

Polychlorinated Biphenyls (PCBs) Data

Case Narrative/Conformance Summary

Polychlorinated Biphenyls (PCBs)

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID14

Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
9876332	OU2-1-MW010	X		1	
9876334	OU2-1-MW008I	X		1	Unspiked
9876335	OU2-1-MW008I MS	X		1	Matrix Spike
9876336	OU2-1-MW008I MSD	X		1	Matrix Spike Duplicate
9876342	OU2EB103018-001	X		1	Equipment Blank

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): 9876332, 9876334-9876336, 9876342: Analysis: 10591)
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:

Surrogate

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

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.

SDG: TID14

Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

(Sample number(s): 9876332: Analysis: 10591)

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and no target analytes were detected, the data is reported.

Batch#: 183050010A (Sample number(s): 9876332, 9876334-9876336, 9876342, UNSPK: 9876334)

The recovery(ies) for the following surrogate(s) exceeded the acceptance window:

Tetrachloro-m-xylene-D1 (9876332)

The recovery(ies) for the following surrogate(s) were below the acceptance window:

Tetrachloro-m-xylene-D2 (LCS10305)

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)

Quality Control Reference List Pesticide Residue Analysis

CLIENT: Tidewater, Inc.
SDG: TID14

Fraction: Polychlorinated Biphenyls (PCBs)

Analysis	Batch Number	Sample Number	Analysis Date
PCBs in Water by 8082A	183050010A	PBLK10305	11/04/2018 12:48
		LCS10305	11/04/2018 12:59
		9876332	11/04/2018 13:32
		9876334 UNSPK	11/04/2018 13:43
		9876335 MS	11/04/2018 13:54
		9876336 MSD	11/04/2018 14:05
		9876342	11/04/2018 14:16

Fraction: Polychlorinated Biphenyls (PCBs)

183050010A / PBLK10305						
Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
PCB-1016	11/04/18	N.D.	ug/l	0.080	0.24	0.40
PCB-1221	11/04/18	N.D.	ug/l	0.080	0.24	0.40
PCB-1232	11/04/18	N.D.	ug/l	0.16	0.32	0.40
PCB-1242	11/04/18	N.D.	ug/l	0.080	0.24	0.40
PCB-1248	11/04/18	N.D.	ug/l	0.080	0.24	0.40
PCB-1254	11/04/18	N.D.	ug/l	0.080	0.24	0.40
PCB-1260	11/04/18	N.D.	ug/l	0.12	0.24	0.40
PCB-1262	11/04/18	N.D.	ug/l	0.16	0.32	0.40
PCB-1268	11/04/18	N.D.	ug/l	0.13	0.26	0.40

Fraction: Polychlorinated Biphenyls (PCBs)

183050010A Sample	Decachlorobiphenyl-D1		Decachlorobiphenyl-D2		Tetrachloro-m-xylene-D1		Tetrachloro-m-xylene-D2	
	Spike Added	0.2976 ug/l	Spike Added	0.2976 ug/l	Spike Added	0.301049 ug/l	Spike Added	0.301049 ug/l
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
PBLK10305	59	10 - 148	59	10 - 148	98	33 - 137	94	33 - 137
LCS10305	31	10 - 148	30	10 - 148	33	33 - 137	32 *	33 - 137
9876332	89	10 - 148	91	10 - 148	140 *	33 - 137	134	33 - 137
9876334 UNSPK	67	10 - 148	67	10 - 148	120	33 - 137	117	33 - 137
9876335 MS	57	10 - 148	59	10 - 148	86	33 - 137	86	33 - 137
9876336 MSD	61	10 - 148	62	10 - 148	85	33 - 137	85	33 - 137
9876342	115	10 - 148	114	10 - 148	137	33 - 137	132	33 - 137

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

Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

UNSPK: 9876334 MS: 9876335 MSD: 9876336 Analyte	Batch: 183050010A (Sample number(s): 9876332, 9876334-9876336, 9876342)								
	Spike Added ug/l MS/MSD	Unspiked Conc ug/l	MS Conc ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	%Rec Limits	%RPD	%RPD Limits
PCB-1016	5.28 / 5.01	N.D.	4.61	4.60	87	92	46-129	0	30
PCB-1260	5.27 / 5.00	N.D.	4.68	4.74	89	95	45-134	1	30

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

LCS: LCS10305	Batch: 183050010A (Sample number(s): 9876332, 9876334-9876336, 9876342)							
Analyte	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
PCB-1016	5.01	2.41	NA	48	NA	46-129	NA	NA
PCB-1260	5.00	2.28	NA	46	NA	45-134	NA	NA

Fraction: Polychlorinated Biphenyls (PCBs)

10591: PCBs in Water by 8082A Analyte Name	Default DL	Default LOD	Default LOQ	Units
PCB-1016	.08	.24	0.40	ug/l
PCB-1221	.08	.24	0.40	ug/l
PCB-1232	.16	.32	0.40	ug/l
PCB-1242	.08	.24	0.40	ug/l
PCB-1248	.08	.24	0.40	ug/l
PCB-1254	.08	.24	0.40	ug/l
PCB-1260	.12	.24	0.40	ug/l
PCB-1262	.16	.32	0.40	ug/l
PCB-1268	.128	.256	0.40	ug/l

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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>	
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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
	Conc	25.140	25.140	25.140	25.140	25.140	25.140
Level 2	Height	512856	252879	322258	204251	214837	365768
	Conc	50.280	50.280	50.280	50.280	50.280	50.280
Level 3	Height	968365	477966	638169	386897	437757	709287
	Conc	100.560	100.560	100.560	100.560	100.560	100.560
Level 4	Height	2483457	1134046	1572065	938245	1082411	1731512
	Conc	251.400	251.400	251.400	251.400	251.400	251.400
Level 5	Height	5025122	2236031	3088708	1800090	2129697	3554720
	Conc	502.800	502.800	502.800	502.800	502.800	502.800
Level 6	Height	10187390	4602355	6682550	3836338	4778186	7595699
	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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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
	Conc	25.060	25.060	25.060	25.060	25.060	25.060
Level 2	Height	494277	387672	462462	290152	677397	483176
	Conc	50.110	50.110	50.110	50.110	50.110	50.110
Level 3	Height	937030	731484	919693	578540	1332020	932059
	Conc	100.220	100.220	100.220	100.220	100.220	100.220
Level 4	Height	1818781	1517422	1898718	1170345	2811238	1864258
	Conc	200.440	200.440	200.440	200.440	200.440	200.440
Level 5	Height	4333224	3435597	4405541	2715796	6741592	4580504
	Conc	501.100	501.100	501.100	501.100	501.100	501.100
Level 6	Height	10068820	8203220	10399650	6193271	15727880	9942624
	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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
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: 18274ACalibration File: 25PCBS1830301GC Column (1): MR-1ID: 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: 18274ACalibration File: 25PCBS1830301GC Column (1): MR-1ID: 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: 18274ACalibration File: 25PCBS1830301GC Column (1): MR-1ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION	AVERAGE		AMOUNT	PEAK	
			FROM	TO	FACTOR	CF	LEVEL		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	4709	3779	1	25.05	105430	7.30
					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: 18274ACalibration File: 25PCBS1830301GC Column (1): MR-1ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
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: 18274ACalibration File: 25PCBS1830301GC Column (1): MR-1ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION	AVERAGE	LEVEL	AMOUNT	PEAK	%RSD
			FROM	TO	FACTOR	CF			HEIGHT	
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	
					2810		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: 18274ACalibration File: 25PCBS1830301GC Column (1): MR-1ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION	AVERAGE		AMOUNT	PEAK	
			FROM	TO	FACTOR	CF	LEVEL		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	1050505	
					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: 18274ACalibration File: 25PCBS1830301GC Column (1): MR-1ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION	AVERAGE		AMOUNT	PEAK	
			FROM	TO	FACTOR	CF	LEVEL		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	

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 18274ACalibration File: 25PCBS1830301GC Column (1) : MR-1ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE		AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO		CF	LEVEL			
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

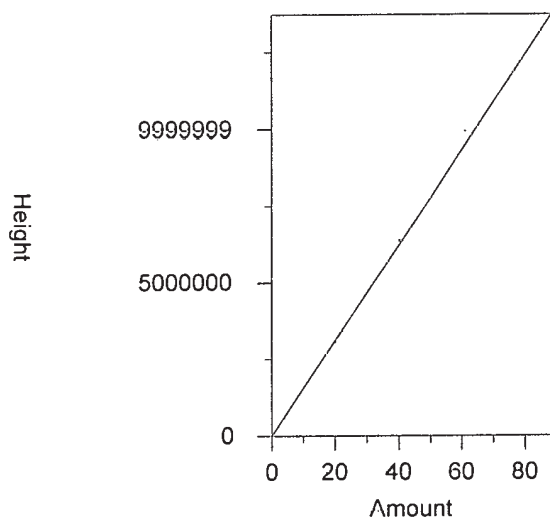
Creator:
Description:
Reason for change:

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

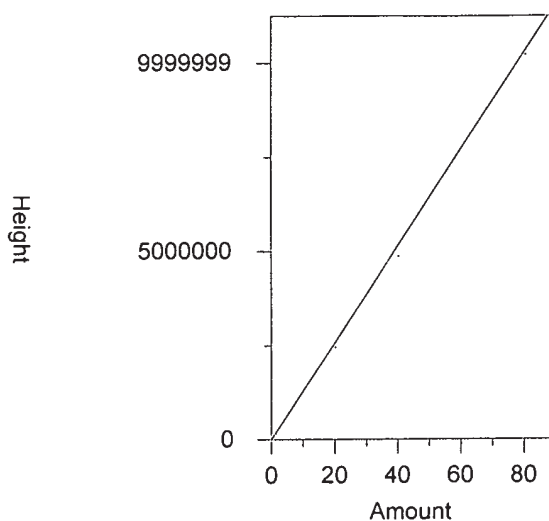
$$Y = 155137.6 X + 0$$

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

Chrom Perfect Calibration File



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: 18274BCalibration File: 25PCBS1830301BGC Column (2): MR-2ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	RT OF STANDARDS						MIDPOINT RT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6		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: 18274BCalibration File: 25PCBS1830301BGC Column (2): MR-2ID: 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: 18274BCalibration File: 25PCBS1830301BGC Column (2) : MR-2ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION	AVERAGE	LEVEL	AMOUNT	PEAK	%RSD
			FROM	TO	FACTOR	CF			HEIGHT	
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
					5430		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: 18274BCalibration File: 25PCBS1830301BGC Column (2): MR-2ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
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: 18274BCalibration File: 25PCBS1830301BGC Column (2): MR-2ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
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	098043	
					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: 18274BCalibration File: 25PCBS1830301BGC Column (2): MR-2ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION	AVERAGE	LEVEL	AMOUNT	PEAK	%RSD
			FROM	TO	FACTOR	CF			HEIGHT	
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: 18274BCalibration File: 25PCBS1830301BGC Column (2): MR-2ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
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	

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code: Case No.:

SAS No.:

SDG No.:

Instrument: 18274BCalibration File: 25PCBS1830301BGC Column (2): MR-2ID: 0.32 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/30/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
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

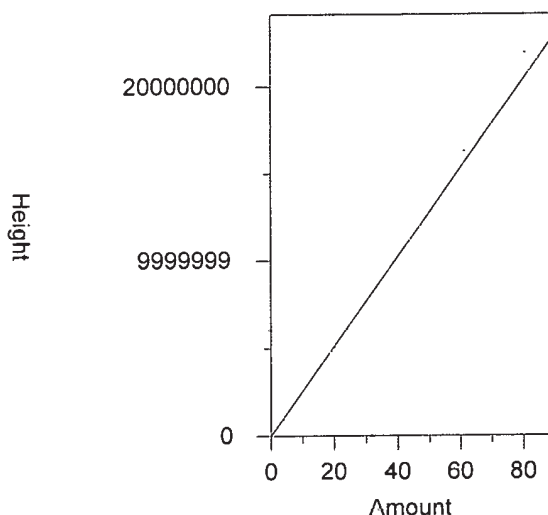
Creator:
Description:
Reason for change:

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

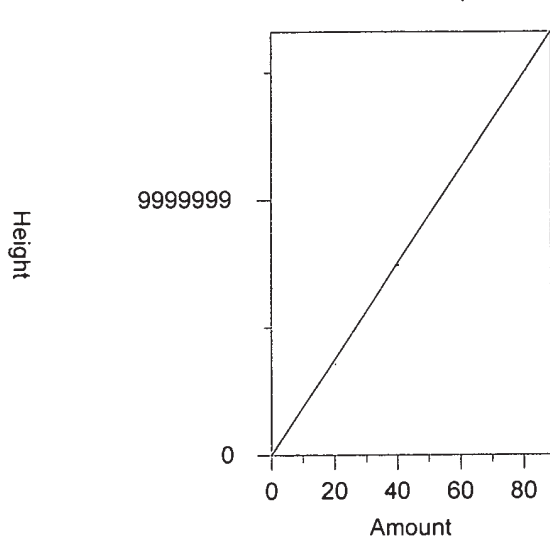
$$Y = 255215.7 X + 0$$

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

Chrom Perfect Calibration File



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

Sample Amount: 1

Analyses: 10227

Total Volume: 1

IC16XAA ID: AA

ml Analyst: 9065

Batchnumber: 1830299999

SDG:

State:

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-1016							
3.16	3.18	3.20	522789.9	197.830301	6	3.58	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
3.06	3.08	3.10	140143.4	99.731235	3	22.19	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.16	3.18	3.20	522789.9	175.750847	6	27.89	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
E 3.16	3.18	3.20	522789.9	228.719574	6	3.34	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.83	3.85	3.87	405437.2	130.303891	6	44.83	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	864285.9	198.514916	6	4.00	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
2.83	2.85	2.87	252177.5	99.261749	3	20.69	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
2.94	2.96	2.98	864285.9	173.391115	6	32.42	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
E 2.94	2.96	2.98	864285.9	230.071363	6	8.10	1
E 3.27	3.29	3.31	1017116	245.548859			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

Sample Amount: 1

Analyses: 10227

Total Volume: 1

IC16XAA ID: AA

ml Analyst: 9065

Batchnumber: 1830299999

SDG:

State:

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							
4.55	4.57	4.59	18634.97	5.337995	6	105.01	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

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.74	4.76	4.78	1072242	198.117675	6	3.58	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

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
5.21	5.23	5.25	807798.5	138.855268	6	36.40	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

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
5.81	5.84	5.85	1360107	77.067804	6	124.78	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							
3.58	3.60	3.62	652570.7	128.51067	6	44.46	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

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.30	4.31	4.34	207829.5	20.367964	6	97.18	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

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.54	4.56	4.58	1902249	200.62604	6	6.07	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: 206.411729 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.81	4.83	4.85	983008.8	126.468643	6	24.85	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							
5.41	5.43	5.45	643736.9	0.135915	6	141.31	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

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							
3.16	3.18	3.20	106031.3	40.123583	6	67.17	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
3.06	3.08	3.10	52375.76	37.272531	3	40.55	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.16	3.18	3.20	106031.3	35.645468	6	82.73	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
3.16	3.18	3.20	106031.3	46.388489	6	72.72	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.83	3.85	3.87	557066.4	179.03616	6	1.61	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	170243.8	39.102725	6	65.22	1
3.27	3.29	3.31	418366.7	82.06817			2
+ 3.47	3.47	3.51	77786.06	15.733531	2		
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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
2.83	2.85	2.87	92267.65	36.318261	3	37.08	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: 292384.74

Amount Avg CF: 26.821714 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
2.94	2.96	2.98	170243.8	34.153932	6	79.26	1
3.27	3.29	3.31	418366.7	182.353584			2
+ 3.47	3.47	3.51	77786.06	33.373278	2		
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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
2.94	2.96	2.98	170243.8	45.318595	6	68.93	1
3.27	3.29	3.31	418366.7	100.999914			2
+ 3.47	3.47	3.51	77786.06	18.463818	2		
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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	945120.9	186.122546	6	3.20	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							
4.55	4.57	4.59	242846.7	69.563539	6	54.59	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.74	4.76	4.78	37144.83	6.863234	6	81.17	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
5.21	5.23	5.25	4631.566	0.796136	5	39.38	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.81	5.84	5.85	15577.71	0.88268	6	95.68	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:

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	

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							
4.30	4.32	4.34	657715.4	64.45824	6	61.53	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.54	4.56	4.58	47954.12	5.057616	6	85.78	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
5.00	5.02	5.04	8271.973	1.02788	5	24.00	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.41	5.43	5.45	7110.343	0.001501	4	106.62	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:

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

Sample Amount: 1

Analyses: 10227

Total Volume: 1

IC54XAA ID: AA

ml Analyst: 9065

Batchnumber: 1830299999

SDG:

State:

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							
3.16	3.18	3.20	26020.83	9.846611	6	126.66	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
3.06	3.08	3.10	15172.01	10.796964	3	31.63	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.16	3.18	3.20	26020.83	8.74765	6	141.04	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
3.16	3.18	3.20	26020.83	11.384063	6	132.54	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.83	3.85	3.87	563018.9	180.949241	6	97.87	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							
2.94	2.96	2.98	44367.76	10.190681	6	104.46	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
2.83	2.85	2.87	28036.49	11.035683	3	31.18	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
2.94	2.96	2.98	44367.76	8.900961	6	114.00	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:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
2.94	2.96	2.98	44367.76	11.810618	6	107.08	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							
4.55	4.57	4.59	811461.4	232.443458	6	2.55	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: 103840.008

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							
3.58	3.60	3.62	917790.3	180.740334	6	98.65	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: 11/04/18

GC Column (1): MR-1

ID: .32 (mm)

Time Analyzed: 12:27

Lab File ID: 25PCBS18303004.005.RAW

Initial Calibration: 25PCBS1830301

Lab Standard ID: AR164JM

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	41.03	40.06	2
Decachlorobiphenyl	6.61	6.58 6.64	39.28	40.04	-2
Aroclor-1016	3.18	3.16 3.20	191.70	200.40	-4
	3.40	3.38 3.42	190.05	200.40	-5
	3.51	3.49 3.53	192.12	200.40	-4
	3.73	3.71 3.75	194.93	200.40	-3
	3.78	3.77 3.81	199.68	200.40	0
	3.98	3.96 4.00	189.43	200.40	-5
Aroclor-1260	4.75	4.74 4.78	204.50	200.44	2
	4.95	4.94 4.98	204.92	200.44	2
	5.16	5.14 5.18	209.79	200.44	5
	5.23	5.21 5.25	201.62	200.44	1
	5.63	5.61 5.65	201.98	200.44	1
	5.84	5.82 5.86	197.07	200.44	-2

Compounds 14

7E

CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 18274B

Date Analyzed: 11/04/18

GC Column (2) : MR-2

ID: .32 (mm)

Time Analyzed: 12:27

Lab File ID: 25PCBS18303004B.005.RAW

Initial Calibration: 25PCBS1830301B

Lab Standard ID: AR164JM

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	39.72	40.06	-1
Decachlorobiphenyl	6.21	6.18 6.24	40.04	40.04	0
Aroclor-1016	2.96	2.94 2.98	192.56	200.40	-4
	3.29	3.27 3.31	193.79	200.40	-3
	3.49	3.47 3.51	199.15	200.40	-1
	3.56	3.54 3.58	200.91	200.40	0
	3.62	3.60 3.64	190.74	200.40	-5
	3.72	3.71 3.75	196.26	200.40	-2
Aroclor-1260	4.56	4.54 4.58	204.05	200.44	2
	4.66	4.64 4.68	202.28	200.44	1
	4.79	4.77 4.81	203.43	200.44	1
	5.02	5.00 5.04	201.57	200.44	1
	5.21	5.19 5.23	211.22	200.44	5
	5.47	5.45 5.49	201.02	200.44	0

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: AR1641824D

Sample Amount: 1

Analyses: 10227

Total Volume: 1

AR164JM ID: JM

ml Analyst: 9065

Batchnumber: 1830799999

SDG:

State:

Analysis Report (A)

Injected on : Nov 04, 2018 12:27:12
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.005.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

%SSR(TCX) : 102% (33-137) Conc.: 41.02929

%SSR(DCB) : 98% (10-148) Conc.: 39.27882

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	506580.6	191.696497	6	1.97	1
3.38	3.40	3.42	485960.1	190.04617			2
+ 3.38	3.41	3.42	210102.6	82.165582			2
3.49	3.51	3.53	630640.2	192.116594			3
3.71	3.73	3.75	736741.2	194.932571			4
3.77	3.78	3.81	621486.5	199.681506			5
3.96	3.98	4.00	450312.3	189.429646			6

Height Summation: 3431720.9

Amount Avg CF: 192.983831 Linear:

Aroclor-1221

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.06	3.08	3.10	115730.1	82.357827	3	25.72	1
3.11	3.13	3.15	122293.5	109.805994			2
3.16	3.18	3.20	506580.6	139.164998			3

Height Summation: 744604.2

Amount Avg CF: 110.44294 Linear:

Aroclor-1232

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.16	3.18	3.20	506580.6	170.301625	6	28.94	1
E 3.38	3.40	3.42	485960.1	420.647123			2
+ 3.38	3.41	3.42	210102.6	181.864837			2
E 3.49	3.51	3.53	630640.2	425.60186			3
E 3.71	3.73	3.75	736741.2	413.664388			4
E 3.77	3.78	3.81	621486.5	471.476872			5
E 3.96	3.98	4.00	450312.3	484.242933			6

Height Summation: 3431720.9

Amount Avg CF: 397.6558 Linear:

Aroclor-1242

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
E 3.16	3.18	3.20	506580.6	221.628036	6	5.94	1
E 3.38	3.40	3.42	485960.1	228.335261			2
+ 3.38	3.41	3.42	210102.6	98.719693			2
E 3.49	3.51	3.53	630640.2	232.53346			3
E 3.71	3.73	3.75	736741.2	227.762719			4
E 3.77	3.78	3.81	621486.5	257.642836			5
E 3.96	3.98	4.00	450312.3	249.016121			6

Height Summation: 3431720.9

Amount Avg CF: 236.153072 Linear:

Aroclor-1248

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.83	3.85	3.87	416662.4	133.91157	6	37.66	1
3.96	3.98	4.00	450312.3	128.275352			2
4.05	4.07	4.09	473533.7	159.089637			3
4.23	4.24	4.27	99870.05	33.60981			4
4.36	4.38	4.40	519963.2	164.2581			5
4.61	4.63	4.65	334162.2	141.815744			6

Height Summation: 2294503.85

Amount Avg CF: 126.826702 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 12:27:12
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.005.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

%SSR(TCX) : 99% (33-137) Conc.: 39.71677

%SSR(DCB) : 100% (10-148) Conc.: 40.03598

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	838343.4	192.55627	6	2.01	1
3.27	3.29	3.31	987896.2	193.788926			2
+ 3.47	3.47	3.51	40203.09	8.131747			3
3.47	3.49	3.51	984615	199.154839			3
3.54	3.56	3.58	1029481	200.90622			4
3.60	3.62	3.64	766867.2	190.73979			5
+ 3.60	3.64	3.64	221430.3	55.075467			5
3.71	3.72	3.75	850870.2	196.264071			6

Height Summation: 5458073

Amount Avg CF: 195.568353 Linear:

Aroclor-1221

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
2.83	2.85	2.87	206770.5	81.38871	3	25.73	1
2.89	2.91	2.93	188102.4	103.841775			2
2.94	2.96	2.98	838343.4	136.239558			3

Height Summation: 1233216.3

Amount Avg CF: 107.156681 Linear:

Aroclor-1232

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
2.94	2.96	2.98	838343.4	168.186588	6	30.86	1
E 3.27	3.29	3.31	987896.2	430.59453			2
+ 3.47	3.47	3.51	40203.09	17.248706			3
E 3.47	3.49	3.51	984615	422.438552			3
E 3.54	3.56	3.58	1029481	461.640404			4
E 3.60	3.62	3.64	766867.2	527.817646			5
+ 3.60	3.64	3.64	221430.3	152.405553			5
E 3.71	3.72	3.75	850870.2	501.139184			6

Height Summation: 5458073

Amount Avg CF: 418.636151 Linear:

Aroclor-1242

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
E 2.94	2.96	2.98	030343.4	223.165516	6	5.04	1
E 3.27	3.29	3.31	987896.2	238.492767			2
+ 3.47	3.47	3.51	40203.09	9.542874			3
E 3.47	3.49	3.51	984615	233.714785			3
E 3.54	3.56	3.58	1029481	250.353398			4
E 3.60	3.62	3.64	766867.2	253.812858			5
+ 3.60	3.64	3.64	221430.3	73.287601			5
E 3.71	3.72	3.75	850870.2	251.893102			6

Height Summation: 5458073

Amount Avg CF: 241.905404 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: AR1641824D

Sample Amount: 1

Analyses: 10227

Total Volume: 1

AR164JM ID: JM

ml Analyst: 9065

Batchnumber: 1830799999

SDG:

State:

Analysis Report (A)

Injected on : Nov 04, 2018 12:27:12
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.005.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	47488.58	13.603124	6	104.45	1
4.55	4.59	4.59	99404.33	28.474412			1
4.61	4.63	4.65	334162.2	47.813703			2
4.74	4.75	4.78	1106780	502.276068			3
4.83	4.84	4.87	196546.8	40.757214			4
5.03	5.05	5.07	617022.9	159.486285			5
5.14	5.16	5.18	1649470	333.592444			6

Height Summation: 4003386.23

Amount Avg CF: 185.400021 Linear:

Aroclor-1260

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.74	4.75	4.78	1106780	204.499245	6	2.08	1
4.94	4.95	4.98	1335948	204.9244			2
5.14	5.16	5.18	1649470	209.793281			3
5.21	5.23	5.25	769106.6	201.623951			4
5.61	5.63	5.65	2300747	201.982418			5
5.82	5.84	5.86	1250173	197.069938			6

Height Summation: 8412224.6

Amount Avg CF: 203.315539 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
5.21	5.23	5.25	769106.6	132.204384	6	38.88	1
5.38	5.39	5.41	769943.2	164.297881			2
5.61	5.63	5.65	2300747	169.421785			3
5.82	5.84	5.86	1250173	159.07733			4
5.87	5.87	5.91	88838.7	20.829365			5
5.87	5.89	5.91	152867.8	35.841804			6
6.25	6.26	6.29	619602.6	117.954116			

Height Summation: 5862440.2

Amount Avg CF: 129.79955 Linear:

Aroclor-1268

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
5.81	5.84	5.85	1250173	70.838609	6	98.17	1
5.87	5.87	5.91	88838.7	5.558027			2
5.87	5.89	5.91	152867.8	9.563887			2
6.00	6.02	6.04	59522.06	4.055412			3
6.07	6.08	6.11	52834.05	14.34065			4
6.07	6.11	6.11	240587.7	65.302283			4
6.24	6.26	6.28	619602.6	98.354064			5
6.44	6.46	6.48	195560.6	3.846902			6

Height Summation: 2518313.76

Amount Avg CF: 41.993526 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 12:27:12
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.005.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	706797.5	139.189547	6	42.04	1
3.71	3.72	3.75	850870.2	136.471068			2
3.80	3.80	3.84	206321.8	50.066462			3
3.80	3.82	3.84	644322.5	156.352592			3
3.93	3.95	3.97	915107.9	114.011405			4
4.07	4.09	4.11	37129.29	10.057459			5
4.07	4.11	4.11	76278.12	20.661965			5
4.30	4.30	4.34	204030.7	58.462116			6
4.30	4.32	4.34	175042.7	50.156014			6
4.30	4.34	4.34	438880.2	125.754923			6

Height Summation: 3632256.42

Amount Avg CF: 115.406917 Linear:

Aroclor-1254

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.30	4.30	4.34	204030.7	19.99567	6	95.99	1
4.30	4.32	4.34	175042.7	17.154752			1
4.30	4.34	4.34	438880.2	43.011681			1
4.40	4.42	4.44	1662694	346.934116			2
4.47	4.49	4.51	173780.6	27.0004			3
4.54	4.56	4.58	1934709	498.569894			4
4.69	4.72	4.73	208031.6	46.997839			5
4.77	4.79	4.81	1927166	264.95894			6

Height Summation: 6345261.4

Amount Avg CF: 204.578812 Linear:

Aroclor-1260

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.54	4.56	4.58	1934709	204.049525	6	1.84	1
4.64	4.66	4.68	1539943	202.283616			2
4.77	4.79	4.81	1927166	203.431021			3
5.00	5.02	5.04	1181930	201.571894			4
5.19	5.21	5.23	2939344	211.221173			5
5.45	5.47	5.49	1904342	201.017241			6

Height Summation: 11427434

Amount Avg CF: 203.929078 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.81	4.82	4.85	927525.8	119.330498	6	24.29	1
5.00	5.02	5.04	1181930	146.867254			2
5.20	5.21	5.24	2939344	179.753327			3
5.41	5.43	5.45	616015.4	93.039224			4
5.46	5.47	5.50	1904342	171.971023			5
5.83	5.85	5.87	786568.4	120.176225			6

Height Summation: 8355725.6

Amount Avg CF: 138.522925 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: AR1641824D AR164JM ID: JM **Batchnumber:** 1830799999
Sample Amount: 1 **Total Volume:** 1 ml **Analyst:** 9065 **SDG:** **State:**
Analyses: 10227

Analysis Report (A)

Injected on : Nov 04, 2018 12:27:12
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.005.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 12:27:12
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.005.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.41	5.43	5.45	616015.4	0.130062	6	133.90	1
5.46	5.47	5.50	1904342	397.721449			2
5.61	5.63	5.65	80644.72	19.382898			3
5.68	5.70	5.72	56623.95	54.659435			4
5.83	5.85	5.87	786568.4	470.979018			5
6.03	6.05	6.07	271335.4	17.856088			6
Height Summation:				3715529.87			
Amount Avg CF:				160.121492	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		1.33	4	40	
Aroclor-1221			0.5	0.1		3.02	3	5	
Aroclor-1232			0.5	0.2	E	5.14	4	10	
Aroclor-1242			0.5	0.1	E	2.41	4	30	
Aroclor-1248			0.5	0.1		9.43	4	40	
Aroclor-1254			0.5	0.1		9.84	4	40	
Aroclor-1260			0.5	0.15		0.30	4	40	
Aroclor-1262			0.5	0.2		6.50	4	40	
Aroclor-1268			0.5	0.16		** 116.89	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C

Sample Amount: 1000

Analyses: 10227

Total Volume: 10

PIBLKKN ID: KN

ml Analyst: 9065

Batchnumber: 1830799999

SDG:

State:

Analysis Report (A)

Injected on : Nov 04, 2018 12:37:48
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.006.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

%SSR(TCX) : 98% (33-137) Conc.: 0.196401

%SSR(DCB) : 99% (10-148) Conc.: 0.197526

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	7148.243	0.02705	6	41.32	1
3.38	3.40	3.42	4279.331	0.016735			2
+ 3.49	3.49	3.53	1498.765	0.004566			3
3.49	3.52	3.53	4709.373	0.014347			3
3.71	3.73	3.75	4589.738	0.012144			4
3.77	3.78	3.81	2831.584	0.009098			5
3.96	3.98	4.00	2904.373	0.012218			6

Height Summation: 26462.642

Amount Avg CF: 0.015265 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
3.11	3.12	3.15	36967.07	0.331923	2	125.62	2
3.16	3.18	3.20	7148.243	0.019637			3

Height Summation: 44115.313

Amount Avg CF: 0.17578 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.16	3.18	3.20	7148.243	0.024031	6	20.29	1
3.38	3.40	3.42	4279.331	0.037042			2
+ 3.49	3.49	3.53	1498.765	0.010115			3
3.49	3.52	3.53	4709.373	0.031782			3
3.71	3.73	3.75	4589.738	0.02577			4
3.77	3.78	3.81	2831.584	0.021481			5
3.96	3.98	4.00	2904.373	0.031232			6

Height Summation: 26462.642

Amount Avg CF: 0.028556 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
3.16	3.18	3.20	7148.243	0.031273	6	37.33	1
3.38	3.40	3.42	4279.331	0.020107			2
+ 3.49	3.49	3.53	1498.765	0.005526			3
3.49	3.52	3.53	4700.373	0.017366			3
3.71	3.73	3.75	4589.738	0.014189			4
3.77	3.78	3.81	2831.584	0.011739			5
3.96	3.98	4.00	2904.373	0.016061			6

Height Summation: 26462.642

Amount Avg CF: 0.018456 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.83	3.84	3.87	2208.29	0.007097	5	22.52	1
3.96	3.98	4.00	2904.373	0.008273			2
4.05	4.07	4.09	2924.646	0.009826			3
4.36	4.38	4.40	4036.989	0.012753			5
4.61	4.63	4.65	2166.982	0.009196			6

Height Summation: 14241.28

Amount Avg CF: 0.009429 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 12:37:48
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.006.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

%SSR(TCX) : 95% (33-137) Conc.: 0.190222

%SSR(DCB) : 101% (10-148) Conc.: 0.202763

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.27	3.29	3.31	6905.235	0.013546	5	10.26	2
3.47	3.49	3.51	6490.146	0.013127			3
3.54	3.56	3.58	6185.626	0.012071			4
3.60	3.62	3.64	6248.877	0.015543			5
3.71	3.72	3.75	6526.907	0.015055			6

Height Summation: 32356.791

Amount Avg CF: 0.013868 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
2.89	2.90	2.93	66261.1	0.365794	1		2

Height Summation: 66261.1

Amount Avg CF: 0.365794 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.27	3.29	3.31	6905.235	0.030098	5	20.70	2
3.47	3.49	3.51	6490.146	0.027845			3
3.54	3.56	3.58	6185.626	0.027738			4
3.60	3.62	3.64	6248.877	0.04301			5
3.71	3.72	3.75	6526.907	0.038442			6

Height Summation: 32356.791

Amount Avg CF: 0.033426 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
3.27	3.29	3.31	6905.235	0.01667	5	14.21	2
3.47	3.49	3.51	6490.146	0.015405			3
3.54	3.56	3.58	6185.626	0.015042			4
3.60	3.62	3.64	6248.877	0.020682			5
3.71	3.72	3.75	6526.907	0.019322			6

Height Summation: 32356.791

Amount Avg CF: 0.017425 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	4347.893	0.008562	5	31.29	1
3.71	3.72	3.75	6526.907	0.010469			2
3.80	3.82	3.84	4983.366	0.012093			3
3.93	3.95	3.97	10438.41	0.013005			4
4.30	4.32	4.34	6637.548	0.019019			6

Height Summation: 32934.124

Amount Avg CF: 0.012629 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.30	4.32	4.34	6637.548	0.006505	5	46.44	1
4.40	4.42	4.44	11974.81	0.024986			2
4.54	4.56	4.58	12275.28	0.031633			4
4.69	4.73	4.73	8798.987	0.019878			5
4.77	4.79	4.81	12731.12	0.017504			6

Height Summation: 52417.745

Amount Avg CF: 0.020101 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C

PIBLKKN

ID: KN

Batchnumber: 1830799999

Sample Amount: 1000

Total Volume: 10

ml

Analyst: 9065

SDG:

State:

Analyses: 10227

Analysis Report (A)

Injected on : Nov 04, 2018 12:37:48
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.006.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	1840.625	0.005272	6	69.89	1
4.61	4.63	4.65	2166.982	0.003101			2
4.74	4.75	4.78	7370.674	0.033449			3
4.83	4.84	4.87	6861.041	0.014227			4
5.03	5.04	5.07	10316.65	0.026666			5
5.14	5.16	5.18	9632.284	0.019481			6

Height Summation: 38188.256

Amount Avg CF: 0.017033 Linear:

Aroclor-1260							
4.74	4.75	4.78	7370.674	0.013619	6	25.85	1
4.94	4.95	4.98	8222.688	0.012613			2
5.14	5.16	5.18	9632.284	0.012251			3
5.21	5.22	5.25	4381.057	0.011485			4
5.61	5.63	5.65	10132.92	0.008896			5
+ 5.61	5.65	5.65	5913.819	0.005192			5
5.82	5.83	5.86	12056.23	0.019005			6

Height Summation: 51795.853

Amount Avg CF: 0.012978 Linear:

Aroclor-1262							
5.21	5.22	5.25	4381.057	0.007531	6	34.76	1
5.38	5.39	5.41	5484.614	0.011704			2
5.61	5.63	5.65	10132.92	0.007462			3
+ 5.61	5.65	5.65	5913.819	0.004355			3
5.82	5.83	5.86	12056.23	0.015341			4
5.87	5.89	5.91	3151.347	0.007389			5
6.25	6.26	6.29	4038.037	0.007687			6

Height Summation: 39244.205

Amount Avg CF: 0.009519 Linear:

Aroclor-1268							
5.81	5.83	5.85	12056.23	0.006831	6	99.72	1
5.87	5.89	5.91	3151.347	0.001972			2
6.00	6.02	6.04	15153.54	0.010325			3
6.07	6.08	6.11	10998.99	0.029854			4
6.24	6.26	6.28	4038.037	0.00641			5
6.44	6.46	6.48	25983.83	0.005111			6

Height Summation: 71381.974

Amount Avg CF: 0.010084 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		9.59	4	40	
Aroclor-1221			0.5	0.1		** 70.17	3	5	
Aroclor-1232			0.5	0.2		15.71	4	10	
Aroclor-1242			0.5	0.1		5.75	4	30	
Aroclor-1248			0.5	0.1		29.02	4	40	
Aroclor-1254			0.5	0.1		16.53	4	40	
Aroclor-1260			0.5	0.15		11.76	4	40	

Analysis Report (B)

Injected on : Nov 04, 2018 12:37:48
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.006.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.54	4.56	4.58	12275.28	0.012946	6	11.53	1
4.64	4.66	4.68	11445.84	0.015035			2
4.77	4.79	4.81	12731.12	0.013439			3
5.00	5.02	5.04	10368.57	0.017683			4
5.19	5.21	5.23	19446.36	0.013974			5
5.45	5.47	5.49	13753.86	0.014518			6

Height Summation: 80021.03

Amount Avg CF: 0.014599 Linear:

Aroclor-1262							
4.81	4.82	4.85	6317.087	0.008127	6	22.67	1
5.00	5.02	5.04	10368.57	0.012884			2
5.20	5.21	5.24	19446.36	0.011892			3
5.41	5.43	5.45	4713.697	0.007119			4
5.46	5.47	5.50	13753.86	0.01242			5
5.83	5.85	5.87	7487.105	0.011439			6

Height Summation: 62086.679

Amount Avg CF: 0.010647 Linear:

Aroclor-1268							
5.41	5.43	5.45	4713.697	0.00001	6	118.92	1
5.46	5.47	5.50	13753.86	0.028725			2
5.61	5.63	5.65	22731.48	0.054635			3
5.68	5.69	5.72	19426.05	0.187521			4
5.83	5.85	5.87	7487.105	0.044831			5
6.03	6.05	6.07	33850.57	0.022276			6

Height Summation: 101962.762

Amount Avg CF: 0.056333 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

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

Analysis Report (A)

Injected on : Nov 04, 2018 12:37:48
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.006.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 12:37:48
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.006.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Summary Report

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1262			0.5	0.2		11.19	4	40	
Aroclor-1268			0.5	0.16		** 139.27	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: 11/04/18

GC Column (1): MR-1

ID: .32 (mm)

Time Analyzed: 14:38

Lab File ID: 25PCBS18303004.017.RAW

Initial Calibration: 25PCBS1830301

Lab Standard ID: AR164JW

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	40.87	40.06	2
Decachlorobiphenyl	6.61	6.58 6.64	38.07	40.04	-5
Aroclor-1016	3.18	3.16 3.20	198.48	200.40	-1
	3.40	3.38 3.42	199.85	200.40	0
	3.51	3.49 3.53	203.33	200.40	1
	3.73	3.71 3.75	198.34	200.40	-1
	3.79	3.77 3.81	194.41	200.40	-3
	3.98	3.96 4.00	195.46	200.40	-2
Aroclor-1260	4.76	4.74 4.78	189.90	200.44	-5
	4.95	4.94 4.98	189.78	200.44	-5
	5.16	5.14 5.18	185.25	200.44	-8
	5.23	5.21 5.25	189.64	200.44	-5
	5.63	5.61 5.65	208.35	200.44	4
	5.84	5.82 5.86	197.90	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: 11/04/18

GC Column (2) : MR-2

ID: .32 (mm)

Time Analyzed: 14:38

Lab File ID: 25PCBS18303004B.017.RAW

Initial Calibration: 25PCBS1830301B

Lab Standard ID: AR164JW

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	40.59	40.06	1
Decachlorobiphenyl	6.21	6.18 6.24	39.07	40.04	-2
Aroclor-1016	2.96	2.94 2.98	194.98	200.40	-3
	3.29	3.27 3.31	193.38	200.40	-4
	3.49	3.47 3.51	192.50	200.40	-4
	3.56	3.54 3.58	196.05	200.40	-2
	3.62	3.60 3.64	202.18	200.40	1
	3.72	3.71 3.75	194.92	200.40	-3
Aroclor-1260	4.56	4.54 4.58	186.64	200.44	-7
	4.66	4.64 4.68	190.08	200.44	-5
	4.79	4.77 4.81	189.11	200.44	-6
	5.02	5.00 5.04	192.60	200.44	-4
	5.21	5.19 5.23	202.17	200.44	1
	5.47	5.45 5.49	195.78	200.44	-2

Compounds 14

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: AR1641824D

AR164JW ID: JW

Batchnumber: 1830799999

Sample Amount: 1

Total Volume: 1

ml Analyst: 9065

SDG:

State:

Analyses: 10227

Analysis Report (A)

Injected on : Nov 04, 2018 14:38:02
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.017.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

%SSR(TCX) : 102% (33-137) Conc.: 40.87451

%SSR(DCB) : 95% (10-148) Conc.: 38.06674

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	524512	198.481965	6	1.61	1
3.38	3.40	3.42	511039.8	199.854179			2
+ 3.38	3.41	3.42	206891.7	80.909884			2
3.49	3.51	3.53	667464.7	203.334714			3
3.71	3.73	3.75	749600.6	198.335009			4
3.77	3.79	3.81	605092.4	194.414137			5
3.96	3.98	4.00	464643.2	195.458123			6

Height Summation: 3522352.7

Amount Avg CF: 198.313021 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
3.06	3.08	3.10	127021.8	90.393419	3	23.30	1
3.11	3.13	3.15	125586.5	112.762743			2
3.16	3.18	3.20	524512	144.091012			3

Height Summation: 777120.3

Amount Avg CF: 115.749058 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.16	3.18	3.20	524512	176.329781	6	28.54	1
E 3.38	3.40	3.42	511039.8	442.356114			2
+ 3.38	3.41	3.42	206891.7	179.085481			2
E 3.49	3.51	3.53	667464.7	450.45371			3
E 3.71	3.73	3.75	749600.6	420.884666			4
E 3.77	3.79	3.81	605092.4	459.039854			5
E 3.96	3.98	4.00	464643.2	499.653654			6

Height Summation: 3522352.7

Amount Avg CF: 408.11963 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
E 3.16	3.18	3.20	524512	229.472989	6	4.45	1
E 3.38	3.40	3.42	511039.8	240.119315			2
+ 3.38	3.41	3.42	206891.7	97.211006			2
E 3.49	3.51	3.53	667464.7	246.111611			3
E 3.71	3.73	3.75	749600.6	231.738189			4
E 3.77	3.79	3.81	605092.4	250.846514			5
E 3.96	3.98	4.00	464643.2	256.940899			6

Height Summation: 3522352.7

Amount Avg CF: 242.538253 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.83	3.85	3.87	414312.6	133.156365	6	37.80	1
3.96	3.98	4.00	464643.2	132.357633			2
4.05	4.07	4.09	452280	151.949188			3
4.23	4.25	4.27	94044.84	31.649421			4
4.36	4.38	4.40	515572.3	162.871			5
4.61	4.63	4.65	334502.2	141.960037			6

Height Summation: 2275355.14

Amount Avg CF: 125.657274 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 14:38:02
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.017.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

%SSR(TCX) : 101% (33-137) Conc.: 40.59035

%SSR(DCB) : 98% (10-148) Conc.: 39.07219

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	848875.9	194.975445	6	1.75	1
3.27	3.29	3.31	985829.7	193.383555			2
+ 3.47	3.47	3.51	41649.14	8.424235			3
3.47	3.49	3.51	951729.3	192.503157			3
3.54	3.56	3.58	1004622	196.054914			4
3.60	3.62	3.64	812866.8	202.181085			5
+ 3.60	3.64	3.64	215992.9	53.723044			5
3.71	3.72	3.75	845053.5	194.922374			6

Height Summation: 5448977.2

Amount Avg CF: 195.670088 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
2.83	2.85	2.87	224755.3	88.467862	3	35.48	1
+ 2.89	2.90	2.93	56644.43	31.270511			2
2.89	2.91	2.93	127072.8	70.150435			2
2.94	2.96	2.98	848875.9	137.951199			3

Height Summation: 1200704

Amount Avg CF: 98.856499 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
2.94	2.96	2.98	848875.9	170.299595	6	31.82	1
E 3.27	3.29	3.31	985829.7	429.693804			2
+ 3.47	3.47	3.51	41649.14	17.869119			3
E 3.47	3.49	3.51	951729.3	408.329294			3
E 3.54	3.56	3.58	1004622	450.493118			4
E 3.60	3.62	3.64	812866.8	559.478148			5
+ 3.60	3.64	3.64	215992.9	148.663111			5
E 3.71	3.72	3.75	845053.5	497.713307			6

Height Summation: 5448977.2

Amount Avg CF: 419.334544 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
E 2.94	2.96	2.98	848875.9	225.969248	6	6.75	1
E 3.27	3.29	3.31	985829.7	237.993883			2
+ 3.47	3.47	3.51	41649.14	9.886118			3
E 3.47	3.49	3.51	951729.3	225.908816			3
E 3.54	3.56	3.58	1004622	244.308085			4
E 3.60	3.62	3.64	812866.8	269.037515			5
+ 3.60	3.64	3.64	215992.9	71.487965			5
E 3.71	3.72	3.75	845053.5	250.171116			6

Height Summation: 5448977.2

Amount Avg CF: 242.231444 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: AR1641824D

AR164JW ID: JW

Batchnumber: 1830799999

Sample Amount: 1

Total Volume: 1

ml Analyst: 9065

SDG:

State:

Analyses: 10227

Analysis Report (A)

Injected on : Nov 04, 2018 14:38:02
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.017.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	47066.33	13.48217	6	103.18	1
4.55	4.59	4.59	101180.4	28.983168			1
4.61	4.63	4.65	334502.2	47.862352			2
4.74	4.76	4.78	1027743	466.407699			3
4.83	4.85	4.87	180023.9	37.330919			4
5.03	5.05	5.07	589232.6	152.303129			5
5.14	5.16	5.18	1456536	294.573047			6

Height Summation: 3689218.1

Amount Avg CF: 171.243386 Linear:

Aroclor-1260

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.74	4.76	4.78	1027743	189.895614	6	4.32	1
4.94	4.95	4.98	1237201	189.777351			2
5.14	5.16	5.18	1456536	185.254334			3
5.21	5.23	5.25	723390.4	189.639291			4
5.61	5.63	5.65	2373284	208.350436			5
5.82	5.84	5.86	1255455	197.902561			6

Height Summation: 8073609.4

Amount Avg CF: 193.469931 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
5.21	5.23	5.25	723390.4	124.346069	6	41.52	1
5.38	5.39	5.41	714759.1	152.522167			2
5.61	5.63	5.65	2373284	174.763245			3
5.82	5.84	5.86	1255455	159.749434			4
+ 5.87	5.88	5.91	36343.78	8.521262			5
5.87	5.89	5.91	122788.7	28.789376			5
6.25	6.26	6.29	617504.9	117.554775			6

Height Summation: 5807182.1

Amount Avg CF: 126.287511 Linear:

Aroclor-1268

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.81	5.84	5.85	1255455	71.137903	6	124.59	1
+ 5.87	5.88	5.91	36343.78	2.27378			2
5.87	5.89	5.91	122788.7	7.682045			2
6.00	6.02	6.04	52876.92	3.602659			3
6.07	6.08	6.11	49670.77	13.482047			4
6.24	6.26	6.28	617504.9	98.021081			5
6.44	6.46	6.48	190302.1	3.743461			6

Height Summation: 2288598.39

Amount Avg CF: 32.944866 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 14:38:02
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.017.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	674453.9	132.820126	6	39.55	1
3.71	3.72	3.75	845053.5	135.538127			2
+ 3.80	3.80	3.84	221585.7	53.770431			3
3.80	3.82	3.84	628928.1	152.616956			3
3.93	3.95	3.97	906161.9	112.896841			4
+ 4.07	4.09	4.11	35727.97	9.677874			5
4.07	4.11	4.11	95587.8	25.892507			5
+ 4.30	4.31	4.34	200581.3	57.473739			6
+ 4.30	4.32	4.34	145323.4	41.640368			6
4.30	4.34	4.34	438797.2	125.731141			6

Height Summation: 3588982.4

Amount Avg CF: 114.249283 Linear:

Aroclor-1254

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
+ 4.30	4.31	4.34	200581.3	19.657617	6	94.94	1
+ 4.30	4.32	4.34	145323.4	14.242164			1
4.30	4.34	4.34	438797.2	43.003547			1
4.40	4.42	4.44	1574300	328.490016			2
4.47	4.49	4.51	158929.9	24.693038			3
4.54	4.56	4.58	1769679	456.042056			4
4.69	4.72	4.73	194339.5	43.904563			5
4.77	4.79	4.81	1791532	246.311122			6

Height Summation: 5927577.6

Amount Avg CF: 190.40739 Linear:

Aroclor-1260

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.54	4.56	4.58	1769679	186.644172	6	2.90	1
4.64	4.66	4.68	1447014	190.076662			2
4.77	4.79	4.81	1791532	189.11354			3
5.00	5.02	5.04	1129304	192.596809			4
5.19	5.21	5.23	2813451	202.174505			5
5.45	5.47	5.49	1854715	195.778748			6

Height Summation: 10805695

Amount Avg CF: 192.730739 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
4.81	4.83	4.85	830425.7	106.83812	6	26.43	1
5.00	5.02	5.04	1129304	140.327919			2
5.20	5.21	5.24	2813451	172.054437			3
5.41	5.43	5.45	560985.4	84.727827			4
5.46	5.47	5.50	1854715	167.489472			5
5.83	5.85	5.87	764921.6	116.868908			6

Height Summation: 7953802.7

Amount Avg CF: 131.384447 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: AR1641824D AR164JW ID: JW **Batchnumber:** 1830799999
Sample Amount: 1 **Total Volume:** 1 ml **Analyst:** 9065 **SDG:** **State:**
Analyses: 10227

Analysis Report (A)

Injected on : Nov 04, 2018 14:38:02
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.017.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 14:38:02
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.017.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.41	5.43	5.45	560985.4	0.118443	6	135.14	1
5.46	5.47	5.50	1854715	387.35686			2
5.61	5.63	5.65	70886.74	17.037575			3
5.68	5.70	5.72	50656.64	48.899155			4
5.83	5.85	5.87	764921.6	458.017414			5
6.03	6.05	6.07	268053.5	17.640112			6
Height Summation:				3570218.88			
Amount Avg CF:				154.844927	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		1.34	4	40	
Aroclor-1221			0.5	0.1		15.74	3	5	
Aroclor-1232			0.5	0.2	E	2.71	4	10	
Aroclor-1242			0.5	0.1	E	0.13	4	30	
Aroclor-1248			0.5	0.1		9.51	4	40	
Aroclor-1254			0.5	0.1		10.60	4	40	
Aroclor-1260			0.5	0.15		0.38	4	40	
Aroclor-1262			0.5	0.2		3.96	4	40	
Aroclor-1268			0.5	0.16		** 129.83	4	40	

Units: ug/l

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C

Sample Amount: 1000

Analyses: 10227

Total Volume: 10

PIBLKKX

ID: KX

Batchnumber: 1830799999

ml Analyst: 9065

SDG:

State:

Analysis Report (A)

Injected on : Nov 04, 2018 14:48:55
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.018.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

%SSR(TCX) : 103% (33-137) Conc.: 0.207037
 %SSR(DCB) : 97% (10-148) Conc.: 0.193819

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.19	3.20	5546.412	0.020988	6	24.86	1
3.38	3.40	3.42	4451.454	0.017408			2
+ 3.38	3.41	3.42	1596.384	0.006243			2
+ 3.49	3.50	3.53	2169.861	0.00661			3
3.49	3.51	3.53	4128.434	0.012577			3
3.71	3.73	3.75	5606.261	0.014833			4
3.77	3.79	3.81	3176.572	0.010206			5
3.96	3.98	4.00	3483.908	0.014656			6

Height Summation: 26393.041

Amount Avg CF: 0.015111 Linear:

Aroclor-1221

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.06	3.08	3.10	937.941	0.006675	3	157.42	1
3.11	3.13	3.15	37619.82	0.337784			2
3.16	3.19	3.20	5546.412	0.015237			3

Height Summation: 44104.173

Amount Avg CF: 0.119899 Linear:

Aroclor-1232

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.16	3.19	3.20	5546.412	0.018646	6	26.03	1
3.38	3.40	3.42	4451.454	0.038532			2
+ 3.38	3.41	3.42	1596.384	0.013818			2
+ 3.49	3.50	3.53	2169.861	0.014644			3
3.49	3.51	3.53	4128.434	0.027862			3
3.71	3.73	3.75	5606.261	0.031478			4
3.77	3.79	3.81	3176.572	0.024098			5
3.96	3.98	4.00	3483.908	0.037464			6

Height Summation: 26393.041

Amount Avg CF: 0.02968 Linear:

Aroclor-1242

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.16	3.19	3.20	5546.412	0.024265	6	21.79	1
3.38	3.40	3.42	4451.454	0.020916			2
+ 3.38	3.41	3.42	1596.384	0.007501			2
+ 3.49	3.50	3.53	2169.861	0.008001			3
3.49	3.51	3.53	4128.434	0.015223			3
3.71	3.73	3.75	5606.261	0.017332			4
3.77	3.79	3.81	3176.572	0.013169			5
3.96	3.98	4.00	3483.908	0.019266			6

Height Summation: 26393.041

Amount Avg CF: 0.018362 Linear:

Aroclor-1248

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.83	3.85	3.87	3913.431	0.012577	6	30.43	1
3.96	3.98	4.00	3483.908	0.009924			2
4.05	4.07	4.09	3803.098	0.012777			3
4.23	4.25	4.27	1708.92	0.005751			4
4.36	4.38	4.40	5025.004	0.015874			5
4.61	4.63	4.65	2446.636	0.010383			6

Height Summation: 20380.997

Amount Avg CF: 0.011215 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 14:48:55
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.018.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

%SSR(TCX) : 99% (33-137) Conc.: 0.198711
 %SSR(DCB) : 94% (10-148) Conc.: 0.188171

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.27	3.29	3.31	7039.972	0.01381	5	6.50	2
3.47	3.49	3.51	7614.331	0.015401			3
3.54	3.56	3.58	8464.183	0.016518			4
3.60	3.62	3.64	6033.491	0.015007			5
3.71	3.73	3.75	6801.789	0.015689			6

Height Summation: 35953.766

Amount Avg CF: 0.015285 Linear:

Aroclor-1221

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
2.89	2.90	2.93	66550.91	0.367394	1		2

Height Summation: 66550.91

Amount Avg CF: 0.367394 Linear:

Aroclor-1232

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.27	3.29	3.31	7039.972	0.030685	5	12.86	2
3.47	3.49	3.51	7614.331	0.032668			3
3.54	3.56	3.58	8464.183	0.037955			4
3.60	3.62	3.64	6033.491	0.041527			5
3.71	3.73	3.75	6801.789	0.040061			6

Height Summation: 35953.766

Amount Avg CF: 0.036579 Linear:

Aroclor-1242

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.27	3.29	3.31	7039.972	0.016996	5	8.05	2
3.47	3.49	3.51	7614.331	0.018074			3
3.54	3.56	3.58	8464.183	0.020584			4
3.60	3.62	3.64	6033.491	0.019969			5
3.71	3.73	3.75	6801.789	0.020136			6

Height Summation: 35953.766

Amount Avg CF: 0.019152 Linear:

Aroclor-1248

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.58	3.60	3.62	4929.112	0.009707	5	25.11	1
3.71	3.73	3.75	6801.789	0.010909			2
3.80	3.82	3.84	6527.208	0.015839			3
3.93	3.95	3.97	9879.779	0.012309			4
4.30	4.34	4.34	6136.668	0.017584			6

Height Summation: 34274.556

Amount Avg CF: 0.01327 Linear:

Aroclor-1254

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.30	4.34	4.34	6136.668	0.006014	4	58.33	1
4.40	4.42	4.44	14206.53	0.029643			2
4.54	4.56	4.58	13505.53	0.034803			4
4.77	4.79	4.81	12894.05	0.017728			6

Height Summation: 46742.778

Amount Avg CF: 0.022047 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: IBLKX1824C

Sample Amount: 1000

Analyses: 10227

Total Volume: 10

PIBLKKX

ml

ID: KX

Analyst: 9065

Batchnumber: 1830799999

SDG:

State:

Analysis Report (A)

Injected on : Nov 04, 2018 14:48:55
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.018.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	1447.869	0.004147	5	96.69	1
4.61	4.63	4.65	2446.636	0.003501			2
4.74	4.76	4.78	8231.918	0.037358			3
4.83	4.85	4.87	4052.415	0.008403			4
5.14	5.16	5.18	10436	0.021106			6

Height Summation: 26614.838

Amount Avg CF: 0.014903 Linear:

Aroclor-1260

6 22.46

4.74	4.76	4.78	8231.918	0.01521			1
4.94	4.96	4.98	7681.297	0.011783			2
5.14	5.16	5.18	10436	0.013273			3
5.21	5.23	5.25	5364.371	0.014063			4
5.61	5.63	5.65	10633.86	0.009335			5
+ 5.61	5.65	5.65	10036.24	0.008811			5
5.82	5.84	5.86	11656.44	0.018375			6

Height Summation: 54003.886

Amount Avg CF: 0.013673 Linear:

Aroclor-1262

6 30.31

5.21	5.23	5.25	5364.371	0.009221			1
5.38	5.39	5.41	6342.952	0.013535			2
5.61	5.63	5.65	10633.86	0.007831			3
+ 5.61	5.65	5.65	10036.24	0.00739			3
5.82	5.84	5.86	11656.44	0.014832			4
5.87	5.89	5.91	3503.499	0.008214			5
6.25	6.26	6.29	4155.078	0.00791			6

Height Summation: 41656.2

Amount Avg CF: 0.010257 Linear:

Aroclor-1268

6 107.90

5.81	5.84	5.85	11656.44	0.006605			1
5.87	5.89	5.91	3503.499	0.002192			2
6.00	6.02	6.04	14792.29	0.010078			3
6.07	6.09	6.11	12214.86	0.033155			4
6.24	6.26	6.28	4155.078	0.006596			5
6.44	6.47	6.48	23582.74	0.004639			6

Height Summation: 69904.907

Amount Avg CF: 0.010544 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		1.14	4	40	
Aroclor-1221			0.5	0.1		** 101.58	3	5	
Aroclor-1232			0.5	0.2		20.83	4	10	
Aroclor-1242			0.5	0.1		4.21	4	30	
Aroclor-1248			0.5	0.1		16.79	4	40	
Aroclor-1254			0.5	0.1		38.67	4	40	
Aroclor-1260			0.5	0.15		15.10	4	40	
Aroclor-1262			0.5	0.2		11.19	4	40	

Analysis Report (B)

Injected on : Nov 04, 2018 14:48:55
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.018.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.54	4.56	4.58	13505.53	0.014244	6	16.20	1
4.64	4.66	4.68	13219.74	0.017365			2
4.77	4.79	4.81	12894.05	0.013611			3
5.00	5.02	5.04	11959.24	0.020396			4
5.19	5.21	5.23	19819.75	0.014242			5
5.45	5.47	5.49	14757.7	0.015578			6

Height Summation: 86156.01

Amount Avg CF: 0.015906 Linear:

Aroclor-1262

6 25.22

4.81	4.83	4.85	7004.998	0.009012			1
5.00	5.02	5.04	11959.24	0.014861			2
5.20	5.21	5.24	19819.75	0.012121			3
5.41	5.43	5.45	4673.428	0.007058			4
5.46	5.47	5.50	14757.7	0.013327			5
5.83	5.85	5.87	8154.238	0.012458			6

Height Summation: 66369.354

Amount Avg CF: 0.011473 Linear:

Aroclor-1268

6 121.09

5.41	5.43	5.45	4673.428	0.00001			1
5.46	5.47	5.50	14757.7	0.030821			2
5.61	5.63	5.65	24242.19	0.058266			3
5.68	5.70	5.72	21011.29	0.202823			4
5.83	5.85	5.87	8154.238	0.048826			5
6.03	6.05	6.07	30885.6	0.020325			6

Height Summation: 103724.446

Amount Avg CF: 0.060179 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

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

Analysis Report (A)

Injected on : Nov 04, 2018 14:48:55
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.018.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 14:48:55
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.018.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Summary Report

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1268			0.5	0.16		** 140.36	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	C/PBLK06299	10/30/18 23:18	182990006A	2.00
9065	25PCBS18303001.036	LCSA 10/26/18	CAF I C.S06299	10/30/18 23:29	182990006A	2.00
9065	25PCBS18303001.037	LCSDA 10/26/18	CAILCSD06299	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	ACPBLK37298	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	ACPBLK34298	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	CALCS32297	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	PIBLKFW	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	CALCS12296	10/31/18	8:24 182960012A	2.00
9065	25PCBS18303001.086	LCSDA 10/23/18 RI	CLCSD12296	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	CALCS31297	10/31/18	9:30 182970031A	2.00
9065	25PCBS18303001.092	LCSDA 10/25/18 RI	CLCSD31297	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	GKPU1	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	EBSE	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 DF28E10MS	11/4/18 21:54	183050037A	50.00
9065	25PCBS18303004.058	9879080MSD	ACF D28E10MSD	11/4/18 22:05	183050037A	50.00
9065	25PCBS18303004.059	9879081	ACF DF20028E11	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 DF50028E15	11/4/18 22:48	183050037A	5,000.00
9065	25PCBS18303004.063	9879085	ACF DF10028E15	11/4/18 22:59	183050037A	10,000.00
9065	25PCBS18303004.064	9879086	ACF DF50028E16	11/4/18 23:10	183050037A	5,000.00
9065	25PCBS18303004.065	9879086	ACF DF10028E16	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	ACIPBLK31304	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 DF1T1003	11/5/18 1:32	183040031A	50.00
9065	25PCBS18303004.078	9867764MSD	ACF DT1003	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 DF200T1005	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 DF50012T03	11/5/18 3:43	183040031A	5,000.00
9065	25PCBS18303004.090	9872061	ACF DF10012T03	11/5/18 3:54	183040031A	10,000.00
9065	25PCBS18303004.091	9872062	ACF DF50012T04	11/5/18 4:05	183040031A	5,000.00
9065	25PCBS18303004.092	9872062	ACF DF10012T04	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 DF10012T06	11/5/18 4:38	183040031A	10,000.00
9065	25PCBS18303004.095	9872064	ACF DF20012T06	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

Sample Data

Polychlorinated Biphenyls (PCBs)

Data Summary

Sample Name: 9876332 CAF 14T02 Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 251 mL Total Volume: 2 ml Analyst: 13786 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 13:32:38
 Instrument 18274A
 Result file 25PCBS18303004.011.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) * 140% (33 - 137) Conc: 0.418724
 %SSR(DCB) 89% (10 - 148) Conc: 0.264659

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	8152469
Decachlorobiphenyl	6.58	6.61	6.64	4262748

Analysis Report (B)

Injected on Nov 04, 2018 13:32:38
 Instrument 18274B
 Result file 25PCBS18303004B.011.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 134% (33 - 137) Conc: 0.401527
 %SSR(DCB) 91% (10 - 148) Conc: 0.270632

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.93	2.95	8152469	0.418724	Tetrachloro-m-xylene	2.65	2.68	2.71	12860750	0.401527
Decachlorobiphenyl	6.58	6.61	6.64	4262748	0.264659	Decachlorobiphenyl	6.18	6.21	6.24	6377386	0.270632

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.418724	0.012	0.0239	0.0239		4.19	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.418724	0.012	0.0239	0.0239			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.401527	0.012	0.0239	0.0239			
<input type="checkbox"/> Decachlorobiphenyl	B	0.270632	0.012	0.0239	0.0239		2.23	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	0.264659	0.012	0.0239	0.0239			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	0.270632	0.012	0.0239	0.0239			

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<0.0797	<0.239	<0.3984	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<0.0797	<0.239	<0.3984	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<0.1594	<0.3187	<0.3984	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<0.0797	<0.239	<0.3984	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<0.0797	<0.239	<0.3984	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<0.0797	<0.239	<0.3984	D1		4	
<input checked="" type="checkbox"/> PCB-1260			<0.1195	<0.239	<0.3984	D1		4	
<input checked="" type="checkbox"/> PCB-1262			<0.1594	<0.3187	<0.3984	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<0.1275	<0.255	<0.3984	D1		4	

Units: ug/l

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

Valerie L. Tomayko
 Valerie L. Tomayko
 Principal Specialist

NOV 05 2018

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876332 CAF 14T02 ID: AC Batchnumber: 183050010A
 Sample Amount: 251 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:32:38
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.011.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

%SSR(TCX) : *140% (33-137) Conc.: 0.418725
 %SSR(DCB) : 89% (10-148) Conc.: 0.264659

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	7020.257	0.021168	6	114.52	1
3.38	3.39	3.42	2851.209	0.008885			2
3.49	3.52	3.53	4959.24	0.012038			3
3.71	3.73	3.75	3331.305	0.007023			4
3.77	3.80	3.81	23380.51	0.059857			5
3.96	3.98	4.00	648.0059	0.002172			6

Height Summation: 42190.5269

Amount Avg CF: 0.018524 Linear:

Aroclor-1221							
3.06	3.08	3.10	1561.036	0.008852	3	164.42	1
3.11	3.12	3.15	96707.2	0.691891			2
3.16	3.18	3.20	7020.257	0.015367			3

Height Summation: 105288.493

Amount Avg CF: 0.238703 Linear:

Aroclor-1232							
3.16	3.18	3.20	7020.257	0.018805	6	135.32	1
3.38	3.39	3.42	2851.209	0.019665			2
3.49	3.52	3.53	4959.24	0.026668			3
3.71	3.73	3.75	3331.305	0.014904			4
3.77	3.80	3.81	23380.51	0.141331			5
3.96	3.98	4.00	648.0059	0.005552			6

Height Summation: 42190.5269

Amount Avg CF: 0.037821 Linear:

Aroclor-1242							
3.16	3.18	3.20	7020.257	0.024473	6	119.71	1
3.38	3.39	3.42	2851.209	0.010675			2
3.49	3.52	3.53	4959.24	0.014571			3
3.71	3.73	3.75	3331.305	0.008206			4
3.77	3.80	3.81	23380.51	0.077232			5
3.96	3.98	4.00	648.0059	0.002855			6

Height Summation: 42190.5269

Amount Avg CF: 0.023002 Linear:

Aroclor-1248							
+ 3.83	3.84	3.87	3341.112	0.008556	6	64.63	1
3.83	3.86	3.87	7451.141	0.019082			1
3.96	3.98	4.00	648.0059	0.001471			2
+ 4.05	4.05	4.09	3128.087	0.008374			3
4.05	4.08	4.09	26194.91	0.070124			3
4.23	4.26	4.27	14583.53	0.039107			4
4.36	4.38	4.40	17389.12	0.043771			5
4.61	4.65	4.65	14663.1	0.049585			6

Height Summation: 80929.8069

Amount Avg CF: 0.03719 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 13:32:38
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.011.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

%SSR(TCX) : 134% (33-137) Conc.: 0.401527
 %SSR(DCB) : 91% (10-148) Conc.: 0.270632

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.27	3.31	3.31	8301.8	0.012976	5	65.51	2
3.47	3.50	3.51	9196.021	0.014821			3
3.54	3.56	3.58	40290.29	0.062652			4
3.60	3.62	3.64	17948.88	0.035573			5
+ 3.60	3.64	3.64	2811.925	0.005573			5
3.71	3.73	3.75	15013.53	0.027594			6

Height Summation: 90750.521

Amount Avg CF: 0.030723 Linear:

Aroclor-1221							
2.89	2.90	2.93	167231.8	0.735619	1		2
Height Summation: 167231.8							
Amount Avg CF: 0.735619 Linear:							

Aroclor-1232							
3.27	3.31	3.31	8301.8	0.028833	5	64.80	2
3.47	3.50	3.51	9196.021	0.031438			3
3.54	3.56	3.58	40290.29	0.14396			4
3.60	3.62	3.64	17948.88	0.098437			5
+ 3.60	3.64	3.64	2811.925	0.015421			5
3.71	3.73	3.75	15013.53	0.070459			6

Height Summation: 90750.521

Amount Avg CF: 0.074625 Linear:

Aroclor-1242							
3.27	3.31	3.31	8301.8	0.01597	5	65.72	2
3.47	3.50	3.51	9196.021	0.017393			3
3.54	3.56	3.58	40290.29	0.078071			4
3.60	3.62	3.64	17948.88	0.047336			5
+ 3.60	3.64	3.64	2811.925	0.007416			5
3.71	3.73	3.75	15013.53	0.035415			6

Height Summation: 90750.521

Amount Avg CF: 0.038837 Linear:

Aroclor-1248							
+ 3.58	3.58	3.62	3287.369	0.005158	4	74.17	1
3.58	3.60	3.62	4004.91	0.006284			1
3.71	3.73	3.75	15013.53	0.019187			2
3.93	3.95	3.97	31434.14	0.031206			4
+ 4.30	4.32	4.34	7927.22	0.018099			6
4.30	4.34	4.34	24059.39	0.054931			6

Height Summation: 74511.97

Amount Avg CF: 0.027902 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876332 CAF 14T02 ID: AC Batchnumber: 183050010A
 Sample Amount: 251 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:32:38
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.011.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	34409.8	0.078539	6	87.48	1
4.61	4.65	4.65	14663.1	0.016718			2
4.74	4.76	4.78	7657.281	0.027689			3
4.83	4.85	4.87	9158.756	0.015133			4
5.03	5.05	5.07	6660.417	0.013718			5
5.14	5.16	5.18	12132.05	0.019551			6

Height Summation: 84681.404

Amount Avg CF: 0.028558 Linear:

Aroclor-1260

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.74	4.76	4.78	7657.281	0.011274	6	84.59	1
4.94	4.95	4.98	49122.39	0.06004			2
5.14	5.16	5.18	12132.05	0.012295			3
5.21	5.23	5.25	7177.711	0.014993			4
+ 5.61	5.63	5.65	12833.6	0.008977			5
5.61	5.65	5.65	16686.73	0.011673			5
5.82	5.83	5.86	19921.62	0.025023			6

Height Summation: 112697.782

Amount Avg CF: 0.02255 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
5.21	5.23	5.25	7177.711	0.009831	6	38.21	1
5.38	5.39	5.41	5609.593	0.009538			2
+ 5.61	5.63	5.65	12833.6	0.00753			3
5.61	5.65	5.65	16686.73	0.009791			3
5.82	5.83	5.86	19921.62	0.020198			4
5.87	5.89	5.91	9593.662	0.017923			5
6.25	6.26	6.29	6319.956	0.009587			6

Height Summation: 65309.272

Amount Avg CF: 0.012811 Linear:

Aroclor-1268

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.81	5.83	5.85	19921.62	0.008995	6	94.32	1
5.87	5.89	5.91	9593.662	0.004783			2
6.00	6.02	6.04	37301.39	0.020251			3
6.07	6.09	6.11	19824.81	0.042877			4
6.24	6.26	6.28	6319.956	0.007994			5
6.44	6.46	6.48	46951.14	0.007359			6

Height Summation: 139912.570

Amount Avg CF: 0.015376 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 13:32:38
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.011.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
+ 4.30	4.32	4.34	7927.22	0.00619	6	72.49	1
4.30	4.34	4.34	24059.39	0.018788			1
4.40	4.42	4.44	38239.29	0.063577			2
4.47	4.49	4.51	9441.246	0.011688			3
4.54	4.56	4.58	10853.87	0.022287			4
4.69	4.71	4.73	10436.99	0.018788			5
4.77	4.79	4.81	18641.86	0.020422			6

Height Summation: 111672.646

Amount Avg CF: 0.025925 Linear:

Aroclor-1260

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.54	4.56	4.58	10853.87	0.009121	6	28.81	1
4.64	4.66	4.68	14620.72	0.015303			2
4.77	4.79	4.81	18641.86	0.01568			3
5.00	5.02	5.04	13192	0.017927			4
5.19	5.21	5.23	26947.03	0.01543			5
5.45	5.47	5.49	27970.47	0.023526			6

Height Summation: 112225.95

Amount Avg CF: 0.016164 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
4.81	4.82	4.85	13013.93	0.013341	6	26.85	1
5.00	5.02	5.04	13192	0.013062			2
+ 5.00	5.04	5.04	8115.024	0.008035			2
5.20	5.21	5.24	26947.03	0.013131			3
5.41	5.43	5.45	19711.72	0.023722			4
5.46	5.47	5.50	27970.47	0.020126			5
5.83	5.85	5.87	16309.52	0.019855			6

Height Summation: 117144.67

Amount Avg CF: 0.017206 Linear:

Aroclor-1268

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.41	5.43	5.45	19711.72	0.000033	6	107.16	1
5.46	5.47	5.50	27970.47	0.046547			2
5.61	5.63	5.65	55983.43	0.107216			3
5.68	5.70	5.72	34969.8	0.268977			4
5.83	5.85	5.87	16309.52	0.077815			5
6.03	6.05	6.07	64937.13	0.034051			6

Height Summation: 219882.07

Amount Avg CF: 0.089106 Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.3984	0.0797		** 49.54	4	40	
Aroclor-1221			0.3984	0.0797		** 102.00	3	5	
Aroclor-1232			0.3984	0.1594		** 65.46	4	10	
Aroclor-1242			0.3984	0.0797		** 51.21	4	30	
Aroclor-1248			0.3984	0.0797		28.54	4	40	
Aroclor-1254			0.3984	0.0797		9.66	4	40	
Aroclor-1260			0.3984	0.1195		32.99	4	40	

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876332 CAF 14T02 ID: AC **Batchnumber:** 183050010A
Sample Amount: 251 mL **Total Volume:** 2 ml **Analyst:** 9065 **SDG:** TID14 **State:** NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:32:38
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.011.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 13:32:38
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.011.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

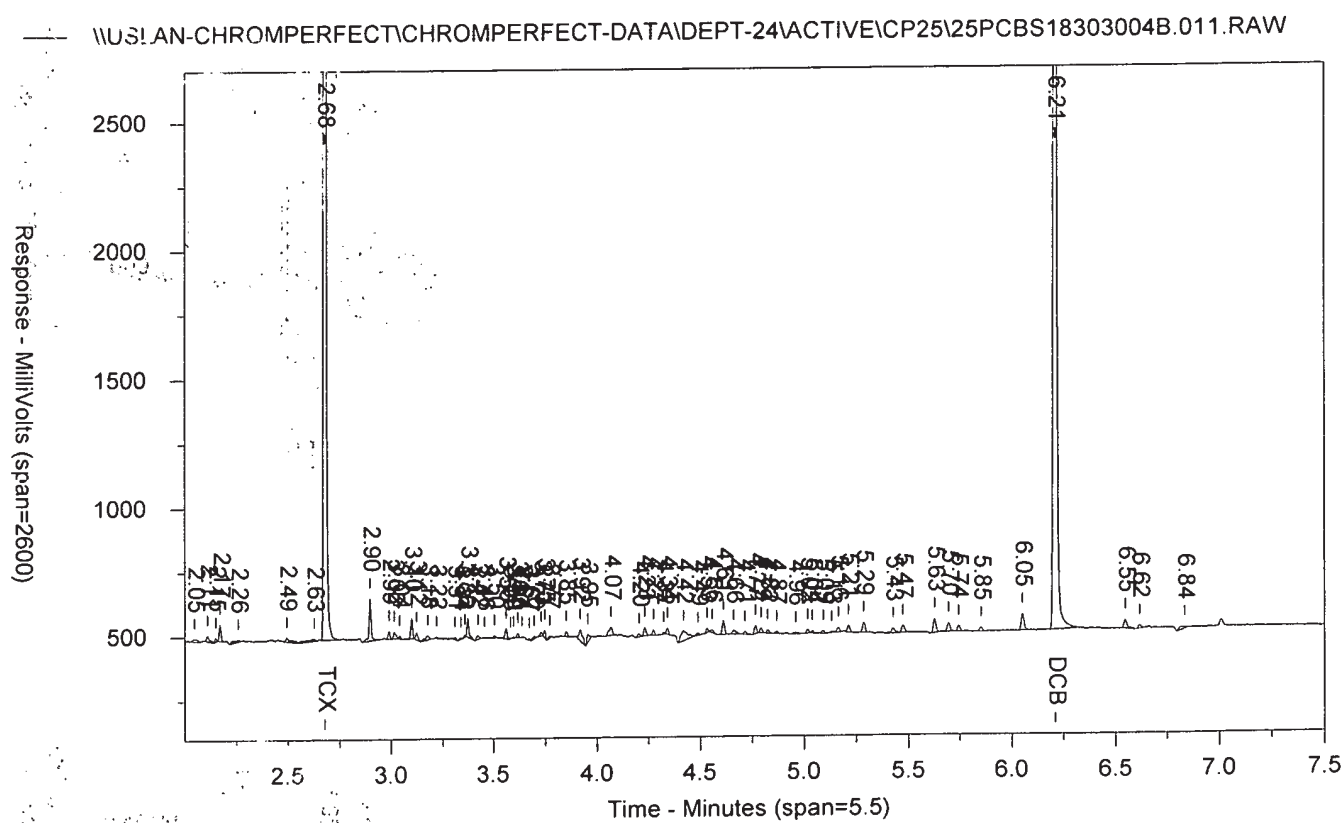
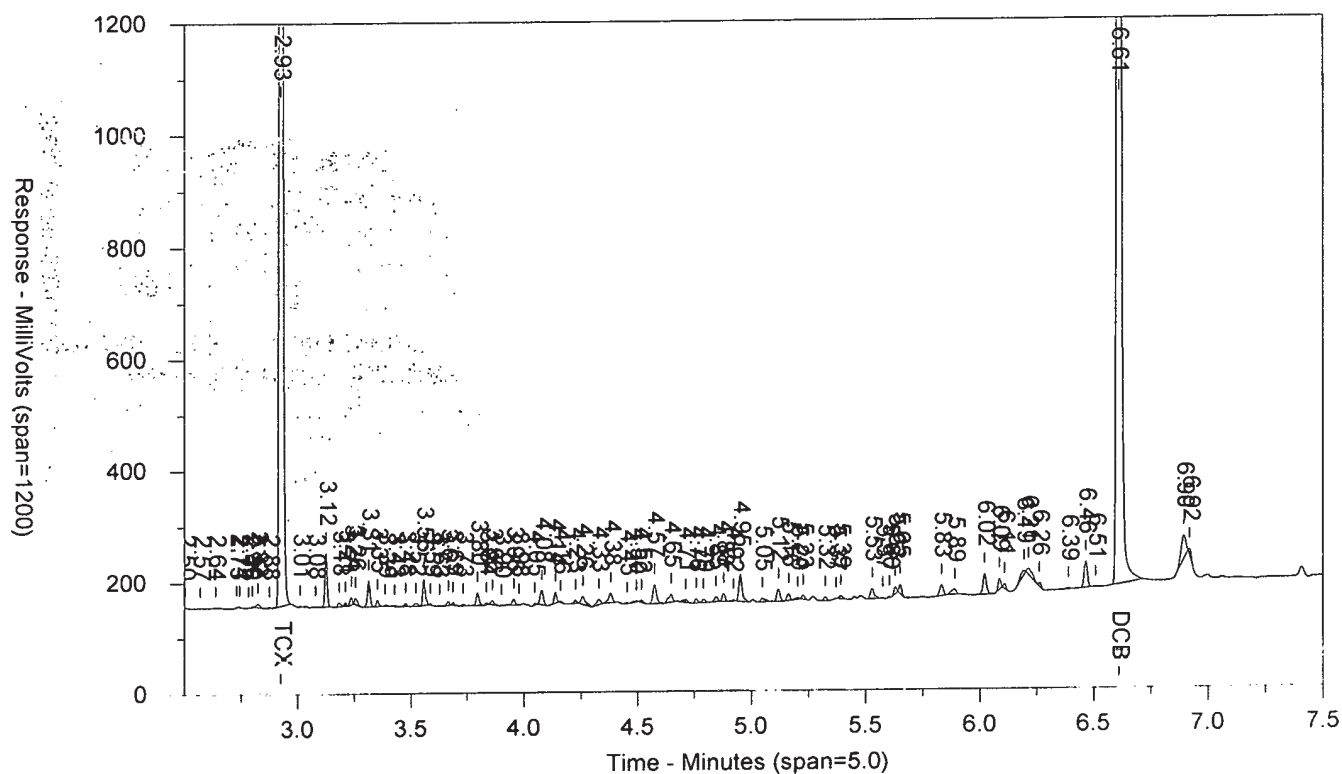
Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1262			0.3984	0.1594		29.28	4	40	
Aroclor-1268			0.3984	0.1275		** 141.13	4	40	

Units: ug/l

SW-846 8082A

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.011.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9876332 CAF AC14T02 T 183050010A 10591
Injected On: 11/4/2018 1:32:38 PM
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

SW-846 8082A
Sample Weight: 251
Dilution Factor: 2

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

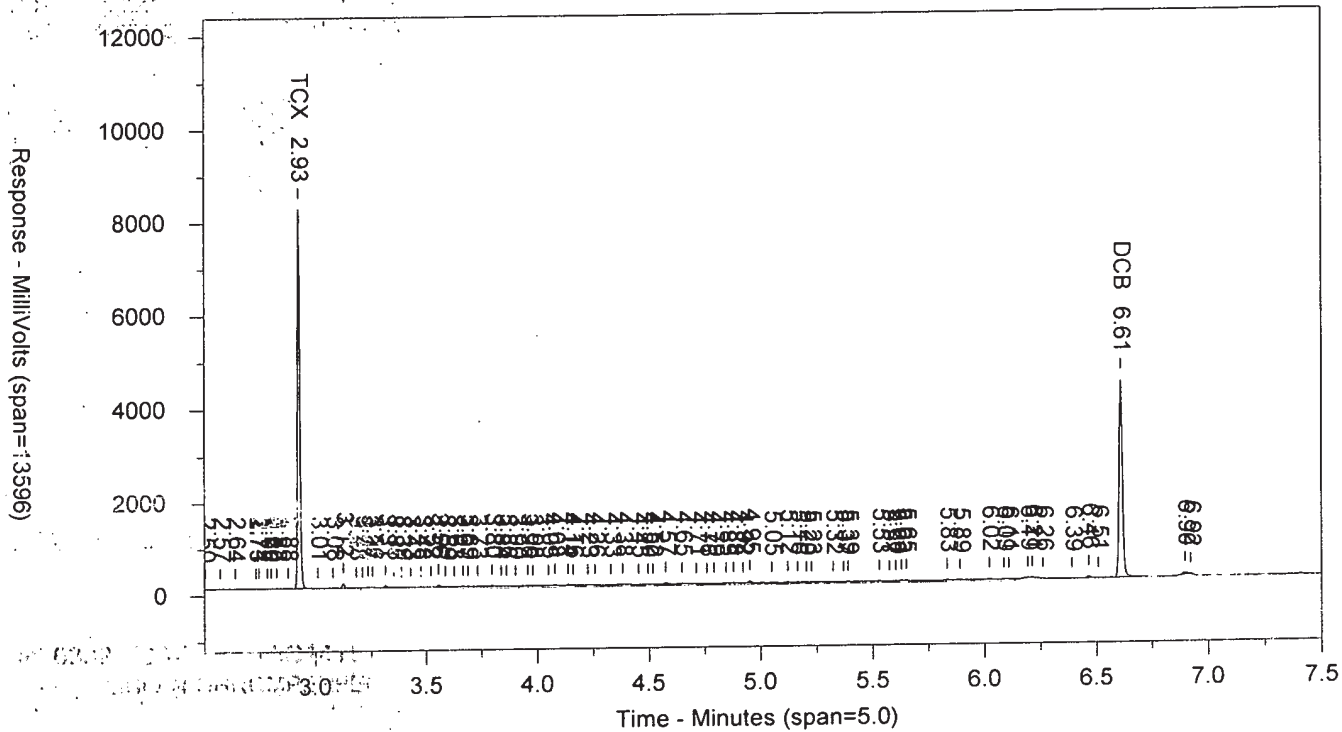
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.925	8152469	.419	TCX	2.679	12860750	.402	TCX
6.609	4262749	.265	DCB	6.209	6377386	.271	DCB

Files:

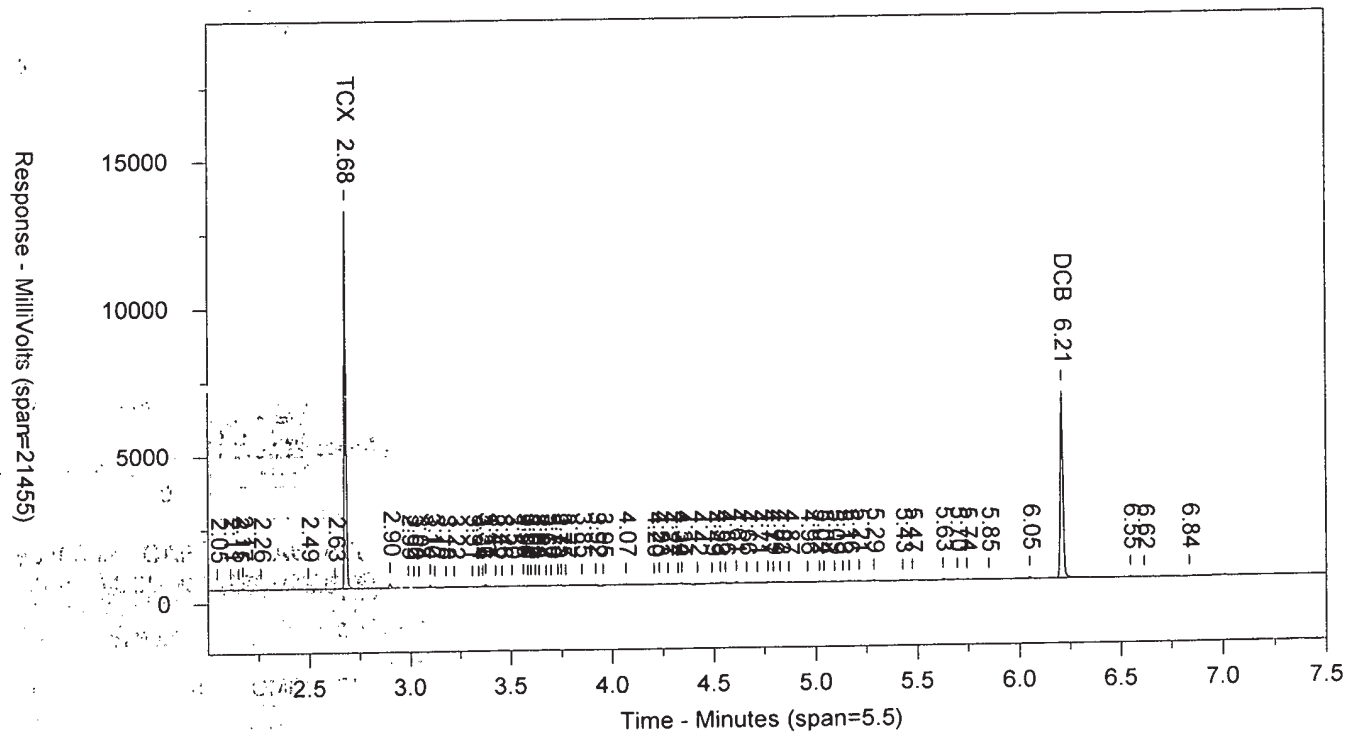
Area File: 25PCBS18303004.011.RAW
Area File: 25PCBS18303004B.011.RAW
Method A: 25PCBA.MET
Method B: 25PCBAB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 11/4/2018 1:41:09 PM
File Reported On: 11/4/2018 at 1:41:16 PM

9876332 CAF AC14T02 T 183050010A 10591 SW-846 8082A

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.011.RAW



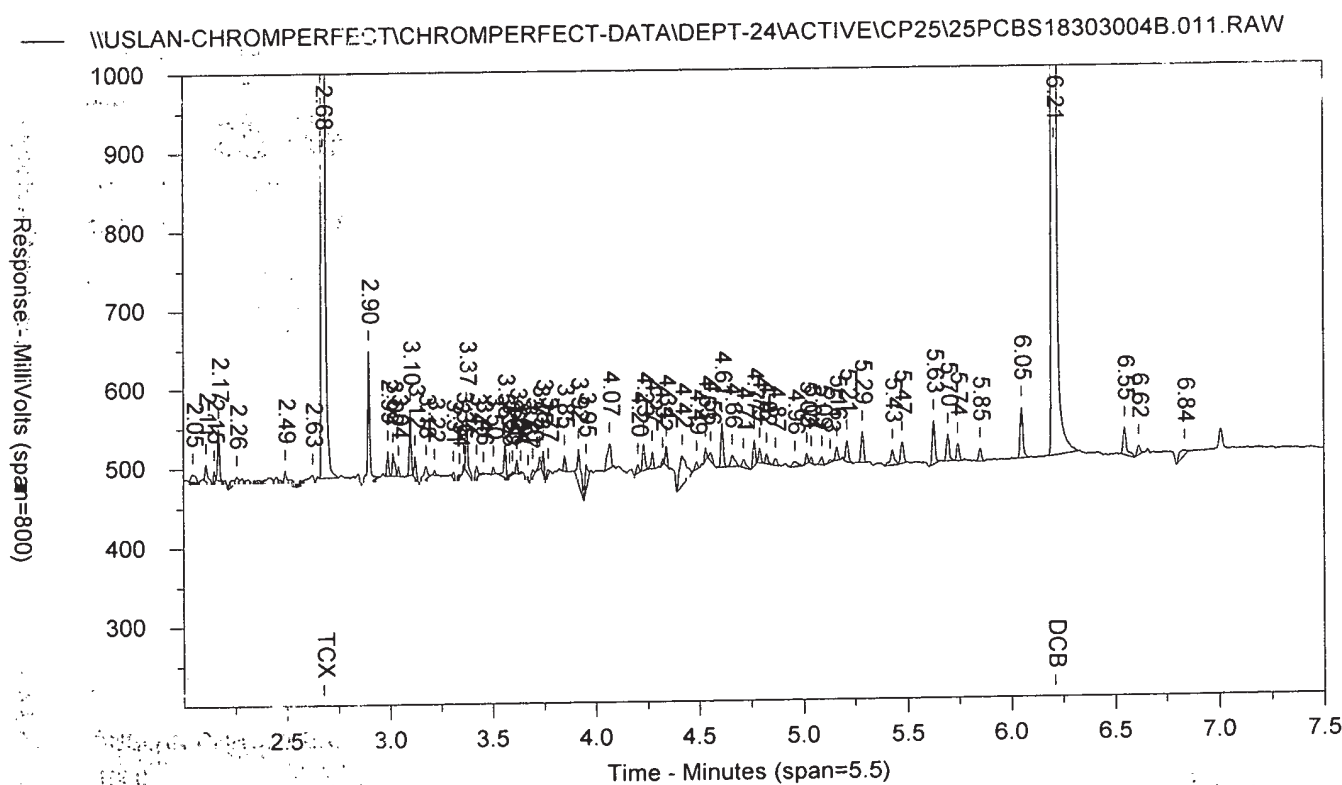
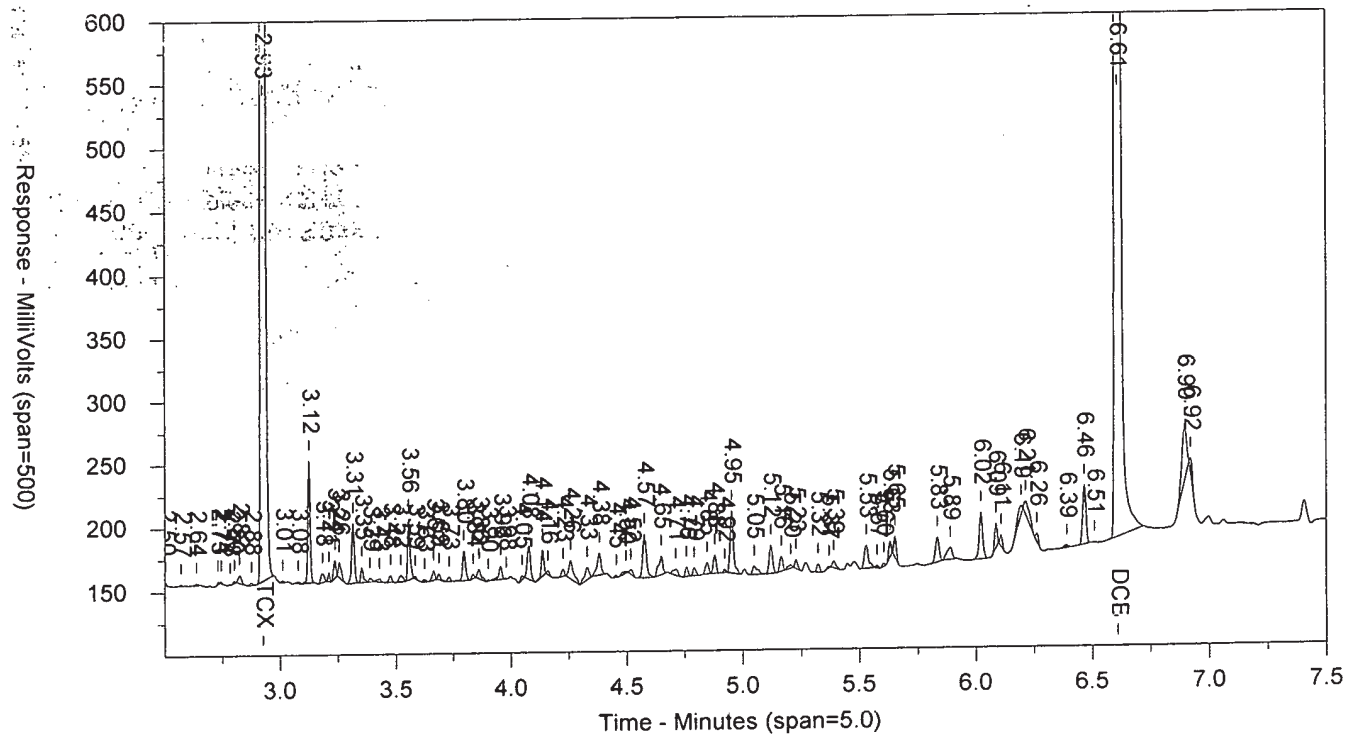
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9876332 CAF AC14T02 T 183050010A 10591

SW-846 8082A

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.011.RAW



Data Summary

Sample Name: 9876334 CAF 14T04 Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 241 mL Total Volume: 2 ml Analyst: 13786 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 13:43:21
 Instrument 18274A
 Result file 25PCBS18303004.012.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) 120% (33 - 137) Conc: 0.375646
 %SSR(DCB) 67% (10 - 148) Conc: 0.205765

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	7022366
Decachlorobiphenyl	6.58	6.61	6.64	3182122

Analysis Report (B)

Injected on Nov 04, 2018 13:43:21
 Instrument 18274B
 Result file 25PCBS18303004B.012.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 117% (33 - 137) Conc: 0.364159
 %SSR(DCB) 67% (10 - 148) Conc: 0.20684

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.93	2.95	7022366	0.375646	Tetrachloro-m-xylene	2.65	2.68	2.71	11199170	0.364159
Decachlorobiphenyl	6.58	6.61	6.64	3182122	0.205765	Decachlorobiphenyl	6.18	6.21	6.24	4679950	0.20684

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.375646	0.0124	0.0249	0.0249		3.11	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.375646	0.0124	0.0249	0.0249			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.364159	0.0124	0.0249	0.0249			
<input type="checkbox"/> Decachlorobiphenyl	B	0.20684	0.0124	0.0249	0.0249		0.52	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	0.205765	0.0124	0.0249	0.0249			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	0.20684	0.0124	0.0249	0.0249			

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<0.083	<0.249	<0.4149	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<0.083	<0.249	<0.4149	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<0.166	<0.332	<0.4149	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<0.083	<0.249	<0.4149	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<0.083	<0.249	<0.4149	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<0.083	<0.249	<0.4149	D1		4	
<input checked="" type="checkbox"/> PCB-1260			<0.1245	<0.249	<0.4149	D1		4	
<input checked="" type="checkbox"/> PCB-1262			<0.166	<0.332	<0.4149	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<0.1328	<0.2656	<0.4149	D1		4	

Units: ug/l

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

Valerie L. Tomayko
 Valerie L. Tomayko
 Principal Specialist

NOV 05 2018

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876334 CAF 14T04 ID: AC Batchnumber: 183050010A
 Sample Amount: 241 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:43:21
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.012.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET
 %SSR(TCX) : 120% (33-137) Conc.: 0.375647
 %SSR(DCB) : 67% (10-148) Conc.: 0.205765

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.38	3.39	3.42	2921.586	0.009482	3	65.91	2
+ 3.38	3.41	3.42	1290.198	0.004187			2
3.71	3.73	3.75	2538.595	0.005574			4
3.77	3.80	3.81	7766.916	0.020709			5

Height Summation: 13227.097

Amount Avg CF: 0.011922 Linear:

Aroclor-1221

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.11	3.12	3.15	78699.46	0.586418	1		2

Height Summation: 78699.46

Amount Avg CF: 0.586418 Linear:

Aroclor-1232

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.38	3.39	3.42	2921.586	0.020987	3	70.89	2
+ 3.38	3.41	3.42	1290.198	0.009268			2
3.71	3.73	3.75	2538.595	0.011829			4
3.77	3.80	3.81	7766.916	0.048898			5

Height Summation: 13227.097

Amount Avg CF: 0.027238 Linear:

Aroclor-1242

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.38	3.39	3.42	2921.586	0.011392	4	58.36	2
+ 3.38	3.41	3.42	1290.198	0.005031			2
3.49	3.53	3.53	4706.717	0.014402			3
3.71	3.73	3.75	2538.595	0.006513			4
3.77	3.80	3.81	7766.916	0.026721			5

Height Summation: 17933.814

Amount Avg CF: 0.014757 Linear:

Aroclor-1248

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.83	3.86	3.87	2777.174	0.007407	5	53.09	1
+ 4.05	4.05	4.09	962.4208	0.002683			3
4.05	4.07	4.09	5648.084	0.015747			3
4.23	4.26	4.27	7294.771	0.020373			4
4.36	4.38	4.40	4448.669	0.011663			5
4.61	4.65	4.65	1290.264	0.004544			6

Height Summation: 21458.962

Amount Avg CF: 0.011947 Linear:

Aroclor-1254

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.55	4.57	4.59	10784.63	0.025637	4	129.72	1
4.61	4.65	4.65	1290.264	0.001532			2
4.83	4.85	4.87	2440.672	0.0042			4
5.14	5.16	5.18	2120.701	0.003559			6

Height Summation: 16636.267

Amount Avg CF: 0.008732 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 13:43:21
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.012.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET
 %SSR(TCX) : 117% (33-137) Conc.: 0.364159
 %SSR(DCB) : 67% (10-148) Conc.: 0.20684

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.27	3.31	3.31	6977.167	0.011358	5	21.90	2
3.47	3.50	3.51	10231.16	0.017174			3
3.54	3.56	3.58	12153.6	0.019683			4
3.60	3.62	3.64	6525.876	0.01347			5
3.71	3.73	3.75	7200.162	0.013783			6

Height Summation: 43087.965

Amount Avg CF: 0.015094 Linear:

Aroclor-1221

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
2.89	2.90	2.93	127126.6	0.582408	1		2

Height Summation: 127126.6

Amount Avg CF: 0.582408 Linear:

Aroclor-1232

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.27	3.31	3.31	6977.167	0.025238	5	19.88	2
3.47	3.50	3.51	10231.16	0.036428			3
3.54	3.56	3.58	12153.6	0.045228			4
3.60	3.62	3.64	6525.876	0.037275			5
3.71	3.73	3.75	7200.162	0.035193			6

Height Summation: 43087.965

Amount Avg CF: 0.035872 Linear:

Aroclor-1242

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.27	3.31	3.31	6977.167	0.013978	5	20.52	2
3.47	3.50	3.51	10231.16	0.020154			3
3.54	3.56	3.58	12153.6	0.024527			4
3.60	3.62	3.64	6525.876	0.017924			5
3.71	3.73	3.75	7200.162	0.017689			6

Height Summation: 43087.965

Amount Avg CF: 0.018855 Linear:

Aroclor-1248

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.71	3.73	3.75	7200.162	0.009584	1		2

Height Summation: 7200.162

Amount Avg CF: 0.009584 Linear:

Aroclor-1260

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.64	4.68	4.68	7444.663	0.008115	3	38.94	2
5.19	5.21	5.23	5838.084	0.003482			5
5.45	5.48	5.49	7756.547	0.006795			6

Height Summation: 21039.294

Amount Avg CF: 0.006131 Linear:

Aroclor-1262

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
5.20	5.21	5.24	5838.084	0.002963	2	45.93	3
5.46	5.48	5.50	7756.547	0.005813			5

Height Summation: 13594.631

Amount Avg CF: 0.004388 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876334 CAF 14T04 ID: AC Batchnumber: 183050010A
 Sample Amount: 241 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:43:21
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.012.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.94	4.95	4.98	6036.214	0.007684	5	77.59	2
5.14	5.16	5.18	2120.701	0.002238			3
5.21	5.23	5.25	1102.473	0.002398			4
5.61	5.65	5.65	19452.05	0.014172			5
5.82	5.83	5.86	3979.676	0.005206			6

Height Summation: 32691.114
 Amount Avg CF: 0.00634 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
5.21	5.23	5.25	1102.473	0.001573	5	82.87	1
5.38	5.39	5.41	2387.339	0.004228			2
5.61	5.65	5.65	19452.05	0.011887			3
5.82	5.83	5.86	3979.676	0.004202			4
6.25	6.26	6.29	1660.17	0.002623			6

Height Summation: 28581.708
 Amount Avg CF: 0.004903 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.81	5.83	5.85	3979.676	0.001871	5	131.84	1
6.00	6.02	6.04	20550.75	0.01162			3
6.07	6.08	6.11	14676.84	0.03306			4
6.24	6.26	6.28	1660.17	0.002187			5
6.44	6.46	6.48	13547.11	0.002212			6

Height Summation: 54414.546
 Amount Avg CF: 0.01019 Linear:

Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.4149	0.083		23.48	4	40	
Aroclor-1221			0.4149	0.083		0.69	3	5	
Aroclor-1232			0.4149	0.166		27.36	4	10	
Aroclor-1242			0.4149	0.083		24.38	4	30	
Aroclor-1248			0.4149	0.083		21.95	4	40	
Aroclor-1254			0.4149	0.083			4	40	
Aroclor-1260			0.4149	0.1245		3.35	4	40	
Aroclor-1262			0.4149	0.166		11.08	4	40	
Aroclor-1268			0.4149	0.1328		** 152.60	4	40	

Units: ug/l

Analysis Report (B)

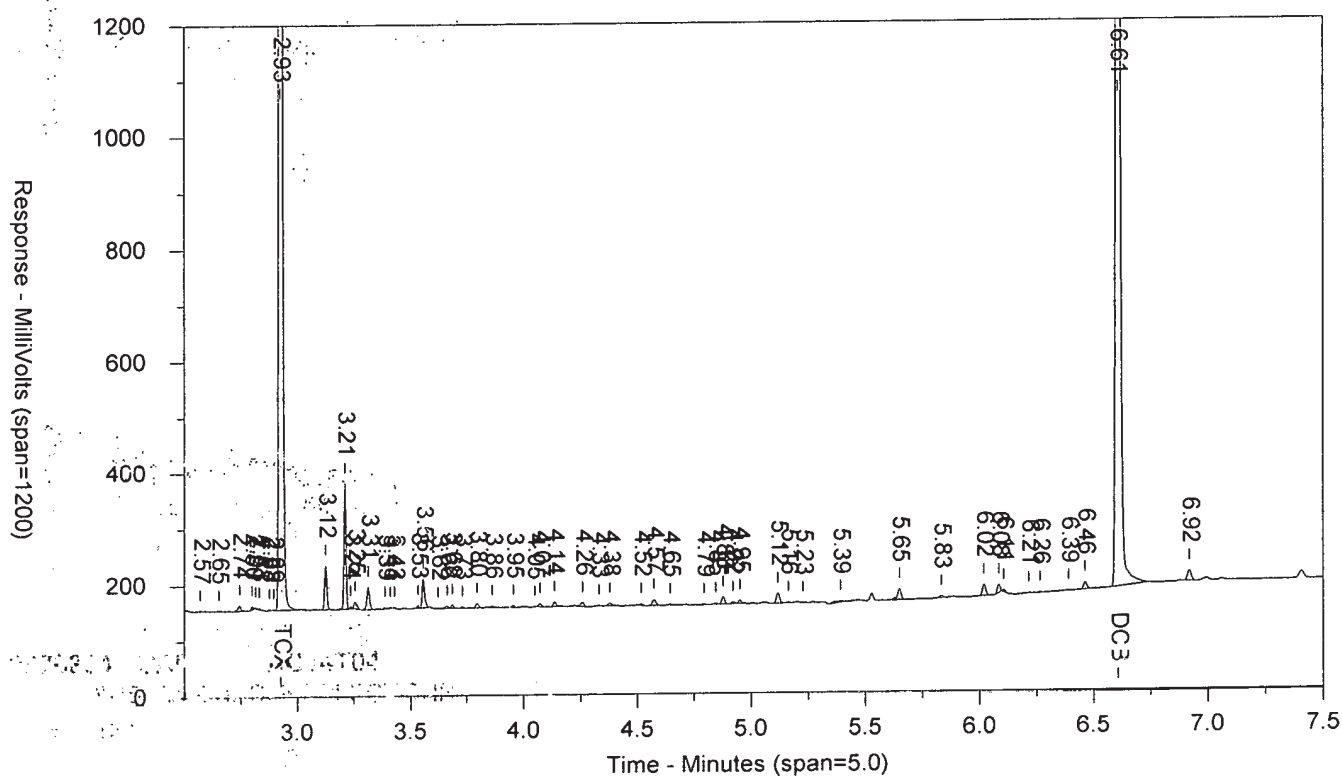
Injected on : Nov 04, 2018 13:43:21
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.012.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.46	5.48	5.50	7756.547	0.013444	4	129.70	2
5.61	5.63	5.65	30369.77	0.060576			3
5.68	5.70	5.72	27356.92	0.219152			4
6.03	6.05	6.07	18355.46	0.010024			6

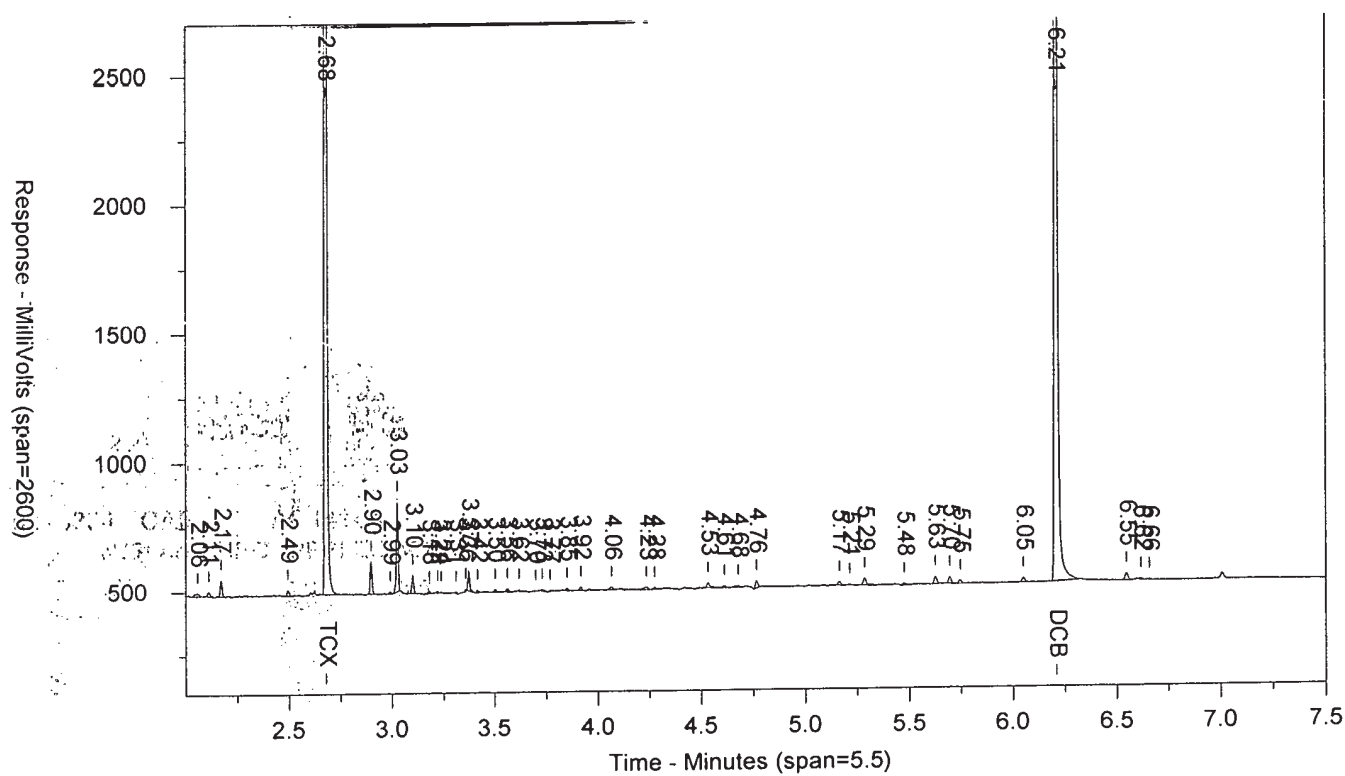
Height Summation: 83838.697
 Amount Avg CF: 0.075799 Linear:

SW-846 8082A

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LANCASTER LABORATORIES

Sample Number: 9876334 CAF AC14T04 T 183050010A 10591

SW-846 8082A

Injected On: 11/4/2018 1:43:21 PM

Sample Weight: 241

Instrument ID: CP25-18274

Dilution Factor: 2

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	7022367	.376	TCX	2.679	11199170	.364	TCX
6.607	3182122	.206	DCB	6.208	4679951	.207	DCB

Files:

Area File: 25PCBS18303004.012.RAW

Area File: 25PCBS18303004B.012.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: 11/4/2018 1:51:52 PM

File Reported On: 11/4/2018 at 1:51:58 PM

Area File: 25PCBS18303004.012.RAW

Area File: 25PCBS18303004B.012.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: 11/4/2018 1:51:52 PM

File Reported On: 11/4/2018 at 1:51:58 PM

Area File: 25PCBS18303004.012.RAW

Area File: 25PCBS18303004B.012.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: 11/4/2018 1:51:52 PM

File Reported On: 11/4/2018 at 1:51:58 PM

Area File: 25PCBS18303004.012.RAW

Area File: 25PCBS18303004B.012.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: 11/4/2018 1:51:52 PM

File Reported On: 11/4/2018 at 1:51:58 PM

Area File: 25PCBS18303004.012.RAW

Area File: 25PCBS18303004B.012.RAW

Method A: 25PCBA.MET

Method B: 25PCBAB.MET

Calibration File A: 25PCBS1830301.CAL

Calibration File B: 25PCBS1830301b.CAL

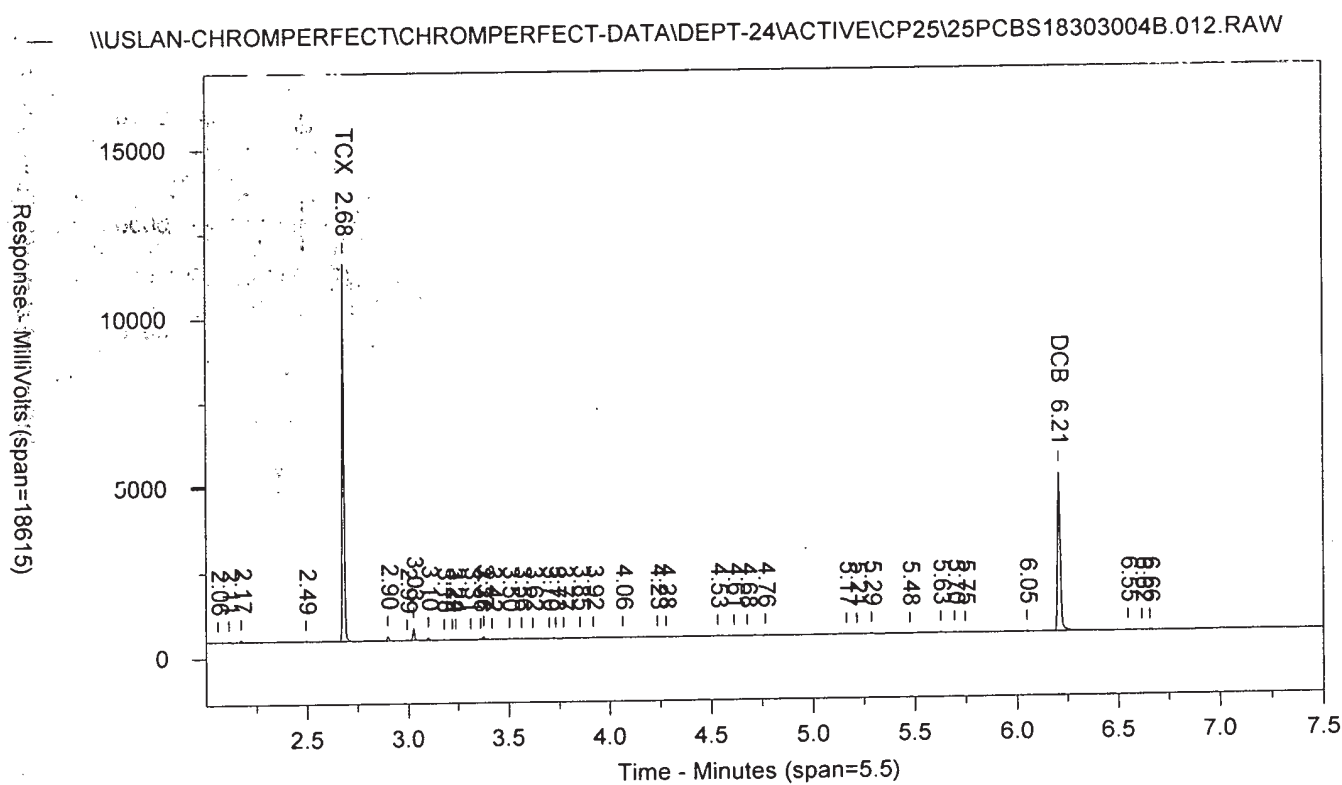
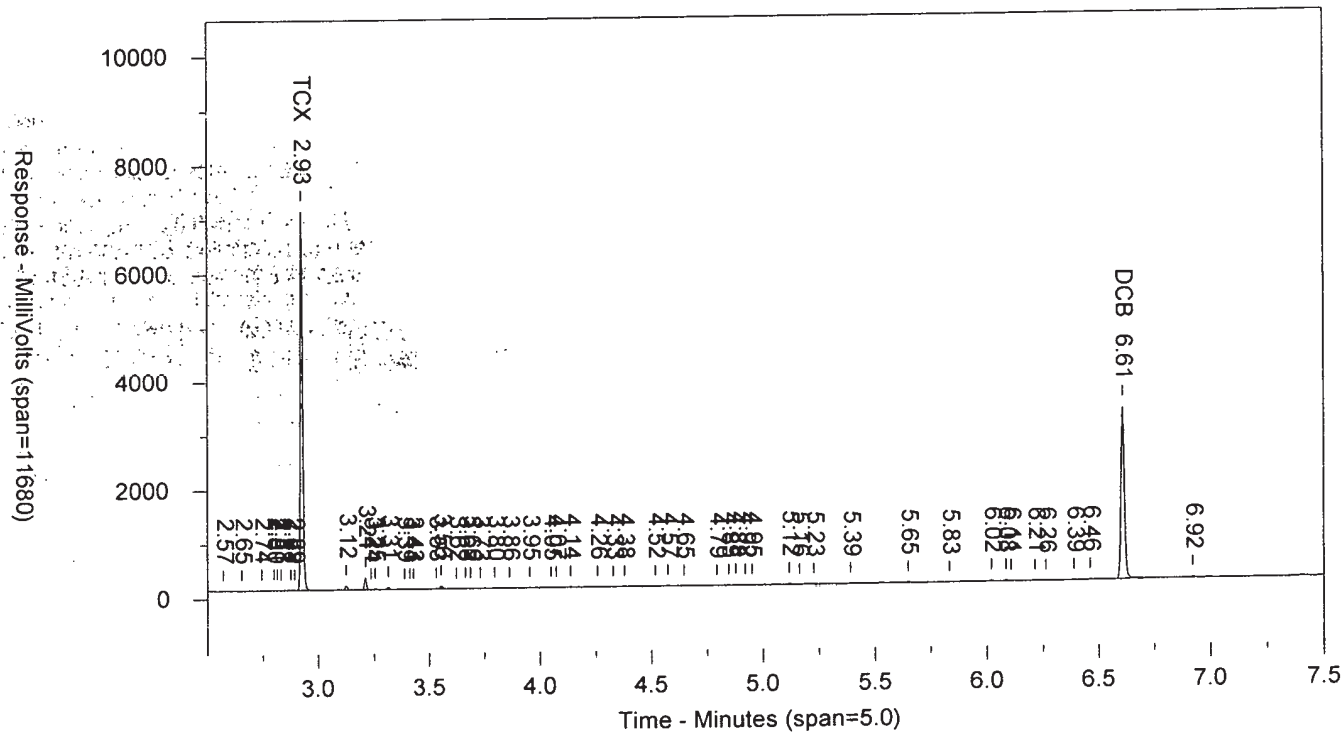
Format A: pestD25.FMTA

Format B: pestD25.FMTB

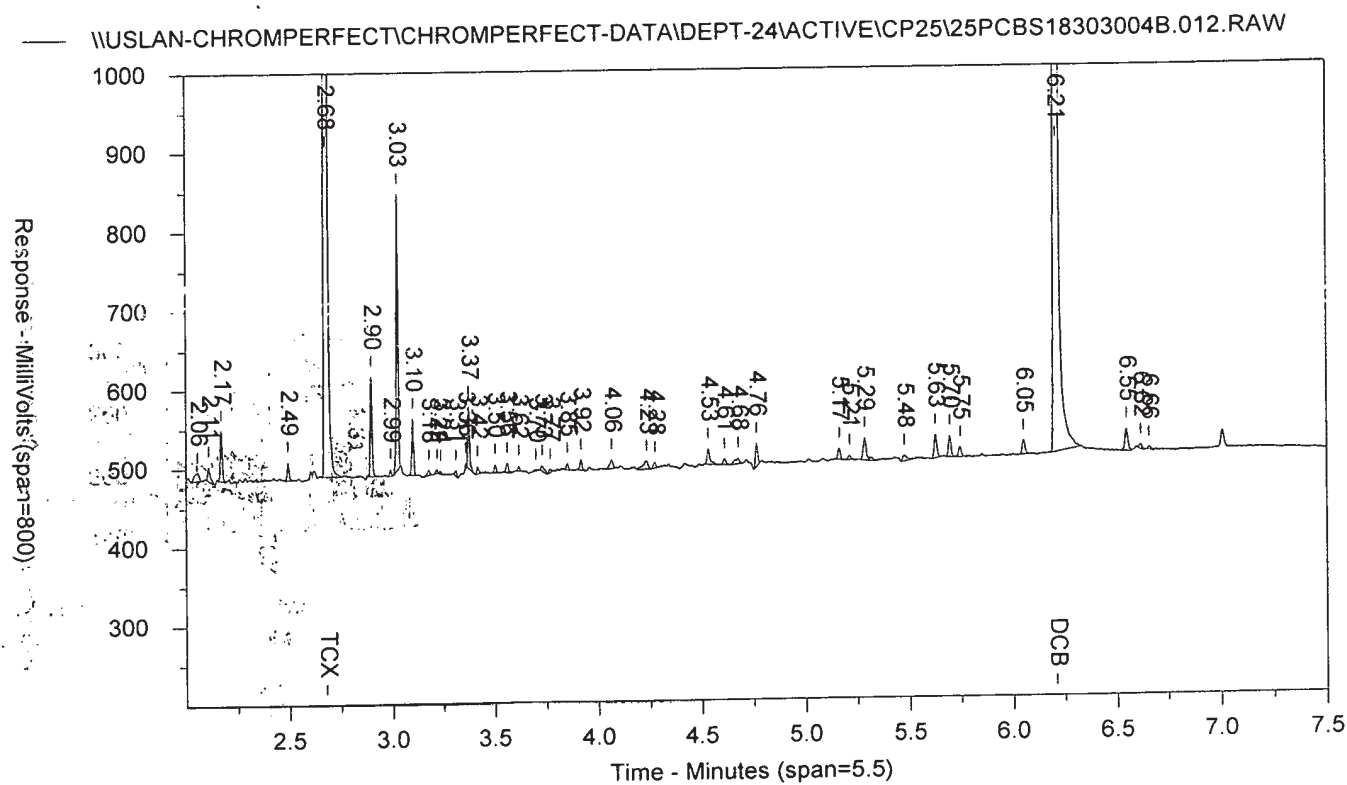
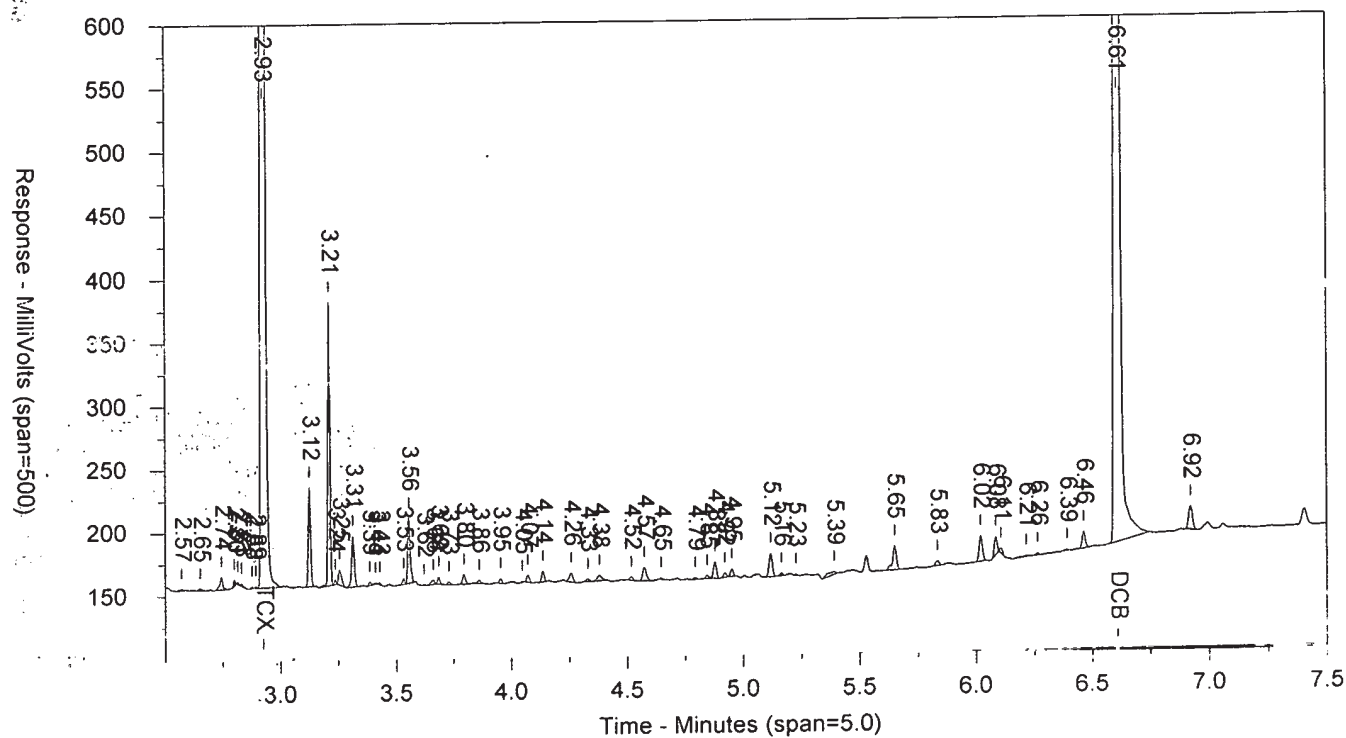
Area File Created On: 11/4/2018 1:51:52 PM

File Reported On: 11/4/2018 at 1:51:58 PM

9876334 CAF AC14T04 T 183050010A 10591 SW-846 8082A
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9876334 CAF AC14T04 T 183050010A 10591 SW-846 8082A
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.012.RAW



Data Summary

Sample Name: 9876342 CAF 14T06 Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 252 mL Total Volume: 2 ml Analyst: 13786 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 14:16:17
 Instrument 18274A
 Result file 25PCBS18303004.015.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) 137% (33 - 137) Conc: 0.409613
 %SSR(DCB) 115% (10 - 148) Conc: 0.339278

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	8006843
Decachlorobiphenyl	6.58	6.61	6.64	5486365

Analysis Report (B)

Injected on Nov 04, 2018 14:16:17
 Instrument 18274B
 Result file 25PCBS18303004B.015.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 132% (33 - 137) Conc: 0.393042
 %SSR(DCB) 114% (10 - 148) Conc: 0.336776

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.93	2.95	8006843	0.409613	Tetrachloro-m-xylene	2.65	2.68	2.71	12639110	0.393042
Decachlorobiphenyl	6.58	6.61	6.64	5486365	0.339278	Decachlorobiphenyl	6.18	6.21	6.24	7967661	0.336776

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.409613	0.0119	0.0238	0.0238		4.13	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.409613	0.0119	0.0238	0.0238			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.393042	0.0119	0.0238	0.0238			
<input type="checkbox"/> Decachlorobiphenyl	A	0.339278	0.0119	0.0238	0.0238		0.74	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	0.339278	0.0119	0.0238	0.0238			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	0.336776	0.0119	0.0238	0.0238			

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<0.0794	<0.2381	<0.3968	D2		4	
<input checked="" type="checkbox"/> PCB-1221			<0.0794	<0.2381	<0.3968	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<0.1587	<0.3175	<0.3968	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<0.0794	<0.2381	<0.3968	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<0.0794	<0.2381	<0.3968	D2		4	
<input checked="" type="checkbox"/> PCB-1254			<0.0794	<0.2381	<0.3968	D1		4	
<input checked="" type="checkbox"/> PCB-1260			<0.119	<0.2381	<0.3968	D1		4	
<input checked="" type="checkbox"/> PCB-1262			<0.1587	<0.3175	<0.3968	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<0.127	<0.254	<0.3968	D1		4	

Units: ug/l

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

Valerie L. Tomayko
 Valerie L. Tomayko
 Principal Specialist

NOV 05 2018

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876342 CAF 14T06 ID: AC Batchnumber: 183050010A
 Sample Amount: 252 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 14:16:17
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.015.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET
 %SSR(TCX) : 137% (33-137) Conc.: 0.409613
 %SSR(DCB) : 115% (10-148) Conc.: 0.339278

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	17405.06	0.052272	6	13.17	1
3.38	3.40	3.42	12709.05	0.039446			2
+ 3.38	3.41	3.42	5411.473	0.016796			2
3.49	3.51	3.53	17772.14	0.042969			3
3.71	3.73	3.75	18971.53	0.039838			4
3.77	3.79	3.81	14435.35	0.03681			5
3.96	3.98	4.00	11786.06	0.039349			6

Height Summation: 93079.19
 Amount Avg CF: 0.041781 Linear:

Aroclor-1221							
3.06	3.08	3.10	3275.4	0.018499	3	152.72	1
3.11	3.13	3.15	92269.07	0.657519			2
3.16	3.18	3.20	17405.06	0.037948			3

Height Summation: 112949.53
 Amount Avg CF: 0.237989 Linear:

Aroclor-1232							
3.16	3.18	3.20	17405.06	0.046438	6	22.91	1
3.38	3.40	3.42	12709.05	0.087309			2
+ 3.38	3.41	3.42	5411.473	0.037176			2
3.49	3.51	3.53	17772.14	0.09519			3
3.71	3.73	3.75	18971.53	0.084541			4
3.77	3.79	3.81	14435.35	0.086913			5
3.96	3.98	4.00	11786.06	0.100588			6

Height Summation: 93079.19
 Amount Avg CF: 0.083497 Linear:

Aroclor-1242							
3.16	3.18	3.20	17405.06	0.060434	6	10.23	1
3.38	3.40	3.42	12709.05	0.047393			2
+ 3.38	3.41	3.42	5411.473	0.02018			2
3.49	3.51	3.53	17772.14	0.052008			3
3.71	3.73	3.75	18971.53	0.046548			4
3.77	3.79	3.81	14435.35	0.047494			5
3.96	3.98	4.00	11786.06	0.051726			6

Height Summation: 93079.19
 Amount Avg CF: 0.050934 Linear:

Aroclor-1248							
3.83	3.85	3.87	11591	0.029565	6	38.43	1
3.96	3.98	4.00	11786.06	0.026646			2
4.05	4.07	4.09	11769.57	0.031382			3
4.23	4.25	4.27	3422.937	0.009142			4
4.36	4.38	4.40	15794.68	0.0396			5
4.61	4.64	4.65	6778.226	0.02283			6

Height Summation: 61142.473
 Amount Avg CF: 0.026528 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 14:16:17
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.015.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET
 %SSR(TCX) : 132% (33-137) Conc.: 0.393042
 %SSR(DCB) : 114% (10-148) Conc.: 0.336776

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	22801.56	0.041565	6	5.53	1
3.27	3.29	3.31	24693.67	0.038444			2
+ 3.27	3.31	3.31	6032.471	0.009392			2
3.47	3.49	3.51	26104.29	0.041905			3
3.54	3.56	3.58	26255.25	0.040665			4
3.60	3.62	3.64	22861.27	0.045129			5
+ 3.60	3.64	3.64	6333.827	0.012503			5
+ 3.71	3.71	3.75	2705.129	0.004952			6
3.71	3.73	3.75	21711.9	0.039747			6

Height Summation: 144427.94
 Amount Avg CF: 0.041243 Linear:

Aroclor-1221							
2.89	2.90	2.93	152998.9	0.670341	2	129.53	2
2.94	2.96	2.98	22801.56	0.029409			3

Height Summation: 175800.46
 Amount Avg CF: 0.349875 Linear:

Aroclor-1232							
2.94	2.96	2.98	22801.56	0.036305	6	32.98	1
3.27	3.29	3.31	24693.67	0.085423			2
+ 3.27	3.31	3.31	6032.471	0.020868			2
3.47	3.49	3.51	26104.29	0.088887			3
3.54	3.56	3.58	26255.25	0.09344			4
3.60	3.62	3.64	22861.27	0.12488			5
+ 3.60	3.64	3.64	6333.827	0.034599			5
+ 3.71	3.71	3.75	2705.129	0.012645			6
3.71	3.73	3.75	21711.9	0.10149			6

Height Summation: 144427.94
 Amount Avg CF: 0.088404 Linear:

Aroclor-1242							
2.94	2.96	2.98	22801.56	0.048172	6	9.06	1
3.27	3.29	3.31	24693.67	0.047313			2
+ 3.27	3.31	3.31	6032.471	0.011558			2
3.47	3.49	3.51	26104.29	0.049177			3
3.54	3.56	3.58	26255.25	0.050673			4
3.60	3.62	3.64	22861.27	0.060051			5
+ 3.60	3.64	3.64	6333.827	0.016638			5
+ 3.71	3.71	3.75	2705.129	0.006356			6
3.71	3.73	3.75	21711.9	0.051013			6

Height Summation: 144427.94
 Amount Avg CF: 0.051067 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876342 CAF 14T06 ID: AC Batchnumber: 183050010A
 Sample Amount: 252 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 14:16:17
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.015.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	6963.287	0.01583	6	90.41	1
4.61	4.64	4.65	6778.226	0.007697			2
4.74	4.76	4.78	27289.38	0.098289			3
4.83	4.85	4.87	10686.1	0.017587			4
5.03	5.05	5.07	15628.96	0.032061			5
5.14	5.16	5.18	33019.13	0.052999			6

Height Summation: 100365.083

Amount Avg CF: 0.037411 Linear:

Aroclor-1260

4.74	4.76	4.78	27289.38	0.040018	6	16.81	1
4.94	4.96	4.98	35459.06	0.043168			2
5.14	5.16	5.18	33019.13	0.033331			3
5.21	5.23	5.25	21697.95	0.045144			4
5.61	5.63	5.65	50369.14	0.035094			5
+ 5.61	5.65	5.65	12654.81	0.008817			5
5.82	5.84	5.86	41833.18	0.052336			6

Height Summation: 209667.84

Amount Avg CF: 0.041515 Linear:

Aroclor-1262

5.21	5.23	5.25	21697.95	0.029601	6	24.30	1
5.38	5.39	5.41	26290.19	0.044524			2
5.61	5.63	5.65	50369.14	0.029437			3
+ 5.61	5.65	5.65	12654.81	0.007396			3
5.82	5.84	5.86	41833.18	0.042246			4
5.87	5.89	5.91	12812.76	0.023842			5
6.25	6.26	6.29	20436.57	0.030877			6

Height Summation: 173439.79

Amount Avg CF: 0.033421 Linear:

Aroclor-1268

5.81	5.84	5.85	41833.18	0.018813	6	76.55	1
5.87	5.89	5.91	12812.76	0.006362			2
6.00	6.02	6.04	28806.06	0.015577			3
6.07	6.09	6.11	19886.7	0.04284			4
6.24	6.26	6.28	20436.57	0.025746			5
6.44	6.46	6.48	21009.34	0.00328			6

Height Summation: 144784.61

Amount Avg CF: 0.01877 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 14:16:17
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.015.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	19434.96	0.030376	6	26.02	1
+ 3.71	3.71	3.75	2705.129	0.003443			2
3.71	3.73	3.75	21711.9	0.027638			2
+ 3.80	3.80	3.84	7557.607	0.014555			3
3.80	3.82	3.84	13362.66	0.025735			3
3.93	3.95	3.97	25297.73	0.025014			4
4.07	4.11	4.11	5754.878	0.012372			5
+ 4.30	4.31	4.34	5961.825	0.013558			6
4.30	4.34	4.34	12754.34	0.029005			6

Height Summation: 98316.468

Amount Avg CF: 0.025023 Linear:

Aroclor-1254

+ 4.30	4.31	4.34	5961.825	0.004637	6	85.34	1
4.30	4.34	4.34	12754.34	0.00992			1
4.40	4.42	4.44	47349.11	0.078411			2
4.47	4.49	4.51	6115.411	0.007541			3
4.54	4.56	4.58	46193.47	0.094476			4
4.69	4.72	4.73	12872.06	0.023079			5
4.77	4.79	4.81	39425.12	0.043019			6

Height Summation: 164709.511

Amount Avg CF: 0.042741 Linear:

Aroclor-1260

4.54	4.56	4.58	46193.47	0.038666	6	14.89	1
4.64	4.66	4.68	40857.36	0.042595			2
4.77	4.79	4.81	39425.12	0.033029			3
5.00	5.02	5.04	38494.44	0.052103			4
5.19	5.21	5.23	74699.58	0.042602			5
5.45	5.47	5.49	51738.5	0.043344			6

Height Summation: 291408.47

Amount Avg CF: 0.042057 Linear:

Aroclor-1262

4.81	4.83	4.85	30947.69	0.0316	6	13.95	1
5.00	5.02	5.04	38494.44	0.037963			2
5.20	5.21	5.24	74699.58	0.036256			3
5.41	5.43	5.45	21139.03	0.025339			4
5.46	5.47	5.50	51738.5	0.037081			5
5.83	5.85	5.87	28625.26	0.034711			6

Height Summation: 245644.5

Amount Avg CF: 0.033825 Linear:

Aroclor-1268

5.41	5.43	5.45	21139.03	0.000035	6	101.30	1
5.46	5.47	5.50	51738.5	0.085759			2
5.61	5.63	5.65	42685.61	0.081424			3
5.68	5.70	5.72	36372.43	0.278655			4
5.83	5.85	5.87	28625.26	0.136033			5
6.03	6.05	6.07	29845.27	0.015588			6

Height Summation: 210406.1

Amount Avg CF: 0.099582 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876342 CAF 14T06 ID: AC **Batchnumber:** 183050010A
Sample Amount: 252 mL **Total Volume:** 2 ml **Analyst:** 9065 **SDG:** TID14 **State:** NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 14:16:17
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.015.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 14:16:17
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.015.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

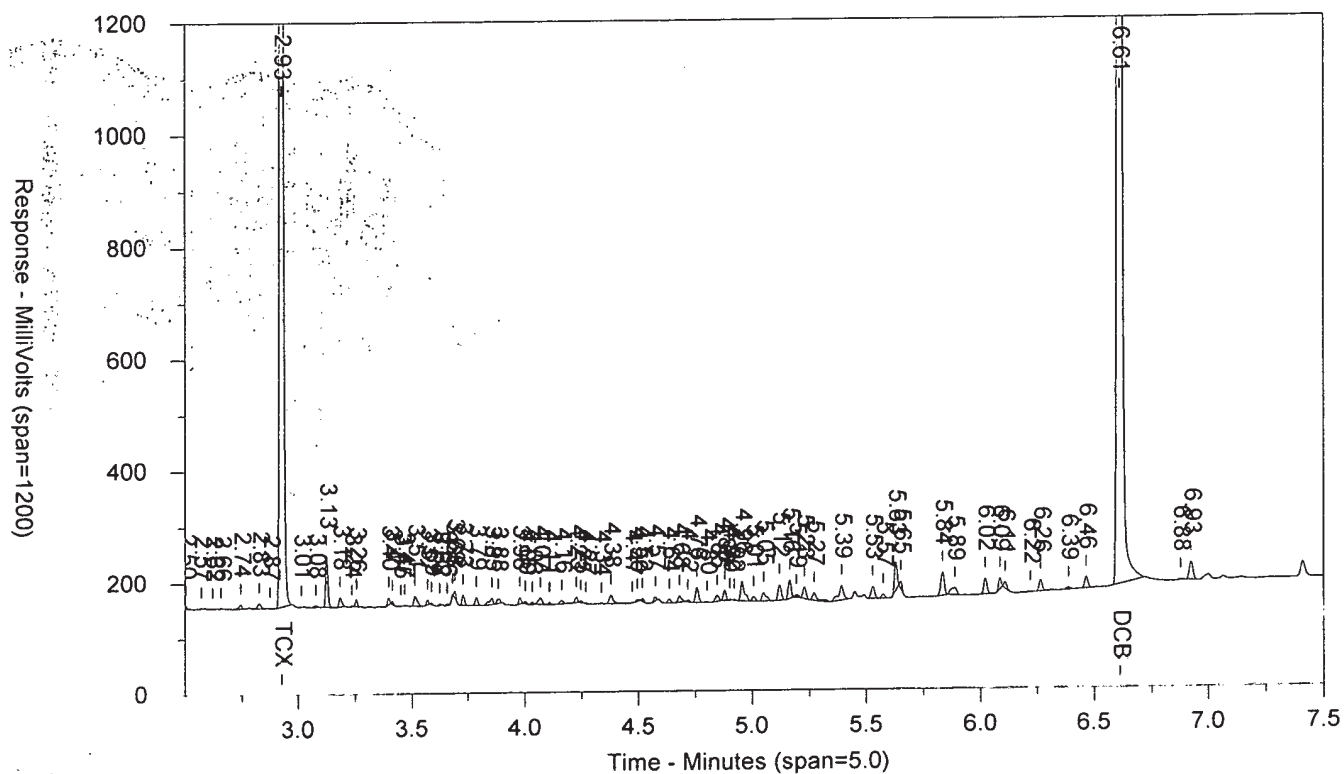
Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.3968	0.0794	—	1.30	4	40	
Aroclor-1221			0.3968	0.0794	—	38.07	3	5	
Aroclor-1232			0.3968	0.1587	—	5.71	4	10	
Aroclor-1242			0.3968	0.0794	—	0.26	4	30	
Aroclor-1248			0.3968	0.0794	—	5.84	4	40	
Aroclor-1254			0.3968	0.0794	—	13.30	4	40	
Aroclor-1260			0.3968	0.119	—	1.30	4	40	
Aroclor-1262			0.3968	0.1587	—	1.20	4	40	
Aroclor-1268			0.3968	0.127	—	** 136.56	4	40	

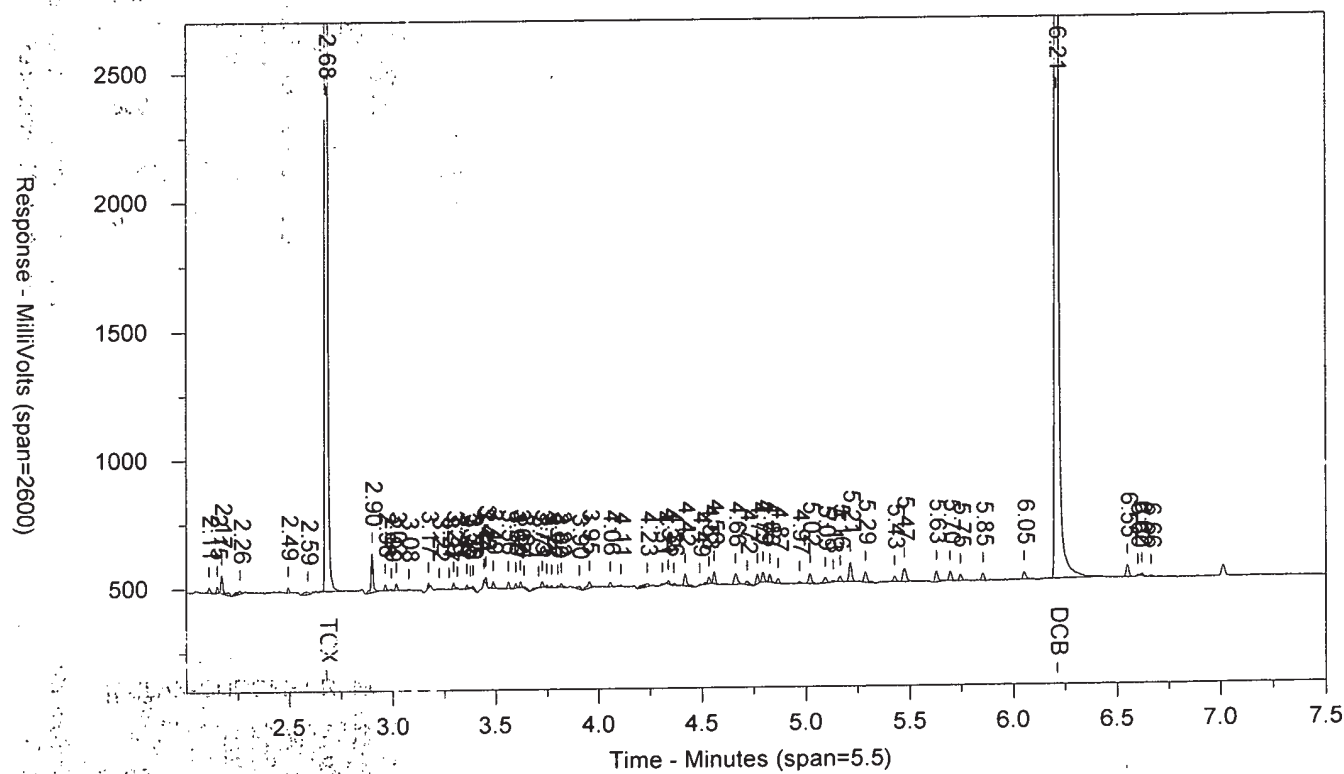
Units: ug/l

9876342 CAF AC14T06 T 183050010A 10591 SW-846 8082A

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004B.015.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9876342 CAF AC14T06 T 183050010A 10591

SW-846 8082A

Injected On: 11/4/2018 2:16:17 PM

Sample Weight: 252

Instrument ID: CP25-18274

Dilution Factor: 2

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	8006843	.41	TCX	2.679	12639110	.393	TCX
6.61	5486365	.339	DCB	6.211	7967661	.337	DCB

Files:

Area File: 25PCBS18303004.015.RAW

Area File: 25PCBS18303004B.015.RAW

Method A: 25PCBA.MET

Method B: 25PCBAB.MET

Calibration File A: 25PCBS1830301.CAL

Calibration File B: 25PCBS1830301b.CAL

Format A: pestD25.FMTA

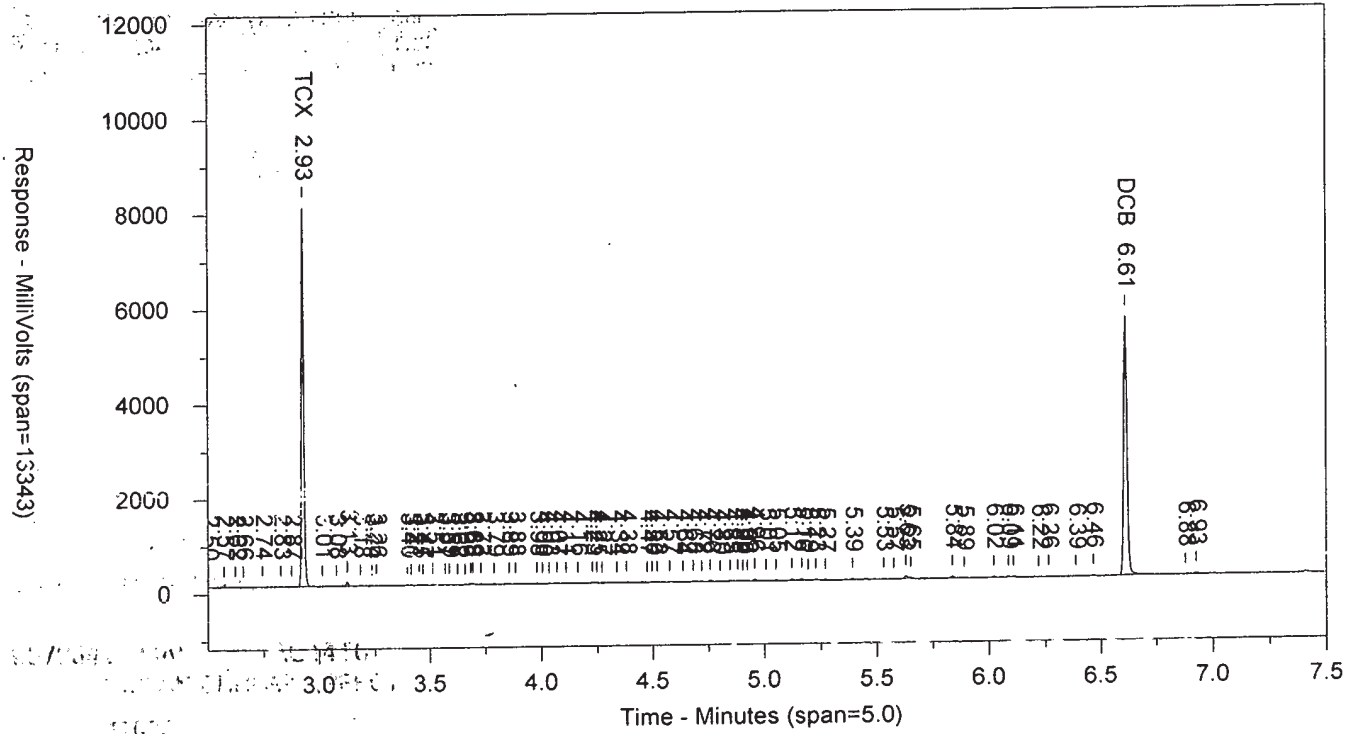
Format B: pestD25.FMTB

Area File Created On: 11/4/2018 2:24:48 PM

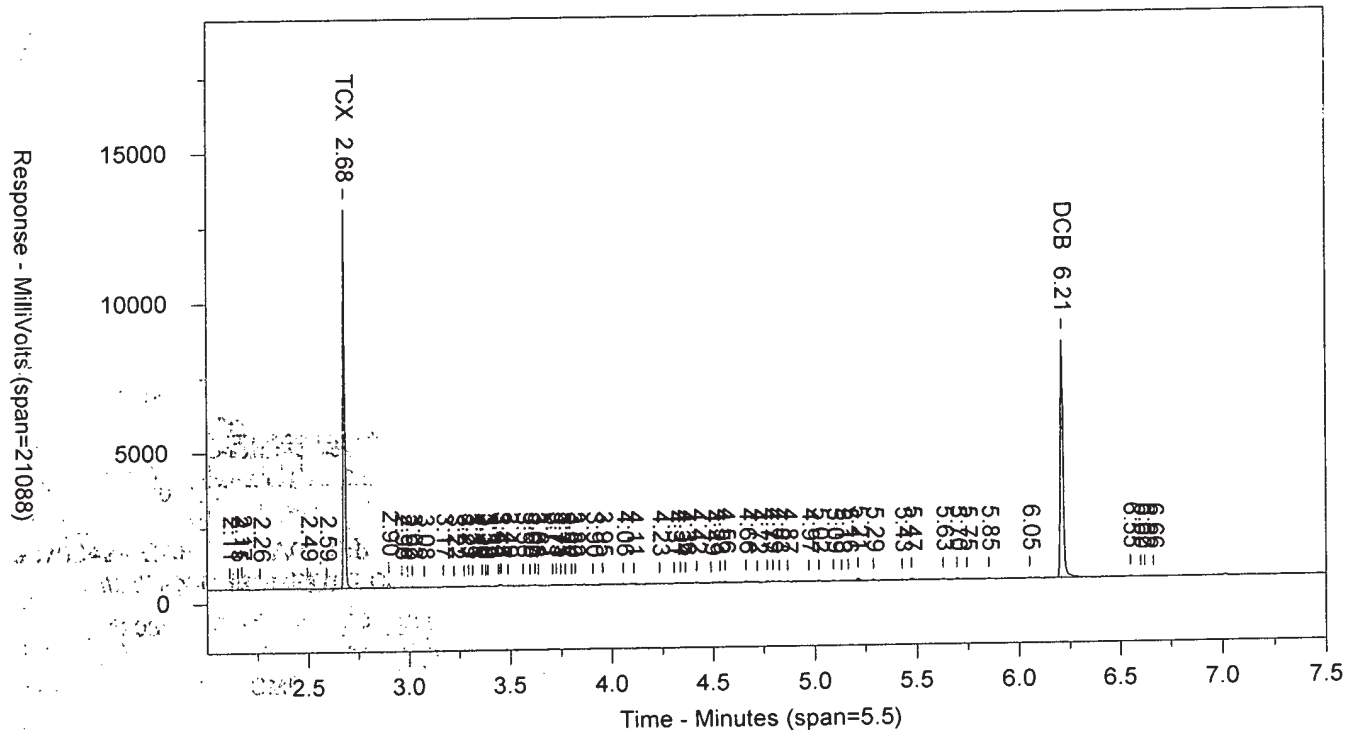
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9876342 CAF AC14T06 T 183050010A 10591 SW-846 8082A

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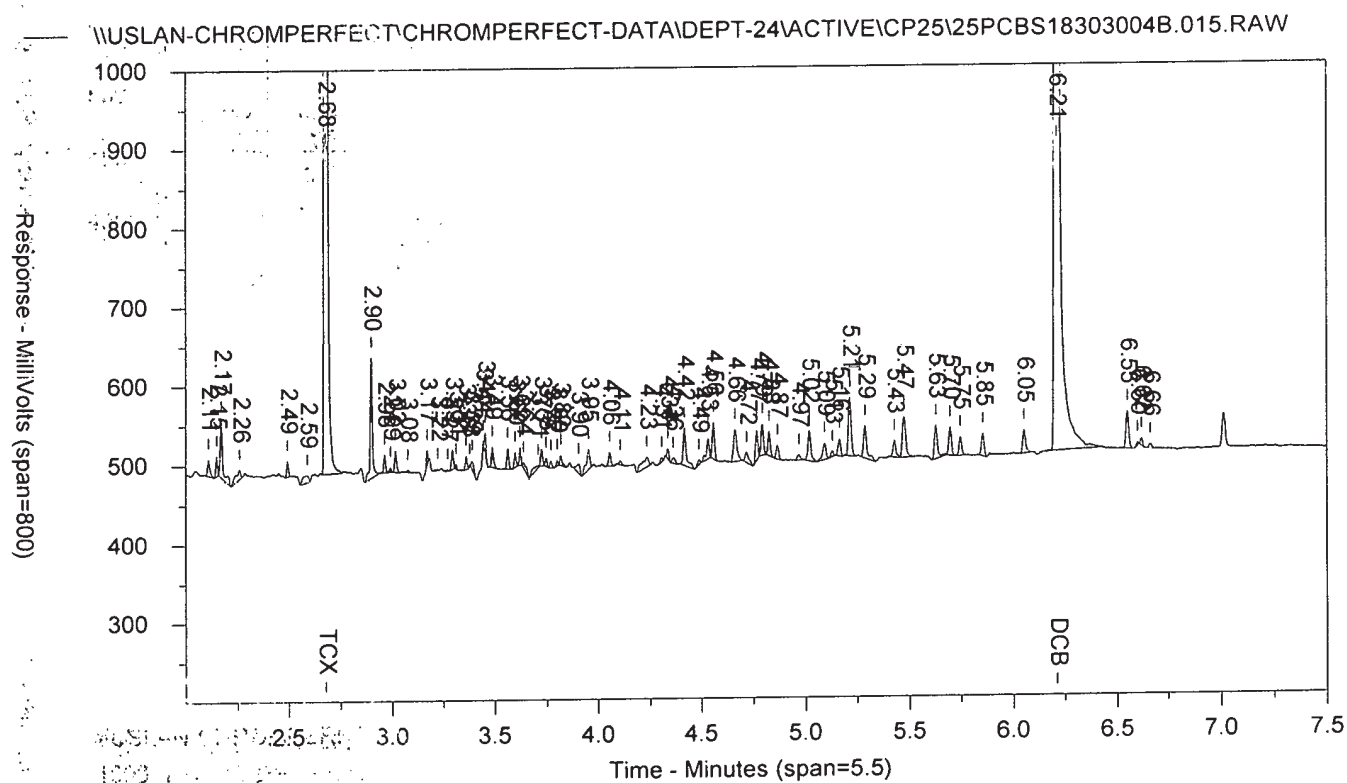
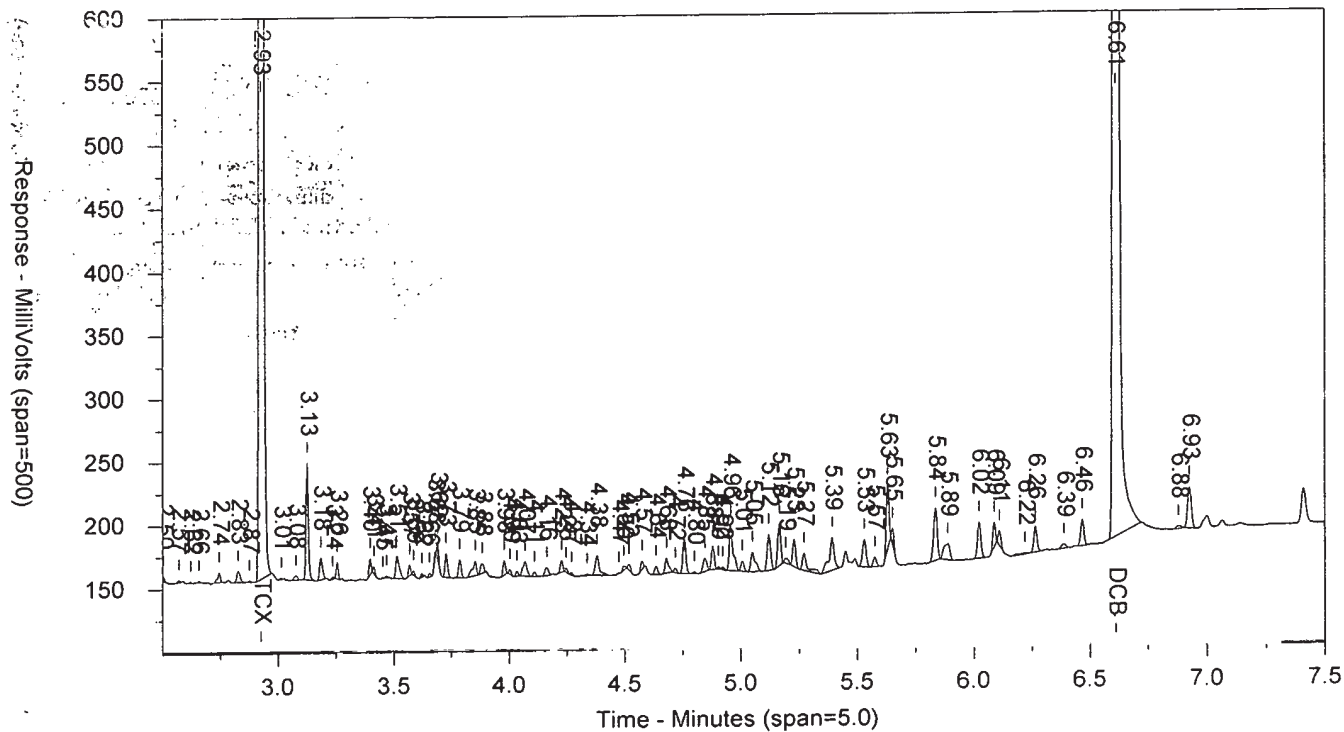


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9876342 CAF AC14T06 T 183050010A 10591 SW-846 8082A

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.015.RAW



Standards Data

Polychlorinated Biphenyls (PCBs)

Eurofins Lancaster Laboratories

CHROM PERFECT SEQUENCE FILE

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

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

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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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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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: 

10/31/2018

Date: 31 Oct 18

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP25\25PCBS18303004.seq
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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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 Number of Entries: 98

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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: JD2855 **NOV 05 2018** Date: 4 Nov 18

11/4/2018

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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

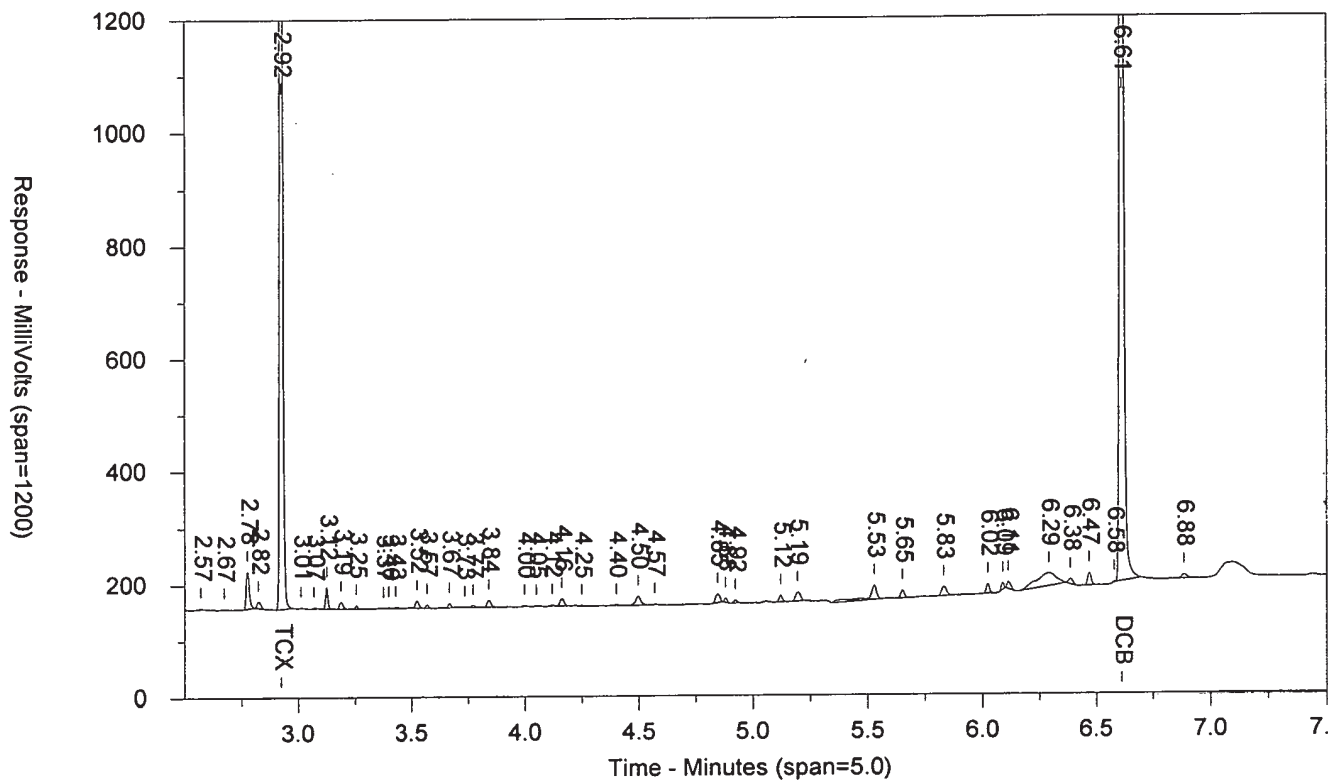
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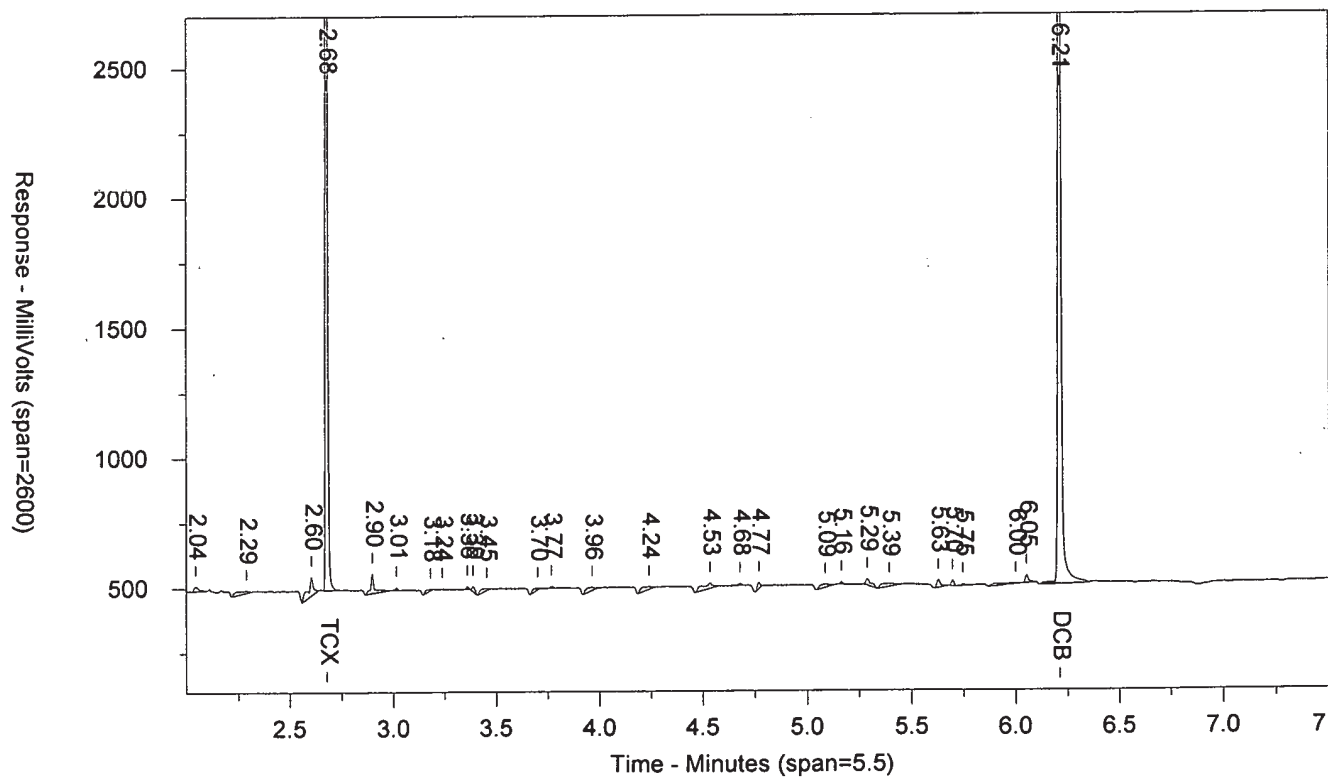
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SW-846 808

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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
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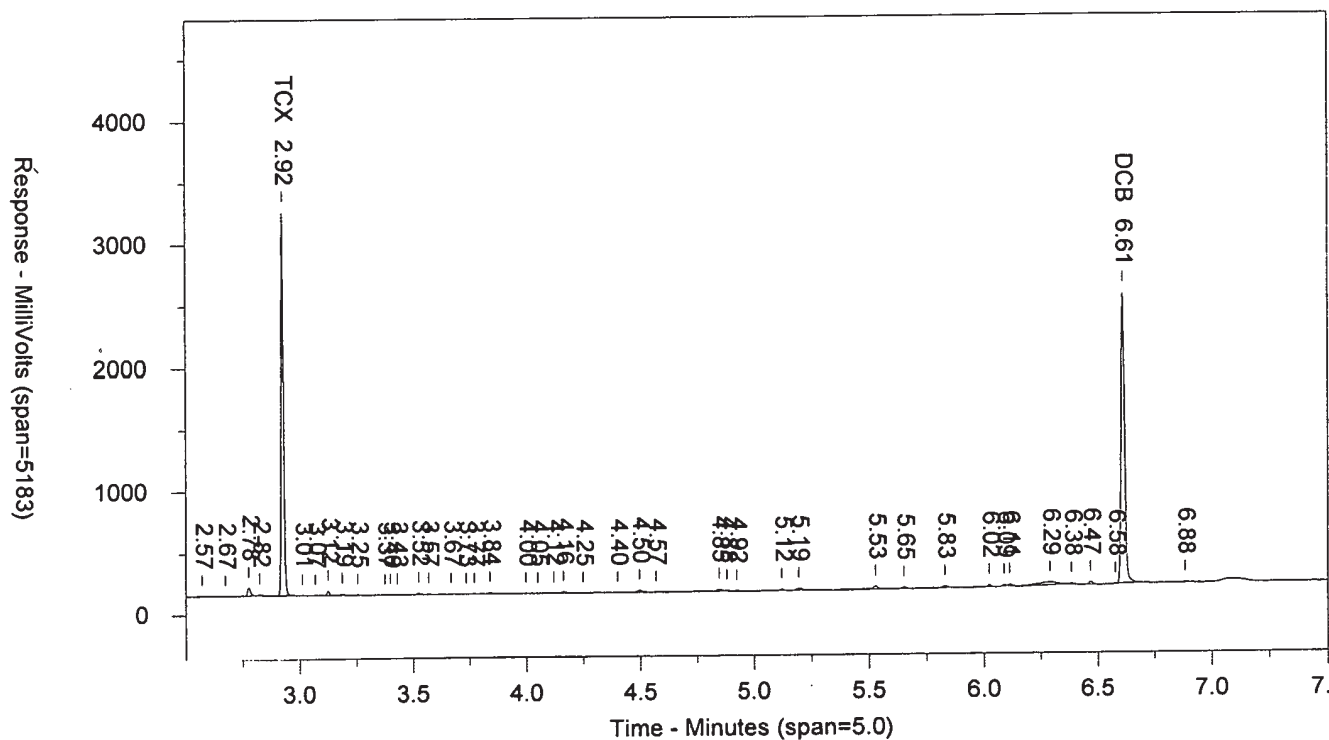
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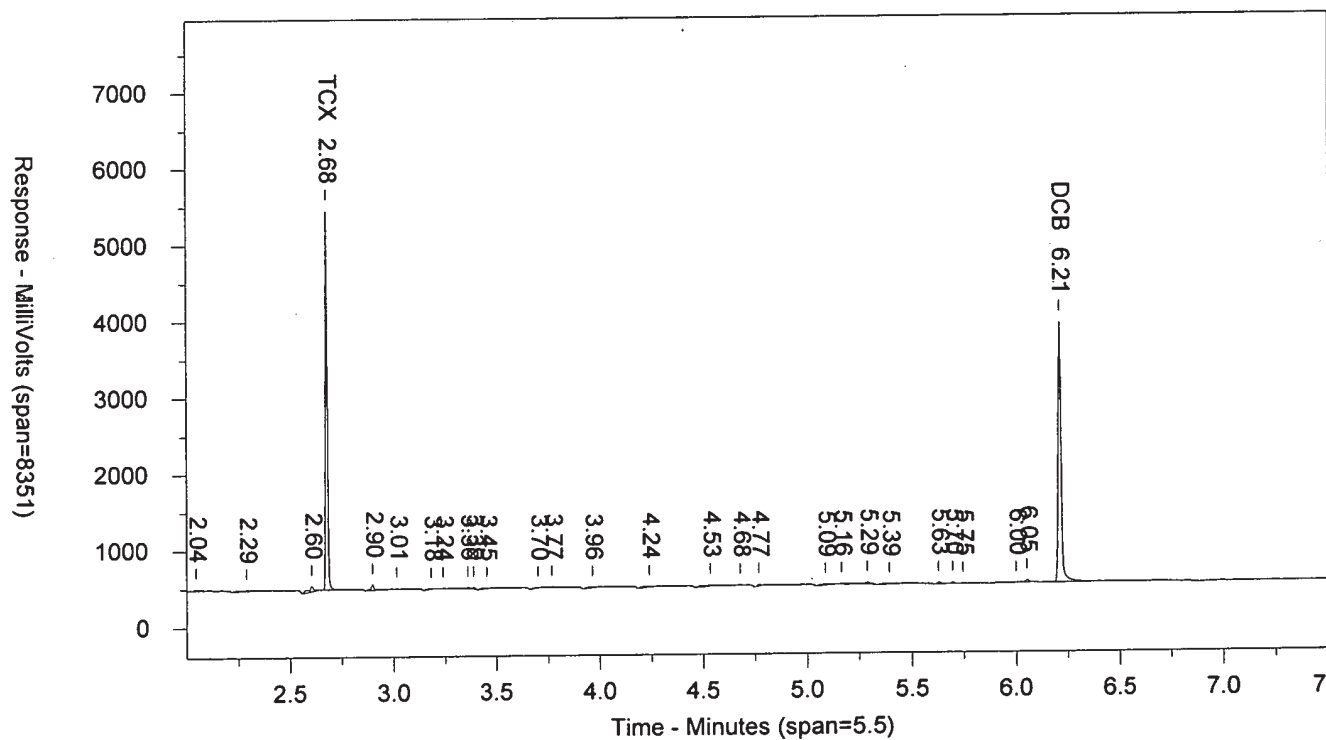
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SW-846 808:

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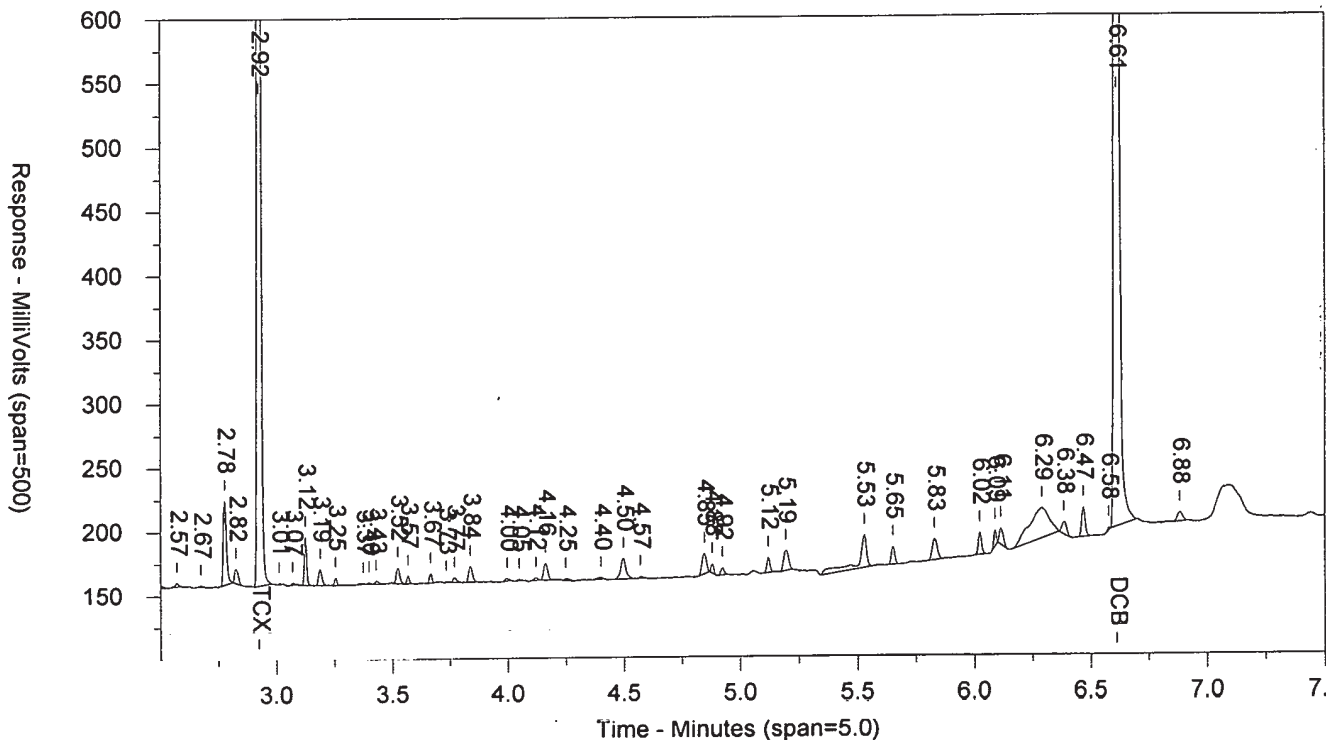
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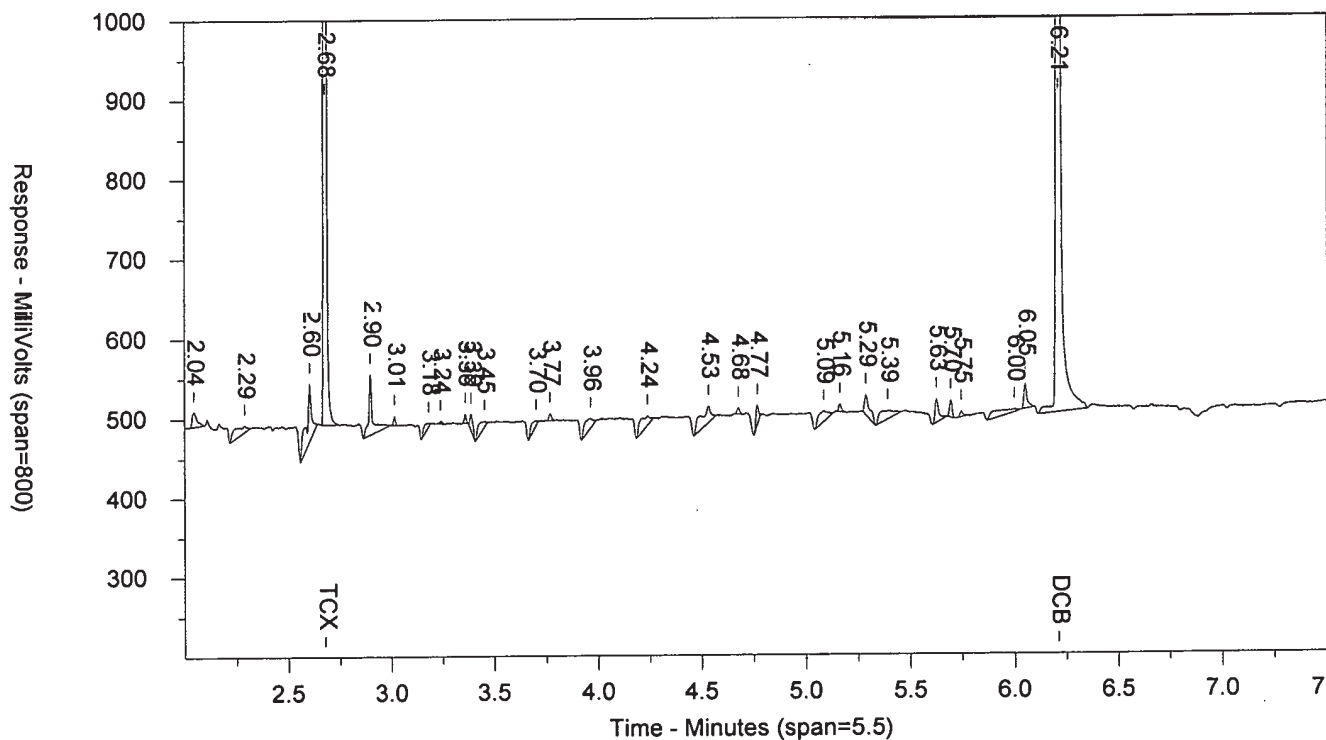
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SW-846 8082

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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
2.832		11048	8172
2.925	TOX	3014307	2245220
3.012		2939	2730
3.072		1129	941
3.125		37994	26867
3.211		2024021	1382482
3.254		125736	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
3.565		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		23181	2627
4.505		99980	11495
4.551		7047	5782
4.574		45878	38477
4.648		7518	5516
4.707		371281	354440
4.809		306367	293211
4.846		4046000	3736172
4.876		32925	17246

Chrom Perfect Chromatogram Report

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		26964	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		1724865	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

Chrom Perfect Chromatogram Report

RT B	Compound B	Height B	Area B
6.052		34692	41140
6.211	DCB	3839457	3652620

EVALX1824B

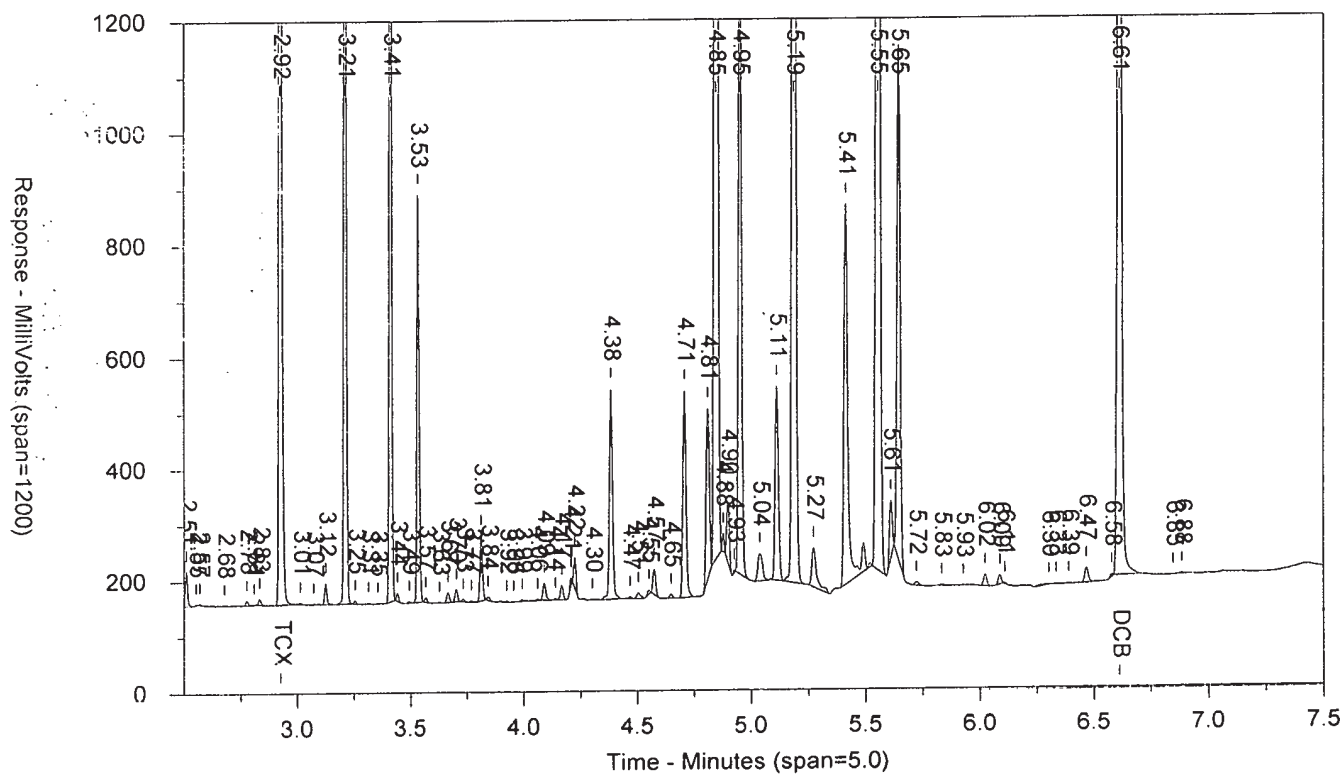
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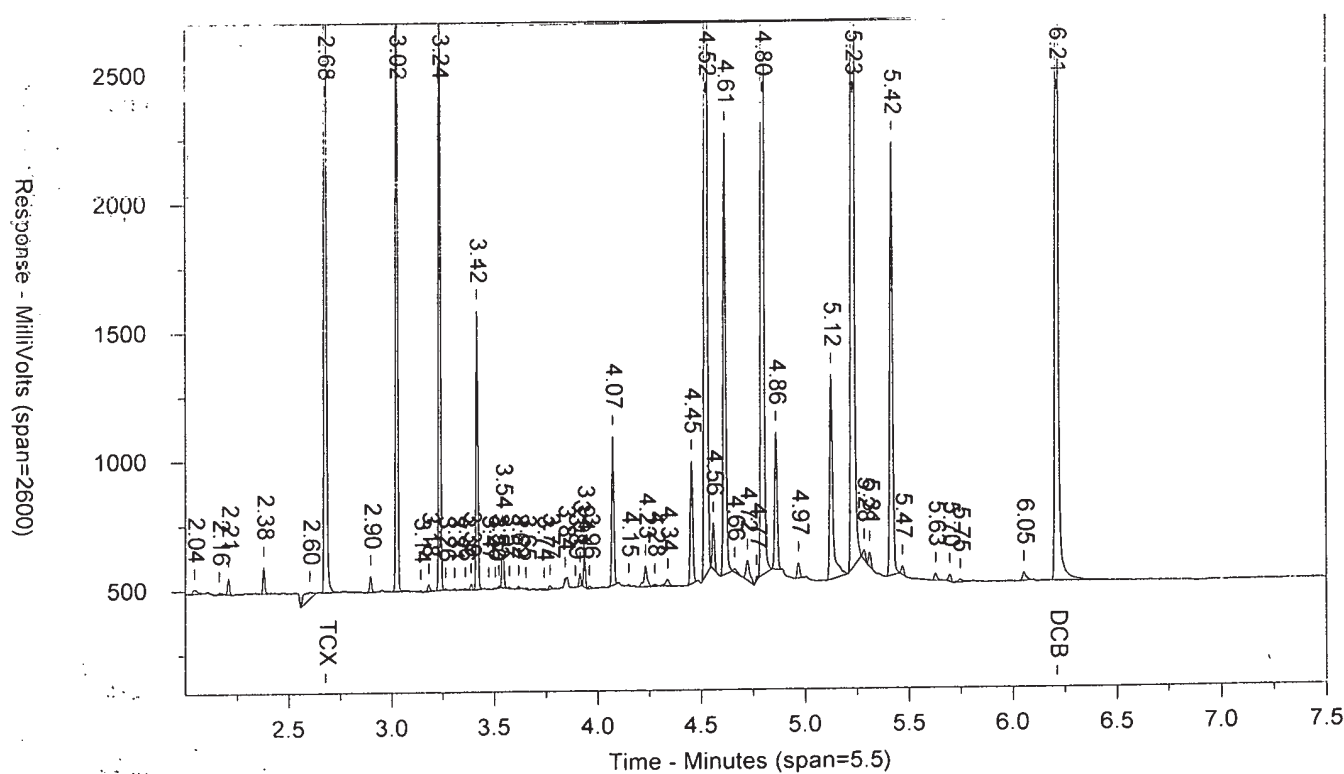
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: EVALX1824B AAEVALXAA ICAL 1830299999 10227
Injected On: 10/30/2018 6:02:40 PM
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

SW-846 8082

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
2.925	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.MEI
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
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EVALX1824B

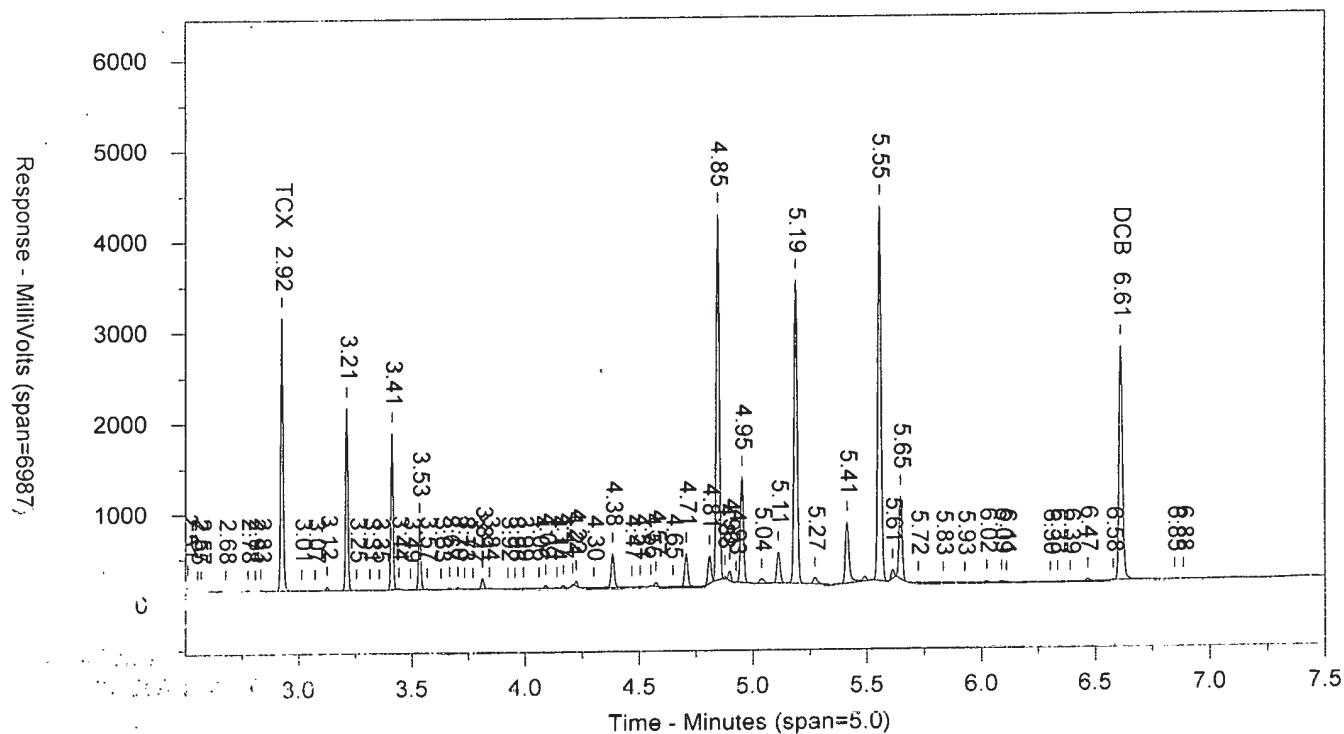
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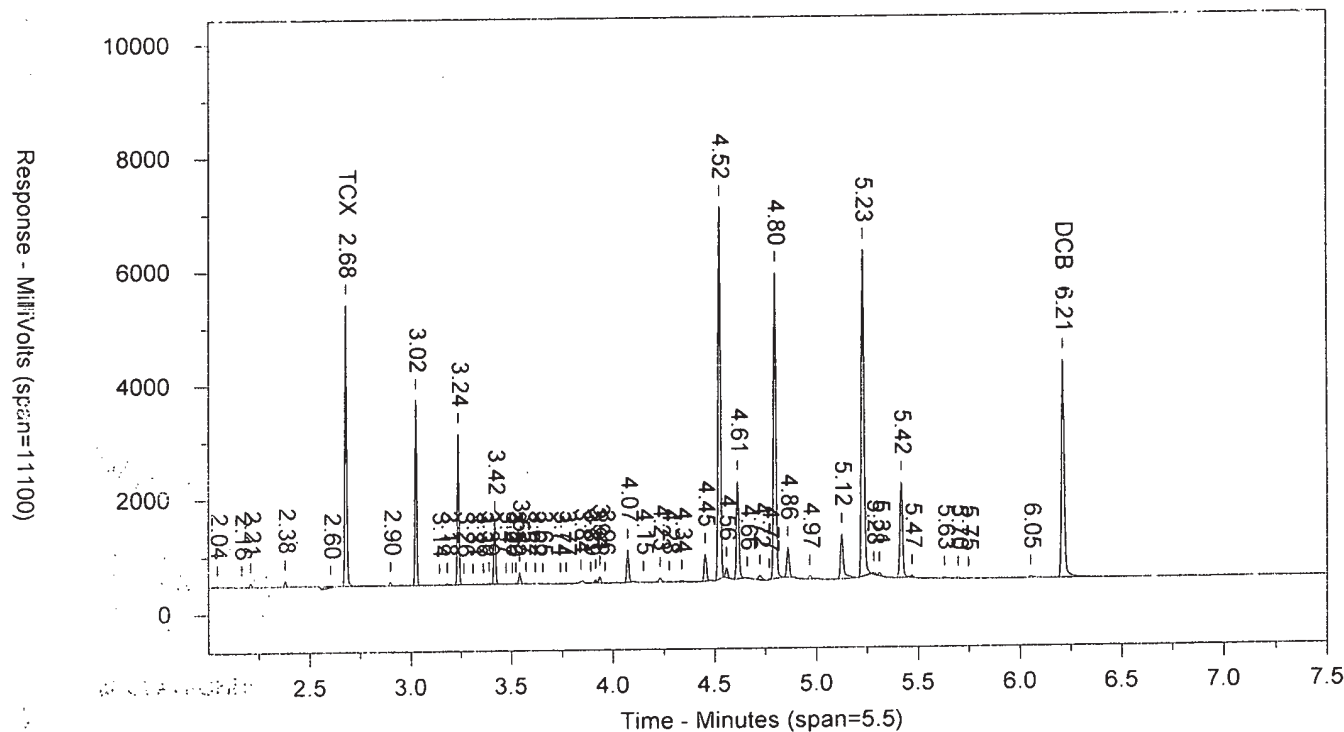
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SW-846 8082

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EVALX1824B

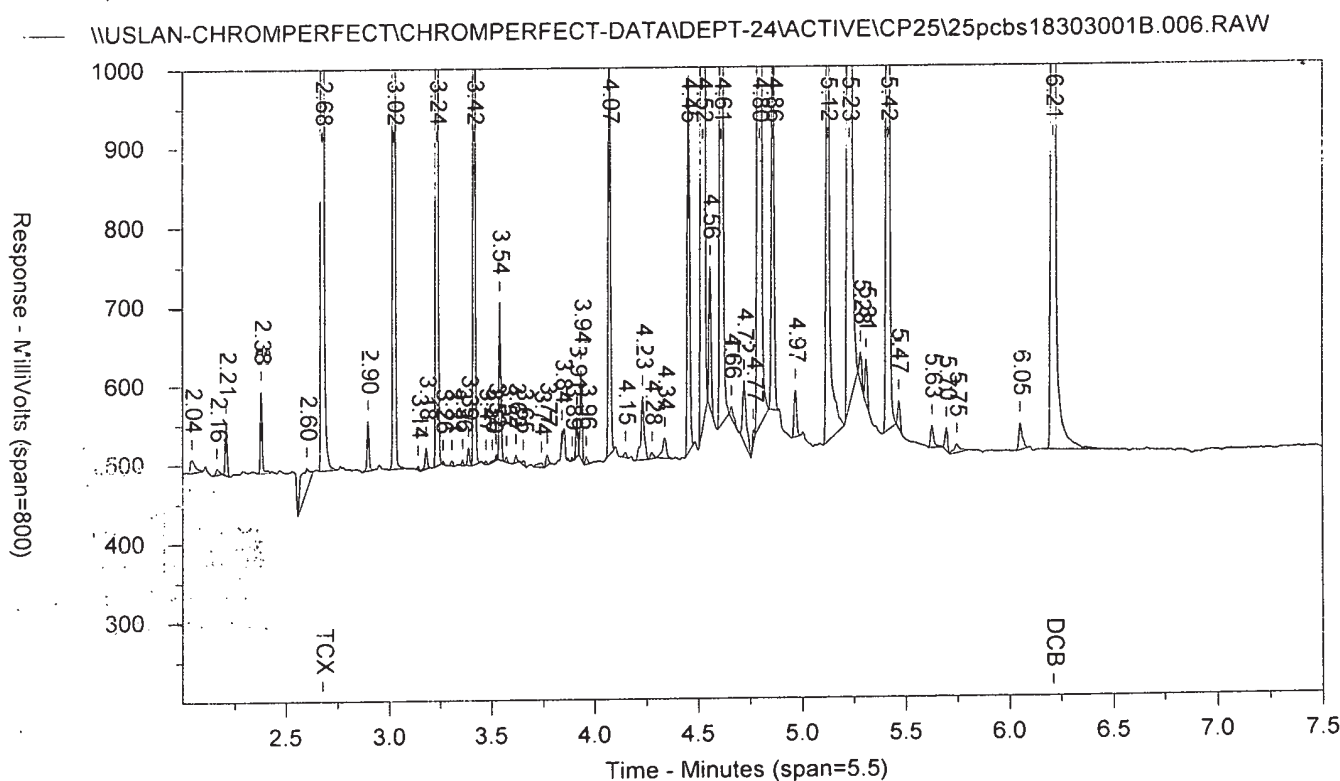
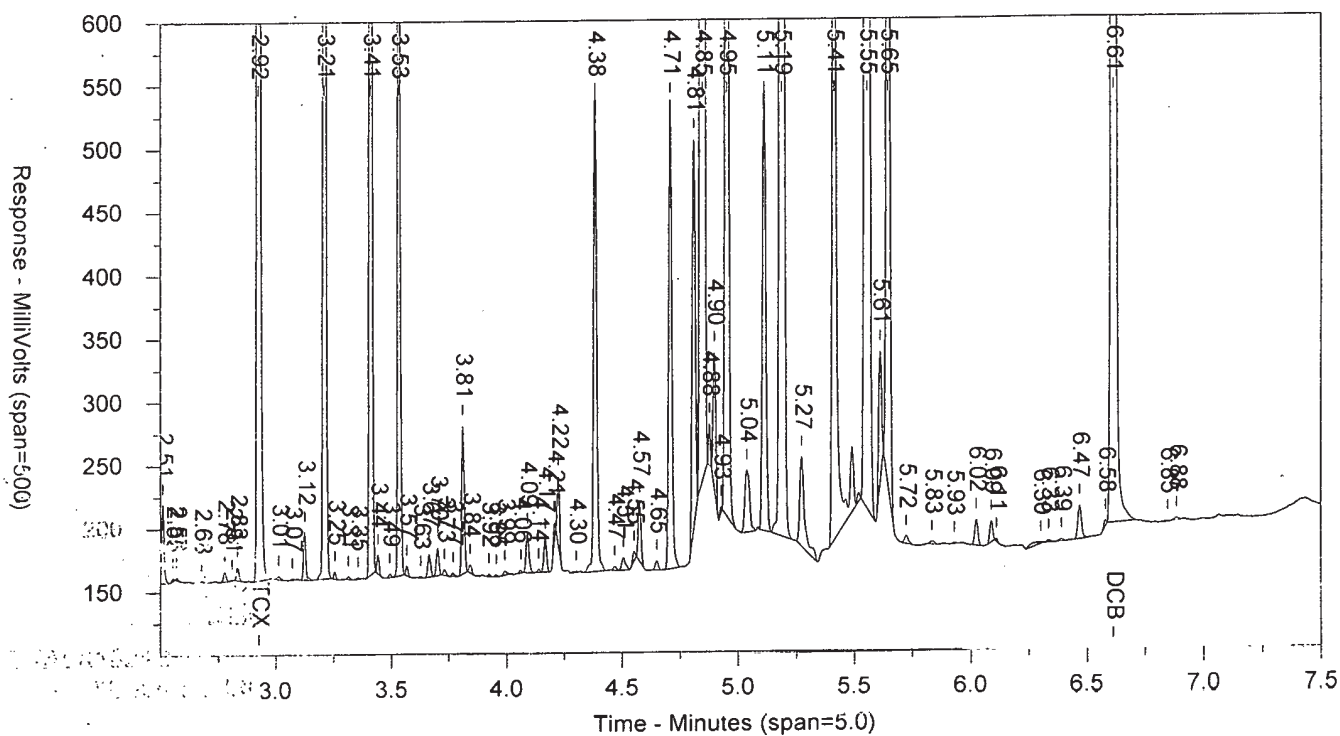
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ICAL 1830299999

10227

SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.006.RAW



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
4.272		15619	11234
4.34		9503	8360
4.384		20466	74945
4.417		1909	1193
4.521		14047	19712
4.575		76052	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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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
3.480		135493	91666
3.563		139771	88793
3.598		101599	62813
3.622		111475	63872
3.64		30578	14822
3.679		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

Chrom Perfect Chromatogram Report

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

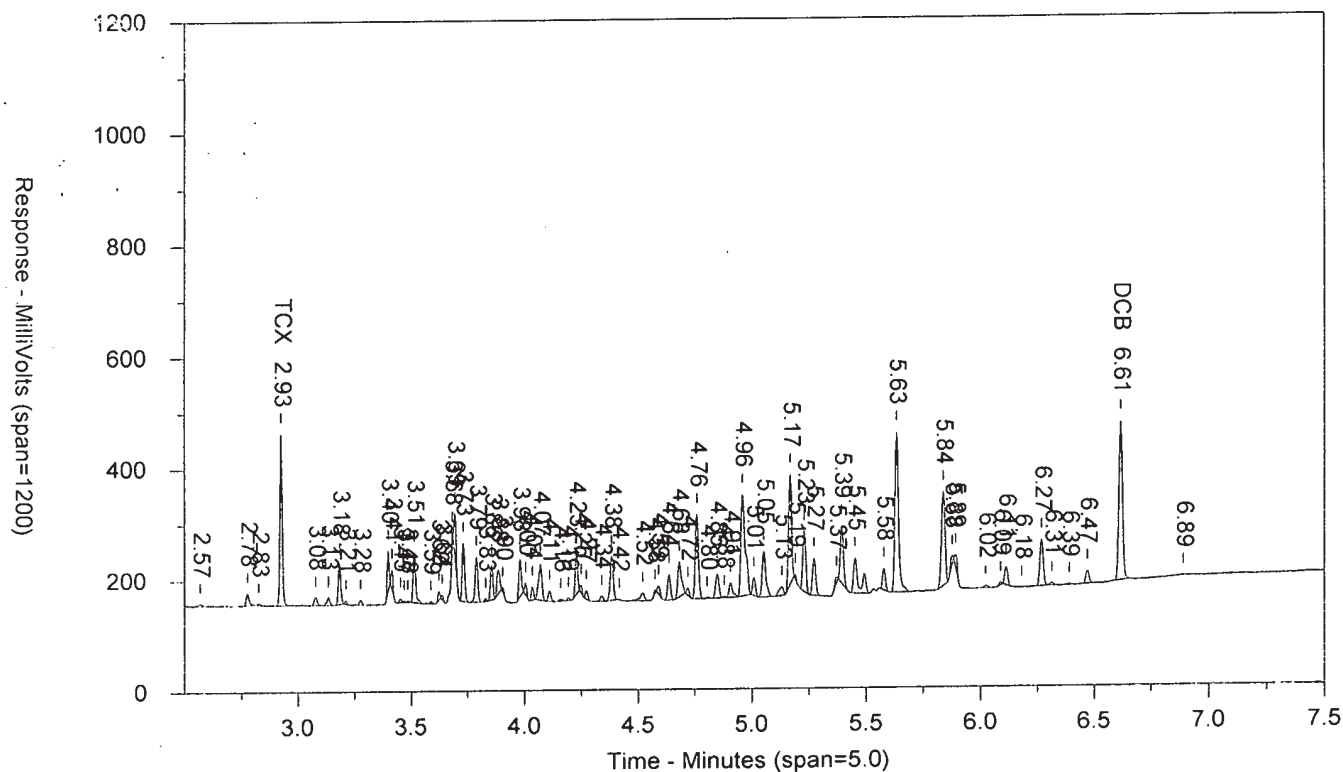
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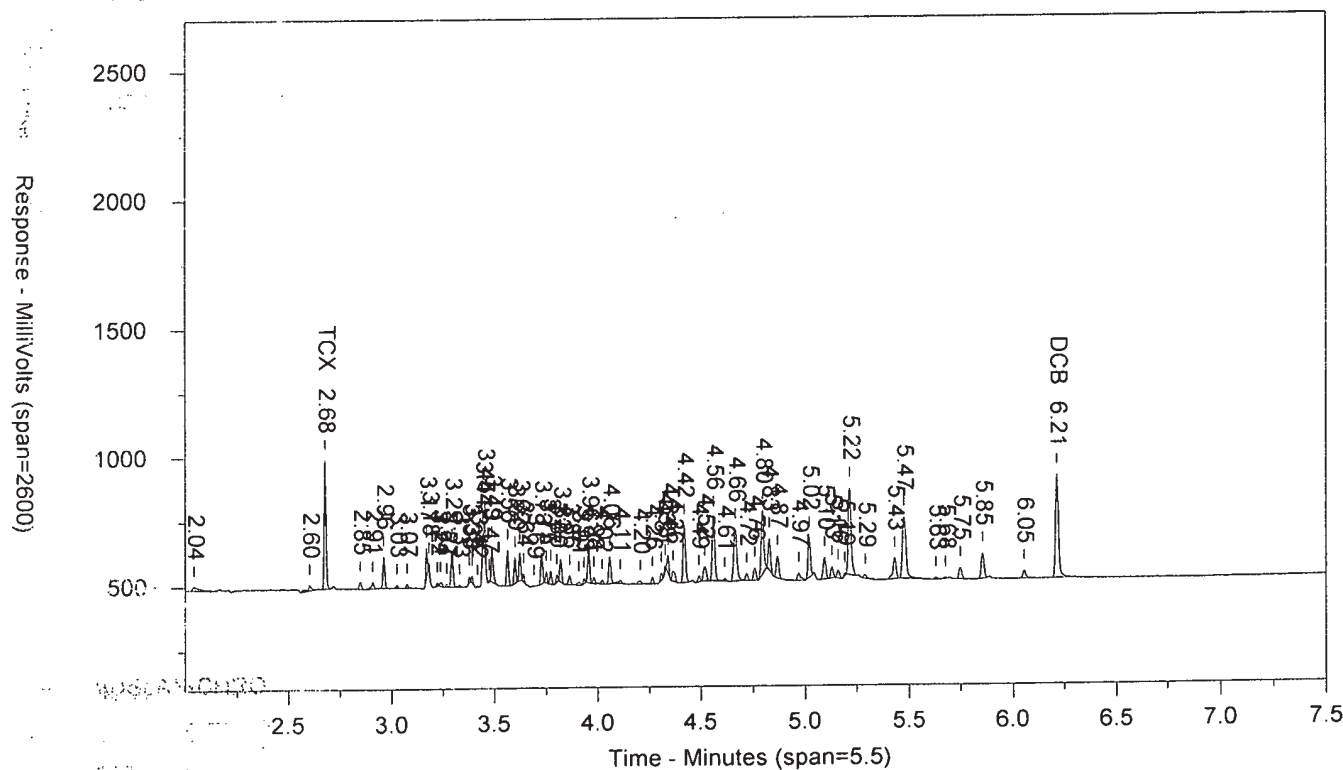
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SW-846 8082

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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
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	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
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AR1611824D

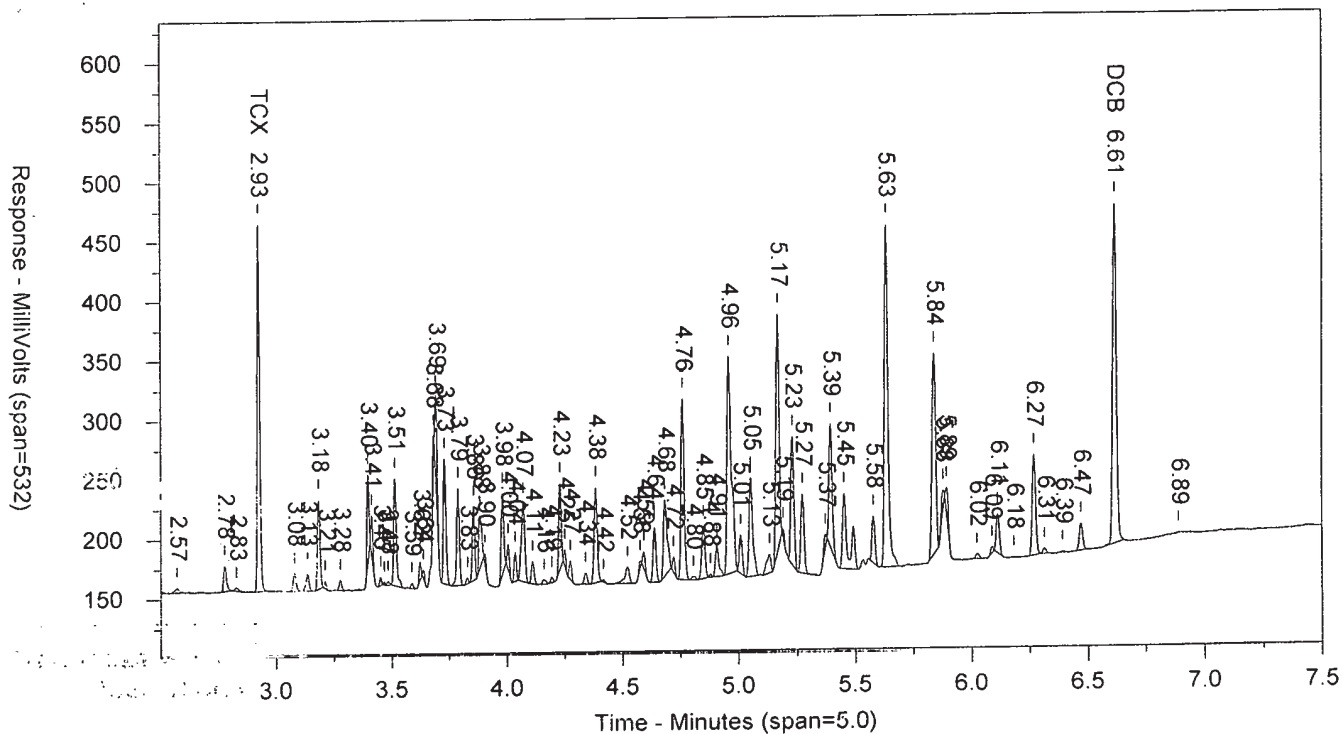
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ICAL 1830299999

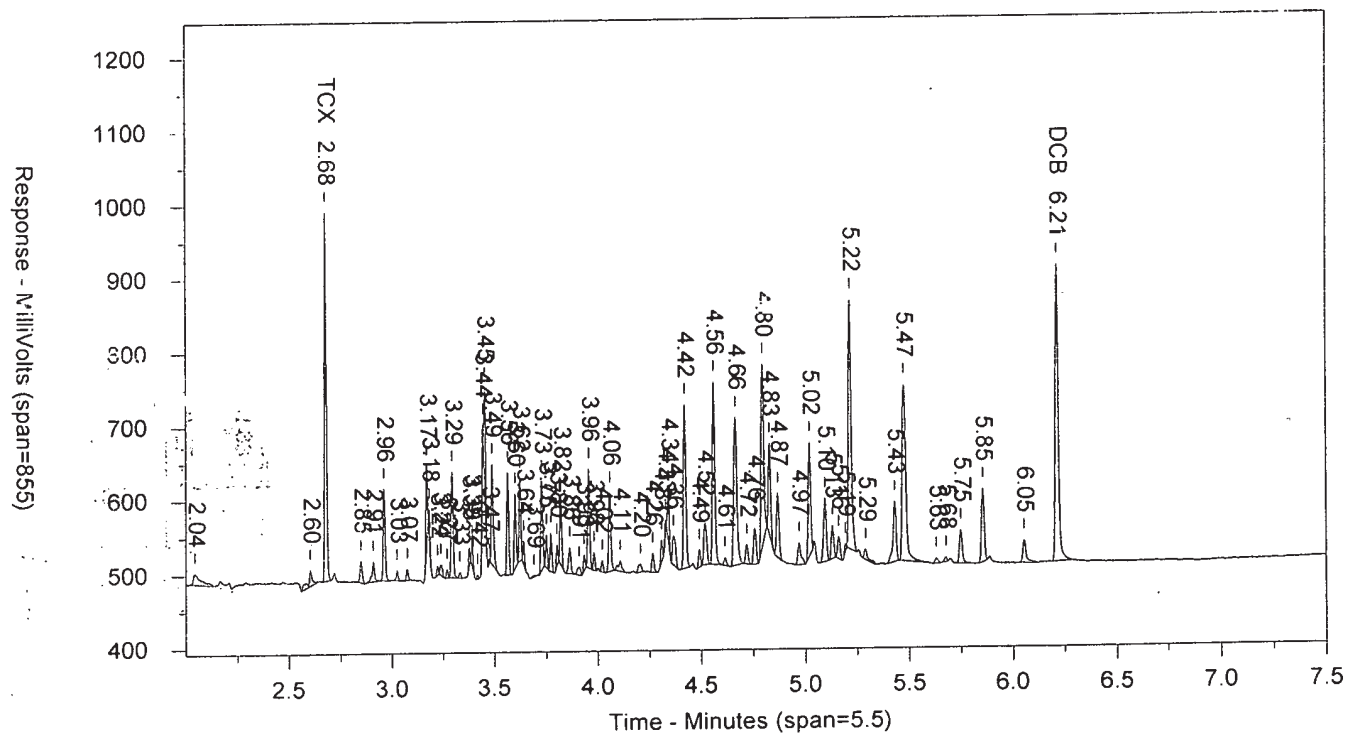
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SW-846 8082

