.666		81 - 124	106	MS	Yes
Lead	208	183041063701	MG/KG	1.500	1.587		84 - 118	106	MS	Yes
Magnesium	24	183041063701	MG/KG	200.000	207.394		80 - 123	104	MS	Yes
Manganese	55	183041063701	MG/KG	5.000	5.014		85 - 116	100	MS	Yes
Mercury		183041063801	MG/KG	0.100	0.094		80 - 124	94	CV	Yes
Nickel	60	183041063701	MG/KG	5.000	5.685		84 - 119	114	MS	Yes
Potassium	39	183041063701	MG/KG	1000.000	1069.208		85 - 119	107	MS	Yes
Selenium	78	183041063701	MG/KG	1.000	0.979		80 - 119	98	MS	Yes
Silver	107	183041063701	MG/KG	5.000	5.367		83 - 118	107	MS	Yes
Sodium	23	183041063701	MG/KG	1000.000	1066.617		79 - 125	107	MS	Yes
Thallium	203	183041063701	MG/KG	0.200	0.199		83 - 118	100	MS	Yes
Thorium		183041063701	MG/KG	50.000	50.958		92 - 114	102	P	Yes
Uranium	238	183041063701	MG/KG	5.000	5.228		80 - 120	105	MS	Yes
Vanadium	51	183041063701	MG/KG	5.000	5.540		82 - 116	111	MS	Yes
Zinc	66	183041063701	MG/KG	50.000	56.880		82 - 119	114	MS	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

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QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: TID12
Matrix: SOIL Level (low/med): LOW

Background Lab Sample ID: *70251BKG Serial Dilution Lab Sample ID: *70251L
Batch Number(s): 183041063701
Concentration Units: MG/KG

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Aluminum	27	4703.4646		4816.8021		2		MS
Antimony	121	0.7486		0.6710	B	10		MS
Arsenic	75	3.2390		2.6709		18		MS
Barium	137	59.2058		57.3552		3		MS
Beryllium	9	0.2867		0.2825	B	1		MS
Cadmium	111	1.6350		1.6367		0		MS
Calcium	44	834.9094		796.2037		5		MS
Chromium	52	19.0596		20.7083		9		MS
Cobalt	59	4.8095		5.3256		11		MS
Copper	63	89.6399		91.8677		2		MS
Iron	57	12209.8865		12319.2343		1		MS
Lead	208	74.6505		77.8118		4		MS
Magnesium	24	2184.5827		2274.3500		4		MS
Manganese	55	285.0454		294.9930		3		MS
Nickel	60	46.1014		48.7332		6		MS
Potassium	39	1103.6788		1184.8605		7		MS
Selenium	78	0.1580	B	0.5388	U	100		MS
Silver	107	0.2064		0.2254	B	9		MS
Sodium	23	76.4114	B	332.2314	U	100		MS
Thallium	203	0.0621	B	0.1620	U	100		MS
Thorium		6.9256	U	34.6281	U			P
Uranium	238	0.4806		0.5097		6		MS
Vanadium	51	16.4803		18.1752		10		MS
Zinc	66	406.3855		408.7635		1		MS

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: TID12

Method: P
Instrument ID: 16315
Date: 07/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Thorium	401.91		49.1

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: TID12

Method: P
Instrument ID: 18255
Date: 07/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Thorium	401.91		59.8

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: TID12

Method: MS
Instrument ID: 19204
Date: 07/2018

Analyte	MASS (amu)	Background	IDL (UG/L)
Aluminum	27		30.8
Antimony	121		0.52
Arsenic	75		0.40
Barium	137		0.73
Beryllium	9		0.067
Cadmium	111		0.17
Calcium	44		101
Chromium	52		0.50
Cobalt	59		0.21
Copper	63		1.1
Iron	57		14.9
Lead	208		0.21
Magnesium	24		11.6
Manganese	55		0.95
Nickel	60		0.41
Potassium	39		41.2
Selenium	78		0.50
Silver	107		0.098
Sodium	23		50.0
Thallium	203		0.13
Uranium	238		0.080
Vanadium	51		0.21
Zinc	66		2.0

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: TID12

Method: MS
Instrument ID: 27813
Date: 09/2018

Analyte	MASS (amu)	Background	IDL (UG/L)
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead	208		0.14
Magnesium			
Manganese			
Nickel			
Potassium			
Selenium			
Silver			
Sodium			
Thallium			
Uranium			
Vanadium			
Zinc			

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: TID12

Method: CV
Instrument ID: 19302
Date: 07/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury			0.050

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: TID12
Matrix: SOIL

Method: P
Date: 06/2018

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Thorium	401.91		500	83.8

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: TID12
Matrix: SOIL

Method: MS
Date: 07/2018

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum				
Antimony	121		2.0	0.63
Arsenic				
Barium				
Beryllium				
Cadmium	111		1.0	0.25
Calcium				
Chromium				
Cobalt	59		1.0	0.29
Copper				
Iron				
Lead				
Magnesium	24		100	15.7
Manganese	55		10.0	2.0
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Uranium	238		0.50	0.20
Vanadium				
Zinc				

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: TID12
Matrix: SOIL

Method: MS
Date: 09/2018

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum	27		400	167
Antimony				
Arsenic	75		2.0	0.67
Barium	137		4.0	1.9
Beryllium	9		0.50	0.11
Cadmium				
Calcium	44		700	341
Chromium	52		4.0	1.7
Cobalt				
Copper	63		40.0	17.9
Iron	57		100	37.5
Lead	208		3.0	0.25
Magnesium				
Manganese				
Nickel	60		4.0	1.7
Potassium	39		400	181
Selenium	78		2.0	0.65
Silver	107		0.50	0.20
Sodium	23		900	402
Thallium	203		0.50	0.20
Uranium				
Vanadium	51		1.0	0.43
Zinc	66		15.0	6.1

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: TID12
Matrix: SOIL

Method: MS
Date: 11/2018

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	208		3.0	0.25
Magnesium				
Manganese				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Uranium				
Vanadium				
Zinc				

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: TID12
Matrix: SOIL

Method: CV
Date: 06/2018

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury			0.80	0.19

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: TID12

Instrument ID: 16315
Date: 06/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	ZR
Thorium	401.91	0.0000000	0.0000000	0.0000000	0.0000000	0.0083910

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 11
ICP INTERELEMENT CORRECTION FACTORS (BIANNUALLY)
SDG No.: TID12

Instrument ID: 18255
Date: 04/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for: AL	CA	FE	MG	ZR
Thorium	401.91	0.0000000	0.0000000	0.0010490	0.0000000	0.0085540

Comments:

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: TID12

Method: P
Instrument ID: 16315
Date: 07/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Thorium	401.913	10.00	20000.0

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 12
LINEAR RANGES
SDG No.: TID12

Method: P
Instrument ID: 18255
Date: 10/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Thorium	401.913	10.00	20000.0

Comments:

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

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QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: TID12

Method: P
Batch Number: 183041063701

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
9872060	11/01/2018	1.34	100
9872061	11/01/2018	1.41	100
9872062	11/01/2018	1.25	100
9872063	11/01/2018	1.35	100
9872064	11/01/2018	1.33	100
9872065	11/01/2018	1.44	100
*70251BKG	11/01/2018	1.21	100
P30463AB	11/01/2018	1.00	100
P30463AQ	11/01/2018	1.00	100

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: TID12

Method: MS
Batch Number: 183041063701

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
9872060	11/01/2018	1.34	100
9872061	11/01/2018	1.41	100
9872062	11/01/2018	1.25	100
9872063	11/01/2018	1.35	100
9872064	11/01/2018	1.33	100
9872065	11/01/2018	1.44	100
*70251BKG	11/01/2018	1.21	100
P30463AB	11/01/2018	1.00	100
P30463AQ	11/01/2018	1.00	100

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 13
PREPARATION LOG
SDG No.: TID12

Method: CV
Batch Number: 183041063801

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
9872061	11/01/2018	0.62	100
9872062	11/01/2018	0.60	100
9872063	11/01/2018	0.61	100
9872064	11/01/2018	0.60	100
9872065	11/01/2018	0.62	100
9872060BKG	11/01/2018	0.61	100
9872060DUP	11/01/2018	0.64	100
9872060MSD	11/01/2018	0.62	100
9872060MS	11/01/2018	0.63	100
P30463AB	11/01/2018	0.60	100
P30463AQ	11/01/2018	1.00	100

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: P
Instrument ID: 16315
Run Name: 1831302T71

Run Start Date: 11/09/2018
Run End Date: 11/09/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	08:58																						X										
S	1.00	09:00																																
S	1.00	09:03																						X										
S	1.00	09:06																																
ICV	1.00	09:09																						X										
ICB	1.00	09:11																						X										
LLC	1.00	09:14																						X										
ICSA	1.00	09:17																						X										
CCV	1.00	09:20																						X										
CCB	1.00	09:22																						X										
P30463AB	1.00	09:25																						X										
P30463AQ	1.00	09:28																						X										
*70251BKG	1.00	09:30																						X										
ZZZZZZ	1.00	09:33																																
ZZZZZZ	1.00	09:36																																
ZZZZZZ	1.00	09:38																																
ZZZZZZ	1.00	09:41																																
*70251L	5.00	09:44																						X										
ZZZZZZ	1.00	09:46																																
ZZZZZZ	1.00	09:49																																
CCV	1.00	09:52																						X										
CCB	1.00	09:55																						X										

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: P
Instrument ID: 18255
Run Name: 1833102T73

Run Start Date: 11/27/2018
Run End Date: 11/27/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	08:43																						X										
S	1.00	08:45																																
S	1.00	08:48																						X										
S	1.00	08:51																																
ICV	1.00	08:53																						X										
ICB	1.00	08:56																						X										
LLC	1.00	08:59																						X										
ICSA	1.00	09:01																						X										
ICSAB	1.00	09:04																						X										
CCV	1.00	09:06																						X										
CCB	1.00	09:09																						X										
ZZZZZZ	5.00	09:11																																
ZZZZZZ	5.00	09:14																																
9872060	5.00	09:17																						X										
9872061	5.00	09:19																						X										
9872062	5.00	09:22																						X										
9872063	5.00	09:24																						X										
9872064	5.00	09:27																						X										
9872065	5.00	09:29																						X										
ZZZZZZ	1.00	09:32																																
ZZZZZZ	1.00	09:34																																
CCV	1.00	09:36																						X										
CCB	1.00	09:39																						X										
ZZZZZZ	1.00	09:41																																
LLC	1.00	09:44																						X										
ICSA	1.00	09:47																						X										
ICSAB	1.00	09:49																						X										
CCV	1.00	09:51																						X										
CCB	1.00	09:54																						X										

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1831212E05

Run Start Date: 11/08/2018
Run End Date: 11/08/2018

Lab Sample ID	D/F	Time	Analytes																														
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	20:31	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
S	1.00	20:34	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ICV	1.00	20:37	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ICB	1.00	20:39	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
LLC	1.00	20:41	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ICSA	1.00	20:44	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ZZZZZZ	1.00	20:46																															
CCV	1.00	20:49	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
CCB	1.00	20:51	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
P30463AB	2.00	20:53	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
P30463AQ	2.00	20:56	X				X	X		X	X	X			X	X		X	X	X	X	X			X	X	X							
*70251BKG	2.00	20:58	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ZZZZZZ	2.00	21:01																															
ZZZZZZ	2.00	21:03																															
ZZZZZZ	2.00	21:06																															
ZZZZZZ	2.00	21:08																															
*70251L	10.00	21:10	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ZZZZZZ	2.00	21:13																															
ZZZZZZ	2.00	21:15																															
CCV	1.00	21:18	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
CCB	1.00	21:20	X			X	X	X	X	X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ZZZZZZ	2.00	21:23																															
ZZZZZZ	2.00	21:25																															
9872060	2.00	21:27	X				X	X		X	X	X			X	X		X	X	X	X	X	X		X	X								
9872061	2.00	21:30	X				X	X		X	X				X	X		X	X	X	X	X				X								
9872062	2.00	21:32	X			X	X	X		X	X				X	X		X	X	X	X	X	X		X	X								
9872063	2.00	21:35	X			X	X	X		X	X	X			X	X		X	X	X	X	X				X								
9872064	2.00	21:37	X				X	X		X	X	X			X	X		X	X	X	X	X	X		X	X	X							
9872065	2.00	21:39	X			X	X	X		X	X	X			X	X		X	X	X	X	X	X		X	X	X							
ZZZZZZ	2.00	21:42																															
ZZZZZZ	2.00	21:44																															
CCV	1.00	21:47	X			X	X	X		X	X	X			X	X		X	X	X	X	X	X		X	X	X							
CCB	1.00	21:49	X			X	X	X		X	X	X			X	X		X	X	X	X	X	X		X	X	X							

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1831608E05

Run Start Date: 11/12/2018
Run End Date: 11/12/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	20:26		X	X	X			X			X	X	X									X		X		X							
S	1.00	20:28		X	X	X			X			X	X	X									X		X		X							
ICV	1.00	20:31		X	X	X			X			X	X	X									X		X		X							
ICB	1.00	20:34		X	X	X			X			X	X	X									X		X		X							
LLC	1.00	20:36		X	X	X			X			X	X	X									X		X		X							
ICSA	1.00	20:38		X	X	X			X			X	X	X									X		X		X							
ZZZZZZ	1.00	20:41																																
CCV	1.00	20:43		X	X	X			X			X	X	X									X		X		X							
CCB	1.00	20:46		X	X	X			X			X	X	X									X		X		X							
P30463AB	2.00	20:48			X								X	X																				
P30463AB	2.00	20:50																																
P30463AQ	2.00	20:53			X				X				X	X									X											
P30463AQ	2.00	20:55																																
*70251BKG	2.00	20:58			X								X	X																				
ZZZZZZ	2.00	21:00																																
ZZZZZZ	2.00	21:02																																
ZZZZZZ	2.00	21:05																																
ZZZZZZ	2.00	21:07																																
*70251L	10.00	21:10			X								X	X																				
CCV	1.00	21:12		X	X	X			X			X	X	X									X		X		X							
CCB	1.00	21:14		X	X	X			X			X	X	X									X		X		X							
ZZZZZZ	2.00	21:17																																
ZZZZZZ	5.00	21:19																																
ZZZZZZ	2.00	21:22																																
ZZZZZZ	5.00	21:24																																
ZZZZZZ	2.00	21:26																																
ZZZZZZ	5.00	21:29																																
ZZZZZZ	20.00	21:31																																
ZZZZZZ	2.00	21:34																																
ZZZZZZ	5.00	21:36																																
ZZZZZZ	20.00	21:38																																
CCV	1.00	21:41		X	X	X			X			X	X										X		X		X							
CCB	1.00	21:43		X	X	X			X			X	X										X		X		X							
9872060	2.00	21:45		X	X	X			X																		X							
9872060	5.00	21:48											X																					
9872060	20.00	21:50																																
9872061	2.00	21:53		X	X	X			X			X											X		X									
9872061	5.00	21:55											X														X							

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1831608E05

Run Start Date: 11/12/2018
Run End Date: 11/12/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
9872061	20.00	21:57																																
9872062	2.00	22:00		X	X				X			X																						
9872062	10.00	22:02											X														X							
9872063	2.00	22:05		X	X				X														X											
9872063	5.00	22:07											X														X							
CCV	1.00	22:09		X	X	X			X			X	X										X		X		X							
CCB	1.00	22:12		X	X	X			X			X	X										X		X		X							
9872064	2.00	22:14		X	X	X			X																									
9872065	2.00	22:16		X	X				X				X																					
ZZZZZZ	2.00	22:19																																
ZZZZZZ	5.00	22:21																																
ZZZZZZ	2.00	22:24																																
ZZZZZZ	2.00	22:26																																
CCV	1.00	22:28		X	X	X			X				X																					
CCB	1.00	22:31		X	X	X			X				X																					

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1831807E05

Run Start Date: 11/14/2018
Run End Date: 11/14/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN								
S0	1.00	15:12				X																													
S	1.00	15:14				X																													
ICV	1.00	15:17				X																													
ICB	1.00	15:20				X																													
LLC	1.00	15:22				X																													
ICSA	1.00	15:24				X																													
ZZZZZZ	1.00	15:27																																	
CCV	1.00	15:29				X																													
CCB	1.00	15:32				X																													
P30463AB	2.00	15:34																																	
P30463AQ	2.00	15:36				X																													
ZZZZZZ	2.00	15:39																																	
ZZZZZZ	2.00	15:41																																	
ZZZZZZ	2.00	15:44																																	
ZZZZZZ	2.00	15:46																																	
ZZZZZZ	2.00	15:48																																	
ZZZZZZ	10.00	15:51																																	
ZZZZZZ	2.00	15:53																																	
ZZZZZZ	2.00	15:56																																	
CCV	1.00	15:58				X																													
CCB	1.00	16:00				X																													

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1832201E05

Run Start Date: 11/18/2018
Run End Date: 11/18/2018

Lab Sample ID	D/F	Time	Analytes																													
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	14:10											X																					
S	1.00	14:13											X																					
ICV	1.00	14:16											X																					
ICB	1.00	14:18											X																					
LLC	1.00	14:20											X																					
ICSA	1.00	14:23											X																					
ZZZZZZ	1.00	14:25																																
CCV	1.00	14:28											X																					
CCB	1.00	14:30											X																					
P30463AB	2.00	14:32																																
P30463AQ	2.00	14:35																																
ZZZZZZ	2.00	14:37																																
ZZZZZZ	2.00	14:40																																
ZZZZZZ	2.00	14:42																																
ZZZZZZ	2.00	14:44																																
ZZZZZZ	2.00	14:47																																
ZZZZZZ	10.00	14:49																																
ZZZZZZ	2.00	14:52																																
ZZZZZZ	2.00	14:54																																
CCV	1.00	14:56											X																					
CCB	1.00	14:59											X																					
ZZZZZZ	2.00	15:01																																
ZZZZZZ	10.00	15:04																																
ZZZZZZ	2.00	15:06																																
ZZZZZZ	2.00	15:09																																
ZZZZZZ	2.00	15:11																																
ZZZZZZ	2.00	15:13																																
9872064	2.00	15:16																																
ZZZZZZ	5.00	15:18																																
9872064	5.00	15:20											X																					
ZZZZZZ	2.00	15:23																																
CCV	1.00	15:25											X																					
CCB	1.00	15:28											X																					

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1832503E05

Run Start Date: 11/21/2018
Run End Date: 11/21/2018

Lab Sample ID	D/F	Time	Analytes																														
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	08:08		X																					X									
S	1.00	08:10		X																					X									
ICV	1.00	08:12		X																					X									
ICB	1.00	08:14		X																					X									
LLC	1.00	08:16		X																					X									
ICSA	1.00	08:18		X																					X									
ZZZZZZ	1.00	08:19																																
CCV	1.00	08:21		X																					X									
CCB	1.00	08:23		X																					X									
P30463AB	2.00	08:25		X																														
P30463AQ	2.00	08:27		X																														
*70251BKG	2.00	08:28		X																														
ZZZZZZ	2.00	08:30																																
ZZZZZZ	2.00	08:32																																
ZZZZZZ	2.00	08:34																																
ZZZZZZ	2.00	08:36																																
*70251L	10.00	08:37		X																														
ZZZZZZ	2.00	08:39																																
ZZZZZZ	20.00	08:41																																
CCV	1.00	08:43		X																					X									
CCB	1.00	08:45		X																					X									
ZZZZZZ	2.00	08:46																																
ZZZZZZ	2.00	08:48																																
ZZZZZZ	10.00	08:50																																
ZZZZZZ	2.00	08:52																																
ZZZZZZ	2.00	08:54																																
ZZZZZZ	2.00	08:55																																
9872063	2.00	08:57																																
ZZZZZZ	2.00	08:59																																
9872063	10.00	09:01																																
9872063	20.00	09:02																							X									
CCV	1.00	09:04																							X									
CCB	1.00	09:06																							X									

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 27813
Run Name: 1833101E07

Run Start Date: 11/27/2018
Run End Date: 11/27/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	09:13												X																				
S	1.00	09:16												X																				
ICV	1.00	09:18												X																				
ICB	1.00	09:20												X																				
LLC	1.00	09:22												X																				
ICSA	1.00	09:24												X																				
ZZZZZZ	1.00	09:27																																
CCV	1.00	09:29												X																				
CCB	1.00	09:31												X																				
ZZZZZZ	10.00	09:33																																
ZZZZZZ	2.00	09:35																																
ZZZZZZ	20.00	09:37																																
ZZZZZZ	10.00	09:39																																
9872061	10.00	09:42												X																				
9872062	5.00	09:44												X																				
9872063	20.00	09:46												X																				
9872063	50.00	09:48																																
9872064	10.00	09:50												X																				
9872064	50.00	09:52																																
CCV	1.00	09:54												X																				
CCB	1.00	09:57												X																				
9872065	5.00	09:59												X																				
9872065	100.00	10:01																																
9872065	200.00	10:03																																
ZZZZZZ	2.00	10:05																																
ZZZZZZ	10.00	10:07																																
ZZZZZZ	10.00	10:09																																
ZZZZZZ	50.00	10:12																																
CCV	1.00	10:14												X																				
CCB	1.00	10:16												X																				

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1833202E05

Run Start Date: 11/28/2018
Run End Date: 11/28/2018

Lab Sample ID	D/F	Time	Analytes																														
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	05:28												X																				
S	1.00	05:30												X																				
ICV	1.00	05:32												X																				
ICB	1.00	05:33												X																				
LLC	1.00	05:35												X																				
ICSA	1.00	05:37												X																				
ICSAB	1.00	05:39												X																				
ZZZZZZ	1.00	05:40																																
CCV	1.00	05:42												X																				
CCB	1.00	05:44												X																				
ZZZZZZ	2.00	05:46																																
ZZZZZZ	2.00	05:47																																
ZZZZZZ	2.00	05:49																																
ZZZZZZ	2.00	05:51																																
ZZZZZZ	2.00	05:53																																
ZZZZZZ	2.00	05:55																																
ZZZZZZ	2.00	05:56																																
ZZZZZZ	2.00	05:58																																
ZZZZZZ	10.00	06:00																																
ZZZZZZ	2.00	06:02																																
CCV	1.00	06:03												X																				
CCB	1.00	06:05												X																				
ZZZZZZ	2.00	06:07																																
ZZZZZZ	2.00	06:09																																
ZZZZZZ	2.00	06:11																																
ZZZZZZ	20.00	06:12																																
ZZZZZZ	2.00	06:14																																
ZZZZZZ	20.00	06:16																																
ZZZZZZ	2.00	06:18																																
ZZZZZZ	2.00	06:19																																
ZZZZZZ	2.00	06:21																																
ZZZZZZ	2.00	06:23																																
CCV	1.00	06:25												X																				
CCB	1.00	06:27												X																				
ZZZZZZ	2.00	06:29																																
ZZZZZZ	2.00	06:30																																
ZZZZZZ	2.00	06:32																																
ZZZZZZ	2.00	06:34																																

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1833202E05

Run Start Date: 11/28/2018
Run End Date: 11/28/2018

Lab Sample ID	D/F	Time	Analytes																														
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
ZZZZZZ	2.00	06:36																															
ZZZZZZ	2.00	06:37																															
ZZZZZZ	2.00	06:39																															
ZZZZZZ	2.00	06:41																															
ZZZZZZ	2.00	06:43																															
ZZZZZZ	2.00	06:45																															
CCV	1.00	06:46												X																			
CCB	1.00	06:48												X																			
LLC	1.00	06:50												X																			
ICSA	1.00	06:52												X																			
ICSAB	1.00	06:53												X																			
ZZZZZZ	1.00	06:55																															
CCV	1.00	06:57												X																			
CCB	1.00	06:59												X																			
ZZZZZZ	1.00	07:01																															
ZZZZZZ	1.00	07:02																															
ZZZZZZ	2.00	07:04																															
ZZZZZZ	2.00	07:06																															
ZZZZZZ	2.00	07:08																															
ZZZZZZ	2.00	07:09																															
ZZZZZZ	2.00	07:11																															
ZZZZZZ	10.00	07:13																															
ZZZZZZ	2.00	07:15																															
ZZZZZZ	2.00	07:17																															
CCV	1.00	07:18												X																			
CCB	1.00	07:20												X																			
ZZZZZZ	2.00	07:22																															
ZZZZZZ	2.00	07:24																															
ZZZZZZ	2.00	07:25																															
ZZZZZZ	2.00	07:27																															
ZZZZZZ	2.00	07:29																															
ZZZZZZ	2.00	07:31																															
ZZZZZZ	2.00	07:32																															
ZZZZZZ	2.00	07:34																															
ZZZZZZ	2.00	07:36																															
ZZZZZZ	20.00	07:38																															
CCV	1.00	07:40												X																			
CCB	1.00	07:41												X																			

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: MS
Instrument ID: 19204
Run Name: 1833202E05

Run Start Date: 11/28/2018
Run End Date: 11/28/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN								
ZZZZZZ	2.00	07:43																																
ZZZZZZ	2.00	07:45																																
ZZZZZZ	2.00	07:47																																
ZZZZZZ	2.00	07:49																																
9872060	10.00	07:50												X																				
9872060	20.00	07:52																																
CCV	1.00	07:54												X																				
CCB	1.00	07:56												X																				

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: CV
Instrument ID: 19302
Run Name: 1830502M08

Run Start Date: 11/01/2018
Run End Date: 11/01/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
S0	1.00	14:32															X																	
S0.2	1.00	14:34															X																	
S0.5	1.00	14:36															X																	
S1.0	1.00	14:38															X																	
S2.5	1.00	14:40															X																	
S5.0	1.00	14:42															X																	
ICV	1.00	14:44															X																	
ICB	1.00	14:46															X																	
CRA	1.00	14:48															X																	
CCV	1.00	14:50															X																	
CCB	1.00	14:52															X																	
P30463AB	1.00	14:54															X																	
P30463AQ	1.00	14:56															X																	
9872060BKG	1.00	14:58																																
ZZZZZZ	1.00	15:00																																
ZZZZZZ	1.00	15:02																																
ZZZZZZ	1.00	15:04																																
ZZZZZZ	1.00	15:06																																
ZZZZZZ	1.00	15:08																																
ZZZZZZ	1.00	15:10																																
ZZZZZZ	1.00	15:12																																
CCV	1.00	15:14															X																	
CCB	1.00	15:16															X																	
ZZZZZZ	1.00	15:18																																
ZZZZZZ	1.00	15:20																																
ZZZZZZ	1.00	15:23																																
9872061	1.00	15:25																																
9872062	1.00	15:27															X																	
9872063	1.00	15:29															X																	
9872064	1.00	15:31																																
9872065	1.00	15:33																																
ZZZZZZ	1.00	15:34																																
ZZZZZZ	1.00	15:36																																
CCV	1.00	15:38															X																	
CCB	1.00	15:40															X																	
ZZZZZZ	1.00	15:42																																
9872060BKG	5.00	15:44															X																	
9872060A	5.00	15:46																																

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID12

Method: CV
Instrument ID: 19302
Run Name: 1830502M08

Run Start Date: 11/01/2018
Run End Date: 11/01/2018

Lab Sample ID	D/F	Time	Analytes																															
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	TH	U	V	ZN							
9872060DUP	5.00	15:48															X																	
9872060MS	5.00	15:50															X																	
9872060MSD	5.00	15:52															X																	
ZZZZZZ	10.00	15:54																																
ZZZZZZ	10.00	15:56																																
9872061	10.00	15:58															X																	
9872064	5.00	16:00															X																	
CCV	1.00	16:03															X																	
CCB	1.00	16:05															X																	
9872065	50.00	16:07															X																	
ZZZZZZ	5.00	16:09																																
CRA	1.00	16:11															X																	
CCV	1.00	16:13															X																	
CCB	1.00	16:15															X																	

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204 Start Date: 11/08/2018
Run Name: 1831212E05 End Date: 11/08/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	TL,U	IN-2-115	SE
IN-3-115	AG,BA,CD,CO,CU,NI,ZN	SC-1-45	BE
SC-3-45	AL,CA,CR,K,MG,MN,NA,V		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-1-45	Q	Element SC-3-45	Q	Element IN-2-115	Q	Element IN-3-115	Q	Element BI-3-209	Q	Element	Q	Element	Q
S0	20:31	100		100		100		100		100					
S	20:34	96		98		95		94		96					
ICV	20:37	94		93		97		93		95					
ICB	20:39	94		93		95		93		96					
LLC	20:41	101		96		100		90		97					
ICSA	20:44	95		93		90		86		87					
ZZZZZZ	20:46														
CCV	20:49	90		87		89		83		90					
CCB	20:51	92		90		92		91		94					
P30463AB	20:53	89		89		93		90		92					
P30463AQ	20:56	89		91		95		86		94					
*70251BKG	20:58	96		98		93		88		95					
ZZZZZZ	21:01														
ZZZZZZ	21:03														
ZZZZZZ	21:06														
ZZZZZZ	21:08														
*70251L	21:10	96		100		98		93		98					
ZZZZZZ	21:13														
ZZZZZZ	21:15														
CCV	21:18	89		87		91		86		92					
CCB	21:20	86		90		91		86		90					
ZZZZZZ	21:23														
ZZZZZZ	21:25														
9872060	21:27	86		92		84		80		105					
9872061	21:30	92		94		83		75							
9872062	21:32	95		88		88		77		92					
9872063	21:35	89		92		84		79							
9872064	21:37	94		95		88		83		89					
9872065	21:39	95		97		91		85		101					
ZZZZZZ	21:42														
ZZZZZZ	21:44														

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204
Run Name: 1831212E05

Start Date: 11/08/2018
End Date: 11/08/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	TL,U	IN-2-115	SE
IN-3-115	AG,BA,CD,CO,CU,NI,ZN	SC-1-45	BE
SC-3-45	AL,CA,CR,K,MG,MN,NA,V		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-1-45	Q	Element SC-3-45	Q	Element IN-2-115	Q	Element IN-3-115	Q	Element BI-3-209	Q	Element	Q	Element	Q
CCV	21:47	93		91		94		91		93					
CCB	21:49	91		88		91		86		89					

LEGEND:
BKG = Background
MS = Matrix Spike
DUP = Duplicate
MSD = Matrix Spike Duplicate
L = Serial Dilution
A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
LI = Lithium
BI = Bismuth
SC = Scandium
GE = Germanium
TB = Terbium
HO = Holmium
Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204 Start Date: 11/12/2018
Run Name: 1831608E05 End Date: 11/12/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	U	IN-3-115	AS,CU,ZN
SC-3-45	CA,FE	TB-3-159	BA,PB,SB,TL

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-3-45	Q	Element IN-3-115	Q	Element TB-3-159	Q	Element BI-3-209	Q	Element	Q	Element	Q	Element	Q
S0	20:26	100		100		100		100							
S	20:28	102		100		102		99							
ICV	20:31	98		97		99		99							
ICB	20:34	98		95		98		96							
LLC	20:36	97		98		98		99							
ICSA	20:38	94		92		97		92							
ZZZZZZ	20:41														
CCV	20:43	98		99		99		101							
CCB	20:46	96		100		98		98							
P30463AB	20:48	98		97		98		102							
P30463AB	20:50	99		95		96		101							
P30463AQ	20:53	95		94		97		99							
P30463AQ	20:55	95		93		97		99							
*70251BKG	20:58	100		94		101									
ZZZZZZ	21:00														
ZZZZZZ	21:02														
ZZZZZZ	21:05														
ZZZZZZ	21:07														
*70251L	21:10	100		96		97									
CCV	21:12	100		100		101		100							
CCB	21:14	97		93		98		97							
ZZZZZZ	21:17														
ZZZZZZ	21:19														
ZZZZZZ	21:22														
ZZZZZZ	21:24														
ZZZZZZ	21:26														
ZZZZZZ	21:29														
ZZZZZZ	21:31														
ZZZZZZ	21:34														
ZZZZZZ	21:36														
ZZZZZZ	21:38														
CCV	21:41	97		93		98		98							

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204
Run Name: 1831608E05

Start Date: 11/12/2018
End Date: 11/12/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	U	IN-3-115	AS,CU,ZN
SC-3-45	CA,FE	TB-3-159	BA,PB,SB,TL

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-3-45	Q	Element IN-3-115	Q	Element TB-3-159	Q	Element BI-3-209	Q	Element	Q	Element	Q	Element	Q
CCB	21:43	95		96		98		96							
9872060	21:45	100		80		101									
9872060	21:48	101													
9872060	21:50														
9872061	21:53	106		76		106		121	R						
9872061	21:55	103		87											
9872061	21:57														
9872062	22:00	99		91		101									
9872062	22:02	100		95											
9872063	22:05	103		91		103									
9872063	22:07	101		99											
CCV	22:09	101		104		105		105							
CCB	22:12	102		100		105		101							
9872064	22:14	102		89		103									
9872065	22:16	102		94		107									
ZZZZZZ	22:19														
ZZZZZZ	22:21														
ZZZZZZ	22:24														
ZZZZZZ	22:26														
CCV	22:28	102		102		104		105							
CCB	22:31	104		108		104		103							

LEGEND:
BKG = Background
MS = Matrix Spike
DUP = Duplicate
MSD = Matrix Spike Duplicate
L = Serial Dilution
A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
LI = Lithium
BI = Bismuth
SC = Scandium
GE = Germanium
TB = Terbium
HO = Holmium
Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204
Run Name: 1831807E05

Start Date: 11/14/2018
End Date: 11/14/2018

Standard	Elements Applies to	Standard	Elements Applies to
IN-3-115	BA		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element IN-3-115	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	15:12	100													
S	15:14	100													
ICV	15:17	96													
ICB	15:20	97													
LLC	15:22	100													
ICSA	15:24	89													
ZZZZZZ	15:27														
CCV	15:29	97													
CCB	15:32	100													
P30463AB	15:34	99													
P30463AQ	15:36	98													
ZZZZZZ	15:39														
ZZZZZZ	15:41														
ZZZZZZ	15:44														
ZZZZZZ	15:46														
ZZZZZZ	15:48														
ZZZZZZ	15:51														
ZZZZZZ	15:53														
ZZZZZZ	15:56														
CCV	15:58	95													
CCB	16:00	99													

LEGEND:
BKG = Background
MS = Matrix Spike
DUP = Duplicate
MSD = Matrix Spike Duplicate
L = Serial Dilution
A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
LI = Lithium
BI = Bismuth
SC = Scandium
GE = Germanium
TB = Terbium
HO = Holmium
Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204 Start Date: 11/18/2018
Run Name: 1832201E05 End Date: 11/18/2018

Standard	Elements Applies to	Standard	Elements Applies to
SC-3-45	FE		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-3-45	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	14:10	100													
S	14:13	102													
ICV	14:16	100													
ICB	14:18	105													
LLC	14:20	96													
ICSA	14:23	98													
ZZZZZZ	14:25														
CCV	14:28	99													
CCB	14:30	93													
P30463AB	14:32	94													
P30463AQ	14:35	95													
ZZZZZZ	14:37														
ZZZZZZ	14:40														
ZZZZZZ	14:42														
ZZZZZZ	14:44														
ZZZZZZ	14:47														
ZZZZZZ	14:49														
ZZZZZZ	14:52														
ZZZZZZ	14:54														
CCV	14:56	97													
CCB	14:59	95													
ZZZZZZ	15:01														
ZZZZZZ	15:04														
ZZZZZZ	15:06														
ZZZZZZ	15:09														
ZZZZZZ	15:11														
ZZZZZZ	15:13														
9872064	15:16														
ZZZZZZ	15:18														
9872064	15:20	95													
ZZZZZZ	15:23														
CCV	15:25	95													

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204 Start Date: 11/18/2018
Run Name: 1832201E05 End Date: 11/18/2018

Standard	Elements Applies to	Standard	Elements Applies to
SC-3-45	FE		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element SC-3-45	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
CCB	15:28	94													

LEGEND:
BKG = Background
MS = Matrix Spike
DUP = Duplicate
MSD = Matrix Spike Duplicate
L = Serial Dilution
A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
LI = Lithium
BI = Bismuth
SC = Scandium
GE = Germanium
TB = Terbium
HO = Holmium
Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204 Start Date: 11/21/2018
Run Name: 1832503E05 End Date: 11/21/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-1-209	U	TB-1-159	SB

Lab Sample ID	Time	Internal Standards %RI For:													
		Element TB-1-159	Q	Element BI-1-209	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	08:08	100		100											
S	08:10	102		102											
ICV	08:12	101		101											
ICB	08:14	99		100											
LLC	08:16	100		101											
ICSA	08:18	101		94											
ZZZZZZ	08:19														
CCV	08:21	101		102											
CCB	08:23	101		100											
P30463AB	08:25	101		101											
P30463AQ	08:27	100		100											
*70251BKG	08:28	104													
ZZZZZZ	08:30														
ZZZZZZ	08:32														
ZZZZZZ	08:34														
ZZZZZZ	08:36														
*70251L	08:37	101													
ZZZZZZ	08:39														
ZZZZZZ	08:41														
CCV	08:43	100		99											
CCB	08:45	98		98											
ZZZZZZ	08:46														
ZZZZZZ	08:48														
ZZZZZZ	08:50														
ZZZZZZ	08:52														
ZZZZZZ	08:54														
ZZZZZZ	08:55														
9872063	08:57														
ZZZZZZ	08:59														
9872063	09:01														
9872063	09:02			119											
CCV	09:04	106		106											

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID:
Run Name: 15151

Start Date:
End Date:

Standard	Elements Applies to	Standard	Elements Applies to
BI-1-209	U	TB-1-159	SB

Lab Sample ID	Time	Internal Standards %RI For:													
		Element TB-1-159	Q	Element BI-1-209	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
CCB	09:06	106		105											

LEGEND:
BKG = Background
MS = Matrix Spike
DUP = Duplicate
MSD = Matrix Spike Duplicate
L = Serial Dilution
A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
LI = Lithium
BI = Bismuth
SC = Scandium
GE = Germanium
TB = Terbium
HO = Holmium
Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 27813 Start Date: 11/27/2018
Run Name: 1833101E07 End Date: 11/27/2018

Standard	Elements Applies to	Standard	Elements Applies to
TB-3-159	PB		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element TB-3-159	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	09:13	100													
S	09:16	107													
ICV	09:18	105													
ICB	09:20	98													
LLC	09:22	104													
ICSA	09:24	105													
ZZZZZZ	09:27														
CCV	09:29	106													
CCB	09:31	104													
ZZZZZZ	09:33														
ZZZZZZ	09:35														
ZZZZZZ	09:37														
ZZZZZZ	09:39														
9872061	09:42	106													
9872062	09:44	105													
9872063	09:46	107													
9872063	09:48														
9872064	09:50	107													
9872064	09:52														
CCV	09:54	103													
CCB	09:57	91													
9872065	09:59	95													
9872065	10:01														
9872065	10:03														
ZZZZZZ	10:05														
ZZZZZZ	10:07														
ZZZZZZ	10:09														
ZZZZZZ	10:12														
CCV	10:14	105													
CCB	10:16	102													

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204 Start Date: 11/28/2018
Run Name: 1833202E05 End Date: 11/28/2018

Standard	Elements Applies to	Standard	Elements Applies to
TB-1-159	PB		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element TB-1-159	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	05:28	100													
S	05:30	101													
ICV	05:32	100													
ICB	05:33	102													
LLC	05:35	100													
ICSA	05:37	101													
ICSAB	05:39	102													
ZZZZZZ	05:40														
CCV	05:42	101													
CCB	05:44	98													
ZZZZZZ	05:46														
ZZZZZZ	05:47														
ZZZZZZ	05:49														
ZZZZZZ	05:51														
ZZZZZZ	05:53														
ZZZZZZ	05:55														
ZZZZZZ	05:56														
ZZZZZZ	05:58														
ZZZZZZ	06:00														
ZZZZZZ	06:02														
CCV	06:03	101													
CCB	06:05	102													
ZZZZZZ	06:07														
ZZZZZZ	06:09														
ZZZZZZ	06:11														
ZZZZZZ	06:12														
ZZZZZZ	06:14														
ZZZZZZ	06:16														
ZZZZZZ	06:18														
ZZZZZZ	06:19														
ZZZZZZ	06:21														
ZZZZZZ	06:23														

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
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Y = Laboratory Control Sample Duplicate
FLAG:
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INTERNAL STANDARD ELEMENTS:
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HO = Holmium Y = Yttrium
IN = Indium

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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204 Start Date: 11/28/2018
Run Name: 1833202E05 End Date: 11/28/2018

Standard	Elements Applies to	Standard	Elements Applies to
TB-1-159	PB		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element TB-1-159	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
CCV	06:25	104													
CCB	06:27	104													
ZZZZZZ	06:29														
ZZZZZZ	06:30														
ZZZZZZ	06:32														
ZZZZZZ	06:34														
ZZZZZZ	06:36														
ZZZZZZ	06:37														
ZZZZZZ	06:39														
ZZZZZZ	06:41														
ZZZZZZ	06:43														
ZZZZZZ	06:45														
CCV	06:46	98													
CCB	06:48	101													
LLC	06:50	99													
ICSA	06:52	98													
ICSAB	06:53	96													
ZZZZZZ	06:55														
CCV	06:57	100													
CCB	06:59	98													
ZZZZZZ	07:01														
ZZZZZZ	07:02														
ZZZZZZ	07:04														
ZZZZZZ	07:06														
ZZZZZZ	07:08														
ZZZZZZ	07:09														
ZZZZZZ	07:11														
ZZZZZZ	07:13														
ZZZZZZ	07:15														
ZZZZZZ	07:17														
CCV	07:18	104													
CCB	07:20	102													

LEGEND:
BKG = Background MS = Matrix Spike
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QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: TID12

Instrument ID: 19204
Run Name: 1833202E05

Start Date: 11/28/2018
End Date: 11/28/2018

Standard	Elements Applies to	Standard	Elements Applies to
TB-1-159	PB		

Lab Sample ID	Time	Internal Standards %RI For:													
		Element TB-1-159	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	07:22														
ZZZZZZ	07:24														
ZZZZZZ	07:25														
ZZZZZZ	07:27														
ZZZZZZ	07:29														
ZZZZZZ	07:31														
ZZZZZZ	07:32														
ZZZZZZ	07:34														
ZZZZZZ	07:36														
ZZZZZZ	07:38														
CCV	07:40	103													
CCB	07:41	99													
ZZZZZZ	07:43														
ZZZZZZ	07:45														
ZZZZZZ	07:47														
ZZZZZZ	07:49														
9872060	07:50	107													
9872060	07:52														
CCV	07:54	104													
CCB	07:56	111													

LEGEND:
BKG = Background
MS = Matrix Spike
DUP = Duplicate
MSD = Matrix Spike Duplicate
L = Serial Dilution
A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
LI = Lithium
BI = Bismuth
SC = Scandium
GE = Germanium
TB = Terbium
HO = Holmium
Y = Yttrium
IN = Indium

Raw Data

Metals in Solid

ICP Data

Metals in Solid

ICP-AES Run Data Report

Reviewed By	Reviewed Date
Lisa J Cooke	11/09/2018 12:30PM

Data File Name 1831302T71.TXT
Run Name: 1831302T71

Method Reference Name(s):

Verified By:	Verified Date
Parker D Lindstrom	11/11/2018 3:50AM
Tara L Snyder	11/27/2018 3:06PM

Analyst Employee: 943

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 1 Date/Time: 11/09/2018 08:58

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	-12.56667	42.753	-0.00304	-0.00204	-0.00124
AL	0.000	10.89537	39.786	0.01861	0.03526	0.04427
AS	0.000	0.15333	210.204	0.00583	0.00183	-0.00204
B	0.000	-6.31667	78.780	-0.00001	-0.00002	-0.00004
BA	0.000	36.65879	14.822	0.00012	0.00010	0.00014
BE	0.000	-168.46667	2.568	-0.02906	-0.02764	-0.02809
CA	0.000	18.88613	16.127	0.00122	0.00092	0.00125
CD	0.000	-4.69667	13.493	-0.06179	-0.04801	-0.06073
CO	0.000	2.73667	16.001	0.03800	0.03400	0.02749
CR	0.000	-2.75000	257.549	0.00000	0.00001	-0.00004
CU	0.000	15.13333	45.567	0.00290	0.00125	0.00349
FE	0.000	-1.81043	29.254	-0.00008	-0.00010	-0.00014
K	0.000	83.03562	12.554	0.26503	0.26825	0.21265
LI	0.000	-5.36790	281.017	-0.00115	0.00062	-0.00042
MG	0.000	-0.78044	418.719	0.00002	-0.00027	0.00011
MN	0.000	8.28333	21.335	0.00157	0.00155	0.00105
MO	0.000	0.61500	39.201	0.00867	0.00411	0.00953
NA	0.000	-51.27527	9.310	-0.00292	-0.00340	-0.00289
NI	0.000	9.22000	19.149	0.09785	0.13636	0.10094
P	0.000	0.67000	67.533	0.00021	0.00004	0.00024
PB	0.000	-3.47222	44.091	-0.06010	-0.04326	-0.02301
S	0.000	1.44333	49.435	0.00020	0.00054	0.00030
SB	0.000	0.23333	241.889	0.00006	-0.00008	0.00019
SE	0.000	0.46000	99.190	0.00316	0.01194	0.00168
SI	0.000	5.23216	9.980	0.00029	0.00030	0.00035
SN	0.000	0.34333	136.184	0.00996	-0.00134	0.00384
SR	0.000	-45.35333	24.290	-0.00012	-0.00019	-0.00014
TH	0.000	0.16376	2036.163	0.00021	-0.00013	-0.00006
TI	0.000	13.72222	29.762	0.00181	0.00308	0.00200
TL	0.000	0.29333	97.832	-0.00024	0.00658	0.00432
V	0.000	-20.71667	30.882	-0.00250	-0.00462	-0.00329
W	0.000	0.67333	113.196	0.00006	0.00038	0.00006
Y1	0.000	4129.12667	0.788	4118.46000	4103.25000	4165.67000
Y2A	0.000	298063.87787	0.666	297855.82011	300143.51852	296192.29497
Y2R	0.000	16691.74244	0.935	16871.88435	16603.95078	16599.39219
ZN	0.000	5.74667	12.425	0.06046	0.07055	0.07766
ZR	0.000	3.72192	229.226	0.00059	-0.00036	0.00043

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 2

Date/Time: 11/09/2018 09:00

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	9512.28870	0.095	28.93159	28.98657	28.96148
CA	50.000	62213.63457	0.243	3.78012	3.78615	3.79816
FE	50.000	16425.80276	0.275	1.00034	0.99731	1.00281
K	50.000	16868.98433	0.132	51.35606	51.29003	51.42516
MG	50.000	95831.13929	0.442	5.82723	5.81410	5.86390
NA	50.000	59164.14003	0.193	3.59452	3.60550	3.60737
S	50.000	2675.38333	0.456	0.67789	0.68407	0.68042
SI	50.000	9636.33706	0.512	0.58363	0.58700	0.58962
Y1	50.000	3929.92000	1.041	3962.63500	3884.04000	3943.08500
Y2R	50.000	16423.21443	0.149	16405.18274	16413.43656	16451.02398

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 3 Date/Time: 11/09/2018 09:03

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	17231.73043	0.284	3.01187	3.02419	3.02835
AS	1.000	92.74667	0.814	1.17191	1.15334	1.16582
B	1.000	5683.56923	0.477	0.01982	0.01997	0.02000
BA	1.000	40007.82620	0.233	0.14028	0.13999	0.14064
BE	1.000	441553.29136	0.299	77.54589	77.56757	77.15568
CD	1.000	4555.74667	0.140	57.20166	57.06545	57.20675
CO	1.000	2757.33000	0.185	34.58786	34.53401	34.66124
CU	1.000	15116.69314	0.095	2.64826	2.65028	2.65328
LI	1.000	5614.30151	0.346	0.33839	0.33946	0.34074
MN	1.000	55125.26223	0.316	9.63324	9.67052	9.69381
NI	1.000	1896.65000	0.038	23.79812	23.80326	23.78586
P	1.000	66.74333	0.936	0.01676	0.01689	0.01658
PB	1.000	449.86667	0.330	5.66571	5.63407	5.63287
SE	1.000	79.40667	1.859	1.01762	0.98379	0.98765
SR	1.000	813249.66799	0.123	2.85520	2.85244	2.84822
TH	1.000	160.69470	2.433	0.00951	0.00997	0.00967
TL	1.000	102.32667	0.201	1.28368	1.28644	1.28128
W	1.000	340.08333	0.363	0.08518	0.08514	0.08569
Y1	1.000	3985.26500	1.098	3950.37500	4034.38500	3971.03500
Y2A	1.000	285155.18003	0.196	285240.14248	285667.16368	284558.23393
Y2R	1.000	16535.45169	0.136	16519.98104	16561.15431	16525.21974
ZN	1.000	2433.19000	0.106	30.51989	30.56253	30.49898

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 4

Date/Time: 11/09/2018 09:06

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	10211.78959	0.717	0.03402	0.03391	0.03438
MO	1.000	594.35267	0.352	7.04174	7.08477	7.08494
SB	1.000	149.36000	0.346	0.03540	0.03565	0.03556
SN	1.000	324.95000	0.424	3.86443	3.88239	3.84963
TI	1.000	44407.61099	1.089	7.39931	7.34337	7.50259
V	1.000	17785.54534	1.021	2.96980	2.93947	3.00011
Y1	1.000	4203.11333	1.134	4231.02000	4230.26000	4148.06000
Y2A	1.000	299458.85692	0.912	298684.77183	302493.13823	297198.66071
Y2R	1.000	16847.40696	0.786	16967.39130	16869.55436	16705.27523
ZR	1.000	2898.37589	1.473	0.17421	0.17262	0.16924

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 5

Date/Time: 11/09/2018 09:09

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.60882	10,510.03	0.458	0.61198	0.60778	0.60670
____ AL	29.88394	5,714.38	0.207	29.90910	29.92927	29.81344
____ AS	0.60517	56.02	2.208	0.62058	0.59672	0.59821
____ B	0.59376	3,446.63	1.172	0.60179	0.58974	0.58974
____ BA	0.60834	24,220.58	0.504	0.61066	0.60486	0.60950
____ BE	0.58044	254,848.89	0.339	0.58144	0.57817	0.58171
____ CA	29.82606	37,244.56	0.185	29.83575	29.87589	29.76656
____ CD	0.60350	2,766.51	0.758	0.60731	0.60478	0.59842
____ CO	0.59960	1,661.65	0.692	0.60189	0.60211	0.59481
____ CR	0.58494	5,657.53	1.042	0.59138	0.57926	0.58417
____ CU	0.59341	8,909.96	0.643	0.59763	0.59240	0.59020
____ FE	29.88091	9,894.25	0.163	29.89485	29.92111	29.82679
____ K	30.02591	10,172.02	0.117	30.06637	30.00922	30.00214
____ LI	0.61320	3,407.25	0.365	0.61090	0.61537	0.61333
____ MG	29.74121	57,685.40	0.147	29.76710	29.76575	29.69078
____ MN	0.60530	33,189.99	0.392	0.60797	0.60346	0.60445
____ MO	0.61867	349.76	0.309	0.61725	0.61791	0.62084
____ NA	28.77290	34,068.75	0.097	28.79732	28.74231	28.77905
____ NI	0.59881	1,140.74	0.098	0.59917	0.59914	0.59814
____ P	0.60915	41.03	1.120	0.60915	0.61598	0.60233
____ PB	0.60859	274.33	0.768	0.61376	0.60737	0.60465
____ S	30.38208	1,653.21	0.197	30.40616	30.31390	30.42618
____ SB	0.63375	90.05	0.126	0.63374	0.63455	0.63296
____ SE	0.59067	47.56	2.707	0.57929	0.60895	0.58376
____ SI	30.22587	5,836.25	0.184	30.16603	30.27590	30.23568
____ SN	0.57984	179.47	0.211	0.57843	0.58045	0.58064
____ SR	0.61373	498,170.55	0.369	0.61140	0.61592	0.61387
____ TH	0.57044	96.73	2.465	0.56404	0.58656	0.56071
____ TI	0.61555	25,931.64	0.296	0.61731	0.61367	0.61566
____ TL	0.61372	60.12	1.380	0.60411	0.62009	0.61696
____ V	0.60605	10,228.13	0.606	0.60965	0.60230	0.60618
____ W	0.60706	207.29	0.507	0.60871	0.60897	0.60351
____ Y1	3997.10000	3,997.10	1.083	3955.38000	3994.12000	4041.80000
____ Y2A	283618.12459	283,618.12	0.462	282239.47979	284850.39761	283764.49636
____ Y2R	16438.21018	16,438.21	0.226	16422.42669	16411.50000	16480.70386
____ ZN	0.60080	1,474.19	0.137	0.60004	0.60168	0.60070
____ ZR	0.62148	1,858.43	1.505	0.61583	0.61632	0.63228

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 6

Date/Time: 11/09/2018 09:11

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00111	-11.25	8.482	0.00105	0.00106	0.00122
____ AL	-0.01335	8.64	34.547	-0.00995	-0.01860	-0.01151
____ AS	-0.00113	-0.22	136.987	-0.00283	-0.00076	0.00020
____ B	0.00202	5.72	19.121	0.00238	0.00161	0.00206
____ BA	-0.00004	34.78	419.022	-0.00011	0.00015	-0.00016
____ BE	0.00000	-156.12	991.388	-0.00001	0.00000	0.00002
____ CA	0.01100	32.77	15.005	0.01058	0.00960	0.01282
____ CD	-0.00016	-5.18	127.905	-0.00001	-0.00007	-0.00040
____ CO	0.00048	4.07	99.842	0.00086	0.00065	-0.00006
____ CR	0.00037	4.23	151.792	0.00011	-0.00001	0.00101
____ CU	-0.00003	22.57	1156.511	-0.00015	0.00032	-0.00024
____ FE	0.00297	-0.80	203.315	-0.00306	0.00296	0.00900
____ K	0.08884	112.96	22.778	0.11209	0.07522	0.07921
____ LI	0.00137	2.53	166.130	0.00045	-0.00030	0.00397
____ MG	0.00055	0.32	164.219	0.00099	-0.00049	0.00114
____ MN	0.00001	8.88	822.053	-0.00007	0.00011	0.00000
____ MO	0.00282	1.78	13.000	0.00269	0.00253	0.00323
____ NA	0.06720	59.60	26.977	0.08154	0.07324	0.04682
____ NI	0.00028	9.66	178.372	0.00081	-0.00019	0.00022
____ P	0.00270	0.84	196.578	0.00082	-0.00141	0.00870
____ PB	0.00025	-2.36	849.880	0.00216	-0.00208	0.00068
____ S	0.01022	1.99	112.810	-0.00233	0.01264	0.02034
____ SB	-0.00016	0.20	2650.849	-0.00468	0.00028	0.00391
____ SE	0.00617	0.95	135.216	0.01343	-0.00294	0.00802
____ SI	0.01560	8.26	110.823	0.03323	0.01489	-0.00132
____ SN	0.00218	1.03	98.753	0.00463	0.00126	0.00064
____ SR	0.00001	-31.37	131.964	0.00000	0.00003	0.00001
____ TH	0.02153	-0.30	19.081	0.02109	0.02584	0.01766
____ TI	0.00019	22.14	17.908	0.00020	0.00016	0.00022
____ TL	-0.00101	0.18	630.491	-0.00143	0.00556	-0.00716
____ V	0.00051	-16.38	51.924	0.00027	0.00046	0.00079
____ W	-0.00041	0.52	491.423	-0.00249	0.00158	-0.00034
____ Y1	4078.11167	4,078.11	0.725	4104.67500	4046.24000	4083.42000
____ Y2A	295744.02006	295,744.02	0.981	292502.14947	296632.85384	298097.05688
____ Y2R	16637.75201	16,637.75	0.552	16653.74625	16539.01258	16720.49720
____ ZN	-0.00054	4.35	52.528	-0.00077	-0.00061	-0.00022
____ ZR	0.00063	9.29	161.017	0.00026	-0.00014	0.00177

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 7

Date/Time: 11/09/2018 09:14

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00887	-5.09	2.482	0.00911	0.00867	0.00885
____ AL	0.31480	78.71	7.208	0.33847	0.29324	0.31267
____ AS	0.05351	5.00	8.478	0.05111	0.05874	0.05067
____ B	0.04933	286.30	0.633	0.04897	0.04950	0.04952
____ BA	0.00522	252.89	3.033	0.00504	0.00531	0.00531
____ BE	0.00501	2,137.38	1.297	0.00507	0.00494	0.00501
____ CA	0.52651	687.07	0.635	0.52289	0.52716	0.52948
____ CD	0.00521	20.10	2.176	0.00509	0.00531	0.00525
____ CO	0.00588	19.43	8.023	0.00568	0.00554	0.00642
____ CR	0.01478	149.64	2.785	0.01514	0.01433	0.01487
____ CU	0.02556	586.75	0.884	0.02562	0.02574	0.02530
____ FE	0.20879	68.98	3.809	0.20507	0.21793	0.20338
____ K	0.57209	277.61	3.090	0.57036	0.59056	0.55533
____ LI	0.05692	316.69	7.499	0.06178	0.05378	0.05520
____ MG	0.10315	205.19	1.620	0.10146	0.10318	0.10481
____ MN	0.01060	614.43	0.702	0.01058	0.01068	0.01053
____ MO	0.01194	7.08	2.969	0.01154	0.01222	0.01206
____ NA	1.10116	1,300.93	1.555	1.08529	1.11931	1.09886
____ NI	0.01057	29.67	4.864	0.01068	0.01102	0.01001
____ P	0.09665	7.24	3.836	0.10090	0.09408	0.09497
____ PB	0.01315	3.64	9.904	0.01454	0.01197	0.01293
____ S	0.52056	30.44	1.261	0.51634	0.51722	0.52812
____ SB	0.05390	8.09	8.419	0.05893	0.05268	0.05011
____ SE	0.05454	4.87	8.463	0.04976	0.05488	0.05898
____ SI	0.53303	109.47	0.664	0.52895	0.53483	0.53531
____ SN	0.05136	16.60	3.072	0.05174	0.04962	0.05270
____ SR	0.00532	4,458.89	1.037	0.00533	0.00526	0.00537
____ TH	0.48873	77.22	1.144	0.48577	0.49518	0.48524
____ TI	0.01071	483.94	0.714	0.01065	0.01080	0.01068
____ TL	0.03010	3.39	18.026	0.03238	0.02391	0.03402
____ V	0.00956	165.13	5.973	0.00961	0.00896	0.01010
____ W	0.02955	10.95	8.205	0.03223	0.02752	0.02889
____ Y1	4100.56500	4,100.57	0.528	4108.48000	4117.13000	4076.08500
____ Y2A	295948.93629	295,948.94	0.689	296422.94974	297708.91204	293714.94709
____ Y2R	16655.97964	16,655.98	0.479	16634.04096	16589.37824	16744.51973
____ ZN	0.01932	53.89	0.540	0.01944	0.01925	0.01927
____ ZR	0.03237	182.79	8.264	0.03514	0.03217	0.02980

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 8

Date/Time: 11/09/2018 09:17

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00120	-36.79	51.849	-0.00049	-0.00144	-0.00167
____ AL	510.09925	92,759.63	0.101	510.05363	509.61063	510.63349
____ AS	0.01732	-0.79	50.594	0.02165	0.02307	0.00723
____ B	0.00162	673.31	69.047	0.00035	0.00208	0.00244
____ BA	0.00103	67.60	27.847	0.00096	0.00079	0.00135
____ BE	-0.00023	-225.17	7.339	-0.00021	-0.00024	-0.00025
____ CA	499.68098	566,094.22	0.912	496.25137	504.85016	497.94142
____ CD	0.00276	72.30	12.701	0.00313	0.00244	0.00270
____ CO	0.00005	2.48	1506.453	0.00083	-0.00067	-0.00001
____ CR	-0.00424	-36.08	10.712	-0.00374	-0.00436	-0.00463
____ CU	-0.00972	134.50	5.148	-0.00916	-0.00988	-0.01012
____ FE	201.93664	60,515.57	0.072	202.06971	201.78096	201.95925
____ K	0.09505	109.47	26.322	0.08150	0.07973	0.12392
____ LI	0.05497	78.36	1.985	0.05591	0.05377	0.05523
____ MG	499.52092	696,102.90	1.476	497.77166	507.61081	493.18027
____ MN	0.00490	246.29	0.663	0.00494	0.00488	0.00490
____ MO	-0.00294	-1.35	39.148	-0.00317	-0.00395	-0.00169
____ NA	0.08071	72.17	4.847	0.08511	0.07939	0.07763
____ NI	-0.00192	4.72	35.064	-0.00213	-0.00245	-0.00116
____ P	0.02138	1.84	31.091	0.01571	0.02869	0.01974
____ PB	0.01527	36.98	27.285	0.01048	0.01809	0.01723
____ S	0.01659	2.05	131.096	-0.00490	0.01608	0.03858
____ SB	0.00917	1.70	83.992	0.00323	0.00641	0.01788
____ SE	0.01775	1.99	81.638	0.00367	0.01696	0.03263
____ SI	-0.01523	2.11	40.551	-0.01173	-0.01160	-0.02236
____ SN	0.00071	2.72	575.118	0.00414	-0.00377	0.00174
____ SR	-0.00067	10,018.74	15.868	-0.00070	-0.00056	-0.00077
____ TH	-0.07435	26.23	22.395	-0.06553	-0.06396	-0.09356
____ TI	-0.00057	-9.96	33.801	-0.00078	-0.00054	-0.00040
____ TL	-0.02251	-0.25	10.382	-0.02375	-0.02396	-0.01981
____ V	0.00277	50.80	12.958	0.00311	0.00239	0.00280
____ W	-0.00467	-0.79	36.523	-0.00563	-0.00568	-0.00270
____ Y1	3560.93833	3,560.94	1.115	3575.70000	3591.13500	3515.98000
____ Y2A	252416.14006	252,416.14	0.269	253129.21404	251774.74010	252344.46603
____ Y2R	15827.99360	15,827.99	0.319	15875.29928	15774.94002	15833.74150
____ ZN	0.00787	56.78	11.044	0.00856	0.00815	0.00689
____ ZR	0.00915	15.88	25.211	0.00860	0.00717	0.01168

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 9

Date/Time: 11/09/2018 09:20

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.48893	8,484.33	1.203	0.49513	0.48344	0.48821
____ AL	24.82193	4,755.38	0.367	24.91783	24.81120	24.73678
____ AS	0.50031	46.04	1.317	0.50738	0.49435	0.49919
____ B	0.47765	2,791.81	0.899	0.48179	0.47795	0.47321
____ BA	0.49485	19,832.24	1.147	0.50093	0.48969	0.49394
____ BE	0.47674	210,603.66	1.056	0.48187	0.47180	0.47656
____ CA	24.64719	30,845.67	0.068	24.66479	24.64552	24.63125
____ CD	0.49212	2,243.12	0.266	0.49284	0.49292	0.49061
____ CO	0.49369	1,361.12	0.050	0.49394	0.49368	0.49345
____ CR	0.47392	4,612.67	1.500	0.48188	0.47168	0.46820
____ CU	0.49201	7,436.36	1.195	0.49875	0.48934	0.48793
____ FE	24.88675	8,266.87	0.366	24.79865	24.88124	24.98035
____ K	24.99535	8,493.99	0.132	24.98477	24.96897	25.03231
____ LI	0.50341	2,800.30	0.578	0.50054	0.50636	0.50332
____ MG	24.38921	47,511.44	0.260	24.34821	24.35732	24.46211
____ MN	0.49026	27,052.18	1.024	0.49562	0.48567	0.48948
____ MO	0.49343	277.45	0.304	0.49330	0.49200	0.49500
____ NA	25.06634	29,721.02	0.209	25.01753	25.12169	25.05979
____ NI	0.48894	927.96	0.199	0.48985	0.48791	0.48907
____ P	0.49423	33.23	0.677	0.49163	0.49306	0.49801
____ PB	0.49201	220.12	0.479	0.49061	0.49068	0.49472
____ S	24.29177	1,314.85	0.215	24.29386	24.34294	24.23850
____ SB	0.48700	68.88	0.579	0.48425	0.48688	0.48988
____ SE	0.48945	39.27	3.374	0.50592	0.48953	0.47289
____ SI	24.84620	4,805.42	0.039	24.83745	24.85652	24.84461
____ SN	0.47431	146.06	0.311	0.47262	0.47494	0.47537
____ SR	0.49404	403,578.25	0.608	0.49637	0.49065	0.49510
____ TH	0.47144	79.42	0.700	0.47342	0.47326	0.46763
____ TI	0.49827	21,124.71	1.096	0.50358	0.49267	0.49857
____ TL	0.49342	48.11	1.291	0.50076	0.48929	0.49022
____ V	0.49263	8,364.12	1.228	0.49916	0.48722	0.49151
____ W	0.49036	166.67	0.174	0.49132	0.49007	0.48969
____ Y1	3975.21500	3,975.22	0.492	3990.14500	3982.40000	3953.10000
____ Y2A	285415.82532	285,415.83	1.111	282080.68257	288394.59325	285772.20013
____ Y2R	16462.42412	16,462.42	0.074	16449.88043	16463.10452	16474.28742
____ ZN	0.48964	1,195.98	0.167	0.48945	0.49053	0.48893
____ ZR	0.49857	1,496.21	1.257	0.50129	0.49141	0.50303

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 10

Date/Time: 11/09/2018 09:22

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00060	-18.13	129.891	0.00136	0.00064	-0.00020
____ AL	0.01541	13.96	75.757	0.00660	0.02866	0.01098
____ AS	-0.00276	-0.37	268.617	-0.00137	0.00386	-0.01079
____ B	0.00137	1.87	49.513	0.00083	0.00115	0.00214
____ BA	0.00000	36.56	3529.464	-0.00006	-0.00019	0.00026
____ BE	0.00002	-148.38	12.593	0.00002	0.00002	0.00002
____ CA	0.01314	35.27	2.734	0.01321	0.01346	0.01275
____ CD	-0.00002	-4.51	1053.955	-0.00015	0.00020	-0.00010
____ CO	0.00030	3.57	113.392	0.00000	0.00067	0.00024
____ CR	-0.00008	-0.33	535.359	-0.00012	0.00038	-0.00051
____ CU	-0.00051	12.03	245.166	-0.00056	-0.00174	0.00077
____ FE	0.00515	-0.07	167.167	-0.00412	0.00667	0.01288
____ K	0.06682	104.88	49.506	0.10353	0.03932	0.05762
____ LI	0.00110	0.89	158.228	0.00022	0.00310	-0.00002
____ MG	0.00368	6.51	38.394	0.00523	0.00332	0.00248
____ MN	0.00001	8.53	602.107	0.00003	0.00001	-0.00003
____ MO	0.00207	1.36	64.051	0.00250	0.00313	0.00058
____ NA	0.05687	47.01	6.130	0.05925	0.05287	0.05849
____ NI	-0.00009	8.96	508.786	0.00006	-0.00062	0.00028
____ P	0.00060	0.70	932.048	0.00672	-0.00081	-0.00412
____ PB	-0.00020	-2.58	638.457	0.00130	-0.00097	-0.00093
____ S	0.00736	1.84	187.245	0.00296	0.02280	-0.00368
____ SB	-0.00341	-0.27	7.975	-0.00372	-0.00330	-0.00321
____ SE	0.00021	0.47	2638.216	-0.00296	-0.00300	0.00658
____ SI	0.01340	7.79	58.858	0.02040	0.01495	0.00485
____ SN	0.00097	0.65	158.492	0.00003	0.00274	0.00013
____ SR	0.00001	-29.81	96.290	0.00003	0.00001	0.00000
____ TH	0.01287	-1.73	237.647	0.01682	0.04130	-0.01950
____ TI	0.00016	20.57	91.578	0.00017	0.00001	0.00029
____ TL	-0.00337	-0.06	178.982	-0.00221	0.00199	-0.00990
____ V	0.00017	-22.82	113.392	0.00002	0.00038	0.00010
____ W	0.00063	0.89	328.802	-0.00047	0.00300	-0.00065
____ Y1	4091.82667	4,091.83	0.570	4098.20500	4111.28500	4065.99000
____ Y2A	297207.06570	297,207.07	0.663	299446.18056	296445.43651	295729.58003
____ Y2R	16542.18790	16,542.19	0.364	16580.75773	16472.87266	16572.93331
____ ZN	-0.00027	5.03	115.807	0.00008	-0.00049	-0.00039
____ ZR	-0.00047	4.59	789.043	0.00086	-0.00469	0.00241

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 11 Date/Time: 11/09/2018 09:25

Sample Number: **PBS** Class: **** Batch: 183041063701

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00077	-15.10	30.260	0.00052	0.00081	0.00098
____ AL	-0.00123	10.98	1783.672	0.00343	0.01804	-0.02516
____ AS	-0.00209	-0.32	289.874	-0.00337	0.00450	-0.00740
____ B	0.00196	5.58	81.213	0.00086	0.00123	0.00378
____ BA	0.00021	45.94	27.764	0.00028	0.00018	0.00017
____ BE	0.00002	-149.92	60.789	0.00001	0.00003	0.00003
____ CA	0.02358	49.32	8.762	0.02124	0.02515	0.02436
____ CD	-0.00006	-4.80	196.116	-0.00020	-0.00002	0.00003
____ CO	0.00015	3.18	141.550	0.00012	0.00037	-0.00005
____ CR	0.00002	0.65	2875.398	0.00053	-0.00013	-0.00035
____ CU	-0.00008	18.87	269.974	-0.00018	-0.00021	0.00016
____ FE	0.01682	3.94	17.100	0.01358	0.01783	0.01906
____ K	0.09765	117.38	25.749	0.07904	0.12625	0.08766
____ LI	0.00312	12.47	45.698	0.00154	0.00431	0.00350
____ MG	0.00484	8.97	45.593	0.00243	0.00533	0.00676
____ MN	0.00052	38.57	2.928	0.00052	0.00053	0.00050
____ MO	0.00059	0.50	123.712	-0.00016	0.00064	0.00128
____ NA	-0.01454	-38.83	73.081	-0.00750	-0.02676	-0.00935
____ NI	0.00083	10.91	58.314	0.00138	0.00059	0.00051
____ P	0.01192	1.49	20.205	0.01464	0.01108	0.01005
____ PB	-0.00280	-3.84	56.340	-0.00168	-0.00212	-0.00460
____ S	0.00670	1.83	128.383	-0.00073	0.01612	0.00471
____ SB	0.00588	1.10	30.919	0.00576	0.00775	0.00412
____ SE	0.00472	0.85	271.786	0.01137	0.01288	-0.01008
____ SI	-0.00498	4.30	160.365	-0.00088	0.00012	-0.01418
____ SN	0.01649	5.63	12.794	0.01625	0.01871	0.01451
____ SR	0.00011	49.33	3.773	0.00011	0.00011	0.00010
____ TH	0.01259	-1.79	123.919	0.02819	-0.00302	0.01261
____ TI	0.00014	19.88	188.250	0.00040	-0.00011	0.00012
____ TL	-0.00214	0.07	105.808	-0.00144	-0.00467	-0.00031
____ V	0.00058	-15.30	35.048	0.00062	0.00036	0.00076
____ W	-0.00071	0.45	164.972	0.00004	-0.00011	-0.00207
____ Y1	4152.16107	4,152.16	0.904	4176.90000	4108.98320	4170.60000
____ Y2A	301058.28373	301,058.28	0.979	297698.16468	302276.95106	303199.73545
____ Y2R	16844.33864	16,844.34	0.508	16932.95115	16838.03308	16762.03169
____ ZN	0.00584	20.48	3.956	0.00558	0.00603	0.00591
____ ZR	-0.00025	5.27	142.913	-0.00053	-0.00036	0.00015

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 12 Date/Time: 11/09/2018 09:28

Sample Number: **LCSW** Class: **** Batch: 183041063701

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04903	831.31	1.048	0.04886	0.04960	0.04862
____ AL	1.99821	416.29	0.787	1.99653	1.98339	2.01472
____ AS	0.15094	14.63	5.767	0.14301	0.14955	0.16025
____ B	1.91746	11,200.53	0.637	1.92846	1.91960	1.90431
____ BA	1.98499	81,010.68	1.066	2.00068	1.99335	1.96093
____ BE	0.04934	22,088.55	0.623	0.04951	0.04953	0.04899
____ CA	4.05689	5,143.85	1.023	4.07671	4.00921	4.08476
____ CD	0.05143	235.73	0.611	0.05125	0.05179	0.05124
____ CO	0.52156	1,478.85	0.242	0.52040	0.52290	0.52137
____ CR	0.19604	1,945.99	0.873	0.19801	0.19499	0.19511
____ CU	0.25219	3,934.91	1.089	0.25435	0.24910	0.25311
____ FE	1.02151	343.00	0.581	1.01544	1.02730	1.02181
____ K	10.28134	3,568.68	0.509	10.32405	10.22301	10.29697
____ LI	1.03552	5,829.98	0.402	1.03997	1.03173	1.03484
____ MG	1.99983	3,971.68	0.858	2.00578	1.98049	2.01322
____ MN	0.51131	28,769.46	0.680	0.51311	0.51352	0.50730
____ MO	2.03228	1,170.75	0.130	2.02937	2.03295	2.03450
____ NA	10.06954	12,016.68	0.198	10.04664	10.07892	10.08307
____ NI	0.52127	1,015.07	0.434	0.51919	0.52368	0.52093
____ P	1.00618	68.65	0.271	1.00319	1.00680	1.00855
____ PB	0.15498	69.31	2.480	0.15848	0.15087	0.15560
____ S	1.02567	58.01	0.883	1.01562	1.03321	1.02819
____ SB	0.53613	73.32	0.207	0.53685	0.53669	0.53485
____ SE	0.15077	12.67	2.378	0.14664	0.15308	0.15258
____ SI	1.08153	222.25	1.962	1.08064	1.06077	1.10319
____ SN	3.90125	1,227.90	0.273	3.89339	3.91337	3.89700
____ SR	1.03099	855,746.67	0.678	1.03456	1.03547	1.02293
____ TH	0.50958	81.86	2.876	0.51105	0.52344	0.49424
____ TI	1.01154	43,659.13	0.624	1.01478	1.01557	1.00426
____ TL	0.16338	14.25	2.150	0.16030	0.16263	0.16720
____ V	0.51104	8,498.31	1.562	0.52020	0.50732	0.50559
____ W	0.19989	71.25	0.188	0.19968	0.19965	0.20032
____ Y1	4074.43667	4,074.44	1.182	4108.40000	4095.61000	4019.30000
____ Y2A	291029.21076	291,029.21	0.912	289432.53968	289563.16138	294091.93122
____ Y2R	16586.25992	16,586.26	0.335	16644.57500	16580.17740	16534.02736
____ ZN	0.50277	1,253.95	0.096	0.50228	0.50324	0.50279
____ ZR	1.00664	2,961.96	0.967	1.01209	0.99540	1.01244

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 13 Date/Time: 11/09/2018 09:30

Sample Number: **9870251** Class: U*** Batch: 183041063701

Initial Vol: 1.21 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00183	8.39	20.455	0.00225	0.00165	0.00158
____ AL	59.79518	11,913.66	0.772	59.37772	59.71711	60.29072
____ AS	0.05359	3.19	8.584	0.05662	0.04830	0.05586
____ B	0.09192	1,111.33	1.038	0.09183	0.09292	0.09102
____ BA	0.68998	28,571.66	0.490	0.68765	0.69386	0.68842
____ BE	0.00355	1,467.39	0.596	0.00353	0.00357	0.00356
____ CA	10.44880	13,698.94	0.985	10.35145	10.43850	10.55644
____ CD	0.02123	151.52	0.125	0.02120	0.02122	0.02125
____ CO	0.05440	173.85	1.966	0.05356	0.05403	0.05560
____ CR	0.22892	2,303.53	1.060	0.22714	0.23168	0.22794
____ CU	0.99127	15,087.24	0.506	0.98590	0.99584	0.99206
____ FE	150.60658	49,988.56	0.994	149.27832	150.31298	152.22843
____ K	14.25033	5,096.97	0.802	14.15040	14.22557	14.37502
____ LI	0.10579	608.19	1.411	0.10446	0.10740	0.10550
____ MG	27.09092	55,065.54	0.963	26.83915	27.07333	27.36027
____ MN	3.54491	202,158.14	0.731	3.52242	3.57323	3.53907
____ MO	0.02716	15.96	3.844	0.02758	0.02597	0.02792
____ NA	0.94948	1,155.54	1.247	0.93919	0.94683	0.96241
____ NI	0.53003	1,042.07	0.744	0.52881	0.52684	0.53444
____ P	2.04536	140.33	0.810	2.02815	2.04675	2.06119
____ PB	0.91296	418.16	0.710	0.90603	0.91398	0.91888
____ S	1.04698	60.14	1.117	1.03401	1.05017	1.05675
____ SB	0.01722	3.24	6.370	0.01798	0.01596	0.01770
____ SE	-0.01127	1.71	58.932	-0.01191	-0.01756	-0.00433
____ SI	20.09626	4,060.18	0.692	19.99193	20.04281	20.25404
____ SN	0.55878	178.32	1.762	0.55205	0.55419	0.57008
____ SR	0.09091	85,642.67	0.623	0.09034	0.09148	0.09091
____ TH	-0.03197	24.32	82.518	-0.02560	-0.00935	-0.06094
____ TI	2.41000	105,426.95	0.461	2.39894	2.42117	2.40990
____ TL	-0.00310	-1.27	145.998	0.00212	-0.00599	-0.00542
____ V	0.21214	3,795.87	1.005	0.21057	0.21457	0.21127
____ W	-0.02437	10.52	12.012	-0.02099	-0.02620	-0.02591
____ Y1	4117.28538	4,117.29	0.137	4111.12944	4122.17452	4118.55217
____ Y2A	295034.14352	295,034.14	0.615	295732.30820	292973.04894	296397.07341
____ Y2R	17202.61188	17,202.61	0.465	17262.42500	17233.63155	17111.77909
____ ZN	4.51302	11,303.82	0.274	4.51374	4.50029	4.52502
____ ZR	0.04106	119.32	2.524	0.04047	0.04225	0.04044

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 14 Date/Time: 11/09/2018 09:33

Sample Number: **9870251** Class: UP** Batch: 183041063701

Initial Vol: 1.21 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01679	258.31	2.643	0.01726	0.01639	0.01671
____ AL	58.34805	11,593.06	0.242	58.50857	58.29243	58.24317
____ AS	0.53714	49.39	0.453	0.53805	0.53438	0.53898
____ B	0.27265	2,141.97	1.729	0.27364	0.27679	0.26752
____ BA	0.71381	29,407.65	0.766	0.70773	0.71834	0.71535
____ BE	0.02238	10,021.00	0.588	0.02223	0.02244	0.02248
____ CA	10.98078	14,342.72	0.336	10.98135	10.94363	11.01734
____ CD	0.06819	368.70	0.783	0.06802	0.06878	0.06775
____ CO	0.14913	441.16	0.302	0.14869	0.14959	0.14912
____ CR	0.40230	4,027.66	0.900	0.40352	0.40516	0.39823
____ CU	1.42488	21,756.43	0.611	1.41555	1.43279	1.42631
____ FE	144.86729	48,011.23	0.362	144.99666	144.28992	145.31528
____ K	15.55975	5,537.46	0.321	15.61577	15.51985	15.54364
____ LI	1.08203	6,292.47	0.459	1.08654	1.08283	1.07670
____ MG	26.89100	54,468.28	0.465	26.91714	26.75484	27.00100
____ MN	3.46436	196,567.45	0.615	3.43974	3.47640	3.47693
____ MO	0.21059	122.10	0.181	0.21054	0.21099	0.21023
____ NA	2.84361	3,491.36	0.401	2.85632	2.83428	2.84023
____ NI	0.64962	1,268.71	0.138	0.64884	0.65059	0.64943
____ P	2.91392	198.61	0.482	2.89772	2.92111	2.92292
____ PB	1.35067	619.85	0.424	1.34675	1.35725	1.34801
____ S	1.96888	110.93	0.715	1.98476	1.95795	1.96391
____ SB	0.40291	59.30	0.326	0.40191	0.40439	0.40243
____ SE	0.74173	62.33	0.820	0.74160	0.73572	0.74788
____ SI	19.78083	3,983.14	0.176	19.81595	19.74620	19.78033
____ SN	1.07968	342.15	0.266	1.07664	1.08007	1.08234
____ SR	0.10736	98,630.45	0.789	0.10646	0.10814	0.10747
____ TH	0.45280	106.99	3.748	0.47238	0.44371	0.44232
____ TI	2.40709	104,767.78	0.670	2.38885	2.41940	2.41303
____ TL	0.92630	95.54	1.972	0.90891	0.92464	0.94533
____ V	0.29837	5,280.60	1.139	0.29920	0.30127	0.29463
____ W	0.16638	76.04	3.792	0.16025	0.17286	0.16603
____ Y1	4095.86418	4,095.86	0.427	4076.70966	4099.93008	4110.95281
____ Y2A	293546.04828	293,546.05	0.774	296023.14815	293059.19312	291555.80357
____ Y2R	17140.40537	17,140.41	0.437	17096.49910	17226.81492	17097.90210
____ ZN	4.46211	11,118.88	0.455	4.48489	4.45549	4.44593
____ ZR	0.99839	3,026.32	0.973	1.00498	1.00296	0.98724

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 15 Date/Time: 11/09/2018 09:36

Sample Number: **9870251** Class: D*** Batch: 183041063701

Initial Vol: 1.04 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00009	-13.37	889.494	0.00067	-0.00083	0.00044
____ AL	45.38980	9,161.22	0.624	45.22223	45.23057	45.71660
____ AS	0.07288	3.18	10.938	0.08208	0.06824	0.06831
____ B	0.04663	1,464.17	7.102	0.04294	0.04760	0.04935
____ BA	0.57116	23,901.95	1.063	0.56469	0.57207	0.57673
____ BE	0.00360	1,502.36	1.392	0.00354	0.00361	0.00364
____ CA	9.70019	12,879.72	0.452	9.68946	9.66270	9.74840
____ CD	0.02294	219.58	3.108	0.02371	0.02280	0.02230
____ CO	0.06783	210.70	0.460	0.06785	0.06751	0.06813
____ CR	0.26630	2,707.09	1.909	0.26075	0.26741	0.27074
____ CU	2.52244	38,818.31	1.469	2.48215	2.53010	2.55508
____ FE	305.44582	96,844.13	0.902	302.84128	305.16345	308.33272
____ K	8.82085	3,227.57	1.037	8.82911	8.72556	8.90789
____ LI	0.09241	536.91	2.793	0.09253	0.08976	0.09492
____ MG	21.37214	44,121.94	0.531	21.30692	21.30642	21.50307
____ MN	1.85020	106,604.07	1.337	1.82491	1.85134	1.87435
____ MO	0.03247	19.27	4.285	0.03359	0.03291	0.03091
____ NA	0.66936	818.45	0.939	0.67496	0.67055	0.66256
____ NI	0.68918	1,368.51	0.497	0.69291	0.68618	0.68844
____ P	2.69823	187.01	0.586	2.70016	2.68155	2.71298
____ PB	1.17231	530.71	0.155	1.17317	1.17353	1.17022
____ S	1.42002	81.95	1.265	1.42978	1.43099	1.39928
____ SB	0.01622	3.19	11.954	0.01805	0.01419	0.01641
____ SE	-0.05011	1.27	24.013	-0.04983	-0.06229	-0.03823
____ SI	10.94592	2,241.77	0.639	10.89791	10.91364	11.02622
____ SN	0.82461	265.74	0.732	0.83152	0.82194	0.82036
____ SR	0.06734	76,032.73	1.403	0.06634	0.06746	0.06822
____ TH	-0.10979	46.26	20.070	-0.08476	-0.12625	-0.11835
____ TI	1.81647	80,284.21	1.295	1.79340	1.81557	1.84043
____ TL	-0.01835	-1.23	23.348	-0.02330	-0.01591	-0.01584
____ V	0.21912	3,977.72	1.805	0.21523	0.21899	0.22314
____ W	-0.02547	10.37	17.091	-0.02055	-0.02881	-0.02704
____ Y1	4163.71382	4,163.71	1.166	4195.32561	4107.81905	4187.99680
____ Y2A	298102.67857	298,102.68	1.359	302534.06085	297187.08664	294586.88823
____ Y2R	17418.34287	17,418.34	0.860	17575.72738	17401.91388	17277.38736
____ ZN	4.54109	11,534.55	1.034	4.52001	4.59489	4.50837
____ ZR	0.05406	145.28	5.089	0.05101	0.05482	0.05635

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 16 Date/Time: 11/09/2018 09:38

Sample Number: **9870251** Class: R*** Batch: 183041063701

Initial Vol: 1.10 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04766	821.40	2.316	0.04892	0.04717	0.04687
____ AL	79.71401	15,750.11	0.548	79.71216	80.15139	79.27849
____ AS	0.23350	19.87	2.326	0.23591	0.22728	0.23731
____ B	2.01105	12,492.42	0.300	2.01768	2.00958	2.00590
____ BA	2.82756	114,813.70	0.377	2.83936	2.82465	2.81866
____ BE	0.05285	23,550.25	0.263	0.05300	0.05274	0.05279
____ CA	15.61140	20,259.78	0.558	15.66161	15.66184	15.51077
____ CD	0.06983	401.00	0.694	0.06990	0.06932	0.07028
____ CO	0.55626	1,594.14	0.411	0.55802	0.55367	0.55708
____ CR	0.43921	4,337.52	0.880	0.44157	0.43475	0.44131
____ CU	2.77771	41,654.22	0.381	2.78572	2.78171	2.76570
____ FE	215.76360	69,277.05	0.739	216.52062	216.83962	213.93056
____ K	30.54512	10,729.29	0.474	30.52224	30.69991	30.41322
____ LI	1.11015	6,418.75	0.354	1.11010	1.11411	1.10624
____ MG	28.37632	57,116.08	0.673	28.39209	28.55880	28.17807
____ MN	2.03587	113,960.41	0.230	2.04123	2.03258	2.03380
____ MO	1.96613	1,133.99	0.452	1.97278	1.95603	1.96958
____ NA	11.11112	13,629.64	0.722	11.12254	11.18500	11.02580
____ NI	1.14899	2,227.98	0.446	1.15256	1.14312	1.15129
____ P	3.86245	261.99	1.214	3.82075	3.85340	3.91320
____ PB	1.74811	797.84	0.492	1.74391	1.74240	1.75800
____ S	2.43681	136.48	0.263	2.43927	2.44162	2.42955
____ SB	0.45230	62.01	1.872	0.45531	0.44274	0.45886
____ SE	0.11810	13.15	6.083	0.12337	0.10991	0.12101
____ SI	28.45763	5,701.42	0.440	28.43818	28.59155	28.34315
____ SN	4.01866	1,266.72	0.244	4.02125	4.00783	4.02690
____ SR	1.09747	919,277.99	0.271	1.10063	1.09473	1.09704
____ TH	0.39728	112.80	2.204	0.39471	0.39009	0.40702
____ TI	3.42649	147,120.28	0.322	3.43904	3.41842	3.42199
____ TL	0.14979	11.82	5.191	0.14081	0.15433	0.15422
____ V	0.75703	12,828.10	0.247	0.75915	0.75563	0.75630
____ W	0.15171	71.00	1.731	0.15443	0.14918	0.15153
____ Y1	4079.24550	4,079.25	0.848	4042.15784	4084.95854	4110.62013
____ Y2A	289578.95172	289,578.95	0.317	288531.49802	290242.55952	289962.79762
____ Y2R	17046.57100	17,046.57	0.431	17020.72927	16989.56669	17129.41705
____ ZN	4.53992	11,286.10	0.829	4.58316	4.52211	4.51448
____ ZR	1.05563	3,167.25	0.657	1.05551	1.06262	1.04876

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 17 Date/Time: 11/09/2018 09:41

Sample Number: **9870251** Class: M*** Batch: 183041063701

Initial Vol: 1.13 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04776	814.79	1.780	0.04689	0.04781	0.04859
____ AL	88.54449	17,702.25	0.309	88.32863	88.45245	88.85240
____ AS	0.20139	17.54	1.633	0.20512	0.19893	0.20010
____ B	2.00706	12,327.48	0.150	2.00570	2.01052	2.00498
____ BA	2.75753	112,854.89	0.370	2.75818	2.76739	2.74702
____ BE	0.05289	23,757.78	0.093	0.05290	0.05284	0.05294
____ CA	15.80848	20,764.00	0.133	15.79269	15.80033	15.83241
____ CD	0.06808	369.31	0.037	0.06805	0.06811	0.06808
____ CO	0.55827	1,597.83	0.619	0.55542	0.56211	0.55728
____ CR	0.43912	4,370.93	0.540	0.43807	0.44184	0.43746
____ CU	1.47066	22,279.96	0.048	1.46986	1.47115	1.47099
____ FE	153.76374	51,129.78	0.149	153.52299	153.78920	153.97904
____ K	31.63025	11,242.31	0.218	31.70953	31.58446	31.59675
____ LI	1.13560	6,645.87	0.356	1.13133	1.13613	1.13936
____ MG	37.29429	75,612.52	0.225	37.29573	37.20983	37.37729
____ MN	4.50064	253,906.70	0.006	4.50086	4.50032	4.50075
____ MO	1.95350	1,124.61	0.840	1.94151	1.97220	1.94679
____ NA	11.20573	13,912.88	0.196	11.22426	11.18142	11.21151
____ NI	1.11026	2,148.88	0.559	1.10604	1.11738	1.10735
____ P	3.28277	222.34	0.623	3.26987	3.30637	3.27207
____ PB	0.99540	454.42	0.351	0.99941	0.99379	0.99300
____ S	2.01761	113.01	0.856	2.01974	2.03372	1.99938
____ SB	0.42920	58.59	1.007	0.43155	0.43184	0.42421
____ SE	0.13056	13.05	7.755	0.14155	0.12851	0.12161
____ SI	32.11988	6,511.69	0.204	32.08967	32.07503	32.19494
____ SN	3.98822	1,254.85	0.503	3.97093	4.01019	3.98353
____ SR	1.09717	922,546.16	0.317	1.09337	1.10020	1.09794
____ TH	0.46267	111.44	3.465	0.46711	0.44488	0.47601
____ TI	3.59277	155,476.54	0.229	3.59018	3.60196	3.58616
____ TL	0.15284	11.56	5.429	0.14329	0.15689	0.15833
____ V	0.78331	13,387.67	0.144	0.78287	0.78459	0.78247
____ W	0.14944	72.21	1.684	0.15197	0.14940	0.14694
____ Y1	4071.79169	4,071.79	0.878	4111.55884	4042.34189	4061.47435
____ Y2A	291862.08674	291,862.09	0.203	291196.26323	292331.51455	292058.48244
____ Y2R	17253.40143	17,253.40	0.410	17217.42273	17334.93910	17207.84245
____ ZN	5.06852	12,557.08	0.859	5.02247	5.10903	5.07406
____ ZR	1.04180	3,176.70	0.933	1.03348	1.03943	1.05249

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 18 Date/Time: 11/09/2018 09:44

Sample Number: **9870251** Class: UL** Batch: 183041063701

Initial Vol: 1.21 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00087	-12.08	123.038	0.00200	-0.00014	0.00076
____ AL	11.98880	2,318.37	0.876	11.96086	12.10497	11.90057
____ AS	0.00982	0.47	42.559	0.00795	0.01461	0.00690
____ B	0.02360	248.37	1.392	0.02357	0.02329	0.02395
____ BA	0.13523	5,663.95	1.026	0.13366	0.13630	0.13572
____ BE	0.00070	165.11	3.262	0.00068	0.00072	0.00071
____ CA	2.10391	2,682.71	0.683	2.09161	2.11971	2.10042
____ CD	0.00403	25.40	2.628	0.00410	0.00409	0.00391
____ CO	0.01150	38.30	0.968	0.01137	0.01155	0.01158
____ CR	0.04534	459.52	1.194	0.04490	0.04594	0.04518
____ CU	0.19843	3,055.20	1.190	0.19672	0.20113	0.19745
____ FE	29.61578	9,915.77	0.781	29.45259	29.88054	29.51420
____ K	2.89830	1,067.33	3.531	2.90148	2.99901	2.79440
____ LI	0.02300	123.67	3.393	0.02248	0.02389	0.02262
____ MG	5.38996	10,708.12	1.146	5.34246	5.45978	5.36763
____ MN	0.71763	41,185.41	1.604	0.70434	0.72417	0.72439
____ MO	0.01284	7.59	8.531	0.01173	0.01288	0.01392
____ NA	0.23855	264.87	5.400	0.23104	0.23118	0.25342
____ NI	0.10855	219.46	0.636	0.10888	0.10776	0.10902
____ P	0.40363	28.06	2.684	0.41034	0.40942	0.39113
____ PB	0.18621	82.86	2.242	0.18646	0.18192	0.19026
____ S	0.21674	13.51	2.930	0.21613	0.22337	0.21071
____ SB	0.00327	0.78	61.517	0.00451	0.00095	0.00435
____ SE	-0.00232	0.69	340.085	-0.01139	0.00158	0.00286
____ SI	3.12264	613.95	1.198	3.09485	3.16519	3.10790
____ SN	0.11650	37.22	0.837	0.11647	0.11553	0.11748
____ SR	0.01835	17,311.76	1.715	0.01799	0.01856	0.01851
____ TH	0.00305	3.06	222.342	0.00799	-0.00468	0.00583
____ TI	0.44710	19,691.05	1.470	0.43958	0.44998	0.45173
____ TL	-0.00667	-0.62	77.163	-0.00404	-0.00336	-0.01260
____ V	0.04127	720.58	1.361	0.04062	0.04156	0.04162
____ W	-0.00571	2.42	19.074	-0.00601	-0.00450	-0.00661
____ Y1	4092.41000	4,092.41	0.884	4074.75500	4134.02000	4068.45500
____ Y2A	296896.02623	296,896.03	1.253	301180.96892	294480.73743	295026.37235
____ Y2R	16620.25498	16,620.25	0.422	16655.53835	16539.49990	16665.72669
____ ZN	0.92279	2,301.66	0.387	0.91886	0.92366	0.92584
____ ZR	0.00645	22.63	24.502	0.00564	0.00828	0.00545

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 19 Date/Time: 11/09/2018 09:46

Sample Number: **9870252** Class: **** Batch: 183041063701

Initial Vol: 1.20 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04926	905.88	1.456	0.04989	0.04940	0.04848
____ AL	41.70972	8,019.37	0.154	41.71667	41.77013	41.64237
____ AS	0.29674	16.10	2.506	0.28857	0.30311	0.29853
____ B	0.15297	4,115.93	3.816	0.15971	0.14974	0.14946
____ BA	10.11267	392,980.62	1.099	10.20544	10.14304	9.98953
____ BE	0.00359	1,393.19	1.348	0.00364	0.00359	0.00354
____ CA	260.79059	319,408.38	0.646	259.57485	262.71354	260.08338
____ CD	0.01578	374.68	1.106	0.01576	0.01562	0.01597
____ CO	0.16225	442.20	0.746	0.16204	0.16117	0.16356
____ CR	0.72167	6,821.77	1.454	0.73265	0.72063	0.71174
____ CU	2.18820	31,286.53	1.071	2.21378	2.18310	2.16773
____ FE	898.45877	209,093.40	0.622	896.07549	904.84125	894.45956
____ K	7.45934	2,613.55	0.741	7.41635	7.52166	7.44001
____ LI	0.15202	736.03	1.104	0.15094	0.15116	0.15395
____ MG	17.16326	33,840.46	0.365	17.12978	17.23549	17.12450
____ MN	5.71038	305,971.82	0.679	5.75411	5.69687	5.68017
____ MO	0.06849	37.14	1.083	0.06930	0.06836	0.06783
____ NA	5.42945	6,474.25	0.181	5.43821	5.43135	5.41879
____ NI	0.47627	869.71	0.813	0.47450	0.47360	0.48071
____ P	13.54389	858.59	1.021	13.42912	13.50510	13.69746
____ PB	13.91295	5,966.85	0.561	13.88270	13.85462	14.00153
____ S	76.55259	3,980.43	0.542	76.31024	76.31603	77.03151
____ SB	0.49911	69.32	2.095	0.49970	0.48836	0.50925
____ SE	-0.15964	2.16	12.476	-0.17817	-0.16218	-0.13858
____ SI	13.46662	2,626.72	0.569	13.50068	13.52037	13.37882
____ SN	7.37637	2,176.39	0.617	7.37585	7.33114	7.42213
____ SR	1.30469	1,082,925.70	1.106	1.31818	1.30643	1.28947
____ TH	-0.57324	95.68	2.850	-0.58610	-0.57877	-0.55485
____ TI	1.78256	73,271.79	0.952	1.80073	1.77979	1.76715
____ TL	-0.05587	-0.25	23.187	-0.05163	-0.07041	-0.04557
____ V	0.40063	6,807.92	1.019	0.40530	0.39883	0.39775
____ W	-0.07038	55.60	5.750	-0.07237	-0.06572	-0.07304
____ Y1	3819.82424	3,819.82	1.118	3826.08544	3859.05457	3774.33270
____ Y2A	277218.17034	277,218.17	1.265	273539.28571	277592.77667	280522.44864
____ Y2R	16597.83994	16,597.84	0.536	16616.19261	16501.17265	16676.15454
____ ZN	20.63936	47,953.71	1.122	20.63162	20.41176	20.87470
____ ZR	0.08828	154.33	3.790	0.08497	0.08821	0.09166

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 20 Date/Time: 11/09/2018 09:49

Sample Number: **9870253** Class: **** Batch: 183041063701

Initial Vol: 1.17 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.01770	287.13	1.338	0.01791	0.01745	0.01776
____ AL	45.94449	8,977.53	0.436	45.74083	45.95178	46.14085
____ AS	0.09250	7.36	6.785	0.09874	0.08619	0.09257
____ B	0.06973	775.98	0.329	0.06971	0.06996	0.06950
____ BA	8.00215	324,227.98	0.566	8.01567	8.03916	7.95162
____ BE	0.00480	1,993.91	0.267	0.00478	0.00481	0.00480
____ CA	102.13693	129,625.81	0.516	101.61055	102.13557	102.66466
____ CD	0.01013	78.99	2.012	0.00991	0.01019	0.01030
____ CO	0.05698	171.66	0.326	0.05676	0.05707	0.05709
____ CR	0.43217	4,259.66	0.243	0.43190	0.43332	0.43127
____ CU	1.82775	27,364.24	0.113	1.82993	1.82750	1.82583
____ FE	100.65203	33,343.39	0.653	100.18486	100.36797	101.40327
____ K	5.65635	2,033.56	1.173	5.64729	5.59502	5.72674
____ LI	0.07760	393.15	2.225	0.07659	0.07960	0.07662
____ MG	8.55642	17,217.28	0.717	8.50175	8.54472	8.62279
____ MN	0.96581	53,960.77	0.258	0.96840	0.96561	0.96343
____ MO	0.02304	13.29	6.045	0.02172	0.02290	0.02450
____ NA	2.32239	2,801.22	0.287	2.31619	2.32945	2.32154
____ NI	0.19893	388.32	0.140	0.19861	0.19906	0.19912
____ P	7.19384	481.57	0.120	7.18784	7.18995	7.20374
____ PB	3.75262	1,711.97	0.302	3.76130	3.73979	3.75675
____ S	17.73103	974.00	0.083	17.71586	17.73185	17.74537
____ SB	0.02448	4.65	16.896	0.02575	0.02783	0.01986
____ SE	-0.00969	1.06	35.042	-0.01290	-0.00614	-0.01003
____ SI	10.20536	2,023.69	0.713	10.14907	10.17944	10.28757
____ SN	0.28078	87.97	1.395	0.28507	0.27738	0.27990
____ SR	0.74630	621,138.67	0.271	0.74461	0.74854	0.74574
____ TH	-0.00515	17.35	331.778	-0.00265	-0.02335	0.01055
____ TI	1.51999	65,142.11	0.145	1.52166	1.52081	1.51750
____ TL	0.00167	-0.51	238.976	-0.00282	0.00302	0.00482
____ V	0.16191	2,825.90	0.181	0.16181	0.16224	0.16169
____ W	-0.02408	13.99	16.340	-0.02016	-0.02406	-0.02803
____ Y1	4030.88160	4,030.88	0.280	4022.11903	4043.61691	4026.90885
____ Y2A	289011.21391	289,011.21	0.358	287830.43406	289447.58598	289755.62169
____ Y2R	16861.80487	16,861.80	0.729	16911.86728	16951.80212	16721.74521
____ ZN	5.41940	13,266.83	0.371	5.43733	5.39769	5.42316
____ ZR	0.03873	115.02	7.645	0.04020	0.04066	0.03532

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 21

Date/Time: 11/09/2018 09:52

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49673	8,565.31	0.299	0.49502	0.49765	0.49752
____ AL	24.84246	4,736.22	0.305	24.75961	24.90811	24.85965
____ AS	0.51475	46.84	0.707	0.51339	0.51888	0.51199
____ B	0.48665	2,826.66	1.017	0.48268	0.48507	0.49220
____ BA	0.50548	20,138.00	0.954	0.49992	0.50851	0.50802
____ BE	0.48040	210,969.10	0.593	0.47751	0.48047	0.48321
____ CA	24.49946	30,510.50	0.496	24.40915	24.63755	24.45170
____ CD	0.50220	2,263.13	0.102	0.50168	0.50222	0.50271
____ CO	0.50642	1,380.36	0.317	0.50763	0.50460	0.50703
____ CR	0.47840	4,628.85	1.046	0.47332	0.47857	0.48332
____ CU	0.49044	7,376.17	0.761	0.48653	0.49080	0.49397
____ FE	25.06547	8,284.73	0.565	24.96091	25.22665	25.00886
____ K	25.41397	8,592.39	0.302	25.32585	25.46528	25.45077
____ LI	0.51230	2,836.05	0.674	0.51566	0.51249	0.50876
____ MG	24.14072	46,801.99	0.548	24.05149	24.29276	24.07792
____ MN	0.49178	26,976.50	0.629	0.48837	0.49258	0.49440
____ MO	0.49400	274.63	0.312	0.49522	0.49227	0.49453
____ NA	25.53584	30,128.95	0.371	25.47933	25.64508	25.48311
____ NI	0.49571	930.05	0.404	0.49695	0.49340	0.49678
____ P	0.48868	32.49	3.451	0.47153	0.48928	0.50524
____ PB	0.50008	221.22	0.501	0.50110	0.49722	0.50191
____ S	24.59653	1,316.25	0.307	24.64433	24.50936	24.63591
____ SB	0.50089	70.05	1.205	0.50512	0.50357	0.49398
____ SE	0.48542	38.52	1.159	0.48281	0.48157	0.49188
____ SI	24.83098	4,778.88	0.274	24.75956	24.89518	24.83819
____ SN	0.48281	146.99	0.137	0.48304	0.48333	0.48207
____ SR	0.51153	415,350.23	0.775	0.50860	0.50994	0.51604
____ TH	0.49108	82.27	0.169	0.49028	0.49102	0.49194
____ TI	0.50796	21,408.19	0.682	0.50440	0.50815	0.51132
____ TL	0.49852	48.05	1.761	0.49936	0.50684	0.48935
____ V	0.49759	8,400.84	0.608	0.49866	0.49994	0.49418
____ W	0.50457	169.50	0.599	0.50635	0.50108	0.50627
____ Y1	3930.25333	3,930.25	0.099	3926.31000	3934.05500	3930.39500
____ Y2A	283718.53666	283,718.54	0.461	285228.17460	283013.99934	282913.43605
____ Y2R	16381.32856	16,381.33	0.388	16316.71825	16383.55106	16443.71636
____ ZN	0.49286	1,190.25	0.510	0.49285	0.49035	0.49538
____ ZR	0.49983	1,495.81	0.551	0.49969	0.49715	0.50265

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 22

Date/Time: 11/09/2018 09:55

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00098	-14.63	52.717	0.00076	0.00061	0.00157
____ AL	0.02229	15.21	34.029	0.01360	0.02759	0.02567
____ AS	0.00143	0.03	306.817	0.00614	0.00073	-0.00257
____ B	0.00392	16.93	17.023	0.00466	0.00371	0.00338
____ BA	0.00031	48.88	73.180	0.00056	0.00022	0.00014
____ BE	0.00004	-137.43	58.811	0.00006	0.00005	0.00002
____ CA	0.01288	34.39	15.523	0.01364	0.01061	0.01438
____ CD	0.00004	-4.18	876.631	-0.00033	0.00005	0.00042
____ CO	0.00000	2.68	1111.339	0.00018	0.00034	-0.00052
____ CR	-0.00008	-0.33	242.158	-0.00031	-0.00004	0.00009
____ CU	-0.00055	15.53	56.431	-0.00025	-0.00087	-0.00054
____ FE	0.01041	1.68	51.465	0.01271	0.00428	0.01422
____ K	0.05939	100.73	46.803	0.06446	0.02941	0.08430
____ LI	0.00071	-1.25	94.671	0.00148	0.00030	0.00034
____ MG	0.00376	6.57	35.554	0.00249	0.00363	0.00515
____ MN	0.00011	14.57	88.564	0.00014	0.00019	0.00000
____ MO	0.00209	1.35	78.183	0.00072	0.00165	0.00391
____ NA	0.07142	63.33	7.221	0.07730	0.06928	0.06767
____ NI	-0.00021	8.63	228.410	-0.00050	-0.00047	0.00034
____ P	-0.00030	0.63	3017.758	-0.01050	0.00328	0.00633
____ PB	-0.00075	-2.79	369.995	-0.00038	-0.00370	0.00183
____ S	0.00819	1.86	110.516	-0.00224	0.01276	0.01406
____ SB	0.00308	0.66	65.074	0.00533	0.00146	0.00246
____ SE	0.00222	0.63	671.345	0.00610	0.01482	-0.01425
____ SI	0.00948	6.92	41.810	0.00615	0.00843	0.01386
____ SN	0.00130	0.74	191.423	-0.00034	0.00417	0.00008
____ SR	0.00004	-6.75	6.309	0.00004	0.00004	0.00004
____ TH	0.02449	0.19	50.339	0.02194	0.01363	0.03788
____ TI	0.00005	15.97	156.098	0.00011	-0.00004	0.00009
____ TL	-0.00128	0.15	180.244	-0.00393	0.00018	-0.00008
____ V	0.00036	-18.70	160.109	0.00022	0.00098	-0.00014
____ W	0.00036	0.79	645.120	0.00255	-0.00210	0.00064
____ Y1	4040.12833	4,040.13	0.345	4048.67500	4024.05000	4047.66000
____ Y2A	294356.56415	294,356.56	0.273	293445.43651	294958.16799	294666.08796
____ Y2R	16282.46822	16,282.47	0.162	16261.09172	16311.97688	16274.33606
____ ZN	0.00006	5.76	1040.516	-0.00039	0.00075	-0.00019
____ ZR	-0.00053	6.34	189.105	-0.00013	-0.00168	0.00021

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 23 Date/Time: 11/09/2018 09:58

Sample Number: **9870254** Class: **** Batch: 183041063701

Initial Vol: 1.29 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04373	740.48	1.277	0.04427	0.04315	0.04377
____ AL	64.20691	12,371.44	0.278	64.20323	64.38741	64.03008
____ AS	0.16667	9.50	5.418	0.16337	0.17689	0.15976
____ B	0.14823	2,365.94	3.132	0.15301	0.14375	0.14791
____ BA	4.25093	162,201.48	1.168	4.29793	4.25587	4.19900
____ BE	0.00462	1,802.33	1.544	0.00470	0.00457	0.00458
____ CA	643.78356	752,492.82	0.788	647.82285	638.08741	645.44041
____ CD	0.08151	492.81	1.206	0.08108	0.08082	0.08264
____ CO	0.07754	229.00	0.369	0.07734	0.07740	0.07786
____ CR	0.31954	2,965.77	1.567	0.32502	0.31520	0.31840
____ CU	28.79495	405,458.58	1.352	29.17341	28.81584	28.39559
____ FE	440.53804	126,460.51	0.356	439.89124	442.32607	439.39681
____ K	12.23965	4,246.48	0.374	12.20883	12.21788	12.29224
____ LI	0.20428	862.32	0.041	0.20435	0.20430	0.20418
____ MG	27.41597	53,896.76	0.027	27.41484	27.42398	27.40910
____ MN	3.35178	176,318.20	1.141	3.39247	3.34633	3.31653
____ MO	0.02948	15.71	2.603	0.03029	0.02877	0.02938
____ NA	14.55812	17,439.18	0.333	14.53763	14.61352	14.52321
____ NI	0.44787	799.07	0.434	0.44671	0.44678	0.45011
____ P	12.82550	794.99	0.361	12.77536	12.83439	12.86673
____ PB	39.89991	16,892.50	0.457	40.11028	39.80224	39.78720
____ S	17.86854	909.53	0.382	17.92724	17.79356	17.88482
____ SB	0.09903	13.98	13.311	0.09570	0.08783	0.11356
____ SE	-0.05920	2.39	13.851	-0.04974	-0.06419	-0.06367
____ SI	31.43726	6,141.35	0.424	31.39344	31.58706	31.33129
____ SN	2.23233	644.42	0.053	2.23337	2.23259	2.23103
____ SR	1.98185	1,562,986.13	1.525	2.01623	1.95944	1.96990
____ TH	-0.20688	57.45	7.900	-0.20811	-0.22257	-0.18996
____ TI	4.25523	171,696.90	1.336	4.32067	4.22698	4.21804
____ TL	-0.01561	-1.72	62.224	-0.01942	-0.00457	-0.02284
____ V	0.29079	4,855.60	1.350	0.29526	0.28792	0.28918
____ W	-0.07490	51.73	3.476	-0.07727	-0.07211	-0.07532
____ Y1	3734.53235	3,734.53	0.576	3710.63330	3740.65061	3752.31315
____ Y2A	272162.87375	272,162.87	1.030	268987.45847	273200.24917	274300.91362
____ Y2R	16640.28115	16,640.28	0.049	16647.39552	16631.50808	16641.93984
____ ZN	20.31232	46,062.29	0.626	20.45588	20.26761	20.21346
____ ZR	0.11694	301.42	2.240	0.11766	0.11912	0.11403

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 24 Date/Time: 11/09/2018 10:01

Sample Number: **9872060** Class: **** Batch: 183041063701

Initial Vol: 1.34 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	0.03210	504.59	1.748	0.03209	0.03266	0.03154
____ AL	k	83.09841	15,986.83	0.516	82.70072	83.04170	83.55283
____ AS	k	0.28106	24.09	5.026	0.29136	0.28685	0.26496
____ B	k	1.18745	6,365.52	1.128	1.18575	1.20161	1.17498
____ BA	k	6.69371	250,610.71	1.173	6.63503	6.78295	6.66316
____ BE		0.00348	1,297.50	1.133	0.00348	0.00352	0.00344
____ CA		302.12260	368,685.52	0.750	299.69726	302.48299	304.18756
____ CD	k	0.23902	1,007.47	0.874	0.24087	0.23945	0.23676
____ CO	k	0.13313	342.81	0.189	0.13339	0.13289	0.13313
____ CR		0.48908	4,454.32	0.867	0.48942	0.49315	0.48468
____ CU	k	3.51883	48,781.45	0.939	3.51975	3.55141	3.48533
____ FE	k	0.00000	456,772.02	0.000	0.00000	0.00000	0.00000
____ K		46.68186	15,947.22	0.538	46.44930	46.64775	46.94852
____ LI	k	0.22929	1,155.27	0.701	0.22744	0.23019	0.23025
____ MG		55.16576	106,720.73	0.479	54.89973	55.16920	55.42836
____ MN		8.40373	433,801.70	0.540	8.41236	8.44417	8.35465
____ MO		0.05674	29.81	2.476	0.05564	0.05832	0.05626
____ NA		5.45085	6,510.05	0.422	5.42496	5.45858	5.46901
____ NI	k	0.44240	783.69	0.471	0.44229	0.44453	0.44037
____ P	k	12.10337	743.02	0.249	12.07293	12.13320	12.10399
____ PB	k	11.88592	4,990.09	0.295	11.92401	11.87873	11.85501
____ S		87.19194	4,389.67	0.220	87.39394	87.17041	87.01147
____ SB	k	0.20758	28.34	0.896	0.20969	0.20689	0.20616
____ SE	k	0.04866	3.96	29.744	0.03712	0.04395	0.06490
____ SI	k	17.54955	3,427.11	0.603	17.42775	17.60147	17.61942
____ SN	k	7.79717	2,227.30	0.313	7.82481	7.78821	7.77849
____ SR	k	1.11695	850,676.36	1.239	1.11088	1.13278	1.10719
____ TH	k	1.27133	206.43	0.667	1.26342	1.27028	1.28029
____ TI	k	8.82015	349,206.32	1.439	8.81142	8.95118	8.69784
____ TL	k	-0.04636	-3.32	9.564	-0.04995	-0.04141	-0.04773
____ V	k	0.30715	4,905.55	0.806	0.30690	0.30974	0.30481
____ W	k	0.09287	29.52	2.756	0.09581	0.09115	0.09165
____ Y1		3698.49533	3,698.50	1.234	3657.80563	3689.81407	3747.86628
____ Y2A		267065.64230	267,065.64	0.933	267393.93688	264426.74419	269376.24585
____ Y2R		16624.20120	16,624.20	0.888	16740.83417	16673.61942	16458.15000
____ ZN	k	12.72531	28,525.29	1.431	12.88402	12.76534	12.52656
____ ZR	k	0.06622	192.75	4.521	0.06504	0.06399	0.06962

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 25 Date/Time: 11/09/2018 10:04

Sample Number: **9872061** Class: **** Batch: 183041063701

Initial Vol: 1.41 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	0.03847	613.70	1.919	0.03868	0.03765	0.03908
____ AL	k	105.27891	20,127.66	0.701	104.42951	105.75755	105.64967
____ AS	k	0.97131	84.36	1.199	0.96570	0.98470	0.96353
____ B	k	1.42015	7,667.42	0.813	1.42620	1.42743	1.40683
____ BA	k	10.99389	414,475.55	0.613	10.96315	11.07114	10.94737
____ BE		0.00426	1,633.14	1.537	0.00423	0.00434	0.00422
____ CA		346.20176	417,692.85	1.658	339.67245	350.45053	348.48230
____ CD	k	0.22135	942.33	0.675	0.21992	0.22290	0.22123
____ CO	k	0.26587	689.15	0.728	0.26583	0.26782	0.26395
____ CR		0.51283	4,703.05	1.137	0.51498	0.51727	0.50622
____ CU	k	3.26646	45,638.55	0.862	3.27525	3.28919	3.23494
____ FE	k	0.00000	460,228.74	0.000	0.00000	0.00000	0.00000
____ K		63.51373	21,542.85	0.713	63.02043	63.91077	63.60999
____ LI	k	0.30552	1,557.23	1.350	0.30101	0.30647	0.30909
____ MG		64.02562	122,550.21	0.716	63.52431	64.42270	64.12987
____ MN		8.35397	434,229.82	1.022	8.39817	8.40814	8.25559
____ MO		0.07900	41.88	0.516	0.07855	0.07933	0.07913
____ NA		8.58067	10,200.88	0.928	8.48869	8.62562	8.62771
____ NI	k	0.67868	1,210.21	0.328	0.67641	0.68085	0.67880
____ P	k	18.77824	1,164.28	0.896	18.71966	18.96791	18.64717
____ PB	k	13.23901	5,615.71	0.499	13.23473	13.30707	13.17523
____ S		98.65454	5,017.68	0.875	97.85001	99.56585	98.54776
____ SB	k	0.18686	25.88	4.436	0.19473	0.18762	0.17821
____ SE	k	0.03993	3.35	70.351	0.01656	0.03214	0.07110
____ SI	k	16.50143	3,204.30	0.503	16.40613	16.55835	16.53982
____ SN	k	10.06997	2,906.10	0.624	10.07981	10.12732	10.00278
____ SR	k	1.35992	1,042,972.62	1.008	1.36385	1.37123	1.34467
____ TH	k	1.33044	214.96	0.427	1.32399	1.33256	1.33475
____ TI	k	12.01736	479,113.65	1.202	12.08651	12.11418	11.85140
____ TL	k	-0.05809	-4.48	8.741	-0.05444	-0.05594	-0.06389
____ V	k	0.39112	6,295.34	0.674	0.39218	0.39306	0.38812
____ W	k	0.10264	32.90	4.151	0.10750	0.10088	0.09954
____ Y1		3736.59597	3,736.60	0.582	3751.49485	3711.65301	3746.64004
____ Y2A		268931.14618	268,931.15	1.001	267671.34551	267101.32890	272020.76412
____ Y2R		16528.59069	16,528.59	0.642	16648.74650	16447.81262	16489.21294
____ ZN	k	12.92096	29,264.83	0.685	12.85647	13.02186	12.88454
____ ZR	k	0.07116	205.72	0.954	0.07156	0.07154	0.07037

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 26 Date/Time: 11/09/2018 10:07

Sample Number: **9872062** Class: **** Batch: 183041063701

Initial Vol: 1.25 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	0.02029	311.06	0.275	0.02029	0.02034	0.02023
____ AL	k	67.96003	12,904.20	0.510	68.29751	67.97702	67.60555
____ AS	k	0.26538	22.76	1.394	0.26376	0.26961	0.26276
____ B	k	0.99158	5,322.15	1.026	0.98013	0.99957	0.99504
____ BA	k	20.66580	774,755.49	0.845	20.48012	20.82694	20.69035
____ BE		0.00394	1,491.81	0.892	0.00391	0.00398	0.00395
____ CA		341.99495	409,661.36	0.534	341.07852	340.80667	344.09967
____ CD	k	0.15292	643.36	0.407	0.15345	0.15309	0.15223
____ CO	k	0.15709	404.19	0.096	0.15726	0.15696	0.15705
____ CR		0.63424	5,784.28	0.898	0.62767	0.63770	0.63735
____ CU	k	4.47584	62,105.13	1.179	4.42113	4.47992	4.52646
____ FE	k	0.00000	366,353.09	0.000	0.00000	0.00000	0.00000
____ K		9.47509	3,258.31	0.590	9.47099	9.42137	9.53291
____ LI	k	0.14794	668.80	1.005	0.14632	0.14923	0.14827
____ MG		26.80147	51,946.96	0.189	26.83509	26.82611	26.74319
____ MN		4.89199	252,870.28	1.150	4.83107	4.90284	4.94206
____ MO		0.08221	43.14	2.834	0.08353	0.08358	0.07952
____ NA		7.90397	9,322.29	0.543	7.95303	7.87368	7.88518
____ NI	k	0.66118	1,167.54	0.672	0.66578	0.66086	0.65691
____ P	k	15.92483	977.76	0.240	15.88249	15.95657	15.93544
____ PB	k	8.45017	3,548.20	0.306	8.46587	8.46429	8.42035
____ S		59.47092	2,995.43	0.044	59.45304	59.50089	59.45883
____ SB	k	0.12625	17.89	7.184	0.11578	0.13176	0.13120
____ SE	k	0.02994	2.60	44.094	0.01847	0.02698	0.04438
____ SI	k	17.29938	3,333.04	0.113	17.31988	17.29745	17.28080
____ SN	k	3.63732	1,039.52	0.435	3.65544	3.63033	3.62618
____ SR	k	1.59410	1,215,825.46	0.759	1.58015	1.60046	1.60169
____ TH	k	1.04409	166.58	1.513	1.02678	1.05775	1.04773
____ TI	k	2.15706	85,533.00	0.992	2.13568	2.15702	2.17849
____ TL	k	-0.01149	-0.37	120.626	0.00410	-0.01616	-0.02241
____ V	k	0.27582	4,402.27	1.017	0.27258	0.27733	0.27755
____ W	k	0.13582	42.91	1.082	0.13745	0.13460	0.13539
____ Y1		3699.73044	3,699.73	1.008	3661.65951	3701.30253	3736.22928
____ Y2A		267440.61462	267,440.61	1.081	270440.03322	267209.30233	264672.50831
____ Y2R		16400.48686	16,400.49	0.578	16407.65204	16491.45854	16302.35000
____ ZN	k	15.90626	35,667.99	1.095	16.07188	15.92242	15.72450
____ ZR	k	0.07242	207.70	3.478	0.07244	0.07493	0.06989

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 27 Date/Time: 11/09/2018 10:10

Sample Number: **9872063** Class: **** Batch: 183041063701

Initial Vol: 1.35 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	0.02827	463.48	2.935	0.02804	0.02758	0.02919
____ AL	k	71.53075	13,746.49	0.662	71.97221	71.03097	71.58908
____ AS	k	0.32527	29.35	2.143	0.32931	0.32928	0.31722
____ B	k	0.77565	4,360.32	0.653	0.77900	0.76982	0.77811
____ BA	k	16.74645	657,757.32	0.231	16.72114	16.72729	16.79091
____ BE		0.00574	2,343.90	0.461	0.00576	0.00571	0.00576
____ CA		89.30797	111,766.05	0.376	89.61555	88.94966	89.35871
____ CD	k	0.13868	612.81	1.029	0.13911	0.13985	0.13709
____ CO	k	0.13642	369.26	0.552	0.13629	0.13723	0.13575
____ CR		0.48057	4,591.99	0.527	0.48346	0.47870	0.47957
____ CU	k	27.52979	398,904.82	0.981	27.63892	27.22234	27.72811
____ FE	k	0.00000	300,393.28	0.000	0.00000	0.00000	0.00000
____ K		6.80496	2,392.01	0.949	6.85509	6.73210	6.82768
____ LI	k	0.08560	437.73	2.225	0.08388	0.08765	0.08526
____ MG		9.02542	17,875.70	0.651	9.07395	8.96009	9.04221
____ MN		4.09739	221,899.26	0.778	4.11214	4.06080	4.11923
____ MO		0.11716	64.55	1.360	0.11827	0.11787	0.11534
____ NA		6.83957	8,162.30	0.358	6.84911	6.81172	6.85787
____ NI	k	0.68714	1,275.02	0.202	0.68706	0.68857	0.68580
____ P	k	25.15043	1,622.62	0.334	25.10248	25.10133	25.24748
____ PB	k	47.15704	20,821.97	0.775	47.49950	47.19903	46.77258
____ S	k	17.82178	944.47	0.134	17.79512	17.82915	17.84108
____ SB	k	0.16969	24.39	9.771	0.18511	0.17182	0.15215
____ SE	k	0.02610	2.43	95.892	0.03093	-0.00099	0.04837
____ SI	k	25.85705	5,039.67	0.461	25.99444	25.79676	25.77995
____ SN	k	5.84502	1,755.56	0.079	5.84486	5.84971	5.84049
____ SR	k	1.08583	867,629.79	0.541	1.08641	1.07968	1.09139
____ TH	k	0.85661	137.63	0.708	0.85196	0.85438	0.86347
____ TI	k	3.80489	158,056.63	0.893	3.82293	3.76569	3.82605
____ TL	k	-0.02987	-2.28	28.964	-0.02232	-0.02798	-0.03931
____ V	k	0.30358	5,072.91	0.363	0.30466	0.30246	0.30362
____ W	k	0.11581	38.55	2.846	0.11551	0.11925	0.11268
____ Y1		3888.52032	3,888.52	0.687	3861.61187	3888.93660	3915.01249
____ Y2A		280181.38392	280,181.38	0.637	279757.20676	282140.15905	278646.78595
____ Y2R		16599.70399	16,599.70	1.205	16721.29222	16368.90366	16708.91608
____ ZN	k	14.48215	34,133.46	0.772	14.59595	14.47811	14.37239
____ ZR	k	0.07460	216.44	2.191	0.07614	0.07288	0.07477

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 28 Date/Time: 11/09/2018 10:14

Sample Number: **9872064** Class: **** Batch: 183041063701

Initial Vol: 1.33 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.04115	846.50	3.206	0.04254	0.03991	0.04099
____ AL	51.96669	10,138.77	0.565	51.75815	52.30220	51.83971
____ AS	0.36824	19.62	1.846	0.36169	0.36778	0.37526
____ B	-0.12247	3,696.00	7.585	-0.11810	-0.13314	-0.11617
____ BA	10.54085	417,747.78	0.463	10.59029	10.53965	10.49261
____ BE	0.00466	1,890.47	0.467	0.00463	0.00467	0.00467
____ CA	173.81548	218,590.15	0.489	173.22002	174.78901	173.43740
____ CD	0.05332	651.31	1.931	0.05366	0.05217	0.05414
____ CO	0.10934	316.06	0.209	0.10940	0.10909	0.10953
____ CR	2.25842	21,771.55	0.653	2.27311	2.25857	2.24359
____ CU	18.52835	270,581.50	0.701	18.66727	18.50786	18.40991
____ FE	1185.34350	239,737.62	1.441	1174.85028	1205.05820	1176.12201
____ K	13.10223	4,599.26	0.624	13.01626	13.17898	13.11145
____ LI	0.12234	616.92	1.562	0.12444	0.12071	0.12187
____ MG	22.21429	44,366.22	0.386	22.11773	22.28133	22.24379
____ MN	4.32358	236,254.53	0.704	4.35652	4.31767	4.29654
____ MO	0.10665	58.97	0.958	0.10568	0.10657	0.10772
____ NA	8.94224	10,843.84	0.464	8.92207	8.98999	8.91467
____ NI	0.77795	1,445.88	0.148	0.77911	0.77792	0.77682
____ P	10.10798	654.65	0.394	10.06208	10.13280	10.12906
____ PB	9.42860	4,085.78	0.141	9.42761	9.41580	9.44239
____ S	112.24738	5,960.22	1.005	111.10578	113.36088	112.27546
____ SB	0.10658	19.52	3.333	0.10895	0.10828	0.10249
____ SE	-0.20396	3.33	1.973	-0.19933	-0.20588	-0.20666
____ SI	18.76213	3,715.04	0.856	18.65543	18.94688	18.68408
____ SN	2.69556	812.72	0.362	2.68770	2.69252	2.70647
____ SR	0.87153	771,947.97	0.453	0.87322	0.87436	0.86703
____ TH	-0.87205	110.06	3.423	-0.85583	-0.90651	-0.85382
____ TI	2.85143	119,521.52	0.800	2.87660	2.84559	2.83211
____ TL	-0.07715	-0.39	8.759	-0.07183	-0.07487	-0.08475
____ V	0.28140	4,956.46	0.488	0.27985	0.28247	0.28188
____ W	-0.05884	92.81	7.319	-0.05459	-0.06320	-0.05873
____ Y1	3901.42611	3,901.43	1.070	3944.01679	3860.57097	3899.69056
____ Y2A	282700.35343	282,700.35	0.587	281013.58516	282758.44930	284329.02584
____ Y2R	16858.22357	16,858.22	0.636	16940.18053	16736.95370	16897.53648
____ ZN	29.03334	68,881.78	1.135	28.69284	29.35041	29.05676
____ ZR	0.12903	221.22	2.918	0.12635	0.13333	0.12741

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 29 Date/Time: 11/09/2018 10:16

Sample Number: **9872065** Class: **** Batch: 183041063701

Initial Vol: 1.44 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.25887	4,683.94	0.517	0.26021	0.25754	0.25885
____ AL	100.00409	20,422.56	0.284	99.69446	100.25260	100.06520
____ AS	0.11328	6.61	11.044	0.11936	0.12158	0.09889
____ B	0.11467	1,931.27	2.648	0.11597	0.11684	0.11120
____ BA	7.79563	322,499.28	0.472	7.83739	7.78141	7.76809
____ BE	0.00666	2,887.81	1.088	0.00668	0.00672	0.00658
____ CA	164.79565	217,234.31	0.165	164.52775	165.07019	164.78902
____ CD	0.12297	683.09	1.650	0.12183	0.12177	0.12531
____ CO	0.07184	219.57	2.020	0.07087	0.07113	0.07351
____ CR	1.03956	10,461.06	0.490	1.04539	1.03736	1.03594
____ CU	14.47258	220,856.46	0.275	14.51822	14.45435	14.44518
____ FE	327.50978	104,329.22	0.263	326.52732	328.12775	327.87427
____ K	13.64156	5,010.12	0.306	13.64238	13.68293	13.59937
____ LI	0.15373	838.43	1.483	0.15255	0.15636	0.15228
____ MG	37.62279	78,020.18	0.396	37.45100	37.69883	37.71854
____ MN	3.29618	188,010.92	0.284	3.30621	3.29466	3.28767
____ MO	0.01072	6.27	14.124	0.01165	0.00897	0.01153
____ NA	7.84117	9,952.97	0.243	7.85091	7.81922	7.85339
____ NI	1.19473	2,293.27	1.385	1.18457	1.18580	1.21382
____ P	142.99443	9,575.61	0.898	142.98358	141.71629	144.28342
____ PB	5.02315	2,284.30	1.112	4.99143	4.99039	5.08761
____ S	21.88594	1,204.03	1.545	21.69274	21.68873	22.27634
____ SB	0.04081	8.39	12.859	0.04344	0.03476	0.04422
____ SE	-0.01068	4.36	63.093	-0.01698	-0.01149	-0.00357
____ SI	26.60646	5,513.28	0.180	26.55217	26.64210	26.62510
____ SN	2.07869	648.94	1.559	2.06318	2.05697	2.11593
____ SR	1.41611	1,211,754.13	0.428	1.41174	1.42303	1.41355
____ TH	-0.12591	49.07	14.842	-0.10740	-0.14477	-0.12557
____ TI	2.52822	110,634.21	0.293	2.53423	2.53047	2.51994
____ TL	-0.01156	-1.48	97.927	-0.02413	-0.00833	-0.00220
____ V	0.38486	6,901.67	1.126	0.38866	0.38579	0.38014
____ W	-0.08581	65.95	3.556	-0.08909	-0.08306	-0.08527
____ Y1	4037.65043	4,037.65	0.993	4027.37631	4081.88587	4003.68910
____ Y2A	295085.15212	295,085.15	0.203	294444.44444	295183.28373	295627.72817
____ Y2R	17650.47694	17,650.48	0.242	17692.07134	17606.77603	17652.58345
____ ZN	23.76811	58,242.36	0.895	23.82958	23.53129	23.94345
____ ZR	0.02791	64.92	11.263	0.02460	0.03086	0.02828

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 30 Date/Time: 11/09/2018 10:19

Sample Number: **9874411** Class: **** Batch: 183041063701

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00195	-61.49	39.090	-0.00227	-0.00250	-0.00108
____ AL	81.99808	16,109.06	0.022	81.99361	82.01774	81.98287
____ AS	0.06145	2.86	12.373	0.07009	0.05580	0.05846
____ B	0.05639	1,249.47	8.851	0.05636	0.06140	0.05142
____ BA	0.26604	11,003.69	0.766	0.26464	0.26837	0.26509
____ BE	0.00571	2,445.78	1.112	0.00569	0.00578	0.00566
____ CA	9.68247	12,527.41	0.115	9.68357	9.69304	9.67081
____ CD	0.00405	105.26	7.282	0.00435	0.00401	0.00377
____ CO	0.12567	390.43	0.401	0.12617	0.12568	0.12516
____ CR	0.39904	4,002.24	1.750	0.39794	0.40651	0.39267
____ CU	0.19791	2,945.33	1.987	0.19836	0.20160	0.19378
____ FE	240.76556	76,250.31	0.371	239.75892	241.46076	241.07698
____ K	12.01545	4,253.46	0.269	12.04012	11.97881	12.02742
____ LI	0.10479	594.66	1.304	0.10606	0.10497	0.10335
____ MG	26.01065	52,194.57	0.489	25.86414	26.07507	26.09273
____ MN	1.50501	85,559.36	1.154	1.48646	1.52087	1.50770
____ MO	0.00287	1.85	58.691	0.00469	0.00257	0.00136
____ NA	1.00389	1,206.69	0.861	1.01110	1.00625	0.99431
____ NI	1.01171	2,004.72	0.365	1.00765	1.01489	1.01258
____ P	1.91855	133.17	0.880	1.90461	1.91372	1.93733
____ PB	0.14896	56.33	2.327	0.14717	0.14676	0.15296
____ S	37.71505	2,138.61	0.476	37.51173	37.78226	37.85115
____ SB	0.00750	2.29	23.658	0.00788	0.00905	0.00556
____ SE	-0.03768	0.99	7.700	-0.04087	-0.03695	-0.03521
____ SI	13.91187	2,774.70	0.171	13.93870	13.90378	13.89312
____ SN	0.02084	7.47	15.019	0.01770	0.02396	0.02086
____ SR	0.05528	60,969.10	1.489	0.05436	0.05594	0.05554
____ TH	-0.04785	41.25	26.682	-0.06105	-0.04694	-0.03557
____ TI	3.63470	158,490.95	0.665	3.61708	3.66226	3.62475
____ TL	-0.00931	-2.63	112.125	-0.00935	-0.01972	0.00115
____ V	0.26993	4,845.49	1.185	0.26959	0.27329	0.26692
____ W	-0.00324	0.79	15.930	-0.00264	-0.00352	-0.00356
____ Y1	4163.76500	4,163.77	0.894	4121.31000	4179.20000	4190.78500
____ Y2A	294104.59652	294,104.60	0.753	295955.68783	291649.93373	294708.16799
____ Y2R	16972.52500	16,972.53	0.085	16963.98263	16989.14237	16964.45000
____ ZN	0.30463	836.19	0.213	0.30390	0.30486	0.30514
____ ZR	0.05962	168.98	6.218	0.06213	0.06137	0.05536

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 31 Date/Time: 11/09/2018 10:22

Sample Number: **9874412** Class: **** Batch: 183041063701

Initial Vol: 1.14 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.06626	1,157.43	1.483	0.06729	0.06534	0.06613
____ AL	60.73717	11,949.06	0.323	60.55486	60.71207	60.94459
____ AS	0.18121	12.98	0.202	0.18117	0.18086	0.18159
____ B	0.18960	2,255.80	1.912	0.19360	0.18653	0.18867
____ BA	6.54687	262,168.00	0.480	6.56113	6.56862	6.51085
____ BE	0.00627	2,623.71	1.150	0.00636	0.00623	0.00623
____ CA	177.60978	224,914.70	0.181	177.24409	177.73486	177.85040
____ CD	0.02507	224.01	1.300	0.02509	0.02538	0.02473
____ CO	0.07753	233.71	1.266	0.07671	0.07728	0.07862
____ CR	0.54240	5,283.49	1.210	0.54964	0.54070	0.53685
____ CU	2.17832	32,204.45	0.381	2.18757	2.17592	2.17148
____ FE	316.55669	97,442.70	0.326	315.38940	317.34687	316.93381
____ K	15.35134	5,414.32	0.634	15.24094	15.38821	15.42486
____ LI	0.13918	716.95	0.980	0.14003	0.13992	0.13761
____ MG	19.22314	38,739.29	0.272	19.19600	19.28331	19.19010
____ MN	2.85486	157,623.45	0.349	2.86276	2.85816	2.84366
____ MO	0.03379	19.20	3.008	0.03299	0.03345	0.03494
____ NA	13.18895	16,122.57	0.339	13.14709	13.18368	13.23608
____ NI	0.37712	720.26	0.341	0.37568	0.37750	0.37817
____ P	7.04101	466.24	0.608	6.99167	7.06347	7.06788
____ PB	5.82777	2,616.94	0.339	5.80592	5.83294	5.84444
____ S	37.46907	2,034.39	0.468	37.26972	37.60048	37.53700
____ SB	0.07931	12.59	5.727	0.08270	0.07415	0.08109
____ SE	-0.05440	1.06	29.574	-0.06739	-0.03640	-0.05939
____ SI	18.57855	3,706.39	0.336	18.51874	18.57351	18.64340
____ SN	0.67097	207.23	0.225	0.66923	0.67189	0.67179
____ SR	1.04889	873,120.87	0.875	1.04807	1.05845	1.04016
____ TH	-0.11958	45.96	10.216	-0.10549	-0.12596	-0.12728
____ TI	2.62145	111,026.59	0.261	2.62650	2.62416	2.61367
____ TL	-0.00677	-1.65	149.390	0.00301	-0.01717	-0.00614
____ V	0.48802	8,449.69	0.998	0.49354	0.48622	0.48431
____ W	0.10060	55.21	2.116	0.09901	0.10302	0.09978
____ Y1	3987.28419	3,987.28	1.334	4020.66793	4015.23281	3925.95183
____ Y2A	285634.20705	285,634.21	0.459	285346.33863	284491.38502	287064.89749
____ Y2R	16983.10672	16,983.11	0.122	16987.55487	16960.46581	17001.29948
____ ZN	5.29648	12,868.77	1.406	5.23613	5.27360	5.37970
____ ZR	0.10010	274.28	4.481	0.09502	0.10181	0.10349

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 32 Date/Time: 11/09/2018 10:25

Sample Number: **9874413** Class: **** Batch: 183041063701

Initial Vol: 1.34 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.03381	577.31	1.234	0.03393	0.03334	0.03415
____ AL	29.55756	5,833.85	0.405	29.51493	29.69290	29.46485
____ AS	0.13861	11.18	9.067	0.15220	0.13621	0.12741
____ B	0.05725	906.29	1.111	0.05730	0.05659	0.05786
____ BA	2.95469	120,274.86	0.476	2.94387	2.94961	2.97058
____ BE	0.00372	1,516.28	1.090	0.00375	0.00367	0.00372
____ CA	96.71625	123,772.34	0.032	96.72702	96.74051	96.68122
____ CD	0.02020	145.57	1.579	0.02037	0.02040	0.01983
____ CO	0.05127	158.08	0.705	0.05163	0.05127	0.05090
____ CR	0.18760	1,857.64	0.761	0.18839	0.18595	0.18846
____ CU	1.29985	19,548.23	0.370	1.29670	1.29745	1.30539
____ FE	152.06037	49,825.25	0.045	152.12286	151.98713	152.07113
____ K	4.02013	1,480.88	1.888	3.93323	4.05360	4.07355
____ LI	0.07683	394.15	1.423	0.07587	0.07661	0.07802
____ MG	6.90744	14,018.28	0.244	6.92671	6.89997	6.89565
____ MN	1.13069	63,453.08	0.632	1.12653	1.12659	1.13894
____ MO	0.03576	20.73	1.778	0.03636	0.03509	0.03582
____ NA	1.98041	2,403.87	0.445	1.97324	1.99026	1.97774
____ NI	0.35218	687.98	0.509	0.35246	0.35381	0.35026
____ P	4.12816	279.34	0.857	4.08777	4.15378	4.14292
____ PB	4.73280	2,175.90	0.440	4.72925	4.75515	4.71400
____ S	66.40050	3,679.52	0.268	66.54537	66.45406	66.20209
____ SB	0.06888	10.54	14.999	0.07334	0.05707	0.07623
____ SE	-0.00859	2.08	168.983	-0.02515	0.00190	-0.00251
____ SI	7.10804	1,421.76	0.521	7.08201	7.15044	7.09168
____ SN	0.42849	135.18	0.275	0.42727	0.42963	0.42857
____ SR	0.63755	536,945.25	1.035	0.63464	0.63291	0.64511
____ TH	-0.02560	25.41	6.009	-0.02497	-0.02448	-0.02735
____ TI	1.60369	69,036.62	0.559	1.59593	1.60163	1.61352
____ TL	0.01007	-2.20	25.141	0.00778	0.00965	0.01279
____ V	0.80224	14,042.63	0.566	0.79810	0.80153	0.80709
____ W	-0.06000	41.66	1.510	-0.05956	-0.05940	-0.06104
____ Y1	4070.49836	4,070.50	0.315	4081.00349	4074.28529	4056.20631
____ Y2A	290308.77976	290,308.78	0.726	291299.43783	291737.59921	287889.30225
____ Y2R	16990.95593	16,990.96	0.140	17000.62325	17008.37500	16963.86952
____ ZN	15.36224	37,937.50	0.293	15.34024	15.33245	15.41405
____ ZR	0.04051	117.40	1.744	0.04099	0.03970	0.04085

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 33

Date/Time: 11/09/2018 10:27

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49472	8,558.72	0.964	0.49189	0.50022	0.49204
____ AL	24.78175	4,699.27	0.409	24.89605	24.74616	24.70303
____ AS	0.50048	45.96	1.689	0.49125	0.50233	0.50785
____ B	0.48765	2,842.32	1.392	0.48348	0.49549	0.48400
____ BA	0.50029	20,001.88	1.500	0.49417	0.50866	0.49804
____ BE	0.48058	211,799.91	0.789	0.47702	0.48457	0.48015
____ CA	24.51523	30,365.35	0.136	24.55203	24.48686	24.50681
____ CD	0.49617	2,257.00	0.158	0.49627	0.49533	0.49689
____ CO	0.50036	1,376.75	0.127	0.50035	0.49972	0.50099
____ CR	0.47697	4,631.40	1.034	0.47575	0.48239	0.47276
____ CU	0.49407	7,458.16	1.617	0.49116	0.50311	0.48795
____ FE	24.93857	8,198.71	0.025	24.93998	24.93172	24.94401
____ K	25.48511	8,569.77	0.219	25.47091	25.54664	25.43777
____ LI	0.51221	2,820.26	0.376	0.51259	0.51012	0.51391
____ MG	24.22235	46,705.16	0.066	24.21762	24.20921	24.24020
____ MN	0.49179	27,072.88	0.827	0.48872	0.49640	0.49025
____ MO	0.49158	275.87	0.468	0.49412	0.49097	0.48965
____ NA	25.47301	29,892.50	0.297	25.55526	25.45707	25.40670
____ NI	0.49138	930.69	0.208	0.49237	0.49032	0.49144
____ P	0.47901	32.16	2.024	0.46783	0.48496	0.48426
____ PB	0.49877	222.73	1.147	0.50417	0.49277	0.49937
____ S	24.43924	1,320.16	0.197	24.39128	24.43877	24.48767
____ SB	0.49641	70.09	1.090	0.49734	0.49059	0.50129
____ SE	0.49753	39.82	0.703	0.50078	0.49383	0.49798
____ SI	24.77664	4,742.68	0.188	24.80361	24.72279	24.80354
____ SN	0.47653	146.45	0.599	0.47917	0.47350	0.47691
____ SR	0.50803	413,978.66	0.786	0.50478	0.51249	0.50682
____ TH	0.49759	82.84	5.789	0.51880	0.46480	0.50916
____ TI	0.50678	21,434.64	0.706	0.50337	0.51051	0.50646
____ TL	0.49368	48.00	1.766	0.50361	0.48728	0.49016
____ V	0.50044	8,480.87	0.402	0.50137	0.49814	0.50182
____ W	0.49478	167.81	0.435	0.49723	0.49318	0.49393
____ Y1	3967.27833	3,967.28	0.824	3999.65500	3934.26000	3967.92000
____ Y2A	284736.85510	284,736.86	0.945	287085.64815	281801.77270	285323.14447
____ Y2R	16293.08404	16,293.08	0.657	16170.63571	16368.94196	16339.67446
____ ZN	0.48595	1,184.77	0.299	0.48685	0.48427	0.48672
____ ZR	0.50144	1,493.34	1.742	0.50401	0.50860	0.49171

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 34

Date/Time: 11/09/2018 10:30

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00122	-12.65	31.277	0.00138	0.00150	0.00079
____ AL	-0.00314	10.56	617.624	0.01918	-0.01579	-0.01281
____ AS	0.00206	0.09	221.627	-0.00242	0.00672	0.00188
____ B	0.00292	11.13	15.528	0.00323	0.00240	0.00312
____ BA	0.00027	47.79	75.107	0.00030	0.00046	0.00005
____ BE	0.00002	-147.93	68.668	0.00002	0.00004	0.00001
____ CA	0.01153	32.76	19.218	0.01016	0.01035	0.01409
____ CD	0.00010	-3.98	76.439	0.00003	0.00018	0.00008
____ CO	0.00018	3.22	167.047	-0.00013	0.00046	0.00020
____ CR	-0.00035	-2.98	139.683	-0.00047	-0.00075	0.00019
____ CU	-0.00009	25.60	690.588	-0.00038	-0.00050	0.00061
____ FE	0.01445	3.01	46.798	0.01468	0.02110	0.00758
____ K	0.08735	110.28	38.890	0.11952	0.05183	0.09071
____ LI	-0.00177	-14.98	19.406	-0.00177	-0.00212	-0.00143
____ MG	0.00315	5.35	62.559	0.00228	0.00541	0.00176
____ MN	0.00010	13.68	17.657	0.00010	0.00008	0.00011
____ MO	0.00213	1.39	51.221	0.00096	0.00233	0.00312
____ NA	0.05344	42.33	15.360	0.05290	0.04551	0.06190
____ NI	-0.00021	8.74	204.962	-0.00071	0.00005	0.00003
____ P	0.00546	1.03	97.422	0.01159	0.00248	0.00230
____ PB	-0.00166	-3.26	170.157	-0.00469	-0.00121	0.00091
____ S	0.02332	2.73	65.019	0.03283	0.00583	0.03129
____ SB	0.00087	0.35	376.272	-0.00223	0.00054	0.00431
____ SE	-0.00131	0.35	281.812	-0.00546	0.00154	0.00001
____ SI	0.01292	7.57	57.510	0.00901	0.02148	0.00826
____ SN	0.00071	0.56	128.404	0.00047	-0.00006	0.00170
____ SR	0.00006	6.52	13.571	0.00006	0.00006	0.00005
____ TH	0.03194	1.41	60.474	0.05152	0.03141	0.01290
____ TI	0.00024	24.04	56.091	0.00037	0.00011	0.00022
____ TL	-0.00277	0.00	120.478	0.00089	-0.00566	-0.00355
____ V	0.00018	-21.70	279.409	0.00076	-0.00020	-0.00002
____ W	0.00006	0.69	3349.039	0.00185	-0.00235	0.00069
____ Y1	4095.66167	4,095.66	0.116	4095.01500	4091.26500	4100.70500
____ Y2A	297049.30004	297,049.30	0.549	295260.08598	298454.86111	297432.95304
____ Y2R	16297.14963	16,297.15	1.728	16541.58342	15989.13910	16360.72639
____ ZN	0.00001	5.71	2456.824	0.00006	-0.00016	0.00012
____ ZR	-0.00164	4.58	28.531	-0.00110	-0.00192	-0.00189

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 35

Date/Time: 11/09/2018 10:33

Sample Number: **Z872060**

Protocol Symbol: DU

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	0.03236	515.92	1.244	0.03190	0.03257	0.03262
____ AL	k	82.73455	15,839.80	0.313	82.96596	82.45521	82.78249
____ AS	k	0.28144	24.15	6.128	0.27143	0.27153	0.30135
____ B	k	1.17606	6,390.10	0.727	1.17953	1.18234	1.16632
____ BA	k	6.56424	249,093.06	1.244	6.59358	6.62719	6.47193
____ BE		0.00343	1,295.89	0.467	0.00344	0.00345	0.00342
____ CA		302.47402	367,304.30	0.951	301.95068	299.89384	305.57753
____ CD	k	0.23755	1,002.30	0.147	0.23741	0.23729	0.23795
____ CO	k	0.13174	339.58	0.053	0.13182	0.13168	0.13172
____ CR		0.48048	4,435.36	0.549	0.48067	0.48301	0.47775
____ CU	k	3.48208	48,928.64	0.997	3.48418	3.51571	3.44635
____ FE	k	0.00000	450,721.48	0.000	0.00000	0.00000	0.00000
____ K		46.47460	15,799.78	0.360	46.54206	46.28422	46.59752
____ LI	k	0.22706	1,136.95	0.549	0.22849	0.22623	0.22645
____ MG		55.17100	106,212.28	0.436	55.38991	54.91358	55.20952
____ MN		8.30686	434,607.66	0.934	8.27521	8.39529	8.25008
____ MO		0.05723	30.09	2.675	0.05584	0.05887	0.05697
____ NA		5.40520	6,424.02	0.217	5.41197	5.39165	5.41199
____ NI	k	0.44443	788.04	0.225	0.44413	0.44554	0.44360
____ P	k	12.14733	746.41	0.566	12.07028	12.20259	12.16912
____ PB	k	11.82626	4,970.10	0.567	11.85005	11.87817	11.75054
____ S		87.24231	4,396.62	0.330	87.27171	87.51414	86.94109
____ SB	k	0.20900	28.54	1.360	0.21146	0.20965	0.20589
____ SE	k	0.03205	2.75	30.559	0.04114	0.03332	0.02168
____ SI	k	17.51274	3,403.33	0.351	17.51275	17.45126	17.57421
____ SN	k	7.78971	2,227.41	0.421	7.78766	7.82352	7.75796
____ SR	k	1.09112	842,287.13	0.876	1.08840	1.10173	1.08321
____ TH	k	1.28782	208.14	0.897	1.29468	1.27449	1.29431
____ TI	k	8.62126	345,979.06	0.647	8.65402	8.65290	8.55685
____ TL	k	-0.04130	-2.85	18.502	-0.03818	-0.03571	-0.05000
____ V	k	0.30324	4,908.18	1.003	0.30158	0.30675	0.30139
____ W	k	0.09724	30.92	7.033	0.10226	0.10000	0.08945
____ Y1		3702.14872	3,702.15	1.220	3754.14795	3672.88880	3679.40941
____ Y2A		270686.79402	270,686.79	0.899	270410.46512	268402.74086	273247.17608
____ Y2R		16543.28421	16,543.28	0.593	16496.03531	16656.07556	16477.74177
____ ZN	k	12.61732	28,311.80	1.192	12.44515	12.72346	12.68334
____ ZR	k	0.06374	184.82	1.633	0.06349	0.06488	0.06285

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 36

Date/Time: 11/09/2018 10:36

Sample Number: **Z872061**

Protocol Symbol: DU

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	0.03859	619.11	2.996	0.03739	0.03970	0.03867
____ AL	k	104.34111	20,038.56	0.351	104.65230	104.43405	103.93698
____ AS	k	0.95589	82.48	1.968	0.97755	0.94373	0.94637
____ B	k	1.41285	7,670.38	1.674	1.43417	1.41696	1.38741
____ BA	k	10.79402	409,229.08	0.471	10.80041	10.84132	10.74034
____ BE		0.00421	1,618.54	1.049	0.00426	0.00419	0.00417
____ CA		341.80455	414,495.02	0.486	343.72163	340.78762	340.90441
____ CD	k	0.22173	937.86	0.943	0.22407	0.22104	0.22007
____ CO	k	0.26503	682.58	0.467	0.26619	0.26518	0.26373
____ CR		0.50584	4,665.05	1.139	0.51098	0.50692	0.49961
____ CU	k	3.25747	45,766.30	0.985	3.28864	3.25919	3.22457
____ FE	k	0.00000	456,711.80	0.000	0.00000	0.00000	0.00000
____ K		63.01877	21,471.71	0.523	63.10347	63.29769	62.65515
____ LI	k	0.29752	1,521.13	0.914	0.29850	0.29444	0.29961
____ MG		64.06609	123,175.22	0.619	64.41404	64.14945	63.63478
____ MN		8.32687	435,259.73	0.831	8.37345	8.35976	8.24740
____ MO		0.07938	41.81	1.376	0.07846	0.08059	0.07908
____ NA		8.50330	10,154.18	0.566	8.53398	8.52804	8.44788
____ NI	k	0.67968	1,204.19	0.348	0.68084	0.68124	0.67695
____ P	k	18.79391	1,157.84	0.479	18.69239	18.86362	18.82573
____ PB	k	13.16034	5,546.57	0.150	13.17315	13.17032	13.13755
____ S		98.95534	5,000.65	0.734	99.73975	98.81950	98.30677
____ SB	k	0.18048	24.85	3.092	0.18512	0.18203	0.17429
____ SE	k	0.03260	2.80	48.917	0.01451	0.03868	0.04462
____ SI	k	16.39758	3,198.48	0.407	16.40840	16.45828	16.32607
____ SN	k	10.03750	2,878.18	0.109	10.04510	10.04244	10.02496
____ SR	k	1.33435	1,029,129.04	0.796	1.34154	1.33936	1.32216
____ TH	k	1.30859	212.31	1.447	1.33043	1.29712	1.29820
____ TI	k	11.89684	476,984.92	0.997	12.02941	11.86054	11.80057
____ TL	k	-0.06496	-5.10	14.908	-0.06655	-0.07376	-0.05459
____ V	k	0.38929	6,300.54	1.264	0.39401	0.38967	0.38419
____ W	k	0.09762	31.11	6.375	0.10466	0.09287	0.09533
____ Y1		3712.62623	3,712.63	0.873	3678.66213	3715.97021	3743.24635
____ Y2A		270441.94352	270,441.94	0.960	268286.12957	269716.44518	273323.25581
____ Y2R		16602.81305	16,602.81	0.823	16495.36483	16556.53216	16756.54215
____ ZN	k	12.87267	28,967.80	0.842	12.98078	12.87319	12.76403
____ ZR	k	0.06842	198.83	2.025	0.06920	0.06682	0.06923

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 37

Date/Time: 11/09/2018 10:39

Sample Number: **Z872062**

Protocol Symbol: DU

ELEMENT		AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	k	0.02063	319.12	1.283	0.02049	0.02094	0.02047
____ AL	k	67.65808	12,799.97	0.282	67.56311	67.87740	67.53373
____ AS	k	0.25600	21.94	4.598	0.24646	0.25238	0.26915
____ B	k	0.97429	5,268.40	2.290	0.94885	0.98346	0.99054
____ BA	k	20.30147	766,845.42	1.477	20.01647	20.27371	20.61424
____ BE		0.00387	1,472.67	1.145	0.00382	0.00388	0.00391
____ CA		341.86871	408,036.05	0.600	340.96084	340.42967	344.21563
____ CD	k	0.15356	645.89	0.600	0.15295	0.15310	0.15462
____ CO	k	0.15601	401.31	0.595	0.15501	0.15684	0.15618
____ CR		0.62267	5,721.47	1.850	0.60937	0.62899	0.62964
____ CU	k	4.47699	62,592.90	1.306	4.40955	4.50850	4.51293
____ FE	k	0.00000	361,962.31	0.000	0.00000	0.00000	0.00000
____ K		9.47807	3,247.44	1.403	9.53993	9.56885	9.32542
____ LI	k	0.14961	675.69	0.955	0.14801	0.15075	0.15009
____ MG		26.89200	51,929.50	0.266	26.92030	26.94491	26.81077
____ MN		4.85594	252,915.53	1.151	4.79139	4.88732	4.88911
____ MO		0.08107	42.54	0.368	0.08082	0.08140	0.08100
____ NA		7.93357	9,323.19	0.120	7.93048	7.94426	7.92595
____ NI	k	0.65930	1,164.04	0.111	0.65914	0.65866	0.66010
____ P	k	15.95039	979.02	0.699	15.82204	16.00514	16.02399
____ PB	k	8.41953	3,534.55	0.165	8.40999	8.43547	8.41313
____ S		59.46794	2,994.57	0.159	59.36984	59.47615	59.55783
____ SB	k	0.13171	18.59	8.312	0.13292	0.12021	0.14201
____ SE	k	0.03439	2.91	20.801	0.03347	0.04196	0.02774
____ SI	k	17.23158	3,307.88	0.409	17.15342	17.29009	17.25122
____ SN	k	3.64391	1,041.21	0.077	3.64709	3.64180	3.64283
____ SR	k	1.58670	1,219,324.82	1.340	1.56230	1.59652	1.60127
____ TH	k	1.04752	166.53	0.486	1.04165	1.05077	1.05013
____ TI	k	2.14215	85,585.88	1.257	2.11118	2.15538	2.15989
____ TL	k	-0.01404	-0.60	25.571	-0.01052	-0.01392	-0.01769
____ V	k	0.27292	4,388.52	1.832	0.26715	0.27563	0.27597
____ W	k	0.13940	44.02	3.267	0.14151	0.14252	0.13417
____ Y1		3698.90474	3,698.90	1.638	3765.82076	3647.71842	3683.17505
____ Y2A		269475.38760	269,475.39	1.133	272992.85714	267903.82060	267529.48505
____ Y2R		16340.74950	16,340.75	0.264	16346.11167	16295.12987	16381.00698
____ ZN	k	15.78556	35,385.75	1.633	15.50398	16.00974	15.84297
____ ZR	k	0.07190	205.47	0.777	0.07188	0.07247	0.07136

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 38 Date/Time: 11/09/2018 10:42

Sample Number: **9872063** Class: **** Batch: 183041063701

Initial Vol: 1.35 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00615	88.08	19.868	0.00756	0.00554	0.00536
____ AL	15.01870	2,874.55	0.311	15.00880	15.06961	14.97770
____ AS	0.09284	6.10	3.092	0.08961	0.09381	0.09510
____ B	0.03238	965.07	4.517	0.03142	0.03165	0.03406
____ BA	3.41456	138,816.58	0.502	3.41283	3.43249	3.39836
____ BE	0.00121	389.77	0.466	0.00122	0.00121	0.00121
____ CA	19.02955	23,848.02	0.380	18.97754	19.11217	18.99894
____ CD	0.01257	127.78	4.463	0.01194	0.01300	0.01277
____ CO	0.02665	81.87	1.110	0.02698	0.02640	0.02656
____ CR	0.10200	1,009.02	0.650	0.10124	0.10231	0.10246
____ CU	5.71638	85,687.78	0.431	5.70886	5.74392	5.69636
____ FE	205.97391	64,135.73	0.456	205.21522	207.02568	205.68082
____ K	1.55332	604.94	0.960	1.53616	1.56314	1.56067
____ LI	0.01891	92.23	5.420	0.01793	0.01883	0.01998
____ MG	1.92041	3,787.54	0.632	1.90702	1.93072	1.92348
____ MN	0.88390	49,544.36	0.403	0.88222	0.88800	0.88149
____ MO	0.02315	13.27	3.649	0.02363	0.02218	0.02365
____ NA	1.48112	1,737.56	0.716	1.48268	1.49086	1.46983
____ NI	0.15074	294.84	0.616	0.15027	0.15181	0.15014
____ P	5.25909	350.13	0.955	5.20322	5.27363	5.30042
____ PB	10.66507	4,835.74	0.106	10.65205	10.67241	10.67076
____ S	3.64764	200.34	0.372	3.63345	3.64899	3.66049
____ SB	0.03838	5.87	4.967	0.03877	0.03631	0.04007
____ SE	-0.02966	1.39	28.101	-0.02592	-0.03922	-0.02386
____ SI	5.38012	1,044.52	0.992	5.32237	5.42756	5.39043
____ SN	1.27239	394.16	0.211	1.27112	1.27548	1.27058
____ SR	0.21587	190,821.17	0.717	0.21440	0.21748	0.21574
____ TH	-0.06739	29.32	43.195	-0.03389	-0.08657	-0.08170
____ TI	0.80558	34,642.07	0.179	0.80466	0.80724	0.80484
____ TL	-0.00710	0.51	127.977	-0.01308	0.00336	-0.01158
____ V	0.06181	1,094.74	0.714	0.06173	0.06229	0.06142
____ W	-0.01507	8.40	9.754	-0.01338	-0.01603	-0.01580
____ Y1	4007.20271	4,007.20	1.639	4082.67272	3962.90822	3976.02719
____ Y2A	289944.38714	289,944.39	0.331	290720.73413	288871.68655	290240.74074
____ Y2R	16470.93722	16,470.94	0.187	16499.87535	16438.67453	16474.26177
____ ZN	3.25175	7,943.05	1.762	3.18658	3.29410	3.27457
____ ZR	0.02204	54.22	16.088	0.01803	0.02334	0.02476

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 39 Date/Time: 11/09/2018 10:45

Sample Number: **9872060** Class: **** Batch: 183041063701

Initial Vol: 1.34 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00624	99.66	13.160	0.00596	0.00717	0.00560
____ AL	17.90264	3,395.19	0.574	17.82168	17.86807	18.01816
____ AS	0.10632	5.44	3.631	0.11056	0.10302	0.10537
____ B	0.03075	1,493.10	2.134	0.03082	0.03007	0.03137
____ BA	1.34535	53,475.99	0.523	1.33743	1.35088	1.34772
____ BE	0.00077	187.33	1.271	0.00076	0.00076	0.00078
____ CA	66.22219	81,795.30	0.412	66.21688	65.95225	66.49742
____ CD	0.02445	230.91	0.827	0.02422	0.02457	0.02457
____ CO	0.02508	83.64	3.496	0.02466	0.02450	0.02609
____ CR	0.11173	1,080.13	1.015	0.11096	0.11119	0.11303
____ CU	0.75425	11,011.94	0.495	0.74999	0.75580	0.75697
____ FE	355.77831	103,740.05	0.405	355.38658	354.57403	357.37431
____ K	10.07631	3,446.46	0.995	10.04055	9.99882	10.18957
____ LI	0.04910	238.40	4.301	0.04685	0.04943	0.05103
____ MG	11.94785	23,251.59	0.346	11.94352	11.90889	11.99113
____ MN	1.92947	105,690.57	0.614	1.91635	1.93265	1.93941
____ MO	0.01177	6.66	15.213	0.01336	0.00983	0.01213
____ NA	1.22171	1,417.98	0.507	1.22266	1.22736	1.21510
____ NI	0.10542	203.95	0.540	0.10591	0.10554	0.10479
____ P	2.63539	171.65	0.861	2.61006	2.64224	2.65388
____ PB	2.85853	1,241.10	0.219	2.85523	2.86574	2.85462
____ S	18.65698	994.76	0.366	18.58046	18.71193	18.67856
____ SB	0.04174	6.24	3.875	0.04353	0.04039	0.04130
____ SE	-0.06260	1.19	2.208	-0.06106	-0.06301	-0.06373
____ SI	3.79487	732.25	0.505	3.78628	3.78151	3.81683
____ SN	1.82393	551.52	0.385	1.82590	1.82977	1.81613
____ SR	0.21866	197,529.98	0.568	0.21723	0.21925	0.21950
____ TH	-0.15585	46.57	15.154	-0.17183	-0.12872	-0.16700
____ TI	1.93198	81,178.84	0.644	1.91921	1.93262	1.94409
____ TL	-0.02460	-0.75	35.670	-0.01476	-0.02741	-0.03162
____ V	0.06339	1,136.69	0.966	0.06283	0.06328	0.06404
____ W	-0.01357	7.42	14.870	-0.01569	-0.01335	-0.01167
____ Y1	3912.59787	3,912.60	0.599	3894.76442	3903.91265	3939.11653
____ Y2A	283374.63178	283,374.63	0.200	284027.44709	283069.85780	283026.59046
____ Y2R	16336.78557	16,336.79	0.518	16267.61795	16431.23875	16311.50000
____ ZN	2.91957	6,997.15	0.245	2.92025	2.92637	2.91209
____ ZR	0.02656	51.12	4.501	0.02518	0.02736	0.02713

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 40 Date/Time: 11/09/2018 10:48

Sample Number: **9872061** Class: **** Batch: 183041063701

Initial Vol: 1.41 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00773	121.54	8.286	0.00777	0.00835	0.00707
____ AL	21.85003	4,145.56	0.206	21.87741	21.87472	21.79795
____ AS	0.24549	18.11	0.623	0.24652	0.24621	0.24373
____ B	0.07844	1,728.55	4.250	0.07460	0.08052	0.08021
____ BA	2.17574	85,812.18	0.697	2.16920	2.19307	2.16495
____ BE	0.00092	251.25	0.673	0.00092	0.00092	0.00091
____ CA	72.50833	89,569.22	0.264	72.50558	72.70140	72.31800
____ CD	0.01861	201.63	4.128	0.01834	0.01947	0.01801
____ CO	0.05158	159.13	2.053	0.05041	0.05248	0.05184
____ CR	0.11420	1,095.81	0.923	0.11336	0.11386	0.11539
____ CU	0.68396	9,904.66	0.335	0.68291	0.68659	0.68238
____ FE	349.58171	102,274.03	0.289	349.40586	350.66873	348.67053
____ K	13.30254	4,528.03	0.155	13.28618	13.32576	13.29568
____ LI	0.06332	314.86	1.587	0.06217	0.06378	0.06402
____ MG	13.35649	25,996.57	0.372	13.34416	13.41117	13.31413
____ MN	1.87325	101,841.01	0.606	1.86278	1.88530	1.87168
____ MO	0.01621	9.07	5.501	0.01531	0.01710	0.01621
____ NA	1.83729	2,144.72	0.586	1.83218	1.83003	1.84966
____ NI	0.15382	292.38	0.935	0.15372	0.15531	0.15243
____ P	3.93168	254.62	0.671	3.90751	3.95982	3.92772
____ PB	3.05015	1,321.21	0.712	3.03391	3.07481	3.04171
____ S	20.64585	1,095.73	0.591	20.52451	20.76868	20.64434
____ SB	0.04468	6.63	24.615	0.04058	0.03632	0.05714
____ SE	-0.06639	0.78	6.831	-0.06784	-0.07003	-0.06131
____ SI	3.41112	659.31	0.917	3.38317	3.44490	3.40529
____ SN	2.25619	679.10	0.432	2.24814	2.26702	2.25341
____ SR	0.26532	233,099.99	1.337	0.26235	0.26925	0.26435
____ TH	-0.14435	47.13	14.657	-0.15797	-0.11998	-0.15510
____ TI	2.58340	107,732.31	0.477	2.57716	2.59759	2.57546
____ TL	-0.02178	-1.10	49.915	-0.02004	-0.03341	-0.01188
____ V	0.08025	1,420.31	0.559	0.08023	0.07982	0.08071
____ W	-0.01118	8.05	22.974	-0.01211	-0.00827	-0.01314
____ Y1	3895.05265	3,895.05	0.574	3871.99840	3896.48956	3916.66999
____ Y2A	281255.32914	281,255.33	0.933	282995.94102	278236.99470	282533.05169
____ Y2R	16351.35730	16,351.36	0.391	16397.82240	16278.43519	16377.81431
____ ZN	2.88878	6,892.42	0.603	2.89996	2.89768	2.86870
____ ZR	0.02280	42.58	12.040	0.02085	0.02161	0.02594

LANCASTER LABORATORIES

Run Name: 1831302T71 Instrument ID: 16315

Tube: 41 Date/Time: 11/09/2018 10:51

Sample Number: **9872062** Class: **** Batch: 183041063701

Initial Vol: 1.25 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00409	51.83	9.597	0.00381	0.00392	0.00454
____ AL	13.34615	2,542.96	0.599	13.41402	13.25794	13.36649
____ AS	0.07978	4.27	11.151	0.07498	0.09005	0.07432
____ B	0.03594	1,135.37	0.692	0.03571	0.03620	0.03591
____ BA	3.87962	154,607.79	0.785	3.90857	3.84786	3.88243
____ BE	0.00079	196.11	1.131	0.00079	0.00078	0.00080
____ CA	67.71137	83,900.89	0.525	67.97438	67.30658	67.85314
____ CD	0.01045	131.89	2.350	0.01056	0.01063	0.01017
____ CO	0.03091	89.47	1.087	0.03062	0.03083	0.03128
____ CR	0.12782	1,239.31	0.738	0.12869	0.12682	0.12794
____ CU	0.87084	12,810.62	0.497	0.87192	0.86607	0.87452
____ FE	250.89244	76,444.56	0.586	251.78473	249.19571	251.69687
____ K	1.88290	712.49	0.918	1.87500	1.90272	1.87097
____ LI	0.03178	142.04	8.073	0.03106	0.03462	0.02964
____ MG	5.30474	10,394.66	0.668	5.32265	5.26390	5.32766
____ MN	1.00345	55,135.97	0.344	1.00511	0.99948	1.00577
____ MO	0.01522	8.61	10.229	0.01559	0.01655	0.01351
____ NA	1.59190	1,860.08	0.634	1.60354	1.58574	1.58642
____ NI	0.14039	270.29	1.592	0.13782	0.14190	0.14144
____ P	3.14466	205.81	0.815	3.11507	3.15980	3.15909
____ PB	1.81870	791.31	0.558	1.80966	1.82967	1.81676
____ S	11.38699	610.97	0.513	11.32893	11.38633	11.44570
____ SB	0.02998	4.66	27.367	0.02069	0.03299	0.03625
____ SE	-0.03704	1.52	17.141	-0.04437	-0.03340	-0.03335
____ SI	3.39887	658.62	1.489	3.36310	3.45677	3.37675
____ SN	0.76283	232.15	0.759	0.75713	0.76870	0.76265
____ SR	0.30377	260,955.55	0.738	0.30414	0.30137	0.30581
____ TH	-0.08805	35.38	25.097	-0.08995	-0.10913	-0.06506
____ TI	0.43123	18,184.61	0.438	0.43247	0.42906	0.43216
____ TL	-0.02116	-0.17	13.655	-0.01970	-0.01930	-0.02449
____ V	0.05253	918.77	0.849	0.05273	0.05284	0.05202
____ W	-0.01209	9.84	10.400	-0.01244	-0.01070	-0.01314
____ Y1	3933.93386	3,933.93	0.512	3910.82567	3947.90021	3943.07569
____ Y2A	284230.58869	284,230.59	0.475	282836.64679	285533.38304	284321.73625
____ Y2R	16391.89142	16,391.89	0.387	16323.91239	16449.37213	16402.38974
____ ZN	3.41008	8,185.14	0.360	3.42411	3.40135	3.40478
____ ZR	0.01980	44.05	5.714	0.01863	0.02089	0.01987

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 42

Date/Time: 11/09/2018 10:54

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49419	8,579.30	1.161	0.50078	0.49031	0.49148
____ AL	24.81734	4,709.39	1.363	25.13026	24.86336	24.45840
____ AS	0.50345	45.96	1.263	0.49725	0.50996	0.50313
____ B	0.48479	2,834.25	1.135	0.49113	0.48196	0.48128
____ BA	0.50204	20,131.96	1.392	0.51005	0.49894	0.49715
____ BE	0.47898	211,724.19	0.992	0.48446	0.47589	0.47660
____ CA	24.57523	30,463.25	0.898	24.75095	24.64723	24.32750
____ CD	0.49780	2,250.82	0.696	0.50014	0.49944	0.49382
____ CO	0.50158	1,371.85	0.403	0.50285	0.50264	0.49925
____ CR	0.47593	4,635.18	1.001	0.48083	0.47565	0.47132
____ CU	0.49474	7,484.61	1.136	0.50097	0.49323	0.49004
____ FE	24.91954	8,198.93	0.772	25.07568	24.97820	24.70475
____ K	25.69767	8,647.29	0.895	25.85154	25.80804	25.43341
____ LI	0.51611	2,844.03	1.372	0.52402	0.51395	0.51036
____ MG	24.22817	46,752.95	0.728	24.35298	24.30519	24.02634
____ MN	0.49115	27,118.60	0.869	0.49608	0.48865	0.48873
____ MO	0.49377	275.43	0.562	0.49684	0.49302	0.49144
____ NA	25.68742	30,167.94	1.019	25.89202	25.77770	25.39254
____ NI	0.49393	929.89	0.373	0.49506	0.49492	0.49180
____ P	0.48203	32.17	2.620	0.48838	0.46748	0.49022
____ PB	0.49973	221.83	0.459	0.49714	0.50150	0.50055
____ S	24.44161	1,312.42	0.297	24.47228	24.49374	24.35882
____ SB	0.50010	70.17	0.775	0.50199	0.50267	0.49564
____ SE	0.50019	39.79	3.433	0.48543	0.51904	0.49611
____ SI	24.81401	4,753.52	1.040	25.03462	24.87703	24.53039
____ SN	0.47582	145.36	0.570	0.47814	0.47648	0.47284
____ SR	0.50530	412,981.13	1.145	0.51165	0.50032	0.50394
____ TH	0.48128	80.26	4.255	0.50224	0.46132	0.48027
____ TI	0.50580	21,456.64	0.993	0.51156	0.50238	0.50344
____ TL	0.48946	47.28	2.086	0.49146	0.49852	0.47840
____ V	0.49979	8,492.50	1.909	0.51012	0.49130	0.49795
____ W	0.49667	167.42	1.337	0.50285	0.49750	0.48965
____ Y1	3943.72667	3,943.73	1.347	3912.05000	3914.09000	4005.04000
____ Y2A	285586.12216	285,586.12	0.895	282661.77932	287394.63221	286701.95494
____ Y2R	16306.36451	16,306.36	0.651	16198.68473	16309.35880	16411.05000
____ ZN	0.48830	1,183.33	0.419	0.49008	0.48874	0.48606
____ ZR	0.49873	1,484.07	1.523	0.50503	0.50086	0.49030

LANCASTER LABORATORIES

Run Name: 1831302T71

Instrument ID: 16315

Tube: 43

Date/Time: 11/09/2018 10:56

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00113	-10.15	44.055	0.00090	0.00170	0.00078
____ AL	0.00748	12.46	202.160	0.02437	0.00284	-0.00477
____ AS	-0.00546	-0.62	120.239	-0.00458	0.00062	-0.01242
____ B	0.00211	6.33	2.775	0.00209	0.00218	0.00207
____ BA	0.00008	39.79	306.786	0.00027	0.00018	-0.00020
____ BE	0.00004	-139.75	45.528	0.00004	0.00006	0.00002
____ CA	0.01377	35.87	25.418	0.01012	0.01409	0.01710
____ CD	0.00021	-3.42	56.168	0.00025	0.00030	0.00008
____ CO	0.00044	3.90	163.150	-0.00032	0.00053	0.00111
____ CR	-0.00016	-1.10	313.372	-0.00064	0.00037	-0.00021
____ CU	0.00054	30.47	90.188	0.00075	0.00090	-0.00002
____ FE	0.02025	4.99	15.643	0.02190	0.02224	0.01659
____ K	0.12762	124.74	48.683	0.18554	0.06201	0.13529
____ LI	-0.00022	-6.42	930.652	0.00063	-0.00255	0.00126
____ MG	0.00315	5.44	34.360	0.00425	0.00314	0.00208
____ MN	0.00009	13.30	95.387	0.00019	0.00004	0.00004
____ MO	0.00141	0.96	11.918	0.00143	0.00123	0.00157
____ NA	0.06309	54.13	13.619	0.06029	0.05625	0.07273
____ NI	-0.00008	8.89	293.206	-0.00033	0.00016	-0.00007
____ P	-0.00086	0.60	509.087	-0.00347	-0.00330	0.00419
____ PB	0.00032	-2.31	731.530	0.00218	0.00115	-0.00235
____ S	0.02033	2.54	36.538	0.02880	0.01493	0.01725
____ SB	-0.00090	0.09	1083.763	-0.00515	0.01029	-0.00784
____ SE	0.00030	0.48	1287.441	0.00394	-0.00368	0.00063
____ SI	0.00425	5.99	221.100	0.00771	-0.00638	0.01142
____ SN	0.00273	1.19	14.313	0.00294	0.00296	0.00227
____ SR	0.00005	3.43	13.545	0.00006	0.00005	0.00005
____ TH	0.01922	-0.66	36.953	0.02065	0.01151	0.02549
____ TI	0.00020	22.44	29.537	0.00022	0.00013	0.00025
____ TL	0.00104	0.39	168.646	-0.00090	0.00152	0.00249
____ V	0.00006	-24.13	717.840	-0.00044	0.00032	0.00030
____ W	0.00023	0.74	391.589	-0.00079	0.00095	0.00054
____ Y1	4052.93833	4,052.94	1.498	4123.00500	4015.52000	4020.29000
____ Y2A	295995.20503	295,995.21	0.640	293919.47751	297628.63757	296437.50000
____ Y2R	16449.88828	16,449.89	0.395	16439.18581	16390.87460	16519.60442
____ ZN	-0.00001	5.61	489.799	-0.00002	-0.00006	0.00005
____ ZR	0.00126	10.58	133.735	0.00219	-0.00069	0.00228

ICP-AES Run Data Report

Reviewed By
Eric L Eby

Reviewed Date
11/27/2018 2:42PM

Data File Name 1833102T73.TXT
Run Name: 1833102T73

Method Reference Name(s):