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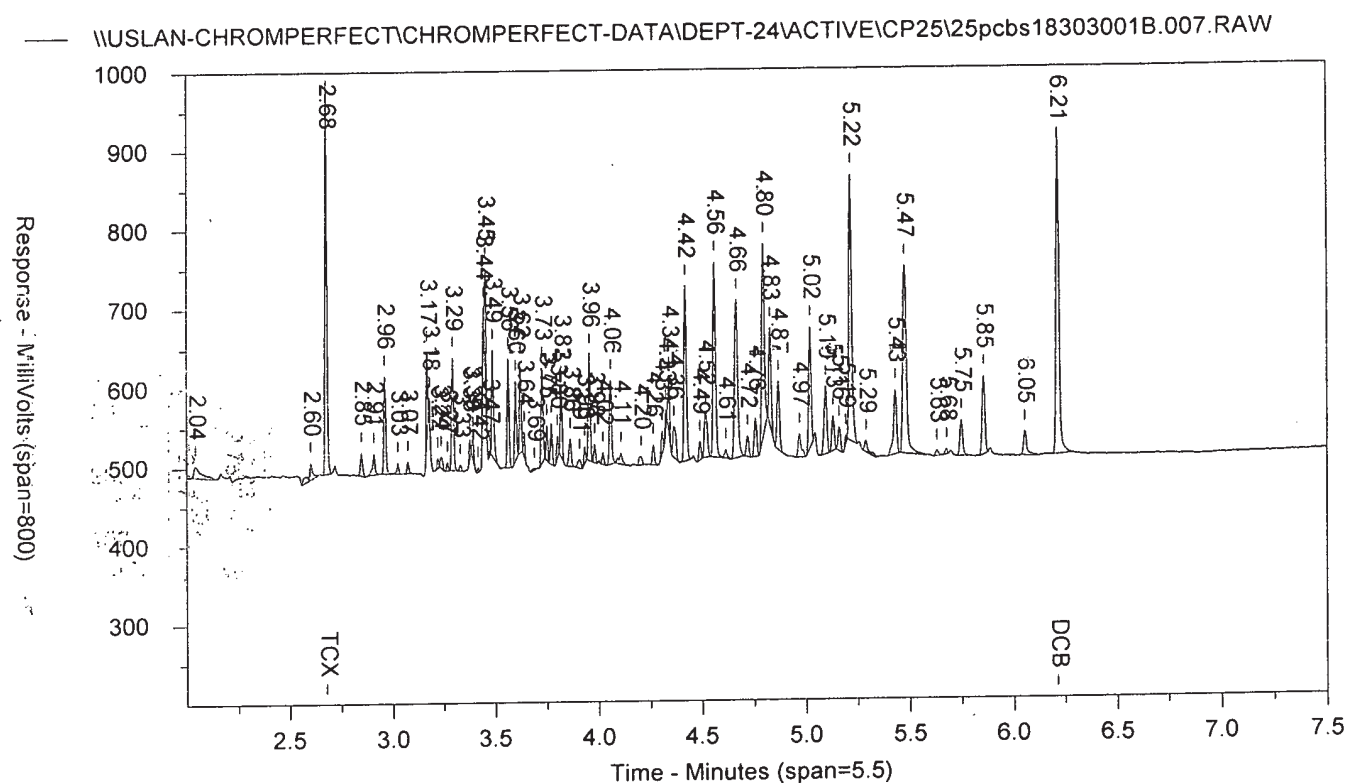
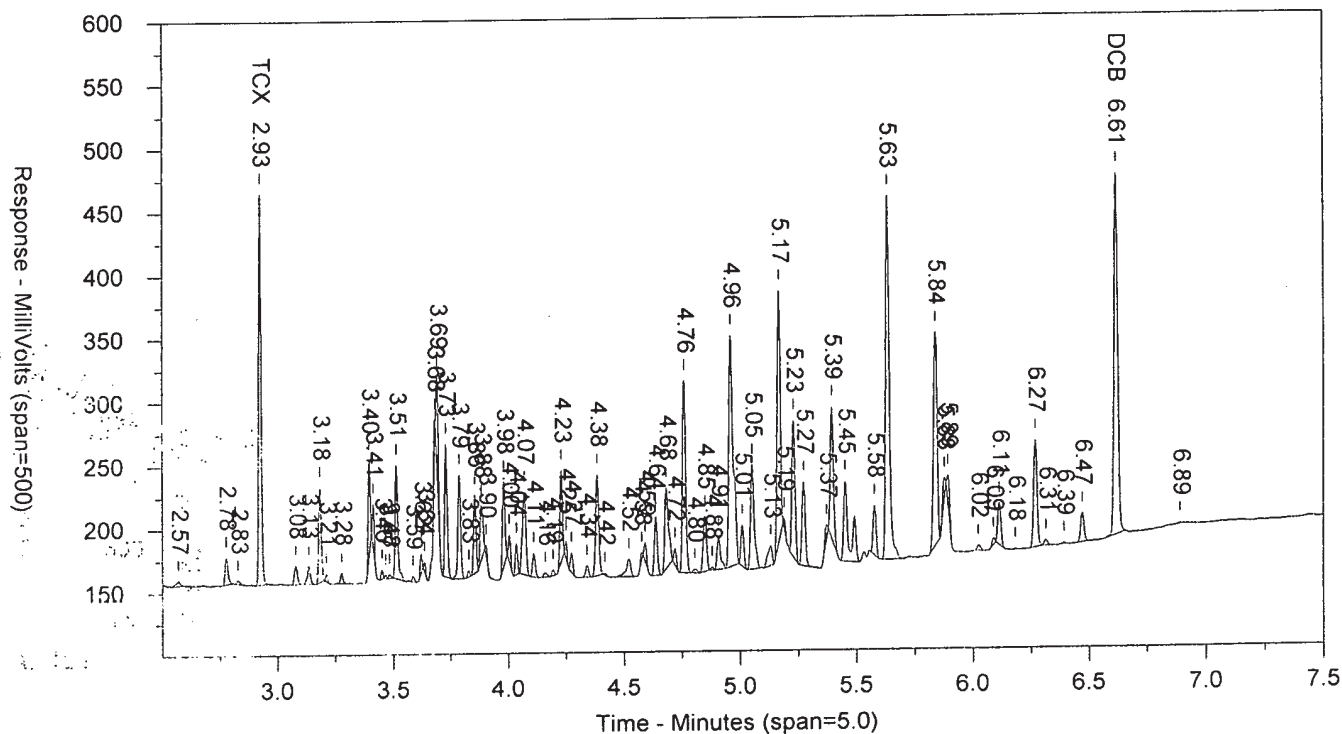
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SW-846 8082

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Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

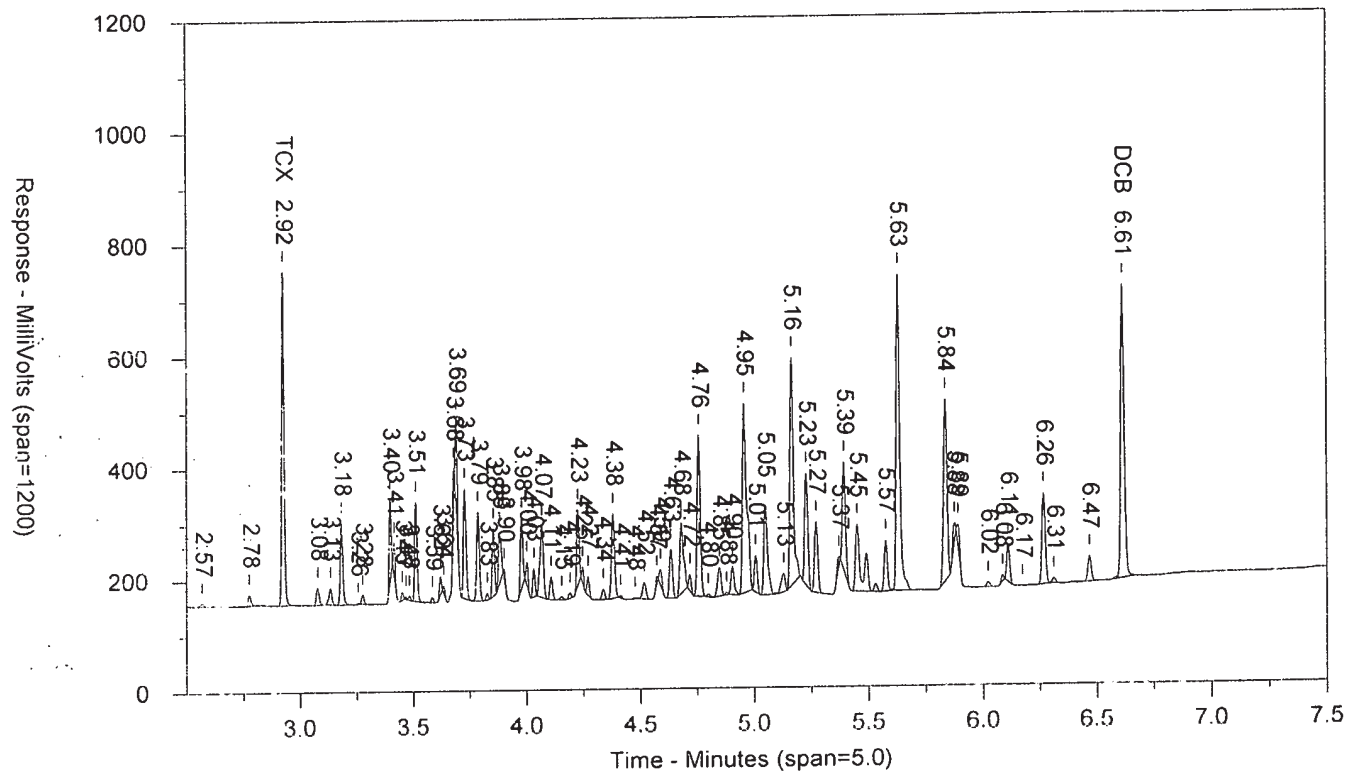
RT B	Compound B	Height B	Area B
2.045		13810	24737
2.603		22940	50834
2.678	TCX	944578	591212
2.72		21780	16531
2.849		55902	41957
2.909		52245	39943
2.962		236641	152940
3.074		30029	19880
3.17		200189	101938
3.181		52144	23453
3.222		32283	19330
3.273		22580	12979
3.289		20941	11763
3.293		276807	190152
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
4.035		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

Chrom Perfect Chromatogram Report

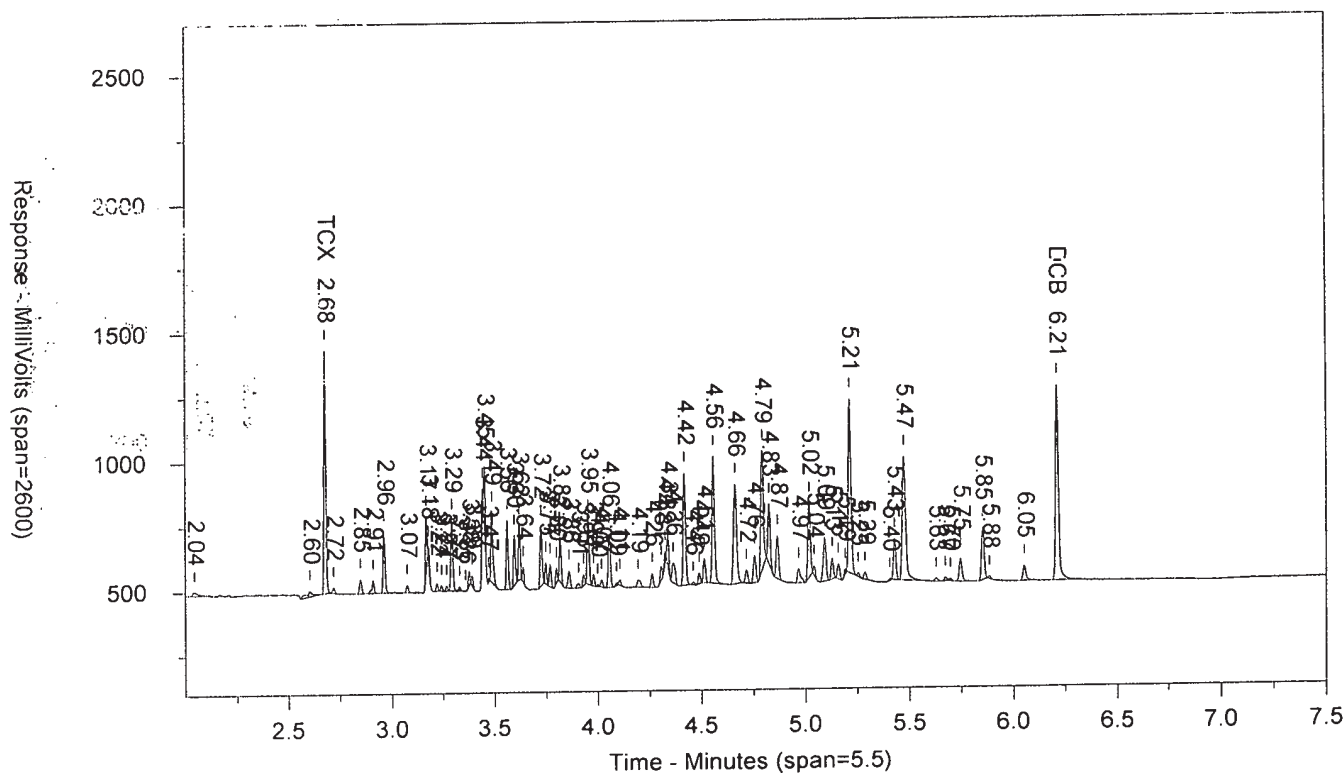
RT B	Compound B	Height B	Area B
4.756		109010	93396
4.793		462462	418246
4.826		231693	181245
4.865		167390	137979
4.968		58040	62342
5.019		290152	250449
5.043		36319	23184
5.093		170173	158257
5.129		83140	66522
5.159		59886	51286
5.192		22215	13619
5.214		677397	608513
5.254		13746	10008
5.287		28904	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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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
6.211	526710	4.387	DCB	6.211	762166	4.359	DCB

Files:

Area File: 25pcbs18303001.008.RAW

Area File: 25pcbs18303001B.008.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 6:33:07 PM

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AR1621824D

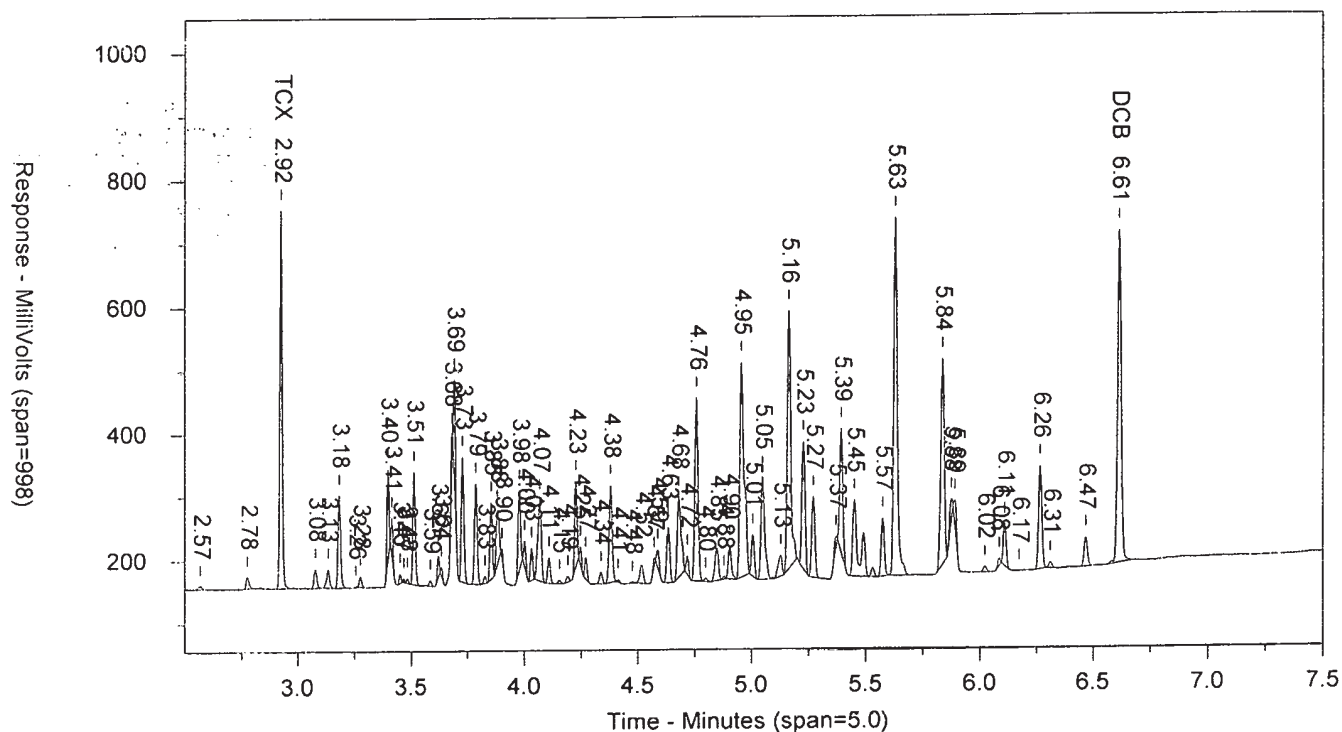
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ICAL 1830299999

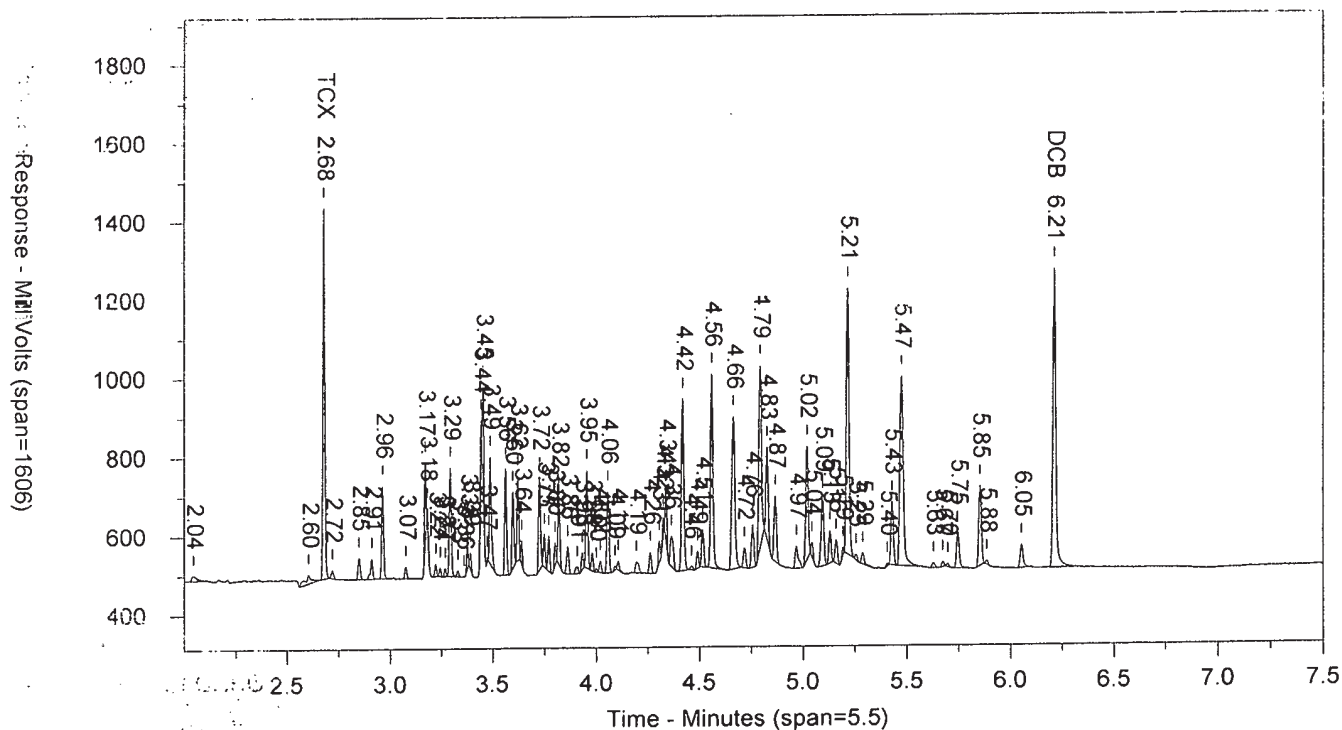
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SW-846 8082

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AR1621824D

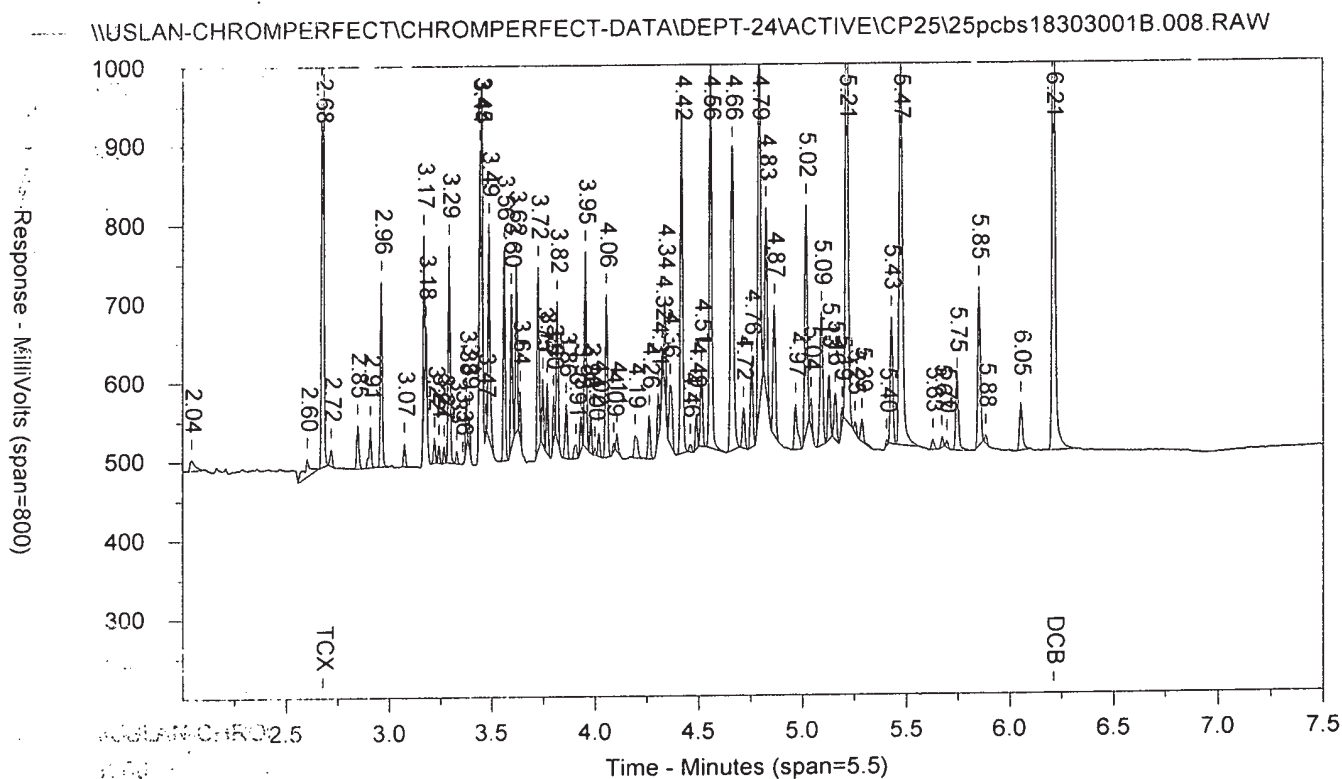
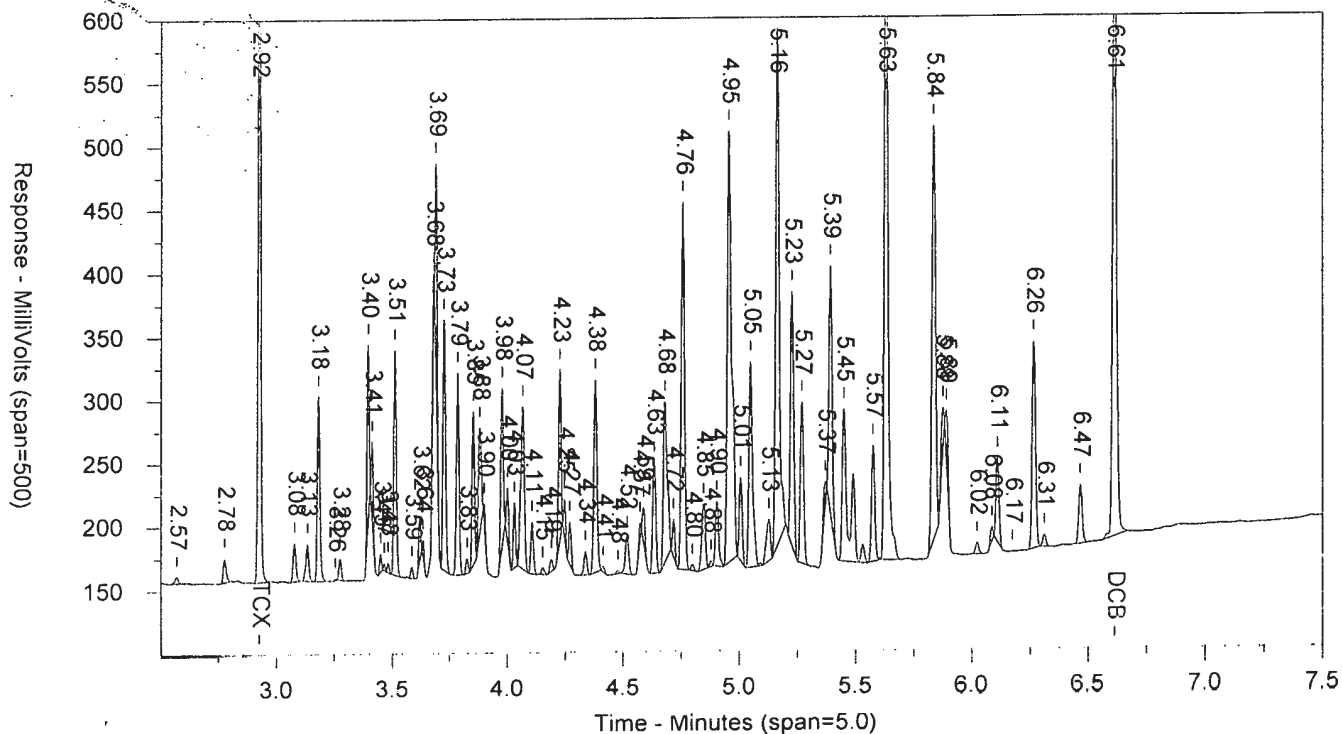
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ICAL 1830299999

10227

SW-846 8082

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Chrom Perfect Chromatogram Report

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		14456	3788
4.517		59069	61472
4.573		25199	17915
4.587		57073	40780
4.633		173924	159761
4.68		230312	273495

Chrom Perfect Chromatogram Report

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
3.639		1047	2397
3.724		430757	297631
3.747		161387	90016
3.769		164987	102696
3.8		109014	59904
3.817		338320	209783
3.86		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

Chrom Perfect Chromatogram Report

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

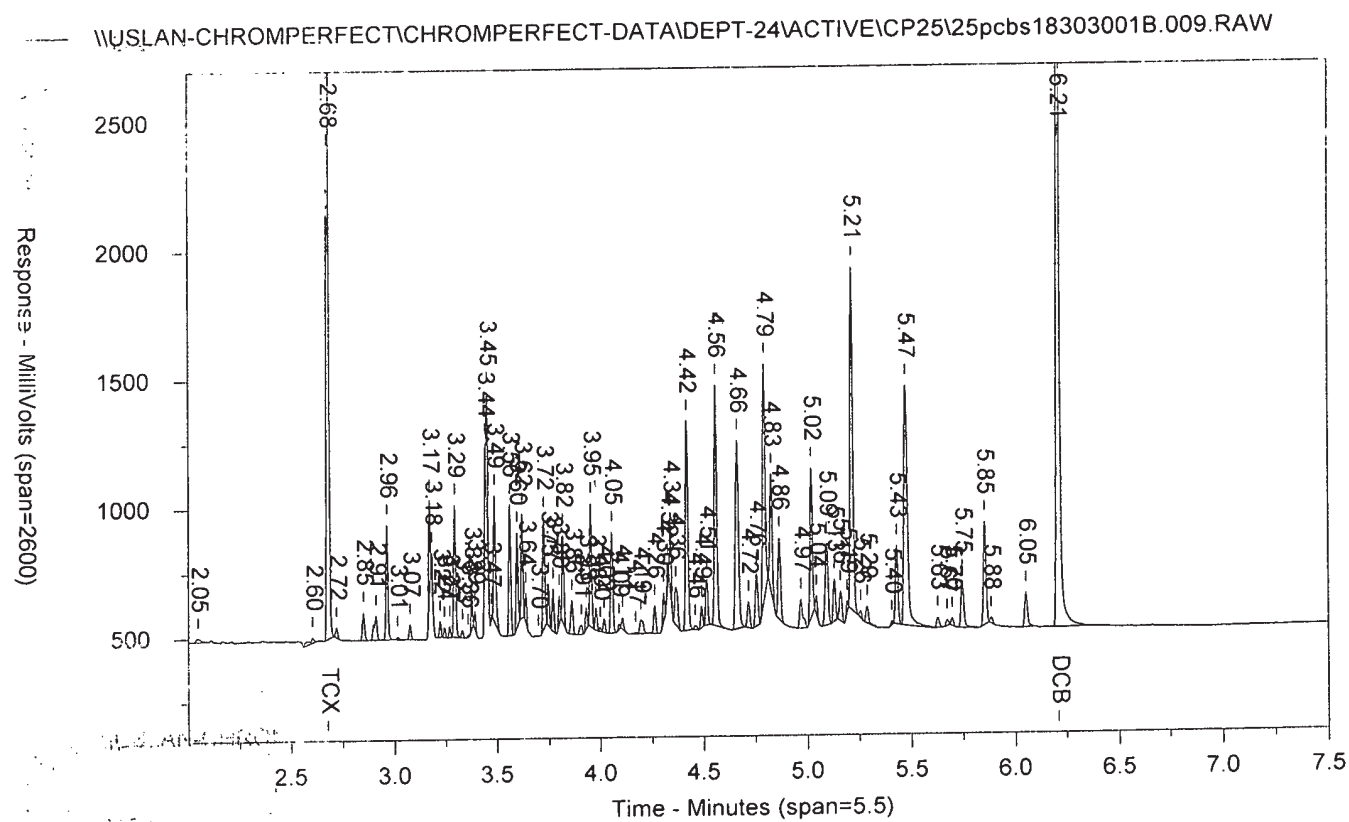
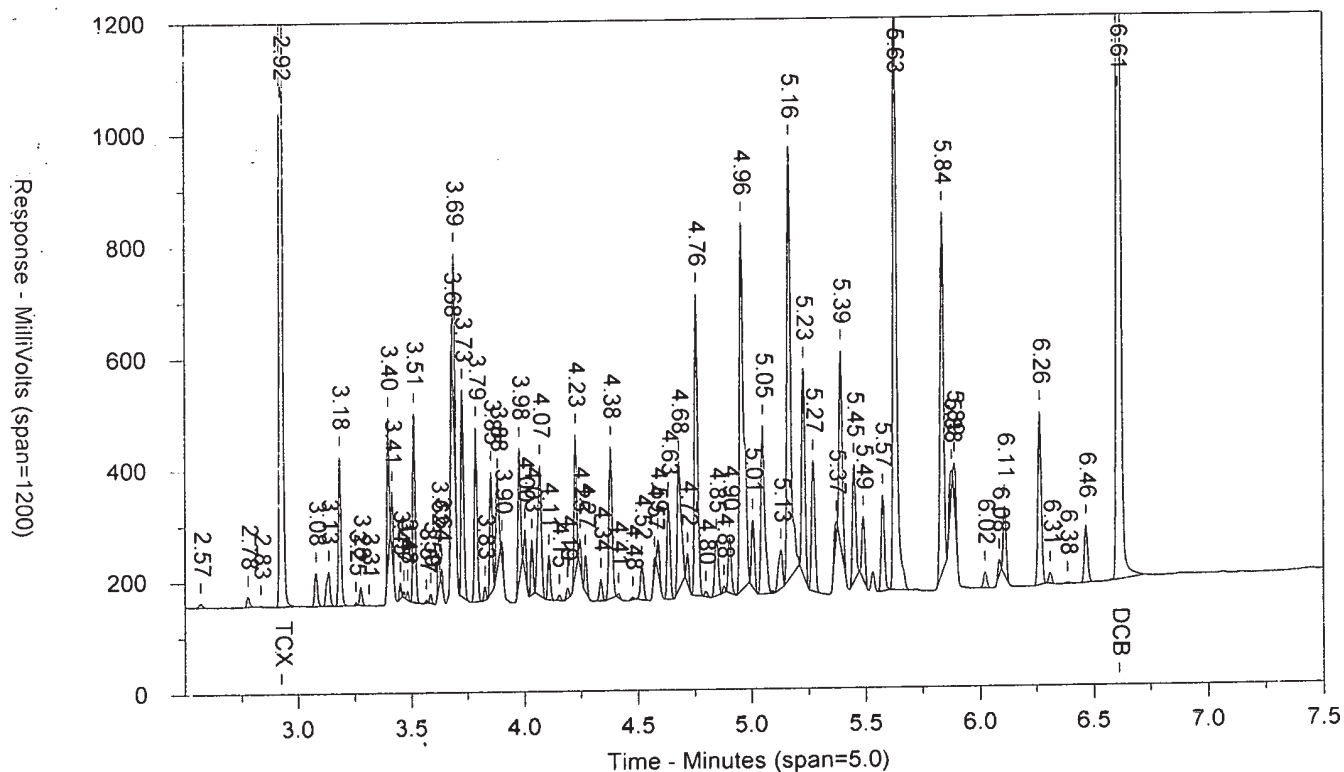
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ICAL 1830299999

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SW-846 8082

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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
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AR1631824D

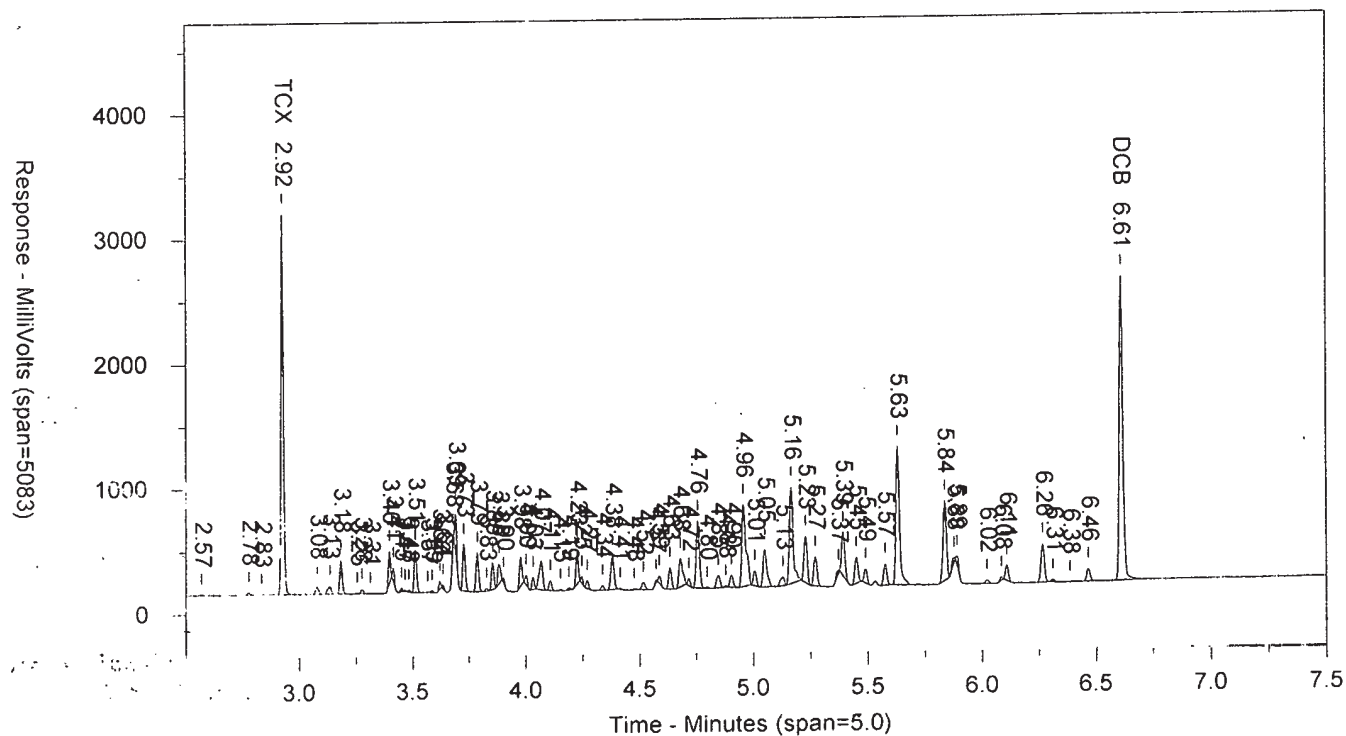
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ICAL 1830299999

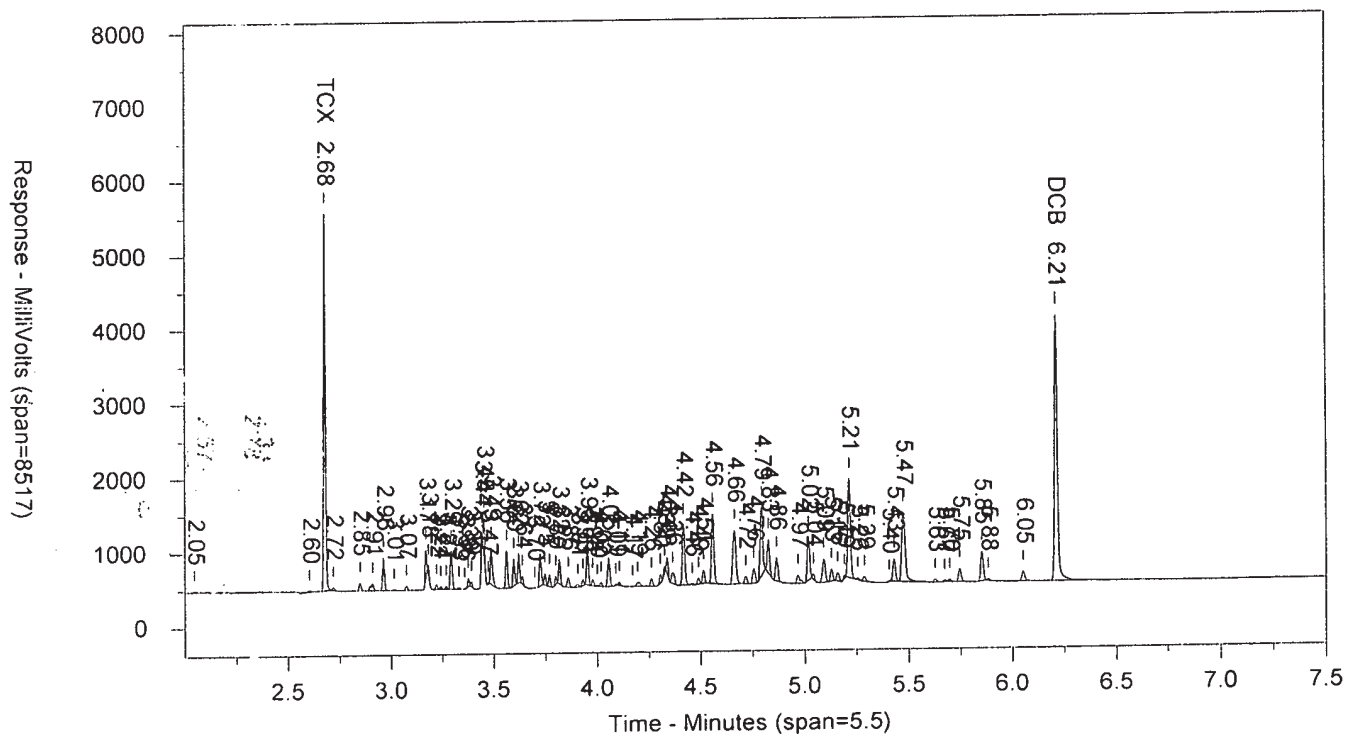
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SW-846 8082

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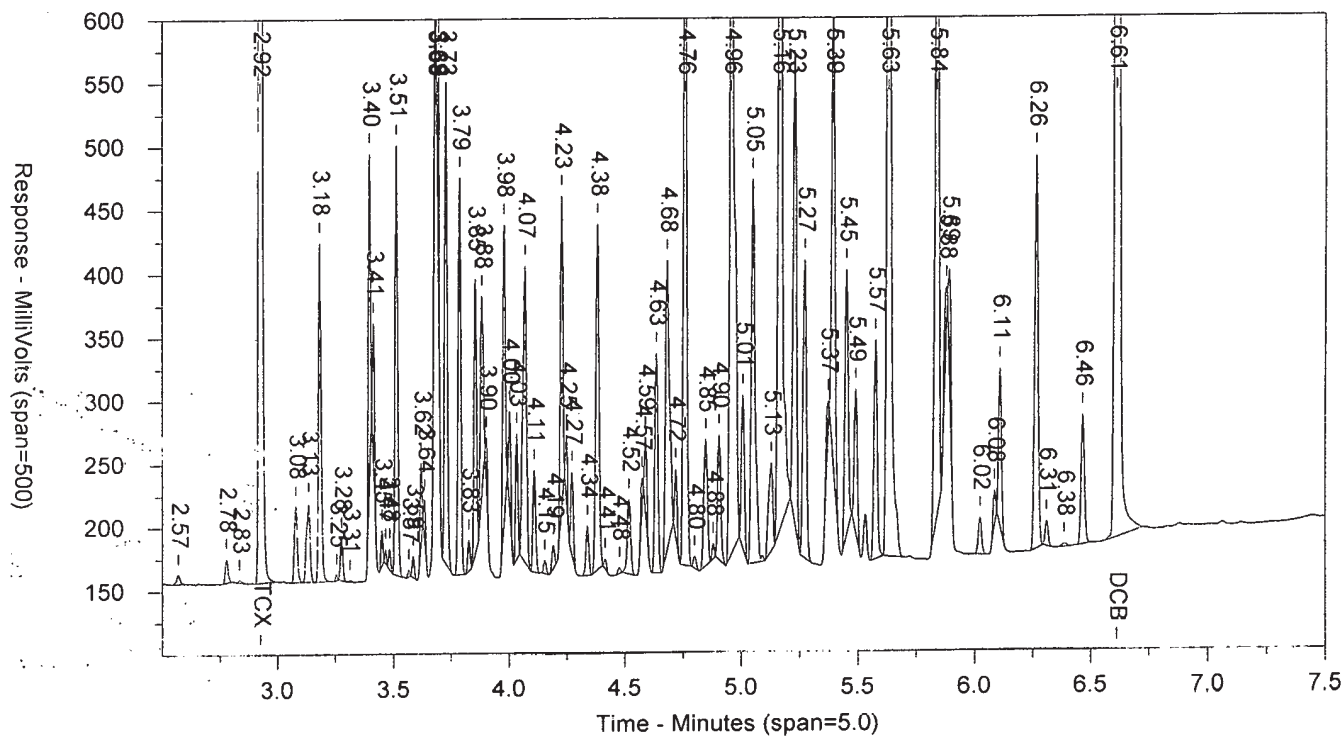
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ICAL 1830299999

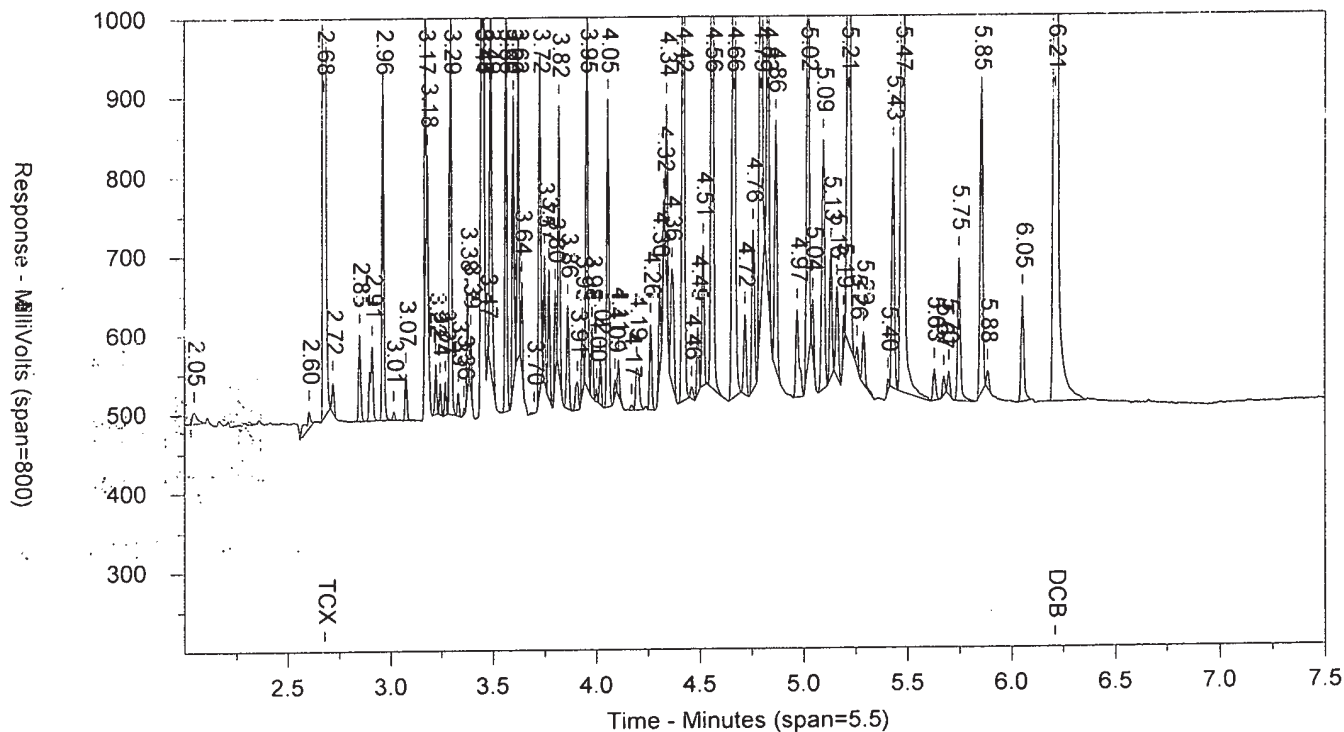
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SW-846 8082

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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		157134	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

Chrom Perfect Chromatogram Report

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
5.99		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: 25pchs18303001B.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

Chrom Perfect Chromatogram Report

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
5.897		58868	42480
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

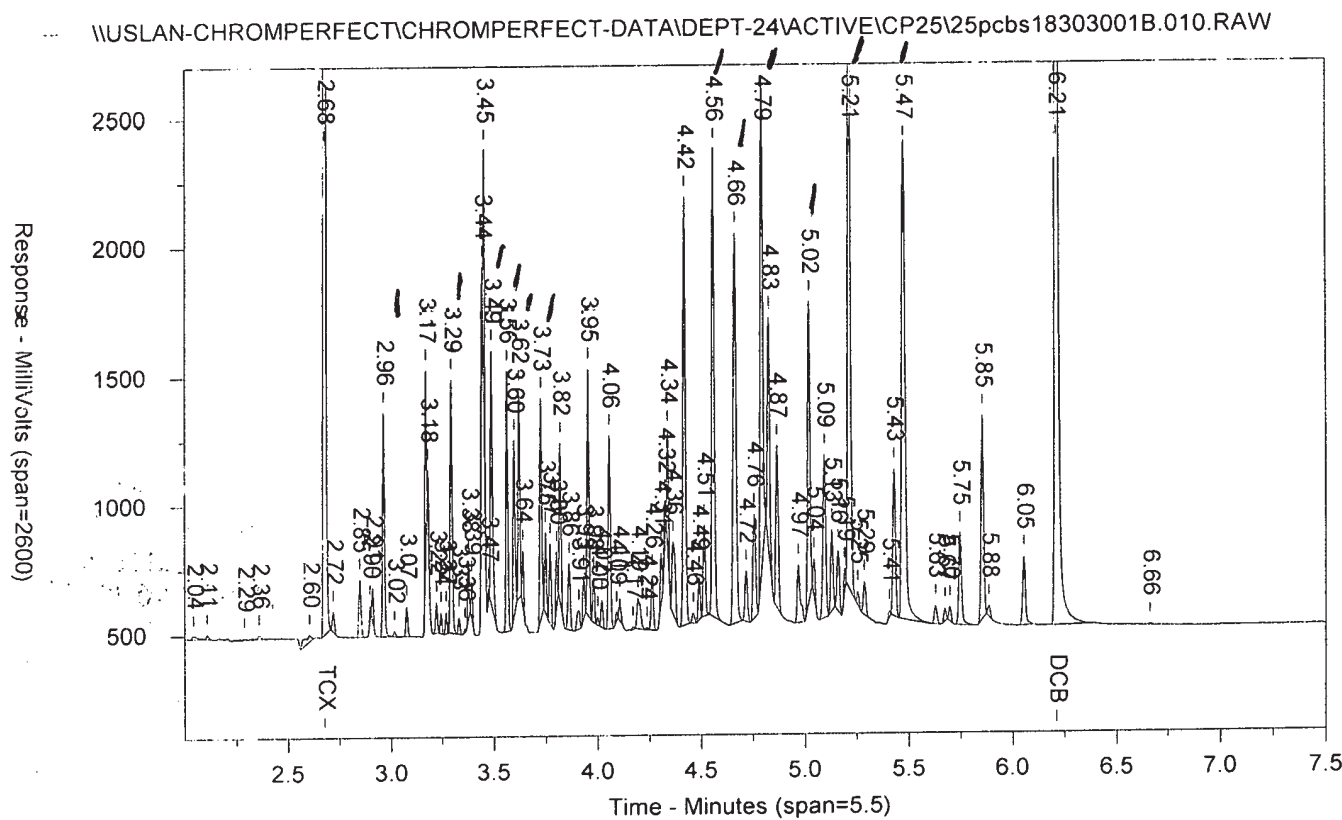
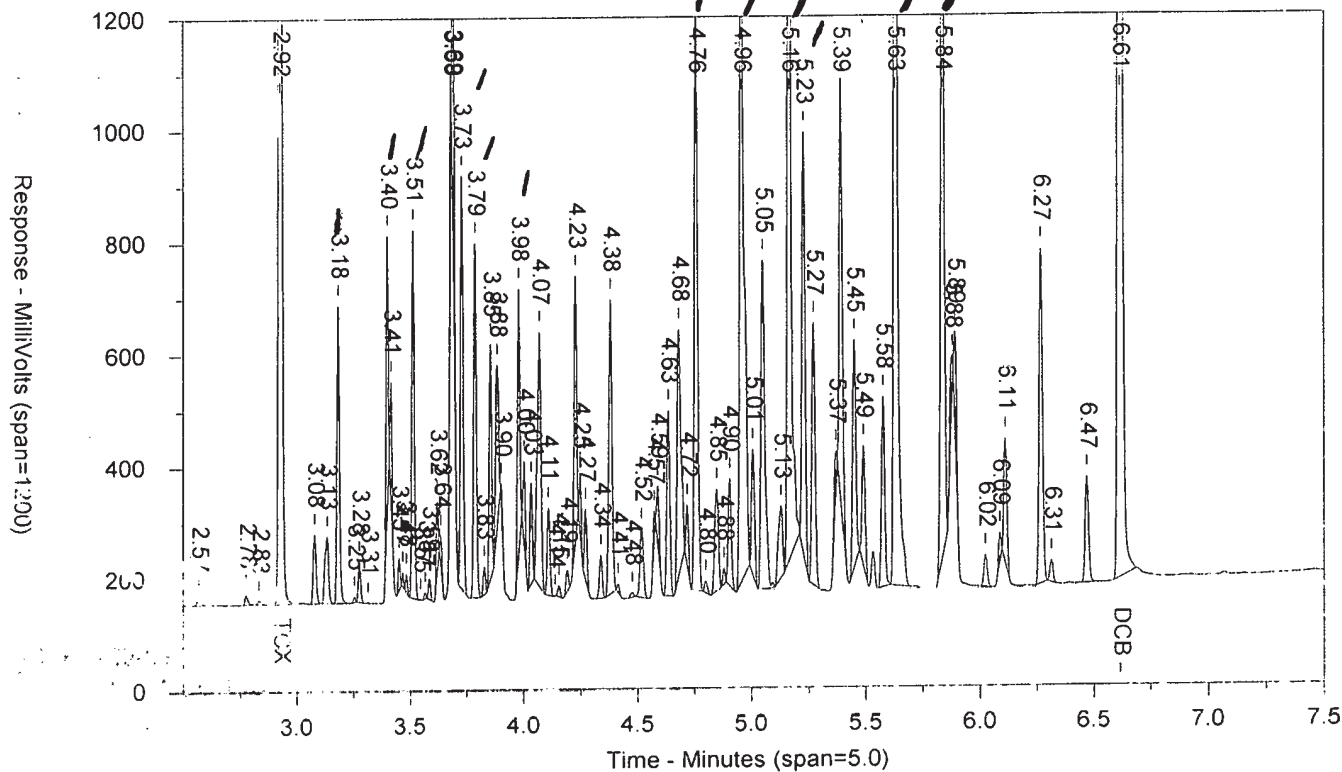
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ICAL 1830299999

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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR1641824D AAAR164AA ICAL 1830299999 10227
Injected On: 10/30/2018 6:46:23 PM
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

SW-846 8082

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
2.925	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: pestID25.FMTA
Format B: pestID25.FMTB
Area File Created On: 10/30/2018 6:54:55 PM
File Reported On: 10/30/2018 at 6:55:06 PM

AR1641824D

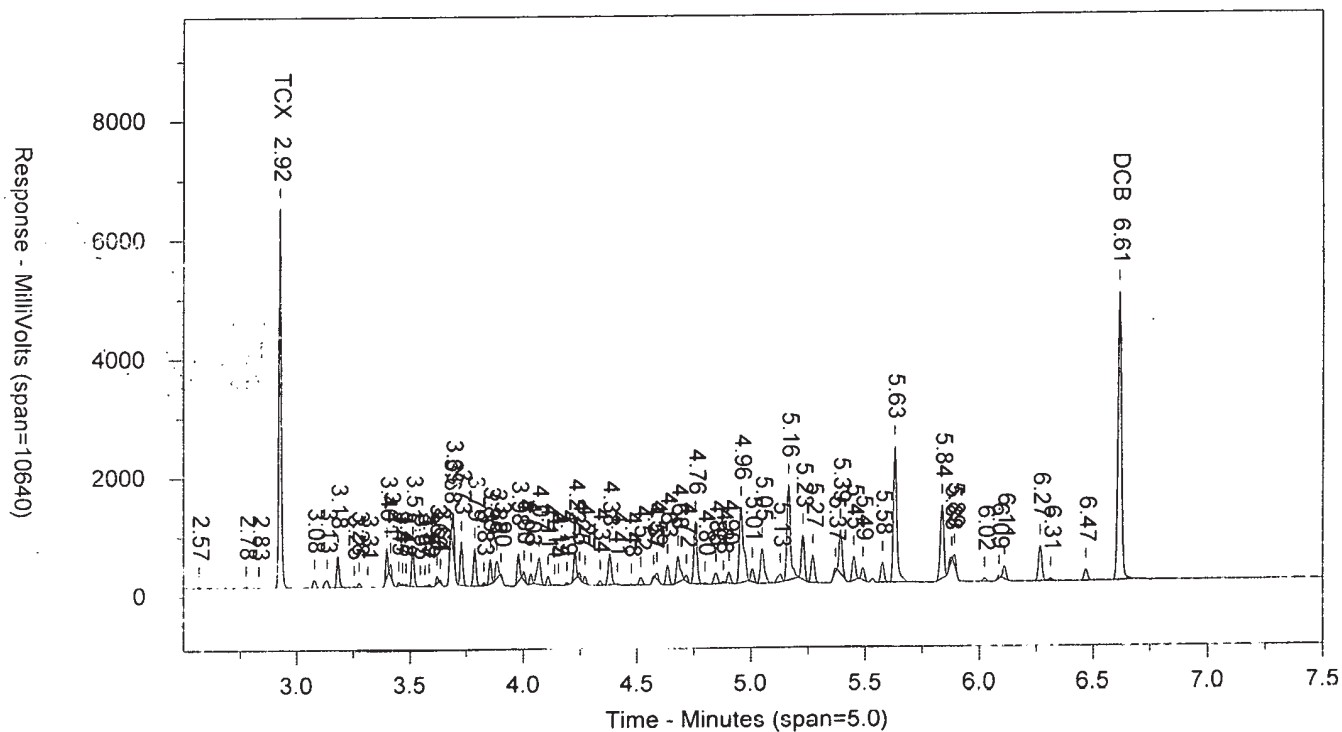
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ICAL 1830299999

10227

SW-846 8082

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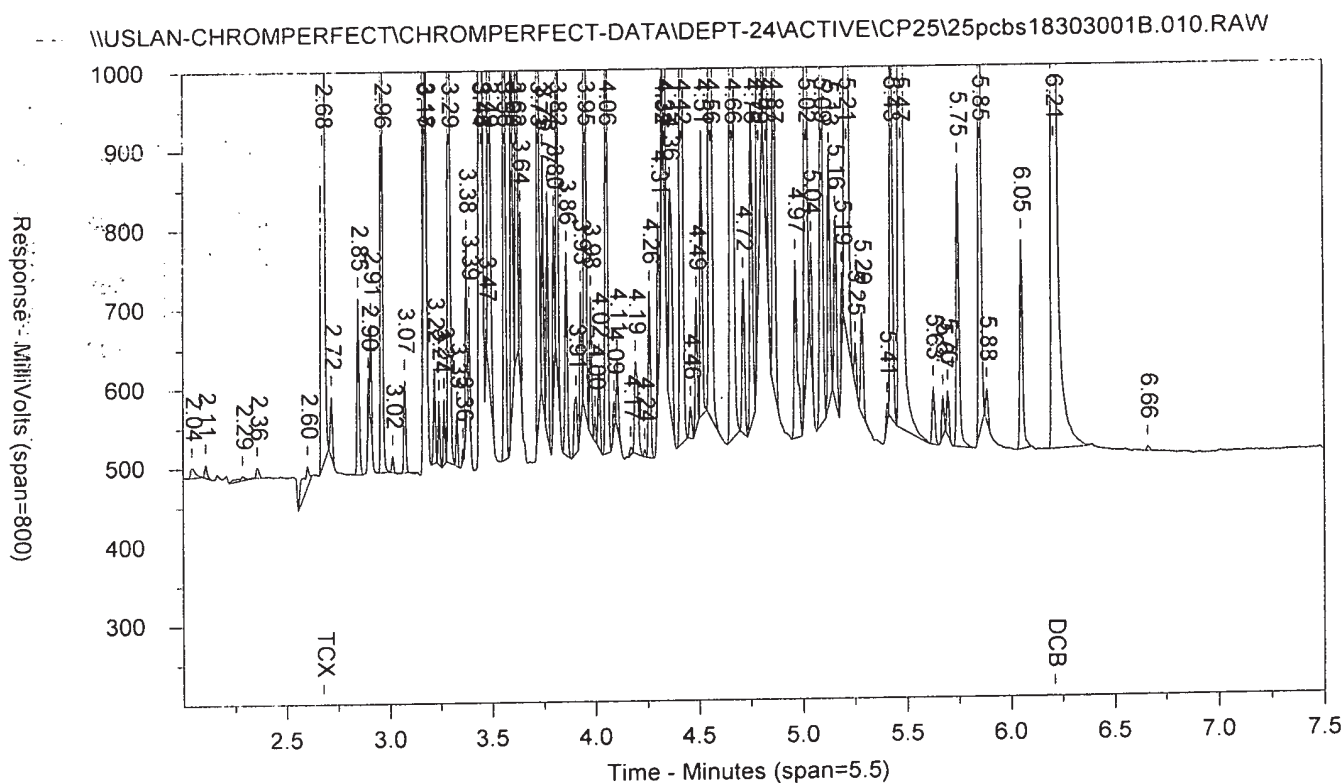
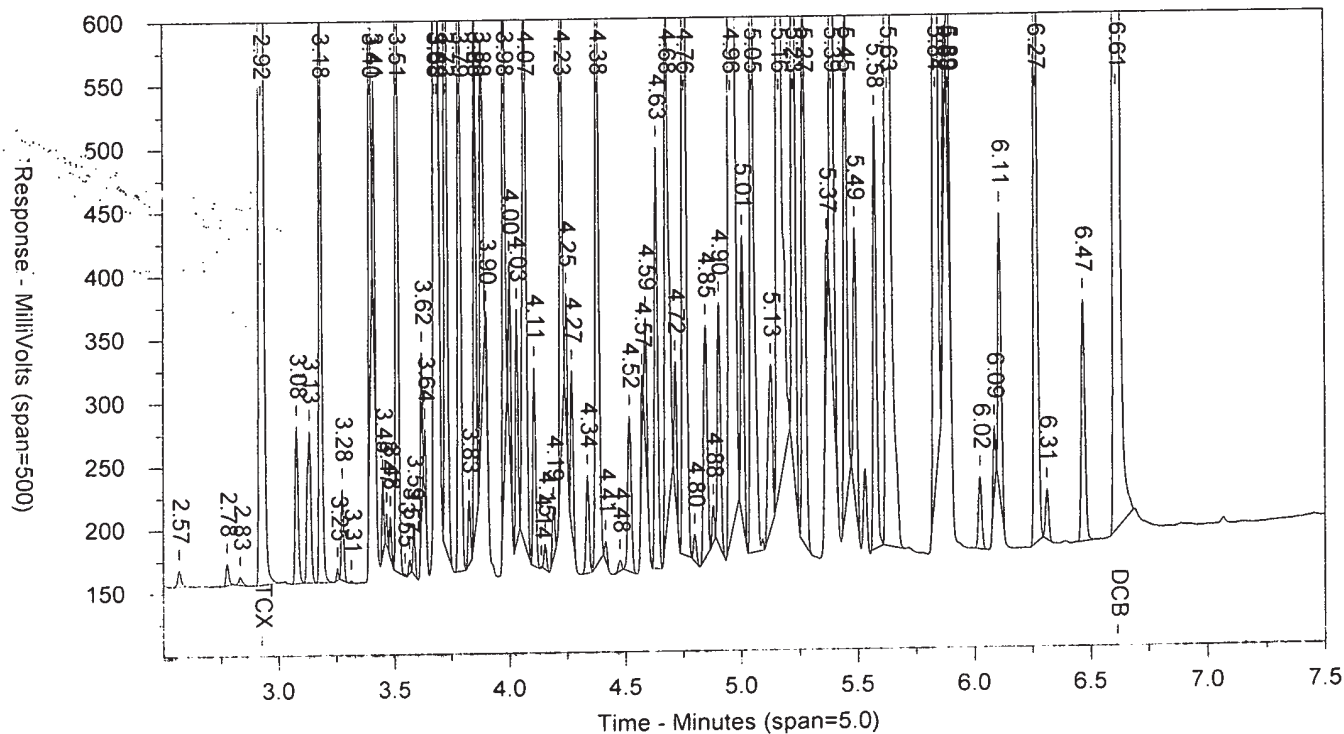
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ICAL 1830299999

10227

SW-846 8082

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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		13323080	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

Chrom Perfect Chromatogram Report

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
Over 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

Chrom Perfect Chromatogram Report

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
5.19		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

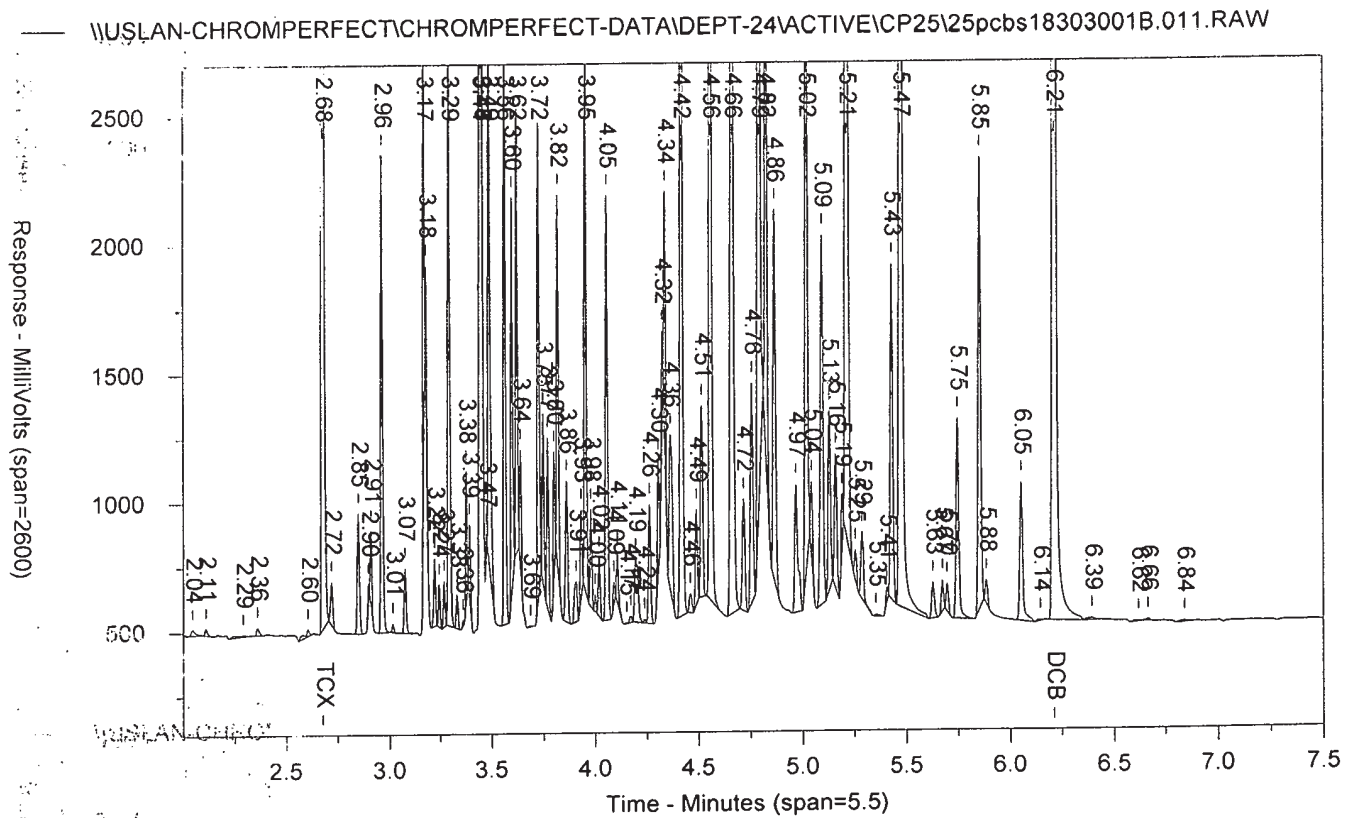
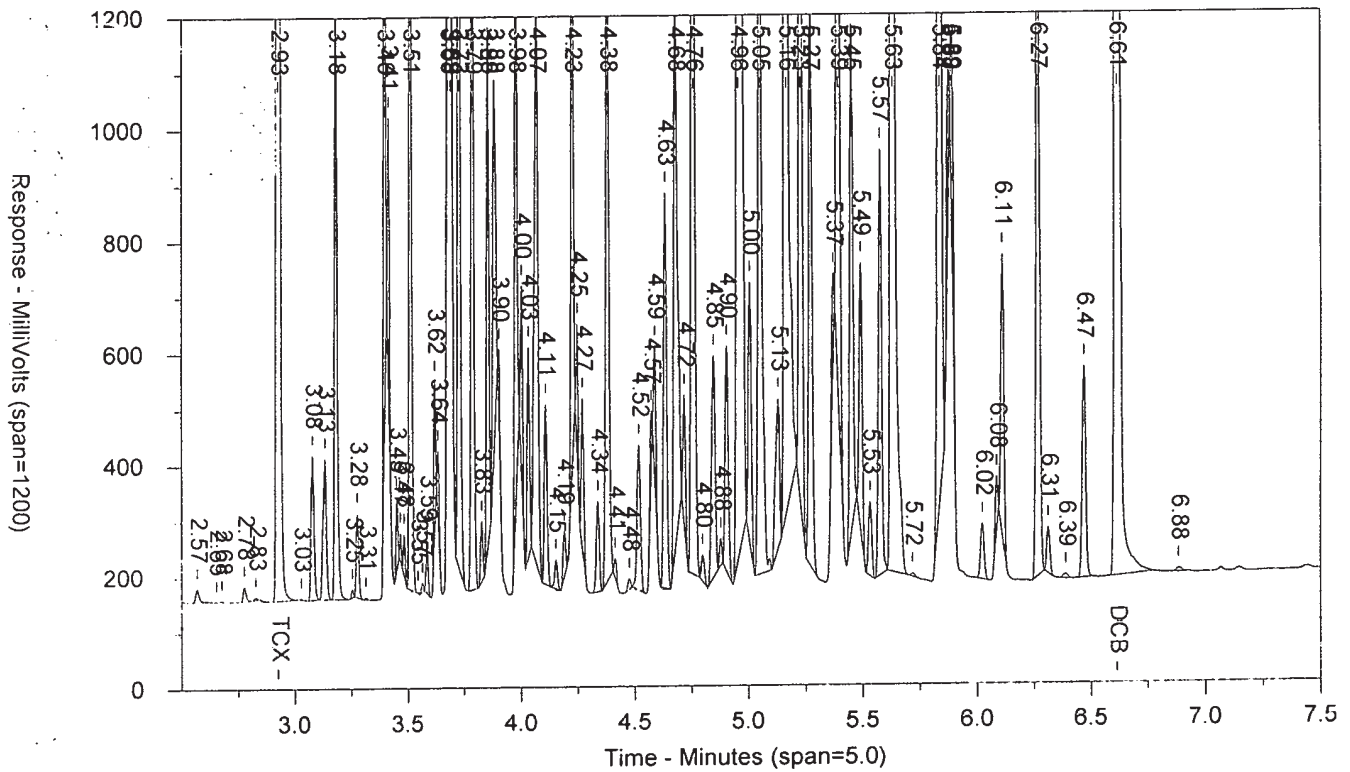
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ICAL 1830299999

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SW-846 8082

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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

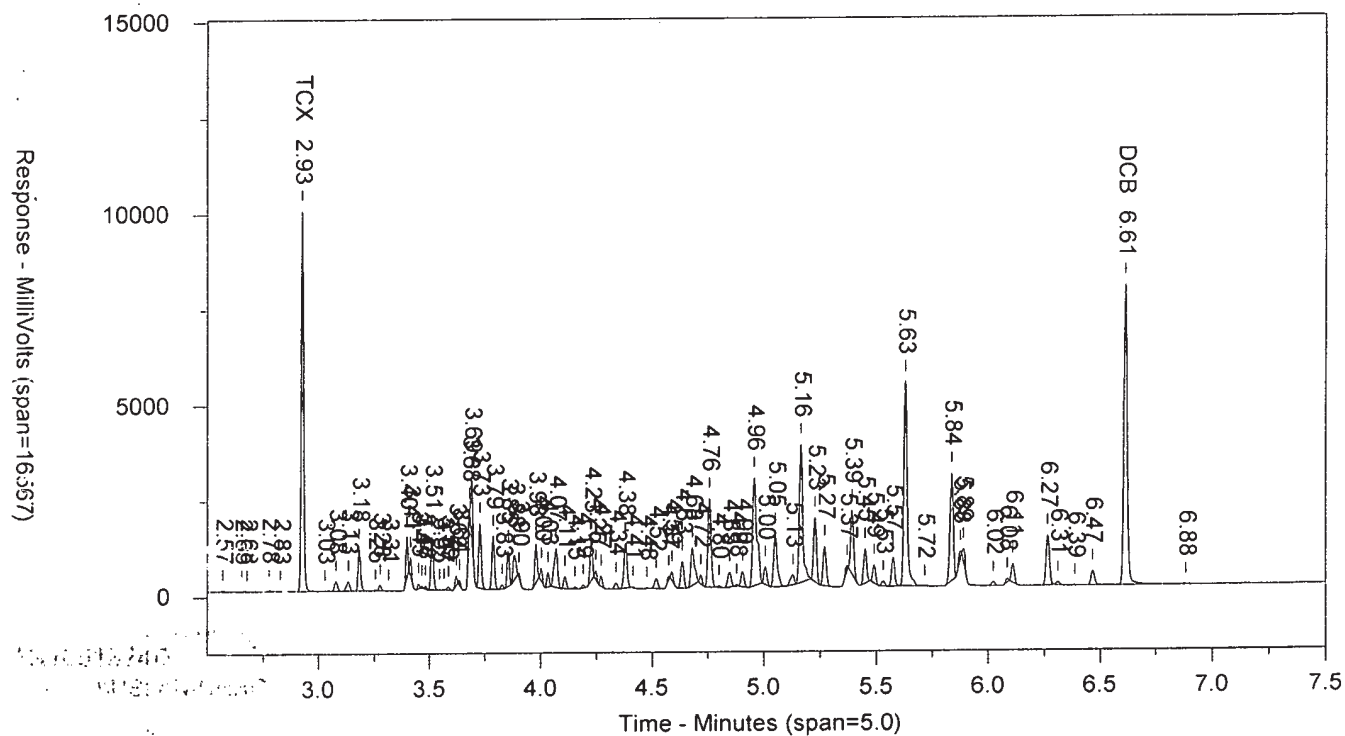
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ICAL 1830299999

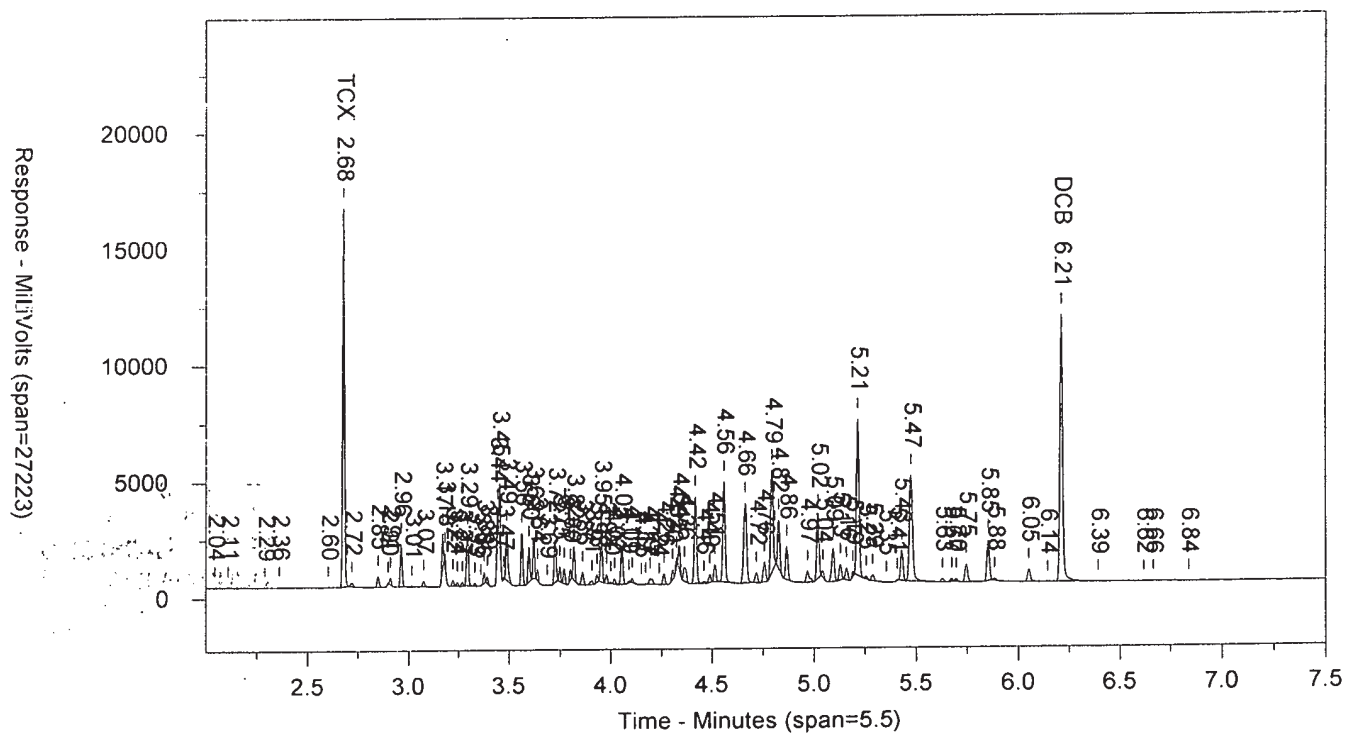
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SW-846 8082

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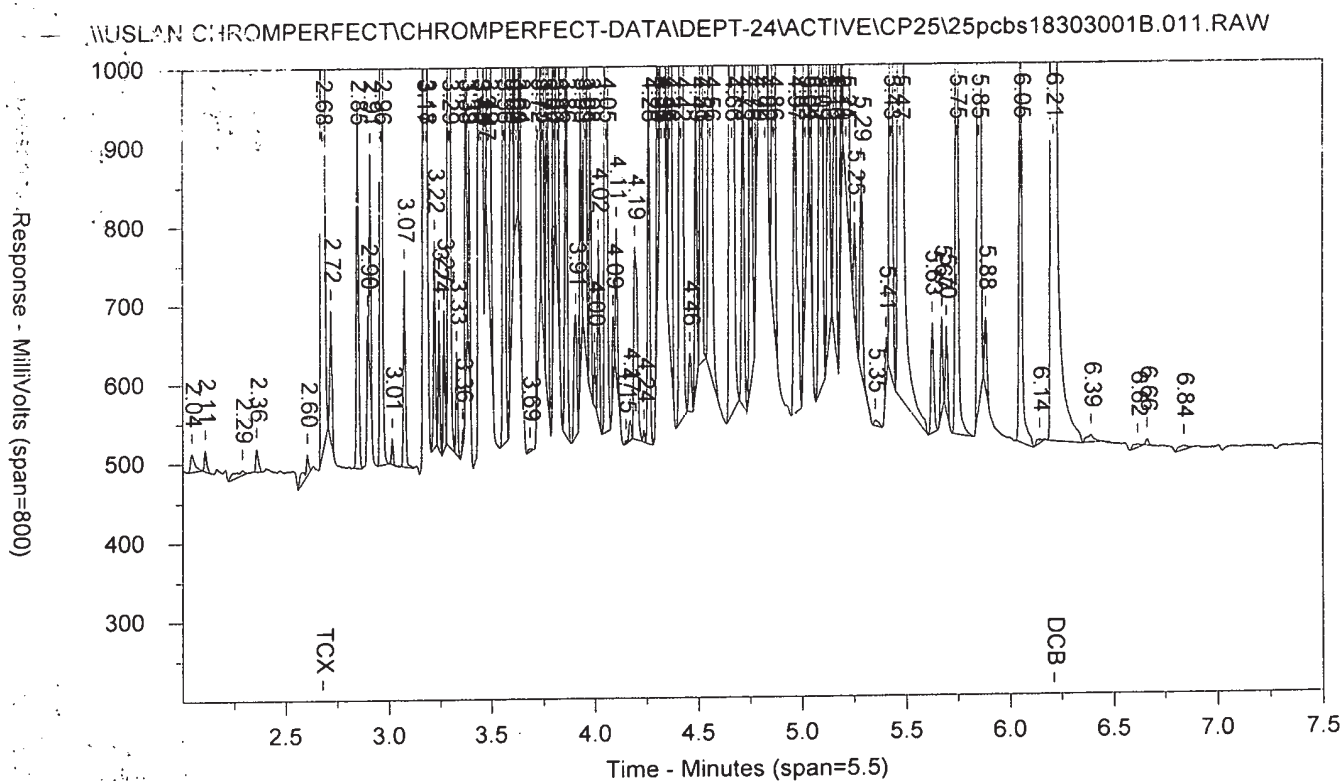
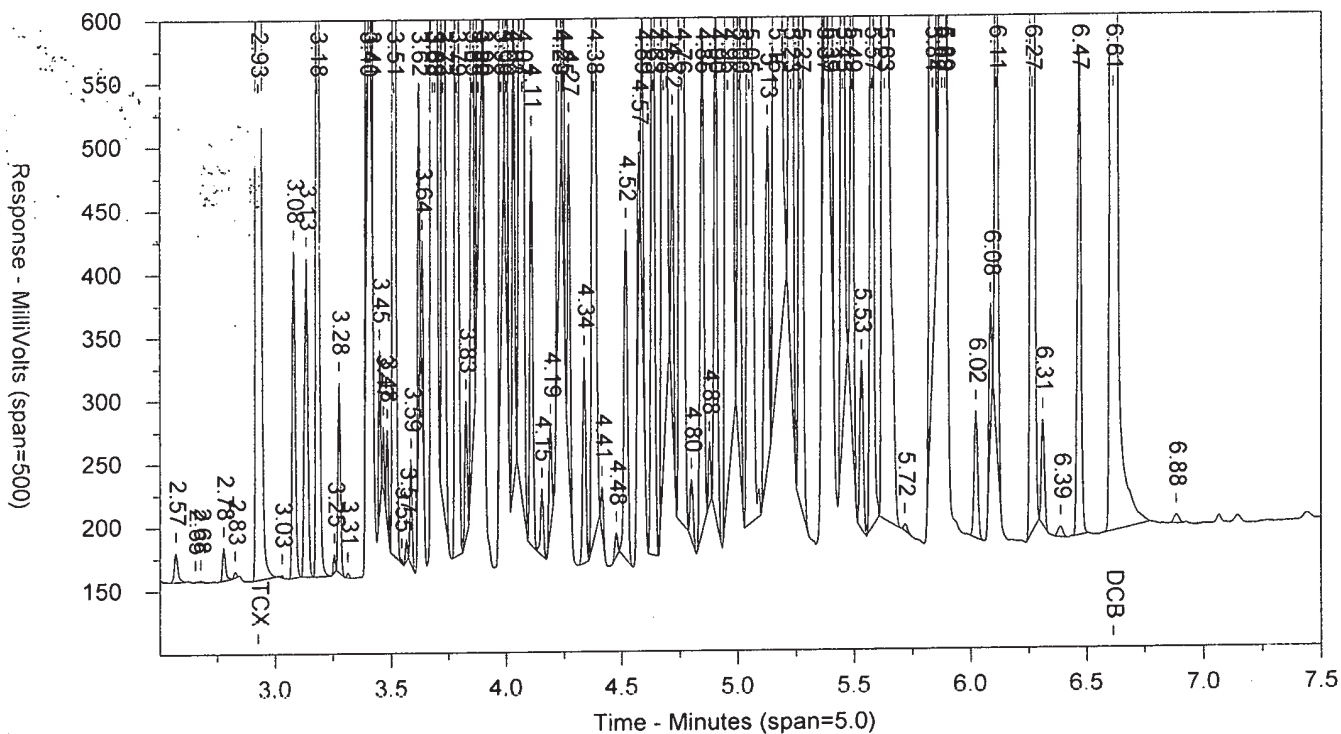
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ICAL 1830299999

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SW-846 8082

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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		2307742	1831063
3.255		17639	9062
3.275		295890	231055
3.313		17701	5215
3.396		2310704	1409518
3.413		960043	506222
3.458		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		2428090	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

Chrom Perfect Chromatogram Report

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
6.611	DCB	10221370	10750700
6.685		6304	5156
6.882		4880	7267

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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
5.267		513925	442121
5.405		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

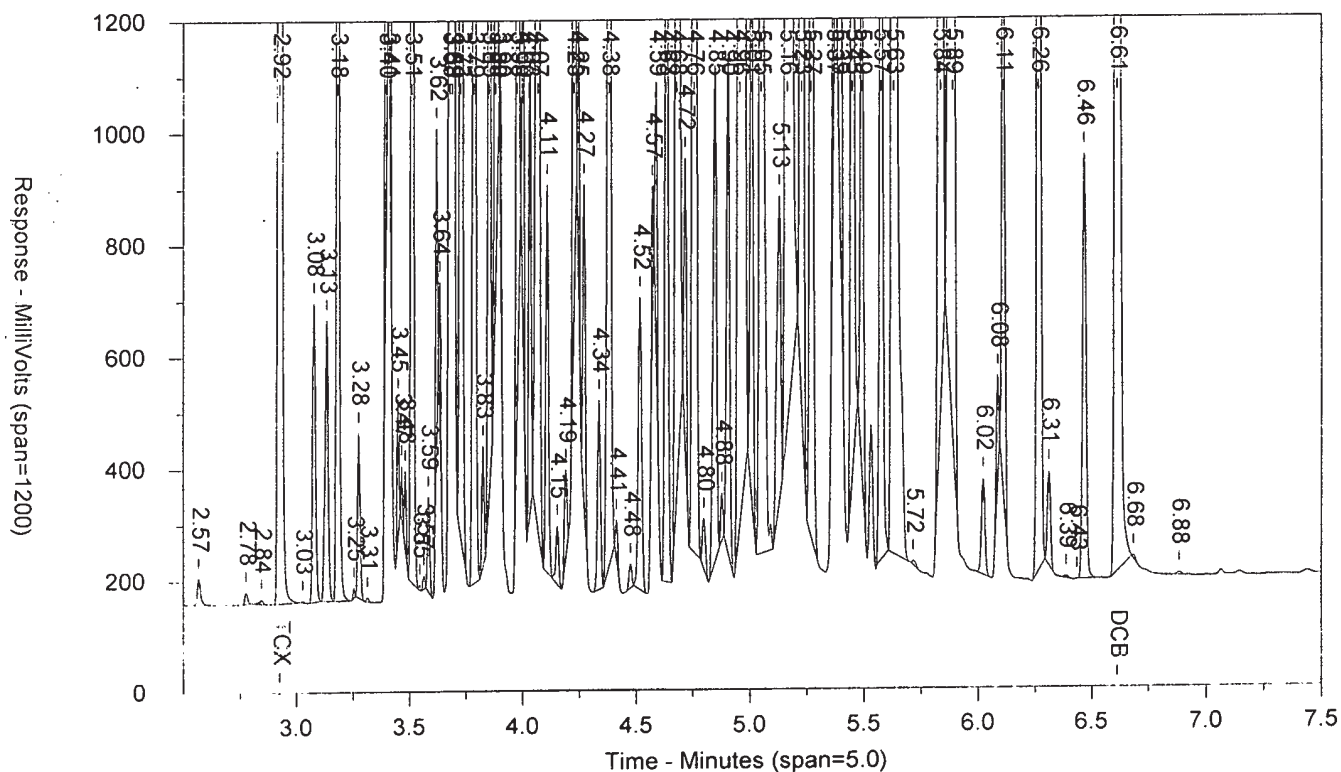
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ICAL 1830299999

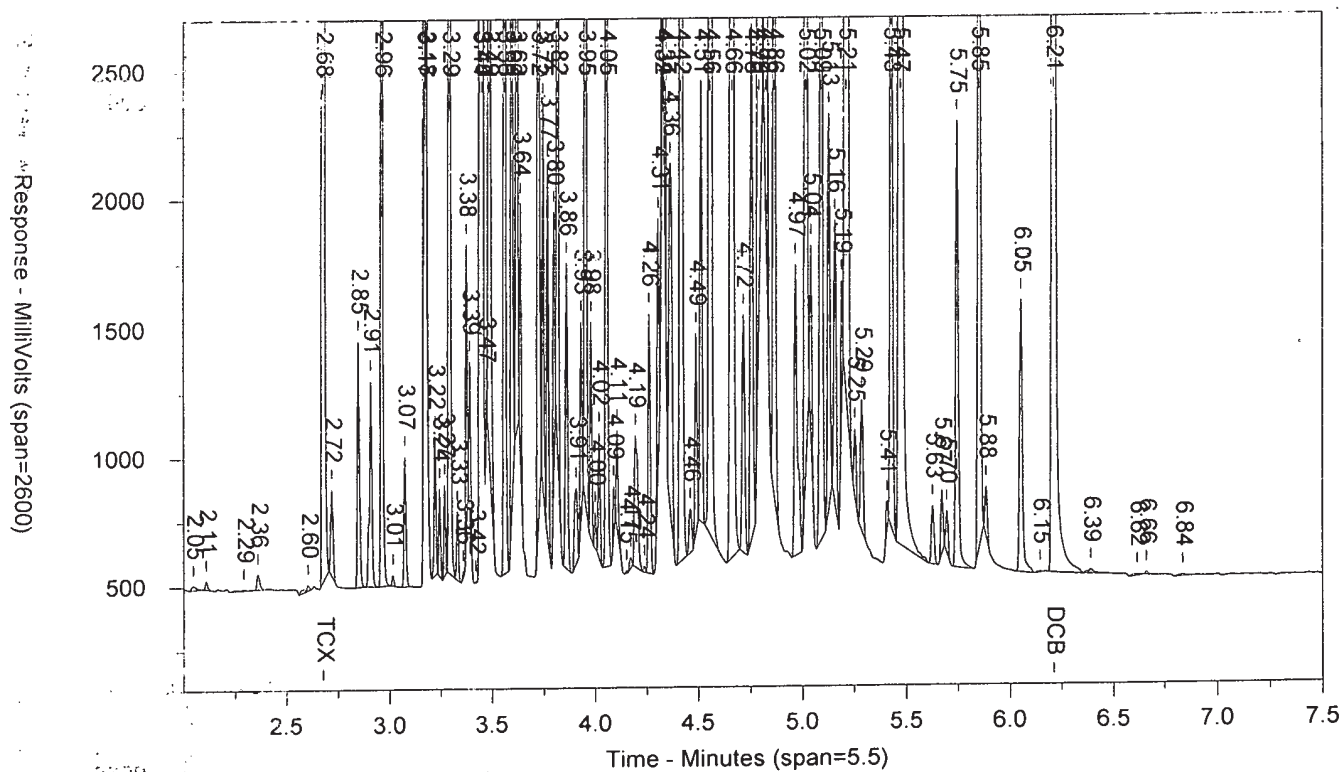
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SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR1661824C AAAR166AA ICAL 1830299999 10227
Injected On: 10/30/2018 7:08:10 PM
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

SW-846 8082

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
2.925	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

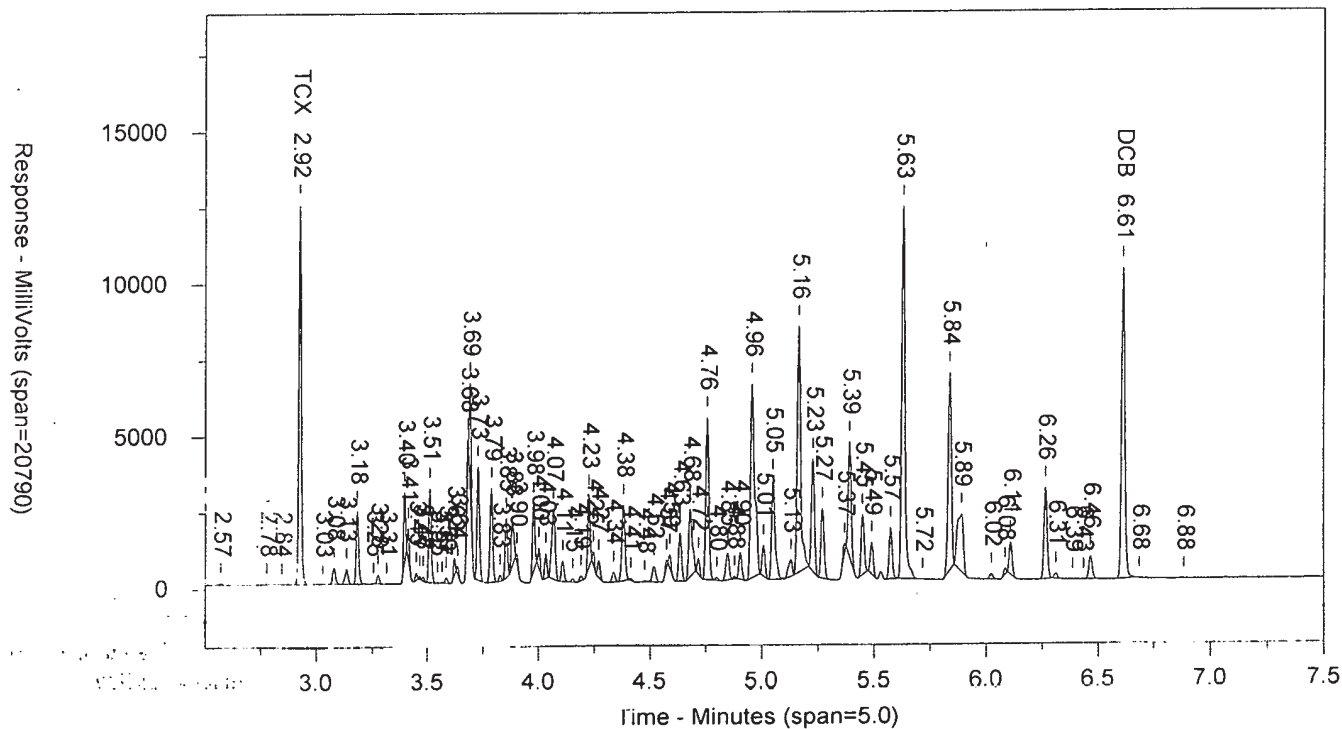
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ICAL 1830299999

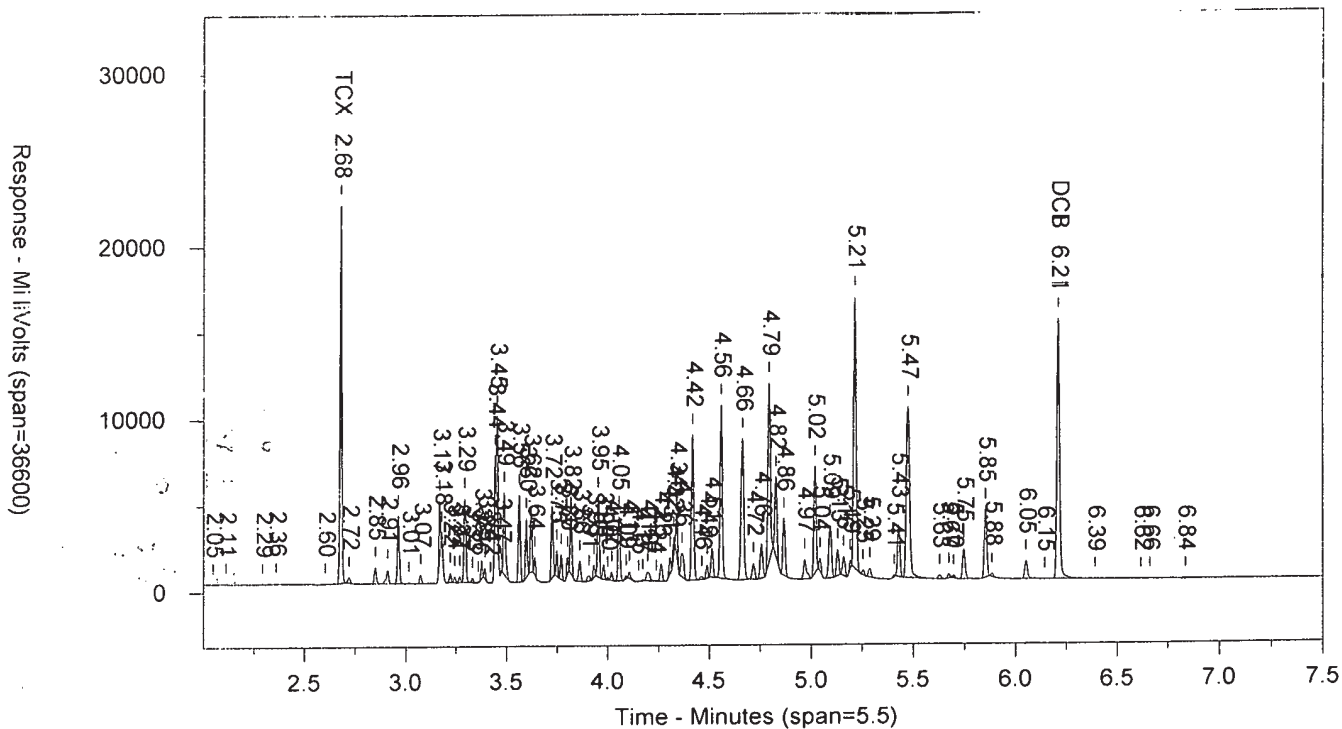
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SW-846 8082

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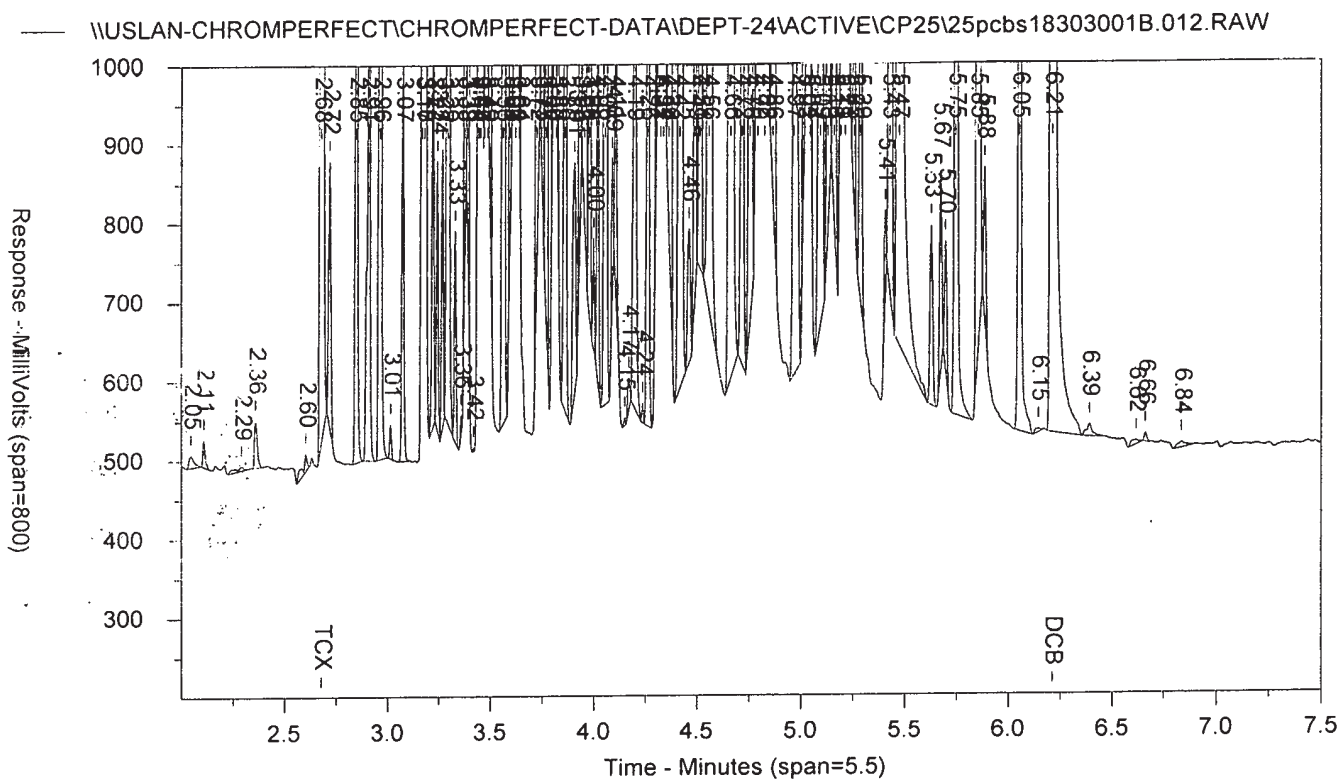
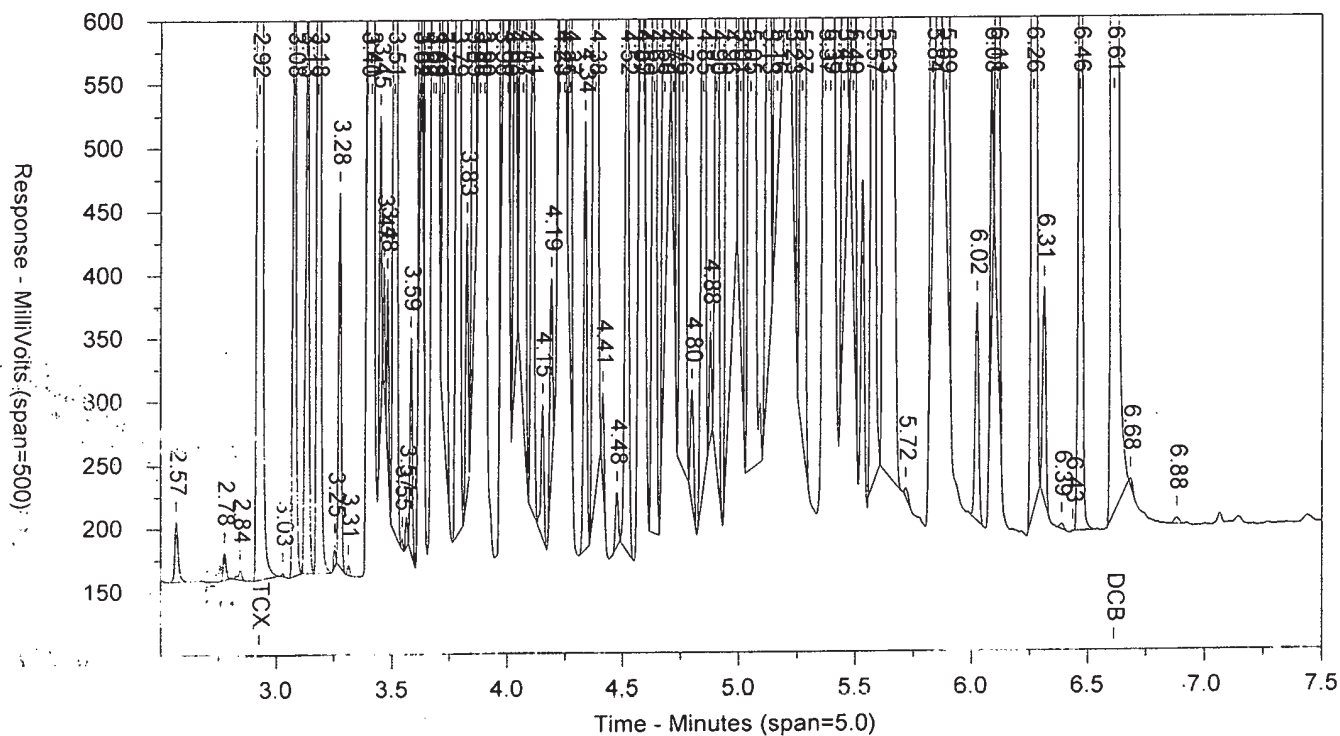
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ICAL 1830299999

10227

SW-846 8082

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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: 25pcbs18303001.013.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
3.512		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
4.572		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

Chrom Perfect Chromatogram Report

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		8560	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

Chrom Perfect Chromatogram Report

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

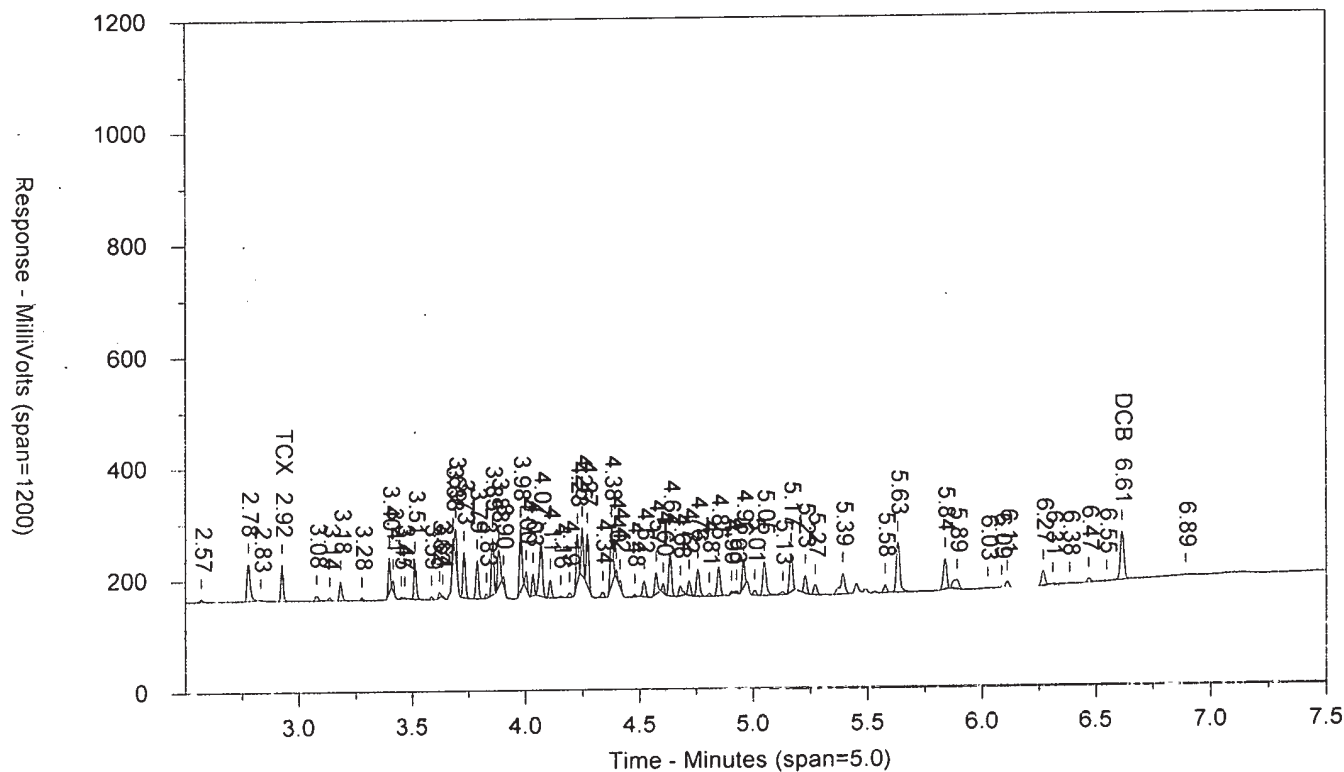
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ICAL 1830299999

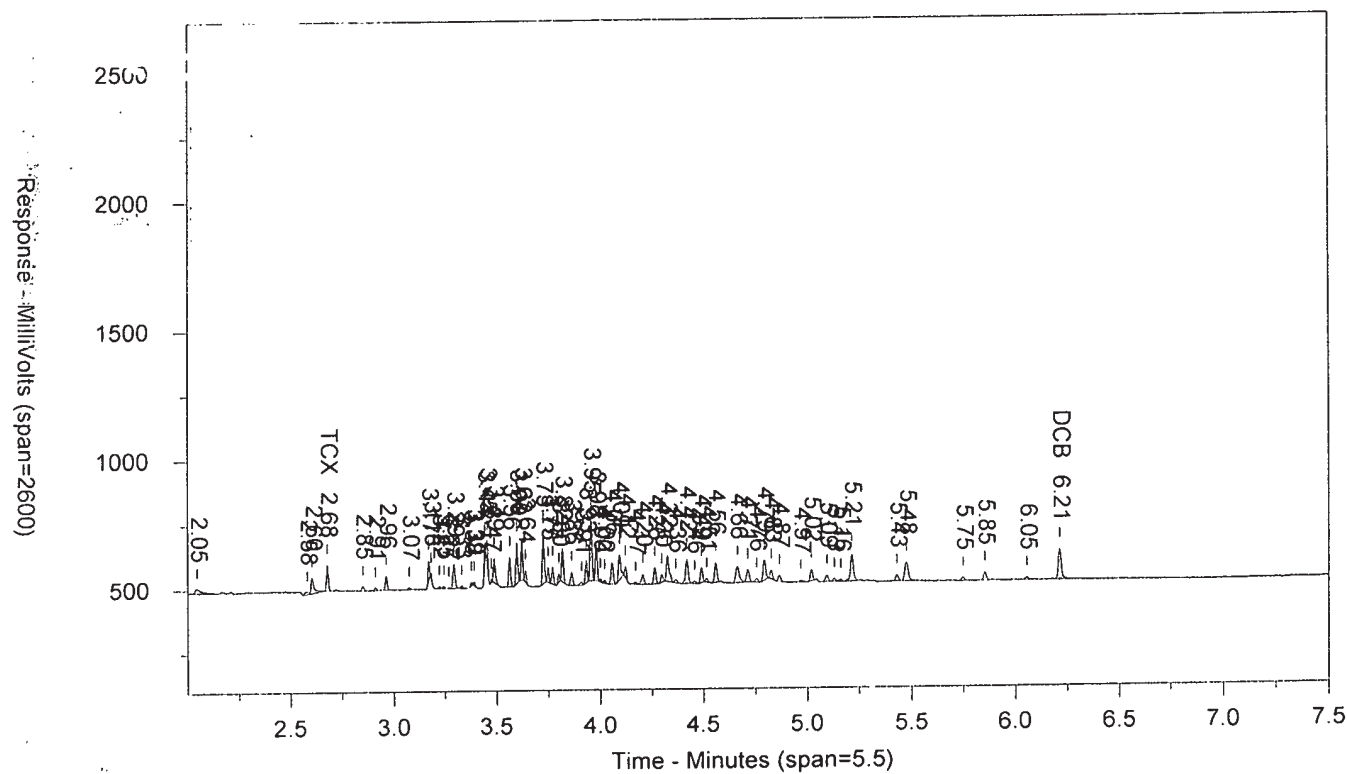
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SW-846 8082

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Chrom Perfect Chromatogram Report

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

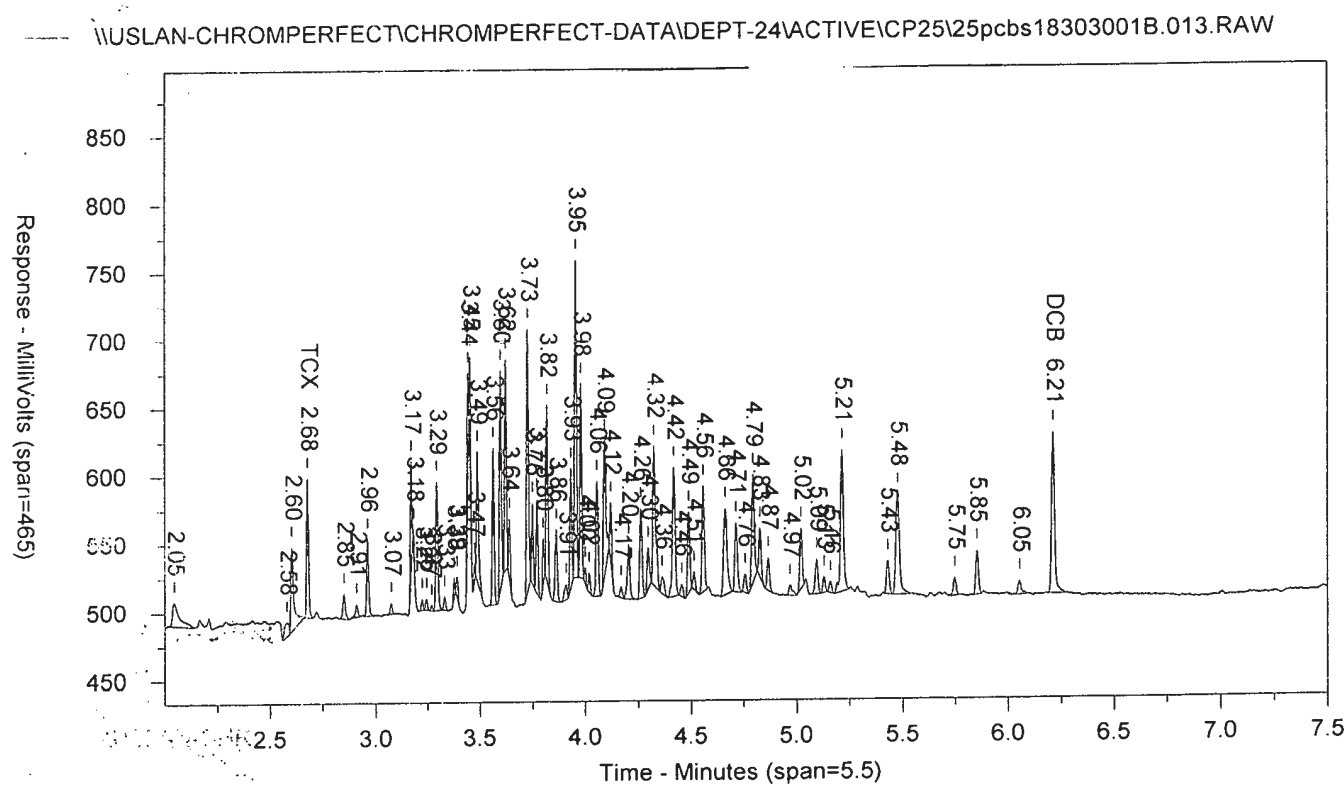
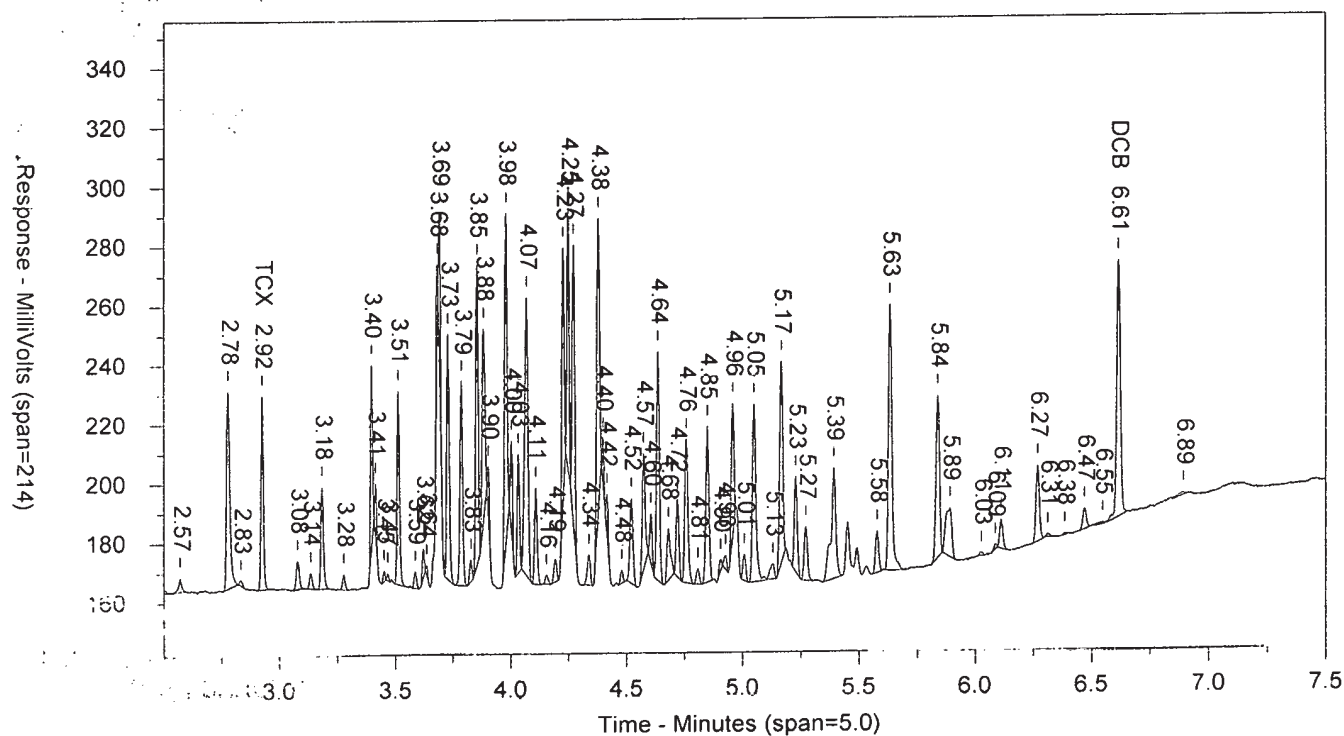
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SW-846 8082

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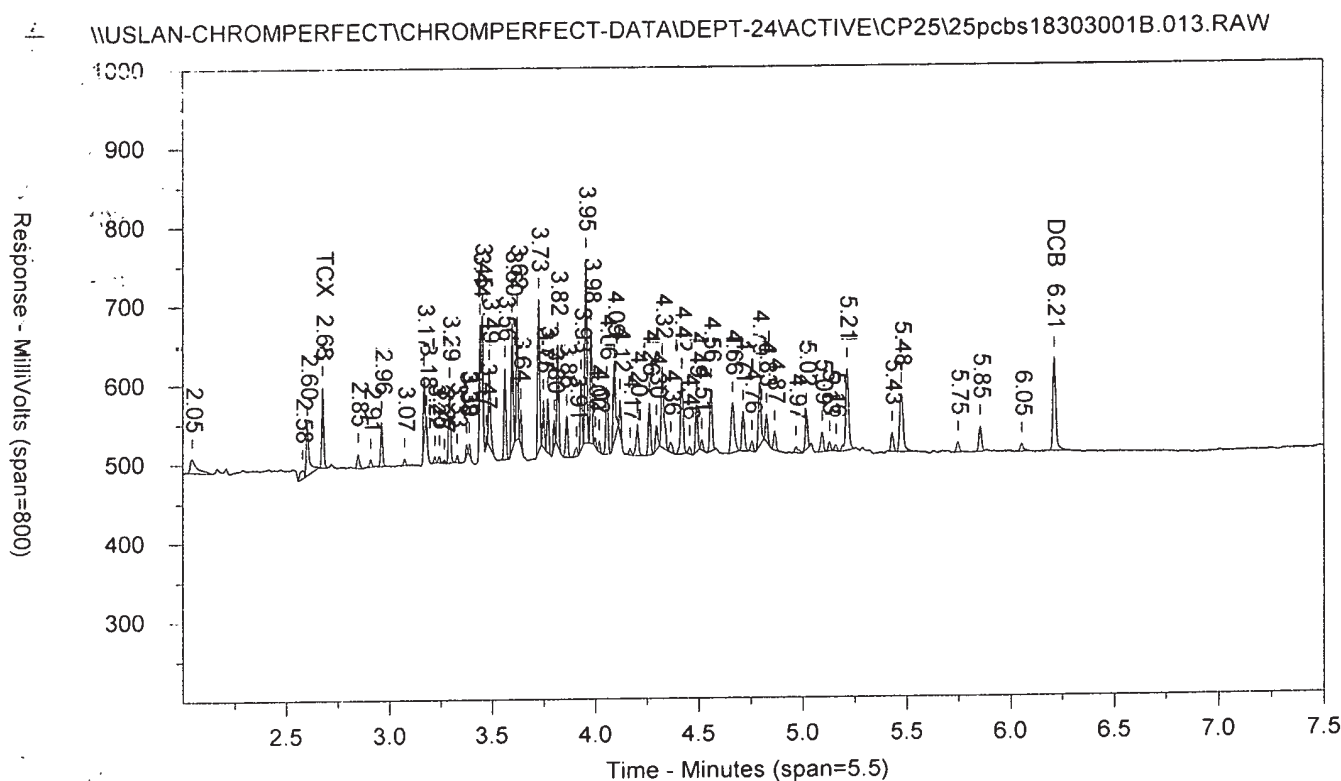
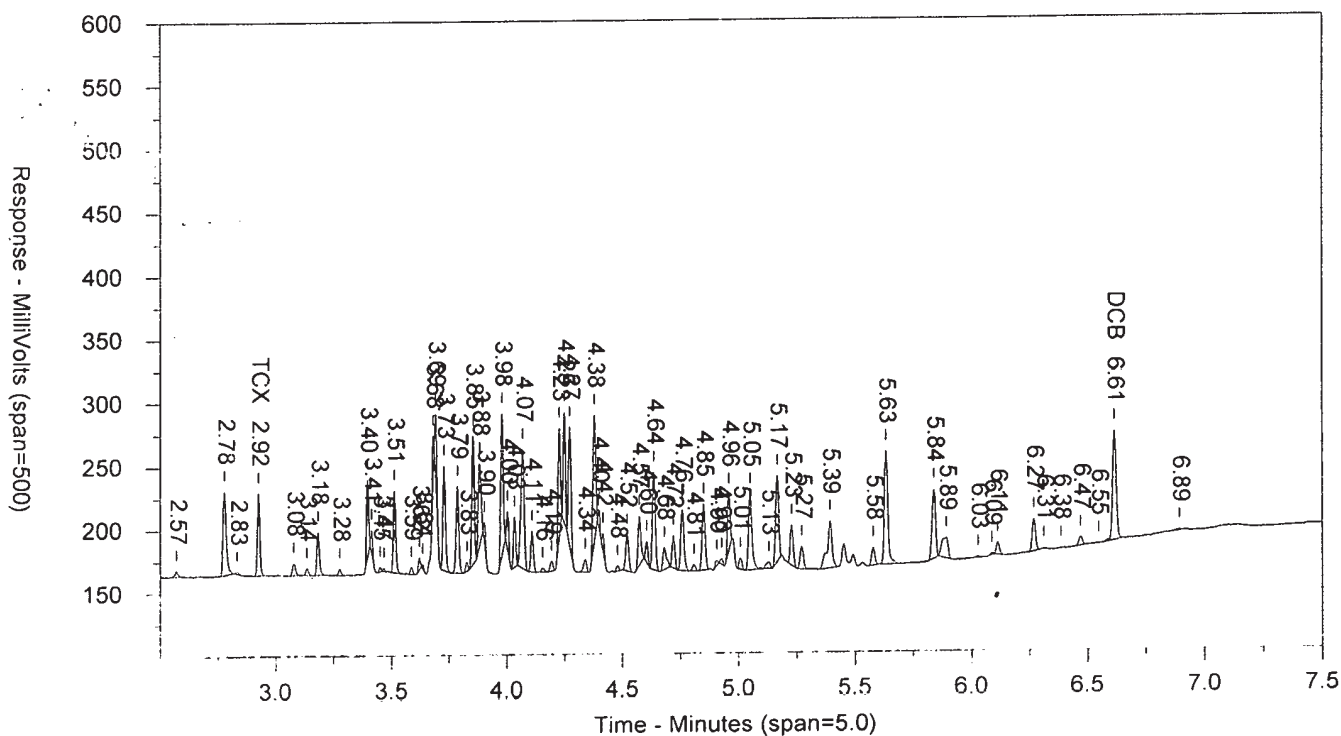
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SW-846 8082

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Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

RT B	Compound B	Height B	Area B
5.214		9969	8676
5.475		8635	9880

AR4821824C

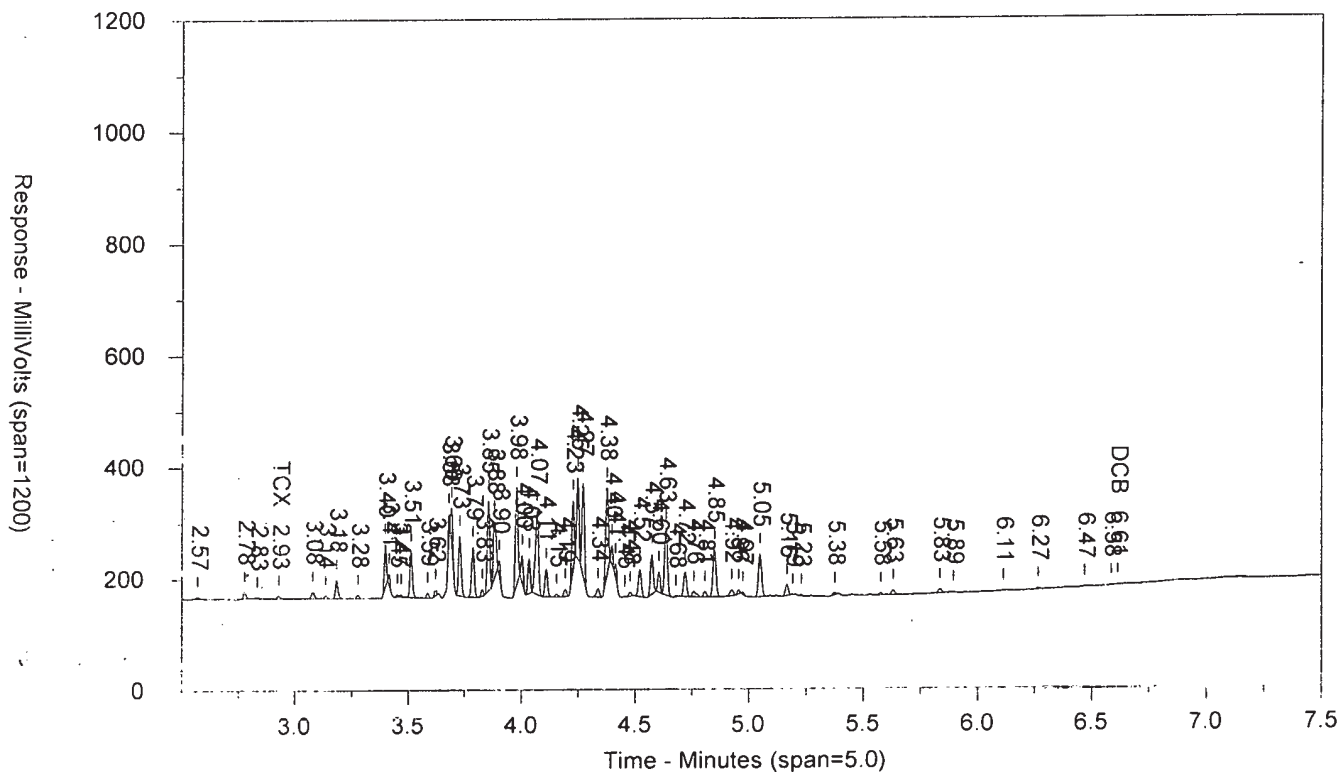
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ICAL 1830299999

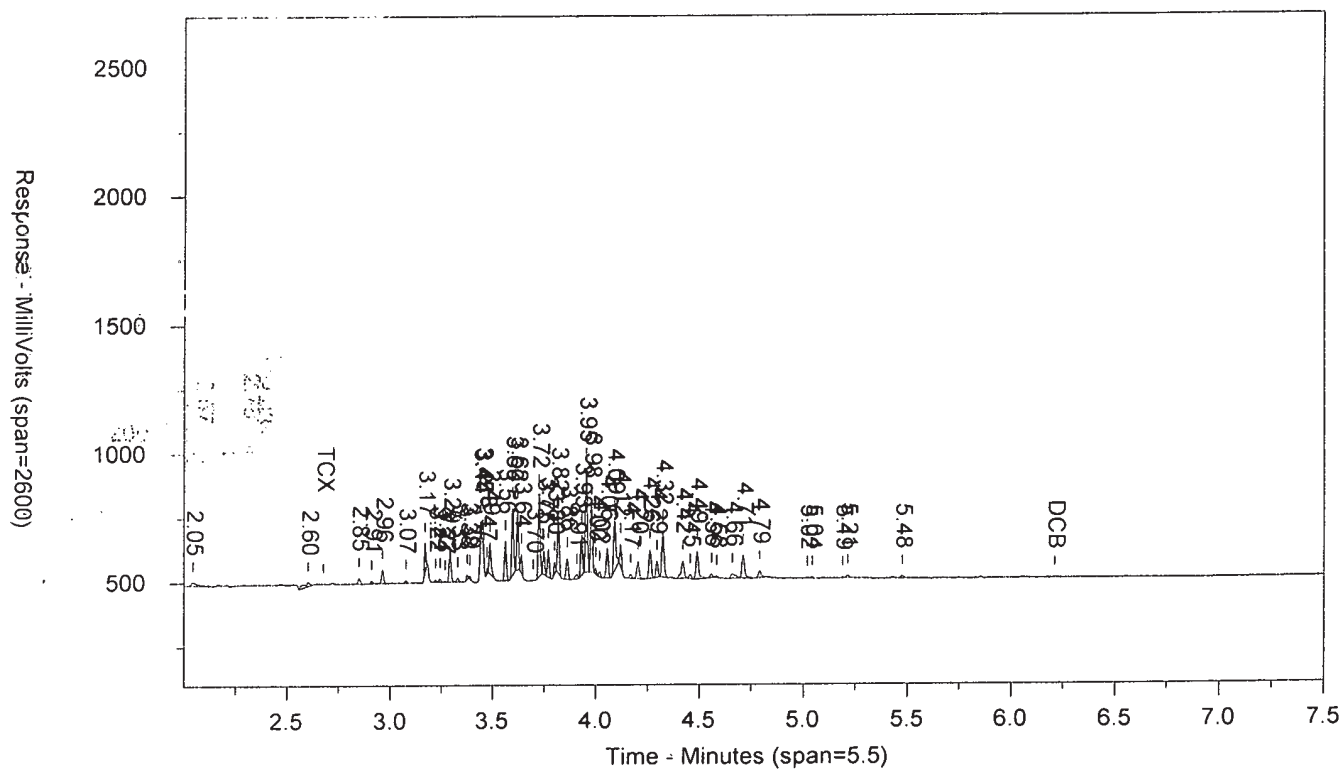
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SW-846 8082

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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

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	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

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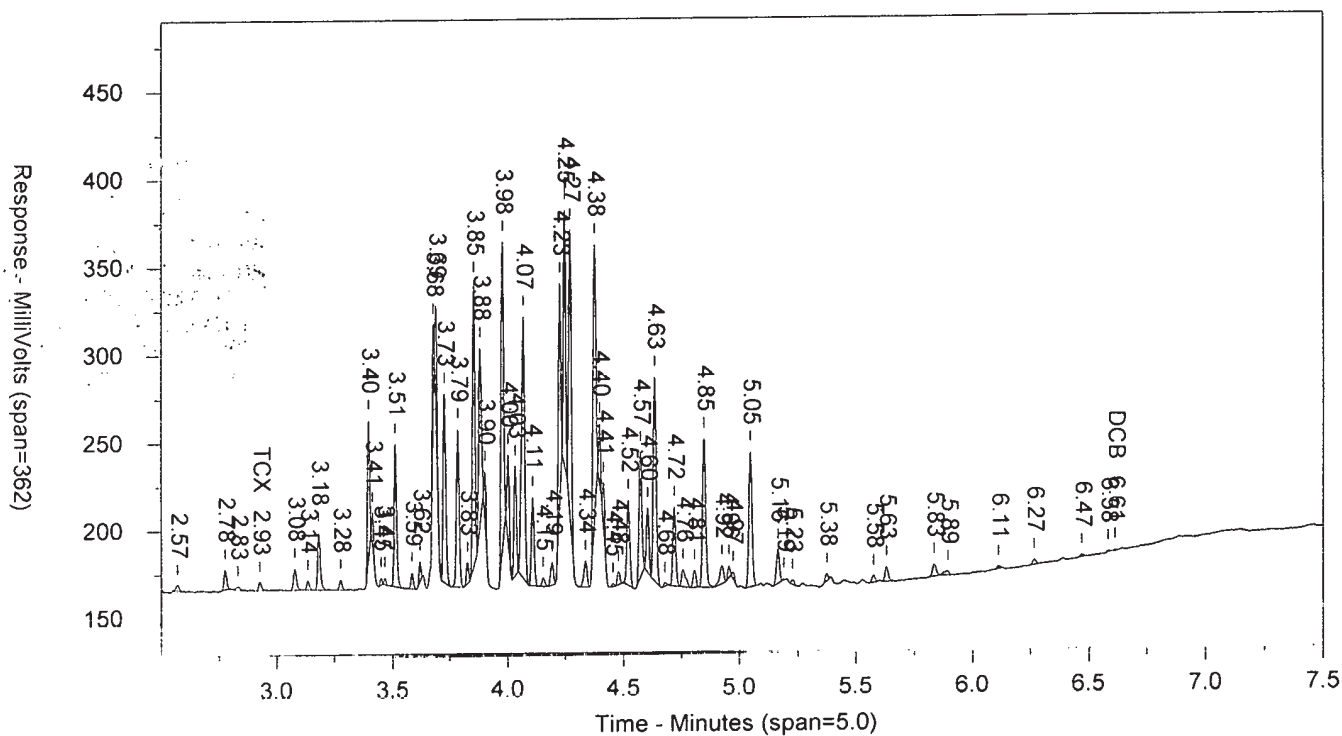
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ICAL 1830299999

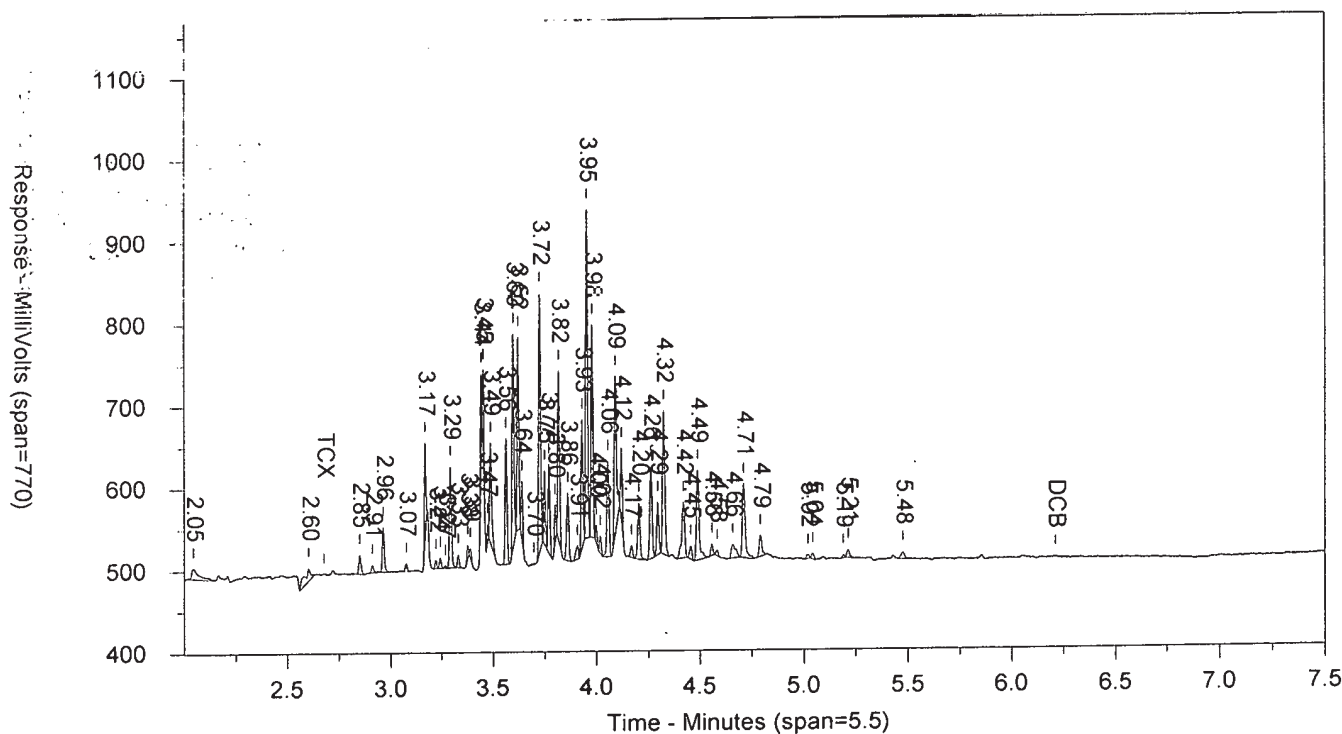
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SW-846 8082

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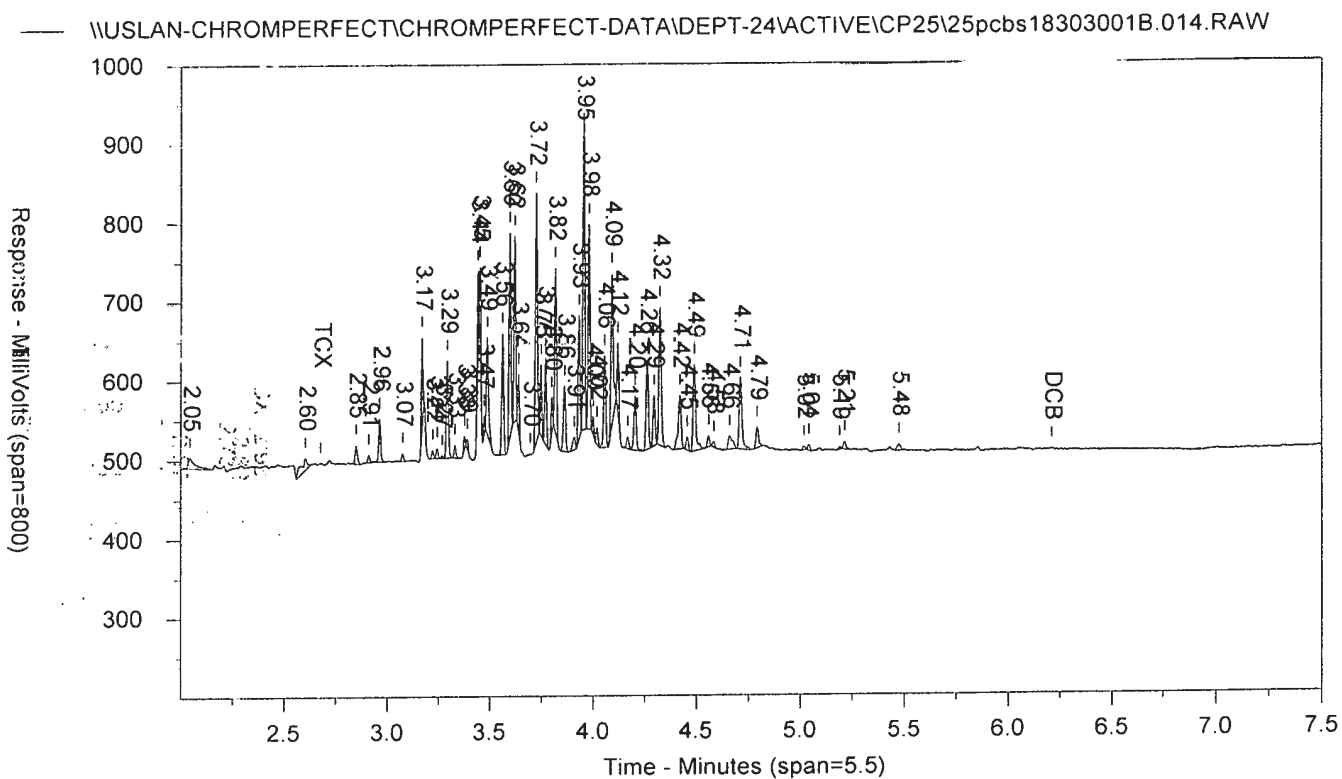
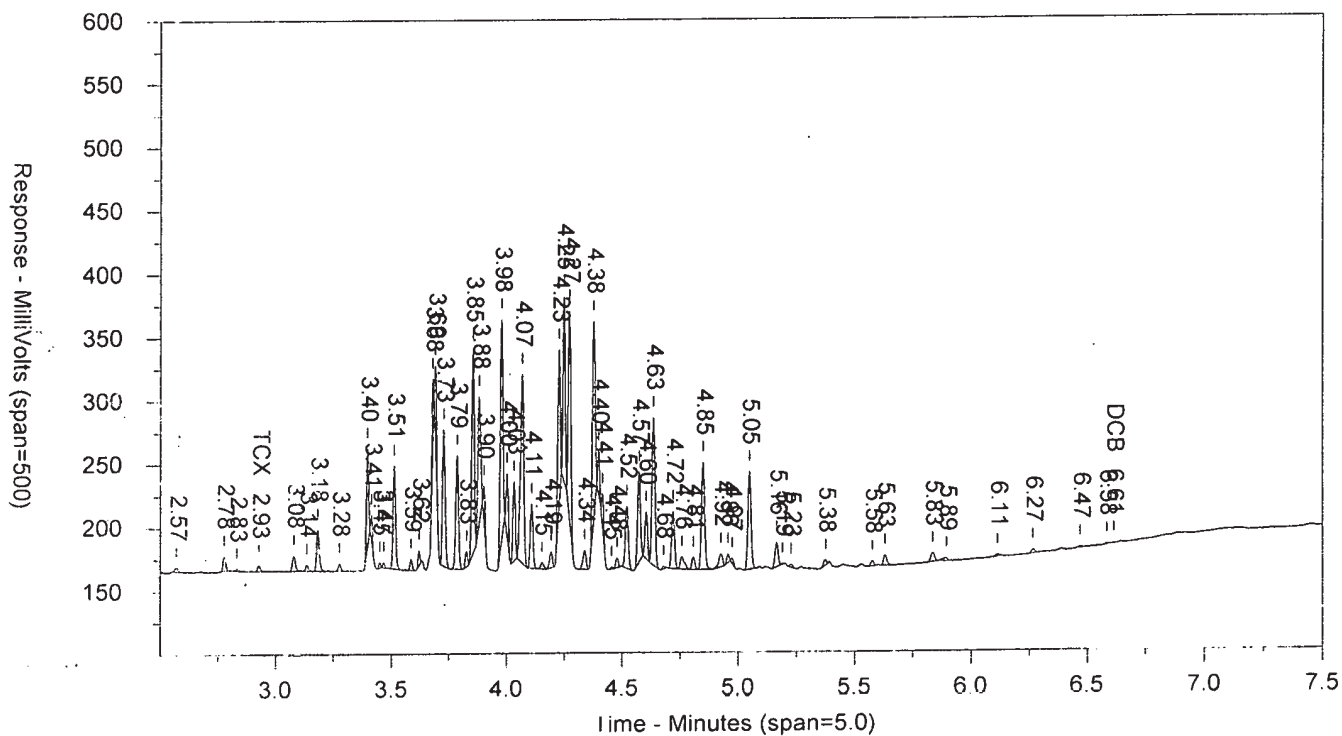
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ICAL 1830299999

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SW-846 8082

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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	4938
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		113969	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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

AR4831824C

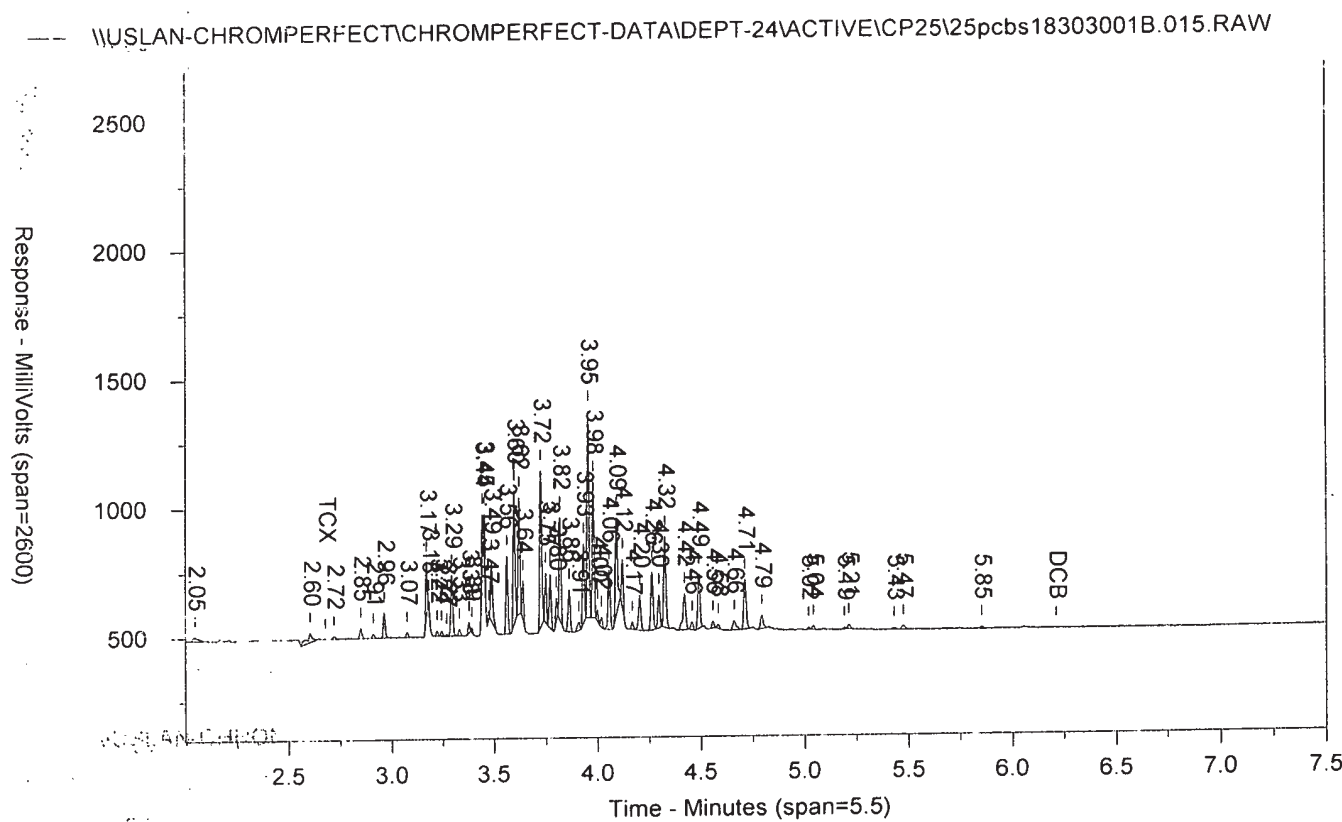
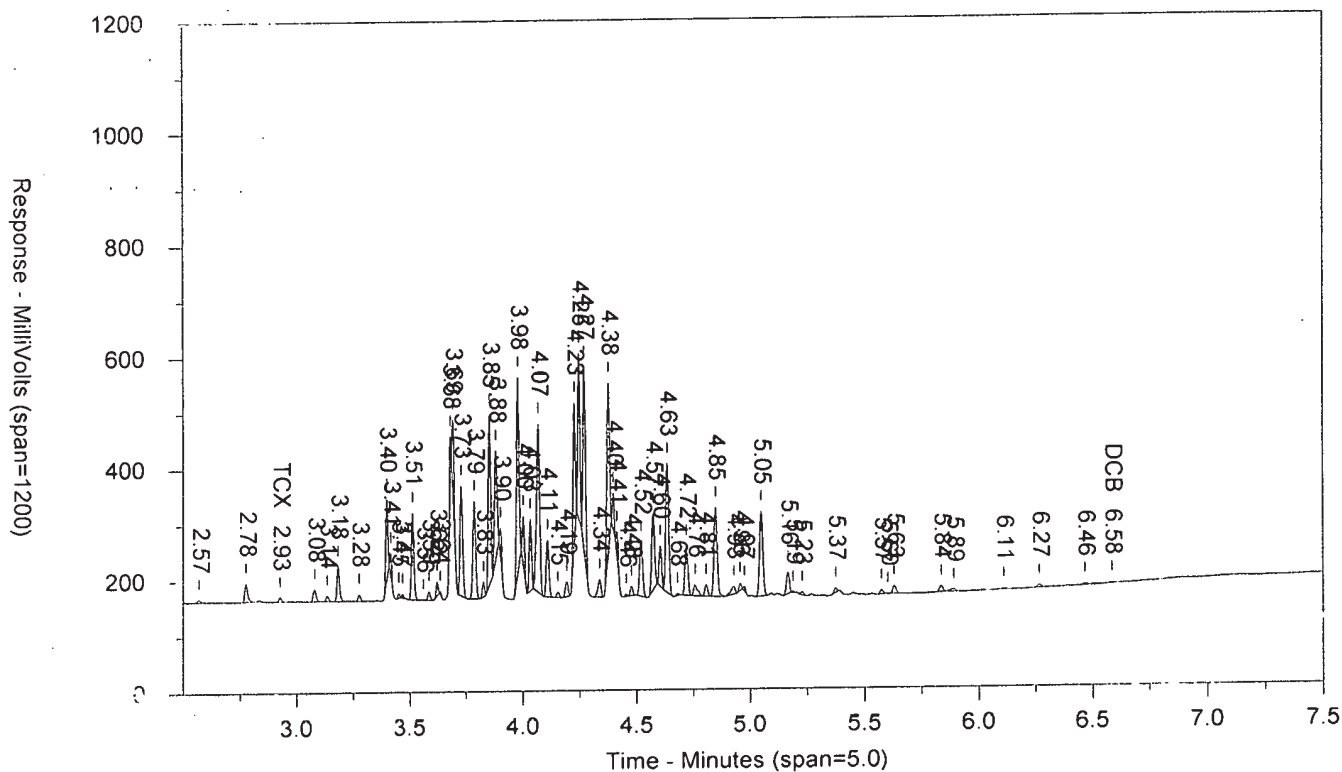
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ICAL 1830299999

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SW-846 8082

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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
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AR4831824C

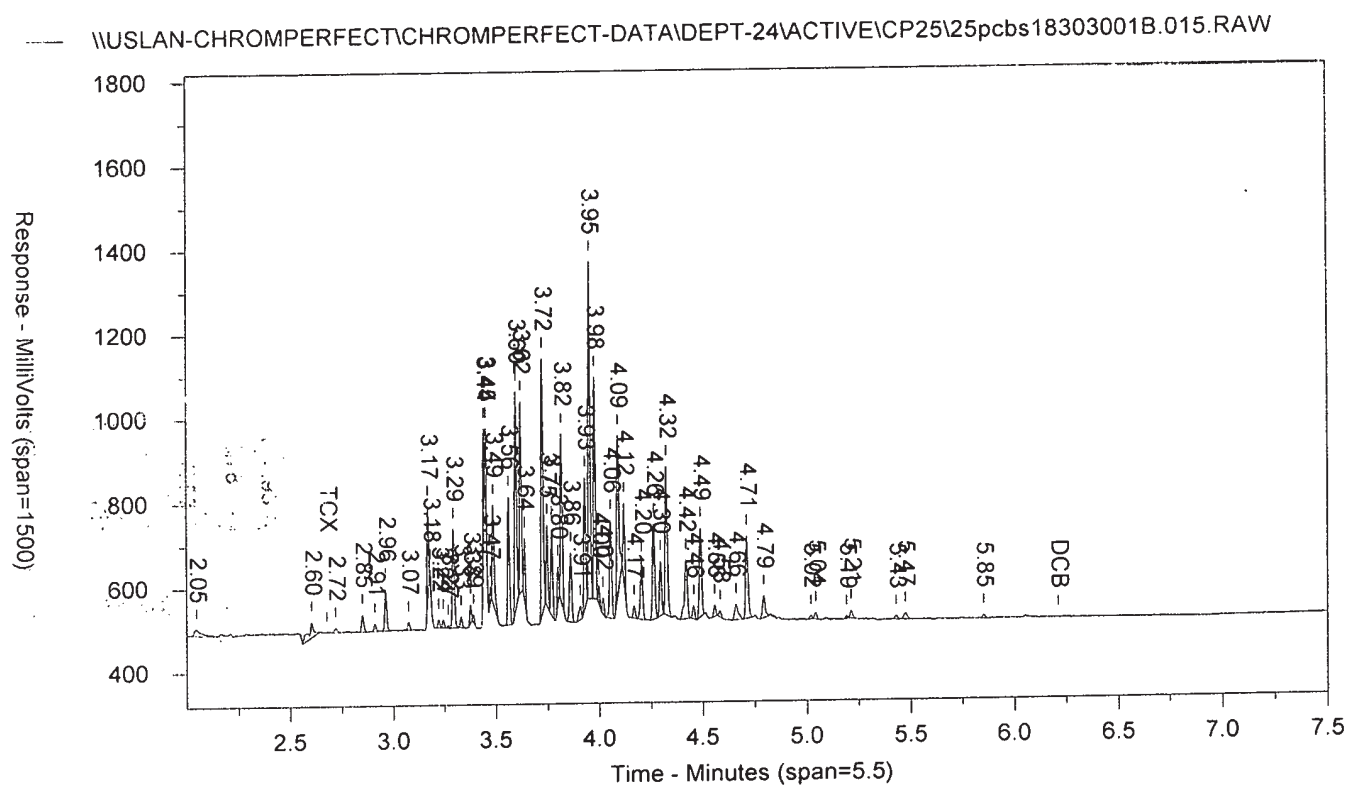
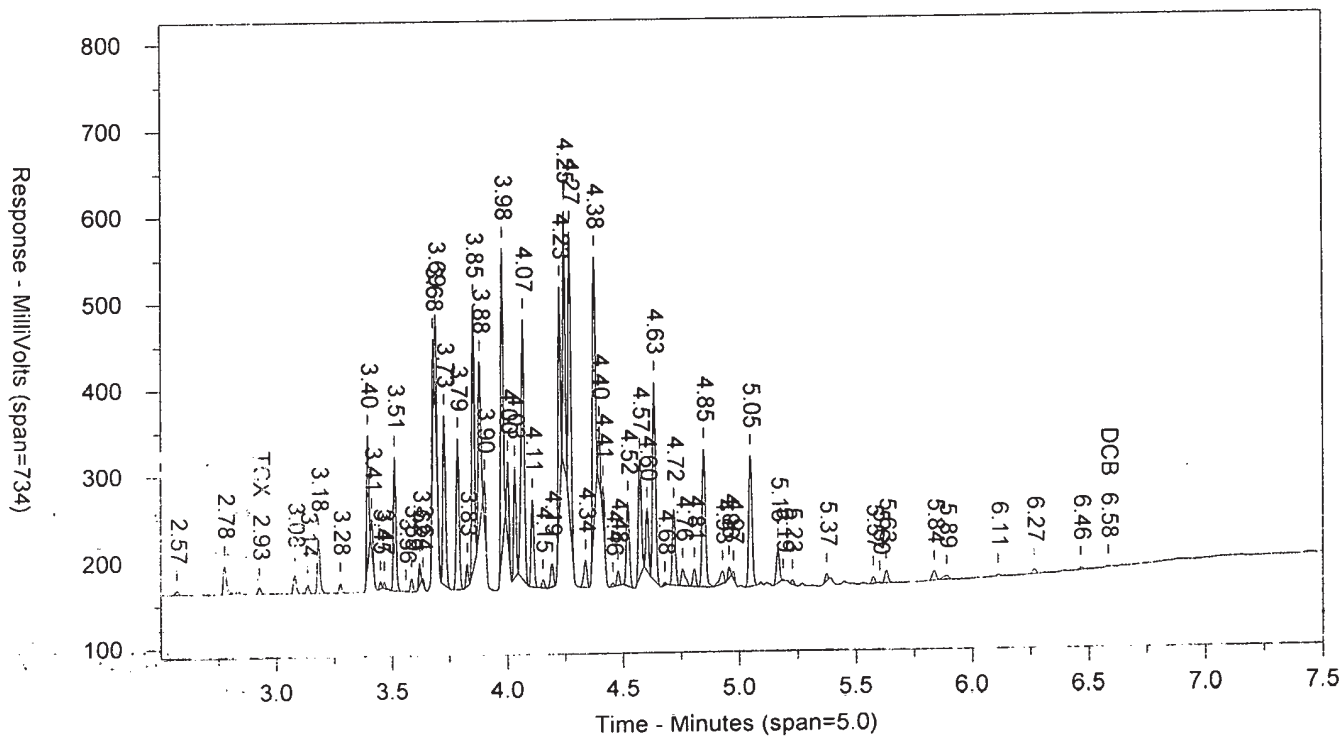
AAAR483AA

ICAL 1830299999

10227

SW-846 8082

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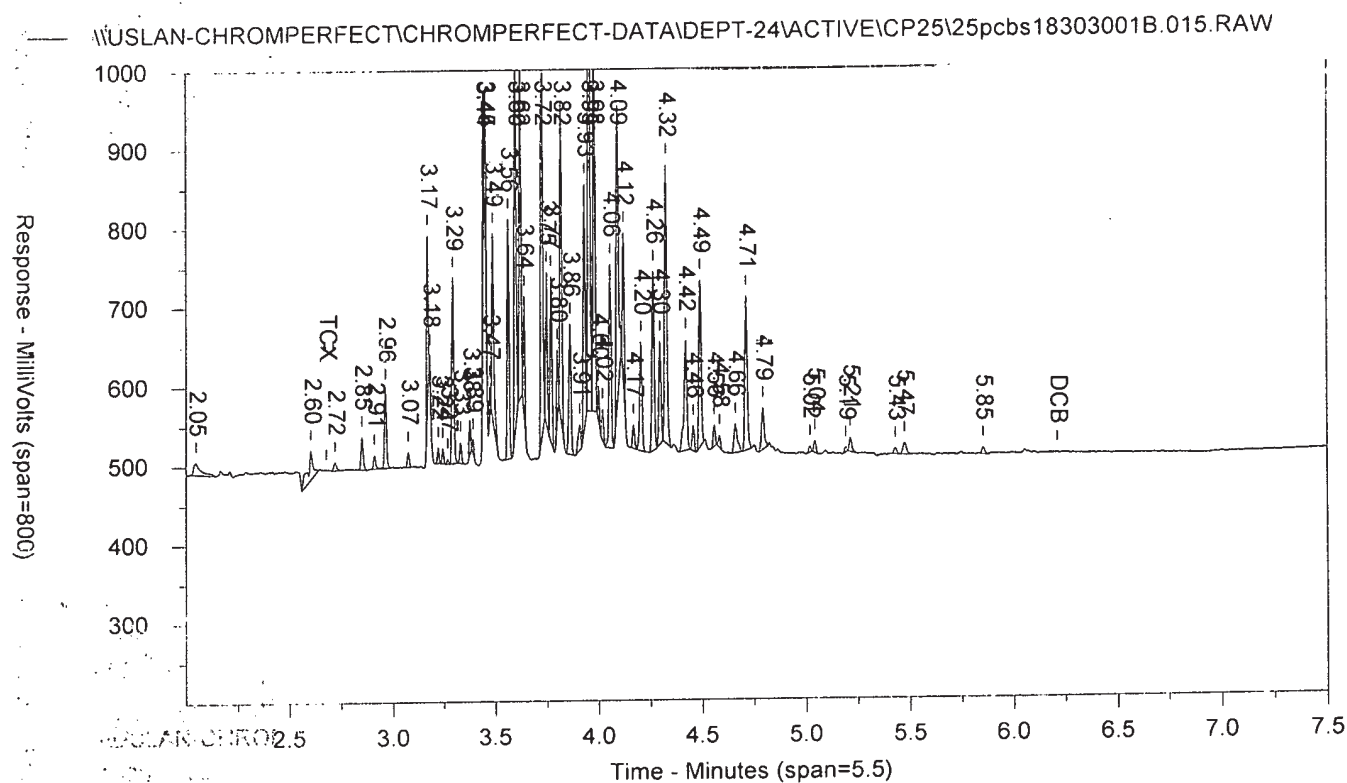
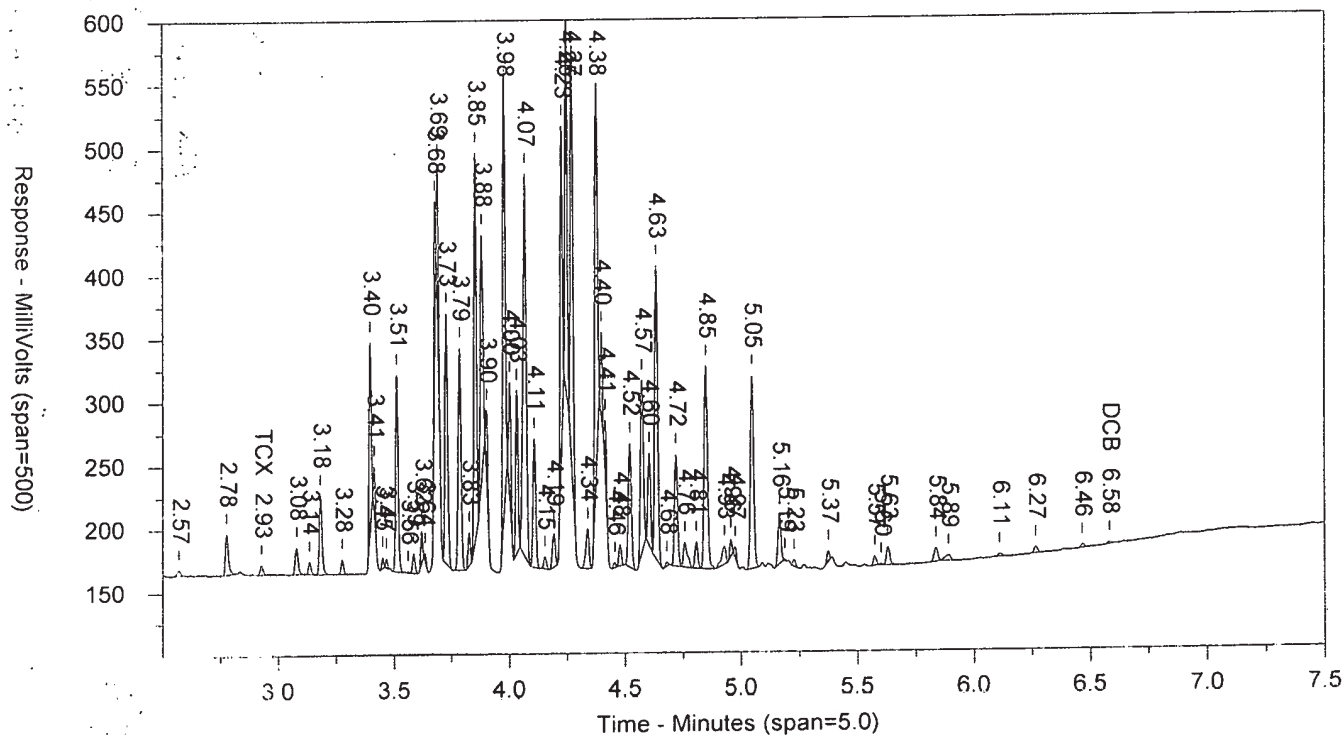
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ICAL 1830299999

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SW-846 8082

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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
Data 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		18388	9494
3.513		295669	236059
3.564		2446	1445
3.587		40087	29587
3.623		49283	29300
3.636		1431	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
4.246		556716	362663
4.271		634707	473171
4.338		60147	59249
4.371		574697	506178
4.399		129370	65671
4.414		56332	36526
4.455		8567	5590
4.478		32061	25659
4.521		183314	169645
4.573		240419	224966
4.604		141805	106066
4.634		445117	394999
4.681		257248	5369
4.719		171700	155320
4.757		38589	46648

Chrom Perfect Chromatogram Report

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	317841
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 + ②		463855	313159
3.561 + ③		581324	375466
3.597 + ③		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

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Chrom Perfect Chromatogram Report

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

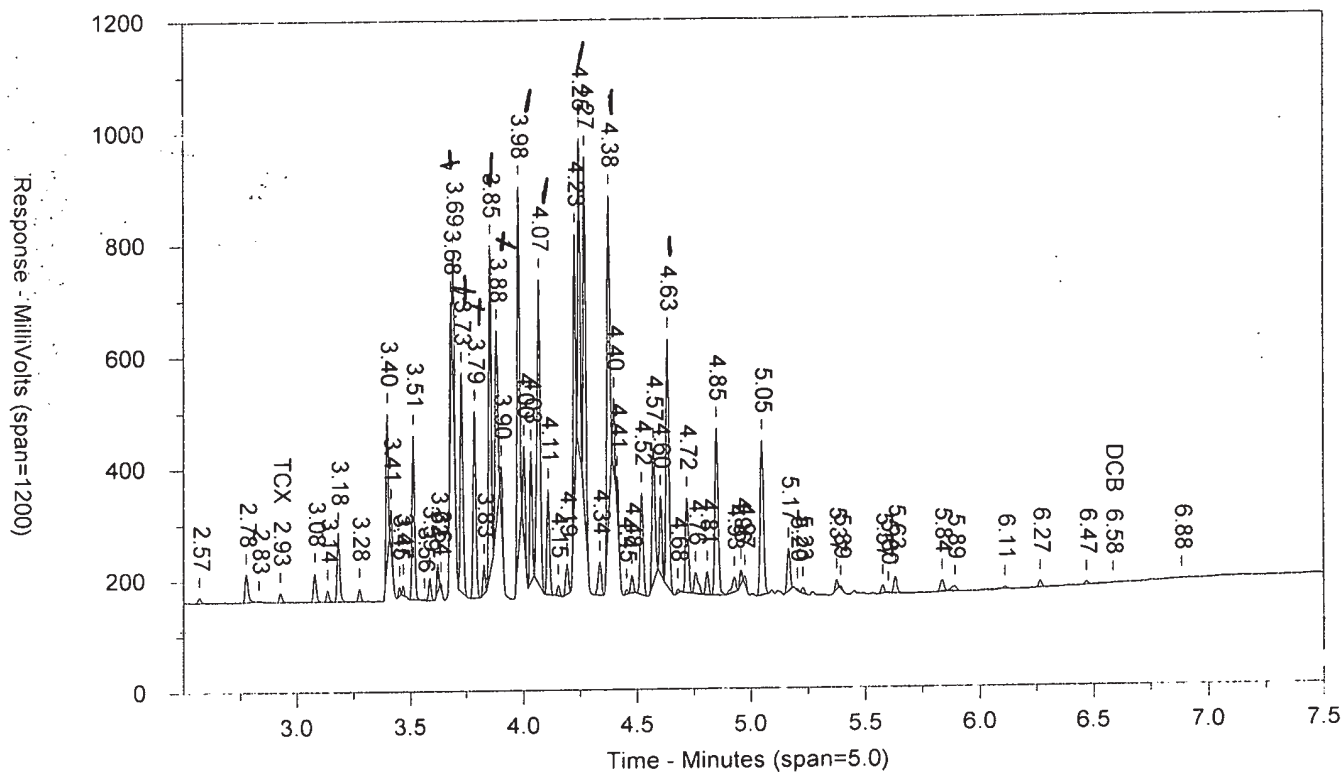
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ICAL 1830299999

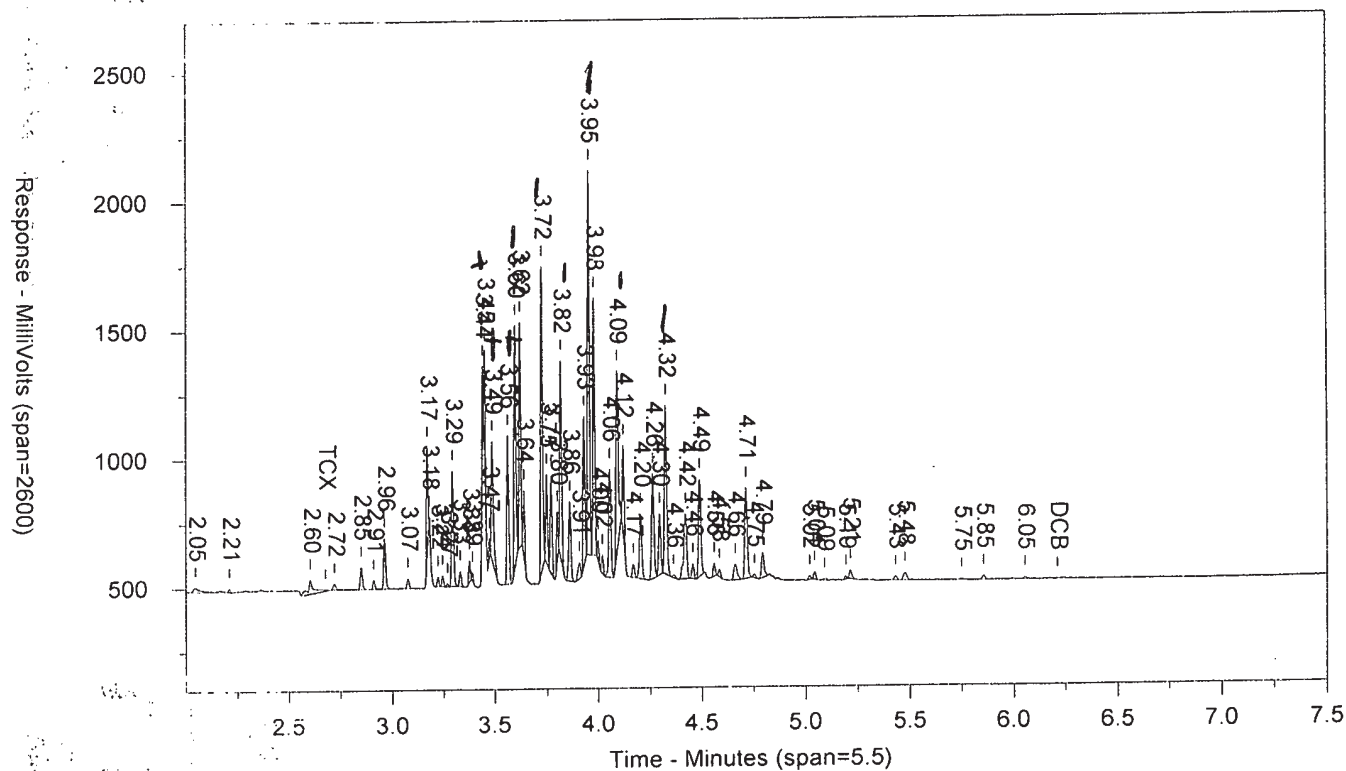
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LANCASTER LABORATORIES

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
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AR4841824C

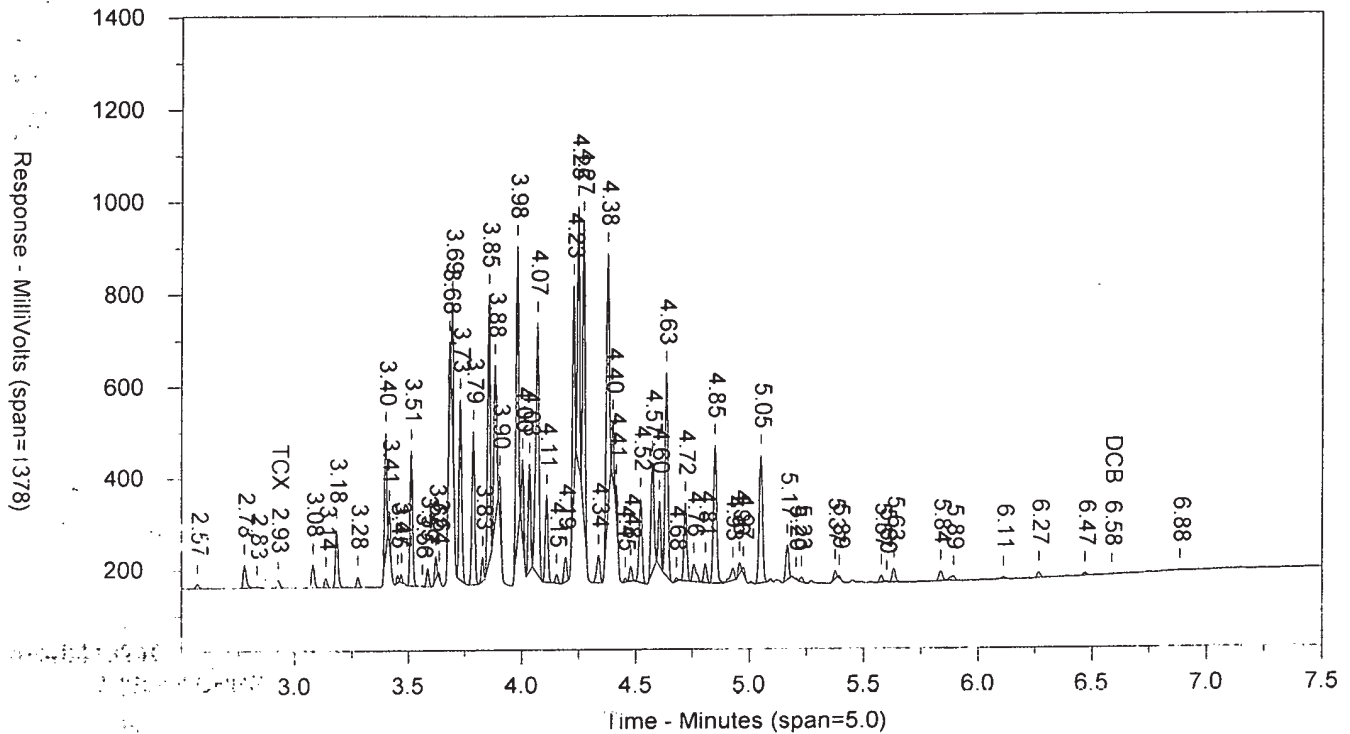
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ICAL 1830299999

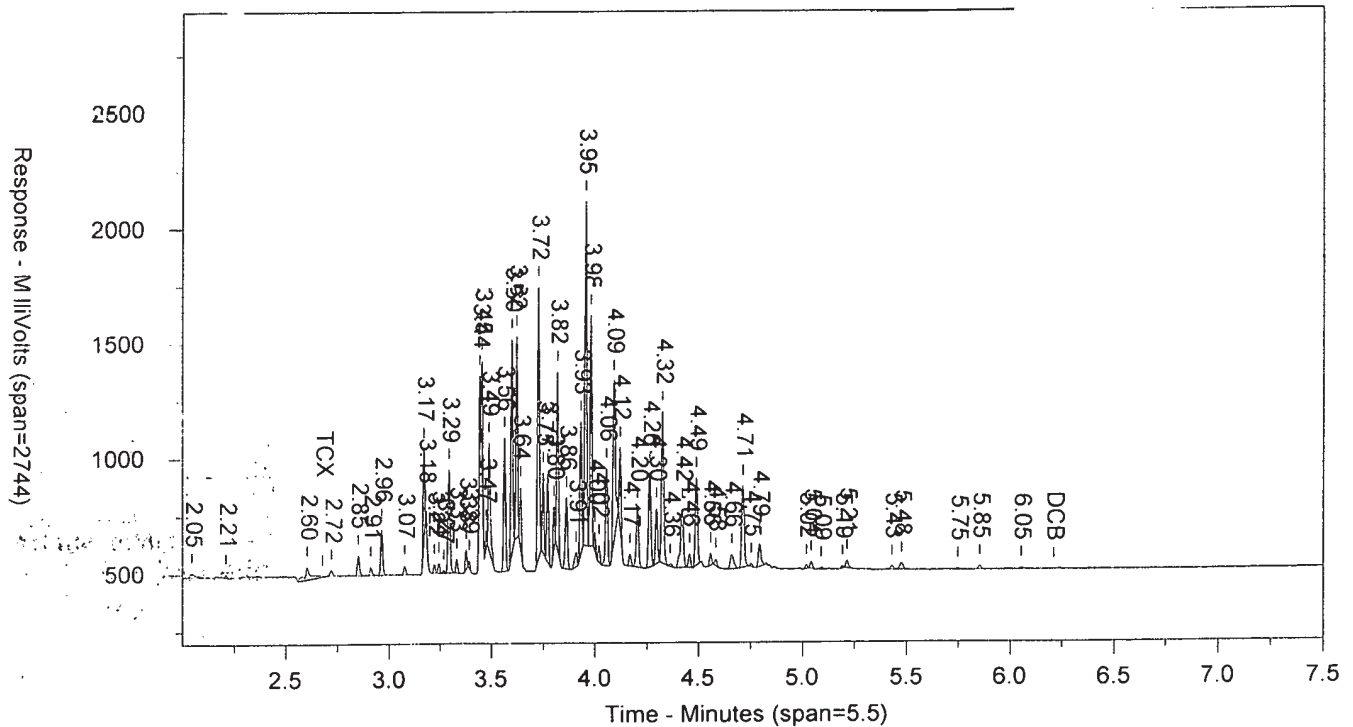
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SW-846 8082

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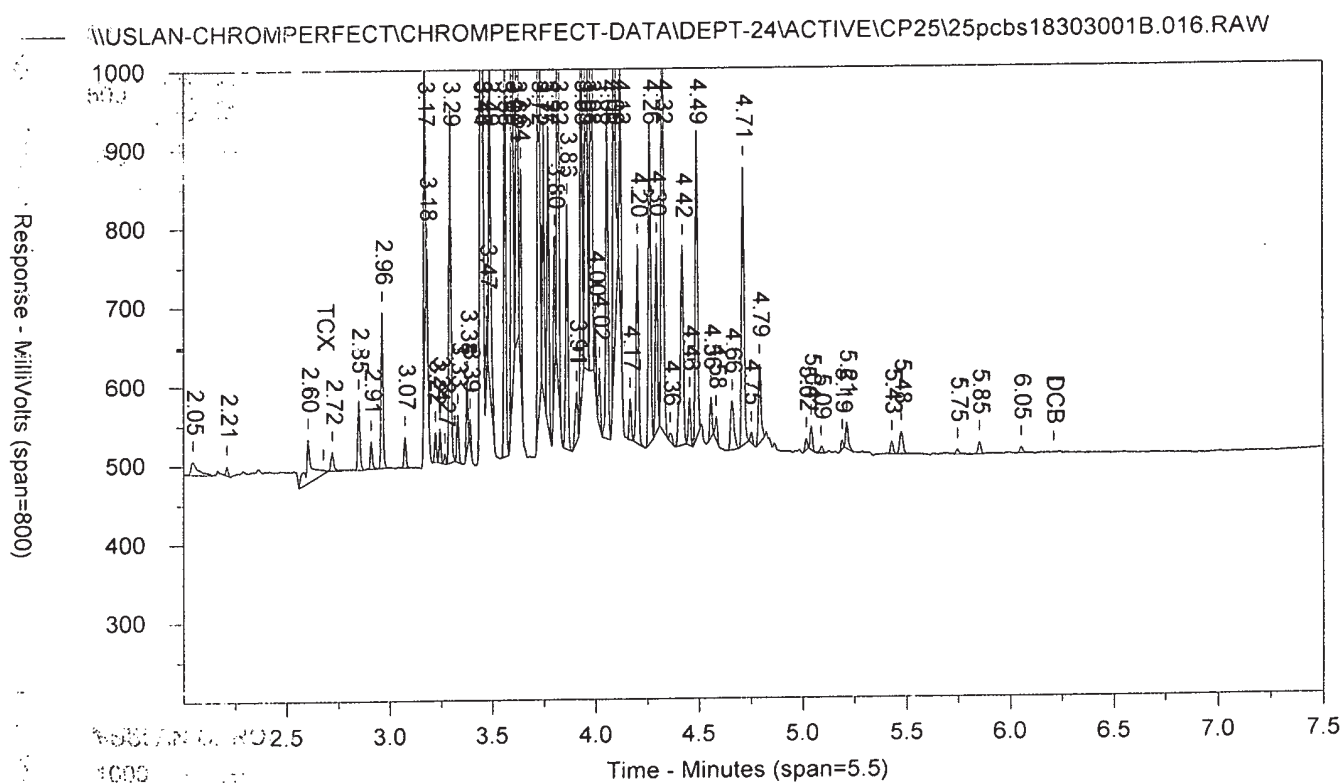
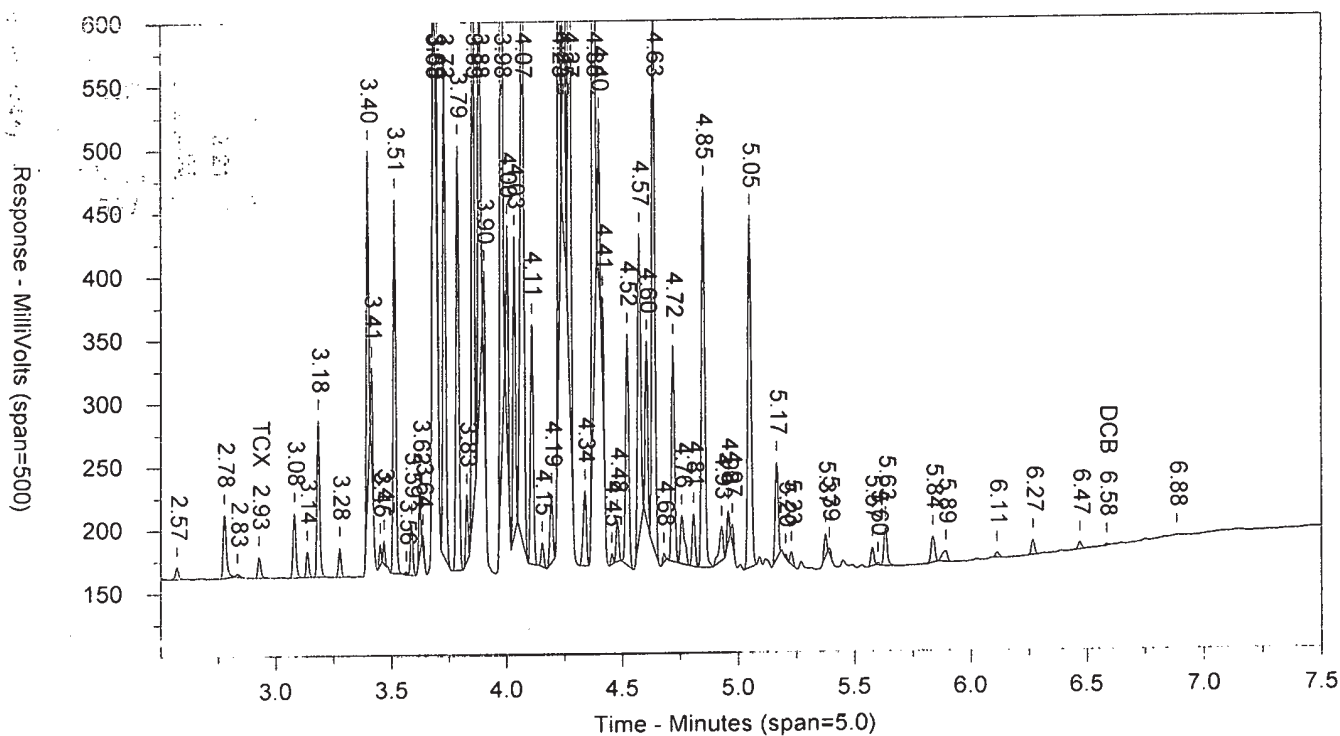
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ICAL 1830299999

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SW-846 8082

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Chrom Perfect Chromatogram Report

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		1414152	242640
3.691		581750	309735
3.728		926843	755875
3.788		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		408096	385754
4.572		587859	531255
4.603		315862	241197
4.634		1046054	935676
4.679		58514	13799
4.718		388176	363280

Chrom Perfect Chromatogram Report

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
5.155		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		4974773	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

Chrom Perfect Chromatogram Report

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

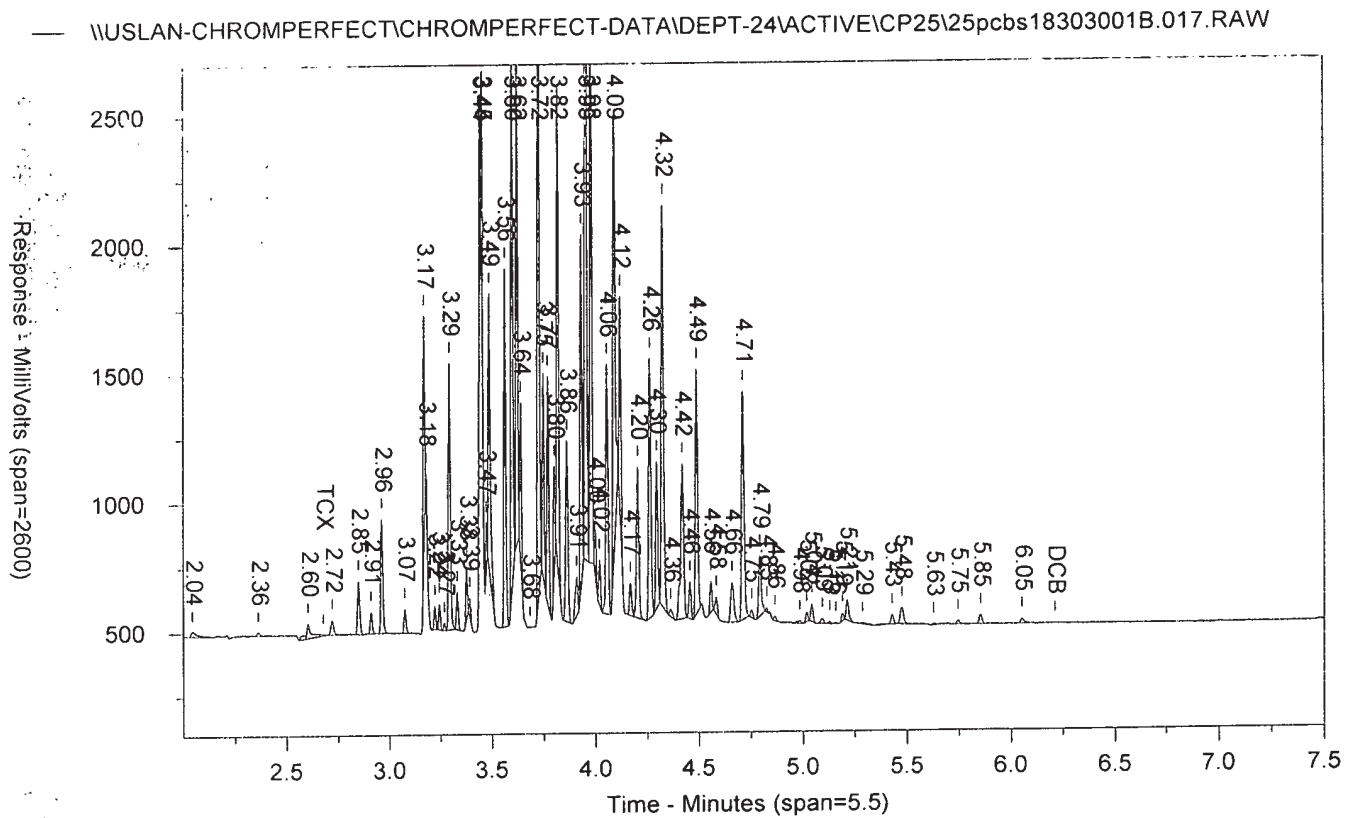
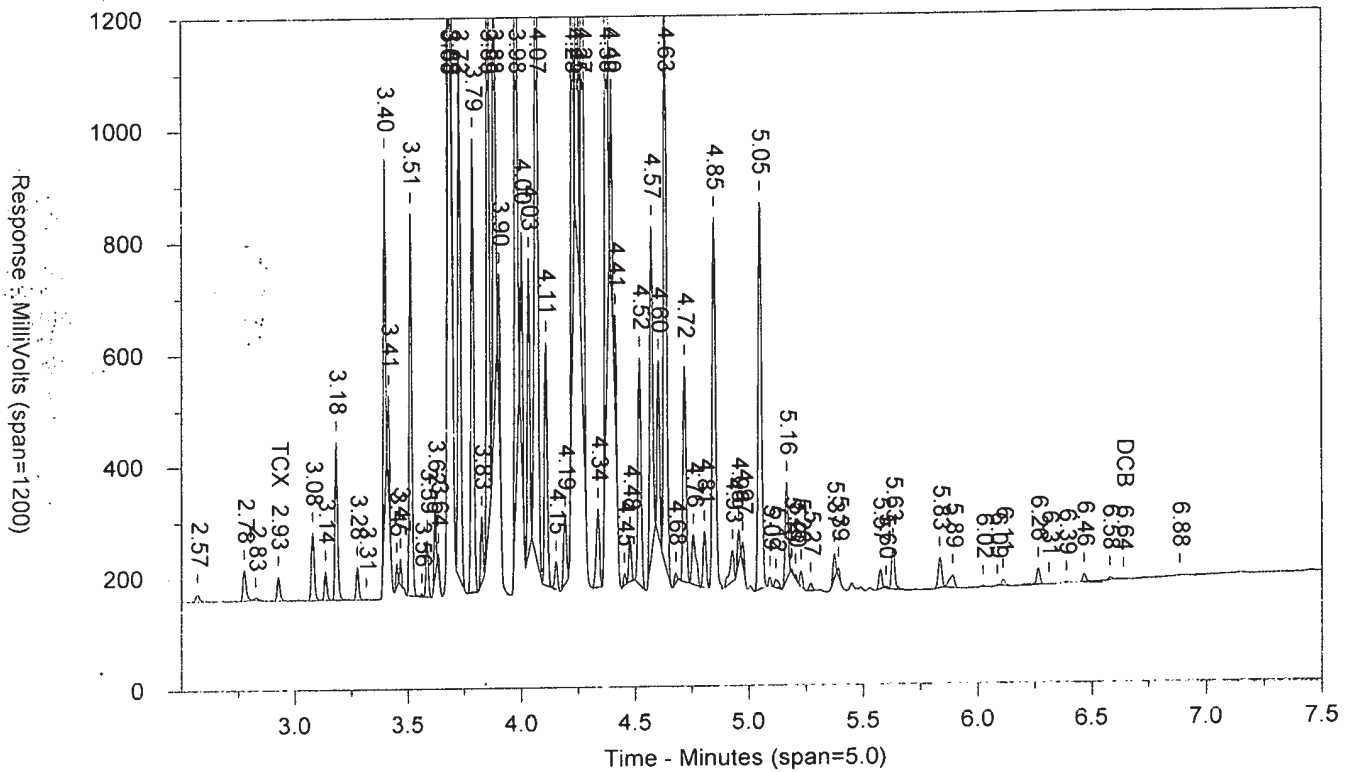
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ICAL 1830299999

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SW-846 8082

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Chrom Perfect Chromatogram Report

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
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AR4851824C

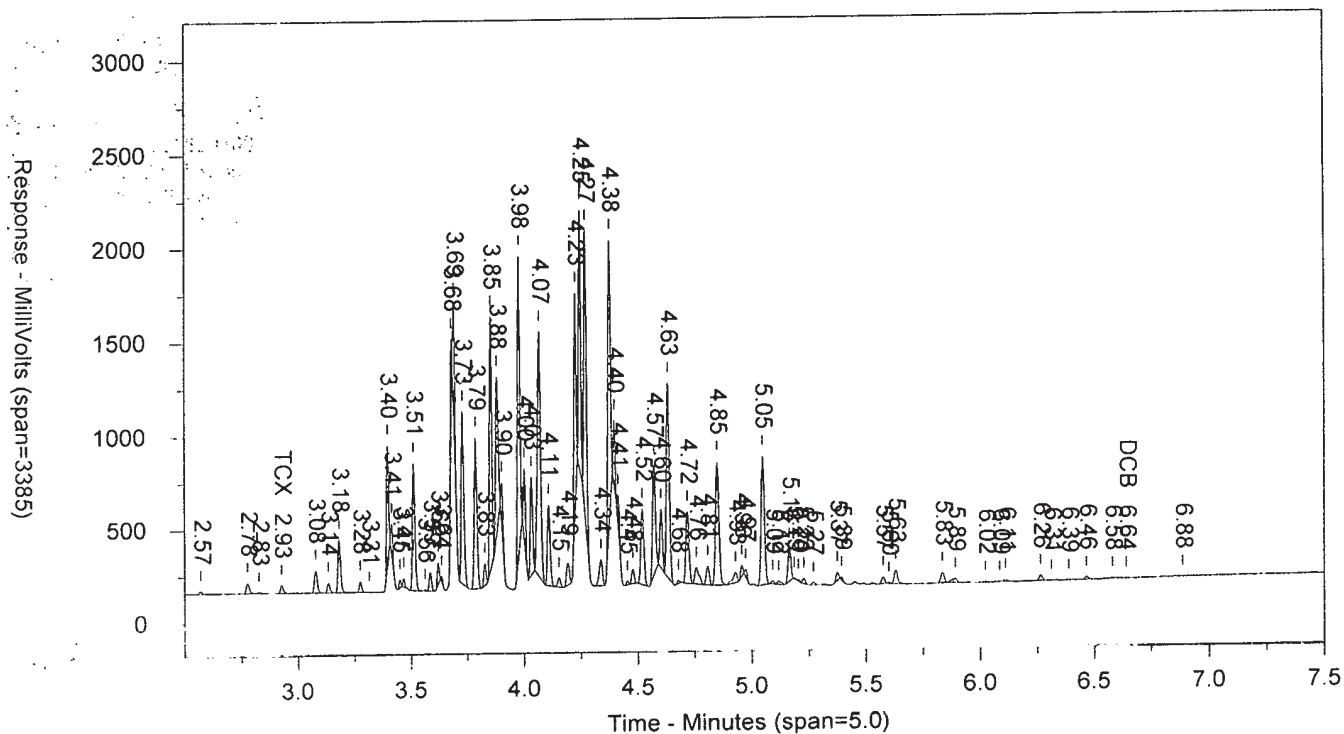
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ICAL 1830299999

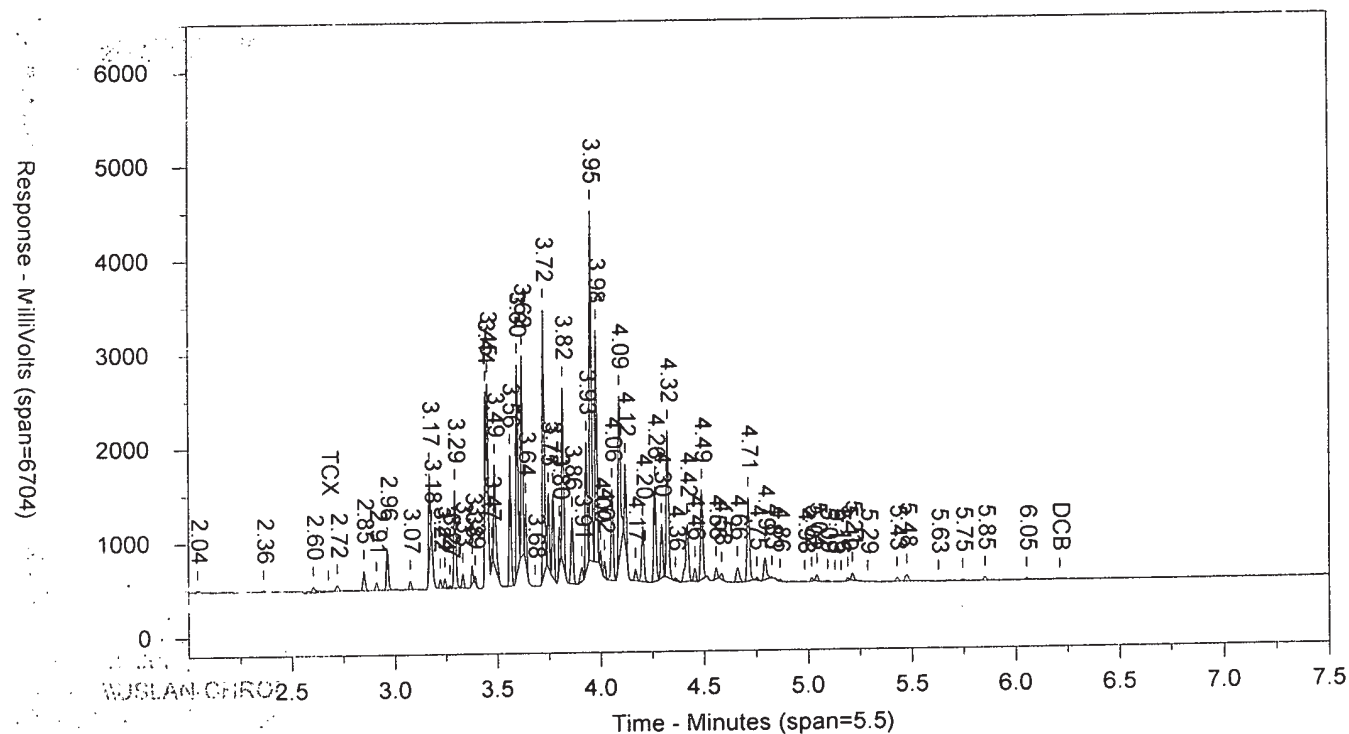
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SW-846 8082

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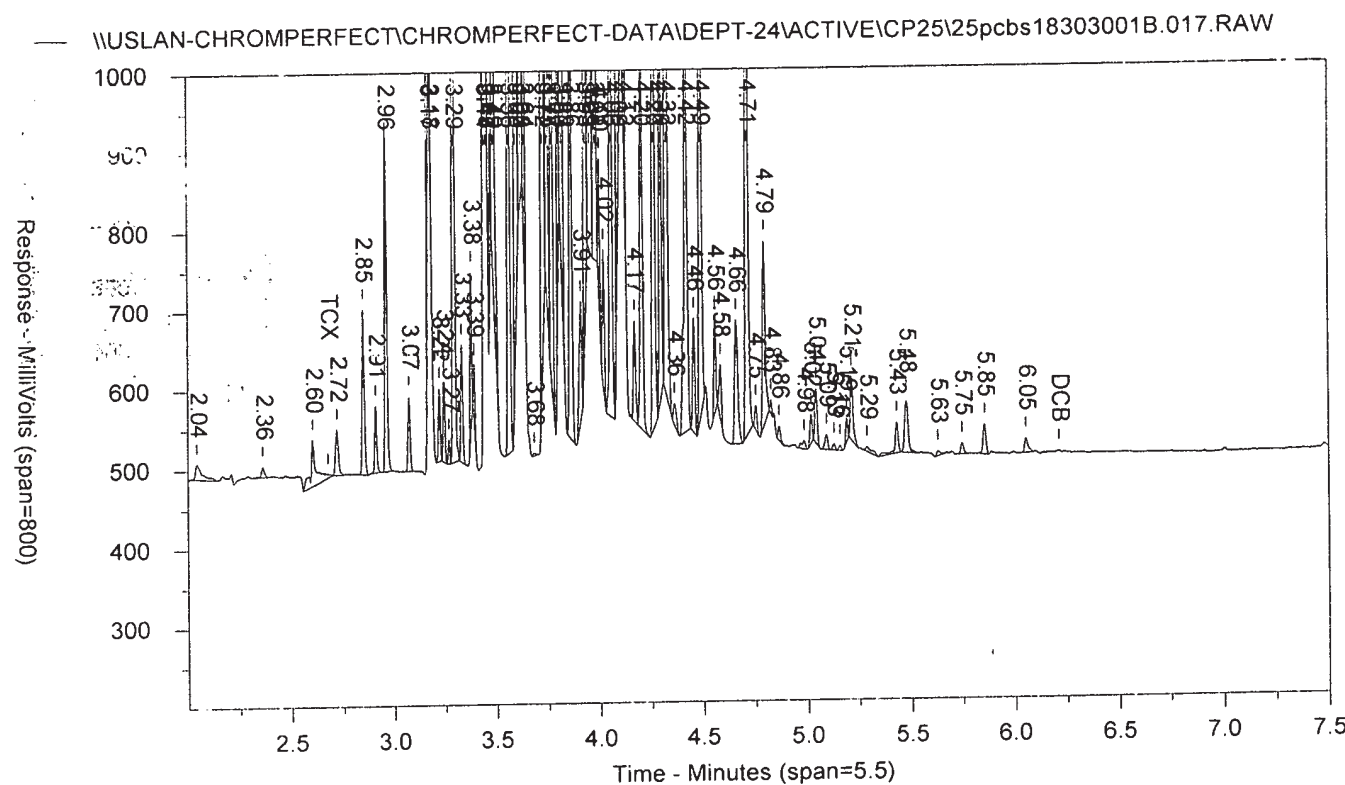
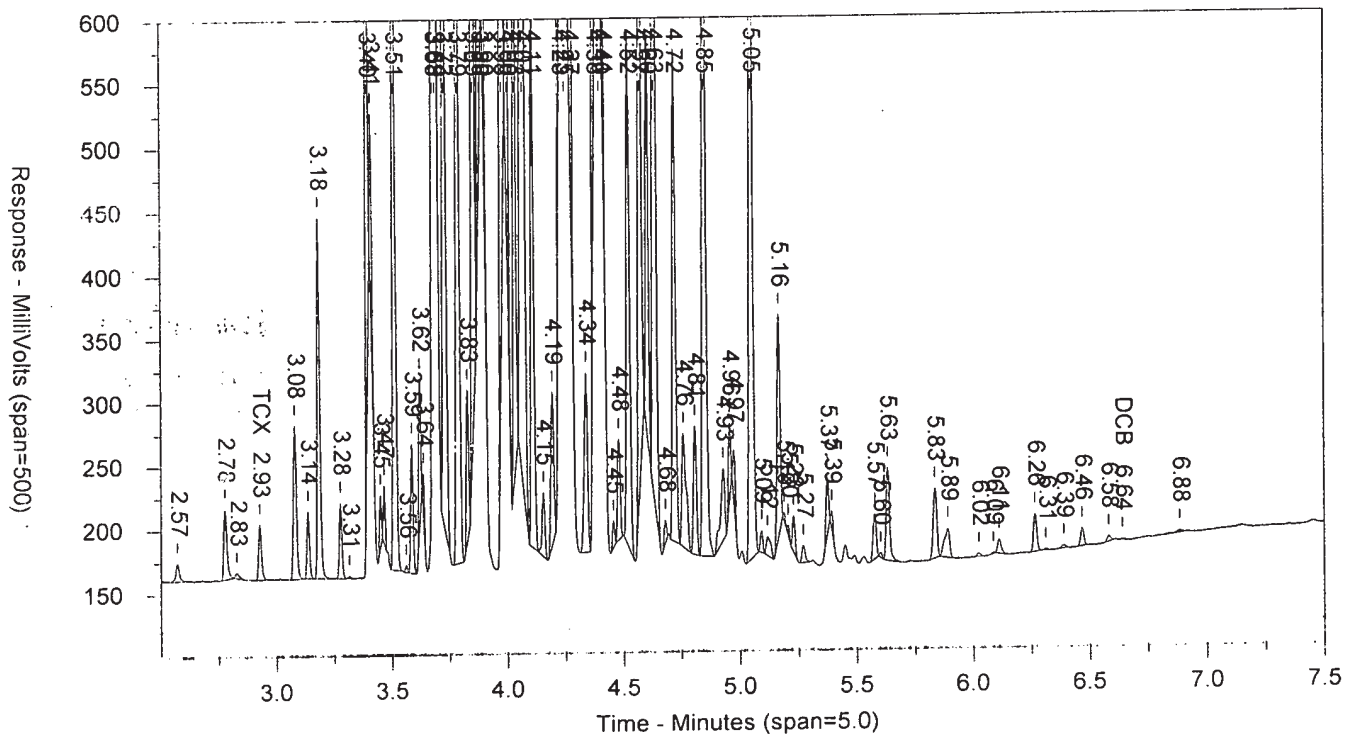


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AR4851824C AAAR485AA ICAL 1830299999 10227 SW-846 8082

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Chrom Perfect Chromatogram Report

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	815508
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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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	2230	.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
File Reported On: 10/30/2018 at 8:22:09 PM

AR4861824C

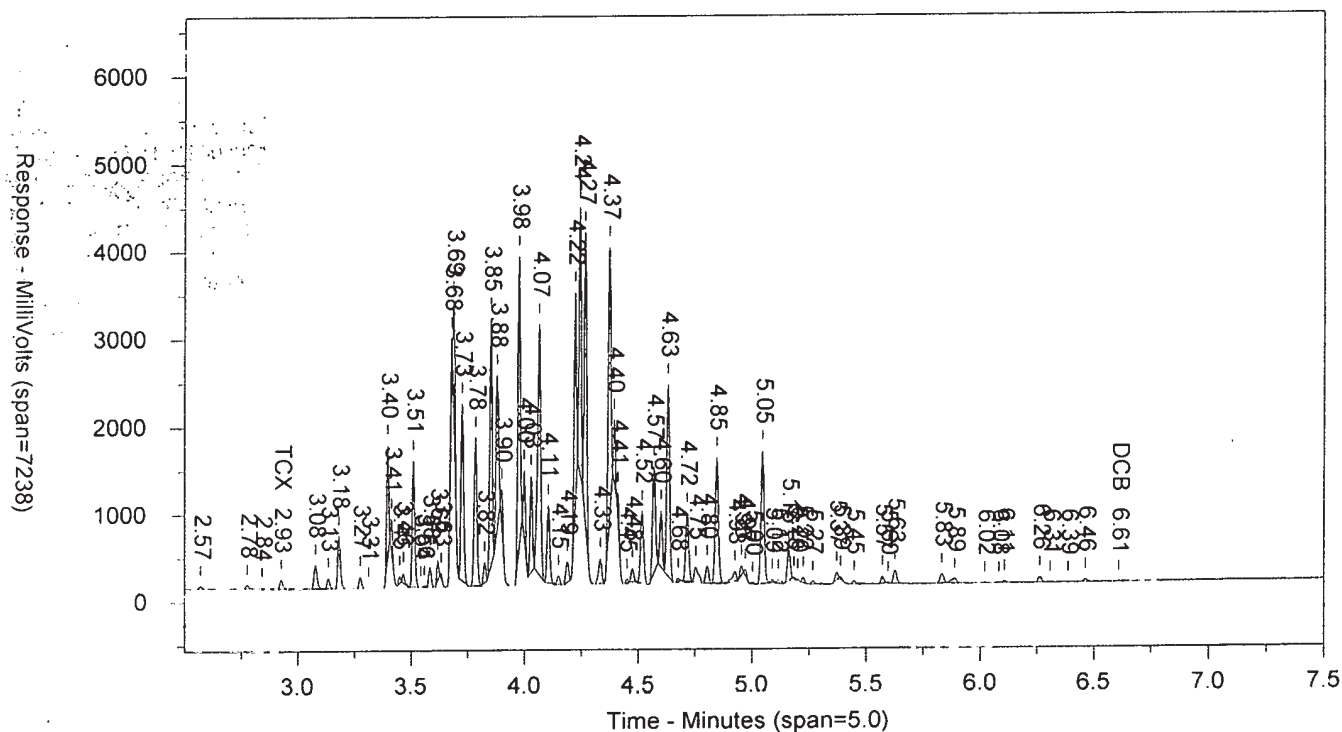
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ICAL 1830299999

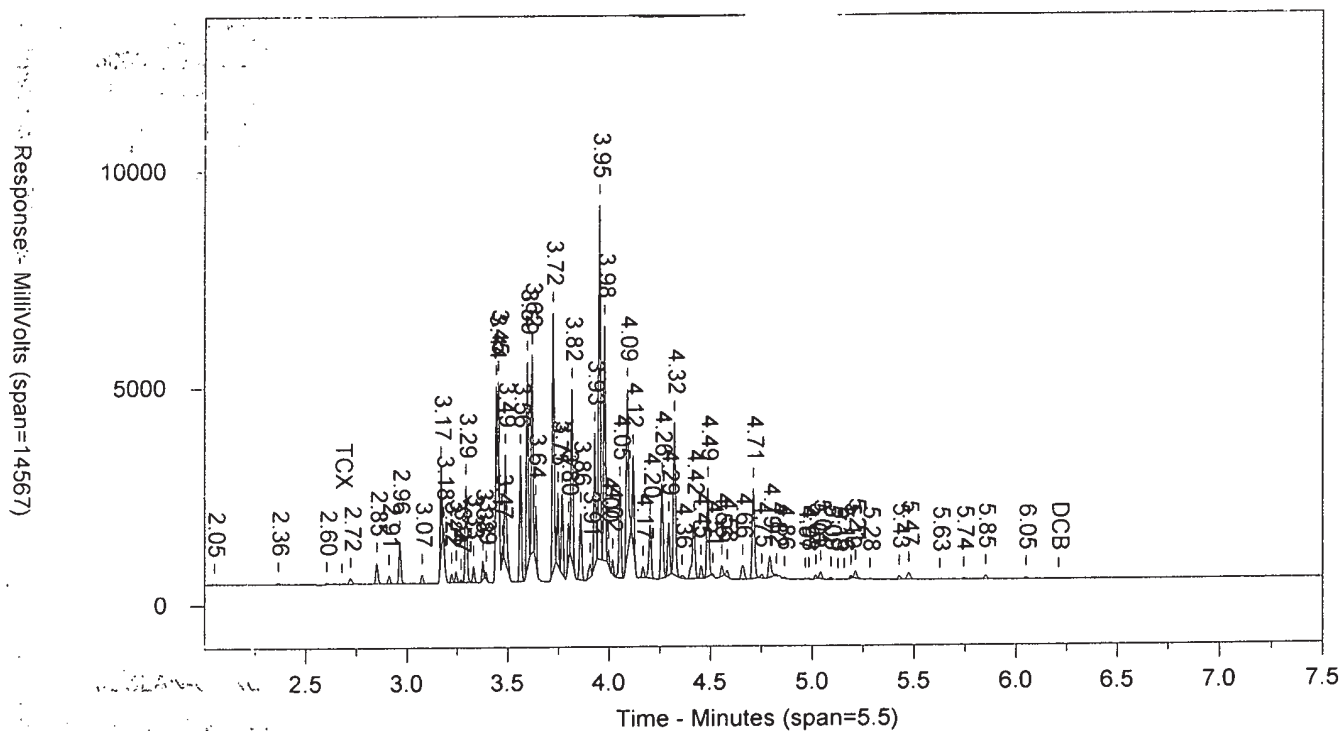
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SW-846 8082

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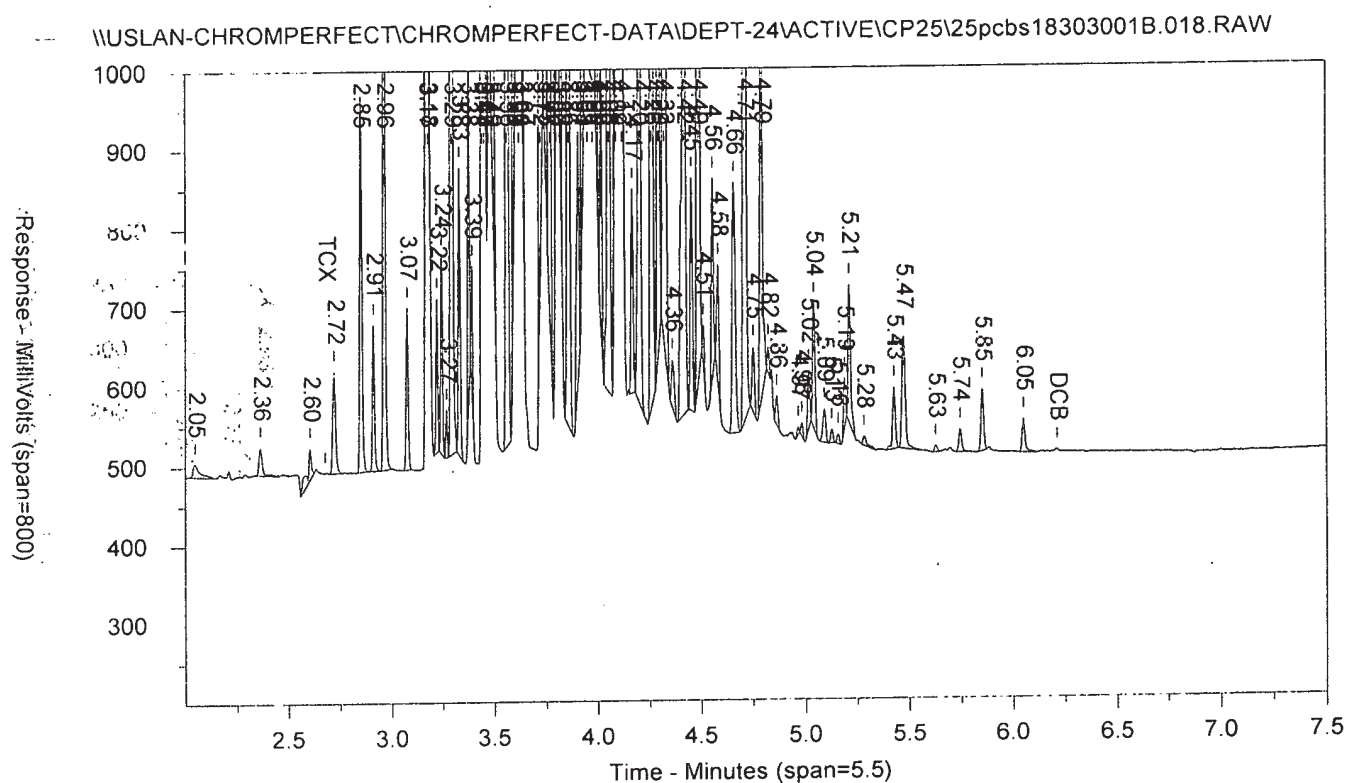
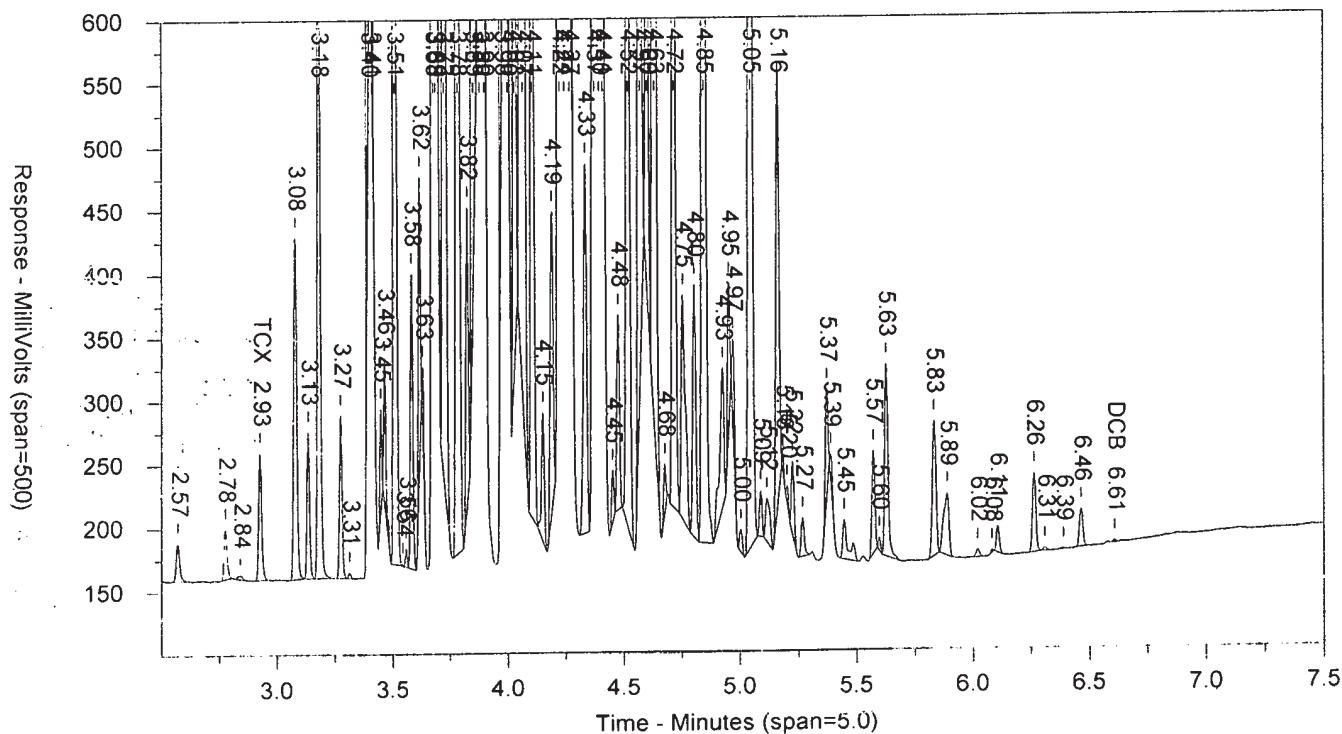
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ICAL 1830299999

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SW-846 8082

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Chrom Perfect Chromatogram Report

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
Date 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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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
3.338		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

Chrom Perfect Chromatogram Report

RT B	Compound B	Height B	Area B
5.191		27015	19474
5.214		22216	19624
5.472		26496	31530