Verified By:
Tara L Snyder

Verified Date
11/27/2018 3:06PM

Analyst Employee: 943

Instrument Parameters:

Individual Integration Time: 10.00 sec Total Integration Time: 30.00 sec Rinse Time: 15.00 sec

Element	Analyte Name	Wavelength Value
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 1 Date/Time: 11/27/2018 08:43

Sample Number: **S0**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	0.000	8.76083	120.684	0.00334	-0.00085	0.00463
AL	0.000	4.73333	59.564	0.09080	0.08412	0.02050
AS	0.000	-1.32245	13.817	-0.01008	-0.01332	-0.01204
B	0.000	0.58297	256.010	-0.00001	0.00001	0.00001
BA	0.000	114.01435	14.781	0.00056	0.00072	0.00056
BE	0.000	59.59771	22.191	0.01936	0.01679	0.01228
CA	0.000	29.73333	10.604	0.00735	0.00907	0.00809
CD	0.000	-5.22315	25.239	-0.03763	-0.05997	-0.04235
CO	0.000	6.17257	21.765	0.06037	0.04138	0.06356
CR	0.000	-13.94851	41.937	-0.00006	-0.00011	-0.00006
CU	0.000	-6.92696	90.022	-0.00184	-0.00020	-0.00358
FE	0.000	5.45000	29.836	0.00172	0.00179	0.00098
K	0.000	15.76667	32.898	0.13620	0.24133	0.27202
LI	0.000	-27.13333	50.643	-0.00978	-0.00952	-0.00310
MG	0.000	-1.53333	13.398	-0.00037	-0.00048	-0.00041
MN	0.000	18.94473	22.578	0.00643	0.00420	0.00476
MO	0.000	-0.39639	143.059	-0.00027	-0.00938	-0.00098
NA	0.000	-34.45152	36.105	-0.00886	-0.00638	-0.01313
NI	0.000	1.92537	98.194	0.01373	0.03557	0.00232
P	0.000	1.04930	0.830	0.00019	0.00019	0.00019
PB	0.000	-3.63092	41.223	-0.03478	-0.01802	-0.04443
S	0.000	0.39306	129.655	0.00001	0.00018	0.00002
SB	0.000	0.90273	57.162	0.00018	0.00024	0.00006
SE	0.000	0.23316	235.850	-0.00268	0.00715	0.00178
SI	0.000	4.37424	15.169	0.00109	0.00141	0.00110
SN	0.000	0.36642	333.930	0.00152	0.01501	-0.00669
SR	0.000	-125.22068	8.632	-0.00075	-0.00065	-0.00064
TH	0.000	-1.28333	157.534	-0.00073	-0.00062	0.00029
TI	0.000	26.84332	21.803	0.00910	0.00638	0.00633
TL	0.000	1.22584	36.898	0.00972	0.01546	0.00767
V	0.000	-15.38565	47.186	-0.00190	-0.00543	-0.00516
W	0.000	1.56895	79.638	0.00027	0.00006	0.00051
Y1	0.000	5599.77392	0.139	5603.81135	5590.79826	5604.71216
Y2A	0.000	184668.01044	0.394	183847.07157	184922.07339	185234.88636
Y2R	0.000	3639.35455	0.455	3634.43636	3625.80909	3657.81818
ZN	0.000	11.47904	6.762	0.11039	0.09965	0.09744
ZR	0.000	-19.88333	14.930	-0.00571	-0.00455	-0.00612

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 2

Date/Time: 11/27/2018 08:45

Sample Number: **S1**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AL	50.000	1610.74812	2.211	22.56787	23.53440	22.78237
CA	50.000	13925.70115	2.588	3.90550	4.08895	3.91706
FE	50.000	5014.10088	2.671	1.40896	1.47371	1.40627
K	50.000	7733.28963	2.081	108.87631	112.88799	108.95366
MG	50.000	23068.66233	2.632	6.47555	6.77726	6.47940
NA	50.000	25248.44270	2.242	7.09996	7.38476	7.11093
S	50.000	3238.24051	0.251	0.59801	0.60058	0.59795
SI	50.000	3728.66418	2.551	1.04503	1.09430	1.05000
Y1	50.000	5407.45860	0.162	5415.26107	5398.02111	5409.09363
Y2R	50.000	3508.40761	1.884	3537.61975	3432.73852	3554.86456

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 3

Date/Time: 11/27/2018 08:48

Sample Number: **S2**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
AG	1.000	11318.14409	0.531	3.16021	3.19390	3.17520
AS	1.000	121.79328	0.424	1.11318	1.12012	1.11108
B	1.000	2793.01959	0.621	0.01557	0.01575	0.01571
BA	1.000	415698.67954	0.986	2.30677	2.34569	2.34750
BE	1.000	358127.09713	0.444	100.06789	100.49619	100.95929
CD	1.000	8912.16012	0.192	81.75463	81.50121	81.46887
CO	1.000	3053.45338	0.207	28.01506	27.90837	27.92333
CU	1.000	8216.96547	0.438	2.29455	2.31342	2.31028
LI	1.000	3212.58809	0.518	0.89892	0.90676	0.89845
MN	1.000	42625.31541	0.057	11.95882	11.97055	11.95881
NI	1.000	1947.56862	0.212	17.84750	17.78287	17.84915
P	1.000	164.65321	0.141	0.03010	0.03018	0.03015
PB	1.000	758.74690	0.311	6.96260	6.92092	6.95143
SE	1.000	89.68338	0.926	0.81624	0.82965	0.81676
SR	1.000	478723.22492	0.550	2.67421	2.68374	2.70321
TH	1.000	48.69698	2.956	0.01340	0.01346	0.01413
TL	1.000	118.10657	0.602	1.07518	1.07992	1.08805
W	1.000	553.65327	0.247	0.10164	0.10124	0.10118
Y1	1.000	5462.57407	0.180	5451.83134	5471.08215	5464.80871
Y2A	1.000	178159.00036	0.178	178388.98950	177797.99891	178290.01268
Y2R	1.000	3564.06154	0.355	3567.68321	3574.51409	3549.98731
ZN	1.000	4369.68178	0.185	40.08070	39.94124	39.96796

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 4

Date/Time: 11/27/2018 08:51

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS #1	#2	#3
CR	1.000	8264.09614	0.284	0.04498	0.04473	0.04488
MO	1.000	980.50099	0.582	8.73206	8.80630	8.83022
SB	1.000	204.34885	1.174	0.03617	0.03674	0.03701
SN	1.000	344.82938	0.934	3.06015	3.11722	3.09615
TI	1.000	39954.41713	0.256	10.87316	10.81755	10.84613
V	1.000	10636.52648	0.324	2.88385	2.88006	2.89784
Y1	1.000	5577.72514	0.274	5595.08413	5571.72485	5566.36645
Y2A	1.000	184197.03993	0.443	183342.94050	184280.05544	184968.12385
Y2R	1.000	3561.38939	0.758	3543.90909	3547.75909	3592.50000
ZR	1.000	532.65000	0.456	0.14923	0.15035	0.14912

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 5

Date/Time: 11/27/2018 08:53

Sample Number: **ICV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.61099	6,840.32	0.306	0.61016	0.60968	0.61314
____ AL	30.31636	993.39	0.450	30.16657	30.34868	30.43384
____ AS	0.61553	72.54	1.157	0.61910	0.60733	0.62016
____ B	0.65369	1,877.41	0.382	0.65147	0.65639	0.65323
____ BA	0.61652	252,509.11	0.785	0.61144	0.61704	0.62107
____ BE	0.60232	212,291.14	0.054	0.60265	0.60233	0.60199
____ CA	30.16364	8,539.79	0.152	30.11188	30.19876	30.18028
____ CD	0.61147	5,359.13	0.135	0.61235	0.61070	0.61137
____ CO	0.61144	1,834.77	0.139	0.61069	0.61125	0.61237
____ CR	0.64088	5,036.61	0.013	0.64094	0.64079	0.64092
____ CU	0.61644	4,965.28	0.564	0.61446	0.62045	0.61441
____ FE	29.89121	3,059.67	0.224	29.95647	29.89441	29.82275
____ K	30.02058	4,710.55	0.502	29.85023	30.07432	30.13720
____ LI	0.60509	1,933.79	1.320	0.61126	0.59606	0.60794
____ MG	30.15540	14,181.00	0.390	30.02414	30.19025	30.25179
____ MN	0.61800	25,929.34	0.227	0.61702	0.61961	0.61737
____ MO	0.66303	623.39	0.197	0.66278	0.66186	0.66443
____ NA	29.36337	15,005.18	0.257	29.27891	29.38733	29.42387
____ NI	0.61371	1,170.00	0.325	0.61328	0.61589	0.61197
____ P	0.61216	99.05	0.757	0.60878	0.61025	0.61745
____ PB	0.60407	451.96	1.258	0.60300	0.59706	0.61215
____ S	31.49693	2,018.75	0.192	31.50532	31.55286	31.43262
____ SB	0.68374	135.13	0.541	0.67948	0.68609	0.68566
____ SE	0.63308	54.16	1.851	0.64524	0.63211	0.62187
____ SI	30.49203	2,306.69	0.436	30.48415	30.36317	30.62877
____ SN	0.64416	213.25	0.210	0.64535	0.64445	0.64269
____ SR	0.61853	291,737.63	0.570	0.61445	0.62054	0.62059
____ TH	0.61811	30.76	12.467	0.60783	0.54671	0.69979
____ TI	0.66677	25,402.28	0.058	0.66636	0.66681	0.66713
____ TL	0.60765	70.92	0.573	0.60965	0.60967	0.60363
____ V	0.65537	6,635.68	0.233	0.65462	0.65437	0.65713
____ W	0.06149	37.44	5.565	0.06293	0.06396	0.05759
____ Y1	5351.42549	5,351.43	0.338	5334.63009	5370.53695	5349.10942
____ Y2A	175318.62367	175,318.62	0.240	174904.04644	175307.06546	175744.75909
____ Y2R	3553.78405	3,553.78	0.215	3558.91483	3557.41913	3545.01818
____ ZN	0.61198	2,634.65	0.161	0.61170	0.61116	0.61307
____ ZR	0.65786	356.07	0.583	0.65345	0.66036	0.65977

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 6

Date/Time: 11/27/2018 08:56

Sample Number: **ICB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00033	8.09	136.875	0.00077	-0.00013	0.00034
____ AL	0.08816	7.62	75.601	0.07927	0.15880	0.02640
____ AS	-0.00155	-1.09	267.843	-0.00305	-0.00474	0.00314
____ B	0.00146	4.76	51.579	0.00167	0.00209	0.00062
____ BA	0.00007	140.14	91.903	0.00005	0.00014	0.00001
____ BE	0.00004	74.56	74.931	0.00004	0.00008	0.00001
____ CA	-0.00347	27.95	240.049	0.00511	-0.00401	-0.01150
____ CD	-0.00028	-3.55	31.815	-0.00038	-0.00024	-0.00022
____ CO	0.00027	6.91	27.622	0.00036	0.00021	0.00026
____ CR	0.00048	-8.88	102.151	0.00104	0.00033	0.00009
____ CU	-0.00197	-13.19	137.850	-0.00040	-0.00041	-0.00511
____ FE	0.00822	6.15	194.937	0.01078	0.02279	-0.00893
____ K	-0.00572	14.43	1020.717	0.05310	-0.06374	-0.00653
____ LI	-0.00014	-22.63	1260.754	0.00114	0.00060	-0.00216
____ MG	0.00359	0.20	272.408	0.01482	-0.00086	-0.00317
____ MN	0.00007	20.14	134.218	-0.00004	0.00011	0.00014
____ MO	0.00001	-0.38	7239.936	0.00063	-0.00005	-0.00056
____ NA	0.04319	-22.16	14.719	0.04116	0.03809	0.05031
____ NI	0.00047	2.80	192.086	0.00144	0.00028	-0.00032
____ P	0.00073	1.15	309.928	-0.00175	0.00265	0.00128
____ PB	-0.00328	-4.86	33.022	-0.00205	-0.00411	-0.00366
____ S	-0.01069	-0.31	31.776	-0.01129	-0.00704	-0.01375
____ SB	0.00134	1.17	257.704	-0.00065	-0.00066	0.00533
____ SE	-0.00155	-0.10	295.545	-0.00683	0.00111	0.00107
____ SI	0.01554	5.41	38.785	0.02243	0.01124	0.01295
____ SN	-0.00225	-0.40	49.530	-0.00272	-0.00098	-0.00306
____ SR	0.00003	-93.88	65.087	0.00006	0.00003	0.00002
____ TH	0.05405	1.43	121.451	0.01416	0.01817	0.12981
____ TI	0.00026	36.69	121.337	-0.00004	0.00059	0.00022
____ TL	-0.00821	0.24	79.433	-0.01314	-0.00082	-0.01066
____ V	-0.00063	-15.50	33.337	-0.00039	-0.00070	-0.00079
____ W	-0.00066	1.17	304.220	0.00080	-0.00297	0.00017
____ Y1	5506.38976	5,506.39	0.778	5472.51104	5554.56362	5492.09462
____ Y2A	181976.29192	181,976.29	0.583	180752.99545	182541.77627	182634.10404
____ Y2R	3540.78333	3,540.78	0.241	3532.30000	3540.70909	3549.34091
____ ZN	-0.00095	7.15	29.693	-0.00113	-0.00109	-0.00062
____ ZR	-0.00272	-17.72	275.767	-0.00285	0.00484	-0.01016

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 7

Date/Time: 11/27/2018 08:59

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00270	2.64	4.128	0.00258	0.00280	0.00273
____ AL	0.31473	16.35	12.899	0.26853	0.34470	0.33096
____ AS	0.05468	5.88	10.025	0.05524	0.04894	0.05986
____ B	0.04836	138.81	2.771	0.04691	0.04955	0.04863
____ BA	0.00527	2,382.31	0.442	0.00525	0.00528	0.00530
____ BE	0.00496	1,880.45	0.416	0.00495	0.00496	0.00499
____ CA	0.50248	171.43	1.768	0.49273	0.51011	0.50461
____ CD	0.00493	43.57	2.535	0.00485	0.00508	0.00488
____ CO	0.00478	20.89	1.732	0.00480	0.00469	0.00485
____ CR	0.01601	118.49	3.093	0.01545	0.01617	0.01640
____ CU	0.00945	221.54	22.690	0.00715	0.00979	0.01140
____ FE	0.19986	25.98	5.865	0.21282	0.19677	0.19000
____ K	0.44781	85.53	6.969	0.41191	0.46303	0.46848
____ LI	0.04818	133.38	6.722	0.04447	0.05047	0.04959
____ MG	0.10539	48.58	5.356	0.11037	0.10655	0.09926
____ MN	0.01065	469.17	0.803	0.01057	0.01065	0.01074
____ MO	0.01165	10.92	3.611	0.01208	0.01163	0.01124
____ NA	1.02988	484.10	0.830	1.02004	1.03418	1.03542
____ NI	0.01167	24.85	5.540	0.01140	0.01240	0.01120
____ P	0.10162	17.80	2.630	0.10404	0.09875	0.10207
____ PB	0.01218	7.36	10.436	0.01291	0.01071	0.01292
____ S	0.51792	34.48	2.672	0.52323	0.50221	0.52831
____ SB	0.05484	11.78	3.840	0.05519	0.05675	0.05259
____ SE	0.07290	6.59	20.616	0.05782	0.08788	0.07301
____ SI	0.49163	41.34	1.733	0.49991	0.48289	0.49210
____ SN	0.05419	18.85	3.066	0.05382	0.05600	0.05274
____ SR	0.00529	2,493.45	0.452	0.00527	0.00532	0.00529
____ TH	0.50993	24.20	10.987	0.57456	0.47523	0.48000
____ TI	0.01110	466.19	1.875	0.01103	0.01133	0.01094
____ TL	0.03005	4.76	15.938	0.02459	0.03199	0.03356
____ V	0.01072	108.09	6.903	0.01033	0.01025	0.01157
____ W	0.02922	17.82	10.901	0.03259	0.02626	0.02881
____ Y1	5524.94463	5,524.94	0.338	5510.92345	5546.13521	5517.77524
____ Y2A	182623.28850	182,623.29	0.365	182096.25349	183372.87045	182400.74156
____ Y2R	3558.43030	3,558.43	0.220	3562.20909	3563.66818	3549.41364
____ ZN	0.01936	96.51	1.822	0.01975	0.01926	0.01907
____ ZR	0.05469	23.60	16.218	0.04646	0.05353	0.06408

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 8

Date/Time: 11/27/2018 09:01

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00441	-8.85	13.002	-0.00505	-0.00396	-0.00420
____ AL	490.19325	15,668.28	0.619	489.73661	487.41468	493.42845
____ AS	-0.00416	-4.46	155.707	-0.00903	0.00319	-0.00665
____ B	0.05692	1,220.62	9.461	0.05070	0.05989	0.06017
____ BA	0.00050	284.12	15.376	0.00047	0.00059	0.00044
____ BE	-0.00016	-0.46	61.543	-0.00024	-0.00005	-0.00019
____ CA	501.33813	129,712.01	0.667	499.91922	498.93990	505.15528
____ CD	-0.00277	94.39	10.931	-0.00279	-0.00305	-0.00245
____ CO	-0.00075	3.35	38.631	-0.00073	-0.00047	-0.00104
____ CR	0.00179	1.55	16.346	0.00212	0.00162	0.00162
____ CU	-0.00209	62.79	73.272	-0.00102	-0.00141	-0.00385
____ FE	201.95813	18,684.37	0.361	201.85088	201.28918	202.73434
____ K	0.03658	20.24	168.002	0.09907	-0.02379	0.03446
____ LI	-0.01519	0.57	16.637	-0.01682	-0.01228	-0.01646
____ MG	524.77582	201,741.79	0.703	524.67657	521.13696	528.51393
____ MN	0.00480	196.02	4.784	0.00461	0.00506	0.00474
____ MO	-0.00163	-4.77	34.863	-0.00188	-0.00204	-0.00098
____ NA	0.04062	-22.59	11.364	0.04580	0.03912	0.03694
____ NI	0.02495	34.91	2.676	0.02524	0.02542	0.02419
____ P	0.00710	1.95	45.948	0.00804	0.00347	0.00978
____ PB	-0.00528	58.06	91.873	-0.00952	0.00001	-0.00634
____ S	-0.05596	-1.26	53.854	-0.04034	-0.03684	-0.09069
____ SB	-0.00518	4.62	99.422	-0.01052	-0.00479	-0.00024
____ SE	0.02177	-0.17	75.476	0.03243	0.00285	0.03004
____ SI	-0.01907	2.70	64.966	-0.00971	-0.01438	-0.03312
____ SN	0.00250	1.08	109.114	0.00022	0.00553	0.00175
____ SR	0.00030	5,936.43	68.584	0.00022	0.00053	0.00015
____ TH	0.08013	9.48	34.656	0.04917	0.08835	0.10285
____ TI	-0.00108	-14.27	19.952	-0.00131	-0.00089	-0.00104
____ TL	0.00173	1.25	160.436	0.00057	-0.00028	0.00489
____ V	-0.00037	-10.64	235.314	0.00059	-0.00058	-0.00111
____ W	-0.00012	4.47	2402.599	0.00036	-0.00310	0.00239
____ Y1	4887.56973	4,887.57	0.047	4890.23734	4886.01594	4886.45590
____ Y2A	158211.12289	158,211.12	0.069	158273.55355	158275.07226	158084.74285
____ Y2R	3409.58811	3,409.59	1.019	3421.54533	3436.77942	3370.43958
____ ZN	0.00891	110.37	3.450	0.00855	0.00905	0.00912
____ ZR	0.00359	-19.50	72.153	0.00587	0.00414	0.00077

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 9

Date/Time: 11/27/2018 09:04

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21349	2,196.71	1.073	0.21334	0.21127	0.21585
____ AL	494.30043	15,918.56	0.431	496.75825	493.19801	492.94504
____ AS	0.07772	4.59	9.363	0.07157	0.07584	0.08575
____ B	0.06498	1,246.37	4.200	0.06723	0.06575	0.06194
____ BA	0.50348	186,062.76	0.146	0.50428	0.50331	0.50285
____ BE	0.51045	162,497.60	0.123	0.51115	0.51026	0.50995
____ CA	503.44389	131,178.28	0.654	506.77202	503.37636	500.18330
____ CD	0.94271	7,685.68	0.469	0.94416	0.94623	0.93774
____ CO	0.46671	1,286.10	0.435	0.46636	0.46888	0.46487
____ CR	0.51317	3,640.17	0.463	0.51556	0.51315	0.51081
____ CU	0.53155	3,820.71	0.711	0.53329	0.53415	0.52722
____ FE	202.95982	18,906.99	0.221	202.56495	202.86824	203.44628
____ K	-0.09921	-0.13	41.858	-0.07986	-0.07088	-0.14688
____ LI	-0.01396	4.65	11.689	-0.01213	-0.01447	-0.01528
____ MG	509.20446	198,257.49	0.941	514.17174	508.83308	504.60855
____ MN	0.49574	18,799.66	0.130	0.49520	0.49556	0.49646
____ MO	-0.00216	-5.27	72.738	-0.00176	-0.00390	-0.00083
____ NA	0.04067	-22.76	65.066	0.03360	0.06996	0.01847
____ NI	0.93611	1,631.45	0.473	0.93839	0.93893	0.93101
____ P	0.00737	2.23	70.216	0.01286	0.00257	0.00670
____ PB	0.51164	413.25	0.656	0.51333	0.51382	0.50777
____ S	-0.07341	-2.11	11.735	-0.06402	-0.07524	-0.08095
____ SB	0.67505	128.61	0.330	0.67391	0.67762	0.67363
____ SE	0.61375	46.95	4.247	0.58382	0.62593	0.63149
____ SI	0.01035	4.84	139.456	-0.00609	0.02095	0.01621
____ SN	0.00121	0.67	103.049	0.00077	0.00024	0.00261
____ SR	0.00034	5,984.69	28.266	0.00023	0.00039	0.00041
____ TH	0.07502	9.35	64.318	0.05472	0.04023	0.13010
____ TI	-0.00169	-17.26	8.996	-0.00169	-0.00185	-0.00154
____ TL	0.08622	10.28	9.546	0.09507	0.08481	0.07879
____ V	0.53297	4,951.30	0.326	0.53469	0.53122	0.53300
____ W	-0.00022	8.63	2813.528	-0.00658	0.00548	0.00045
____ Y1	4919.52963	4,919.53	0.507	4901.69262	4908.86856	4948.02770
____ Y2A	158341.37295	158,341.37	0.348	157946.62631	158107.01439	158970.47816
____ Y2R	3434.29996	3,434.30	0.239	3431.73638	3427.67273	3443.49079
____ ZN	1.02606	4,099.48	0.337	1.02612	1.02949	1.02258
____ ZR	0.00481	-19.13	117.659	0.00950	-0.00148	0.00642

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 10

Date/Time: 11/27/2018 09:06

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49180	5,594.74	0.128	0.49193	0.49111	0.49234
____ AL	24.41986	810.35	0.850	24.64362	24.23325	24.38271
____ AS	0.50563	60.45	0.790	0.51024	0.50307	0.50359
____ B	0.50643	1,475.64	0.450	0.50588	0.50447	0.50893
____ BA	0.50389	209,627.63	0.140	0.50367	0.50332	0.50468
____ BE	0.48975	175,330.41	0.138	0.48947	0.48926	0.49052
____ CA	24.47523	7,021.03	0.649	24.60336	24.29748	24.52484
____ CD	0.49868	4,448.62	0.244	0.49747	0.49991	0.49866
____ CO	0.50283	1,536.91	0.238	0.50182	0.50415	0.50253
____ CR	0.52417	4,181.63	0.234	0.52483	0.52493	0.52276
____ CU	0.50370	4,112.49	0.218	0.50439	0.50243	0.50427
____ FE	24.43430	2,536.33	0.741	24.46157	24.24121	24.60012
____ K	24.77491	3,936.44	0.740	24.95461	24.58833	24.78178
____ LI	0.49918	1,610.24	1.527	0.49793	0.49227	0.50735
____ MG	24.32439	11,595.00	0.452	24.37297	24.19857	24.40164
____ MN	0.50430	21,494.27	0.173	0.50426	0.50345	0.50519
____ MO	0.53858	515.27	0.279	0.53831	0.54020	0.53723
____ NA	24.43793	12,629.06	0.865	24.57939	24.19504	24.53935
____ NI	0.50139	973.30	0.005	0.50142	0.50140	0.50137
____ P	0.49688	82.10	0.092	0.49643	0.49735	0.49686
____ PB	0.49878	379.07	0.279	0.49826	0.50036	0.49773
____ S	25.01491	1,629.41	0.301	24.94670	25.09566	25.00238
____ SB	0.53342	107.37	1.119	0.53224	0.53989	0.52814
____ SE	0.51427	45.34	4.604	0.51448	0.53784	0.49049
____ SI	24.75443	1,896.06	0.725	24.78814	24.56055	24.91461
____ SN	0.53033	178.76	0.606	0.53158	0.53273	0.52667
____ SR	0.50257	240,738.23	0.313	0.50249	0.50105	0.50419
____ TH	0.48622	24.26	0.735	0.48923	0.48716	0.48227
____ TI	0.54455	21,075.44	0.081	0.54499	0.54410	0.54456
____ TL	0.50448	60.13	0.165	0.50500	0.50352	0.50491
____ V	0.54100	5,563.15	0.447	0.54215	0.53822	0.54262
____ W	0.50275	278.50	0.539	0.50131	0.50588	0.50107
____ Y1	5447.13920	5,447.14	0.142	5439.60410	5446.72070	5455.09282
____ Y2A	178065.03660	178,065.04	0.163	178095.80455	177761.08891	178338.21633
____ Y2R	3596.18096	3,596.18	0.895	3585.31001	3632.38341	3570.84947
____ ZN	0.50273	2,204.92	0.444	0.50056	0.50502	0.50262
____ ZR	0.53098	287.11	1.070	0.53364	0.52445	0.53483

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 11

Date/Time: 11/27/2018 09:09

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00070	10.08	94.796	0.00017	0.00144	0.00048
____ AL	0.06707	7.12	53.477	0.03117	0.10290	0.06714
____ AS	-0.00091	-1.02	248.441	-0.00340	0.00101	-0.00034
____ B	0.00087	3.04	78.388	0.00049	0.00166	0.00046
____ BA	0.00004	129.41	23.530	0.00003	0.00005	0.00005
____ BE	0.00003	71.05	15.610	0.00003	0.00004	0.00003
____ CA	0.01721	34.25	16.659	0.01599	0.02048	0.01515
____ CD	-0.00034	-4.10	22.849	-0.00027	-0.00032	-0.00042
____ CO	-0.00023	5.39	174.600	-0.00021	0.00016	-0.00065
____ CR	0.00071	-7.09	35.795	0.00042	0.00080	0.00090
____ CU	-0.00321	-14.02	33.712	-0.00245	-0.00274	-0.00445
____ FE	-0.00384	4.98	505.148	0.00538	-0.02614	0.00923
____ K	-0.01878	12.58	169.217	0.01790	-0.03780	-0.03643
____ LI	-0.00336	-33.40	210.393	0.00480	-0.00752	-0.00736
____ MG	0.01539	5.87	18.567	0.01399	0.01351	0.01868
____ MN	0.00002	17.12	567.234	-0.00006	-0.00003	0.00014
____ MO	-0.00013	-0.52	810.177	0.00093	-0.00019	-0.00111
____ NA	0.02498	-31.88	92.655	0.04881	0.00258	0.02355
____ NI	0.00016	2.22	411.551	0.00088	-0.00036	-0.00005
____ P	-0.00318	0.51	45.316	-0.00398	-0.00152	-0.00403
____ PB	-0.00299	-4.65	78.113	-0.00473	-0.00390	-0.00034
____ S	-0.01979	-0.92	10.035	-0.02143	-0.02036	-0.01758
____ SB	-0.00179	0.53	131.217	-0.00092	-0.00444	0.00000
____ SE	-0.00996	-0.85	138.109	-0.00968	0.00365	-0.02385
____ SI	0.00412	4.61	82.933	0.00072	0.00755	0.00410
____ SN	0.00052	0.54	257.041	-0.00004	-0.00044	0.00203
____ SR	0.00000	-109.55	588.023	-0.00002	0.00002	0.00001
____ TH	0.08388	2.95	9.311	0.08380	0.07612	0.09174
____ TI	0.00046	44.85	18.061	0.00054	0.00046	0.00038
____ TL	-0.00268	0.90	92.070	-0.00197	-0.00065	-0.00543
____ V	-0.00077	-16.86	20.768	-0.00074	-0.00095	-0.00063
____ W	-0.00032	1.37	658.335	-0.00223	-0.00072	0.00198
____ Y1	5542.95071	5,542.95	0.098	5536.81927	5547.27327	5544.75958
____ Y2A	182793.21056	182,793.21	0.398	182411.27527	182336.25186	183632.10455
____ Y2R	3589.99546	3,590.00	0.215	3595.01364	3581.11364	3593.85909
____ ZN	-0.00096	7.12	23.723	-0.00106	-0.00113	-0.00070
____ ZR	-0.00406	-18.05	122.563	-0.00256	-0.00961	0.00000

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 12 Date/Time: 11/27/2018 09:11

Sample Number: **9870252** Class: **** Batch: 183041063701

Initial Vol: 1.20 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00854	126.35	4.459	0.00895	0.00820	0.00848
____ AL	8.88686	306.43	3.728	8.50784	9.12154	9.03121
____ AS	0.05146	0.92	8.226	0.04935	0.04870	0.05634
____ B	0.12236	1,166.05	7.260	0.13245	0.11888	0.11574
____ BA	2.03494	864,340.21	0.361	2.03625	2.02702	2.04154
____ BE	0.00077	340.01	2.509	0.00077	0.00079	0.00075
____ CA	53.03331	15,611.70	3.920	50.63714	54.35776	54.10503
____ CD	0.00126	112.99	17.390	0.00151	0.00114	0.00113
____ CO	0.03447	114.84	0.497	0.03454	0.03427	0.03459
____ CR	0.16832	1,364.24	0.618	0.16713	0.16884	0.16900
____ CU	0.47476	3,857.47	0.303	0.47376	0.47412	0.47641
____ FE	134.47905	13,851.96	4.004	128.26283	137.67384	137.50048
____ K	1.43391	250.15	3.177	1.38634	1.43827	1.47713
____ LI	0.02126	56.24	6.575	0.02014	0.02081	0.02283
____ MG	3.60074	1,779.57	4.294	3.42221	3.68979	3.69023
____ MN	1.25901	54,868.54	0.100	1.25844	1.25813	1.26045
____ MO	0.01351	12.39	14.190	0.01357	0.01539	0.01156
____ NA	1.11055	547.82	2.307	1.08180	1.11891	1.13095
____ NI	0.11418	219.18	1.614	0.11290	0.11335	0.11630
____ P	2.88419	477.38	0.331	2.87752	2.87994	2.89512
____ PB	3.00375	2,313.54	0.149	3.00760	2.99884	3.00480
____ S	15.44757	1,024.45	0.380	15.43727	15.39468	15.51076
____ SB	0.09851	18.44	3.027	0.10165	0.09816	0.09572
____ SE	0.04341	-0.52	16.728	0.05178	0.03967	0.03878
____ SI	3.25482	261.00	3.471	3.13345	3.35695	3.27406
____ SN	1.75651	600.14	0.368	1.75036	1.75590	1.76326
____ SR	0.30521	149,953.06	0.366	0.30510	0.30415	0.30638
____ TH	0.09829	8.77	29.861	0.09284	0.07205	0.12998
____ TI	0.42317	16,724.13	0.021	0.42311	0.42313	0.42328
____ TL	-0.00738	0.15	54.813	-0.00460	-0.01202	-0.00552
____ V	0.08766	929.83	0.424	0.08727	0.08801	0.08770
____ W	0.00480	27.10	64.957	0.00192	0.00437	0.00811
____ Y1	5532.39025	5,532.39	0.182	5529.62058	5543.58190	5523.96826
____ Y2A	182061.28836	182,061.29	0.165	182376.26364	182028.74639	181778.85506
____ Y2R	3711.29467	3,711.29	2.857	3833.67212	3646.47525	3653.73665
____ ZN	5.01449	22,058.25	0.216	5.01605	5.00295	5.02447
____ ZR	0.00830	-15.84	35.047	0.00659	0.01165	0.00665

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 13 Date/Time: 11/27/2018 09:14

Sample Number: **9870254** Class: **** Batch: 183041063701

Initial Vol: 1.29 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00689	97.52	3.925	0.00658	0.00700	0.00708
____ AL	13.58367	467.59	6.282	12.60087	14.01353	14.13662
____ AS	0.02726	-0.18	22.853	0.02321	0.03443	0.02414
____ B	0.08093	695.19	10.288	0.09054	0.07641	0.07584
____ BA	0.83975	353,410.71	0.621	0.83977	0.83451	0.84495
____ BE	0.00099	418.29	0.856	0.00100	0.00099	0.00098
____ CA	126.50052	37,098.91	5.660	118.23317	130.52744	130.74097
____ CD	0.01458	188.58	4.324	0.01530	0.01414	0.01429
____ CO	0.01726	64.37	0.427	0.01725	0.01734	0.01719
____ CR	0.07665	608.50	0.699	0.07618	0.07654	0.07723
____ CU	6.35975	51,045.27	0.451	6.34816	6.33865	6.39245
____ FE	79.93303	8,424.83	5.728	74.64793	82.45594	82.69520
____ K	2.32235	397.19	2.175	2.26989	2.32648	2.37068
____ LI	0.02289	73.01	8.537	0.02109	0.02497	0.02263
____ MG	5.83011	2,893.27	5.502	5.45975	6.02044	6.01014
____ MN	0.74830	32,313.82	0.161	0.74841	0.74704	0.74944
____ MO	0.00689	5.37	12.141	0.00721	0.00594	0.00752
____ NA	2.91323	1,518.60	5.059	2.74462	3.01754	2.97754
____ NI	0.10547	202.29	0.632	0.10572	0.10597	0.10471
____ P	2.66157	437.39	0.140	2.66495	2.65758	2.66218
____ PB	8.85532	6,730.17	0.232	8.85158	8.83687	8.87750
____ S	3.55502	233.40	0.944	3.51973	3.55883	3.58651
____ SB	0.01665	4.20	53.222	0.00963	0.02661	0.01371
____ SE	0.00492	-1.11	51.528	0.00729	0.00522	0.00225
____ SI	6.21628	496.69	5.033	5.85564	6.37846	6.41474
____ SN	0.53888	181.83	0.741	0.54084	0.53429	0.54151
____ SR	0.44012	214,932.12	0.318	0.43968	0.43900	0.44169
____ TH	0.08110	5.92	23.882	0.10259	0.07573	0.06498
____ TI	1.03649	40,536.18	0.032	1.03629	1.03631	1.03688
____ TL	-0.00121	0.95	869.085	0.00352	0.00610	-0.01325
____ V	0.06778	715.72	0.713	0.06829	0.06733	0.06770
____ W	0.00329	26.01	122.965	-0.00136	0.00526	0.00598
____ Y1	5456.12035	5,456.12	0.071	5458.58677	5458.09949	5451.67478
____ Y2A	180356.14281	180,356.14	0.169	180278.07167	180692.07422	180098.28255
____ Y2R	3730.11515	3,730.12	3.906	3898.18744	3652.90535	3639.25266
____ ZN	4.91397	21,329.85	0.203	4.91012	4.90650	4.92528
____ ZR	0.01808	-8.76	8.515	0.01951	0.01645	0.01828

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 14 Date/Time: 11/27/2018 09:17

Sample Number: **9872060** Class: **** Batch: 183041063701

Initial Vol: 1.34 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00144	75.04	73.492	0.00216	0.00022	0.00195
____ AL	16.55858	562.89	6.245	15.38704	17.34418	16.94451
____ AS	0.09118	-0.30	8.270	0.08251	0.09621	0.09482
____ B	0.13347	2,268.30	22.790	0.16857	0.11711	0.11474
____ BA	1.25697	526,714.19	0.520	1.25009	1.25772	1.26309
____ BE	0.00069	306.08	1.416	0.00069	0.00068	0.00069
____ CA	61.28398	17,903.10	5.392	57.47123	63.32512	63.05557
____ CD	0.01115	333.53	13.170	0.01285	0.01033	0.01028
____ CO	0.02365	88.56	1.228	0.02346	0.02351	0.02399
____ CR	0.12020	957.35	1.310	0.12041	0.11852	0.12165
____ CU	0.77050	6,151.13	0.409	0.77234	0.76687	0.77230
____ FE	314.31676	30,186.83	5.359	294.92211	322.73218	325.29600
____ K	8.81555	1,444.98	6.228	8.18158	9.13003	9.13506
____ LI	0.03257	94.61	17.857	0.02676	0.03254	0.03840
____ MG	11.26906	5,523.47	5.681	10.53017	11.65866	11.61836
____ MN	1.85828	79,882.91	0.457	1.86189	1.84858	1.86437
____ MO	0.01119	9.88	11.965	0.01265	0.01002	0.01090
____ NA	1.04519	509.47	3.930	0.99834	1.06219	1.07504
____ NI	0.11872	213.68	1.362	0.11751	0.11809	0.12056
____ P	2.51822	409.12	0.425	2.52643	2.52212	2.50610
____ PB	2.61619	1,977.54	0.354	2.60572	2.61960	2.62327
____ S	17.57943	1,143.64	0.222	17.61730	17.58155	17.53945
____ SB	0.00770	6.10	119.627	0.01815	0.00077	0.00418
____ SE	0.12668	0.23	6.012	0.13529	0.12393	0.12082
____ SI	4.22441	335.73	5.060	3.97943	4.32076	4.37303
____ SN	1.87623	628.75	0.068	1.87602	1.87506	1.87760
____ SR	0.22654	110,059.05	0.447	0.22724	0.22538	0.22700
____ TH	0.12696	16.83	19.367	0.15498	0.10899	0.11690
____ TI	1.96249	76,402.75	0.437	1.96677	1.95261	1.96807
____ TL	-0.01595	-0.96	33.968	-0.01200	-0.01373	-0.02213
____ V	0.06121	649.52	0.307	0.06143	0.06112	0.06109
____ W	0.00363	16.31	56.779	0.00246	0.00241	0.00601
____ Y1	5426.48434	5,426.48	0.178	5415.87026	5428.90678	5434.67596
____ Y2A	179596.58452	179,596.58	0.301	179111.55000	180178.78818	179499.41539
____ Y2R	3688.90315	3,688.90	3.639	3843.41471	3622.50422	3600.79051
____ ZN	2.83445	12,324.00	0.222	2.84042	2.83505	2.82788
____ ZR	0.01379	-18.00	5.946	0.01473	0.01340	0.01323

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 15 Date/Time: 11/27/2018 09:19

Sample Number: **9872061** Class: **** Batch: 183041063701

Initial Vol: 1.41 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00125	78.70	59.399	0.00041	0.00182	0.00151
____ AL	21.82566	738.65	6.112	20.30769	22.81187	22.35742
____ AS	0.24634	17.91	4.611	0.23338	0.25455	0.25109
____ B	0.17789	2,516.36	25.721	0.23050	0.14741	0.15575
____ BA	2.15997	901,110.39	0.425	2.16971	2.15870	2.15150
____ BE	0.00090	381.51	0.780	0.00090	0.00090	0.00091
____ CA	72.14702	21,001.19	5.131	67.88207	74.53178	74.02723
____ CD	0.00654	309.05	26.161	0.00852	0.00554	0.00556
____ CO	0.05375	184.49	0.200	0.05384	0.05377	0.05363
____ CR	0.13264	1,053.24	0.287	0.13291	0.13221	0.13281
____ CU	0.76580	6,072.55	0.288	0.76651	0.76756	0.76333
____ FE	336.52087	31,978.30	5.866	313.76172	349.00705	346.79384
____ K	12.49824	2,037.64	5.183	11.75264	12.92358	12.81851
____ LI	0.04914	151.44	9.112	0.04450	0.05344	0.04948
____ MG	13.57568	6,634.80	5.228	12.75933	14.04567	13.92204
____ MN	1.94367	83,190.84	0.389	1.94560	1.95007	1.93533
____ MO	0.01759	15.92	10.387	0.01657	0.01649	0.01969
____ NA	1.70948	860.19	5.320	1.60661	1.77919	1.74262
____ NI	0.17921	329.32	0.327	0.17940	0.17855	0.17967
____ P	4.08568	662.92	0.052	4.08791	4.08364	4.08550
____ PB	3.03401	2,294.06	0.191	3.02931	3.04048	3.03224
____ S	21.10401	1,372.75	0.199	21.11283	21.14089	21.05832
____ SB	0.00335	3.22	125.614	0.00686	0.00451	-0.00132
____ SE	0.14176	0.85	8.692	0.12941	0.15406	0.14180
____ SI	4.55763	361.21	6.143	4.23438	4.72371	4.71481
____ SN	2.52234	845.16	0.232	2.52735	2.52377	2.51590
____ SR	0.29029	140,368.46	0.288	0.28994	0.29125	0.28969
____ TH	0.10371	16.30	59.903	0.03397	0.15314	0.12401
____ TI	2.82127	109,350.78	0.297	2.82286	2.82873	2.81222
____ TL	-0.01720	-1.11	30.053	-0.02309	-0.01507	-0.01343
____ V	0.08268	876.91	1.953	0.08116	0.08438	0.08251
____ W	0.00484	17.89	69.387	0.00107	0.00751	0.00593
____ Y1	5426.50926	5,426.51	0.202	5417.27200	5423.64963	5438.60616
____ Y2A	178821.22709	178,821.23	0.233	178612.00552	178549.84957	179301.82617
____ Y2R	3680.25445	3,680.25	3.711	3834.12354	3573.42972	3633.21009
____ ZN	3.03158	13,181.45	0.021	3.03231	3.03106	3.03138
____ ZR	0.02026	-15.60	5.181	0.02069	0.02102	0.01906

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 16 Date/Time: 11/27/2018 09:22

Sample Number: **9872062** Class: **** Batch: 183041063701

Initial Vol: 1.25 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00029	45.89	142.464	-0.00051	-0.00056	0.00019
____ AL	13.97053	472.48	5.013	13.16413	14.42557	14.32188
____ AS	0.08862	1.44	12.731	0.07577	0.09318	0.09690
____ B	0.12136	1,851.37	21.328	0.15119	0.10486	0.10803
____ BA	3.93796	1,640,712.90	0.769	3.95211	3.90320	3.95858
____ BE	0.00085	362.25	1.281	0.00086	0.00084	0.00084
____ CA	69.85900	20,253.04	4.650	66.11203	71.58992	71.87504
____ CD	0.00100	196.00	92.984	0.00208	0.00047	0.00046
____ CO	0.03110	102.22	0.846	0.03080	0.03129	0.03120
____ CR	0.15173	1,205.14	0.553	0.15166	0.15093	0.15261
____ CU	0.97820	7,777.20	0.082	0.97833	0.97893	0.97735
____ FE	252.79824	24,655.09	5.143	237.78607	260.41863	260.19003
____ K	1.71719	292.49	4.473	1.64165	1.71471	1.79522
____ LI	0.01952	52.07	15.707	0.01598	0.02122	0.02137
____ MG	5.62144	2,741.07	4.845	5.30696	5.77846	5.77890
____ MN	1.07525	45,972.47	0.219	1.07661	1.07253	1.07660
____ MO	0.01709	15.35	5.273	0.01610	0.01729	0.01787
____ NA	1.59533	796.22	5.202	1.50003	1.63442	1.65156
____ NI	0.16537	305.15	0.330	0.16490	0.16524	0.16597
____ P	3.37648	544.41	0.320	3.36657	3.38801	3.37484
____ PB	1.86415	1,399.06	0.252	1.86128	1.86159	1.86957
____ S	12.04855	778.55	0.260	12.08087	12.04642	12.01834
____ SB	-0.00830	4.95	48.843	-0.01279	-0.00492	-0.00719
____ SE	0.09557	-0.16	16.571	0.08914	0.08396	0.11362
____ SI	4.05860	320.02	5.308	3.81190	4.15410	4.20979
____ SN	0.87817	292.44	0.782	0.87177	0.87732	0.88542
____ SR	0.33361	160,955.70	0.185	0.33414	0.33293	0.33376
____ TH	0.09720	12.92	26.849	0.09118	0.07463	0.12578
____ TI	0.51028	19,776.36	0.021	0.51039	0.51017	0.51027
____ TL	-0.00932	-0.05	17.459	-0.00834	-0.00843	-0.01120
____ V	0.05661	586.23	1.215	0.05737	0.05603	0.05643
____ W	0.00683	21.88	9.325	0.00739	0.00614	0.00697
____ Y1	5389.05816	5,389.06	0.194	5396.11362	5394.03559	5377.02527
____ Y2A	178598.22808	178,598.23	0.238	178390.59577	179087.69087	178316.39760
____ Y2R	3663.35924	3,663.36	3.110	3794.87481	3599.64930	3595.55362
____ ZN	3.72753	16,034.59	0.070	3.73055	3.72607	3.72595
____ ZR	0.02168	-12.11	33.660	0.01418	0.02875	0.02211

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 17 Date/Time: 11/27/2018 09:24

Sample Number: **9872063** Class: **** Batch: 183041063701

Initial Vol: 1.35 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00208	66.83	29.976	0.00279	0.00168	0.00175
____ AL	15.20219	521.19	4.658	14.38463	15.59803	15.62391
____ AS	0.09100	3.69	10.043	0.08218	0.09038	0.10043
____ B	0.10803	1,522.90	18.567	0.13113	0.09510	0.09784
____ BA	3.37934	1,449,294.11	0.207	3.38660	3.37880	3.37262
____ BE	0.00130	538.82	4.664	0.00135	0.00130	0.00123
____ CA	18.96883	5,628.40	4.917	17.90103	19.38054	19.62493
____ CD	0.00505	196.36	18.830	0.00615	0.00459	0.00442
____ CO	0.02624	92.62	2.336	0.02554	0.02657	0.02662
____ CR	0.11680	951.92	1.000	0.11575	0.11806	0.11660
____ CU	6.09802	49,856.08	0.666	6.05528	6.10269	6.13609
____ FE	198.03185	19,979.22	4.892	186.86184	204.12807	203.10564
____ K	1.36484	239.32	0.765	1.35928	1.37689	1.35836
____ LI	0.01375	25.77	21.264	0.01055	0.01629	0.01441
____ MG	2.04266	1,010.29	6.971	1.88400	2.08462	2.15936
____ MN	0.90357	39,768.49	0.445	0.89901	0.90510	0.90660
____ MO	0.02569	24.55	2.406	0.02629	0.02506	0.02572
____ NA	1.43202	720.58	4.048	1.36510	1.46686	1.46410
____ NI	0.16617	319.02	0.241	0.16581	0.16660	0.16609
____ P	5.38772	896.38	0.138	5.38028	5.39516	5.38773
____ PB	10.63435	8,222.56	0.112	10.62770	10.64806	10.62730
____ S	3.66459	244.38	0.149	3.65830	3.66769	3.66777
____ SB	0.01664	6.01	37.819	0.02306	0.01636	0.01049
____ SE	0.07345	-0.63	8.836	0.06698	0.07340	0.07996
____ SI	5.30390	423.20	3.754	5.07492	5.40075	5.43603
____ SN	1.39572	478.54	0.505	1.39251	1.40381	1.39085
____ SR	0.23285	115,196.03	0.383	0.23195	0.23286	0.23374
____ TH	0.06625	9.48	32.798	0.07940	0.07819	0.04117
____ TI	0.91899	36,637.57	0.192	0.91740	0.91869	0.92089
____ TL	-0.00838	0.09	112.487	-0.01912	-0.00153	-0.00448
____ V	0.06432	687.82	0.369	0.06440	0.06406	0.06451
____ W	0.00471	20.40	30.652	0.00597	0.00314	0.00503
____ Y1	5550.85366	5,550.85	0.138	5553.69432	5542.15990	5556.70676
____ Y2A	183835.13011	183,835.13	0.336	184547.91179	183459.70909	183497.76944
____ Y2R	3716.68243	3,716.68	2.916	3841.82526	3653.43295	3654.78907
____ ZN	3.41190	15,133.81	0.355	3.40684	3.42573	3.40314
____ ZR	0.01825	-12.96	26.569	0.02353	0.01398	0.01725

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 18 Date/Time: 11/27/2018 09:27

Sample Number: **9872064** Class: **** Batch: 183041063701

Initial Vol: 1.33 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00718	117.60	7.521	0.00777	0.00707	0.00671
____ AL	10.89453	376.31	4.380	10.34351	11.17510	11.16499
____ AS	0.06586	2.02	1.103	0.06669	0.06537	0.06551
____ B	0.09675	1,229.94	12.690	0.11066	0.08745	0.09213
____ BA	2.12835	911,472.06	0.580	2.13994	2.11537	2.12975
____ BE	0.00095	408.17	4.011	0.00092	0.00099	0.00093
____ CA	35.99316	10,677.00	3.702	34.46970	36.94224	36.56755
____ CD	0.01203	226.89	5.328	0.01277	0.01163	0.01170
____ CO	0.02300	80.92	2.965	0.02321	0.02224	0.02356
____ CR	0.54185	4,456.54	0.539	0.53885	0.54468	0.54202
____ CU	4.11921	33,635.84	0.545	4.09959	4.14371	4.11434
____ FE	155.69912	16,001.72	4.280	148.03248	160.09612	158.96875
____ K	2.48481	423.75	4.346	2.36989	2.58421	2.50033
____ LI	0.01766	41.82	2.046	0.01738	0.01752	0.01807
____ MG	4.73687	2,352.99	3.781	4.53517	4.87733	4.79811
____ MN	0.97140	42,688.75	0.487	0.96637	0.97577	0.97205
____ MO	0.02198	20.79	1.775	0.02186	0.02241	0.02166
____ NA	1.81059	926.80	3.845	1.73082	1.84194	1.85901
____ NI	0.18397	356.17	0.301	0.18431	0.18428	0.18333
____ P	2.12597	354.71	0.300	2.11861	2.13003	2.12926
____ PB	2.03898	1,574.33	0.026	2.03915	2.03940	2.03839
____ S	23.78604	1,579.47	0.391	23.68066	23.85717	23.82030
____ SB	-0.00104	5.65	665.504	0.00670	-0.00664	-0.00318
____ SE	0.06615	0.51	13.428	0.05854	0.07591	0.06401
____ SI	4.13288	331.95	3.206	3.98018	4.21753	4.20094
____ SN	0.65203	223.43	0.256	0.65331	0.65014	0.65263
____ SR	0.20361	100,831.95	0.372	0.20286	0.20438	0.20359
____ TH	0.07770	8.52	20.312	0.06228	0.09381	0.07700
____ TI	0.67355	26,826.17	0.348	0.67110	0.67578	0.67378
____ TL	-0.01088	-0.21	66.682	-0.01275	-0.00287	-0.01701
____ V	0.06237	664.74	0.589	0.06194	0.06257	0.06259
____ W	0.00784	44.04	19.988	0.00674	0.00963	0.00714
____ Y1	5543.58377	5,543.58	0.305	5524.75973	5548.46305	5557.52852
____ Y2A	183561.85302	183,561.85	0.173	183650.71436	183210.01818	183824.82650
____ Y2R	3729.80274	3,729.80	2.353	3830.23581	3667.82519	3691.34722
____ ZN	8.27504	36,460.66	0.204	8.25775	8.29152	8.27586
____ ZR	0.01881	-11.05	6.381	0.01752	0.01989	0.01903

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 19 Date/Time: 11/27/2018 09:29

Sample Number: **9872065** Class: **** Batch: 183041063701

Initial Vol: 1.44 Final Vol: 100.00 DF: 5.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.05289	648.37	1.249	0.05359	0.05228	0.05280
____ AL	20.79948	727.98	5.110	19.58470	21.25521	21.55852
____ AS	0.02020	-0.40	32.248	0.02195	0.02566	0.01299
____ B	0.06191	555.70	9.064	0.06820	0.05740	0.06013
____ BA	1.57487	687,790.85	0.647	1.57918	1.58220	1.56324
____ BE	0.00137	575.03	1.007	0.00138	0.00136	0.00136
____ CA	34.24710	10,360.27	4.322	32.53931	35.04208	35.15992
____ CD	0.02350	264.01	1.056	0.02377	0.02329	0.02343
____ CO	0.01502	57.01	2.600	0.01527	0.01457	0.01521
____ CR	0.25223	2,108.48	0.255	0.25173	0.25296	0.25200
____ CU	3.21632	26,788.41	0.492	3.22071	3.22948	3.19878
____ FE	62.21823	6,731.36	4.734	58.81925	64.01417	63.82126
____ K	2.80516	485.19	9.619	2.51304	2.85738	3.04506
____ LI	0.02490	67.26	6.528	0.02308	0.02541	0.02620
____ MG	8.05852	4,078.05	4.427	7.64756	8.23971	8.28828
____ MN	0.73723	33,042.12	0.060	0.73769	0.73720	0.73681
____ MO	0.00253	1.88	47.115	0.00187	0.00181	0.00391
____ NA	1.54967	801.84	4.341	1.47212	1.59241	1.58448
____ NI	0.26696	537.05	0.400	0.26593	0.26691	0.26806
____ P	35.85847	6,066.18	0.091	35.89603	35.83877	35.84060
____ PB	1.08609	858.62	0.284	1.08254	1.08815	1.08759
____ S	4.43834	302.02	0.311	4.44403	4.44838	4.42262
____ SB	-0.00139	1.58	216.010	0.00164	-0.00144	-0.00438
____ SE	0.03290	1.06	77.616	0.02661	0.01109	0.06098
____ SI	5.64040	460.02	4.308	5.36132	5.75502	5.80485
____ SN	0.49448	173.32	0.302	0.49604	0.49432	0.49307
____ SR	0.30865	155,648.12	0.171	0.30912	0.30877	0.30808
____ TH	0.07291	4.89	43.018	0.06192	0.04851	0.10828
____ TI	0.57704	23,440.51	0.173	0.57735	0.57784	0.57592
____ TL	-0.00465	0.58	170.391	-0.01368	-0.00139	0.00112
____ V	0.08506	930.35	0.994	0.08586	0.08515	0.08418
____ W	0.00081	31.82	279.038	0.00150	-0.00171	0.00263
____ Y1	5667.06536	5,667.07	0.278	5674.39247	5649.00870	5677.79492
____ Y2A	187190.63612	187,190.64	0.408	186638.74498	186870.63042	188062.53295
____ Y2R	3803.67706	3,803.68	3.103	3939.81691	3730.00854	3741.20571
____ ZN	6.29847	28,354.85	0.063	6.30229	6.29874	6.29437
____ ZR	0.00890	-13.94	49.085	0.00885	0.01329	0.00456

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 20 Date/Time: 11/27/2018 09:32

Sample Number: **9874411** Class: **** Batch: 183041063701

Initial Vol: 1.00 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00692	-34.53	16.671	-0.00812	-0.00682	-0.00582
____ AL	81.46642	2,897.00	3.860	77.83991	83.44337	83.11598
____ AS	0.05845	-1.22	22.309	0.05132	0.07350	0.05053
____ B	0.16043	1,895.47	12.382	0.18336	0.14941	0.14851
____ BA	0.27042	119,151.93	0.128	0.27009	0.27078	0.27037
____ BE	0.00570	2,220.81	0.753	0.00567	0.00575	0.00568
____ CA	9.95645	3,095.48	4.035	9.49432	10.15273	10.22231
____ CD	-0.00433	140.18	18.175	-0.00343	-0.00471	-0.00486
____ CO	0.13009	445.44	0.476	0.13078	0.12992	0.12958
____ CR	0.45446	3,839.58	0.187	0.45351	0.45513	0.45474
____ CU	0.24713	2,041.43	0.694	0.24569	0.24902	0.24667
____ FE	235.19534	24,400.44	4.175	223.87086	240.39266	241.32251
____ K	11.72311	2,012.96	2.993	11.34775	11.77883	12.04274
____ LI	0.10105	332.28	1.924	0.10003	0.09983	0.10329
____ MG	26.67068	13,666.93	4.114	25.41018	27.18982	27.41205
____ MN	1.56942	70,875.46	0.149	1.56837	1.57210	1.56781
____ MO	0.00198	1.52	47.464	0.00138	0.00307	0.00149
____ NA	1.06614	546.63	2.434	1.03666	1.07619	1.08556
____ NI	1.06380	2,153.50	0.384	1.06833	1.06264	1.06041
____ P	1.99271	341.07	0.540	1.98940	2.00474	1.98398
____ PB	0.11441	101.13	0.928	0.11405	0.11359	0.11561
____ S	39.05331	2,674.31	0.175	39.12243	39.05135	38.98614
____ SB	-0.03863	3.86	8.172	-0.03499	-0.04029	-0.04062
____ SE	0.10634	0.87	6.776	0.10018	0.10459	0.11427
____ SI	21.64678	1,784.80	4.019	20.64346	22.19381	22.10306
____ SN	0.02293	8.45	7.520	0.02095	0.02372	0.02411
____ SR	0.07348	37,284.91	0.241	0.07340	0.07369	0.07336
____ TH	0.11826	14.13	5.977	0.11363	0.11476	0.12640
____ TI	4.13521	169,091.84	0.226	4.12762	4.14567	4.13232
____ TL	-0.00793	0.11	78.113	-0.01315	-0.00955	-0.00109
____ V	0.28909	3,225.90	0.126	0.28938	0.28921	0.28868
____ W	0.00272	5.33	23.125	0.00323	0.00291	0.00202
____ Y1	5716.24741	5,716.25	0.307	5708.58641	5703.83846	5736.31737
____ Y2A	188664.63944	188,664.64	0.139	188509.70133	188968.08182	188516.13518
____ Y2R	3870.81050	3,870.81	2.203	3968.65517	3831.39219	3812.38414
____ ZN	0.32758	1,611.92	0.912	0.33064	0.32744	0.32467
____ ZR	0.06763	15.86	5.521	0.06538	0.07194	0.06557

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 21 Date/Time: 11/27/2018 09:34

Sample Number: **9874412** Class: **** Batch: 183041063701

Initial Vol: 1.14 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.06290	792.62	0.836	0.06288	0.06239	0.06344
____ AL	61.25322	2,144.88	2.697	59.34655	62.15343	62.25969
____ AS	0.18860	12.28	5.588	0.17685	0.19720	0.19176
____ B	0.30566	2,698.41	6.719	0.32938	0.29364	0.29397
____ BA	6.19751	2,632,053.48	0.795	6.22290	6.22887	6.14075
____ BE	0.00643	2,409.88	0.305	0.00642	0.00645	0.00641
____ CA	177.29202	52,921.85	2.751	171.81878	178.87836	181.17893
____ CD	0.01383	361.44	7.770	0.01507	0.01314	0.01329
____ CO	0.07923	268.54	0.324	0.07948	0.07923	0.07897
____ CR	0.61743	5,038.30	0.531	0.61386	0.62031	0.61812
____ CU	2.41304	19,556.64	0.533	2.40915	2.42739	2.40259
____ FE	311.63820	30,983.37	3.402	299.49635	316.35291	319.06534
____ K	15.13255	2,553.93	3.131	14.59689	15.30365	15.49710
____ LI	0.11508	401.39	3.450	0.11219	0.11961	0.11343
____ MG	19.75275	9,989.98	2.772	19.14124	19.91935	20.19765
____ MN	2.98655	130,126.58	0.265	2.98474	2.99522	2.97968
____ MO	0.03700	34.52	2.717	0.03729	0.03588	0.03783
____ NA	12.86105	7,019.71	2.924	12.42886	13.04026	13.11403
____ NI	0.40868	792.75	0.088	0.40841	0.40909	0.40853
____ P	7.37298	1,224.75	0.107	7.37351	7.38062	7.36480
____ PB	5.89741	4,571.39	0.316	5.91714	5.89497	5.88012
____ S	38.48558	2,562.41	0.178	38.51390	38.40765	38.53520
____ SB	0.04281	19.37	29.143	0.04811	0.05177	0.02856
____ SE	0.11558	0.83	8.190	0.12524	0.11517	0.10632
____ SI	25.97343	2,107.84	2.293	25.29054	26.24550	26.38424
____ SN	0.75860	260.53	0.193	0.75903	0.75697	0.75980
____ SR	1.10007	540,555.79	0.591	1.10656	1.10010	1.09355
____ TH	0.14888	18.48	25.059	0.16545	0.10616	0.17503
____ TI	2.96222	116,900.00	0.183	2.95792	2.96831	2.96042
____ TL	-0.00925	-0.26	76.257	-0.00347	-0.00717	-0.01711
____ V	0.52901	5,664.92	0.347	0.52693	0.53039	0.52971
____ W	0.13331	102.41	3.222	0.13204	0.12980	0.13810
____ Y1	5556.91345	5,556.91	0.176	5546.92686	5566.42854	5557.38494
____ Y2A	182056.52802	182,056.53	0.525	181673.32498	181351.85455	183144.40455
____ Y2R	3811.67427	3,811.67	1.966	3897.34698	3779.30120	3758.37464
____ ZN	5.68323	25,184.19	0.243	5.69918	5.67549	5.67503
____ ZR	0.09958	32.49	1.895	0.10029	0.09745	0.10102

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 22

Date/Time: 11/27/2018 09:36

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49636	5,715.09	0.769	0.49405	0.50076	0.49425
____ AL	24.36667	812.66	2.230	23.73935	24.68577	24.67490
____ AS	0.50436	60.71	0.552	0.50381	0.50738	0.50189
____ B	0.51181	1,509.47	0.925	0.51182	0.51655	0.50708
____ BA	0.50935	214,468.67	0.363	0.50882	0.51141	0.50782
____ BE	0.49253	178,462.92	0.495	0.49121	0.49534	0.49103
____ CA	24.50030	7,063.39	2.250	23.86687	24.87079	24.76325
____ CD	0.50040	4,495.24	0.083	0.50004	0.50029	0.50085
____ CO	0.50543	1,555.66	0.509	0.50247	0.50672	0.50710
____ CR	0.52571	4,244.77	0.709	0.52162	0.52893	0.52657
____ CU	0.51326	4,239.97	0.410	0.51242	0.51565	0.51169
____ FE	24.55822	2,561.91	2.028	23.99970	24.95579	24.71918
____ K	24.71702	3,947.24	1.381	24.33122	24.98013	24.83970
____ LI	0.50144	1,625.79	2.306	0.48809	0.50779	0.50844
____ MG	24.50781	11,740.47	2.013	23.94231	24.84914	24.73198
____ MN	0.50816	21,921.54	0.331	0.50816	0.50984	0.50648
____ MO	0.53973	519.99	0.320	0.53799	0.53975	0.54145
____ NA	24.38792	12,667.03	1.706	23.90757	24.63653	24.61966
____ NI	0.50534	987.81	0.038	0.50551	0.50513	0.50537
____ P	0.50617	84.20	1.451	0.50487	0.49956	0.51408
____ PB	0.49777	380.94	0.770	0.49368	0.49835	0.50128
____ S	25.10874	1,646.97	0.226	25.07022	25.08209	25.17392
____ SB	0.53798	109.03	1.050	0.53609	0.53351	0.54433
____ SE	0.51720	45.92	4.509	0.50687	0.54390	0.50084
____ SI	24.76845	1,906.77	1.605	24.31646	25.06371	24.92518
____ SN	0.53295	180.90	0.333	0.53185	0.53199	0.53499
____ SR	0.51452	249,440.87	0.863	0.50968	0.51842	0.51544
____ TH	0.48969	24.56	4.392	0.46590	0.49541	0.50776
____ TI	0.55059	21,567.57	0.427	0.55031	0.55308	0.54840
____ TL	0.50590	60.72	2.851	0.50307	0.49309	0.52153
____ V	0.54410	5,663.40	0.493	0.54101	0.54541	0.54588
____ W	0.50583	282.15	0.297	0.50505	0.50487	0.50756
____ Y1	5485.29827	5,485.30	0.252	5483.67597	5499.86463	5472.35420
____ Y2A	180228.12356	180,228.12	0.475	180946.13886	179280.40000	180457.83182
____ Y2R	3614.76330	3,614.76	1.274	3667.80946	3584.95833	3591.52211
____ ZN	0.50650	2,236.92	0.283	0.50668	0.50498	0.50783
____ ZR	0.53708	292.02	2.865	0.51934	0.54519	0.54672

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 23

Date/Time: 11/27/2018 09:39

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00050	10.57	38.208	0.00045	0.00071	0.00034
____ AL	0.11063	8.50	73.460	0.12187	0.18570	0.02433
____ AS	0.00248	-0.60	332.810	0.01188	-0.00080	-0.00363
____ B	0.00060	2.49	201.704	0.00100	-0.00076	0.00154
____ BA	0.00036	268.05	9.795	0.00039	0.00037	0.00032
____ BE	-0.00001	56.98	45.329	-0.00001	-0.00001	0.00000
____ CA	0.02239	35.97	19.493	0.02511	0.01736	0.02470
____ CD	-0.00039	-4.56	49.421	-0.00053	-0.00017	-0.00046
____ CO	-0.00034	5.09	77.995	-0.00004	-0.00042	-0.00055
____ CR	-0.00011	-13.95	800.602	-0.00027	-0.00087	0.00082
____ CU	-0.00129	-9.16	150.443	-0.00320	-0.00137	0.00069
____ FE	0.01916	7.42	110.510	0.00927	0.04348	0.00474
____ K	-0.04427	8.55	249.150	-0.07722	0.07874	-0.13432
____ LI	-0.00292	-32.17	51.438	-0.00169	-0.00459	-0.00247
____ MG	0.00660	1.67	30.266	0.00757	0.00430	0.00793
____ MN	0.00016	24.70	83.919	0.00001	0.00023	0.00025
____ MO	0.00011	-0.29	728.671	-0.00083	0.00060	0.00057
____ NA	0.02421	-32.46	56.669	0.03981	0.01405	0.01876
____ NI	0.00021	2.34	189.823	0.00052	0.00036	-0.00024
____ P	0.00105	1.22	79.255	0.00176	0.00125	0.00013
____ PB	-0.00249	-4.31	147.062	-0.00425	0.00172	-0.00492
____ S	0.00833	0.95	82.699	0.01335	0.01117	0.00048
____ SB	-0.00521	-0.16	94.041	-0.01027	-0.00487	-0.00049
____ SE	0.00747	0.71	65.741	0.01028	0.01034	0.00180
____ SI	-0.01401	3.27	198.906	0.01797	-0.02689	-0.03311
____ SN	-0.00045	0.21	335.462	-0.00152	-0.00112	0.00128
____ SR	0.00006	-83.80	63.503	0.00010	0.00003	0.00004
____ TH	0.04986	1.25	86.711	0.08104	0.06804	0.00050
____ TI	0.00053	48.25	51.358	0.00031	0.00083	0.00045
____ TL	-0.00722	0.36	69.576	-0.00154	-0.00906	-0.01107
____ V	-0.00033	-12.56	102.962	-0.00068	-0.00002	-0.00027
____ W	-0.00074	1.15	17.183	-0.00060	-0.00077	-0.00085
____ Y1	5574.02414	5,574.02	0.203	5580.53024	5560.97096	5580.57121
____ Y2A	185161.62688	185,161.63	0.141	184963.21818	185457.20112	185064.46132
____ Y2R	3612.85758	3,612.86	0.884	3647.88182	3585.35455	3605.33636
____ ZN	-0.00014	10.83	75.778	-0.00006	-0.00009	-0.00025
____ ZR	-0.00482	-19.35	181.930	-0.01150	-0.00807	0.00511

LANCASTER LABORATORIES

Run Name: 1833102T73 Instrument ID: 18255

Tube: 24 Date/Time: 11/27/2018 09:41

Sample Number: **9874413** Class: **** Batch: 183041063701

Initial Vol: 1.34 Final Vol: 100.00 DF: 1.00 Protocol Symbol: DU

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.03037	392.95	2.239	0.02978	0.03111	0.03021
____ AL	30.68815	1,068.03	2.458	29.84736	31.30598	30.91113
____ AS	0.14116	11.79	1.692	0.14341	0.14141	0.13865
____ B	0.12306	1,268.48	8.055	0.13447	0.11655	0.11816
____ BA	2.95270	1,275,711.22	0.049	2.95111	2.95395	2.95305
____ BE	0.00375	1,456.43	0.723	0.00372	0.00376	0.00377
____ CA	97.81748	29,211.71	3.061	94.36489	99.70772	99.37981
____ CD	0.01401	244.25	2.398	0.01437	0.01395	0.01371
____ CO	0.05316	183.41	1.795	0.05212	0.05400	0.05336
____ CR	0.21369	1,765.27	0.257	0.21395	0.21406	0.21306
____ CU	1.43056	11,787.52	0.426	1.42352	1.43390	1.43426
____ FE	152.26609	15,895.62	3.053	146.90018	154.85513	155.04297
____ K	4.03496	687.79	4.032	3.84743	4.13847	4.11897
____ LI	0.06420	211.64	6.326	0.06339	0.06861	0.06061
____ MG	7.29120	3,672.21	3.178	7.02367	7.42865	7.42128
____ MN	1.18290	52,440.90	0.290	1.18501	1.18473	1.17895
____ MO	0.04094	39.37	4.270	0.04274	0.04085	0.03924
____ NA	2.05028	1,070.94	3.222	1.98061	2.05817	2.11204
____ NI	0.37452	742.25	0.399	0.37286	0.37577	0.37494
____ P	4.35151	731.10	0.340	4.35870	4.36134	4.33449
____ PB	4.77640	3,739.20	0.059	4.77882	4.77704	4.77334
____ S	68.29282	4,593.96	0.442	68.16282	68.63774	68.07792
____ SB	0.05715	16.49	12.682	0.06379	0.05824	0.04942
____ SE	0.05159	0.03	11.038	0.05816	0.04842	0.04818
____ SI	11.82967	955.43	2.730	11.45679	12.02064	12.01158
____ SN	0.48274	167.73	0.780	0.48679	0.47934	0.48210
____ SR	0.67009	334,762.87	0.811	0.66797	0.67627	0.66603
____ TH	0.08568	8.96	53.129	0.09010	0.03811	0.12882
____ TI	1.84480	74,064.92	0.210	1.84395	1.84903	1.84142
____ TL	-0.00740	0.34	60.974	-0.00230	-0.00903	-0.01086
____ V	0.87600	9,528.87	0.201	0.87506	0.87803	0.87491
____ W	0.01388	89.85	1.059	0.01379	0.01380	0.01405
____ Y1	5617.13409	5,617.13	0.154	5625.74668	5608.39594	5617.25966
____ Y2A	185194.98013	185,194.98	0.302	185504.30870	184549.11467	185531.51703
____ Y2R	3783.18267	3,783.18	2.171	3878.01188	3734.83182	3736.70430
____ ZN	17.36300	77,401.60	0.369	17.32397	17.43685	17.32818
____ ZR	0.04603	5.02	1.848	0.04686	0.04606	0.04516

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 25

Date/Time: 11/27/2018 09:44

Sample Number: **LLC**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00128	-8.07	63.917	0.00049	0.00122	0.00213
____ AL	0.47678	21.90	23.680	0.46389	0.37088	0.59557
____ AS	0.05499	6.04	6.881	0.05247	0.05934	0.05315
____ B	0.04659	137.77	1.692	0.04592	0.04640	0.04746
____ BA	0.00599	2,765.70	2.989	0.00619	0.00594	0.00584
____ BE	0.00495	1,928.97	0.684	0.00498	0.00495	0.00491
____ CA	0.52781	182.78	2.504	0.51336	0.53079	0.53929
____ CD	0.00487	43.87	2.094	0.00492	0.00475	0.00494
____ CO	0.00490	21.68	4.577	0.00485	0.00471	0.00515
____ CR	0.01627	124.18	0.638	0.01638	0.01617	0.01626
____ CU	0.01418	243.16	11.342	0.01244	0.01562	0.01448
____ FE	0.23227	30.02	7.555	0.21332	0.24796	0.23554
____ K	0.50882	97.30	27.817	0.55010	0.62512	0.35123
____ LI	0.05062	144.58	8.369	0.04884	0.05545	0.04756
____ MG	0.11194	52.90	5.430	0.10549	0.11278	0.11756
____ MN	0.01086	494.31	1.290	0.01101	0.01082	0.01074
____ MO	0.01115	10.64	4.612	0.01159	0.01058	0.01127
____ NA	1.00736	483.57	1.634	0.99667	1.02631	0.99909
____ NI	0.01155	25.10	5.715	0.01197	0.01079	0.01189
____ P	0.10260	18.32	3.105	0.10505	0.10375	0.09900
____ PB	0.01171	7.10	21.219	0.00992	0.01066	0.01454
____ S	0.55088	37.39	1.021	0.54441	0.55364	0.55458
____ SB	0.05277	11.59	4.470	0.05021	0.05324	0.05485
____ SE	0.06873	6.34	15.810	0.05641	0.07285	0.07693
____ SI	0.49682	42.73	1.254	0.50390	0.49216	0.49441
____ SN	0.05519	19.58	5.995	0.05648	0.05143	0.05767
____ SR	0.00543	2,633.66	0.389	0.00543	0.00544	0.00540
____ TH	0.43426	20.90	8.767	0.47737	0.42014	0.40527
____ TI	0.01156	498.30	2.017	0.01131	0.01178	0.01158
____ TL	0.02892	4.72	8.214	0.02671	0.02862	0.03143
____ V	0.01036	106.71	4.770	0.01034	0.00988	0.01087
____ W	0.03038	18.84	3.682	0.03061	0.02917	0.03137
____ Y1	5635.44686	5,635.45	0.333	5643.93153	5648.46153	5613.94751
____ Y2A	187928.21035	187,928.21	0.248	187492.82965	187872.25768	188419.54373
____ Y2R	3641.46667	3,641.47	0.190	3633.52727	3644.62273	3646.25000
____ ZN	0.02121	106.75	0.308	0.02127	0.02122	0.02114
____ ZR	0.05880	24.80	12.755	0.05080	0.05995	0.06566

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 26

Date/Time: 11/27/2018 09:47

Sample Number: **ICSA**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	-0.00457	-11.29	9.442	-0.00415	-0.00455	-0.00501
____ AL	489.03540	15,894.45	1.847	478.69766	492.99624	495.41230
____ AS	-0.00488	-4.55	110.986	0.00019	-0.00424	-0.01060
____ B	0.06189	1,243.83	15.272	0.07280	0.05616	0.05671
____ BA	0.00079	398.86	6.684	0.00082	0.00082	0.00073
____ BE	-0.00022	-20.23	6.697	-0.00022	-0.00021	-0.00024
____ CA	498.58707	131,214.66	1.855	487.92200	503.47486	504.36435
____ CD	-0.00306	92.03	1.706	-0.00301	-0.00311	-0.00304
____ CO	-0.00043	4.26	135.721	-0.00106	0.00009	-0.00031
____ CR	0.00191	2.45	75.166	0.00068	0.00155	0.00348
____ CU	-0.00252	62.60	22.699	-0.00305	-0.00191	-0.00261
____ FE	200.37315	18,861.06	1.743	196.40366	201.73690	202.97888
____ K	0.07386	26.35	153.482	0.12608	-0.05620	0.15169
____ LI	-0.00882	20.15	58.866	-0.01003	-0.00313	-0.01331
____ MG	527.16716	205,902.66	2.097	514.43058	532.82042	534.25047
____ MN	0.00489	202.27	6.031	0.00498	0.00513	0.00456
____ MO	-0.00161	-4.78	113.777	0.00002	-0.00358	-0.00126
____ NA	0.03274	-27.02	67.079	0.00740	0.04637	0.04443
____ NI	0.02403	33.75	1.313	0.02434	0.02403	0.02371
____ P	-0.00117	0.75	233.610	0.00193	-0.00322	-0.00220
____ PB	-0.00361	59.69	134.754	0.00201	-0.00633	-0.00650
____ S	-0.05564	-1.28	7.861	-0.05059	-0.05829	-0.05804
____ SB	-0.01499	2.86	68.915	-0.00535	-0.02589	-0.01373
____ SE	0.01418	-0.74	90.935	0.00100	0.01478	0.02677
____ SI	-0.01031	3.37	407.847	-0.05333	-0.00824	0.03066
____ SN	0.00159	0.81	196.558	0.00381	0.00296	-0.00199
____ SR	0.00055	6,103.51	42.005	0.00080	0.00047	0.00036
____ TH	0.08834	10.00	24.921	0.10195	0.10012	0.06294
____ TI	-0.00122	-19.21	10.761	-0.00114	-0.00137	-0.00114
____ TL	0.00282	1.38	287.470	0.00064	0.01180	-0.00398
____ V	0.00064	-1.23	121.799	0.00154	0.00014	0.00024
____ W	0.00407	6.59	99.591	0.00571	-0.00055	0.00706
____ Y1	4940.48050	4,940.48	0.112	4943.60746	4943.72017	4934.11386
____ Y2A	160712.99709	160,713.00	0.067	160754.15411	160590.68676	160794.15041
____ Y2R	3467.54796	3,467.55	1.204	3515.73287	3442.27836	3444.63264
____ ZN	0.01002	115.39	3.693	0.01045	0.00984	0.00978
____ ZR	0.00985	-16.27	30.810	0.00649	0.01239	0.01066

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 27

Date/Time: 11/27/2018 09:49

Sample Number: **ICSAB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.21509	2,237.17	0.504	0.21602	0.21390	0.21535
____ AL	494.84488	16,004.97	0.912	489.64509	497.11583	497.77371
____ AS	0.09146	6.16	8.541	0.09209	0.08336	0.09894
____ B	0.06222	1,248.35	8.444	0.06784	0.05743	0.06140
____ BA	0.50973	190,391.75	0.166	0.51070	0.50913	0.50938
____ BE	0.51467	165,594.32	0.156	0.51545	0.51470	0.51385
____ CA	503.61135	131,785.22	0.706	499.52944	506.04414	505.26048
____ CD	0.94703	7,752.50	0.202	0.94921	0.94567	0.94620
____ CO	0.47187	1,305.80	0.147	0.47143	0.47151	0.47267
____ CR	0.51709	3,707.34	0.170	0.51787	0.51726	0.51614
____ CU	0.53791	3,904.52	0.312	0.53985	0.53692	0.53695
____ FE	202.12600	18,915.10	1.618	198.35072	204.08328	203.94400
____ K	0.12734	34.29	45.366	0.16022	0.16117	0.06064
____ LI	-0.01615	-2.15	0.640	-0.01627	-0.01609	-0.01608
____ MG	518.70827	202,159.02	0.456	516.25294	520.97636	518.89551
____ MN	0.49873	19,115.59	0.278	0.49813	0.50031	0.49773
____ MO	-0.00228	-5.39	65.722	-0.00280	-0.00059	-0.00344
____ NA	0.04317	-21.58	42.798	0.04733	0.05920	0.02296
____ NI	0.94131	1,647.58	0.288	0.94023	0.94439	0.93931
____ P	0.00848	2.41	67.919	0.01355	0.00968	0.00222
____ PB	0.50829	412.76	0.670	0.51166	0.50485	0.50837
____ S	-0.06804	-1.80	26.024	-0.04767	-0.07972	-0.07674
____ SB	0.68335	130.64	1.915	0.69359	0.66861	0.68786
____ SE	0.60518	46.49	2.400	0.59262	0.62109	0.60184
____ SI	-0.01290	3.16	32.789	-0.01016	-0.01077	-0.01777
____ SN	0.00025	0.38	456.209	-0.00033	0.00156	-0.00049
____ SR	0.00051	6,120.36	27.208	0.00066	0.00045	0.00041
____ TH	0.06598	8.92	7.903	0.06014	0.06760	0.07019
____ TI	-0.00184	-22.50	16.357	-0.00152	-0.00188	-0.00212
____ TL	0.09830	11.60	10.162	0.09435	0.10966	0.09089
____ V	0.53231	4,998.00	0.306	0.53276	0.53050	0.53366
____ W	-0.00050	8.57	258.045	-0.00201	0.00028	0.00022
____ Y1	4940.34212	4,940.34	0.372	4920.18095	4956.17129	4944.67413
____ Y2A	160037.62363	160,037.62	0.093	160102.21827	160143.30707	159867.34555
____ Y2R	3449.13765	3,449.14	0.503	3466.13182	3449.83061	3431.45051
____ ZN	1.03748	4,161.43	0.279	1.04062	1.03492	1.03691
____ ZR	0.00695	-18.24	52.996	0.00907	0.00908	0.00270

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 28

Date/Time: 11/27/2018 09:51

Sample Number: **CCV**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.49705	5,729.48	1.004	0.49316	0.49532	0.50267
____ AL	24.48344	814.30	1.364	24.09787	24.67747	24.67497
____ AS	0.50683	61.18	2.413	0.49418	0.51858	0.50772
____ B	0.50914	1,502.12	0.714	0.51205	0.50506	0.51032
____ BA	0.50984	214,953.30	0.471	0.51050	0.50718	0.51184
____ BE	0.49168	178,387.34	0.440	0.49269	0.48919	0.49314
____ CA	24.43417	7,024.89	1.373	24.06213	24.52691	24.71346
____ CD	0.49858	4,489.98	0.699	0.49461	0.50115	0.49996
____ CO	0.50396	1,555.05	0.825	0.49957	0.50783	0.50448
____ CR	0.52737	4,263.82	0.413	0.52602	0.52620	0.52988
____ CU	0.51054	4,227.65	0.439	0.51091	0.50813	0.51257
____ FE	24.23941	2,521.93	1.132	23.92998	24.33514	24.45312
____ K	24.81385	3,951.33	1.608	24.35525	25.00551	25.08080
____ LI	0.50724	1,640.28	0.638	0.50384	0.51028	0.50759
____ MG	24.21297	11,567.68	1.788	23.71721	24.40606	24.51562
____ MN	0.50620	21,864.98	0.469	0.50868	0.50394	0.50598
____ MO	0.53897	520.57	0.592	0.53556	0.54188	0.53946
____ NA	24.51694	12,698.29	1.532	24.10310	24.61126	24.83646
____ NI	0.50140	982.61	0.576	0.49860	0.50437	0.50122
____ P	0.49760	83.00	1.056	0.49229	0.50279	0.49773
____ PB	0.49745	381.69	0.991	0.49179	0.49976	0.50081
____ S	25.07354	1,648.84	0.496	24.93058	25.15708	25.13297
____ SB	0.52643	106.99	0.955	0.52615	0.53158	0.52154
____ SE	0.50235	44.72	1.755	0.49217	0.50750	0.50738
____ SI	24.72688	1,898.19	1.037	24.46210	24.74480	24.97375
____ SN	0.53120	180.76	0.960	0.52544	0.53516	0.53299
____ SR	0.50882	247,006.42	0.566	0.50635	0.51198	0.50811
____ TH	0.50236	25.12	1.606	0.50448	0.50917	0.49345
____ TI	0.54851	21,514.27	0.392	0.55034	0.54615	0.54905
____ TL	0.50943	61.29	1.459	0.50087	0.51428	0.51314
____ V	0.54503	5,680.85	0.455	0.54586	0.54224	0.54699
____ W	0.50115	280.28	1.172	0.49672	0.50781	0.49892
____ Y1	5499.20435	5,499.20	0.383	5522.60963	5481.72460	5493.27882
____ Y2A	180461.89581	180,461.90	0.180	180235.83794	180834.52273	180315.32675
____ Y2R	3604.17515	3,604.18	0.423	3619.60935	3603.78350	3589.13260
____ ZN	0.50414	2,232.06	0.658	0.50097	0.50759	0.50387
____ ZR	0.53439	290.02	1.050	0.53403	0.52897	0.54018

LANCASTER LABORATORIES

Run Name: 1833102T73

Instrument ID: 18255

Tube: 29

Date/Time: 11/27/2018 09:54

Sample Number: **CCB**

ELEMENT	AVERAGE CONC (ppm)	AVERAGE INTENSITY	%RSD	INTEGRATIONS #1	#2	#3
____ AG	0.00023	7.30	214.722	0.00007	0.00079	-0.00017
____ AL	0.12194	8.87	83.518	0.05415	0.07262	0.23906
____ AS	-0.00029	-0.95	1233.572	0.00055	-0.00422	0.00280
____ B	0.00050	2.27	247.855	0.00044	-0.00071	0.00175
____ BA	0.00028	234.46	28.317	0.00022	0.00024	0.00036
____ BE	0.00004	76.95	62.886	0.00006	0.00001	0.00006
____ CA	0.03183	38.58	14.281	0.03389	0.03499	0.02662
____ CD	-0.00024	-3.24	23.848	-0.00022	-0.00031	-0.00020
____ CO	-0.00007	5.91	421.248	0.00007	0.00013	-0.00041
____ CR	0.00031	-10.54	374.759	0.00019	-0.00079	0.00152
____ CU	-0.00145	-9.58	135.647	0.00074	-0.00309	-0.00201
____ FE	0.03598	9.17	12.564	0.03087	0.03948	0.03758
____ K	0.03979	21.93	151.253	0.10673	-0.00982	0.02245
____ LI	-0.00124	-26.60	397.316	-0.00410	-0.00405	0.00444
____ MG	0.03851	17.02	6.897	0.03654	0.03746	0.04153
____ MN	0.00015	24.11	44.452	0.00008	0.00016	0.00021
____ MO	0.00034	-0.06	418.022	-0.00128	0.00084	0.00146
____ NA	0.03129	-28.73	37.726	0.04400	0.02067	0.02921
____ NI	0.00004	1.99	928.173	0.00036	-0.00037	0.00013
____ P	-0.00139	0.81	246.468	-0.00453	-0.00189	0.00226
____ PB	-0.00131	-3.38	93.367	-0.00193	0.00010	-0.00210
____ S	-0.00114	0.32	416.318	-0.00353	-0.00424	0.00434
____ SB	-0.00196	0.50	181.834	-0.00467	0.00207	-0.00327
____ SE	-0.00694	-0.59	12.568	-0.00745	-0.00593	-0.00744
____ SI	0.00490	4.70	417.449	0.02688	0.00148	-0.01364
____ SN	-0.00010	0.33	2262.339	-0.00031	-0.00231	0.00231
____ SR	0.00004	-91.93	63.612	0.00003	0.00003	0.00007
____ TH	0.05303	1.40	90.820	0.00351	0.09971	0.05588
____ TI	0.00022	36.10	41.433	0.00012	0.00028	0.00026
____ TL	-0.00032	1.18	1533.103	0.00373	-0.00587	0.00117
____ V	-0.00051	-14.70	76.676	-0.00006	-0.00068	-0.00079
____ W	-0.00076	1.13	135.134	-0.00072	-0.00181	0.00025
____ Y1	5561.86233	5,561.86	0.160	5552.86464	5562.02728	5570.69506
____ Y2A	186672.32139	186,672.32	0.379	186422.42176	186122.93450	187471.60789
____ Y2R	3604.31061	3,604.31	0.308	3611.25000	3591.50455	3610.17727
____ ZN	-0.00033	9.96	80.367	-0.00061	-0.00009	-0.00028
____ ZR	-0.00130	-17.27	261.631	0.00181	-0.00078	-0.00492

ICP-MS Data

Metals in Solid

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ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 18K08K00.E05

Run Name: 1831212E05

Analyst: 25839

Reviewed By:	Reviewed Date
Choon Y Tian	11/09/2018 13:20

Verified By:	Verified Date
Deborah A Krady	11/21/2018 08:52
Parker D Lindstrom	11/21/2018 17:32

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	BE	9
	B	11
SC-3		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-2		115
	SE	78
IN-3		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-3		209
	TL	203
	PB	208
	U	238

Run Name: 1831212E05 Date/Time: 11/08/2018 20:31:36
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
BE	9	0.00000	4.00000	0.000	0.00955	-0.00967	0.00012
B	11	0.00000	896.04000	0.000	-0.04882	0.02042	0.02840
NA	23	0.00000	30254.23000	0.000	24.47790	-17.90579	-6.57211
MG	24	0.00000	36.66700	0.000	-1.78910	2.09182	-0.30271
AL	27	0.00000	40.00300	0.000	5.04689	-6.84749	1.80061
K	39	0.00000	2570.38000	0.000	-7.18977	5.87953	1.31024
CA	44	0.00000	3.33300	0.000	-5.79173	11.58347	-5.79173
SC-1	45	1216027	0	0.000	1234536	1202420	1211125
SC-2	45	553695.70700	0.00000	0.000	561959.21000	550882.96000	548244.95000
SC-3	45	11512.13700	0.00000	0.000	10814.99000	11985.87000	11735.55000
TI	47	0.00000	16.66700	0.000	-1.09473	4.23030	-3.13557
V	51	0.00000	20.00000	0.000	-0.06252	0.03027	0.03225
CR	52	0.00000	610.05000	0.000	0.39291	-0.28079	-0.11212
MN	55	0.00000	60.00300	0.000	0.11772	0.05725	-0.17497
FE	57	0.00000	60.00300	0.000	-2.30756	3.72548	-1.41792
CO	59	0.00000	16.66700	0.000	0.00437	-0.00780	0.00343
NI	60	0.00000	143.34300	0.000	-0.05948	-0.00257	0.06205
CU	63	0.00000	426.70000	0.000	0.28988	-0.05944	-0.23043
ZN	66	0.00000	13.33300	0.000	-0.18465	0.22471	-0.04006
GE-1	72	1461340	0	0.000	1477210	1454422	1452387
GE-2	72	1041509	0	0.000	1038959	1041268	1044300
GE-3	72	42030.26700	0.00000	0.000	42407.98000	41034.30000	42648.52000
AS	75	0.00000	8.66700	0.000	-0.00696	-0.06587	0.07282
SE	78	0.00000	11.77700	0.000	-0.07525	0.04483	0.03043
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	293.35000	0.000	-0.07110	0.03681	0.03429
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-2	115	528464.40300	0.00000	0.000	530976.58000	531343.71000	523072.92000
IN-3	115	15196.04000	0.00000	0.000	14468.42000	16010.47000	15109.23000
SN	120	0.00000	36.66700	0.000	0.06345	0.08101	-0.14446
SB	121	0.00000	56.66700	0.000	-0.06367	-0.03998	0.10365
BA	137	0.00000	6.66700	0.000	-0.10137	-0.10137	0.20274
TB-3	159	102557.72000	0.00000	0.000	103216.14000	103659.41000	100797.61000
TL	203	0.00000	6.66700	0.000	-0.00585	0.01170	-0.00585
PB	208	0.00000	76.66700	0.000	-0.00445	0.00339	0.00106
BI-3	209	94802.59000	0.00000	0.000	94409.74000	95779.71000	94218.32000
U	238	0.00000	23.33300	0.000	-0.00269	0.00129	0.00139

Run Name: 1831212E05 Date/Time: 11/08/2018 20:34:20
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1164851	0	0.000	1187275	1153288	1153989
SC-3	45	11258.59000	0.00000	0.000	10584.57000	11635.56000	11555.64000
AL	27	10000.00000	44579.89300	5.000	10560.42647	9618.58542	9820.98811
B	11	1000.00000	188518.26300	1.500	987.22675	996.85858	1015.91467
BE	9	100.00000	39282.61300	0.900	99.17043	99.79811	101.03146
CA	44	10000.00000	5401.35000	8.500	10542.98222	10431.62828	9025.38951
CR	52	1000.00000	403158.98000	3.500	1040.50844	982.78531	976.70625
FE	57	10000.00000	71094.41000	3.800	10410.12361	9939.63012	9650.24628
K	39	10000.00000	92684.62000	4.000	10441.80745	9647.60977	9910.58277
MG	24	10000.00000	193392.91000	4.000	10463.92188	9729.38157	9806.69655
MN	55	1000.00000	117899.51300	1.800	1017.21973	1000.90499	981.87529
NA	23	10000.00000	453596.27000	4.400	10503.91329	9675.65256	9820.43415
TI	47	1000.00000	5121.23300	2.800	970.90642	1002.48183	1026.61175
V	51	1000.00000	303191.72000	4.900	1056.27604	971.07927	972.64470
IN-2	115	501775.42000	0.00000	0.000	506060.50000	502647.25000	496618.51000
IN-3	115	14307.85000	0.00000	0.000	14767.43000	14555.45000	13600.67000
AG	107	100.00000	120431.51000	3.700	96.32331	99.93227	103.74442
AS	75	1000.00000	43211.45700	5.700	950.77655	986.09236	1063.13109
BA	137	1000.00000	62207.88000	4.600	953.66902	1000.68446	1045.64652
CD	111	100.00000	9486.15700	4.700	95.06889	100.57587	104.35524
CO	59	1000.00000	889923.63000	4.500	957.60368	995.15662	1047.23969
CU	63	1000.00000	816194.31000	4.800	955.71089	993.85812	1050.43099
MO	98	100.00000	53623.73000	1.400	98.43613	101.19036	100.37352
NI	60	1000.00000	270052.69300	4.500	957.22308	996.07239	1046.70453
SB	121	100.00000	21639.09300	8.000	92.97779	98.25349	108.76872
SE	78	100.00000	11539.81300	1.200	100.94312	100.45611	98.60077
SN	120	100.00000	23775.89000	6.100	94.17495	99.52457	106.30048
SR	88	100.00000	9920.91000	1.100	98.76719	100.99698	100.23582
ZN	66	1000.00000	65426.50000	4.100	978.78695	973.44618	1047.76687
BI-3	209	91417.83000	0.00000	0.000	87458.81000	92707.07000	94087.61000
PB	208	100.00000	354510.97000	1.600	101.84835	99.46921	98.68243
TL	203	100.00000	108619.16000	5.100	105.86372	96.69556	97.44073
U	238	100.00000	475135.59000	4.400	104.44774	99.88205	95.67021
SC-2	45	516123.01300	0.00000	0.000	530026.01000	512679.60000	505663.43000
GE-1	72	1401446	0	0.000	1432735	1359634	1411968
GE-2	72	989271.88700	0.00000	0.000	1001523	982795.92000	983497.02000
GE-3	72	42191.10000	0.00000	0.000	41455.47000	42097.23000	43020.60000
TB-3	159	102153.38000	0.00000	0.000	100110.04000	102702.73000	103647.37000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:37:01
Tube Number: 3
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1146573	0	0.000	1154866	1139852	1144999
SC-3	45	10654.63300	0.00000	0.000	10414.49000	10404.34000	11145.07000
AL	27	5165.19046	21848.36700	4.500	4923.30201	5384.88833	5187.38106
B	11	638.89105	118863.67000	1.600	627.15975	646.99801	642.51540
BE	9	51.31770	19846.05300	0.100	51.37102	51.31821	51.26388
CA	44	5130.35004	2620.40300	13.700	4974.12185	5900.03238	4516.89588
CR	52	543.97037	207884.80700	3.100	549.65834	557.25185	525.00091
FE	57	5464.02574	36825.03000	1.200	5424.14533	5542.34425	5425.58763
K	39	5218.52688	46908.70300	5.400	5283.04551	5464.20538	4908.32976
MG	24	5430.08681	99479.65300	2.400	5428.94072	5560.88812	5300.43160
MN	55	539.38033	60191.48000	4.700	527.32151	568.76012	522.05934
NA	23	5103.41778	232856.11700	4.700	5191.23558	5289.55864	4829.45910
TI	47	570.74414	2763.77000	9.200	613.68693	586.70433	511.84117
V	51	533.17730	153202.42300	1.600	530.74928	542.70226	526.08037
IN-2	115	511013.94700	0.00000	0.000	509934.03000	515176.25000	507931.56000
IN-3	115	14065.97300	0.00000	0.000	13424.66000	14203.02000	14570.24000
AG	107	52.30897	62011.21300	1.000	51.79143	52.29435	52.84114
AS	75	516.12293	21959.30000	1.000	521.50898	516.00215	510.85767
BA	137	501.24498	30681.10300	1.700	510.48060	499.52637	493.72798
CD	111	52.28772	4881.61300	1.600	52.23488	53.12851	51.49978
CO	59	524.03002	458743.39300	2.800	535.22335	529.19048	507.67623
CU	63	529.15131	425099.39700	2.500	538.57061	535.15431	513.72901
MO	98	51.80282	27426.24000	4.900	53.93373	49.00066	52.47406
NI	60	516.85946	137339.92300	3.100	532.44863	518.15194	499.97781
SB	121	54.70855	11692.56700	1.400	53.86883	55.28388	54.97295
SE	78	50.92261	5989.56000	0.900	50.56074	50.76656	51.44053
SN	120	49.85141	11692.47300	2.600	48.81708	51.30656	49.43057
SR	88	54.75162	5334.72000	4.500	56.72968	55.55175	51.97341
ZN	66	516.36818	33259.20700	0.400	514.69538	518.70524	515.70392
BI-3	209	90235.72700	0.00000	0.000	91832.35000	90267.35000	88607.48000
PB	208	51.48595	180175.19700	4.800	48.72999	52.22594	53.50191
TL	203	52.43523	56268.87300	5.000	49.54392	54.59424	53.16754
U	238	50.98901	239279.21700	4.300	48.65182	51.29808	53.01714
SC-2	45	512062.80700	0.00000	0.000	521794.88000	516007.96000	498385.58000
GE-1	72	1378565	0	0.000	1387358	1392561	1355775
GE-2	72	992226.08000	0.00000	0.000	1009914	999013.11000	967751.24000
GE-3	72	41218.00000	0.00000	0.000	40291.73000	41896.80000	41465.47000
TB-3	159	100220.45000	0.00000	0.000	96726.32000	102905.44000	101029.59000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:39:25
Tube Number: 4
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1143960	0	0.000	1141037	1154362	1136481
SC-3	45	10751.52300	0.00000	0.000	11105.15000	10314.56000	10834.86000
AL	27	4.30704	56.66700	109.600	2.40877	0.83312	9.67923
B	11	100.82840	19426.80700	4.000	105.45645	99.07189	97.95687
BE	9	0.01273	8.66700	92.200	0.00592	0.02629	0.00599
CA	44	38.74540	23.33300	125.000	31.71463	-5.79173	90.31330
CR	52	0.93939	940.08700	87.600	0.77128	0.21350	1.83340
FE	57	3.09104	76.67000	176.500	0.39042	-0.48876	9.37147
K	39	38.21150	2723.78300	68.000	8.19704	53.11733	53.32013
MG	24	6.20926	146.67700	88.000	0.30525	7.23098	11.09155
MN	55	-0.00089	56.67000	0.000	-0.15649	-0.31529	0.46913
NA	23	16.47689	28914.33000	247.200	-22.86838	58.47502	13.82403
TI	47	-0.48556	13.33300	0.000	4.81447	-3.13557	-3.13557
V	51	0.42294	140.00700	46.600	0.20455	0.47665	0.58763
IN-2	115	502954.18000	0.00000	0.000	501310.36000	504989.96000	502562.22000
IN-3	115	14153.24300	0.00000	0.000	13846.33000	14337.13000	14276.27000
AG	107	0.03632	43.33300	12.600	0.03429	0.03311	0.04157
AS	75	0.21360	17.33300	101.300	0.04901	0.13308	0.45869
BA	137	0.11463	13.33300	80.000	0.06455	0.05887	0.22048
CD	111	0.04237	4.00000	49.000	0.02176	0.04203	0.06331
CO	59	0.36551	340.02700	87.600	0.10975	0.26218	0.72459
CU	63	0.67871	953.42300	78.000	0.24931	0.51701	1.26981
MO	98	-0.06917	236.68300	0.000	-0.24478	-0.14184	0.17911
NI	60	0.24868	200.01000	62.700	0.15143	0.16610	0.42852
SB	121	1.37593	346.69000	15.900	1.61632	1.32187	1.18959
SE	78	0.05105	17.11000	130.600	0.05333	-0.01672	0.11653
SN	120	0.57990	170.01300	24.300	0.72464	0.44307	0.57200
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	1.86894	133.34300	27.600	1.39333	1.79646	2.41702
BI-3	209	90859.36000	0.00000	0.000	91648.72000	91012.86000	89916.50000
PB	208	0.04268	223.34000	57.400	0.02980	0.02732	0.07092
TL	203	0.07158	83.33700	76.000	0.04001	0.04033	0.13439
U	238	0.06183	313.36000	67.300	0.02883	0.04808	0.10858
SC-2	45	499705.81300	0.00000	0.000	507495.50000	498823.16000	492798.78000
GE-1	72	1421943	0	0.000	1413852	1432545	1419432
GE-2	72	992341.44300	0.00000	0.000	1007681	992326.24000	977016.86000
GE-3	72	42441.78700	0.00000	0.000	41455.27000	41906.99000	43963.10000
TB-3	159	97375.52700	0.00000	0.000	93482.99000	99155.98000	99487.61000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:41:50
Tube Number: 5
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1232890	0	0.000	1200389	1256755	1241527
SC-3	45	11061.71000	0.00000	0.000	10834.88000	11075.06000	11275.19000
AL	27	419.58274	1876.90300	6.700	445.26386	424.01186	389.47249
B	11	84.62685	17717.18700	1.800	84.95031	82.97212	85.95812
BE	9	0.45328	192.66700	8.900	0.43005	0.49999	0.42981
CA	44	886.65705	473.36300	10.900	993.75641	859.25484	806.95988
CR	52	4.56071	2397.00000	3.400	4.66982	4.38492	4.62739
FE	57	92.86092	706.72300	9.600	85.35110	90.46986	102.76179
K	39	406.91422	6074.99000	5.900	434.37876	397.52193	388.84197
MG	24	107.53312	2080.27300	14.300	97.50315	125.28225	99.81397
MN	55	10.12712	1230.13300	9.400	11.13467	9.24400	10.00267
NA	23	936.28909	68144.92300	4.300	982.37296	914.20767	912.28664
TI	47	27.55088	153.34300	25.600	35.57111	24.76715	22.31436
V	51	0.96691	306.68700	25.700	1.20360	0.70743	0.98972
IN-2	115	526666.25300	0.00000	0.000	528022.32000	531790.43000	520186.01000
IN-3	115	13601.44300	0.00000	0.000	13782.07000	13499.46000	13522.80000
AG	107	0.55185	633.38000	21.100	0.67176	0.43962	0.54418
AS	75	2.20930	98.66700	3.800	2.11326	2.25944	2.25521
BA	137	5.30956	320.02300	23.000	4.39968	4.83428	6.69471
CD	111	1.08090	97.33300	34.600	0.65583	1.36145	1.22542
CO	59	1.14564	986.76700	20.600	1.38046	1.14800	0.90847
CU	63	42.84077	33650.03300	2.200	42.00435	42.68569	43.83226
MO	98	1.97733	1263.47300	15.600	1.62454	2.10642	2.20104
NI	60	3.95058	1143.44700	20.500	4.11148	3.07052	4.66975
SB	121	2.41438	546.71300	14.600	2.00892	2.64405	2.59016
SE	78	2.05868	260.89000	2.600	2.04618	2.11833	2.01152
SN	120	2.05196	496.70300	12.000	2.16934	2.21778	1.76875
SR	88	7.79048	733.40700	28.200	5.65058	10.04226	7.67859
ZN	66	16.15696	1016.76700	20.700	14.40029	14.05828	20.01230
BI-3	209	92348.32700	0.00000	0.000	91659.98000	95145.63000	90239.37000
PB	208	3.01330	10862.51000	3.600	2.96414	2.93886	3.13691
TL	203	0.49574	550.04700	20.800	0.40689	0.47129	0.60903
U	238	0.50406	2443.71700	4.400	0.48394	0.50039	0.52785
SC-2	45	516549.62700	0.00000	0.000	519382.02000	520573.98000	509692.88000
GE-1	72	1499564	0	0.000	1474011	1516122	1508558
GE-2	72	1028702	0	0.000	1020879	1035339	1029888
GE-3	72	42043.60700	0.00000	0.000	41334.71000	41123.69000	43672.42000
TB-3	159	100112.88700	0.00000	0.000	99881.64000	100839.03000	99617.99000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:44:15
Tube Number: 6
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1159755	0	0.000	1154082	1176906	1148276
SC-3	45	10754.82300	0.00000	0.000	10124.32000	11185.16000	10954.99000
AL	27	97236.29479	413986.81700	3.400	100622.28157	94070.54971	97016.05310
B	11	34.18323	7241.95000	5.400	36.25581	33.61723	32.67666
BE	9	0.04461	21.33300	80.000	0.05200	0.07600	0.00582
CA	44	281964.72536	145420.15700	4.800	292421.58859	266683.69271	286788.89479
CR	52	1.30014	1070.10700	34.100	1.79087	1.17970	0.92986
FE	57	253283.72290	1717618.51700	5.400	268691.62259	242475.19914	248684.34696
K	39	97430.96405	841857.80300	3.500	100610.03596	93765.89989	97916.95629
MG	24	98115.88784	1811722.11000	5.000	103639.87367	94472.14434	96235.64551
MN	55	3.40390	436.70000	23.100	4.31031	2.91482	2.98658
NA	23	238787.66901	9702331.73000	3.500	248019.89314	231520.19756	236822.91634
TI	47	2057.81178	10017.52700	7.200	2228.01917	1957.14865	1988.26752
V	51	0.03328	26.66700	338.100	0.15719	-0.06252	0.00516
IN-2	115	476793.90700	0.00000	0.000	481418.01000	471575.25000	477388.46000
IN-3	115	13062.70000	0.00000	0.000	12505.36000	13035.82000	13646.92000
AG	107	0.05116	56.66700	43.400	0.02847	0.07284	0.05218
AS	75	0.90392	43.33300	24.700	0.92067	0.67258	1.11851
BA	137	1.12389	70.00300	45.900	0.63348	1.66117	1.07704
CD	111	0.08502	7.33300	19.300	0.09637	0.09245	0.06623
CO	59	0.90911	756.72700	12.500	0.79120	0.91842	1.01771
CU	63	1.15177	1230.13000	10.600	1.05778	1.29013	1.10741
MO	98	2056.64731	1000838.58000	4.400	2140.87497	2067.69481	1961.37214
NI	60	1.39119	466.70000	7.700	1.27960	1.49157	1.40241
SB	121	1.07315	260.02000	26.300	1.02278	1.37698	0.81969
SE	78	-0.00176	10.44300	0.000	-0.03087	-0.01102	0.03662
SN	120	0.20837	76.67000	69.900	0.28853	0.04015	0.29644
SR	88	17.44845	1576.85700	17.200	17.18368	20.57805	14.58362
ZN	66	2.27467	146.67300	66.200	1.56254	4.00533	1.25614
BI-3	209	82512.10700	0.00000	0.000	80905.21000	82565.80000	84065.31000
PB	208	0.89176	2920.31000	4.400	0.92251	0.84732	0.90546
TL	203	0.01466	20.00000	72.200	0.02532	0.01451	0.00415
U	238	0.03559	173.34300	14.300	0.03091	0.03485	0.04100
SC-2	45	474708.01300	0.00000	0.000	485830.54000	471573.00000	466720.50000
GE-1	72	1404678	0	0.000	1385277	1382571	1446187
GE-2	72	948467.04300	0.00000	0.000	966146.00000	936843.19000	942411.94000
GE-3	72	38700.26300	0.00000	0.000	37623.65000	38085.26000	40391.88000
TB-3	159	98638.87000	0.00000	0.000	97693.52000	97120.27000	101102.82000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:46:41
Tube Number: 7
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1135615	0	0.000	1122377	1148466	1136000
SC-3	45	10801.48700	0.00000	0.000	11295.31000	10294.39000	10814.76000
AL	27	125.52170	570.04700	88.500	22.32635	111.17000	243.06875
B	11	15.54617	3681.84300	6.600	15.73449	16.46240	14.44163
BE	9	0.00604	6.00000	173.400	0.00618	-0.00451	0.01643
CA	44	188.44627	100.00700	30.000	123.27054	216.76000	225.30828
CR	52	0.12202	623.38000	76.300	0.01588	0.18970	0.16046
FE	57	246.95212	1730.26300	88.400	70.32598	179.46080	491.06958
K	39	77.48431	3073.84300	38.500	59.68386	111.91530	60.85378
MG	24	71.06824	1343.53000	97.700	13.65511	51.31057	148.23902
MN	55	-0.14357	40.00000	0.000	-0.24683	-0.03664	-0.14726
NA	23	155.98994	34694.89000	71.200	39.41507	168.12141	260.43333
TI	47	-0.47228	13.33300	0.000	0.77253	-3.13557	0.94619
V	51	0.09239	43.33700	229.200	-0.06252	0.33366	0.00604
IN-2	115	506116.03000	0.00000	0.000	498618.94000	508555.76000	511173.39000
IN-3	115	13890.52700	0.00000	0.000	13996.80000	14247.79000	13426.99000
AG	107	0.00577	6.66700	86.700	0.00848	0.00000	0.00884
AS	75	0.08084	11.33300	93.600	0.14093	-0.00412	0.10572
BA	137	-0.04762	3.33300	0.000	-0.10137	0.05988	-0.10137
CD	111	0.03636	3.33300	36.300	0.04305	0.02115	0.04488
CO	59	0.00563	20.00000	424.900	-0.01783	0.00471	0.03001
CU	63	0.14875	513.36700	67.800	0.09111	0.26516	0.08998
MO	98	5.41338	3047.25000	50.200	3.22040	4.56645	8.45330
NI	60	-0.01584	126.67700	0.000	-0.12033	0.05879	0.01401
SB	121	0.03784	60.00300	314.600	-0.05751	0.17128	-0.00024
SE	78	0.02911	14.66700	88.500	0.04838	-0.00017	0.03910
SN	120	0.21697	83.34000	24.800	0.15643	0.23562	0.25886
SR	88	0.06747	6.66700	173.200	0.00000	0.20242	0.00000
ZN	66	0.64710	53.33300	57.500	0.59578	1.04204	0.30348
BI-3	209	91236.60000	0.00000	0.000	91014.46000	89646.03000	93049.31000
PB	208	0.00917	106.67000	135.400	0.00183	0.00217	0.02350
TL	203	0.00642	13.33300	165.600	-0.00585	0.01290	0.01222
U	238	-0.00120	16.66700	0.000	-0.00473	0.00171	-0.00059
SC-2	45	489399.74300	0.00000	0.000	485782.02000	494834.48000	487582.73000
GE-1	72	1404536	0	0.000	1394444	1417470	1401695
GE-2	72	991369.98700	0.00000	0.000	977995.22000	996721.08000	999393.66000
GE-3	72	41890.14000	0.00000	0.000	41705.48000	41626.66000	42338.28000
TB-3	159	97999.57300	0.00000	0.000	97521.40000	99135.13000	97342.19000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:49:05
Tube Number: 8
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1093078	0	0.000	1117293	1087899	1074042
SC-3	45	10040.91700	0.00000	0.000	9674.03000	9844.06000	10604.66000
AL	27	2569.88398	10257.69000	1.700	2621.48388	2542.71274	2545.45530
B	11	255.76776	45838.92700	2.000	250.34479	256.55674	260.40175
BE	9	25.65325	9457.91700	1.800	25.14353	26.06866	25.74756
CA	44	2436.71525	1176.78700	9.500	2276.35165	2702.39901	2331.39509
CR	52	263.23453	95003.56000	5.000	274.77040	265.99931	248.93389
FE	57	2702.69472	17181.75300	4.600	2652.63931	2844.94375	2610.50109
K	39	2607.82872	23214.06000	3.900	2691.43493	2636.40147	2495.64976
MG	24	2590.78791	44743.98300	1.800	2622.94460	2612.09572	2537.32342
MN	55	265.82627	27990.06300	2.300	264.61529	272.38185	260.48167
NA	23	2671.93934	127491.64300	3.700	2699.56392	2754.80703	2561.44709
TI	47	256.13894	1173.45300	17.000	300.34213	254.73318	213.34152
V	51	266.02050	71991.03700	3.200	270.66112	271.28607	256.11431
IN-2	115	471176.38000	0.00000	0.000	471788.61000	469492.44000	472248.09000
IN-3	115	12599.30000	0.00000	0.000	12443.39000	12455.14000	12899.37000
AG	107	26.62246	28251.62700	2.700	26.97477	27.08293	25.80967
AS	75	260.85911	9943.74000	3.000	265.77832	264.83484	251.96416
BA	137	254.94913	13998.41000	6.500	254.46125	238.52828	271.85785
CD	111	25.95854	2170.86300	1.300	25.76493	26.34550	25.76521
CO	59	267.34618	209718.01700	2.800	266.13533	275.49465	260.40856
CU	63	270.16197	194633.12000	2.400	271.96611	275.61891	262.90090
MO	98	26.09953	12503.21000	1.300	26.39210	26.19489	25.71161
NI	60	268.90735	64102.62000	3.200	263.21108	278.89629	264.61468
SB	121	26.06210	5007.88000	11.000	24.79073	29.33589	24.05969
SE	78	24.75025	2689.61000	2.000	24.20073	25.11086	24.93916
SN	120	25.37062	5338.06700	8.800	25.19725	27.68659	23.22801
SR	88	26.39983	2307.00300	8.100	28.28050	24.08489	26.83409
ZN	66	260.69499	15039.25300	2.800	266.14423	263.61498	252.32575
BI-3	209	85307.65000	0.00000	0.000	82868.38000	85314.07000	87740.50000
PB	208	25.01706	82796.54300	3.300	25.72773	25.19637	24.12707
TL	203	25.86390	26241.92300	2.300	26.32636	26.05527	25.21007
U	238	25.02453	111064.45700	1.500	25.16555	25.29717	24.61087
SC-2	45	445245.16000	0.00000	0.000	448018.27000	446607.10000	441110.11000
GE-1	72	1304868	0	0.000	1341115	1290802	1282687
GE-2	72	903992.22700	0.00000	0.000	904254.60000	904439.44000	903282.64000
GE-3	72	38379.47300	0.00000	0.000	38536.15000	39529.39000	37072.88000
TB-3	159	93119.83000	0.00000	0.000	90642.34000	93643.17000	95073.98000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:51:31
Tube Number: 9
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1113611	0	0.000	1128800	1107910	1104122
SC-3	45	10381.11700	0.00000	0.000	10134.39000	10994.97000	10013.99000
AL	27	-0.60300	33.33300	0.000	3.49709	-8.95285	3.64677
B	11	40.56381	8099.05300	0.300	40.70194	40.56920	40.42029
BE	9	0.00442	5.33300	362.700	0.02185	-0.00967	0.00107
CA	44	33.94597	20.00000	101.700	-5.79173	51.03159	56.59806
CR	52	0.77919	843.42000	10.300	0.85037	0.69237	0.79483
FE	57	6.43016	96.67300	97.400	-0.35233	11.99566	7.64716
K	39	55.76687	2773.77700	58.300	91.00402	26.93853	49.35805
MG	24	2.85289	83.33700	89.200	-0.06788	4.02861	4.59793
MN	55	0.74254	133.34000	110.900	0.25346	0.28122	1.69293
NA	23	77.79261	30304.53700	54.300	81.88827	33.69056	117.79900
TI	47	-3.13557	0.00000	0.000	-3.13557	-3.13557	-3.13557
V	51	0.20958	76.67000	38.100	0.12039	0.27470	0.23365
IN-2	115	485376.06300	0.00000	0.000	484208.34000	481599.41000	490320.44000
IN-3	115	13877.20000	0.00000	0.000	12836.03000	15308.93000	13486.64000
AG	107	0.01188	13.33300	112.700	0.00925	0.00000	0.02640
AS	75	0.12514	13.33300	174.500	-0.08674	0.11259	0.34957
BA	137	-0.04459	3.33300	0.000	-0.10137	-0.10137	0.06898
CD	111	0.03054	2.66700	86.700	0.04694	0.00000	0.04468
CO	59	0.19150	180.01300	78.600	0.08225	0.12903	0.36321
CU	63	0.24115	576.71000	77.800	0.30806	0.02926	0.38613
MO	98	-0.05125	243.35300	0.000	-0.28611	-0.00791	0.14025
NI	60	0.19703	183.34700	74.400	0.03761	0.22765	0.32582
SB	121	0.47065	150.01000	21.600	0.42331	0.40151	0.58714
SE	78	0.01268	12.22300	267.200	0.01073	0.04747	-0.02017
SN	120	0.28117	96.67000	54.200	0.27738	0.13064	0.43551
SR	88	0.10629	10.00000	106.100	0.22468	0.09420	0.00000
ZN	66	4.98831	326.68700	11.100	5.60253	4.52500	4.83738
BI-3	209	88785.60300	0.00000	0.000	85646.28000	90833.34000	89877.19000
PB	208	0.01956	140.00700	85.100	0.00325	0.01891	0.03654
TL	203	0.05445	63.33300	30.300	0.07267	0.04042	0.05027
U	238	0.02889	156.67700	77.600	0.00874	0.02490	0.05302
SC-2	45	465176.75000	0.00000	0.000	474094.25000	464241.28000	457194.72000
GE-1	72	1368033	0	0.000	1393657	1336101	1374342
GE-2	72	952634.70000	0.00000	0.000	956252.10000	954736.31000	946915.69000
GE-3	72	39836.73300	0.00000	0.000	39830.38000	40291.10000	39388.72000
TB-3	159	96549.48300	0.00000	0.000	95104.39000	97987.57000	96556.49000

Run Name: 1831212E05
Tube Number: 10
Sample Number: **PBS**

Date/Time: 11/08/2018 20:53:56
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1086616	0	0.000	1084694	1103343	1071812
SC-3	45	10247.70300	0.00000	0.000	9914.10000	10544.60000	10284.41000
AL	27	1.69089	43.33700	837.400	-6.40753	-6.55973	18.03992
B	11	17.56730	3876.57300	1.700	17.22985	17.81795	17.65411
BE	9	0.00494	5.33300	132.100	0.00127	0.00108	0.01246
CA	44	61.63108	33.33300	47.700	57.22667	92.95877	34.70780
CR	52	0.39041	690.05300	107.300	0.31062	0.01733	0.84329
FE	57	5.09018	86.67000	129.400	-1.77553	11.35538	5.69068
K	39	56.01830	2737.10300	99.400	114.29756	3.30718	50.45015
MG	24	1.07308	50.00000	114.200	2.31633	-0.13484	1.03776
MN	55	-0.03384	50.00000	0.000	0.07747	0.04292	-0.22189
NA	23	75.30524	29863.32000	14.600	87.40246	65.92688	72.58639
TI	47	-1.74012	6.66700	0.000	-3.13557	1.05076	-3.13557
V	51	0.09715	43.33700	157.700	0.27407	0.00780	0.00957
IN-2	115	491834.85300	0.00000	0.000	495303.40000	484422.46000	495778.70000
IN-3	115	13634.83000	0.00000	0.000	13542.12000	13600.75000	13761.62000
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
AS	75	-0.06024	5.33300	0.000	-0.14094	0.10195	-0.14172
BA	137	-0.10137	0.00000	0.000	-0.10137	-0.10137	-0.10137
CD	111	0.02201	2.00000	99.500	0.02225	0.00000	0.04379
CO	59	0.01338	26.66700	266.200	-0.01783	0.00579	0.05218
CU	63	0.23517	570.04700	3.000	0.22729	0.23703	0.24119
MO	98	-0.10956	206.68000	0.000	-0.17928	-0.04270	-0.10671
NI	60	0.36813	223.34700	73.800	0.08784	0.63031	0.38625
SB	121	0.22250	96.67700	25.700	0.19305	0.28840	0.18604
SE	78	0.08154	20.22000	38.600	0.09031	0.04663	0.10769
SN	120	6.66206	1543.52000	14.400	6.52031	5.78377	7.68210
SR	88	0.06986	6.66700	173.200	0.00000	0.00000	0.20957
ZN	66	4.50986	293.35300	26.400	3.20338	4.79525	5.53096
BI-3	209	87373.00000	0.00000	0.000	84309.10000	88426.10000	89383.80000
PB	208	0.03718	196.67700	64.800	0.03115	0.06372	0.01666
TL	203	0.00045	6.66700	1206.200	-0.00585	0.00366	0.00355
U	238	-0.00176	13.33300	0.000	-0.00017	-0.00255	-0.00258
SC-2	45	467818.52300	0.00000	0.000	465231.28000	463611.56000	474612.73000
GE-1	72	1405050	0	0.000	1363533	1438901	1412717
GE-2	72	988318.47700	0.00000	0.000	991863.89000	974056.63000	999034.91000
GE-3	72	40365.32700	0.00000	0.000	40411.91000	40011.01000	40673.06000
TB-3	159	95319.10700	0.00000	0.000	93996.08000	93965.79000	97995.45000

Run Name: 1831212E05 Date/Time: 11/08/2018 20:56:22
Tube Number: 11 Batch: 183041063701A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1086510	0	0.000	1097598	1076608	1085324
SC-3	45	10477.90000	0.00000	0.000	10034.14000	11035.01000	10364.55000
AL	27	1030.81827	4307.59700	7.400	1075.18501	942.55044	1074.71937
B	11	141.34240	25541.90300	3.100	137.41626	140.49617	146.11478
BE	9	2.05441	756.03000	5.300	1.93022	2.13330	2.09970
CA	44	2108.21073	1063.44300	6.200	2215.20383	2145.88616	1963.54220
CR	52	27.36201	10811.52700	3.900	27.86244	26.13716	28.08643
FE	57	517.19338	3487.31700	10.200	495.19234	577.24947	479.13833
K	39	5346.03841	47159.01300	7.100	5654.71995	4921.50440	5461.89087
MG	24	1036.96850	18690.33700	4.700	1077.38590	983.20315	1050.31644
MN	55	25.07056	2800.45000	7.700	27.29353	23.90691	24.01124
NA	23	5333.08674	237903.46000	6.100	5588.41430	4965.39677	5445.44917
TI	47	111.77519	546.71000	10.700	98.05710	116.88296	120.38551
V	51	27.70148	7832.72300	6.300	29.65343	26.31961	27.13141
IN-2	115	499852.87700	0.00000	0.000	507363.07000	499355.71000	492839.85000
IN-3	115	13088.28300	0.00000	0.000	12797.95000	13182.79000	13284.11000
AG	107	26.83341	29584.56000	2.200	27.28693	27.04978	26.16352
AS	75	5.95819	243.34000	2.600	6.06246	5.77937	6.03276
BA	137	27.53570	1573.51700	6.000	28.80320	28.13402	25.66990
CD	111	2.68999	234.00300	10.700	2.42485	2.65117	2.99395
CO	59	136.72828	111463.32000	1.300	135.90520	138.71715	135.56251
CU	63	28.42203	21608.26000	1.500	28.70598	27.91973	28.64038
MO	98	27.18698	13514.30700	5.700	28.70939	25.59589	27.25564
NI	60	28.42426	7148.83000	2.300	28.83978	28.74703	27.68597
SB	121	3.13685	670.06000	7.300	2.90584	3.36573	3.13900
SE	78	4.89686	573.56700	3.700	5.05621	4.69717	4.93720
SN	120	33.11696	7235.87700	7.100	32.58551	35.69499	31.07039
SR	88	23.46997	2133.62300	13.500	20.50960	23.08386	26.81646
ZN	66	284.39791	17041.60700	3.300	294.83066	281.74102	276.62205
BI-3	209	89191.19000	0.00000	0.000	89252.10000	88384.66000	89936.81000
PB	208	7.73673	26836.25300	1.200	7.64624	7.82669	7.73727
TL	203	1.04741	1116.79000	23.300	1.28466	1.05950	0.79806
U	238	26.13904	121303.74300	1.800	26.08464	26.64683	25.68566
SC-2	45	475172.01000	0.00000	0.000	483822.41000	468647.06000	473046.56000
GE-1	72	1362836	0	0.000	1371547	1336622	1380340
GE-2	72	994939.49000	0.00000	0.000	1012351	989730.30000	982737.17000
GE-3	72	40158.13300	0.00000	0.000	39579.92000	40141.18000	40753.30000
TB-3	159	97096.38300	0.00000	0.000	95950.26000	98440.15000	96898.74000

Run Name: 1831212E05
Tube Number: 12
Sample Number: **9870251**

Date/Time: 11/08/2018 20:58:48
Batch: 183041063701A
Class: U*********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1172515	0	0.000	1140608	1203444	1173492
SC-3	45	11331.95700	0.00000	0.000	11765.72000	11225.16000	11004.99000
AL	27	28455.96070	127709.26000	4.200	27337.37273	28298.05140	29732.45798
B	11	68.14149	13724.78700	6.000	70.84894	63.42146	70.15408
BE	9	1.73466	688.69300	8.500	1.86747	1.57724	1.75927
CA	44	5051.20178	2747.11300	11.400	4791.82468	4651.61988	5710.16079
CR	52	115.31074	47336.99700	4.300	109.90945	116.22178	119.80099
FE	57	71829.26248	513746.79000	4.300	68336.32564	73129.58222	74021.87958
K	39	6677.25666	63176.54000	2.900	6457.38893	6811.84992	6762.53114
MG	24	13216.72556	257277.99000	5.800	12432.98919	13242.16313	13975.02438
MN	55	1724.52469	204479.42300	4.800	1633.75476	1746.70491	1793.11440
NA	23	462.28868	49505.96700	14.700	391.88442	467.34950	527.63214
TI	47	1153.38586	5928.25700	7.000	1066.41649	1167.10599	1226.63510
V	51	99.70585	30458.79700	5.400	93.56426	102.34295	103.21035
IN-2	115	490857.59300	0.00000	0.000	487142.20000	489190.08000	496240.50000
IN-3	115	13428.18300	0.00000	0.000	13124.59000	13943.79000	13216.17000
AG	107	1.24857	1413.49300	18.400	1.01290	1.25987	1.47295
AS	75	18.06137	739.36000	11.700	19.76275	15.69749	18.72388
BA	137	358.19536	20934.54300	1.800	360.44275	350.97861	363.16471
CD	111	9.89168	881.37300	2.000	9.91757	9.68063	10.07682
CO	59	29.09754	24322.97300	7.000	28.55166	27.39243	31.34853
CU	63	542.32162	415849.14700	3.700	545.76826	520.48996	560.70664
MO	98	10.29096	5404.76000	9.500	10.00892	9.48668	11.37727
NI	60	278.91344	70786.29700	5.400	286.25353	261.54463	288.94217
SB	121	4.83440	1030.10000	8.900	4.84313	4.40179	5.25826
SE	78	0.95577	118.66700	14.200	1.11208	0.88163	0.87360
SN	120	301.76496	67341.84300	3.100	304.10294	291.38036	309.81158
SR	88	50.45547	4691.09700	7.500	51.54194	46.23814	53.58631
ZN	66	2458.63243	151013.63300	4.500	2449.16064	2352.91378	2573.82285
BI-3	209	90482.23300	0.00000	0.000	90549.23000	91264.90000	89632.57000
PB	208	446.97206	1568574.01300	2.300	439.98293	442.40248	458.53077
TL	203	0.37543	410.03300	20.200	0.43052	0.28893	0.40684
U	238	2.90763	13708.45000	2.400	2.85631	2.88019	2.98641
SC-2	45	493643.15700	0.00000	0.000	495309.64000	490342.30000	495277.53000
GE-1	72	1433504	0	0.000	1385570	1449058	1465885
GE-2	72	1022750	0	0.000	1010601	1016319	1041328
GE-3	72	42816.07300	0.00000	0.000	42227.90000	42899.49000	43320.83000
TB-3	159	99928.23300	0.00000	0.000	95579.59000	100313.25000	103891.86000

Run Name: 1831212E05
Tube Number: 13
Sample Number: **9870251**

Date/Time: 11/08/2018 21:01:14
Batch: 183041063701A
Class: UP********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1130965	0	0.000	1139247	1135292	1118357
SC-3	45	10321.10300	0.00000	0.000	9854.06000	10444.59000	10664.66000
AL	27	30638.33436	125234.02700	3.500	31722.43339	30625.95644	29566.61325
B	11	161.54510	30269.90300	0.400	161.12337	161.25155	162.26037
BE	9	2.58610	990.04300	7.600	2.77037	2.37779	2.61015
CA	44	7199.55341	3570.67300	5.700	7096.47812	7652.44154	6849.74058
CR	52	129.14744	48240.34300	2.400	132.68810	127.11456	127.63966
FE	57	74374.78790	484733.30000	1.800	75812.48024	74185.57028	73126.31318
K	39	7807.52665	66857.56000	4.400	8201.57001	7594.83083	7626.17910
MG	24	13971.46736	247889.37700	2.300	14341.89770	13747.83749	13824.66691
MN	55	1815.42247	196173.85000	1.800	1849.69951	1811.01396	1785.55395
NA	23	2288.74269	116199.44300	2.300	2347.70838	2244.86165	2273.65804
TI	47	1266.29719	5931.59700	2.800	1307.53341	1250.32840	1241.02977
V	51	107.11140	29820.48700	2.100	109.35024	107.18395	104.80001
IN-2	115	467321.64700	0.00000	0.000	463768.79000	467404.32000	470791.83000
IN-3	115	12786.12700	0.00000	0.000	12700.52000	12492.75000	13165.11000
AG	107	2.25603	2430.35700	0.600	2.27113	2.25187	2.24509
AS	75	21.51309	838.70000	7.400	23.24077	21.19534	20.10317
BA	137	363.45285	20233.66000	3.100	350.56341	372.42367	367.37145
CD	111	11.87252	1007.38300	8.100	12.97708	11.31151	11.32896
CO	59	31.53797	25097.96300	6.600	32.63494	32.84290	29.13608
CU	63	618.54577	451673.51000	3.000	616.42562	637.95526	601.25644
MO	98	14.28367	7055.63700	6.500	13.27543	15.11557	14.45999
NI	60	287.81530	69610.20300	2.000	285.52236	294.41136	283.51219
SB	121	9.42744	1866.90700	15.700	10.89812	9.44182	7.94238
SE	78	5.05285	552.90000	2.400	5.00875	5.19254	4.95726
SN	120	298.10587	63354.31700	3.000	295.87339	307.96595	290.47828
SR	88	63.62075	5638.14700	4.200	66.21203	63.73353	60.91671
ZN	66	2456.31340	143701.30700	2.900	2432.34387	2537.71499	2398.88134
BI-3	209	86117.10700	0.00000	0.000	84487.86000	87843.80000	86019.66000
PB	208	446.08571	1489788.64000	1.900	450.70369	436.27720	451.27625
TL	203	1.40447	1443.49700	11.400	1.41711	1.23833	1.55796
U	238	3.99748	17924.02300	3.400	4.09801	3.84261	4.05180
SC-2	45	472389.85000	0.00000	0.000	475021.71000	471808.55000	470339.29000
GE-1	72	1382170	0	0.000	1384118	1382968	1379422
GE-2	72	977941.65000	0.00000	0.000	974894.75000	984213.11000	974717.09000
GE-3	72	40492.71000	0.00000	0.000	39951.61000	41124.44000	40402.08000
TB-3	159	95128.53300	0.00000	0.000	92456.09000	96505.34000	96424.17000

Run Name: 1831212E05
Tube Number: 14
Sample Number: **9870251**

Date/Time: 11/08/2018 21:03:40
Batch: 183041063701A
Class: D*********

Initial Vol: 1.04 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1087846	0	0.000	1076744	1105660	1081136
SC-3	45	10738.08700	0.00000	0.000	11105.04000	10634.69000	10474.53000
AL	27	28684.95958	122022.60700	3.300	27714.91405	28761.77346	29578.19123
B	11	67.65219	12657.79700	1.400	68.38798	66.54661	68.02197
BE	9	1.67887	619.35300	2.100	1.71990	1.65321	1.66351
CA	44	5306.54703	2737.09300	12.300	5264.74885	4675.14157	5979.75067
CR	52	121.78678	47357.25700	4.900	118.33036	118.33000	128.69997
FE	57	72353.97018	490553.50700	3.000	69944.26675	72889.61624	74228.02755
K	39	6963.27496	62320.67700	4.500	6743.45222	6822.84537	7323.52728
MG	24	13456.73386	248338.97700	4.400	12895.33944	13388.57746	14086.28469
MN	55	1736.54966	195123.91700	5.200	1640.72795	1749.13602	1819.78501
NA	23	503.80612	48598.12300	14.500	432.28912	500.77085	578.35838
TI	47	1167.71075	5691.53300	4.300	1118.12690	1165.65086	1219.35448
V	51	103.03605	29830.64300	5.300	96.69185	106.24656	106.16974
IN-2	115	462405.75300	0.00000	0.000	455891.12000	468729.57000	462596.57000
IN-3	115	12797.76000	0.00000	0.000	12877.96000	12494.98000	13020.34000
AG	107	1.24441	1340.15000	10.200	1.14291	1.38696	1.20335
AS	75	19.42821	758.69700	6.700	18.50173	20.92691	18.85599
BA	137	346.42989	19298.67000	3.100	335.00497	356.32516	347.95955
CD	111	9.87450	839.36700	5.700	9.56928	9.52501	10.52920
CO	59	29.65358	23641.67300	2.000	29.23649	30.32609	29.39815
CU	63	544.08517	397720.94300	3.400	534.93103	565.31202	532.01247
MO	98	10.02731	5031.21300	3.100	9.66874	10.21722	10.19598
NI	60	285.28511	69064.08000	2.000	284.22619	291.33542	280.29372
SB	121	4.56135	930.08300	10.400	4.01611	4.83491	4.83304
SE	78	1.05662	122.67000	11.000	0.97861	1.19059	1.00066
SN	120	298.17803	63425.48700	3.700	294.24056	310.52579	289.76775
SR	88	52.11748	4624.40300	1.500	52.19333	52.86913	51.29000
ZN	66	2463.40956	144287.64300	1.800	2420.63608	2508.27242	2461.32018
BI-3	209	85552.19300	0.00000	0.000	86067.27000	85405.06000	85184.25000
PB	208	452.20744	1500557.25000	1.700	443.24773	455.35076	458.02383
TL	203	0.43269	446.70000	24.900	0.55092	0.40759	0.33956
U	238	2.92289	13027.81700	6.700	2.70119	2.99713	3.07034
SC-2	45	468692.26000	0.00000	0.000	461821.87000	474836.28000	469418.63000
GE-1	72	1314569	0	0.000	1278100	1344428	1321179
GE-2	72	961699.36000	0.00000	0.000	953851.08000	962648.58000	968598.42000
GE-3	72	40398.49300	0.00000	0.000	39649.67000	40151.13000	41394.68000
TB-3	159	93603.19000	0.00000	0.000	93864.87000	93493.39000	93451.31000

Run Name: 1831212E05
Tube Number: 15
Sample Number: **9870251**

Date/Time: 11/08/2018 21:06:06
Batch: 183041063701A
Class: R*********

Initial Vol: 1.10 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1179621	0	0.000	1148673	1165306	1224884
SC-3	45	11395.49300	0.00000	0.000	10034.09000	12516.69000	11635.70000
AL	27	34500.26574	154763.20300	9.400	37975.01907	31580.93365	33944.84450
B	11	311.80262	60110.88700	1.800	312.65595	317.07097	305.68095
BE	9	5.51477	2196.19300	3.600	5.53600	5.70116	5.30716
CA	44	9159.07428	5011.20000	9.200	8920.63714	8465.21848	10091.36722
CR	52	185.32610	75624.25000	10.600	205.72519	166.53499	183.71812
FE	57	77892.78317	556374.50700	10.800	86296.53266	69431.93485	77949.88201
K	39	17227.70498	158774.39000	10.700	19052.66210	15377.04070	17253.41214
MG	24	15585.35055	303253.63000	10.000	17180.10518	14072.16151	15503.78497
MN	55	705.07136	83630.93300	9.300	770.39051	639.58879	705.23478
NA	23	9885.83021	451652.24700	10.400	10925.41656	8878.87047	9853.20360
TI	47	1484.22912	7589.11300	16.000	1743.98415	1279.23133	1429.47190
V	51	157.29343	47922.29700	12.500	178.19607	139.06386	154.62037
IN-2	115	478522.41300	0.00000	0.000	478553.87000	481379.96000	475633.41000
IN-3	115	13008.08000	0.00000	0.000	12690.01000	13386.96000	12947.27000
AG	107	53.83377	59000.15000	1.900	53.24777	53.25490	54.99865
AS	75	35.41621	1400.08700	4.500	37.22660	34.73528	34.28674
BA	137	391.22090	22126.69300	8.100	410.69423	354.75573	408.21275
CD	111	12.13145	1046.71700	4.300	12.60783	11.56883	12.21769
CO	59	295.29226	239136.17700	2.800	296.97869	286.35678	302.54132
CU	63	1122.96368	834093.09000	2.600	1126.62532	1092.45990	1149.80581
MO	98	62.85629	30720.29000	4.300	64.26552	59.74769	64.55565
NI	60	364.41747	89613.51700	3.800	367.83006	349.01814	376.40422
SB	121	11.07781	2223.64700	9.800	12.00183	9.88176	11.34984
SE	78	10.22278	1134.49700	1.600	10.04799	10.25374	10.36662
SN	120	269.24282	58201.04300	5.000	273.92776	253.92620	279.87449
SR	88	98.18916	8863.53000	5.000	92.53323	100.97424	101.06002
ZN	66	2245.73835	133667.15000	3.400	2255.15135	2164.22220	2317.84151
BI-3	209	88969.41300	0.00000	0.000	84295.83000	90188.30000	92424.11000
PB	208	515.70805	1777899.73700	3.500	536.62003	502.82525	507.67888
TL	203	2.18556	2313.64700	10.400	2.32800	2.30604	1.92263
U	238	28.36604	131086.32700	5.700	30.19250	27.84230	27.06331
SC-2	45	493192.75300	0.00000	0.000	489093.59000	495076.98000	495407.69000
GE-1	72	1387526	0	0.000	1384824	1372767	1404988
GE-2	72	984430.50300	0.00000	0.000	983971.86000	980436.70000	988882.95000
GE-3	72	42217.23300	0.00000	0.000	40361.60000	42528.12000	43761.98000
TB-3	159	100142.25000	0.00000	0.000	101089.64000	98761.17000	100575.94000

Run Name: 1831212E05
Tube Number: 16
Sample Number: **9870251**

Date/Time: 11/08/2018 21:08:31
Batch: 183041063701A
Class: M*********

Initial Vol: 1.13 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1203002	0	0.000	1213951	1196062	1198993
SC-3	45	11785.73000	0.00000	0.000	11355.19000	11845.88000	12156.12000
AL	27	36193.13166	169034.96300	1.900	36887.00872	35530.44037	36161.94588
B	11	349.21303	68573.68000	0.800	347.99158	347.06967	352.57782
BE	9	5.76185	2340.88700	4.500	5.46746	5.86675	5.95134
CA	44	10127.37608	5731.51000	2.800	10450.87789	9912.26730	10018.98306
CR	52	184.76865	78517.05700	4.000	193.24396	181.59848	179.46352
FE	57	85726.84574	637866.03300	3.100	88808.33653	84529.70588	83842.49480
K	39	17609.76332	169018.72000	1.700	17923.34536	17561.55690	17344.38771
MG	24	15848.21379	321188.39300	1.700	16132.89045	15580.01655	15831.73436
MN	55	1094.44687	135067.40700	2.500	1126.01912	1077.25518	1080.06632
NA	23	9990.74410	474853.32700	2.400	10260.02218	9930.15772	9782.05241
TI	47	1443.44030	7719.26300	5.900	1521.28885	1351.85123	1457.18083
V	51	156.28152	49692.16000	1.000	157.55369	156.65258	154.63831
IN-2	115	489511.16700	0.00000	0.000	489883.23000	487806.97000	490843.30000
IN-3	115	12840.97000	0.00000	0.000	12605.66000	13039.82000	12877.43000
AG	107	56.56847	61203.54300	0.100	56.60291	56.55609	56.54641
AS	75	36.58716	1428.75700	5.000	34.90630	36.32428	38.53091
BA	137	424.25852	23716.27000	1.700	426.76969	416.08702	429.91886
CD	111	14.16391	1206.73700	9.900	14.26992	12.70873	15.51307
CO	59	313.84232	250959.02000	2.000	314.82016	307.00484	319.70196
CU	63	1250.04092	916689.51700	1.600	1259.82573	1226.73776	1263.55928
MO	98	69.71609	33630.56000	3.600	68.87717	67.70162	72.56948
NI	60	423.97644	102932.67000	2.000	433.90547	418.01094	420.01292
SB	121	12.66890	2507.04300	6.100	13.34324	12.83995	11.82351
SE	78	9.88617	1122.72000	0.000	9.88454	9.88536	9.88861
SN	120	525.65197	112226.72000	0.200	524.28950	526.87219	525.79422
SR	88	109.29368	9727.41300	6.300	116.61820	108.31061	102.95222
ZN	66	2557.64658	150289.02000	3.200	2627.62196	2466.98843	2578.32934
BI-3	209	91454.02000	0.00000	0.000	90722.64000	88857.99000	94781.43000
PB	208	538.86660	1911040.90700	1.700	533.43023	549.57882	533.59074
TL	203	2.30229	2507.04700	8.200	2.44072	2.37856	2.08758
U	238	28.95837	137785.45700	0.900	28.89407	29.23429	28.74675
SC-2	45	506584.38000	0.00000	0.000	507445.30000	509215.03000	503092.81000
GE-1	72	1449951	0	0.000	1477907	1420744	1451204
GE-2	72	1005543	0	0.000	1005770	1005452	1005406
GE-3	72	42655.75000	0.00000	0.000	43401.70000	41384.91000	43180.64000
TB-3	159	102740.76000	0.00000	0.000	101524.39000	102601.39000	104096.50000

Run Name: 1831212E05
Tube Number: 17
Sample Number: **9870251**

Date/Time: 11/08/2018 21:10:55
Batch: 183041063701A
Class: UL********

Initial Vol: 1.21 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1171536	0	0.000	1186062	1177349	1151197
SC-3	45	11458.75300	0.00000	0.000	11335.31000	11455.36000	11585.59000
AL	27	5828.33049	26500.04300	3.500	5985.58965	5905.18920	5594.21263
B	11	49.42222	10195.11000	3.000	50.32938	50.25044	47.68686
BE	9	0.34179	138.66700	16.900	0.33535	0.28753	0.40247
CA	44	963.40650	533.37700	2.900	931.27444	975.99376	982.95131
CR	52	25.05710	10894.94300	5.300	23.82667	24.87958	26.46505
FE	57	15017.59454	108770.36300	1.100	14836.05992	15169.51857	15047.20515
K	39	1433.68121	15733.20300	2.000	1427.87376	1407.78746	1465.38242
MG	24	2751.96352	54281.98300	3.800	2630.09627	2806.76657	2819.02773
MN	55	356.94147	42889.38700	1.100	360.90247	353.18961	356.73234
NA	23	62.79626	32860.03700	14.200	72.20643	54.39894	61.78341
TI	47	262.51553	1380.15300	11.100	244.17824	247.37053	295.99781
V	51	21.99195	6815.40300	3.900	22.93683	21.27094	21.76809
IN-2	115	518283.81000	0.00000	0.000	519307.70000	514207.65000	521336.08000
IN-3	115	14092.55700	0.00000	0.000	13882.66000	14003.27000	14391.74000
AG	107	0.27271	323.35700	11.200	0.29924	0.27971	0.23917
AS	75	4.02805	180.00000	11.300	3.85895	3.68242	4.54279
BA	137	69.39983	4264.29700	2.000	68.92028	68.32662	70.95261
CD	111	1.98043	184.66700	26.600	2.49582	2.00097	1.44452
CO	59	6.44393	5674.83000	6.400	5.98679	6.56607	6.77892
CU	63	111.15997	89843.71700	0.600	111.07418	110.54013	111.86560
MO	98	2.22086	1440.17000	14.200	1.87945	2.28022	2.50292
NI	60	58.96722	15830.05700	4.600	61.05333	55.86762	59.98071
SB	121	1.01963	270.01700	10.400	0.89681	1.07591	1.08617
SE	78	0.22224	38.00300	24.000	0.17669	0.28099	0.20903
SN	120	61.54203	14445.36700	3.100	63.77356	60.47018	60.38233
SR	88	10.32268	1010.10000	10.200	9.55732	9.88681	11.52391
ZN	66	494.60388	31922.67000	2.500	480.20626	503.11389	500.49148
BI-3	209	93046.46700	0.00000	0.000	90531.95000	92494.08000	96113.37000
PB	208	89.27766	322126.03300	2.400	90.93886	90.02775	86.86635
TL	203	0.13631	156.68000	23.300	0.17059	0.13049	0.10786
U	238	0.61672	3010.55300	3.600	0.59834	0.61049	0.64133
SC-2	45	496233.92300	0.00000	0.000	506632.96000	483302.45000	498766.36000
GE-1	72	1448303	0	0.000	1436400	1452813	1455695
GE-2	72	1030584	0	0.000	1030091	1032483	1029177
GE-3	72	42117.43000	0.00000	0.000	40271.81000	43662.47000	42418.01000
TB-3	159	101685.09700	0.00000	0.000	100305.36000	100052.13000	104697.80000

Run Name: 1831212E05
Tube Number: 18
Sample Number: **9827129**

Date/Time: 11/08/2018 21:13:20
Batch: 183041063701A
Class: **********

Initial Vol: 1.03 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1144262	0	0.000	1128338	1178654	1125794
SC-3	45	10477.98700	0.00000	0.000	10875.10000	10264.41000	10294.45000
AL	27	18387.12111	76321.19700	4.000	17565.34912	18590.97017	19005.04404
B	11	67.25890	13238.29700	2.600	67.42964	65.44160	68.90547
BE	9	1.26096	490.01300	5.400	1.23081	1.21308	1.33900
CA	44	133144.45213	66908.41700	6.300	124248.56151	134208.31695	140976.47792
CR	52	45.34331	17558.92700	2.500	44.05495	46.16567	45.80930
FE	57	44536.22568	294622.81000	3.500	42790.70196	45102.15355	45715.82153
K	39	4700.91879	41801.72300	5.200	4445.87658	4726.96642	4929.91337
MG	24	33220.14079	598114.61700	4.300	31579.16024	33866.50628	34214.75586
MN	55	16587.22383	1818499.19300	4.000	15824.08849	16868.66198	17068.92101
NA	23	644.12010	52985.63000	6.500	595.62613	665.57775	671.15642
TI	47	845.95311	4030.85700	3.500	847.42967	874.38576	816.04391
V	51	128.06842	36169.44700	5.600	119.78946	131.29773	133.11807
IN-2	115	486967.43700	0.00000	0.000	485312.03000	484387.58000	491202.70000
IN-3	115	12754.94000	0.00000	0.000	12851.59000	13108.02000	12305.21000
AG	107	0.16176	173.34300	24.400	0.19394	0.11772	0.17362
AS	75	25.44694	988.04700	8.000	23.27407	25.74122	27.32552
BA	137	578.54804	32097.82700	4.500	561.20082	565.85661	608.58671
CD	111	1.02156	86.00000	30.000	0.79709	0.89643	1.37115
CO	59	25.91999	20579.95700	5.500	26.11748	24.40389	27.23861
CU	63	25.21776	18707.06700	5.000	25.25338	23.94659	26.45331
MO	98	5.47893	2847.12000	12.900	4.74290	5.54036	6.15353
NI	60	66.94463	16227.36300	6.200	66.32271	63.15477	71.35643
SB	121	0.92906	226.68300	50.100	1.45176	0.56077	0.77466
SE	78	1.22222	147.55300	7.300	1.26014	1.28672	1.11980
SN	120	8.56809	1846.89700	14.600	9.96874	7.56729	8.16825
SR	88	210.80907	18627.29300	7.000	196.16232	210.50307	225.76181
ZN	66	154.23356	9013.48000	1.000	153.72126	153.04496	155.93447
BI-3	209	88234.31700	0.00000	0.000	88305.30000	86995.31000	89402.34000
PB	208	18.48556	63326.90300	1.600	18.41280	18.80859	18.23531
TL	203	0.69047	730.07000	13.200	0.72724	0.75760	0.58657
U	238	5.82637	26763.83700	3.000	5.66075	6.00508	5.81328
SC-2	45	483774.47300	0.00000	0.000	483416.40000	486406.13000	481500.89000
GE-1	72	1411024	0	0.000	1414308	1440834	1377928
GE-2	72	988688.91700	0.00000	0.000	977014.28000	988247.64000	1000805
GE-3	72	39248.94000	0.00000	0.000	39429.66000	38667.42000	39649.74000
TB-3	159	97955.73700	0.00000	0.000	95315.83000	98892.66000	99658.72000

Run Name: 1831212E05
Tube Number: 19
Sample Number: **9870252**

Date/Time: 11/08/2018 21:15:45
Batch: 183041063701A
Class: **********

Initial Vol: 1.20 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1123475	0	0.000	1135786	1119298	1115340
SC-3	45	11295.18300	0.00000	0.000	10404.49000	11425.23000	12055.83000
AL	27	19028.78600	84878.24700	8.000	20687.40481	18723.16804	17675.78513
B	11	178.41141	33122.84300	0.200	178.04711	178.43646	178.75066
BE	9	1.78560	680.02300	4.300	1.70832	1.86079	1.78770
CA	44	123261.74166	66694.03700	5.000	129204.77125	123778.64078	116801.81295
CR	52	381.67868	154361.47000	7.700	414.72474	371.56983	358.74149
FE	57	328674.48575	2337270.85000	6.900	353536.57753	323504.94474	308981.93497
K	39	3312.79524	32399.63000	8.900	3645.42981	3215.00016	3077.95576
MG	24	8492.75400	164472.76000	6.700	9113.66464	8362.64810	8001.94925
MN	55	2839.35775	334910.42700	6.200	3038.90856	2768.00510	2711.15960
NA	23	2510.62011	136127.78300	10.400	2799.05024	2439.98737	2292.82271
TI	47	824.51076	4230.88300	6.100	864.66298	767.82061	841.04869
V	51	189.58627	57557.03300	7.900	206.33802	185.16019	177.26059
IN-2	115	457293.33300	0.00000	0.000	457188.08000	459387.12000	455304.80000
IN-3	115	11195.65700	0.00000	0.000	10801.03000	10792.67000	11993.27000
AG	107	33.93570	31933.40000	6.000	34.87611	35.33298	31.59799
AS	75	112.07870	3799.23000	3.200	116.21020	109.92652	110.09937
BA	137	5791.20696	281643.69300	5.000	5924.83438	5991.61308	5457.17342
CD	111	12.64583	938.71300	4.500	12.41371	13.28887	12.23491
CO	59	105.39015	73395.88300	3.200	107.11437	107.54292	101.51317
CU	63	1380.52174	881087.25300	4.600	1416.94520	1416.86338	1307.75663
MO	98	46.89560	19748.93300	5.700	48.78011	48.09562	43.81106
NI	60	319.41440	67556.51300	3.500	328.14108	323.41067	306.69144
SB	121	279.24357	47176.84300	7.500	296.83560	284.76506	256.13005
SE	78	5.56941	595.34700	2.600	5.43774	5.72706	5.54343
SN	120	4835.66505	897715.82000	6.000	4944.75009	5053.55264	4508.69242
SR	88	827.78740	64186.29000	3.100	846.86891	838.27856	798.21472
ZN	66	15041.89273	769557.67000	4.100	15509.53601	15276.96783	14339.17434
BI-3	209	121668.65700	0.00000	0.000	120572.74000	120352.49000	124080.74000
PB	208	5486.32925	25885104.61000	2.300	5484.13299	5615.79849	5359.05626
TL	203	0.51819	756.73000	23.500	0.51012	0.64379	0.40068
U	238	1.49746	9507.62300	2.500	1.47369	1.54029	1.47839
SC-2	45	477838.26300	0.00000	0.000	481256.48000	479143.20000	473115.11000
GE-1	72	1364200	0	0.000	1345435	1399784	1347380
GE-2	72	956105.89700	0.00000	0.000	965102.72000	951244.91000	951970.06000
GE-3	72	40030.53000	0.00000	0.000	39789.87000	40541.99000	39759.73000
TB-3	159	97351.98700	0.00000	0.000	95628.85000	96596.18000	99830.93000

Run Name: 1831212E05 Date/Time: 11/08/2018 21:18:09
Tube Number: 20
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1085314	0	0.000	1095230	1078238	1082474
SC-3	45	9984.25300	0.00000	0.000	9994.30000	10554.69000	9403.77000
AL	27	2615.29216	10344.41700	10.200	2516.94880	2411.58373	2917.34395
B	11	259.63124	46202.69300	0.800	262.01693	258.75784	258.11896
BE	9	24.90063	9116.35300	2.800	24.31724	24.70612	25.67851
CA	44	2728.85327	1313.47000	5.300	2661.68794	2895.03307	2629.83881
CR	52	268.74846	96412.62300	4.900	270.36718	254.96073	280.91747
FE	57	3116.95748	19608.55300	14.500	2914.70397	2800.08464	3636.08385
K	39	2645.80019	23367.77700	5.700	2668.82375	2485.14231	2783.43452
MG	24	2557.34205	43864.63300	5.100	2613.59291	2408.98992	2649.44332
MN	55	262.90341	27462.45300	7.900	253.43831	248.48028	286.79166
NA	23	2696.39861	127649.69300	4.000	2692.70201	2591.54898	2804.94483
TI	47	246.38902	1130.12000	3.600	250.85896	252.01363	236.29445
V	51	268.62662	72253.38700	4.200	263.40732	260.90062	281.57193
IN-2	115	479709.80700	0.00000	0.000	480023.27000	482822.28000	476283.87000
IN-3	115	13115.45300	0.00000	0.000	12866.94000	13385.61000	13093.81000
AG	107	26.24213	28996.50000	0.800	26.37350	25.99141	26.36148
AS	75	252.25888	10013.79000	1.900	255.94300	253.87721	246.95643
BA	137	246.64404	14088.42700	3.000	239.64906	245.99415	254.28891
CD	111	24.88996	2166.19700	3.800	25.08072	23.86129	25.72787
CO	59	261.60024	213654.04000	1.500	266.04150	260.32940	258.42980
CU	63	263.04722	197306.57700	3.100	271.37853	262.89801	254.86512
MO	98	26.57499	13257.43000	6.500	26.36198	28.38901	24.97399
NI	60	263.73425	65439.95000	3.400	273.84385	261.11032	256.24857
SB	121	28.72064	5741.61700	4.800	30.29202	27.72443	28.14549
SE	78	25.08715	2775.62700	1.000	25.04760	25.34664	24.86721
SN	120	40.91594	8950.31000	10.300	38.44596	38.52413	45.77772
SR	88	24.91850	2267.00700	9.400	25.89252	26.61365	22.24933
ZN	66	260.23672	15633.13300	6.500	250.23515	250.82991	279.64511
BI-3	209	87278.25300	0.00000	0.000	88667.33000	86000.15000	87167.28000
PB	208	30.34526	102735.45300	12.200	26.83774	29.99824	34.19979
TL	203	24.67934	25620.99300	3.900	24.15824	25.79889	24.08090
U	238	24.56928	111576.72700	4.000	24.82368	25.39081	23.49334
SC-2	45	447356.71300	0.00000	0.000	444988.00000	450768.16000	446313.98000
GE-1	72	1300612	0	0.000	1313484	1297815	1290536
GE-2	72	926513.03300	0.00000	0.000	934227.80000	932364.91000	912946.39000
GE-3	72	38081.76300	0.00000	0.000	38024.59000	38154.90000	38065.80000
TB-3	159	95010.49300	0.00000	0.000	95507.73000	96484.44000	93039.31000

Run Name: 1831212E05 Date/Time: 11/08/2018 21:20:34
Tube Number: 21
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1040839	0	0.000	1040430	1055259	1026828
SC-3	45	10337.85300	0.00000	0.000	10174.37000	10714.77000	10124.42000
AL	27	-1.62509	30.00000	0.000	-1.51224	-1.88751	-1.47553
B	11	45.78569	8446.59700	1.800	45.96819	46.51723	44.87165
BE	9	0.00946	6.66700	154.700	0.00743	-0.00405	0.02498
CA	44	34.52491	20.00000	3.600	35.14582	33.08113	35.34779
CR	52	0.73124	820.07700	58.100	0.73128	0.30621	1.15623
FE	57	18.93851	176.68000	34.500	13.62149	16.95505	26.23900
K	39	77.59359	2947.15700	53.300	125.10012	58.19785	49.48280
MG	24	3.12137	86.67000	119.700	0.49685	1.46688	7.40038
MN	55	0.08812	63.33700	657.700	-0.40660	-0.05484	0.72580
NA	23	89.18659	30671.69000	16.200	77.77434	84.29637	105.48907
TI	47	-0.96267	10.00000	0.000	1.20310	-3.13557	-0.95553
V	51	0.22701	80.00300	144.200	-0.02608	0.11048	0.59663
IN-2	115	481654.93700	0.00000	0.000	484497.20000	474115.75000	486351.86000
IN-3	115	13071.74700	0.00000	0.000	12552.45000	12779.80000	13882.99000
AG	107	0.02074	23.33300	60.300	0.00946	0.01857	0.03420
AS	75	0.12211	12.66700	194.600	-0.08441	0.06894	0.38180
BA	137	0.22959	20.00000	249.700	-0.10137	-0.10137	0.89152
CD	111	0.04465	4.00000	97.300	0.00000	0.04715	0.08681
CO	59	0.20955	190.01300	79.500	0.08453	0.14553	0.39859
CU	63	0.41587	683.39000	22.500	0.41000	0.32531	0.51232
MO	98	-0.02071	243.35300	0.000	-0.30228	0.17656	0.06357
NI	60	0.12820	156.67700	169.100	0.00755	-0.00146	0.37852
SB	121	1.45367	336.69000	7.100	1.43949	1.35775	1.56377
SE	78	0.01924	12.88700	96.500	0.04058	0.00688	0.01026
SN	120	2.39355	550.04300	7.400	2.53983	2.44500	2.19581
SR	88	0.13849	13.33300	173.200	0.00000	0.00000	0.41548
ZN	66	1.70750	113.34300	27.300	2.07813	1.18312	1.86126
BI-3	209	85677.69000	0.00000	0.000	85195.53000	85696.45000	86141.09000
PB	208	0.62099	2133.53700	10.300	0.59051	0.57791	0.69455
TL	203	0.05627	63.33700	56.000	0.03362	0.09225	0.04294
U	238	0.02889	150.01000	39.700	0.02235	0.02219	0.04213
SC-2	45	447091.67300	0.00000	0.000	447456.71000	442967.26000	450851.05000
GE-1	72	1285343	0	0.000	1268118	1321194	1266716
GE-2	72	936307.43300	0.00000	0.000	936005.77000	933515.45000	939401.08000
GE-3	72	38988.04000	0.00000	0.000	38366.29000	39439.32000	39158.51000
TB-3	159	94209.15300	0.00000	0.000	91962.27000	94048.20000	96616.99000

Run Name: 1831212E05
Tube Number: 22
Sample Number: **9870253**

Date/Time: 11/08/2018 21:23:01
Batch: 183041063701A
Class: **********

Initial Vol: 1.17 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1059464	0	0.000	1058215	1057320	1062856
SC-3	45	11155.07700	0.00000	0.000	11175.11000	11455.28000	10834.84000
AL	27	38221.85613	168832.62000	5.400	37744.22188	36419.46713	40501.87939
B	11	131.20993	23179.12700	1.400	129.70476	130.70039	133.22462
BE	9	1.69948	610.68700	4.200	1.71096	1.62266	1.76482
CA	44	141974.83641	76005.25700	3.700	138575.24945	139280.66247	148068.59731
CR	52	275.48048	110500.80000	5.400	269.34703	264.66112	292.43328
FE	57	722824.69576	5089861.38300	4.300	706253.59242	703216.28014	759004.21473
K	39	20484.02908	185585.87000	4.800	20503.12355	19490.48335	21458.48034
MG	24	26962.50281	516972.88000	3.500	26738.30981	26147.88497	28001.31364
MN	55	4237.61843	494789.98300	3.600	4143.18709	4158.09848	4411.56972
NA	23	2501.29312	134500.42300	4.200	2499.96530	2396.28559	2607.62847
TI	47	4186.16309	21154.11700	4.800	4145.96424	4007.77808	4404.74696
V	51	130.91299	39375.06300	4.900	128.37974	126.11496	138.24426
IN-2	115	427148.08000	0.00000	0.000	431725.48000	418327.81000	431390.95000
IN-3	115	10627.52000	0.00000	0.000	10329.33000	10397.69000	11155.54000
AG	107	25.30744	22660.69300	3.700	24.43738	26.28913	25.19581
AS	75	179.70753	5778.62700	3.300	178.39391	186.19076	174.53791
BA	137	3778.99562	174713.07700	2.100	3835.58244	3813.25043	3688.15399
CD	111	52.31366	3684.55700	6.100	55.42903	52.48466	49.02729
CO	59	79.52698	52613.54300	2.100	80.36949	80.64535	77.56609
CU	63	2357.37666	1429555.29000	2.700	2406.40719	2380.90084	2284.82194
MO	98	46.85112	18777.80000	1.300	46.92358	46.22407	47.40572
NI	60	324.46010	65184.54000	2.500	330.10874	328.25048	315.02109
SB	121	109.53032	17629.38300	2.600	110.07895	112.09283	106.41919
SE	78	5.58789	557.34700	9.000	5.50870	6.12536	5.12962
SN	120	5406.44247	954102.17300	3.500	5498.95251	5530.08308	5190.29182
SR	88	700.17856	51605.69300	1.600	688.30806	711.04979	701.17785
ZN	66	8531.56484	414582.69000	3.800	8815.15454	8606.60042	8172.93957
BI-3	209	103474.99300	0.00000	0.000	101708.02000	102784.86000	105932.10000
PB	208	5620.88755	22555690.91300	1.400	5703.56420	5607.56920	5551.52924
TL	203	0.92012	1140.12300	5.600	0.94473	0.86117	0.95447
U	238	2.90644	15660.92300	5.400	3.06841	2.89765	2.75326
SC-2	45	463822.07700	0.00000	0.000	460191.52000	460119.21000	471155.50000
GE-1	72	1235924	0	0.000	1226565	1240659	1240547
GE-2	72	898955.25000	0.00000	0.000	907669.60000	891828.74000	897367.41000
GE-3	72	38068.58700	0.00000	0.000	37322.59000	37212.97000	39670.20000
TB-3	159	95635.16000	0.00000	0.000	95849.58000	94329.05000	96726.85000

Run Name: 1831212E05
Tube Number: 23
Sample Number: **9870254**

Date/Time: 11/08/2018 21:25:26
Batch: 183041063701A
Class: **********

Initial Vol: 1.29 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1093479	0	0.000	1113380	1079299	1087757
SC-3	45	11025.06700	0.00000	0.000	10374.47000	11435.48000	11265.25000
AL	27	47649.53671	207856.11300	5.200	50365.43999	45585.95235	46997.21780
B	11	249.08318	44685.97300	1.000	247.09088	251.96976	248.18889
BE	9	2.15662	798.03300	9.300	1.92403	2.28182	2.26403
CA	44	161764.89213	85504.48000	4.600	170186.27612	155735.28457	159373.11570
CR	52	292.41679	115843.19000	4.000	305.41682	282.65624	289.17731
FE	57	751975.83472	5227665.86000	5.300	797217.73311	720735.87720	737973.89384
K	39	28255.28583	251931.97700	4.800	29523.86636	26821.82966	28420.16146
MG	24	31162.80856	589930.57700	4.900	32910.89452	30167.37235	30410.15882
MN	55	4258.66606	491084.10700	3.900	4439.98643	4113.10526	4222.90648
NA	23	4018.23199	195762.68700	6.100	4264.85092	3774.49682	4015.34823
TI	47	5742.41145	28664.74700	5.900	5928.21917	5350.85384	5948.16133
V	51	167.52345	49759.65700	4.600	176.37086	162.82665	163.37285
IN-2	115	437977.07000	0.00000	0.000	438018.95000	430961.44000	444950.82000
IN-3	115	10003.04300	0.00000	0.000	10052.51000	10072.96000	9883.66000
AG	107	32.04990	27012.25000	0.200	32.01818	32.02398	32.10755
AS	75	642.77871	19448.73300	3.000	630.04245	633.36448	664.92919
BA	137	6619.95068	288174.85000	3.800	6401.28973	6561.07074	6897.49156
CD	111	44.19438	2933.69300	5.200	44.72346	41.67073	46.18894
CO	59	174.27925	108557.54700	2.700	171.63020	171.52269	179.68487
CU	63	2440.05074	1393583.15700	2.400	2401.63659	2409.98714	2508.52848
MO	98	66.85589	25135.03700	2.900	65.75785	69.11686	65.69295
NI	60	530.06157	100247.22700	2.200	518.08593	541.69619	530.40260
SB	121	99.60932	15106.13700	2.800	98.36149	102.76484	97.70162
SE	78	3.51774	363.78300	8.300	3.85139	3.30327	3.39857
SN	120	7515.53908	1249427.48300	2.800	7287.15798	7559.58865	7699.87063
SR	88	905.97738	62840.22700	4.300	860.95051	933.53556	923.44605
ZN	66	9524.46502	436057.24300	2.000	9320.06010	9554.08865	9699.24631
BI-3	209	106829.93700	0.00000	0.000	104673.15000	107413.99000	108402.67000
PB	208	6166.58619	25550752.53300	0.500	6197.98353	6169.04629	6132.72875
TL	203	1.08183	1383.49300	8.800	1.00616	1.05078	1.18854
U	238	3.17819	17687.03300	2.000	3.24985	3.12910	3.15560
SC-2	45	489888.30000	0.00000	0.000	495121.95000	488815.07000	485727.88000
GE-1	72	1251464	0	0.000	1266487	1244865	1243039
GE-2	72	947566.94000	0.00000	0.000	955076.55000	944577.41000	943046.86000
GE-3	72	38676.96700	0.00000	0.000	37353.14000	39930.68000	38747.08000
TB-3	159	100918.47000	0.00000	0.000	98400.11000	100908.09000	103447.21000

Run Name: 1831212E05
Tube Number: 24
Sample Number: **9872060**

Date/Time: 11/08/2018 21:27:51
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1042144	0	0.000	1021776	1053102	1051552
SC-3	45	10618.02700	0.00000	0.000	10904.92000	10664.67000	10284.49000
AL	27	31657.40897	133112.89700	5.000	30264.86151	31321.69042	33385.67498
B	11	128.17016	22287.00300	1.600	129.62616	129.06978	125.81454
BE	9	1.88236	664.69300	6.200	1.94648	1.74747	1.95312
CA	44	162199.48167	82657.11700	2.700	158507.56579	161056.84758	167034.03164
CR	52	347.71974	132652.62700	3.400	335.67937	348.15386	359.32600
FE	57	592693.82434	3972233.17000	4.300	573575.17993	582661.14420	621845.14889
K	39	4146.24781	37659.60000	2.600	4068.34645	4099.37104	4271.02594
MG	24	13381.94833	244198.74000	4.300	12826.27081	13349.19698	13970.37720
MN	55	2437.35866	270867.07300	3.800	2356.89080	2417.78452	2537.40067
NA	23	3713.17939	176541.50700	3.200	3614.78531	3677.73349	3847.01939
TI	47	1137.20145	5491.42000	7.300	1150.84355	1212.05629	1048.70450
V	51	119.33861	34154.26300	6.400	112.06336	118.63084	127.32163
IN-2	115	446455.37700	0.00000	0.000	439251.19000	449857.93000	450257.01000
IN-3	115	12213.40000	0.00000	0.000	12804.80000	11918.85000	11916.55000
AG	107	15.06966	15486.66700	5.200	14.22725	15.19526	15.78648
AS	75	147.32564	5442.48700	5.200	139.84014	147.08506	155.05173
BA	137	10085.53051	535226.38700	6.400	9347.95039	10400.08917	10508.55198
CD	111	15.81366	1280.07700	8.700	14.80094	15.26916	17.37088
CO	59	88.78217	67458.96000	4.400	84.32633	90.36434	91.65585
CU	63	2522.87768	1756653.20700	6.100	2350.82963	2569.28770	2648.51569
MO	98	52.80573	24233.15000	8.000	48.00856	54.43203	55.97661
NI	60	400.68535	92431.17300	5.000	379.26478	403.46030	419.33098
SB	121	52.26765	9677.37700	8.000	47.54460	53.81941	55.43894
SE	78	6.75912	703.35700	3.800	6.60190	7.05682	6.61864
SN	120	2145.33965	434747.19300	6.600	1983.59173	2203.65308	2248.77415
SR	88	843.15209	71311.53000	5.200	794.37222	856.57338	878.51067
ZN	66	9567.40800	533918.89700	6.400	8867.37651	9841.01207	9993.83542
BI-3	209	99485.88000	0.00000	0.000	98552.72000	98157.69000	101747.23000
PB	208	4108.17775	15851746.54000	0.500	4107.04634	4130.00610	4087.48082
TL	203	0.89277	1063.44300	5.000	0.84722	0.93630	0.89479
U	238	2.35605	12213.47300	3.900	2.43256	2.38163	2.25395
SC-2	45	454523.73000	0.00000	0.000	448246.75000	460874.41000	454450.03000
GE-1	72	1239782	0	0.000	1232661	1253773	1232911
GE-2	72	913295.66300	0.00000	0.000	911207.49000	912601.31000	916078.19000
GE-3	72	39161.65300	0.00000	0.000	38556.55000	39258.48000	39669.93000
TB-3	159	96820.61700	0.00000	0.000	97249.99000	96222.94000	96988.92000

Run Name: 1831212E05
Tube Number: 25
Sample Number: **9872061**

Date/Time: 11/08/2018 21:30:15
Batch: 183041063701A
Class: **********

Initial Vol: 1.41 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1114982	0	0.000	1131528	1109917	1103500
SC-3	45	10841.66000	0.00000	0.000	10424.66000	10804.97000	11295.35000
AL	27	33989.23739	145943.24700	3.300	34859.15631	34379.90862	32728.64724
B	11	103.18202	19355.38700	1.600	101.30585	103.62537	104.61485
BE	9	2.88128	1086.72300	2.900	2.78410	2.91867	2.94107
CA	44	43228.53301	22502.90700	1.100	43301.79164	43669.01322	42714.79416
CR	52	261.28064	101945.30300	1.900	263.16661	265.05505	255.62026
FE	57	465682.11856	3187014.01300	2.800	477708.22620	467382.82411	451955.30537
K	39	3128.95215	29599.69700	3.600	3248.24761	3112.49529	3026.11354
MG	24	4581.16375	85417.25000	1.900	4618.13239	4642.76006	4482.59879
MN	55	2025.18505	229811.19300	2.900	2066.26688	2051.62612	1957.66215
NA	23	3239.34343	160962.40000	1.100	3276.08517	3203.23664	3238.70848
TI	47	1908.11588	9387.02000	1.100	1928.52912	1887.12914	1908.68937
V	51	133.62270	39063.94000	3.200	136.26867	135.90987	128.68955
IN-2	115	441027.74300	0.00000	0.000	453141.13000	430289.45000	439652.65000
IN-3	115	11459.62000	0.00000	0.000	10906.74000	11950.46000	11521.66000
AG	107	18.69580	18039.88300	6.400	18.58817	17.55129	19.94792
AS	75	203.33299	7039.23000	7.900	214.37216	184.78176	210.84504
BA	137	9201.38001	458554.81000	3.800	9398.97047	8798.23152	9406.93804
CD	111	24.50861	1864.15000	5.000	24.03499	23.60007	25.89075
CO	59	78.61654	56027.00700	5.700	82.21769	73.57772	80.05421
CU	63	16437.76248	10738187.34000	5.500	17184.24234	15444.15914	16684.88597
MO	98	73.50497	31628.87000	1.700	73.27927	72.39041	74.84521
NI	60	434.04476	93948.47300	3.900	451.45709	417.78457	432.89263
SB	121	85.18614	14792.32700	3.300	86.75365	81.92524	86.87954
SE	78	6.28486	646.68300	1.900	6.37091	6.33678	6.14689
SN	120	3605.81088	685937.69700	4.400	3760.72133	3445.76602	3610.94529
SR	88	615.77065	48901.19300	2.900	624.77653	595.03694	627.49849
ZN	66	9439.73601	494408.69000	5.300	9846.38116	8875.78713	9597.03974
BI-3	209	170233.48000	0.00000	0.000	168593.36000	167216.77000	174890.31000
PB	208	13119.24654	86618849.53700	1.200	12983.07026	13297.07041	13077.59895
TL	203	0.36261	746.73000	9.500	0.32326	0.37625	0.38833
U	238	1.63563	14519.42000	5.800	1.58324	1.74476	1.57887
SC-2	45	471512.91000	0.00000	0.000	475219.33000	466077.53000	473241.87000
GE-1	72	1311957	0	0.000	1319622	1296815	1319434
GE-2	72	928405.11700	0.00000	0.000	938103.58000	927064.75000	920047.02000
GE-3	72	39833.76300	0.00000	0.000	38316.04000	39118.19000	42067.06000
TB-3	159	93402.06000	0.00000	0.000	92314.76000	92122.00000	95769.42000

Run Name: 1831212E05
Tube Number: 26
Sample Number: **9872062**

Date/Time: 11/08/2018 21:32:40
Batch: 183041063701A
Class: **********

Initial Vol: 1.25 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1158696	0	0.000	1119690	1190979	1165421
SC-3	45	10097.59700	0.00000	0.000	9423.77000	10474.54000	10394.48000
AL	27	25712.82899	102809.98000	2.900	26574.11543	25201.34731	25363.02424
B	11	109.33855	21256.78000	2.400	112.33953	107.71094	107.96518
BE	9	2.20943	868.03700	10.500	2.16738	2.46039	2.00053
CA	44	86466.16572	41858.87300	4.400	90739.40041	85106.43251	83552.66423
CR	52	1281.35987	462896.66000	4.700	1350.81238	1254.36958	1238.89766
FE	57	397525.32933	2531139.91000	4.800	419406.88301	389165.86614	384003.23885
K	39	6220.09614	52514.94000	5.800	6633.85242	6075.45882	5950.97719
MG	24	11839.12342	205242.01700	5.000	12517.09347	11575.45797	11424.81883
MN	55	2222.34634	234557.37700	5.400	2359.46433	2137.52052	2170.05418
NA	23	4452.18093	195781.86300	5.500	4724.18932	4376.44794	4255.90553
TI	47	1491.30857	6828.79300	6.100	1538.43763	1385.90367	1549.58440
V	51	141.83600	38572.94700	5.100	150.15963	137.50311	137.84527
IN-2	115	465672.42300	0.00000	0.000	459038.05000	471727.82000	466251.40000
IN-3	115	11680.61000	0.00000	0.000	10996.80000	12082.88000	11962.15000
AG	107	30.07605	29541.29000	6.500	31.99438	28.07557	30.15822
AS	75	125.01132	4417.42300	3.900	130.61928	122.80338	121.61131
BA	137	5454.67406	277160.88000	2.100	5567.39592	5342.55630	5454.06994
CD	111	39.89186	3085.73000	7.100	43.15767	38.45542	38.06248
CO	59	66.19983	48074.02700	5.900	70.46288	62.83553	65.30109
CU	63	10636.87510	7082890.52000	4.600	11203.03072	10368.94573	10338.64887
MO	98	63.66246	27944.20700	1.200	64.56260	63.16038	63.26439
NI	60	465.17629	102645.40700	2.900	480.49162	460.25932	454.77792
SB	121	53.13738	9420.57300	5.800	54.43933	49.63440	55.33839
SE	78	12.18248	1313.17700	5.600	12.95127	11.92353	11.67262
SN	120	1589.42073	308236.88300	3.700	1653.28936	1539.65690	1575.31593
SR	88	518.61580	41961.25000	3.600	537.57486	500.74547	517.52708
ZN	66	21955.71746	1172229.07300	4.100	23001.55649	21364.91897	21500.67691
BI-3	209	86938.15700	0.00000	0.000	85625.43000	86864.32000	88324.72000
PB	208	4927.09852	16614920.27300	1.200	4884.53726	4997.59371	4899.16457
TL	203	1.16576	1213.47000	14.600	1.02510	1.11687	1.35532
U	238	2.72998	12370.38000	1.900	2.68146	2.78496	2.72353
SC-2	45	475068.67700	0.00000	0.000	474298.90000	472995.50000	477911.63000
GE-1	72	1351041	0	0.000	1366367	1372201	1314555
GE-2	72	944578.00700	0.00000	0.000	942429.60000	948507.56000	942796.86000
GE-3	72	37032.24700	0.00000	0.000	36581.10000	37162.41000	37353.23000
TB-3	159	90720.73700	0.00000	0.000	88287.13000	91398.74000	92476.34000