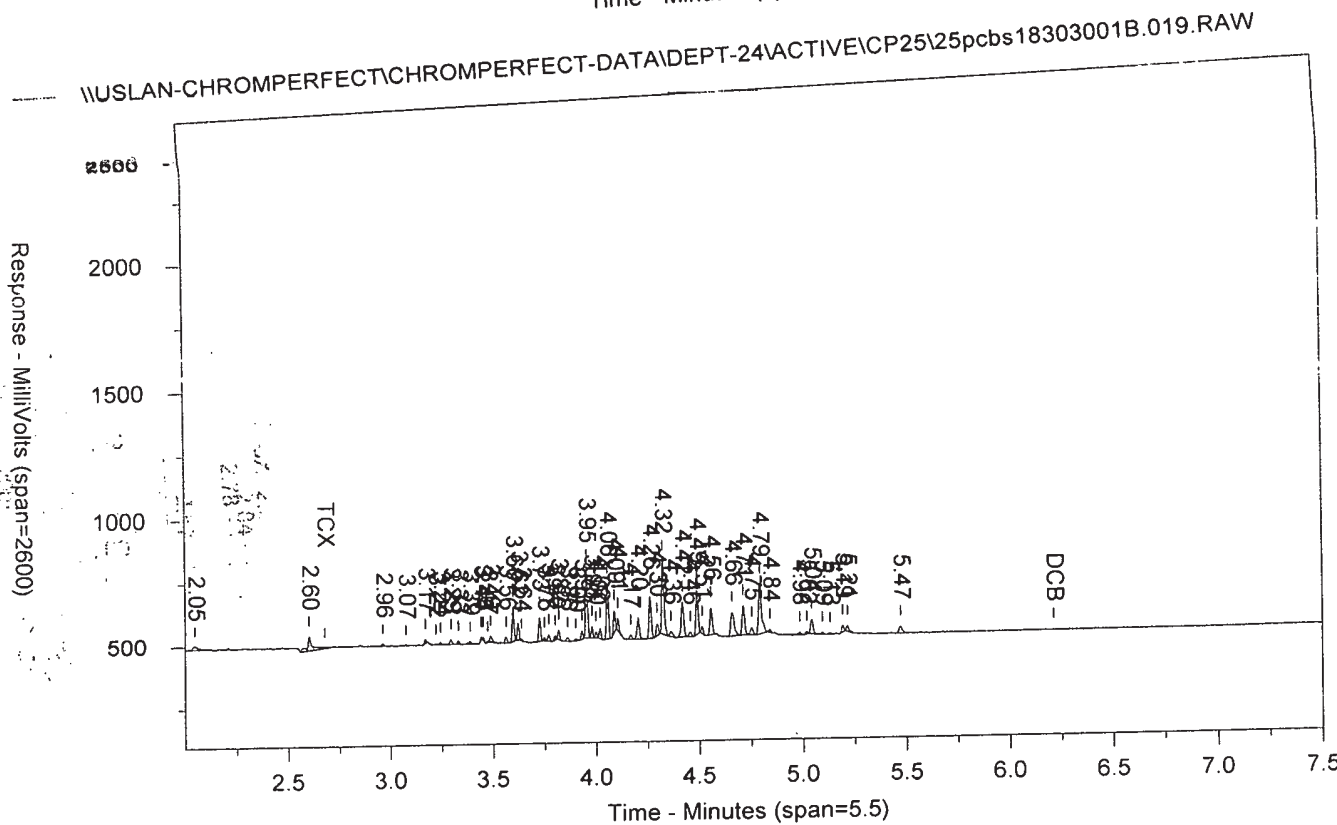
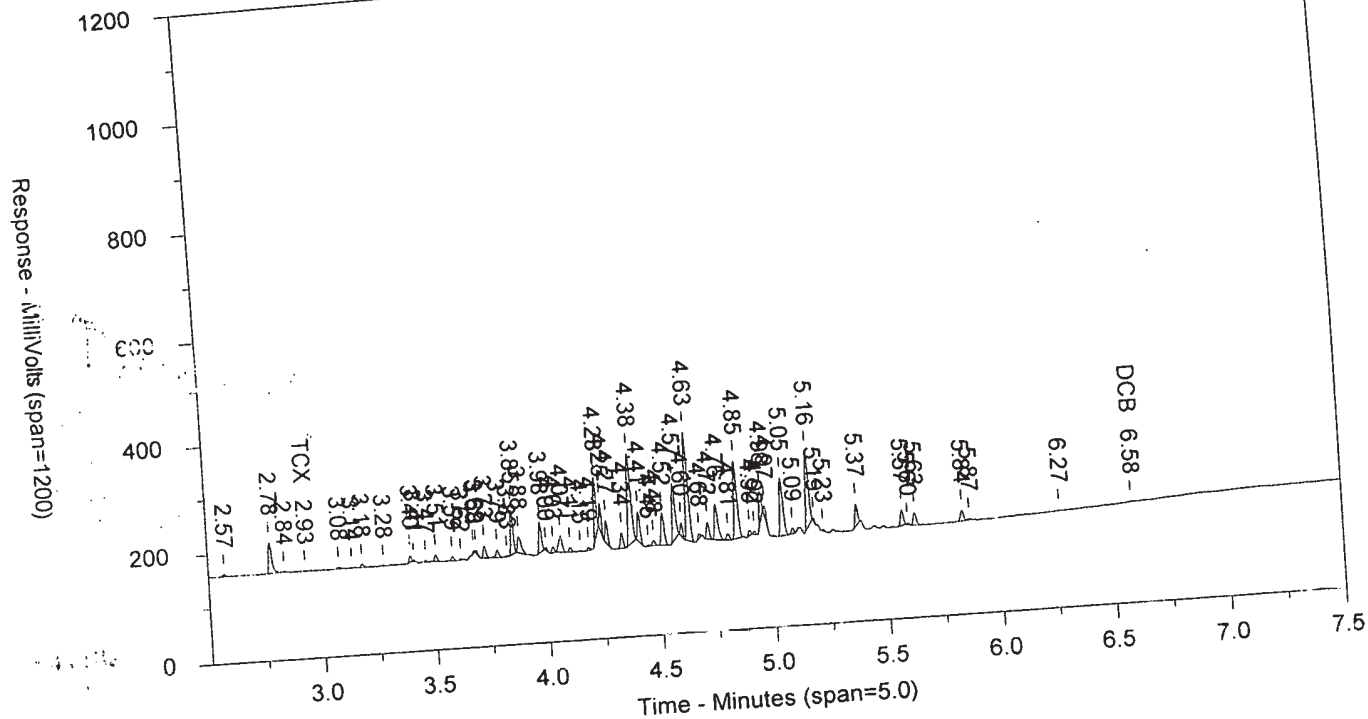
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ICAL 1830299999

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR5411824C AAAR541AA ICAL 1830299999 10227 SW-846 8082
Injected On: 10/30/2018 8:24:30 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
2.929	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
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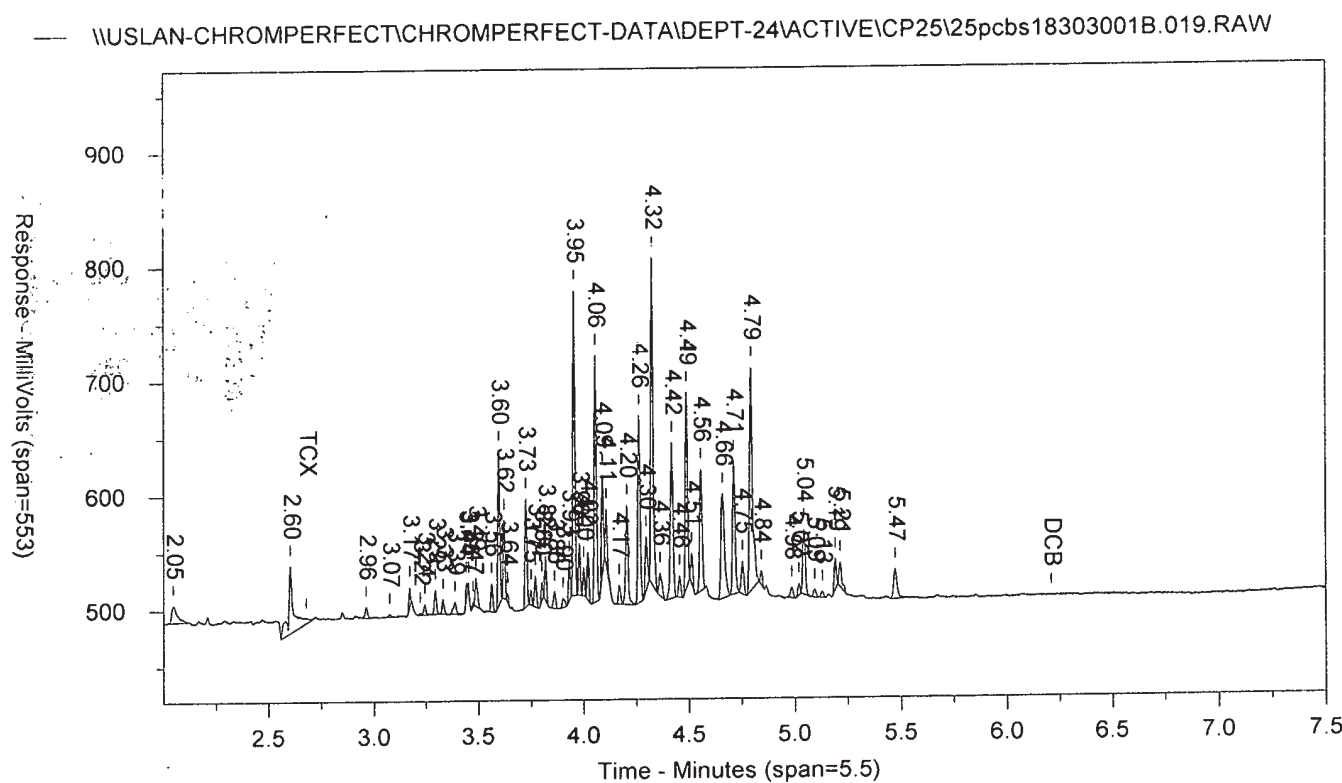
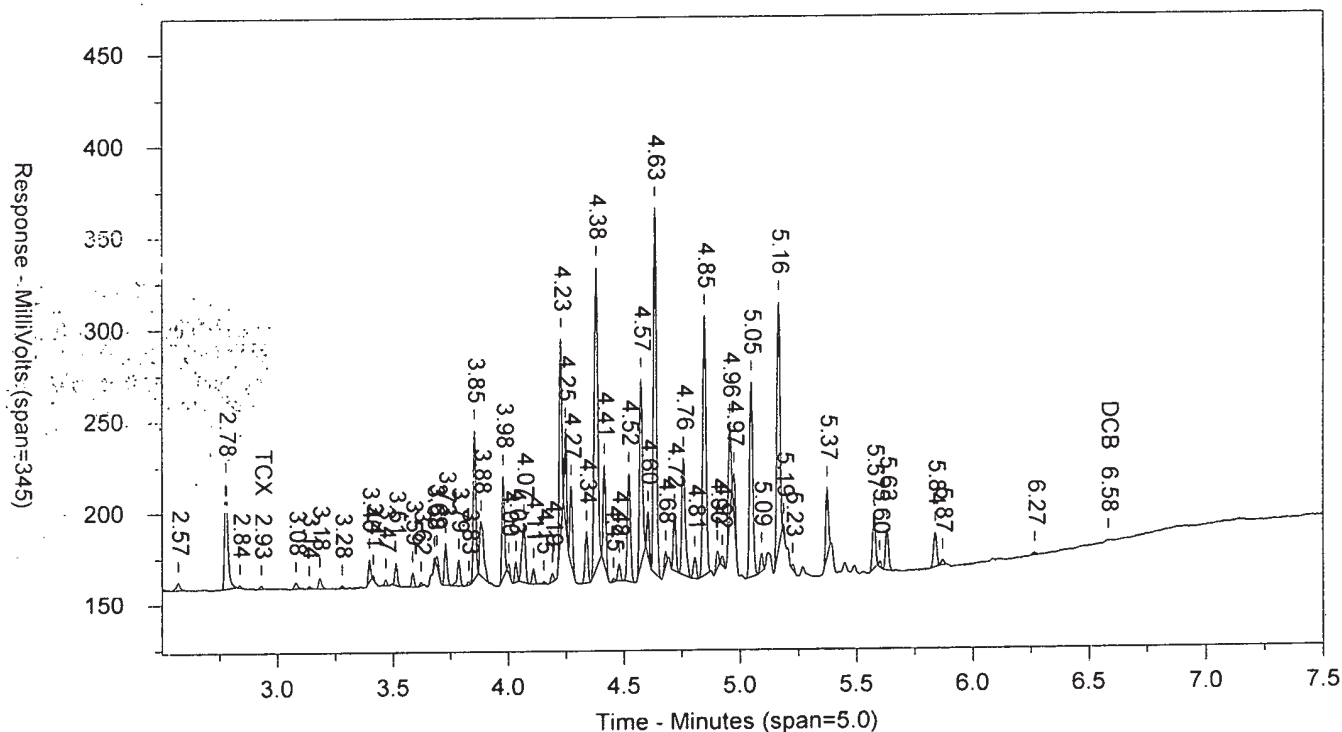
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ICAL 1830299999

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SW-846 8082

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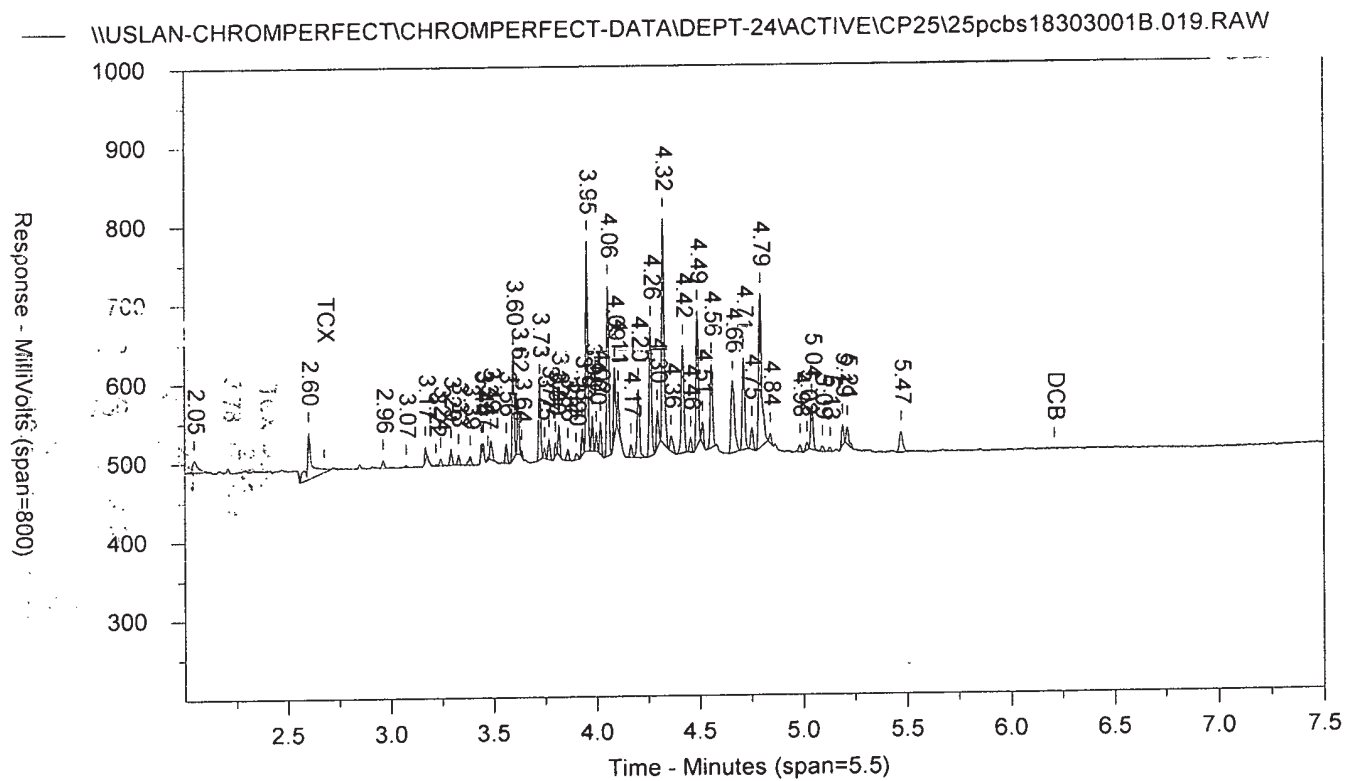
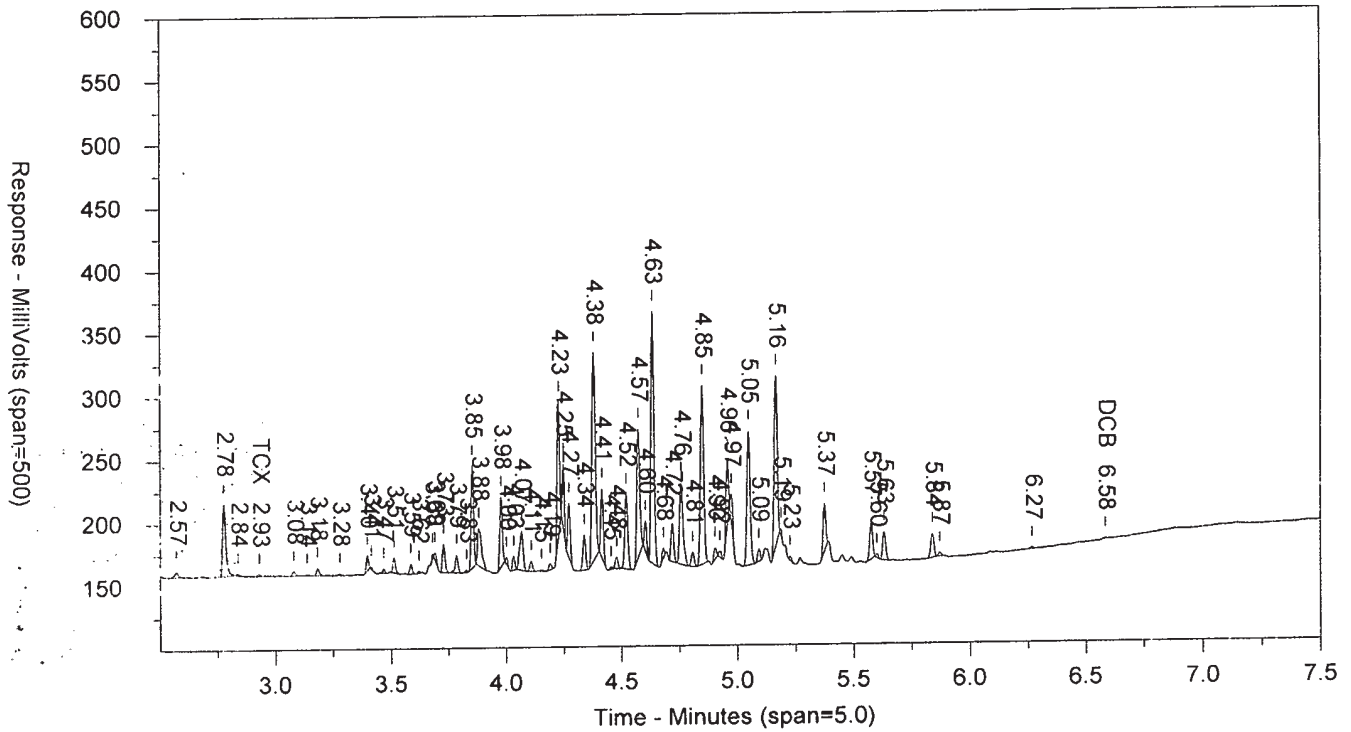
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ICAL 1830299999

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SW-846 8082

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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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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	136773
3.62		87356	54331
3.724		135777	87040
3.747		9335	4727
3.769		26631	19162
3.8		24083	12949
3.817		40069	22809
3.832		14242	11971
3.901		13205	12254
3.93		38992	21932
3.952		169125	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
5.013		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

Chrom Perfect Chromatogram Report

RT-B	Compound B	Height B	Area B
5.47		50420	56430

AR5421824C

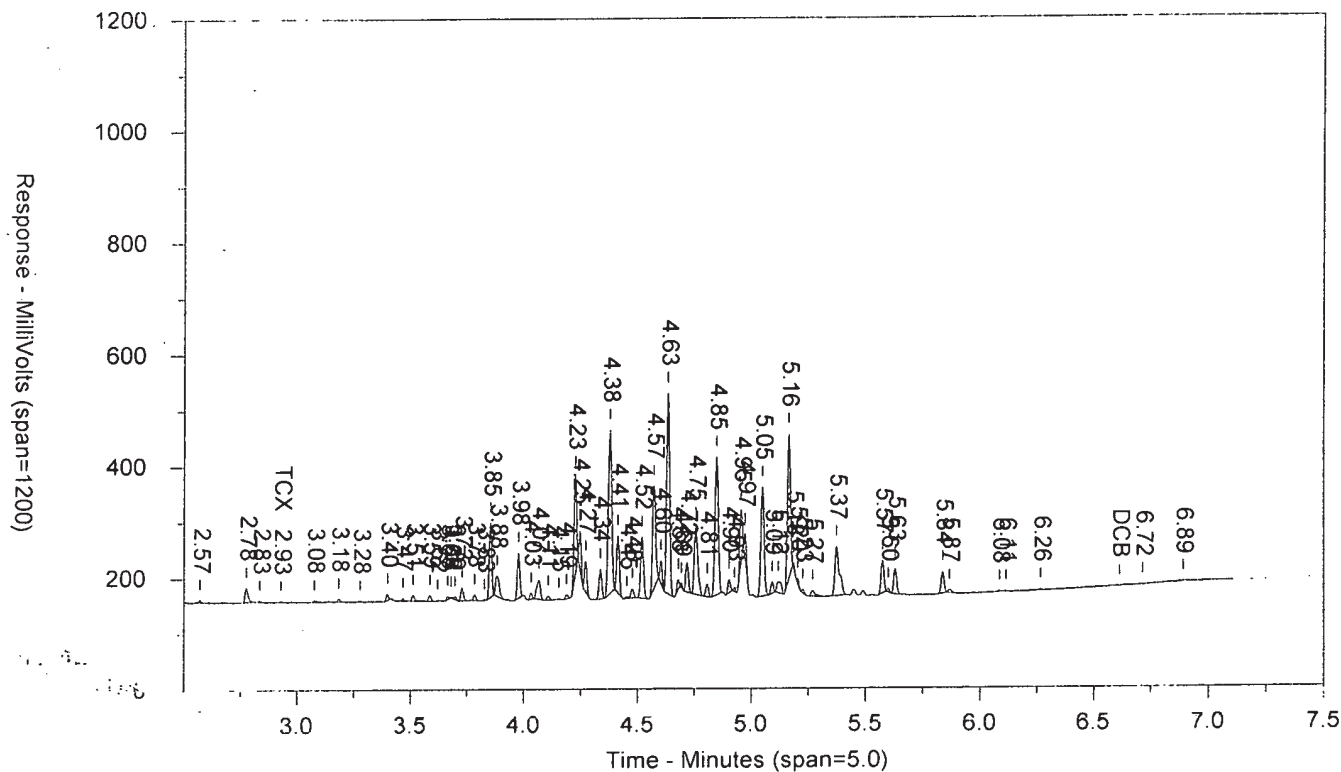
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ICAL 1830299999

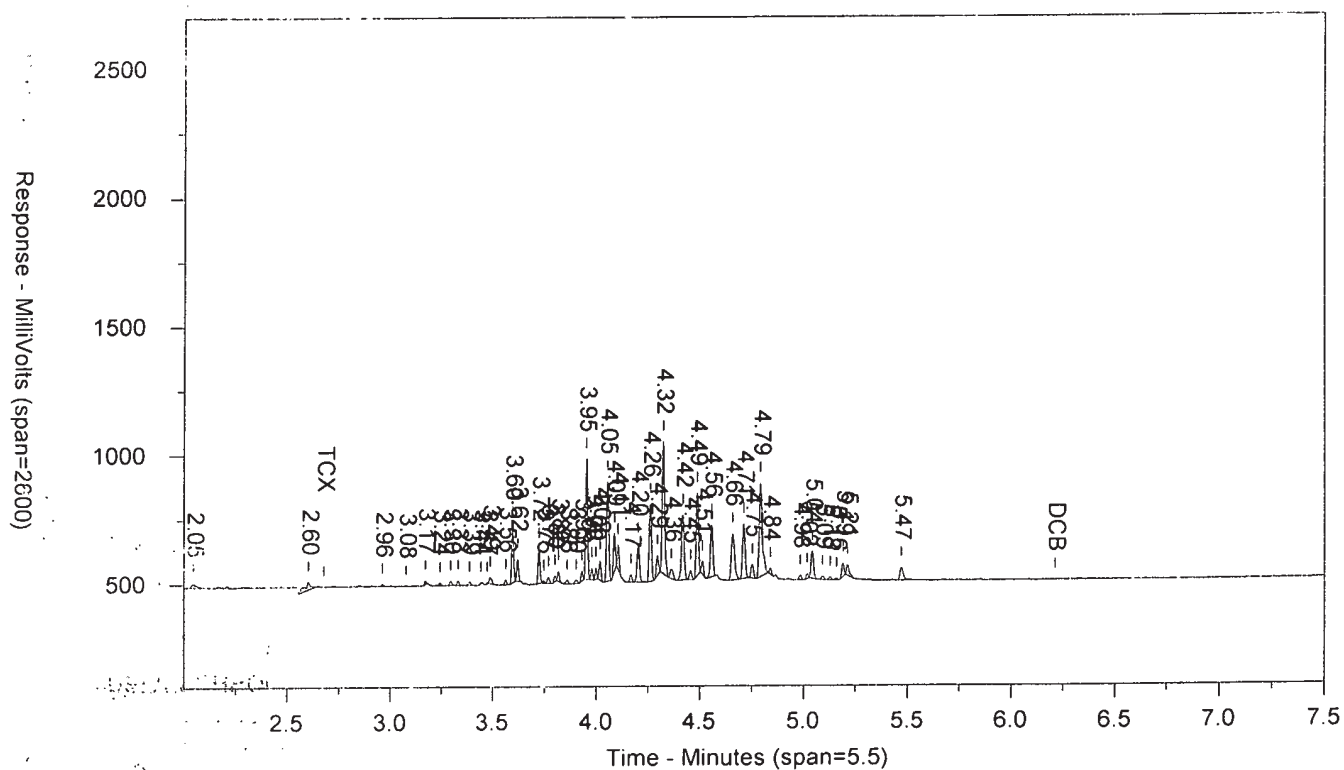
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SW-846 8082

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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

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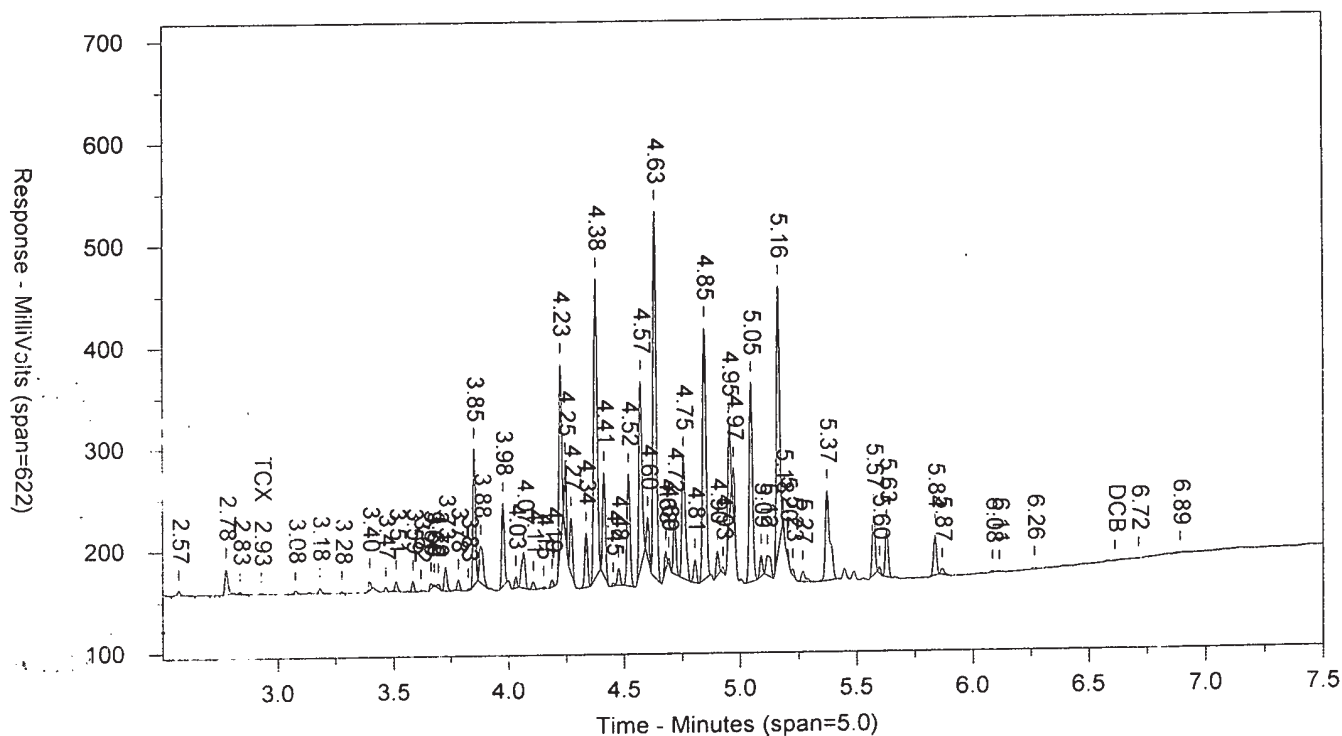
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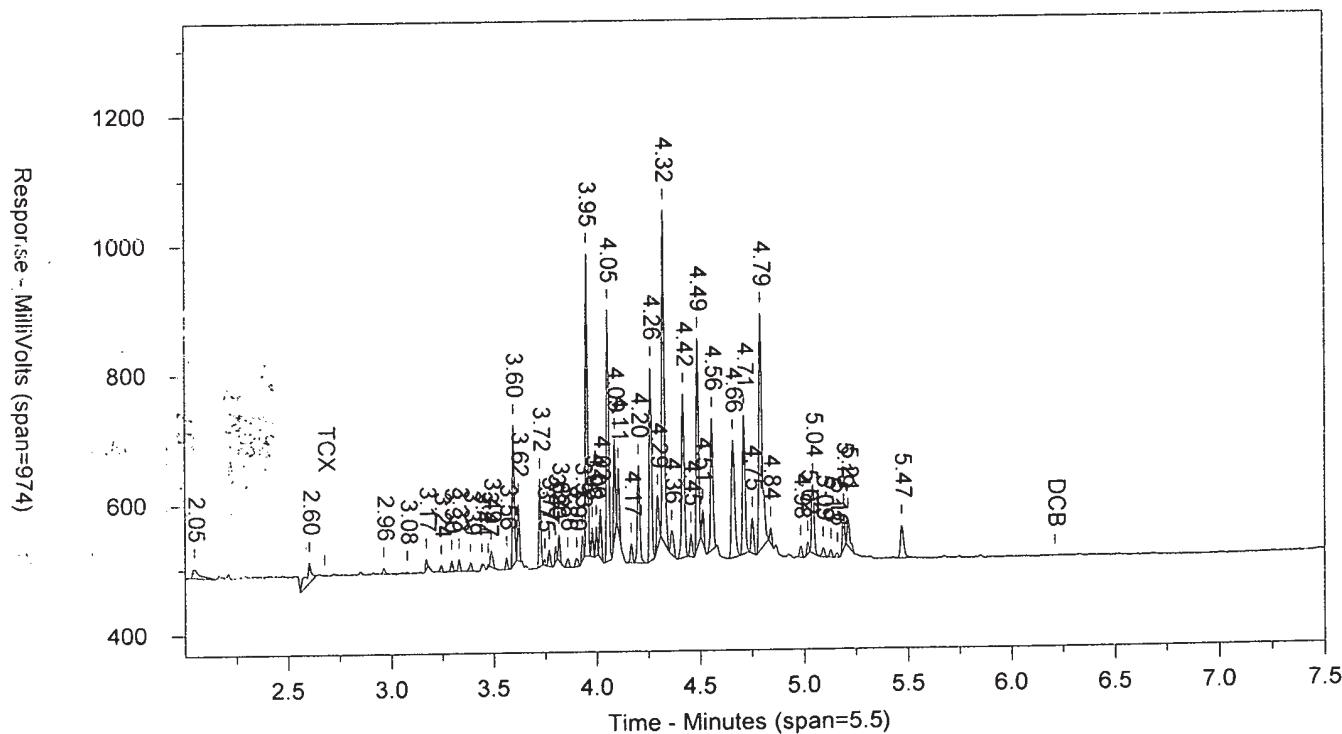
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SW-846 8082

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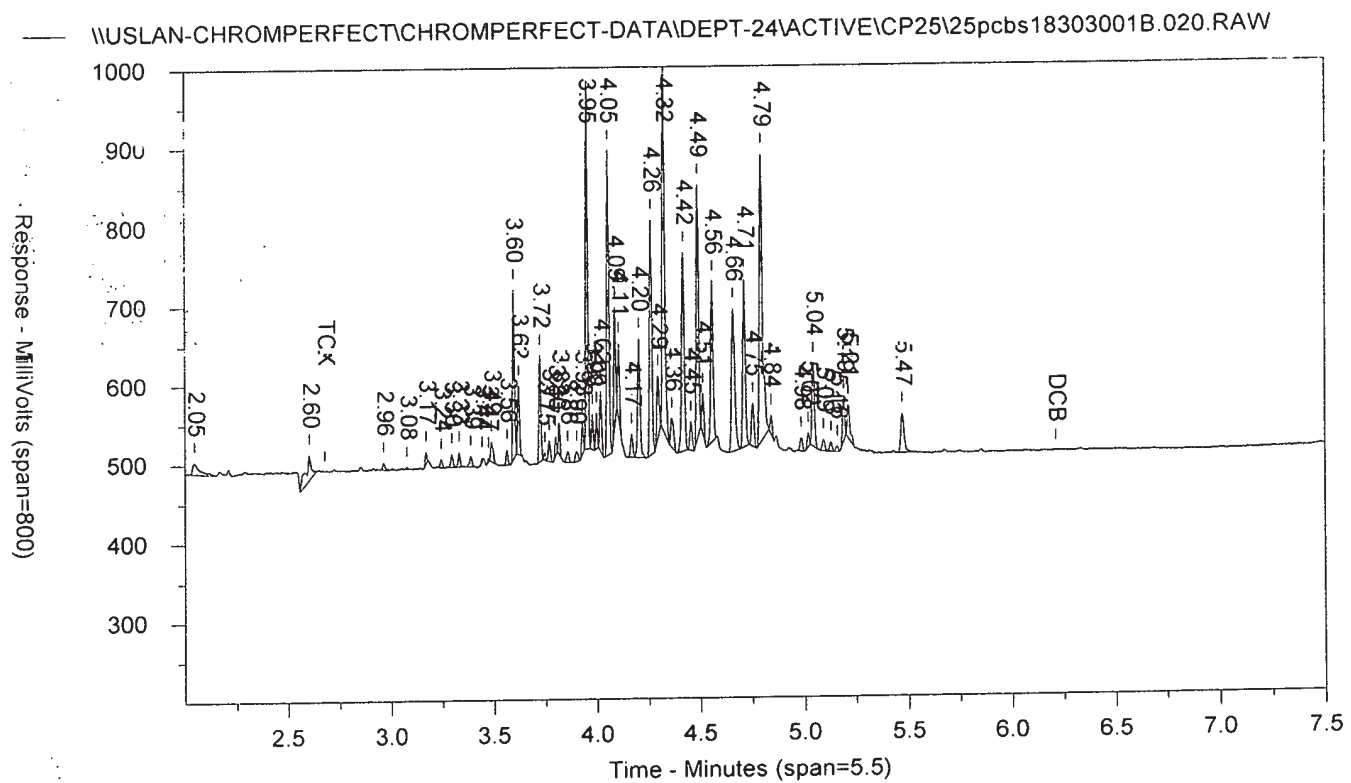
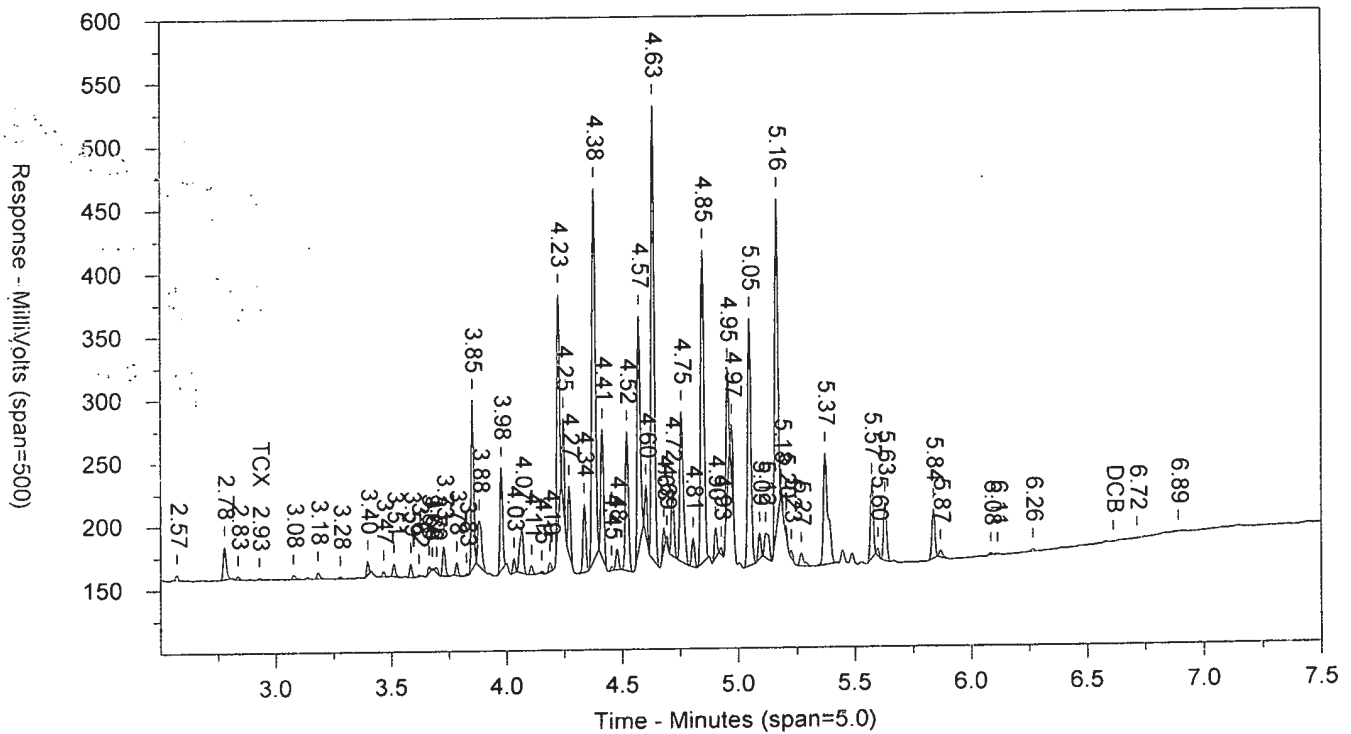
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ICAL 1830299999

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SW-846 8082

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Chrom Perfect Chromatogram Report

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
4.031		5802	3111
4.065		24251	17052
4.107		70847	83270
4.154		14860	12226
4.188		7361	8284
4.225		15540	11923
4.245		342603	248434
4.27		117873	73311
4.336		101957	76524
4.378		103030	89978
4.413		546772	569052
4.454		184667	158242
4.477		6150	4041
4.519		31885	24414
4.571		198823	184447
4.602		333041	315585
4.632		77791	53005
4.678		676949	631540
4.692		28742	20763
4.716		16691	7969
4.755		103026	86996
4.805		229605	241210
		45160	40164

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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
3.488		9975	4849
3.488		52961	44745
3.562		42996	27669
3.595		395746	249984
3.620		183625	110328
3.636		7789	2754
3.723		252707	164612
3.747		18194	9387
3.769		50259	35196
3.800		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

Chrom Perfect Chromatogram Report

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

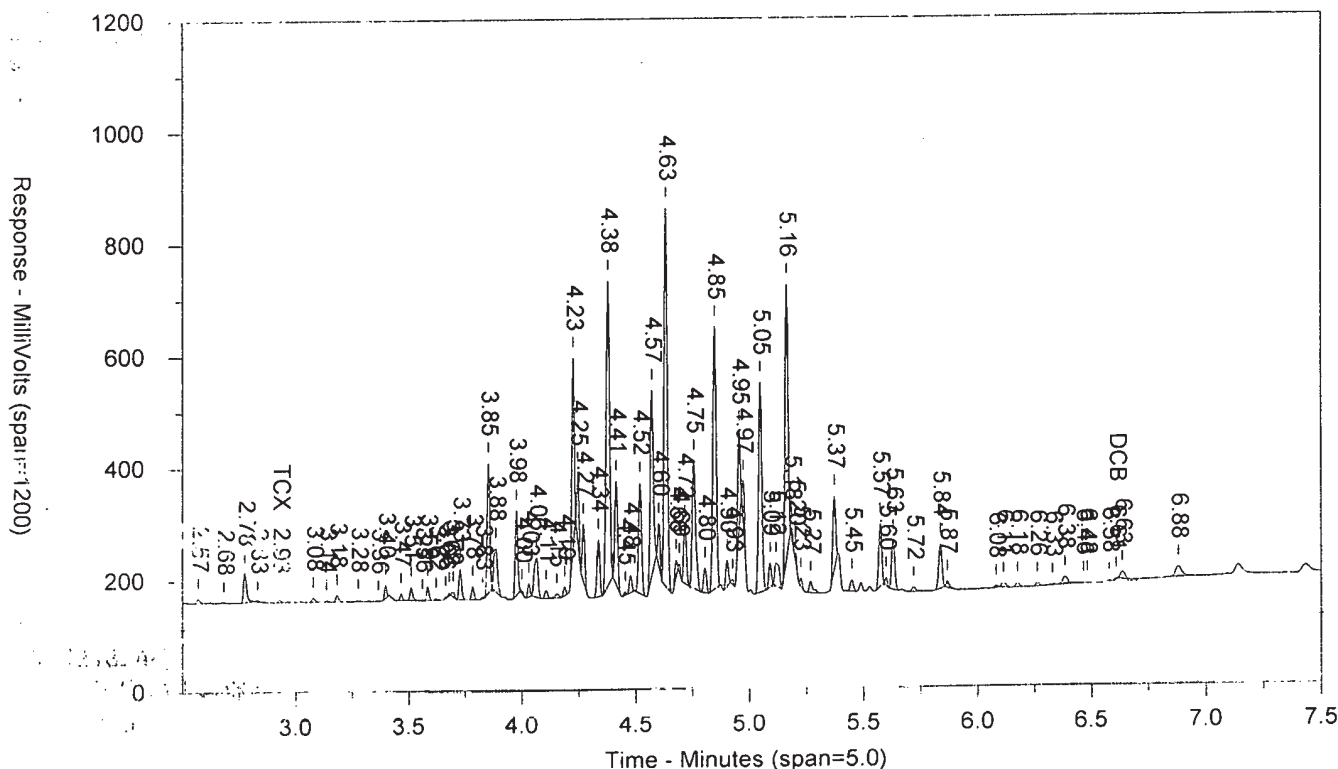
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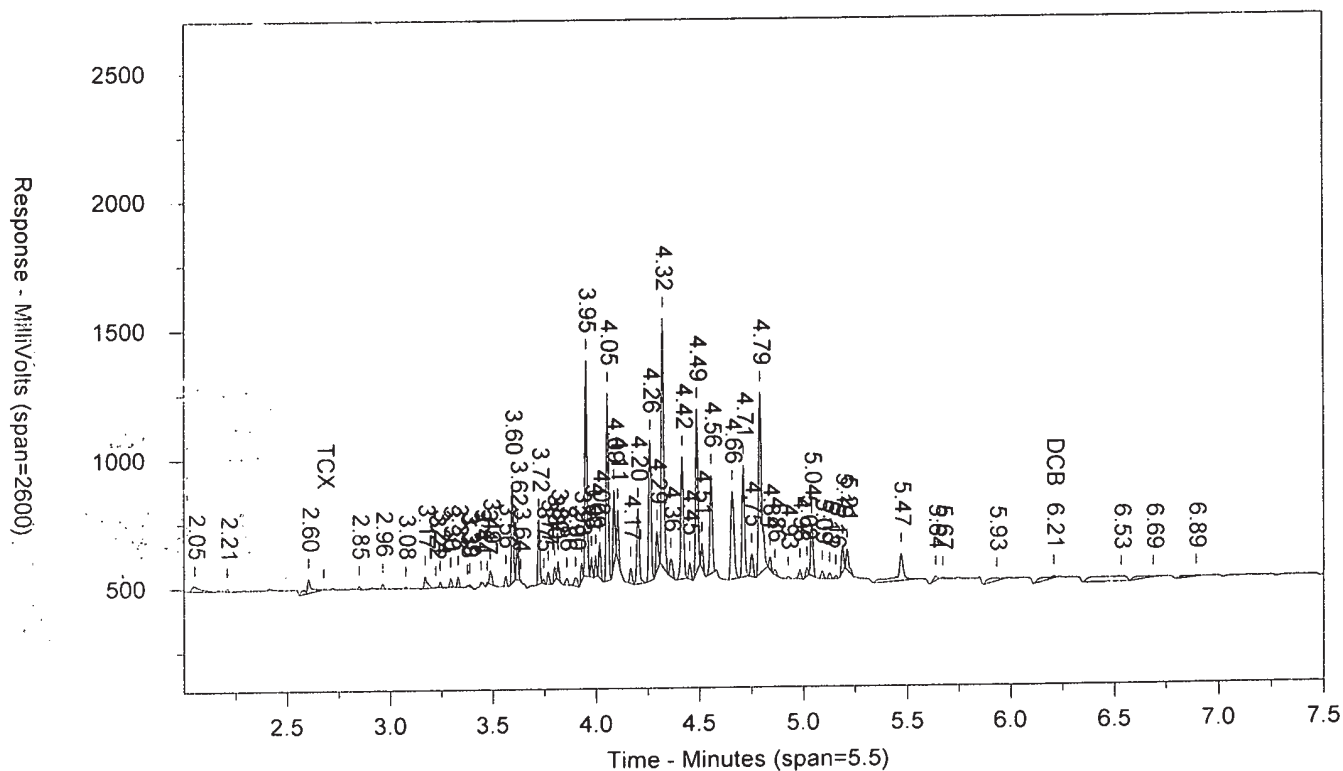
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SW-846 8082

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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

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	4019	.026	TCX		0		TCX
6.608	2040	.016	DCB	6.208	10055	.054	DCB

Files:

Area File: 25pcbs18303001.021.RAW

Area File: 25pcbs18303001b.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

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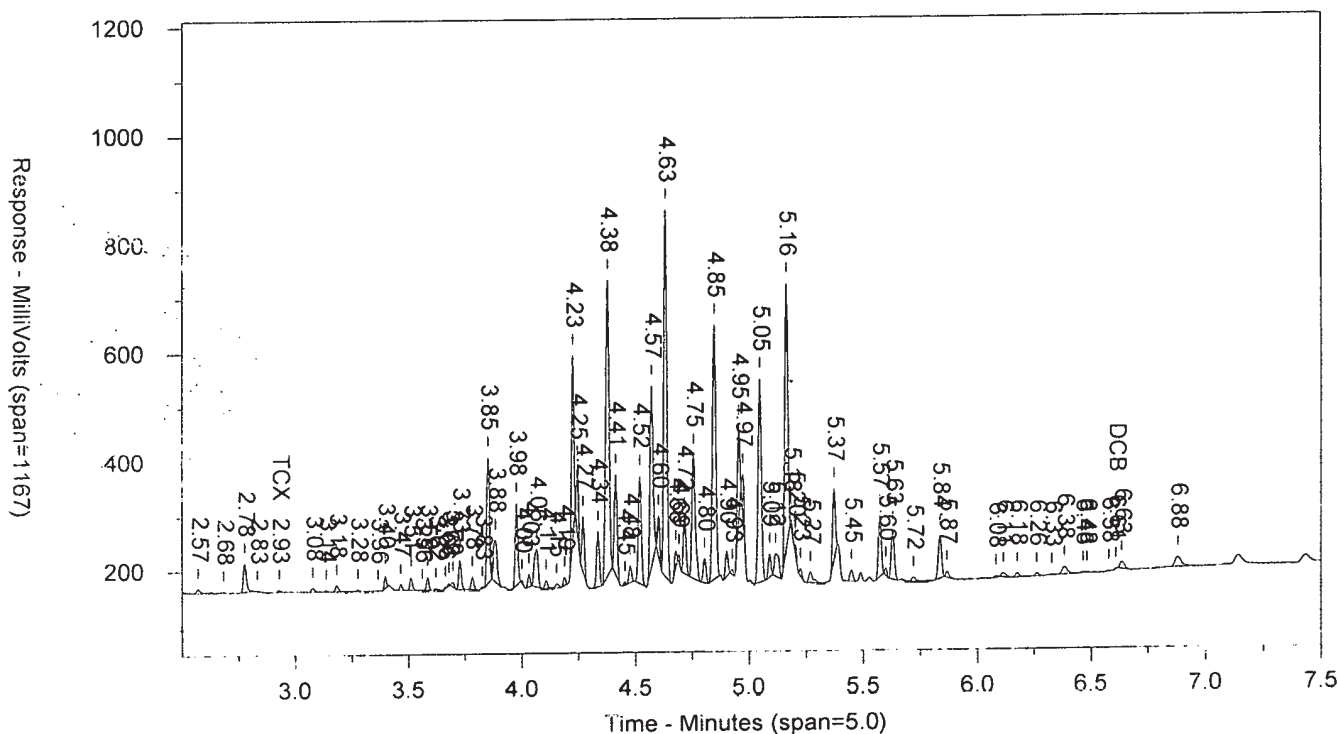
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ICAL 1830299999

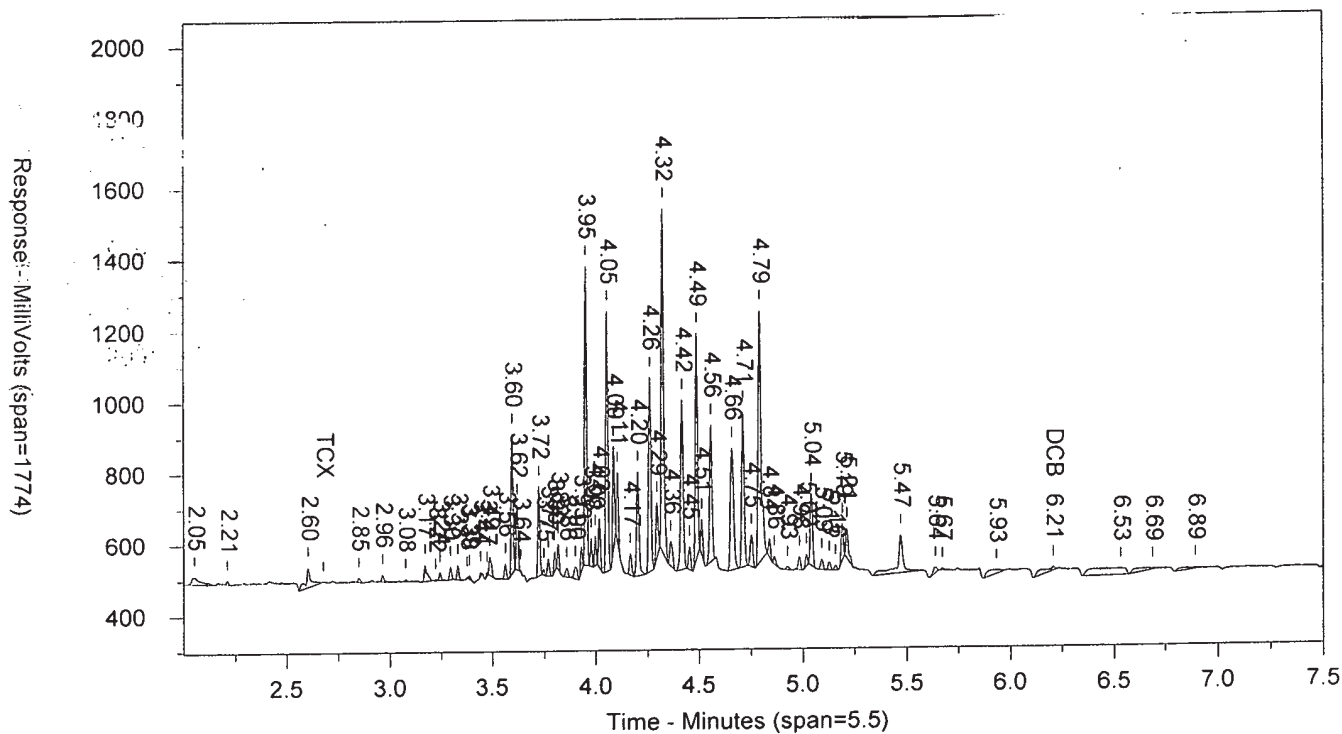
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SW-846 8082

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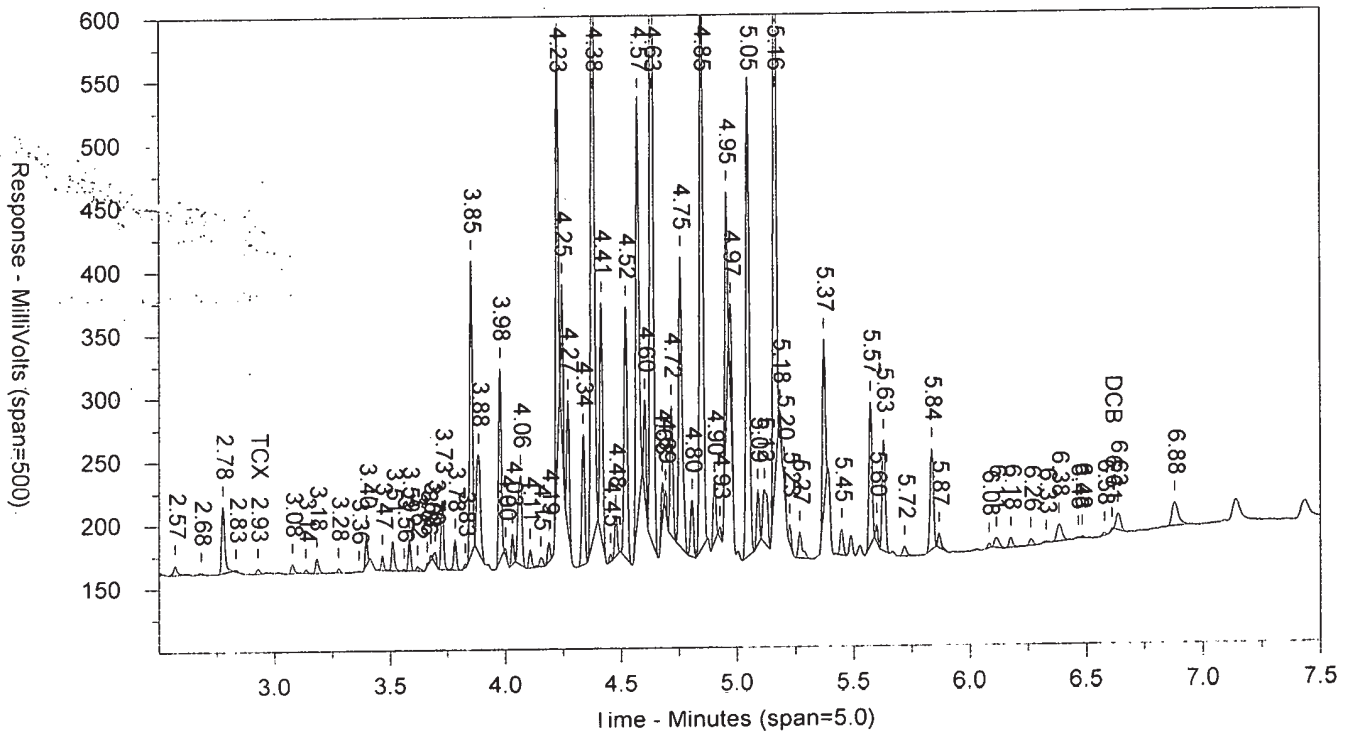
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ICAL 1830299999

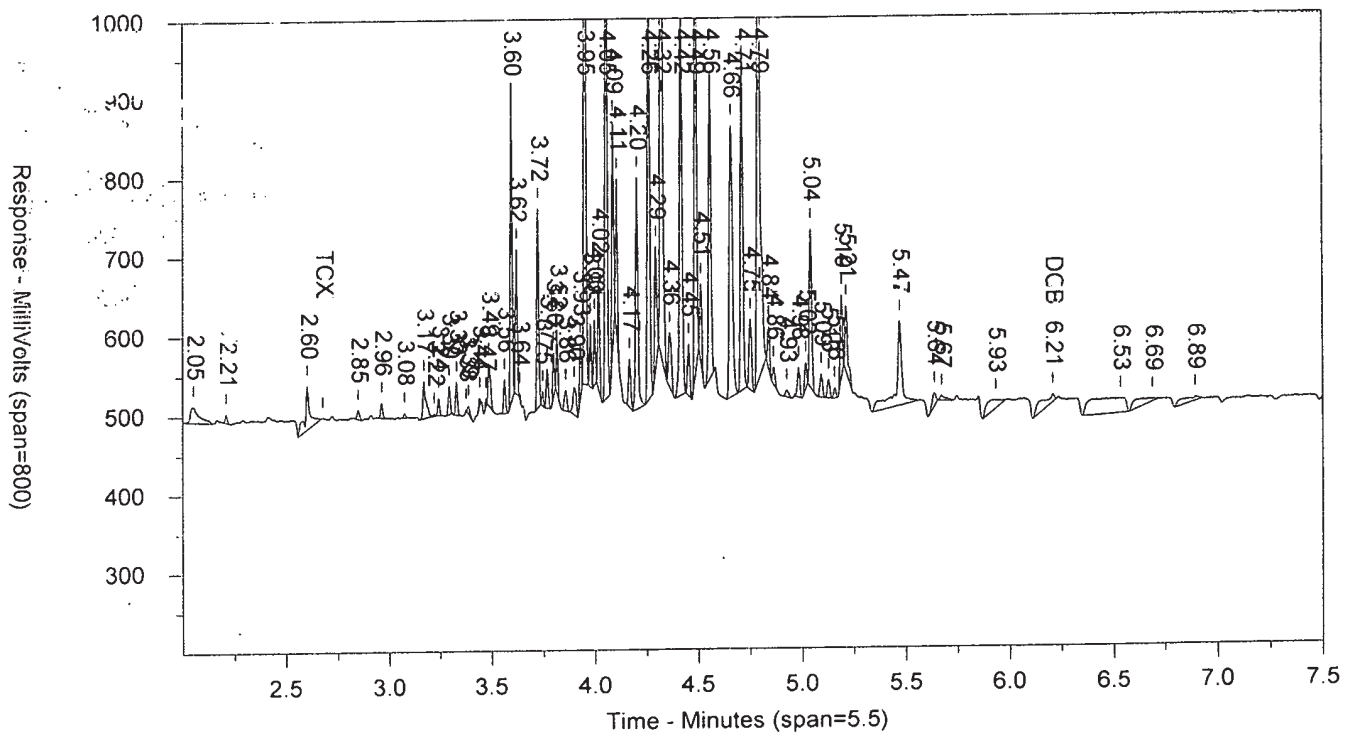
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SW-846 8082

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Chrom Perfect Chromatogram Report

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		132864	196100
3.927		4514	2464
3.978		355747	281579
4.001		14753	7275
4.033		57229	40987
4.066		166389	193102
4.108		38634	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

Chrom Perfect Chromatogram Report

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		8921437	583296
3.62		27407803	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

Chrom Perfect Chromatogram Report

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

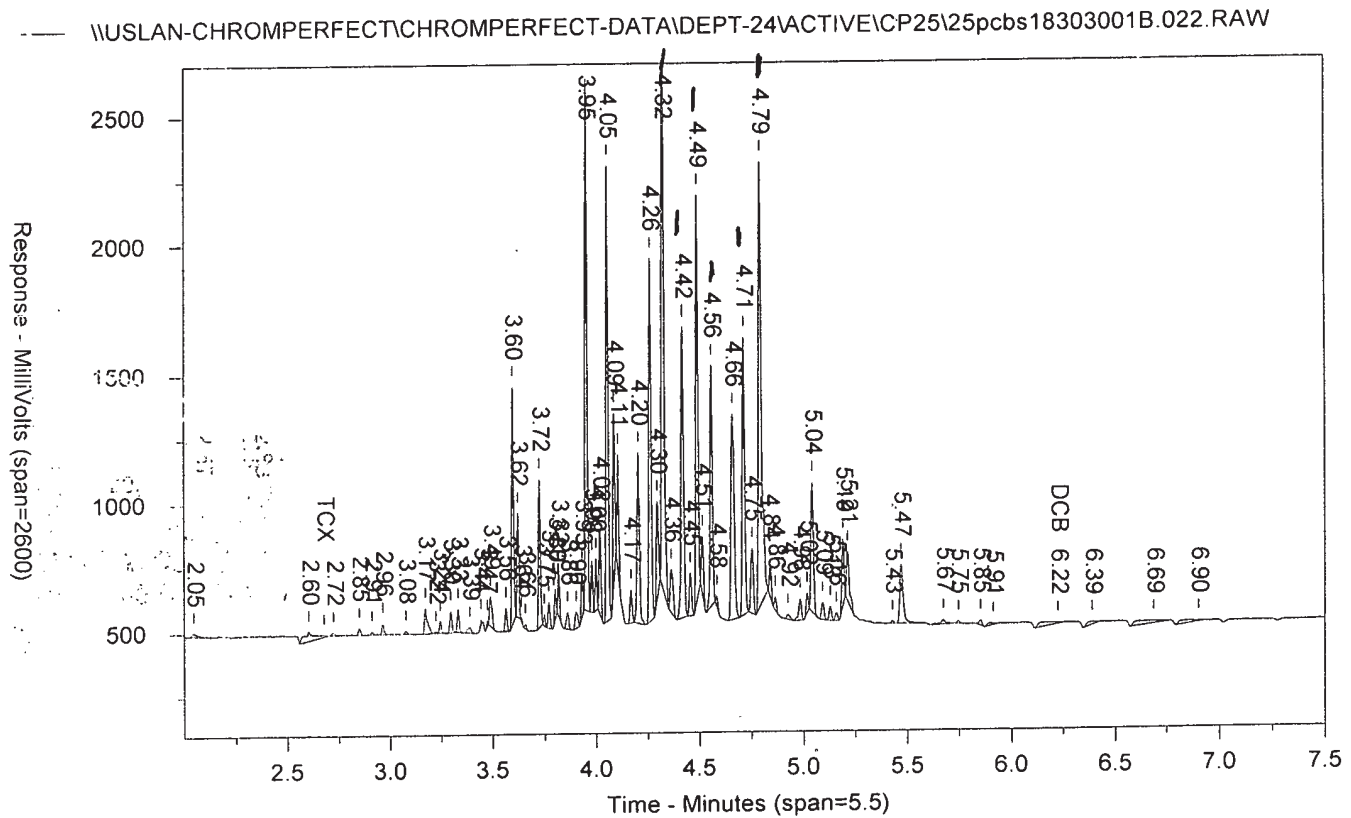
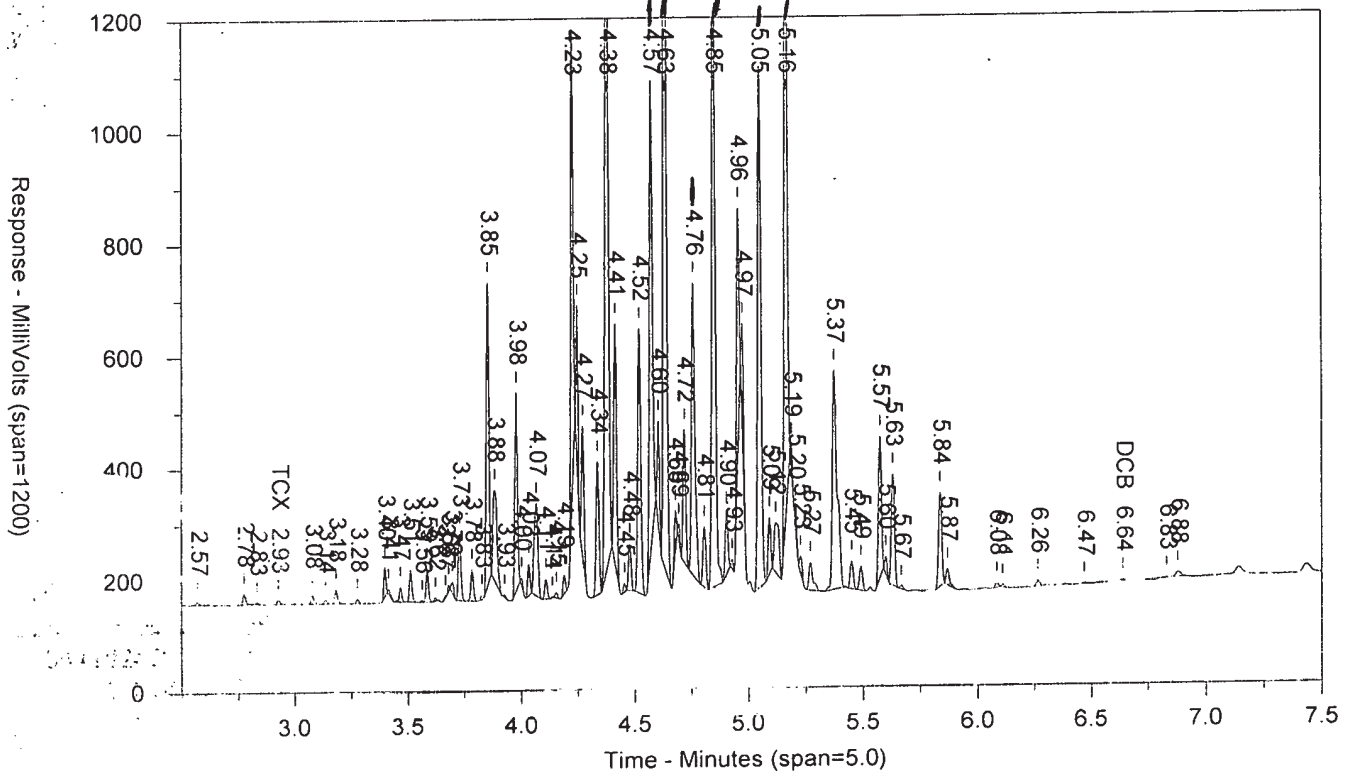
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ICAL 1830299999

10227

SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR5441824C AAAR544AA ICAL 1830299999 10227
Injected On: 10/30/2018 8:57:04 PM
Instrument ID: CP25-18274

SW-846 8082

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	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

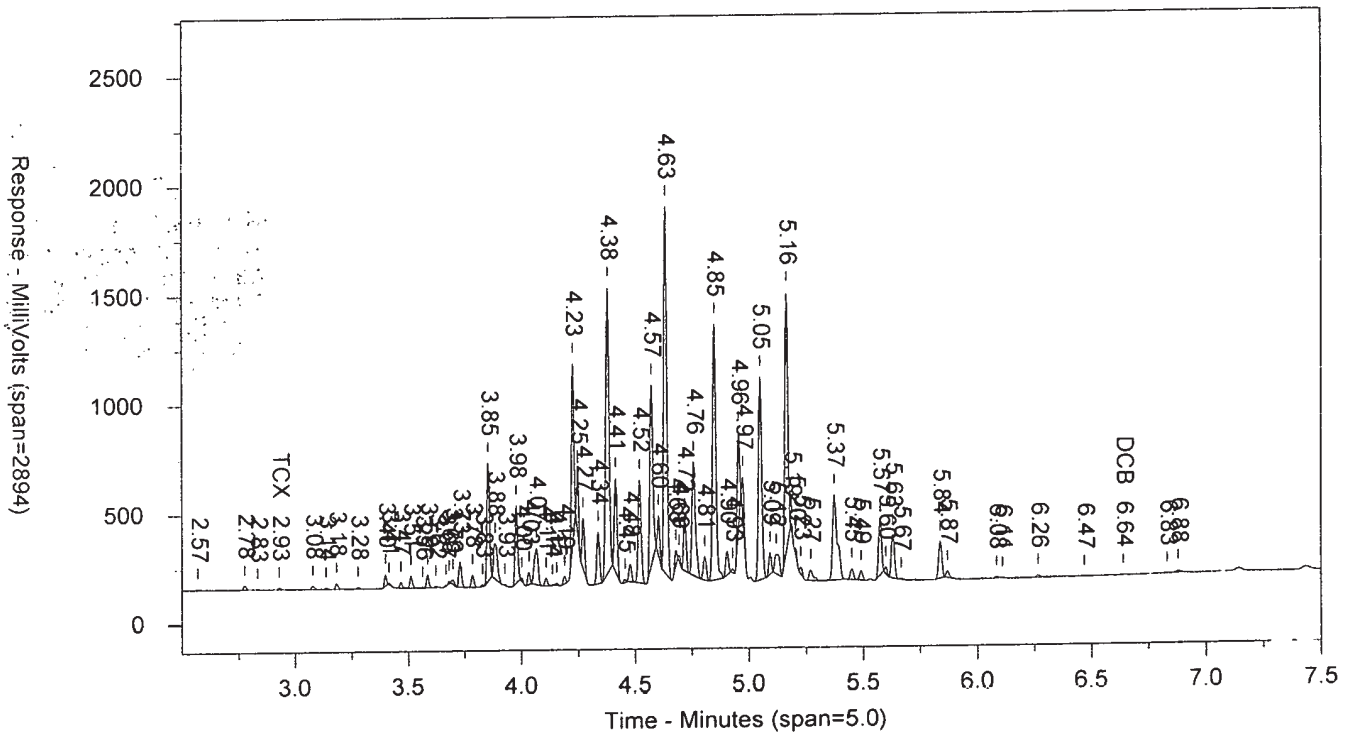
AAAR544AA

ICAL 1830299999

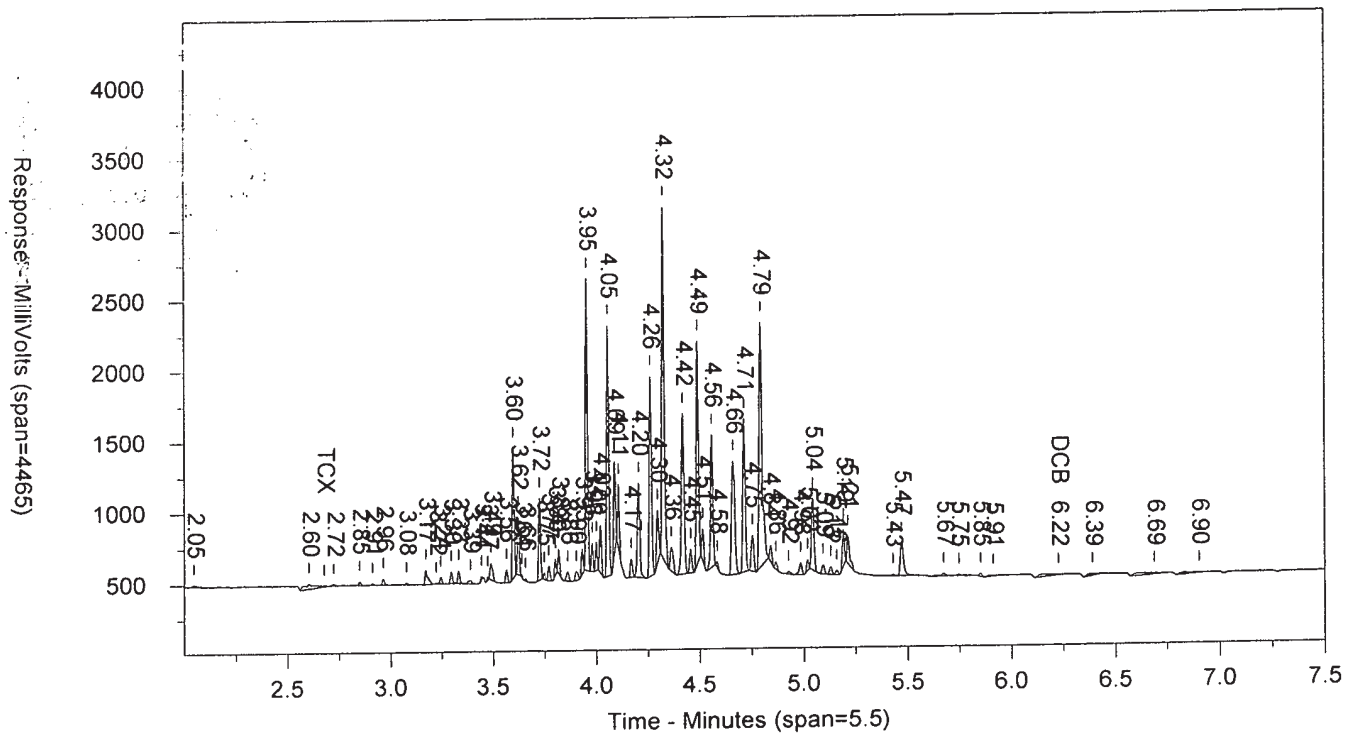
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SW-846 8082

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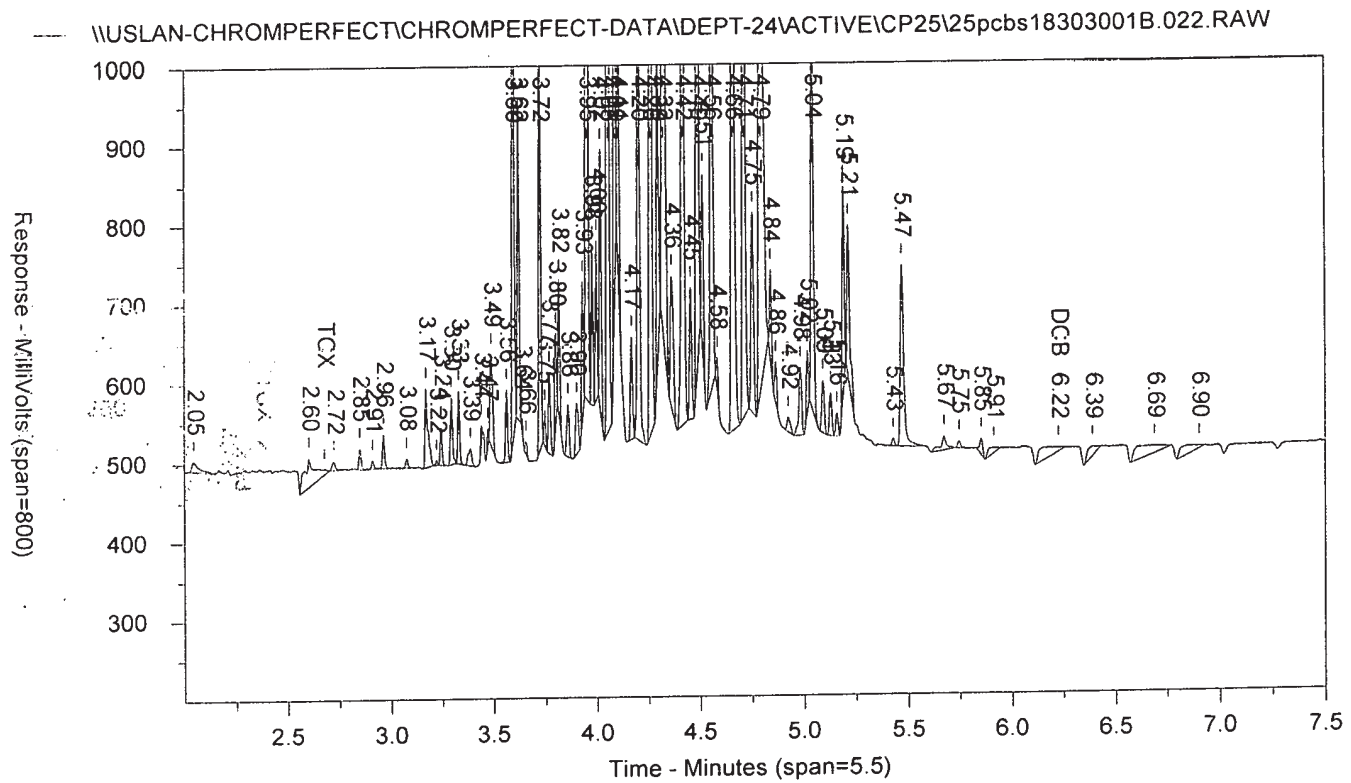
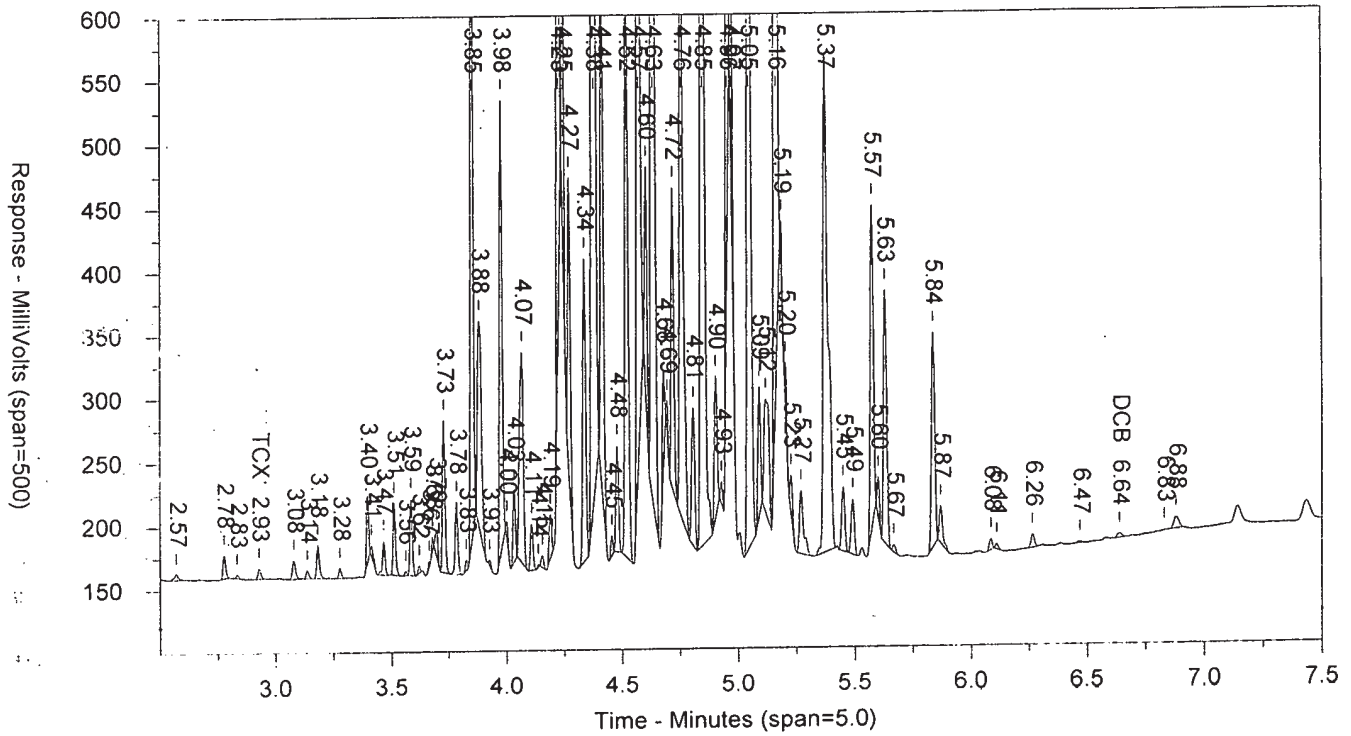
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ICAL 1830299999

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SW-846 8082

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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
3.388		100430	66473
3.413		15826	10655
3.467		59330	46473
3.512		112365	89891
3.563		6510	3990
3.587		122089	90675
3.622		14816	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		894556	831425
4.573		1619001	1479356
4.603		338935	228037
4.634		3353396	2998440
4.68		131241	96287
4.694		747167	23715
4.719		434975	369300
4.757		972978	1028073
4.807		193194	181456

Chrom Perfect Chromatogram Report

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		12312743	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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

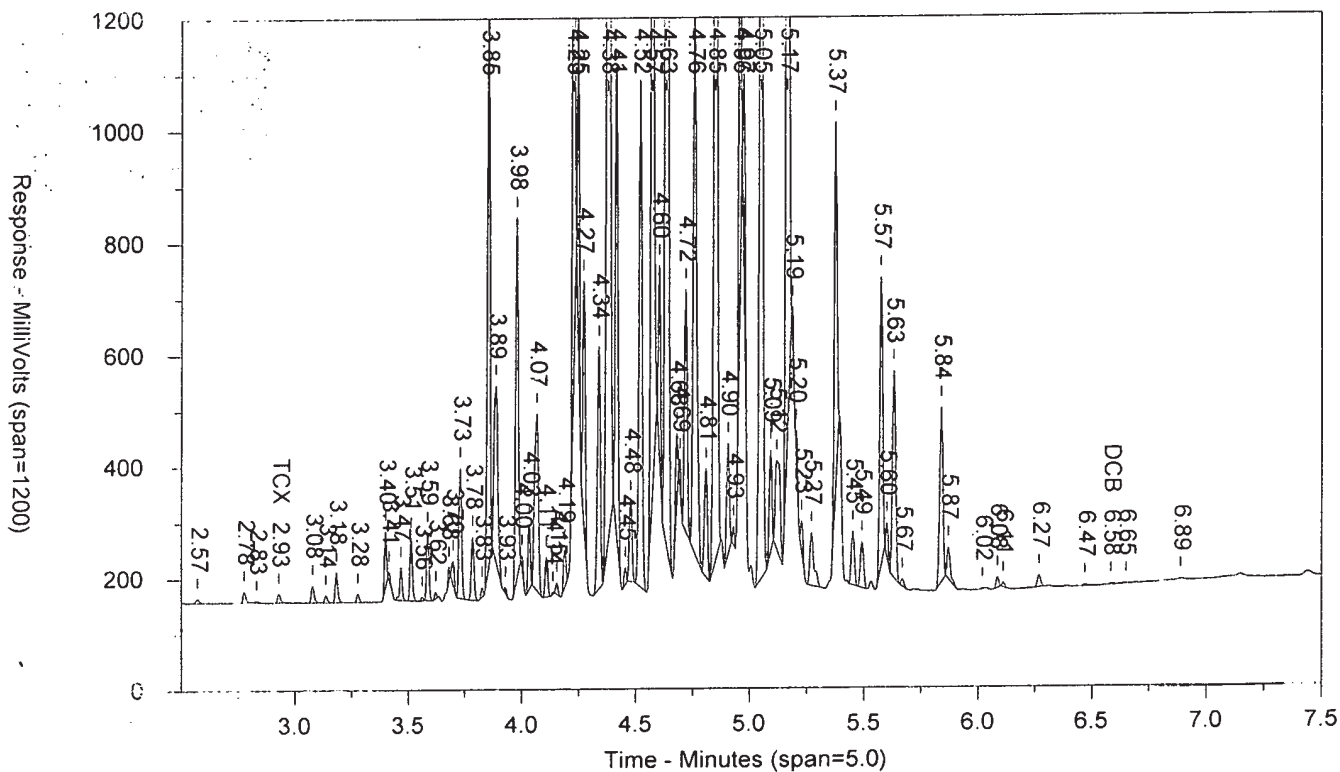
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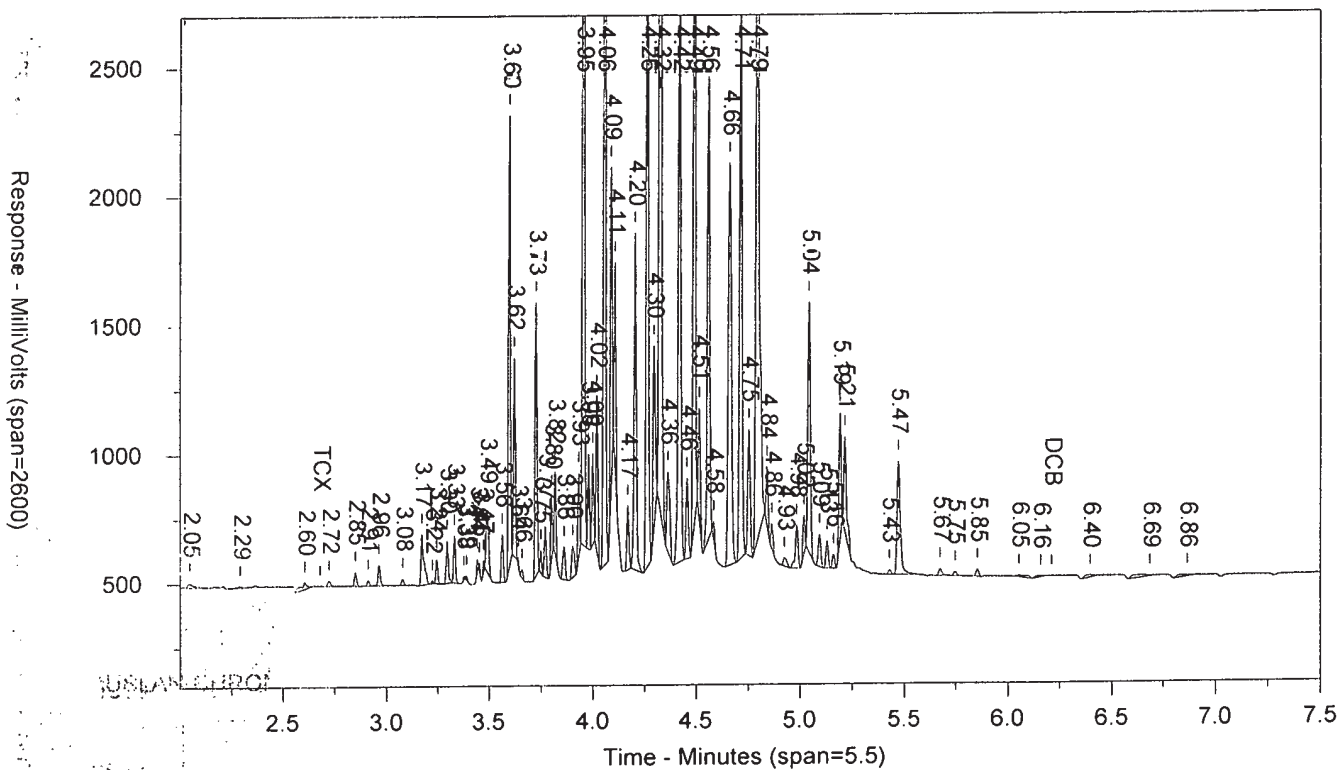
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SW-846 8082

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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

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	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

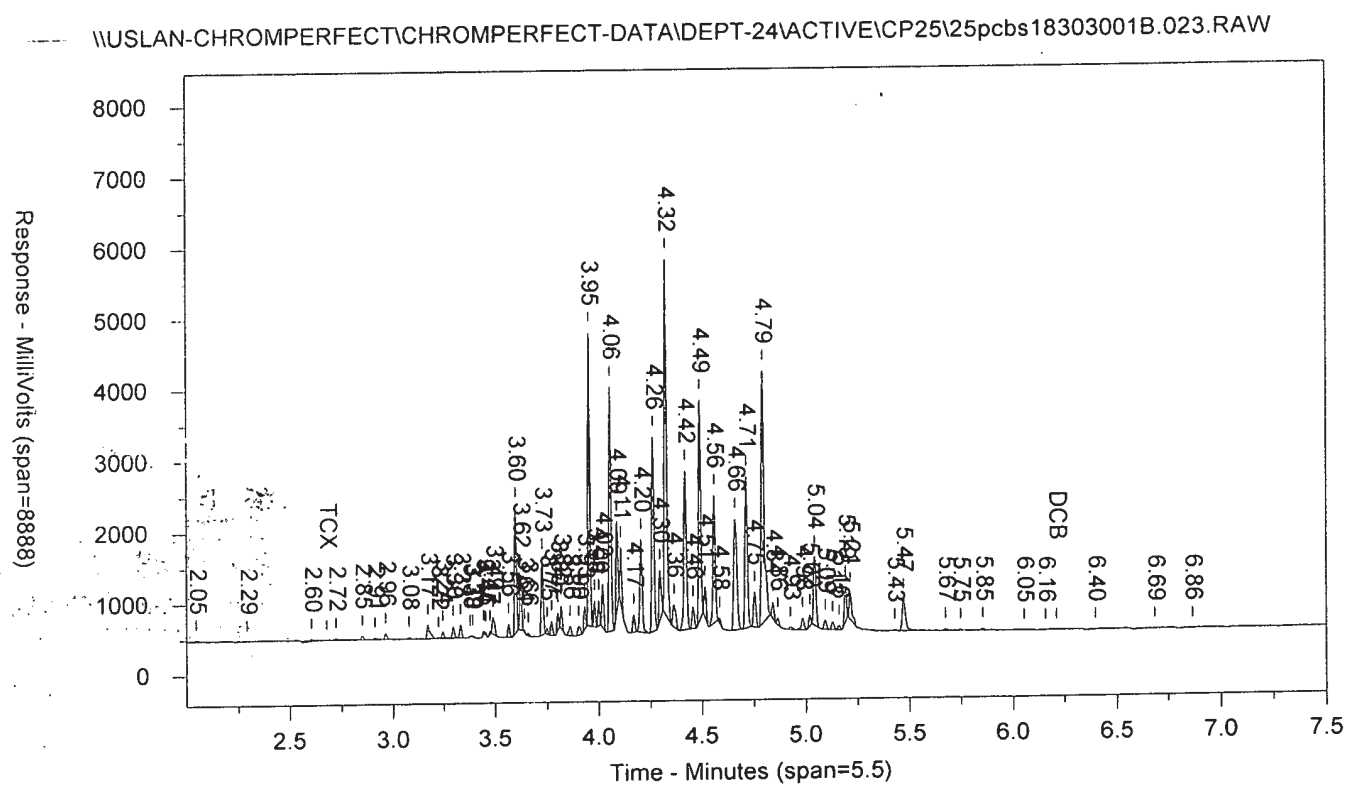
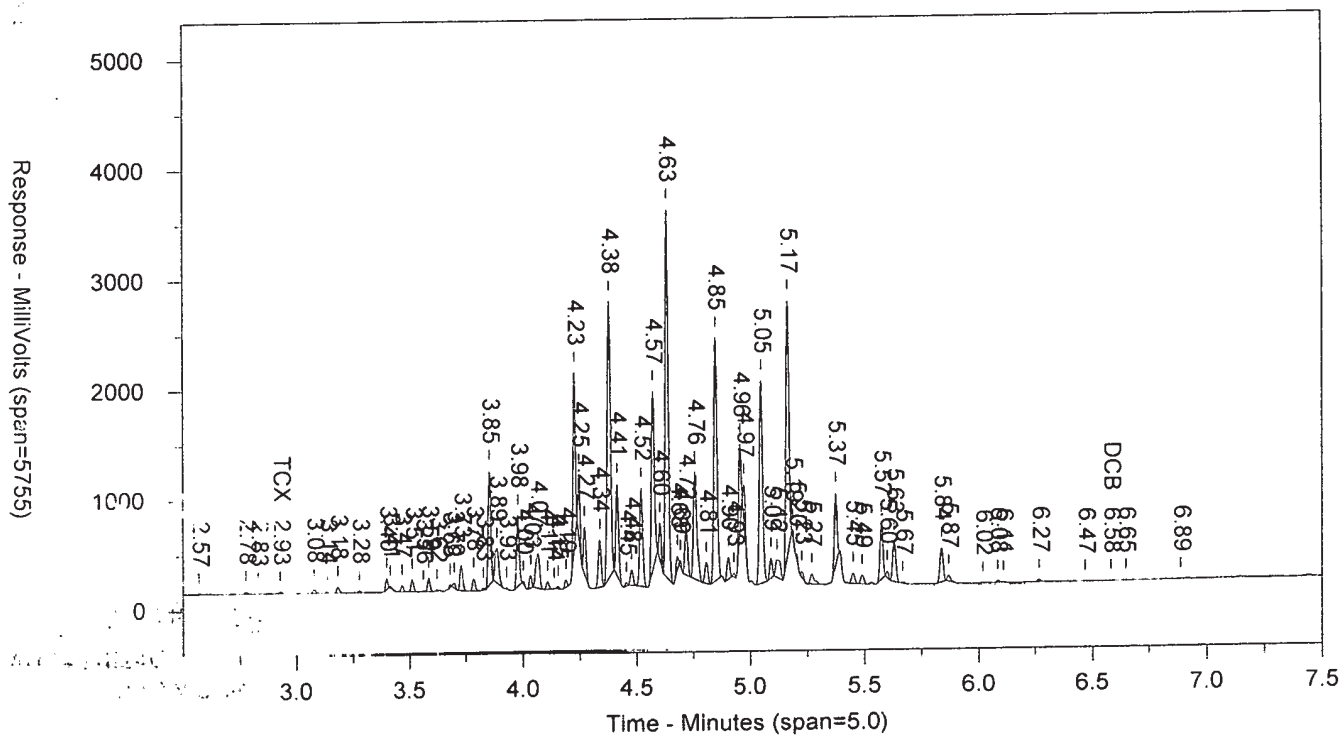
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ICAL 1830299999

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SW-846 8082

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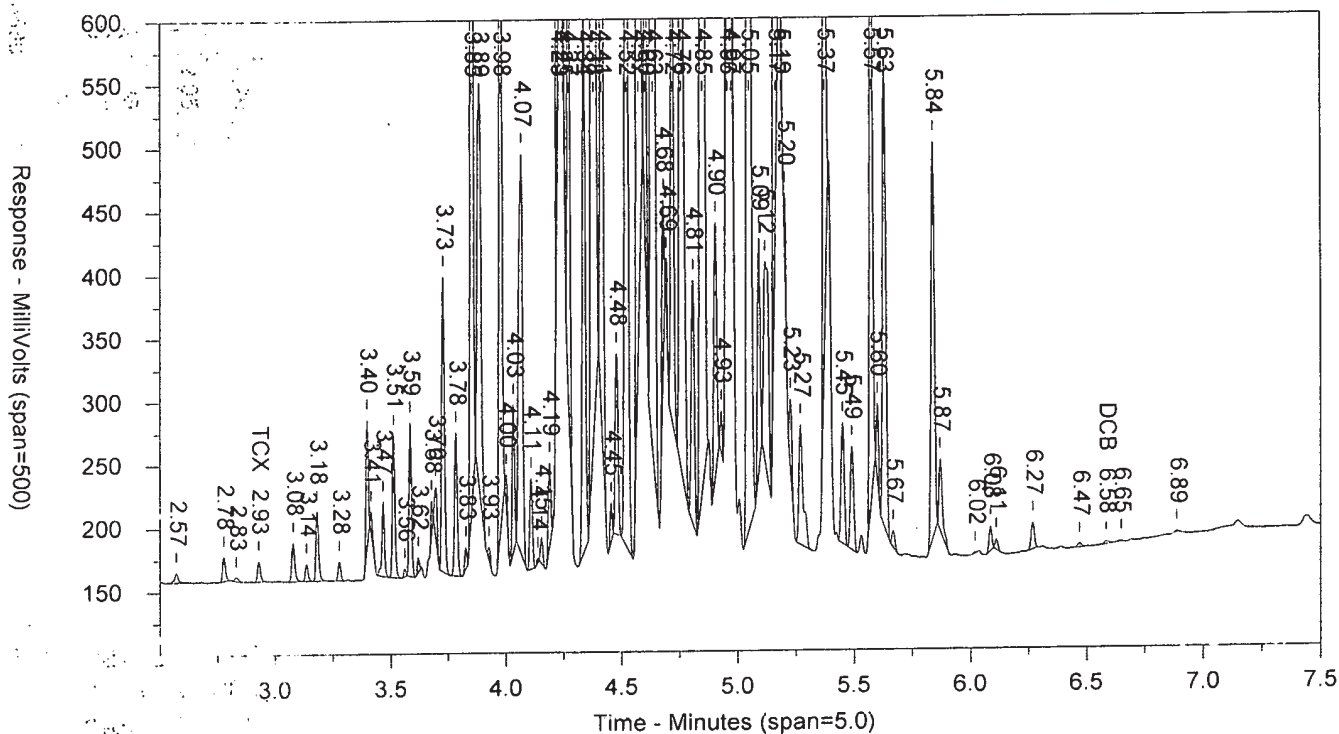
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ICAL 1830299999

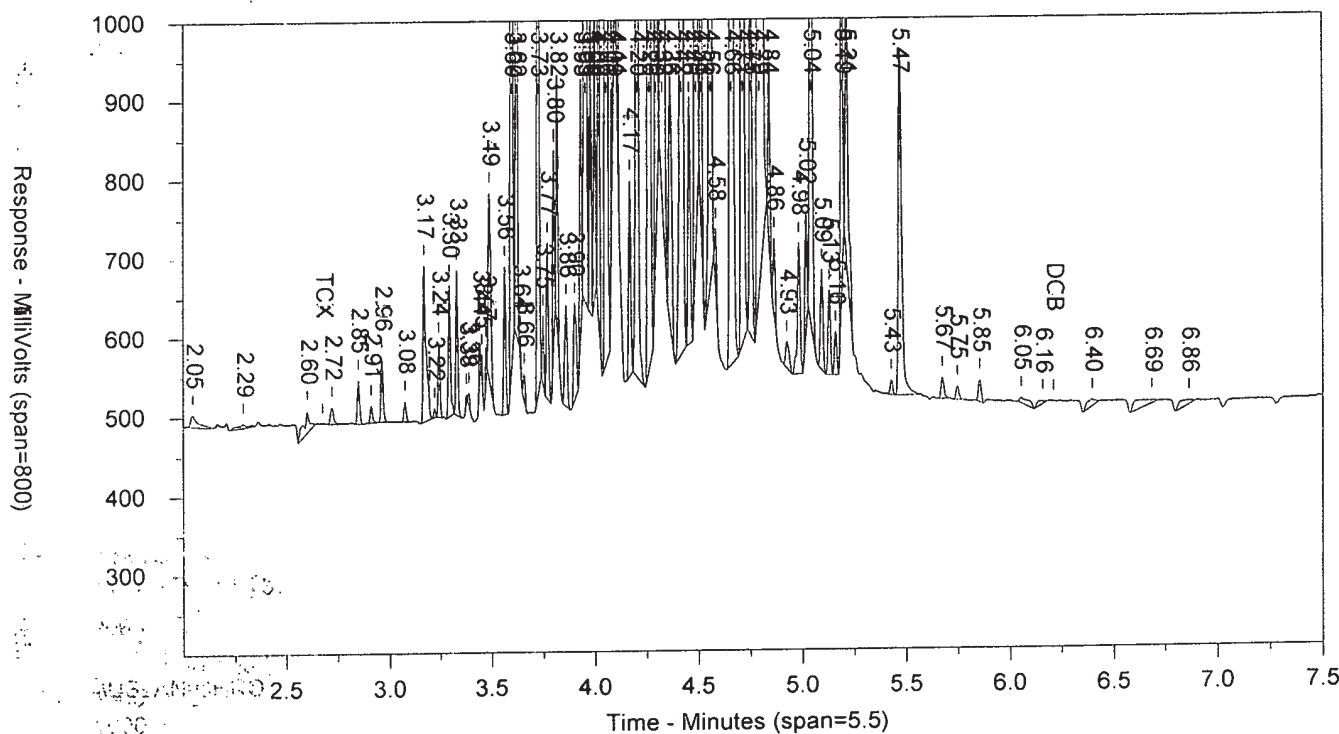
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SW-846 8082

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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		10436	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

Chrom Perfect Chromatogram Report

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
5.442		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		1624278	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
3.523		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
4.469		6682550	4784914
4.513		824623	560211
4.558		3836338	2940892
4.583		147074	89335
4.66		3317469	3455392
4.713		4778186	3815753

Chrom Perfect Chromatogram Report

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

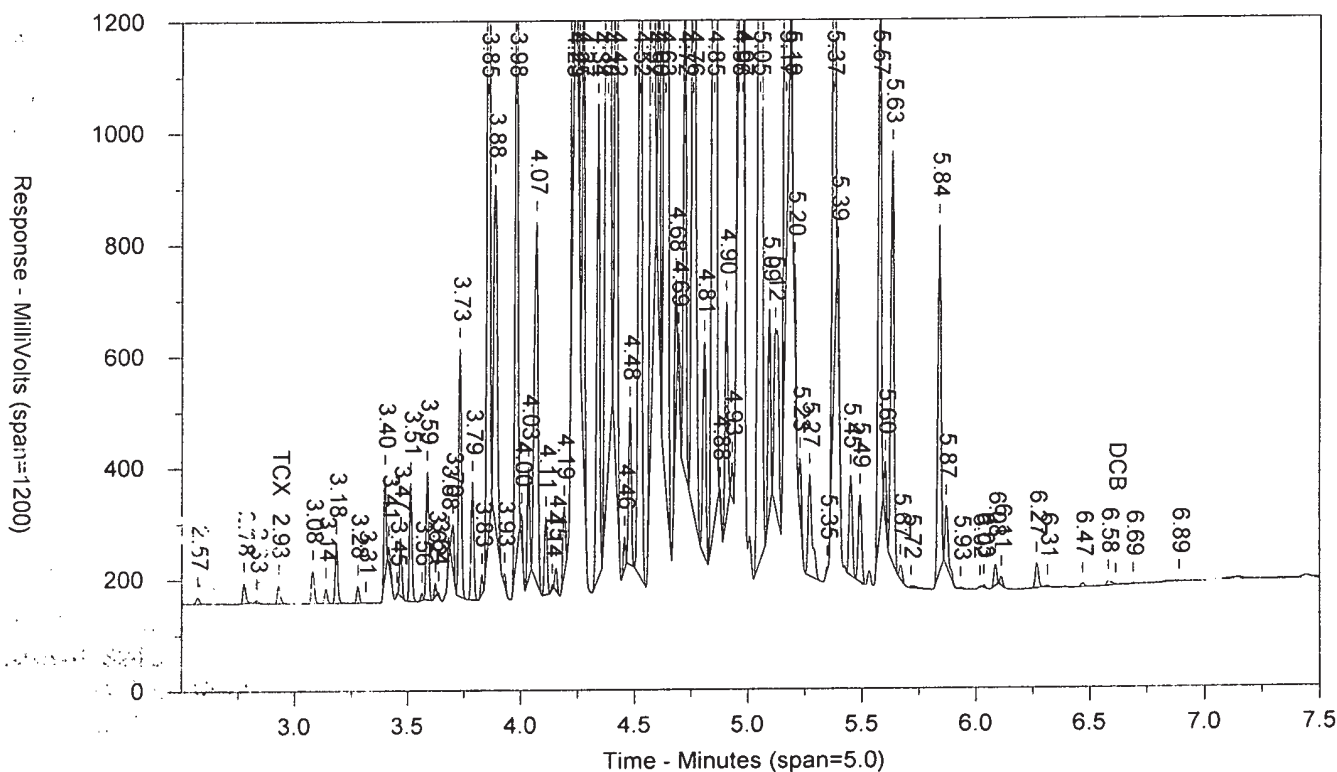
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ICAL 1830299999

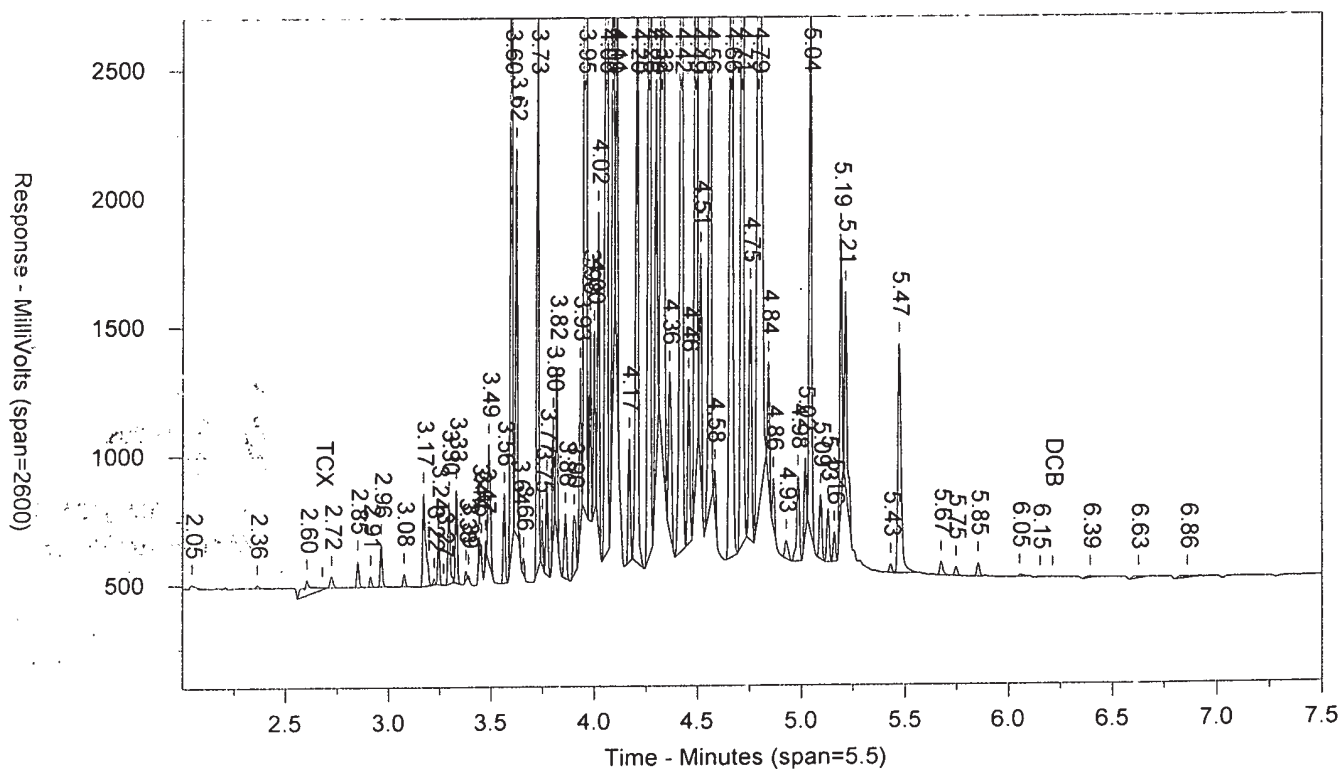
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SW-846 8082

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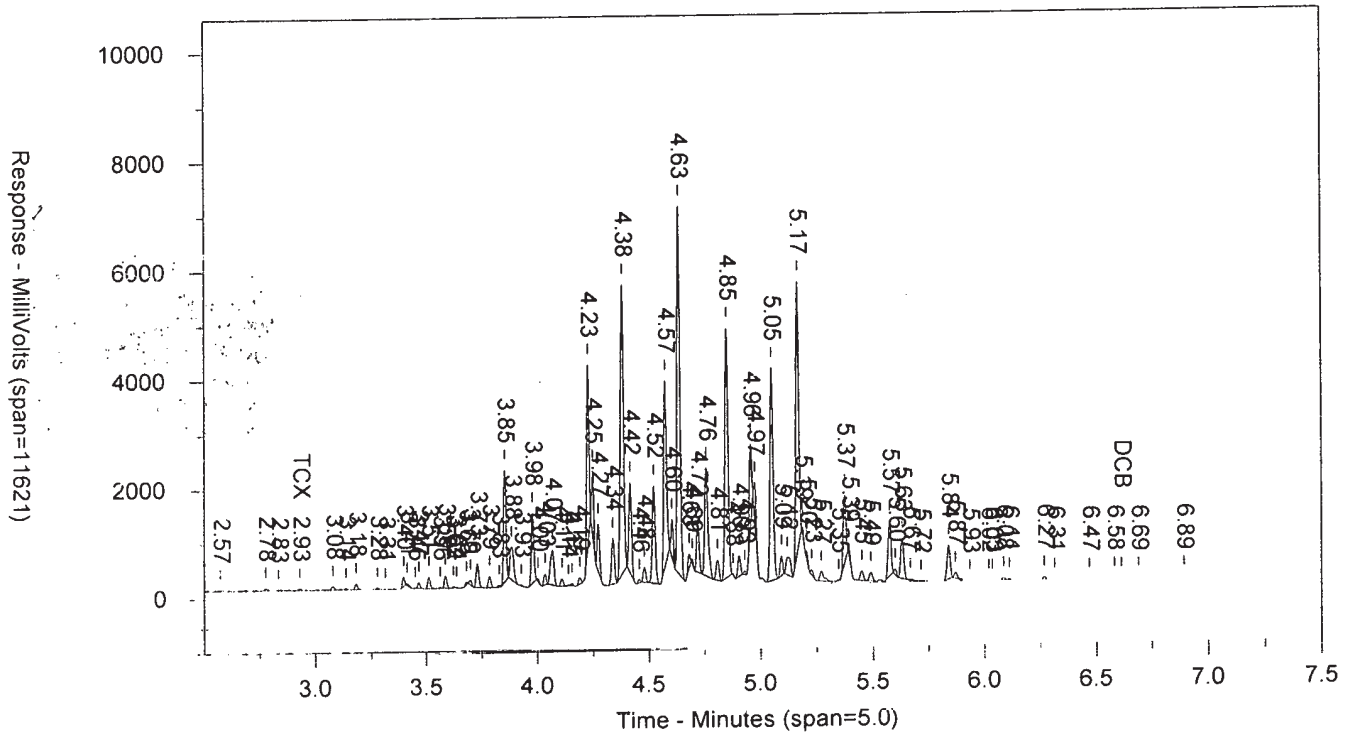
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ICAL 1830299999

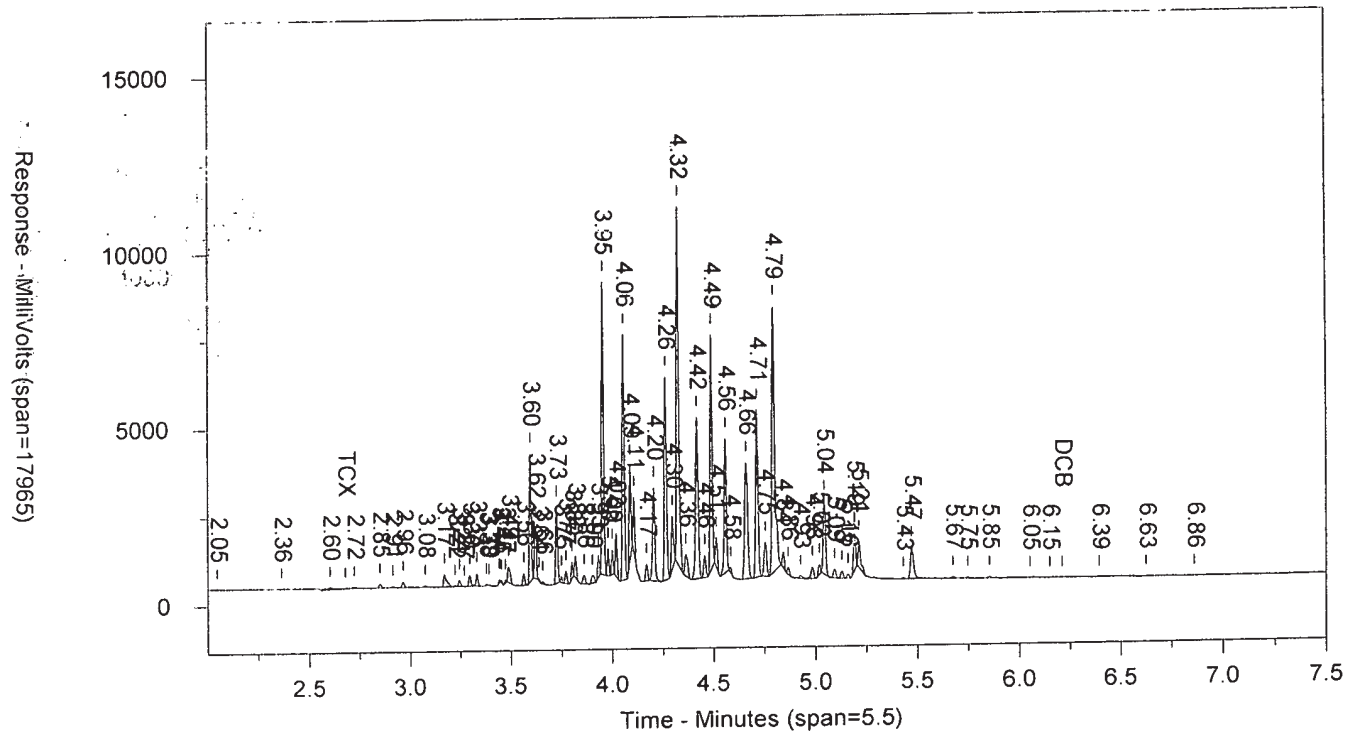
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SW-846 8082

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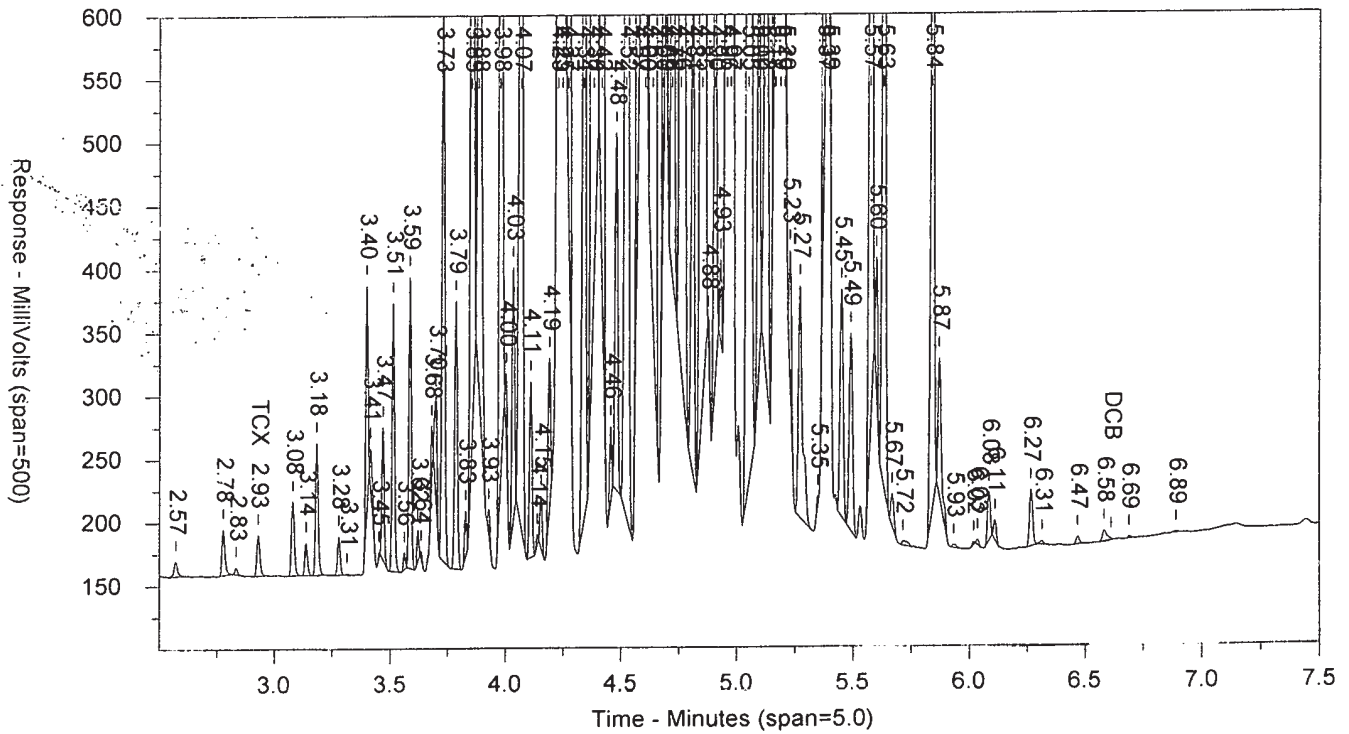
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ICAL 1830299999

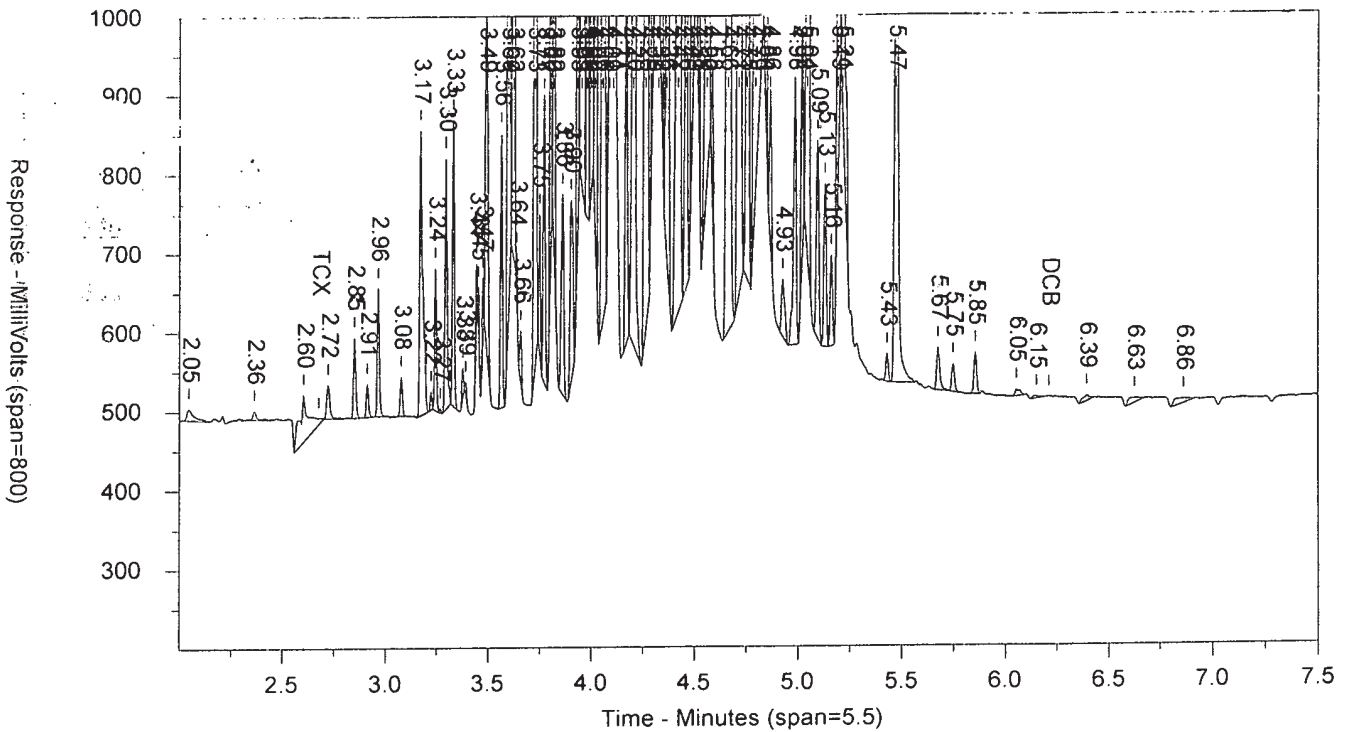
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SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.024.RAW



\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001B.024.RAW



LANCASTER LABORATORIES

Sample Number: AR0241824B 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		12726	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		121754	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

Chrom Perfect Chromatogram Report

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
6.612	DCB	9769	9131
6.695		1936	1633
6.835		991	953
6.888		755	373

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

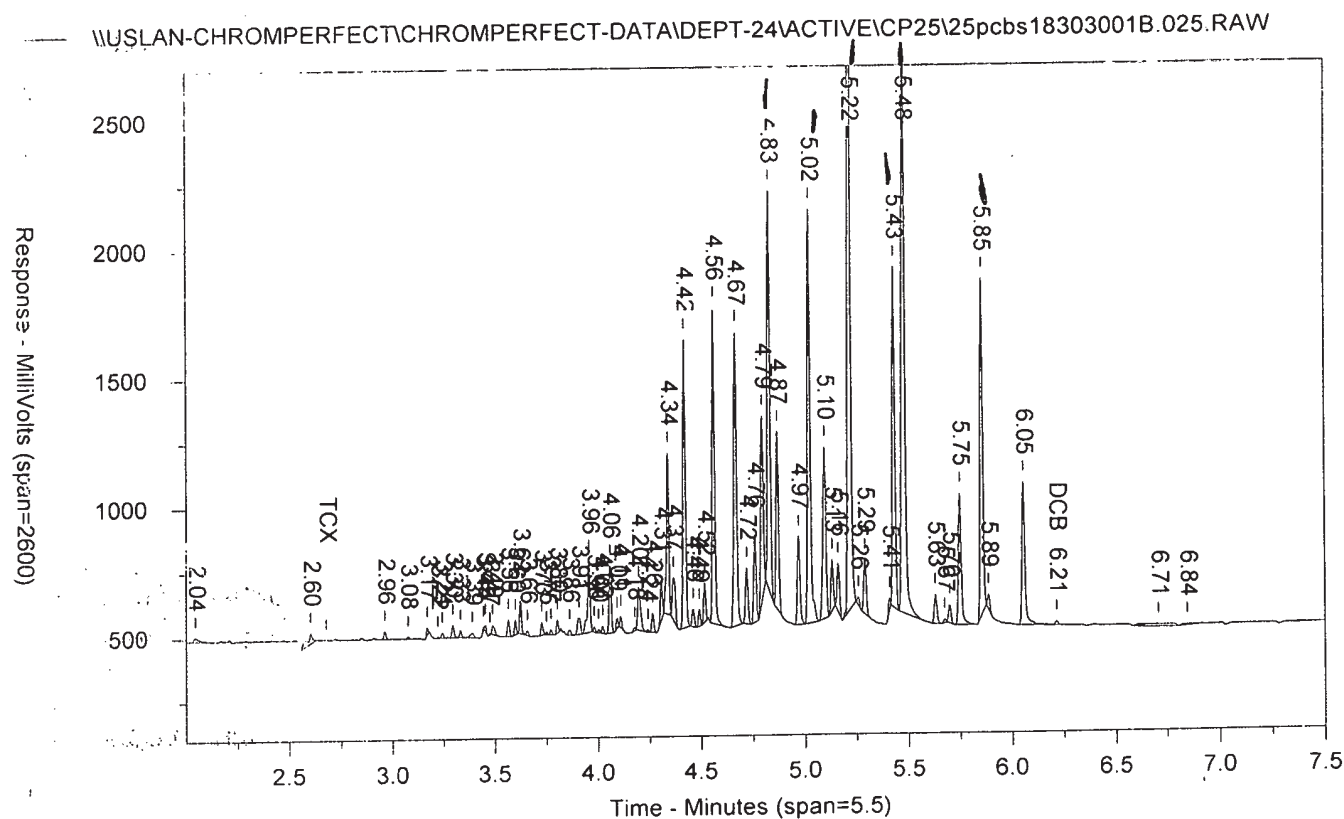
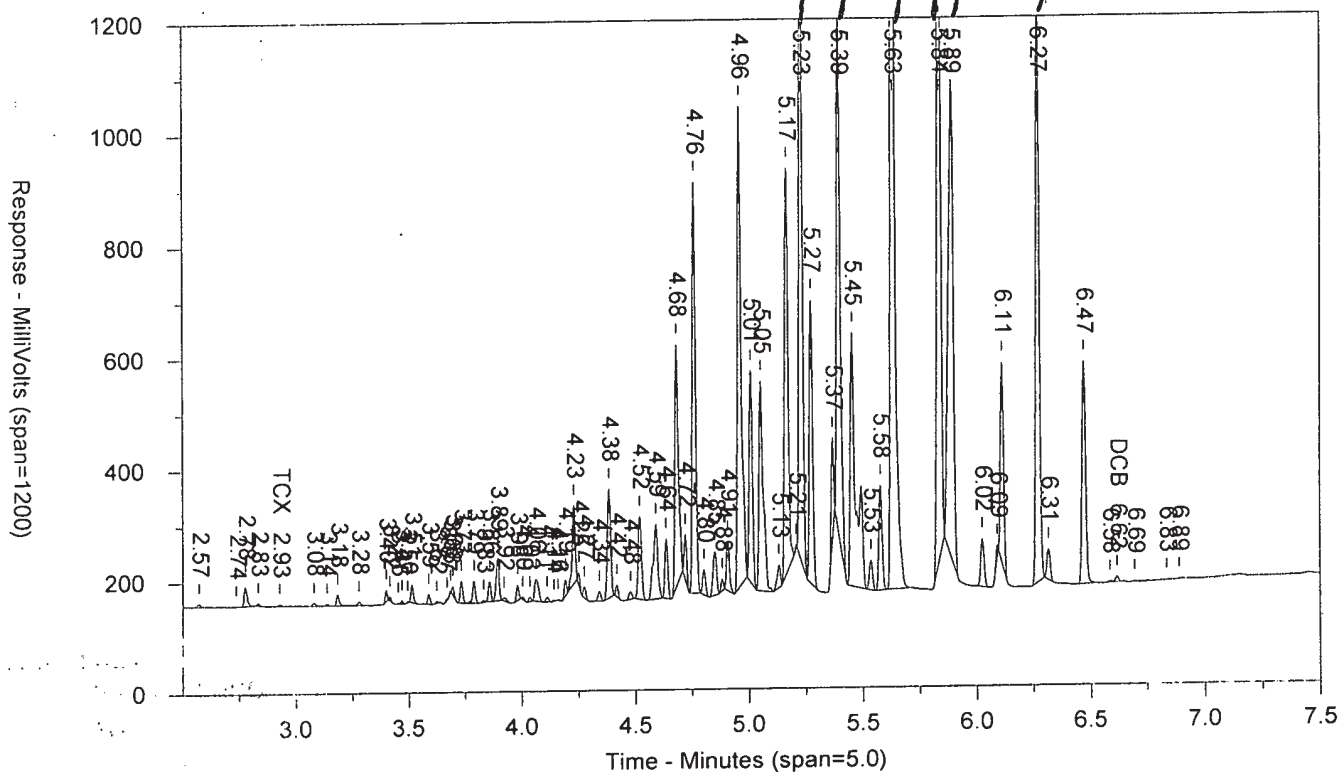
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ICAL 1830299999

10227

SW-846 8082

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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

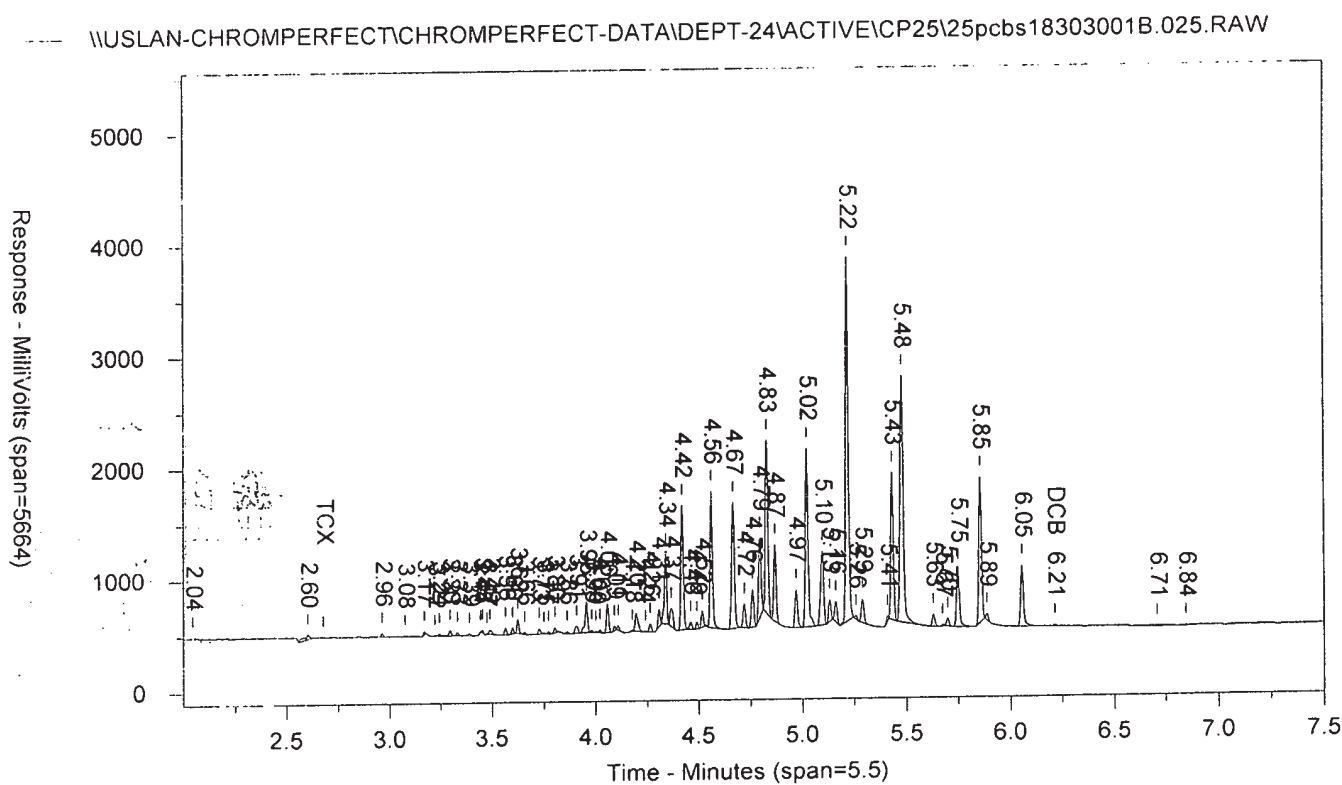
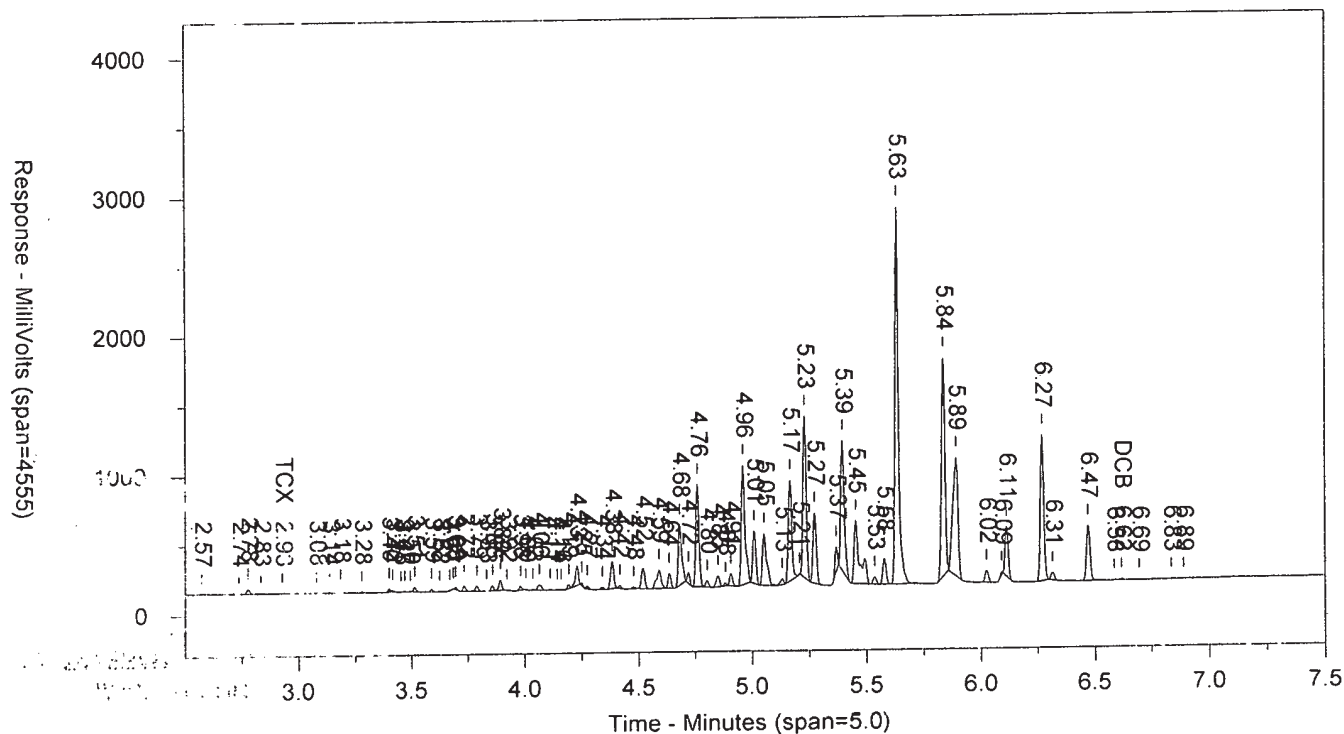
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Format B: pestD25.FMTB

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File Reported On: 10/30/2018 at 9:38:35 PM

AR6241824B AAAR624AA ICAL 1830299999 10227 SW-846 8082
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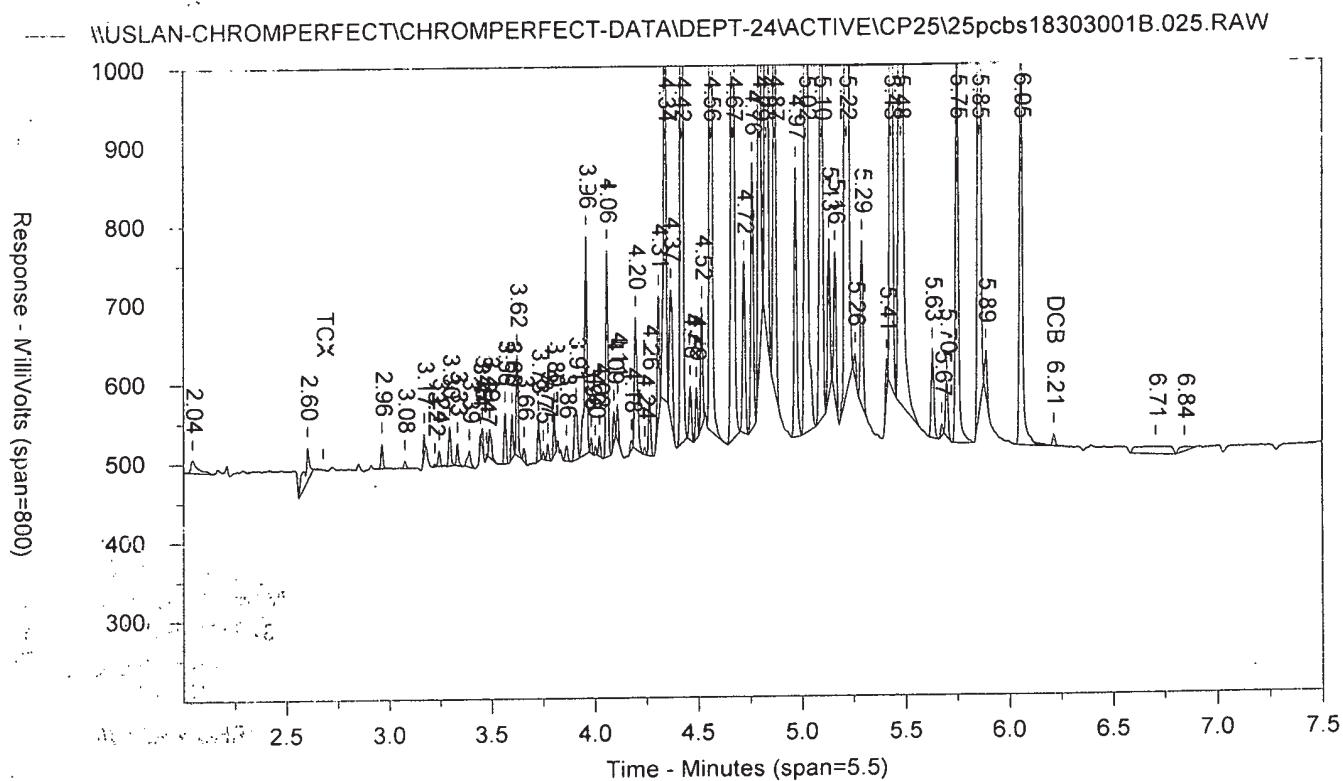
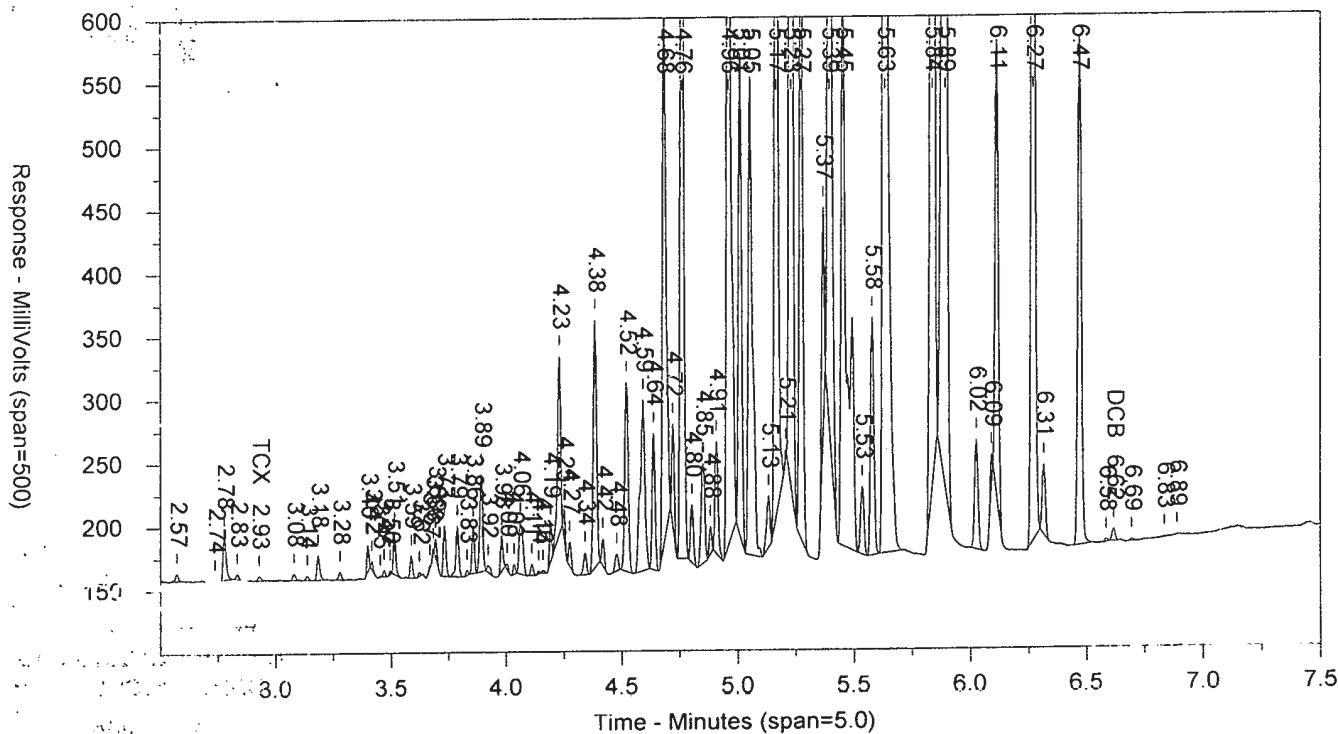
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ICAL 1830299999

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SW-846 8082

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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
4.031		2336	1360
4.058		2986	1883
4.107		17082	22527
4.135		8649	7059
4.188		889	672
4.208		5991	3642
4.246		34951	41495
4.269		17268	12019
4.33		10111	7264
4.376		1407	1685
4.471		23954	21537
4.514		13447	13021
4.57		98132	95454
4.633		31449	38031
4.678		7395	6967
4.717		9543	9406
4.755		14727	12508
4.796		26245	23553
4.84		61910	57277
4.877		19392	19716
4.92		109356	102222
4.954		6153	5689
4.972		8069	6041
5.005		5644	3555
5.047		69105	67206
5.118		14899	25937
		43362	41654

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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
3.412		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
3.867		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

Chrom Perfect Chromatogram Report

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

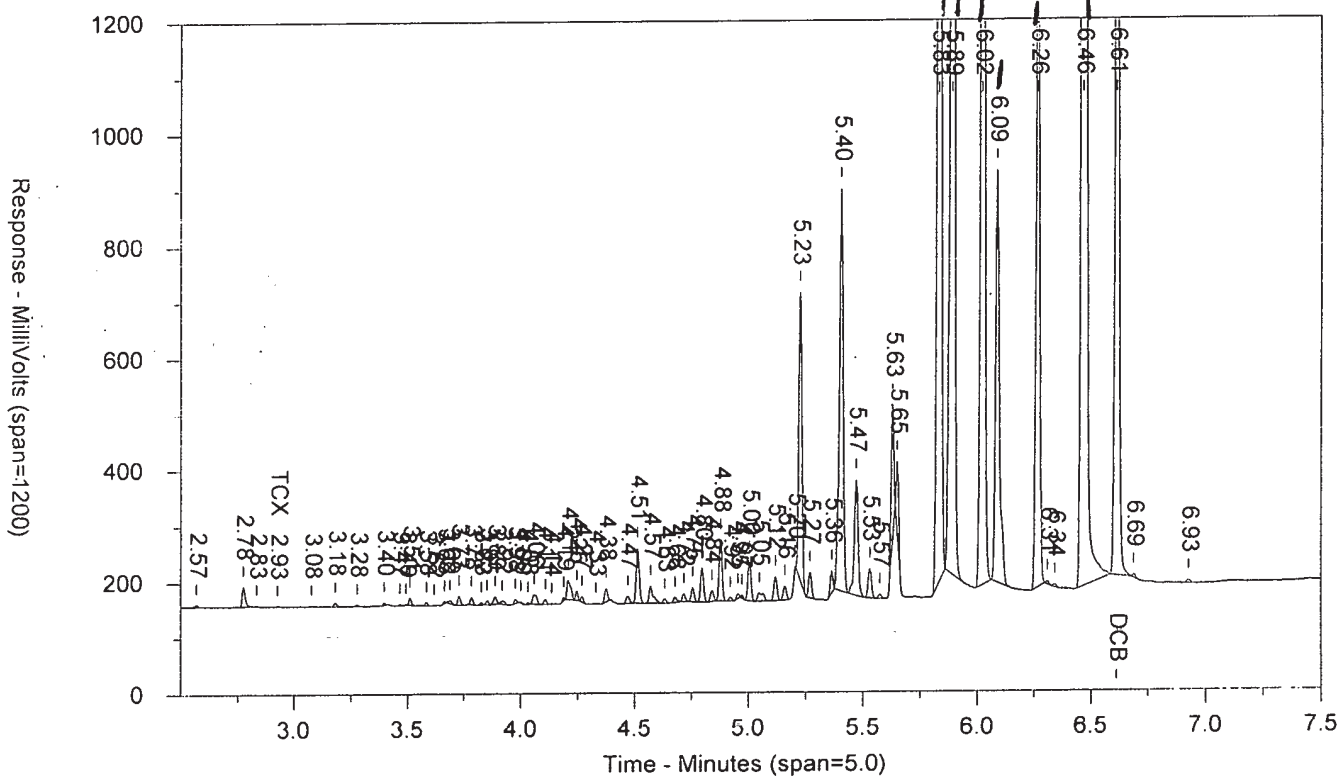
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ICAL 1830299999

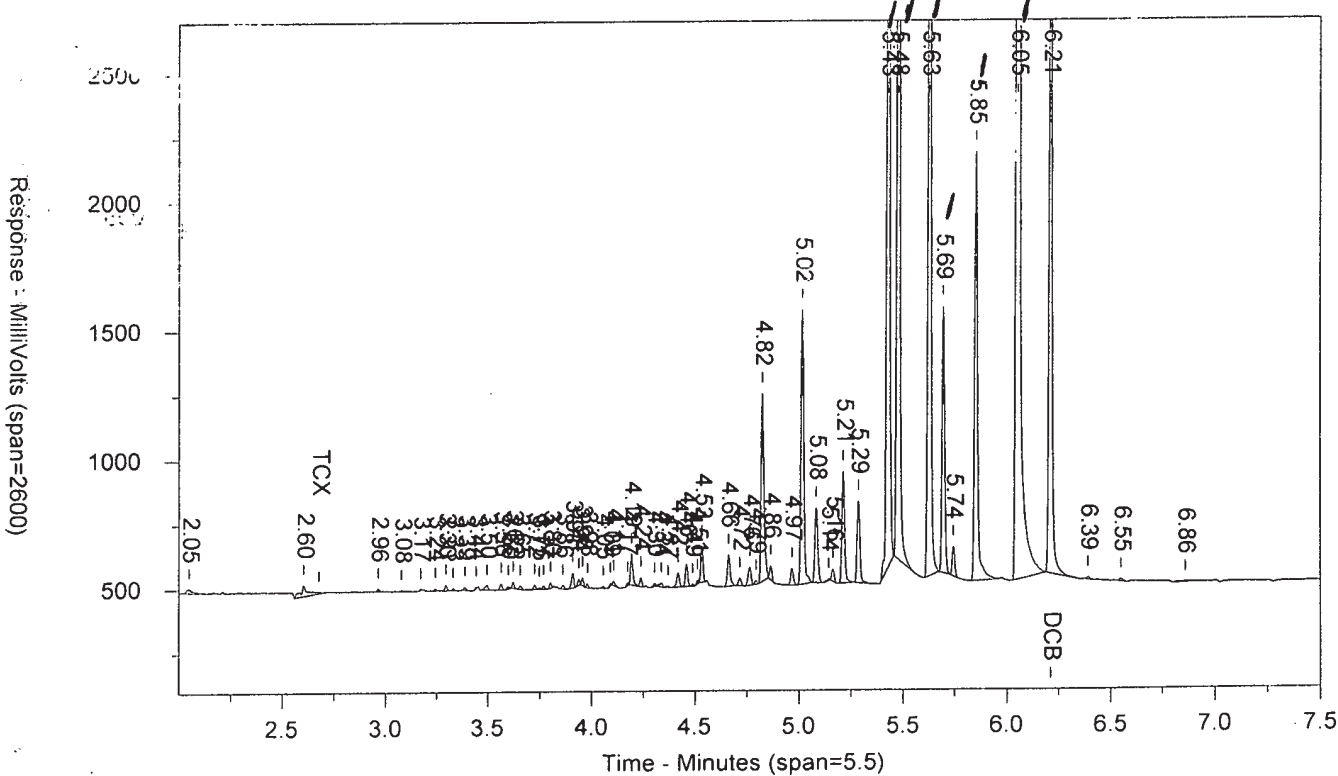
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SW-846 8082

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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.MEI

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

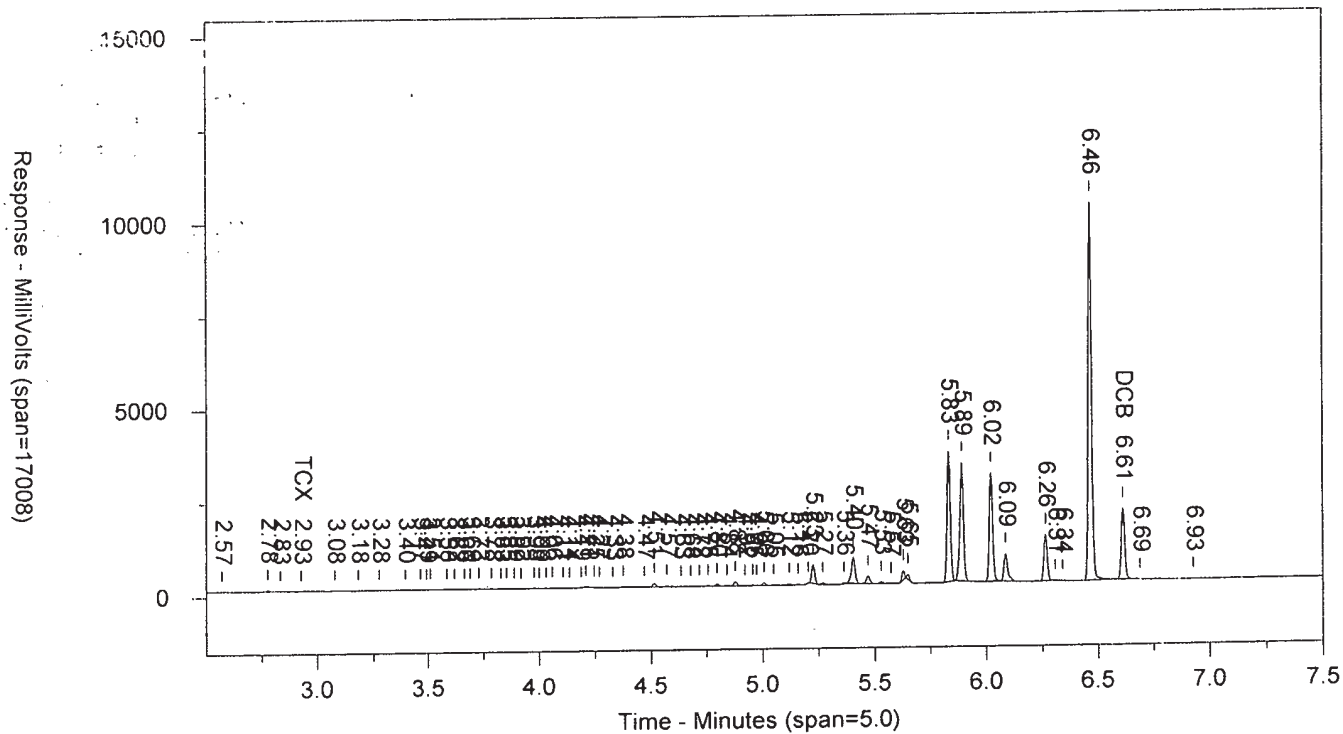
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ICAL 1830299999

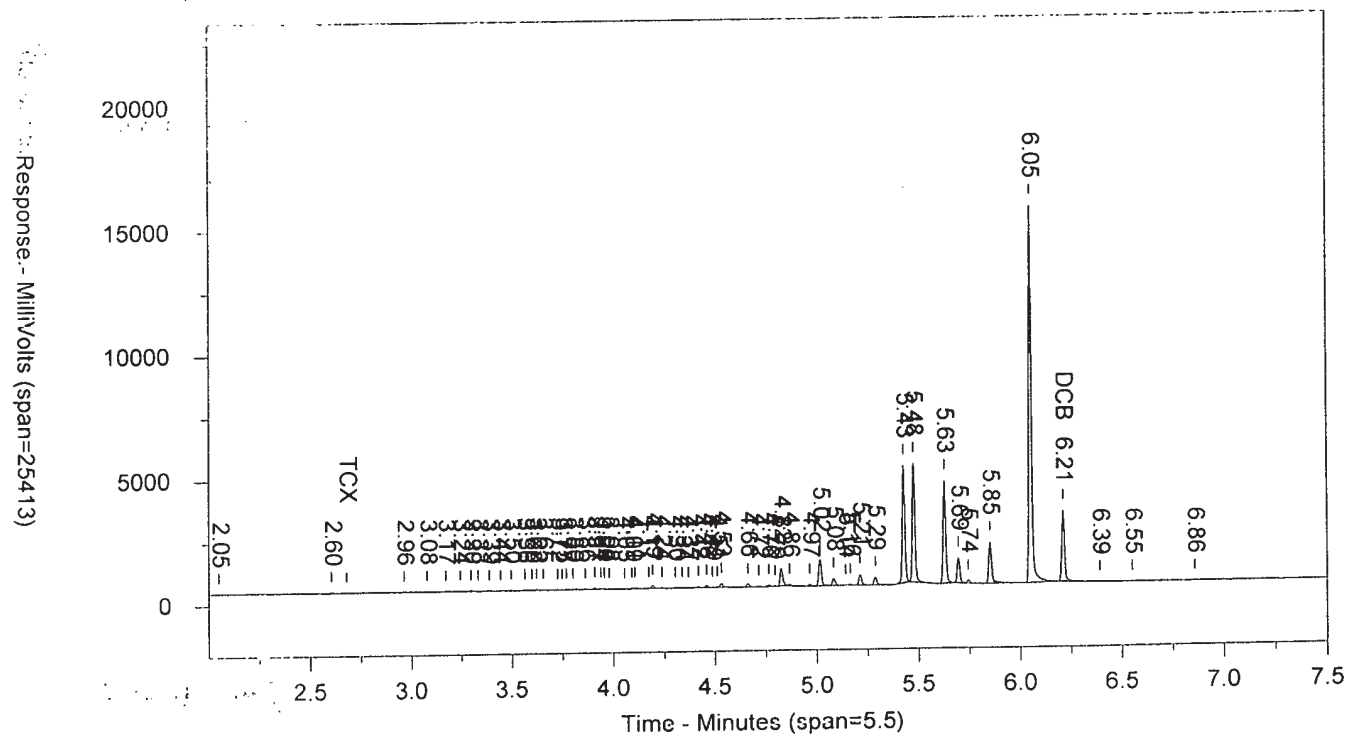
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SW-846 8082

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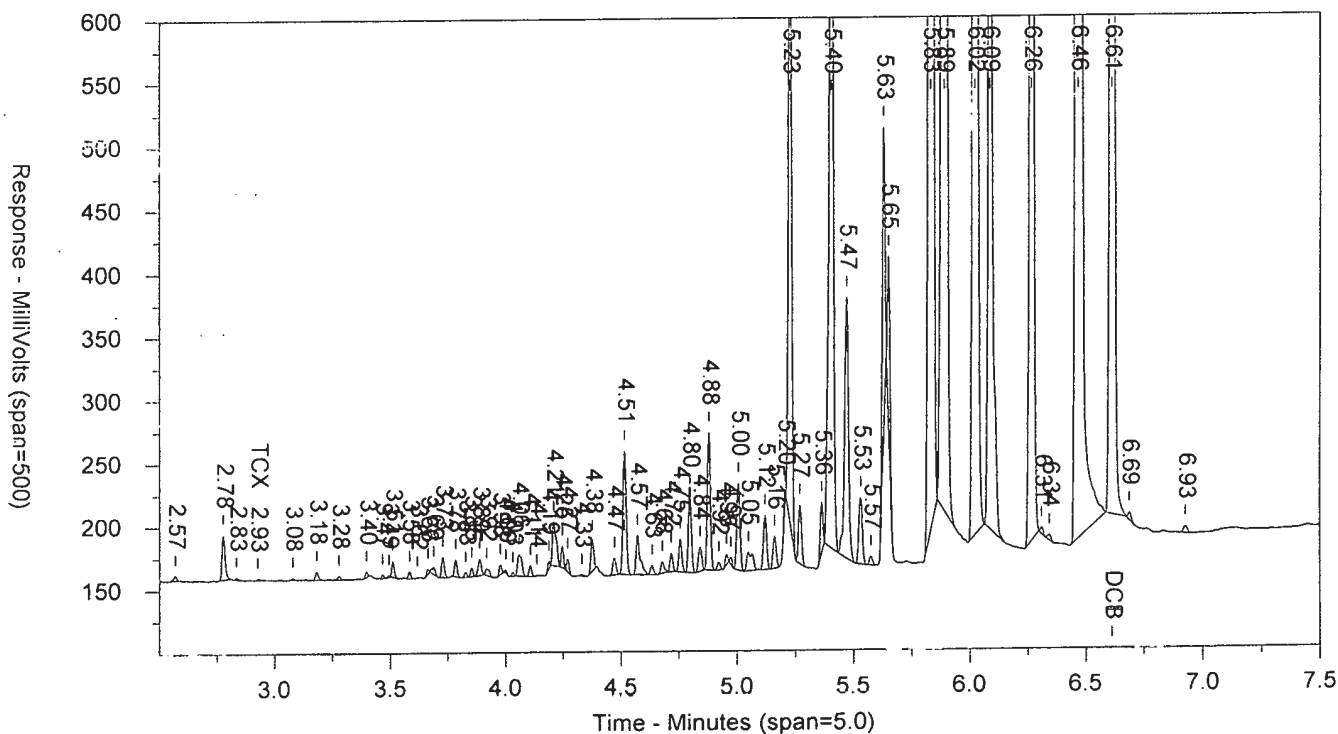
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ICAL 1830299999

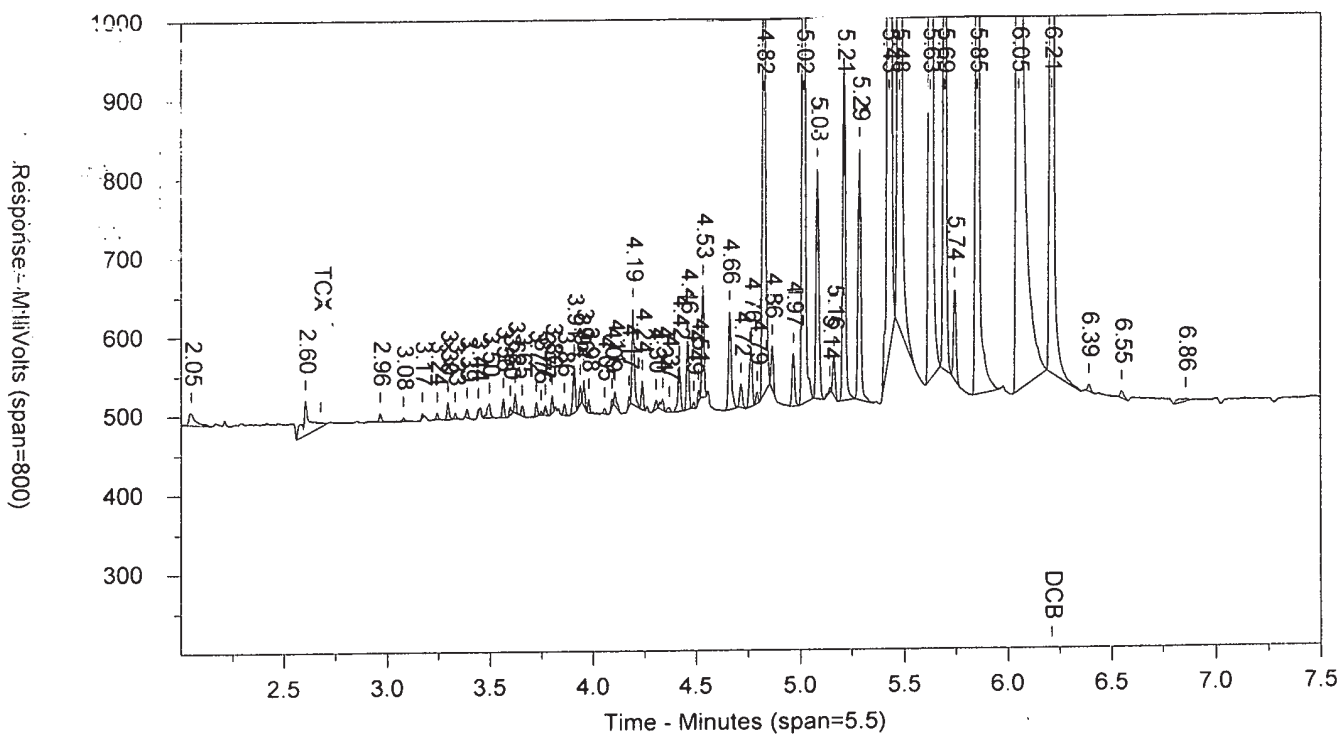
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SW-846 8082

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Chrom Perfect Chromatogram Report

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
4.03		4455	3154
4.068		5306	3657
4.107		17661	18744
4.192		4439	3747
4.224		935	602
4.246		7824	5276
4.268		9755	6211
4.375		11886	8351
4.396		8684	6922
4.515		3495	2425
4.569		1548	1430
4.633		2070	1697
4.846		3542	3172
4.92		3016	3117
5.226		6077	6073
5.404		2508	2243
5.627		3655	5327
5.831		1981	3658
5.89		17958	18433
6.021		15674	16575
6.084		13886	13696
6.265		3246	2835
		5871	6195

Chrom Perfect Chromatogram Report

RT A	Compound A	Height A	Area A
6.464		51130	52238
6.61	DCB	9928	11384

Chrom Perfect Chromatogram Report

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	78751
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

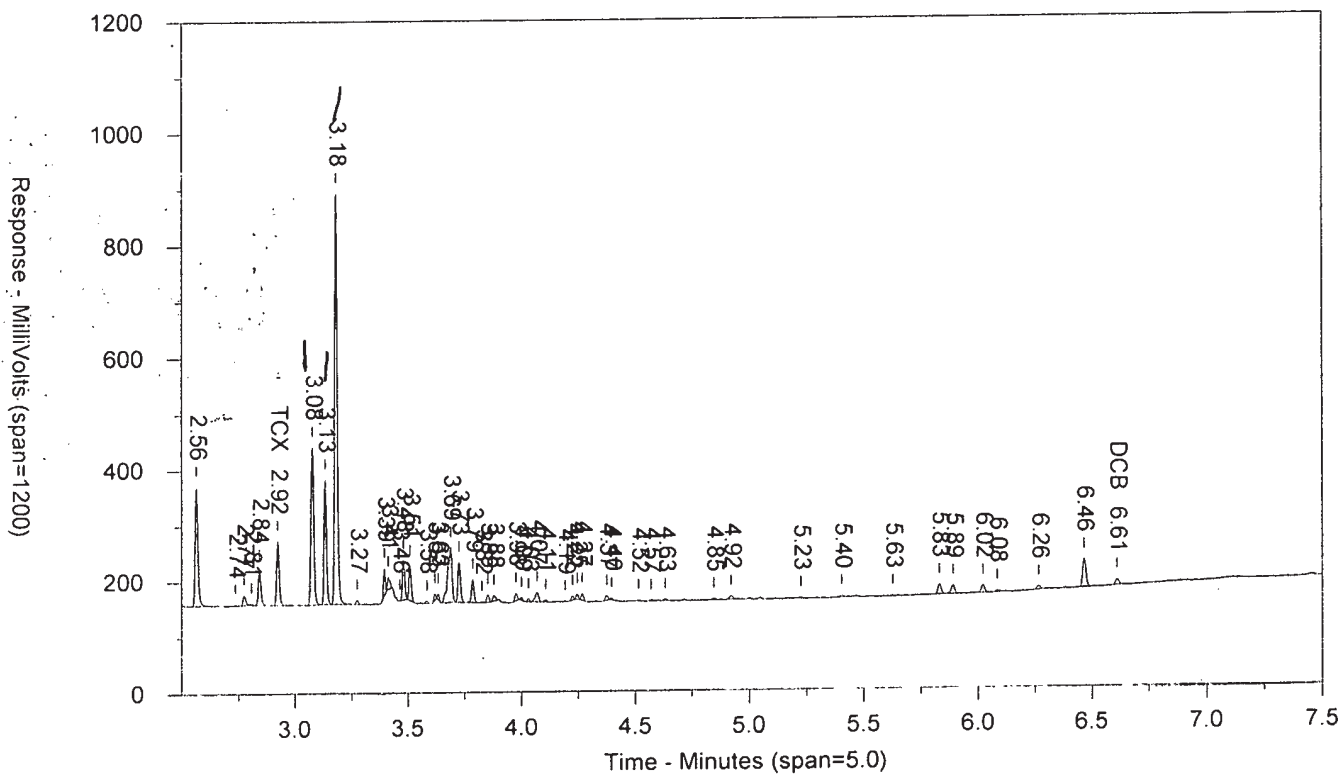
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ICAL 1830299999

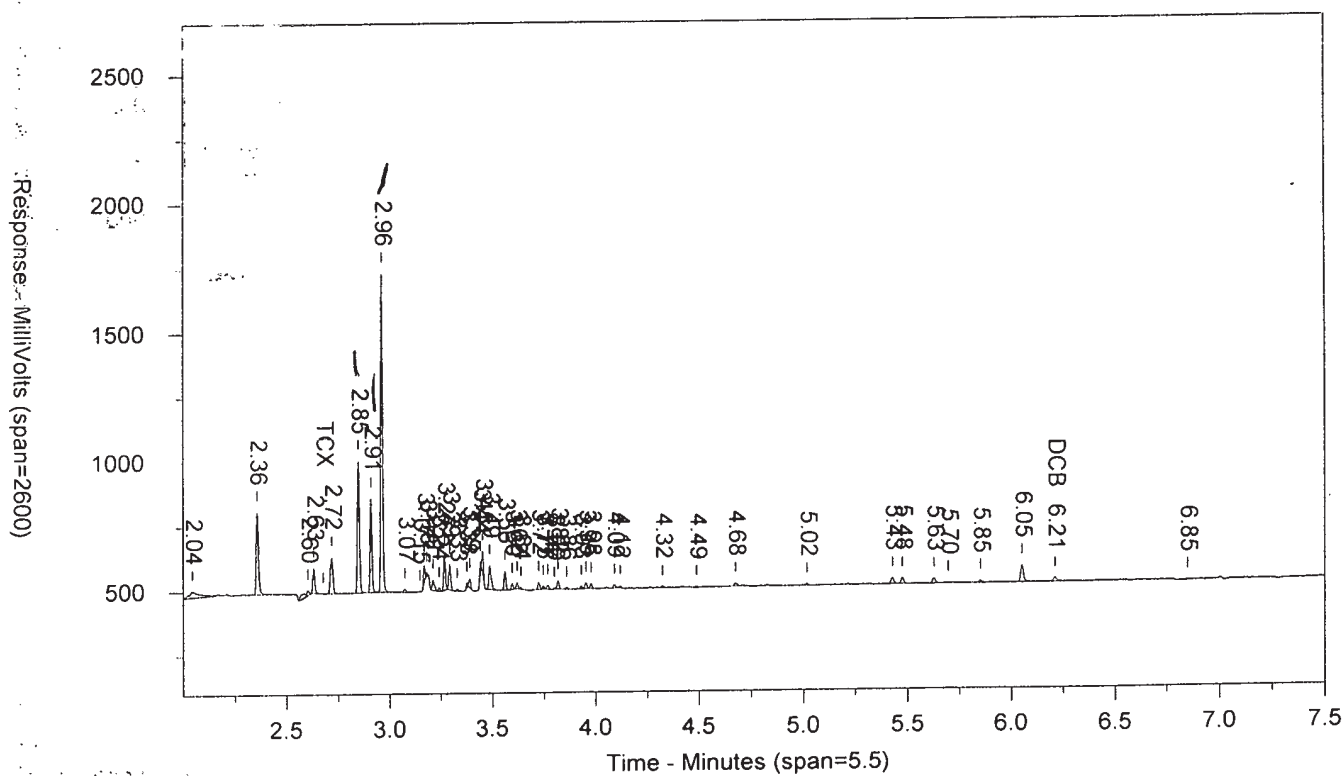
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SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR2141824E AAAR214AA ICAL 1830299999 10227

SW-846 8082

Injected On: 10/30/2018 9:51:07 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	115406	.744	TCX		0		TCX
6.61	9928	.077	DCB	6.211	15497	.083	DCB

Files:

Area File: 25pcbs18303001.027.RAW

Area File: 25pcbs18303001B.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

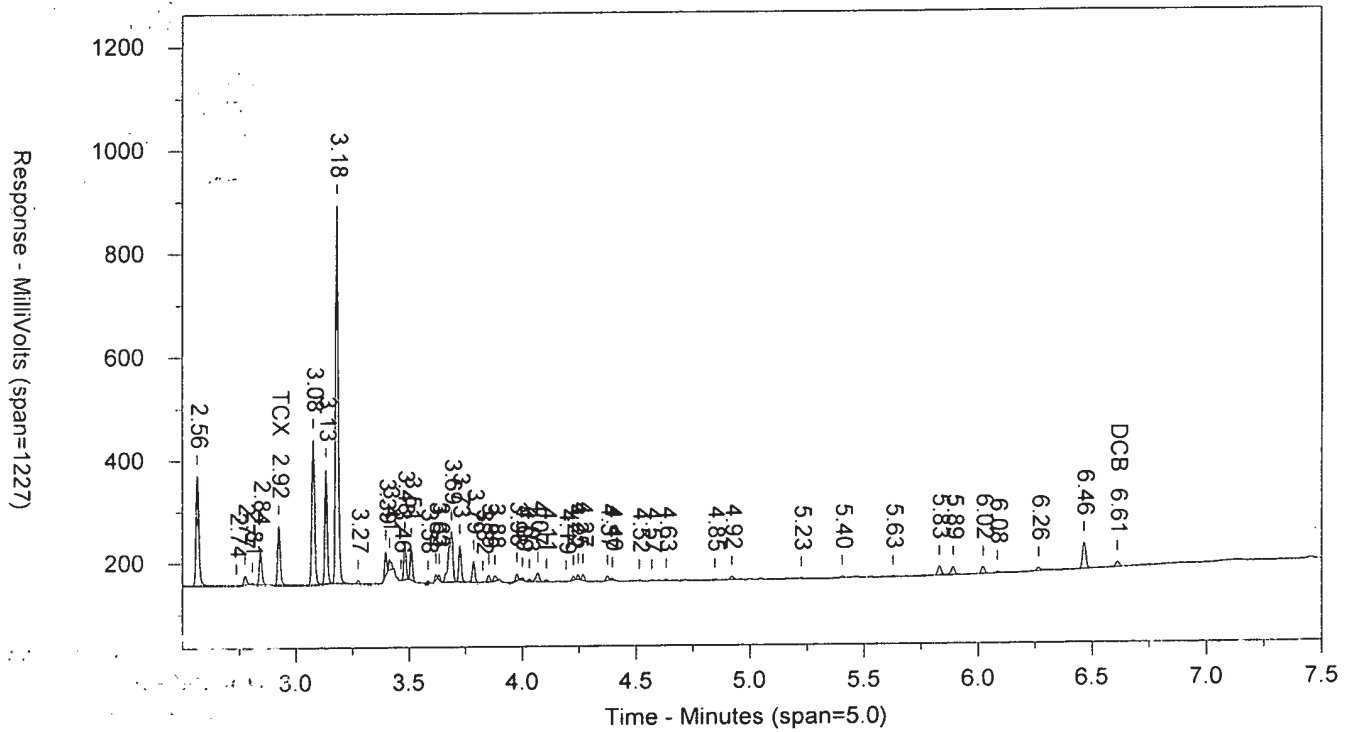
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ICAL 1830299999

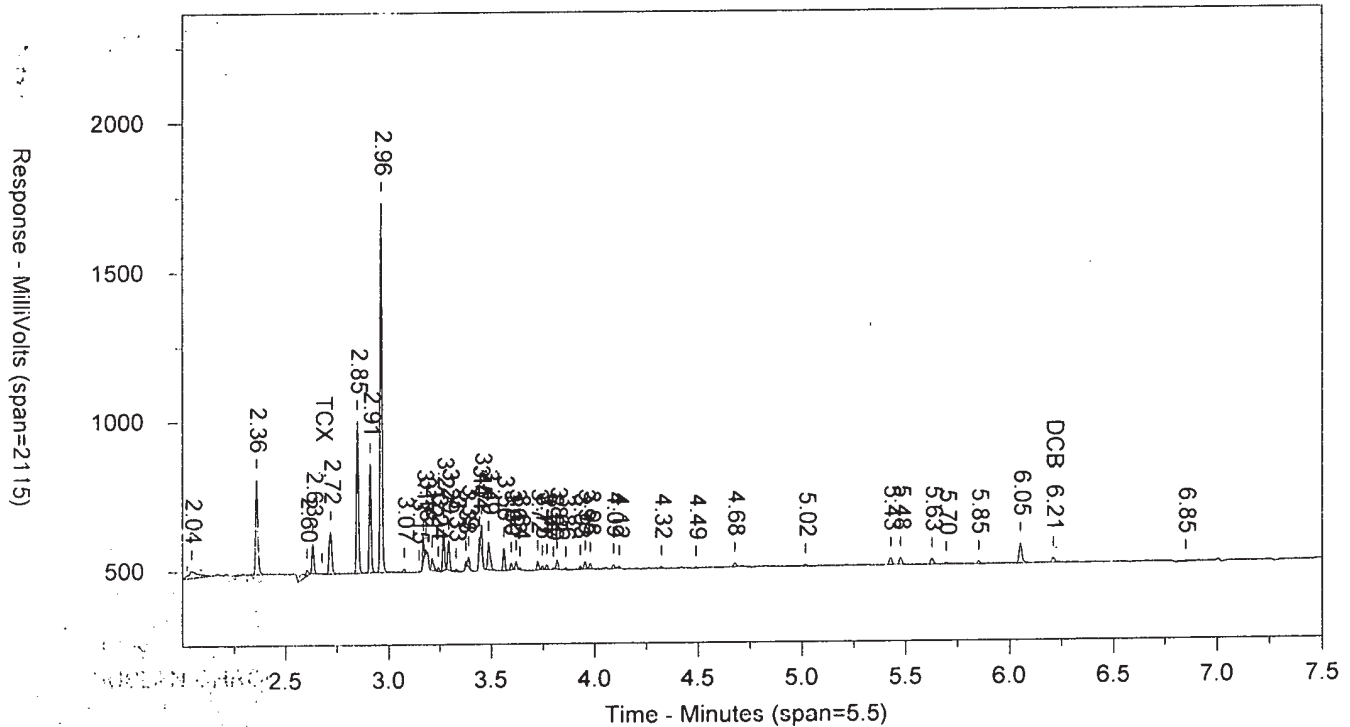
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SW-846 8082

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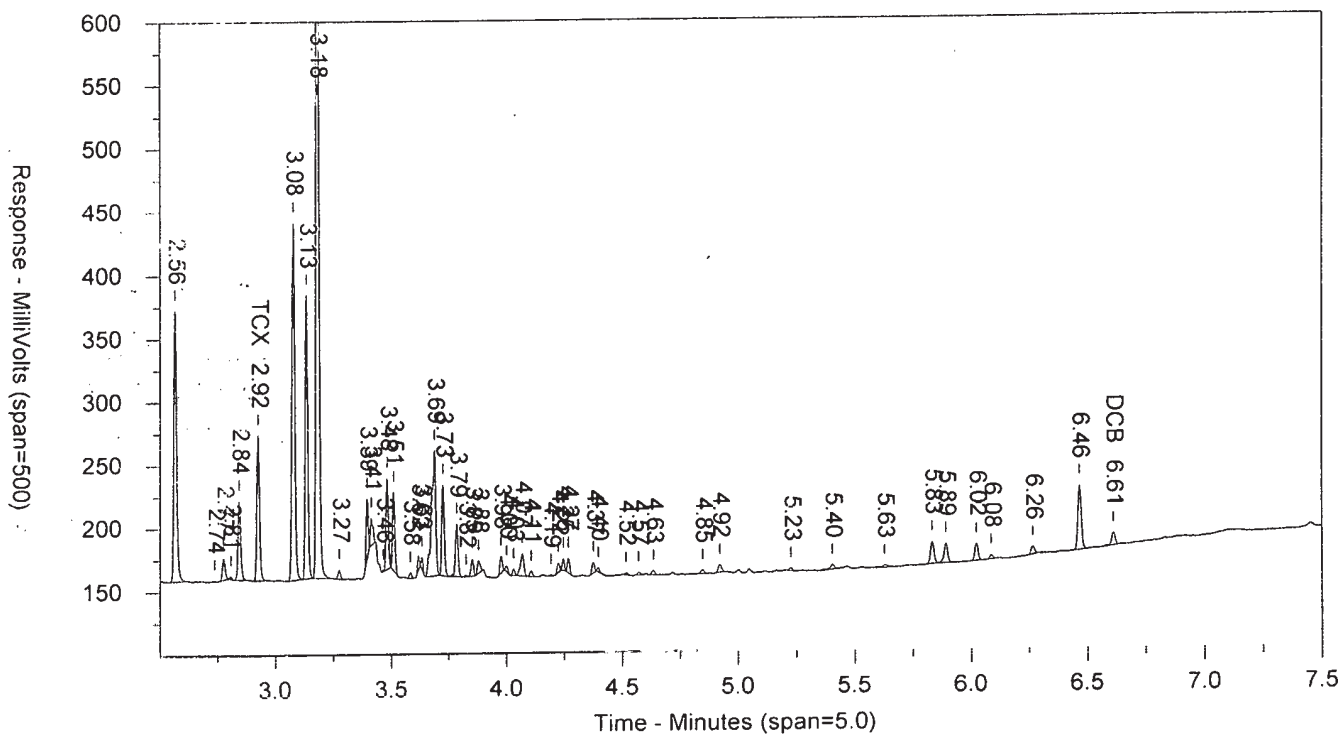
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ICAL 1830299999

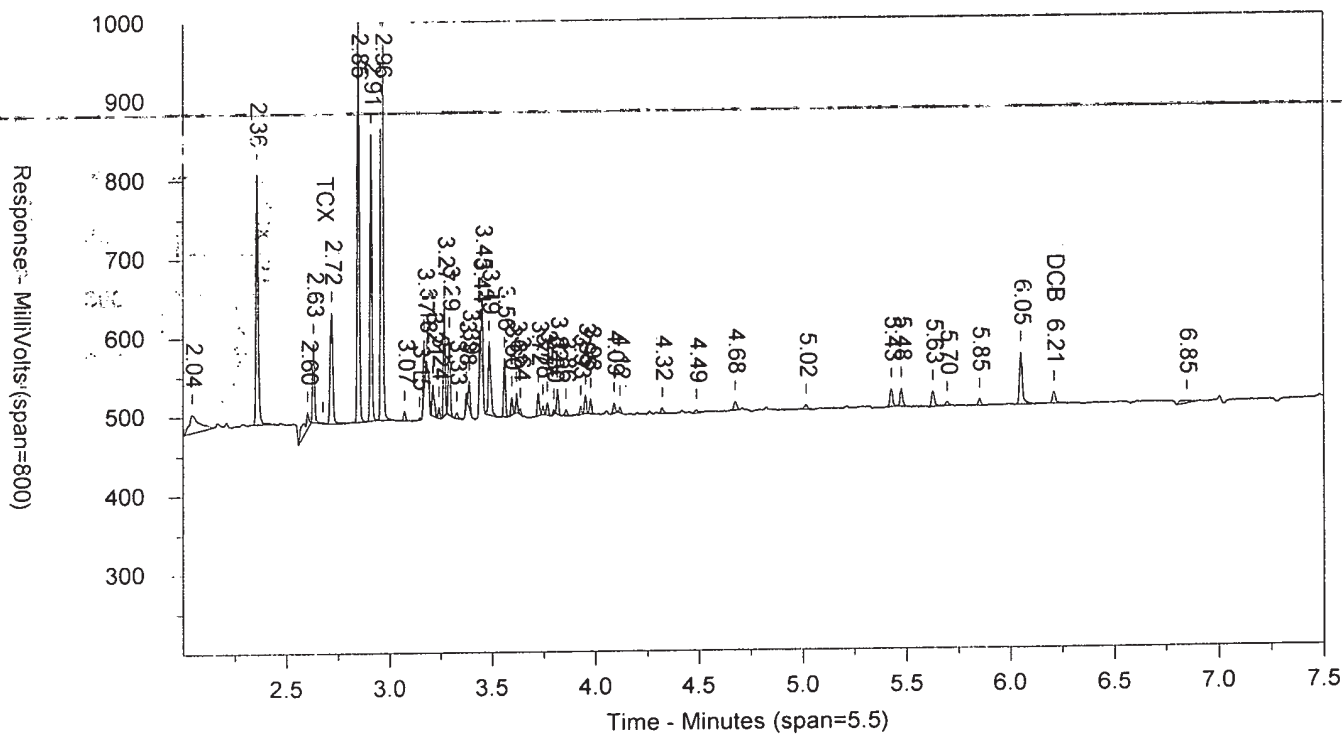
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SW-846 8082

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Chrom Perfect Chromatogram Report

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		599621	470678
3.276		31572	23057
3.396		232902	143601
3.413		99651	55002
3.451		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
4.271		191771	146599
4.331		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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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
4.479		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

Chrom Perfect Chromatogram Report

RT B	Compound B	Height B	Area B
5.215		12049	11094
5.473		8222	10989

AR3241824D

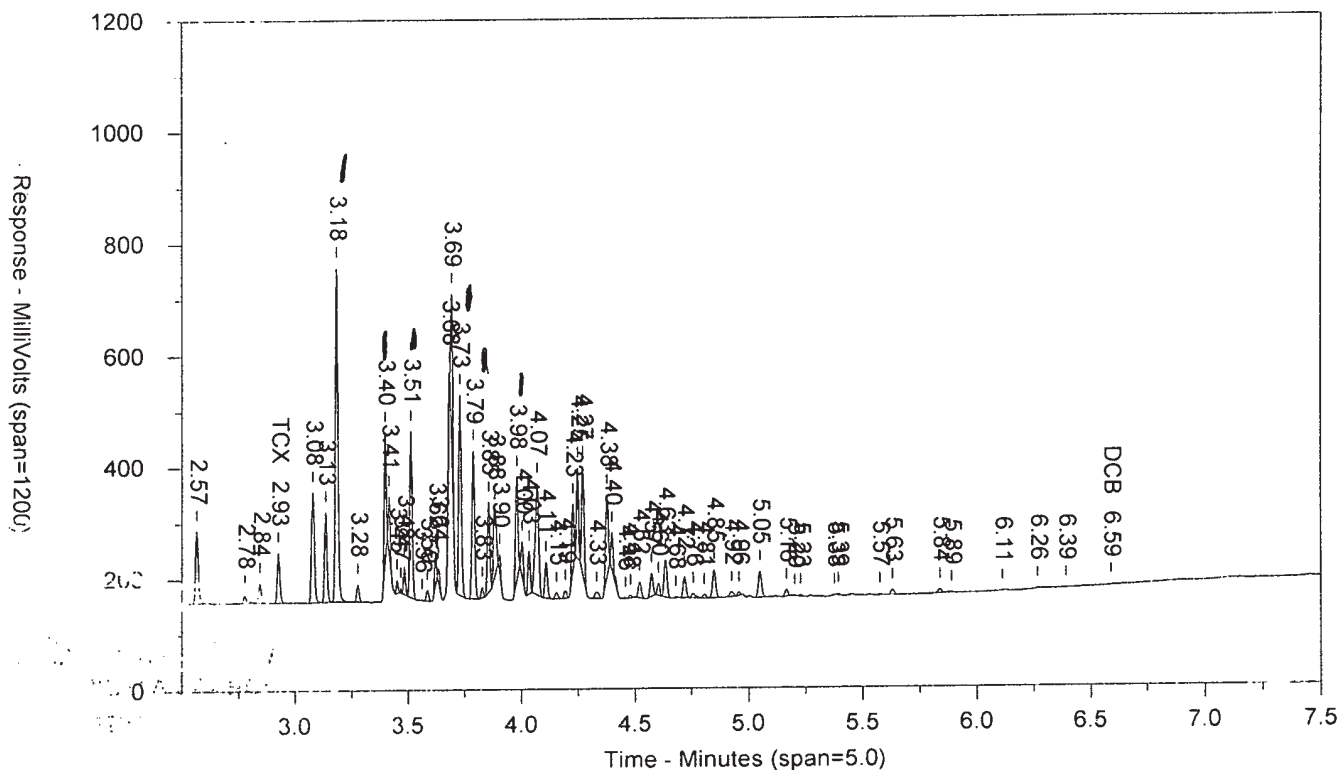
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ICAL 1830299999

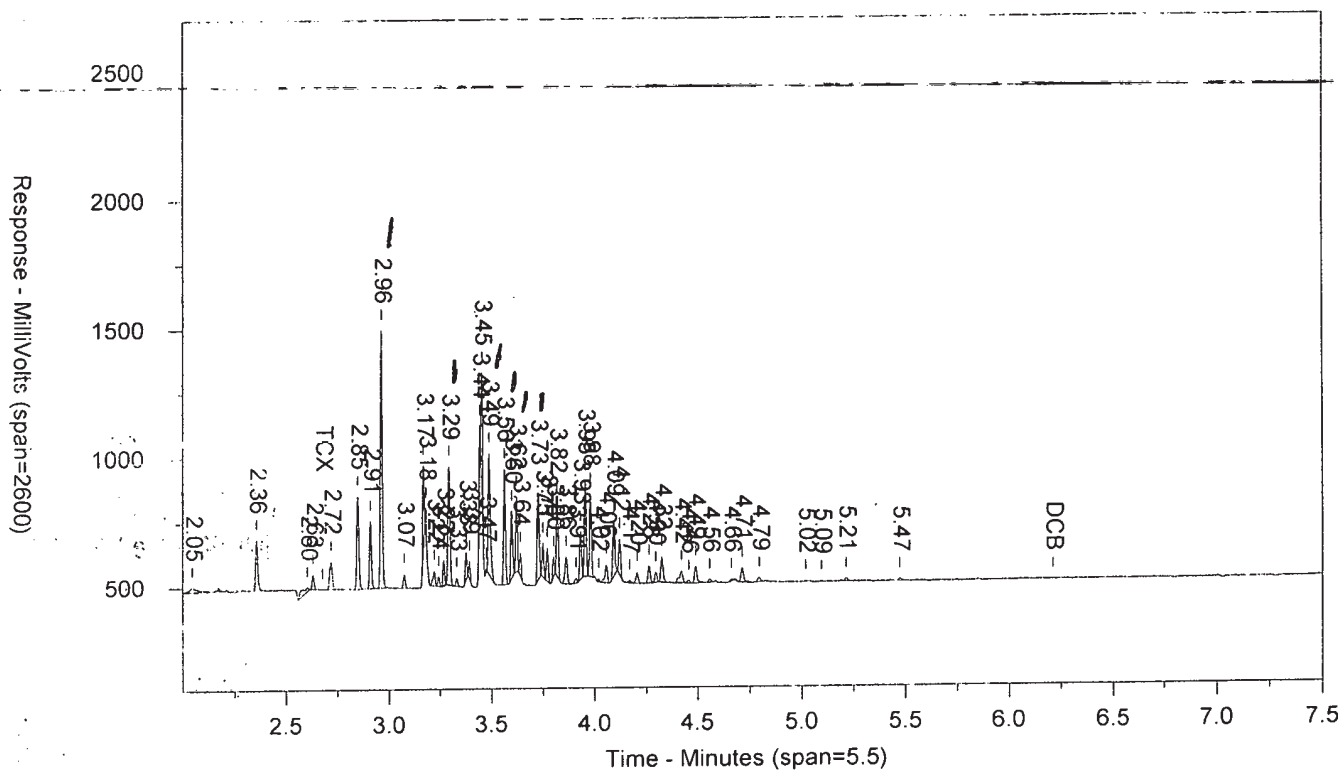
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SW-846 8082

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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

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	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

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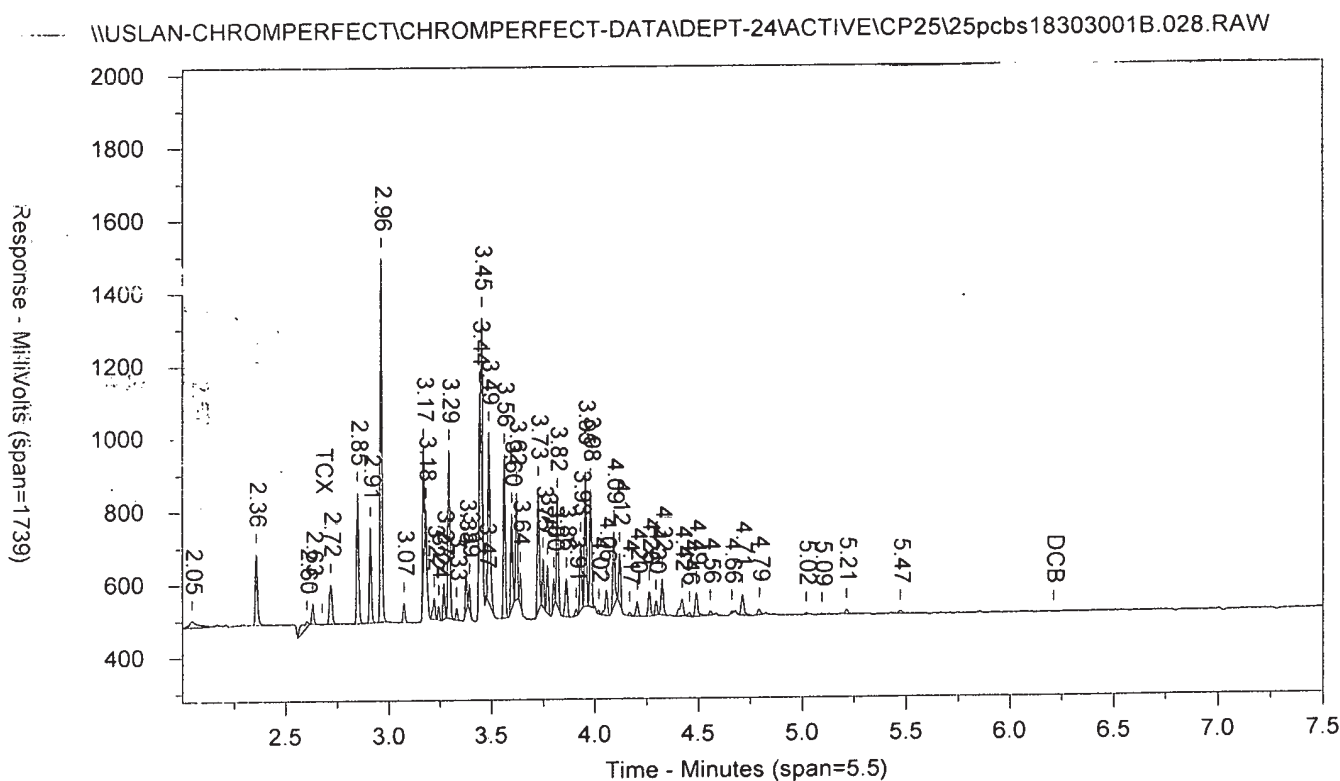
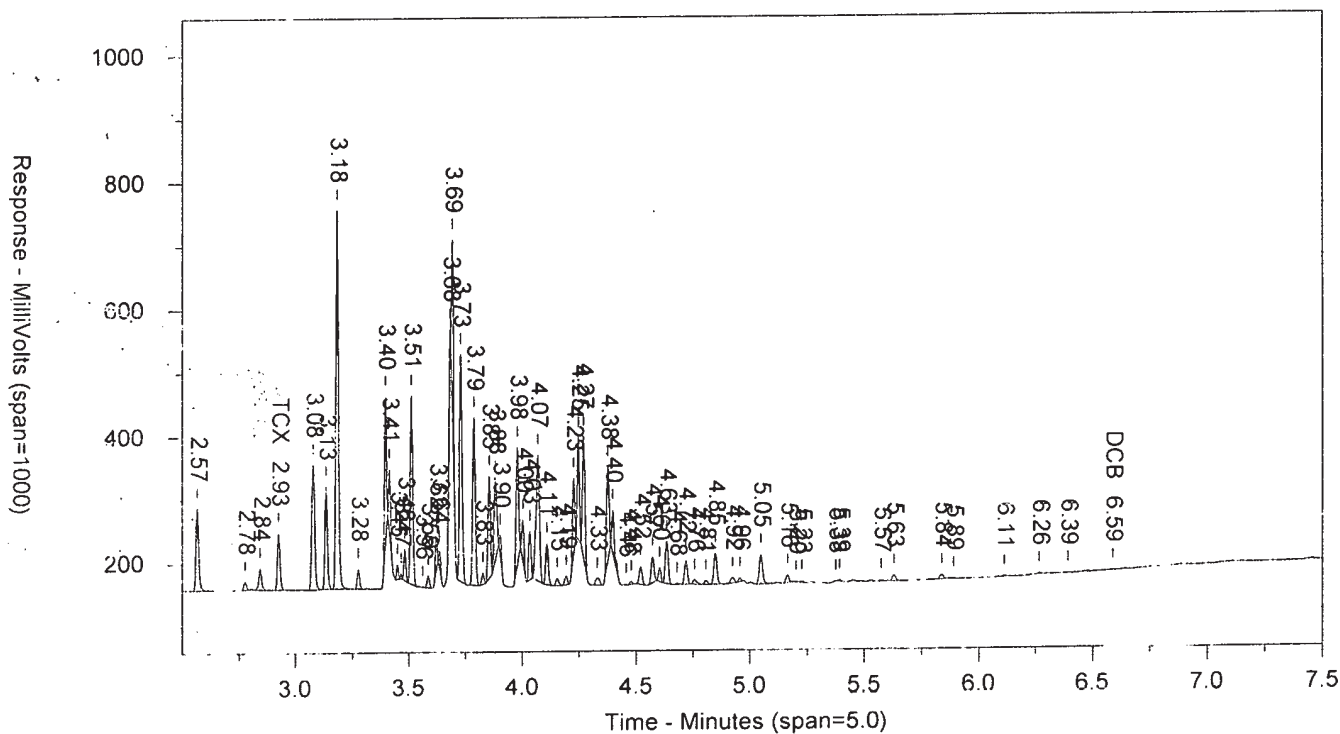
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ICAL 1830299999

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SW-846 8082

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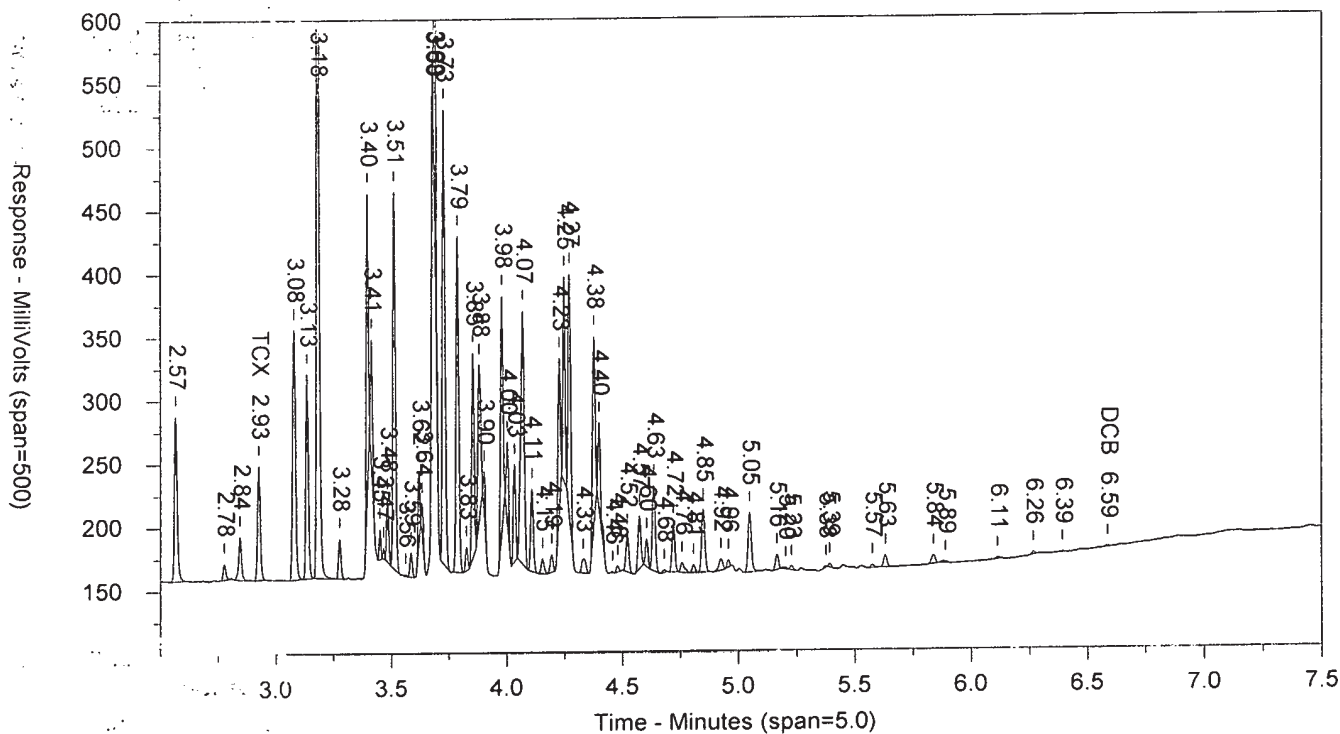
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ICAL 1830299999

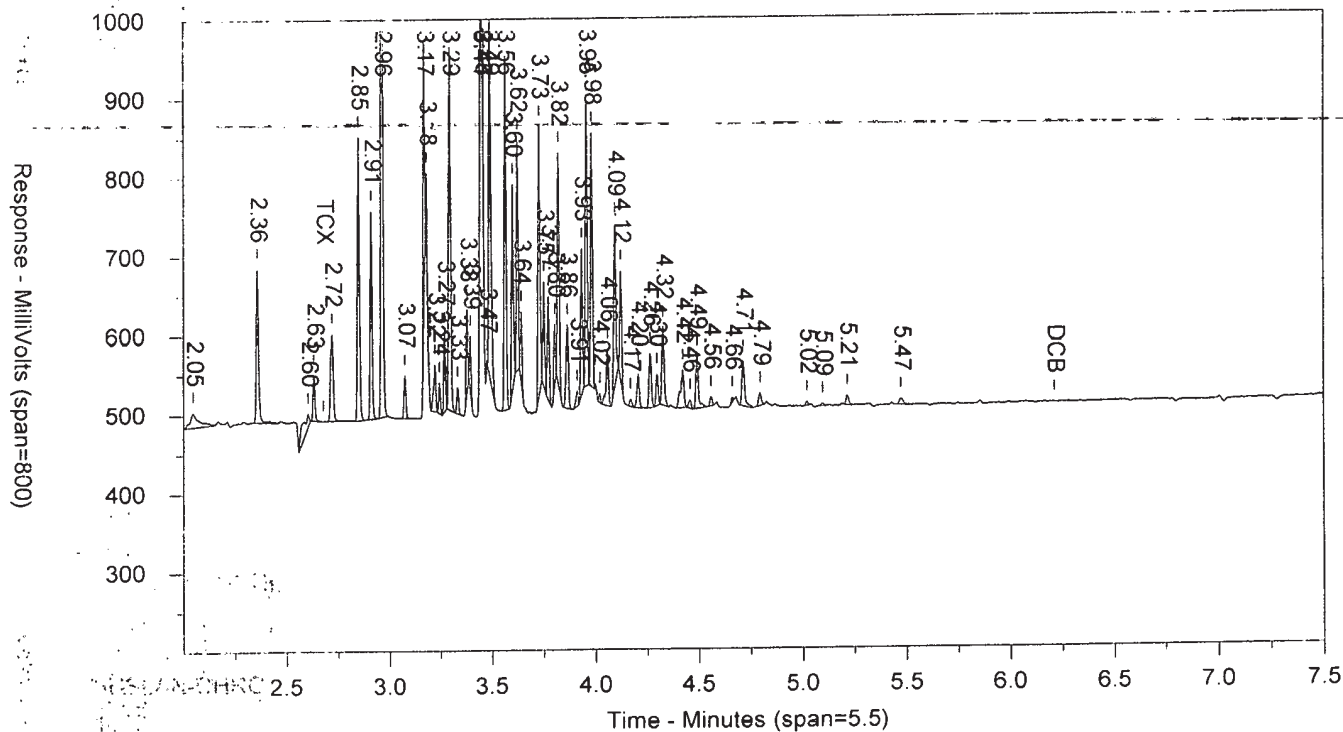
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SW-846 8082

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Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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		1110422	52832
3.443		1419681	192831
3.453		7804990	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
4.053		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

Chrom Perfect Chromatogram Report

RT B	Compound B	Height B	Area B
5.192		8772	7215

AR4241824E

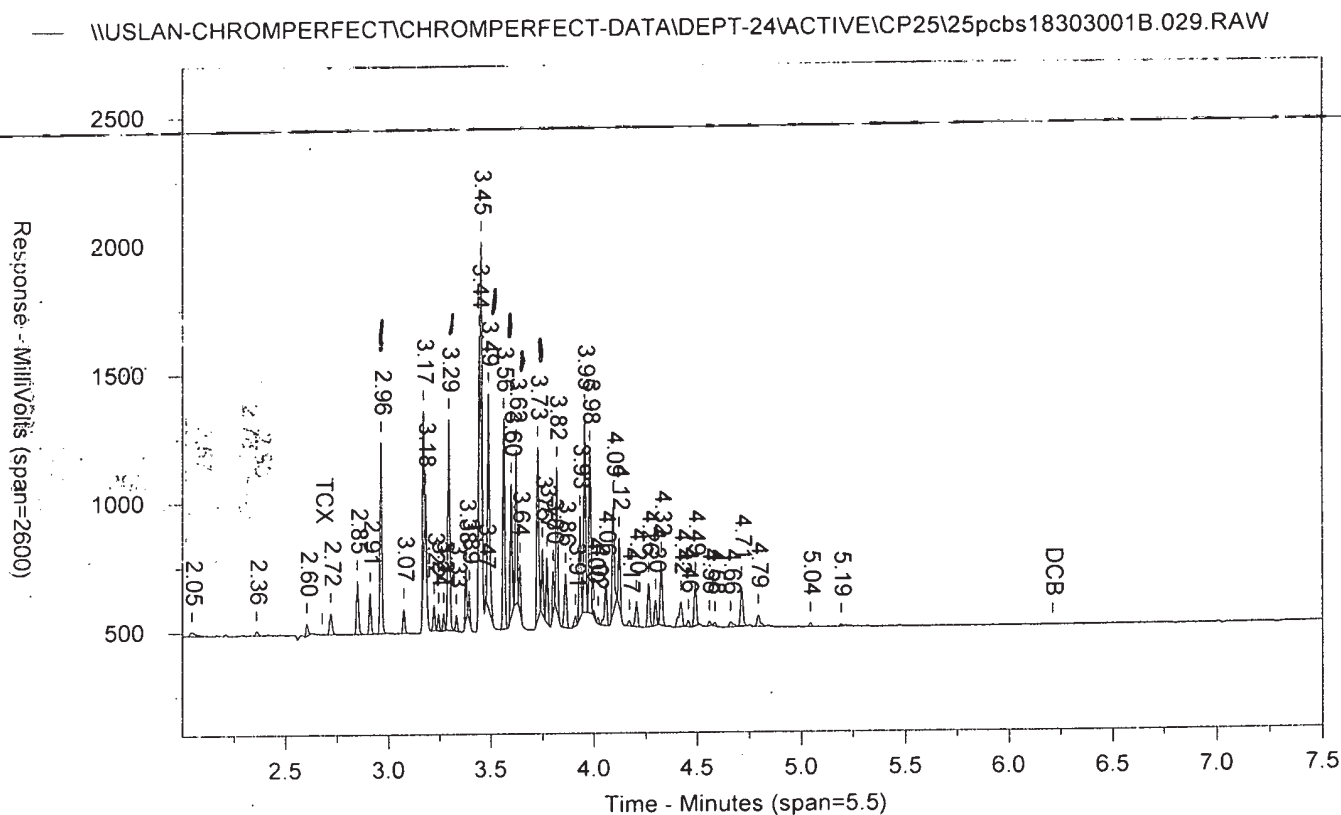
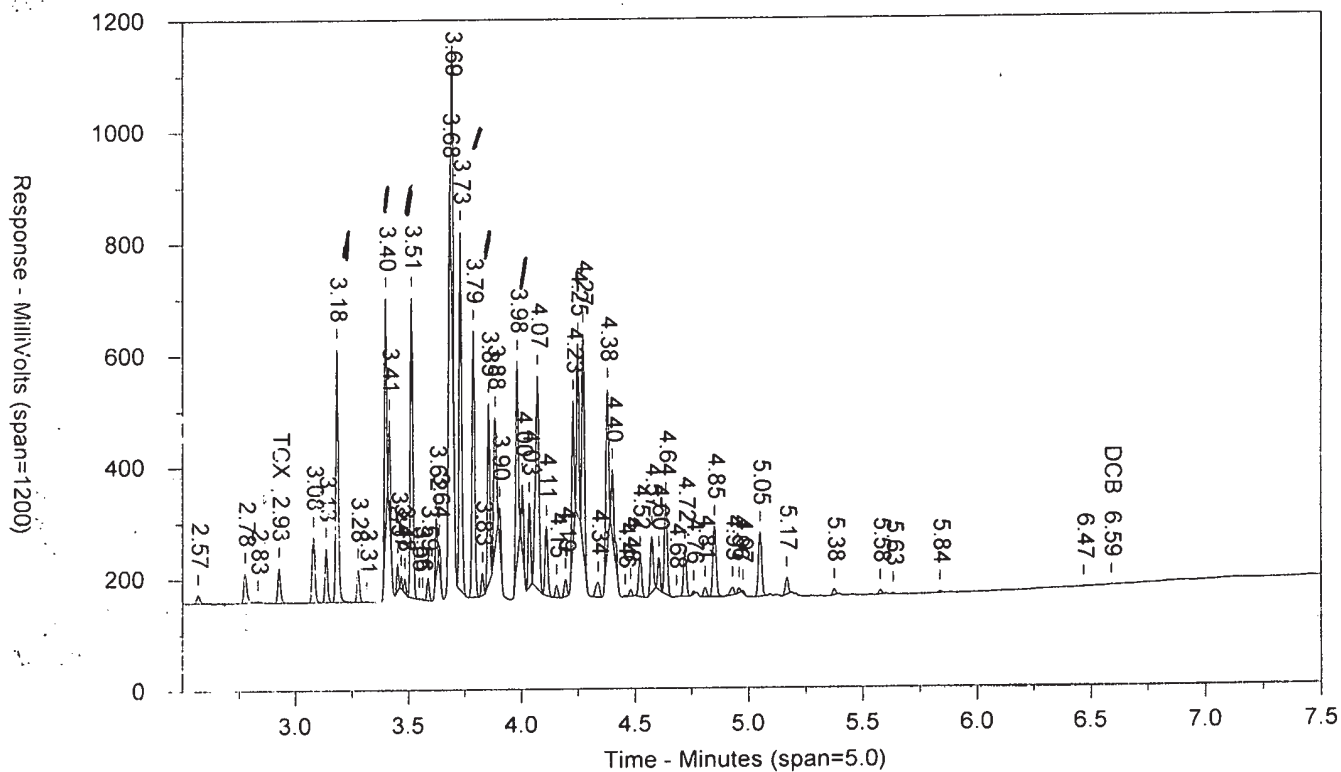
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ICAL 1830299999

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SW-846 8082

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Chrom Perfect Chromatogram Report

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: 25pcbs18303001D.029.RAW

Method A: 25PCBS.MEI

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

Area File: 25pcbs18303001.029.RAW
Area File: 25pcbs18303001D.029.RAW
Method A: 25PCBS.MEI
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

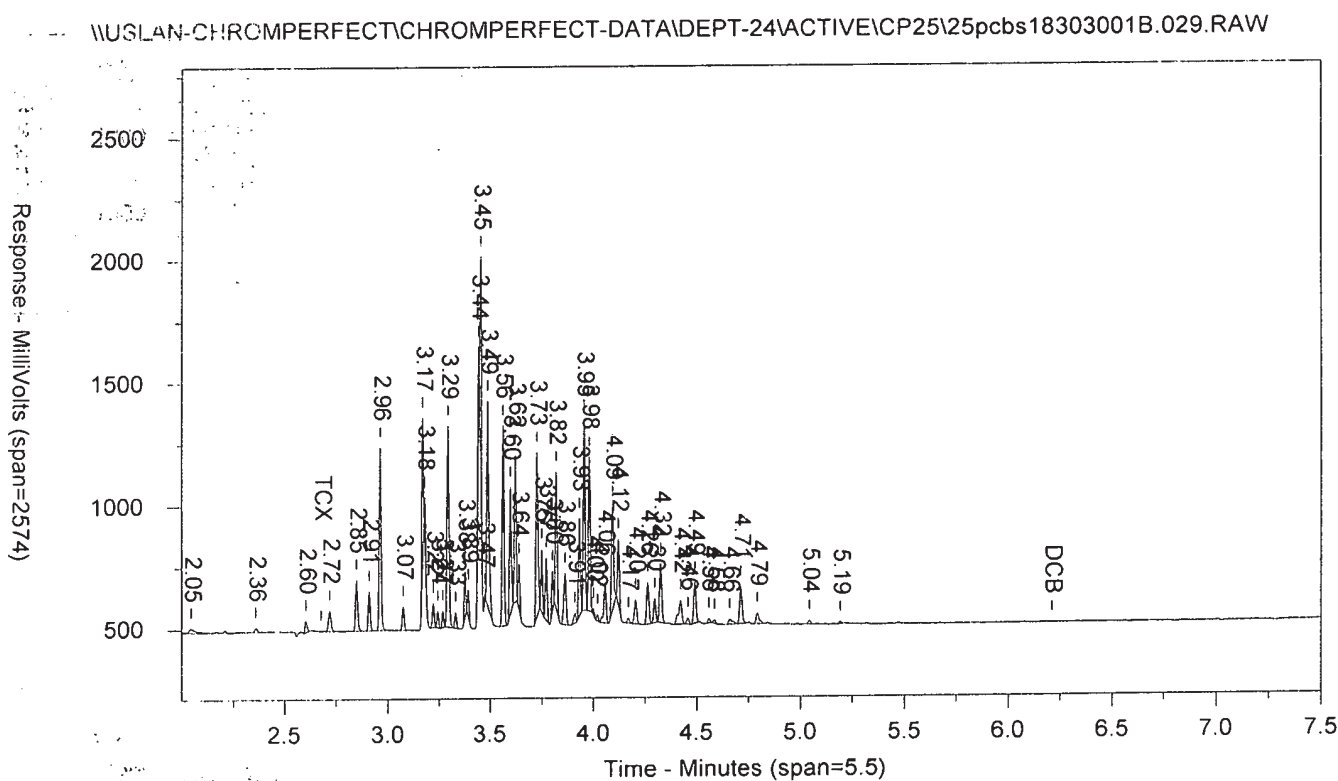
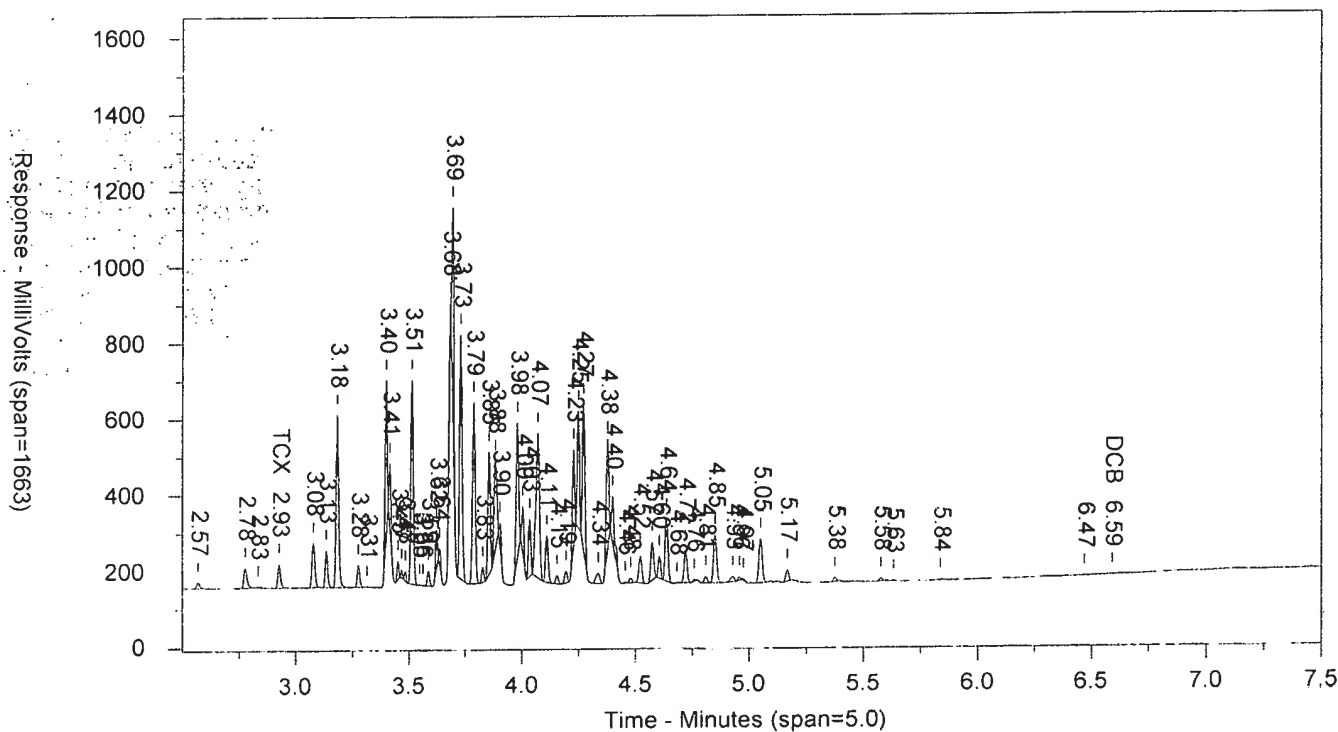
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ICAL 1830299999