Run Name: 1831212E05
Tube Number: 27
Sample Number: **9872063**

Date/Time: 11/08/2018 21:35:05
Batch: 183041063701A
Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1082161	0	0.000	1071771	1081426	1093284
SC-3	45	10547.99700	0.00000	0.000	10784.89000	10384.39000	10474.71000
AL	27	50532.60137	211167.13700	3.400	48615.96986	52003.06737	50978.76688
B	11	95.29863	17414.16700	0.500	94.71978	95.57999	95.59613
BE	9	3.50755	1284.07300	6.400	3.33833	3.42361	3.76070
CA	44	86120.90181	43610.65000	2.000	84091.00308	87192.63911	87079.06326
CR	52	591.53434	223867.47300	2.100	577.04903	599.70104	597.85294
FE	57	156175.87752	1040243.96700	3.200	150389.78816	159825.30520	158312.53920
K	39	6677.11688	58830.74300	1.100	6598.54588	6747.86106	6684.94369
MG	24	20077.95597	364162.03700	2.100	19632.14262	20486.42344	20115.30186
MN	55	1733.03132	191393.61000	3.500	1666.30310	1782.24322	1750.54765
NA	23	3987.35358	186331.47700	2.200	3892.20578	4065.78384	4004.07113
TI	47	1342.43568	6421.89300	10.300	1196.45164	1470.26405	1360.59133
V	51	204.33186	58138.63700	2.300	199.15712	205.22919	208.60926
IN-2	115	442965.19000	0.00000	0.000	446509.71000	442457.45000	439928.41000
IN-3	115	11946.98300	0.00000	0.000	11403.42000	12337.11000	12100.42000
AG	107	151.20391	151981.96300	5.400	160.43082	144.88085	148.30007
AS	75	38.60119	1399.42000	6.000	41.15816	36.68864	37.95675
BA	137	4183.66588	217396.78700	2.900	4320.66880	4090.93733	4139.39152
CD	111	68.27450	5409.15700	3.700	71.16742	66.56310	67.09298
CO	59	43.81605	32563.68000	5.800	46.73501	42.44010	42.27304
CU	63	8499.38804	5791921.79000	3.700	8843.20240	8225.49286	8429.46886
MO	98	9.78256	4574.36700	12.600	11.19740	9.22375	8.92655
NI	60	712.69834	160805.77000	3.300	739.68713	701.01289	697.39500
SB	121	18.90856	3454.00300	7.800	20.57698	18.41128	17.73741
SE	78	13.84863	1419.19000	2.700	13.97395	13.42716	14.14477
SN	120	1275.36017	253047.10000	3.700	1319.70396	1224.77601	1281.60055
SR	88	822.20701	68095.02700	2.100	837.70019	824.72316	804.19768
ZN	66	17515.32210	956913.89300	3.600	18228.28815	17085.43237	17232.24580
BI-3	209	462961.85300	0.00000	0.000	463026.32000	464171.40000	461687.84000
PB	208	533.54088	9581151.62700	0.600	530.65008	533.12261	536.84997
TL	203	0.20724	1173.45300	8.900	0.18843	0.20787	0.22542
U	238	2.20102	53130.69300	1.800	2.21314	2.23389	2.15604
SC-2	45	446973.13000	0.00000	0.000	448311.59000	442228.39000	450379.41000
GE-1	72	1254765	0	0.000	1237766	1259241	1267288
GE-2	72	898163.06000	0.00000	0.000	903724.36000	888491.86000	902272.96000
GE-3	72	39232.05700	0.00000	0.000	39880.71000	39038.31000	38777.15000
TB-3	159	95715.05700	0.00000	0.000	95665.73000	95800.05000	95679.39000

Run Name: 1831212E05
Tube Number: 28
Sample Number: **9872064**

Date/Time: 11/08/2018 21:37:30
Batch: 183041063701A
Class: **********

Initial Vol: 1.33 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1144276	0	0.000	1161776	1136114	1134937
SC-3	45	10934.94300	0.00000	0.000	10564.57000	10594.78000	11645.48000
AL	27	39641.80899	171589.22700	3.800	40028.04068	40906.22877	37991.15752
B	11	41.09068	8418.59000	1.900	40.81738	40.49811	41.95655
BE	9	2.66041	1030.05300	6.700	2.57353	2.54313	2.86456
CA	44	4615.37009	2423.69000	8.900	5080.89080	4299.56461	4465.65486
CR	52	208.21640	81973.29700	4.000	211.56690	214.24741	198.83490
FE	57	111846.66749	771403.19300	4.300	114760.31773	114514.83649	106264.84824
K	39	5596.42764	51438.21700	4.800	5850.75156	5625.40080	5313.13055
MG	24	13107.64830	246160.88700	4.100	13426.56942	13408.42545	12487.95005
MN	55	730.71958	83553.81700	5.700	754.86551	754.35180	682.94142
NA	23	476.83206	48324.93700	15.100	531.87051	503.49490	395.13078
TI	47	1830.27711	9073.44300	3.100	1879.95363	1841.22508	1769.65262
V	51	132.76326	39111.47000	4.900	138.90107	133.45139	125.93733
IN-2	115	465387.28000	0.00000	0.000	462242.42000	471118.87000	462800.55000
IN-3	115	12685.58700	0.00000	0.000	11953.91000	12750.09000	13352.76000
AG	107	0.15839	173.34300	65.600	0.05957	0.14895	0.26667
AS	75	17.22634	669.36000	10.000	15.63157	19.05223	16.99522
BA	137	141.83238	7849.51000	4.300	135.04884	143.55976	146.88854
CD	111	0.33506	28.66700	59.900	0.25204	0.18904	0.56410
CO	59	69.63201	54952.73700	3.500	72.03361	69.72074	67.14167
CU	63	136.21415	99019.85000	4.000	138.70495	129.99688	139.94060
MO	98	3.06762	1696.88000	6.000	3.05125	2.89159	3.26002
NI	60	561.59070	134428.93000	5.200	593.40206	555.01657	536.35347
SB	121	1.28312	293.35700	1.800	1.30263	1.25776	1.28897
SE	78	0.39334	52.44700	3.000	0.38000	0.40178	0.39823
SN	120	14.93495	3187.22700	7.500	13.64795	15.61868	15.53824
SR	88	39.19345	3447.32300	1.500	39.09199	39.81857	38.66978
ZN	66	179.66820	10461.27000	5.300	173.14231	175.17827	190.68400
BI-3	209	84360.88300	0.00000	0.000	83410.87000	84378.90000	85292.88000
PB	208	57.77820	189167.40000	3.100	56.43241	57.09005	59.81214
TL	203	0.46232	470.03300	23.100	0.37715	0.58198	0.42784
U	238	6.20673	27264.81000	1.400	6.15719	6.15946	6.30353
SC-2	45	484264.20000	0.00000	0.000	482306.87000	483926.91000	486558.82000
GE-1	72	1270065	0	0.000	1287204	1267508	1255483
GE-2	72	920112.72000	0.00000	0.000	909304.28000	928557.88000	922476.00000
GE-3	72	39656.33000	0.00000	0.000	39810.09000	39068.00000	40090.90000
TB-3	159	96200.42700	0.00000	0.000	94451.05000	96949.00000	97201.23000

Run Name: 1831212E05
Tube Number: 29
Sample Number: **9872065**

Date/Time: 11/08/2018 21:39:57
Batch: 183041063701A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1159826	0	0.000	1166068	1164169	1149240
SC-3	45	11115.10300	0.00000	0.000	10434.46000	11285.22000	11625.63000
AL	27	29312.28754	128834.75000	6.900	31317.52129	29350.86566	27268.47565
B	11	114.26853	22206.90300	1.400	113.83051	112.90228	116.07282
BE	9	3.00185	1178.06300	5.400	3.18966	2.89938	2.91652
CA	44	87227.00128	46500.97700	3.500	90779.64117	85252.26178	85649.10090
CR	52	290.56328	116089.53700	3.000	300.63791	285.21265	285.83927
FE	57	145986.94715	1023453.39700	4.400	153372.83601	143142.14335	141445.86208
K	39	7174.70820	66321.16000	5.000	7575.97491	7056.20665	6891.94305
MG	24	9815.42755	187403.41700	4.200	10289.48849	9507.71571	9649.07846
MN	55	1423.38198	165490.62700	4.100	1490.39873	1393.93969	1385.80753
NA	23	6356.47200	295181.44300	5.400	6745.86592	6238.47431	6085.07577
TI	47	1286.27721	6488.53300	2.000	1315.03268	1280.24019	1263.55877
V	51	246.05662	73696.98700	4.300	257.43226	236.67029	244.06732
IN-2	115	479899.21700	0.00000	0.000	476077.86000	473015.87000	490603.92000
IN-3	115	12887.32700	0.00000	0.000	12500.64000	12603.05000	13558.29000
AG	107	36.41924	39490.66700	4.700	37.91296	36.81999	34.52476
AS	75	81.50769	3181.73700	3.400	81.54778	84.24261	78.73269
BA	137	3325.25267	186486.00000	2.300	3279.10331	3414.18526	3282.46943
CD	111	11.51612	983.38300	8.800	11.28039	12.62322	10.64476
CO	59	44.88133	36016.08000	2.800	44.42226	46.32177	43.89996
CU	63	1230.32410	905062.54000	2.100	1239.58616	1250.43824	1200.94790
MO	98	21.07908	10377.95700	1.200	20.85844	21.36631	21.01249
NI	60	215.57700	52577.07300	1.600	215.78034	218.83138	212.11929
SB	121	39.02238	7649.36700	2.100	38.80869	39.90941	38.34905
SE	78	7.76985	867.14300	6.600	8.36350	7.43051	7.51553
SN	120	384.01358	82229.55300	2.400	391.34836	387.11055	373.58184
SR	88	588.59491	52562.03000	2.600	597.34456	597.19750	571.24267
ZN	66	3052.46642	179899.30000	3.700	3064.84874	3157.27342	2935.27709
BI-3	209	95874.20000	0.00000	0.000	93612.97000	95034.13000	98975.50000
PB	208	3022.92403	11238094.05300	2.100	3027.16374	3083.19718	2958.41117
TL	203	0.61196	703.38700	11.800	0.69463	0.57800	0.56325
U	238	2.72589	13605.05000	7.000	2.94149	2.65848	2.57770
SC-2	45	479508.52300	0.00000	0.000	473900.15000	479540.15000	485085.27000
GE-1	72	1358490	0	0.000	1372497	1381421	1321552
GE-2	72	943428.91700	0.00000	0.000	932495.06000	953714.91000	944076.78000
GE-3	72	40348.59300	0.00000	0.000	39469.53000	40341.76000	41234.49000
TB-3	159	99550.66000	0.00000	0.000	97429.88000	99596.68000	101625.42000

Run Name: 1831212E05
Tube Number: 30
Sample Number: **9874411**

Date/Time: 11/08/2018 21:42:22
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1107436	0	0.000	1097712	1127227	1097368
SC-3	45	11355.27000	0.00000	0.000	11325.38000	10924.89000	11815.54000
AL	27	14008.27832	62998.31700	5.200	13713.74052	14831.72258	13479.37184
B	11	43.80265	8630.71700	2.500	45.05055	43.06806	43.28934
BE	9	1.66617	625.35300	7.900	1.75710	1.51617	1.72523
CA	44	47863.18111	26066.15000	6.200	46010.10464	51306.57847	46272.86021
CR	52	100.53776	41420.93000	6.000	97.36505	107.45034	96.79789
FE	57	74525.75256	534192.83300	3.400	73710.67173	77393.01677	72473.56919
K	39	1859.60866	19441.36000	7.400	1954.12961	1922.77064	1701.92572
MG	24	3510.84148	68537.06000	3.800	3450.62167	3664.79754	3417.10524
MN	55	556.27940	66152.64000	3.700	544.73721	580.20527	543.89571
NA	23	962.74634	71018.90300	8.400	943.96138	1051.71457	892.56307
TI	47	787.45856	4064.18000	8.400	718.08518	849.61616	794.67433
V	51	401.92918	122952.34300	5.800	393.52880	428.37661	383.88212
IN-2	115	484986.58000	0.00000	0.000	478529.30000	490325.13000	486105.31000
IN-3	115	13815.94000	0.00000	0.000	13375.12000	13398.30000	14674.40000
AG	107	17.44167	20279.93300	5.300	17.06812	18.48510	16.77180
AS	75	63.77096	2667.62300	6.000	67.50036	63.92773	59.88480
BA	137	1434.08487	86163.49300	3.400	1428.40450	1485.99998	1387.85012
CD	111	8.71291	798.70000	1.300	8.80812	8.74790	8.58270
CO	59	26.78419	23047.20300	3.000	26.35728	27.71572	26.27958
CU	63	696.32741	548942.51700	4.000	699.51681	722.38077	667.08465
MO	98	20.30782	10721.46700	3.400	20.00271	21.08884	19.83191
NI	60	181.70527	47518.40300	1.900	182.49269	184.67508	177.94804
SB	121	33.08072	6948.87000	6.200	33.23728	35.05570	30.94918
SE	78	9.63531	1084.49300	1.200	9.52094	9.74532	9.63967
SN	120	228.85842	52537.24000	2.800	234.14200	230.71555	221.71770
SR	88	318.77169	30516.13700	2.600	327.06095	318.83923	310.41491
ZN	66	9161.61513	578465.91700	4.500	9314.91128	9477.75572	8692.17837
BI-3	209	97620.52000	0.00000	0.000	97865.60000	96938.00000	98057.96000
PB	208	2377.86673	9003556.06000	1.700	2330.72617	2398.96127	2403.91276
TL	203	1.41450	1650.20300	12.200	1.53189	1.21704	1.49457
U	238	1.94796	9917.95000	5.200	1.84811	1.94328	2.05248
SC-2	45	472706.76300	0.00000	0.000	464884.91000	483572.57000	469662.81000
GE-1	72	1340208	0	0.000	1364937	1359769	1295918
GE-2	72	944567.20000	0.00000	0.000	929920.06000	964374.99000	939406.55000
GE-3	72	40970.42300	0.00000	0.000	40592.51000	40191.43000	42127.33000
TB-3	159	100126.42700	0.00000	0.000	98025.99000	99781.20000	102572.09000

Run Name: 1831212E05
Tube Number: 31
Sample Number: **9874412**

Date/Time: 11/08/2018 21:44:45
Batch: 183041063701A
Class: **********

Initial Vol: 1.14 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	3855878	0	0.000	3898867	4256828	3411939
SC-3	45	23389.55000	0.00000	0.000	19028.69000	25140.24000	25999.72000
AL	27	7.76585	150.01300	65.700	13.59400	4.09690	5.60664
B	11	-1.97497	1594.77700	0.000	-2.20162	-2.27860	-1.44468
BE	9	-0.00077	10.66700	0.000	-0.00663	-0.00688	0.01119
CA	44	29.36776	40.00300	67.600	27.04136	10.77588	50.28605
CR	52	-0.75162	616.71000	0.000	-0.70001	-0.79273	-0.76214
FE	57	33.90906	623.38300	55.500	35.10015	14.50705	52.11998
K	39	-126.33760	2757.10700	0.000	-74.99451	-147.20655	-156.81174
MG	24	-0.34267	56.66700	0.000	0.04429	-0.40140	-0.67091
MN	55	0.00812	126.67700	3395.700	-0.04875	-0.23456	0.30765
NA	23	-362.92053	29044.83300	0.000	-306.61447	-377.56166	-404.58547
TI	47	-2.84292	3.33300	0.000	-3.13557	-2.25763	-3.13557
V	51	0.13332	123.34000	85.500	0.15181	0.01121	0.23693
IN-2	115	763625.67700	0.00000	0.000	479952.64000	1312459	498465.67000
IN-3	115	29246.24700	0.00000	0.000	22913.56000	31262.09000	33563.09000
AG	107	0.01820	50.00300	90.100	0.00000	0.02278	0.03183
AS	75	0.03040	20.00000	170.700	-0.01662	0.02175	0.08606
BA	137	0.65184	100.00700	95.500	0.50021	0.11910	1.33621
CD	111	0.01059	2.00000	21.200	0.01315	0.00964	0.00898
CO	59	0.01677	63.33700	51.900	0.01721	0.00786	0.02524
CU	63	0.44178	1526.84300	61.100	0.70318	0.16411	0.45806
MO	98	-0.48766	33.33300	0.000	-0.50422	-0.49877	-0.46000
NI	60	-0.24865	133.34300	0.000	-0.17512	-0.26151	-0.30931
SB	121	-0.23337	6.66700	0.000	-0.24650	-0.24650	-0.20710
SE	78	0.03512	18.22300	317.300	0.16287	-0.04186	-0.01567
SN	120	0.62538	353.36700	57.900	1.03722	0.35596	0.48297
SR	88	0.10695	20.00000	68.800	0.18880	0.04613	0.08593
ZN	66	4.39660	630.05300	39.600	3.62946	3.17004	6.39029
BI-3	209	177911.66700	0.00000	0.000	143017.86000	187371.44000	203345.70000
PB	208	1.83857	12937.30000	34.700	1.87604	1.18339	2.45627
TL	203	0.00416	20.00000	217.700	0.01178	-0.00585	0.00655
U	238	-0.00023	40.00000	0.000	0.00199	-0.00267	0.00000
SC-2	45	703792.73700	0.00000	0.000	420126.79000	1232977	458274.88000
GE-1	72	4896482	0	0.000	5207583	5235288	4246574
GE-2	72	1509593	0	0.000	942902.17000	2566095	1019782
GE-3	72	89254.43700	0.00000	0.000	73588.77000	95922.10000	98252.44000
TB-3	159	202892.78000	0.00000	0.000	161132.55000	223595.07000	223950.72000

Run Name: 1831212E05 Date/Time: 11/08/2018 21:47:09
Tube Number: 32
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1128454	0	0.000	1133531	1127169	1124664
SC-3	45	10521.25700	0.00000	0.000	9964.12000	10674.62000	10925.03000
AL	27	2613.43742	10921.47300	5.400	2686.83373	2703.77326	2449.70528
B	11	247.85952	45895.07300	1.700	244.05611	247.06167	252.46078
BE	9	25.55568	9728.11700	3.000	24.97693	25.28119	26.40890
CA	44	2851.13773	1446.83700	10.700	2544.36329	3155.14373	2853.90618
CR	52	270.99063	102444.08700	5.800	288.58212	265.77390	258.61588
FE	57	2687.73528	17912.62300	1.600	2726.27360	2639.29745	2697.63478
K	39	2638.94738	24586.53700	4.600	2741.70526	2670.53185	2504.60502
MG	24	2618.72623	47322.63700	6.400	2802.48313	2575.85504	2477.84053
MN	55	264.84530	29179.20300	6.100	283.02172	259.03835	252.47583
NA	23	2647.71063	132525.61700	6.900	2828.97826	2652.45445	2461.69918
TI	47	248.38608	1196.78000	5.900	264.91670	242.93987	237.30166
V	51	271.43802	76898.39000	6.300	290.16602	267.28908	256.85896
IN-2	115	499059.52300	0.00000	0.000	506327.06000	494011.17000	496840.34000
IN-3	115	13804.16700	0.00000	0.000	13461.21000	13277.67000	14673.62000
AG	107	26.28141	30540.25700	2.500	26.72958	26.59680	25.51784
AS	75	260.16692	10844.43300	6.500	266.75751	272.74098	241.00228
BA	137	248.66922	14915.95700	6.000	258.96202	255.44404	231.60160
CD	111	26.63892	2435.58700	6.900	28.31653	26.93767	24.66256
CO	59	265.83631	228025.34700	6.300	270.88951	279.38266	247.23677
CU	63	266.10919	209665.28300	6.300	267.15226	282.29716	248.87815
MO	98	26.05317	13647.70300	6.200	27.08970	26.86504	24.20477
NI	60	262.78154	68527.85700	5.300	262.24712	276.93438	249.16313
SB	121	25.64574	5388.05700	9.300	27.66535	26.25725	23.01463
SE	78	24.83851	2859.42300	2.000	25.33491	24.33563	24.84498
SN	120	26.36101	6068.42000	6.200	27.57419	27.00508	24.50376
SR	88	24.83077	2373.67000	4.000	24.96337	25.74330	23.78562
ZN	66	258.68264	16307.20700	8.300	265.34586	276.09683	234.60521
BI-3	209	88566.54300	0.00000	0.000	88486.50000	88546.14000	88666.99000
PB	208	28.21297	96992.14000	2.300	27.78140	27.89639	28.96112
TL	203	25.66309	27043.95000	1.600	25.46419	26.13180	25.39330
U	238	25.50730	117555.42000	0.900	25.70787	25.54350	25.27052
SC-2	45	473342.57300	0.00000	0.000	483002.34000	467477.65000	469547.73000
GE-1	72	1426300	0	0.000	1419698	1428107	1431094
GE-2	72	967812.38000	0.00000	0.000	976782.72000	956695.61000	969958.81000
GE-3	72	41432.22000	0.00000	0.000	40402.04000	43121.46000	40773.16000
TB-3	159	98667.94000	0.00000	0.000	96969.17000	98983.24000	100051.41000

Run Name: 1831212E05 Date/Time: 11/08/2018 21:49:34
Tube Number: 33
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1109186	0	0.000	1108784	1107932	1110842
SC-3	45	10124.33300	0.00000	0.000	9974.29000	10154.39000	10244.32000
AL	27	1.80171	43.33300	483.500	-6.42289	10.92781	0.90022
B	11	37.89846	7590.11300	4.400	39.07744	38.61777	36.00017
BE	9	0.00103	4.00000	522.300	-0.00432	0.00639	0.00101
CA	44	69.23150	36.66700	67.700	15.08764	96.75353	95.85333
CR	52	0.34569	666.71700	40.900	0.18772	0.46051	0.38883
FE	57	7.46258	100.00700	61.600	7.71009	2.75017	11.92748
K	39	73.16187	2847.15700	104.600	160.70609	39.92167	18.85785
MG	24	1.65049	60.00300	68.200	0.54270	2.79236	1.61641
MN	55	0.15848	70.00300	212.700	-0.11749	0.53410	0.05884
NA	23	89.25747	30037.03300	28.500	111.17482	95.27113	61.32646
TI	47	-0.98105	10.00000	0.000	-3.13557	-3.13557	3.32799
V	51	0.08331	40.00000	131.100	-0.02535	0.19305	0.08224
IN-2	115	482883.58000	0.00000	0.000	485047.14000	483295.18000	480308.42000
IN-3	115	13140.82700	0.00000	0.000	12513.55000	13715.12000	13193.81000
AG	107	0.02053	23.33300	88.600	0.00000	0.03461	0.02699
AS	75	0.07554	10.66700	197.400	-0.08408	0.09951	0.21118
BA	137	0.19831	16.66700	140.500	0.44941	-0.10137	0.24688
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.15557	143.34300	73.500	0.04633	0.14610	0.27429
CU	63	0.85914	1016.77300	27.200	0.77678	0.67795	1.12270
MO	98	-0.05459	226.68000	0.000	-0.19447	-0.14442	0.17514
NI	60	0.26712	190.01300	103.500	0.13604	0.08044	0.58488
SB	121	0.30599	110.00700	45.500	0.33488	0.42860	0.15448
SE	78	0.03908	15.11000	87.500	0.01055	0.07695	0.02973
SN	120	0.89137	226.68300	24.100	0.72100	0.82069	1.13242
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	1.21180	83.33700	44.100	1.38663	0.61181	1.63696
BI-3	209	83959.43300	0.00000	0.000	83877.07000	81791.75000	86209.48000
PB	208	0.97193	3233.69700	1.300	0.97210	0.95958	0.98411
TL	203	0.02086	26.66700	27.900	0.01419	0.02498	0.02340
U	238	0.03170	160.01000	66.200	0.01132	0.03053	0.05325
SC-2	45	458614.31700	0.00000	0.000	461551.75000	458798.04000	455493.16000
GE-1	72	1395942	0	0.000	1395858	1390230	1401737
GE-2	72	945741.44300	0.00000	0.000	953179.60000	948998.81000	935045.92000
GE-3	72	40652.90300	0.00000	0.000	40663.30000	40211.40000	41084.01000
TB-3	159	93286.81700	0.00000	0.000	92121.60000	93390.80000	94348.05000

Run Name: 1831212E05
Tube Number: 34
Sample Number: **9874413**

Date/Time: 11/08/2018 21:51:59
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1653677	0	0.000	510641.01000	714423.50000	3735966
SC-3	45	28019.17000	0.00000	0.000	31168.32000	27821.77000	25067.42000
AL	27	-7.43966	16.66700	0.000	-7.33361	-8.04584	-6.93952
B	11	5.86489	1510.76700	115.600	11.71409	7.45041	-1.56984
BE	9	0.00459	5.33300	397.800	0.02517	-0.00967	-0.00173
CA	44	1.43201	10.00000	471.200	7.57164	-5.79173	2.51614
CR	52	-0.95707	536.71000	0.000	-0.94604	-1.00077	-0.92442
FE	57	-3.71269	76.67300	0.000	-4.09880	-6.45549	-0.58378
K	39	-165.40858	2523.70700	0.000	-162.12884	-186.27645	-147.82044
MG	24	-0.95992	40.00000	0.000	-0.85634	-1.16213	-0.86128
MN	55	-0.30704	56.66700	0.000	-0.31663	-0.29451	-0.30998
NA	23	-422.73654	28734.39300	0.000	-460.33794	-429.12678	-378.74490
TI	47	-2.66347	6.66700	0.000	-1.71928	-3.13557	-3.13557
V	51	-0.06252	0.00000	0.000	-0.06252	-0.06252	-0.06252
IN-2	115	802239.45700	0.00000	0.000	784727.39000	736709.75000	885281.23000
IN-3	115	36173.01700	0.00000	0.000	39361.63000	35341.71000	33815.71000
AG	107	0.00468	13.33300	173.200	0.00000	0.00000	0.01404
AS	75	-0.11579	8.00000	0.000	-0.12257	-0.15235	-0.07244
BA	137	-0.10137	0.00000	0.000	-0.10137	-0.10137	-0.10137
CD	111	0.00297	0.66700	173.200	0.00000	0.00000	0.00891
CO	59	-0.01216	13.33300	0.000	-0.00559	-0.01783	-0.01308
CU	63	-0.06784	873.41700	0.000	-0.18111	-0.10552	0.08311
MO	98	-0.47831	50.00000	0.000	-0.49549	-0.45523	-0.48421
NI	60	-0.21916	190.01000	0.000	-0.24305	-0.22896	-0.18548
SB	121	-0.22723	10.00000	0.000	-0.24650	-0.22779	-0.20739
SE	78	-0.05492	7.55300	0.000	-0.06758	-0.02624	-0.07093
SN	120	0.18478	193.34700	82.800	0.00839	0.28116	0.26478
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	0.21505	66.67000	62.400	0.31493	0.06261	0.26759
BI-3	209	212199.30000	0.00000	0.000	236935.31000	205100.27000	194562.32000
PB	208	0.26220	2310.21300	20.900	0.23599	0.22556	0.32505
TL	203	0.00109	16.66700	835.600	-0.00230	-0.00585	0.01143
U	238	-0.00003	50.00300	0.000	-0.00229	-0.00098	0.00318
SC-2	45	780392.98300	0.00000	0.000	743513.66000	723087.96000	874577.33000
GE-1	72	2079886	0	0.000	664410.54000	870006.16000	4705241
GE-2	72	1699020	0	0.000	1628274	1605184	1863600
GE-3	72	108135.35700	0.00000	0.000	119882.31000	103300.75000	101223.01000
TB-3	159	248097.24300	0.00000	0.000	284276.05000	232930.29000	227085.39000

Run Name: 1831212E05 Date/Time: 11/08/2018 21:54:24
Tube Number: 35
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1079711	0	0.000	1087140	1075802	1076190
SC-3	45	10094.27000	0.00000	0.000	10014.27000	10504.52000	9764.02000
AL	27	2527.60340	10147.52300	1.200	2491.73025	2548.16950	2542.91044
B	11	255.96381	45320.60700	2.100	249.76357	259.63177	258.49608
BE	9	25.64054	9338.51000	2.900	24.91323	26.38394	25.62446
CA	44	2418.75125	1173.45300	6.600	2531.61328	2234.70302	2489.93744
CR	52	276.55261	100359.92000	4.600	278.73745	262.78719	288.13319
FE	57	2696.23969	17235.18700	2.500	2677.79694	2639.97683	2770.94532
K	39	2707.89469	24142.41300	6.900	2626.75728	2574.40278	2922.52400
MG	24	2613.62902	45382.22000	2.200	2647.95678	2548.71034	2644.21994
MN	55	266.96336	28247.49300	5.000	258.47430	260.14576	282.27001
NA	23	2716.57259	129849.13000	5.100	2756.81525	2561.89387	2831.00866
TI	47	263.17709	1220.12300	7.800	250.35246	286.85276	252.32604
V	51	267.94127	72870.02300	6.500	260.87415	255.04462	287.90504
IN-2	115	479826.29300	0.00000	0.000	479671.27000	482591.56000	477216.05000
IN-3	115	12843.55300	0.00000	0.000	12718.46000	12474.55000	13337.65000
AG	107	27.22757	29434.25000	6.000	26.33577	29.11957	26.22737
AS	75	270.18869	10488.83300	6.100	280.21434	279.33037	251.02135
BA	137	275.20483	15393.38300	4.100	262.33699	282.58849	280.68902
CD	111	26.14721	2230.88000	3.500	25.49209	25.74900	27.20055
CO	59	272.62626	217993.43000	2.300	268.54417	279.92894	269.40566
CU	63	275.19071	202033.26000	2.700	278.25905	280.51028	266.80279
MO	98	26.51369	12943.66000	1.300	26.29568	26.90610	26.33928
NI	60	275.76474	66986.96300	2.800	271.98495	284.68877	270.62050
SB	121	27.09150	5308.03700	1.100	27.26679	27.27435	26.73335
SE	78	25.03358	2770.51000	2.300	24.90262	25.65952	24.53861
SN	120	27.16543	5828.29000	1.500	27.48891	27.30530	26.70206
SR	88	23.58021	2096.95300	8.900	22.45221	26.01327	22.27515
ZN	66	270.37723	15903.61000	1.400	274.48928	269.16133	267.48108
BI-3	209	86846.64700	0.00000	0.000	84759.07000	86812.14000	88968.73000
PB	208	25.89291	87259.15000	2.500	26.62118	25.64520	25.41234
TL	203	25.73505	26569.50300	5.500	27.21024	25.62532	24.36958
U	238	25.27803	114222.69300	1.600	25.68503	24.87542	25.27363
SC-2	45	449815.42300	0.00000	0.000	447845.07000	451896.36000	449704.84000
GE-1	72	1319708	0	0.000	1374973	1298999	1285153
GE-2	72	926856.65300	0.00000	0.000	927750.45000	923396.63000	929422.88000
GE-3	72	39559.38700	0.00000	0.000	38957.51000	40271.46000	39449.19000
TB-3	159	93173.76700	0.00000	0.000	94198.07000	92888.20000	92435.03000

Run Name: 1831212E05 Date/Time: 11/08/2018 21:56:49
Tube Number: 36
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1029304	0	0.000	1036319	1025227	1026365
SC-3	45	10104.16300	0.00000	0.000	9934.08000	10284.25000	10094.16000
AL	27	2.77462	46.66700	268.300	11.36871	-1.59174	-1.45312
B	11	41.69874	7674.82700	3.800	43.31626	41.59321	40.18675
BE	9	0.00376	4.66700	176.100	0.00750	-0.00389	0.00767
CA	44	48.82776	26.66700	62.800	15.17215	75.20860	56.10254
CR	52	0.49915	720.05300	39.400	0.50383	0.30004	0.69358
FE	57	8.68080	106.67300	130.900	18.92896	-3.54466	10.65809
K	39	87.04465	2953.84300	70.000	151.18373	29.83715	80.11309
MG	24	3.95200	100.00700	95.400	0.55214	3.29989	8.00395
MN	55	0.12756	66.67000	145.100	-0.01982	0.33533	0.06716
NA	23	102.88394	30501.25000	14.900	101.87090	88.10258	118.67832
TI	47	-3.13557	0.00000	0.000	-3.13557	-3.13557	-3.13557
V	51	0.18215	66.66700	23.500	0.16139	0.15377	0.23130
IN-2	115	458763.98000	0.00000	0.000	459095.76000	468994.08000	448202.10000
IN-3	115	12494.98700	0.00000	0.000	12545.08000	12044.04000	12895.84000
AG	107	0.01884	20.00000	97.800	0.00000	0.01971	0.03681
AS	75	0.47374	25.33300	109.600	0.02107	0.35926	1.04088
BA	137	-0.10137	0.00000	0.000	-0.10137	-0.10137	-0.10137
CD	111	0.00779	0.66700	173.200	0.00000	0.00000	0.02336
CO	59	0.16341	143.34000	126.100	-0.00503	0.10216	0.39311
CU	63	0.72058	873.41300	41.000	0.70375	0.43373	1.02427
MO	98	-0.22235	136.67700	0.000	-0.13115	-0.24873	-0.28717
NI	60	0.28571	186.68000	123.200	0.09225	0.07287	0.69202
SB	121	0.60441	160.01000	33.900	0.70242	0.74190	0.36892
SE	78	0.03613	14.00000	84.900	0.02299	0.01423	0.07116
SN	120	0.86930	210.01000	13.600	0.81474	1.00450	0.78865
SR	88	0.15118	13.33300	86.600	0.22990	0.00000	0.22364
ZN	66	2.12203	133.34000	58.400	1.55701	1.26649	3.54258
BI-3	209	82860.94000	0.00000	0.000	83501.68000	81681.39000	83399.75000
PB	208	0.54445	1816.82300	6.600	0.51027	0.54104	0.58203
TL	203	0.02809	33.33300	56.900	0.01428	0.04561	0.02439
U	238	0.05018	236.68700	55.200	0.02290	0.04940	0.07825
SC-2	45	431902.31000	0.00000	0.000	433317.38000	435783.27000	426606.28000
GE-1	72	1263903	0	0.000	1265270	1266301	1260139
GE-2	72	916864.20700	0.00000	0.000	914739.44000	926078.66000	909774.52000
GE-3	72	38295.72000	0.00000	0.000	38296.21000	38064.86000	38526.09000
TB-3	159	89154.35000	0.00000	0.000	90138.35000	87328.18000	89996.52000

US EPA Tune Check Report

Operator Name	US19_USR_INS14259
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time	11/8/2018 5:31:21 PM
Report Comment	ICP-MS #19204 (E05) Daily Tune Check
Instrument Name	G3281A JP12071581

[No Gas]

Sensitivity

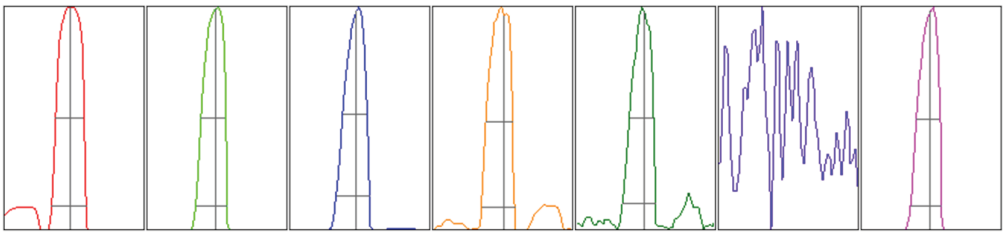
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1576	15763.18			2.811	5.000
89	10.00	8316	83159.96			2.668	5.000
205	10.00	4411	44105.16			2.387	5.000
70	1.00	101	1006.12	0.00		3.035	
156	1.00	16	159.11	0.00		6.156	
220	1.00	1	11.30	0.00		34.645	
140	10.00	7516	75160.67	0.00		2.582	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1631	1608	1577	1525	1541
89	8561	8453	8403	8095	8067
205	4545	4437	4463	4297	4311
70	101	104	103	99	96
156	15	17	16	15	17
220	2	1	1	1	1
140	7715	7686	7548	7336	7296

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2617.53	6.95	6.90 - 7.10	
89	16042.69	89.00	88.90 - 89.10	
205	8656.51	204.95	204.90 - 205.10	
70	178.62	70.05	-	
156	31.50	156.00	-	
220			-	
140	15330.53	140.00	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.62	0.736	0.800	
89	0.53	0.675	0.800	
205	0.51	0.707	0.800	
70	0.57	0.714		
156	0.51	0.708		
220	0.42			
140	0.51	0.670		

Integration Time [sec]	0.1
Acquisition Time [sec]	260.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.4 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-95 V	Cell Exit	-59 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9989	QP Bias	-3.0 V
Mass Offset	127	Axis Offset	-0.02		

Hardware Settings

Torch

Torch H	0.8 mm	Torch V	-1.3 mm

EM

Discriminator	4.5 mV	Analog HV	1751 V	Pulse HV	1256 V

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ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 18K12H00.E05

Run Name: 1831608E05

Analyst: 25839

Reviewed By:	Reviewed Date
Choon Y Tian	11/13/2018 09:27

Verified By:	Verified Date
Deborah A Krady	11/28/2018 14:26
Parker D Lindstrom	11/21/2018 17:31

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	BE	9
	B	11
SC-3		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-2		115
	SE	78
IN-3		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
B0 -3		159
	SB	121
	BA	137
	TL	203
	PB	208
0 I-3		209
	U	238

Run Name: 1831608E05 Date/Time: 11/12/2018 20:26:18
Tube Number: 1
Sample Number: **ST**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
BE	9	0.00000	18.00000	0.000	-0.00206	0.00327	-0.00121
B	11	0.00000	3695.86000	0.000	-0.13489	-0.36836	0.50324
NA	23	0.00000	30745.23300	0.000	10.83084	1.44253	-12.27337
MG	24	0.00000	146.67300	0.000	1.61356	0.35364	-1.96720
AL	27	0.00000	40.00000	0.000	-1.25509	-1.33180	2.58689
K	39	0.00000	4240.89000	0.000	0.44388	1.72250	-2.16638
CA	44	0.00000	3.33300	0.000	7.68008	-3.84004	-3.84004
SC-1	45	2373215	0	0.000	2417645	2420413	2281588
SC-2	45	1054466	0	0.000	1064318	1049591	1049489
SC-3	45	19064.15300	0.00000	0.000	18763.60000	19124.03000	19304.83000
TI	47	0.00000	6.66700	0.000	-0.78242	-0.78242	1.56484
V	51	0.00000	16.66700	0.000	0.00723	-0.01332	0.00609
CR	52	0.00000	420.03000	0.000	-0.02092	0.01358	0.00735
MN	55	0.00000	30.00000	0.000	-0.11238	0.11380	-0.00143
FE	57	0.00000	40.00000	0.000	0.99800	-0.94517	-0.05283
CO	59	0.00000	13.33300	0.000	0.00513	0.00424	-0.00937
NI	60	0.00000	116.67700	0.000	0.11827	-0.09335	-0.02491
CU	63	0.00000	376.69300	0.000	0.05805	-0.07567	0.01762
ZN	66	0.00000	40.00000	0.000	-0.19282	-0.10438	0.29720
GE-1	72	2269419	0	0.000	2264427	2292690	2251141
GE-2	72	1784211	0	0.000	1786950	1775411	1790272
GE-3	72	62874.99000	0.00000	0.000	61251.65000	63782.44000	63590.88000
AS	75	0.00000	7.33300	0.000	-0.01533	-0.02101	0.03633
SE	78	0.00000	11.11300	0.000	-0.00521	-0.01150	0.01672
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	126.67700	0.000	-0.01600	-0.02591	0.04191
AG	107	0.00000	3.33300	0.000	-0.00210	0.00419	-0.00210
CD	111	0.00000	1.33300	0.000	0.00625	-0.01132	0.00507
IN-2	115	822332.44300	0.00000	0.000	820712.91000	817801.89000	828482.53000
IN-3	115	18229.88300	0.00000	0.000	17432.13000	18563.63000	18693.89000
SN	120	0.00000	36.66700	0.000	0.01807	-0.02607	0.00800
SB	121	0.00000	16.66700	0.000	0.01596	-0.06491	0.04895
BA	137	0.00000	6.66700	0.000	-0.08806	-0.08806	0.17611
TB-3	159	114628.50300	0.00000	0.000	111120.20000	114378.84000	118386.47000
TL	203	0.00000	3.33300	0.000	-0.00292	0.00585	-0.00292
PB	208	0.00000	293.35300	0.000	0.00690	0.00714	-0.01404
BI-3	209	100387.26700	0.00000	0.000	97924.87000	100987.61000	102249.32000
U	238	0.00000	3.33300	0.000	0.00144	-0.00072	-0.00072

Run Name: 1831608E05 Date/Time: 11/12/2018 20:28:58
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2375223	0	0.000	2415205	2416360	2294103
SC-3	45	19464.68700	0.00000	0.000	18523.40000	20015.38000	19855.28000
AL	27	10000.00000	76425.30000	3.600	10411.86493	9806.83661	9781.29846
B	11	1000.00000	525898.29300	1.100	995.15687	991.78305	1013.06007
BE	9	100.00000	109970.92300	1.000	100.15672	98.96457	100.87871
CA	44	10000.00000	9000.06700	4.600	10409.21608	10087.10218	9503.68174
CR	52	1000.00000	658365.97000	2.200	1025.51362	985.53277	988.95361
FE	57	10000.00000	109717.65000	4.000	10397.53260	9593.76906	10008.69834
K	39	10000.00000	161109.00300	2.600	10298.21701	9869.35473	9832.42827
MG	24	10000.00000	353966.41300	3.600	10406.14639	9712.26037	9881.59323
MN	55	1000.00000	179062.47700	2.100	1023.72266	982.81922	993.45812
NA	23	10000.00000	842432.33300	3.100	10353.80037	9833.73480	9812.46483
TI	47	1000.00000	8586.56300	4.800	1052.74284	959.49009	987.76707
V	51	1000.00000	514020.81300	3.000	1032.55761	972.25487	995.18752
IN-2	115	843086.81000	0.00000	0.000	859863.10000	838719.50000	830677.83000
IN-3	115	18261.55700	0.00000	0.000	17177.07000	18042.46000	19565.14000
AG	107	100.00000	156089.49700	4.900	103.84088	101.73403	94.42509
AS	75	1000.00000	67289.62000	4.900	1038.98594	1015.57897	945.43509
CD	111	100.00000	11892.11300	5.800	104.60977	101.92028	93.46995
CO	59	1000.00000	1441558.25700	5.000	1051.27655	997.22793	951.49552
CU	63	1000.00000	1232588.83300	5.700	1046.33032	1017.40060	936.26908
MO	98	100.00000	70819.62000	6.900	105.23664	102.60582	92.15754
NI	60	1000.00000	419169.27700	6.000	1052.96746	1012.35633	934.67620
SE	78	100.00000	21243.73700	0.600	100.53137	100.10181	99.36683
SN	120	100.00000	28058.05300	4.800	102.48602	103.05476	94.45922
SR	88	100.00000	12983.65300	8.600	107.16577	102.33499	90.49924
ZN	66	1000.00000	96659.26700	4.100	1043.87287	994.64597	961.48116
B0 -3	159	116632.45000	0.00000	0.000	115580.29000	116054.28000	118262.78000
BA	137	1000.00000	74602.46300	1.800	979.59451	1005.13938	1015.26612
PB	208	100.00000	377909.12000	1.100	100.29372	100.88292	98.82337
SB	121	100.00000	25970.49700	5.500	96.05862	106.25688	97.68450
TL	203	100.00000	116232.34300	0.200	99.96230	99.84061	100.19709
0 I-3	209	99843.92700	0.00000	0.000	97926.36000	99890.15000	101715.27000
U	238	100.00000	470818.09300	0.500	100.17502	100.44075	99.38423
SC-2	45	1107529	0	0.000	1129090	1115444	1078051
GE-1	72	2203849	0	0.000	2231018	2254480	2126049
GE-2	72	1819523	0	0.000	1854652	1819854	1784062
GE-3	72	63239.94000	0.00000	0.000	62738.15000	62184.57000	64797.10000

Run Name: 1831608E05 Date/Time: 11/12/2018 20:31:38
Tube Number: 3
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2416220	0	0.000	2473926	2431197	2343536
SC-3	45	18737.24000	0.00000	0.000	18213.41000	19324.70000	18673.61000
AL	27	5203.42822	38324.64300	3.600	5179.01538	5030.06448	5401.20481
B	11	592.12299	318316.15700	1.500	591.34986	583.58369	601.43544
BE	9	50.19870	56162.39000	1.200	49.83094	49.85781	50.90734
CA	44	4569.11157	3964.11700	0.300	4566.31426	4583.15414	4557.86632
CR	52	529.57222	335867.83000	3.400	532.49756	510.22292	545.99617
FE	57	5053.32691	53429.29300	2.500	5059.15257	4923.55305	5177.27510
K	39	5101.89977	81179.88000	3.100	5177.00443	4918.99859	5209.69630
MG	24	5133.52234	175117.86300	1.600	5168.78698	5039.45749	5192.32255
MN	55	521.26363	89884.65700	5.600	511.75970	498.16866	553.86251
NA	23	4979.08726	419189.39300	3.200	4939.16256	4843.70201	5154.39720
TI	47	511.58552	4234.21300	5.700	544.19696	502.28436	488.27523
V	51	510.66681	252831.45700	3.100	507.30902	496.63157	528.05985
IN-2	115	841860.37700	0.00000	0.000	838183.65000	850271.43000	837126.05000
IN-3	115	17756.30000	0.00000	0.000	17010.84000	18827.42000	17430.64000
AG	107	50.76522	77159.28000	2.400	51.04427	49.45539	51.79601
AS	75	512.33138	33540.14000	5.100	521.60096	482.71407	532.67911
CD	111	51.97848	6020.77000	3.600	51.92500	50.15346	53.85697
CO	59	503.59842	706078.42700	5.900	513.21271	470.23408	527.34847
CU	63	518.89364	622651.50000	4.500	532.64512	492.14904	531.88676
MO	98	50.44167	34830.69000	6.100	51.60834	46.96929	52.74737
NI	60	520.24954	212264.81000	5.600	531.50374	486.94898	542.29589
SE	78	50.19677	10653.09000	1.200	50.86164	50.10670	49.62198
SN	120	52.41926	14301.95700	8.700	55.07839	47.12343	55.05594
SR	88	51.48658	6515.35300	4.300	52.32189	48.98553	53.15231
ZN	66	520.51949	48940.04700	5.600	529.04176	488.31240	544.20432
B0 -3	159	113374.07700	0.00000	0.000	110355.21000	115437.55000	114329.47000
BA	137	488.08831	35386.66000	2.500	493.14682	474.27582	496.84230
PB	208	51.07566	187739.98300	1.900	51.79089	49.94366	51.49243
SB	121	54.68706	13828.05700	7.100	50.37056	55.78730	57.90332
TL	203	52.26174	59034.92300	1.800	53.01815	51.19880	52.56828
0 I-3	209	99781.29700	0.00000	0.000	96142.03000	99913.18000	103288.68000
U	238	48.88855	229953.52000	1.700	49.64978	48.99683	48.01905
SC-2	45	1094690	0	0.000	1097572	1117363	1069135
GE-1	72	2207280	0	0.000	2256065	2178012	2187764
GE-2	72	1766337	0	0.000	1759580	1774543	1764889
GE-3	72	60403.16000	0.00000	0.000	59833.29000	60245.77000	61130.42000

Run Name: 1831608E05 Date/Time: 11/12/2018 20:34:03
Tube Number: 4
Sample Number: **IC0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2419032	0	0.000	2482716	2390463	2383916
SC-3	45	18690.28300	0.00000	0.000	17451.82000	18803.62000	19815.41000
AL	27	5.26598	76.67000	67.800	9.26330	4.15163	2.38302
B	11	75.87556	44144.21000	1.800	77.29502	75.76580	74.56586
BE	9	0.01141	31.33300	120.400	0.02714	0.00171	0.00539
CA	44	31.14590	30.00000	39.300	33.31810	42.14239	17.97723
CR	52	0.51563	736.73300	14.800	0.51783	0.59103	0.43803
FE	57	1.31938	53.33300	103.200	0.33722	2.87368	0.74723
K	39	47.56607	4834.45700	135.900	120.78988	23.61532	-1.70700
MG	24	0.43799	160.01000	202.600	-0.46541	1.30882	0.47055
MN	55	0.19430	63.33300	57.800	0.14102	0.11864	0.32323
NA	23	3.84179	30417.93300	329.400	17.99596	-6.37449	-0.09609
TI	47	0.43310	10.00000	18.000	0.51582	0.42249	0.36097
V	51	0.16491	100.00300	100.500	0.11866	0.02726	0.34882
IN-2	115	831999.82700	0.00000	0.000	834825.64000	836794.53000	824379.31000
IN-3	115	17361.21300	0.00000	0.000	16239.63000	17070.50000	18773.51000
AG	107	0.01850	30.00000	116.900	0.04104	-0.00210	0.01656
AS	75	0.21354	20.66700	51.200	0.12494	0.33570	0.17999
CD	111	0.04229	6.00000	147.500	0.00754	0.11431	0.00500
CO	59	0.12575	190.01300	52.500	0.06069	0.12392	0.19264
CU	63	0.15000	540.04700	43.200	0.09393	0.13507	0.22100
MO	98	0.05810	163.34300	198.400	-0.05166	0.04779	0.17818
NI	60	0.16952	180.01000	32.200	0.12080	0.22856	0.15921
SE	78	0.04204	19.99700	104.300	0.00029	0.03813	0.08768
SN	120	1.03540	300.37000	117.800	2.43661	0.21175	0.45785
SR	88	0.04976	6.66700	173.200	0.00000	0.00000	0.14927
ZN	66	0.03555	40.00000	595.300	0.17161	0.14334	-0.20829
B0 -3	159	111867.20000	0.00000	0.000	110294.03000	111977.85000	113329.72000
BA	137	0.00520	6.66700	1555.000	0.05372	-0.08806	0.04992
PB	208	0.00634	310.02000	118.300	0.00474	0.01451	-0.00023
SB	121	0.37673	110.01000	46.300	0.26105	0.57718	0.29197
TL	203	0.09608	110.00700	41.700	0.12446	0.11358	0.05020
0 I-3	209	96276.74700	0.00000	0.000	92795.85000	99680.25000	96354.14000
U	238	0.02494	116.67700	11.600	0.02213	0.02481	0.02789
SC-2	45	1069599	0	0.000	1073034	1071472	1064292
GE-1	72	2264672	0	0.000	2288175	2263413	2242427
GE-2	72	1803006	0	0.000	1782507	1830553	1795958
GE-3	72	62264.97300	0.00000	0.000	61260.51000	63349.68000	62184.73000

Run Name: 1831608E05 Date/Time: 11/12/2018 20:36:26
Tube Number: 5
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2430537	0	0.000	2527583	2397193	2366835
SC-3	45	18419.91700	0.00000	0.000	18423.49000	18363.00000	18473.26000
AL	27	409.81001	3003.82300	8.700	369.19626	424.50936	435.72440
B	11	84.79186	49101.06300	1.200	83.87791	85.87103	84.62665
BE	9	0.51359	596.02000	2.700	0.49809	0.52427	0.51842
CA	44	673.06029	576.71300	16.000	770.59489	690.72231	557.86368
CR	52	4.44324	3173.92700	5.500	4.16398	4.56644	4.59932
FE	57	107.31428	1153.44700	9.700	106.95078	117.93863	97.05343
K	39	435.03312	10557.83700	10.700	409.81698	406.65763	488.62476
MG	24	101.79268	3554.00000	8.300	111.52018	96.93293	96.92494
MN	55	11.78584	2026.93000	7.400	10.85994	11.90250	12.59509
NA	23	952.74811	102902.91700	1.900	945.78367	938.87729	973.58337
TI	47	27.92381	233.35000	7.000	27.50360	30.06567	26.20216
V	51	1.35723	676.72300	9.100	1.40466	1.45061	1.21643
IN-2	115	831142.52300	0.00000	0.000	837715.67000	833377.18000	822334.72000
IN-3	115	17949.95300	0.00000	0.000	17075.00000	17937.23000	18837.63000
AG	107	0.47892	740.05300	7.500	0.44919	0.51862	0.46894
AS	75	2.03802	142.66700	15.700	1.69969	2.33753	2.07683
CD	111	1.07457	126.66700	20.300	1.31645	0.89394	1.01331
CO	59	0.96445	1386.84700	9.000	0.87170	0.97736	1.04429
CU	63	42.12975	51455.96000	4.300	44.08893	41.80626	40.49405
MO	98	1.97892	1500.18000	15.000	2.28036	1.68820	1.96822
NI	60	4.41587	1933.57000	10.600	4.93806	4.27523	4.03432
SE	78	1.93579	416.23000	8.400	1.93102	1.77620	2.10016
SN	120	2.54318	736.73300	16.100	2.45940	2.98766	2.18247
SR	88	5.96898	766.73000	12.000	5.17019	6.56243	6.17430
ZN	66	15.64845	1526.83000	8.700	16.71941	14.10750	16.11845
B0 -3	159	112537.48300	0.00000	0.000	111706.99000	109981.55000	115923.91000
BA	137	3.07629	226.68300	28.600	3.69179	3.46673	2.07035
PB	208	3.18103	11886.29000	3.500	3.21717	3.05536	3.27055
SB	121	2.13098	550.03700	1.200	2.14760	2.10064	2.14468
TL	203	0.57817	650.05300	17.000	0.53611	0.69057	0.50784
0 I-3	209	99455.20300	0.00000	0.000	96030.60000	101314.02000	101020.99000
U	238	0.49176	2310.37000	5.500	0.48295	0.47029	0.52205
SC-2	45	1066754	0	0.000	1082203	1076050	1042008
GE-1	72	2264467	0	0.000	2329486	2269615	2194299
GE-2	72	1784482	0	0.000	1809121	1786532	1757794
GE-3	72	62727.07300	0.00000	0.000	61552.16000	63078.64000	63550.42000

Run Name: 1831608E05 Date/Time: 11/12/2018 20:38:50
Tube Number: 6
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2386982	0	0.000	2400446	2345084	2415415
SC-3	45	17925.91000	0.00000	0.000	17802.49000	18252.86000	17722.38000
AL	27	101056.13367	711580.38000	2.700	98489.38288	100681.94814	103997.06999
B	11	35.20555	22198.18700	1.900	35.20324	35.88713	34.52628
BE	9	0.01211	31.33300	108.700	-0.00016	0.02601	0.01047
CA	44	283088.57314	234744.32000	2.400	277263.17807	281263.74163	290738.79973
CR	52	0.87722	926.75700	9.100	0.95983	0.87150	0.80032
FE	57	252226.51712	2550131.94300	3.100	244581.62259	251896.99160	260200.93718
K	39	102015.39574	1477768.78000	3.700	98862.88603	100940.18124	106243.11995
MG	24	101704.15829	3317108.59300	2.600	99517.56070	100958.98782	104635.92633
MN	55	2.96263	516.70000	12.000	3.37000	2.80636	2.71152
NA	23	245043.53675	18345982.64300	2.700	238963.84311	244256.57799	251910.18914
TI	47	2061.78916	16320.60000	1.000	2046.97032	2084.71833	2053.67882
V	51	0.10034	63.33700	42.600	0.05191	0.13275	0.11635
IN-2	115	800675.96300	0.00000	0.000	803670.64000	805016.04000	793341.21000
IN-3	115	16854.56000	0.00000	0.000	16861.05000	16581.17000	17121.46000
AG	107	0.04390	66.67300	49.900	0.06023	0.01903	0.05246
AS	75	0.92946	64.66700	24.900	0.69460	0.93683	1.15694
CD	111	0.10893	13.33300	105.000	0.02502	0.06259	0.23920
CO	59	0.98959	1330.14300	13.000	1.00283	1.11141	0.85452
CU	63	1.04797	1546.83000	19.100	1.07879	0.83467	1.23045
MO	98	2053.03784	1343353.57300	3.700	1982.75777	2134.88989	2041.46585
NI	60	1.30058	613.38000	23.200	0.95669	1.42324	1.52180
SE	78	0.03681	18.22000	22.800	0.03203	0.03189	0.04651
SN	120	0.17846	80.00700	46.100	0.17747	0.26114	0.09676
SR	88	15.80134	1900.24300	3.500	15.29280	16.39632	15.71491
ZN	66	2.13797	226.68000	67.700	0.82159	3.68737	1.90494
B0 -3	159	111367.21000	0.00000	0.000	106896.65000	110565.07000	116639.91000
BA	137	0.47108	40.00000	59.200	0.20451	0.76052	0.44820
PB	208	0.83043	3283.70300	3.900	0.79915	0.82866	0.86348
SB	121	0.93533	250.01700	32.400	0.60770	0.99183	1.20646
TL	203	0.03369	40.00000	58.100	0.05340	0.03338	0.01428
0 I-3	209	92011.67300	0.00000	0.000	90360.03000	93906.14000	91768.85000
U	238	0.03541	156.67700	27.600	0.04387	0.03767	0.02470
SC-2	45	1105712	0	0.000	1117911	1117673	1081553
GE-1	72	2228085	0	0.000	2244319	2222061	2217876
GE-2	72	1805988	0	0.000	1796333	1826524	1795107
GE-3	72	60206.48000	0.00000	0.000	56982.26000	62878.44000	60758.74000

Run Name: 1831608E05 Date/Time: 11/12/2018 20:41:14
Tube Number: 7
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2400149	0	0.000	2443109	2358150	2399187
SC-3	45	18696.98300	0.00000	0.000	17962.48000	18883.70000	19244.77000
AL	27	45.25500	376.69700	72.500	15.93477	39.16619	80.66404
B	11	17.71333	13092.14700	2.100	17.54585	17.45678	18.13737
BE	9	0.00524	24.00000	149.600	0.00132	0.00013	0.01425
CA	44	64.23399	60.00300	120.200	20.22780	19.05368	153.42049
CR	52	0.27464	583.38300	78.600	0.48457	0.05335	0.28599
FE	57	105.63953	1173.49700	92.400	32.79618	67.63305	216.48937
K	39	41.52893	4784.38700	66.900	52.84196	9.85595	61.88887
MG	24	21.62823	896.76000	112.700	2.79272	12.92756	49.16442
MN	55	0.36579	93.34000	87.700	0.01119	0.63534	0.45084
NA	23	61.55301	34992.29700	46.900	49.83765	40.37084	94.45053
TI	47	0.79481	13.33300	226.000	-0.78242	0.41738	2.74946
V	51	0.00694	20.00000	273.400	-0.01204	0.00697	0.02588
IN-2	115	822039.26300	0.00000	0.000	833322.92000	820583.27000	812211.60000
IN-3	115	17348.41300	0.00000	0.000	16911.33000	17762.10000	17371.81000
AG	107	0.00010	3.33300	4011.500	-0.00210	0.00448	-0.00210
AS	75	0.00623	7.33300	324.800	0.01958	-0.01706	0.01618
CD	111	-0.00544	0.66700	0.000	-0.01132	-0.01132	0.00631
CO	59	0.00776	23.33300	149.300	0.02052	0.00486	-0.00210
CU	63	0.05744	426.69300	98.600	0.11299	0.05960	-0.00026
MO	98	3.81322	2697.10300	33.300	2.50210	3.89652	5.04102
NI	60	0.07109	140.01000	104.500	0.15625	0.03745	0.01957
SE	78	-0.00420	10.22300	0.000	0.00039	-0.02132	0.00835
SN	120	0.13132	70.00300	49.300	0.09959	0.08854	0.20584
SR	88	0.02762	3.33300	173.200	0.08286	0.00000	0.00000
ZN	66	0.31735	66.67000	161.800	0.14854	-0.09062	0.89412
B0 -3	159	111826.89000	0.00000	0.000	110012.22000	111413.18000	114055.27000
BA	137	0.04904	10.00000	484.200	-0.08806	-0.08806	0.32325
PB	208	0.00067	290.02300	1938.500	-0.00908	-0.00442	0.01552
SB	121	-0.02521	10.00000	0.000	-0.06491	-0.02458	0.01388
TL	203	0.02396	30.00000	37.100	0.01532	0.03310	0.02347
0 I-3	209	99628.54000	0.00000	0.000	99568.30000	98680.03000	100637.29000
U	238	0.00494	26.66700	107.500	-0.00072	0.00572	0.00981
SC-2	45	1045323	0	0.000	1072241	1042351	1021376
GE-1	72	2304285	0	0.000	2330297	2284392	2298165
GE-2	72	1800272	0	0.000	1797080	1831532	1772204
GE-3	72	62559.72000	0.00000	0.000	59884.12000	62476.18000	65318.86000

Run Name: 1831608E05 Date/Time: 11/12/2018 20:43:39
Tube Number: 8
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2373032	0	0.000	2440525	2347039	2331532
SC-3	45	18606.87700	0.00000	0.000	18302.99000	18653.66000	18863.98000
AL	27	2504.97674	18346.39700	0.900	2526.46300	2506.20483	2482.26238
B	11	267.12782	143105.37000	0.500	268.48635	266.06257	266.83453
BE	9	26.47252	29104.73000	0.600	26.61199	26.28566	26.51992
CA	44	2595.29175	2236.97300	16.400	2819.17293	2105.42356	2861.27876
CR	52	267.28424	168614.29700	0.400	268.61271	266.42896	266.81106
FE	57	2568.94253	27008.07700	4.300	2454.18065	2675.66889	2576.97805
K	39	2566.81898	42644.23700	2.200	2503.98689	2583.17904	2613.29102
MG	24	2588.13068	87761.57000	1.000	2616.05286	2567.39553	2580.94365
MN	55	260.05013	44564.51000	1.200	258.73427	257.89949	263.51663
NA	23	2599.67222	231746.40700	0.900	2579.22226	2625.80173	2593.99268
TI	47	229.16586	1886.92000	16.400	262.92475	188.71572	235.85712
V	51	261.52426	128636.85000	2.100	256.35386	267.26049	260.95842
IN-2	115	845130.33000	0.00000	0.000	848838.36000	847470.70000	839081.93000
IN-3	115	18036.55000	0.00000	0.000	17877.91000	18404.75000	17826.99000
AG	107	25.64307	39617.70700	1.500	25.36664	25.48017	26.08240
AS	75	252.41161	16817.22300	2.400	245.91429	253.78233	257.53821
CD	111	26.41505	3110.39700	7.600	24.89177	25.67743	28.67594
CO	59	248.27594	354164.51300	3.100	246.65011	241.56432	256.61339
CU	63	257.32677	314248.01700	3.000	255.20274	250.93071	265.84685
MO	98	26.15408	18437.08700	4.300	25.38126	25.64458	27.43640
NI	60	259.88460	107940.71300	2.200	259.87188	254.25518	265.52674
SE	78	24.91440	5313.94300	1.600	25.35408	24.60445	24.78467
SN	120	26.59396	7409.16700	2.200	26.47334	26.06558	27.24294
SR	88	26.03053	3347.25300	8.900	26.73081	23.45266	27.90811
ZN	66	258.19057	24726.99700	2.300	252.25949	264.03123	258.28098
B0 -3	159	113330.18700	0.00000	0.000	110444.37000	114208.14000	115338.05000
BA	137	256.71540	18611.06000	2.900	259.35094	248.33363	262.46163
PB	208	26.48906	97516.39000	2.100	25.89704	27.02727	26.54286
SB	121	27.67099	6995.64300	2.300	27.73199	27.01293	28.26804
TL	203	26.47887	29903.88300	2.300	26.86977	25.79067	26.77619
0 I-3	209	101487.58700	0.00000	0.000	99850.19000	100636.17000	103976.40000
U	238	24.61754	117795.63300	2.800	24.35932	25.40579	24.08753
SC-2	45	1065209	0	0.000	1098165	1060240	1037223
GE-1	72	2207559	0	0.000	2259161	2181511	2182007
GE-2	72	1761247	0	0.000	1790745	1765339	1727658
GE-3	72	61906.02300	0.00000	0.000	61962.23000	62285.05000	61470.79000

Run Name: 1831608E05 Date/Time: 11/12/2018 20:46:03
Tube Number: 9
Sample Number: **CC0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2369258	0	0.000	2414851	2363149	2329774
SC-3	45	18296.49000	0.00000	0.000	18102.56000	18443.66000	18343.25000
AL	27	3.90261	66.67300	204.800	-5.32529	8.47877	8.55434
B	11	35.17123	22024.61700	2.800	35.95451	35.48523	34.07395
BE	9	0.00069	18.66700	694.500	-0.00026	-0.00356	0.00589
CA	44	27.56042	26.66700	129.700	20.04156	66.47975	-3.84004
CR	52	0.29614	586.71300	45.400	0.14910	0.32668	0.41263
FE	57	3.68436	76.67000	97.700	1.17052	7.80978	2.07279
K	39	70.21658	5104.56300	18.700	85.27117	61.09101	64.28756
MG	24	0.06232	143.34300	344.000	0.30952	-0.07269	-0.04985
MN	55	0.24395	70.00300	105.200	-0.05024	0.35994	0.42213
NA	23	14.22080	30601.41700	32.400	10.61026	12.63542	19.41670
TI	47	1.29259	16.66700	147.600	2.97231	-0.78242	1.68789
V	51	0.04290	36.66700	169.000	0.05050	-0.03311	0.11129
IN-2	115	810551.21700	0.00000	0.000	829361.86000	807777.22000	794514.57000
IN-3	115	18162.87700	0.00000	0.000	16070.11000	18803.97000	19614.55000
AG	107	0.00653	13.33300	143.700	0.00517	0.01653	-0.00210
AS	75	0.15778	18.00000	21.800	0.12740	0.15071	0.19523
CD	111	0.00024	1.33300	4231.300	0.00774	-0.01132	0.00430
CO	59	0.04713	86.67000	131.100	-0.00937	0.03768	0.11308
CU	63	0.03420	413.36300	220.500	0.11656	-0.03145	0.01748
MO	98	0.11021	203.34700	33.500	0.12598	0.06801	0.13662
NI	60	0.08573	153.34300	97.500	0.09799	-0.00329	0.16251
SE	78	0.00630	12.22000	124.100	0.00065	0.01522	0.00303
SN	120	0.08040	60.00000	64.400	0.03072	0.07636	0.13411
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	0.09686	50.00000	294.000	-0.17447	0.39340	0.07166
B0 -3	159	112496.30300	0.00000	0.000	110402.91000	112514.05000	114571.95000
BA	137	0.00293	6.66700	5375.500	-0.08806	-0.08806	0.18491
PB	208	-0.00324	276.68300	0.000	0.00746	-0.01339	-0.00378
SB	121	0.28113	86.67300	21.000	0.30143	0.21464	0.32732
TL	203	0.02087	26.66700	98.800	0.03343	-0.00292	0.03211
0 I-3	209	98571.24700	0.00000	0.000	97078.75000	98399.93000	100235.06000
U	238	0.01417	70.00300	116.100	0.00365	0.00574	0.03313
SC-2	45	1026722	0	0.000	1076821	1019731	983613.50000
GE-1	72	2242236	0	0.000	2229413	2251542	2245752
GE-2	72	1767634	0	0.000	1793001	1767822	1742079
GE-3	72	62603.48000	0.00000	0.000	60366.59000	62757.32000	64686.53000

Run Name: 1831608E05
Tube Number: 10
Sample Number: **P0 S**

Date/Time: 11/12/2018 20:48:27
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2375354	0	0.000	2380518	2360984	2384559
SC-3	45	18730.44700	0.00000	0.000	17732.47000	19605.07000	18853.80000
AL	27	3.65219	66.66700	76.900	0.41722	5.06272	5.47665
B	11	19.11459	13688.73000	1.000	19.34100	19.00057	19.00222
BE	9	0.00484	23.33300	130.300	0.01086	-0.00172	0.00538
CA	44	33.98132	33.33300	72.200	20.53998	62.31398	19.08998
CR	52	0.48645	720.07000	21.500	0.56603	0.52517	0.36813
FE	57	9.38216	140.00700	94.500	1.27272	8.03069	18.84308
K	39	48.19963	4867.85700	133.100	120.81731	24.66156	-0.87997
MG	24	0.50903	160.01300	385.000	1.95453	-1.72147	1.29404
MN	55	0.76685	160.01300	50.600	1.17792	0.71655	0.40609
NA	23	40.27320	33317.65000	42.300	56.17299	22.32451	42.32210
TI	47	0.46995	10.00000	272.000	1.77297	-0.78242	0.41929
V	51	0.05563	43.33300	64.400	0.09492	0.02479	0.04717
IN-2	115	828804.25300	0.00000	0.000	833388.54000	838891.56000	814132.66000
IN-3	115	17728.22300	0.00000	0.000	17141.85000	17661.73000	18381.09000
AG	107	0.00653	13.33300	148.000	0.00471	-0.00210	0.01696
AS	75	0.12689	15.33300	55.700	0.20745	0.07547	0.09774
CD	111	-0.00554	0.66700	0.000	-0.01132	0.00603	-0.01132
CO	59	0.02435	46.66700	78.100	0.04225	0.02641	0.00438
CU	63	0.19497	600.05300	54.200	0.30572	0.09517	0.18401
MO	98	0.05771	163.34700	137.300	-0.02827	0.12772	0.07369
NI	60	0.86488	470.03700	33.600	0.58143	0.85141	1.16180
SE	78	0.00278	11.77700	212.600	0.00039	0.00950	-0.00156
SN	120	7.96114	2206.99300	2.900	7.80039	7.86169	8.22134
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	3.41764	360.02300	7.300	3.33313	3.22308	3.69669
B0 -3	159	112123.87700	0.00000	0.000	109033.32000	113927.75000	113410.56000
BA	137	0.09906	13.33300	163.700	0.19878	0.18645	-0.08806
PB	208	0.01595	346.68700	136.300	-0.00562	0.01562	0.03784
SB	121	-0.03803	6.66700	0.000	-0.02370	-0.02547	-0.06491
TL	203	0.01218	16.66700	114.900	0.02469	-0.00292	0.01477
0 I-3	209	102374.89700	0.00000	0.000	98842.97000	104731.78000	103549.94000
U	238	0.00338	20.00000	58.100	0.00142	0.00535	0.00337
SC-2	45	1040995	0	0.000	1055966	1053316	1013704
GE-1	72	2315937	0	0.000	2277870	2338237	2331702
GE-2	72	1857826	0	0.000	1883613	1879615	1810250
GE-3	72	64602.63300	0.00000	0.000	61802.72000	65279.54000	66725.64000

Run Name: 1831608E05
Tube Number: 11
Sample Number: **P0 S**

Date/Time: 11/12/2018 20:50:51
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2293006	0	0.000	2269321	2294313	2315382
SC-3	45	18797.27700	0.00000	0.000	17712.40000	19134.67000	19544.76000
AL	27	7.41018	93.34000	37.400	10.48593	6.64985	5.09477
B	11	14.35997	10815.56000	2.700	14.80768	14.06529	14.20695
BE	9	0.00192	19.33300	552.000	0.01410	-0.00318	-0.00516
CA	44	7.37767	10.00000	153.100	-3.84004	18.75340	7.21965
CR	52	0.42969	686.72000	22.200	0.43382	0.52315	0.33210
FE	57	15.43804	203.34700	17.400	14.29176	18.51272	13.50963
K	39	30.51539	4621.04000	155.800	84.81671	-3.61830	10.34778
MG	24	0.12251	146.67700	2455.600	3.20268	-2.80860	-0.02654
MN	55	0.69457	150.01000	10.700	0.62727	0.68156	0.77488
NA	23	45.80969	33879.51300	28.500	60.07305	42.94503	34.41098
TI	47	3.30637	33.33300	63.200	5.61330	2.76978	1.53602
V	51	0.05215	43.33300	111.800	-0.01174	0.06577	0.10241
IN-2	115	811364.49300	0.00000	0.000	817917.65000	819803.92000	796371.91000
IN-3	115	17368.93000	0.00000	0.000	16643.52000	17319.03000	18144.24000
AG	107	0.00219	6.66700	338.800	-0.00210	-0.00210	0.01077
AS	75	-0.00355	6.66700	0.000	0.02164	0.01656	-0.04884
CD	111	-0.00543	0.66700	0.000	-0.01132	0.00637	-0.01132
CO	59	0.02939	53.33300	37.100	0.02101	0.04172	0.02546
CU	63	0.22706	623.38300	47.600	0.33294	0.23116	0.11707
MO	98	-0.00643	116.67300	0.000	-0.00830	-0.05957	0.04859
NI	60	0.63233	363.36000	27.500	0.68561	0.77340	0.43799
SE	78	0.01520	14.00000	176.400	-0.00180	0.00128	0.04613
SN	120	7.54796	2053.61300	5.400	7.09970	7.64406	7.90011
SR	88	0.05503	6.66700	86.700	0.08419	0.08091	0.00000
ZN	66	3.94180	400.02700	10.700	3.89874	4.38434	3.54232
B0 -3	159	109993.91700	0.00000	0.000	106353.65000	109217.40000	114410.70000
BA	137	-0.08806	0.00000	0.000	-0.08806	-0.08806	-0.08806
PB	208	0.05477	480.04000	57.200	0.03400	0.03951	0.09081
SB	121	-0.06491	0.00000	0.000	-0.06491	-0.06491	-0.06491
TL	203	0.03018	36.66700	58.400	0.02538	0.01545	0.04970
0 I-3	209	100954.38300	0.00000	0.000	97766.30000	102199.64000	102897.21000
U	238	0.00134	10.00000	153.400	-0.00072	0.00135	0.00340
SC-2	45	1021209	0	0.000	1044149	1041943	977535.30000
GE-1	72	2285758	0	0.000	2290726	2286699	2279848
GE-2	72	1849101	0	0.000	1883002	1850731	1813569
GE-3	72	64626.62300	0.00000	0.000	62406.22000	65219.58000	66254.07000

Run Name: 1831608E05
Tube Number: 12
Sample Number: **LCSW**

Date/Time: 11/12/2018 20:53:15
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2319943	0	0.000	2345819	2353178	2260833
SC-3	45	18136.31000	0.00000	0.000	17932.72000	17752.24000	18723.97000
AL	27	1039.90353	7442.38000	2.900	1046.91091	1066.25432	1006.54537
B	11	139.96647	75007.93000	1.400	139.28697	138.44438	142.16808
BE	9	2.04982	2218.87000	2.400	1.99288	2.07289	2.08370
CA	44	2100.24628	1766.90000	10.800	2286.71261	1847.20988	2166.81635
CR	52	27.57607	17315.10000	3.600	26.48784	28.46475	27.77561
FE	57	528.32929	5444.72000	2.700	535.22355	511.73340	538.03091
K	39	5268.80856	81029.55300	1.800	5324.37167	5325.72037	5156.33364
MG	24	1064.46009	35276.53700	1.400	1057.52075	1054.63350	1081.22604
MN	55	27.24089	4571.01300	7.200	29.34474	26.95079	25.42715
NA	23	5308.19826	430610.90700	2.400	5238.92909	5453.40427	5232.26141
TI	47	126.46438	1016.77000	9.500	130.62938	135.79166	112.97208
V	51	26.60254	12763.19300	2.400	26.24947	27.32741	26.23074
IN-2	115	828830.49700	0.00000	0.000	823860.58000	835581.76000	827049.15000
IN-3	115	17214.89700	0.00000	0.000	17497.92000	16737.47000	17409.30000
AG	107	26.52219	39119.97700	1.200	26.78071	26.15122	26.63464
AS	75	5.44706	353.34300	6.200	5.83528	5.23153	5.27436
CD	111	2.80523	316.67700	8.100	2.66767	2.67956	3.06847
CO	59	130.77786	178054.90300	2.200	128.08508	133.76563	130.48288
CU	63	27.16969	31982.38700	3.100	27.02382	28.06247	26.42278
MO	98	26.10061	17562.76000	2.600	25.33186	26.32219	26.64777
NI	60	27.15704	10868.24700	1.600	27.62609	27.10104	26.74397
SE	78	5.04672	1064.49000	1.500	5.13616	5.01270	4.99131
SN	120	34.77690	9243.80300	5.500	34.11874	33.26372	36.94825
SR	88	21.54023	2647.05700	4.400	22.58535	21.26702	20.76834
ZN	66	267.31293	24419.99700	3.200	257.42909	272.52453	271.98519
B0 -3	159	111206.33000	0.00000	0.000	108772.38000	110537.73000	114308.88000
BA	137	27.89498	1993.59300	10.600	25.07306	27.64226	30.96964
PB	208	7.93745	28861.35000	1.200	8.04818	7.88496	7.87921
SB	121	3.17504	803.41000	16.000	3.11634	2.69959	3.70918
TL	203	0.99516	1106.78300	4.100	0.97508	0.96855	1.04186
0 I-3	209	98998.22700	0.00000	0.000	97431.32000	101011.41000	98551.95000
U	238	25.48066	118960.45300	1.400	25.19093	25.36631	25.88475
SC-2	45	1044576	0	0.000	1045959	1049267	1038502
GE-1	72	2285121	0	0.000	2315980	2279676	2259707
GE-2	72	1846085	0	0.000	1820186	1825704	1892365
GE-3	72	63420.46700	0.00000	0.000	61420.71000	63621.31000	65219.38000

Run Name: 1831608E05
Tube Number: 13
Sample Number: **LCSW**

Date/Time: 11/12/2018 20:55:39
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2323485	0	0.000	2332096	2304192	2334169
SC-3	45	18026.07000	0.00000	0.000	17552.21000	17912.53000	18613.47000
AL	27	1094.66947	7786.00000	2.300	1123.44232	1083.68506	1076.88104
B	11	149.30060	79905.37000	0.500	149.88133	149.60713	148.41335
BE	9	2.09507	2271.54000	4.500	2.20478	2.04605	2.03437
CA	44	2160.74671	1803.57000	8.500	2360.99934	1999.62667	2121.61413
CR	52	27.81182	17345.35300	2.500	28.34141	28.05589	27.03818
FE	57	557.44221	5711.50700	5.700	522.66018	565.53991	584.12655
K	39	5225.28292	79908.81700	1.500	5309.91315	5215.59225	5150.34335
MG	24	1076.47605	35446.85000	1.900	1092.16094	1053.46484	1083.80238
MN	55	26.43859	4414.26000	5.600	27.56946	24.76600	26.98031
NA	23	5366.04173	432384.96700	1.000	5424.08868	5356.15911	5317.87741
TI	47	134.58797	1076.76700	6.500	129.60061	144.68836	129.47493
V	51	26.24468	12516.29300	1.500	26.25805	26.63847	25.83753
IN-2	115	818014.47700	0.00000	0.000	813367.83000	824817.68000	815857.92000
IN-3	115	17021.79000	0.00000	0.000	16298.47000	17337.74000	17429.16000
AG	107	26.41809	38500.73300	2.800	27.12811	25.66326	26.46290
AS	75	4.81777	309.34300	7.100	5.04301	4.42179	4.98852
CD	111	3.03549	338.67700	5.100	2.99641	2.90447	3.20559
CO	59	131.64520	177134.32000	3.900	137.06257	126.77040	131.10264
CU	63	27.87016	32436.68300	1.200	28.14422	27.95152	27.51475
MO	98	26.48527	17616.01700	1.600	26.97223	26.16277	26.32081
NI	60	26.97079	10654.77300	7.900	29.03956	27.08166	24.79115
SE	78	5.05543	1052.26700	3.400	5.19334	4.86375	5.10919
SN	120	34.34943	9010.25300	6.000	36.67908	33.57181	32.79740
SR	88	21.41312	2597.06300	7.900	22.95781	21.66248	19.61908
ZN	66	272.83525	24640.21300	2.900	279.41181	264.05828	275.03565
B0 -3	159	111390.83300	0.00000	0.000	108178.28000	110888.36000	115105.86000
BA	137	26.63649	1903.61700	0.300	26.65732	26.70918	26.54297
PB	208	8.01378	29185.17700	2.500	8.19594	7.79857	8.04682
SB	121	3.48524	883.41000	20.500	2.67677	3.74455	4.03439
TL	203	1.05681	1176.79000	2.800	1.05468	1.02882	1.08694
0 I-3	209	99287.01000	0.00000	0.000	97743.16000	98884.49000	101233.38000
U	238	25.65199	120084.14000	1.800	25.93200	25.90761	25.11636
SC-2	45	1027775	0	0.000	1046604	1023418	1013304
GE-1	72	2269257	0	0.000	2280436	2277498	2249837
GE-2	72	1814207	0	0.000	1822677	1802475	1817469
GE-3	72	64502.33000	0.00000	0.000	63309.83000	63029.03000	67168.13000

Run Name: 1831608E05
Tube Number: 14
Sample Number: **987T251**

Date/Time: 11/12/2018 20:58:04
Batch: 183041063701A
Class: U*********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2480394	0	0.000	2496412	2511224	2433545
SC-3	45	19157.66000	0.00000	0.000	18944.39000	19164.10000	19364.49000
AL	27	30496.83760	229583.59700	2.500	29665.51760	30662.77417	31162.22103
B	11	66.27144	40013.98000	0.500	66.50146	65.89654	66.41634
BE	9	1.62946	1889.48000	2.700	1.61554	1.59386	1.67899
CA	44	5383.13135	4777.76700	10.300	4755.16674	5592.01524	5802.21208
CR	52	123.30364	80333.97700	3.600	121.52603	119.98679	128.39810
FE	57	73869.81356	798356.34300	1.900	72259.44345	74517.44437	74832.55287
K	39	7044.02988	113050.60000	2.200	6884.11590	7057.26625	7190.70751
MG	24	14128.45408	492681.25700	1.000	13974.76137	14156.31624	14254.28464
MN	55	1820.00045	320943.06000	1.600	1788.35244	1844.63440	1827.01452
NA	23	499.86346	70858.31300	6.400	465.99243	504.10728	529.49068
TI	47	1240.14223	10494.61000	2.900	1222.00363	1216.27118	1282.15189
V	51	104.59216	52974.54700	2.100	105.33116	102.10186	106.34347
IN-2	115	835459.93000	0.00000	0.000	832142.52000	842462.51000	831774.76000
IN-3	115	17058.34300	0.00000	0.000	17009.90000	16877.88000	17287.25000
AG	107	1.35032	1976.93300	10.000	1.46685	1.20162	1.38251
AS	75	19.59594	1241.40000	3.400	19.34972	19.08455	20.35356
CD	111	9.98114	1113.39700	7.400	9.84152	9.31956	10.78233
CO	59	30.27571	40866.11700	1.900	29.76864	30.88779	30.17069
CU	63	562.14722	648990.92700	1.300	555.66605	569.86497	560.91064
MO	98	10.63302	7162.35700	7.200	9.75685	10.96445	11.17777
NI	60	289.45758	113713.92000	2.100	283.03510	294.80333	290.53433
SE	78	0.96487	214.33700	9.100	0.99468	1.03368	0.86624
SN	120	316.24678	82985.45000	3.500	304.41669	317.93996	326.38369
SR	88	51.31201	6248.46700	3.600	50.09801	50.40628	53.43173
ZN	66	2522.12431	228080.87000	2.700	2443.09540	2560.58224	2562.69529
B0 -3	159	115473.59000	0.00000	0.000	112413.19000	115257.38000	118750.20000
BA	137	351.09397	25943.99300	2.500	345.65649	346.50522	361.12022
PB	208	451.63525	1688775.36300	0.400	452.97964	452.56353	449.36259
SB	121	4.70190	1223.46300	7.000	5.05211	4.65297	4.40061
TL	203	0.44855	520.04000	13.500	0.38988	0.51080	0.44498
0 I-3	209	100476.90700	0.00000	0.000	97270.74000	100285.19000	103874.79000
U	238	2.88396	13671.67000	2.000	2.82192	2.93820	2.89177
SC-2	45	1150846	0	0.000	1166308	1163402	1122829
GE-1	72	2377704	0	0.000	2374727	2418741	2339642
GE-2	72	1959694	0	0.000	1990706	1980214	1908163
GE-3	72	66514.75700	0.00000	0.000	64113.01000	66474.19000	68957.07000

Run Name: 1831608E05
Tube Number: 15
Sample Number: **987T251**

Date/Time: 11/12/2018 21:00:28
Batch: 183041063701A
Class: UP********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2509754	0	0.000	2566271	2514451	2448541
SC-3	45	19504.87700	0.00000	0.000	18683.74000	18964.14000	20866.75000
AL	27	30354.66096	232239.08700	4.300	30715.51816	31442.12901	28906.33570
B	11	162.28379	93444.80700	2.500	159.56557	160.39809	166.88770
BE	9	2.69071	3142.38700	6.500	2.53077	2.66402	2.87735
CA	44	6273.07637	5651.49700	5.500	6557.70342	6369.49930	5892.02639
CR	52	128.69316	85186.73700	5.200	128.67489	135.35836	122.04624
FE	57	71473.62893	784900.82300	5.000	72396.79074	74492.33199	67531.76407
K	39	7715.27645	125502.29000	3.000	7766.63489	7915.78304	7463.41142
MG	24	14088.15831	499263.52000	5.000	14187.24370	14737.60909	13339.62213
MN	55	1789.11751	320648.13300	4.400	1819.23186	1847.41455	1700.70612
NA	23	2196.22643	209803.14300	5.000	2204.12610	2301.62738	2082.92580
TI	47	1212.49426	10431.20700	3.400	1251.20326	1217.14364	1169.13587
V	51	105.92947	54547.35700	3.700	107.00538	109.16857	101.61446
IN-2	115	835798.80000	0.00000	0.000	853135.01000	813614.97000	840646.42000
IN-3	115	17461.22000	0.00000	0.000	16462.51000	17417.68000	18503.47000
AG	107	2.33903	3497.32300	3.900	2.44491	2.27722	2.29496
AS	75	22.68820	1468.09700	3.300	23.08999	23.15523	21.81938
CD	111	11.71072	1334.75000	3.200	12.14203	11.49314	11.49700
CO	59	31.28393	43183.48000	2.600	32.01387	31.43020	30.40773
CU	63	621.51321	733277.12300	4.400	640.94839	633.74066	589.85059
MO	98	14.25419	9770.93000	3.800	14.81510	14.21495	13.73252
NI	60	293.60885	117872.88700	4.400	304.00891	297.79501	279.02262
SE	78	4.87579	1037.82000	2.600	5.02324	4.80778	4.79634
SN	120	311.75352	83621.39000	3.300	320.03313	314.91330	300.31412
SR	88	61.72774	7695.98700	3.200	59.85453	63.81704	61.51164
ZN	66	2502.00528	231283.63000	3.500	2579.67801	2518.02401	2408.31380
B0 -3	159	115144.46300	0.00000	0.000	111736.98000	115681.69000	118014.72000
BA	137	358.25212	26388.03000	0.600	357.69863	356.47719	360.58055
PB	208	455.33278	1697571.39300	1.300	458.27464	459.42396	448.29976
SB	121	8.76254	2260.32700	4.100	9.14560	8.71499	8.42704
TL	203	1.55819	1790.24000	4.100	1.59588	1.59340	1.48530
0 I-3	209	101352.99000	0.00000	0.000	96576.24000	103490.32000	103992.41000
U	238	3.73015	17833.85300	0.800	3.71060	3.76436	3.71548
SC-2	45	1142213	0	0.000	1177223	1140400	1109017
GE-1	72	2396913	0	0.000	2439924	2389446	2361370
GE-2	72	1948723	0	0.000	1982580	1921356	1942232
GE-3	72	66930.30000	0.00000	0.000	63500.21000	68193.14000	69097.55000

Run Name: 1831608E05
Tube Number: 16
Sample Number: **987T251**

Date/Time: 11/12/2018 21:02:52
Batch: 183041063701A
Class: D*********

Initial Vol: 1.04 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2437984	0	0.000	2489879	2401706	2422368
SC-3	45	19775.18300	0.00000	0.000	19645.08000	19745.05000	19935.42000
AL	27	29648.69794	230379.81300	2.700	28730.18237	29968.62121	30247.29022
B	11	67.13533	39787.99300	1.400	66.17794	67.98690	67.24114
BE	9	1.72045	1960.16000	1.400	1.70310	1.74824	1.71001
CA	44	5352.45605	4901.14700	5.500	5014.68253	5536.94441	5505.74122
CR	52	120.24831	80869.85000	1.600	118.71232	119.61398	122.41861
FE	57	70909.42125	790997.01700	0.800	70330.40181	70872.61288	71525.24907
K	39	6759.93786	112156.36700	2.400	6574.03597	6889.58675	6816.19086
MG	24	13758.72294	495246.28300	1.100	13670.68484	13678.90581	13926.57816
MN	55	1764.71013	321240.12000	2.600	1720.59141	1761.98853	1811.55045
NA	23	465.77409	70314.08300	2.100	454.83165	474.16418	468.32644
TI	47	1219.65915	10651.71000	1.000	1228.04311	1225.33619	1205.59816
V	51	101.31749	52980.77000	4.600	98.05505	99.24992	106.64752
IN-2	115	828821.82700	0.00000	0.000	834102.73000	824888.12000	827474.63000
IN-3	115	16858.75000	0.00000	0.000	16069.52000	17307.88000	17198.85000
AG	107	1.28925	1863.58000	3.100	1.32756	1.29315	1.24704
AS	75	19.66597	1228.73700	6.600	21.16258	19.07731	18.75801
CD	111	10.27245	1131.39700	2.700	10.43717	10.43314	9.94704
CO	59	29.48612	39331.63700	2.400	29.61774	28.72097	30.11965
CU	63	554.80348	632709.82300	2.100	567.32594	545.00087	552.08362
MO	98	10.29761	6855.40700	4.500	10.48257	10.64274	9.76754
NI	60	291.02738	112924.29300	2.800	298.38435	282.20740	292.49040
SE	78	1.03337	226.89000	4.500	1.07315	1.04399	0.98298
SN	120	314.72860	81579.14700	3.100	318.61408	303.57057	322.00116
SR	88	55.59676	6688.66300	2.300	55.90902	56.68745	54.19380
ZN	66	2558.02075	228431.50000	2.900	2640.81736	2494.51864	2538.72626
B0 -3	159	114754.62700	0.00000	0.000	110264.28000	116096.65000	117902.95000
BA	137	344.10593	25242.43000	3.600	352.96343	349.53318	329.82117
PB	208	452.05552	1679121.34300	2.200	463.72112	445.14495	447.30047
SB	121	4.84339	1253.47000	8.100	4.74428	5.27688	4.50900
TL	203	0.43793	503.37000	6.600	0.47035	0.42929	0.41415
0 I-3	209	97926.49700	0.00000	0.000	96293.05000	97936.66000	99549.78000
U	238	2.93815	13568.27000	2.800	2.97405	2.99564	2.84475
SC-2	45	1131427	0	0.000	1169173	1114949	1110160
GE-1	72	2299846	0	0.000	2332202	2275821	2291514
GE-2	72	1916990	0	0.000	1953669	1884005	1913297
GE-3	72	66136.67000	0.00000	0.000	63600.67000	65309.32000	69500.02000

Run Name: 1831608E05
Tube Number: 17
Sample Number: **987T251**

Date/Time: 11/12/2018 21:05:16
Batch: 183041063701A
Class: R*********

Initial Vol: 1.10 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2531904	0	0.000	2504454	2600289	2490968
SC-3	45	19892.04700	0.00000	0.000	20776.76000	19624.92000	19274.46000
AL	27	37101.01089	289498.68000	5.900	34665.55198	37794.42272	38843.05799
B	11	332.15082	188862.08300	0.700	334.17213	329.87086	332.40949
BE	9	5.63248	6624.29700	3.000	5.67875	5.77633	5.44236
CA	44	10677.15188	9807.40700	8.500	9706.92894	10805.85267	11518.67403
CR	52	186.03350	125367.00700	7.200	171.50987	188.90178	197.68883
FE	57	85173.11745	953822.28000	7.400	78347.74644	86304.03358	90867.57234
K	39	17816.63803	289624.19700	6.400	16644.55435	17896.30578	18909.05397
MG	24	16639.20937	601418.67300	6.300	15518.93510	16792.72833	17605.96467
MN	55	1125.39772	205609.79000	8.300	1022.38933	1149.87597	1203.92786
NA	23	10297.07293	884975.89700	6.000	9662.26836	10342.78999	10886.16045
TI	47	1526.87210	13393.96300	5.200	1438.32813	1548.24297	1594.04518
V	51	159.37617	83703.74700	4.700	151.56756	160.19559	166.36538
IN-2	115	824233.08000	0.00000	0.000	839805.74000	824519.15000	808374.35000
IN-3	115	16546.92000	0.00000	0.000	16358.18000	16211.32000	17071.26000
AG	107	54.13155	76714.53700	2.000	53.31124	55.32261	53.76081
AS	75	37.01698	2266.88300	3.100	37.37956	37.95306	35.71830
CD	111	14.12740	1527.44000	2.600	13.69933	14.37160	14.31129
CO	59	299.95137	392589.29300	0.900	300.44022	302.40555	297.00834
CU	63	1225.78336	1372571.90700	1.200	1209.74069	1229.28102	1238.32837
MO	98	68.00811	43824.44300	2.500	66.29285	68.04103	69.69045
NI	60	413.21590	157417.29700	0.900	409.81219	417.10936	412.72615
SE	78	10.16074	2119.28300	3.500	9.94642	9.96802	10.56779
SN	120	538.33529	136997.40300	2.300	524.10695	546.76697	544.13194
SR	88	112.57084	13293.98300	4.800	106.69834	117.26905	113.74513
ZN	66	2559.62101	224499.95700	1.600	2521.65131	2604.81456	2552.39717
B0 -3	159	115873.75000	0.00000	0.000	113785.33000	114561.46000	119274.46000
BA	137	384.42945	28489.05300	2.900	377.01175	397.30340	378.97322
PB	208	538.78449	2021636.06000	0.600	536.80095	542.82211	536.73042
SB	121	11.54671	2993.85000	0.900	11.62649	11.58635	11.42728
TL	203	2.49335	2883.86300	13.300	2.74034	2.11719	2.62251
0 I-3	209	99919.59000	0.00000	0.000	96585.84000	100376.79000	102796.14000
U	238	28.35191	133549.77000	2.200	29.03542	27.81515	28.20517
SC-2	45	1146054	0	0.000	1177940	1143253	1116968
GE-1	72	2356114	0	0.000	2335170	2392829	2340344
GE-2	72	1898979	0	0.000	1921081	1891131	1884724
GE-3	72	65171.96300	0.00000	0.000	62907.87000	65470.34000	67137.68000

Run Name: 1831608E05
Tube Number: 18
Sample Number: **987T251**

Date/Time: 11/12/2018 21:07:40
Batch: 183041063701A
Class: M*********

Initial Vol: 1.13 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2540518	0	0.000	2636064	2515710	2469780
SC-3	45	20135.96300	0.00000	0.000	19174.50000	21337.75000	19895.64000
AL	27	34641.61862	273661.22700	4.100	35445.89350	32994.88022	35484.08216
B	11	337.90995	192705.93000	0.800	335.41533	337.29680	341.01772
BE	9	5.38435	6350.83300	2.100	5.28782	5.50552	5.35971
CA	44	8961.72586	8356.37300	2.400	8713.29540	9046.07484	9125.80734
CR	52	181.15107	123584.93300	5.400	187.22290	169.93782	186.29248
FE	57	76086.28248	863238.55700	3.200	77459.89322	73261.88947	77537.06475
K	39	17258.32452	284189.39700	4.900	17447.54030	16331.05311	17996.38015
MG	24	15724.23488	575544.24700	3.900	15978.77983	15021.64956	16172.27527
MN	55	695.05486	128766.33000	2.800	691.43649	677.54076	716.18735
NA	23	9810.10705	855134.67700	4.100	10008.02124	9349.98678	10072.31313
TI	47	1438.54279	12799.92700	1.800	1411.93979	1463.18310	1440.50549
V	51	153.61359	81641.12000	4.200	159.35080	146.69023	154.79975
IN-2	115	816034.72000	0.00000	0.000	820894.47000	806029.82000	821179.87000
IN-3	115	17229.32700	0.00000	0.000	16865.31000	17279.60000	17543.07000
AG	107	51.42881	75902.81700	1.800	50.99841	52.50750	50.78051
AS	75	33.49726	2138.19700	3.800	32.49389	34.94151	33.05638
CD	111	12.23835	1378.75000	6.100	11.67001	11.95741	13.08764
CO	59	280.14140	381833.47000	1.100	279.57593	283.45974	277.38853
CU	63	1101.23285	1283746.51700	1.200	1100.80424	1114.53748	1088.35682
MO	98	60.13791	40359.36000	1.800	59.28354	59.78579	61.34441
NI	60	357.18526	141731.45700	1.500	350.94109	360.25981	360.35488
SE	78	10.36738	2141.51000	0.900	10.46709	10.34575	10.28930
SN	120	270.83464	71791.56700	1.800	266.38177	269.90886	276.21330
SR	88	91.30562	11225.30700	1.500	92.09766	92.08133	89.73787
ZN	66	2215.39820	202365.33700	1.200	2188.58601	2242.81298	2214.79560
B0 -3	159	114776.93300	0.00000	0.000	111271.26000	115229.80000	117829.74000
BA	137	377.42548	27710.69300	1.300	374.40970	382.89558	374.97115
PB	208	520.31665	1933968.60300	0.600	518.64766	524.03291	518.26937
SB	121	11.22272	2880.45300	5.700	11.68841	11.47966	10.50009
TL	203	2.38134	2723.78300	7.100	2.57677	2.27036	2.29689
0 I-3	209	100654.73300	0.00000	0.000	97946.21000	102330.50000	101687.49000
U	238	27.40123	130020.09700	2.500	28.15934	27.22487	26.81947
SC-2	45	1117971	0	0.000	1127609	1098566	1127739
GE-1	72	2323394	0	0.000	2367977	2315865	2286341
GE-2	72	1862706	0	0.000	1871645	1847628	1868844
GE-3	72	65654.69700	0.00000	0.000	61882.76000	66856.86000	68224.47000

Run Name: 1831608E05
Tube Number: 19
Sample Number: **987T251**

Date/Time: 11/12/2018 21:10:03
Batch: 183041063701A
Class: UL********

Initial Vol: 1.21 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2410299	0	0.000	2415035	2462302	2353559
SC-3	45	18970.62300	0.00000	0.000	18743.47000	19294.58000	18873.82000
AL	27	6209.71233	46308.51700	3.600	6092.09476	6068.80084	6468.24141
B	11	45.87233	28071.95000	2.000	46.93400	45.23806	45.44492
BE	9	0.34817	406.01000	14.200	0.36465	0.29242	0.38745
CA	44	991.74572	873.40700	3.900	1022.63309	948.50161	1004.10247
CR	52	25.81595	16974.80000	5.500	26.02471	24.29668	27.12647
FE	57	14906.27350	159539.32700	0.800	14806.47046	14870.83867	15041.51137
K	39	1484.79828	26920.74700	1.500	1503.03123	1460.62166	1490.74194
MG	24	2878.39922	99519.59700	3.600	2764.84996	2905.23486	2965.11283
MN	55	375.02817	65502.28300	5.500	359.38118	367.27120	398.43213
NA	23	78.93737	36839.75300	14.100	82.68815	66.40261	87.72134
TI	47	234.85730	1973.59300	6.500	218.03448	238.79577	247.74166
V	51	21.15468	10628.01000	6.200	19.65738	22.07794	21.72873
IN-2	115	827203.20700	0.00000	0.000	836336.47000	820881.13000	824392.02000
IN-3	115	17523.93300	0.00000	0.000	16554.47000	17506.76000	18510.57000
AG	107	0.26816	403.36000	18.000	0.29411	0.29801	0.21235
AS	75	3.23173	215.33700	10.700	3.62179	3.10932	2.96408
CD	111	1.81313	208.67000	11.900	1.95042	1.56371	1.92526
CO	59	5.84861	8112.89300	4.800	5.86459	6.12306	5.55819
CU	63	111.16722	131962.03000	3.700	115.55801	110.55094	107.39273
MO	98	1.90082	1413.49300	10.000	2.06200	1.68998	1.95047
NI	60	57.25924	23134.09000	7.600	61.68374	57.16881	52.92517
SE	78	0.16630	45.78000	15.400	0.13951	0.16893	0.19047
SN	120	62.17900	16758.18700	4.900	64.46826	63.37176	58.69699
SR	88	10.68065	1336.81300	10.200	11.08916	9.44547	11.50733
ZN	66	505.34671	46896.14000	5.600	537.80547	486.56902	491.66565
B0 -3	159	111682.35000	0.00000	0.000	109135.49000	111795.75000	114115.81000
BA	137	72.30526	5171.32700	1.400	71.14083	72.94495	72.83001
PB	208	94.15230	340690.85300	1.700	95.88602	92.88415	93.68674
SB	121	0.95318	253.35300	15.800	0.79981	1.10078	0.95895
TL	203	0.10461	120.01000	20.400	0.08903	0.09582	0.12899
0 I-3	209	99327.17700	0.00000	0.000	97895.82000	98882.53000	101203.18000
U	238	0.63129	2960.54300	0.700	0.62974	0.62773	0.63639
SC-2	45	1069181	0	0.000	1093411	1069651	1044480
GE-1	72	2322227	0	0.000	2316381	2351850	2298451
GE-2	72	1850718	0	0.000	1865850	1875266	1811038
GE-3	72	64579.14000	0.00000	0.000	60999.10000	64876.85000	67861.47000

Run Name: 1831608E05 Date/Time: 11/12/2018 21:12:27
Tube Number: 20
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2489035	0	0.000	2474910	2565917	2426277
SC-3	45	18997.51700	0.00000	0.000	18303.06000	19194.52000	19494.97000
AL	27	2545.40871	19040.57700	1.400	2504.21190	2565.53487	2566.47936
B	11	267.73850	150406.69700	0.700	268.90495	265.53959	268.77095
BE	9	25.53870	29444.02300	1.400	25.86939	25.17562	25.57110
CA	44	2508.78767	2210.30300	6.100	2358.48965	2665.49535	2502.37802
CR	52	266.44282	171607.83000	1.700	268.65720	261.28152	269.38972
FE	57	2511.20796	26950.95300	2.000	2512.39776	2461.27083	2559.95529
K	39	2540.62619	43125.33000	0.700	2559.02745	2522.03601	2540.81510
MG	24	2573.78128	89076.37700	2.000	2629.93625	2563.24344	2528.16415
MN	55	268.40943	46975.91300	2.200	262.12557	273.80391	269.29882
NA	23	2568.80706	234160.84000	0.700	2572.34858	2548.02812	2586.04449
TI	47	252.70641	2123.61300	4.400	265.39576	244.76736	247.95612
V	51	263.72886	132424.93000	1.200	265.05543	260.06015	266.07100
IN-2	115	832977.93300	0.00000	0.000	848579.56000	832875.13000	817479.11000
IN-3	115	18172.25000	0.00000	0.000	17065.14000	18055.07000	19396.54000
AG	107	25.76424	40042.08700	3.800	26.66386	25.90842	24.72043
AS	75	256.83079	17223.06300	2.400	263.79661	254.79427	251.90148
CD	111	26.47519	3132.40300	7.200	28.21473	26.75207	24.45876
CO	59	255.85027	367204.61700	4.000	266.56961	254.70674	246.27447
CU	63	262.28787	322253.94700	4.000	273.41629	260.90752	252.53982
MO	98	25.50699	18103.36300	3.800	26.59897	24.77311	25.14890
NI	60	266.38944	111293.73000	4.300	277.39284	267.09177	254.68372
SE	78	25.51576	5364.18300	1.800	25.54592	25.95553	25.04583
SN	120	26.56234	7439.21000	6.800	27.39726	27.79857	24.49118
SR	88	23.74074	3063.88000	11.900	26.85449	23.05351	21.31421
ZN	66	263.44167	25395.17300	1.700	267.39832	264.22789	258.69879
B0 -3	159	115357.39700	0.00000	0.000	111658.86000	114117.36000	120295.97000
BA	137	257.90855	19028.16300	1.000	259.05043	259.78090	254.89432
PB	208	26.00981	97422.42000	2.200	25.78884	26.66536	25.57522
SB	121	26.34257	6788.80300	5.800	24.69185	26.60039	27.73547
TL	203	26.32080	30254.63000	2.100	26.09126	26.94794	25.92320
0 I-3	209	100818.99000	0.00000	0.000	97038.49000	100526.04000	104892.44000
U	238	24.89125	118297.74000	1.900	25.07478	25.25481	24.34415
SC-2	45	1056710	0	0.000	1085186	1055503	1029439
GE-1	72	2249197	0	0.000	2270504	2263008	2214079
GE-2	72	1781948	0	0.000	1794482	1776799	1774564
GE-3	72	61815.87300	0.00000	0.000	60726.93000	61541.30000	63179.39000

Run Name: 1831608E05 Date/Time: 11/12/2018 21:14:51
Tube Number: 21
Sample Number: **CC0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2423991	0	0.000	2464690	2440984	2366297
SC-3	45	18406.62300	0.00000	0.000	17882.36000	18633.54000	18703.97000
AL	27	2.46020	56.66700	135.300	-1.05451	2.87193	5.56318
B	11	36.41970	23199.14700	2.300	37.28318	36.38553	35.59039
BE	9	0.00326	22.00000	111.500	-0.00058	0.00665	0.00372
CA	44	40.16119	36.67000	142.700	104.96258	19.36103	-3.84004
CR	52	0.37760	643.39000	94.500	0.07627	0.28498	0.77155
FE	57	8.75424	130.01000	54.800	6.18900	5.78928	14.28444
K	39	22.76130	4427.63000	96.500	44.60301	23.02032	0.66057
MG	24	-0.85368	113.34000	0.000	-0.24907	-2.47504	0.16308
MN	55	0.24558	70.00300	76.300	0.43740	0.06297	0.23637
NA	23	-6.37178	29185.23700	0.000	11.07656	-18.89963	-11.29226
TI	47	3.26146	33.33300	113.500	-0.78242	4.08122	6.48557
V	51	0.03470	33.33700	186.400	-0.01195	0.00751	0.10852
IN-2	115	820033.39700	0.00000	0.000	837078.93000	825435.52000	797585.74000
IN-3	115	17034.28700	0.00000	0.000	16730.40000	16710.86000	17661.60000
AG	107	0.00243	6.66700	161.400	0.00488	-0.00210	0.00451
AS	75	0.12384	14.66700	33.200	0.11809	0.08594	0.16748
CD	111	-0.00522	0.66700	0.000	0.00699	-0.01132	-0.01132
CO	59	0.10437	156.67300	113.500	0.03596	0.03601	0.24114
CU	63	0.07566	440.03300	26.300	0.08218	0.09149	0.05331
MO	98	0.06247	160.01000	85.900	0.00621	0.06807	0.11313
NI	60	0.10185	150.01000	39.200	0.13500	0.05746	0.11308
SE	78	0.01543	14.22300	92.400	0.01599	0.00091	0.02940
SN	120	0.71900	223.34700	17.400	0.64642	0.64733	0.86325
SR	88	0.05289	6.66700	173.200	0.00000	0.00000	0.15867
ZN	66	0.17842	53.33300	122.500	0.26734	-0.07057	0.33849
B0 -3	159	111829.47300	0.00000	0.000	107240.50000	112181.20000	116066.72000
BA	137	0.05037	10.00000	267.800	0.05776	-0.08806	0.18139
PB	208	0.04267	443.37000	48.900	0.01866	0.05289	0.05645
SB	121	0.10738	43.33300	79.700	0.06079	0.05525	0.20609
TL	203	0.03654	43.33700	90.900	0.07194	0.00602	0.03166
0 I-3	209	97354.95300	0.00000	0.000	96947.96000	96566.26000	98550.64000
U	238	0.01158	56.67300	75.600	0.01678	0.00147	0.01649
SC-2	45	1027310	0	0.000	1063535	1029067	989327.17000
GE-1	72	2319693	0	0.000	2341133	2325597	2292349
GE-2	72	1803622	0	0.000	1836026	1785242	1789597
GE-3	72	62412.47300	0.00000	0.000	61140.03000	62928.33000	63169.06000

Run Name: 1831608E05
Tube Number: 22
Sample Number: **9827129**

Date/Time: 11/12/2018 21:17:15
Batch: 183041063701A
Class: **********

Initial Vol: 1.03 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2377982	0	0.000	2397993	2410010	2325943
SC-3	45	18720.33000	0.00000	0.000	19164.25000	18082.69000	18914.05000
AL	27	18216.76791	133907.72300	3.900	17429.47358	18817.45016	18403.37998
B	11	68.10852	39319.32000	1.600	68.78780	66.84251	68.69525
BE	9	1.19544	1334.74700	3.600	1.22310	1.21691	1.14633
CA	44	123160.51076	106572.74300	4.600	117475.77310	128706.50226	123299.25693
CR	52	42.40893	27258.52000	1.700	41.57194	42.78811	42.86674
FE	57	42212.29064	445545.70000	2.400	41288.66928	43299.75387	42048.44878
K	39	4506.90412	72143.58000	2.800	4359.77497	4580.39064	4580.54675
MG	24	33006.55207	1123711.41700	3.500	31764.15427	34078.39802	33177.10392
MN	55	15694.92020	2701736.73000	4.600	14947.42919	16380.17352	15757.15789
NA	23	574.89375	75042.73300	6.300	533.39914	594.71988	596.56222
TI	47	785.63645	6495.19700	2.400	782.08794	806.34099	768.48041
V	51	119.93894	59300.28700	4.900	114.11340	125.85852	119.84490
IN-2	115	799358.09000	0.00000	0.000	811404.12000	800075.98000	786594.17000
IN-3	115	16863.05700	0.00000	0.000	16336.77000	16115.46000	18136.94000
AG	107	0.11539	170.01000	6.600	0.11939	0.10657	0.12021
AS	75	24.19066	1506.77000	9.300	25.19181	25.77471	21.60547
CD	111	1.09358	121.33300	24.200	0.85135	1.37650	1.05289
CO	59	23.52151	31307.13000	6.200	23.97429	24.68885	21.90138
CU	63	24.04197	27712.82300	5.700	23.98767	25.44269	22.69556
MO	98	5.20638	3534.00700	7.000	4.83557	5.22405	5.55950
NI	60	64.13950	24944.07300	5.300	63.81563	67.66814	60.93475
SE	78	1.10198	232.67000	4.000	1.10467	1.14424	1.05704
SN	120	8.15269	2143.62700	7.700	8.86823	7.90182	7.68803
SR	88	207.41895	24947.84000	1.600	206.73098	211.04738	204.47849
ZN	66	149.21544	13337.20000	6.400	150.96096	157.72888	138.95647
B0 -3	159	112600.55700	0.00000	0.000	112815.69000	111433.06000	113552.92000
BA	137	550.86505	39665.29700	5.400	519.62686	579.14289	553.82540
PB	208	18.06960	66166.90300	0.300	18.03097	18.13069	18.04714
SB	121	1.17091	310.02000	20.300	1.09024	0.98360	1.43888
TL	203	0.72068	813.41300	36.300	0.57530	0.56445	1.02230
0 I-3	209	96951.84000	0.00000	0.000	95518.39000	96474.53000	98862.60000
U	238	5.59428	25577.91300	1.700	5.56434	5.70067	5.51784
SC-2	45	1044733	0	0.000	1076567	1049550	1008082
GE-1	72	2255720	0	0.000	2280364	2237779	2249017
GE-2	72	1789724	0	0.000	1786140	1808646	1774385
GE-3	72	63537.23700	0.00000	0.000	61963.68000	63248.65000	65399.38000

Run Name: 1831608E05
Tube Number: 23
Sample Number: **9827129**

Date/Time: 11/12/2018 21:19:39
Batch: 183041063701A
Class: **********

Initial Vol: 1.03 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2342381	0	0.000	2355290	2327832	2344021
SC-3	45	18346.47000	0.00000	0.000	17562.14000	18613.34000	18863.93000
AL	27	7239.53908	52209.74300	1.400	7276.05373	7125.69193	7316.87157
B	11	35.04070	21702.09700	0.700	34.95055	34.85174	35.31979
BE	9	0.48766	546.68700	4.700	0.51371	0.47171	0.47756
CA	44	50470.71467	42848.59000	1.300	50130.03724	50071.93274	51210.17403
CR	52	17.23425	11098.54700	1.600	17.16827	17.52911	17.00537
FE	57	16870.83644	174564.70000	1.300	17105.79410	16828.67226	16678.04297
K	39	1830.01513	31123.04300	4.700	1905.88052	1736.55793	1847.60694
MG	24	12867.40675	429583.46000	1.300	13031.64024	12705.31168	12865.26835
MN	55	6217.59924	1049550.32300	1.500	6310.26257	6121.58807	6220.94707
NA	23	250.86766	48800.79300	6.800	247.66472	235.61998	269.31826
TI	47	323.68308	2627.05300	9.700	332.10568	288.96223	349.98132
V	51	49.39178	23938.76000	4.400	51.87335	48.27090	48.03110
IN-2	115	806566.93300	0.00000	0.000	808208.33000	814345.39000	797147.08000
IN-3	115	17139.60300	0.00000	0.000	16162.71000	17361.18000	17894.92000
AG	107	0.05597	83.34000	73.600	0.09181	0.06515	0.01095
AS	75	9.30050	594.68700	4.200	9.74489	9.00229	9.15433
CD	111	0.45131	52.00000	17.000	0.36779	0.51809	0.46806
CO	59	8.81883	11945.85700	8.100	9.56038	8.14194	8.75416
CU	63	9.30805	11128.48000	6.200	9.94202	8.81714	9.16499
MO	98	2.48092	1763.57300	13.500	2.84947	2.19530	2.39798
NI	60	24.97531	9937.52700	7.000	26.99811	23.83735	24.09048
SE	78	0.40030	92.22300	9.600	0.44103	0.39502	0.36485
SN	120	3.55419	970.08000	3.900	3.65203	3.61567	3.39487
SR	88	79.26989	9697.38000	0.400	79.09596	79.04695	79.66676
ZN	66	58.04045	5304.63000	5.900	60.89018	54.26721	58.96396
B0 -3	159	111820.41700	0.00000	0.000	109003.30000	112733.50000	113724.45000
BA	137	211.59423	15136.31000	2.800	213.94153	204.91307	215.92807
PB	208	6.96969	25525.20000	1.100	6.89407	6.97025	7.04473
SB	121	0.27009	83.33700	22.700	0.26487	0.33372	0.21167
TL	203	0.28532	320.02000	36.700	0.38376	0.17511	0.29710
0 I-3	209	97878.89000	0.00000	0.000	98569.52000	95377.05000	99690.10000
U	238	2.05211	9467.60700	6.300	2.09349	2.15470	1.90814
SC-2	45	1017859	0	0.000	1039190	1039408	974979.67000
GE-1	72	2298510	0	0.000	2317599	2281628	2296301
GE-2	72	1818157	0	0.000	1823039	1843376	1788058
GE-3	72	64920.83000	0.00000	0.000	62656.35000	64475.44000	67630.70000

Run Name: 1831608E05
Tube Number: 24
Sample Number: **987T252**

Date/Time: 11/12/2018 21:22:03
Batch: 183041063701A
Class: **********

Initial Vol: 1.20 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2438330	0	0.000	2452266	2460059	2402663
SC-3	45	20062.25700	0.00000	0.000	19564.77000	19915.44000	20706.56000
AL	27	19319.09211	152261.36000	1.000	19493.07880	19358.98206	19105.21547
B	11	171.38872	95693.98700	0.900	172.04164	169.61326	172.51126
BE	9	1.71034	1949.49000	1.300	1.71010	1.73273	1.68820
CA	44	121182.83892	112449.99300	1.300	121928.38833	122267.94067	119352.18777
CR	52	383.40464	260554.33300	1.200	384.69233	387.12904	378.39254
FE	57	316721.29503	3583244.84300	1.700	316455.28907	322384.26716	311324.32885
K	39	3442.07165	60106.03700	2.100	3455.03994	3508.13783	3363.03719
MG	24	8545.15881	312037.18700	1.700	8513.94668	8704.29271	8417.23703
MN	55	2864.67868	528891.78700	1.800	2842.89708	2922.90687	2828.23209
NA	23	2464.63339	238511.58000	1.400	2497.72633	2466.42996	2429.74388
TI	47	877.09985	7772.61300	1.400	890.05010	866.39061	874.85884
V	51	185.43758	98334.16000	0.500	186.40527	184.86064	185.04683
IN-2	115	824430.03000	0.00000	0.000	826394.89000	809671.39000	837223.81000
IN-3	115	14949.63700	0.00000	0.000	13600.02000	15031.04000	16217.85000
AG	107	33.27352	42413.16300	8.200	36.35065	32.32197	31.14793
AS	75	113.48048	6239.50000	8.300	122.95317	113.36390	104.12437
CD	111	11.83337	1152.73000	5.900	12.62727	11.32211	11.55074
CO	59	101.44359	119492.98300	7.000	108.71101	101.10851	94.51126
CU	63	1368.19696	1378948.05000	6.300	1463.11096	1344.75402	1296.72588
MO	98	44.79003	26043.60300	5.000	45.86469	46.27028	42.23512
NI	60	312.81095	107198.33000	8.100	341.38112	304.06937	292.98236
SE	78	5.44014	1140.94000	3.000	5.45344	5.27292	5.59408
SN	120	4899.38434	1122171.20700	6.000	5211.95610	4854.30513	4631.89179
SR	88	793.30496	84387.74300	5.200	839.58452	780.27799	760.05236
ZN	66	14910.57901	1176770.60700	6.800	15962.24277	14843.30342	13926.19084
B0 -3	159	113367.77300	0.00000	0.000	110604.85000	112858.40000	116640.07000
BA	137	4844.91434	351279.99300	0.400	4828.18847	4843.39405	4863.16049
PB	208	6910.22325	25361708.16300	1.100	6930.68572	6971.98712	6827.99691
SB	121	232.39388	58633.03300	2.500	232.05997	238.34262	226.77905
TL	203	0.59385	673.39000	10.500	0.59593	0.65509	0.53053
0 I-3	209	133610.09300	0.00000	0.000	129803.16000	134431.16000	136595.96000
U	238	1.46872	9254.01700	3.500	1.50290	1.49376	1.40950
SC-2	45	1149987	0	0.000	1160458	1146964	1142541
GE-1	72	2261267	0	0.000	2276652	2247572	2259578
GE-2	72	1871234	0	0.000	1878232	1858532	1876937
GE-3	72	64538.85000	0.00000	0.000	61219.97000	65178.36000	67218.22000

Run Name: 1831608E05
Tube Number: 25
Sample Number: **987T252**

Date/Time: 11/12/2018 21:24:25
Batch: 183041063701A
Class: **********

Initial Vol: 1.20 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2332634	0	0.000	2369184	2332949	2295769
SC-3	45	19131.00300	0.00000	0.000	17992.62000	19444.71000	19955.68000
AL	27	8077.48241	60707.92300	1.600	8211.23264	8073.77583	7947.43877
B	11	83.09813	46262.89300	0.800	83.57690	82.30189	83.41560
BE	9	0.71129	786.03000	2.900	0.73488	0.69655	0.70245
CA	44	50031.50090	44219.31000	4.100	52377.13394	49156.71882	48560.64993
CR	52	154.84553	100482.58300	3.800	161.54505	152.23437	150.75717
FE	57	130788.82018	1410522.32000	2.200	132624.39332	132200.17207	127541.89516
K	39	1445.83065	26513.69700	5.300	1531.71100	1386.52828	1419.25265
MG	24	3445.34405	120012.80700	2.200	3491.29366	3486.81354	3357.92494
MN	55	1165.51633	205062.00700	2.900	1202.72958	1134.97003	1158.84939
NA	23	1012.72030	111551.82700	4.500	1062.02739	971.82928	1004.30425
TI	47	326.05577	2763.76700	4.700	309.03180	338.34176	330.79375
V	51	77.35521	39047.14300	5.800	82.37672	76.02714	73.66176
IN-2	115	810344.10700	0.00000	0.000	826858.80000	811494.13000	792679.39000
IN-3	115	15812.01700	0.00000	0.000	15036.69000	15722.75000	16676.61000
AG	107	12.53883	16958.26300	5.300	12.87136	12.97131	11.77382
AS	75	41.99176	2456.24700	2.300	42.40349	42.68484	40.88695
CD	111	4.32163	448.01300	5.000	4.14530	4.25622	4.56336
CO	59	36.41392	45490.88700	4.600	37.68164	37.02918	34.53092
CU	63	495.16886	529501.66000	2.600	504.56467	500.42635	480.51557
MO	98	16.18395	10027.68000	5.300	16.88814	16.43858	15.22515
NI	60	116.10221	42317.60300	1.700	117.31065	117.19831	113.79768
SE	78	2.10274	440.01000	1.900	2.12041	2.05715	2.13064
SN	120	1792.29401	435443.44300	1.900	1824.82449	1795.05070	1757.00683
SR	88	293.68074	33149.24000	1.900	295.01497	287.67945	298.34780
ZN	66	5436.86676	455493.61300	1.600	5459.23113	5510.85731	5340.51185
B0 -3	159	112732.81300	0.00000	0.000	110404.48000	110227.85000	117566.11000
BA	137	1914.61041	138011.86000	3.200	1860.77323	1982.59469	1900.46332
PB	208	2773.12607	10118476.31000	2.200	2756.83969	2840.52969	2722.00882
SB	121	93.13769	23365.50000	3.500	92.94089	96.51913	89.95304
TL	203	0.27610	313.35300	19.800	0.33340	0.22468	0.27023
0 I-3	209	113278.06300	0.00000	0.000	109460.84000	114353.82000	116019.53000
U	238	0.69123	3694.09000	5.600	0.72397	0.64844	0.70129
SC-2	45	1047593	0	0.000	1096083	1037164	1009533
GE-1	72	2286695	0	0.000	2325267	2251485	2283335
GE-2	72	1832781	0	0.000	1864146	1840150	1794046
GE-3	72	64861.25700	0.00000	0.000	62034.03000	64968.13000	67581.61000

Run Name: 1831608E05
Tube Number: 26
Sample Number: **987T253**

Date/Time: 11/12/2018 21:26:48
Batch: 183041063701A
Class: **********

Initial Vol: 1.17 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2476392	0	0.000	2484684	2494497	2449997
SC-3	45	19097.74300	0.00000	0.000	19004.34000	18934.15000	19354.74000
AL	27	22577.63620	169452.08700	2.800	22180.21886	22239.34040	23313.34933
B	11	47.92872	29958.52000	2.200	47.98377	46.87182	48.93057
BE	9	2.14207	2474.91300	4.100	2.24401	2.09136	2.09084
CA	44	51011.07361	45072.62700	4.400	48539.53622	52956.86497	51536.81963
CR	52	230.66020	149428.53700	1.700	226.68791	230.53940	234.75329
FE	57	49434.98671	532560.38300	0.800	48950.61686	49680.96381	49673.37947
K	39	2801.16738	47369.19000	2.300	2863.73008	2737.34078	2802.43128
MG	24	4520.16859	157228.68700	1.200	4455.86423	4544.61336	4560.02817
MN	55	493.45849	86773.32700	3.300	475.38156	498.44937	506.54454
NA	23	1141.47868	121740.46300	3.200	1119.07017	1121.40466	1183.96120
TI	47	762.81712	6438.53700	7.100	798.22116	700.60955	789.62065
V	51	81.01610	40906.04000	4.500	77.27026	84.59309	81.18494
IN-2	115	799349.86300	0.00000	0.000	809045.16000	806741.44000	782262.99000
IN-3	115	17851.31000	0.00000	0.000	16885.13000	18251.35000	18417.45000
AG	107	8.68207	13257.24300	5.500	9.21938	8.29212	8.53469
AS	75	38.57000	2545.59700	5.000	40.73373	36.99354	37.98272
CD	111	4.06865	474.01300	10.900	4.54316	3.66498	3.99780
CO	59	28.79208	40632.17700	3.300	29.88372	28.18801	28.30450
CU	63	971.12056	1172017.50700	2.900	1003.27945	949.58626	960.49598
MO	98	13.16713	9247.11700	7.500	13.44738	12.07463	13.97939
NI	60	104.79465	43126.47700	2.400	107.45688	104.38573	102.54133
SE	78	3.87522	791.13700	4.300	3.83062	4.06159	3.73344
SN	120	154.72449	42487.72700	3.800	156.98340	148.04564	159.14443
SR	88	364.84954	46458.99700	1.800	371.82594	358.62493	364.09775
ZN	66	2939.48600	278040.39300	1.800	2989.76093	2886.65400	2942.04307
B0 -3	159	113760.25300	0.00000	0.000	110434.28000	115146.77000	115699.71000
BA	137	3978.88483	289443.57700	0.800	4005.69326	3945.81384	3985.14739
PB	208	1924.76466	7088700.88300	1.700	1950.87612	1887.36705	1936.05081
SB	121	12.42549	3160.57700	3.400	12.87654	12.03463	12.36530
TL	203	1.29040	1466.84000	7.100	1.26027	1.21729	1.39364
0 I-3	209	102541.46700	0.00000	0.000	101029.14000	102591.38000	104003.88000
U	238	1.72656	8353.35300	2.200	1.72320	1.69077	1.76570
SC-2	45	1031532	0	0.000	1065624	1047802	981171.47000
GE-1	72	2311723	0	0.000	2307122	2321469	2306578
GE-2	72	1781428	0	0.000	1813674	1783935	1746677
GE-3	72	65353.28000	0.00000	0.000	63390.52000	65028.58000	67640.74000

Run Name: 1831608E05
Tube Number: 27
Sample Number: **987T253**

Date/Time: 11/12/2018 21:29:12
Batch: 183041063701A
Class: **********

Initial Vol: 1.17 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2379534	0	0.000	2351998	2430764	2355842
SC-3	45	18974.13000	0.00000	0.000	18773.78000	17792.44000	20356.17000
AL	27	8994.29935	66899.46000	6.000	8931.81765	9562.71841	8488.36198
B	11	26.06938	17348.11700	2.400	26.66848	25.42092	26.11875
BE	9	0.82966	931.37300	6.000	0.86160	0.77272	0.85466
CA	44	19522.64412	17105.05000	4.800	19306.46792	20541.79296	18719.67148
CR	52	89.14776	57442.22000	7.200	90.88740	94.53348	82.02239
FE	57	19505.61359	208443.17300	3.900	19325.27718	20340.68578	18850.87781
K	39	1128.34661	21417.58000	7.700	1143.36159	1206.24997	1035.42828
MG	24	1747.33964	60305.68300	6.200	1738.98598	1859.95015	1643.08277
MN	55	192.89130	33596.10700	8.300	188.04819	210.73374	179.89195
NA	23	450.45454	66114.57300	9.000	440.86432	494.79747	415.70183
TI	47	300.88558	2513.73300	20.800	245.44307	368.56320	288.65046
V	51	31.77730	15886.58300	9.500	33.30408	33.71601	28.31182
IN-2	115	815613.34300	0.00000	0.000	834504.17000	819707.03000	792628.83000
IN-3	115	17701.06300	0.00000	0.000	17588.62000	16768.35000	18746.22000
AG	107	3.49229	5294.66300	5.800	3.27757	3.68185	3.51745
AS	75	14.14123	929.37700	12.600	16.06064	13.81491	12.54814
CD	111	1.38918	160.66700	19.400	1.43445	1.63307	1.10002
CO	59	11.34081	15903.45300	1.600	11.29545	11.18442	11.54256
CU	63	378.70861	452925.79000	5.300	378.47817	399.07742	358.57024
MO	98	4.86671	3457.32700	13.600	4.30294	5.59767	4.69952
NI	60	40.79028	16684.47300	8.600	38.63838	44.85074	38.88172
SE	78	1.41350	301.33700	6.700	1.48503	1.30609	1.44938
SN	120	61.55442	16748.22000	6.200	62.26244	64.96436	57.43647
SR	88	146.73356	18517.05700	6.600	137.19908	156.46157	146.54003
ZN	66	1147.98296	107530.30000	5.300	1142.09227	1211.93199	1089.92462
B0 -3	159	114454.04700	0.00000	0.000	111686.39000	112956.39000	118719.36000
BA	137	1516.11165	110950.56700	1.300	1516.64268	1536.20378	1495.48849
PB	208	746.57576	2766047.24700	1.900	748.11425	759.99509	731.61792
SB	121	5.11210	1316.80300	8.000	5.56828	4.98776	4.78026
TL	203	0.39371	453.37000	10.300	0.35650	0.38799	0.43665
0 I-3	209	100512.82700	0.00000	0.000	98015.36000	101000.08000	102523.04000
U	238	0.71676	3404.02700	8.800	0.68524	0.67547	0.78957
SC-2	45	1026967	0	0.000	1080552	1033759	966590.38000
GE-1	72	2334628	0	0.000	2307724	2354949	2341211
GE-2	72	1842083	0	0.000	1870981	1876033	1779235
GE-3	72	65563.68700	0.00000	0.000	64776.37000	65871.40000	66043.29000

Run Name: 1831608E05
Tube Number: 28
Sample Number: **987T253**

Date/Time: 11/12/2018 21:31:36
Batch: 183041063701A
Class: **********

Initial Vol: 1.17 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2420549	0	0.000	2449905	2400905	2410836
SC-3	45	20182.44700	0.00000	0.000	20095.59000	19434.70000	21017.05000
AL	27	2193.39730	17415.23300	4.100	2150.97437	2296.41381	2132.80373
B	11	12.55965	10459.95300	0.500	12.53215	12.51184	12.63496
BE	9	0.20985	253.34000	16.900	0.17936	0.20136	0.24884
CA	44	4836.18813	4514.32700	4.000	4826.90125	5035.65202	4646.01112
CR	52	22.58493	15859.97300	3.500	23.50787	22.13612	22.11080
FE	57	4825.01642	54912.40300	3.900	4842.67207	5004.77685	4627.60034
K	39	287.12874	9140.27000	20.400	331.14174	309.61603	220.62844
MG	24	428.46907	15903.34000	3.400	420.46456	419.90057	445.04209
MN	55	46.80330	8706.61000	8.100	47.53824	50.16697	42.70469
NA	23	90.74302	40179.35300	15.000	78.25465	105.21572	88.75867
TI	47	61.59333	556.70700	9.700	56.72079	59.84317	68.21601
V	51	7.77777	4174.21300	7.300	7.70704	7.24975	8.37654
IN-2	115	815727.32000	0.00000	0.000	830805.88000	809082.92000	807293.16000
IN-3	115	17705.70700	0.00000	0.000	17354.24000	17476.50000	18286.38000
AG	107	0.83122	1260.13700	15.700	0.89272	0.91986	0.68107
AS	75	4.01639	269.34000	11.300	4.54233	3.73478	3.77206
CD	111	0.41944	50.00000	24.000	0.32411	0.40941	0.52481
CO	59	2.90436	4084.17300	8.400	3.02868	2.62394	3.06047
CU	63	99.57651	119605.22300	1.600	101.38856	98.85927	98.48170
MO	98	1.25430	983.42700	11.300	1.27598	1.38371	1.10321
NI	60	11.42836	4767.85300	3.100	11.41788	11.78404	11.08314
SE	78	0.36903	86.88700	9.300	0.40525	0.36520	0.33662
SN	120	16.97654	4654.46000	11.100	18.98895	15.24323	16.69744
SR	88	36.77937	4647.73700	5.400	38.52191	34.64401	37.17219
ZN	66	307.50551	28882.01000	2.600	312.16825	311.93364	298.41465
B0 -3	159	114091.23000	0.00000	0.000	112523.55000	113957.02000	115793.12000
BA	137	401.08529	29271.10700	0.900	397.81937	404.64038	400.79611
PB	208	194.13239	717403.89700	0.600	195.54470	193.42090	193.43157
SB	121	1.60645	423.36300	26.200	2.05168	1.55188	1.21580
TL	203	0.09973	116.67700	25.600	0.08626	0.12917	0.08375
0 I-3	209	100684.36000	0.00000	0.000	98056.77000	100635.28000	103361.03000
U	238	0.18202	866.74300	14.600	0.17879	0.21001	0.15727
SC-2	45	996786.26300	0.00000	0.000	1049773	997866.63000	942718.97000
GE-1	72	2312334	0	0.000	2288232	2346722	2302049
GE-2	72	1794090	0	0.000	1827788	1785722	1768760
GE-3	72	65688.03000	0.00000	0.000	62727.54000	66113.02000	68223.53000

Run Name: 1831608E05 Date/Time: 11/12/2018 21:34:00
Tube Number: 29 Batch: 183041063701A
Sample Number: **987T254** Class: **********

Initial Vol: 1.29 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2438015	0	0.000	2539718	2399908	2374418
SC-3	45	18787.08000	0.00000	0.000	19094.17000	18543.33000	18723.74000
AL	27	30200.45910	222860.49300	2.400	29392.40058	30839.85276	30369.12396
B	11	101.74030	58309.98000	3.300	98.21833	104.82169	102.18087
BE	9	2.18591	2484.25000	2.700	2.11848	2.21764	2.22160
CA	44	292345.30704	254045.63000	1.800	286677.68707	296682.60889	293675.62516
CR	52	173.05590	110365.07700	1.200	170.92904	175.23699	173.00168
FE	57	195152.74378	2067531.58700	2.300	190117.16406	198790.14728	196550.92001
K	39	5429.40579	86381.70700	1.900	5328.82638	5530.39861	5428.99239
MG	24	13796.28956	471644.87300	2.900	13341.63111	13924.91039	14122.32717
MN	55	1691.01066	292382.84000	1.400	1668.37474	1688.54469	1716.11254
NA	23	6879.79064	569187.42300	2.400	6691.71913	7004.08154	6943.57125
TI	47	2061.91065	17098.22000	3.400	1986.84023	2124.21860	2074.67313
V	51	134.47714	66781.33300	2.000	132.38935	133.49494	137.54713
IN-2	115	795893.25000	0.00000	0.000	815647.67000	785811.45000	786220.63000
IN-3	115	15238.18000	0.00000	0.000	15682.88000	15200.62000	14831.04000
AG	107	25.62498	33400.47700	8.200	23.79638	25.14481	27.93375
AS	75	63.48211	3574.51000	5.100	59.75642	64.82814	65.86176
CD	111	43.68994	4344.09000	3.800	42.11472	43.51179	45.44332
CO	59	45.76541	55143.70300	3.600	43.95192	46.13930	47.20501
CU	63	16471.91483	16969316.41700	3.200	15928.05333	16523.11537	16964.57579
MO	98	19.86734	11852.50000	4.500	18.84731	20.53643	20.21827
NI	60	271.70126	95312.34000	2.700	263.28718	275.07194	276.74468
SE	78	2.84771	581.34700	4.000	2.78647	2.77636	2.98030
SN	120	1379.08036	322772.65000	5.600	1301.36297	1378.89511	1456.98302
SR	88	1134.94735	123320.08000	4.800	1087.81075	1122.22252	1194.80878
ZN	66	13277.83515	1071397.82300	5.200	12626.43514	13201.92966	14005.14065
B0 -3	159	110099.01000	0.00000	0.000	108025.59000	110415.23000	111856.21000
BA	137	1919.99896	135197.79700	0.900	1916.77632	1904.64457	1938.57601
PB	208	20992.39637	74836988.05300	0.700	20886.78472	21146.64226	20943.76212
SB	121	42.35248	10391.31300	2.100	43.29821	41.54491	42.21431
TL	203	0.42129	466.70300	32.000	0.27577	0.54242	0.44567
0 I-3	209	109768.95000	0.00000	0.000	107501.95000	111266.28000	110538.62000
U	238	2.57475	13328.06000	2.600	2.64807	2.56228	2.51389
SC-2	45	1093272	0	0.000	1130008	1100428	1049379
GE-1	72	2213551	0	0.000	2241610	2225387	2173655
GE-2	72	1776732	0	0.000	1834362	1791683	1704152
GE-3	72	60052.42700	0.00000	0.000	59713.76000	58970.97000	61472.55000

Run Name: 1831608E05
Tube Number: 30
Sample Number: **987T254**

Date/Time: 11/12/2018 21:36:22
Batch: 183041063701A
Class: **********

Initial Vol: 1.29 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2318273	0	0.000	2369617	2307629	2277573
SC-3	45	17845.82000	0.00000	0.000	17511.88000	16821.07000	19204.51000
AL	27	12960.37035	90703.57000	4.500	13053.44219	13495.47409	12332.19477
B	11	51.60445	29923.10300	0.500	51.60418	51.84190	51.36727
BE	9	0.95589	1044.05000	9.700	0.96263	1.04510	0.85994
CA	44	120797.70133	99517.74700	5.700	118053.82803	128582.09028	115757.18566
CR	52	72.79147	44196.42700	6.600	74.46952	76.55021	67.35467
FE	57	79316.55036	796644.44300	5.100	79016.04576	83487.31981	75446.28550
K	39	2315.08107	37137.96300	8.700	2363.84544	2487.80061	2093.59716
MG	24	5970.51457	193459.81000	6.300	5990.95601	6336.51368	5584.07403
MN	55	710.06613	116274.59300	7.100	711.90929	759.85764	658.43146
NA	23	2908.87375	244571.35700	7.400	2896.98208	3128.42099	2701.21818
TI	47	908.87649	7142.29000	7.500	896.08943	982.80566	847.73439
V	51	59.30068	27906.55000	6.100	59.68694	62.72538	55.48973
IN-2	115	778220.22700	0.00000	0.000	804524.86000	774129.99000	756005.83000
IN-3	115	15976.59300	0.00000	0.000	15235.41000	16244.81000	16449.56000
AG	107	9.57909	13117.17300	1.700	9.43554	9.53971	9.76203
AS	75	23.80040	1409.42000	3.800	24.60293	22.83386	23.96443
CD	111	16.36118	1703.46300	11.000	18.20916	14.60608	16.26829
CO	59	17.42346	22012.28000	3.500	18.13494	17.10905	17.02639
CU	63	6353.05939	6860468.65000	3.200	6572.21414	6319.01112	6167.95290
MO	98	7.17999	4577.73300	10.700	6.31417	7.43319	7.79262
NI	60	103.40051	38084.90700	3.100	106.85098	100.48790	102.86266
SE	78	1.02945	212.45000	7.000	1.05865	1.08180	0.94792
SN	120	532.43923	130779.51700	1.000	538.49740	528.36076	530.45952
SR	88	433.91070	49456.31300	2.100	441.98984	424.21549	435.52678
ZN	66	4982.81745	421794.64000	1.700	5078.56825	4920.01615	4949.86796
B0 -3	159	108278.03700	0.00000	0.000	105423.05000	108238.29000	111172.77000
BA	137	781.35299	54135.03300	2.600	762.82132	777.79152	803.44611
PB	208	8568.61800	30034500.38700	1.200	8665.29915	8581.34080	8459.21405
SB	121	15.83120	3830.78000	1.000	15.83657	15.67228	15.98474
TL	203	0.20465	223.35000	37.300	0.19699	0.28450	0.13248
0 I-3	209	101379.10700	0.00000	0.000	98226.97000	101664.70000	104245.65000
U	238	1.12570	5381.54300	3.700	1.15673	1.14266	1.07771
SC-2	45	985221.67700	0.00000	0.000	1034650	992584.28000	928430.53000
GE-1	72	2220215	0	0.000	2249621	2196081	2214942
GE-2	72	1744217	0	0.000	1797167	1764099	1671385
GE-3	72	60718.40700	0.00000	0.000	58910.76000	59914.91000	63329.55000

Run Name: 1831608E05
Tube Number: 31
Sample Number: **987T254**

Date/Time: 11/12/2018 21:38:44
Batch: 183041063701A
Class: **********

Initial Vol: 1.29 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2403691	0	0.000	2433388	2374930	2402755
SC-3	45	18196.16000	0.00000	0.000	17531.99000	18172.72000	18883.77000
AL	27	3346.89104	23958.48300	0.400	3360.56130	3345.75754	3334.35428
B	11	19.87087	14251.30700	0.400	19.81062	19.97054	19.83145
BE	9	0.26152	309.34300	8.600	0.28366	0.26194	0.23895
CA	44	31281.00413	26343.26700	1.700	30676.09035	31715.80342	31451.11862
CR	52	18.21637	11608.79000	1.200	18.36324	18.32801	17.95787
FE	57	20384.67255	209166.00700	1.700	20716.26743	20407.39005	20030.36015
K	39	631.26481	13290.45300	7.500	684.82399	613.34865	595.62181
MG	24	1524.02938	50613.99300	3.100	1533.60095	1472.68761	1565.79957
MN	55	183.56137	30735.94300	4.200	190.88198	184.44301	175.35913
NA	23	733.54510	85010.35000	2.200	727.32731	751.76544	721.54256
TI	47	215.80630	1740.23000	1.800	212.47676	214.93041	220.01174
V	51	14.86952	7162.31000	8.000	14.53945	16.19199	13.87711
IN-2	115	808173.30700	0.00000	0.000	828151.92000	809842.36000	786525.64000
IN-3	115	15948.18300	0.00000	0.000	15108.64000	16033.42000	16702.49000
AG	107	2.65053	3614.04300	8.700	2.82654	2.73624	2.38880
AS	75	6.85878	410.01000	8.700	7.27716	6.17548	7.12370
CD	111	4.44043	464.01300	4.200	4.22690	4.57481	4.51959
CO	59	4.73561	5981.64300	3.200	4.81104	4.83272	4.56308
CU	63	1739.01832	1873904.60700	4.000	1806.09890	1745.18609	1665.76998
MO	98	2.02943	1366.82700	16.100	2.20821	1.65281	2.22726
NI	60	27.43820	10170.92700	1.100	27.60544	27.08227	27.62691
SE	78	0.26052	63.78000	16.300	0.21814	0.26022	0.30320
SN	120	137.61715	33772.00000	2.500	139.57686	133.63493	139.63965
SR	88	118.11138	13444.14300	2.600	119.33037	114.63267	120.37111
ZN	66	1333.55664	112728.18300	0.900	1346.98815	1327.41425	1326.26752
B0 -3	159	111713.70000	0.00000	0.000	108621.44000	110616.39000	115903.27000
BA	137	194.53843	13904.88000	1.500	191.92102	197.65544	194.03883
PB	208	2237.37322	8091160.19300	1.200	2250.66354	2254.09607	2207.36004
SB	121	4.27149	1080.11000	14.000	4.36192	3.63197	4.82057
TL	203	0.05404	63.33700	11.000	0.05251	0.06059	0.04902
0 I-3	209	98402.63000	0.00000	0.000	96001.83000	98942.84000	100263.22000
U	238	0.29058	1350.16700	8.700	0.31960	0.27364	0.27850
SC-2	45	974554.93300	0.00000	0.000	1019268	977782.80000	926614.28000
GE-1	72	2275966	0	0.000	2272940	2215142	2339815
GE-2	72	1759170	0	0.000	1826257	1738705	1712546
GE-3	72	61813.04300	0.00000	0.000	60034.94000	61783.34000	63620.85000

Run Name: 1831608E05 Date/Time: 11/12/2018 21:41:07
Tube Number: 32
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2343317	0	0.000	2360682	2324146	2345123
SC-3	45	18413.28000	0.00000	0.000	18693.62000	17882.75000	18663.47000
AL	27	2426.16485	17591.92000	1.700	2443.55013	2379.25825	2455.68616
B	11	256.39686	135771.34700	0.500	254.93779	257.24189	257.01092
BE	9	26.03389	28261.60300	0.800	25.95574	26.26152	25.88440
CA	44	2333.12806	1990.26000	5.900	2181.89220	2365.62648	2451.86551
CR	52	262.72814	163942.41000	3.700	252.93199	272.16147	263.09096
FE	57	2543.56318	26450.17300	3.200	2451.28871	2577.52701	2601.87383
K	39	2530.64775	41634.34700	3.600	2447.89082	2627.07408	2516.97834
MG	24	2572.45804	86292.94300	3.300	2479.34576	2647.40309	2590.62526
MN	55	260.24966	44133.10300	0.800	258.86259	259.33220	262.55421
NA	23	2604.99793	229600.36700	4.300	2503.32891	2725.96708	2585.69779
TI	47	266.91901	2176.98300	4.200	268.32224	255.17891	277.25590
V	51	264.28084	128586.39000	3.000	255.04412	269.55614	268.24224
IN-2	115	782303.55700	0.00000	0.000	797610.91000	784072.18000	765227.58000
IN-3	115	17015.65000	0.00000	0.000	16834.06000	16066.78000	18146.11000
AG	107	27.25657	39640.96700	5.400	27.51680	28.59016	25.66276
AS	75	267.06235	16753.80300	4.600	268.61187	278.37261	254.20257
CD	111	26.55555	2947.69700	3.000	27.07314	26.95530	25.63820
CO	59	262.49818	352569.77300	5.500	263.28910	276.43402	247.77142
CU	63	271.69423	312408.18300	5.300	271.40857	286.18696	257.48717
MO	98	26.29092	17465.62000	3.600	25.90901	27.36356	25.60019
NI	60	272.08132	106401.66000	5.400	270.12273	287.61259	258.50865
SE	78	25.10698	4958.47700	2.700	25.56809	25.42955	24.32329
SN	120	28.67019	7515.93000	6.500	28.16160	30.72839	27.12056
SR	88	27.47564	3313.96000	18.900	25.30795	33.40917	23.70979
ZN	66	271.27928	24459.72700	4.600	267.92950	285.09437	260.81397
B0 -3	159	112798.33000	0.00000	0.000	110514.48000	113351.17000	114529.34000
BA	137	245.82912	17736.30700	1.600	250.11486	242.61344	244.75906
PB	208	28.20582	103301.59000	1.800	28.43464	27.63310	28.54972
SB	121	25.26680	6361.88300	3.800	24.21561	25.51174	26.07305
TL	203	26.02124	29252.33000	2.100	26.24287	25.40858	26.41228
0 I-3	209	98412.91700	0.00000	0.000	96948.49000	97200.78000	101089.48000
U	238	25.24635	117164.84700	0.500	25.18215	25.38318	25.17373
SC-2	45	941929.80300	0.00000	0.000	1002327	934860.92000	888601.55000
GE-1	72	2146229	0	0.000	2152263	2134862	2151561
GE-2	72	1641500	0	0.000	1664626	1656428	1603444
GE-3	72	60021.82300	0.00000	0.000	59131.14000	59050.98000	61883.35000

Run Name: 1831608E05 Date/Time: 11/12/2018 21:43:31
Tube Number: 33
Sample Number: **CC0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2322510	0	0.000	2349007	2332201	2286324
SC-3	45	18129.67700	0.00000	0.000	17101.83000	17982.80000	19304.40000
AL	27	5.91281	80.00700	124.100	11.05042	-2.49400	9.18201
B	11	29.04934	18461.50300	2.600	29.80521	29.07520	28.26761
BE	9	0.00100	18.66700	103.100	0.00019	0.00216	0.00065
CA	44	35.54327	33.33300	34.700	21.43901	44.24125	40.94955
CR	52	0.36736	626.71000	23.000	0.28238	0.36817	0.45155
FE	57	3.23968	73.33700	160.000	-0.61631	1.20313	9.13222
K	39	36.42175	4534.32700	154.200	99.15299	19.34650	-9.23422
MG	24	-0.71710	116.67300	0.000	0.25465	-2.71662	0.31068
MN	55	0.12909	50.00000	43.700	0.08386	0.19226	0.11115
NA	23	-2.26993	29028.14700	0.000	9.69701	3.10195	-19.60876
TI	47	0.86871	13.33300	222.700	-0.78242	2.99731	0.39124
V	51	0.15028	90.00700	81.400	0.01114	0.19837	0.24132
IN-2	115	796418.87000	0.00000	0.000	833664.13000	792091.85000	763500.63000
IN-3	115	17435.02300	0.00000	0.000	17168.71000	17588.57000	17547.79000
AG	107	0.00012	3.33300	3297.600	-0.00210	0.00454	-0.00210
AS	75	0.17072	18.00000	78.300	0.11231	0.07624	0.32361
CD	111	-0.00550	0.66700	0.000	-0.01132	-0.01132	0.00614
CO	59	0.07485	116.67000	111.300	0.02008	0.03375	0.17072
CU	63	0.39362	826.73300	34.100	0.28754	0.34901	0.54431
MO	98	-0.03149	100.00700	0.000	-0.11853	0.04112	-0.01707
NI	60	0.05178	133.34000	215.900	0.04844	-0.05828	0.16517
SE	78	-0.00098	10.44300	0.000	-0.01868	-0.00347	0.01922
SN	120	1.21974	363.36000	44.200	0.62657	1.68104	1.35161
SR	88	0.02720	3.33300	173.200	0.08161	0.00000	0.00000
ZN	66	0.45564	80.00700	39.600	0.36007	0.66351	0.34334
B0 -3	159	111922.03700	0.00000	0.000	109963.96000	112462.44000	113339.71000
BA	137	0.00392	6.66700	4063.000	-0.08806	-0.08806	0.18788
PB	208	1.45212	5550.86700	8.600	1.37863	1.59619	1.38153
SB	121	0.28308	86.67300	72.300	0.34376	0.05495	0.45052
TL	203	0.05068	60.00300	52.200	0.02445	0.07739	0.05020
0 I-3	209	96712.84000	0.00000	0.000	95235.38000	97139.78000	97763.36000
U	238	0.01163	56.67000	87.700	0.00373	0.00801	0.02314
SC-2	45	949487.59300	0.00000	0.000	1019304	940528.74000	888630.38000
GE-1	72	2218126	0	0.000	2239073	2175958	2239345
GE-2	72	1738290	0	0.000	1785536	1721231	1708103
GE-3	72	62398.84700	0.00000	0.000	58919.62000	63852.05000	64424.87000

Run Name: 1831608E05
Tube Number: 34
Sample Number: **9872T6T**

Date/Time: 11/12/2018 21:45:55
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2454641	0	0.000	2503864	2449892	2410167
SC-3	45	18980.57300	0.00000	0.000	17992.39000	19374.52000	19574.81000
AL	27	41307.80254	307942.25300	2.300	41846.26450	40233.68805	41843.45506
B	11	121.39536	69354.26300	1.000	120.82461	122.79654	120.56492
BE	9	1.61944	1859.47700	3.700	1.62622	1.67650	1.55561
CA	44	150237.40620	131911.22700	2.000	151209.64054	146816.97544	152685.60263
CR	52	289.30993	186100.98700	0.800	292.08917	287.77104	288.06956
FE	57	735407.80504	7868721.34000	2.000	751933.23398	722799.05285	731491.12828
K	39	22091.60005	341992.79300	2.700	22656.50131	21476.08095	22142.21790
MG	24	29111.21049	1004623.16300	3.000	30134.04940	28586.87482	28612.70724
MN	55	4503.10194	786079.85700	2.700	4632.31097	4394.49768	4482.49718
NA	23	2586.70401	235176.10000	3.100	2680.03133	2530.69911	2549.38159
TI	47	4543.02713	38050.63000	3.000	4626.93930	4387.11671	4615.02540
V	51	133.29479	66814.27000	3.800	138.67894	128.76562	132.43981
IN-2	115	810129.02300	0.00000	0.000	812739.03000	811586.74000	806061.30000
IN-3	115	14611.85700	0.00000	0.000	13481.39000	14472.17000	15882.01000
AG	107	24.68070	30787.03700	6.300	26.05091	24.98661	23.00457
AS	75	171.12973	9205.21700	6.600	182.85231	170.28844	160.24846
CD	111	52.92071	5031.01700	6.600	55.63213	54.15236	48.97765
CO	59	75.57160	87143.85000	4.600	78.83872	76.00575	71.87033
CU	63	2269.30064	2236537.72700	5.600	2368.49276	2313.80152	2125.60765
MO	98	44.20854	25114.86300	5.000	46.42213	44.17674	42.02673
NI	60	321.64312	107905.51300	5.500	339.77321	320.63621	304.51995
SE	78	5.43331	1119.38300	1.600	5.35380	5.52456	5.42156
SN	120	5389.73209	1207636.28000	4.800	5615.14528	5443.87225	5110.17875
SR	88	667.35218	69438.93000	4.200	686.63681	680.23975	635.17998
ZN	66	8337.36331	643878.61000	5.500	8645.25031	8555.65115	7811.18847
B0 -3	159	116246.87000	0.00000	0.000	111312.88000	120231.52000	117196.21000
BA	137	2949.34223	219231.76700	2.800	2934.38011	2875.39613	3038.25046
PB	208	6017.33696	22635339.45300	3.200	6118.61917	5796.49973	6136.89198
SB	121	83.67490	21652.32000	2.900	84.85981	80.91969	85.24519
TL	203	1.15169	1336.81700	3.000	1.18718	1.14901	1.11887
0 I-3	209	117806.32700	0.00000	0.000	115593.82000	118705.70000	119119.46000
U	238	2.92081	16231.72000	1.000	2.89797	2.90966	2.95480
SC-2	45	1226828	0	0.000	1209006	1222192	1249284
GE-1	72	2176190	0	0.000	2181417	2194672	2152479
GE-2	72	1857247	0	0.000	1847780	1858074	1865887
GE-3	72	62553.07000	0.00000	0.000	61421.34000	63349.90000	62887.97000

Run Name: 1831608E05
Tube Number: 35
Sample Number: **9872T6T**

Date/Time: 11/12/2018 21:48:17
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2444146	0	0.000	2422447	2474241	2435750
SC-3	45	19231.31000	0.00000	0.000	18053.02000	20085.84000	19555.07000
AL	27	16057.12352	121255.12300	3.300	16281.54071	15446.33935	16443.49049
B	11	59.04965	35544.73000	1.900	59.48377	57.75498	59.91020
BE	9	0.72270	836.03300	5.900	0.73084	0.67679	0.76047
CA	44	57897.35187	51478.25300	2.000	59025.81042	56757.05535	57909.18985
CR	52	112.42701	73434.72300	5.300	116.98682	105.71617	114.57803
FE	57	297246.03146	3221311.72300	3.100	304322.33161	286997.50851	300418.25427
K	39	8724.63751	139360.51000	4.100	8972.90014	8316.32922	8884.68316
MG	24	11219.11726	392321.30000	3.800	11496.93079	10722.55122	11437.86978
MN	55	1759.17088	311114.97700	3.400	1793.10100	1689.38072	1795.03091
NA	23	972.86259	108893.74000	5.300	1030.66898	929.79976	958.11903
TI	47	1794.64055	15195.91000	8.900	1930.60914	1617.69271	1835.61979
V	51	52.03083	26456.87000	4.200	51.70195	50.03221	54.35832
IN-2	115	792241.66700	0.00000	0.000	812901.83000	802446.80000	761376.37000
IN-3	115	16125.46000	0.00000	0.000	15312.80000	16291.56000	16772.02000
AG	107	8.76936	12102.85300	3.500	9.09033	8.73038	8.48738
AS	75	63.26484	3769.22700	4.600	66.36927	60.54608	62.87918
CD	111	19.25167	2026.84700	3.400	19.77801	18.51389	19.46311
CO	59	27.51249	35093.36300	3.200	28.24271	26.52970	27.76507
CU	63	798.20233	870552.43300	2.500	818.58830	779.30025	796.71845
MO	98	16.06778	10164.42000	2.500	16.47939	16.06377	15.66018
NI	60	114.80916	42644.84300	4.300	119.80048	114.72751	109.89950
SE	78	2.01298	412.67300	4.900	2.03068	2.10074	1.90751
SN	120	1933.18703	479183.14300	1.000	1954.27348	1915.48135	1929.80628
SR	88	240.79870	27666.67700	5.300	254.47968	238.84554	229.07089
ZN	66	3011.91272	257341.86000	1.900	3074.78470	2958.75496	3002.19848
B0 -3	159	115238.44000	0.00000	0.000	111205.05000	114974.69000	119535.58000
BA	137	1189.34344	87640.45700	1.200	1190.60996	1202.36170	1175.05867
PB	208	2497.72041	9318846.32300	0.500	2510.04903	2497.27655	2485.83567
SB	121	32.89685	8456.51300	6.400	33.68734	30.50827	34.49494
TL	203	0.33038	383.36000	13.100	0.28585	0.37240	0.33290
0 I-3	209	106227.84000	0.00000	0.000	101988.48000	108373.44000	108321.60000
U	238	1.23101	6165.30000	4.900	1.28047	1.16389	1.24868
SC-2	45	1054340	0	0.000	1086110	1060125	1016786
GE-1	72	2316259	0	0.000	2317413	2319671	2311694
GE-2	72	1797827	0	0.000	1796796	1807318	1789368
GE-3	72	63524.54700	0.00000	0.000	61763.07000	64405.71000	64404.86000

Run Name: 1831608E05
Tube Number: 36
Sample Number: **9872T6T**

Date/Time: 11/12/2018 21:50:40
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2497698	0	0.000	2498131	2495861	2499102
SC-3	45	19257.87700	0.00000	0.000	19354.58000	18934.20000	19484.85000
AL	27	4220.13020	31961.49700	1.400	4161.19548	4279.30066	4219.89447
B	11	22.80937	16422.97000	1.500	23.20633	22.68667	22.53511
BE	9	0.18197	229.33700	17.000	0.15483	0.21558	0.17551
CA	44	15532.08957	13837.67300	4.500	14757.62488	16124.93205	15713.71179
CR	52	29.72966	19785.39000	2.300	29.05285	30.41591	29.72021
FE	57	75458.12599	819601.83700	1.700	74012.82123	76573.46009	75788.09665
K	39	2283.27436	39728.98700	1.000	2273.23404	2266.05968	2310.52936
MG	24	2952.39446	103578.98700	4.200	2814.16859	3057.94881	2985.06599
MN	55	456.98053	81005.95000	2.800	444.08157	469.93509	456.92492
NA	23	230.96948	49613.18000	5.600	216.12575	237.39788	239.38480
TI	47	458.82432	3904.12700	6.600	440.62765	493.51997	442.32533
V	51	13.43169	6855.45700	3.700	13.73439	12.86023	13.70045
IN-2	115	803922.73700	0.00000	0.000	827489.23000	799114.12000	785164.86000
IN-3	115	17604.84000	0.00000	0.000	16939.06000	17417.66000	18457.80000
AG	107	2.19126	3310.61700	3.700	2.16238	2.12971	2.28167
AS	75	15.45427	1010.04700	8.600	15.33744	16.84133	14.18405
CD	111	4.52310	520.68700	3.600	4.70953	4.43909	4.42068
CO	59	6.61743	9206.93700	8.400	7.17239	6.61919	6.06070
CU	63	195.49455	233057.74700	1.700	198.52820	196.08336	191.87208
MO	98	3.75041	2690.41000	7.000	3.63827	3.56301	4.04995
NI	60	28.66711	11709.04000	6.900	28.75250	30.60225	26.64657
SE	78	0.50208	112.44300	4.900	0.49347	0.48308	0.52969
SN	120	482.56760	130587.91300	1.500	487.93026	485.72706	474.04549
SR	88	56.06221	7042.23300	2.200	55.52219	57.45698	55.20747
ZN	66	736.23710	68708.76000	1.400	747.38237	734.88740	726.44154
B0 -3	159	115696.00300	0.00000	0.000	113211.32000	115076.96000	118799.73000
BA	137	323.19917	23916.61300	2.100	330.07005	316.27933	323.24814
PB	208	662.77257	2482835.56000	0.700	664.40363	666.68106	657.23302
SB	121	9.16713	2377.01300	9.900	9.85936	8.13614	9.50591
TL	203	0.09622	113.34000	53.300	0.13891	0.11045	0.03931
0 I-3	209	101987.69300	0.00000	0.000	100071.81000	102906.07000	102985.20000
U	238	0.33885	1633.54300	7.700	0.32989	0.36819	0.31847
SC-2	45	984901.18300	0.00000	0.000	1054283	975887.95000	924532.49000
GE-1	72	2348547	0	0.000	2351265	2334525	2359850
GE-2	72	1771660	0	0.000	1840326	1759239	1715415
GE-3	72	63782.14300	0.00000	0.000	62666.18000	62455.69000	66224.56000

Run Name: 1831608E05
Tube Number: 37
Sample Number: **9872T61**

Date/Time: 11/12/2018 21:53:04
Batch: 183041063701A
Class: **********

Initial Vol: 1.41 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2573775	0	0.000	2669898	2498931	2552496
SC-3	45	20115.75700	0.00000	0.000	19174.14000	20877.11000	20296.02000
AL	27	49725.08565	392744.74700	3.300	50225.89587	47868.16960	51081.19147
B	11	245.04544	142681.68000	0.700	243.34512	246.67132	245.11989
BE	9	2.15012	2580.26700	3.100	2.10987	2.22593	2.11456
CA	44	164504.84304	152974.84300	3.600	167677.45962	157583.97326	168253.09623
CR	52	291.72319	198817.41300	3.400	294.34058	280.80963	300.01934
FE	57	718020.51279	8142758.83700	2.800	725274.69779	695395.32490	733391.51569
K	39	28865.48930	472222.05000	3.100	29254.82238	27854.89913	29486.74637
MG	24	31927.03096	1168071.13000	2.700	32403.74110	30936.79125	32440.56053
MN	55	4342.42247	803242.80000	3.600	4453.75217	4165.69356	4407.82169
NA	23	3960.96367	364529.74300	2.200	4037.48511	3866.01641	3979.38950
TI	47	5745.72369	50979.91000	3.800	5859.19544	5492.15630	5885.81933
V	51	165.73576	88058.35000	3.600	169.20535	158.82830	169.17363
IN-2	115	801450.36300	0.00000	0.000	793419.12000	808478.89000	802453.08000
IN-3	115	13828.45300	0.00000	0.000	13426.51000	12593.17000	15465.68000
AG	107	29.99693	35352.10700	7.200	30.82930	31.62461	27.53687
AS	75	630.29693	31973.12000	9.900	622.46115	696.42459	572.00507
CD	111	42.17825	3784.58300	10.200	40.74863	47.02316	38.76297
CO	59	167.02377	181474.46300	9.900	166.86091	183.68691	150.52350
CU	63	2335.64691	2170110.59300	9.900	2340.41729	2563.83403	2102.68943
MO	98	61.82996	33076.02000	9.600	61.68399	67.80799	55.99791
NI	60	512.17046	161841.95700	10.700	511.89825	566.99633	457.61679
SE	78	3.41101	699.13000	3.000	3.53004	3.36505	3.33792
SN	120	7940.85617	1678268.88000	9.000	7802.05465	8717.63803	7302.87582
SR	88	891.14324	87497.40700	8.800	858.29935	980.27265	834.85771
ZN	66	9324.05962	679639.10300	8.300	9227.05807	10139.26219	8605.85858
B0 -3	159	121378.04000	0.00000	0.000	115915.16000	120808.37000	127410.59000
BA	137	4875.82648	378463.44300	1.900	4818.18623	4984.82644	4824.46678
PB	208	6696.35436	26309256.06700	1.300	6719.50606	6769.07395	6600.48308
SB	121	69.68309	18841.06700	0.500	69.84059	69.28216	69.92652
TL	203	1.32648	1603.53300	13.700	1.52957	1.17673	1.27314
0 I-3	209	121126.92000	0.00000	0.000	113943.01000	123866.43000	125571.32000
U	238	3.18383	18181.04700	2.500	3.24745	3.09355	3.21049
SC-2	45	1262105	0	0.000	1236113	1299003	1251198
GE-1	72	2278573	0	0.000	2302493	2265373	2267852
GE-2	72	1910695	0	0.000	1890350	1924416	1917318
GE-3	72	63497.61000	0.00000	0.000	63943.22000	61873.50000	64676.11000

Run Name: 1831608E05
Tube Number: 38
Sample Number: **9872T61**

Date/Time: 11/12/2018 21:55:28
Batch: 183041063701A
Class: **********

Initial Vol: 1.41 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2186175	0	0.000	2177090	2046268	2335166
SC-3	45	19601.71300	0.00000	0.000	19484.61000	18904.42000	20416.11000
AL	27	20514.80350	157888.33700	5.100	19591.67056	21659.73656	20293.00337
B	11	120.59009	61276.45300	4.200	119.56021	126.12207	116.08800
BE	9	0.85275	878.03700	6.200	0.81108	0.91255	0.83463
CA	44	66752.64512	60478.63700	3.700	66718.35542	69236.64012	64302.93981
CR	52	116.01495	77323.67000	3.200	112.23320	119.74246	116.06919
FE	57	298670.89009	3300378.49000	2.400	295455.09481	307020.15897	293537.41649
K	39	11725.86332	189546.43000	2.900	11439.46605	12093.79737	11644.32653
MG	24	13041.82072	464983.82000	3.800	12688.12091	13613.34940	12823.99186
MN	55	1765.76928	318393.37000	3.100	1728.28308	1827.53998	1741.48478
NA	23	1560.03926	159007.11700	6.200	1488.94690	1669.26670	1521.90419
TI	47	2523.60983	21828.25300	3.500	2451.21012	2621.29747	2498.32189
V	51	67.72128	35063.01700	4.700	66.25275	71.39681	65.51429
IN-2	115	801784.33000	0.00000	0.000	813941.14000	804682.01000	786729.84000
IN-3	115	15948.78700	0.00000	0.000	15482.07000	16163.98000	16200.31000
AG	107	9.96737	13624.42700	2.800	9.71546	10.27435	9.91229
AS	75	215.88924	12718.05300	1.800	217.64877	211.51495	218.50400
CD	111	15.04165	1566.11000	4.700	15.78136	14.35695	14.98664
CO	59	57.94406	73141.51700	2.400	56.82486	57.47778	59.52954
CU	63	777.35706	838903.94300	0.700	782.72373	771.87438	777.47309
MO	98	20.92906	13070.50300	0.500	20.99269	20.99277	20.80171
NI	60	175.37868	64447.35300	1.300	177.55879	173.13642	175.44083
SE	78	1.34931	283.11300	7.300	1.35148	1.24921	1.44722
SN	120	2650.77171	650107.15300	1.500	2621.39211	2636.59438	2694.32862
SR	88	303.61075	34552.83700	0.900	306.57924	301.72649	302.52653
ZN	66	3193.35438	269974.99000	0.100	3193.79635	3195.92957	3190.33723
B0 -3	159	118510.79700	0.00000	0.000	114349.39000	120820.15000	120362.85000
BA	137	1937.99483	146872.98700	1.400	1943.72622	1909.20316	1961.05511
PB	208	2783.71518	10679075.57300	1.700	2825.00698	2732.59301	2793.54553
SB	121	27.76039	7339.11000	3.000	27.72618	28.61954	26.93544
TL	203	0.54679	646.72300	19.600	0.66409	0.45392	0.52236
0 I-3	209	109858.47300	0.00000	0.000	110310.74000	105969.87000	113294.81000
U	238	1.39521	7235.89300	2.800	1.41847	1.35048	1.41669
SC-2	45	1088574	0	0.000	1120194	1091201	1054327
GE-1	72	2034642	0	0.000	2044171	1893958	2165797
GE-2	72	1842199	0	0.000	1866229	1836578	1823791
GE-3	72	65748.39300	0.00000	0.000	64545.61000	65440.74000	67258.83000

Run Name: 1831608E05
Tube Number: 39
Sample Number: **9872T61**

Date/Time: 11/12/2018 21:57:50
Batch: 183041063701A
Class: **********

Initial Vol: 1.41 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2571160	0	0.000	2613355	2562244	2537881
SC-3	45	20095.66300	0.00000	0.000	20155.88000	20486.25000	19644.86000
AL	27	5330.98789	42105.63700	4.400	5120.13518	5289.25641	5583.57206
B	11	39.58784	26393.38700	0.500	39.72358	39.66175	39.37818
BE	9	0.21130	270.67300	13.500	0.18365	0.20957	0.24067
CA	44	17060.96372	15853.37000	5.200	16661.65423	16434.87292	18086.36401
CR	52	30.51213	21170.99700	5.000	29.15040	30.24516	32.14084
FE	57	75377.01700	854009.07700	3.800	73634.84564	73827.02495	78669.18041
K	39	3052.97203	53893.58700	4.000	3039.63059	2936.92603	3182.35946
MG	24	3324.99465	121717.62300	1.100	3333.65686	3286.31706	3355.01004
MN	55	461.74656	85398.17000	3.200	449.62251	457.20249	478.41467
NA	23	343.50770	61186.32000	4.700	345.15698	326.54449	358.82162
TI	47	656.41831	5821.53300	9.300	641.22970	604.32364	723.70159
V	51	17.45585	9297.03300	7.500	16.92505	18.94352	16.49896
IN-2	115	822017.86300	0.00000	0.000	844673.47000	824645.14000	796734.98000
IN-3	115	18622.67000	0.00000	0.000	17902.57000	18467.75000	19497.69000
AG	107	2.43470	3880.77700	5.600	2.55471	2.46378	2.28562
AS	75	48.45738	3337.10700	2.400	49.27708	48.96856	47.12650
CD	111	3.26711	398.67700	6.000	3.37722	3.04126	3.38284
CO	59	13.21460	19464.82000	4.100	13.31009	13.69771	12.63602
CU	63	175.71901	221548.46000	3.100	180.12601	177.34522	169.68581
MO	98	4.70952	3530.68300	3.900	4.84308	4.78712	4.49838
NI	60	39.57045	17051.41300	5.400	41.94263	38.90586	37.86284
SE	78	0.34005	81.33300	11.200	0.30685	0.33163	0.38166
SN	120	598.07707	171177.82300	2.200	603.18960	607.81082	583.23079
SR	88	66.59871	8853.47700	1.000	66.39659	66.03449	67.36506
ZN	66	723.99385	71466.26700	1.900	739.23318	719.88095	712.86743
B0 -3	159	120138.96000	0.00000	0.000	118477.20000	120039.94000	121899.74000
BA	137	521.66256	40077.15700	2.600	537.28969	514.23381	513.46419
PB	208	741.10648	2883375.27000	0.800	736.23442	739.34563	747.73938
SB	121	7.36872	1986.92700	6.000	7.82492	6.93592	7.34533
TL	203	0.13883	170.01000	25.300	0.09872	0.16428	0.15349
0 I-3	209	106401.09300	0.00000	0.000	105284.02000	104801.42000	109117.84000
U	238	0.38682	1943.57700	9.700	0.35582	0.42830	0.37634
SC-2	45	1019206	0	0.000	1074961	1004554	978104.99000
GE-1	72	2416577	0	0.000	2437617	2418440	2393674
GE-2	72	1808100	0	0.000	1851064	1790731	1782504
GE-3	72	64683.51300	0.00000	0.000	61310.60000	63963.36000	68776.58000

Run Name: 1831608E05
Tube Number: 40
Sample Number: **9872T62**

Date/Time: 11/12/2018 22:00:14
Batch: 183041063701A
Class: **********

Initial Vol: 1.25 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2606962	0	0.000	2661502	2600118	2559266
SC-3	45	18827.25300	0.00000	0.000	17522.01000	19304.69000	19655.06000
AL	27	34650.75975	255853.84700	4.300	36378.10129	33954.18458	33619.99338
B	11	117.97471	71695.04300	0.200	117.76193	117.89634	118.26587
BE	9	1.92089	2338.89000	2.300	1.97209	1.89773	1.89283
CA	44	169918.61108	147815.30000	3.500	176403.57962	164786.78619	168565.46745
CR	52	358.60298	228379.77300	4.300	375.37905	354.84142	345.58848
FE	57	599559.31840	6356559.28300	4.300	628701.26017	579850.28781	590126.40724
K	39	4435.36389	71349.13300	5.800	4725.12432	4236.18213	4344.78521
MG	24	14291.18326	488743.66300	5.000	15118.02990	13868.85225	13886.66763
MN	55	2577.24611	445956.59700	3.900	2688.20077	2492.25752	2551.28004
NA	23	3721.43475	322087.44000	4.000	3894.05025	3634.76246	3635.49155
TI	47	1104.84112	9183.63000	1.300	1119.41099	1091.13307	1103.97930
V	51	120.28351	59758.61000	5.000	126.91454	115.01562	118.92038
IN-2	115	821854.12000	0.00000	0.000	827494.78000	820452.28000	817615.30000
IN-3	115	16534.71300	0.00000	0.000	15130.74000	17390.65000	17082.75000
AG	107	14.18349	20029.49300	6.200	15.19454	13.56248	13.79345
AS	75	143.75033	8767.59700	3.500	149.54612	140.88276	140.82211
CD	111	16.27883	1755.46700	4.900	16.97835	16.44444	15.41370
CO	59	85.09466	110888.42700	8.000	92.54875	79.12875	83.60646
CU	63	2499.46750	2786611.94000	6.800	2693.75858	2382.97652	2421.66738
MO	98	51.07821	32828.62300	5.100	54.03362	50.03230	49.16871
NI	60	396.64279	150522.54000	6.800	424.63773	370.55424	394.73640
SE	78	6.80496	1419.41700	1.900	6.77396	6.69380	6.94714
SN	120	2210.78047	560477.14000	5.600	2351.15532	2118.20623	2162.97986
SR	88	864.74510	101737.97700	6.100	924.15752	824.27634	845.80144
ZN	66	9700.98586	847516.78300	6.400	10410.42602	9251.55338	9440.97820
B0 -3	159	116296.82300	0.00000	0.000	112211.05000	118971.28000	117708.14000
BA	137	9521.48922	708037.20300	2.000	9559.85826	9310.89818	9693.71122
PB	208	4380.01644	16489421.00700	1.300	4431.70161	4315.66614	4392.68158
SB	121	47.88142	12406.61300	2.400	48.21354	46.60510	48.82561
TL	203	0.94990	1103.44700	5.400	0.98089	0.89124	0.97757
0 I-3	209	112949.57700	0.00000	0.000	108461.82000	112146.36000	118240.55000
U	238	2.42783	12914.18700	5.600	2.55025	2.45319	2.28004
SC-2	45	1153550	0	0.000	1153304	1143168	1164179
GE-1	72	2339159	0	0.000	2359592	2359936	2297950
GE-2	72	1869168	0	0.000	1862856	1866332	1878315
GE-3	72	63966.40000	0.00000	0.000	61341.23000	64987.46000	65570.51000