10227

SW-846 8082

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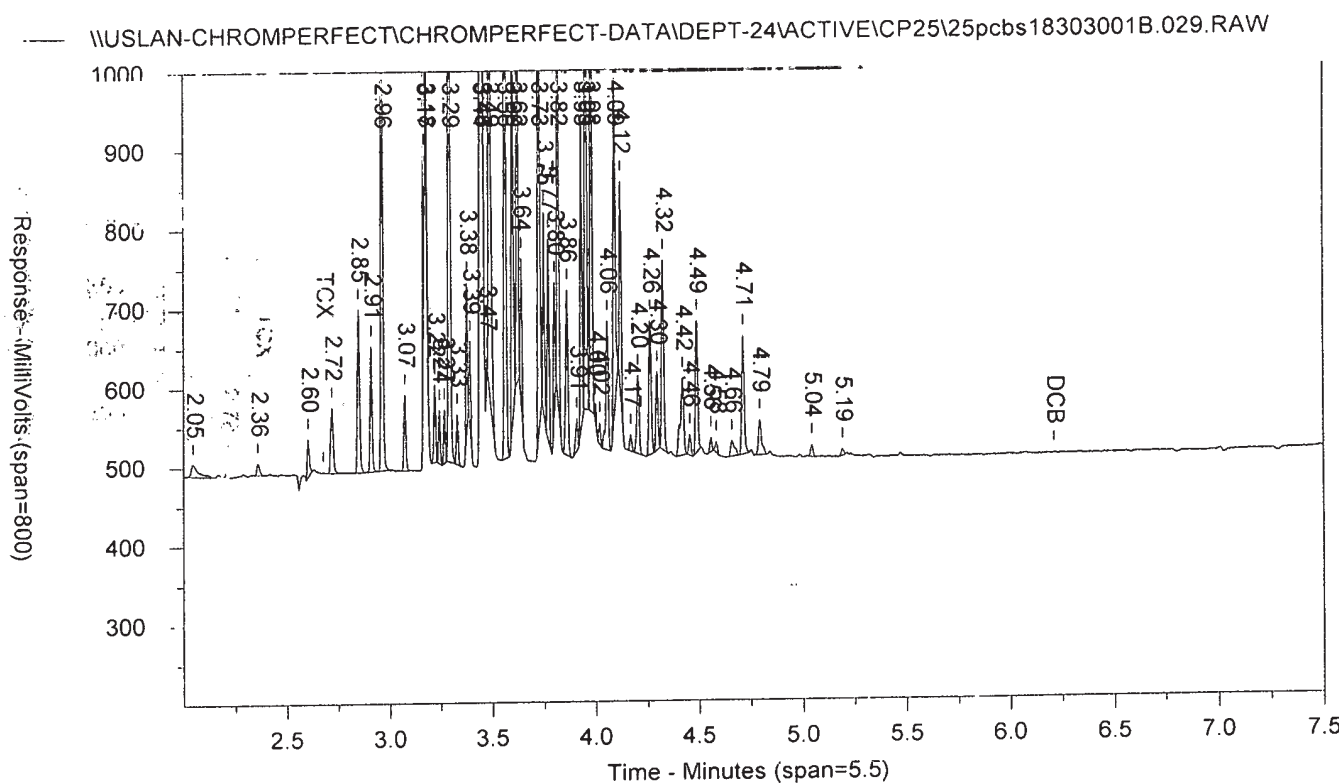
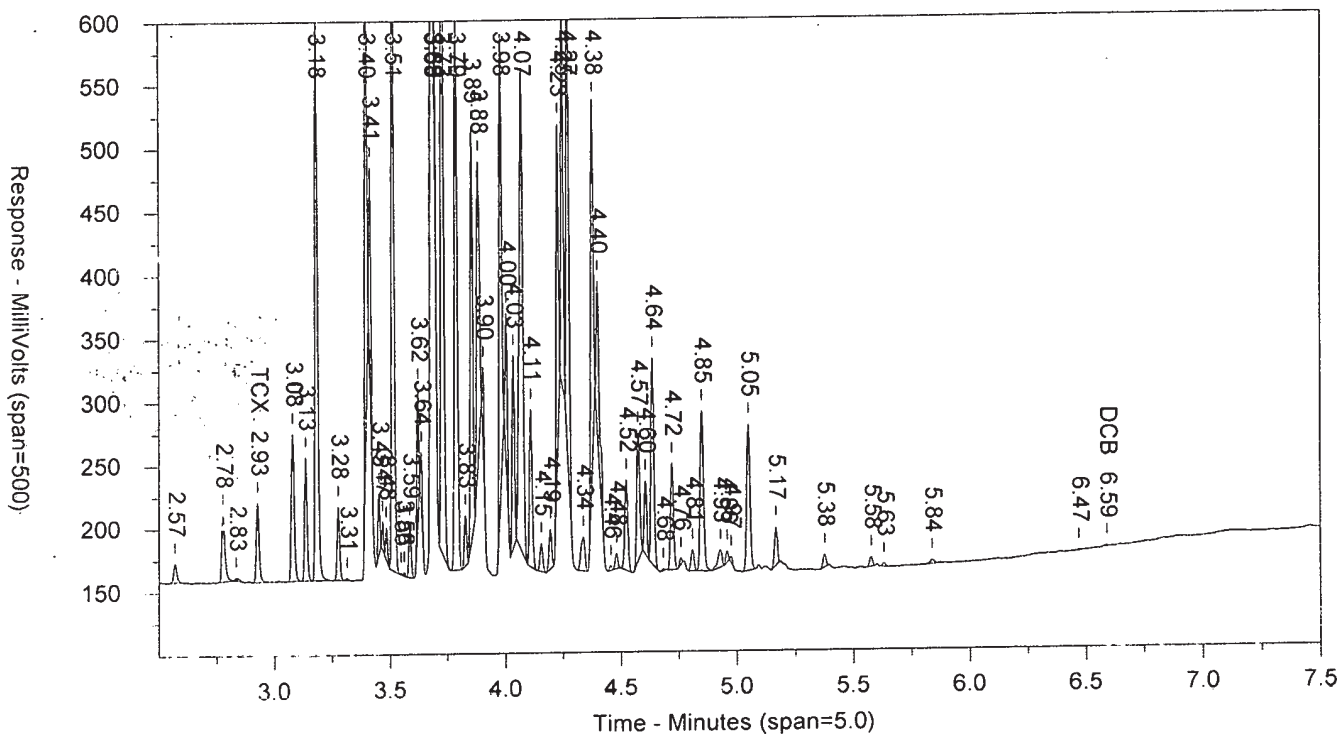
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ICAL 1830299999

10227

SW-846 8082

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Chrom Perfect Chromatogram Report

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		1175153	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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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		955415	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

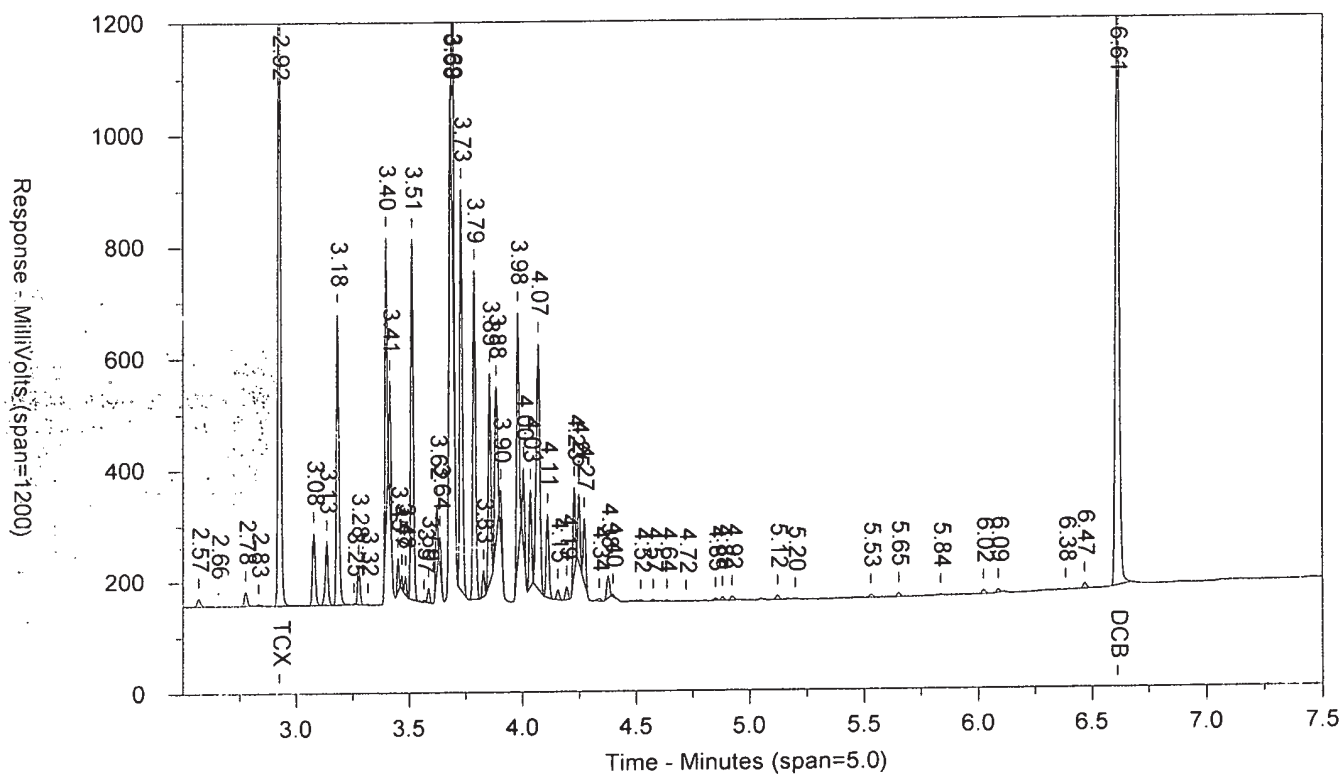
AAAR16XAA

ICAL 1830299999

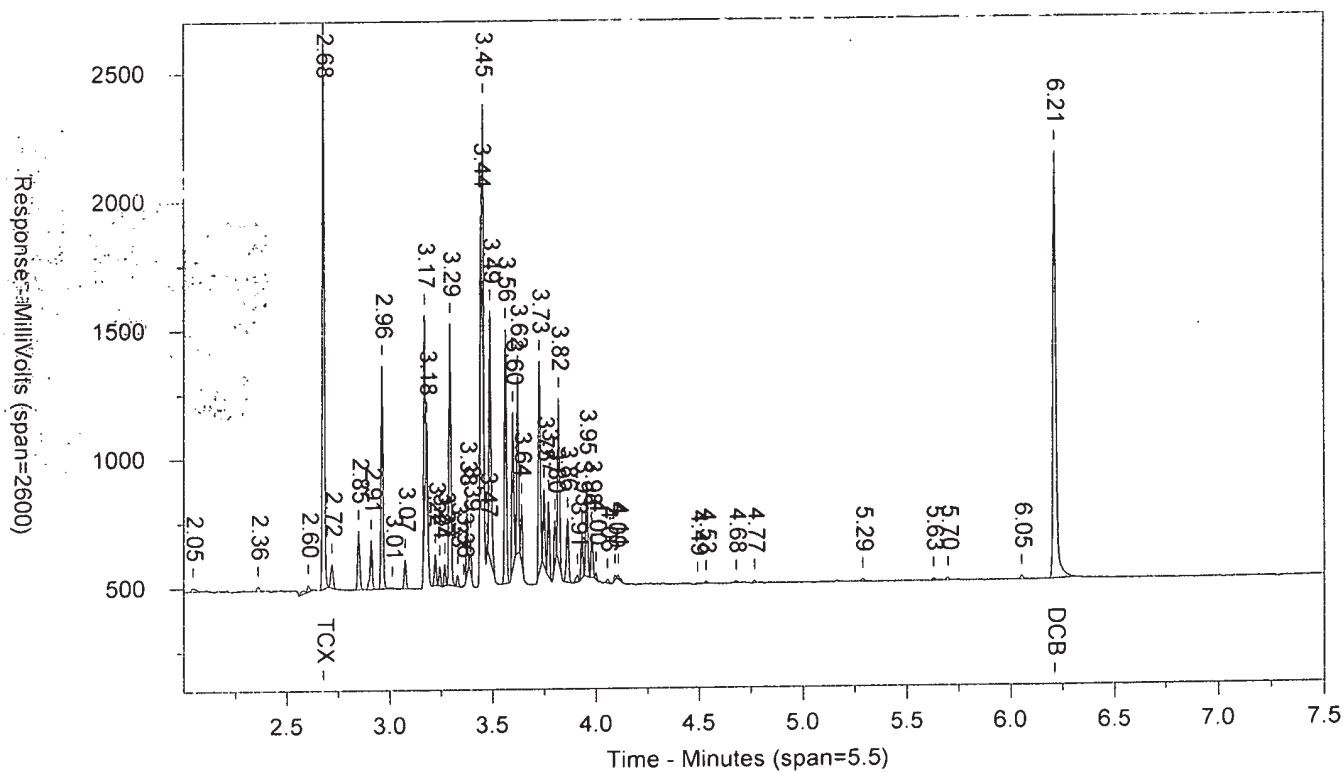
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SW-846 8082

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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

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	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

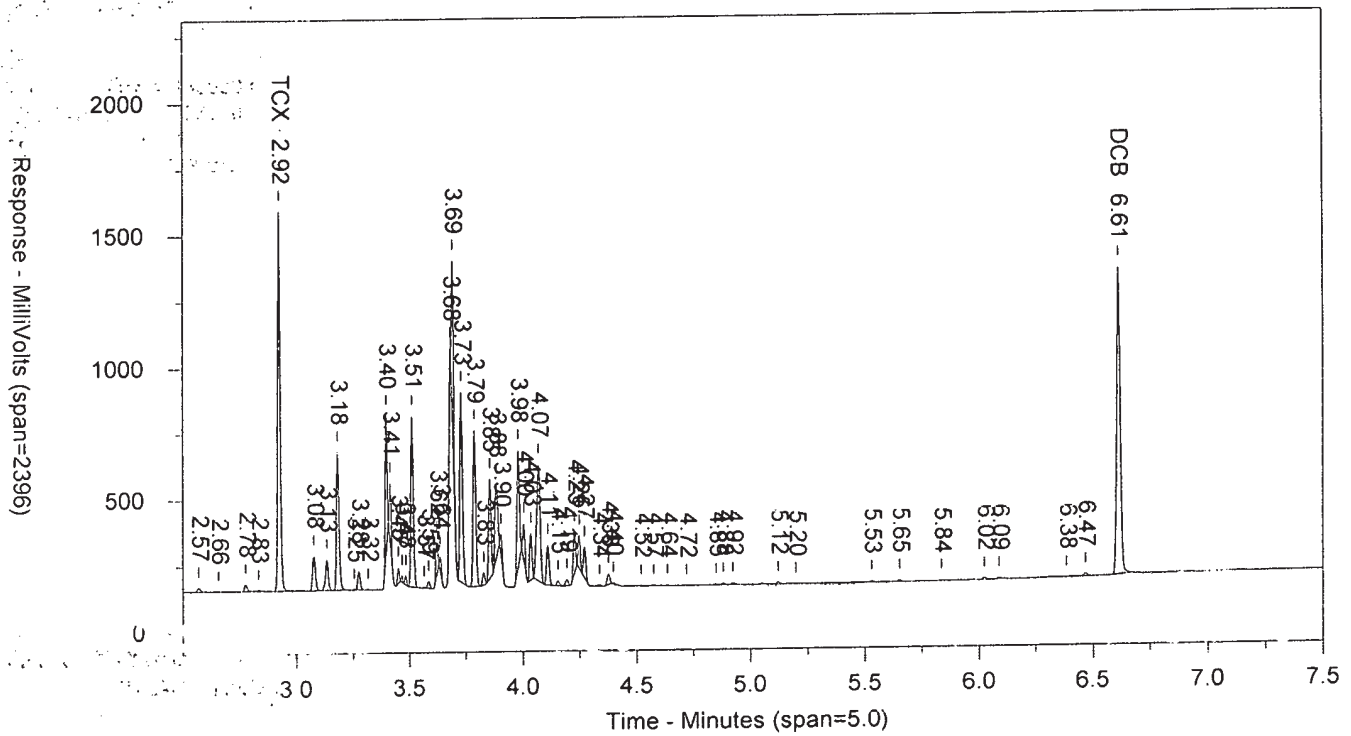
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ICAL 1830299999

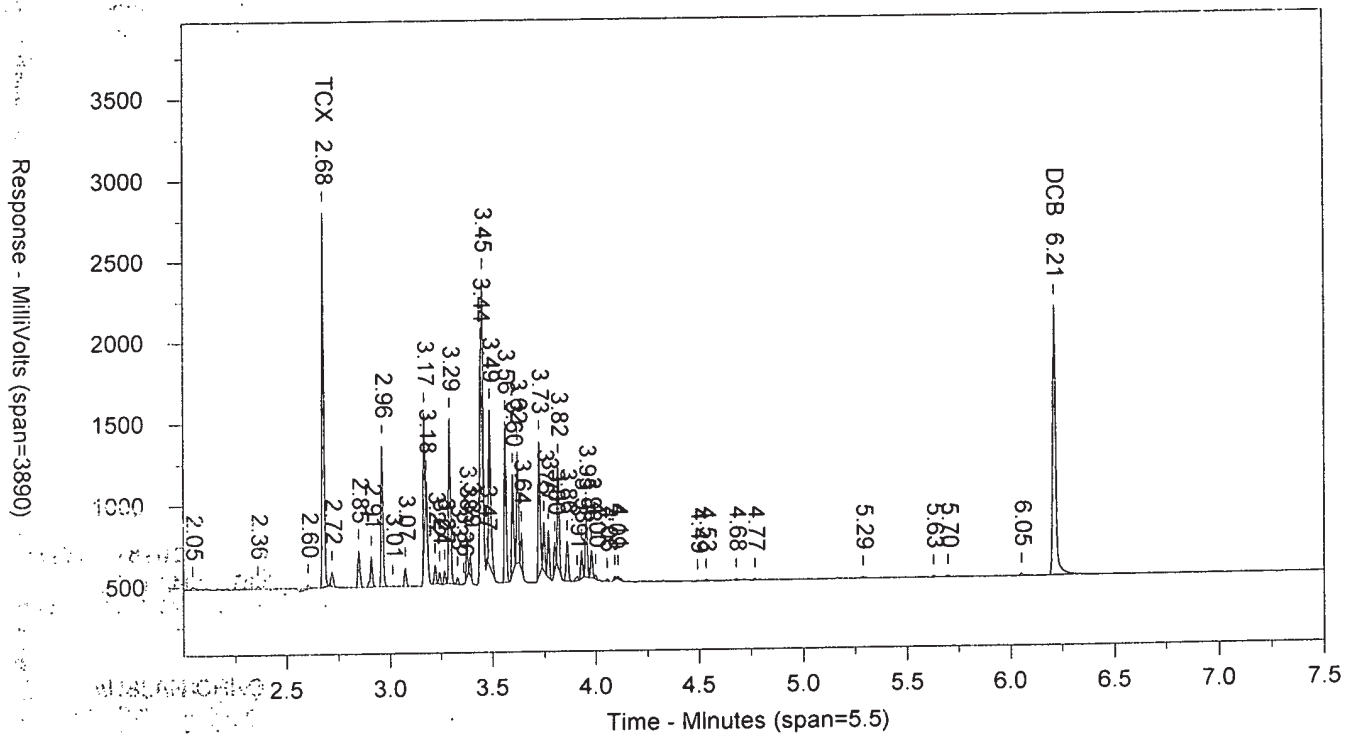
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SW-846 8082

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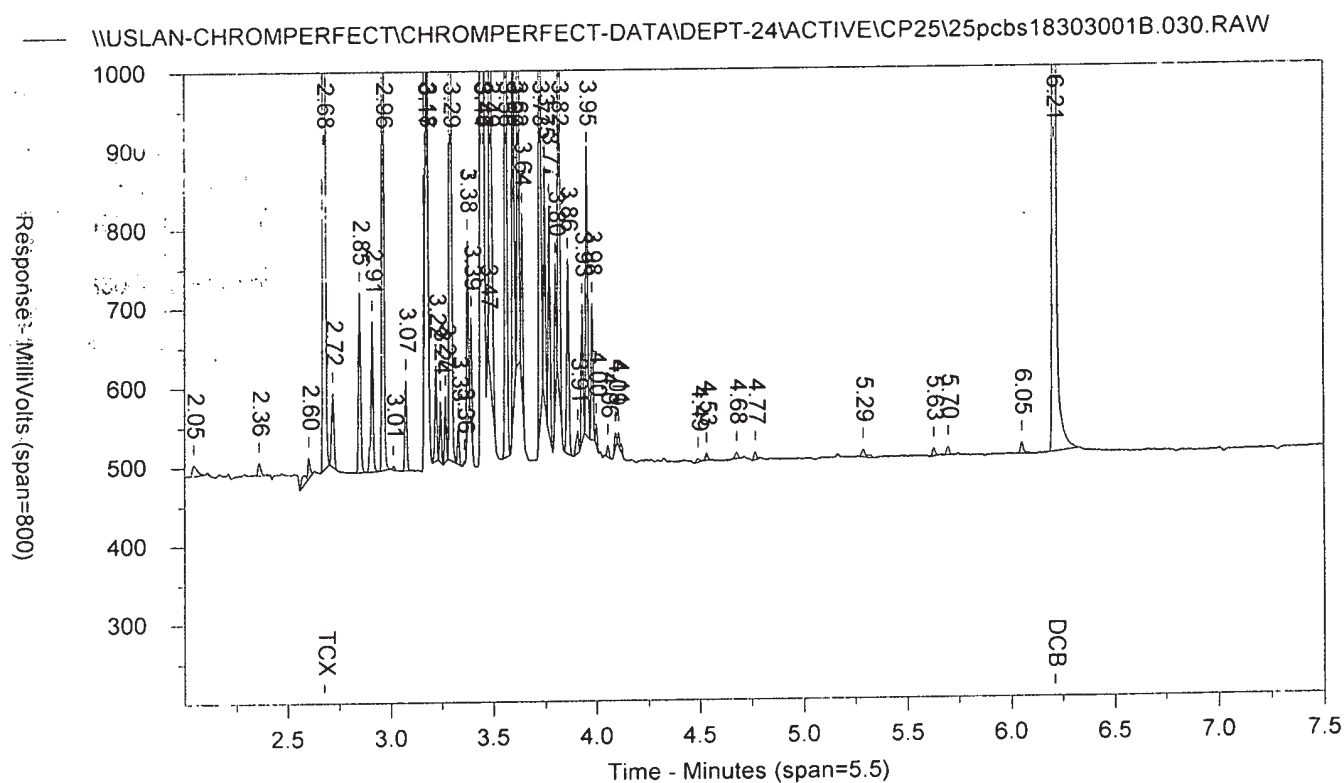
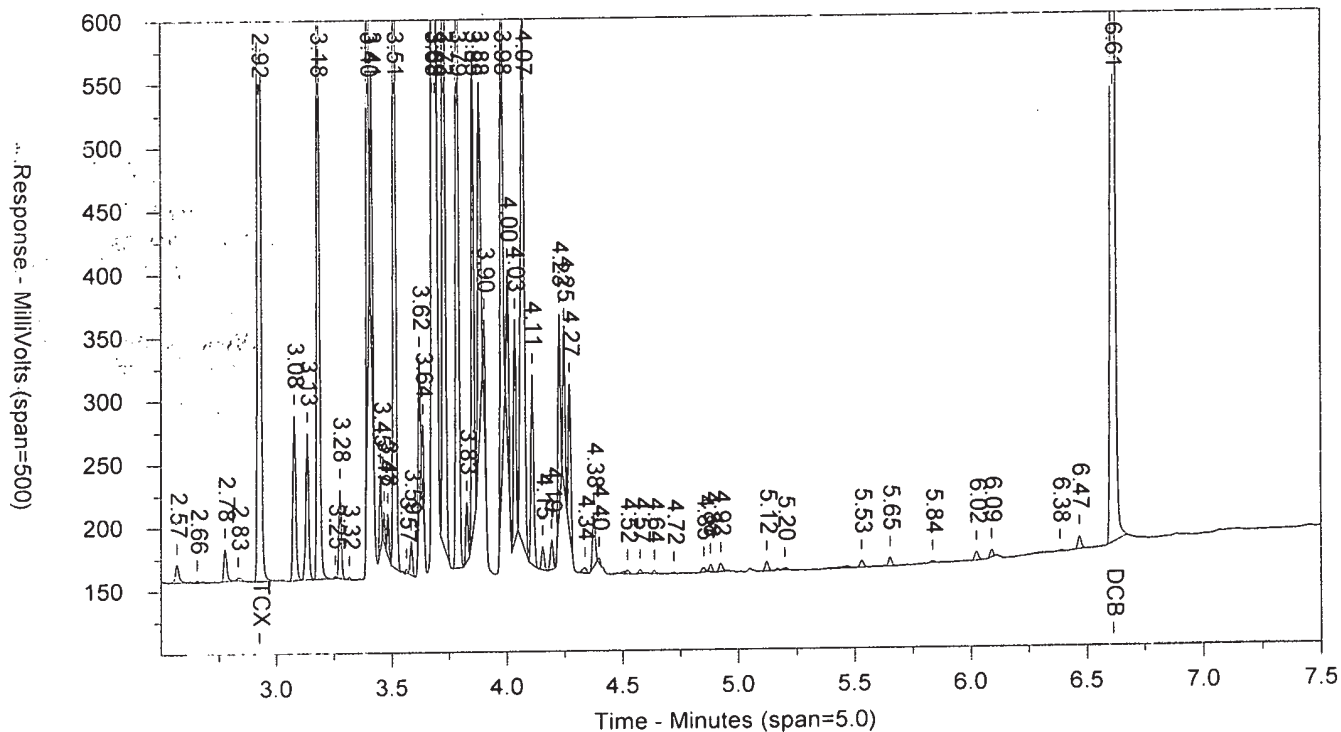
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ICAL 183029999

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SW-846 8082

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Chrom Perfect Chromatogram Report

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
4.11		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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

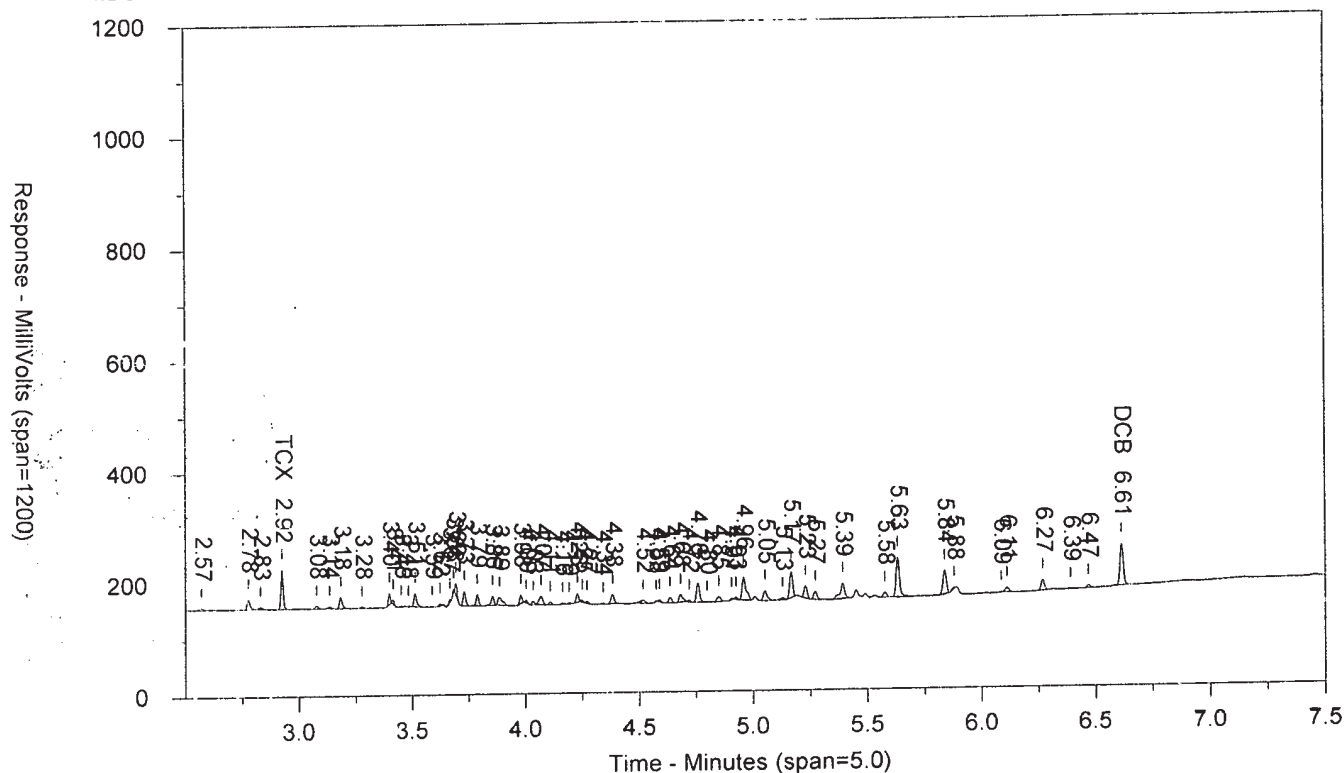
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ICAL 1830299999

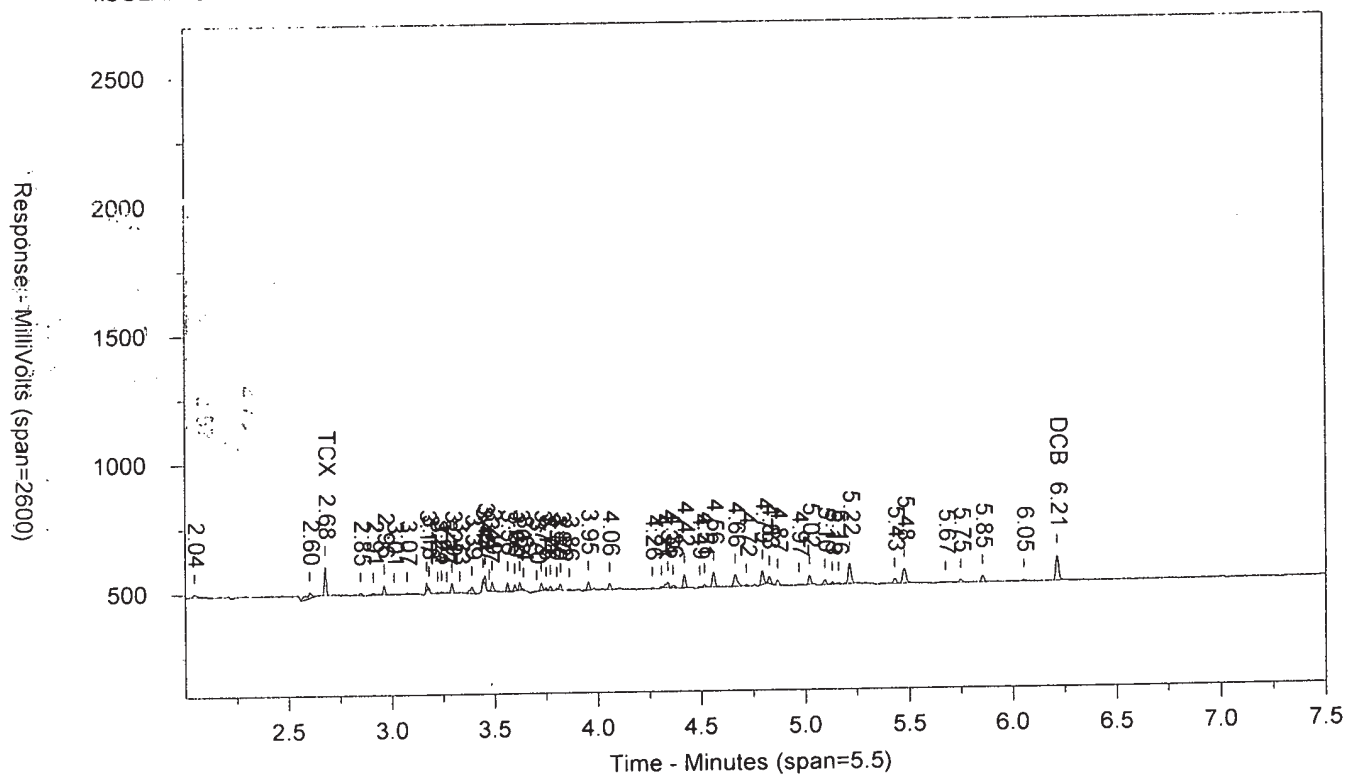
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SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082
 Injected On: 10/30/2018 10:34:51 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
2.925	70806	.456	TCX	2.678	111840	.438	TCX
6.614	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

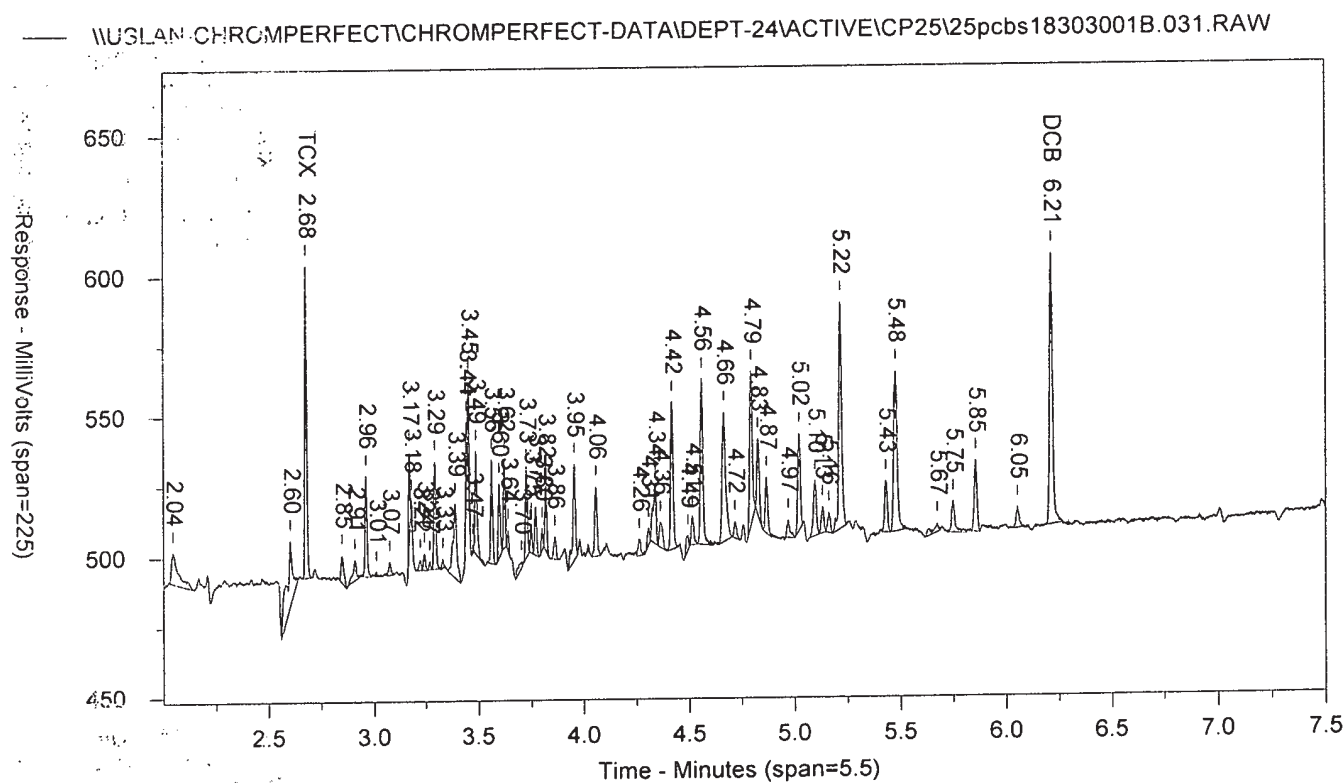
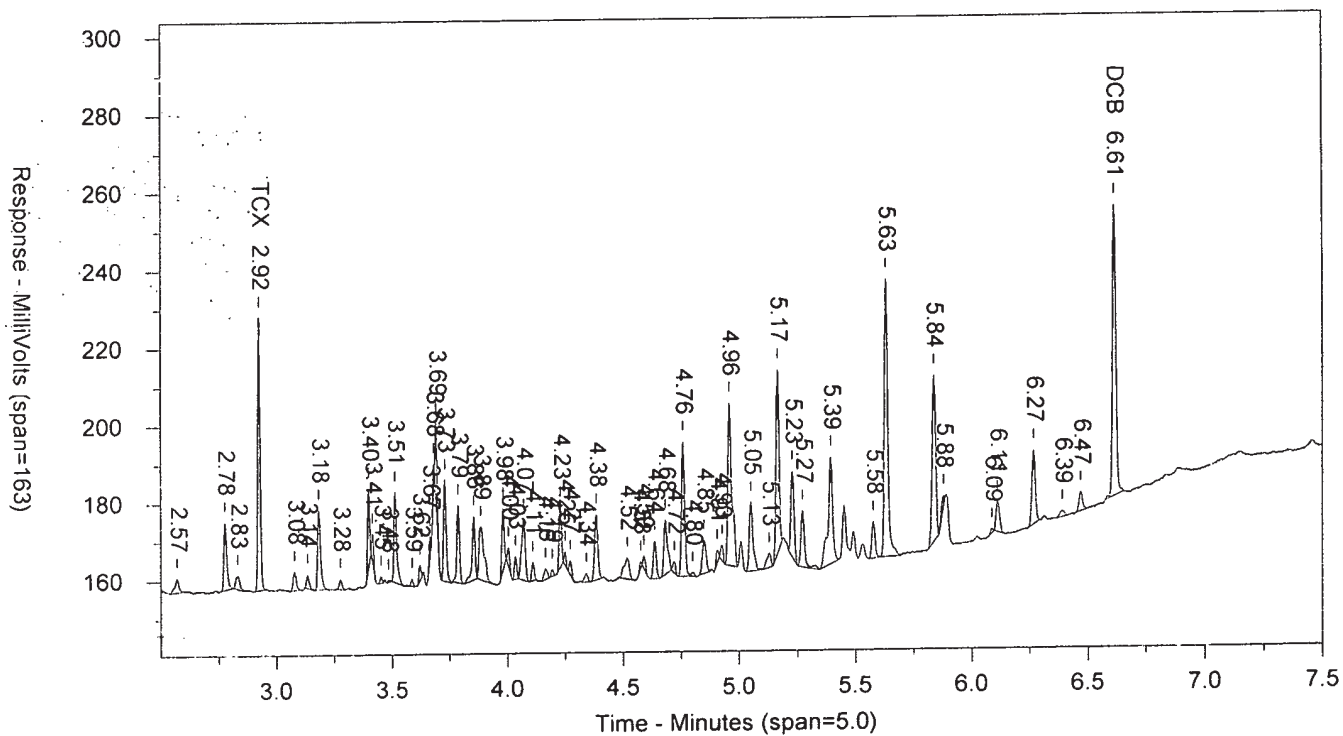
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ICAL 1830299999

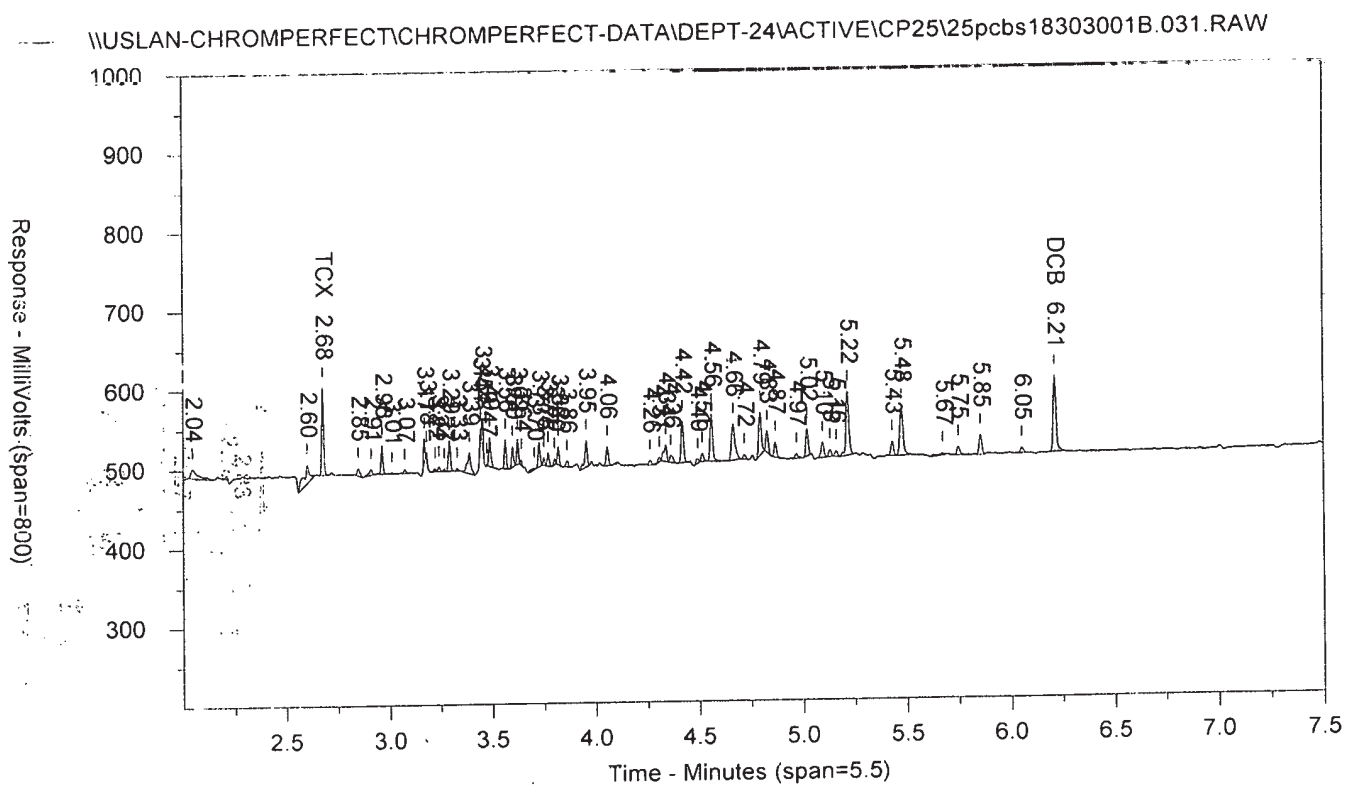
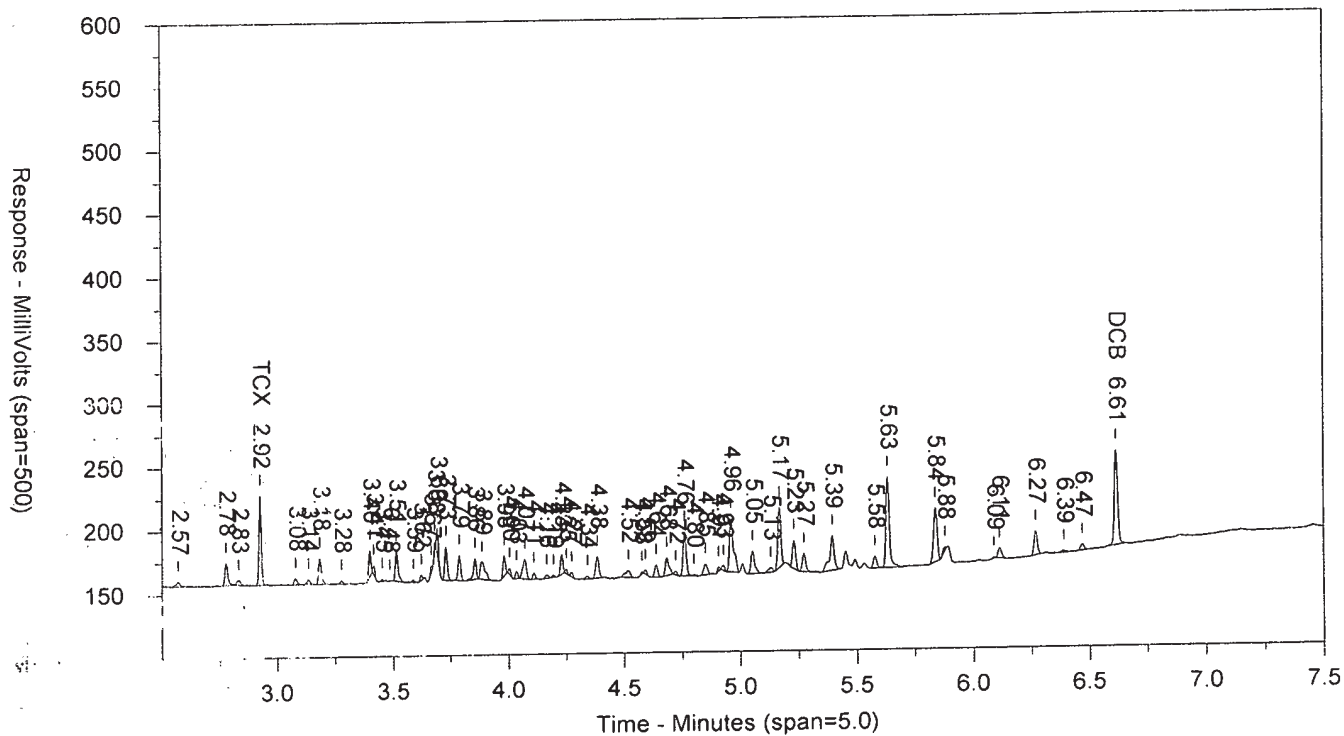
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SW-846 8082

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MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 8082
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Chrom Perfect Chromatogram Report

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		566417	321596
3.728		763713	596277
3.787		609852	509180
3.827		55108	37967
3.854		405437	304254
3.884		332198	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

Chrom Perfect Chromatogram Report

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	DCB	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

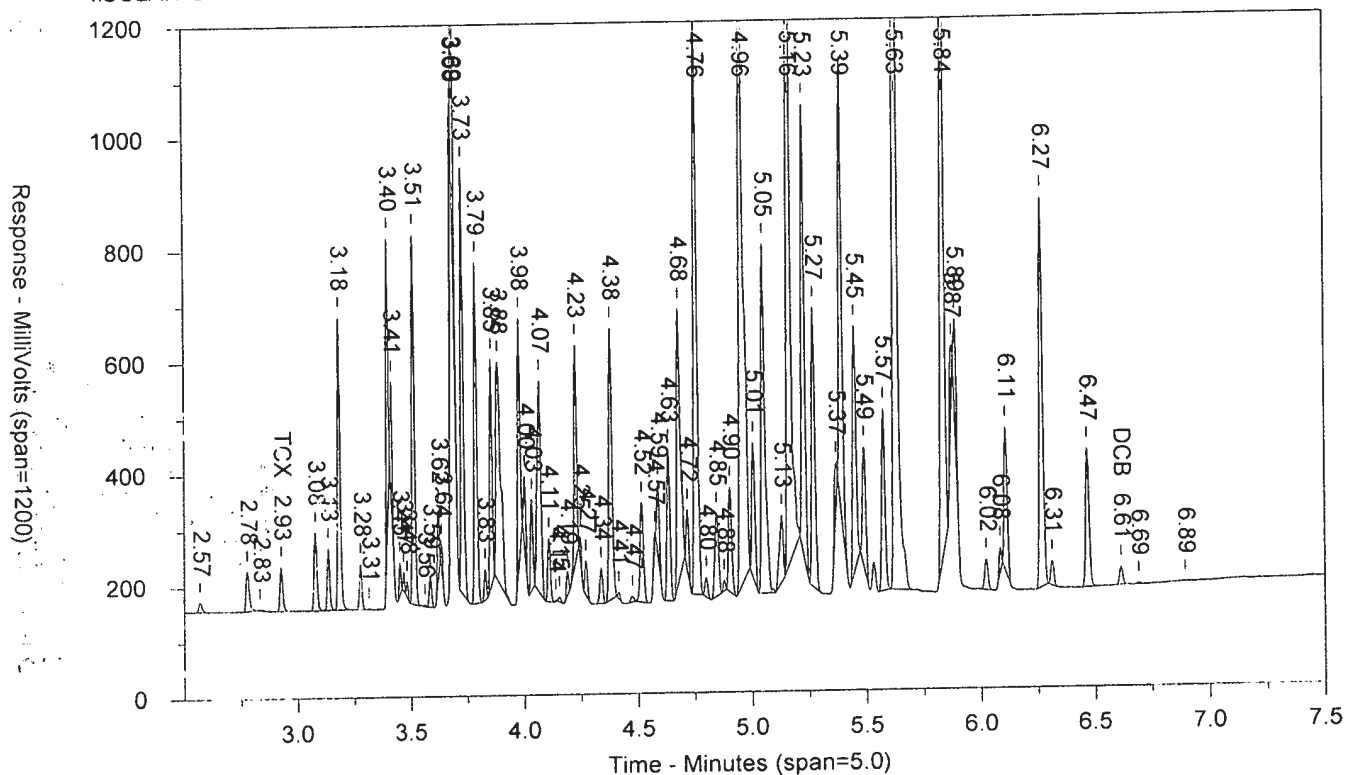
RT B	Compound B	Height B	Area B
2.045		19164	47488
2.361		20886	19506
2.584		11481	18645
2.603		71242	95492
2.72		104767	98423
2.849		252178	180059
2.909		181873	118217
2.962		864286	554899
3.074		128620	87667
3.17		731006	372226
3.181		241936	87838
3.222		119974	74923
3.244		93833	56130
3.269		75108	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		4969791	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

Chrom Perfect Chromatogram Report

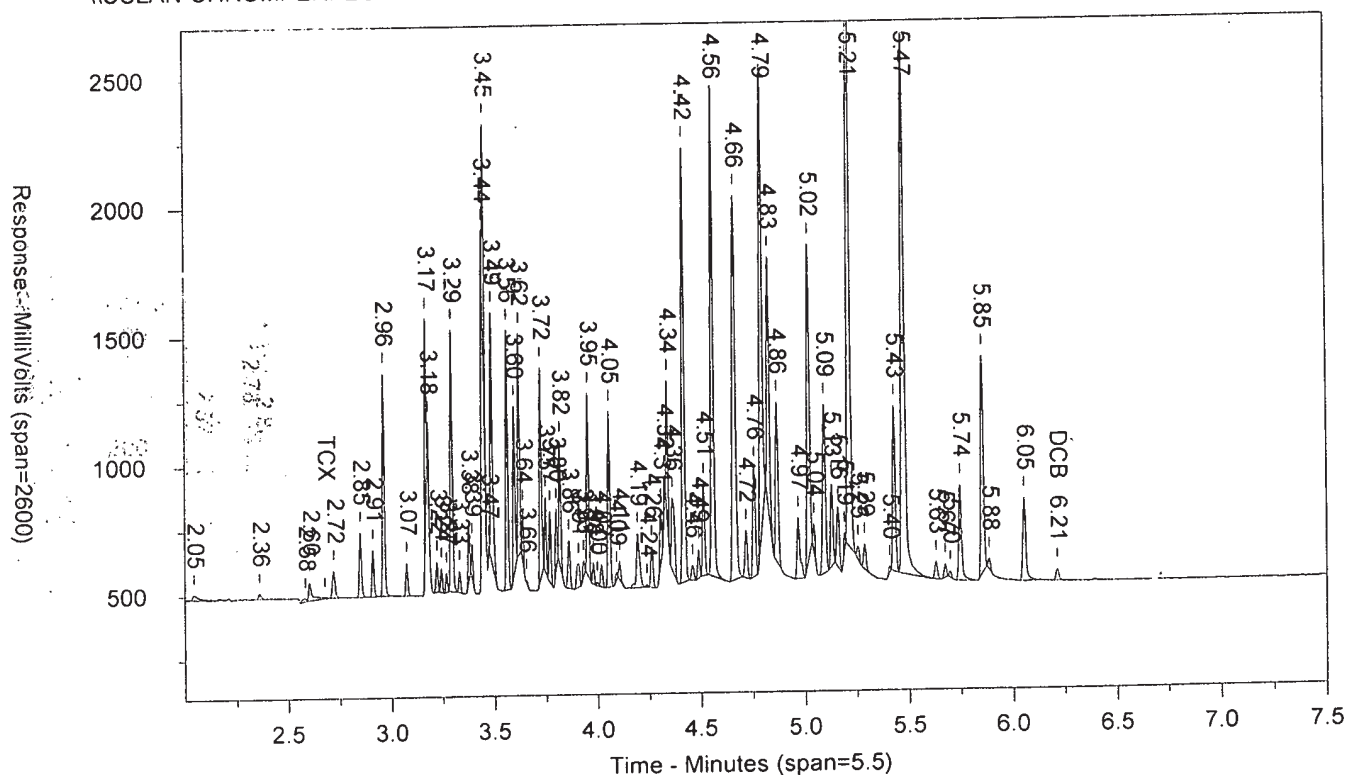
RT B	Compound B	Height B	Area B
4.662		1495106	1558719
4.716		186625	157896
4.756		425725	366207
4.792		1814083	1565138
4.825		983009	745753
4.865		626363	536201
4.966		238793	241090
5.018		1219417	1033228
5.042		106836	69856
5.093		657872	623577
5.128		320168	258811
5.152		233265	203497
5.19		75580	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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LANCASTER LABORATORIES

Sample Number: IC16X1824D AAIC16XAA CCAL 1830299999 10227

SW-846 8082

Injected On: 10/30/2018 10:45:45 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	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

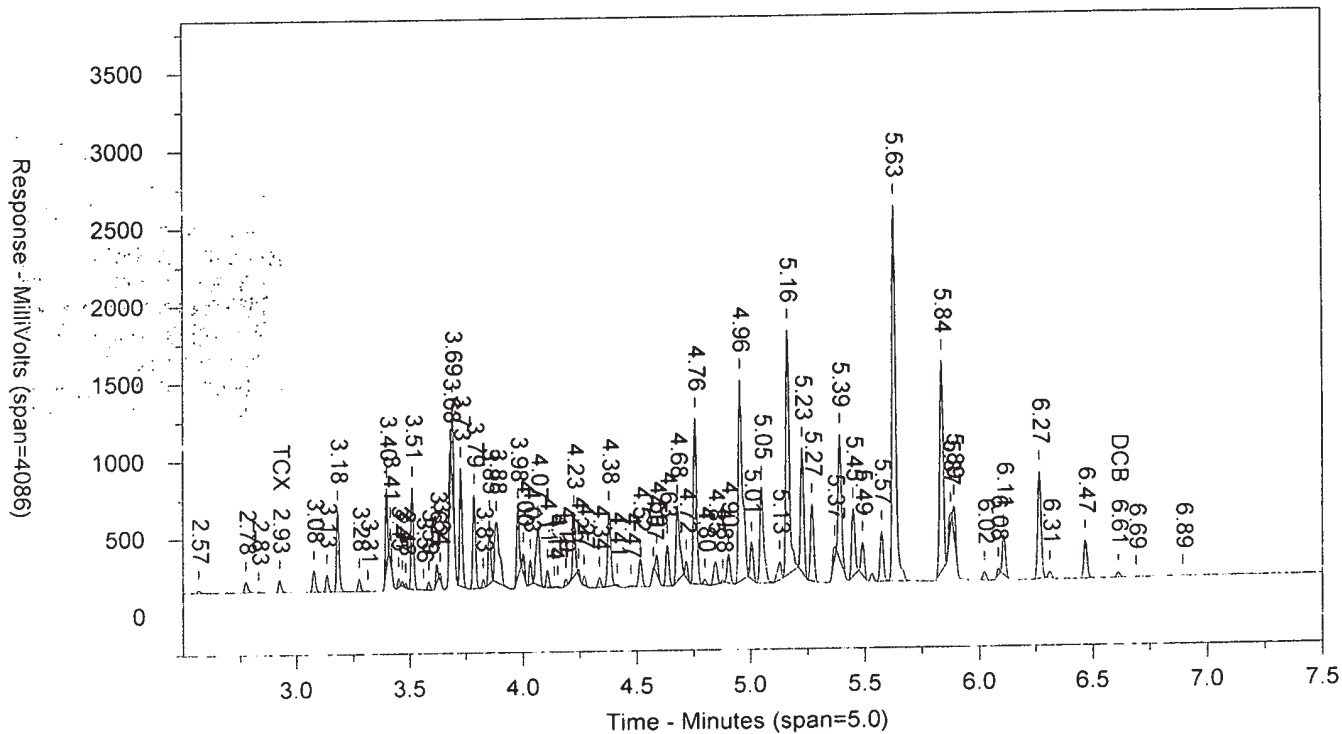
AAIC16XAA

CCAL 1830299999

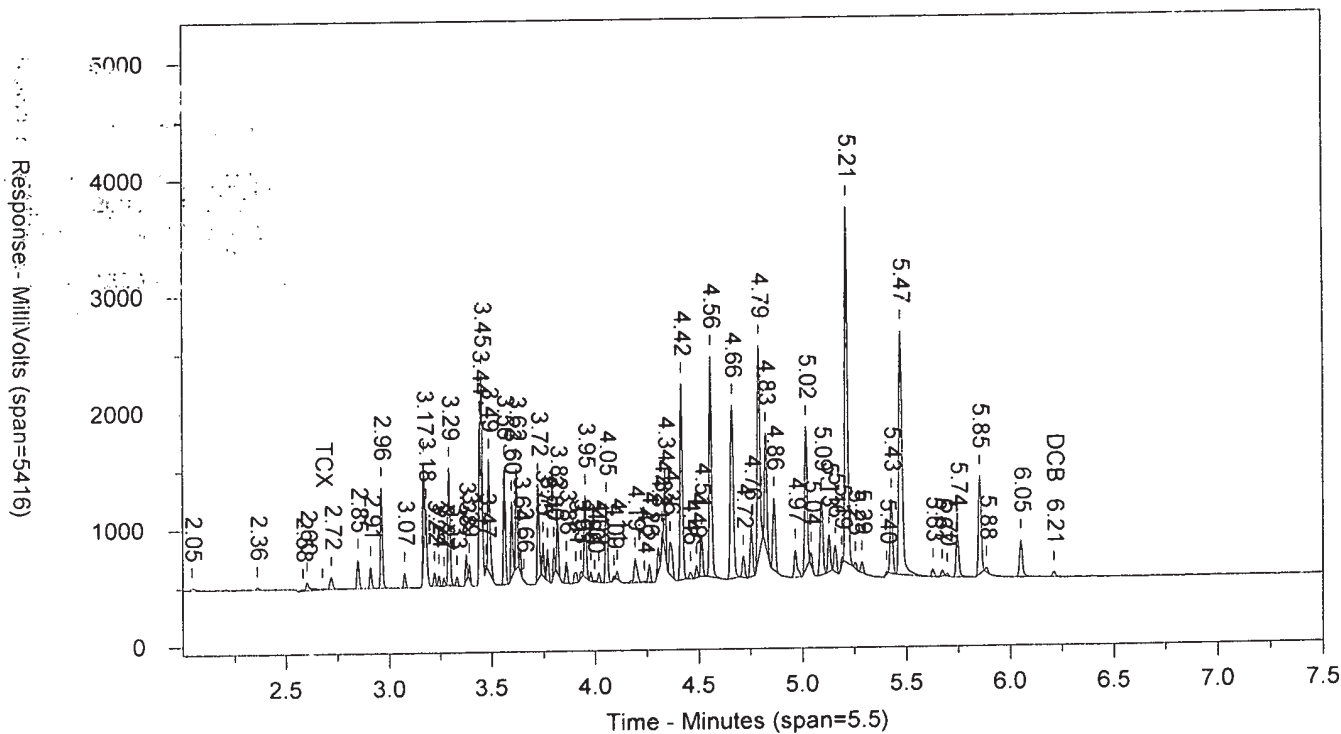
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SW-846 8082

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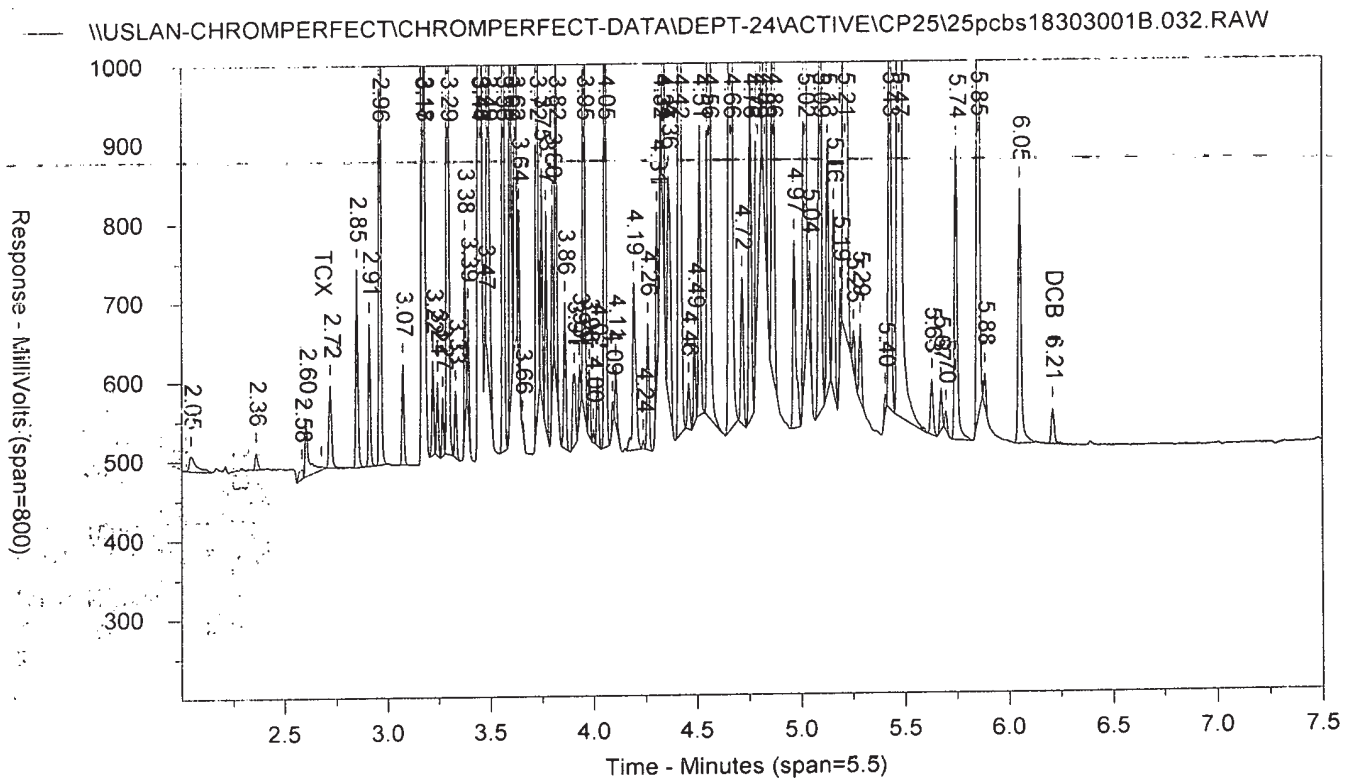
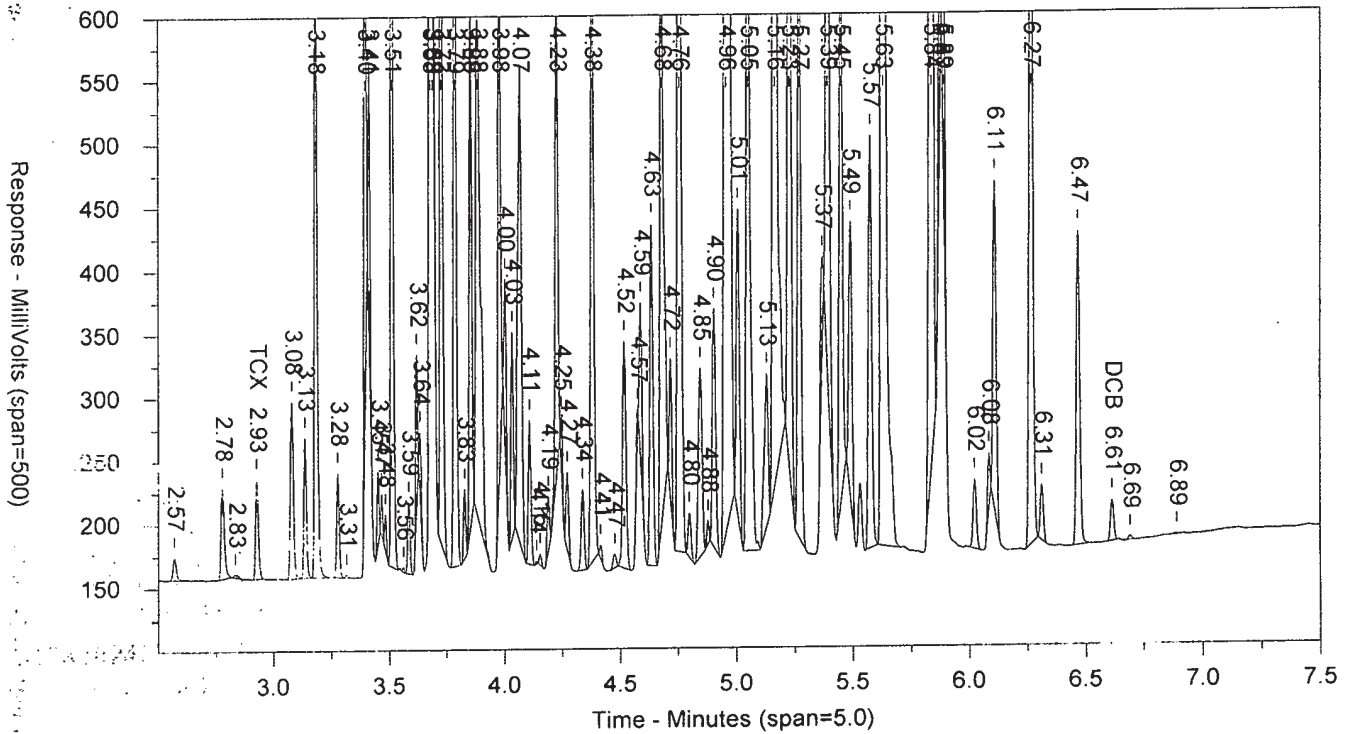
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CCAL 1830299999

10227

SW-846 8082

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Chrom Perfect Chromatogram Report

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
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

Chrom Perfect Chromatogram Report

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
6.645		709	772
6.851		567	990
6.888		1208	1493

LANCASTER LABORATORIES

Sample Number: IC48X1824C AAIC48XAA CCAL 183029999 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	36616
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		267703	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

Chrom Perfect Chromatogram Report

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

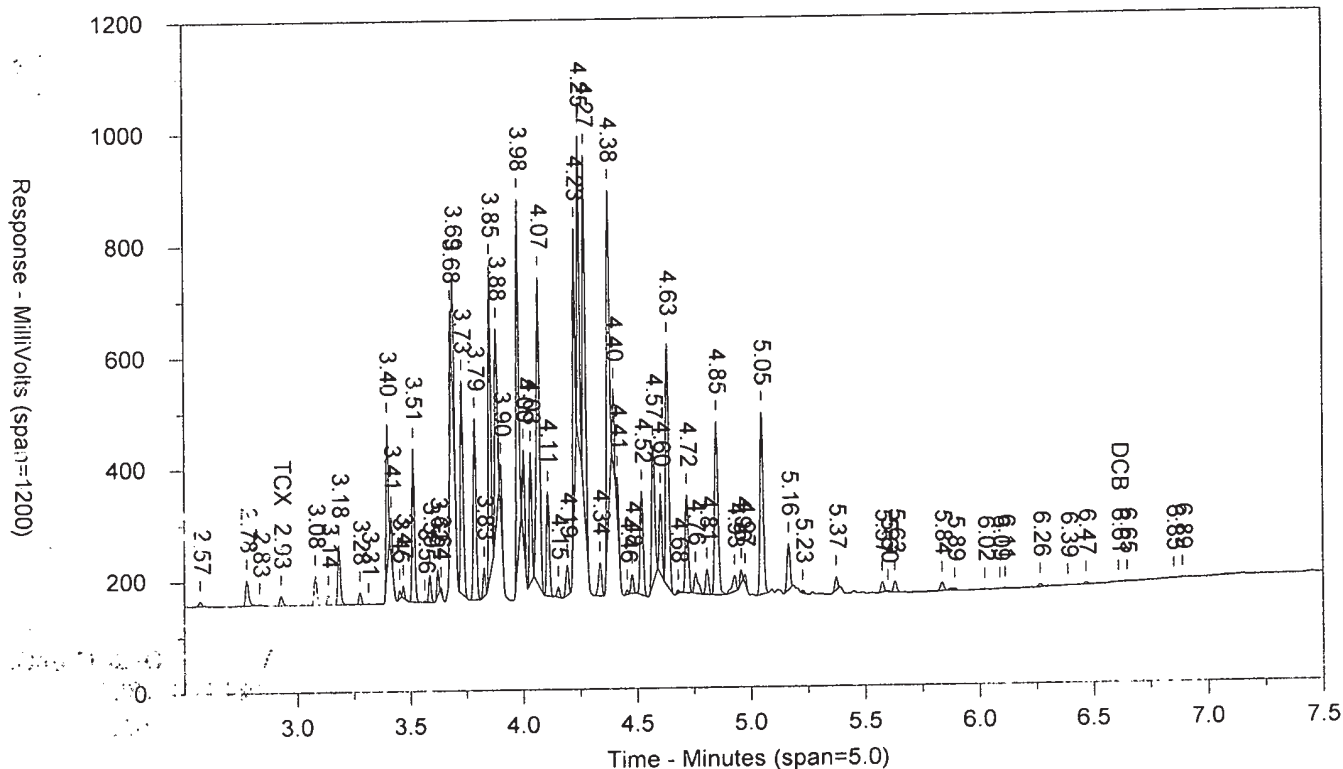
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CCAL 1830299999

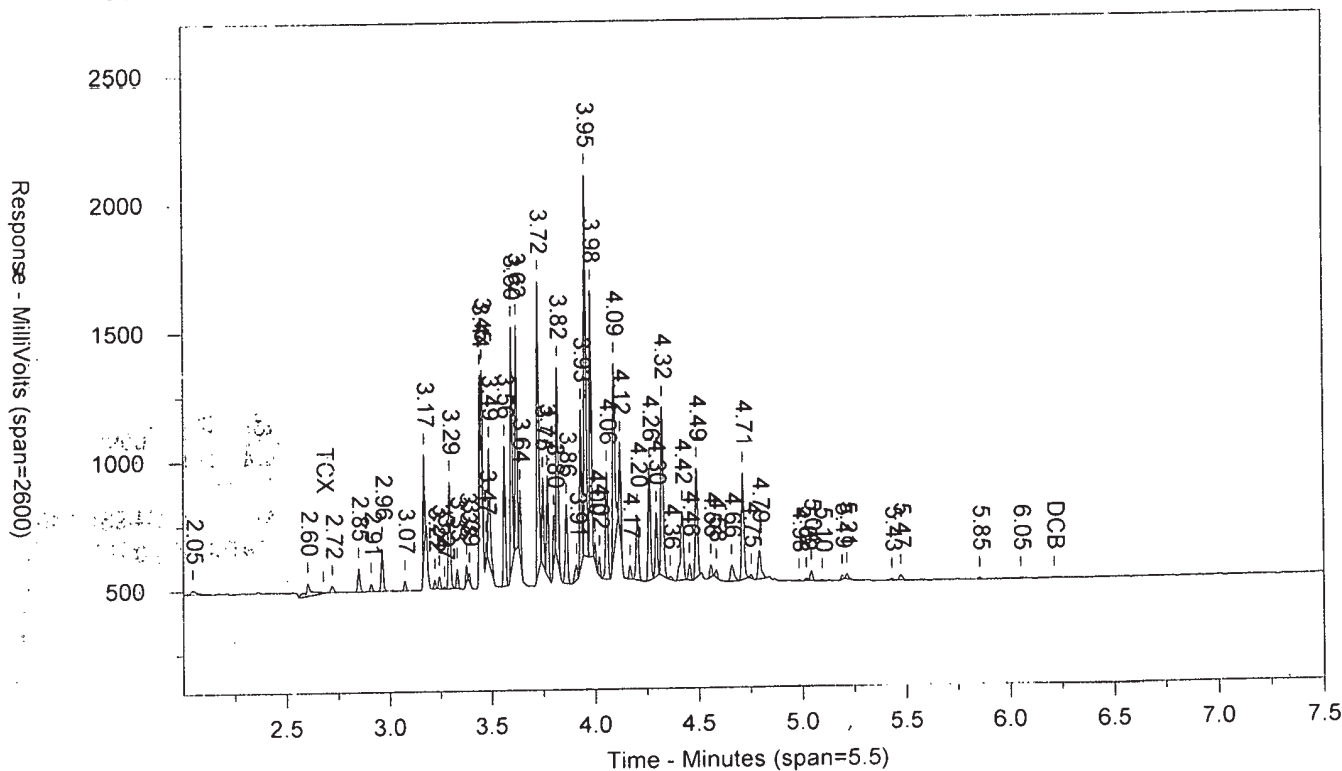
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SW-846 8082

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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
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: 1ul

Threshold: 7
Calibration Type: external
Quantitation: Height

Analyst: 9065

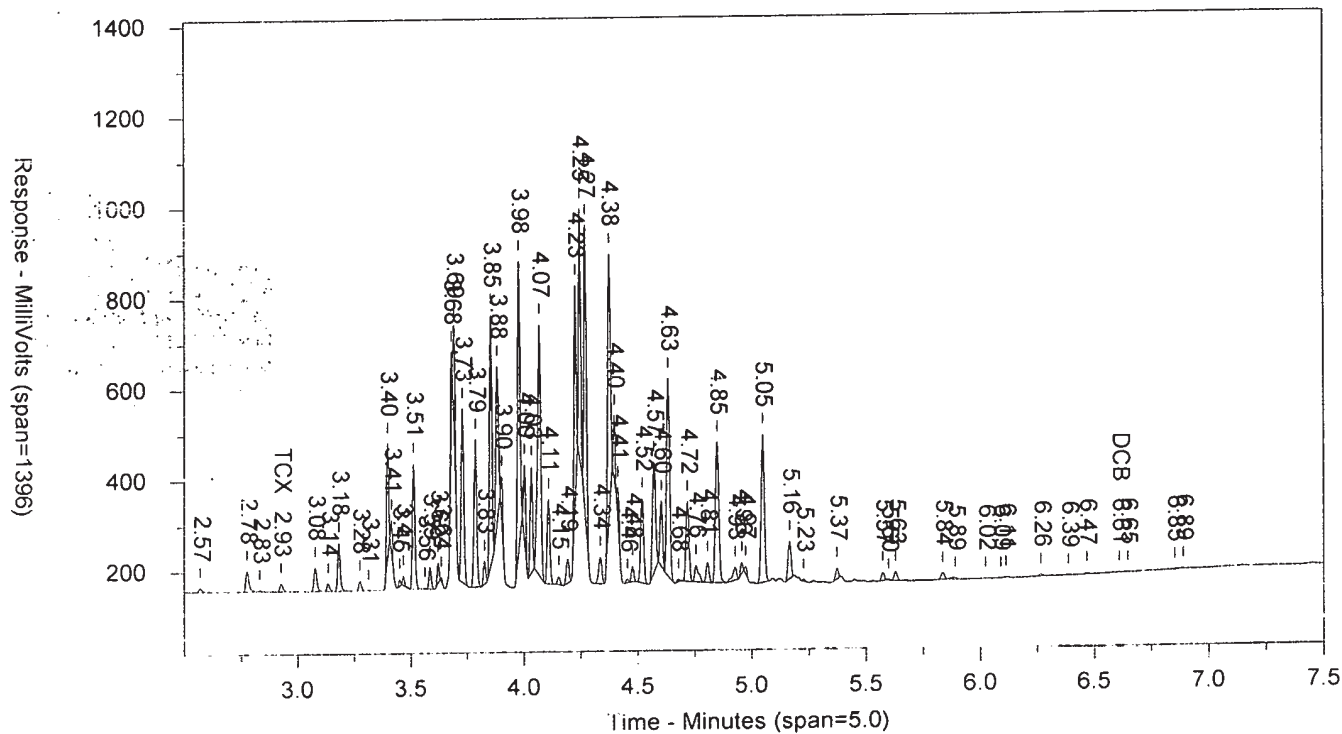
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.927	17654	.114	TCX		0		TCX
6.608	926	.007	DCB		0		DCB

Files:

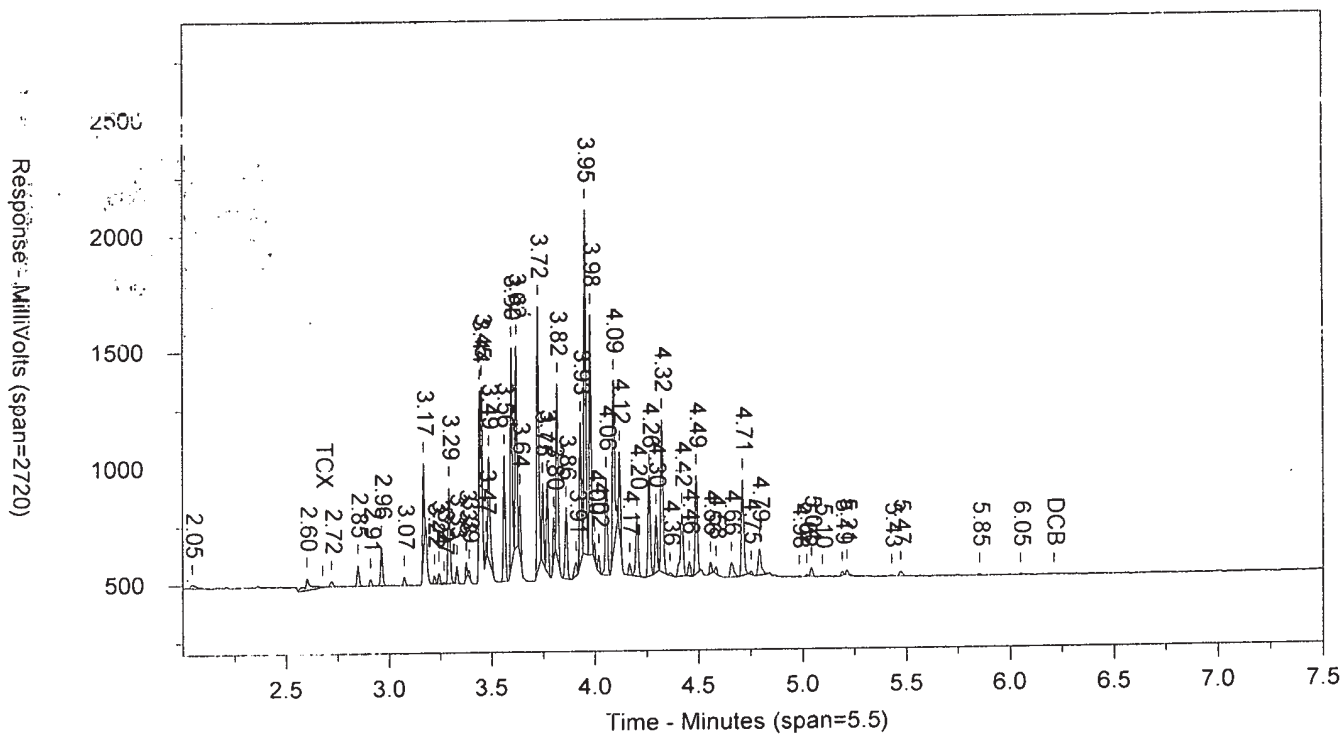
Area File: 25pcbs18303001.033.RAW
Area File: 25pcbs18303001B.033.RAW
Method A: 25PCBS.MET
Method B: 25PCBSB.MET
Calibration File A: 25PCBS1830301.CAL
Calibration File B: 25PCBS1830301b.CAL
Format A: pestD25.FMTA
Format B: pestD25.FMTB
Area File Created On: 10/30/2018 11:05:10 PM
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IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082

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IC48X1824C

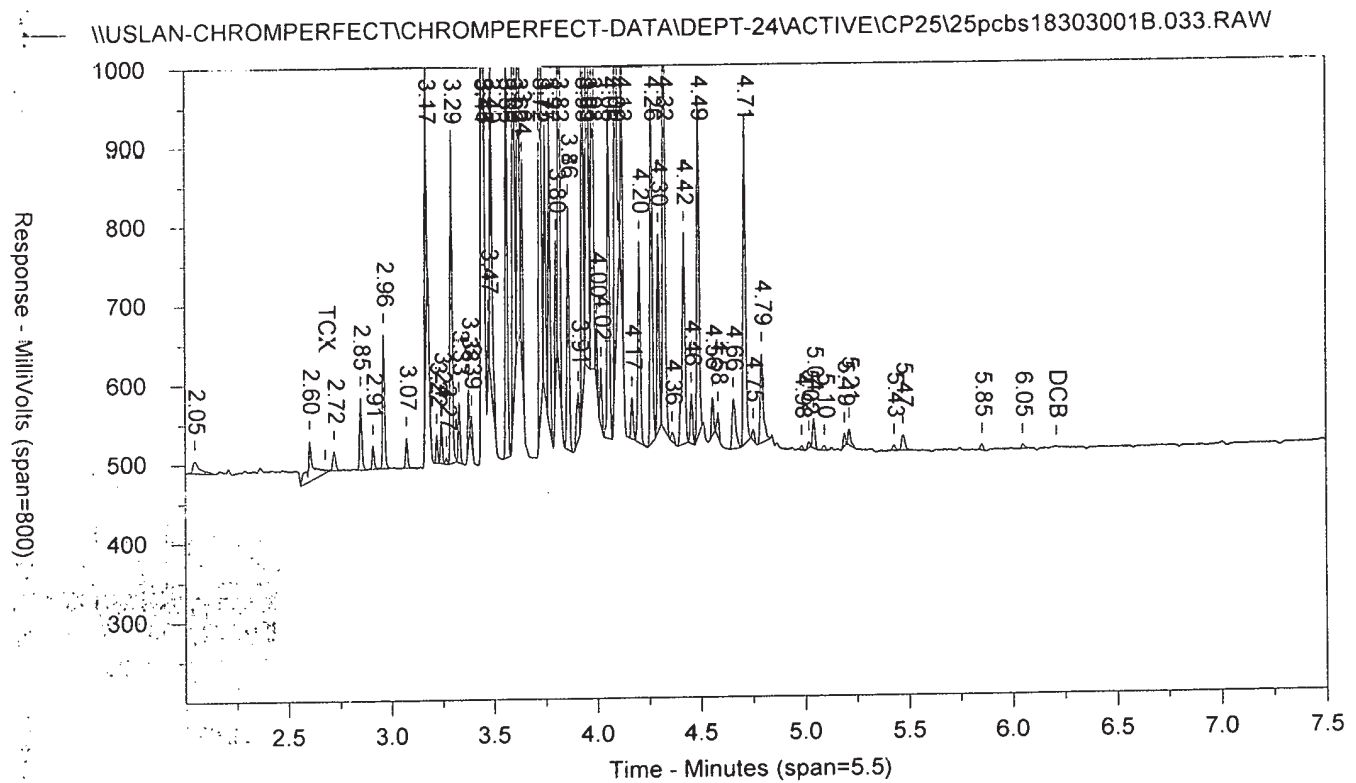
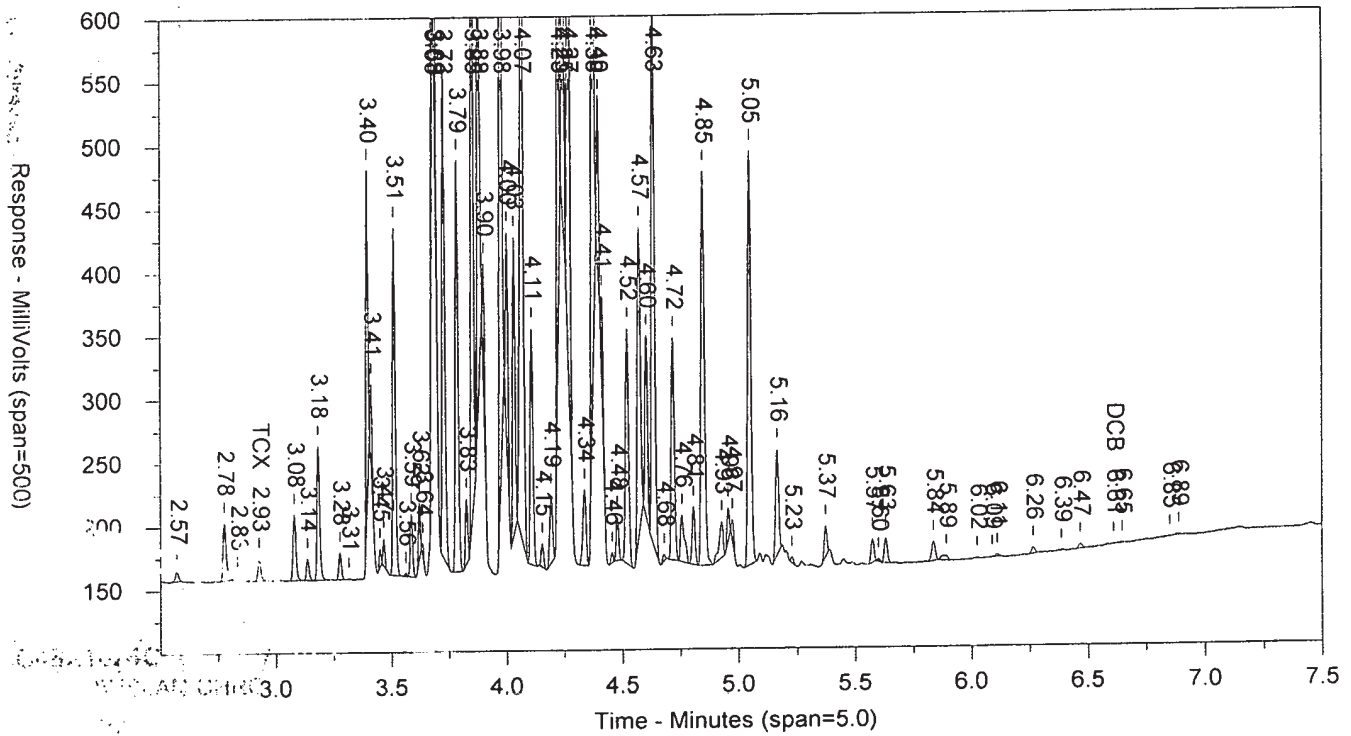
AAIC48XAA

CCAL 1830299999

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SW-846 8082

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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
Over 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		3638	5271
3.182		26021	22535
3.277		7815	6283
3.397		54619	34899
3.413		8006	5306
3.466		27834	21292
3.512		157591	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		50116	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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

Chrom Perfect Chromatogram Report

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

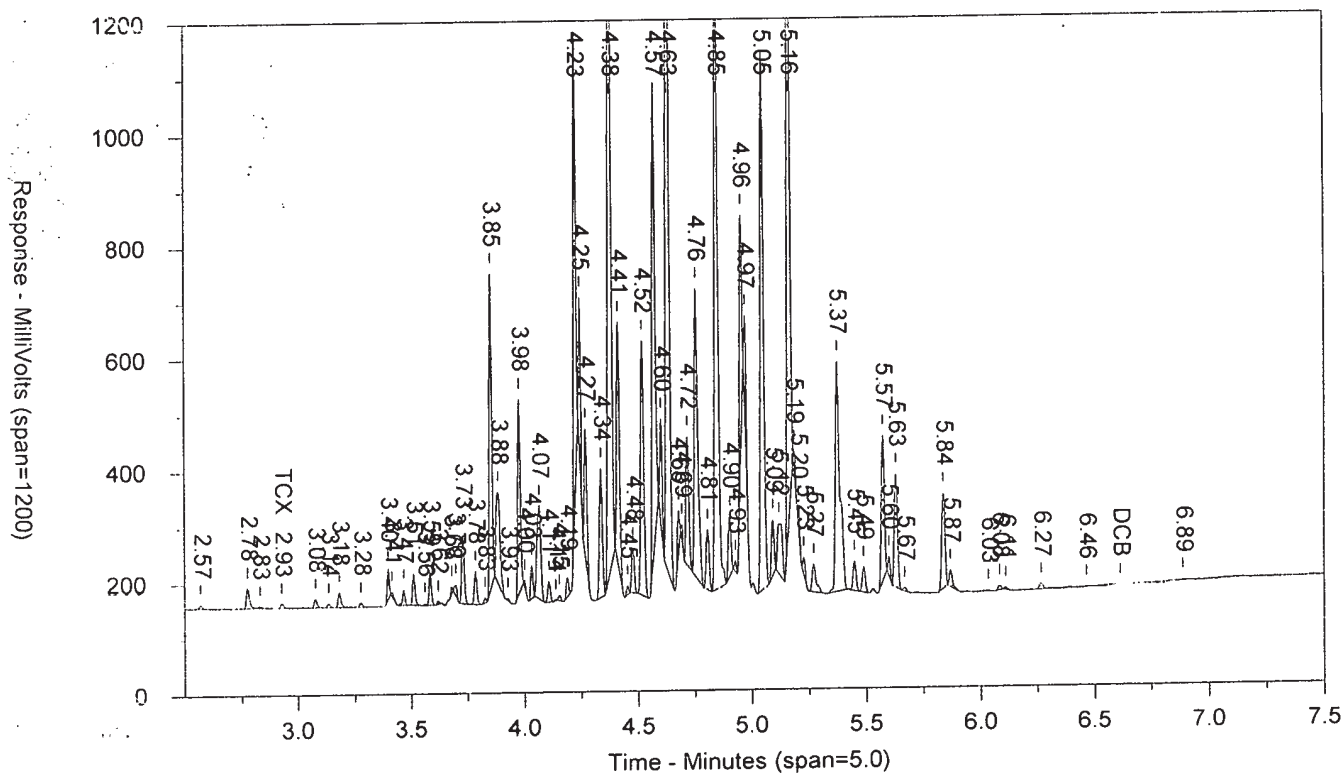
AAIC54XAA

CCAL 1830299999

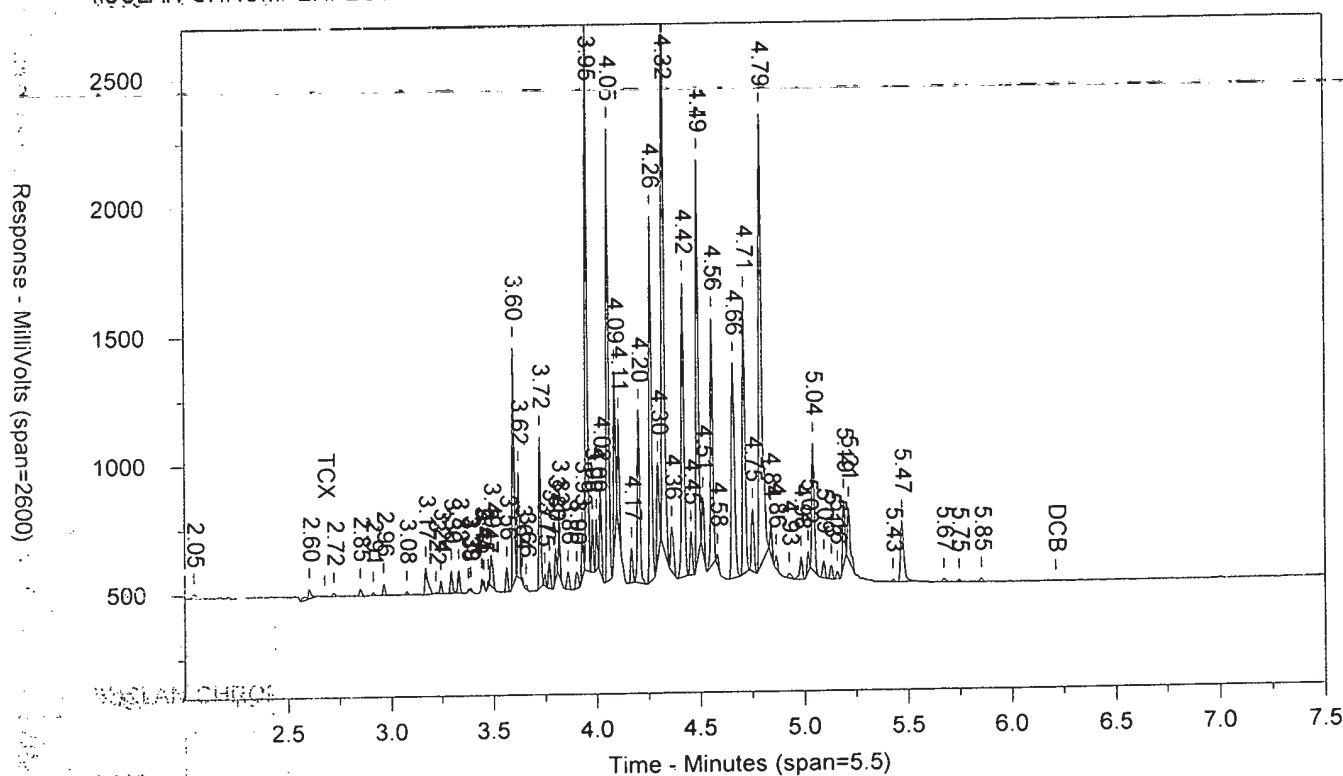
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SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25pcbs18303001.034.RAW



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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

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	7978	.051	TCX		0		TCX

Files:

Area File: 25pcbs18303001.034.RAW

Area File: 25pcbs18303001B.034.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 11:16:04 PM

File Reported On: 10/30/2018 at 11:16:09 PM

IC54X1824C

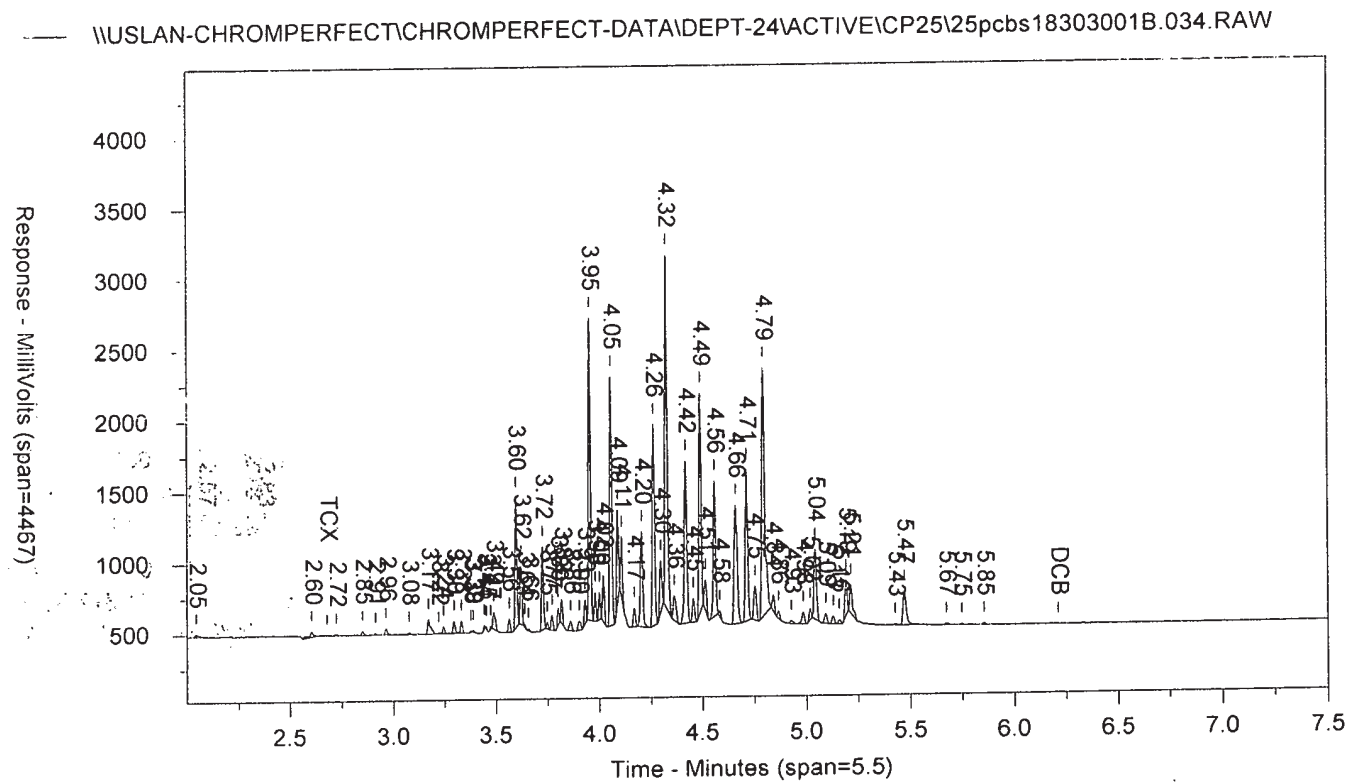
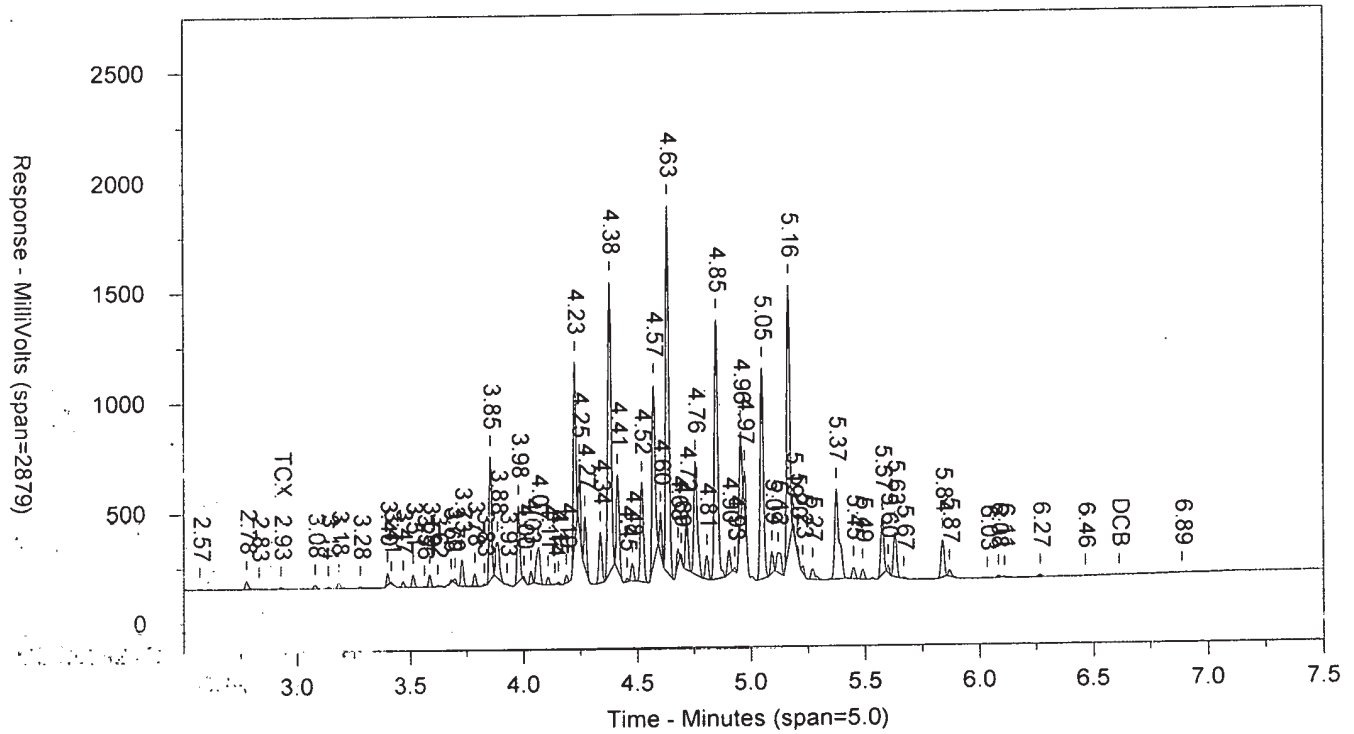
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CCAL 1830299999

10227

SW-846 8082

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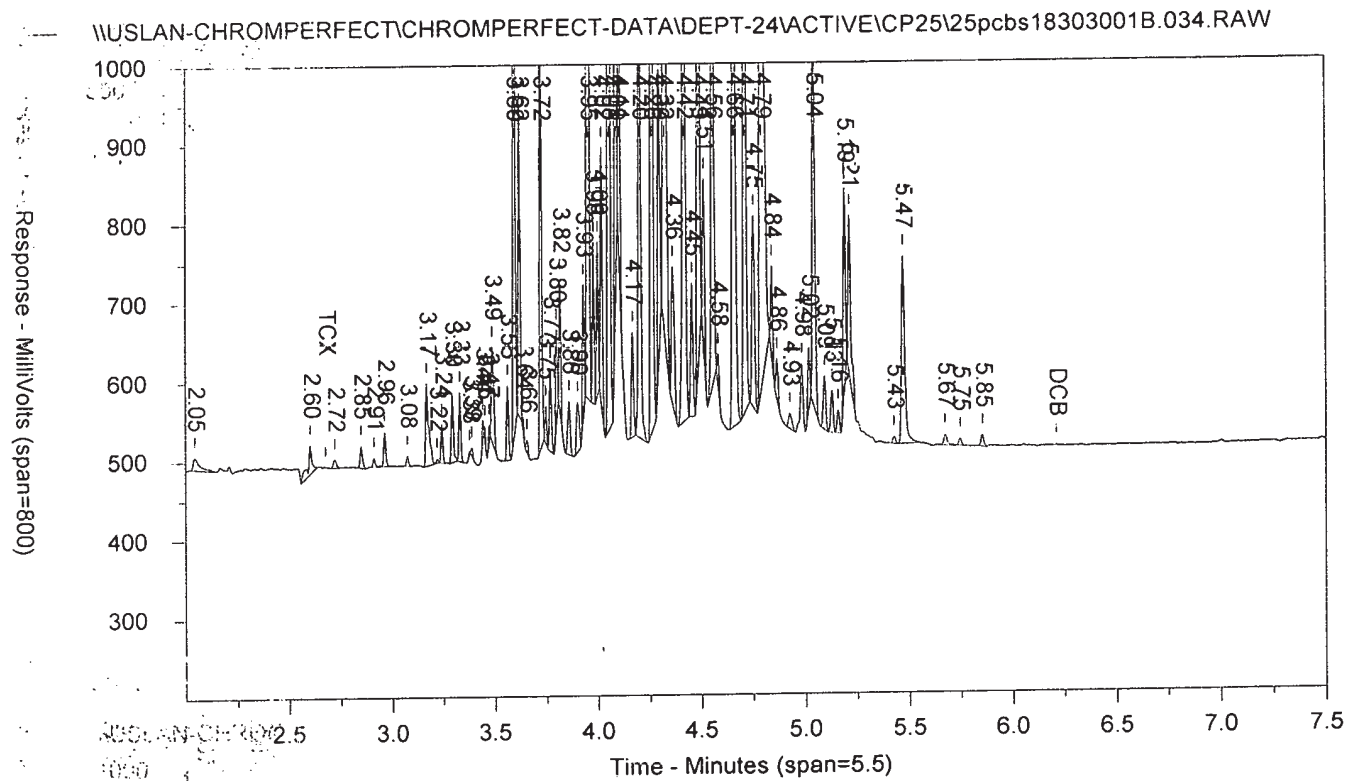
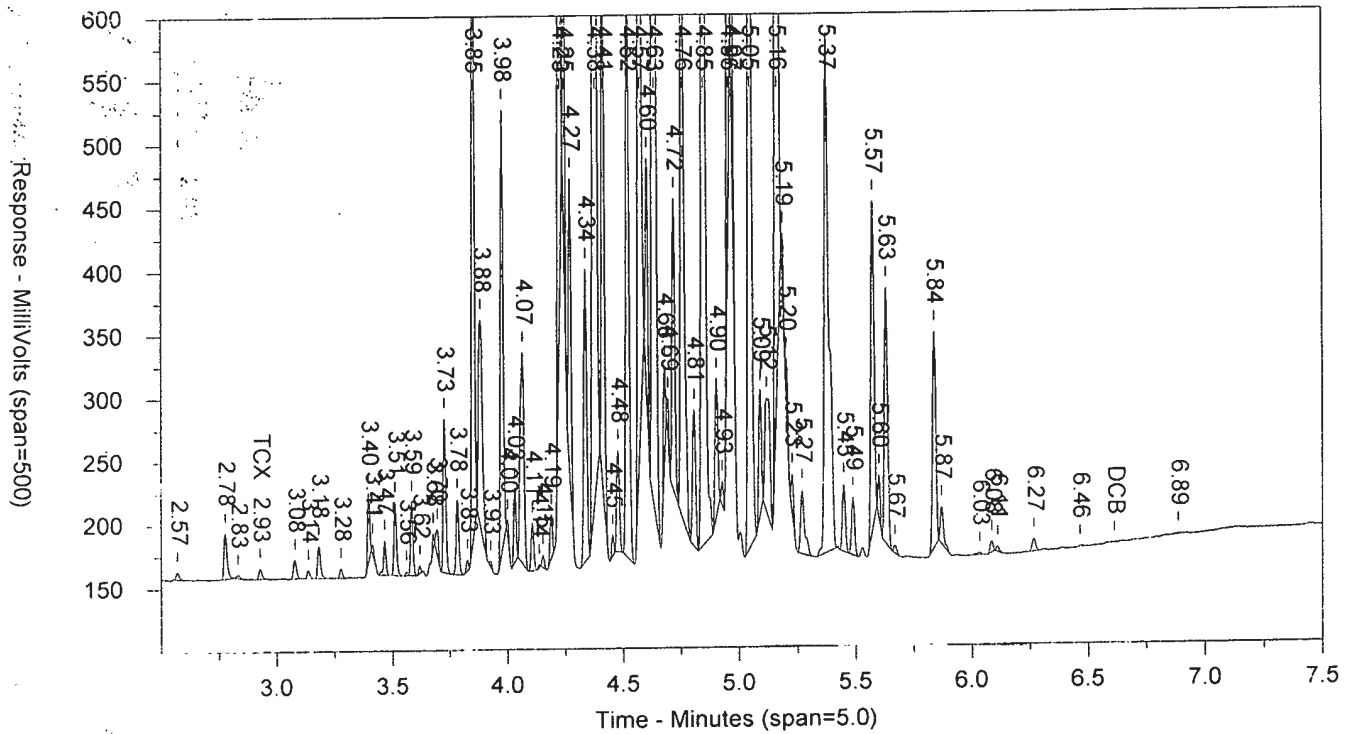
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10227

SW-846 8082

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AR1641824D

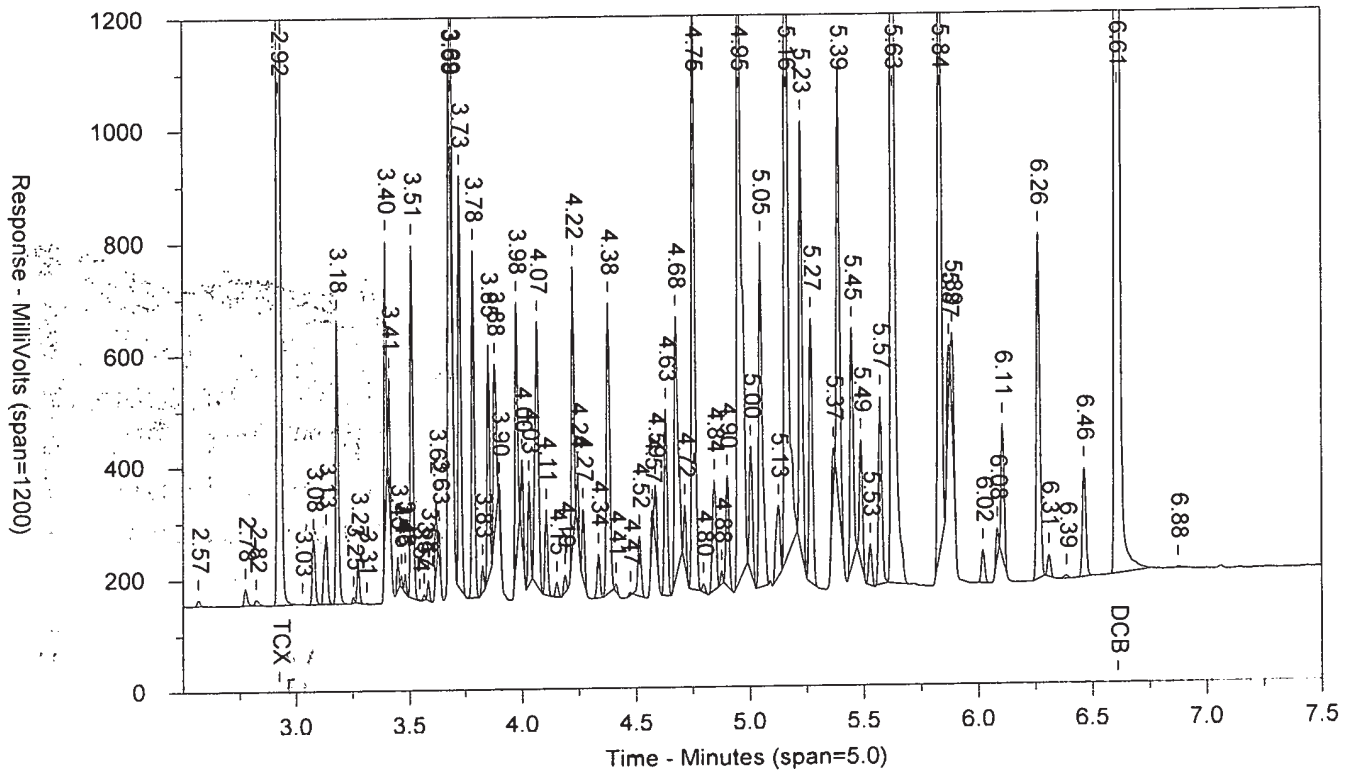
JMAR164JM

CCAL 1830799999

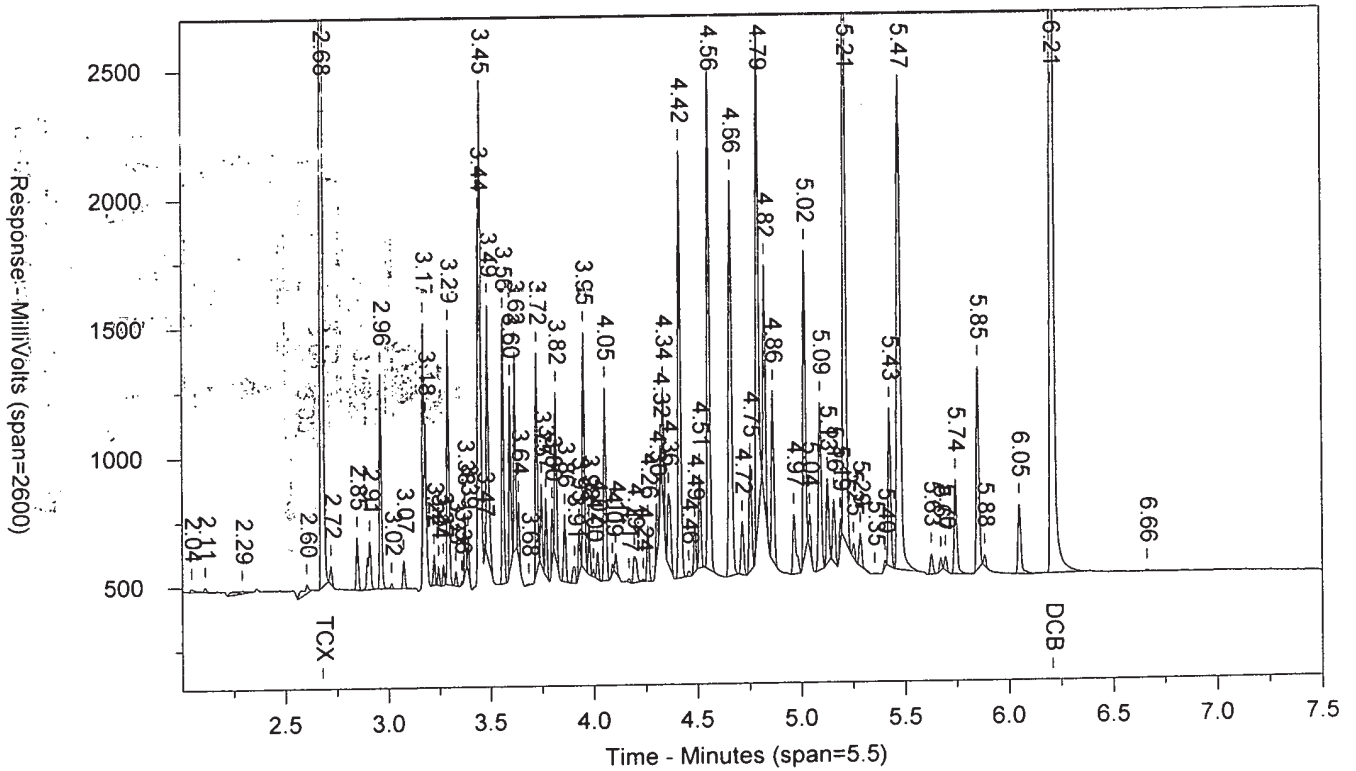
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SW-846 8082A

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004B.005.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR1641824D JMAR164JM CCAL 1830799999 10227

SW-846 8082A

Injected On: 11/4/2018 12:27:12 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	6365185	41.029	TCX	2.679	10136350	39.717	TCX
6.609	5041005	39.279	DCB	6.208	7517433	40.036	DCB

Files:

Area File: 25PCBS18303004.005.RAW

Area File: 25PCBS18303004B.005.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: 11/4/2018 12:35:43 PM

File Reported On: 11/4/2018 at 12:35:48 PM

AR1641824D

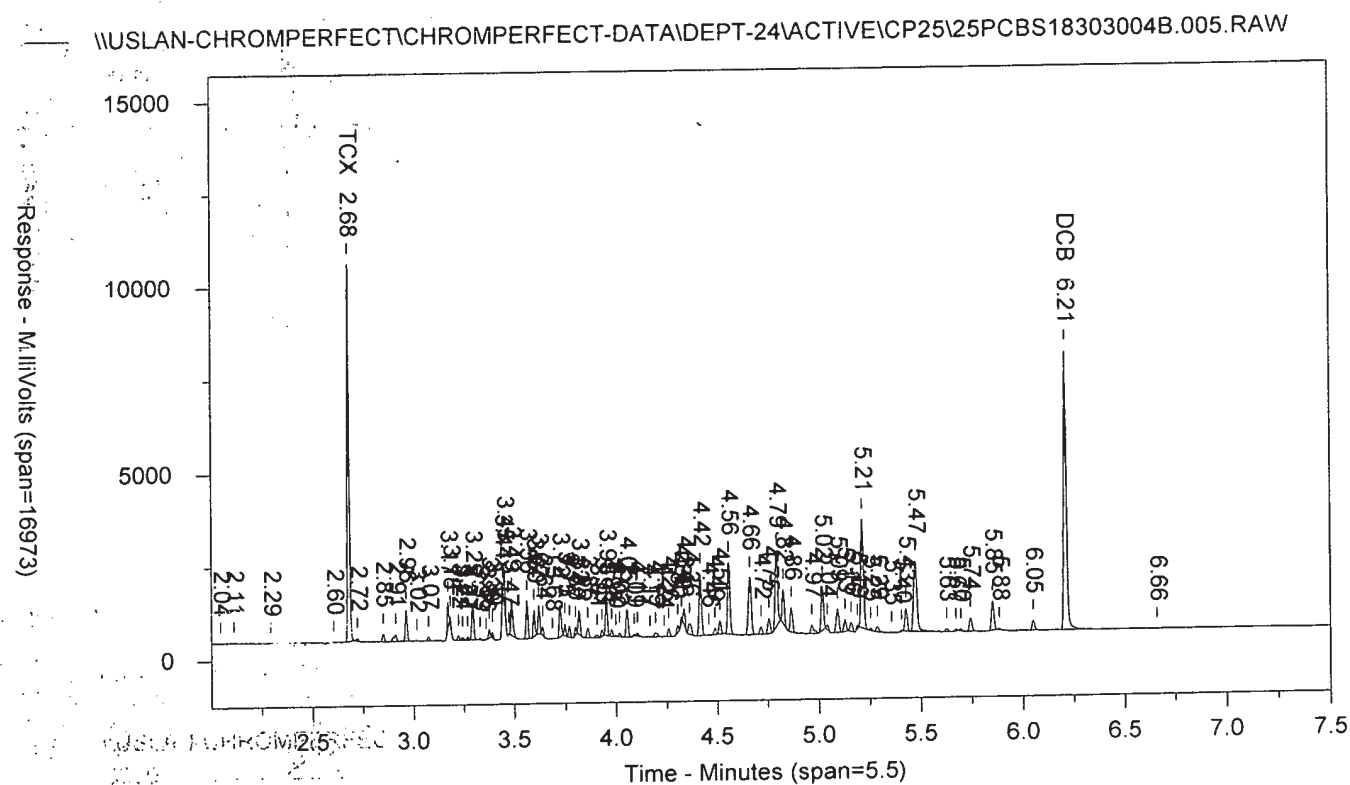
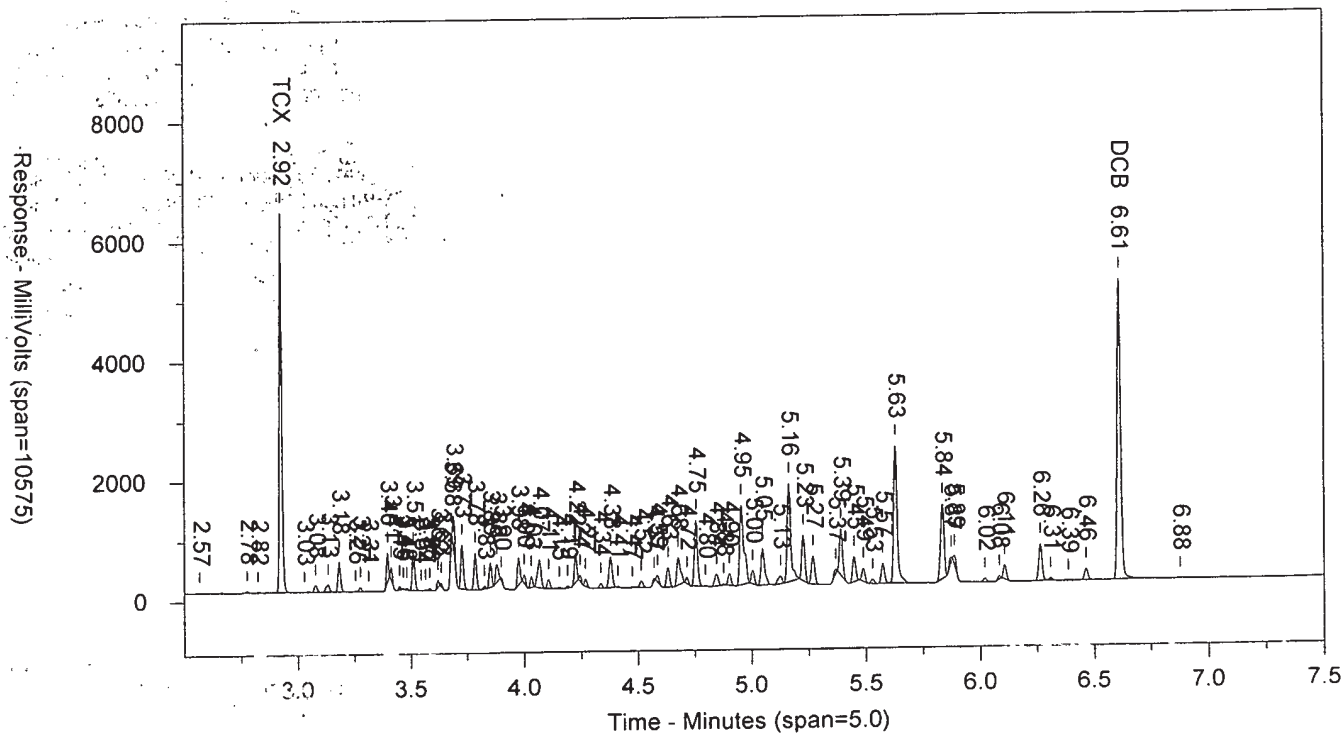
JMAR164JM

CCAL 1830799999

10227

SW-846 8082/

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AR1641824D

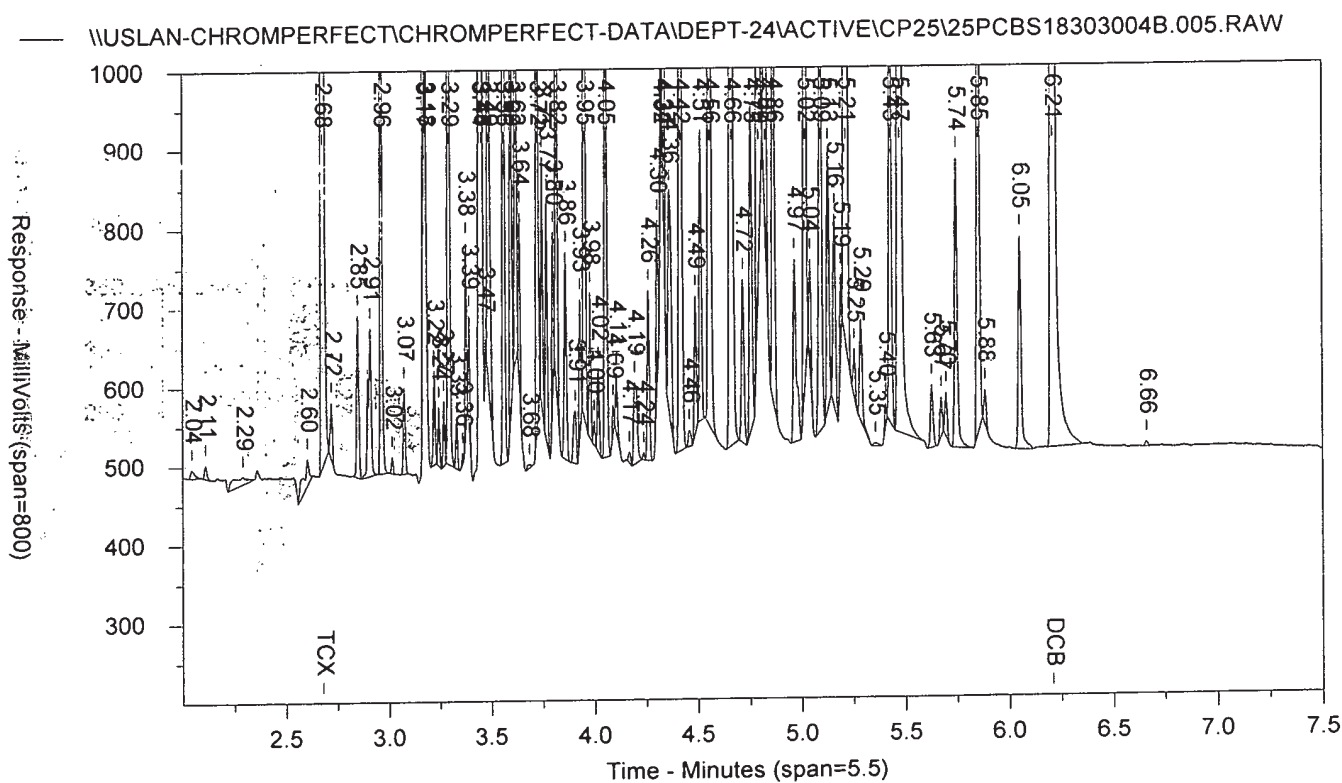
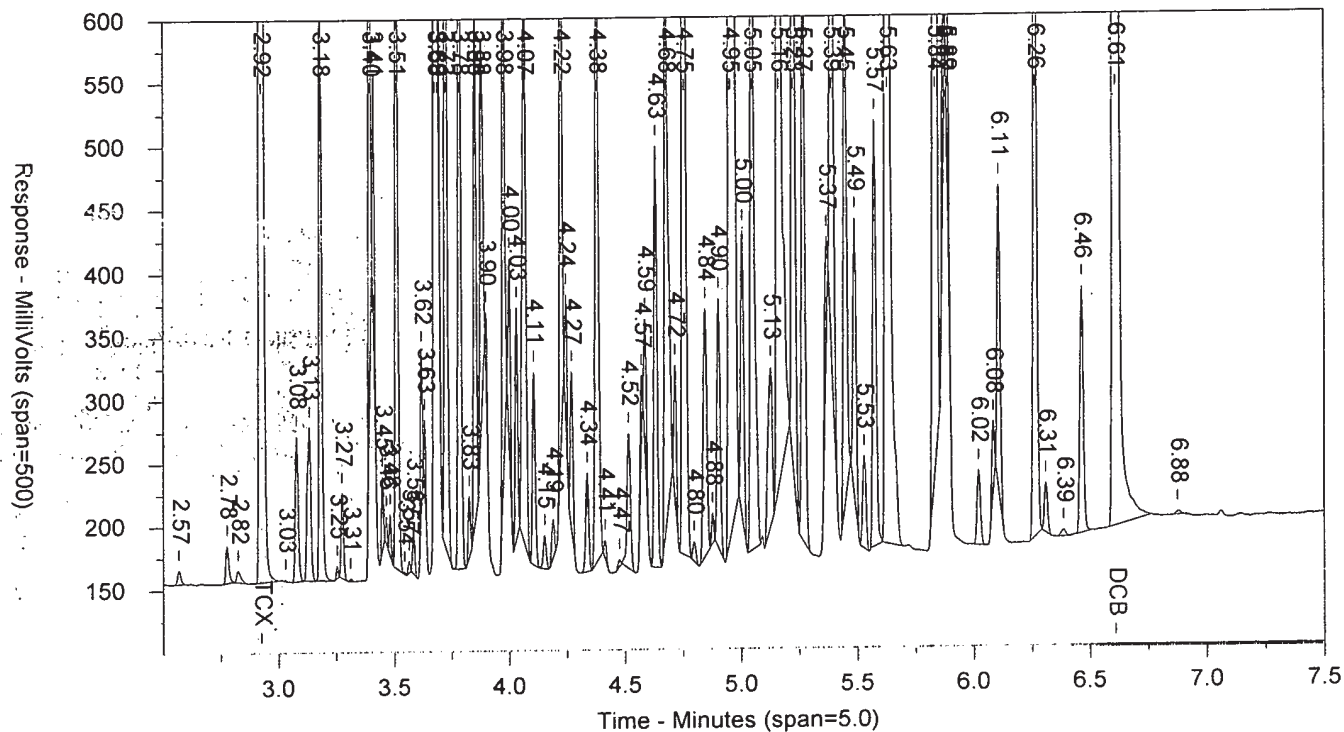
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CCAL 1830799999

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SW-846 8082/

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IBLKX1824C

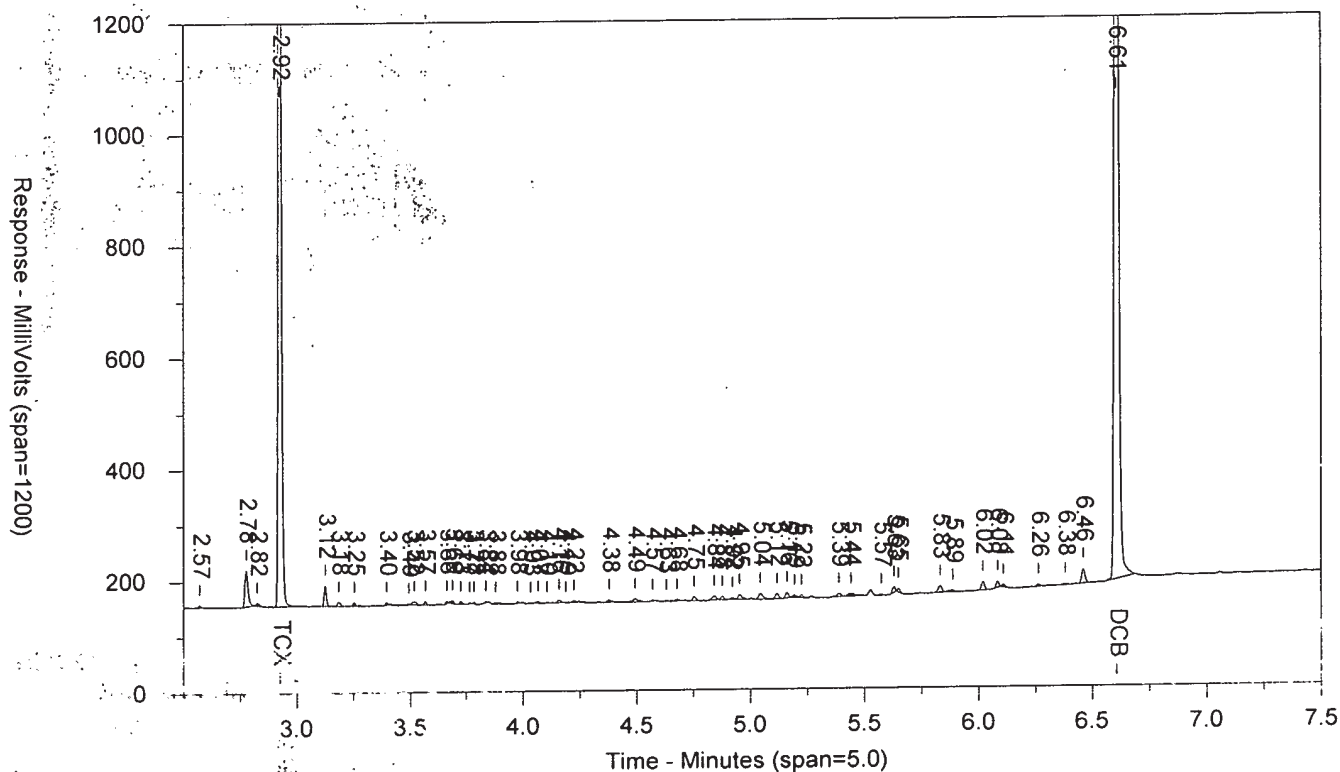
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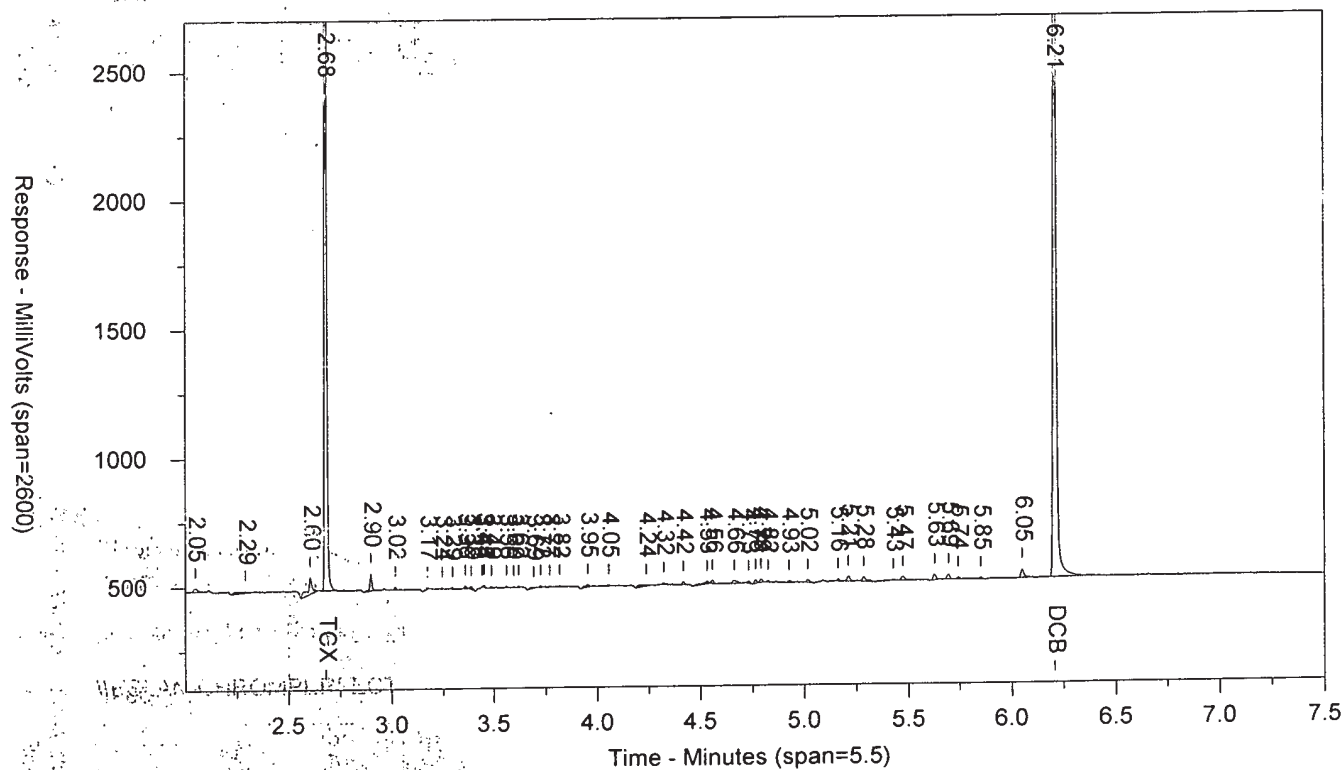
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SW-846 8082A

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LANCASTER LABORATORIES

Sample Number: IBLKX1824C KNPIBLKKN PIBLK183079999 10227
Injected On: 11/4/2018 12:37:48 PM
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

SW-846 8082A
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
2.925	3046920	.196	TCX	2.679	4854762	.19	TCX
6.605	2535029	.198	DCB	6.207	3807209	.203	DCB

Files:

Area File: 25PCBS18303004.006.RAW
Area File: 25PCBS18303004B.006.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: 11/4/2018 12:46:18 PM
File Reported On: 11/4/2018 at 12:46:24 PM

IBLKX1824C

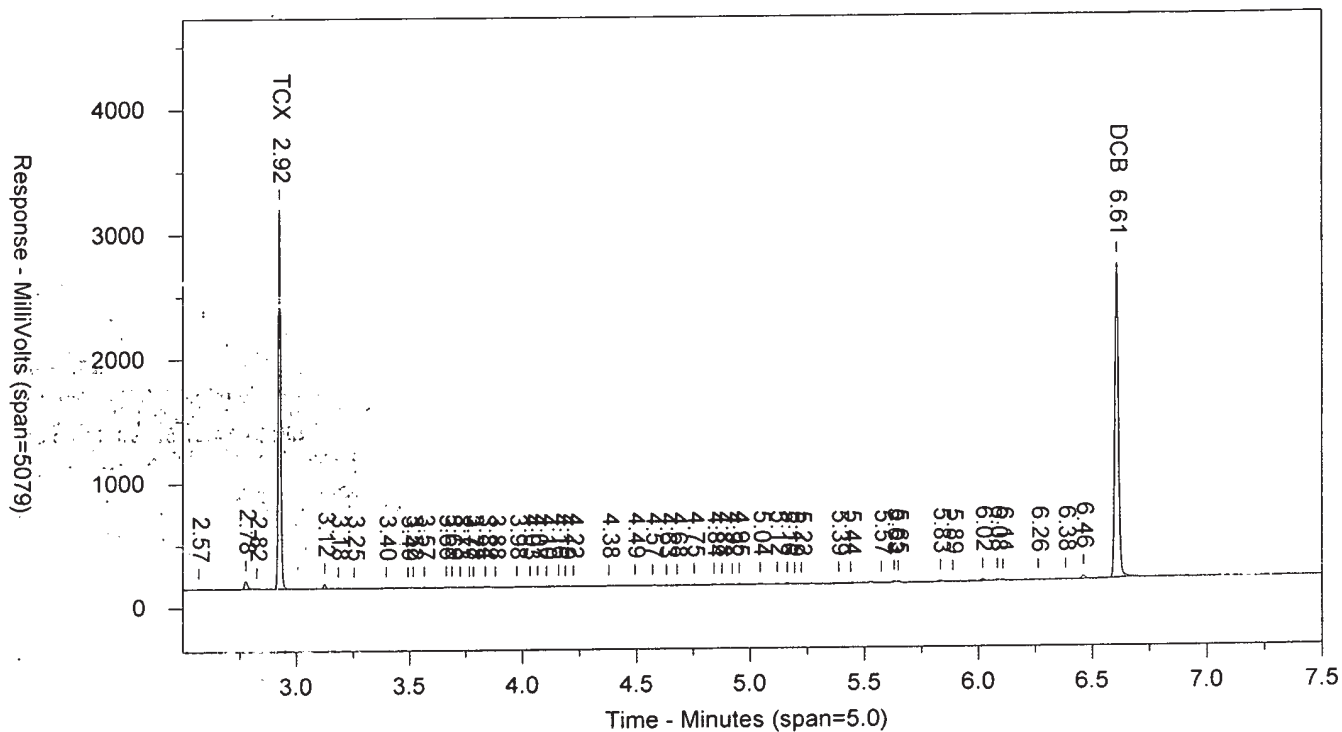
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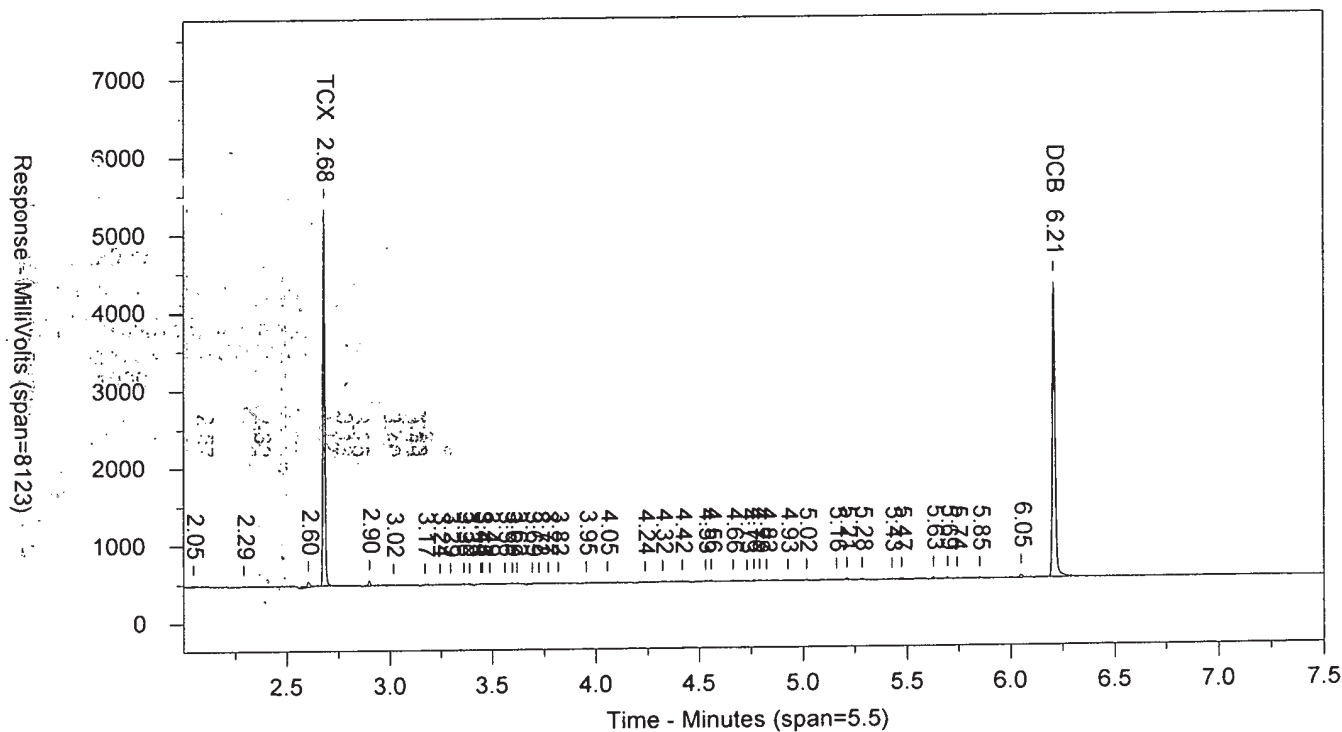
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SW-846 8082A

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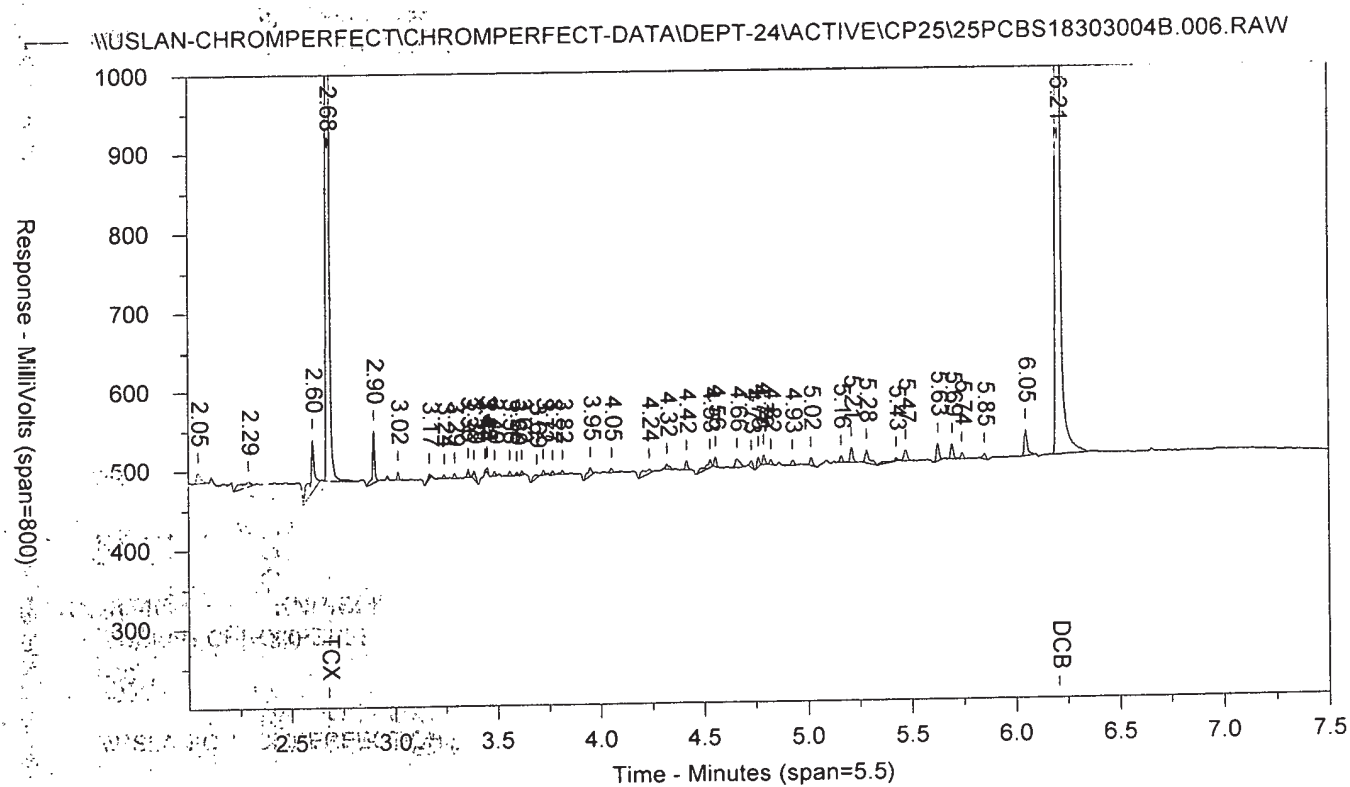
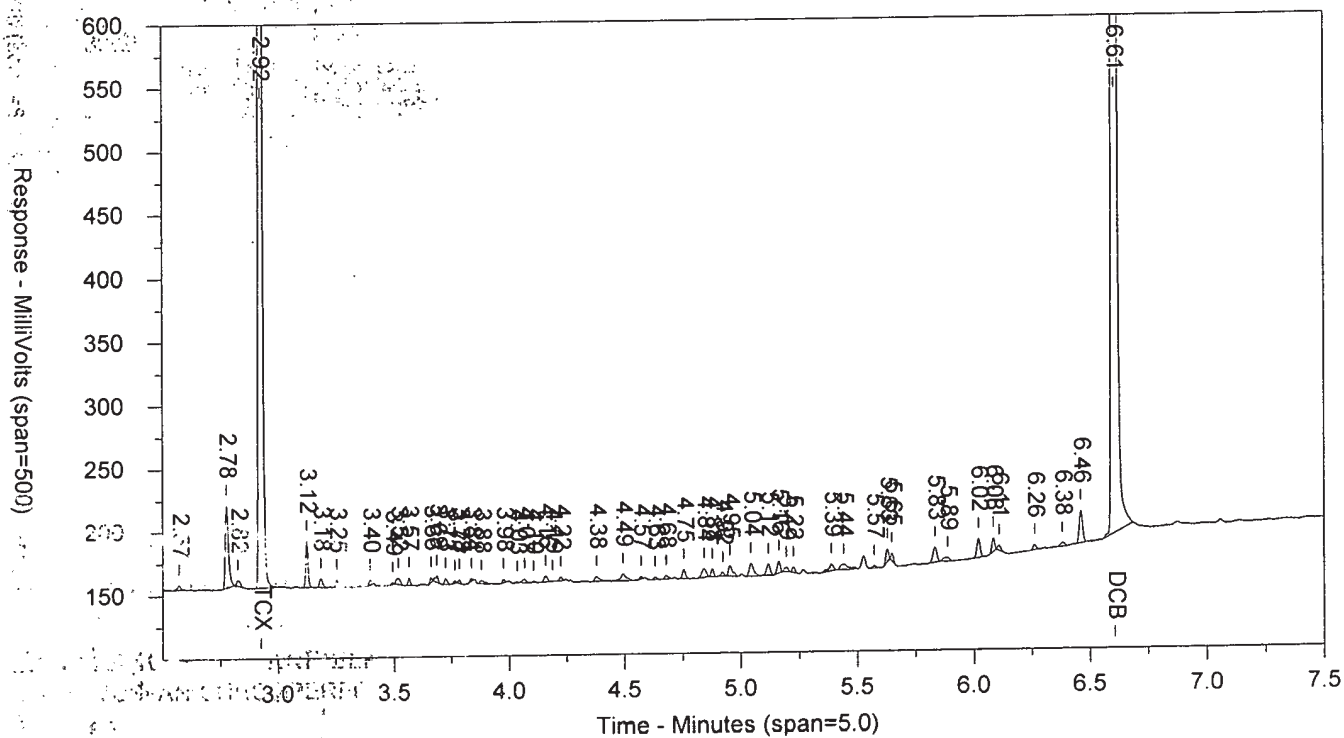
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10227

SW-846 8082A

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AR1641824D

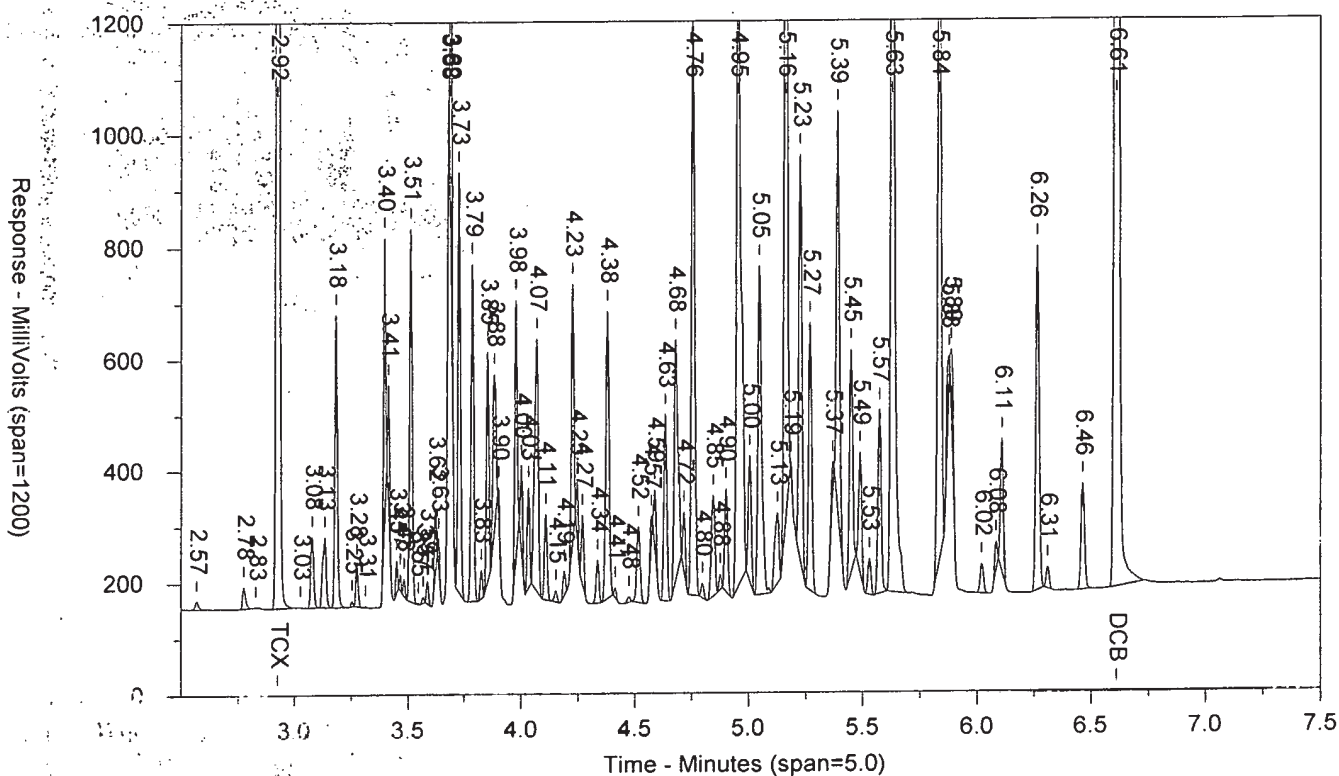
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CCAL 1830799999

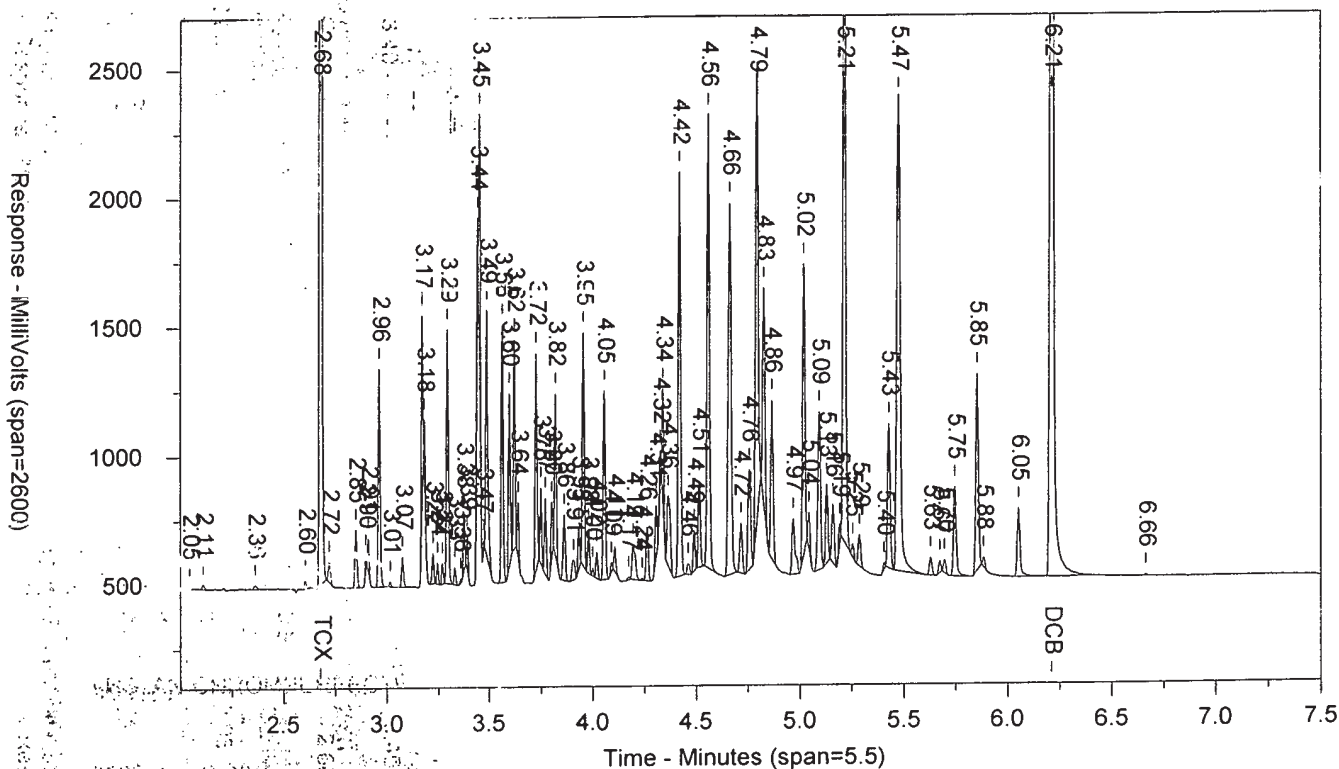
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR1641824D JWAR164JW CCAL 1830799999 10227
Injected On: 11/4/2018 2:38:02 PM
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

SW-846 8082

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
2.925	6341174	40.875	TCX	2.678	10359300	40.59	TCX
6.609	4885447	38.067	DCB	6.21	7336465	39.072	DCB

Files:

Area File: 25PCBS18303004.017.RAW
Area File: 25PCBS18303004B.017.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: 11/4/2018 2:46:33 PM
File Reported On: 11/4/2018 at 2:46:43 PM

AR1641824D

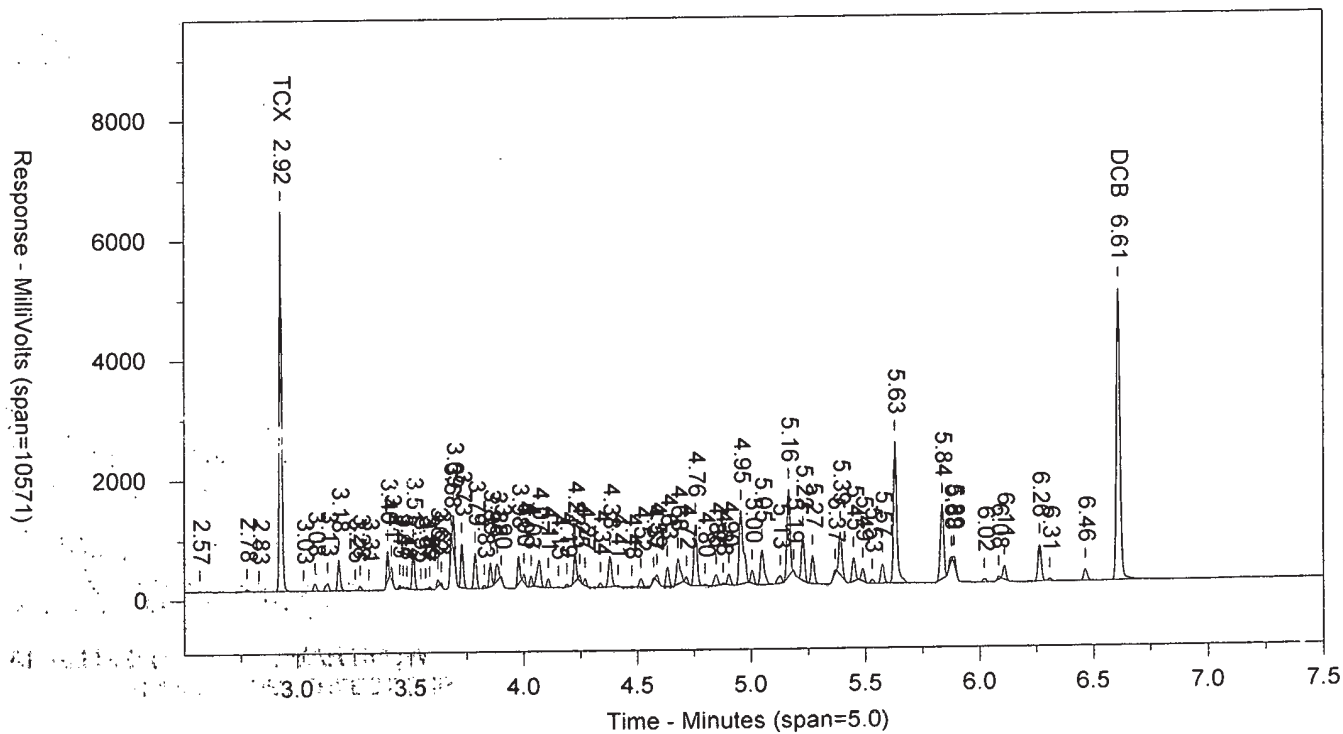
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CCAL 1830799999

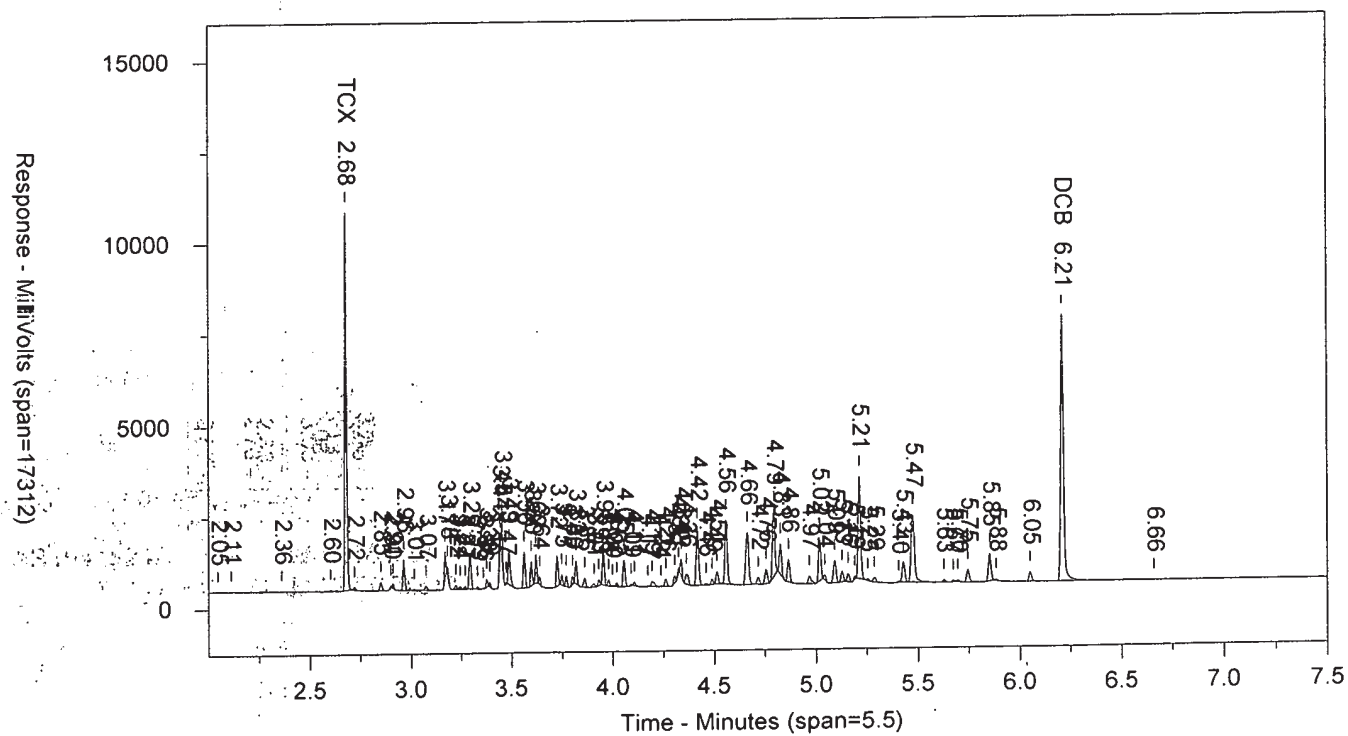
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SW-846 8082

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AR1641824D

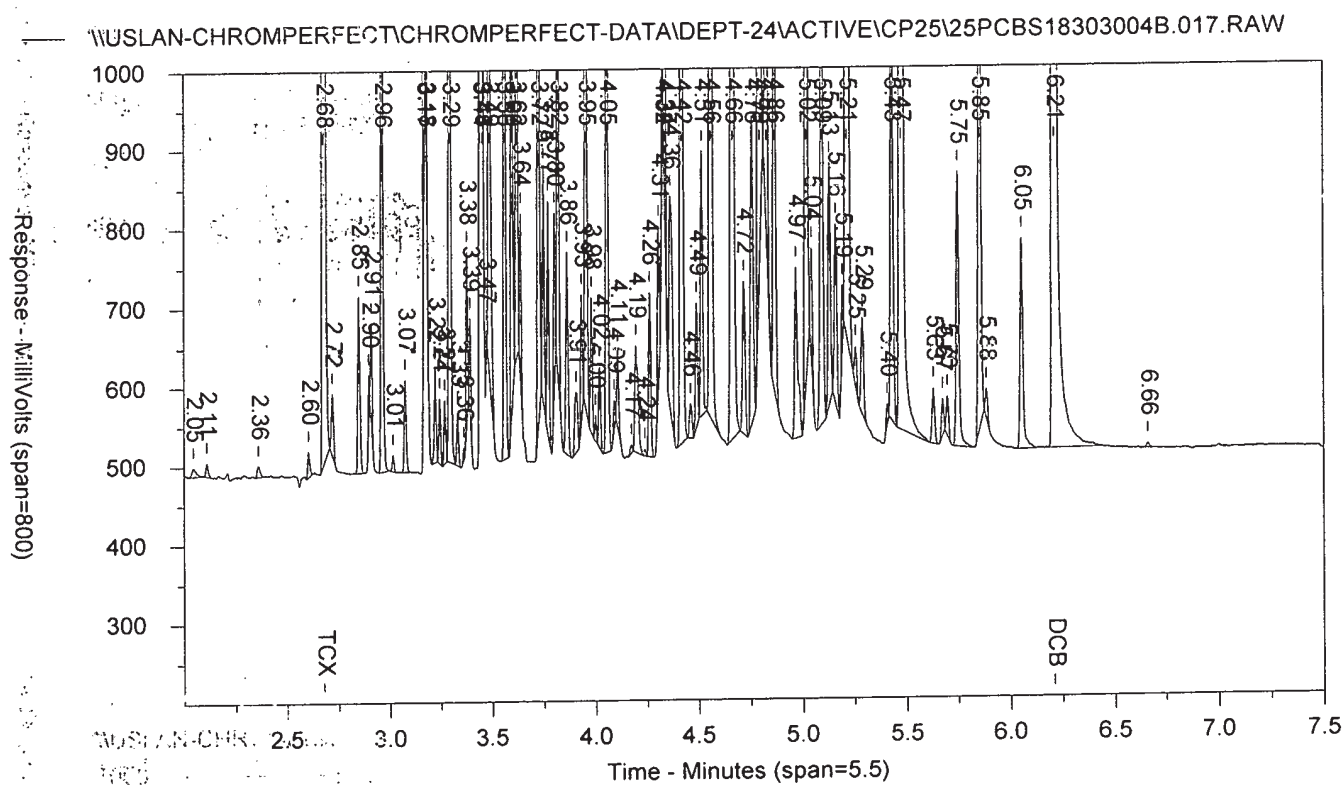
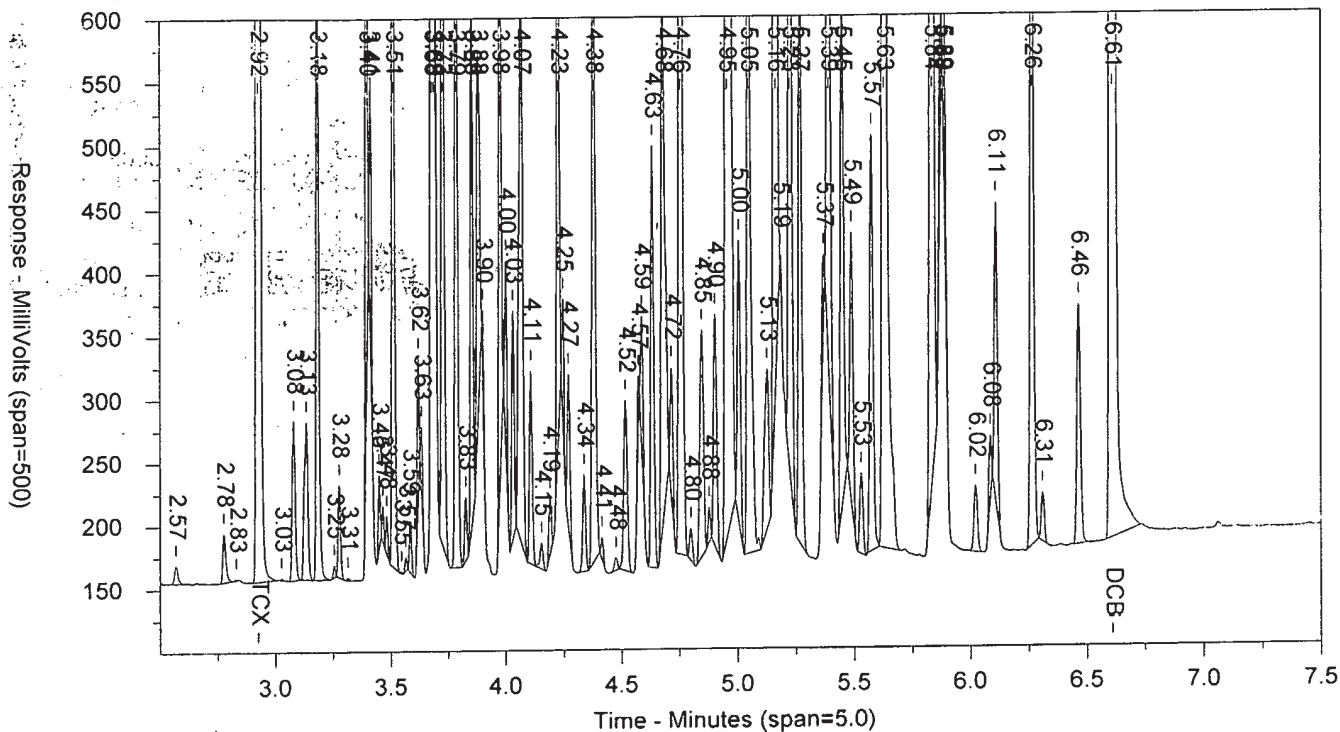
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CCAL 183079999

10227

SW-846 8082

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IBLKX1824C

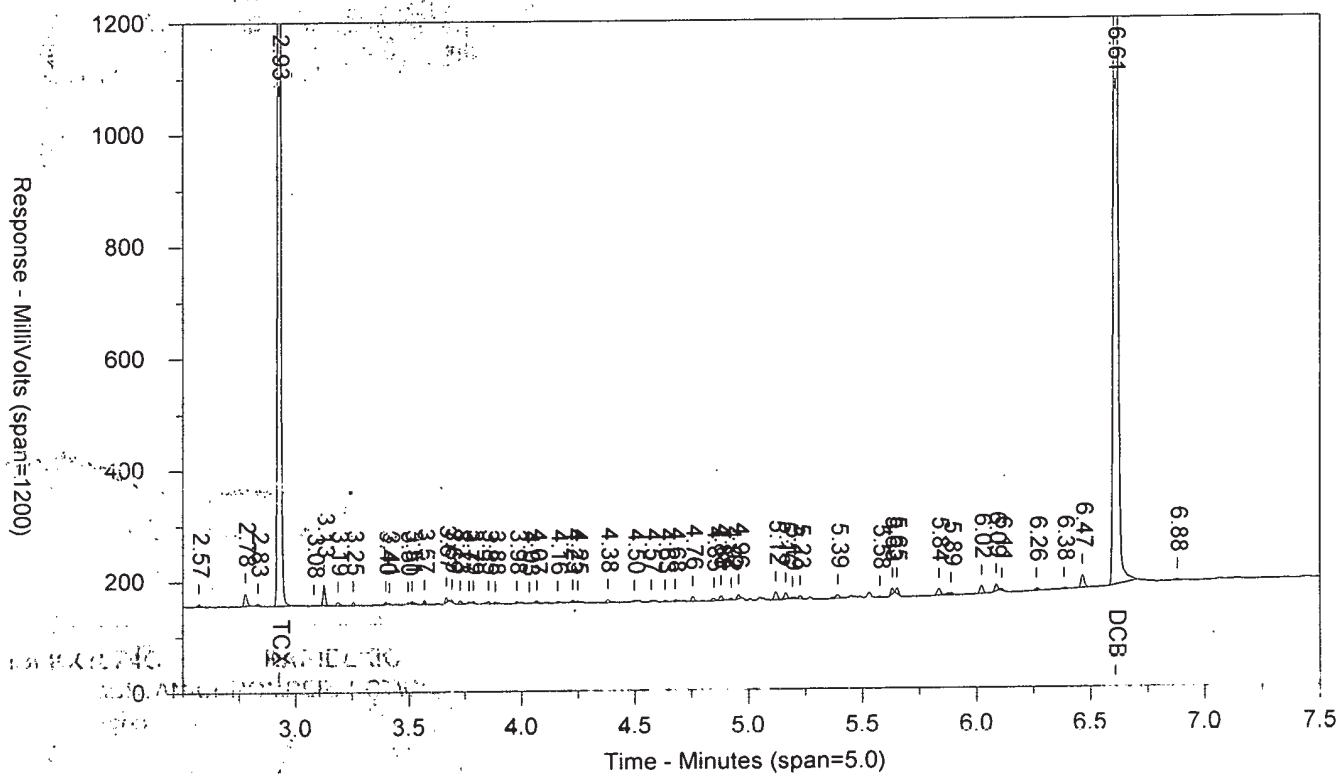
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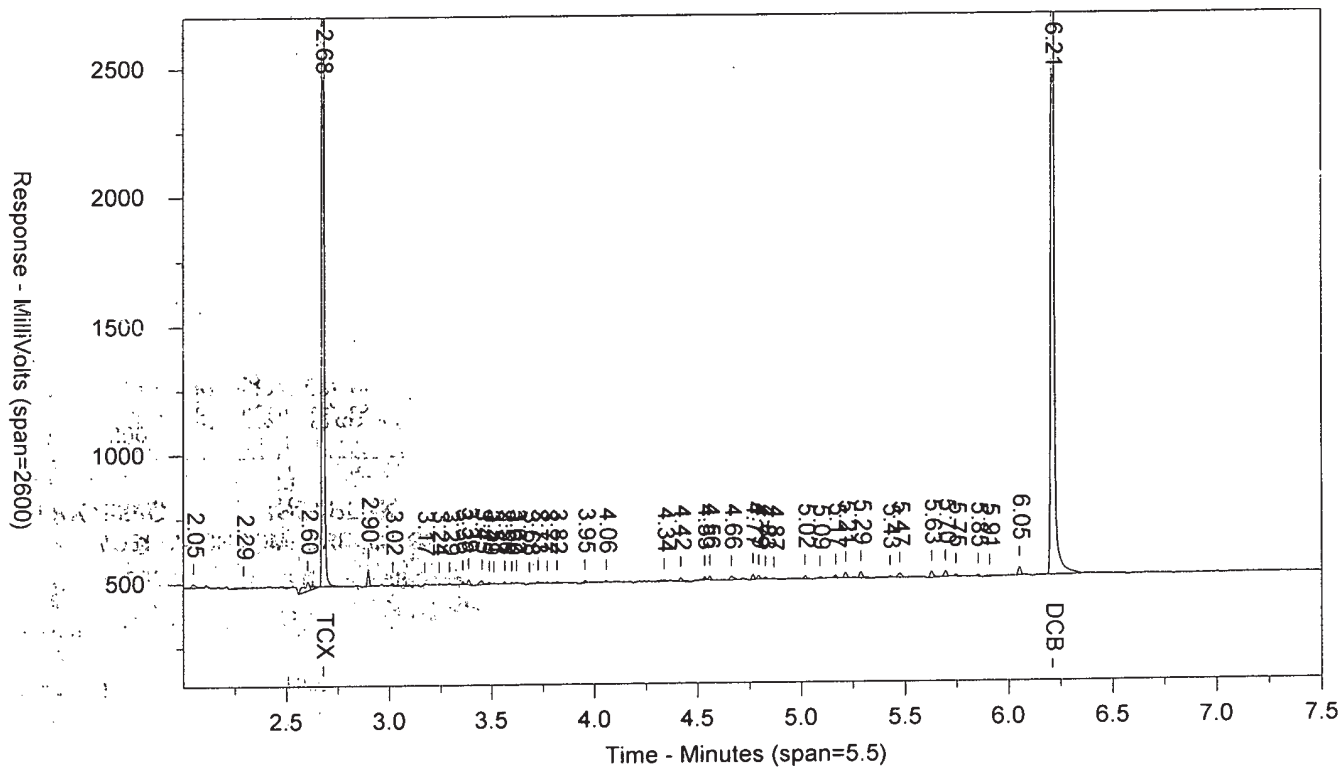
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: IBLKX1824C KXPIBLKKX PIBLK1830799999 10227

SW-846 8082

Injected On: 11/4/2018 2:48:55 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
2.925	3211919	.207	TCX	2.679	5071413	.199	TCX
6.61	2487450	.194	DCB	6.21	3533227	.188	DCB

Files:

Area File: 25PCBS18303004.018.RAW

Area File: 25PCBS18303004B.013.RAW

Method A: 25PCDA.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: 11/4/2018 2:57:26 PM

File Reported On: 11/4/2018 at 2:57:30 PM

IBLKX1824C

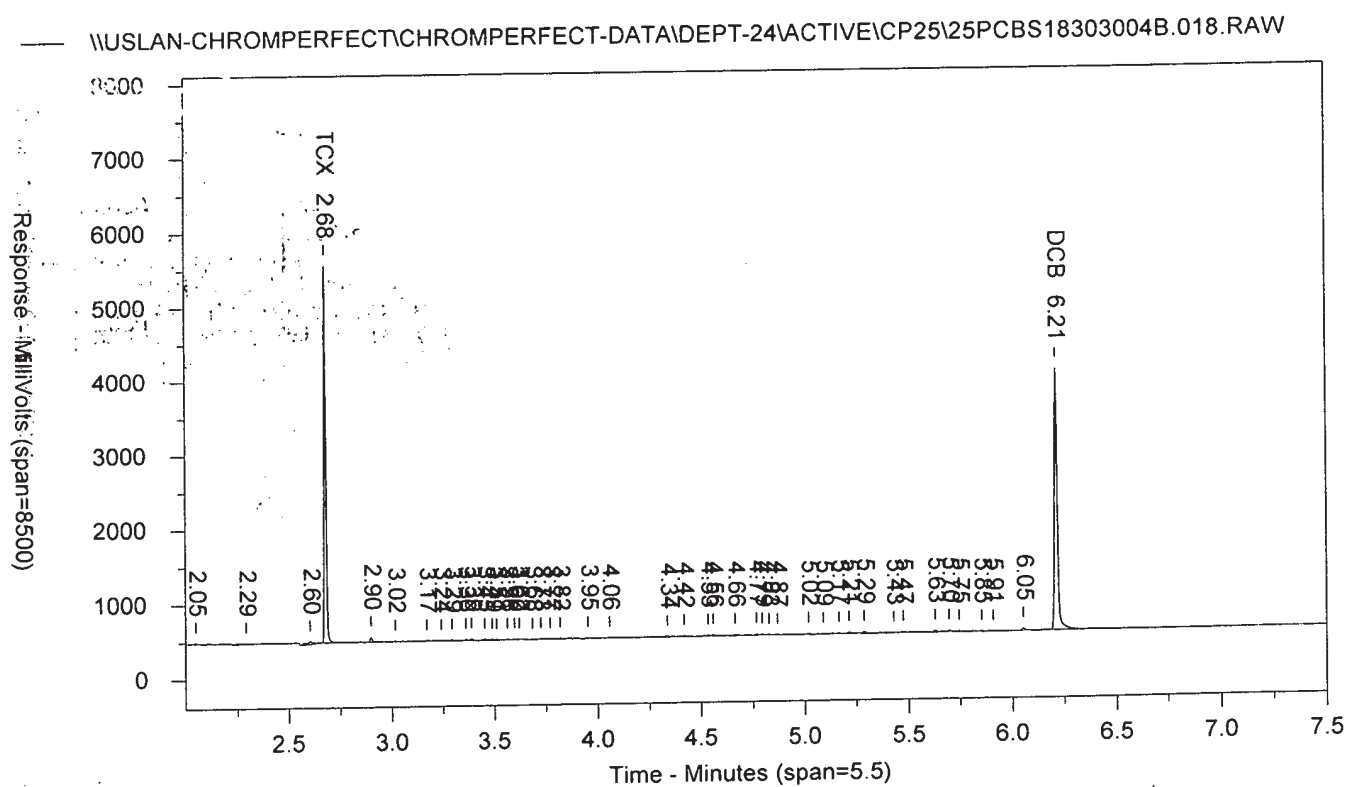
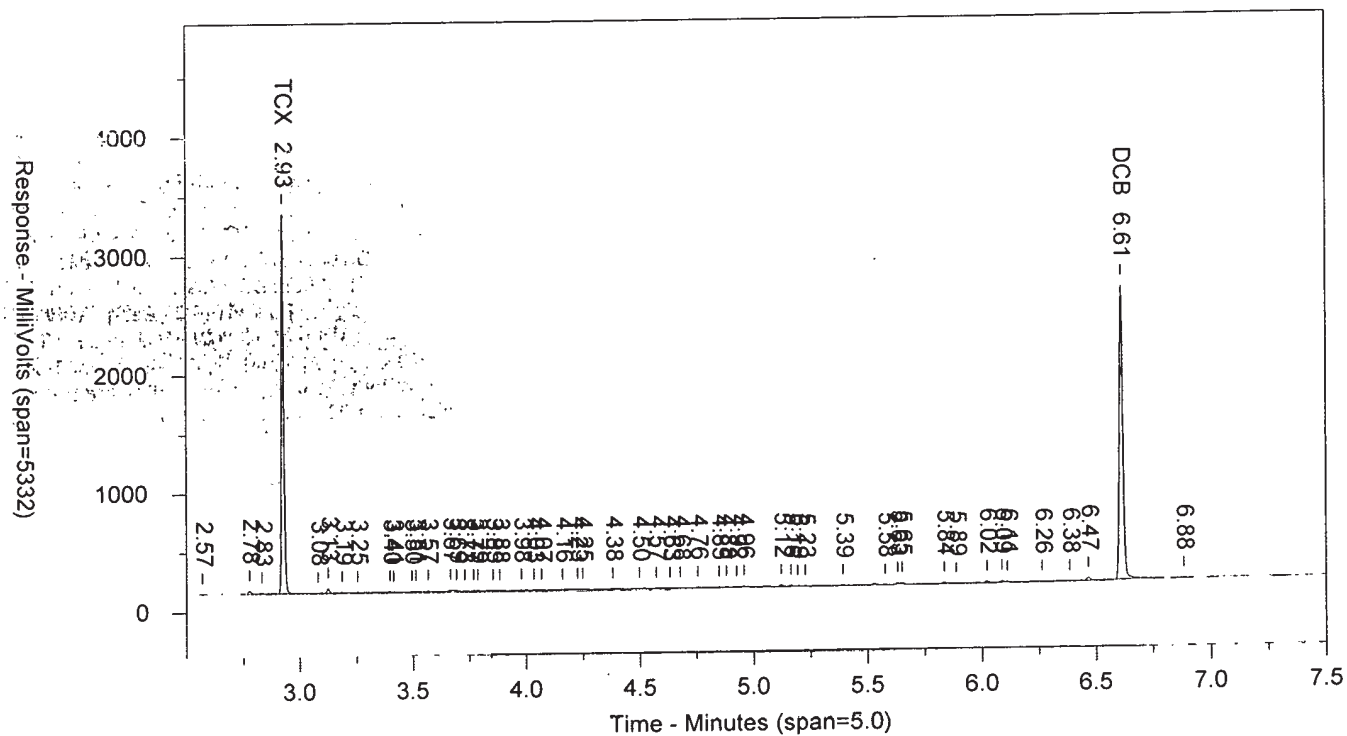
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SW-846 8082

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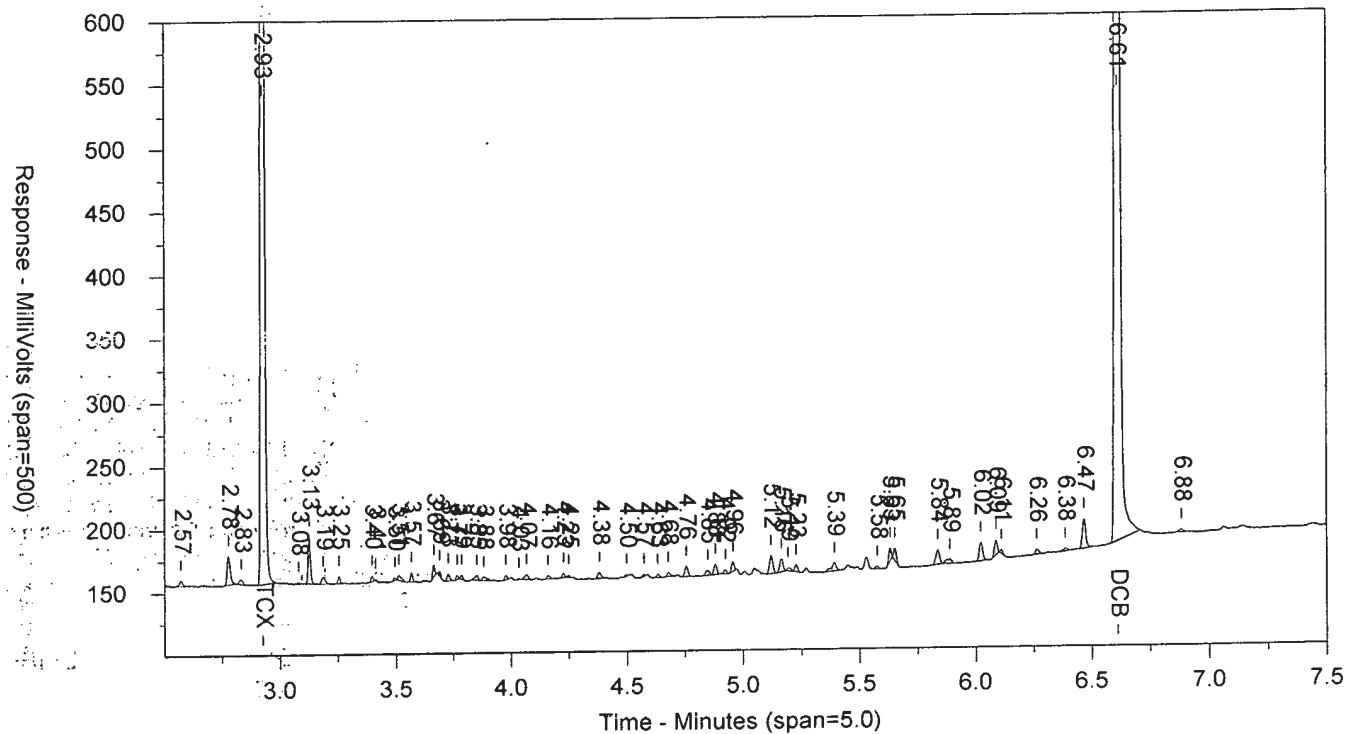
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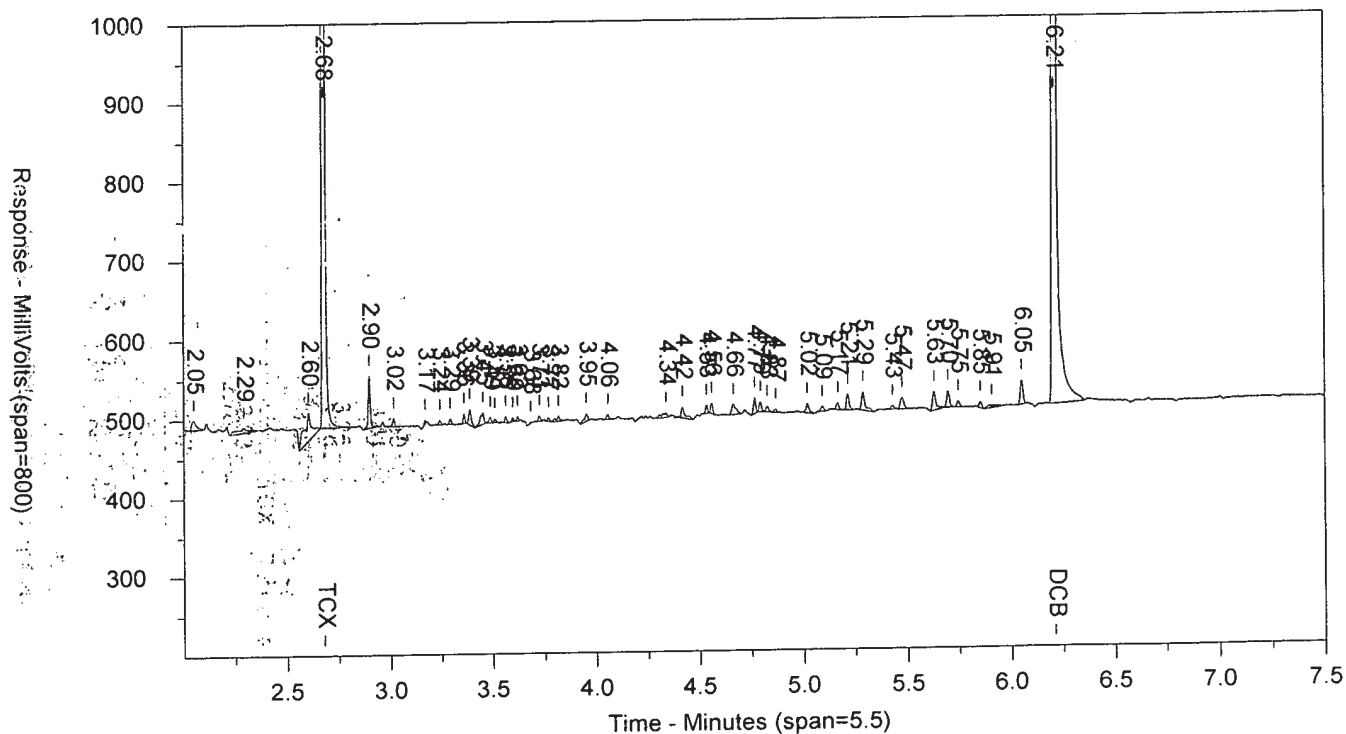
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SW-846 8082

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Raw QC Data

Polychlorinated Biphenyls (PCBs)

Data Summary

Sample Name: BLANKA 11/1/18 CAF PBLK10305 BLK Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: State:
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 12:48:51
 Instrument 18274A
 Result file 25PCBS18303004.007.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) 98% (33 - 137) Conc: 0.295071
 %SSR(DCB) 59% (10 - 148) Conc: 0.175791

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	5722071
Decachlorobiphenyl	6.58	6.61	6.64	2820104

Analysis Report (B)

Injected on Nov 04, 2018 12:48:51
 Instrument 18274B
 Result file 25PCBS18303004B.007.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 94% (33 - 137) Conc: 0.282614
 %SSR(DCB) 59% (10 - 148) Conc: 0.17622

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	9015928	0.282614
Decachlorobiphenyl	6.18	6.21	6.24	4136035	0.17622

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.295071	0.012	0.024	0.024		4.31	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.295071	0.012	0.024	0.024			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.282614	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl	B	0.17622	0.012	0.024	0.024		0.24	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	0.175791	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	0.17622	0.012	0.024	0.024			

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1221			<0.08	<0.24	<0.4			3	
<input type="checkbox"/> PCB-1232			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1242			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1248			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1254			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1260			<0.12	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1262			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1268			<0.128	<0.256	<0.4			4	
<input type="checkbox"/> Total PCBs			<0.08	<0.24	<0.4				

Units: ug/l

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

Valerie L. Tomaglio
 Valerie L. Tomaglio
 Principal Specialist

NOV 05 2018

Data Summary

Sample Name: BLANKA 11/1/18 CAF PBLK10305 BLK Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: State:
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 12:48:51
 Instrument 18274A
 Result file 25PCBS18303004.007.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) 98% (30 - 150) Conc: 0.295071
 %SSR(DCB) 59% (30 - 150) Conc: 0.175791

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	5722071
Decachlorobiphenyl	6.58	6.61	6.64	2820104

Analysis Report (B)

Injected on Nov 04, 2018 12:48:51
 Instrument 18274B
 Result file 25PCBS18303004B.007.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 94% (30 - 150) Conc: 0.282614
 %SSR(DCB) 59% (30 - 150) Conc: 0.17622

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	9015928	0.282614
Decachlorobiphenyl	6.18	6.21	6.24	4136035	0.17622

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.295071	0.012	0.024	0.024		4.31	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.295071	0.012	0.024	0.024			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.282614	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl	B	0.17622	0.012	0.024	0.024		0.24	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	0.175791	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	0.17622	0.012	0.024	0.024			

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1221			<0.08	<0.24	<0.4			3	
<input type="checkbox"/> PCB-1232			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1242			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1248			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1254			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1260			<0.12	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1262			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1268			<0.128	<0.256	<0.4			4	
<input type="checkbox"/> Total PCBs			<0.08	<0.24	<0.4				

Units: ug/l

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

Valerie L. Tomayko
 Valerie L. Tomayko
 Principal Specialist

NOV 05 2018

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: **BLANKA** 11/1/18 CAF PBLK10305 ID: AC Batchnumber: 183050010A
 Sample Amount: 250 mL Total Volume: 2 ml Analyst: 9065 SDG: State:
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 12:48:51
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.007.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

%SSR(TCX) : 98% (33-137) Conc.: 0.295071
 %SSR(DCB) : 59% (10-148) Conc.: 0.175791

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1018							
3.16	3.19	3.20	3866.985	0.011707	3	72.52	1
3.49	3.52	3.53	3297.784	0.008037			3
3.71	3.74	3.75	729.669	0.001544			4

Height Summation: 7894.438

Amount Avg CF: 0.007096 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
3.11	3.12	3.15	192436.8	1.382295	2	139.69	2
3.16	3.19	3.20	3866.985	0.008499			3

Height Summation: 196303.785

Amount Avg CF: 0.695397 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.16	3.19	3.20	3866.985	0.0104	3	69.22	1
3.49	3.52	3.53	3297.784	0.017805			3
3.71	3.74	3.75	729.669	0.003278			4

Height Summation: 7894.438

Amount Avg CF: 0.010494 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
3.16	3.19	3.20	3866.985	0.013534	3	71.62	1
3.49	3.52	3.53	3297.784	0.009728			3
3.71	3.74	3.75	729.669	0.001805			4

Height Summation: 7894.438

Amount Avg CF: 0.008356 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.83	3.84	3.87	2505.834	0.006143	3	59.31	1
4.05	4.08	4.09	5143.168	0.013823			3
4.36	4.38	4.40	1795.816	0.004538			5

Height Summation: 9444.818

Amount Avg CF: 0.008268 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	2668.105	0.006114	4	81.27	1
4.83	4.85	4.87	3509.023	0.005821			4
5.03	5.05	5.07	7370.935	0.015242			5
5.14	5.17	5.18	873.5663	0.001413			6

Height Summation: 14421.6293

Amount Avg CF: 0.007148 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
5.14	5.17	5.18	873.5663	0.000889	2	97.62	3
5.82	5.83	5.86	3846.229	0.00485			6

Height Summation: 4719.7953

Amount Avg CF: 0.00287 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
5.61	5.65	5.65	12462.66	0.007342	2	43.05	3
5.82	5.83	5.86	3846.229	0.003915			4

Height Summation: 16308.889

Amount Avg CF: 0.005629 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 12:48:51
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.007.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

%SSR(TCX) : 94% (33-137) Conc.: 0.282614
 %SSR(DCB) : 59% (10-148) Conc.: 0.17622

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.71	3.71	3.75	3329.747	0.006144	1		6
Height Summation:				3329.747			
Amount Avg CF:				0.006144	Linear:		

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1221							
2.89	2.90	2.93	93095.62	0.411147	1		2
Height Summation:				93095.62			
Amount Avg CF:				0.411147	Linear:		

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1232							
3.71	3.71	3.75	3329.747	0.015689	1		6
Height Summation:				3329.747			
Amount Avg CF:				0.015689	Linear:		

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1242							
3.71	3.71	3.75	3329.747	0.007886	1		6
Height Summation:				3329.747			
Amount Avg CF:				0.007886	Linear:		

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.71	3.71	3.75	3329.747	0.004272	2	8.45	2
3.93	3.95	3.97	4831.355	0.004815			4
Height Summation:				8161.102			
Amount Avg CF:				0.004544	Linear:		

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
5.45	5.49	5.49	19073.26	0.016107	1		6
Height Summation:				19073.26			
Amount Avg CF:				0.016107	Linear:		

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
5.46	5.49	5.50	19073.26	0.013779	1		5
Height Summation:				19073.26			
Amount Avg CF:				0.013779	Linear:		

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.46	5.49	5.50	19073.26	0.031868	4	112.34	2
5.61	5.63	5.65	25855.65	0.049715			3
5.68	5.70	5.72	22183.91	0.171314			4
6.03	6.05	6.07	13412.60	0.007061			6
Height Summation:				80525.51			
Amount Avg CF:				0.06499	Linear:		

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: BLANKA 11/1/18 CAF **PBLK10305 ID:** AC **Batchnumber:** 183050010A
Sample Amount: 250 mL **Total Volume:** 2 ml **Analyst:** 9065 **SDG:** **State:**
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 12:48:51
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.007.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.81	5.83	5.85	3846.229	0.001744	4	115.52	1
6.00	6.02	6.04	18340.33	0.009997			3
6.07	6.09	6.11	11681.19	0.025365			4
6.44	6.47	6.48	10086.92	0.001587			6

Height Summation: 43954.669

Amount Avg CF: 0.009673 **Linear:**

Analysis Report (B)

Injected on : Nov 04, 2018 12:48:51
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.007.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Summary Report

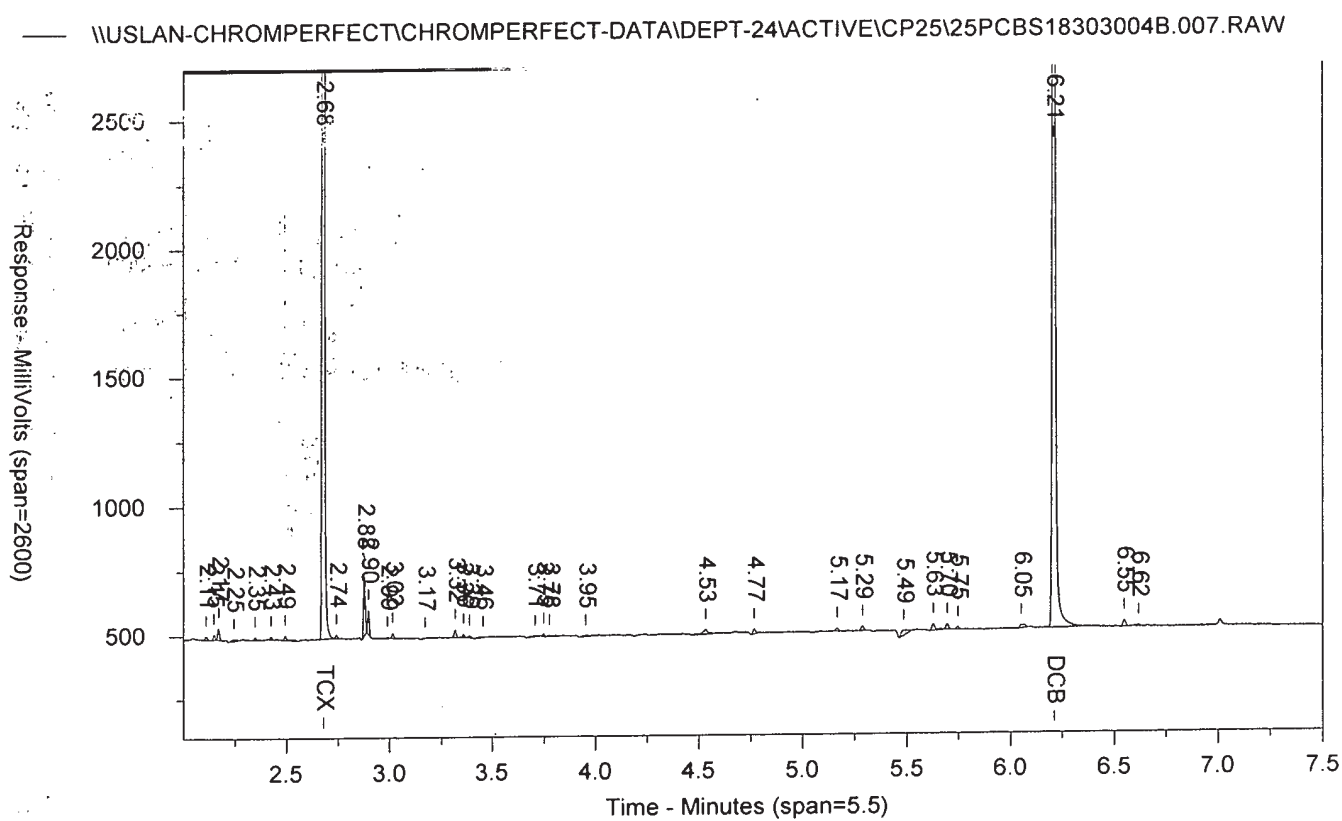
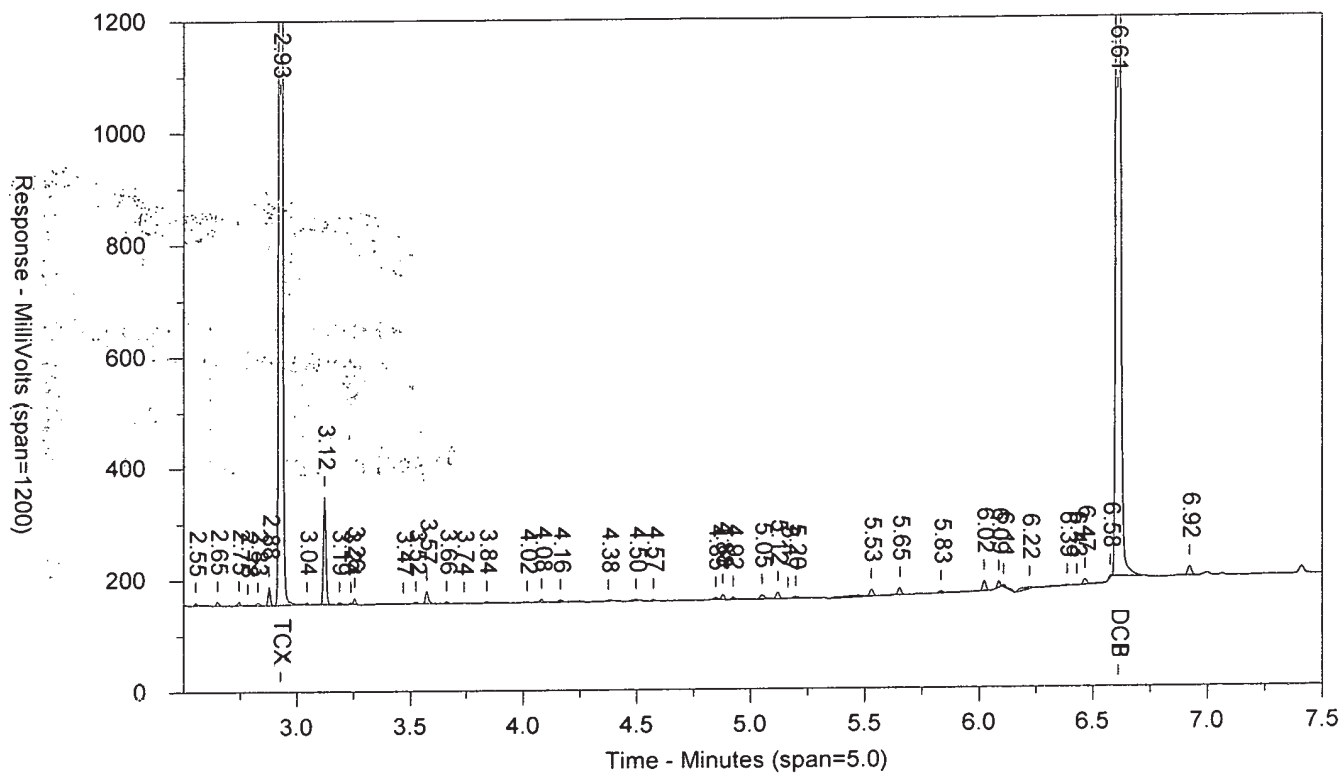
Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.4	0.08		14.37	4	40	
Aroclor-1221			0.4	0.08		** 51.38	3	5	
Aroclor-1232			0.4	0.16		39.68	4	10	
Aroclor-1242			0.4	0.08		5.78	4	30	
Aroclor-1248			0.4	0.08		** 58.14	4	40	
Aroclor-1254			0.4	0.08			4	40	
Aroclor-1260			0.4	0.12		** 139.51	4	40	
Aroclor-1262			0.4	0.16		** 83.99	4	40	
Aroclor-1268			0.4	0.128		** 148.18	4	40	

Units: ug/l

BLANKA 11/1/18 CAF ACPBLK10305 BLK 183050010A 10591

SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: BLANKA 11/1/18 CAF ACPBLK10305 BLK 183050010A 10591

SW-846 8082A

Injected On: 11/4/2018 12:48:51 PM

Sample Weight: 250

Instrument ID: CP25-18274

Dilution Factor: 2

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	5722071	.295	TCX	2.679	9015928	.283	TCX
6.61	2820104	.176	DCB	6.21	4136035	.176	DCB

Files:

Area File: 25PCBS18303004.007.RAW

Area File: 25PCBS18303004B.007.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

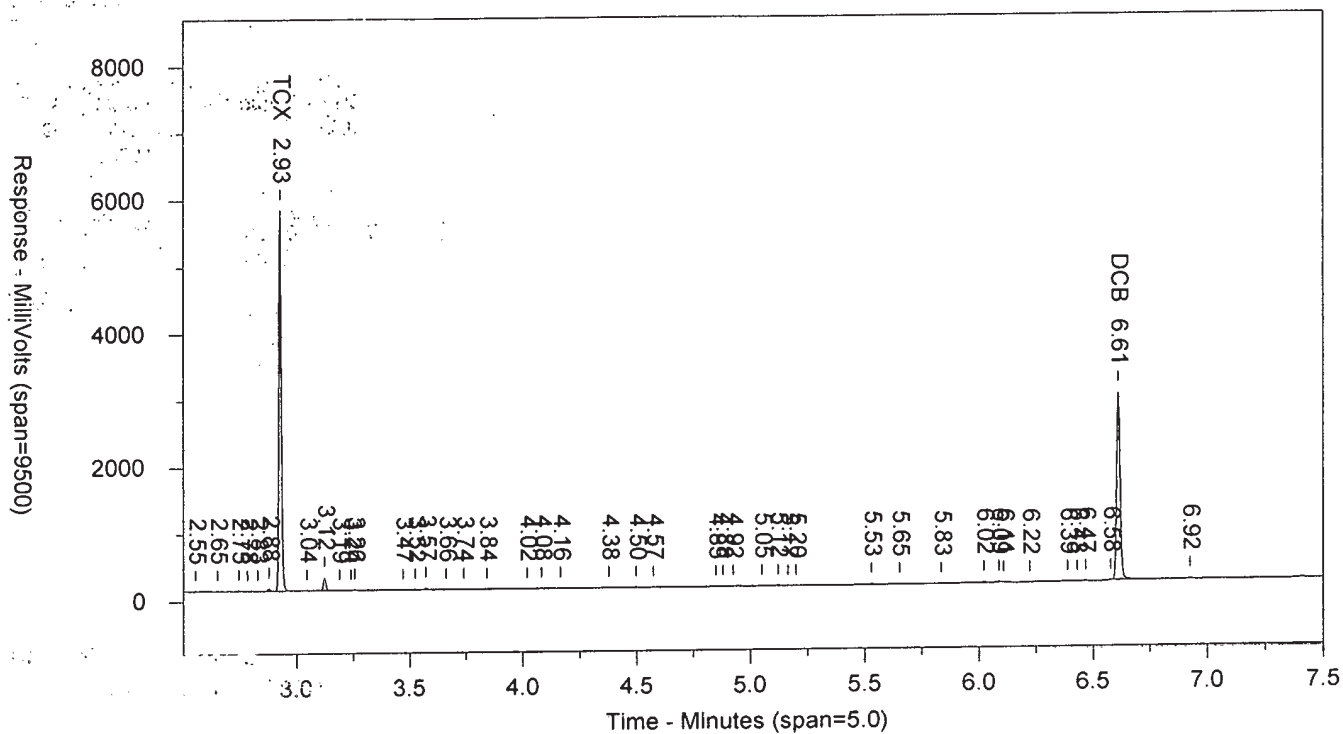
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File Reported On: 11/4/2018 at 12:57:31 PM

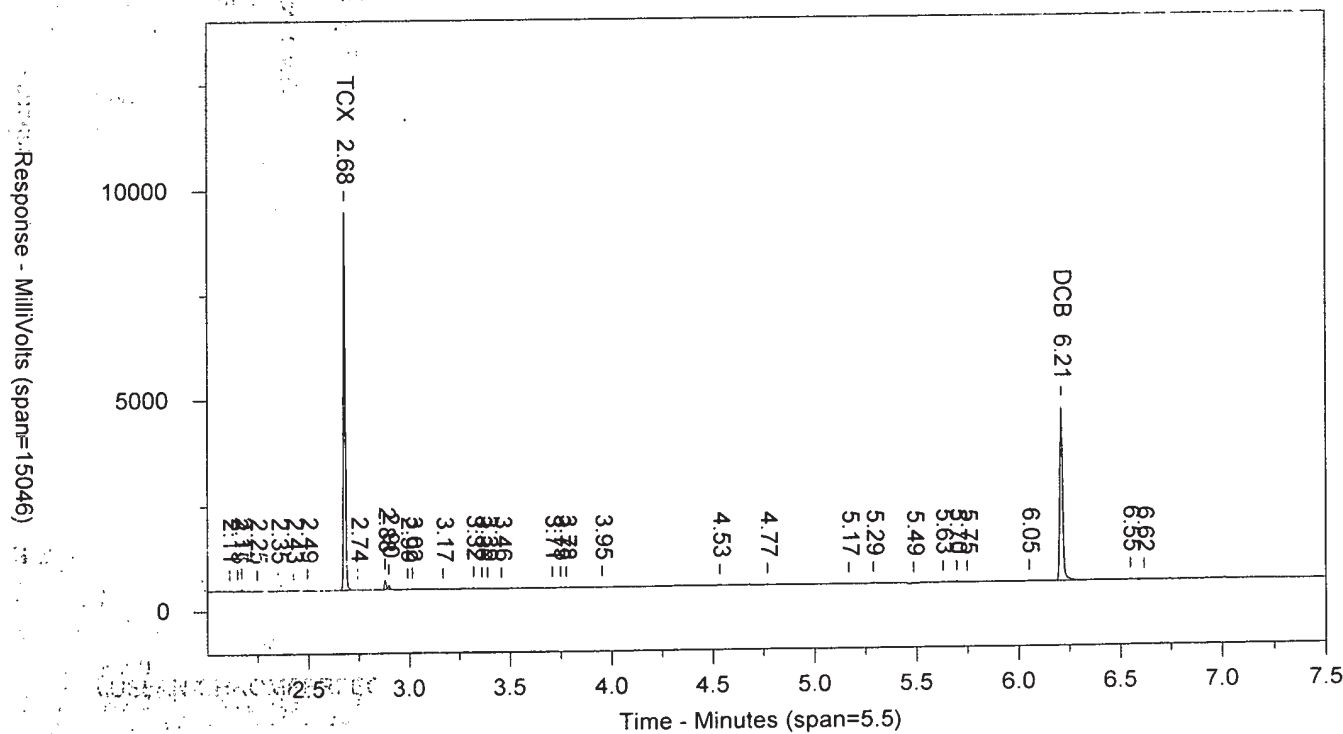
BLANKA 11/1/18 CAF ACPBLK10305 BLK 183050010A 10591

SW-846 80

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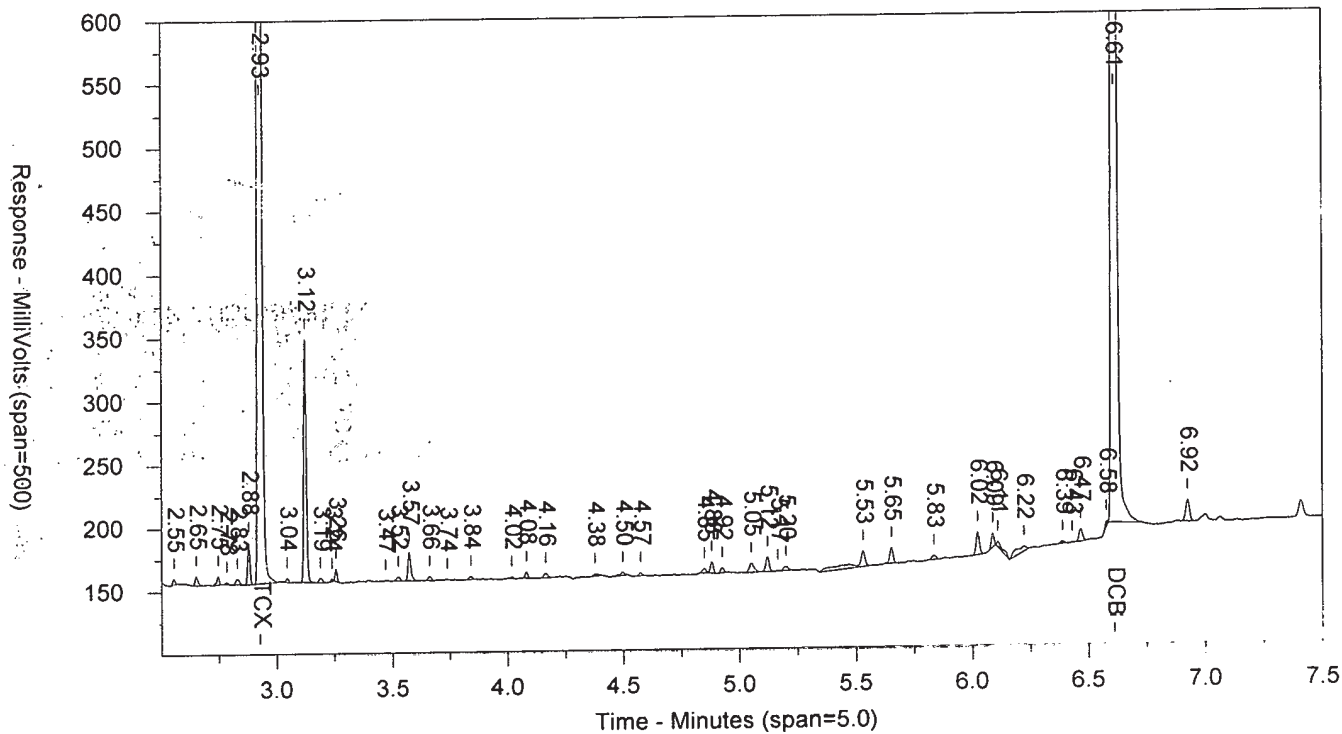
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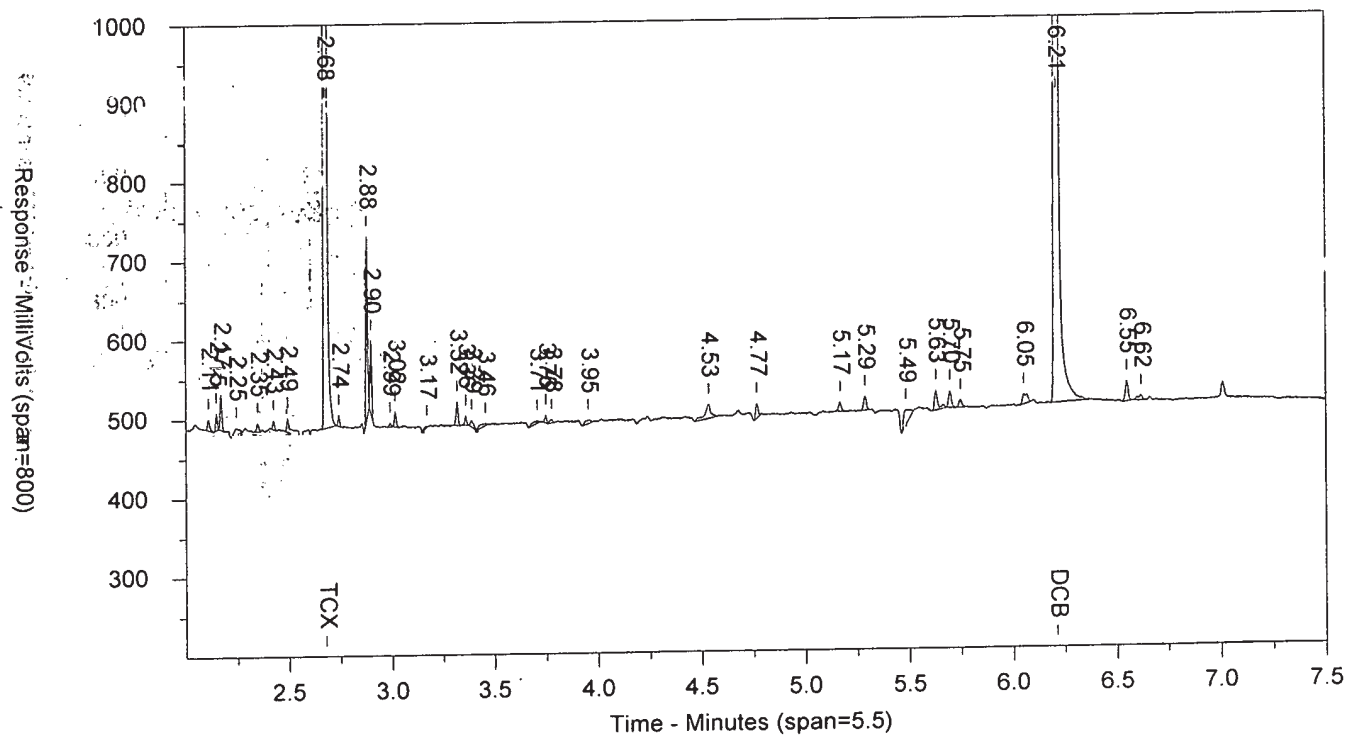
BLANKA 11/1/18 CAF ACPBLK10305 BLK 183050010A 10591