Run Name: 1831608E05
Tube Number: 41
Sample Number: **9872T62**

Date/Time: 11/12/2018 22:02:37
Batch: 183041063701A
Class: **********

Initial Vol: 1.25 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2546317	0	0.000	2612529	2558269	2468154
SC-3	45	19114.46000	0.00000	0.000	18713.77000	19154.66000	19474.95000
AL	27	6851.41699	51497.20300	2.000	6698.30777	6892.15348	6963.78973
B	11	34.36803	23209.14700	1.500	33.83056	34.38158	34.89196
BE	9	0.41288	506.68000	7.500	0.44664	0.40579	0.38620
CA	44	33967.45595	30040.70000	1.000	33750.25954	34353.11491	33798.99340
CR	52	69.42128	45299.99000	0.600	69.48736	69.80777	68.96870
FE	57	118219.36867	1274699.48300	0.700	117708.67766	117777.62770	119171.80066
K	39	862.11104	17525.26300	5.500	915.51301	843.98370	826.83640
MG	24	2802.14217	97606.16300	0.500	2795.29865	2817.56242	2793.56544
MN	55	506.06493	89078.56000	2.200	493.40183	511.09159	513.70138
NA	23	699.42628	86586.47700	0.500	698.85960	703.09126	696.32797
TI	47	224.59352	1900.26000	5.700	238.97209	214.52118	220.28727
V	51	23.81215	12049.29000	2.100	23.25042	23.93999	24.24605
IN-2	115	799460.97000	0.00000	0.000	807477.79000	806172.22000	784732.90000
IN-3	115	17323.85300	0.00000	0.000	17483.51000	17634.51000	16853.54000
AG	107	2.73908	4060.86000	10.500	2.62267	2.52731	3.06727
AS	75	28.62793	1837.47700	2.800	27.80852	28.64472	29.43056
CD	111	3.34113	378.67700	10.800	3.52854	2.92490	3.56996
CO	59	16.83366	23070.62700	3.700	16.33046	16.63582	17.53470
CU	63	471.14837	552185.03000	3.600	458.29983	464.50100	490.64428
MO	98	9.66628	6622.08000	4.900	9.14892	10.07723	9.77269
NI	60	77.30630	30913.14300	2.500	76.60039	75.81934	79.49915
SE	78	1.23685	259.78000	6.600	1.15294	1.31576	1.24185
SN	120	433.82067	115481.72000	6.200	409.67151	429.22135	462.56916
SR	88	161.12931	19905.79300	5.700	153.11286	159.20018	171.07490
ZN	66	1870.13935	171655.71700	3.600	1836.05982	1826.13482	1948.22340
B0 -3	159	115523.99300	0.00000	0.000	114410.40000	115934.66000	116226.92000
BA	137	1929.26214	142545.65000	2.400	1909.96789	1896.25797	1981.56056
PB	208	921.64330	3447914.08700	1.200	909.60734	930.47981	924.84275
SB	121	10.02712	2593.72000	6.100	10.73741	9.66480	9.67915
TL	203	0.26028	303.35700	20.700	0.19882	0.28273	0.29929
0 I-3	209	104313.47000	0.00000	0.000	101534.78000	104196.65000	107208.98000
U	238	0.56020	2767.16000	15.800	0.47344	0.55701	0.65016
SC-2	45	994035.29700	0.00000	0.000	1036973	990282.95000	954850.38000
GE-1	72	2353747	0	0.000	2369926	2391166	2300148
GE-2	72	1786855	0	0.000	1798622	1804513	1757429
GE-3	72	63312.70700	0.00000	0.000	62365.04000	62757.01000	64816.07000

Run Name: 1831608E05
Tube Number: 42
Sample Number: **9872T63**

Date/Time: 11/12/2018 22:05:00
Batch: 183041063701A
Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2678282	0	0.000	2702617	2663982	2668245
SC-3	45	19691.83000	0.00000	0.000	19044.16000	18713.80000	21317.53000
AL	27	36629.82314	282916.88700	4.100	36311.44561	38274.46130	35303.56252
B	11	96.37866	60935.39700	1.300	94.93892	97.05691	97.14015
BE	9	2.87864	3589.82700	3.800	2.86751	2.77632	2.99209
CA	44	44728.48851	40685.11700	4.100	44316.19033	46719.74834	43149.52686
CR	52	263.81492	175689.70000	5.800	263.96681	279.09538	248.38258
FE	57	457568.02648	5071478.05000	4.500	461569.72311	476048.52449	435085.83183
K	39	3250.35615	55891.33300	4.500	3190.04109	3416.88233	3144.14504
MG	24	4747.67516	169912.15300	4.600	4757.38137	4961.82351	4523.82061
MN	55	2066.58399	373785.65700	4.800	2060.79912	2167.73914	1971.21370
NA	23	3137.44503	288846.37700	4.900	3140.91197	3290.78065	2980.64247
TI	47	1839.04476	15963.51000	3.500	1867.03954	1885.44079	1764.65394
V	51	135.93466	70543.72700	6.700	137.16958	144.34766	126.28674
IN-2	115	812236.57700	0.00000	0.000	818000.42000	812552.56000	806156.75000
IN-3	115	16551.92300	0.00000	0.000	15922.58000	16650.63000	17082.56000
AG	107	17.65095	25004.90700	4.000	18.38312	17.58601	16.98372
AS	75	187.01864	11432.25000	1.500	190.34421	185.20721	185.50449
CD	111	23.49945	2540.27300	0.500	23.58125	23.35936	23.55775
CO	59	72.23468	94552.47000	2.900	74.42055	70.30875	71.97475
CU	63	15304.40228	17129417.24700	1.700	15605.91885	15168.59665	15138.69134
MO	98	68.31252	44001.05000	2.600	70.08852	66.55017	68.29886
NI	60	402.41823	153312.22000	1.600	406.60093	405.57322	395.08053
SE	78	6.40354	1320.73300	1.700	6.32236	6.52477	6.36347
SN	120	3602.30296	916932.20000	1.000	3567.68274	3596.81612	3642.41004
SR	88	594.94469	70303.48300	1.500	585.35014	596.89887	602.58504
ZN	66	9021.70057	791306.42000	1.300	9151.67849	8926.15250	8987.27073
B0 -3	159	118615.33000	0.00000	0.000	113634.00000	117104.19000	125107.80000
BA	137	8107.85281	614763.58300	1.600	8131.43294	8227.52884	7964.59666
PB	208	24144.45973	92667681.12000	2.000	24512.94515	24330.94396	23589.49008
SB	121	76.97911	20346.84700	1.500	75.67980	77.27924	77.97828
TL	203	0.69038	820.07700	11.800	0.61529	0.77695	0.67892
0 I-3	209	199650.62300	0.00000	0.000	193409.18000	200661.15000	204881.54000
U	238	1.72632	16268.43300	3.100	1.66585	1.76540	1.74772
SC-2	45	1170501	0	0.000	1177126	1176623	1157752
GE-1	72	2390712	0	0.000	2418756	2353616	2399765
GE-2	72	1898138	0	0.000	1892787	1907901	1893725
GE-3	72	65252.07700	0.00000	0.000	63330.10000	66172.60000	66253.53000

Run Name: 1831608E05
Tube Number: 43
Sample Number: **9872T63**

Date/Time: 11/12/2018 22:07:22
Batch: 183041063701A
Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2619097	0	0.000	2603004	2606560	2647727
SC-3	45	19294.69000	0.00000	0.000	18103.11000	19835.39000	19945.57000
AL	27	14787.54843	111998.30000	3.500	15319.27323	14273.41376	14769.95831
B	11	48.95173	32276.27300	1.700	49.92059	48.33884	48.59577
BE	9	1.22874	1510.10000	3.100	1.20680	1.20679	1.27261
CA	44	18450.19007	16437.31700	6.000	19710.88451	17988.88102	17650.80470
CR	52	106.78442	70017.97700	3.900	111.50934	103.59883	105.24508
FE	57	193045.42363	2098026.94700	3.900	201660.25255	189967.93075	187508.08758
K	39	1331.08933	24930.27300	9.000	1460.23099	1309.22374	1223.81326
MG	24	1940.43205	68185.36700	3.600	2021.61026	1901.78731	1897.89859
MN	55	849.94070	150784.40300	3.300	881.76306	827.28111	840.77794
NA	23	1250.50163	131586.38000	4.700	1315.43273	1203.01036	1233.06181
TI	47	795.08695	6772.08000	3.000	815.45539	801.33090	768.47455
V	51	54.58153	27846.30300	0.400	54.80464	54.41078	54.52917
IN-2	115	810934.40300	0.00000	0.000	821467.81000	810531.31000	800804.09000
IN-3	115	17994.56300	0.00000	0.000	18089.01000	17100.17000	18794.51000
AG	107	6.38623	9820.83000	10.400	5.87325	7.13538	6.15005
AS	75	69.52822	4624.85000	1.300	69.58632	70.38439	68.61395
CD	111	8.61234	1011.38300	5.400	8.38987	9.14443	8.30273
CO	59	27.00525	38398.90000	4.900	26.52722	28.49177	25.99678
CU	63	5655.00091	6875754.27300	4.200	5514.34293	5926.12573	5524.53405
MO	98	25.44990	17893.08300	3.700	24.54122	26.43891	25.36958
NI	60	149.81470	62080.13000	3.500	146.90787	155.85524	146.68099
SE	78	2.26995	474.45300	2.100	2.26356	2.22623	2.32007
SN	120	1317.65897	364086.00000	5.700	1252.61226	1400.10863	1300.25603
SR	88	213.76897	27452.94300	0.900	211.54346	214.65929	215.10416
ZN	66	3339.10942	318154.47300	4.600	3214.33549	3508.94873	3294.04404
B0 -3	159	118018.65300	0.00000	0.000	115720.70000	119546.64000	118788.62000
BA	137	3231.00079	243885.29300	2.100	3185.37847	3200.56147	3307.06243
PB	208	9865.81138	37701988.60300	0.900	9805.33781	9827.91326	9964.18308
SB	121	30.47977	8022.86000	3.000	30.11695	29.78997	31.53238
TL	203	0.33059	393.36300	30.200	0.24857	0.44200	0.30122
0 I-3	209	142536.43700	0.00000	0.000	137508.30000	143110.21000	146990.80000
U	238	1.02058	6862.39000	1.700	1.03440	1.02649	1.00084
SC-2	45	1074526	0	0.000	1117217	1085579	1020783
GE-1	72	2422907	0	0.000	2420605	2410357	2437760
GE-2	72	1871908	0	0.000	1930596	1869170	1815960
GE-3	72	66083.36300	0.00000	0.000	64385.04000	65963.26000	67901.79000

Run Name: 1831608E05 Date/Time: 11/12/2018 22:09:45
Tube Number: 44
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2616666	0	0.000	2622617	2599213	2628167
SC-3	45	19328.04300	0.00000	0.000	17972.71000	20025.75000	19985.67000
AL	27	2650.82659	20125.49300	5.300	2805.63157	2614.18851	2532.65967
B	11	279.36661	164826.38000	1.000	276.07140	281.37455	280.65388
BE	9	27.94092	33869.92300	0.700	27.76758	27.92283	28.13237
CA	44	2487.64646	2230.31300	10.700	2401.89877	2274.02940	2787.01122
CR	52	262.61236	171848.71000	4.300	273.54308	251.14314	263.15088
FE	57	2618.99326	28594.58700	1.900	2612.05731	2572.77235	2672.15010
K	39	2594.59835	44603.68700	7.300	2808.54852	2451.24881	2523.99771
MG	24	2587.80465	91023.08000	3.700	2697.45918	2516.35348	2549.60129
MN	55	263.94806	46895.77300	4.500	277.62704	255.24245	258.97471
NA	23	2498.55560	232304.95000	3.300	2591.99873	2442.26925	2461.39881
TI	47	270.66823	2320.34300	5.000	255.16087	279.83816	277.00565
V	51	262.94042	134192.70700	2.700	270.57960	256.46820	261.77345
IN-2	115	813338.38700	0.00000	0.000	828238.63000	811667.92000	800108.61000
IN-3	115	19020.11000	0.00000	0.000	17734.83000	19184.84000	20140.66000
AG	107	25.30556	41129.48700	6.100	26.67450	25.59783	23.64435
AS	75	248.84291	17462.02000	3.200	258.08143	243.48705	244.96023
CD	111	25.24814	3135.07300	0.900	25.50738	25.17601	25.06102
CO	59	245.37872	368455.94300	5.300	256.11623	248.99900	231.02091
CU	63	252.28029	324407.19300	4.300	262.15586	254.09383	240.59118
MO	98	25.54489	18927.84700	8.700	27.92904	25.14592	23.55971
NI	60	252.18700	110195.33300	6.200	268.51169	250.55478	237.49454
SE	78	25.39374	5213.68700	3.500	25.82616	25.99232	24.36273
SN	120	30.01768	8833.52700	5.300	28.85367	29.37702	31.82235
SR	88	23.96675	3250.62000	3.800	24.81325	23.01065	24.07636
ZN	66	253.21663	25531.86000	3.800	260.26645	257.01853	242.36490
B0 -3	159	120336.65000	0.00000	0.000	117840.63000	120513.53000	122655.79000
BA	137	263.15263	20266.80300	3.500	255.55770	260.54324	273.35697
PB	208	31.69658	123915.58700	6.600	29.79395	31.37056	33.92521
SB	121	26.87541	7212.35300	3.400	27.24635	27.53569	25.84417
TL	203	26.08239	31280.38700	1.100	25.99385	26.39419	25.85913
0 I-3	209	105540.92000	0.00000	0.000	101524.96000	107462.89000	107634.91000
U	238	25.38473	126292.89000	2.300	25.93651	24.76853	25.44915
SC-2	45	989787.07000	0.00000	0.000	1053172	981226.94000	934962.10000
GE-1	72	2348064	0	0.000	2330684	2376246	2337263
GE-2	72	1754174	0	0.000	1786714	1768870	1706939
GE-3	72	64023.79300	0.00000	0.000	59643.19000	65721.04000	66707.15000

Run Name: 1831608E05 Date/Time: 11/12/2018 22:12:09
Tube Number: 45
Sample Number: **CC0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2611663	0	0.000	2633782	2597022	2604185
SC-3	45	19354.72700	0.00000	0.000	18252.99000	19585.09000	20226.10000
AL	27	3.12333	63.33700	113.900	7.22828	1.17384	0.96787
B	11	31.12954	21951.21700	2.600	31.53245	31.66163	30.19453
BE	9	-0.00092	18.66700	0.000	-0.00160	-0.00638	0.00521
CA	44	14.43823	16.66700	159.500	-3.84004	40.30763	6.84709
CR	52	0.10423	496.70000	132.100	-0.03570	0.23948	0.10893
FE	57	7.39887	123.34000	67.700	2.10147	8.04269	12.05247
K	39	32.57845	4774.48000	238.900	122.41629	-14.95464	-9.72631
MG	24	-1.40775	100.00700	0.000	-0.93238	-3.12225	-0.16863
MN	55	0.32449	90.00300	112.700	0.06783	0.16260	0.74304
NA	23	-73.05442	25297.28700	0.000	-60.98630	-77.99705	-80.17991
TI	47	0.73558	13.33300	178.800	-0.78242	1.53125	1.45793
V	51	0.08889	63.33700	81.700	0.04981	0.04417	0.17269
IN-2	115	795381.17000	0.00000	0.000	829167.27000	783790.50000	773185.74000
IN-3	115	18293.37700	0.00000	0.000	17685.93000	18706.62000	18487.58000
AG	107	0.00001	3.33300	42279.000	-0.00210	-0.00210	0.00422
AS	75	0.19670	20.66700	95.300	0.19773	0.38371	0.00865
CD	111	0.05050	7.33300	42.500	0.07529	0.03781	0.03839
CO	59	0.07063	116.67300	104.000	0.01922	0.03793	0.15474
CU	63	0.33851	796.73700	22.600	0.40392	0.25450	0.35712
MO	98	0.01005	133.34300	477.600	0.05448	-0.04084	0.01651
NI	60	0.13941	176.67700	15.400	0.16169	0.13755	0.11900
SE	78	0.01498	13.77700	147.100	0.01982	0.03420	-0.00907
SN	120	2.22064	663.38700	21.000	1.89173	2.75508	2.01511
SR	88	0.05282	6.66700	173.200	0.15845	0.00000	0.00000
ZN	66	0.84004	120.00700	88.800	1.40436	-0.00585	1.12161
B0 -3	159	119833.18700	0.00000	0.000	115800.86000	120778.23000	122920.47000
BA	137	0.00197	6.66700	7930.500	0.18201	-0.08806	-0.08806
PB	208	2.56155	10238.92300	4.500	2.64438	2.61147	2.42880
SB	121	0.18395	66.67000	79.300	0.16791	0.04670	0.33724
TL	203	0.04745	60.00300	76.900	0.06640	0.00538	0.07056
0 I-3	209	101289.16000	0.00000	0.000	98147.74000	101242.31000	104477.43000
U	238	0.02337	116.67300	68.500	0.00792	0.02232	0.03987
SC-2	45	980406.05000	0.00000	0.000	1031404	977642.17000	932172.25000
GE-1	72	2440493	0	0.000	2450774	2450917	2419788
GE-2	72	1777682	0	0.000	1816821	1751660	1764566
GE-3	72	66244.04300	0.00000	0.000	63933.66000	64776.69000	70021.78000

Run Name: 1831608E05
Tube Number: 46
Sample Number: **9872T64**

Date/Time: 11/12/2018 22:14:33
Batch: 183041063701A
Class: **********

Initial Vol: 1.33 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2655874	0	0.000	2695822	2666474	2605326
SC-3	45	19378.01000	0.00000	0.000	18523.44000	19094.14000	20516.45000
AL	27	26550.85910	201885.16000	3.700	27304.88147	26892.83646	25454.85939
B	11	115.82960	71781.38700	1.300	114.14374	116.56852	116.77656
BE	9	2.48511	3075.70300	2.900	2.52857	2.40101	2.52575
CA	44	84834.88880	75998.00300	2.100	86397.77935	85260.62277	82846.26427
CR	52	1255.99502	822690.48000	3.200	1291.20062	1264.91552	1211.86892
FE	57	372574.73069	4066885.35700	3.800	382850.85041	378305.67948	356567.66217
K	39	6204.54608	101060.77000	4.900	6371.91045	6389.97908	5851.74871
MG	24	11668.36647	411097.62300	3.600	11846.44412	11966.88249	11191.77281
MN	55	2259.26798	402549.77700	2.800	2313.87028	2273.88548	2190.04818
NA	23	4146.95297	365865.68300	4.700	4236.12156	4281.84145	3922.89590
TI	47	1487.86411	12696.51700	8.000	1592.56762	1511.70471	1359.31999
V	51	136.11414	69627.91000	4.400	138.58436	140.45386	129.30420
IN-2	115	821450.10000	0.00000	0.000	837075.63000	817783.64000	809491.03000
IN-3	115	16287.62700	0.00000	0.000	16459.43000	15854.37000	16549.08000
AG	107	30.18142	42108.73700	1.600	29.63756	30.34737	30.55933
AS	75	124.33795	7481.45700	2.500	124.75415	127.19507	121.06464
CD	111	41.78196	4442.78300	2.000	40.85336	42.49020	42.00232
CO	59	63.38936	81666.49000	2.600	61.57367	64.88762	63.70681
CU	63	10451.51613	11511398.99700	2.700	10198.48949	10750.15659	10405.90230
MO	98	63.92360	40523.49000	5.200	60.07485	66.18563	65.51032
NI	60	462.96293	173522.08000	3.200	450.24135	479.25680	459.39063
SE	78	11.79976	2451.34300	3.900	11.62071	11.45254	12.32602
SN	120	1687.08925	422372.01300	3.500	1618.66208	1729.78840	1712.81726
SR	88	529.66599	61533.60700	5.800	495.35745	555.37275	538.26777
ZN	66	23121.52876	1995180.65000	3.600	22303.60436	23953.73052	23107.25141
B0 -3	159	118331.13000	0.00000	0.000	115913.01000	119211.94000	119868.44000
BA	137	5073.62029	384009.99700	1.800	4998.17332	5045.92072	5176.76685
PB	208	4821.90525	18475128.16700	0.100	4816.23100	4827.12338	4822.36138
SB	121	48.41499	12766.85000	2.700	48.61223	47.00104	49.63169
TL	203	1.14646	1356.81000	12.000	1.04469	1.09150	1.30318
0 I-3	209	108325.15700	0.00000	0.000	106253.15000	108451.29000	110271.03000
U	238	2.76775	14138.92000	1.900	2.82504	2.75802	2.72019
SC-2	45	1132437	0	0.000	1147334	1130569	1119408
GE-1	72	2423173	0	0.000	2440039	2414341	2415138
GE-2	72	1890374	0	0.000	1916932	1890211	1863981
GE-3	72	64856.97300	0.00000	0.000	62013.65000	66514.59000	66042.68000

Run Name: 1831608E05
Tube Number: 47
Sample Number: **9872T65**

Date/Time: 11/12/2018 22:16:55
Batch: 183041063701A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2682965	0	0.000	2696819	2660203	2691873
SC-3	45	19491.47000	0.00000	0.000	18873.80000	18984.05000	20616.56000
AL	27	52354.67826	400362.99000	4.500	52614.71354	54579.32427	49869.99697
B	11	95.92855	60777.58700	1.600	96.44275	97.15333	94.18958
BE	9	3.45107	4306.69300	3.100	3.46813	3.54859	3.33649
CA	44	83499.15623	75244.66000	2.400	83529.40396	85515.37265	81452.69207
CR	52	588.23339	387869.56300	2.900	592.56379	602.84468	569.29170
FE	57	161015.47482	1768662.68000	2.800	162394.17976	164677.29264	155974.95206
K	39	6617.83131	108254.24700	2.400	6559.09348	6800.61228	6493.78818
MG	24	20252.65151	717645.64000	3.400	20462.92491	20820.30233	19474.72728
MN	55	1764.25668	316133.91300	4.200	1764.96840	1838.52583	1689.27579
NA	23	3818.94785	341485.80000	3.900	3858.34419	3943.09957	3655.39978
TI	47	1324.96667	11398.59000	3.200	1305.86795	1373.52490	1295.50717
V	51	195.02484	100427.17000	1.600	197.46728	196.14215	191.46508
IN-2	115	809118.49000	0.00000	0.000	827162.00000	811966.01000	788227.46000
IN-3	115	17099.64000	0.00000	0.000	16566.66000	17336.35000	17395.91000
AG	107	141.77634	207618.43300	1.200	143.77173	140.82913	140.72817
AS	75	39.28431	2487.59300	1.300	38.77184	39.79585	39.28525
CD	111	67.49742	7538.21300	2.500	66.15804	66.91593	69.41830
CO	59	41.06459	55544.77300	1.800	41.91265	40.57869	40.70244
CU	63	7922.11957	9161995.07300	1.800	8035.98241	7759.31000	7971.06628
MO	98	7.93411	5384.70300	3.100	8.10953	7.65246	8.04035
NI	60	674.96411	265596.20700	1.500	686.07574	666.46410	672.35250
SE	78	12.74973	2608.26000	1.700	12.72098	12.54915	12.97908
SN	120	1296.64453	340873.94000	2.000	1307.51148	1267.50261	1314.91950
SR	88	791.76079	96633.46700	0.800	786.70957	789.87380	798.69901
ZN	66	17493.78029	1585501.58700	0.200	17518.21756	17444.68142	17518.44189
B0 -3	159	122319.01000	0.00000	0.000	120800.66000	120756.46000	125399.91000
BA	137	3754.67625	293712.24700	1.800	3686.23934	3819.91117	3757.87824
PB	208	2602.65481	10308232.51000	1.700	2558.66777	2644.97303	2604.32362
SB	121	16.38423	4477.70700	3.200	15.85910	16.90724	16.38635
TL	203	1.28586	1570.19300	10.200	1.18510	1.43489	1.23758
0 I-3	209	550852.27000	0.00000	0.000	533903.86000	552334.29000	566318.66000
U	238	2.23848	58136.21300	2.700	2.30446	2.22639	2.18458
SC-2	45	1058251	0	0.000	1078795	1070354	1025605
GE-1	72	2448695	0	0.000	2449942	2450258	2445886
GE-2	72	1839854	0	0.000	1878359	1844551	1796653
GE-3	72	65744.98300	0.00000	0.000	63833.23000	65801.65000	67600.07000

Run Name: 1831608E05
Tube Number: 48
Sample Number: **9874411**

Date/Time: 11/12/2018 22:19:17
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2848510	0	0.000	2853683	2870830	2821017
SC-3	45	20272.63300	0.00000	0.000	19835.34000	20045.74000	20936.82000
AL	27	40788.52936	324817.75700	0.800	40856.12793	41055.18584	40454.27432
B	11	42.73146	31208.56000	1.300	43.37254	42.30602	42.51582
BE	9	2.81958	3740.53700	2.400	2.79055	2.89570	2.77250
CA	44	4618.65972	4334.23700	1.300	4683.12923	4612.34667	4560.50328
CR	52	205.05447	141071.28700	0.900	203.82944	204.14399	207.18999
FE	57	108975.02452	1245895.24000	1.000	109486.28703	109712.21220	107726.57431
K	39	5546.93397	95131.87000	1.700	5653.90829	5485.05974	5501.83388
MG	24	13292.63297	490446.10000	0.500	13365.85680	13276.28745	13235.75466
MN	55	753.71301	140631.08700	0.900	759.80569	754.67014	746.66320
NA	23	386.15754	65347.96300	1.100	383.46184	390.87290	384.13788
TI	47	1781.76922	15950.00700	1.000	1797.08083	1761.25217	1786.97467
V	51	128.65040	68958.17000	1.300	128.81864	126.86264	130.26991
IN-2	115	818919.49700	0.00000	0.000	827966.01000	822137.86000	806654.62000
IN-3	115	18320.93300	0.00000	0.000	17865.68000	18689.75000	18407.37000
AG	107	0.09333	150.00700	88.100	0.05018	0.04163	0.18818
AS	75	16.90935	1151.39700	1.400	16.71962	17.16606	16.84237
CD	111	0.18463	23.33300	55.900	0.21161	0.07064	0.27163
CO	59	63.12820	91491.97000	1.700	63.68921	61.90892	63.78648
CU	63	122.93630	152714.52300	4.900	121.94998	117.47018	129.38875
MO	98	2.73906	2076.95300	9.700	2.50314	2.68810	3.02596
NI	60	527.12347	222260.58300	2.300	533.68642	513.35282	534.33117
SE	78	0.35245	83.77700	6.300	0.37484	0.35213	0.33038
SN	120	12.94179	3684.08000	11.500	11.92200	12.26085	14.64253
SR	88	35.58743	4651.05000	12.800	34.98696	31.34474	40.43059
ZN	66	165.69665	16133.85700	6.200	158.83459	160.81008	177.44528
B0 -3	159	121252.17700	0.00000	0.000	119223.08000	119606.99000	124926.46000
BA	137	129.40519	10037.77300	3.300	134.41087	126.91199	126.89271
PB	208	56.41879	221861.73700	1.400	55.70161	56.28432	57.27044
SB	121	0.64261	190.01300	52.000	0.50047	1.02465	0.40272
TL	203	0.55654	676.72300	11.400	0.58631	0.48373	0.59957
0 I-3	209	104193.44000	0.00000	0.000	100465.21000	106324.77000	105790.34000
U	238	6.15721	30245.39300	1.800	6.28673	6.07411	6.11079
SC-2	45	1123667	0	0.000	1175085	1118594	1077321
GE-1	72	2452001	0	0.000	2423714	2508719	2423571
GE-2	72	1833095	0	0.000	1887321	1823408	1788555
GE-3	72	64656.54700	0.00000	0.000	62757.79000	64686.17000	66525.68000

Run Name: 1831608E05
Tube Number: 49
Sample Number: **9874411**

Date/Time: 11/12/2018 22:21:41
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2634096	0	0.000	2676117	2577803	2648370
SC-3	45	19775.15000	0.00000	0.000	19264.12000	19985.55000	20075.78000
AL	27	16528.99113	128435.69700	0.600	16567.90322	16423.49375	16595.57642
B	11	23.64771	17804.69000	2.400	24.01567	23.93378	22.99367
BE	9	1.11819	1384.08300	9.400	1.22343	1.11820	1.01293
CA	44	1624.29969	1490.16300	6.200	1578.46261	1553.81425	1740.62222
CR	52	83.03153	55965.65700	0.700	83.67018	82.52971	82.89469
FE	57	43677.35888	487276.32000	0.900	43295.12408	43636.16658	44100.78598
K	39	2200.70164	39457.95300	4.200	2297.45650	2115.54597	2189.10247
MG	24	5223.12207	188129.76300	1.600	5147.78294	5205.84491	5315.73835
MN	55	299.47784	54536.98700	0.800	298.11776	302.14263	298.17312
NA	23	111.36782	41085.36000	9.700	112.19529	100.18726	121.72091
TI	47	737.33173	6445.25300	4.100	714.50412	726.09916	771.39190
V	51	51.13339	26747.20300	1.500	50.25888	51.38416	51.75713
IN-2	115	812957.78700	0.00000	0.000	826977.06000	822713.66000	789182.64000
IN-3	115	18025.50700	0.00000	0.000	17535.01000	18064.17000	18477.34000
AG	107	0.04539	73.34000	29.200	0.05117	0.03022	0.05477
AS	75	6.83723	462.67700	5.800	6.37875	7.08830	7.04463
CD	111	0.03974	6.00000	74.400	0.05857	0.00564	0.05500
CO	59	25.22083	35965.69700	2.100	25.81891	24.98505	24.85855
CU	63	47.21799	57935.15700	1.400	47.74017	47.45069	46.46312
MO	98	1.00020	826.74300	20.200	0.92313	0.84807	1.22939
NI	60	212.15278	88092.37700	2.700	210.93979	218.43486	207.08368
SE	78	0.09768	31.11000	45.000	0.14169	0.09762	0.05373
SN	120	5.83427	1653.52700	1.900	5.80457	5.73868	5.95956
SR	88	15.64132	2010.25300	6.400	16.78304	14.97244	15.16848
ZN	66	66.74578	6418.51000	2.400	64.91978	67.39496	67.92262
B0 -3	159	119909.08300	0.00000	0.000	117327.90000	119705.92000	122693.43000
BA	137	53.95937	4147.61000	6.100	50.16824	55.83501	55.87487
PB	208	22.70566	88448.67000	1.000	22.95806	22.67089	22.48803
SB	121	0.22117	76.67300	53.100	0.08828	0.31050	0.26473
TL	203	0.20622	250.01700	21.000	0.22802	0.15636	0.23428
0 I-3	209	105356.71700	0.00000	0.000	102754.11000	105287.08000	108028.96000
U	238	2.49583	12396.95700	6.200	2.65475	2.34689	2.48584
SC-2	45	1041617	0	0.000	1078740	1050065	996045.84000
GE-1	72	2438983	0	0.000	2479094	2371416	2466439
GE-2	72	1847075	0	0.000	1870735	1835846	1834646
GE-3	72	66293.94000	0.00000	0.000	63269.33000	66846.90000	68765.59000

Run Name: 1831608E05
Tube Number: 50
Sample Number: **9874412**

Date/Time: 11/12/2018 22:24:05
Batch: 183041063701A
Class: **********

Initial Vol: 1.14 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2721727	0	0.000	2795002	2698655	2671525
SC-3	45	20339.43700	0.00000	0.000	20206.04000	20195.64000	20616.63000
AL	27	30099.26112	240556.18300	4.000	28728.66794	30878.79874	30690.31669
B	11	118.84376	75351.09000	2.200	116.46239	118.51857	121.55032
BE	9	3.24587	4110.64000	0.900	3.24371	3.21759	3.27630
CA	44	84901.51457	79903.91700	2.300	82934.71214	84907.26176	86862.56981
CR	52	288.25023	198752.36000	1.800	282.44716	292.31732	289.98621
FE	57	149543.19886	1715625.33700	0.600	148755.21436	150483.58353	149390.79870
K	39	7198.78354	122549.23700	1.600	7063.54198	7275.51235	7257.29629
MG	24	9799.09091	362843.02700	2.300	9542.10744	9921.95924	9933.20603
MN	55	1431.16579	267938.00700	2.200	1396.15715	1458.10362	1439.23661
NA	23	6168.15218	556041.77700	1.700	6050.37394	6204.68962	6249.39298
TI	47	1303.51904	11708.90000	4.000	1251.14089	1356.21860	1303.19764
V	51	237.60265	127744.90300	0.600	236.34795	237.37579	239.08421
IN-2	115	816571.54000	0.00000	0.000	814270.71000	824470.68000	810973.23000
IN-3	115	17999.34000	0.00000	0.000	17916.37000	17277.82000	18803.83000
AG	107	33.97206	52318.47300	4.700	33.26242	35.80798	32.84580
AS	75	79.31549	5273.74000	3.600	77.81886	82.64358	77.48404
CD	111	11.14619	1310.74700	5.200	10.48882	11.60400	11.34576
CO	59	42.14432	59910.77700	7.700	40.50454	45.89740	40.03102
CU	63	1208.95840	1470426.80000	5.400	1176.83237	1283.77452	1166.26830
MO	98	19.99457	14091.45000	2.300	20.37504	20.13506	19.47360
NI	60	201.86056	83580.91000	5.600	203.41985	212.26376	189.89805
SE	78	7.69140	1592.32000	3.400	7.78549	7.39952	7.88919
SN	120	386.62417	106949.44700	3.100	379.09038	400.57666	380.20547
SR	88	563.04293	72277.02300	4.100	542.77095	588.51853	557.83929
ZN	66	2916.17377	277990.12000	4.500	2822.03619	3064.94383	2861.54130
B0 -3	159	121370.75000	0.00000	0.000	118930.27000	121052.63000	124129.35000
BA	137	3158.03899	245159.52000	2.100	3089.45769	3219.32475	3165.33455
PB	208	3019.18786	11864217.99700	1.300	3011.01001	3061.19889	2985.35468
SB	121	37.11542	10040.96000	3.400	36.71271	38.51952	36.11404
TL	203	0.82493	1000.09700	8.300	0.88312	0.84270	0.74898
0 I-3	209	113930.32300	0.00000	0.000	110367.44000	116483.08000	114940.45000
U	238	2.64903	14242.55700	3.300	2.59471	2.75008	2.60230
SC-2	45	1067819	0	0.000	1081110	1083412	1038936
GE-1	72	2403578	0	0.000	2393975	2423026	2393732
GE-2	72	1807384	0	0.000	1827628	1819969	1774557
GE-3	72	66240.46300	0.00000	0.000	64275.08000	66514.46000	67931.85000

Run Name: 1831608E05
Tube Number: 51
Sample Number: **9874413**

Date/Time: 11/12/2018 22:26:27
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2706999	0	0.000	2731309	2734851	2654838
SC-3	45	20155.85300	0.00000	0.000	19655.06000	20536.62000	20275.88000
AL	27	14487.24099	114711.59000	4.100	14632.93439	13838.53436	14990.25423
B	11	41.40641	28866.18700	2.000	41.81261	40.46937	41.93724
BE	9	1.86035	2350.22300	9.600	1.66817	1.89349	2.01939
CA	44	46675.45661	43510.80000	3.900	47417.39526	44579.02817	48029.94638
CR	52	99.52072	68265.84000	2.500	101.82007	96.91504	99.82706
FE	57	73327.14043	833609.59700	1.200	73508.66377	72397.14431	74075.61322
K	39	1835.34350	34300.67300	0.800	1833.63208	1822.39641	1850.00200
MG	24	3568.70321	131001.03000	2.100	3629.72628	3484.88330	3591.50005
MN	55	570.78301	105891.61700	1.400	577.31232	562.27858	572.75813
NA	23	873.87935	105971.65000	2.200	877.51851	891.01127	853.10825
TI	47	810.82147	7222.33700	6.500	776.38749	784.97261	871.10430
V	51	404.54828	215484.70000	2.100	406.58304	395.30076	411.76105
IN-2	115	832364.88300	0.00000	0.000	848464.87000	840010.32000	808619.46000
IN-3	115	17683.40000	0.00000	0.000	16682.67000	17750.72000	18616.81000
AG	107	18.32065	27730.42000	2.300	18.80039	18.18967	17.97189
AS	75	64.68498	4228.70700	1.100	65.39279	64.74823	63.91390
CD	111	9.41447	1088.72000	3.500	9.41029	9.08503	9.74809
CO	59	27.71976	38700.18700	6.400	29.53202	27.64768	25.97958
CU	63	710.77100	849343.42700	4.000	742.01123	704.63212	685.66966
MO	98	21.43935	14849.06300	1.300	21.26134	21.30801	21.74870
NI	60	192.31892	78283.78700	2.700	197.57426	192.31643	187.06607
SE	78	9.86003	2079.05700	4.700	10.39986	9.57832	9.60190
SN	120	250.54554	68081.45700	3.300	255.50216	255.03890	241.09554
SR	88	342.54028	43211.68300	1.100	346.76442	341.64911	339.20731
ZN	66	9639.03547	902494.83000	3.000	9920.33890	9645.86310	9350.90442
B0 -3	159	121786.78300	0.00000	0.000	120980.08000	123007.56000	121372.71000
BA	137	1461.69756	113849.08300	3.600	1414.34667	1453.34284	1517.40315
PB	208	2405.88216	9487108.50300	1.000	2395.50274	2387.58741	2434.55632
SB	121	33.51060	9100.33700	3.200	32.44701	33.51976	34.56504
TL	203	1.74860	2126.95700	11.700	1.52349	1.92263	1.79969
0 I-3	209	112706.91000	0.00000	0.000	108239.55000	115838.75000	114042.43000
U	238	1.92845	10244.83000	4.700	2.02207	1.92419	1.83910
SC-2	45	1051383	0	0.000	1100706	1064882	988559.52000
GE-1	72	2479080	0	0.000	2535892	2475984	2425363
GE-2	72	1845789	0	0.000	1889665	1855266	1792437
GE-3	72	65494.11000	0.00000	0.000	63119.69000	67259.35000	66103.29000

Run Name: 1831608E05 Date/Time: 11/12/2018 22:28:50
Tube Number: 52
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2612345	0	0.000	2662197	2639790	2535048
SC-3	45	19508.21700	0.00000	0.000	19474.93000	19154.26000	19895.46000
AL	27	2517.79471	19334.37300	3.500	2417.30494	2581.62550	2554.45369
B	11	263.21313	155193.87700	3.200	255.98041	261.07375	272.58524
BE	9	26.19570	31693.64000	2.400	26.24856	25.55482	26.78373
CA	44	2331.26086	2110.29300	10.800	2282.92557	2106.74600	2604.11100
CR	52	264.92942	175239.18300	1.900	259.26178	267.65714	267.86934
FE	57	2592.40145	28578.20300	3.300	2569.99006	2519.29191	2687.92240
K	39	2556.09365	44533.85300	1.000	2528.45631	2564.31933	2575.50530
MG	24	2530.82440	90002.51300	1.600	2508.36984	2506.53863	2577.56473
MN	55	263.59773	47363.88000	1.400	261.34982	261.56996	267.87341
NA	23	2468.82139	232303.93700	2.300	2407.88932	2517.56643	2481.00841
TI	47	265.31165	2286.96000	14.600	262.17379	305.61975	228.14142
V	51	264.52406	136380.07300	2.900	256.67385	271.90056	264.99778
IN-2	115	824608.17300	0.00000	0.000	842680.11000	824467.34000	806677.07000
IN-3	115	18537.36000	0.00000	0.000	16769.33000	19316.82000	19525.93000
AG	107	26.19809	41426.30300	8.500	28.58679	24.17330	25.83420
AS	75	261.30496	17843.21000	5.100	276.47318	252.07083	255.37089
CD	111	26.92659	3255.10000	2.900	27.70761	26.93937	26.13280
CO	59	258.17846	377138.34000	7.200	279.55613	246.44112	248.53814
CU	63	262.62989	328526.64300	6.500	282.47039	252.39375	253.02553
MO	98	25.70145	18533.99300	10.400	28.51697	23.19687	25.39050
NI	60	264.22584	112494.91700	5.100	279.86208	257.72890	255.08654
SE	78	25.34710	5274.82000	0.600	25.48947	25.19288	25.35895
SN	120	27.79684	7929.50300	6.800	29.97876	26.88417	26.52760
SR	88	25.02720	3313.89700	4.400	24.65321	24.15933	26.26907
ZN	66	265.85474	26096.39300	4.700	279.89831	255.65223	262.01369
B0 -3	159	119236.21700	0.00000	0.000	116033.40000	119404.53000	122270.72000
BA	137	259.47551	19796.30300	4.100	261.69981	247.88444	268.84228
PB	208	28.53256	110519.81000	3.300	27.86339	28.10992	29.62438
SB	121	27.31526	7262.37000	3.000	27.74887	27.82971	26.36721
TL	203	25.82200	30675.84000	2.900	26.00904	26.45416	25.00279
0 I-3	209	105463.38300	0.00000	0.000	101604.97000	105738.80000	109046.38000
U	238	25.08935	124781.33300	1.300	25.26675	24.71005	25.29124
SC-2	45	1006375	0	0.000	1053593	1014937	950595.85000
GE-1	72	2375238	0	0.000	2380675	2376132	2368908
GE-2	72	1763595	0	0.000	1814171	1750217	1726397
GE-3	72	64224.75000	0.00000	0.000	60687.98000	63289.80000	68696.47000

Run Name: 1831608E05 Date/Time: 11/12/2018 22:31:14
Tube Number: 53
Sample Number: **CC0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INBEGRABIONS #1	#2	#3
SC-1	45	2579858	0	0.000	2601089	2590528	2547957
SC-3	45	19758.29700	0.00000	0.000	19464.66000	19454.46000	20355.77000
AL	27	2.05095	56.67300	260.500	1.21536	7.76155	-2.82406
B	11	30.52439	21343.56300	4.200	31.99313	29.83192	29.74813
BE	9	-0.00183	17.33300	0.000	-0.00971	0.00532	-0.00110
CA	44	14.34841	16.66700	42.900	7.26516	18.38201	17.39807
CR	52	0.12332	516.70700	74.300	0.21461	0.12388	0.03146
FE	57	5.80556	106.67300	50.600	2.64953	6.29907	8.46807
K	39	27.37742	4827.84000	48.700	31.93648	37.83931	12.35646
MG	24	-2.77985	53.33700	0.000	-3.11530	-3.67970	-1.54454
MN	55	0.32161	90.00700	75.300	0.38800	0.05313	0.52370
NA	23	-70.43811	26055.29000	0.000	-69.41749	-59.99652	-81.90031
TI	47	0.36479	10.00000	8.100	0.38157	0.38218	0.33062
V	51	0.15146	96.67300	50.100	0.06409	0.20031	0.18997
IN-2	115	809566.03000	0.00000	0.000	818573.76000	812774.99000	797349.34000
IN-3	115	19678.06700	0.00000	0.000	20111.72000	19100.14000	19822.34000
AG	107	0.01753	33.33300	84.100	0.01532	0.00402	0.03324
AS	75	0.14826	18.66700	107.600	0.02612	0.08997	0.32868
CD	111	-0.00109	1.33300	0.000	0.00391	-0.01132	0.00413
CO	59	0.07220	126.67700	93.500	0.00948	0.06343	0.14369
CU	63	0.18040	650.05300	50.800	0.20059	0.08039	0.26021
MO	98	-0.03888	106.67700	0.000	-0.02485	-0.03020	-0.06159
NI	60	0.09642	170.01000	93.900	0.02189	0.19720	0.07016
SE	78	0.00204	11.33300	350.200	0.00136	-0.00474	0.00950
SN	120	1.16234	390.03000	34.100	0.70976	1.33326	1.44401
SR	88	0.04679	6.66700	86.600	0.06967	0.00000	0.07069
ZN	66	0.92726	140.00700	44.900	0.99798	0.47974	1.30407
B0 -3	159	119321.26300	0.00000	0.000	117791.38000	118930.25000	121242.16000
BA	137	0.12900	16.66700	114.000	0.04470	0.04342	0.29887
PB	208	1.35284	5534.15700	4.600	1.28435	1.40377	1.37040
SB	121	0.34943	110.01000	28.700	0.43104	0.23738	0.37986
TL	203	0.04757	60.00300	31.000	0.03967	0.06458	0.03846
0 I-3	209	103625.46300	0.00000	0.000	101424.86000	102492.01000	106959.52000
U	238	0.02161	110.00700	50.200	0.00973	0.02411	0.03100
SC-2	45	991623.60700	0.00000	0.000	1032825	1002143	939903.19000
GE-1	72	2431029	0	0.000	2466496	2430537	2396053
GE-2	72	1831529	0	0.000	1868555	1827639	1798393
GE-3	72	66646.43000	0.00000	0.000	65108.70000	67993.01000	66837.58000

US EPA Tune Check Report

Operator Name	US19_USR_INS14259
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time	11/12/2018 6:11:23 PM
Report Comment	ICP-MS #19204 (E05) Daily Tune Check
Instrument Name	G3281A JP12071581

[No Gas]

Sensitivity

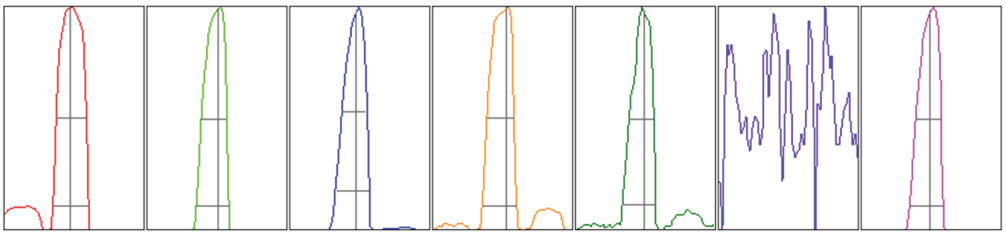
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1614	16142.02			0.946	5.000
89	10.00	10841	108406.70			0.762	5.000
205	10.00	4907	49065.96			0.443	5.000
70	1.00	102	1015.32	0.00		1.545	
156	1.00	27	273.22	0.00		2.065	
220	1.00	1	11.20	0.00		27.808	
140	10.00	9719	97186.67	0.00		0.794	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1626	1616	1618	1624	1588
89	10893	10955	10816	10793	10747
205	4933	4907	4889	4881	4923
70	101	102	104	100	101
156	27	28	27	28	27
220	1	1	1	1	1
140	9855	9672	9692	9677	9697

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2572.58	6.95	6.90 - 7.10	
89	20290.17	89.05	88.90 - 89.10	
205	9265.27	204.95	204.90 - 205.10	
70	177.47	70.10	-	
156	53.60	156.00	-	
220			-	
140	18418.63	140.00	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.66	0.766	0.800	
89	0.55	0.706	0.800	
205	0.53	0.723	0.800	
70	0.59	0.744		
156	0.52	0.711		
220				
140	0.55	0.727		

Integration Time [sec]	0.1
Acquisition Time [sec]	260.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.9 V	Deflect	14.6 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-95 V	Cell Exit	-59 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	180 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9987	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.02		

Hardware Settings

Torch

Torch H	1.0 mm	Torch V	-1.3 mm

EM

Discriminator	4.5 mV	Analog HV	1749 V	Pulse HV	1253 V

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 18K14G00.E05

Run Name: 1831807E05

Analyst: 3472

Reviewed By:	Reviewed Date
Bradley M Berlot	11/14/2018 19:52

Verified By:	Verified Date
Deborah A Krady	11/15/2018 17:14
Parker D Lindstrom	11/21/2018 17:31

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	BE	9
	B	11
SC-3		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-2		115
	SE	78
IN-3		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-3		209
	TL	203
	PB	208
	U	238

Run Name: 1831807E05 Date/Time: 11/14/2018 15:12:15
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
BE	9	0.00000	17.33300	0.000	-0.01134	0.00594	0.00540
B	11	0.00000	7853.58700	0.000	-1.39863	0.96659	0.43205
NA	23	0.00000	40426.57000	0.000	38.80176	3.50797	-42.30973
MG	24	0.00000	96.67000	0.000	2.69434	-1.79078	-0.90356
AL	27	0.00000	36.66700	0.000	0.95024	-3.77210	2.82185
K	39	0.00000	3657.35000	0.000	-13.39044	-14.99442	28.38486
CA	44	0.00000	13.33300	0.000	-5.66036	12.02861	-6.36825
SC-1	45	1633292	0	0.000	1680328	1598872	1620675
SC-2	45	536513.01300	0.00000	0.000	534239.21000	537074.45000	538225.38000
SC-3	45	12476.34300	0.00000	0.000	12236.13000	12466.27000	12726.63000
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	13.33300	0.000	-0.00918	-0.04030	0.04948
CR	52	0.00000	503.37300	0.000	0.11039	-0.00834	-0.10206
MN	55	0.00000	36.66700	0.000	0.03501	-0.05664	0.02163
FE	57	0.00000	36.67000	0.000	-0.82318	-5.20013	6.02331
CO	59	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
NI	60	0.00000	83.33700	0.000	0.04044	-0.08340	0.04296
CU	63	0.00000	526.70700	0.000	0.06316	-0.09653	0.03337
ZN	66	0.00000	13.33300	0.000	-0.04115	0.09710	-0.05595
GE-1	72	1831317	0	0.000	1850285	1816544	1827122
GE-2	72	1108477	0	0.000	1102283	1118640	1104507
GE-3	72	46003.73000	0.00000	0.000	45458.69000	45197.56000	47354.94000
AS	75	0.00000	13.33300	0.000	-0.05747	-0.11581	0.17328
SE	78	0.00000	7.55700	0.000	0.02021	0.00303	-0.02324
SR	88	0.00000	10.00000	0.000	-0.10097	-0.10097	0.20193
MO	98	0.00000	73.33700	0.000	-0.03839	-0.00663	0.04501
AG	107	0.00000	10.00000	0.000	-0.00863	0.01725	-0.00863
CD	111	0.00000	0.66700	0.000	0.01630	-0.00815	-0.00815
IN-2	115	530617.98300	0.00000	0.000	530269.34000	536277.73000	525306.88000
IN-3	115	13380.51300	0.00000	0.000	12656.46000	13527.42000	13957.66000
SN	120	0.00000	46.67000	0.000	-0.07112	0.20201	-0.13089
SB	121	0.00000	20.00000	0.000	0.00467	0.09956	-0.10424
BA	137	0.00000	6.66700	0.000	-0.12076	-0.12076	0.24152
TB-3	159	81601.96300	0.00000	0.000	78552.06000	81833.91000	84419.92000
TL	203	0.00000	20.00000	0.000	-0.02506	0.02558	-0.00052
PB	208	0.00000	100.00000	0.000	-0.00043	0.00867	-0.00824
BI-3	209	69147.80300	0.00000	0.000	69758.42000	67756.68000	69928.31000
U	238	0.00000	16.66700	0.000	0.00426	0.00121	-0.00547

Run Name: 1831807E05 Date/Time: 11/14/2018 15:14:56
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1663589	0	0.000	1673437	1665450	1651882
SC-3	45	12980.24000	0.00000	0.000	12176.16000	13537.40000	13227.16000
AL	27	10000.00000	45707.27700	5.300	10605.44769	9647.46121	9747.09110
B	11	1000.00000	242010.48300	1.100	988.29669	1009.68570	1002.01761
BE	9	100.00000	51674.18300	0.400	100.13108	100.36755	99.50137
CA	44	10000.00000	5788.15300	1.700	10111.63953	10089.08455	9799.27592
CR	52	1000.00000	439997.40000	4.700	1031.06334	945.70242	1023.23424
FE	57	10000.00000	72618.66300	4.900	10519.11535	9548.41101	9932.47364
K	39	10000.00000	101638.77700	5.100	10510.90224	9487.93657	10001.16119
MG	24	10000.00000	215451.57300	2.000	10225.94273	9838.74090	9935.31637
MN	55	1000.00000	122046.26300	3.300	1033.04861	967.46524	999.48615
NA	23	10000.00000	522390.60300	5.100	10532.70709	9516.50646	9950.78645
TI	47	1000.00000	5824.92000	5.700	968.92146	965.42770	1065.65085
V	51	1000.00000	340286.03700	4.500	1048.05072	958.97147	992.97781
IN-2	115	534239.16300	0.00000	0.000	541236.51000	538485.22000	522995.76000
IN-3	115	13423.11300	0.00000	0.000	13318.62000	13035.38000	13915.34000
AG	107	100.00000	114933.25000	4.400	100.33035	104.23522	95.43442
AS	75	1000.00000	45726.40300	2.800	975.72398	1029.87236	994.40366
BA	137	1000.00000	53080.61000	1.600	996.24543	1017.72726	986.02731
CD	111	100.00000	8668.92300	2.900	98.86793	103.32113	97.81094
CO	59	1000.00000	979098.73700	3.200	993.46341	1034.99856	971.53803
CU	63	1000.00000	856556.70700	3.300	994.15957	1035.38010	970.46033
MO	98	100.00000	51786.31000	2.500	101.58670	101.33949	97.07381
NI	60	1000.00000	289882.72700	3.300	990.59601	1037.15393	972.25006
SB	121	100.00000	19485.51700	4.500	96.27378	104.93520	98.79103
SE	78	100.00000	12260.67300	1.000	99.30921	99.57907	101.11172
SN	120	100.00000	21084.61000	3.100	100.01364	103.12289	96.86348
SR	88	100.00000	9530.68300	3.000	97.81317	103.40267	98.78416
ZN	66	1000.00000	66816.61000	2.000	1005.58468	1016.29923	978.11609
BI-3	209	71500.85000	0.00000	0.000	72090.76000	70199.45000	72212.34000
PB	208	100.00000	265293.25000	2.400	97.92944	102.57862	99.49193
TL	203	100.00000	83339.97700	4.400	95.37312	104.00826	100.61862
U	238	100.00000	316158.48300	2.600	97.29156	102.44328	100.26516
SC-2	45	539159.48300	0.00000	0.000	539171.63000	547492.26000	530814.56000
GE-1	72	1784405	0	0.000	1772370	1788502	1792344
GE-2	72	1095106	0	0.000	1087729	1097481	1100109
GE-3	72	46104.00700	0.00000	0.000	43912.12000	46000.16000	48399.74000
TB-3	159	85782.09700	0.00000	0.000	85193.67000	83343.89000	88808.73000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:17:35
Tube Number: 3
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1667267	0	0.000	1660051	1660941	1680811
SC-3	45	12709.95700	0.00000	0.000	12266.22000	13096.96000	12766.69000
AL	27	5141.44466	23060.03000	2.800	5257.53671	4982.16962	5184.62766
B	11	601.32952	149038.79000	1.900	609.69152	606.05545	588.24159
BE	9	50.23284	26022.72000	0.400	50.38684	50.32488	49.98680
CA	44	4808.09809	2727.09000	9.500	5290.21379	4386.75203	4747.32845
CR	52	507.99099	219296.84700	2.000	517.86291	497.63449	508.47558
FE	57	5085.66564	36246.49700	1.500	5037.15389	5046.75328	5173.08975
K	39	4871.23267	50453.85300	1.900	4955.39682	4771.80232	4886.49888
MG	24	5009.45256	105744.75000	2.800	5155.86945	4877.09594	4995.39229
MN	55	507.60319	60713.18000	2.900	519.60793	490.85919	512.34246
NA	23	4801.59116	267224.76000	4.400	5025.78331	4609.00992	4769.98026
TI	47	473.68833	2703.75000	6.000	445.40463	502.29067	473.36969
V	51	507.07066	169203.55000	1.600	509.04857	498.30969	513.85372
IN-2	115	539145.67300	0.00000	0.000	539476.65000	530501.01000	547459.36000
IN-3	115	12870.31700	0.00000	0.000	13239.94000	12243.98000	13127.03000
AG	107	52.00018	57285.97300	4.900	50.14223	54.88221	50.97611
AS	75	523.79851	22946.24000	5.100	499.92389	552.23607	519.23558
BA	137	512.77236	26070.90000	5.300	489.24843	542.49793	506.57072
CD	111	52.15954	4332.76300	5.800	48.74527	54.58241	53.15094
CO	59	522.45688	490084.65700	5.500	495.13766	552.18250	520.05049
CU	63	529.92221	435186.70000	4.700	507.97290	557.24877	524.54494
MO	98	51.30887	25525.59700	4.000	49.48204	50.95018	53.49439
NI	60	519.53805	144379.91700	4.100	499.20999	541.88327	517.52090
SB	121	51.10496	9554.01300	5.000	48.17309	52.71908	52.42271
SE	78	50.00901	6192.32000	0.200	49.91716	50.05572	50.05416
SN	120	48.68605	9867.56300	2.400	47.33043	49.53063	49.19710
SR	88	52.43867	4791.16300	9.200	46.84924	55.15880	55.30796
ZN	66	534.75766	34224.88000	5.700	514.57230	569.93394	519.76672
BI-3	209	70816.83000	0.00000	0.000	70652.67000	72030.26000	69767.56000
PB	208	49.47803	130067.77700	2.200	48.65666	49.07848	50.69897
TL	203	49.45267	40838.73300	2.000	48.69649	49.11433	50.54719
U	238	49.08615	153707.93000	2.600	48.71619	48.05997	50.48229
SC-2	45	540846.87000	0.00000	0.000	535675.23000	528314.80000	558550.58000
GE-1	72	1780085	0	0.000	1765139	1778825	1796292
GE-2	72	1087944	0	0.000	1089100	1059037	1115694
GE-3	72	44595.33000	0.00000	0.000	45397.88000	44976.91000	43411.20000
TB-3	159	83839.24300	0.00000	0.000	80786.16000	83372.55000	87359.02000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:20:00
Tube Number: 4
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1625660	0	0.000	1652412	1635688	1588882
SC-3	45	11839.01700	0.00000	0.000	12035.94000	11885.66000	11595.45000
AL	27	6.95207	63.33300	133.200	-3.60938	10.77062	13.69496
B	11	77.43471	25536.50700	3.300	80.11804	77.08950	75.09658
BE	9	-0.00258	16.00000	0.000	-0.01875	0.01291	-0.00191
CA	44	1.18413	13.33300	3687.800	-24.02748	51.60735	-24.02748
CR	52	0.37091	626.71000	49.300	0.18102	0.54590	0.38582
FE	57	5.85278	73.33700	12.300	6.66737	5.31391	5.57706
K	39	15.30125	3607.33000	278.900	62.18039	-21.29602	5.01936
MG	24	-1.63419	60.00300	0.000	-3.18840	0.37833	-2.09251
MN	55	-0.13169	20.00000	0.000	-0.22408	-0.13356	-0.03744
NA	23	20.39573	39273.15700	97.200	21.17508	0.19443	39.81768
TI	47	1.24281	6.66700	86.600	1.85250	1.87592	0.00000
V	51	0.16626	63.33700	150.200	0.05463	-0.00826	0.45240
IN-2	115	540730.06300	0.00000	0.000	534437.91000	544935.56000	542816.72000
IN-3	115	12979.40700	0.00000	0.000	12536.22000	13286.21000	13115.79000
AG	107	0.00316	13.33300	323.000	-0.00863	0.00894	0.00917
AS	75	0.22407	22.66700	18.800	0.27258	0.19667	0.20298
BA	137	0.00775	6.66700	2871.600	-0.12076	-0.12076	0.26477
CD	111	0.00795	1.33300	175.600	0.01654	-0.00815	0.01545
CO	59	0.11163	106.67300	65.000	0.04371	0.10313	0.18804
CU	63	-0.07591	450.03300	0.000	-0.15532	-0.02809	-0.04432
MO	98	0.10702	123.34000	143.200	0.14887	-0.06277	0.23497
NI	60	0.30798	166.67700	41.200	0.44979	0.26875	0.20541
SB	121	0.41080	96.67300	53.400	0.55557	0.51832	0.15851
SE	78	0.03275	11.77700	96.300	0.00326	0.06600	0.02899
SN	120	0.84041	216.77700	107.800	0.48986	0.16167	1.86970
SR	88	-0.10097	0.00000	0.000	-0.10097	-0.10097	-0.10097
ZN	66	0.21061	26.66700	79.900	0.12058	0.40483	0.10642
BI-3	209	68649.02300	0.00000	0.000	66631.47000	68822.97000	70492.63000
PB	208	0.00257	106.66700	1064.100	-0.02289	0.03143	-0.00083
TL	203	0.05369	63.33700	49.700	0.03931	0.03726	0.08448
U	238	0.01648	66.67000	29.600	0.01829	0.01096	0.02020
SC-2	45	537460.85000	0.00000	0.000	542547.80000	535991.75000	533843.00000
GE-1	72	1797895	0	0.000	1839594	1787913	1766180
GE-2	72	1119087	0	0.000	1118164	1121150	1117946
GE-3	72	45595.31000	0.00000	0.000	44545.03000	46672.33000	45568.57000
TB-3	159	82669.78700	0.00000	0.000	80909.27000	80948.04000	86152.05000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:22:25
Tube Number: 5
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1691631	0	0.000	1668140	1668187	1738565
SC-3	45	12082.57300	0.00000	0.000	12456.20000	12486.28000	11305.24000
AL	27	456.01467	1970.24300	11.300	408.49531	448.38809	511.16061
B	11	73.30758	25568.57700	5.300	74.77047	76.27062	68.88165
BE	9	0.51444	288.01000	12.300	0.58734	0.47535	0.48065
CA	44	784.24257	433.36700	10.200	806.00514	695.99264	850.72995
CR	52	4.77231	2443.68000	1.300	4.77712	4.83362	4.70619
FE	57	124.00873	870.08000	22.500	92.26671	134.92890	144.83059
K	39	414.99149	7305.65300	16.700	420.37754	343.05302	481.54389
MG	24	116.43181	2423.71300	7.200	109.92670	113.51053	125.85818
MN	55	10.66685	1243.47300	10.900	9.92614	10.07168	12.00274
NA	23	991.85952	83403.85300	12.100	902.80502	943.90031	1128.87322
TI	47	18.20505	96.67000	54.100	12.52996	12.49978	29.58542
V	51	1.15499	380.02700	13.600	1.33569	1.05781	1.07146
IN-2	115	543192.25700	0.00000	0.000	542651.89000	546937.88000	539987.00000
IN-3	115	13342.47000	0.00000	0.000	13372.80000	13672.48000	12982.13000
AG	107	0.44595	520.04000	4.800	0.42769	0.46934	0.44082
AS	75	1.83678	96.66700	2.200	1.86183	1.85761	1.79089
BA	137	3.85389	210.01300	30.100	5.17334	3.39286	2.99545
CD	111	1.13868	98.66700	11.800	1.12604	1.01062	1.27938
CO	59	1.03543	1010.09000	19.000	0.85040	1.24268	1.01320
CU	63	43.18352	37269.32700	4.600	41.98840	42.07683	45.48533
MO	98	2.05395	1126.77700	11.500	2.10972	1.79471	2.25742
NI	60	4.34818	1333.47700	14.400	4.31534	3.74042	4.98878
SB	121	2.50088	503.37300	11.400	2.42137	2.26524	2.81602
SE	78	2.09531	268.89300	9.000	1.98933	2.31329	1.98331
SN	120	2.09737	486.70000	18.300	1.97115	2.52937	1.79159
SR	88	6.85361	660.06300	22.400	5.59015	8.55796	6.41272
ZN	66	19.37087	1300.14700	7.600	17.67463	20.36846	20.06952
BI-3	209	69807.68000	0.00000	0.000	67294.28000	70450.97000	71677.79000
PB	208	3.14655	8254.92300	3.200	3.05788	3.12584	3.25595
TL	203	0.48720	416.70300	16.000	0.47214	0.57166	0.41780
U	238	0.53701	1673.53700	3.500	0.55575	0.53703	0.51827
SC-2	45	541383.14300	0.00000	0.000	546477.22000	538401.63000	539270.58000
GE-1	72	1838348	0	0.000	1842345	1841529	1831170
GE-2	72	1120205	0	0.000	1135005	1121501	1104109
GE-3	72	45632.35700	0.00000	0.000	45247.53000	46241.66000	45407.88000
TB-3	159	82221.10700	0.00000	0.000	80815.69000	82676.55000	83171.08000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:24:49
Tube Number: 6
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1616155	0	0.000	1630949	1615402	1602114
SC-3	45	11749.04700	0.00000	0.000	11625.60000	12005.88000	11615.66000
AL	27	109028.13364	451447.88300	2.800	109288.83452	105851.70423	111943.86218
B	11	23.77947	13182.23300	2.300	24.20544	23.15541	23.97755
BE	9	0.02806	31.33300	28.000	0.03674	0.02148	0.02596
CA	44	298252.30417	155869.47000	3.700	297740.28897	287397.06994	309619.55359
CR	52	0.65826	736.73300	4.100	0.63552	0.65138	0.68790
FE	57	271160.74112	1784032.05700	3.300	269314.33789	263320.56922	280847.31626
K	39	103667.85169	922918.65700	3.600	101525.04238	101554.24687	107924.26583
MG	24	106945.42260	2085378.93000	4.000	106483.48106	102891.40177	111461.38497
MN	55	3.31271	400.02700	32.000	2.70433	2.69720	4.53661
NA	23	263548.90556	11511924.83000	3.500	265480.30347	253484.20928	271682.20391
TI	47	1988.67731	10474.62300	3.700	2049.25161	1908.07755	2008.70278
V	51	0.03584	23.33300	212.200	-0.00754	-0.00858	0.12364
IN-2	115	500982.30300	0.00000	0.000	497237.35000	498015.94000	507693.62000
IN-3	115	11928.72300	0.00000	0.000	11794.78000	11805.50000	12185.89000
AG	107	0.05635	66.67000	69.500	0.01116	0.08033	0.07756
AS	75	0.75680	42.66700	41.400	0.65634	0.50629	1.10778
BA	137	1.21804	63.34000	65.600	0.30795	1.80691	1.53926
CD	111	0.05279	4.66700	76.700	0.09682	0.04429	0.01725
CO	59	0.95266	830.07000	20.800	0.73184	1.11420	1.01195
CU	63	1.10576	1313.48700	16.500	0.91016	1.13445	1.27268
MO	98	2166.68610	996378.08700	0.500	2164.54134	2156.37211	2179.14484
NI	60	1.53932	470.03300	21.700	1.71286	1.75029	1.15482
SB	121	1.34186	250.01300	10.300	1.35670	1.47220	1.19669
SE	78	0.06375	14.44700	7.500	0.06662	0.06642	0.05822
SN	120	0.04450	50.00000	110.200	0.04804	-0.00621	0.09169
SR	88	15.22118	1296.79300	4.100	15.91092	14.70267	15.04996
ZN	66	4.57969	283.35300	22.800	4.22789	5.75504	3.75614
BI-3	209	65384.54000	0.00000	0.000	64449.21000	65827.02000	65877.39000
PB	208	0.96988	2446.91300	3.800	0.99411	0.92743	0.98808
TL	203	0.00996	26.66700	78.000	0.01487	0.00100	0.01401
U	238	0.01977	73.34000	87.100	0.00155	0.03576	0.02200
SC-2	45	528963.01300	0.00000	0.000	525242.34000	522960.11000	538686.59000
GE-1	72	1749843	0	0.000	1739464	1745273	1764792
GE-2	72	1054491	0	0.000	1041434	1047802	1074237
GE-3	72	43558.75300	0.00000	0.000	43882.76000	42247.69000	44545.81000
TB-3	159	82356.35700	0.00000	0.000	81389.67000	80263.10000	85416.30000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:27:12
Tube Number: 7
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1642113	0	0.000	1652739	1640614	1632985
SC-3	45	12056.00700	0.00000	0.000	11605.66000	11575.40000	12986.96000
AL	27	20.11935	123.34000	85.600	1.45402	23.53837	35.36567
B	11	1.61633	8274.50700	16.200	1.81739	1.71068	1.32093
BE	9	0.00094	18.00000	2533.000	0.01632	-0.02649	0.01299
CA	44	80.28780	56.67000	38.700	72.79703	53.63462	114.43175
CR	52	0.44894	670.05300	17.400	0.53696	0.38858	0.42128
FE	57	93.72483	683.39000	57.600	47.10480	81.17292	152.89676
K	39	11.61379	3617.33300	424.100	41.19783	38.88620	-45.24265
MG	24	22.37250	553.38000	58.700	13.99498	15.60482	37.51769
MN	55	0.23151	60.00300	213.200	0.05389	0.78936	-0.14872
NA	23	79.55365	42569.83300	46.800	102.88189	99.13597	36.64309
TI	47	6.34083	33.33300	77.700	11.52707	5.77860	1.71684
V	51	0.02187	20.00000	126.700	0.02533	-0.00740	0.04768
IN-2	115	533930.54700	0.00000	0.000	533780.34000	535272.81000	532738.49000
IN-3	115	12375.49700	0.00000	0.000	12705.67000	11644.84000	12775.98000
AG	107	0.03530	46.66700	53.100	0.05566	0.03146	0.01877
AS	75	-0.00251	12.00000	0.000	0.12646	0.06351	-0.19750
BA	137	-0.05479	3.33300	0.000	-0.12076	-0.12076	0.07713
CD	111	0.03389	3.33300	46.000	0.04057	0.04501	0.01608
CO	59	0.07010	63.33300	22.700	0.05391	0.07059	0.08579
CU	63	0.06884	540.05000	139.400	0.07287	0.16272	-0.02906
MO	98	4.06868	2013.61000	32.700	2.92222	3.75839	5.52542
NI	60	0.04992	90.00700	276.100	0.14850	0.10883	-0.10756
SB	121	-0.01393	16.66700	0.000	0.11275	-0.10424	-0.05029
SE	78	0.00690	8.44700	610.600	0.01967	0.04119	-0.04015
SN	120	0.26712	93.34000	106.200	0.27963	0.54437	-0.02262
SR	88	-0.02029	6.66700	0.000	-0.10097	0.14107	-0.10097
ZN	66	1.43660	100.00700	34.300	1.53915	1.87005	0.90060
BI-3	209	69717.65000	0.00000	0.000	68722.58000	68008.94000	72421.43000
PB	208	0.00761	120.00300	244.900	0.02761	0.00453	-0.00930
TL	203	0.00360	23.33300	719.200	-0.02506	0.02540	0.01048
U	238	-0.00223	10.00000	0.000	0.00111	-0.00547	-0.00234
SC-2	45	530429.83700	0.00000	0.000	534807.02000	522919.33000	533563.16000
GE-1	72	1800764	0	0.000	1798028	1798750	1805514
GE-2	72	1095893	0	0.000	1107202	1077200	1103276
GE-3	72	45464.90700	0.00000	0.000	43301.13000	46060.16000	47033.43000
TB-3	159	82413.78300	0.00000	0.000	80656.15000	81643.21000	84941.99000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:29:37
Tube Number: 8
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1633146	0	0.000	1646749	1648605	1604083
SC-3	45	12189.43000	0.00000	0.000	11655.58000	12716.76000	12195.95000
AL	27	2755.76737	11859.13700	5.300	2918.63184	2631.96751	2716.70277
B	11	257.64003	67042.45000	1.600	261.09048	252.97531	258.85431
BE	9	27.12568	13770.81000	1.500	26.96764	26.81601	27.59338
CA	44	2706.13383	1480.16300	7.200	2637.17266	2556.50369	2924.72514
CR	52	281.27686	116593.41700	4.000	290.34849	268.72906	284.75305
FE	57	2669.42246	18269.75300	1.800	2614.13912	2690.78911	2703.33914
K	39	2635.82049	27809.21700	3.900	2681.89060	2518.63592	2706.93495
MG	24	2746.45555	55616.83000	3.800	2852.05760	2645.03814	2742.27090
MN	55	277.41765	31825.28300	4.100	283.75184	264.23589	284.26524
NA	23	2776.27938	164753.09000	6.300	2912.51961	2577.59463	2838.72392
TI	47	271.09569	1480.16700	8.700	271.66559	247.24425	294.37725
V	51	281.37685	89971.25000	4.400	288.59999	267.05152	288.47904
IN-2	115	547223.02300	0.00000	0.000	541463.33000	554253.81000	545951.93000
IN-3	115	13038.94000	0.00000	0.000	12629.45000	13269.49000	13217.88000
AG	107	27.17637	30372.98300	2.100	27.38065	26.54469	27.60376
AS	75	264.59933	11763.21300	1.700	268.01042	259.49704	266.29053
BA	137	263.73300	13614.53700	2.900	255.05858	267.54517	268.59526
CD	111	26.49221	2232.21300	7.000	26.63565	24.55728	28.28369
CO	59	265.95547	253065.53700	1.100	269.02833	263.11235	265.72573
CU	63	270.58947	225579.13300	2.600	277.32010	263.34664	271.10168
MO	98	26.67367	13477.64300	5.000	26.47576	25.44539	28.09986
NI	60	269.16108	75897.17000	2.000	269.90748	263.39436	274.18141
SB	121	27.30034	5184.71300	2.900	27.13487	26.60066	28.16548
SE	78	26.81782	3373.54300	2.300	27.01016	26.11791	27.32539
SN	120	26.27648	5414.76300	4.600	27.60314	26.02033	25.20597
SR	88	26.21048	2433.68300	3.100	26.79452	26.55957	25.27734
ZN	66	278.45806	18072.91300	5.800	295.02064	262.89222	277.46133
BI-3	209	71936.92300	0.00000	0.000	71245.00000	70963.66000	73602.11000
PB	208	26.60216	71097.07700	1.200	26.25223	26.91382	26.64044
TL	203	25.71471	21586.42700	1.300	25.33194	25.86790	25.94429
U	238	26.19593	83356.54300	0.800	25.97418	26.39148	26.22214
SC-2	45	545364.47000	0.00000	0.000	543166.20000	549616.28000	543310.93000
GE-1	72	1780442	0	0.000	1794915	1792545	1753867
GE-2	72	1113201	0	0.000	1099828	1129196	1110577
GE-3	72	45040.78700	0.00000	0.000	43291.89000	45107.65000	46722.82000
TB-3	159	84356.70700	0.00000	0.000	79589.62000	87379.83000	86100.67000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:32:01
Tube Number: 9
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1699091	0	0.000	1713955	1726870	1656447
SC-3	45	11769.06700	0.00000	0.000	11385.21000	12136.20000	11785.79000
AL	27	5.44429	56.66700	107.600	9.11827	-1.31086	8.52546
B	11	20.87416	13166.19700	10.100	23.29462	19.52695	19.80092
BE	9	-0.00513	15.33300	0.000	-0.00052	-0.01942	0.00454
CA	44	27.35053	26.66700	87.400	54.93197	13.00923	14.11039
CR	52	0.34475	610.05000	123.300	0.82958	0.16970	0.03497
FE	57	5.26141	70.00700	148.400	-3.63210	10.98233	8.43399
K	39	28.24200	3694.03700	116.200	64.63852	19.16712	0.92037
MG	24	-1.28610	66.66700	0.000	-1.51552	-0.71937	-1.62341
MN	55	0.40263	80.00700	93.900	-0.03236	0.65089	0.58937
NA	23	27.73066	39336.72700	137.800	52.18433	-16.32057	47.32821
TI	47	3.71478	20.00000	130.200	1.95838	9.18596	0.00000
V	51	0.05616	30.00000	52.200	0.02660	0.08522	0.05664
IN-2	115	544400.80000	0.00000	0.000	535672.17000	546241.47000	551288.76000
IN-3	115	13326.38300	0.00000	0.000	13206.39000	13216.28000	13556.48000
AG	107	0.00013	10.00000	6612.900	0.00905	-0.00863	-0.00002
AS	75	-0.04139	11.33300	0.000	-0.24496	-0.02288	0.14367
BA	137	-0.12076	0.00000	0.000	-0.12076	-0.12076	-0.12076
CD	111	-0.00815	0.00000	0.000	-0.00815	-0.00815	-0.00815
CO	59	0.04786	46.66700	31.700	0.03112	0.05183	0.06064
CU	63	-0.06894	466.70000	0.000	-0.13132	0.01060	-0.08609
MO	98	0.03255	90.00700	564.400	-0.04265	-0.10162	0.24190
NI	60	0.12641	120.01000	136.700	0.02677	0.02654	0.32592
SB	121	0.13701	46.66700	20.800	0.15671	0.10436	0.14997
SE	78	0.00732	8.66700	439.400	-0.01317	0.04438	-0.00926
SN	120	-0.09357	26.66700	0.000	-0.07741	0.01897	-0.22225
SR	88	-0.06631	3.33300	0.000	-0.10097	-0.10097	0.00299
ZN	66	0.50576	46.66700	47.200	0.71265	0.56000	0.24462
BI-3	209	69888.55300	0.00000	0.000	69778.51000	69485.60000	70401.55000
PB	208	0.00729	120.00300	297.000	0.02660	0.01136	-0.01610
TL	203	0.01175	30.00000	104.200	0.02412	-0.00037	0.01150
U	238	0.00210	23.33300	179.600	0.00426	0.00430	-0.00225
SC-2	45	540760.59000	0.00000	0.000	541051.12000	531848.59000	549382.06000
GE-1	72	1837446	0	0.000	1850514	1864314	1797510
GE-2	72	1118196	0	0.000	1099102	1124200	1131288
GE-3	72	44237.64700	0.00000	0.000	43672.94000	43692.15000	45347.85000
TB-3	159	82705.59700	0.00000	0.000	82336.59000	81510.44000	84269.76000

Run Name: 1831807E05
Tube Number: 10
Sample Number: **PBS**

Date/Time: 11/14/2018 15:34:26
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1606624	0	0.000	1589342	1631250	1599279
SC-3	45	11945.87000	0.00000	0.000	11695.68000	11425.42000	12716.51000
AL	27	1.29880	40.00000	352.500	-1.04673	6.57401	-1.63086
B	11	1.39061	8043.68300	64.800	2.37694	1.18418	0.61072
BE	9	-0.00487	14.66700	0.000	-0.01408	-0.01855	0.01801
CA	44	-5.68849	10.00000	0.000	-24.02748	-4.35709	11.31908
CR	52	0.83674	820.07000	23.400	0.67501	1.05483	0.78039
FE	57	13.70441	123.34300	93.700	14.64466	26.05321	0.41535
K	39	28.40726	3737.36000	203.100	23.17198	88.55012	-26.50032
MG	24	-1.55359	63.33700	0.000	-1.59978	-3.10818	0.04721
MN	55	0.14040	50.00300	184.200	0.05107	0.43179	-0.06167
NA	23	78.74209	42165.28700	40.300	94.68244	99.36754	42.17630
TI	47	0.63546	3.33300	173.200	1.90639	0.00000	0.00000
V	51	0.01074	16.66700	575.500	-0.04030	-0.00697	0.07950
IN-2	115	537906.95300	0.00000	0.000	529025.98000	535926.77000	548768.11000
IN-3	115	13212.43700	0.00000	0.000	12625.05000	13132.05000	13880.21000
AG	107	0.00614	16.66700	167.700	0.00062	0.01803	-0.00022
AS	75	-0.06750	10.00000	0.000	-0.10340	-0.02117	-0.07792
BA	137	-0.12076	0.00000	0.000	-0.12076	-0.12076	-0.12076
CD	111	0.00714	1.33300	185.700	-0.00815	0.01542	0.01415
CO	59	0.03867	36.66700	87.100	0.07596	0.01043	0.02961
CU	63	-0.03768	486.70300	0.000	0.15175	-0.20018	-0.06461
MO	98	0.06808	106.67300	68.000	0.02352	0.11597	0.06474
NI	60	0.56263	243.34700	17.800	0.59125	0.45153	0.64510
SB	121	0.01869	23.33300	433.600	0.00495	0.10570	-0.05458
SE	78	0.01551	9.55700	142.800	0.00392	0.04106	0.00155
SN	120	7.53090	1613.51300	14.000	6.49548	7.49862	8.59859
SR	88	-0.06376	3.33300	0.000	0.01066	-0.10097	-0.10097
ZN	66	5.63042	380.03000	30.300	6.95966	6.22426	3.70735
BI-3	209	70545.65700	0.00000	0.000	69617.34000	70430.63000	71589.00000
PB	208	0.04985	233.35000	67.300	0.01126	0.07193	0.06636
TL	203	-0.01694	6.66700	0.000	-0.02506	-0.00070	-0.02506
U	238	0.00315	26.67000	237.100	0.00753	0.00738	-0.00547
SC-2	45	529107.33300	0.00000	0.000	529402.88000	526484.52000	531434.60000
GE-1	72	1796639	0	0.000	1779542	1811229	1799145
GE-2	72	1121816	0	0.000	1112394	1112878	1140177
GE-3	72	44050.13300	0.00000	0.000	43170.52000	44354.38000	44625.50000
TB-3	159	81357.63300	0.00000	0.000	78826.19000	83393.06000	81853.65000

Run Name: 1831807E05
Tube Number: 11
Sample Number: **LCSW**

Date/Time: 11/14/2018 15:36:52
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1608437	0	0.000	1648587	1584585	1592140
SC-3	45	11628.93700	0.00000	0.000	10924.87000	11775.64000	12186.30000
AL	27	1141.00943	4694.37300	10.100	1256.51774	1141.04240	1025.46816
B	11	130.64573	37291.30700	1.700	128.18442	131.13600	132.61677
BE	9	2.17832	1104.05700	11.900	2.04429	2.47787	2.01281
CA	44	2405.51522	1250.13000	19.700	2918.02523	1980.12738	2318.39305
CR	52	28.79280	11809.03700	2.700	29.65808	28.60809	28.11222
FE	57	612.86860	4017.47700	9.900	633.86092	660.48403	544.26086
K	39	5442.93586	51116.23700	5.200	5682.03977	5517.73826	5129.02954
MG	24	1087.56026	21043.65700	6.800	1142.42701	1116.39450	1003.85928
MN	55	26.71775	2963.82300	5.900	25.37082	26.31339	28.46905
NA	23	5687.81565	282548.99700	3.900	5925.80025	5647.43043	5490.21627
TI	47	124.69182	650.05300	5.100	128.58467	117.40688	128.08390
V	51	26.87693	8219.60000	3.300	26.49732	27.88129	26.25217
IN-2	115	535049.58300	0.00000	0.000	541940.00000	530130.49000	533078.26000
IN-3	115	13067.59000	0.00000	0.000	12264.56000	13451.90000	13486.31000
AG	107	26.07912	29156.66300	5.700	27.77602	25.47994	24.98139
AS	75	4.60819	217.33300	12.500	5.11989	3.98776	4.71692
BA	137	27.46723	1426.84300	2.400	26.88718	27.32331	28.19120
CD	111	2.60133	221.34000	13.200	2.21281	2.73022	2.86095
CO	59	131.82915	125537.15700	4.500	138.72545	128.18519	128.57680
CU	63	27.73432	23588.44000	6.800	29.89529	26.42056	26.88710
MO	98	25.91883	13073.93300	11.800	29.27879	25.19564	23.28205
NI	60	26.46696	7532.49700	8.000	28.89490	24.94167	25.56432
SB	121	3.10997	606.71300	28.400	3.54885	3.68759	2.09347
SE	78	4.93912	613.79300	0.200	4.93632	4.93253	4.94850
SN	120	33.20559	6822.16300	12.200	37.74204	31.97151	29.90321
SR	88	20.23586	1886.90300	8.800	19.89490	18.65344	22.15923
ZN	66	271.51325	17652.31300	4.200	284.45282	267.54849	262.53843
BI-3	209	70880.84300	0.00000	0.000	69968.86000	71156.03000	71517.64000
PB	208	7.71030	20374.46000	1.800	7.83857	7.73368	7.55865
TL	203	1.01982	863.41300	5.500	0.99265	1.08421	0.98261
U	238	26.20995	82188.56000	2.700	25.51713	26.94410	26.16863
SC-2	45	520023.06700	0.00000	0.000	525874.99000	516575.23000	517618.98000
GE-1	72	1790750	0	0.000	1811537	1785696	1775016
GE-2	72	1109402	0	0.000	1111580	1107299	1109327
GE-3	72	44722.58300	0.00000	0.000	44575.00000	45598.83000	43993.92000
TB-3	159	82108.68300	0.00000	0.000	78613.31000	82708.30000	85004.44000

Run Name: 1831807E05
Tube Number: 12
Sample Number: **9870251**

Date/Time: 11/14/2018 15:39:17
Batch: 183041063701A
Class: U*********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1692811	0	0.000	1729084	1702324	1647024
SC-3	45	12813.32000	0.00000	0.000	12596.29000	12956.94000	12886.73000
AL	27	30496.04425	137777.88700	1.100	30565.86958	30122.06458	30800.19859
B	11	50.70413	20217.94700	1.800	51.22020	49.66914	51.22303
BE	9	1.74359	934.04000	3.600	1.71282	1.70245	1.81551
CA	44	5169.89540	2960.49000	3.300	5293.73210	4972.26155	5243.69256
CR	52	122.47238	53710.35300	1.400	123.82711	120.50878	123.08125
FE	57	74500.33996	534711.13700	1.900	74932.19708	72927.62669	75641.19612
K	39	6825.19914	69781.97300	0.900	6896.69343	6777.12372	6801.78026
MG	24	13768.45967	293003.53000	0.600	13774.12852	13687.65512	13843.59538
MN	55	1771.03121	213574.89300	1.300	1775.93015	1745.54288	1791.62061
NA	23	468.41632	63790.93000	4.800	469.51035	445.44571	490.29291
TI	47	1141.96419	6561.97300	3.000	1161.52071	1161.90827	1102.46360
V	51	104.83893	35283.66700	3.700	104.76908	100.96815	108.77956
IN-2	115	518816.46300	0.00000	0.000	520616.18000	512700.19000	523133.02000
IN-3	115	12225.21300	0.00000	0.000	11917.53000	12307.00000	12451.11000
AG	107	1.25473	1323.49000	8.100	1.29377	1.13874	1.33167
AS	75	19.08871	807.36700	6.800	18.82570	17.93455	20.50587
BA	137	370.74900	17936.76700	3.100	368.01056	360.89022	383.34621
CD	111	9.54007	755.36700	11.800	8.64130	9.17242	10.80649
CO	59	31.26511	27893.23000	2.900	31.94788	30.22195	31.62551
CU	63	566.34493	442261.66000	1.100	571.87004	567.28512	559.87962
MO	98	10.77068	5138.00000	5.300	11.33435	10.78129	10.19639
NI	60	289.13885	76426.46000	1.400	293.73249	287.12016	286.56391
SB	121	5.17430	936.76000	7.500	4.86990	5.60871	5.04428
SE	78	0.91118	115.77700	5.800	0.92049	0.95837	0.85468
SN	120	320.46900	61500.24300	1.800	314.44735	326.14338	320.81626
SR	88	52.99701	4604.35700	3.900	54.18784	54.18776	50.61544
ZN	66	2631.78394	160210.40300	0.300	2623.11620	2639.14583	2633.08980
BI-3	209	69840.85000	0.00000	0.000	67213.39000	70832.60000	71476.56000
PB	208	458.78926	1188434.89300	1.500	466.45197	452.62167	457.29415
TL	203	0.44109	380.02300	6.700	0.40891	0.44730	0.46706
U	238	3.06186	9470.97700	2.900	3.12464	2.96149	3.09945
SC-2	45	543331.51300	0.00000	0.000	542799.05000	537103.62000	550091.87000
GE-1	72	1845880	0	0.000	1851459	1829527	1856654
GE-2	72	1106307	0	0.000	1106354	1096717	1115850
GE-3	72	45618.80000	0.00000	0.000	44294.20000	46040.25000	46521.95000
TB-3	159	83298.93700	0.00000	0.000	80937.56000	83736.17000	85223.08000

Run Name: 1831807E05
Tube Number: 13
Sample Number: **9870251**

Date/Time: 11/14/2018 15:41:42
Batch: 183041063701A
Class: UP********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1697875	0	0.000	1701382	1731778	1660465
SC-3	45	12429.75700	0.00000	0.000	12276.48000	12096.09000	12916.70000
AL	27	31344.63551	137309.39000	2.400	31211.67629	32150.15345	30672.07680
B	11	152.60958	44612.38000	1.100	151.97541	151.38498	154.46834
BE	9	2.65335	1416.09000	5.600	2.53636	2.60284	2.82085
CA	44	6329.74056	3513.95300	1.800	6457.73404	6238.42967	6293.05798
CR	52	132.58786	56337.94700	2.500	133.52739	135.39171	128.84449
FE	57	74854.92998	521024.31300	1.700	74684.45036	76240.70346	73639.63612
K	39	7828.84774	77086.60300	2.800	8058.02937	7805.46843	7623.04541
MG	24	14267.79304	294400.84300	2.200	14255.98071	14586.10475	13961.29367
MN	55	1813.68986	212149.79000	1.200	1798.72795	1837.51771	1804.82393
NA	23	2221.58414	142577.68300	3.700	2237.78242	2295.52507	2131.44492
TI	47	1169.50538	6518.57000	1.700	1153.61526	1191.09904	1163.80184
V	51	107.26784	35006.72700	2.300	109.55650	107.65342	104.59359
IN-2	115	522836.31700	0.00000	0.000	518151.89000	519717.30000	530639.76000
IN-3	115	12220.10000	0.00000	0.000	12180.31000	12591.66000	11888.33000
AG	107	2.25712	2373.67700	4.200	2.34839	2.26210	2.16087
AS	75	23.25842	979.38300	6.800	22.07707	22.65193	25.04625
BA	137	365.64794	17659.86000	6.900	351.13166	351.12613	394.68603
CD	111	11.84923	936.04300	4.400	11.27565	11.96420	12.30785
CO	59	32.68814	29142.56700	3.600	33.78343	31.44680	32.83419
CU	63	643.35747	501835.16000	4.100	634.61219	622.60349	672.85674
MO	98	15.30438	7269.02700	6.300	14.60298	14.90443	16.40575
NI	60	294.68944	77830.33700	3.400	290.21908	287.64410	306.20514
SB	121	8.65546	1550.18300	14.800	7.64886	8.21685	10.10067
SE	78	5.03320	610.90700	4.300	5.28358	4.93757	4.87845
SN	120	310.85730	59577.43000	6.400	293.66908	306.44887	332.45395
SR	88	63.67925	5524.79700	8.100	59.73034	61.80672	69.50069
ZN	66	2602.73935	158259.23300	3.700	2597.44090	2509.76789	2701.00924
BI-3	209	70659.50000	0.00000	0.000	70301.13000	69917.94000	71759.43000
PB	208	452.74922	1186853.75700	1.400	446.38131	459.45317	452.41318
TL	203	1.44451	1210.14000	10.900	1.29297	1.60697	1.43358
U	238	4.05373	12687.29000	5.900	3.77911	4.16892	4.21317
SC-2	45	546681.18700	0.00000	0.000	551669.13000	539349.99000	549024.44000
GE-1	72	1825503	0	0.000	1845410	1835299	1795800
GE-2	72	1107172	0	0.000	1110215	1101009	1110291
GE-3	72	45153.46700	0.00000	0.000	44464.80000	45005.97000	45989.63000
TB-3	159	83397.55300	0.00000	0.000	81601.94000	83545.97000	85044.75000

Run Name: 1831807E05
Tube Number: 14
Sample Number: **9870251**

Date/Time: 11/14/2018 15:44:06
Batch: 183041063701A
Class: D*********

Initial Vol: 1.04 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1698552	0	0.000	1735512	1691469	1668675
SC-3	45	12342.87300	0.00000	0.000	11775.66000	12756.49000	12496.47000
AL	27	32071.83911	139448.36700	3.500	33261.68509	31033.59360	31920.23865
B	11	49.58914	20020.30300	2.800	48.88552	51.17537	48.70653
BE	9	1.69706	912.03700	9.500	1.51334	1.75929	1.81853
CA	44	5400.97646	2983.82000	6.600	5015.28453	5473.65335	5713.99149
CR	52	126.35567	53322.68700	3.700	130.15455	121.12199	127.79048
FE	57	77405.94825	534871.46300	2.400	79236.70673	75500.04089	77481.09713
K	39	7228.58237	70957.35000	3.300	7286.74598	6963.67170	7435.32944
MG	24	14553.03742	298054.58700	3.400	15066.49173	14077.57572	14515.04480
MN	55	1856.55683	215518.16000	2.900	1906.03864	1799.00639	1864.62547
NA	23	445.52030	60356.13000	11.500	477.35441	386.34985	472.85663
TI	47	1186.64826	6562.01300	5.700	1223.51597	1108.47236	1227.95647
V	51	109.66169	35510.96000	4.400	115.18750	106.35764	107.43993
IN-2	115	535081.96300	0.00000	0.000	531931.72000	536776.90000	536537.27000
IN-3	115	12404.53300	0.00000	0.000	11987.38000	12503.28000	12722.94000
AG	107	1.37169	1463.52000	21.300	1.64642	1.06474	1.40392
AS	75	19.13787	820.03300	6.200	20.47773	18.25889	18.67698
BA	137	368.46705	18073.58300	3.500	382.54946	357.44849	365.40319
CD	111	9.38828	752.69700	6.300	9.49466	9.91953	8.75064
CO	59	29.92673	27068.32700	5.100	31.50923	29.78091	28.49005
CU	63	560.51819	444013.45700	2.400	571.47583	564.34887	545.72986
MO	98	10.46347	5074.62300	4.500	9.92512	10.77589	10.68941
NI	60	289.28568	77562.75300	2.800	298.42859	283.87154	285.55691
SB	121	5.06903	926.75700	36.600	6.85352	3.14830	5.20525
SE	78	0.94257	123.33300	13.500	0.84501	0.89636	1.08635
SN	120	311.21222	60562.08000	2.200	318.49384	310.04890	305.09392
SR	88	53.50695	4717.76300	1.700	54.34174	52.54734	53.63179
ZN	66	2619.18164	161716.85000	1.900	2664.91185	2628.41647	2564.21659
BI-3	209	71252.46300	0.00000	0.000	70752.25000	70311.25000	72693.89000
PB	208	457.58274	1209576.22700	1.300	451.86905	464.00221	456.87694
TL	203	0.55753	483.37000	12.100	0.53272	0.63385	0.50602
U	238	3.07459	9701.07000	4.300	3.18237	3.11544	2.92597
SC-2	45	554462.42700	0.00000	0.000	553118.12000	557084.09000	553185.07000
GE-1	72	1840579	0	0.000	1854339	1850747	1816652
GE-2	72	1138039	0	0.000	1139105	1137018	1137994
GE-3	72	45384.64300	0.00000	0.000	45076.85000	45668.80000	45408.28000
TB-3	159	86483.26300	0.00000	0.000	85526.31000	86636.08000	87287.40000

Run Name: 1831807E05
Tube Number: 15
Sample Number: **9870251**

Date/Time: 11/14/2018 15:46:31
Batch: 183041063701A
Class: R*********

Initial Vol: 1.10 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1780246	0	0.000	1790851	1771850	1778037
SC-3	45	12976.85700	0.00000	0.000	11955.95000	13447.15000	13527.47000
AL	27	39308.51347	179438.50300	5.100	41616.19925	38226.57994	38082.76123
B	11	326.82812	90408.69700	0.600	324.70126	328.23600	327.54711
BE	9	5.63618	3135.04700	4.500	5.92967	5.46275	5.51611
CA	44	10476.47760	6055.05300	3.900	10843.90259	10040.11758	10545.41264
CR	52	194.49061	85843.78000	6.400	208.51297	184.83723	190.12163
FE	57	90541.54857	656721.42300	5.100	95713.93455	86844.07430	89066.63686
K	39	18160.94849	181369.02000	5.200	19175.17146	17324.42167	17983.25233
MG	24	17080.19829	367232.49300	5.200	18105.58217	16528.90801	16606.10469
MN	55	1137.47395	138696.01000	4.200	1189.65283	1096.56801	1126.20102
NA	23	10620.60774	551498.31300	6.500	11410.88556	10149.40445	10301.53321
TI	47	1397.25167	8136.26300	6.600	1384.21288	1312.01045	1495.53169
V	51	166.73013	56655.97300	6.700	179.42045	158.63767	162.13226
IN-2	115	518508.44000	0.00000	0.000	517202.25000	512920.16000	525402.91000
IN-3	115	12515.24000	0.00000	0.000	12679.81000	11918.72000	12947.19000
AG	107	55.20303	59140.82700	4.600	53.98504	58.12119	53.50286
AS	75	36.00080	1546.77300	2.300	35.04173	36.60799	36.35266
BA	137	415.58184	20560.78700	5.400	390.80952	434.47373	421.46227
CD	111	13.71940	1108.06000	6.500	13.27256	14.74391	13.14173
CO	59	298.06517	272042.06700	3.900	287.23090	310.34247	296.62215
CU	63	1203.17431	960781.07700	3.600	1159.25474	1244.83404	1205.43415
MO	98	67.11970	32417.62300	5.000	63.62958	70.27561	67.45390
NI	60	400.82989	108442.79700	1.800	392.70830	404.52836	405.25299
SB	121	11.73706	2153.65700	9.300	10.98620	11.23172	12.99327
SE	78	10.46426	1251.84000	1.500	10.37931	10.64777	10.36569
SN	120	512.33585	100517.53000	4.900	485.57812	535.88661	515.54284
SR	88	105.00078	9330.51700	2.600	101.96677	107.18493	105.85063
ZN	66	2527.37284	157307.66700	4.900	2425.37510	2665.99734	2490.74610
BI-3	209	71366.79000	0.00000	0.000	68962.51000	71557.89000	73579.97000
PB	208	551.39161	1460006.67700	1.100	553.03939	544.61029	556.52514
TL	203	2.53347	2126.98000	3.300	2.62488	2.51683	2.45869
U	238	30.36497	95867.66700	0.700	30.17612	30.33550	30.58328
SC-2	45	555694.64000	0.00000	0.000	545488.78000	558033.47000	563561.67000
GE-1	72	1875088	0	0.000	1890135	1878687	1856442
GE-2	72	1117708	0	0.000	1115268	1112327	1125531
GE-3	72	45662.02700	0.00000	0.000	44093.29000	44745.48000	48147.31000
TB-3	159	86312.64700	0.00000	0.000	84801.15000	84661.24000	89475.55000

Run Name: 1831807E05
Tube Number: 16
Sample Number: **9870251**

Date/Time: 11/14/2018 15:48:56
Batch: 183041063701A
Class: M*********

Initial Vol: 1.13 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1739411	0	0.000	1727250	1733733	1757251
SC-3	45	12412.99700	0.00000	0.000	12025.93000	12416.27000	12796.79000
AL	27	38292.10678	167513.96700	2.300	39067.28909	38467.51067	37341.52058
B	11	345.27121	92850.81000	0.500	343.47559	346.08642	346.25161
BE	9	5.73593	3117.04300	3.600	5.72780	5.53162	5.94837
CA	44	10156.71683	5628.12000	8.400	10126.14579	9318.22089	11025.78382
CR	52	197.22821	83470.75000	2.600	197.67013	202.10504	191.90947
FE	57	83253.21002	578769.53700	1.300	83929.55446	83831.08063	81998.99497
K	39	18610.76223	178049.03000	1.300	18845.13412	18374.89274	18612.25983
MG	24	16985.12204	350032.22000	1.700	17309.34919	16868.44824	16777.56869
MN	55	737.42312	86152.76300	2.100	739.88973	751.42630	720.95332
NA	23	10706.82945	532626.16300	3.000	11072.38308	10603.55042	10444.55486
TI	47	1505.98382	8393.05000	5.100	1431.79956	1500.00549	1586.14643
V	51	168.84672	55046.00000	1.700	170.45474	165.46675	170.61867
IN-2	115	522456.43300	0.00000	0.000	516612.51000	527178.19000	523578.60000
IN-3	115	12647.34300	0.00000	0.000	12848.59000	12193.41000	12900.03000
AG	107	51.32476	55615.81700	3.700	49.14403	52.62093	52.20932
AS	75	31.71773	1380.75300	9.300	30.46448	29.61295	35.07575
BA	137	401.15143	20053.14300	4.900	396.71037	422.80721	383.93671
CD	111	11.99336	980.71300	9.900	10.76103	12.10125	13.11782
CO	59	284.39343	262370.43700	4.200	271.17196	294.75431	287.25401
CU	63	1098.50429	886441.62700	4.000	1058.99725	1145.91386	1090.60176
MO	98	62.65417	30583.24300	5.400	59.43157	66.15165	62.37931
NI	60	350.50099	95774.48300	4.400	335.21542	366.01268	350.27487
SB	121	10.91018	2023.60000	11.000	10.19638	10.24107	12.29309
SE	78	10.23760	1234.28300	1.400	10.35182	10.28650	10.07447
SN	120	268.25213	53209.95300	4.300	257.95171	280.75185	266.05282
SR	88	92.04534	8259.77300	8.500	83.39441	98.63774	94.10388
ZN	66	2221.63859	139829.35300	3.400	2143.44021	2295.56396	2225.91162
BI-3	209	72517.27300	0.00000	0.000	71839.56000	71256.37000	74455.89000
PB	208	515.16103	1385960.57700	0.900	510.71218	519.75351	515.01742
TL	203	2.63215	2243.66700	9.100	2.55463	2.90088	2.44094
U	238	28.39523	91071.75300	2.700	27.68668	29.19471	28.30428
SC-2	45	555773.48000	0.00000	0.000	553767.49000	561677.57000	551875.38000
GE-1	72	1846639	0	0.000	1808126	1850873	1880919
GE-2	72	1116206	0	0.000	1116412	1130026	1102179
GE-3	72	44880.02700	0.00000	0.000	45096.79000	45779.82000	43763.47000
TB-3	159	84835.87700	0.00000	0.000	82799.48000	85154.48000	86553.67000

Run Name: 1831807E05
Tube Number: 17
Sample Number: **9870251**

Date/Time: 11/14/2018 15:51:20
Batch: 183041063701A
Class: UL********

Initial Vol: 1.21 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1703094	0	0.000	1686163	1712282	1710838
SC-3	45	12012.53700	0.00000	0.000	12126.08000	11735.54000	12175.99000
AL	27	6808.79793	28858.02300	3.000	6607.62441	7014.21912	6804.55027
B	11	27.10047	14685.05700	5.000	28.50517	25.80288	26.99337
BE	9	0.35375	205.33300	14.200	0.31327	0.33806	0.40991
CA	44	1068.61574	583.38300	25.600	754.44815	1201.72490	1249.67416
CR	52	27.18720	11555.54300	2.300	26.48107	27.47693	27.60359
FE	57	16523.60433	111165.79700	3.800	16050.11096	17230.22498	16290.47705
K	39	1596.81034	18005.85300	2.800	1647.11054	1562.29665	1581.02382
MG	24	3074.75390	61390.75300	3.400	2990.56411	3193.30639	3040.39120
MN	55	396.22118	44805.32000	3.900	381.16819	412.21394	395.28141
NA	23	77.05897	42375.77000	34.500	47.10146	86.30976	97.76568
TI	47	268.76710	1446.83700	6.400	266.64647	286.92333	252.73149
V	51	23.05038	7278.99000	4.300	22.70609	24.17671	22.26835
IN-2	115	530606.74000	0.00000	0.000	521750.36000	526714.52000	543355.34000
IN-3	115	12482.60300	0.00000	0.000	12444.27000	12056.33000	12947.21000
AG	107	0.29520	326.69000	24.600	0.25394	0.25271	0.37894
AS	75	3.91436	178.00000	20.600	3.62641	4.82374	3.29292
BA	137	75.70504	3744.09300	1.700	77.09870	74.54963	75.46679
CD	111	2.10821	170.66700	0.600	2.10612	2.12280	2.09571
CO	59	6.63134	6031.68300	7.200	6.56345	7.13845	6.19210
CU	63	118.06526	94476.69000	3.100	117.08624	122.08679	115.02273
MO	98	2.31033	1180.11700	11.500	2.00661	2.42003	2.50436
NI	60	58.67474	15906.73300	1.800	57.95869	58.18174	59.88378
SB	121	1.13544	223.34700	25.600	1.28045	1.32507	0.80079
SE	78	0.16609	27.77700	19.400	0.13293	0.19731	0.16803
SN	120	64.55622	12673.45000	6.800	60.06261	68.88473	64.72132
SR	88	10.82654	966.76300	5.400	10.65814	11.47201	10.34948
ZN	66	523.57308	32526.96700	4.300	508.00472	549.57514	513.13938
BI-3	209	71263.10000	0.00000	0.000	69475.38000	70400.57000	73913.35000
PB	208	94.15485	248979.49000	0.900	94.19290	95.02203	93.24962
TL	203	0.05858	70.00300	48.900	0.03668	0.04805	0.09101
U	238	0.68159	2166.98700	7.800	0.70416	0.62094	0.71969
SC-2	45	537035.39700	0.00000	0.000	535170.62000	531981.98000	543953.59000
GE-1	72	1861196	0	0.000	1865366	1862065	1856158
GE-2	72	1121348	0	0.000	1111690	1107768	1144584
GE-3	72	45689.12700	0.00000	0.000	44906.27000	44555.50000	47605.61000
TB-3	159	85118.32700	0.00000	0.000	85154.00000	84128.92000	86072.06000

Run Name: 1831807E05
Tube Number: 18
Sample Number: **9827129**

Date/Time: 11/14/2018 15:53:44
Batch: 183041063701A
Class: **********

Initial Vol: 1.03 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1657648	0	0.000	1696475	1662392	1614077
SC-3	45	11548.79000	0.00000	0.000	11385.20000	11305.32000	11955.85000
AL	27	20168.66366	82104.03700	2.400	20243.36388	20601.22050	19661.40659
B	11	50.11964	19660.46000	1.200	49.86585	49.70517	50.78791
BE	9	1.44399	760.03000	7.800	1.37810	1.37994	1.57391
CA	44	133439.22061	68529.95000	3.700	135953.23654	136675.83656	127688.58873
CR	52	45.49258	18273.16000	1.100	45.89352	45.67824	44.90598
FE	57	46409.17302	300096.81700	2.700	47325.49503	46927.47778	44974.54626
K	39	4732.23257	44640.79700	1.300	4793.55383	4731.41417	4671.72970
MG	24	34732.08044	665623.32300	3.200	35140.53414	35571.75960	33483.94757
MN	55	16662.19281	1810080.96300	2.800	17152.88380	16609.67303	16224.02159
NA	23	627.74643	64317.15700	0.300	628.18912	629.46469	625.58547
TI	47	783.01436	4054.15300	4.700	754.11683	824.55790	770.36834
V	51	130.71336	39625.37700	3.400	134.80471	131.39746	125.93791
IN-2	115	513679.07700	0.00000	0.000	516319.56000	509402.80000	515314.87000
IN-3	115	12088.37000	0.00000	0.000	11522.06000	12031.30000	12711.75000
AG	107	0.20469	220.01300	16.900	0.24458	0.18536	0.18415
AS	75	24.97529	1040.05000	5.800	24.27179	26.64855	24.00552
BA	137	591.38072	28235.87000	4.900	620.71194	590.62916	562.80107
CD	111	0.96973	76.00000	16.300	1.14703	0.91804	0.84411
CO	59	25.12875	22129.07300	6.100	26.80131	24.78873	23.79622
CU	63	24.89356	19648.48700	6.200	25.48664	26.06426	23.12979
MO	98	5.51581	2620.44700	19.100	6.68281	5.22914	4.63548
NI	60	63.27738	16580.98700	3.800	64.95382	64.38956	60.48875
SB	121	1.39674	263.35700	7.800	1.45116	1.27081	1.46825
SE	78	1.22811	152.00000	7.500	1.13131	1.23883	1.31417
SN	120	8.38472	1633.54300	5.500	8.35628	7.94008	8.85780
SR	88	205.28962	17602.53700	4.300	206.12925	213.58620	196.15342
ZN	66	147.81562	8903.39700	2.100	149.24375	149.93338	144.26972
BI-3	209	69161.13300	0.00000	0.000	67043.07000	69344.98000	71095.35000
PB	208	18.56838	47732.25700	1.200	18.68824	18.70877	18.30812
TL	203	0.64966	546.71000	28.400	0.49960	0.59352	0.85586
U	238	5.91100	18074.54700	7.100	6.39462	5.63025	5.70812
SC-2	45	524603.94000	0.00000	0.000	529991.44000	518660.70000	525159.68000
GE-1	72	1778629	0	0.000	1775590	1776582	1783715
GE-2	72	1087921	0	0.000	1084652	1086786	1092325
GE-3	72	43050.06700	0.00000	0.000	43281.01000	42307.76000	43561.43000
TB-3	159	82513.27300	0.00000	0.000	81389.34000	82133.16000	84017.32000

Run Name: 1831807E05
Tube Number: 19
Sample Number: **9870252**

Date/Time: 11/14/2018 15:56:08
Batch: 183041063701A
Class: **********

Initial Vol: 1.20 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1673750	0	0.000	1709938	1691626	1619687
SC-3	45	12196.00300	0.00000	0.000	11925.80000	11915.70000	12746.51000
AL	27	21437.38792	92149.63300	2.300	21481.76297	21909.75183	20920.64897
B	11	164.03208	46670.31000	1.000	164.92545	162.09667	165.07413
BE	9	1.83262	969.38000	6.000	1.70978	1.86576	1.92231
CA	44	130505.91844	70791.55700	2.600	130604.64142	133863.23447	127049.87943
CR	52	398.77399	165311.11700	1.700	396.63683	406.55934	393.12580
FE	57	343591.43616	2346037.51700	2.100	349048.34950	346429.68474	335296.27423
K	39	3562.06694	36332.63700	5.300	3722.11126	3609.66970	3354.41985
MG	24	9104.70672	184319.44300	2.900	9190.07882	9315.77469	8808.26664
MN	55	2978.57792	341766.59300	2.100	2953.15111	3048.58778	2933.99486
NA	23	2646.66502	159142.82300	1.900	2661.07086	2688.98901	2589.93521
TI	47	842.23839	4604.35700	5.300	893.86744	812.26282	820.58492
V	51	197.75606	63328.34300	1.300	196.42105	200.82660	196.02054
IN-2	115	504686.94000	0.00000	0.000	500773.30000	506174.50000	507113.02000
IN-3	115	11384.69700	0.00000	0.000	11615.31000	11507.52000	11031.26000
AG	107	31.31763	30539.92300	4.300	30.28541	30.82346	32.84403
AS	75	104.38070	4055.31700	5.500	100.51429	101.61208	111.01572
BA	137	5451.79569	245235.42700	6.000	5142.46719	5415.68002	5797.23987
CD	111	10.62592	781.36700	9.600	10.83838	9.51435	11.52502
CO	59	95.99265	79707.91300	4.200	93.96659	93.38427	100.62710
CU	63	1267.88994	920931.78300	4.100	1220.05927	1259.57326	1324.03729
MO	98	42.02360	18487.14000	4.800	40.33806	41.46182	44.27092
NI	60	287.46031	70719.58000	4.400	275.10717	286.86673	300.40703
SB	121	258.69337	42714.37300	4.300	249.64582	255.16816	271.26613
SE	78	5.49676	643.57300	4.800	5.41685	5.28372	5.78972
SN	120	4505.86007	803843.53000	5.000	4322.50896	4437.74651	4757.32474
SR	88	722.11177	58275.35000	7.800	659.82664	736.96201	769.54665
ZN	66	13869.54172	785557.48700	4.700	13210.74207	13883.31147	14514.57162
BI-3	209	93486.43300	0.00000	0.000	90534.18000	91980.16000	97944.96000
PB	208	5193.98183	18002902.96300	2.100	5274.39967	5237.44619	5070.09962
TL	203	0.47519	543.37700	12.800	0.53404	0.47862	0.41289
U	238	1.50591	6242.01000	6.500	1.47857	1.61513	1.42404
SC-2	45	534509.19700	0.00000	0.000	528281.63000	540282.88000	534963.08000
GE-1	72	1775780	0	0.000	1811552	1772182	1743605
GE-2	72	1081083	0	0.000	1068629	1087810	1086809
GE-3	72	43408.53300	0.00000	0.000	41576.07000	44385.39000	44264.14000
TB-3	159	81957.00000	0.00000	0.000	80100.71000	80887.23000	84883.06000

Run Name: 1831807E05 Date/Time: 11/14/2018 15:58:31
Tube Number: 20
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1576265	0	0.000	1583455	1597115	1548226
SC-3	45	11979.23000	0.00000	0.000	11705.53000	11095.17000	13136.99000
AL	27	2606.55139	10998.21300	10.800	2408.85759	2928.19227	2482.60431
B	11	262.51303	65785.15000	0.900	261.69767	260.69678	265.14463
BE	9	27.08283	13267.68000	3.400	27.11050	26.15579	27.98220
CA	44	2781.66336	1496.84300	9.700	2472.23849	2953.91139	2918.84020
CR	52	284.33804	115456.84300	7.500	285.08481	305.31739	262.61190
FE	57	2914.62138	19514.95000	6.900	2920.68257	3113.79872	2709.38285
K	39	2618.94471	27081.02000	8.500	2705.09062	2786.70007	2365.04345
MG	24	2744.95720	54428.25000	8.500	2724.04583	2989.22895	2521.59682
MN	55	269.79528	30341.59300	6.500	266.61341	288.78450	253.98794
NA	23	2723.58523	159148.43700	9.400	2714.57512	2983.01884	2473.16172
TI	47	225.98890	1213.47000	1.200	224.78955	229.11523	224.06192
V	51	278.09108	87116.42000	7.400	278.23637	298.55666	257.48020
IN-2	115	529297.62700	0.00000	0.000	527113.30000	525389.29000	535390.29000
IN-3	115	12756.87700	0.00000	0.000	12457.13000	12682.89000	13130.61000
AG	107	27.21387	29741.59700	3.700	27.96620	27.61590	26.05951
AS	75	272.61123	11856.61300	1.500	274.36251	275.54213	267.92906
BA	137	271.52796	13707.98300	3.300	263.46742	281.12552	269.99093
CD	111	26.74750	2203.54700	4.700	27.57597	27.37783	25.28870
CO	59	272.38505	253669.50700	1.100	268.93546	273.43291	274.78678
CU	63	276.60382	225688.12300	0.400	275.63454	277.81750	276.35941
MO	98	26.67478	13183.82000	1.600	26.61376	27.14054	26.27006
NI	60	273.69508	75488.14700	1.800	275.88835	277.20415	267.99275
SB	121	29.22754	5428.11700	2.000	29.83623	28.70578	29.14062
SE	78	25.89027	3151.04700	2.800	25.05039	26.41089	26.20952
SN	120	35.95018	7235.76700	1.100	36.18205	36.18759	35.48089
SR	88	25.06957	2276.97300	11.000	27.84555	22.34676	25.01639
ZN	66	283.17992	17996.18700	3.300	278.43695	294.09201	277.01081
BI-3	209	68514.57300	0.00000	0.000	66187.75000	68128.68000	71227.29000
PB	208	28.16336	71695.33000	0.700	27.94321	28.19355	28.35331
TL	203	26.96187	21529.85000	4.800	27.72377	27.70320	25.45865
U	238	26.30715	79709.43300	1.000	26.56650	26.28744	26.06750
SC-2	45	526651.81700	0.00000	0.000	515625.58000	527976.48000	536353.39000
GE-1	72	1752675	0	0.000	1729385	1792245	1736394
GE-2	72	1084055	0	0.000	1079570	1073066	1099530
GE-3	72	44214.26700	0.00000	0.000	43391.51000	43813.31000	45437.98000
TB-3	159	83167.69700	0.00000	0.000	81188.51000	83926.01000	84388.57000

Run Name: 1831807E05 Date/Time: 11/14/2018 16:00:55
Tube Number: 21
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1638637	0	0.000	1662335	1632925	1620651
SC-3	45	12349.55000	0.00000	0.000	11425.37000	12786.69000	12836.59000
AL	27	5.57970	60.00300	148.600	9.05696	-3.88614	11.56829
B	11	19.69281	12426.90300	9.000	21.48466	19.63797	17.95579
BE	9	-0.00686	14.00000	0.000	-0.00334	-0.00673	-0.01050
CA	44	5.22077	16.66700	514.000	-24.02748	28.70137	10.98844
CR	52	0.18545	573.38000	92.600	0.38351	0.07741	0.09543
FE	57	7.05232	86.67000	116.100	-0.51258	15.74375	5.92578
K	39	10.46085	3687.37000	706.200	90.87743	-54.38259	-5.11229
MG	24	-0.14802	93.34300	0.000	-0.47183	0.96329	-0.93552
MN	55	0.22972	63.33300	29.100	0.15267	0.26938	0.26712
NA	23	-9.36563	39520.79000	0.000	43.71914	-41.77806	-30.03798
TI	47	1.15797	6.66700	173.200	0.00000	0.00000	3.47390
V	51	0.05989	33.33300	157.000	-0.00697	0.01927	0.16738
IN-2	115	535931.35700	0.00000	0.000	535795.30000	538683.17000	533315.60000
IN-3	115	13304.59000	0.00000	0.000	13461.12000	12750.58000	13702.07000
AG	107	0.00358	13.33300	591.000	-0.00863	0.02798	-0.00863
AS	75	-0.15878	6.00000	0.000	-0.11495	-0.24337	-0.11802
BA	137	-0.12076	0.00000	0.000	-0.12076	-0.12076	-0.12076
CD	111	-0.00815	0.00000	0.000	-0.00815	-0.00815	-0.00815
CO	59	0.04449	43.33300	52.100	0.07124	0.03224	0.03000
CU	63	0.00548	526.71000	2533.800	0.04575	0.11960	-0.14892
MO	98	-0.01231	66.67000	0.000	-0.06378	-0.05949	0.08635
NI	60	0.09040	110.00300	219.700	-0.01362	-0.03459	0.31939
SB	121	0.58636	133.34300	12.100	0.51023	0.59853	0.65033
SE	78	-0.00228	7.33300	0.000	0.02482	-0.03505	0.00339
SN	120	2.29406	526.71000	14.000	2.43048	1.92817	2.52352
SR	88	-0.03240	6.66700	0.000	-0.10097	-0.10097	0.10473
ZN	66	1.06518	83.33700	26.400	0.99380	1.37551	0.82622
BI-3	209	67652.43700	0.00000	0.000	65926.83000	68258.49000	68771.99000
PB	208	0.47093	1280.10000	1.400	0.46798	0.46645	0.47835
TL	203	0.03005	43.33300	51.100	0.04000	0.03778	0.01236
U	238	0.01016	46.66700	136.100	0.01511	-0.00547	0.02084
SC-2	45	524885.33000	0.00000	0.000	535980.77000	520748.08000	517927.14000
GE-1	72	1836274	0	0.000	1877175	1827476	1804172
GE-2	72	1108157	0	0.000	1115028	1106239	1103205
GE-3	72	44769.12300	0.00000	0.000	42919.57000	44916.18000	46471.62000
TB-3	159	81132.50300	0.00000	0.000	80182.90000	81530.74000	81683.87000

Run Name: 1831807E05
Tube Number: 22
Sample Number: **9870253**

Date/Time: 11/14/2018 16:03:20
Batch: 183041063701A
Class: **********

Initial Vol: 1.17 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1714820	0	0.000	1755970	1673838	1714652
SC-3	45	12559.90300	0.00000	0.000	12686.60000	12366.40000	12626.71000
AL	27	23218.29392	102804.30700	3.500	22503.20686	24091.02503	23060.64987
B	11	30.32215	15564.67700	0.500	30.17044	30.34438	30.45163
BE	9	2.26762	1225.40000	1.900	2.24368	2.31696	2.24222
CA	44	48912.54884	27351.87300	2.800	48352.55573	47930.05764	50455.03314
CR	52	233.75913	100023.43700	1.800	229.18881	237.64911	234.43948
FE	57	51225.78144	360372.96300	2.000	50159.47537	52201.70913	51316.15981
K	39	2721.04446	29479.33300	2.900	2712.77181	2804.88314	2645.47843
MG	24	4457.25352	93039.36000	1.500	4383.93378	4481.35048	4506.47632
MN	55	486.27325	57506.36700	1.700	476.89279	489.92831	491.99865
NA	23	1128.96852	93272.51000	5.800	1054.72104	1156.92654	1175.25798
TI	47	748.34824	4214.23700	6.800	768.19579	786.27267	690.57626
V	51	81.51524	26884.37000	5.300	77.03548	85.63503	81.87520
IN-2	115	514897.11300	0.00000	0.000	508917.48000	522940.74000	512833.12000
IN-3	115	12265.28000	0.00000	0.000	11943.45000	12434.33000	12418.06000
AG	107	8.67817	9130.36000	3.500	8.70959	8.35605	8.96886
AS	75	39.90495	1680.12700	4.000	38.64559	41.68921	39.38007
BA	137	4276.65508	207421.28300	1.900	4361.67657	4197.69779	4270.59086
CD	111	4.49023	356.01000	12.700	4.94209	3.85049	4.67811
CO	59	31.71459	28397.81700	1.300	31.24563	32.06625	31.83189
CU	63	1035.24698	810487.15000	2.600	1065.48962	1016.05961	1024.19172
MO	98	13.02303	6221.80300	4.600	13.33040	13.40397	12.33472
NI	60	106.75546	28364.22300	0.800	106.82823	105.88424	107.55391
SB	121	11.31503	2030.26300	8.100	12.13140	11.48208	10.33160
SE	78	3.80064	456.45700	7.300	3.48452	3.99523	3.92218
SN	120	154.66466	29798.62300	1.300	153.00948	154.10410	156.88040
SR	88	374.77891	32624.45700	1.900	377.23848	366.76586	380.33239
ZN	66	3084.65003	188347.09300	1.400	3131.51181	3044.53060	3077.90767
BI-3	209	75171.84700	0.00000	0.000	73719.88000	75047.50000	76748.16000
PB	208	1803.48295	5028711.85300	1.300	1814.85375	1819.14654	1776.44855
TL	203	1.20694	1080.11000	4.700	1.18527	1.16385	1.27169
U	238	1.86656	6225.24300	14.000	1.66051	2.16163	1.77755
SC-2	45	530292.02300	0.00000	0.000	517975.11000	536253.08000	536647.88000
GE-1	72	1821638	0	0.000	1825340	1798737	1840838
GE-2	72	1079661	0	0.000	1060791	1094549	1083644
GE-3	72	44652.21700	0.00000	0.000	42749.14000	45568.96000	45638.55000
TB-3	159	83198.43300	0.00000	0.000	83050.82000	82155.43000	84389.05000

Run Name: 1831807E05
Tube Number: 23
Sample Number: **9870254**

Date/Time: 11/14/2018 16:05:46
Batch: 183041063701A
Class: **********

Initial Vol: 1.29 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1609390	0	0.000	1620080	1631876	1576214
SC-3	45	11685.66300	0.00000	0.000	11705.68000	11265.29000	12086.02000
AL	27	9189.80142	37849.76000	4.600	9143.14068	9629.69233	8796.57125
B	11	17.61453	11728.95000	4.800	17.05198	17.19586	18.59575
BE	9	0.60562	320.01000	9.600	0.56602	0.67220	0.57864
CA	44	82314.31909	42795.30700	2.100	81164.72696	84257.75292	81520.47740
CR	52	48.76719	19781.93300	2.600	49.70204	49.30592	47.29360
FE	57	55467.30542	362937.58700	2.200	54847.12884	56867.23635	54687.55107
K	39	1495.68923	16614.21000	2.700	1524.24399	1513.05837	1449.76532
MG	24	4105.78110	79740.38000	1.500	4038.21942	4157.53007	4121.59382
MN	55	462.80231	50903.75000	2.000	459.09082	473.55489	455.76123
NA	23	1939.69286	121821.70300	5.700	1861.86951	2066.42406	1890.78502
TI	47	558.70206	2930.47000	3.400	561.98859	538.43407	575.68352
V	51	39.57943	12145.97300	6.300	37.19736	42.17203	39.36890
IN-2	115	519833.45000	0.00000	0.000	521953.08000	517177.63000	520369.64000
IN-3	115	12463.53700	0.00000	0.000	12330.82000	12569.34000	12490.45000
AG	107	6.20677	6642.01700	7.800	5.65187	6.51968	6.44876
AS	75	14.84903	642.68700	2.400	15.18519	14.89154	14.47037
BA	137	526.48885	25960.58300	1.700	521.20875	521.60148	536.65632
CD	111	10.11238	814.70300	9.700	10.46014	9.00543	10.87156
CO	59	11.52707	10488.02700	5.900	10.98229	11.30830	12.29062
CU	63	4027.40195	3203537.34700	1.900	4062.74472	3941.48234	4077.97878
MO	98	4.31903	2143.62700	7.400	3.96231	4.58635	4.40842
NI	60	66.06873	17866.03700	2.100	66.65110	64.46004	67.09505
SB	121	10.80839	1973.60700	8.500	10.23786	10.31561	11.87169
SE	78	0.63486	83.11000	15.200	0.60618	0.55613	0.74226
SN	120	325.64048	63696.10700	3.100	322.90789	317.28436	336.72920
SR	88	268.14012	23718.66300	4.300	274.78675	254.96901	274.66461
ZN	66	3200.37579	198613.48000	0.600	3188.04161	3190.46141	3222.62436
BI-3	209	74153.27700	0.00000	0.000	72583.88000	72975.85000	76900.10000
PB	208	5176.19732	14235694.68300	1.200	5205.61981	5218.88019	5104.09196
TL	203	0.10971	116.67700	13.200	0.09314	0.11602	0.11997
U	238	0.75016	2477.07700	1.700	0.76101	0.75380	0.73565
SC-2	45	518693.62300	0.00000	0.000	518822.65000	520522.88000	516735.34000
GE-1	72	1790911	0	0.000	1826921	1775729	1770082
GE-2	72	1081208	0	0.000	1087436	1076713	1079475
GE-3	72	44016.47300	0.00000	0.000	44193.26000	43361.23000	44494.93000
TB-3	159	83229.10300	0.00000	0.000	81761.68000	81089.57000	86836.06000

Run Name: 1831807E05
Tube Number: 24
Sample Number: **9872060**

Date/Time: 11/14/2018 16:08:12
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1679298	0	0.000	1679791	1665724	1692380
SC-3	45	12066.12700	0.00000	0.000	11986.00000	11976.17000	12236.21000
AL	27	43685.07877	185856.37700	2.400	42532.10201	44505.02776	44018.10653
B	11	105.27241	32943.88000	2.800	105.69437	107.93583	102.18704
BE	9	1.71929	914.70700	6.900	1.77560	1.58205	1.80021
CA	44	153007.47511	82153.83000	1.000	153703.26763	154092.48675	151226.67094
CR	52	296.93282	121955.89300	1.100	293.92096	296.43236	300.44513
FE	57	781489.01305	5282007.63000	2.500	761345.36857	800715.30691	782406.36368
K	39	22810.40106	211385.39300	2.200	22263.74106	22924.86674	23242.59537
MG	24	29814.11547	597372.70000	0.900	29516.55592	30068.63565	29857.15485
MN	55	4589.49204	521172.97000	1.500	4512.47002	4643.56906	4612.43704
NA	23	2711.91124	160427.14300	2.400	2642.63490	2768.70392	2724.39491
TI	47	4371.71123	23658.34700	3.400	4217.11798	4517.09896	4380.91674
V	51	139.60295	44242.84700	2.200	136.42803	142.40769	139.97314
IN-2	115	500084.38000	0.00000	0.000	499097.26000	499709.32000	501446.56000
IN-3	115	10347.64000	0.00000	0.000	9890.39000	10197.25000	10955.28000
AG	107	25.42640	22540.32000	2.000	25.92246	25.42885	24.92788
AS	75	174.40211	6151.46700	3.600	175.75632	179.90553	167.54446
BA	137	3758.37416	153690.59300	2.500	3840.07492	3779.02248	3656.02507
CD	111	55.53340	3705.89000	6.000	57.52368	57.37131	51.70521
CO	59	79.99889	60375.91000	2.100	81.59111	80.21255	78.19300
CU	63	2332.32179	1539201.85300	3.200	2343.96260	2399.95527	2253.04749
MO	98	46.41820	18563.83000	1.400	46.45152	47.06222	45.74086
NI	60	328.23538	73339.16300	4.000	337.38601	334.21405	313.10608
SB	121	105.33333	15807.02300	4.300	107.70154	108.17776	100.12068
SE	78	5.26565	611.12700	1.500	5.29550	5.32383	5.17763
SN	120	5433.39683	881034.57000	2.800	5488.93141	5551.22060	5260.03847
SR	88	672.98802	49409.94700	1.100	672.64129	680.70771	665.61507
ZN	66	8655.94034	445603.24700	2.400	8782.79528	8765.15141	8419.87433
BI-3	209	82008.72700	0.00000	0.000	78931.54000	81983.21000	85111.43000
PB	208	5270.85567	16030936.43000	1.300	5344.76850	5249.68989	5218.10860
TL	203	0.74781	736.72700	18.700	0.89884	0.62374	0.72086
U	238	2.93594	10661.89300	3.600	2.95238	3.03274	2.82269
SC-2	45	551950.29000	0.00000	0.000	539480.77000	563416.44000	552953.66000
GE-1	72	1752263	0	0.000	1750015	1758346	1748428
GE-2	72	1084108	0	0.000	1079969	1092584	1079772
GE-3	72	43608.53700	0.00000	0.000	42859.65000	43440.67000	44525.29000
TB-3	159	83835.68700	0.00000	0.000	80684.96000	85437.05000	85385.05000

Run Name: 1831807E05
Tube Number: 25
Sample Number: **9872061**

Date/Time: 11/14/2018 16:10:36
Batch: 183041063701A
Class: **********

Initial Vol: 1.41 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1700828	0	0.000	1690784	1740096	1671605
SC-3	45	12539.69300	0.00000	0.000	11875.85000	13106.89000	12636.34000
AL	27	52775.40992	232961.07300	4.700	55362.90971	50386.91503	52576.40501
B	11	237.16353	64916.45000	2.000	233.54565	235.56089	242.38403
BE	9	2.07582	1114.72300	5.700	1.93908	2.15709	2.13129
CA	44	171129.73424	95411.52700	3.000	175126.02712	165388.68836	172874.48725
CR	52	305.38125	130189.57700	3.300	313.97967	294.10965	308.05443
FE	57	769266.20633	5395965.54700	4.900	795092.26764	725801.51266	786904.83871
K	39	29848.70685	286010.59300	3.300	30676.18318	28775.89632	30094.04104
MG	24	33136.02790	689255.79700	3.200	34199.99384	32097.52096	33110.56890
MN	55	4489.18841	529201.00700	4.000	4601.59443	4282.21145	4583.75936
NA	23	4165.81969	233973.51700	5.400	4366.78056	3919.83152	4210.84701
TI	47	5649.23526	31744.94700	3.000	5843.96981	5584.93650	5518.79946
V	51	173.70100	57138.29700	4.900	177.76595	163.89488	179.44215
IN-2	115	488948.04000	0.00000	0.000	483830.52000	494366.58000	488647.02000
IN-3	115	10229.36300	0.00000	0.000	10298.03000	9797.69000	10592.37000
AG	107	29.21966	25599.37300	3.600	28.83504	30.40350	28.42042
AS	75	606.84527	21143.30300	2.600	598.85367	624.70942	596.97270
BA	137	6430.68734	260177.15000	2.800	6225.12330	6517.85423	6549.08450
CD	111	42.44867	2803.66000	4.300	40.93506	44.47965	41.93131
CO	59	166.62379	124297.14700	4.000	161.73932	174.17710	163.95497
CU	63	2301.75759	1501632.47700	3.600	2263.94637	2396.34813	2244.97826
MO	98	61.86306	24427.00300	3.500	60.63053	64.39698	60.56166
NI	60	496.51019	109710.62300	3.000	487.85353	513.68603	487.99101
SB	121	94.95752	14104.97000	8.200	85.94570	99.28323	99.64364
SE	78	3.27773	374.45000	5.300	3.47612	3.16562	3.19144
SN	120	7232.30194	1159580.94700	3.500	6992.91951	7502.43828	7201.54804
SR	88	860.82605	62474.55300	2.300	839.35092	878.45029	864.67695
ZN	66	9083.26940	462204.69700	3.800	8869.97104	9486.02606	8893.81110
BI-3	209	82599.55700	0.00000	0.000	80552.15000	83110.77000	84135.75000
PB	208	5920.24189	18140703.99700	1.300	5955.28280	5834.63145	5970.81143
TL	203	1.12878	1110.11700	14.800	1.14651	1.28598	0.95386
U	238	3.21485	11756.34000	4.300	3.37334	3.13859	3.13261
SC-2	45	546179.85000	0.00000	0.000	545893.39000	549066.83000	543579.33000
GE-1	72	1758016	0	0.000	1766333	1755727	1751988
GE-2	72	1059555	0	0.000	1042541	1066243	1069881
GE-3	72	43334.52700	0.00000	0.000	42929.53000	43301.65000	43772.40000
TB-3	159	87349.39300	0.00000	0.000	85547.91000	88124.50000	88375.77000

Run Name: 1831807E05
Tube Number: 26
Sample Number: **9872062**

Date/Time: 11/14/2018 16:13:00
Batch: 183041063701A
Class: **********

Initial Vol: 1.25 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1737647	0	0.000	1736179	1771059	1705703
SC-3	45	12639.88300	0.00000	0.000	13247.13000	12256.18000	12416.34000
AL	27	34289.46618	152595.31700	5.300	32182.24276	35336.17542	35349.98035
B	11	112.01172	35738.62700	3.100	115.96041	109.87212	110.20262
BE	9	1.98767	1091.38700	3.000	1.99136	2.04604	1.92560
CA	44	166615.93703	93607.47700	5.100	157626.11451	167789.78362	174431.91295
CR	52	357.10836	153247.59000	7.300	328.36509	363.73804	379.22194
FE	57	605248.88012	4280122.43300	4.300	575035.80957	623086.43665	617624.39413
K	39	4233.86672	44061.99700	4.500	4031.09424	4405.78113	4264.72478
MG	24	13929.34749	292001.43700	5.500	13072.09641	14181.10951	14534.83655
MN	55	2498.49619	296744.27000	5.800	2329.94489	2576.87600	2588.66769
NA	23	3685.49225	213388.65000	6.100	3429.72492	3785.24043	3841.51138
TI	47	1052.30951	5948.37700	12.600	915.84046	1060.90357	1180.18449
V	51	120.25198	39853.06700	6.500	111.29589	124.16205	125.29801
IN-2	115	516211.17300	0.00000	0.000	512957.99000	519029.74000	516645.79000
IN-3	115	11924.84700	0.00000	0.000	11526.41000	11669.33000	12578.80000
AG	107	14.86747	15186.00300	3.600	15.07429	15.26997	14.25815
AS	75	145.50750	5918.02300	7.200	138.99753	157.52621	139.99876
BA	137	10530.26347	496308.53300	2.700	10565.38505	10794.30164	10231.10370
CD	111	15.76014	1214.06700	4.800	16.61572	15.21834	15.44638
CO	59	90.28803	78498.06000	3.900	91.01951	93.42568	86.41890
CU	63	2525.60417	1920786.64000	2.700	2578.70401	2550.59068	2447.51781
MO	98	52.30837	24086.37000	3.900	52.10168	54.44697	50.37647
NI	60	403.96154	104094.66300	1.600	409.93640	404.75101	397.19722
SB	121	52.16600	9037.03300	2.600	52.41844	53.36947	50.71010
SE	78	6.77078	809.14000	6.100	6.43694	6.64095	7.23444
SN	120	2201.85087	411492.72700	2.800	2226.17434	2246.91573	2132.46254
SR	88	836.37793	70708.35000	3.300	849.40746	855.50100	804.22533
ZN	66	9777.90575	580007.81300	3.000	10010.32328	9870.75945	9452.63452
BI-3	209	79270.84000	0.00000	0.000	77301.83000	78730.63000	81780.06000
PB	208	3948.43563	11609379.82300	1.000	3991.42478	3941.38259	3912.49951
TL	203	0.81945	780.07000	2.300	0.84062	0.81401	0.80372
U	238	2.47697	8693.50700	5.500	2.60485	2.49423	2.33184
SC-2	45	552472.37300	0.00000	0.000	560851.01000	551135.69000	545430.42000
GE-1	72	1825204	0	0.000	1878490	1812181	1784941
GE-2	72	1111457	0	0.000	1121326	1105233	1107812
GE-3	72	44836.46700	0.00000	0.000	43611.56000	44636.15000	46261.69000
TB-3	159	84959.99300	0.00000	0.000	84451.36000	83573.91000	86854.71000

Run Name: 1831807E05
Tube Number: 27
Sample Number: **9872063**

Date/Time: 11/14/2018 16:15:24
Batch: 183041063701A
Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1829375	0	0.000	1837223	1856593	1794308
SC-3	45	13207.11000	0.00000	0.000	12706.66000	13016.81000	13897.86000
AL	27	37960.47636	176712.61700	1.000	38225.42325	38153.23993	37502.76589
B	11	86.22951	30985.47300	3.500	88.20691	82.77792	87.70371
BE	9	2.80340	1611.44000	3.300	2.84768	2.69617	2.86635
CA	44	46538.58746	27338.63700	3.400	46893.89295	47904.82825	44817.04119
CR	52	271.08114	121775.68700	3.400	277.30972	275.42925	260.50444
FE	57	480532.17389	3552924.01300	2.000	484889.50879	487266.18300	469440.82988
K	39	3216.36481	35894.75300	5.100	3383.81852	3211.42305	3053.85286
MG	24	4940.81456	108353.16000	2.700	5069.73905	4951.15312	4801.55151
MN	55	2099.80746	260864.96700	1.800	2129.50487	2112.33690	2057.58061
NA	23	3289.95602	203699.64300	3.900	3385.18032	3340.16377	3144.52397
TI	47	1834.72660	10874.97700	2.600	1825.70105	1792.47427	1886.00448
V	51	137.21134	47564.70300	3.100	142.18986	134.60312	134.84105
IN-2	115	520761.84000	0.00000	0.000	513802.79000	523387.79000	525094.94000
IN-3	115	11799.53000	0.00000	0.000	11090.05000	11572.18000	12736.36000
AG	107	18.73263	18877.71300	8.300	19.76602	19.48763	16.94425
AS	75	193.92283	7792.98300	3.600	199.93314	195.65256	186.18281
BA	137	9440.04678	439740.69700	4.000	9726.55753	9577.68233	9015.90049
CD	111	24.21984	1846.81700	2.300	24.72307	23.63920	24.29724
CO	59	78.31268	67308.07000	4.800	82.40730	77.41379	75.11693
CU	63	16092.28782	12081714.40300	6.300	17014.85343	16253.93434	15008.07570
MO	98	73.79046	33530.67000	6.400	76.05480	76.94780	68.36879
NI	60	429.97488	109343.84300	6.500	453.85614	436.53085	399.53763
SB	121	84.87005	14512.20300	5.100	88.57360	85.89249	80.14405
SE	78	6.27139	756.91300	6.800	5.84928	6.26303	6.70184
SN	120	3670.28750	677634.80700	5.000	3809.93020	3739.81695	3461.11536
SR	88	591.48861	49459.84700	3.100	607.65402	595.40734	571.40447
ZN	66	9516.66857	558001.98700	4.200	9806.71716	9677.66298	9065.62556
BI-3	209	143669.55300	0.00000	0.000	138536.20000	143606.65000	148865.81000
PB	208	12674.90536	67530710.24700	1.800	12935.57272	12533.08596	12556.05741
TL	203	0.35439	633.38700	16.700	0.38985	0.38716	0.28615
U	238	1.70964	10892.15300	3.400	1.77127	1.65495	1.70270
SC-2	45	571121.82700	0.00000	0.000	564505.93000	567739.25000	581120.30000
GE-1	72	1866963	0	0.000	1889712	1862611	1848568
GE-2	72	1134250	0	0.000	1126791	1133565	1142393
GE-3	72	45351.88000	0.00000	0.000	45238.62000	45187.85000	45629.17000
TB-3	159	89061.36000	0.00000	0.000	86644.13000	87721.54000	92818.41000

Run Name: 1831807E05
Tube Number: 28
Sample Number: **9872063**

Date/Time: 11/14/2018 16:17:46
Batch: 183041063701A
Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1851388	0	0.000	1848117	1873713	1832335
SC-3	45	12579.79300	0.00000	0.000	12336.33000	12316.24000	13086.81000
AL	27	15592.14320	69116.92300	4.000	16050.99935	15848.20181	14877.22844
B	11	31.69016	17160.54000	1.400	32.17519	31.32915	31.56615
BE	9	1.27606	753.36300	2.700	1.31100	1.27543	1.24174
CA	44	18376.42816	10294.41000	2.500	18365.52091	18834.08164	17929.68192
CR	52	110.55848	47635.11000	2.100	110.98523	112.60986	108.08033
FE	57	201986.67727	1423114.40700	2.600	197616.91845	207890.47482	200452.63855
K	39	1380.67837	16777.64000	7.300	1449.02604	1428.31762	1264.69147
MG	24	2034.70039	42580.24300	2.000	2025.10503	2078.44355	2000.55257
MN	55	869.92679	102958.82300	3.000	868.52793	896.28376	844.96867
NA	23	1234.91043	98350.31000	3.200	1279.89264	1217.24384	1207.59480
TI	47	788.73600	4451.00700	3.300	759.26921	809.39041	797.54839
V	51	56.41299	18636.84300	2.500	57.51568	56.86705	54.85625
IN-2	115	530963.31000	0.00000	0.000	536583.10000	535346.25000	520960.58000
IN-3	115	12587.18700	0.00000	0.000	12317.24000	12481.13000	12963.19000
AG	107	6.87493	7425.82000	2.300	6.98516	6.69680	6.94284
AS	75	71.67885	3085.71700	1.400	71.07394	72.86585	71.09676
BA	137	3471.59300	172800.89700	1.300	3502.17270	3493.77747	3418.82883
CD	111	9.22275	750.69700	5.500	9.66739	8.67233	9.32853
CO	59	28.78510	26457.00700	3.200	27.71222	29.28339	29.35969
CU	63	5898.40998	4738237.22300	0.600	5936.02945	5874.63512	5884.56537
MO	98	27.35879	13330.83000	4.900	28.43601	27.79046	25.84991
NI	60	161.47174	43992.95300	1.800	163.03409	158.02757	163.35358
SB	121	32.36635	5928.37000	1.500	32.75163	32.54153	31.80589
SE	78	2.21917	277.78000	1.800	2.19127	2.20186	2.26437
SN	120	1335.24242	263577.39000	1.300	1346.85921	1343.22296	1315.64509
SR	88	220.45084	19692.24000	2.400	221.68613	225.10864	214.55774
ZN	66	3473.05287	217638.70000	0.800	3494.89702	3483.84627	3440.41532
BI-3	209	101484.66700	0.00000	0.000	99307.99000	99638.38000	105507.63000
PB	208	7060.73992	26571719.60300	2.000	7083.15455	7187.72773	6911.33749
TL	203	0.22214	293.35700	19.800	0.17364	0.23325	0.25954
U	238	1.00192	4524.43000	3.700	1.00347	0.96380	1.03850
SC-2	45	552072.66000	0.00000	0.000	559943.27000	552262.65000	544012.06000
GE-1	72	1920878	0	0.000	1913550	1935815	1913270
GE-2	72	1141955	0	0.000	1150994	1147584	1127286
GE-3	72	45097.12300	0.00000	0.000	43903.33000	44535.12000	46852.92000
TB-3	159	84239.20700	0.00000	0.000	83121.61000	82810.46000	86785.55000

Run Name: 1831807E05
Tube Number: 29
Sample Number: **9872064**

Date/Time: 11/14/2018 16:20:10
Batch: 183041063701A
Class: **********

Initial Vol: 1.33 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1867215	0	0.000	1870428	1857198	1874019
SC-3	45	12900.07000	0.00000	0.000	11805.72000	13797.68000	13096.81000
AL	27	28124.72402	127504.65000	6.400	29998.97780	26378.50387	27996.69040
B	11	97.59412	34617.08000	2.800	94.50564	98.91457	99.36214
BE	9	2.65697	1560.10300	7.300	2.46934	2.85485	2.64672
CA	44	86218.59257	49373.99000	5.000	90904.31157	82468.71268	85282.75345
CR	52	1281.82503	559017.91000	7.100	1378.39029	1199.10727	1267.97754
FE	57	391954.53541	2824403.08000	5.300	414740.37199	373633.06464	387490.16959
K	39	6289.07855	64784.47700	8.200	6775.82653	5746.37363	6345.03549
MG	24	12226.30628	261053.03000	6.700	13160.68060	11604.87126	11913.36697
MN	55	2254.31158	272808.75700	6.200	2404.76349	2126.76182	2231.40944
NA	23	4324.30888	247883.75000	6.900	4657.48495	4090.02505	4225.41665
TI	47	1353.40673	7819.33300	4.200	1375.35255	1288.37137	1396.49625
V	51	138.22457	46694.85700	5.700	146.15132	130.27950	138.24287
IN-2	115	525021.13000	0.00000	0.000	528072.37000	523395.70000	523595.32000
IN-3	115	11986.86000	0.00000	0.000	11470.60000	12022.91000	12467.07000
AG	107	29.34179	30122.31000	5.400	29.74019	30.68892	27.59626
AS	75	129.84315	5309.09300	3.400	134.81102	128.06761	126.65081
BA	137	5674.27545	268876.40300	2.200	5818.27689	5612.08894	5592.46053
CD	111	40.75781	3154.40300	3.600	42.41792	40.10837	39.74715
CO	59	65.96574	57623.60300	5.700	69.61763	66.21315	62.06645
CU	63	10436.96321	7975515.71700	4.100	10925.70718	10272.45937	10112.72309
MO	98	63.77481	29528.00000	2.500	64.88920	61.96733	64.46790
NI	60	460.39475	119191.88700	3.300	476.58318	458.16952	446.43154
SB	121	54.93309	9560.63300	4.300	57.18200	55.12410	52.49315
SE	78	11.52999	1396.07700	1.500	11.65599	11.59969	11.33430
SN	120	1649.00903	309851.10300	2.500	1681.52505	1661.74882	1603.75322
SR	88	494.76797	42074.82700	2.800	496.88710	507.33974	480.07706
ZN	66	22360.58589	1333404.35700	3.200	22944.13756	22574.98453	21562.63559
BI-3	209	79136.79700	0.00000	0.000	78236.78000	79566.25000	79607.36000
PB	208	4586.82455	13466692.19700	0.700	4547.21766	4605.68809	4607.56790
TL	203	1.10921	1046.77300	7.500	1.02766	1.19340	1.10656
U	238	3.00764	10545.23700	0.400	3.00758	2.99707	3.01828
SC-2	45	561845.77300	0.00000	0.000	564673.08000	562871.79000	557992.45000
GE-1	72	1893096	0	0.000	1880583	1903679	1895025
GE-2	72	1109409	0	0.000	1121278	1105569	1101379
GE-3	72	44334.61300	0.00000	0.000	43280.81000	44084.04000	45638.99000
TB-3	159	87849.52300	0.00000	0.000	86675.90000	87490.45000	89382.22000

Run Name: 1831807E05
Tube Number: 30
Sample Number: **9872065**

Date/Time: 11/14/2018 16:22:33
Batch: 183041063701A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1872817	0	0.000	1941794	1851447	1825210
SC-3	45	12713.29000	0.00000	0.000	12576.48000	12236.04000	13327.35000
AL	27	54667.02052	244814.84000	3.000	54920.68734	56184.77730	52895.59693
B	11	79.93440	30060.71300	1.900	78.35632	80.10868	81.33819
BE	9	3.71188	2176.19000	5.000	3.51191	3.74412	3.87962
CA	44	84934.82767	48009.12000	3.900	84166.15397	88591.43782	82046.89123
CR	52	601.14385	259390.62700	2.800	609.81837	611.84043	581.77277
FE	57	163152.08808	1160870.86300	3.300	161989.82244	169008.08169	158458.36012
K	39	6826.88932	69185.93700	3.900	6856.39611	7074.25461	6550.01724
MG	24	21153.72753	446347.40000	2.000	21222.36895	21535.52987	20703.28378
MN	55	1760.14569	210458.97300	2.600	1761.01679	1805.20283	1714.21746
NA	23	3945.79896	227039.95700	2.600	3957.35856	4041.52993	3838.50839
TI	47	1285.51010	7322.30700	5.600	1234.29900	1367.08502	1255.14629
V	51	199.42100	66527.59700	3.300	197.33128	206.70536	194.22636
IN-2	115	523856.02700	0.00000	0.000	526844.41000	520466.89000	524256.78000
IN-3	115	12063.97000	0.00000	0.000	11891.31000	12522.54000	11778.06000
AG	107	148.23085	153098.83000	4.900	149.35564	140.42109	154.91583
AS	75	38.69661	1600.78300	4.700	38.37195	37.07974	40.63814
BA	137	4294.01818	204744.16000	3.800	4276.05928	4138.61925	4467.37601
CD	111	68.95062	5369.14300	5.200	69.95072	64.98999	71.91116
CO	59	44.31987	39004.19000	3.900	43.37062	43.26977	46.31921
CU	63	8236.53449	6335711.78000	4.400	8269.98575	7858.51528	8581.10244
MO	98	8.77757	4144.22300	7.600	8.26034	8.54150	9.53086
NI	60	702.50611	183020.70000	4.100	699.24792	675.13359	733.13681
SB	121	19.92496	3500.68000	8.000	19.54830	18.55756	21.66901
SE	78	13.44082	1622.54700	0.400	13.39916	13.41886	13.50444
SN	120	1299.40968	245735.69000	3.100	1305.82792	1256.66214	1335.73897
SR	88	792.63214	67811.05000	3.500	797.62214	762.48326	817.79101
ZN	66	17460.63446	1047872.17000	4.200	17478.95555	16711.63527	18191.31256
BI-3	209	397670.51700	0.00000	0.000	389460.15000	403618.16000	399933.24000
PB	208	506.80923	7476507.65000	1.500	510.13671	498.16570	512.12528
TL	203	0.21357	1106.77700	6.700	0.19963	0.21301	0.22808
U	238	2.32421	40967.18300	2.000	2.33424	2.27351	2.36488
SC-2	45	559469.60000	0.00000	0.000	554707.80000	555448.16000	568252.84000
GE-1	72	1873183	0	0.000	1887552	1862543	1869453
GE-2	72	1106821	0	0.000	1110091	1095203	1115170
GE-3	72	43953.31300	0.00000	0.000	41846.75000	44785.68000	45227.51000
TB-3	159	89063.92000	0.00000	0.000	87750.84000	88195.03000	91245.89000

Run Name: 1831807E05
Tube Number: 31
Sample Number: **9874411**

Date/Time: 11/14/2018 16:24:56
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1958650	0	0.000	1991772	1934924	1949252
SC-3	45	13317.16300	0.00000	0.000	12886.66000	13377.27000	13687.56000
AL	27	43298.50835	203302.91300	0.100	43308.53116	43241.74736	43345.24652
B	11	20.27933	15010.75000	1.900	20.18377	20.70788	19.94632
BE	9	2.89583	1782.13300	0.500	2.91191	2.89193	2.88364
CA	44	4601.03869	2743.76000	7.200	4231.92613	4865.60587	4705.58407
CR	52	212.04946	96232.79000	2.000	215.53264	213.25120	207.36455
FE	57	116474.72673	868666.91000	1.700	117533.98603	117686.96369	114203.23048
K	39	5825.68450	62489.96700	0.900	5797.05679	5791.93923	5888.05747
MG	24	13812.17352	305445.76000	0.800	13919.84564	13825.11428	13691.56064
MN	55	765.38946	95941.36700	1.000	773.71162	760.18771	762.26904
NA	23	298.80115	57901.60300	9.300	330.50714	286.71696	279.17935
TI	47	1711.78278	10217.72700	3.500	1781.13294	1669.12447	1685.09093
V	51	133.28205	46617.67000	0.800	133.02493	134.48948	132.33175
IN-2	115	541139.83000	0.00000	0.000	541675.02000	539048.91000	542695.56000
IN-3	115	12854.64300	0.00000	0.000	11858.32000	13279.56000	13426.05000
AG	107	0.10053	120.00700	35.100	0.10946	0.06167	0.13044
AS	75	17.22372	765.36300	7.200	18.02997	17.83779	15.80340
BA	137	148.55839	7562.62300	2.600	147.25255	145.57772	152.84489
CD	111	0.25669	22.66700	74.200	0.04405	0.41141	0.31462
CO	59	69.51845	65043.91700	6.500	74.61722	66.15600	67.78213
CU	63	130.17589	107110.32700	4.100	136.13266	125.70466	128.69036
MO	98	3.11710	1610.18000	6.400	3.33802	2.94617	3.06709
NI	60	560.64774	155389.02000	5.600	596.44972	547.37065	538.12286
SB	121	0.53956	120.01000	24.600	0.53516	0.67434	0.40917
SE	78	0.36236	52.66700	9.600	0.37260	0.39090	0.32359
SN	120	14.19328	2907.14300	3.900	14.02879	14.80889	13.74214
SR	88	37.58962	3437.29000	3.900	37.93434	35.98679	38.84774
ZN	66	174.19369	11171.93000	2.100	170.09311	175.47980	177.00815
BI-3	209	75276.00700	0.00000	0.000	73709.77000	76386.73000	75731.52000
PB	208	57.58762	160940.25000	1.600	56.89885	57.24995	58.61406
TL	203	0.50889	470.03700	27.600	0.35903	0.63759	0.53004
U	238	6.61483	22037.84300	1.500	6.62704	6.50734	6.71011
SC-2	45	598324.83700	0.00000	0.000	607044.64000	584930.93000	602998.94000
GE-1	72	1895016	0	0.000	1950388	1871382	1863276
GE-2	72	1130849	0	0.000	1139732	1122300	1130515
GE-3	72	46180.39700	0.00000	0.000	45548.41000	45949.63000	47043.15000
TB-3	159	91726.93700	0.00000	0.000	91479.51000	90792.23000	92909.07000

Run Name: 1831807E05 Date/Time: 11/14/2018 16:27:21
Tube Number: 32
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1841589	0	0.000	1883034	1851052	1790680
SC-3	45	12689.92700	0.00000	0.000	11915.83000	12686.60000	13467.35000
AL	27	2755.04613	12309.40000	10.500	3009.52845	2817.21782	2438.39214
B	11	261.15083	76512.79700	0.100	261.14922	261.45483	260.84845
BE	9	28.52970	16336.86300	1.400	28.64045	28.87111	28.07753
CA	44	2781.18937	1576.83700	12.100	3012.88705	2934.70548	2395.97559
CR	52	275.77626	118931.20000	5.000	291.57036	269.07319	266.68524
FE	57	2792.83424	19872.19000	2.400	2831.52924	2832.49597	2714.47751
K	39	2658.57696	29132.06000	5.700	2816.46278	2647.94441	2511.32367
MG	24	2759.12553	58136.41700	4.100	2855.54162	2785.73806	2636.09693
MN	55	269.85602	32196.19000	7.000	291.13298	254.70553	263.72955
NA	23	2538.41581	160287.41700	5.500	2673.07033	2549.28280	2392.89431
TI	47	282.91774	1606.85300	5.500	293.80724	290.01698	264.92898
V	51	272.97008	90789.52000	4.800	285.38905	274.38698	259.13422
IN-2	115	548671.97000	0.00000	0.000	551286.94000	553078.08000	541650.89000
IN-3	115	14192.71300	0.00000	0.000	13703.60000	14810.44000	14064.10000
AG	107	25.01168	30409.72300	3.600	25.19128	24.03435	25.80940
AS	75	247.64594	11978.08000	3.100	251.91067	238.89601	252.13113
BA	137	258.91093	14532.24700	5.700	253.71104	247.56015	275.46159
CD	111	25.06932	2298.22300	4.800	24.79565	24.02897	26.38332
CO	59	253.09719	261976.24000	3.900	255.30353	242.38989	261.59815
CU	63	259.44352	235237.82300	5.100	267.79065	244.12410	266.41582
MO	98	25.51560	14011.46300	6.800	27.25040	23.80049	25.49591
NI	60	255.31021	78280.38300	4.800	261.36022	241.20952	263.36089
SB	121	25.29712	5231.34700	2.800	24.64707	25.17205	26.07223
SE	78	27.05824	3413.33000	0.300	27.08147	27.13544	26.95781
SN	120	27.14544	6081.73700	7.600	29.51835	25.70200	26.21598
SR	88	24.70424	2497.03700	9.300	23.34944	23.40498	27.35831
ZN	66	261.07494	18443.41000	5.100	263.65807	246.65500	272.91177
BI-3	209	76356.49700	0.00000	0.000	72291.55000	77060.97000	79716.97000
PB	208	28.43044	80588.43700	2.200	29.14683	28.11540	28.02909
TL	203	26.29026	23406.36300	3.500	26.60488	27.00933	25.25658
U	238	27.17724	91689.99300	3.600	28.01428	27.42433	26.09311
SC-2	45	551637.79000	0.00000	0.000	554654.99000	554930.58000	545327.80000
GE-1	72	1899513	0	0.000	1933379	1912839	1852321
GE-2	72	1131197	0	0.000	1136253	1130003	1127334
GE-3	72	44970.15300	0.00000	0.000	43983.73000	44635.53000	46291.20000
TB-3	159	89182.17700	0.00000	0.000	86402.22000	89372.63000	91771.68000

Run Name: 1831807E05 Date/Time: 11/14/2018 16:29:45
Tube Number: 33
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1784080	0	0.000	1811345	1759015	1781882
SC-3	45	12302.81300	0.00000	0.000	11375.37000	12556.18000	12976.89000
AL	27	2.18674	46.67000	562.800	-0.84184	-8.32324	15.72529
B	11	15.32931	12432.89300	10.900	16.85625	15.58406	13.54761
BE	9	-0.00546	16.00000	0.000	-0.00589	-0.00505	-0.00542
CA	44	-10.85619	6.66700	0.000	15.48639	-24.02748	-24.02748
CR	52	-0.03321	486.70700	0.000	-0.20602	-0.13428	0.24066
FE	57	6.43005	80.00300	22.600	7.35652	4.75245	7.18119
K	39	18.50834	3744.10300	411.900	101.14452	3.43943	-49.05892
MG	24	-1.46563	66.67000	0.000	-2.04226	-2.77092	0.41630
MN	55	0.02269	40.00000	1057.500	-0.21895	0.02616	0.26085
NA	23	-145.19487	33124.30300	0.000	-68.50213	-163.25980	-203.82267
TI	47	2.42910	13.33300	110.900	1.96007	5.32723	0.00000
V	51	0.04170	26.66700	31.400	0.02666	0.05069	0.04774
IN-2	115	535635.18000	0.00000	0.000	531272.94000	537734.11000	537898.49000
IN-3	115	13053.00000	0.00000	0.000	12874.36000	12631.36000	13653.28000
AG	107	0.01270	23.33300	235.000	-0.00863	0.04680	-0.00008
AS	75	0.03809	14.66700	233.200	-0.01580	-0.01053	0.14060
BA	137	0.06815	10.00000	271.900	0.07562	-0.12076	0.24960
CD	111	0.00002	0.66700	87337.200	-0.00815	0.01635	-0.00815
CO	59	0.05379	53.33700	156.100	0.00000	0.01085	0.15053
CU	63	0.16951	656.72000	72.700	0.02729	0.23822	0.24301
MO	98	-0.00972	66.67000	0.000	-0.04012	-0.03818	0.04916
NI	60	0.03891	93.33700	327.300	-0.03703	-0.03219	0.18596
SB	121	0.56478	126.67300	38.300	0.80591	0.38685	0.50158
SE	78	0.01581	9.55300	107.500	0.03097	-0.00258	0.01905
SN	120	1.59496	373.36300	20.800	1.26361	1.59512	1.92614
SR	88	-0.02659	6.66700	0.000	-0.10097	0.12217	-0.10097
ZN	66	0.51635	46.66700	44.600	0.73619	0.27717	0.53568
BI-3	209	73831.82000	0.00000	0.000	72553.93000	71981.32000	76960.21000
PB	208	1.40874	3957.17700	10.300	1.54757	1.42161	1.25704
TL	203	-0.00997	13.33300	0.000	-0.01324	-0.02506	0.00838
U	238	0.01210	56.67000	100.300	0.00700	0.02595	0.00335
SC-2	45	534308.92300	0.00000	0.000	532113.86000	535517.53000	535295.38000
GE-1	72	1879147	0	0.000	1908102	1854844	1874495
GE-2	72	1119666	0	0.000	1100212	1139008	1119779
GE-3	72	44882.96700	0.00000	0.000	43401.40000	44645.56000	46601.94000
TB-3	159	85067.18000	0.00000	0.000	83754.34000	83996.24000	87450.96000

Run Name: 1831807E05
Tube Number: 34
Sample Number: **9874412**

Date/Time: 11/14/2018 16:32:10
Batch: 183041063701A
Class: **********

Initial Vol: 1.14 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1894909	0	0.000	1910823	1927341	1846562
SC-3	45	12809.98300	0.00000	0.000	12226.04000	13056.90000	13147.01000
AL	27	33119.31223	149564.75300	0.700	33397.52818	32969.24786	32991.16066
B	11	109.19144	38213.71700	2.000	109.00298	107.07164	111.49970
BE	9	3.14327	1869.47700	0.700	3.12437	3.13742	3.16802
CA	44	90007.57052	51297.20000	1.600	91559.89955	88702.84919	89759.96282
CR	52	302.76352	131869.29300	3.800	315.79279	293.75169	298.74607
FE	57	152981.92699	1096993.52300	2.800	157787.69666	149541.47530	151616.60901
K	39	7545.32695	76691.95300	2.500	7749.85417	7369.91998	7516.20671
MG	24	10541.65777	224153.13300	2.800	10860.89534	10278.72574	10485.35222
MN	55	1494.56090	180136.11300	2.100	1520.60937	1460.75529	1502.31803
NA	23	6646.30474	356931.24300	2.700	6848.31810	6518.53032	6572.06581
TI	47	1306.90127	7495.74000	6.500	1404.70439	1255.52288	1260.47652
V	51	253.57815	85190.24300	5.100	268.63842	246.29314	245.80289
IN-2	115	525871.28700	0.00000	0.000	516651.76000	527759.36000	533202.74000
IN-3	115	12942.34000	0.00000	0.000	12400.51000	13316.19000	13110.32000
AG	107	35.69610	39574.15000	2.900	36.88708	35.07058	35.13065
AS	75	77.40308	3423.13000	2.700	79.59243	75.37822	77.23859
BA	137	3392.39489	173597.16000	1.600	3448.66554	3341.40455	3387.11458
CD	111	11.10306	928.04300	7.100	11.57451	10.19690	11.53778
CO	59	43.28064	40879.89700	1.500	43.40750	42.58959	43.84481
CU	63	1200.68994	991530.61000	2.700	1237.75757	1175.33408	1188.97817
MO	98	20.59123	10344.60000	5.600	20.14009	19.73961	21.89400
NI	60	211.67148	59217.43700	3.300	219.60257	206.50990	208.90198
SB	121	39.19461	7382.47300	2.300	38.31464	39.14235	40.12684
SE	78	8.04185	977.59300	1.200	7.96003	8.14920	8.01632
SN	120	383.63730	77862.48000	2.900	395.21716	373.27746	382.41727
SR	88	537.74590	49382.97700	2.400	541.03224	523.68218	548.52327
ZN	66	2989.35689	192540.55700	2.200	3059.73996	2930.38490	2977.94581
BI-3	209	81039.36300	0.00000	0.000	77826.35000	82696.36000	82595.38000
PB	208	2817.30645	8465494.82300	2.400	2891.79303	2758.10603	2802.02031
TL	203	0.64790	636.72300	18.500	0.59227	0.56629	0.78514
U	238	2.77441	9947.91700	6.700	2.98563	2.70553	2.63207
SC-2	45	568243.28700	0.00000	0.000	561309.02000	571205.30000	572215.54000
GE-1	72	1882140	0	0.000	1855241	1919372	1871808
GE-2	72	1106418	0	0.000	1089061	1113939	1116255
GE-3	72	43281.15000	0.00000	0.000	42026.55000	43973.55000	43843.35000
TB-3	159	87386.59000	0.00000	0.000	85305.95000	88668.85000	88184.97000

Run Name: 1831807E05
Tube Number: 35
Sample Number: **9874413**

Date/Time: 11/14/2018 16:34:34
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1865019	0	0.000	1851704	1910142	1833210
SC-3	45	12900.16700	0.00000	0.000	12045.87000	12926.89000	13727.74000
AL	27	15677.57833	71100.69700	7.400	16867.01484	15626.21152	14539.50861
B	11	24.50511	15398.48000	5.300	25.73539	23.16380	24.61614
BE	9	1.74693	1032.04700	3.900	1.69452	1.82374	1.72252
CA	44	47852.39790	27412.06300	6.300	49991.05758	49161.33222	44404.80392
CR	52	104.36313	46096.13700	3.300	107.49582	104.94485	100.64870
FE	57	77338.94204	557948.18000	3.900	80333.51162	77358.49456	74324.81995
K	39	1831.73495	21574.68300	6.100	1951.38006	1811.44067	1732.38412
MG	24	3681.00860	78822.14700	3.500	3795.88593	3706.44169	3540.69819
MN	55	574.11037	69585.92000	4.900	599.84608	578.27934	544.20570
NA	23	875.61921	83533.99700	9.100	951.38870	882.95816	792.51076
TI	47	790.61864	4574.32700	3.800	807.18914	755.62901	809.03778
V	51	415.83375	140622.98700	4.000	433.97617	412.42980	401.09527
IN-2	115	538649.79000	0.00000	0.000	533994.18000	539785.31000	542169.88000
IN-3	115	13000.21700	0.00000	0.000	12629.73000	12427.80000	13943.12000
AG	107	17.13167	19058.01700	4.700	17.45734	17.73167	16.20599
AS	75	62.78676	2784.98300	7.200	65.26327	65.52482	57.57218
BA	137	1510.89051	77596.30700	4.000	1489.96970	1578.37970	1464.32213
CD	111	8.58305	722.02700	3.100	8.79077	8.28604	8.67234
CO	59	27.84047	26376.99700	5.600	27.01524	29.65245	26.85372
CU	63	702.51080	582197.66000	4.700	713.01336	728.69392	665.82511
MO	98	21.08171	10614.80000	5.500	20.79985	22.35177	20.09351
NI	60	185.42498	52124.97000	2.100	184.07701	189.72348	182.47447
SB	121	33.02945	6241.83700	12.600	29.15393	37.45335	32.48108
SE	78	10.26988	1276.51000	3.800	10.26324	10.66402	9.88239
SN	120	242.41479	49435.66300	2.900	238.35220	250.42333	238.46886
SR	88	320.87675	29550.58700	4.900	332.24078	327.63416	302.75531
ZN	66	9549.09003	616959.31000	4.400	9738.52621	9837.31149	9071.43239
BI-3	209	79879.21700	0.00000	0.000	78460.38000	79304.48000	81872.79000
PB	208	2255.19259	6683443.18300	0.800	2233.98856	2268.82786	2262.76135
TL	203	1.76277	1663.54700	10.700	1.69173	1.97639	1.62019
U	238	2.10448	7462.72700	8.300	1.97224	2.03961	2.30158
SC-2	45	559780.20000	0.00000	0.000	556785.93000	554054.64000	568500.03000
GE-1	72	1886740	0	0.000	1871669	1923895	1864656
GE-2	72	1113913	0	0.000	1113668	1109904	1118166
GE-3	72	43558.36000	0.00000	0.000	42227.10000	43943.18000	44504.80000
TB-3	159	88420.15300	0.00000	0.000	85617.65000	87842.84000	91799.97000

Run Name: 1831807E05
Tube Number: 36
Sample Number: **9874413**

Date/Time: 11/14/2018 16:36:58
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1820901	0	0.000	1824850	1834711	1803142
SC-3	45	12693.23000	0.00000	0.000	12416.37000	12896.64000	12766.68000
AL	27	8008.43657	35874.55700	2.100	7893.23357	7927.58560	8204.49055
B	11	4.98371	10038.33300	22.900	3.89293	6.16989	4.88831
BE	9	0.93526	548.01700	6.400	0.92929	0.87845	0.99804
CA	44	24263.84844	13727.62000	6.700	22468.31937	24648.30230	25674.92364
CR	52	52.17587	22960.60300	6.000	51.95380	49.17220	55.40159
FE	57	39340.48392	279747.78300	3.000	39045.51768	38350.25756	40625.67651
K	39	930.10683	12629.76000	7.800	978.01623	966.22764	846.07663
MG	24	1882.72537	39782.02300	1.500	1865.06793	1915.84323	1867.26495
MN	55	285.67001	34154.19000	5.300	285.38957	270.70480	300.91568
NA	23	358.51947	58035.62700	8.700	345.62318	394.25926	335.67597
TI	47	428.36101	2440.36700	21.500	375.35750	375.21704	534.50849
V	51	211.07696	70363.63300	1.300	210.11470	208.87233	214.24385
IN-2	115	538234.15300	0.00000	0.000	530024.66000	539212.08000	545465.72000
IN-3	115	12891.96300	0.00000	0.000	12769.87000	13059.52000	12846.50000
AG	107	8.50327	9400.61700	5.100	8.75820	8.00028	8.75133
AS	75	31.85271	1411.42000	7.600	30.33223	30.59714	34.62877
BA	137	778.56608	39702.23300	4.200	760.91230	758.78914	815.99681
CD	111	4.23221	353.34300	4.600	4.06421	4.44793	4.18449
CO	59	14.04343	13213.79300	5.500	13.51462	13.68722	14.92846
CU	63	352.05717	290160.60300	3.300	341.44364	350.00604	364.72182
MO	98	10.20072	5137.95300	10.300	9.61301	9.57550	11.41364
NI	60	94.38067	26363.60700	2.100	94.88628	92.20512	96.05062
SB	121	17.28621	3253.91000	6.600	15.98239	17.84294	18.03330
SE	78	4.77987	597.57000	6.200	5.08158	4.48726	4.77078
SN	120	118.66177	24033.19700	6.100	115.32510	113.69107	126.96915
SR	88	161.90086	14822.45000	2.000	159.79418	165.64477	160.26363
ZN	66	4704.61892	301995.69300	2.000	4624.42597	4683.17836	4806.25243
BI-3	209	76195.07000	0.00000	0.000	72905.97000	76797.70000	78881.54000
PB	208	1174.05848	3317897.84300	1.000	1185.09124	1176.02976	1161.05444
TL	203	0.83047	763.40300	19.400	0.69275	0.79046	1.00819
U	238	1.11520	3767.49000	10.000	1.20128	1.15486	0.98945
SC-2	45	553193.87300	0.00000	0.000	552883.98000	544460.50000	562237.14000
GE-1	72	1934087	0	0.000	1917315	1970214	1914733
GE-2	72	1138619	0	0.000	1140176	1125867	1149815
GE-3	72	46411.87700	0.00000	0.000	44735.60000	46391.93000	48108.10000
TB-3	159	86480.17700	0.00000	0.000	82347.10000	86855.15000	90238.28000

Run Name: 1831807E05 Date/Time: 11/14/2018 16:39:23
Tube Number: 37
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1791113	0	0.000	1791911	1830586	1750841
SC-3	45	12910.12300	0.00000	0.000	12776.70000	13587.45000	12366.22000
AL	27	2679.80540	12196.15700	12.800	2475.10275	2487.83216	3076.48129
B	11	254.22444	72672.60700	0.900	251.72749	256.28112	254.66469
BE	9	27.76094	15451.89700	2.900	27.87834	26.90824	28.49624
CA	44	2485.20818	1446.82700	12.000	2474.03741	2788.16237	2193.42476
CR	52	272.92835	119817.86300	4.200	271.10087	262.51471	285.16948
FE	57	2673.75804	19347.93000	6.000	2564.81249	2599.61063	2856.85099
K	39	2502.01761	28100.08700	9.400	2496.67358	2269.89527	2739.48399
MG	24	2678.26304	57376.44700	7.300	2676.09146	2484.53042	2874.16723
MN	55	262.51193	31885.55700	4.900	258.65915	252.14373	276.73293
NA	23	2458.43512	159216.97300	8.100	2448.83263	2264.63653	2661.83620
TI	47	260.43666	1506.82700	3.300	254.81155	256.01848	270.47995
V	51	264.51804	89490.89700	7.000	261.65398	247.67517	284.22497
IN-2	115	535539.75700	0.00000	0.000	544148.02000	531056.88000	531414.37000
IN-3	115	13160.61700	0.00000	0.000	13131.19000	12840.29000	13510.37000
AG	107	27.31461	30823.89300	2.400	26.67266	27.30423	27.96694
AS	75	276.01062	12386.41700	1.600	271.00381	279.85046	277.17760
BA	137	262.36035	13661.21000	2.300	256.10127	268.01790	262.96189
CD	111	27.34003	2324.23000	3.300	27.33875	28.24770	26.43365
CO	59	272.36150	261575.62000	2.800	264.66016	279.97429	272.45004
CU	63	279.91839	235571.17300	1.200	278.41007	283.65556	277.68955
MO	98	27.91141	14235.19300	2.000	27.67309	27.51492	28.54622
NI	60	269.88924	76792.23700	2.000	269.00943	275.68719	264.97109
SB	121	26.88223	5151.32000	3.800	27.93194	26.79490	25.91986
SE	78	27.00533	3324.64300	2.000	26.60412	27.63376	26.77811
SN	120	28.92506	6018.36300	2.200	28.67693	28.43762	29.66064
SR	88	26.50945	2483.70700	3.500	26.19634	27.56070	25.77131
ZN	66	274.23928	17972.92300	5.100	262.60376	289.70396	270.41013
BI-3	209	74247.46700	0.00000	0.000	72622.95000	74536.61000	75582.84000
PB	208	28.20307	77794.23300	0.600	28.03892	28.35135	28.21893
TL	203	26.55425	23005.71300	0.600	26.47163	26.46048	26.73063
U	238	27.14836	89167.28300	0.500	26.97945	27.22543	27.24018
SC-2	45	537898.35300	0.00000	0.000	544153.55000	540570.15000	528971.36000
GE-1	72	1862517	0	0.000	1875437	1884630	1827486
GE-2	72	1111602	0	0.000	1117946	1105649	1111212
GE-3	72	45752.87300	0.00000	0.000	43742.80000	46171.45000	47344.37000
TB-3	159	87745.93300	0.00000	0.000	86402.84000	88931.19000	87903.77000

Run Name: 1831807E05 Date/Time: 11/14/2018 16:41:47
Tube Number: 38
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	1845681	0	0.000	1889909	1800481	1846654
SC-3	45	12189.37700	0.00000	0.000	12005.83000	11595.32000	12966.98000
AL	27	-5.11701	13.33300	0.000	-3.59755	-3.43025	-8.32324
B	11	13.00828	12257.40300	12.800	13.93546	14.00277	11.08661
BE	9	-0.01320	12.00000	0.000	-0.02412	0.00143	-0.01690
CA	44	7.17159	16.66700	753.500	69.56974	-24.02748	-24.02748
CR	52	0.25156	593.38700	83.800	0.18451	0.48765	0.08251
FE	57	7.64839	90.00700	114.300	6.69714	-0.58128	16.82931
K	39	12.85040	3670.69700	530.400	76.55305	21.01956	-59.02140
MG	24	-2.72717	40.00000	0.000	-2.68296	-3.13135	-2.36721
MN	55	-0.10385	23.33300	0.000	-0.13535	0.05421	-0.23042
NA	23	-126.67181	33732.14300	0.000	-121.64202	-91.96336	-166.41003
TI	47	2.52002	13.33300	86.600	3.71428	3.84578	0.00000
V	51	0.10297	46.67000	83.900	0.02314	0.09108	0.19469
IN-2	115	541078.68700	0.00000	0.000	543463.99000	539341.23000	540430.84000
IN-3	115	13121.45700	0.00000	0.000	12733.50000	12795.05000	13835.82000
AG	107	0.02493	36.67000	148.600	0.06469	0.01873	-0.00863
AS	75	-0.03923	11.33300	0.000	0.03334	-0.24353	0.09249
BA	137	0.13839	13.33300	86.500	0.27635	0.07684	0.06197
CD	111	-0.00815	0.00000	0.000	-0.00815	-0.00815	-0.00815
CO	59	0.03437	33.33300	60.300	0.01076	0.04283	0.04951
CU	63	-0.02128	500.03700	0.000	0.04674	-0.11568	0.00512
MO	98	0.05082	96.67300	88.200	0.02212	0.10246	0.02790
NI	60	0.19300	136.67700	39.200	0.25660	0.10927	0.21315
SB	121	0.42337	100.01000	25.300	0.54534	0.38062	0.34415
SE	78	0.01683	9.77700	152.500	-0.00320	0.04575	0.00794
SN	120	1.07348	266.68300	18.300	0.87941	1.27282	1.06819
SR	88	-0.03306	6.66700	0.000	-0.10097	-0.10097	0.10274
ZN	66	0.66731	56.66700	11.500	0.58881	0.74199	0.67114
BI-3	209	72395.60000	0.00000	0.000	70239.69000	72894.58000	74052.53000
PB	208	1.07479	2990.32300	5.000	1.08548	1.12221	1.01668
TL	203	-0.01713	6.66700	0.000	-0.01285	-0.02506	-0.01348
U	238	0.00996	50.00300	132.200	0.00097	0.00384	0.02507
SC-2	45	549354.81300	0.00000	0.000	550921.44000	543601.95000	553541.05000
GE-1	72	1927899	0	0.000	1953713	1899846	1930138
GE-2	72	1131626	0	0.000	1149157	1113553	1132168
GE-3	72	46003.32000	0.00000	0.000	45869.46000	46029.90000	46110.60000
TB-3	159	87289.33000	0.00000	0.000	85556.63000	86926.27000	89385.09000

US EPA Tune Check Report

Operator Name	US19_USR_INS14259
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time	11/13/2018 4:57:28 PM
Report Comment	ICP-MS #19204 (E05) Daily Tune Check
Instrument Name	G3281A JP12071581

[No Gas]

Sensitivity

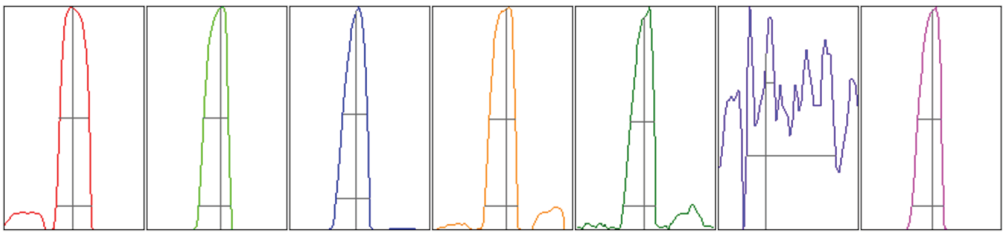
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	2595	25953.96			0.611	5.000
89	10.00	11746	117458.47			0.416	5.000
205	10.00	5109	51091.89			0.378	5.000
70	1.00	131	1314.18	0.00		3.816	
156	1.00	27	272.92	0.00		3.256	
220	1.00	1	14.20	0.00		20.012	
140	10.00	9834	98343.43	0.00		0.373	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	2611	2590	2577	2613	2586
89	11809	11780	11729	11685	11725
205	5140	5088	5108	5111	5099
70	130	132	140	128	127
156	27	26	27	29	27
220	1	2	1	1	1
140	9825	9864	9879	9791	9812

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	4193.13	7.00	6.90 - 7.10	
89	22464.64	89.10	88.90 - 89.10	
205	10022.45	204.95	204.90 - 205.10	
70	235.23	70.10	-	
156	53.60	156.00	-	
220	1.70	219.55	-	
140	19765.75	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.64	0.753	0.800	
89	0.54	0.702	0.800	
205	0.52	0.713	0.800	
70	0.57	0.711		
156	0.51	0.696		
220	0.20	1.933		
140	0.51	0.687		

Integration Time [sec]	0.1
Acquisition Time [sec]	260.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.0 V	Deflect	14.6 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-95 V	Cell Exit	-59 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	180 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9985	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.07		

Hardware Settings

Torch

Torch H	1.1 mm	Torch V	-1.2 mm

EM

Discriminator	4.5 mV	Analog HV	1745 V	Pulse HV	1255 V

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ICP-MS Run Data Report

. et2Mh Reoedenf e Namersc:

Date File Name: 18K18A774E75

Run Name: 1830071E75

Analyst: 10G0

Re(ie) eh v y: wada B / nyhed

Re(ie) eh Date 1191V90718 1b:G5

Pedoieh v y: k adLedD BinhstdMm

Pedoieh Date 1191V90718 1b:GG

Instdument k adameteds:

Rinse wime rsef c: 05477

INwERNAB / wD4	EBE. ENw	. A/ /
SC-1		G5
	v E	V
	v	11
SC-3		G5
	NA	03
	. T	0G
	AB	0S
	K	3V
	CA	GG
	wl	GS
	P	51
	CR	50
	. N	55
	FE	5S
IN-2		115
	/ E	S8
IN-3		115
	CO	5V
	NI	b7
	C6	b3
	UN	bb
	A/	S5
	/ R	88
	. O	V8
	AT	17S
	CD	111
	/ N	107
	v A	13S
B0 -3		15V
	/ v	101
	k v	078
0 I-3		07V
	wB	073
	6	038

Run Name: 1830071E75 Date9wime: 119I 89 0718 1G17:G7
wuge Numged 1
/ ample Numged **ST**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Mlunts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
BE	V	7477777	84bbS77	74777	-74777V5	747715S	-74777b0
B	11	7477777	30b471777	74777	-741108b	7478V7G	7470380
NA	03	7477777	03V78400777	74777	034bGS1V	-0S4b00G5	34/S50b
MG	0G	7477777	G7477777	74777	745183b	-74781bS	-74G3bbV
AL	0S	7477777	37477777	74777	043G357	145VG01	-34/3SS7
K	3V	7477777	31034 88777	74777	-004bV353	-V45V1GS	30408577
CA	GG	7477777	17477777	74777	1V470SVG	-1410050	-1S4/75G1
SC-1	G5	1S05bGG	7	74777	1S0GS50	1SSGS8S	1bSS3V0
SC-2	G5	8G835b403S77	7477777	74777	8GS5G348V777	85b55S433777	8G7VbS4GV777
SC-3	G5	103704SVS77	7477777	74777	11bS543b777	108Gb4S0777	1038b431777
TI	GS	7477777	7477777	74777	7477777	7477777	7477777
V	51	7477777	1343377	74777	-7473SG0	747SG83	-7473SG0
CR	50	7477777	bb7475377	74777	-7475VVS	7415S08	-747VS31
MN	55	7477777	1343377	74777	747b3b3	747GSb8	-7411130
FE	5S	7477777	57477777	74777	14SbG70	74/85b7	-04SGVb0
CO	5V	7477777	1343377	74777	7477S08	7477b85	-7471G13
NI	b7	7477777	b343G777	74777	7417081	7470GS0	-7410S53
CU	b3	7477777	157471777	74777	-747G131	747bG75	-74700S5
ZN	bb	7477777	07477777	74777	741b011	7477108	-741b33V
GE-1	S0	1SVb753	7	74777	1815107	1SV87Vb	1SSGVG3
GE-2	S0	135b338	7	74777	13GbSV3	13b31b1	135V75V
GE-3	S0	Gb0GS4bS377	7477777	74777	G5b58458777	G53084S7777	GSS554SG777
AS	S5	7477777	b4bbS77	74777	741375V	-7417508	-7470530
SE	S8	7477777	5411777	74777	7477VV8	-7470G18	7471G07
SR	88	7477777	7477777	74777	7477777	7477777	7477777
MO	V8	7477777	3b4bbS77	74777	-7477V85	-7471113	74707V8
AG	17S	7477777	7477777	74777	7477777	7477777	7477777
CD	111	7477777	1433377	74777	747333G	-7471bbS	-7471bbS
IN-2	115	b05GG34/5377	7477777	74777	b0075S43G777	b3030347 5777	b01V514GS777
IN-3	115	101854GG377	7477777	74777	11bG34/0777	118854b3777	1370b4S8777
SN	107	7477777	b7477377	74777	7471bVb	-747VbV3	747SVVS
SB	101	7477777	7477777	74777	7477777	7477777	7477777
BA	13S	7477777	7477777	74777	7477777	7477777	7477777
TB-3	15V	8381545 3377	7477777	74777	80bV8485777	83V3b433777	8G8114G0777
TL	073	7477777	b4bbS77	74777	7471GS8	-7477S3V	-7477S3V
PB	078	7477777	01b4b8777	74777	7471b03	-74710Vb	-747730S
BI-3	07V	SSVG04b1777	7477777	74777	Sb0b5487777	Sb5Gb4bb777	8171543S777
U	038	7477777	07477777	74777	74775GS	-747750b	-7477701

Run Name: 1830071E75 Date9wime: 119I 89 0718 1G13:01
wuge Numged: 0
/ ample Numged: **S1**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1Sb3VSS	7	74777	1SV70S7	1S3b588	1Sb57S3
SC-3	G5	1058V4/1377	7477777	74777	10G5b4Gb777	103bb43b777	10VGb4/0777
AB	0S	1777747777	5050G450S77	74/77	177G1431Vb0	V8Vb4/8838	177b141V077
v	11	1777747777	3030154 13377	74b77	VVb4S88b0	VVb4b118b	177b45VV50
v E	V	177477777	bV58b45V377	74/77	VV407GS8	17147G0V3	VV4S500V
CA	GG	1777747777	58G8400777	5417 7	V55b40b73G	175574Gb037	V8V340SS3b
CR	50	1777747777	G57S3b4/3377	0437 7	VV8455S30	170G415387	VSS408888
FE	5S	1777747777	S5SV040GS77	34b77	1711G4b5378	1708G438VVG	Vb774/5bVV
K	3V	1777747777	173500415S77	1457 7	VV0b4bbVSV	171SS400bG3	V8Vb4173S8
. T	0G	1777747777	0G503345 7777	0477 7	VVGS4b07G8	170074355VV	V830470353
. N	55	1777747777	1030G541bS77	0477 7	177G4bSVVV	171S4G/3S1	VSS480b31
NA	03	1777747777	58101b4b3377	14/77	177G545G175	171b14/0538	VSV045335S
wl	GS	177747777	5S3G483777	b417 7	V3S4S0b15	175V4/8VVG	17704083V1
P	51	177747777	3GV7V84/7777	04S77	VVb478SG0	17084b8518	VS5400SG7
IN-2	115	b3b0G145bS77	7477777	74777	b3SV354GS777	b3b8V540S777	b338V34/b777
IN-3	115	10b71401S77	7477777	74777	1037G4/0777	10S7b47V777	10SV04bG777
AT	17S	177477777	1150S54b7S77	74b77	17747Gb55	177458G17	VV43bV35
A/	S5	1777747777	Gb7S0413377	74S77	17754358bV	17704/GGV0	VV14bVb3V
v A	13S	1777747777	5710545 8777	74/77	177847bG5S	VV743GbVb	17714588GS
CD	111	177477777	8bb740b777	04G77	VS4b100V	1704G35b8	VV4/7073
CO	5V	1777747777	1717V8740VS77	74877	177V408GS8	VV54787bS	VV54b3G55
C6	b3	1777747777	880b8V408377	14777	17114b3558	VVG4b515b	VV34S108b
. O	V8	177477777	515V0473S77	34/77	1774518VS	1734b7755	V54887G8
NI	b7	1777747777	0VbV8348G377	74577	1770411515	VVG4G38G5	177343VbG7
/ E	S8	177477777	1b7584 8G377	14177	VV4G5S0V	1714017b3	VV43 3078
/ N	107	177477777	1V83V401S77	14b77	177411108	17145b10V	V8430SG3
/ R	88	177477777	88Sb481377	b4377	175450357	1714G7831	V347b81V
UN	bb	1777747777	S77Gb40GS77	74/77	VVb408710	171740007S	VV34GVS80
B0 -3	15V	8bV104b5377	7477777	74777	8b8GG45b777	8SVG045G777	85V5748b777
k v	078	177477777	0VSSSS408S77	14577	V84/GVGb	VV431158	1714S38Vb
/ v	101	177477777	1VG50473777	34G77	V84/8858	VS40GG87	1734Sbbb0
0 I-3	07V	SV770415S77	7477777	74777	S8G384b7777	S8GVV410777	877b84S5777
wB	073	177477777	V3G5b48V777	0487 7	VV47138G	17341588S	VS480S08
6	038	177477777	38b1GS415S77	14G77	1774GG1b3	1714157bS	V84G7SS7
SC-2	G5	85SV18473377	7477777	74777	85VV714/G777	8b1S8V4S5777	8507b04G1777
GE-1	S0	1Sb87V1	7	74777	1SbSVb1	1Sb318V	1SS3103
GE-2	S0	1353883	7	74777	13bG7S0	13b78bb	133bS10
GE-3	S0	G5V704SbS77	7477777	74777	G5S784G0777	G55b848S777	GbG31471777

Run Name: 1830071E75 Date9wime: 119I890718 1G1b:71
wuge Numged 3
/ ample Numged **ICV**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S50701	7	74777	1SS355G	1SGb0GG	1S3b0b5
SC-3	G5	1031b437777	7477777	74777	10G7b43G777	118754SS777	10S3b4bV777
AB	0S	51SG470b3G	0b583400777	04G77	57834V078b	531b4G178b	51014SGS37
v	11	b7S4GG1SS	1V517547b377	04077	5V04Gb30S	b1S4b0VbV	b1040303S
v E	V	504b3SGb	3b381453377	04877	514GG33S	50401V38	5G40GVbG
CA	GG	505740G50G	3773483377	S4S77	57004b50V0	5S1S45b383	57174518Vb
CR	50	500408G5b	037GbS47bS77	34V77	51G4G0871	5G54G0783	57S477G8G
FE	5S	57S14S1SV0	3Sb0S475377	04577	57504bS77G	507S47b308	GV554G07G5
K	3V	50G04770G0	5G533418377	34877	51V141G073	5G5V48133S	57S547518S
. T	0G	50GV40GS03	105V1b457777	04G77	51bb4b07SV	53V14G33GS	518V4b8SG5
. N	55	51b40b7S7	b00GS4VSS77	04b77	57043S01S	5084S035G	51S4b8b3V
NA	03	GV534857bG	0V3bS8438777	04S77	G8S5453318	517S4S1180	G8S8437bV1
wl	GS	5504GV38G	3177453S77	G4577	50545SV0b	55S48Vb55	5SG4775S1
P	51	51147S080	1SG501437S77	04777	57S4V53V1	5004S71S0	57045b083
IN-2	115	bGS735451377	7477777	74777	bGVb5V453777	bG0GSS450777	bG8VbV4GV777
IN-3	115	118GG4G0777	7477777	74777	113G3481777	10G8840V777	11S714bb777
AT	17S	5G4131G7	585G8443S77	b4V77	5G48Sb18	5747S057	5S4GG553
A/	S5	5084bSb1G	0085143VS77	b4877	5GS41b31G	G8S41VV87	5514bb5G8
v A	13S	5G74b0S38	05G004S7377	b4077	5b5477GVV	5704S137S	55G41bG7S
CD	111	5G4S7V3G	GGGb410S77	54V77	554370G0	51401777	5S4b155V
CO	5V	5G74SbSb0	510V1S4G1377	b4177	5b0488V8S	57045G3b7	55b48bV38
C6	b3	5GG4VS75b	G515S0400777	54777	5b740V0GS	5134GVG8S	5b1410G3G
. O	V8	534807Vb	058Gb4Gb777	G4b77	5b41SGbG	514S003V	5047b583
NI	b7	5Gb48GVVS	150G0845b377	54377	5b34VS3V8	5134500S1	5b3475300
/ E	S8	514330GG	838545S0777	04177	5740S557	51437S77	504G1G83
/ N	107	55457V3S	1735S4Vb777	b4077	5S400830	5145G3V8	5S4S5581
/ R	88	5G455Sb7	G5GS4S1S77	84077	5G408Gb0	574015V0	5V41S00G
UN	bb	53V43VG0b	35G8G4G8777	34V77	5GG4S0G15	51b408517	55S41S350
B0 -3	15V	8G5bG407777	7477777	74777	8GGb7483777	83b754Sb777	85b0b451777
k v	078	5043VVV7	151Vb5400S77	34177	5141100b	5148VGG5	5G41V0VV
/ v	101	5740GG73	V57S40b377	54V77	57477705	5343GGb5	GS438S18
0 I-3	07V	SV7834b7377	7477777	74777	S85V74GG777	SSV1b433777	87SGG47G777
wB	073	5747V7bS	Gb8S34GV377	74377	5747GS0S	GV4VGbSV	5740SSV5
6	038	GV4Gb10S	1V103G437377	14377	G84S55G7	GV4S7S17	GV4V0130
SC-2	G5	8b78V84G0S77	7477777	74777	85VG1348 5777	8b3Sbb478777	85V515485777
GE-1	S0	1S80V75	7	74777	1SS5S38	1875831	1SbS1Gb
GE-2	S0	13S1VbS	7	74777	13b1133	13b3V87	13V7S88
GE-3	S0	G51V74S8S77	7477777	74777	GG505458777	G5G7SAV7777	G5b38488777

Run Name: 1830071E75 Date9wime: 119189 0718 1G18:05
wuge Numged G
/ ample Numged **IC0**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Mlunts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1871505	7	74777	1SS5VS8	18038b0	187GS35
SC-3	G5	108b34G8777	7477777	74777	1080b4S1777	118S54S0777	1388847 1777
AB	0S	G48533b	53433377	1354377	S4015V1	840bG15	-04G1VV8
v	11	b84S7G33	00V8848V777	G4G77	S047b510	bS4V5b73	bb47V183
v E	V	74715G1	07477777	1174S77	7477GG0	7477bS5	7473575
CA	GG	-S410S5G	b4bbS77	74777	-147Vb3G	-1S4V75G1	-043878b
CR	50	747V5S8	S3747b377	1574177	74073GV	741510S	-747bSGG
FE	5S	-14003S0	G3433377	74777	040V08b	-34VS557	-14V8851
K	3V	-048SS3G	300745G777	74777	314V8G1G	04Vb7V8	-G345SS15
. T	0G	04Gb103	17343G377	034b77	14V0005	347S500	0438b00
. N	55	741V158	3b4bS777	1834G77	-7411130	745SbSS	7417V37
NA	03	-3G45Gb85	00Vbb4b0777	74777	-G54bVSb3	84SbVbG	-bb4S105b
wl	GS	7477777	7477777	74777	7477777	7477777	7477777
P	51	747bSVV	3b4bbS77	VV4777	7471887	741GGS3	747G7Gb
IN-2	115	bG3GV54SG377	7477777	74777	b3Sb704bb777	bG88Gb4bS777	bGG73S4V7777
IN-3	115	10GV84VV377	7477777	74777	10G3b413777	1038G4V8777	10bS548S777
AT	17S	74711b0	13433377	G14V77	74778SV	7477883	7471S05
A/	S5	7410575	104bbS77	854177	74110bG	7470538	7403S10
v A	13S	747bb17	3433377	1S3407 7	7477777	7477777	741V831
CD	111	74700GG	3433377	15V4V77	7473715	7475385	-7471bbS
CO	5V	7410Gb5	1G7471777	V5437 7	74715VG	7417bbG	740513b
C6	b3	7408715	G7747337 7	3S4G77	741b803	740VbGb	743S5SG
. O	V8	7410VS5	17343G777	GS4S77	741G33S	74183S3	747b01G
NI	b7	747S8VG	V7477377	01S437 7	-7470751	-7471Vbb	740SbV8
/ E	S8	7478b3V	1V433377	5G437 7	7473SV1	7478Vb5	74131b1
/ N	107	7480GV3	00343537 7	3V437 7	74V1835	74Gb735	147Vb7V
/ R	88	7477777	7477777	74777	7477777	7477777	7477777
UN	bb	74730Gb	03433377	V1G4b77	7413058	-743715G	740bb3G
B0 -3	15V	835S14GS777	7477777	74777	81S5343 0777	8G75S40V777	8GV7348 7777
k v	078	-7477778	01b4b8777	74777	-7477SS1	-74733V7	747G13S
/ v	101	745507S	17343G777	014877	74GV1S5	74bV7V7	74GS35b
0 I-3	07V	S8878438377	7477777	74777	S8G184S8777	S8801453777	SV18G48G777
wB	073	7471G75	07477777	S54877	7471G1S	747733G	7470GbG
6	038	7470577	11b4bS377	bS4G77	7477SS8	747G1Gb	74705S5
SC-2	G5	8b1SV7435777	7477777	74777	8b7bGG4bS777	8b51G848V777	85V5SS4GV777
GE-1	S0	180SVSS	7	74777	1SVGGb7	18S3bVG	1815SSS
GE-2	S0	1G0SVVS	7	74777	1G38V57	1G08S05	1G1b31b
GE-3	S0	Gb0bG457S77	7477777	74777	G50GS47S777	GbGG0477777	GS17G4G5777

Run Name: 1830071E75 Date9wime: 119I890718 1G07:57
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/ ample Numged **LLC**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Mlunts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1S18S11	7	7477	1SG8370	1S115b1	1bVb0S0
SC-3	G5	11S554bb777	7477777	7477	115G54G5777	11G3543G777	1008b41V777
AB	0S	GGb4bG317	001b4V5777	b407 7	GS840513S	G0b40S0V1	G354G7570
v	11	8b4V3bbb	0SbS745b377	0457 7	8547G30S	8V40SS1S	8b4G8V5G
v E	V	745S3S0	3VS43G377	174b77	7451877	74b3V77	745bG1S
CA	GG	bS34517SV	3Sb4bVS77	3477	bV14S871G	bSV4S5V3S	bG84VV08S
CR	50	34V383b	0087437S77	174V77	G41S10S	G407135	34G30G8
FE	5S	11b4GS5GG	8S7478377	V4V77	11843 0770	10b48V35b	17G4110S3
K	3V	G014S855b	bV084SV377	8477	Gb141G558	G174GSVSS	3V34S3133
. T	0G	11340SSS5	0b034SG377	1341 77	1014VG375	1014S8b0b	Vb4173V3
. N	55	13407S1G	1533457377	1b477 7	1543S7Vb	1141G37G	13417SG1
NA	03	VS3471G1G	S3G0G4b8777	G4G77	VSV4S3VG0	171047SVS0	V0S40030S
wl	GS	G541S71G	0G7471S77	5b407 7	SG415GVG	3G455G1S	0b487137
P	51	1407337	G7b4S7777	074b77	1478b87	1473G5G	14G885b
IN-2	115	b0V38b4S8S77	7477777	7477	b1S0V84G8777	b3810b451777	b30S3543S777
IN-3	115	1005S4VS777	7477777	7477	101V04G3777	11GbV413777	13110485777
AT	17S	74bb500	SG343VS77	134G77	74S531S	74bbS01	745S508
A/	S5	14VbbS8	VG4bbS77	1048 77	0400bSb	14VGSGG	14S0b15
v A	13S	3481 7S8	1834 3G377	bG417 7	b43V1S1	3457bVV	14533b5
CD	111	147G1GV	8V433377	b407 7	1471717	74VV8S7	14115bV
CO	5V	1475VS1	17534G3377	5487 7	147bV51	1411b11	74VV357
C6	b3	G043GVV0	3b3S741bS77	V457 7	G7433S35	Gb4V3131	3V40817V
. O	V8	0405bS3	11b34G5777	174b77	041S0G7	0450S70	047S7S8
NI	b7	G433G3S	13034G8777	1047 77	G4G3V55	34SS157	G4SV07S
/ E	S8	0478575	33b403777	3487 7	047VG87	0477750	0415V8G
/ N	107	041S831	G87473377	54b77	041GGSV	047SSG8	04310b5
/ R	88	b4180S8	533438777	5437 7	54V3G7V	b45555b	b4758b8
UN	bb	1S4815V7	10334G8777	1b477 7	014170V7	1b41S5G5	1b41bV35
B0 -3	15V	80VG347bS77	7477777	7477	807134 85777	8037b4SG777	8G57V411777
k v	078	340VSSS	V58543SS77	84b77	04VbV83	34G5038	34GS17V
/ v	101	04b0057	G8b4S7377	1S477 7	3417GSV	040050b	0453SG3
0 I-3	07V	S8S5S47SS77	7477777	7477	SS11741b777	SSV8543 7777	811S540G777
wB	073	74Gbb37	GG7473377	1V477 7	745b0bS	74GGS8S	743883G
6	038	74GV150	1V1740S777	b4S77	7457b8b	7451G03	74G53GV
SC-2	G5	80850S437377	7477777	7477	80V1Vb478777	8378G3458777	8055G0405777
GE-1	S0	1SSb58b	7	7477	1SS8GV8	1S8088V	1Sb83S0
GE-2	S0	13S1VV5	7	7477	13b33S0	1G7071V	13575V3
GE-3	S0	GGV00487777	7477777	7477	GGSV541V777	G3VV341b777	G5V87475777

Run Name: 1830071E75 Date9wime: 119I890718 1G03:1G
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NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1Sb57G0	7	74777	1SSSbVS	1S8V53S	1S0S8V0
SC-3	G5	107804S3S77	7477777	74777	11V354S3777	1011b400777	101Vb40b777
AB	0S	VbVbb45V8VS	G88GV145G377	74V77	VS13045751G	Vb71b48G11S	VSS574G57b7
v	11	3b4GV015	10103480S77	74V77	3b41V533	3b480080	3b4G5837
v E	V	7471VV3	004bbS77	3b4S77	7471581	74715b0	747083S
CA	GG	08388V415S1S	15V1054G3S77	14877	0S8G314VV08G	08GSb04G8338	088GS04VV508
CR	50	74b55SV	V37478S77	08477	74SS5b3	74GG1bV	74S5773
FE	5S	0G01G04181b1	1Sb101b4V5377	74b77	0G0G0b4V00b0	0G75bV40b5bG	0G3G37485b5S
K	3V	Vb518403bS0	V305GV4bS377	74G77	VbV7S471518	Vb38045VG0G	Vb0b54177S3
. T	0G	Vb58b4S5315	00S33074V7777	14G77	VS31b457VG7	VS3b84081S3	V57S54Gb831
. N	55	348S851	G1348b377	07477	04883S0	347V07S	G415VSG
NA	03	0337GS403V35	10GS8V7147b377	74877	03018V485G71	03300S4b808S	033S0G4b811S
wl	GS	1V75455GS8	17G8SA/0777	04177	1V0G453833	1V30411035	18b74713bS
P	51	741007V	53483S77	S54S77	7407G05	747007V	7413VVG
IN-2	115	b7b7GG4b1777	7477777	74777	b7GV8048b777	b73V0V485777	b7V0014b0777
IN-3	115	11GSG4S3377	7477777	74777	1171348V777	10715451777	113VG487777
AT	17S	7473S80	G7477777	GS4777	7473VS7	7475G5V	7471V1V
A/	S5	74S153V	3b4bbS77	bS4077	741Vb3V	7487G80	141GGVb
v A	13S	1451b51	S7477377	b84G77	145VSb0	04517bV	74GG101
CD	111	7477VGS	0477777	0SV4077	7473b07	-7471bbS	7477888
CO	5V	74SV531	SG34G7777	1G4877	74S8V3S	74b87V7	74V15bb
C6	b3	14785Gb	17134G3777	1S4877	74VSS5G	74VSbG3	14870G7
. O	V8	07S147b1V8	VS18S741G777	04877	07V34SS173	0715480010	017345V0S8
NI	b7	148bG7S	G37473S77	34077	1481b1S	143VVb3	148SbG1
/ E	S8	74731G1	V4SSS77	G84S77	747Gb17	747155V	747305G
/ N	107	74GS100	1G7471777	5V4877	74S8S87	743S873	740GS8G
/ R	88	1b4b7SGV	13G34G8777	74877	1b4b1bGG	1b4bGSS0	1b455831
UN	bb	0411587	1534GG377	07417 7	04GSb08	14bG5b3	04005GV
B0 -3	15V	80S0V487377	7477777	74777	871034G3777	83b8G485777	8G3SV4b3777
k v	078	7487558	0GVb4V0377	54b77	74SV075	74SbV78	74855b7
/ v	101	74V518b	1Sb4bSS77	154777	7483b30	74V7SG8	14111SS
0 I-3	07V	SG738483777	7477777	74777	S07514b1777	SGb7G457777	S5Gb7438777
wB	073	74711b8	1b4bbS77	5S4b77	7471b7S	74773VG	7471571
6	038	74737bS	137477S77	G74877	7473GGV	7471bb8	747G783
SC-2	G5	857Sb741VS77	7477777	74777	8G5bG5485777	8G0077437777	8bGG3G4GG777
GE-1	S0	1S80SG1	7	74777	1Sb8533	180SV85	1S51S75
GE-2	S0	13b7Sb1	7	74777	1337000	1331SGG	1G0731S
GE-3	S0	GG3S14GG777	7477777	74777	G31S7483777	GG8S54Sb777	G57bS4S3777

Run Name: 1830071E75 Date9wime: 119I 89 0718 1G 05:38
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NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1b850V3	7	74777	1bVGSG7	1S77073	1bb7V3S
SC-3	G5	115V8485777	7477777	74777	11GV5485777	17VGGAVS777	1035b403777
AB	0S	1S45V373	11b4bS377	V1483 77	1G4VV385	048V18V	3G48V33b
v	11	074S1V17	bS17480777	14577	074S0S17	01471S03	074G10Vb
v E	V	747173V	1543377	b8437 7	7471G01	7477007	7471GSb
CA	GG	bb433b00	Gb4bS777	V54V77	3843b01G	014GV0b1	13V4153V1
CR	50	7417bbV	bbb4S0377	0V8417 7	-7405bG3	740G73b	7433b1G
FE	5S	8740G35b	b1b4S0S77	b54577	0S4V13G5	SV4S57bG	13347bb5V
K	3V	104b81G1	375S41SS77	0374b77	Gb43Gb70	-1480G57	-b4GSS0V
. T	0G	0843b07V	bVb4S3777	874b77	1145 1S58	184V/5SV3	5G4G17SG
. N	55	741S73V	3343337 7	1S74777	7415500	-7411130	74GbS0S
NA	03	5V435b10	05b01430777	0G4G77	G3430SV0	S145b8S3	b341S1S0
wl	GS	541V5G8	0b4bbS77	11V4777	7477777	104733G3	3455371
P	51	7471G85	1b4bbS77	b7V4577	7411V3V	-7473SG0	-7473SG0
IN-2	115	b031G14VGS77	7477777	74777	b1b770405777	b371504G7777	b030S141V777
IN-3	115	11VG14bSS77	7477777	74777	11G5G48S777	107VG483777	100S5483777
AT	17S	7477371	3433377	1S34077	7477777	7477V7G	7477777
A/	S5	747V08b	174bbS77	0714S77	7473VS3	7437171	-747b01S
v A	13S	7477777	7477777	74777	7477777	7477777	7477777
CD	111	-7471bbS	7477777	74777	-7471bbS	-7471bbS	-7471bbS
CO	5V	-747773V	1343337 7	74777	-7471G13	7470S7V	-7471G13
C6	b3	741515S	0S3485777	G14177	741850S	7418VS5	747SVbV
. O	V8	G430b81	01534b3377	V4S77	G470G70	G415783	G48755V
NI	b7	-7470388	5b4bbS77	74777	-74770VS	-7411VVV	7475130
/ E	S8	7477373	5455S77	V574b77	7473b1G	-74715S0	-747113G
/ N	107	740Sb3b	117471777	01487 7	7437753	7430783	7407SS3
/ R	88	747G108	3433377	1S34077	7410383	7477777	7477777
UN	bb	740VVSG	G7477777	8G4G77	741bVSS	745V11V	741380S
B0 -3	15V	800Sb451S77	7477777	74777	87G1547 3777	80G3S4G1777	83VSS411777
k v	078	-747758V	1Vb4bSS77	74777	-7470GS5	747077S	-74710VV
/ v	101	7417S75	07477777	VV4G77	7477777	741783S	74010SS
0 I-3	07V	SS0584GV377	7477777	74777	SG83b4Vb777	SSV5b478777	S8V804GG777
wB	073	-7477S3V	7477777	74777	-7477S3V	-7477S3V	-7477S3V
6	038	-74773GV	b4bbS77	74777	-7477053	-747750b	-74770bS
SC-2	G5	S813VV483377	7477777	74777	SbG1Vb4b3777	SV13GV483777	S88b5347G777
GE-1	S0	1S5V1G0	7	74777	1S5SV71	1SSS110	1SG0G15
GE-2	S0	13G0731	7	74777	137bS87	13G83V5	13S7V1V
GE-3	S0	GG00S4b5777	7477777	74777	G0SSV4Gb777	GGbV54VS777	G507S450777

Run Name: 1830071E75 Date9wime: 119I 189 0718 1G08:70
wuge Numged 8
/ ample Numged **CCV**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1bG755G	7	74777	1b3G75b	1b051b7	1bb0GG5
SC-3	G5	10030483377	7477777	74777	107bb415777	11bS5457777	10V5b485777
AB	0S	057G480S3G	10SVb4b5377	14077	05184787G8	050G4873V0	0GS745VSb0
v	11	0bb483SS5	87G0b48S377	14/77	0b845SV3V	0S74Sb735	0b141S351
v E	V	0b403S73	1bV8b4/8777	14077	0b458GbS	0b4111V0	0b471G57
CA	GG	03G34/8773	13Gb480777	1S4b77	1V8345S0V5	00534b8VS5	0SVG4bSSG7
CR	50	0b143788S	11GSb5470S77	54177	0b7451V1G	0SGA/55V3	0G84G515G
FE	5S	0GS5400115	180b343GS77	34177	055G4b7838	0GS74SG707	0G77431G8b
K	3V	05174S505S	0S5G04bS77	54177	05VS480b35	05S74711b1	03bG4/1VS5
. T	0G	05G145VVSS	b75104/3S77	G4G77	055V47b3V8	0bG0450108	0G03401G75
. N	55	053417G50	3708845V377	G4077	0GV4/5G58	0bG4/8bG8	0GG48S0GV
NA	03	05bb4787V5	1b0GSG4G8777	34/77	0b014G/50S	0b0b4S3b13	0G574711GG
wl	GS	05b455803	1G0b480377	104S77	0V04/0837	0Gb431SG3	0374G08V8
P	51	05V4718G0	8SSSV415777	34/77	0b747G3GG	0b84b85VS	0G8480585
IN-2	115	b1G87S477377	7477777	74777	b038V048G777	b1G8bS453777	b75bb74bG777
IN-3	115	107Gb401777	7477777	74777	1187S4/5777	10033451777	107VS41S777
AT	17S	0V4b8S30	30S11481S77	14077	0V4/07V8	0V40S38V	0V48bS17
A/	S5	05S403000	1133041GS77	34777	0b1487bSV	0G840S3S7	0b0411b1S
v A	13S	0b04G0VbV	1058747V377	34077	0534733b8	0bG45VG0b	0bV4bb11G
CD	111	0b45G8G/	01V8407S77	04777	0b45G775	0b4707V3	0S478G57
CO	5V	0bG47SG80	0550114S8777	14/77	0bb4SG/b3	0584080GG	0bS41V03V
C6	b3	0b54b85VS	00G0SG455377	04777	0S143185V	0b74G8bS3	0b540505V
. O	V8	0b45581G	1310745b777	34/77	0S4S38VS	054S51Gb	0b418G77
NI	b7	0bG458b5S	S515047b777	14b77	0b8407VbV	0b747187b	0b54531VS
/ E	S8	05483178	G71041b777	14177	0b47103G	05457G8S	054/Sb75
/ N	107	0S4/335G	5338475377	54577	0V4G8755	0S4/037G	0b48VS7G
/ R	88	0540G5VS	01G34b3377	S4777	0b41V01S	0b430531	034007G3
UN	bb	058403G58	1S378455377	34S77	0514S8V11	0534Sb850	0bV41Gb17
B0 -3	15V	8373G4S3777	7477777	74777	83G/3478777	81SSG4SV777	8383b430777
k v	078	0b4bSb5V	Sb7b7411S77	74577	0b4SbGS3	0b451V51	0b4SG553
/ v	101	054S0337	GS8141b777	174777	0048GV/8b	0b4GVVG5	0S48075V
0 I-3	07V	S8b8V4S7S77	7477777	74777	S8bV8485777	SbVG840G777	87G00473777
wB	073	0545G50b	03S8740S777	04b77	05417S17	0b431S17	0540115b
6	038	054b1377	V857S4/b777	04077	0543013S	0b40G3G5	0541SG18
SC-2	G5	SS8S7843 0S77	7477777	74777	SV03b143S777	SS03V843 3777	SS13b5438777
GE-1	S0	1bV0VS7	7	74777	1bVVV0V	1bbVSG1	1S7V0G7
GE-2	S0	10VVb3V	7	74777	131VGSG	10V8S81	1087bb0
GE-3	S0	G3SV0481S77	7477777	74777	G058V450777	G31bV4/1777	G5b1V470777

Run Name: 1830071E75 Date9wime: 119I890718 1G37:0b
wuge Numged V
/ ample Numged **CC0**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1bV3SbS	7	74777	1SG71bb	1b830S7	1b5S8bG
SC-3	G5	11G754G7777	7477777	74777	1173GAV777	111b5403777	107154A/8777
AB	0S	04G31b5	G7477777	15S4077	-1450bV0	04S18Vb	b4170V0
v	11	3541S158	11005488S77	14177	3545VbbG	3GAVb3G	3GA/01SS
v E	V	74707Vb	004bbS77	8V4077	74733V1	7470VGb	-74777G8
CA	GG	S4/1SSb	13483377	3S04077	14b30V7	G74705SV	-1SA/75G1
CR	50	7401S85	S7747b777	854G77	743508V	74775bV	740VGVb
FE	5S	8430015	17343G377	314777	1140V3bG	b4b1V03	S47535S
K	3V	5410S87	0V37451S77	b354A77	08458007	184A7VVV	-304178SV
. T	0G	b4355S5	18747 1377	G14577	34G3S51	S47558V	845S38G
. N	55	7415b0S	37477777	1534G77	74351GG	-7411130	74008bS
NA	03	534003S8	0G887470777	0S4377	bV4b5b5b	G047707V	G84710b8
wl	GS	1401S8S	b4bbS77	1S34077	7477777	7477777	34b53b0
P	51	741087S	53483S77	VG4b77	-7477GS5	7415b30	74030bG
IN-2	115	b7bG7541b377	7477777	74777	b7800b417777	b78bGS4G5777	b703G14VG777
IN-3	115	113b8478777	7477777	74777	113GG4S3777	11VbGAVV777	17SVG450777
AT	17S	7477b5V	b4bbS77	8b4S77	7477VbG	7477777	7471713
A/	S5	7410G33	11483377	1GG4S77	-7475G8b	7410373	7437G81
v A	13S	747SSb0	3483377	1S34077	7477777	7477777	740308S
CD	111	-7477Sb8	74bbS77	74777	-7471bbS	-7471bbS	7471737
CO	5V	74178VG	117477S77	V84A77	7471883	747SVb3	7400835
C6	b3	740505b	33b4bV777	S74777	74013Vb	747V80b	74GG5Gb
. O	V8	74317b1	1Sb4bSS77	384G77	7405733	7403358	74GGSV3
NI	b7	74770VV	b7477377	G1GG4077	-7477781	-7411885	74108b0
/ E	S8	747308b	17477777	G84777	7471505	747G5b3	7473SbV
/ N	107	74135V7	87477S77	S34S77	74705b1	740011V	741b78V
/ R	88	747G387	3483377	1S34077	7477777	7477777	74131G1
UN	bb	747Sb5V	03483377	5514077	-743715G	-74777S3	7453070
B0 -3	15V	8188b4SSS77	7477777	74777	81038400777	817VV43G777	833004SS777
k v	078	-747788V	18b4bS377	74777	-74773bV	747777G	-7470370
/ v	101	740V7S3	53483377	3V4777	741bGVb	743855b	74301bb
0 I-3	07V	SSG83438377	7477777	74777	SS1V04bb777	SS0174S3777	S87Gb4Sb777
wB	073	74717S8	1b4bbS77	15GA77	-7477S3V	74705G5	7471G0S
6	038	747100b	bb4bS777	15G437	747777G	74770bV	7473G7b
SC-2	G5	Sb1G1b4b8377	7477777	74777	Sb8377485777	Sb718S4GV777	S55Sb14S1777
GE-1	S0	1S53S8S	7	74777	1SV37V5	1Sb7Gb3	1S7S87G
GE-2	S0	13058S8	7	74777	13bVG3S	13701bV	137b708
GE-3	S0	GG58540G777	7477777	74777	G3Gb14G7777	GG0GG47b777	Gb75740b777

Run Name: 1830071E75
wuge Numged: 17
/ ample Numged: **P0 S**

Date9wime: 119I890718 1G30:50
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1477 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	15b5bGS	7	74777	15b8305	1535G05	15V31V7
SC-3	G5	115G84SS777	7477777	74777	1785G4S5777	11S854S3777	10775483777
AB	0S	V4GVbV3	S343G777	1014b77	1b40053V	-3483V70	1b417GG3
v	11	0040V8S3	bb814bG377	54G77	0041b737	0345S5S7	0141b701
v E	V	-7477G73	5433377	74777	-74710S1	7477387	-747731b
CA	GG	-11487S57	3433377	74777	-1S4V75G1	7488833	-1S4V75G1
CR	50	74GG8S8	8734G7377	354b77	74G351b	74b1GS0	740VbG5
FE	5S	V4113G8	117471777	314V77	1145V3b3	54V1G1G	V4830b8
K	3V	0V457GSG	31V745S377	1104S77	bS4bb5bG	84b1587	104730SS
. T	0G	G485bSb	13b4bSS77	574V77	34500GV	04bS5V8	b48S181
. N	55	74G13GG	b7477377	S34S77	741S7V5	74S553G	7481G70
NA	03	V34bGbV8	0S018477777	0V4577	10G40G137	8b41V5G1	S7457G03
wl	GS	340G115	1b4bbS77	VG4077	b47bbS3	7477777	34b5bS1
P	51	747GG08	0b4bbS77	1774177	-7477G07	7475G35	74780S7
IN-2	115	b781Vb4b5377	7477777	74777	b118bG471777	b7GVbS4l1777	b7SS5848G777
IN-3	115	11GG0481377	7477777	74777	17VG84b0777	118574b3777	1150S4bV777
AT	17S	74700S1	0343377	bV4177	7473VVG	7477V00	74718VS
A/	S5	7417G08	174bbS77	18V4777	747G85b	-74758V8	743030b
v A	13S	747S0bV	3433377	1S34077	7477777	7477777	740187b
CD	111	-7471bbS	7477777	74777	-7471bbS	-7471bbS	-7471bbS
CO	5V	7470880	G7477777	VS4077	-74770SG	74738Gb	74757SG
C6	b3	7430S3S	G7343b377	54V77	743G5G3	7430V80	7437b8G
. O	V8	741300b	Vb4bS377	GS4S77	747b111	7415G75	74181b1
NI	b7	74GS7b5	18b4bSS77	b7437	745110b	741b8S1	74S31VS
/ E	S8	7473V80	11411777	534077	747GV55	7471551	7475GG1
/ N	107	S4G0S70	13834G8377	1V4777	V4758G8	b4b0GS7	b45VS88
/ R	88	747G31V	3433377	1S34077	7410V5b	7477777	7477777
UN	bb	G41S1G0	083435777	374777	5408S01	G4G7b0b	04807SV
B0 -3	15V	87S5048bS77	7477777	74777	SSbSb451777	8055S48S777	8070G400777
k v	078	7470bGG	08343GS77	Sb4577	747733b	747G11b	7473GSV
/ v	101	747SG53	1343377	GS4777	7411571	7475G11	7475GGb
0 I-3	07V	S80884V7S77	7477777	74777	SbGVS4SG777	8730141b777	S87GS480777
wB	073	74717Gb	1b4bbS77	15S4b77	-7477S3V	74713bb	7470517
6	038	-74777VG	1b4bbS77	74777	-747750b	-747771S	74770b7
SC-2	G5	SG81774SG377	7477777	74777	SGb1V545G777	SG830341V777	SGVS83457777
GE-1	S0	1Sb80VV	7	74777	1Sb5578	1SbS010	1SS01SS
GE-2	S0	1G73G1S	7	74777	1G1S01G	13bG77S	1G0V70V
GE-3	S0	GSS0b477377	7477777	74777	GS5854SS777	GSbb54SG777	GSV0b4V7777

Run Name: 1830071E75
wuge Numged: 11
/ ample Numged: **LCSW**

Date9wime: 119I890718 1G35:07
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1477 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	155b0V5	7	74777	15S7GbS	15b0S5G	1535bbG
SC-3	G5	11S0V471S77	7477777	74777	113G5488777	11S054b7777	1011b47S777
AB	0S	17SS4VV70V	50VS4Vb377	04577	1785437G0S	117147SG75	17GS45V055
v	11	1G841bGSb	G0GV341b377	04G77	1G54bGV5S	1Gb4b3077	1504010S7
v E	V	047VV1V	10Vb47S377	G4S77	047G38S	047G17G	04010b5
CA	GG	1V5V48V835	1787411377	07477	15704517bS	01S74G507V	007b4S3037
CR	50	0S4bSb05	100G04SV377	04577	0b4V8GS3	0S4bb778	084383V5
FE	5S	515413771	3bSS43S777	17437	5GV4S5585	5G14b08G5	G5G4775SG
K	3V	57V1457508	575814G0377	7437	575G48SG5S	57804577GG	513S41G780
. T	0G	170847587V	0357G481377	GA77	17bb41b8b5	17GS4337GG	VS74bS51V
. N	55	0S477VS1	311348S77	S4S77	084507GG	0G4b0V1V	0S48SVGV
NA	03	50G54Vb1S5	0VG8S141S377	0417 7	53bV4000GV	501b4GS3SG	5150418V71
wl	GS	10547S538	bbb4S0377	1G417 7	1G5410081	1104330Gb	11S4SS788
P	51	0b45SSb5	8b5341G777	34577	0S41G17b	0S47V70V	0545715V
IN-2	115	b7SG5V47S777	7477777	74777	b7S8774G1777	b7V5b7471777	b7571b45V777
IN-3	115	113GV470S77	7477777	74777	178154bb777	11V10455777	113184bS777
AT	17S	0S415003	0818G4S5S77	74V77	0S4075GS	0b48V8V8	0S435005
A/	S5	54V08bG	050477S77	154077	545bG07	540bS8b	b4V5385
v A	13S	0S410Sb5	10034G5S77	S4777	0b4Vb000	05430G37	0V47VbGG
CD	111	04b3013	07b477777	84777	048b3GV	04G51S7	0458101
CO	5V	13G4GG701	1000GS4V0377	G4877	1G141035V	10843S33	133485VS0
C6	b3	0S410875	01bb5477377	54V77	0843GSVV	054bS07V	0b48bG78
. O	V8	0S4V71b3	10VS74G1377	GA77	0V43G77S	0b45V7V5	0S4SS388
NI	b7	08485750	SS5V437S77	b4877	31471VGG	0S4051G0	084087bV
/ E	S8	541V1G3	8774bV377	14177	54053S0	541bV15	54151G1
/ N	107	3541S718	b37148b377	V4077	384083b1	3148G7bS	35438b05
/ R	88	1V4V77GV	15V7418S77	34V77	074S0G31	1V41S3b0	1V487355
UN	bb	0S54b8VGG	1S3S047b777	b4577	08b4V7S11	05G48b8V0	08540V037
B0 -3	15V	87b554Gb777	7477777	74777	87S8b4bV777	81bb14S7777	SV51S4VV777
k v	078	8473G50	0038V400377	G4b77	S4SG3S1	S4V17bb	84GGV18
/ v	101	34b3385	b5b4S0777	1S4077	347VbbG	G430187	34G8317
0 I-3	07V	Sb31b453377	7477777	74777	S3887483777	S5VG348b777	SV10G4V1777
wB	073	1471755	V0747V777	154G77	748b007	141S055	74VVb8V
6	038	0b457bSV	V883S408S77	34777	0S43VV87	0b405SGV	0548b37S
SC-2	G5	SGV73G483377	7477777	74777	S51VS34bb777	S58b7S470777	S3b503480777
GE-1	S0	1S8G7GS	7	74777	1Sb3558	1S8G0G7	187G3GG
GE-2	S0	13S8G88	7	74777	13b31G8	1G70G30	13bV883
GE-3	S0	Gb88b4SS777	7477777	74777	Gb873417777	Gb03147G777	GSb0b41S777

Run Name: 1830071E75
wuge Numged: 10
/ ample Numged: **987T251**

Date9wime: 119I890718 1G3S:G5
v atf 2: 1837G17b3S71A
Class: 6 *********

Initial PM: 1401 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S0G11b	7	74777	1S18537	1S3011G	1S01S75
SC-3	G5	10S73400377	7477777	74777	10GGb41G777	10Gbb435777	131VS418777
AB	0S	081V0417b17	1GV0554S377	04577	085V34b80G3	085V34S8811	0S3884GSS1
v	11	b847b007	0187GAVGS77	04177	bV400378	b84G5S1G	bb457b38
v E	V	14SG5VG	11Vb47b377	34177	14871S8	14SG3b3	14bV0G1
CA	GG	57574bb8GS	0VSS41S377	1b4S77	5VG0431381	GVGb45SV73	G0b341105S
CR	50	11b4G33S5	535b34G8377	04S77	11848303V	11S4S58G3	11048b7G0
FE	5S	b88GV4VS0VV	50bG37453S77	14V77	b87GS48SG0b	S735747 3315	b815047115S
K	3V	bb1140S1S8	S713S41S777	04077	bSbV4GV70b	b5S14V8G13	bGV043G7V5
. T	0G	13317485315	30V0G5433377	04b77	135384Vb315	13G8b45S5b8	10V7S4707b1
. N	55	1b854GS780	07V5V14S5777	14G77	1bV7435S88	1S7S47V1Sb	1b584Vb081
NA	03	G5b410777	5730043G777	S4b77	GV14050SV	G5541S837	G014V08V1
wl	GS	111V4G15Sb	bG814V0777	54177	17534 0110b	11534bS333	115143b0S7
P	51	VS4155S1	3G0GG485777	74b77	VS48GSV0	Vb4V7535	Vb4S138b
IN-2	115	b7G531405777	7477777	74777	b1700G407777	b7SG58478777	5V5V114GS777
IN-3	115	17V80453S77	7477777	74777	1758G47G777	11Sb141G777	17b704G3777
AT	17S	14GV513	1577418777	b4177	14b7170	14GG7SV	14GG358
A/	S5	07403111	818473377	14077	07401G3G	1VAVV73S	074G88b1
v A	13S	3Sb4b7SV3	1bG71415777	84b77	3874S3751	3G041VV5S	G7b48V3S1
CD	111	V4S87VV	S384bVS77	34577	V4583b5	V458801	1741S117
CO	5V	314bSVV3	0S85V4b5S77	b4b77	30471315	0V4G5505	3345S13V
C6	b3	5Sb4V73bG	GG0V0147SS77	b4177	5814VGbV5	53V458505	b7V41S8S0
. O	V8	174V137V	GV3141VS77	34V77	17487508	1745G810	11488588
NI	b7	37745G7S7	SSb3b487777	b4S77	3734 0G75V	0SV473VbS	31V48G18G
/ E	S8	74Vb3SV	150477777	04G77	74V8570	74VbS8b	74V3857
/ N	107	3334G30SS	5SG1147SS77	b4077	33145V508	3134bbGG5	355473858
/ R	88	534G85GG	G13748V377	b4b77	5b483V71	GV4800b8	534SVGb0
UN	bb	058G403811	15SG10418S77	54877	05834S711G	0G354S5S13	0S33405b7S
B0 -3	15V	83GSb4S8S77	7477777	74777	87SSb4SV777	8GSb74VV777	8G8V0458777
k v	078	Gb74GG8b3	131b7184G7777	14777	Gb54G0770	G5b4G0G7V	G5V4571S8
/ v	101	G415V80	SSb4S3377	G4b77	G4bbV1G	G4117Vb	34VVV35
0 I-3	07V	SbbVG40bS77	7477777	74777	SG0114Sb777	Sb70G413777	SV8Gb4V1777
wB	073	74531G1	GV747G377	154b77	74G3b8b	745V37S	745bG30
6	038	04VVbb7	110354S3777	b4G77	3413b05	347SS5G	04SSb70
SC-2	G5	SV81V84bb777	7477777	74777	SV3V38480777	87b03b478777	SVGG01478777
GE-1	S0	1V75V80	7	74777	188b07V	1V37S1b	1V71707
GE-2	S0	1570SG0	7	74777	1GV878G	150b3GV	1G83SV5
GE-3	S0	G888b435777	7477777	74777	GSS55417777	GV873477777	GV1774V5777

Run Name: 1830071E75
wuge Numged: 13
/ ample Numged: **987T251**

Date9wime: 119I890718 1GG7:17
v atf 2: 1837G17b3S71A
Class: 6 k ********

Initial PM: 1401 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1b80S0b	7	74777	1bV07VS	1bVV3G5	1b5bS3b
SC-3	G5	11Vb5488777	7477777	74777	11b5548b777	10G5b480777	11S854Vb777
AB	0S	0V8V3413V70	1G8VV84G0377	G4877	3731S4bb5b5	0808G4G018S	317SS480V55
v	11	1bV48S8G8	50bG54Vb777	14b77	1S04V053S	1b84Vb01b	1bS4SGSV0
v E	V	04b070G	1SGS4Gb777	b4177	04Sb87S	04GG888	04bG3S8
CA	GG	b81S4S0bG0	3S8S488777	S4777	S10348378G	b0bb48V800	S7b04V571V
CR	50	10S480G01	55113418777	74V77	10S4bG8GG	10b417b7b	10840 1813
FE	5S	S1GG1401735	51G03845 0377	34077	S0VG74171VS	b88754VSbb0	S05SS4550GG
K	3V	SS7G48SVSb	SbG37417S77	5437 7	S8b74b3G00	S03S4S1330	871b40V1S3
. T	0G	1G7804035G0	308708485S77	34577	1G3b54bG1SV	1351b45VV50	1G3bG4GbGVG
. N	55	1SS0431735	07SG8b4bS777	34877	1SV0400G01	1bVb4S8G8b	180S4V01VS
NA	03	00Sb4G5G7V	1G3S7S4Gb777	04877	00VV48bbbV	007G45VbGb	030543VV10
wl	GS	101b4b715S	bb0543GS77	G4877	103V458S57	115b4883V7	1053483331
P	51	1734b5SV5	3GG7G4V0377	14S77	17G41SV88	1714b8G50	175417VGG
IN-2	115	b710G14VG777	7477777	74777	b17b354G8777	5VVGb14Vb777	5V3b0848 8777
IN-3	115	111804G8777	7477777	74777	11G3S40G777	178Gb4SS777	110b34G3777
AT	17S	040b07V	03134bb377	14S77	0401SbV	040SS8V	040V7S7
A/	S5	00408S07	V1b47G377	134G77	004Sb10S	05471S08	1V47837b
v A	13S	3Sb4S73GS	1bS314S3S77	174777	33G47b30G	G7b431bG1	38V4S37S5
CD	111	114S83S5	V7543SS77	S4177	174V5GV1	104b05V3	114SS7G1
CO	5V	314S7700	08GGG4G7S77	04577	37481G0S	30431V8S	314Vbb53
C6	b3	b3S48388V	GVV35V4G8377	G4877	b174VV5S5	bbb41V0S5	b3b430818
. O	V8	1G41VVbb	b5314Vb777	54b77	1GV5358	1G4083b3	1343b1S8
NI	b7	0Vb47101V	S8710417377	34177	0884bb1bG	37b43VSS7	0V04VSS0G
/ E	S8	5470375	Sbb4bV377	34877	G48751b	5413SSS	5410b00
/ N	107	3004 8G070	5bS7G4b0S77	14S77	31b451bG5	30b4V1053	30547VS7b
/ R	88	b04G7880	GV11400S77	V4S77	5S45b1bS	bV41VVS3	b74Gb57S
UN	bb	05SV48G53G	1b718GV7777	54177	0GG841VV10	0S1040G118	05SV47V5S0
B0 -3	15V	80SS843G777	7477777	74777	807GG40V777	81537473777	8GSb74S7777
k v	078	Gb34VV317	131573b40b377	14877	Gb74b83bV	GS3435085	G5S4VG0Sb
/ v	101	84G035b	15b7418777	114577	S45b8Sb	V4GSVb1	8400030
0 I-3	07V	SbV704S8777	7477777	74777	S5S1348 1777	SS7S7450777	SSV0G451777
wB	073	140S800	11S7411S77	1b4877	14131Gb	1451S0S	14185VG
6	038	3485V85	1G50V4G8377	04777	34885GV	34SS1S8	34V0008
SC-2	G5	SV57814b5S77	7477777	74777	8157804G1777	SV350V4b7777	SSbb304Vb777
GE-1	S0	18SG0S8	7	74777	18V308b	18S3Sb5	1855S81
GE-2	S0	1GVSV1S	7	74777	1518081	1GV5V7S	1GSV5b3
GE-3	S0	GVV0S4b1377	7477777	74777	GSS5545 5777	GVS1345b777	5031345 3777

Run Name: 1830071E75
wuge Numged: 1G
/ ample Numged: **987T251**

Date9wime: 119I890718 1GG0:35
v atf 2: 1837G17b3S71A
Class: D*********

Initial PM: 147G Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck / . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S77G8b	7	74777	1S110V1	1b8G0bS	1S75V77
SC-3	G5	10bGV480777	7477777	74777	105Vb4G5777	1038b403777	10Vbb4S8777
AB	0S	0S87S48bb73	1Gb5V04bb777	G4V77	0S10G81G7G	0V3Sb4V3000	0bV00435180
v	11	bV4V5Gb3	007V543V777	04777	S14317S1	S747871V	b84GS0V8
v E	V	14bV8b3	11G847b777	S4S77	148371V	14bVS1V	145b857
CA	GG	GS8S4713b0	081S41G777	G4b77	GSS54G38b1	57134G3SV0	G5S0411G33
CR	50	11545S33b	50V5143b377	74V77	115481S0b	11b4GG550	11G4G5S0V
FE	5S	b8S37431V3V	5030G34bG777	04777	b8b5S48VVS5	S71b04771G8	bS3S1475bV5
K	3V	bb7147b501	bVS00417777	G4077	b5GV48053G	bV7745bb5V	b3504873bV
. T	0G	130G14G30V5	30b0034G3377	04877	1378347SVG5	13bb341S175	10VS847G83G
. N	55	1bS14V5VG8	07S771478377	34077	1bbS451000	1S0S40088G	1b01413S3V
NA	03	G3b433G31	GV71S48b377	S4877	G014Vbb0V	GS347b108	G134VS535
wl	GS	113341b8SG	b53540b377	54177	111743877S	17V741V7V5	11V84V351V
P	51	17148GG73	35S5145537 7	74b77	1714V5VVb	171407VbG	17043b0GS
IN-2	115	58SG784VVS77	7477777	74777	58b8554S1777	b7350G457777	5S18Gb4S8777
IN-3	115	111bV475S77	7477777	74777	17b31401777	10G1S411777	17G58485777
AT	17S	14301S7	1357415377	34b77	140S517	14307bS	143bV30
A/	S5	1V470130	SSb473377	1b4877	0047SVb5	15488b1b	1V47V815
v A	13S	3b8471500	1b0bS4bVS77	84G77	3S041SG30	3354 0S057	3Vb45V88G
CD	111	17415SS8	SSb4S7777	V4S77	V4V5183	V40V180	11400VbV
CO	5V	3141G58V	0SSGb430S77	174077	314S8V77	0S4b8SGb	334Vb101
C6	b3	5b34170V0	G387G845b777	V4877	5874S0015	57G47V8b1	b7G4G8SVV
. O	V8	1740GVGG	GbV1441777	174577	1747bS1S	V40S80S	114G708S
NI	b7	0V5417551	SS0b34S1377	V4G77	37148V770	0bG45VGGS	31848 3075
/ E	S8	14770bG	1534 1777	184b77	141SG11	74873bG	147371b
/ N	107	3054003SV	5bS5140SS77	84b77	3G74G113G	0V04V7G0S	3G04855SS
/ R	88	514G0001	G71S4Gb777	134777	514S871V	GG45b1b8	5S4V0GS5
UN	bb	05GS4bS57G	15S1VS40G777	V4877	0b054S78b7	00874877GG	0S3b451b7S
B0 -3	15V	8355S4S1377	7477777	74777	80b5845G777	8G338488777	83bS54S0777
k v	078	GbG4V58b0	1337GV54bV777	14377	G584V5S87	Gb541G0bG	GS74SS5G0
/ v	101	541b3S5	Vbb4Sb377	134G77	G4SSSSb	54bbSSS	54GG5S1
0 I-3	07V	S8158415777	7477777	74777	S551040V777	SV3b547G777	SV5VS410777
wB	073	74G1V8G	3V343bS77	0S4877	7450VVS	7437157	74G087G
6	038	3477V10	1151048b777	14577	347b75G	04V8V75	04VSSSS
SC-2	G5	SS0310408777	7477777	74777	S80bSS4G1777	S81b3G43b777	S50b0547S777
GE-1	S0	188b318	7	74777	1V30Vbb	18G11b8	188G81V
GE-2	S0	1GG1V15	7	74777	1G58380	1GGG18V	1G031SG
GE-3	S0	G8V0743S777	7477777	74777	GS8Vb41S777	GVSb343G777	GV171457777

Run Name: 1830071E75
wuge Numged: 15
/ ample Numged: **987T251**

Date9wime: 119I890718 1GGG5V
v atf 2: 1837G17b3S71A
Class: R*********

Initial PM: 1417 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S1073b	7	74777	1S7V81V	1S31V03	1bVG3b5
SC-3	G5	10S034G3777	7477777	74777	10S1b4SV777	1311S407777	1033b437777
AB	0S	3555V4b173G	1885074S3S77	G4777	3GSS0415780	3GbV74S5317	3S0154V0S17
v	11	3G14VS0Sb	17SGSV40b777	14077	3G14S8Gb5	3384718GS	3Gb411518
v E	V	54Sb785	38VV40G377	74V77	5480781	54SGb35	54S153V
CA	GG	177114bS7VG	5V1840bS77	G4077	V50V4858b0	17078480111	170Vb433378
CR	50	180485S3V	838184G8777	G4G77	1SS4S7Sb5	1S84bV7S1	1V041S387
FE	5S	8083G4083V0	b3G75G4GbS77	34b77	813GG4S5178	878VS4GVV83	8b0b74b7783
K	3V	1S7Sb4b1S3V	1Sb0S741b377	G4177	1bS374S8Vb7	1bb7847V0S1	1S8V74VbV8S
. T	0G	1b0Gb4GbVVS	G7057S41VS77	34177	15VbG4bGS0S	15V50478G75	1b8004bS8b7
. N	55	17S548VV33	133VG743bS77	G4777	17bS4G0Vb8	173S457785	11004SbSGS
NA	03	1775145 8GS0	5V77bS481S77	34877	V8554bS5Gb	V87V478S57	17G8V4VV101
wl	GS	138745Vb7G	SVVb413777	54V77	1G534VG10b	10V043GV70	13V54GVS8G
P	51	1554VbG30	5571045S377	G4777	1554S517b	157417V30	1b04G305V
IN-2	115	5V00874Gb377	7477777	74777	b7G8554S0777	58GG7745b777	58S585411777
IN-3	115	1178543GS77	7477777	74777	178b74S1777	1100S47S777	111b840b777
AT	17S	5b4808S3	5Sb074G8S77	04G77	5S4V57Gb	5S40G030	5540V3G3
A/	S5	3G478GS1	138b4S5377	54S77	3b471S18	3G417b73	304137V7
v A	13S	G0G4G7305	18S0141GS77	0477	G1040850G	G0843 0V8S	G304GVGb0
CD	111	1G41Vb81	1780475S77	b4G77	1G4G8b0S	13418378	1G4V017S
CO	5V	0V8417171	0b51bG408777	74077	0VS43Vb70	0V84GV315	0V84G1385
C6	b3	107545V580	V3b0S54bb377	74377	10704G5b87	10754S7G0V	10784b0b3S
. O	V8	b84b30S1	311b1435377	14G77	bV415V10	bS4G8V10	bV40GV8V
NI	b7	G114S003S	17Sb7V41S377	14077	G7V480137	G1S43V35G	G7S4V5008
/ E	S8	V4VG307	1GV1430377	34877	1740VV10	V45G38b	V4V8bb3
/ N	107	53V41b3b1	V38G847b377	04V77	5Gb431b15	501411SbV	557475S71
/ R	88	Vb4V3311	S5bV40SS77	S4777	1734SG1SV	V740G15G	Vb481b77
UN	bb	05104b01S8	15GSV3473377	74G77	051545VGG3	05704 3S01G	051V48V8SS
B0 -3	15V	8GG3048 0377	7477777	74777	80SV84SV777	83530450777	8bVbS41b777
k v	078	5574b7SG1	15V1b37418777	14577	5514705G3	5584G81SG	5G0431575
/ v	101	17431G37	1VGb4V/1S77	134177	V4V0SV5	11481V83	V41V513
0 I-3	07V	S8VV3410377	7477777	74777	S8GSV43S777	S807S4S1777	870V040V777
wB	073	04G8503	033743GS77	54877	0450G17	0433831	045V30V
6	038	0V407G5b	110S804VGS77	74b77	0V47VS00	0V43V73G	0V410b10
SC-2	G5	SbVV0745b777	7477777	74777	SVGG104S0777	Sb5VG848V777	SGVG7747S777
GE-1	S0	18b7S0b	7	74777	18b7508	18b03S8	185V0SG
GE-2	S0	1G030SS	7	74777	1G5S883	13V3bbG	1G18083
GE-3	S0	G888b4S8777	7477777	74777	GSSGb413777	GV301453777	GV5V04b8777

Run Name: 1830071E75
wuge Numged: 1b
/ ample Numged: **987T251**

Date9wime: 119I890718 1GGS:03
v atf 2: 1837G17b3S71A
Class: . *********

Initial PM: 1413 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S0b30G	7	74777	1S5SS8b	1S5bbS5	1bbG510
SC-3	G5	10583475377	7477777	74777	107354SV777	1005b47S777	13G5S437777
AB	0S	3G0Vb457781	1SVb00411777	G4S77	3GVSG4GS5SS	35G504G1b0V	30Gb04b1738
v	11	3514 3V50b	1113334VG377	14377	3GV451S57	3G8410V70	35b453V0b
v E	V	54801S7	3VS04b7777	14b77	54887V1	54S1G08	548bVV0
CA	GG	8b174V571G	573G451777	04077	88154b0518	8GG54580bS	85S14bG05b
CR	50	18140513V	807574 81777	54577	1884G7571	1854GS5SV	1bV48S338
FE	5S	S5G1841Vb38	5S70VS455S77	G4G77	SS3SG4b30bV	SS0584G588b	S1b014GVS58
K	3V	1S7bS45507V	1SG77547b377	54b77	1S3b543b877	1S8G34GVVG8	15VV34S88SV
. T	0G	15bV048S181	38G7814 3GS77	G4177	1b138478V10	15VS5451S38	1GVb54778V3
. N	55	bS84S8V37	83G5340b777	54V77	bVG4831GV	S7843 0V38	b33417S7G
NA	03	V8G545GS71	5S11S0403777	54V77	171SG45Sb77	171V14S15G5	V1S743GV5S
wl	GS	1G1V470553	81004V3777	34577	1Gb143V0S8	1G3145G313	13bG41G7b8
P	51	1554 3G117	5G7S0471377	84777	1584 3S888	1b545b0bS	1G14581SG
IN-2	115	588V8S4GV377	7477777	74777	b7731b40b777	58V038477777	5SSG7840 0777
IN-3	115	115G14G3777	7477777	74777	11781437777	101804S1777	113b7408777
AT	17S	504V8b8V	558bV480377	G4377	5G47G0V1	5743GbS0	5G45S175
A/	S5	3141V1bV	13014G1377	04b77	314V8V0V	374385SS	31407777
v A	13S	G7G435VGb	185G74AVS77	b4177	G70473bGV	3874V818b	G3747b773
CD	111	114V3138	VGV438777	S4777	11451S51	104388b7	11438870
CO	5V	083480V88	0b0G704bS377	54077	0V540S337	0bS437G37	0884V1073
C6	b3	11774108GG	88SV5G4GG777	54377	11G3485105	17334V7037	11004b31Sb
. O	V8	b04V0S70	0VS0S4SSS77	04577	b348V758	b14783G0	b3487S7S
NI	b7	35b40G375	VbSS840G777	54177	3S04b575V	33b45GGV7	35V4533b5
/ E	S8	174755b1	1GV84VSS77	14577	V488G01	1741Gb8b	174135SS
/ N	107	0S1403b55	GV10747G377	54G77	0S345Sb3S	0554G3185	08G4S71G3
/ R	88	V54G8108	SS504b1377	V4577	VG4b08VV	8b488VGG	17GAV05G0
UN	bb	01514835VS	13S81b41SS77	G4877	007S41811b	07304VS5S5	0015435177
B0 -3	15V	83b78477777	7477777	74777	831314G5777	831S040G777	8G507431777
k v	078	5334GS555	150SG7S4SS377	74b77	5374788S3	53G415S8b	53b41877S
/ v	101	174b3573	1VV740b777	114G77	V4b1VG5	114VS8GG	17437S07
0 I-3	07V	S81V34V3377	7477777	74777	Sb1134b8777	SSG7041G777	817b54V8777
wB	073	04G35Vb	005S471777	1S4577	048V1b0	047G5V5	043S730
6	038	08483838	1170184 3377	04377	084b0bG3	0V45SG8S	0843138G
SC-2	G5	S530Gb431S77	7477777	74777	SV7b0V413777	SG8S534SG777	S0735b478777
GE-1	S0	18b7bS0	7	74777	1887G8G	18bSGVG	183G738
GE-2	S0	13VV35G	7	74777	1GG1VG1	13SS80b	13S80V3
GE-3	S0	G818748G377	7477777	74777	GS1834b7777	GVS8343 5777	GS5S5458777

Run Name: 1830071E75
wuge Numged: 1S
/ ample Numged: **987T251**

Date9wime: 119I890718 1GGV:Gb
v atf 2: 1837G17b3S71A
Class: 6 B********

Initial PM: 1401 Final PM: 177477 DF: 17477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1bbGGV0	7	74777	1bVV03S	1bGbG5G	1bGSS8G
SC-3	G5	118V04G7377	7477777	74777	11b554GS777	11V054SV777	107V54A5777
AB	0S	b1bS47GVS7	375V84SSS77	04A77	b000438bbG	b3784A8VbS	5VbV4SS081
v	11	GS4S0018	1G8534A1377	74177	GS4SGA17	GS4SS1Gb	GS4bG5V8
v E	V	743137V	01G477777	b4b77	7430GG5	7408V7S	74305S5
CA	GG	178848070S	b1747GS77	84S77	118G45bV07	VVG458G87	178S437b87
CR	50	054b5G30	115384SVS77	S4377	0b480bb5	0b4b3138	03457GA0
FE	5S	1GVS84S057b	17S08V433377	14577	1G8V04100S5	1G81b4AA330	1500S475V13
K	3V	1GGS4b3700	1bS3S4b5377	74377	1GGA4303S7	1G5S4bVG3G	1G3548S0b0
. T	0G	085343S5V5	bb1G5457S77	74A77	083G4b558S	08814A33V1	08G345387b
. N	55	3S34G00S3	G3GVS43VS77	14b77	3SG4GS013	3bb43388G	3S84A5S00
NA	03	854A51S0	0SbS14A1777	b4077	8S45V50V	V740b0S8	SV4AVS7V
wl	GS	0334S71G8	10bb4S8S77	V4177	0314bS7G3	01345 3113	0554A7088
P	51	0141SSS0	bVV041S377	S4077	004bS0VG	014007V7	1V4b3V33
IN-2	115	588bV543G377	7477777	74777	58583b4bG777	588V714b0777	5V13GS4SS777
IN-3	115	11S7G4SG777	7477777	74777	115GVA75777	11SSVA75777	11S8b410777
AT	17S	74303V5	3Gb4bV377	174777	7435703	7408SS7	74333V1
A/	S5	348030V	1S7477777	1G377	G41118S	341V0bG	G41b53S
v A	13S	bV47V05b	30074b7377	1G377	58410G70	S14A3158	SS40007V
CD	111	14A7S08	15G4bbS77	S4S77	14ASG87	14S381V	0477885
CO	5V	b40bbb7	58V8408S77	V4b77	b430000	54b3S51	b48G778
C6	b3	17845V000	8V1S145SS77	0477	17V40VSS3	17548bV3b	1174b7V5S
. O	V8	04G70V8	118b4S8777	104A77	0478581	04G1S1G	04S75V8
NI	b7	5b4S5G35	15S13407377	04b77	5S4b8SG1	5547S81V	5S4GVSGb
/ E	S8	740G580	G143377	184G77	740GS7V	740V750	741VV85
/ N	107	b34bS1V7	11S5548 0S77	0477	b04S1SVS	b54331V8	b04Vb5Sb
/ R	88	V4ASV53	8034G7377	14777	1747S0G8	V4AVb03	V48bV88
UN	bb	GV841151b	30G1b485777	74b77	5774b5138	GVG4bV88V	GV84AV501
B0 -3	15V	815714b0777	7477777	74777	87GSb431777	81G1140b777	80b1S40V777
k v	078	VS438871	0S1V8343b777	74577	VS4185GV	VS47SGS0	VS4A7383
/ v	101	140817b	03343GS77	314G77	14S0781	74A3083	1418V55
0 I-3	07V	S815G407377	7477777	74777	SbGGS411777	S831843b777	SVbVS41G777
wB	073	7417SV1	17b4bSS77	0743 77	747V01G	74130V3	747V8b8
6	038	74b3118	0G334S0S77	V4b77	74b7GAV	7458SSV	74S77SS
SC-2	G5	bVS8G541VS77	7477777	74777	S7035740 0777	S7013b48b777	b8V7G8451777
GE-1	S0	181Vb77	7	74777	183S710	181S583	187G07b
GE-2	S0	131VbGS	7	74777	131G03G	1330S87	1311V0S
GE-3	S0	G5G1541b377	7477777	74777	GG88b455777	G5GV840G777	G58b74S7777

Run Name: 1830071E75
wuge Numged: 18
/ ample Numged: **9827129**

Date9wime: 119I890718 1G50:17
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1473 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1b077G7	7	74777	1b3b553	1b11b0G	1b11VG0
SC-3	G5	107304b3377	7477777	74777	11V054V7777	11b054bb777	105Gb43G777
AB	0S	1SG5b4V170S	8S513408S77	G4177	1S3084S178V	180354bSb31	1b87b43G3b7
v	11	S3431387	007GV43b777	04877	S545bG75	S14b7850	S04Sb88G
v E	V	1418S87	SbS43b777	84S77	1403583	147bV50	140587G
CA	GG	10538745S717	bVV1b4b8377	34S77	10531G4G5VGS	1371774G3b53	107S0b481G0V
CR	50	G04GGV5b	188S74bV777	8437	G34b7G0b	G540GVV8	384GVGG0
FE	5S	G10834Gb105	0V8S5G4b0S77	G4G77	G781740GVS	G337747S51b	3VS3V4G83b3
K	3V	G0VS403151	GG0G0403S77	0457	G0514S0500	GG1V45VSG3	G0074S188
. T	0G	318734G0S5V	SGGS00451S77	G4077	318bS4Sb830	337V34S3V1G	37GG84SS537
. N	55	150b74G00G5	1SV5VSGAV0777	G4G77	1518S41SG07	15V5V48V5VG	1Gb3G41VS07
NA	03	58b4G3S33	5Gb7043577 7	b4V77	55b40b775	b304S50S8	5S740VV1S
wl	GS	S584V8G5V	G15S455777	V4877	b804VV1GG	8374Vbb8S	Sb04VV5Gb
P	51	1184b7GG0	3V5SV41V777	04V77	11b47b078	10045S0bV	11S41S8GV
IN-2	115	5S503V45S777	7477777	74777	5V117147G777	5S3VV1411777	5b7b0b45b777
IN-3	115	178VS415377	7477777	74777	17G3V411777	17VV54Gb777	1105b48V777
AT	17S	741G17V	1G7471777	18417 7	741bS55	7413V1V	7411b5G
A/	S5	0G4SVb3b	VVG47GS77	04b77	0G48GbVS	0G410VbG	054G10GS
v A	13S	b7541035S	0b0GG4Gb377	04G77	5Vb487878	5Vb4b011b	b014VG1GS
CD	111	74V0S1b	S74bbS77	134G77	748S5SS	147b8V0	7483b87
CO	5V	05475VV3	01V184bbS77	34077	05471817	0548SGVV	0G408bS1
C6	b3	0548Vb0S	1V8S041SS77	5487 7	0S4G3771	0548100S	0G4GGb53
. O	V8	54S51G8	0b774G0777	54b77	54380bS	54V51GV	54V070S
NI	b7	bS4G53V0	1S3S5485777	1487 7	bS4GbVbV	b84bG033	bb40GVS5
/ E	S8	147377S	15G400377	04877	147G70S	1477307	147GbSb
/ N	107	V4173Vb	1b1741SS77	04077	V478850	V437808	84V1578
/ R	88	0774b88b0	15G1b43S377	04V77	1VV4753b1	07S47b3GG	1V54VG881
UN	bb	1GG4G37bG	8SGb4b3377	V4577	15G47G57V	1574GV085	1084S53VV
B0 -3	15V	80V3748 8777	7477777	74777	813074SS777	80185415777	8508b4S0777
k v	078	184bS3SV	5303547 8377	1437 7	18451VS3	184V5G5V	1845GS75
/ v	101	14787VV	07747 1777	07437 7	140b3G5	141G1G5	748387b
0 I-3	07V	S381847SS77	7477777	74777	S387748G777	S0VV54S8777	SGb5S4b1777
wB	073	7480SVS	S3747bS77	134S77	74S3S1b	74SV1bV	74V557S
6	038	54VV550	01bGb4VS777	34G77	54VV35S	b41VVVV	54SV377
SC-2	G5	bVbb384SG777	7477777	74777	S01S3745G777	bVb10V475777	bS075b4b3777
GE-1	S0	1875VV8	7	74777	180351b	1875S1G	1S88Sb5
GE-2	S0	1301710	7	74777	1331G08	133505S	10Vb357
GE-3	S0	Gb0574bGS77	7477777	74777	Gbb514G5777	GGG5GAV8777	GSbG5451777

Run Name: 1830071E75
wuge Numged: 1V
/ ample Numged: **987T252**

Date9wime: 119I890718 1G5G3G
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1407 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1b03V5b	7	74777	1b1bVSV	1b3GS70	1b0718S
SC-3	G5	11b784V7S77	7477777	74777	11175418777	11S05455777	11VV54VV777
AB	0S	1VbV04b0b13	V505G43S377	34577	07G3b4bV88S	1V0884G3G1b	1V3704bV535
v	11	18G41S008	5575G431S77	14G77	181418V73	18b47387b	185408VS3
v E	V	14bG58S	17b04S0777	84077	14bb877	14SbSb5	14571V5
CA	GG	10SSb34G1700	b8SG7435S77	34G77	130G51451V5G	10S7134Vb3Vb	10380G4SGS1S
CR	50	3VS41G55b	1b5G7b4S0377	04577	G7S4VbbV7	388415V57	3V5431708
FE	5S	308S8b4SS5bS	00Vb00b43S777	04G77	33S81V4S83V0	30G5VS4GSb57	303VG347bb5V
K	3V	350G4S18b0	3550S40VS77	34b77	3bb74358S3	35754SV587	3G78477130
. T	0G	88S340VbV7	07755V453377	04877	V13143S1S8	885b48b8S7	8b314b5700
. N	55	0VS1433SG8	33S5754G3S77	04877	37b74358S0	0Vb74b5GSG	08V04VV8VV
NA	03	0b0S4V0101	15SG3143377	34077	0S0343V13	058b45VSbS	05S34G0b83
wl	GS	8S84V7GV3	Gb51475377	54877	8S148815G	8314885Gb	V334GGSS8
P	51	1VS4V7bVV	b3bSb4VV777	34877	07b41S108	1V54Vb8S5	1V14587Vb
IN-2	115	5GV51545b777	7477777	74777	5b0VVS4VG777	5GS178410777	538GG74b0777
IN-3	115	VGb543b777	7477777	74777	8V1b407777	Vb03418777	V85b4S7777
AT	17S	354VS750	3117140777	G4b77	3S4503VV	3b4155S7	3G40318S
A/	S5	1154801b0	G77G4b3777	b4877	10G403bVb	1114V1G53	11143133b
v A	13S	58VS4S88S1	001S814SV777	G4077	b13143VV83	5V184V8GG5	5bG04V818G
CD	111	104G71VS	878473S77	54877	1043Ob3S	114S000b	13415S0S
CO	5V	1734BV703	S880b4SG377	34177	17S4b7038	17045b0bV	1714575b1
C6	b3	13834bG78V	V1b0GG470777	34V77	1GG34V0Gb0	13bb4SG307	13G7405G85
. O	V8	GS47SbS3	18003458S77	b4077	574G53b3	G543G1VS	G54G3Gb7
NI	b7	31V4VG3GG	S131841G777	34b77	333415S8G	31545G77b	3114130GG
/ E	S8	54G33S8	SbG4V1377	G4077	54G05b8	54S38S0	5408bV3
/ N	107	57bS411VGb	S5183143G377	G4777	50VV43b357	GVb5487S07	GV3b418SbV
/ R	88	S814b88G8	5017S473S77	34777	8784bGG85	SbV4Vb00V	Sbb4G580V
UN	bb	157Gb4VG335	SV700045b377	G4577	1580b4V5753	1GSGV41GV83	1G5bG4S0VbV
B0 -3	15V	87S0b4GbS77	7477777	74777	SV78b415777	87b754bb777	80G8S45V777
k v	078	Sb554b0G71	0115SVS8485777	74V77	SS3840VG1b	Sb7V4357bG	Sb1V400S03
/ v	101	0034bSSG3	G7G0S4b1S77	14S77	0034Vb001	01V4S3VG8	00S43375V
0 I-3	07V	17373747V777	7477777	74777	171V1b41S777	1773534VS777	17b807413777
wB	073	74GS03b	5834387777	154577	74G3000	7455S77	74G0S8b
6	038	145181G	SbbV451377	14V77	145G377	1450G00	14G8S01
SC-2	G5	S755774V5777	7477777	74777	S37bG74bV777	S7G8804S0777	b87VSV4GG777
GE-1	S0	1S7811S	7	74777	1S10571	1S1b1V1	1bV5b5V
GE-2	S0	10b5S10	7	74777	108V78b	10bbbGV	10G1G73
GE-3	S0	GGG7S4BG377	7477777	74777	G51bS417777	G3S0043G777	GG3334VV777

Run Name: 1830071E75 Date9wime: 119I890718 1G5b:5S
wuge Numged 07
/ ample Numged **CCV**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1b18071	7	74777	1b0VV0V	1bS701G	155GGb1
SC-3	G5	11V7V403S77	7477777	74777	11G054G3777	115b5458777	10S3b4S7777
AB	0S	0Gb54358V3	1003b473377	S4077	0b3741G0bb	0G884003b0	00SS4S1753
v	11	0bS400VSG	SVG7148b777	34777	0bb408V85	05V480SVb	0S545S1G7
v E	V	0540bbbS	1b1054VSS77	04877	05401Vb1	0G458bb7	054VV381
CA	GG	051S4578bb	1G734G8777	54G77	0G354501S5	0GG347S5G7	0bS34V0880
CR	50	0b747S1V7	111138437S77	54V77	0S045GbVV	0bG4bG07G	0G3470bbb
FE	5S	05b74G37S1	18G0348b777	04S77	051743SGVS	053347V750	0b3S480bb5
K	3V	0GSG408575	0bGG34G3777	S4177	0b354G77SG	0GV84581GG	00884S0VS
. T	0G	05bb458S1S	5VG1548 3377	S4777	0b854115G0	0b5G481137	03b7483G87
. N	55	0574Sb317	0V1V54bb777	54S77	0b54SbGG1	0GV41SS53	03S48GS3b
NA	03	05SS4G0GG7	158b30488S77	54V77	0b804b8887	0bGb4Vb181	0G704b0058
wl	GS	05V45G503	1G77415377	1G4177	087450V75	0874V0SGG	01S41SV01
P	51	0b0431373	8b5314VbS77	34877	0b8418b3V	0b8473Vb0	0574S137S
IN-2	115	58Vb01450377	7477777	74777	5V87GG4b8777	5VV0S145S777	5S15G8480777
IN-3	115	11G7S48b377	7477777	74777	110074SV777	1135848V777	11bG04G1777
AT	17S	314Vbb17	333G34b7S77	34b77	304V8138	3041VG7S	374S0083
A/	S5	0bG48S1S0	1173G45V377	04077	0b74bV18G	0b14G0505	0S74VV87b
v A	13S	0b84878GV	10073473777	54877	0S1407VbG	05345131V	0814S70bG
CD	111	0b48S53V	07b8418377	34177	0S4701GS	054Gb003	0b4bG0Gb
CO	5V	0S34VV871	057Sb84VGS77	14877	0S847bbV1	0S14VGSb7	0S14VSV53
C6	b3	0Sb4b7V73	00113S41b777	14877	08748 3V80	0S34SV0S5	0S541VG53
. O	V8	0S483V17	13733481S77	34877	0S410311	0S450G7V	0848S778
NI	b7	0SG4b7G7V	S385V48b377	04G77	081483VS7	0bV4801G5	0S04b5117
/ E	S8	0GAV55SV	3S18487377	34077	0548b537	0G4G75GS	0G45Vbb1
/ N	107	G7470GG5	S0054Sb777	G4077	384S78S3	3V4GbV05	G148V53S
/ R	88	0G453b3S	1VS345V377	84G77	004b31S7	0b4S0877	0G40GV3V
UN	bb	0S84V7b30	1SS7548 0377	34577	0SG40VGb1	0S048878b	0V747G357
B0 -3	15V	83G5V4bSS77	7477777	74777	81883475777	8GS174S1777	83S8540S777
k v	078	0848bV38	80S03457777	54877	0S488588	0SAV33S7	374S885b
/ v	101	0S4S7G57	51SS4V5S77	34877	0S47171b	084SGb0b	0S485S7S
0 I-3	07V	SS330413S77	7477777	74777	S51b8455777	Sb0Vb4bb777	87531407777
wB	073	0b48S8VV	0G131410777	04V77	0b410V10	0S40G133	054Sbb50
6	038	05450V58	Vb5154GS377	74G77	054b338b	0545753G	054GGV53
SC-2	G5	bS1SV54S5S77	7477777	74777	bVVb1V483777	bS8110488777	b3Sb5G45b777
GE-1	S0	1S7V1Vb	7	74777	1b8V35V	1S013G0	1S1b88b
GE-2	S0	10373G7	7	74777	105817S	103G8G1	11V87S0
GE-3	S0	G3V0b450S77	7477777	74777	G3GG148S777	G3581465777	GGS5b40b777

Run Name: 1830071E75 Date9wime: 119I890718 1G5V:01
wuge Numged 01
/ ample Numged **CC0**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	15577G3	7	74777	15S1173	153bGG8	15G05SV
SC-3	G5	11bG040S377	7477777	74777	1101543 1777	1071b473777	11bV54G8777
AB	0S	74/18G0	3343377	G554/77	-34S3551	0411751	G488705
v	11	384Gb8G/	1107S400377	04577	384S51SS	3V4057G8	3S4G7301
v E	V	74713GS	1b477777	b54777	7477V88	7477S7V	74703GG
CA	GG	054b3555	0343377	1874b77	0745G0V3	-1SA/75G1	SG40bV11
CR	50	7430707	Sb747SS77	1GG4G77	747S381	7485358	7473300
FE	5S	545338V	8b4bSS77	534b77	04115S7	S475351	S4G30GS
K	3V	1b4GS1G5	31734 8b377	b34b77	0b435S37	54G8031	1S45SGSG
. T	0G	04/75Vb	1734 3G777	GG4777	G40S7b5	14S3Sb5	04S7V5V
. N	55	740Sb30	G343S77	11S4177	74b1S0V	-7470b30	7403SV8
NA	03	3G41G/17	0GG7V413S77	3V4877	G54/7bb8	1V45Gb50	3b4/VG78
wl	GS	7477777	7477777	74777	7477777	7477777	7477777
P	51	7410807	5343S77	1774777	747V11b	747005V	740S78b
IN-2	115	5SV0074G3777	7477777	74777	5V78bG488777	5800G8485777	5bG5G845b777
IN-3	115	11V8G455377	7477777	74777	1003847S777	11S7S40S777	107784/0777
AT	17S	74770V8	343377	1S3407 7	74778V3	7477777	7477777
A/	S5	747G/03	84bbS77	3804S77	-7415137	7400050	747SbGS
v A	13S	7408b0V	1343377	1S3407 7	7477777	748588b	7477777
CD	111	747301G	G477777	S84G77	74737V1	7475SV3	7477S5S
CO	5V	747Sb1b	8b4bS777	1774G77	7471bG3	747G/S5	741b031
C6	b3	7408SSG	3V7470S77	184b77	7431387	7400b0b	7430315
. O	V8	7417GG5	8b4bS777	V84577	7477S7b	747VG18	7401011
NI	b7	74777G0	b343S77	005754b77	-7478b55	7417173	-7471300
/ E	S8	747G1SG	17488S77	504b77	747G3G8	747b0S8	74718VG
/ N	107	G4GG51G	8V34G1377	1S4G77	345V350	G4bG13G	541775S
/ R	88	74738bG	343377	1S3407 7	74115V1	7477777	7477777
UN	bb	745VVV7	S343S77	174/77	74S0SSV	74SSGb0	748VS0V
B0 -3	15V	838184bS377	7477777	74777	80b0S45G777	858G843G777	80V8741G777
k v	078	745VbS8	1V0b433377	114S77	74b3G/G	7451bG0	74b38VS
/ v	101	74Sbb0S	1G343G377	014/77	748b57G	745S0G0	748b13b
0 I-3	07V	SbVbb407777	7477777	74777	SSSSG41G777	SbVb74b8777	Sb1b34S8777
wB	073	7471787	1b4bbS77	07V4177	7473b78	-7477S3V	74773S1
6	038	74711bb	b343S77	17G4G77	7477777	74717bV	7470G0V
SC-2	G5	b511bb4G8S77	7477777	74777	bS8G1b40G777	b50G38415777	b00bG547S777
GE-1	S0	1b8G378	7	74777	1b8VV88	1bSb8G7	1b8b7Vb
GE-2	S0	100VV13	7	74777	10S57G0	100V01S	1185G87
GE-3	S0	GGSb04G3377	7477777	74777	G3G3148 0777	G5538437777	G531S418777

Run Name: 1830071E75
wuge Numged: 00
/ ample Numged: **987T253**

Date9wime: 119I890718 15:71:GS
v atf 2: 1837G17b3S71A
Class: **********

Initial PMI: 141S Final PMI: 177477 DF: 0477 k dMMf MI: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

INBEGRABIONS

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1bSG35V	7	74777	1b87b7b	1bbSGSG	1bSGVVV
SC-3	G5	101S04S5377	7477777	74777	111154IV777	10VGb4bG777	10G5b4G3777
AB	0S	01GSG47SGS7	178bG140037	b4b77	00VS1450S8b	071Sb457SV8	010SG41880G
v	11	5G4b703G	1S757430377	14577	554733G1	554177S1	534bS08V
v E	V	04371S8	15084SbS77	14b77	043G75G	040bG80	040VVVV
CA	GG	GV507470118	0S85V4GV777	S4877	533b145VVS8	G5b5V4SVb55	GV5384bbS01
CR	50	0014BG311	Vb8S74GV377	S4777	0384V50SV	0784bVbS8	01S48SVSS
FE	5S	GSbV048VGV5	3G808b4b1377	b4877	5103b4b300b	GG8VG47bG3S	GbVGS4V8803
K	3V	0bbG4bSG0S	0880G4bS777	84877	0V3b41b181	051545VV01	05G040b1SV
. T	0G	G3S5418b07	17330b4b7S77	84b77	GSV84V8b0V	G78740VS07	G0Gb40S510
. N	55	Gbb4b1000	553VG4G5777	84177	51741b8V0	GG747G517	GGV4b00b5
NA	03	110S4530b0	8G1G74V0S77	84577	1033488358	17GV403V01	17VV4GS57S
wl	GS	S054Vb8VS	G71S4Gb777	G4G77	S5G45GG1G	bV148Vb5G	S314Gbb00
P	51	S84VGb70	0b5b7408777	84777	8543 81G8	S048870b	S84GSb33
IN-2	115	5b7b7048 5777	7477777	74777	5S0073430777	5b38534S7777	5G5S5145 3777
IN-3	115	1137V4bb777	7477777	74777	110b54b3777	11S3148G777	17V30471777
AT	17S	V47V075	VG7745 0777	34577	84V7108	84V11b3	V4Gb303
A/	S5	3S47VS15	153b4SS777	V4877	3b4V70bG	334S50bS	G74b3b1G
v A	13S	G0014 5b07b	18V87S4BGS77	34G77	G1G140b3b0	G1354 7133G	G3884G7V03
CD	111	G4181G8	30b471777	34877	G47G7Sb	G4150bS	G485177
CO	5V	0V458535	0b83S4V5777	34b77	0V48GG3S	084b5SV1	374S53SV
C6	b3	17714G7G57	SV0S1b4S3377	G4177	VV1410VS5	Vbb4V0580	17Gb415SV5
. O	V8	1340875V	b1S14S5377	54G77	1340VG73	10455G88	134VV08S
NI	b7	1174777bV	0V35341bS77	34877	1784b1bG8	17S40b85G	11G411S75
/ E	S8	34SVSb3	5G145bS77	04S77	34b877b	34833GG	348SV3V
/ N	107	1b7481VSb	085V04bb777	14b77	1b14V5b78	15S485b8G	1b04bGb3b
/ R	88	3874VS1G1	3735548b377	34177	3SG4SSVG5	3S345Vb07	3VG45385V
UN	bb	375V4G7bV8	1V07S547V777	G4877	37G3477G1S	0V07477701	3015401b55
B0 -3	15V	805374VG777	7477777	74777	81S5341V777	835G34b5777	800V54V8777
k v	078	07304 8b775	5SGG18747VS77	14177	07G045331V	0778478V1b	07GS4V5S80
/ v	101	1045VS0S	030S471377	G4G77	10451G07	104785b7	1341V077
0 I-3	07V	81V084b8777	7477777	74777	87G504V1777	801504G7777	831874S3777
wB	073	1403bS0	107b4SV777	84877	141bVGb	1418b0S	1485GGG
6	038	14SbG75	S7854 80777	54577	14877SS	14b53SV	1483S5V
SC-2	G5	bb73Sb4S5777	7477777	74777	bV1815415777	bS77134SG777	b1V37148b777
GE-1	S0	1S81330	7	74777	1811158	1Sb73G8	1SS0GV1
GE-2	S0	10G05S0	7	74777	10b708S	105bGS1	1017V5b
GE-3	S0	GG85b41S377	7477777	74777	GG7S3450777	GG1V3481777	Gb37141V777

Run Name: 1830071E75
wuge Numged: 03
/ ample Numged: **987T254**

Date9wime: 119I890718 15:7G13
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 140V Final PM: 177477 DF: 17477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	153S57b	7	74777	15330bV	153GVbG	15GG085
SC-3	G5	11b3040SS77	7477777	74777	11b854b7777	1107540G777	107754AV777
AB	0S	b75740b318	0V3bV451377	14577	b15S4703S7	b77V43135G	5V8G4G5008
v	11	3S4AVb81	17V834bS777	74177	3S4A/573S	3S4A/8551	38475G5G
v E	V	74G3Gbb	0S143G777	04A77	74GG3b3	74G1VVV	74GG73S
CA	GG	58V5S4G03G3	31SVG45V377	34577	5VS7G4GS7G3	b75b8458888	5b5VV4017VS
CR	50	3543G003	1531V43VS77	G4777	334SS371	3b4G3G0S	354SbVG0
FE	5S	3SS8147S505	0bG38045 3377	34b77	3S0134Gbb13	3V3014b0701	3b878413VG1
K	3V	115747SGS7	13b174SbS77	0437 7	11SGA/S58b	11504bS00S	11004S5VS
. T	0G	08154Gb857	b387143S777	04577	080047Gb00	088043V077	0SG14AbS0S
. N	55	33V4b7GG3	38bGV4S0S77	GA77	3G1457bS7	35547b77G	30040Gb55
NA	03	1G3V43G887	Vbb31405377	G4577	1G7G431318	151G4b58b3	13VV47SG58
wl	GS	38V4b0V77	07b34b7377	104177	GG14GV81b	3S84133bG	3GV405507
P	51	08433735	V13b4A0377	84777	0S437bb0	374A0b5G	0b4S5S8V
IN-2	115	5b75bb4AS377	7477777	74777	5SbSG1473777	5b3VbG435777	5G7VV545G777
IN-3	115	17V7345b377	7477777	74777	VVVS4GS777	17b804S5777	107374GS777
AT	17S	GA73b0	G85S4SS377	134777	54b30G1	G4b15V5	G4Gb0GV
A/	S5	1040b588	GV0471377	174777	1347 3b51	104A7SS3	174853G1
v A	13S	G004A/557b	1803740 8777	174377	GbS450GS8	G0745bG70	3874SSb3V
CD	111	8480705	b58470777	V4b77	V4b878G	84S8b03	S4AV3b8
CO	5V	8480VGG	SS754A/8777	b4G77	V4388b8	848G3S5	84055V7
C6	b3	307b451VVb	0G355bV4S7777	84S77	3G504715S8	30b54A7G85	0V714b3V0G
. O	V8	34S158b	1bS7407S77	074A77	G45S033	3451V37	34755V5
NI	b7	5047GVSV	133G3485777	174077	5b4b88G7	53403S1V	Gb4003SS
/ E	S8	74Gb058	S7477777	34S77	74GG3V1	74GS81S	74Gb5bG
/ N	107	0bS405301	G553G4G5377	84A77	08b407157	0S547b05G	0G74GV55V
/ R	88	07S4S0bSV	158SS475377	V4777	0054S573V	07V477SVb	1884G0073
UN	bb	0GVG47570V	157333487S77	84G77	0bS34Gb3bG	05G34000b1	00b54GbGb3
B0 -3	15V	817V540G377	7477777	74777	87G5G487777	81Vb34GV777	878bS4VG777
k v	078	G5514GS7Gb	10b3S058485377	04G77	GGV5487b3G	GG8347b5VG	GbSb473V11
/ v	101	S4513S3	13b34G8377	174b77	S4GG7b8	b4S585S	84GG1VG
0 I-3	07V	S85054SSS77	7477777	74777	Sb51b488777	S8G0848V777	87b3148b777
wB	073	74753V3	5b4bbS77	514G77	747588V	747S883	7470G7b
6	038	745S503	000S477S77	1G4077	745G0V0	74bbS8G	7451GVG
SC-2	G5	b3G5b1401377	7477777	74777	bbG8S14GS777	b3b8V84G3777	b71V134SG777
GE-1	S0	1bSS7V7	7	74777	1bS17b5	1bSS035	1b80VS1
GE-2	S0	1003735	7	74777	105S58V	101G3VS	11VS11S
GE-3	S0	G351G4S5377	7477777	74777	G3VS045b777	G31GV48S777	G3G01483777

Run Name: 1830071E75
wuge Numged: 0G
/ ample Numged: **9872T6T**

Date9wime: 119189 0718 15:7b:3S
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 143G Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1b011V1	7	74777	1b7000V	1b3bSV1	1b0G555
SC-3	G5	118V54SV777	7477777	74777	11VV54V5777	1138540 3777	1037b41V777
AB	0S	38Sb54S3bbb	1V07b745bS77	54377	3S1bS483bVG	G17b748b8V5	387b8457G17
v	11	10V4730V7	385VG478377	14377	10V4GbS78	10S40GbV1	137438GS7
v E	V	14bSS80	178143V777	34577	14b17bV	14S18V1	14S738S
CA	GG	1G37504bGVV7	S885041S377	G4877	13SV3V4b01SV	157S834b731S	1G7G3G4S0GS5
CR	50	0S84S0V0S	11V7bV477777	G4877	0S74013b0	0VG40S358	0S14S775V
FE	5S	bVSGG34bb07S	GV8855V451777	G4b77	bS803b458G70	S3Gb3741b811	bSVGbG403G7V
K	3V	0103347G050	07G1714 3V777	54377	073GV415300	00GV74V055b	0785V47G887
. T	0G	0873147G573	bG8bS54VbS77	54b77	0S5304SG3bb	0VSSV4bSGV5	0bS874S1bG8
. N	55	G00G4GS51	GV1G0V408777	54177	G7V74bSV0V	GGSG4877S7	G17S45b05G
NA	03	05bG45VS15	15S8V140b377	b4777	05754S5V80	0S3V4b5G18	0GG843SSGG
wl	GS	G1bG40007b	005GV4b0777	34777	G17V4S83G0	G37b4VV1Vb	G7S548V787
P	51	10S4731b0	G18504V7777	S4177	100450bVS	13S4G5S30	101411758
IN-2	115	55V71S457777	7477777	74777	5b7VG34V0777	55S7GS403777	55V7b1435777
IN-3	115	8SGG45V777	7477777	74777	8S0V410777	8830458777	8bS047S777
AT	17S	0S47S811	01b584bVS77	04S77	0b4b8357	0b4b18S8	0S4V3075
A/	S5	18b475VSS	5V504bVS77	04177	1804GVbS	1854bG7G5	1V7478V07
v A	13S	G7754 0183	13V3534 7SS77	34177	38b14SbGV1	G7b14G8GVV	G7VG40155V
CD	111	5S4V378b	3G8141bS77	14077	5S415bV1	584GV835	58413S30
CO	5V	8140Sb7G	5S70S4V0S77	04377	814180SG	SV4GG753	83407G85
C6	b3	0G334S1777	1GV7SS548b377	14S77	038S401108	0GGG4bGVSV	0GbV40b8VG
. O	V8	GS4V0b0S	1S1S148S377	04S77	G841VV5S	Gb4GVSV3	GV478130
NI	b7	338481G17	bV85G40S777	14b77	33G4bG338	33S47G185	3GG4S5S7S
/ E	S8	5401733	S3V435S77	84877	G480858	54S0110	5478137
/ N	107	5VGS4VVSVb	81b3G1431S77	04577	58384VS8b7	588b401G8b	b1184877G1
/ R	88	b804S0GS8	G078G8G777	14G77	b8V4GSS38	bS148V570	b8b4871VG
UN	bb	888S45VVG1	G318S0485S77	14S77	8S3540VG0S	88Vb4G8877	V7314715V5
B0 -3	15V	83V5G483777	7477777	74777	801V5451777	8G10747S777	855G84V1777
k v	078	b58S4G8S58	18V338G545GS77	14b77	bb754G877S	bb874071Vb	bGSb4S87S1
/ v	101	SV4SS8Sb	157704S7777	54577	SS45G08b	Sb4VV183	8G48715V
0 I-3	07V	V17bS47VS77	7477777	74777	V710b417777	V1G1b438777	V1b5848 1777
wB	073	7481801	8V7478777	114877	74S1G85	7483G10	74V75bb
6	038	048b08V	10SbS48V777	74G77	04858SV	048SG3b	0485551
SC-2	G5	SSbS1148bS77	7477777	74777	SSG5VG413777	S80S3847G777	SS08734G3777
GE-1	S0	1bSV8G7	7	74777	1b8bS5V	1b87V0S	1bS1833
GE-2	S0	10V5888	7	74777	1083G5G	1305G1V	10S8SV3
GE-3	S0	GGV3347b377	7477777	74777	GGSb54S3777	GGVGb4SG777	G578b4S0777

Run Name: 1830071E75
wuge Numged: 05
/ ample Numged: **9872T61**

Date9wime: 119I890718 15:7V:71
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 14G1 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck / . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1b38813	7	74777	1b08b7V	1bb118V	1b0bbG1
SC-3	G5	101854VVS77	7477777	74777	101554VS777	10b0b43b777	11SS54bb777
AB	0S	GS5004SS81G	0G103S417S77	G4177	GS0314Sb7S1	G5S1345VV78	GVb0340SGb3
v	11	05S41G7G3	SSG3143bS77	04177	0b74313bS	0574V1b1V	05V4bV1G3
v E	V	0411830	13SS4G1S77	G4377	047b7S5	047S1VS	0400003
CA	GG	1b05b74SSS3G	V181S485777	G4G77	15S5354V1GbV	15V3b04031GS	1S7S8G41858b
CR	50	0V043SGSb	10SV814b3777	34777	0884S0830	08b47787b	370438SV7
FE	5S	S1380V40b5G0	503111841 5377	G4S77	bVV7G5470G57	bV70b5415Vb8	S501SS4b1078
K	3V	083VV43878G	0S8bV34V7377	G4377	0SS7G4SS7S0	0Sb8G4078GV	0V87V41b337
. T	0G	318V141GV38	S5b503430S77	34377	3137345S7G1	311704138S8	330bS4S38V3
. N	55	G1V3417SG0	GVVV8S415377	34S77	G78S401003	G11V43Gb53	G3S04bb3GV
NA	03	G71S4GVbb1	0G77S545S777	G4G77	3V3G4S1V7V	38VS488V78	G01V4881bS
wl	GS	5801471S03	300SV43S777	54377	5b8G40013b	5b7G4S10b3	b1SG411SS7
P	51	1bV417780	5S11G418377	G4577	1bS45037b	1b04G8030	1SS40VS78
IN-2	115	5G57b748V777	7477777	74777	5GSG314GV777	5GV13141V777	538b1V4VV777
IN-3	115	8S0V47S377	7477777	74777	8VV1451777	SV714b7777	V0VG411777
AT	17S	30417831	0555043VS77	S4777	3741SVbG	3G45V18G	314553GS
A/	S5	b3847Gb77	070S54V3777	84G77	b774GV5G1	bVV45S00V	b1G47S731
v A	13S	b88G4S70b8	03S8b84b1S77	V4177	b58843S1b8	Sb704V077G	bGb0481b31
CD	111	G3430503	05VGAV5777	G4177	G143bGV1	G54710Gb	G34GV833
CO	5V	1S34Sb1VS	1011S1480S77	84077	1bG48075b	1V741S8bG	1bb408bbV
C6	b3	038G4G8G50	1G51S7G4bbS77	S4V77	008b47035S	0b71415310	00bb40Sb8V
. O	V8	b04V0bGS	003S3407777	174G77	5V405S83	S7457VG0	5V47101S
NI	b7	5004SbS3G	17bV7S4G5777	11437 7	G384V0V81	5V74S371V	G384bG073
/ E	S8	343S335	Gb84G5377	04377	34G5S11	3435VS7	343730G
/ N	107	SVS34S30SV	178S158458777	V4377	SGGb48b038	880G4GVb0b	SbGV483VS1
/ R	88	8SV4V53S5	5380S40b777	114777	8184835Sb	VV14SS8b5	80V40Gb8G
UN	bb	V3VS4SSV05	G5353b4V3S77	V4G77	88G548S0GV	17G0147G51G	8V0b4G0713
B0 -3	15V	8GSG54b8777	7477777	74777	8075547S777	8G1S8478777	8877348V777
k v	078	SG5V45b158	01b358b34b3377	04077	S57G4GVV0b	S5VGAVG158	S0SV40G388
/ v	101	bS48Vb1V	108S348bS77	04V77	S7415588	bb4V7717	bb4b30b1
0 I-3	07V	V0GGG4G7777	7477777	74777	8V5S34G8777	V0GG541S777	V531G455777
wB	073	147SSG0	118b4SV777	04377	147GVb0	147VV17	1478350
6	038	34G7013	153V34V8777	04177	34G7717	34GS3Sb	3483053
SC-2	G5	SS3750451377	7477777	74777	SS7301478777	SSV3V14VG777	SbVGGG450777
GE-1	S0	1S781G3	7	74777	1S113G0	1S71100	1S11VbG
GE-2	S0	131GVb3	7	74777	10Vb588	13G8G31	10VV8S7
GE-3	S0	GGS804Sb377	7477777	74777	G0V37410777	G50bS4b8777	Gb1574GV777

Run Name: 1830071E75
wuge Numged: 0b
/ ample Numged: **9872T62**

Date9wime: 119189 0718 15:11:05
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1405 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1b1557V	7	74777	1bG11S7	1b10310	15V37G5
SC-3	G5	118bV403S77	7477777	74777	118554VG777	101Gb417777	11b754bS777
AB	0S	31bG04155b3	15b5GS451S77	34177	37VV04S78G5	311b0480385	30SS74V3G5S
v	11	1314VS5V1	3V30847S777	74V77	137458V5S	1304V50G1	1304385Sb
v E	V	14V0151	10304S3S77	GAV77	148Vb58	0470517	148G085
CA	GG	1b3b704V51b3	V77G0430777	04577	1b03b14307V5	1b730040V3S3	1b810541G700
CR	50	3GG4V33G0	1GbVSb437377	34177	3G8403V10	33341G1bV	3534G1VG5
FE	5S	5S3773431513	G7V03S14b7S77	04b77	5SG5bS475S1G	55S0Vb43375G	58S1Gb455SS1
K	3V	G1814307SG	G05GS4GG377	34G77	G1SG4SVGSb	G7G1435GS5	G3084710S1
. T	0G	13bV541VGSG	31b5S5407377	04b77	13b304b75S1	133S04VV3S3	1G7SV4V8GS8
. N	55	0G334b8V0S	080S784V8777	G4177	03b547S037	038S4887V5	05G8411G5G
NA	03	3bbV40bV77	015bG5470377	34G77	3b5V41Sb78	35GV41G0bG	3SVV4G880S
wl	GS	V3V453G30	57SS48b777	34177	V384V1877	V1147b0S1	Vb84b000G
P	51	11V4G1VSb	3V30148b777	14077	11V401b85	11847b50S	1074VSS1b
IN-2	115	55V305401777	7477777	74777	5b0S7G45S777	5bG18043S777	5517884bV777
IN-3	115	177bG4SV377	7477777	74777	1777S4bV777	VSb7430777	17G0b40S777
AT	17S	154V8G80	1GbV54SV377	S4b77	154537G1	1S435VG0	1547bGb3
A/	S5	15140b705	55bS407S77	G4877	1GS4G1808	1584S0b51	1GS4b35V5
v A	13S	1118G4G10G5	GGSb1148VS77	04G77	1175343V0bb	11GVV47GbV5	1177745VSSG
CD	111	1S4S7GGG	100G4S3S77	G4777	1843S37	1S4580Sb	1S47S30b
CO	5V	V348V1V3	S5SSV435S77	34S77	V04b3G7b	VS487S7V	V1403GbG
C6	b3	0b5343bS5b	18bV8V5418777	04777	0b5V470V05	0S73415bb3	05VS4V1b81
. O	V8	5541GV3S	00S1G415S77	54V77	5G45SVV3	584b0331	5040GG8b
NI	b7	G37401b1G	17070b4VS777	04G77	G304VGb75	G384Vb7b7	G184SG1SS
/ E	S8	b4b77bb	V3b47G777	14077	b45307b	b458511	b4b8G81
/ N	107	0G354b5V38	38Gb734SG377	04b77	0G0V4SV10S	0570418GG5	03S54770G0
/ R	88	8834S8S5b	b0b5848 3S77	34b77	88041GS0G	V1b475b77	853415VGG
UN	bb	171S7411V3S	5b8Gb84SG377	34377	1771843 0S1V	175GV4VbVSG	VVG14Vb107
B0 -3	15V	81VGS410S77	7477777	74777	8708343 5777	87S0b488777	8G8314 15777
k v	078	G80S4087VG	13538V87450S77	04777	G8V840GV01	G8b54SSbV0	GS1S481bbV
/ v	101	G84VS17b	8VSb488777	54777	G84S7358	51453SG8	Gb4bS013
0 I-3	07V	85V8V40SS77	7477777	74777	8GS7143 0777	853G5458777	8SV0748 3777
wB	073	748b073	8834 30377	104777	74V87b8	7481GS3	74SV7bb
6	038	0453358	17bS0471377	G4877	04b0881	043VSSG	045SG07
SC-2	G5	S7SSS84b8S77	7477777	74777	S1810543 7777	S01bS04GV777	b8353840S777
GE-1	S0	1S0b158	7	74777	1S1S851	1S3b181	1S0GG3G0
GE-2	S0	108b033	7	74777	10Sb371	13138b1	10b8538
GE-3	S0	GG0b748b777	7477777	74777	G3853475777	GG7V345S777	GG8354Vb777

Run Name: 1830071E75
wuge Numged: 0S
/ ample Numged: **9872T63**

Date9wime: 119I890718 15:13:G8
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1435 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S0bG8G	7	74777	1S07037	1S3V011	1S07717
SC-3	G5	10GGV4bSS77	7477777	74777	115054GS777	1370b4A/3777	10SVb4b3777
AB	0S	30V3S48S5V0	1S75004GV377	b4377	350b045V5G0	310GV4AV501	300VV453S10
v	11	17843G00V	3G5b34b8377	04777	17b4G7387	1784770Gb	1174b07b0
v E	V	04878b8	1V00415377	84377	04b7SbG	347b373	04S553V
CA	GG	G3b874b85V7	0518847V377	G4177	G5S0548VS87	G03VGA/1S38	G0V0140G051
CR	50	0GV45G87G	111GGS4bS377	b4S77	0b847b5V1	0354G388S	0G5413V3G
FE	5S	GG7118485150	30V73184 3V777	54b77	Gb80S74G807S	G01b3GA/7738	G37G5141S017
K	3V	371G47S155	30VVG4G3377	b4377	301V4b7S38	0VS547G3bG	08GS45b3b0
. T	0G	GGS048305G	17801141S777	b4b77	G8134G55S8	G0V5473V5b	G31747700V
. N	55	1V354A/05bS	03535743GS77	b4G77	07SG45S085	18354b5b05	18VS45GSV1
NA	03	37V34A/5510	1VG1bGAVG377	b4177	337V413V58	0V5V4G1187	37134313V8
wl	GS	1SG14GVb50	V8bS450S77	04377	1S8S4010Sb	1S01418GV7	1S1b47V18V
P	51	10S4G58S8	G3V15485S77	b4G77	13545b185	11V40b80V	10S45Gb1V
IN-2	115	55753748S777	7477777	74777	5587VV4A/1777	5533Sb408777	5G711b4G0777
IN-3	115	171V04GSS77	7477777	74777	8VS143V777	171074A/1777	11G85413777
AT	17S	1V45VG38	1813V4A/7S77	V4G77	07487118	07457G7G	1S4GSSV0
A/	S5	1V14018b1	S7bG45V777	11457 7	07V4G0b83	1VS45S57S	1bb4b53VG
v A	13S	VG734bb875	3SSV5040S377	174S77	17G7G4G7037	VG7b4S31VS	83VV48bV88
CD	111	0G4035SG	1bV8413777	74A77	0G47Vb33	0G4GV3GV	0G411SG7
CO	5V	SS407G0b	b0bVb418S77	84A77	8G4G8S8V	Sb401G0b	S74A/17b0
C6	b3	1b7bG4GV5S3	113580V540GS77	1148 77	1SVVS4508G5	15V80415888	1G0134SVV8b
. O	V8	SG4GbSb3	378374bb377	1741 77	814G1V8S	S54GSV77	bb457G7G
NI	b7	G3048b057	1737V3458377	174A77	G834bSV85	G0G4Vb0Sb	38V4A/GG88
/ E	S8	b471GS3	8G7470S77	74A77	54A/S5G3	b47SV01	54A/8V53
/ N	107	381148bb11	b753874A/G777	V4777	G15348S0VG	381143V1SS	3GS74833bG
/ R	88	58b4b31G1	G18GS4G1377	84877	b35457500	5V14G38GG	5304A/5758
UN	bb	V3GV4GV3G7	50G53V47VS77	114b77	17G5S41G05G	V0VG400G35	80VS411331
B0 -3	15V	8107b475377	7477777	74777	81331483777	81bb1487777	87b0547 3777
k v	078	0SGb84b3Gb1	Sb3S0V8S4b1377	14G77	0S73b48S55S	0SbS841V8Sb	0SbV1430VG8
/ v	101	S54A/30VG	1387G4b5S77	14777	Sb40SS73	Sb4Gb08G	S54758V5
0 I-3	07V	15G3V048b777	7477777	74777	15Gb184bG777	153G1V485777	1551G745V777
wB	073	740V18b	5Gb4S1777	114777	7430b10	740b0b7	7408b85
6	038	14S3GSS	1313147 5377	14G77	14S3373	14S5VVS	14S1133
SC-2	G5	b8887S405S77	7477777	74777	S71SV8451777	b8851b4A/G777	bSb17b430777
GE-1	S0	1S8G85G	7	74777	1SS78b0	1SV30V0	1SV7G78
GE-2	S0	10b15GS	7	74777	10SSSGG	10577Gb	105b850
GE-3	S0	G5b584S7S77	7477777	74777	G571b47S777	GbGG14b0777	G5518 4G3777

Run Name: 1830071E75
wuge Numged: 08
/ ample Numged: **9872T64**

Date9wime: 119I890718 15:1b:10
v atf 2: 1837G17b3S71A
Class: **********

Initial PMI: 1433 Final PMI: 177477 DF: 0477 k dMMf MI: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S70775	7	74777	1S117V8	1S73V00	1bV7VVb
SC-3	G5	1018b473377	7477777	74777	100Vb435777	11VV54SS777	100b54A8777
AB	0S	03VVGAVSb3V	101V0SA47777	14777	0G7S541SS5S	0G1V14S81b7	03S1SAAbVVV
v	11	1004578Sb	38G8547G377	14S77	10140533G	10143O107	10G4851SG
v E	V	0453151	1S7841O777	14777	045078b	04513b8	0455VV8
CA	GG	87bS34b1bbS	G5b1G45b377	14A77	8108b485bSG	S8V0S453bb3	8187b4G5bbG
CR	50	101b4G11S1	537bSV450377	1437	101747V5b0	103G47b81V	107547S130
FE	5S	3b17S1471718	0bG8518457377	74b77	35V535487307	3b3G3741158b5	3b70GS47b8bV
K	3V	5SG140833S	5885G401377	14b77	580345V0G5	5S5b4SVS15	5bG34Gb753
. T	0G	1118G4bV7b1	0b550b45GS77	1407	117VV4SG108	113304A/10S1	111014G1S8G
. N	55	010S458011	05383S47bS77	1457	01104357S7	01bG455583	0175483VSV
NA	03	G7G54558b8	0G1S5V437S77	0477	G7b847S555	G1134Gb075	3V554038GG
wl	GS	13S14S1G13	Sb1045S777	G417	13bG431Vb3	1G314GGV/11	131V43S3bG
P	51	1304bb80G	GG8504O0777	1407	1314GS18V	13G4GbSb3	13047b51V
IN-2	115	55bSVb453777	7477777	74777	55VG0040G777	5bbb0b411777	5GG3G140G777
IN-3	115	117354bVS77	7477777	74777	17V334S0777	1780145 1777	1135148b777
AT	17S	0V45S50S	0V835470377	54b77	0V470S7V	314G30Vb	0840b5Sb
A/	S5	10741VV15	G850405S77	G4G77	11V4b73b7	105487135	11541V0GV
v A	13S	550b415815	0G05b7415777	0437	5G334b1V7b	5bbS450880	5GSS430b5S
CD	111	3848371b	0VG34bV377	04S77	3V47Sb81	3V4S5101	3S4bb0GS
CO	5V	b0433bGV	5518345O377	G437	b5403GG3	b148bG08	5V4A/17Sb
C6	b3	VVV543bG7V	SS003b34b3S77	3437	1718b4A/3SGS	1718141bVG1	Vb1S4A/853V
. O	V8	b04GS070	0800847G377	34G77	b040773S	bG4SGSSV	b74GbSV1
NI	b7	GGG4000V3	115GSV4S7377	G4S77	GG843V8VS	Gb04A/7bbV	G0143b313
/ E	S8	114701G1	15534b5777	5487	114S7GVb	174A/0b1b	174G3317
/ N	107	1b57437G0G	0858304O3777	0457	1b0545b3V	1bVS4b1SG8	1b0S4G3885
/ R	88	GS143317G	3bb514SS777	04S77	GSS4S1SVb	GSV4SSSV8	G5b4GVS1S
UN	bb	011V841G333	10VV3bS4G5S77	0487	01Gb843b7SV	01b714S381b	0750343175
B0 -3	15V	850S540V777	7477777	74777	8088140V777	8S5784G7777	85G3b418777
k v	078	51bb4bVS8S	157SV8bV415777	0437	505G40V7GS	573G4757G7	50114S50S3
/ v	101	G5400S73	8b0343OS77	S477	G8473VG5	G14800Gb	G5481V1V
0 I-3	07V	807V8450S77	7477777	74777	8188V4G1777	878G3451777	835b04bb777
wB	073	140V3GS	10b34G8777	74S77	1408373	140VVS1	140VSb8
6	038	04Vb7b3	11V13410S77	84b77	048G1S7	04S8S3b	3405080
SC-2	G5	bS3bG1433777	7477777	74777	S731S7438777	b8b7Gb48b777	b31S7b4S5777
GE-1	S0	1SSSb80	7	74777	1SbG3Gb	1S8G3G8	1S8G350
GE-2	S0	10bG7V5	7	74777	1087VG3	108VS3V	1001b73
GE-3	S0	GG3374S8777	7477777	74777	GGG7G438777	G3bG1480777	GGVGb41G777

Run Name: 1830071E75
wuge Numged: 0V
/ ample Numged: **9872T63**

Date9wime: 119189 0718 15:18:35
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1435 Final PM: 177477 DF: 5477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1b5SG30	7	74777	1S10333	1bbS1b7	15V0873
SC-3	G5	1007b410377	7477777	74777	1005b430777	1001b473777	101Gb470777
AB	0S	135114085b5	b8SSV451777	3437	131174V81GS	13G3b4G1GVV	13V8b4Gb7GV
v	11	5S4bG3b5	1SSV3430777	1477	5b4VVS33	5S473381	5848VV81
v E	V	1407183	SV343b377	S4S77	141735V	14085V7	1401b71
CA	GG	1S5G34SG0Vb	VVG7483S77	54G77	1bGS14V305V	1SV3V4131G1	1800741bG8V
CR	50	1714815b1	G57V3417377	04G77	VV475SS8	173470757	17343b85b
FE	5S	1817Gb4G8G05	13371Gb431777	G4177	1S0b5747b8b0	18G711431VV0	18bGS847bG07
K	3V	11b8418037	1GGb14S7S77	G4577	1007401V13	111G4051S8	11S747S5V8
. T	0G	18154SbG10	G30154GS377	74b77	18014/1GV0	18734G3V77	18014/38Gb
. N	55	S8847V7V8	VG18V4SbS77	G4G77	SG84VV815	SV84b8535	81b458VGG
NA	03	100743715S	8Vb3848 7377	G4577	11bb4771GG	10184G7GGG	10Sb4GV883
wl	GS	S1345857S	3VbS4G5777	84V77	bGG48SG11	SS1470VV7	S0G485118
P	51	534bG31S	181S347GS77	G4S77	574S7S87	5540S83G	5G4VG338
IN-2	115	55bSSb4VS777	7477777	74777	5bV87S45G777	5555S345b777	5GGVGV481777
IN-3	115	1178745 7377	7477777	74777	1785b4S8777	17S8b47G777	115VV40V777
AT	17S	b4VS103	S7G84V8777	1743 77	b48S8VS	S4Sb5SV	b40b8V3
A/	S5	bS438557	0S374VS377	b4S77	bV41V1SV	S74S11VG	b04050SS
v A	13S	357S4VV103	15G5VV430777	1437 7	3Gbb475110	35SV45GVV8	3GS843S058
CD	111	84bS0GS	bb1435S77	G4G77	840Vb50	V475083	84bb87b
CO	5V	08470bb5	0GV134VG777	3437 7	0V47113G	0S488050	0S418b78
C6	b3	58SS433G7S	G5580804V5377	G4077	5SS04SbbS3	b15V487850	5bVV43 0bVb
. O	V8	08478035	10S5b4b8777	3437 7	0S485G17	0V417313	0S408V81
NI	b7	15S4V817G	G108G4 3S377	04b77	15b4b8S17	1b04b5718	15G4b7580
/ E	S8	04087G3	3054 3G777	1741 77	04G07Gb	04G7S0b	047135V
/ N	107	1G1b47S37b	0Gb13047S377	G4177	13VS4GV830	1G81450VG8	13bV41V13V
/ R	88	01V40bV8b	1S131487S77	14V77	01G45GVGS	0014SGV00	00145178V
UN	bb	3G1745801V	07V85G4G8377	G4077	335548SG8V	35S1481703	337G47b1Gb
B0 -3	15V	80SS34G5777	7477777	74777	87b3S40S777	8030548G777	8535S40G777
k v	078	17VG14b5S50	3177b0S840V377	74b77	17VbV487b35	17VV34GV383	178b14bS03V
/ v	101	0V4G1180	5G5G4SSS77	G4577	08431G77	0V473b0G	37488501
0 I-3	07V	17V07b457777	7477777	74777	17bGG54V3777	11785G4b3777	1173184VG777
wB	073	7415SSV	01343 5777	S4b77	7415V3V	741G510	741b885
6	038	74V3350	571G4S7777	G4S77	7488G80	74VbVG0	74VGb33
SC-2	G5	b3S5S34b3S77	7477777	74777	bS710S470777	b3b05b4b3777	b7b33S40b777
GE-1	S0	187171V	7	74777	1877G81	1830VS1	1SbVb75
GE-2	S0	105SV00	7	74777	1087Vb0	10b1818	1037V85
GE-3	S0	G5VVV48SS77	7477777	74777	GG0534V8777	GSbb540b777	Gb78743V777

Run Name: 1830071E75
wuge Numged: 37
/ ample Numged: **9872T64**

Date9wime: 119I890718 15:07:5V
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1433 Final PM: 177477 DF: 5477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1bS1VGV	7	74777	1b1001S	1bV138V	1S100G7
SC-3	G5	11b08485S77	7477777	74777	113V5437777	115V5453777	118V54SG777
AB	0S	17GS34G33GV	57SV1470777	04177	17S034833V8	17G734S7G81	170V04V11b8
v	11	584817VS	183784b5777	14877	5V488851	5S487b1V	584S381V
v E	V	74Vb8SG	bG8470777	54877	74V755V	14710GV	74V881b
CA	GG	350b34S7bVb	1V70G40G777	04877	3b3S5477508	3G53b41V57G	3G8SV4V075S
CR	50	51045555V	013S5b4G5S77	14S77	57848V850	5004bGS7S	57b410118
FE	5S	1507704507bG	17b3835457377	14b77	15Gbbb40178b	151G084bGV85	1GVV104S711V
K	3V	0G3S415037	055314b3377	04S77	05114V5775	0G7343G5bV	03Vb47b115
. T	0G	GSG54G7S7V	17S5074 00777	14G77	G8074G38G0	GS1b4515S8	GbVV40bS7b
. N	55	V7045V1GG	170S3b45S377	34077	V314SbSVV	V714V3V8S	8SG47bbGb
NA	03	1S0S48Gb0G	111517418S77	74G77	1S314V7370	1S374V8153	1S074b5G1b
wl	GS	5874S1110	37SS41SS77	174V77	b1G45V80V	57S4G7Vb1	b074105GS
P	51	5b401V05	181G3475377	04877	5S483b81	5G4S07S3	5b417701
IN-2	115	5b07b845V377	7477777	74777	5b31G5410777	5b83154G0777	55GSG540G777
IN-3	115	113Gb4V1777	7477777	74777	117G54SS777	11G1141V777	115834SS777
AT	17S	114b5V17	101704V3377	G4S77	114G35S8	1040SSVG	1140b358
A/	S5	GS4b51b7	1V8041b377	04S77	GV47803S	GS401810	Gb4b5G37
v A	13S	003047b33V	177S3545 7777	14877	00b54171bV	001G480S38	001b4Sb117
CD	111	154SGG1G	10084S3377	14777	1545b11G	15485333	15481SV5
CO	5V	0540050S	031G74bV777	b4877	0S403S8V	0G415G8S	0G48837G
C6	b3	G710457550	31883774S8S77	04b77	G1074S135V	3V15408SG7	G7714 5155b
. O	V8	0G45bbbG	11G354bS777	04V77	0543b137	034VGS1b	0G48V1G5
NI	b7	1Sb48S0SG	GS0734V3S77	34777	1814171SS	1S74SS8G0	1SS40387G
/ E	S8	G41G55b	5V04Gb777	04177	G407G33	G47GG8b	G418SGS
/ N	107	bb540b311	11851S4GVS77	04777	bSS40SVS5	b574b1bV7	bbS48V0bV
/ R	88	1VG413300	15503483S77	04877	1VV418071	1V0455313	1V74bbG53
UN	bb	83VG480738	50V1554G1777	04077	85834b55bb	838b41VG5S	801G4b17V0
B0 -3	15V	855V7485777	7477777	74777	8bG70453777	838Sb4G5777	8bGV345S777
k v	078	01114VVGVb	b18VGS5453377	74877	07VG4SV5GS	01104VG33V	010840Gb7G
/ v	101	184G3VSb	35374b8S77	174777	1V408Sb3	1V4S7885	1b480087
0 I-3	07V	807714GV377	7477777	74777	81Sb7487777	87VS3405777	830S74V3777
wB	073	74G3V33	G3348S777	0V4G77	740V0G5	74535GV	74GV775
6	038	141VbV3	G81S4V7S77	14877	141V8b7	1401S8V	141SG31
SC-2	G5	b357004b3S77	7477777	74777	b50bGV483777	bGG08G40V777	b7813G40V777
GE-1	S0	1SV3110	7	74777	1S0V010	1SV587G	185G307
GE-2	S0	1050057	7	74777	10bVS3V	10bG8GG	10001b8
GE-3	S0	G5S5548S377	7477777	74777	GGS0548b777	G5V5V4bb777	Gb580417777

Run Name: 1830071E75
wuge Numged: 31
/ ample Numged: **9872T65**

Date9wime: 119I890718 15:03:03
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 14GG Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S3V558	7	74777	1SGVVb0	1S0S780	1SG1b31
SC-3	G5	11bS84V5377	7477777	74777	17S7G4S5777	11V854V7777	103Gb401777
AB	0S	51081451VS0	0G8V084G7777	b4577	5G8V14VS833	57bGS4S5383	G837G480S71
v	11	VV4G5VVV	31VV8431777	14V77	17140110b	VV4bVVV8	VS4Gb8S3
v E	V	34S7G1V	05574V0S77	34077	34SVGbb	345S073	34SG58V
CA	GG	85SG04S5GVS	Gb333431777	54G77	V17V14b8V1S	83030413b0b	80V7G4G3VGS
CR	50	5VV4781Gb	0GVV3V477S77	S4577	b57487V08	5S745V383	5S548G10b
FE	5S	15bV8145SGV8	11771S0471S77	b4877	1bV07b4051GS	1GVG8747SS07	15005843Vb08
K	3V	bb10471018	bG0b0478777	V4777	S081485S53	b15V40V000	b3VG488b87
. T	0G	070584S8G5G	G5V31G418S77	S4377	01V5045Vb35	1V53V41SG07	1V08G458378
. N	55	1SGV40V3Vb	1VVb3G47G777	G4b77	18G745b187	1b8b435S80	1S074Vb005
NA	03	3V114V3187	00G17745SS77	S4G77	G0G545G50S	3SG84Sb0b5	3SG14G8SG8
wl	GS	13534V78VG	S18V471777	G4G77	1G014GVVV5	137V48SG88	1337435077
P	51	077433G70	bGS3G48G377	b4G77	01G48887V	18V4071G0	1VS4G105G
IN-2	115	5507V148S777	7477777	74777	5b800b407777	5GVb0S4b5777	538G014Sb777
IN-3	115	178b34G1377	7477777	74777	178734bb777	1788G4GS777	17V70411777
AT	17S	1GS488SG8	1GbVS54G3S77	14377	1Gb4GS3S7	1GS41bV87	1574718Vb
A/	S5	384Vb17b	155343G777	S4777	3S4SS81S	G047S781	3S473G00
v A	13S	G33840b38V	18SGV84Sb777	34377	G038451bG1	G0SG4bS7SV	G5714b7GGb
CD	111	bV47730G	5151475377	14b77	b847V3VS	b84b8501	S7403750
CO	5V	G343b51G	3S81748VS77	74V77	G348813	G34S30G8	G04VSGSV
C6	b3	878b47077b	b15317840G777	74577	875b4V5V15	87bS4V51GV	813341GV53
. O	V8	V4G3010	G00G40S777	b4377	17417V7b	84VVVV3	V418S3b
NI	b7	bVG4Gb0SV	1SS80540G777	04577	bV347GV7b	bSS45Vb53	S104SG0Sb
/ E	S8	104S1VVG	1SS54V7777	14377	1045183G	104bS3SV	104VbSb8
/ N	107	13Gb4850b1	00VS114Sb377	14077	133G4V0G70	13G7415b5V	13b54GSS01
/ R	88	S85408bV5	b71G1433777	14077	S8743b558	SS84V7S0G	SVb458873
UN	bb	1bVG74V3787	1700bV1455777	14G77	1bVGV4b01S8	1bS7b4733b1	1S1bS413S77
B0 -3	15V	8S0b5417S77	7477777	74777	8b31043b777	8b83541S777	88bGS4SV777
k v	078	08b14Vb5S5	8557b5848877	74V77	088V4S1011	08b74058V5	08354V0b18
/ v	101	1b4008S5	31S745bS77	74b77	1b41GVSV	1b407S1G	1b430V31
0 I-3	07V	G0533S4S0S77	7477777	74777	G05V0G401777	G01VbG433777	G0810G4bG777
wB	073	740G175	1057413377	104077	740SGG5	7400V71	7401VbV
6	038	04373SS	G87704GG777	04377	0405b1S	043b1b0	040V351
SC-2	G5	bGVG71413S77	7477777	74777	b8031V401777	bG3GGS417777	b00G3S417777
GE-1	S0	1SS8S70	7	74777	1875VG7	1SbVV1b	1Sb7051
GE-2	S0	10371V7	7	74777	105S07G	1030G8V	10778S8
GE-3	S0	G38GV433S77	7477777	74777	G0b8V40b777	G33574V7777	G557S485777

Run Name: 1830071E75 Date9wime: 119I890718 15:05:Gb
wuge Numged 30
/ ample Numged **CCV**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1bVbb03	7	74777	1bV7VSS	1bVSG78	1S71G8G
SC-3	G5	11SG54S7777	7477777	74777	111b5407777	118b5485777	1007b475777
AB	0S	0GbV48b0V5	101704b0777	54G77	0b004SSV58	038b4bS5Sb	03V84b3357
v	11	0S0481877	8G88b415377	04777	0S845VGSS	0bV417V13	0bV405711
v E	V	0S41S0GV	181VG450777	14177	0S415GG0	0b48S010	0S4GV7V0
CA	GG	05834050b7	1G1b480S77	114077	0S7541SS0S	00534b05VS	0SV74V5G5G
CR	50	0b345V5Sb	1110G54SG777	34077	0S34G0b8S	0584b0778	0584SG733
FE	5S	0bG3408bbG	18SG34SS377	14b77	0b1840137V	0b18480V18	0bV0481Sbb
K	3V	051b48G51G	0b5034Gb377	04S77	05V34V08Sb	0G81405G7S	0GS5485058
. T	0G	055841833V	585S5471377	74577	0557455VbG	05S04800SS	05514bbSSS
. N	55	0bG483151	373b8450S77	54777	0SV4G87S5	05S4b01SG	0554BV07G
NA	03	0GVV4V7b07	150b31470377	04V77	05874G17V1	0G83457353	0G35487G1S
wl	GS	0Gb40508S	13134GSS77	174b77	0S540S50b	0384bbb1V	00G481S1S
P	51	0b048S583	85G11483S77	34877	0S0473310	05V4b7bV1	0554G8SGG
IN-2	115	5S381S4S3777	7477777	74777	58GS3548b777	5810SS481777	555G3V450777
IN-3	115	11b33418777	7477777	74777	11b0740b0777	11GGV4V1777	1180V401777
AT	17S	31488b80	33G734S1777	34777	3740VV8b	3148817b	314VSV50
A/	S5	05V405Vb7	1173G45V377	34177	0514178G1	05V453SVG	0bS4130G5
v A	13S	0SV4G7G10	10V334S1377	34077	0S14b05b8	0SS4075S1	08V4887VS
CD	111	0S4V037S	003145G377	54S77	0S48GGG3	0V4S355b	0b4b8V00
CO	5V	0bb483013	0GV73b4S5377	14G77	0bS408V80	0S74885Sb	0b0480787
C6	b3	0S04b3377	0000V048bS77	14S77	0bS488330	0Sb41381S	0SG48SS51
. O	V8	0S4GV00G	1310745 1777	34S77	0b4855SV	0840bS70	0S4853V0
NI	b7	0bS470bG3	S30G84b5777	14777	0bb4S715b	0bV4V3331	0bG4GGGG3
/ E	S8	0G4G3S08	35G3458S77	04177	054701V8	0G411b1V	0G41S3bS
/ N	107	334088b0	b13541bS77	04G77	3048SGV3	334S50V3	334S3871
/ R	88	0G48b751	1VVb4VG777	1G4177	074b30bV	0S48808S	0547b5V8
UN	bb	0SG477S07	1SS30451377	34G77	0b3487750	0SV48180S	0S84V7083
B0 -3	15V	85b874VVS77	7477777	74777	8G53V4S1777	8G8b040V777	8SbG74VV777
k v	078	3141G558	V1588455777	74G77	31487303	3147G5GV	31478870
/ v	101	0b4313b8	57GG458S77	GV77	0b43077V	0S458V3b	0547315V
0 I-3	07V	87Gb1450377	7477777	74777	SV3334S1777	8137S401777	87SG34b5777
wB	073	0b4780G8	0G8G04S3777	34V77	0GV1SS0	0b4S7811	0b4b01b7
6	038	0b40V7G7	173G37450777	14b77	054883G5	0b408GS7	0b4S7375
SC-2	G5	b180Gb455S77	7477777	74777	bGS7334 7G777	b18b0148 3777	58V78G487777
GE-1	S0	1S5G0Gb	7	74777	1S315G8	1S58b75	1SS058S
GE-2	S0	11V1bV8	7	74777	101333b	1070b85	115V7SG
GE-3	S0	G0b8V40b377	7477777	74777	G1b354Sb777	G03GSAV7777	GG78G413777

Run Name: 1830071E75 Date9wime: 119I890718 15:08:11
wuge Numged 33
/ ample Numged **CC0**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1bS5V8G	7	74777	1S7V100	1b5873V	1bb7SV1
SC-3	G5	115154G7777	7477777	74777	11GV545V777	1130540 0777	11S0543V777
AB	0S	-74VSG1V	0343337 7	74777	04GS071	74GSVb0	-543SG01
v	11	354083G8	111G1480777	14377	354bV8VS	3G4SV0bV	354358SS
v E	V	7477b3S	104bbS77	1G14777	74713VV	-747735G	74778bb
CA	GG	7485775	1747777	38014b77	3843b7Vb	-1SA75G1	-1SA75G1
CR	50	7413b3G	bS343V777	11b4b77	74181G3	-747G70b	740bS87
FE	5S	V457110	11343G777	854S77	343G0bb	b4G377G	184S37b8
K	3V	-0043b3V8	0S134S3S77	74777	1b485807	-054SGG71	-58407b1G
. T	0G	747V31S	G7477777	V03437 7	7417b1V	-74SS3GS	74VGbSS
. N	55	745VG77	8747 7S77	Sb4b77	748bb75	747bV7G	748GbV7
NA	03	-1S43G731	015G74V8S77	74777	-0b401SS8	-0143VV85	-G4G7337
wl	GS	341bG0G	1b4bbS77	V74V77	7477777	348SbGS	54b1b0b
P	51	747Sb37	3b4bbS77	1004077	7475bbS	-7477558	741SS81
IN-2	115	5b580045GS77	7477777	74777	5850Sb477777	5bSb8047 0777	5GG57V4b0777
IN-3	115	11813458777	7477777	74777	11VS1401777	118G74bS777	11b0843b777
AT	17S	7477V0V	1747777	VV4G77	7477777	74718Gb	7477VG7
A/	S5	7411137	1143337 7	Vb4b77	741b858	-74710S7	741S877
v A	13S	741GG11	b4bbS77	1S3407 7	7477777	7477777	74G3030
CD	111	-7477830	74bbS77	74777	-7471bbS	-7471bbS	747783S
CO	5V	747b3bG	S343S77	bV4077	7473SV3	7473857	7411GGV
C6	b3	74G7V50	G8343S777	G74V77	7400V31	74G38SS	745b7G8
. O	V8	741078G	V343G777	8SAV77	7413135	7477VSG	74001G0
NI	b7	-74700Sb	5b4bbS77	74777	7475835	74705b3	-741500S
/ E	S8	747G5G5	11411777	1V4G77	747GG01	7473S37	7475G83
/ N	107	043SG7S	5V747GS77	1V4877	040G3G5	343GS8S	34737V7
/ R	88	7477777	7477777	74777	7477777	7477777	7477777
UN	bb	143bVGb	1174 77S77	38437 7	14V53GV	14018GG	74V3bGS
B0 -3	15V	8b3bV4G1777	7477777	74777	83SVb45G777	8S01S45G777	887VG415777
k v	078	04b1G78	SV5G483777	54S77	04b0b11	04G5V83	04S5b37
/ v	101	7453S1G	1734 3G777	314877	74bV375	745b3G3	7435GV5
0 I-3	07V	SVVb543V377	7477777	74777	87G014VG777	SV8884 1G777	SV58b417777
wB	073	7471S3G	0343337 7	10S4177	-7477S3V	7473GV3	7470GGS
6	038	74778G1	5343337 7	V34b77	-747771S	7471717	7471537
SC-2	G5	b1bS0b48S777	7477777	74777	bGSS304b5777	b1S7SG487777	5853S341b777
GE-1	S0	1SGb115	7	74777	1SbG185	1S10Vb7	1Sb11VV
GE-2	S0	107V0SS	7	74777	1035b38	101Sbb7	11SG53G
GE-3	S0	G3518407S77	7477777	74777	G33374b5777	GG1b345G777	G37b74G3777

Run Name: 1830071E75
wuge Numged: 3G
/ ample Numged: **9874411**

Date9wime: 119189 0718 15:37:3b
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 1477 Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1830110	7	74777	183b015	180bbV7	1833G30
SC-3	G5	137834bb377	7477777	74777	131bb4VV777	130bS415777	1081b485777
AB	0S	3SVV74bVb38	07S07b400377	04177	3S83S4GG1G7	3S0bV4S705V	388bGAVG51G
v	11	GV40SGbG	1b8S7407777	04777	G8435SbV	GV411030	5743538V
v E	V	048303b	075b41S777	G4G77	04S017G	0481705	04Vb587
CA	GG	G1b340GGG1	05G7438S77	17477	G3754S17G7	G5774b770S	3b834G005G
CR	50	1V84530V3	V35S74S0377	04V77	0704GGGV0	1V14VGS10	071407bSG
FE	5S	17b07b41GV55	83b37GAV8S77	04777	175bb041V0Vb	17GG7348 1177	1785504VGGb8
K	3V	5G154b3GVb	5VSS14GG777	34G77	53V0457G3G	50GGAVG78V	5b7V4G5Vb5
. T	0G	105V147S1bG	307V0140G777	14777	105b5478V05	10GSb483S33	10S3140883G
. N	55	S7b40S1Vb	V7GS34GV777	14877	bVV4bS177	bV8458b01	S074558b8
NA	03	3804V5VSS	GSb3b453S77	b4577	35b488351	G7b40b5G3	3854S373b
wl	GS	1b0S4b15V8	VbV74b3777	174077	1b5b4131VS	1GGVAV7810	1SSb487S8b
P	51	10b40VG81	G5838450S77	14877	105475550	10GAV317G	1084 8VS8b
IN-2	115	5b713b45G377	7477777	74777	5SbS7b4G8777	5b7b57450777	5G37504b3777
IN-3	115	118704bVS77	7477777	74777	103034b7777	11G504bV777	11b31487777
AT	17S	747SVS8	8b4bS377	3SA77	7417bG5	74785V1	747GbVV
A/	S5	1b4SS5V8	S37473777	04V77	1b48185V	1b4S1100	1S40V81G
v A	13S	13845SS7G	bGV5487377	S4177	10S481SSS	1G04S1783	1G54S7051
CD	111	7400V05	07477777	384177	740G307	7413585	74878S1
CO	5V	bS4580SG	b3VG54GGS77	G4077	bG4G38V5	bV48S50V	b84G33V8
C6	b3	10843V83G	17b00048 1777	04S77	10G4bbVG7	1314GVV57	10V470b10
. O	V8	04V8510	1GS3467777	V4G77	04bbG01	3417S71	3418G15
NI	b7	55G4S3150	15G1b84S1S77	G4077	50S4b3700	5bV4G8Sbb	5bS47Sbb8
/ E	S8	7408GSG	GG4bbS77	034G77	740G038	7405705	743b158
/ N	107	104SGVbS	0G134S7377	174177	1140S7V5	1343077b	134b5877
/ R	88	38415bV1	31S040GS77	G4577	3S47S7b7	G7413bV5	3S40b318
UN	bb	1S34887SS	113S54G8377	54377	1b3473G07	1874bG0GG	1Sb4Gb5bS
B0 -3	15V	885GS4G3377	7477777	74777	88V784G7777	V7107403777	8bb134bS777
k v	078	5S4Sb800	1S53304b3777	14b77	5SAVG78V	5b4S5S1b	584b7bb0
/ v	101	74G7G58	8747777	034777	74G5018	740VSG7	74GbG1b
0 I-3	07V	8153140V777	7477777	74777	8185V47G777	81G1S40V777	8131S45G777
wB	073	74G1SSG	G17470S77	004177	7438570	745001G	743Gb75
6	038	b457GG0	05VG040077 7	04077	b4G0S1S	b4G1bS0	b4bbV35
SC-2	G5	b870S843b777	7477777	74777	S13SSV450777	b810104 87777	bG58G04Sb777
GE-1	S0	1SVS080	7	74777	1S83VVS	181GVG8	1SV0V70
GE-2	S0	1013378	7	74777	1033bbV	101Sbb5	11885V1
GE-3	S0	G5580485777	7477777	74777	G5Sb7471777	GGG1547 1777	Gb5S0473777

Run Name: 1830071E75
wuge Numged: 35
/ ample Numged: **9874412**

Date9wime: 119I890718 15:33:71
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 141G Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1SV5V0S	7	74777	18G57S0	1801S01	1S07V8S
SC-3	G5	1013b470777	7477777	74777	115354b1777	105Vb40G777	100Sb401777
AB	0S	3700S41073V	150S8540S77	G4077	31G1043017V	08V7G4SSV58	373bG40b7GV
v	11	13747713V	G37GS45SS77	04b77	10S47V11b	10V403303	1334bSVS8
v E	V	3415GSV	00GG48S777	34377	340S133	347Sb80	3411b00
CA	GG	888b7471b0G	577154AV777	74477	8V53b483V83	887G34GG318	88VVV4Sb5S7
CR	50	0VG4G8VV5	1083004S5S77	34b77	37b4b78b1	08S4SG7VV	08V41070G
FE	5S	1G85bS45G8V3	178G178418S77	34477	1557814S1S0S	1G38104bG3GS	1Gb878408b73
K	3V	S3GG41G33G	SG7b14G7S77	34177	S51841S117	S7884S80V7	SG054GSb73
. T	0G	1770G485788	03bSG74A5377	G4377	1751V45VS15	VS1043bVS0	V8G04585Sb
. N	55	1GbG47b380	1S387b45V777	34b77	150G45b310	1G3340G50bG	1G3G41S5S1
NA	03	bG5G4883V1	3bVS3G400377	G4777	bbVb408S1b	b1834S3883	bG8G4b05S5
wl	GS	133G41b1GS	S3b54SbS77	GA477	13VS41bb7b	10b545VVbG	133V4S18S1
P	51	0G840535V	835034AG777	04G77	05G48GGbV	0G34bb7b5	0Gb4055G3
IN-2	115	5b083848V377	7477777	74777	5bS1574GG777	5bS30S415777	55G73V40V777
IN-3	115	11Vb84b7777	7477777	74777	101314S5777	118S5473777	118VV470777
AT	17S	354A/8Gb8	3V3VS407S77	14177	354b1778	354A/3b00	3b4G7SS3
A/	S5	S547b0V8	30V74G3377	G4G77	S3400501	S84A/10Vb	S34757Sb
v A	13S	335348bbV0	15Vb584bG377	34777	30584b1b3G	33G54A/158S	3G5S47b85G
CD	111	174bS0Vb	8S84S7S77	34777	17430b80	174AbS01	174S0G8b
CO	5V	G04055bV	G75S84S0777	G4377	G741V0b3	G3458873	G04A/8bG7
C6	b3	11Sb48GA/07	V8bb1b4S0S77	14S77	1153403333	1188485V78	11884G5507
. O	V8	1V4S8G30	VS074SbS77	b4A77	18457SbV	1V4b7VV0	0140353b
NI	b7	07V4GA/3Vb	5V13743GS77	04A77	0704G11SV	01045bb50	01345735b
/ E	S8	S40G831	1733480377	04377	S40V58V	S47b7SS	S48880S
/ N	107	38V4GAVGAVG	S30104Gb777	34077	3Sb4A/550b	38V4A/1G33	G714b1500
/ R	88	5G34830b5	G58SS4GS377	04G77	50V43138b	5GS4A/G7Vb	55G40G313
UN	bb	08854510V1	1V18V7483777	04b77	08714b31GS	0VGV4A/80b5	0V7G4A/0Gb7
B0 -3	15V	8b3854GVS77	7477777	74777	8GbbV408777	85S0840G777	88S584AV777
k v	078	33bS4A/7Gb1	VV5Vb0741bS77	14077	33VG430b11	338V45GS07	331V4BG753
/ v	101	354S1GS1	bV7545877	14377	3b4GbS33	35403G55	354GG00G
0 I-3	07V	8S8V0400S77	7477777	74777	8bGS341b777	8VG7043G777	8S871418777
wB	073	74b5bS1	bV747bS77	b4b77	74b8bS1	74b7S03	74bSb07
6	038	04SG810	1180V4SGS77	74577	04S3178	04S55VS	04S5S30
SC-2	G5	bGVS7G417S77	7477777	74777	b878184G3777	b57GbS418777	b1S80b4S1777
GE-1	S0	1S8b51G	7	74777	181Vb3G	1SV5VV5	1SG3V13
GE-2	S0	10110bb	7	74777	1031S1S	10031b8	11S8V15
GE-3	S0	G3SGV4GVS77	7477777	74777	G0508488777	GG8Sb437777	G38G3431777

Run Name: 1830071E75
wuge Numged: 3b
/ ample Numged: **9874413**

Date9wime: 119189 0718 15:35:05
v atf 2: 1837G17b3S71A
Class: **********

Initial PM: 143G Final PM: 177477 DF: 0477 k dMMf M: DOD-6 G

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	INBEGRABIONS #1	#0	#3
SC-1	G5	1S38GV/G	7	74777	1S01835	1S0bG1V	1SbS00S
SC-3	G5	1000V433S77	7477777	74777	11VG54S8777	10S8b43S777	11V554Sb777
AB	0S	1G3S5471185	S303145b777	54S77	1G0834b5bSS	13b7747b080	150G14315V5
v	11	574780V3	1b0b041b377	04b77	5747883V	5143VSG5	G84Sb0VG
v E	V	14/100G	131V4G7S77	b4G77	0473VSS	14/7015	14SVG31
CA	GG	GV7V74135SG	0S8304/1377	34/77	G8S7V415SG0	GS3V84Sb778	511b04G8VS1
CR	50	177450535	GG58847b377	34S77	VV405G53	VS45b5VG	17G4S555b
FE	5S	S3S884808VG	5G0b0V430S77	G4/77	S3V77478V31	S77Vb403703	SS3S741bS0S
K	3V	1SV045G5G1	075G04/G377	S4S77	1871480133	1bG/4b53V0	1V0b41b7Vb
. T	0G	35S3408S5G	857GS4bVS77	54577	3bG143G081	3351477S13	3S0S4G10bV
. N	55	5bG43713S	bSG304b1377	54/77	5SG413bSV	50S4150b1	5V14b1GS1
NA	03	V37437G/0	SG17140GS77	0437 7	VGG488873	V754S1b71	VG74317S3
wl	GS	8GG4G/000	GS7G488S77	54G77	8V14G78b5	8G143V5b0	8774bS038
P	51	G7V4/S337	138V5541b777	34b77	G1543SV38	3V340b8V1	G0140S1b1
IN-2	115	5bb188475S77	7477777	74777	5S31384b8777	5bG5V04/3777	5b783045b777
IN-3	115	1151745SS77	7477777	74777	11G814/b777	11bb74G7777	1138V43S777
AT	17S	1V415V3V	071S3477777	14577	184/V880	184/870S	1V4G/V78
A/	S5	b341bbb7	0bbG408S77	G4177	b74G5V83	b34G0S7G	b54b10VG
v A	13S	1b35451353	SG8V5413377	34777	15SV41VS13	1bbG40SV5S	1bb347b38S
CD	111	V4587G/	S584bVS77	3437 7	V451SG3	V40Vbb8	V4/0S37
CO	5V	0841VVb7	0b7504Sb777	04077	0843555b	0S450503	084S1870
C6	b3	S1b417833	5SSG034/0S77	04S77	S734bG050	S7b43S073	S384317G3
. O	V8	004bb115	17S714b3377	V4877	01400113	0145G5G/	05401b80
NI	b7	1V54G7118	537G84G5S77	04/77	1V0453SGb	1V14SGG1V	0714/018V
/ E	S8	V4bGS83	13804SG377	14877	V4G57SV	V4S1135	V4S8135
/ N	107	0b7413S83	GS75V4SGS77	04177	05G4SSV0G	0b54GbVSb	0b741bG57
/ R	88	33V415Sb0	0S51347bS77	G4877	3304/31V8	30845b311	3554/SSSS
UN	bb	VG884S7558	b7b8SV458S77	04/77	V0G14051V8	VGGGA/75b0	VSSV4/5V13
B0 -3	15V	8b3Vb450777	7477777	74777	851G54G5777	88b8843G777	853554SS777
k v	078	0bbS4Gb1G7	S88VG/b43G777	04077	0b38413G8b	0b0V41V1b7	0S35475SS3
/ v	101	3341300b	bG714/5777	104877	374/7VGS	374G87S3	38477b5V
0 I-3	07V	8b0754/G377	7477777	74777	831884G/777	8SG7b4S7777	887004bG777
wB	073	14S05b0	1Sbb4/7S77	b4777	14SG753	14807b7	14b15SG
6	038	0410bS7	8V83480S77	04777	0413703	04783G1	041bbGb
SC-2	G5	b355Gb4/7S77	7477777	74777	bbG0bG450777	b08bb741V777	b13S1b471777
GE-1	S0	187bV57	7	74777	1SVSG71	1SVVVb3	1803G8b
GE-2	S0	107b357	7	74777	1035501	118SG10	11Vb11S
GE-3	S0	G3b5548b377	7477777	74777	G15154bS777	Gb77V4/b777	G3GG14/b777

Run Name: 1830071E75 Date9wime: 119I 89 0718 15:3S:G8
wuge Numged 3S
/ ample Numged **CCV**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1S3583b	7	74777	1b50V38	1Sb5S0V	1S888G0
SC-3	G5	101S04SS777	7477777	74777	1088b4Sb777	1005b417777	113S5485777
AB	0S	0b704VS15b	1318b4AV777	V4b77	03834Vb58	05GV4G05V1	08Sb47V018
v	11	0S545b8V0	8S8GV4bS377	14877	087458S85	0S74b7V1S	0S5457VSG
v E	V	0b4S7017	180804b5S77	04b77	0S488Vb0	054V81GV	0b4S351V
CA	GG	0Gb348183b	1G77415377	V4877	05S54bG7bG	01V8488V1G	0b1b4V050V
CR	50	0b74S7170	113SbV4S3377	S4877	0G048858b	05b488S30	080480V8b
FE	5S	050S41513b	18G8b483377	114077	0357411VS0	03Sb43GV5b	085GA7G87
K	3V	0GG84b3577	0bSb74G8777	84577	00534b0G3G	0G0048S18G	0bbV4G7883
. T	0G	05S3483007	b7V784GV777	b4A77	03SS4b13b1	0b0145V317	0S00408VV7
. N	55	05840SVG1	37b8V41V377	84577	03V417V3V	0534bSbbG	080475007
NA	03	0GVGA1SV1	15SG874G1777	V4A77	00b14b1V88	0GS748bG7G	0S5040bV87
wl	GS	058407017	1G03457377	1G4077	0084OS3S5	0GS418SS3	0VV41GG80
P	51	0b74bS735	8SSS54b0S77	b4A77	0G045SS07	0b74bV37V	0S84SG7SS
IN-2	115	5S7853410777	7477777	74777	585VG747G777	5SGG154S7777	5500734b0777
IN-3	115	101V7473S77	7477777	74777	11Vb1471777	10G814AV777	1010S411777
AT	17S	374b8G50	3G010408S77	14S77	3140S8SG	374G1053	3743b008
A/	S5	05G4b13bG	113GS451777	G4077	0bb4b581b	0G54A/1b11	05140bbbb
v A	13S	0bb470b1V	10V7740VS77	b4077	0534SV785	05V450S5G	08G4Sb71S
CD	111	0S451833	037b403777	14S77	0S4GV757	0S4AV8Sb	0S47b5S3
CO	5V	0bG4SSbSS	0588Gb407777	34877	0SG410GS1	05G403555	0b54AS775
C6	b3	0bV4b81S7	0373GV4GVS77	04177	0SGAVS81V	0b34S3555	0S743313b
. O	V8	0S47G78V	1351S453377	34A77	0S4GGG01	0548GGS7	0S4833S5
NI	b7	0b34S7G08	S5S8347VS77	04G77	0bS4AV018	05b43GbG3	0bb4SSG03
/ E	S8	0540S8G7	3bG541bS77	74877	05418S77	05413b1S	05461070
/ N	107	3147S780	b7784G1S77	G4b77	0V4SV005	304b0171	374SVV07
/ R	88	0GAVGV00	01G34b0S77	G4S77	0b47VGbS	0547751S	034SGS83
UN	bb	0b54G3SG8	1SVVb431377	34G77	0b3430bSG	05S4bb800	0S5431SGS
B0 -3	15V	8S1G0415377	7477777	74777	8bV8S4S7777	8b1b047V777	880Sb4bS777
k v	078	0V4A/5S7S	8Vb7V418S77	04S77	0V471551	374G3373	374G00b8
/ v	101	08415GG1	5GV14GV377	04177	08405153	084bSS37	0S453G3V
0 I-3	07V	83GGS4b1377	7477777	74777	800b148V777	80303450777	85S5S4G3777
wB	073	05483778	05573487777	04G77	0543S8Sb	0b4550SV	054558S7
6	038	0b45V138	178GGG4b5S77	04577	0b48108b	0S410G0b	05483S70
SC-2	G5	b1V33V4AV777	7477777	74777	b5S11S488777	b01G354b5777	5SVGbb4GG777
GE-1	S0	1SbVG10	7	74777	1bV5bGV	1877S55	1811833
GE-2	S0	10777GV	7	74777	10383GS	11V78GV	11S7V51
GE-3	S0	G350847b777	7477777	74777	G3V10451777	G0S1V473777	G3V504bG777

Run Name: 1830071E75 Date9wime: 119I890718 15:G7:10
wuge Numged 38
/ ample Numged **CC0**

NMe: All Analyte (alues ade in ppg, exf ept Intechal / tanhachs, C, k, / anh CB ade in f Munts pedsef Mhh4

					INBEGRABIONS		
Element	. A/ /	CONC4. EAN rppgc	Ck/ . EAN	%R/ D	#1	#0	#3
SC-1	G5	1bb3V01	7	74777	1bb83V0	1b5S80V	1bb55G0
SC-3	G5	11S10437377	7477777	74777	111b5403777	11S7543 8777	100bb407777
AB	0S	G431G50	57477777	V14V77	745S7bb	84GbVSS	34V7313
v	11	3b47VS3G	1137S4VG777	14377	354VV0bS	3b4b1113	354b8800
v E	V	7470VV8	08477777	5G4177	74711b7	747G03G	74735VV
CA	GG	-54b7V5b	b4bbS77	74777	14G7GVV	-1SA/75G1	-743080G
CR	50	-74718VV	b1b4S0777	74777	7435b35	-743V815	-747151V
FE	5S	0470GS5	b3433S77	3074377	-0437V58	-147Vb38	V4G871V
K	3V	1V470337	31G745G377	1SV4b77	58405G38	-G4155GV	04/S171
. T	0G	045b3G0	Vb4bS377	104V77	04/187b	040bb8b	0457535
. N	55	74030G5	G7477777	Vb4377	-7471V8G	74G101V	7437GVV
NA	03	-G74103G1	07S1b437777	74777	-3743VV8V	-5743SbS5	-3V4GV35V
wl	GS	141V373	b4bbS77	1S34077	7477777	7477777	345SV7V
P	51	7417551	Gb4bbS77	S74777	7410G73	7470G18	741b830
IN-2	115	5b115G488S77	7477777	74777	5S30GG4S5777	55S5774b7777	550S1V431777
IN-3	115	107G04GV777	7477777	74777	113514S8777	1007143 3777	105SG43b777
AT	17S	7477777	7477777	74777	7477777	7477777	7477777
A/	S5	-747b050	G477777	74777	-7415137	747087G	-747bG0V
v A	13S	7477777	7477777	74777	7477777	7477777	7477777
CD	111	-7477810	74bbS77	74777	74778V8	-7471bbS	-7471bbS
CO	5V	747S775	8343S77	1754177	7471881	7473bV5	7415G38
C6	b3	740VS58	3Vb4bV377	3G4377	74G703b	740V188	741V857
. O	V8	7478V55	87477377	1714377	74107VG	-74710S3	741b7G3
NI	b7	741513b	17b4bS377	GV4177	741G8b3	7400bV5	747S857
/ E	S8	7473537	V455S77	S84G77	7477G3G	7475S5b	747GG77
/ N	107	14S1070	38343b377	174577	145VS7b	14b0783	14V181V
/ R	88	7477777	7477777	74777	7477777	7477777	7477777
UN	bb	74bb870	b3433S77	1304177	14b77V5	-7415G75	7455S15
B0 -3	15V	8bGb7435777	7477777	74777	8GV104bV777	858GV41b777	88b1V407777
k v	078	14S183V	53174S5S77	34777	14bS5G1	14SS5G7	14S7G3S
/ v	101	74b5303	10b4bSS77	514577	74315bG	74V88S0	74b5533
0 I-3	07V	SVV174SV377	7477777	74777	S838S473777	87S7041b777	87bG341V777
wB	073	7471S15	0343337	1V54V77	747733V	74755Gb	-7477S3V
6	038	7477G7b	3b4bbS77	18V4V77	-74770b5	747703G	7471057
SC-2	G5	b7bG17475377	7477777	74777	bG1G104G1777	5VGSS843 1777	58373V43G777
GE-1	S0	1Sb7bb8	7	74777	1SG007b	1SS0701	1SbSSS5
GE-2	S0	11V5G75	7	74777	100b1Gb	1180887	11SS1V7
GE-3	S0	GG187433S77	7477777	74777	G037S4Gb777	GG33G4bb777	G58V848V777

US EPA Tune Check Report

Operator Name	US19_USR_INS14259
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time	11/18/2018 1:37:08 PM
Report Comment	ICP-MS #19204 (E05) Daily Tune Check
Instrument Name	G3281A JP12071581

[No Gas]

Sensitivity

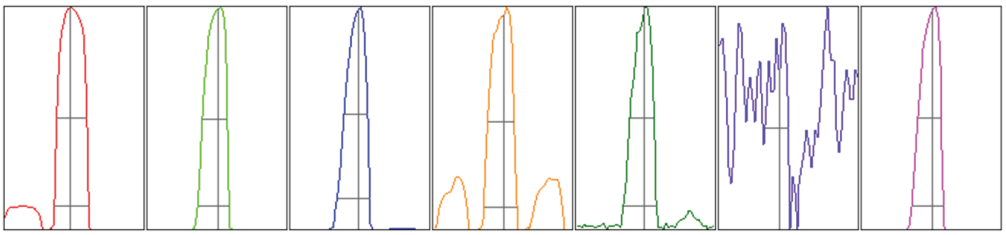
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1469	14693.41			1.445	5.000
89	10.00	8411	84105.67			1.238	5.000
205	10.00	3462	34618.99			0.921	5.000
70	1.00	78	783.58	0.00		4.071	
156	1.00	21	205.01	0.00		4.287	
220	1.00	1	7.20	0.00		18.109	
140	10.00	7010	70101.37	0.00		0.974	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1443	1452	1476	1491	1485
89	8328	8298	8562	8427	8437
205	3433	3471	3497	3424	3484
70	74	83	78	78	79
156	20	20	19	22	21
220	1	1	1	1	1
140	6893	7005	7046	7057	7050

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2328.14	6.95	6.90 - 7.10	
89	15915.86	89.05	88.90 - 89.10	
205	7005.41	205.00	204.90 - 205.10	
70	138.32	70.05	-	
156	41.75	156.00	-	
220	1.05	219.85	-	
140	14172.05	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.66	0.734	0.800	
89	0.55	0.681	0.800	
205	0.50	0.693	0.800	
70	0.58	0.719		
156	0.51	0.714		
220	0.49			
140	0.51	0.690		

Integration Time [sec]	0.1
Acquisition Time [sec]	260.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.2 V	Deflect	13.8 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-90 V	Cell Exit	-59 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9987	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.03		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	-1.2 mm

EM

Discriminator	4.5 mV	Analog HV	1746 V	Pulse HV	1251 V

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 18K21D01.50E

Run Name: 1832E0350E

Analyst: 1292

Reviewed By: Choon Y Tian

Reviewed Date: 11/21/2018 12:20

Verified By: barPer D kindstrom

Verified Date: 11/21/2018 1L:31

7nstrument barameters:

Rinse Time (sec): 2E.00

7NT5RNAk I TD.	5k5M5NT	MAI I
SC-1		9E
	NA	23
	MS	29
	Ak	2L
	K	34
	CA	99
	T7	9L
	V	E1
	CR	E2
	MN	EE
	F5	EL
IN-1		11E
	CG	E4
	N7	C0
	C6	C3
	UN	CO
	AI	LE
	I R	88
	MG	48
	AS	10L
	CD	111
	I N	120
	BA	13L
TB-1		1E4
	I B	121
	bB	208
BI-1		204
	Tk	203
	6	238

Run Name: 1832E0350E
Tuge Numger: 1
I ample Numger: **S0**

Date/Time: 11/21/2018 8:08:99

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
NA	23	0.00000	22L02.4L000	0.000	9.10EO1	-O.E4180	2.98O14
MG	29	0.00000	L0.00000	0.000	-0.3408E	-0.02280	0.913OE
AL	2L	0.00000	10.00000	0.000	1.O1EO4	-0.80L8E	-0.80L8E
K	34	0.00000	2L40.94300	0.000	-9.E2319	O.L3L13	-2.21344
CA	99	0.00000	13.33300	0.000	-8.9194E	-2.29218	10.OEL13
SC-1	9E	2O194.O1000	0.00000	0.000	2O10E.LL000	2OEEL.04000	2EL8E.4L000
TI	9L	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	E1	0.00000	E3.33L00	0.000	-0.00999	-0.0914E	0.09O34
CR	E2	0.00000	OE3.34000	0.000	-0.0E01O	0.09931	0.00E8E
MN	EE	0.00000	9O.OOL00	0.000	0.13L22	-0.08EE8	-0.0E1OE
FE	EL	0.00000	OO.OOL00	0.000	-0.3OEL8	0.12EE2	0.2902O
CO	E4	0.00000	13.33300	0.000	-0.00EO0	0.01121	-0.00EO0
NI	O0	0.00000	LO.OL000	0.000	-0.029E1	0.1234O	-0.0449E
CU	O3	0.00000	12O0.13000	0.000	-0.00919	-0.02L9O	0.031O0
ZN	OO	0.00000	O0.00L00	0.000	0.0EL21	0.1OOE1	-0.223L2
GE-1	L2	1022E0.O9300	0.00000	0.000	101889.1E000	101940.40000	1033LO.88000
AS	LE	0.00000	10.OOL00	0.000	-0.00E00	0.00489	-0.00989
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	48	0.00000	30.00000	0.000	0.02248	-0.00LL2	-0.01E2O
AG	10L	0.00000	O.OOL00	0.000	0.00120	0.00118	-0.00234
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	11E	328E2.3LL00	0.00000	0.000	3280L.O8000	33012.L4000	32L3O.OO000
SN	120	0.00000	1EOL.OL000	0.000	1.0914E	-0.9E01O	-0.E41L4
SB	121	0.00000	3O.OOL00	0.000	-0.028E1	0.0232E	0.00E2O
BA	13L	0.00000	3.33300	0.000	0.03LL2	-0.0188O	-0.0188O
TB-1	1E4	18E2LO.L1000	0.00000	0.000	18ELL2.22000	1838L0.9L000	18O18L.99000
TL	203	0.00000	3.33300	0.000	-0.001E3	0.0030O	-0.001E3
PB	208	0.00000	893.38L00	0.000	-0.010LE	-0.00292	0.0131L
BI-1	204	1E2223.1L300	0.00000	0.000	1E1928.2L000	1E288E.E3000	1E23EE.L2000
U	238	0.00000	20.00000	0.000	-0.002E4	0.002E8	0.00001

Run Name: 1832E0350E
Tuge Numger: 2
I ample Numger: **S1**

Date/Time: 11/21/2018 8:10:99

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2L0E1.2OL00	0.00000	0.000	2LL14.94000	2O28O.90000	2L19L.41000
Ak	2L	10000.00000	12828L.10300	2.300	1018O.OE209	100O8.31OE0	4L9E.0319O
CA	99	10000.00000	1OE10.OLL00	2.000	4421.O9O8E	1022E.O8L2L	48E2.OOE88
CR	E2	1000.00000	10L9E00.8L000	2.200	483.8E3O1	1029.L4981	441.3E1E8
F5	EL	10000.00000	18E81E.01300	2.E00	4819.E4081	10280.2OL8O	440E.19133
K	34	10000.00000	28O8LE.9E300	1.400	4801.89482	1018O.E24OE	10011.O20E3
MS	29	10000.00000	E24EO1.80300	1.200	44EO.488L8	10190.O3EEE	4402.3LEOL
MN	EE	1000.00000	32L102.1EL00	1.800	484.L230O	1020.21E81	440.0O113
NA	23	10000.00000	1233819.12300	2.400	4813.33O31	10332.E3440	48E9.123L8
T7	9L	1000.00000	1E03E.O4000	1.800	101L.81L2E	1000.OL919	481.E08O1
V	E1	1000.00000	838022.E1300	2.200	48O.988O2	102E.34LE1	488.1138L
IN-1	11E	3211L.38000	0.00000	0.000	3248O.8O000	3139L.91000	3201L.8L000
AS	10L	100.00000	2L2L3L.OEL00	1.400	100.1939O	101.80389	48.0E2L0
AI	LE	1000.00000	12O430.LOL00	2.800	4L4.1O384	1031.82833	484.00LL8
BA	13L	1000.00000	1L24E8.13000	3.300	4O2.19348	1019.OOEO9	1023.14038
CD	111	100.00000	2920O.23000	1.300	48.41983	101.939O2	44.OE0EE
CG	E4	1000.00000	231900E.0L300	1.L00	482.40224	101O.0E991	1001.09330
C6	O3	1000.00000	144O8L3.8LL00	1.O00	481.9E44L	1004.132E1	1004.90LE3
MG	48	100.00000	12L490.3EL00	2.200	4L.L8133	102.14241	100.02ELO
N7	O0	1000.00000	OE2L24.OLL00	1.400	4LL.E3292	1011.02O42	1011.990OE
I N	120	100.00000	O318E.00300	1.400	4L.42EL4	100.30931	101.LO440
I R	88	100.00000	3098O.1O300	1.O00	48.3492O	101.E8O99	100.01430
UN	OO	1000.00000	1L9103.E9300	2.400	4L8.3EL1L	1033.3OE80	488.2LL03
TB-1	1E4	1888OE.L1300	0.00000	0.000	142109.E3000	188L8O.84000	18EL0E.L2000
bB	208	100.00000	L19EO2.9E300	1.300	100.238E4	48.EO913	101.14L28
I B	121	100.00000	E44LE.2LL00	1.200	44.0L2L0	101.33O99	44.E408O
BI-1	204	1E9432.0E000	0.00000	0.000	1EO329.LE000	1E29L4.82000	1EE441.E8000
Tk	203	100.00000	220L19.22000	0.400	44.30L8E	100.4LEEL	44.L1OE4
6	238	100.00000	L89L39.10300	0.200	44.4L14O	100.2EOL9	44.LL130
GE-1	L2	101L24.9L300	0.00000	0.000	101O32.9E000	1004LO.30000	102EL4.OL000

Run Name: 1832E0350E
Tuge Numger: 3
I ample Numger: **ICV**

Date/Time: 11/21/2018 8:12:93

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2O90O.82000	0.00000	0.000	2L938.40000	2O93O.EL000	2E399.44000
Ak	2L	E181.4124E	O9833.23L00	3.800	94E4.8E3OE	E2E2.19O9E	E333.L38LO
CA	99	E220.E3182	834O.39000	12.100	9EO3.E9E08	E2LO.O83OO	E821.3OOL9
CR	E2	E18.OO239	E93402.12L00	9.E00	949.LE092	E14.LO402	E91.9OLE8
F5	EL	E1L3.211O0	43834.8L300	3.100	E0LO.E33O4	E083.3O38O	E3E4.L3L29
K	34	E1E3.29811	19EE8O.EO300	3.400	9423.OO481	E224.4033E	E30O.1L11O
MS	29	E198.4L443	2OE44E.2E300	3.L00	9494.391O9	E1OE.0L001	E332.E2813
MN	EE	E20.EO3OL	1OO042.41L00	9.O00	949.090E0	E2O.3E88E	E91.241OO
NA	23	9832.1EO21	E43929.LO000	9.O00	9O10.90844	9824.10L0O	E0EO.4E2EL
T7	9L	E99.L904O	L482.L9L00	O.O00	E03.19E03	EOO.9828E	EO9.E4948
V	E1	E12.43O1O	914291.8E300	E.000	988.E014E	E11.0421L	E34.2193O
IN-1	11E	32429.28000	0.00000	0.000	33O41.82000	32EL9.8L000	32E0O.1E000
AS	10L	94.0E380	13L130.O4300	2.000	9L.40LE9	94.O309E	94.O2391
AI	LE	941.9LO13	O34E9.L1L00	3.900	9L2.340E4	E00.24980	E01.L9302
BA	13L	940.89E12	8L03O.99000	3.100	9L3.EOOE3	948.O4319	E00.2LEO8
CD	111	94.033L1	121OE.O8L00	2.L00	9L.E3L92	E0.1E3O9	94.9100L
CG	E4	9L3.8420E	1129099.48L00	2.800	9E8.O2910	983.04O18	9L4.4EE8O
C6	O3	9L4.0L204	4812E4.94000	2.E00	9OE.E2O9E	989.4931O	98O.L9OOO
MG	48	98.E3OO4	O3O80.34L00	2.400	9L.3O022	E0.0O13O	98.18894
N7	OO	948.421OL	3338OL.83300	2.O00	989.1381E	E08.92883	E09.14809
I N	120	98.89334	32999.4OL00	1.400	98.3LO9E	94.42423	98.22994
I R	88	E0.814L3	1E8L3.E2L00	O.100	9L.2O991	E2.31E01	E2.8L4LL
UN	OO	98O.80003	8O422.9E000	2.O00	9L2.32209	942.0EL3E	94O.020L2
TB-1	1E4	18LEO9.01300	0.00000	0.000	188E89.LO000	18E9L0.E9000	188O3O.L9000
bB	208	E1.232E4	3O34L8.24300	1.000	E0.LO84O	E1.L443L	E1.1249E
I B	121	E1.O4980	30811.3O300	1.200	E2.2448L	E1.08E13	E1.O4491
BI-1	204	1E329O.49300	0.00000	0.000	1E008L.9E000	1EL0E9.09000	1E2E44.39000
Tk	203	E1.EE9L3	112E21.O4300	2.900	E2.8LLE8	E0.914L0	E1.3OO41
6	238	E0.9L809	341LE1.0O000	1.800	E1.E0423	E0.09110	94.883L8
GE-1	L2	48092.80000	0.00000	0.000	4L3E0.E3000	4O0E2.04000	100L2E.L8000

Run Name: 1832E0350E
Tuge Numger: 9
I ample Numger: **ICB**

Date/Time: 11/21/2018 8:19:31

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2CLC0.82000	0.00000	0.000	2C1EC.2C000	2L2C8.3L000	2C8EL.83000
Ak	2L	1.033E4	23.33300	88.C00	1.C1101	1.E123C	-0.022C2
CA	99	2C.2420L	EC.CCL00	2C.E00	22.42189	21.C9381	39.310EC
CR	E2	0.2823L	4CC.LC000	8C.200	0.94LE9	0.331EE	0.01802
F5	EL	-0.4883C	E0.00L00	0.000	-0.3L1C8	-0.E0L84	-2.08EE1
K	34	-8.18EC1	2C23.LE300	0.000	-3.2ELE9	-3.LL282	-1L.E2C9E
MS	29	0.8EEC2	11C.CLL00	83.100	0.388C1	0.E0929	1.CL900
MN	EE	-0.0LE84	23.33300	0.000	-0.11C23	-0.11LE2	0.00C04
NA	23	1.LLC80	239E0.L8000	98.300	2.C49L2	0.4429E	1.C9329
T7	9L	0.2144C	3.33300	1L3.200	0.00000	0.CE48L	0.00000
V	E1	0.002L2	EC.CL000	224C.000	0.0C49L	-0.00L08	-0.0E929
IN-1	11E	32193.ELL00	0.00000	0.000	3180L.4L000	32E30.08000	32042.C8000
AS	10L	0.00L90	2C.CL000	224.000	-0.00234	-0.00234	0.02C4L
AI	LE	0.04CL1	22.CCL00	C8.300	0.190EC	0.02CLC	0.12282
BA	13L	0.00092	3.33300	L49L.E00	-0.0188C	-0.0188C	0.03848
CD	111	0.00EEC	1.33300	1L3.200	0.01CC8	0.00000	0.00000
CG	E4	0.011LL	90.00300	1C2.100	0.033CC	0.00243	-0.00128
C6	C8	0.03090	1243.9LL00	2CL.800	0.10C14	0.090CL	-0.0EECC
MG	48	0.0E01L	43.39000	EC.300	0.0L4CL	0.0233L	0.09L9L
N7	C0	0.19E14	1L0.01000	E9.200	0.0EECC	0.20312	0.1LCL4
I N	120	0.118EC	1C0L.C8L00	812.800	0.L2EL2	0.C22E9	-0.442E4
I R	88	0.0991E	13.33300	1L3.200	0.1329E	0.00000	0.00000
UN	CC	0.2L99C	10C.CL300	C1.200	0.12LE1	0.9EL98	0.23890
TB-1	1E4	183EEE.CLL00	0.00000	0.000	1898C0.11000	1831CC.83000	182C90.04000
bB	208	0.01E11	490.0L000	E3.400	0.0112C	0.004C0	0.0299C
I B	121	0.223C8	1CC.CLL00	11.300	0.29934	0.14EC2	0.2308L
BI-1	204	1E2C82.CC000	0.00000	0.000	1E224E.L4000	1E2L21.C9000	1E2880.EE000
Tk	203	0.02C04	C0.00300	88.900	0.0941L	0.02C0E	0.0030C
6	238	0.001L2	33.33L00	303.100	-0.00124	-0.00124	0.00LLE
GE-1	L2	101010.C4000	0.00000	0.000	100L99.84000	100282.2L000	102009.41000

Run Name: 1832E0350E
Tuge Numger: E
I ample Numger: **LLC**

Date/Time: 11/21/2018 8:1O:14

Note: All Analyte values are in ppg, except 7nternal I tandards, C, b, I and Ck are in counts per second.