SW-846 80

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Data Summary

Sample Name: 9876335 MS CAF 14T04 MS Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 237 mL Total Volume: 2 ml Analyst: 13786 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 13:54:22
 Instrument 18274A
 Result file 25PCBS18303004.013.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) 86% (33 - 137) Conc: 0.274618
 %SSR(DCB) 57% (10 - 148) Conc: 0.178906

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	5048514
Decachlorobiphenyl	6.58	6.61	6.64	2720837

Analysis Report (B)

Injected on Nov 04, 2018 13:54:22
 Instrument 18274B
 Result file 25PCBS18303004B.013.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 86% (33 - 137) Conc: 0.273691
 %SSR(DCB) 59% (10 - 148) Conc: 0.185109

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	8277266	0.273691
Decachlorobiphenyl	6.18	6.21	6.24	4118740	0.185109

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.274618	0.0127	0.0253	0.0253		0.34	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.274618	0.0127	0.0253	0.0253			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.273691	0.0127	0.0253	0.0253			
<input type="checkbox"/> Decachlorobiphenyl	B	0.185109	0.0127	0.0253	0.0253		3.41	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	0.178906	0.0127	0.0253	0.0253			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	0.185109	0.0127	0.0253	0.0253			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016								Aroclor-1016							
5.64								4.39							
3.16	3.18	3.20	1315927	4.202223	1			2.94	2.96	2.98	2185517	4.236152	1		
3.38	3.40	3.42	1327951	4.382503	2			3.27	3.29	3.31	2731220	4.521223	2		
3.49	3.51	3.53	1737227	4.466028	3			3.47	3.49	3.51	2793600	4.768374	3		
3.71	3.73	3.75	2150466	4.801575	4			3.54	3.56	3.58	2884512	4.750388	4		
3.77	3.79	3.81	1782300	4.832464	5			3.60	3.62	3.64	2246390	4.715068	5		
3.96	3.98	4.00	1335404	4.740547	6			3.71	3.73	3.75	2384813	4.642089	6		
Height summation:				9649275	Height summation:				15226052						
Concentration				CF: 4.57089	Concentration				CF: 4.605549						
Aroclor-1260								Aroclor-1260							
10.27								11.83							
4.74	4.76	4.78	2712834	4.22995	1			4.54	4.56	4.58	5018776	4.46683	1		
4.94	4.96	4.98	3316111	4.292545	2			4.64	4.66	4.68	3986727	4.419307	2		
5.14	5.16	5.18	3780806	4.058011	3			4.77	4.79	4.81	4380134	3.901819	3		
5.21	5.23	5.25	2301396	5.091299	4			5.00	5.02	5.04	3537506	5.091164	4		
5.61	5.63	5.65	6975532	5.167776	5			5.19	5.21	5.23	9038213	5.480892	5		
5.82	5.84	5.86	3579308	4.76136	6			5.45	5.48	5.49	5265171	4.690104	6		
Height summation:				22665987	Height summation:				31226527						
Concentration				CF: 4.600157	Concentration				CF: 4.675019						

Data Summary

Sample Name: 9876335 MS CAF 14T04 MS Sample ID: AC Batchnumber: 183050010A
Sample Amount: 237 mL Total Volume: 2 ml Analyst: 13786 SDG: TID14 State: NY
Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 13:54:22
Instrument 18274A
Result file 25PCBS18303004.013.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

Analysis Report (B)

Injected on Nov 04, 2018 13:54:22
Instrument 18274B
Result file 25PCBS18303004B.013.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016	B	4.605549	0.0844	0.2532	0.4219		0.76	4	
<input type="checkbox"/> PCB-1221			<0.0844	<0.2532	<0.4219			3	
<input type="checkbox"/> PCB-1232			<0.1688	<0.3376	<0.4219			4	
<input type="checkbox"/> PCB-1242			<0.0844	<0.2532	<0.4219			4	
<input type="checkbox"/> PCB-1248			<0.0844	<0.2532	<0.4219			4	
<input type="checkbox"/> PCB-1254			<0.0844	<0.2532	<0.4219			4	
<input type="checkbox"/> PCB-1260	B	4.675019	0.1266	0.2532	0.4219		1.61	4	
<input type="checkbox"/> PCB-1262			<0.1688	<0.3376	<0.4219			4	
<input type="checkbox"/> PCB-1268			<0.135	<0.27	<0.4219			4	
<input type="checkbox"/> Total PCBs	A	9.280568	0.0844	0.2532	0.4219				

Units: ug/l

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

Valerie L. Tomayko
Valerie L. Tomayko
Principal Specialist

NOV 05 2018

Reviewed and digitally signed by Covenant Mutuku on 11/5/2018 10:44:39

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876335 MS CAF 14T04 ID: AC Batchnumber: 183050010A
Sample Amount: 237 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:54:22
Instrument : CP25-18274A
Result file : 25PCBS18303004.013.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

%SSR(TCX) : 86% (33-137) Conc.: 0.274618
%SSR(DCB) : 57% (10-148) Conc.: 0.178906

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	1315927	4.202223	6	5.64	1
3.38	3.40	3.42	1327951	4.382503			2
+ 3.38	3.41	3.42	568594.1	1.876474			2
3.49	3.51	3.53	1737227	4.466028			3
3.71	3.73	3.75	2150466	4.801575			4
3.77	3.79	3.81	1782300	4.832464			5
3.96	3.98	4.00	1335404	4.740547			6

Height Summation: 9649275

Amount Avg CF: 4.57089 Linear:

Aroclor-1221

E 3.06	3.08	3.10	324030.3	1.945924	3	24.38	1
E 3.11	3.14	3.15	287227.8	2.17636			2
F 3.16	3.18	3.20	1315027	3.060668			3

Height Summation: 1927185.1

Amount Avg CF: 2.390984 Linear:

Aroclor-1232

E 3.16	3.18	3.20	1315927	3.733221	6	31.35	1
E 3.38	3.40	3.42	1327951	9.700207			2
E+ 3.38	3.41	3.42	568594.1	4.153377			2
E 3.49	3.51	3.53	1737227	9.893731			3
E 3.71	3.73	3.75	2150466	10.189372			4
E 3.77	3.79	3.81	1782300	11.410145			5
E 3.96	3.98	4.00	1335404	12.118359			6

Height Summation: 9649275

Amount Avg CF: 9.507506 Linear:

Aroclor-1242

E 3.16	3.18	3.20	1315927	4.858359	6	9.79	1
E 3.38	3.40	3.42	1327951	5.265457			2
E+ 3.38	3.41	3.42	568594.1	2.254532			2
E 3.49	3.51	3.53	1737227	5.405577			3
E 3.71	3.73	3.75	2150466	5.610246			4
E 3.77	3.79	3.81	1782300	6.235178			5
E 3.96	3.98	4.00	1335404	6.231721			6

Height Summation: 9649275

Amount Avg CF: 5.601089 Linear:

Aroclor-1248

3.83	3.86	3.87	1156178	3.135741	6	41.54	1
3.96	3.98	4.00	1335404	3.210138			2
4.05	4.07	4.09	1128364	3.199056			3
4.23	4.25	4.27	167007.1	0.474294			4
4.36	4.38	4.40	1178014	3.14041			5
4.61	4.63	4.65	687170.2	2.461008			6

Height Summation: 5652137.3

Amount Avg CF: 2.603441 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 13:54:22
Instrument : CP25-18274B
Result file : 25PCBS18303004B.013.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

%SSR(TCX) : 86% (33-137) Conc.: 0.273691
%SSR(DCB) : 59% (10-148) Conc.: 0.185109

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	2185517	4.236152	6	4.39	1
3.27	3.29	3.31	2731220	4.521223			2
+ 3.47	3.47	3.51	122619.8	0.209299			3
3.47	3.49	3.51	2793600	4.768374			3
3.54	3.56	3.58	2884512	4.750388			4
3.60	3.62	3.64	2246390	4.715068			5
+ 3.60	3.64	3.64	588232.1	1.234672			5
3.71	3.73	3.75	2384813	4.642089			6

Height Summation: 15226052

Amount Avg CF: 4.605549 Linear:

Aroclor-1221

E 2.83	2.85	2.87	581985.1	1.933166	3	24.05	1
E 2.89	2.91	2.93	457238.5	2.130111			2
E 2.94	2.96	2.98	2185517	2.99721			3

Height Summation: 3224740.6

Amount Avg CF: 2.353495 Linear:

Aroclor-1232

E 2.94	2.96	2.98	2185517	3.70003	6	32.81	1
E 3.27	3.29	3.31	2731220	10.046054			2
+ 3.47	3.47	3.51	122619.8	0.443955			3
E 3.47	3.49	3.51	2793600	10.114466			3
E 3.54	3.56	3.58	2884512	10.915396			4
E 3.60	3.62	3.64	2246390	13.047597			5
E+ 3.60	3.64	3.64	588232.1	3.4166			5
E 3.71	3.73	3.75	2384813	11.853075			6

Height Summation: 15226052

Amount Avg CF: 9.946103 Linear:

Aroclor-1242

E 2.94	2.96	2.98	2185517	4.909542	6	8.22	1
E 3.27	3.29	3.31	2731220	5.564194			2
+ 3.47	3.47	3.51	122619.8	0.245619			3
E 3.47	3.49	3.51	2793600	5.595844			3
E 3.54	3.56	3.58	2884512	5.919556			4
E 3.60	3.62	3.64	2246390	6.274228			5
+ 3.60	3.64	3.64	588232.1	1.642948			5
E 3.71	3.73	3.75	2384813	5.957841			6

Height Summation: 15226052

Amount Avg CF: 5.703534 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876335 MS CAF 14T04 ID: AC Batchnumber: 183050010A
Sample Amount: 237 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:54:22
Instrument : CP25--18274A
Result file : 25PCBS18303004.013.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.57	4.59	72263.1	0.174682	6	106.40	1
4.55	4.59	4.59	252826.5	0.611158			1
4.61	4.63	4.65	687170.2	0.829738			2
E 4.74	4.76	4.78	2712834	10.389294			3
4.83	4.85	4.87	388497.9	0.679843			4
5.03	5.05	5.07	1599444	3.488773			5
5.14	5.16	5.18	3780806	6.452646			6

Height Summation: 9421578.6

Amount Avg CF: 3.741909 Linear:

Aroclor-1260							
4.74	4.76	4.78	2712834	4.22995	6	10.27	1
4.94	4.96	4.98	3316111	4.292545			2
5.14	5.16	5.18	3780806	4.058011			3
5.21	5.23	5.25	2301396	5.091299			4
5.61	5.63	5.65	6975532	6.167776			5
5.82	5.84	5.86	3579308	4.76136			6

Height Summation: 22665987

Amount Avg CF: 4.600157 Linear:

Aroclor-1262							
E 5.21	5.23	5.25	2301396	3.338354	6	18.06	1
E 5.38	5.39	5.41	2178860	3.923596			2
E 5.61	5.63	5.65	6975532	4.334703			3
E 5.82	5.84	5.86	3579308	3.843429			4
E 5.87	5.89	5.91	1280795	2.534166			5
E 6.25	6.26	6.29	1997244	3.208578			6

Height Summation: 18313135

Amount Avg CF: 3.530471 Linear:

Aroclor-1268							
5.81	5.84	5.85	3579308	1.711515	6	119.56	1
5.87	5.89	5.91	1280795	0.676207			2
6.00	6.02	6.04	90641.96	0.052116			3
6.07	6.08	6.11	82809.84	0.189679			4
6.24	6.26	6.28	1997244	2.675419			5
6.44	6.46	6.48	481092	0.079862			6

Height Summation: 7511890.8

Amount Avg CF: 0.897466 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 13:54:22
Instrument : CP25--18274B
Result file : 25PCBS18303004B.013.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	1891711	3.14375	6	45.15	1
3.71	3.73	3.75	2384813	3.227849			2
+ 3.80	3.80	3.84	546331.1	1.118766			3
3.80	3.82	3.84	1506518	3.085018			3
3.93	3.95	3.97	1917165	2.015659			4
+ 4.07	4.09	4.11	128111.6	0.292848			5
4.07	4.11	4.11	180855.2	0.413413			5
+ 4.30	4.31	4.34	481671.2	1.164693			6
+ 4.30	4.33	4.34	297834	0.72017			6
4.30	4.34	4.34	1376614	3.328686			6

Height Summation: 9257676.2

Amount Avg CF: 2.535729 Linear:

Aroclor-1254							
+ 4.30	4.31	4.34	481671.2	0.398357	6	97.05	1
+ 4.30	4.33	4.34	297834	0.246318			1
4.30	4.34	4.34	1376614	1.138503			1
4.40	4.42	4.44	4360196	7.677544			2
4.47	4.49	4.51	373637.1	0.489892			3
E 4.54	4.56	4.58	5018776	10.914149			4
4.69	4.72	4.73	548489.3	1.045679			5
4.77	4.79	4.81	4380134	5.081928			6

Height Summation: 16057846.4

Amount Avg CF: 4.391283 Linear:

Aroclor-1260							
4.54	4.56	4.58	5018776	4.46683	6	11.83	1
4.64	4.66	4.68	3986727	4.419307			2
4.77	4.79	4.81	4380134	3.901819			3
5.00	5.02	5.04	3537506	5.091164			4
5.19	5.21	5.23	9038213	5.480892			5
5.45	5.48	5.49	5265171	4.690104			6

Height Summation: 31226527

Amount Avg CF: 4.675019 Linear:

Aroclor-1262							
E 4.81	4.83	4.85	3086465	3.350954	6	21.33	1
E 5.00	5.02	5.04	3537506	3.709472			2
E 5.20	5.21	5.24	9038213	4.664346			3
E 5.41	5.43	5.45	1886159	2.404			4
E 5.46	5.48	5.50	5265171	4.012402			5
E 5.83	5.85	5.87	2548624	3.286015			6

Height Summation: 25362138

Amount Avg CF: 3.571198 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876335 MS CAF 14T04 ID: AC **Batchnumber:** 183050010A
Sample Amount: 237 mL **Total Volume:** 2 ml **Analyst:** 9065 **SDG:** TID14 **State:** NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 13:54:22
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.013.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 13:54:22
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.013.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.41	5.43	5.45	1886159	0.003361	6	145.23	1
5.46	5.48	5.50	5265171	9.279577			2
5.61	5.63	5.65	118134.9	0.239609			3
5.68	5.70	5.72	83406.32	0.679431			4
5.83	5.85	5.87	2548624	12.87812			5
6.03	6.05	6.07	655918.2	0.36426			6
Height Summation:				10557413.42			
Amount Avg CF:				3.907393	Linear:		

Summary Report

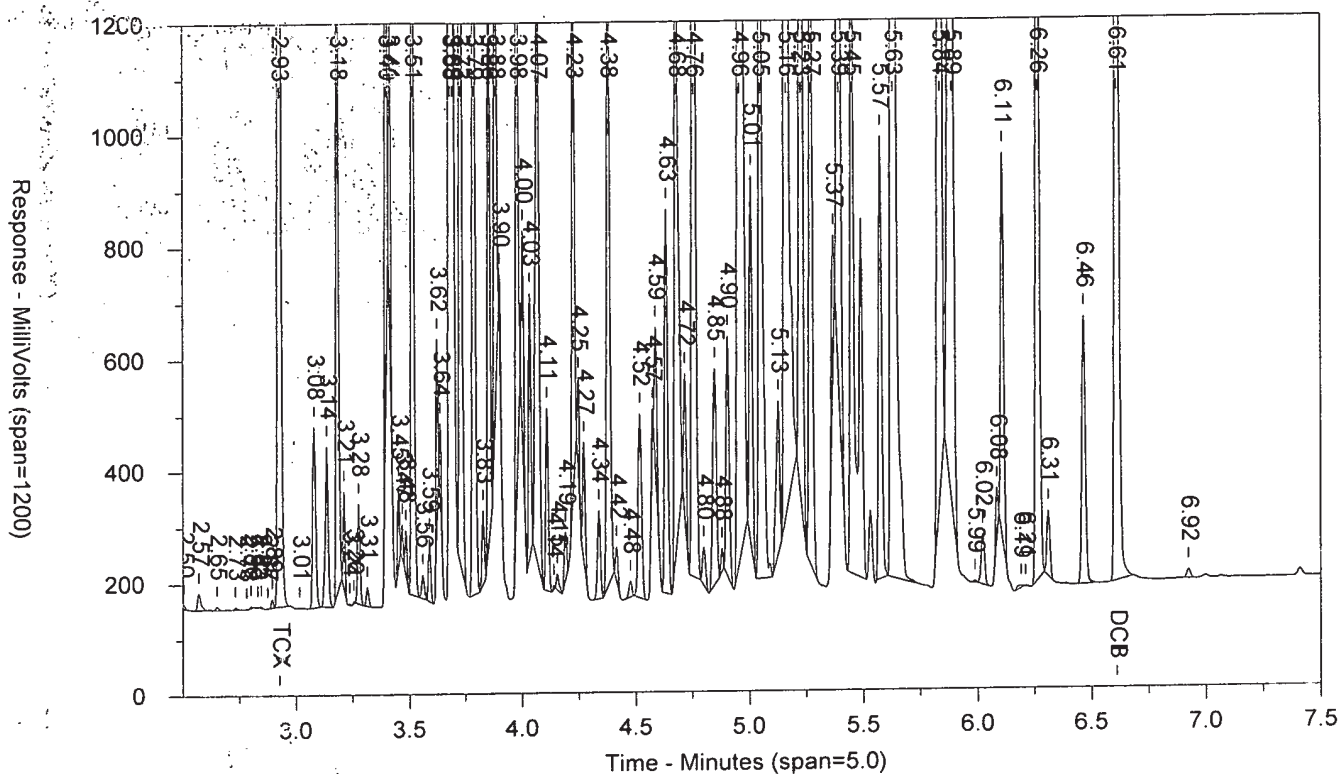
Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.4219	0.0844	—	0.76	4	40	
Aroclor-1221			0.4219	0.0844	E	1.58	3	5	
Aroclor-1232			0.4219	0.1688	E	4.51	4	10	
Aroclor-1242			0.4219	0.0844	E	1.81	4	30	
Aroclor-1248			0.4219	0.0844	—	2.64	4	40	
Aroclor-1254			0.4219	0.0844	E	15.97	4	40	
Aroclor-1260			0.4219	0.1266	—	1.61	4	40	
Aroclor-1262			0.4219	0.1688	E	1.15	4	40	
Aroclor-1268			0.4219	0.135	—	** 125.29	4	40	

Units: ug/l

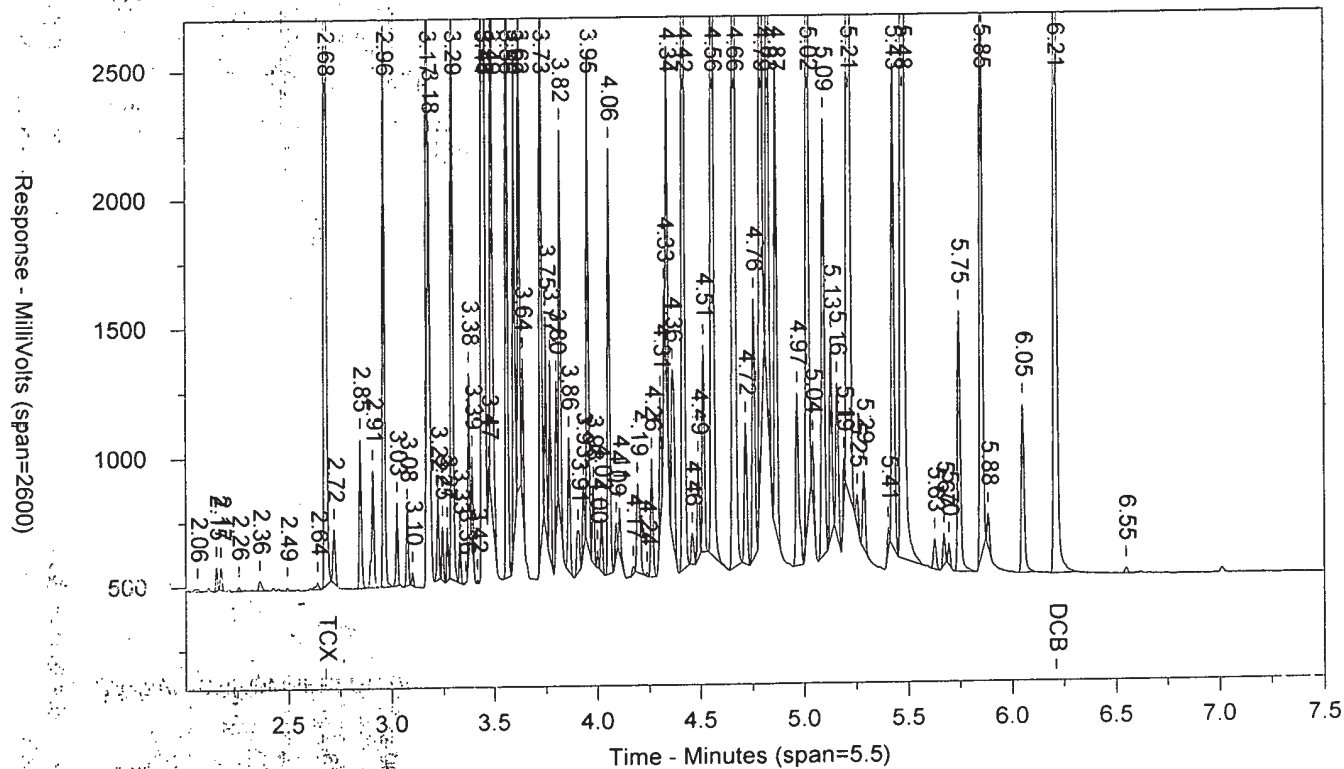
9876335MS CAF AC14T04 MS 183050010A 10591

SW-846 8082A

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9876335MS CAF AC14T04 MS 183050010A 10591

SW-846 8082A

Injected On: 11/4/2018 1:54:22 PM

Sample Weight: 237

Instrument ID: CP25-18274

Dilution Factor: 2

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	5048514	.275	TCX	2.679	8277266	.274	TCX
6.61	2720837	.179	DCB	6.21	4118740	.185	DCB

Files:

Area File: 25PCBS18303004.013.RAW

Area File: 25PCBS18303004B.013.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

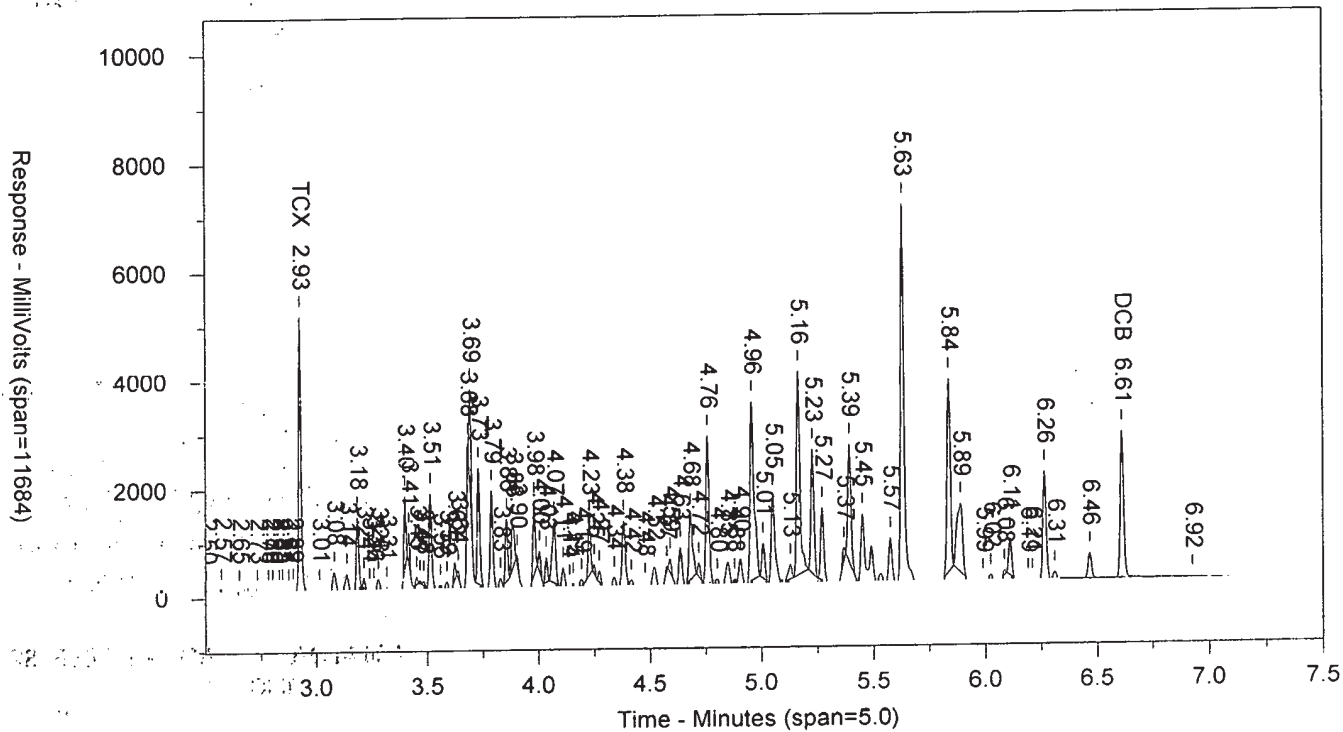
Area File Created On: 11/4/2018 2:02:53 PM

File Reported On: 11/4/2018 at 2:03:01 PM

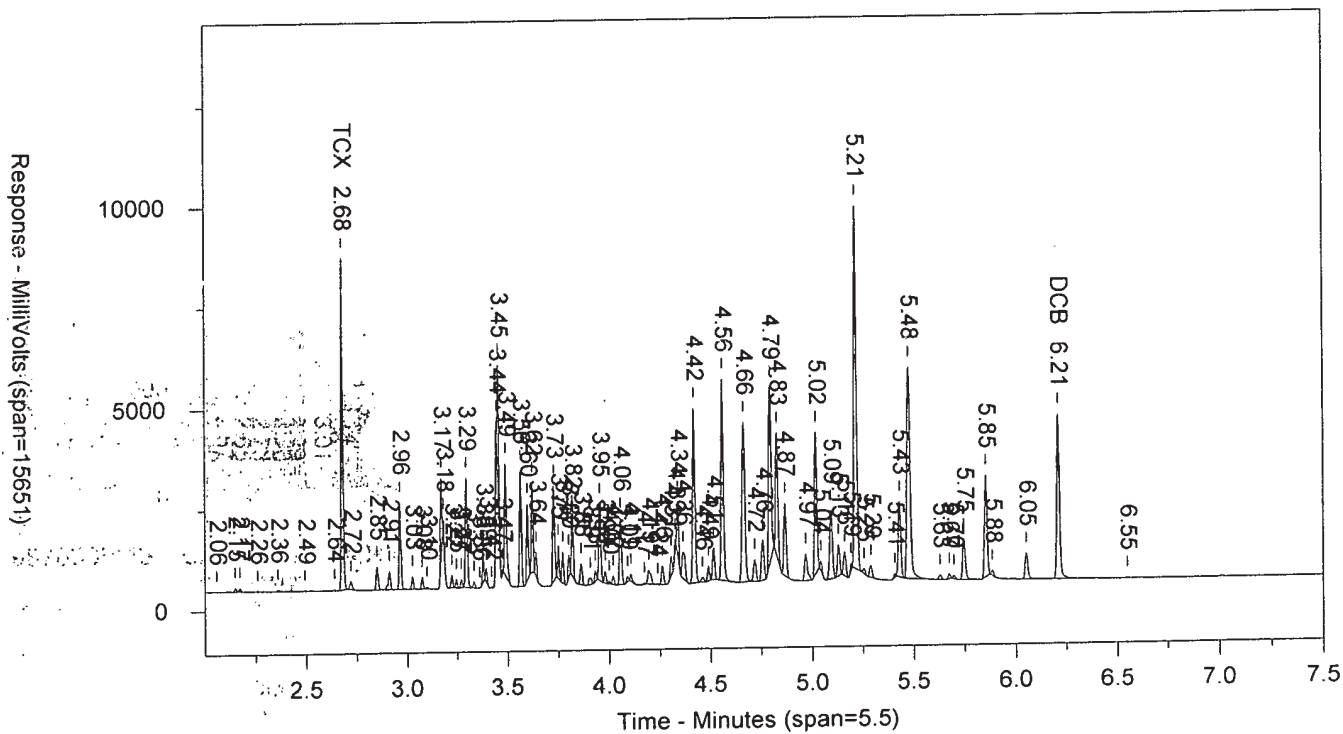
9876335MS CAF AC14T04 MS 183050010A 10591

SW-846 8082A

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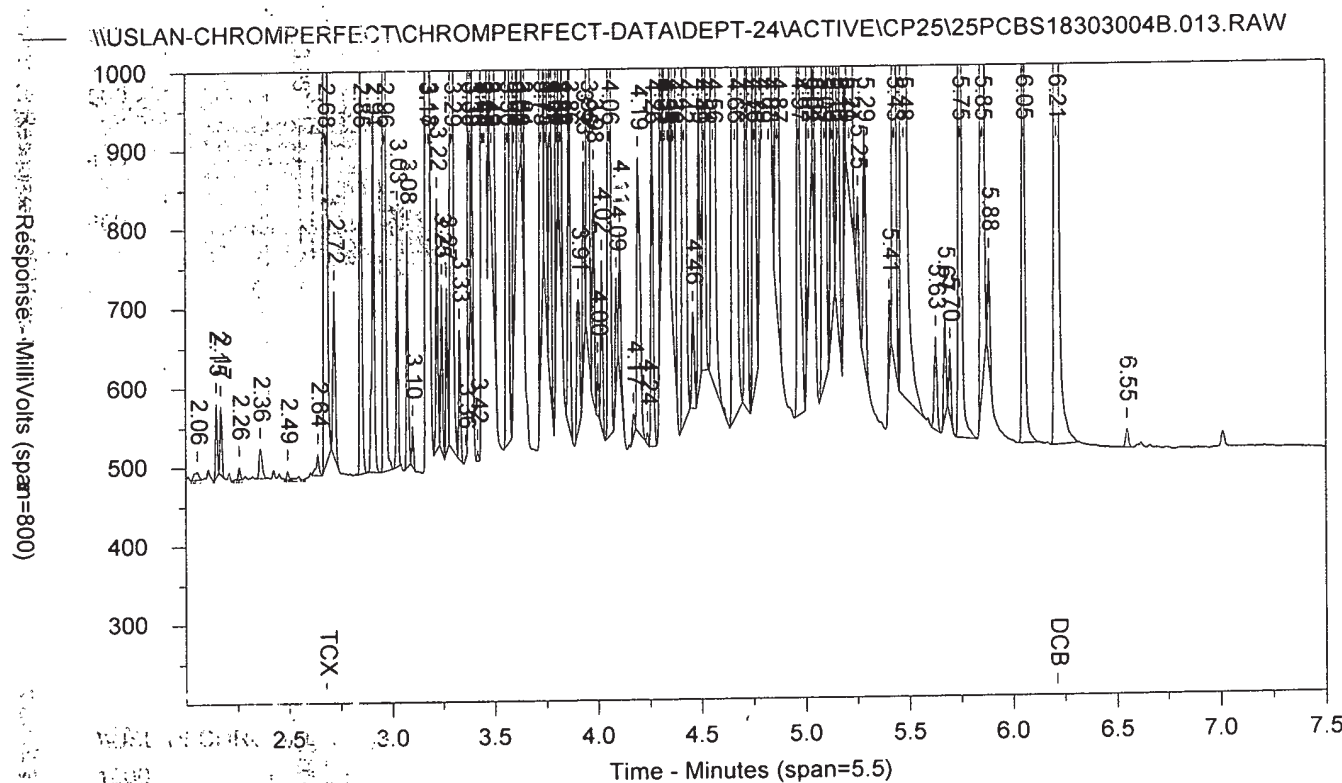
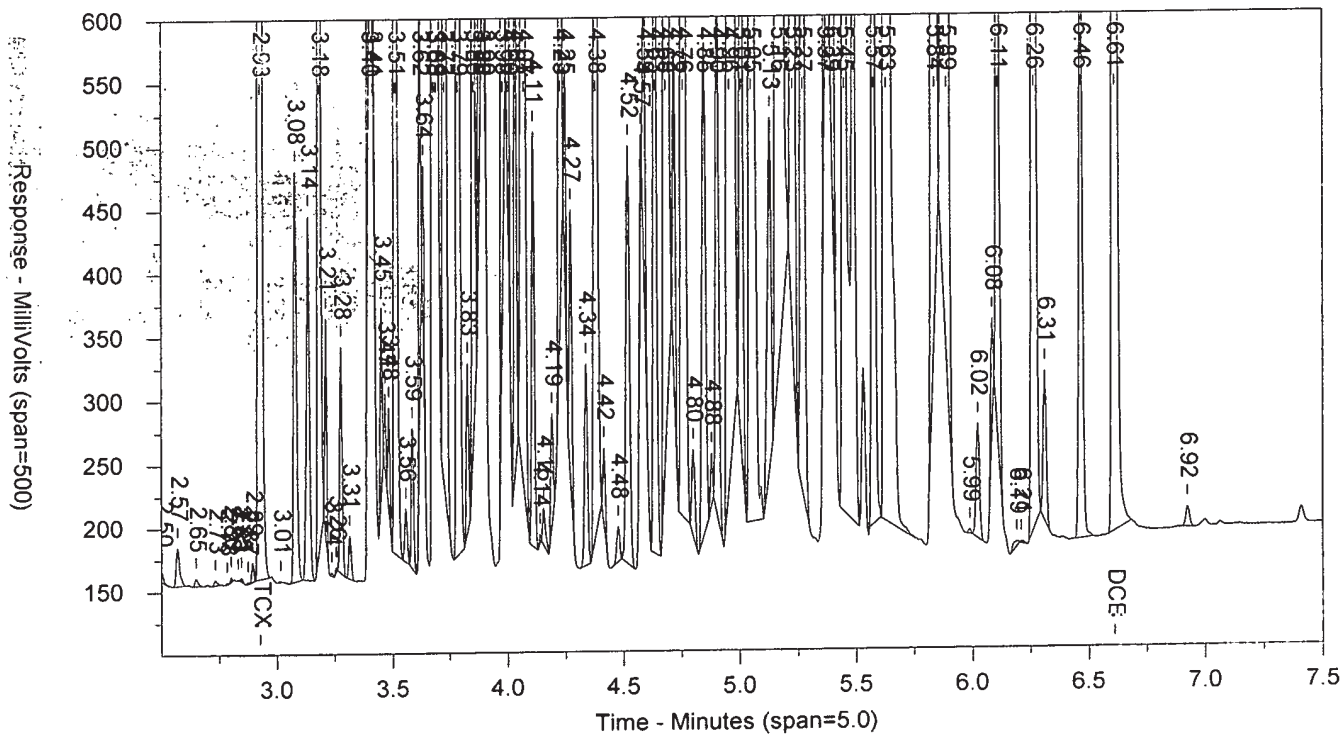
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9876335MS CAF AC14T04 MS 183050010A 10591

SW-846 8082A

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Data Summary

Sample Name: 9876336 MSD CAF 14T04 MSD Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: TID14 State: NY
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 14:05:22
 Instrument 18274A
 Result file 25PCBS18303004.014.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) 85% (33 - 137) Conc: 0.256046
 %SSR(DCB) 61% (10 - 148) Conc: 0.18156

Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.90	2.93	2.95	4965289	0.256046
Decachlorobiphenyl	6.58	6.61	6.64	2912658	0.18156

Analysis Report (B)

Injected on Nov 04, 2018 14:05:22
 Instrument 18274B
 Result file 25PCBS18303004B.014.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 85% (33 - 137) Conc: 0.254607
 %SSR(DCB) 62% (10 - 148) Conc: 0.185289

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	8122458	0.254607
Decachlorobiphenyl	6.18	6.21	6.24	4348896	0.185289

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.256046	0.012	0.024	0.024		0.56	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.256046	0.012	0.024	0.024			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.254607	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl	B	0.185289	0.012	0.024	0.024		2.03	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	0.18156	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	0.185289	0.012	0.024	0.024			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016								Aroclor-1016							
4.27								5.02							
3.16	3.18	3.20	1415021	4.283695			1	2.94	2.96	2.98	2317648	4.258662			1
3.38	3.40	3.42	1388802	4.34499			2	3.27	3.29	3.31	2826403	4.435491			2
3.49	3.51	3.53	1809832	4.41074			3	3.47	3.49	3.51	2868091	4.640955			3
3.71	3.73	3.75	2213160	4.684597			4	3.54	3.56	3.58	3088370	4.821635			4
3.77	3.79	3.81	1813941	4.662505			5	3.60	3.62	3.64	2447062	4.869183			5
3.96	3.98	4.00	1402944	4.721331			6	3.71	3.73	3.75	2487013	4.58929			6
Height summation:			10043700			Height summation:			16034587						
Concentration			CF: 4.517976			Concentration			CF: 4.602536						
			L:						L:						
Aroclor-1260								Aroclor-1260							
10.61								10.96							
4.74	4.76	4.78	2933648	4.336391			1	4.54	4.56	4.58	5241488	4.422466			1
4.94	4.96	4.98	3617330	4.43897			2	4.64	4.66	4.68	4275682	4.493155			2
5.14	5.17	5.18	4023568	4.094006			3	4.77	4.79	4.81	4764737	4.023713			3
5.21	5.23	5.25	2506494	5.256688			4	5.00	5.02	5.04	3763038	5.134129			4
5.61	5.63	5.65	7436479	5.222784			5	5.19	5.21	5.23	9466491	5.442094			5
5.82	5.84	5.86	3996403	5.039756			6	5.45	5.47	5.49	5797994	4.896166			6
Height summation:			24513922			Height summation:			33309430						
Concentration			CF: 4.731433			Concentration			CF: 4.735287						
			L:						L:						

Data Summary

Sample Name: 9876336 MSD CAF 14T04 MSD Sample ID: AC Batchnumber: 183050010A
Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: TID14 State: NY
Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 14:05:22
Instrument 18274A
Result file 25PCBS18303004.014.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

Analysis Report (B)

Injected on Nov 04, 2018 14:05:22
Instrument 18274B
Result file 25PCBS18303004B.014.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016	B	4.602536	0.08	0.24	0.4		1.85	4	
<input type="checkbox"/> PCB-1221			<0.08	<0.24	<0.4			3	
<input type="checkbox"/> PCB-1232			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1242			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1248			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1254			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1260	B	4.735287	0.12	0.24	0.4		0.08	4	
<input type="checkbox"/> PCB-1262			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1268			<0.128	<0.256	<0.4			4	
<input type="checkbox"/> Total PCBs	A	9.937023	0.08	0.24	0.4				

Units: ug/l

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

Valerie L. Tomayko
Valerie L. Tomayko
Principal Specialist

NOV 05 2018

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876336 MSD CAF 14T04 ID: AC Batchnumber: 183050010A
Sample Amount: 250 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 14:05:22
Instrument : CP25--18274A
Result file : 25PCBS18303004.014.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET
%SSR(TCX) : 85% (33-137) Conc.: 0.256046
%SSR(DCB) : 61% (10-148) Conc.: 0.18156

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	1415021	4.283695	6	4.27	1
3.38	3.40	3.42	1388802	4.34499			2
+ 3.38	3.41	3.42	599456.6	1.875453			2
3.49	3.51	3.53	1809832	4.41074			3
3.71	3.73	3.75	2213160	4.684597			4
3.77	3.79	3.81	1813941	4.662505			5
3.96	3.98	4.00	1402944	4.721331			6

Height Summation: 10043700
Amount Avg CF: 4.517976 Linear:

Aroclor-1221							
E 3.06	3.08	3.10	346707.9	1.973841	3	25.07	1
E 3.11	3.14	3.15	302563.2	2.173345			2
E 3.16	3.18	3.20	1415021	3.109813			3

Height Summation: 2064292.1
Amount Avg CF: 2.419 Linear:

Aroclor-1232							
E 3.16	3.18	3.20	1415021	3.8056	6	30.74	1
E 3.38	3.40	3.42	1388802	9.617177			2
E+ 3.38	3.41	3.42	599456.6	4.151118			2
E 3.49	3.51	3.53	1809832	9.77125			3
E 3.71	3.73	3.75	2213160	9.941135			4
E 3.77	3.79	3.81	1813941	11.008847			5
E 3.96	3.98	4.00	1402944	12.069237			6

Height Summation: 10043700
Amount Avg CF: 9.368874 Linear:

Aroclor-1242							
E 3.16	3.18	3.20	1415021	4.952552	6	8.71	1
E 3.38	3.40	3.42	1388802	5.220387			2
E+ 3.38	3.41	3.42	599456.6	2.253306			2
E 3.49	3.51	3.53	1809832	5.338657			3
E 3.71	3.73	3.75	2213160	5.473568			4
E 3.77	3.79	3.81	1813941	6.015885			5
E 3.96	3.98	4.00	1402944	6.20646			6

Height Summation: 10043700
Amount Avg CF: 5.534585 Linear:

Aroclor-1248							
3.83	3.86	3.87	1209212	3.109039	6	9.66	1
3.96	3.98	4.00	1402944	3.197126			2
4.05	4.07	4.09	1151882	3.095915			3
4.23	4.23	4.27	1040403	2.80106			4
+ 4.23	4.25	4.27	170622.8	0.459365			4
4.36	4.38	4.40	1274231	3.22027			5
4.61	4.64	4.65	730838.7	2.481296			6

Height Summation: 6809510.7
Amount Avg CF: 2.984118 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 14:05:22
Instrument : CP25--18274B
Result file : 25PCBS18303004B.014.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET
%SSR(TCX) : 85% (33-137) Conc.: 0.254607
%SSR(DCB) : 62% (10-148) Conc.: 0.185289

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	2317648	4.258662	6	5.02	1
3.27	3.29	3.31	2826403	4.435491			2
+ 3.47	3.47	3.51	112680.7	0.182332			3
3.47	3.49	3.51	2868091	4.640955			3
3.54	3.56	3.58	3088370	4.821635			4
3.60	3.62	3.64	2447062	4.869183			5
+ 3.60	3.64	3.64	584580.6	1.163203			5
3.71	3.73	3.75	2487013	4.58929			6

Height Summation: 16034587
Amount Avg CF: 4.602536 Linear:

Aroclor-1221							
E 2.83	2.85	2.87	619941.9	1.952165	3	24.66	1
E 2.89	2.91	2.93	471032.3	2.080264			2
E 2.94	2.96	2.98	2317648	3.013136			3

Height Summation: 3408622.2
Amount Avg CF: 2.348522 Linear:

Aroclor-1232							
E 2.94	2.96	2.98	2317648	3.719691	6	33.54	1
E 3.27	3.29	3.31	2826403	9.855559			2
+ 3.47	3.47	3.51	112680.7	0.386756			3
E 3.47	3.49	3.51	2868091	9.844191			3
E 3.54	3.56	3.58	3088370	11.079108			4
E 3.60	3.62	3.64	2447062	13.474067			5
E+ 3.60	3.64	3.64	584500.6	3.218031			5
E 3.71	3.73	3.75	2487013	11.718259			6

Height Summation: 16034587
Amount Avg CF: 9.948479 Linear:

Aroclor-1242							
E 2.94	2.96	2.98	2317648	4.93563	6	9.43	1
E 3.27	3.29	3.31	2826403	5.458684			2
+ 3.47	3.47	3.51	112680.7	0.213973			3
E 3.47	3.49	3.51	2868091	5.446314			3
E 3.54	3.56	3.58	3088370	6.00834			4
E 3.60	3.62	3.64	2447062	6.479305			5
+ 3.60	3.64	3.64	584580.6	1.547846			5
E 3.71	3.73	3.75	2487013	5.890077			6

Height Summation: 16034587
Amount Avg CF: 5.703058 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876336 MSD CAF 14T04 ID: AC Batchnumber: 183050010A
Sample Amount: 250 mL Total Volume: 2 ml Analyst: 9065 SDG: TID14 State: NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 14:05:22
Instrument : CP25-18274A
Result file : 25PCBS18303004.014.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
+ 4.55	4.57	4.59	74332.53	0.170341	6	106.48	1
4.55	4.59	4.59	261967.5	0.600326			1
4.61	4.64	4.65	730838.7	0.836578			2
E 4.74	4.76	4.78	2933648	10.650725			3
4.83	4.85	4.87	422758.2	0.701327			4
5.03	5.05	5.07	1763646	3.646897			5
5.14	5.17	5.18	4023568	6.509882			6

Height Summation: 10136426.4

Amount Avg CF: 3.824289 Linear:

Aroclor-1260							
4.74	4.76	4.78	2933648	4.336391	6	10.61	1
4.94	4.96	4.98	3617330	4.43897			2
5.14	5.17	5.18	4023568	4.094006			3
5.21	5.23	5.25	2506494	5.256688			4
5.61	5.63	5.65	7436479	5.222784			5
5.82	5.84	5.86	3996403	5.039756			6

Height Summation: 24513922

Amount Avg CF: 4.731433 Linear:

Aroclor-1262							
E 5.21	5.23	5.25	2506494	3.446799	6	17.28	1
E 5.38	5.39	5.41	2389087	4.078451			2
E 5.61	5.63	5.65	7436479	4.380843			3
E 5.82	5.84	5.86	3996403	4.068155			4
E 5.87	5.89	5.91	1411217	2.647022			5
E 6.25	6.27	6.29	2221490	3.383251			6

Height Summation: 19961170

Amount Avg CF: 3.66742 Linear:

Aroclor-1268							
5.81	5.84	5.85	3996403	1.811587	6	119.35	1
5.87	5.89	5.91	1411217	0.706321			2
6.00	6.02	6.04	101024.6	0.055065			3
6.07	6.09	6.11	97141.53	0.210936			4
6.24	6.27	6.28	2221490	2.821067			5
6.44	6.47	6.48	527839.8	0.083066			6

Height Summation: 8355115.93

Amount Avg CF: 0.948007 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 14:05:22
Instrument : CP25-18274B
Result file : 25PCBS18303004B.014.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	1971794	3.106441	6	44.62	1
3.71	3.73	3.75	2487013	3.191136			2
+ 3.80	3.80	3.84	580079.2	1.126105			3
3.80	3.82	3.84	1498973	2.90995			3
3.93	3.95	3.97	2015583	2.008939			4
+ 4.07	4.09	4.11	134410.9	0.29127			5
4.07	4.11	4.11	204939.7	0.444107			5
+ 4.30	4.31	4.34	540933.1	1.239974			6
+ 4.30	4.33	4.34	260940.1	0.59815			6
4.30	4.34	4.34	1474767	3.380589			6

Height Summation: 9653069.7

Amount Avg CF: 2.50686 Linear:

Aroclor-1254							
+ 4.30	4.31	4.34	540933.1	0.424100	6	96.10	1
+ 4.30	4.33	4.34	260940.1	0.204584			1
4.30	4.34	4.34	1474767	1.156256			1
4.40	4.42	4.44	4501156	7.513611			2
4.47	4.49	4.51	396122	0.492366			3
E 4.54	4.56	4.58	5241488	10.805752			4
4.69	4.72	4.73	580912.1	1.049903			5
4.77	4.79	4.81	4764737	5.240689			6

Height Summation: 16959182.1

Amount Avg CF: 4.376429 Linear:

Aroclor-1260							
4.54	4.56	4.58	5241488	4.422466	6	10.96	1
4.64	4.66	4.68	4275682	4.493155			2
4.77	4.79	4.81	4764737	4.023713			3
5.00	5.02	5.04	3763038	5.134129			4
5.19	5.21	5.23	9466491	5.442094			5
5.45	5.47	5.49	5797994	4.896166			6

Height Summation: 33309430

Amount Avg CF: 4.735287 Linear:

Aroclor-1262							
E 4.81	4.83	4.85	3236644	3.331274	6	19.92	1
E 5.00	5.02	5.04	3763038	3.740777			2
E 5.20	5.21	5.24	9466491	4.631328			3
E 5.41	5.43	5.45	2093725	2.529788			4
E 5.46	5.47	5.50	5797994	4.188689			5
E 5.83	5.85	5.87	2852676	3.48678			6

Height Summation: 27210568

Amount Avg CF: 3.651439 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: 9876336 MSD CAF 14T04 ID: AC **Batchnumber:** 183050010A
Sample Amount: 250 mL **Total Volume:** 2 ml **Analyst:** 9065 **SDG:** TID14 **State:** NY
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 14:05:22
 Instrument : CP25--18274A
 Result file : 25PCBS18303004.014.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 14:05:22
 Instrument : CP25--18274B
 Result file : 25PCBS18303004B.014.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.41	5.43	5.45	2093725	0.003536	6	145.84	1
5.46	5.47	5.50	5797994	9.687279			2
5.61	5.63	5.65	126827.2	0.243863			3
5.68	5.70	5.72	87216.53	0.673525			4
5.83	5.85	5.87	2852676	13.664933			5
6.03	6.05	6.07	754996.8	0.39748			6
Height Summation:				11713435.53			
Amount Avg CF:				4.111769	Linear:		

Summary Report

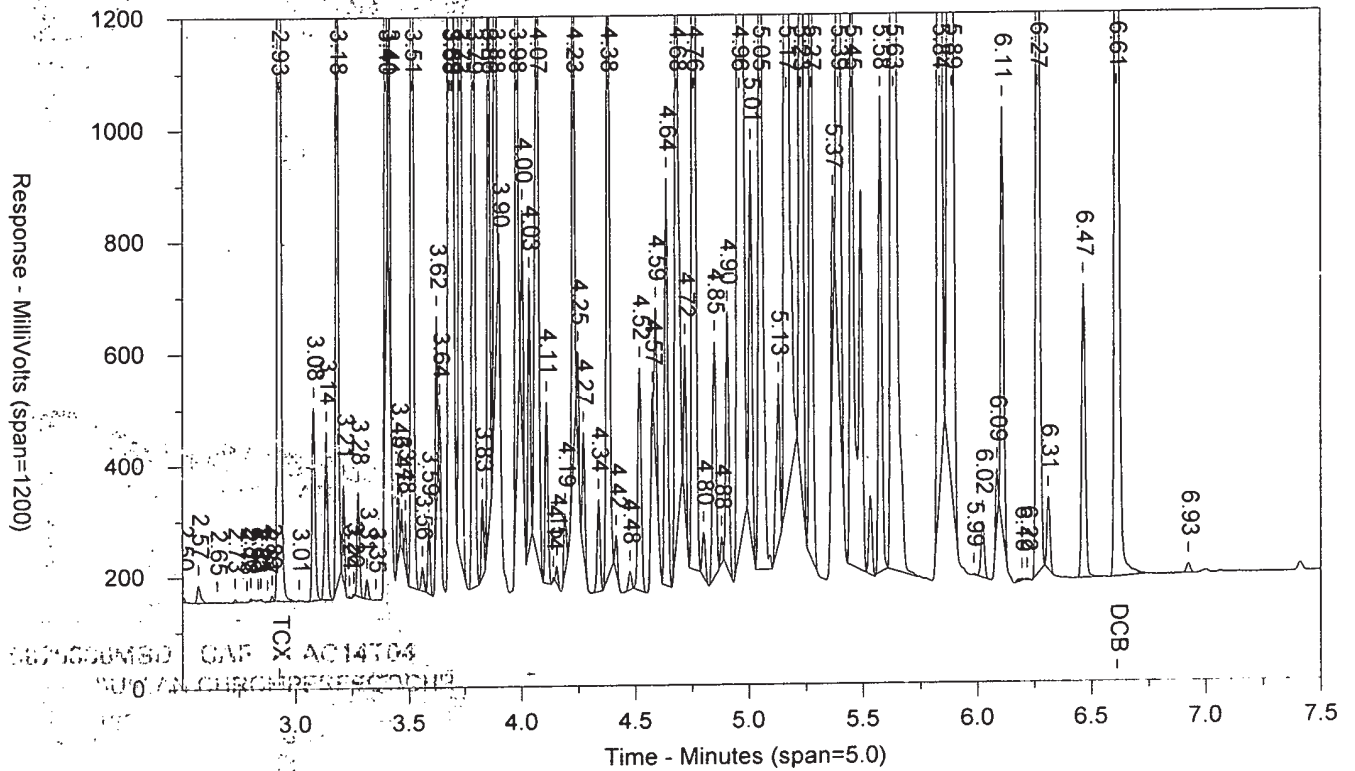
Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.4	0.08		1.85	4	40	
Aroclor-1221			0.4	0.08	E	2.96	3	5	
Aroclor-1232			0.4	0.16	E	6.00	4	10	
Aroclor-1242			0.4	0.08	E	3.00	4	30	
Aroclor-1248			0.4	0.08		17.38	4	40	
Aroclor-1254			0.4	0.08	E	13.47	4	40	
Aroclor-1260			0.4	0.12		0.08	4	40	
Aroclor-1262			0.4	0.16	E	0.44	4	40	
Aroclor-1268			0.4	0.128		** 125.06	4	40	

Units: ug/l

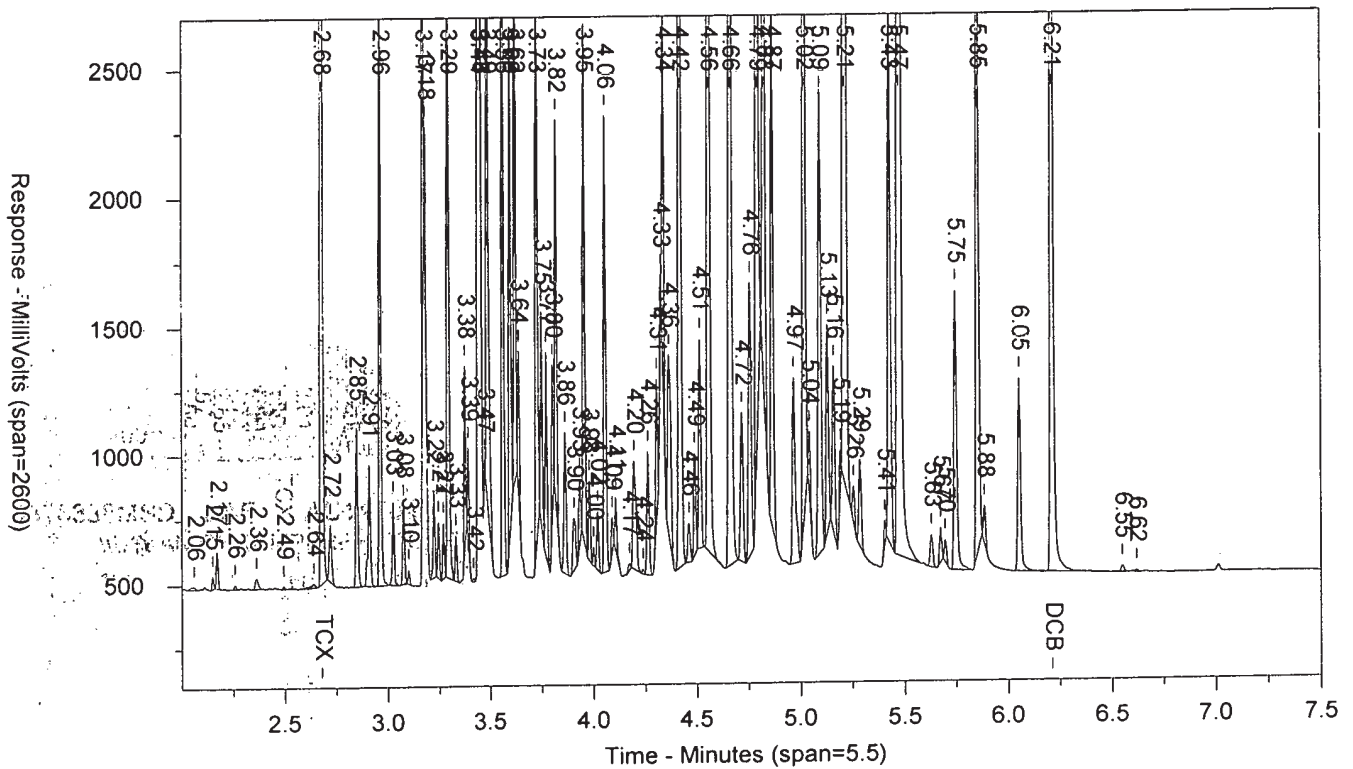
9876336MSD CAF AC14T04 MSD 183050010A 10591

SW-846 8082A

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LANCASTER LABORATORIES

Sample Number: 9876336MSD ICAF AC14T04 MSD 183050010A 10591

SW-846 8082A

Injected On: 11/4/2018 2:05:22 PM

Sample Weight: 250

Instrument ID: CP25-18274

Dilution Factor: 2

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	4965289	.256	TCX	2.679	8122458	.255	TCX
6.611	2912658	.182	DCB	6.21	4348896	.185	DCB

Files:

Area File: 25PCBS18303004.014.RAW

Area File: 25PCBS18303004B.014.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

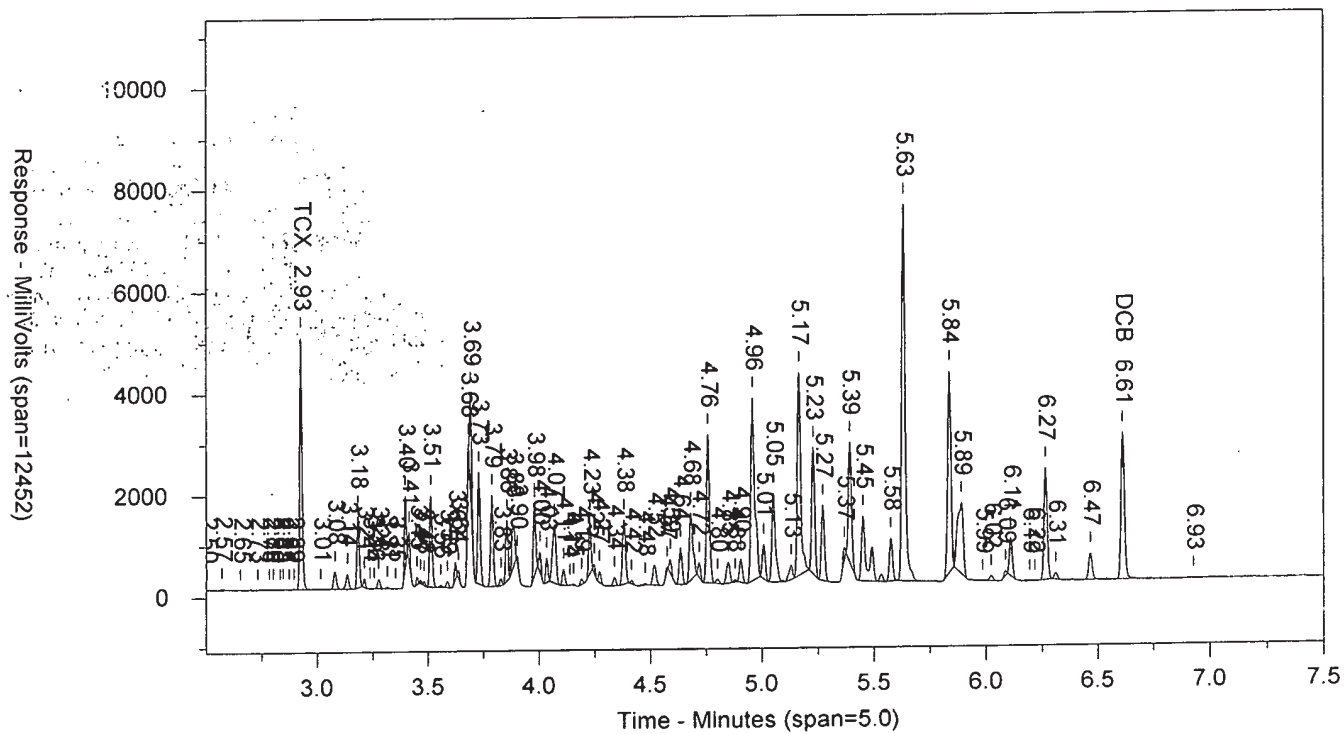
Area File Created On: 11/4/2018 2:13:54 PM

File Reported On: 11/4/2018 at 2:14:01 PM

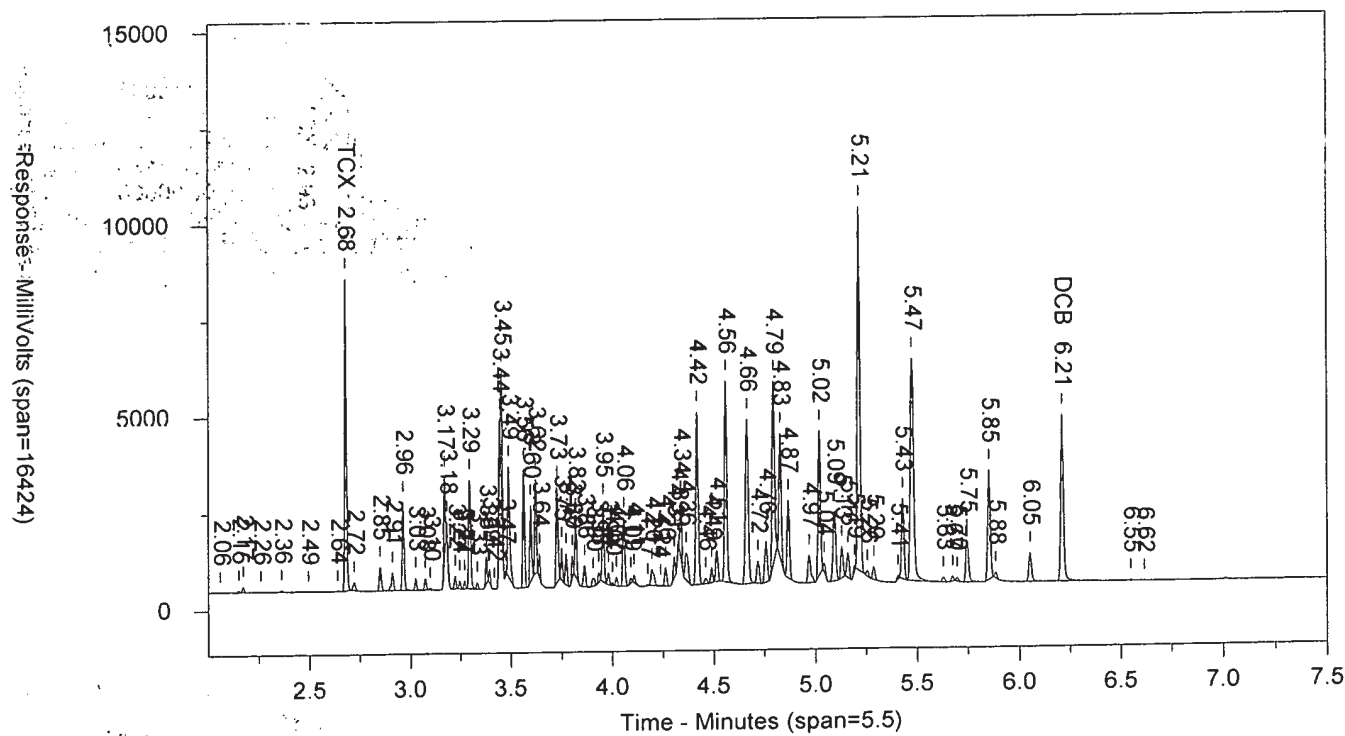
9876336MSD CAF AC14T04 MSD 183050010A 10591

SW-846 8082

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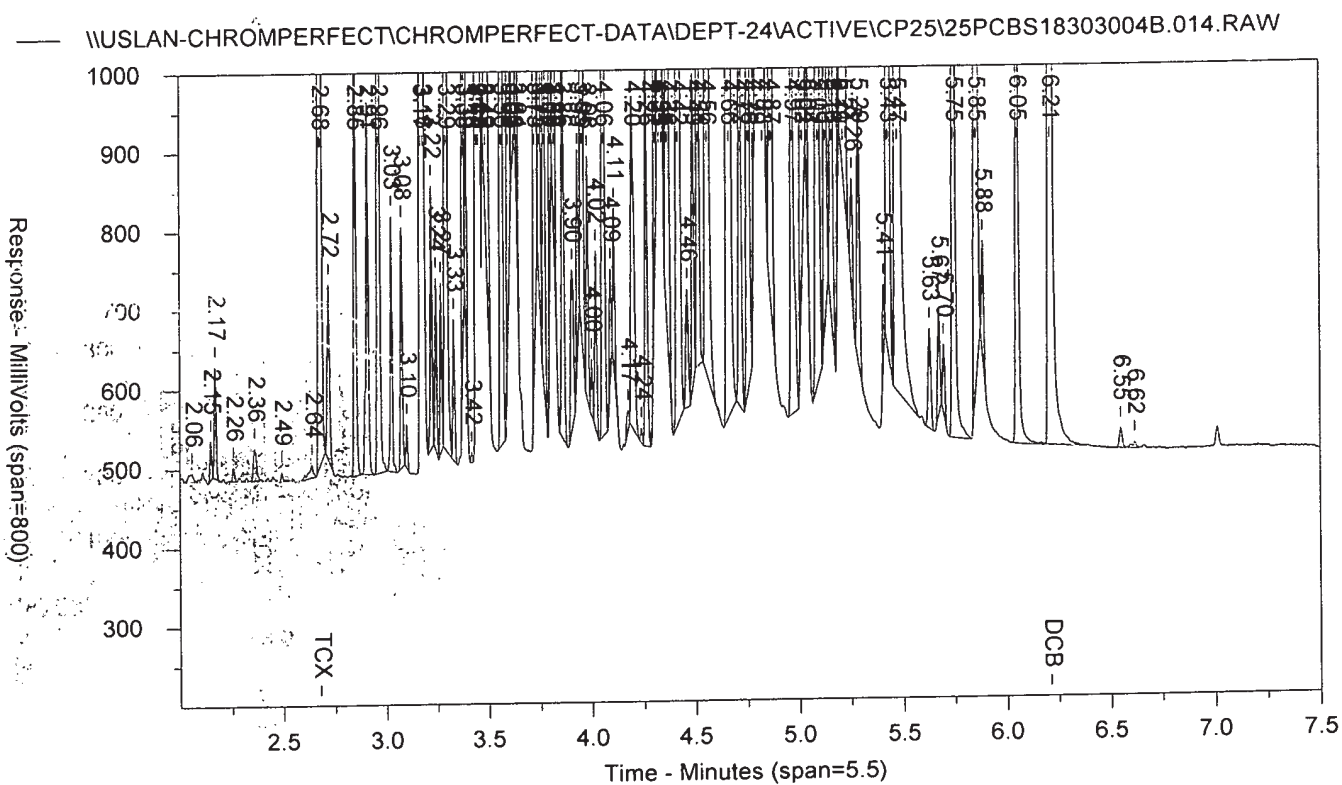
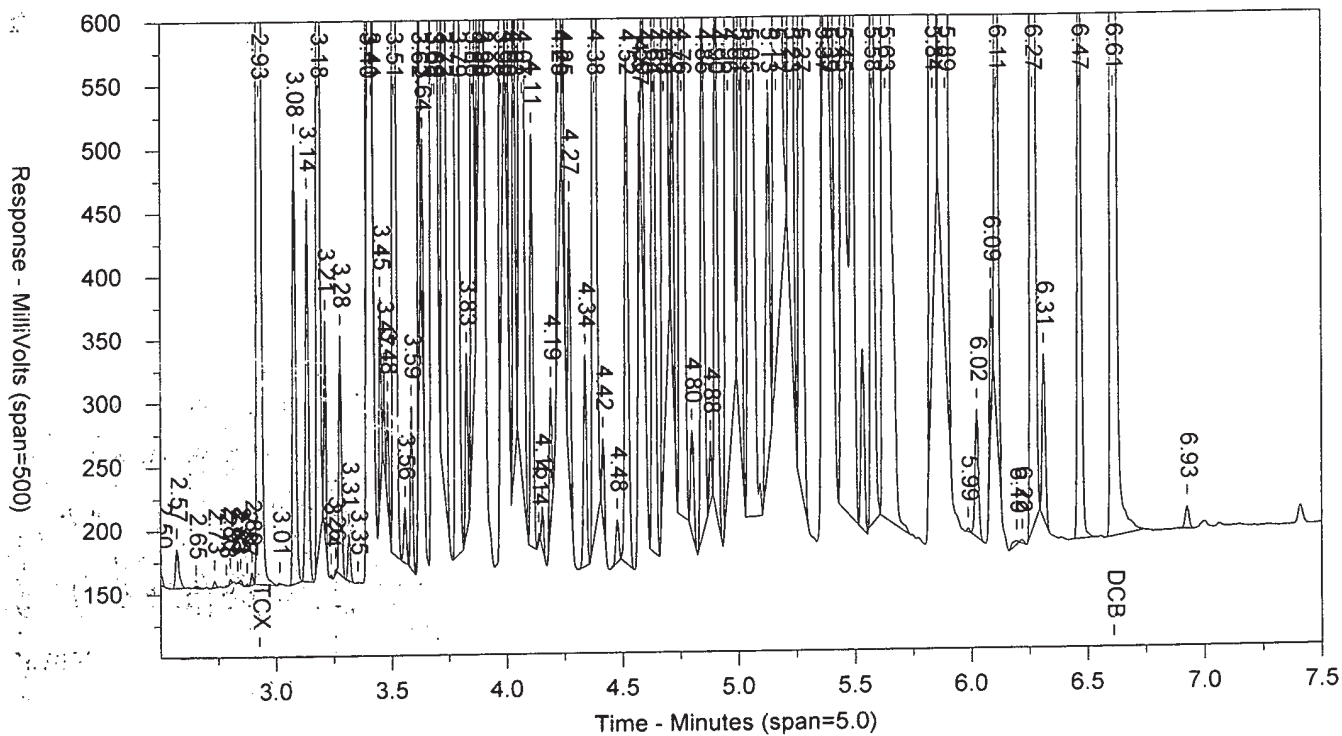


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9876336MSD CAF AC14T04 MSD 183050010A 10591 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.014.RAW



Data Summary

Sample Name: **LCSA** 11/1/18 CAF LCS10305 LCS Sample ID: AC Batchnumber: **183050010A**
 Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: State:
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 12:59:50
 Instrument 18274A
 Result file 25PCBS18303004.008.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA
 %SSR(TCX) 33% (33 - 137) Conc: 0.098387
 %SSR(DCB) 31% (10 - 148) Conc: 0.093296

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	1907930
Decachlorobiphenyl	6.58	6.61	6.64	1496692

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.098387	0.012	0.024	0.024		2.51	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.098387	0.012	0.024	0.024			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.095949	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl	A	0.093296	0.012	0.024	0.024		5.25	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	0.093296	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	0.088522	0.012	0.024	0.024			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.51							
3.16	3.18	3.20	776250.6	2.349944	1		
3.38	3.40	3.42	745984.9	2.33388	2		
3.49	3.51	3.53	982234.9	2.393804	3		
3.71	3.73	3.75	1168663	2.47371	4		
3.77	3.79	3.81	955739.9	2.456608	5		
3.96	3.98	4.00	730805.6	2.459382	6		
Height summation:				6359678.9			
Concentration				CF: 2.411221	L:		

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
10.01							
4.74	4.76	4.78	1406384	2.078856	1		
4.94	4.96	4.98	1832252	2.24843	2		
5.14	5.17	5.18	1968531	2.002993	3		
5.21	5.23	5.25	1236355	2.592918	4		
5.61	5.63	5.65	3549160	2.492644	5		
5.82	5.84	5.86	1809910	2.282429	6		
Height summation:				11802592			
Concentration				CF: 2.283045	L:		

Analysis Report (B)

Injected on Nov 04, 2018 12:59:50
 Instrument 18274B
 Result file 25PCBS18303004B.008.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB
 %SSR(TCX) * 32% (33 - 137) Conc: 0.095949
 %SSR(DCB) 30% (10 - 148) Conc: 0.088522

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	3060954	0.095949
Decachlorobiphenyl	6.18	6.21	6.24	2077683	0.088522

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.54							
2.94	2.96	2.98	1269976	2.333572	1		
3.27	3.29	3.31	1498814	2.352098	2		
3.47	3.49	3.51	1524358	2.466615	3		
3.54	3.56	3.58	1577939	2.463515	4		
3.60	3.62	3.64	1186348	2.360604	5		
3.71	3.73	3.75	1324818	2.444689	6		
Height summation:				8382253			
Concentration				CF: 2.403516	L:		

Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
10.86							
4.54	4.56	4.58	2591707	2.186733	1		
4.64	4.66	4.68	2012126	2.114469	2		
4.77	4.79	4.81	2303874	1.94557	3		
5.00	5.02	5.04	1809784	2.469193	4		
5.19	5.21	5.23	4558024	2.620316	5		
5.45	5.48	5.49	2806691	2.370134	6		
Height summation:				16082206			
Concentration				CF: 2.284403	L:		

Data Summary

Sample Name: LCSA 11/1/18 CAF LCS10305 LCS Sample ID: AC Batchnumber: 183050010A
Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: State:
Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 12:59:50
Instrument 18274A
Result file 25PCBS18303004.008.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

Analysis Report (B)

Injected on Nov 04, 2018 12:59:50
Instrument 18274B
Result file 25PCBS18303004B.008.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016	A	2.411221	0.08	0.24	0.4		0.32	4	
<input type="checkbox"/> PCB-1221			<0.08	<0.24	<0.4			3	
<input type="checkbox"/> PCB-1232			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1242			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1248			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1254			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1260	B	2.284403	0.12	0.24	0.4		0.06	4	
<input type="checkbox"/> PCB-1262			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1268			<0.128	<0.256	<0.4			4	
<input type="checkbox"/> Total PCBs	A	4.695624	0.08	0.24	0.4				

Units: ug/l

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

Valerie L. Tomayko
Valerie L. Tomayko
Principal Specialist

NOV 05 2018

Data Summary

Sample Name: **LCSA** 11/1/18 CAF LCS10305 LCS Sample ID: AC Batchnumber: 183050010A
 Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: State:
 Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 12:59:50
 Instrument 18274A
 Result file 25PCBS18303004.008.RAW
 Calibration file 25PCBS1830301
 Method file 25PCBA

%SSR(TCX) 33% (30 - 150) Conc: 0.098387
 %SSR(DCB) 31% (30 - 150) Conc: 0.093296

Single Component Data

Compound	Min	RT	Max	Height
Tetrachloro-m-xylene	2.90	2.93	2.95	1907930
Decachlorobiphenyl	6.58	6.61	6.64	1496692

Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	0.098387	0.012	0.024	0.024		2.51	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	0.098387	0.012	0.024	0.024			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	0.095949	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl	A	0.093296	0.012	0.024	0.024		5.25	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	0.093296	0.012	0.024	0.024			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	0.088522	0.012	0.024	0.024			

Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD Peak
Aroclor-1016						
3.16	3.18	3.20	776250.6	2.349944	1	2.51
3.38	3.40	3.42	745984.9	2.33388	2	
3.49	3.51	3.53	982234.9	2.393804	3	
3.71	3.73	3.75	1168663	2.47371	4	
3.77	3.79	3.81	955739.9	2.456608	5	
3.96	3.98	4.00	730805.6	2.459382	6	
Height summation:				5359678.9		
Concentration				CF: 2.411221	L:	

Min	RT	Max	Height	Amount	Pks	%RSD Peak
Aroclor-1260						
4.74	4.76	4.78	1406384	2.078856	1	10.01
4.94	4.96	4.98	1832252	2.24843	2	
5.14	5.17	5.18	1968531	2.002993	3	
5.21	5.23	5.25	1236355	2.592918	4	
5.61	5.63	5.65	3549160	2.492644	5	
5.82	5.84	5.86	1809910	2.282429	6	
Height summation:				11802592		
Concentration				CF: 2.283045	L:	

Analysis Report (B)

Injected on Nov 04, 2018 12:59:50
 Instrument 18274B
 Result file 25PCBS18303004B.008.RAW
 Calibration file 25PCBS1830301B
 Method file 25PCBAB

%SSR(TCX) 32% (30 - 150) Conc: 0.095949
 %SSR(DCB) 30% (30 - 150) Conc: 0.088522

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.65	2.68	2.71	3060954	0.095949
Decachlorobiphenyl	6.18	6.21	6.24	2077683	0.088522

Min	RT	Max	Height	Amount	Pks	%RSD Peak
Aroclor-1016						
2.94	2.96	2.98	1269976	2.333572	1	2.54
3.27	3.29	3.31	1498814	2.352098	2	
3.47	3.49	3.51	1524358	2.466615	3	
3.54	3.56	3.58	1577939	2.463515	4	
3.60	3.62	3.64	1186348	2.360604	5	
3.71	3.73	3.75	1324818	2.444689	6	
Height summation:				8382253		
Concentration				CF: 2.403516	L:	

Min	RT	Max	Height	Amount	Pks	%RSD Peak
Aroclor-1260						
4.54	4.56	4.58	2591707	2.186733	1	10.86
4.64	4.66	4.68	2012126	2.114469	2	
4.77	4.79	4.81	2303874	1.94557	3	
5.00	5.02	5.04	1809784	2.469193	4	
5.19	5.21	5.23	4558024	2.620316	5	
5.45	5.48	5.49	2806691	2.370134	6	
Height summation:				16082206		
Concentration				CF: 2.284403	L:	

Data Summary

Sample Name: LCSA 11/1/18 CAF LCS10305 LCS Sample ID: AC Batchnumber: 183050010A
Sample Amount: 250 mL Total Volume: 2 ml Analyst: 13786 SDG: State:
Analyses: 10591

Analysis Report (A)

Injected on Nov 04, 2018 12:59:50
Instrument 18274A
Result file 25PCBS18303004.008.RAW
Calibration file 25PCBS1830301
Method file 25PCBA

Analysis Report (B)

Injected on Nov 04, 2018 12:59:50
Instrument 18274B
Result file 25PCBS18303004B.008.RAW
Calibration file 25PCBS1830301B
Method file 25PCBAB

Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016	A	2.411221	0.08	0.24	0.4		0.32	4	
<input type="checkbox"/> PCB-1221			<0.08	<0.24	<0.4			3	
<input type="checkbox"/> PCB-1232			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1242			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1248			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1254			<0.08	<0.24	<0.4			4	
<input type="checkbox"/> PCB-1260	B	2.284403	0.12	0.24	0.4		0.06	4	
<input type="checkbox"/> PCB-1262			<0.16	<0.32	<0.4			4	
<input type="checkbox"/> PCB-1268			<0.128	<0.256	<0.4			4	
<input type="checkbox"/> Total PCDs	A	4.095024	0.08	0.24	0.4				

Units: ug/l

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

Valerie L. Tomayko
Valerie L. Tomayko
Principal Specialist

NOV 05 2018

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: LCSA 11/1/18 CAF LCS10305 ID: AC Batchnumber: 183050010A
Sample Amount: 250 mL Total Volume: 2 ml Analyst: 9065 SDG: State:
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 12:59:50
Instrument : CP25-18274A
Result file : 25PCBS18303004.008.RAW
Calibration file : 25PCBS1830301.CAL
Method file : 25PCBA.MET
%SSR(TCX) : 33% (33-137) Conc.: 0.098387
%SSR(DCB) : 31% (10-148) Conc.: 0.093296

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
3.16	3.18	3.20	776250.6	2.349944	6	2.51	1
3.38	3.40	3.42	745984.9	2.33388			2
+ 3.38	3.41	3.42	308960.7	0.966611			2
3.49	3.51	3.53	982234.9	2.393804			3
3.71	3.73	3.75	1168663	2.47371			4
3.77	3.79	3.81	955739.9	2.456608			5
3.96	3.98	4.00	730805.6	2.459382			6

Height Summation: 5359678.9
Amount Avg CF: 2.411221 Linear:

Aroclor-1221							
3.06	3.08	3.10	178335.9	1.015283	3	38.89	1
+ 3.11	3.12	3.15	25603.56	0.183913			2
3.11	3.14	3.15	115901.4	0.832533			2
E 3.16	3.18	3.20	776250.6	1.705978			3

Height Summation: 1070487.9
Amount Avg CF: 1.184598 Linear:

Aroclor-1232							
E 3.16	3.18	3.20	776250.6	2.087672	6	29.71	1
E 3.38	3.40	3.42	745984.9	5.165797			2
E+ 3.38	3.41	3.42	308960.7	2.139491			2
E 3.49	3.51	3.53	982234.9	5.303068			3
E 3.71	3.73	3.75	1168663	5.249434			4
E 3.77	3.79	3.81	955739.9	5.800406			5
E 3.96	3.98	4.00	730805.6	6.286969			6

Height Summation: 5359678.9
Amount Avg CF: 4.982224 Linear:

Aroclor-1242							
E 3.16	3.18	3.20	776250.6	2.716865	6	6.95	1
E 3.38	3.40	3.42	745984.9	2.804093			2
+ 3.38	3.41	3.42	308960.7	1.161357			2
E 3.49	3.51	3.53	982234.9	2.897405			3
E 3.71	3.73	3.75	1168663	2.890327			4
E 3.77	3.79	3.81	955739.9	3.169685			5
E 3.96	3.98	4.00	730805.6	3.232999			6

Height Summation: 5359678.9
Amount Avg CF: 2.951895 Linear:

Aroclor-1248							
3.83	3.86	3.87	645764.7	1.660344	6	9.44	1
3.96	3.98	4.00	730805.6	1.66541			2
4.05	4.07	4.09	613956.4	1.650131			3
4.23	4.23	4.27	533000.2	1.434988			4
+ 4.23	4.25	4.27	88373.68	0.237927			4
4.36	4.38	4.40	650274.2	1.64339			5
4.61	4.64	4.65	389222.2	1.321462			6

Height Summation: 3563023.3
Amount Avg CF: 1.562621 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 12:59:50
Instrument : CP25-18274B
Result file : 25PCBS18303004B.008.RAW
Calibration file : 25PCBS1830301B.CAL
Method file : 25PCBAB.MET
%SSR(TCX) : *32% (33-137) Conc.: 0.095949
%SSR(DCB) : 30% (10-148) Conc.: 0.088522

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1016							
2.94	2.96	2.98	1269976	2.333572	6	2.54	1
3.27	3.29	3.31	1498814	2.352098			2
+ 3.47	3.47	3.51	64805.19	0.104863			3
3.47	3.49	3.51	1524358	2.466615			3
3.54	3.56	3.58	1577939	2.463515			4
3.60	3.62	3.64	1186348	2.360604			5
+ 3.60	3.64	3.64	301993.9	0.60091			5
3.71	3.73	3.75	1324818	2.444689			6

Height Summation: 8382253
Amount Avg CF: 2.403516 Linear:

Aroclor-1221							
2.83	2.85	2.87	314221.3	0.989467	3	27.26	1
2.89	2.91	2.93	261041.9	1.152864			2
E 2.94	2.96	2.98	1269976	1.651075			3

Height Summation: 1845239.2
Amount Avg CF: 1.264468 Linear:

Aroclor-1232							
E 2.94	2.96	2.98	1269976	2.038238	6	31.35	1
E 3.27	3.29	3.31	1498814	5.226307			2
+ 3.47	3.47	3.51	64805.19	0.222432			3
E 3.47	3.49	3.51	1524358	5.232076			3
E 3.54	3.56	3.58	1577939	5.660642			4
E 3.60	3.62	3.64	1186348	6.532296			5
E+ 3.60	3.64	3.64	301993.9	1.662846			5
E 3.71	3.73	3.75	1324818	6.242251			6

Height Summation: 8382253
Amount Avg CF: 5.155302 Linear:

Aroclor-1242							
E 2.94	2.96	2.98	1269976	2.704523	6	5.81	1
E 3.27	3.29	3.31	1498814	2.894687			2
+ 3.47	3.47	3.51	64805.19	0.123061			3
E 3.47	3.49	3.51	1524358	2.894654			3
E 3.54	3.56	3.58	1577939	3.069837			4
E 3.60	3.62	3.64	1186348	3.1412			5
+ 3.60	3.64	3.64	301993.9	0.799616			5
E 3.71	3.73	3.75	1324818	3.137612			6

Height Summation: 8382253
Amount Avg CF: 2.973752 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: LCSA 11/1/18 CAF LCS10305 ID: AC Batchnumber: 183050010A
 Sample Amount: 250 mL Total Volume: 2 ml Analyst: 9065 SDG: State:
 Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 12:59:50
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.008.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
4.55	4.58	4.59	50845.8	0.116518	6	104.76	1
4.55	4.59	4.59	136094.7	0.311875			1
4.61	4.64	4.65	389222.2	0.445536			2
4.74	4.76	4.78	1406384	5.105933			3
4.83	4.85	4.87	223476.8	0.370733			4
5.03	5.05	5.07	833658.6	1.723853			5
5.14	5.17	5.18	1968531	3.18496			6

Height Summation: 4957367.3
 Amount Avg CF: 1.857148 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.74	4.76	4.78	1406384	2.078856	6	10.01	1
4.94	4.96	4.98	1832252	2.24843			2
5.14	5.17	5.18	1968531	2.002993			3
5.21	5.23	5.25	1236355	2.592918			4
5.61	5.63	5.65	3549160	2.492644			5
5.82	5.84	5.86	1809910	2.282429			6

Height Summation: 11802592
 Amount Avg CF: 2.283045 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
E 5.21	5.23	5.25	1236355	1.700171	6	16.83	1
E 5.38	5.39	5.41	1131591	1.931758			2
E 5.61	5.63	5.65	3549160	2.090817			3
E 5.82	5.84	5.86	1809910	1.842405			4
5.87	5.89	5.91	679614.2	1.274754			5
6.25	6.27	6.29	1016675	1.54836			6

Height Summation: 9423305.2
 Amount Avg CF: 1.731377 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
5.81	5.84	5.85	1809910	0.82044	6	117.31	1
5.87	5.89	5.91	679614.2	0.34015			2
6.00	6.02	6.04	48120.2	0.026229			3
6.07	6.09	6.11	50398.01	0.109436			4
6.24	6.27	6.28	1016675	1.291074			5
6.44	6.47	6.48	254517.5	0.040053			6

Height Summation: 3859234.91
 Amount Avg CF: 0.437897 Linear:

Analysis Report (B)

Injected on : Nov 04, 2018 12:59:50
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.008.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1248							
3.58	3.60	3.62	1074540	1.692872	6	46.65	1
3.71	3.73	3.75	1324818	1.6999			2
+ 3.80	3.80	3.84	281726.9	0.546915			3
3.80	3.82	3.84	831115.2	1.613441			3
3.93	3.95	3.97	1026323	1.02294			4
+ 4.07	4.09	4.11	68998.99	0.149522			5
4.07	4.11	4.11	85351.2	0.184957			5
+ 4.30	4.31	4.34	253535.1	0.581175			6
+ 4.30	4.33	4.34	169088	0.387598			6
4.30	4.34	4.34	745697.9	1.709354			6

Height Summation: 5087845.3
 Amount Avg CF: 1.320577 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1254							
+ 4.30	4.31	4.34	253535.1	0.198778	6	95.94	1
+ 4.30	4.33	4.34	169088	0.132569			1
4.30	4.34	4.34	745697.9	0.584646			1
4.40	4.42	4.44	2238516	3.736671			2
4.47	4.49	4.51	216754.2	0.269418			3
4.54	4.56	4.58	2591707	5.343014			4
4.69	4.72	4.73	282582.2	0.510721			5
4.77	4.79	4.81	2303874	2.534009			6

Height Summation: 8379131.3
 Amount Avg CF: 2.16308 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260							
4.54	4.56	4.58	2591707	2.186733	6	10.86	1
4.64	4.66	4.68	2012126	2.114469			2
4.77	4.79	4.81	2303874	1.94557			3
5.00	5.02	5.04	1809784	2.469193			4
5.19	5.21	5.23	4558024	2.620316			5
5.45	5.48	5.49	2806691	2.370134			6

Height Summation: 16082206
 Amount Avg CF: 2.284402 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1262							
4.81	4.83	4.85	1530370	1.575114	6	20.35	1
E 5.00	5.02	5.04	1809784	1.799078			2
E 5.20	5.21	5.24	4558024	2.22994			3
5.41	5.43	5.45	1016664	1.228406			4
E 5.46	5.48	5.50	2806691	2.027659			5
E 5.83	5.85	5.87	1320271	1.613746			6

Height Summation: 13041804
 Amount Avg CF: 1.745657 Linear:

Eurofins Lancaster Laboratories-Multiple Component Data Summary

Sample Name: LCSA 11/1/18 CAF LCS10305 ID: AC Batchnumber: 183050010A
Sample Amount: 250 mL Total Volume: 2 mL Analyst: 9065 SDG: State:
Analyses: 10591

Analysis Report (A)

Injected on : Nov 04, 2018 12:59:50
 Instrument : CP25-18274A
 Result file : 25PCBS18303004.008.RAW
 Calibration file : 25PCBS1830301.CAL
 Method file : 25PCBA.MET

Analysis Report (B)

Injected on : Nov 04, 2018 12:59:50
 Instrument : CP25-18274B
 Result file : 25PCBS18303004B.008.RAW
 Calibration file : 25PCBS1830301B.CAL
 Method file : 25PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1268							
+ 5.41	5.41	5.45	47587.95	0.00008	6	145.42	1
5.41	5.43	5.45	1016664	0.001717			1
5.46	5.48	5.50	2806691	4.689415			2
5.61	5.63	5.65	61897.25	0.119016			3
5.68	5.70	5.72	39280.05	0.303338			4
5.83	5.85	5.87	1320271	6.324383			5
6.03	6.05	6.07	339259	0.178608			6

Height Summation: 5584062.3

Amount Avg CF: 1.936079 Linear:

Summary Report

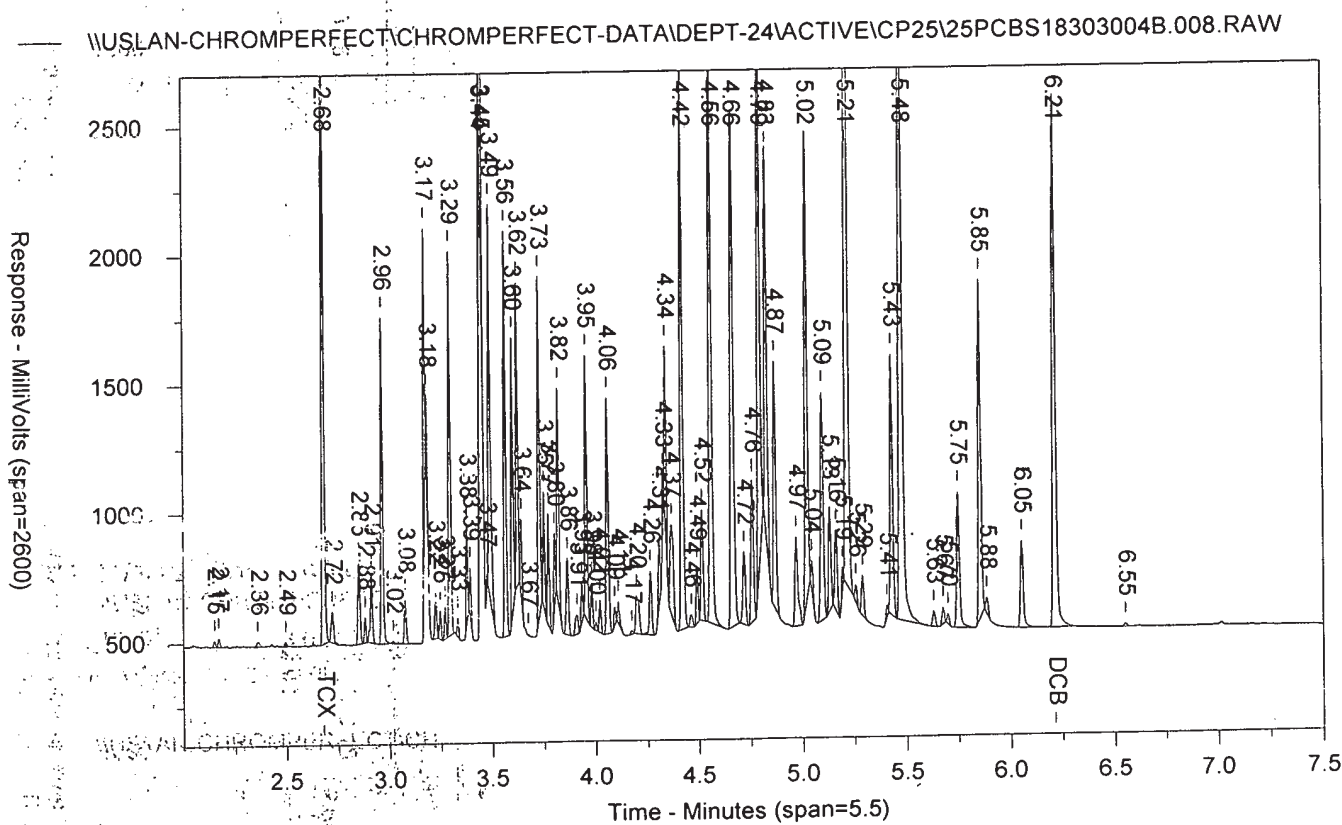
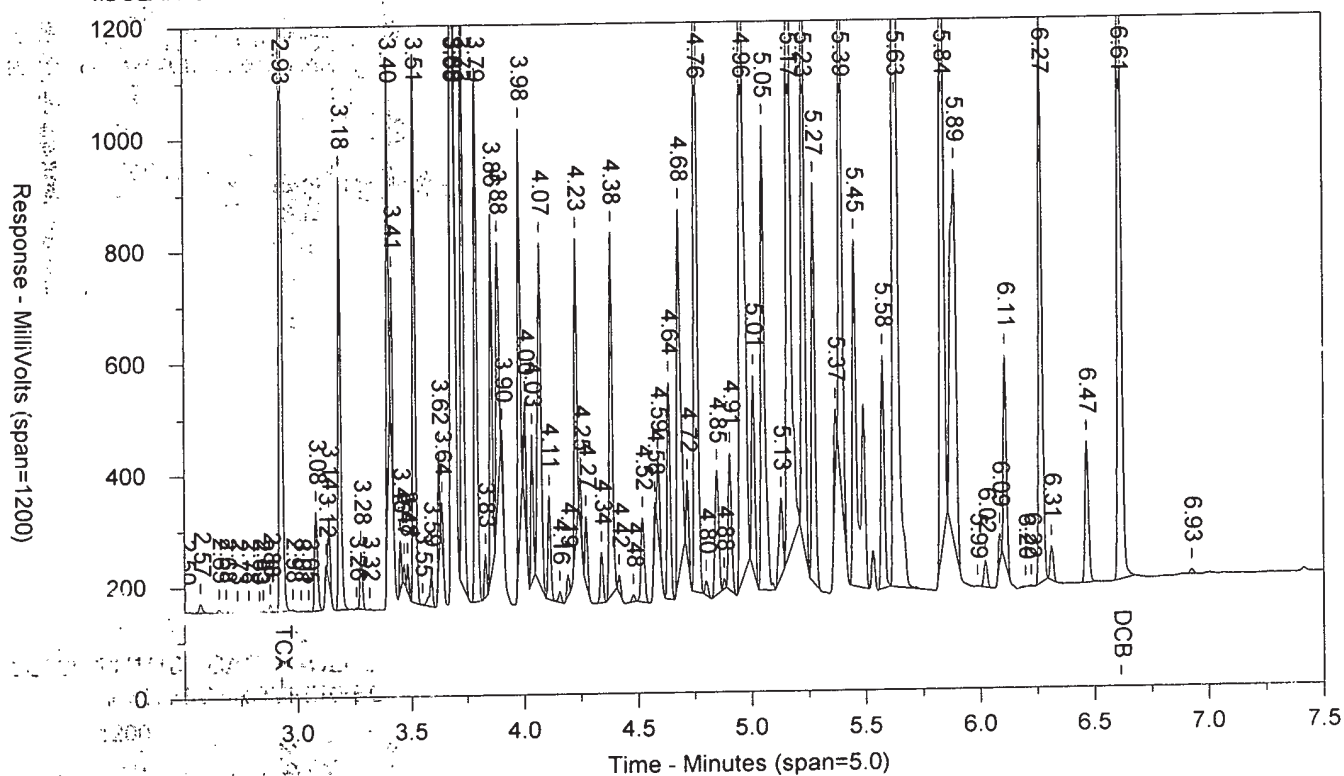
Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.4	0.08		0.32	4	40	
Aroclor-1221			0.4	0.08	E	6.52	3	5	
Aroclor-1232			0.4	0.16	E	3.41	4	10	
Aroclor-1242			0.4	0.08	E	0.74	4	30	
Aroclor-1248			0.4	0.08		16.79	4	40	
Aroclor-1254			0.4	0.08		15.22	4	40	
Aroclor-1260			0.4	0.12		0.06	4	40	
Aroclor-1262			0.4	0.16	E	0.82	4	40	
Aroclor-1268			0.4	0.128		** 126.22	4	40	

Units: ug/l

LCSA 11/1/18 CAF ACLCS10305 LCS 183050010A 10591

SW-846 8082A

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP25\25PCBS18303004.008.RAW



LANCASTER LABORATORIES

Sample Number: LCSA 11/1/18 CAF ACLCS10305 LCS 183050010A 10591

SW-846 8082A

Injected On: 11/4/2018 12:59:50 PM

Sample Weight: 250

Instrument ID: CP25-18274

Dilution Factor: 2

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	1907931	.098	TCX	2.679	3060954	.096	TCX
6.612	1496692	.093	DCB	6.212	2077683	.089	DCB

Files:

Area File: 25PCBS18303004.008.RAW

Area File: 25PCBS18303004B.008.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: 11/4/2018 1:08:21 PM

File Reported On: 11/4/2018 at 1:08:26 PM

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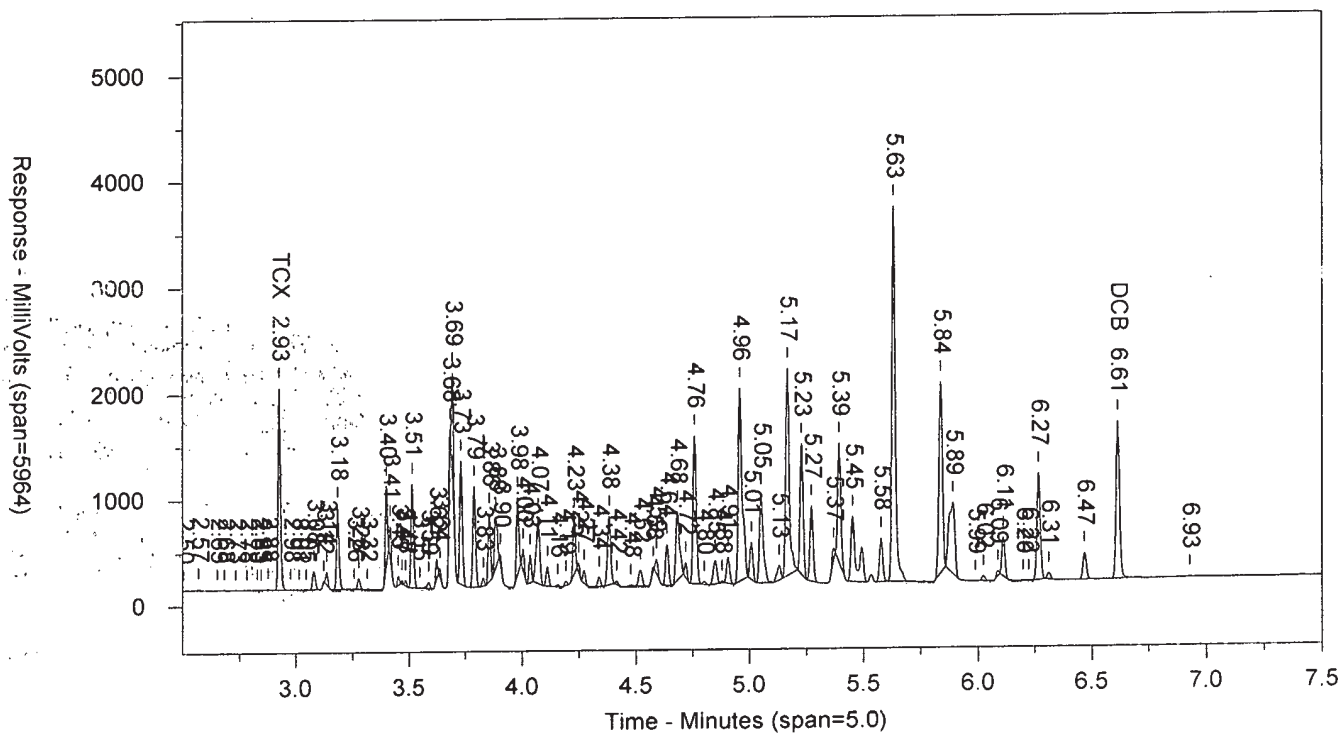
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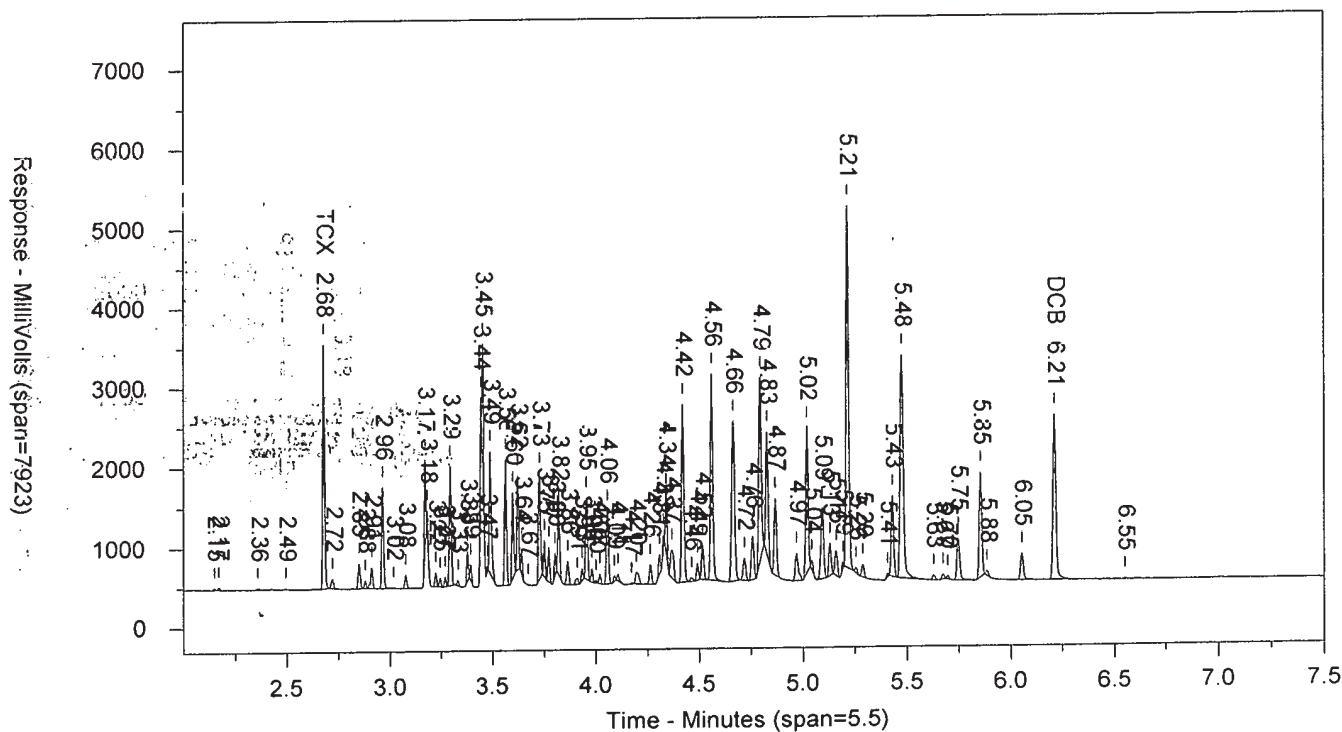
LCSA 11/1/18 CAF ACLCS10305 LCS 183050010A 10591

SW-846 8082

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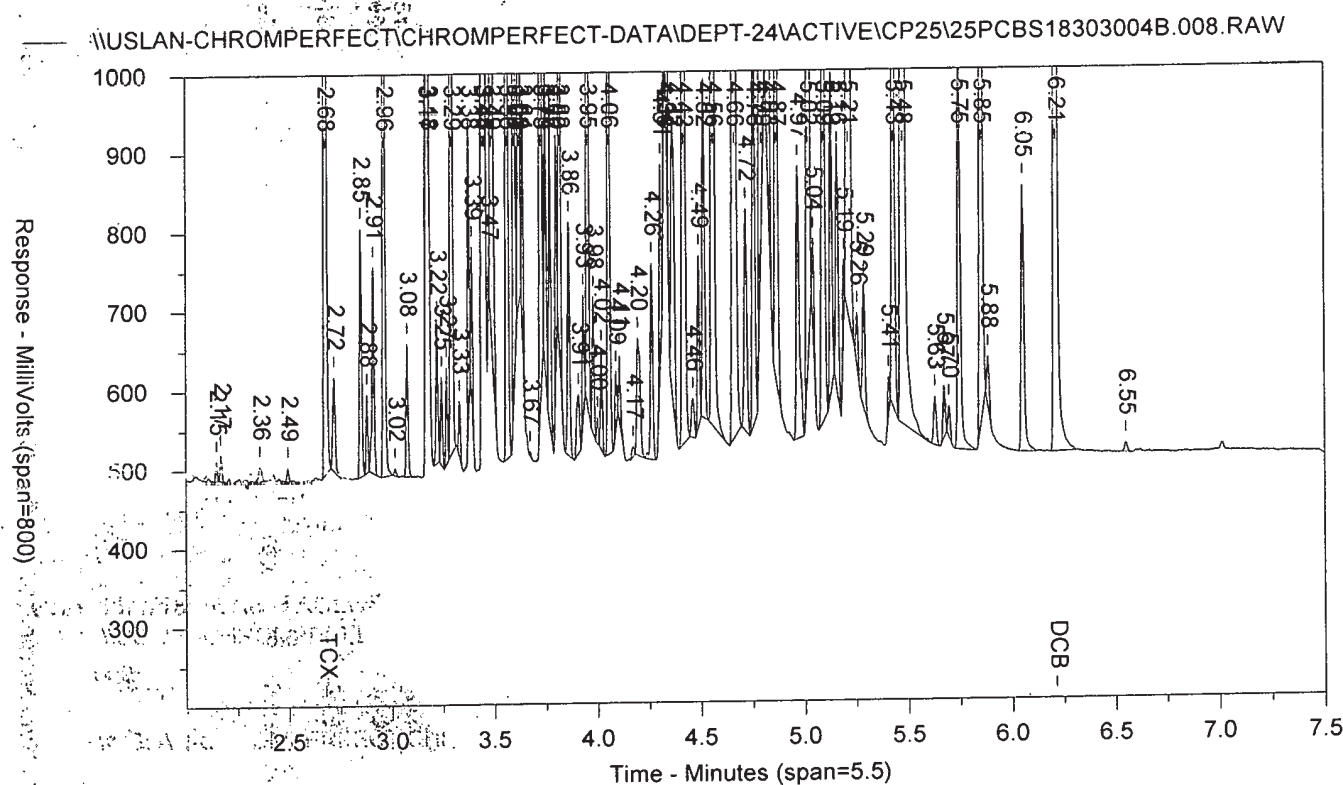
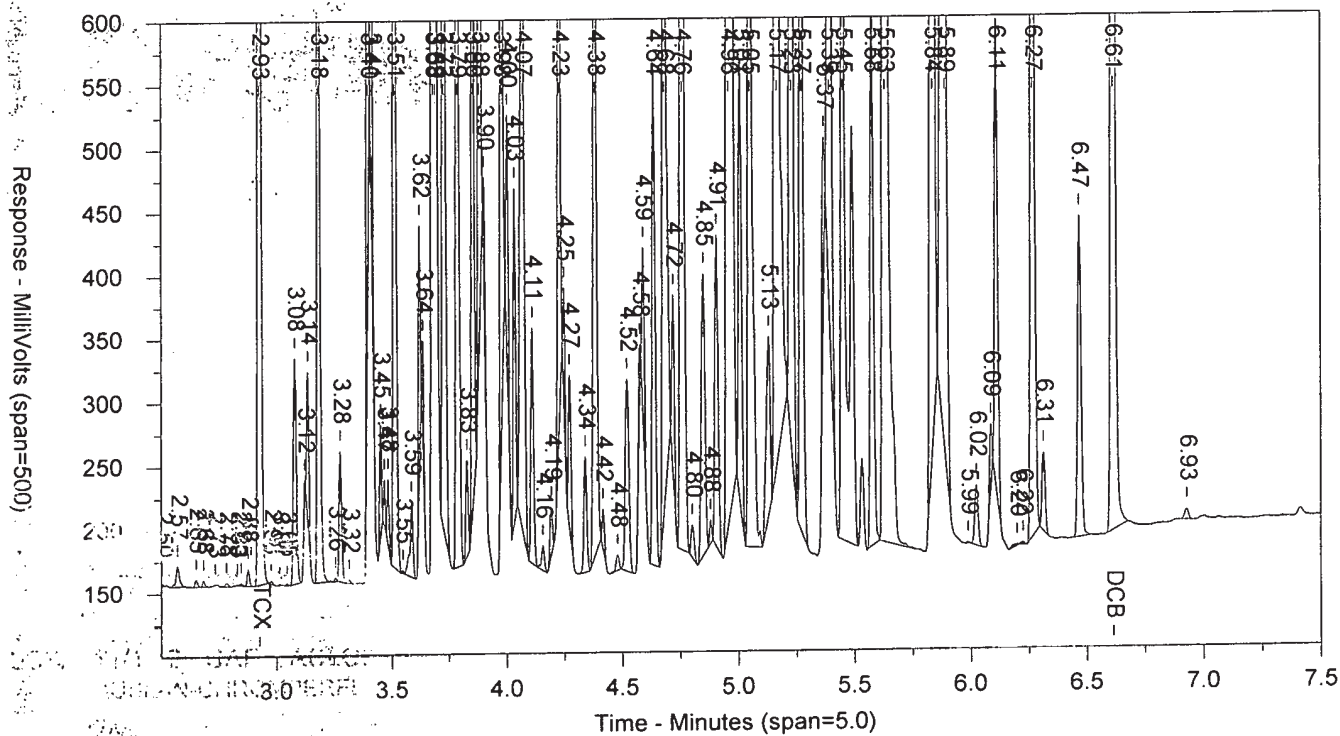
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LCSA 11/1/18 CAF ACLCS10305 LCS 183050010A 10591

SW-846 8082

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Extraction/Distillation/Digestion Logs

Polychlorinated Biphenyls (PCBs)

183050010A

NA

Tech 1: CG12385

Tech 2:

Dept: 24 Prep Analysis: 11121 PCB Waters Update IV Ext

PCBs in Water by 8082A

Solvent Used	Lot No.
Hexane	1862229
Methylene Chloride	186618
Sodium Sulfate	18300A

QC	Sample Code	Amt (g)	SS/S Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments
9876335MS	14T04	237	SS1828324A	1.0	MS1829924A	1.0	2	7	8	KS3	yellow
9876336MSD	14T04	250	SS1828324A	1.0	MS1829924A	1.0	2	7	8	KS3	yellow
BLANKA	PBLK10305	250	SS1828324A	1.0	MS1829924A	1.0	2	7	6	7	bl water
LCSA	LCS10305	250	SS1828324A	1.0	MS1829924A	1.0	2	7	6	7	bl water

MS1827824B CG12385 11-1-18

Witness: NA

Spike Solutions:

MS1829924A
SS1828324A
MINI SEP. PCB SPIKE
MINI SEP. SW846 SURR.

Sample #	Sample Code	Amt (g)	SS/S Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments	Analyses	List	Due Date	Prio
1	9874781	259	SS1828324A	1.0	2	7	8	KS3	black	10591	1870	11/08/2018	N
2	9874782	250	SS1828324A	1.0	2	7	8	KS3	yellow	10591	1870	11/08/2018	N
3	9876332	251	SS1828324A	1.0	2	7	8	KS3	clear	10591	20624	11/09/2018	N
4	9876334BKG	241	SS1828324A	1.0	2	7	8	KS3	yellow	10591	20624	11/09/2018	N
5	9876342	252	SS1828324A	1.0	2	7	6	KS3	clear	10591	20624	11/09/2018	N
6	9877294	248	SS1828324A	1.0	2	7	6	KS3	clear	10591	17138	11/05/2018	S

MS18305009A

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NA CG12385

11-1-18

Bench#	Bench#	Bench#
Rack ID:	Work Station	Micro Temp
Internal Standard	Balance #	100?

R-VAP ID	C	R-VAP ID	C	R-VAP ID	C
S-bath ID	970	C	S-bath ID	C	N-Evap
	7				40°C

183050010A



Prep-Process Worksheet

Acid Cleanup	
Prep:	11121 PCB Waters Update IV Ext
Batch No:	183050010A

Verified:	<i>[Signature]</i>
Start Date:	11-1-18
Start Time:	21:43
Tech 1:	CG12385
Tech 2:	NA

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F.		Comments
				Aliq	F.V.	
9876335MS		2	2			
9876336MSD		2	2			
BLANKA		1	1			
LCSA		2	2			

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F.		Comments	Analyses
				Aliq	F.V.		
1 9874781		1	1				10591
2 9874782		1	1				10591
3 9876332		1	1				10591
4 9876334		1	1				10591
5 9876342		1	1				10591
6 9877294		2	2				10591

NA
CG12385
11-1-18

Additional Comment: NA

DF = Dilution Factor FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
<i>[Signature]</i>		H ₂ SO ₄	184517
<i>[Signature]</i>			
<i>[Signature]</i>			

Prep-Process Worksheet

Florisol
Prep: 11121 PCB Waters Update IV Ext
Batch: 183050010A

Verified: <u>W. A. W.</u>
Start Date: <u>11-1-18</u>
Start Time: <u>22:04</u>
Tech 1: <u>CG12385</u>
Tech 2: <u>NA</u>

Sample #	Aliquot (mL)	Final Volume (mL)	D.F.		Comments
			Aliq	F.V.	
9876335MS	2	2			
9876336MSD	2	2			
BLANKA	1	1			
LCSA	2	2			

Sample #	QC	Aliquot (mL)	Final Volume (mL)	D.F.		Comments	Analyses
				Aliq	F.V.		
1 9874781		1	1				10591
2 9874782		1	1				10591
3 9876332		1	1				10591
4 9876334		1	1				10591
5 9876342		1	1				10591
6 9877294		2	2				10591

NA
CG12385
11-1-18

Additional Comment: NA

DF = Dilution Factor FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
		Florisil	712280-1
S-Evap/bath	C	S-Evap/bath	C
		N-Evap	C

Prep-Process Worksheet

Copper

Prep Analysis # 11121 PCB Waters Update IV Ext

Prep Group # 19 PCBs in water Update IV

Verified: *[Signature]*

Start Date: 11/04/2018

Start Time: 11:10

Tech 1: *[Signature]*

Tech 2: _____

BATCH NO. 183050010A

Sample #	Aliquot (ml)	Parent ID	Final Volume (ml)	Comments	Analyses
1 BLANKA (AC)	1	AB	1		
2 LCSA (AC)	1	AB	1		
3 9876335MS (AC)	1	AB	1		10591
4 9876336MSD (AC)	1	AB	1		10591
5 9874781 (AC)	1	AB	1		10591
6 9874782 (AC)	1	AB	1		10591
7 9876332 (AC)	1	AB	1		10591
8 9876334 (AC)	1	AB	1		10591
9 9876342 (AC)	1	AB	1		10591
10 9877294 (AC)	1	AB	1		10591

Additional Comment: _____

[Signature] 2855
4/10/2018

page 1 of 1

Solvent Used	Lot No.	Solvent Used	Lot No.
<i>[Signature]</i>	811260-BF		

Dioxins/Furans by HRMS Data

Case Narrative/Conformance Summary

Dioxins/Furans by HRMS

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID14

HRMS Group

Fraction: Dioxins/Furans by HRMS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
9876332	OU2-1-MW010	X		1	
9876334	OU2-1-MW008I	X		1	Unspiked
9876335	OU2-1-MW008I MS	X		1	Matrix Spike
9876336	OU2-1-MW008I MSD	X		1	Matrix Spike Duplicate
9876342	OU2EB103018-001	X		1	Equipment Blank

LABORATORY SUBMITTED QC:

Sample #	Matrix	
	Liquid	Solid
BLK313007	X	
OPR313007	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:

All QC is within specifications.

SAMPLE ANALYSIS:

All samples were analyzed by SW846 Method 8290A.

No problems were encountered with the analysis of the samples.

DATA INTERPRETATION:

Data was processed and interpreted using standard operating procedures.

Quality Control and Calibration Summary Forms

Dioxins/Furans by HRMS

SDG No.: TID14

Matrix: WATER	Instrument ID: DF17611	Lab Sample ID: OPR313007
Sample (vol): 1000 (ml)		Lab File ID: 18NOV10-16
Water Sample Prep: SEPF		Date Collected: N/A
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/10/2018 07:33
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: pg/l

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.42	0.80	206		0.812
2378-TCDD	320/322	30.58	0.81	205		0.873
12378-PeCDF	340/342	35.47	1.56	1040		2.76
23478-PeCDF	340/342	36.75	1.58	1050		2.50
12378-PeCDD	356/358	37.16	1.55	1080		3.16
123478-HxCDF	374/376	40.46	1.24	1100		2.50
123678-HxCDF	374/376	40.61	1.24	1090		2.50
234678-HxCDF	374/376	41.30	1.23	1090		2.50
123478-HxCDD	390/392	41.50	1.25	1050		2.50
123678-HxCDD	390/392	41.62	1.27	1050		2.50
123789-HxCDD	390/392	41.93	1.24	1060		2.50
123789-HxCDF	374/376	42.31	1.25	1060		2.50
1234678-HpCDF	408/410	44.04	1.04	1090		2.50
1234678-HpCDD	424/426	45.24	1.05	1050		4.53
1234789-HpCDF	408/410	45.79	1.05	1090		2.50
OCDD	458/460	48.27	0.88	2060		36.2
OCDF	442/444	48.44	0.90	2110		6.15

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.99	0.80	0.65 - 0.90	56	31 - 191
13C12-2378-TCDF	316/318	29.40	0.81	0.65 - 0.90	56	40 - 135
13C12-2378-TCDD	332/334	30.56	0.80	0.65 - 0.90	71	40 - 135
13C12-12378-PeCDF	352/354	35.45	1.57	1.32 - 1.79	65	40 - 135
13C12-23478-PeCDF	352/354	36.73	1.59	1.32 - 1.79	63	40 - 135
13C12-12378-PeCDD	368/370	37.15	1.65	1.32 - 1.79	69	40 - 135
13C12-123478-HxCDF	384/386	40.43	0.53	0.43 - 0.60	67	40 - 135
13C12-123678-HxCDF	384/386	40.58	0.53	0.43 - 0.60	65	40 - 135
13C12-234678-HxCDF	384/386	41.28	0.53	0.43 - 0.60	56	40 - 135
13C12-123478-HxCDD	402/404	41.48	1.26	1.05 - 1.44	73	40 - 135
13C12-123678-HxCDD	402/404	41.61	1.26	1.05 - 1.44	70	40 - 135
13C12-123789-HxCDD	402/404	41.92	1.24	1.05 - 1.44	65	40 - 135
13C12-123789-HxCDF	384/386	42.29	0.54	0.43 - 0.60	66	40 - 135
13C12-1234678-HpCDF	418/420	44.02	0.47	0.37 - 0.52	66	40 - 135
13C12-1234678-HpCDD	436/438	45.23	1.05	0.88 - 1.21	66	40 - 135
13C12-1234789-HpCDF	418/420	45.78	0.45	0.37 - 0.52	61	40 - 135
13C12-OCDD	470/472	48.25	0.90	0.76 - 1.03	59	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: OPR313007
Sample (vol): 1000 (ml) Lab File ID: 18NOV10-16
Water Sample Prep: SEPF Date Collected: N/A
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 07:33
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.43	0.90	0.76 - 1.03	56	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: BLK313007
Sample (vol): 1000 (ml) Lab File ID: 18NOV10-18
Water Sample Prep: SEPF Date Collected: N/A
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 09:26
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.42	1.08 *		U	0.812
2378-TCDD	320/322	30.60	0.68		U	0.873
12378-PeCDF	340/342	35.48	0.71 *		U	2.76
23478-PeCDF	340/342	36.75	1.63		U	2.50
12378-PeCDD	356/358	37.15	1.42		U	3.16
123478-HxCDF	374/376	40.46	1.16		U	2.50
123678-HxCDF	374/376	40.61	1.25		U	2.50
234678-HxCDF	374/376	41.31	1.54 *		U	2.50
123478-HxCDD	390/392	41.48	0.96 *		U	2.50
123678-HxCDD	390/392	41.61	1.01 *		U	2.50
123789-HxCDD	390/392	41.92	1.24		U	2.50
123789-HxCDF	374/376	42.31	1.58 *		U	2.50
1234678-HpCDF	408/410	44.05	0.86 *		U	2.50
1234678-HpCDD	424/426	45.23	0.79 *		U	4.53
1234789-HpCDF	408/410	45.77	0.80 *		U	2.50
OCDD	458/460	48.26	0.91		U	36.2
OCDF	442/444	48.42	0.91		U	6.15

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	31.01	0.79	0.65 - 0.90	60	35 - 197
13C12-2378-TCDF	316/318	29.40	0.80	0.65 - 0.90	61	40 - 135
13C12-2378-TCDD	332/334	30.56	0.83	0.65 - 0.90	72	40 - 135
13C12-12378-PeCDF	352/354	35.45	1.61	1.32 - 1.79	67	40 - 135
13C12-23478-PeCDF	352/354	36.73	1.59	1.32 - 1.79	68	40 - 135
13C12-12378-PeCDD	368/370	37.15	1.57	1.32 - 1.79	71	40 - 135
13C12-123478-HxCDF	384/386	40.43	0.54	0.43 - 0.60	64	40 - 135
13C12-123678-HxCDF	384/386	40.58	0.53	0.43 - 0.60	63	40 - 135
13C12-234678-HxCDF	384/386	41.28	0.53	0.43 - 0.60	58	40 - 135
13C12-123478-HxCDD	402/404	41.48	1.26	1.05 - 1.44	73	40 - 135
13C12-123678-HxCDD	402/404	41.59	1.26	1.05 - 1.44	70	40 - 135
13C12-123789-HxCDD	402/404	41.92	1.26	1.05 - 1.44	66	40 - 135
13C12-123789-HxCDF	384/386	42.28	0.52	0.43 - 0.60	71	40 - 135
13C12-1234678-HpCDF	418/420	44.02	0.46	0.37 - 0.52	67	40 - 135
13C12-1234678-HpCDD	436/438	45.22	1.07	0.88 - 1.21	73	40 - 135
13C12-1234789-HpCDF	418/420	45.77	0.46	0.37 - 0.52	67	40 - 135
13C12-OCDD	470/472	48.25	0.89	0.76 - 1.03	70	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: BLK313007
Sample (vol): 1000 (ml) Lab File ID: 18NOV10-18
Water Sample Prep: SEPF Date Collected: N/A
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 09:26
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.42	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

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: 9876332RE
Sample (vol): 1040 (ml) Lab File ID: 18NOV10-19
Water Sample Prep: SEPF Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 10:23
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.40	0.75		U	0.781
2378-TCDD	320/322	30.58	0.17 *		U	0.839
12378-PeCDF	340/342	35.48	1.69		U	2.65
23478-PeCDF	340/342	36.79	0.94 *		U	2.40
12378-PeCDD	356/358	37.21	2.30 *		U	3.04
123478-HxCDF	374/376	40.47	1.18		U	2.40
123678-HxCDF	374/376	40.62	1.26		U	2.40
234678-HxCDF	374/376	41.31	1.79 *		U	2.40
123478-HxCDD	390/392	41.50	0.48 *		U	2.40
123678-HxCDD	390/392	41.63	1.33	4.32	J	2.40
123789-HxCDD	390/392	41.94	2.38 *		U	2.40
123789-HxCDF	374/376	42.33	2.47 *		U	2.40
1234678-HpCDF	408/410	44.06	1.04	45.5		2.40
1234678-HpCDD	424/426	45.25	1.07	100		4.36
1234789-HpCDF	408/410	45.80	1.17		U	2.40
OCDD	458/460	48.27	0.89	963		34.8
OCDF	442/444	48.45	0.91	32.2	J	5.91

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	31.01	0.79	0.65 - 0.90	50	35 - 197
13C12-2378-TCDF	316/318	29.42	0.78	0.65 - 0.90	52	40 - 135
13C12-2378-TCDD	332/334	30.58	0.80	0.65 - 0.90	69	40 - 135
13C12-12378-PeCDF	352/354	35.47	1.56	1.32 - 1.79	56	40 - 135
13C12-23478-PeCDF	352/354	36.74	1.57	1.32 - 1.79	58	40 - 135
13C12-12378-PeCDD	368/370	37.16	1.59	1.32 - 1.79	62	40 - 135
13C12-123478-HxCDF	384/386	40.46	0.54	0.43 - 0.60	57	40 - 135
13C12-123678-HxCDF	384/386	40.61	0.53	0.43 - 0.60	55	40 - 135
13C12-234678-HxCDF	384/386	41.31	0.53	0.43 - 0.60	49	40 - 135
13C12-123478-HxCDD	402/404	41.50	1.32	1.05 - 1.44	70	40 - 135
13C12-123678-HxCDD	402/404	41.62	1.24	1.05 - 1.44	63	40 - 135
13C12-123789-HxCDD	402/404	41.93	1.27	1.05 - 1.44	58	40 - 135
13C12-123789-HxCDF	384/386	42.31	0.53	0.43 - 0.60	64	40 - 135
13C12-1234678-HpCDF	418/420	44.05	0.46	0.37 - 0.52	58	40 - 135
13C12-1234678-HpCDD	436/438	45.23	1.04	0.88 - 1.21	60	40 - 135
13C12-1234789-HpCDF	418/420	45.79	0.46	0.37 - 0.52	56	40 - 135
13C12-OCDD	470/472	48.27	0.89	0.76 - 1.03	60	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: 9876332RE
Sample (vol): 1040 (ml) Lab File ID: 18NOV10-19
Water Sample Prep: SEPF Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 10:23
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.43	0.91	0.76 - 1.03	52	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER	Instrument ID: DF17611	Lab Sample ID: 9876334RE
Sample (vol): 1050 (ml)		Lab File ID: 18NOV10-20
Water Sample Prep: SEPF		Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/10/2018 11:20
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: pg/l

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.46	0.09 *		U	0.773
2378-TCDD	320/322	30.64	1.51 *		U	0.831
12378-PeCDF	340/342	35.47	0.69 *		U	2.63
23478-PeCDF	340/342	36.77	0.53 *		U	2.38
12378-PeCDD	356/358	37.20	10.83 *		U	3.01
123478-HxCDF	374/376	40.47	2.57 *		U	2.38
123678-HxCDF	374/376	40.60	1.42		U	2.38
234678-HxCDF	374/376	41.30	1.91 *		U	2.38
123478-HxCDD	390/392	41.51	1.32		U	2.38
123678-HxCDD	390/392	41.61	1.30		U	2.38
123789-HxCDD	390/392	41.94	1.81 *		U	2.38
123789-HxCDF	374/376	42.32	1.09		U	2.38
1234678-HpCDF	408/410	44.04	1.34 *		U	2.38
1234678-HpCDD	424/426	45.25	1.08		U	4.31
1234789-HpCDF	408/410	45.81	1.26 *		U	2.38
OCDD	458/460	48.27	0.92		U	34.5
OCDF	442/444	48.45	0.64 *		U	5.86

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	31.02	0.81	0.65 - 0.90	66	35 - 197
13C12-2378-TCDF	316/318	29.43	0.77	0.65 - 0.90	57	40 - 135
13C12-2378-TCDD	332/334	30.59	0.81	0.65 - 0.90	64	40 - 135
13C12-12378-PeCDF	352/354	35.47	1.59	1.32 - 1.79	67	40 - 135
13C12-23478-PeCDF	352/354	36.75	1.58	1.32 - 1.79	68	40 - 135
13C12-12378-PeCDD	368/370	37.17	1.59	1.32 - 1.79	75	40 - 135
13C12-123478-HxCDF	384/386	40.46	0.53	0.43 - 0.60	61	40 - 135
13C12-123678-HxCDF	384/386	40.60	0.53	0.43 - 0.60	60	40 - 135
13C12-234678-HxCDF	384/386	41.30	0.53	0.43 - 0.60	58	40 - 135
13C12-123478-HxCDD	402/404	41.51	1.27	1.05 - 1.44	72	40 - 135
13C12-123678-HxCDD	402/404	41.61	1.28	1.05 - 1.44	69	40 - 135
13C12-123789-HxCDD	402/404	41.92	1.25	1.05 - 1.44	67	40 - 135
13C12-123789-HxCDF	384/386	42.30	0.53	0.43 - 0.60	71	40 - 135
13C12-1234678-HpCDF	418/420	44.04	0.46	0.37 - 0.52	68	40 - 135
13C12-1234678-HpCDD	436/438	45.25	1.07	0.88 - 1.21	75	40 - 135
13C12-1234789-HpCDF	418/420	45.79	0.47	0.37 - 0.52	68	40 - 135
13C12-OCDD	470/472	48.27	0.91	0.76 - 1.03	72	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: 9876334RE
Sample (vol): 1050 (ml) Lab File ID: 18NOV10-20
Water Sample Prep: SEPF Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 11:20
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.43	0.90	0.76 - 1.03	65	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER	Instrument ID: DF17611	Lab Sample ID: 9876335MSRE
Sample (vol): 1050 (ml)		Lab File ID: 18NOV10-21
Water Sample Prep: SEPF		Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/10/2018 12:16
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: pg/l

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.43	0.78	184		0.773
2378-TCDD	320/322	30.59	0.79	199		0.831
12378-PeCDF	340/342	35.48	1.56	963		2.63
23478-PeCDF	340/342	36.76	1.59	970		2.38
12378-PeCDD	356/358	37.17	1.58	991		3.01
123478-HxCDF	374/376	40.46	1.23	1010		2.38
123678-HxCDF	374/376	40.61	1.24	1010		2.38
234678-HxCDF	374/376	41.31	1.24	1010		2.38
123478-HxCDD	390/392	41.49	1.24	999		2.38
123678-HxCDD	390/392	41.62	1.26	961		2.38
123789-HxCDD	390/392	41.93	1.22	983		2.38
123789-HxCDF	374/376	42.30	1.23	991		2.38
1234678-HpCDF	408/410	44.04	1.04	1020		2.38
1234678-HpCDD	424/426	45.23	1.06	972		4.31
1234789-HpCDF	408/410	45.78	1.04	1010		2.38
OCDD	458/460	48.26	0.89	1960		34.5
OCDF	442/444	48.43	0.89	2010		5.86

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	31.00	0.80	0.65 - 0.90	51	35 - 197
13C12-2378-TCDF	316/318	29.41	0.80	0.65 - 0.90	57	40 - 135
13C12-2378-TCDD	332/334	30.57	0.80	0.65 - 0.90	69	40 - 135
13C12-12378-PeCDF	352/354	35.46	1.58	1.32 - 1.79	63	40 - 135
13C12-23478-PeCDF	352/354	36.74	1.57	1.32 - 1.79	62	40 - 135
13C12-12378-PeCDD	368/370	37.14	1.59	1.32 - 1.79	68	40 - 135
13C12-123478-HxCDF	384/386	40.44	0.52	0.43 - 0.60	64	40 - 135
13C12-123678-HxCDF	384/386	40.59	0.53	0.43 - 0.60	63	40 - 135
13C12-234678-HxCDF	384/386	41.28	0.53	0.43 - 0.60	55	40 - 135
13C12-123478-HxCDD	402/404	41.48	1.26	1.05 - 1.44	73	40 - 135
13C12-123678-HxCDD	402/404	41.60	1.26	1.05 - 1.44	71	40 - 135
13C12-123789-HxCDD	402/404	41.91	1.26	1.05 - 1.44	66	40 - 135
13C12-123789-HxCDF	384/386	42.29	0.53	0.43 - 0.60	69	40 - 135
13C12-1234678-HpCDF	418/420	44.03	0.46	0.37 - 0.52	66	40 - 135
13C12-1234678-HpCDD	436/438	45.23	1.06	0.88 - 1.21	72	40 - 135
13C12-1234789-HpCDF	418/420	45.77	0.45	0.37 - 0.52	64	40 - 135
13C12-OCDD	470/472	48.26	0.90	0.76 - 1.03	71	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: 9876335MSRE
Sample (vol): 1050 (ml) Lab File ID: 18NOV10-21
Water Sample Prep: SEPF Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 12:16
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.42	0.90	0.76 - 1.03	62	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER	Instrument ID: DF17611	Lab Sample ID: 9876336MSDRE
Sample (vol): 1050 (ml)		Lab File ID: 18NOV10-22
Water Sample Prep: SEPF		Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/10/2018 13:13
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: pg/l

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.43	0.73	194		0.773
2378-TCDD	320/322	30.59	0.78	197		0.831
12378-PeCDF	340/342	35.46	1.56	1000		2.63
23478-PeCDF	340/342	36.75	1.57	994		2.38
12378-PeCDD	356/358	37.17	1.59	1010		3.01
123478-HxCDF	374/376	40.45	1.24	1030		2.38
123678-HxCDF	374/376	40.60	1.25	1040		2.38
234678-HxCDF	374/376	41.29	1.23	1040		2.38
123478-HxCDD	390/392	41.49	1.25	999		2.38
123678-HxCDD	390/392	41.61	1.30	998		2.38
123789-HxCDD	390/392	41.92	1.24	998		2.38
123789-HxCDF	374/376	42.30	1.24	1010		2.38
1234678-HpCDF	408/410	44.03	1.03	1040		2.38
1234678-HpCDD	424/426	45.23	1.05	992		4.31
1234789-HpCDF	408/410	45.78	1.05	1030		2.38
OCDD	458/460	48.25	0.90	2020		34.5
OCDF	442/444	48.43	0.89	2050		5.86

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.98	0.80	0.65 - 0.90	64	35 - 197
13C12-2378-TCDF	316/318	29.39	0.81	0.65 - 0.90	59	40 - 135
13C12-2378-TCDD	332/334	30.56	0.78	0.65 - 0.90	72	40 - 135
13C12-12378-PeCDF	352/354	35.44	1.55	1.32 - 1.79	69	40 - 135
13C12-23478-PeCDF	352/354	36.74	1.59	1.32 - 1.79	68	40 - 135
13C12-12378-PeCDD	368/370	37.14	1.59	1.32 - 1.79	76	40 - 135
13C12-123478-HxCDF	384/386	40.43	0.53	0.43 - 0.60	71	40 - 135
13C12-123678-HxCDF	384/386	40.59	0.53	0.43 - 0.60	69	40 - 135
13C12-234678-HxCDF	384/386	41.28	0.53	0.43 - 0.60	60	40 - 135
13C12-123478-HxCDD	402/404	41.48	1.27	1.05 - 1.44	78	40 - 135
13C12-123678-HxCDD	402/404	41.60	1.26	1.05 - 1.44	76	40 - 135
13C12-123789-HxCDD	402/404	41.91	1.25	1.05 - 1.44	70	40 - 135
13C12-123789-HxCDF	384/386	42.27	0.53	0.43 - 0.60	67	40 - 135
13C12-1234678-HpCDF	418/420	44.01	0.46	0.37 - 0.52	72	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	0.46	0.37 - 0.52	67	40 - 135
13C12-OCDD	470/472	48.24	0.91	0.76 - 1.03	69	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: 9876336MSDRE
Sample (vol): 1050 (ml) Lab File ID: 18NOV10-22
Water Sample Prep: SEPF Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 13:13
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.41	0.90	0.76 - 1.03	64	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER	Instrument ID: DF17611	Lab Sample ID: 9876342RE
Sample (vol): 1050 (ml)		Lab File ID: 18NOV10-23
Water Sample Prep: SEPF		Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/10/2018 14:09
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: pg/l

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	29.41	1.28 *		U	0.773
2378-TCDD	320/322	30.54	0.42 *		U	0.831
12378-PeCDF	340/342	35.48	0.97 *		U	2.63
23478-PeCDF	340/342	36.74	1.79 *		U	2.38
12378-PeCDD	356/358	37.16	2.49 *		U	3.01
123478-HxCDF	374/376	40.44	0.91 *		U	2.38
123678-HxCDF	374/376	40.61	1.82 *		U	2.38
234678-HxCDF	374/376	41.29	1.17		U	2.38
123478-HxCDD	390/392	41.50	0.59 *		U	2.38
123678-HxCDD	390/392	41.60	1.49 *		U	2.38
123789-HxCDD	390/392	41.93	1.67 *		U	2.38
123789-HxCDF	374/376	42.29	1.47 *		U	2.38
1234678-HpCDF	408/410	44.02	1.15		U	2.38
1234678-HpCDD	424/426	45.23	0.88		U	4.31
1234789-HpCDF	408/410	45.77	1.64 *		U	2.38
OCDD	458/460	48.26	0.99		U	34.5
OCDF	442/444	48.43	1.00		U	5.86

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.98	0.81	0.65 - 0.90	62	35 - 197
13C12-2378-TCDF	316/318	29.40	0.79	0.65 - 0.90	56	40 - 135
13C12-2378-TCDD	332/334	30.56	0.84	0.65 - 0.90	62	40 - 135
13C12-12378-PeCDF	352/354	35.45	1.60	1.32 - 1.79	63	40 - 135
13C12-23478-PeCDF	352/354	36.73	1.57	1.32 - 1.79	66	40 - 135
13C12-12378-PeCDD	368/370	37.14	1.57	1.32 - 1.79	71	40 - 135
13C12-123478-HxCDF	384/386	40.43	0.53	0.43 - 0.60	61	40 - 135
13C12-123678-HxCDF	384/386	40.58	0.53	0.43 - 0.60	59	40 - 135
13C12-234678-HxCDF	384/386	41.28	0.53	0.43 - 0.60	57	40 - 135
13C12-123478-HxCDD	402/404	41.48	1.26	1.05 - 1.44	76	40 - 135
13C12-123678-HxCDD	402/404	41.59	1.26	1.05 - 1.44	70	40 - 135
13C12-123789-HxCDD	402/404	41.91	1.26	1.05 - 1.44	67	40 - 135
13C12-123789-HxCDF	384/386	42.28	0.54	0.43 - 0.60	68	40 - 135
13C12-1234678-HpCDF	418/420	44.02	0.46	0.37 - 0.52	65	40 - 135
13C12-1234678-HpCDD	436/438	45.22	1.06	0.88 - 1.21	72	40 - 135
13C12-1234789-HpCDF	418/420	45.77	0.46	0.37 - 0.52	65	40 - 135
13C12-OCDD	470/472	48.25	0.91	0.76 - 1.03	70	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER Instrument ID: DF17611 Lab Sample ID: 9876342RE
Sample (vol): 1050 (ml) Lab File ID: 18NOV10-23
Water Sample Prep: SEPF Date Collected: 10/31/2018 10:05
Concentration Extract Volume: 20.0 (uL) Date Extracted: 11/09/2018 11:39
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A Date Analyzed: 11/10/2018 14:09
GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: pg/l

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.42	0.90	0.76 - 1.03	62	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID14

Matrix: WATER	Instrument ID: DF17611
Sample vol: 1000 (ml)	Lab Sample ID: OPR313007
Water Sample PREP: SEPF	Lab File ID: 18NOV10-16
Concentrated Extract Volume: 20.0 (uL)	Date Received: N/A
Injection Volume: 1.00 (uL) %SOLID/LIPIDS: N/A	Date Extracted: 11/09/2018 11:39
GC Column: DB5MS ID: 0.25 (mm)	Date Analyzed: 11/10/2018 07:33
Method Reference: SW-846 8290A Feb 2007 Rev 1	Dilution Factor: 1.0

Concentration Units: pg/l

Spike Analyte	Spike Added	Amount Recovered	Percent Recovery	QC Limits
2378-TCDF	200	206	103	72 - 138
2378-TCDD	200	205	102	71 - 125
12378-PeCDF	1000	1040	104	82 - 130
23478-PeCDF	1000	1050	105	77 - 129
12378-PeCDD	1000	1080	108	76 - 121
123478-HxCDF	1000	1100	110	80 - 130
123678-HxCDF	1000	1090	109	79 - 131
234678-HxCDF	1000	1090	109	81 - 130
123478-HxCDD	1000	1050	105	80 - 126
123678-HxCDD	1000	1050	105	78 - 134
123789-HxCDD	1000	1060	106	76 - 137
123789-HxCDF	1000	1060	106	83 - 130
1234678-HpCDF	1000	1090	109	81 - 130
1234678-HpCDD	1000	1050	105	79 - 122
1234789-HpCDF	1000	1090	109	77 - 128
OCDD	2000	2060	103	81 - 135
OCDF	2000	2110	105	66 - 150

* Outside Quality Control (QC) limits.

SDG No.: TID14

Matrix: WATER

Instrument ID: DF17611

Sample vol: 1050 (ml)

Lab Sample ID: 9876334RE

Water Sample PREP: SEPF

Lab File ID: 18NOV10-20

Concentrated Extract Volume: 20.0 (uL)

Date Received: 10/31/2018 10:05

Injection Volume: 1.00 (uL) %SOLID/LIPIDS: N/A

Date Extracted: 11/09/2018 11:39

GC Column: DB5MS ID: 0.25 (mm)

Date Analyzed: 11/10/2018 11:20

Method Reference: SW-846 8290A Feb 2007 Rev 1

Dilution Factor: 1.0

MS Lab File ID: 18NOV10-21

MS Lab Sample ID: 9876335MSRE

MSD Lab File ID: 18NOV10-22

MSD Lab Sample ID: 9876336MSDRE

Concentration Units: pg/l

Spike Analyte	Spike Amount	Bkg Amount	MS Amount	MS %REC	MSD Amount	MSD %REC	%REC Limits	RPD	RPD Limit
2378-TCDF	190	0	184	97	194	102	72 - 138	5	20
2378-TCDD	190	0	199	105	197	104	71 - 125	1	20
12378-PeCDF	952	0	963	101	1000	105	82 - 130	4	20
23478-PeCDF	952	0	970	102	994	104	77 - 129	2	20
12378-PeCDD	952	0	991	104	1010	106	76 - 121	2	20
123478-HxCDF	952	0	1010	106	1030	109	80 - 130	2	20
123678-HxCDF	952	0	1010	106	1040	109	79 - 131	2	20
234678-HxCDF	952	0	1010	106	1040	109	81 - 130	2	20
123478-HxCDD	952	0	999	105	999	105	72 - 131	0	20
123678-HxCDD	952	0	961	101	998	105	78 - 134	4	20
123789-HxCDD	952	0	983	103	998	105	76 - 137	1	20
123789-HxCDF	952	0	991	104	1010	106	83 - 130	1	20
1234678-HpCDF	952	0	1020	108	1040	109	81 - 130	1	20
1234678-HpCDD	952	0	972	102	992	104	79 - 122	2	20
1234789-HpCDF	952	0	1010	106	1030	108	77 - 128	1	20
OCDD	1900	0	1960	103	2020	106	81 - 135	3	20
OCDF	1900	0	2010	105	2050	108	66 - 150	2	20

* Outside Quality Control (QC) limits.

SDG No.: TID14

Matrix: WATER

Lab Sample ID: BLK313007

Water Sample Prep: SEPF

Lab File ID: 18NOV10-18

Sample vol: 1.00 (L)

GC Column: DB5MS

ID: 0.25 (mm)

Date Analyzed: 11/10/2018 09:26

This Method Blank applies to Samples:

Lab Sample ID	Lab File ID	Date Analyzed
OPR313007	18NOV10-16	11/10/2018 07:33
9876332RE	18NOV10-19	11/10/2018 10:23
9876334RE	18NOV10-20	11/10/2018 11:20
9876335MSRE	18NOV10-21	11/10/2018 12:16
9876336MSDRE	18NOV10-22	11/10/2018 13:13
9876342RE	18NOV10-23	11/10/2018 14:09

SDG No.: TID14

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID	Lab File ID	Sample ID	Analysis Date/Time	Compound Name	% Valley	QC Limits (%)
DF17611	18NOV02-02	CPS01	11/02/2018 15:25	2378-TCDD	12.242	25
DF17611	18NOV06-02	CPS02	11/06/2018 11:28	2378-TCDD	15.949	25
DF17611	18NOV10-14	CPS03	11/10/2018 05:43	2378-TCDD	17.151	25

SDG No.: TID14

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17611

Init. Calib. Date/Times: 11/02/2018 17:16 11/06/2018 13:18

Lab Sample ID	Lab File ID	Date/Time Analyzed
CPS01	18NOV02-02	11/02/2018 15:25
CSL01	18NOV02-04	11/02/2018 17:16
CS101	18NOV02-05	11/02/2018 18:30
CS201	18NOV02-06	11/02/2018 19:24
CS301	18NOV02-07	11/02/2018 20:20
CS401	18NOV02-08	11/02/2018 21:17
CS501	18NOV02-09	11/02/2018 22:14
CPS02	18NOV06-02	11/06/2018 11:28
ICV	18NOV06-04	11/06/2018 13:18
CPS03	18NOV10-14	11/10/2018 05:43
CS3CC03	18NOV10-15	11/10/2018 06:37
OPR313007	18NOV10-16	11/10/2018 07:33
BLK313007	18NOV10-18	11/10/2018 09:26
9876332RE	18NOV10-19	11/10/2018 10:23
9876334RE	18NOV10-20	11/10/2018 11:20
9876335MSRE	18NOV10-21	11/10/2018 12:16
9876336MSDRE	18NOV10-22	11/10/2018 13:13
9876342RE	18NOV10-23	11/10/2018 14:09
CS3CC04	18NOV10-28	11/10/2018 18:16

SDG No.: TID14

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID: DF17611

Init. Calib. Date/Times: 11/02/2018 17:16

11/02/2018 22:14

Lab File Names: CSL = 18NOV02-04; CS1 = 18NOV02-05; CS2 = 18NOV02-06;

CS3 = 18NOV02-07; CS4 = 18NOV02-08; CS5 = 18NOV02-09;

Analyte	Type	RF						Mean RF	%RSD	QC Limits (%)
		CSL	CS1	CS2	CS3	CS4	CS5			
2378-TCDF	TARGET	1.189	0.974	1.007	1.041	1.063	1.036	1.051	7.05	± 20
2378-TCDD	TARGET	1.485	1.129	1.196	1.213	1.247	1.231	1.250	9.76	± 20
12378-PeCDF	TARGET	0.959	0.900	0.928	0.965	0.953	0.919	0.937	2.73	± 20
23478-PeCDF	TARGET	1.042	1.016	1.050	1.067	1.078	1.050	1.050	2.04	± 20
12378-PeCDD	TARGET	1.039	0.995	0.957	1.000	1.027	0.991	1.002	2.90	± 20
123478-HxCDF	TARGET	1.090	1.068	1.112	1.165	1.136	1.110	1.114	3.07	± 20
123678-HxCDF	TARGET	1.090	1.051	1.068	1.100	1.091	1.042	1.074	2.23	± 20
234678-HxCDF	TARGET	1.180	1.105	1.122	1.187	1.172	1.130	1.149	2.99	± 20
123478-HxCDD	TARGET	1.010	1.006	0.983	1.045	1.048	0.982	1.012	2.85	± 20
123678-HxCDD	TARGET	0.992	0.999	1.014	1.000	1.026	0.985	1.003	1.49	± 20
123789-HxCDD	TARGET	1.053	1.004	1.052	1.091	1.081	1.037	1.053	2.97	± 20
123789-HxCDF	TARGET	1.136	1.042	1.055	1.094	1.085	1.033	1.074	3.58	± 20
1234678-HpCDF	TARGET	1.075	1.199	1.179	1.251	1.217	1.192	1.185	5.04	± 20
1234678-HpCDD	TARGET	1.009	0.994	1.014	1.041	1.051	1.008	1.019	2.12	± 20
1234789-HpCDF	TARGET	1.236	1.202	1.196	1.256	1.279	1.221	1.232	2.60	± 20
OCDD	TARGET	0.968	0.951	0.977	1.014	0.993	1.014	0.986	2.56	± 20
OCDF	TARGET	0.860	0.824	0.848	0.881	0.854	0.908	0.862	3.34	± 20
13C12-1278-TCDD (CRS)	LABELED	1.071	1.035	1.024	1.110	1.012	1.014	1.044	3.70	± 20
13C12-2378-TCDF	LABELED	2.152	2.042	2.000	2.058	2.002	1.967	2.037	3.19	± 20
13C12-2378-TCDD	LABELED	1.036	1.008	0.973	1.027	0.995	0.999	1.006	2.26	± 20
13C12-12378-PeCDF	LABELED	1.995	1.886	1.860	1.979	1.912	1.925	1.926	2.72	± 20
13C12-23478-PeCDF	LABELED	2.005	1.847	1.832	1.998	1.897	1.945	1.921	3.87	± 20
13C12-12378-PeCDD	LABELED	1.080	0.983	0.997	1.076	1.036	1.060	1.039	3.94	± 20
13C12-123478-HxCDF	LABELED	1.450	1.395	1.402	1.494	1.457	1.482	1.447	2.82	± 20
13C12-123678-HxCDF	LABELED	1.513	1.494	1.480	1.594	1.557	1.640	1.546	4.02	± 20
13C12-234678-HxCDF	LABELED	1.398	1.375	1.372	1.467	1.401	1.472	1.414	3.15	± 20
13C12-123478-HxCDD	LABELED	1.020	0.936	0.946	1.021	0.989	1.079	0.999	5.35	± 20
13C12-123678-HxCDD	LABELED	1.036	0.985	0.962	1.070	1.044	1.125	1.037	5.63	± 20
13C12-123789-HxCDD	LABELED	0.999	0.942	0.923	0.996	0.981	1.033	0.979	4.09	± 20
13C12-123789-HxCDF	LABELED	1.311	1.274	1.244	1.348	1.323	1.383	1.314	3.80	± 20
13C12-1234678-HpCDF	LABELED	1.313	1.258	1.221	1.404	1.297	1.408	1.317	5.77	± 20
13C12-1234678-HpCDD	LABELED	0.989	0.926	0.880	1.047	0.939	1.054	0.972	7.16	± 20
13C12-1234789-HpCDF	LABELED	1.090	1.056	1.011	1.189	1.084	1.206	1.106	6.90	± 20
13C12-OCDD	LABELED	1.015	0.922	0.865	1.137	0.988	1.242	1.028	13.55	± 20
13C12-OCDF	LABELED	1.428	1.380	1.271	1.659	1.477	1.832	1.508	13.51	± 20

* Outside QC Limits.

SDG No.: TID14

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID: DF17611

Init. Calib. Date/Times: 11/02/2018 17:16 11/02/2018 22:14

Lab File Names: CSL = 18NOV02-04; CS1 = 18NOV02-05; CS2 = 18NOV02-06;

CS3 = 18NOV02-07; CS4 = 18NOV02-08; CS5 = 18NOV02-09;

Analytes	Type	Selected Ion	Ion Abundance Ratio						Ion Ratio QC Limits
			CSL	CS1	CS2	CS3	CS4	CS5	
2378-TCDF	TARGET	304/306	0.82	0.82	0.79	0.81	0.81	0.80	0.65 - 0.90
2378-TCDD	TARGET	320/322	0.70	0.84	0.84	0.79	0.81	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	1.62	1.68	1.58	1.57	1.55	1.58	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.46	1.50	1.59	1.57	1.54	1.59	1.32 - 1.79
12378-PeCDD	TARGET	356/358	1.78	1.62	1.59	1.60	1.59	1.55	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.17	1.26	1.27	1.24	1.23	1.24	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.27	1.30	1.21	1.25	1.25	1.26	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.34	1.20	1.25	1.25	1.22	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.31	1.33	1.25	1.26	1.27	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.25	1.18	1.29	1.27	1.24	1.27	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.22	1.29	1.27	1.26	1.25	1.26	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.15	1.25	1.25	1.26	1.25	1.24	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.08	0.99	1.01	1.04	1.05	1.04	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.15	1.12	1.05	1.05	1.06	1.06	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	0.90	1.02	1.08	1.03	1.05	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.87	0.88	0.91	0.90	0.90	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.85	0.88	0.89	0.90	0.90	0.88	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.81	0.79	0.80	0.85	0.79	0.80	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	0.80	0.78	0.79	0.78	0.79	0.80	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.80	0.79	0.80	0.79	0.79	0.83	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.60	1.62	1.60	1.58	1.59	1.59	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.57	1.59	1.59	1.61	1.59	1.59	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.61	1.59	1.62	1.61	1.62	1.59	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	0.53	0.54	0.53	0.53	0.53	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	0.53	0.53	0.55	0.54	0.54	0.53	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	0.53	0.53	0.54	0.54	0.54	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.28	1.27	1.29	1.32	1.26	1.29	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.25	1.27	1.28	1.27	1.27	1.26	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	1.28	1.26	1.25	1.29	1.28	1.26	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	0.54	0.53	0.54	0.53	0.53	0.52	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	0.46	0.46	0.47	0.47	0.47	0.47	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.07	1.05	1.07	1.07	1.08	1.08	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.46	0.46	0.46	0.46	0.46	0.46	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.90	0.90	0.91	0.91	0.90	0.90	0.76 - 1.03
13C12-OCDF	LABELED	454/456	0.91	0.90	0.91	0.91	0.91	0.91	0.76 - 1.03

* Outside QC Limits.

SDG No.: TID14

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17611
 Lab File ID: 18NOV10-15 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/10/2018 06:37
 Init. Calib. Date/Times: 11/02/2018 17:16 11/06/2018 13:18

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	1.028	1.051	2.27	20	0.78	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.230	1.250	1.62	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.926	0.937	1.18	20	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.043	1.050	0.73	20	1.56	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.997	1.002	0.45	20	1.59	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.140	1.114	2.32	20	1.25	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.104	1.074	2.82	20	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.185	1.149	3.09	20	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.003	1.012	0.90	20	1.29	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.986	1.003	1.70	20	1.22	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.048	1.053	0.45	20	1.25	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.080	1.074	0.52	20	1.25	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.240	1.185	4.58	20	1.04	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.017	1.019	0.20	20	1.05	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.272	1.232	3.25	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.990	0.986	0.43	20	0.90	0.76 - 1.03
OCDF	TARGET	442/444	0.893	0.862	3.53	20	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.110	1.044	89.46 *	20	0.74	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	2.065	2.037	1.40	30	0.80	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	1.046	1.006	3.97	30	0.80	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.879	1.926	2.44	30	1.58	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.872	1.921	2.55	30	1.59	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.066	1.039	2.59	30	1.58	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.411	1.447	2.45	30	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.482	1.546	4.18	30	0.53	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.358	1.414	3.97	30	0.54	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.043	0.999	4.40	30	1.27	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.082	1.037	4.33	30	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	1.035	0.979	5.77	30	1.25	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.315	1.314	0.09	30	0.54	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.284	1.317	2.51	30	0.48	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.024	0.972	5.31	30	1.05	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	1.089	1.106	1.50	30	0.47	0.37 - 0.52
13C12-OCDD	LABELED	470/472	1.031	1.028	0.25	30	0.91	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.429	1.508	5.21	30	0.90	0.76 - 1.03

* Outside QC Limits.

SDG No.: TID14

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17611
 Lab File ID: 18NOV10-28 Lab Sample ID: CS3CC04 Date/Time Analyzed: 11/10/2018 18:16
 Init. Calib. Date/Times: 11/02/2018 17:16 11/06/2018 13:18

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.988	1.051	6.04	20	0.79	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.207	1.250	3.45	20	0.81	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.913	0.937	2.58	20	1.58	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.039	1.050	1.13	20	1.57	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.992	1.002	0.95	20	1.59	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.137	1.114	2.06	20	1.24	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.079	1.074	0.53	20	1.24	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.174	1.149	2.17	20	1.23	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.012	1.012	0.08	20	1.28	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.981	1.003	2.20	20	1.20	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.030	1.053	2.14	20	1.24	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.079	1.074	0.40	20	1.25	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.213	1.185	2.35	20	1.04	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.005	1.019	1.45	20	1.06	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.260	1.232	2.31	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.991	0.986	0.49	20	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.886	0.862	2.77	20	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	0.112	1.044	89.30 *	20	0.82	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	2.053	2.037	0.81	30	0.80	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	1.049	1.006	4.20	30	0.82	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.927	1.926	0.02	30	1.57	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.923	1.921	0.15	30	1.54	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.101	1.039	6.02	30	1.59	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.373	1.447	5.11	30	0.54	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.458	1.546	5.70	30	0.54	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.330	1.414	5.95	30	0.54	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.020	0.999	2.17	30	1.29	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.068	1.037	3.00	30	1.27	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	1.019	0.979	4.13	30	1.26	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.265	1.314	3.72	30	0.54	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.282	1.317	2.62	30	0.48	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.013	0.972	4.20	30	1.05	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	1.067	1.106	3.54	30	0.47	0.37 - 0.52
13C12-OCDD	LABELED	470/472	1.018	1.028	0.93	30	0.90	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.396	1.508	7.39	30	0.91	0.76 - 1.03

* Outside QC Limits.

SDG No.: TID14

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID: DF17611

Lab File ID: 18NOV10-15 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/10/2018 06:37

Init. Calib. Date/Times: 11/02/2018 17:16

11/06/2018 13:18

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.40	1.001	0.999-1.003
2378-TCDD	TARGET	30.58	1.001	0.999-1.002
12378-PeCDF	TARGET	35.47	1.001	0.999-1.002
23478-PeCDF	TARGET	36.74	1.000	0.999-1.002
12378-PeCDD	TARGET	37.16	1.001	0.999-1.002
123478-HxCDF	TARGET	40.45	1.000	0.999-1.001
123678-HxCDF	TARGET	40.59	1.000	0.997-1.005
234678-HxCDF	TARGET	41.28	1.000	0.999-1.001
123478-HxCDD	TARGET	41.48	1.000	0.999-1.001
123678-HxCDD	TARGET	41.60	1.000	0.998-1.004
123789-HxCDD	TARGET	41.91	1.000	1.000-1.019
123789-HxCDF	TARGET	42.29	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.02	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.22	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.78	1.000	0.999-1.001
OCDD	TARGET	48.25	1.000	0.999-1.001
OCDF	TARGET	48.42	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.99	1.043	0.988-1.056
13C12-2378-TCDF	LABELED	29.38	0.989	0.923-1.103
13C12-2378-TCDD	LABELED	30.55	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.43	1.193	1.000-1.425
13C12-23478-PeCDF	LABELED	36.73	1.236	1.011-1.526
13C12-12378-PeCDD	LABELED	37.13	1.250	1.000-1.567
13C12-123478-HxCDF	LABELED	40.43	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.58	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.27	1.023	0.992-1.053
13C12-123478-HxCDD	LABELED	41.47	1.028	1.016-1.039
13C12-123678-HxCDD	LABELED	41.59	1.031	1.019-1.041
13C12-123789-HxCDD	LABELED	41.90	1.038	1.027-1.049
13C12-123789-HxCDF	LABELED	42.28	1.048	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.01	1.091	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.21	1.120	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.76	1.134	1.084-1.178
13C12-OCDD	LABELED	48.23	1.195	1.051-1.330
13C12-OCDF	LABELED	48.41	1.200	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).

* RRT exceeds the acceptable range

SDG No.: TID14

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID: DF17611

Lab File ID: 18NOV10-28 Lab Sample ID: CS3CC04 Date/Time Analyzed: 11/10/2018 18:16

Init. Calib. Date/Times: 11/02/2018 17:16

11/06/2018 13:18

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	29.54	1.001	0.999-1.003
2378-TCDD	TARGET	30.70	1.001	0.999-1.002
12378-PeCDF	TARGET	35.54	1.001	0.999-1.002
23478-PeCDF	TARGET	36.81	1.001	0.999-1.002
12378-PeCDD	TARGET	37.22	1.000	0.999-1.002
123478-HxCDF	TARGET	40.49	1.000	0.999-1.001
123678-HxCDF	TARGET	40.64	1.000	0.997-1.005
234678-HxCDF	TARGET	41.32	1.000	0.999-1.001
123478-HxCDD	TARGET	41.52	1.000	0.999-1.001
123678-HxCDD	TARGET	41.65	1.000	0.998-1.004
123789-HxCDD	TARGET	41.96	1.000	1.000-1.019
123789-HxCDF	TARGET	42.32	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.06	1.000	0.999-1.001
1234678-HpCDD	TARGET	45.25	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	48.44	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	31.11	1.043	0.988-1.056
13C12-2378-TCDF	LABELED	29.50	0.989	0.923-1.103
13C12-2378-TCDD	LABELED	30.67	1.028	0.976-1.043
13C12-12378-PeCDF	LABELED	35.51	1.190	1.000-1.425
13C12-23478-PeCDF	LABELED	36.79	1.233	1.011-1.526
13C12-12378-PeCDD	LABELED	37.21	1.247	1.000-1.567
13C12-123478-HxCDF	LABELED	40.47	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.62	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	41.31	1.023	0.992-1.053
13C12-123478-HxCDD	LABELED	41.51	1.028	1.016-1.039
13C12-123678-HxCDD	LABELED	41.63	1.031	1.019-1.041
13C12-123789-HxCDD	LABELED	41.94	1.038	1.027-1.049
13C12-123789-HxCDF	LABELED	42.31	1.048	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.05	1.091	1.067-1.109
13C12-1234678-HpCDD	LABELED	45.24	1.120	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.79	1.134	1.084-1.178
13C12-OCDD	LABELED	48.26	1.195	1.051-1.330
13C12-OCDF	LABELED	48.44	1.199	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).

* RRT exceeds the acceptable range

Sample Data

Dioxins/Furans by HRMS

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 10:23
Number of Entries	281
Comment	S:10914:12936:17961
Vial	73
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW010 Grab Groundwater
Sample ID	9876332RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-19.quan
Data	x:\18nov10\18nov10-19.raw
Response	x:\responsefiles\df17611-18nov02dfical.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]	1.04
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

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	29.40	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.58	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	35.48	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.79	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5	12378-PeCDD	37.21	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.47	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.62	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.31	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
9	123478-HxCDD	41.50	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.63	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.94	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
12	123789-HxCDF	42.33	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
13	1234678-HpCDF	44.06	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.25	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	48.45	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.01	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.74	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.38	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.42	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.58	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.47	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.74	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.16	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.61	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.31	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.50	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.62	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.93	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.31	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.05	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.23	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	48.43	passed	passed	passed	passed	passed	passed	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 10:23
Number of Entries	281
Comment	S:10914:12936:17961
Vial	73
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW010 Grab Groundwater
Sample ID	9876332RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

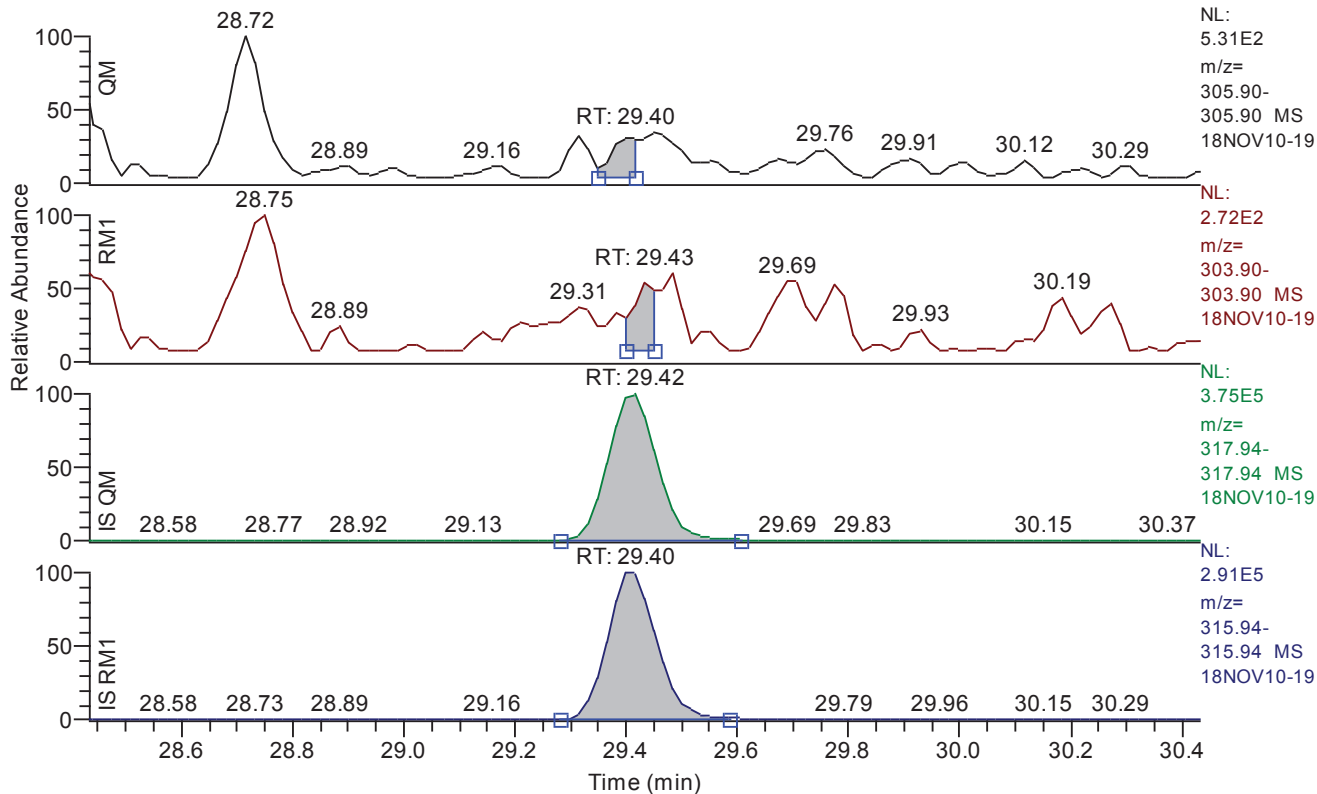
Quan	x:\18nov10\18nov10-19.quan
Data	x:\18nov10\18nov10-19.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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]	1.04
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

Chromatogram

RT: 28.43 - 30.43 SM: 3G

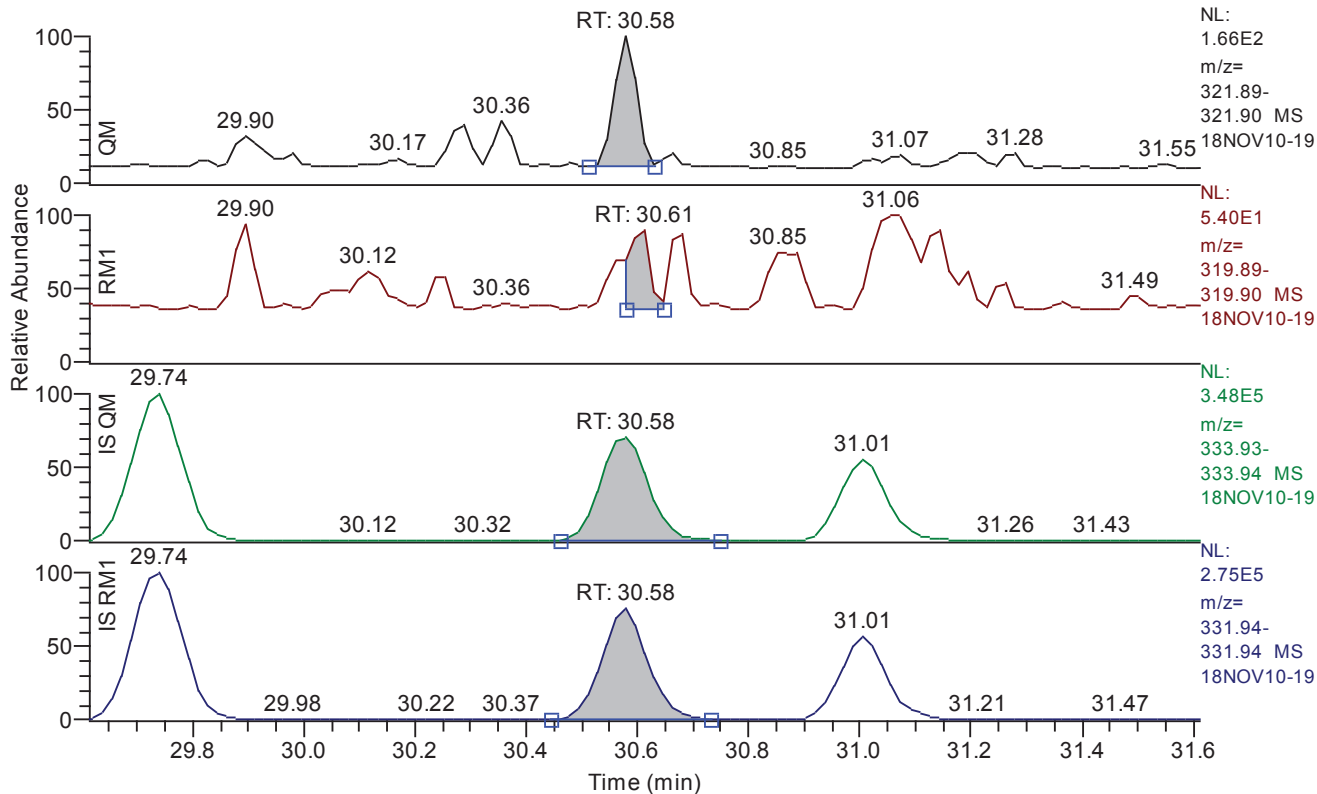


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.40
QM Area	407
QM Integration Mode	M
RM1 Area	304
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.2664
Unqualified Amount (A)	0.313281
Adjusted Amount (A)	0.3133
Signal-to-Noise	7
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.61 - 31.61 SM: 3G

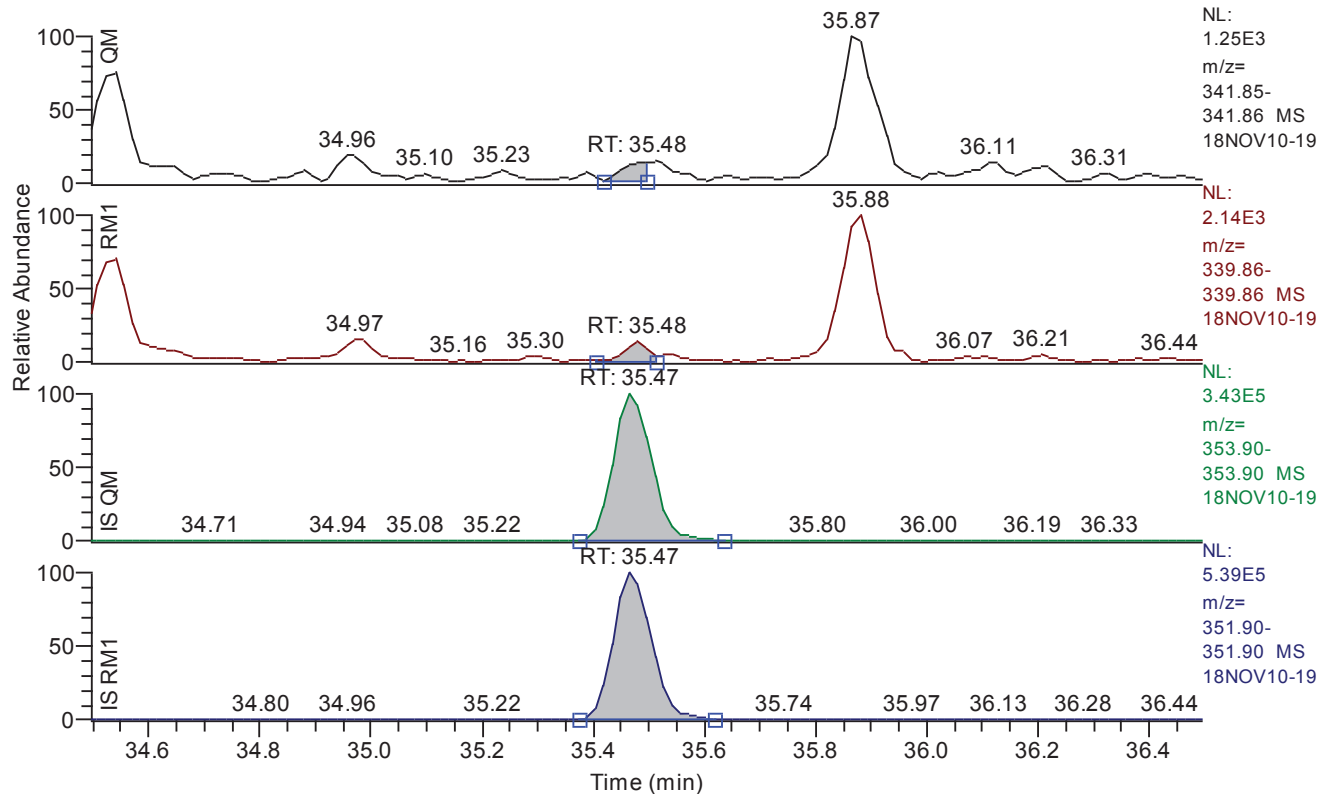


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.58
QM Area	423
QM Integration Mode	A
RM1 Area	72
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0891
Unqualified Amount (A)	0.280976
Adjusted Amount (A)	n.d.
Signal-to-Noise	17
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 34.50 - 36.50 SM: 3G

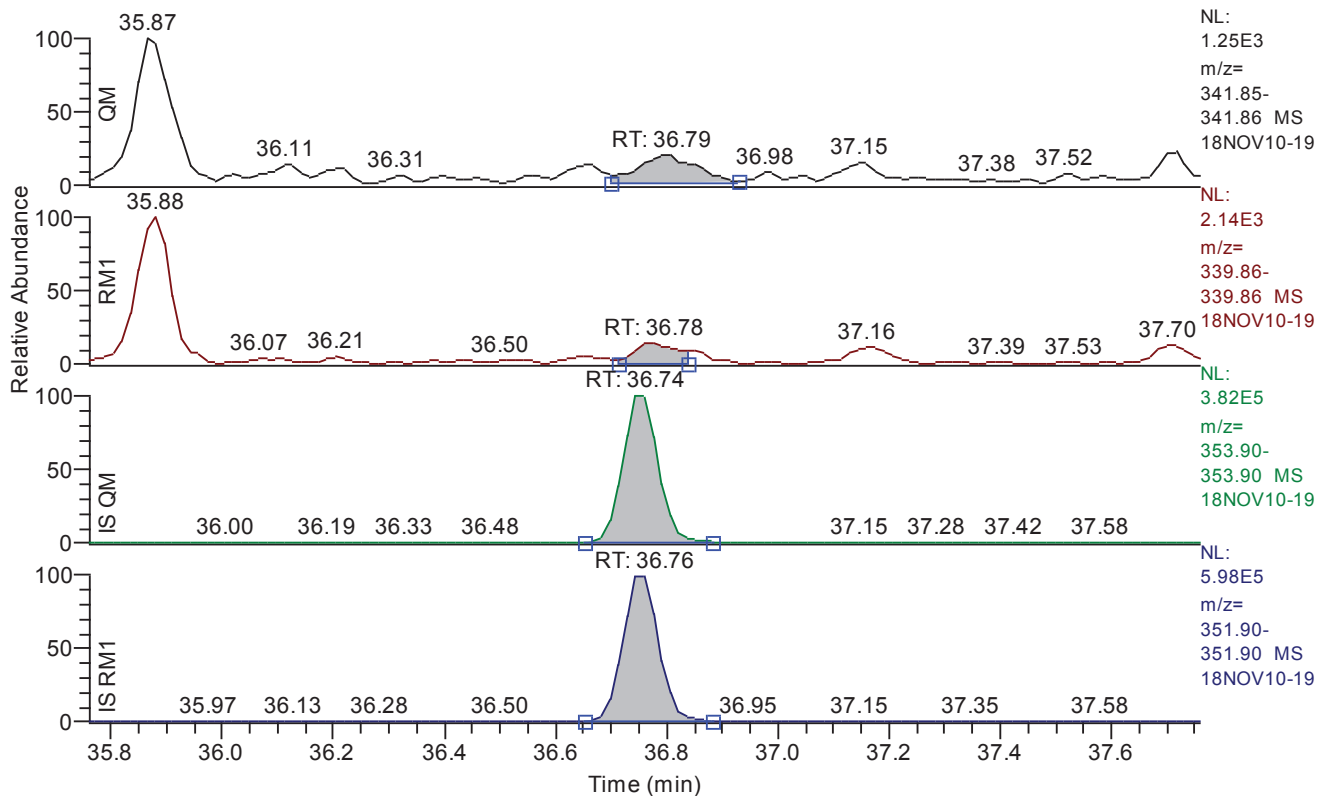


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.48
QM Area	495
QM Integration Mode	A
RM1 Area	836
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1658
Unqualified Amount (A)	0.643058
Adjusted Amount (A)	0.6431
Signal-to-Noise	16
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.76 - 37.76 SM: 3G

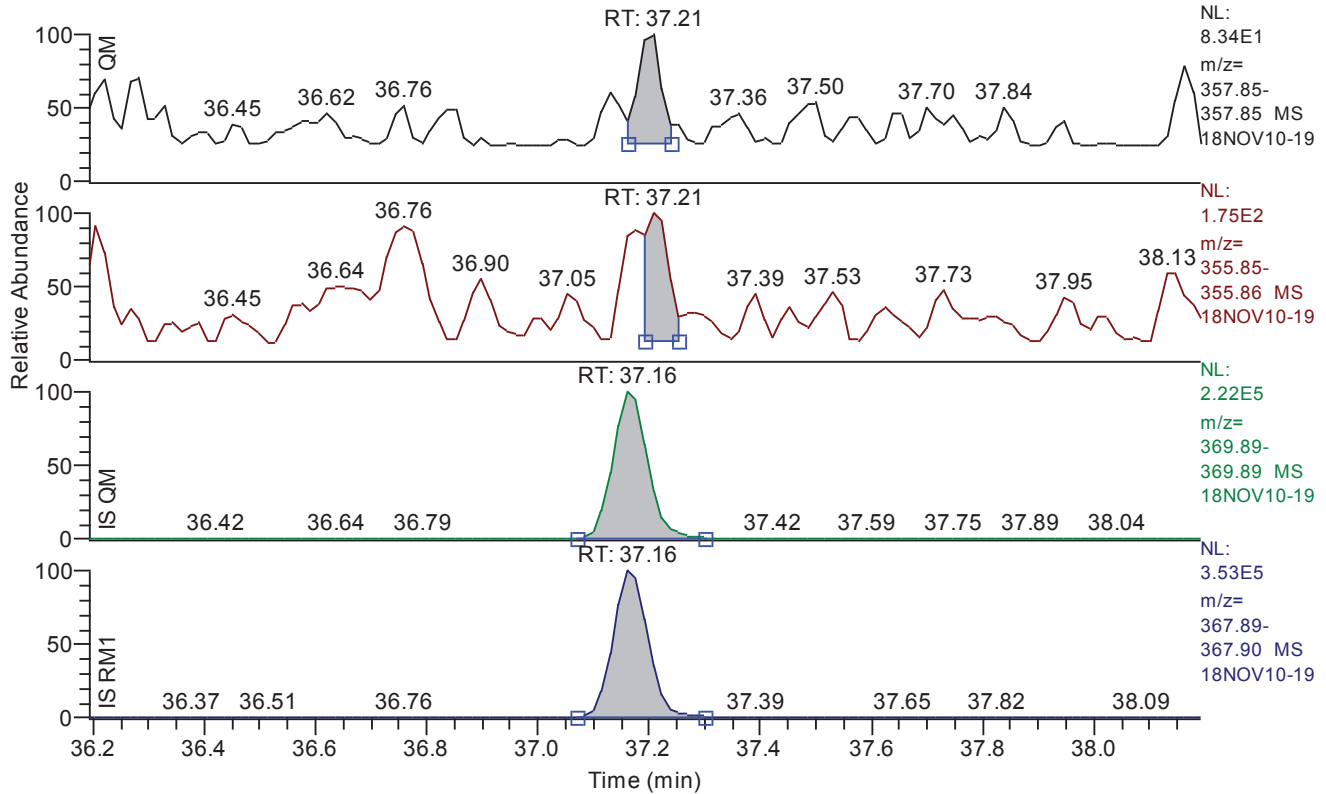


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.79
QM Area	1621
QM Integration Mode	A
RM1 Area	1521
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1333
Unqualified Amount (A)	1.322762
Adjusted Amount (A)	n.d.
Signal-to-Noise	19
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 36.19 - 38.19 SM: 3G

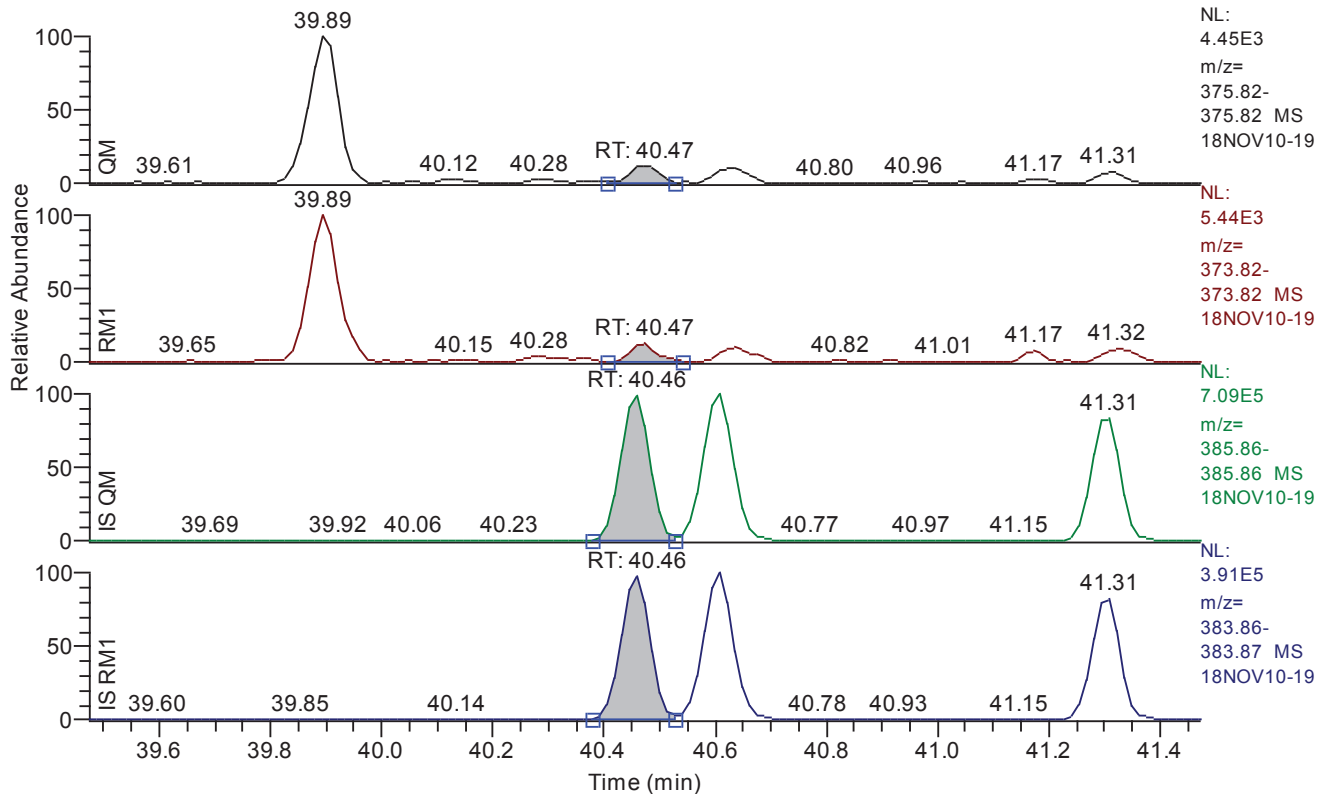


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.21
QM Area	178
QM Integration Mode	A
RM1 Area	410
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.2239
Unqualified Amount (A)	0.449653
Adjusted Amount (A)	n.d.
Signal-to-Noise	8
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 39.47 - 41.47 SM: 3G

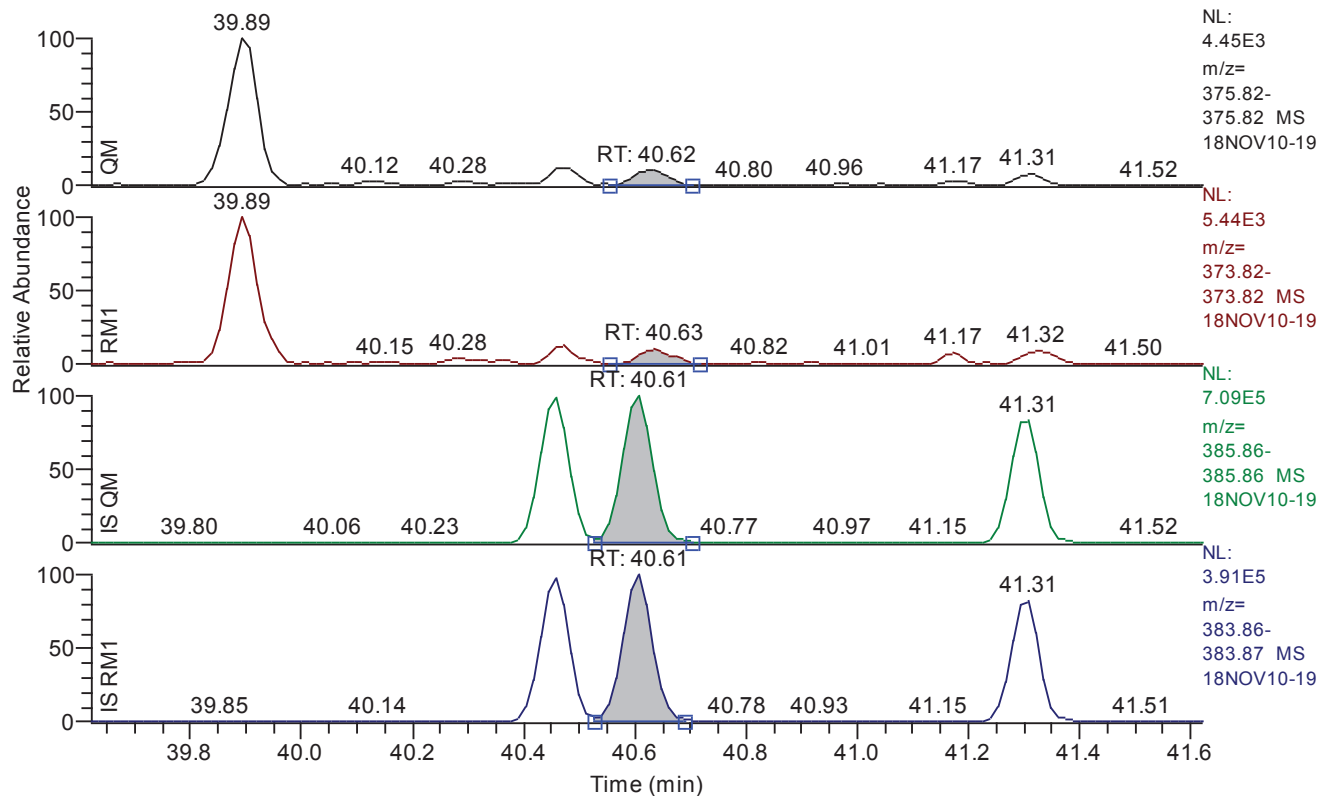


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.47
QM Area	1910
QM Integration Mode	A
RM1 Area	2257
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1737
Unqualified Amount (A)	1.821321
Adjusted Amount (A)	1.8213
Signal-to-Noise	28
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.62 - 41.62 SM: 3G

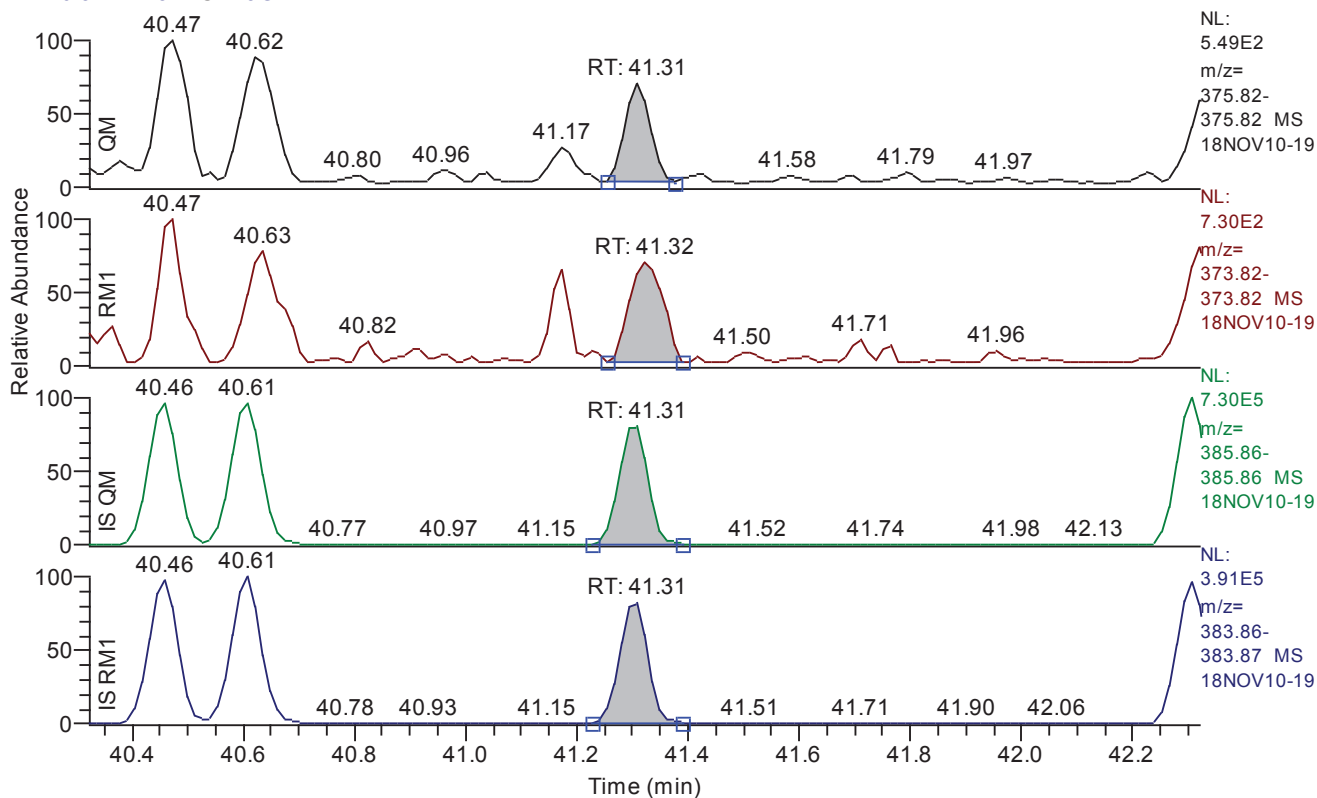


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.62
QM Area	1862
QM Integration Mode	A
RM1 Area	2340
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1786
Unqualified Amount (A)	1.824074
Adjusted Amount (A)	1.8241
Signal-to-Noise	23
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.32 - 42.32 SM: 3G

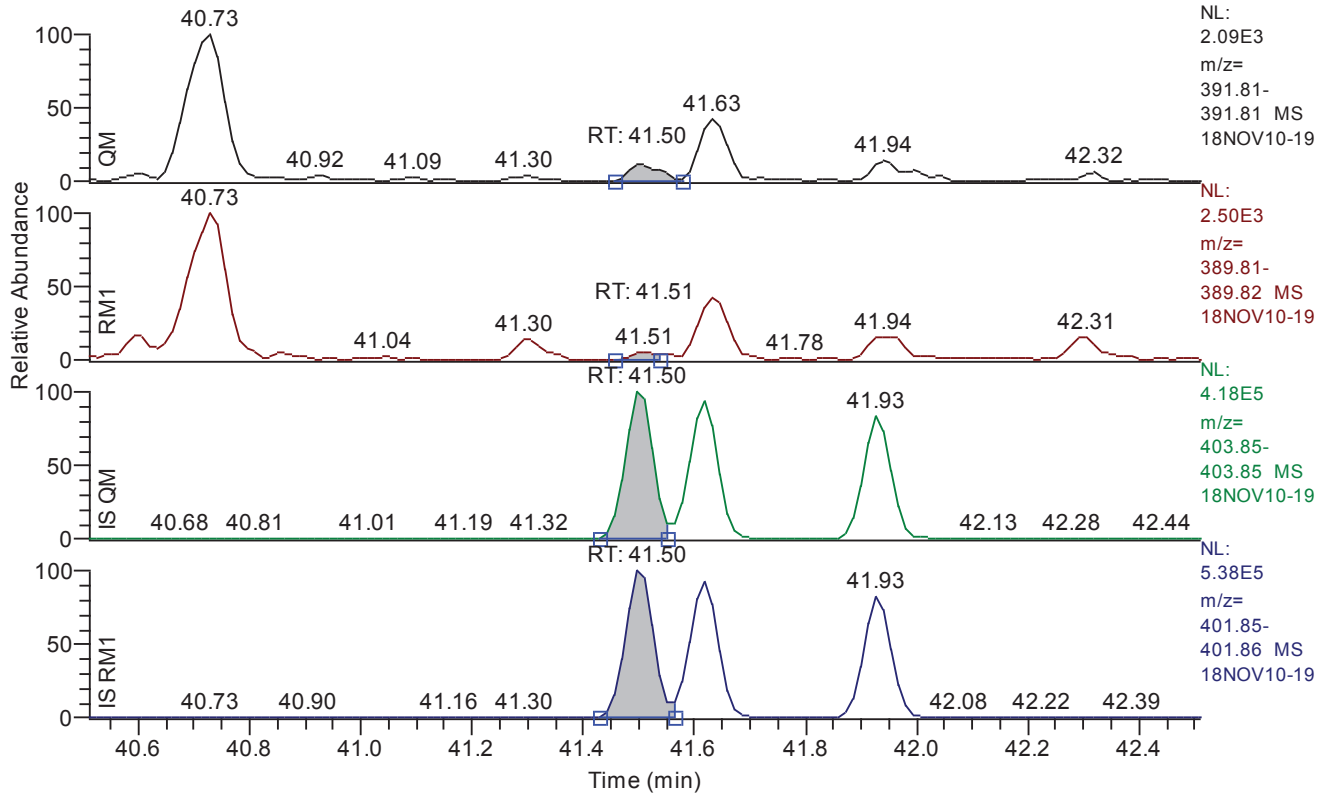


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.31
QM Area	1173
QM Integration Mode	A
RM1 Area	2095
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1984
Unqualified Amount (A)	1.648416
Adjusted Amount (A)	n.d.
Signal-to-Noise	20
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.51 - 42.51 SM: 3G

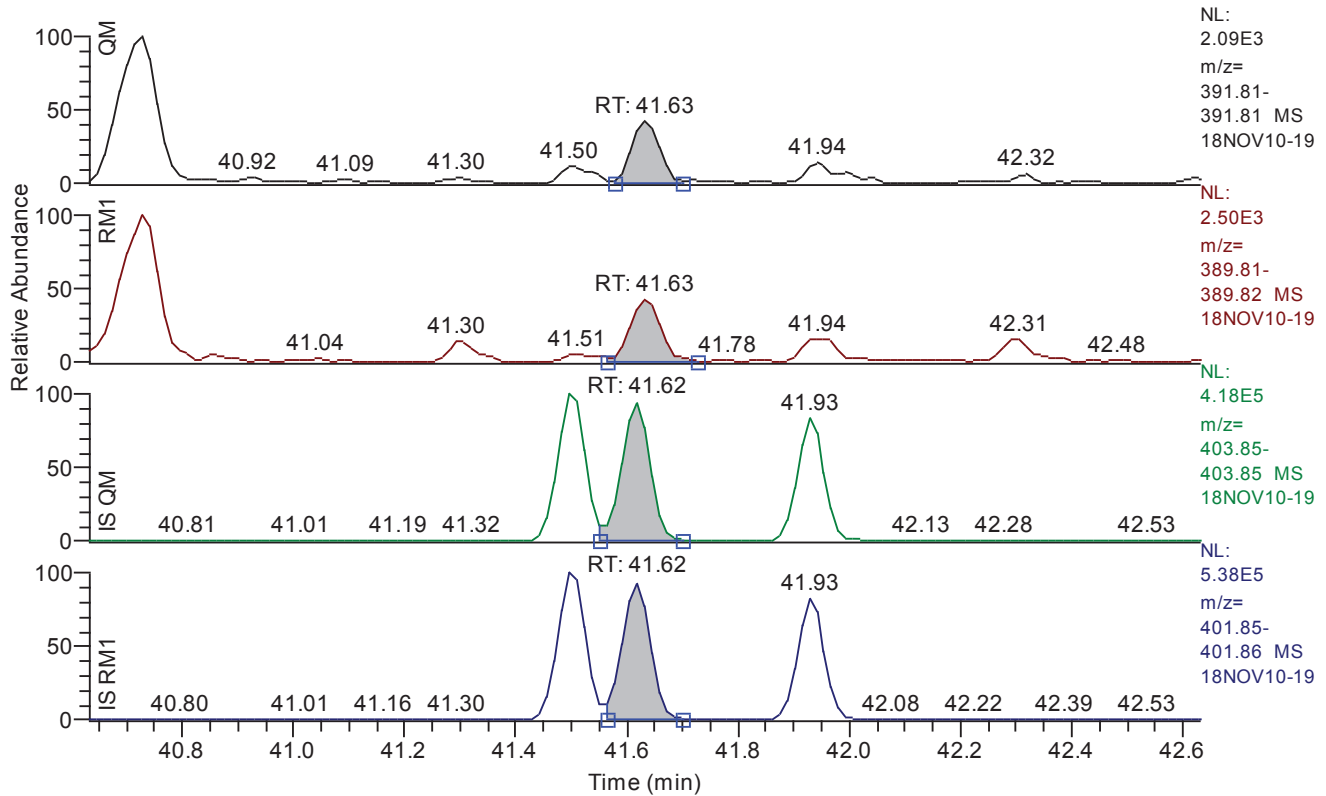


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.50
QM Area	815
QM Integration Mode	A
RM1 Area	393
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1504
Unqualified Amount (A)	0.686323
Adjusted Amount (A)	n.d.
Signal-to-Noise	12
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.63 - 42.63 SM: 3G

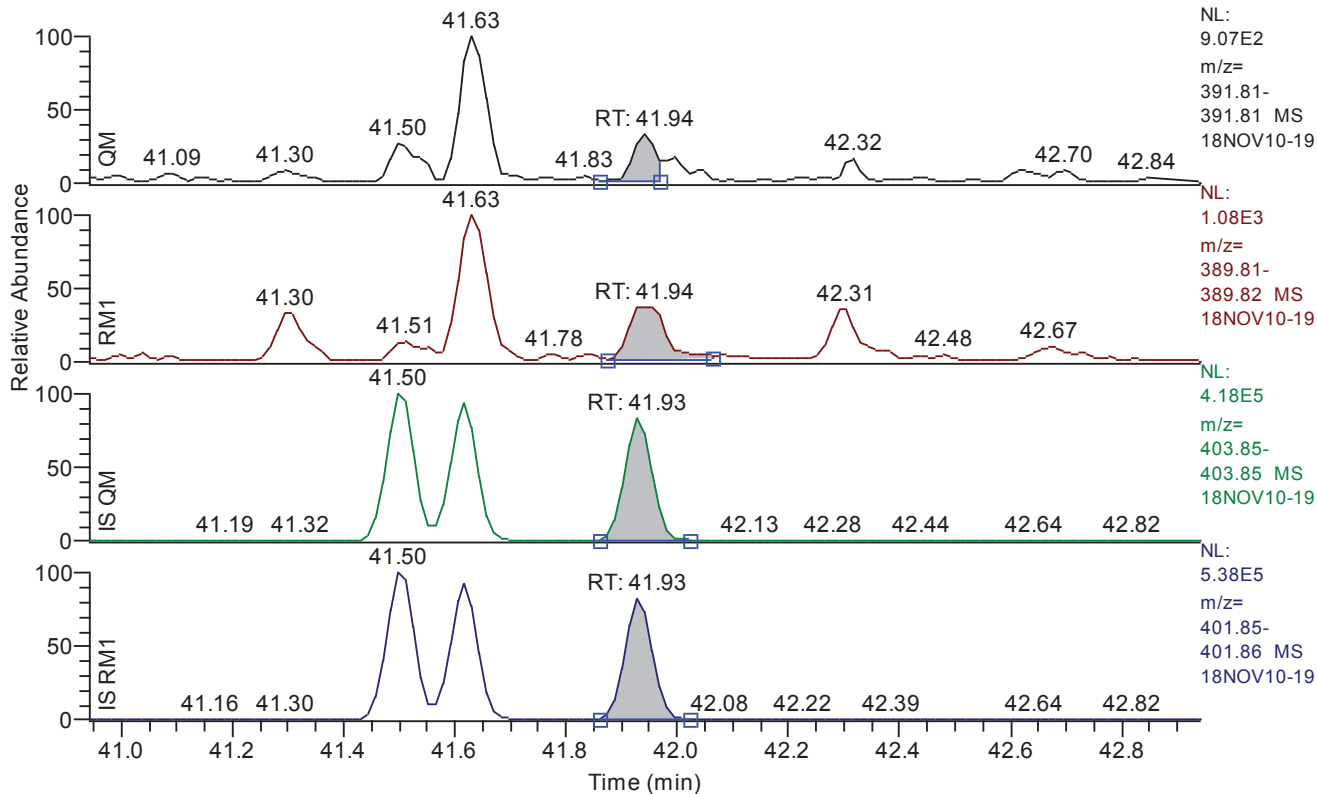


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.63
QM Area	3041
QM Integration Mode	A
RM1 Area	4035
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1621
Unqualified Amount (A)	4.317572
Adjusted Amount (A)	4.3176
Signal-to-Noise	64
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.94 - 42.94 SM: 3G

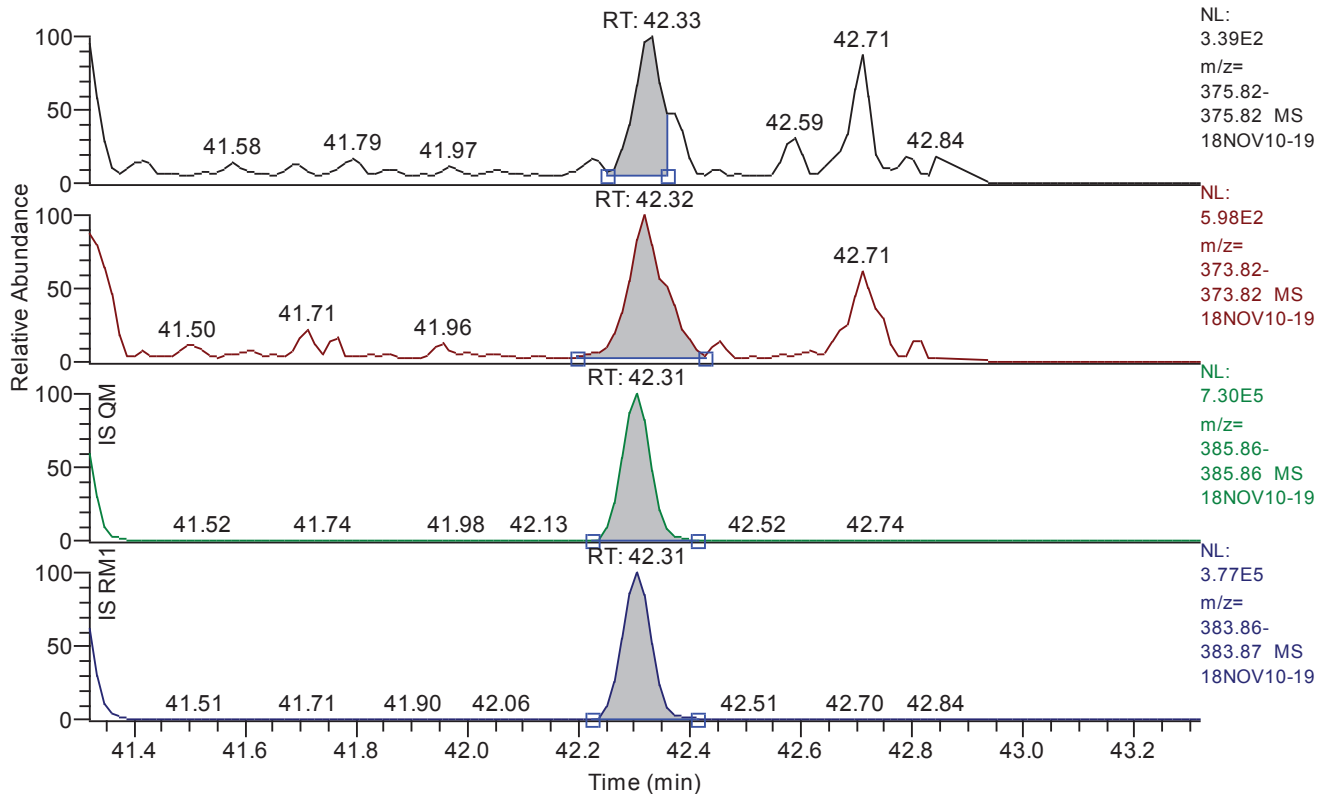


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.94
QM Area	757
QM Integration Mode	A
RM1 Area	1800
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1742
Unqualified Amount (A)	1.700912
Adjusted Amount (A)	n.d.
Signal-to-Noise	22
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 41.32 - 43.32 SM: 3G

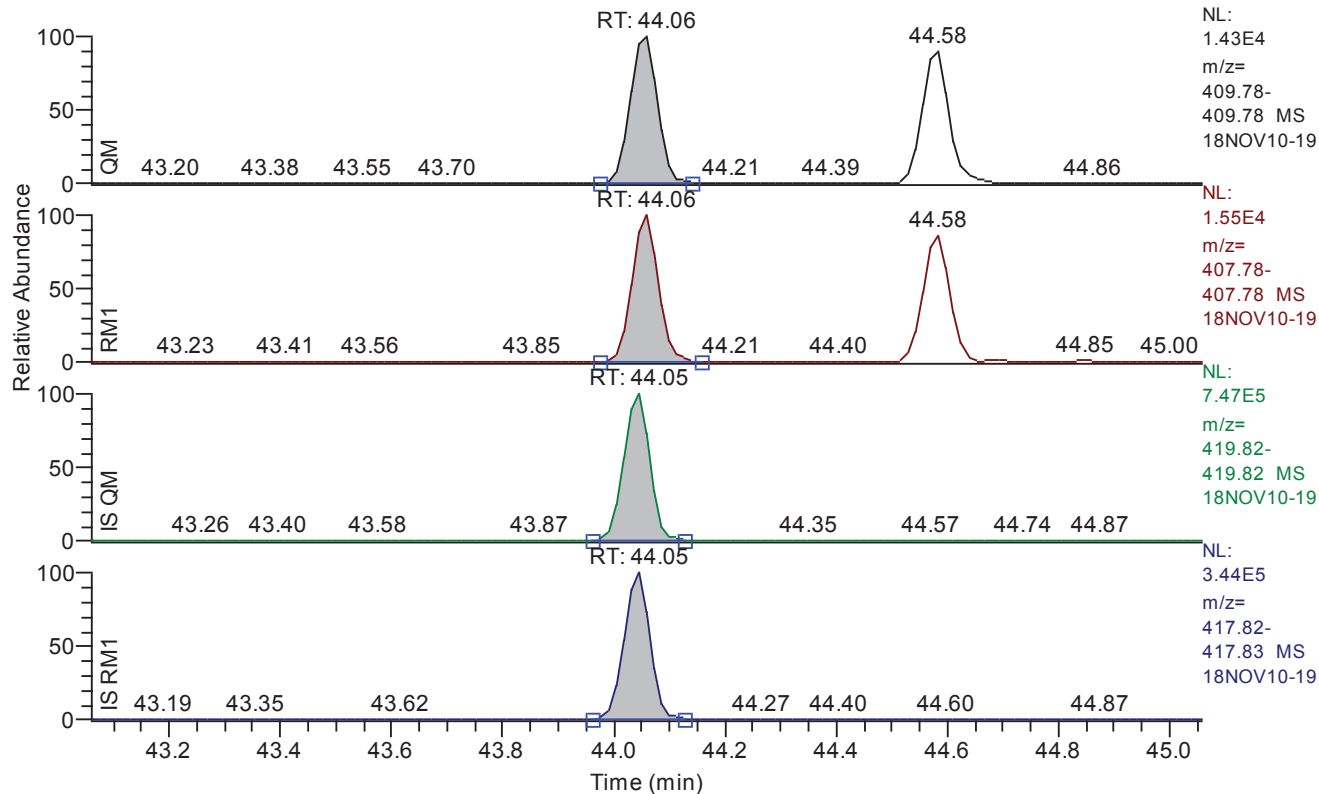


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.33
QM Area	1061
QM Integration Mode	A
RM1 Area	2624
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1767
Unqualified Amount (A)	1.630891
Adjusted Amount (A)	n.d.
Signal-to-Noise	21
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 43.06 - 45.06 SM: 3G

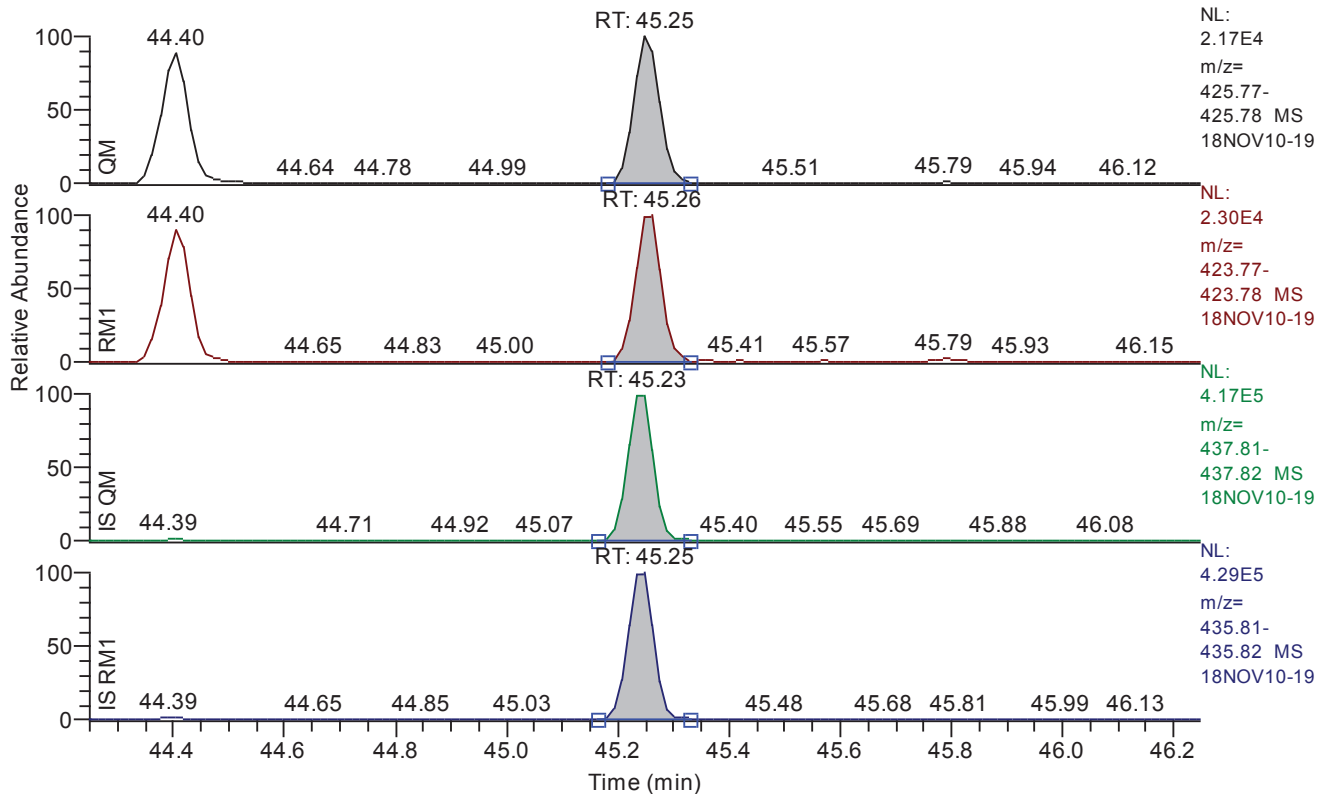


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.06
QM Area	50204
QM Integration Mode	A
RM1 Area	52131
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1087
Unqualified Amount (A)	45.541586
Adjusted Amount (A)	45.5416
Signal-to-Noise	1017
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.25 - 46.25 SM: 3G