5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	INTEGRATIONS #1	#2	#3
SC-1	9E	2L0EL.89300	0.00000	0.000	2LE38.42000	2OE4O.3E000	2L038.2O000
Ak	2L	90L.4L14L	E29L.4E300	O.900	938.11118	349.4OL03	340.83LL1
CA	99	L1E.343LE	1143.9EL00	4.300	O90.98LL0	LO8.28E2O	L3L.90824
CR	E2	9.18393	E1OL.43L00	E.L00	3.4E333	9.92839	9.1O8O2
F5	EL	102.00LOL	14O3.E8300	L.000	4O.L3O48	110.1E019	44.13E40
K	34	90O.84O38	19938.33300	8.200	389.E2020	99E.9L10O	340.O4L84
MS	29	44.21E3O	E32L.4E300	0.E00	44.18L09	44.OLL99	48.L81O2
MN	EE	10.13EL0	33O3.4LL00	L.300	10.21249	10.82422	4.3O949
NA	23	891.O0841	12E919.41L00	1.O00	82O.12LL4	8E1.424L4	89O.LO413
T7	9L	24.9803E	993.3OL00	23.000	2O.13L33	2E.03902	3L.2O4L0
V	E1	1.0L293	4E3.93L00	1L.100	1.00020	1.280O4	0.43O91
IN-1	11E	3302E.34L00	0.00000	0.000	32131.4L000	3902L.18000	3241L.09000
AS	10L	0.E1038	1990.1OL00	8.L00	0.9E490	0.E3LE1	0.E392E
AI	LE	1.40O84	2E4.39300	10.400	1.43320	1.O8L1E	2.10030
BA	13L	3.434O3	L03.34300	13.000	9.98L1L	3.8E931	3.9LL90
CD	111	1.12080	2L4.39300	E.800	1.0OE18	1.14248	1.1092E
CG	E4	1.02148	2993.O4000	9.900	1.0O118	0.4L323	1.031E2
C6	O3	38.0139O	L4239.44L00	9.000	34.09L12	3O.29L40	38.L9E39
MG	48	1.440E1	2O9L.0L300	8.100	1.4LL04	1.83O14	2.1E823
N7	O0	9.2L031	243L.19000	11.L00	9.LEE0L	3.LO0LO	9.24E10
I N	120	2.18L98	24LE.2OL00	94.L00	1.E8E04	3.992LL	1.E39EL
I R	88	E.8LELO	1890.2E000	11.300	O.E8492	E.LEL81	E.2800E
UN	OO	19.2O938	2O13.L9300	1.000	19.91840	19.1341E	19.23E10
TB-1	1E4	18E9E3.LE300	0.00000	0.000	1831EO.39000	18O094.10000	18L1EE.82000
bB	208	3.1103E	22O84.3O000	2.800	3.2004E	3.024LL	3.10033
I B	121	1.42928	11L0.12000	13.O00	1.LL8E3	1.LO082	2.22L94
BI-1	204	1E3LEL.00300	0.00000	0.000	1EE291.3L000	1E3843.3E000	1E213O.24000
Tk	203	0.99E48	480.10L00	1E.200	0.9LLL4	0.3OL4E	0.94220
6	238	0.981EO	3LL0.L8300	9.100	0.9LO48	0.E0300	0.9O9O4
GE-1	L2	1009L4.49000	0.00000	0.000	442EE.E3000	1011L8.10000	10100O.14000

Run Name: 1832E0350E
Tuge Numger: O
I ample Numger: **ICSA**

Date/Time: 11/21/2018 8:18:0L

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2E329.L4300	0.00000	0.000	29O43.EO000	2O12O.39000	2E1E9.98000
Ak	2L	110EOO.441LE	132OOL4.48000	9.100	119448.31O01	10E892.9118L	1108O0.29L3L
CA	99	304L18.2LEL0	9L8399.ELL00	1.L00	311L44.81084	30381O.OO93E	313E38.3E189
CR	E2	0.LE889	134O.82000	4.E00	0.OLO9O	0.80L3E	0.L42L2
F5	EL	2O14E3.400OL	9EE98L2.4E300	2.O00	2OL282.82LOO	2E91LO.28140	2O9902.E4299
K	34	10L03E.82O1O	2898303.81000	2.000	108E19.33310	109E4O.1991L	10L44L.00121
MS	29	1038O3.OL484	E19O80E.EE000	2.L00	10O921.91O0E	1008O8.2E133	109301.3L230
MN	EE	3.9E902	1103.99L00	O.200	3.EO499	3.E8L1O	3.20E98
NA	23	29894L.E4O91	281L9892.41300	3.300	2E34E0.3314L	234023.80493	2E2E18.O9L82
T7	9L	220E.EL902	31013.12300	9.400	2241.E1231	208E.0E82L	2290.1E194
V	E1	0.01804	OO.OL000	18L.L00	-0.00041	0.0EL28	-0.00211
IN-1	11E	30220.99000	0.00000	0.000	24L01.0L000	24OL0.LL000	31284.98000
AS	10L	0.091O2	113.39000	92.200	0.0E312	0.02193	0.0E030
AI	LE	0.4E184	123.33300	8.800	0.4404E	1.00404	0.8EEO3
BA	13L	1.0O114	1LO.OLL00	2O.000	1.093EL	0.L4993	1.39EEO
CD	111	0.102E8	23.33300	14.100	0.12E0O	0.08492	0.0432L
CG	E4	0.4L1LL	2123.O3300	11.L00	1.02L01	1.09OL8	0.891E2
C6	O3	1.02089	30L0.E3300	1L.400	1.14L89	1.031EO	0.83313
MG	48	2212.1132E	2OO2024.23300	2.L00	2224.8O322	22O0.E9948	219E.431E9
N7	O0	1.O903O	1080.10L00	10.300	1.EE8O0	1.E2L13	1.83E39
I N	120	4.9L4O0	O892.L0L00	1O9.O00	2L.9EEL3	1.E0921	-0.E2113
I R	88	18.0E42O	E189.O2300	3.100	1L.98O2L	18.0L232	18.O1414
UN	OO	9.E2013	L43.90000	1E.300	9.818EO	E.01033	3.L31E1
TB-1	1E4	18O402.O0000	0.00000	0.000	18LE48.9L000	183OL9.3E000	184939.48000
bB	208	0.4L91L	LL31.91L00	4.200	0.8L2LE	1.00O84	1.0933L
I B	121	1.10120	O40.O0800	10.400	0.4O221	1.1L289	1.1O8EE
BI-1	204	192392.91300	0.00000	0.000	1342L9.92000	193E13.04000	199234.L3000
Tk	203	0.00828	20.00000	EL.L00	0.003E1	0.0082E	0.0130L
6	238	0.02E08	200.01300	2E.800	0.018O8	0.02943	0.031O9
GE-1	L2	4LO9E.40000	0.00000	0.000	4O090.LE000	443OE.80000	4LE31.1E000

Run Name: 1832E0350E
Tuge Numger: L
I ample Numger: **RINSE**

Date/Time: 11/21/2018 8:14:E3

Note: All Analyte values are in ppg, except 7nternal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2O044.3EL00	0.00000	0.000	2O84O.O9000	2EL1E.13000	2O18O.30000
Ak	2L	2.13E04	3O.OOL00	113.800	9.L89LL	0.0122L	1.O0829
CA	99	E0.080EL	43.39000	3L.300	E3.O4910	24.83928	OO.L1333
CR	E2	0.2O44E	430.04000	O9.300	0.19381	0.9OL42	0.14811
F5	EL	9.30L30	193.39300	OO.L00	2.40O81	L.O1102	2.9090O
K	34	9.LE480	2413.L4300	L4.800	0.E3L8O	E.83L91	L.40913
MS	29	2.98OO1	14O.O8000	31.400	2.11914	3.348E9	1.49L11
MN	EE	0.04E23	LO.OLL00	21.800	0.0L19O	0.10493	0.10980
NA	23	32.21909	2O92O.11000	4.200	31.O81EO	3E.34818	24.EO23L
T7	9L	1.O08O0	23.33300	88.800	2.L2OO3	2.0441L	0.00000
V	E1	-0.01O4L	90.00300	0.000	-0.00E13	-0.0911E	-0.009O2
IN-1	11E	3148L.32L00	0.00000	0.000	3140L.O8000	312OO.E8000	32L8L.LL000
AS	10L	0.019L2	9O.OOL00	O2.900	0.0239E	0.00E1E	0.01EEL
AI	LE	-0.008LE	4.33300	0.000	0.01303	-0.094L9	0.0109L
BA	13L	0.01442	O.OOL00	33L.200	0.04L98	-0.0188O	-0.0188O
CD	111	0.002L0	0.OOL00	1L3.200	0.00000	0.00000	0.00804
CG	E4	0.00EL2	2O.OL000	2L4.O00	-0.0012O	-0.00EO0	0.02902
C6	O3	0.2211E	1OOO.8O000	24.900	0.24EE4	0.1LE32	0.142EE
MG	48	0.E3E28	L13.34300	31.200	0.3L092	0.E3103	0.L0938
N7	O0	0.088L8	133.39300	138.O00	0.02930	0.01191	0.230O3
I N	120	-0.913E0	12L0.23000	0.000	0.099LO	-0.91483	-0.8OE91
I R	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
UN	OO	0.OO249	1L3.39300	1L.300	0.E30L8	0.L2EE3	0.L32E2
TB-1	1E4	18L281.L8000	0.00000	0.000	18O3O4.34000	18LO13.E3000	18L8O2.92000
bB	208	0.0E1E9	121O.LOL00	EE.E00	0.0L2O8	0.0O249	0.01402
I B	121	-0.01200	30.00000	0.000	-0.028O2	0.009LE	-0.01212
BI-1	204	1E3921.L4000	0.00000	0.000	1E1EOO.34000	1E90OE.L9000	1E9O83.29000
Tk	203	0.00O13	1O.OOL00	88.000	0.0123O	0.00303	0.00301
6	238	0.0008O	2O.OOL00	3L4.L00	0.00343	-0.002E4	0.00129
GE-1	L2	1021O4.L9000	0.00000	0.000	102L91.1O000	101819.03000	1014E9.03000

Run Name: 1832E0350E
Tuge Numger: 8
I ample Numger: **CCV**

Date/Time: 11/21/2018 8:21:90

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
Element	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	2C9CC.83000	0.00000	0.000	2C42L.4E000	2C83C.EL000	2C13E.4L000
Ak	2L	292E.21023	30991.32300	1.E00	2383.E8931	2991.04219	29E0.4E92E
CA	99	232C.18C9E	3LCL.34300	9.800	220L.4900E	2338.CC289	2931.4EC9C
CR	E2	2C1.90EC8	2LE3LL.21000	1.900	2EL.41090	2CE.08131	2C1.22E33
F5	EL	2949.89420	9E92L.1E000	0.900	2E00.411E8	2983.43203	2944.L0900
K	34	2939.EC894	L094E.14000	0.E00	2998.L2C93	2931.8L013	2923.10840
MS	29	293E.44EEE	12C243.L2L00	1.000	2994.4EL2E	290C4L3L0	29E1.0EEL0
MN	EE	2C9.8EL19	89831.11300	1.900	2CC.4CL93	2CC.8442C	2C0.L09LE
NA	23	23C8.49CE3	303C1L.2L000	1.100	2390.3018C	2341.122E4	23LE.91E13
T7	9L	2EE.39893	3LEL.91000	9.100	2CL.33890	29L.3L092	2E1.33C98
V	E1	2C0.3C89L	213C0E.LEL00	0.900	2C1.99288	2E4.E991C	2C0.1183C
IN-1	11E	314L4.1L300	0.00000	0.000	321C1.L3000	31393.E8000	32932.21000
AS	10L	2C.04430	L08L8.0EL00	2.000	2E.E939C	2C.E41CE	2C.1C280
AI	LE	2EL.39E3E	32E93.1C000	0.800	2EC.E8EE8	2E4.CC04L	2EE.L84E0
BA	13L	2CL.0E040	9C00C.3L000	1.400	2C4.11EE1	2L0.CLE82	2C1.3C13C
CD	111	2E.4480C	C2CC.8L000	3.100	2E.0CL11	2C.91E81	2C.E112L
CG	E4	298.14283	EL18LE.98300	2.900	294.20110	2E3.9C4C8	291.40LLE
C6	C8	2E0.CC283	94424C.8EL00	2.L00	2E2.E2090	2EC.142EE	293.2LEEE
MG	48	2C.C2CC9	33491.32000	3.100	2C.2L2EL	2L.ELLC8	2C.024CC
N7	C0	2C8.E9004	1L1331.C4000	3.E00	2CL.9E28L	2L0.0980C	2E3.1143E
I N	120	2E.LL021	1L3E3.2L000	2.100	2E.8C042	2E.2001L	2C.294E9
I R	88	2C.C9102	8084.E8300	0.L00	2C.L4L24	2C.9E928	2C.CL198
UN	CC	2E8.03013	99L84.3L000	2.L00	2C9.E182L	2E8.L42EL	2E0.LL4E9
TB-1	1E4	18C8C1.90300	0.00000	0.000	18C1E4.LC000	18C288.28000	18813C.1L000
bB	208	2C.3C2LE	18L019.L0L00	0.200	2C.31113	2C.92402	2C.39810
I B	121	2C.20139	1EEL3.98000	3.E00	2L.13880	2C.1L1C2	2E.243C0
BI-1	204	1E9422.13L00	0.00000	0.000	1EE4C8.LE000	1E902C.08000	1E9LLC.E8000
Tk	203	2C.980C8	E8994.33300	1.E00	2C.E4249	2C.803C4	2C.09E2E
6	238	2E.0418E	14C40E.9LL00	1.C00	29.LC91C	29.48409	2E.E2239
GE-1	L2	489E4.ELL00	0.00000	0.000	44339.0E000	44LC0.08000	4C289.C0000

Run Name: 1832E0350E
Tuge Numger: 4
I ample Numger: **CCB**

Date/Time: 11/21/2018 8:23:24

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2E838.L0300	0.00000	0.000	2E919.91000	2OE4O.42000	2EE09.L8000
Ak	2L	-0.2L423	O.OOL00	0.000	-0.80L8E	0.LL801	-0.80L8E
CA	99	-O.2O989	3.33300	0.000	-1.4O9O9	-8.9194E	-8.9194E
CR	E2	0.32909	4LO.LO000	20.E00	0.381LL	0.2E1O9	0.338L1
F5	EL	0.2EO83	L0.00300	81O.100	-0.2L9LO	-1.E2223	2.EOL98
K	34	-3.OO1OE	2OEL.08000	0.000	-11.2E9OL	-L.34318	L.89284
MS	29	1.20182	130.01000	1L.200	1.09288	1.12LL0	1.93984
MN	EE	0.013E2	E0.00000	8L2.200	-0.01LL0	-0.08EOL	0.19349
NA	23	12.94L3L	23841.92300	9L.800	E.O1484	1O.931E8	1E.990O9
T7	9L	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	E1	-0.02E0L	33.33300	0.000	-0.0281O	0.00OEE	-0.0E3O0
IN-1	11E	322L3.EE000	0.00000	0.000	32042.3E000	32028.29000	32L00.0O000
AS	10L	0.00002	O.OOL00	2L1O2.300	-0.00234	-0.00234	0.00982
AI	LE	0.040O1	22.00000	LO.L00	0.1L011	0.0O00E	0.091OO
BA	13L	-0.0188O	0.00000	0.000	-0.0188O	-0.0188O	-0.0188O
CD	111	0.00E91	1.33300	1L3.200	0.00000	0.00000	0.01O23
CG	E4	0.01304	93.33300	83.L00	0.029OO	0.011L3	0.00288
C6	O3	0.04218	1923.98000	98.400	0.10480	0.09042	0.12E82
MG	48	0.031L3	L0.00300	84.800	0.034O9	0.0EE9E	0.00010
N7	O0	0.10412	19O.OLL00	94.900	0.0E91O	0.1O201	0.11120
I N	120	0.9L48L	1890.14000	31O.800	-1.2O8EE	1.98830	1.2148L
I R	88	0.0104O	3.33300	1L3.200	0.00000	0.03288	0.00000
UN	OO	0.13O82	83.33L00	39E.900	-0.1O848	-0.10OO9	0.OL848
TB-1	1E4	18O839.30L00	0.00000	0.000	189L18.2O000	18LO24.02000	18OOEE.O9000
bB	208	-0.01E83	L3O.L2300	0.000	-0.01E8E	-0.00LO0	-0.02903
I B	121	0.099O4	O3.33300	99.100	0.0EO4L	0.0EE12	0.0214L
BI-1	204	1E1E89.3LL00	0.00000	0.000	1E2L04.89000	1E2O10.EL000	194932.L2000
Tk	203	0.009OL	13.33300	11E.000	0.00LOO	-0.001E3	0.00L8O
6	238	-0.0012L	10.00000	0.000	-0.00124	-0.002E4	0.0000O
GE-1	L2	1011EE.1O000	0.00000	0.000	10220L.30000	101EO0.49000	44O4L.29000

Run Name: 1832E0350E
Tuge Numger: 10
I ample Numger: **PBS**

Date/Time: 11/21/2018 8:2E:1L
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2E91L.88000	0.00000	0.000	2E289.22000	2E209.13000	2ELCE.24000
Ak	2L	E.EL009	LO.CL000	38.L00	E.8C942	L.EC09E	3.289LO
CA	99	21.C90EE	9O.CCL00	C8.900	9.EE204	30.C04LO	24.LE482
CR	E2	0.9493E	1133.99300	1O.800	0.99CLO	0.E400L	0.99C21
F5	EL	12.L39L1	28O.C4000	39.900	11.2E40E	1L.CC0EE	4.289E3
K	34	12.EE833	309L.18L00	C8.200	18.2193E	3.98018	1E.48098
MS	29	1.L13L1	1E3.39300	30.300	1.2EL33	2.2L400	1.C09L4
MN	EE	0.2C843	12O.CLL00	2L.E00	0.31003	0.1802O	0.30194
NA	23	2E.243CL	2949O.L4300	21.800	29.2C998	31.2E401	20.3ELE1
T7	9L	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	E1	-0.01EE2	90.00000	0.000	-0.0E394	0.010EL	-0.003C8
IN-1	11E	31E09.C2300	0.00000	0.000	329L4.0E000	3102O.41000	3100L.41000
AS	10L	0.00384	1O.CCL00	E4.000	0.00129	0.00E20	0.00E21
AI	LE	0.0C144	18.00000	38.000	0.08423	0.09839	0.09892
BA	13L	0.0LL28	1O.CCL00	1E3.900	0.204L3	0.0904O	-0.0188O
CD	111	0.0028E	0.CCL00	1L3.200	0.00000	0.00000	0.008EO
CG	E4	0.02384	CO.CL000	30.400	0.01ELO	0.02EL0	0.03020
C6	C8	0.2ECL1	1L03.E9300	8O.L00	0.0020E	0.9198L	0.3E321
MG	48	0.0L2L9	120.01000	22.C00	0.0C482	0.0EL48	0.04091
N7	C0	0.L3810	E9O.L0L00	12.800	0.804EE	0.LL3E0	0.C8129
I N	120	O.9L904	E911.8LL00	13.E00	E.C80E4	O.9132L	L.3L891
I R	88	0.0CE88	20.00000	48.E00	0.124L1	0.00000	0.0CL43
UN	CO	3.9LL9E	CE0.0E000	1O.000	2.4ELL0	9.0C818	3.91198
TB-1	1E4	18L82E.42300	0.00000	0.000	18LC84.12000	18LCE4.34000	1881L4.2C000
bB	208	0.034L3	113O.LEL00	C0.100	0.0CEL3	0.039C4	0.018L4
I B	121	0.0LL3O	83.33L00	9E.100	0.10EE1	0.03831	0.0882L
BI-1	204	1E344O.0L300	0.00000	0.000	1EC112.88000	1E20E2.E2000	1E3822.82000
Tk	203	0.00C0E	1O.CCL00	92.900	0.00L9O	0.00304	0.00LC0
6	238	0.001CL	33.33300	1L3.C00	0.00E00	0.00001	-0.00002
GE-1	L2	1089O1.13L00	0.00000	0.000	112C0O.C9000	10EEE1.L3000	10L22E.09000

Run Name: 1832E0350E
Tuge Numger: 11
I ample Numger: **LCSW**

Date/Time: 11/21/2018 8:2L:0O
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2EE11.E0000	0.00000	0.000	2E41E.84000	2E9E9.C8000	2E1C8.48000
Ak	2L	10CO.L2EE9	12410.19000	3.100	1028.3243O	108L.C004L	1089.29C80
CA	99	220E.4E893	3993.4E000	O.300	20C0.90E22	2220.2932E	233L.22C81
CR	E2	2L.21810	28210.29L00	3.100	2L.9C912	2O.2CL81	2L.42238
F5	EL	EEE.1CO22	4800.L8000	8.E00	C0L.L1344	E1L.98CE4	E90.2480L
K	34	E30L.O2438	199402.LC000	1.800	E2CE.3443O	E238.4O484	E918.E188L
MS	29	10E2.0C29O	E2C01.30300	2.900	1022.L2E4O	10C8.28LO1	10CE.1L381
MN	EE	2L.3EO41	89L4.82300	L.C00	2E.981LO	2O.48L02	24.C0149
NA	23	E0LL.8L4C9	C02090.09300	0.900	E0C8.CE128	E101.E48L1	E0C8.38842
T7	9L	123.81123	1LE3.EEL00	11.800	10O.43E2L	132.4113L	131.E8L09
V	E1	2L.1912L	21E18.0C000	9.300	28.229C8	2L.319L8	2E.8893E
IN-1	11E	3290L.L3000	0.00000	0.000	32144.82000	3210E.0C000	32418.31000
AS	10L	2E.44L0E	L1EE8.8C000	0.800	2O.18CCO	2E.LL2LO	2O.031L9
AI	LE	9.80231	O2O.02300	O.000	9.49EE1	9.9L188	9.484E3
BA	13L	2E.9941L	9999.3CL00	L.L00	2L.98399	2E.3041L	23.EE940
CD	111	2.E8004	C80.02300	4.E00	2.8E422	2.9L422	2.9018E
CG	E4	120.2431E	280420.EEL00	1.800	120.81L29	122.18L10	11L.8LE10
C6	C8	29.8202O	E1239.80L00	1.000	29.EL430	2E.04O19	29.L8E3E
MG	48	2E.03838	323E0.8C000	2.800	2E.OC8E9	2E.1E418	29.24292
N7	C0	2E.494L1	1L1CE.10000	3.100	2O.1E138	2O.C933L	2E.0E938
I N	120	31.8L810	213L4.43000	L.100	39.91EO2	30.132EO	31.08O10
I R	88	14.CLL24	C0E8.91L00	O.800	18.L9L33	14.0CE39	21.21414
UN	CO	2O1.0C8L1	9E422.49000	1.E00	2CE.242CO	2C0.31039	2EL.E8811
TB-1	1E4	18E21O.E8L00	0.00000	0.000	18E34L.E2000	18O104.49000	189192.30000
bB	208	8.02CL8	EL029.L9000	2.000	8.18014	L.8C8E3	8.03CC8
I B	121	2.431C9	1LC0.21L00	8.800	2.O4119	3.20EC0	2.8481L
BI-1	204	1E2223.L8L00	0.00000	0.000	1EE9L1.9C000	1E0310.23000	1E0884.CL000
Tk	203	1.0299O	2223.CL300	O.300	0.4O428	1.04C0E	1.0080L
6	238	2O.1CE2E	201CLL.1L300	3.200	2E.14L8O	2O.O40C9	2O.C0L2O
GE-1	L2	10E04E.22300	0.00000	0.000	10L828.4L000	10328E.19000	1091L1.EC000

Run Name: 1832E0350E
Tuge Numger: 12
I ample Numger: **9870251**

Date/Time: 11/21/2018 8:28:EE
Batch: 1830910C8L01A
Class: 6 *********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	28293.L0L00	0.00000	0.000	2L814.93000	289E1.24000	289C0.90000
Ak	2L	24322.1ELC2	342C2C.92L00	2.300	3008E.38298	288E1.C1840	24024.9L194
CA	99	E20L.20L1L	8483.3L000	9.L00	E919.88321	943C.4L218	E2C4.LCC11
CR	E2	11L.09229	1314C8.2E300	1.E00	118.L8CC0	11C.49L44	11E.34213
F5	EL	L3L04.38L8C	193003C.4EL00	1.E00	L9E33.LC0E0	L91L1.28942	L2923.1181E
K	34	C4L2.EC8L8	20481C.43000	1.900	L00C.81CL9	L0E1.19E0C	C8E4.L24E9
MS	29	13218.32C83	L308L1.EE000	1.300	13914.C9194	13114.14809	1311C.1904C
MN	EE	1LE9.2904C	E4414C.14000	1.200	1LL2.L1238	1LE4.9E9E1	1L30.EEE48
NA	23	9C1.L121E	82883.82L00	3.900	9L4.C0332	9E1.28L90	9E9.29EL2
T7	9L	12LL.10C10	20098.8CL00	2.800	12E9.9332C	1314.09400	12EL.83C03
V	E1	44.2L09E	8C490.92300	1.000	44.98220	100.1C2LL	48.1CC88
IN-1	11E	31C8L.LEL00	0.00000	0.000	3123E.0E000	32E30.80000	3124L.92000
AS	10L	1.2E99E	3380.C1L00	3.900	1.2C82E	1.20CL4	1.28831
AI	LE	18.191L1	2282.88000	1.000	18.02C80	18.0E201	18.39C31
BA	13L	3E3.888C0	C0344.13L00	2.E00	3EE.LE909	399.38328	3C1.E2898
CD	111	4.338E2	2230.21300	9.000	4.LC094	4.14224	4.0C2L4
CG	E4	2L.3L990	C2E19.48300	1.C00	2L.391C8	2C.4EE99	2L.82C19
C6	C8	E08.E4LCC	1002L03.11000	1.100	E10.1C1LL	E02.233L8	E13.34L93
MG	48	4.82248	12933.20000	1.800	4.C9400	4.44LE9	4.82234
N7	C0	2LL.C8E3L	1L8881.01000	2.200	283.920L2	2L1.3EL09	2L8.2L83C
I N	120	24L.E1L81	1829E0.EEL00	2.800	300.C83C1	288.0LL08	303.892L3
I R	88	E2.1C8C4	1EC8C.LE000	3.L00	E9.1889E	E0.39998	E1.4E81C
UN	CC	290C.00E18	91324E.84300	1.C00	2923.C8391	23C2.300C8	2932.031E2
TB-1	1E4	1414EL.ECL00	0.00000	0.000	1400L3.8C000	149920.E9000	1413L8.30000
bB	208	9E4.3CE02	33330E9.04000	0.L00	9C0.L1981	9EE.L0933	9C1.CLE42
I B	121	9.E241E	2L4L.13000	9.C00	9.L12E8	9.EL394	9.30138
BI-1	204	1E22E8.49L00	0.00000	0.000	1E193E.C2000	1E3EC1.11000	1E1L80.11000
Tk	203	0.9E02L	480.04300	1.E00	0.9E2LE	0.9EEC0	0.9929L
6	238	2.4C8C0	22412.L9000	1.900	2.4E148	2.4349E	3.01934
GE-1	L2	104328.44L00	0.00000	0.000	10E89C.88000	110314.C0000	111820.E1000

Run Name: 1832E0350E
Tuge Numger: 13
I ample Numger: **9870251**

Date/Time: 11/21/2018 8:30:93
Batch: 1830910C8L01A
Class: 6 b********

Initial Vol: 1.21 Final Vol: 100.00 DF: 2.00 brotocol: DGD-6 9

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	2L8EO.32300	0.00000	0.000	2LO94.3E000	2LL14.1E000	28200.9L000
Ak	2L	30E91.19911	90390L.93000	0.O00	309O8.4339O	30LO3.11848	30341.3L488
CA	99	OE9E.8498E	11138.93L00	2.200	O3L4.8E348	OO9L.444O0	OO04.8304O
CR	E2	129.10003	13L4LE.32000	1.200	122.LE4E0	12E.O139L	123.42L11
F5	EL	L2L8O.33214	1342490.23L00	2.800	L931E.E489O	L0988.8890L	L3EE9.E1903
K	34	L89O.02493	232948.03000	1.200	LLO3.8LEO3	L498.0O044	L82O.1E1OE
MS	29	13O89.22384	L9O39L.LE000	0.E00	13O09.0L293	13L91.40183	13L0O.O4L90
MN	EE	1LOL.32LO1	E4E344.L4L00	0.800	1LL9.EE383	1LLO.E39OE	1LE0.8493O
NA	23	2022.E310E	2LO34O.09L00	1.000	1444.12392	2090.20O4O	2028.2O2L4
T7	9L	124E.O22L1	200E4.0O000	2.900	131O.2O240	12E4.O24OO	1310.4LEE8
V	E1	103.9LE40	843L4.1OL00	1.100	109.O0821	102.28038	103.E3412
IN-1	11E	31300.3E300	0.00000	0.000	30L4L.31000	31223.E4000	31880.1O000
AS	10L	2.38983	O398.E1300	O.100	2.2233L	2.E0299	2.928OL
AI	LE	23.0LO9E	28OO.33300	3.E00	22.21080	23.83984	23.183O9
BA	13L	3O9.O2319	O198L.E4300	0.O00	3OO.EE93O	3OE.13492	3O2.1LEOE
CD	111	11.29343	2OE3.O3300	E.900	11.991E4	10.EO301	11.L2L18
CG	E4	24.2E1L0	OE448.OE300	0.200	24.14313	24.28E3L	24.2LOO1
C6	O3	E84.O832E	1198181.8EL00	1.300	E4L.2012E	E84.98E3E	E82.3O31O
MG	48	13.8OL30	1L322.0O300	1.O00	13.O8O93	19.1141L	13.L4O24
N7	O0	289.L48L9	1812E1.18L00	1.100	28L.ELL38	28E.9OL39	281.3E194
I N	120	30E.18298	1898O3.42300	2.100	30L.O90L8	304.4LE84	24L.430L8
I R	88	O9.9LL01	141O1.3EL00	0.200	O9.E9L94	O9.E992O	O9.33428
UN	OO	29OL.41218	918LLE.8E000	1.E00	2E04.32E13	29E4.1O331	293E.29811
TB-1	1E4	140249.32300	0.00000	0.000	18OL39.O1000	141190.40000	14300L.9O000
bB	208	9O9.9O9L3	3390O48.9OL00	0.400	9O8.31421	9O9.L3E20	9O0.334L4
I B	121	L.L3EEE	9L0L.L4000	3.900	8.03400	L.EEE30	L.O1233
BI-1	204	1E30E1.94000	0.00000	0.000	1E0O29.4E000	1E1O1L.O1000	1EO411.41000
Tk	203	1.3L3L2	244L.21L00	3.O00	1.92009	1.3L832	1.32280
6	238	3.4OE12	30L93.9L300	3.800	3.4L811	9.10444	3.80L2O
GE-1	L2	104839.04000	0.00000	0.000	1044LE.O1000	110402.3E000	108O29.31000

Run Name: 1832E0350E
Tuge Numger: 19
I ample Numger: **9870251**

Date/Time: 11/21/2018 8:32:31
Batch: 1830910C8L01A
Class: D*********

Initial Vol: 1.09 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	30089.32000	0.00000	0.000	248C9.01000	243C2.91000	3102C.E9000
Ak	2L	22039.C9341	319188.39000	2.C00	22319.C4949	2290L.4CEC0	21381.2L113
CA	99	9EL8.02E28	8904.L3000	E.200	9LE8.0098E	9CCC.28903	9304.L8C4L
CR	E2	13E.E08E2	1C2E9E.9CL00	3.100	13C.89C13	138.8L113	130.80830
F5	EL	13E0L8.18014	2L400E0.3LL00	3.000	13E0LC.08E28	134181.3CC3C	1304LL.08841
K	34	9143.9392E	13EE40.14000	9.200	92E2.94893	9333.0E38C	3449.LE099
MS	29	10284.CC429	C0E821.E9000	2.E00	10341.E0132	109L8.91184	4444.049E1
MN	EE	401.4CL0E	328039.29300	3.000	419.0EC29	420.9E100	8L1.34341
NA	23	243.12E09	CEECC.08300	E.100	284.1L9L3	304.ELC0L	280.C2933
T7	9L	410.0LL14	1E20E.49000	3.E00	41E.1LL3C	434.90L8C	8LE.C9C3E
V	E1	101.14934	493C8.42L00	1.800	101.E4821	102.803E9	44.18191
IN-1	11E	32LLC.L4300	0.00000	0.000	320CC.43000	3248C.8E000	332LC.C0000
AS	10L	1.0CE81	24L0.E1300	12.000	1.1838C	0.42492	1.08919
AI	LE	29.90C1L	31L1.L3L00	3.400	2E.E04L3	23.L3LC2	23.4L11C
BA	13L	300.E01LE	E30C2.44L00	9.900	30L.09041	28E.2ECC4	304.20LCE
CD	111	4.11L10	22E1.E9L00	9.900	4.9L914	4.14384	8.C8322
CG	E4	39.9ECCE	813L0.42300	3.E00	3E.89EE9	33.CC121	33.8C814
C6	C8	1310.CE249	2CL0E84.33300	2.100	1339.E9949	131C.02E00	1281.38888
MG	48	1L.29L9C	22E93.ECL00	3.200	1L.8L8EC	1C.4489C	1C.8CE3E
N7	C0	3E4.28E02	2343L8.81L00	2.900	3C4.0303C	3EC.0034C	3E2.820LE
I N	120	994.2381L	28918E.91300	3.000	9C0.L04C0	9E2.C90LL	939.3C91E
I R	88	9E.LL93C	19238.31L00	3.400	9L.E8CLL	9E.L98C1	93.48LL1
UN	CC	29EC.2L23L	93C88C.22L00	2.L00	2E30.C84EL	2930.00892	2908.11411
TB-1	1E4	14E948.C8300	0.00000	0.000	14884C.EC000	1413LE.80000	14C223.C4000
bB	208	E43.CC8C2	938C08C.E2000	1.900	E8E.L8CLL	C02.832EC	E42.3L1E3
I B	121	C.99E1E	903L.E2300	0.L00	C.9CE83	C.9LE91	C.34921
BI-1	204	1C2019.23300	0.00000	0.000	1C0822.CC000	1C289L.LC000	1C23L2.28000
Tk	203	0.31LEC	L3C.L2L00	C.900	0.24E28	0.339C4	0.322L1
6	238	3.198C8	2E8E8.LC000	1.100	3.1L999	3.1C099	3.1111L
GE-1	L2	103342.44L00	0.00000	0.000	103EC8.1E000	109ECE.1C000	10209E.C8000

Run Name: 1832E0350E
Tuge Numger: 1E
I ample Numger: **9870251**

Date/Time: 11/21/2018 8:39:21
Batch: 1830910C8L01A
Class: R*********

Initial Vol: 1.10 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	28949.32L00	0.00000	0.000	28340.E8000	281L0.23000	28422.1L000
Ak	2L	3LC83.02L49	E08923.02L00	1.200	3LCEL.04EE8	380L2.4803L	3L1C4.00L88
CA	99	10C84.49E2E	18E0C.80L00	2.E00	10430.0CL38	10EL2.40494	1091C.8E888
CR	E2	183.CC0LO	208E02.40L00	1.E00	183.498L8	18C.21991	180.81404
F5	EL	882E2.E28EE	1L2L248.9C800	1.800	8L3C4.L984E	40132.E2C9E	8L2EE.31029
K	34	18021.4CE21	E92248.C9000	0.800	1L4L2.C9C09	181LE.12328	1L418.12C82
MS	29	1C0LL.3EL22	84C89L.C4300	1.000	1C191.829E8	1C14E.C1911	1E849.C824O
MN	EE	1043.0L90O	3LCC83.L4L00	1.300	1102.L141E	1044.92380	10LL.0L422
NA	23	4828.LC91O	12L8392.98300	0.L00	4804.49L09	4401.9LLEE	4LL9.8CL84
T7	9L	1E80.291EE	2E020.L3300	1.800	1ELE.1412E	1C11.14LL2	1EE9.33EC8
V	E1	1EL.9C83E	1340L3.L4L00	2.400	1C1.LL840	1EL.4441O	1E2.C2C4L
IN-1	11E	304E8.48300	0.00000	0.000	309L8.8E000	312C9.0L000	31139.03000
AS	10L	E3.0001L	134323.L2300	2.800	E9.9E09E	E1.9L489	E3.0L021
AI	LE	3E.9CC29	93E0.L9L00	2.E00	3E.E2C8O	39.ECL34	3C.3094O
BA	13L	91E.4EC19	C4383.80000	0.200	91E.C11LL	91E.93839	91C.81830
CD	111	13.C010E	31L9.92000	1.C00	13.E2889	13.8E119	13.92318
CG	E4	2L9.2L4L4	C11848.38L00	1.900	2L8.C8041	2L1.3L8C1	2L2.8248E
C6	C8	112C.33E13	21CL49C.L3L00	3.000	11E3.89032	1084.91128	113E.LE3L8
MG	48	CE.48EC4	8190L.09000	1.L00	CC.4E229	C9.L303E	CC.2L9E0
N7	C0	384.C1LC4	29E22C.83300	2.300	34E.2034L	3L4.3910L	349.30809
I N	120	E03.3828L	300CL4.L8L00	1.200	E08.24E0L	E0E.03344	94C.814EL
I R	88	103.C4E23	309LE.L3300	1.400	10E.L4E43	101.44198	103.2482L
UN	CC	23L4.94E89	344342.01300	1.900	2911.E839L	2393.834CC	2383.0C938
TB-1	1E4	140489.08L00	0.00000	0.000	188422.38000	1420L9.42000	1414E9.4C000
bB	208	E9L.4EE20	34EEE1C.ELL00	0.800	EE2.41408	E9C.4282L	E99.0182E
I B	121	4.89134	C001.L1000	3.L00	10.219E2	4.81C0O	4.943E8
BI-1	204	1E2E82.28L00	0.00000	0.000	1E2L29.01000	1E1241.39000	1E3L31.E1000
Tk	203	2.E4E12	EC99.4E000	3.L00	2.949L8	2.C0CC2	2.C834E
6	238	28.L0434	221401.92300	0.L00	28.89C8O	28.9L98E	28.80C9O
GE-1	L2	10CE8E.49L00	0.00000	0.000	10CC80.E9000	10LELC.43000	10EE00.3L000

Run Name: 1832E0350E
Tuge Numger: 1O
I ample Numger: **9870251**

Date/Time: 11/21/2018 8:3O.0L
Batch: 1830910O8L01A
Class: M*********

Initial Vol: 1.13 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	28213.E1300	0.00000	0.000	28014.LL000	241E2.1O000	2L9O8.O1000
Ak	2L	3O102.1O989	982L10.81000	2.400	3OOOL.4OO23	39881.9L92O	3OLEL.0E901
CA	99	4801.O04LE	1O8L9.L3000	2.O00	48O8.1121E	4E18.33O13	10018.3804O
CR	E2	183.8E1O2	20OO12.11L00	2.E00	188.0324L	1L4.02LE4	189.94931
F5	EL	81314.4E010	1ELE132.84300	3.O00	83O30.L8OL4	LL4LO.4O323	823E2.1002L
K	34	1L4EO.3L3EL	E39LE0.92300	2.L00	18081.E2282	1L921.23184	183OO.3OO00
MS	29	1E839.92929	8L91EO.E0000	2.400	1E494.E8290	1E328.O8498	1O22E.0008E
MN	EE	L11.OOELO	292L38.L1300	3.L00	L3O.OOL23	O83.OEO8O	L19.OL314
NA	23	100E9.9L419	1243EL3.3OL00	2.400	10101.E0828	4L93.1822O	10318.L9O8L
T7	9L	1EE3.41318	293EO.2O300	2.300	1E3E.EE448	1E31.EL1EO	1E49.O0800
V	E1	1E4.O3803	134EO2.84300	2.E00	1O2.0E11O	1EE.12320	1O1.L34L9
IN-1	11E	31OO8.O9000	0.00000	0.000	31E43.8L000	31222.L0000	32184.3E000
AS	10L	E2.0EO3O	134443.3OL00	1.900	E2.34221	E2.E384O	E1.23L41
AI	LE	32.E282O	9083.32300	1.E00	32.82804	31.4L190	32.L8E28
BA	13L	348.2ELL4	OL432.L2L00	3.100	901.E3124	908.O919E	389.O00O9
CD	111	11.E1LL4	2L98.48300	2.900	11.O318O	11.L141O	11.2023E
CG	E4	2OL.L9O93	O104L4.1EL00	2.900	2L3.13O21	2O4.32030	2O0.L82L4
C6	O3	10OE.8290O	2048E3L.9OL00	2.300	10LE.L49O1	1083.48383	103L.O43L9
MG	48	O1.14413	LL22E.O2000	2.900	O1.2OE23	O2.O344E	E4.O4220
N7	O0	3E1.00289	22E49E.2EL00	3.O00	3EL.902O4	3E4.29431	33O.3EOE1
I N	120	2O3.8O309	1O142O.28000	2.000	2O8.29880	2OE.90E84	2EL.43993
I R	88	4L.140E1	24223.20L00	1.800	44.22329	4O.0L34O	4O.2L933
UN	OO	21E0.E9O1O	3O4293.93300	1.L00	2189.E9L89	21E3.48339	2113.10L31
TB-1	1E4	143LL9.EE300	0.00000	0.000	14OOE9.34000	140LLO.O0000	143842.OL000
bB	208	E39.8L3LL	341L319.44300	1.O00	E33.L9832	E93.4E2LE	E2O.42023
I B	121	10.LL042	OOO2.13L00	9.000	11.0124E	11.023E8	10.2LO29
BI-1	204	1E9L21.01300	0.00000	0.000	1E9OE2.18000	1E383E.0E000	1EEOLE.81000
Tk	203	2.9L409	E9O8.23000	2.O00	2.E31L8	2.9082L	2.94L08
6	238	28.L1O02	22E099.48L00	1.300	28.88301	28.48L9O	28.2LLE4
GE-1	L2	108398.30300	0.00000	0.000	104E33.8E000	108E88.E8000	10O422.98000

Run Name: 1832E0350E
Tuge Numger: 1L
I ample Numger: **9870251**

Date/Time: 11/21/2018 8:3L:EE
Batch: 1830910C8L01A
Class: 6 k********

Initial Vol: 1.21 Final Vol: 100.00 DF: 10.00 brotocol: DGD-6 9

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	2O440.4CL00	0.00000	0.000	2L1CL.81000	2C82C.93000	2L9L8.CC000
Ak	2L	C22C.L333O	L4C94.C4L00	9.400	C012.LE191	CEL2.20C82	C04E.2918O
CA	99	1034.0L13L	1L23.E9300	C.800	1083.8L82L	10LE.18L0E	4E8.19881
CR	E2	29.C9C83	2L089.LL000	1.400	29.L4981	2E.01323	29.1304O
F5	EL	19L1C.28E1L	2L2899.42L00	2.100	19E13.E420L	1E0LC.28CC2	19EE8.4LC82
K	34	19L2.902L2	99C0L.08300	1.C00	1989.30339	198L.L81L4	199E.1230E
MS	29	2LLL.L049O	19CLLL.L1L00	3.300	2LC4.1930E	28L2.4C220	2C41.02312
MN	EE	3CE.3L1CL	11429C.1L300	3.800	3C0.00L2O	381.0EL23	3EE.0E0E3
NA	23	101.E00L9	3EC83.94300	13.800	88.23LC9	11C.22CE0	100.03804
T7	9L	2EC.4E1L3	38EL.99000	C.800	294.0LCL3	299.L331O	2LL.09E30
V	E1	21.23C84	1L81E.83L00	1.000	21.31LCC	21.344C1	20.44334
IN-1	11E	321LC.CLL00	0.00000	0.000	3124E.89000	33CC9.32000	31EC4.8L000
AS	10L	0.29C48	C83.34000	29.L00	0.2L482	0.2899O	0.1LCCC
AI	LE	3.L8E0L	941.39300	8.100	9.13C49	3.C19L0	3.C03EO
BA	13L	L2.0291E	129CC.C8L00	C.L00	LE.39291	CC.9E39E	L9.2LCC0
CD	111	1.C4024	908.CLL00	12.E00	1.LL183	1.9E01E	1.89884
CG	E4	E.9E004	12C83.19300	E.E00	E.E4L0L	E.10802	E.C9E1O
C6	C8	100.E1084	20202E.04L00	9.000	103.81024	4C.0200O	101.L0233
MG	48	1.L8L0O	231L.01300	E.900	1.8E90E	1.CLL24	1.82482
N7	C0	EE.0491L	3C0E4.94L00	C.200	E8.LC0C8	E2.034E0	E9.98234
I N	120	EL.EE1L8	3L099.L4000	E.300	C0.E1E4L	E9.9L019	EL.CC423
I R	88	10.34EL9	31L0.E8000	11.C00	11.L8121	4.LC241	4.C9304
UN	CC	9L9.C2381	82L89.02000	3.900	940.29439	9E8.043L1	9LE.E2838
TB-1	1E4	18LE24.4EL00	0.00000	0.000	18L800.E1000	18EL83.93000	18400E.43000
bB	208	40.13C4E	C84C24.93300	0.E00	40.11234	40.EC2C0	84.L3E8O
I B	121	0.81143	E20.09000	13.E00	0.L9248	0.43824	0.LE9E1
BI-1	204	1E93EL.E1000	0.00000	0.000	1E3348.C4000	1E30CL.4C000	1ECC0E.88000
Tk	203	0.04110	203.39L00	2C.CC00	0.08E91	0.11LL1	0.0L014
6	238	0.ECC99	99E1.0CL00	8.400	0.E110L	0.ELL48	0.C1028
GE-1	L2	10E4E2.19L00	0.00000	0.000	10E48C.E0000	10EL32.E1000	10C13L.93000

Run Name: 1832E0350E
Tuge Numger: 18
I ample Numger: **9827129**

Date/Time: 11/21/2018 8:34:92
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.03 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2E412.2EL00	0.00000	0.000	2C98O.O1000	2E44E.E9000	2E2E9.O2000
Ak	2L	18LE4.24411	230918.E9300	2.300	18919.20398	18O1L.40C0L	1429E.L8LL4
CA	99	128084.COL34	202924.2L300	1.L00	12C212.3E910	12LCL0.12L02	13038O.E2109
CR	E2	93.E1499	9E923.LC000	0.800	93.109C9	93.L0L3E	93.L9C83
F5	EL	93131.CO434	LCLE43.C8L00	2.000	92129.81332	93944.13124	93LL1.0C3E9
K	34	9E8O.LE832	12LE18.01000	3.200	99CE.0E9C8	9E9L.2E190	9L9L.4C88L
MS	29	33C90.80E30	1L0ELC3.09L00	3.900	324C4.249C8	32489.C8C89	394C8.9893L
MN	EE	1E4E2.1120L	944C0C2.22000	3.L00	1E9E0.049L3	1E801.19E20	1CC0E.04C24
NA	23	E84.01049	40LC9.09000	E.L00	ECE.4E9EO	EL3.82222	C2L.2EC02
T7	9L	831.2E1E8	114L2.E4000	9.100	81E.O1CLL	8L0.E0809	80L.C2449
V	E1	129.49CCE	10039L.1L300	2.900	123.14483	123.290EE	128.344E8
IN-1	11E	31099.39300	0.00000	0.000	320C1.C4000	2491C.83000	31CE9.E1000
AS	10L	0.14L88	E30.0E000	1E.800	0.144C8	0.1CELE	0.2282C
AI	LE	23.9E049	28L4.CL300	4.800	21.EC892	2C.02C81	22.LE810
BA	13L	EE4.090E4	43993.01L00	2.300	EE2.89339	EL3.LCCE4	EE0.E1189
CD	111	0.4L48L	224.33300	9.000	1.01L82	0.4830L	0.438L2
CG	E4	21.CE2C8	983L0.49L00	E.400	20.98893	23.03133	21.93824
C6	C8	21.88188	93310.44L00	8.200	20.13192	23.L140L	21.L4E1E
MG	48	E.39CCL	CC2E.3E300	8.200	E.1E333	E.89422	E.03L9L
N7	C0	C1.9E041	38LLC.90300	C.300	E4.0LC93	CE.84111	E4.38E14
I N	120	8.2E9L2	C8L3.84000	20.CC0	C.9444L	4.848L4	8.3CE91
I R	88	144.CC49E	E8LL9.09300	9.900	142.8C8EO	204.C449L	14C.99E32
UN	CC	190.949C8	23C48.E2300	3.800	13E.1EE1C	190.EEE1L	19E.LL3L1
TB-1	1E4	1848E4.8L300	0.00000	0.000	184CL3.94000	188029.18000	141881.4E000
bB	208	1L.CE112	12L94C.E8300	1.CC0	1L.LE093	1L.8LEL8	1L.32L1E
I B	121	0.83333	E90.09L00	1E.800	0.4E102	0.C41LE	0.8EL22
BI-1	204	19480C.L9300	0.00000	0.000	1E13CC.09000	19L92E.E4000	1E0C28.C0000
Tk	203	0.L0020	194C.8EL00	19.200	0.L94L4	0.LCE11	0.E8EC4
6	238	E.L230L	93998.L2300	1.CC0	E.824C8	E.CC4E8	E.CC444
GE-1	L2	102393.L0L00	0.00000	0.000	109034.81000	100913.90000	102ELL.41000

Run Name: 1832E0350E
Tuge Numger: 14
I ample Numger: **9827129**

Date/Time: 11/21/2018 8:91:31
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.03 Final Vol: 100.00 DF: 20.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2C0L4.1CL00	0.00000	0.000	2E82E.93000	2O1CO.04000	2C29E.48000
Ak	2L	184E.00189	23990.44000	3.800	1423.223CO	1498.2L2L8	1813.E0410
CA	99	13C09.CLL4E	21CE9.L4L00	1.L00	13804.29343	13C92.0L911	133C2.L1E81
CR	E2	9.L0C21	EE29.80000	E.000	9.892L4	9.9399O	9.89134
F5	EL	9E34.L1C98	81340.38000	0.400	9E89.8LE9O	9E24.C812O	9E09.C92L2
K	34	9L3.L018L	1ELE3.0C800	C.800	94E.LE82L	93C4LE0E	988.3L228
MS	29	3289.4304L	1CLL83.22L00	0.C00	3281.03L80	330E.233E4	32C8.E21E3
MN	EE	1C2C.CE140	E13118.94300	1.C00	1C09.23448	1C21.2L992	1CE9.99132
NA	23	L9.L344L	313L3.14000	2.200	L3.3909L	LC.E3998	L9.3994L
T7	9L	4L.E8CC9	1913.94300	22.E00	10E.41ECL	119.1CC80	L2.CLL9E
V	E1	12.8L128	109EL.4CL00	9.200	12.2E4E0	13.09499	13.30941
IN-1	11E	3202L.C1000	0.00000	0.000	32308.20000	32028.28000	31L9C.3E000
AS	10L	0.01899	EC.CCL00	10.L00	0.01498	0.014CL	0.01C1O
AI	LE	2.3394L	30C.01000	8.E00	2.3414E	2.1139L	2.94498
BA	13L	EC.12L39	4C8L.94300	E.000	E3.LLC22	E4.233L3	EE.3L20O
CD	111	0.08E80	20.CCL00	9E.200	0.0910O	0.10LC4	0.108C9
CG	E4	2.29339	E141.2E000	E.800	2.184EE	2.340L8	2.194L0
C6	C8	2.99EC1	C04E.03000	4.E00	2.34CE3	2.2914L	2.C4833
MG	48	0.9ELC4	C13.38300	4.400	0.94LC8	0.90813	0.9CL31
N7	CC	C.803E1	9E09.90000	13.C00	L.98E8O	E.LE921	L.1L098
I N	120	0.109CC	1E43.LL000	2E8.800	0.91C48	-0.0C291	-0.090LL
I R	88	14.0L8CL	E801.E8L00	2.E00	18.L94E9	14.C8L14	18.8942L
UN	CC	19.8CLCE	2C90.91000	4.E00	19.E04C4	1C.92E21	13.CC809
TB-1	1E4	18948E.L9300	0.00000	0.000	181LLL.11000	18801C.24000	18E1C8.83000
bB	208	1.88E12	19013.84300	9.400	1.498L1	1.L8008	1.42CE8
I B	121	0.08039	83.33L00	108.100	0.1802O	0.03812	0.022CE
BI-1	204	1E2C83.1C800	0.00000	0.000	1E0424.20000	1E2LE2.CC000	1E921L.C8000
Tk	203	0.0893L	18C.C8000	22.300	0.08214	0.1091L	0.0CCLE
6	238	0.EE308	9249.3E300	10.800	0.C0L1E	0.988C8	0.EC891
GE-1	L2	10133L.21L00	0.00000	0.000	10081C.4E000	100LCE.81000	102928.84000

Run Name: 1832E0350E
Tuge Numger: 20
I ample Numger: **CCV**

Date/Time: 11/21/2018 8:93:18

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

5lement	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	INTEGRATIONS #1	#2	#3
SC-1	9E	2O843.19300	0.00000	0.000	2O03E.OL000	2OEEL.01000	2OE8O.LE000
Ak	2L	29O1.11EO8	30804.01300	1.300	2981.E1E0L	2929.04301	29LL.L3882
CA	99	2O83.29O00	9330.4E300	8.O00	2432.O83OO	29L4.O4LO8	2O8L.3EOL0
CR	E2	2E8.40L08	2L2008.13000	0.800	2O0.28LE3	2E4.8332E	2EO.O009L
F5	EL	29LL.94108	9948E.92L00	1.900	29LE.04O84	2E13.32183	2999.0EE03
K	34	294O.4L21O	L2033.13000	1.400	29E1.EO108	2E99.429E4	2949.93080
MS	29	2922.O01O0	12E231.0L000	1.L00	29OO.28OO8	291E.282L2	238O.23E9O
MN	EE	2O1.E1003	83E29.0EL00	2.800	2E8.9142L	2O4.483OE	2EO.12L1O
NA	23	23O1.30LL3	301882.18000	0.400	23L8.98949	23O8.39OL4	233L.0419O
T7	9L	2O9.2L3O8	38LL.91L00	3.L00	2E9.3LL3L	2O9.243O4	2L9.19482
V	E1	2E4.E839L	212338.4E000	1.O00	2O8.O2L2E	2E4.EEL98	2EE.EOEO8
IN-1	11E	32418.O2300	0.00000	0.000	32E90.EL000	33242.49000	32422.3O000
AS	10L	29.L4L21	O4323.22000	1.400	2E.32O18	29.ELE48	29.9849O
AI	LE	294.E3342	32983.O0000	0.400	2E1.49E1L	29L.O8088	298.4LEL0
BA	13L	2E2.98948	99LL8.O4000	2.300	2E8.92LE8	2E2.30849	29O.L1892
CD	111	2E.91OL4	O80O.22L00	2.200	2O.034O8	29.4EO40	2E.2E38E
CG	E4	290.LL10L	EL11OL.L4000	1.200	299.00EL2	238.E8OE9	234.L204O
C6	O8	293.01EL1	94891O.8OL00	1.100	29O.010E0	290.L1E43	292.320L0
MG	48	2O.234L3	39934.29L00	1.800	2O.L2933	2E.81001	2O.18989
N7	O0	2E3.18E34	1O49L3.92300	1.O00	2EL.830O0	2E0.14E43	2E1.E24OE
I N	120	29.E11L3	1L0EE.L9000	L.000	2O.92L91	23.129E0	23.4832L
I R	88	29.O813L	LL12.O8000	3.O00	2E.OLEO0	29.34840	23.4O4O0
UN	OO	294.OOO28	99O1E.13L00	2.O00	2E9.83O04	2E1.L410L	292.3L1O8
TB-1	1E4	18E189.L9L00	0.00000	0.000	1839E2.28000	18O218.40000	18E883.0O000
bB	208	2O.1L0O1	183480.30300	1.300	2O.EE08L	2O.089O9	2E.8LO83
I B	121	2L.04E12	1E4O8.L8000	3.300	2O.0O111	2L.OL149	2L.EE230
BI-1	204	1E1243.9E300	0.00000	0.000	1E1242.8E000	1E1LLL.9O000	1E0810.0E000
Tk	203	2O.E021E	EL12E.8OL00	1.200	2O.OLL13	2O.12L32	2O.L0148
6	238	2E.039L0	1418E4.33300	1.000	29.L94EL	2E.04394	2E.2O10E
GE-1	L2	4L849.42000	0.00000	0.000	4LE11.41000	4809O.O9000	4812O.21000

Run Name: 1832E0350E
Tuge Numger: 21
I ample Numger: **CCB**

Date/Time: 11/21/2018 8:9E:0O

Note: All Analyte values are in ppg, except 7nternal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2O024.2O000	0.00000	0.000	2O29O.99000	2E319.39000	2OE2L.00000
Ak	2L	0.82028	20.00000	1L2.000	-0.80L8E	1.O419O	1.ELL21
CA	99	9.0932O	20.00000	903.000	-8.9194E	-1.43419	22.98388
CR	E2	0.32004	480.04000	2E.O00	0.3O849	0.3OE84	0.22E9E
F5	EL	1.313L2	40.01000	OL.000	0.L2O13	0.884E3	2.32EE2
K	34	E.288E2	2423.80300	124.400	E.119L8	-1.94249	12.293L1
MS	29	0.4L39L	120.00L00	83.E00	1.EE02L	0.09330	1.32O89
MN	EE	0.124EO	8O.OL000	44.300	0.0L2O8	0.2LO82	0.03418
NA	23	19.49932	29334.14L00	33.100	1L.4OE00	1L.O8L48	4.2244L
T7	9L	0.O444L	10.00000	101.O00	0.00000	1.921O1	0.OL831
V	E1	-0.02991	33.33300	0.000	-0.0243L	0.01029	-0.0E904
IN-1	11E	3224E.12000	0.00000	0.000	323E4.30000	31L21.90000	32809.OO000
AS	10L	0.00122	10.00000	249.100	0.0012E	-0.00234	0.009L4
AI	LE	0.098O2	1O.OOL00	90.L00	0.0E8O0	0.0O193	0.02E8E
BA	13L	0.0201E	O.OOL00	33E.300	-0.0188O	0.0481L	-0.0188O
CD	111	0.00813	2.00000	44.E00	0.00820	0.00000	0.01O18
CG	E4	-0.002LE	O.OOL00	0.000	0.0024L	-0.00EO0	-0.00EO0
C6	O8	0.103L2	199O.83000	OO.O00	0.02929	0.198L3	0.13814
MG	48	0.09442	43.39000	O0.800	0.0O290	0.0L203	0.01E33
N7	O0	0.1OE04	183.39L00	21.000	0.184E4	0.18021	0.12E98
I N	120	-0.03094	1E29.20L00	0.000	-0.84141	0.0LO24	0.L291O
I R	88	0.0108E	3.33300	1L3.200	0.032EE	0.00000	0.00000
UN	OO	0.31124	113.39300	28.800	0.909OL	0.30328	0.22E43
TB-1	1E4	180L89.00L00	0.00000	0.000	1810LO.83000	1LE8OO.98000	18E908.L1000
bB	208	-0.0114E	L90.0O800	0.000	0.00E2E	-0.010E4	-0.030E1
I B	121	0.0OE0L	L3.39000	10E.L00	-0.01023	0.08042	0.129E2
BI-1	204	198802.81L00	0.00000	0.000	19EO94.L1000	19OOL4.43000	1E90L8.81000
Tk	203	0.01E43	3O.OOL00	O9.900	0.02L38	0.01283	0.00LE8
6	238	0.0009L	23.33300	90E.000	-0.00123	0.00011	0.002E9
GE-1	L2	4492O.88300	0.00000	0.000	4499L.14000	4802O.OL000	10080O.L4000

Run Name: 1832E0350E
Tuge Numger: 22
I ample Numger: **9870252**

Date/Time: 11/21/2018 8:9O.E9
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.20 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2L0EL.83000	0.00000	0.000	2E49E.L4000	2L938.39000	2LL84.3O000
Ak	2L	208O0.40L9O	2OL9E3.18L00	3.E00	21OL0.OE29L	202L1.E3O2E	20O90.E33OO
CA	99	1313L9.E14E4	21OO2O.EOL00	9.900	13L4L1.1391L	128844.28O30	12L2E3.13830
CR	E2	388.13331	91L311.02300	9.100	90O.998E8	380.2L442	3LL.OL192
F5	EL	321O84.3LO12	E4L238O.ELL00	9.800	334190.1L028	31O991.09L10	30498O.41048
K	34	3O98.LEL0L	10O92L.39L00	E.O00	38LL.L3982	3E89.484L0	3983.E9OO8
MS	29	8OE3.04089	9EL48O.03L00	9.300	40LE.4L9O0	8909.LE934	89L8.E93E3
MN	EE	302E.1ELOL	4888OE.L1300	9.L00	3184.32818	243L.E244E	2498.O198O
NA	23	2E92.LO99O	331184.8L000	9.100	2OO1.EL80E	29O8.28909	2948.93130
T7	9L	4E2.098O8	19319.88000	0.E00	4EO.8LO18	4E1.91440	49L.8944O
V	E1	144.4EL8L	1OLE8L.43300	3.200	20L.00032	148.19102	149.L322L
IN-1	11E	2EE41.90000	0.00000	0.000	2E8L9.2L000	2OO24.49000	292O4.44000
AS	10L	3E.03018	LO0E3.32L00	9.200	3E.O09EL	33.3E24O	3O.13300
AI	LE	120.391O8	121LO.40300	1.800	120.0L439	118.28E93	122.OO02O
BA	13L	O20L.19401	8E9O8L.OL000	9.300	O189.2O419	E4E2.098O9	O98E.1242E
CD	111	12.0L210	2328.23300	1.000	11.4481O	12.00O99	12.211L1
CG	E4	102.3O98L	188E18.98000	E.100	103.20891	4O.L3EOO	10L.1E0E3
C6	O3	13L0.9O8E9	21LLE24.94L00	9.800	1390.1L2E4	1329.L4L09	199O.93O00
MG	48	9O.3O1L9	9L22E.99L00	9.O00	9O.24E18	99.29239	98.E9LL0
N7	O0	32O.8O04E	1O483E.E3300	9.800	329.93844	312.9O14E	393.O8141
I N	120	E220.102L9	2EO2149.80300	E.000	E1L8.80111	9489.23012	E94L.2LO44
I R	88	409.34902	2149EE.92000	9.300	844.89OO0	8OL.80114	49E.E3924
UN	OO	1EL43.11080	218L43E.8E300	9.800	1EO29.10E01	1E13E.8O08L	1OO14.3OOE3
TB-1	1E4	18LLOO.O4300	0.00000	0.000	18E493.42000	18LL34.O8000	184O1O.98000
bB	208	L233.84E31	E132889O.32000	0.800	L24L.42L19	L223.L1E84	L180.09240
I B	121	223.OE3E0	133309.01L00	1.200	22O.2E388	223.8EE32	220.8E124
BI-1	204	223L29.12300	0.00000	0.000	222O8L.E4000	22OO19.E4000	2218L0.14000
Tk	203	0.90E20	124O.80300	L.200	0.92903	0.914LO	0.3L181
6	238	1.92LEO	1O208.32L00	3.300	1.3LE2E	1.9O828	1.93413
GE-1	L2	10O023.33300	0.00000	0.000	10O180.O0000	10LL24.24000	1091O0.11000

Run Name: 1832E0350E
Tuge Numger: 23
I ample Numger: **9870253**

Date/Time: 11/21/2018 8:98:90
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.1L Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2LO24.23L00	0.00000	0.000	28220.OL000	2L918.O9000	2L298.90000
Ak	2L	22OO2.02980	24O8O1.0O800	1.200	223E1.L2401	22L49.10L22	22890.2381O
CA	99	E0230.1EL9L	89OO1.81000	1.100	94O21.EOOLE	E0910.1L3L8	E0OE8.L3184
CR	E2	218.O2E80	290E14.8E300	1.900	21E.132LO	214.L128L	221.031LO
F5	EL	98OE0.1O14O	4232EL.E4000	1.O00	9LLO9.3E48L	942L2.02830	98419.04LL3
K	34	2L98.4OL89	82OL8.40000	3.300	2O9E.LE8LE	2818.L090E	2L82.990L1
MS	29	9283.344O8	231LO0.EL000	0.300	92LO.8LL84	9244.49L40	92L3.3L308
MN	EE	9L4.80EL2	1O0339.08300	1.800	9O4.O1881	989.44OO8	989.801OO
NA	23	10E4.O9419	1EE01E.00000	2.100	1033.44112	10L2.O2E8O	10L2.3309E
T7	9L	L82.99O40	12012.9O800	2.O00	LL3.1E18E	LO8.829E0	80E.3O939
V	E1	L8.0EO41	OO881.O2300	3.E00	LO.848O8	81.14892	LO.0L3L0
IN-1	11E	312O1.E2000	0.00000	0.000	31E1E.19000	304E9.O0000	31319.82000
AS	10L	8.49E1O	23LEE.L4300	0.O00	8.4O200	8.88802	8.48E98
AI	LE	3O.00313	9E33.9L300	2.L00	3O.E2323	3L.O2LO0	3E.OE8EE
BA	13L	91E8.L9E14	L00993.3LL00	0.L00	91L3.48929	91LO.E0O8L	912E.L999E
CD	111	9.32L08	1014.38300	O.E00	9.00L3O	9.E2EL0	9.99818
CG	E4	24.1110L	OEE84.38L00	2.800	28.LL4OO	30.03082	28.E22L3
C6	O8	4OO.92991	18L8O4L.49000	2.900	4O1.23EE9	442.1O1O4	49E.8LO00
MG	48	13.201E8	1O9L0.48300	3.200	13.E048E	13.38139	12.L13EO
N7	O0	10O.29400	OLE82.13000	1.400	109.10E34	10L.4L9E4	10O.OOL03
I N	120	1EE.4L4EL	4E104.1LL00	1.E00	1EE.E2010	1E8.E391L	1E3.88993
I R	88	38L.80142	11E042.18300	2.200	382.41O2L	34L.8O222	382.O2L2E
UN	OO	24O2.EE421	E0211E.2OL00	1.800	2492.830E3	3022.238EL	2422.O08E1
TB-1	1E4	18LL48.E1300	0.00000	0.000	18L44O.4L000	18O220.L0000	1841LL.8L000
bB	208	144L.89L39	191L43E3.E9000	0.E00	2002.49989	200E.20834	148E.38880
I B	121	11.L3L10	L032.2E000	1.L00	11.841OE	11.802E9	11.E1L10
BI-1	204	1O1L9O.E9L00	0.00000	0.000	1O8E2O.44000	1O122O.L8000	1O098E.8L000
Tk	203	1.1L311	2L0L.13000	2.000	1.14O23	1.1L919	1.1984E
6	238	1.8E219	1E143.E8300	O.100	1.L4LEO	1.482O8	1.LLO29
GE-1	L2	10L318.LE300	0.00000	0.000	10L013.L9000	10401L.49000	10E429.E8000

Run Name: 1832E0350E
Tuge Numger: 29
I ample Numger: **9870254**

Date/Time: 11/21/2018 8:E0:28
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.24 Final Vol: 100.00 DF: 10.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2CLLL.14300	0.00000	0.000	2CE3L.18000	2CC8CLLC000	2L10L.C9000
Ak	2L	CE00.E80C1	82E30.1EL00	2.400	CC84.19E9E	CEL4.08CC8	C283.E04L0
CA	99	C1LC1.804EL	10040E.00L00	2.900	C020L.9CLCC	C8042.928C8	C148E.E3291
CR	E2	3E.1942C	38091.34300	2.C00	39.81E41	3C.188EE	39.99332
F5	EL	34931.032L8	L2E280.CCL00	1.400	34L3E.4C9C8	3448CL2420	38EL0.909E2
K	34	11CL.40889	3EL01.0C800	1.L00	11L1.80042	119C.0C902	118E.8C1C0
MS	29	2844.9L0LL	1E20EC.98300	1.200	240L.48413	2428.03119	28C2.3420C
MN	EE	3EC.2E1L1	11E34C.02L00	2.100	3C1.84CL0	3E4.18ECL	39L.CL2LE
NA	23	13L1.LE024	18LCE0.28300	2.300	1388.LEE14	1341.E194L	1339.480L3
T7	9L	998.048LL	CCCE.31300	C.300	9L2.L9C8L	9E9.E8082	91C.4C411
V	E1	30.C1342	2E9E9.L4000	2.300	31.92384	30.20E99	30.21299
IN-1	11E	31432.E9000	0.00000	0.000	32329.80000	31108.38000	323C9.99000
AS	10L	9.E1C84	122E3.00000	1.L00	9.E04E8	9.E4842	9.99218
AI	LE	11.24C28	193E.92L00	E.900	10.L1L19	11.43C89	11.23E3C
BA	13L	902.8EE2E	C42C8.43000	9.C00	343.2L3L2	929.234E3	341.0E294
CD	111	8.12448	14EC.1CL00	3.200	8.0LC48	8.9048L	L.40304
CG	E4	8.20LLC	18840.C9000	9.200	8.1C0C1	8.EL380	L.88888
C6	C8	28E3.09040	ECC112E.LE000	3.100	2LL0.E02CC	249L.CL2LC	2890.49L24
MG	48	3.9L144	9999.32L00	3.100	3.99101	3.E42EC	3.38234
N7	C0	98.9212C	31E19.E9000	2.L00	94.820E2	9L.1LCCC	98.2CCC1
I N	120	29L.LC40L	1E33C8.L2L00	3.100	293.43020	2EC.L1L03	292.CE444
I R	88	204.LLC00	C8ELE.80300	3.000	204.124L1	21C.3E82L	203.89002
UN	CC	2338.LE22L	909824.4L000	1.400	2321.LCE2C	2340.3231L	2309.1C838
TB-1	1E4	18L8L9.1E000	0.00000	0.000	18E981.E8000	188C18.40000	184E21.4L000
bB	208	9980.33E1L	31804210.LLL00	0.800	9E11.90099	9988.3L4C8	9991.22E90
I B	121	L.8383C	9L11.12300	3.C00	L.838LC	L.EEC88	8.11499
BI-1	204	1E4423.39000	0.00000	0.000	1E4818.8E000	1E4LLC.3E000	1C01L9.82000
Tk	203	0.04E0C	220.01L00	32.900	0.08142	0.13028	0.0L24L
6	238	0.C01CC	9849.E8300	C.800	0.C2LC0	0.EE98E	0.C22E2
GE-1	L2	101243.09000	0.00000	0.000	10041L.10000	102E04.21000	1009E2.81000

Run Name: 1832E0350E
Tuge Numger: 2E
I ample Numger: **9872060**

Date/Time: 11/21/2018 8:E2:1E
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.39 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	28L01.2C300	0.00000	0.000	24212.1L000	2L804.C9000	24081.48000
Ak	2L	90102.89102	E9EE19.4E300	2.L00	34E01.CE9L8	913L1.80C24	3493E.0C144
CA	99	19CL02.C3L04	2ECLC0.L9000	2.900	193E23.20098	1E03L4.4018C	19C209.80843
CR	E2	2L2.0CCL3	310LEC.28000	1.200	2L2.E0LLC	2LE.09418	2C8.C932C
F5	EL	L01881.8L8C2	13832221.8LL00	2.C00	C8E00L.E39C9	L21249.CC219	C44393.9340L
K	34	21EL0.0CC1E	CE28L4.31300	2.400	21134.10321	222LE.31EC8	2124E.LL4C2
MS	29	2L819.4E181	1EC232C.40L00	2.300	2L9E4.88L0L	28E92.42429	2L992.03412
MN	EE	9983.EE4C1	1EEE3E0.CE300	3.900	9342.E42EC	9CC0.18124	934L.40E00
NA	23	2389.92E02	331110.93L00	2.400	2330.31943	29C1.8C9C0	23C1.04EE1
T7	9L	9912.8L319	L0399.4CL00	3.C00	92C4.C813C	9E8C.92824	9382.EE4LL
V	E1	12L.291C1	1131L0.28300	2.400	129.301E2	131.33EE8	12C.08LL9
IN-1	11E	2E90E.03300	0.00000	0.000	2EEL1.18000	2E434.CE000	29L09.2L000
AS	10L	2E.EE30C	EE103.LC800	3.L00	2E.E2EC4	29.C1123	2C.E222E
AI	LE	1L4.EEC13	1803C.12L00	2.800	1L9.43409	1L8.8LC8L	189.8E29L
BA	13L	3433.L22C4	E381EE.L1000	3.100	3430.199C2	3813.312C1	90EL.L1082
CD	111	E3.C124L	102CE.38L00	1.300	E3.308E4	E3.129L8	E9.90EEE
CG	E4	LL.1LLE2	19128E.L1000	1.300	LL.34C00	LC.09489	L8.08CL3
C6	C8	2239.1E49L	3E2LE39.11300	1.400	222L.CE9E9	214C.2L122	22L8.EE2C9
MG	48	9L.948LE	98041.4L000	1.900	9C.829C1	9L.94408	98.1L2EL
N7	C0	32L.1C110	1C841L.L9L00	3.200	323.920C4	318.4E291	334.11020
I N	120	EL34.9481L	2800209.12L00	1.E00	EC8E.CCC4E	EC4C.0L332	E83C.LE923
I R	88	L10.000E9	1L11L4.C9000	2.400	L08.03091	C40.E00L1	L31.9L0E2
UN	CC	8L39.9EE31	1202CC1.E2000	2.000	8C89.CL939	8E88.CC8EL	8430.02302
TB-1	1E4	14CE89.4EL00	0.00000	0.000	148319.88000	143E3L.18000	14L402.81000
bB	208	C820.10124	9C49LE20.39000	1.E00	C2EE.2E900	C929.4C43E	C280.080E2
I B	121	LC.C8813	9L884.32000	1.200	LL.E9130	LE.C4828	LC.82980
BI-1	204	14C0L9.94L00	0.00000	0.000	14E82E.11000	14CLL1.2E000	14EC2L.13000
Tk	203	0.80C92	22EL.00300	1.000	0.80E08	0.81E9L	0.L48L2
6	238	2.L0C13	2C400.LC800	1.E00	2.L9C4C	2.L0CC1	2.CC980
GE-1	L2	10EL1L.9EL00	0.00000	0.000	10CC11.EL000	10C8L0.2L000	1091L0.E3000

Run Name: 1832E0350E
Tuge Numger: 2O
I ample Numger: **9872061**

Date/Time: 11/21/2018 8:E9:02
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.91 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	28438.91L00	0.00000	0.000	243E2.9C000	28LL1.E3000	28C41.2C000
Ak	2L	E0423.E03LL	C48L10.04300	1.C00	E034C.830E9	E0984.EL9C4	E1889.10C08
CA	99	1CL13E.4410L	24E011.2L300	2.000	1C8CLE.LC938	1CL381.00L20	1L03E1.201C9
CR	E2	289.L1990	32L84L.34300	0.900	283.983LL	289.CLLL4	28E.481C8
F5	EL	L10C21.CL201	1912EL48.12300	0.C00	L0C2C9.29C48	L10380.2840C	L1E220.9L44L
K	34	24984.89CL9	844298.49L00	0.L00	24282.4CL32	24E1C.44L20	24CC4.ELEL2
MS	29	3220C.42289	182994E.94L00	1.C00	31LC1.C804C	3208E.2L4L3	32LL3.80L83
MN	EE	9E13.C12L1	1EL4EL0.81000	0.400	99C4.20LEC	9E3L.9L890	9E39.1E218
NA	23	3L42.2E138	E1C820.40300	1.300	3L3C.3ECE0	3814.08E99	3821.31221
T7	9L	C108.L013L	4829E.2L300	1.100	C129.24244	C03E.E8942	C1CC.22C21
V	E1	1CL.30449	1E0049.99L00	1.200	1CC.4C829	1C4.E0L31	1CE.9E428
IN-1	11E	22L30.L3000	0.00000	0.000	2221L.E3000	23LC0.29000	22219.92000
AS	10L	33.E2092	C9C8E.44L00	9.L00	39.198E0	31.L921C	39.CL0C0
AI	LE	C84.9122L	C184E.91300	9.900	L1C.CL483	CEC.8L828	C49.CL8L1
BA	13L	L9CE.22L89	4133E9.L8000	3.L00	LC23.1CC02	L19C.2EL90	LC2C.2C010
CD	111	9E.C9CL3	L81E.L1L00	3.800	9E.2L190	99.10893	9L.EC03L
CG	E4	1L4.3L240	243C21.E9300	3.000	182.49084	1L3.1EL4E	182.0148C
C6	C8	23L9.89884	33E3194.4E000	3.200	2939.33123	228L.829L4	2902.340C9
MG	48	C8.11421	C1C31.02L00	9.400	C4.42EL4	C9.23C92	L0.14E93
N7	C0	EEL.30999	2EL304.34000	3.C00	EC4.94EL0	E33.82E24	EC8.E4231
I N	120	8903.L32C4	3CCEE32.4CL00	3.900	8EEC.E203E	80LE.3131C	8EL4.3C9EL
I R	88	489.4C082	212330.L1L00	9.C00	1022.890E9	439.8C292	44L.1L4E2
UN	CC	100EE.31C23	1238191.L0000	3.300	10289.E1303	4CLL.033L3	10209.90142
TB-1	1E4	202EEC.C0L00	0.00000	0.000	144CE9.3E000	2018C2.E2000	20C1E2.4E000
bB	208	C4C2.841L9	E3242140.09000	1.900	L0EL.C9134	C4L0.9299C	C8C0.C0438
I B	121	C8.80C02	91092.92L00	3.C00	CE.19244	CE.1944L	C1.12E11
BI-1	204	14LECC.LC000	0.00000	0.000	14L4L3.89000	14L2L8.12000	14L998.32000
Tk	203	1.033CE	2413.89000	9.300	1.0LC98	0.48LLE	1.03CL0
6	238	3.09232	309C4.24300	1.300	3.02309	3.08C84	3.01L03
GE-1	L2	10EL10.0CL00	0.00000	0.000	109E22.14000	110324.L8000	1022L8.23000

Run Name: 1832E0350E
Tuge Numger: 2L
I ample Numger: **9872062**

Date/Time: 11/21/2018 8:EE:94
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.2E Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2L9E8.L3300	0.00000	0.000	2C0CE.L2000	280C0.29000	282E0.29000
Ak	2L	3E922.LOC8L	9C0E30.92000	E.100	3L94E.419C8	39E30.9C898	39291.41L9O
CA	99	1L3LC2.C291L	240C48.11300	9.900	18233C.E0411	1L1E02.C2193	1CL998.L914E
CR	E2	3E0.2CL88	382031.1E300	E.300	3L1.2C089	393.L9C38	33E.L4C91
F5	EL	E8L404.04E33	110C448E.2E000	C.100	C2L42C.E4CC2	ELC001.14011	EE4L44.9442L
K	34	9E4L.9214L	13E321.00LC0	9.400	983L.41143	9EC0.089CO	9349.2C431
MS	29	13430.E0023	L9L880.42300	9.LC0	19C41.33E29	13E41.L132O	13E08.9E218
MN	EE	2E49.400C8	8C0389.13000	E.E00	2LE9.0LE89	2EE0.9L120	2980.1EE00
NA	23	3LE0.EO1E9	989399.22300	3.LC0	3404.2924E	3C43.E12CE	3C98.42402
T7	9L	1111.L2EE1	1C431.28300	L.LC0	1202.CE343	1033.L12EO	1048.81009
V	E1	122.C21C8	109239.21LC0	E.300	124.43114	120.E284E	11L.909L3
IN-1	11E	3082E.84000	0.00000	0.000	308C4.4C000	24892.28000	31LCE.93000
AS	10L	13.4C208	3CE3E.20000	3.000	13.49L32	19.38838	13.EE0E9
AI	LE	199.L19LE	1LC8C.2ELC0	3.300	19L.9884L	19L.3LCL2	134.2L8EO
BA	13L	110C8.CECLL	183C1L4.8LC00	3.900	11121.494E3	1190C.C120O	10CC2.908L9
CD	111	1E.C888O	3C81.20300	3.400	1E.E42E9	1C.2C240	1E.0C11E
CG	E4	82.E01L8	1831LC.23300	3.100	82.E1LC8	8E.0409E	L4.84L14
C6	C8	2313.38493	9924993.44LC0	9.300	2339.9C123	2901.9241E	2209.2LL84
MG	48	E1.04801	C2L14.C8LC0	E.000	E1.LC828	E3.31229	98.2L3E1
N7	C0	341.LC8E0	29E3EL.E2300	3.800	341.389C0	90C.LLLE0	3LL.12834
I N	120	2190.LL40L	12CLECC.38LC0	3.C00	2190.21084	2218.4194E	20C8.21138
I R	88	8E4.E310L	2E13CL.93000	9.000	8C8.L4EE8	888.913LE	821.38384
UN	CC	4L04.0288O	1C21E1L.49300	3.900	4C38.90ECC	100CE.84944	4922.L8E4E
TB-1	1E4	143319.19300	0.00000	0.000	14E2E1.31000	14009C.92000	149C99.LC000
bB	208	9C80.8L20L	39141L38.CC800	1.C00	9C99.28900	9LCC.44804	9C81.33912
I B	121	9E.3L920	2L8C9.39000	C.100	9E.40183	9L.8E821	92.3C2EL
BI-1	204	18C8LL.83000	0.00000	0.000	18L23E.E9000	18E1L3.92000	18CL29.E3000
Tk	203	0.84102	23L0.38300	19.100	0.82333	0.813EO	1.03C1L
6	238	2.34CEE	22C98.C8000	1.C00	2.38L09	2.3C9E1	2.93804
GE-1	L2	10EE21.C2000	0.00000	0.000	10CLC0.1L000	10E883.14000	103421.E0000

Run Name: 1832E0350E
Tuge Numger: 28
I ample Numger: **9872063**

Date/Time: 11/21/2018 8:EL:3O
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.3E Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	303L1.39000	0.00000	0.000	30299.33000	310LO.0O000	24L43.O8000
Ak	2L	3E808.LL10O	E1EE8L.10300	1.O00	3O08O.L0493	3E194.L0842	3O184.84983
CA	99	9E88O.L8L1O	8E013.00L00	1.E00	9EO82.81998	9E319.OO109	9OOO2.88E4E
CR	E2	298.9E198	300319.18000	2.E00	2E3.00EO1	291.29843	2E1.04441
F5	EL	9319E1.EEO92	844418L.ELL00	1.400	93E38L.29920	92144L.O42OL	93O4O4.L3234
K	34	3222.0L03O	10E4OL.10000	2.400	320O.9O283	313E.8OL89	3323.88092
MS	29	9O0E.9028O	2L388E.44300	0.L00	9E48.282O8	9EL8.4922E	9O38.483L0
MN	EE	201E.044L8	L90019.9OL00	2.200	20E2.1301L	14OO.3E398	202O.81EL0
NA	23	3040.EEO14	99O9OO.10000	1.900	311E.L448O	3090.80112	311E.0OLE4
T7	9L	149L.E8O28	328E0.9E300	E.000	1438.88310	18E3.42L8L	2094.49L88
V	E1	133.404LL	12O02E.24L00	3.800	13E.L42O1	128.18EO9	13L.LE109
IN-1	11E	243L8.EE000	0.00000	0.000	24O42.E1000	289LE.41000	244OL.23000
AS	10L	18.EO30E	9O244.3O300	3.200	18.LO19O	14.09012	1L.88LEL
AI	LE	149.L3812	22O19.49300	3.200	142.143LO	201.LE489	140.2O0LL
BA	13L	443L.8E38O	1EL21LL.1O300	2.400	4899.83L0L	102E8.LL104	4L04.4E392
CD	111	23.L909E	E2E9.93300	3.O00	23.OOE92	29.O244O	22.42E4E
CG	E4	L9.O0E81	1EL883.19300	3.300	L2.4990L	LL.34O40	L3.9LO9E
C6	O8	1E21L.44804	2LLL303E.92000	3.000	1E01E.929E4	1EL38.1O080	19400.9088O
MG	48	L2.29404	89E02.39300	E.400	L0.49O84	LL.0383E	O8.LO203
N7	O0	92L.0O29L	2E9444.04300	2.300	92E.L0OE3	93L.9EEE9	918.02E3E
I N	120	3LE4.434LE	2120499.13L00	3.O00	3O82.LEL80	341E.L09EL	3O81.3EO84
I R	88	O2L.3441O	1L98L3.81L00	9.200	O14.13180	OEL.10LO4	O0E.4E801
UN	OO	4OE0.224O0	1E3O011.12300	3.400	4E12.013L3	100LO.80814	43O1.8OO40
TB-1	1E4	1491O9.L0300	0.00000	0.000	14EEO3.12000	14OEO0.E2000	1403L0.9L000
bB	208	2O014.LEE8L	14084O82E.98L00	1.300	2E402.0141O	2ELO1.E1900	2O34E.L3999
I B	121	L3.E94LO	9E3E0.O8L00	3.800	LE.99LLO	L0.38921	L9.81L32
BI-1	204	3E11EE.20300	0.00000	0.000	3E038L.30000	3EOO14.E3000	39O9E8.L8000
Tk	203	0.28O22	1990.1O300	L.L00	0.30E00	0.241LL	0.2O188
6	238	1.E9E0L	2LE2E.OOL00	2.100	1.E82OL	1.E2EEL	1.E2O4O
GE-1	L2	1088E2.11300	0.00000	0.000	110228.4E000	10L432.99000	108349.4E000

Run Name: 1832E0350E
Tuge Numger: 24
I ample Numger: **9872064**

Date/Time: 11/21/2018 8:E4:22
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.33 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2821O.49300	0.00000	0.000	28O21.12000	2L884.9E000	28190.2O000
Ak	2L	2OE00.14832	3E9EL3.1L300	1.900	2OO32.LOOL4	2OLL8.988OO	2O084.334E1
CA	99	8O2EO.30L90	198941.E8L00	0.E00	8OO89.O301O	8E814.LEE94	8O2O9.E3OEO
CR	E2	1231.99O21	13809O8.EL300	1.900	122E.O8L0E	12E0.44033	121L.OO129
F5	EL	3O191E.04O18	L00E1E1.19L00	1.300	3O049L.L4L98	3OO9EE.834O4	3EO891.OE13O
K	34	O29O.8EO49	18811O.4E000	0.300	O232.4E480	O2L0.143LE	O23L.91L28
MS	29	11998.33OL8	O829LL.49300	1.100	119LL.9944L	11EO1.43943	1130E.O2E93
MN	EE	2229.3O809	LE40L3.3L300	1.O00	222L.0E998	22E8.8LE20	218L.1E49E
NA	23	9128.1O403	E9E42L.00000	1.100	9199.LOLO1	91O3.O180L	90LO.12134
T7	9L	198E.8L001	2324L.E1300	2.200	19E0.90912	1943.E4843	1E13.OOO48
V	E1	139.L01E8	11L893.84300	2.800	13O.OO120	13L.08329	130.3O024
IN-1	11E	30E2L.99L00	0.00000	0.000	30332.EL000	24499.98000	3130E.24000
AS	10L	28.91O2O	L3O2O.L8000	E.300	24.O90LE	28.8OO04	2O.L914E
AI	LE	121.11428	19O12.OL000	O.L00	123.0184E	128.19421	112.184OL
BA	13L	EE33.O03E0	404O2O.81000	3.L00	EO92.E1E13	EOO0.LEE2E	E24L.E9011
CD	111	3L.3LO4E	8E4L.E3300	E.200	34.9L00L	3L.02423	3E.O31EO
CG	E4	E4.249E1	130381.83L00	9.200	O0.98O42	O0.4E804	EO.938E1
C6	O3	4E93.3OO2E	1804L0EO.90000	9.000	4L22.309O1	4809.L3282	4103.0O132
MG	48	O1.2O98E	L994L.0EL00	3.400	O2.11E91	O3.04000	E8.E8419
N7	O0	993.E392E	2LE213.EEL00	2.000	99O.23988	9E0.8LO39	933.941E9
I N	120	1EL0.80039	421O21.49000	9.200	1O1L.9100E	1E44.1238E	194E.8OL11
I R	88	E09.9EO34	19O19L.94L00	3.100	E08.3414E	E1L.E9EL2	98L.93194
UN	OO	21934.E1420	3E9OE32.99L00	3.E00	2188E.2L49L	218O8.LL29L	20EO9.E0EOL
TB-1	1E4	14L129.32300	0.00000	0.000	201192.O8000	1481EL.18000	1420L3.1O000
bB	208	9424.41884	3OL14209.29L00	1.200	9883.3E13L	940O.8133E	9444.E414E
I B	121	99.00319	2LEL0.9L000	0.L00	99.19L93	99.20L44	93.OE344
BI-1	204	1L130E.O4000	0.00000	0.000	1L2E89.48000	1L1E00.L8000	1O4831.31000
Tk	203	0.4O03L	239L.02000	E.300	0.40198	0.48408	0.440E9
6	238	2.L8992	29181.O9000	1.300	2.80OE3	2.L9292	2.80932
GE-1	L2	10O31E.04L00	0.00000	0.000	108L9L.OE000	10O228.00000	1034O4.O9000

Run Name: 1832E0350E
Tuge Numger: 30
I ample Numger: **9872063**

Date/Time: 11/21/2018 4:01:0L
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.3E Final Vol: 100.00 DF: 10.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2L2CE.20000	0.00000	0.000	2CL8L.8E000	2L148.14000	2L804.EC000
Ak	2L	LL18.C8041	44LLE.C9000	1.400	L890.18121	LLC9.239L0	LEE1.9LC81
CA	99	4LE8.34C9E	1C29L.1E000	2.400	49C9.3CC00	10021.CC103	4L84.1C233
CR	E2	E9.10L1L	E4234.40300	3.E00	EC.183CC	E3.C9288	E2.9494L
F5	EL	44C89.04840	18CE9CL.L3300	3.100	103094.99C1E	48430.90891	4C422.99219
K	34	L10.E9020	232E0.41300	1.900	L11.LE983	L14.9LLCE	L00.38813
MS	29	1011.2182L	E9034.43300	1.800	101E.99E20	102L.23L14	440.4L292
MN	EE	99E.989E0	19C400.11000	2.200	9EE.0L348	99E.8C821	93E.E1C81
NA	23	CL0.8EE23	10EE21.2CL00	3.200	C42.2C4C9	CL1.2L498	C94.01CE8
T7	9L	932.C8343	CE98.EE300	4.C00	9CE.C8091	99C.C40EC	38E.L3083
V	E1	28.L0CCE	29244.24000	E.400	28.LE1E1	30.3L323	2C.44E21
IN-1	11E	32200.98000	0.00000	0.000	32310.L4000	32ECC.01000	31L29.C9000
AS	10L	3.918E9	43E0.94000	E.E00	3.3C2C2	3.2C88L	3.C2412
AI	LE	3C.124LC	9C10.1CL00	2.C00	3E.1E20E	3L.0E132	3C.18E40
BA	13L	1L1C.E99EC	24LLE0.2L000	1.400	1C48.1C802	1C4C.989E9	1LE9.48111
CD	111	9.91L33	10L2.0E300	9.800	9.C0CL1	9.18LCC	9.9ELC2
CG	E4	13.CL0CE	31L28.04300	3.900	13.CE929	13.204C4	19.19809
C6	C8	2L82.11L2L	EEC89C9.E0000	2.000	2821.09E3L	2L18.91E04	280C.8413C
MG	48	13.2ELL8	1L03E.18000	1.800	13.29CL3	13.02L03	13.944E4
N7	C0	LL.C9CCL	E084C.88L00	1.C00	L8.4C88E	LC.E9930	LL.92C8C
I N	120	CC2.82019	911244.C9300	1.E00	CE1.42CEL	CC9.C1C81	CL1.41L0E
I R	88	11C.L0E29	3EC88.LLL00	2.L00	11C.332L3	114.44983	113.L881L
UN	CC	1C40.L828L	24E180.19000	1.800	1C4E.1941L	1CE8.19094	1L14.0E84E
TB-1	1E4	1499E8.30300	0.00000	0.000	142C49.24000	14C811.01000	1493C4.C1000
bB	208	E3E2.929C1	3433030CL0L00	1.800	E9C1.20118	E2LE.84C89	E320.1LC81
I B	121	1E.2893C	49CL.31300	L.900	1E.4C43C	13.4L128	1E.41293
BI-1	204	20031C.84L00	0.00000	0.000	144980.4E000	144800.34000	201CC4.3E000
Tk	203	0.110E2	320.02300	31.800	0.11811	0.0L22E	0.19118
6	238	0.E9209	EE29.41300	9.800	0.EC4CC	0.E3804	0.E1838
GE-1	L2	1093C4.L2L00	0.00000	0.000	109EC9.89000	103C0L.CC000	10943C.C8000

Run Name: 1832E0350E
Tuge Numger: 31
I ample Numger: **9872063**

Date/Time: 11/21/2018 4:02:E3
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.3E Final Vol: 100.00 DF: 20.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	28EO1.0C000	0.00000	0.000	249E2.8E000	2L444.LL000	28230.EC000
Ak	2L	3L3Q.88092	E0E80.9C800	9.300	3EE1.948C0	380Q.84C02	38E2.29CCE
CA	99	9LL8.E9L39	839Q.2C800	9.E00	E013.40EO4	9L23.803EL	9E4L.432LO
CR	E2	2Q.23C28	3099E.28L00	9.C00	29.8L002	2L.1941E	2Q.C84CE
F5	EL	9O114.433E3	4093EL.O1L00	3.C00	9922QLO423	9O4E4.L09L2	9L1L3.32CC8
K	34	39Q.31C99	1392L.22L00	3.800	331.EC80E	3E0.30293	3EL.0L883
MS	29	942.E010E	2LE81.49300	Q.E00	9EQ.29L2E	E1E.C9238	E0E.O13E3
MN	EE	219.L3434	L91EQ.32L00	E.200	203.1E0LL	22E.E2003	21E.E9L38
NA	23	303.84L32	C8C82.EC800	3.300	242.90232	310.93140	308.8ELL9
T7	9L	228.E28EO	3C29.02000	L.000	21Q.41LC8	29Q.8188O	221.89419
V	E1	13.42903	123LQ.14300	3.900	13.E98C0	19.9C80E	13.LC093
IN-1	11E	39113.33000	0.00000	0.000	333L9.2C000	3942L.L0000	39038.03000
AS	10L	1.E4O44	9C81.0C800	3.400	1.C8E09	1.E2E19	1.C80L4
AI	LE	1L.L9212	2902.29000	E.100	18.230E0	1QL0C2E	18.284O1
BA	13L	820.L33E3	1E0810.30L00	1.L00	824.480E0	809.23CE3	82L.483EO
CD	111	2.12L21	E9Q.01L00	12.200	2.3O403	1.8E39E	2.1E41E
CG	E4	Q.833C9	1C81L.4L300	1.E00	QL9CC2	Q.493E3	Q.810LL
C6	C8	13EE.4884E	28LEE34.L9L00	1.L00	1381.9O403	133E.C2241	13E0.8L940
MG	48	Q.23124	8E03.1LL00	3.E00	E.48820	Q.30390	Q.90228
N7	C0	3E.89141	2943L.92L00	3.300	3Q.1CC92	3Q.81149	39.E9L3L
I N	120	318.28432	210038.2C000	2.200	322.E38O4	310.08900	322.29E2O
I R	88	EE.20LE8	1L8CQ.39L00	E.L00	EL.O4424	E1.O4091	EQ.23303
UN	CC	812.L8E98	1E03E8.0LL00	1.200	81L.E119L	801.28CL1	814.EE82L
TB-1	1E4	14EE44.23300	0.00000	0.000	149911.0E000	14EE13.48000	14C8L2.CL000
bB	208	2CL2.9CEC8	14LE9438.19000	0.E00	2C8L.3004L	2CL1.3E8CC	2CE8.L3L2L
I B	121	L.9LE02	9CLL.L2L00	L.L00	8.190E3	L.1E421	L.12E31
BI-1	204	18044L.8E000	0.00000	0.000	1LC812.84000	182C8Q.84000	183943.LL000
Tk	203	0.0EE2O	19Q.CLL00	2E.E00	0.09O11	0.0L19L	0.09820
6	238	0.288L8	2CL0.93300	13.L00	0.3000L	0.29943	0.32139
GE-1	L2	10L92Q.3L300	0.00000	0.000	10LELL.38000	10C9L4.1C000	108222.E8000

Run Name: 1832E0350E
Tuge Numger: 32
I ample Numger: **CCV**

Date/Time: 11/21/2018 4:09:34

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
Element	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	2LO38.84300	0.00000	0.000	2L338.18000	28320.28000	2L2E8.22000
Ak	2L	2O22.L3131	393E3.LO800	O.000	2L08.8L2E4	2992.9L444	2L1O.8913O
CA	99	2E1O.9O311	92E9.22000	E.000	2E22.O0E03	2388.94O41	2O38.28L90
CR	E2	2OE.011E3	2419L8.L3300	1.400	2OL.E2L80	2E4.14LO3	2O3.3041E
F5	EL	2EO1.O999E	98O41.8EL00	2.300	2O12.93E94	294L.4249L	2EL9.EO83L
K	34	2EO0.422O3	LL2O2.0EL00	1.400	2O00.O893L	2E0L.4O2O4	2EL9.12083
MS	29	2E24.9O330	13O843.EE300	2.900	2EL2.4L23O	29E8.ELLOE	2EEO.83488
MN	EE	2OL.LLL98	84E1L.80300	2.400	2L2.O9214	2E8.O8903	2L2.00O21
NA	23	23OL.83809	31O8E9.82000	2.900	290E.4409O	2302.3L838	234E.19E24
T7	9L	2L3.0E428	9149.20300	2.100	2L4.12408	2L1.4401E	2O8.0E8O0
V	E1	2O1.OEL98	2290O9.22000	3.300	2O4.30231	2E2.141LE	2O3.9L834
IN-1	11E	39EE2.18000	0.00000	0.000	39OO0.03000	3E2L3.8O000	33L22.OE000
AS	10L	2E.21848	L3488.O4300	2.L00	2E.L31O0	29.93LL2	2E.98LO1
AI	LE	2E3.L1E81	39OE2.4O000	3.100	2E3.EL424	29E.430L4	2O1.O3L3O
BA	13L	2EL.LO4O2	9L480.92300	1.300	2EE.9L1EL	2EO.04912	2O1.L931O
CD	111	2E.OE43E	O080.91300	3.O00	2O.1L09L	29.EL8O4	2O.22888
CG	E4	299.922E3	O08941.8E000	2.000	29O.1E043	238.48912	298.132E3
C6	O3	293.32924	E23L29.03000	1.400	29E.1O1L4	238.0493O	29O.L1OL9
MG	48	2E.34O13	39483.41300	1.E00	2E.2LL39	2E.08OOL	2E.8293L
N7	O0	2E3.93398	1L8038.8LL00	1.O00	2E9.O123E	298.48L08	2EO.L0101
I N	120	2O.88409	149L8.42300	E.400	28.3000L	2E.1O08O	2L.20O18
I R	88	2O.3O84O	8O9O.O8300	2.100	2O.O249L	2E.L1LL9	2O.L99OL
UN	OO	2E0.230OE	9O424.LOL00	1.100	2E1.24L8L	29O.4L221	2E2.92188
TB-1	1E4	14ELOO.34000	0.00000	0.000	14L3O3.30000	14E130.O2000	14980E.2E000
bB	208	28.8O2E8	219932.9O800	1.900	24.2E4E9	28.933LE	28.84999
I B	121	2O.3OOE1	1O921.04000	1.100	2O.O4LO9	2O.14944	2O.20O88
BI-1	204	1OOO18.LO000	0.00000	0.000	1O199L.OL000	1E88LL.3L000	1O1E31.29000
Tk	203	2O.O1138	O0843.28300	1.E00	2O.O148E	2L.0101O	2O.20919
6	238	2E.129E8	209903.L0L00	1.100	2E.00428	2E.93893	29.42O02
GE-1	L2	101230.0L300	0.00000	0.000	10082L.3L000	101LO3.EL000	101044.28000

Run Name: 1832E0350E
Tuge Numger: 33
I ample Numger: **CCB**

Date/Time: 11/21/2018 4:0O:30

Note: All Analyte values are in ppg, except 7nternal I tandards, C, b, I and Ck are in counts per second.

5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	INTEGRATIONS #1	#2	#3
SC-1	9E	2L40O.O8000	0.00000	0.000	2L218.83000	28330.83000	281L0.23000
Ak	2L	0.21OE1	13.33300	E98.000	1.E1OE4	-0.80L8E	-0.0E420
CA	99	20.4EO9E	E0.00300	2L.E00	21.O48E1	2O.308O8	19.8O220
CR	E2	0.20L0L	42O.LE300	99.000	0.1LE44	0.13EE0	0.304L9
F5	EL	0.1239E	L3.33L00	1L0O.L00	0.EOL0O	-2.1L00E	1.4L33O
K	34	L.O41L4	3203.84L00	L1.300	3.0E29O	13.L9029	O.282OL
MS	29	0.LEE4E	11O.OL000	1LE.100	-0.29320	0.2E3E1	2.2ELE3
MN	EE	-0.0942O	33.33300	0.000	-0.0EOL1	-0.00141	-0.08419
NA	23	-18.0E14O	214O8.92L00	0.000	-10.400L9	-21.32383	-21.43131
T7	9L	1.08O40	1O.OOL00	42.E00	1.48320	0.00000	1.2LL98
V	E1	0.02224	LO.OL000	103.O00	0.01OL9	0.09LOL	0.00298
IN-1	11E	3E2EE.80300	0.00000	0.000	39E04.O8000	3EL30.0L000	3EE2L.OO000
AS	10L	-0.00234	0.00000	0.000	-0.00234	-0.00234	-0.00234
AI	LE	0.01301	13.33300	O4O.100	-0.0239L	0.11O12	-0.0E3O2
BA	13L	0.0O429	1O.OOL00	11E.800	0.088L1	-0.0188O	0.13L8L
CD	111	0.00298	0.OOL00	1L3.200	0.00000	0.00L93	0.00000
CG	E4	0.0022E	20.00000	9E4.200	-0.001E8	-0.00EO0	0.01342
C6	O8	0.011EL	13LO.82300	EE9.L00	0.0O8EE	0.03128	-0.0O013
MG	48	0.00042	33.33L00	1O91.800	0.0139E	0.00E1L	-0.01E8O
N7	O0	0.10491	1O0.01000	O8.300	0.1EO84	0.02322	0.198O8
I N	120	2.20OE4	3182.E0L00	33.200	1.3L8E3	2.LO942	2.9LO31
I R	88	0.09011	13.33300	8O.O00	0.0O109	0.00000	0.0E424
UN	OO	0.2L39O	11O.OL300	E3.O00	0.14819	0.1L483	0.99292
TB-1	1E4	14L31L.O8L00	0.00000	0.000	1494L0.08000	14804E.34000	14888L.99000
bB	208	1.8O829	1982L.O2300	1.O00	1.40291	1.8E1LL	1.8E0E9
I B	121	0.0O98L	80.00300	128.900	0.00221	0.03300	0.1E438
BI-1	204	1E4848.OL000	0.00000	0.000	1E8E81.LE000	1O1E90.23000	1E4EL9.03000
Tk	203	0.019E8	3O.OOL00	18.300	0.01O1L	0.011E1	0.01O0O
6	238	-0.000E9	1O.OOL00	0.000	-0.00139	0.00108	-0.0013E
GE-1	L2	10OOEL.83L00	0.00000	0.000	10L22O.OO000	10OEO0.88000	10O18E.4L000

Run Name: 1832E0350E
Tuge Numger: 39
I ample Numger: **9872065**

Date/Time: 11/21/2018 4:08:14
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.99 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	280L0.00300	0.00000	0.000	2L3E8.9E000	2L884.42000	284O1.O9000
Ak	2L	E38E9.92L41	L1OE09.34300	2.300	EE13E.O8894	E3LE2.28O88	E2OLE.3E83E
CA	99	8L899.18E1L	1E0304.4L000	9.200	4194O.09O10	8L424.3O939	8910L.19E0L
CR	E2	E88.3342E	OEO033.3LL00	9.100	O19.42948	E82.9EE9L	EOL.O8L30
F5	EL	1E4O80.8E8E4	30LOLEL.29300	9.000	1OO0O3.L8LE4	1E4OOO.900L3	1E3312.38L9E
K	34	O4O8.84EEL	2082L8.0EL00	3.400	L2E0.9L388	O492.LO02O	OL13.9E2EL
MS	29	20301.2L99L	111E283.24000	1.400	20L13.09908	202O3.E1L32	1442L.2O200
MN	EE	1L49.29083	O08L32.32000	3.900	189L.8E949	180L.L8E9L	1L2L.08208
NA	23	3LE9.L0431	94E418.8O000	2.L00	38E9.0O888	3LEOL980E	3OE3.31O01
T7	9L	133E.O93O1	20833.E3000	1.900	13EE.49042	1318.9O9L0	1332.E2E21
V	E1	14L.EL91L	1L1898.18000	2.000	201.109EO	148.90820	143.204LE
IN-1	11E	31O8L.L9L00	0.00000	0.000	31E41.L3000	32241.EE000	311L4.4O000
AS	10L	138.L8340	3L3918.L4300	1.L00	134.93811	13O.2284O	190.O89O9
AI	LE	3L.E3200	9L12.8OL00	1.300	3L.911O4	38.0EOEE	3L.12LL9
BA	13L	91O2.OE9O8	L10E02.38L00	2.000	9181.1E3O4	90L3.34023	9233.9144L
CD	111	O2.1OO81	1989O.92300	2.000	O2.EE40E	O0.LOLE0	O8.1L23L
CG	E4	34.E09E0	40184.00L00	3.L00	34.O8L82	3L.4L02L	90.40E90
C6	O8	L9OE.3482E	19L0003E.O1300	2.200	L940.13E43	L240.234E8	LO1E.8142E
MG	48	8.E1819	10L81.OLL00	2.100	8.39O49	8.E001O	8.L0L39
N7	O0	OOL.9832L	9248L4.41L00	2.O00	OO8.988O9	O94.98488	O89.9L130
I N	120	1232.O8E34	LE124E.14L00	2.900	1298.8O29E	1148.O2E13	12E0.EO8O1
I R	88	802.13E84	291298.1OL00	3.100	801.30E08	LLL.801E4	82L.30100
UN	OO	1O882.41E04	28448LO.10300	2.000	1OL09.08829	1OOOL.3O88O	1L2LL.28818
TB-1	1E4	200212.O8L00	0.00000	0.000	14422E.93000	148488.LE000	202923.88000
bB	208	2L24.O2903	20OE3L4L.24L00	0.200	2L3E.09221	2L29.L4848	2L24.03040
I B	121	1E.L8830	100L1.0EL00	1.L00	1E.O94E8	1O.04O03	1E.O1430
BI-1	204	109L388	0	0.000	109L421	103L1E8	10EL089
Tk	203	0.1L414	2O4L.12000	3.200	0.1L9OO	0.1LL1L	0.18ELE
6	238	1.898L0	48218.28300	1.300	1.8O001	1.8211O	1.8O942
GE-1	L2	10EOE3.OE000	0.00000	0.000	10E381.LL000	103E9L.3L000	108031.81000

Run Name: 1832E0350E
Tuge Numger: 3E
I ample Numger: **9874411**

Date/Time: 11/21/2018 4:10:0E
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	3011L.C9000	0.00000	0.000	244L3.4L000	300C9.3E000	30319.C0000
Ak	2L	90001.08LE4	EL12E2.89300	0.E00	90128.3LLE4	90088.8LC13	34L8C.00400
CA	99	9C8L.E39C4	8C2C.9L000	3.000	9L84.LEL9L	9L98.09801	9E29.L48C0
CR	E2	148.40E40	238C91.89000	1.100	14L.9L812	201.32L48	14L.411E4
F5	EL	108L2C.E99EE	2294EL2.48L00	0.800	10LL9L.11049	104082.L4LEC	104394.L2E1E
K	34	EC03.4E31L	1809E4.28000	0.100	EC00.04282	EC0E.0LCLC	EC0C.C8443
MS	29	12LC8.014LL	LE2843.44L00	1.000	12L01.40092	12408.4E928	12C43.209C1
MN	EE	L24.L98E8	2CE8E1.94000	0.E00	L32.E4191	L2E.9E4L2	L31.149C0
NA	23	922.EE19E	83122.23300	0.400	918.8040C	92C.01LE3	922.82LLC
T7	9L	1838.089L3	30LCE.8LL00	0.100	183L.8C0C9	1890.L91EC	183E.CE144
V	E1	12E.43C89	11LE88.1C000	2.E00	12C.9C1L2	128.89194	122.E0E80
IN-1	11E	33349.40300	0.00000	0.000	32E8E.34000	390E3.00000	33E9C.32000
AS	10L	0.0E341	1C0.01000	29.400	0.09048	0.0E249	0.0CL82
AI	LE	1C.183L2	219C.20000	9.200	1C.8EL14	1E.E030E	1C.14043
BA	13L	13C.E9219	29EL9.E1300	1.400	13E.C2032	134.94828	139.E0L82
CD	111	0.18092	9E.33300	23.400	0.21483	0.18C44	0.1399E
CG	E4	C2.210C8	194C4C.E4000	1.800	C3.3EE92	C1.0E821	C2.21892
C6	C3	113.44C82	23LLLE.94300	3.200	11L.C2E02	110.93EE0	113.42899
MG	48	2.C8193	3E4L.38L00	3.900	2.C8400	2.E8C83	2.LC89L
N7	C0	E18.E0LE3	3E1841.10000	3.100	E3L.10E1C	E0L.0L31E	E11.39924
I N	120	11.18108	8LE8.0C800	E.C00	11.C188L	10.9E4C2	11.9C9L3
I R	88	3C.L119E	11C84.0LL00	0.L00	3C.4499L	3C.E1930	3C.C2EEL
UN	CC	1E4.40C13	2844E.E1000	9.900	1CE.08238	1E1.42EC4	1C2.L1033
TB-1	1E4	2018C2.0L300	0.00000	0.000	203L0E.41000	20120C.14000	200CL9.12000
bB	208	E9.39CC9	91E9CE.E8L00	1.800	E3.23L39	E9.41LLL	E9.88983
I B	121	0.E9092	38C.L0000	3E.900	0.L2CE1	0.399LC	0.E9448
BI-1	204	1C0139.1LL00	0.00000	0.000	1C0C29.E4000	1E4L1L.00000	1C00C0.49000
Tk	203	0.E18CL	118C.L8L00	0.300	0.E18E9	0.E1L10	0.E203L
6	238	C.2E94E	E0LE0.49300	3.000	C.0388C	C.39003	C.38E4L
GE-1	L2	10EC01.41L00	0.00000	0.000	10C984.0C000	10EE01.E3000	10981E.1C000

Run Name: 1832E0350E
Tuge Numger: 3O
I ample Numger: **9874412**

Date/Time: 11/21/2018 4:11:E9
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.19 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	Cb I M5AN	%RI D	#1	#2	#3
SC-1	9E	24982.48300	0.00000	0.000	28O41.1L000	30119.91000	24O93.3L000
Ak	2L	24CL1.23L38	919O11.0E000	3.000	30E81.0LE0L	28L81.C898L	24CE0.4E214
CA	99	89880.48E82	1E2E82.19L00	3.L00	88210.23EO4	82031.412L9	89900.80403
CR	E2	2L3.032LE	320214.00300	3.E00	283.L0200	2CE.2E04L	2L0.19E28
F5	EL	138L82.4LLE9	28043CE.C8L00	3.300	1990C0.09CC2	13EL18.EL09L	13CEL0.31EE3
K	34	L0L8.L13EE	22220C.C9000	3.100	L32L.1L0EE	O409.349CL	L009.ELE99
MS	29	4334.C2924	E388CE.1LL00	3.300	4CLL.1L218	408E.91411	42EC.281E8
MN	EE	138E.4C829	9434L1.02300	3.200	1939.2O181	1398.30432	13LE.333E4
NA	23	E81C.83C2O	L424E3.22000	2.L00	E480.21889	ECL2.38003	EL4L.40442
T7	9L	1243.891L2	21180.8C300	E.E00	13O4.E4188	122L.0E490	1289.8L38L
V	E1	22C.32EE0	20CL30.E4L00	3.200	233.CLC8L	214.1CE4L	22C.1391O
IN-1	11E	322L4.4E000	0.00000	0.000	33E04.39000	31EEL.0C000	31LL3.9E000
AS	10L	33.E8111	41480.CL000	9.300	31.4823E	39.LO43E	33.441CE
AI	LE	LE.41038	4O41.EC000	3.000	L3.28E1L	LL.90L08	LL.03888
BA	13L	3319.28E94	ELO199.EE000	2.000	323C.12LEO	33EL.11L31	3394.O11E4
CD	111	10.1L399	29L2.43000	9.400	4.C0988	10.E0183	10.913O1
CG	E4	34.43E2O	42880.40000	2.000	34.1L9E2	90.LL4L8	34.8E19O
C6	C8	1114.LL023	229O49E.E4000	1.L00	1048.9EC80	1133.02991	112L.8249L
MG	48	14.1LE33	29CLL.84300	2.300	18.CO42L	14.9149O	14.93L2O
N7	C0	144.0O189	130C9C.C4000	1.C00	14E.933O1	200.1E239	201.E44E4
I N	120	3L0.293L8	2308C0.89300	3.200	3E8.031E9	381.308L4	3L1.34102
I R	88	EE9.18LCL	1O4L91.89300	3.900	E3C.C9313	EL9.1L8LO	EE1.L9113
UN	CO	2808.319E8	941330.3EL00	1.800	2LE0.1C09L	2899.O4E08	2830.08820
TB-1	1E4	14E9L0.O1300	0.00000	0.000	14810L.18000	149E80.4L000	143L23.O4000
bB	208	3114.39LL4	23091094.03300	1.300	30L1.880CE	3139.E01CO	31E1.CO10L
I B	121	39.30089	2131E.08000	1.800	33.CE3O1	39.898E0	39.90092
BI-1	204	1L9CC9.LLL00	0.00000	0.000	1L22L1.3E000	1LE1E1.98000	1LCEL1.E0000
Tk	203	0.E22EO	1303.9LL00	14.300	0.E4391	0.90L2L	0.ECO44
6	238	2.CO039	23EEL.3CL00	2.C00	2.O4800	2.E8130	2.L01L2
GE-1	L2	1020O1.EL300	0.00000	0.000	109342.1E000	1000L0.21000	101L22.3C000

Run Name: 1832E0350E
Tuge Numger: 3L
I ample Numger: **9874413**

Date/Time: 11/21/2018 4:13:90
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.39 Final Vol: 100.00 DF: 2.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	28E2L.O1300	0.00000	0.000	28100.00000	28CL1.20000	28811.C9000
Ak	2L	1E940.3L943	204948.92300	2.L00	1E4L4.31C9O	1E2L2.C2008	1E214.1882E
CA	99	98LLL.E831O	89843.12000	1.000	9410C.3E109	94030.9C34L	9814E.4399O
CR	E2	44.9E800	1133EE.ELL00	2.400	102.C98E3	48.L2048	4L.009E1
F5	EL	LL10C.384LE	1E10L8L.L4300	2.E00	L4300.EE3E2	LE8E2.9208L	LO1CC.14988
K	34	14L3.2E013	C2192.92L00	3.300	209C.1983E	14E0.C0012	1423.00141
MS	29	3C0L.22C98	201E22.3CL00	0.800	3C3E.8C831	3C03.L4ECE	3E82.01E98
MN	EE	ELC.99923O	14841C.1CL00	1.200	E81.00944	EC8.ELLE8	EL4.L99E1
NA	23	400.EE204	134LL9.83000	1.L00	84C.249CE	41L.19CE2	888.21E11
T7	9L	893.04423	133C3.41L00	9.100	8L2.C1928	80E.C0444	8E1.0L392
V	E1	903.E1C14	3ECL31.32300	1.E00	910.3180O	344.L92L3	900.98LLL
IN-1	11E	390EL.90L00	0.00000	0.000	392C0.L0000	3342C.4C000	33489.EC000
AS	10L	1C.E2C34	9L80E.0CL00	1.E00	1C.29293	1C.E4L14	1C.L34EE
AI	LE	C1.2EC02	82E8.C0000	1.900	C0.94120	C1.08C48	C2.1848L
BA	13L	1989.83E82	2L29E8.C4300	0.200	198L.CE348	1981.C389E	198E.21E09
CD	111	8.E1999	218E.E9300	C.C00	8.01EC0	4.1140L	8.908CC
CG	E4	2E.2903O	C14C2.L4000	1.400	29.83LC4	2E.12CCC	2E.LECL9
C6	C3	C3C.9384E	1398999.EC800	0.L00	C32.331L1	C3E.L0CC3	C91.2L8E2
MG	48	14.903E3	2C3EL.3L000	3.200	18.48ELO	20.10C89	14.11L44
N7	C0	1LC.EL940	122319.00300	1.L00	1L9.11LLE	1L4.834L4	1LE.LCL1L
I N	120	229.EEC4O	1989C4.0L300	1.200	22C.EEL2O	22E.E4809	221.E1EE4
I R	88	330.3L21E	10C824.0EL00	0.E00	328.E831O	330.3L948	332.1E830
UN	CC	413C.0LL10	1C8C849.L1L00	1.900	4011.2L21L	4138.L484O	42E8.1C01L
TB-1	1E4	148332.21300	0.00000	0.000	148C01.ECC00	14L49E.08000	1489E0.00000
bB	208	2E18.19EE8	188L9CE8.88L00	0.E00	2E1E.3119E	2E32.83LC0	2E0C.28LC4
I B	121	31.14112	14CL2.99L00	0.400	31.23389	30.84119	31.99838
BI-1	204	1LL342.94L00	0.00000	0.000	1L8329.LC000	1LLC99.20000	1LC208.E3000
Tk	203	1.3E041	391L.3E300	L.800	1.3C9O1	1.23438	1.998L3
6	238	2.0CCC1	18E41.L8000	2.900	2.03242	2.1291E	2.092L8
GE-1	L2	10E410.8L300	0.00000	0.000	109E19.28000	10LC1C.E2000	10EC01.82000

Run Name: 1832E0350E
Tuge Numger: 38
I ample Numger: **9874413**

Date/Time: 11/21/2018 4:1E:2O
Batch: 1830910C8L01A
Class: **********

Initial Vol: 1.39 Final Vol: 100.00 DF: 10.00 brotocol: DGD-69

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2L9C8.49L00	0.00000	0.000	2L434.L0000	2L048.0C000	2L3C4.08000
Ak	2L	31L3.CCC49	9139C.91L00	0.300	31CC.8E948	3183.1CC49	31L0.4L840
CA	99	10191.8LEE0	1L008.0L300	0.L00	10101.40C42	1004E.0203E	10228.C4423
CR	E2	20.181EE	22C40.00000	9.C00	14.239LE	21.1081L	20.201L3
F5	EL	1E134.1ELL4	28EC82.1C000	1.400	19899.34444	1E914.EELC4	1E1E3.E1EC8
K	34	343.1LE0E	192L9.89300	9.400	904.4C9CE	34L.C44C4	3L1.8C081
MS	29	LC9.8C928	91143.01300	2.800	L92.EC111	L8C.0448E	LCE.4318C
MN	EE	118.8421E	34E2E.E4300	E.300	111.L3299	121.E9E93	123.348E8
NA	23	1C8.92810	99EC2.CE300	9.300	1C9.34E2E	1C9.1104E	1LC.LL804
T7	9L	1L0.94LCE	2C00.34300	4.900	1E2.00L92	1L4.4LELC	1L4.E04LC
V	E1	83.880E0	L19C1.19300	0.800	89.2C803	83.1E034	89.22304
IN-1	11E	39243.84L00	0.00000	0.000	39408.9E000	39E29.C0000	33998.C9000
AS	10L	3.3022L	4C2L.39000	2.E00	3.30801	3.38233	3.21C9C
AI	LE	12.10191	1CE0.L8300	9.E00	11.LL303	11.80214	12.L2402
BA	13L	24E.4CC29	E9C83.20000	2.000	244.90210	284.0191E	244.98298
CD	111	1.E4438	912.CLL00	13.200	1.90C0C	1.ECLL1	1.8293C
CG	E4	9.4LC9L	12312.84000	1.400	9.88443	E.08113	9.4E839
C6	C8	12E.48992	2C4LCL.32L00	2.000	129.4349L	129.119L4	128.84401
MG	48	3.814LC	E299.CC800	L.E00	3.C994L	3.CC84C	9.1E033
N7	C0	3C.C2999	2EE4E.9C800	9.300	3E.4920E	3E.98CL3	38.999E3
I N	120	99.E1C40	30491.L1000	2.800	93.10943	9E.3CCL2	9E.0L40E
I R	88	CE.2E802	21299.9EL00	1.900	C9.9C4E9	CE.04901	CC.210E2
UN	CC	1LE2.1LCCC	32EC4E.ELL00	2.400	1L13.C82L0	1L33.80CL8	1804.090E1
TB-1	1E4	14C008.L0L00	0.00000	0.000	14C9C4.L0000	14EE31.E0000	14C029.42000
bB	208	E03.98042	3L30382.13300	0.L00	E0C.LL2C9	E00.1C880	E03.E0133
I B	121	C.LC040	9299.28L00	9.300	C.9E024	L.024C1	C.80280
BI-1	204	1C94C8.34L00	0.00000	0.000	1CL183.01000	1C8420.C8000	1C8801.E0000
Tk	203	0.32C81	LL0.0L300	22.L00	0.300L8	0.2C82C	0.90484
6	238	0.9203E	3E39.11300	2.300	0.92383	0.90492	0.92L82
GE-1	L2	10L099.0C800	0.00000	0.000	104E29.38000	10988C.02000	10CL21.L4000

Run Name: 1832E0350E
Tuge Numger: 34
I ample Numger: **CCV**

Date/Time: 11/21/2018 4:1L:19

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2LL3O.21300	0.00000	0.000	2L824.4O000	28EL0.E1000	2O808.1L000
Ak	2L	2E09.E4L09	32433.L0300	2.O00	2E2O.E33E2	2932.1L828	2EEE.0L432
CA	99	2EL8.EL024	93LL.O1000	1.300	2O13.918O2	2EL9.1320E	2E98.1O021
CR	E2	2EL.3OOLE	289022.01300	2.E00	2E8.8LL92	2E0.349O4	2O2.82812
F5	EL	29OL.OL409	9L0OO.14L00	2.100	29O2.23O0O	291L.8133O	2E22.48LL0
K	34	298L.23E0O	LE38L.L8300	1.900	2E0E.9038L	299O.EE180	2E04.L94E2
MS	29	299L.122EO	132428.11000	1.O00	2982.09O24	290O.94EL3	29E2.82EOO
MN	EE	2O8.9L111	883OO.8L000	3.200	2O1.33191	2EO.38OOE	2L2.O4E28
NA	23	2339.042O2	313OOO.OO800	3.E00	232O.13039	22EL.9O8L3	2918.O83L8
T7	9L	28L.LO9O4	992L.O8L00	8.800	2L4.3O409	2OL.L1422	31O.20E82
V	E1	2E8.8LL4L	222908.12000	3.900	2O0.94O9L	294.98289	2OO.OE9O1
IN-1	11E	39LO9.1E000	0.00000	0.000	39LO8.1O000	39E11.30000	3E012.44000
AS	10L	29.O4248	L2404.1L300	0.900	29.OO8EO	29.L440E	29.O1O82
AI	LE	298.O2O28	391L4.0EL00	2.000	2E0.09L29	2E2.L3214	293.04491
BA	13L	2E2.48L44	9L389.OO800	1.O00	2E0.28048	2EL.LELOO	2E0.42E32
CD	111	2E.2E199	OO1L.0E000	3.100	2O.0E084	2E.23L29	29.9OO18
CG	E4	23O.402E4	E43E1L.O0L00	1.100	23O.33429	234.L4288	239.ELEOE
C6	O8	234.12414	E1L481.80000	1.000	238.O2O43	291.L0L8O	23L.0E280
MG	48	29.LE8L0	3931O.01L00	9.O00	29.L4902	2E.8LE93	23.O0OOO
N7	O0	294.49018	1LOO89.1LL00	2.300	29L.0L4L0	2EO.E41E1	29O.19439
I N	120	2E.2E191	18E11.12L00	O.900	23.O8LLL	2O.43E44	2E.13098
I R	88	29.82E22	8142.4L300	3.400	2E.E1E88	2E.29LL1	23.L120L
UN	OO	294.E4998	9L04O.8LL00	3.800	2E2.009E0	2EL.E3239	234.29OE8
TB-1	1E4	14O884.8L000	0.00000	0.000	14LOEL.E9000	14O89L.1L000	14O1O9.40000
bB	208	2L.O8920	20O889.18L00	0.900	2L.O899L	2L.8001E	2L.O1L44
I B	121	2E.O1248	1O099.00000	0.400	2E.893EL	2E.O134O	2E.38190
BI-1	204	1O1013.99000	0.00000	0.000	1O0212.3O000	1O0L90.1E000	1O208L.81000
Tk	203	2O.03O88	E4L28.33L00	1.900	2E.4EL82	2O.92190	2E.L3192
6	238	29.49192	203911.29000	1.400	2E.3O4E3	2E.0030E	29.9E1O8
GE-1	L2	101423.OLL00	0.00000	0.000	103091.32000	103L2L.2O000	44002.9E000

Run Name: 1832E0350E
Tuge Numger: 90
I ample Numger: **CCB**

Date/Time: 11/21/2018 4:14:02

Note: All Analyte values are in ppg, except Internal I tandards, C, b, I and Ck are in counts per second.

					INTEGRATIONS		
5lement	MAI I	CGNC. M5AN (ppg)	CbI M5AN	%RI D	#1	#2	#3
SC-1	9E	2L1O1.13L00	0.00000	0.000	2LLE4.01000	2O9LO.E1000	2L29L.84000
Ak	2L	0.LE091	20.00000	109.200	-0.09811	0.L8E22	1.E1911
CA	99	1E.E823O	90.00000	O9.O00	21.112E2	3.4O81E	21.OOO90
CR	E2	0.3098O	100O.LE300	12.800	0.2O011	0.32220	0.3322O
F5	EL	-0.E282O	O0.00300	0.000	1.E331O	-2.O1141	-0.E0O02
K	34	-1.89O00	2890.9EL00	0.000	-12.L0L03	E.O2O00	1.E9302
MS	29	1.381O2	19O.OLL00	3O.400	1.49323	0.49O12	1.2EEE1
MN	EE	0.04EO2	80.00300	24.L00	0.12029	0.10203	0.0O9E8
NA	23	-4.L9880	2234E.O2L00	0.000	-12.12E89	-O.02193	-11.04413
T7	9L	0.OL314	10.00000	101.000	0.00000	1.3E420	0.OO03O
V	E1	-0.002LO	E3.33300	0.000	-0.00813	0.00O88	-0.00L09
IN-1	11E	39342.8O000	0.00000	0.000	33E81.90000	39984.O4000	3E10L.94000
AS	10L	0.009E9	20.00000	132.200	0.00813	0.00L8O	-0.00234
AI	LE	0.00124	11.33300	O41.100	0.00828	-0.008LO	0.0093O
BA	13L	0.01O84	O.OOL00	3L2.E00	-0.0188O	-0.0188O	0.08O88
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CG	E4	0.010EE	90.00000	100.800	0.00OL4	0.022EO	0.00230
C6	O3	-0.09O94	1220.13000	0.000	-0.0230O	-0.1133O	-0.0030E
MG	48	0.0019L	33.33300	32E.200	0.00O4L	-0.00104	-0.00198
N7	O0	0.128E2	1L0.01000	20.200	0.10E28	0.1EOEE	0.123LE
I N	120	0.2O110	1810.3L000	1L9.200	0.LL204	-0.044EL	0.110L8
I R	88	0.0913O	13.33300	11O.200	0.04904	0.00000	0.03000
UN	OO	0.LLO00	20O.O8300	92.900	1.19OL4	0.E1433	0.OO184
TB-1	1E4	149102.28L00	0.00000	0.000	143L13.02000	149O01.1L000	143442.OL000
bB	208	1.0913O	8E21.O0L00	L.800	1.13299	1.01E20	0.4LO9E
I B	121	0.0444L	100.01000	32.800	0.132LL	0.0OL12	0.10001
BI-1	204	1EE440.80300	0.00000	0.000	1E802E.42000	1E2L34.32000	1EL20L.1L000
Tk	203	0.0194L	3O.OOL00	L9.400	0.02E12	0.01O8E	0.00243
6	238	-0.00040	13.33300	0.000	-0.002E4	-0.00124	0.00118
GE-1	L2	10O2E0.LEL00	0.00000	0.000	10E3L1.4L000	10ELE2.10000	10LO28.20000

US EPA Tune Check Report

Operator Name	US19_USR_INS14259
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time	11/21/2018 2:19:30 AM
Report Comment	ICP-MS #19204 (E05) Daily Tune Check
Instrument Name	G3281A JP12071581

[No Gas]

Sensitivity

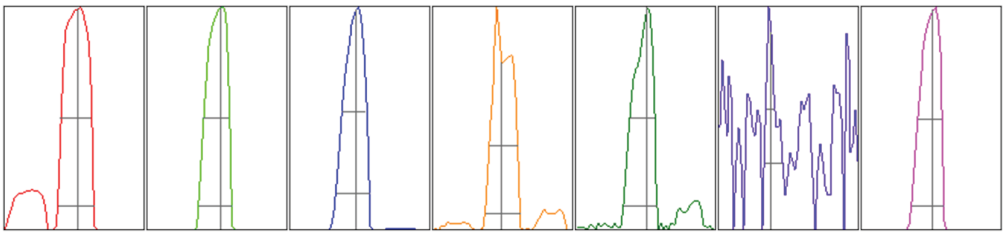
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1001	10014.15			2.275	5.000
89	10.00	6537	65371.45			0.662	5.000
205	10.00	3313	33126.18			0.422	5.000
70	1.00	86	859.09	0.00		17.670	
156	1.00	17	174.21	0.00		6.368	
220	1.00	1	6.30	0.00		9.050	
140	10.00	6331	63310.42	0.00		0.585	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1030	1017	994	971	994
89	6581	6552	6568	6504	6480
205	3315	3325	3289	3321	3313
70	113	80	83	74	80
156	16	19	16	17	18
220	1	1	1	1	1
140	6312	6377	6331	6281	6355

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	1552.89	7.10	6.90 - 7.10	
89	11843.37	89.10	88.90 - 89.10	
205	6413.49	204.95	204.90 - 205.10	
70	131.76	70.00	-	
156	35.70	156.05	-	
220	1.15	219.65	-	
140	12260.59	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.67	0.775	0.800	
89	0.57	0.716	0.800	
205	0.53	0.716	0.800	
70	0.62	0.748		
156	0.53	0.725		
220	0.19	0.400		
140	0.53	0.705		

Integration Time [sec]	0.1
Acquisition Time [sec]	260.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	6.7 V	Deflect	14.8 V
Extract 2	-135.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-75 V	Cell Exit	-59 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9981	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.13		

Hardware Settings

Torch

Torch H	0.9 mm	Torch V	-1.2 mm

EM

Discriminator	4.5 mV	Analog HV	1746 V	Pulse HV	1256 V

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ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 18K27B00.E07

Run Name: 1833101E07

Analyst: 1242

Reviewed By: Choon Y Tian

Reviewed Date: 11/27/2018 11:07

Verified By: Deborah A Krady

Verified Date: 11/27/2018 12:12

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	BE	9
	B	11
SC-3		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-2		115
	SE	78
IN-3		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
TB-3		159
	PB	208
BI-3		209
	TL	205
	U	238

Run Name: 1833101E07 Date/Time: 11/27/2018 9:13:42
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
BE	9	0.00000	2.00000	0.000	0.01472	-0.00736	-0.00736
B	11	0.00000	7006.32700	0.000	6.50802	-1.39433	-5.11368
NA	23	0.00000	10834.30300	0.000	-1.36548	-0.83630	2.20178
MG	24	0.00000	73.33300	0.000	0.18882	0.26539	-0.45421
AL	27	0.00000	53.33300	0.000	0.52774	0.84365	-1.37139
K	39	0.00000	10874.34700	0.000	12.36887	-21.22008	8.85121
CA	44	0.00000	70.00000	0.000	-3.43216	-1.11034	4.54250
SC-1	45	507856.83000	0.00000	0.000	465926.32000	519898.20000	537745.97000
SC-2	45	88674.23000	0.00000	0.000	89060.15000	88627.63000	88334.91000
SC-3	45	30428.79300	0.00000	0.000	29399.93000	31594.73000	30291.72000
TI	47	0.00000	3.33300	0.000	0.42967	-0.21484	-0.21484
V	51	0.00000	126.67000	0.000	-0.08526	-0.00208	0.08733
CR	52	0.00000	346.68300	0.000	-0.08403	0.05980	0.02423
MN	55	0.00000	40.00000	0.000	-0.11136	0.08009	0.03127
FE	57	0.00000	13.33300	0.000	0.53213	-0.28129	-0.25084
CO	59	0.00000	16.66700	0.000	0.00322	0.00330	-0.00651
NI	60	0.00000	46.66700	0.000	-0.02105	0.01425	0.00680
CU	63	0.00000	123.33700	0.000	0.00970	0.01037	-0.02007
ZN	66	0.00000	33.33300	0.000	-0.12053	0.15924	-0.03871
GE-1	72	455927.85700	0.00000	0.000	426296.79000	461677.88000	479808.90000
GE-2	72	111606.68300	0.00000	0.000	113001.43000	110390.26000	111428.36000
GE-3	72	83729.58700	0.00000	0.000	83159.15000	82838.04000	85191.57000
AS	75	0.00000	14.00000	0.000	0.06354	0.03346	-0.09700
SE	78	0.00000	0.44300	0.000	-0.01417	-0.01417	0.02834
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	6.66700	0.000	0.00566	-0.01068	0.00502
AG	107	0.00000	3.33300	0.000	-0.00289	0.00577	-0.00289
CD	111	0.00000	0.66700	0.000	-0.00428	-0.00428	0.00855
IN-2	115	129696.79000	0.00000	0.000	130125.81000	127899.01000	131065.55000
IN-3	115	36152.87300	0.00000	0.000	35722.30000	35571.15000	37165.17000
SN	120	0.00000	346.68300	0.000	-0.08632	0.15748	-0.07116
SB	121	0.00000	113.33700	0.000	-0.03007	-0.00342	0.03349
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-3	159	97001.09700	0.00000	0.000	95030.35000	96501.38000	99471.56000
TL	205	0.00000	23.33300	0.000	0.00930	-0.00182	-0.00748
PB	208	0.00000	23.33300	0.000	-0.00111	-0.00531	0.00642
BI-3	209	58493.57300	0.00000	0.000	57757.42000	58058.26000	59665.04000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:16:04
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	581332.11300	0.00000	0.000	575370.42000	585913.00000	582712.92000
SC-3	45	32934.38700	0.00000	0.000	32697.34000	32707.08000	33398.74000
AL	27	10000.00000	182216.00000	1.900	9851.62160	10219.50569	9928.87271
B	11	1000.00000	144574.26000	1.400	1004.25798	983.87718	1011.86484
BE	9	100.00000	33895.93300	1.500	100.78489	98.29041	100.92470
CA	44	10000.00000	24861.77300	4.400	9563.92015	10444.07679	9992.00306
CR	52	1000.00000	718606.05700	0.700	993.83260	1008.10500	998.06240
FE	57	10000.00000	147298.53700	0.600	9938.38924	10067.46510	9994.14565
K	39	10000.00000	491509.86000	1.200	9876.32328	10104.84915	10018.82757
MG	24	10000.00000	548339.49700	0.400	10016.52348	10030.67699	9952.79953
MN	55	1000.00000	381157.40300	0.900	995.61351	1010.02082	994.36566
NA	23	10000.00000	1192353.96700	0.700	9948.75566	10081.16413	9970.08021
TI	47	1000.00000	17387.46700	2.800	969.31853	1007.88341	1022.79806
V	51	1000.00000	551866.33300	1.100	988.63721	1011.03865	1000.32414
IN-2	115	141261.75300	0.00000	0.000	139086.92000	140982.21000	143716.13000
IN-3	115	38482.36000	0.00000	0.000	37710.94000	39171.86000	38564.28000
AG	107	100.00000	124900.51700	1.700	101.15286	98.07915	100.76800
AS	75	1000.00000	69184.67700	1.700	1015.47292	981.84588	1002.68120
BA	137	1000.00000	171163.47000	1.500	1013.18509	983.18289	1003.63202
CD	111	100.00000	16142.62000	1.900	101.05590	97.83515	101.10894
CO	59	1000.00000	1150266.38700	1.500	1004.34529	983.67650	1011.97821
CU	63	1000.00000	878756.60300	1.500	1008.31743	982.75159	1008.93098
MO	98	100.00000	65947.20300	1.600	99.34900	98.80267	101.84833
NI	60	1000.00000	311588.09000	2.700	1022.27701	969.46770	1008.25529
SB	121	100.00000	42422.03000	1.700	101.81903	98.36029	99.82067
SE	78	100.00000	3372.84700	2.000	97.73087	101.29152	100.97760
SN	120	100.00000	54176.26300	2.000	101.90047	97.83662	100.26291
SR	88	100.00000	46376.32000	2.200	98.34415	99.11865	102.53721
ZN	66	1000.00000	116351.75000	1.300	1010.86974	985.50028	1003.62998
TB-3	159	103740.87300	0.00000	0.000	103119.27000	103140.02000	104963.33000
PB	208	100.00000	264028.19300	0.700	99.82989	100.80442	99.36569
BI-3	209	63623.50000	0.00000	0.000	63251.68000	63241.62000	64377.20000
TL	205	100.00000	199117.45000	1.800	100.88953	101.20888	97.90158
U	238	100.00000	246901.00300	1.400	101.50824	99.74247	98.74929
SC-2	45	95684.60700	0.00000	0.000	93950.22000	95992.67000	97110.93000
GE-1	72	524341.11000	0.00000	0.000	523827.65000	522471.20000	526724.48000
GE-2	72	120123.73300	0.00000	0.000	117333.75000	121498.50000	121538.95000
GE-3	72	87766.89700	0.00000	0.000	86619.89000	85171.10000	91509.70000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:18:25
Tube Number: 3
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	566908.67700	0.00000	0.000	567636.98000	562370.54000	570718.51000
SC-3	45	31471.07300	0.00000	0.000	30251.91000	31875.20000	32286.11000
AL	27	5118.42366	89140.51000	2.100	5177.25759	4993.76183	5184.25157
B	11	795.10536	113716.49300	0.300	793.58132	793.58602	798.14874
BE	9	51.70970	17094.39000	0.700	51.48255	52.09905	51.54748
CA	44	5172.95872	12328.89000	5.700	5141.39451	4894.66773	5482.81391
CR	52	517.45238	355402.18300	1.300	524.96482	513.00942	514.38291
FE	57	5073.62431	71385.24000	2.400	5208.71452	4977.93242	5034.22600
K	39	5106.57991	245289.10300	1.800	5188.98123	5009.82791	5120.93059
MG	24	5126.80624	268632.63700	1.400	5184.07210	5043.30900	5153.03763
MN	55	518.49444	188805.86700	2.000	529.22262	508.39830	517.86240
NA	23	4658.86460	536725.00300	0.900	4703.11446	4624.32386	4649.15548
TI	47	508.17602	8426.06000	9.400	563.07367	480.25865	481.19574
V	51	514.36830	271211.80000	1.600	523.64682	512.40760	507.05047
IN-2	115	136043.76300	0.00000	0.000	133403.71000	137896.04000	136831.54000
IN-3	115	37931.32300	0.00000	0.000	37788.70000	37877.51000	38127.76000
AG	107	51.23694	63095.17300	1.500	50.66055	50.96594	52.08432
AS	75	503.87033	34378.18700	2.800	488.32376	506.90228	516.38495
BA	137	505.90989	85373.93000	1.800	498.50490	503.25508	515.96970
CD	111	50.81077	8087.03300	1.600	50.04155	50.69243	51.69831
CO	59	504.64220	572268.60000	1.900	494.11641	506.35003	513.46014
CU	63	504.45432	437087.53300	1.000	498.98000	505.68032	508.70262
MO	98	50.05991	32544.82000	1.400	49.31027	50.73908	50.13038
NI	60	508.92331	156387.59000	1.900	499.63782	508.31161	518.82050
SB	121	50.93545	21363.66000	3.600	49.16554	50.85343	52.78738
SE	78	51.15414	1661.65700	1.100	51.03179	51.77930	50.65134
SN	120	50.83615	27334.18300	1.800	50.30024	50.33192	51.87628
SR	88	50.96002	23292.96700	0.800	51.40828	50.58577	50.88602
ZN	66	510.42804	58569.40000	2.600	496.31240	512.59120	522.38054
TB-3	159	102216.01700	0.00000	0.000	99361.88000	102675.67000	104610.50000
PB	208	51.05011	132762.81700	3.200	52.88356	49.70477	50.56201
BI-3	209	63000.92000	0.00000	0.000	61824.93000	63795.12000	63382.71000
TL	205	50.81319	100198.84300	1.300	51.50156	50.17846	50.75954
U	238	50.83038	124261.17700	1.900	51.57388	49.77307	51.14420
SC-2	45	93330.70700	0.00000	0.000	91706.98000	94585.42000	93699.72000
GE-1	72	506864.86300	0.00000	0.000	509437.73000	505918.27000	505238.59000
GE-2	72	117368.97300	0.00000	0.000	115621.30000	117012.82000	119472.80000
GE-3	72	84638.63700	0.00000	0.000	82918.59000	84155.39000	86841.93000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:20:35
Tube Number: 4
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	555830.15000	0.00000	0.000	556177.22000	558186.75000	553126.48000
SC-3	45	29878.05700	0.00000	0.000	27366.36000	30713.23000	31554.58000
AL	27	1.06074	70.00000	30.400	0.80191	0.95862	1.42170
B	11	211.28817	35287.15300	2.300	216.05542	211.37930	206.42978
BE	9	0.02138	9.33300	87.500	0.01731	0.04180	0.00504
CA	44	-6.60995	53.33300	0.000	-1.41710	-8.91799	-9.49476
CR	52	0.29664	536.69700	43.100	0.14951	0.36015	0.38027
FE	57	3.33526	56.66700	65.300	5.54777	1.19515	3.26285
K	39	-1.98530	10567.44300	0.000	21.25623	-14.55297	-12.65917
MG	24	1.10927	126.67000	46.800	1.40777	0.51008	1.40995
MN	55	0.21206	110.00700	87.800	0.29916	0.33883	-0.00182
NA	23	-6.75289	9893.59000	0.000	-2.45160	-7.09941	-10.70765
TI	47	0.45242	10.00000	153.300	1.16997	0.40212	-0.21484
V	51	0.11412	180.01000	40.200	0.16677	0.08274	0.09284
IN-2	115	133345.94700	0.00000	0.000	130116.55000	133257.31000	136663.98000
IN-3	115	35873.37000	0.00000	0.000	33222.01000	37365.31000	37032.79000
AG	107	0.01740	23.33300	60.200	0.02493	0.02185	0.00543
AS	75	0.00821	14.00000	2250.000	0.21858	-0.12742	-0.06653
BA	137	0.13282	20.00000	135.900	0.33831	0.06016	0.00000
CD	111	0.00856	2.00000	150.400	-0.00428	0.00848	0.02147
CO	59	0.14187	166.67700	34.200	0.19595	0.12774	0.10193
CU	63	0.26305	336.68300	18.000	0.31169	0.26054	0.21692
MO	98	0.20647	130.00300	64.100	0.35823	0.11427	0.14691
NI	60	0.04898	60.00000	135.700	0.10086	0.07201	-0.02595
SB	121	0.15166	173.34300	60.200	0.07125	0.25085	0.13286
SE	78	0.04801	2.00000	114.700	-0.01417	0.09052	0.06768
SN	120	2.59565	1694.70300	153.100	0.30325	7.18577	0.29793
SR	88	0.00833	3.33300	173.200	0.02498	0.00000	0.00000
ZN	66	0.19010	53.33300	66.600	0.29169	0.04839	0.23021
TB-3	159	94967.98000	0.00000	0.000	89232.74000	96501.37000	99169.83000
PB	208	0.01105	50.00000	131.000	-0.00057	0.02727	0.00647
BI-3	209	59856.76000	0.00000	0.000	57425.62000	61534.69000	60609.97000
TL	205	0.04995	116.67000	47.900	0.07620	0.04429	0.02934
U	238	0.05289	123.34000	26.500	0.04038	0.05025	0.06802
SC-2	45	89401.97700	0.00000	0.000	89160.01000	89120.56000	89925.36000
GE-1	72	502500.04000	0.00000	0.000	501582.41000	505555.73000	500361.98000
GE-2	72	111947.04300	0.00000	0.000	109667.02000	112850.93000	113323.18000
GE-3	72	81202.34700	0.00000	0.000	76955.17000	82395.99000	84255.88000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:22:44
Tube Number: 5
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	573388.19700	0.00000	0.000	569747.69000	572268.31000	578148.59000
SC-3	45	31568.31000	0.00000	0.000	31936.07000	31134.00000	31634.86000
AL	27	405.51302	7135.25300	1.500	404.54552	412.14305	399.85047
B	11	111.49226	22961.50700	1.400	112.79869	111.89264	109.78544
BE	9	0.52323	177.33300	7.600	0.53448	0.55607	0.47914
CA	44	655.93276	1630.15300	8.900	651.85794	716.39266	599.54768
CR	52	4.29104	3310.48700	8.700	3.95961	4.69377	4.21974
FE	57	98.94446	1410.12000	12.100	101.24598	109.62694	85.96046
K	39	380.68836	28805.57700	3.600	370.74114	375.13369	396.19027
MG	24	102.87018	5481.21000	2.600	99.76938	104.50032	104.34084
MN	55	10.20177	3767.29000	1.000	10.09122	10.29847	10.21563
NA	23	833.44064	105545.33300	3.300	804.25334	838.18047	857.88811
TI	47	25.83400	433.35700	18.900	23.51952	31.43494	22.54754
V	51	0.92083	616.70000	30.500	0.64954	1.20953	0.90342
IN-2	115	134529.87000	0.00000	0.000	133372.38000	136419.63000	133797.60000
IN-3	115	38205.01000	0.00000	0.000	38557.06000	37323.78000	38734.19000
AG	107	0.49692	620.03300	13.600	0.57240	0.47585	0.44251
AS	75	1.91014	146.00000	12.100	2.09145	1.98889	1.65009
BA	137	3.75609	636.70300	27.000	2.68190	4.69793	3.88845
CD	111	1.16966	188.00000	9.500	1.21973	1.24740	1.04183
CO	59	1.03584	1200.09300	6.300	1.06907	1.07801	0.96044
CU	63	39.82335	34862.77700	3.500	38.29662	41.01307	40.16037
MO	98	2.08800	1373.45000	5.400	1.95712	2.16287	2.14402
NI	60	4.23543	1360.11300	4.000	4.13253	4.14198	4.43177
SB	121	2.01308	966.73700	14.100	2.21592	1.68927	2.13404
SE	78	2.26104	73.11300	12.700	1.93337	2.46323	2.38653
SN	120	2.37401	1636.85000	9.100	2.35475	2.16786	2.59944
SR	88	6.19653	2850.40000	6.300	5.96251	6.64883	5.97826
ZN	66	14.86050	1753.50300	10.500	14.36617	13.61010	16.60522
TB-3	159	101060.16000	0.00000	0.000	102968.59000	101061.92000	99149.97000
PB	208	3.07278	7927.89300	3.700	3.03634	3.19881	2.98318
BI-3	209	63584.08300	0.00000	0.000	64629.97000	62769.58000	63352.70000
TL	205	0.53075	1083.42000	16.900	0.62005	0.44026	0.53193
U	238	0.49758	1226.77700	9.000	0.44656	0.52960	0.51658
SC-2	45	90236.98000	0.00000	0.000	92248.64000	89111.10000	89351.20000
GE-1	72	512660.68300	0.00000	0.000	515433.31000	508658.04000	513890.70000
GE-2	72	113559.04700	0.00000	0.000	111742.57000	114794.46000	114140.11000
GE-3	72	85744.93000	0.00000	0.000	85514.28000	84788.93000	86931.58000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:24:54
Tube Number: 6
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	570952.85700	0.00000	0.000	571572.34000	569910.69000	571375.54000
SC-3	45	31691.66000	0.00000	0.000	31103.50000	31665.09000	32306.39000
AL	27	102969.56705	1805212.16000	1.600	101350.62481	104585.12319	102972.95314
B	11	53.93104	15146.99300	2.200	52.76952	53.87331	55.15028
BE	9	0.01066	6.00000	0.300	0.01064	0.01069	0.01065
CA	44	287865.29550	686633.73700	0.600	287513.14230	289863.18003	286219.56416
CR	52	0.51613	716.71300	2.300	0.51128	0.50747	0.52964
FE	57	239385.48749	3392313.38700	1.100	241152.99523	240650.31425	236353.15300
K	39	101369.82793	4690496.38700	0.700	101285.73135	102164.17687	100659.57557
MG	24	96970.71765	5116696.17000	2.000	95072.31717	99009.70351	96830.13225
MN	55	3.56142	1346.77000	5.100	3.50058	3.76408	3.41962
NA	23	229350.51648	26069803.77700	0.700	227473.15030	230306.20159	230272.19756
TI	47	1977.39269	33077.97000	2.100	1942.27712	2022.38361	1967.51732
V	51	-0.18526	33.33300	0.000	-0.19011	-0.22884	-0.13683
IN-2	115	129996.47700	0.00000	0.000	129617.32000	129728.98000	130643.13000
IN-3	115	37526.43000	0.00000	0.000	36467.20000	37274.62000	38837.47000
AG	107	0.05995	76.67000	55.600	0.03090	0.09630	0.05264
AS	75	1.07569	87.33300	9.100	1.00350	1.03676	1.18682
BA	137	1.04168	173.34300	15.000	1.17123	1.08556	0.86824
CD	111	0.19571	31.33300	31.100	0.20488	0.25151	0.13074
CO	59	0.92448	1053.41300	5.000	0.95691	0.94482	0.87172
CU	63	0.93107	926.73300	10.200	0.83508	1.02526	0.93286
MO	98	2038.65043	1310329.04300	2.100	2076.20383	2048.19215	1991.55531
NI	60	1.22397	420.02000	5.200	1.29679	1.19899	1.17613
SB	121	1.24419	630.03700	7.100	1.31162	1.27704	1.14392
SE	78	0.03591	1.55700	90.700	0.02882	0.00747	0.07145
SN	120	0.38962	566.72700	43.100	0.29357	0.29154	0.58374
SR	88	16.27586	7358.80700	2.800	16.07020	16.79135	15.96604
ZN	66	1.45615	200.01000	10.000	1.50854	1.29176	1.56816
TB-3	159	101614.82700	0.00000	0.000	101769.35000	100167.42000	102907.71000
PB	208	0.78406	2050.15000	12.000	0.70883	0.88901	0.75434
BI-3	209	60539.42000	0.00000	0.000	59906.68000	60228.06000	61483.52000
TL	205	-0.00401	16.66700	0.000	-0.00216	-0.00222	-0.00763
U	238	0.05247	123.34000	8.600	0.04731	0.05562	0.05449
SC-2	45	93554.04000	0.00000	0.000	92702.36000	94272.07000	93687.69000
GE-1	72	515937.97300	0.00000	0.000	516370.70000	514294.13000	517149.09000
GE-2	72	117321.83000	0.00000	0.000	114401.02000	118747.17000	118817.30000
GE-3	72	86606.66300	0.00000	0.000	85764.88000	85936.19000	88118.92000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:27:04
Tube Number: 7
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	555793.36300	0.00000	0.000	550959.21000	557963.70000	558457.18000
SC-3	45	31297.63300	0.00000	0.000	29771.16000	31494.69000	32627.05000
AL	27	19.45523	390.02000	19.000	23.55930	16.35660	18.44977
B	11	17.33707	9967.34000	10.100	19.32878	16.05400	16.62844
BE	9	-0.00119	2.00000	0.000	-0.00114	0.00493	-0.00736
CA	44	80.94091	260.01300	44.800	121.20809	70.70953	50.90512
CR	52	0.21529	500.02300	64.900	0.37262	0.10533	0.16792
FE	57	65.61380	923.40000	32.400	89.90138	56.52410	50.41592
K	39	23.18541	12248.81000	43.500	34.76810	16.36245	18.42567
MG	24	19.27789	1076.74700	11.200	21.75944	17.81900	18.25522
MN	55	0.05305	60.00000	125.200	0.03377	-0.00161	0.12700
NA	23	55.19346	17303.90300	17.900	63.72284	57.45876	44.39877
TI	47	1.41046	26.66700	28.700	1.69459	1.59010	0.94669
V	51	-0.13860	56.66700	0.000	-0.10733	-0.13397	-0.17451
IN-2	115	133948.53700	0.00000	0.000	131052.65000	135527.55000	135265.41000
IN-3	115	37211.12300	0.00000	0.000	36774.48000	37846.67000	37012.22000
AG	107	0.00825	13.33300	116.900	0.01387	-0.00289	0.01376
AS	75	-0.08711	8.66700	0.000	-0.09573	-0.09916	-0.06645
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	-0.00008	0.66700	0.000	-0.00428	0.00832	-0.00428
CO	59	-0.00054	16.66700	0.000	0.00268	0.00216	-0.00647
CU	63	0.09805	210.01000	58.500	0.14804	0.03547	0.11063
MO	98	4.29149	2743.70300	9.200	4.56032	4.47709	3.83705
NI	60	-0.04824	33.33300	0.000	0.00857	-0.09407	-0.05923
SB	121	0.05695	140.00700	183.300	-0.06209	0.09985	0.13310
SE	78	-0.00013	0.44700	0.000	0.00725	0.00654	-0.01417
SN	120	2.37229	1578.85000	146.800	6.38360	0.12561	0.60766
SR	88	0.00731	3.33300	173.200	0.00000	0.02193	0.00000
ZN	66	2.50613	316.68300	14.400	2.12304	2.84095	2.55440
TB-3	159	99052.72700	0.00000	0.000	98354.27000	99683.78000	99120.13000
PB	208	0.01309	56.66700	16.500	0.01059	0.01427	0.01440
BI-3	209	60874.42700	0.00000	0.000	60369.34000	61212.92000	61041.02000
TL	205	-0.00934	6.66700	0.000	-0.01283	-0.01283	-0.00236
U	238	0.00422	10.00000	173.200	0.00000	0.00000	0.01266
SC-2	45	90592.67000	0.00000	0.000	88868.50000	92612.03000	90297.48000
GE-1	72	499994.79700	0.00000	0.000	496929.60000	503067.96000	499986.83000
GE-2	72	113629.50000	0.00000	0.000	111389.32000	115439.73000	114059.45000
GE-3	72	83853.32300	0.00000	0.000	82284.73000	86045.86000	83229.38000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:29:12
Tube Number: 8
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	584217.03700	0.00000	0.000	585890.50000	583299.29000	583461.32000
SC-3	45	32600.23300	0.00000	0.000	30762.64000	33829.50000	33208.56000
AL	27	2494.91464	45039.21300	2.700	2491.12617	2429.01803	2564.59973
B	11	252.77928	42779.10300	2.800	245.00816	254.10285	259.22684
BE	9	25.07838	8545.12300	1.900	25.02223	25.58061	24.63231
CA	44	2560.78299	6351.56300	3.000	2643.77386	2491.69167	2546.88345
CR	52	260.81498	185651.08700	3.100	266.74045	251.67603	264.02847
FE	57	2496.86292	36382.96700	2.900	2580.49417	2467.07966	2443.01492
K	39	2491.46480	129834.60000	3.700	2588.61137	2403.11285	2482.67017
MG	24	2451.06148	132976.20700	3.000	2524.06963	2375.34942	2453.76540
MN	55	260.14047	98095.79700	2.900	267.44781	252.37040	260.60319
NA	23	2305.16448	280777.07000	3.200	2362.26620	2222.07573	2331.15150
TI	47	261.09732	4490.84000	6.300	267.77646	242.36110	273.15442
V	51	263.75236	144060.81700	2.600	270.58471	256.77288	263.89948
IN-2	115	140353.34000	0.00000	0.000	140281.25000	137826.85000	142951.92000
IN-3	115	39160.83300	0.00000	0.000	38721.14000	39699.58000	39061.78000
AG	107	25.71408	32692.03000	2.000	25.33360	25.50256	26.30609
AS	75	257.07018	18114.06000	2.800	251.64035	254.27147	265.29871
BA	137	260.71604	45425.47700	2.900	252.58311	261.86398	267.70104
CD	111	25.63425	4212.65300	2.600	24.95453	25.63661	26.31161
CO	59	257.88960	301932.70300	2.400	252.31163	256.77282	264.58435
CU	63	256.38513	229406.89300	2.200	252.13428	254.13866	262.88243
MO	98	26.14664	17551.46000	1.800	26.00442	25.77519	26.66029
NI	60	257.92583	81850.52300	1.400	254.51973	257.77619	261.48158
SB	121	25.57612	11134.77000	1.300	25.84609	25.68350	25.19878
SE	78	27.04461	906.03300	4.500	26.62623	28.41804	26.08955
SN	120	26.16936	14708.23700	5.300	25.27127	25.46109	27.77573
SR	88	25.87247	12208.95000	3.800	25.23591	25.38824	26.99328
ZN	66	259.37729	30746.95700	3.800	248.98031	260.45306	268.69849
TB-3	159	102715.82300	0.00000	0.000	101093.87000	103521.35000	103532.25000
PB	208	26.72995	69888.49000	2.200	27.18472	26.06486	26.94029
BI-3	209	64317.28700	0.00000	0.000	63744.85000	63131.24000	66075.77000
TL	205	25.95536	52260.62700	2.100	25.57099	26.59219	25.70291
U	238	25.22403	62959.89300	0.700	25.05714	25.41516	25.19979
SC-2	45	94500.45300	0.00000	0.000	95047.33000	94191.25000	94262.78000
GE-1	72	523119.91300	0.00000	0.000	523277.45000	522238.04000	523844.25000
GE-2	72	119711.81300	0.00000	0.000	120733.29000	119292.21000	119109.94000
GE-3	72	87786.41700	0.00000	0.000	85935.42000	88480.49000	88943.34000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:31:22
Tube Number: 9
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	567584.00300	0.00000	0.000	558693.12000	574283.51000	569775.38000
SC-3	45	31872.16000	0.00000	0.000	31414.37000	32536.96000	31665.15000
AL	27	3.27252	113.33300	28.400	4.31970	2.95026	2.54759
B	11	74.02025	17733.11700	3.100	76.48146	73.67871	71.90058
BE	9	0.02080	9.33300	83.200	0.01106	0.01056	0.04080
CA	44	20.78268	123.34000	55.400	7.51816	26.62784	28.20206
CR	52	0.16105	473.35700	59.300	0.15072	0.07118	0.26126
FE	57	13.73127	210.01000	17.400	14.67150	15.50569	11.01661
K	39	-6.42902	11107.91000	0.000	-9.43306	-15.47430	5.62031
MG	24	5.77704	383.35300	23.300	6.77688	6.30857	4.24566
MN	55	0.16893	103.33700	10.600	0.16374	0.15422	0.18882
NA	23	1.79948	11554.87000	78.600	0.17329	2.48926	2.73590
TI	47	0.57553	13.33300	119.000	0.99153	0.94991	-0.21484
V	51	-0.05324	103.33700	0.000	-0.00065	-0.13761	-0.02147
IN-2	115	136768.83000	0.00000	0.000	132782.37000	137526.34000	139997.78000
IN-3	115	37919.49300	0.00000	0.000	37466.56000	39220.09000	37071.83000
AG	107	0.01352	20.00000	63.100	0.01356	0.00497	0.02204
AS	75	0.02853	16.66700	478.800	-0.09797	0.01018	0.17337
BA	137	0.11953	20.00000	51.300	0.17999	0.05731	0.12127
CD	111	0.00425	1.33300	173.700	0.00845	-0.00428	0.00858
CO	59	0.09958	130.00300	40.300	0.14521	0.06978	0.08375
CU	63	0.18632	290.01300	34.900	0.24774	0.11831	0.19290
MO	98	0.26076	176.67700	9.000	0.25413	0.28693	0.24121
NI	60	-0.01849	43.33300	0.000	-0.02749	-0.00190	-0.02609
SB	121	0.16984	190.00700	114.800	0.34651	0.20234	-0.03934
SE	78	0.02035	1.11300	121.600	0.04893	0.00624	0.00588
SN	120	0.23332	486.69300	96.000	0.07658	0.13360	0.48978
SR	88	0.01452	6.66700	86.700	0.00000	0.02116	0.02238
ZN	66	0.45136	86.66700	69.700	0.13572	0.45335	0.76503
TB-3	159	100532.55000	0.00000	0.000	101012.63000	100519.73000	100065.29000
PB	208	0.02188	80.00000	17.200	0.02563	0.02189	0.01811
BI-3	209	60843.95300	0.00000	0.000	61061.65000	61262.42000	60207.79000
TL	205	0.03447	90.00300	66.500	0.00810	0.04976	0.04555
U	238	0.03106	73.33300	20.700	0.03798	0.02524	0.02996
SC-2	45	91836.66000	0.00000	0.000	90035.09000	91937.31000	93537.58000
GE-1	72	514582.96000	0.00000	0.000	509016.36000	517343.82000	517388.70000
GE-2	72	118118.31000	0.00000	0.000	116327.32000	115913.19000	122114.42000
GE-3	72	84949.83300	0.00000	0.000	83732.53000	85713.96000	85403.01000

Run Name: 1833101E07
Tube Number: 10
Sample Number: **9870252**

Date/Time: 11/27/2018 9:33:31
Batch: 183041063701A
Class: **********

Initial Vol: 1.20 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	559008.26000	0.00000	0.000	616365.89000	553039.52000	507619.37000
SC-3	45	31831.93000	0.00000	0.000	31264.11000	31474.33000	32757.35000
AL	27	4494.21513	79204.73300	2.100	4383.26202	4539.89814	4559.48522
B	11	57.61001	15213.71700	20.200	45.26647	59.21354	68.35002
BE	9	0.41786	138.66700	8.400	0.40445	0.45781	0.39132
CA	44	26971.58849	64716.71000	2.700	26414.31528	26708.55245	27791.89774
CR	52	81.29745	56814.65300	2.900	78.59154	82.67069	82.63012
FE	57	67278.14315	957716.99000	0.300	67214.60338	67508.64436	67111.18170
K	39	757.36948	46507.91700	6.000	718.61801	807.79017	745.70026
MG	24	1841.19950	97663.04700	2.200	1794.67105	1871.98417	1856.94328
MN	55	633.33347	233342.74300	2.100	621.02438	647.74903	631.22699
NA	23	515.68145	70195.84300	2.600	500.28372	523.07870	523.68194
TI	47	203.10592	3417.18300	5.600	208.30754	190.05485	210.95537
V	51	41.75988	22404.39300	1.400	41.10159	42.04124	42.13682
IN-2	115	135265.95000	0.00000	0.000	131054.50000	136769.79000	137973.56000
IN-3	115	38051.37000	0.00000	0.000	38231.95000	37073.38000	38848.78000
AG	107	5.89516	7285.48300	3.700	5.64705	5.97328	6.06514
AS	75	19.89932	1375.40700	3.400	19.80348	20.60932	19.28516
BA	137	1005.15735	170135.33000	1.100	993.48585	1015.16463	1006.82158
CD	111	2.04624	326.67700	13.100	1.95340	2.34890	1.83642
CO	59	17.61843	20054.46700	1.800	17.32992	17.95335	17.57203
CU	63	228.31902	198473.03300	4.200	217.42249	235.60613	231.92845
MO	98	7.71649	5037.71000	1.300	7.60781	7.81438	7.72729
NI	60	52.18126	16119.45000	4.500	50.22278	54.79782	51.52319
SB	121	45.50285	19147.05300	3.900	43.94667	47.44152	45.12035
SE	78	1.19778	39.11000	3.900	1.24311	1.14983	1.20041
SN	120	832.25210	443182.60000	2.000	815.19627	848.68160	832.87843
SR	88	149.98075	68739.98000	3.600	145.44549	155.95192	148.54485
ZN	66	2549.55682	293212.30000	2.900	2483.47294	2629.64899	2535.54852
TB-3	159	103008.49700	0.00000	0.000	100075.78000	102626.13000	106323.58000
PB	208	1509.46442	3955912.43700	1.500	1526.00082	1518.61610	1483.77635
BI-3	209	69895.53700	0.00000	0.000	70347.17000	69574.29000	69765.15000
TL	205	0.11350	276.68000	35.400	0.15978	0.08821	0.09252
U	238	0.38862	1053.42000	18.900	0.30404	0.43705	0.42478
SC-2	45	91622.58300	0.00000	0.000	89683.85000	91244.07000	93939.83000
GE-1	72	512258.78300	0.00000	0.000	550120.62000	508452.92000	478202.81000
GE-2	72	117923.90300	0.00000	0.000	114714.78000	120127.48000	118929.45000
GE-3	72	87693.29700	0.00000	0.000	85011.22000	88722.56000	89346.11000

Run Name: 1833101E07
Tube Number: 11
Sample Number: **9870253**

Date/Time: 11/27/2018 9:35:40
Batch: 183041063701A
Class: **********

Initial Vol: 1.17 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	618162.24300	0.00000	0.000	583292.26000	654038.62000	617155.85000
SC-3	45	33512.48300	0.00000	0.000	32767.52000	33629.54000	34140.39000
AL	27	24425.54976	452884.30300	1.000	24156.69094	24489.58821	24630.37011
B	11	46.05238	15213.71700	17.400	55.11199	39.83229	43.21285
BE	9	2.54847	918.70000	7.400	2.69782	2.33703	2.61055
CA	44	54037.00653	136357.98300	0.800	54400.20521	53578.90802	54131.90636
CR	52	239.20343	175186.39700	1.100	241.83147	236.36600	239.41282
FE	57	52711.32884	789957.38300	0.400	52915.14983	52700.52123	52518.31546
K	39	2957.36842	156353.91000	0.100	2960.21708	2958.27537	2953.61281
MG	24	4701.69652	262404.32700	0.400	4680.86762	4705.06811	4719.15384
MN	55	524.09102	203295.86700	0.000	524.20148	523.89117	524.18040
NA	23	1156.59105	150884.47000	0.900	1150.45621	1169.26914	1150.04780
TI	47	839.09061	14841.29700	1.400	848.55883	843.17343	825.53958
V	51	86.79793	48862.25700	1.400	88.07120	85.55830	86.76430
IN-2	115	141050.34700	0.00000	0.000	136549.00000	142220.25000	144381.79000
IN-3	115	38563.61300	0.00000	0.000	37132.21000	38794.85000	39763.78000
AG	107	9.63933	12065.55000	2.300	9.76606	9.76865	9.38330
AS	75	39.26346	2736.28000	3.100	40.32246	37.92538	39.54255
BA	137	4370.80046	749512.43300	1.900	4455.40720	4369.29560	4287.69859
CD	111	4.27841	692.02000	8.200	4.42501	4.53009	3.88012
CO	59	32.55282	37519.07700	3.400	33.38737	32.99319	31.27792
CU	63	1022.45878	900187.22300	1.600	1040.92844	1017.91167	1008.53624
MO	98	14.38698	9510.17300	3.800	14.45372	14.90252	13.80471
NI	60	111.60915	34899.58700	1.300	111.90942	112.88342	110.03461
SB	121	12.03522	5227.82700	4.600	11.42577	12.51887	12.16100
SE	78	4.03042	136.00000	9.000	4.40392	3.67777	4.00958
SN	120	160.11214	86668.86700	3.000	164.42056	160.88530	155.03055
SR	88	409.52782	190197.43000	2.700	422.01860	404.65026	401.91460
ZN	66	3118.17517	363397.58700	1.900	3183.14099	3100.52659	3070.85793
TB-3	159	106907.73300	0.00000	0.000	105113.74000	107804.47000	107804.99000
PB	208	2053.53626	5586700.54000	0.900	2072.60881	2037.30441	2050.69556
BI-3	209	68115.86700	0.00000	0.000	67784.36000	67925.01000	68638.23000
TL	205	1.18821	2560.35700	3.700	1.14694	1.23394	1.18374
U	238	2.03487	5377.99700	5.300	2.12167	2.06794	1.91500
SC-2	45	96624.01300	0.00000	0.000	96496.93000	94976.23000	98398.88000
GE-1	72	539565.35700	0.00000	0.000	516949.72000	565052.41000	536693.94000
GE-2	72	119342.13300	0.00000	0.000	117800.56000	121317.33000	118908.51000
GE-3	72	88810.05000	0.00000	0.000	86821.43000	89768.98000	89839.74000

Run Name: 1833101E07
Tube Number: 12
Sample Number: **9870254**

Date/Time: 11/27/2018 9:37:49
Batch: 183041063701A
Class: **********

Initial Vol: 1.29 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	578562.63700	0.00000	0.000	581900.54000	576427.18000	577360.19000
SC-3	45	32319.55000	0.00000	0.000	31484.42000	32797.51000	32676.72000
AL	27	3432.76057	61414.30300	3.200	3459.02731	3312.64558	3526.60882
B	11	24.88698	11402.35300	3.000	24.08111	25.03307	25.54676
BE	9	0.23752	82.66700	22.600	0.29916	0.21281	0.20058
CA	44	31698.91617	77162.97000	2.700	32059.44201	30713.63253	32323.67398
CR	52	17.85412	12949.44700	1.100	18.05719	17.84508	17.66009
FE	57	20314.50952	293595.16000	1.300	20478.38986	20005.42001	20459.71870
K	39	595.27854	39590.67000	1.100	598.80000	587.45546	599.58018
MG	24	1484.38626	79947.96300	0.300	1478.73389	1485.75437	1488.67052
MN	55	184.00818	68856.41700	1.600	185.19622	180.71412	186.11421
NA	23	668.97114	89015.25000	1.000	668.23158	662.91084	675.77099
TI	47	232.00121	3963.99300	5.800	217.08332	236.12163	242.79870
V	51	15.79369	8689.53300	4.000	15.15222	15.81059	16.41826
IN-2	115	137427.76700	0.00000	0.000	134981.59000	136560.83000	140740.88000
IN-3	115	38287.49000	0.00000	0.000	36938.29000	38677.41000	39246.77000
AG	107	2.31388	2877.05700	4.300	2.40764	2.32313	2.21088
AS	75	5.67241	406.01000	7.800	5.17431	5.82354	6.01937
BA	137	207.01205	35242.51300	2.400	212.77879	204.37750	203.87986
CD	111	4.22753	679.35300	4.100	4.33211	4.32201	4.02846
CO	59	4.61853	5304.47700	0.800	4.58595	4.65592	4.61373
CU	63	1499.56609	1310792.58700	1.600	1523.76725	1498.88810	1476.04292
MO	98	1.88002	1240.10000	5.100	1.93277	1.76991	1.93740
NI	60	24.98091	7795.69300	2.700	24.68613	25.74124	24.51536
SB	121	4.26926	1916.86300	0.500	4.29560	4.25424	4.25794
SE	78	0.26426	9.11300	18.100	0.31700	0.25181	0.22397
SN	120	127.06490	68360.95700	3.500	131.41887	127.20692	122.56893
SR	88	109.61973	50533.76000	4.100	114.30956	109.21337	105.33626
ZN	66	1224.60366	141705.21700	2.500	1255.97714	1223.40423	1194.42962
TB-3	159	104368.52000	0.00000	0.000	103159.47000	105830.68000	104115.41000
PB	208	2231.39280	5926249.31000	1.200	2247.64305	2199.92080	2246.61455
BI-3	209	65516.33000	0.00000	0.000	65623.43000	65030.09000	65895.47000
TL	205	0.05543	140.00700	26.100	0.04073	0.05596	0.06961
U	238	0.33828	860.06300	6.200	0.31414	0.35267	0.34804
SC-2	45	91930.50700	0.00000	0.000	91000.98000	91383.90000	93406.64000
GE-1	72	526325.08300	0.00000	0.000	529986.44000	525867.02000	523121.79000
GE-2	72	116867.80300	0.00000	0.000	114774.36000	117637.60000	118191.45000
GE-3	72	86925.48700	0.00000	0.000	84307.04000	88269.31000	88200.11000

Run Name: 1833101E07
Tube Number: 13
Sample Number: **9872060**

Date/Time: 11/27/2018 9:39:58
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	551473.24700	0.00000	0.000	551817.30000	551074.44000	551528.00000
SC-3	45	29904.68700	0.00000	0.000	29270.12000	29590.59000	30853.35000
AL	27	2.48136	93.33700	62.000	1.16177	4.17045	2.11185
B	11	7.15593	8572.48300	14.600	8.31949	6.29192	6.85639
BE	9	-0.00114	2.00000	0.000	-0.00115	-0.00736	0.00508
CA	44	5.34349	80.00300	397.700	28.46981	0.88355	-13.32288
CR	52	0.17567	453.36000	40.800	0.24692	0.17661	0.10349
FE	57	18.02393	253.34300	22.000	19.63853	20.92649	13.50676
K	39	-11.95763	10180.53700	0.000	-3.38805	-15.99438	-16.49046
MG	24	2.70351	206.67700	33.200	1.83805	3.62948	2.64300
MN	55	0.12194	80.00000	99.300	0.24291	0.12226	0.00067
NA	23	-13.04565	9246.45000	0.000	-13.13900	-11.24179	-14.75615
TI	47	0.83963	16.66700	42.900	1.07990	0.42552	1.01346
V	51	-0.18735	30.00000	0.000	-0.14572	-0.20734	-0.20899
IN-2	115	131582.14700	0.00000	0.000	139961.61000	128057.66000	126727.17000
IN-3	115	36408.11000	0.00000	0.000	36332.35000	35879.80000	37012.18000
AG	107	0.00275	6.66700	177.600	-0.00289	0.00570	0.00544
AS	75	-0.13507	5.33300	0.000	-0.12488	-0.12372	-0.15662
BA	137	0.39013	63.33300	74.100	0.06187	0.50120	0.60733
CD	111	-0.00428	0.00000	0.000	-0.00428	-0.00428	-0.00428
CO	59	0.00620	23.33300	483.500	-0.00631	0.04043	-0.01551
CU	63	0.58836	613.37000	14.100	0.68203	0.55827	0.52476
MO	98	0.03202	26.66700	104.500	0.06963	0.00559	0.02086
NI	60	-0.00042	46.66700	0.000	0.07859	0.01276	-0.09260
SB	121	0.22299	203.34300	13.500	0.21601	0.19698	0.25596
SE	78	0.00772	0.66700	282.000	-0.01417	0.02934	0.00798
SN	120	1.66110	1196.23700	100.900	3.56080	0.38936	1.03313
SR	88	0.07549	33.33300	67.700	0.04568	0.04626	0.13453
ZN	66	0.81813	123.34000	43.500	1.06005	0.98508	0.40926
TB-3	159	98388.62000	0.00000	0.000	99794.85000	95967.94000	99403.07000
PB	208	0.91478	2316.84700	20.200	1.12471	0.84233	0.77732
BI-3	209	61259.64300	0.00000	0.000	61765.22000	60308.35000	61705.36000
TL	205	-0.00930	6.66700	0.000	-0.01283	-0.00223	-0.01283
U	238	0.00139	3.33300	173.200	0.00417	0.00000	0.00000
SC-2	45	85131.08700	0.00000	0.000	91575.89000	82281.31000	81536.06000
GE-1	72	501340.68300	0.00000	0.000	501312.96000	502421.75000	500287.34000
GE-2	72	112305.79700	0.00000	0.000	116296.55000	112305.41000	108315.43000
GE-3	72	82824.68300	0.00000	0.000	81661.77000	81389.20000	85423.08000

Run Name: 1833101E07
Tube Number: 14
Sample Number: **9872061**

Date/Time: 11/27/2018 9:42:06
Batch: 183041063701A
Class: **********

Initial Vol: 1.41 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	585303.57000	0.00000	0.000	583611.75000	584865.26000	587433.70000
SC-3	45	32115.86700	0.00000	0.000	31153.83000	32496.48000	32697.29000
AL	27	10035.66652	178311.95000	2.100	10129.48364	9789.69425	10187.82168
B	11	25.84943	11667.90300	4.000	24.80146	26.88045	25.86639
BE	9	0.42238	146.66700	13.900	0.36879	0.48528	0.41306
CA	44	36844.63453	89123.55700	1.500	37031.81967	36208.16948	37293.91444
CR	52	68.70490	48474.47300	2.800	69.93665	66.45892	69.71913
FE	57	178799.58989	2567287.51300	1.900	182352.33551	175484.67593	178561.75822
K	39	5438.26080	265860.82300	1.600	5495.57035	5335.65341	5483.55864
MG	24	6867.26522	367296.32300	1.200	6801.31899	6842.08548	6958.39120
MN	55	1099.78168	408705.89300	1.100	1113.89637	1091.60246	1093.84620
NA	23	575.74379	77716.17300	0.600	578.70438	571.99649	576.53051
TI	47	1025.21084	17374.24300	1.900	1047.20747	1015.58687	1012.83819
V	51	32.89512	17834.79000	1.500	32.51821	32.72790	33.43927
IN-2	115	132685.55700	0.00000	0.000	132937.53000	132493.91000	132625.23000
IN-3	115	36914.01300	0.00000	0.000	36410.76000	36670.21000	37661.07000
AG	107	5.10341	6118.25000	2.600	5.02392	5.25735	5.02895
AS	75	35.74608	2386.88000	3.100	34.61683	36.79763	35.82379
BA	137	771.20065	126653.20700	1.300	760.37569	779.42577	773.80051
CD	111	10.95548	1698.11300	3.800	10.62750	10.81234	11.42659
CO	59	15.59232	17227.31000	2.000	15.41012	15.41050	15.95633
CU	63	449.92810	379412.31300	1.000	445.04092	453.25017	451.49322
MO	98	8.50621	5387.90300	5.600	8.03708	8.98309	8.49847
NI	60	65.95204	19760.69000	1.200	66.25677	66.52927	65.07008
SB	121	19.84707	8169.39000	2.200	20.35506	19.58864	19.59751
SE	78	1.15787	37.11000	24.900	0.82633	1.29269	1.35458
SN	120	1104.30479	570429.21000	0.700	1108.35067	1108.56123	1096.00246
SR	88	138.79886	61734.21300	1.000	139.98989	139.18259	137.22410
ZN	66	1725.54817	192597.52700	1.000	1708.29766	1743.35035	1724.99650
TB-3	159	103042.31700	0.00000	0.000	101789.38000	101940.59000	105396.98000
PB	208	1575.68256	4131303.34700	1.400	1593.03786	1582.09684	1551.91299
BI-3	209	67285.34700	0.00000	0.000	66910.55000	65723.32000	69222.17000
TL	205	0.22207	493.36000	15.600	0.22596	0.25458	0.18567
U	238	0.80045	2090.25700	3.900	0.83576	0.77636	0.78924
SC-2	45	91777.18000	0.00000	0.000	92018.61000	91254.09000	92058.84000
GE-1	72	526179.42000	0.00000	0.000	527459.02000	521856.44000	529222.80000
GE-2	72	115302.00000	0.00000	0.000	115882.63000	114009.42000	116013.95000
GE-3	72	86398.55300	0.00000	0.000	86146.33000	85654.56000	87394.77000

Run Name: 1833101E07
Tube Number: 15
Sample Number: **9872062**

Date/Time: 11/27/2018 9:44:14
Batch: 183041063701A
Class: **********

Initial Vol: 1.25 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	587712.50300	0.00000	0.000	589617.57000	584924.05000	588595.89000
SC-3	45	31401.11000	0.00000	0.000	30953.42000	30722.82000	32527.09000
AL	27	14887.56857	258607.00700	1.600	14679.58890	15142.95038	14840.16644
B	11	45.16076	14380.92000	1.800	44.22953	45.72870	45.52405
BE	9	0.82707	286.00300	10.800	0.92929	0.76672	0.78520
CA	44	72768.14188	171993.24300	1.600	72487.44689	74024.09096	71792.88780
CR	52	151.93935	104394.39700	0.800	151.28845	153.32917	151.20045
FE	57	251781.80574	3534574.63300	1.700	251762.88726	256075.03594	247507.49402
K	39	1916.77058	98873.73700	2.900	1890.90419	1981.15739	1878.25014
MG	24	5923.62294	309651.86000	2.100	5851.43943	6069.39822	5850.03118
MN	55	1099.64541	399481.58300	2.000	1099.44020	1122.06368	1077.43233
NA	23	1580.92268	189066.19000	3.500	1548.51619	1644.62606	1549.62580
TI	47	481.37711	7969.07700	7.400	485.99419	514.32200	443.81514
V	51	53.10511	28030.91300	6.300	53.37769	56.33060	49.60705
IN-2	115	131142.92300	0.00000	0.000	130319.71000	133914.29000	129194.77000
IN-3	115	36309.03700	0.00000	0.000	35705.66000	36380.95000	36840.50000
AG	107	5.83366	6878.61300	4.300	6.00366	5.54486	5.95248
AS	75	59.98789	3929.89000	1.000	59.86127	60.61185	59.49056
BA	137	4247.98378	686172.98300	0.200	4243.85434	4244.54078	4255.55620
CD	111	6.72226	1024.71300	0.700	6.71158	6.67871	6.77650
CO	59	35.96041	39049.78000	1.100	36.05558	35.51508	36.31056
CU	63	990.81061	821703.99700	0.800	983.39237	989.44266	999.59680
MO	98	21.51254	13390.08000	0.800	21.64010	21.59148	21.30603
NI	60	160.76696	47324.36300	1.100	158.90316	160.81968	162.57805
SB	121	19.98677	8092.64700	1.800	19.81952	20.39692	19.74388
SE	78	2.91733	91.78000	2.300	2.96496	2.94757	2.83947
SN	120	892.01970	453321.54300	0.200	893.08666	890.11938	892.85304
SR	88	348.65055	152552.24000	1.800	350.59459	341.57907	353.77799
ZN	66	3910.53091	429265.53700	0.200	3911.95799	3917.38666	3902.24807
TB-3	159	101823.85300	0.00000	0.000	99694.32000	100571.03000	105206.21000
PB	208	1938.41192	5021203.44000	2.000	1966.82516	1953.33731	1895.07328
BI-3	209	66398.15700	0.00000	0.000	65282.64000	65332.67000	68579.16000
TL	205	0.41277	883.39700	6.300	0.42281	0.43227	0.38324
U	238	1.13674	2930.44300	3.900	1.08558	1.15971	1.16493
SC-2	45	90958.10300	0.00000	0.000	92319.73000	91756.15000	88798.43000
GE-1	72	526853.97700	0.00000	0.000	526041.83000	526182.26000	528337.84000
GE-2	72	114855.66000	0.00000	0.000	113796.70000	116237.29000	114532.99000
GE-3	72	86727.30700	0.00000	0.000	85795.15000	85573.43000	88813.34000

Run Name: 1833101E07
Tube Number: 16
Sample Number: **9872063**

Date/Time: 11/27/2018 9:46:22
Batch: 183041063701A
Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	595732.63700	0.00000	0.000	598414.33000	593198.94000	595584.64000
SC-3	45	32547.06700	0.00000	0.000	31644.98000	32687.58000	33308.64000
AL	27	4678.82548	84278.68300	0.600	4706.67484	4680.43066	4649.37095
B	11	16.44338	10559.74700	5.600	15.91990	15.90364	17.50661
BE	9	0.36875	130.66700	16.300	0.42254	0.38006	0.30364
CA	44	5992.12401	14761.22000	3.600	5779.45202	5988.85079	6208.06922
CR	52	34.06420	24541.24000	1.700	34.72080	33.84961	33.62219
FE	57	58543.01598	852037.35700	1.100	58669.16519	59117.70812	57842.17462
K	39	402.92496	30742.63000	3.200	415.10168	404.55283	389.12037
MG	24	615.03867	33394.92300	1.500	622.81727	617.64701	604.65173
MN	55	271.27966	102193.11300	1.800	274.22729	274.09746	265.51425
NA	23	388.25167	56882.61700	3.500	385.61153	402.95684	376.18663
TI	47	233.70725	4020.70700	4.600	226.16316	228.80139	246.15719
V	51	17.83708	9860.35000	0.200	17.84912	17.85633	17.80580
IN-2	115	140168.55300	0.00000	0.000	136152.91000	142178.11000	142174.64000
IN-3	115	38366.93300	0.00000	0.000	37770.81000	39154.51000	38175.48000
AG	107	2.18764	2727.03700	4.600	2.19949	2.08236	2.28108
AS	75	21.78562	1517.42700	3.800	21.37359	21.23566	22.74761
BA	137	1034.64693	176563.03700	1.700	1040.67804	1014.83907	1048.42370
CD	111	2.66577	429.34300	10.100	2.73456	2.36992	2.89284
CO	59	8.71391	10013.76700	1.800	8.53421	8.81336	8.79416
CU	63	1809.42851	1585441.01700	3.500	1756.85545	1791.43386	1879.99622
MO	98	8.31948	5481.25000	7.000	7.87089	8.97909	8.10845
NI	60	47.88010	14924.83000	1.000	47.85957	47.39399	48.38674
SB	121	9.07400	3947.39000	2.200	9.01179	8.91564	9.29458
SE	78	0.77072	26.22300	10.000	0.84740	0.69302	0.77172
SN	120	401.92261	216016.14300	0.800	403.69328	398.37629	403.69826
SR	88	69.08902	31929.90700	3.300	70.40845	66.45512	70.40349
ZN	66	1045.36656	121258.32000	2.100	1048.55761	1021.88406	1065.65802
TB-3	159	103408.18700	0.00000	0.000	103289.49000	102999.11000	103935.96000
PB	208	3251.01371	8555416.27700	0.700	3252.40843	3273.81043	3226.82227
BI-3	209	73759.50300	0.00000	0.000	73293.01000	73253.46000	74732.04000
TL	205	0.06821	186.67700	33.700	0.07437	0.08750	0.04276
U	238	0.35079	1003.41700	13.100	0.40081	0.34123	0.31034
SC-2	45	95479.97700	0.00000	0.000	95671.69000	93980.17000	96788.07000
GE-1	72	539998.03700	0.00000	0.000	542049.60000	536291.71000	541652.80000
GE-2	72	121640.32700	0.00000	0.000	119643.91000	121498.08000	123778.99000
GE-3	72	88205.86700	0.00000	0.000	87837.75000	87182.37000	89597.48000

Run Name: 1833101E07
Tube Number: 17
Sample Number: **9872063**

Date/Time: 11/27/2018 9:48:30
Batch: 183041063701A
Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 50.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	592462.96000	0.00000	0.000	584374.48000	604149.64000	588864.76000
SC-3	45	31714.92000	0.00000	0.000	31595.03000	31955.31000	31594.42000
AL	27	1557.75205	27379.48300	4.800	1507.73997	1521.88012	1643.63606
B	11	3.04894	8638.52000	12.700	3.15265	3.37372	2.62045
BE	9	0.11233	41.33300	31.900	0.14525	0.11755	0.07419
CA	44	1983.24093	4807.62700	5.000	1925.41428	2098.86066	1925.44784
CR	52	11.56602	8359.36000	4.900	11.09336	11.40758	12.19711
FE	57	19571.31985	277592.04300	1.800	19254.66606	19499.56078	19959.73270
K	39	128.15550	17273.97700	10.100	114.49277	129.79621	140.17752
MG	24	203.72994	10830.92300	4.000	208.34157	194.31290	208.53536
MN	55	90.32415	33191.75700	0.200	90.24828	90.55692	90.16726
NA	23	113.39079	24183.54700	6.000	107.00192	112.63234	120.53812
TI	47	85.26406	1430.12000	9.500	92.15194	76.28447	87.35576
V	51	5.75683	3190.47700	8.500	5.21324	5.89900	6.15824
IN-2	115	137682.85300	0.00000	0.000	134982.41000	138443.35000	139622.80000
IN-3	115	38484.53700	0.00000	0.000	37716.47000	38516.80000	39220.34000
AG	107	0.66146	830.05300	3.400	0.66691	0.63699	0.68049
AS	75	7.03155	501.34300	4.200	7.33423	6.74409	7.01633
BA	137	334.91444	57346.79700	1.100	330.78892	336.28292	337.67149
CD	111	0.92091	149.33300	5.600	0.91839	0.97348	0.87086
CO	59	2.91981	3377.18300	6.200	2.80535	3.12895	2.82511
CU	63	575.73861	506107.88000	0.500	576.04813	572.77755	578.39016
MO	98	2.55793	1693.49300	7.100	2.69734	2.35316	2.62329
NI	60	15.16404	4774.27700	3.400	15.72278	14.68711	15.08222
SB	121	3.05384	1413.45300	4.900	2.89870	3.06871	3.19410
SE	78	0.26278	9.11000	10.400	0.23413	0.28844	0.26578
SN	120	131.42220	71092.43700	1.800	132.52721	133.04223	128.69717
SR	88	23.21466	10764.42300	1.800	23.28775	23.58015	22.77610
ZN	66	336.63817	39200.66300	2.100	332.62531	344.82498	332.46422
TB-3	159	102890.98300	0.00000	0.000	101366.17000	104197.84000	103108.94000
PB	208	1052.87986	2756622.73700	1.600	1066.32135	1034.24238	1058.07585
BI-3	209	67372.38300	0.00000	0.000	67764.55000	66457.46000	67895.14000
TL	205	0.01092	50.00000	45.800	0.00603	0.01602	0.01070
U	238	0.14803	386.69000	12.700	0.14830	0.16673	0.12904
SC-2	45	93481.13300	0.00000	0.000	91867.49000	93266.62000	95309.29000
GE-1	72	533016.96000	0.00000	0.000	533652.18000	532966.40000	532432.30000
GE-2	72	121075.69300	0.00000	0.000	118665.26000	121882.51000	122679.31000
GE-3	72	86838.02300	0.00000	0.000	85594.38000	86791.49000	88128.20000

Run Name: 1833101E07
Tube Number: 18
Sample Number: **9872064**

Date/Time: 11/27/2018 9:50:38
Batch: 183041063701A
Class: **********

Initial Vol: 1.33 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	600793.02700	0.00000	0.000	603538.00000	603022.61000	595818.47000
SC-3	45	31688.43700	0.00000	0.000	30542.44000	32065.98000	32456.89000
AL	27	6552.79730	114905.47700	0.800	6578.21762	6490.49696	6589.67733
B	11	14.14860	10324.91300	9.700	12.68543	14.34352	15.41686
BE	9	0.55999	198.66700	9.300	0.55529	0.51027	0.61439
CA	44	21636.74689	51661.48300	1.600	21951.37981	21272.94718	21685.91369
CR	52	305.69262	211578.96700	0.900	308.78799	303.10005	305.18983
FE	57	91468.08355	1295976.80000	1.100	92540.40279	90584.05039	91279.79747
K	39	1546.41942	82681.66700	2.600	1591.98642	1532.21437	1515.05747
MG	24	2857.69580	150837.91000	0.700	2854.30192	2838.36545	2880.42004
MN	55	561.90359	206056.40000	1.000	568.08209	558.68618	558.94249
NA	23	1015.34887	126618.02700	0.800	1020.32706	1005.64647	1020.07309
TI	47	360.67257	6034.78300	3.100	364.66612	347.92354	369.42806
V	51	35.05268	18739.22300	0.200	35.05277	35.12759	34.97770
IN-2	115	137833.80000	0.00000	0.000	133658.87000	138953.62000	140888.91000
IN-3	115	37745.42000	0.00000	0.000	36321.24000	37995.91000	38919.11000
AG	107	6.40151	7839.11300	4.600	6.74201	6.24997	6.21254
AS	75	27.85508	1903.47300	3.400	28.79049	27.86334	26.91141
BA	137	1234.85474	207285.08700	1.500	1251.20480	1238.44306	1214.91637
CD	111	8.79976	1393.41000	5.300	9.19672	8.28927	8.91327
CO	59	14.58893	16469.78300	3.500	15.11618	14.10557	14.54504
CU	63	2369.93985	2041893.56300	2.100	2425.45575	2350.19657	2334.16722
MO	98	14.23381	9209.94300	3.500	14.27812	14.70873	13.71459
NI	60	99.37178	30412.70700	1.600	100.95378	99.39647	97.76510
SB	121	10.80387	4597.58300	5.100	11.41167	10.34552	10.65442
SE	78	2.38163	78.89000	5.000	2.26364	2.37765	2.50359
SN	120	360.71887	190653.77300	3.000	372.36523	358.38150	351.40989
SR	88	116.58309	52992.67000	3.300	120.97426	113.62760	115.14742
ZN	66	4886.49448	557324.43000	2.300	5001.40972	4876.68355	4781.39016
TB-3	159	103693.71300	0.00000	0.000	101285.09000	104903.02000	104893.03000
PB	208	1172.13998	3092817.39700	1.100	1185.33917	1160.83474	1170.24604
BI-3	209	63701.07000	0.00000	0.000	62347.79000	63413.19000	65342.23000
TL	205	0.31195	646.70300	10.900	0.35106	0.28951	0.29526
U	238	0.73867	1826.86300	5.400	0.74811	0.69490	0.77299
SC-2	45	94846.49700	0.00000	0.000	92713.00000	94775.37000	97051.12000
GE-1	72	536918.15700	0.00000	0.000	539428.78000	537749.37000	533576.32000
GE-2	72	117604.23300	0.00000	0.000	115580.56000	116680.99000	120551.15000
GE-3	72	86552.97700	0.00000	0.000	84256.37000	86941.95000	88460.61000

Run Name: 1833101E07
Tube Number: 19
Sample Number: **9872064**

Date/Time: 11/27/2018 9:52:46
Batch: 183041063701A
Class: **********

Initial Vol: 1.33 Final Vol: 100.00 DF: 50.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	582936.59300	0.00000	0.000	578136.28000	581874.29000	588799.21000
SC-3	45	31230.82300	0.00000	0.000	30462.33000	31634.79000	31595.35000
AL	27	1171.47236	20294.58000	2.800	1154.35004	1150.95869	1209.10834
B	11	0.74607	8184.93000	151.100	-0.45067	0.90092	1.78797
BE	9	0.08103	30.00000	27.200	0.10537	0.07517	0.06255
CA	44	3726.42379	8836.29700	7.600	3529.86576	4049.40306	3600.00254
CR	52	54.55911	37505.56300	1.700	55.59364	53.73136	54.35233
FE	57	16328.89870	228051.93000	0.900	16448.58492	16167.82882	16370.28236
K	39	251.99301	22641.37700	4.800	255.17861	238.56423	262.23618
MG	24	514.95039	26858.30300	3.400	499.06991	512.47560	533.30565
MN	55	99.58966	36028.50300	1.800	100.65940	97.49967	100.60992
NA	23	162.96633	29372.98700	3.100	157.23832	165.31069	166.34998
TI	47	66.67004	1103.42000	11.400	61.37087	63.28122	75.35803
V	51	6.00544	3270.46700	3.000	6.18057	6.01794	5.81782
IN-2	115	140027.10700	0.00000	0.000	136579.77000	140652.05000	142849.50000
IN-3	115	37564.62700	0.00000	0.000	37191.73000	38095.22000	37406.93000
AG	107	1.15395	1410.12700	4.500	1.19825	1.09696	1.16663
AS	75	4.77242	337.34000	16.300	4.47952	5.65304	4.18470
BA	137	219.52931	36686.16700	1.500	216.65926	218.68138	223.24728
CD	111	1.62194	256.00000	14.900	1.71328	1.34719	1.80535
CO	59	2.49111	2813.70300	5.200	2.62922	2.37324	2.47086
CU	63	407.13855	349355.89300	0.900	406.67924	403.78791	410.94852
MO	98	2.39988	1550.14300	11.900	2.67280	2.10355	2.42330
NI	60	17.80390	5464.56300	7.000	16.74414	17.47804	19.18952
SB	121	2.20893	1030.07700	3.800	2.11208	2.24621	2.26849
SE	78	0.44584	15.33300	18.600	0.53797	0.42279	0.37677
SN	120	63.72150	33835.11300	1.100	64.29762	62.98175	63.88514
SR	88	20.25943	9173.27300	7.700	18.54781	20.61476	21.61570
ZN	66	860.53522	97759.17700	0.700	854.22850	861.50185	865.87533
TB-3	159	100527.66300	0.00000	0.000	101579.33000	100943.97000	99059.69000
PB	208	210.39814	538254.38700	0.900	208.93749	209.63591	212.62102
BI-3	209	62615.95300	0.00000	0.000	63101.69000	62960.69000	61785.48000
TL	205	0.03138	86.66700	18.100	0.02768	0.03792	0.02854
U	238	0.13158	320.01700	13.400	0.15109	0.12688	0.11677
SC-2	45	94899.67000	0.00000	0.000	94996.73000	94071.98000	95630.30000
GE-1	72	526484.43000	0.00000	0.000	522402.10000	528817.84000	528233.35000
GE-2	72	118289.85700	0.00000	0.000	118252.93000	117709.17000	118907.47000
GE-3	72	87059.21000	0.00000	0.000	87495.37000	88420.48000	85261.78000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:54:55
Tube Number: 20
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	570594.11000	0.00000	0.000	572178.12000	568964.80000	570639.41000
SC-3	45	31327.37000	0.00000	0.000	30973.22000	31634.93000	31373.96000
AL	27	2510.35608	43554.58300	0.500	2498.73677	2507.76181	2524.56967
B	11	253.02584	41815.70700	1.100	250.17425	253.15132	255.75193
BE	9	26.42862	8795.27700	1.200	26.53985	26.06237	26.68363
CA	44	2545.19045	6071.43700	3.200	2638.48312	2490.18216	2506.90607
CR	52	265.51147	181766.11700	1.400	261.32959	266.57338	268.63146
FE	57	2521.99667	35350.18700	3.700	2444.25202	2497.95214	2623.78586
K	39	2451.02653	123066.73700	2.200	2397.47555	2449.60834	2505.99569
MG	24	2471.22566	128967.61300	2.400	2415.53579	2465.14622	2532.99496
MN	55	265.94432	96450.76300	1.600	265.45875	262.07478	270.29942
NA	23	2305.08460	270041.65700	2.100	2262.46817	2293.40531	2359.38031
TI	47	248.77762	4117.37000	3.100	242.69848	257.39268	246.24171
V	51	263.52175	138431.19000	2.600	259.54016	259.64819	271.37690
IN-2	115	137308.56300	0.00000	0.000	136548.88000	136765.69000	138611.12000
IN-3	115	37878.05700	0.00000	0.000	37261.72000	39017.21000	37355.24000
AG	107	26.15619	32144.22000	3.700	26.92266	25.05422	26.49169
AS	75	259.59970	17684.87000	4.100	255.76598	251.29923	271.73390
BA	137	259.14054	43646.58700	2.700	262.84040	251.07211	263.50911
CD	111	26.02350	4134.63700	2.500	26.06009	25.35178	26.65862
CO	59	256.55495	290423.27000	2.400	255.92422	250.69588	263.04477
CU	63	257.51732	222806.44300	2.400	255.88514	252.28408	264.38274
MO	98	26.00239	16873.85000	4.000	27.07027	24.99821	25.93870
NI	60	260.80541	80006.60300	3.300	262.95647	251.27684	268.18291
SB	121	25.55559	10757.84000	3.100	26.45416	24.99483	25.21777
SE	78	26.60459	872.47300	1.500	26.63862	26.18773	26.98742
SN	120	26.39528	14337.79700	3.800	26.78759	25.25792	27.14033
SR	88	25.72726	11741.89000	1.900	26.26893	25.57669	25.33615
ZN	66	256.79770	29434.05000	2.600	253.05018	252.86234	264.48059
TB-3	159	99921.63000	0.00000	0.000	100297.54000	99038.67000	100428.68000
PB	208	26.68026	67873.00700	1.200	27.00811	26.39698	26.63571
BI-3	209	61226.29700	0.00000	0.000	59796.10000	62157.28000	61725.51000
TL	205	26.79139	51353.83000	1.400	27.03552	26.34849	26.99016
U	238	25.84089	61372.66300	3.700	26.93720	25.48057	25.10490
SC-2	45	92286.85300	0.00000	0.000	91576.33000	92039.05000	93245.18000
GE-1	72	510708.56000	0.00000	0.000	513528.82000	507112.02000	511484.84000
GE-2	72	116353.76000	0.00000	0.000	117566.08000	115168.40000	116326.80000
GE-3	72	83997.97700	0.00000	0.000	83099.46000	84648.67000	84245.80000

Run Name: 1833101E07 Date/Time: 11/27/2018 9:57:05
Tube Number: 21
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	554722.96000	0.00000	0.000	556231.79000	553114.29000	554822.80000
SC-3	45	27139.09300	0.00000	0.000	27346.09000	26955.40000	27115.79000
AL	27	1.49582	70.00000	131.900	3.44936	1.53305	-0.49494
B	11	69.04712	16685.92700	4.000	71.76245	69.15449	66.22443
BE	9	0.01532	7.33300	23.600	0.01114	0.01744	0.01737
CA	44	-1.14864	60.00000	0.000	-6.25450	3.95647	-1.14789
CR	52	0.12148	380.02000	57.500	0.11647	0.19375	0.05424
FE	57	14.93791	193.34300	28.200	13.73050	11.45517	19.62807
K	39	6.69502	9980.47300	29.100	8.89778	5.19209	5.99520
MG	24	1.87010	150.00300	50.200	2.94773	1.22843	1.43414
MN	55	0.15337	83.33700	85.000	0.29946	0.04893	0.11171
NA	23	-14.74929	8229.20300	0.000	-11.15786	-16.40266	-16.68737
TI	47	0.48339	10.00000	1.000	0.47808	0.48812	0.48397
V	51	-0.06456	83.33700	0.000	-0.00755	-0.07053	-0.11560
IN-2	115	133878.26700	0.00000	0.000	132497.14000	134609.87000	134527.79000
IN-3	115	32575.99700	0.00000	0.000	33734.02000	31554.60000	32439.37000
AG	107	0.01571	20.00000	98.900	0.03364	0.00688	0.00661
AS	75	0.03305	14.66700	138.000	0.08006	0.03005	-0.01097
BA	137	0.25094	36.66700	39.100	0.33317	0.14247	0.27718
CD	111	0.01998	3.33300	39.700	0.02399	0.01083	0.02512
CO	59	0.02864	43.33300	85.400	0.05390	0.02689	0.00511
CU	63	0.16845	236.68000	38.700	0.20085	0.21117	0.09333
MO	98	0.07823	50.00000	59.200	0.09312	0.02631	0.11525
NI	60	-0.05785	26.66700	0.000	-0.04951	-0.00279	-0.12126
SB	121	0.04216	116.67000	158.800	0.01190	0.11888	-0.00430
SE	78	-0.00015	0.44700	0.000	0.00701	-0.01417	0.00669
SN	120	0.82072	690.11700	47.600	1.26375	0.67285	0.52556
SR	88	0.04985	20.00000	98.700	0.09840	0.00000	0.05116
ZN	66	0.33668	63.33300	11.600	0.38068	0.32326	0.30610
TB-3	159	88329.80300	0.00000	0.000	92242.56000	86886.32000	85860.53000
PB	208	0.23816	556.69700	7.900	0.24622	0.21675	0.25149
BI-3	209	54182.13000	0.00000	0.000	56672.50000	52967.39000	52906.50000
TL	205	0.00515	30.00000	207.700	-0.00719	0.01130	0.01133
U	238	0.02532	53.33300	20.400	0.02728	0.01946	0.02922
SC-2	45	88718.17300	0.00000	0.000	87954.10000	88798.72000	89401.70000
GE-1	72	501687.08700	0.00000	0.000	502350.54000	501630.38000	501080.34000
GE-2	72	114640.74300	0.00000	0.000	113010.51000	116559.96000	114351.76000
GE-3	72	73852.95700	0.00000	0.000	76241.79000	73307.23000	72009.85000

Run Name: 1833101E07
Tube Number: 22
Sample Number: **9872065**

Date/Time: 11/27/2018 9:59:14
Batch: 183041063701A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 5.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	467038.63700	0.00000	0.000	461516.59000	466362.18000	473237.14000
SC-3	45	27786.95700	0.00000	0.000	26354.27000	27646.67000	29359.93000
AL	27	22802.55763	350172.75300	2.700	23404.73881	22826.44317	22176.49091
B	11	56.43681	12666.02000	2.500	54.81058	57.42951	57.07034
BE	9	1.62311	444.01000	1.300	1.60548	1.64757	1.61628
CA	44	36498.78761	76325.46000	2.400	37318.16648	36581.88958	35596.30677
CR	52	257.07482	155928.25300	3.000	263.90025	258.81283	248.51140
FE	57	67918.47499	842948.06000	3.500	70294.99825	67869.67643	65590.75029
K	39	2993.67868	130988.52300	2.900	3061.95253	3023.05631	2896.02720
MG	24	8749.49826	404414.70700	2.700	8980.47098	8756.38735	8511.63644
MN	55	776.10983	249338.89700	2.900	796.00881	781.16539	751.15529
NA	23	1615.28935	170647.47700	2.600	1654.89370	1618.51198	1572.46237
TI	47	540.40395	7922.41300	5.800	530.55699	575.68916	514.96570
V	51	86.83629	40530.45300	0.500	87.29948	86.73678	86.47262
IN-2	115	112421.61300	0.00000	0.000	112208.28000	112480.28000	112576.28000
IN-3	115	32800.46300	0.00000	0.000	31928.19000	33014.27000	33458.93000
AG	107	58.46651	62261.66700	1.000	58.23522	58.03373	59.13058
AS	75	14.87702	890.70000	5.300	13.99957	15.52014	15.11135
BA	137	1687.91900	246300.09300	0.100	1686.50405	1690.34785	1686.90511
CD	111	26.64287	3668.50700	2.700	25.81424	27.03023	27.08413
CO	59	17.12142	16800.26700	1.200	17.35568	16.99732	17.01126
CU	63	3347.94795	2507684.70300	0.600	3360.61943	3326.81830	3356.40613
MO	98	3.49964	1970.20000	9.200	3.80983	3.52505	3.16406
NI	60	276.52555	73489.29300	0.900	278.60843	273.95014	277.01810
SB	121	6.40626	2410.29300	7.400	6.95177	6.19014	6.07688
SE	78	5.29458	142.44300	8.200	5.73568	5.27482	4.87323
SN	120	509.87562	234168.68700	1.300	517.40818	505.91378	506.30489
SR	88	323.65402	127947.32700	1.000	320.13248	324.45412	326.37547
ZN	66	6792.19885	673429.52000	0.900	6866.30310	6759.46467	6750.82877
TB-3	159	91668.36300	0.00000	0.000	91537.29000	90973.22000	92494.58000
PB	208	1146.05227	2673609.91000	0.600	1138.83229	1153.06055	1146.26396
BI-3	209	184518.91700	0.00000	0.000	182600.78000	184778.53000	186177.44000
TL	205	0.12864	816.72300	4.900	0.13592	0.12552	0.12448
U	238	1.58512	11348.71700	5.000	1.66733	1.50811	1.57990
SC-2	45	77200.05300	0.00000	0.000	77213.49000	76298.95000	78087.72000
GE-1	72	417602.20700	0.00000	0.000	411684.60000	420861.17000	420260.85000
GE-2	72	96918.61700	0.00000	0.000	97267.69000	96190.65000	97297.51000
GE-3	72	75635.64700	0.00000	0.000	72181.99000	76372.33000	78352.62000

Run Name: 1833101E07
Tube Number: 23
Sample Number: **9872065**

Date/Time: 11/27/2018 10:01:23
Batch: 183041063701A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 100.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	569763.23300	0.00000	0.000	571616.87000	570733.35000	566939.48000
SC-3	45	30816.53000	0.00000	0.000	29951.28000	31314.06000	31184.25000
AL	27	1152.61598	19700.25300	0.300	1153.54223	1148.30427	1156.00144
B	11	8.36529	9018.74700	6.800	8.98296	8.25219	7.86073
BE	9	0.08488	30.66700	26.400	0.10065	0.09481	0.05919
CA	44	1789.16336	4217.42300	4.300	1877.42017	1739.21461	1750.85530
CR	52	12.91157	9019.76700	6.100	13.73753	12.82390	12.17326
FE	57	3403.48216	46909.58300	1.500	3450.75565	3410.14233	3349.54852
K	39	123.87831	16586.55300	6.600	132.89307	116.85272	121.88914
MG	24	438.58304	22557.66300	5.900	460.00117	409.55832	446.18964
MN	55	39.27878	14053.93700	3.400	38.04810	40.72447	39.06378
NA	23	52.93887	16819.94700	5.000	53.04327	50.24724	55.52611
TI	47	24.17743	396.68700	9.900	24.45968	26.41203	21.66058
V	51	4.21390	2303.59700	3.600	4.15736	4.09913	4.38521
IN-2	115	136622.12700	0.00000	0.000	134847.29000	134498.88000	140520.21000
IN-3	115	37282.16700	0.00000	0.000	35819.17000	37929.33000	38098.00000
AG	107	2.80784	3400.52000	5.400	2.84423	2.93769	2.64159
AS	75	0.45868	45.33300	22.000	0.40442	0.57517	0.39647
BA	137	81.32279	13483.63000	1.800	82.69133	79.81121	81.46583
CD	111	1.41219	221.33300	4.800	1.48630	1.35310	1.39715
CO	59	0.87779	993.40000	10.900	0.97450	0.87531	0.78356
CU	63	159.80235	136074.33700	3.300	165.91641	155.97592	157.51471
MO	98	0.16037	110.00300	32.200	0.10337	0.17395	0.20379
NI	60	14.11861	4307.46700	6.300	14.73636	13.09339	14.52609
SB	121	0.47380	310.01300	26.300	0.57870	0.50666	0.33605
SE	78	0.23758	8.22000	32.200	0.15142	0.29732	0.26399
SN	120	26.30569	14064.35700	4.200	27.33458	25.13428	26.44821
SR	88	15.82629	7115.33300	3.600	15.22514	16.37010	15.88362
ZN	66	334.42940	37700.25700	3.100	346.46644	327.43567	329.38609
TB-3	159	101809.26300	0.00000	0.000	100680.89000	102896.76000	101850.14000
PB	208	56.18337	145580.16700	1.700	56.58711	55.08060	56.88241
BI-3	209	68089.99700	0.00000	0.000	67231.99000	70478.97000	66559.03000
TL	205	0.02023	70.00000	65.600	0.01569	0.00984	0.03518
U	238	0.22353	590.03300	12.900	0.25680	0.20475	0.20906
SC-2	45	89890.84700	0.00000	0.000	89541.80000	90296.08000	89834.66000
GE-1	72	517064.43300	0.00000	0.000	519996.32000	520078.08000	511118.90000
GE-2	72	116595.95000	0.00000	0.000	113536.29000	116517.35000	119734.21000
GE-3	72	85268.85700	0.00000	0.000	84607.63000	86589.81000	84609.13000

Run Name: 1833101E07
Tube Number: 24
Sample Number: **9872065**

Date/Time: 11/27/2018 10:03:32
Batch: 183041063701A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 200.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	560143.78000	0.00000	0.000	551887.88000	560769.91000	567773.55000
SC-3	45	30966.68700	0.00000	0.000	30462.45000	31143.70000	31293.91000
AL	27	557.89329	9610.10000	1.500	558.47698	549.09865	566.10426
B	11	-2.43922	7446.55700	0.000	-4.24128	-1.17378	-1.90260
BE	9	0.05392	20.00000	30.600	0.06722	0.03546	0.05909
CA	44	921.59175	2220.25300	6.400	859.37636	929.52326	975.87564
CR	52	6.59010	4800.92700	6.400	6.73606	6.91606	6.11816
FE	57	1723.47711	23873.48300	3.600	1794.58160	1676.19425	1699.65548
K	39	54.72016	13553.36700	16.300	57.72757	44.69203	61.74090
MG	24	222.11642	11524.91000	2.000	221.66917	226.82516	217.85490
MN	55	19.74571	7115.31700	5.000	20.14830	18.62230	20.46652
NA	23	16.08749	12812.55000	8.500	14.82969	17.53194	15.90085
TI	47	10.39592	173.34300	7.400	10.98235	9.52057	10.68485
V	51	2.29009	1316.76700	6.900	2.26073	2.14836	2.46119
IN-2	115	138477.07000	0.00000	0.000	138362.58000	138252.84000	138815.79000
IN-3	115	37656.49700	0.00000	0.000	36900.55000	38716.00000	37352.94000
AG	107	1.45546	1783.51700	10.500	1.29957	1.46131	1.60549
AS	75	0.33627	37.33300	33.700	0.35607	0.21427	0.43848
BA	137	40.43831	6771.89300	7.500	38.69252	38.67902	43.94338
CD	111	0.62085	98.66700	6.900	0.62874	0.57443	0.65936
CO	59	0.48237	560.03300	5.300	0.51031	0.45973	0.47708
CU	63	78.79278	67859.21300	3.200	78.48634	76.43539	81.45660
MO	98	0.11826	83.33300	26.000	0.13166	0.14006	0.08306
NI	60	7.25370	2260.26300	9.500	6.73500	6.98588	8.04022
SB	121	0.17272	190.01000	53.700	0.10971	0.27915	0.12928
SE	78	0.10010	3.77700	23.500	0.12723	0.08674	0.08633
SN	120	13.09404	7262.59300	4.300	12.74516	13.74386	12.79310
SR	88	7.36056	3340.49300	1.700	7.21991	7.39592	7.46584
ZN	66	166.51362	18976.30300	5.400	168.15996	156.83805	174.54285
TB-3	159	102984.47000	0.00000	0.000	102404.22000	102755.45000	103793.74000
PB	208	28.48396	74671.28000	1.800	28.95237	28.58430	27.91520
BI-3	209	65432.81300	0.00000	0.000	64900.48000	65422.58000	65975.38000
TL	205	0.00505	36.66700	295.400	-0.00791	0.02136	0.00170
U	238	0.12879	326.68300	21.500	0.15088	0.13786	0.09764
SC-2	45	90756.36300	0.00000	0.000	89451.84000	91091.40000	91725.85000
GE-1	72	512962.58700	0.00000	0.000	502988.16000	517398.47000	518501.13000
GE-2	72	116716.78300	0.00000	0.000	114371.59000	117566.59000	118212.17000
GE-3	72	85831.39000	0.00000	0.000	84879.31000	86236.99000	86377.87000

Run Name: 1833101E07
Tube Number: 25
Sample Number: **9874411**

Date/Time: 11/27/2018 10:05:42
Batch: 183041063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	647347.94700	0.00000	0.000	657782.26000	645193.27000	639068.31000
SC-3	45	33532.49700	0.00000	0.000	32196.09000	33028.16000	35373.24000
AL	27	53300.75220	988284.07700	1.800	53184.56805	54320.44880	52397.23974
B	11	22.90488	12453.84700	10.000	20.27162	24.40845	24.03456
BE	9	3.34428	1264.72700	3.700	3.27283	3.27301	3.48700
CA	44	6310.25437	15982.53300	3.700	6522.77475	6349.66056	6058.32781
CR	52	280.40083	205355.70700	1.500	280.86170	284.35484	275.98594
FE	57	146479.61377	2195242.31000	2.400	147001.06168	149692.34563	142745.43401
K	39	7495.77940	378016.40000	1.600	7460.46085	7631.66316	7395.21418
MG	24	17353.23160	968344.70000	1.900	17372.83031	17676.36069	17010.50379
MN	55	989.59667	383812.50700	2.600	991.33106	1014.33891	963.12005
NA	23	637.30120	88485.20300	3.600	637.31923	659.96003	614.62433
TI	47	2354.74398	41650.20000	1.800	2390.83235	2365.13727	2308.26233
V	51	174.97571	98406.80300	1.200	174.80042	177.08511	173.04162
IN-2	115	129904.49700	0.00000	0.000	126843.06000	130041.09000	132829.34000
IN-3	115	35659.22300	0.00000	0.000	34619.17000	36336.18000	36022.32000
AG	107	0.07160	86.67000	43.400	0.05050	0.10733	0.05698
AS	75	21.37293	1384.07700	1.600	21.31433	21.06246	21.74199
BA	137	191.18036	30320.79000	1.500	194.03406	188.21411	191.29293
CD	111	0.29051	44.00000	21.400	0.32621	0.21875	0.32657
CO	59	90.36824	96337.69000	1.000	90.89504	89.36940	90.84028
CU	63	168.21622	137099.97700	3.200	167.04961	163.44181	174.15724
MO	98	3.94464	2420.29700	11.600	3.63091	4.47085	3.73215
NI	60	735.47036	212440.87000	2.100	730.71965	723.28818	752.40324
SB	121	0.74179	403.35300	18.600	0.58235	0.81672	0.82631
SE	78	0.29909	9.77700	44.500	0.16187	0.30800	0.42739
SN	120	13.98029	7315.49700	2.500	13.81626	13.74117	14.38344
SR	88	52.02905	22364.83300	2.300	50.73732	52.22824	53.12160
ZN	66	224.10742	24201.05700	2.400	218.68623	229.40634	224.22969
TB-3	159	106284.06300	0.00000	0.000	102736.70000	105326.79000	110788.70000
PB	208	70.69388	191149.11700	1.900	72.05918	70.68634	69.33612
BI-3	209	61755.52300	0.00000	0.000	59986.96000	61112.39000	64167.22000
TL	205	0.64158	1263.44300	7.300	0.69568	0.60942	0.61963
U	238	9.11299	21829.00000	2.600	9.21719	9.27565	8.84611
SC-2	45	99418.78700	0.00000	0.000	97191.26000	100945.53000	100119.57000
GE-1	72	512975.77700	0.00000	0.000	512631.52000	516517.73000	509778.08000
GE-2	72	110515.34700	0.00000	0.000	109302.94000	110451.30000	111791.80000
GE-3	72	83220.20300	0.00000	0.000	79679.23000	83270.58000	86710.80000

Run Name: 1833101E07
Tube Number: 26
Sample Number: **9874412**

Date/Time: 11/27/2018 10:07:50
Batch: 183041063701A
Class: **********

Initial Vol: 1.14 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	578300.80000	0.00000	0.000	517764.64000	606527.96000	610609.80000
SC-3	45	30158.42300	0.00000	0.000	29760.86000	30091.42000	30622.99000
AL	27	6888.27511	114976.13700	1.800	6750.45404	6926.31153	6988.05978
B	11	22.44262	11003.39300	33.700	31.18359	18.06467	18.07961
BE	9	0.68368	230.00000	21.600	0.85387	0.60907	0.58810
CA	44	19381.78794	44056.94000	0.900	19447.22653	19507.65507	19190.48222
CR	52	65.62963	43512.36300	1.400	64.54854	66.06452	66.27583
FE	57	32389.35447	436862.76700	0.400	32236.62094	32466.61085	32464.83162
K	39	1633.89116	82577.68300	1.200	1617.97736	1628.92374	1654.77239
MG	24	2223.18928	111689.67300	0.800	2238.77728	2203.10661	2227.68396
MN	55	326.04975	113828.64300	1.100	324.52535	330.13407	323.48982
NA	23	1328.11756	154321.20700	0.400	1329.91319	1332.19143	1322.24806
TI	47	278.56731	4437.50000	1.700	278.70867	273.75617	283.23710
V	51	54.17731	27496.47300	2.400	53.31608	55.68922	53.52664
IN-2	115	138905.95000	0.00000	0.000	137871.86000	138390.88000	140455.11000
IN-3	115	37830.41000	0.00000	0.000	37254.67000	37761.29000	38475.27000
AG	107	7.45156	9153.31700	1.800	7.45003	7.58685	7.31778
AS	75	15.88531	1095.38000	4.400	15.16227	16.54694	15.94672
BA	137	680.32200	114478.52000	1.600	693.19111	673.68660	674.08829
CD	111	2.07971	330.67700	2.700	2.10712	2.11666	2.01536
CO	59	8.93166	10117.21300	1.400	8.95809	9.04166	8.79524
CU	63	235.58036	203624.39000	0.700	237.19777	235.76678	233.77655
MO	98	4.24552	2757.03300	8.000	4.39172	4.48723	3.85760
NI	60	41.82853	12862.87700	2.500	42.68595	40.63794	42.16171
SB	121	7.50151	3237.15000	5.400	7.96830	7.25533	7.28089
SE	78	1.78781	59.78000	9.100	1.70785	1.68111	1.97446
SN	120	76.25003	40703.51000	1.600	77.44742	74.99273	76.30995
SR	88	116.63512	53169.62000	0.600	117.25021	115.94177	116.71337
ZN	66	599.53162	68589.79700	1.300	607.85079	598.81483	591.92923
TB-3	159	103949.13700	0.00000	0.000	103986.00000	102675.61000	105185.80000
PB	208	641.21960	1696194.65300	1.000	640.52120	647.80666	635.33094
BI-3	209	65107.44300	0.00000	0.000	64929.16000	64538.36000	65854.81000
TL	205	0.12448	280.01300	28.000	0.15450	0.08619	0.13273
U	238	0.63062	1593.48700	3.500	0.65486	0.61092	0.62609
SC-2	45	91484.40300	0.00000	0.000	90951.08000	91605.23000	91896.90000
GE-1	72	523335.19700	0.00000	0.000	477619.99000	548285.30000	544100.30000
GE-2	72	115692.84300	0.00000	0.000	115059.06000	115612.05000	116407.42000
GE-3	72	84872.89300	0.00000	0.000	84044.56000	85362.64000	85211.48000

Run Name: 1833101E07
Tube Number: 27
Sample Number: **9874413**

Date/Time: 11/27/2018 10:09:58
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	573863.54300	0.00000	0.000	575024.44000	579669.95000	566896.24000
SC-3	45	29493.76000	0.00000	0.000	29029.56000	29871.22000	29580.50000
AL	27	3744.29537	61133.00300	3.700	3809.34173	3836.80175	3586.74264
B	11	5.16511	8651.85000	15.000	5.91237	4.36279	5.22017
BE	9	0.45306	154.00000	10.100	0.40424	0.46011	0.49485
CA	44	11645.45297	25920.29000	2.600	11573.90928	11977.74533	11384.70430
CR	52	24.84569	16312.97300	5.100	25.81070	25.29930	23.42706
FE	57	18384.84698	242480.40000	2.500	18762.33601	18529.43735	17862.76757
K	39	456.82739	30188.39000	6.600	455.22020	487.75315	427.50881
MG	24	882.39501	43397.44000	3.100	891.08271	904.04821	852.05410
MN	55	141.03214	48170.63700	2.500	143.51719	142.57571	137.00352
NA	23	209.05864	32606.50300	3.600	210.63124	215.74698	200.79771
TI	47	192.21464	2993.74300	8.000	207.38548	192.65083	176.60760
V	51	101.79289	50414.25700	1.000	102.76433	101.84870	100.76563
IN-2	115	132610.86700	0.00000	0.000	132841.07000	128716.69000	136274.84000
IN-3	115	36498.22700	0.00000	0.000	37600.24000	36030.64000	35863.80000
AG	107	4.06650	4814.34000	9.200	3.66005	4.39269	4.14677
AS	75	13.01134	868.03000	1.200	13.03848	13.15278	12.84275
BA	137	348.01400	56476.42000	3.400	335.29096	358.73497	350.01605
CD	111	2.10007	322.00700	9.300	1.98629	2.32438	1.98955
CO	59	6.23718	6815.13700	6.700	5.79553	6.62454	6.29147
CU	63	157.06945	130974.43300	3.900	151.88922	163.79935	155.51979
MO	98	4.94047	3100.45300	11.000	5.31383	5.18930	4.31829
NI	60	41.96262	12445.68000	4.600	40.81216	44.20952	40.86620
SB	121	7.95375	3303.84700	7.800	7.65059	7.54177	8.66887
SE	78	2.46490	78.44700	6.700	2.27767	2.58968	2.52735
SN	120	55.17651	28500.03300	4.400	52.99549	57.81864	54.71540
SR	88	76.37825	33587.01700	4.400	75.21869	80.18126	73.73480
ZN	66	2113.46166	233185.83000	2.900	2084.14090	2184.55744	2071.68663
TB-3	159	100060.47700	0.00000	0.000	101456.86000	101537.96000	97186.61000
PB	208	569.95781	1451760.69700	1.500	573.31017	576.34347	560.21979
BI-3	209	62994.34000	0.00000	0.000	64879.25000	63282.44000	60821.33000
TL	205	0.33917	690.04700	27.100	0.25806	0.32044	0.43901
U	238	0.50967	1246.77700	5.800	0.50443	0.54159	0.48300
SC-2	45	88154.65700	0.00000	0.000	88003.91000	86504.48000	89955.58000
GE-1	72	517399.23700	0.00000	0.000	519253.47000	521650.97000	511293.27000
GE-2	72	112941.11300	0.00000	0.000	112448.22000	109242.56000	117132.56000
GE-3	72	82013.68000	0.00000	0.000	84497.37000	81922.66000	79621.01000

Run Name: 1833101E07
Tube Number: 28
Sample Number: **9874413**

Date/Time: 11/27/2018 10:12:06
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 50.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	566930.88700	0.00000	0.000	557525.69000	569658.78000	573608.19000
SC-3	45	30799.80700	0.00000	0.000	30672.66000	30031.77000	31694.99000
AL	27	657.67103	11251.23700	3.500	652.54125	682.79793	637.67390
B	11	-7.83098	6814.90300	0.000	-5.52905	-9.24127	-8.72262
BE	9	0.08159	29.33300	27.600	0.10338	0.08296	0.05842
CA	44	2147.48808	5044.39700	5.400	2096.91297	2279.52536	2066.02590
CR	52	4.71712	3513.87300	10.400	4.38341	5.28222	4.48572
FE	57	3079.43785	42415.90000	2.200	3039.08802	3158.46182	3040.76370
K	39	40.26431	12825.98700	22.900	35.70819	50.86714	34.21761
MG	24	157.24230	8139.18300	8.800	141.36034	164.22019	166.14637
MN	55	23.28532	8332.64700	4.400	23.44836	24.21010	22.19750
NA	23	11.39149	12225.42300	42.800	5.76462	14.14289	14.26695
TI	47	29.48663	483.35700	10.700	26.35044	29.44116	32.66828
V	51	17.21200	9003.04300	4.000	16.90349	18.00534	16.72716
IN-2	115	138879.95000	0.00000	0.000	135962.21000	140053.55000	140624.09000
IN-3	115	37224.96300	0.00000	0.000	36321.73000	36668.83000	38684.33000
AG	107	0.75632	913.39300	19.700	0.88771	0.78686	0.59440
AS	75	2.35391	172.00000	12.200	2.63167	2.05862	2.37143
BA	137	61.45658	10180.83300	4.800	58.25816	64.02544	62.08614
CD	111	0.39824	62.66700	16.200	0.46821	0.38574	0.34077
CO	59	1.05635	1193.42300	17.700	0.86870	1.24352	1.05684
CU	63	26.90072	22988.82000	1.100	27.01154	27.11333	26.57728
MO	98	0.90269	580.03000	19.700	1.01767	0.99203	0.69839
NI	60	7.08602	2183.55700	5.400	6.81077	7.51946	6.92783
SB	121	1.44523	710.04300	17.700	1.41818	1.20361	1.71391
SE	78	0.47423	16.22300	18.400	0.37624	0.54431	0.50213
SN	120	9.68203	5394.71300	5.400	9.49285	10.27526	9.27797
SR	88	13.81246	6191.58300	3.600	14.35175	13.71771	13.36791
ZN	66	364.33576	41012.14000	3.200	377.37015	359.95921	355.67793
TB-3	159	102753.18700	0.00000	0.000	100146.84000	103914.75000	104197.97000
PB	208	96.93018	253457.13000	1.200	98.14759	95.93573	96.70721
BI-3	209	63205.29000	0.00000	0.000	63653.78000	63282.57000	62679.52000
TL	205	0.06295	150.00700	20.600	0.06749	0.07301	0.04834
U	238	0.08688	213.34300	26.400	0.11335	0.07330	0.07400
SC-2	45	88852.03000	0.00000	0.000	87399.36000	89905.98000	89250.75000
GE-1	72	513420.11000	0.00000	0.000	503698.08000	519825.19000	516737.06000
GE-2	72	116424.20700	0.00000	0.000	115721.39000	115782.75000	117768.48000
GE-3	72	84655.03000	0.00000	0.000	82476.21000	84014.56000	87474.32000

Run Name: 1833101E07 Date/Time: 11/27/2018 10:14:15
Tube Number: 29
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	582640.50000	0.00000	0.000	584427.45000	583354.68000	580139.37000
SC-3	45	31651.68700	0.00000	0.000	30352.15000	32627.21000	31975.70000
AL	27	2435.41719	42681.87700	1.200	2467.50039	2424.69539	2414.05578
B	11	236.50816	40438.04000	0.900	235.21884	235.20404	239.10160
BE	9	26.01675	8840.62000	1.300	25.63102	26.10176	26.31748
CA	44	2355.70794	5684.62700	0.500	2351.46981	2368.72247	2346.93155
CR	52	257.34063	177918.70700	2.000	261.26903	251.35144	259.40143
FE	57	2471.74951	35009.68000	1.600	2434.50344	2466.63070	2514.11438
K	39	2343.45655	119343.69700	1.200	2364.91330	2310.14644	2355.30991
MG	24	2393.16126	126110.21300	3.700	2427.31111	2291.53179	2460.64087
MN	55	257.91037	94411.25000	4.200	270.14779	249.22198	254.36134
NA	23	2239.59820	265227.30000	2.800	2297.33762	2174.77206	2246.68492
TI	47	248.29707	4147.41300	8.700	252.04404	225.15865	267.68852
V	51	256.33794	135994.47300	2.800	259.41606	248.23552	261.36223
IN-2	115	139411.48000	0.00000	0.000	141246.87000	140873.81000	136113.76000
IN-3	115	37926.57300	0.00000	0.000	38113.38000	37492.49000	38173.85000
AG	107	25.84715	31823.43700	2.400	25.12188	26.19672	26.22286
AS	75	253.43582	17295.06000	3.300	244.52295	254.81408	260.97043
BA	137	257.33689	43415.51700	1.600	252.70593	260.79943	258.50532
CD	111	25.99871	4137.96300	1.600	26.31587	25.54352	26.13674
CO	59	254.97775	289072.12000	2.100	249.52645	260.10392	255.30286
CU	63	254.90168	220877.07300	2.000	249.13756	258.22048	257.34699
MO	98	26.35347	17137.54300	5.900	25.46847	25.45417	28.13776
NI	60	254.93584	78348.06300	2.400	248.15533	256.40349	260.24870
SB	121	25.13025	10597.63300	1.400	25.40276	25.24563	24.74234
SE	78	26.07070	867.58300	4.100	25.94966	25.06676	27.19567
SN	120	27.48370	14947.57000	10.300	25.66685	26.04574	30.73852
SR	88	25.45655	11635.14700	4.600	24.37446	25.28767	26.70753
ZN	66	256.50880	29444.05300	1.100	258.77932	257.50150	253.24559
TB-3	159	101570.95700	0.00000	0.000	99963.91000	102787.51000	101961.45000
PB	208	26.53916	68621.46000	0.600	26.72072	26.39180	26.50496
BI-3	209	61872.45700	0.00000	0.000	62568.71000	61042.20000	62006.46000
TL	205	26.08893	50540.88000	0.600	26.07280	26.24683	25.94716
U	238	25.89356	62166.45300	2.300	25.22605	26.31098	26.14365
SC-2	45	91038.71700	0.00000	0.000	93437.46000	91605.01000	88073.68000
GE-1	72	521973.56000	0.00000	0.000	515256.83000	526351.79000	524312.06000
GE-2	72	117258.74700	0.00000	0.000	117586.60000	119947.00000	114242.64000
GE-3	72	82888.28700	0.00000	0.000	80887.14000	84457.01000	83320.71000

Run Name: 1833101E07 Date/Time: 11/27/2018 10:16:25
Tube Number: 30
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	549563.18000	0.00000	0.000	547277.53000	545815.81000	555596.20000
SC-3	45	29864.38300	0.00000	0.000	28949.04000	29540.23000	31103.88000
AL	27	-0.77311	40.00000	0.000	-1.28835	-1.93786	0.90686
B	11	61.26256	15524.03700	3.800	63.24680	61.82510	58.71576
BE	9	0.01346	6.66700	71.700	0.00517	0.02406	0.01116
CA	44	-9.88818	46.66700	0.000	-12.18969	-12.55713	-4.91772
CR	52	0.20295	470.02700	40.000	0.27127	0.22438	0.11319
FE	57	13.03162	186.67700	19.800	12.91546	15.66506	10.51434
K	39	-17.91798	9896.94300	0.000	-11.61741	-7.22916	-34.90738
MG	24	1.29418	136.67300	32.000	0.83677	1.40133	1.64445
MN	55	0.13926	86.67000	47.300	0.18714	0.06415	0.16648
NA	23	-24.99782	7945.73300	0.000	-22.30588	-22.71277	-29.97482
TI	47	0.21716	6.66700	172.300	0.43971	0.42661	-0.21484
V	51	0.07194	160.00700	183.700	-0.04149	0.21710	0.04020
IN-2	115	132866.35000	0.00000	0.000	131089.17000	131591.95000	135917.93000
IN-3	115	37102.78700	0.00000	0.000	36242.48000	37651.15000	37414.73000
AG	107	-0.00016	3.33300	0.000	-0.00289	0.00530	-0.00289
AS	75	-0.02605	12.66700	0.000	0.02883	-0.12809	0.02113
BA	137	0.14110	23.33300	23.400	0.12405	0.17911	0.12016
CD	111	0.00855	2.00000	148.100	0.00888	0.02105	-0.00428
CO	59	0.05327	76.67000	57.800	0.02141	0.05556	0.08285
CU	63	0.11755	226.67700	20.900	0.09199	0.14111	0.11953
MO	98	0.03635	30.00000	41.500	0.02152	0.03582	0.05171
NI	60	-0.09303	20.00000	0.000	-0.12525	-0.12653	-0.02731
SB	121	0.18991	193.34300	25.000	0.24235	0.15016	0.17722
SE	78	0.04180	1.77700	28.400	0.04975	0.02817	0.04748
SN	120	0.43454	583.37300	51.000	0.18128	0.52865	0.59370
SR	88	0.02204	10.00000	173.200	0.00000	0.06612	0.00000
ZN	66	0.55432	96.66700	30.900	0.42444	0.74855	0.48998
TB-3	159	98897.66700	0.00000	0.000	96763.44000	99209.21000	100720.35000
PB	208	0.11933	323.34700	23.200	0.12869	0.14113	0.08816
BI-3	209	61232.80700	0.00000	0.000	61272.76000	60640.15000	61785.51000
TL	205	0.01320	50.00000	77.300	0.01324	0.00298	0.02337
U	238	0.01687	40.00000	43.800	0.02103	0.02125	0.00834
SC-2	45	87872.57300	0.00000	0.000	88113.18000	87199.22000	88305.32000
GE-1	72	501428.01300	0.00000	0.000	499014.52000	501638.00000	503631.52000
GE-2	72	112594.24000	0.00000	0.000	112023.79000	112768.38000	112990.55000
GE-3	72	83384.30300	0.00000	0.000	81670.98000	82686.44000	85795.49000

US EPA Tune Check Report

Operator Name	US19_USR_INS27814
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\EPA_Tune.b
Acq. Date-Time	2018-11-27 08:34:55
Report Comment	---
Instrument Name	G8403A SG18254097

[No Gas]

Sensitivity

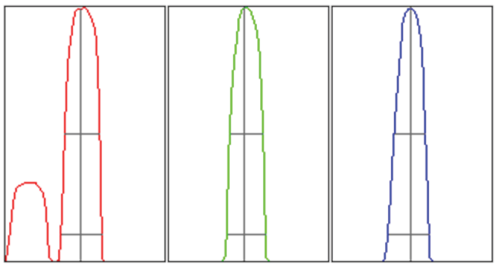
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	990	9901.76			1.070	5.000
89	10.00	3992	39917.15			0.646	5.000
205	10.00	2331	23309.53			0.886	5.000

Mass	RSD% (Flag)
7	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	989	997	997	996	972
89	3997	3995	3969	4030	3967
205	2327	2355	2328	2345	2300

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	1537.88	6.95	6.90 - 7.10	
89	6647.65	88.95	88.90 - 89.10	
205	4067.80	205.00	204.90 - 205.10	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.66	0.767	0.800	
89	0.63	0.731	0.800	
205	0.59	0.774	0.800	

Integration Time [sec] 0.1

Acquisition Time [sec] 113.7

Y Axis Linear

US EPA Tune Check Report

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.65 L/min	Dilution Gas	0.45 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	12.6 V	Deflect	16.2 V
Extract 2	-245.0 V	Cell Entrance	-40 V	Plate Bias	-50 V
Omega Bias	-90 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	124	Axis Gain	0.9993	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.04		

Hardware Settings

Torch

Torch H	0.0 mm	Torch V	0.1 mm

EM

Discriminator	4.0 mV	Analog HV	2147 V	Pulse HV	1719 V

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ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 18K28A00.E05

Run Name: 1833202E05

Analyst: 1242

Reviewed By: Parker D Lindstrom

Reviewed Date: 11/28/2018 14:17

Verified By: Deborah A Krady

Verified Date: 11/28/2018 14:47

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	NA	23
	MG	24
	AL	27
	K	39
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
GE-1		72
	CA	44
	AG	107
	CD	111
	SB	121
IN-1		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	SN	120
	BA	137
TB-1		159
	TL	203
	PB	208
BI-1		209
	U	238

Run Name: 1833202E05 Date/Time: 11/28/2018 5:28:09
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
NA	23	0.00000	28657.39700	0.000	-8.50530	4.38965	4.11566
MG	24	0.00000	26.66700	0.000	-0.21879	1.03847	-0.81968
AL	27	0.00000	33.33300	0.000	-0.52479	-0.41768	0.94247
K	39	0.00000	2853.78000	0.000	-3.08591	-2.72759	5.81350
CA	44	0.00000	30.00000	0.000	-0.53241	-20.47784	21.01025
SC-1	45	16257.11700	0.00000	0.000	16771.24000	16270.43000	15729.68000
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	13.33300	0.000	-0.00808	-0.02830	0.03637
CR	52	0.00000	340.02000	0.000	0.01323	-0.12992	0.11669
MN	55	0.00000	36.66700	0.000	0.00980	-0.08404	0.07424
FE	57	0.00000	20.00000	0.000	-1.77780	-0.03983	1.81763
CO	59	0.00000	16.66700	0.000	-0.01452	0.02100	-0.00648
NI	60	0.00000	20.00000	0.000	0.02780	0.03075	-0.05855
CU	63	0.00000	393.36300	0.000	0.00077	0.01356	-0.01433
ZN	66	0.00000	23.33300	0.000	-0.13916	-0.02214	0.16130
GE-1	72	57565.39000	0.00000	0.000	57684.94000	59464.69000	55546.54000
AS	75	0.00000	8.66700	0.000	-0.07710	0.21692	-0.13982
SR	88	0.00000	10.00000	0.000	-0.05442	0.00369	0.05073
MO	98	0.00000	43.33700	0.000	0.03845	-0.01712	-0.02133
AG	107	0.00000	6.66700	0.000	0.00860	-0.00430	-0.00430
CD	111	0.00000	2.66700	0.000	-0.01949	0.00875	0.01074
IN-1	115	19705.18700	0.00000	0.000	19473.56000	18830.96000	20811.04000
SN	120	0.00000	356.72700	0.000	0.10602	0.05389	-0.15991
SB	121	0.00000	120.01000	0.000	-0.02470	0.21534	-0.19064
BA	137	0.00000	6.66700	0.000	-0.06611	-0.06611	0.13222
TB-1	159	113280.42000	0.00000	0.000	112574.45000	114795.25000	112471.56000
TL	203	0.00000	6.66700	0.000	0.00279	0.00263	-0.00541
PB	208	0.00000	966.73700	0.000	-0.01467	0.04396	-0.02929
BI-1	209	90852.92300	0.00000	0.000	93834.38000	90178.05000	88546.34000
U	238	0.00000	10.00000	0.000	-0.00198	0.00396	-0.00198

Run Name: 1833202E05 Date/Time: 11/28/2018 5:30:07
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15599.74000	0.00000	0.000	16320.62000	15009.10000	15469.50000
AL	27	10000.00000	80092.74300	5.400	9422.42615	10497.49935	10080.07450
CR	52	1000.00000	597174.79700	5.300	943.77760	1049.68071	1006.54169
FE	57	10000.00000	110144.02700	6.700	9307.85514	10643.64980	10048.49505
K	39	10000.00000	169047.00300	4.800	9492.19815	10456.93425	10050.86760
MG	24	10000.00000	309178.25700	5.000	9468.09030	10456.38787	10075.52182
MN	55	1000.00000	191877.25700	5.600	937.19698	1045.22718	1017.57584
NA	23	10000.00000	684861.13700	5.100	9447.06182	10442.59346	10110.34472
TI	47	1000.00000	9223.59300	3.200	966.35086	1030.50955	1003.13960
V	51	1000.00000	459471.44000	4.700	949.54842	1041.98271	1008.46887
GE-1	72	56760.92000	0.00000	0.000	56188.08000	56551.00000	57543.68000
AG	107	100.00000	152614.54000	1.200	100.14719	101.07457	98.77824
CA	44	10000.00000	10044.26300	1.500	9900.16996	10167.42181	9932.40823
CD	111	100.00000	13521.67000	1.900	102.18373	99.17948	98.63679
SB	121	100.00000	34557.01700	0.800	100.60388	100.36554	99.03058
IN-1	115	20373.75300	0.00000	0.000	19174.59000	20568.80000	21377.87000
AS	75	1000.00000	66615.54700	4.800	1052.47119	987.92660	959.60221
BA	137	1000.00000	98609.19000	3.300	1036.36979	992.82763	970.80258
CO	59	1000.00000	1216633.81000	4.600	1047.08911	998.59983	954.31106
CU	63	1000.00000	1087226.36300	3.900	1036.18538	1005.73247	958.08215
MO	98	100.00000	73277.37700	6.000	106.18124	99.64341	94.17535
NI	60	1000.00000	362841.71000	5.000	1049.74501	1000.13140	950.12359
SN	120	100.00000	35989.45700	4.100	103.16513	101.40812	95.42675
SR	88	100.00000	18607.09000	3.700	103.69748	99.96718	96.33534
ZN	66	1000.00000	95367.79700	5.100	1044.55501	1011.03677	944.40822
TB-1	159	114313.91000	0.00000	0.000	112444.12000	117348.23000	113149.38000
PB	208	100.00000	412364.79000	1.700	100.24932	98.20291	101.54777
TL	203	100.00000	123832.22700	1.200	99.81790	98.94254	101.23956
BI-1	209	92055.44000	0.00000	0.000	93412.60000	91508.87000	91244.85000
U	238	100.00000	515979.22300	2.100	97.65627	100.53844	101.80529

Run Name: 1833202E05 Date/Time: 11/28/2018 5:32:04
Tube Number: 3
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16160.42300	0.00000	0.000	16350.82000	16090.32000	16040.13000
AL	27	4821.43761	40083.00700	0.300	4823.33220	4804.44809	4836.53254
CR	52	504.47928	312731.56700	1.100	505.77597	498.62396	509.03792
FE	57	4955.25078	56656.60000	0.900	4924.62192	5008.73277	4932.39766
K	39	5065.04830	90196.75700	4.100	4834.93981	5113.86983	5246.33527
MG	24	4870.11764	156210.90300	0.900	4825.88222	4868.60608	4915.86463
MN	55	504.56609	100454.44000	2.800	488.93648	516.15881	508.60299
NA	23	4736.60976	351484.46000	1.400	4661.77360	4763.27744	4784.77826
TI	47	491.12546	4697.70000	3.400	500.28898	501.04061	472.04680
V	51	499.80103	238211.02300	0.700	495.97403	501.58496	501.84409
GE-1	72	57065.63700	0.00000	0.000	56751.33000	56780.47000	57665.11000
AG	107	51.79353	79470.40300	1.600	52.15478	52.36500	50.86082
CA	44	5253.24896	5318.01000	4.200	5304.53555	5441.64833	5013.56301
CD	111	50.37279	6849.17700	2.000	50.82856	51.05377	49.23605
SB	121	50.12218	17472.57700	4.800	52.69658	47.96096	49.70900
IN-1	115	19897.77300	0.00000	0.000	19059.43000	20366.30000	20267.59000
AS	75	527.41866	34335.48000	5.000	557.47067	507.32054	517.46477
BA	137	542.33247	52233.84700	4.900	572.62145	522.74871	531.62725
CO	59	535.61108	637068.12700	2.800	552.90700	529.44395	524.48228
CU	63	533.32754	566850.38300	3.000	552.07414	524.51086	523.39763
MO	98	52.63657	37731.52300	4.500	55.32310	50.77139	51.81523
NI	60	539.67562	191400.36000	4.200	565.62030	524.78696	528.61960
SN	120	51.77722	18397.40700	1.200	51.71952	51.17090	52.44125
SR	88	51.27048	9320.45300	6.900	54.73222	47.66783	51.41141
ZN	66	569.88483	53099.24700	6.500	611.41388	541.24814	556.99247
TB-1	159	113425.21300	0.00000	0.000	112665.02000	113048.36000	114562.26000
PB	208	52.22863	214194.58700	1.100	52.82857	52.21401	51.64331
TL	203	53.57218	65831.99000	0.900	54.01614	53.61171	53.08868
BI-1	209	94772.25700	0.00000	0.000	93754.53000	94349.59000	96212.65000
U	238	49.59236	263480.21700	0.400	49.78659	49.63533	49.35517

Run Name: 1833202E05 Date/Time: 11/28/2018 5:33:50
Tube Number: 4
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16417.40700	0.00000	0.000	16551.01000	16000.20000	16701.01000
AL	27	0.69618	40.00300	574.700	-1.65394	-1.57301	5.31547
CR	52	0.38081	583.38000	7.900	0.36761	0.41544	0.35940
FE	57	-0.05480	20.00000	0.000	-0.06929	-0.01048	-0.08464
K	39	11.05309	3073.85000	209.200	-14.52699	30.45925	17.22702
MG	24	0.91658	56.66700	35.600	0.70253	0.75493	1.29227
MN	55	0.06468	50.00300	276.200	0.20864	0.12061	-0.13522
NA	23	-30.27506	26836.97300	0.000	-35.19340	-14.30154	-41.33026
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.04657	36.67000	164.200	0.01268	-0.00710	0.13415
GE-1	72	58167.88300	0.00000	0.000	58267.60000	58329.62000	57906.43000
AG	107	0.02551	46.67000	94.500	0.00847	0.05309	0.01497
CA	44	-0.78673	30.00000	0.000	38.08251	-30.00944	-10.43325
CD	111	-0.01469	0.66700	0.000	-0.01949	-0.00510	-0.01949
SB	121	0.31277	230.01700	16.200	0.33986	0.25436	0.34410
IN-1	115	20633.99300	0.00000	0.000	20090.91000	20383.11000	21427.96000
AS	75	0.33356	32.00000	38.600	0.43773	0.18976	0.37319
BA	137	0.03612	10.00000	284.400	0.13933	0.03514	-0.06611
CO	59	0.07497	110.00700	41.600	0.11031	0.05110	0.06351
CU	63	0.07127	493.37300	138.300	0.01720	0.01160	0.18500
MO	98	0.10750	126.67700	64.900	0.04920	0.08848	0.18481
NI	60	0.12394	66.67000	58.300	0.13675	0.18897	0.04608
SN	120	0.36099	500.14300	216.600	1.23735	0.11078	-0.26517
SR	88	-0.05441	0.00000	0.000	-0.05442	-0.05442	-0.05442
ZN	66	0.36448	60.00700	120.700	-0.14252	0.58862	0.64734
TB-1	159	115897.83700	0.00000	0.000	115621.01000	117488.86000	114583.64000
PB	208	0.01339	1043.41000	111.000	0.00111	0.00915	0.02993
TL	203	0.02391	36.67000	157.700	0.06645	-0.00541	0.01070
BI-1	209	90785.11000	0.00000	0.000	90137.03000	91154.37000	91063.93000
U	238	0.00849	53.33300	52.900	0.00594	0.01368	0.00586

Run Name: 1833202E05 Date/Time: 11/28/2018 5:35:36
Tube Number: 5
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16684.41000	0.00000	0.000	16581.09000	16941.54000	16530.60000
AL	27	415.12089	3597.34300	12.200	362.13397	463.47215	419.75655
CR	52	4.16534	3013.83300	5.400	3.97093	4.41405	4.11103
FE	57	91.49813	1100.11000	6.100	94.58797	85.02412	94.88230
K	39	383.66118	9763.95000	0.400	385.37687	382.52530	383.08135
MG	24	100.95479	3370.58000	2.400	98.87334	103.59330	100.39772
MN	55	9.83957	2060.27700	6.800	9.07141	10.16876	10.27854
NA	23	815.65085	86838.57700	3.600	849.72360	795.31166	801.91729
TI	47	21.97377	216.68700	19.500	26.49809	17.95414	21.46909
V	51	0.85122	433.36300	19.400	0.89199	0.99251	0.66915
GE-1	72	57621.37700	0.00000	0.000	56830.86000	58438.37000	57594.90000
AG	107	0.51618	806.73700	15.300	0.53892	0.58126	0.42838
CA	44	695.84707	736.73000	24.200	887.62755	629.57072	570.34294
CD	111	1.00002	140.00000	6.500	0.92604	1.02934	1.04470
SB	121	2.13944	866.74700	3.800	2.12608	2.22747	2.06477
IN-1	115	20252.87000	0.00000	0.000	19784.04000	20658.21000	20316.36000
AS	75	1.89312	134.66700	10.100	2.11360	1.78174	1.78401
BA	137	4.24950	423.36300	3.800	4.41967	4.22985	4.09897
CO	59	1.02024	1250.13700	19.900	1.25319	0.88387	0.92367
CU	63	41.53057	45303.97300	5.800	44.27286	40.66468	39.65417
MO	98	2.14479	1610.18700	3.600	2.05765	2.16959	2.20712
NI	60	3.77353	1380.14700	22.800	4.61681	2.89928	3.80450
SN	120	2.09943	1110.13000	21.800	2.60010	1.69957	1.99863
SR	88	6.32511	1180.12000	4.800	6.63784	6.03672	6.30077
ZN	66	14.68902	1416.82700	8.000	16.03391	14.10569	13.92746
TB-1	159	113610.72000	0.00000	0.000	115603.16000	114461.51000	110767.49000
PB	208	3.08210	13570.43300	1.300	3.04197	3.08440	3.11994
TL	203	0.55347	686.72300	18.100	0.56954	0.44624	0.64464
BI-1	209	94113.39300	0.00000	0.000	95396.28000	93501.75000	93442.15000
U	238	0.49970	2647.12000	1.200	0.50672	0.49604	0.49635

Run Name: 1833202E05 Date/Time: 11/28/2018 5:37:22
Tube Number: 6
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15709.69000	0.00000	0.000	16180.34000	15519.42000	15429.31000
AL	27	97148.56224	784074.51700	3.300	93541.11254	99673.32327	98231.25092
CR	52	0.61649	700.05700	4.900	0.58213	0.63023	0.63710
FE	57	245453.87167	2725711.31300	3.300	236022.93696	250329.00631	250009.67174
K	39	98379.49764	1651790.81000	3.100	94894.51125	99804.81927	100439.16241
MG	24	95128.93923	2964339.01700	3.100	91751.30421	97209.23999	96426.27350
MN	55	3.13312	640.05000	16.900	2.52582	3.37376	3.49977
NA	23	232835.72863	15457547.27000	2.300	227316.48213	232934.18974	238256.51402
TI	47	1980.71264	18399.92000	4.700	1872.72959	2040.81774	2028.59058
V	51	0.05156	36.66700	162.300	0.01362	-0.00645	0.14751
GE-1	72	56399.82000	0.00000	0.000	56158.71000	56339.55000	56701.20000
AG	107	0.06158	100.00700	36.500	0.04868	0.04852	0.08754
CA	44	283246.96113	281884.07700	0.700	281123.81688	284483.23292	284133.83358
CD	111	0.07477	12.66700	50.100	0.04031	0.11463	0.06936
SB	121	1.19034	523.37700	1.700	1.18711	1.21143	1.17248
IN-1	115	18746.74000	0.00000	0.000	17258.62000	19011.33000	19970.27000
AS	75	1.14199	78.00000	34.900	1.52331	0.72751	1.17516
BA	137	0.95216	93.33700	42.200	0.89051	0.58521	1.38076
CO	59	0.93339	1056.76700	16.500	1.01239	1.03205	0.75573
CU	63	1.31112	1680.19300	11.700	1.47001	1.29999	1.16337
MO	98	2263.88442	1522896.33300	8.000	2464.45172	2215.93996	2111.26158
NI	60	1.53111	530.04000	6.600	1.63045	1.53370	1.42918
SN	120	0.31404	453.49000	205.800	-0.24392	0.16362	1.02244
SR	88	17.56135	3017.19300	4.800	17.38150	18.47982	16.82273
ZN	66	1.99252	196.67700	5.400	2.09978	1.88327	1.99452
TB-1	159	114417.92700	0.00000	0.000	114854.88000	114290.08000	114108.82000
PB	208	0.86343	4530.59700	13.100	0.75505	0.98118	0.85405
TL	203	0.00803	16.66700	57.700	0.01066	0.01074	0.00268
BI-1	209	86962.66000	0.00000	0.000	86542.91000	86341.08000	88003.99000
U	238	0.05271	266.68700	3.400	0.05162	0.05174	0.05478

Run Name: 1833202E05 Date/Time: 11/28/2018 5:39:07
Tube Number: 7
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15903.28300	0.00000	0.000	15699.70000	15930.04000	16080.11000
AL	27	97261.33665	795053.89700	0.800	98072.74422	96575.07071	97136.19503
CR	52	201.29933	122988.62300	1.900	205.41220	197.63818	200.84762
FE	57	246248.58388	2769776.41700	0.400	246389.60699	247271.67305	245084.47159
K	39	100003.31377	1700471.06700	1.400	100692.01935	100882.43430	98435.48767
MG	24	96252.69919	3038022.35000	0.500	95808.66325	96246.12844	96703.30588
MN	55	212.29296	41621.75000	0.500	212.31729	211.29341	213.26819
NA	23	237078.34725	15938474.76300	0.100	237377.06001	237153.70084	236704.28091
TI	47	2001.05067	18833.99300	4.100	1952.71622	2096.56394	1953.87186
V	51	201.40890	94473.36000	0.700	202.75692	201.55998	199.90980
GE-1	72	56135.30700	0.00000	0.000	54812.23000	58289.25000	55304.44000
AG	107	49.53765	74712.97300	3.900	50.68999	47.32619	50.59677
CA	44	293667.70221	290712.80700	2.800	296006.81603	284606.17423	300390.11638
CD	111	98.03031	13101.26000	4.200	97.92567	93.92904	102.23622
SB	121	0.89417	420.02700	10.700	0.98401	0.90509	0.79341
IN-1	115	19485.50000	0.00000	0.000	18838.89000	20003.82000	19613.79000
AS	75	106.14558	6783.10300	1.600	106.11909	107.81150	104.50614
BA	137	1.42489	140.01000	39.900	2.01538	1.37833	0.88096
CO	59	207.86898	242176.54300	2.500	212.74580	202.36979	208.49134
CU	63	205.57126	214327.75000	1.500	206.41483	202.17214	208.12681
MO	98	2236.61231	1569236.12300	2.700	2282.83502	2169.43921	2257.56271
NI	60	207.81288	72259.62700	1.100	207.26606	205.89719	210.27539
SN	120	0.16021	410.03300	173.200	0.05337	0.47530	-0.04804
SR	88	17.36011	3090.59000	18.600	21.08971	15.59083	15.39980
ZN	66	104.75802	9580.51700	8.100	109.40231	95.01213	109.85963
TB-1	159	115360.22000	0.00000	0.000	112503.95000	117801.09000	115775.62000
PB	208	0.81378	4357.23000	10.100	0.90420	0.74438	0.79275
TL	203	0.00811	16.66700	154.000	0.01920	-0.00541	0.01053
BI-1	209	87864.67700	0.00000	0.000	86964.92000	88515.33000	88113.78000
U	238	0.04194	216.68000	31.400	0.03084	0.05647	0.03851

Run Name: 1833202E05 Date/Time: 11/28/2018 5:40:53
Tube Number: 8
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16203.78000	0.00000	0.000	16731.15000	15960.20000	15919.99000
AL	27	18.47069	186.68000	19.300	14.60105	21.59583	19.21519
CR	52	0.32053	540.04300	61.900	0.45138	0.41783	0.09236
FE	57	18.38958	230.01300	33.500	12.58900	17.71236	24.86738
K	39	25.33486	3280.54700	66.100	11.29814	43.85997	20.84648
MG	24	5.66184	206.68300	69.300	2.19226	9.91545	4.87779
MN	55	-0.06653	23.33300	0.000	-0.08678	-0.13296	0.02015
NA	23	74.66141	33655.32700	25.700	54.94090	75.84509	93.19823
TI	47	0.70760	6.66700	173.200	0.00000	0.00000	2.12280
V	51	-0.02121	3.33300	0.000	-0.02830	-0.00705	-0.02830
GE-1	72	56680.85300	0.00000	0.000	57131.98000	58207.23000	54703.35000
AG	107	0.04389	73.33700	18.400	0.03476	0.04682	0.05009
CA	44	20.29206	50.00000	90.200	29.51521	-0.79691	32.15788
CD	111	-0.01459	0.66700	0.000	-0.00479	-0.01949	-0.01949
SB	121	-0.06922	93.33700	0.000	0.06488	-0.08417	-0.18836
IN-1	115	19874.29300	0.00000	0.000	19838.40000	19712.28000	20072.20000
AS	75	0.04443	12.00000	137.700	0.10645	-0.01590	0.04273
BA	137	0.03796	10.00000	275.800	-0.06611	0.14328	0.03671
CO	59	0.00517	23.33300	524.100	0.03605	-0.00603	-0.01452
CU	63	0.44320	866.74000	49.000	0.64506	0.47110	0.21344
MO	98	2.11438	1560.17700	35.400	1.45003	1.96679	2.92632
NI	60	0.07336	46.67000	119.000	-0.00204	0.16896	0.05315
SN	120	0.24344	446.77300	221.600	-0.26081	0.17887	0.81228
SR	88	-0.01741	6.66700	0.000	-0.05442	0.05659	-0.05442
ZN	66	1.36040	150.01000	12.600	1.25676	1.26639	1.55804
TB-1	159	112955.52700	0.00000	0.000	113996.59000	114493.41000	110376.58000
PB	208	0.00177	970.08000	462.300	-0.00525	0.01073	-0.00018
TL	203	0.00016	6.66700	5971.000	-0.00541	-0.00541	0.01131
BI-1	209	93653.49300	0.00000	0.000	95235.17000	93824.59000	91900.72000
U	238	0.00182	20.00000	103.500	0.00177	0.00373	-0.00004

Run Name: 1833202E05 Date/Time: 11/28/2018 5:42:39
Tube Number: 9
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16787.88000	0.00000	0.000	16400.94000	17351.89000	16610.81000
AL	27	2234.55203	19300.91700	5.800	2227.65791	2107.60898	2368.38920
CR	52	242.35700	156163.62300	3.000	246.48811	233.88642	246.69646
FE	57	2222.92457	26413.51000	4.800	2319.58721	2239.73169	2109.45481
K	39	2244.32559	43145.74000	3.600	2330.25420	2171.30760	2231.41497
MG	24	2263.29769	75372.27300	4.100	2344.25751	2160.62053	2285.01503
MN	55	240.39361	49712.40300	3.500	246.54463	230.77035	243.86584
NA	23	2265.69639	189993.20000	3.900	2348.91863	2173.63095	2274.53960
TI	47	233.52647	2316.99300	7.200	241.11677	214.26639	245.19624
V	51	235.81828	116702.19700	3.000	242.13021	228.25311	237.07152
GE-1	72	55887.48300	0.00000	0.000	57183.00000	55435.32000	55044.13000
AG	107	26.60792	39985.25000	2.800	26.18218	27.46533	26.17627
CA	44	2728.58471	2720.42700	12.000	2825.09998	2362.83998	2997.81416
CD	111	26.55097	3536.50300	2.000	26.01705	27.09544	26.54042
SB	121	26.07423	8953.56000	3.300	25.09007	26.57559	26.55703
IN-1	115	20348.55000	0.00000	0.000	20403.44000	20425.11000	20217.10000
AS	75	260.74085	17385.26000	0.800	259.86461	263.18168	259.17627
BA	137	259.66454	25609.63000	0.400	258.52635	260.78192	259.68535
CO	59	260.34301	316881.41700	1.200	259.56684	257.67594	263.78625
CU	63	258.19638	281060.21700	1.100	261.21337	255.62245	257.75333
MO	98	25.78668	18947.69000	0.900	25.87685	25.97181	25.51137
NI	60	264.15347	95915.51300	0.200	263.86830	264.74787	263.84425
SN	120	26.00377	9634.07700	3.800	25.73789	27.10859	25.16484
SR	88	24.59642	4584.39000	5.200	23.11589	25.39517	25.27820
ZN	66	256.93876	24533.57700	2.500	249.85436	262.14706	258.81486
TB-1	159	114575.53700	0.00000	0.000	116257.92000	113957.23000	113511.46000
PB	208	26.35358	109649.05700	1.900	25.86055	26.35672	26.84347
TL	203	26.29754	32640.75300	3.100	25.54738	26.16037	27.18487
BI-1	209	94614.53300	0.00000	0.000	94430.84000	95124.68000	94288.08000
U	238	24.73444	131204.97700	0.500	24.82620	24.79257	24.58454

Run Name: 1833202E05 Date/Time: 11/28/2018 5:44:25
Tube Number: 10
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15706.39000	0.00000	0.000	15349.36000	16190.35000	15579.46000
AL	27	-0.30268	30.00000	0.000	-0.20242	0.80170	-1.50733
CR	52	0.29603	506.70300	70.500	0.50722	0.29127	0.08961
FE	57	2.17060	43.33300	122.700	3.74898	-0.90452	3.66735
K	39	19.74234	3087.19300	67.800	17.97129	7.33499	33.92074
MG	24	1.87226	83.33700	72.900	3.44823	1.04766	1.12088
MN	55	-0.06353	23.33700	0.000	-0.18383	-0.08354	0.07678
NA	23	12.10147	28493.77000	80.100	7.14006	5.89193	23.27242
TI	47	0.36153	3.33300	173.200	0.00000	0.00000	1.08460
V	51	-0.02829	0.00000	0.000	-0.02830	-0.02830	-0.02830
GE-1	72	56737.67000	0.00000	0.000	55807.22000	56680.19000	57725.60000
AG	107	0.01311	26.66700	55.300	0.00903	0.00882	0.02147
CA	44	-3.24711	26.66700	0.000	0.45939	9.98997	-20.19068
CD	111	0.01036	4.00000	253.700	0.04069	-0.00468	-0.00495
SB	121	0.14665	166.68000	136.900	0.36979	-0.01913	0.08927
IN-1	115	19808.71300	0.00000	0.000	20041.34000	19751.51000	19633.29000
AS	75	0.19977	22.00000	109.200	0.19538	-0.01614	0.42008
BA	137	0.10774	16.66700	112.200	0.03686	0.24734	0.03900
CO	59	0.01369	33.33300	198.900	-0.00617	0.04473	0.00252
CU	63	0.19257	600.05000	26.800	0.25171	0.15664	0.16937
MO	98	0.09812	113.34000	94.500	0.00791	0.09327	0.19317
NI	60	0.10178	56.66700	15.800	0.10926	0.08334	0.11275
SN	120	0.22093	436.69700	17.400	0.24439	0.17645	0.24195
SR	88	0.01891	13.33300	335.900	0.05477	0.05637	-0.05442
ZN	66	0.14525	36.66700	237.200	0.38992	-0.24870	0.29454
TB-1	159	110983.21300	0.00000	0.000	109940.76000	110807.22000	112201.66000
PB	208	-0.05653	720.05700	0.000	-0.06747	-0.03620	-0.06593
TL	203	0.02216	33.33300	118.900	0.01138	0.00292	0.05217
BI-1	209	89584.39000	0.00000	0.000	86753.32000	91328.91000	90670.94000
U	238	0.00465	33.33300	22.300	0.00419	0.00583	0.00392

Run Name: 1833202E05
Tube Number: 11
Sample Number: **PBS**

Date/Time: 11/28/2018 5:46:12
Batch: 183181063702A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17094.75700	0.00000	0.000	17591.91000	16310.50000	17381.86000
AL	27	0.97007	43.33300	258.300	1.52466	3.15186	-1.76631
CR	52	0.37017	600.05300	21.700	0.40253	0.42913	0.27885
FE	57	5.62448	90.00700	50.100	4.65267	3.42330	8.79748
K	39	-6.18004	2887.10000	0.000	-9.02305	0.32132	-9.83839
MG	24	2.82343	123.34300	14.900	2.90417	3.19673	2.36939
MN	55	0.20165	80.00300	125.900	0.18537	0.46330	-0.04371
NA	23	25.29696	31924.62300	89.600	9.38791	51.25830	15.24467
TI	47	0.32404	3.33300	173.200	0.00000	0.00000	0.97213
V	51	-0.02137	3.33300	0.000	-0.02830	-0.00751	-0.02830
GE-1	72	57252.83000	0.00000	0.000	56860.76000	57524.09000	57373.64000
AG	107	0.03038	53.33300	44.900	0.04149	0.03449	0.01515
CA	44	2.99627	33.33300	686.600	9.86294	19.25631	-20.13045
CD	111	0.01482	4.66700	152.900	0.03957	-0.00489	0.00978
SB	121	-0.00323	116.67700	0.000	-0.04913	-0.05247	0.09190
IN-1	115	20253.40700	0.00000	0.000	20953.50000	20023.43000	19783.29000
AS	75	0.00977	10.00000	786.500	0.06420	0.04318	-0.07808
BA	137	0.10303	16.66700	54.700	0.13087	0.14002	0.03821
CO	59	-0.00920	6.66700	0.000	0.00144	-0.01452	-0.01452
CU	63	0.22784	653.38300	62.900	0.35849	0.07462	0.25042
MO	98	0.05820	86.67300	64.800	0.01814	0.06344	0.09302
NI	60	0.26332	116.67300	41.900	0.34274	0.13741	0.30981
SN	120	8.09378	3234.90300	8.900	7.49725	8.89351	7.89059
SR	88	-0.03620	3.33300	0.000	-0.05442	0.00023	-0.05442
ZN	66	3.02766	310.02000	18.200	2.39838	3.26705	3.41755
TB-1	159	118016.49000	0.00000	0.000	119313.83000	118253.92000	116481.72000
PB	208	-0.03907	840.06300	0.000	-0.03653	-0.03709	-0.04359
TL	203	0.01816	30.00000	76.600	0.01006	0.01020	0.03421
BI-1	209	98970.61000	0.00000	0.000	99195.22000	100365.31000	97351.30000
U	238	0.00044	13.33300	248.900	-0.00018	-0.00020	0.00169

Run Name: 1833202E05
Tube Number: 12
Sample Number: **LCSW**

Date/Time: 11/28/2018 5:47:59
Batch: 183181063702A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16176.97300	0.00000	0.000	16951.18000	15589.62000	15990.12000
AL	27	939.10302	7819.31300	10.100	834.08277	1018.41460	964.81169
CR	52	25.28352	15996.92700	3.600	24.51815	26.30454	25.02786
FE	57	519.65976	5968.31300	6.000	537.20506	537.99406	483.78016
K	39	4915.78169	87652.60300	3.600	4710.17437	5006.98270	5030.18801
MG	24	982.48759	31523.73000	5.300	934.85248	1038.27322	974.33708
MN	55	25.41901	5101.21000	3.500	25.06280	24.76671	26.42753
NA	23	4897.13432	362436.32000	4.100	4678.18832	5077.04599	4936.16863
TI	47	111.62092	1066.76300	16.100	98.69511	104.06215	132.10550
V	51	24.92694	11895.91300	3.600	24.28727	25.95442	24.53911
GE-1	72	57219.39700	0.00000	0.000	57764.73000	56390.16000	57503.30000
AG	107	25.94073	39911.97700	3.600	24.91778	26.19997	26.70442
CA	44	1930.12302	1980.26700	19.300	1765.81139	1668.85842	2355.69924
CD	111	2.64050	362.67700	4.100	2.74224	2.52666	2.65259
SB	121	2.83504	1103.44000	17.800	3.02781	2.26221	3.21510
IN-1	115	20404.88700	0.00000	0.000	19067.54000	21116.75000	21030.37000
AS	75	5.55215	379.34300	7.600	6.00984	5.18170	5.46492
BA	137	27.44043	2717.13000	6.600	28.29567	28.67152	25.35408
CO	59	131.11820	159693.57300	6.100	139.94236	124.28419	129.12806
CU	63	26.79838	29550.01000	6.600	28.66083	25.13219	26.60213
MO	98	26.36143	19391.67300	4.200	27.60693	25.47505	26.00231
NI	60	27.27279	9924.17300	7.100	29.40995	26.76244	25.64599
SN	120	32.67807	12033.41300	2.600	33.55126	31.87311	32.60985
SR	88	21.74736	4057.55300	7.800	23.18952	22.17777	19.87478
ZN	66	263.87952	25198.05000	8.300	284.97184	241.20341	265.46332
TB-1	159	116795.67300	0.00000	0.000	117853.19000	118174.28000	114359.55000
PB	208	7.59970	32939.07700	2.000	7.60570	7.44551	7.74789
TL	203	1.01744	1293.47700	5.800	0.95808	1.01795	1.07631
BI-1	209	97617.85300	0.00000	0.000	97311.33000	100033.73000	95508.50000
U	238	0.00343	30.00000	136.000	0.00169	0.00872	-0.00011

Run Name: 1833202E05
Tube Number: 13
Sample Number: **LCSW**

Date/Time: 11/28/2018 5:49:46
Batch: 183181063702A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15803.30300	0.00000	0.000	15809.67000	16150.28000	15449.96000
AL	27	1005.46158	8196.16700	4.800	962.32478	996.17311	1057.88686
CR	52	26.15668	16160.37000	4.600	26.62511	24.79009	27.05484
FE	57	501.47632	5624.80700	3.300	520.64729	490.34930	493.43238
K	39	4915.53730	85672.24000	3.000	4985.88992	4747.17164	5013.55033
MG	24	1001.30834	31420.25700	2.200	1009.11338	976.55175	1018.25989
MN	55	25.65760	5031.21000	2.800	26.37180	25.66099	24.94002
NA	23	5005.22985	361504.03000	3.200	4982.83877	4856.95723	5175.89354
TI	47	125.20877	1170.12000	14.300	105.82122	128.70290	141.10219
V	51	24.28299	11325.38000	3.600	23.85346	23.70733	25.28819
GE-1	72	56543.11000	0.00000	0.000	57021.04000	55877.42000	56730.87000
AG	107	26.36870	40098.96700	2.400	27.07410	26.19996	25.83205
CA	44	2105.63933	2130.29000	3.600	2137.23522	2161.30429	2018.37848
CD	111	2.67725	363.34300	4.900	2.79298	2.53500	2.70377
SB	121	3.20859	1216.80000	5.400	3.12958	3.40702	3.08916
IN-1	115	20620.38300	0.00000	0.000	20754.32000	20422.33000	20684.50000
AS	75	5.56081	384.67700	14.800	4.68612	6.31958	5.67673
BA	137	26.63550	2667.07700	6.200	25.89067	28.53660	25.47923
CO	59	127.34185	157066.72700	2.300	127.12801	130.43099	124.46654
CU	63	25.40816	28404.37700	3.400	26.21991	24.50221	25.50238
MO	98	26.07014	19408.57300	1.900	25.63974	26.62924	25.94145
NI	60	26.77733	9870.81300	5.700	27.44763	27.83966	25.04471
SN	120	32.13152	11974.30700	1.600	32.70628	31.89994	31.78833
SR	88	19.90444	3760.71300	8.000	20.35067	21.21838	18.14426
ZN	66	267.64105	25895.98700	1.000	265.08387	267.61755	270.22171
TB-1	159	116100.46700	0.00000	0.000	115802.06000	116839.66000	115659.68000
PB	208	7.66542	33025.74300	3.400	7.88373	7.73086	7.38168
TL	203	1.01546	1283.47700	18.800	1.23027	0.86371	0.95238
BI-1	209	96061.12300	0.00000	0.000	97150.19000	96050.53000	94982.65000
U	238	-0.00135	3.33300	0.000	-0.00198	-0.00198	-0.00010

Run Name: 1833202E05
Tube Number: 14
Sample Number: **9891918**

Date/Time: 11/28/2018 5:51:33
Batch: 183181063702A
Class: U*********

Initial Vol: 1.27 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	19234.59300	0.00000	0.000	19094.25000	19405.02000	19204.51000
AL	27	65275.06387	645431.63300	1.000	64865.00554	66017.71741	64942.46864
CR	52	86.30082	64008.81300	1.700	85.38994	85.50071	88.01182
FE	57	93819.49565	1276269.17700	1.300	94885.10964	92493.80800	94079.56932
K	39	5546.23039	117264.97000	0.900	5580.99589	5571.17169	5486.52360
MG	24	25144.73446	959863.99700	1.000	25024.32691	24978.50763	25431.36886
MN	55	3351.12148	793924.72700	1.400	3393.59374	3299.68716	3360.08353
NA	23	3627.69055	328375.97000	0.400	3630.99564	3638.65208	3613.42394
TI	47	911.99192	10381.22700	7.500	863.18380	882.48432	990.30762
V	51	100.38019	56953.53300	2.100	100.92423	98.02696	102.18940
GE-1	72	59566.86000	0.00000	0.000	59473.15000	59463.54000	59763.89000
AG	107	0.77418	1246.79700	8.400	0.84626	0.72128	0.75500
CA	44	32505.99332	34190.77000	5.200	32270.95104	34302.15136	30944.87757
CD	111	3.20876	458.01300	18.700	2.71938	3.87771	3.02918
SB	121	3.68274	1453.49300	11.100	4.15049	3.51373	3.38401
IN-1	115	20779.44300	0.00000	0.000	20770.10000	20935.89000	20632.34000
AS	75	740.81045	50422.89300	0.400	739.54449	744.31638	738.57048
BA	137	611.13314	61544.22000	1.800	620.07015	614.15181	599.17746
CO	59	47.73129	59351.06000	2.500	48.34043	48.51798	46.33546
CU	63	402.75962	447446.10000	1.300	403.05322	397.19704	408.02859
MO	98	5.27008	3990.80700	7.900	4.79118	5.49561	5.52345
NI	60	98.80833	36647.50300	3.400	95.71303	98.28376	102.42821
SN	120	120.88795	44357.18300	3.100	117.56324	124.91671	120.18391
SR	88	106.67636	20269.62000	1.700	108.22995	104.65102	107.14811
ZN	66	1390.64036	135486.74000	1.300	1408.48700	1373.48741	1389.94667
TB-1	159	130257.46300	0.00000	0.000	128544.42000	131764.87000	130463.10000
PB	208	2135.13742	10011735.31700	0.600	2148.88036	2125.61845	2130.91347
TL	203	0.67295	956.76000	16.700	0.66965	0.56208	0.78712
BI-1	209	100650.56300	0.00000	0.000	99760.41000	100202.86000	101988.42000
U	238	2.78380	15714.33300	3.900	2.81627	2.87150	2.66362

Run Name: 1833202E05
Tube Number: 15
Sample Number: **9891918**

Date/Time: 11/28/2018 5:53:19
Batch: 183181063702A
Class: UP********

Initial Vol: 1.27 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	19100.90300	0.00000	0.000	18793.62000	19414.73000	19094.36000
AL	27	67111.71320	658750.87700	2.800	69108.61201	65452.82529	66773.70230
CR	52	93.98688	69164.09300	3.900	98.23704	91.60324	92.12036
FE	57	94798.61845	1280841.93300	1.500	94615.39235	96296.97544	93483.48754
K	39	6258.15045	130922.89000	3.700	6524.53851	6126.15146	6123.76139
MG	24	25752.10556	976075.82000	2.100	26350.75597	25588.61043	25316.95028
MN	55	3352.55545	788648.32300	1.800	3417.23798	3294.10828	3346.32009
NA	23	5164.97196	449873.35300	3.000	5341.29027	5041.45912	5112.16649
TI	47	971.42351	10974.97700	5.200	1012.85989	915.12724	986.28339
V	51	101.86628	57385.99300	2.500	103.46314	98.91095	103.22475
GE-1	72	59311.77000	0.00000	0.000	58567.99000	60377.18000	58990.14000
AG	107	1.72954	2763.77300	9.200	1.90741	1.67759	1.60363
CA	44	33663.46220	35256.55300	0.600	33691.41024	33453.38064	33845.59570
CD	111	4.88009	692.02700	5.800	5.19892	4.79224	4.64911
SB	121	6.61148	2500.37700	10.000	7.34391	6.43111	6.05942
IN-1	115	20794.17300	0.00000	0.000	21589.95000	20101.78000	20690.79000
AS	75	739.92279	50354.07000	3.700	715.26235	769.38082	735.12521
BA	137	619.81755	62421.62000	2.700	600.83421	630.56696	628.05149
CO	59	49.71203	61798.03000	3.700	47.57663	50.90805	50.65141
CU	63	477.30693	529992.33300	4.800	453.00635	497.98419	480.93024
MO	98	8.98997	6782.08700	4.900	9.30229	9.18014	8.48747
NI	60	103.99645	38563.16700	4.800	100.59031	109.77502	101.62402
SN	120	122.83572	45056.18300	4.100	117.09296	124.83719	126.57700
SR	88	121.59012	23121.18000	2.700	123.41010	123.55149	117.80877
ZN	66	1402.36640	136633.01000	3.000	1357.13018	1438.86256	1411.10646
TB-1	159	127788.55000	0.00000	0.000	127418.75000	127696.19000	128250.71000
PB	208	2162.39473	9947541.56700	1.300	2191.81693	2158.28872	2137.07852
TL	203	1.59851	2220.31000	7.300	1.55960	1.72970	1.50624
BI-1	209	100452.64300	0.00000	0.000	100870.52000	100384.91000	100102.50000
U	238	3.73416	21039.09000	2.000	3.67080	3.81849	3.71320

Run Name: 1833202E05
Tube Number: 16
Sample Number: **9891921**

Date/Time: 11/28/2018 5:55:05
Batch: 183181063702A
Class: D*********

Initial Vol: 1.45 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18016.14700	0.00000	0.000	18003.07000	17862.46000	18182.91000
AL	27	62321.72074	577105.54000	1.800	62238.16266	63455.75457	61271.24500
CR	52	80.21428	55745.65000	2.300	79.91256	82.17522	78.55505
FE	57	85477.16164	1089155.14000	0.900	85145.50820	86326.77578	84959.20095
K	39	5126.93248	101773.50000	0.300	5114.86203	5118.74752	5147.18791
MG	24	28677.92613	1025307.09700	1.600	28594.38285	29165.68039	28273.71514
MN	55	3186.51090	707099.33700	2.100	3136.29850	3261.64898	3161.58520
NA	23	3503.59617	298105.27700	2.000	3519.66079	3566.00650	3425.12121
TI	47	918.77170	9794.05000	6.400	978.43896	916.07458	861.80157
V	51	87.87671	46701.70300	2.400	89.48171	88.67909	85.46933
GE-1	72	58484.77300	0.00000	0.000	57653.90000	58538.45000	59261.97000
AG	107	0.85213	1346.80300	2.100	0.84084	0.87254	0.84301
CA	44	23264.19833	24032.25000	2.400	23497.48485	23675.54917	22619.56096
CD	111	2.16888	304.67700	7.100	2.31066	2.18939	2.00658
SB	121	3.03513	1196.78700	6.800	3.20578	3.09594	2.80368
IN-1	115	20534.53700	0.00000	0.000	19974.79000	21154.87000	20473.95000
AS	75	519.53397	34937.05000	1.700	524.28588	509.38860	524.92742
BA	137	518.82853	51597.42700	3.400	534.22567	499.62978	522.63013
CO	59	45.88520	56351.94700	2.400	46.89511	44.73045	46.03004
CU	63	372.83178	409184.52300	2.400	381.55417	363.65168	373.28949
MO	98	3.74074	2807.11000	10.100	4.06694	3.32466	3.83062
NI	60	89.21972	32673.90700	5.400	92.63337	83.71876	91.30704
SN	120	176.01907	63620.00300	2.400	179.10876	171.11780	177.83065
SR	88	108.16052	20289.60000	5.500	112.87155	101.54646	110.06355
ZN	66	903.36887	86973.92000	0.800	909.48831	895.67914	904.93915
TB-1	159	127311.82700	0.00000	0.000	126815.82000	128534.16000	126585.50000
PB	208	1823.10327	8355560.50000	0.600	1826.39416	1811.39353	1831.52212
TL	203	0.52844	736.73000	10.500	0.51143	0.59070	0.48320
BI-1	209	95850.37700	0.00000	0.000	94831.52000	95970.24000	96749.37000
U	238	2.50947	13494.83300	1.500	2.49375	2.55159	2.48306

Run Name: 1833202E05
Tube Number: 17
Sample Number: **9891919**

Date/Time: 11/28/2018 5:56:51
Batch: 183181063702A
Class: R*********

Initial Vol: 1.09 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18459.95700	0.00000	0.000	18923.85000	18222.97000	18233.05000
AL	27	77264.99742	732939.62700	2.200	75302.44515	78311.07311	78181.47401
CR	52	140.72763	99916.13700	2.100	139.07931	139.02359	144.07998
FE	57	120265.97198	1569899.14000	1.500	118135.55014	121538.22485	121124.14096
K	39	14757.66885	293965.73300	2.600	14328.04499	14885.72699	15059.23458
MG	24	27638.89937	1012191.86000	2.700	26763.11891	28079.66151	28073.91768
MN	55	6326.74796	1437889.71700	3.500	6079.33886	6515.90940	6384.99561
NA	23	11933.97935	961896.08000	2.600	11610.83574	11971.77488	12219.32742
TI	47	921.52777	10064.14300	2.300	897.74656	939.70153	927.13523
V	51	158.11564	86082.79000	1.200	155.96248	158.55538	159.82906
GE-1	72	58816.53000	0.00000	0.000	57684.46000	59272.25000	59492.88000
AG	107	51.11209	80851.25000	1.400	50.29168	51.52624	51.51836
CA	44	14804.52594	15396.17300	1.400	14589.54696	14810.70396	15013.32691
CD	111	7.51124	1055.38700	4.100	7.25851	7.85687	7.41832
SB	121	5.50821	2086.96300	2.600	5.46137	5.66749	5.39577
IN-1	115	19790.70000	0.00000	0.000	19288.09000	20496.14000	19587.87000
AS	75	694.00710	44962.99000	3.000	702.71152	670.37112	708.93865
BA	137	895.52787	85805.08300	4.500	920.38140	849.11154	917.09065
CO	59	326.97362	386819.48700	3.200	335.00365	315.00731	330.90990
CU	63	319.67362	338113.12000	3.400	325.50838	307.14952	326.36296
MO	98	57.43701	40945.31700	5.400	59.54750	53.87333	58.89021
NI	60	168.31994	59411.10000	3.500	169.93905	161.73289	173.28788
SN	120	92.71439	32478.26300	4.400	89.69530	91.13623	97.31163
SR	88	136.25126	24650.48700	2.700	134.56336	133.68804	140.50239
ZN	66	1506.20459	139712.62700	1.800	1533.05848	1477.58800	1507.96728
TB-1	159	127019.23000	0.00000	0.000	127027.36000	125464.57000	128565.76000
PB	208	1271.32911	5813175.06700	1.400	1269.02045	1289.69471	1255.27217
TL	203	2.59334	3574.07300	7.800	2.47302	2.82771	2.47930
BI-1	209	97674.24700	0.00000	0.000	97270.27000	98411.16000	97341.31000
U	238	3.23849	17743.79300	0.400	3.23183	3.25240	3.23123

Run Name: 1833202E05
Tube Number: 18
Sample Number: **9891920**

Date/Time: 11/28/2018 5:58:37
Batch: 183181063702A
Class: M*********

Initial Vol: 1.24 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18947.32300	0.00000	0.000	19504.81000	17912.44000	19424.72000
AL	27	101951.54230	991708.99700	4.200	98134.20168	106558.77096	101161.65427
CR	52	190.19122	138216.76700	6.500	178.81659	203.24293	188.51414
FE	57	126511.21329	1693153.51300	4.300	124109.99109	132679.59880	122744.04998
K	39	16332.62959	333316.93700	3.600	15893.01874	17007.92405	16096.94597
MG	24	30063.26547	1128909.98300	4.400	29155.63859	31596.16186	29437.99598
MN	55	4550.57808	1060722.87300	4.000	4417.53667	4758.46232	4475.73525
NA	23	12706.29648	1047672.22300	5.300	12219.07932	13476.86450	12422.94561
TI	47	1221.57942	13690.92700	5.900	1142.42793	1240.19935	1282.11097
V	51	190.43585	106222.87000	6.200	181.89812	203.98400	185.42541
GE-1	72	58964.00000	0.00000	0.000	58971.16000	58468.72000	59452.12000
AG	107	52.60351	83401.56300	1.000	52.39369	53.20816	52.20867
CA	44	16150.88604	16834.53300	2.000	16387.85845	15790.89265	16273.90703
CD	111	6.36969	897.37700	9.000	7.02852	6.06945	6.01110
SB	121	8.28294	3083.85000	6.400	8.40946	8.73837	7.70097
IN-1	115	20010.69700	0.00000	0.000	21047.55000	19444.34000	19540.20000
AS	75	958.46838	62742.46700	4.200	912.36319	976.96262	986.07935
BA	137	696.93169	67560.37700	1.900	687.16998	691.78385	711.84125
CO	59	333.89453	399048.96700	5.200	313.82745	343.82024	344.03591
CU	63	294.58638	314865.95000	4.700	279.04913	299.57911	305.13090
MO	98	58.06125	41830.87300	5.500	54.45800	59.22453	60.50123
NI	60	200.97483	71697.16000	3.400	193.43280	206.78158	202.71011
SN	120	124.05048	43754.74700	5.100	117.00599	129.44636	125.69908
SR	88	119.62245	21832.16000	8.700	107.79113	127.28187	123.79434
ZN	66	1367.61631	128130.73700	4.900	1290.18699	1404.19683	1408.46510
TB-1	159	132065.30300	0.00000	0.000	130037.59000	128591.69000	137566.63000
PB	208	1795.74959	8531981.38700	2.900	1801.09604	1845.06323	1741.08952
TL	203	2.56154	3667.42300	7.200	2.50797	2.76598	2.41068
BI-1	209	96522.32000	0.00000	0.000	95305.22000	96605.72000	97656.02000
U	238	4.23565	22929.22700	0.500	4.25836	4.22135	4.22725

Run Name: 1833202E05
Tube Number: 19
Sample Number: **9891918**

Date/Time: 11/28/2018 6:00:23
Batch: 183181063702A
Class: UL********

Initial Vol: 1.27 Final Vol: 100.00 DF: 10.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16681.02000	0.00000	0.000	16310.37000	16360.71000	17371.98000
AL	27	15070.67383	129158.58000	3.200	15204.55297	15476.68686	14530.78165
CR	52	19.72240	12943.53300	4.600	20.61725	19.73744	18.81251
FE	57	21347.91408	251709.44300	3.100	21945.80498	21458.08585	20639.85140
K	39	1280.26694	25701.92000	5.700	1284.11991	1350.80847	1205.87243
MG	24	5792.56821	191628.88300	3.600	5874.19950	5948.19635	5555.30879
MN	55	781.03980	160407.39700	2.800	796.38652	790.69867	756.03422
NA	23	855.52815	89591.47300	3.600	858.74804	884.40446	823.43196
TI	47	197.06393	1940.25300	11.400	215.51776	203.48861	172.18542
V	51	22.48389	11075.02000	2.700	23.07850	21.86677	22.50639
GE-1	72	58806.59300	0.00000	0.000	56951.69000	60397.25000	59070.84000
AG	107	0.16946	273.35300	27.600	0.21121	0.11887	0.17830
CA	44	6759.15145	7035.56300	9.000	7396.84453	6700.70657	6179.90324
CD	111	0.65673	94.66700	8.800	0.70289	0.67559	0.59170
SB	121	0.63299	346.69300	7.400	0.67388	0.64336	0.58175
IN-1	115	20814.42000	0.00000	0.000	20974.14000	20601.65000	20867.47000
AS	75	149.14222	10175.22700	2.000	145.82143	149.76571	151.83954
BA	137	123.48532	12459.92700	5.900	116.19635	123.41219	130.84742
CO	59	9.50996	11855.81000	3.300	9.26792	9.85818	9.40378
CU	63	80.93718	90408.60000	0.300	81.10453	80.64688	81.06014
MO	98	1.05925	840.07700	15.400	0.90491	1.04368	1.22916
NI	60	19.72496	7345.73300	2.500	19.85831	20.13642	19.18015
SN	120	24.78493	9414.63300	10.800	27.79529	22.64972	23.90978
SR	88	22.16158	4227.57000	4.300	22.85052	21.08622	22.54801
ZN	66	283.71249	27702.72700	3.800	271.47641	291.84653	287.81452
TB-1	159	117494.95700	0.00000	0.000	115659.92000	117478.47000	119346.48000
PB	208	441.18069	1866553.66700	1.800	450.17784	438.99537	434.36887
TL	203	0.16509	216.68000	32.000	0.21807	0.11245	0.16475
BI-1	209	95568.54000	0.00000	0.000	97304.17000	95435.97000	93965.48000
U	238	0.53675	2887.16300	4.400	0.56093	0.51398	0.53535

Run Name: 1833202E05
Tube Number: 20
Sample Number: **9891907**

Date/Time: 11/28/2018 6:02:09
Batch: 183181063702A
Class: **********

Initial Vol: 1.10 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18042.82700	0.00000	0.000	17682.32000	17992.67000	18453.49000
AL	27	87641.75979	812549.07700	2.600	89995.33578	87419.81484	85510.12875
CR	52	81.17239	56471.80700	4.100	85.04815	79.12870	79.34031
FE	57	104279.10652	1330231.54300	3.000	106044.73017	106139.00056	100653.58881
K	39	5036.84327	100157.07300	2.300	5109.68788	5098.87896	4901.96296
MG	24	20396.18473	730171.31300	1.900	20706.02527	20526.81682	19955.71211
MN	55	2397.85274	532769.88700	2.200	2446.66250	2404.82792	2342.06781
NA	23	160.73324	44050.74000	5.200	168.59058	151.87581	161.73331
TI	47	621.38778	6631.94000	3.900	649.05082	609.67227	605.44026
V	51	127.84121	68017.47700	2.700	130.00376	129.69091	123.82898
GE-1	72	58123.53000	0.00000	0.000	58075.56000	58417.92000	57877.11000
AG	107	0.35400	560.05300	8.700	0.32233	0.38409	0.35559
CA	44	8947.38707	9206.88000	4.000	8600.77362	9307.33808	8934.04949
CD	111	0.58747	84.00000	27.600	0.76120	0.44043	0.56078
SB	121	0.60572	333.36000	25.000	0.59753	0.76130	0.45834
IN-1	115	19971.41700	0.00000	0.000	19522.88000	20522.62000	19868.75000
AS	75	45.41096	2977.69700	3.100	46.91357	44.08562	45.23369
BA	137	431.90051	41805.61700	1.700	425.02701	430.95327	439.72126
CO	59	49.42621	59032.96300	3.700	49.81195	47.42550	51.04118
CU	63	95.09139	101808.46700	2.200	97.35866	93.11214	94.80337
MO	98	3.08202	2260.35000	3.000	3.18113	2.99614	3.06879
NI	60	93.89007	33452.46000	3.700	96.56494	89.91209	95.19319
SN	120	10.29131	3954.46300	10.900	11.25589	9.06752	10.55054
SR	88	50.51738	9227.01000	3.700	52.70182	49.49158	49.35875
ZN	66	427.15194	39987.13000	4.200	443.05283	407.80207	430.60092
TB-1	159	125297.48700	0.00000	0.000	125026.36000	122634.17000	128231.93000
PB	208	193.28022	872446.56000	2.700	193.39094	198.46953	187.98019
TL	203	0.75900	1036.77700	6.400	0.73296	0.81512	0.72891
BI-1	209	94930.69300	0.00000	0.000	95236.15000	93089.83000	96466.10000
U	238	3.40466	18124.47300	2.300	3.39096	3.48832	3.33470

Run Name: 1833202E05 Date/Time: 11/28/2018 6:03:55
Tube Number: 21
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16741.13000	0.00000	0.000	17131.68000	15910.17000	17181.54000
AL	27	2269.30861	19534.72300	4.900	2216.65177	2396.95289	2194.32116
CR	52	250.06978	160536.85300	5.200	239.72314	264.67272	245.81349
FE	57	2373.23847	28083.31300	5.500	2243.70577	2506.05939	2369.95025
K	39	2327.90216	44480.35700	5.700	2300.11962	2471.60479	2211.98206
MG	24	2291.01929	75982.83300	7.500	2172.12244	2488.28014	2212.65528
MN	55	252.82842	52098.21700	5.000	243.91563	267.42443	247.14522
NA	23	2283.41088	190588.65300	5.400	2225.37571	2423.88057	2200.97636
TI	47	245.74088	2437.01300	5.600	261.41711	235.80863	239.99688
V	51	248.46656	122564.88700	3.600	245.21626	258.60644	241.57697
GE-1	72	57845.65000	0.00000	0.000	58086.74000	57614.84000	57835.37000
AG	107	25.67754	39941.84000	2.400	25.04884	26.30338	25.68040
CA	44	2546.94251	2630.40000	7.700	2634.27423	2321.48901	2685.06429
CD	111	26.20863	3613.86700	1.900	26.01683	26.78407	25.82498
SB	121	25.58610	9100.31000	2.800	26.31235	25.55744	24.88849
IN-1	115	19603.89300	0.00000	0.000	19167.71000	20394.03000	19249.94000
AS	75	275.61253	17688.99300	3.700	278.92333	264.27291	283.64134
BA	137	283.54008	26936.06700	1.300	281.67674	281.05863	287.88489
CO	59	277.29286	324999.33700	2.500	283.60502	270.08225	278.19133
CU	63	273.25922	286346.66300	3.000	278.30248	263.73369	277.74149
MO	98	27.88093	19735.77700	0.800	27.68031	28.09779	27.86469
NI	60	274.30462	95888.49000	3.100	277.84723	264.73640	280.33023
SN	120	26.59278	9487.37000	6.000	27.64357	27.37601	24.75878
SR	88	27.34496	4901.17300	7.600	29.23511	25.11164	27.68813
ZN	66	274.51263	25244.71700	1.600	279.46626	271.23977	272.83186
TB-1	159	114807.30300	0.00000	0.000	115943.70000	116236.90000	112241.31000
PB	208	26.46371	110294.99700	3.500	25.70333	26.18261	27.50520
TL	203	26.84853	33379.44300	4.800	25.90422	26.31615	28.32520
BI-1	209	93625.14700	0.00000	0.000	92774.61000	95717.95000	92382.88000
U	238	25.10447	131775.23300	0.100	25.06529	25.12916	25.11897

Run Name: 1833202E05 Date/Time: 11/28/2018 6:05:41
Tube Number: 22
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16183.45000	0.00000	0.000	15769.58000	16180.00000	16600.77000
AL	27	0.81603	40.00000	153.400	0.92995	2.00718	-0.48906
CR	52	0.40053	586.71700	21.100	0.49571	0.37245	0.33344
FE	57	1.12802	33.33300	117.300	0.01537	2.59141	0.77728
K	39	-0.60829	2833.80700	0.000	1.22744	-16.29787	13.24558
MG	24	0.75133	50.00300	155.500	2.05639	-0.19683	0.39444
MN	55	0.00018	36.66700	31476.600	-0.02938	0.06705	-0.03712
NA	23	32.61374	30755.26700	30.800	36.02291	40.51020	21.30811
TI	47	0.34811	3.33300	173.200	0.00000	1.04434	0.00000
V	51	-0.00752	10.00000	0.000	-0.02830	0.01362	-0.00787
GE-1	72	58622.38300	0.00000	0.000	58669.63000	58559.10000	58638.42000
AG	107	0.01473	30.00000	43.000	0.02106	0.01475	0.00839
CA	44	8.65528	40.00000	295.100	37.61591	-0.97244	-10.67763
CD	111	0.01393	4.66700	59.200	0.02344	0.00919	0.00915
SB	121	0.22312	200.01000	120.000	0.36330	-0.08571	0.39175
IN-1	115	20161.96000	0.00000	0.000	19322.19000	20424.52000	20739.17000
AS	75	0.24090	25.33300	51.500	0.11303	0.24889	0.36078
BA	137	0.06657	13.33300	345.200	-0.06611	-0.06611	0.33193
CO	59	0.03528	60.00000	5.300	0.03740	0.03460	0.03385
CU	63	0.16924	586.71000	33.100	0.11029	0.17581	0.22161
MO	98	0.03426	70.00300	166.300	0.01049	-0.00698	0.09929
NI	60	0.05314	40.00000	93.000	0.08650	-0.00366	0.07659
SN	120	0.95706	691.14300	170.700	2.81487	-0.25516	0.31146
SR	88	-0.05441	0.00000	0.000	-0.05442	-0.05442	-0.05442
ZN	66	0.13505	36.66700	153.500	-0.02790	0.06462	0.36843
TB-1	159	115389.76000	0.00000	0.000	113947.10000	115359.84000	116862.34000
PB	208	0.13595	1546.78300	31.700	0.16552	0.15578	0.08654
TL	203	0.03209	46.67000	64.100	0.05130	0.03459	0.01038
BI-1	209	92007.10000	0.00000	0.000	93389.26000	91204.17000	91427.87000
U	238	0.00772	50.00300	101.300	0.00757	0.01563	-0.00003

Run Name: 1833202E05
Tube Number: 23
Sample Number: **9891908**

Date/Time: 11/28/2018 6:07:27
Batch: 183181063702A
Class: **********

Initial Vol: 1.49 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	19611.88300	0.00000	0.000	19855.83000	19474.83000	19504.99000
AL	27	119222.80093	1201869.48700	1.000	118831.58053	118317.96212	120518.86015
CR	52	110.53748	83476.01000	1.000	109.88394	109.94167	111.78683
FE	57	146139.81772	2027084.39700	0.400	145574.10124	146132.10365	146713.24826
K	39	7502.76154	160513.89300	1.500	7389.51797	7511.00309	7607.76355
MG	24	27076.85299	1053832.14700	1.100	26760.37209	27126.49656	27343.69033
MN	55	2846.27464	687563.55700	1.000	2816.59961	2850.22564	2871.99868
NA	23	190.39071	50335.18000	3.800	183.18909	197.50906	190.47398
TI	47	728.35660	8453.14000	2.800	720.21614	713.46950	751.38418
V	51	159.27075	92125.95700	3.300	156.25623	165.38106	156.17495
GE-1	72	60029.23300	0.00000	0.000	59313.58000	60266.75000	60507.37000
AG	107	0.40937	666.72300	23.500	0.51618	0.32897	0.38297
CA	44	7912.15250	8409.74300	4.500	8133.73181	8098.78500	7503.94070
CD	111	0.89482	130.66700	8.900	0.97139	0.90000	0.81308
SB	121	0.87981	443.36300	32.400	1.10588	0.97368	0.55986
IN-1	115	20187.06700	0.00000	0.000	20129.04000	20487.59000	19944.57000
AS	75	66.82907	4427.44000	0.900	67.43840	66.79258	66.25624
BA	137	528.63607	51717.64300	2.000	516.44773	533.90810	535.55239
CO	59	76.72167	92632.60300	3.100	77.15868	74.17251	78.83383
CU	63	127.55321	137912.36000	3.000	128.71567	123.22872	130.71523
MO	98	4.60060	3390.62000	3.000	4.72509	4.62767	4.44905
NI	60	133.90864	48239.89300	1.800	133.31322	131.83190	136.58080
SN	120	11.03882	4267.64700	1.100	11.11039	10.89798	11.10808
SR	88	62.02564	11458.88300	5.700	64.11453	64.00707	57.95533
ZN	66	525.08896	49719.66700	2.000	534.86679	526.12486	514.27523
TB-1	159	130934.96000	0.00000	0.000	130626.25000	130797.67000	131380.96000
PB	208	219.93263	1037682.39000	0.500	219.23666	221.20536	219.35586
TL	203	1.05218	1500.18000	6.400	0.99109	1.12388	1.04156
BI-1	209	98258.61700	0.00000	0.000	98227.69000	98230.13000	98318.03000
U	238	5.16674	28471.21700	1.300	5.22899	5.09238	5.17886

Run Name: 1833202E05
Tube Number: 24
Sample Number: **9891909**

Date/Time: 11/28/2018 6:09:14
Batch: 183181063702A
Class: **********

Initial Vol: 1.11 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	19304.46700	0.00000	0.000	18893.85000	19535.04000	19484.51000
AL	27	82867.94704	822159.46700	1.500	84277.72513	81804.28560	82521.83040
CR	52	73.66135	54892.42000	1.900	73.56673	72.31672	75.10059
FE	57	121736.06988	1662140.91300	0.100	121850.98499	121702.54662	121654.67803
K	39	6337.30583	133966.46700	2.700	6448.87213	6139.70960	6423.33576
MG	24	23891.57876	915217.30300	1.800	24198.21859	23389.27018	24087.24751
MN	55	2311.60328	549601.66000	2.000	2345.62556	2260.22129	2328.96300
NA	23	127.26986	44392.30300	13.000	144.71508	111.87907	125.21544
TI	47	558.49639	6378.53300	4.100	573.43984	532.10781	569.94152
V	51	102.02175	58088.64700	3.100	103.70744	98.33456	104.02327
GE-1	72	59539.36000	0.00000	0.000	59543.16000	59401.42000	59673.50000
AG	107	0.13728	226.68000	11.300	0.15187	0.12093	0.13905
CA	44	6136.92386	6478.59700	5.400	5987.76302	5906.71431	6516.29424
CD	111	0.40370	60.00000	21.200	0.40354	0.48935	0.31819
SB	121	0.48240	296.69000	40.600	0.29764	0.68760	0.46195
IN-1	115	19859.21000	0.00000	0.000	19542.15000	19727.79000	20307.69000
AS	75	42.42751	2769.65000	3.900	40.55310	42.98786	43.74157
BA	137	260.06295	25018.62000	4.500	272.78434	257.63749	249.76701
CO	59	61.39996	72946.98000	0.800	61.93506	61.24109	61.02374
CU	63	115.54352	122942.13700	1.700	116.98501	116.30126	113.34429
MO	98	2.79634	2043.60000	12.100	3.13529	2.45775	2.79598
NI	60	111.87753	39652.74000	2.400	114.82039	109.57587	111.23634
SN	120	7.85547	3101.46000	26.400	6.59218	6.72300	10.25122
SR	88	46.91933	8523.18700	3.800	46.93469	48.71350	45.10979
ZN	66	342.41200	31908.95700	1.900	339.52288	337.94233	349.77080
TB-1	159	125252.90000	0.00000	0.000	124445.96000	125233.57000	126079.17000
PB	208	85.10680	384760.35000	1.200	86.18186	84.88954	84.24900
TL	203	0.57444	786.74300	26.400	0.67706	0.40002	0.64624
BI-1	209	96982.39000	0.00000	0.000	98804.49000	96322.58000	95820.10000
U	238	4.18224	22742.38700	3.000	4.07136	4.15588	4.31948

Run Name: 1833202E05
Tube Number: 25
Sample Number: **9891910**

Date/Time: 11/28/2018 6:11:01
Batch: 183181063702A
Class: **********

Initial Vol: 1.13 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17308.68300	0.00000	0.000	16420.72000	19154.60000	16350.73000
AL	27	24454.77546	216340.32300	9.500	25961.09425	21783.74983	25619.48229
CR	52	39.48698	26383.51300	10.500	41.45292	34.73573	42.27230
FE	57	43944.81304	535007.79000	9.000	45800.95047	39380.09665	46653.39198
K	39	6276.82344	118485.35000	7.500	6512.41472	5732.06039	6585.99520
MG	24	310192.92595	10609266.92300	7.000	323790.09923	284997.79528	321790.88333
MN	55	1638.37980	347248.05300	9.700	1739.70023	1454.47979	1720.95937
NA	23	476.95165	65023.26000	16.000	536.18103	390.54364	504.13029
TI	47	368.65741	3747.40000	16.200	355.08073	316.75312	434.13837
V	51	87.14786	44193.06000	11.500	94.85163	75.78730	90.80464
GE-1	72	54695.63700	0.00000	0.000	53617.51000	54361.15000	56108.25000
AG	107	0.45884	683.39700	21.800	0.38417	0.41992	0.57244
CA	44	668655.35410	645070.29000	2.100	682519.07275	669512.84767	653934.14188
CD	111	2.18234	286.67700	7.600	2.15723	2.35913	2.03067
SB	121	0.63749	323.35700	26.400	0.82907	0.57054	0.51285
IN-1	115	18754.32300	0.00000	0.000	18200.00000	20014.85000	18048.12000
AS	75	41.26435	2534.26300	8.800	43.18471	37.05887	43.54946
BA	137	407.76865	36974.27000	6.900	406.91967	380.14024	436.24605
CO	59	22.39466	25087.36000	6.100	23.71721	20.98799	22.47879
CU	63	59.38122	59733.50000	5.600	61.00491	55.53362	61.60514
MO	98	3.07864	2113.61000	9.600	3.21841	2.74071	3.27680
NI	60	71.71826	23965.37000	5.600	74.82016	67.21693	73.11768
SN	120	8.34828	3070.61300	12.500	9.38397	7.29740	8.36347
SR	88	534.83925	91473.20700	6.100	550.01796	497.66034	556.83944
ZN	66	737.11408	64615.82700	8.600	779.09554	664.63342	767.61329
TB-1	159	117746.81000	0.00000	0.000	117680.17000	117175.05000	118385.21000
PB	208	388.48119	1647495.20000	0.900	389.86971	390.94938	384.62449
TL	203	0.31875	413.36700	9.800	0.33190	0.34124	0.28311
BI-1	209	90394.74300	0.00000	0.000	90371.34000	91276.75000	89536.14000
U	238	2.84639	14432.65000	2.100	2.80267	2.82181	2.91468

Run Name: 1833202E05
Tube Number: 26
Sample Number: **9891910**

Date/Time: 11/28/2018 6:12:48
Batch: 183181063702A
Class: **********

Initial Vol: 1.13 Final Vol: 100.00 DF: 20.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17645.69700	0.00000	0.000	17041.47000	17642.35000	18253.27000
AL	27	2618.17967	23778.08700	3.200	2596.57294	2711.28878	2546.67729
CR	52	4.68341	3533.99000	3.900	4.79859	4.77926	4.47236
FE	57	4720.66889	58923.31000	3.100	4691.59915	4879.54844	4590.85908
K	39	669.97688	15719.69300	1.400	676.42297	659.48265	674.02503
MG	24	34301.43756	1200073.18700	4.300	35605.27888	34624.27478	32674.75902
MN	55	174.80493	38007.70300	3.000	180.20280	174.33651	169.87549
NA	23	40.91196	34129.87700	45.500	58.45868	42.90975	21.36744
TI	47	34.89106	363.36000	25.500	43.63110	25.86190	35.18018
V	51	9.08746	4734.38700	8.900	9.82293	9.21824	8.22121
GE-1	72	62204.91300	0.00000	0.000	61923.18000	62235.33000	62456.23000
AG	107	0.06547	116.67700	14.200	0.07379	0.05547	0.06716
CA	44	65386.98807	71792.96700	0.800	65975.63959	65056.78723	65128.53740
CD	111	0.28188	44.66700	21.300	0.27881	0.22335	0.34348
SB	121	-0.04738	110.00700	0.000	0.03363	-0.10067	-0.07510
IN-1	115	21608.69700	0.00000	0.000	21602.04000	21300.45000	21923.60000
AS	75	3.62925	266.67300	9.400	4.01613	3.50141	3.37020
BA	137	41.24579	4324.27700	4.300	39.97115	43.25213	40.51408
CO	59	2.13836	2780.43000	10.000	2.27663	2.24629	1.89217
CU	63	6.13643	7515.82700	3.200	5.91932	6.18447	6.30548
MO	98	0.25623	246.68700	30.300	0.29850	0.30359	0.16660
NI	60	7.67904	2980.50300	9.000	7.38965	8.46917	7.17831
SN	120	0.86360	720.26700	39.400	1.15781	0.49046	0.94253
SR	88	50.65986	10014.28000	2.100	50.61440	51.74334	49.62185
ZN	66	71.91716	7305.72000	7.400	74.42892	75.48567	65.83689
TB-1	159	122975.89000	0.00000	0.000	122969.19000	124534.48000	121424.00000
PB	208	40.25991	179239.43700	1.800	39.95217	39.76095	41.06661
TL	203	0.03707	56.67000	30.200	0.04714	0.03906	0.02499
BI-1	209	98473.65700	0.00000	0.000	94902.73000	101070.89000	99447.35000
U	238	0.28407	1580.19700	7.000	0.26872	0.27691	0.30658

Run Name: 1833202E05
Tube Number: 27
Sample Number: **9891911**

Date/Time: 11/28/2018 6:14:35
Batch: 183181063702A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18039.47300	0.00000	0.000	18413.25000	17762.51000	17942.66000
AL	27	33391.68700	309553.37300	3.100	32214.62635	33773.67304	34186.76161
CR	52	45.11543	31551.16000	3.200	43.52674	46.34917	45.47037
FE	57	60002.21944	765445.56000	1.500	59075.04761	60835.09903	60096.51168
K	39	5866.91256	116124.51000	3.300	5682.60839	5848.39385	6069.73544
MG	24	367636.59181	13159260.22000	1.700	360423.09015	370041.57731	372445.10796
MN	55	1452.46990	322715.52300	1.600	1429.20973	1474.20378	1453.99620
NA	23	620.85504	79035.10700	6.400	577.54614	655.20783	629.81114
TI	47	861.42816	9196.90000	4.500	876.73240	889.81464	817.73744
V	51	84.17472	44788.51700	1.700	82.58908	85.38575	84.54933
GE-1	72	58072.93300	0.00000	0.000	57273.03000	58467.67000	58478.10000
AG	107	0.39293	620.06000	4.400	0.41134	0.37740	0.39004
CA	44	769000.56423	787853.32300	1.400	781143.87388	761081.62801	764776.19079
CD	111	1.67638	234.67300	6.700	1.59309	1.80434	1.63172
SB	121	0.61309	336.69300	69.800	0.12143	0.90132	0.81653
IN-1	115	19504.25300	0.00000	0.000	19211.59000	20257.65000	19043.52000
AS	75	42.78431	2740.31000	2.300	43.16107	41.64863	43.54322
BA	137	235.36658	22223.39700	5.500	242.60775	220.48096	243.01102
CO	59	33.56410	39124.59300	6.100	35.23965	31.26701	34.18564
CU	63	73.06118	76456.43300	3.500	72.96162	70.57753	75.64438
MO	98	5.12595	3647.39000	3.700	4.96810	5.33896	5.07077
NI	60	66.83487	23274.27300	0.400	67.07873	66.52249	66.90340
SN	120	10.57597	3954.20000	14.800	10.70893	8.94595	12.07304
SR	88	547.96819	97660.29300	1.700	549.10247	538.20604	556.59608
ZN	66	298.37781	27275.37300	4.900	302.19141	282.24542	310.69661
TB-1	159	128035.82300	0.00000	0.000	131887.74000	126008.38000	126211.35000
PB	208	183.58821	846901.66300	2.100	179.17832	185.20695	186.37938
TL	203	0.48341	676.72700	11.500	0.42155	0.52940	0.49927
BI-1	209	93898.89300	0.00000	0.000	93039.84000	93945.95000	94710.89000
U	238	3.03825	16001.22300	2.600	3.12349	3.02107	2.97020

Run Name: 1833202E05
Tube Number: 28
Sample Number: **9891911**

Date/Time: 11/28/2018 6:16:21
Batch: 183181063702A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 20.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17461.96300	0.00000	0.000	17141.39000	17622.25000	17622.25000
AL	27	3476.63848	31233.42000	2.300	3567.39662	3443.41883	3419.10000
CR	52	4.65969	3480.64000	10.000	5.17864	4.51869	4.28173
FE	57	6332.81660	78220.14300	2.000	6463.06549	6328.52719	6206.85712
K	39	619.11395	14601.90000	5.300	656.75702	603.47537	597.10946
MG	24	39439.12032	1366638.52000	1.600	39905.52098	38728.66791	39683.17206
MN	55	155.29728	33439.10700	0.700	156.54742	154.34979	154.99464
NA	23	56.05600	34911.87700	22.600	70.64874	48.01782	49.50145
TI	47	85.16000	880.08700	13.500	84.78396	73.83871	96.85734
V	51	8.90157	4597.71700	5.700	9.13226	8.32437	9.24809
GE-1	72	60855.47300	0.00000	0.000	60296.21000	61963.45000	60306.76000
AG	107	0.08544	146.67700	62.500	0.03888	0.07374	0.14372
CA	44	72395.41021	77738.40700	3.100	74437.55160	70015.99861	72732.68043
CD	111	0.14146	23.33300	14.800	0.11976	0.14311	0.16150
SB	121	-0.04965	106.67700	0.000	0.01635	-0.09959	-0.06569
IN-1	115	20814.33000	0.00000	0.000	21111.88000	20911.99000	20419.12000
AS	75	4.42237	311.34300	10.900	4.72010	4.67894	3.86809
BA	137	22.64325	2290.33300	7.700	23.98477	20.66086	23.28411
CO	59	3.40315	4254.27300	6.400	3.52604	3.15195	3.53145
CU	63	7.59621	8860.04000	2.700	7.36098	7.71260	7.71504
MO	98	0.47981	406.69700	24.100	0.54356	0.54933	0.34653
NI	60	6.64707	2487.03300	12.800	5.67715	6.99209	7.27198
SN	120	1.34980	866.84300	59.600	0.74760	1.03786	2.26394
SR	88	51.24435	9760.79000	2.000	51.22089	52.28641	50.22576
ZN	66	28.14507	2770.45000	5.800	29.36077	26.27642	28.79802
TB-1	159	121164.86700	0.00000	0.000	123501.24000	121323.13000	118670.23000
PB	208	19.78776	87318.37000	1.500	19.52397	19.71988	20.11945
TL	203	0.06635	93.33700	89.700	0.03943	0.02502	0.13461
BI-1	209	95456.86300	0.00000	0.000	94368.01000	96435.50000	95567.08000
U	238	0.28199	1520.20000	7.300	0.25891	0.28847	0.29857

Run Name: 1833202E05
Tube Number: 29
Sample Number: **9891912**

Date/Time: 11/28/2018 6:18:07
Batch: 183181063702A
Class: **********

Initial Vol: 1.47 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	19477.95000	0.00000	0.000	19865.35000	19104.12000	19464.38000
AL	27	58373.31849	584368.06300	1.800	58004.16233	59529.04098	57586.75217
CR	52	61.98038	46654.25000	2.300	60.72599	63.50983	61.70532
FE	57	125914.46237	1734054.40000	2.800	123078.19124	129856.30760	124808.88828
K	39	6277.16248	133906.84700	2.400	6136.97401	6434.50709	6260.00635
MG	24	46860.80194	1811200.18000	1.200	46418.48351	47516.38858	46647.53372
MN	55	3235.31554	776048.47700	2.300	3191.13823	3321.12987	3193.67853
NA	23	333.37445	61731.00300	5.500	322.43225	354.67594	323.01515
TI	47	1474.41200	16997.99700	3.500	1516.82493	1490.47945	1415.93163
V	51	99.93802	57408.73300	2.500	98.30969	102.83248	98.67190
GE-1	72	59546.73300	0.00000	0.000	60989.26000	58368.67000	59282.27000
AG	107	0.22754	370.02700	28.200	0.19085	0.30157	0.19020
CA	44	102007.60011	107198.59700	1.200	102412.30651	102960.78654	100649.70729
CD	111	0.79882	116.00000	10.600	0.79274	0.88674	0.71698
SB	121	0.60593	340.02300	46.200	0.28252	0.76223	0.77306
IN-1	115	19851.55700	0.00000	0.000	20880.89000	19759.17000	18914.61000
AS	75	35.70492	2325.56000	8.100	34.31677	33.76887	39.02911
BA	137	411.82299	39581.92000	3.000	398.76689	413.87197	422.83011
CO	59	64.10406	76031.01700	4.300	61.59454	63.70542	67.01222
CU	63	128.74151	136745.44000	3.800	123.48033	129.53431	133.20987
MO	98	6.00130	4327.64700	5.700	5.69650	5.93896	6.36843
NI	60	116.96554	41374.54000	5.100	110.76462	117.39915	122.73286
SN	120	10.74844	4094.28300	5.600	10.86511	10.09411	11.28610
SR	88	442.79831	80227.22300	4.800	418.92422	449.50090	459.96981
ZN	66	397.02353	36955.41000	3.900	398.75472	380.81017	411.50571
TB-1	159	135919.98000	0.00000	0.000	140216.60000	133775.76000	133767.58000
PB	208	109.33174	535924.23000	1.700	107.43718	111.16550	109.39252
TL	203	0.38255	570.04700	13.000	0.33035	0.38793	0.42936
BI-1	209	95500.45300	0.00000	0.000	97079.43000	95145.34000	94276.59000
U	238	2.91815	15634.22300	1.700	2.91437	2.96979	2.87028

Run Name: 1833202E05
Tube Number: 30
Sample Number: **9891913**

Date/Time: 11/28/2018 6:19:53
Batch: 183181063702A
Class: **********

Initial Vol: 1.36 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	21491.16700	0.00000	0.000	21087.32000	21778.08000	21608.10000
AL	27	67205.62533	742231.44700	2.600	69170.15632	66002.32208	66444.39759
CR	52	44.12822	36797.41000	1.800	43.19762	44.69418	44.49286
FE	57	152139.70024	2312326.89300	1.000	153914.86782	151321.42941	151182.80350
K	39	5861.71301	138223.35000	2.400	6024.72779	5755.78638	5804.62486
MG	24	27914.42795	1190581.98700	0.300	27995.43203	27829.71132	27918.14048
MN	55	2240.02486	592919.29000	1.400	2276.54438	2217.12889	2226.40131
NA	23	412.22934	75264.81000	4.700	428.27374	390.92843	417.48586
TI	47	4646.55622	59096.33300	1.200	4641.57142	4591.73709	4706.36016
V	51	105.08073	66610.60700	2.400	107.19750	105.71970	102.32498
GE-1	72	63128.99700	0.00000	0.000	61812.85000	62234.49000	65339.65000
AG	107	0.15256	266.68700	8.700	0.14012	0.15109	0.16647
CA	44	18639.37238	20783.34700	2.700	19121.98549	18664.00017	18132.13149
CD	111	0.35714	56.66700	5.700	0.33367	0.37175	0.36601
SB	121	0.44380	300.02000	4.800	0.43423	0.42899	0.46816
IN-1	115	21453.94300	0.00000	0.000	21129.89000	22174.62000	21057.32000
AS	75	29.21564	2060.84700	4.200	29.97925	27.81662	29.85103
BA	137	393.11906	40872.68000	4.000	377.41662	393.24124	408.69931
CO	59	49.90146	64039.39000	2.300	49.29698	49.20095	51.20643
CU	63	84.85410	97601.03300	4.100	85.29398	81.18095	88.08737
MO	98	4.28846	3353.98300	15.200	4.97151	3.66996	4.22390
NI	60	47.01030	18006.18300	2.600	47.56674	45.60092	47.86325
SN	120	15.14258	6082.12000	4.700	14.97059	15.91876	14.53839
SR	88	49.76267	9764.01700	2.900	49.62179	48.41676	51.24946
ZN	66	443.98773	44651.87300	3.400	456.93660	427.49124	447.53535
TB-1	159	173664.92700	0.00000	0.000	172168.49000	175787.91000	173038.38000
PB	208	128.29420	803420.48000	1.000	129.04310	126.84964	128.98986
TL	203	0.29956	573.37000	10.000	0.32702	0.26766	0.30401
BI-1	209	94005.96000	0.00000	0.000	95899.93000	93360.38000	92757.57000
U	238	4.95347	26115.86700	1.900	4.94962	5.04795	4.86286

Run Name: 1833202E05
Tube Number: 31
Sample Number: **9891914**

Date/Time: 11/28/2018 6:21:58
Batch: 183181063702A
Class: **********

Initial Vol: 1.04 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18493.43300	0.00000	0.000	18803.91000	17972.72000	18703.67000
AL	27	56825.78220	540180.78700	0.400	56738.50765	57065.57905	56673.25990
CR	52	73.43416	52419.28000	1.800	71.92926	73.88235	74.49086
FE	57	129317.17020	1690697.31700	3.000	125551.20061	133377.36298	129022.94702
K	39	7019.64340	141806.03300	1.400	6992.25593	7128.22318	6938.45110
MG	24	66342.12058	2433880.74700	2.600	65383.18752	68348.82575	65294.34847
MN	55	3806.25162	866759.80700	2.300	3723.56732	3896.84835	3798.33920
NA	23	603.08861	79655.19700	3.800	577.12368	619.57174	612.57040
TI	47	415.86196	4547.68700	6.800	383.78957	437.27660	426.51972
V	51	132.51995	72278.69300	1.300	130.92662	134.34760	132.28564
GE-1	72	58605.36300	0.00000	0.000	59803.96000	58297.34000	57714.79000
AG	107	0.19390	313.36000	28.300	0.25692	0.16796	0.15681
CA	44	97218.87781	100551.47300	0.400	97136.39892	96924.26013	97595.97439
CD	111	1.52191	214.67000	21.300	1.23002	1.46394	1.87177
SB	121	0.63546	346.69000	39.800	0.59799	0.90492	0.40347
IN-1	115	20256.32000	0.00000	0.000	20466.08000	19419.87000	20883.01000
AS	75	61.21892	4070.64700	1.200	60.47493	61.25514	61.92671
BA	137	238.51820	23385.50000	5.700	231.76930	254.16383	229.62147
CO	59	58.69479	71070.62300	3.900	57.11830	61.33053	57.63553
CU	63	158.16474	171402.49700	3.400	157.16672	163.98649	153.34100
MO	98	3.13942	2330.35000	11.100	3.27589	3.39849	2.74390
NI	60	142.08984	51324.87300	3.500	139.63956	147.89097	138.73899
SN	120	8.17174	3257.31700	15.000	7.08528	9.49445	7.93549
SR	88	148.78348	27532.89700	3.700	149.47379	153.85630	143.02036
ZN	66	426.41644	40471.89000	4.700	427.84701	445.51784	405.88448
TB-1	159	126075.32000	0.00000	0.000	128602.09000	125019.25000	124604.62000
PB	208	166.13632	754955.78300	0.900	164.42588	167.03973	166.94335
TL	203	0.36343	503.37300	9.600	0.33197	0.40070	0.35761
BI-1	209	95400.53000	0.00000	0.000	96495.16000	94481.62000	95224.81000
U	238	1.95803	10478.52000	6.600	1.88265	2.10611	1.88531

Run Name: 1833202E05
Tube Number: 32
Sample Number: **9891915**

Date/Time: 11/28/2018 6:23:50
Batch: 183181063702A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18263.10000	0.00000	0.000	17521.99000	18423.19000	18844.12000
AL	27	70901.49255	665159.39300	2.800	73102.01792	70353.99696	69248.46277
CR	52	90.53470	63710.63000	2.600	92.95376	88.30690	90.34346
FE	57	153683.36978	1984536.27300	1.600	156403.16491	151406.30503	153240.63940
K	39	7872.54286	156583.77700	3.100	8153.57981	7749.47397	7714.57482
MG	24	66470.85339	2407144.65000	3.900	69417.76708	64789.84563	65204.94746
MN	55	7683.45679	1727326.01300	2.900	7938.56451	7534.20242	7577.60344
NA	23	1520.78349	149206.26000	7.100	1642.07627	1483.47403	1436.80018
TI	47	450.59658	4864.44700	6.100	480.36415	425.66654	445.75905
V	51	127.54744	68677.28700	2.900	131.50389	124.16249	126.97594
GE-1	72	57989.42300	0.00000	0.000	57724.78000	56720.87000	59522.62000
AG	107	0.24697	390.02700	28.400	0.24699	0.31701	0.17691
CA	44	193899.70926	198344.00000	2.300	192555.83993	198899.89118	190243.39668
CD	111	1.31803	184.66700	7.900	1.43502	1.28313	1.23592
SB	121	0.78190	393.36300	26.100	0.91728	0.88138	0.54704
IN-1	115	19490.43700	0.00000	0.000	19367.25000	18815.11000	20288.95000
AS	75	75.94895	4854.25300	2.500	74.85958	78.13210	74.85517
BA	137	493.58157	46602.41000	1.600	495.48571	500.34211	484.91688
CO	59	75.40706	87877.60000	3.800	73.07646	78.59496	74.54974
CU	63	205.33269	214068.56300	2.500	201.86812	211.32339	202.80654
MO	98	8.16837	5778.25700	1.200	8.05353	8.23276	8.21883
NI	60	162.06309	56325.37700	3.400	160.84890	168.14251	157.19786
SN	120	17.98568	6498.90000	5.200	17.60799	17.30430	19.04474
SR	88	282.78461	50337.19700	3.900	281.64370	294.34645	272.36370
ZN	66	651.90770	59558.96300	2.000	658.09571	660.56675	637.06063
TB-1	159	124904.89300	0.00000	0.000	123113.52000	124955.34000	126645.82000
PB	208	259.91485	1169613.18000	0.400	261.13116	259.58886	259.02453
TL	203	0.79097	1076.77700	8.600	0.84942	0.80726	0.71623
BI-1	209	94133.32300	0.00000	0.000	92725.96000	93209.21000	96464.80000
U	238	3.18642	16822.43700	1.300	3.22652	3.19059	3.14215

Run Name: 1833202E05 Date/Time: 11/28/2018 6:25:35
Tube Number: 33
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16664.28300	0.00000	0.000	16600.81000	16580.84000	16811.20000
AL	27	2270.40553	19481.28000	1.300	2245.42313	2303.32375	2262.46972
CR	52	257.13527	164536.76000	0.600	256.82125	258.87783	255.70674
FE	57	2436.96146	28741.63300	3.100	2380.40429	2524.27863	2406.20147
K	39	2415.66729	45901.04300	2.100	2366.40382	2469.24957	2411.34847
MG	24	2268.45506	75041.30300	2.600	2329.49208	2263.55001	2212.32309
MN	55	253.00544	51967.46300	1.000	252.21273	255.80862	250.99497
NA	23	2369.99527	196045.21000	0.700	2387.66458	2364.44303	2357.87820
TI	47	244.29562	2410.34300	9.900	244.32506	220.15393	268.40788
V	51	251.81743	123772.01700	0.800	250.29773	253.94209	251.21247
GE-1	72	58602.45700	0.00000	0.000	56861.73000	58257.15000	60688.49000
AG	107	26.80590	42242.79000	2.900	27.43267	25.92349	27.06154
CA	44	2433.84599	2547.05700	3.100	2502.19238	2354.00583	2445.33976
CD	111	26.70629	3727.90000	3.500	27.61165	26.76238	25.74484
SB	121	25.47196	9170.41300	4.000	26.30653	25.78167	24.32767
IN-1	115	20723.01700	0.00000	0.000	21108.65000	20886.60000	20173.80000
AS	75	272.46881	18491.40000	3.200	264.59138	270.80236	282.01268
BA	137	275.46328	27654.25000	4.800	277.71582	261.16316	287.51086
CO	59	269.54526	333970.50300	3.100	263.36148	266.16925	279.10504
CU	63	265.54194	294260.56700	2.200	261.20723	263.12946	272.28912
MO	98	26.37962	19718.96700	6.300	24.86584	26.10245	28.17056
NI	60	269.38205	99548.88700	4.200	262.67465	263.00423	282.46727
SN	120	27.23458	10258.22700	2.500	27.96018	26.62381	27.11974
SR	88	26.10511	4957.87700	4.000	26.69723	26.71956	24.89854
ZN	66	264.17550	25675.58700	3.300	255.47178	264.01909	273.03564
TB-1	159	117573.04300	0.00000	0.000	117064.84000	115046.61000	120607.68000
PB	208	25.76033	109955.83700	3.900	25.77564	26.76617	24.73918
TL	203	27.56517	35097.27300	3.700	27.39509	28.66401	26.63642
BI-1	209	93881.26000	0.00000	0.000	95193.33000	93400.83000	93049.62000
U	238	24.55958	129268.05700	0.200	24.59139	24.57274	24.51461

Run Name: 1833202E05 Date/Time: 11/28/2018 6:27:21
Tube Number: 34
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17295.13700	0.00000	0.000	16540.92000	17061.37000	18283.12000
AL	27	-2.08044	16.66700	0.000	-1.65250	-0.58397	-4.00484
CR	52	0.13822	456.70000	106.400	0.11571	0.00372	0.29524
FE	57	3.11869	60.00300	52.000	1.64130	4.85263	2.86214
K	39	3.42655	3097.21300	350.300	0.29353	16.68612	-6.69999
MG	24	0.73184	53.33300	101.100	0.09420	1.54300	0.55832
MN	55	0.06871	53.33300	94.700	0.11066	0.10168	-0.00621
NA	23	36.31972	33083.75000	70.100	56.64130	44.53308	7.78477
TI	47	0.33013	3.33300	173.200	0.00000	0.99039	0.00000
V	51	-0.01463	6.66700	0.000	0.01270	-0.02830	-0.02830
GE-1	72	61246.93700	0.00000	0.000	60828.09000	61271.03000	61641.69000
AG	107	0.03223	60.00300	68.800	0.05685	0.02605	0.01380
CA	44	10.13703	43.33300	141.800	25.89830	-2.25765	6.77044
CD	111	-0.01489	0.66700	0.000	-0.00569	-0.01949	-0.01949
SB	121	-0.15103	70.00300	0.000	-0.23062	-0.17761	-0.04487
IN-1	115	21382.24000	0.00000	0.000	21510.30000	21241.45000	21394.97000
AS	75	0.11731	18.00000	25.200	0.11570	0.14769	0.08853
BA	137	-0.06611	0.00000	0.000	-0.06611	-0.06611	-0.06611
CO	59	0.01422	36.66700	127.700	-0.00674	0.02484	0.02456
CU	63	0.22702	686.72000	53.000	0.31342	0.27805	0.08959
MO	98	-0.00933	40.00000	0.000	-0.02263	0.01707	-0.02242
NI	60	0.07277	50.00300	180.000	-0.05855	0.07339	0.20347
SN	120	1.10633	800.92700	108.400	-0.16191	2.22216	1.25873
SR	88	-0.00312	10.00000	0.000	-0.00355	0.04860	-0.05442
ZN	66	0.28437	53.33300	101.900	-0.05036	0.45426	0.44922
TB-1	159	118329.74300	0.00000	0.000	120809.24000	117386.59000	116793.40000
PB	208	-0.05694	766.71700	0.000	-0.04361	-0.05454	-0.07265
TL	203	0.01546	26.66700	60.200	0.00987	0.01031	0.02620
BI-1	209	92714.03300	0.00000	0.000	91981.60000	92101.60000	94058.90000
U	238	0.00379	30.00000	1.900	0.00384	0.00383	0.00371

Run Name: 1833202E05
Tube Number: 35
Sample Number: **9891916**

Date/Time: 11/28/2018 6:29:07
Batch: 183181063702A
Class: **********

Initial Vol: 1.23 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18202.97300	0.00000	0.000	18303.42000	18683.48000	17622.02000
AL	27	56835.95051	531568.40300	2.500	56196.70464	55847.39352	58463.75337
CR	52	83.29699	58446.92300	3.400	84.30688	80.11024	85.47386
FE	57	85104.43106	1095032.45700	3.100	84571.91876	82772.55592	87968.81850
K	39	5437.07376	108775.85700	3.800	5392.18887	5258.91842	5660.11398
MG	24	46347.12793	1673486.90000	2.600	46295.33362	45161.76872	47584.28146
MN	55	3476.45202	778993.14000	3.300	3455.30053	3373.14202	3600.91350
NA	23	3234.80331	280417.85700	3.300	3212.32503	3139.55766	3352.52723
TI	47	718.45527	7732.60300	5.000	697.22612	698.44424	759.69545
V	51	113.07256	60692.70000	2.300	111.40795	111.74542	116.06430
GE-1	72	60018.14000	0.00000	0.000	61239.69000	58999.94000	59814.79000
AG	107	1.17818	1910.24700	8.700	1.27120	1.06744	1.19590
CA	44	141533.06596	149897.71300	1.100	140536.87715	140704.68982	143357.63092
CD	111	3.72657	535.35300	8.700	3.47677	3.60949	4.09345
SB	121	1.63595	720.06000	14.400	1.76021	1.36500	1.78264
IN-1	115	20548.17000	0.00000	0.000	20869.62000	20526.16000	20248.73000
AS	75	420.35651	28292.95700	1.400	416.44828	417.60469	427.01656
BA	137	606.24397	60355.83700	2.300	590.68874	611.67332	616.36984
CO	59	41.84028	51435.17000	2.700	40.67675	42.93569	41.90839
CU	63	643.28936	706450.32700	0.900	638.53448	641.90321	649.43039
MO	98	4.38132	3287.28000	6.800	4.34231	4.10483	4.69681
NI	60	88.32689	32403.16000	0.900	89.22537	87.78924	87.96606
SN	120	86.44045	31463.78300	1.300	85.42601	86.29896	87.59637
SR	88	277.97327	52206.76700	2.300	270.78278	282.31945	280.81757
ZN	66	1478.41144	142418.27700	1.700	1449.71712	1497.28042	1488.23677
TB-1	159	124353.22700	0.00000	0.000	126644.07000	124101.55000	122314.06000
PB	208	1460.34625	6536405.47000	1.900	1430.36909	1464.71065	1485.95901
TL	203	0.58765	800.07700	14.100	0.64335	0.62688	0.49271
BI-1	209	94812.64700	0.00000	0.000	92878.59000	94257.50000	97301.85000
U	238	2.52904	13451.54000	2.400	2.58855	2.46540	2.53318

Run Name: 1833202E05
Tube Number: 36
Sample Number: **9891917**

Date/Time: 11/28/2018 6:30:53
Batch: 183181063702A
Class: **********

Initial Vol: 1.43 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18112.96300	0.00000	0.000	18092.97000	18473.46000	17772.46000
AL	27	65076.42448	605821.47700	1.200	65294.18820	64208.40368	65726.68157
CR	52	88.38627	61711.62700	2.900	86.03180	88.03774	91.08926
FE	57	114325.44935	1464680.18700	0.500	113724.14377	114905.04393	114347.16034
K	39	5675.96239	112939.98000	1.500	5577.35625	5740.77363	5709.75730
MG	24	58935.57836	2118079.91700	1.900	58777.64609	57932.40243	60096.68655
MN	55	2819.36719	628974.32700	1.500	2782.23817	2809.89816	2865.96524
NA	23	3101.27830	268886.72700	3.300	3093.03560	3002.25537	3208.54393
TI	47	699.09737	7492.44700	2.400	714.68547	681.66342	700.94322
V	51	129.03111	68932.09300	1.500	127.63597	128.17678	131.28057
GE-1	72	58528.64000	0.00000	0.000	59140.68000	57443.73000	59001.51000
AG	107	0.78167	1236.79300	5.400	0.73783	0.78565	0.82154
CA	44	188922.48715	195078.18000	2.500	183507.96505	192731.47677	190528.01964
CD	111	3.34279	468.01300	15.200	3.10389	3.92705	2.99742
SB	121	1.65071	706.72300	9.200	1.80685	1.64068	1.50461
IN-1	115	20315.80000	0.00000	0.000	19752.84000	20844.34000	20350.22000
AS	75	446.28232	29691.26000	1.900	455.21430	438.38815	445.24452
BA	137	636.76563	62669.63700	2.600	655.04096	632.18172	623.07422
CO	59	49.11701	59685.87300	2.500	50.44784	48.84432	48.05885
CU	63	309.38301	336005.02700	3.800	321.91761	307.32994	298.90147
MO	98	3.59334	2677.09000	5.500	3.36824	3.73483	3.67695
NI	60	110.92331	40198.04000	3.700	114.73361	106.64471	111.39162
SN	120	56.21711	20360.90300	0.900	56.76048	56.18120	55.70966
SR	88	286.73594	53244.71000	0.900	289.04359	283.80921	287.35501
ZN	66	1672.25695	159210.72300	2.900	1727.59167	1637.82825	1651.35093
TB-1	159	124015.91000	0.00000	0.000	122789.42000	126402.83000	122855.48000
PB	208	1255.41563	5604537.41300	1.200	1264.61935	1237.39661	1264.23093
TL	203	0.44539	606.72000	16.600	0.42312	0.52773	0.38532
BI-1	209	96858.47300	0.00000	0.000	97625.66000	96545.60000	96404.16000
U	238	2.59796	14115.48700	4.500	2.50280	2.72874	2.56233

Run Name: 1833202E05
Tube Number: 37
Sample Number: **9891922**

Date/Time: 11/28/2018 6:32:38
Batch: 183181063702A
Class: **********

Initial Vol: 1.07 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18052.72700	0.00000	0.000	17962.51000	18242.97000	17952.70000
AL	27	51500.18625	477914.91700	0.600	51251.38830	51382.49476	51866.67569
CR	52	54.55076	38111.18300	1.000	54.90138	53.89175	54.85916
FE	57	115061.63306	1469056.22700	1.700	114390.79269	113585.03638	117209.07013
K	39	6261.19098	123819.02700	2.800	6277.11028	6075.41095	6431.05170
MG	24	48689.87566	1744337.63000	1.500	48523.64485	48073.85877	49472.12336
MN	55	4127.77789	917872.22700	1.300	4086.82202	4107.45038	4189.06126
NA	23	212.86663	48044.08000	7.700	231.18901	199.44667	207.96422
TI	47	242.13048	2587.07000	6.500	255.91341	245.49446	224.98357
V	51	72.74985	38746.38700	1.500	72.10826	72.15601	73.98527
GE-1	72	57785.41000	0.00000	0.000	56680.61000	58287.52000	58388.10000
AG	107	0.17345	276.68300	17.500	0.14006	0.18075	0.19954
CA	44	175700.45020	179131.54700	2.100	178748.91288	171605.69686	176746.74087
CD	111	0.68708	97.33300	9.300	0.63228	0.67193	0.75702
SB	121	0.50569	296.69000	31.800	0.35887	0.48103	0.67716
IN-1	115	20206.15000	0.00000	0.000	19646.79000	19979.61000	20992.05000
AS	75	31.10444	2062.18300	11.300	34.30492	31.68287	27.32553
BA	137	237.51181	23231.84700	5.900	243.86153	247.14297	221.53094
CO	59	54.27498	65576.30300	3.400	56.41314	53.41449	52.99731
CU	63	148.09242	160161.17300	2.600	149.86978	150.66559	143.74187
MO	98	2.16590	1620.18700	16.600	1.91699	2.57888	2.00184
NI	60	111.45649	40184.77000	1.800	113.74983	110.81420	109.80544
SN	120	9.40122	3690.78300	3.100	9.72164	9.31373	9.16829
SR	88	558.17735	102973.59700	5.200	582.04233	566.49558	525.99414
ZN	66	378.96014	35925.54700	0.700	375.90649	380.02671	380.94721
TB-1	159	125502.71300	0.00000	0.000	126269.71000	123059.59000	127178.84000
PB	208	220.99821	999226.65700	2.200	217.07119	226.32734	219.59610
TL	203	0.28389	393.36300	14.900	0.33089	0.27215	0.24863
BI-1	209	92084.61700	0.00000	0.000	91093.36000	92061.73000	93098.76000
U	238	1.79163	9260.72300	2.700	1.75920	1.76784	1.84785

Run Name: 1833202E05
Tube Number: 38
Sample Number: **9891923**

Date/Time: 11/28/2018 6:34:26
Batch: 183181063702A
Class: **********

Initial Vol: 1.24 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17485.39300	0.00000	0.000	17652.28000	17522.21000	17281.69000
AL	27	62781.74980	564282.06000	0.800	62932.13374	62197.25000	63215.86566
CR	52	61.53634	41594.63700	1.300	60.69456	62.33031	61.58415
FE	57	111420.57378	1377864.87700	1.100	110878.25682	110589.06825	112794.39626
K	39	5782.68748	111013.89300	0.600	5805.16910	5742.94881	5799.94452
MG	24	54782.30429	1901076.27300	0.200	54904.29483	54755.46111	54687.15693
MN	55	4629.47848	997034.09700	1.000	4595.76657	4610.01497	4682.65389
NA	23	1205.29260	119746.22700	3.400	1166.85789	1200.05079	1248.96913
TI	47	661.43342	6842.10300	5.100	640.58201	643.41135	700.30692
V	51	98.38086	50745.57300	0.600	97.79370	98.30550	99.04337
GE-1	72	58565.85700	0.00000	0.000	59211.77000	58669.43000	57816.37000
AG	107	0.22184	356.69700	26.200	0.24069	0.26831	0.15652
CA	44	120459.93663	124501.96300	0.600	121099.07227	119741.22936	120539.50826
CD	111	1.37056	194.00000	6.300	1.46939	1.32574	1.31654
SB	121	0.61667	340.02300	26.300	0.69086	0.72849	0.43067
IN-1	115	20368.60300	0.00000	0.000	20047.14000	19838.97000	21219.70000
AS	75	46.54772	3109.72300	6.200	47.08469	49.11969	43.43878
BA	137	547.67194	54007.80700	4.600	570.66942	551.77927	520.56713
CO	59	45.06414	54885.37000	2.700	45.45245	46.05621	43.68374
CU	63	105.71666	115313.17000	4.200	107.33376	109.16608	100.65015
MO	98	2.08317	1570.19700	9.300	2.22379	2.16374	1.86197
NI	60	99.71849	36236.19700	3.000	102.67013	99.75495	96.73039
SN	120	13.32281	5121.43000	5.500	14.06770	12.61318	13.28754
SR	88	152.85772	28424.69000	6.300	155.16812	161.10457	142.30047
ZN	66	852.27189	81338.69700	3.400	870.22624	867.68540	818.90402
TB-1	159	124920.94300	0.00000	0.000	126403.88000	123653.61000	124705.34000
PB	208	1132.05357	5091049.66300	1.400	1120.70806	1149.63980	1125.81286
TL	203	0.40809	560.04000	23.100	0.49120	0.42758	0.30549
BI-1	209	92958.19300	0.00000	0.000	93924.73000	91920.92000	93028.93000
U	238	2.42081	12623.89300	2.100	2.36195	2.46014	2.44035

Run Name: 1833202E05
Tube Number: 39
Sample Number: **9891924**

Date/Time: 11/28/2018 6:36:13
Batch: 183181063702A
Class: **********

Initial Vol: 1.42 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17792.47000	0.00000	0.000	18213.08000	17632.32000	17532.01000
AL	27	86406.58041	789904.57300	3.400	83177.36369	87217.87695	88824.50059
CR	52	90.40664	61988.46700	2.500	87.87870	91.02768	92.31355
FE	57	137781.49566	1732884.50700	4.200	131114.45592	140548.24141	141681.78964
K	39	7998.00477	154968.52000	3.500	7675.48354	8111.57191	8206.95886
MG	24	74899.26274	2643634.39000	3.200	72247.48925	75596.64289	76853.65608
MN	55	3649.34389	799428.19000	3.900	3513.65529	3634.24521	3800.13116
NA	23	3990.23590	330874.30300	2.400	3880.66785	4023.40170	4066.63816
TI	47	829.56957	8726.59300	8.100	767.53266	820.61686	900.55920
V	51	144.10106	75590.50300	3.900	138.00248	145.15960	149.14110
GE-1	72	58495.01300	0.00000	0.000	56981.28000	58116.19000	60387.57000
AG	107	0.22236	356.69000	2.900	0.21764	0.21970	0.22975
CA	44	206308.00939	212860.93000	3.000	206591.60495	212390.09536	199942.32786
CD	111	2.19203	307.34300	13.700	2.50025	2.17655	1.89929
SB	121	0.49458	296.68700	23.500	0.38411	0.48342	0.61622
IN-1	115	19792.01700	0.00000	0.000	19828.85000	19329.81000	20217.39000
AS	75	53.46385	3472.48000	4.100	52.19469	56.01079	52.18606
BA	137	2672.12090	256195.01300	2.200	2692.25803	2717.75162	2606.35304
CO	59	59.29066	70192.92300	2.500	57.84404	60.85182	59.17613
CU	63	145.51359	154217.71700	2.100	142.31477	148.27879	145.94721
MO	98	2.13551	1566.84300	6.800	1.98285	2.15051	2.27317
NI	60	126.94118	44818.80000	4.000	123.90501	132.83782	124.08072
SN	120	19.10093	6975.73000	4.200	19.85508	19.18171	18.26599
SR	88	316.20053	57186.90700	3.300	308.92580	328.10118	311.57461
ZN	66	1703.85152	158048.50000	3.700	1651.98821	1773.52086	1686.04550
TB-1	159	127439.38300	0.00000	0.000	125573.91000	128081.28000	128662.96000
PB	208	1710.71624	7848448.42300	0.300	1716.61426	1707.52108	1708.01338
TL	203	0.43224	603.38000	17.200	0.50918	0.42704	0.36051
BI-1	209	93492.10000	0.00000	0.000	92212.02000	93402.53000	94861.75000
U	238	3.44713	18077.54000	1.600	3.40720	3.51107	3.42312

Run Name: 1833202E05
Tube Number: 40
Sample Number: **9891925**

Date/Time: 11/28/2018 6:37:59
Batch: 183181063702A
Class: **********

Initial Vol: 1.15 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18740.28300	0.00000	0.000	19214.33000	18763.52000	18243.00000
AL	27	72563.58470	698738.66300	2.400	71101.82436	72133.96100	74454.96876
CR	52	68.42583	49515.15700	3.100	66.23744	70.46724	68.57282
FE	57	128298.19235	1699791.43300	2.600	125078.24340	128061.59573	131754.73791
K	39	6281.51595	128887.59300	3.400	6069.89969	6278.52986	6496.11829
MG	24	93345.61452	3470636.09300	1.800	91636.59151	93371.23865	95029.01339
MN	55	2647.93958	610895.88700	3.500	2561.94807	2635.13406	2746.73659
NA	23	407.52768	65231.50000	8.200	385.45466	391.03732	446.09107
TI	47	1743.89562	19331.36300	4.200	1662.44859	1803.41738	1765.82090
V	51	117.69889	65066.39000	0.300	117.45390	118.05963	117.58313
GE-1	72	58133.20300	0.00000	0.000	58558.24000	58648.63000	57192.74000
AG	107	0.15333	246.68300	22.000	0.13543	0.19230	0.13227
CA	44	152025.93131	155948.89700	0.800	150580.02713	152521.79478	152975.97202
CD	111	0.86194	122.00000	13.700	0.72609	0.93968	0.92006
SB	121	0.31266	230.01700	29.700	0.25207	0.41975	0.26615
IN-1	115	19979.07000	0.00000	0.000	19476.56000	19584.71000	20875.94000
AS	75	31.93966	2096.84700	4.000	32.34787	32.97922	30.49191
BA	137	271.42334	26254.17000	4.600	283.36029	272.29141	258.61832
CO	59	50.90876	60787.63300	4.500	51.74952	52.65568	48.32107
CU	63	106.21424	113639.18300	4.000	109.45038	107.75425	101.43808
MO	98	2.12873	1576.84700	12.800	1.84875	2.39110	2.14634
NI	60	95.22305	33913.79000	5.400	97.92031	98.49641	89.25242
SN	120	8.07498	3174.37300	19.000	8.49552	9.35111	6.37831
SR	88	136.51490	24911.24000	5.900	145.64207	133.64403	130.25859
ZN	66	480.19510	44959.31000	3.500	486.07988	493.44468	461.06075
TB-1	159	129996.06300	0.00000	0.000	131092.36000	130484.80000	128411.03000
PB	208	61.83406	290412.53700	1.900	60.62139	61.91246	62.96832
TL	203	0.49076	700.06300	26.100	0.59316	0.53227	0.34685
BI-1	209	92454.71300	0.00000	0.000	90188.71000	91073.21000	96102.22000
U	238	3.17353	16421.98700	10.100	3.30552	3.40869	2.80640