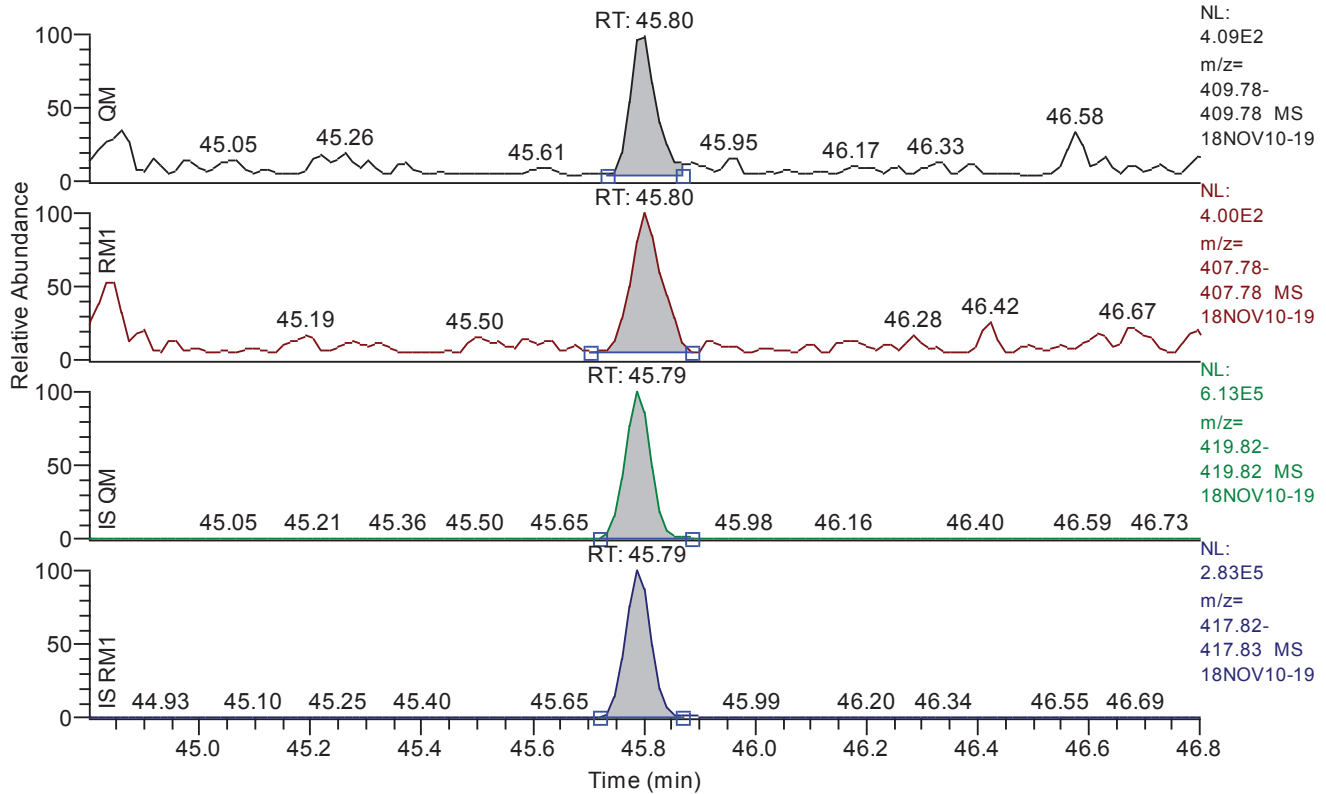


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.25
QM Area	72629
QM Integration Mode	A
RM1 Area	77451
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2779
Unqualified Amount (A)	100.171094
Adjusted Amount (A)	100.1711
Signal-to-Noise	897
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.80 - 46.80 SM: 3G

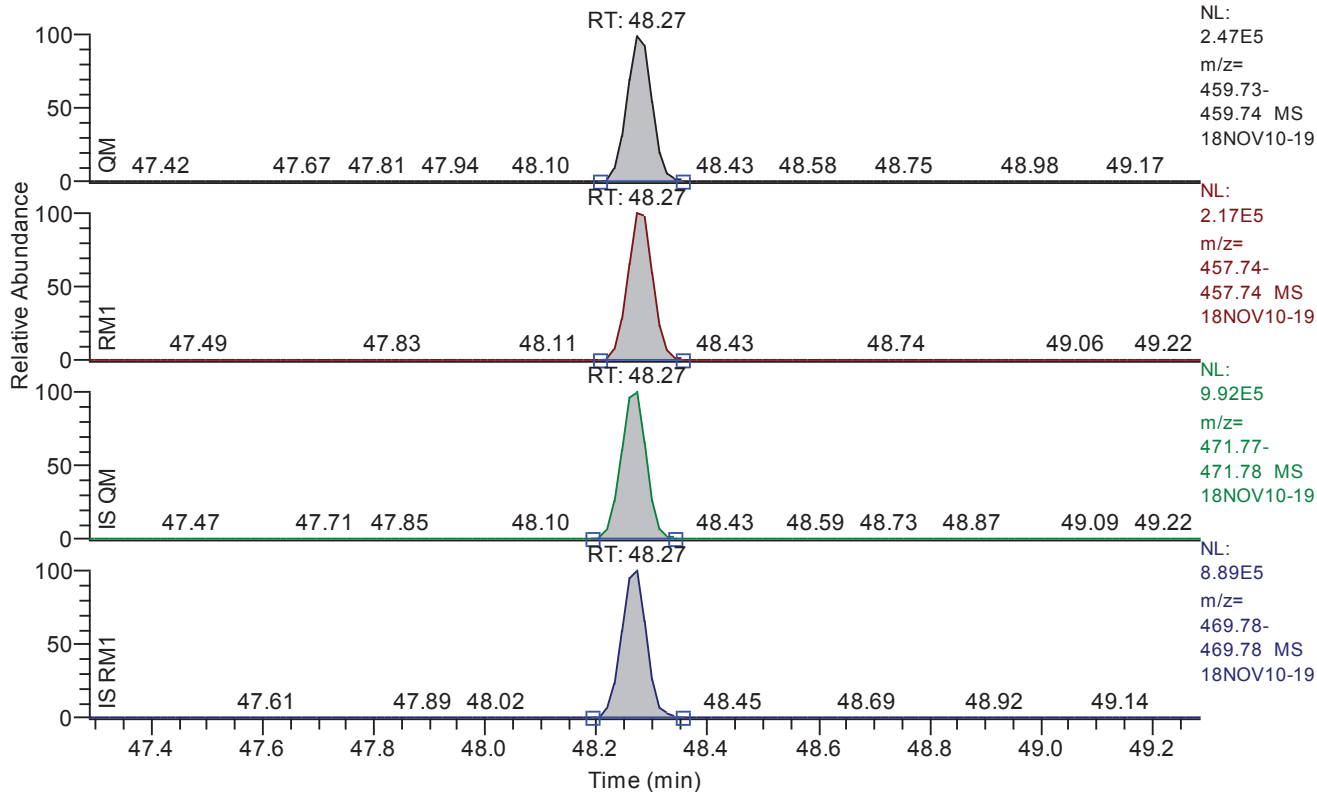


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.80
QM Area	1301
QM Integration Mode	A
RM1 Area	1516
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1275
Unqualified Amount (A)	1.474392
Adjusted Amount (A)	1.4744
Signal-to-Noise	26
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.29 - 49.29 SM: 3G

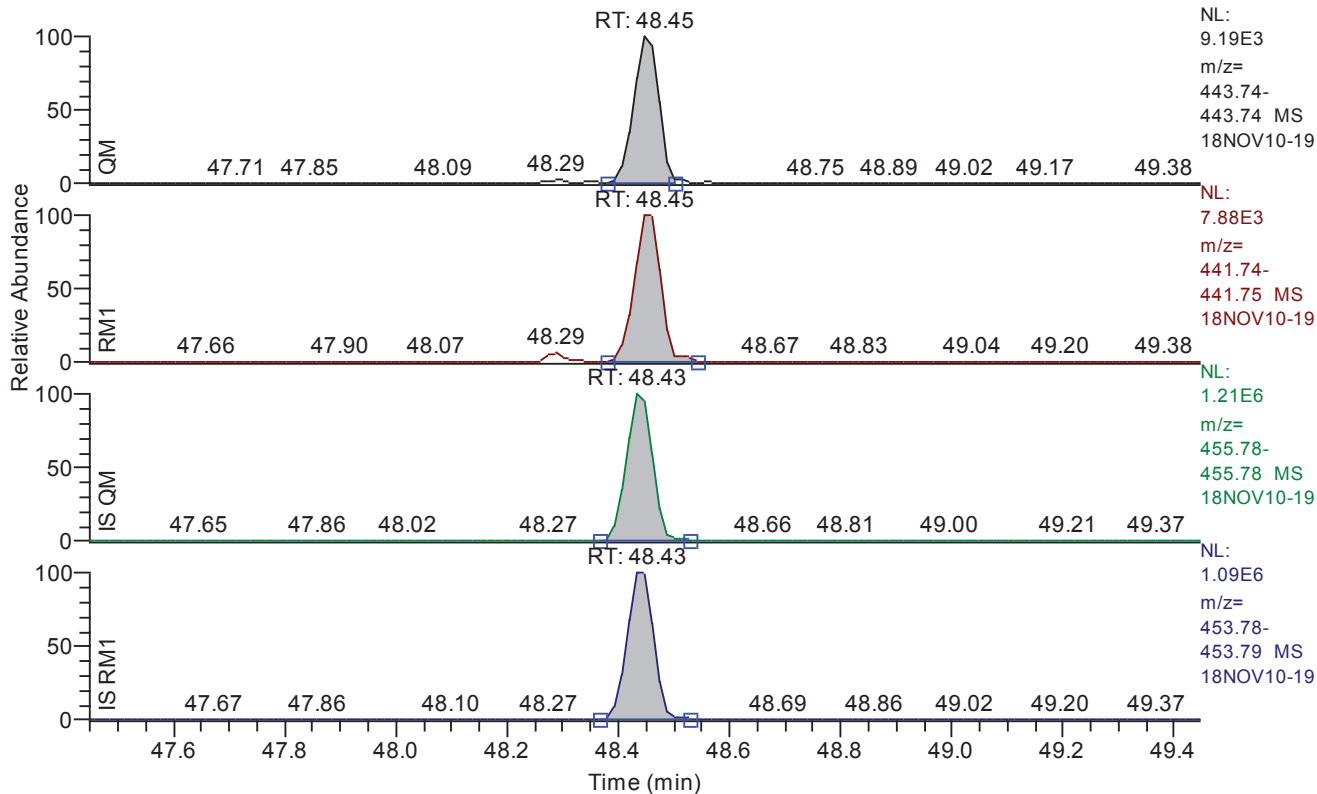


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.27
QM Area	771149
QM Integration Mode	A
RM1 Area	690073
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2537
Unqualified Amount (A)	963.287876
Adjusted Amount (A)	963.2879
Signal-to-Noise	9475
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.45 - 49.45 SM: 3G

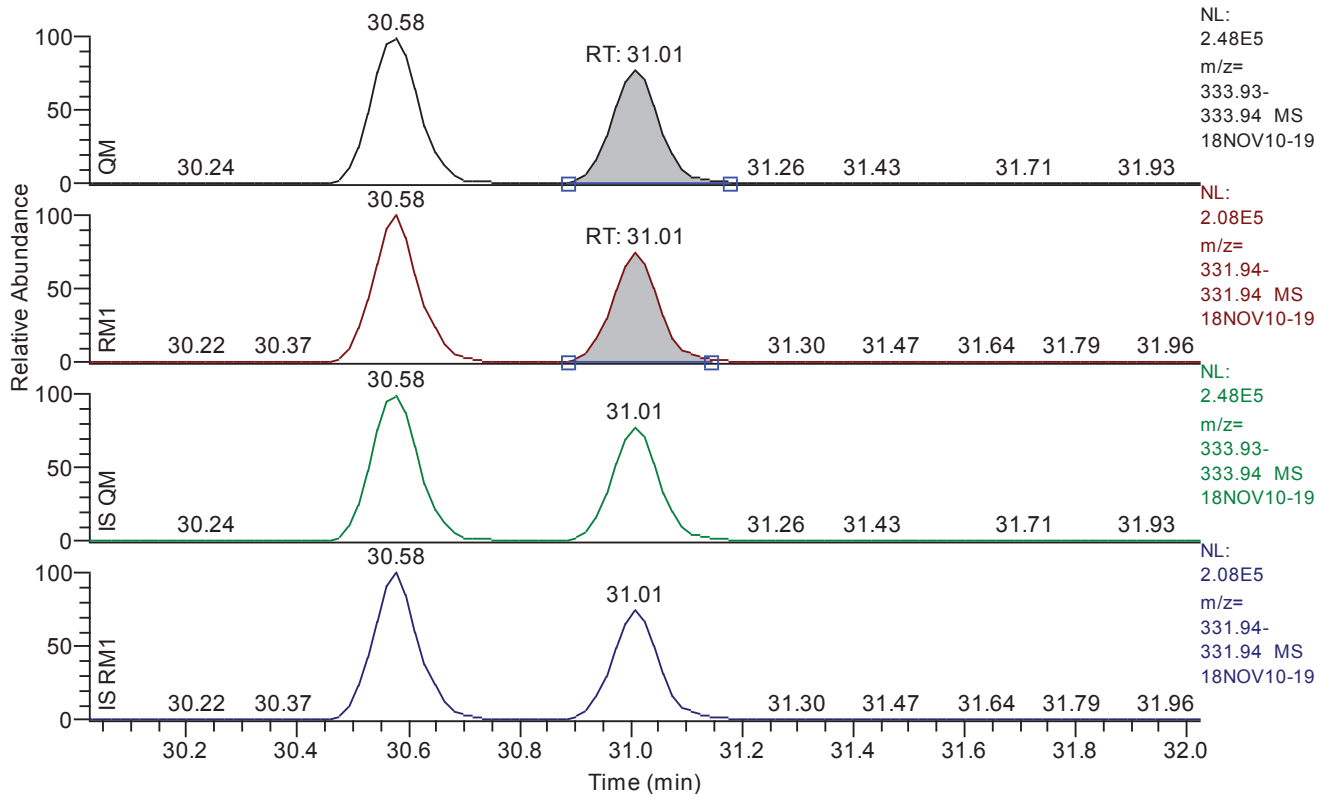


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.45
QM Area	28501
QM Integration Mode	A
RM1 Area	25962
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1434
Unqualified Amount (A)	32.211612
Adjusted Amount (A)	32.2116
Signal-to-Noise	577
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 30.02 - 32.02 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.01
QM Area	1149355
QM Integration Mode	A
RM1 Area	906510
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2447
Unqualified Amount (A)	969.837170
Adjusted Amount (A)	969.8372
Signal-to-Noise	10442
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/10 10:23
Number of Entries	281
Comment	S:10914:12936:17961
Vial	73
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW010 Grab Groundwater
Sample ID	9876332RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

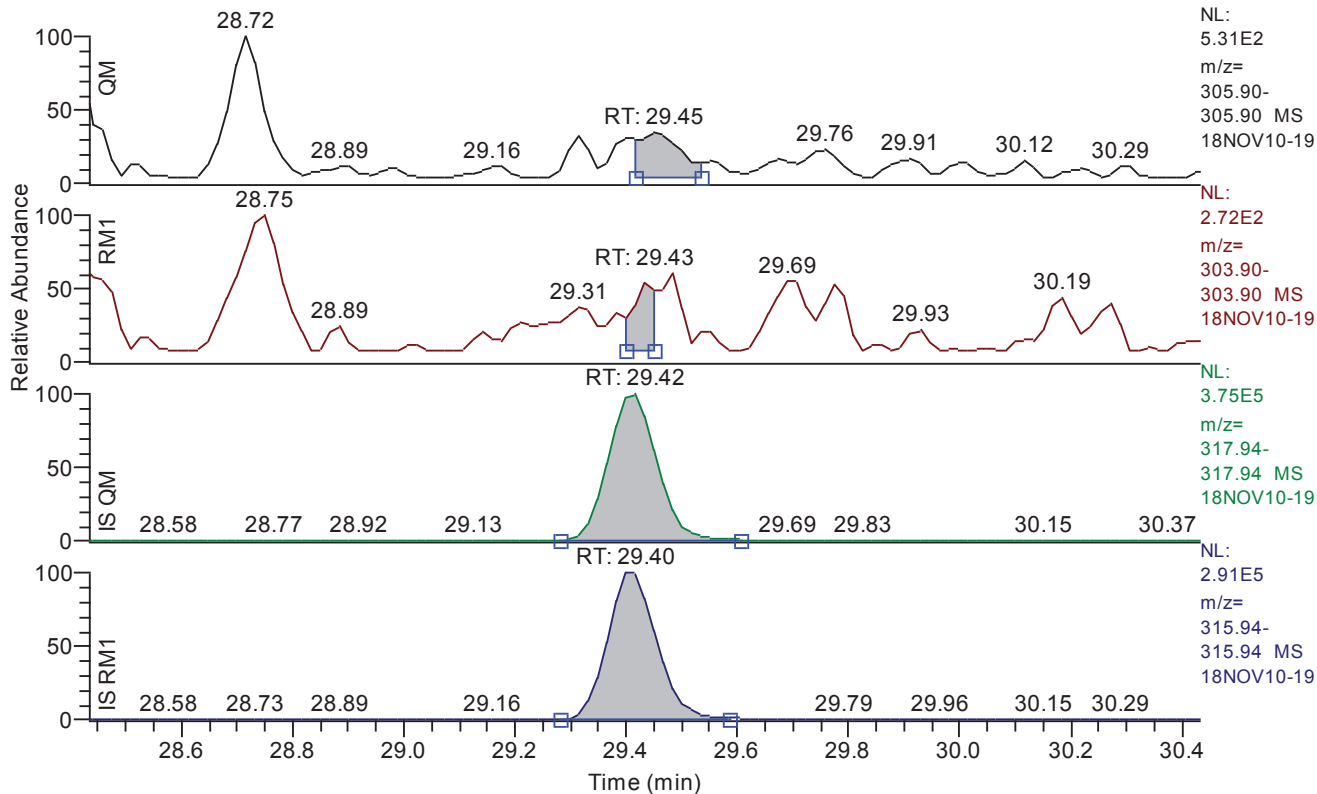
Quan	x:\18nov10\18nov10-19.quan
Data	x:\18nov10\18nov10-19.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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]	1.04
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

Chromatogram

RT: 28.43 - 30.43 SM: 3G

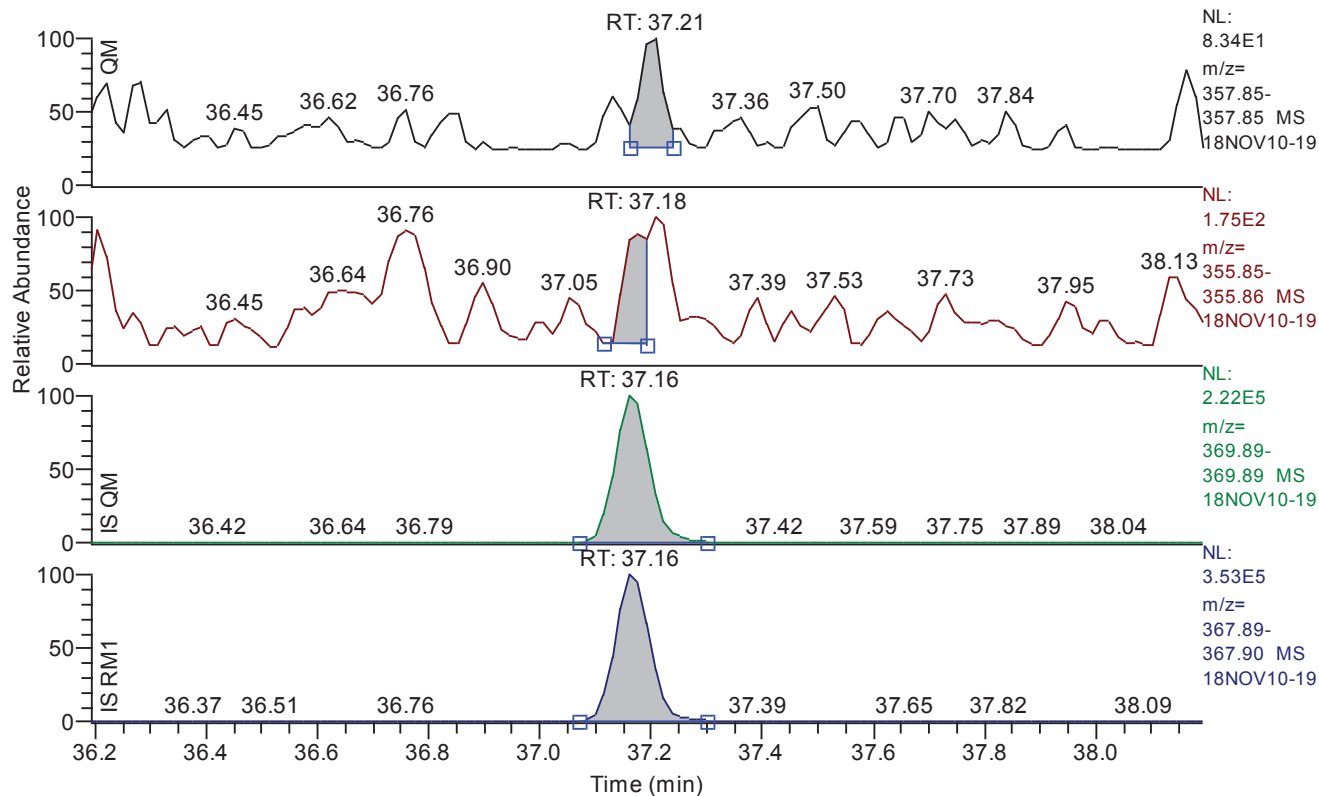


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.45
QM Area	837
QM Integration Mode	A
RM1 Area	304
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.2664
Unqualified Amount (A)	0.502616
Adjusted Amount (A)	n.d.
Signal-to-Noise	7
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 36.19 - 38.19 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.21
QM Area	178
QM Integration Mode	A
RM1 Area	356
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.2239
Unqualified Amount (A)	0.408504
Adjusted Amount (A)	n.d.
Signal-to-Noise	7
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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	29.40	29.40	29.43	29.42	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.58	30.61	30.58	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.48	35.48	35.47	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.79	36.78	36.74	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.21	37.21	37.16	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.47	40.47	40.46	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.62	40.63	40.61	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.31	41.32	41.31	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.50	41.51	41.50	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.63	41.63	41.62	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.94	41.94	41.93	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.33	42.32	42.31	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.06	44.06	44.05	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.25	45.26	45.23	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.80	45.80	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.27	48.27	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.45	48.45	48.43	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.99	31.01	31.01	31.01	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.71	29.74	29.74	29.74	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.38	40.38	40.38	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.42	29.40	29.38	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.58	30.58	30.58	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.47	35.47	35.50	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.74	36.76	36.67	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.16	37.16	37.16	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.46	40.46	40.63	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.61	40.61	40.63	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.31	41.31	41.25	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.50	41.50	41.50	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.62	41.62	41.62	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.93	41.93	41.93	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.31	42.31	42.12	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.05	44.05	44.07	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.23	45.25	45.25	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.76	45.79	45.79	45.88	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.43	48.43	48.37	passed	passed

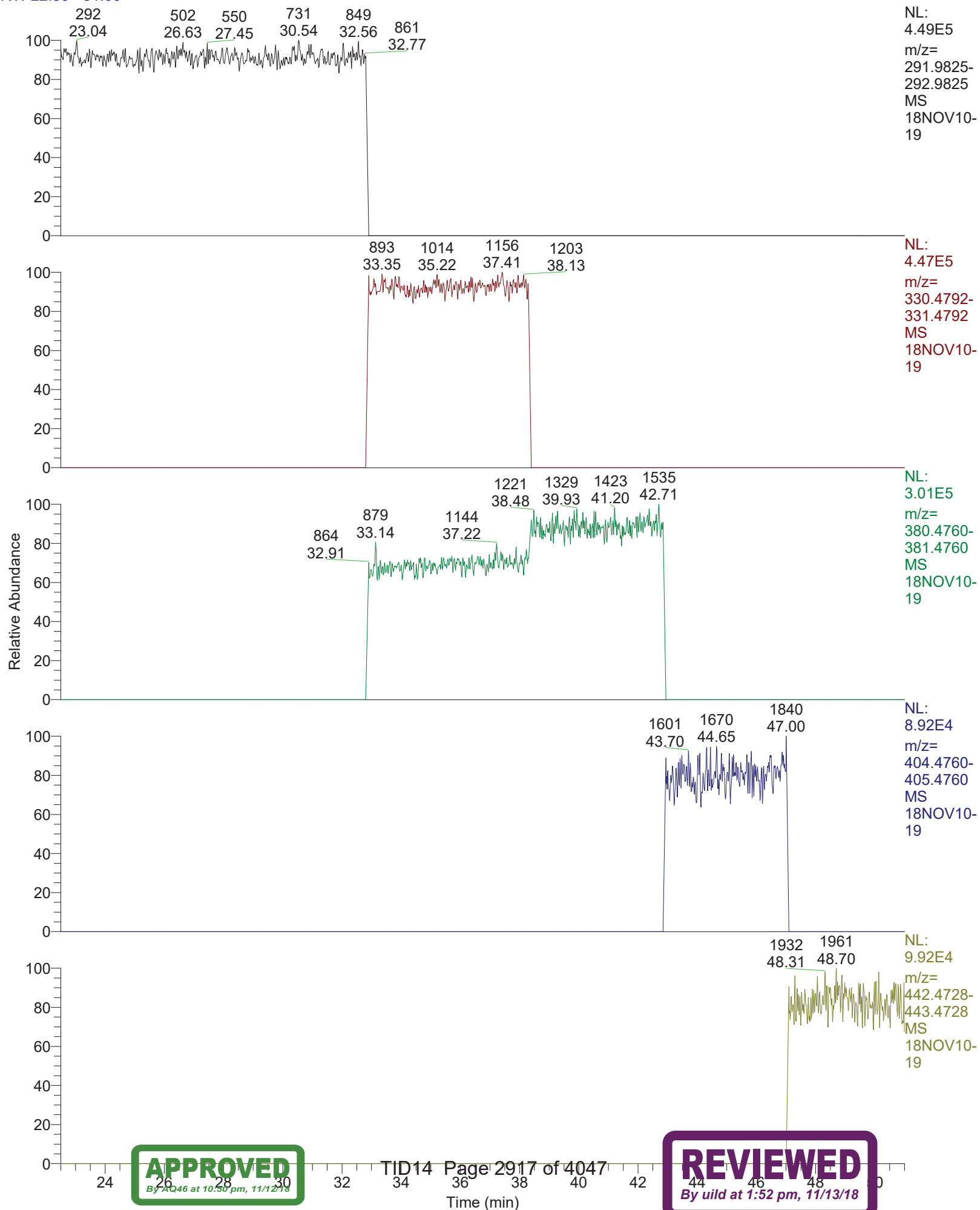
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.40	0.7462	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	30.58	0.1708	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	35.48	1.6893	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.79	0.9384	1.3150 - 1.7850	failed	---	0 - 0	passed
5	12378-PeCDD	37.21	2.3048	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.47	1.1816	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.62	1.2565	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.31	1.7859	1.0450 - 1.4350	failed	---	0 - 0	passed
9	123478-HxCDD	41.50	0.4826	1.0450 - 1.4350	failed	---	0 - 0	passed
10	123678-HxCDD	41.63	1.3265	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.94	2.3776	1.0450 - 1.4350	failed	---	0 - 0	passed
12	123789-HxCDF	42.33	2.4743	1.0450 - 1.4350	failed	---	0 - 0	passed
13	1234678-HpCDF	44.06	1.0384	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.25	1.0664	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.80	1.1652	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	48.27	0.8949	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.45	0.9109	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.01	0.7887	0.6450 - 0.8950	passed	50.43	35 - 197	passed
19	13C12-1234-TCDD	29.74	0.8026	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.38	1.2919	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.42	0.7773	0.6450 - 0.8950	passed	52.24	40 - 135	passed
22	13C12-2378-TCDD	30.58	0.7987	0.6450 - 0.8950	passed	68.96	40 - 135	passed
23	13C12-12378-PeCDF	35.47	1.5599	1.3150 - 1.7850	passed	56.46	40 - 135	passed
24	13C12-23478-PeCDF	36.74	1.5724	1.3150 - 1.7850	passed	58.02	40 - 135	passed
25	13C12-12378-PeCDD	37.16	1.5942	1.3150 - 1.7850	passed	61.88	40 - 135	passed
26	13C12-123478-HxCDF	40.46	0.5380	0.4250 - 0.5950	passed	56.77	40 - 135	passed
27	13C12-123678-HxCDF	40.61	0.5323	0.4250 - 0.5950	passed	55.48	40 - 135	passed
28	13C12-234678-HxCDF	41.31	0.5325	0.4250 - 0.5950	passed	48.77	40 - 135	passed
29	13C12-123478-HxCDD	41.50	1.3248	1.0450 - 1.4350	passed	69.57	40 - 135	passed
30	13C12-123678-HxCDD	41.62	1.2415	1.0450 - 1.4350	passed	63.00	40 - 135	passed
31	13C12-123789-HxCDD	41.93	1.2656	1.0450 - 1.4350	passed	58.31	40 - 135	passed
32	13C12-123789-HxCDF	42.31	0.5265	0.4250 - 0.5950	passed	64.00	40 - 135	passed
33	13C12-1234678-HpCDF	44.05	0.4582	0.3650 - 0.5150	passed	57.54	40 - 135	passed
34	13C12-1234678-HpCDD	45.23	1.0386	0.8750 - 1.2050	passed	60.42	40 - 135	passed
35	13C12-1234789-HpCDF	45.79	0.4599	0.3650 - 0.5150	passed	56.09	40 - 135	passed
36	13C12-OCDD	48.27	0.8921	0.7550 - 1.0250	passed	59.81	40 - 135	passed
37	13C12-OCDF	48.43	0.9100	0.7550 - 1.0250	passed	51.98	40 - 135	passed

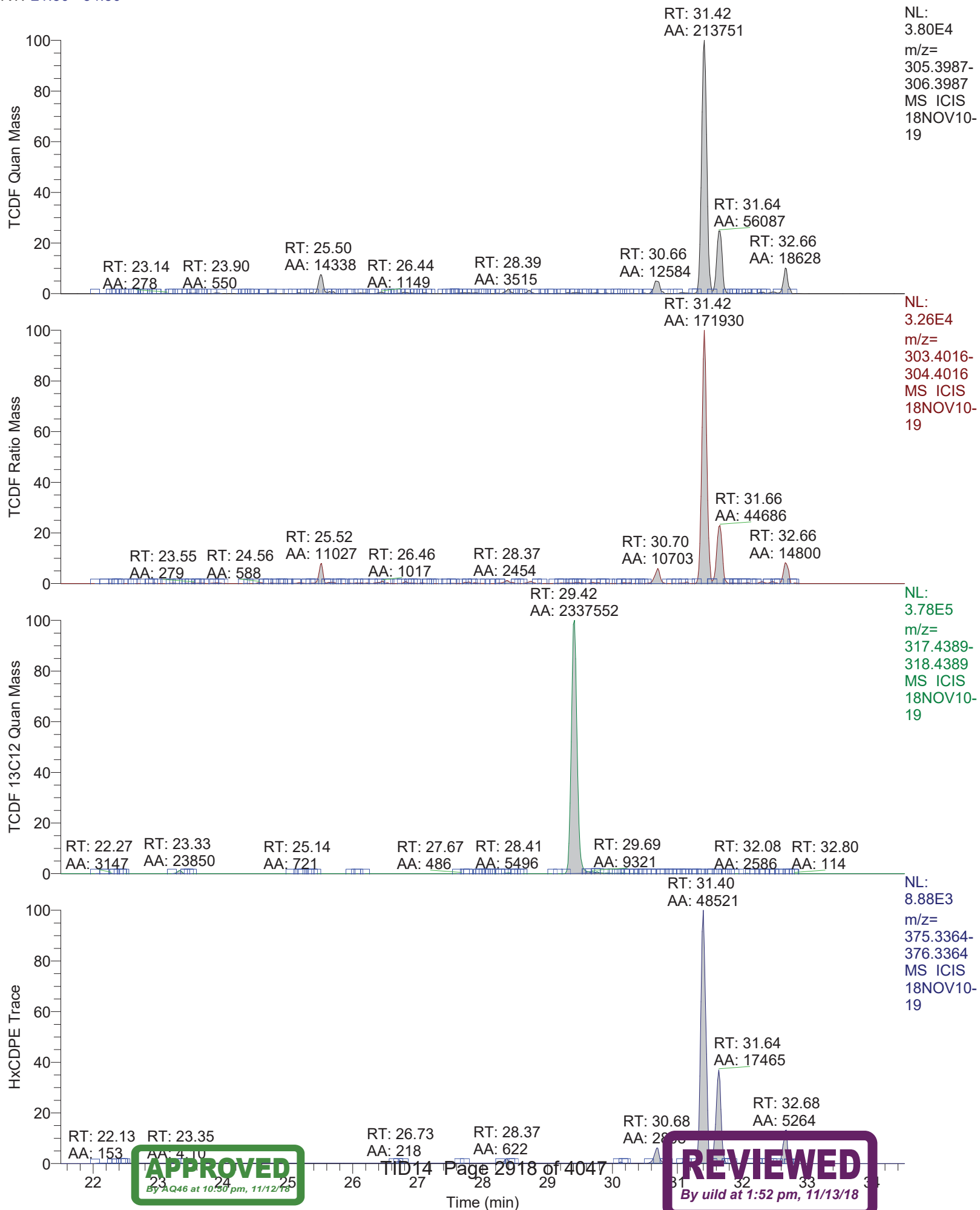
Entry Parameters

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	29.40	407	M	304	A	0.2664	0.313281	0.3133	0.000000	7	
2	2378-TCDD	failed	30.58	423	A	72	A	0.0891	0.280976	n.d.	0.000000	17	
3	12378-PeCDF	passed	35.48	495	A	836	A	0.1658	0.643058	0.6431	0.000000	16	
4	23478-PeCDF	failed	36.79	1621	A	1521	A	0.1333	1.322762	n.d.	0.000000	19	
5	12378-PeCDD	failed	37.21	178	A	410	M	0.2239	0.449653	n.d.	0.000000	8	
6	123478-HxCDF	passed	40.47	1910	A	2257	A	0.1737	1.821321	1.8213	0.000000	28	
7	123678-HxCDF	passed	40.62	1862	A	2340	A	0.1786	1.824074	1.8241	0.000000	23	
8	234678-HxCDF	failed	41.31	1173	A	2095	A	0.1984	1.648416	n.d.	0.000000	20	
9	123478-HxCDD	failed	41.50	815	A	393	A	0.1504	0.686323	n.d.	0.000000	12	
10	123678-HxCDD	passed	41.63	3041	A	4035	A	0.1621	4.317572	4.3176	0.000000	64	
11	123789-HxCDD	failed	41.94	757	A	1800	A	0.1742	1.700912	n.d.	0.000000	22	
12	123789-HxCDF	failed	42.33	1061	A	2624	A	0.1767	1.630891	n.d.	0.000000	21	
13	1234678-HpCDF	passed	44.06	50204	A	52131	A	0.1087	45.541586	45.5416	0.000000	1017	
14	1234678-HpCDD	passed	45.25	72629	A	77451	A	0.2779	100.171094	100.1711	0.000000	897	
15	1234789-HpCDF	passed	45.80	1301	A	1516	A	0.1275	1.474392	1.4744	0.000000	26	
16	OCDD	passed	48.27	771149	A	690073	A	0.2537	963.287876	963.2879	0.000000	9475	
17	OCDF	passed	48.45	28501	A	25962	A	0.1434	32.211612	32.2116	0.000000	577	
18	13C12-1278-TCDD (CRS)	passed	31.01	1149355	A	906510	A	0.2447	969.837170	969.8372	1923.076923	10442	
19	13C12-1234-TCDD	passed	29.74	2165487	A	1738112	A	0.2556	1923.076923	1923.0769	1923.076923	18813	
20	13C12-123468-HxCDD	passed	40.38	2099024	A	2711758	A	0.2970	1923.076923	1923.0769	1923.076923	16185	
21	13C12-2378-TCDF	passed	29.42	2337094	A	1816719	A	0.1790	1004.647321	1004.6473	1923.076923	14108	
22	13C12-2378-TCDD	passed	30.58	1506071	A	1202832	A	0.2539	1326.076518	1326.0765	1923.076923	13760	
23	13C12-12378-PeCDF	passed	35.47	1658553	A	2587100	A	0.4008	1085.774807	1085.7748	1923.076923	8828	
24	13C12-23478-PeCDF	passed	36.74	1690803	A	2658542	A	0.4020	1115.678651	1115.6787	1923.076923	9793	
25	13C12-12378-PeCDD	passed	37.16	967109	A	1541813	A	0.3269	1189.915771	1189.9158	1923.076923	13056	
26	13C12-123478-HxCDF	passed	40.46	2569074	A	1382253	A	0.3059	1091.715110	1091.7151	1923.076923	8915	
27	13C12-123678-HxCDF	passed	40.61	2693163	A	1433648	A	0.2862	1066.977418	1066.9774	1923.076923	8993	
28	13C12-234678-HxCDF	passed	41.31	2165037	A	1152780	A	0.3130	937.939997	937.9400	1923.076923	7562	
29	13C12-123478-HxCDD	passed	41.50	1437800	A	1904826	A	0.2974	1337.972036	1337.9720	1923.076923	11687	
30	13C12-123678-HxCDD	passed	41.62	1402245	A	1740859	A	0.2865	1211.613688	1211.6137	1923.076923	10946	
31	13C12-123789-HxCDD	passed	41.93	1211931	A	1533851	A	0.3035	1121.287385	1121.2874	1923.076923	9699	
32	13C12-123789-HxCDF	passed	42.31	2649880	A	1395081	A	0.3369	1230.863409	1230.8634	1923.076923	9085	
33	13C12-1234678-HpCDF	passed	44.05	2499923	A	1145453	A	0.3526	1106.558480	1106.5585	1923.076923	8543	
34	13C12-1234678-HpCDD	passed	45.23	1386390	A	1439904	A	0.3103	1161.938828	1161.9388	1923.076923	10191	
35	13C12-1234789-HpCDF	passed	45.79	2044143	A	940083	A	0.4198	1078.569332	1078.5693	1923.076923	7008	
36	13C12-OCDD	passed	48.27	3126907	A	2789370	A	0.1787	2300.471896	2300.4719	3846.153846	37229	
37	13C12-OCDF	passed	48.43	3948078	A	3592775	A	0.1341	1999.244598	1999.2446	3846.153846	41261	

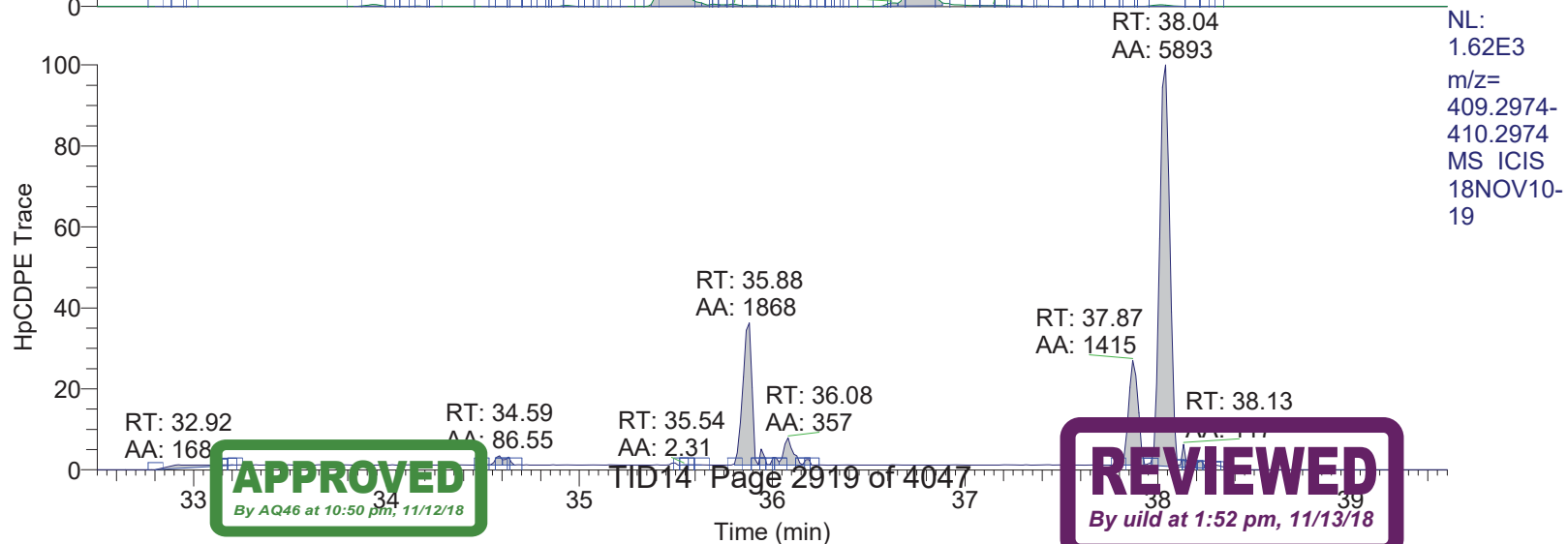
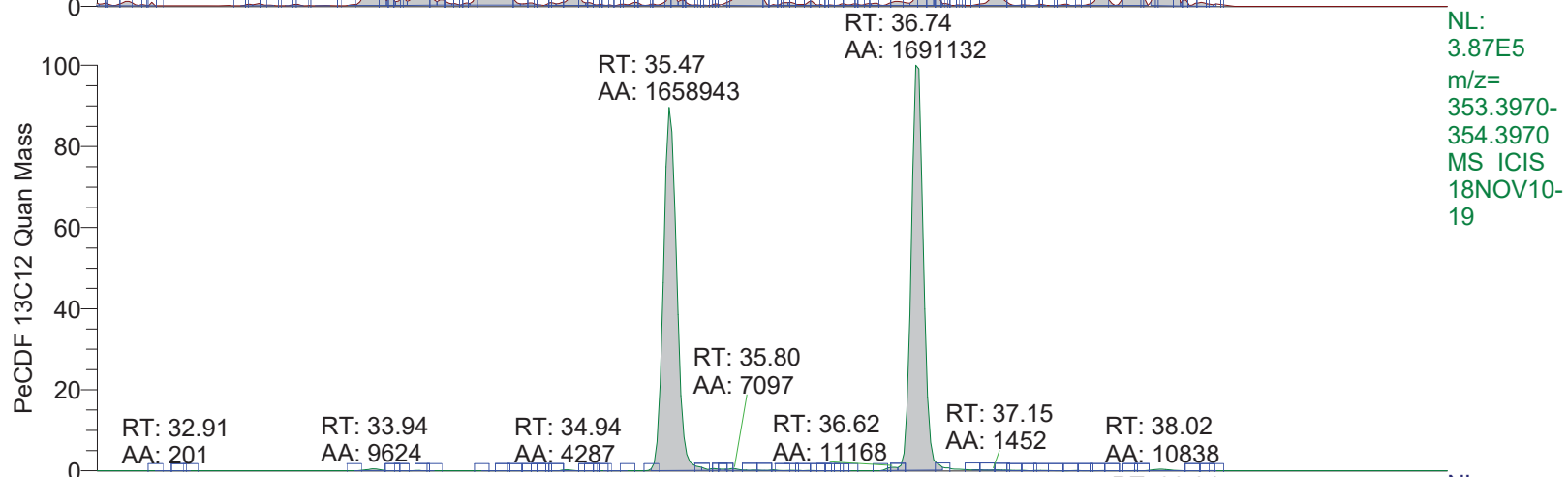
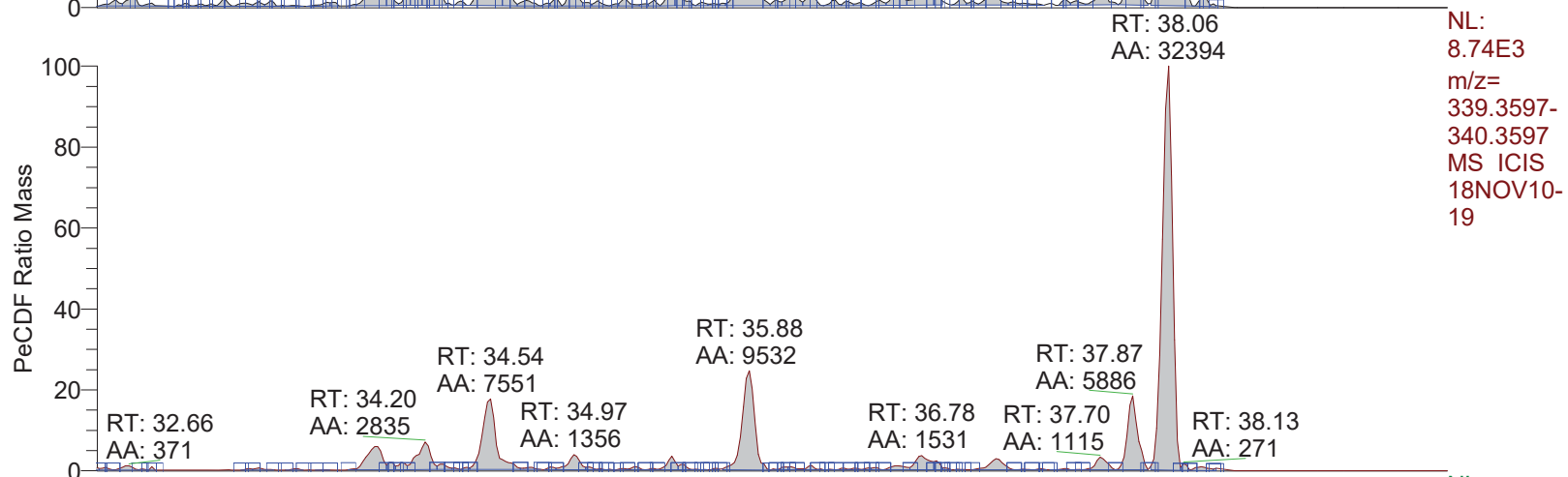
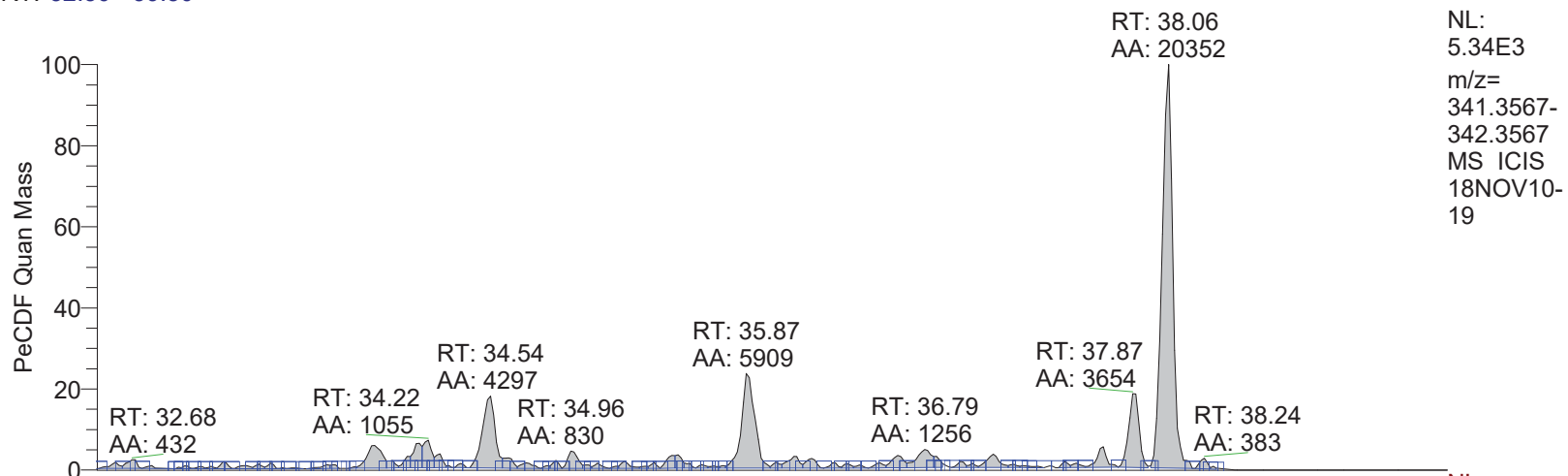
RT: 22.50 - 51.00



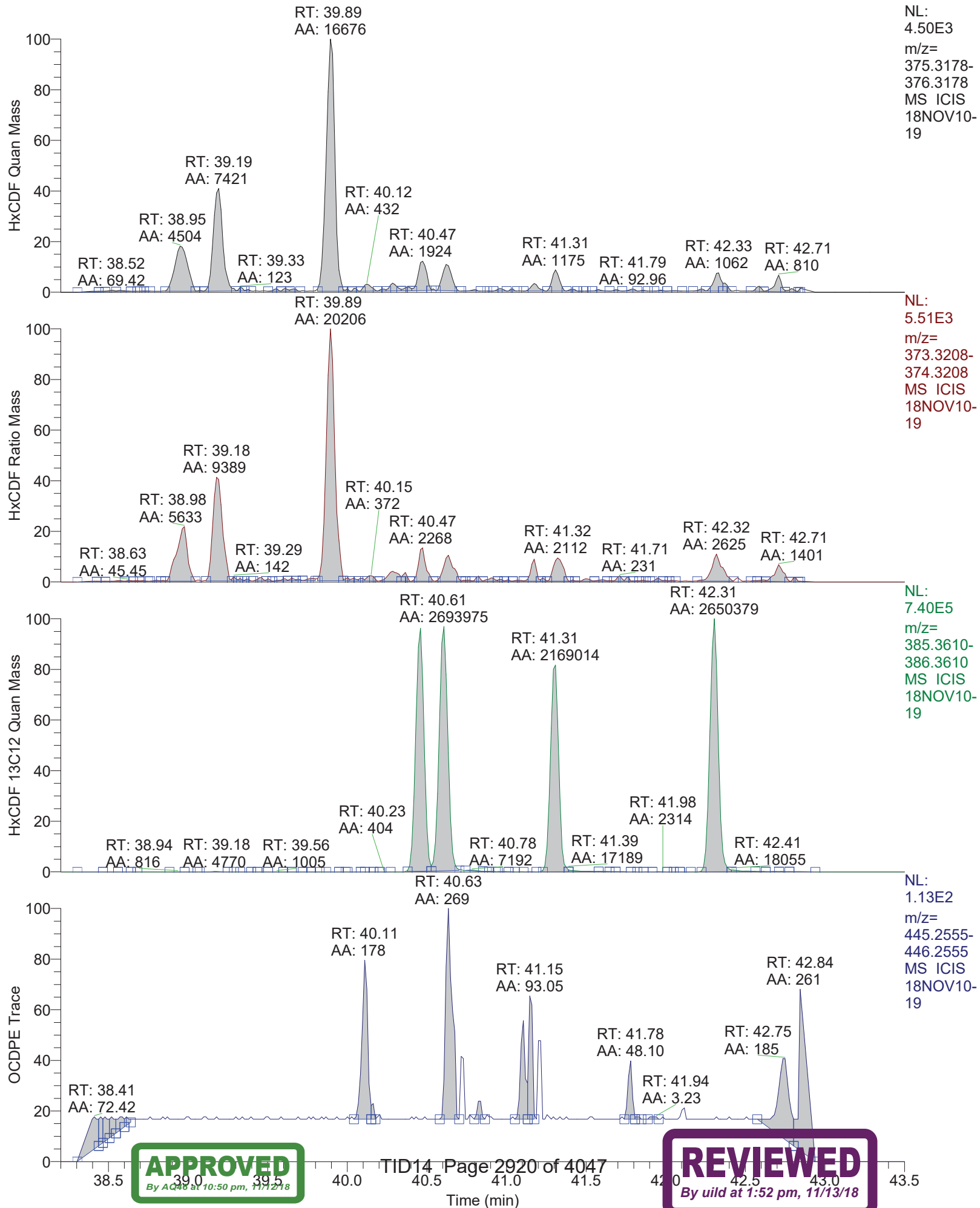
RT: 21.50 - 34.50



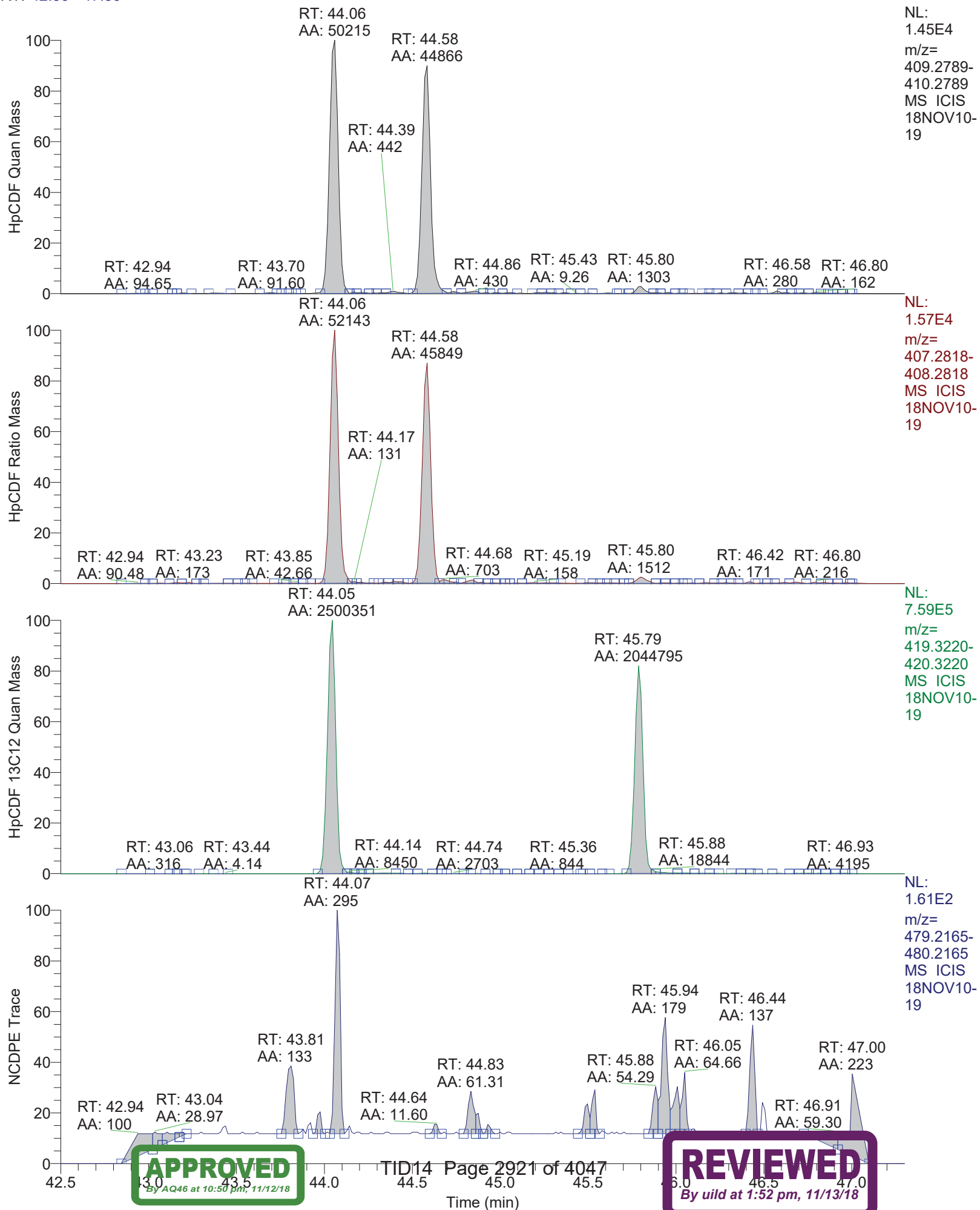
RT: 32.50 - 39.50



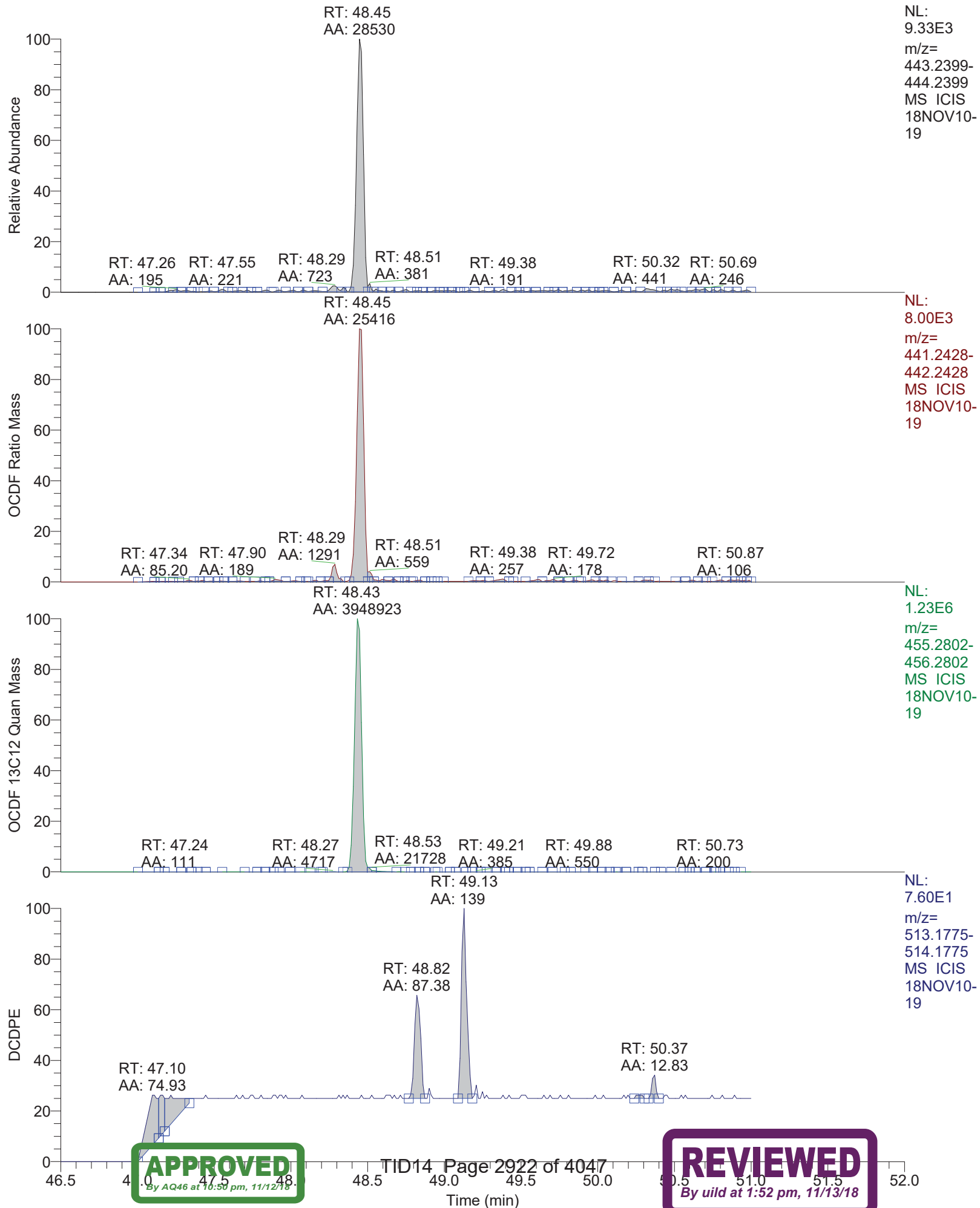
RT: 38.20 - 43.50



RT: 42.50 - 47.30



RT: 46.50 - 52.00



18NOV10-19

*** file opened Sat Nov 10 10:28:57 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 10:28:56

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV10-19

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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 2924 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-19
MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	96.5000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0076	FVINLET	0.0381	FVSR	0.0366
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	96.5000	LKM	442.9723	MASS	96.5000
MDAC	1410600.9560	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9807	RELEN	0.0000
RES	11572.8819	RPUSHER	-6.0879	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	96.5000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.5e-008 mbar
Pirani Analyse: 7.5e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11694.
MID Time window 2: Resolution is 11161.
MID Time window 3: Resolution is 11250.
MID Time window 4: Resolution is 11407.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 2925 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-19
MID Time Window 5: Resolution is 11142.
MID Time Window 6: Resolution is 11572.
Amplifier Offset: 81.

*** File closed Sat Nov 10 11:19:58 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 11:20
Number of Entries	256
Comment	S:10914:12936:17961
Vial	74
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW008I Grab Groundwater
Sample ID	9876334RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-20.quan
Data	x:\18nov10\18nov10-20.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Depend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	1.05
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

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	30.64	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	35.47	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.77	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5	12378-PeCDD	37.20	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.47	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
7	123678-HxCDF	40.60	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.30	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
9	123478-HxCDD	41.51	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.61	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.94	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
12	123789-HxCDF	42.32	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.04	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
14	1234678-HpCDD	45.25	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	48.45	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
18	13C12-1278-TCDD (CRS)	31.02	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.75	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.37	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.43	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.59	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.47	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.75	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.17	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.60	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.30	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.51	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.61	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.92	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.30	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.04	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.25	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	48.43	passed	passed	passed	passed	passed	passed	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 11:20
Number of Entries	256
Comment	S:10914:12936:17961
Vial	74
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW008I Grab Groundwater
Sample ID	9876334RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

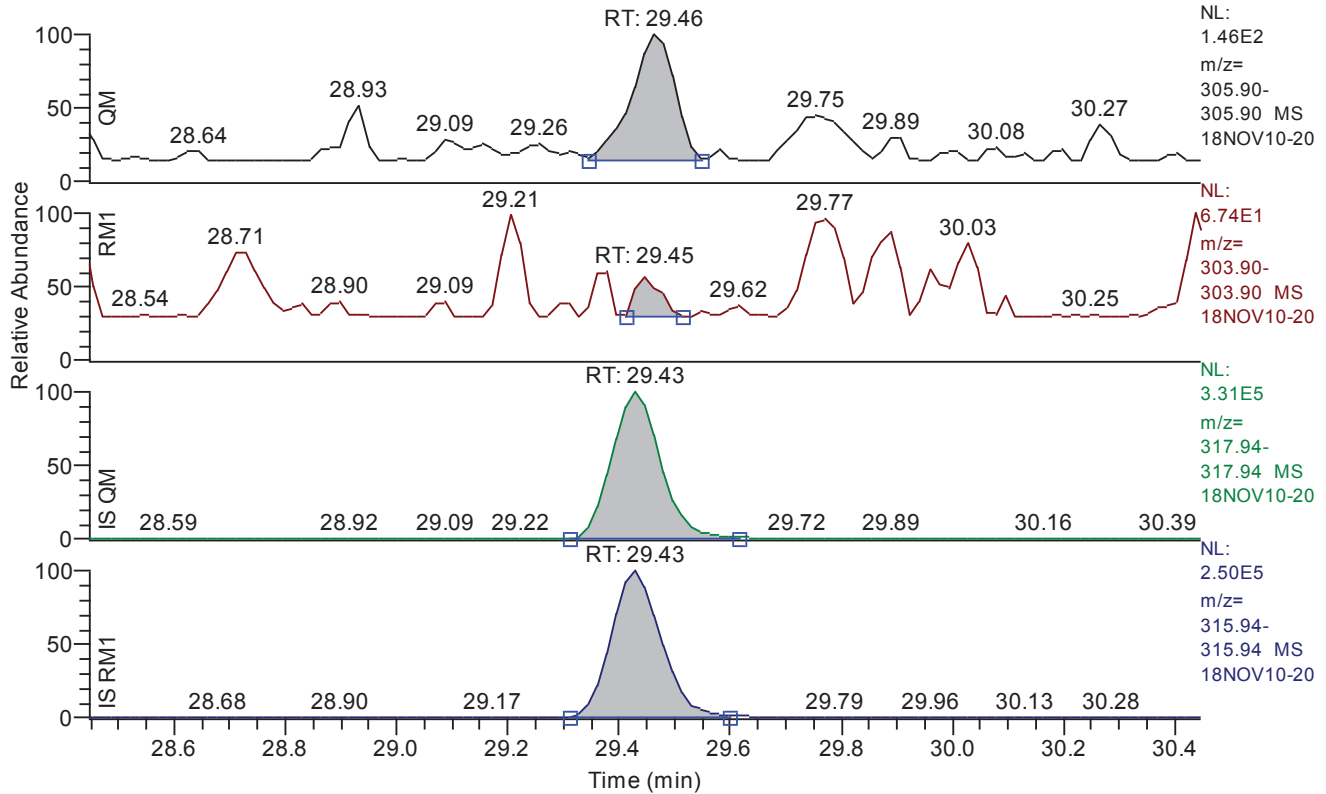
Quan	x:\18nov10\18nov10-20.quan
Data	x:\18nov10\18nov10-20.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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]	1.05
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

Chromatogram

RT: 28.45 - 30.45 SM: 3G

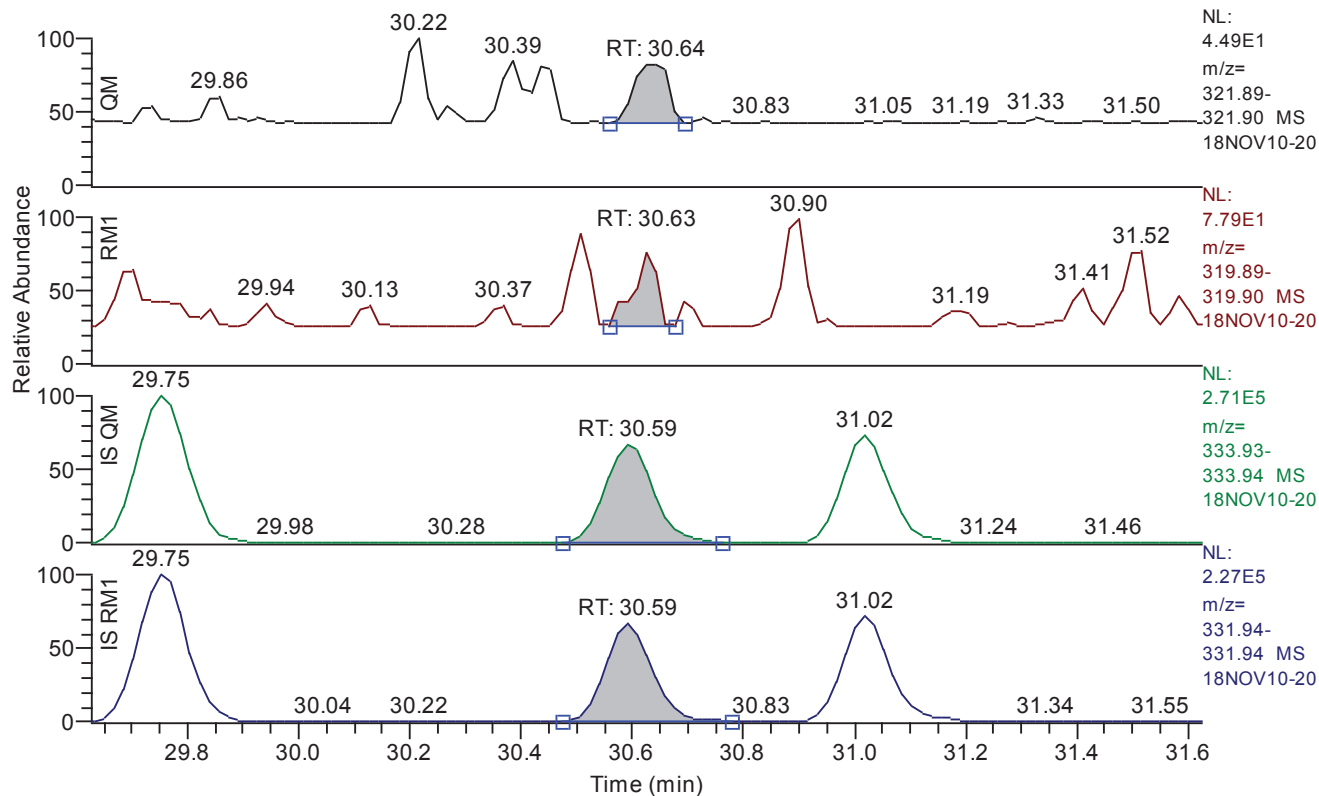


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.46
QM Area	693
QM Integration Mode	A
RM1 Area	60
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1156
Unqualified Amount (A)	0.375830
Adjusted Amount (A)	n.d.
Signal-to-Noise	10
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 29.63 - 31.63 SM: 3G

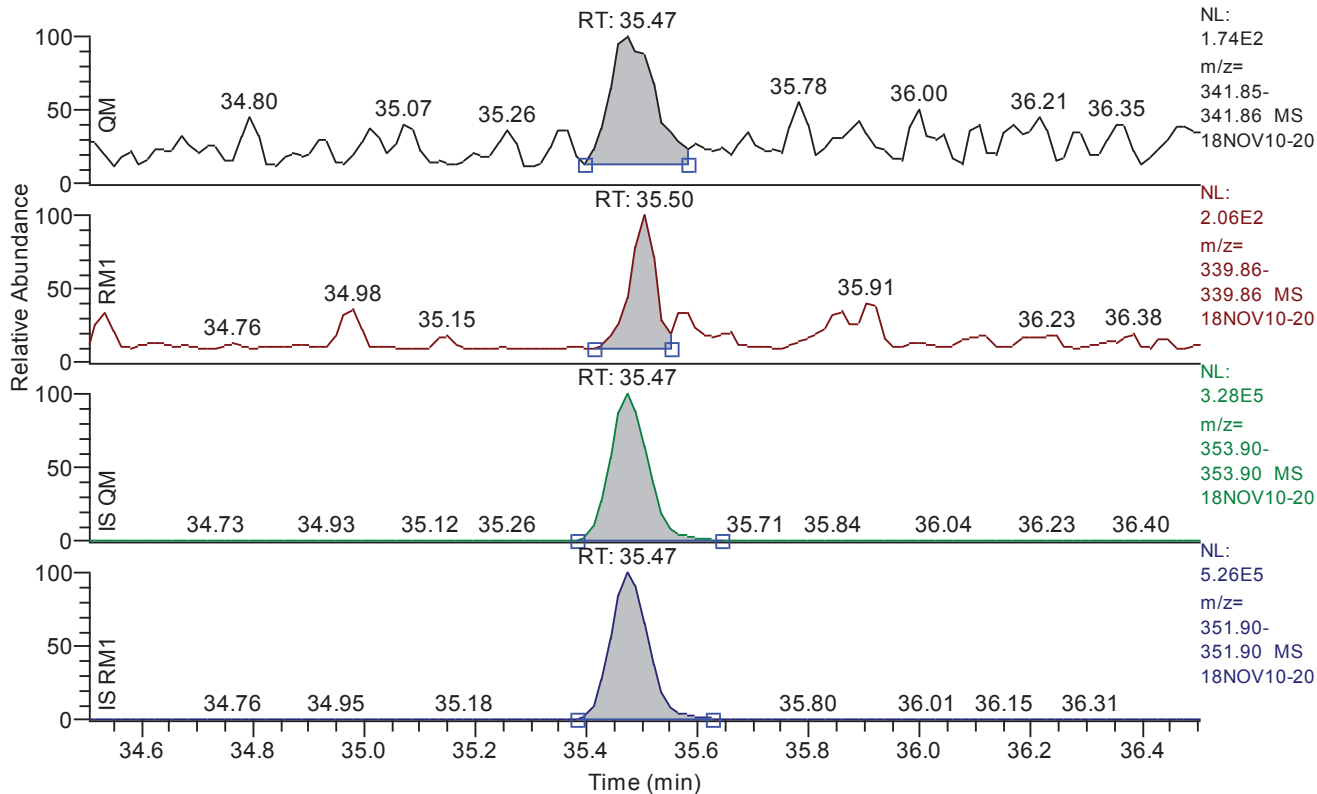


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.64
QM Area	80
QM Integration Mode	A
RM1 Area	121
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0819
Unqualified Amount (A)	0.151674
Adjusted Amount (A)	n.d.
Signal-to-Noise	8
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 34.50 - 36.50 SM: 3G

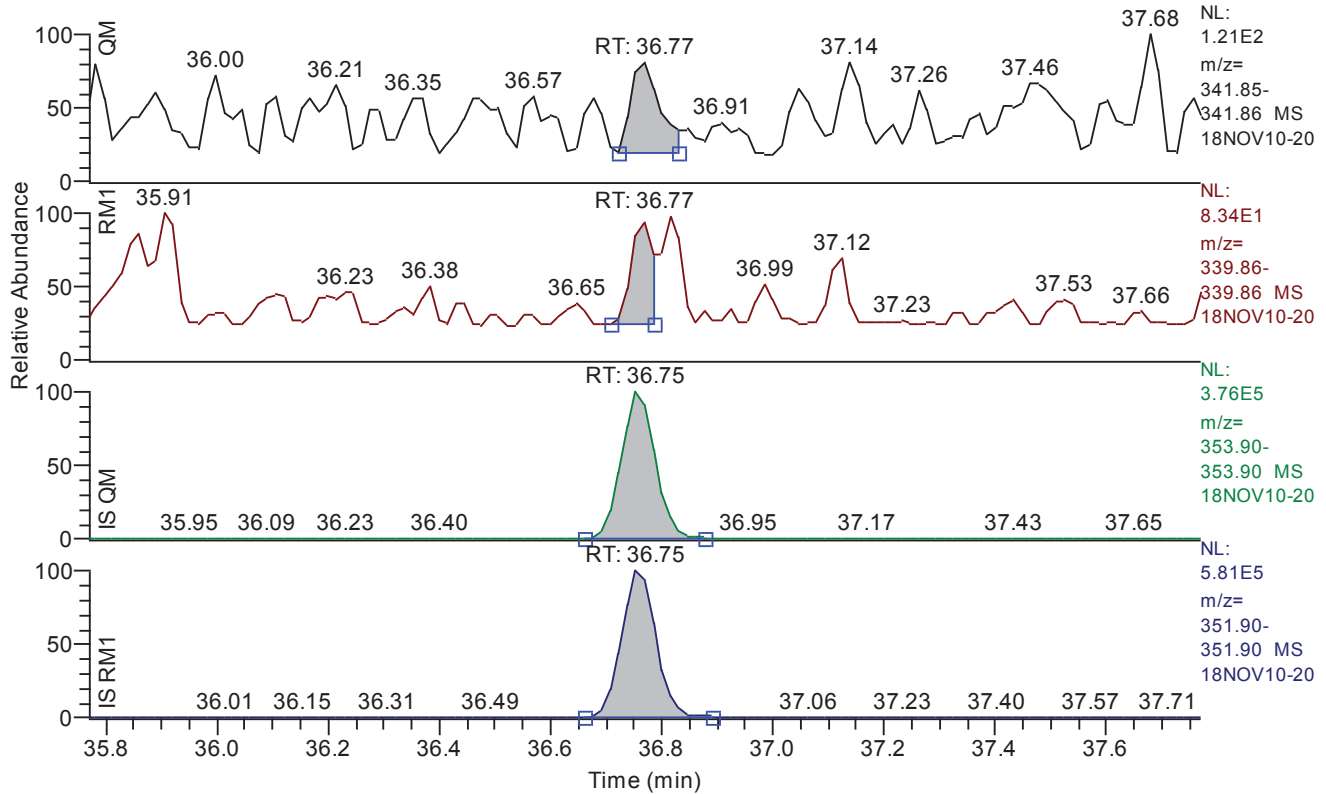


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.47
QM Area	855
QM Integration Mode	A
RM1 Area	591
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0970
Unqualified Amount (A)	0.727149
Adjusted Amount (A)	n.d.
Signal-to-Noise	21
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 35.77 - 37.77 SM: 3G

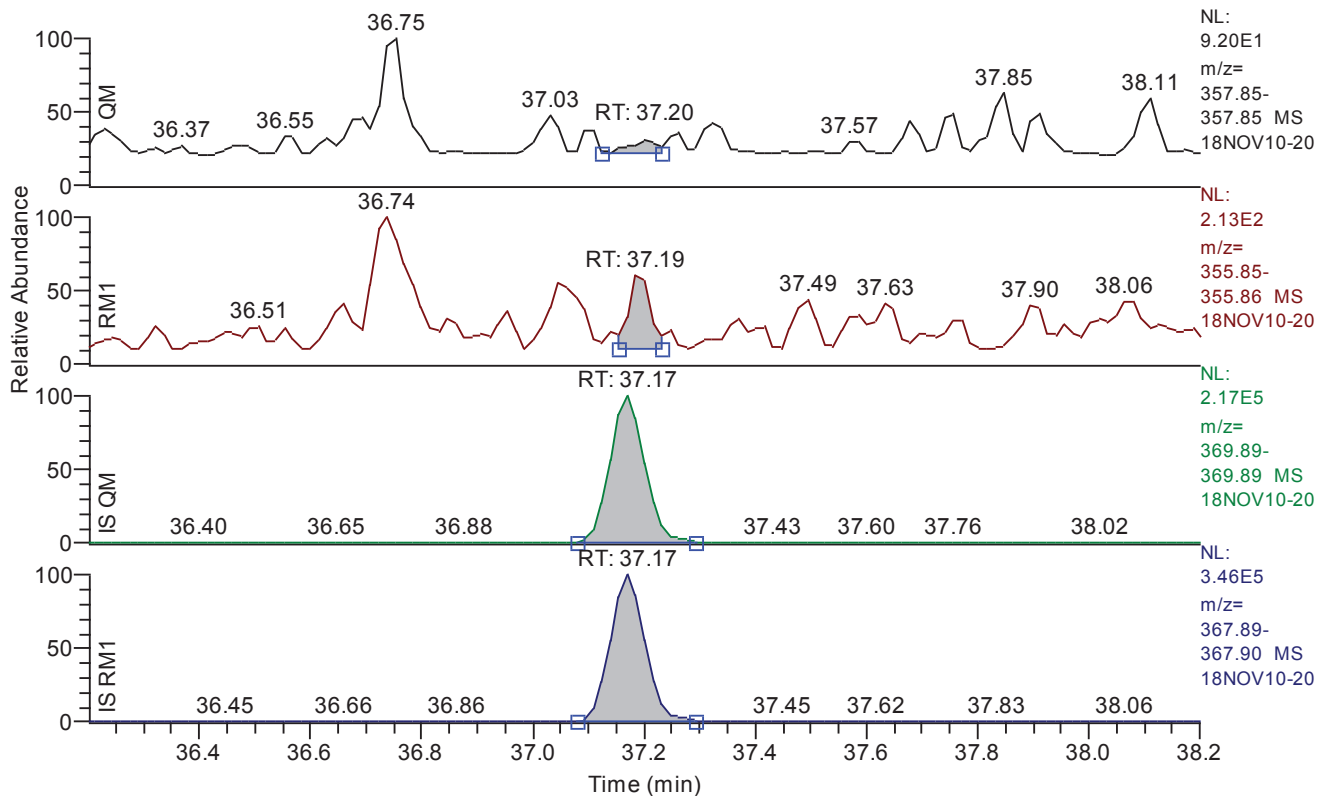


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.77
QM Area	267
QM Integration Mode	A
RM1 Area	141
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0772
Unqualified Amount (A)	0.181069
Adjusted Amount (A)	n.d.
Signal-to-Noise	8
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 36.20 - 38.20 SM: 3G

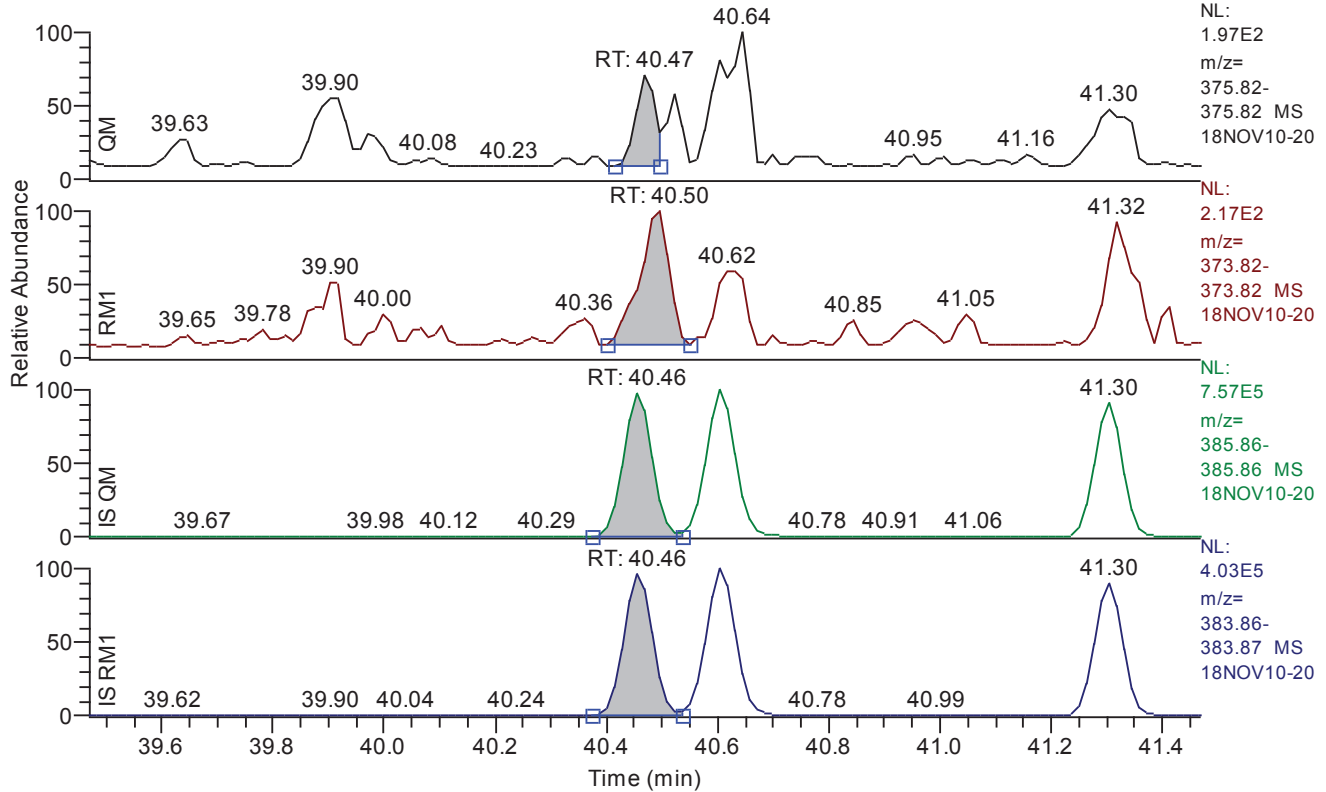


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.20
QM Area	26
QM Integration Mode	A
RM1 Area	285
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1803
Unqualified Amount (A)	0.240995
Adjusted Amount (A)	n.d.
Signal-to-Noise	5
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 39.47 - 41.47 SM: 3G

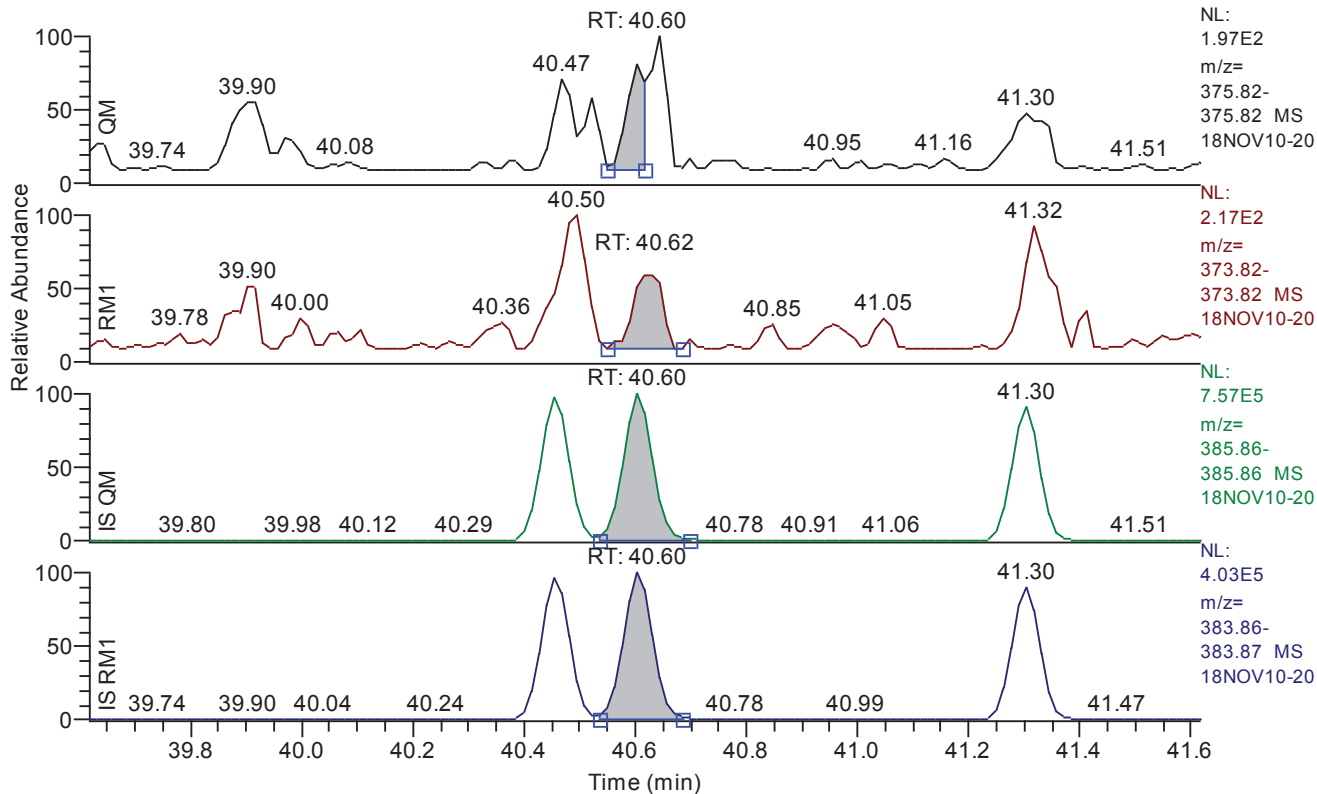


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.47
QM Area	285
QM Integration Mode	A
RM1 Area	734
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0695
Unqualified Amount (A)	0.432156
Adjusted Amount (A)	n.d.
Signal-to-Noise	17
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 39.62 - 41.62 SM: 3G

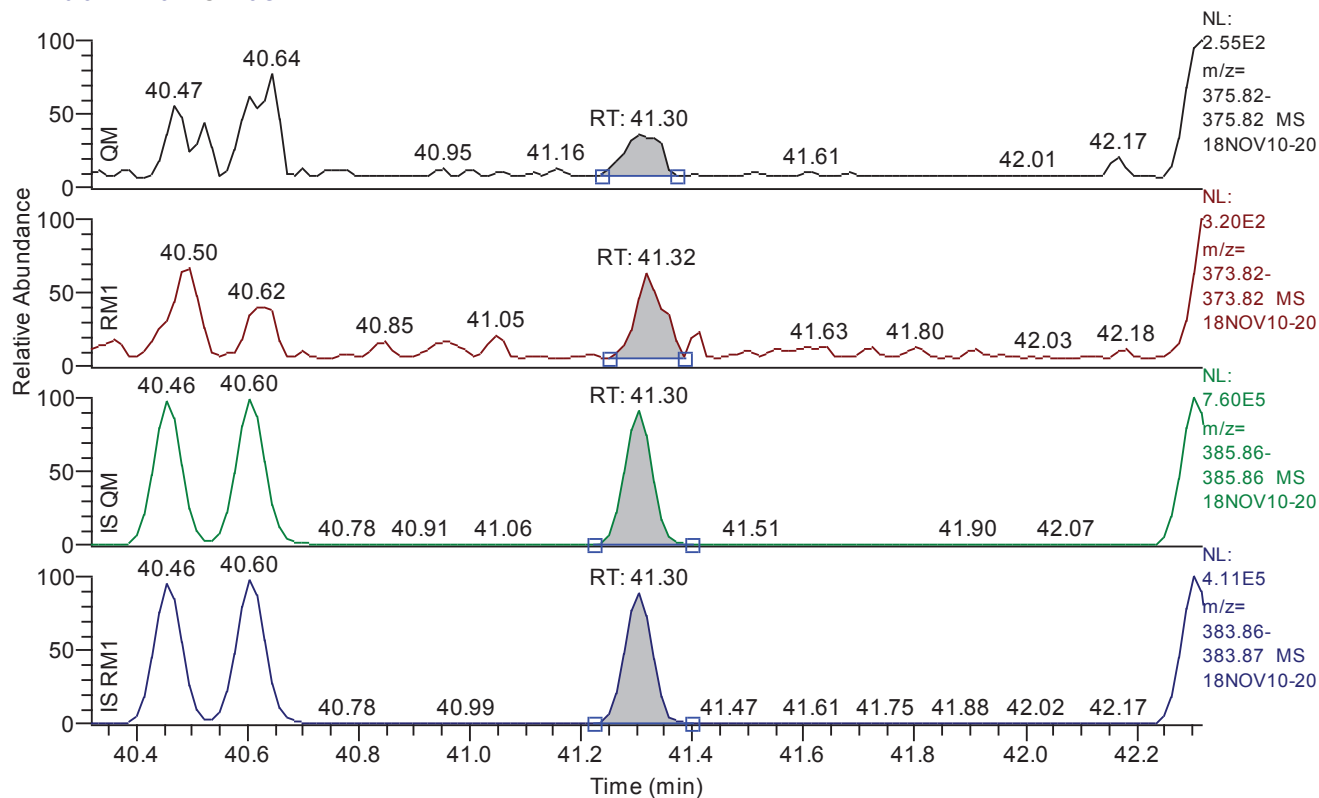


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.60
QM Area	291
QM Integration Mode	A
RM1 Area	415
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0706
Unqualified Amount (A)	0.298138
Adjusted Amount (A)	0.2981
Signal-to-Noise	14
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.32 - 42.32 SM: 3G

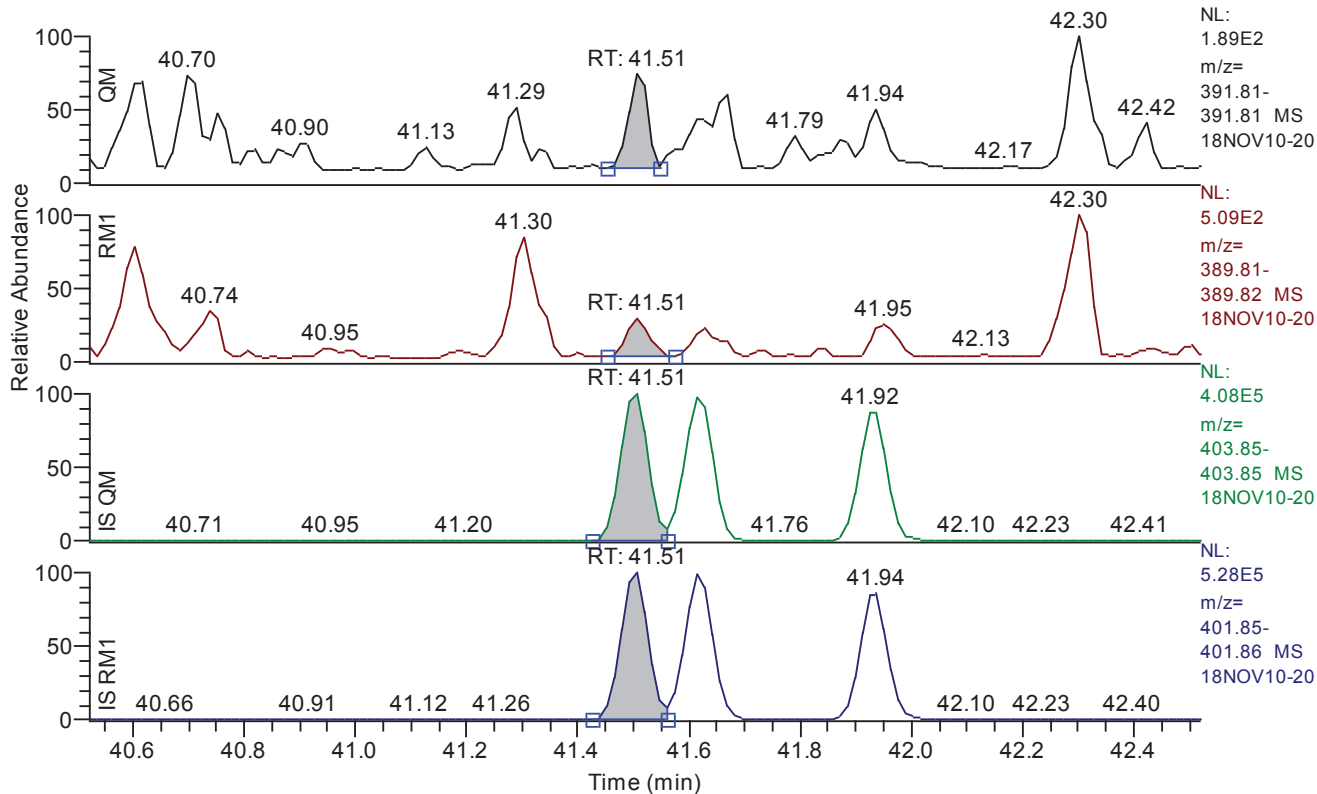


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.30
QM Area	335
QM Integration Mode	M
RM1 Area	640
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0716
Unqualified Amount (A)	0.434250
Adjusted Amount (A)	n.d.
Signal-to-Noise	14
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.52 - 42.52 SM: 3G

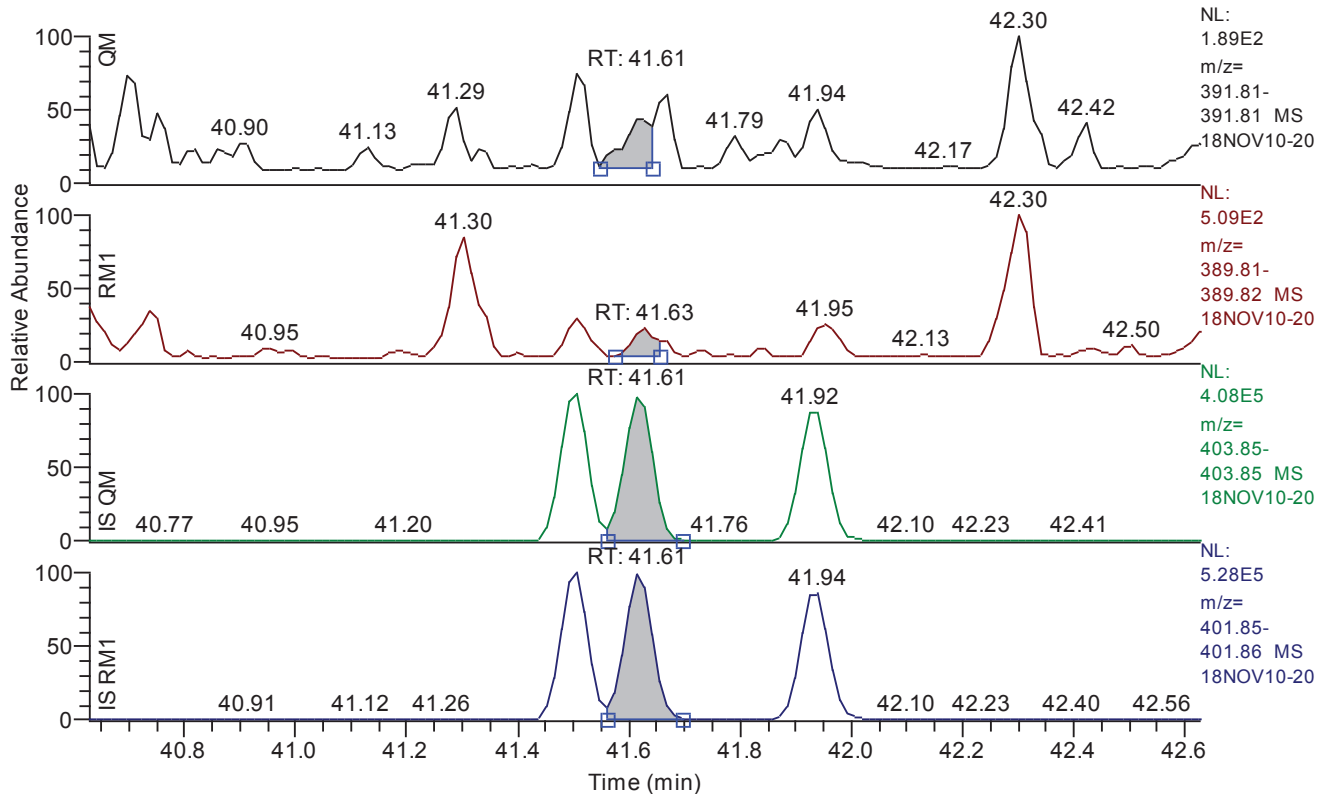


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.51
QM Area	297
QM Integration Mode	A
RM1 Area	391
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1051
Unqualified Amount (A)	0.398710
Adjusted Amount (A)	0.3987
Signal-to-Noise	12
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.63 - 42.63 SM: 3G

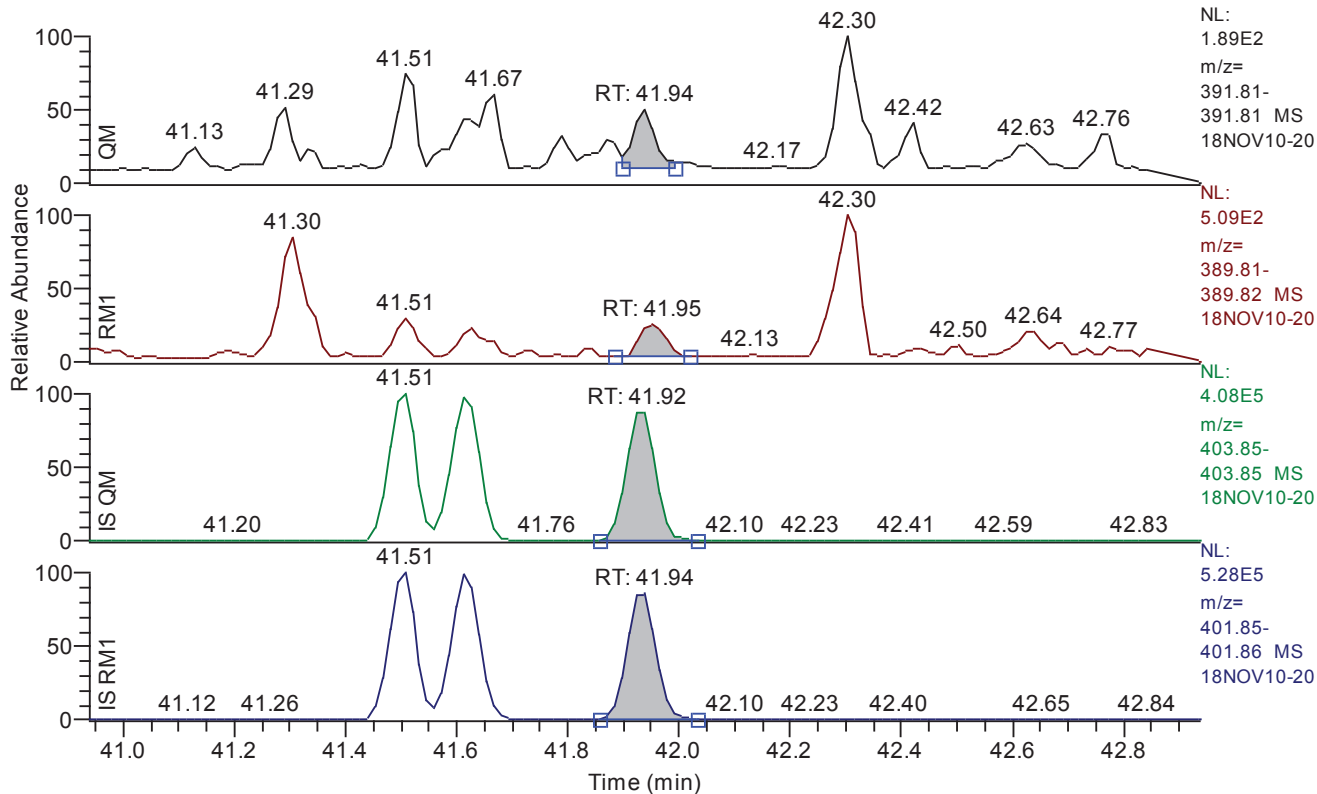


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.61
QM Area	214
QM Integration Mode	A
RM1 Area	278
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1081
Unqualified Amount (A)	0.288313
Adjusted Amount (A)	0.2883
Signal-to-Noise	8
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.94 - 42.94 SM: 3G

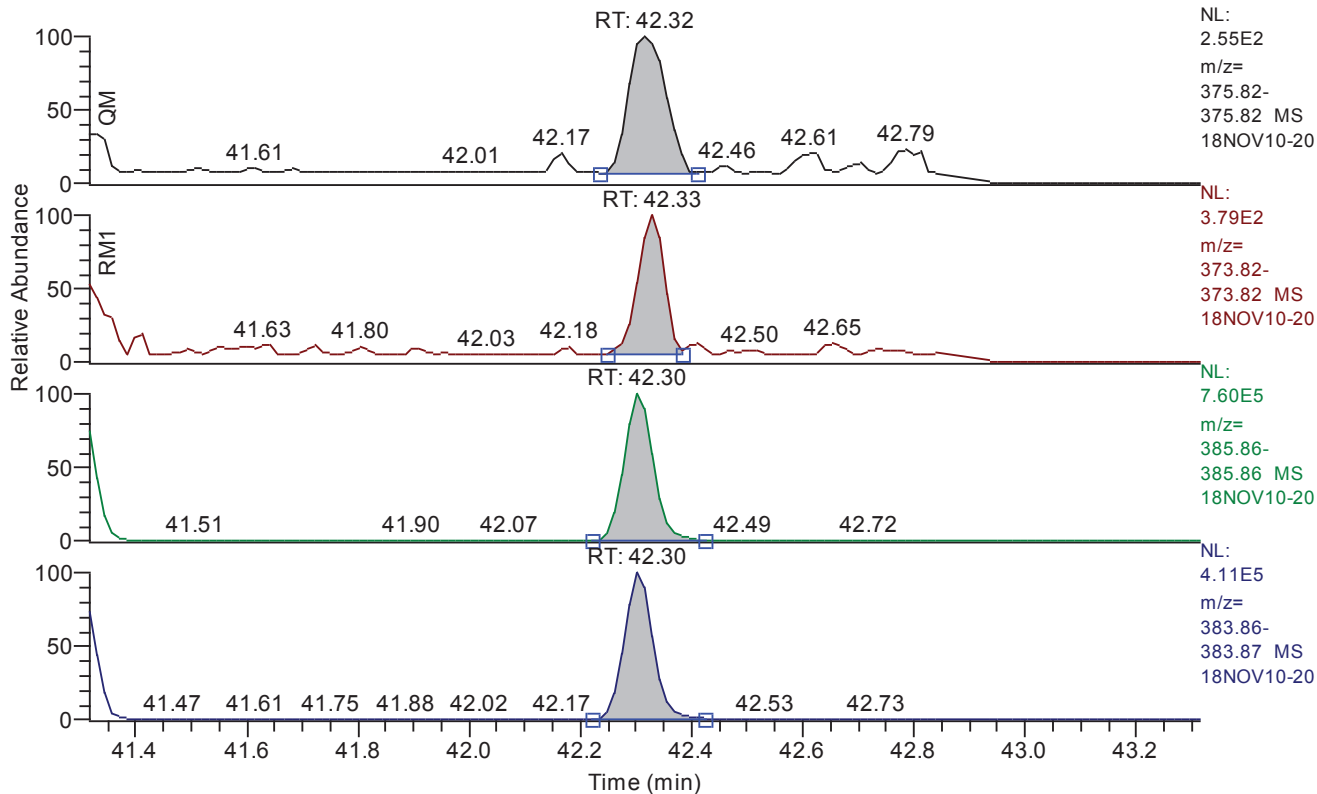


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.94
QM Area	210
QM Integration Mode	A
RM1 Area	381
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1162
Unqualified Amount (A)	0.360223
Adjusted Amount (A)	n.d.
Signal-to-Noise	9
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 41.32 - 43.32 SM: 3G

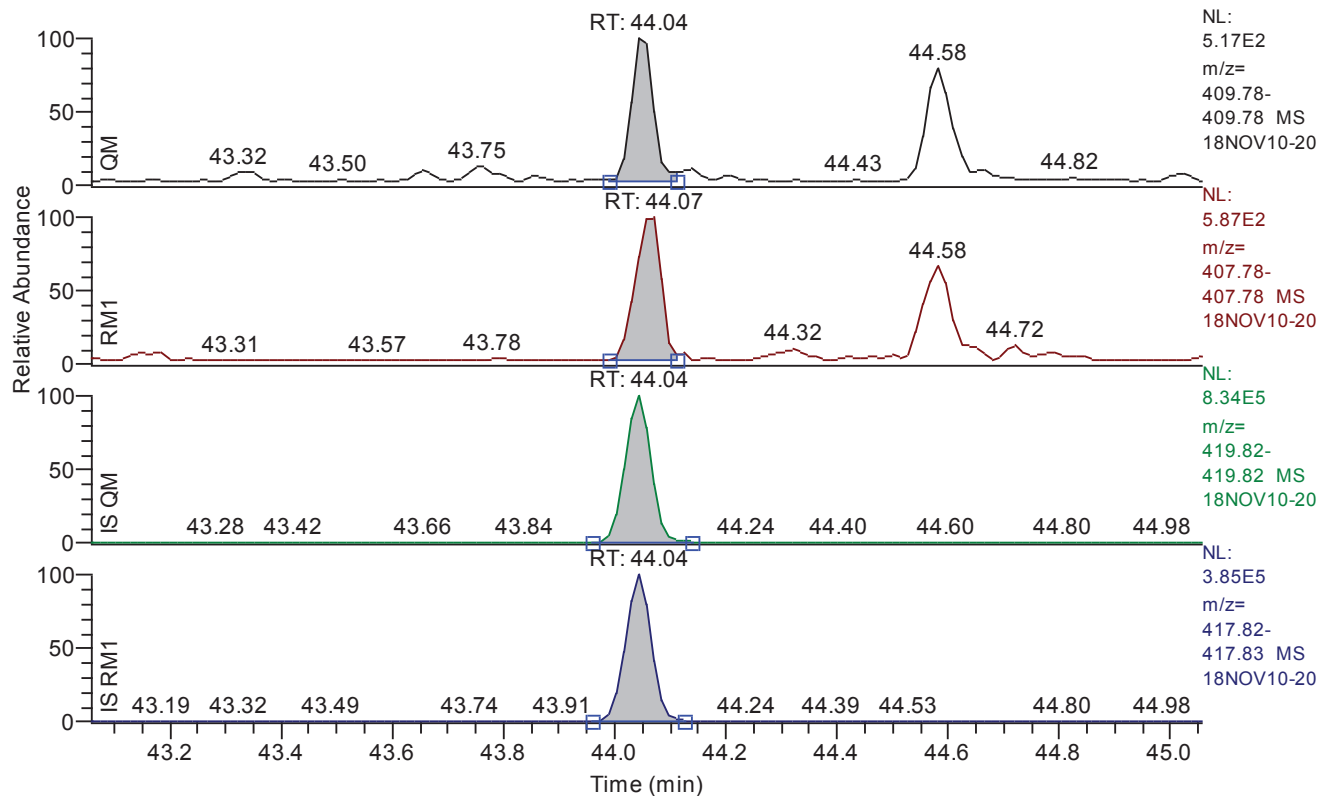


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.32
QM Area	1101
QM Integration Mode	A
RM1 Area	1195
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0695
Unqualified Amount (A)	0.954900
Adjusted Amount (A)	0.9549
Signal-to-Noise	32
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 43.06 - 45.06 SM: 3G

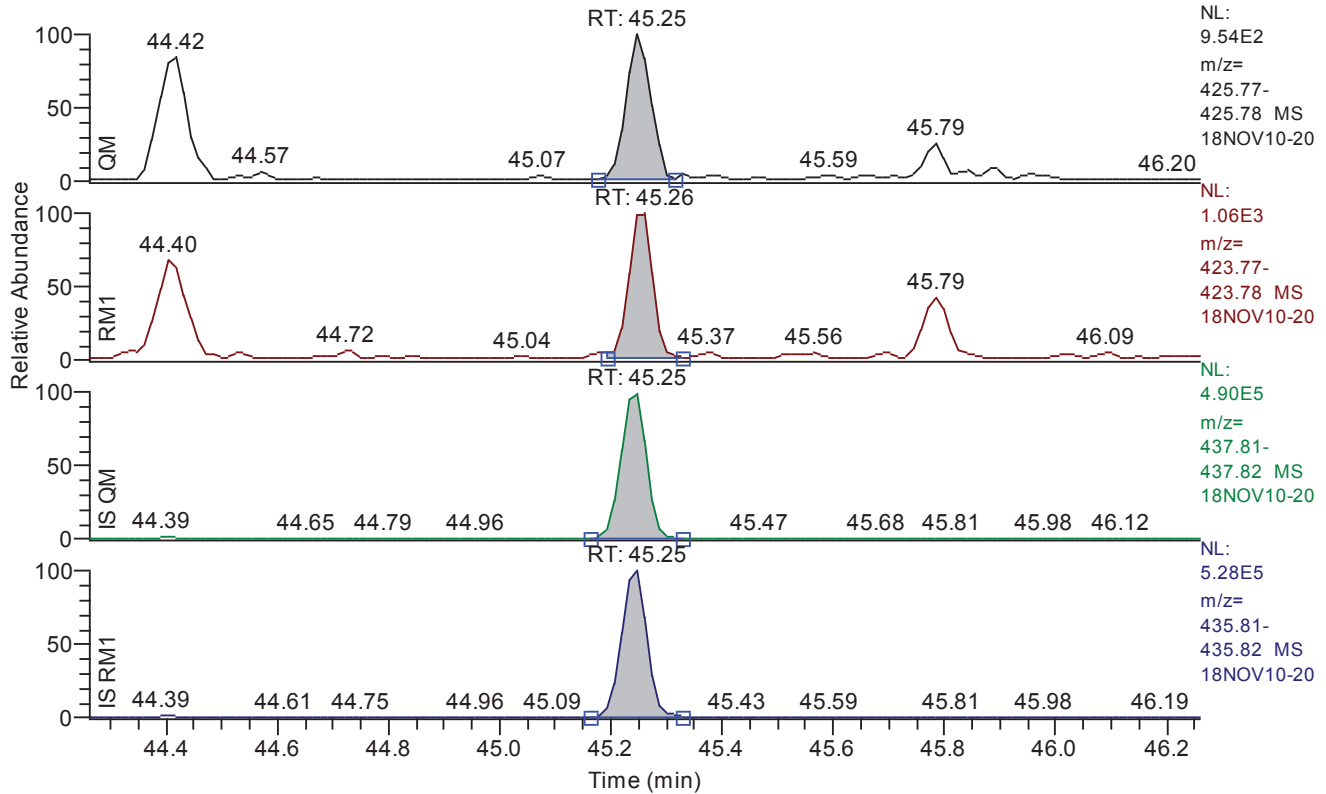


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.04
QM Area	1405
QM Integration Mode	A
RM1 Area	1890
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0516
Unqualified Amount (A)	1.300973
Adjusted Amount (A)	n.d.
Signal-to-Noise	68
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 44.26 - 46.26 SM: 3G

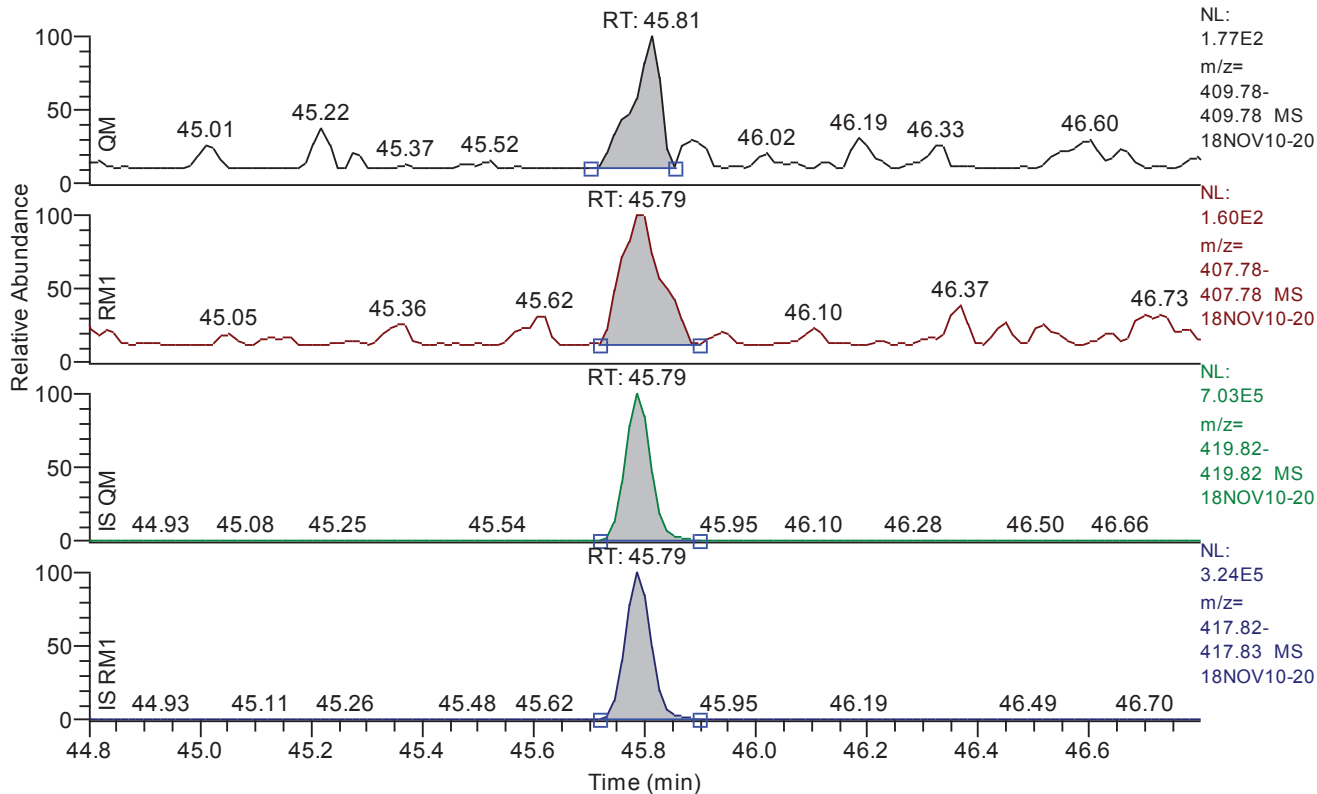


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.25
QM Area	2959
QM Integration Mode	A
RM1 Area	3198
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0926
Unqualified Amount (A)	3.445663
Adjusted Amount (A)	3.4457
Signal-to-Noise	98
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.80 - 46.80 SM: 3G

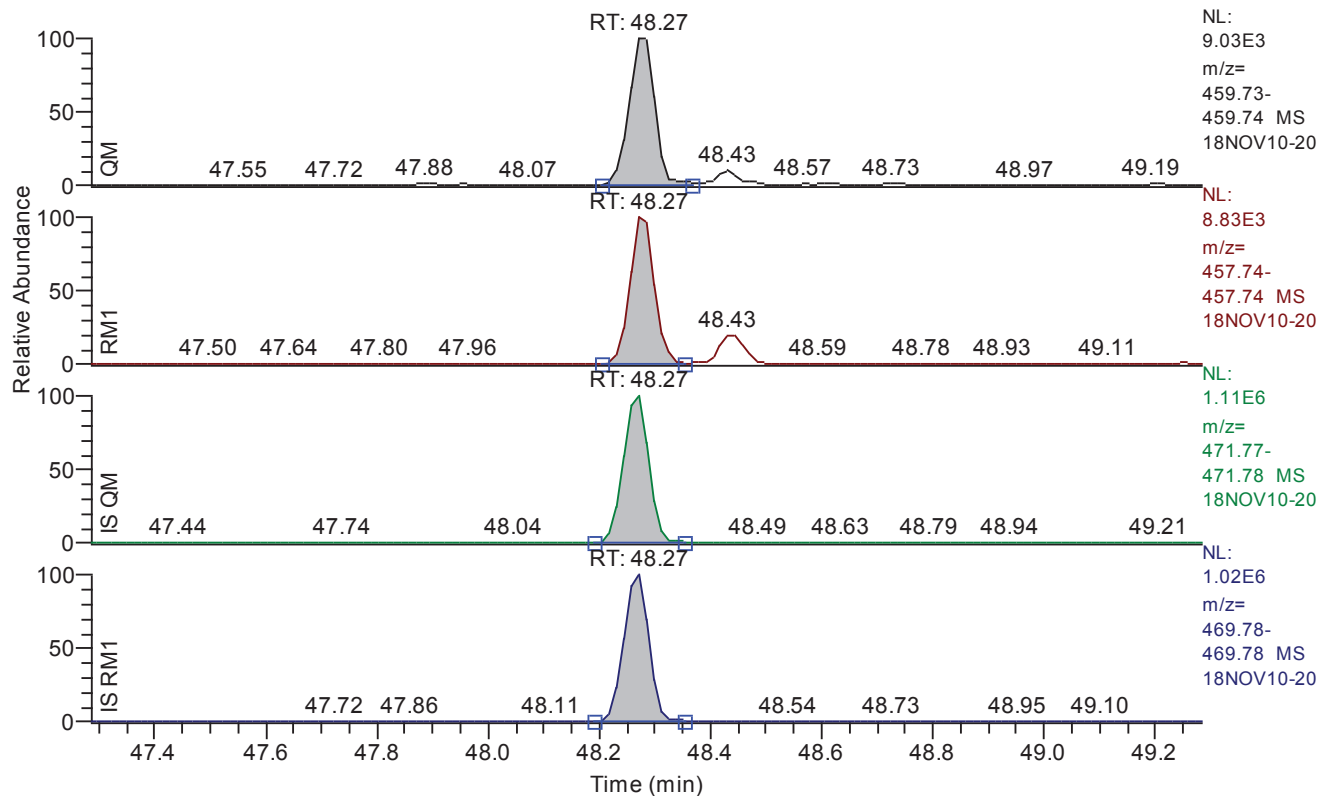


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.81
QM Area	574
QM Integration Mode	A
RM1 Area	724
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0590
Unqualified Amount (A)	0.589473
Adjusted Amount (A)	n.d.
Signal-to-Noise	19
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 47.29 - 49.29 SM: 3G

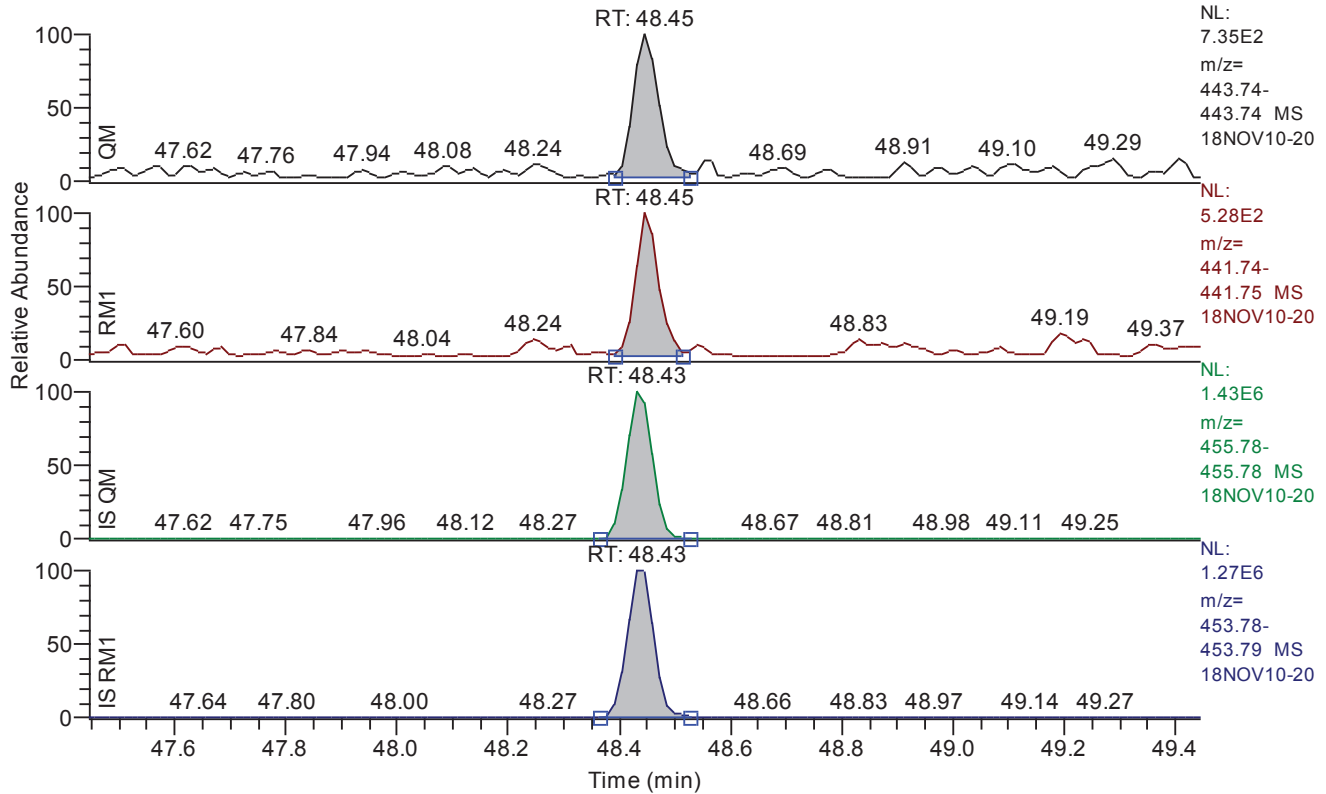


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.27
QM Area	29084
QM Integration Mode	A
RM1 Area	26716
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1783
Unqualified Amount (A)	32.097959
Adjusted Amount (A)	32.0980
Signal-to-Noise	453
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.45 - 49.45 SM: 3G

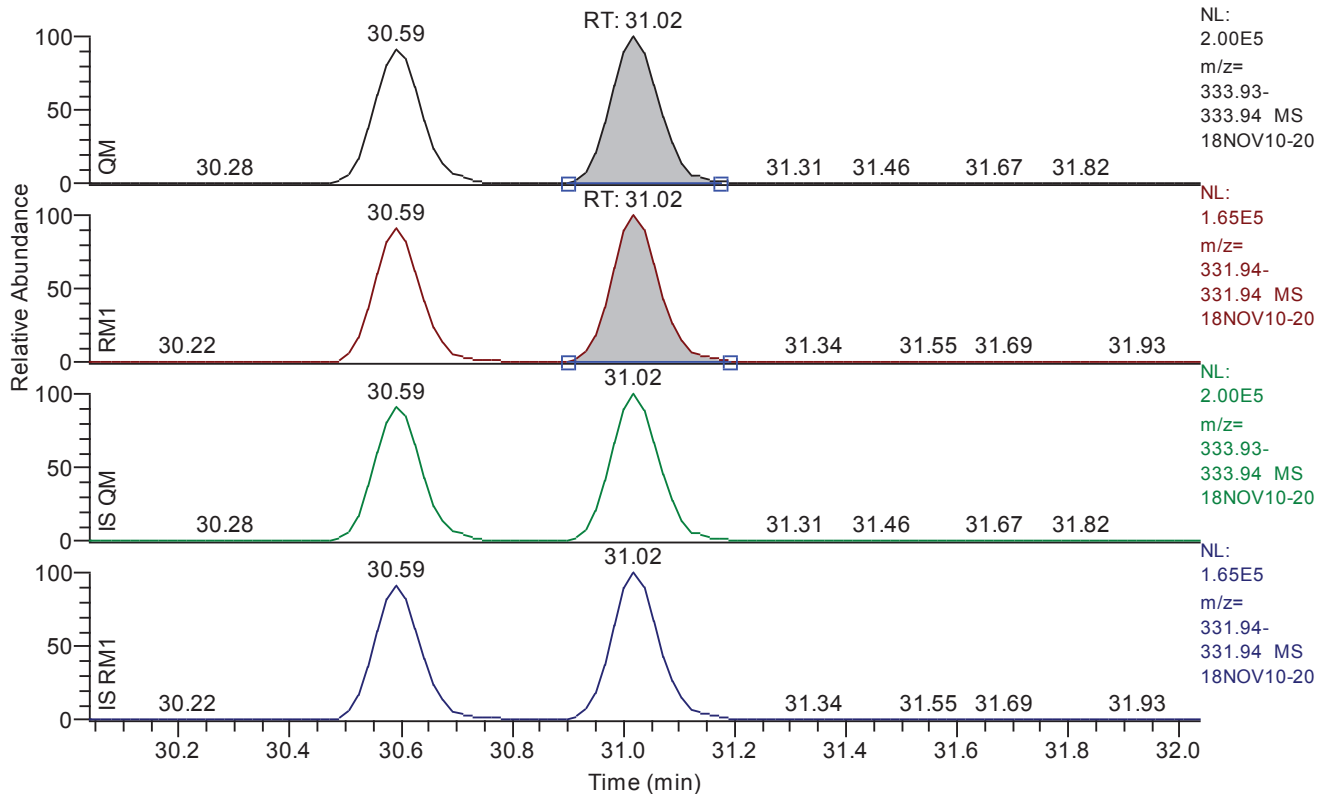


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.45
QM Area	2260
QM Integration Mode	A
RM1 Area	1456
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1209
Unqualified Amount (A)	1.853363
Adjusted Amount (A)	n.d.
Signal-to-Noise	41
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 30.04 - 32.04 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.02
QM Area	1195977
QM Integration Mode	A
RM1 Area	970852
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3403
Unqualified Amount (A)	1259.881336
Adjusted Amount (A)	1259.8813
Signal-to-Noise	9793
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 11:20
Number of Entries	256
Comment	S:10914:12936:17961
Vial	74
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW008I Grab Groundwater
Sample ID	9876334RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

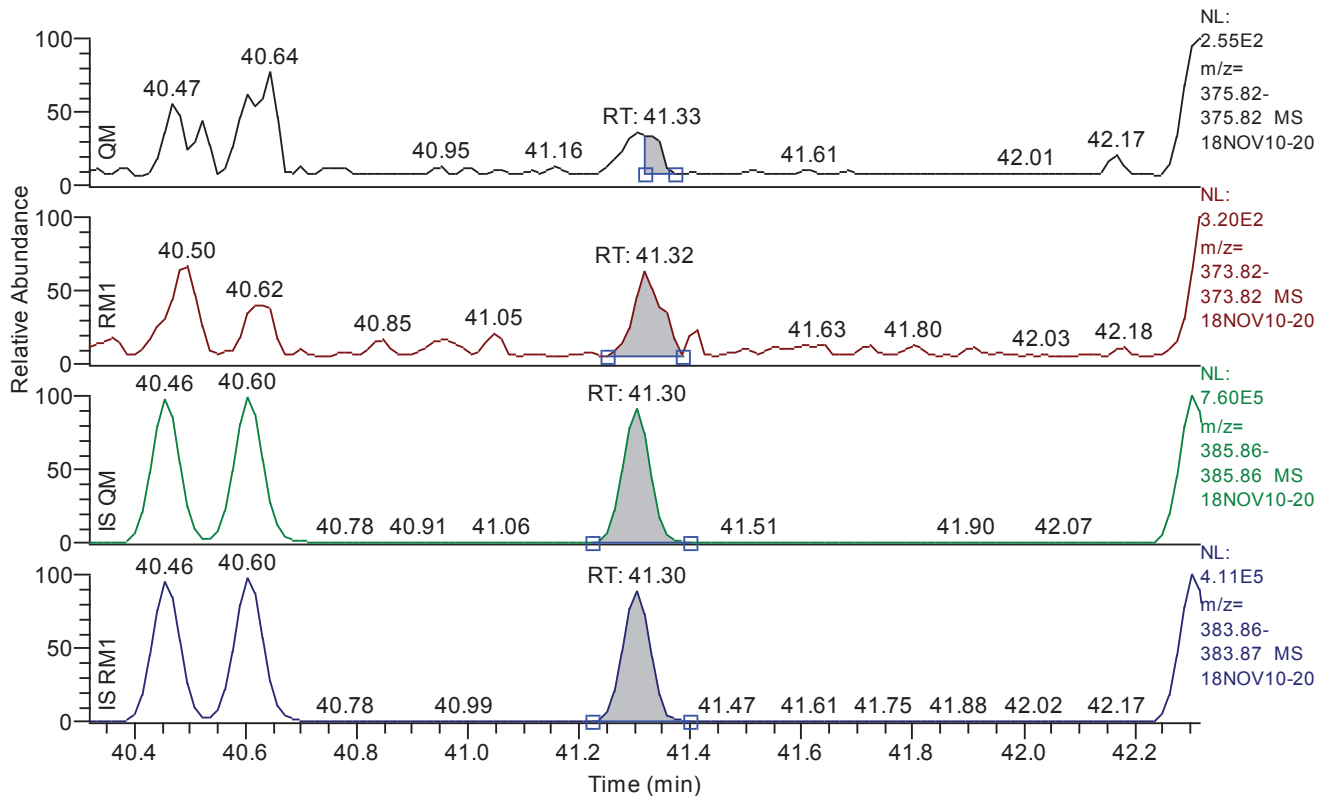
Quan	x:\18nov10\18nov10-20.quan
Data	x:\18nov10\18nov10-20.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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]	1.05
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

Chromatogram

RT: 40.32 - 42.32 SM: 3G



Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.33
QM Area	133
QM Integration Mode	A
RM1 Area	640
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0716
Unqualified Amount (A)	0.344302
Adjusted Amount (A)	n.d.
Signal-to-Noise	13
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

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	29.40	29.46	29.45	29.43	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.64	30.63	30.59	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.47	35.50	35.47	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.77	36.77	36.75	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.20	37.19	37.17	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.47	40.50	40.46	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.60	40.62	40.60	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.30	41.32	41.30	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.51	41.51	41.51	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.61	41.63	41.61	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.94	41.95	41.92	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.32	42.33	42.30	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.04	44.07	44.04	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.25	45.26	45.25	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.81	45.79	45.79	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.27	48.27	48.27	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.45	48.45	48.43	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.99	31.02	31.02	31.02	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.71	29.75	29.75	29.75	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.37	40.39	40.37	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.43	29.43	29.36	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.59	30.59	30.59	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.47	35.47	35.57	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.75	36.75	36.78	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.17	37.17	37.17	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.46	40.46	40.50	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.60	40.60	40.64	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.30	41.30	41.34	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.51	41.51	41.51	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.61	41.61	41.61	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.92	41.94	41.94	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.30	42.30	42.25	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.04	44.04	43.89	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.25	45.25	45.25	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.76	45.79	45.79	45.72	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.27	48.27	48.27	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.43	48.43	48.38	passed	passed

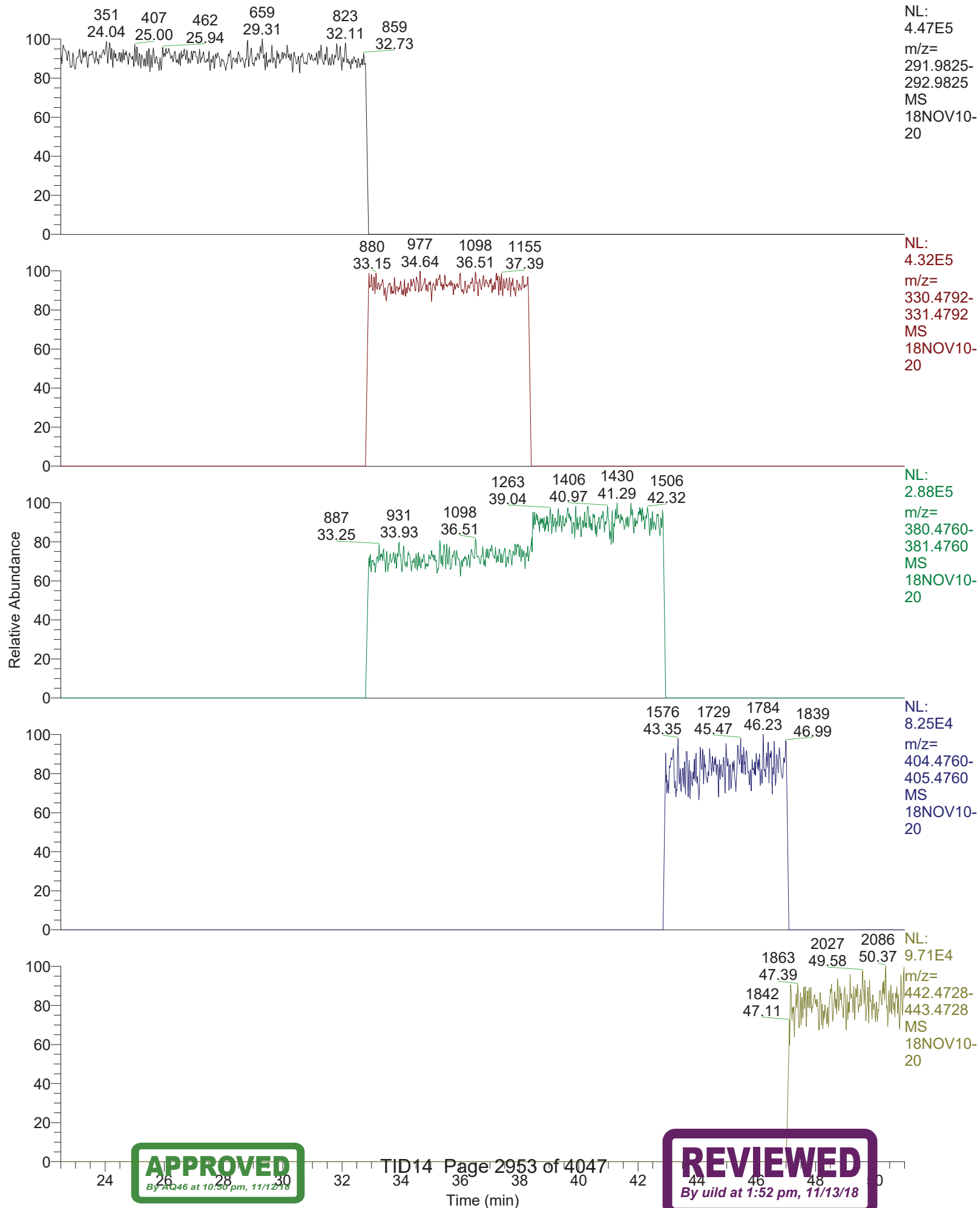
Entry Parameters

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	0.0874	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	30.64	1.5139	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	35.47	0.6906	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.77	0.5268	1.3150 - 1.7850	failed	---	0 - 0	passed
5	12378-PeCDD	37.20	10.8307	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.47	2.5710	1.0450 - 1.4350	failed	---	0 - 0	passed
7	123678-HxCDF	40.60	1.4248	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.30	1.9066	1.0450 - 1.4350	failed	---	0 - 0	passed
9	123478-HxCDD	41.51	1.3161	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.61	1.3014	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.94	1.8145	1.0450 - 1.4350	failed	---	0 - 0	passed
12	123789-HxCDF	42.32	1.0855	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	44.04	1.3446	0.8750 - 1.2050	failed	---	0 - 0	passed
14	1234678-HpCDD	45.25	1.0808	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.81	1.2612	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	48.27	0.9186	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.45	0.6441	0.7550 - 1.0250	failed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.02	0.8118	0.6450 - 0.8950	passed	66.14	35 - 197	passed
19	13C12-1234-TCDD	29.75	0.8146	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.37	1.2853	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.43	0.7662	0.6450 - 0.8950	passed	56.81	40 - 135	passed
22	13C12-2378-TCDD	30.59	0.8065	0.6450 - 0.8950	passed	63.96	40 - 135	passed
23	13C12-12378-PeCDF	35.47	1.5865	1.3150 - 1.7850	passed	66.89	40 - 135	passed
24	13C12-23478-PeCDF	36.75	1.5753	1.3150 - 1.7850	passed	67.79	40 - 135	passed
25	13C12-12378-PeCDD	37.17	1.5892	1.3150 - 1.7850	passed	75.39	40 - 135	passed
26	13C12-123478-HxCDF	40.46	0.5290	0.4250 - 0.5950	passed	61.30	40 - 135	passed
27	13C12-123678-HxCDF	40.60	0.5302	0.4250 - 0.5950	passed	59.74	40 - 135	passed
28	13C12-234678-HxCDF	41.30	0.5313	0.4250 - 0.5950	passed	57.85	40 - 135	passed
29	13C12-123478-HxCDD	41.51	1.2711	1.0450 - 1.4350	passed	71.51	40 - 135	passed
30	13C12-123678-HxCDD	41.61	1.2786	1.0450 - 1.4350	passed	68.73	40 - 135	passed
31	13C12-123789-HxCDD	41.92	1.2478	1.0450 - 1.4350	passed	66.72	40 - 135	passed
32	13C12-123789-HxCDF	42.30	0.5321	0.4250 - 0.5950	passed	71.38	40 - 135	passed
33	13C12-1234678-HpCDF	44.04	0.4594	0.3650 - 0.5150	passed	67.95	40 - 135	passed
34	13C12-1234678-HpCDD	45.25	1.0738	0.8750 - 1.2050	passed	75.49	40 - 135	passed
35	13C12-1234789-HpCDF	45.79	0.4667	0.3650 - 0.5150	passed	67.75	40 - 135	passed
36	13C12-OCDD	48.27	0.9053	0.7550 - 1.0250	passed	71.82	40 - 135	passed
37	13C12-OCDF	48.43	0.9023	0.7550 - 1.0250	passed	64.58	40 - 135	passed

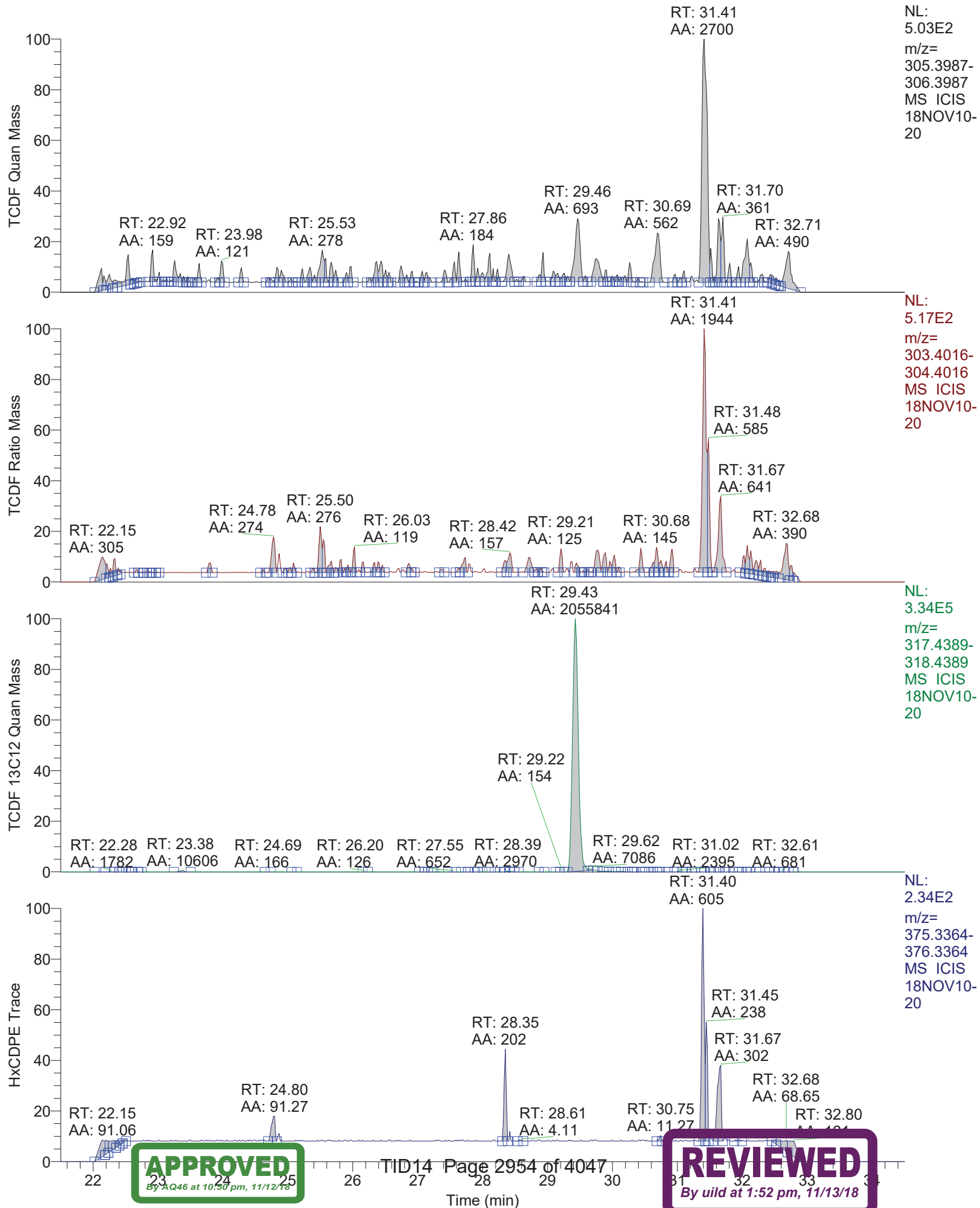
Entry Parameters

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	693	A	60	A	0.1156	0.375830	n.d.	0.000000	10	
2	2378-TCDD	failed	30.64	80	A	121	A	0.0819	0.151674	n.d.	0.000000	8	
3	12378-PeCDF	failed	35.47	855	A	591	A	0.0970	0.727149	n.d.	0.000000	21	
4	23478-PeCDF	failed	36.77	267	A	141	A	0.0772	0.181069	n.d.	0.000000	8	
5	12378-PeCDD	failed	37.20	26	A	285	A	0.1803	0.240995	n.d.	0.000000	5	
6	123478-HxCDF	failed	40.47	285	A	734	A	0.0695	0.432156	n.d.	0.000000	17	
7	123678-HxCDF	passed	40.60	291	A	415	A	0.0706	0.298138	0.2981	0.000000	14	
8	234678-HxCDF	failed	41.30	335	M	640	A	0.0716	0.434250	n.d.	0.000000	14	
9	123478-HxCDD	passed	41.51	297	A	391	A	0.1051	0.398710	0.3987	0.000000	12	
10	123678-HxCDD	passed	41.61	214	A	278	A	0.1081	0.288313	0.2883	0.000000	8	
11	123789-HxCDD	failed	41.94	210	A	381	A	0.1162	0.360223	n.d.	0.000000	9	
12	123789-HxCDF	passed	42.32	1101	A	1195	A	0.0695	0.954900	0.9549	0.000000	32	
13	1234678-HpCDF	failed	44.04	1405	A	1890	A	0.0516	1.300973	n.d.	0.000000	68	
14	1234678-HpCDD	passed	45.25	2959	A	3198	A	0.0926	3.445663	3.4457	0.000000	98	
15	1234789-HpCDF	failed	45.81	574	A	724	A	0.0590	0.589473	n.d.	0.000000	19	
16	OCDD	passed	48.27	29084	A	26716	A	0.1783	32.097959	32.0980	0.000000	453	
17	OCDF	failed	48.45	2260	A	1456	A	0.1209	1.853363	n.d.	0.000000	41	
18	13C12-1278-TCDD (CRS)	passed	31.02	1195977	A	970852	A	0.3403	1259.881336	1259.8813	1904.761905	9793	
19	13C12-1234-TCDD	passed	29.75	1728764	A	1408193	A	0.3553	1904.761905	1904.7619	1904.761905	13401	
20	13C12-123468-HxCDD	passed	40.37	1990094	A	2557876	A	0.2530	1904.761905	1904.7619	1904.761905	18823	
21	13C12-2378-TCDF	passed	29.43	2055270	A	1574700	A	0.1932	1082.107114	1082.1071	1904.761905	14106	
22	13C12-2378-TCDD	passed	30.59	1117683	A	901430	A	0.3531	1218.249477	1218.2495	1904.761905	8989	
23	13C12-12378-PeCDF	passed	35.47	1562827	A	2479353	A	0.4862	1274.122989	1274.1230	1904.761905	8709	
24	13C12-23478-PeCDF	passed	36.75	1585778	A	2498114	A	0.4877	1291.189867	1291.1899	1904.761905	9761	
25	13C12-12378-PeCDD	passed	37.17	948756	A	1507796	A	0.4042	1436.003127	1436.0031	1904.761905	12819	
26	13C12-123478-HxCDF	passed	40.46	2638123	A	1395535	A	0.2826	1167.636286	1167.6363	1904.761905	10783	
27	13C12-123678-HxCDF	passed	40.60	2745222	A	1455532	A	0.2644	1137.915240	1137.9152	1904.761905	11017	
28	13C12-234678-HxCDF	passed	41.30	2429734	A	1290847	A	0.2891	1101.984389	1101.9844	1904.761905	10143	
29	13C12-123478-HxCDD	passed	41.51	1430113	A	1817885	A	0.2533	1362.125608	1362.1256	1904.761905	14435	
30	13C12-123678-HxCDD	passed	41.61	1422493	A	1818777	A	0.2440	1309.069504	1309.0695	1904.761905	14160	
31	13C12-123789-HxCDD	passed	41.92	1321464	A	1648947	A	0.2584	1270.894364	1270.8944	1904.761905	12549	
32	13C12-123789-HxCDF	passed	42.30	2783680	A	1481201	A	0.3112	1359.704987	1359.7050	1904.761905	11180	
33	13C12-1234678-HpCDF	passed	44.04	2788552	A	1280987	A	0.3451	1294.253510	1294.2535	1904.761905	10475	
34	13C12-1234678-HpCDD	passed	45.25	1609826	A	1728643	A	0.4147	1437.988597	1437.9886	1904.761905	9867	
35	13C12-1234789-HpCDF	passed	45.79	2323444	A	1084285	A	0.4109	1290.397123	1290.3971	1904.761905	8823	
36	13C12-OCDD	passed	48.27	3524647	A	3191018	A	0.1464	2735.896139	2735.8961	3809.523810	55299	
37	13C12-OCDF	passed	48.43	4655541	A	4200778	A	0.1496	2460.032335	2460.0323	3809.523810	46750	

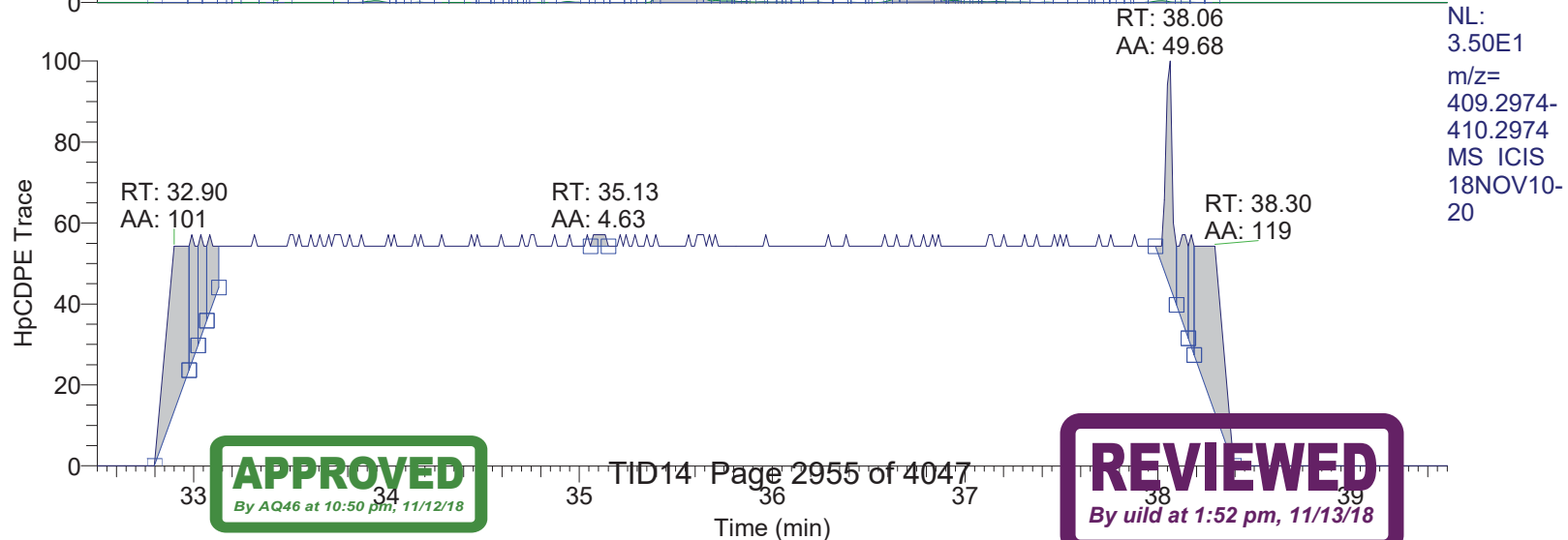
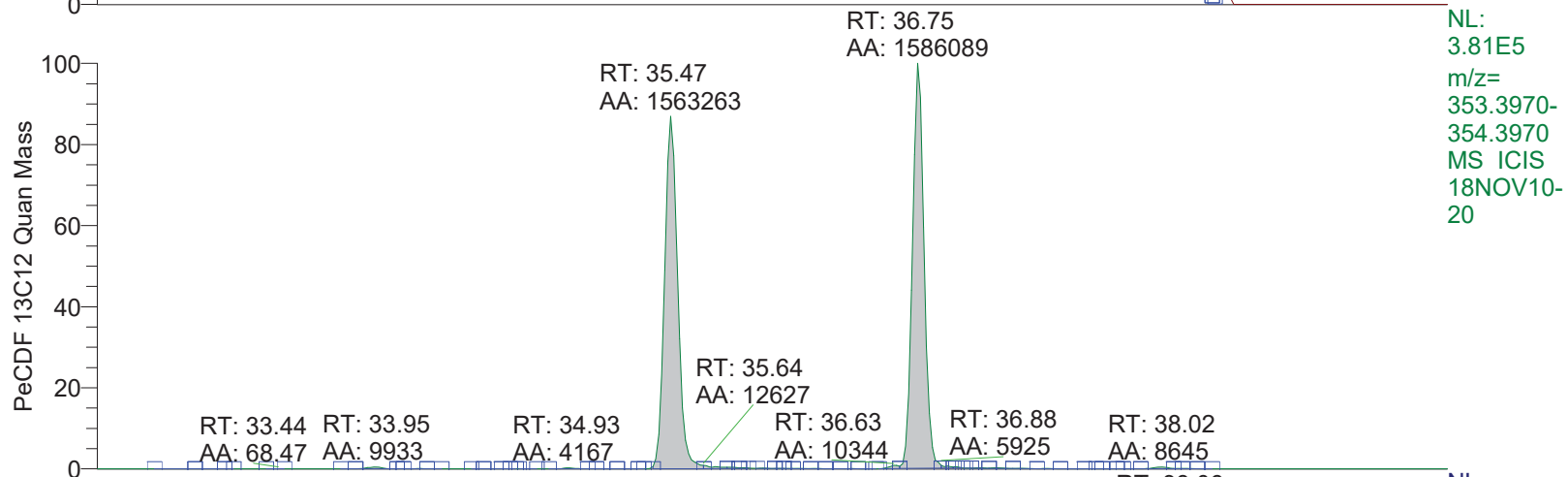
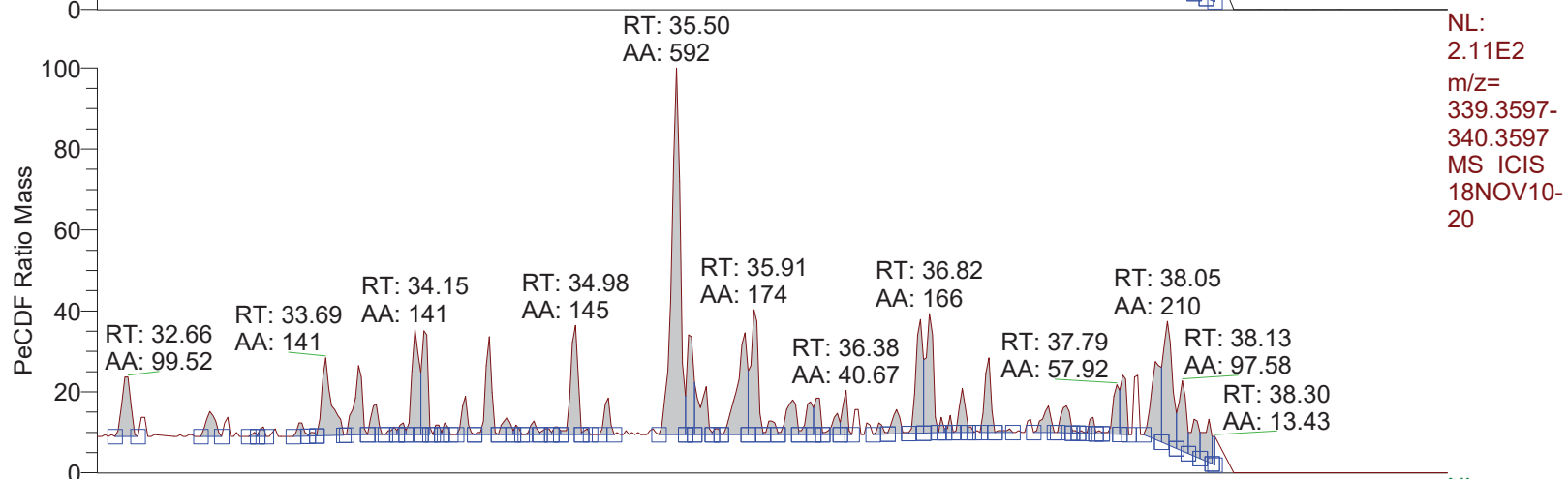
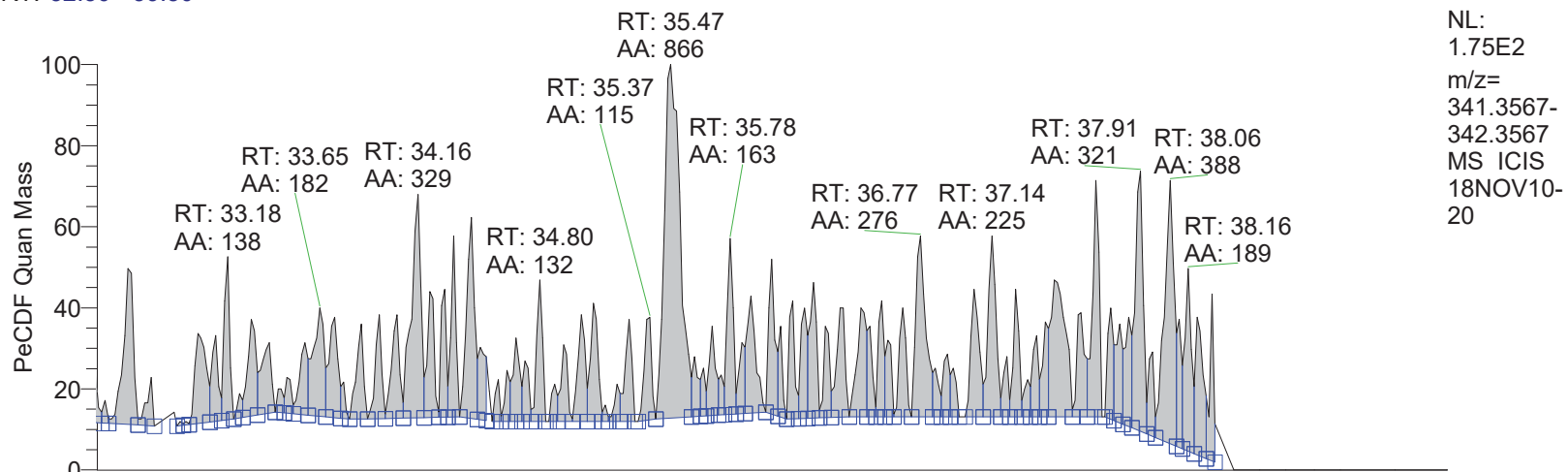
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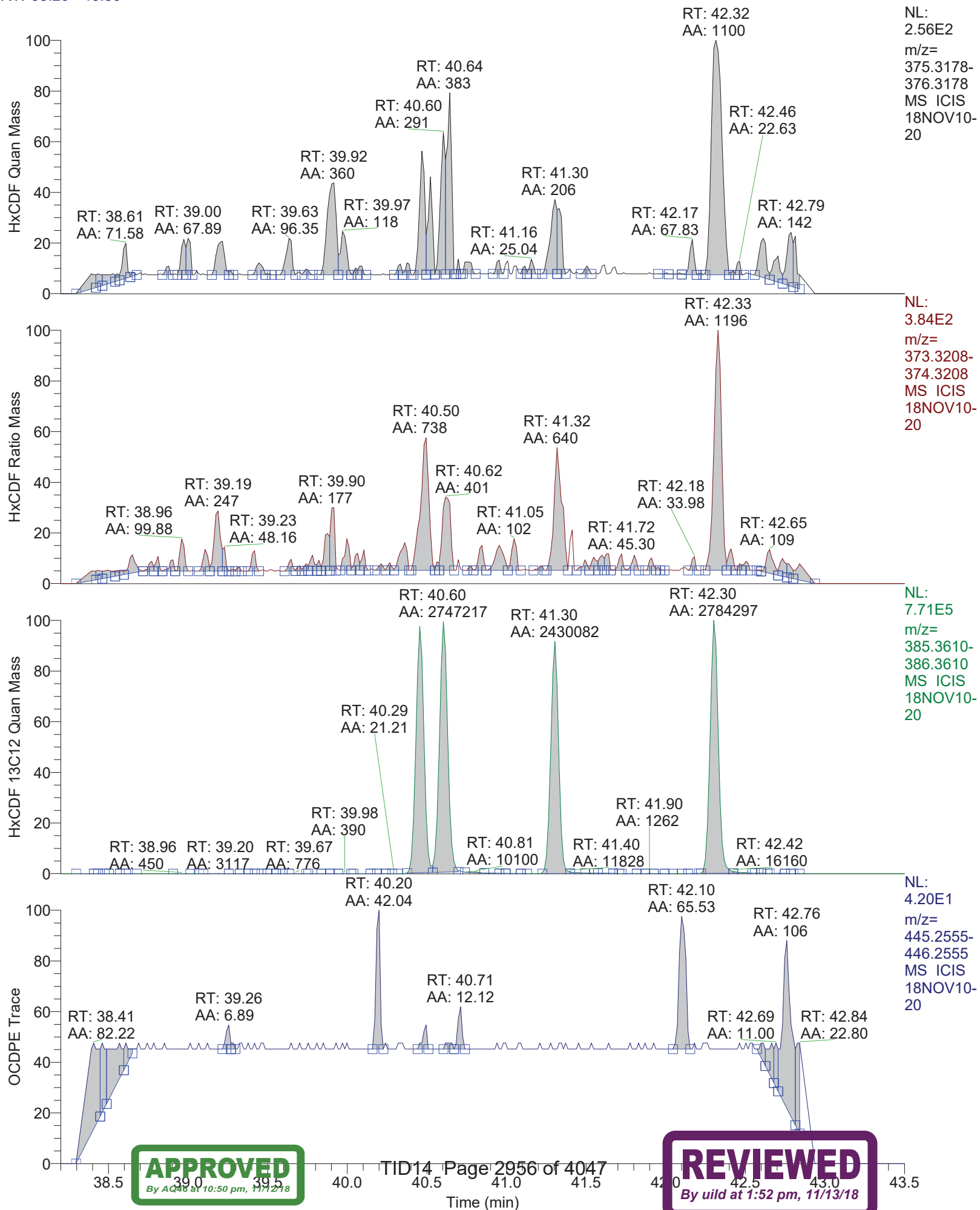
RT: 21.50 - 34.50



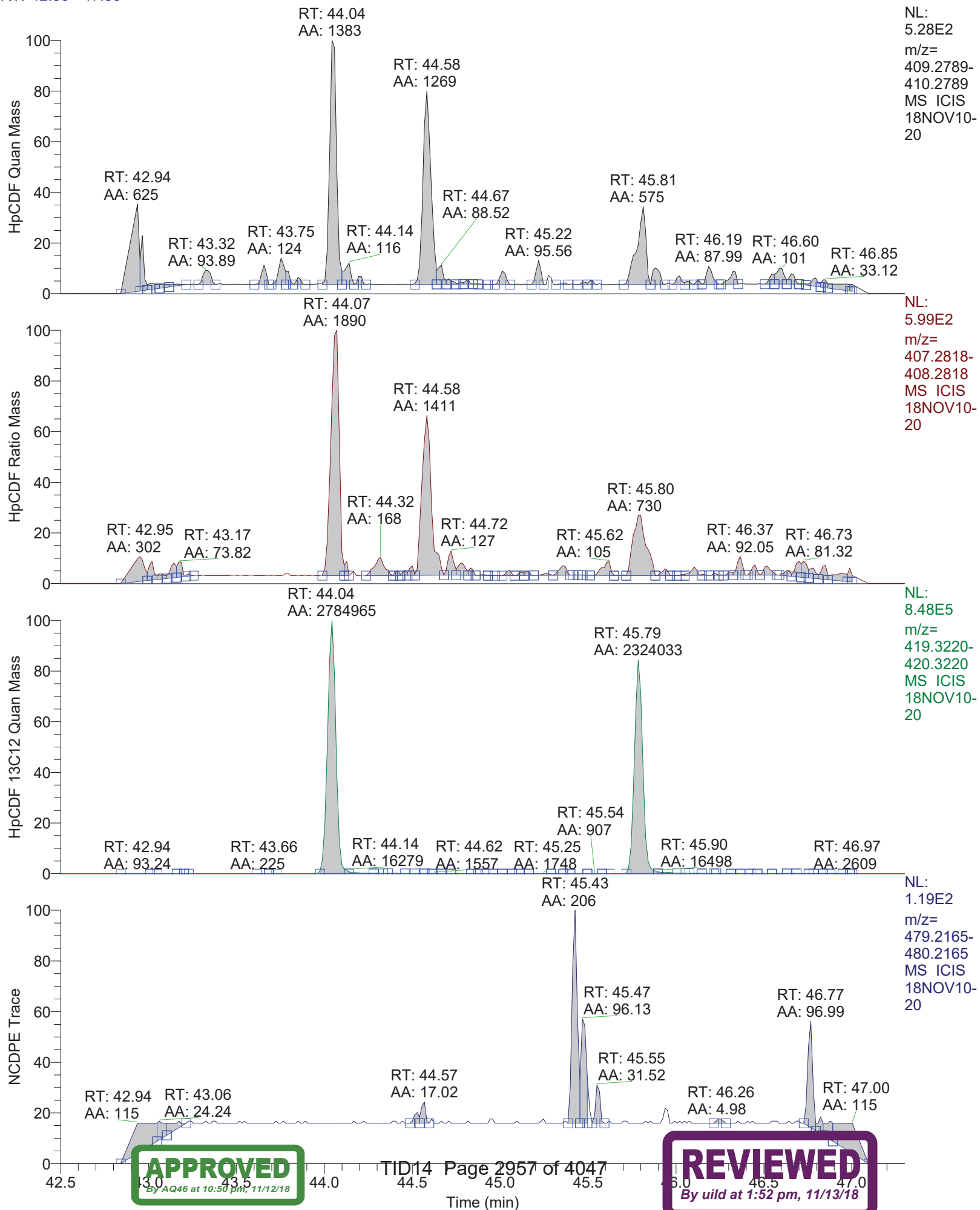
RT: 32.50 - 39.50



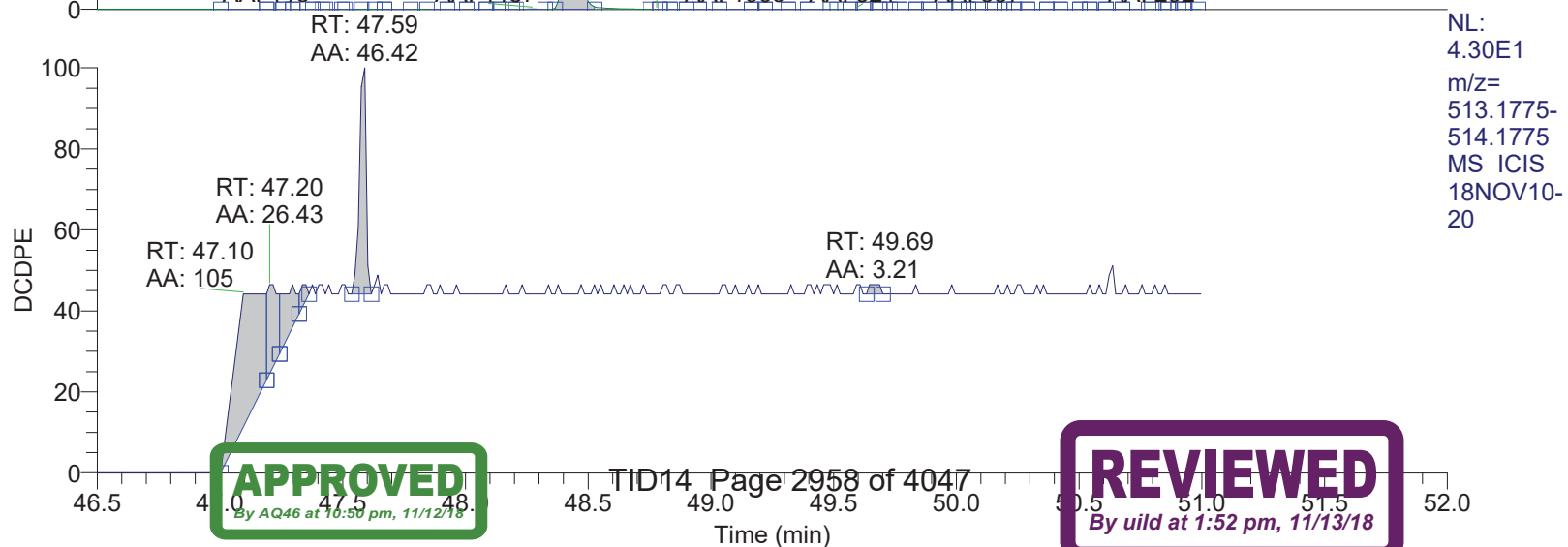
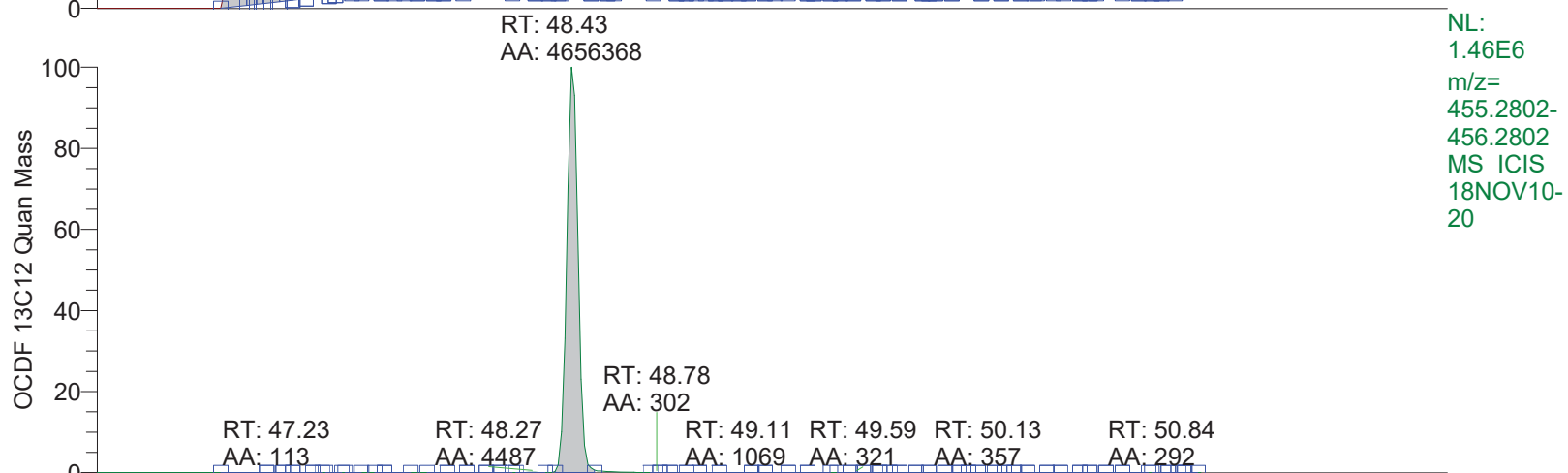
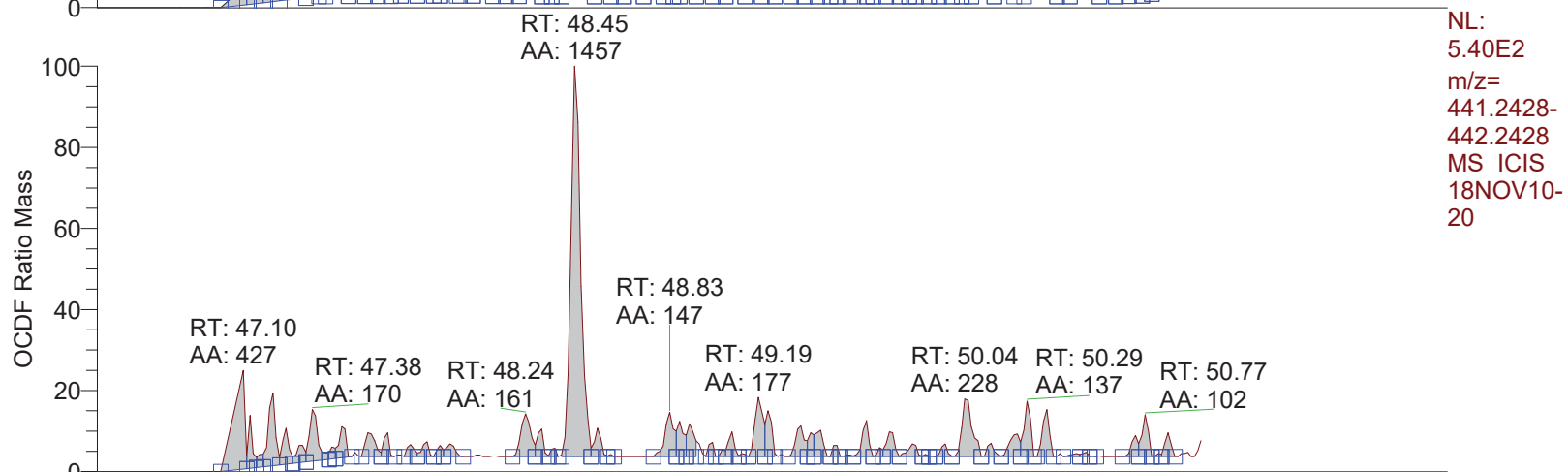
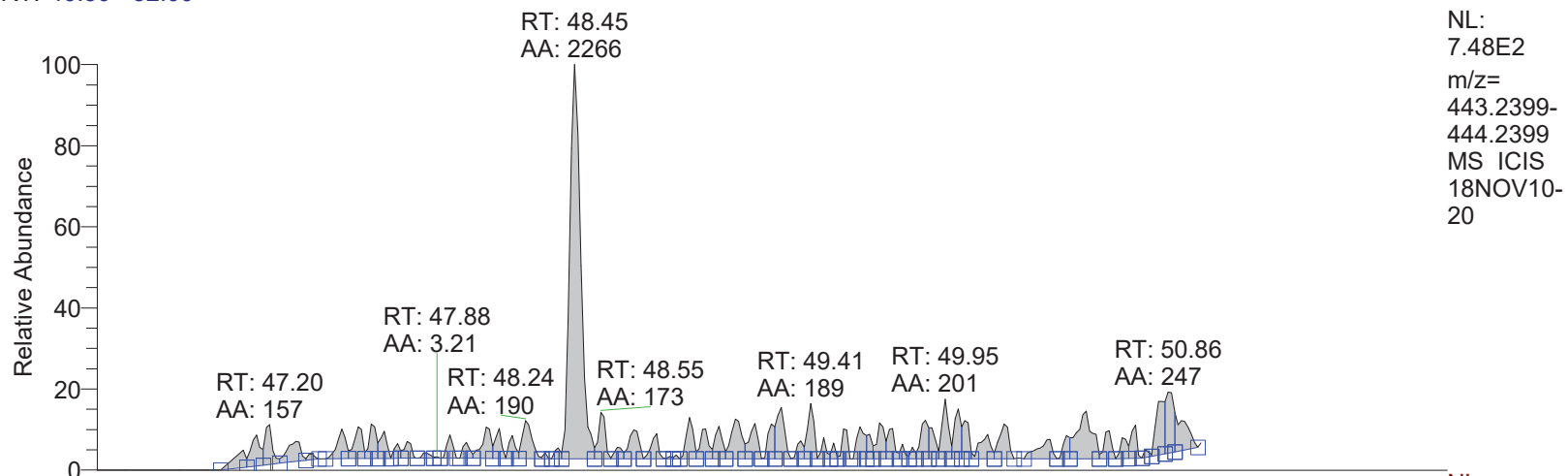
RT: 38.20 - 43.50



RT: 42.50 - 47.30



RT: 46.50 - 52.00



18NOV10-20

*** file opened Sat Nov 10 11:25:34 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 11:25:33

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV10-20

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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 2960 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-20

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	96.0000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0076	FVINLET	0.0376	FVSR	0.0364
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	96.0000	LKM	442.9723	MASS	96.0000
MDAC	1404316.6950	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9841	RELEN	0.0000
RES	11982.3364	RPUSHER	-6.0733	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	96.0000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.4e-008 mbar
Pirani Analyse: 7.6e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11580.
MID Time window 2: Resolution is 11112.
MID Time window 3: Resolution is 11178.
MID Time window 4: Resolution is 11470.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 2961 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-20
MID Time Window 5: Resolution is 11929.
MID Time Window 6: Resolution is 11982.
Amplifier Offset: 81.

*** File closed Sat Nov 10 12:16:35 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 14:09
Number of Entries	288
Comment	S:10914:12936:17961
Vial	77
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2EB103018-001 Grab Water
Sample ID	9876342RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-23.quan
Data	x:\18nov10\18nov10-23.raw
Response	x:\responsefiles\df17611-18nov02dfical.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]	1.05
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

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	29.41	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	30.54	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	35.48	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.74	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5	12378-PeCDD	37.16	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.44	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
7	123678-HxCDF	40.61	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
8	234678-HxCDF	41.29	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.50	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.60	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
11	123789-HxCDD	41.93	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
12	123789-HxCDF	42.29	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
13	1234678-HpCDF	44.02	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.77	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
16	OCDD	48.26	passed	passed	passed	passed	passed	passed	
17	OCDF	48.43	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.98	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.72	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.36	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.40	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.45	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.73	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.14	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.43	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.58	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.28	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.59	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.91	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.02	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.77	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.25	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.42	passed	passed	passed	passed	passed	passed	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 14:09
Number of Entries	288
Comment	S:10914:12936:17961
Vial	77
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2EB103018-001 Grab Water
Sample ID	9876342RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

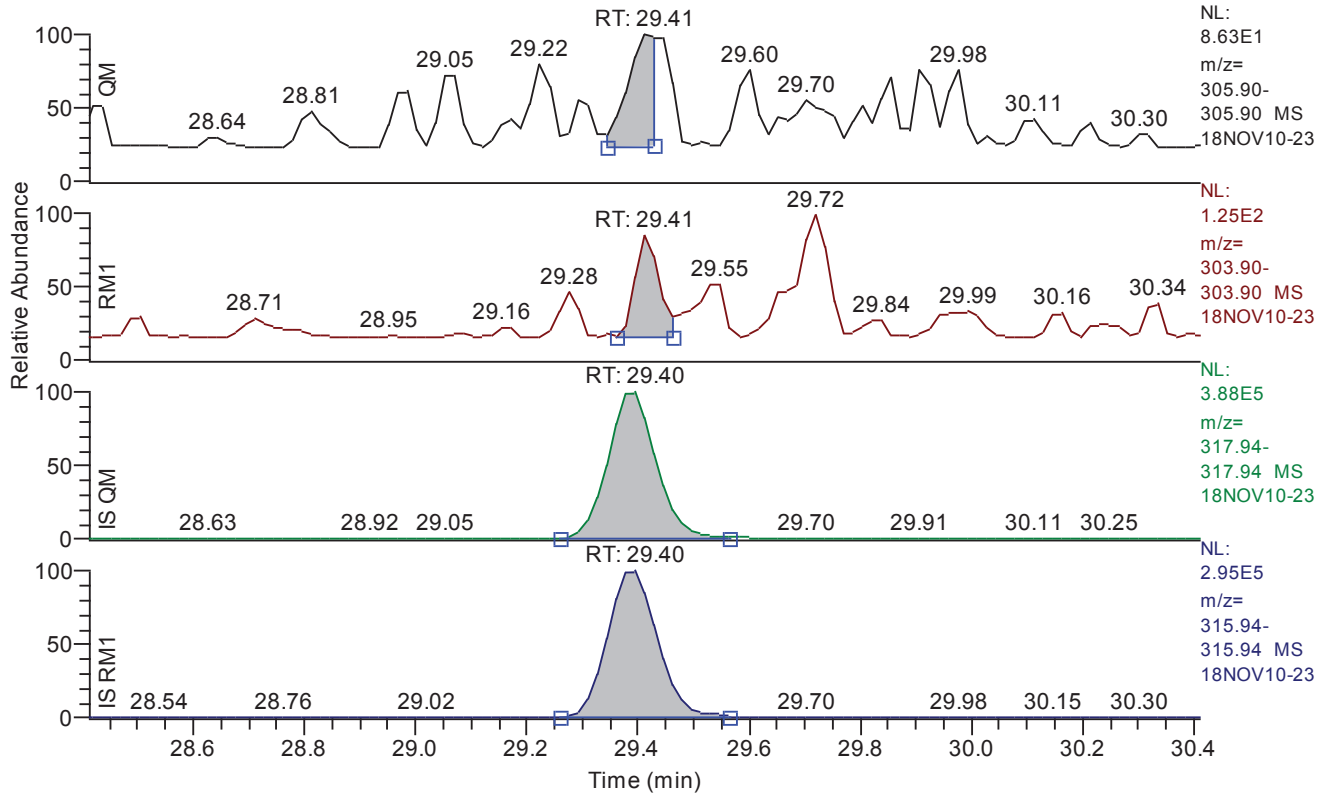
Quan	x:\18nov10\18nov10-23.quan
Data	x:\18nov10\18nov10-23.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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]	1.05
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

Chromatogram

RT: 28.41 - 30.41 SM: 3G

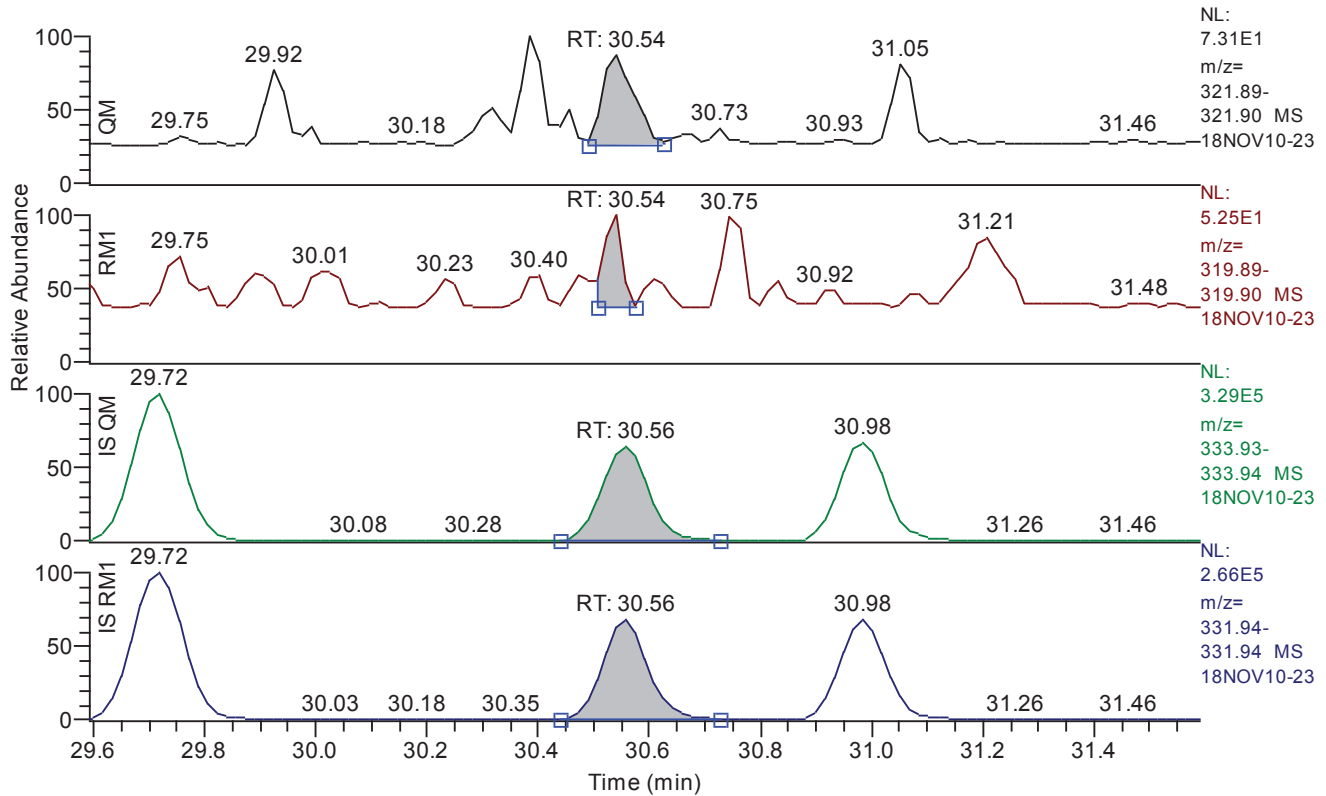


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.41
QM Area	206
QM Integration Mode	A
RM1 Area	264
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0967
Unqualified Amount (A)	0.201371
Adjusted Amount (A)	n.d.
Signal-to-Noise	10
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 29.59 - 31.59 SM: 3G

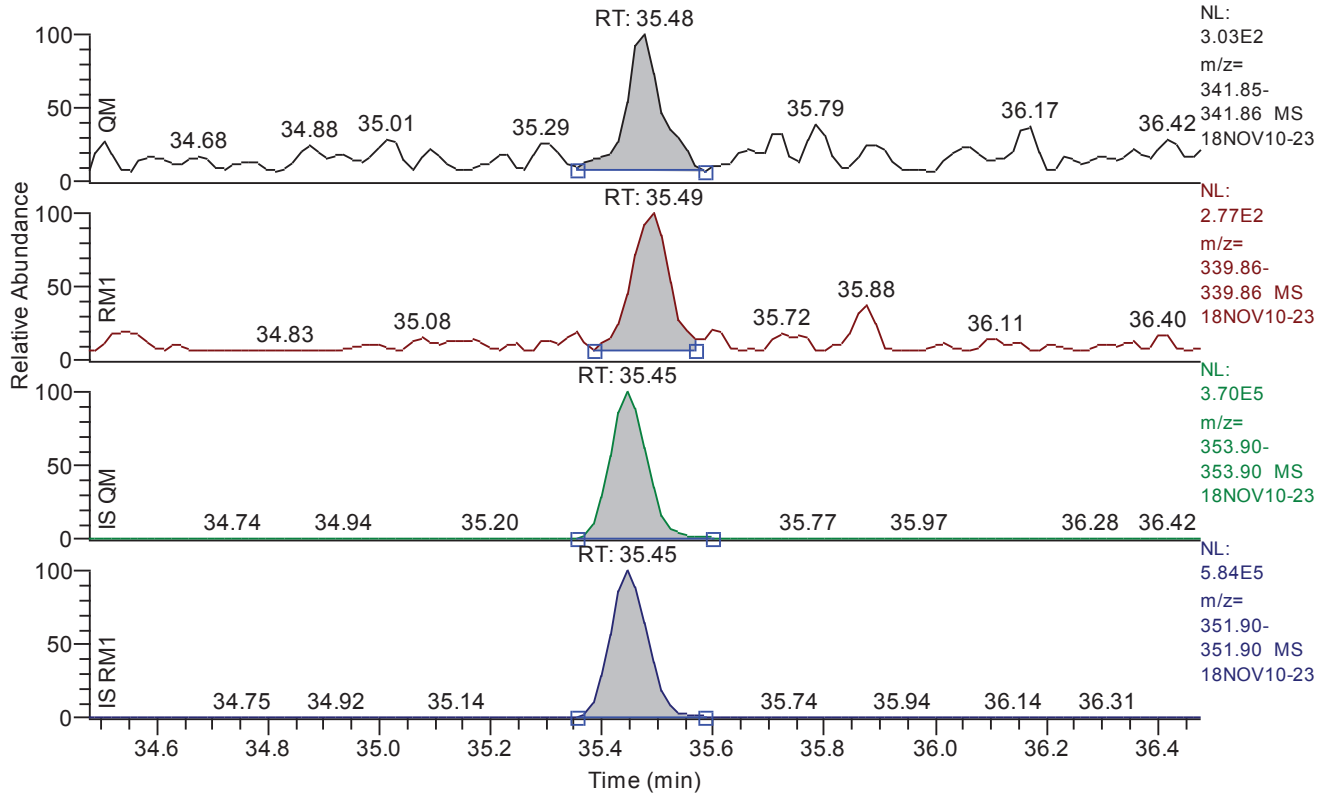


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.54
QM Area	179
QM Integration Mode	A
RM1 Area	75
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0857
Unqualified Amount (A)	0.167708
Adjusted Amount (A)	n.d.
Signal-to-Noise	9
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 34.48 - 36.48 SM: 3G

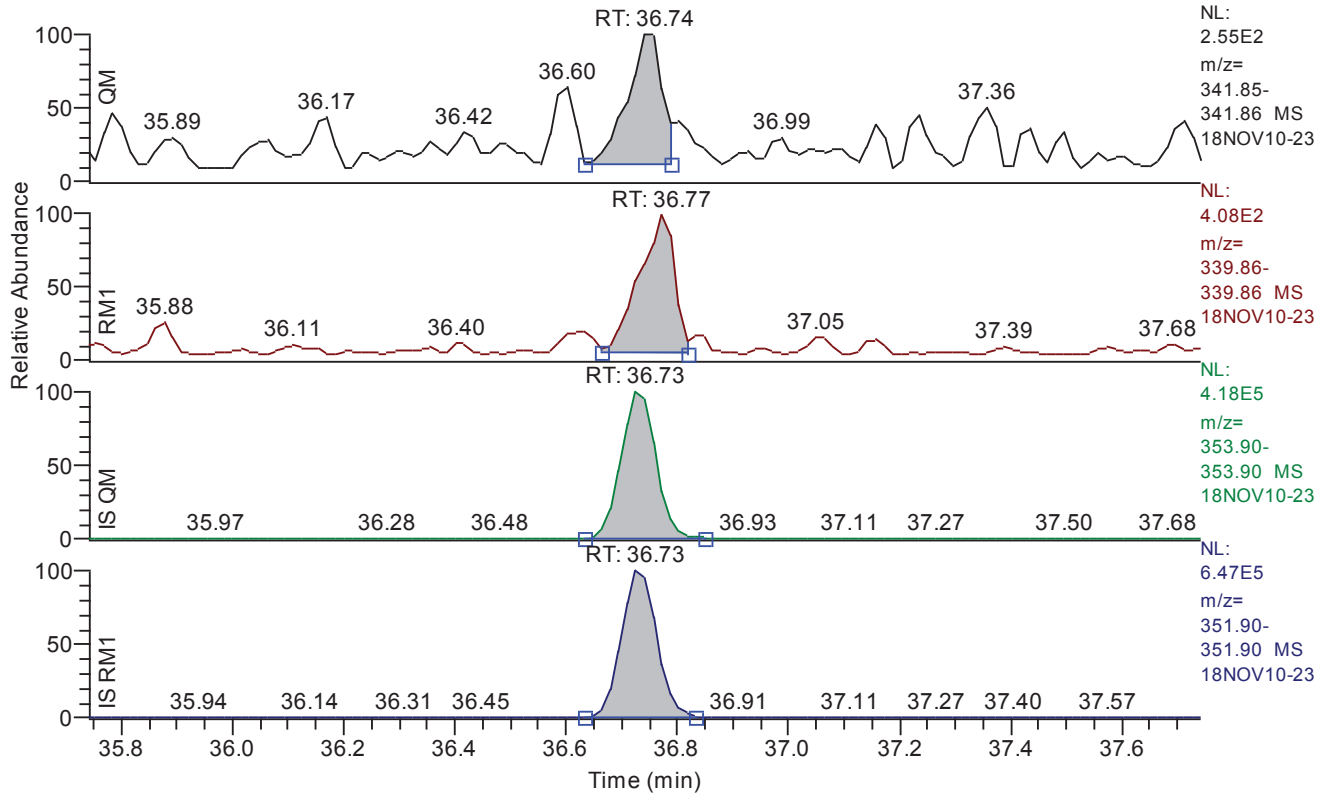


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.48
QM Area	1266
QM Integration Mode	A
RM1 Area	1223
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0964
Unqualified Amount (A)	1.127753
Adjusted Amount (A)	n.d.
Signal-to-Noise	30
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 35.74 - 37.74 SM: 3G

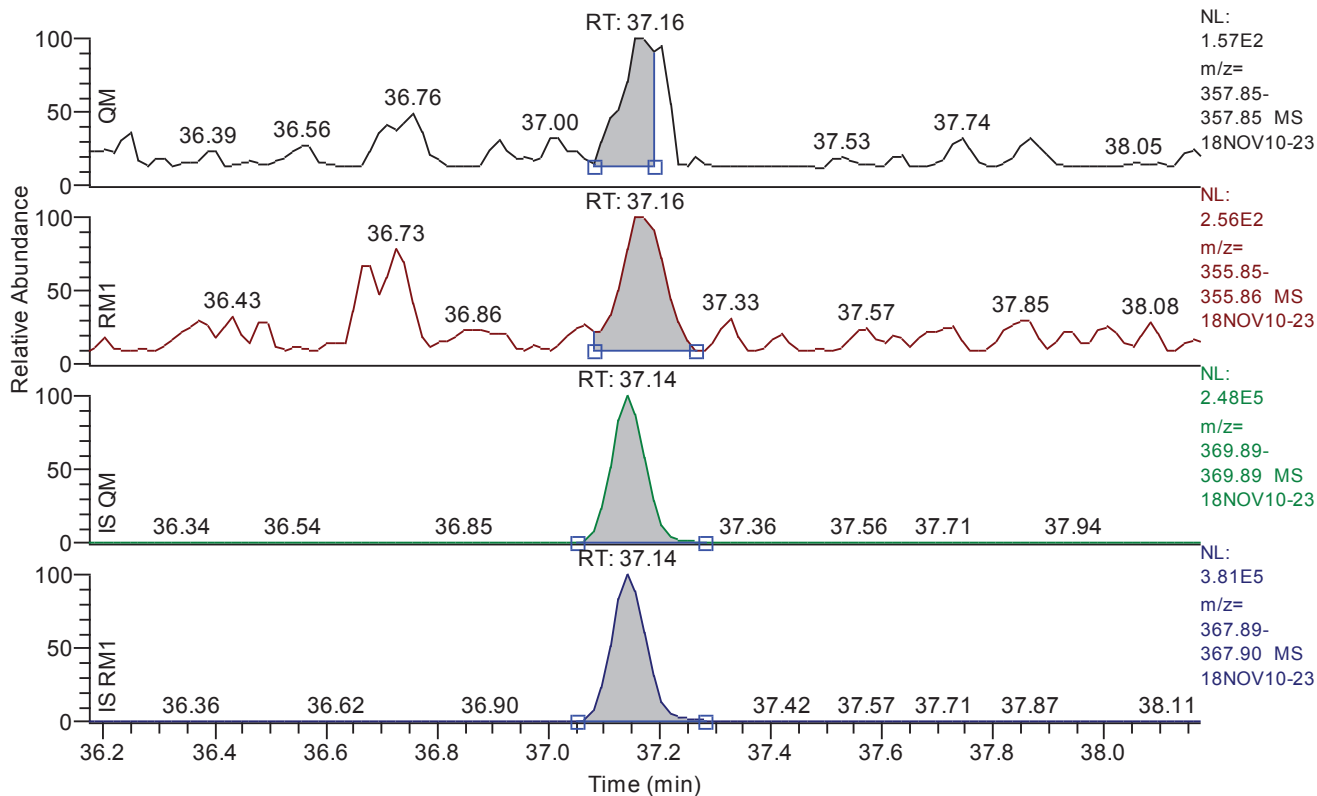


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.74
QM Area	949
QM Integration Mode	A
RM1 Area	1695
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0770
Unqualified Amount (A)	1.023903
Adjusted Amount (A)	n.d.
Signal-to-Noise	34
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 36.17 - 38.17 SM: 3G

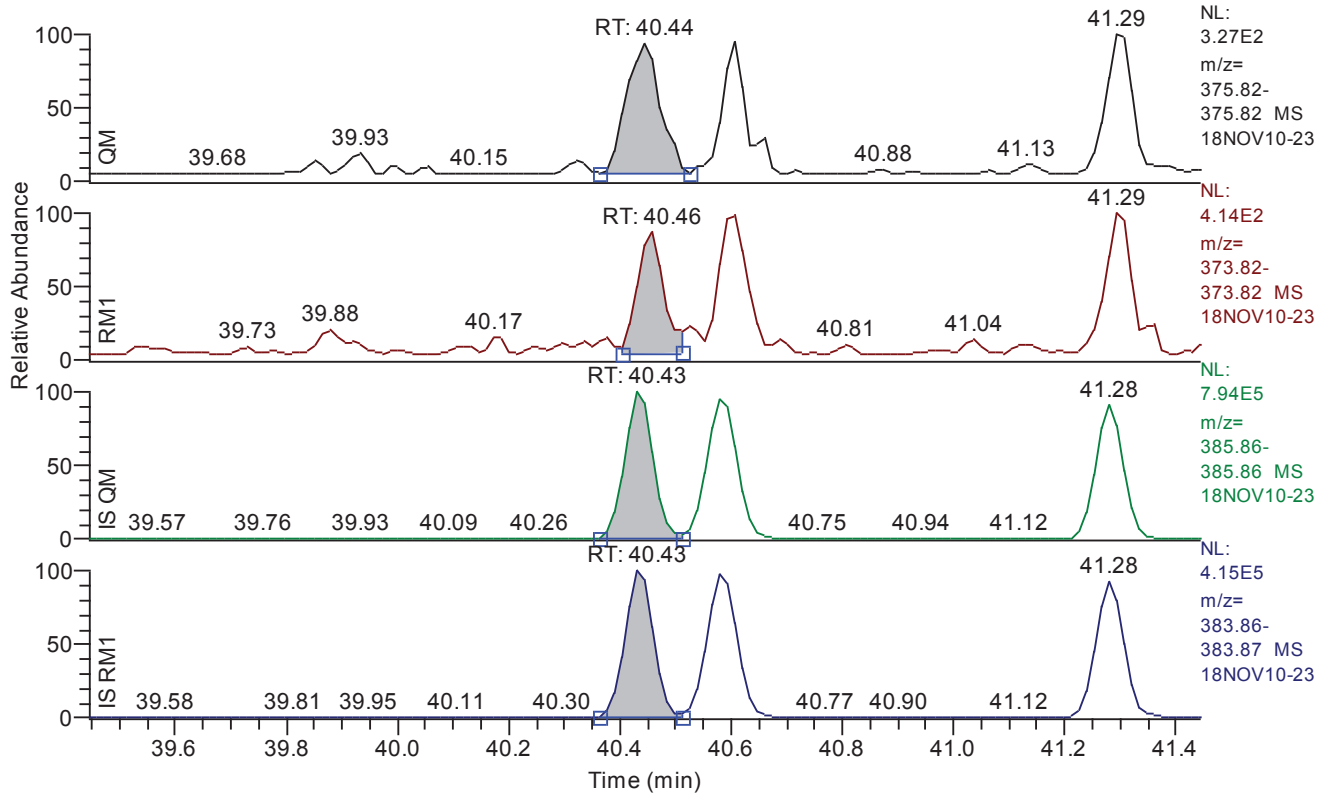


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.16
QM Area	519
QM Integration Mode	A
RM1 Area	1292
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1565
Unqualified Amount (A)	1.259967
Adjusted Amount (A)	n.d.
Signal-to-Noise	18
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 39.44 - 41.44 SM: 3G

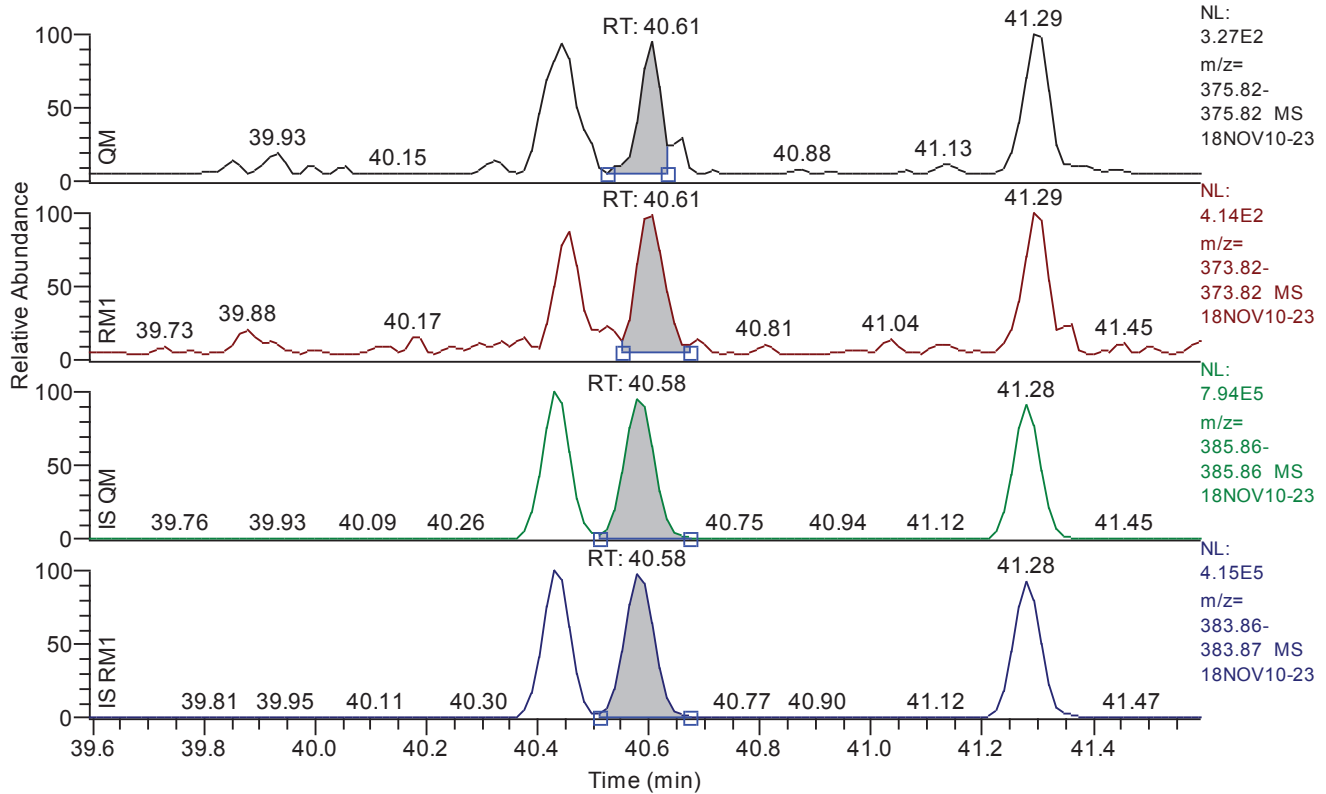


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.44
QM Area	1231
QM Integration Mode	A
RM1 Area	1120
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0747
Unqualified Amount (A)	0.940486
Adjusted Amount (A)	n.d.
Signal-to-Noise	30
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 39.59 - 41.59 SM: 3G

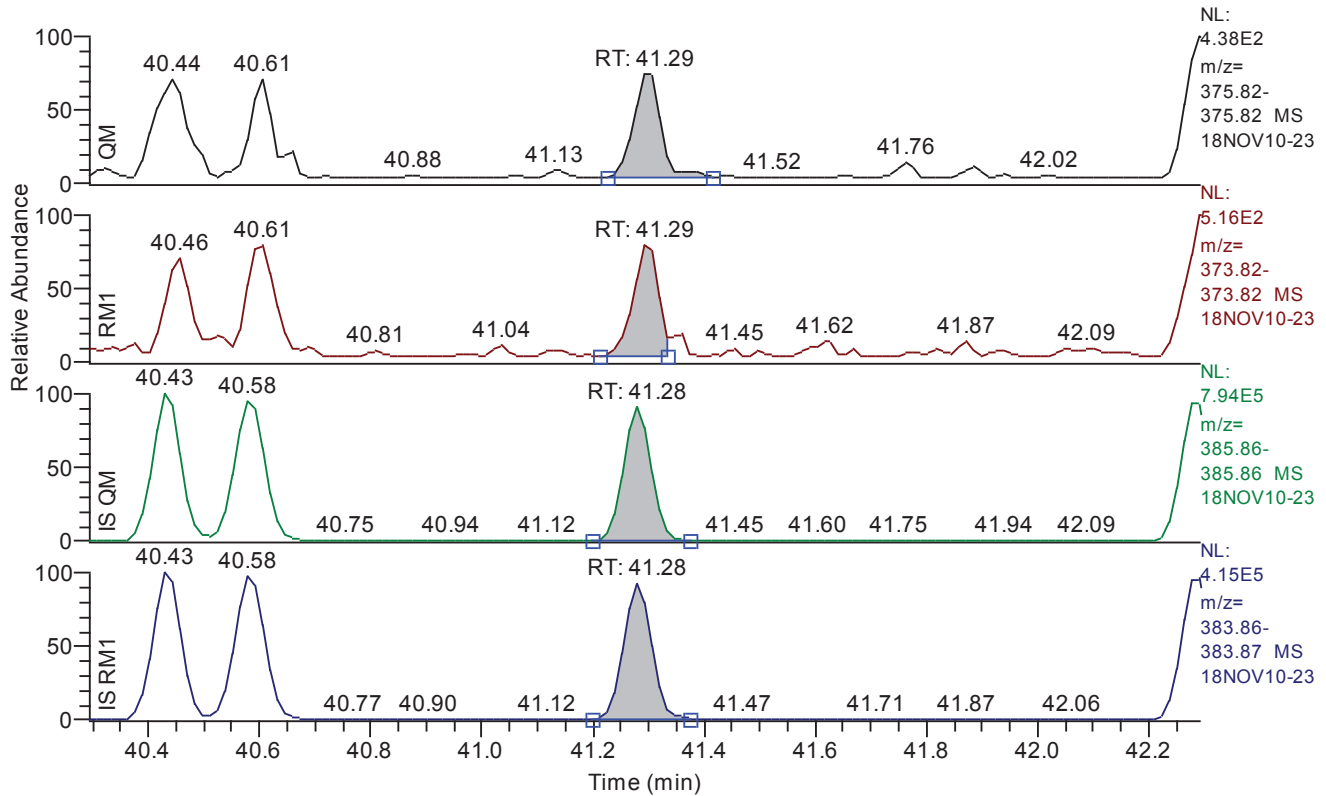


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.61
QM Area	759
QM Integration Mode	A
RM1 Area	1380
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0803
Unqualified Amount (A)	0.864394
Adjusted Amount (A)	n.d.
Signal-to-Noise	33
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.29 - 42.29 SM: 3G

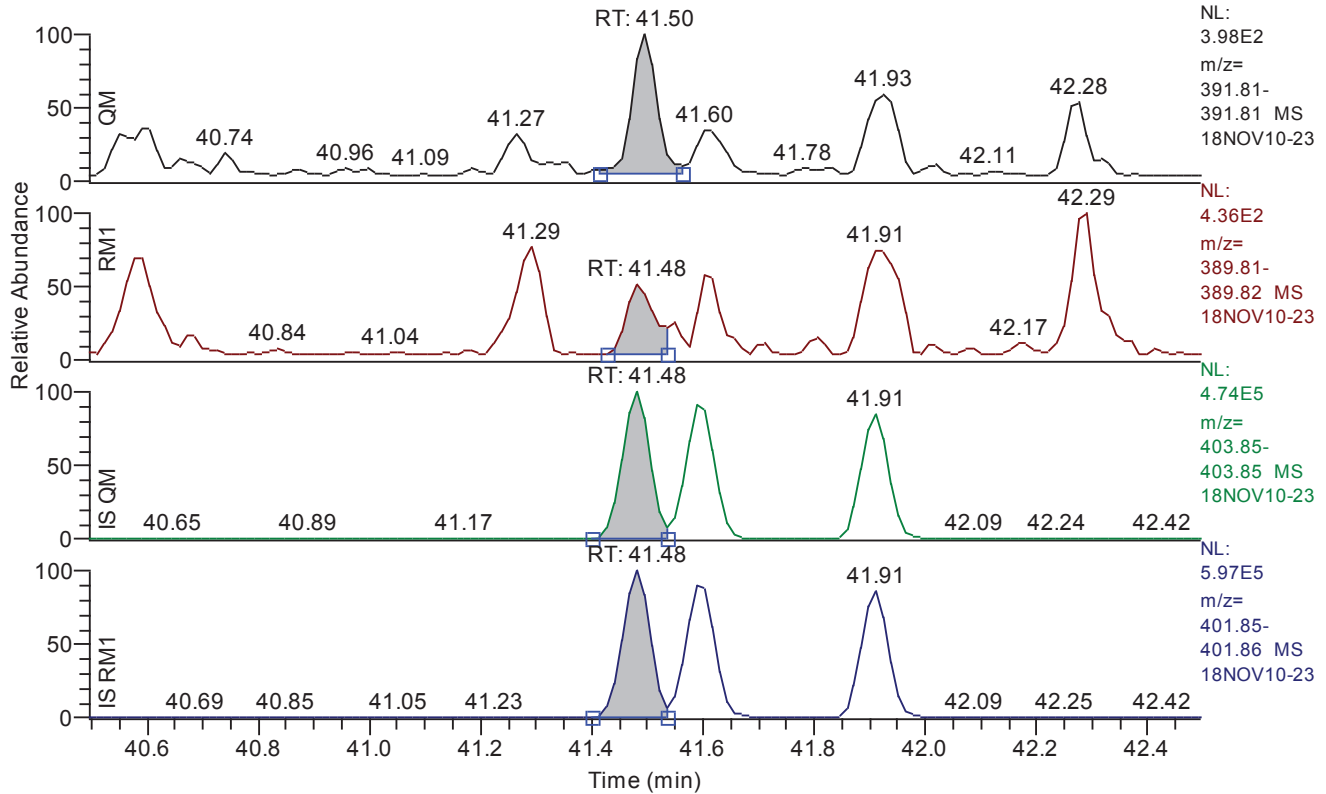


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.29
QM Area	1061
QM Integration Mode	A
RM1 Area	1238
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0785
Unqualified Amount (A)	0.978029
Adjusted Amount (A)	0.9780
Signal-to-Noise	33
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.50 - 42.50 SM: 3G

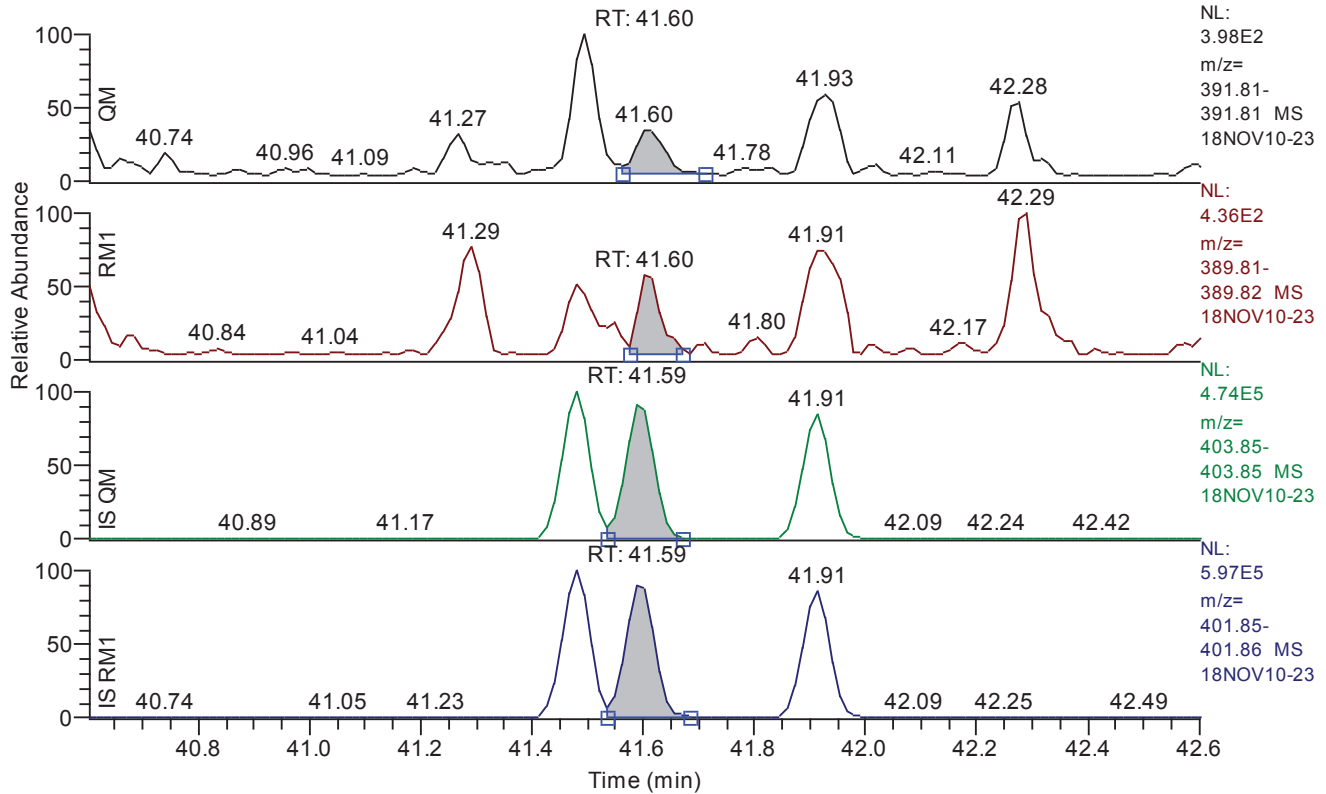


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.50
QM Area	1195
QM Integration Mode	A
RM1 Area	708
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1047
Unqualified Amount (A)	0.971444
Adjusted Amount (A)	n.d.
Signal-to-Noise	24
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.60 - 42.60 SM: 3G

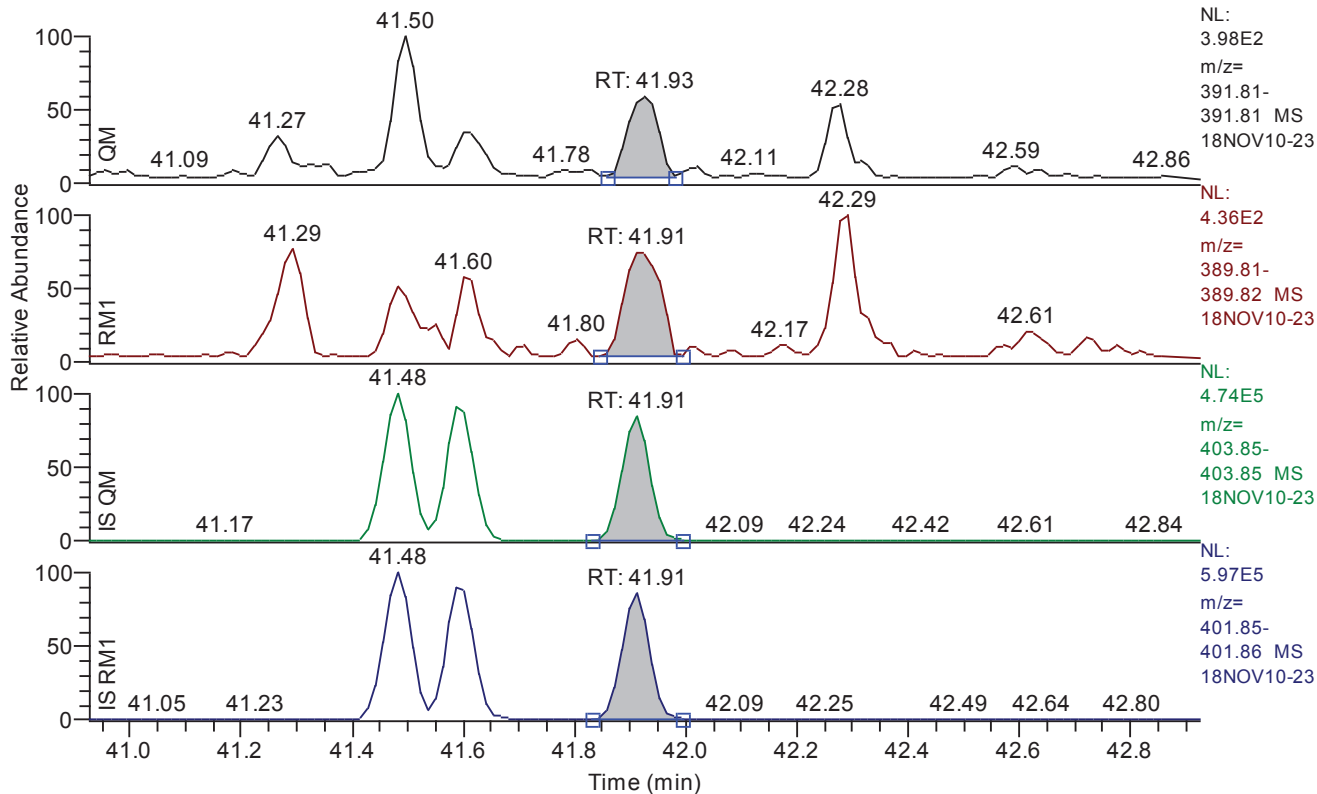


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.60
QM Area	443
QM Integration Mode	A
RM1 Area	661
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1165
Unqualified Amount (A)	0.596086
Adjusted Amount (A)	n.d.
Signal-to-Noise	15
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.93 - 42.93 SM: 3G

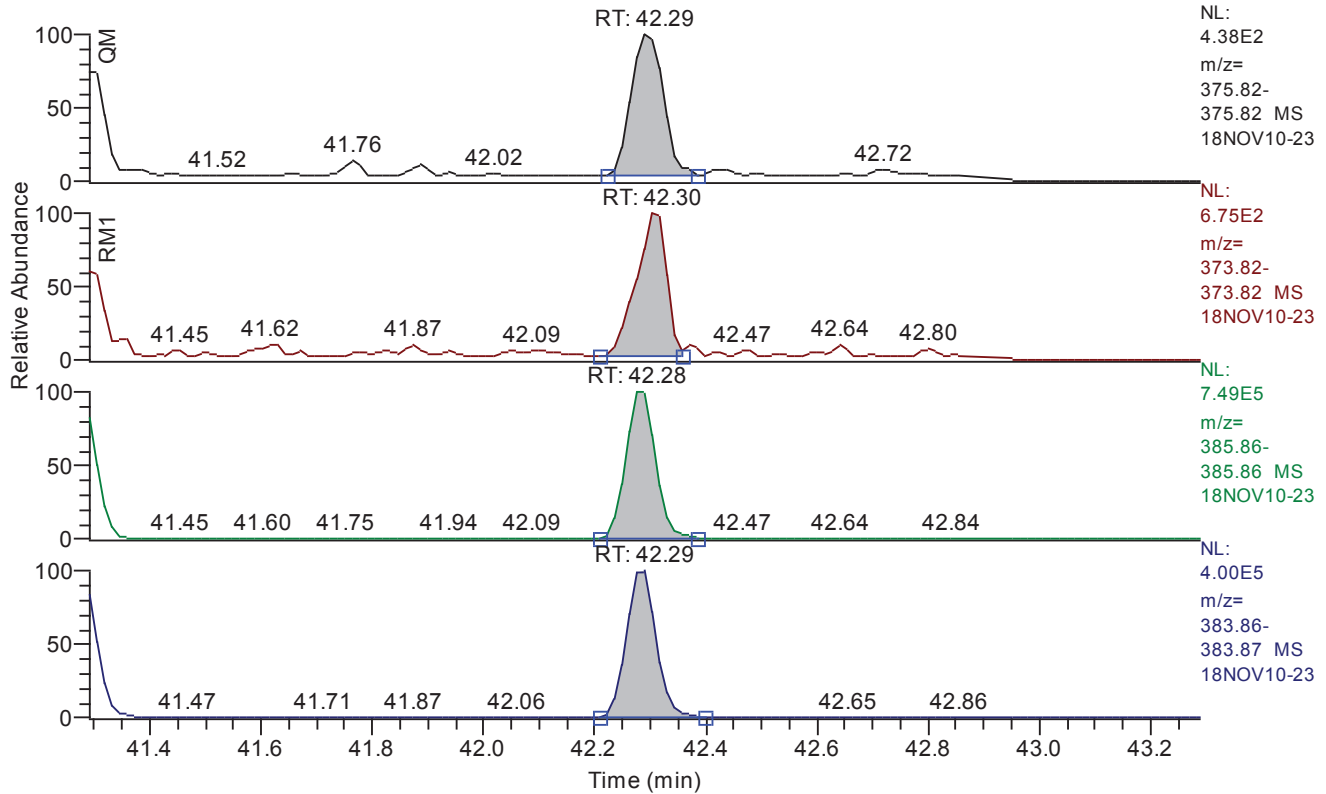


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.93
QM Area	821
QM Integration Mode	A
RM1 Area	1371
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1173
Unqualified Amount (A)	1.246325
Adjusted Amount (A)	n.d.
Signal-to-Noise	22
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 41.29 - 43.29 SM: 3G

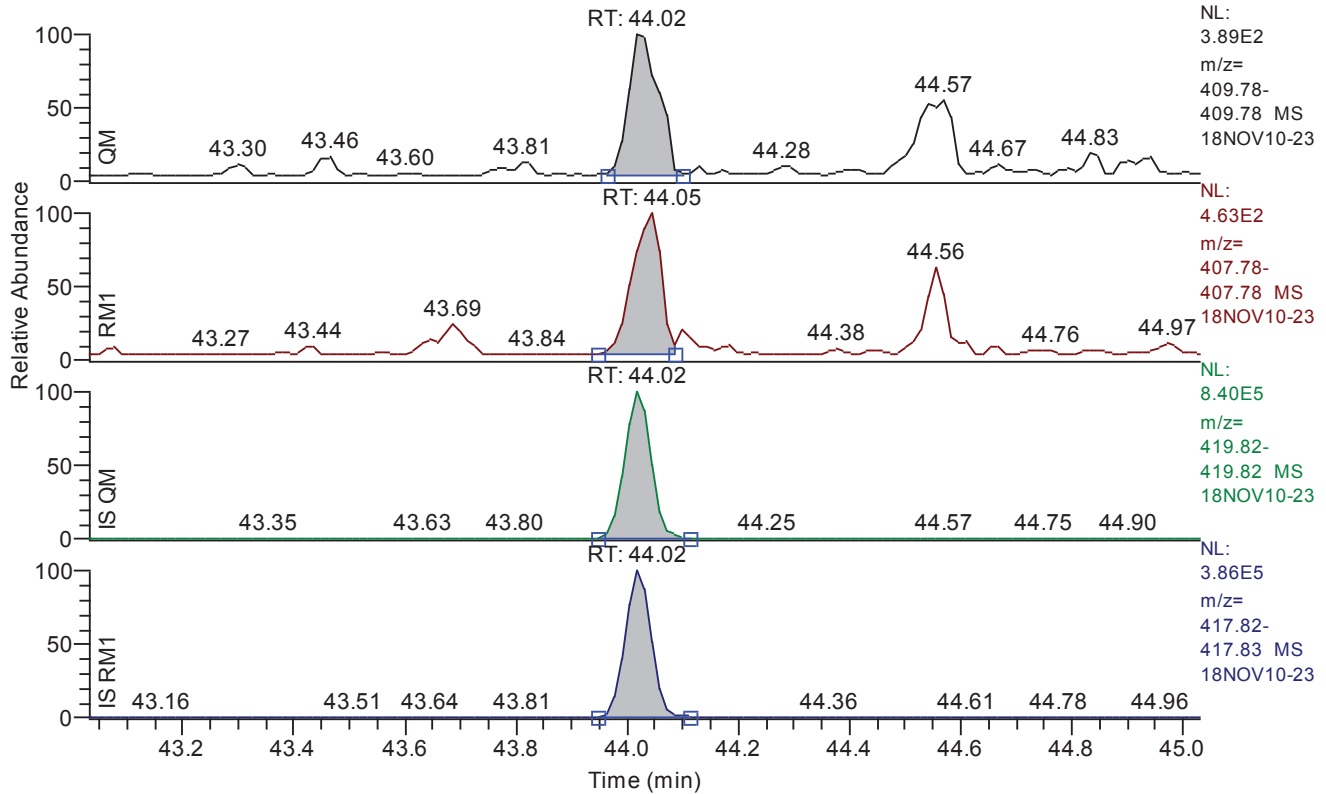


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.29
QM Area	1688
QM Integration Mode	A
RM1 Area	2485
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0813
Unqualified Amount (A)	1.721525
Adjusted Amount (A)	n.d.
Signal-to-Noise	51
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 43.03 - 45.03 SM: 3G

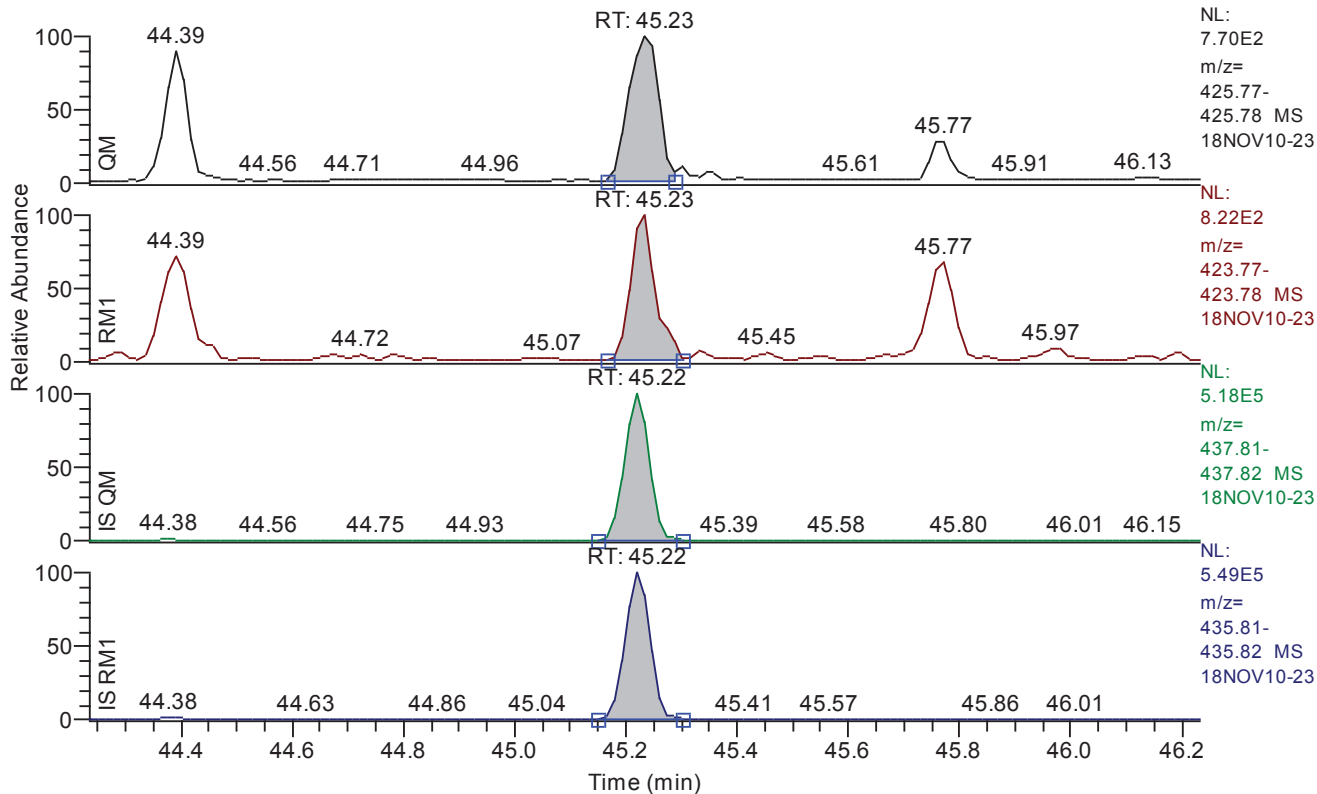


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.02
QM Area	1430
QM Integration Mode	A
RM1 Area	1640
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0596
Unqualified Amount (A)	1.189165
Adjusted Amount (A)	1.1892
Signal-to-Noise	45
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.23 - 46.23 SM: 3G

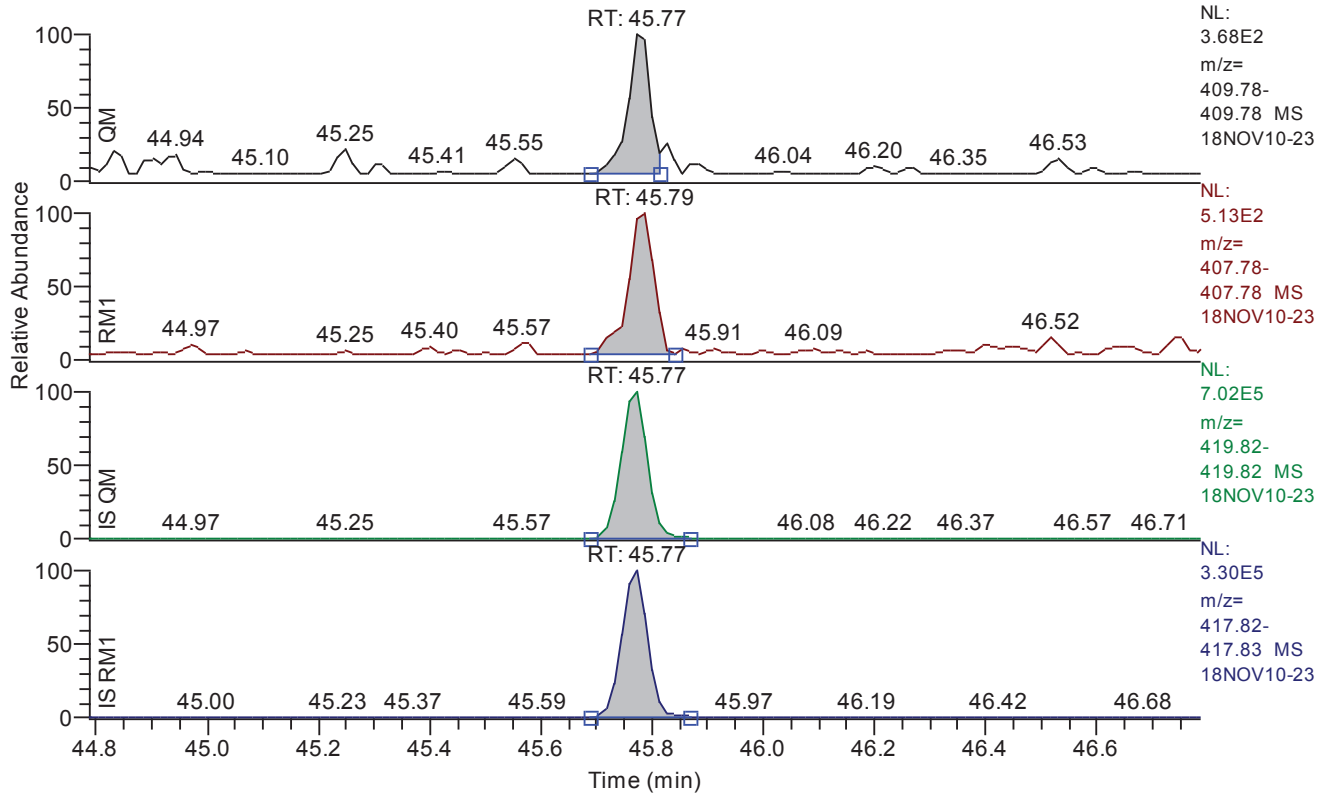


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	2882
QM Integration Mode	A
RM1 Area	2547
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0680
Unqualified Amount (A)	2.977155
Adjusted Amount (A)	2.9772
Signal-to-Noise	100
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.79 - 46.79 SM: 3G

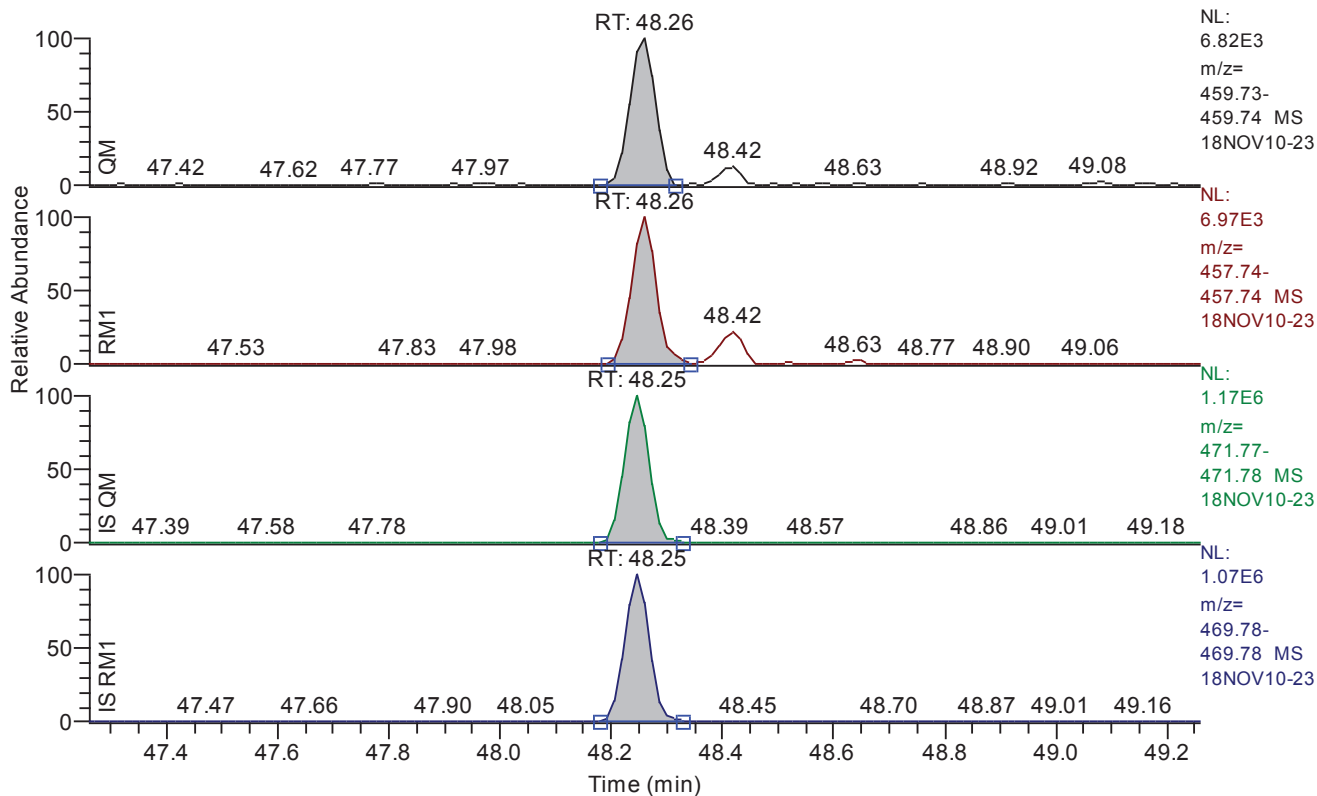


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.77
QM Area	1006
QM Integration Mode	A
RM1 Area	1648
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0682
Unqualified Amount (A)	1.179717
Adjusted Amount (A)	n.d.
Signal-to-Noise	46
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 47.26 - 49.26 SM: 3G

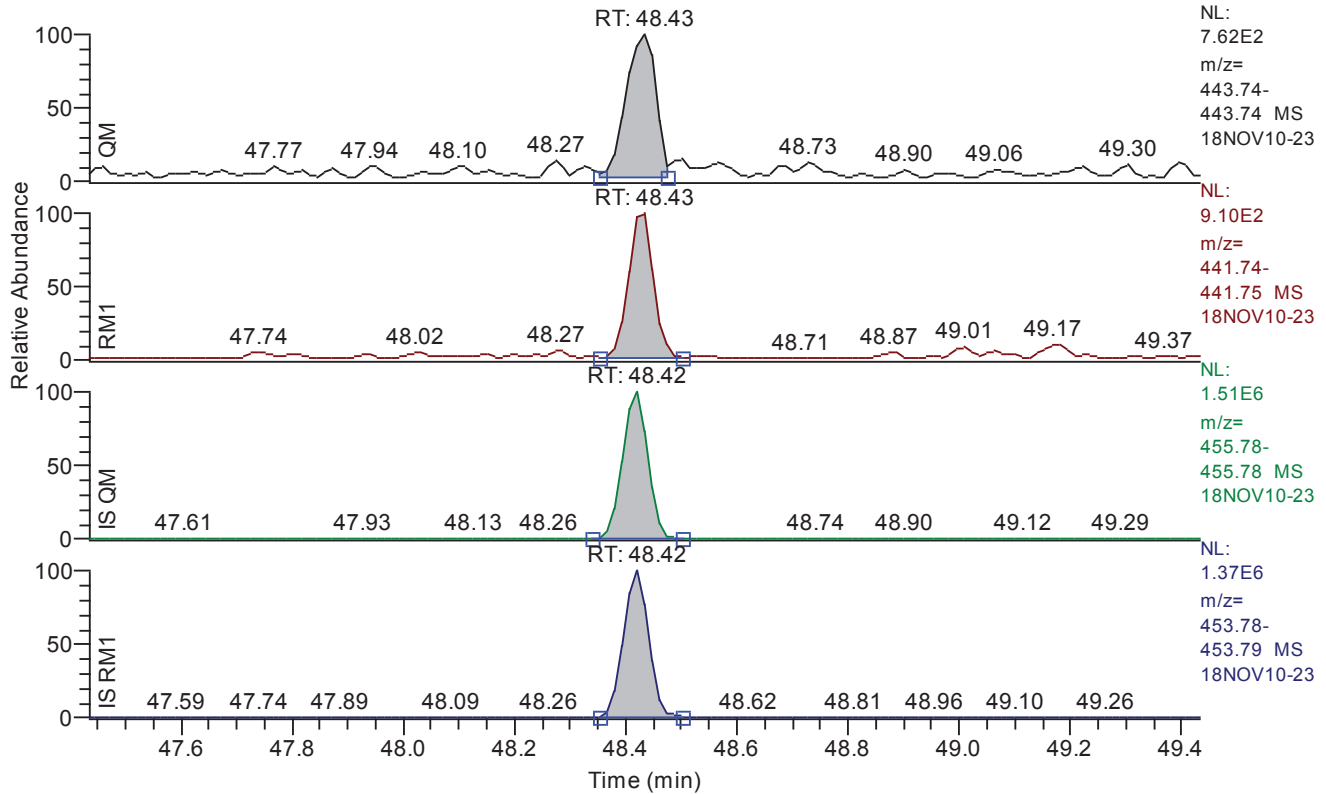


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.26
QM Area	21705
QM Integration Mode	A
RM1 Area	21523
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1631
Unqualified Amount (A)	24.117616
Adjusted Amount (A)	24.1176
Signal-to-Noise	363
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.43 - 49.43 SM: 3G

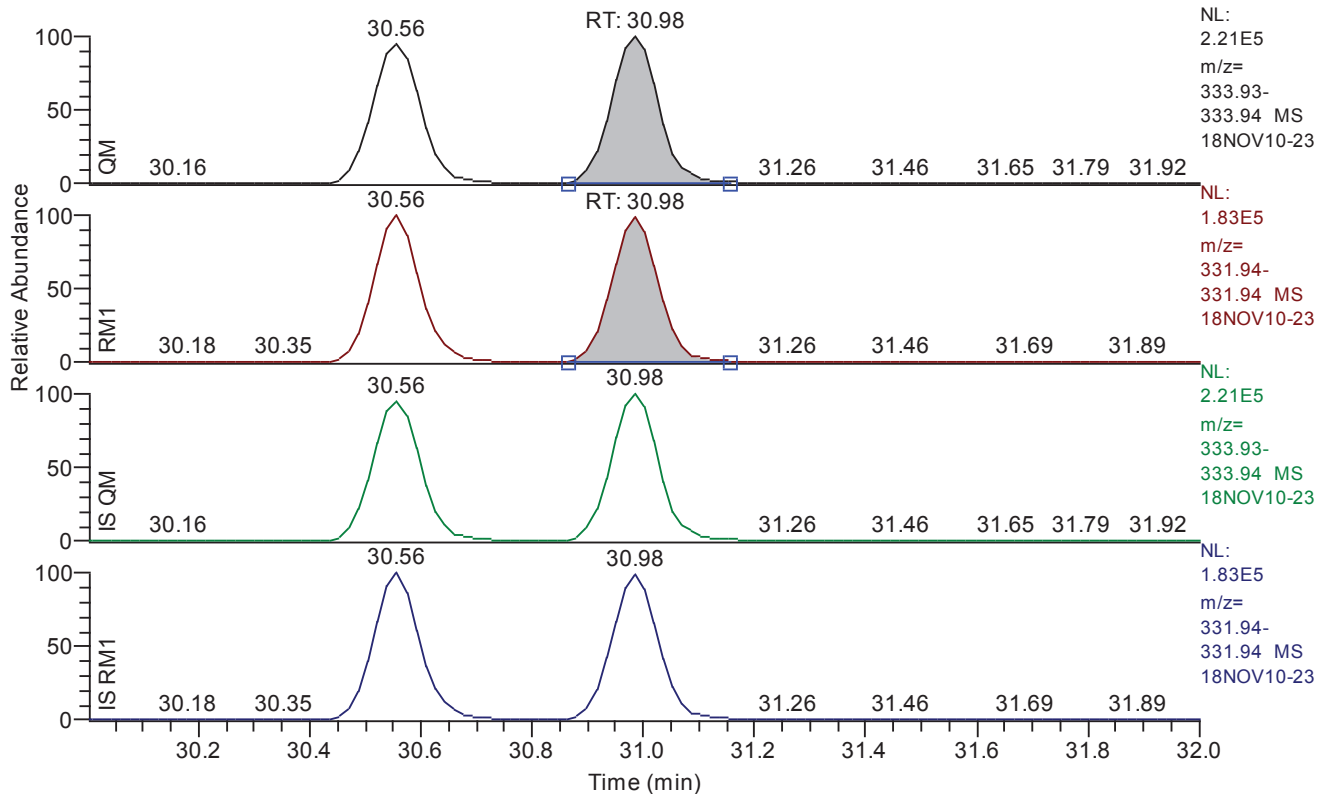


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.43
QM Area	2743
QM Integration Mode	A
RM1 Area	2746
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1090
Unqualified Amount (A)	2.660942
Adjusted Amount (A)	2.6609
Signal-to-Noise	57
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 30.00 - 32.00 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.98
QM Area	1327444
QM Integration Mode	A
RM1 Area	1070116
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2619
Unqualified Amount (A)	1176.879109
Adjusted Amount (A)	1176.8791
Signal-to-Noise	11791
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 14:09
Number of Entries	288
Comment	S:10914:12936:17961
Vial	77
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2EB103018-001 Grab Water
Sample ID	9876342RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

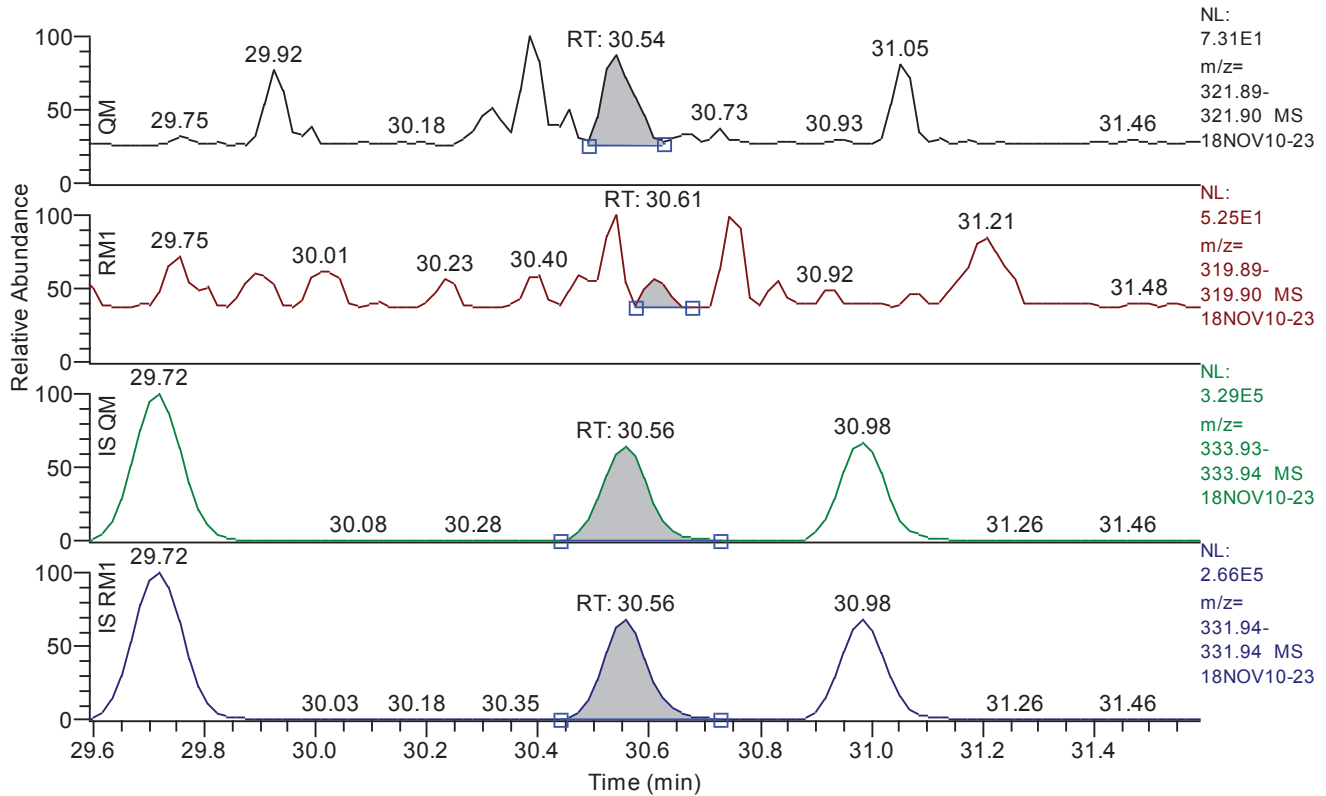
Quan	x:\18nov10\18nov10-23.quan
Data	x:\18nov10\18nov10-23.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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]	1.05
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

Chromatogram

RT: 29.59 - 31.59 SM: 3G



Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.54
QM Area	179
QM Integration Mode	A
RM1 Area	29
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0857
Unqualified Amount (A)	0.137304
Adjusted Amount (A)	n.d.
Signal-to-Noise	6
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time2 > max

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	29.40	29.41	29.41	29.40	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.54	30.54	30.56	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.48	35.49	35.45	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.74	36.77	36.73	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.16	37.16	37.14	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.44	40.46	40.43	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.61	40.61	40.58	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.29	41.29	41.28	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.50	41.48	41.48	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.60	41.60	41.59	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.93	41.91	41.91	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.29	42.30	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.02	44.05	44.02	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.23	45.23	45.22	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.77	45.79	45.77	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.26	48.26	48.25	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.43	48.43	48.42	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	29.71	29.72	29.72	29.72	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.36	40.36	40.36	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.40	29.40	29.36	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.56	30.56	30.56	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.45	35.45	35.51	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.73	36.73	36.73	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.14	37.14	37.14	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.43	40.43	40.63	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.58	40.58	40.63	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.28	41.28	41.31	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.48	41.48	41.48	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.59	41.59	41.59	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.91	41.91	41.91	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.28	42.29	42.42	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.02	44.02	44.00	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.22	45.22	45.22	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.76	45.77	45.77	45.69	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.25	48.25	48.25	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.42	48.42	48.33	passed	passed

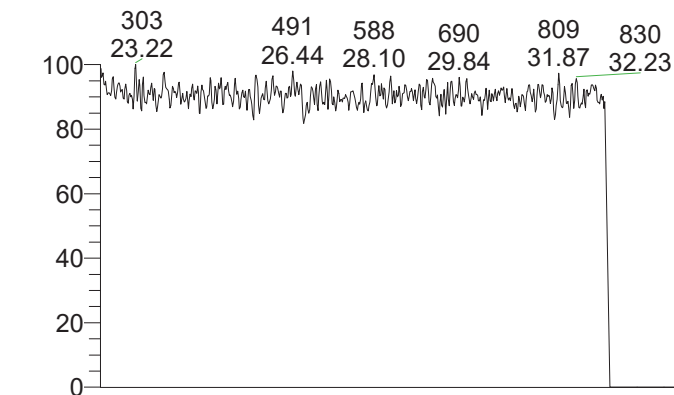
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.41	1.2792	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	30.54	0.4175	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	35.48	0.9662	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.74	1.7861	1.3150 - 1.7850	failed	---	0 - 0	passed
5	12378-PeCDD	37.16	2.4896	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.44	0.9096	1.0450 - 1.4350	failed	---	0 - 0	passed
7	123678-HxCDF	40.61	1.8187	1.0450 - 1.4350	failed	---	0 - 0	passed
8	234678-HxCDF	41.29	1.1673	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.50	0.5926	1.0450 - 1.4350	failed	---	0 - 0	passed
10	123678-HxCDD	41.60	1.4925	1.0450 - 1.4350	failed	---	0 - 0	passed
11	123789-HxCDD	41.93	1.6711	1.0450 - 1.4350	failed	---	0 - 0	passed
12	123789-HxCDF	42.29	1.4723	1.0450 - 1.4350	failed	---	0 - 0	passed
13	1234678-HpCDF	44.02	1.1466	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	45.23	0.8836	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.77	1.6383	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	48.26	0.9916	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.43	1.0012	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.98	0.8061	0.6450 - 0.8950	passed	61.79	35 - 197	passed
19	13C12-1234-TCDD	29.72	0.8299	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.36	1.2785	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.40	0.7912	0.6450 - 0.8950	passed	55.93	40 - 135	passed
22	13C12-2378-TCDD	30.56	0.8351	0.6450 - 0.8950	passed	61.61	40 - 135	passed
23	13C12-12378-PeCDF	35.45	1.6010	1.3150 - 1.7850	passed	62.66	40 - 135	passed
24	13C12-23478-PeCDF	36.73	1.5696	1.3150 - 1.7850	passed	65.63	40 - 135	passed
25	13C12-12378-PeCDD	37.14	1.5656	1.3150 - 1.7850	passed	70.83	40 - 135	passed
26	13C12-123478-HxCDF	40.43	0.5285	0.4250 - 0.5950	passed	61.05	40 - 135	passed
27	13C12-123678-HxCDF	40.58	0.5343	0.4250 - 0.5950	passed	58.66	40 - 135	passed
28	13C12-234678-HxCDF	41.28	0.5348	0.4250 - 0.5950	passed	56.92	40 - 135	passed
29	13C12-123478-HxCDD	41.48	1.2618	1.0450 - 1.4350	passed	76.28	40 - 135	passed
30	13C12-123678-HxCDD	41.59	1.2641	1.0450 - 1.4350	passed	70.09	40 - 135	passed
31	13C12-123789-HxCDD	41.91	1.2625	1.0450 - 1.4350	passed	67.16	40 - 135	passed
32	13C12-123789-HxCDF	42.28	0.5365	0.4250 - 0.5950	passed	67.61	40 - 135	passed
33	13C12-1234678-HpCDF	44.02	0.4583	0.3650 - 0.5150	passed	65.07	40 - 135	passed
34	13C12-1234678-HpCDD	45.22	1.0608	0.8750 - 1.2050	passed	72.41	40 - 135	passed
35	13C12-1234789-HpCDF	45.77	0.4629	0.3650 - 0.5150	passed	65.01	40 - 135	passed
36	13C12-OCDD	48.25	0.9062	0.7550 - 1.0250	passed	69.58	40 - 135	passed
37	13C12-OCDF	48.42	0.8994	0.7550 - 1.0250	passed	62.44	40 - 135	passed

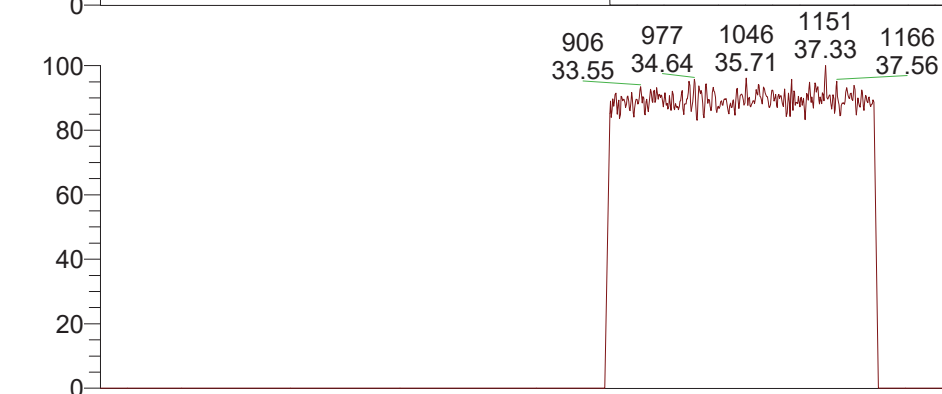
Entry Parameters

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	29.41	206	A	264	A	0.0967	0.201371	n.d.	0.000000	10	
2	2378-TCDD	failed	30.54	179	A	75	M	0.0857	0.167708	n.d.	0.000000	9	
3	12378-PeCDF	failed	35.48	1266	A	1223	A	0.0964	1.127753	n.d.	0.000000	30	
4	23478-PeCDF	failed	36.74	949	A	1695	A	0.0770	1.023903	n.d.	0.000000	34	
5	12378-PeCDD	failed	37.16	519	A	1292	A	0.1565	1.259967	n.d.	0.000000	18	
6	123478-HxCDF	failed	40.44	1231	A	1120	A	0.0747	0.940486	n.d.	0.000000	30	
7	123678-HxCDF	failed	40.61	759	A	1380	A	0.0803	0.864394	n.d.	0.000000	33	
8	234678-HxCDF	passed	41.29	1061	A	1238	A	0.0785	0.978029	0.9780	0.000000	33	
9	123478-HxCDD	failed	41.50	1195	A	708	A	0.1047	0.971444	n.d.	0.000000	24	
10	123678-HxCDD	failed	41.60	443	A	661	A	0.1165	0.596086	n.d.	0.000000	15	
11	123789-HxCDD	failed	41.93	821	A	1371	A	0.1173	1.246325	n.d.	0.000000	22	
12	123789-HxCDF	failed	42.29	1688	A	2485	A	0.0813	1.721525	n.d.	0.000000	51	
13	1234678-HpCDF	passed	44.02	1430	A	1640	A	0.0596	1.189165	1.1892	0.000000	45	
14	1234678-HpCDD	passed	45.23	2882	A	2547	A	0.0680	2.977155	2.9772	0.000000	100	
15	1234789-HpCDF	failed	45.77	1006	A	1648	A	0.0682	1.179717	n.d.	0.000000	46	
16	OCDD	passed	48.26	21705	A	21523	A	0.1631	24.117616	24.1176	0.000000	363	
17	OCDF	passed	48.43	2743	A	2746	A	0.1090	2.660942	2.6609	0.000000	57	
18	13C12-1278-TCDD (CRS)	passed	30.98	1327444	A	1070116	A	0.2619	1176.879109	1176.8791	1904.761905	11791	
19	13C12-1234-TCDD	passed	29.72	2030616	A	1685175	A	0.2735	1904.761905	1904.7619	1904.761905	17411	
20	13C12-123468-HxCDD	passed	40.36	2124167	A	2715660	A	0.2830	1904.761905	1904.7619	1904.761905	16824	
21	13C12-2378-TCDF	passed	29.40	2363152	A	1869759	A	0.1983	1065.280436	1065.2804	1904.761905	13504	
22	13C12-2378-TCDD	passed	30.56	1255536	A	1048483	A	0.2718	1173.597583	1173.5976	1904.761905	11540	
23	13C12-12378-PeCDF	passed	35.45	1724389	A	2760690	A	0.5286	1193.502452	1193.5025	1904.761905	7502	
24	13C12-23478-PeCDF	passed	36.73	1822550	A	2860633	A	0.5302	1250.012631	1250.0126	1904.761905	8374	
25	13C12-12378-PeCDD	passed	37.14	1065615	A	1668320	A	0.3366	1349.196260	1349.1963	1904.761905	14417	
26	13C12-123478-HxCDF	passed	40.43	2797063	A	1478183	A	0.2795	1162.940173	1162.9402	1904.761905	10433	
27	13C12-123678-HxCDF	passed	40.58	2860976	A	1528724	A	0.2615	1117.391369	1117.3914	1904.761905	10073	
28	13C12-234678-HxCDF	passed	41.28	2538057	A	1357346	A	0.2860	1084.188649	1084.1886	1904.761905	9614	
29	13C12-123478-HxCDD	passed	41.48	1630047	A	2056760	A	0.2834	1452.912739	1452.9127	1904.761905	13230	
30	13C12-123678-HxCDD	passed	41.59	1553738	A	1964046	A	0.2729	1335.071114	1335.0711	1904.761905	12005	
31	13C12-123789-HxCDD	passed	41.91	1406428	A	1775586	A	0.2891	1279.330934	1279.3309	1904.761905	11354	
32	13C12-123789-HxCDF	passed	42.28	2797495	A	1500929	A	0.3078	1287.759668	1287.7597	1904.761905	9941	
33	13C12-1234678-HpCDF	passed	44.02	2843970	A	1303419	A	0.3617	1239.471857	1239.4719	1904.761905	9018	
34	13C12-1234678-HpCDD	passed	45.22	1653486	A	1754077	A	0.2959	1379.239565	1379.2396	1904.761905	12985	
35	13C12-1234789-HpCDF	passed	45.77	2378801	A	1101122	A	0.4307	1238.271112	1238.2711	1904.761905	7584	
36	13C12-OCDD	passed	48.25	3632443	A	3291723	A	0.1259	2650.732200	2650.7322	3809.523810	60648	
37	13C12-OCDF	passed	48.42	4797605	A	4314765	A	0.1447	2378.519240	2378.5192	3809.523810	46243	

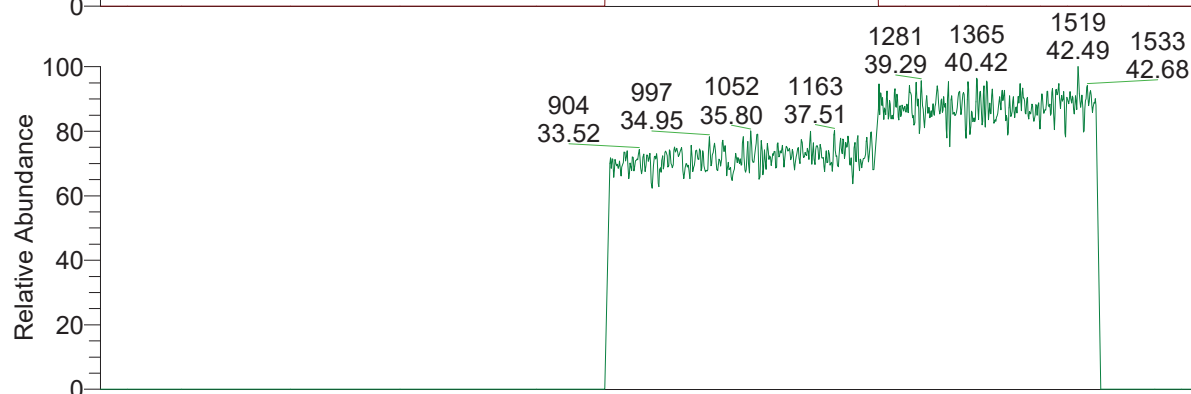
RT: 22.50 - 51.00



NL:
4.27E5
m/z=
291.9825-
292.9825
MS
18NOV10-
23



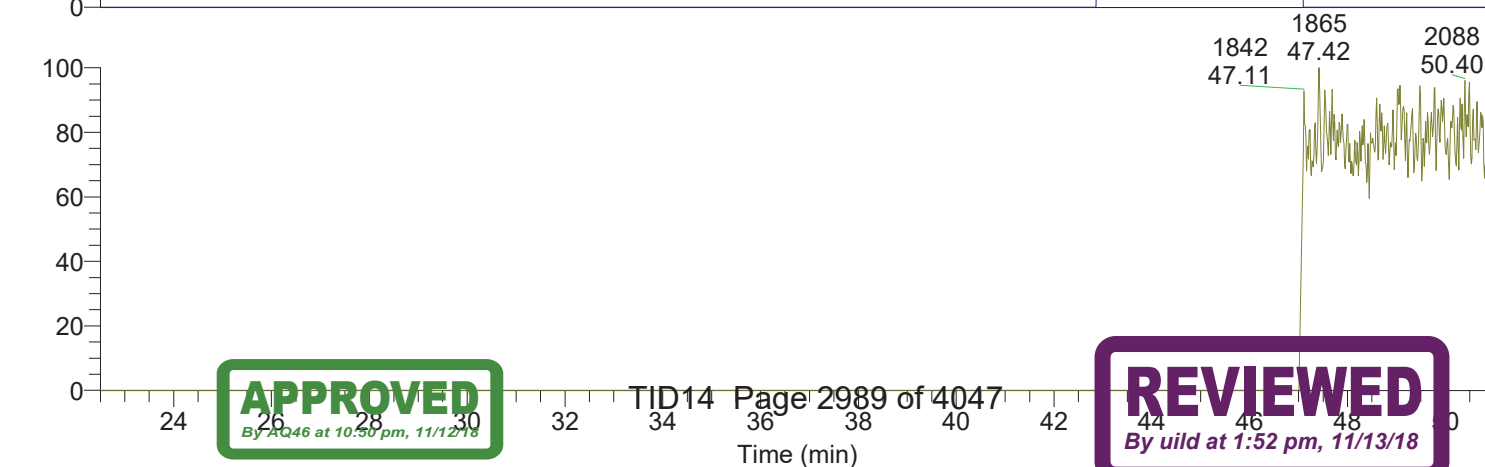
NL:
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331.4792
MS
18NOV10-
23



NL:
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m/z=
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381.4760
MS
18NOV10-
23



NL:
8.42E4
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404.4760-
405.4760
MS
18NOV10-
23



NL:
9.80E4
m/z=
442.4728-
443.4728
MS
18NOV10-
23

APPROVED

By AQ46 at 10:50 pm, 11/12/18

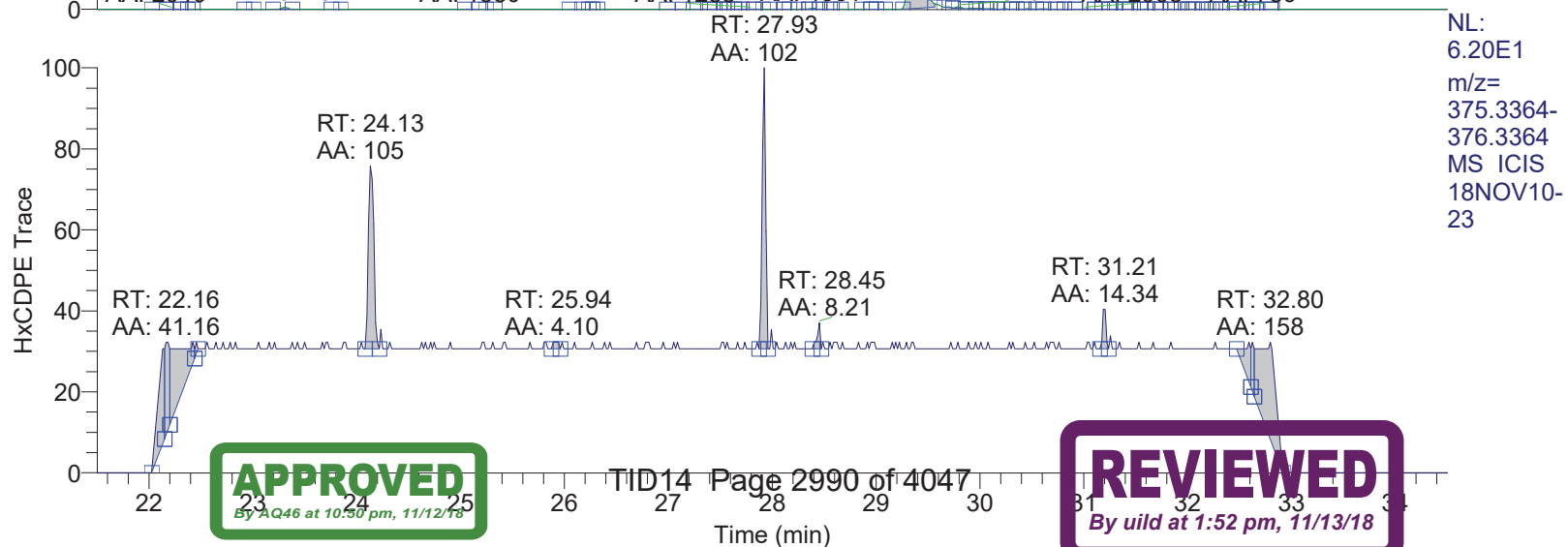
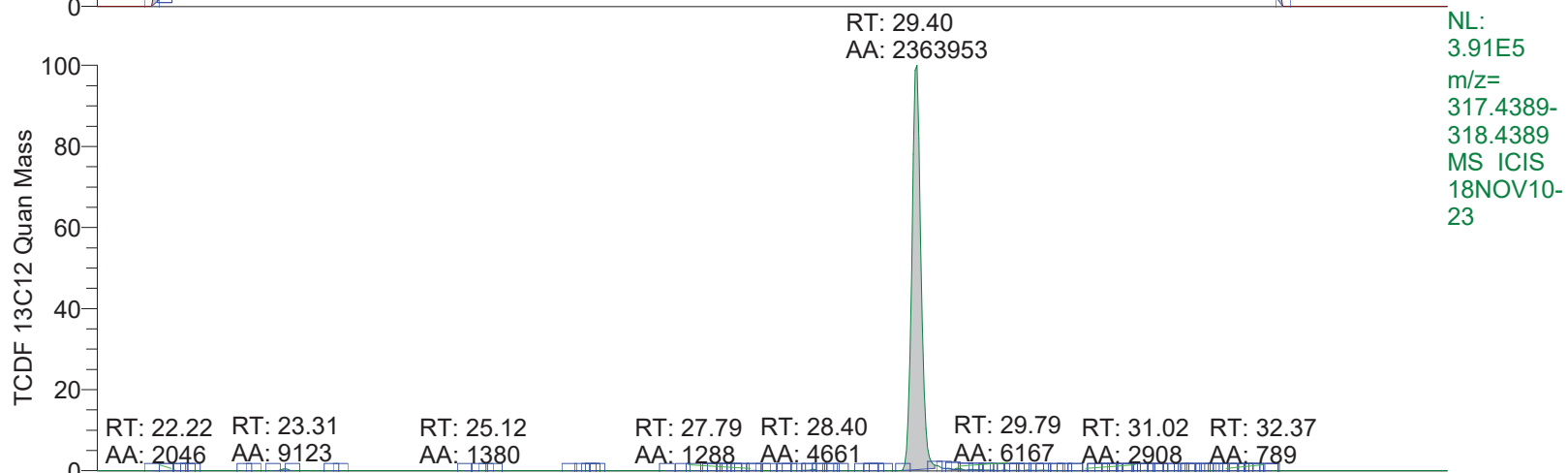
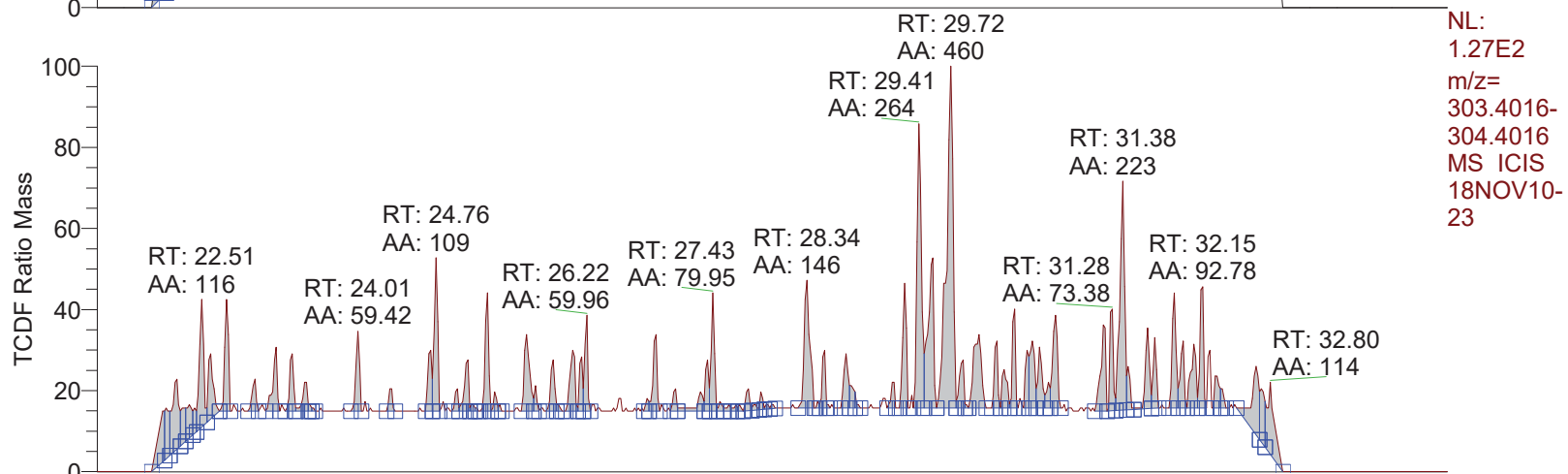
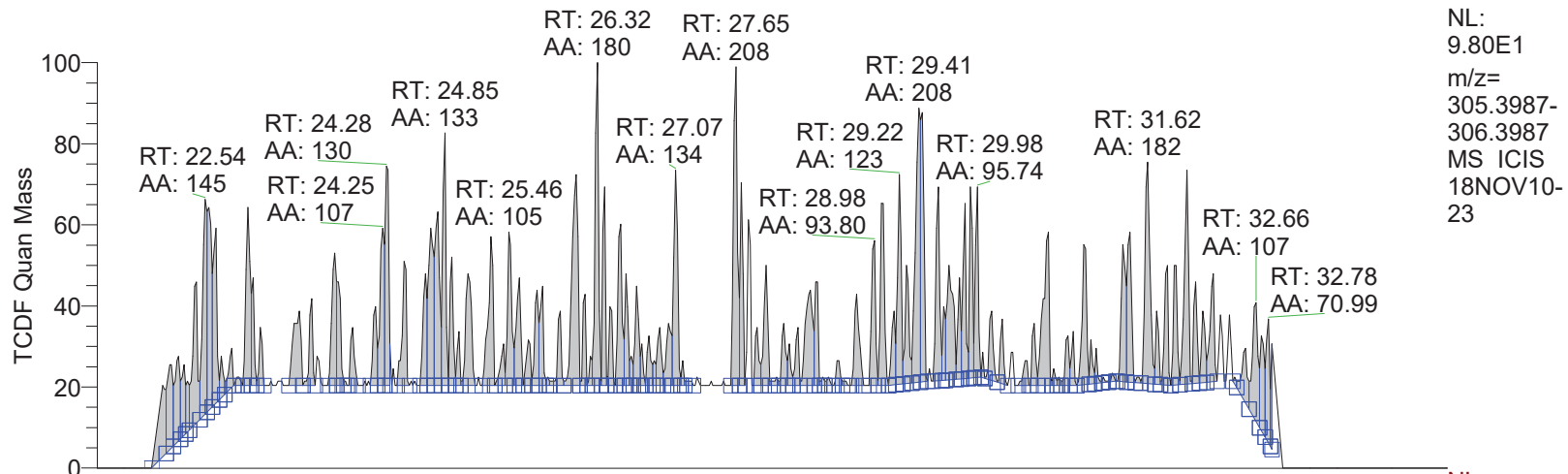
TID14 Page 2989 of 4047

REVIEWED

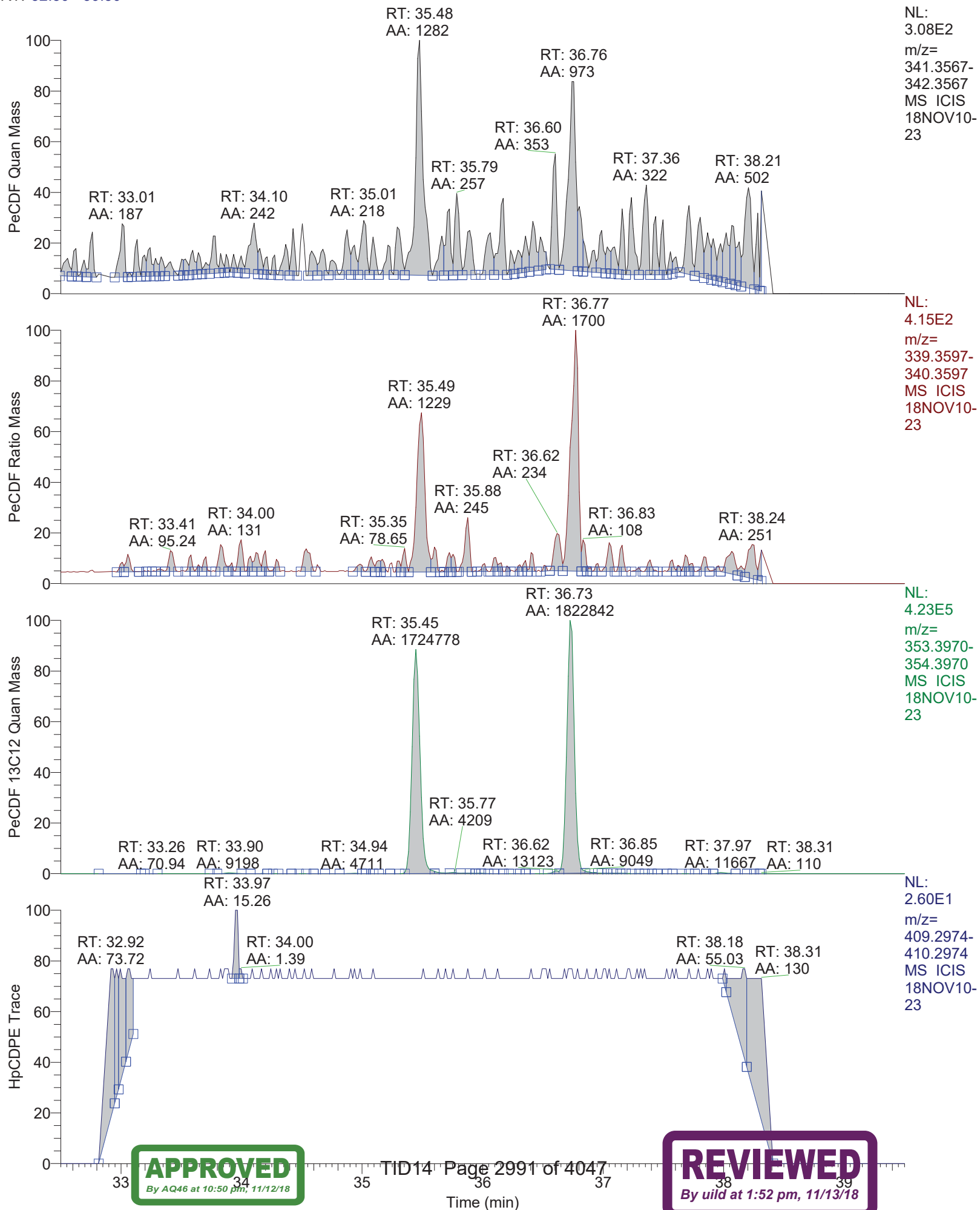
By uild at 1:52 pm, 11/13/18

Time (min)

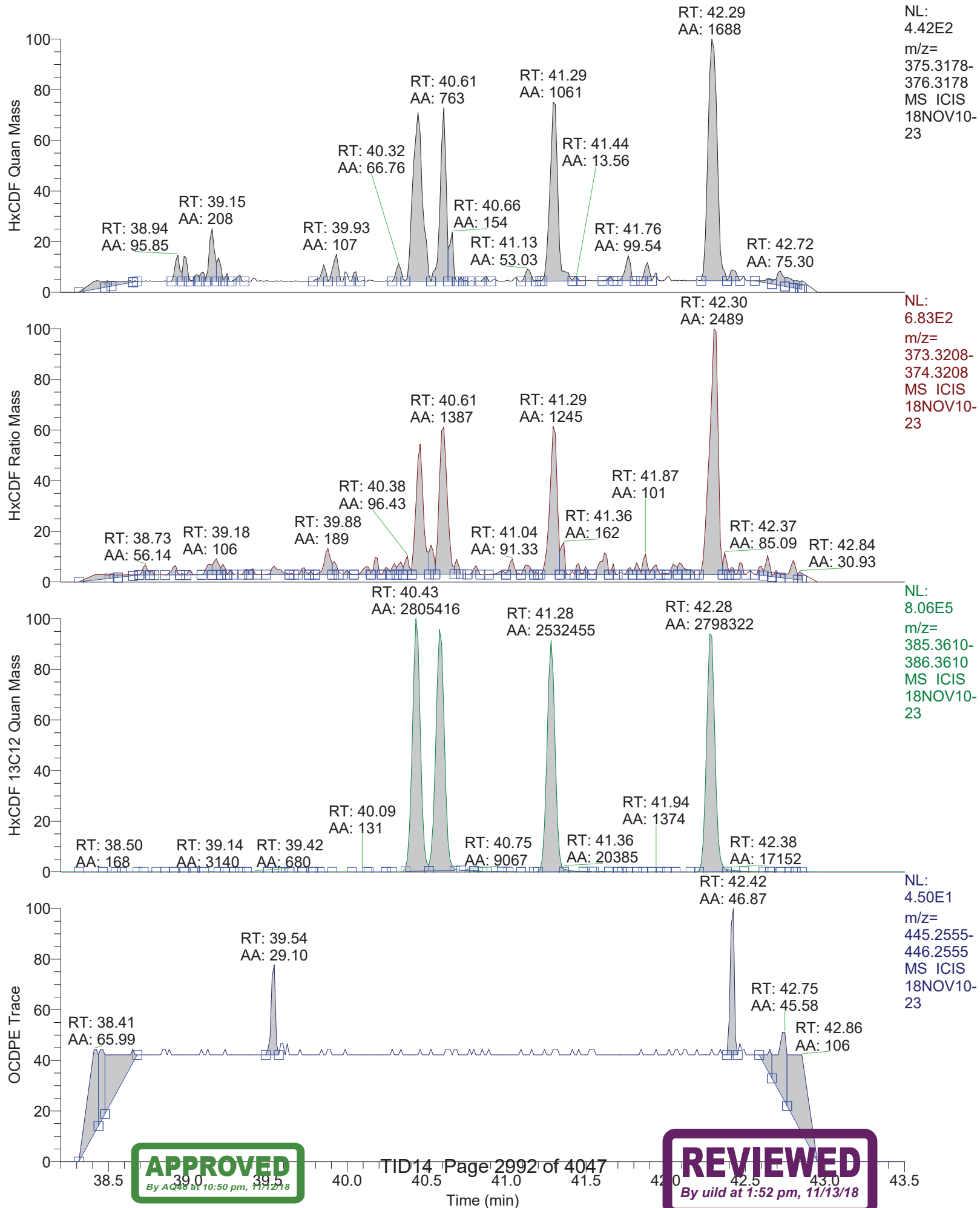
RT: 21.50 - 34.50



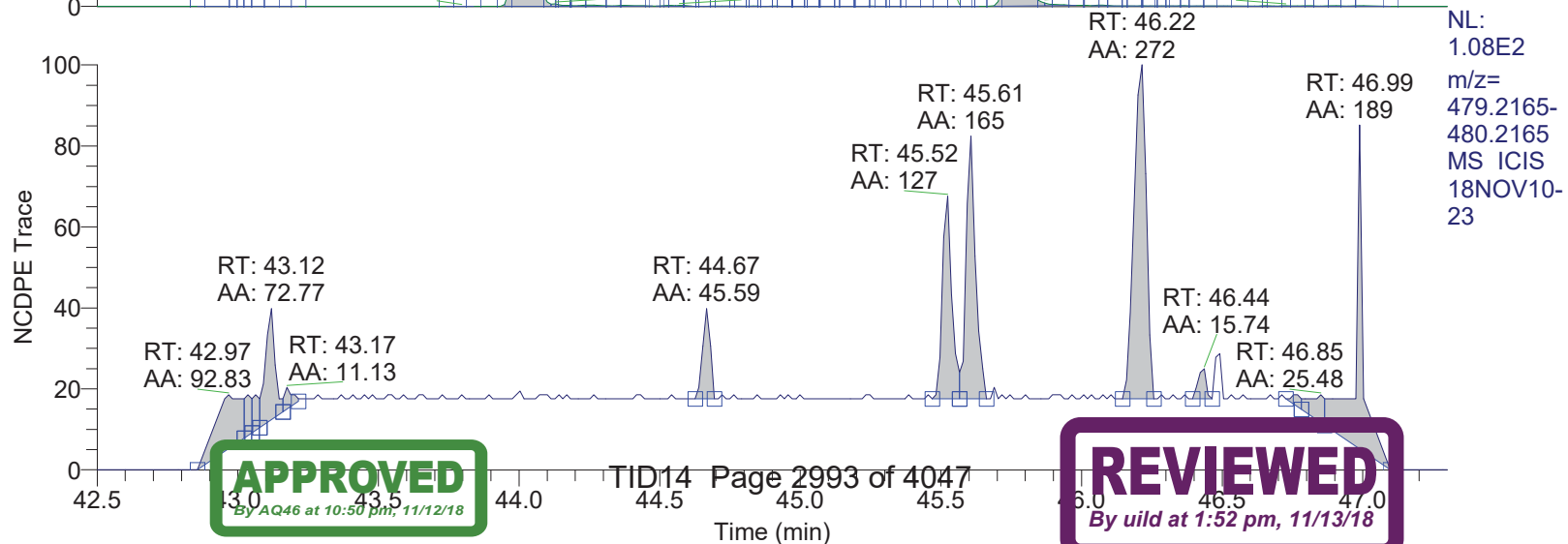
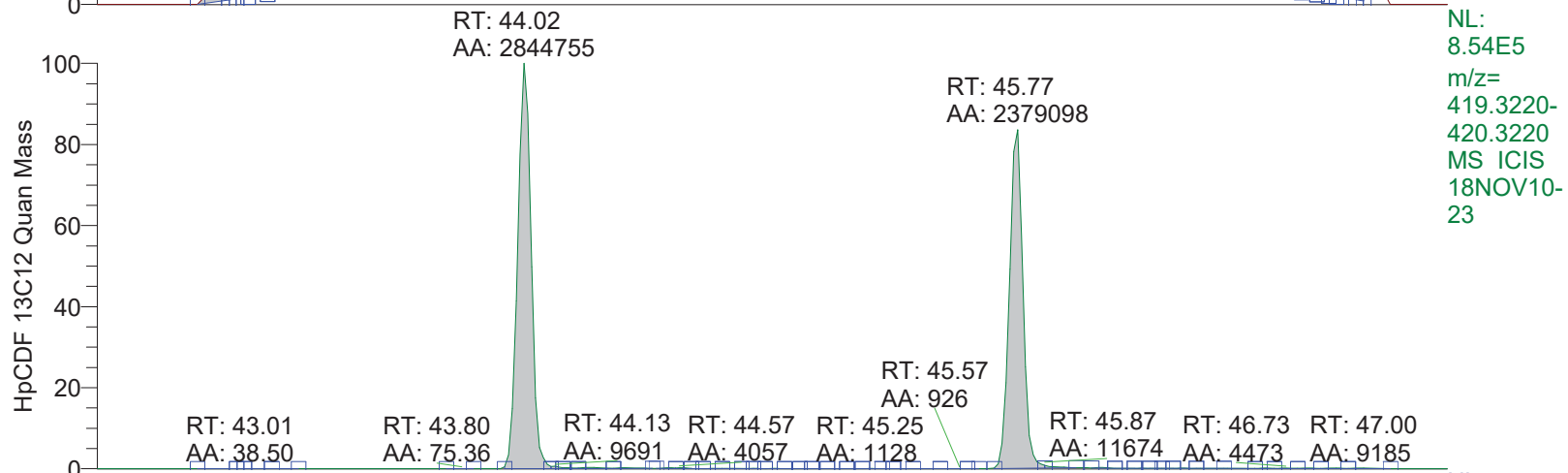
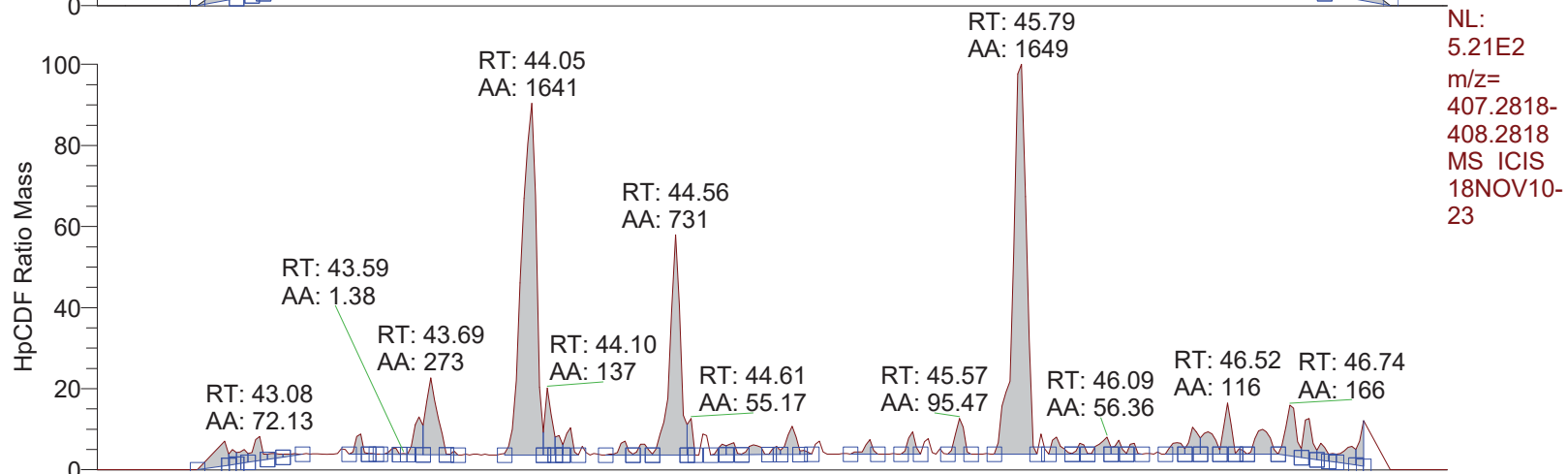
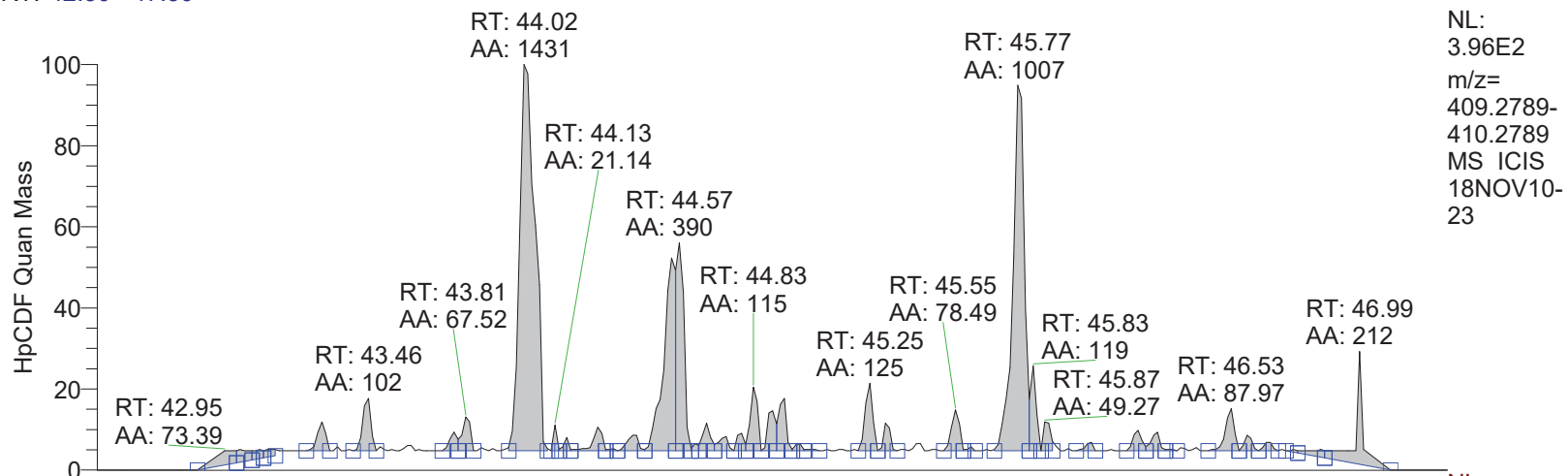
RT: 32.50 - 39.50



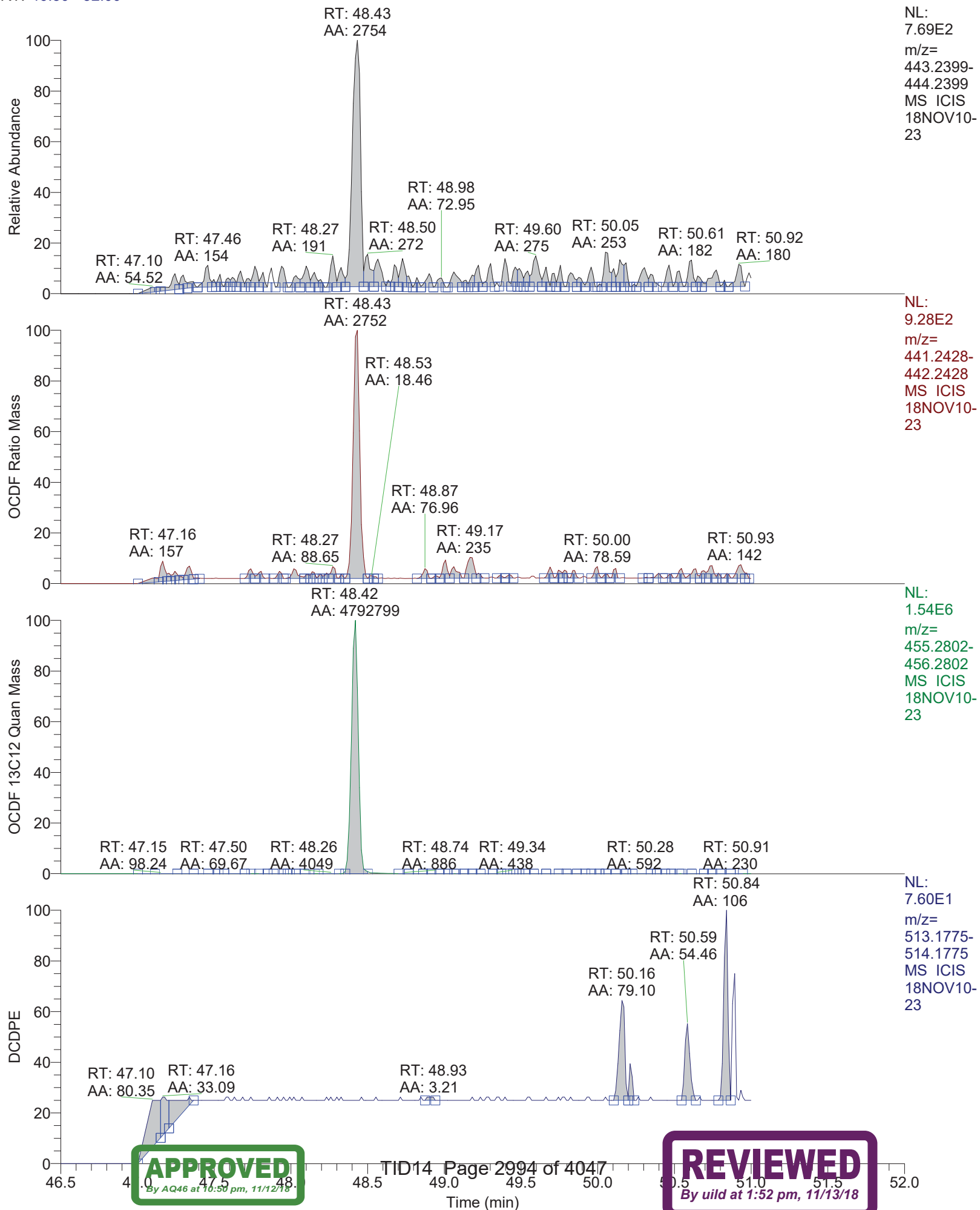
RT: 38.20 - 43.50



RT: 42.50 - 47.30



RT: 46.50 - 52.00



18NOV10-23

*** file opened Sat Nov 10 14:15:19 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 14:15:18

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV10-23

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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

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REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-23

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	94.5000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0076	FVINLET	0.0376	FVSR	0.0364
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	94.5000	LKM	442.9723	MASS	94.5000
MDAC	1385416.2009	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9885	RELEN	0.0000
RES	10714.3376	RPUSHER	-6.0440	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	94.5000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.0e-005 mbar
Analyzer Penning: 6.5e-008 mbar
Pirani Analyse: 7.6e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11430.
MID Time window 2: Resolution is 11400.
MID Time window 3: Resolution is 11260.
MID Time window 4: Resolution is 12017.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 2997 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-23
MID Time Window 5: Resolution is 11732.
MID Time Window 6: Resolution is 10714.
Amplifier Offset: 81.

*** File closed Sat Nov 10 15:06:21 2018

Standards Data

Dioxins/Furans by HRMS

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 15:25
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1823237B
Sample ID	CPS01
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

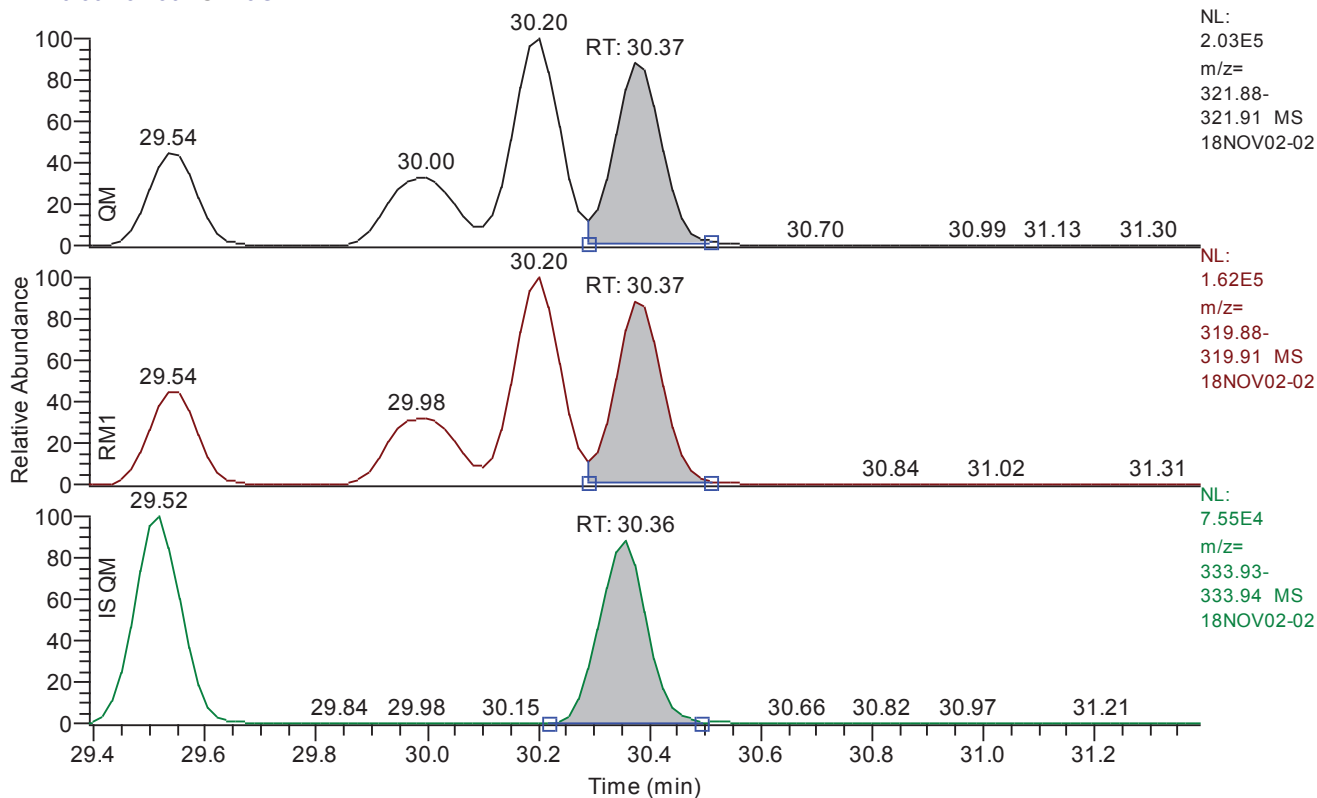
Quan	x:\18nov02\18nov02-02.quan
Data	x:\18nov02\18nov02-02.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependent 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

Chromatogram

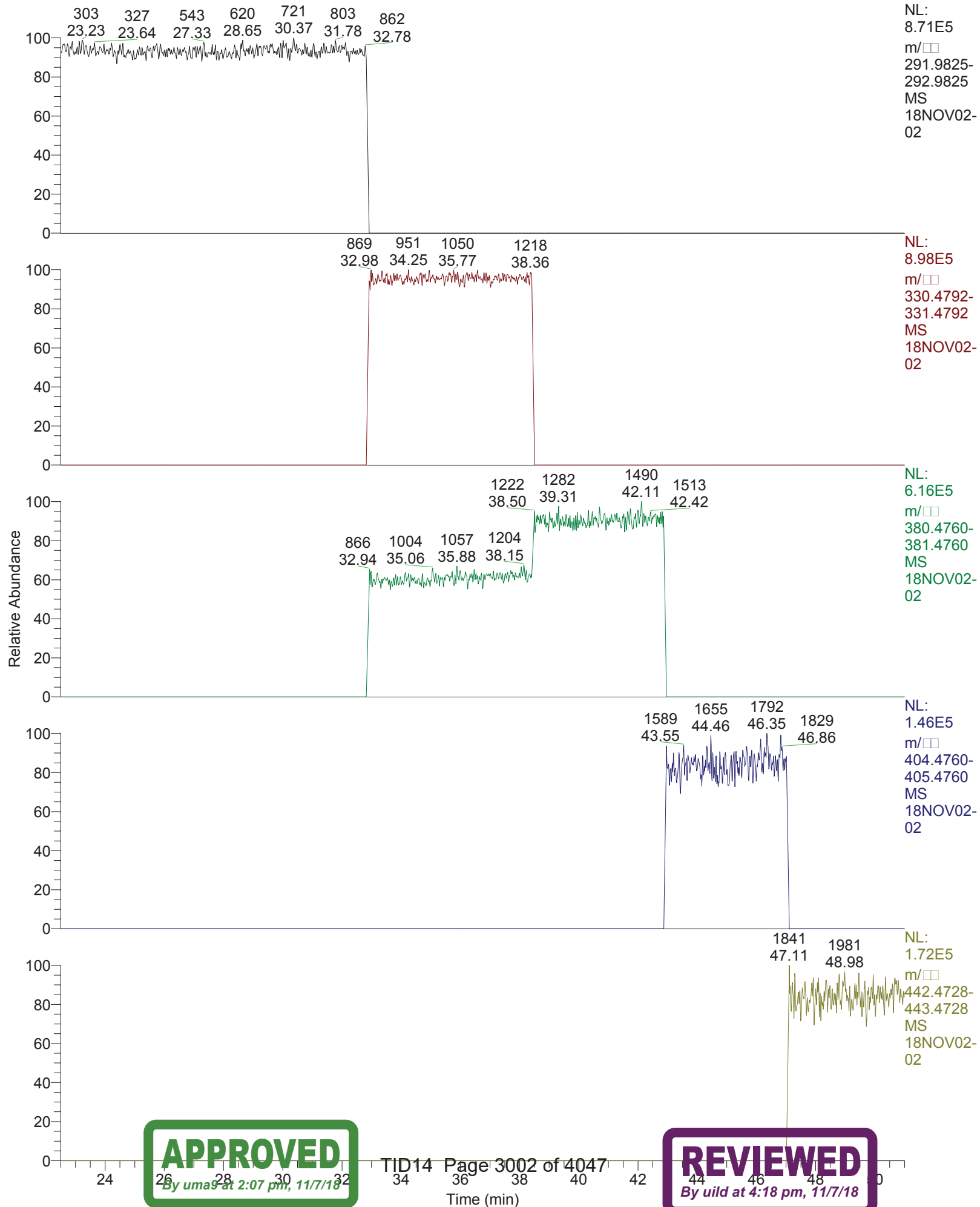
RT: 29.39 - 31.39 SM: 3G



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	30.37
RM1 Left Baseline Height	2162.36
RM1 Left Height	16180
RM1 Height	141485
GC Res (%) left	12.241831

RT: 22.50 - 51.00



18NOV02-02

*** file opened Fri Nov 02 15:28:57 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 02-Nov-18 15:28:56

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 1af585a9-84ae-4575-bfd7-43925d10e3f3

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:36 min	38:23 min	0.90 sec
# 4	38:23 min	4:27 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV02-02

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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3004 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-02

MID window terminated after 38.400000 minutes
MID window end time was 38.400000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	99.0000
BQUAD	3.1000	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	0.9992	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4255.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0072	FVINLET	0.0379	FVSR	0.0366
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1441894.7239	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9861	RELEN	0.0000
RES	11282.9301	RPUSHER	-6.0733	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	788.0000	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	5.0000	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	VMAS	99.0000	XLENS_POT	972.0000
XLENS_SYM	-2.5000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.5e-008 mbar
Pirani Analyse: 7.2e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11287.
MID Time window 2: Resolution is 11072.
MID Time window 3: Resolution is 11626.
MID Time window 4: Resolution is 11561.

Page 3

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3005 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-02

MID Time Window 5: Resolution is 11897.
MID Time Window 6: Resolution is 11282.

Amplifier Offset: 81.

*** File closed Fri Nov 02 16:19:59 2018



DF17611-18NOV02DFICAL									
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
	18NOV02-04	18NOV02-05	18NOV02-06	18NOV02-07	18NOV02-08	18NOV02-09			
2378-TCDF	1.1889	0.9736	1.0066	1.0406	1.0627	1.0357	1.0514	0.0741	7.05
2378-TCDD	1.4846	1.1285	1.1960	1.2134	1.2471	1.2314	1.2502	0.1220	9.76
12378-PeCDF	0.9587	0.9000	0.9275	0.9648	0.9527	0.9190	0.9371	0.0256	2.73
23478-PeCDF	1.0420	1.0162	1.0496	1.0672	1.0782	1.0496	1.0504	0.0214	2.04
12378-PeCDD	1.0391	0.9951	0.9568	1.0004	1.0270	0.9913	1.0016	0.0290	2.90
123478-HxCDF	1.0897	1.0680	1.1124	1.1654	1.1361	1.1103	1.1137	0.0342	3.07
123678-HxCDF	1.0900	1.0507	1.0677	1.1001	1.0910	1.0415	1.0735	0.0239	2.23
234678-HxCDF	1.1802	1.1053	1.1223	1.1866	1.1723	1.1296	1.1494	0.0344	2.99
123478-HxCDD	1.0104	1.0061	0.9828	1.0451	1.0475	0.9818	1.0123	0.0289	2.85
123678-HxCDD	0.9918	0.9988	1.0136	1.0004	1.0263	0.9854	1.0027	0.0149	1.49
123789-HxCDD	1.0527	1.0037	1.0517	1.0906	1.0810	1.0372	1.0528	0.0313	2.97
123789-HxCDF	1.1359	1.0420	1.0549	1.0941	1.0851	1.0333	1.0742	0.0385	3.58
1234678-HpCDF	1.0746	1.1985	1.1794	1.2509	1.2173	1.1919	1.1854	0.0597	5.04
1234678-HpCDD	1.0094	0.9936	1.0138	1.0408	1.0505	1.0084	1.0194	0.0217	2.12
1234789-HpCDF	1.2359	1.2024	1.1955	1.2562	1.2786	1.2207	1.2316	0.0320	2.60
OCDD	0.9680	0.9511	0.9773	1.0135	0.9930	1.0139	0.9861	0.0253	2.56
OCDF	0.8600	0.8239	0.8484	0.8806	0.8535	0.9077	0.8624	0.0288	3.34
13C12-1278-TCDD (CRS)	1.0713	1.0353	1.0238	1.1096	1.0121	1.0137	1.0443	0.0387	3.70
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	2.1517	2.0419	2.0001	2.0584	2.0020	1.9671	2.0369	0.0650	3.19
13C12-2378-TCDD	1.0360	1.0084	0.9733	1.0268	0.9950	0.9987	1.0064	0.0227	2.26
13C12-12378-PeCDF	1.9949	1.8862	1.8602	1.9794	1.9123	1.9252	1.9264	0.0523	2.72
13C12-23478-PeCDF	2.0047	1.8469	1.8316	1.9984	1.8967	1.9448	1.9205	0.0743	3.87
13C12-12378-PeCDD	1.0800	0.9830	0.9970	1.0757	1.0364	1.0603	1.0387	0.0409	3.94
13C12-123478-HxCDF	1.4499	1.3946	1.4023	1.4943	1.4573	1.4824	1.4468	0.0409	2.82
13C12-123678-HxCDF	1.5131	1.4937	1.4802	1.5935	1.5565	1.6397	1.5461	0.0621	4.02
13C12-234678-HxCDF	1.3979	1.3746	1.3716	1.4669	1.4013	1.4719	1.4140	0.0446	3.15
13C12-123478-HxCDD	1.0204	0.9360	0.9459	1.0213	0.9890	1.0793	0.9987	0.0535	5.35
13C12-123678-HxCDD	1.0364	0.9853	0.9622	1.0696	1.0438	1.1246	1.0370	0.0584	5.63
13C12-123789-HxCDD	0.9986	0.9421	0.9233	0.9962	0.9805	1.0326	0.9789	0.0401	4.09
13C12-123789-HxCDF	1.3107	1.2740	1.2440	1.3475	1.3230	1.3828	1.3137	0.0499	3.80
13C12-1234678-HpCDF	1.3132	1.2584	1.2210	1.4038	1.2968	1.4081	1.3169	0.0760	5.77
13C12-1234678-HpCDD	0.9887	0.9257	0.8803	1.0470	0.9386	1.0538	0.9723	0.0696	7.16
13C12-1234789-HpCDF	1.0898	1.0558	1.0113	1.1890	1.0841	1.2062	1.1060	0.0764	6.90
13C12-OCDD	1.0146	0.9221	0.8652	1.1365	0.9879	1.2420	1.0280	0.1394	13.55
13C12-OCDF	1.4281	1.3798	1.2711	1.6588	1.4772	1.8316	1.5078	0.2037	13.51
Total TCDF	1.1889	0.9736	1.0066	1.0406	1.0627	1.0357	1.0514	0.0741	7.05
Total TCDD	1.4846	1.1285	1.1960	1.2134	1.2471	1.2314	1.2502	0.1220	9.76
Total PeCDD	1.0391	0.9951	0.9568	1.0004	1.0270	0.9913	1.0016	0.0290	2.90
Total PeCDF	1.0004	0.9575	0.9881	1.0162	1.0152	0.9846	0.9937	0.0221	2.22
Total HpCDD	1.0094	0.9936	1.0138	1.0408	1.0505	1.0084	1.0194	0.0217	2.12
Total HxCDF	1.1228	1.0666	1.0898	1.1368	1.1209	1.0784	1.1026	0.0281	2.55
Total HxCDD	1.0179	1.0028	1.0157	1.0443	1.0511	1.0007	1.0221	0.0211	2.06
Total HpCDF	1.1478	1.2002	1.1867	1.2533	1.2452	1.2052	1.2064	0.0389	3.23

APPROVED

By uma9 at 2:07 pm, 11/7/18

REVIEWED

By uild at 4:18 pm, 11/7/18

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 17:16
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov02\18nov02-04.quan
Data	x:\18nov02\18nov02-04.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Dependent 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

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	29.20	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.36	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.27	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.56	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.98	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.29	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.44	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	41.47	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	45.13	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)	30.76	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.47	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.20	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.15	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.31	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.25	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.55	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.96	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.28	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.43	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	41.45	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	48.16	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.33	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.23	passed (1)	---	---	---	---	---	
39	Total TCDD	28.96	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.83	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.77	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.50	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.73	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.73	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.83	passed (2)	---	---	---	---	---	
46	Single TCDF	29.20	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.36	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	36.98	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.56	passed	passed	passed	passed	passed	passed	
50	Single PeCDD	35.27	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.13	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.16	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.29	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.44	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	41.47	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	45.69	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	43.92	passed	passed	passed	passed	passed	passed	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 17:16
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

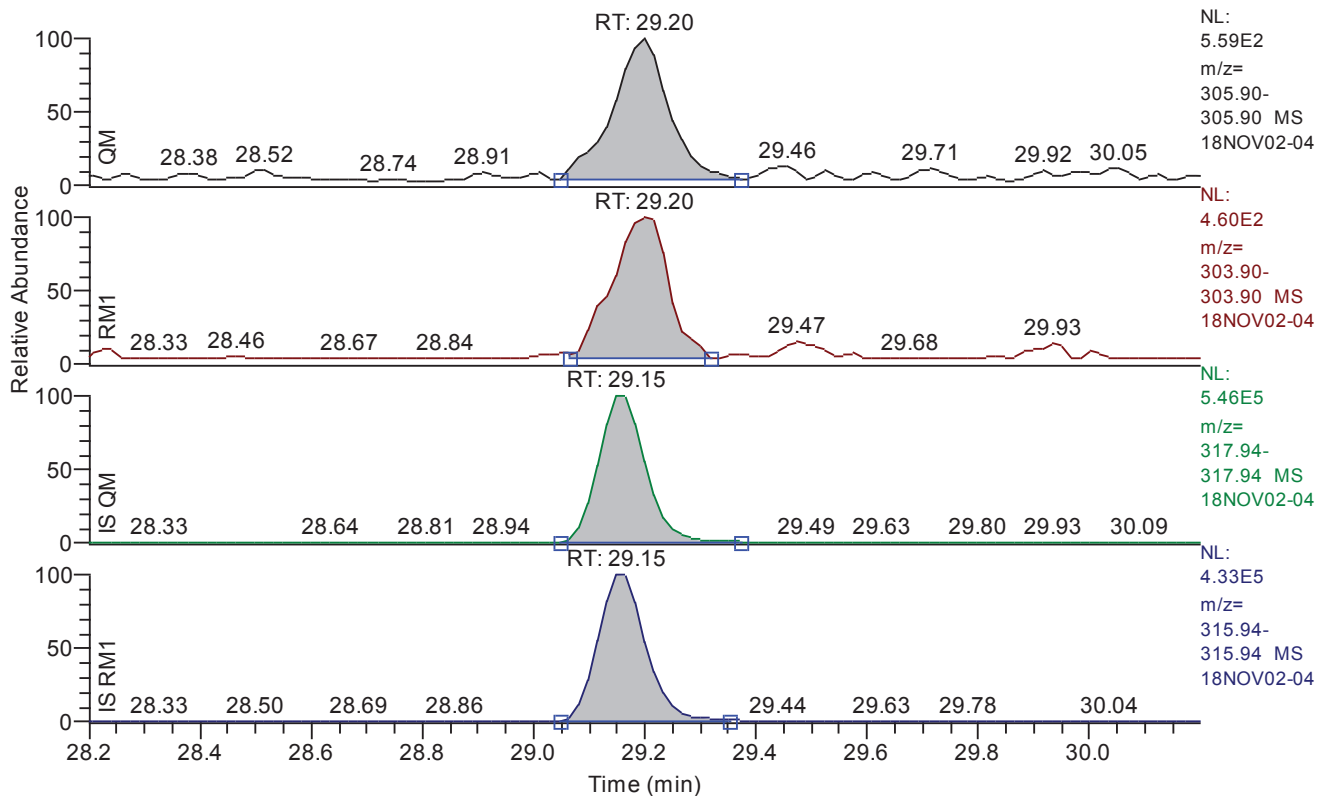
Quan	x:\18nov02\18nov02-04.quan
Data	x:\18nov02\18nov02-04.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.20 - 30.20 SM: 3G

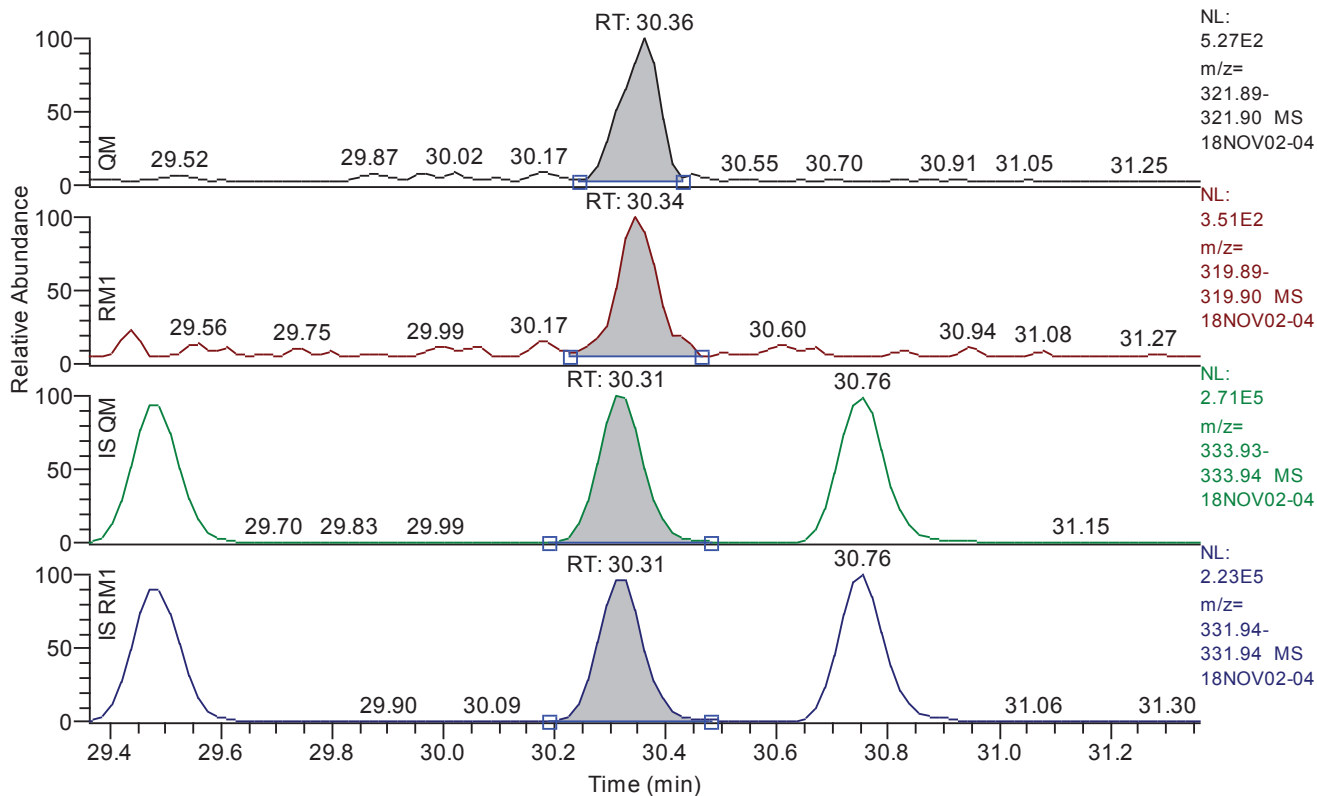


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.20
QM Area	3862
QM Integration Mode	A
RM1 Area	3172
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0033
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	64
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.36 - 31.36 SM: 3G

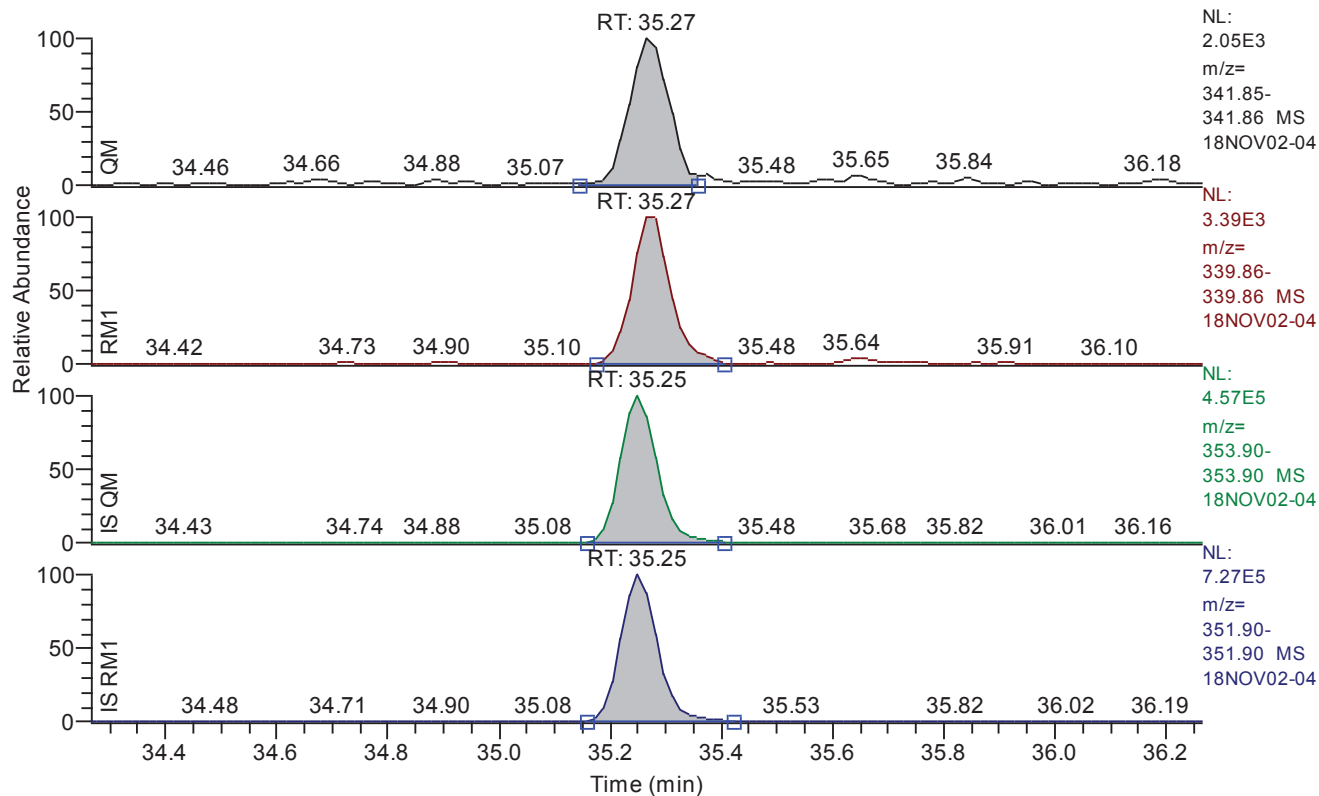


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.36
QM Area	2484
QM Integration Mode	A
RM1 Area	1745
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0032
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	90
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.27 - 36.27 SM: 3G

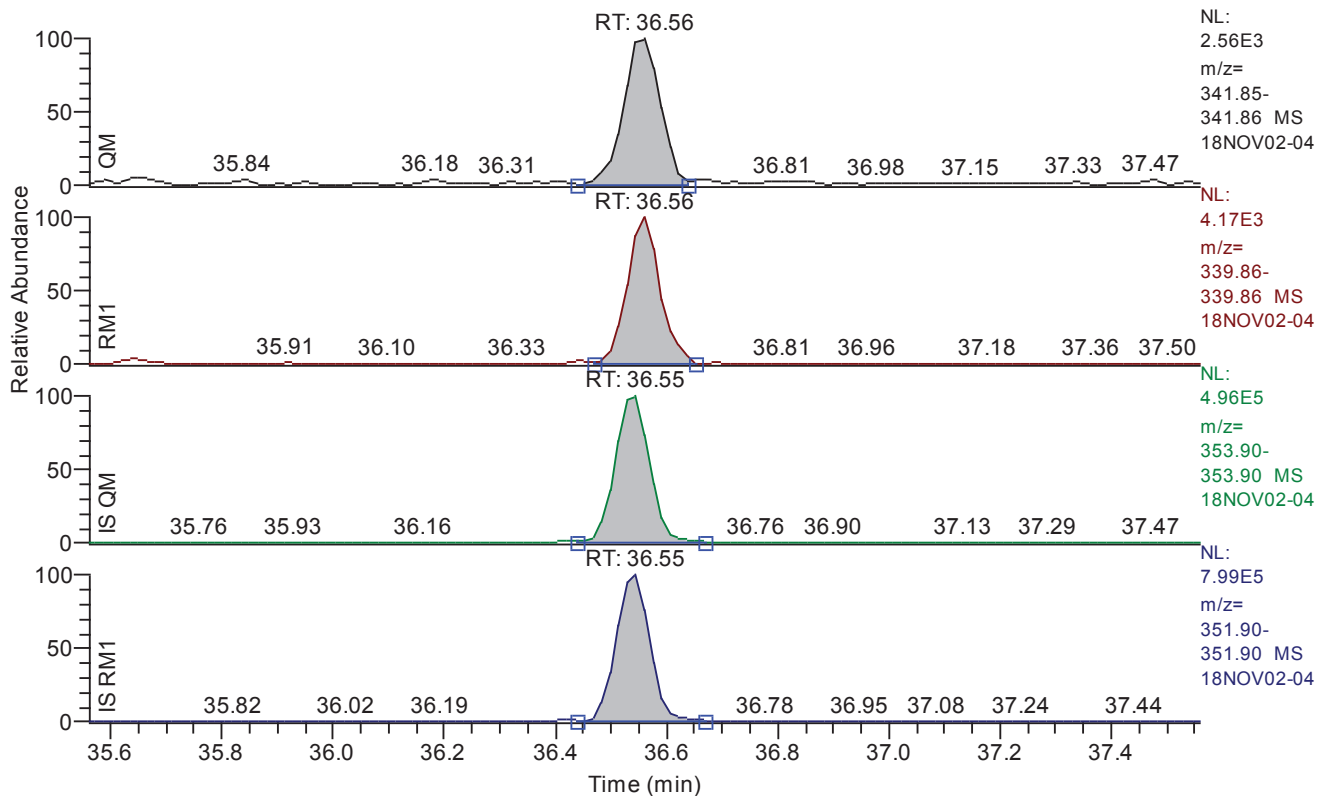


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.27
QM Area	10017
QM Integration Mode	A
RM1 Area	16273
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0037
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	322
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.56 - 37.56 SM: 3G

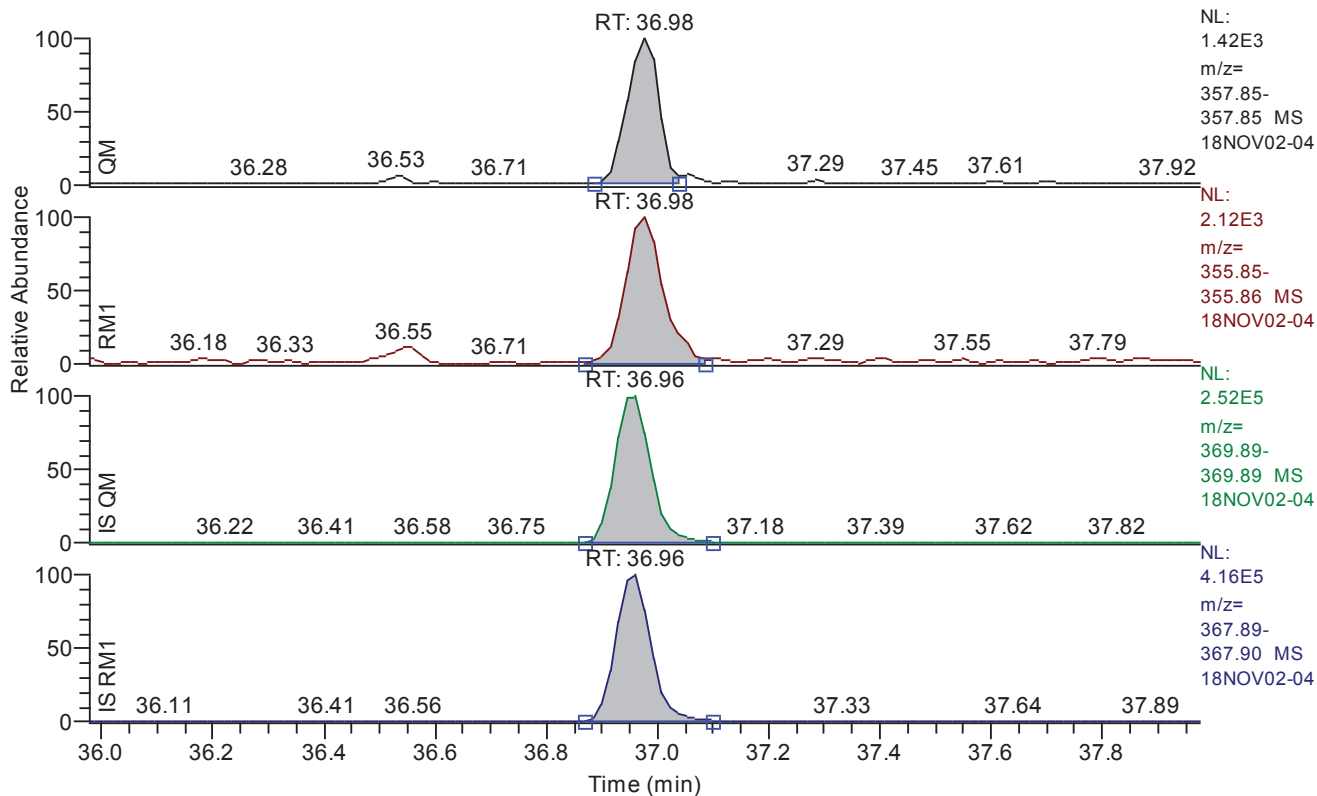


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.56
QM Area	11665
QM Integration Mode	A
RM1 Area	17051
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0031
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	399
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.98 - 37.98 SM: 3G

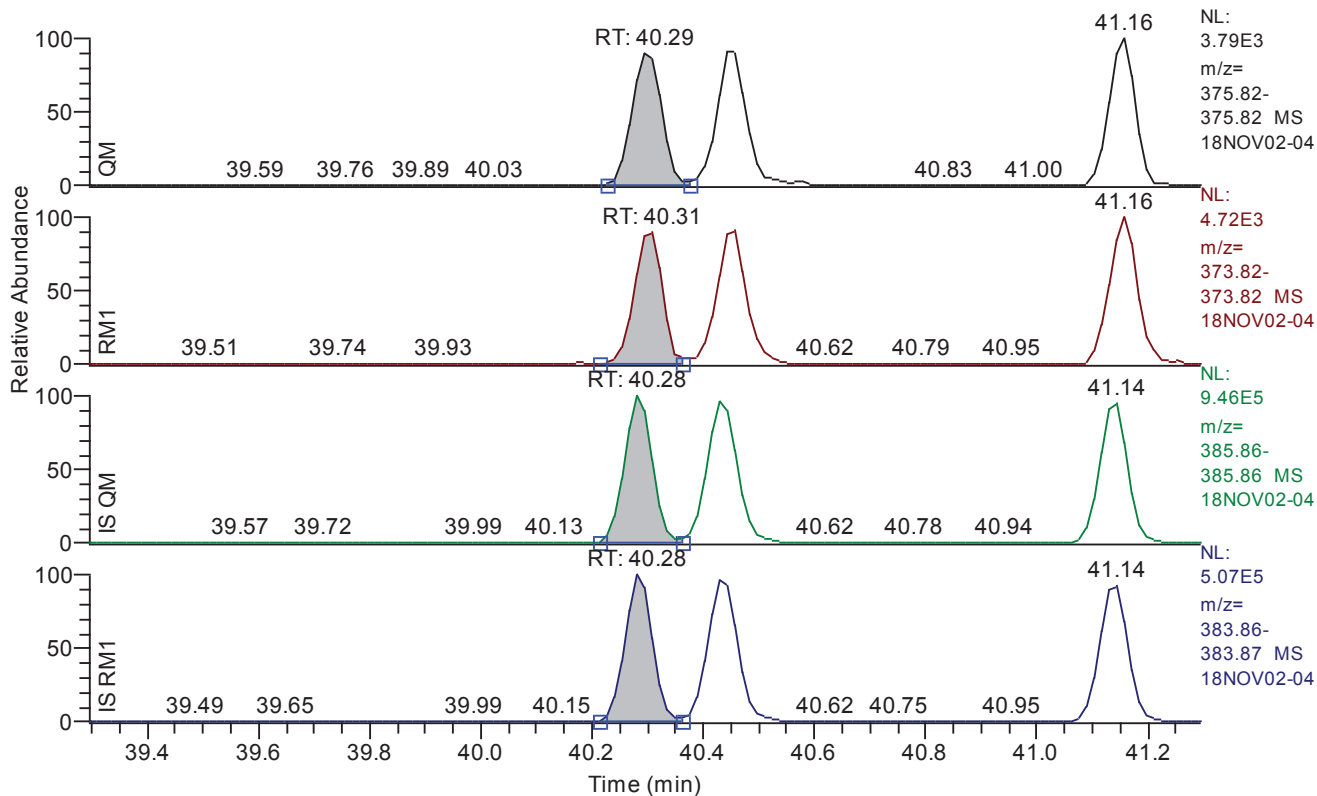


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	36.98
QM Area	5545
QM Integration Mode	A
RM1 Area	9883
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	166
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.29 - 41.29 SM: 3G

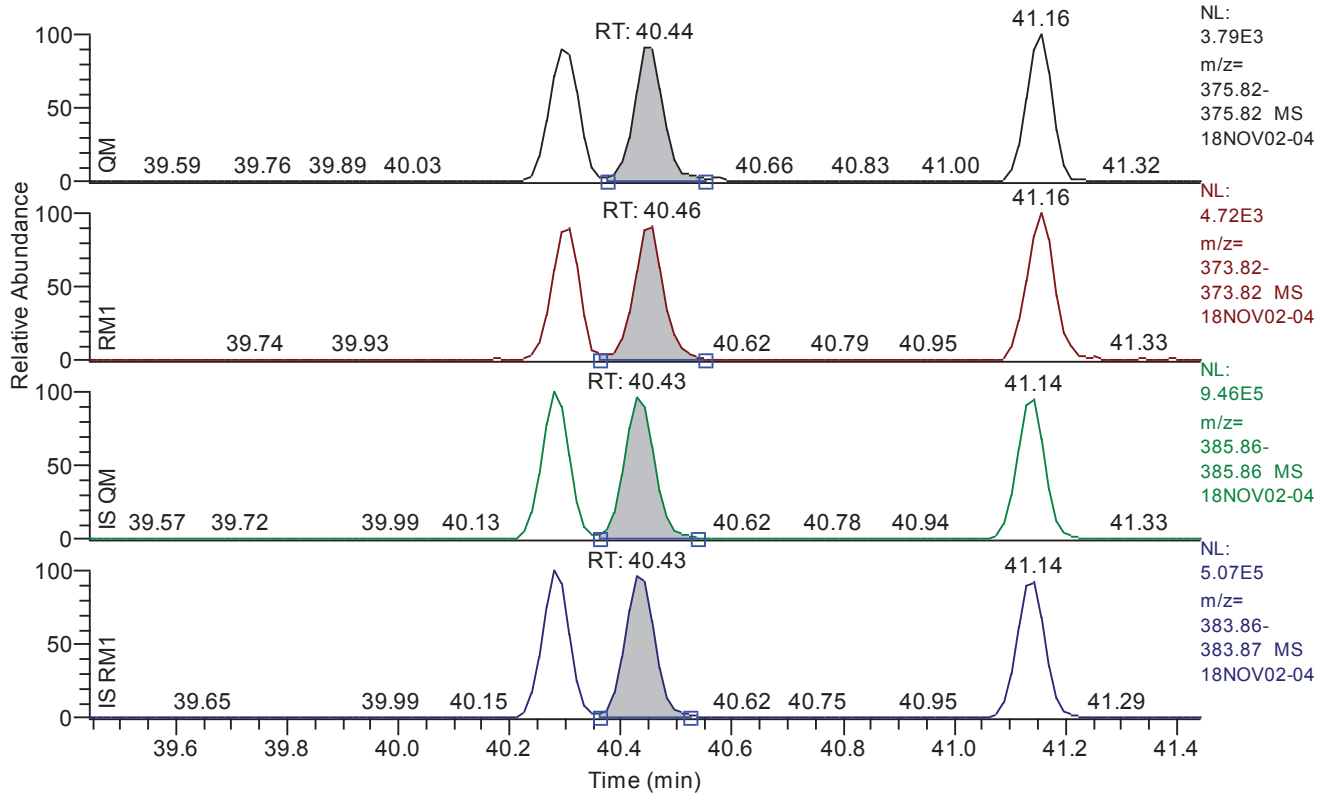


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.29
QM Area	12654
QM Integration Mode	A
RM1 Area	14795
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0027
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	450
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.44 - 41.44 SM: 3G

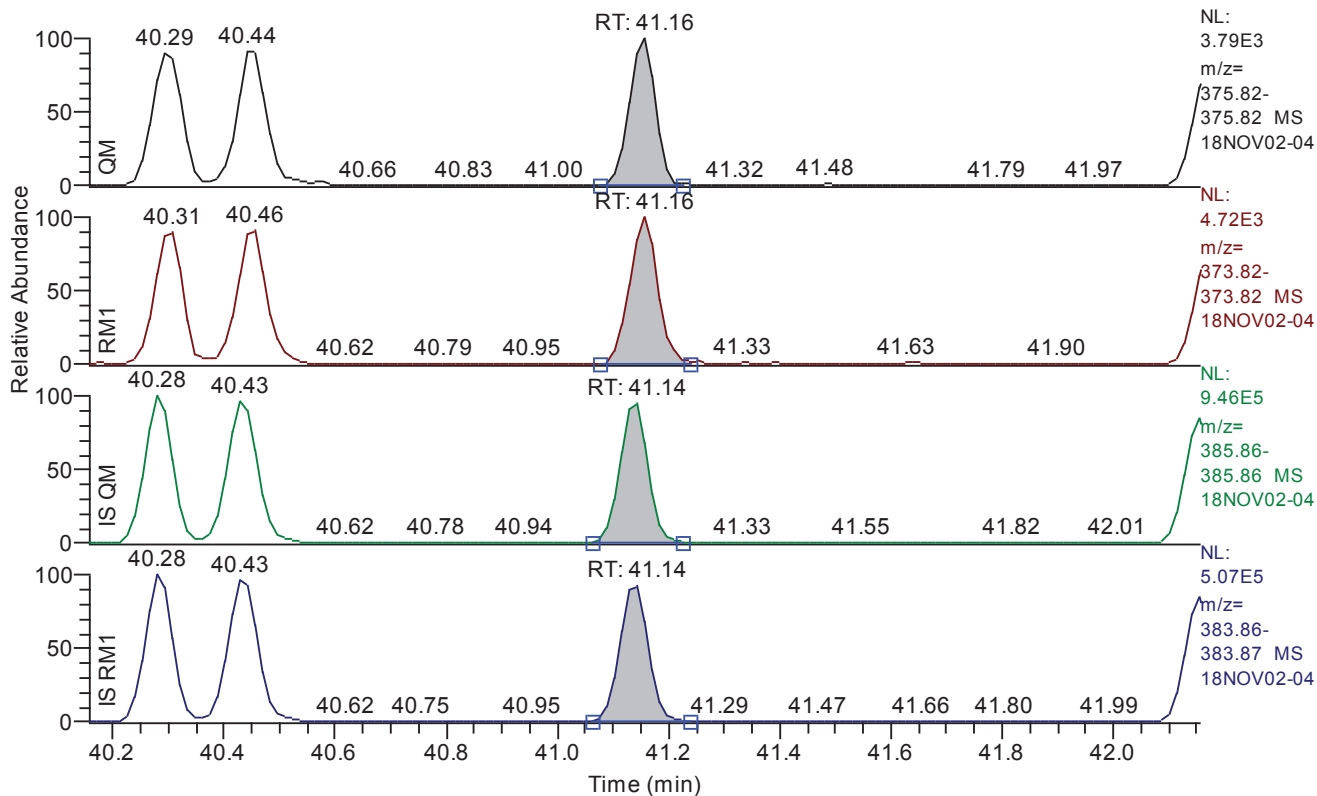


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.44
QM Area	12626
QM Integration Mode	A
RM1 Area	16026
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0028
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	454
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.16 - 42.16 SM: 3G

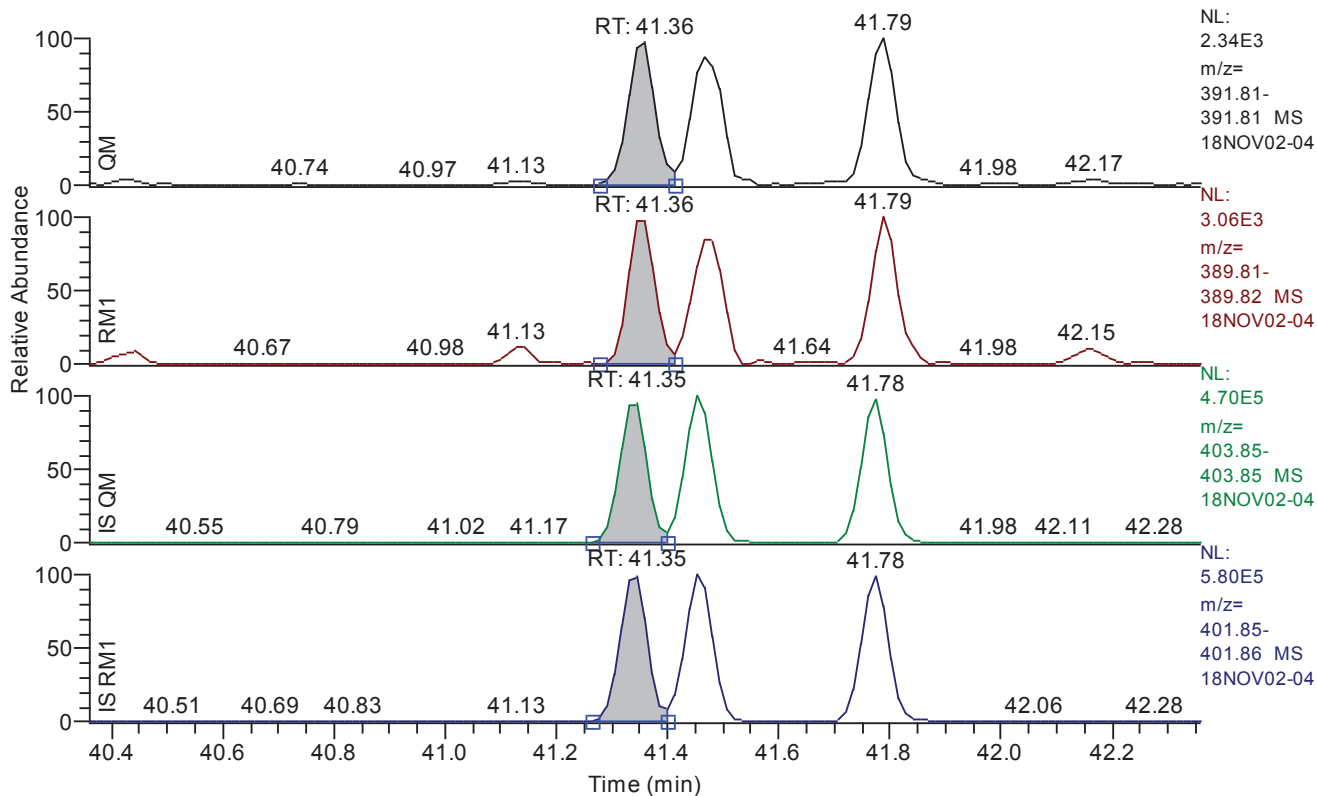


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.16
QM Area	12236
QM Integration Mode	A
RM1 Area	16425
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0026
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	498
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.36 - 42.36 SM: 3G

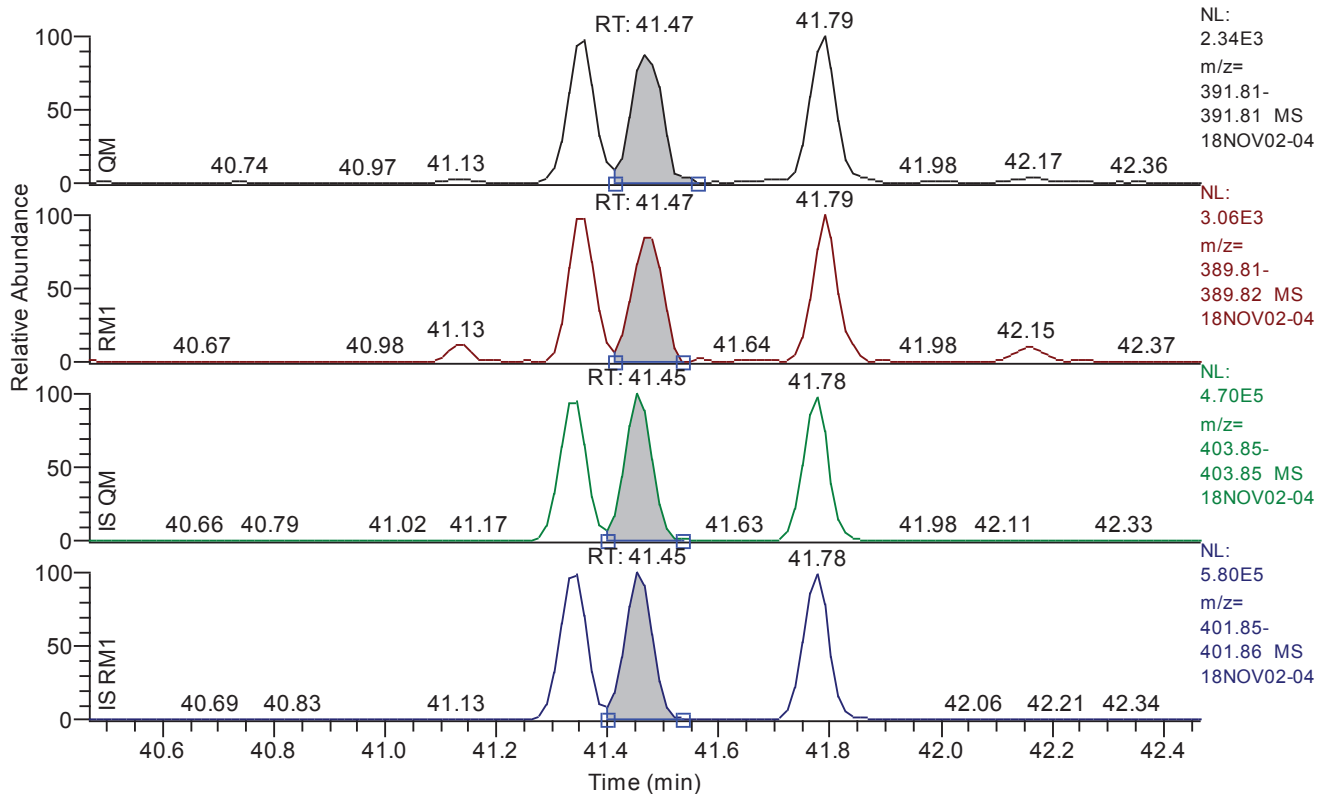


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.36
QM Area	7760
QM Integration Mode	A
RM1 Area	10151
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0042
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	303
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.47 - 42.47 SM: 3G

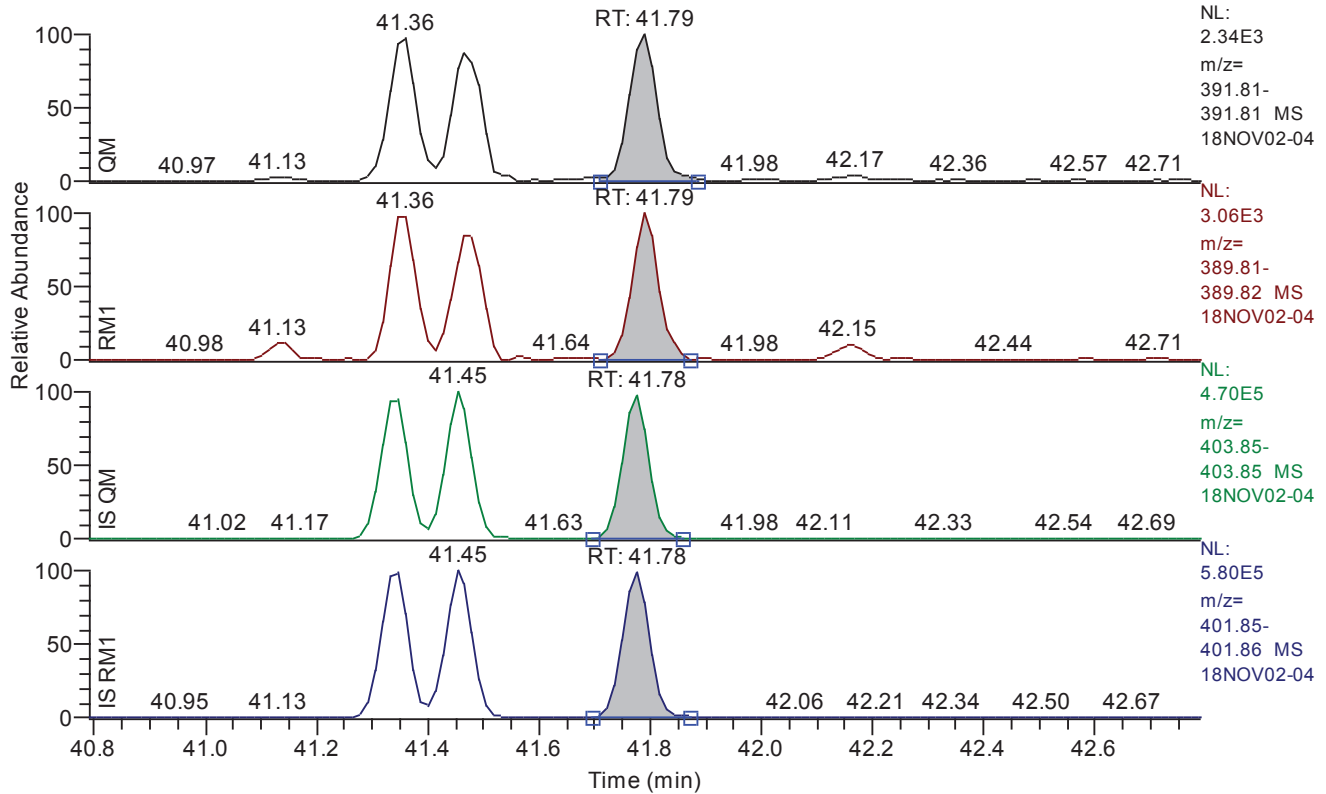


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.47
QM Area	7925
QM Integration Mode	A
RM1 Area	9932
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0042
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	265
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.79 - 42.79 SM: 3G

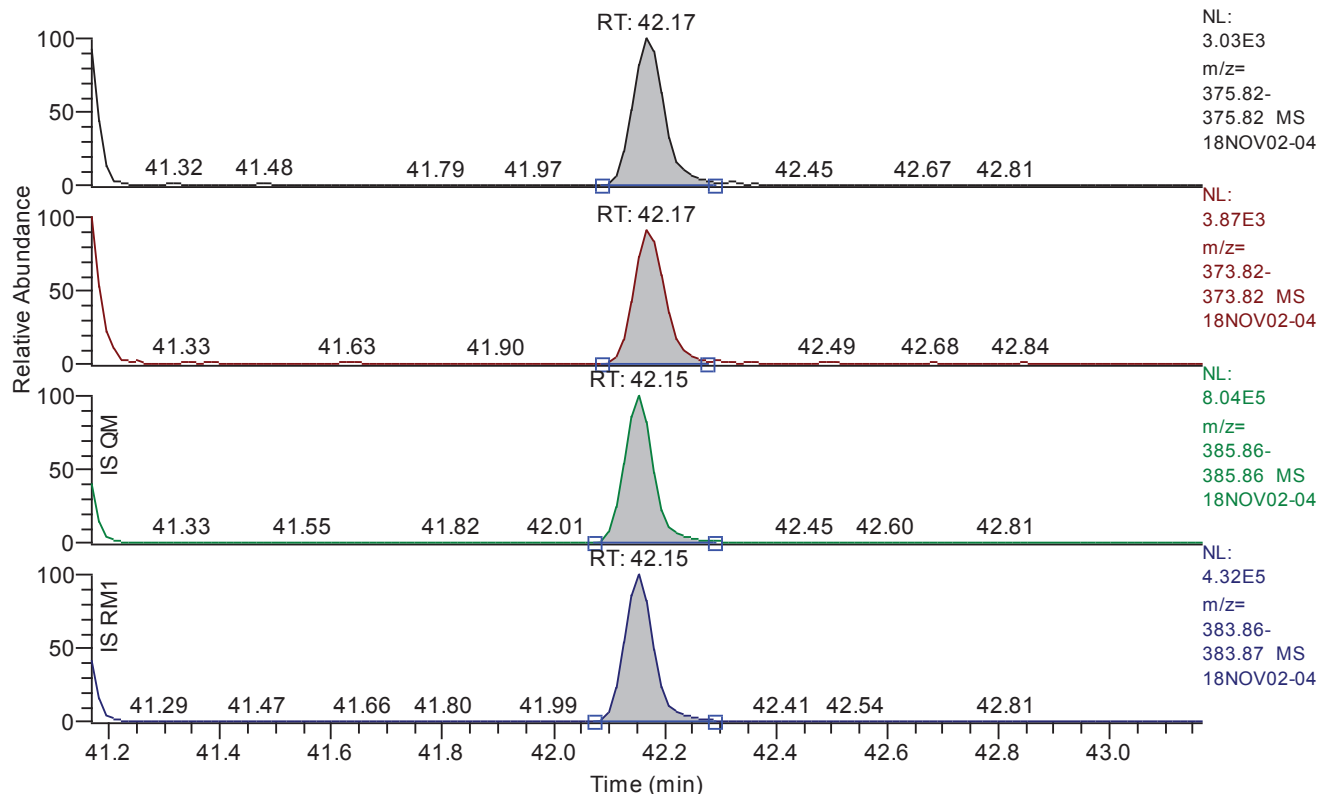


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.79
QM Area	8214
QM Integration Mode	A
RM1 Area	10048
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	309
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.17 - 43.17 SM: 3G

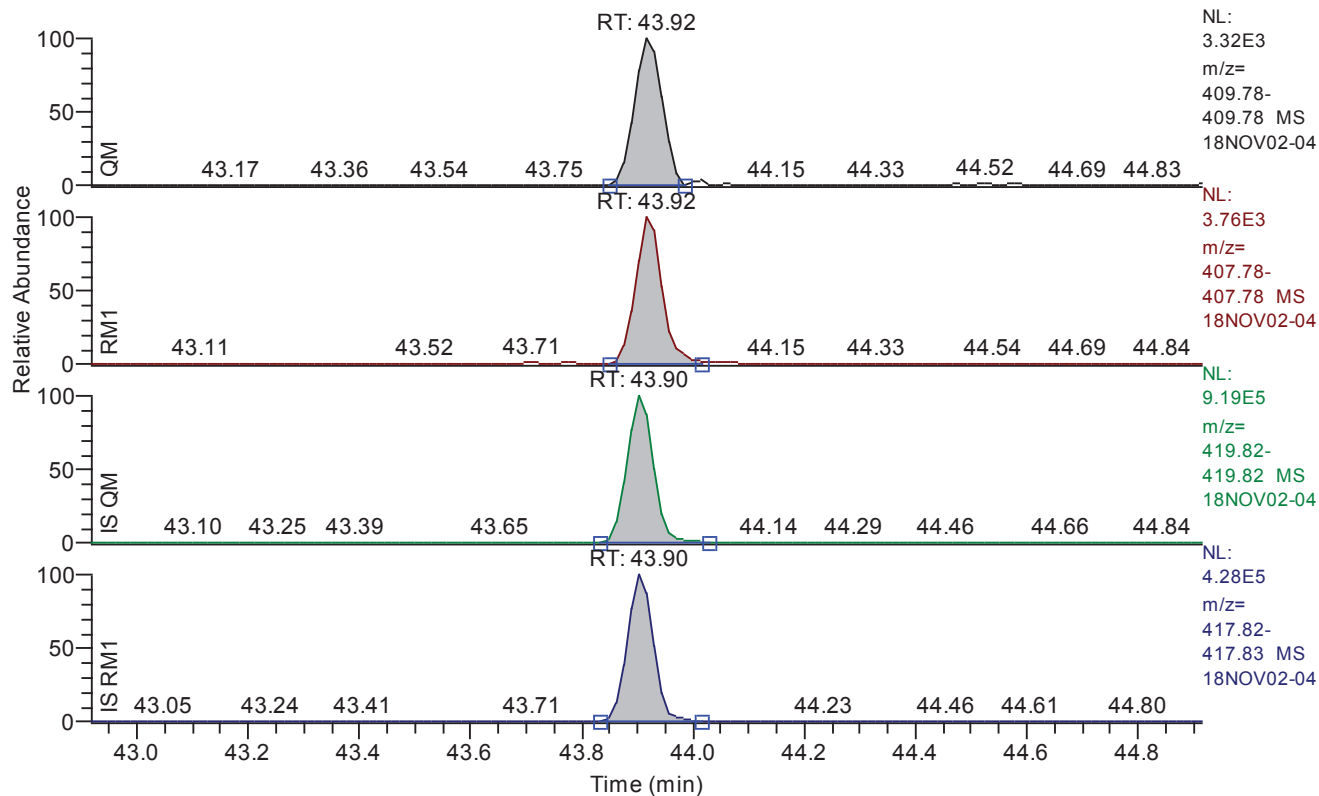


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.17
QM Area	12011
QM Integration Mode	A
RM1 Area	13854
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0030
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	384
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 42.92 - 44.92 SM: 3G

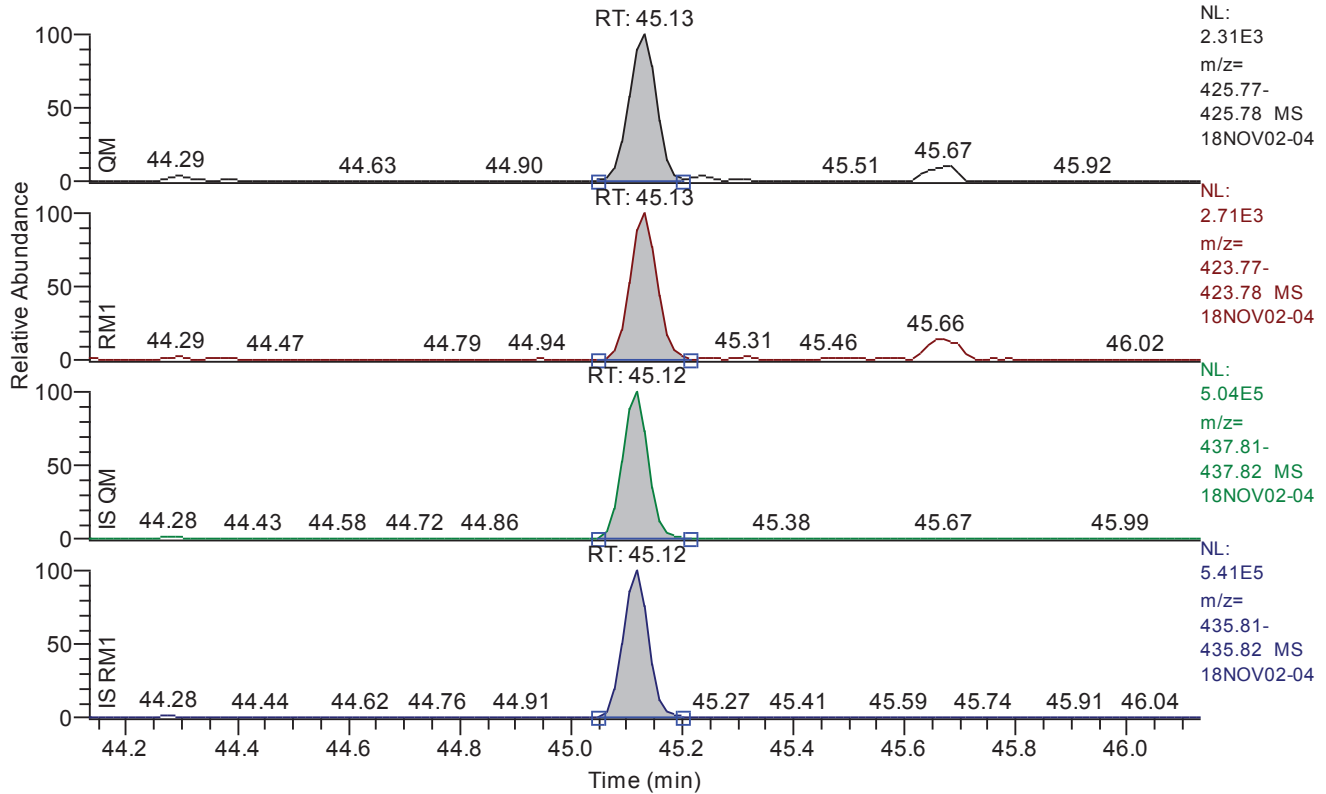


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.92
QM Area	11785
QM Integration Mode	A
RM1 Area	12732
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0021
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	581
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.13 - 46.13 SM: 3G

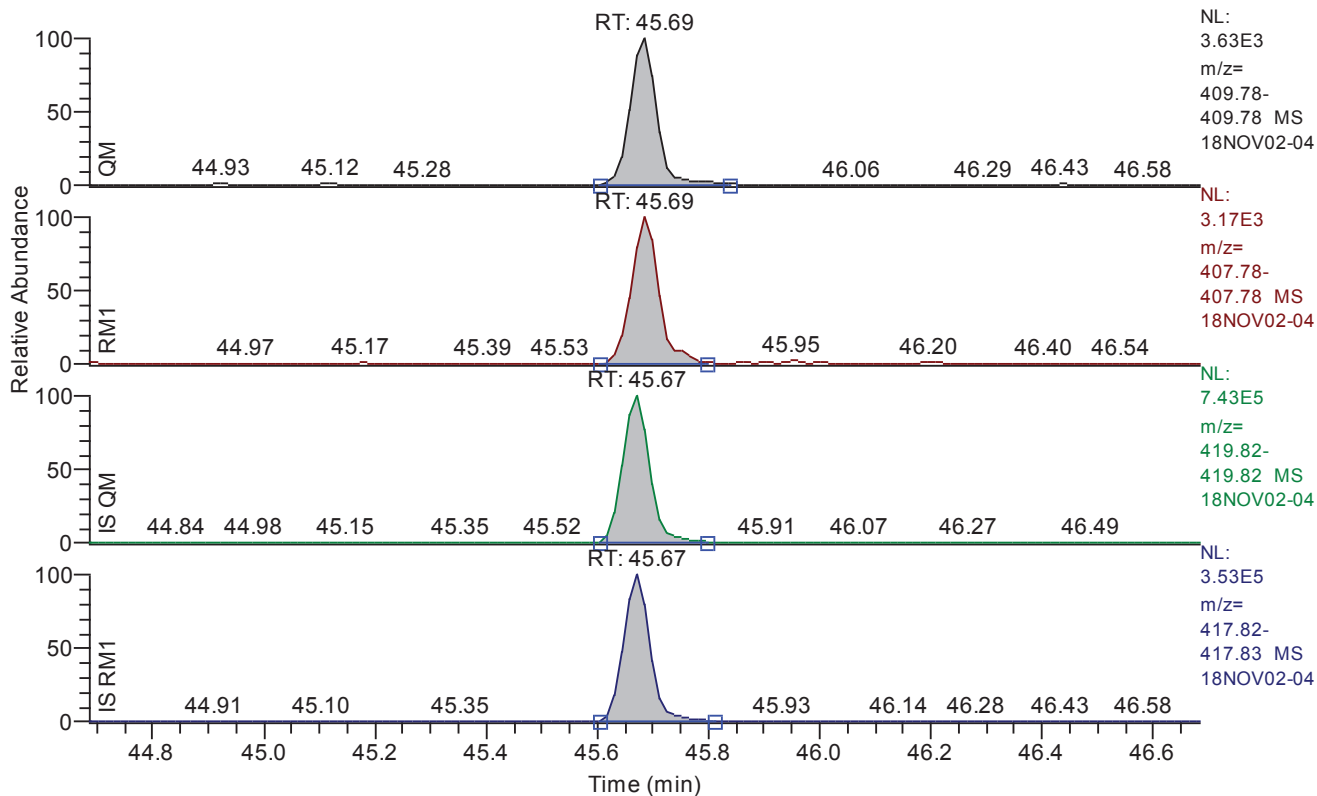


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.13
QM Area	8068
QM Integration Mode	A
RM1 Area	9271
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0029
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	410
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.69 - 46.69 SM: 3G

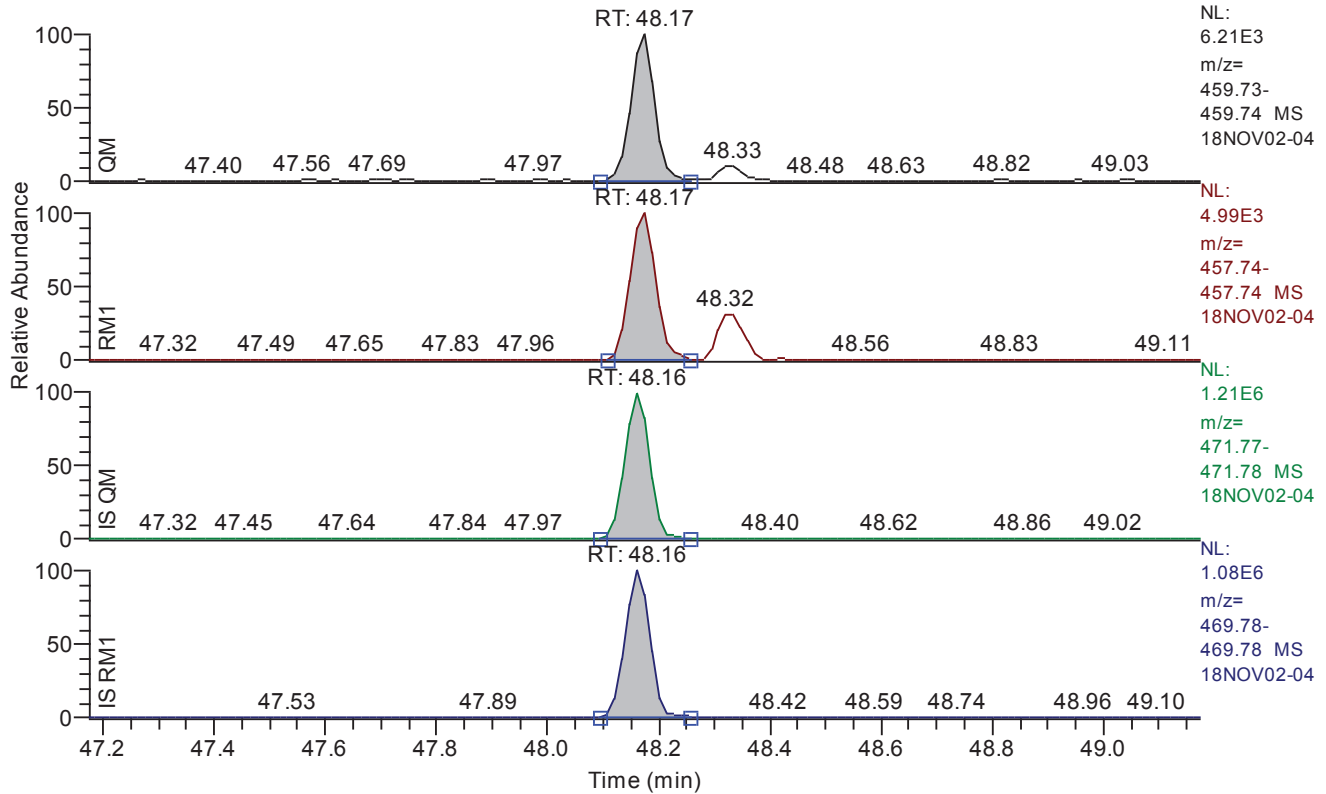


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.69
QM Area	12320
QM Integration Mode	A
RM1 Area	11080
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0022
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	558
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.17 - 49.17 SM: 3G

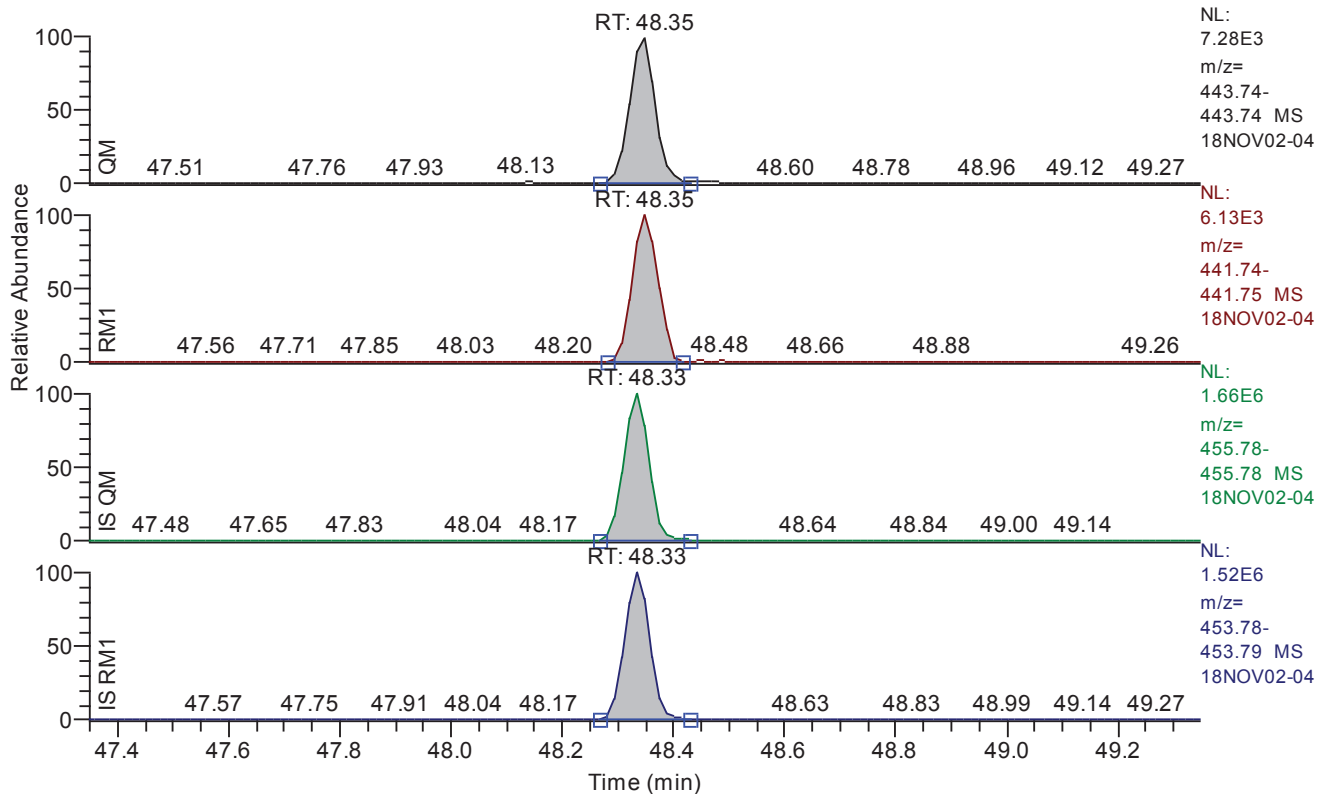


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.17
QM Area	18254
QM Integration Mode	A
RM1 Area	15872
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	413
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.35 - 49.35 SM: 3G

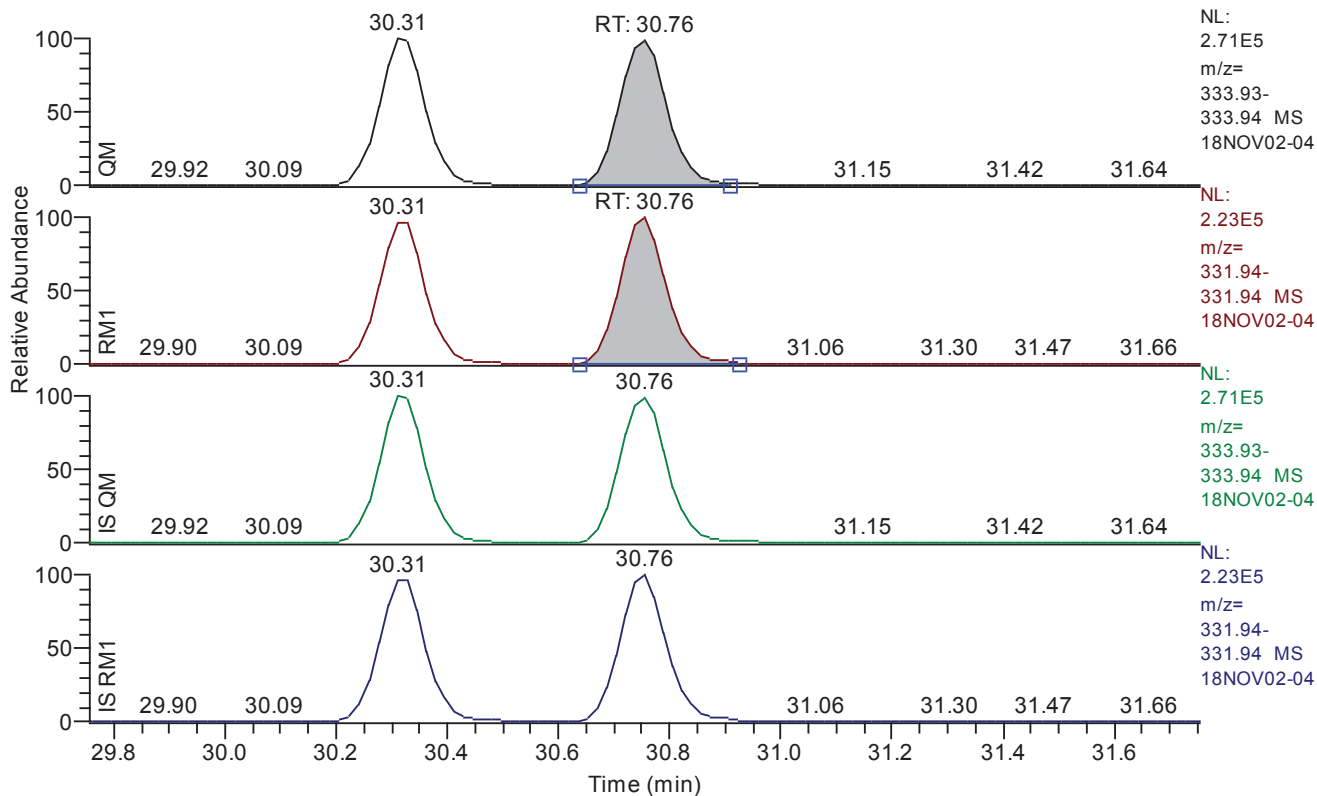


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.35
QM Area	23104
QM Integration Mode	A
RM1 Area	19571
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0042
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	584
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.76 - 31.76 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.76
QM Area	1627694
QM Integration Mode	A
RM1 Area	1317946
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0239
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	10444
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 17:16
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

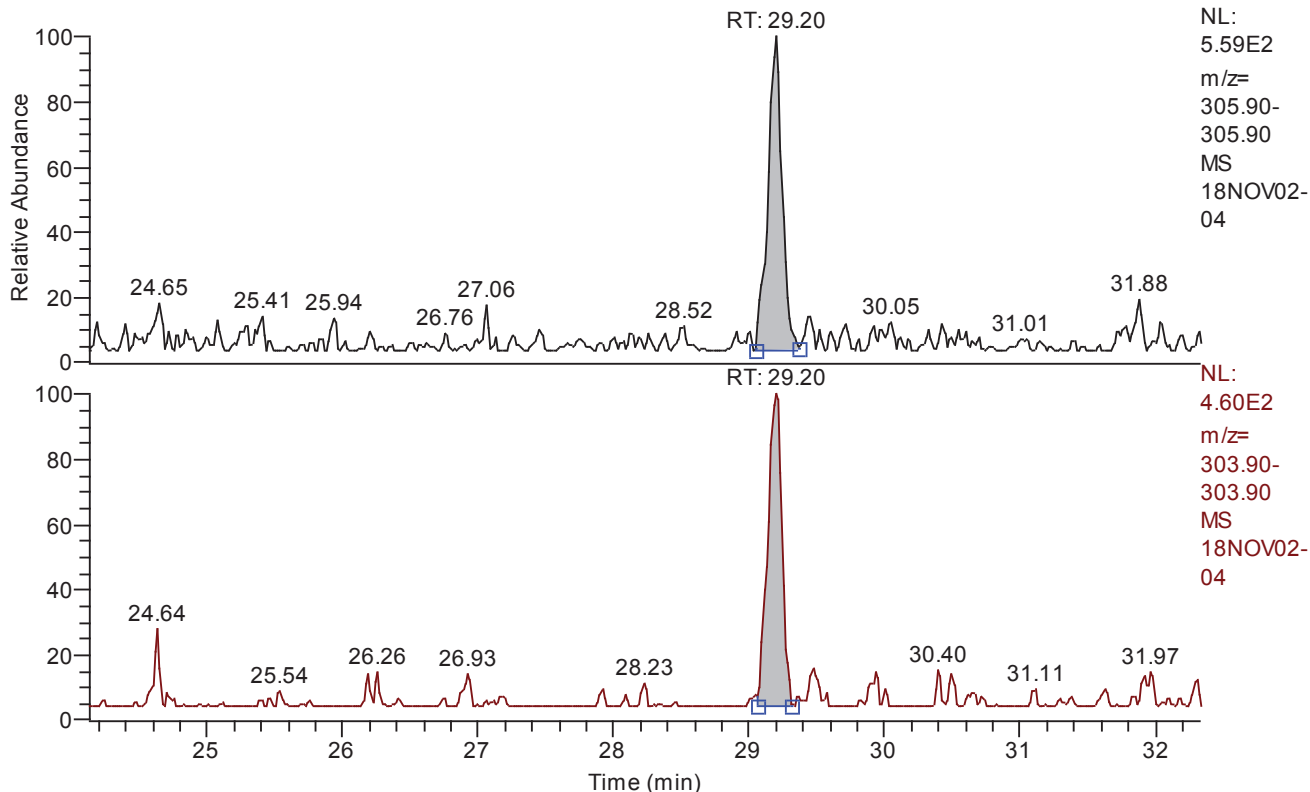
Quan	x:\18nov02\18nov02-04.quan
Data	x:\18nov02\18nov02-04.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent 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

Chromatogram

RT: 24.13 - 32.33 SM: 3G

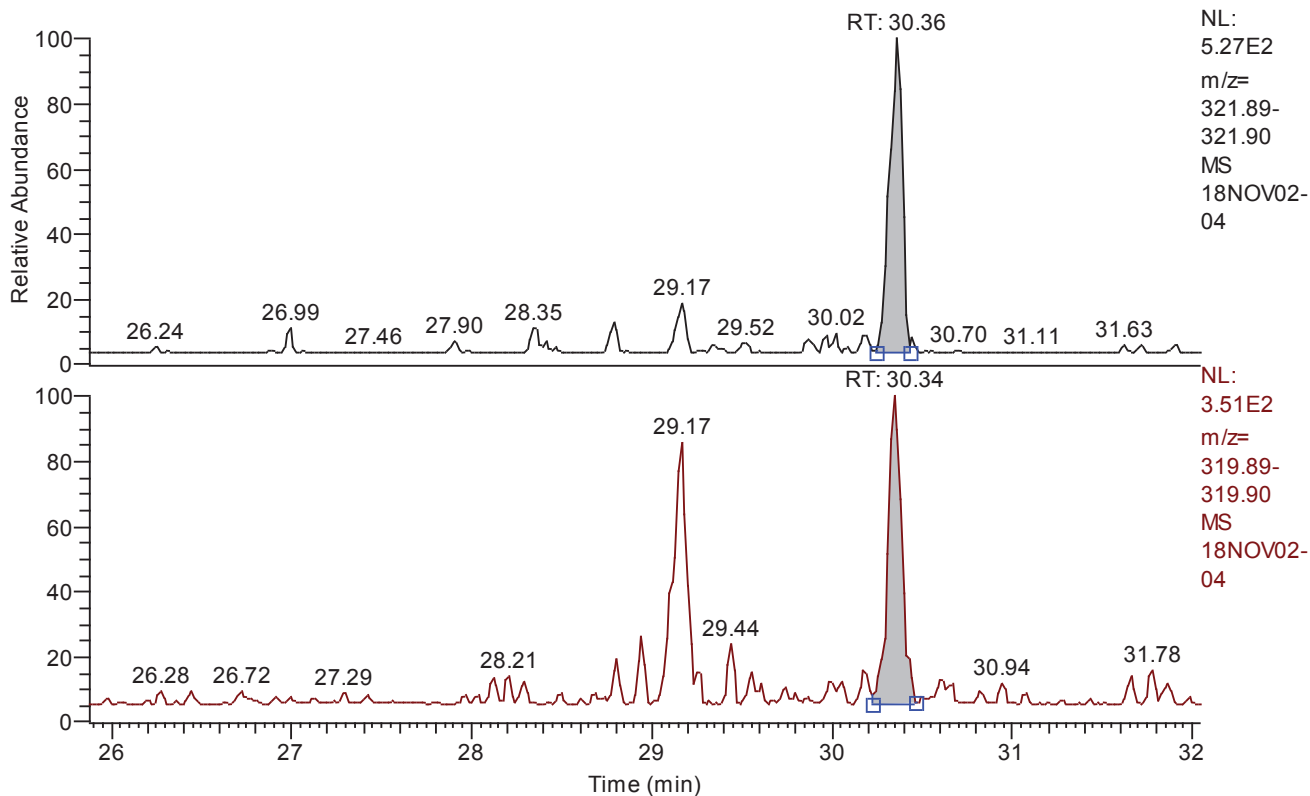


Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.23
QM Area	3862
QM Integration Mode	A
RM1 Area	3172
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0033
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	64
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 25.87 - 32.05 SM: 3G

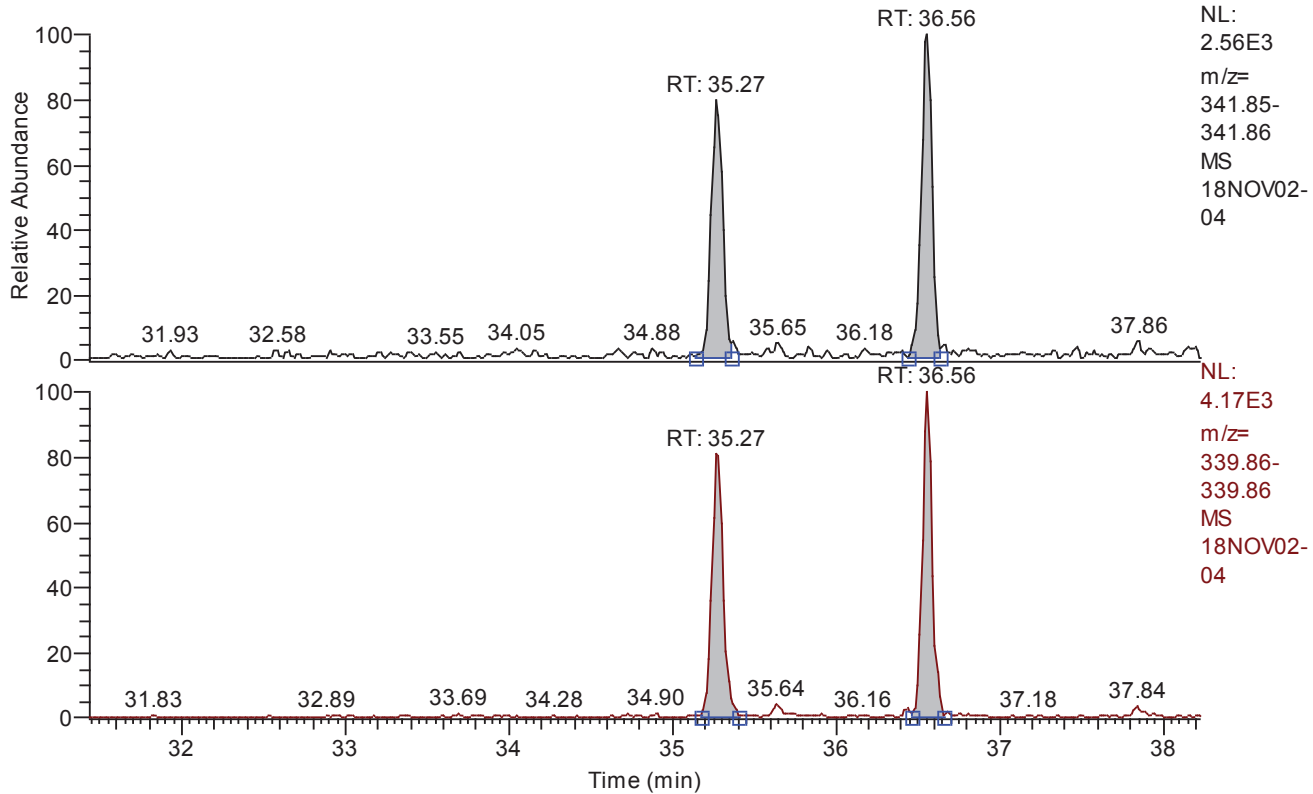


Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.96
QM Area	2484
QM Integration Mode	A
RM1 Area	1745
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0032
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	90
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 31.43 - 38.23 SM: 3G

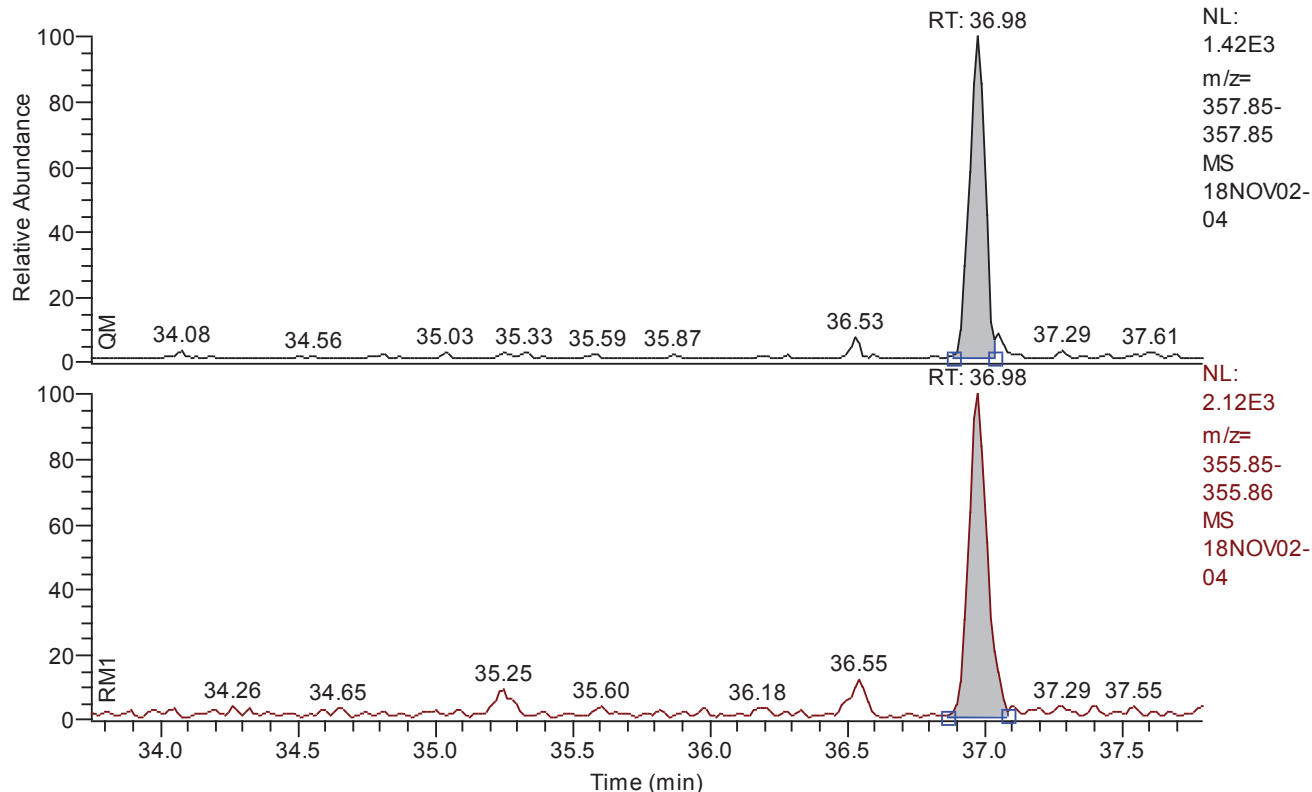


Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.83
QM Area	21683
QM Integration Mode	A
RM1 Area	33324
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0034
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	361
Client Flags	
Status Overview	passed (2)
Status Info	

Chromatogram

RT: 33.75 - 37.79 SM: 3G

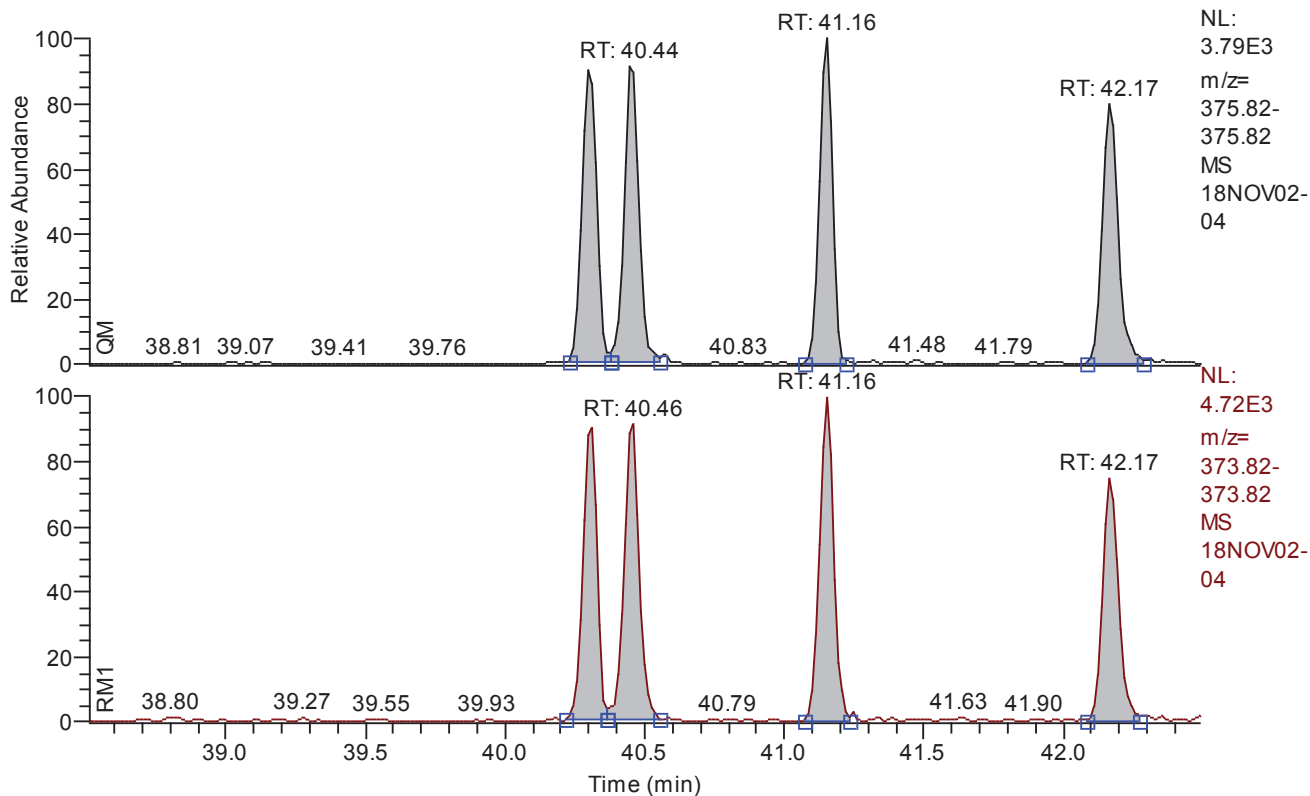


Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.77
QM Area	5545
QM Integration Mode	A
RM1 Area	9883
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	166
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 38.51 - 42.49 SM: 3G

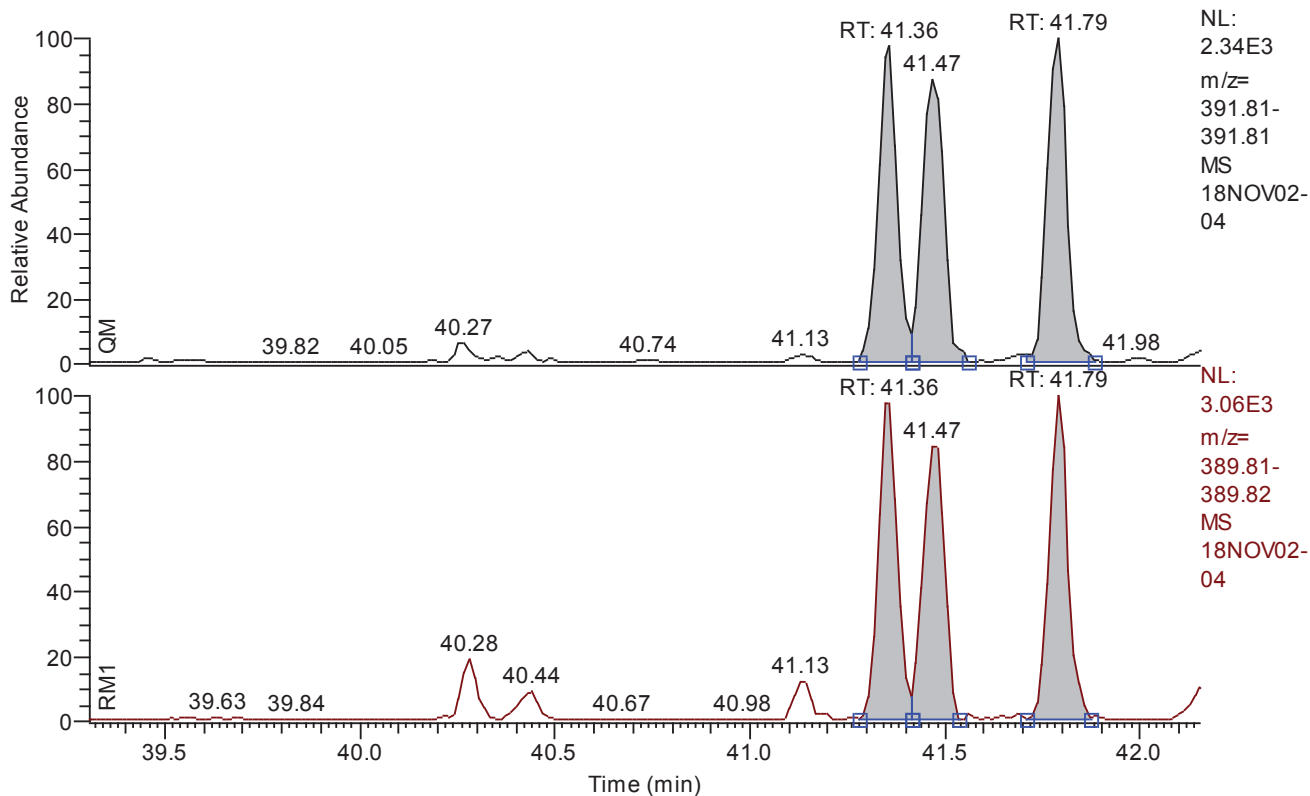


Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.50
QM Area	49527
QM Integration Mode	A
RM1 Area	61100
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0028
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	2.0000
Signal-to-Noise	447
Client Flags	
Status Overview	passed (4)
Status Info	

Chromatogram

RT: 39.31 - 42.15 SM: 3G

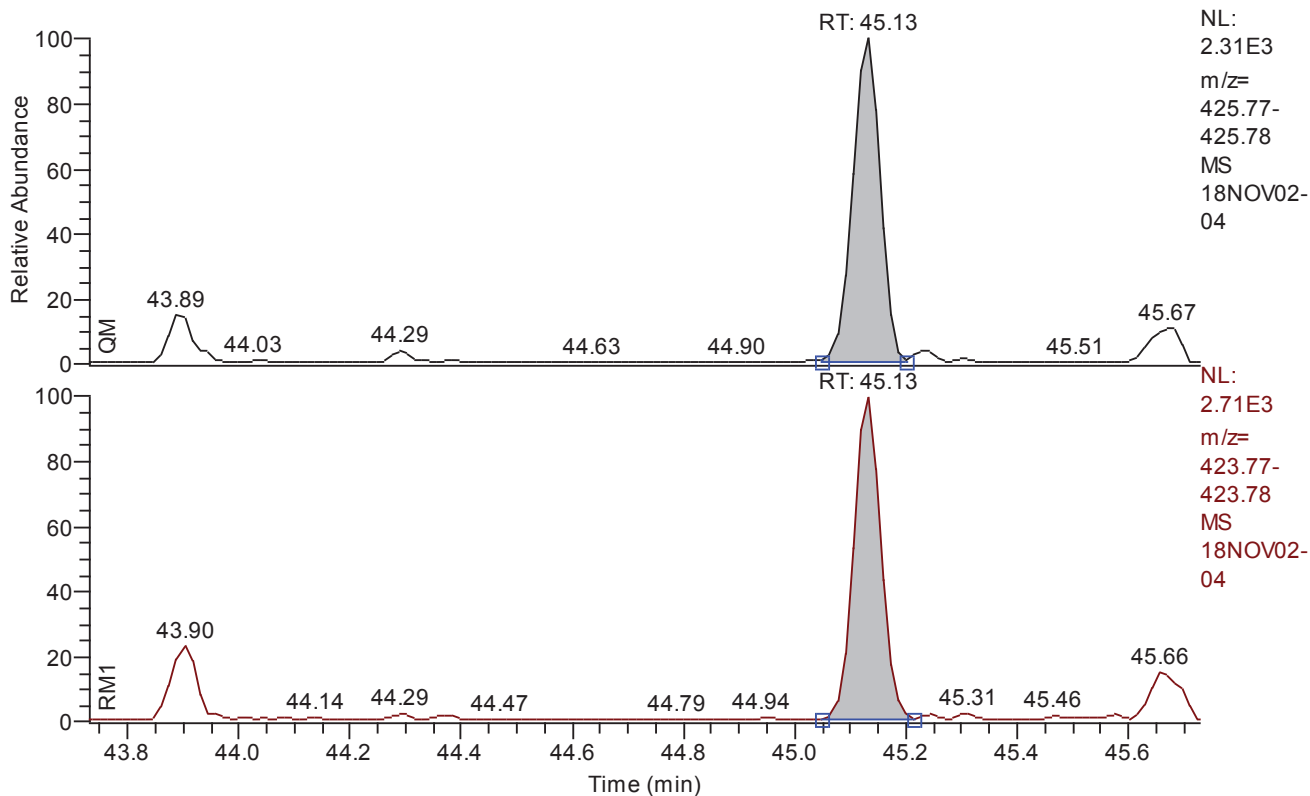


Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.73
QM Area	23899
QM Integration Mode	A
RM1 Area	30131
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0041
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.5000
Signal-to-Noise	293
Client Flags	
Status Overview	passed (3)
Status Info	

Chromatogram

RT: 43.73 - 45.73 SM: 3G



NL:
2.31E3
m/z=
425.77-
425.78
MS
18NOV02-
04

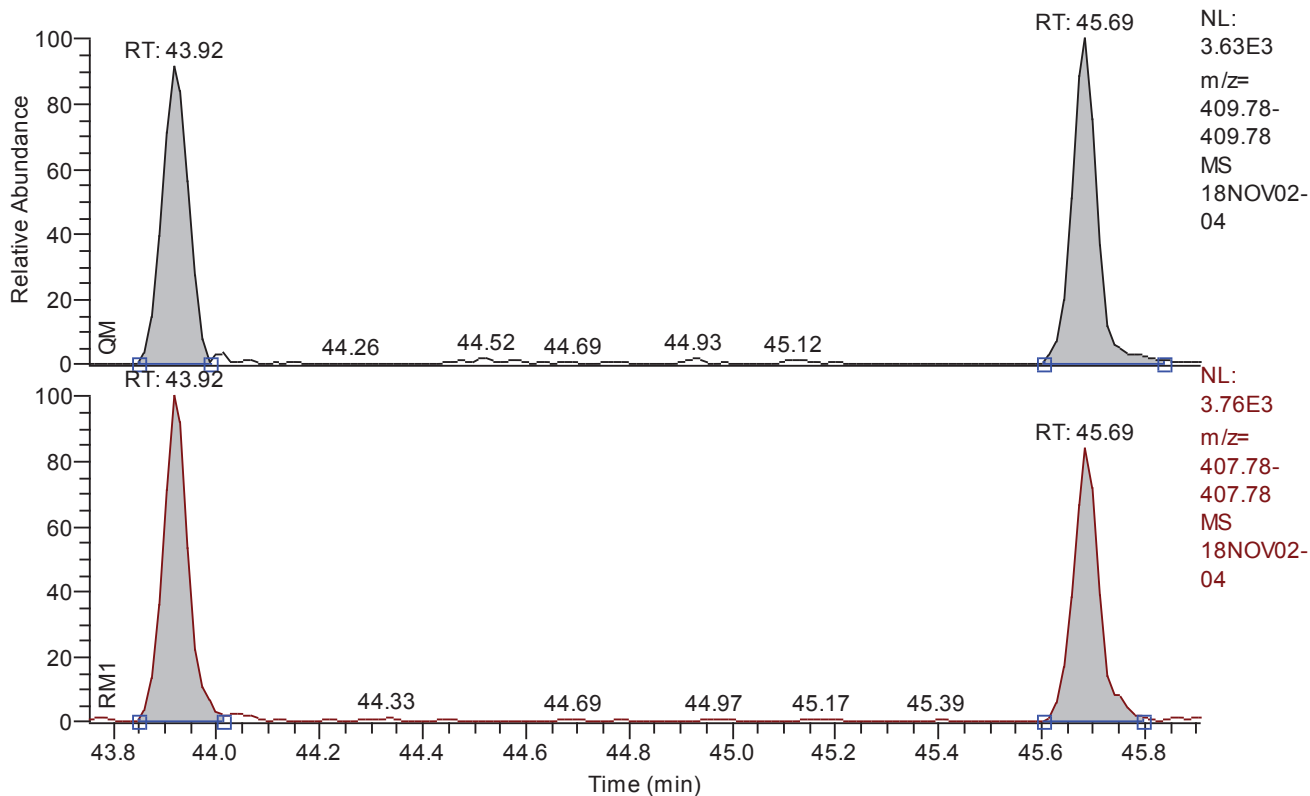
NL:
2.71E3
m/z=
423.77-
423.78
MS
18NOV02-
04

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.73
QM Area	8068
QM Integration Mode	A
RM1 Area	9271
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0029
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	410
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 43.75 - 45.91 SM: 3G



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.83
QM Area	24105
QM Integration Mode	A
RM1 Area	23812
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0022
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	570
Client Flags	
Status Overview	passed (2)
Status Info	

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	29.20	29.20	29.20	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.36	30.36	30.34	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.27	35.27	35.27	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.56	36.56	36.56	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.98	36.98	36.98	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.29	40.29	40.31	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.44	40.44	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	41.47	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	45.13	45.13	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	30.76	30.76	30.76	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.47	29.47	29.47	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	29.15	29.15	29.15	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.31	30.31	30.31	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.25	35.25	35.25	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.55	36.55	36.55	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.96	36.96	36.96	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.28	40.28	40.28	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	41.14	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	41.45	41.45	41.45	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	48.16	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	7.46	28.23	28.23	28.23	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.96	28.96	28.96	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	34.83	34.83	34.83	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	35.77	35.77	35.77	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.50	40.50	40.50	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	40.73	40.73	40.73	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.73	44.73	44.73	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	44.83	44.83	44.83	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	29.20	29.20	29.20	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.36	30.36	30.34	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	36.98	36.98	36.98	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	36.56	36.56	36.56	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	35.27	35.27	35.27	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.13	45.13	45.13	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.16	41.16	41.16	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.29	40.29	40.31	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.44	40.44	40.46	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.17	42.17	42.17	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.79	41.79	41.79	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.36	41.36	41.36	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.47	41.47	41.47	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	45.69	45.69	45.69	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	43.92	43.92	43.92	passed	passed

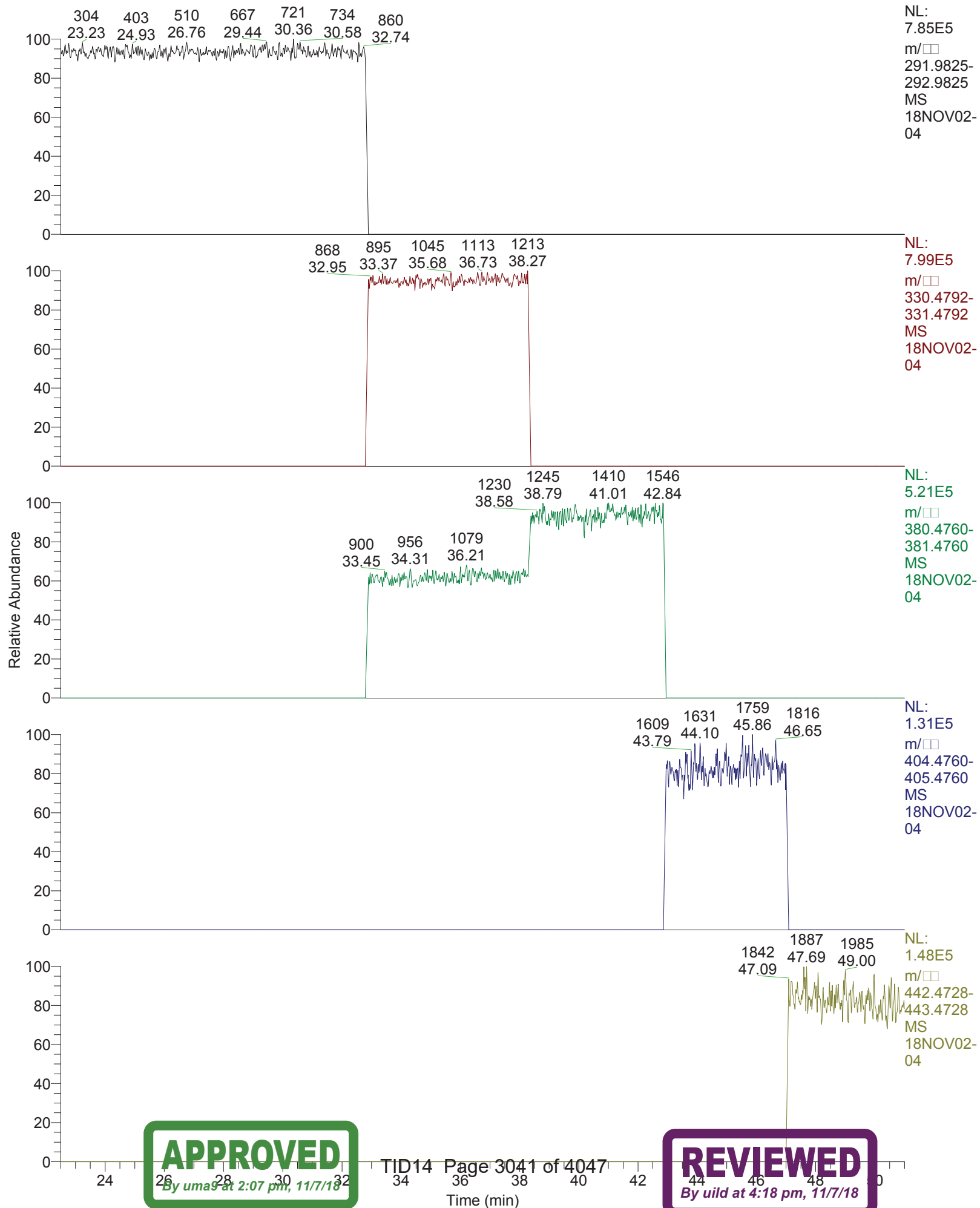
Entry Parameters

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	0.8213	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.36	0.7024	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.27	1.6245	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.56	1.4617	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.98	1.7825	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.29	1.1692	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.44	1.2693	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.16	1.3424	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.36	1.3082	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.47	1.2533	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.79	1.2232	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.17	1.1535	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.92	1.0803	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.13	1.1491	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.69	0.8994	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.17	0.8695	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.35	0.8471	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.76	0.8097	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.47	0.7999	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.20	1.2603	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.15	0.8009	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.31	0.7981	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.25	1.5986	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.55	1.5698	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.96	1.6147	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.28	0.5306	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.43	0.5344	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.14	0.5347	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.35	1.2801	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.45	1.2457	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.78	1.2764	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.15	0.5375	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.90	0.4586	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.12	1.0683	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.67	0.4626	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.16	0.9015	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.33	0.9097	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.23	0.8213	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.96	0.7024	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.83	1.5369	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.77	1.7825	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.50	1.2337	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.73	1.2608	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.73	1.1491	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.83	0.9878	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.20	0.8213	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.36	0.7024	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.98	1.7825	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.56	1.4617	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.27	1.6245	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.13	1.1491	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.16	1.3424	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.29	1.1692	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.44	1.2693	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.17	1.1535	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.79	1.2232	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.36	1.3082	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.47	1.2533	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	45.69	0.8994	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	43.92	1.0803	0.8750 - 1.2050	passed	100.00	0 - 0	passed

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	3862	A	3172	A	0.0033	0.100000	0.1000	0.100000	64	
2	2378-TCDD	passed	30.36	2484	A	1745	A	0.0032	0.100000	0.1000	0.100000	90	
3	12378-PeCDF	passed	35.27	10017	A	16273	A	0.0037	0.500000	0.5000	0.500000	322	
4	23478-PeCDF	passed	36.56	11665	A	17051	A	0.0031	0.500000	0.5000	0.500000	399	
5	12378-PeCDD	passed	36.98	5545	A	9883	A	0.0076	0.500000	0.5000	0.500000	166	
6	123478-HxCDF	passed	40.29	12654	A	14795	A	0.0027	0.500000	0.5000	0.500000	450	
7	123678-HxCDF	passed	40.44	12626	A	16026	A	0.0028	0.500000	0.5000	0.500000	454	
8	234678-HxCDF	passed	41.16	12236	A	16425	A	0.0026	0.500000	0.5000	0.500000	498	
9	123478-HxCDD	passed	41.36	7760	A	10151	A	0.0042	0.500000	0.5000	0.500000	303	
10	123678-HxCDD	passed	41.47	7925	A	9932	A	0.0042	0.500000	0.5000	0.500000	265	
11	123789-HxCDD	passed	41.79	8214	A	10048	A	0.0040	0.500000	0.5000	0.500000	309	
12	123789-HxCDF	passed	42.17	12011	A	13854	A	0.0030	0.500000	0.5000	0.500000	384	
13	1234678-HpCDF	passed	43.92	11785	A	12732	A	0.0021	0.500000	0.5000	0.500000	581	
14	1234678-HpCDD	passed	45.13	8068	A	9271	A	0.0029	0.500000	0.5000	0.500000	410	
15	1234789-HpCDF	passed	45.69	12320	A	11080	A	0.0022	0.500000	0.5000	0.500000	558	
16	OCDD	passed	48.17	18254	A	15872	A	0.0061	1.000000	1.0000	1.000000	413	
17	OCDF	passed	48.35	23104	A	19571	A	0.0042	1.000000	1.0000	1.000000	584	
18	13C12-1278-TCDD (CRS)	passed	30.76	1627694	A	1317946	A	0.0239	100.000000	100.0000	100.000000	10444	
19	13C12-1234-TCDD	passed	29.47	1527579	A	1221927	A	0.0256	100.000000	100.0000	100.000000	9749	
20	13C12-123468-HxCDD	passed	40.20	1537229	A	1937371	A	0.0197	100.000000	100.0000	100.000000	12692	
21	13C12-2378-TCDF	passed	29.15	3285104	A	2631006	A	0.0122	100.000000	100.0000	100.000000	20369	
22	13C12-2378-TCDD	passed	30.31	1584125	A	1264301	A	0.0248	100.000000	100.0000	100.000000	10364	
23	13C12-12378-PeCDF	passed	35.25	2110722	A	3374192	A	0.0320	100.000000	100.0000	100.000000	10124	
24	13C12-23478-PeCDF	passed	36.55	2144907	A	3367020	A	0.0318	100.000000	100.0000	100.000000	11057	
25	13C12-12378-PeCDD	passed	36.96	1135630	A	1833724	A	0.0206	100.000000	100.0000	100.000000	16370	
26	13C12-123478-HxCDF	passed	40.28	3291454	A	1746500	A	0.0242	100.000000	100.0000	100.000000	10972	
27	13C12-123678-HxCDF	passed	40.43	3426259	A	1831067	A	0.0232	100.000000	100.0000	100.000000	10579	
28	13C12-234678-HxCDF	passed	41.14	3164883	A	1692208	A	0.0251	100.000000	100.0000	100.000000	10382	
29	13C12-123478-HxCDD	passed	41.35	1554881	A	1990451	A	0.0193	100.000000	100.0000	100.000000	13796	
30	13C12-123678-HxCDD	passed	41.45	1603608	A	1997570	A	0.0190	100.000000	100.0000	100.000000	14132	
31	13C12-123789-HxCDD	passed	41.78	1524155	A	1945474	A	0.0197	100.000000	100.0000	100.000000	13988	
32	13C12-123789-HxCDF	passed	42.15	2961903	A	1592111	A	0.0268	100.000000	100.0000	100.000000	9347	
33	13C12-1234678-HpCDF	passed	43.90	3128191	A	1434643	A	0.0233	100.000000	100.0000	100.000000	11723	
34	13C12-1234678-HpCDD	passed	45.12	1660935	A	1774444	A	0.0223	100.000000	100.0000	100.000000	12581	
35	13C12-1234789-HpCDF	passed	45.67	2589008	A	1197565	A	0.0280	100.000000	100.0000	100.000000	9537	
36	13C12-OCDD	passed	48.16	3708074	A	3342664	A	0.0109	200.000000	200.0000	200.000000	55267	
37	13C12-OCDF	passed	48.33	5196694	A	4727405	A	0.0132	200.000000	200.0000	200.000000	44676	
38	Total TCDF	passed (1)	28.23	3862	A	3172	A	0.0033	0.100000	0.1000	0.100000	64	
39	Total TCDD	passed (1)	28.96	2484	A	1745	A	0.0032	0.100000	0.1000	0.100000	90	
40	Total PeCDF	passed (2)	34.83	21683	A	33324	A	0.0034	0.500000	1.0000	0.500000	361	
41	Total PeCDD	passed (1)	35.77	5545	A	9883	A	0.0076	0.500000	0.5000	0.500000	166	
42	Total HxCDF	passed (4)	40.50	49527	A	61100	A	0.0028	0.500000	2.0000	0.500000	447	
43	Total HxCDD	passed (3)	40.73	23899	A	30131	A	0.0041	0.500000	1.5000	0.500000	293	
44	Total HpCDD	passed (1)	44.73	8068	A	9271	A	0.0029	0.500000	0.5000	0.500000	410	
45	Total HpCDF	passed (2)	44.83	24105	A	23812	A	0.0022	0.500000	1.0000	0.500000	570	
46	Single TCDF	passed	29.20	3862	A	3172	A	0.0033	0.100000	0.1000	0.100000	64	
47	Single TCDD	passed	30.36	2484	A	1745	A	0.0032	0.100000	0.1000	0.100000	90	
48	Single PeCDD	passed	36.98	5545	A	9883	A	0.0076	0.500000	0.5000	0.500000	166	
49	Single PeCDF	passed	36.56	11665	A	17051	A	0.0032	0.500000	0.5000	0.500000	399	
50	Single PeCDD	passed	35.27	10017	A	16273	A	0.0035	0.500000	0.5000	0.500000	322	
51	Single HpCDD	passed	45.13	8068	A	9271	A	0.0029	0.500000	0.5000	0.500000	410	
52	Single HxCDF	passed	41.16	12236	A	16425	A	0.0027	0.500000	0.5000	0.500000	498	
53	Single HxCDF	passed	40.29	12654	A	14795	A	0.0028	0.500000	0.5000	0.500000	450	
54	Single HxCDF	passed	40.44	12626	A	16026	A	0.0027	0.500000	0.5000	0.500000	454	
55	Single HxCDF	passed	42.17	12011	A	13854	A	0.0030	0.500000	0.5000	0.500000	384	
56	Single HxCDD	passed	41.79	8214	A	10048	A	0.0041	0.500000	0.5000	0.500000	309	
57	Single HxCDD	passed	41.36	7760	A	10151	A	0.0041	0.500000	0.5000	0.500000	303	
58	Single HxCDD	passed	41.47	7925	A	9932	A	0.0042	0.500000	0.5000	0.500000	265	
59	Single HpCDF	passed	45.69	12320	A	11080	A	0.0022	0.500000	0.5000	0.500000	558	
60	Single HpCDF	passed	43.92	11785	A	12732	A	0.0021	0.500000	0.5000	0.500000	581	

RT: 22.50 - 51.00



18NOV02-04

*** file opened Fri Nov 02 17:22:10 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 02-Nov-18 17:22:09

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 1af585a9-84ae-4575-bfd7-43925d10e3f3

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

18NOV02-04
MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	98.0000
BQUAD	3.1000	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	0.9992	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4255.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0072	FVINLET	0.0383	FVSR	0.0368
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	98.0000	LKM	442.9723	MASS	98.0000
MDAC	1429408.8034	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9836	RELEN	0.0000
RES	11626.2589	RPUSHER	-6.0879	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	788.0000	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	5.0000	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	VMAS	98.0000	XLENS_POT	972.0000
XLENS_SYM	-2.5000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.6e-008 mbar
Pirani Analyse: 7.2e-003 mbar
Pirani Source: 3.7e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11858.
MID Time window 2: Resolution is 11603.
MID Time window 3: Resolution is 12023.
MID Time window 4: Resolution is 12062.

Page 3

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3044 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-04

MID Time Window 5: Resolution is 11500.
MID Time Window 6: Resolution is 11626.

Amplifier Offset: 81.