Run Name: 1833202E05
Tube Number: 41
Sample Number: **9891926**

Date/Time: 11/28/2018 6:39:46
Batch: 183181063702A
Class: **********

Initial Vol: 1.06 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16814.61700	0.00000	0.000	17532.07000	16030.34000	16881.44000
AL	27	56649.89224	488927.52000	5.400	53164.24119	58954.46968	57830.96584
CR	52	64.82903	42016.38000	8.600	59.01000	70.09232	65.38477
FE	57	95123.11917	1130045.66000	3.700	91453.34911	98466.19240	95449.81599
K	39	5282.75017	97617.15300	6.000	4933.75824	5558.44657	5356.04570
MG	24	23088.34710	769241.03000	5.600	21699.28639	24243.86024	23321.89467
MN	55	2391.77197	494660.17300	5.000	2269.10694	2509.75658	2396.45239
NA	23	385.40923	56917.47300	10.000	344.26383	420.41719	391.54668
TI	47	652.25894	6481.86300	4.600	621.82562	681.14212	653.80908
V	51	133.01385	65876.58700	5.000	126.70301	140.02247	132.31606
GE-1	72	60494.25300	0.00000	0.000	60225.59000	58278.04000	62979.13000
AG	107	0.54158	883.41300	23.300	0.63182	0.59564	0.39729
CA	44	18540.30063	19801.91300	5.200	17808.04115	19631.31444	18181.54632
CD	111	2.06121	300.67700	14.600	1.80687	1.98316	2.39360
SB	121	1.28516	593.38700	36.800	0.89248	1.81034	1.15267
IN-1	115	20210.89700	0.00000	0.000	19323.19000	19869.90000	21439.60000
AS	75	57.72351	3823.90000	4.800	60.70866	57.18987	55.27199
BA	137	397.69253	38889.89700	4.700	408.53391	408.33103	376.21264
CO	59	37.72742	45558.13700	4.300	38.71569	38.59559	35.87097
CU	63	140.21075	151522.33300	4.900	143.66899	144.71552	132.24775
MO	98	2.33669	1743.54000	4.900	2.46740	2.28603	2.25663
NI	60	97.03174	34943.26000	5.800	103.32191	95.44320	92.33012
SN	120	21.67344	8022.93700	4.600	22.38324	22.11292	20.52415
SR	88	64.82068	11952.66700	8.000	70.36184	63.95891	60.14129
ZN	66	855.93500	80999.94000	4.400	873.64168	881.67380	812.48950
TB-1	159	122526.86700	0.00000	0.000	122820.15000	120659.26000	124101.19000
PB	208	547.54599	2415719.62300	1.900	536.85870	557.73257	548.04670
TL	203	0.56471	756.73700	6.800	0.52072	0.58371	0.58968
BI-1	209	94647.50300	0.00000	0.000	93231.53000	94267.81000	96443.17000
U	238	2.71540	14412.56000	7.500	2.93500	2.52952	2.68167

Run Name: 1833202E05
Tube Number: 42
Sample Number: **9891927**

Date/Time: 11/28/2018 6:41:32
Batch: 183181063702A
Class: **********

Initial Vol: 1.38 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17648.92700	0.00000	0.000	18323.22000	17662.33000	16961.23000
AL	27	75226.01242	681707.12300	4.300	71846.17763	75482.92676	78348.93285
CR	52	84.11414	57181.25700	5.400	81.00867	82.02976	89.30398
FE	57	136608.05176	1703059.81700	5.000	130083.48723	136011.35487	143729.31318
K	39	5268.94989	102261.89000	4.500	5072.91093	5203.73547	5530.20327
MG	24	24534.16582	858147.09700	5.600	23371.14067	24176.42958	26054.92719
MN	55	2839.66858	616419.32700	5.900	2686.54143	2814.50918	3017.95514
NA	23	473.17561	66309.05000	5.800	445.67830	473.13729	500.71124
TI	47	686.18937	7155.63000	6.300	647.57556	678.51874	732.47381
V	51	175.70496	91389.60300	3.400	169.90034	175.29648	181.91805
GE-1	72	60423.53700	0.00000	0.000	60416.20000	59704.12000	61150.29000
AG	107	0.73216	1196.78700	3.500	0.71601	0.71836	0.76210
CA	44	12535.29957	13394.01300	4.800	11872.16346	13030.60236	12703.13290
CD	111	2.38769	346.67700	12.200	2.12074	2.34315	2.69918
SB	121	1.69102	743.39700	18.500	1.73424	1.97985	1.35898
IN-1	115	20665.27000	0.00000	0.000	20606.00000	20269.74000	21120.07000
AS	75	110.61651	7495.47700	1.000	109.43107	111.45952	110.95892
BA	137	494.14906	49472.51700	2.700	488.20021	509.29425	484.95271
CO	59	58.80626	72699.64700	2.700	57.17871	60.30180	58.93827
CU	63	260.01042	287439.49000	1.200	256.47035	261.97762	261.58330
MO	98	4.47559	3377.27700	1.300	4.41206	4.52740	4.48731
NI	60	130.39324	48083.27000	1.900	132.24904	131.41863	127.51207
SN	120	66.21383	24333.69000	1.700	67.02942	64.91126	66.70081
SR	88	62.82860	11879.24700	2.200	61.35388	63.02069	64.11124
ZN	66	1166.29523	113010.84300	1.100	1181.41878	1158.37129	1159.09562
TB-1	159	127132.77700	0.00000	0.000	126313.27000	127947.07000	127137.99000
PB	208	838.99931	3840664.29000	1.700	826.34908	836.79570	853.85316
TL	203	0.67741	940.10300	16.400	0.68160	0.56459	0.78605
BI-1	209	95592.41000	0.00000	0.000	94047.72000	95376.31000	97353.20000
U	238	2.96939	15931.26000	4.500	2.82598	2.99255	3.08964

Run Name: 1833202E05
Tube Number: 43
Sample Number: **9891928**

Date/Time: 11/28/2018 6:43:18
Batch: 183181063702A
Class: **********

Initial Vol: 1.33 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18847.24300	0.00000	0.000	18893.85000	18884.11000	18763.77000
AL	27	83578.48123	809715.82300	0.100	83504.68980	83531.31827	83699.43563
CR	52	84.01397	61068.26300	0.600	84.08168	83.45857	84.50167
FE	57	125593.48876	1674138.31000	1.700	123652.83728	125181.14335	127946.48564
K	39	4362.39983	91079.01300	2.200	4288.27428	4329.57874	4469.34649
MG	24	22755.44923	851185.19700	1.500	23121.81287	22450.08738	22694.44742
MN	55	3094.68185	718464.88700	0.200	3089.63622	3099.80476	3094.60457
NA	23	259.84258	53899.23700	2.700	251.94167	262.62254	264.96354
TI	47	436.42001	4867.79000	4.300	454.42794	417.07102	437.76108
V	51	141.25954	78534.31000	0.800	142.26940	140.12548	141.38375
GE-1	72	60728.81700	0.00000	0.000	60678.66000	61352.30000	60155.49000
AG	107	0.82624	1356.82000	8.600	0.86613	0.86873	0.74387
CA	44	7143.99973	7685.86700	1.400	7136.83550	7048.88769	7246.27598
CD	111	1.63791	240.00700	17.200	1.73788	1.85544	1.32042
SB	121	1.24388	583.38300	3.400	1.26354	1.27284	1.19527
IN-1	115	20822.86700	0.00000	0.000	20835.33000	20600.97000	21032.30000
AS	75	64.43209	4403.42700	2.700	66.40841	63.31034	63.57752
BA	137	587.47090	59283.83000	0.900	582.29067	587.00760	593.11442
CO	59	57.74409	71941.15300	1.900	56.47622	58.17078	58.58527
CU	63	187.15549	208587.74300	0.400	187.83882	187.33158	186.29607
MO	98	4.53405	3447.32300	5.500	4.25628	4.60191	4.74395
NI	60	116.82088	43424.20300	2.400	119.21204	113.68957	117.56105
SN	120	26.09159	9887.53700	3.100	25.92328	26.97942	25.37206
SR	88	45.29315	8626.65000	6.800	44.54429	48.66622	42.66893
ZN	66	996.16831	97260.44700	2.200	1018.28944	995.88482	974.33066
TB-1	159	128556.61700	0.00000	0.000	129198.45000	127887.63000	128583.77000
PB	208	702.52182	3252028.81000	0.300	701.77238	701.09410	704.69897
TL	203	0.70536	990.09000	6.600	0.73054	0.65147	0.73407
BI-1	209	94711.63000	0.00000	0.000	95698.71000	94066.95000	94369.23000
U	238	3.56807	18952.21700	2.700	3.45848	3.62110	3.62463

Run Name: 1833202E05
Tube Number: 44
Sample Number: **9891929**

Date/Time: 11/28/2018 6:45:06
Batch: 183181063702A
Class: **********

Initial Vol: 1.03 Final Vol: 100.00 DF: 2.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17625.64000	0.00000	0.000	16540.95000	18844.00000	17491.97000
AL	27	66963.91552	604904.44700	6.900	71634.92324	62446.44042	66810.38289
CR	52	60.08950	40845.81700	6.000	63.60699	56.37724	60.28427
FE	57	110940.24430	1377187.94700	10.000	119112.67014	98380.15885	115327.90390
K	39	5112.14256	99006.06300	6.800	5397.71049	4727.92587	5210.79132
MG	24	20361.18181	710337.54300	6.200	21531.99226	19038.45367	20513.09949
MN	55	1932.65558	418590.97000	5.700	2023.92629	1811.39654	1962.64391
NA	23	237.85774	48639.68700	17.400	269.85907	191.11490	252.59926
TI	47	516.87762	5381.33000	4.300	536.44656	492.41367	521.77262
V	51	89.85935	46590.64000	6.900	94.14033	82.73993	92.69780
GE-1	72	59104.30000	0.00000	0.000	57714.73000	59522.84000	60075.33000
AG	107	0.22491	363.36000	31.900	0.28570	0.14567	0.24335
CA	44	3407.55909	3583.97700	8.800	3535.48819	3065.28554	3621.90354
CD	111	0.39797	58.66700	13.800	0.46058	0.37547	0.35786
SB	121	0.41670	270.01700	61.000	0.60335	0.51935	0.12739
IN-1	115	19194.30000	0.00000	0.000	18615.59000	19478.46000	19488.85000
AS	75	36.45266	2298.22000	5.000	38.50973	35.76280	35.08544
BA	137	272.12632	25305.76700	2.500	279.36506	271.12354	265.89037
CO	59	50.48782	57952.24300	3.800	52.21426	50.84913	48.40007
CU	63	114.87378	118120.55700	2.700	117.77624	115.19708	111.64802
MO	98	2.48102	1756.88300	4.400	2.57843	2.36173	2.50291
NI	60	93.34466	31988.92300	1.100	92.42972	93.20719	94.39707
SN	120	9.47106	3534.04300	5.000	8.93622	9.63875	9.83821
SR	88	32.46015	5701.51300	5.800	33.51380	30.28474	33.58190
ZN	66	398.93071	35888.99300	4.900	421.10491	385.09436	390.59287
TB-1	159	121393.68700	0.00000	0.000	120476.00000	122816.65000	120888.41000
PB	208	123.04943	538677.31700	1.200	124.44380	121.47779	123.22672
TL	203	0.45182	600.05000	31.500	0.53095	0.28772	0.53678
BI-1	209	90635.92700	0.00000	0.000	89263.51000	92273.99000	90370.28000
U	238	3.48120	17697.19000	0.500	3.49589	3.46301	3.48470

Run Name: 1833202E05 Date/Time: 11/28/2018 6:46:53
Tube Number: 45
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16060.12300	0.00000	0.000	15619.82000	16110.00000	16450.55000
AL	27	2233.66729	18459.83000	4.800	2294.39561	2295.79064	2110.81562
CR	52	256.21092	157937.26300	2.700	262.16793	257.66650	248.79832
FE	57	2322.76509	26403.49300	2.900	2296.00254	2398.45958	2273.83315
K	39	2470.97443	45172.76700	1.800	2512.78723	2476.80155	2423.33452
MG	24	2341.59360	74621.16000	3.000	2418.70676	2322.75862	2283.31542
MN	55	257.18333	50873.26300	4.400	268.43213	257.26784	245.85002
NA	23	2376.04643	189281.10300	2.500	2441.78205	2361.69726	2324.66000
TI	47	233.77522	2220.30700	8.400	252.09605	212.94865	236.28097
V	51	253.65437	120079.36700	3.700	263.63067	252.31647	245.01597
GE-1	72	58481.52000	0.00000	0.000	59160.99000	58598.78000	57684.79000
AG	107	25.09303	39451.13300	4.400	23.86943	25.44198	25.96767
CA	44	2280.33243	2383.68700	0.800	2260.06224	2291.72549	2289.20956
CD	111	25.84251	3601.86300	3.500	25.54406	25.13009	26.85338
SB	121	24.52263	8820.19000	3.200	23.87691	24.27863	25.41233
IN-1	115	20296.31300	0.00000	0.000	20123.99000	20801.78000	19963.17000
AS	75	265.14082	17628.27700	2.300	262.53422	260.79453	272.09371
BA	137	271.22381	26665.35000	4.000	272.60199	259.64234	281.42710
CO	59	266.41982	323318.54300	3.100	272.18707	256.89616	270.17623
CU	63	262.31358	284750.40300	1.700	266.94083	257.96855	262.03136
MO	98	26.52481	19431.85300	4.000	25.79512	26.04866	27.73065
NI	60	265.28040	96026.92300	3.600	267.64660	254.80044	273.39417
SN	120	24.94081	9233.79000	2.400	24.68933	25.63727	24.49584
SR	88	25.87968	4811.15300	0.200	25.88520	25.93387	25.81997
ZN	66	264.67489	25204.41000	1.500	269.14542	261.80669	263.07255
TB-1	159	110454.20700	0.00000	0.000	112959.75000	109561.82000	108841.05000
PB	208	26.05840	104529.09300	1.300	25.66753	26.22419	26.28348
TL	203	27.43404	32821.17000	3.300	26.44078	28.19029	27.67106
BI-1	209	88680.35300	0.00000	0.000	88757.33000	87791.10000	89492.63000
U	238	24.38064	121205.12700	1.400	24.38045	24.72035	24.04113

Run Name: 1833202E05 Date/Time: 11/28/2018 6:48:40
Tube Number: 46
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15699.73000	0.00000	0.000	15759.82000	15819.86000	15519.51000
AL	27	-0.68902	26.66700	0.000	-0.30145	-2.77506	1.00947
CR	52	0.27386	493.36700	40.300	0.24791	0.17891	0.39477
FE	57	2.73114	50.00000	34.600	2.70790	1.79714	3.68839
K	39	33.22131	3313.90700	42.400	46.50954	18.46886	34.68552
MG	24	0.98978	56.67000	177.900	2.69762	1.09139	-0.81968
MN	55	0.07462	50.00000	137.200	-0.02929	0.17540	0.07773
NA	23	98.96814	34240.24700	4.300	103.37396	94.78755	98.74291
TI	47	2.49941	23.33700	108.000	5.36200	2.13623	0.00000
V	51	0.02897	26.66700	171.200	0.05776	0.05744	-0.02830
GE-1	72	61069.79700	0.00000	0.000	59612.73000	61341.16000	62255.50000
AG	107	0.00789	20.00000	203.000	0.00194	0.02602	-0.00430
CA	44	0.74305	33.33300	1818.300	-10.99358	-2.28938	15.51212
CD	111	-0.01949	0.00000	0.000	-0.01949	-0.01949	-0.01949
SB	121	0.00327	126.67700	1375.200	0.02043	0.03716	-0.04777
IN-1	115	20609.65700	0.00000	0.000	20223.03000	20272.51000	21333.43000
AS	75	0.19852	22.66700	80.500	0.37356	0.16143	0.06057
BA	137	-0.03209	3.33300	0.000	0.03594	-0.06611	-0.06611
CO	59	0.01520	36.66700	28.900	0.01855	0.01022	0.01683
CU	63	0.23563	670.05700	26.200	0.29238	0.24458	0.16993
MO	98	-0.01272	36.66700	0.000	-0.04762	-0.02027	0.02974
NI	60	0.07932	50.00300	185.100	0.02460	0.24562	-0.03228
SN	120	-0.11734	333.35700	0.000	-0.04963	-0.36199	0.05960
SR	88	-0.05441	0.00000	0.000	-0.05442	-0.05442	-0.05442
ZN	66	0.26729	50.00000	33.500	0.17322	0.27741	0.35124
TB-1	159	114280.25700	0.00000	0.000	112775.72000	114915.65000	115149.40000
PB	208	0.06699	1250.09300	29.200	0.05145	0.06059	0.08894
TL	203	0.02707	40.00000	91.000	0.05188	0.02672	0.00260
BI-1	209	89015.86300	0.00000	0.000	88556.62000	87771.09000	90719.88000
U	238	0.00737	46.66700	14.400	0.00809	0.00615	0.00785

Run Name: 1833202E05 Date/Time: 11/28/2018 6:50:25
Tube Number: 47
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16423.91700	0.00000	0.000	16811.09000	15879.98000	16580.68000
AL	27	351.28831	3000.50300	6.800	375.64671	350.11284	328.10538
CR	52	4.17593	2970.48000	3.600	4.09542	4.35119	4.08119
FE	57	96.00665	1136.77700	5.100	96.63285	90.82852	100.55857
K	39	444.91124	10671.48000	9.500	402.94817	487.58862	444.19693
MG	24	95.82838	3150.52300	0.500	96.31047	95.33965	95.83501
MN	55	10.99058	2260.31000	3.400	10.63535	10.96302	11.37337
NA	23	912.76816	92115.12000	8.700	851.65056	1002.11052	884.54340
TI	47	21.00580	203.34700	37.800	23.11914	27.66800	12.23027
V	51	0.98447	490.03700	6.100	0.91974	1.03940	0.99428
GE-1	72	61756.28700	0.00000	0.000	61843.27000	61261.02000	62164.57000
AG	107	0.51979	870.08000	18.300	0.62119	0.50570	0.43248
CA	44	637.17111	726.72700	8.900	675.75041	663.96329	571.79963
CD	111	0.96027	144.00000	18.500	0.94444	1.14548	0.79089
SB	121	1.73477	776.74300	22.900	2.08623	1.81331	1.30477
IN-1	115	21018.71000	0.00000	0.000	21160.08000	20815.65000	21080.40000
AS	75	1.99132	146.66700	25.700	1.50527	1.94324	2.52546
BA	137	4.11962	426.70000	22.100	4.12805	3.20582	5.02499
CO	59	1.03252	1316.81300	10.400	1.00480	0.94132	1.15145
CU	63	40.52933	45929.18000	1.500	41.01407	39.86701	40.70690
MO	98	2.11943	1650.20000	12.100	2.03795	2.40614	1.91419
NI	60	4.04106	1536.83000	5.500	3.80936	4.25046	4.06337
SN	120	3.07553	1514.51700	64.900	1.71549	2.14536	5.36576
SR	88	6.13915	1190.12000	4.600	6.20259	5.83297	6.38189
ZN	66	15.89244	1590.18700	10.800	16.89092	16.86678	13.91960
TB-1	159	111694.08000	0.00000	0.000	112423.96000	111736.74000	110921.54000
PB	208	3.13512	13557.04700	3.100	3.20641	3.02611	3.17283
TL	203	0.48495	593.37700	1.400	0.48726	0.49029	0.47729
BI-1	209	91054.82000	0.00000	0.000	90158.03000	92303.91000	90702.52000
U	238	0.48564	2487.08700	9.600	0.52243	0.43291	0.50157

Run Name: 1833202E05 Date/Time: 11/28/2018 6:52:11
Tube Number: 48
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16227.19300	0.00000	0.000	16450.78000	16440.81000	15789.99000
AL	27	89294.77715	744613.66000	1.900	88438.59325	88182.55369	91263.18451
CR	52	0.63045	730.06000	41.200	0.35732	0.65951	0.87452
FE	57	237842.30352	2729149.64700	1.600	237404.79855	234308.95510	241813.15691
K	39	95825.34611	1662754.51000	0.800	96224.76088	94913.41044	96337.86703
MG	24	88551.32746	2850768.81300	2.400	88131.83039	86659.51142	90862.64058
MN	55	3.40698	716.72300	9.400	3.22165	3.22371	3.77559
NA	23	221352.01017	15183860.19000	1.400	221845.60520	218107.48895	224102.93636
TI	47	1878.29232	18026.02000	4.700	1791.53673	1873.93756	1969.40267
V	51	0.04129	33.33300	27.300	0.03354	0.05420	0.03613
GE-1	72	57051.83700	0.00000	0.000	56690.87000	57282.80000	57181.84000
AG	107	0.06303	103.33700	33.000	0.04818	0.05413	0.08676
CA	44	277251.40294	279093.66700	1.000	280323.33815	275329.60895	276101.26173
CD	111	0.09340	15.33300	18.900	0.11380	0.08311	0.08329
SB	121	0.82564	403.36700	32.700	0.62037	0.72556	1.13098
IN-1	115	18981.30300	0.00000	0.000	18699.40000	19582.81000	18661.70000
AS	75	1.19546	82.66700	25.800	1.26453	0.85813	1.46371
BA	137	0.98300	96.67300	35.000	1.25836	1.09323	0.59741
CO	59	0.93817	1083.43000	9.400	0.91537	1.03565	0.86350
CU	63	1.32588	1723.55000	9.200	1.20777	1.31809	1.45179
MO	98	2267.24936	1549671.75000	3.000	2342.28736	2206.89646	2252.56426
NI	60	1.37708	486.70000	14.900	1.14057	1.48721	1.50346
SN	120	0.63468	553.51000	70.000	0.64238	0.18691	1.07474
SR	88	17.28811	3007.15300	2.900	17.50109	16.70919	17.65405
ZN	66	2.37909	233.35300	12.600	2.60350	2.03891	2.49485
TB-1	159	110766.45000	0.00000	0.000	109358.53000	111628.63000	111312.19000
PB	208	0.90641	4557.25700	5.400	0.94463	0.92310	0.85151
TL	203	-0.00265	3.33300	0.000	-0.00541	-0.00541	0.00288
BI-1	209	85005.07300	0.00000	0.000	85183.18000	86470.70000	83361.34000
U	238	0.03726	186.67700	18.900	0.03153	0.03516	0.04510

Run Name: 1833202E05 Date/Time: 11/28/2018 6:53:57
Tube Number: 49
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15749.97000	0.00000	0.000	15709.75000	16070.45000	15469.71000
AL	27	92087.78682	745204.05000	3.800	90981.18955	89255.84340	96026.32752
CR	52	201.32934	121790.13700	2.800	201.74075	195.45868	206.78861
FE	57	245488.15270	2733538.50000	3.200	248218.22410	236533.25319	251712.98080
K	39	100738.09396	1695967.94300	2.900	100271.24731	98102.23897	103840.79558
MG	24	92037.91229	2875525.79000	3.700	92841.05494	88307.79966	94964.88227
MN	55	210.13705	40768.85000	6.300	210.88363	196.52502	223.00250
NA	23	229740.42230	15292268.10300	2.700	228663.23075	224231.69251	236326.34364
TI	47	1959.04658	18246.31700	6.500	2033.30742	1812.91204	2030.92028
V	51	203.98646	94725.62000	3.300	206.08413	196.46374	209.41152
GE-1	72	57028.85000	0.00000	0.000	56891.73000	57393.68000	56801.14000
AG	107	48.63363	74575.36300	2.100	49.04702	47.45871	49.39514
CA	44	279952.36559	281685.66300	2.500	279191.26528	273417.22364	287248.60785
CD	111	95.87006	13025.16700	2.400	97.90583	93.41768	96.28666
SB	121	0.90282	430.03000	27.700	0.70389	1.18295	0.82163
IN-1	115	18867.74300	0.00000	0.000	19021.78000	18141.48000	19439.97000
AS	75	113.03678	6991.88000	2.400	109.97975	114.91924	114.21133
BA	137	0.98747	96.67700	19.600	0.91044	0.84407	1.20791
CO	59	213.73234	241088.03000	2.500	211.66116	219.89692	209.63893
CU	63	210.28043	212237.49000	1.500	209.75341	213.72517	207.36272
MO	98	2314.61942	1572736.49000	1.400	2293.30292	2352.90602	2297.64931
NI	60	208.51032	70149.40000	3.600	204.15031	217.16367	204.21699
SN	120	0.88324	637.00300	48.900	1.30567	0.44179	0.90226
SR	88	17.50603	3027.17300	7.100	18.81463	17.37760	16.32585
ZN	66	114.91986	10174.37000	5.200	113.50922	121.50305	109.74731
TB-1	159	109169.27700	0.00000	0.000	107272.43000	110072.63000	110162.77000
PB	208	0.94190	4633.95000	11.800	0.87696	1.07076	0.87800
TL	203	0.00017	6.66700	5607.400	-0.00541	-0.00541	0.01134
BI-1	209	83458.59700	0.00000	0.000	84418.68000	83239.35000	82717.76000
U	238	0.03507	173.34700	2.500	0.03606	0.03445	0.03468

Run Name: 1833202E05 Date/Time: 11/28/2018 6:55:42
Tube Number: 50
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15262.50700	0.00000	0.000	15449.30000	15439.50000	14898.72000
AL	27	11.68590	123.34000	20.300	12.36698	13.63745	9.05326
CR	52	0.46245	590.05000	18.300	0.36528	0.51798	0.50409
FE	57	35.98033	406.69700	23.400	26.59435	38.51805	42.82860
K	39	63.16418	3710.67000	5.700	66.52283	63.63536	59.33435
MG	24	8.33480	276.68700	17.400	7.66092	7.33994	10.00355
MN	55	-0.00281	33.33700	0.000	-0.18383	-0.13125	0.30665
NA	23	192.29645	39290.09000	4.600	186.74727	187.59409	202.54799
TI	47	1.09374	10.00000	173.200	3.28120	0.00000	0.00000
V	51	0.04569	33.33300	26.300	0.05949	0.03759	0.03998
GE-1	72	58819.45300	0.00000	0.000	58899.05000	60416.84000	57142.47000
AG	107	0.03553	63.33700	34.400	0.03990	0.04495	0.02174
CA	44	-11.08551	20.00000	0.000	-10.76317	7.51609	-30.00944
CD	111	-0.00034	2.66700	0.000	0.02328	-0.01949	-0.00480
SB	121	-0.06693	96.67300	0.000	-0.08714	-0.12077	0.00712
IN-1	115	19616.24300	0.00000	0.000	18769.28000	19980.24000	20099.21000
AS	75	-0.04711	6.00000	0.000	-0.07475	-0.07869	0.01210
BA	137	0.00497	6.66700	1240.300	0.04384	0.03718	-0.06611
CO	59	-0.00024	16.66700	0.000	0.00330	-0.00615	0.00212
CU	63	0.66061	1083.44000	9.900	0.69313	0.70343	0.58525
MO	98	2.09642	1540.18300	44.400	1.12197	2.18969	2.97760
NI	60	0.00806	23.33300	528.300	0.00118	0.05367	-0.03066
SN	120	0.04074	366.69700	1152.200	0.54442	-0.03761	-0.38458
SR	88	-0.03627	3.33300	0.000	-0.05442	-0.05442	0.00002
ZN	66	0.90851	106.67300	14.300	0.77415	1.03255	0.91884
TB-1	159	107928.29000	0.00000	0.000	105898.67000	110263.63000	107622.57000
PB	208	0.08418	1250.10000	74.600	0.04131	0.15629	0.05493
TL	203	0.00598	13.33300	165.100	0.01202	0.01133	-0.00541
BI-1	209	85847.11700	0.00000	0.000	87277.06000	86169.16000	84095.13000
U	238	0.00148	16.66700	161.000	0.00007	0.00423	0.00014

Run Name: 1833202E05 Date/Time: 11/28/2018 6:57:29
Tube Number: 51
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16310.53700	0.00000	0.000	15439.47000	16180.50000	17311.64000
AL	27	2204.76442	18450.03000	10.000	2444.92116	2156.98345	2012.38865
CR	52	252.64291	157927.23700	5.200	264.25755	255.10332	238.56785
FE	57	2344.29719	27011.30700	5.300	2429.25378	2402.87908	2200.75871
K	39	2380.74857	44236.03000	5.600	2460.67628	2455.41782	2226.15162
MG	24	2252.91965	72825.10300	4.600	2340.36060	2279.17356	2139.22478
MN	55	254.89462	51124.23300	6.200	269.61312	256.70344	238.36730
NA	23	2398.82059	193467.05300	6.400	2554.72570	2394.64981	2247.08625
TI	47	244.27366	2347.01300	12.100	273.65271	244.40274	214.76554
V	51	256.06787	122951.77300	5.300	265.13781	262.55531	240.51050
GE-1	72	58940.23700	0.00000	0.000	56931.34000	59694.23000	60195.14000
AG	107	25.19792	39911.79000	4.900	26.09460	25.69329	23.80587
CA	44	2298.53950	2420.34300	3.300	2349.77015	2334.55481	2211.29355
CD	111	25.65731	3601.86000	4.500	26.89925	25.42823	24.64445
SB	121	24.83920	9003.59700	3.500	25.20216	23.85409	25.46135
IN-1	115	19930.72300	0.00000	0.000	20117.06000	19465.15000	20209.96000
AS	75	271.89515	17753.71300	0.900	270.64749	274.81719	270.22076
BA	137	273.18400	26385.07000	1.200	271.87994	276.94373	270.72832
CO	59	272.31425	324583.19300	1.900	267.81494	278.05091	271.07688
CU	63	270.72418	288551.91000	1.900	267.71992	276.71486	267.73775
MO	98	26.81486	19291.63000	2.500	26.09464	27.41291	26.93704
NI	60	266.71943	94838.45700	1.700	267.31335	271.05710	261.78782
SN	120	27.67361	10017.93700	2.200	27.02865	27.73338	28.25880
SR	88	28.65575	5227.99000	3.100	28.61447	29.57445	27.77832
ZN	66	269.17855	25164.60300	2.800	264.03612	277.71976	265.77978
TB-1	159	113397.73000	0.00000	0.000	114167.32000	114127.63000	111898.24000
PB	208	25.67653	105755.52300	2.400	25.22739	25.42984	26.37237
TL	203	26.30010	32309.97300	3.500	26.59098	25.26203	27.04729
BI-1	209	89623.89700	0.00000	0.000	87619.64000	89674.57000	91577.48000
U	238	24.33231	122196.10700	3.700	25.25071	24.29768	23.44855

Run Name: 1833202E05 Date/Time: 11/28/2018 6:59:15
Tube Number: 52
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16213.83000	0.00000	0.000	16841.30000	16090.46000	15709.73000
AL	27	0.31250	36.66700	1112.200	4.08149	-0.37755	-2.76644
CR	52	0.35525	560.05000	26.200	0.35186	0.26405	0.44983
FE	57	2.59302	50.00000	36.800	2.41984	1.73702	3.62220
K	39	14.26765	3090.52300	110.300	7.36769	3.16191	32.27335
MG	24	1.02799	60.00300	115.300	2.17256	-0.19337	1.10479
MN	55	0.05026	46.66700	119.100	0.00899	0.11891	0.02288
NA	23	95.58150	35098.96000	20.500	76.24400	95.02724	115.47326
TI	47	2.11727	20.00000	99.200	0.00000	4.20061	2.15121
V	51	0.02093	23.33300	160.300	0.01197	-0.00722	0.05804
GE-1	72	59911.73700	0.00000	0.000	59684.13000	60206.77000	59844.31000
AG	107	0.03916	70.00000	27.600	0.03309	0.03277	0.05163
CA	44	-4.78468	26.66700	0.000	-1.51978	-1.76709	-11.06717
CD	111	-0.00546	2.00000	0.000	-0.01949	-0.01949	0.02260
SB	121	0.00979	126.68000	1151.200	0.13047	-0.09261	-0.00850
IN-1	115	20086.21000	0.00000	0.000	20073.39000	20092.25000	20092.99000
AS	75	-0.00804	8.66700	0.000	0.07315	-0.07903	-0.01824
BA	137	-0.06611	0.00000	0.000	-0.06611	-0.06611	-0.06611
CO	59	0.03542	60.00000	23.500	0.03546	0.04373	0.02709
CU	63	0.31556	740.06000	45.800	0.30667	0.17559	0.46442
MO	98	0.09991	116.67700	21.200	0.11845	0.07683	0.10446
NI	60	0.10890	60.00300	76.900	0.10899	0.19256	0.02514
SN	120	0.08030	393.36300	510.800	-0.15609	0.55390	-0.15692
SR	88	-0.03625	3.33300	0.000	0.00009	-0.05442	-0.05442
ZN	66	0.24697	46.66700	89.600	0.49517	0.06980	0.17595
TB-1	159	110837.52000	0.00000	0.000	108479.49000	112738.95000	111294.12000
PB	208	0.00718	973.40700	393.300	0.01677	0.02937	-0.02460
TL	203	0.02521	36.66700	51.100	0.02862	0.01096	0.03606
BI-1	209	88778.21000	0.00000	0.000	89018.52000	89626.01000	87690.10000
U	238	0.00136	16.66700	83.000	0.00203	0.00200	0.00006

Run Name: 1833202E05 Date/Time: 11/28/2018 7:01:01
Tube Number: 53
Sample Number: **ZLCSW**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15319.28700	0.00000	0.000	15779.78000	15609.55000	14568.53000
AL	27	952.24571	7522.39300	3.400	929.60316	937.28819	989.84579
CR	52	27.19249	16277.35700	4.200	27.95188	25.86904	27.75655
FE	57	503.14626	5451.35700	12.900	444.53565	491.99252	572.91061
K	39	5097.61165	85959.85300	4.400	4876.73586	5089.86410	5326.23498
MG	24	970.49608	29482.69300	5.700	924.93009	954.12711	1032.43106
MN	55	27.68542	5247.97000	9.000	27.65747	25.20348	30.19531
NA	23	5066.62739	354095.25700	5.100	4832.36744	5026.07942	5341.43532
TI	47	112.64905	1016.77000	17.900	91.02900	115.83902	131.07914
V	51	26.10081	11792.47300	6.400	26.65160	24.22497	27.42585
GE-1	72	57002.27000	0.00000	0.000	57354.05000	56751.21000	56901.55000
AG	107	26.70722	40938.32700	1.300	26.33161	27.03239	26.75767
CA	44	1883.75291	1923.58300	15.600	1551.35617	2107.58029	1992.32227
CD	111	2.57752	352.67700	5.200	2.65954	2.42170	2.65134
SB	121	3.26524	1246.80000	5.500	3.33928	3.05890	3.39755
IN-1	115	20255.19300	0.00000	0.000	19799.80000	20057.50000	20908.28000
AS	75	5.09048	348.01000	17.500	4.67202	4.48841	6.11103
BA	137	28.72580	2823.79300	5.600	30.58254	27.82145	27.77341
CO	59	129.74087	157115.63700	3.200	131.91644	132.33904	124.96714
CU	63	26.72510	29296.38300	4.500	27.63428	27.17200	25.36903
MO	98	25.88149	18924.49700	2.000	26.48563	25.56234	25.59649
NI	60	27.42654	9920.77700	5.900	28.80158	27.84332	25.63472
SN	120	34.24667	12503.30700	4.600	34.40902	35.71993	32.61104
SR	88	20.79467	3854.13700	8.200	22.49561	20.78699	19.10142
ZN	66	264.82173	25157.95700	2.600	271.40324	265.24471	257.81723
TB-1	159	108700.26000	0.00000	0.000	110112.55000	108468.92000	107519.31000
PB	208	7.95062	32035.12300	1.400	7.89431	8.08169	7.87586
TL	203	1.01012	1196.78300	12.700	1.07611	1.09249	0.86176
BI-1	209	89524.41700	0.00000	0.000	89796.82000	89656.89000	89119.54000
U	238	-0.00132	3.33300	0.000	-0.00198	0.00001	-0.00198

Run Name: 1833202E05 Date/Time: 11/28/2018 7:02:48
Tube Number: 54
Sample Number: **ZLCSW**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	15259.21700	0.00000	0.000	15158.98000	15569.74000	15048.93000
AL	27	1003.69610	7902.70000	1.600	994.80989	993.47736	1022.80104
CR	52	27.76750	16554.23300	2.600	27.06757	27.71495	28.51998
FE	57	521.40396	5641.46700	10.400	493.61107	486.89748	583.70334
K	39	5251.74257	88223.32700	1.400	5330.65977	5192.17941	5232.38853
MG	24	971.26579	29432.36700	1.900	988.17137	951.36743	974.25857
MN	55	28.52562	5394.69700	3.300	27.94030	28.03300	29.60355
NA	23	5170.53619	359775.46300	2.000	5231.21505	5049.80796	5230.58555
TI	47	122.86609	1110.11000	4.500	119.28210	129.16176	120.15439
V	51	26.47710	11929.25300	1.300	26.08745	26.77197	26.57188
GE-1	72	57397.20000	0.00000	0.000	56178.21000	57615.11000	58398.28000
AG	107	26.36996	40690.97700	3.600	27.32822	25.42872	26.35295
CA	44	2075.80526	2130.28000	9.700	2210.09667	2173.91424	1843.40488
CD	111	2.59703	358.01000	13.000	2.31209	2.96800	2.51100
SB	121	2.75980	1076.78300	32.500	3.06422	3.46571	1.74947
IN-1	115	19895.44700	0.00000	0.000	20094.15000	19471.36000	20120.83000
AS	75	5.09033	340.67700	13.100	4.35839	5.25502	5.65757
BA	137	28.19420	2723.78700	4.500	26.74386	28.87334	28.96540
CO	59	134.63295	160216.42700	1.800	135.84217	136.21051	131.84617
CU	63	26.97599	29059.10300	3.000	26.09453	27.69211	27.14132
MO	98	28.05399	20149.58700	1.500	28.43477	28.10413	27.62308
NI	60	27.18216	9667.36300	2.500	26.39672	27.58892	27.56083
SN	120	35.68530	12790.45300	0.500	35.48246	35.71080	35.86264
SR	88	21.75607	3964.17300	7.600	22.70998	22.70718	19.85105
ZN	66	271.19226	25311.56300	3.100	275.72133	276.42001	261.43544
TB-1	159	110967.96300	0.00000	0.000	112696.08000	110354.45000	109853.36000
PB	208	8.04434	33069.37000	3.400	7.79662	8.00509	8.33130
TL	203	0.93525	1130.12300	11.000	0.84653	1.04864	0.91058
BI-1	209	90040.72300	0.00000	0.000	89231.73000	90923.26000	89967.18000
U	238	-0.00065	6.66700	0.000	0.00002	-0.00198	0.00000

Run Name: 1833202E05 Date/Time: 11/28/2018 7:04:35
Tube Number: 55 Batch: 183121063701A
Sample Number: **9884809** Class: U*********

Initial Vol: 1.08 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17305.06000	0.00000	0.000	18052.69000	16841.05000	17021.44000
AL	27	30041.40875	267077.23700	2.900	29204.53756	30936.30638	29983.38232
CR	52	37.18882	24987.38300	5.700	34.73059	38.35530	38.48057
FE	57	45217.93586	552927.36300	3.900	43276.85789	46746.64647	45630.30321
K	39	2605.66924	51136.55300	3.400	2503.95850	2652.41361	2660.63560
MG	24	5576.17129	191330.87000	4.200	5304.95451	5722.92430	5700.63506
MN	55	615.25138	131041.20700	4.300	585.89631	636.39127	623.46654
NA	23	250.28116	48713.64300	17.200	203.05863	287.41122	260.37362
TI	47	2047.45040	20930.55700	7.900	1890.36392	2213.28112	2038.70616
V	51	55.94306	28554.34000	2.200	55.06567	57.37457	55.38892
GE-1	72	59596.52300	0.00000	0.000	60648.53000	59100.68000	59040.36000
AG	107	0.33267	540.04700	9.700	0.33914	0.29778	0.36109
CA	44	4105.93333	4350.93700	8.000	4344.69541	3730.14716	4242.95741
CD	111	0.38015	56.66700	12.700	0.32661	0.42091	0.39292
SB	121	0.77738	403.36300	12.800	0.66646	0.86013	0.80555
IN-1	115	20464.63000	0.00000	0.000	20407.43000	21009.24000	19977.22000
AS	75	18.81076	1269.40700	3.300	19.16349	18.08717	19.18163
BA	137	88.22208	8756.84700	1.400	87.54355	89.65578	87.46692
CO	59	17.31804	21204.16300	3.600	17.53951	16.61433	17.80027
CU	63	48.38459	53292.93000	1.100	48.62634	47.79589	48.73153
MO	98	3.16572	2377.02700	5.900	3.29909	2.95171	3.24638
NI	60	31.94362	11672.16700	6.000	31.68072	30.15729	33.99285
SN	120	7.56965	3085.51700	4.000	7.38838	7.92222	7.39834
SR	88	29.54161	5528.09700	9.000	28.63529	27.44883	32.54071
ZN	66	193.87774	18617.23000	3.200	199.55046	187.32090	194.76187
TB-1	159	120007.81300	0.00000	0.000	121838.31000	116903.33000	121281.80000
PB	208	121.03103	523708.51700	1.800	119.29698	123.52826	120.26786
TL	203	0.41037	540.04300	10.900	0.42646	0.44470	0.35994
BI-1	209	93766.69300	0.00000	0.000	94509.49000	92483.36000	94307.23000
U	238	5.54876	29179.48000	0.800	5.57487	5.49979	5.57162

Run Name: 1833202E05
Tube Number: 56
Sample Number: **9884809**

Date/Time: 11/28/2018 7:06:22
Batch: 183121063701A
Class: UP********

Initial Vol: 1.08 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17291.74300	0.00000	0.000	17301.72000	17141.71000	17431.80000
AL	27	34047.64931	302629.29000	1.600	34144.16367	34522.32874	33476.45552
CR	52	47.89526	32095.95000	2.600	46.49460	48.84131	48.34989
FE	57	50273.25410	614801.71000	1.900	49953.38542	51343.36845	49523.00842
K	39	3613.80436	69741.38700	2.100	3556.71095	3699.04930	3585.65284
MG	24	6459.39353	221687.54700	1.000	6517.69115	6475.33358	6385.15588
MN	55	700.83246	149305.35300	2.100	684.03437	710.53369	707.92930
NA	23	1810.80430	162621.73000	0.800	1799.76245	1826.35471	1806.29576
TI	47	2322.14356	23758.42000	4.000	2271.75408	2430.19400	2264.48260
V	51	61.58539	31417.32300	2.200	61.32570	63.06909	60.36139
GE-1	72	58947.15300	0.00000	0.000	58608.44000	60065.08000	58167.94000
AG	107	1.42818	2270.33000	5.200	1.51255	1.40145	1.37055
CA	44	5340.74318	5578.11300	13.000	5280.67038	4679.83834	6061.72081
CD	111	2.48758	352.01000	5.100	2.63085	2.44078	2.39111
SB	121	4.90102	1873.56000	9.000	4.52611	4.79227	5.38468
IN-1	115	20142.35000	0.00000	0.000	20630.70000	19504.55000	20291.80000
AS	75	25.37412	1681.46000	7.000	23.33611	26.28874	26.49750
BA	137	104.68634	10211.12700	7.200	101.21062	113.30576	99.54263
CO	59	21.19774	25541.69000	4.200	20.16641	21.72659	21.70020
CU	63	136.29016	146985.13700	2.400	132.66820	139.02965	137.17263
MO	98	7.59284	5548.14000	5.400	7.27395	8.05333	7.45124
NI	60	42.06731	15129.10700	3.200	40.61147	43.27605	42.31442
SN	120	13.30426	5058.03000	3.300	13.72392	13.34536	12.84351
SR	88	47.09481	8683.24000	2.400	48.38240	46.40796	46.49407
ZN	66	250.58918	23655.31700	6.900	233.42898	267.95264	250.38592
TB-1	159	119896.69700	0.00000	0.000	118053.67000	120534.39000	121102.03000
PB	208	139.97789	605045.84700	1.900	142.37557	140.46409	137.09399
TL	203	1.46228	1906.91300	6.200	1.39438	1.56470	1.42777
BI-1	209	92790.52000	0.00000	0.000	94046.14000	93633.41000	90692.01000
U	238	7.25605	37740.20700	3.000	7.12209	7.14005	7.50602

Run Name: 1833202E05
Tube Number: 57
Sample Number: **9884812**

Date/Time: 11/28/2018 7:08:09
Batch: 183121063701A
Class: D*********

Initial Vol: 1.37 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17331.86300	0.00000	0.000	18122.75000	17091.54000	16781.30000
AL	27	41113.38245	366025.25300	2.800	39841.68683	41367.88004	42130.58050
CR	52	52.59124	35236.93300	5.700	49.34362	53.16503	55.26507
FE	57	64866.29901	794267.20000	4.300	61817.51603	65580.89594	67200.48507
K	39	3799.89962	73283.04000	3.900	3631.21059	3898.89425	3869.59400
MG	24	7972.83004	273989.05700	3.900	7654.47605	7994.04515	8269.96891
MN	55	919.06741	196111.33700	2.500	893.68900	924.97106	938.54217
NA	23	291.63922	51814.65700	16.900	255.11592	272.20518	347.59655
TI	47	2705.57690	27732.59300	2.500	2628.44640	2732.48308	2755.80123
V	51	80.85831	41293.75300	4.700	76.83704	81.25623	84.48167
GE-1	72	59563.32000	0.00000	0.000	58397.56000	59532.94000	60759.46000
AG	107	0.45582	736.72700	17.500	0.51160	0.36431	0.49155
CA	44	4697.72317	4957.82300	16.400	5542.59892	4521.85131	4028.71929
CD	111	0.67168	98.00000	5.500	0.69939	0.68568	0.62999
SB	121	0.66029	360.02300	39.600	0.95922	0.54689	0.47476
IN-1	115	20887.65700	0.00000	0.000	21354.96000	21652.93000	19655.08000
AS	75	28.49902	1953.50000	8.500	26.88752	27.33352	31.27601
BA	137	122.28893	12369.93000	4.100	117.31574	122.18931	127.36174
CO	59	21.04122	26266.69700	4.700	20.29774	20.66044	22.16547
CU	63	61.77200	69224.98300	5.000	61.24660	58.95709	65.11231
MO	98	3.76795	2880.45700	4.100	3.91712	3.60585	3.78086
NI	60	41.57878	15496.36700	3.900	40.30947	41.02514	43.40172
SN	120	12.57355	4992.41000	26.300	9.79753	16.22915	11.69397
SR	88	35.62378	6818.75700	3.700	36.84546	35.78145	34.24444
ZN	66	265.73059	25982.99300	7.200	252.32120	257.32978	287.54078
TB-1	159	124230.58000	0.00000	0.000	124390.89000	123848.58000	124452.27000
PB	208	170.42717	763167.48700	0.600	170.84172	171.20844	169.23135
TL	203	0.62130	843.41000	21.500	0.75157	0.62817	0.48415
BI-1	209	98812.50300	0.00000	0.000	100003.90000	99325.59000	97108.02000
U	238	6.67781	36997.72000	1.400	6.65655	6.59922	6.77767

Run Name: 1833202E05
Tube Number: 58
Sample Number: **9884810**

Date/Time: 11/28/2018 7:09:56
Batch: 183121063701A
Class: R*********

Initial Vol: 1.26 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17488.79300	0.00000	0.000	16801.07000	17502.25000	18163.06000
AL	27	42017.25172	377481.01000	2.900	43407.23189	41492.18579	41152.33749
CR	52	109.71409	73814.27300	4.500	115.35309	107.05341	106.73577
FE	57	58905.34611	728247.25700	2.100	60284.55264	58619.75157	57811.73412
K	39	12860.19329	242954.68300	3.700	13409.19616	12663.91238	12507.47134
MG	24	10177.64237	353058.82300	2.500	10462.04763	10087.06779	9983.81169
MN	55	837.66735	180311.13000	4.000	875.42051	824.18795	813.39359
NA	23	9266.70298	714242.57000	2.800	9528.01502	9262.46025	9009.63367
TI	47	2917.30133	30158.02000	5.100	3090.17495	2836.77818	2824.95085
V	51	127.28316	65632.30000	2.000	130.04824	126.62921	125.17205
GE-1	72	60553.51300	0.00000	0.000	60596.59000	59532.70000	61531.25000
AG	107	49.83498	81126.99300	2.200	49.62236	51.03829	48.84429
CA	44	9422.42721	10094.31000	6.300	9954.64722	9532.82777	8779.80664
CD	111	5.25814	761.36300	1.900	5.17663	5.22718	5.37061
SB	121	5.23611	2050.26700	15.700	4.44811	5.17039	6.08981
IN-1	115	20248.61300	0.00000	0.000	20730.54000	20264.51000	19750.79000
AS	75	33.57123	2233.54000	5.400	32.00311	33.16453	35.54605
BA	137	174.27633	17088.84700	6.200	162.61190	176.03946	184.17762
CO	59	289.86575	350938.86300	2.900	283.46799	286.69893	299.43034
CU	63	112.71950	122251.00700	3.900	107.85017	113.77954	116.52878
MO	98	54.89925	40058.65000	4.700	52.26950	54.97006	57.45817
NI	60	100.60173	36350.14700	2.200	98.25474	101.01712	102.53335
SN	120	59.07086	21295.25000	3.700	57.42845	58.23753	61.54660
SR	88	89.70383	16601.14300	5.800	83.86224	94.00856	91.24069
ZN	66	751.74875	71322.88300	5.200	712.08964	752.28993	790.86668
TB-1	159	123025.90700	0.00000	0.000	121879.71000	123826.81000	123371.20000
PB	208	157.35203	697863.59300	1.000	157.25420	155.75190	159.05000
TL	203	2.42089	3233.95300	2.400	2.40344	2.48490	2.37433
BI-1	209	92293.10000	0.00000	0.000	90984.32000	92988.23000	92906.75000
U	238	6.54918	33885.36700	4.000	6.82302	6.51821	6.30630

Run Name: 1833202E05
Tube Number: 59
Sample Number: **9884811**

Date/Time: 11/28/2018 7:11:43
Batch: 183121063701A
Class: M*********

Initial Vol: 1.35 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18046.04300	0.00000	0.000	18292.96000	18343.07000	17502.10000
AL	27	47022.76725	436042.18000	2.400	46866.96874	45987.46410	48213.86890
CR	52	102.12784	70972.55000	2.400	99.70648	101.99094	104.68609
FE	57	62561.36394	798204.59700	2.700	60900.06679	62500.90556	64283.11948
K	39	12849.81477	250635.21300	2.000	12685.92111	12710.58498	13152.93823
MG	24	9606.14855	343887.35000	3.100	9364.83766	9514.69550	9938.91251
MN	55	916.89095	203808.09700	1.100	911.46171	910.94357	928.26756
NA	23	8945.65512	712700.09300	3.200	8730.78005	8839.88599	9266.29934
TI	47	3349.25141	35738.13300	5.100	3232.62411	3271.85805	3543.27209
V	51	127.95395	68081.45700	2.800	126.81737	125.04002	132.00447
GE-1	72	60624.68700	0.00000	0.000	59583.06000	60738.91000	61552.09000
AG	107	48.75020	79463.71700	1.800	49.68190	47.88600	48.68270
CA	44	11443.15058	12272.83300	3.800	11552.69234	10958.64630	11818.11310
CD	111	5.92789	858.70700	2.200	5.99785	6.00775	5.77807
SB	121	4.51734	1786.90000	5.900	4.52959	4.24694	4.77548
IN-1	115	20842.25700	0.00000	0.000	21053.69000	20414.78000	21058.30000
AS	75	37.29191	2552.93700	6.800	35.36858	40.16016	36.34698
BA	137	190.16015	19208.40000	1.800	186.51636	193.16879	190.79530
CO	59	277.22843	345582.10300	1.300	274.19362	281.36137	276.13031
CU	63	113.92510	127228.61000	1.800	112.31226	116.22588	113.23716
MO	98	53.80586	40436.03300	1.600	53.37048	54.78253	53.26456
NI	60	94.94420	35320.26300	2.700	92.04708	96.19593	96.58960
SN	120	55.00465	20446.91000	3.700	52.80791	55.36142	56.84462
SR	88	99.49144	18954.57300	4.200	98.60302	103.99724	95.87404
ZN	66	771.84830	75411.23700	3.500	769.11264	800.31247	746.11978
TB-1	159	125742.83000	0.00000	0.000	125272.44000	126514.62000	125441.43000
PB	208	178.03170	806822.98300	2.300	179.07451	173.51055	181.51005
TL	203	2.49840	3410.65300	4.600	2.61828	2.49035	2.38657
BI-1	209	93798.03300	0.00000	0.000	93462.26000	93996.28000	93935.56000
U	238	7.49389	39415.55700	0.200	7.48834	7.47996	7.51335

Run Name: 1833202E05
Tube Number: 60
Sample Number: **9884809**

Date/Time: 11/28/2018 7:13:29
Batch: 183121063701A
Class: UL********

Initial Vol: 1.08 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16877.81300	0.00000	0.000	15920.00000	17531.99000	17181.45000
AL	27	9059.23472	78497.25300	5.000	9577.22621	8766.49327	8833.98469
CR	52	11.52946	7795.97000	5.900	12.30936	11.17203	11.10700
FE	57	13421.50102	159970.80700	5.000	14172.98651	12901.72728	13189.78928
K	39	774.33848	16864.51300	12.000	880.00567	737.94993	705.05985
MG	24	1642.36673	54963.48300	4.900	1729.18253	1626.96173	1570.95594
MN	55	176.20335	36593.89000	6.300	189.02266	170.13975	169.44763
NA	23	111.03614	37592.27000	32.200	143.94951	73.04216	116.11676
TI	47	622.74423	6201.77300	8.900	685.85986	583.26753	599.10531
V	51	17.17225	8539.85300	7.800	18.72183	16.37820	16.41671
GE-1	72	62050.95000	0.00000	0.000	63782.15000	61119.98000	61250.72000
AG	107	0.10162	176.67700	21.100	0.10067	0.12349	0.08072
CA	44	981.28985	1106.78000	3.100	956.47830	971.63511	1015.75615
CD	111	0.09758	17.33300	12.900	0.11215	0.09041	0.09017
SB	121	-0.06327	103.33700	0.000	-0.15812	-0.09632	0.06462
IN-1	115	20682.49300	0.00000	0.000	21209.13000	20364.36000	20473.99000
AS	75	5.22560	363.34300	6.100	5.10094	4.98846	5.58740
BA	137	24.85437	2497.05000	7.200	24.75032	26.69235	23.12043
CO	59	4.75751	5898.24000	6.200	4.41656	4.92903	4.92694
CU	63	14.65218	16601.06000	2.500	14.68532	15.00650	14.26471
MO	98	0.93425	740.06300	22.700	0.73712	0.90658	1.15906
NI	60	9.26006	3437.32300	4.800	8.98174	9.02651	9.77192
SN	120	3.73264	1722.20300	61.900	2.32874	2.46833	6.40085
SR	88	7.85457	1496.83700	7.900	8.56142	7.41425	7.58806
ZN	66	56.70455	5518.10000	5.200	53.37142	57.79669	58.94554
TB-1	159	114996.32700	0.00000	0.000	113814.40000	116804.66000	114369.92000
PB	208	36.75932	153121.05300	1.500	37.13497	36.14537	36.99762
TL	203	0.13599	176.68000	37.800	0.12436	0.19217	0.09145
BI-1	209	93848.21300	0.00000	0.000	93079.23000	93724.28000	94741.13000
U	238	1.59857	8420.02000	1.400	1.61040	1.61264	1.57266

Run Name: 1833202E05
Tube Number: 61
Sample Number: **9884806**

Date/Time: 11/28/2018 7:15:16
Batch: 183121063701A
Class: **********

Initial Vol: 1.06 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18126.26000	0.00000	0.000	18102.76000	18212.99000	18063.03000
AL	27	36468.58930	339796.17000	2.500	36258.63302	35693.24804	37453.88685
CR	52	41.25808	29035.35700	2.700	42.53414	40.46425	40.77585
FE	57	54734.19469	701723.11700	0.700	55142.40456	54445.12994	54615.04958
K	39	2926.06977	59804.40700	0.700	2938.67304	2903.39035	2936.14592
MG	24	6507.13374	234105.89300	1.700	6420.68597	6466.03065	6634.68459
MN	55	406.77959	90857.47000	1.800	403.97632	401.08532	415.27712
NA	23	248.03877	50938.12300	6.300	254.80083	259.09829	230.21719
TI	47	1978.14075	21217.38700	4.500	2037.47388	1875.55562	2021.39275
V	51	114.69046	61329.34300	1.500	114.41225	116.54358	113.11555
GE-1	72	62355.67000	0.00000	0.000	61451.24000	61633.03000	63982.74000
AG	107	0.70393	1190.11700	17.400	0.57676	0.71386	0.82118
CA	44	2221.13423	2477.02300	8.000	2036.32378	2388.97517	2238.10375
CD	111	0.28573	45.33300	11.800	0.25377	0.32108	0.28233
SB	121	1.22577	590.04300	29.000	1.48476	1.37242	0.82014
IN-1	115	21835.21000	0.00000	0.000	21844.33000	21863.99000	21797.31000
AS	75	13.54618	978.71300	5.600	13.78360	14.16213	12.69279
BA	137	100.32625	10621.64000	2.800	99.65215	97.95549	103.37111
CO	59	13.58809	17765.81000	2.000	13.33444	13.55978	13.87005
CU	63	43.18498	50806.82300	1.800	44.03567	42.50016	43.01911
MO	98	3.43962	2753.78300	1.800	3.51018	3.41813	3.39057
NI	60	40.05662	15626.58000	0.700	39.92035	39.88320	40.36630
SN	120	10.76357	4511.05300	5.000	10.44404	10.46002	11.38666
SR	88	28.41326	5681.50300	6.000	26.64773	30.02868	28.56335
ZN	66	151.85949	15569.59000	4.600	154.82036	143.93745	156.82067
TB-1	159	122478.81700	0.00000	0.000	120828.77000	123190.88000	123416.80000
PB	208	253.31647	1117761.56000	1.400	256.00214	254.77451	249.17277
TL	203	0.85324	1140.12700	10.000	0.76624	0.85636	0.93711
BI-1	209	99572.44700	0.00000	0.000	99005.28000	100093.72000	99618.34000
U	238	3.52880	19710.34300	2.500	3.42780	3.56722	3.59137

Run Name: 1833202E05
Tube Number: 62
Sample Number: **9884807**

Date/Time: 11/28/2018 7:17:02
Batch: 183121063701A
Class: **********

Initial Vol: 1.24 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17171.66000	0.00000	0.000	16310.74000	17642.28000	17561.96000
AL	27	14999.96572	132271.29300	4.200	15714.56412	14532.72412	14752.60891
CR	52	30.22588	20239.49700	2.200	30.77334	30.40975	29.49455
FE	57	19129.71810	231991.34700	5.400	20321.17197	18545.63268	18522.34967
K	39	1483.33682	30177.89000	3.900	1548.22568	1436.01401	1465.77077
MG	24	940.88834	32048.46300	5.400	990.48458	889.60229	942.57814
MN	55	83.24420	17622.38300	4.900	87.73013	82.24781	79.75467
NA	23	530.34555	68593.26300	10.500	594.56503	498.04145	498.43019
TI	47	968.69886	9844.05300	0.400	969.02369	964.88099	972.19192
V	51	98.19026	49651.55700	6.200	105.21198	94.53103	94.82777
GE-1	72	64666.50000	0.00000	0.000	65781.88000	64054.08000	64163.54000
AG	107	1.23913	2163.64300	7.600	1.34715	1.19196	1.17830
CA	44	1075.26341	1260.13000	11.600	978.19580	1031.94607	1215.64834
CD	111	0.84298	132.66700	19.100	0.69527	0.81941	1.01427
SB	121	3.61668	1550.18700	14.500	3.01837	3.82944	4.00222
IN-1	115	21485.03700	0.00000	0.000	21322.50000	21970.66000	21161.95000
AS	75	15.48873	1098.72300	6.600	16.15804	14.31507	15.99310
BA	137	55.14590	5744.92700	5.600	58.31322	52.17450	54.94998
CO	59	3.65324	4711.09000	5.100	3.83611	3.46376	3.65986
CU	63	57.34204	66233.05000	0.800	57.32557	56.86553	57.83503
MO	98	4.99855	3914.12700	6.200	4.80866	4.82944	5.35754
NI	60	26.09266	10017.48000	4.700	26.45074	24.72441	27.10284
SN	120	21.40673	8423.50000	20.800	25.50035	16.67305	22.04678
SR	88	13.06012	2573.70300	6.100	12.77528	12.44648	13.95858
ZN	66	85.42971	8626.61000	5.400	90.62308	82.01717	83.64888
TB-1	159	119422.99000	0.00000	0.000	120718.05000	118678.85000	118872.07000
PB	208	530.40318	2280916.19000	1.200	523.39195	534.76999	533.04760
TL	203	0.47348	620.05300	15.500	0.54518	0.47685	0.39842
BI-1	209	100872.47000	0.00000	0.000	102472.18000	97604.06000	102541.17000
U	238	1.94961	11025.62000	5.900	1.83370	2.06427	1.95088

Run Name: 1833202E05 Date/Time: 11/28/2018 7:18:47
Tube Number: 63
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16841.29700	0.00000	0.000	17502.12000	17021.91000	15999.86000
AL	27	2212.09368	19154.12700	5.400	2086.16916	2227.51599	2322.59587
CR	52	254.97950	164661.55700	4.800	245.85645	250.30154	268.78051
FE	57	2365.70690	28173.62000	3.100	2302.22637	2348.91425	2445.98009
K	39	2401.53390	46068.56700	5.100	2294.12204	2376.13025	2534.34941
MG	24	2287.73440	76393.79300	4.200	2211.46082	2256.63312	2395.10925
MN	55	259.72655	53828.36000	5.700	251.93198	250.37238	276.87530
NA	23	2363.20975	197338.75300	6.100	2233.77974	2337.73230	2518.11721
TI	47	226.70724	2260.30300	1.100	228.84182	227.35624	223.92366
V	51	256.50831	127250.76000	4.500	244.73590	257.13266	267.65635
GE-1	72	61584.92300	0.00000	0.000	61661.34000	61411.36000	61682.07000
AG	107	25.19934	41734.01700	1.200	25.16994	25.50303	24.92507
CA	44	2580.80592	2837.14000	8.200	2746.49198	2342.32076	2653.60503
CD	111	24.60716	3612.52700	4.000	23.51312	25.45517	24.85320
SB	121	25.53173	9667.39000	3.800	24.49980	26.45409	25.64129
IN-1	115	21092.89300	0.00000	0.000	21109.06000	20623.80000	21545.82000
AS	75	271.23679	18737.10000	3.200	272.06188	279.53331	262.11517
BA	137	276.79666	28282.05700	5.700	262.51915	293.87388	273.99695
CO	59	268.57710	338714.83700	3.300	268.34500	277.45708	259.92923
CU	63	264.81697	298683.35300	2.700	264.82481	271.94711	257.67901
MO	98	27.54377	20974.07300	0.600	27.39359	27.71612	27.52161
NI	60	267.07891	100467.69700	3.900	265.90601	277.99209	257.33863
SN	120	28.38450	10867.12000	2.900	27.63413	28.25135	29.26801
SR	88	26.90980	5201.34000	8.900	29.44537	24.67233	26.61170
ZN	66	270.51564	26751.01700	6.000	265.58570	288.73959	257.22164
TB-1	159	117249.61700	0.00000	0.000	117993.38000	115591.32000	118164.15000
PB	208	26.14062	111316.21700	1.300	26.17439	26.45373	25.79374
TL	203	26.63753	33830.50300	4.400	25.75978	27.96026	26.19253
BI-1	209	94315.73000	0.00000	0.000	94238.50000	94873.48000	93835.21000
U	238	24.44158	129240.77000	0.900	24.68726	24.33387	24.30360

Run Name: 1833202E05 Date/Time: 11/28/2018 7:20:33
Tube Number: 64
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16707.69700	0.00000	0.000	16771.19000	16540.76000	16811.14000
AL	27	-1.29011	23.33300	0.000	-1.68480	-1.65248	-0.53305
CR	52	0.34282	570.04300	29.800	0.38674	0.22616	0.41557
FE	57	2.45124	50.00300	137.200	-0.93476	2.49611	5.79236
K	39	13.25057	3170.56700	59.500	19.26246	16.15805	4.33119
MG	24	1.18335	66.67000	152.900	3.08640	-0.51505	0.97871
MN	55	0.01062	40.00000	912.600	0.10662	0.01250	-0.08725
NA	23	61.09923	33775.55300	28.700	61.03346	43.57550	78.68874
TI	47	0.34052	3.33300	173.200	0.00000	1.02156	0.00000
V	51	0.01893	23.33300	122.300	0.03236	-0.00780	0.03221
GE-1	72	61407.73700	0.00000	0.000	61350.92000	61160.20000	61712.09000
AG	107	0.00781	20.00000	134.300	-0.00430	0.01394	0.01378
CA	44	-2.31715	30.00300	0.000	25.43109	-20.74208	-11.64048
CD	111	0.00325	3.33300	481.100	-0.00580	-0.00576	0.02133
SB	121	-0.01678	120.01000	0.000	0.09083	-0.04256	-0.09862
IN-1	115	21382.46000	0.00000	0.000	21405.05000	21676.03000	21066.30000
AS	75	0.04116	12.66700	222.900	0.14549	-0.02712	0.00513
BA	137	-0.03346	3.33300	0.000	-0.06611	-0.06611	0.03185
CO	59	0.00107	20.00000	1927.400	0.02454	-0.00680	-0.01452
CU	63	0.23218	693.39000	41.600	0.30805	0.26497	0.12351
MO	98	0.00368	50.00000	711.300	0.02943	-0.02293	0.00454
NI	60	0.08953	56.66700	58.500	0.07238	0.14833	0.04788
SN	120	0.06476	413.38700	423.700	0.34969	0.04224	-0.19767
SR	88	-0.03710	3.33300	0.000	-0.05442	-0.05442	-0.00248
ZN	66	0.08438	33.33300	73.900	0.05027	0.04653	0.15633
TB-1	159	115997.46700	0.00000	0.000	115489.43000	113351.80000	119151.17000
PB	208	-0.05139	773.38700	0.000	-0.05155	-0.04070	-0.06191
TL	203	0.00258	10.00000	536.800	0.01856	-0.00541	-0.00541
BI-1	209	93469.30700	0.00000	0.000	90240.03000	97019.20000	93148.69000
U	238	-0.00006	10.00000	0.000	-0.00198	-0.00198	0.00377

Run Name: 1833202E05
Tube Number: 65
Sample Number: **9884808**

Date/Time: 11/28/2018 7:22:19
Batch: 183121063701A
Class: **********

Initial Vol: 1.28 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18169.55300	0.00000	0.000	18292.99000	18022.84000	18192.83000
AL	27	42550.06375	397413.30000	1.400	41915.90484	42611.58241	43122.70399
CR	52	69.74122	48932.63000	1.500	68.75715	70.78255	69.68395
FE	57	71988.80416	925067.40700	2.000	70357.47267	72901.42293	72707.51687
K	39	3404.77535	69231.76000	1.200	3360.15858	3410.95332	3443.21416
MG	24	8459.11279	305050.69700	0.700	8450.49386	8520.31433	8406.53018
MN	55	899.16342	201269.53300	0.600	893.28158	902.09080	902.11788
NA	23	270.19081	52747.94000	7.400	254.57166	292.90003	263.10076
TI	47	2888.31497	31053.43300	2.700	2811.35661	2967.22633	2886.36195
V	51	89.75272	48109.57000	1.500	90.55228	90.51534	88.19055
GE-1	72	62378.83300	0.00000	0.000	62174.57000	63389.51000	61572.42000
AG	107	0.59603	1006.76000	2.500	0.61187	0.58247	0.59374
CA	44	4634.62941	5134.60300	8.300	5039.89852	4584.90882	4279.08088
CD	111	0.55521	85.33300	20.200	0.68272	0.47059	0.51232
SB	121	0.79487	430.02300	33.500	0.90686	0.98698	0.49076
IN-1	115	21347.96700	0.00000	0.000	21582.70000	21960.13000	20501.07000
AS	75	31.15069	2186.20000	4.900	29.48883	31.51085	32.45241
BA	137	126.47679	13083.93000	2.100	126.89423	123.58237	128.95378
CO	59	27.56536	35203.83300	1.900	27.72342	26.97127	28.00138
CU	63	87.86373	100525.70000	4.100	87.28171	84.54508	91.76441
MO	98	4.71271	3667.37300	4.900	4.72429	4.47769	4.93616
NI	60	51.52406	19614.99700	9.100	54.08330	46.12343	54.36544
SN	120	9.29613	3854.13000	10.200	8.72995	8.77040	10.38803
SR	88	35.75282	6982.22300	4.000	34.27529	35.82863	37.15455
ZN	66	283.20906	28330.71000	5.600	276.09273	272.12081	301.41363
TB-1	159	126578.03300	0.00000	0.000	124714.96000	126837.74000	128181.40000
PB	208	186.55425	850981.49000	1.200	188.57267	187.08247	184.00761
TL	203	0.62251	860.07700	13.600	0.69039	0.64963	0.52752
BI-1	209	98689.67300	0.00000	0.000	97280.20000	99438.81000	99350.01000
U	238	8.14873	45108.12700	3.900	7.78848	8.26923	8.38847

Run Name: 1833202E05
Tube Number: 66
Sample Number: **9884813**

Date/Time: 11/28/2018 7:24:05
Batch: 183121063701A
Class: **********

Initial Vol: 1.36 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	18102.82000	0.00000	0.000	18543.39000	17181.78000	18583.29000
AL	27	48742.18921	452942.57000	4.800	47211.80549	51457.49303	47557.26911
CR	52	49.20750	34484.82300	3.600	49.59466	50.76552	47.26232
FE	57	66991.53112	856668.86700	4.400	65930.96740	70327.41731	64716.20865
K	39	2333.40206	48215.27300	4.700	2308.08462	2452.59406	2239.52751
MG	24	5331.59109	191300.89700	4.900	5154.74279	5633.44926	5206.58122
MN	55	349.51770	77873.65300	4.900	348.29254	367.30201	332.95855
NA	23	203.71090	47429.16300	12.100	196.12552	231.33705	183.67014
TI	47	2588.29695	27692.45700	5.000	2468.32843	2725.09372	2571.46869
V	51	166.67539	88892.75300	4.200	162.93312	174.69287	162.40019
GE-1	72	61207.40300	0.00000	0.000	60157.50000	60537.26000	62927.45000
AG	107	1.63967	2700.43700	11.800	1.80121	1.69161	1.42619
CA	44	2317.85711	2530.38000	13.200	2617.93804	2329.73324	2005.90005
CD	111	0.24236	38.00000	32.000	0.27361	0.29951	0.15396
SB	121	1.27731	600.04700	16.500	1.49655	1.07670	1.25868
IN-1	115	20406.70700	0.00000	0.000	20360.59000	20086.28000	20773.25000
AS	75	25.44586	1709.46000	2.200	25.59750	25.91858	24.82150
BA	137	89.88920	8890.17300	5.500	93.22255	92.23394	84.21111
CO	59	11.57819	14148.07300	1.500	11.60248	11.73625	11.39583
CU	63	44.32989	48718.76300	2.900	45.35184	44.72275	42.91507
MO	98	4.74384	3530.67700	6.300	4.52057	5.08090	4.63006
NI	60	33.50845	12216.09000	7.600	31.01014	36.07087	33.44434
SN	120	13.08548	5047.94000	4.400	12.99280	12.55879	13.70484
SR	88	33.15899	6195.13000	8.500	36.38966	31.11001	31.97730
ZN	66	127.20214	12196.09000	3.900	122.38827	126.93328	132.28488
TB-1	159	121021.50000	0.00000	0.000	119758.81000	121658.03000	121647.66000
PB	208	231.48730	1009415.08000	0.600	233.21030	230.60811	230.64349
TL	203	0.77001	1016.77300	4.100	0.75002	0.75340	0.80660
BI-1	209	102805.11700	0.00000	0.000	104237.14000	102533.87000	101644.34000
U	238	3.80216	21920.80300	4.200	3.67215	3.98073	3.75359

Run Name: 1833202E05
Tube Number: 67
Sample Number: **9884814**

Date/Time: 11/28/2018 7:25:52
Batch: 183121063701A
Class: **********

Initial Vol: 1.44 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17094.95000	0.00000	0.000	16851.24000	17241.73000	17191.88000
AL	27	39318.51710	345479.50000	1.600	40037.00125	38842.25386	39076.29619
CR	52	33.70222	22432.83700	1.200	34.08056	33.26627	33.75983
FE	57	39731.60229	480352.12700	1.500	40406.02533	39415.24529	39373.53625
K	39	1531.18557	30939.30300	3.900	1590.22262	1533.61420	1469.71990
MG	24	2333.26240	79180.74000	1.000	2360.68323	2322.21938	2316.88459
MN	55	136.81456	28841.91300	2.100	140.02665	134.35065	136.06637
NA	23	335.67268	54344.39700	8.100	365.75904	328.68058	312.57842
TI	47	1763.41709	17832.60700	6.000	1875.48983	1747.66679	1667.09465
V	51	109.89889	55421.03700	2.100	110.40459	111.94879	107.34330
GE-1	72	61990.12300	0.00000	0.000	63239.06000	61581.89000	61149.42000
AG	107	1.09800	1836.90700	10.900	1.04852	1.23395	1.01153
CA	44	1157.11738	1296.81300	13.100	1000.80099	1304.70309	1165.84805
CD	111	0.61702	94.00000	5.200	0.63107	0.58041	0.63957
SB	121	1.36371	640.06000	7.200	1.25081	1.42742	1.41291
IN-1	115	20605.40000	0.00000	0.000	20217.80000	21517.74000	20080.66000
AS	75	13.45030	916.04300	4.800	13.99755	12.74599	13.60735
BA	137	77.08056	7692.72700	5.800	81.31820	72.36939	77.55408
CO	59	8.49458	10464.57000	8.700	9.00272	7.64161	8.83943
CU	63	37.67176	41856.20000	4.200	39.48714	36.68637	36.84176
MO	98	3.99300	3007.19000	9.500	4.42933	3.82254	3.72712
NI	60	23.13934	8513.13000	6.700	23.93221	21.36208	24.12374
SN	120	11.33126	4454.31300	7.300	11.76352	10.37928	11.85098
SR	88	21.70908	4104.18700	5.100	21.21718	22.98387	20.92619
ZN	66	79.98130	7745.89300	2.600	79.53983	78.19264	82.21142
TB-1	159	119789.86700	0.00000	0.000	119307.00000	120516.63000	119545.97000
PB	208	170.04992	734264.88000	0.400	169.53236	169.77998	170.83740
TL	203	0.82194	1073.44700	12.300	0.78385	0.74526	0.93670
BI-1	209	98877.46700	0.00000	0.000	99931.87000	97663.72000	99036.81000
U	238	2.63948	14639.64000	2.300	2.57010	2.67559	2.67274

Run Name: 1833202E05
Tube Number: 68
Sample Number: **9884815**

Date/Time: 11/28/2018 7:27:39
Batch: 183121063701A
Class: **********

Initial Vol: 1.07 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17762.44300	0.00000	0.000	17041.41000	17642.25000	18603.67000
AL	27	30977.64623	282488.79700	4.600	32474.32146	30825.31085	29633.30638
CR	52	41.34487	28484.39000	3.400	42.76186	41.33223	39.94052
FE	57	55875.05346	701151.21700	4.000	58165.23838	55798.90861	53661.01339
K	39	4368.46877	85908.68300	2.100	4422.71960	4419.70936	4262.97734
MG	24	8024.36621	282614.16300	3.700	8357.11180	7929.34889	7786.63795
MN	55	811.12305	177367.74000	2.600	827.27302	818.95652	787.13959
NA	23	309.05171	54417.71000	10.300	342.06275	306.20786	278.88453
TI	47	2635.60752	27665.84700	4.800	2750.51000	2656.81227	2499.50030
V	51	53.99999	28250.74700	6.300	57.27838	54.19098	50.53060
GE-1	72	60507.45700	0.00000	0.000	60797.87000	59151.68000	61572.82000
AG	107	0.50424	826.74300	16.900	0.58912	0.50503	0.41855
CA	44	6818.62418	7308.98000	2.300	6749.63716	6995.83554	6710.39984
CD	111	0.45183	68.00000	14.900	0.39481	0.43473	0.52595
SB	121	0.49567	306.68700	34.200	0.69109	0.38544	0.41048
IN-1	115	20536.00700	0.00000	0.000	20539.70000	20514.38000	20553.94000
AS	75	15.79068	1071.38700	4.000	15.17344	15.75797	16.44062
BA	137	97.68992	9727.47700	2.000	96.63113	99.97339	96.46524
CO	59	20.05023	24646.83000	2.100	19.57096	20.28905	20.29070
CU	63	38.75705	42926.41700	0.900	38.35053	39.03016	38.89046
MO	98	2.70567	2046.95700	0.200	2.70971	2.69954	2.70776
NI	60	32.38384	11885.77300	0.900	32.18649	32.71888	32.24613
SN	120	9.41312	3757.71700	17.200	9.95060	7.59530	10.69345
SR	88	26.23466	4934.51000	5.600	24.72009	26.35161	27.63228
ZN	66	237.34340	22873.85000	2.500	238.41404	230.89635	242.71982
TB-1	159	122994.77700	0.00000	0.000	124142.79000	122830.36000	122011.18000
PB	208	120.22146	533270.75700	1.300	119.09547	119.60669	121.96223
TL	203	0.43977	593.39000	8.800	0.45564	0.46808	0.39559
BI-1	209	96011.76300	0.00000	0.000	94993.93000	95760.08000	97281.28000
U	238	4.59591	24742.79700	3.100	4.75783	4.52561	4.50431

Run Name: 1833202E05 Date/Time: 11/28/2018 7:29:25
Tube Number: 69 Batch: 183121063701A
Sample Number: **9887200** Class: **********

Initial Vol: 1.35 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16984.84300	0.00000	0.000	16731.39000	16821.31000	17401.83000
AL	27	15782.87006	137750.18000	3.800	16267.97269	15976.83387	15103.80363
CR	52	12.85396	8723.29700	1.400	12.68494	12.83141	13.04554
FE	57	5712.55739	68621.71300	2.600	5773.51428	5820.44271	5543.71520
K	39	1352.04862	27485.54000	4.800	1424.91687	1332.75854	1298.47045
MG	24	757.30332	25544.83000	2.800	776.03015	761.66997	734.20983
MN	55	55.31016	11605.50700	3.900	54.81846	57.66532	53.44669
NA	23	454.59806	62514.67300	4.100	471.20414	458.10183	434.48819
TI	47	500.66672	5024.55700	13.300	572.78168	487.30852	441.90995
V	51	35.62561	17849.16700	4.500	36.09023	36.94628	33.84032
GE-1	72	61662.18300	0.00000	0.000	61954.02000	60848.30000	62184.23000
AG	107	0.44387	743.40300	24.000	0.56605	0.39303	0.37252
CA	44	2114.22237	2333.67300	14.100	2458.78885	1935.68705	1948.19122
CD	111	0.53852	82.00000	8.100	0.52260	0.50485	0.58810
SB	121	0.77653	416.69700	31.400	0.72510	1.04235	0.56215
IN-1	115	21503.62700	0.00000	0.000	21959.22000	21710.10000	20841.56000
AS	75	3.70983	270.67300	19.000	2.91939	4.27675	3.93336
BA	137	55.04452	5738.27700	4.000	52.95403	54.79781	57.38173
CO	59	2.20383	2843.79300	19.000	1.80534	2.16510	2.64106
CU	63	8.89580	10641.32000	3.700	8.64068	8.77872	9.26800
MO	98	1.48871	1200.12300	15.200	1.64545	1.23022	1.59046
NI	60	8.38991	3243.91300	6.200	8.97943	8.17912	8.01119
SN	120	7.83171	3340.63000	2.900	7.99015	7.93567	7.56932
SR	88	37.96733	7465.81000	5.500	36.97701	36.54461	40.38036
ZN	66	41.28384	4184.21000	8.400	42.89087	37.29232	43.66834
TB-1	159	121837.02700	0.00000	0.000	120347.45000	121485.94000	123677.69000
PB	208	140.47140	617027.79700	1.200	141.81411	140.96284	138.63725
TL	203	0.30550	410.03300	18.500	0.29374	0.36693	0.25582
BI-1	209	99840.65000	0.00000	0.000	99376.88000	100314.47000	99830.60000
U	238	2.14538	12019.84000	2.800	2.10467	2.21491	2.11656

Run Name: 1833202E05
Tube Number: 70
Sample Number: **9887201**

Date/Time: 11/28/2018 7:31:12
Batch: 183121063701A
Class: **********

Initial Vol: 1.39 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16707.70700	0.00000	0.000	16801.31000	16680.86000	16640.95000
AL	27	12958.40104	111315.89000	1.700	12841.41173	12821.12634	13212.66505
CR	52	15.64869	10367.97000	3.400	15.45906	15.23041	16.25659
FE	57	6108.20265	72199.00000	1.200	6029.38114	6174.38771	6120.83911
K	39	4097.13605	76011.58300	0.600	4072.20336	4120.33294	4098.87185
MG	24	1433.38086	47556.45300	0.800	1447.00455	1425.30535	1427.83268
MN	55	59.02379	12182.76700	4.700	55.84757	60.73398	60.48983
NA	23	1020.47947	101405.41700	2.300	996.08958	1022.78358	1042.56525
TI	47	491.50906	4857.83700	13.800	428.53193	482.29472	563.70053
V	51	29.67770	14638.60700	2.900	30.56478	28.83220	29.63613
GE-1	72	62724.46300	0.00000	0.000	62638.39000	64154.56000	61380.44000
AG	107	0.61081	1036.76300	4.300	0.61919	0.58126	0.63197
CA	44	4800.14958	5341.36300	7.000	4549.74331	4671.29425	5179.41117
CD	111	0.55462	86.00000	18.400	0.57029	0.64796	0.44559
SB	121	1.43810	676.72700	15.500	1.18710	1.61343	1.51376
IN-1	115	21747.14700	0.00000	0.000	21613.81000	22430.51000	21197.12000
AS	75	4.53412	332.01000	15.700	4.29643	3.97154	5.33439
BA	137	62.44697	6578.78300	9.300	67.84477	56.25841	63.23773
CO	59	1.32638	1740.21000	12.800	1.30059	1.17070	1.50785
CU	63	17.82948	21130.75300	4.200	17.78618	17.10825	18.59402
MO	98	1.40009	1143.45000	12.100	1.26169	1.34967	1.58892
NI	60	8.48622	3310.60700	7.400	8.78657	7.76460	8.90750
SN	120	7.85479	3383.97700	3.000	7.92287	7.59649	8.04502
SR	88	32.64855	6491.94000	8.000	31.54161	30.78126	35.62277
ZN	66	332.26767	33880.54700	3.400	328.62114	323.41560	344.76627
TB-1	159	123070.15700	0.00000	0.000	123071.82000	123158.89000	122979.76000
PB	208	112.26429	498380.51700	0.700	112.77415	111.30784	112.71088
TL	203	0.32213	436.69700	5.900	0.32462	0.30190	0.33988
BI-1	209	98584.10000	0.00000	0.000	98974.87000	97138.27000	99639.16000
U	238	1.92368	10638.55000	4.900	1.84261	2.02641	1.90201

Run Name: 1833202E05
Tube Number: 71
Sample Number: **9887202**

Date/Time: 11/28/2018 7:32:59
Batch: 183121063701A
Class: **********

Initial Vol: 1.23 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17545.57300	0.00000	0.000	18493.54000	16841.56000	17301.62000
AL	27	48852.61026	440081.76300	3.900	46632.86386	49899.58281	50025.38411
CR	52	53.13465	36072.47700	2.000	51.99352	53.29484	54.11558
FE	57	63029.39555	781486.47300	4.000	60522.03851	63009.63042	65556.51773
K	39	3911.22665	76266.50000	3.900	3745.10651	3944.20554	4044.36790
MG	24	8428.51984	293195.39700	3.700	8069.24596	8552.95192	8663.36166
MN	55	1318.46144	284674.78000	3.400	1266.88575	1345.44165	1343.05692
NA	23	277.56327	51402.93000	13.000	237.11808	306.86527	288.70647
TI	47	3181.19726	33024.43700	0.700	3154.52275	3197.42689	3191.64216
V	51	97.91842	50629.22700	4.700	93.30702	97.91807	102.53016
GE-1	72	61150.49700	0.00000	0.000	62395.92000	59845.67000	61209.90000
AG	107	0.49243	816.73700	6.700	0.47258	0.47426	0.53044
CA	44	4512.09571	4897.84000	4.900	4258.55397	4611.89603	4665.83712
CD	111	0.52060	78.66700	8.300	0.49185	0.49961	0.57034
SB	121	0.84167	436.70000	32.800	0.61189	1.14816	0.76496
IN-1	115	20756.18300	0.00000	0.000	20998.54000	20262.39000	21007.62000
AS	75	14.47480	992.71300	7.000	13.35544	15.35288	14.71608
BA	137	168.79464	16982.02000	3.300	162.79749	169.93748	173.64894
CO	59	22.53386	28000.15000	3.200	23.36335	22.15336	22.08486
CU	63	59.55910	66444.51300	0.900	59.59528	60.04893	59.03311
MO	98	3.76010	2860.47000	8.800	3.81271	3.40533	4.06227
NI	60	46.76650	17341.83300	1.400	47.43653	46.14243	46.72053
SN	120	9.46465	3814.09700	4.800	9.13771	9.98693	9.26930
SR	88	41.58193	7892.75300	7.800	37.99286	44.34661	42.40633
ZN	66	233.78608	22766.86700	3.600	238.79367	238.62276	223.94180
TB-1	159	121508.33000	0.00000	0.000	123230.82000	120242.63000	121051.54000
PB	208	106.36005	466180.30300	2.800	103.96509	105.37101	109.74406
TL	203	0.78202	1036.77000	6.200	0.81864	0.80073	0.72669
BI-1	209	95547.76700	0.00000	0.000	96324.69000	92525.15000	97793.46000
U	238	6.68803	35821.09000	2.100	6.71213	6.81573	6.53624

Run Name: 1833202E05
Tube Number: 72
Sample Number: **9887203**

Date/Time: 11/28/2018 7:34:46
Batch: 183121063701A
Class: **********

Initial Vol: 1.09 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17441.90000	0.00000	0.000	17402.06000	16570.61000	18353.03000
AL	27	57024.68784	510461.88000	4.800	56521.87965	59969.19987	54582.98400
CR	52	54.52893	36727.46300	6.600	54.65799	58.05874	50.87007
FE	57	66309.34598	816517.02000	5.500	67051.61444	69512.18660	62364.23691
K	39	2730.35243	53844.08700	3.400	2743.72333	2816.39063	2630.94333
MG	24	6625.79512	228956.20700	5.400	6631.99626	6982.55126	6262.83783
MN	55	433.09365	92937.79700	5.100	444.76932	446.86822	407.64342
NA	23	174.29070	43499.66700	19.300	176.01130	207.07989	139.78091
TI	47	3046.35623	31373.68300	6.700	3074.91756	3234.34970	2829.80142
V	51	110.11986	56525.24700	7.000	109.50880	118.14766	102.70312
GE-1	72	60871.74700	0.00000	0.000	60205.37000	60537.41000	61872.46000
AG	107	0.52807	870.07700	17.200	0.62585	0.51181	0.44656
CA	44	1436.38595	1573.51300	10.800	1608.27295	1393.29847	1307.58643
CD	111	0.20555	32.66700	24.800	0.14786	0.24403	0.22477
SB	121	0.90405	460.04000	28.300	0.67389	0.85892	1.17935
IN-1	115	20841.43300	0.00000	0.000	21008.48000	21060.96000	20454.86000
AS	75	16.31029	1122.05700	6.500	15.38407	16.07046	17.47634
BA	137	95.29185	9627.44700	2.600	93.59043	94.13998	98.14514
CO	59	11.11148	13877.83700	5.300	11.29999	11.58166	10.45280
CU	63	40.60536	45614.89000	2.500	41.10723	39.42550	41.28335
MO	98	3.73271	2850.45700	6.800	3.79768	3.94630	3.45415
NI	60	30.56864	11388.81700	2.900	29.83845	31.54846	30.31900
SN	120	7.17622	2993.96300	11.100	6.76755	6.66589	8.09523
SR	88	24.05451	4591.04300	4.700	24.58447	22.75605	24.82301
ZN	66	131.60251	12876.77700	5.100	124.70427	131.99564	138.10760
TB-1	159	119060.20300	0.00000	0.000	118257.08000	119333.41000	119590.12000
PB	208	188.33490	808123.90300	1.300	190.27020	189.19957	185.53492
TL	203	0.80379	1043.44300	11.200	0.88452	0.70630	0.82057
BI-1	209	97891.13000	0.00000	0.000	97098.45000	98206.84000	98368.10000
U	238	4.45390	24455.85000	2.700	4.32147	4.48016	4.56007

Run Name: 1833202E05
Tube Number: 73
Sample Number: **9887204**

Date/Time: 11/28/2018 7:36:33
Batch: 183121063701A
Class: **********

Initial Vol: 1.16 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17845.74300	0.00000	0.000	17752.34000	18042.61000	17742.28000
AL	27	37233.27724	341581.52000	0.700	37378.85370	37394.11810	36926.85991
CR	52	45.62639	31571.15700	2.100	46.71489	44.85240	45.31190
FE	57	57151.29052	721361.31700	0.400	57275.33467	56911.55386	57266.98301
K	39	2806.79492	56614.92700	2.500	2810.30614	2875.54373	2734.53490
MG	24	6952.23663	246235.11700	1.200	6984.66491	6860.15621	7011.88878
MN	55	772.81648	169914.45000	0.200	774.64323	772.75508	771.05112
NA	23	252.52618	50479.69300	4.900	263.66861	239.37799	254.53194
TI	47	2263.54476	23905.17700	3.400	2346.61176	2250.66907	2193.35345
V	51	64.86342	34153.92700	2.300	63.23428	65.17425	66.18174
GE-1	72	61348.61700	0.00000	0.000	60478.31000	61402.29000	62165.25000
AG	107	0.40657	676.72300	23.800	0.51231	0.32280	0.38460
CA	44	3269.90824	3574.02300	11.600	3194.51504	2933.61902	3681.59066
CD	111	0.46846	71.33300	4.700	0.45253	0.45910	0.49374
SB	121	0.34940	256.68300	36.000	0.23327	0.33202	0.48290
IN-1	115	20951.20700	0.00000	0.000	20486.89000	20560.34000	21806.39000
AS	75	18.14784	1252.74000	8.200	19.71463	17.98017	16.74873
BA	137	94.42147	9590.71700	5.100	99.50291	89.90472	93.85676
CO	59	21.50088	26934.72700	4.500	22.09886	22.01175	20.39203
CU	63	65.19912	73276.02000	6.700	66.74178	68.59063	60.26496
MO	98	3.53954	2720.44000	8.500	3.69266	3.19303	3.73292
NI	60	35.87530	13410.72000	6.600	36.78896	37.66678	33.17015
SN	120	9.02116	3674.83700	21.700	9.14303	10.91545	7.00500
SR	88	29.20032	5594.84000	6.500	31.19572	29.00806	27.39716
ZN	66	191.28342	18780.60300	7.100	201.38074	196.71174	175.75778
TB-1	159	124780.59000	0.00000	0.000	123475.12000	127037.42000	123829.23000
PB	208	125.67128	565438.91000	1.800	128.00832	123.63529	125.37023
TL	203	0.49532	676.72300	14.500	0.57026	0.48873	0.42698
BI-1	209	97593.85300	0.00000	0.000	98835.45000	99971.79000	93974.32000
U	238	6.24391	34145.85300	3.600	6.09981	6.12888	6.50303

Run Name: 1833202E05
Tube Number: 74
Sample Number: **9887204**

Date/Time: 11/28/2018 7:38:20
Batch: 183121063701A
Class: **********

Initial Vol: 1.16 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16924.63300	0.00000	0.000	16640.90000	17461.85000	16671.15000
AL	27	3938.52504	34283.75300	4.000	4122.45525	3842.51519	3850.60469
CR	52	5.03891	3617.35700	8.700	5.33517	4.53533	5.24621
FE	57	6178.40678	73952.55700	2.300	6183.24990	6035.86517	6316.10528
K	39	325.76222	8856.73000	14.300	374.38272	321.14302	281.76091
MG	24	728.89676	24499.48700	2.400	741.73055	709.11903	735.84070
MN	55	83.00414	17322.02000	6.800	88.33207	77.09514	83.58520
NA	23	49.65435	33374.80000	23.500	58.37212	36.37525	54.21569
TI	47	247.78921	2480.36000	3.700	248.81048	238.08448	256.47267
V	51	6.79899	3400.63300	13.700	6.77855	5.87576	7.74267
GE-1	72	61300.95700	0.00000	0.000	61873.08000	61793.17000	60236.62000
AG	107	0.05632	100.01000	59.200	0.09189	0.02580	0.05128
CA	44	424.75931	490.03700	40.200	354.76251	300.21635	619.29906
CD	111	0.02161	6.00000	63.000	0.00765	0.03486	0.02233
SB	121	-0.19637	53.33300	0.000	-0.15254	-0.15230	-0.28427
IN-1	115	21041.26700	0.00000	0.000	20741.73000	20990.67000	21391.40000
AS	75	1.64204	122.66700	21.300	2.00955	1.31489	1.60168
BA	137	9.13201	936.75700	15.800	10.78013	8.09487	8.52103
CO	59	2.20458	2790.45300	9.800	2.45232	2.11234	2.04907
CU	63	6.78727	8046.19300	6.900	6.75830	7.27186	6.33166
MO	98	0.28204	260.01700	36.200	0.38034	0.17671	0.28906
NI	60	3.94855	1503.50300	10.500	4.37397	3.54681	3.92486
SN	120	0.39280	526.70700	43.300	0.58667	0.26805	0.32368
SR	88	2.89956	566.70700	25.200	3.69096	2.76041	2.24731
ZN	66	19.11744	1910.25300	2.600	19.49976	18.55389	19.29866
TB-1	159	115877.81700	0.00000	0.000	116129.13000	113955.96000	117548.36000
PB	208	13.38264	56793.85300	2.900	13.56800	13.64535	12.93457
TL	203	0.03986	56.67000	84.200	0.00254	0.06750	0.04956
BI-1	209	94697.85300	0.00000	0.000	94530.40000	93229.53000	96333.63000
U	238	0.67863	3614.11700	5.300	0.63974	0.68507	0.71108

Run Name: 1833202E05 Date/Time: 11/28/2018 7:40:05
Tube Number: 75
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16610.86000	0.00000	0.000	15559.43000	17201.56000	17071.59000
AL	27	2346.27034	20035.47000	4.300	2461.08306	2267.65929	2310.06866
CR	52	250.89920	159683.05700	6.300	268.50990	238.17674	246.01095
FE	57	2282.65383	26774.06000	7.400	2461.52965	2259.29549	2127.13635
K	39	2391.83874	45239.11300	6.000	2556.35208	2296.64184	2322.52230
MG	24	2332.89008	76783.71000	5.400	2472.77269	2228.61062	2297.28692
MN	55	255.41636	52104.35700	10.100	284.60751	235.72482	245.91676
NA	23	2348.02125	193391.75000	8.100	2568.20409	2240.13958	2235.72008
TI	47	248.02470	2427.03300	14.000	282.40501	213.19197	248.47712
V	51	254.07486	124229.20300	5.600	270.39643	245.50873	246.31942
GE-1	72	59587.12000	0.00000	0.000	61029.73000	59503.81000	58227.82000
AG	107	25.76177	41262.35300	3.000	25.00247	25.71221	26.57062
CA	44	2511.53009	2670.40700	7.100	2496.47220	2342.12172	2695.99635
CD	111	25.19898	3578.52300	2.300	24.55487	25.65084	25.39124
SB	121	25.54389	9350.48700	5.700	23.94621	25.89916	26.78629
IN-1	115	21239.73300	0.00000	0.000	20835.99000	22496.60000	20386.61000
AS	75	261.51417	18170.98300	4.600	264.47599	248.25907	271.80746
BA	137	269.05536	27664.13300	3.500	274.30341	258.09267	274.77000
CO	59	261.62735	331753.65700	5.700	268.84585	244.58888	271.44731
CU	63	253.61236	287629.50000	5.400	258.46083	238.24502	264.13121
MO	98	25.22015	19298.26300	6.800	25.45890	23.38925	26.81229
NI	60	258.56555	97843.03700	4.900	267.84549	244.20748	263.64367
SN	120	26.46757	10214.80300	6.300	25.34673	25.68608	28.36990
SR	88	26.75004	5204.64300	3.500	25.68121	27.13931	27.42960
ZN	66	260.23396	25872.55700	7.100	268.25298	239.12071	273.32819
TB-1	159	116433.91300	0.00000	0.000	114099.81000	119429.10000	115772.83000
PB	208	25.87249	109415.75300	1.000	25.88465	25.60629	26.12651
TL	203	26.48688	33412.79300	1.100	26.50906	26.19411	26.75748
BI-1	209	92965.13000	0.00000	0.000	92877.49000	97260.34000	88757.56000
U	238	24.42563	127182.62300	3.300	24.27255	23.71605	25.28828

Run Name: 1833202E05 Date/Time: 11/28/2018 7:41:52
Tube Number: 76
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16750.94000	0.00000	0.000	16860.98000	17041.34000	16350.50000
AL	27	-0.45132	30.00000	0.000	-4.00484	-2.86321	5.51409
CR	52	0.36353	583.37700	34.400	0.27339	0.31068	0.50653
FE	57	-1.48956	3.33300	0.000	-1.77780	-1.77780	-0.91307
K	39	11.53584	3147.21700	112.900	-3.39016	17.44549	20.55218
MG	24	0.37976	40.00000	72.900	0.37570	0.65873	0.10485
MN	55	-0.00696	36.66700	0.000	0.05692	0.00673	-0.08452
NA	23	53.76583	33327.98300	35.900	32.27774	59.43821	69.58154
TI	47	0.34448	3.33300	173.200	0.00000	0.00000	1.03345
V	51	0.04620	36.66700	69.300	0.01192	0.05129	0.07539
GE-1	72	60534.46300	0.00000	0.000	59915.36000	60296.38000	61391.65000
AG	107	0.00602	16.66700	157.300	0.01432	0.00804	-0.00430
CA	44	-14.35861	16.66700	0.000	-11.08963	-11.20919	-20.77702
CD	111	-0.01482	0.66700	0.000	-0.00548	-0.01949	-0.01949
SB	121	-0.10374	86.67300	0.000	-0.11892	-0.20233	0.01001
IN-1	115	21017.76000	0.00000	0.000	20504.24000	21144.65000	21404.39000
AS	75	0.05515	13.33300	161.500	0.15802	0.00459	0.00284
BA	137	-0.00104	6.66700	0.000	-0.06611	0.12909	-0.06611
CO	59	0.00669	26.66700	179.500	0.00995	-0.00661	0.01673
CU	63	0.06879	496.70300	168.300	0.14627	-0.06429	0.12439
MO	98	-0.02214	30.00000	0.000	-0.04781	-0.03509	0.01647
NI	60	0.13715	73.33700	29.800	0.13281	0.18006	0.09858
SN	120	0.47542	560.19000	197.400	0.04828	-0.17377	1.55176
SR	88	-0.00330	10.00000	0.000	-0.05442	-0.05442	0.09893
ZN	66	0.19126	43.33300	109.800	0.27147	-0.04693	0.34925
TB-1	159	111812.43300	0.00000	0.000	112435.34000	112001.58000	111000.38000
PB	208	-0.07779	640.04300	0.000	-0.07617	-0.07059	-0.08661
TL	203	0.01659	26.66700	57.200	0.01101	0.02755	0.01122
BI-1	209	91202.19700	0.00000	0.000	92433.52000	90068.51000	91104.56000
U	238	0.00129	16.66700	315.000	-0.00198	0.00000	0.00585

Run Name: 1833202E05
Tube Number: 77
Sample Number: **LCSW**

Date/Time: 11/28/2018 7:43:38
Batch: 183121063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	16600.76700	0.00000	0.000	17151.38000	15900.04000	16750.88000
AL	27	967.06916	8269.47000	8.200	918.49290	1058.43825	924.27633
CR	52	26.21084	17018.14700	2.600	25.56588	26.15875	26.90787
FE	57	512.51101	6028.32000	7.700	499.56947	556.81205	481.15152
K	39	5152.05248	94132.46300	3.900	5019.36818	5384.01780	5052.77146
MG	24	935.25176	30781.82300	7.500	888.88111	1016.05967	900.81452
MN	55	26.53672	5458.08700	4.300	25.90477	27.85573	25.84965
NA	23	4936.41795	374684.45000	4.600	4727.54391	5177.72735	4903.98260
TI	47	127.62447	1253.46300	7.900	134.00020	132.85393	116.01929
V	51	25.66731	12569.80300	4.100	24.45881	26.36432	26.17881
GE-1	72	60419.39000	0.00000	0.000	60536.43000	59341.62000	61380.12000
AG	107	25.56199	41526.85700	1.600	25.61248	25.93394	25.13955
CA	44	1913.03585	2070.27300	4.500	1936.46039	1985.56731	1817.07984
CD	111	2.44583	354.67700	13.300	2.79610	2.38588	2.15552
SB	121	3.01183	1226.79700	22.400	3.58159	3.18834	2.26556
IN-1	115	21187.11300	0.00000	0.000	21558.29000	20754.07000	21248.98000
AS	75	5.39404	383.34300	13.500	4.61946	6.06920	5.49348
BA	137	26.51753	2730.46300	5.100	28.08256	25.89188	25.57817
CO	59	129.67876	164327.70000	1.600	127.84798	132.01458	129.17371
CU	63	26.22224	30094.84700	2.100	25.59376	26.52757	26.54537
MO	98	25.41353	19431.94700	4.500	24.33323	26.60444	25.30293
NI	60	26.65454	10094.33300	7.800	24.73024	26.39364	28.83974
SN	120	33.16503	12680.17700	4.200	32.41878	34.76238	32.31392
SR	88	20.95565	4067.53300	2.100	20.60547	21.45850	20.80297
ZN	66	260.16522	25859.17700	3.000	251.42424	262.82219	266.24924
TB-1	159	115275.11700	0.00000	0.000	116568.92000	116620.78000	112635.65000
PB	208	7.70503	32955.46700	0.800	7.66085	7.77918	7.67505
TL	203	1.02475	1286.80300	1.900	1.03203	1.03951	1.00269
BI-1	209	91319.57000	0.00000	0.000	90309.50000	92584.90000	91064.31000
U	238	0.00390	30.00000	51.900	0.00592	0.00188	0.00390

Run Name: 1833202E05
Tube Number: 78
Sample Number: **LCSW**

Date/Time: 11/28/2018 7:45:25
Batch: 183121063701A
Class: **********

Initial Vol: 1.00 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17235.03000	0.00000	0.000	18142.96000	16690.95000	16871.18000
AL	27	956.75976	8506.39000	2.600	933.53637	954.45656	982.28634
CR	52	26.28559	17712.46300	4.000	25.95366	27.46068	25.44242
FE	57	524.34894	6405.18300	4.500	497.89670	532.03545	543.11467
K	39	5197.10040	98512.89300	5.000	4927.88846	5440.97685	5222.43590
MG	24	979.51014	33491.84300	3.900	936.00810	1006.94114	995.58118
MN	55	25.64990	5471.38300	9.000	23.22522	25.89419	27.83030
NA	23	4970.25729	391201.07300	6.700	4601.20991	5056.52605	5253.03591
TI	47	132.85307	1350.13300	11.900	114.56719	142.75854	141.23349
V	51	26.37145	13407.29300	3.200	25.45890	26.51703	27.13842
GE-1	72	64168.36300	0.00000	0.000	63863.49000	63532.51000	65109.09000
AG	107	25.42858	43871.11300	2.600	25.58134	26.00801	24.69638
CA	44	1970.10632	2263.65700	8.500	2162.46322	1897.24414	1850.61160
CD	111	2.45333	378.01000	2.500	2.50480	2.38579	2.46940
SB	121	2.76058	1206.78700	4.100	2.65468	2.87779	2.74927
IN-1	115	22264.13300	0.00000	0.000	21529.90000	22789.27000	22473.23000
AS	75	5.33696	398.67700	12.800	5.70363	4.54997	5.75727
BA	137	28.45878	3073.88700	6.400	30.51690	27.83088	27.02857
CO	59	132.42685	176255.83000	3.600	137.95588	129.71624	129.60842
CU	63	27.09071	32644.16700	3.400	27.95519	26.14232	27.17463
MO	98	26.72104	21471.87700	2.700	27.43897	26.71173	26.01240
NI	60	27.38057	10881.52700	8.100	29.79161	25.40940	26.94071
SN	120	33.94815	13619.28300	6.500	36.45842	32.24267	33.14335
SR	88	22.65287	4617.75000	5.700	23.22515	21.17040	23.56307
ZN	66	270.79925	28290.74300	0.200	270.41631	270.74856	271.23288
TB-1	159	122569.91000	0.00000	0.000	121363.96000	122587.53000	123758.24000
PB	208	7.59325	34540.68700	2.600	7.75925	7.64748	7.37301
TL	203	0.97383	1300.13700	2.200	0.99866	0.95851	0.96432
BI-1	209	99013.12700	0.00000	0.000	100917.10000	97490.62000	98631.66000
U	238	-0.00019	10.00000	0.000	0.00156	-0.00015	-0.00198

Run Name: 1833202E05
Tube Number: 79
Sample Number: **9887217**

Date/Time: 11/28/2018 7:47:12
Batch: 183121063702A
Class: M*********

Initial Vol: 1.06 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17986.02000	0.00000	0.000	18523.67000	17471.99000	17962.40000
AL	27	35539.18246	328433.19000	2.600	34533.96450	36327.05151	35756.53139
CR	52	94.73108	65629.25700	2.900	92.52298	97.84185	93.82842
FE	57	54280.72043	690184.15700	2.600	52681.40376	55455.95129	54704.80623
K	39	17414.42224	337303.27700	3.600	16714.47464	17937.32490	17591.46718
MG	24	11686.72400	417038.66300	1.900	11439.65584	11858.34033	11762.17584
MN	55	931.42879	206310.31700	2.000	910.89664	946.98238	936.40735
NA	23	9351.05699	740998.92000	3.400	9001.59070	9623.27803	9428.30225
TI	47	2540.07237	27024.83700	2.500	2468.31259	2584.80107	2567.10345
V	51	125.12494	66336.23300	4.000	119.68171	129.46402	126.22910
GE-1	72	62057.93300	0.00000	0.000	60457.32000	61521.88000	64194.60000
AG	107	49.80790	83069.24700	2.900	51.16091	49.93535	48.32743
CA	44	8861.60916	9737.26300	3.300	8570.23911	9149.78322	8864.80516
CD	111	4.49573	668.02300	9.400	4.64691	4.02027	4.82000
SB	121	4.58993	1856.89700	3.500	4.40453	4.69758	4.66769
IN-1	115	21202.10700	0.00000	0.000	21932.27000	20333.80000	21340.25000
AS	75	18.28457	1277.41000	6.300	17.65436	19.62384	17.57551
BA	137	200.61652	20597.39700	4.600	197.32745	211.01513	193.50697
CO	59	284.33882	360277.61000	3.700	275.33485	296.09685	281.58475
CU	63	89.86731	102120.20300	3.400	87.79207	93.36783	88.44202
MO	98	53.44025	40807.64700	5.300	50.94937	56.52201	52.84938
NI	60	91.65117	34662.19300	3.400	90.12647	95.27995	89.54708
SN	120	60.11578	22666.03000	5.700	56.91185	63.72798	59.70750
SR	88	75.24567	14568.71700	6.700	72.02184	81.02874	72.68644
ZN	66	726.04163	72130.41700	3.700	714.02729	756.47873	707.61888
TB-1	159	125355.23700	0.00000	0.000	125270.56000	125947.52000	124847.63000
PB	208	129.28441	584397.69300	2.200	130.24509	126.08566	131.52247
TL	203	2.70569	3682.39000	7.400	2.81734	2.82414	2.47559
BI-1	209	96033.71700	0.00000	0.000	96513.78000	94347.65000	97239.72000
U	238	9.75133	52504.74000	0.600	9.73566	9.82043	9.69791

Run Name: 1833202E05
Tube Number: 80
Sample Number: **9889378**

Date/Time: 11/28/2018 7:49:00
Batch: 183131063702A
Class: **********

Initial Vol: 1.05 Final Vol: 100.00 DF: 2.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17765.66700	0.00000	0.000	18383.04000	18413.14000	16500.82000
AL	27	35288.35896	321372.80000	6.900	33780.53031	34004.07844	38080.46813
CR	52	68.20346	46674.50000	6.700	65.82315	65.34533	73.44189
FE	57	193954.16063	2429721.42300	7.400	184974.94714	186426.72254	210460.81220
K	39	2342.13266	47410.09000	7.200	2224.38620	2265.85515	2536.15662
MG	24	6170.24905	217018.79300	6.200	5948.55078	5947.05245	6615.14393
MN	55	3346.98888	730407.61700	6.800	3207.85209	3224.31510	3608.79944
NA	23	438.69638	64011.63000	15.200	407.76591	393.23847	515.08476
TI	47	1958.26586	20499.70700	10.500	1847.16476	1831.29395	2196.33887
V	51	114.83280	60000.15300	7.300	110.79512	109.17138	124.53189
GE-1	72	63450.44700	0.00000	0.000	63168.95000	64133.30000	63049.09000
AG	107	0.86768	1486.83300	10.400	0.85538	0.78445	0.96323
CA	44	3571.27410	4030.81700	3.100	3667.48881	3452.73196	3593.60153
CD	111	1.61260	246.67300	1.600	1.64202	1.60388	1.59191
SB	121	5.86092	2387.02000	4.200	6.13188	5.80341	5.64748
IN-1	115	21811.53300	0.00000	0.000	22273.22000	21435.56000	21725.82000
AS	75	41.87939	3001.70300	0.800	42.25520	41.77456	41.60840
BA	137	125.17864	13234.14700	1.800	123.14348	127.57220	124.82024
CO	59	44.22146	57686.84700	3.600	42.43092	45.37379	44.85967
CU	63	116.13554	135708.84000	2.500	112.83572	117.54885	118.02205
MO	98	12.12073	9567.31300	5.100	11.83373	12.82987	11.69859
NI	60	44.87805	17482.10000	2.300	44.34023	46.04933	44.24458
SN	120	20.28761	8139.98700	4.100	19.40927	20.39497	21.05858
SR	88	35.97009	7182.34700	3.800	35.66847	34.76619	37.47560
ZN	66	305.55893	31264.11700	3.400	297.47629	301.82364	317.37685
TB-1	159	126749.11000	0.00000	0.000	126674.26000	128210.54000	125362.53000
PB	208	641.63357	2928290.37300	1.100	638.55900	636.92785	649.41388
TL	203	0.58945	816.74300	3.800	0.61404	0.57061	0.58370
BI-1	209	99318.08700	0.00000	0.000	98835.01000	100255.18000	98864.07000
U	238	6.62851	36917.40300	1.800	6.49997	6.64331	6.74225

Run Name: 1833202E05
Tube Number: 81
Sample Number: **9872060**

Date/Time: 11/28/2018 7:50:46
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 10.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17688.93700	0.00000	0.000	17982.63000	17952.50000	17131.68000
AL	27	7658.62600	69620.20300	4.000	7475.43073	7489.07271	8011.37455
CR	52	54.90107	37559.80300	3.500	53.41317	54.23360	57.05644
FE	57	147990.75365	1850357.05700	3.800	142721.83809	147403.48636	153846.93649
K	39	4395.02188	86073.45000	2.100	4307.33635	4387.89142	4489.83786
MG	24	5221.66396	183199.66000	4.300	5023.67132	5173.85578	5467.46478
MN	55	884.25004	192588.34300	3.500	854.17535	882.11500	916.45977
NA	23	528.10265	70569.58300	6.100	515.92454	503.70942	564.67399
TI	47	867.32247	9073.53700	6.100	806.51769	893.59761	901.85211
V	51	25.38184	13243.82000	7.500	23.23230	26.08840	26.82482
GE-1	72	64505.94300	0.00000	0.000	62968.53000	64546.50000	66002.80000
AG	107	3.89198	6755.46300	2.300	3.97192	3.90926	3.79475
CA	44	30356.11479	34561.95300	4.700	31001.78819	31352.45122	28714.10494
CD	111	8.53188	1314.08300	8.100	8.10129	9.33382	8.16054
SB	121	16.27251	6505.27000	3.300	15.83953	16.10832	16.86968
IN-1	115	21476.19700	0.00000	0.000	20648.99000	21467.50000	22312.10000
AS	75	29.84031	2108.19000	3.500	30.65112	28.65214	30.21766
BA	137	671.18282	69759.33300	5.300	709.09660	665.42164	639.03022
CO	59	13.22690	16998.15000	3.400	13.41806	13.55321	12.70941
CU	63	369.49112	423857.53300	4.200	384.98976	369.30458	354.17901
MO	98	7.32496	5714.89000	3.800	7.13296	7.64773	7.19420
NI	60	55.61661	21310.92000	3.900	58.08103	54.84522	53.92358
SN	120	947.53212	356317.64000	3.400	980.05280	946.56636	915.97720
SR	88	114.64814	22479.85300	6.200	121.07355	115.78955	107.08133
ZN	66	1466.44722	147578.10700	2.300	1496.83135	1473.49709	1429.01322
TB-1	159	121639.80700	0.00000	0.000	121655.22000	122898.00000	120366.20000
PB	208	1326.72921	5809679.31300	1.500	1312.56546	1317.96496	1349.65720
TL	203	0.21701	293.35300	16.300	0.19188	0.25748	0.20166
BI-1	209	101719.87000	0.00000	0.000	99246.73000	103693.51000	102219.37000
U	238	0.65441	3744.12700	5.400	0.62722	0.64154	0.69447

Run Name: 1833202E05
Tube Number: 82
Sample Number: **9872060**

Date/Time: 11/28/2018 7:52:33
Batch: 183041063701A
Class: **********

Initial Vol: 1.34 Final Vol: 100.00 DF: 20.00 Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17071.51000	0.00000	0.000	17872.52000	16440.78000	16901.23000
AL	27	3998.74661	35089.29700	4.300	3810.90680	4039.83171	4145.50131
CR	52	28.82250	19187.74000	5.100	27.65586	30.47782	28.33382
FE	57	73928.59058	891464.36000	4.700	70182.16174	76991.22952	74612.38047
K	39	2337.84739	45513.81300	7.600	2137.97724	2473.99659	2401.56836
MG	24	2747.22493	93036.75000	2.600	2663.51867	2790.62928	2787.52683
MN	55	473.53800	99465.69000	5.500	443.38959	487.29535	489.92906
NA	23	311.65484	52511.09700	6.800	289.56850	332.07300	313.32301
TI	47	434.24476	4380.96700	5.000	411.35257	454.37773	437.00398
V	51	13.58583	6855.46000	3.400	13.50296	13.17487	14.07968
GE-1	72	62717.15000	0.00000	0.000	63541.07000	62998.80000	61611.58000
AG	107	2.03714	3440.63000	6.000	1.99198	1.94418	2.17526
CA	44	15296.72294	16948.17000	7.300	14054.99897	15644.56634	16190.60352
CD	111	4.48582	673.36000	4.100	4.64514	4.52537	4.28694
SB	121	8.16994	3237.24000	3.100	8.01385	8.03322	8.46275
IN-1	115	21364.79000	0.00000	0.000	21205.29000	21553.37000	21335.71000
AS	75	16.06981	1134.06000	1.900	16.42092	15.92680	15.86171
BA	137	340.52090	35252.87700	3.400	353.04224	329.96075	338.55972
CO	59	6.75795	8653.28000	3.300	6.98912	6.54224	6.74250
CU	63	189.15964	216311.05700	0.500	188.01869	189.41421	190.04600
MO	98	3.89819	3047.18700	1.800	3.89280	3.82894	3.97284
NI	60	27.90551	10658.14000	3.100	27.49749	27.31243	28.90662
SN	120	471.35079	176669.39000	1.400	479.21789	467.65281	467.18165
SR	88	59.45400	11618.97300	3.300	61.73580	58.50191	58.12430
ZN	66	754.07715	75551.82700	0.700	756.62128	757.23420	748.37598
TB-1	159	118961.61700	0.00000	0.000	119364.30000	118216.38000	119304.17000
PB	208	668.52192	2863647.50000	2.300	651.32266	672.45648	681.78661
TL	203	0.14969	200.01300	18.200	0.15699	0.11953	0.17256
BI-1	209	98433.42300	0.00000	0.000	98168.21000	97503.01000	99629.05000
U	238	0.31414	1743.56300	6.600	0.31788	0.33286	0.29169

Run Name: 1833202E05 Date/Time: 11/28/2018 7:54:19
Tube Number: 83
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17084.74000	0.00000	0.000	17411.87000	17261.74000	16580.61000
AL	27	2285.83743	20082.16300	7.700	2158.54255	2213.46272	2485.50703
CR	52	257.34512	168746.66700	2.900	250.67330	255.91412	265.44792
FE	57	2431.05515	29399.85300	1.000	2457.42163	2413.96906	2421.77477
K	39	2489.48595	48373.33700	4.300	2432.11092	2423.65406	2612.69287
MG	24	2308.55112	78262.35300	3.500	2221.23758	2326.85130	2377.56449
MN	55	257.25641	54152.63300	2.600	255.06318	251.85058	264.85547
NA	23	2353.26607	199705.60700	2.900	2317.32259	2310.07008	2432.40553
TI	47	254.52970	2570.41000	7.000	243.62307	244.76597	275.20005
V	51	261.23240	131599.95700	1.800	257.50391	259.72665	266.46665
GE-1	72	63182.48000	0.00000	0.000	62184.62000	64334.29000	63028.53000
AG	107	25.43611	43206.06700	2.700	26.06819	24.68650	25.55366
CA	44	2480.81554	2800.44000	7.100	2458.69253	2666.30442	2317.44969
CD	111	25.28671	3807.92700	2.400	25.40864	24.63722	25.81429
SB	121	26.51572	10291.27300	6.000	26.65148	24.85212	28.04357
IN-1	115	22343.29000	0.00000	0.000	22389.80000	21841.39000	22798.68000
AS	75	264.08969	19329.88700	1.500	263.34673	268.47754	260.44479
BA	137	271.44569	29381.56300	3.400	272.07485	280.23665	262.02558
CO	59	258.24670	345056.37700	2.200	260.05568	262.82538	251.85904
CU	63	255.56258	305378.07000	2.100	254.50857	261.29546	250.88372
MO	98	25.79574	20803.91700	3.000	26.14637	26.32047	24.92038
NI	60	256.69583	102335.86300	0.800	258.18559	257.63406	254.26783
SN	120	27.97390	11338.84300	5.900	27.42225	29.83802	26.66143
SR	88	26.89701	5504.77300	1.100	27.07332	26.55084	27.06688
ZN	66	257.19561	26961.44700	2.300	251.14611	262.74234	257.69838
TB-1	159	118238.21300	0.00000	0.000	118538.69000	118495.86000	117680.09000
PB	208	26.03301	111806.21000	0.400	26.10905	25.91172	26.07825
TL	203	26.50347	33954.29300	3.100	25.55557	26.96259	26.99225
BI-1	209	93603.30700	0.00000	0.000	93674.59000	94035.66000	93099.67000
U	238	24.28961	127460.66700	2.100	24.62710	23.70174	24.53997

Run Name: 1833202E05 Date/Time: 11/28/2018 7:56:05
Tube Number: 84
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS #1	#2	#3
SC-1	45	17909.20700	0.00000	0.000	17141.53000	18092.92000	18493.17000
AL	27	0.97871	46.66700	343.700	-2.86988	2.44682	3.35919
CR	52	0.39941	650.05700	49.600	0.42747	0.18870	0.58208
FE	57	2.20493	50.00000	97.100	3.17115	3.69237	-0.24872
K	39	12.67361	3383.93300	96.600	18.56937	20.85228	-1.40082
MG	24	0.86614	60.00000	62.000	0.94404	0.29431	1.36007
MN	55	-0.04950	30.00000	0.000	-0.08911	-0.13896	0.07957
NA	23	43.60188	34834.99300	46.900	66.35218	37.73319	26.72028
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.04065	36.66700	91.500	0.03105	0.00919	0.08171
GE-1	72	67610.95300	0.00000	0.000	67048.22000	67682.07000	68102.57000
AG	107	0.00123	10.00000	450.500	0.00680	0.00120	-0.00430
CA	44	-15.99941	16.66700	0.000	-13.10240	-4.88638	-30.00944
CD	111	-0.00714	2.00000	0.000	-0.01949	-0.00708	0.00517
SB	121	-0.11162	93.34000	0.000	-0.11775	-0.16854	-0.04858
IN-1	115	22983.05000	0.00000	0.000	22099.42000	23475.67000	23374.06000
AS	75	0.03006	12.66700	286.300	0.10889	-0.06178	0.04307
BA	137	-0.06611	0.00000	0.000	-0.06611	-0.06611	-0.06611
CO	59	0.02233	50.00300	103.700	0.04601	-0.00027	0.02125
CU	63	0.02369	486.70000	296.400	0.10024	0.00862	-0.03778
MO	98	0.01803	66.67000	589.500	-0.04879	-0.03770	0.14056
NI	60	0.03858	40.00000	56.200	0.01754	0.06083	0.03737
SN	120	0.62940	673.40000	49.900	0.33175	0.95725	0.59920
SR	88	-0.02141	6.66700	0.000	0.04460	-0.05442	-0.05442
ZN	66	0.18490	46.66700	173.400	0.23392	0.47822	-0.15744
TB-1	159	125232.25300	0.00000	0.000	123756.37000	128092.97000	123847.42000
PB	208	-0.03570	906.73300	0.000	-0.04147	-0.03073	-0.03489
TL	203	0.04157	63.34000	55.800	0.06172	0.01621	0.04677
BI-1	209	97510.54000	0.00000	0.000	95539.94000	98883.84000	98107.84000
U	238	0.00288	26.66700	70.700	0.00176	0.00524	0.00166

US EPA Tune Check Report

Operator Name	US19_USR_INS14259
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time	11/28/2018 4:14:59 AM
Report Comment	ICP-MS #19204 (E05) Daily Tune Check
Instrument Name	G3281A JP12071581

[No Gas]

Sensitivity

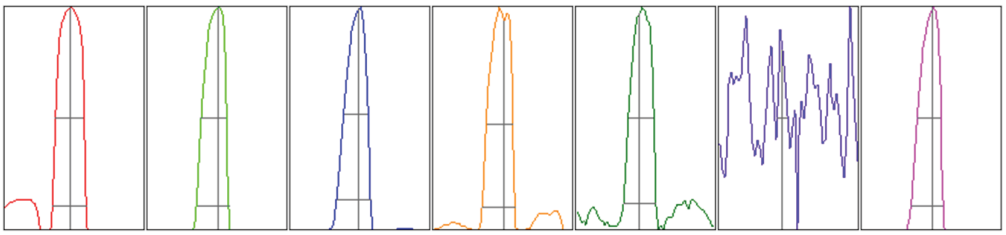
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1784	17841.40			0.916	5.000
89	10.00	6819	68186.59			0.759	5.000
205	10.00	3169	31687.07			0.815	5.000
70	1.00	102	1020.02	0.00		5.001	
156	1.00	12	121.21	0.00		6.151	
220	1.00	2	15.70	0.00		30.263	
140	10.00	5874	58741.08	0.00		0.556	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1802	1784	1772	1764	1799
89	6822	6779	6780	6905	6806
205	3167	3126	3172	3187	3192
70	105	93	107	103	102
156	12	13	13	11	12
220	2	1	1	2	2
140	5865	5822	5883	5907	5893

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2978.73	6.95	6.90 - 7.10	
89	13070.92	89.05	88.90 - 89.10	
205	6219.86	205.00	204.90 - 205.10	
70	177.77	70.05	-	
156	22.45	155.90	-	
220	2.10	219.90	-	
140	12009.87	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.62	0.725	0.800	
89	0.54	0.701	0.800	
205	0.52	0.732	0.800	
70	0.58	0.708		
156	0.54	0.696		
220	0.24			
140	0.51	0.701		

Integration Time [sec]	0.1
Acquisition Time [sec]	260.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.6 V	Deflect	14.6 V
Extract 2	-190.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-95 V	Cell Exit	-59 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9990	QP Bias	-3.0 V
Mass Offset	127	Axis Offset	-0.02		

Hardware Settings

Torch

Torch H	0.9 mm	Torch V	-1.3 mm

EM

Discriminator	4.5 mV	Analog HV	1745 V	Pulse HV	1298 V

Mercury Data

Metals in Solid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1830502M08.M08

Run Name: 1830502M08

Instrument No.: 19302

Element: Hg

Analyst Employee ID: 1413

Reviewed By
Parker D Lindstrom

Reviewed Date
11/01/2018 4:25PM

Verified By:
Deborah A Krady

Verified Date
11/02/2018 10:05AM

Method Reference Name(s):

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

1 Burn Date/Time: 11/01/2018 14:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	-96.0

2 Burn Date/Time: 11/01/2018 14:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	2010.0

3 Burn Date/Time: 11/01/2018 14:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	4852.0

4 Burn Date/Time: 11/01/2018 14:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	9842.0

5 Burn Date/Time: 11/01/2018 14:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	23462.0

6 Burn Date/Time: 11/01/2018 14:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	46092.0

CorrelationCoefficient = 1.00000
Slope = 9204.5171800000
Y-Intercept = 246.7403300000

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

7 Burn Date/Time: 11/01/2018 14:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.4537	22834.0

8 Burn Date/Time: 11/01/2018 14:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0588	-298.0

9 Burn Date/Time: 11/01/2018 14:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.8102	7703.0

10 Burn Date/Time: 11/01/2018 14:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
1.0239	9670.0

11 Burn Date/Time: 11/01/2018 14:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0462	-182.0

12 Burn Date/Time: 11/01/2018 14:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	**********	0.6000	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0379	-105.0		

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

13 Burn Date/Time: 11/01/2018 14:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1.0000	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9397	8895.0		

14 Burn Date/Time: 11/01/2018 14:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	U*********	0.6100	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	6.4966	60055.0		

15 Burn Date/Time: 11/01/2018 15:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	UP********	0.6100	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	7.4609	68933.0		

16 Burn Date/Time: 11/01/2018 15:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	D*********	0.6393	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	10.1996	94147.0		

17 Burn Date/Time: 11/01/2018 15:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	R*********	0.6318	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	10.5900	97741.0		

18 Burn Date/Time: 11/01/2018 15:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	M*********	0.6174	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	11.1274	102689.0		

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

19 Burn Date/Time: 11/01/2018 15:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9827129	**********	0.6093	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0197	425.0		

20 Burn Date/Time: 11/01/2018 15:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9870251	**********	0.6000	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.3628	12790.0		

21 Burn Date/Time: 11/01/2018 15:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9870252	**********	0.6100	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	10.1020	93248.0		

22 Burn Date/Time: 11/01/2018 15:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9883	9342.0

23 Burn Date/Time: 11/01/2018 15:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0457	-177.0

24 Burn Date/Time: 11/01/2018 15:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9870253	**********	0.6200	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	10.9448	101008.0		

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

25 Burn Date/Time: 11/01/2018 15:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9870254	**********	0.6500	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.9545	27444.0		

26 Burn Date/Time: 11/01/2018 15:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9870992	**********	0.6100	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0557	-269.0		

27 Burn Date/Time: 11/01/2018 15:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872061	**********	0.6200	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	10.7579	99287.0		

28 Burn Date/Time: 11/01/2018 15:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872062	**********	0.6000	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	3.9025	36172.0		

29 Burn Date/Time: 11/01/2018 15:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872063	**********	0.6100	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.3257	21655.0		

30 Burn Date/Time: 11/01/2018 15:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872064	**********	0.6000	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	5.6712	52456.0		

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

31 Burn Date/Time: 11/01/2018 15:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872065	**********	0.6200	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0000	215538.0		

32 Burn Date/Time: 11/01/2018 15:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874411	**********	0.6100	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.1267	-923.0		

33 Burn Date/Time: 11/01/2018 15:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874412	**********	0.6200	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	6.6317	61299.0		

34 Burn Date/Time: 11/01/2018 15:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9984	9435.0

35 Burn Date/Time: 11/01/2018 15:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0502	-219.0

36 Burn Date/Time: 11/01/2018 15:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874413	**********	0.6400	100	1.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.6084	24258.0		

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

37 Burn Date/Time: 11/01/2018 15:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	U*********	0.6100	100	5.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.1919	11217.0		

38 Burn Date/Time: 11/01/2018 15:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	UP********	0.6100	100	5.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.2642	21089.0		

39 Burn Date/Time: 11/01/2018 15:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	D*********	0.6393	100	5.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.9676	18358.0		

40 Burn Date/Time: 11/01/2018 15:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	R*********	0.6318	100	5.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.9018	17753.0		

41 Burn Date/Time: 11/01/2018 15:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872060	M*********	0.6174	100	5.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	2.2071	20563.0		

42 Burn Date/Time: 11/01/2018 15:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9870252	**********	0.6100	100	10.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.8903	8440.0		

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

43 Burn Date/Time: 11/01/2018 15:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9870253	**********	0.6200	100	10.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0781	10169.0		

44 Burn Date/Time: 11/01/2018 15:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872061	**********	0.6200	100	10.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0434	9850.0		

45 Burn Date/Time: 11/01/2018 16:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872064	**********	0.6000	100	5.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0688	10084.0		

46 Burn Date/Time: 11/01/2018 16:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
1.0316	9741.0

47 Burn Date/Time: 11/01/2018 16:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0448	-169.0

48 Burn Date/Time: 11/01/2018 16:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9872065	**********	0.6200	100	50.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.7170	6845.0		

LANCASTER LABORATORIES

Run Name: 1830502M08

Analyst ID: 1,413.00

Instrument ID: 19302

CV Element: Hg

49 Burn Date/Time: 11/01/2018 16:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874412	**********	0.6200	100	5.00	183041063801

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.2687	11924.0		

50 Burn Date/Time: 11/01/2018 16:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.8070	7673.0

51 Burn Date/Time: 11/01/2018 16:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
1.0287	9714.0

52 Burn Date/Time: 11/01/2018 16:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0418	-141.0

Extraction/Distillation/Digestion Logs

Metals in Solid

LLENS Worksheet for SW846 (IV) ICP/ICP MS Digest

Batch# 18 304 10637 01

Start Time: 11/1/18 6:24 **End Time:** 11/1/18 6:30 **Hot Block:** 6

Pipette ID: 23041058 /2000 I43551C /1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HNO3	P18-285B	10.00
30% H2O2	183575#1	4.00
HCL	198300	10.00
HNO3	191695	5.00
ICP Spike 1A	1824912#12	2.00
ICP Spike 1B	1824913#12	2.00
ICP/MS Spike	1824914#2	2.00
LCS A1	1824912#12	2.00
LCS B1	1824913#12	2.00
LCS2 ICP/MS Spike	1824914#2	1.00
Th,W Spike	P18-302A	2.00
U Spike	P18-278A	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBS	.				19119			1804377		ICP/ICP-MS. Spike with U and New Spike 1.03g Teflon chips, Lot: 23779016
2)	LCSW	.				19119			1804377		1.01g Teflon chips, Lot: 23779016
3)	LCSW2	.				19119			1804377		1.06g Teflon chips, Lot: 23779016
4)	9827129	11/07/18 00:00	SW	N7		19119		034a	1804377	/	
5)	**9870251U**	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/D4	
6)	**9870251D**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
7)	**9870251R**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
8)	**9870251R2**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
9)	**9870251M**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
10)	**9870251M2**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
11)	9870252	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/F3	
12)	9870253	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/E3	
13)	9870254	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/C4	
14)	9872060	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/E4	
15)	9872061FD	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/D5	
16)	9872062	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/F4	
17)	9872063	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/A7	
18)	9872064	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/D4	
19)	9872065	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/C5	
20)	9874411	11/08/18 10:20	SW	N7		22870		620A	1804377	MET16/D4	

Prep Employee:862 D/I _____

11/1/2018

v 1.1.0

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
21)	9874412	11/08/18 10:20	SW	N7		22870		620A	1804377	MET16/B3	
22)	9874413	11/08/18 10:20	SW	N7		22870		620A	1804377	MET16/E4	

Batch# 18 304 1063 701

LLENS Batch Chronology and Change Log - SW846 (IV) ICP/ICP MS Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/31/18 8:44	862
2)	Sample Wt		10/31/18 12:39	862
3)	Sample Wt		10/31/18 12:52	862
4)	Final Vol	19119	10/31/18 12:52	862
5)	Trial		10/31/18 12:52	862
6)	Sample Wt		11/1/18 7:09	862
7)	Upload Prep	US19PCC06705	11/1/18 12:38	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 0637 SW846 (IV) ICP/ICP MS Digest Batch# 18 304 1063 701

Sample ID	Due Date	P	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS					1.0000	100.0000	1
LCSW					1.0000	100.0000	1
LCSW2					1.0000	100.0000	1
9827129	11/07/18	N7	77855	DOD14-01	1.0327	100.0000	1
9870251U	11/06/18	N7	T1102	TID11-02	1.2100	100.0000	1
9870251D	11/06/18	N7	T1102	TID11-02	1.0365	100.0000	1
9870251R	11/06/18	N7	T1102	TID11-02	1.0999	100.0000	1
9870251R2	11/06/18	N7	T1102	TID11-02	1.0999	100.0000	1
9870251M	11/06/18	N7	T1102	TID11-02	1.1316	100.0000	1
9870251M2	11/06/18	N7	T1102	TID11-02	1.1314	100.0000	1
9870252	11/06/18	N7	T1103	TID11-03	1.2000	100.0000	1
9870253	11/06/18	N7	T1104	TID11-04	1.1700	100.0000	1
9870254	11/06/18	N7	T1105	TID11-05*	1.2900	100.0000	1
9872060	11/07/18	N7	12T02	TID12-02	1.3400	100.0000	1
9872061FD	11/07/18	N7	12T03	TID12-03FD	1.4100	100.0000	1
9872062	11/07/18	N7	12T04	TID12-04	1.2500	100.0000	1
9872063	11/07/18	N7	12T05	TID12-05	1.3500	100.0000	1
9872064	11/07/18	N7	12T06	TID12-06	1.3300	100.0000	1
9872065	11/07/18	N7	12T07	TID12-07*	1.4400	100.0000	1
9874411	11/08/18	N7	T1302	TID13-02	1.0000	100.0000	1
9874412	11/08/18	N7	T1303	TID13-03	1.1400	100.0000	1
9874413	11/08/18	N7	T1304	TID13-04*	1.3400	100.0000	1

LLENS Worksheet for SW846 (IV) ICP/ICP MS Digest

Batch# 18 304 10637 01

Start Time: 11/1/18 6:24 **End Time:** 11/1/18 6:30 **Hot Block:** 6

Pipette ID: 23041058 /2000 I43551C /1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HNO3	P18-285B	10.00
30% H2O2	183575#1	4.00
HCL	198300	10.00
HNO3	191695	5.00
ICP Spike 1A	1824912#12	2.00
ICP Spike 1B	1824913#12	2.00
ICP/MS Spike	1824914#2	2.00
LCS A1	1824912#12	2.00
LCS B1	1824913#12	2.00
LCS2 ICP/MS Spike	1824914#2	1.00
Th,W Spike	P18-302A	2.00
U Spike	P18-278A	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBS	.				19119			1804377		ICP/ICP-MS. Spike with U and New Spike 1.03g Teflon chips, Lot: 23779016
2)	LCSW	.				19119			1804377		1.01g Teflon chips, Lot: 23779016
3)	LCSW2	.				19119			1804377		1.06g Teflon chips, Lot: 23779016
4)	9827129	11/07/18 00:00	SW	N7		19119		034a	1804377	/	
5)	**9870251U**	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/D4	
6)	**9870251D**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
7)	**9870251R**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
8)	**9870251R2**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
9)	**9870251M**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
10)	**9870251M2**	11/06/18 10:30	SW	N7		B4462		036a	1803402	A0885/	
11)	9870252	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/F3	
12)	9870253	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/E3	
13)	9870254	11/06/18 10:30	SW	N7		B4462		620A	1803402	MET07/C4	
14)	9872060	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/E4	
15)	9872061FD	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/D5	
16)	9872062	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/F4	
17)	9872063	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/A7	
18)	9872064	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/D4	
19)	9872065	11/07/18 10:30	SW	N7		22870		620A	1804377	MET14/C5	
20)	9874411	11/08/18 10:20	SW	N7		22870		620A	1804377	MET16/D4	

Prep Employee:862 D/I _____

11/1/2018

v 1.1.0

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
21)	9874412	11/08/18 10:20	SW	N7		22870		620A	1804377	MET16/B3	
22)	9874413	11/08/18 10:20	SW	N7		22870		620A	1804377	MET16/E4	

Batch# 18 304 1063 701

LLENS Batch Chronology and Change Log - SW846 (IV) ICP/ICP MS Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/31/18 8:44	862
2)	Sample Wt		10/31/18 12:39	862
3)	Sample Wt		10/31/18 12:52	862
4)	Final Vol	19119	10/31/18 12:52	862
5)	Trial		10/31/18 12:52	862
6)	Sample Wt		11/1/18 7:09	862
7)	Upload Prep	US19PCC06705	11/1/18 12:38	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 0637 SW846 (IV) ICP/ICP MS Digest Batch# 18 304 1063 701

Sample ID	Due Date	P	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS					1.0000	100.0000	1
LCSW					1.0000	100.0000	1
LCSW2					1.0000	100.0000	1
9827129	11/07/18	N7	77855	DOD14-01	1.0327	100.0000	1
9870251U	11/06/18	N7	T1102	TID11-02	1.2100	100.0000	1
9870251D	11/06/18	N7	T1102	TID11-02	1.0365	100.0000	1
9870251R	11/06/18	N7	T1102	TID11-02	1.0999	100.0000	1
9870251R2	11/06/18	N7	T1102	TID11-02	1.0999	100.0000	1
9870251M	11/06/18	N7	T1102	TID11-02	1.1316	100.0000	1
9870251M2	11/06/18	N7	T1102	TID11-02	1.1314	100.0000	1
9870252	11/06/18	N7	T1103	TID11-03	1.2000	100.0000	1
9870253	11/06/18	N7	T1104	TID11-04	1.1700	100.0000	1
9870254	11/06/18	N7	T1105	TID11-05*	1.2900	100.0000	1
9872060	11/07/18	N7	12T02	TID12-02	1.3400	100.0000	1
9872061FD	11/07/18	N7	12T03	TID12-03FD	1.4100	100.0000	1
9872062	11/07/18	N7	12T04	TID12-04	1.2500	100.0000	1
9872063	11/07/18	N7	12T05	TID12-05	1.3500	100.0000	1
9872064	11/07/18	N7	12T06	TID12-06	1.3300	100.0000	1
9872065	11/07/18	N7	12T07	TID12-07*	1.4400	100.0000	1
9874411	11/08/18	N7	T1302	TID13-02	1.0000	100.0000	1
9874412	11/08/18	N7	T1303	TID13-03	1.1400	100.0000	1
9874413	11/08/18	N7	T1304	TID13-04*	1.3400	100.0000	1

LLENS Worksheet for SW SW846 Hg Digest

Batch# 18 304 10638 01

Start Time: 11/1/18 7:20 **End Time:** 11/1/18 7:50 **Hot Block:** 2

Pipette ID: I43551C /1000

Spike/Reagent	Lot#	Volume Added(mL)
5%KMnO4	P18-299C	15.00
Aqua Regia	P18-305A	5.00
LCS 100 ppb Hg	P18-302B	1.00
NaCl/NH20H.HCL	P18-296D	6.00
Spike 100 ppb Hg	P18-302B	1.00

Method Ref:

	SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBS	.				19119			1804377		0.6g Teflon chips, Lot: 23779016
2)	LCSW	.				19119			1804377		0.63g Teflon chips, Lot: 23779016
3)	9827129	11/07/18 00:00	SW	N7		19119		059a	1804377	E00862/	
4)	9870251	11/06/18 10:30	SW	N7		B4462		621A	1803402	HG22/B4	
5)	9870252	11/06/18 10:30	SW	N7		B4462		621A	1803402	HG22/D3	
6)	9870253	11/06/18 10:30	SW	N7		B4462		621A	1803402	HG22/C3	
7)	9870254	11/06/18 10:30	SW	N7		B4462		621A	1803402	HG22/A4	
8)	9870992	11/02/18 17:00	SW	S5		B4442		621A	1803402	HG20/C1	
9)	**9872060U**	11/07/18 10:30	SW	N7		22870		621A	1804377	HG08/D3	
10)	**9872060R**	11/07/18 10:30	SW	N7		22870		036A	1804377	E00862/	
11)	**9872060M**	11/07/18 10:30	SW	N7		22870		036A	1804377	E00862/	
12)	**9872060D**	11/07/18 10:30	SW	N7		22870		036A	1804377	E00862/	
13)	9872061FD	11/07/18 10:30	SW	N7		22870		621A	1804377	HG08/C3	
14)	9872062	11/07/18 10:30	SW	N7		22870		621A	1804377	HG08/D2	
15)	9872063	11/07/18 10:30	SW	N7		22870		621A	1804377	HG08/A4	
16)	9872064	11/07/18 10:30	SW	N7		22870		621A	1804377	HG08/A3	
17)	9872065	11/07/18 10:30	SW	N7		22870		621A	1804377	HG08/B3	
18)	9874411	11/08/18 10:20	SW	N7		22870		621A	1804377	HG23/B3	
19)	9874412	11/08/18 10:20	SW	N7		22870		621A	1804377	HG23/C3	
20)	9874413	11/08/18 10:20	SW	N7		22870		621A	1804377	HG23/A3	

Prep Employee:862 D/I _____

11/1/2018

v 1.1.0

Batch# 18 304 1063 801

LLENS Batch Chronology and Change Log - SW SW846 Hg Digest

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		10/31/18 0:00	862
2)	Final Vol	19119	11/1/18 6:46	862
3)	Trial		11/1/18 6:46	862
4)	Sample Wt		11/1/18 6:50	862
5)	Sample Wt	19119	11/1/18 6:57	862
6)	Sample Wt	19119	11/1/18 7:08	862
7)	Upload Prep	US19PCC0670	11/1/18 7:58	862

Sample ID	Analysis	D	Operation	Measurement	Original Entry				Data Changed		
					Date/Time	Data	Units	Analyst	Date/Time	Analyst	Reason

Analysis: 0638 SW SW846 Hg Digest

Batch# 18 304 1063 801

Sample ID	Due Date	P	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS					.6000	100.0000	1
LCSW					1.0000	100.0000	1
9827129	11/07/18	N7	77855	DOD14-01	.6093	100.0000	1
9870251	11/06/18	N7	T1102	TID11-02	.6000	100.0000	1
9870252	11/06/18	N7	T1103	TID11-03	.6100	100.0000	1
9870253	11/06/18	N7	T1104	TID11-04	.6200	100.0000	1
9870254	11/06/18	N7	T1105	TID11-05*	.6500	100.0000	1
9870992	11/02/18	S5	02W03	WGV02-03	.6100	100.0000	1
9872060U	11/07/18	N7	12T02	TID12-02	.6100	100.0000	1
9872060R	11/07/18	N7	12T02	TID12-02	.6318	100.0000	1
9872060M	11/07/18	N7	12T02	TID12-02	.6174	100.0000	1
9872060D	11/07/18	N7	12T02	TID12-02	.6393	100.0000	1
9872061FD	11/07/18	N7	12T03	TID12-03FD	.6200	100.0000	1
9872062	11/07/18	N7	12T04	TID12-04	.6000	100.0000	1
9872063	11/07/18	N7	12T05	TID12-05	.6100	100.0000	1
9872064	11/07/18	N7	12T06	TID12-06	.6000	100.0000	1
9872065	11/07/18	N7	12T07	TID12-07*	.6200	100.0000	1
9874411	11/08/18	N7	T1302	TID13-02	.6100	100.0000	1
9874412	11/08/18	N7	T1303	TID13-03	.6200	100.0000	1
9874413	11/08/18	N7	T1304	TID13-04*	.6400	100.0000	1

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Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	H18282N	Hg 1.0mg/L Cont	15	10-16-18	H18-282C	0.25ml	1	6	191695
2	CCV	O	Hg 1.0mg/L Cal			H18-282A	0.20			
3	CRA	P	Hg 0.1mg/L Cont			H18-282D	0.20			
4	Hg 1.0mg/L Baker Cal	H18283A	Hg 10mg/L Cal	15	10-19-18	H18-144A	1.0ml			
5	0.1mg/L Baker Cal	B	1.0mg/L Cal	15	10-17-18	H18-283A				
6	1.0mg/L Baker Cont	C	10mg/L Cont	16	4-19-19	MZHG657352				
7	0.1mg/L Baker Cont	D	1.0mg/L Cont	15	10-17-18	H18-283C				
8	Hg 5701 ICV	E					0.25ml			
9	CCV	F	Hg 1.0mg/L Cal			H18-283A	0.10			
10	CCV	G					0.10			
11	CCV	H					0.10			
12	CCV	I					0.10			
13	CRA	J	Hg 0.1mg/L Cont			H18-283D	0.40			
14	CRA	K					0.80			
15	Std Cal	L	Hg 0.1mg/L Cal			H18-283B	0.20			
16		M					0.50			
17		N	Hg 1.0mg/L Cal			H18-283A	0.10			
18		O					0.25			
19		P					0.50			
20		Q								

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	184517	3-2ml $K_2S_2O_8$ 6ml KMnO4		H18-2060A H18-2255B	100	2.5ug/L	DL354	10-9-18	10-16-18	RT
2	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
4				To volume w/ 0.15%	HNO_3	H18-2680	10	1.0	DL354	10-10-18	10-17-18	RT
5				↓	↓	↓	↓	0.1	↓	↓	↓	↓
6								1.0				
7				↓	↓	↓	↓	0.1				
8				5ml Aqua Regia 15ml KMnO4		H18-2833S H18-2255B	100	2.5ug/L				
9				↓	↓	↓	↓	1.0	↓	↓	↓	↓
10								1.0				
11								1.0				
12								1.0				
13								0.4				
14								0.8				
15								0.2				
16								0.5				
17								1.0				
18								2.5				
19								5.0				
20				↓	↓	↓	↓	0.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
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b

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 ICV	H182838	Hg 1.0mg/L Cont	15	10-17-18	H18-283C	0.25ml			
2	Aqua Regia	S						19	6	191695
3	Hg 4792 ICV	T	Hg 1.0mg/L Cont	15	10-17-18	H18-283C	.25ml			
4	CCV	U	Hg 1.0mg/L Cal			H18-283A	0.10			
5	CRA	V	Hg 0.1mg/L Cont			H18-283D	0.40			
6	CRA	W					0.80			
7	Std Cal	X	Hg 0.1mg/L Cal			H18-283B	0.20			
8		Y					0.50			
9		Z	Hg 1.0mg/L Cal			H18-283A	0.10			
10		AA					0.25			
11		BB					0.50			
12		CC								
13	Hg 1.0mg/L Inter Cal	H182844	Hg 1.0mg/L Cal	15	10-19-18	H18-144A	1.0ml			
14	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	10-18-18	H18-284A				
15	1.0mg/L Inter Cont	C	1.0mg/L Cont	16	4-19-19	1M2HG657392 #2				
16	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	10-18-18	H18-284C				
17	Hg 5700 ICV	E					0.25ml	1	6	191695
18	CCV	F	Hg 1.0mg/L Cal			H18-284A	0.20			
19	CRA	G	Hg 0.1mg/L Cont			H18-284D	0.20			
20	Std Cal	H	Hg 0.1mg/L Cal			H18-284B	0.20			

Key – Manufacturer (M•)

1 – Aldrich Chemical
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9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				15ml Kmno4		H18-2258	100	2.5ug/L	DL 354	10-10-18	10-17-18	RT
2	57	6	186704				76	1:3			10-10-18	
3	5						100	2.5ug/L				
4								1.0				
5								0.4				
6								0.8				
7								0.2				
8								0.5				
9								1.0				
10								2.5				
11								5.0				
12								0.0				
13				To volume 0.15% HNO3		H18-2680	10	1.0	DL 354	10-11-18	10-18-18	RT
14								0.1				
15								1.0				
16								0.1				
17	2ml H2SO4	4	184517	3.2ml H2O2 30% 1ml Kmno4		H18-2068 H18-2258	100	2.5ug/L				
18							200	1.0				
19							100	0.2				
20							100	0.2				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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b

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Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H18284I	Hg 0.1mg/L Cal	15	10-18-18	H18-284B	0.50 ml	1	6	191695
2		J	Hg 1.0mg/L Cal			H18-284A	0.20			
3		K					0.25			
4		L					0.50			
5		m								
6	ICV	N	Hg 1.0mg/L Cont	15	10-18-18	H18-284C	0.25ml			
7	CCV	O	Hg 1.0mg/L Cal			H18-284A	0.20			
8	CRA	P	Hg 0.1mg/L Cont			H18-284D	0.20			
9	Hg 1.0mg/L Inter Cal	H18286A	Hg 10mg/L Cal	15	10-19-18	H18-286A	1.0ml			
10	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	10-19-18	H18-286A				
11	1.0mg/L Inter Cont	C	10mg/L Cont	16	4-19-19	M2HG657912				
12	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	10-19-18	H18-286C				
13	Hg 5700 ICV	E					0.25ml	1	6	191695
14	CCV	F	Hg 1.0mg/L Cal			H18-286A	0.20			
15	CRA	G	Hg 0.1mg/L Cont			H18-286D	0.20			
16	Std Cal	H	Hg 0.1mg/L Cal			H18-286B	0.20			
17		I					0.50			
18		J	Hg 1.0mg/L Cal			H18-286A	0.20			
19		K					0.25			
20		L					0.50			

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	184517	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-20671 H18-22510	100	0.5ug/L	DU354	10-11-18	10-18-18	RT
2							200	1.0				
3							100	2.5				
4								5.0				
5								0.0				
6								2.5				
7							200	1.0				
8							100	0.2				
9				To volume 0.15%	HNO3	H18-26082	10	1.0	DU354	10-13-18	10-19-18	RT
10								0.1				
11								1.0				
12								0.1				
13	2ml H_2SO_4	4	184517	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-20671 H18-22510	100	2.5ug/L				
14							200	1.0				
15							100	0.2				
16								0.2				
17								0.5				
18							200	1.0				
19							100	2.5				
20							100	5.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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b

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H18281m						1	6	191695
2	ICV	N	Hg 1.0mg/L Cont	15	10-19-18	H18-281 C	0.25ml			
3	CCV	O	Hg 1.0mg/L Cal			H18-281 A	0.20			
4	CRA	P	Hg 0.1mg/L Cont			H18-281 D	0.20			
5	Stannous Chloride	H18288A	SnCl2	4	8-22-19	1808168 #8	200.06g			
6		B				#8+9	200.07g			
7		C				#9	200.03g			
8		D				#9+10	200.04g			
9	Hg Cal 10mg/L Inter Std	H18289AA	Hg 1000ug/ml Std	XX	4/2020	17519132	1.0ml	1	6	191695
10	Hg 1.0mg/L Inter Cal	H18289A	Hg 10mg/L Cal	15	4-16-19	H18-289 AA	1.0ml			
11	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	10-23-18	H18-289 A				
12	1.0mg/L Inter Cont	C	10mg/L Cont	16	4-19-19	M2H8165739257				
13	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	10-23-18	H18-289 C				
14	Hg 5700 ICV	E					0.25ml	1	6	191695
15	CCV	F	Hg 1.0mg/L Cal			H18-289 A	0.20			
16	CRA	G	Hg 0.1mg/L Cont			H18-289 D	0.20			
17	Std Cal	H	Hg 0.1mg/L Cal			H18-289 B	0.20			
18		I					0.50			
19		J	Hg 1.0mg/L Cal			H18-289 A	0.20			
20		K					0.25			

Key – Manufacturer (M•)

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14 – EMD
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16-Inorganic Ventures
XX – Other (footnote Manuf.)

XX-CPI International 10-16-18 DV354

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Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079 | Revision: 3 | Historical Reference: 1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	184517	3.2ml $K_2S_2O_8$ 1ml KMnO4		H18-206A H18-225B	100	0.04ug/L	DL354	10-13-18	10-19-18	RT
2							100	2.5				
3							200	1.0				
4							100	0.2				
5	200	6	186764				2000	10%	DL354	10-15-18	4-15-19	RT
6												
7												
8												
9							100	10mg/L	DL354	10-16-18	4-16-19	RT
10				To vol w/ 0.15% HNO3		H18-268Q	10	1.0			10-23-18	
11								0.1				
12								1.0				
13								0.1				
14	2ml H_2SO_4	4	184517	3.2ml $K_2S_2O_8$ 1ml KMnO4		H18-206A H18-264Q	100	2.5ug/L				
15							200	1.0				
16							100	0.2				
17								0.2				
18								0.5				
19							200	1.0				
20							100	2.5				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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b

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H18289L	Hg 1.0 mg/L Cal	15	10-23-18	H18-289A	0.50 ml	1	6	191695
2	↓	m								
3	ICV	N	Hg 1.0 mg/L Cont	15	10-23-18	H18-289C	0.25 ml			
4	CCV	O	Hg 1.0 mg/L Cal			H18-289A	0.20			
5	CRA	P	Hg 0.1 mg/L Cont			H18-289D	0.20			
6	CCV	Q	Hg 1.0 mg/L Cal			H18-289A	0.20			
7	Hg 1.0 mg/L Inter Cal	H18290A	Hg 10 mg/L Cal	15	4-16-19	H18-289AA	1.0 ml			
8	0.1 mg/L Inter Cal	B	1.0 mg/L Cal	15	10-24-18	H18-290A				
9	1.0 mg/L Inter Cont	C	10 mg/L Cont	16	4-19-19	M2HG165392 F2				
10	0.1 mg/L Inter Cont	D	1.0 mg/L Cont	15	10-24-18	H18-290C				
11	Hg 5701 ICV	E					0.25 ml			
12	CCV	F	Hg 1.0 mg/L Cal			H18-290A	0.10			
13	CCV	G					0.10			
14	CCV	H					0.10			
15	CCV	I					0.10			
16	CRA	J	Hg 0.1 mg/L Cont			H18-290D	0.40			
17	CRA	K					0.80			
18	Std Cal	L	Hg 0.1 mg/L Cal			H18-290B	0.20			
19		m					0.50			
20		N	Hg 1.0 mg/L Cal			H18-290A	0.10			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
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XX – Other (footnote Manuf.)

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Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	184517	3.2ml K2S2O8		H18-2064	100	5.0ug/L	DL354	10-16-18	10-23-18	RT
2				6ml KMnO4		H18-2649						
3								0.0				
4								2.5				
5							200	1.0				
6							100	0.2				
7							200	1.0				
8				To vol w/ 0.15%	HNO3	H18-2680	10	1.0	DL354	10-17-18	10-24-18	RT
9								0.1				
10								1.0				
11				3ml Aqua Regia		H18-2905		0.1				
12				15ml KMnO4		H18-2253	100	2.5ug/L				
13								1.0				
14								1.0				
15								1.0				
16								1.0				
17								0.4				
18								0.8				
19								0.2				
20								0.5				
								1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
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b

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Effective date : 02 Feb 2017		Effective

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 StdCal	H182900	Hg 1.0mg/L Cal	15	10-24-18	H18-290A	0.25ml			
2	↓	P	↓				0.50ml			
3	↓	Q								
4	↓ ICV	R	Hg 1.0mg/L Cont	15	10-24-18	H18-290C	0.25ml			
5	Aqua Regia	↓ S						19	6	191695
6	Hg 1.0mg/L InterCal	H182924	Hg 10mg/L Cal	15	4-16-19	H18-289AA	1.0ml			
7	0.1mg/L InterCal	B	1.0mg/L Cal	15	10-26-18	H18-292A	↓			
8	1.0mg/L InterCont	C	10mg/L Cont	16	4-19-19	MZH6657392				
9	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont	15	10-26-18	H18-292C	↓			
10	Hg 5700 ICV	E	↓			↓	0.25ml	1	6	191695
11	CCV	F	Hg 1.0mg/L Cal			H18-292A	0.20			
12	CRA	G	Hg 0.1mg/L Cont			H18-292D	0.20			
13	Std Cal	H	Hg 0.1mg/L Cal			H18-292B	0.20			
14	↓	I	↓			↓	0.50			
15	↓	J	Hg 1.0mg/L Cal			H18-292A	0.20			
16	↓	K	↓			↓	0.25			
17	↓	L	↓	↓	↓	↓	0.50 ↓			
18	↓	M								
19	↓ ICV	N	Hg 1.0mg/L Cont	15	10-26-18	H18-292C	0.25ml			
20	↓ CCV	↓ O	Hg 1.0mg/L Cal	15	↓	H18-292A	0.20ml	↓	↓	↓

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M••	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml KMnO4		H18-290S H18-225B	100	2.5ug/L	DU35+	10-17-18	10-24-18	RT
2								5.0				
3								③ ~~2.5~~ 0.0				
4								2.5ug/L				
5	57	6	186764				76	1:3			10-17-18	
6				Tox dw 0.15%	HNO3	H18-268G	10	1.0	DU35+	10-19-18	10-26-18	RT
7								0.1				
8								1.0				
9								0.1				
10	2ml H2SO4	4	184517	3.2ml K2S2O8 10ml KMnO4		H18-206A H18-264G	100	2.5ug/L				
11							200	1.0				
12							100	0.2				
13								0.2				
14								0.5				
15							200	1.0				
16							100	2.5				
17								5.0				
18								0.0				
19								2.5				
20							200	1.0				

10-17-18 DU35+

Footnotes

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C = KCl
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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 CRA	H18292P	Hg 0.1mg/L Cont	15	10-26-18	H18-292D	0.20ml	1	6	191695
2	↓ CCV	Q	Hg 1.0mg/L Cal	15	↓	H18-292A	0.20ml	↓	↓	↓
3	Hg 5701 CCV	R					0.10			
4	CCV	S					0.10			
5	CCV	T					0.10			
6	↓ Std Cal	U								
7	Aqua Regia	V						5	6	191695
8	Stannous Chloride	H18295A	SnCl2	4	10-4-19	180868 #10	200.00g			
9		B				10+11	200.01g			
10		C				#11	200.05g			
11	Hg 1.0mg/L Inter Cal	H18296A	Hg 10mg/L Cal	15	4-16-19	H18-289AA	1.0ml			
12	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	10-30-18	H18-296A				
13	1.0mg/L Inter Cont	C	10mg/L Cont	16	4-19-19	M2HG657392 #2				
14	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	10-30-18	H18-296C				
15	Hg 5700 ICV	E					0.25ml	1	6	191695
16	CCV	F	Hg 1.0mg/L Cal			H18-296A	0.20			
17	CRA	G	Hg 0.1mg/L Cont			H18-296D	0.20			
18	Std Cal	H	Hg 0.1mg/L Cal			H18-296B	0.20			
19		I					0.50			
20		J	Hg 1.0mg/L Cal			H18-296A	0.20			

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4		3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-2064 H18-2640	100	0.2ug/L	DJ354	10-19-16	10-26-18	RT
2	↓	↓	↓	↓	↓	↓	200	1.0				
3				5ml Aqua Regia 13ml $KMnO_4$		H18-2922 H18-2640	100	1.0				
4								1.0				
5								1.0				
6				↓	↓	↓	↓	0.0				
7	15	6	186764				20	1:3			10-19-18	
8	200	6	186764				2000	10:1	DJ354	10-22-18	4-22-19	RT
9												
10												
11				To value 0.15/.14		H18-2680	10	1.0	DJ354	10-23-18	10-31-18	RT
12								0.1				
13								1.0				
14			10-23-18 DJ354					0.1				
15	2ml H_2SO_4	4	184-75517 ③	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H18-2064 H18-2640	100	2.5ug/L				
16							200	1.0				
17							100	0.2				
18								0.2				
19								0.5				
20							200	1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

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b

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Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 StdCal	H18296K	Hg 1.0mg/L Cal	15	10-30-18	H18-296A	0.25ml	1	6	191695
2	↓	L	↓	↓	↓	↓	0.50	↓	↓	↓
3	↓	M								
4	ICV	N	Hg 1.0mg/L Cont	15	10-30-18	H18-296C	0.25ml			
5	CCV	O	Hg 1.0mg/L Cal	↓	↓	H18-296A	0.20			
6	CRA	P	Hg 0.1mg/L Cont			H18-296D	0.20			
7	↓ CCV	↓ Q	Hg 1.0mg/L Cal	↓	↓	H18-296A	0.20 ↓	↓	↓	↓
8	Hg 1.0mg/L Inter Cal	H18297A	Hg 10mg/L Cal	15	4-16-19	H18-289AA	1.0ml			
9	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	10-31-18	H18-297A	↓			
10	1.0mg/L Inter Cont	C	10mg/L Cont	16	4-19-19	M2HG657392 #2				
11	↓ 0.1mg/L Inter Cont	D	↓ 1.0mg/L Cont	15	10-31-18	H18-297C	↓			
12	Hg 5701 ICV	E	↓	↓	↓	↓	0.25ml			
13	CCV	F	Hg 1.0mg/L Cal			H18-297A	0.10			
14	CCV	G	↓			↓	0.10			
15	CCV	H					0.10			
16	CCV	I	↓			↓	0.10			
17	CRA	J	Hg 0.1mg/L Cont			H18-297D	0.40			
18	CRA	K	↓			↓	0.80			
19	Std Cal	L	Hg 0.1mg/L Cal			H18-297B	0.20			
20	↓ ↓	↓ M	↓	↓	↓	↓	0.50 ↓			

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XX – Other (footnote Manuf.)

a

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Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079 | Revision: 3 | Historical Reference: 1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	184517	3.2ml $K_2S_2O_8$ 1.5ml Kmno4		H18-206A H18-264Q						
2							100	2.5ug/L	DU354	10-23-18	10-30-18	RT
3								5.0				
4								0.0				
5								2.5				
6							200	1.0				
7							100	0.2				
8							200	③ ~~2.5~~ 1.0				
9				To vol w/0.15%	HNO3	H18-268Q	10	1.0	DU354	10-24-18	10-31-18	RT
10								0.1				
11								1.0				
12				5ml Aqua Regia		H18-297S		0.1				
13				1.5ml Kmno4		H18-264Q	100	2.5ug/L				
14								1.0				
15								1.0				
16								1.0				
17								1.0				
18								0.4				
19								0.8				
20								0.2				
								0.5				

10-23-18 DU354

Footnotes

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D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 Std Cal	H18297N	Hg 1.0mg/L Cal	15	10-31-18	H18-297A	0.10 ml			
2		O					0.25			
3		P					0.50			
4		Q								
5	ICV	R	Hg 1.0mg/L Cont	15	10-31-18	H18-297C	0.25ml			
6	Agua Regia	S						19	6	191695
7	Hg 1.0mg/L Inter Cal	H18298A	Hg 10mg/L Cal	15	4-16-19	H18-289AA	1.0ml			
8	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	11-01-18	H18-298A				
9	1.0mg/L Inter Cont	C	10mg/L Cont	16	4-19-19	M2HG159392				
10	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	11-01-18	H18-298C				
11	Hg 5700 ICV	E					0.25ml	1	6	191195
12	CCV	F	Hg 1.0mg/L Cal			H18-298A	0.20			
13	CBA	G	Hg 0.1mg/L Cont			H18-298D	0.20			
14	Std Cal	H	Hg 0.1mg/L Cal			H18-298B	0.20			
15		I					0.50			
16		J	Hg 1.0mg/L Cal			H18-298A	0.20			
17		K					0.25			
18		L					0.50			
19		M								
20	ICV	N	Hg 1.0mg/L Cont	15	11-01-18	H18-298C	0.25ml			

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml KMnO4		H18-2975 H18-2640						
2							100	1.0ug/L	DJ/354	10-24-18	10-31-18	RT
3								2.5				
4								5.0				
5								0.0				
6	57	6	186764					2.5				
7							76	1:3				
8				To vol w/0.15/	HNO3	H18-2680	10	1.0	DJ/354	10-25-18	10-24-18	
9								0.1			11-01-18	RT
10								1.0				
11	2ml H2SO4	4	184517	3.2ml K2S2O8 6ml KMnO4		H18-206A H18-2640		0.1				
12							100	2.5ug/L				
13							200	1.0				
14							100	0.2				
15								0.2				
16								0.5				
17							200	1.0				
18							100	2.5				
19								5.0				
20								0.0				
								2.5				

Footnotes

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		Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	10-25-18 DV354 Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 CCV	H182980	Hg 1.0 mg/L Cal	15	11-01-18	H18-298A 298A	0.20 ml	1	6	1911685
2	CRA	P	Hg 0.1 mg/L Cont			H18-298D	0.20			
3	CCV	Q	Hg 1.0 mg/L Cal			H18-298A	0.20			
4	3 Hg 4792 Hg 1.0 mg/L Cal (10-26-18 DV354)	H182984	Hg 10 mg/L Cal	15	4-16-19	H18-289AA	1.0 ml			
5	Hg 0.1 mg/L Inter Cal	B	1.0 mg/L Cal	15	11-02-18	H18-299A				
6	1.0 mg/L Inter Cont	C	10 mg/L Cont	16	4-19-19	M2HG167392 #2				
7	0.1 mg/L Inter Cont	D	1.0 mg/L Cont	15	11-02-18	H18-299C				
8	Hg 4792 ICV	E					0.25 ml			
9	CCV	F	Hg 1.0 mg/L Cal			H18-299A	0.10			
10	CCV	G					0.10			
11	CRA	H	Hg 0.1 mg/L Cont			H18-299D	0.40			
12	CRA	I					0.80			
13	Std Cal	J	Hg 0.1 mg/L Cal			H18-299B	0.20			
14		K					0.50			
15		L	Hg 1.0 mg/L Cal			H18-299A	0.10			
16		M					0.25			
17		N					0.50			
18		O								
19	Hg 1.0 mg/L Inter Cal	H18300A	Hg 10 mg/L Cal	15	4-16-19	H18-289AA	1.0 ml			
20	Hg 0.1 mg/L Inter Cal	B	Hg 1.0 mg/L Cal	15	11-03-18	H18-300A	1.0 ml			

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Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	184517	3.2ml K2S2O8 6ml KMnO4	4	H18-2064 H18-2064Q	200	1.0 ug/L	DL/354	10-25-18	11-01-18	RT
2	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
4				To vol w/o 15%	HNO3	H18-2686Q	10	1.0	DL/354	10-26-18	11-02-18	RT
5				↓	↓	↓	↓	0.1	↓	↓	↓	↓
6								1.0				
7				↓	↓	↓	↓	0.1				
8	5	6	186764				100	2.5 ug/L				
9	↓	↓	↓				↓	1.0	↓	↓	↓	↓
10								1.0				
11								0.4				
12								0.8				
13								0.2				
14								0.5				
15								1.0				
16								2.5				
17								5.0				
18	↓	↓	↓				↓	6.0	↓	↓	↓	↓
19				To vol w/o 15%	HNO3	H18-2689Q	10	1.0	DL/354	10-27-18	11-03-18	RT
20				↓	↓	↓	10	0.1	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 1.0 mg/L InterCont	H18300C	Hg 10 mg/L Cont	16	4-19-19	M2HG657392 #2	1.0 ml			
2	Hg 0.1 mg/L InterCont	D	Hg 1.0 mg/L Cont	15	11-03-18	H18-360C	1.0 ml			
3	Hg 5700 ICV	E	↓			↓	0.25 ml	1	6	191695
4	CCV	F	Hg 1.0 mg/L Cal			H18-300A	0.20			
5	CRA	G	Hg 0.1 mg/L Cont			H18-360D	0.20			
6	Std Cal	H	Hg 0.1 mg/L Cal			H18-300B	0.20			
7		I	↓			↓	0.50			
8		J	Hg 1.0 mg/L Cal			H18-300A	0.20			
9		K	↓			↓	0.25			
10		L	↓	↓	↓	↓	0.50 ↓			
11	↓	M								
12	ICV	N	Hg 1.0 mg/L Cont	15	11-03-18	H18-300C	0.25 ml			
13	CCV	O	Hg 1.0 mg/L Cal			H18-300A	0.20 ml			
14	CRA	P	Hg 0.1 mg/L Cont			H18-300D	0.20			
15	↓ CCV	↓ Q	Hg 1.0 mg/L Cal	↓	↓	H18-300A	0.20 ↓	↓	↓	↓
16	Hg 1.0 mg/L InterCal	H18303A	Hg 10 mg/L Cal	15	4-16-19	H18-289AA	1.0 ml			
17	0.1 mg/L InterCal	B	1.0 mg/L Cal	15	11-6-18	H18-303A	↓			
18	1.0 mg/L InterCont	C	10 mg/L Cont	16	4-19-19	M2HG657392 #2				
19	↓ 0.1 mg/L InterCont	D	↓ 1.0 mg/L Cont	15	11-06-18	H18-303C	↓			
20	Hg 5700 ICV	↓ E	↓	↓	↓	↓	0.25 ml	1	6	191695

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				To vol w/ 0.15% HNO3		H18-2680	10	1.0	DU354	10-27-18	11-03-18	RT
2				↓	↓	↓	10	0.1				
3	2ml H2SO4	4	184517	3.2ml K2S2O8 1ml KMnO4		H18-2064 H18-2640	100	2.5 ug/L				
4							200	1.0				
5							100	0.2				
6								0.2				
7								0.5				
8							200	1.0				
9							100	2.5				
10								5.0				
11								0.0				
12								2.5				
13							200	1.0				
14							100	0.2				
15							200	1.0				
16				To vol w/ 0.15% HNO3		H18-2680	10	1.0	DU354	10-30-18	11-06-18	RT
17								0.1				
18								1.0				
19								0.1				
20	2ml H2SO4	4	184517	2.2ml K2S2O8 1ml KMnO4		H18-2064 H18-2640	100	2.5 ug/L				

Footnotes

Key (••) – Other Used

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E = Al $(NO_3)_3$ (40%)
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	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name 10-30-18 DWSH	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 (3) ~~DS~~ CCV	H18303F	Hg 1.0mg/L Cal	15	11-06-18	H18-303A	0.20ml	1	6	191695
2	CRA	G	Hg 0.1mg/L Cont			H18-303D	0.20ml			
3	Std Cal	H	Hg 0.1mg/L Cal			H18-303B	0.20			
4		I	↓			↓	0.50			
5		J	Hg 1.0mg/L Cal			H18-303A	0.20			
6		K					0.25			
7		L	↓	↓	↓	↓	0.50 ↓			
8	↓	M								
9	ICV	N	Hg 1.0mg/L Cont	15	11-06-18	H18-303C	0.25ml			
10	CCV	O	Hg 1.0mg/L Cal			H18-303A	0.20			
11	CRA	P	Hg 0.1mg/L Cont			H18-303D	0.20			
12	↓ CCV	Q	Hg 1.0mg/L Cal	↓	↓	H18-303A	0.20 ↓	↓	↓	↓
13	Stannous Chloride	R	$SnCl_2$	4	10-04-19	180868 #11	200.01g			
14		S				#11-12	200.02g			
15	↓	✓ T	↓	↓	↓	↓ #12	200.02g			
16	Hg 1.0mg/L Inter Cal	H18304A	Hg 10mg/L Cal	15	4-16-19	H18-289AA	1.0ml			
17	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	11-07-18	H18-304C				
18	1.0mg/L Inter Cont	C	10mg/L Cont	16	4-19-19	IM2HG657392 #2				
19	↓ 0.1mg/L Inter Cont	D	↓ 1.0mg/L Cont	15	11-07-18	H18-304C	↓			
20	Hg 5700 ICV	↓ E	↓	↓	↓	↓	0.25ml	1	6	191695

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	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2mlH2SO4	4	184517	3.2mL K2S2O8 6mL KMnO4		H18-20677 H18-26469	200	1.0 mg/L	DJ354	10:30-18	11-06-18	RT
2							100	0.2				
3								0.2				
4								0.5				
5							200	1.0				
6							100	2.5				
7								5.0				
8								0.0				
9								2.5				
10							200	1.0				
11							100	0.2				
12							200	1.0				
13	200	6	198300				2000	10%			4:30-19	
14												
15												
16				To volw/0.15	HNO3	H18-26800	10	1.0	DJ354	10:31-18	11-07-18	RT
17								0.1				
18								1.0				
19								0.1				
20	2mlH2SO4	4	184517									

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
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b

Moisture Data

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CLIENT: Tidewater, Inc.
SDG: TID12

MOISTURE

SAMPLE NUMBERS:

Sample #	Sample Code
9872060	12T02
9872061	12T03FD
9872062	12T04
9872063	12T05
9872064	12T06
9872065	12T07

COMMENTS:

Method defined actions are taken for any failed matrix QC.

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18303820001A	Sample number(s): 9872060-9872065				
Moisture	100		99-101		

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 18303820001A	Sample number(s): 9872060-9872065			
Moisture	2.4	2.8	17* (1)	5

* - Outside of specification
(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 18303820001

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
9872060	A	00111	1.0727	5.5123	5.3646	22.14	10/30/18 (835/LEB)	10/31/18 (236/CW)
9872061FD	A	00111	1.0669	5.8286	5.5987	22.25	10/30/18 (835/LEB)	10/31/18 (236/CW)
9872062	A	00111	1.0700	5.1556	4.9007	25.70	10/30/18 (835/LEB)	10/31/18 (236/CW)
9872063	A	00111	1.0699	5.2346	5.1974	21.15	10/30/18 (835/LEB)	10/31/18 (236/CW)
9872064	A	00111	1.0777	5.3848	4.7081	32.58	10/30/18 (835/LEB)	10/31/18 (236/CW)
9872065	A	00111	1.0854	5.4691	3.5309	55.29	10/30/18 (835/LEB)	10/31/18 (236/CW)
P863770BKG	A	00111	1.0847	5.4891	6.4426	2.39	10/30/18 (835/LEB)	10/31/18 (236/CW)
P863770DUP	A	00111	1.0742	5.4225	6.3437	2.82	10/30/18 (835/LEB)	10/31/18 (236/CW)
LCS 89.5% Std.		00111	1.0918	5.0063	1.6208	89.43	10/30/18 (835/LEB)	10/31/18 (236/CW)