*** File closed Fri Nov 02 18:13:11 2018



Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 18:30
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov02\18nov02-05.quan
Data	x:\18nov02\18nov02-05.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Depend 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

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	29.23	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.41	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.31	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.59	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	37.01	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.33	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.47	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	41.17	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.38	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.50	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.82	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.18	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.94	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	45.14	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.71	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.18	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.36	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.82	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.54	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.23	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	29.21	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.37	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.30	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.57	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.99	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.31	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.46	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	41.16	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.36	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.48	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.79	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.17	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.93	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	45.14	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.69	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.17	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.34	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.23	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.96	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.83	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.77	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.50	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.73	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.73	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.83	passed (2)	---	---	---	---	---	---
46	Single TCDF	29.23	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.41	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	37.01	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.59	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.31	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	45.14	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	41.17	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.33	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	40.47	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.18	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.50	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.38	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.82	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.94	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDF	45.71	passed	passed	passed	passed	passed	passed	passed

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 18:30
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

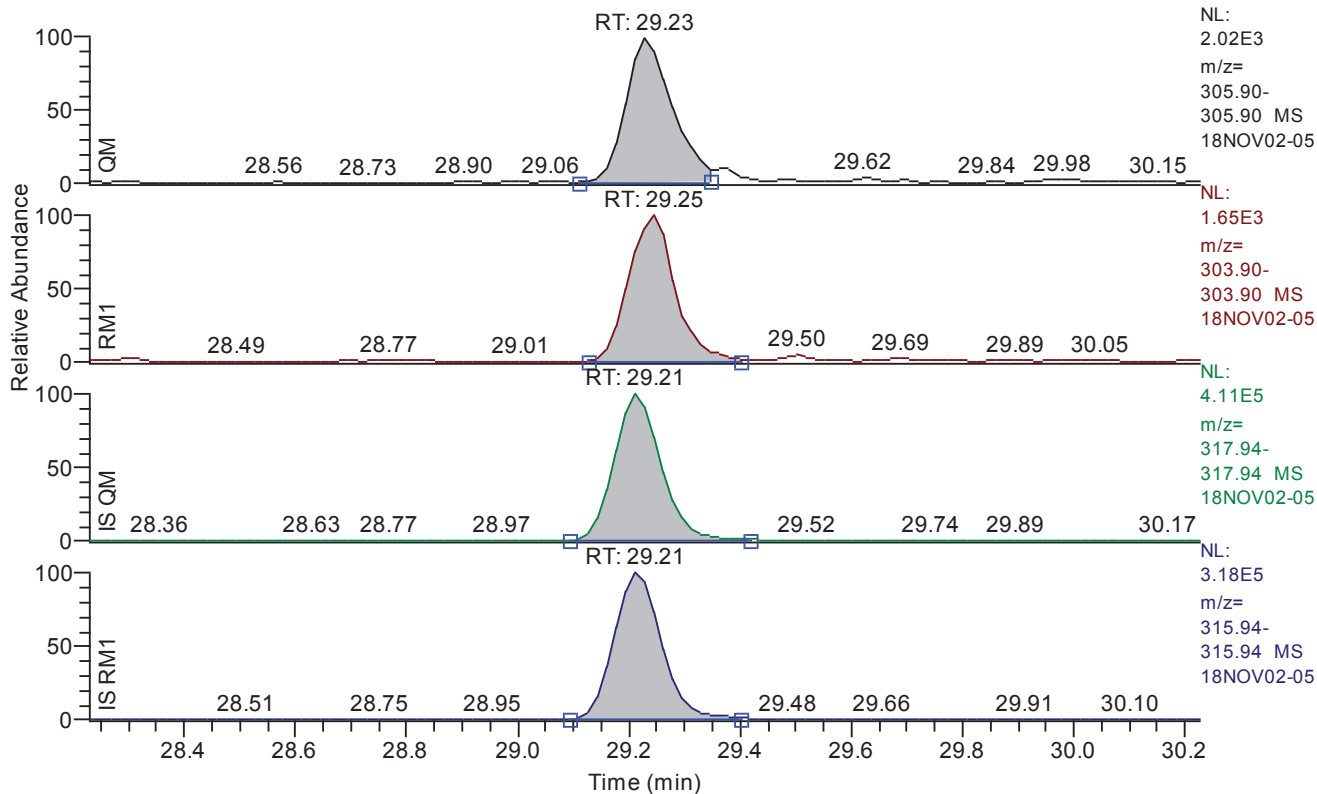
Quan	x:\18nov02\18nov02-05.quan
Data	x:\18nov02\18nov02-05.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.23 - 30.23 SM: 3G

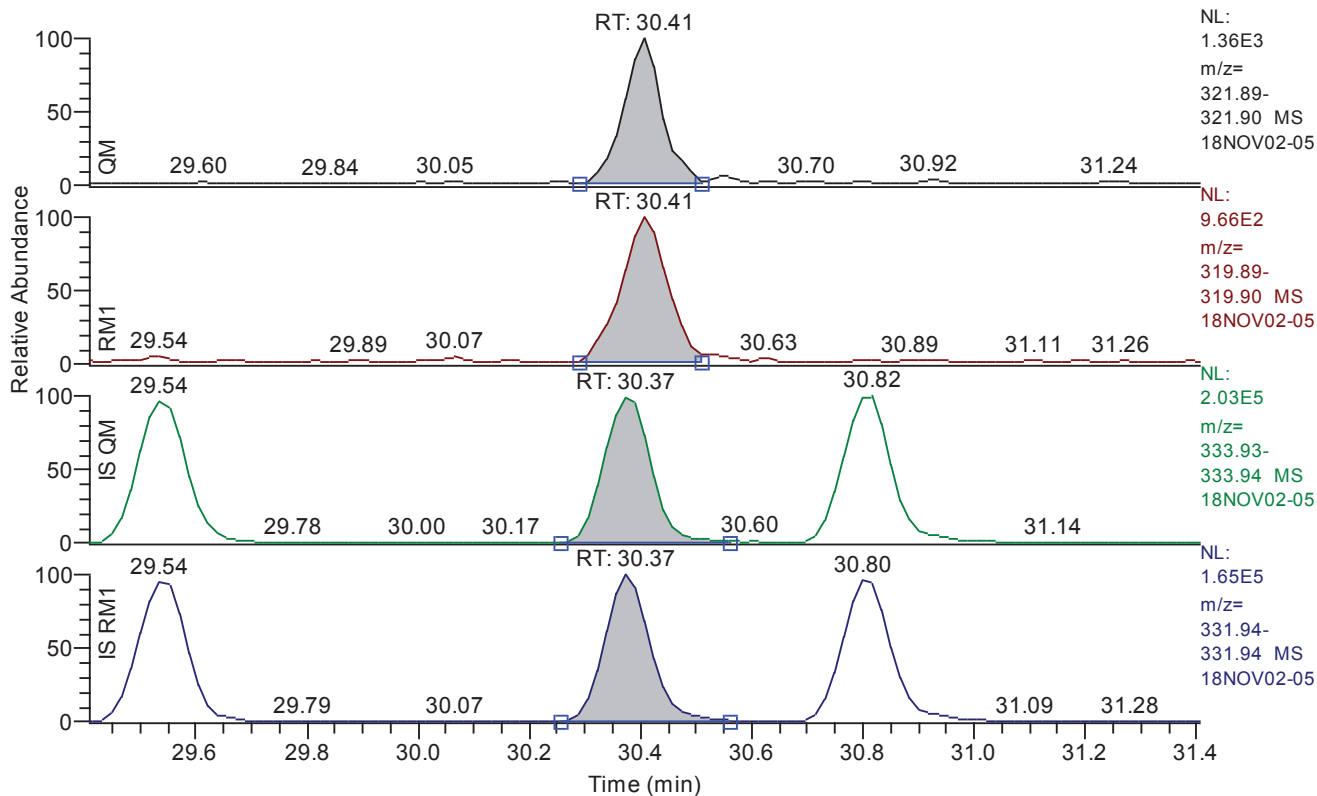


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.23
QM Area	11663
QM Integration Mode	A
RM1 Area	9567
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	283
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.41 - 31.41 SM: 3G

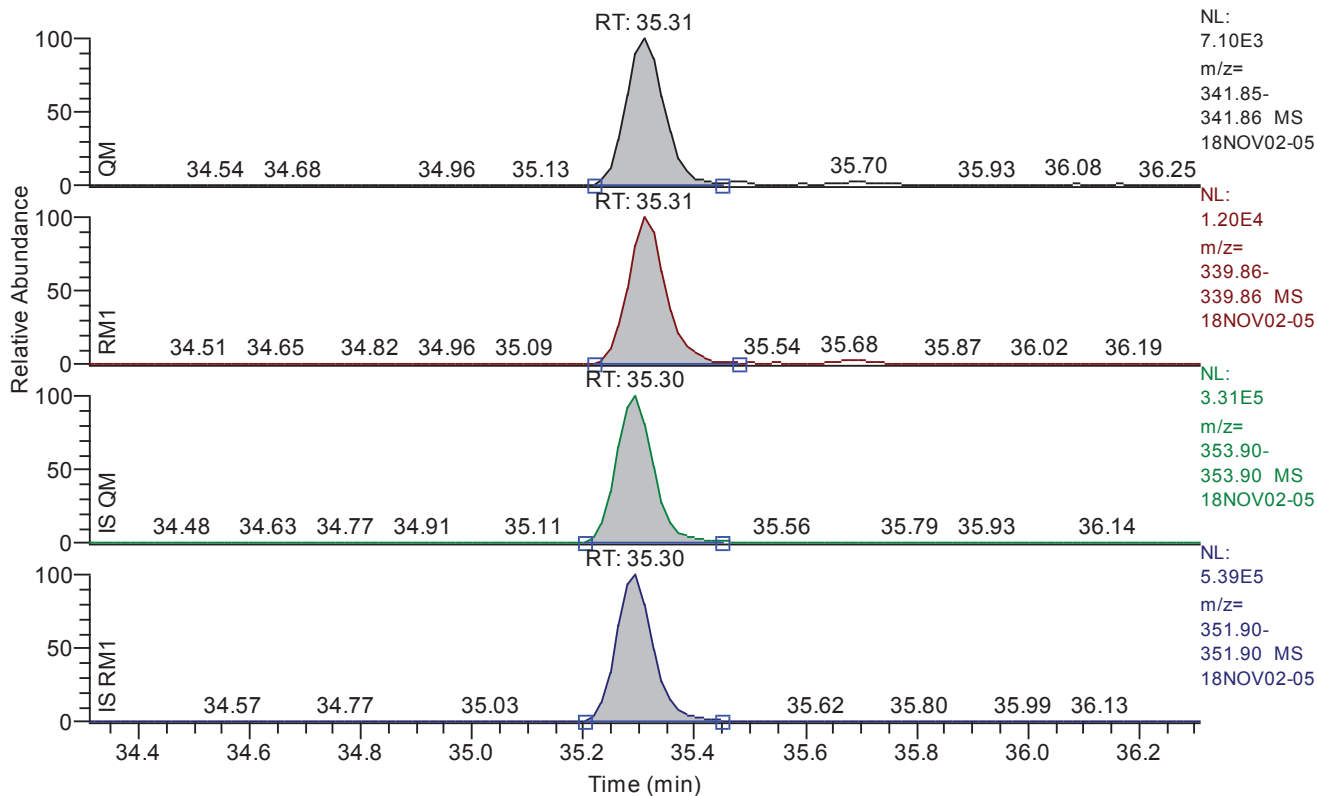


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.41
QM Area	6593
QM Integration Mode	A
RM1 Area	5559
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	228
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.31 - 36.31 SM: 3G

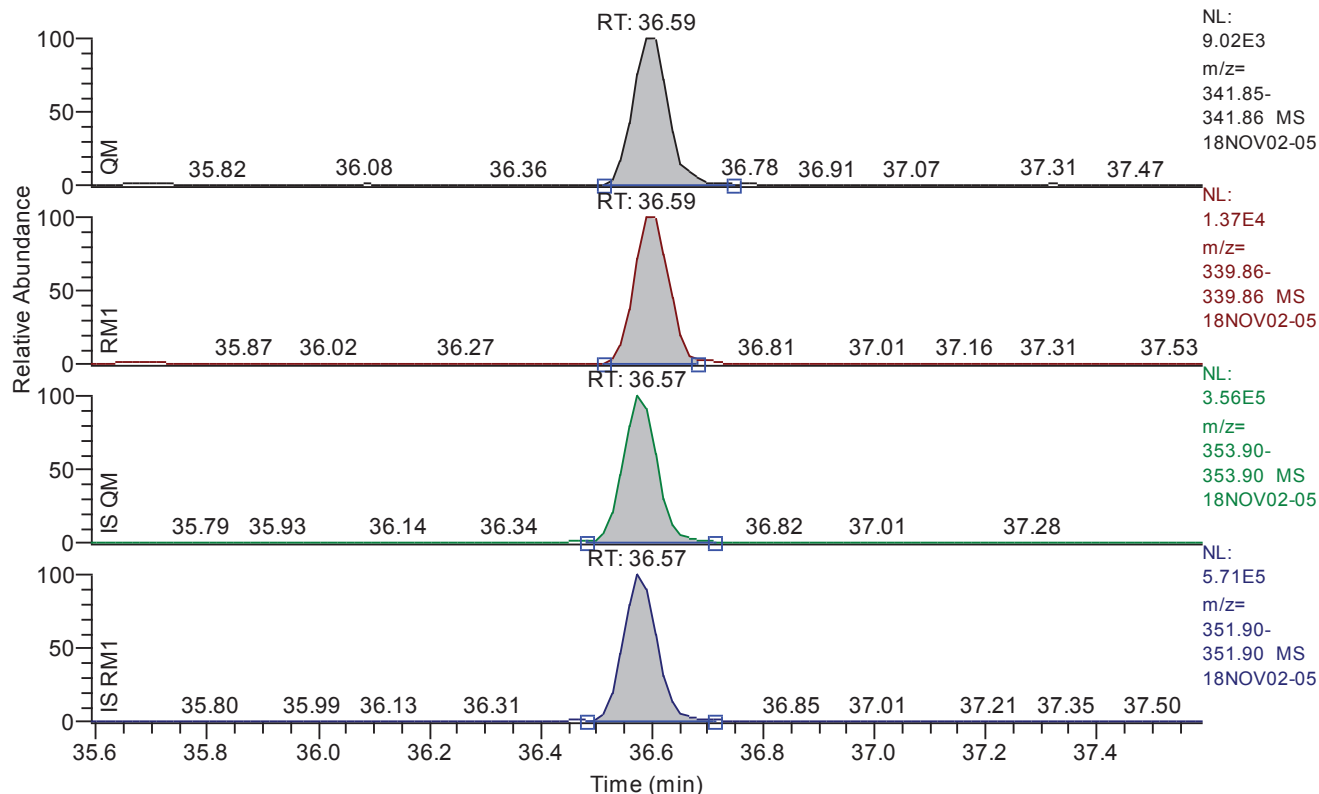


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.31
QM Area	33768
QM Integration Mode	A
RM1 Area	56873
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0051
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1199
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.59 - 37.59 SM: 3G

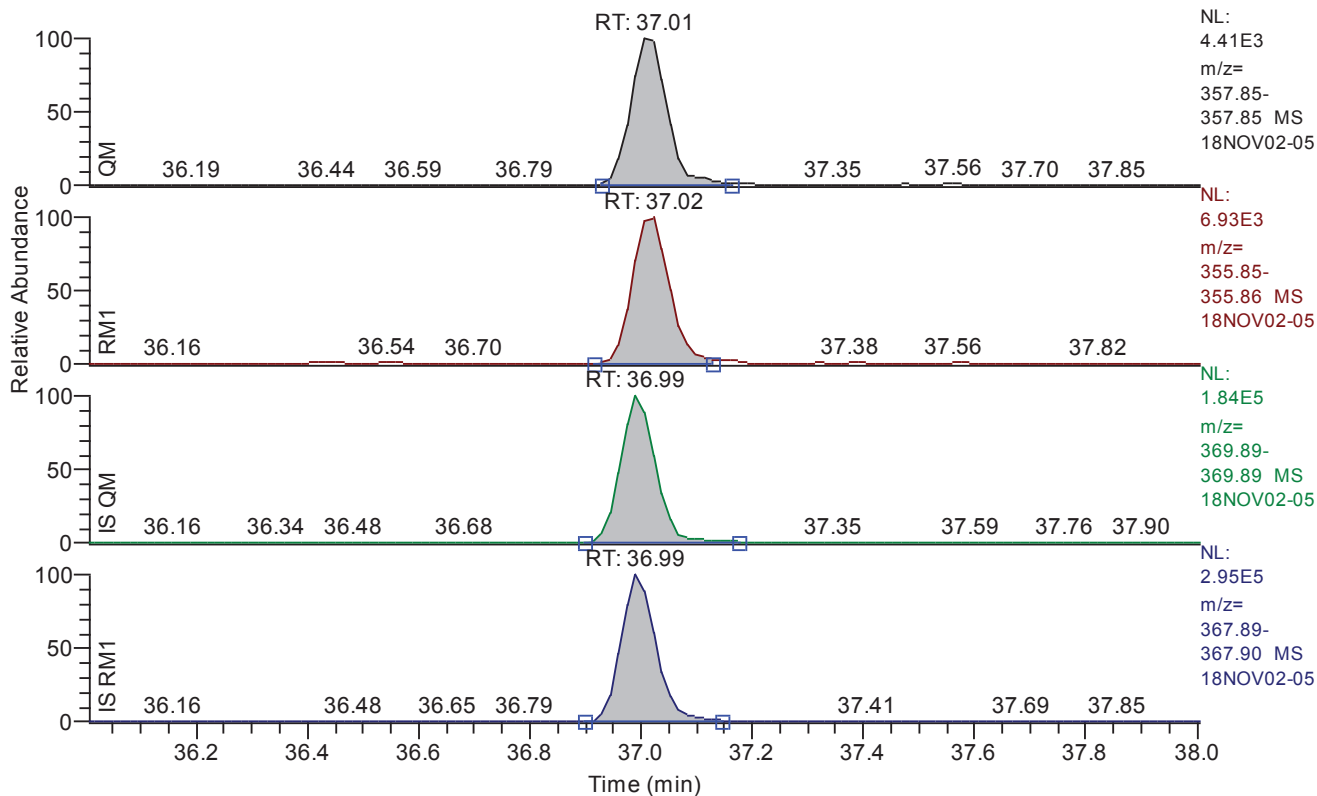


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.59
QM Area	40124
QM Integration Mode	A
RM1 Area	60081
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0042
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1427
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.01 - 38.01 SM: 3G

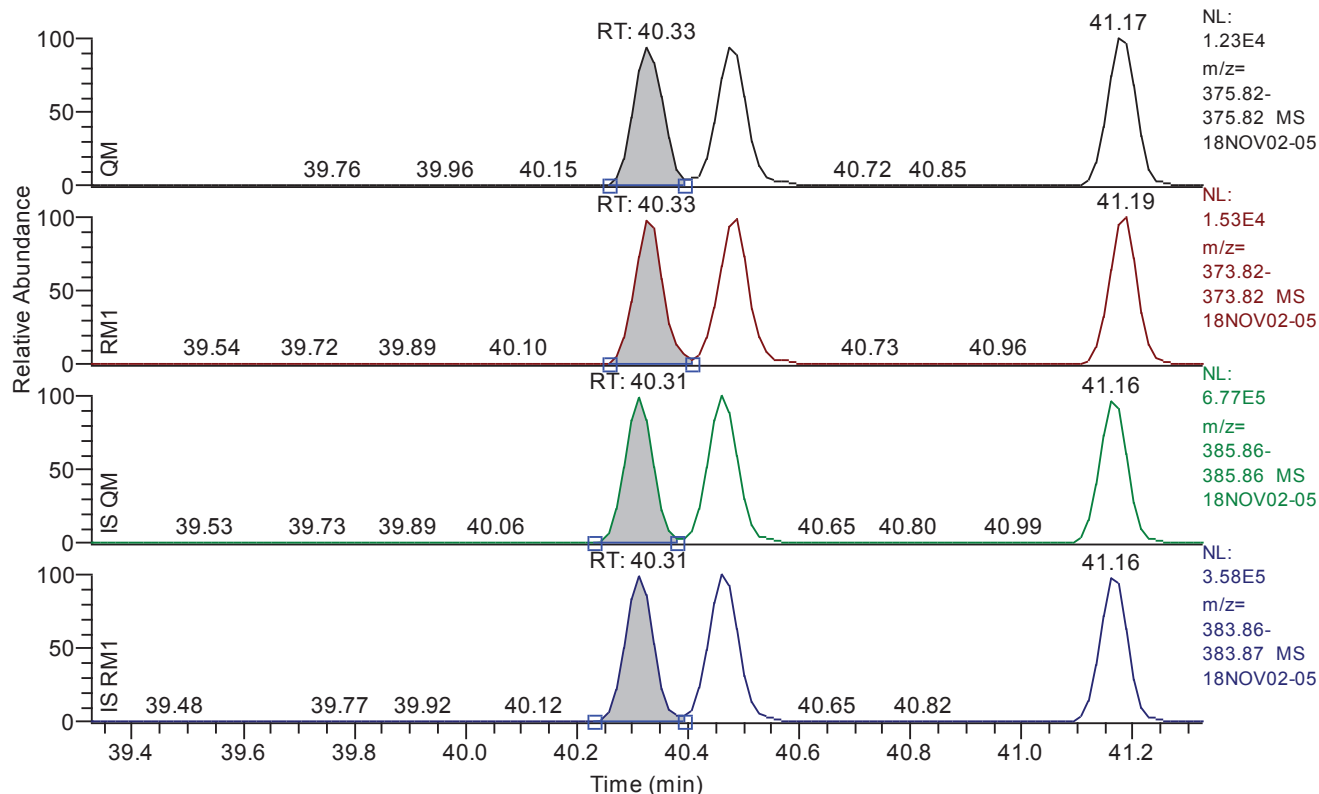


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.01
QM Area	19955
QM Integration Mode	A
RM1 Area	32276
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0108
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	546
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.33 - 41.33 SM: 3G

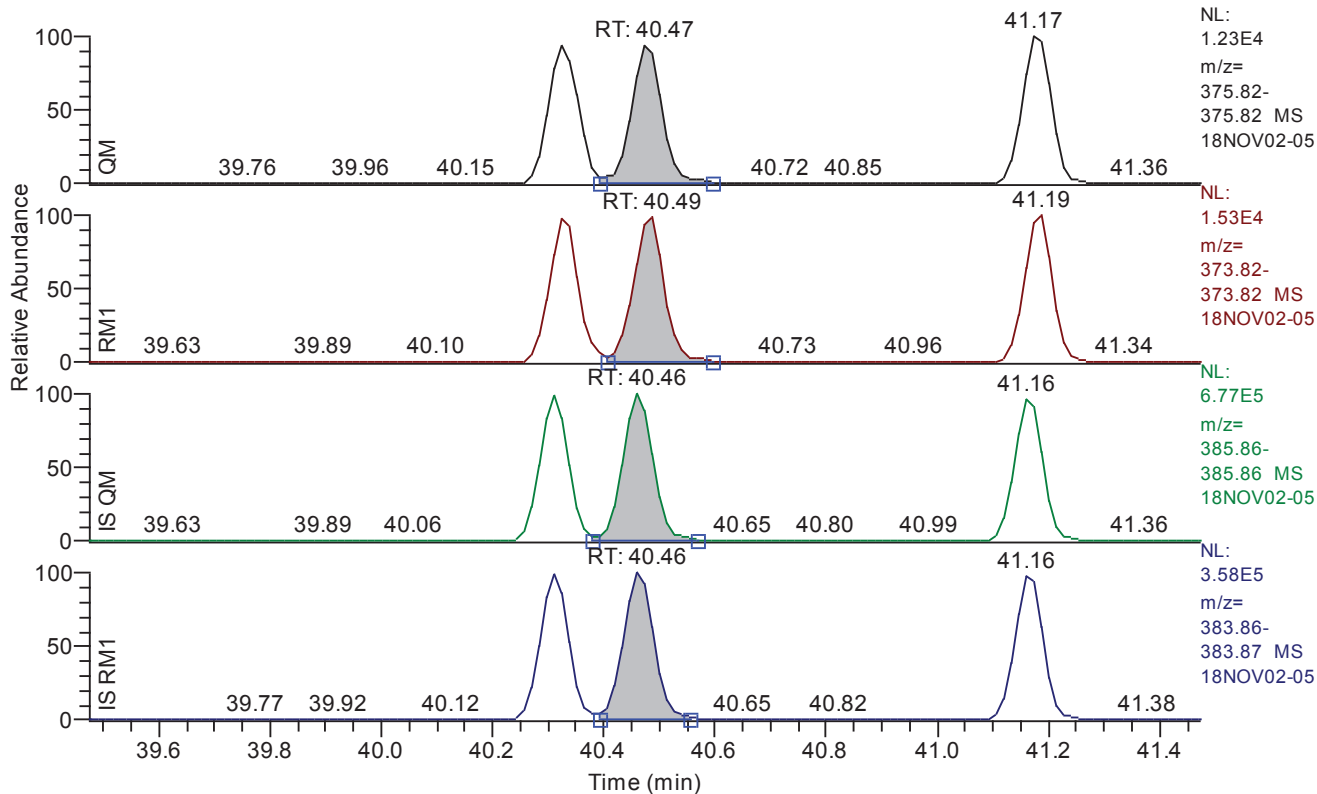


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.33
QM Area	42954
QM Integration Mode	A
RM1 Area	53913
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	989
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.47 - 41.47 SM: 3G

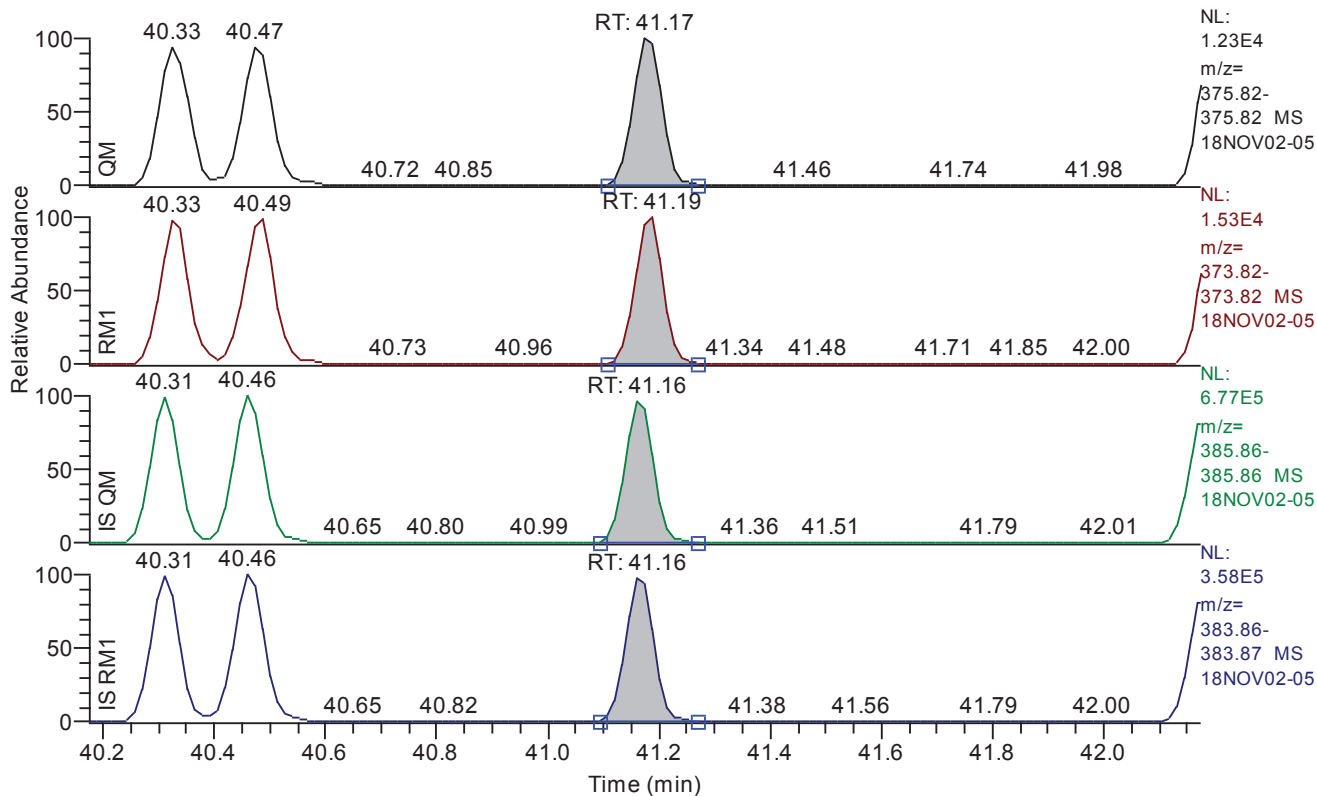


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.47
QM Area	44435
QM Integration Mode	A
RM1 Area	57631
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0062
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1002
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.17 - 42.17 SM: 3G

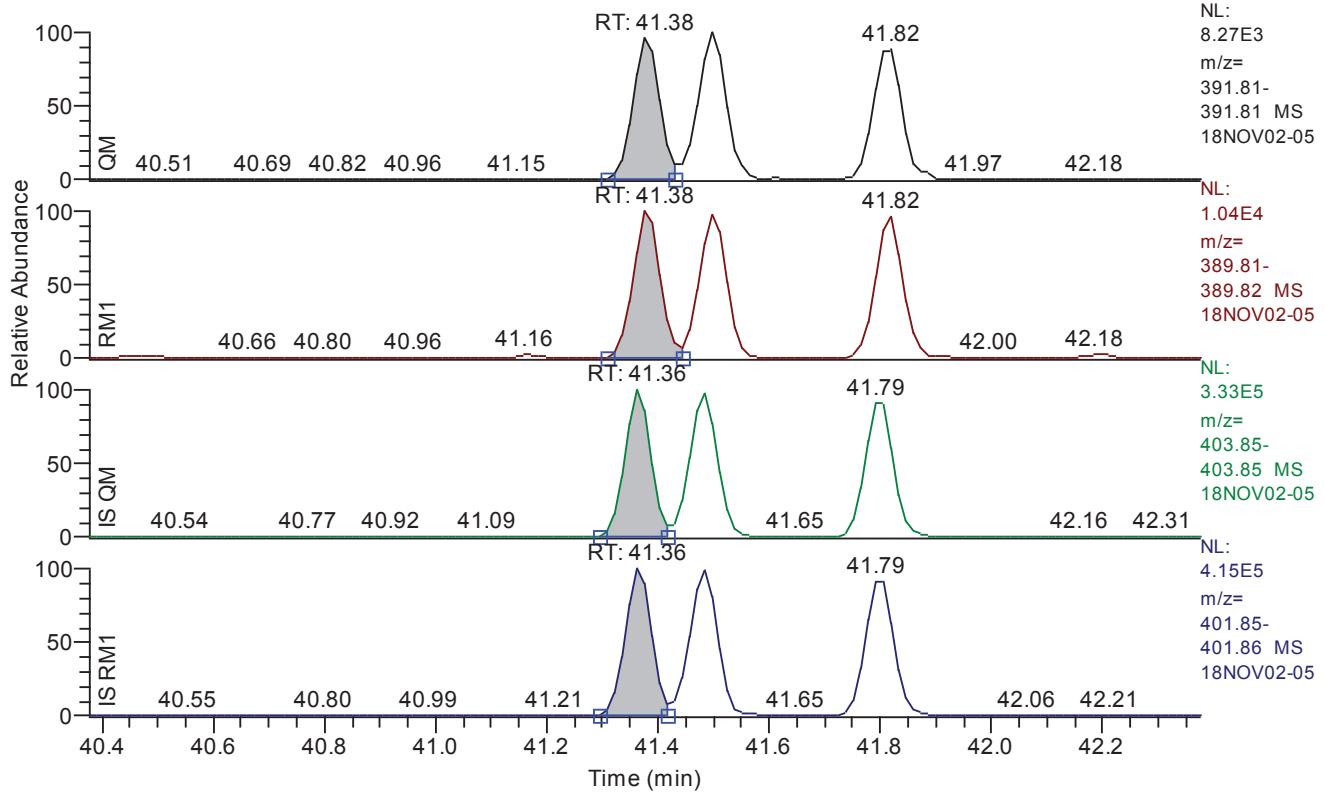


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.17
QM Area	45013
QM Integration Mode	A
RM1 Area	53797
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1034
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.38 - 42.38 SM: 3G

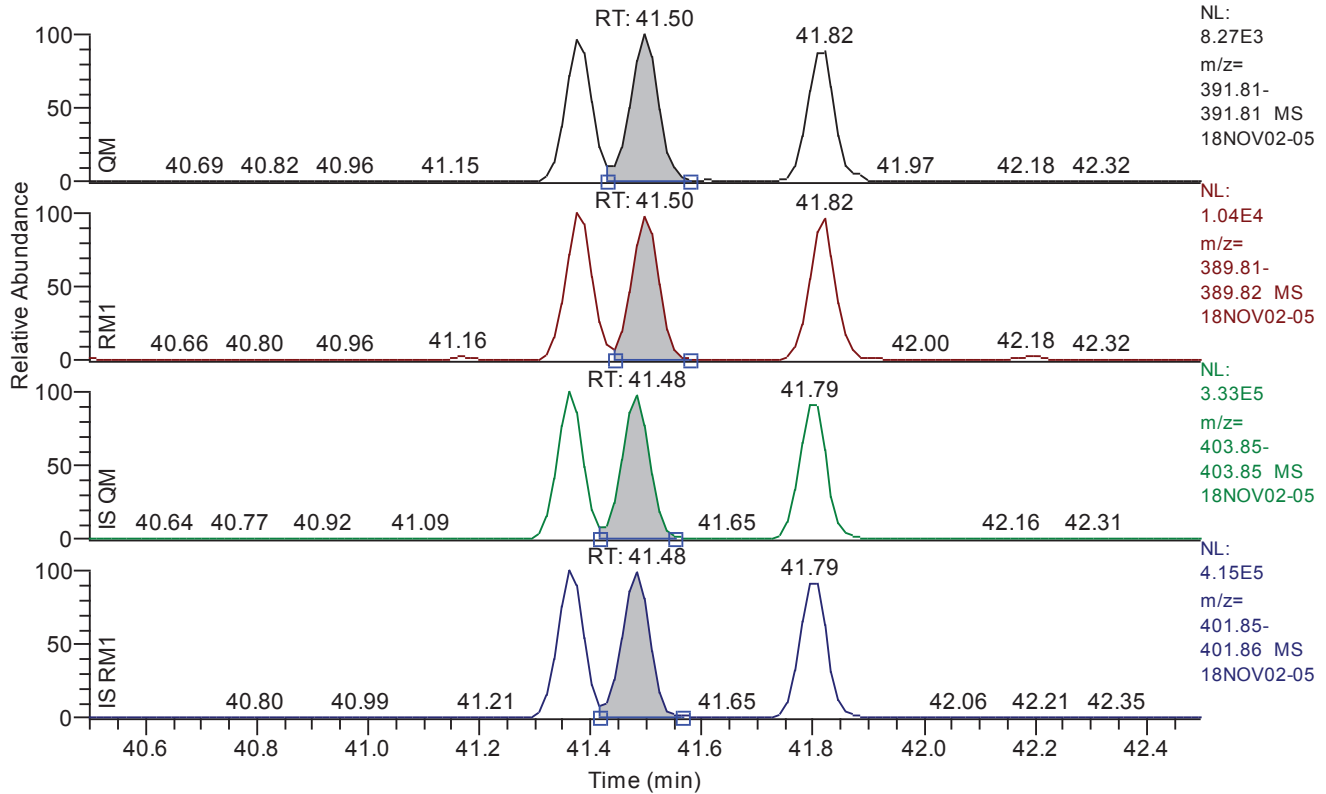


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.38
QM Area	26285
QM Integration Mode	A
RM1 Area	34957
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	998
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.50 - 42.50 SM: 3G

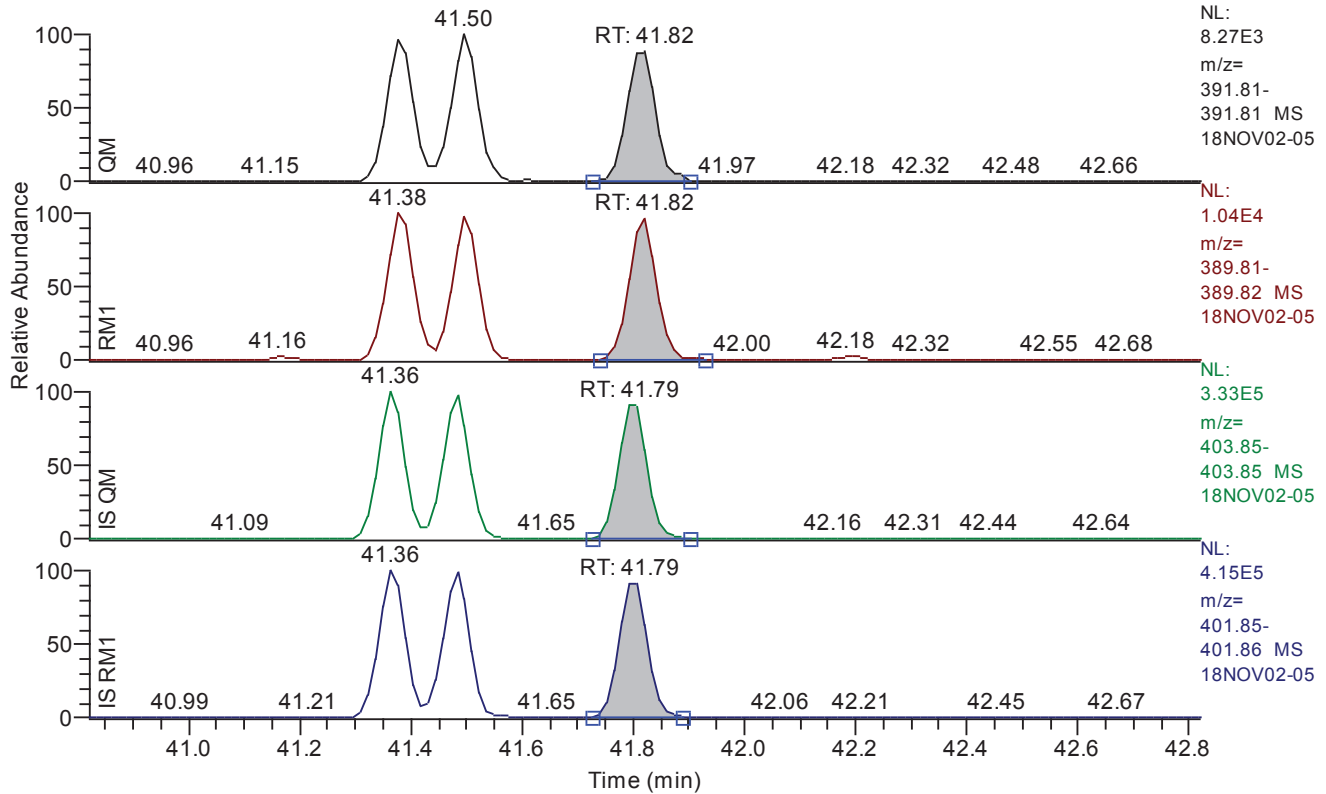


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.50
QM Area	29304
QM Integration Mode	A
RM1 Area	34700
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1002
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.82 - 42.82 SM: 3G

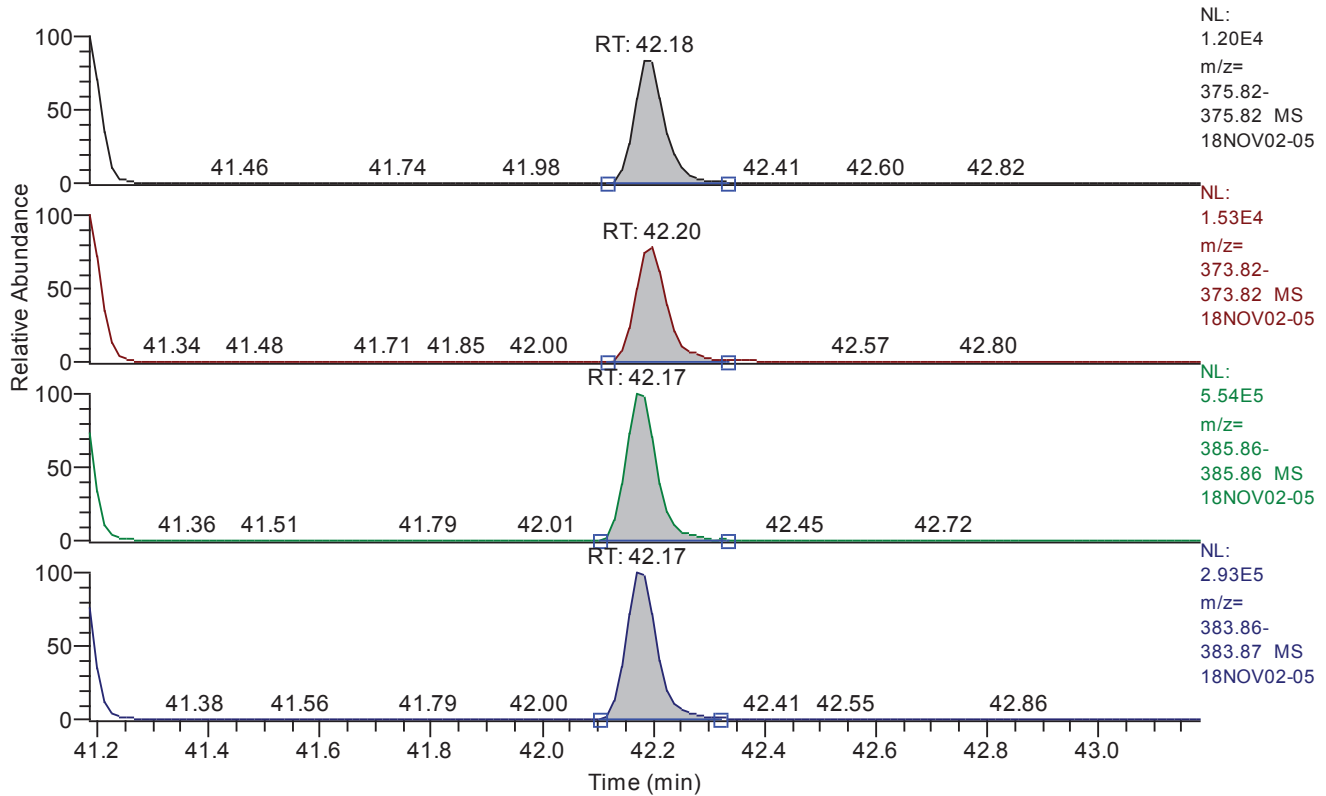


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.82
QM Area	26822
QM Integration Mode	A
RM1 Area	34668
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	945
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.18 - 43.18 SM: 3G

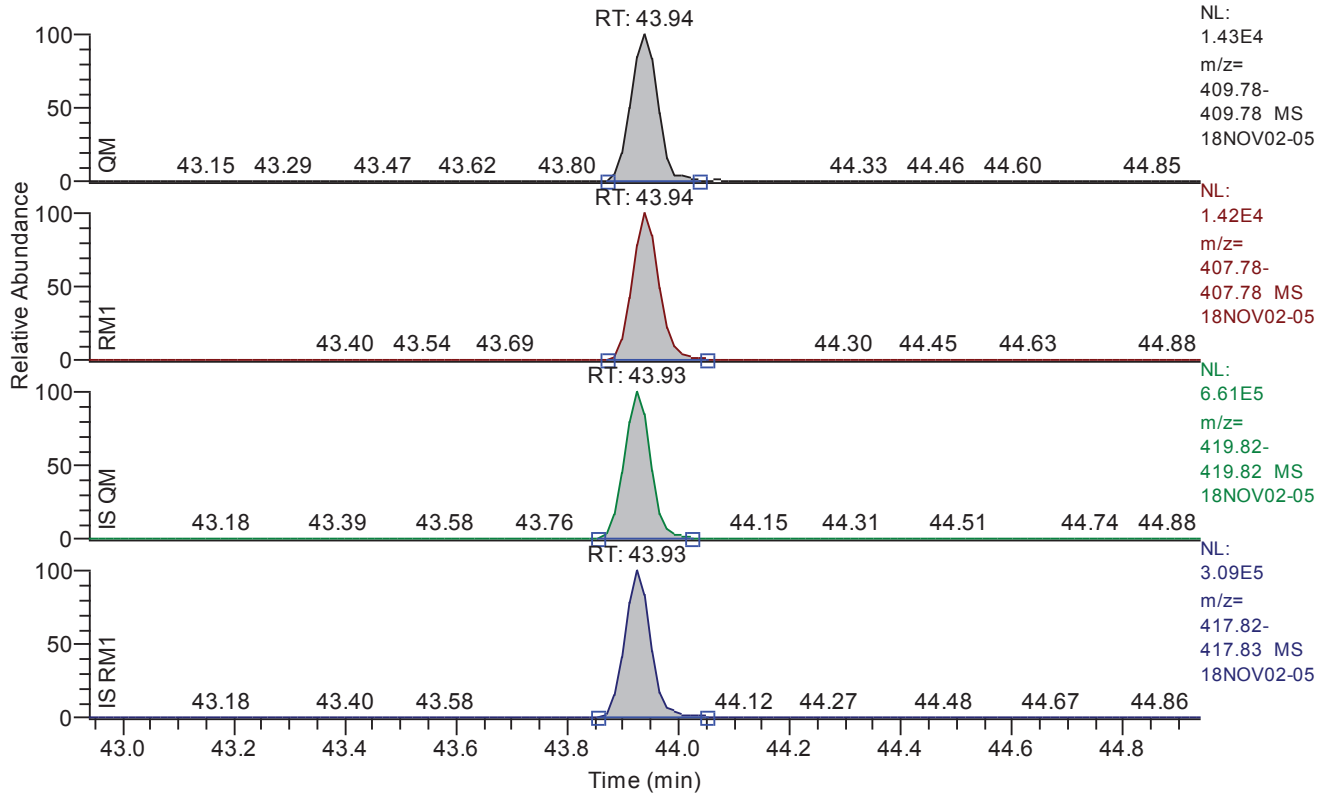


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.18
QM Area	38440
QM Integration Mode	A
RM1 Area	47888
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	825
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 42.94 - 44.94 SM: 3G

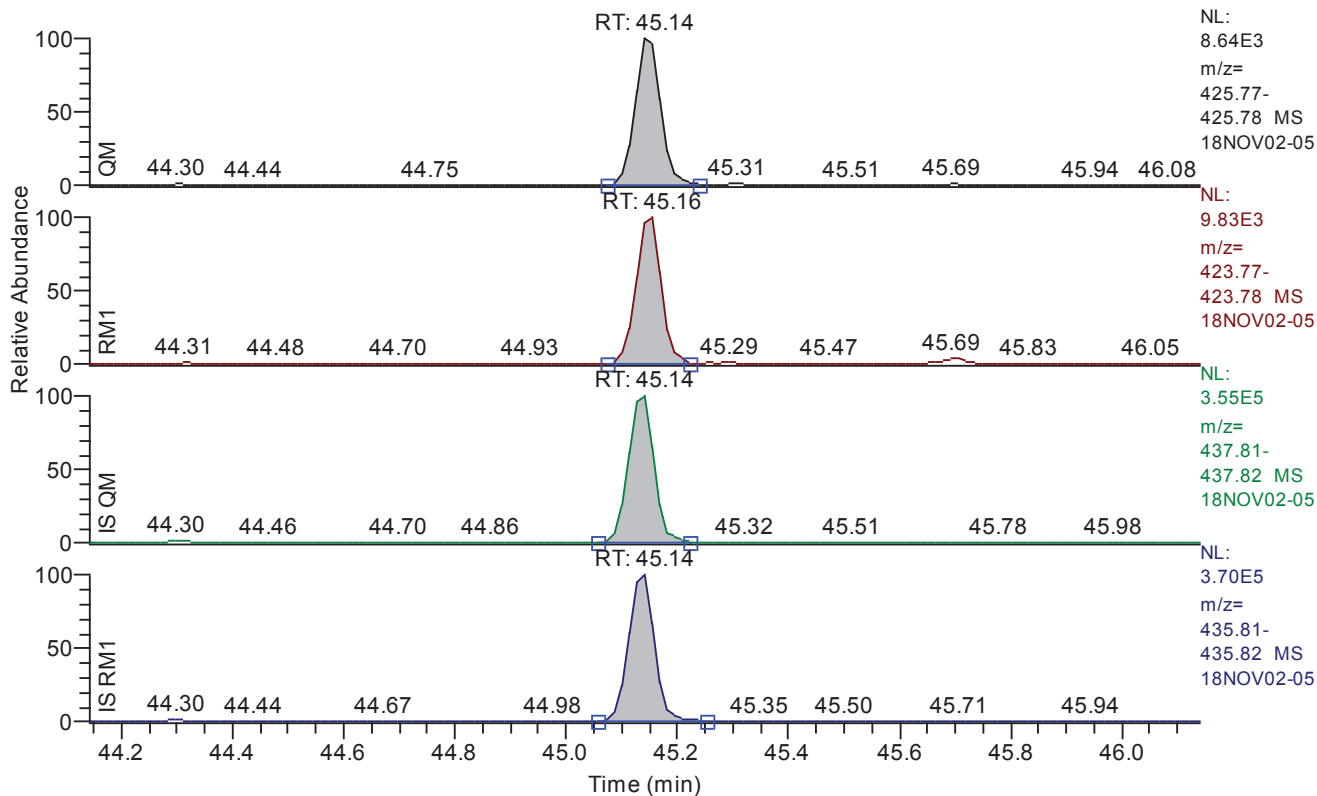


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.94
QM Area	49385
QM Integration Mode	A
RM1 Area	48693
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1303
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.14 - 46.14 SM: 3G

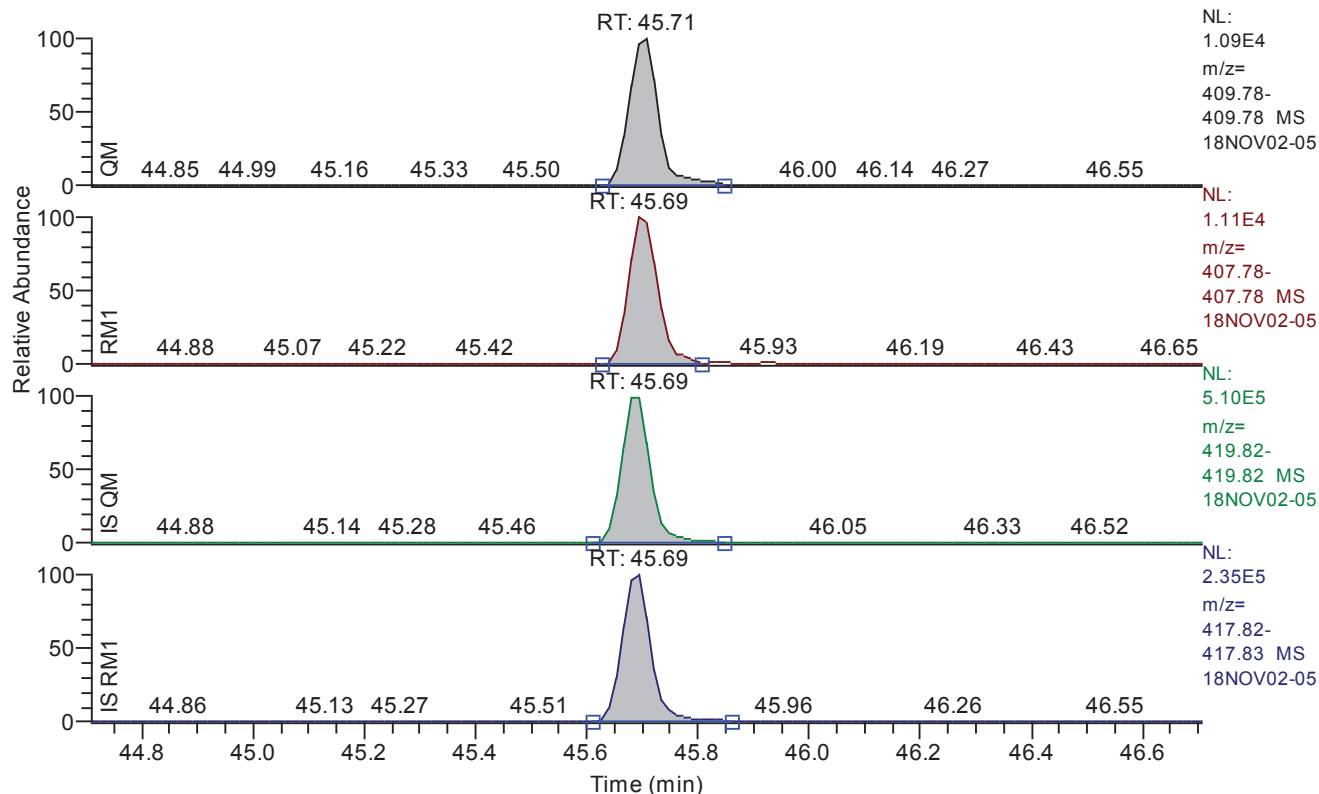


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.14
QM Area	28158
QM Integration Mode	A
RM1 Area	31652
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	971
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.71 - 46.71 SM: 3G

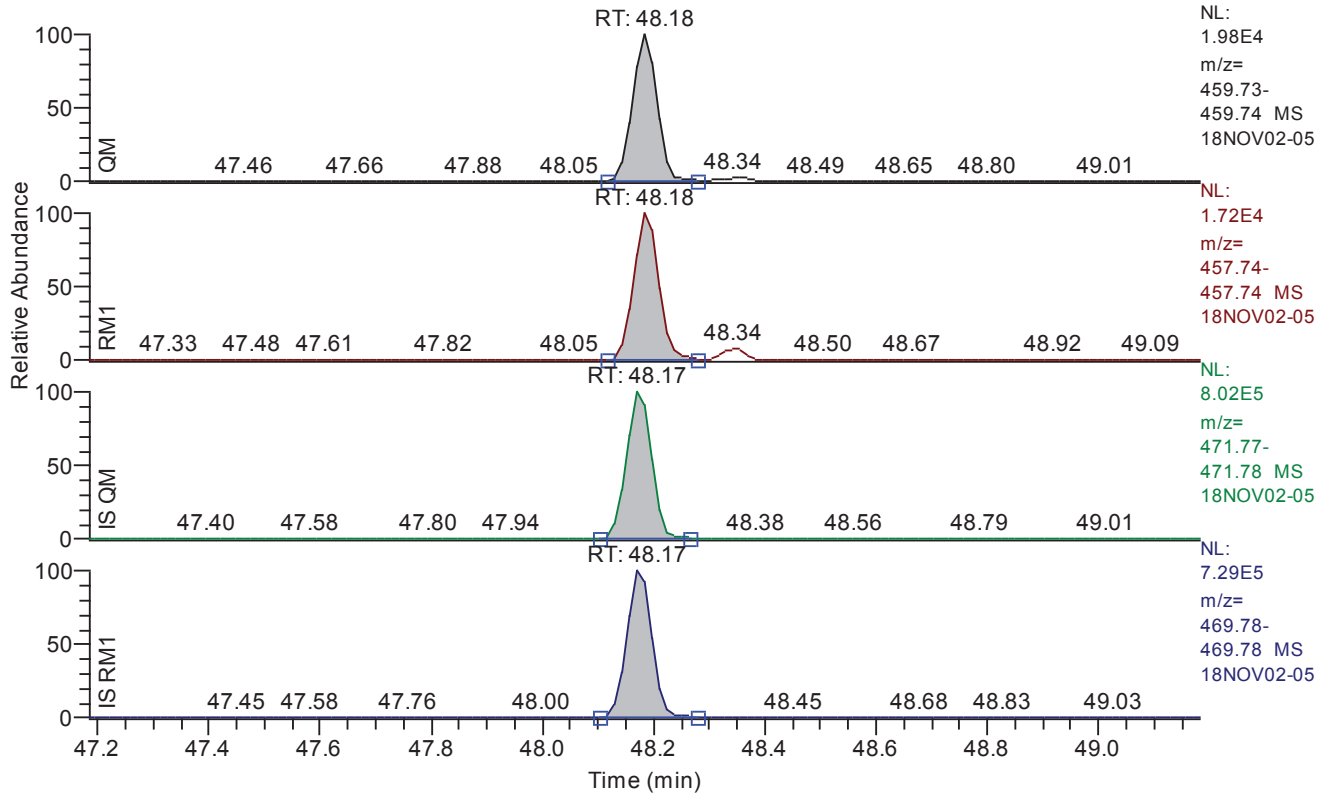


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.71
QM Area	40863
QM Integration Mode	A
RM1 Area	41697
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1006
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.18 - 49.18 SM: 3G

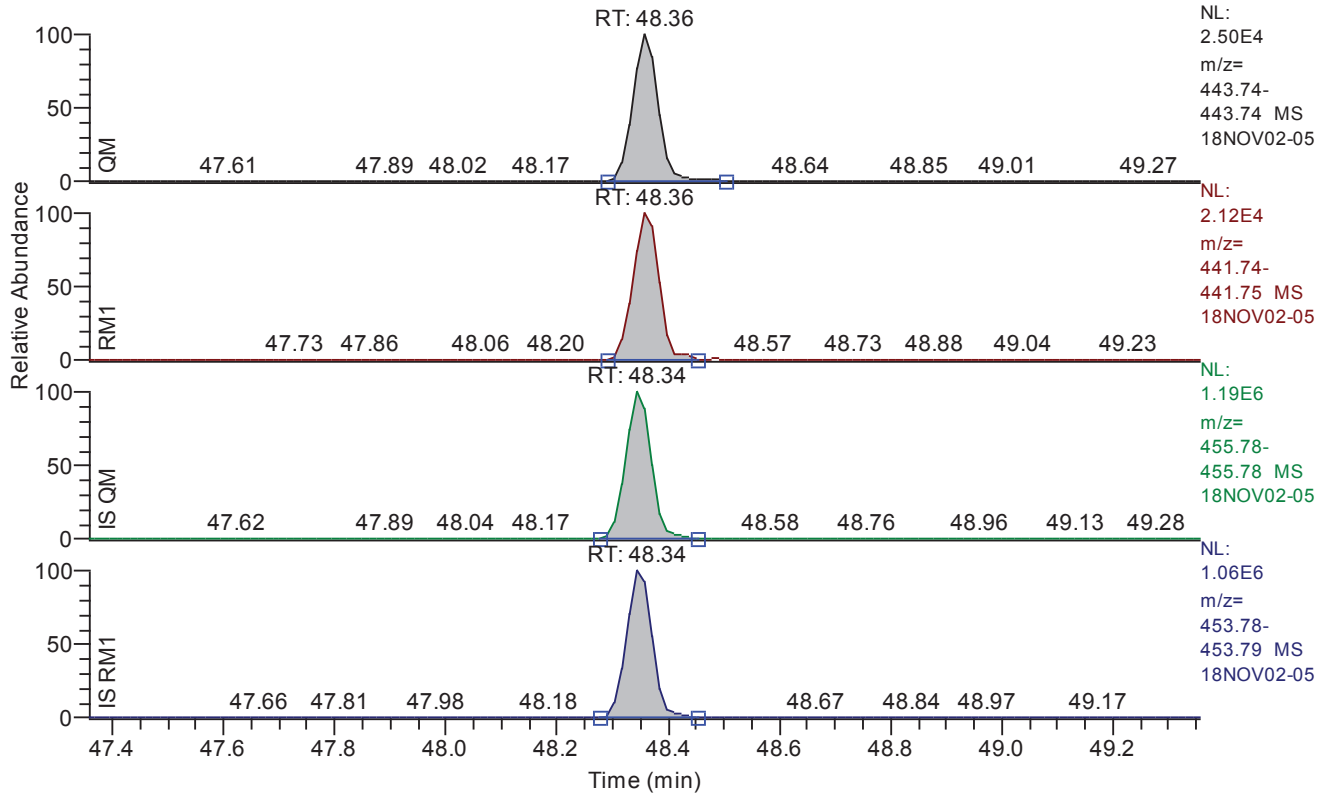


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.18
QM Area	60621
QM Integration Mode	A
RM1 Area	53443
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1333
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.36 - 49.36 SM: 3G

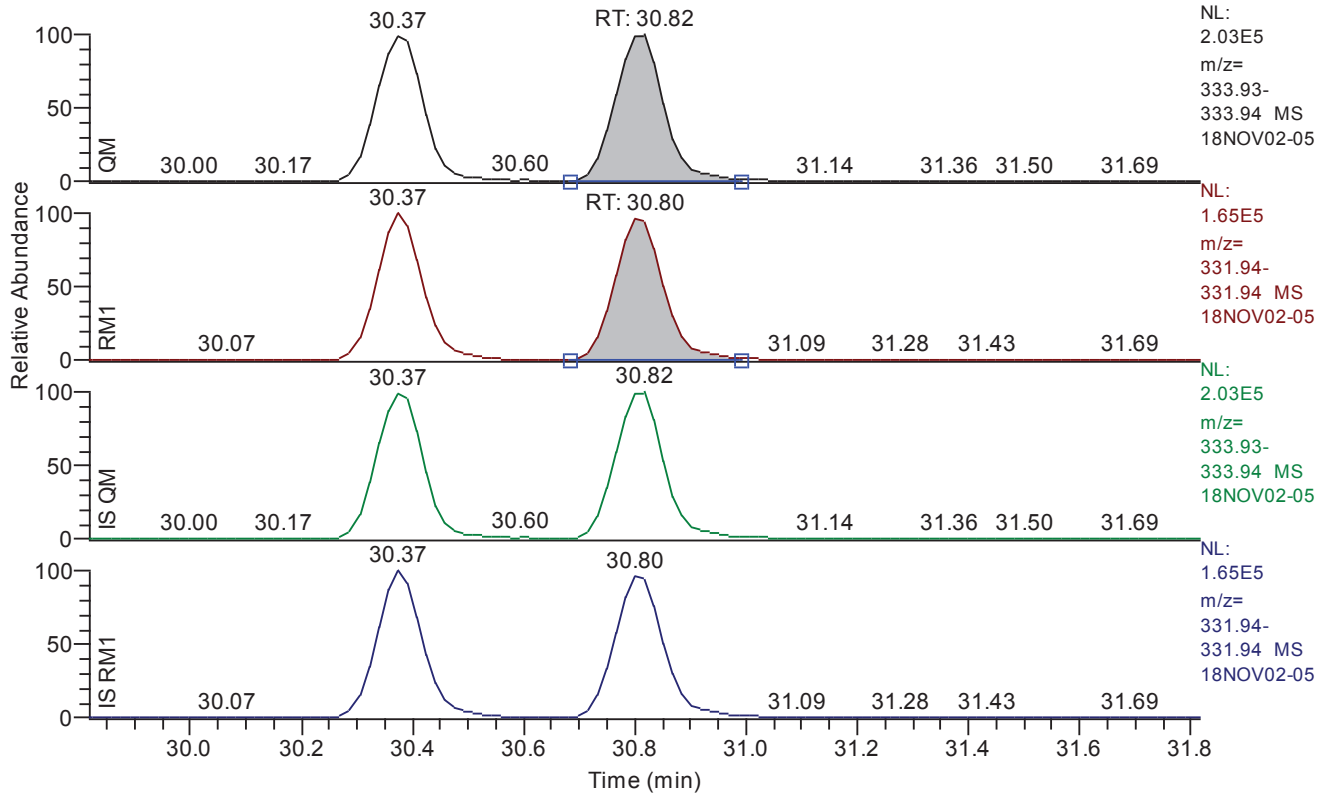


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.36
QM Area	78746
QM Integration Mode	A
RM1 Area	69126
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0073
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1705
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.82 - 31.82 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.82
QM Area	1234918
QM Integration Mode	A
RM1 Area	976256
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0277
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	8898
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 18:30
Number of Entries	64
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

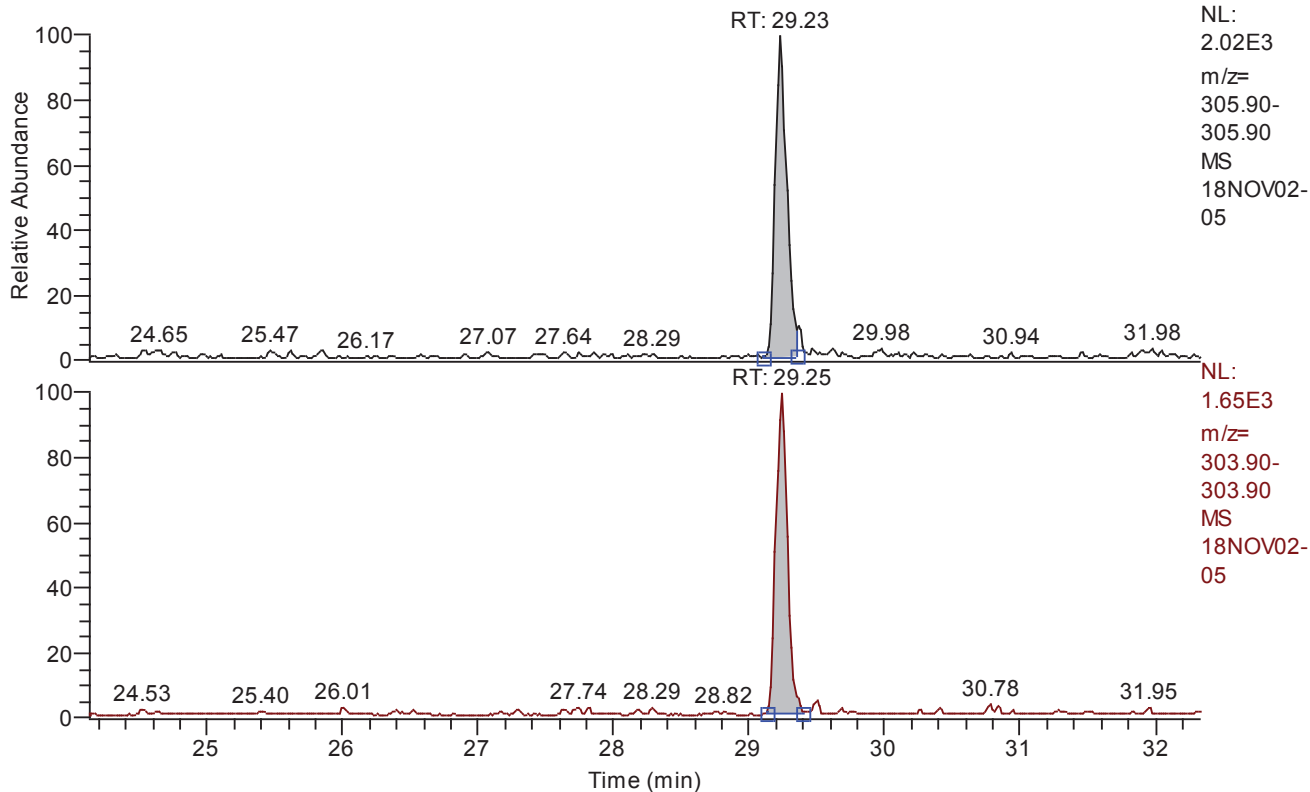
Quan	x:\18nov02\18nov02-05.quan
Data	x:\18nov02\18nov02-05.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 24.13 - 32.33 SM: 3G

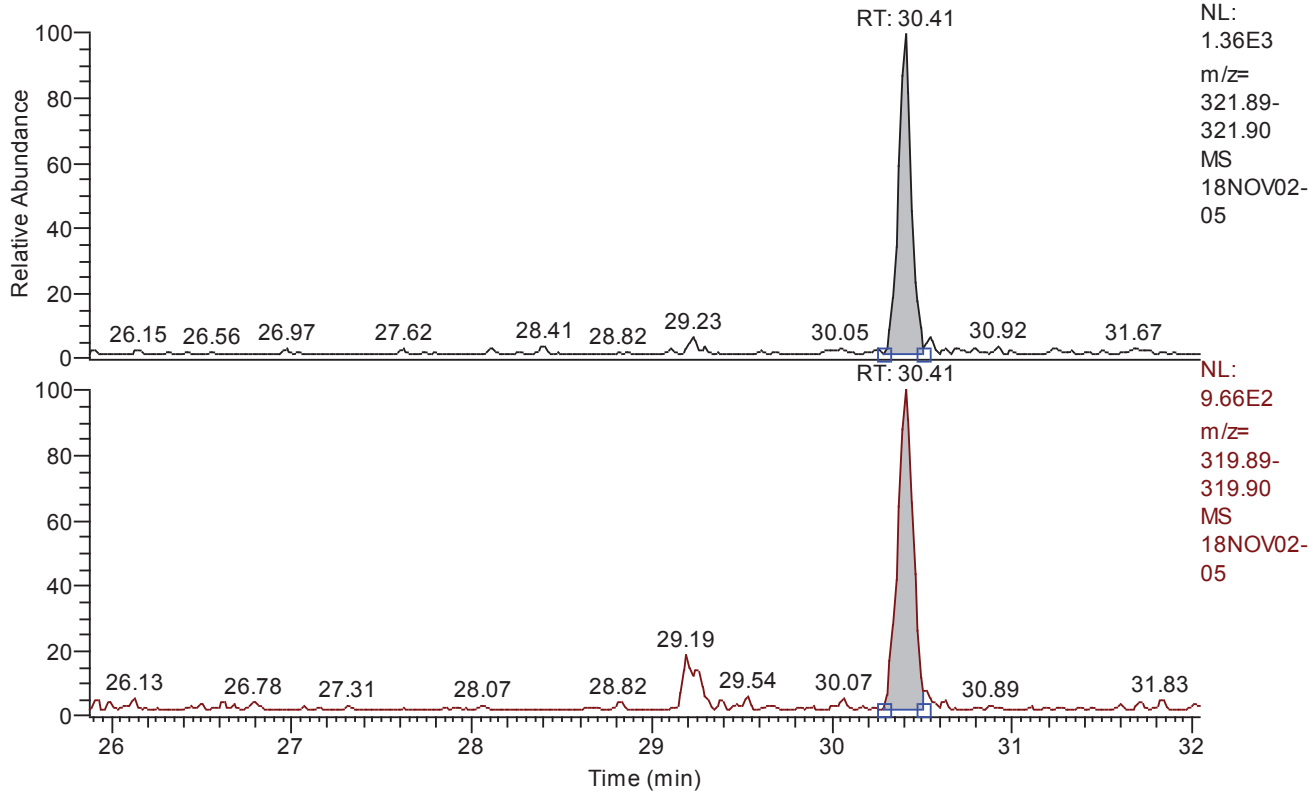


Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.23
QM Area	11663
QM Integration Mode	A
RM1 Area	9567
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 25.87 - 32.05 SM: 3G

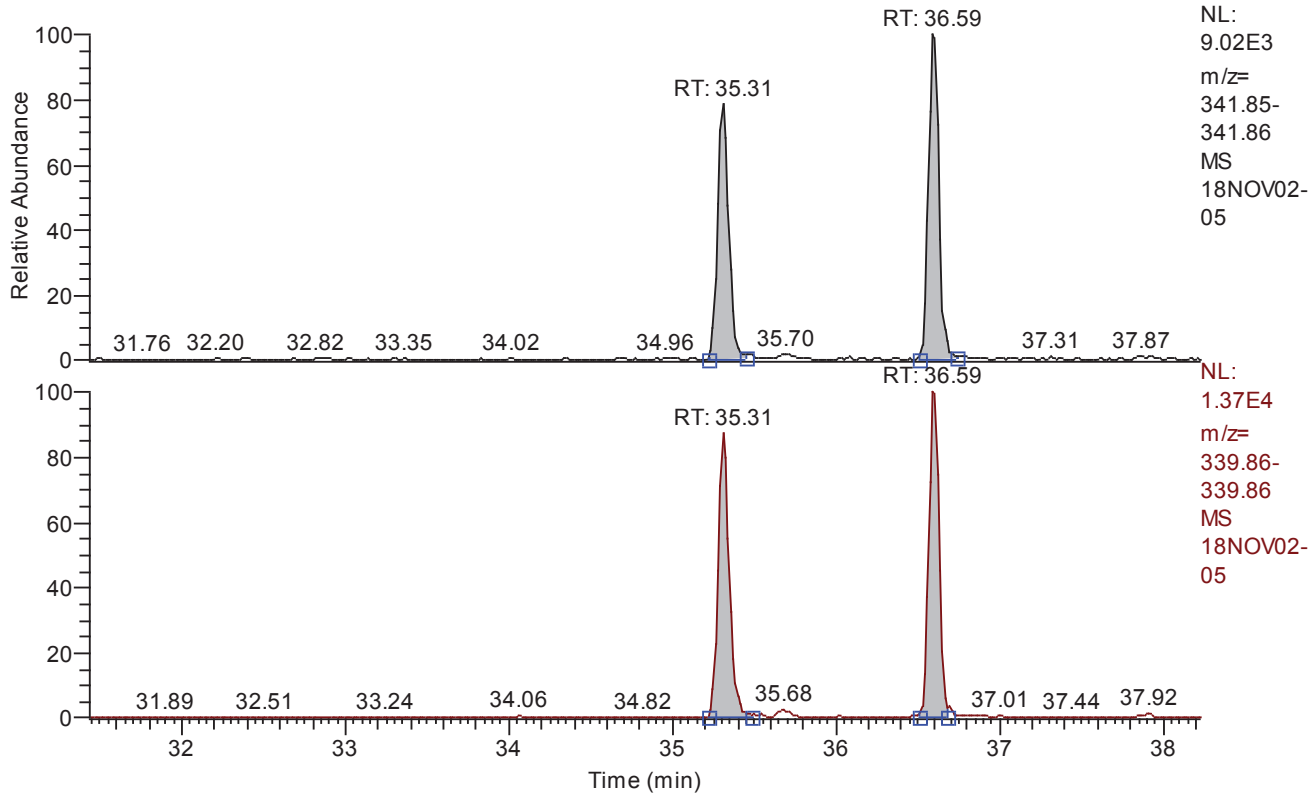


Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.96
QM Area	6593
QM Integration Mode	A
RM1 Area	5559
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	228
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 31.43 - 38.23 SM: 3G

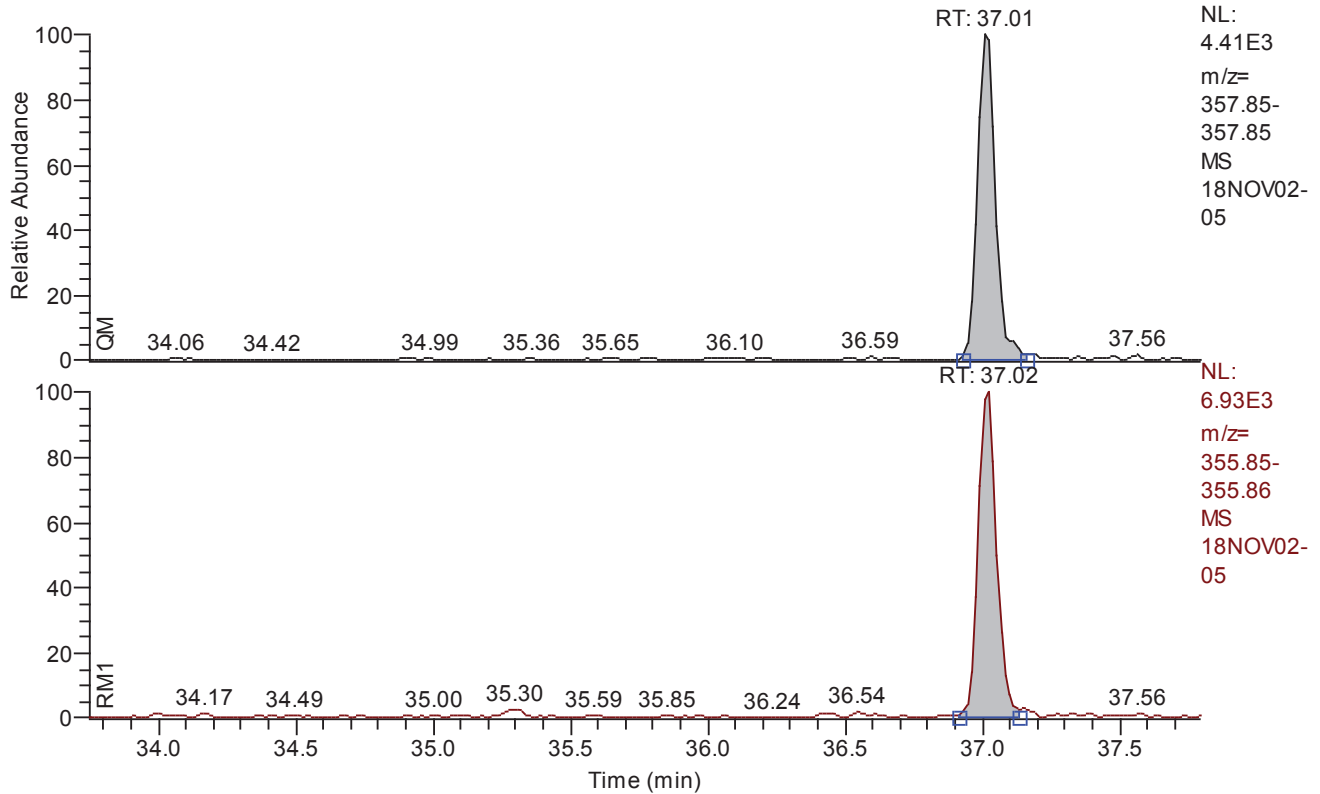


Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.83
QM Area	73892
QM Integration Mode	A
RM1 Area	116954
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	5.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (2)
Status Info	

Chromatogram

RT: 33.75 - 37.79 SM: 3G

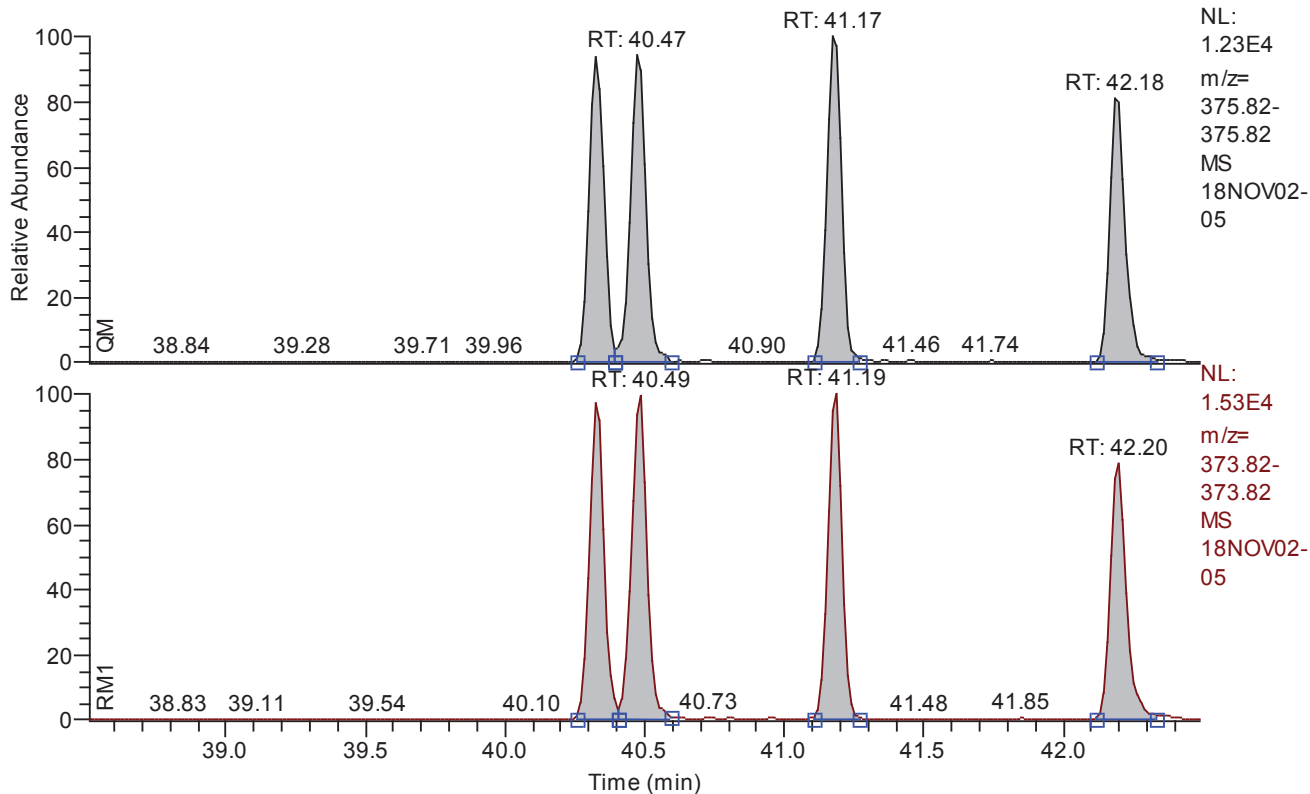


Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.77
QM Area	19955
QM Integration Mode	A
RM1 Area	32276
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0108
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 38.51 - 42.49 SM: 3G

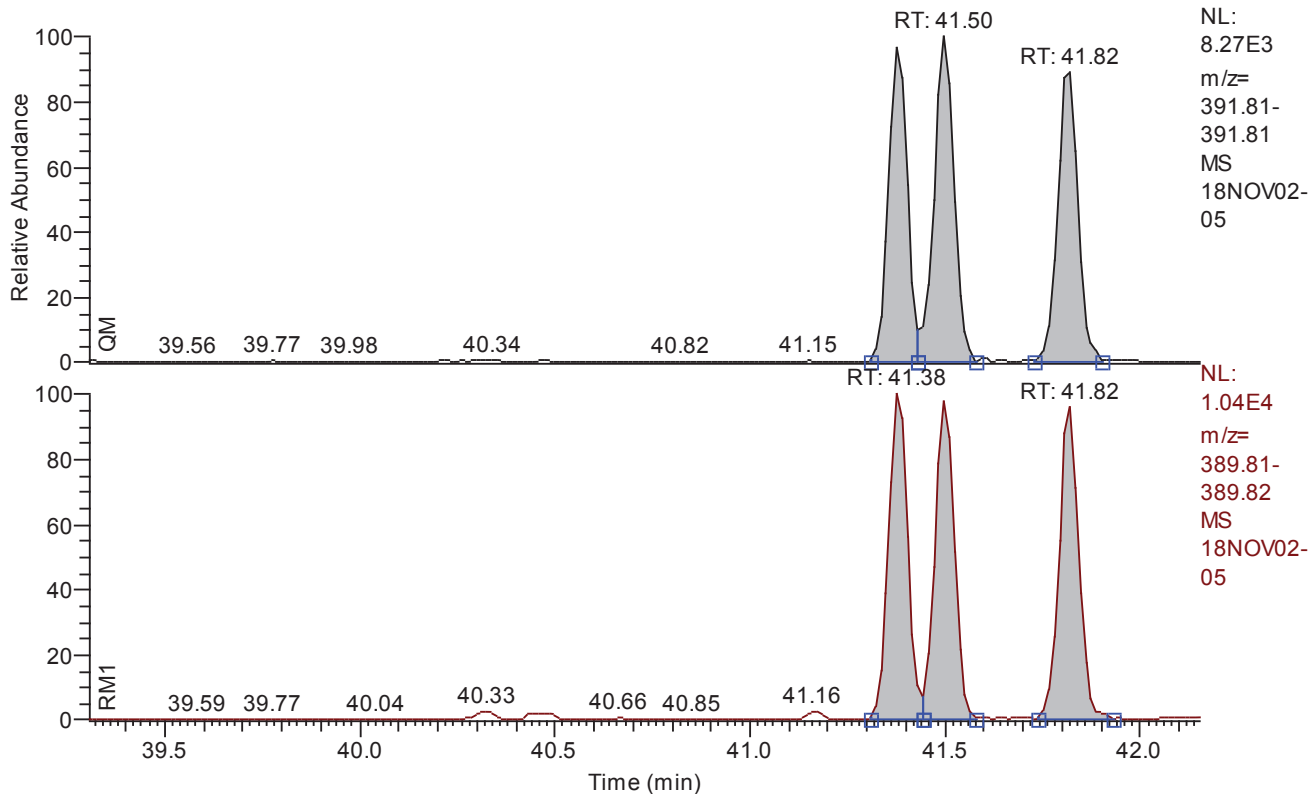


Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.50
QM Area	170843
QM Integration Mode	A
RM1 Area	213228
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	10.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (4)
Status Info	

Chromatogram

RT: 39.31 - 42.15 SM: 3G

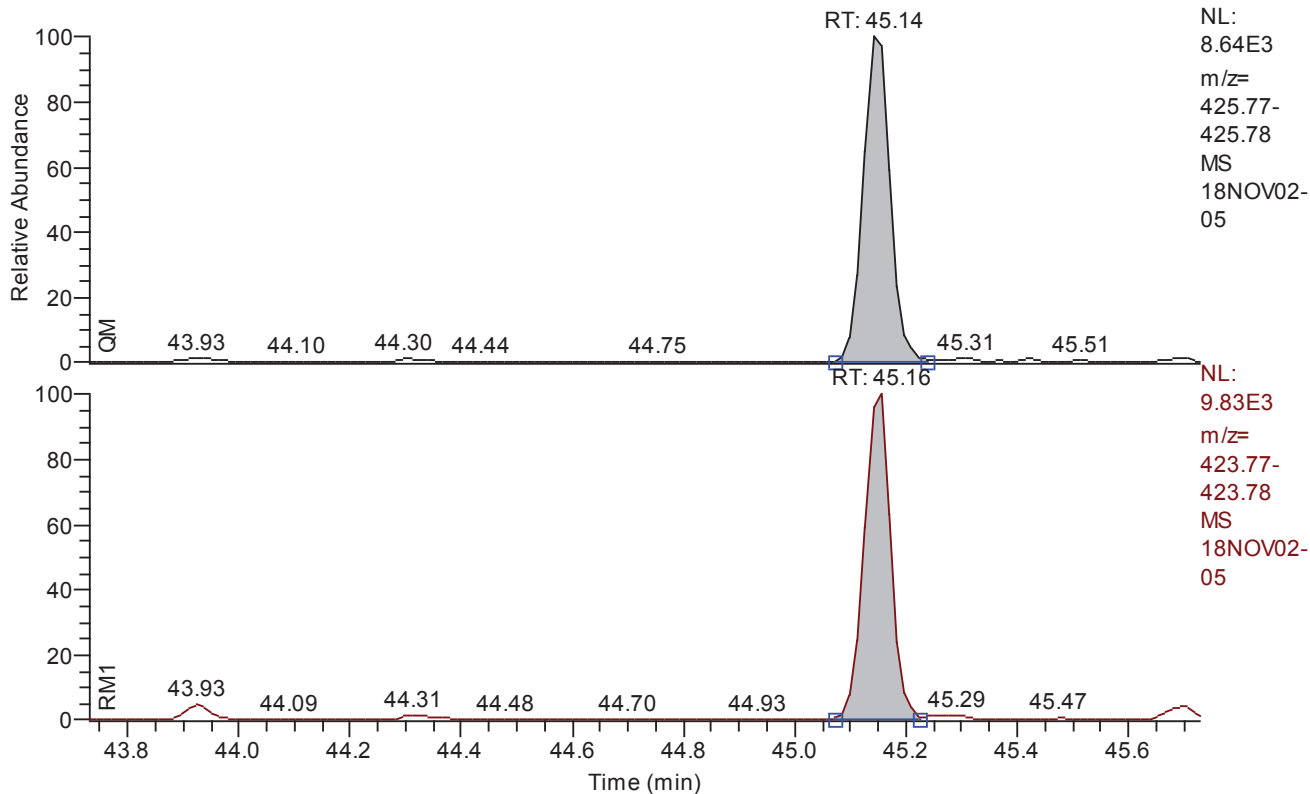


Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.73
QM Area	82411
QM Integration Mode	A
RM1 Area	104325
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	7.5000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (3)
Status Info	

Chromatogram

RT: 43.73 - 45.73 SM: 3G



NL:
8.64E3
m/z=
425.77-
425.78
MS
18NOV02-
05

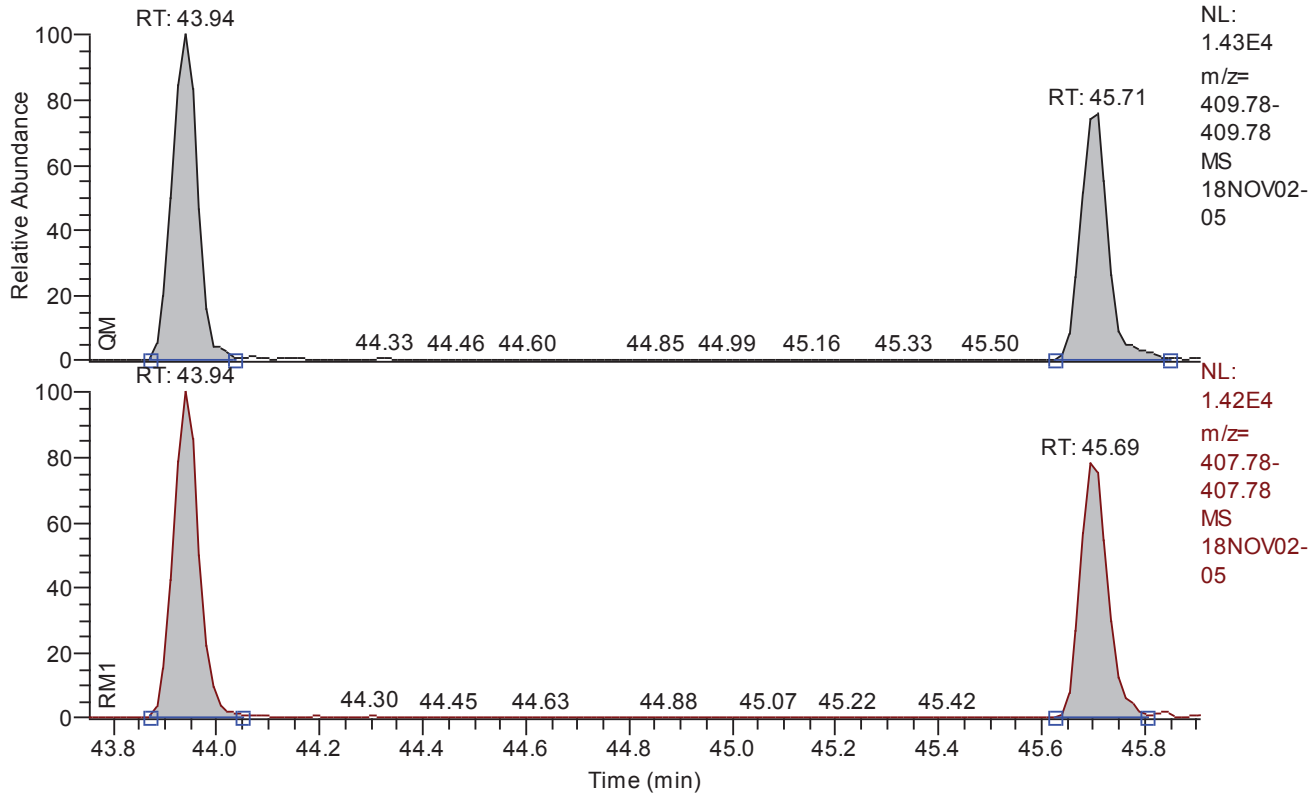
NL:
9.83E3
m/z=
423.77-
423.78
MS
18NOV02-
05

Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.73
QM Area	28158
QM Integration Mode	A
RM1 Area	31652
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 43.75 - 45.91 SM: 3G



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.83
QM Area	90248
QM Integration Mode	A
RM1 Area	90390
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	2.302235
Adjusted Amount (A)	4.6045
Signal-to-Noise	---
Client Flags	
Status Overview	passed (2)
Status Info	

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	29.23	29.23	29.25	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.41	30.41	30.41	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	37.01	37.01	37.02	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.33	40.33	40.33	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.47	40.47	40.49	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.17	41.17	41.19	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.38	41.38	41.38	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.50	41.50	41.50	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	42.18	42.18	42.20	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	45.14	45.14	45.16	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.71	45.71	45.69	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	48.36	48.36	48.36	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.82	30.82	30.80	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.54	29.54	29.54	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	29.21	29.21	29.21	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.37	30.37	30.37	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	36.57	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	40.31	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	41.36	41.36	41.36	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	41.79	41.79	41.79	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.17	42.17	42.17	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	45.14	45.14	45.14	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	48.17	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	7.46	28.23	28.23	28.23	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.96	28.96	28.96	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	34.83	34.83	34.83	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	35.77	35.77	35.77	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.50	40.50	40.50	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	40.73	40.73	40.73	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.73	44.73	44.73	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	44.83	44.83	44.83	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	29.23	29.23	29.25	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.41	30.41	30.41	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	37.01	37.01	37.02	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	36.59	36.59	36.59	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	35.31	35.31	35.31	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.14	45.14	45.16	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.17	41.17	41.19	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.33	40.33	40.33	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.47	40.47	40.49	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.18	42.18	42.20	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.50	41.50	41.50	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.38	41.38	41.38	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.82	41.82	41.82	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	43.94	43.94	43.94	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	45.71	45.71	45.69	passed	passed

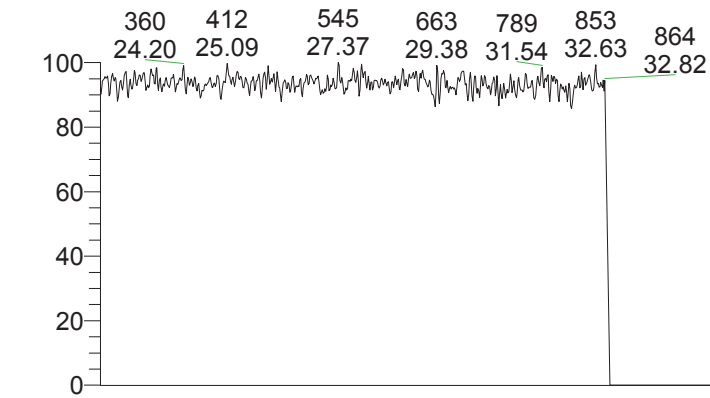
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.23	0.8203	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.41	0.8432	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.31	1.6843	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.59	1.4974	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.01	1.6175	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.33	1.2551	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.47	1.2970	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.17	1.1951	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.38	1.3299	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.50	1.1841	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.82	1.2925	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.18	1.2458	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.94	0.9860	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.14	1.1241	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.71	1.0204	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.18	0.8816	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.36	0.8778	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.82	0.7905	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.54	0.8016	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.23	1.2675	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.21	0.7828	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.37	0.7926	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.30	1.6182	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.57	1.5903	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.99	1.5864	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.31	0.5369	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.46	0.5305	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.16	0.5322	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.36	1.2670	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.48	1.2696	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.79	1.2605	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.17	0.5276	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.93	0.4607	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.14	1.0451	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.69	0.4640	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.17	0.9008	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.34	0.9048	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.23	---	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.96	0.8432	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.83	---	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.77	---	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.50	---	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.73	---	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.73	---	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.83	---	0.8750 - 1.2050	---	92.09	0 - 0	---
46	Single TCDF	29.23	0.8203	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.41	0.8432	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.01	1.6175	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.59	1.4974	1.3150 - 1.7850	passed	105.01	0 - 0	passed
50	Single PeCDD	35.31	1.6843	1.3150 - 1.7850	passed	94.99	0 - 0	passed
51	Single HpCDD	45.14	1.1241	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.17	1.1951	1.0450 - 1.4350	passed	102.91	0 - 0	passed
53	Single HxCDF	40.33	1.2551	1.0450 - 1.4350	passed	100.88	0 - 0	passed
54	Single HxCDF	40.47	1.2970	1.0450 - 1.4350	passed	106.30	0 - 0	passed
55	Single HxCDF	42.18	1.2458	1.0450 - 1.4350	passed	89.91	0 - 0	passed
56	Single HxCDD	41.50	1.1841	1.0450 - 1.4350	passed	102.83	0 - 0	passed
57	Single HxCDD	41.38	1.3299	1.0450 - 1.4350	passed	98.39	0 - 0	passed
58	Single HxCDD	41.82	1.2925	1.0450 - 1.4350	passed	98.79	0 - 0	passed
59	Single HpCDF	43.94	0.9860	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.71	1.0204	0.8750 - 1.2050	passed	84.18	0 - 0	passed

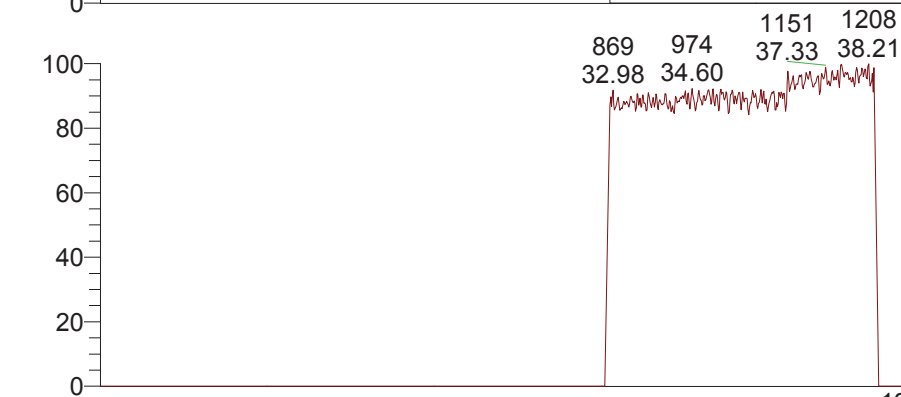
Entry Parameters

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	29.23	11663	A	9567	A	0.0045	0.500000	0.5000	0.500000	283	
2	2378-TCDD	passed	30.41	6593	A	5559	A	0.0061	0.500000	0.5000	0.500000	228	
3	12378-PeCDF	passed	35.31	33768	A	56873	A	0.0051	2.500000	2.5000	2.500000	1199	
4	23478-PeCDF	passed	36.59	40124	A	60081	A	0.0042	2.500000	2.5000	2.500000	1427	
5	12378-PeCDD	passed	37.01	19955	A	32276	A	0.0108	2.500000	2.5000	2.500000	546	
6	123478-HxCDF	passed	40.33	42954	A	53913	A	0.0061	2.500000	2.5000	2.500000	989	
7	123678-HxCDF	passed	40.47	44435	A	57631	A	0.0062	2.500000	2.5000	2.500000	1002	
8	234678-HxCDF	passed	41.17	45013	A	53797	A	0.0060	2.500000	2.5000	2.500000	1034	
9	123478-HxCDD	passed	41.38	26285	A	34957	A	0.0061	2.500000	2.5000	2.500000	998	
10	123678-HxCDD	passed	41.50	29304	A	34700	A	0.0063	2.500000	2.5000	2.500000	1002	
11	123789-HxCDD	passed	41.82	26822	A	34668	A	0.0066	2.500000	2.5000	2.500000	945	
12	123789-HxCDF	passed	42.18	38440	A	47888	A	0.0076	2.500000	2.5000	2.500000	825	
13	1234678-HpCDF	passed	43.94	49385	A	48693	A	0.0047	2.500000	2.5000	2.500000	1303	
14	1234678-HpCDD	passed	45.14	28158	A	31652	A	0.0066	2.500000	2.5000	2.500000	971	
15	1234789-HpCDF	passed	45.71	40863	A	41697	A	0.0061	2.500000	2.5000	2.500000	1006	
16	OCDD	passed	48.18	60621	A	53443	A	0.0095	5.000000	5.0000	5.000000	1333	
17	OCDF	passed	48.36	78746	A	69126	A	0.0073	5.000000	5.0000	5.000000	1705	
18	13C12-1278-TCDD (CRS)	passed	30.82	1234918	A	976256	A	0.0277	100.000000	100.0000	100.000000	8898	
19	13C12-1234-TCDD	passed	29.54	1185463	A	950228	A	0.0287	100.000000	100.0000	100.000000	8706	
20	13C12-123468-HxCDD	passed	40.23	1147238	A	1454078	A	0.0265	100.000000	100.0000	100.000000	9442	
21	13C12-2378-TCDF	passed	29.21	2446074	A	1914835	A	0.0141	100.000000	100.0000	100.000000	17890	
22	13C12-2378-TCDD	passed	30.37	1201439	A	952259	A	0.0285	100.000000	100.0000	100.000000	9053	
23	13C12-12378-PeCDF	passed	35.30	1538587	A	2489800	A	0.0459	100.000000	100.0000	100.000000	7121	
24	13C12-23478-PeCDF	passed	36.57	1522763	A	2421585	A	0.0469	100.000000	100.0000	100.000000	7589	
25	13C12-12378-PeCDD	passed	36.99	811737	A	1287749	A	0.0255	100.000000	100.0000	100.000000	13585	
26	13C12-123478-HxCDF	passed	40.31	2360604	A	1267320	A	0.0308	100.000000	100.0000	100.000000	8185	
27	13C12-123678-HxCDF	passed	40.46	2538617	A	1346840	A	0.0288	100.000000	100.0000	100.000000	8212	
28	13C12-234678-HxCDF	passed	41.16	2333709	A	1242022	A	0.0313	100.000000	100.0000	100.000000	8030	
29	13C12-123478-HxCDD	passed	41.36	1074004	A	1360812	A	0.0283	100.000000	100.0000	100.000000	9691	
30	13C12-123678-HxCDD	passed	41.48	1129329	A	1433828	A	0.0269	100.000000	100.0000	100.000000	9524	
31	13C12-123789-HxCDD	passed	41.79	1084087	A	1366526	A	0.0281	100.000000	100.0000	100.000000	8916	
32	13C12-123789-HxCDF	passed	42.17	2169467	A	1144545	A	0.0338	100.000000	100.0000	100.000000	6760	
33	13C12-1234678-HpCDF	passed	43.93	2241008	A	1032427	A	0.0327	100.000000	100.0000	100.000000	8089	
34	13C12-1234678-HpCDD	passed	45.14	1177427	A	1230486	A	0.0290	100.000000	100.0000	100.000000	9266	
35	13C12-1234789-HpCDF	passed	45.69	1876109	A	870488	A	0.0390	100.000000	100.0000	100.000000	6213	
36	13C12-OCDD	passed	48.17	2523720	A	2273373	A	0.0151	200.000000	200.0000	200.000000	37743	
37	13C12-OCDF	passed	48.34	3768765	A	3409939	A	0.0163	200.000000	200.0000	200.000000	34366	
38	Total TCDF	passed (1)	28.23	11663	A	9567	A	0.0045	0.500000	0.5000	0.500000	---	
39	Total TCDD	passed (1)	28.96	6593	A	5559	A	0.0061	0.500000	0.5000	0.500000	228	
40	Total PeCDF	passed (2)	34.83	73892	A	116954	A	0.0046	2.500000	5.0000	2.500000	---	
41	Total PeCDD	passed (1)	35.77	19955	A	32276	A	0.0108	2.500000	2.5000	2.500000	---	
42	Total HxCDF	passed (4)	40.50	170843	A	213228	A	0.0064	2.500000	10.0000	2.500000	---	
43	Total HxCDD	passed (3)	40.73	82411	A	104325	A	0.0063	2.500000	7.5000	2.500000	---	
44	Total HpCDD	passed (1)	44.73	28158	A	31652	A	0.0066	2.500000	2.5000	2.500000	---	
45	Total HpCDF	passed (2)	44.83	90248	A	90390	A	0.0049	2.302235	4.6045	2.500000	---	
46	Single TCDF	passed	29.23	11663	A	9567	A	0.0045	0.500000	0.5000	0.500000	283	
47	Single TCDD	passed	30.41	6593	A	5559	A	0.0061	0.500000	0.5000	0.500000	228	
48	Single PeCDD	passed	37.01	19955	A	32276	A	0.0108	2.500000	2.5000	2.500000	546	
49	Single PeCDF	passed	36.59	40124	A	60081	A	0.0046	2.625283	2.6253	2.500000	1427	
50	Single PeCDD	passed	35.31	33768	A	56873	A	0.0046	2.374717	2.3747	2.500000	1199	
51	Single HpCDD	passed	45.14	28158	A	31652	A	0.0066	2.500000	2.5000	2.500000	971	
52	Single HxCDF	passed	41.17	45013	A	53797	A	0.0064	2.572714	2.5727	2.500000	1034	
53	Single HxCDF	passed	40.33	42954	A	53913	A	0.0064	2.522117	2.5221	2.500000	989	
54	Single HxCDF	passed	40.47	44435	A	57631	A	0.0064	2.657466	2.6575	2.500000	1002	
55	Single HxCDF	passed	42.18	38440	A	47888	A	0.0064	2.247703	2.2477	2.500000	825	
56	Single HxCDD	passed	41.50	29304	A	34700	A	0.0063	2.570647	2.5706	2.500000	1002	
57	Single HxCDD	passed	41.38	26285	A	34957	A	0.0063	2.459713	2.4597	2.500000	998	
58	Single HxCDD	passed	41.82	26822	A	34668	A	0.0063	2.469640	2.4696	2.500000	945	
59	Single HpCDF	passed	43.94	49385	A	48693	A	0.0049	2.500000	2.5000	2.500000	1303	
60	Single HpCDF	passed	45.71	40863	A	41697	A	0.0049	2.104470	2.1045	2.500000	1006	

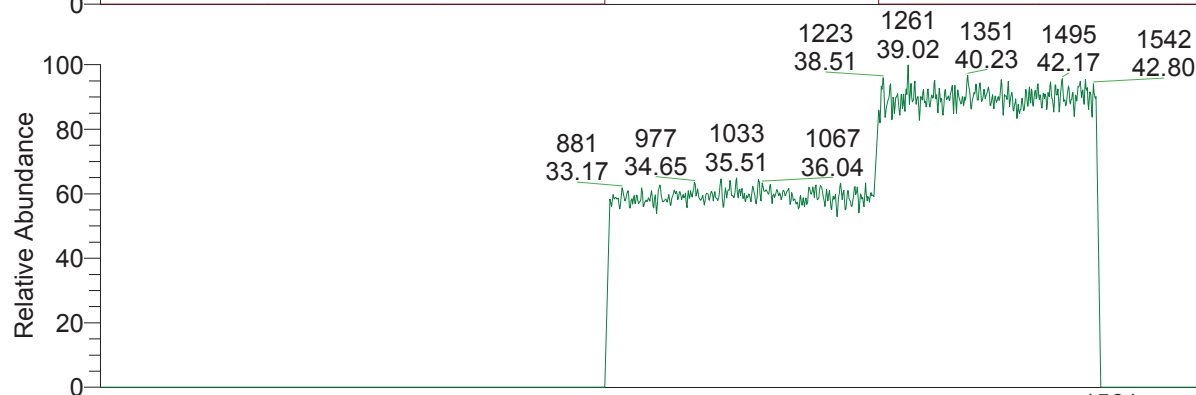
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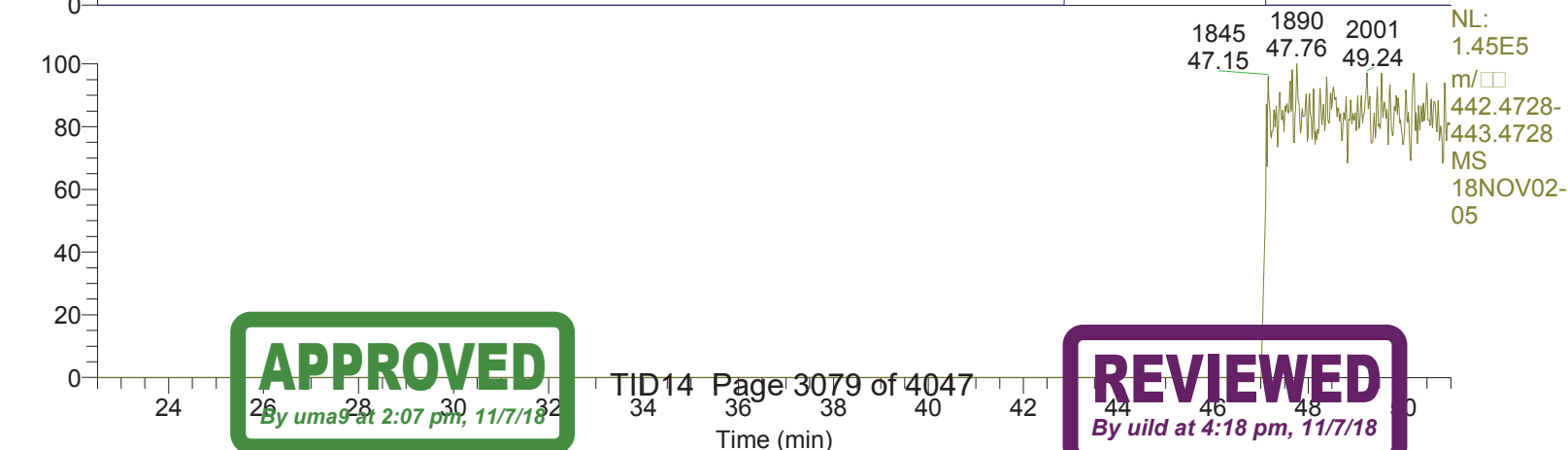
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APPROVED
By uma9 at 2:07 pm, 11/7/18

REVIEWED
By uild at 4:18 pm, 11/7/18

18NOV02-05

*** file opened Fri Nov 02 18:33:18 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 02-Nov-18 18:33:18

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 7349737c-0d23-45de-89a6-193501cb8be3

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

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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

18NOV02-05

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 22.016667 minutes

MID window end time was 22.010000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

Page 2

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3081 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-05

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	97.5000
BQUAD	3.1000	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	0.9992	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4255.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0072	FVINLET	0.0381	FVSR	0.0366
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	97.5000	LKM	442.9723	MASS	97.5000
MDAC	1423147.7521	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9851	RELEN	0.0000
RES	12522.1302	RPUSHER	-6.0733	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	788.0000	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	5.0000	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	VMAS	97.5000	XLENS_POT	972.0000
XLENS_SYM	-2.5000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.6e-008 mbar
Pirani Analyse: 7.1e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11519.
MID Time window 2: Resolution is 11784.
MID Time window 3: Resolution is 11623.
MID Time window 4: Resolution is 12654.

Page 3

APPROVED

By uma9 at 2:07 pm, 11/7/18

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REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-05

MID Time Window 5: Resolution is 13320.
MID Time Window 6: Resolution is 12522.

Amplifier Offset: 81.

*** File closed Fri Nov 02 19:24:20 2018



Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 19:24
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov02\18nov02-06.quan
Data	x:\18nov02\18nov02-06.raw
Response	x:\responsefiles\df17611-18nov02dfical.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

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	29.25	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.41	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.31	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.61	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	37.03	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.34	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.49	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	41.19	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.39	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.51	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.82	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.20	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.95	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	45.15	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.70	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.19	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.36	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.81	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.54	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.24	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	29.22	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.38	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.30	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.58	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.99	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.32	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.47	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	41.17	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.38	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.50	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.81	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.18	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.93	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	45.14	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.69	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.18	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.35	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.23	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.96	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.83	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.77	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.50	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.73	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.73	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.83	passed (2)	---	---	---	---	---	---
46	Single TCDF	29.25	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.41	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	37.03	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.61	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.31	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	45.15	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	40.34	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.49	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	41.19	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.20	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.39	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.51	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.82	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.95	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDF	45.70	passed	passed	passed	passed	passed	passed	passed

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 19:24
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

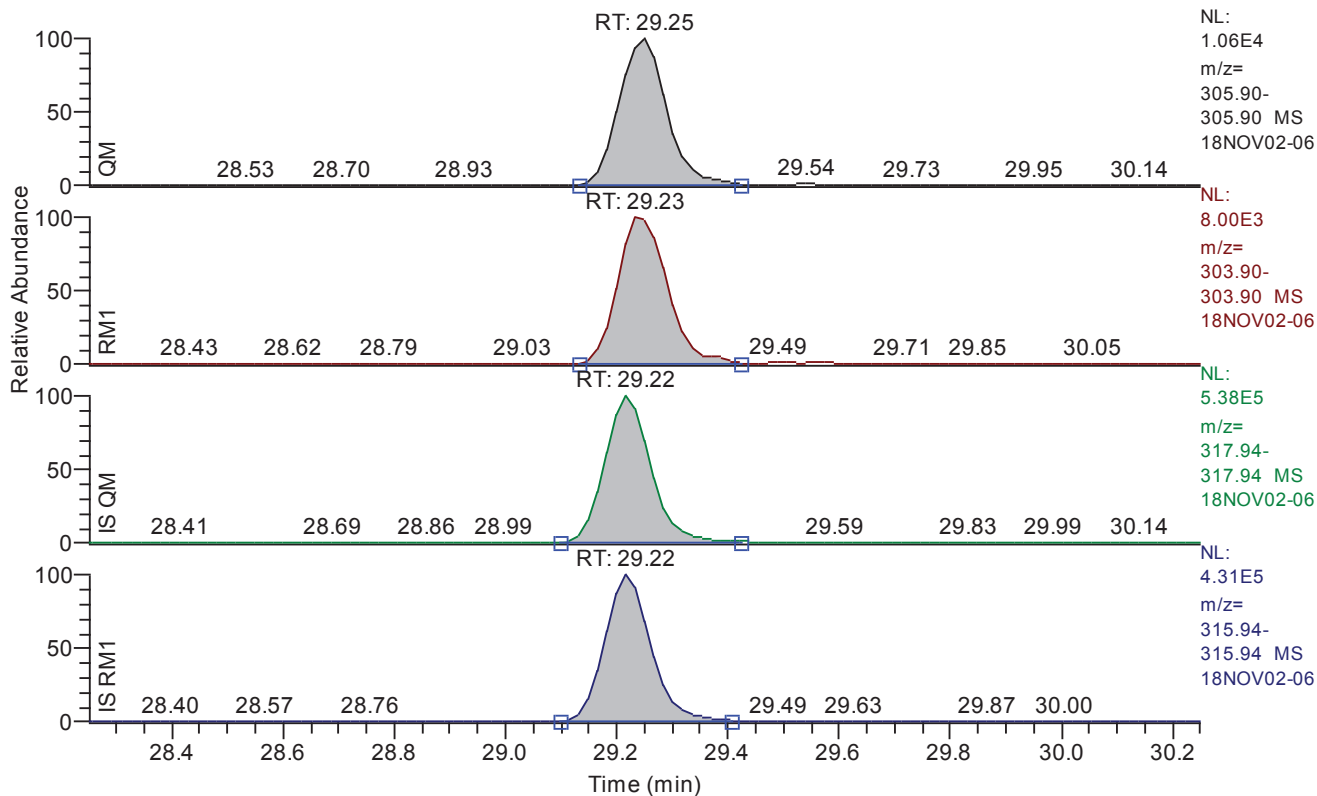
Quan	x:\18nov02\18nov02-06.quan
Data	x:\18nov02\18nov02-06.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.25 - 30.25 SM: 3G

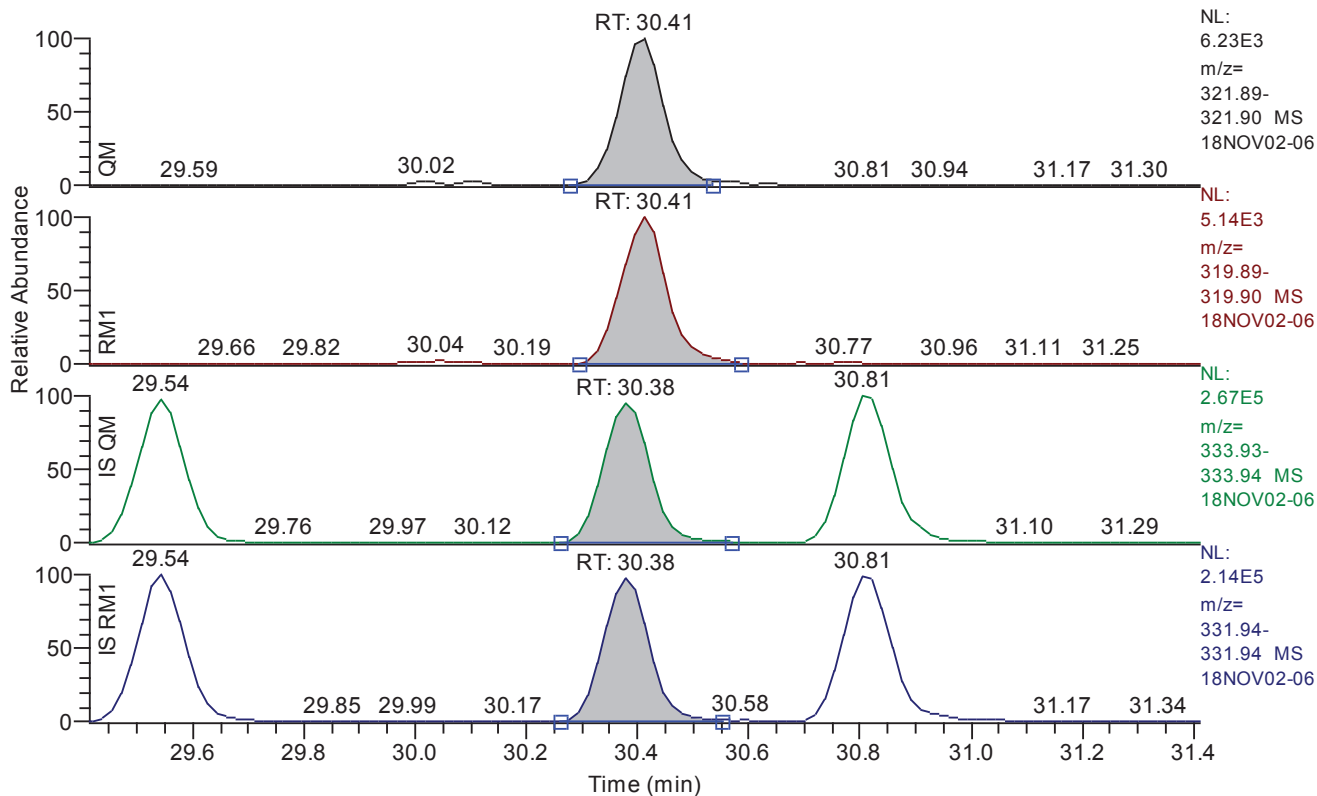


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.25
QM Area	63319
QM Integration Mode	A
RM1 Area	50139
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	1117
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.41 - 31.41 SM: 3G

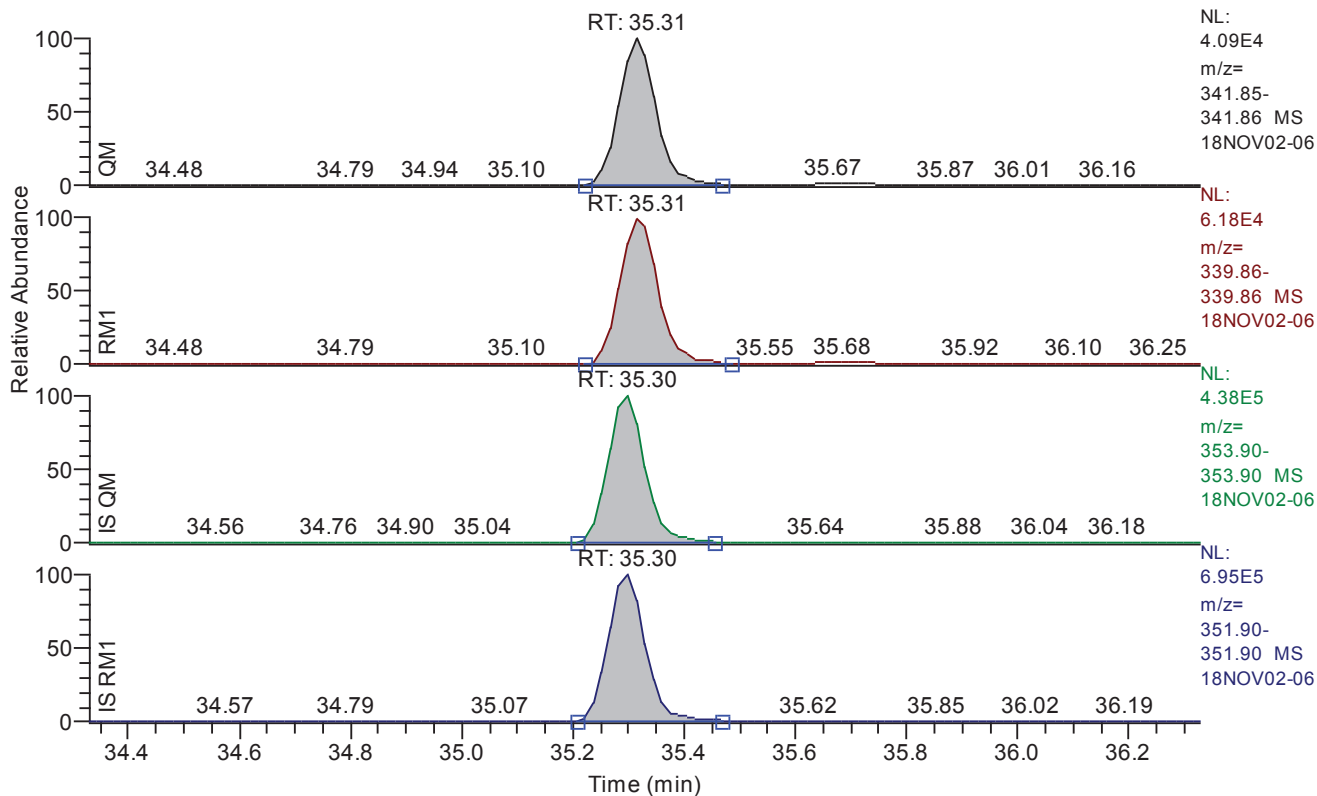


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.41
QM Area	35633
QM Integration Mode	A
RM1 Area	29959
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	1036
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.33 - 36.33 SM: 3G

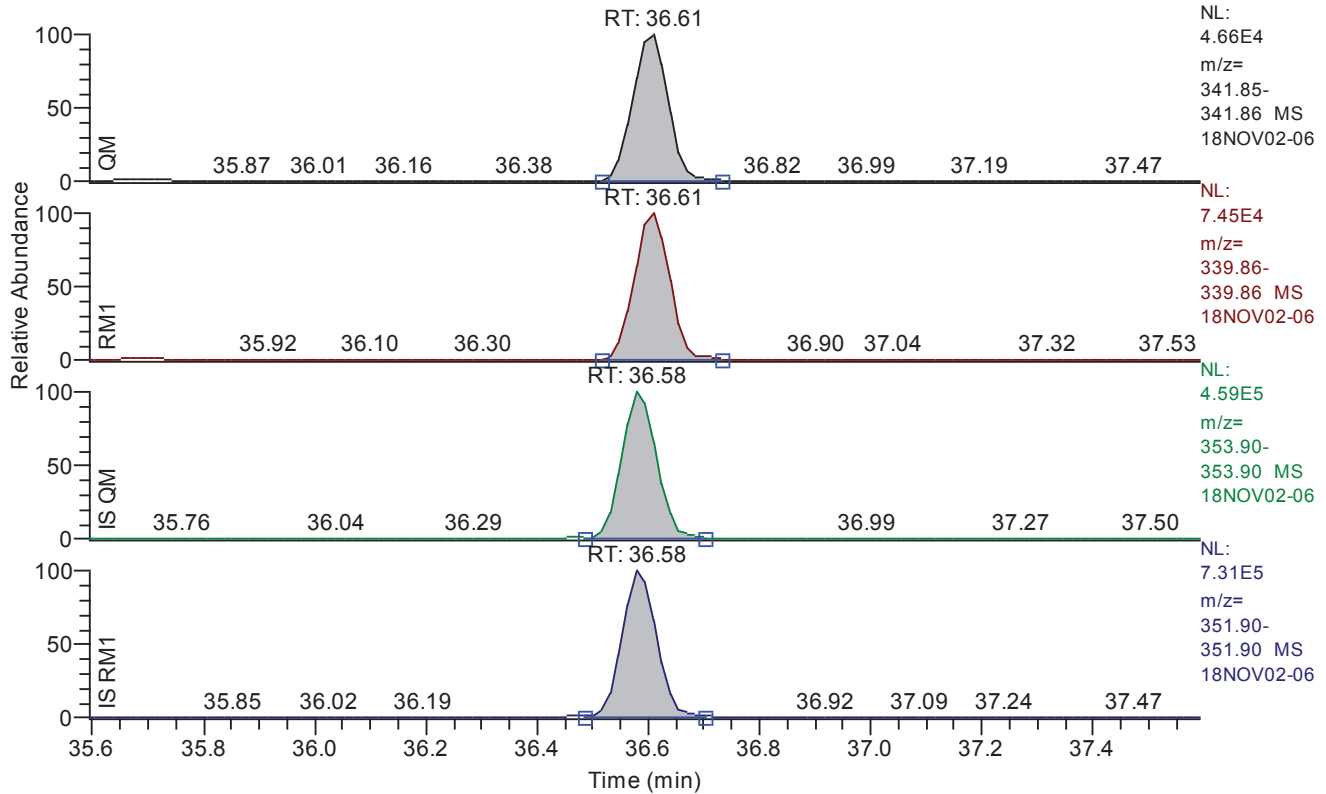


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.31
QM Area	188739
QM Integration Mode	A
RM1 Area	297406
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0054
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4501
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.59 - 37.59 SM: 3G

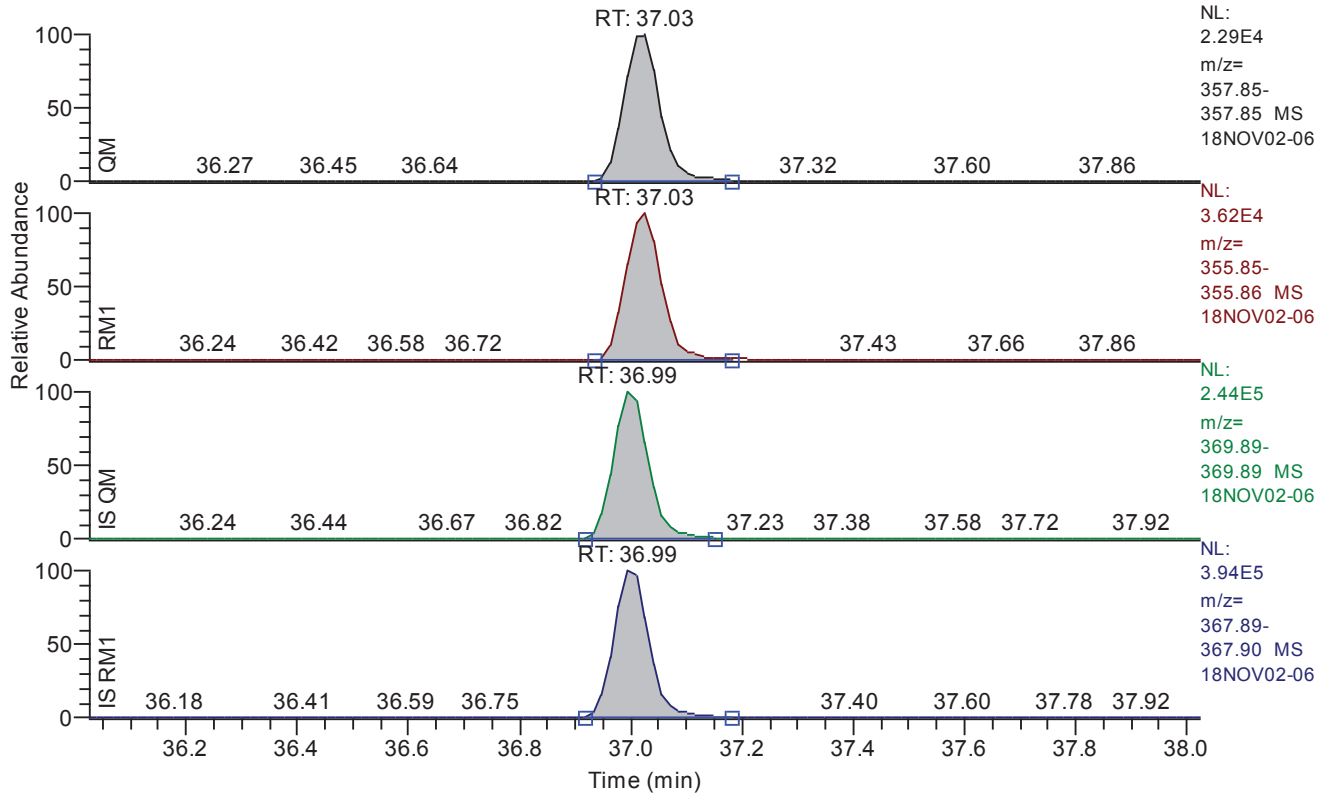


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.61
QM Area	209394
QM Integration Mode	A
RM1 Area	332257
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	5307
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.02 - 38.02 SM: 3G

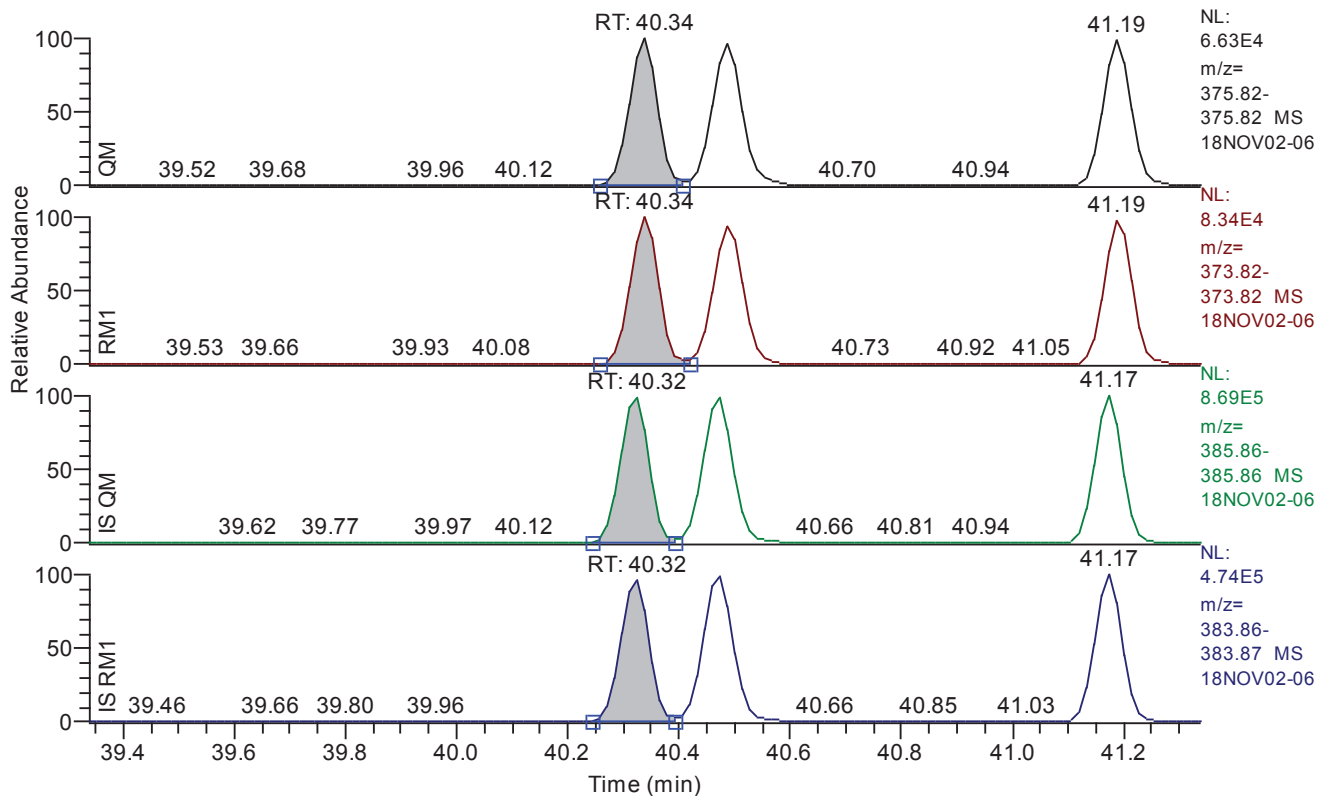


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.03
QM Area	103978
QM Integration Mode	A
RM1 Area	164810
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0100
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2419
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.34 - 41.34 SM: 3G

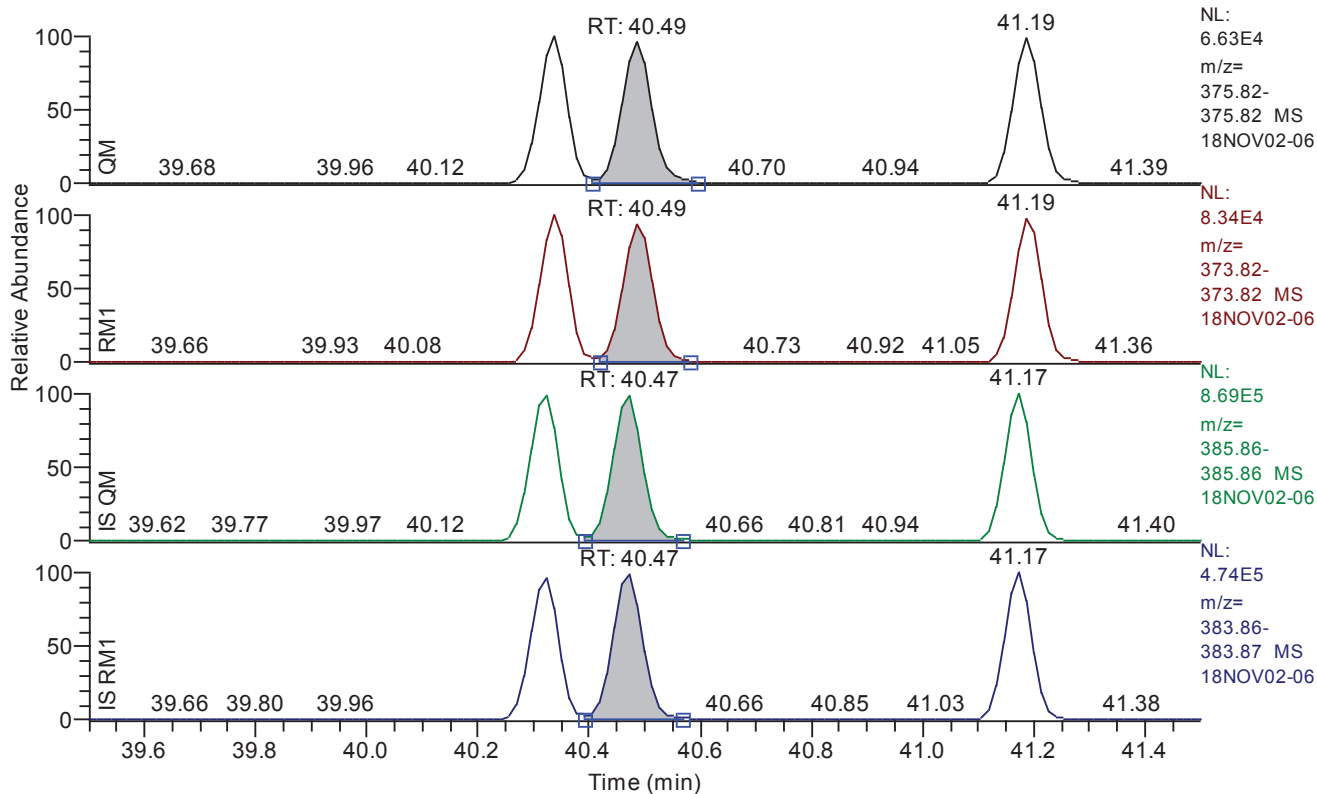


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.34
QM Area	231830
QM Integration Mode	A
RM1 Area	293579
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3348
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.50 - 41.50 SM: 3G

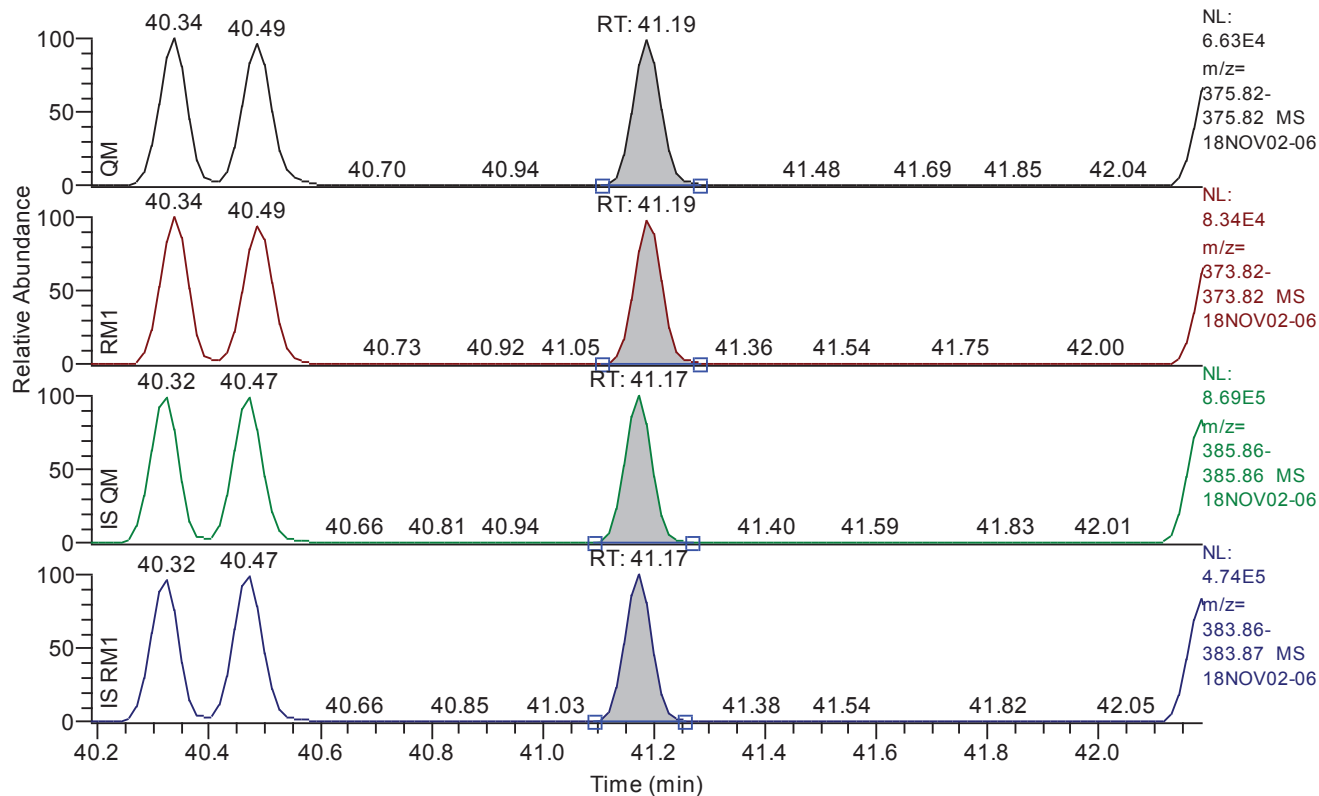


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.49
QM Area	240410
QM Integration Mode	A
RM1 Area	291928
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0079
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3194
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.19 - 42.19 SM: 3G

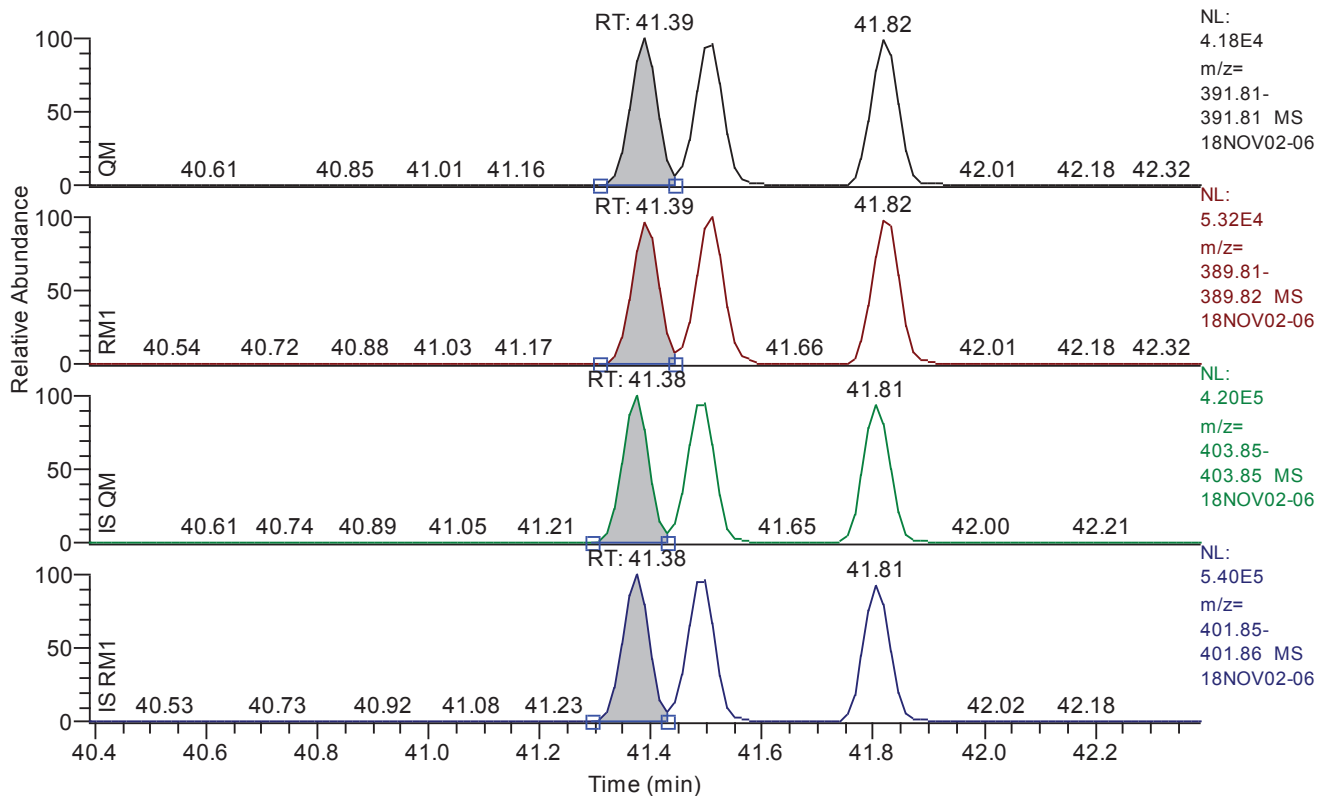


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.19
QM Area	230773
QM Integration Mode	A
RM1 Area	287693
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0074
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3308
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.39 - 42.39 SM: 3G

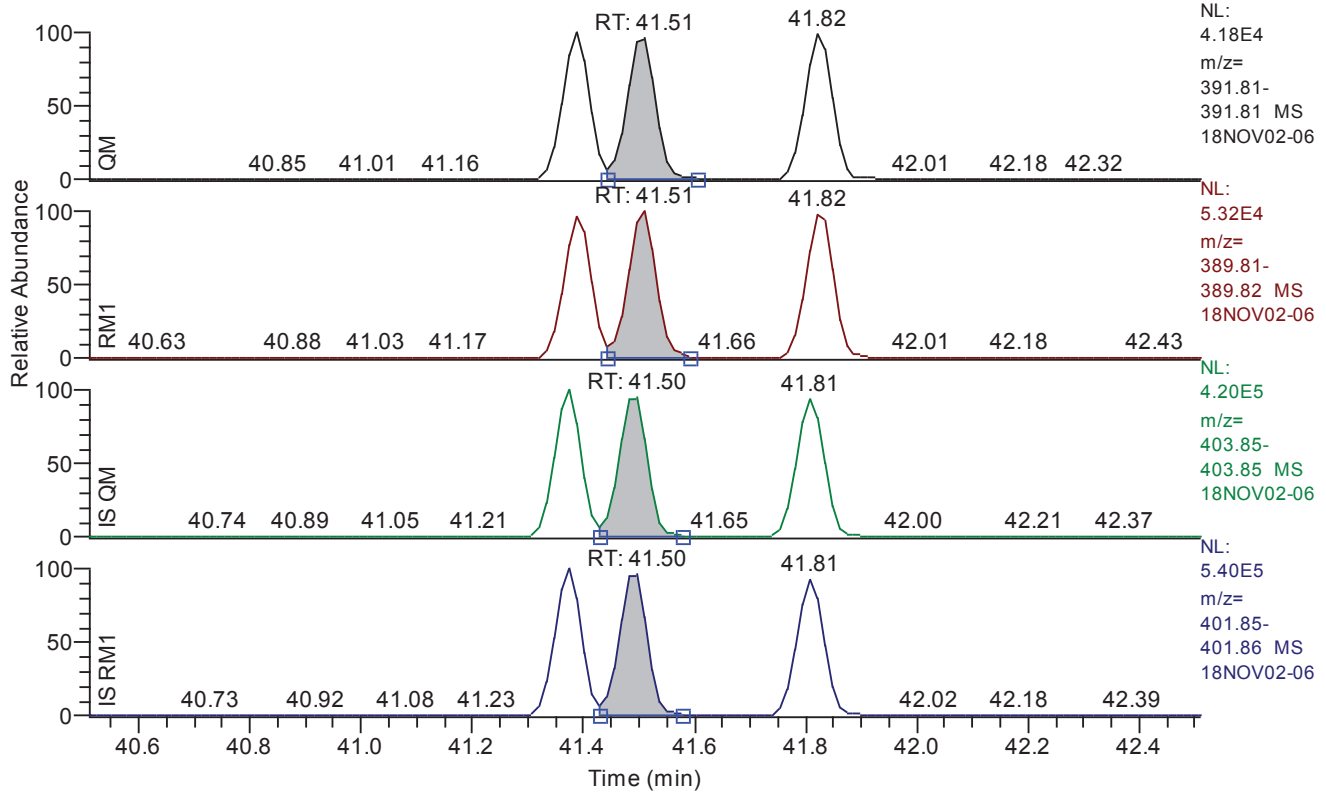


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.39
QM Area	139421
QM Integration Mode	A
RM1 Area	173700
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3514
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.51 - 42.51 SM: 3G

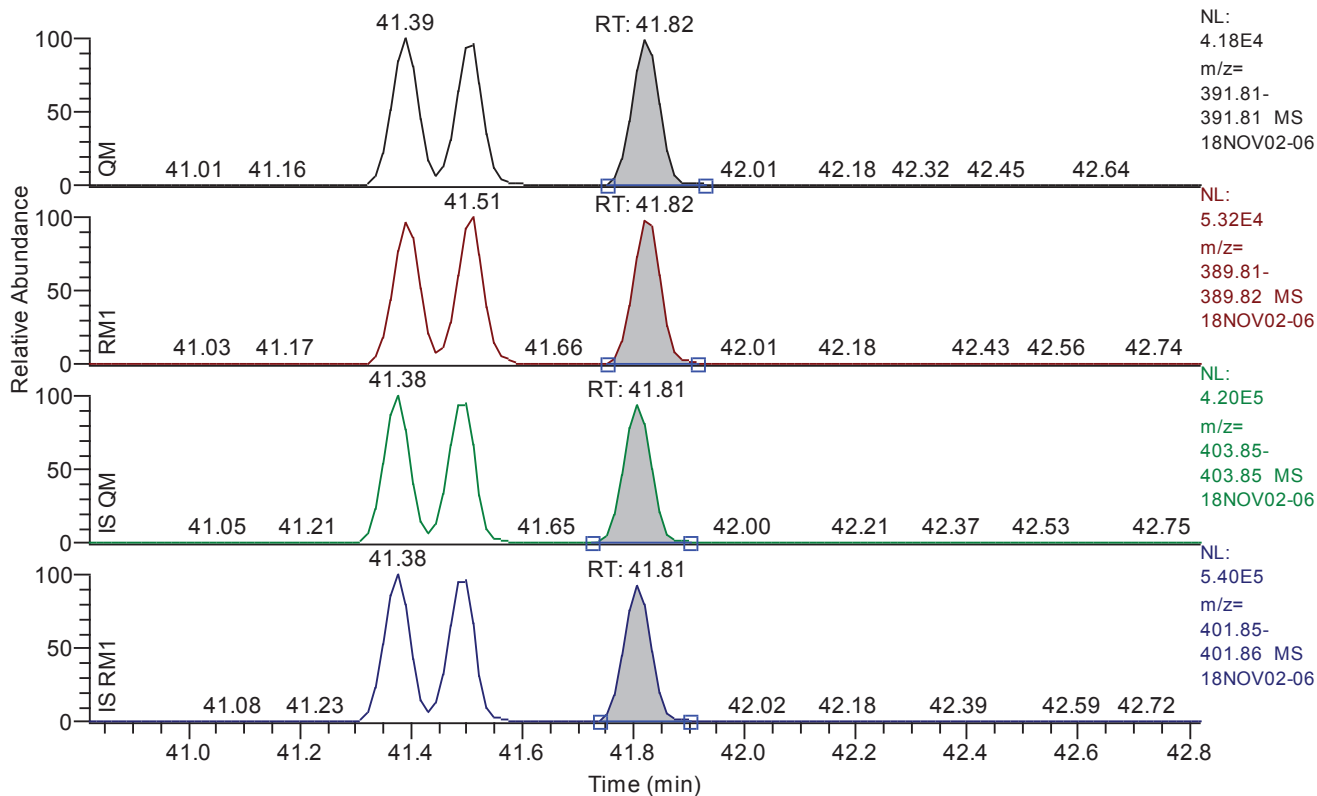


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.51
QM Area	143306
QM Integration Mode	A
RM1 Area	185202
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3522
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.82 - 42.82 SM: 3G

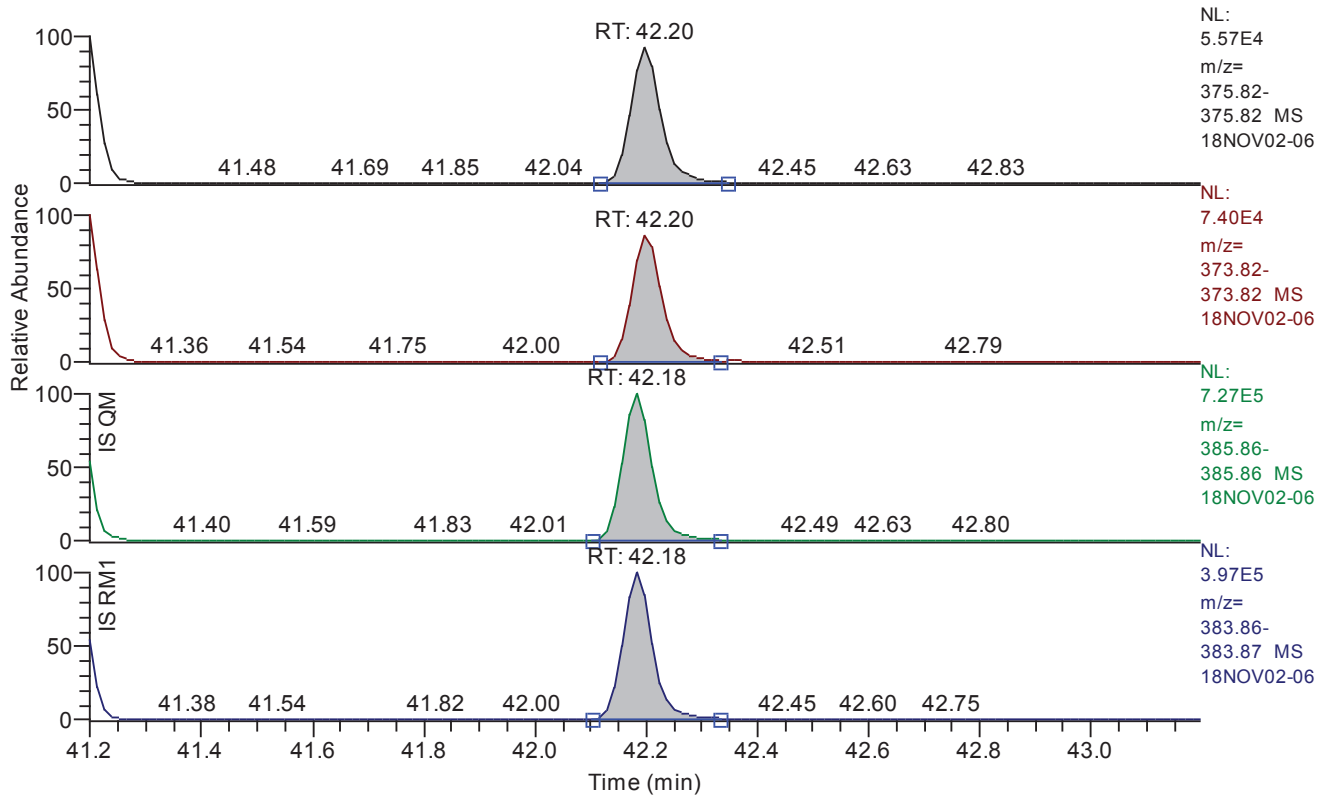


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.82
QM Area	144257
QM Integration Mode	A
RM1 Area	182786
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3542
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.20 - 43.20 SM: 3G

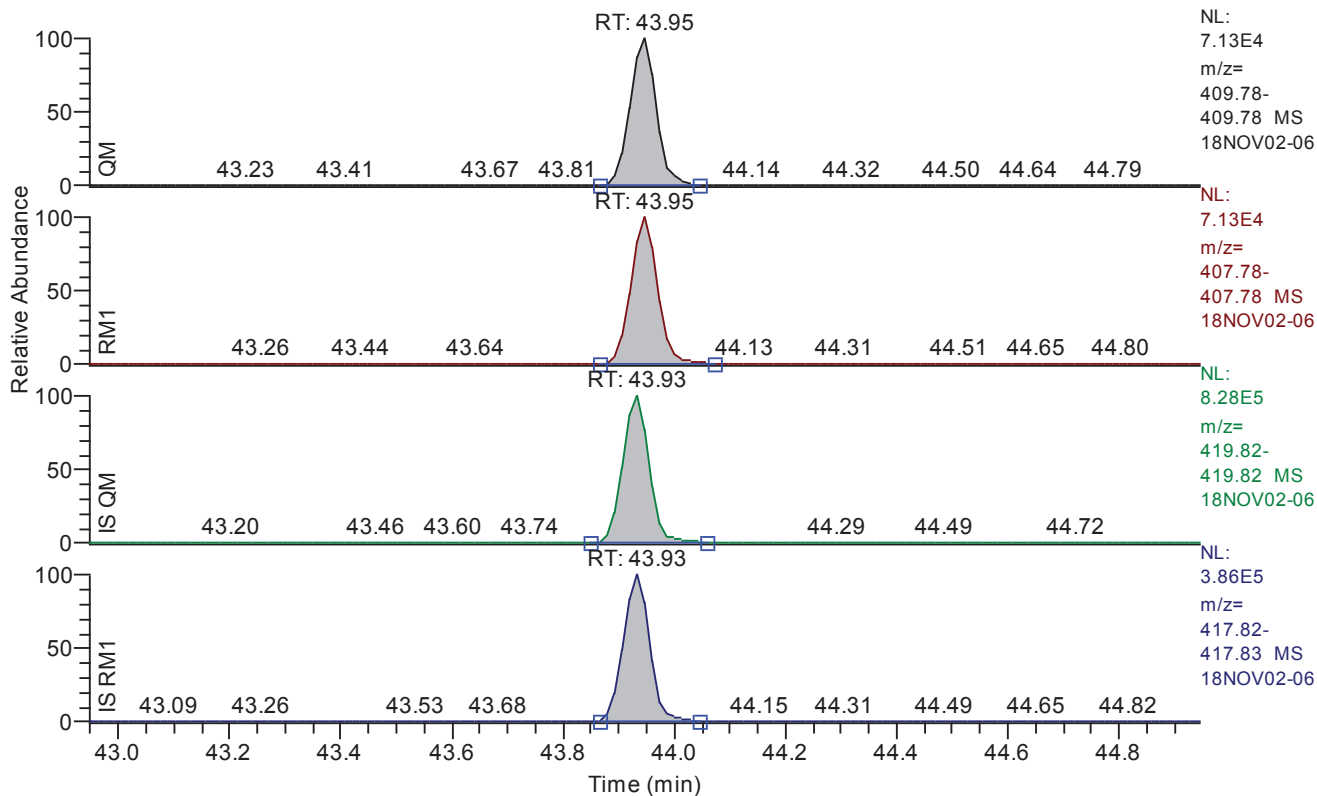


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.20
QM Area	196273
QM Integration Mode	A
RM1 Area	245712
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0094
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2601
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 42.95 - 44.95 SM: 3G

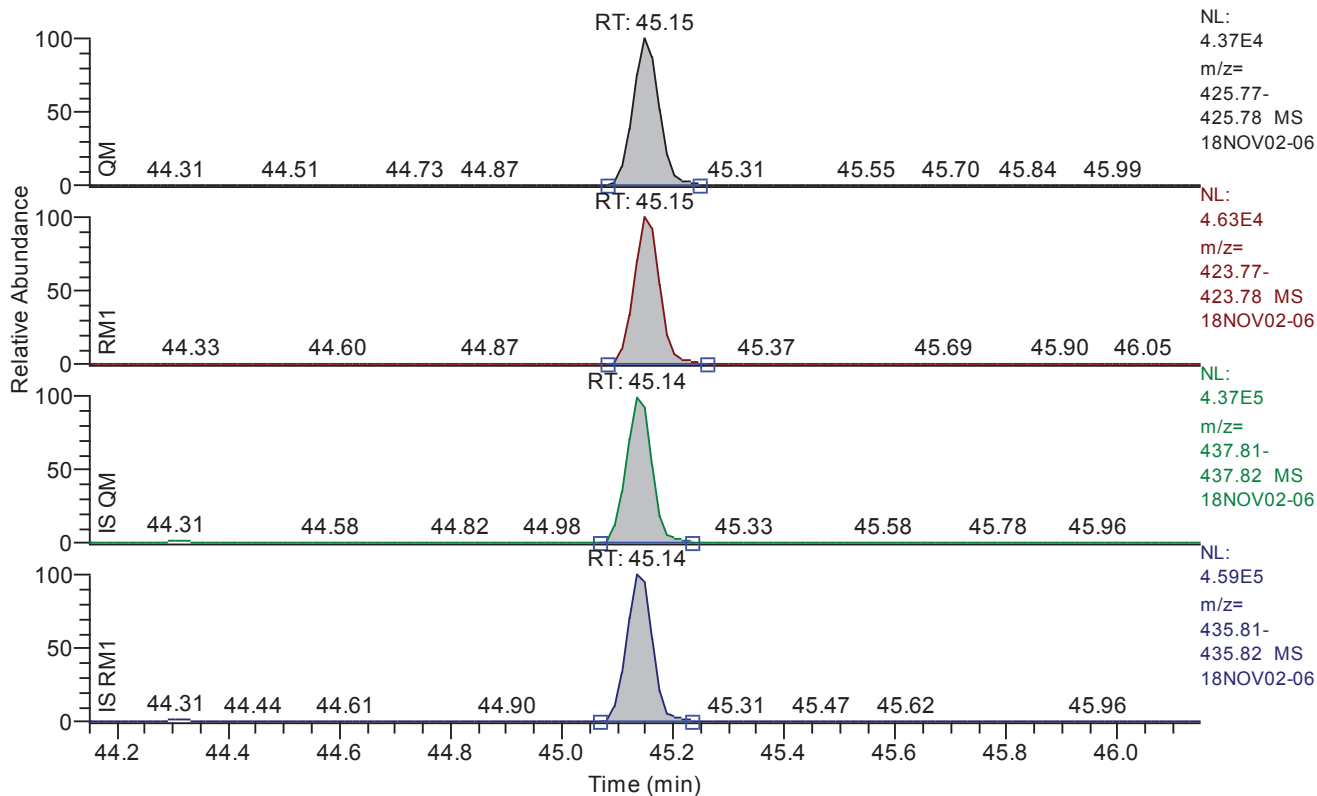


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.95
QM Area	241263
QM Integration Mode	A
RM1 Area	243751
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0077
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3214
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.15 - 46.15 SM: 3G

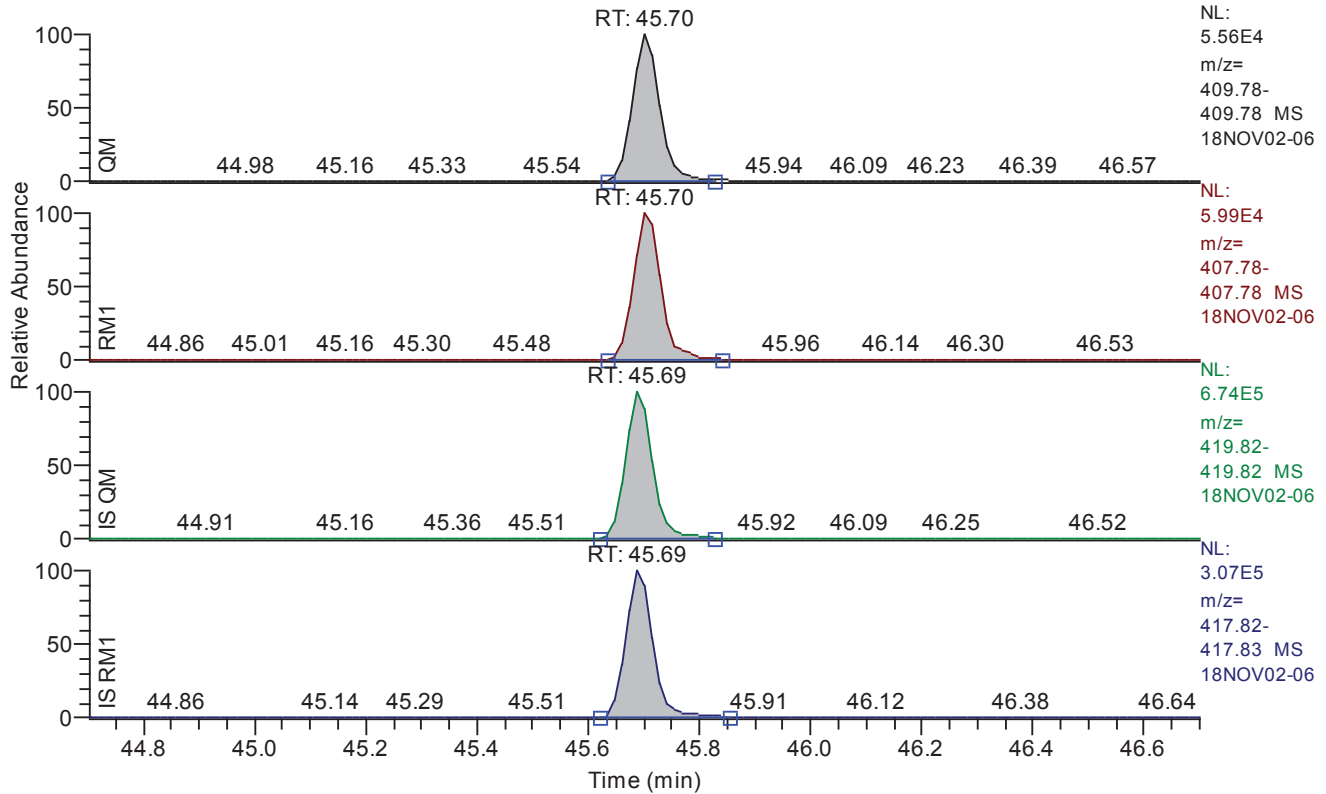


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.15
QM Area	146591
QM Integration Mode	A
RM1 Area	154013
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0092
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2708
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.70 - 46.70 SM: 3G

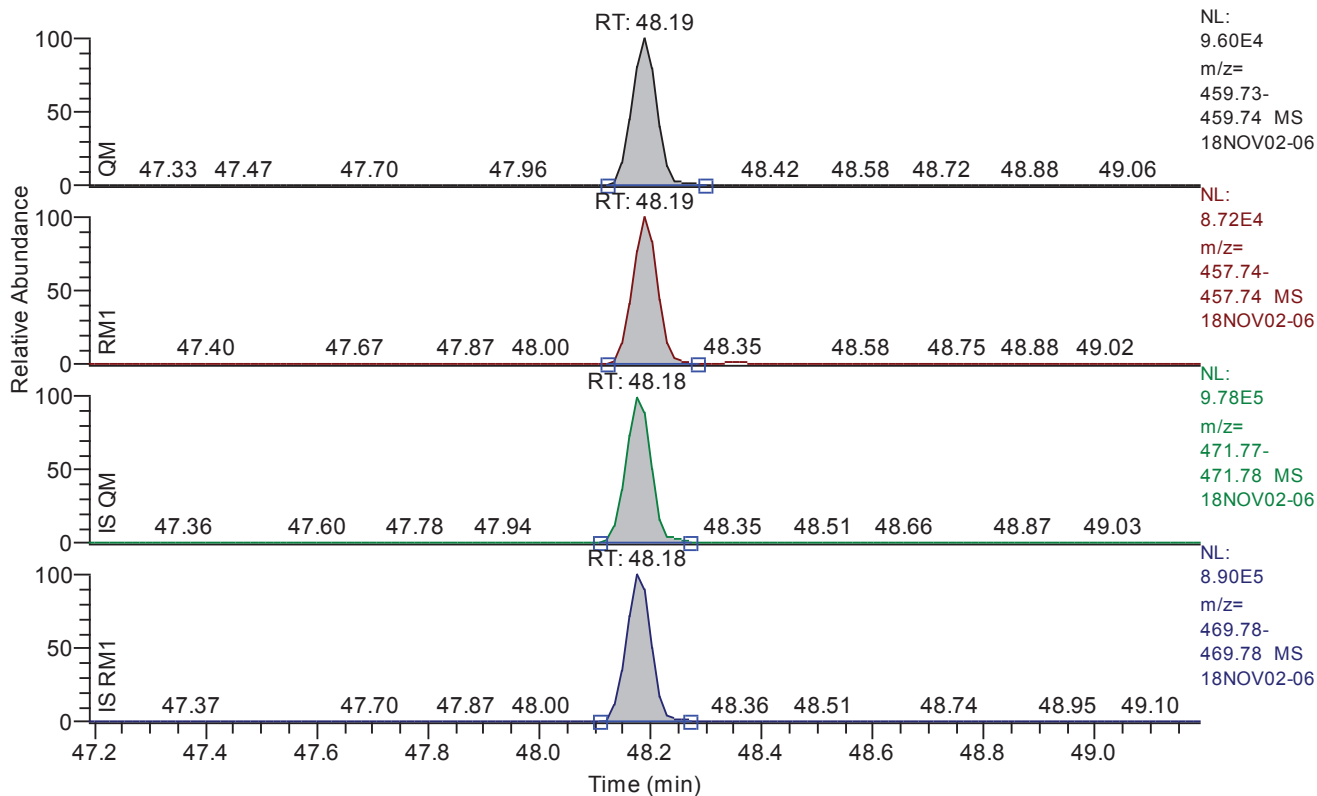


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.70
QM Area	195500
QM Integration Mode	A
RM1 Area	211710
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2603
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.19 - 49.19 SM: 3G

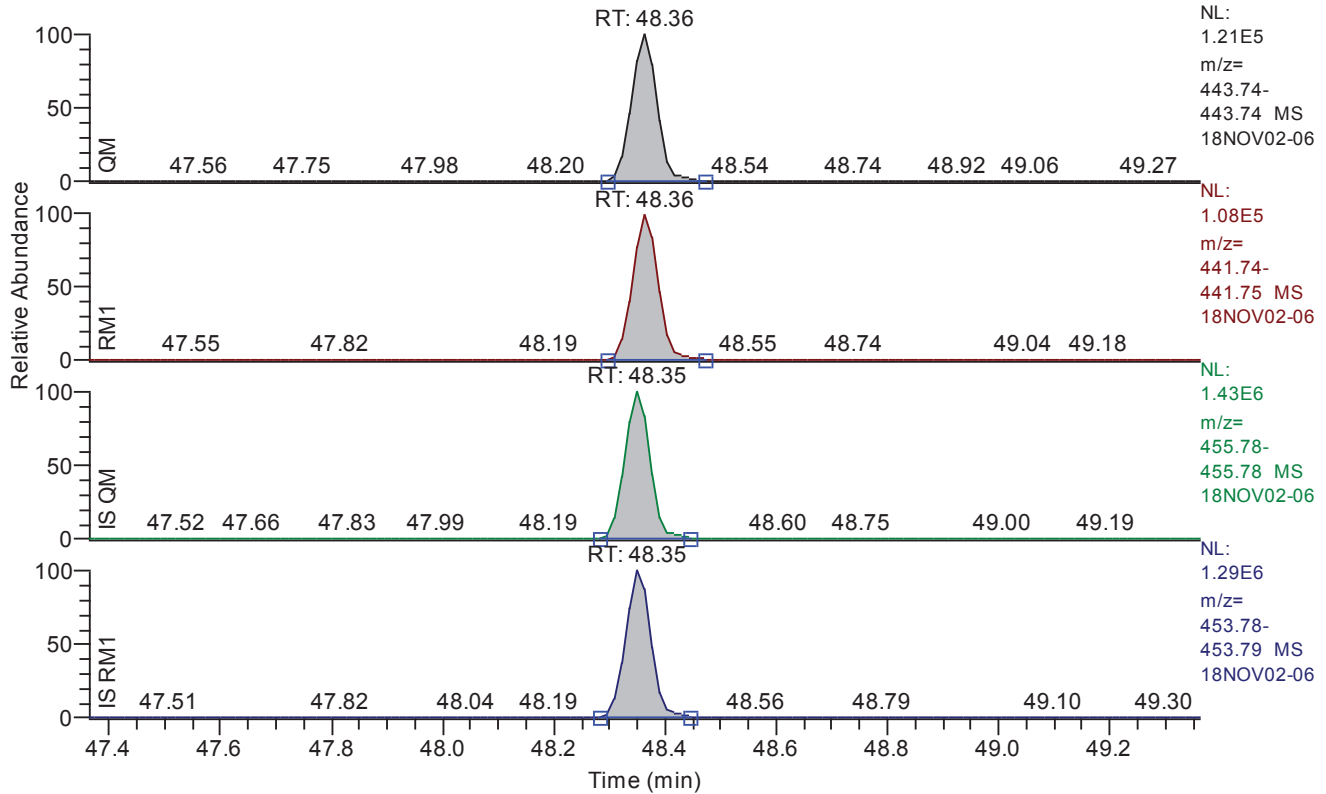


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.19
QM Area	298848
QM Integration Mode	A
RM1 Area	270778
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	5509
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.36 - 49.36 SM: 3G

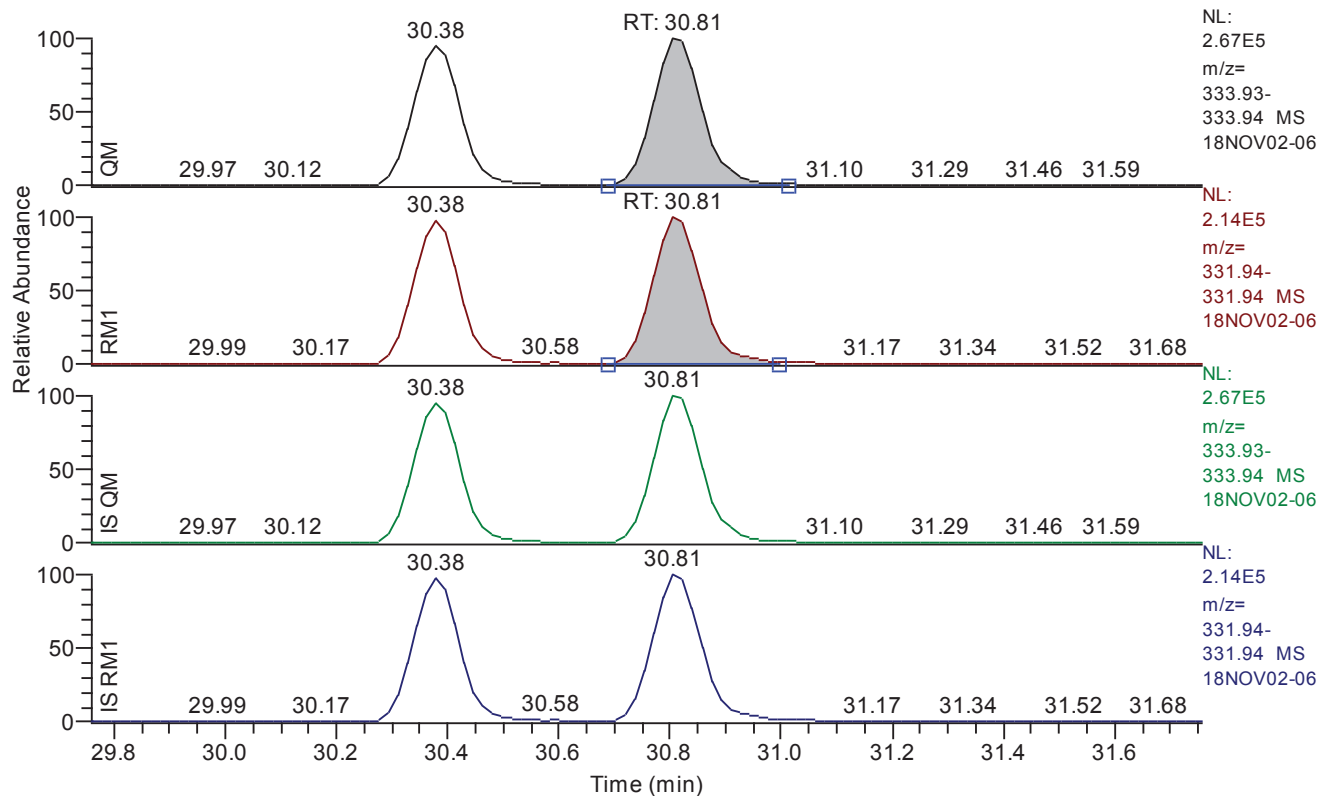


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.36
QM Area	384546
QM Integration Mode	A
RM1 Area	341894
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	6592
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.76 - 31.76 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.81
QM Area	1600108
QM Integration Mode	A
RM1 Area	1284490
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0238
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	10313
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 19:24
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

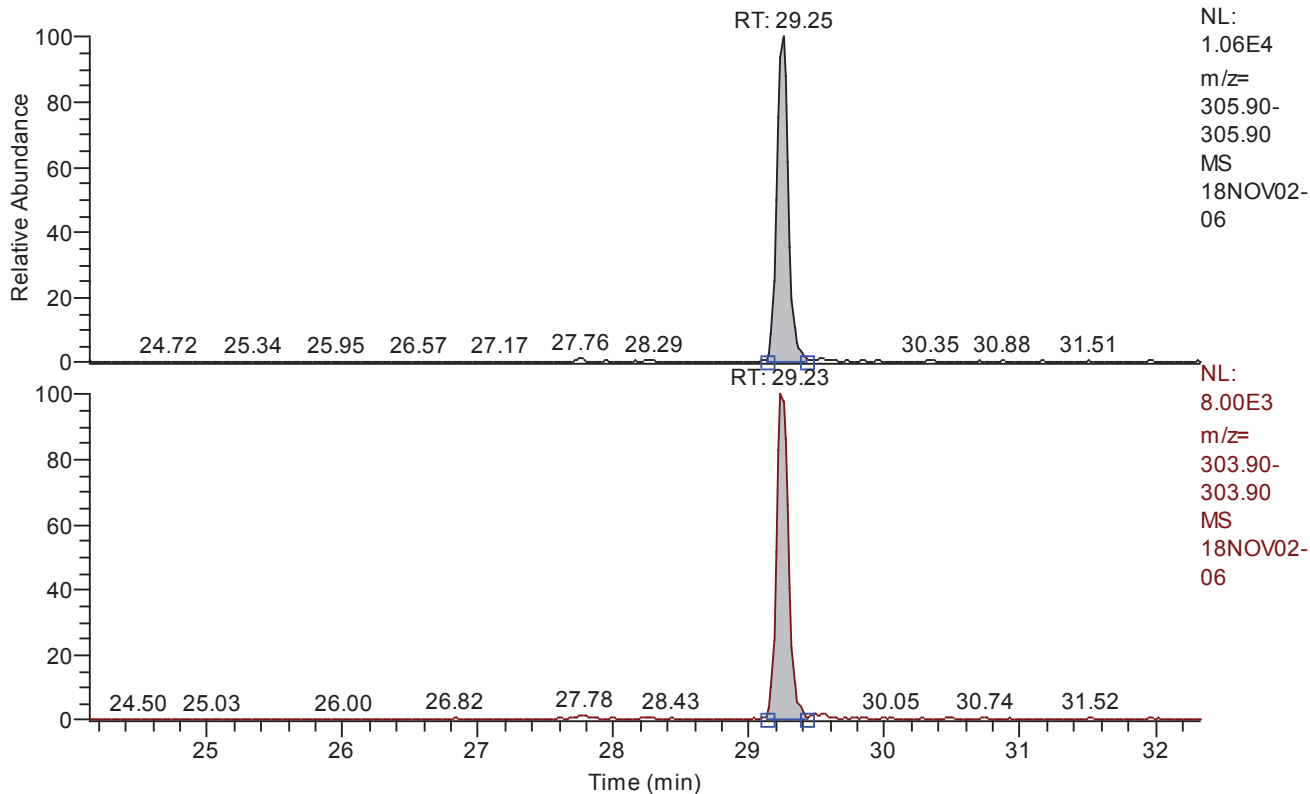
Quan	x:\18nov02\18nov02-06.quan
Data	x:\18nov02\18nov02-06.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 24.13 - 32.33 SM: 3G

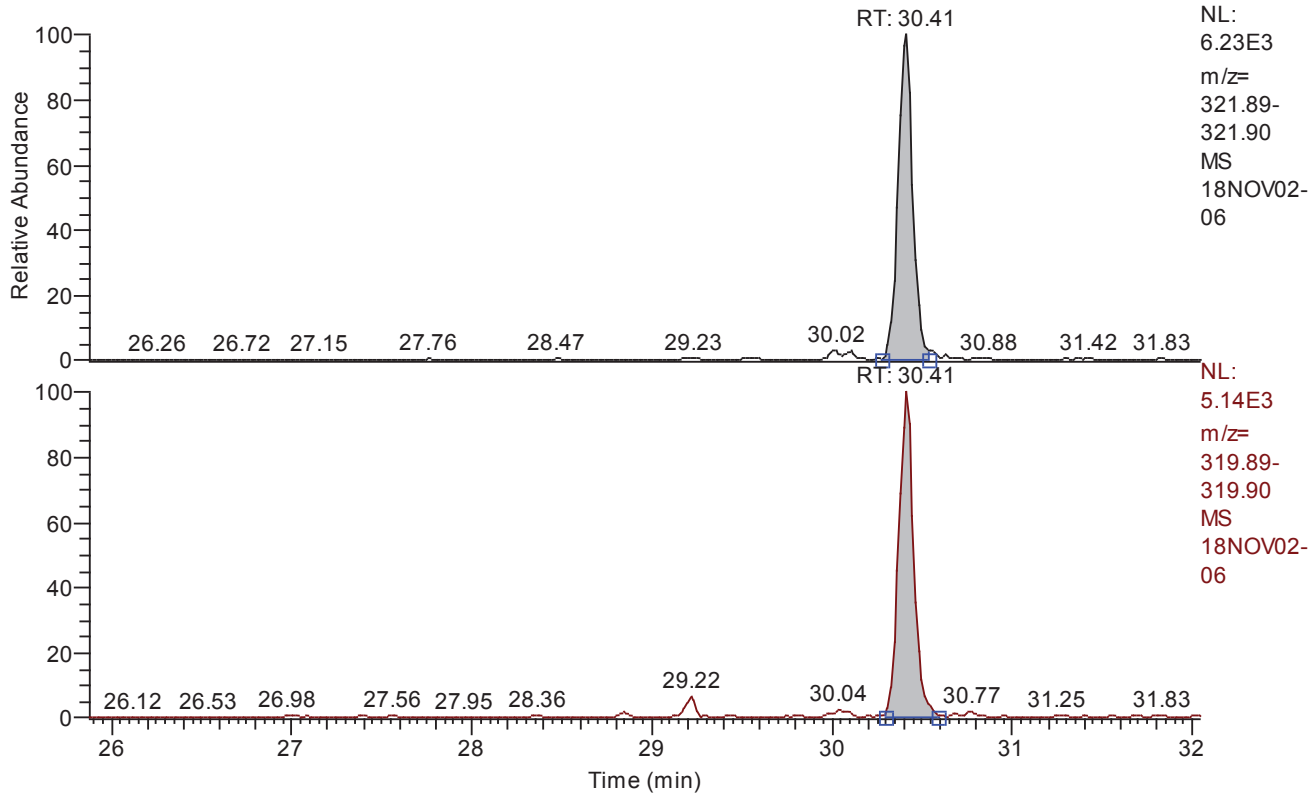


Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.23
QM Area	63319
QM Integration Mode	A
RM1 Area	50139
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0043
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 25.87 - 32.05 SM: 3G

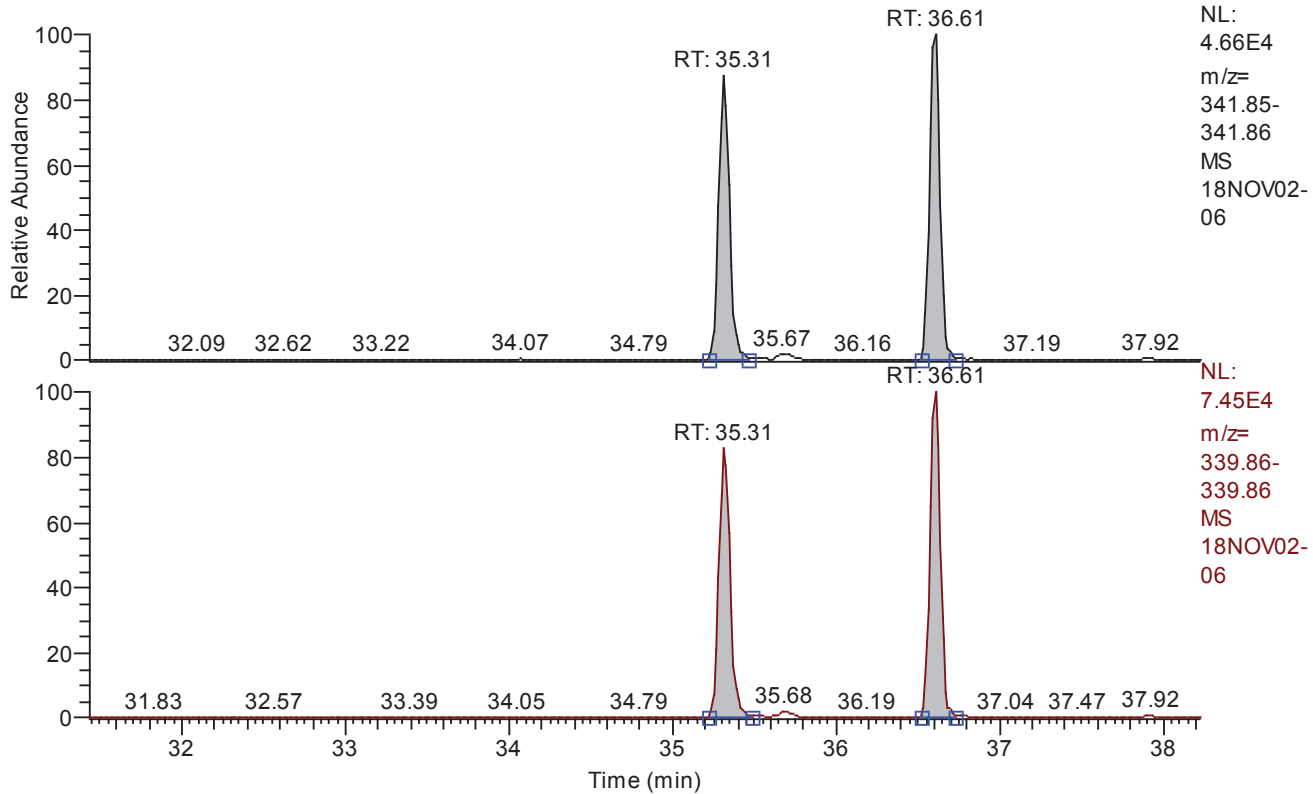


Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.96
QM Area	35633
QM Integration Mode	A
RM1 Area	29959
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	1036
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 31.43 - 38.23 SM: 3G

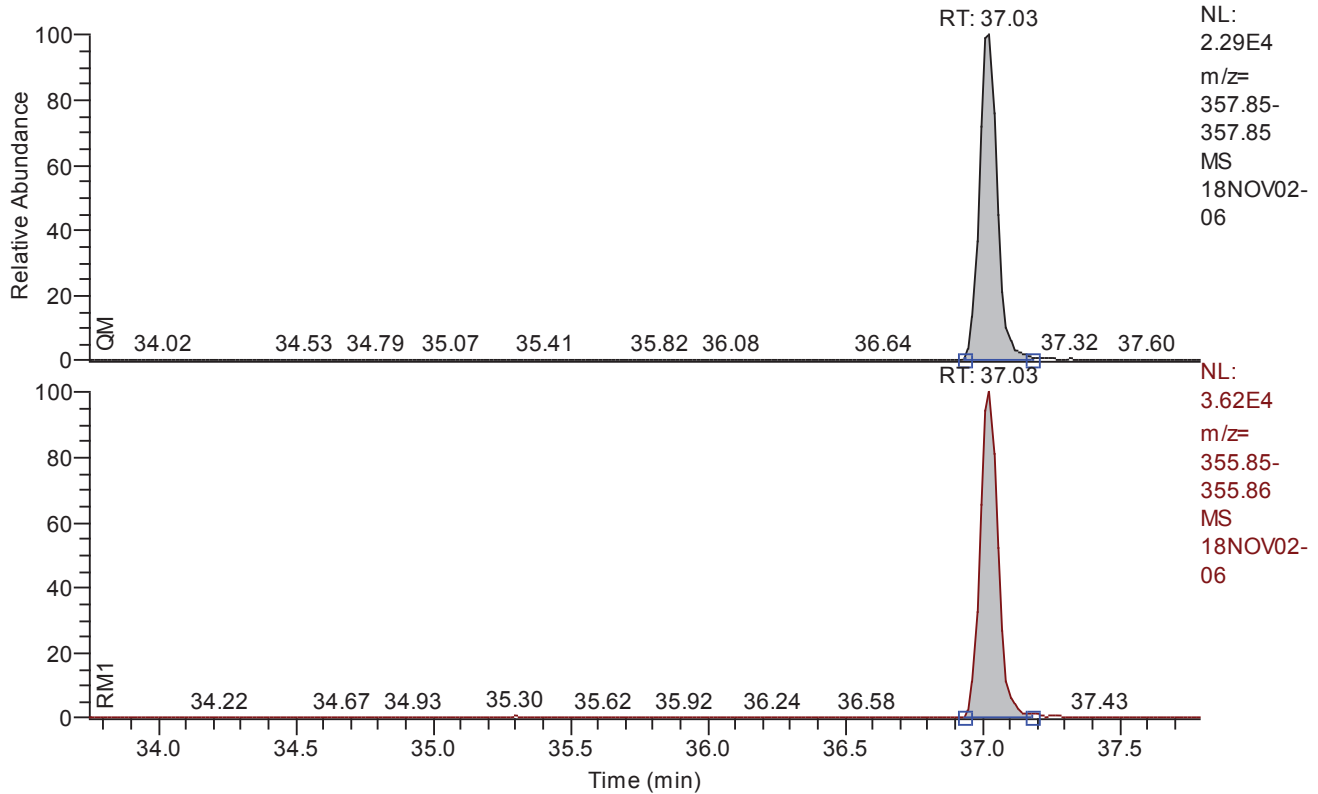


Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.83
QM Area	398133
QM Integration Mode	A
RM1 Area	629663
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (2)
Status Info	

Chromatogram

RT: 33.75 - 37.79 SM: 3G

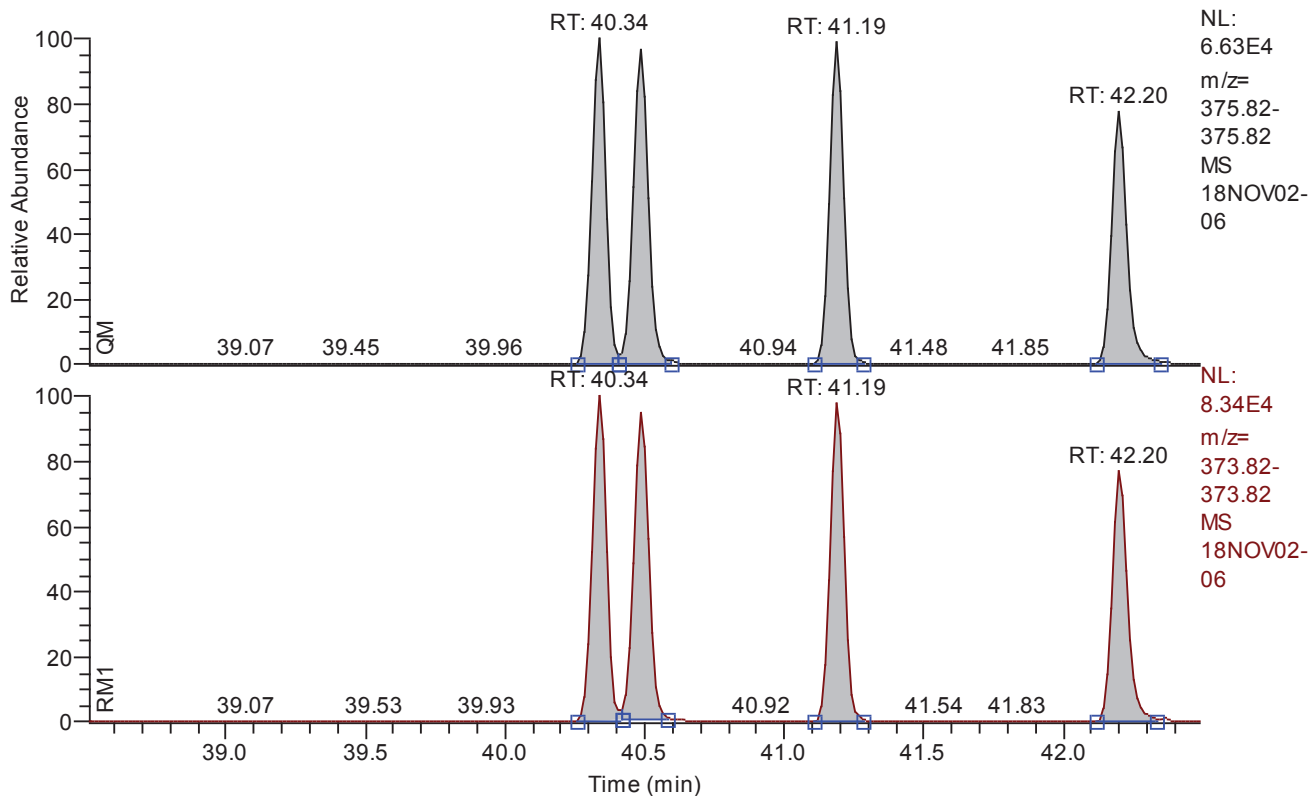


Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.77
QM Area	103978
QM Integration Mode	A
RM1 Area	164810
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0100
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 38.51 - 42.49 SM: 3G

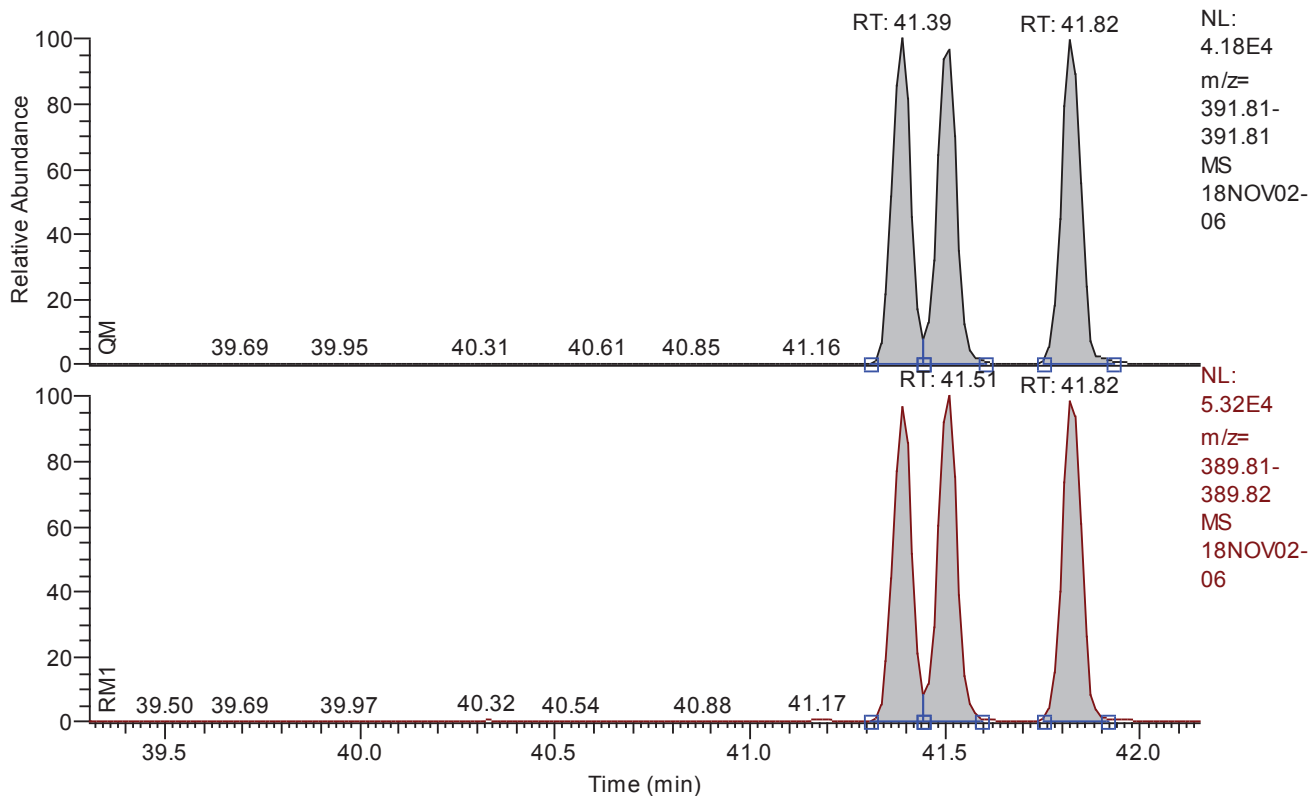


Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.50
QM Area	899286
QM Integration Mode	A
RM1 Area	1118911
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (4)
Status Info	

Chromatogram

RT: 39.31 - 42.15 SM: 3G

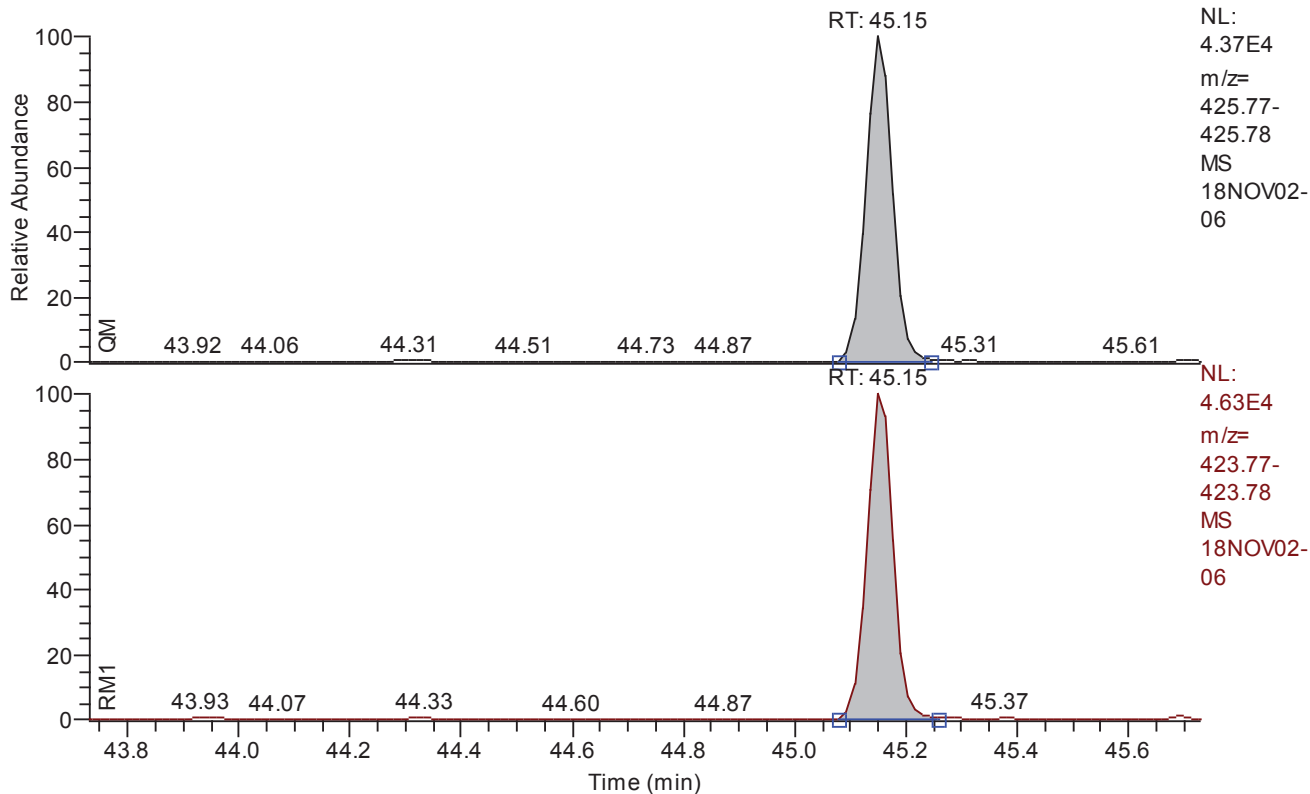


Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.73
QM Area	426984
QM Integration Mode	A
RM1 Area	541688
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	30.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (3)
Status Info	

Chromatogram

RT: 43.73 - 45.73 SM: 3G

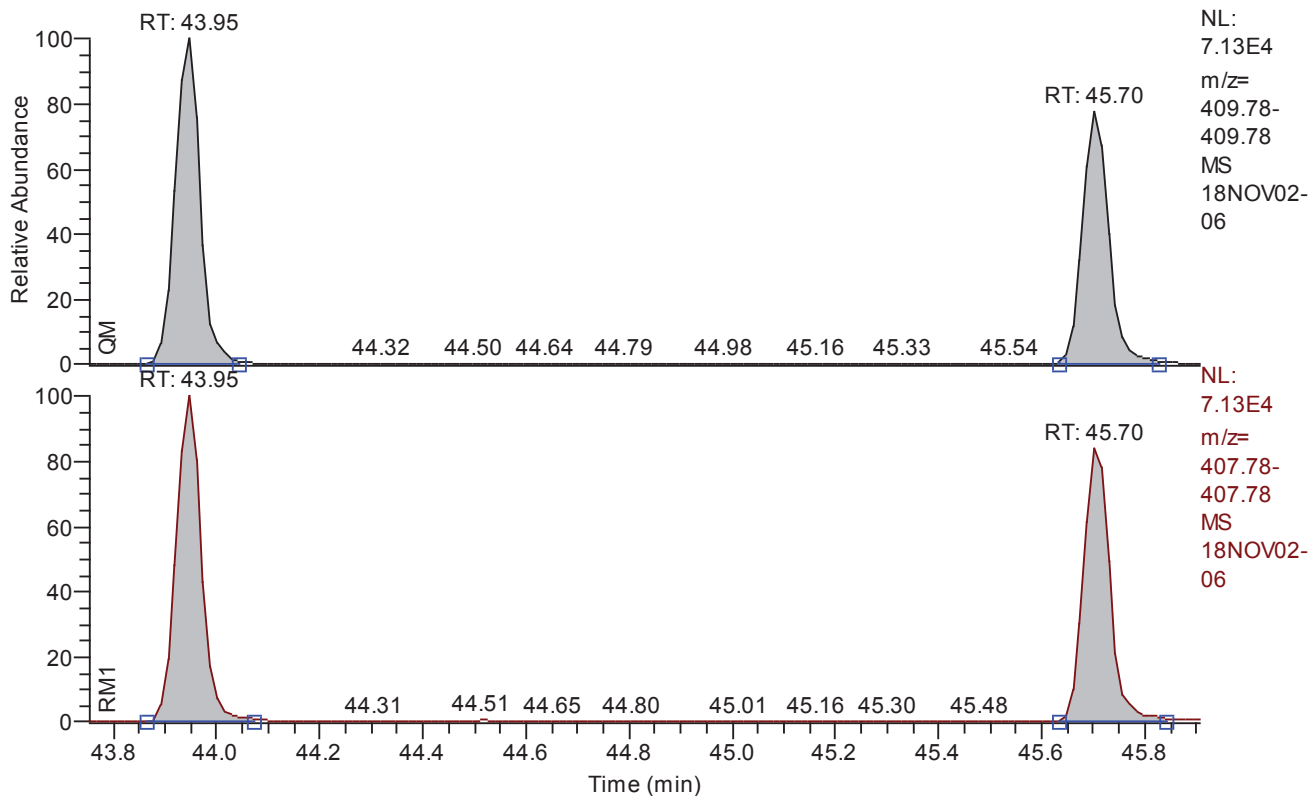


Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.73
QM Area	146591
QM Integration Mode	A
RM1 Area	154013
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0092
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	---
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 43.75 - 45.91 SM: 3G



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.83
QM Area	436763
QM Integration Mode	A
RM1 Area	455461
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0078
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	18.3958
Signal-to-Noise	---
Client Flags	
Status Overview	passed (2)
Status Info	

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	29.25	29.25	29.23	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.41	30.41	30.41	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	36.61	36.61	36.61	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.03	37.03	37.03	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.34	40.34	40.34	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.49	40.49	40.49	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.19	41.19	41.19	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	41.51	41.51	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	42.20	42.20	42.20	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.95	43.95	43.95	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	48.36	48.36	48.36	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.81	30.81	30.81	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.54	29.54	29.54	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.24	40.24	40.24	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.22	29.22	29.22	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.38	30.38	30.38	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	36.99	36.99	36.99	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.32	40.32	40.32	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.47	40.47	40.47	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.17	41.17	41.17	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.38	41.38	41.38	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.50	41.50	41.50	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.81	41.81	41.81	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	45.14	45.14	45.14	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	48.35	48.35	48.35	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	28.23	28.23	28.23	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.96	28.96	28.96	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	34.83	34.83	34.83	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	35.77	35.77	35.77	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.50	40.50	40.50	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	40.73	40.73	40.73	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.73	44.73	44.73	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	44.83	44.83	44.83	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	29.25	29.25	29.23	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.41	30.41	30.41	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	37.03	37.03	37.03	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	36.61	36.61	36.61	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	35.31	35.31	35.31	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.15	45.15	45.15	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.34	40.34	40.34	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.49	40.49	40.49	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.19	41.19	41.19	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.20	42.20	42.20	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.39	41.39	41.39	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.51	41.51	41.51	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.82	41.82	41.82	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	43.95	43.95	43.95	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	45.70	45.70	45.70	passed	passed

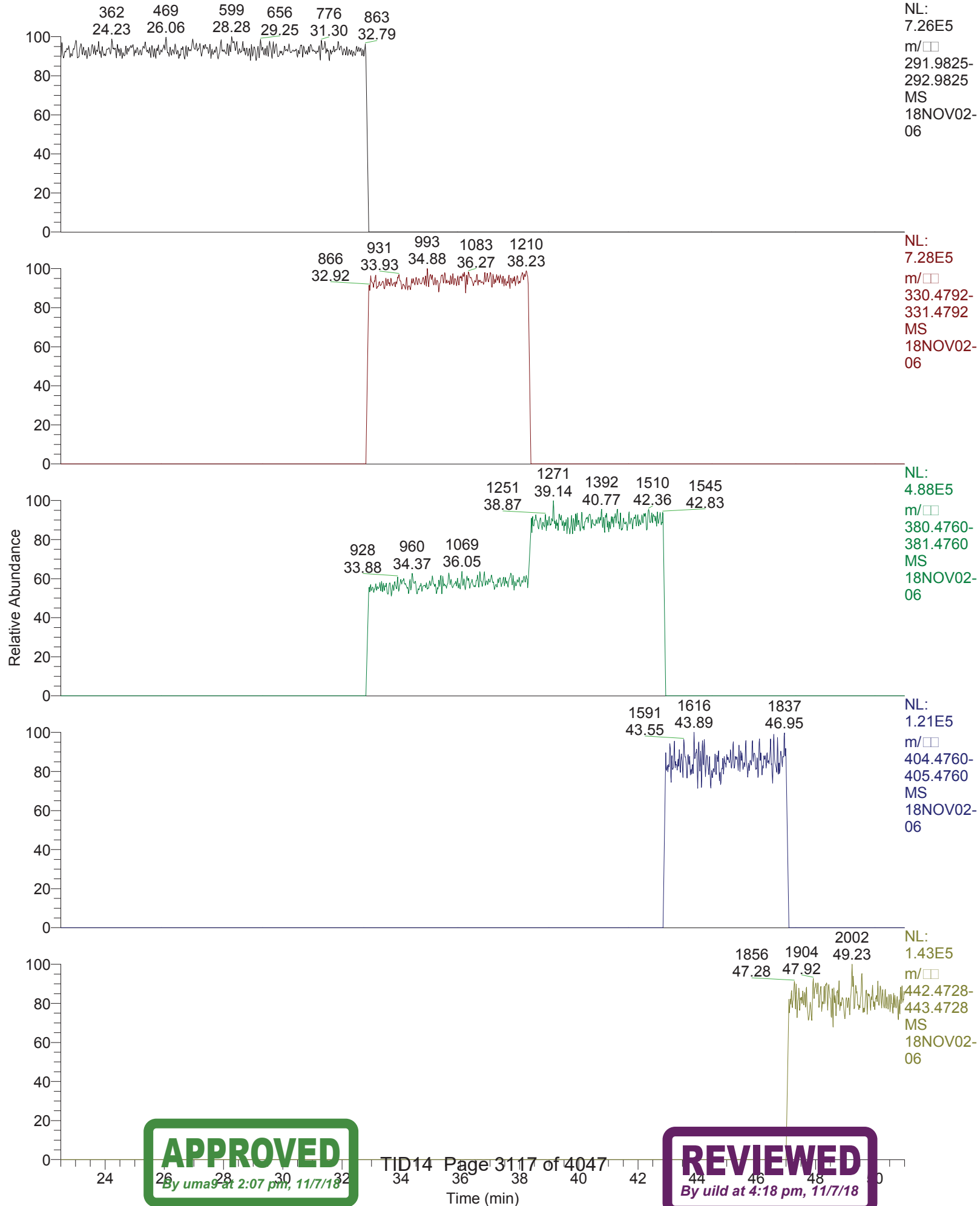
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.25	0.7919	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.41	0.8408	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.31	1.5758	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.61	1.5868	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.03	1.5850	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.34	1.2664	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.49	1.2143	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.19	1.2466	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.39	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.51	1.2924	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.82	1.2671	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.20	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.95	1.0103	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.15	1.0506	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.70	1.0829	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.19	0.9061	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.36	0.8891	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.81	0.8028	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.54	0.8216	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.24	1.2870	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.22	0.7938	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.38	0.8038	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.30	1.5997	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.58	1.5876	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.99	1.6225	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.32	0.5272	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.47	0.5490	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.17	0.5425	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.38	1.2929	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.50	1.2791	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.81	1.2467	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.18	0.5448	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.93	0.4667	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.14	1.0655	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	0.9081	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.35	0.9076	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.23	---	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.96	0.8408	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.83	---	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.77	---	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.50	---	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.73	---	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.73	---	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.83	---	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.25	0.7919	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.41	0.8408	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.03	1.5850	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.61	1.5868	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.31	1.5758	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.15	1.0506	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.34	1.2664	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.49	1.2143	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.19	1.2466	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.20	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.39	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.51	1.2924	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.82	1.2671	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.95	1.0103	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.70	1.0829	0.8750 - 1.2050	passed	100.00	0 - 0	passed

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	29.25	63319	A	50139	A	0.0043	2.000000	2.0000	2.000000	1117	
2	2378-TCDD	passed	30.41	35633	A	29959	A	0.0049	2.000000	2.0000	2.000000	1036	
3	12378-PeCDF	passed	35.31	188739	A	297406	A	0.0054	10.000000	10.0000	10.000000	4501	
4	23478-PeCDF	passed	36.61	209394	A	332257	A	0.0046	10.000000	10.0000	10.000000	5307	
5	12378-PeCDD	passed	37.03	103978	A	164810	A	0.0100	10.000000	10.0000	10.000000	2419	
6	123478-HxCDF	passed	40.34	231830	A	293579	A	0.0076	10.000000	10.0000	10.000000	3348	
7	123678-HxCDF	passed	40.49	240410	A	291928	A	0.0079	10.000000	10.0000	10.000000	3194	
8	234678-HxCDF	passed	41.19	230773	A	287693	A	0.0074	10.000000	10.0000	10.000000	3308	
9	123478-HxCDD	passed	41.39	139421	A	173700	A	0.0070	10.000000	10.0000	10.000000	3514	
10	123678-HxCDD	passed	41.51	143306	A	185202	A	0.0071	10.000000	10.0000	10.000000	3522	
11	123789-HxCDD	passed	41.82	144257	A	182786	A	0.0070	10.000000	10.0000	10.000000	3542	
12	123789-HxCDF	passed	42.20	196273	A	245712	A	0.0094	10.000000	10.0000	10.000000	2601	
13	1234678-HpCDF	passed	43.95	241263	A	243751	A	0.0077	10.000000	10.0000	10.000000	3214	
14	1234678-HpCDD	passed	45.15	146591	A	154013	A	0.0092	10.000000	10.0000	10.000000	2708	
15	1234789-HpCDF	passed	45.70	195500	A	211710	A	0.0095	10.000000	10.0000	10.000000	2603	
16	OCDD	passed	48.19	298848	A	270778	A	0.0091	20.000000	20.0000	20.000000	5509	
17	OCDF	passed	48.36	384546	A	341894	A	0.0075	20.000000	20.0000	20.000000	6592	
18	13C12-1278-TCDD (CRS)	passed	30.81	1600108	A	1284490	A	0.0238	100.000000	100.0000	100.000000	10313	
19	13C12-1234-TCDD	passed	29.54	1546805	A	1270796	A	0.0243	100.000000	100.0000	100.000000	10268	
20	13C12-123468-HxCDD	passed	40.24	1472725	A	1895378	A	0.0192	100.000000	100.0000	100.000000	12992	
21	13C12-2378-TCDF	passed	29.22	3141790	A	2493801	A	0.0132	100.000000	100.0000	100.000000	19203	
22	13C12-2378-TCDD	passed	30.38	1520289	A	1221953	A	0.0250	100.000000	100.0000	100.000000	10021	
23	13C12-12378-PeCDF	passed	35.30	2016128	A	3225116	A	0.0373	100.000000	100.0000	100.000000	8558	
24	13C12-23478-PeCDF	passed	36.58	1994424	A	3166344	A	0.0379	100.000000	100.0000	100.000000	8984	
25	13C12-12378-PeCDD	passed	36.99	1071144	A	1737965	A	0.0260	100.000000	100.0000	100.000000	12927	
26	13C12-123478-HxCDF	passed	40.32	3092642	A	1630354	A	0.0266	100.000000	100.0000	100.000000	9546	
27	13C12-123678-HxCDF	passed	40.47	3218541	A	1767089	A	0.0252	100.000000	100.0000	100.000000	9575	
28	13C12-234678-HxCDF	passed	41.17	2994803	A	1624761	A	0.0272	100.000000	100.0000	100.000000	9708	
29	13C12-123478-HxCDD	passed	41.38	1389497	A	1796548	A	0.0203	100.000000	100.0000	100.000000	13461	
30	13C12-123678-HxCDD	passed	41.50	1421972	A	1818904	A	0.0200	100.000000	100.0000	100.000000	12882	
31	13C12-123789-HxCDD	passed	41.81	1384165	A	1725574	A	0.0208	100.000000	100.0000	100.000000	12573	
32	13C12-123789-HxCDF	passed	42.18	2712264	A	1477736	A	0.0300	100.000000	100.0000	100.000000	8119	
33	13C12-1234678-HpCDF	passed	43.93	2803866	A	1308641	A	0.0260	100.000000	100.0000	100.000000	10321	
34	13C12-1234678-HpCDD	passed	45.14	1435509	A	1529514	A	0.0237	100.000000	100.0000	100.000000	11615	
35	13C12-1234789-HpCDF	passed	45.69	2332724	A	1073379	A	0.0314	100.000000	100.0000	100.000000	8327	
36	13C12-OCDD	passed	48.18	3054437	A	2773876	A	0.0124	200.000000	200.0000	200.000000	46886	
37	13C12-OCDF	passed	48.35	4488629	A	4073778	A	0.0145	200.000000	200.0000	200.000000	39985	
38	Total TCDF	passed (1)	28.23	63319	A	50139	A	0.0043	2.000000	2.0000	2.000000	---	
39	Total TCDD	passed (1)	28.96	35633	A	29959	A	0.0049	2.000000	2.0000	2.000000	1036	
40	Total PeCDF	passed (2)	34.83	398133	A	629663	A	0.0050	10.000000	20.0000	10.000000	---	
41	Total PeCDD	passed (1)	35.77	103978	A	164810	A	0.0100	10.000000	10.0000	10.000000	---	
42	Total HxCDF	passed (4)	40.50	899286	A	1118911	A	0.0080	10.000000	40.0000	10.000000	---	
43	Total HxCDD	passed (3)	40.73	426984	A	541688	A	0.0071	10.000000	30.0000	10.000000	---	
44	Total HpCDD	passed (1)	44.73	146591	A	154013	A	0.0092	10.000000	10.0000	10.000000	---	
45	Total HpCDF	passed (2)	44.83	436763	A	455461	A	0.0078	10.000000	18.3958	10.000000	---	
46	Single TCDF	passed	29.25	63319	A	50139	A	0.0043	2.000000	2.0000	2.000000	1117	
47	Single TCDD	passed	30.41	35633	A	29959	A	0.0049	2.000000	2.0000	2.000000	1036	
48	Single PeCDF	passed	37.03	103978	A	164810	A	0.0100	10.000000	10.0000	10.000000	2419	
49	Single PeCDD	passed	36.61	209394	A	332257	A	0.0050	10.000000	10.5400	10.000000	5307	
50	Single PeCDF	passed	35.31	188739	A	297406	A	0.0050	10.000000	9.4600	10.000000	4501	
51	Single HpCDD	passed	45.15	146591	A	154013	A	0.0092	10.000000	10.0000	10.000000	2708	
52	Single HxCDF	passed	40.34	231830	A	293579	A	0.0080	10.000000	10.4134	10.000000	3348	
53	Single HxCDF	passed	40.49	240410	A	291928	A	0.0080	10.000000	10.5508	10.000000	3194	
54	Single HxCDF	passed	41.19	230773	A	287693	A	0.0080	10.000000	10.2758	10.000000	3308	
55	Single HxCDF	passed	42.20	196273	A	245712	A	0.0080	10.000000	8.7600	10.000000	2601	
56	Single HxCDD	passed	41.39	139421	A	173700	A	0.0071	10.000000	9.6974	10.000000	3514	
57	Single HxCDD	passed	41.51	143306	A	185202	A	0.0071	10.000000	10.1740	10.000000	3522	
58	Single HxCDD	passed	41.82	144257	A	182786	A	0.0071	10.000000	10.1286	10.000000	3542	
59	Single HpCDF	passed	43.95	241263	A	243751	A	0.0078	10.000000	10.0000	10.000000	3214	
60	Single HpCDF	passed	45.70	195500	A	211710	A	0.0078	10.000000	8.3958	10.000000	2603	

RT: 22.50 - 51.00



18NOV02-06

*** file opened Fri Nov 02 19:29:51 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 02-Nov-18 19:29:50

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 7349737c-0d23-45de-89a6-193501cb8be3

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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 22.016667 minutes

MID window end time was 22.010000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

Page 2

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3119 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-06

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	97.0000
BQUAD	3.1000	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	0.9992	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4255.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0072	FVINLET	0.0383	FVSR	0.0364
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	97.0000	LKM	442.9723	MASS	97.0000
MDAC	1416877.9667	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9851	RELEN	0.0000
RES	12803.4606	RPUSHER	-6.0586	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	788.0000	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	5.0000	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	VMAS	97.0000	XLENS_POT	972.0000
XLENS_SYM	-2.5000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.6e-008 mbar
Pirani Analyse: 7.2e-003 mbar
Pirani Source: 3.7e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11967.
MID Time window 2: Resolution is 11800.
MID Time window 3: Resolution is 12091.
MID Time window 4: Resolution is 12095.

Page 3

APPROVED

By uma9 at 2:07 pm, 11/7/18

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REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-06

MID Time Window 5: Resolution is 12619.
MID Time Window 6: Resolution is 12803.

Amplifier Offset: 81.

*** File closed Fri Nov 02 20:20:52 2018



Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 20:20
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov02\18nov02-07.quan
Data	x:\18nov02\18nov02-07.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Depend 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

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	30.50	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.39	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
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	40.56	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	41.89	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.25	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.99	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.76	passed	passed	passed	passed	passed	passed	
16	OCDD	48.23	passed	passed	passed	passed	passed	passed	
17	OCDF	48.41	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.92	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.64	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.31	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.32	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.48	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.37	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.65	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.09	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	41.23	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	41.86	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.24	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.99	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.19	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.75	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.22	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.39	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.23	passed (1)	---	---	---	---	---	
39	Total TCDD	28.96	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.83	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.77	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.50	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.73	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.73	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.83	passed (2)	---	---	---	---	---	
46	Single TCDF	29.33	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.50	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.10	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.68	passed	passed	passed	passed	passed	passed	
50	Single PeCDD	35.39	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.21	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	40.41	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.56	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	41.26	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.25	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.57	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.45	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.89	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.99	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.76	passed	passed	passed	passed	passed	passed	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 20:20
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

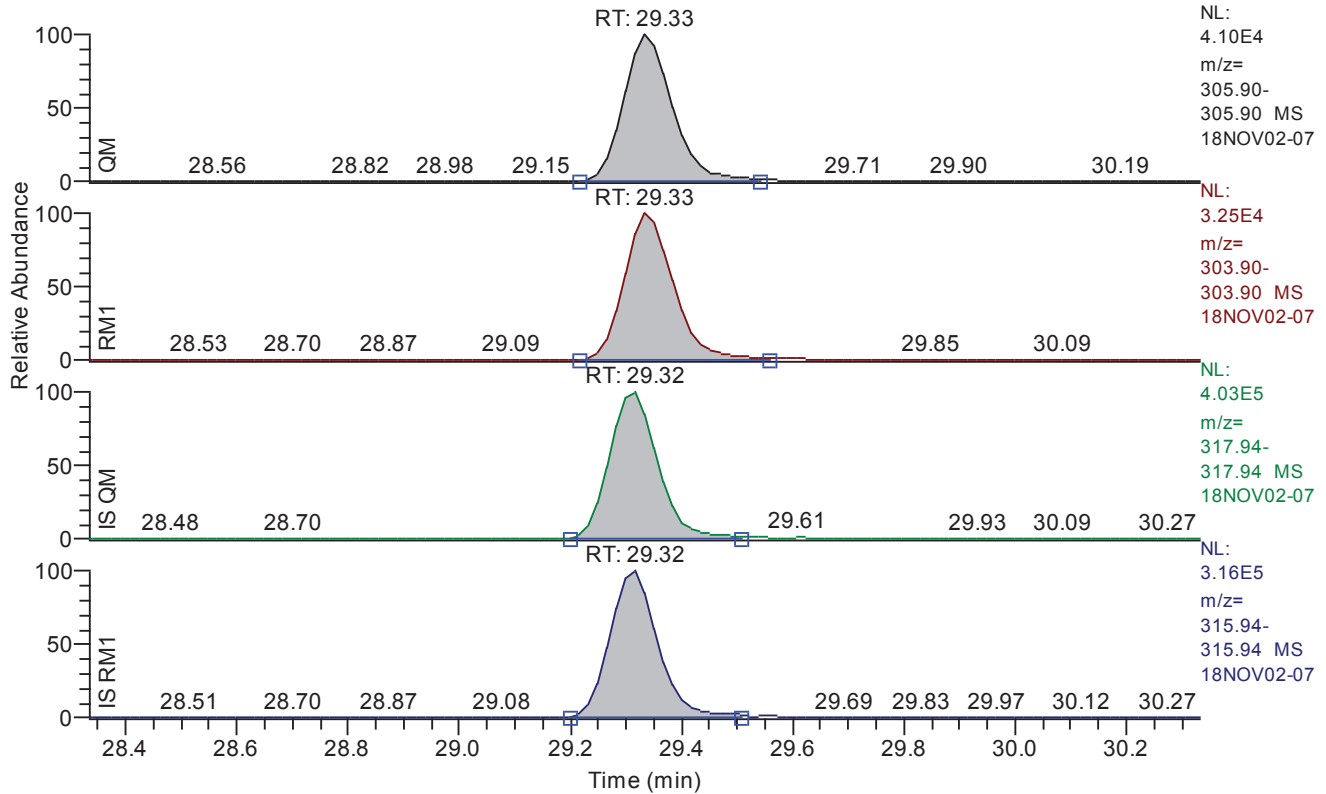
Quan	x:\18nov02\18nov02-07.quan
Data	x:\18nov02\18nov02-07.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.33 - 30.33 SM: 3G

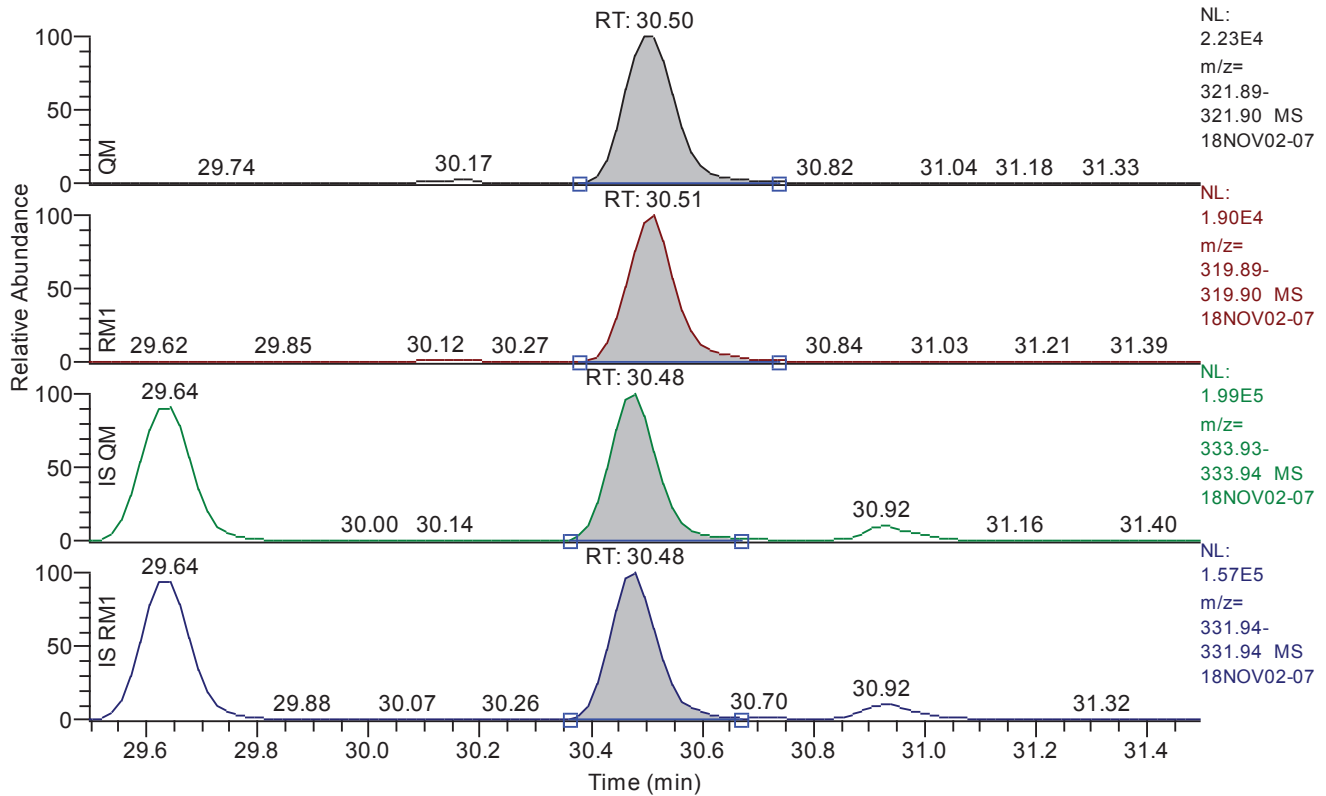


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.33
QM Area	251321
QM Integration Mode	A
RM1 Area	202352
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2575
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.50 - 31.50 SM: 3G

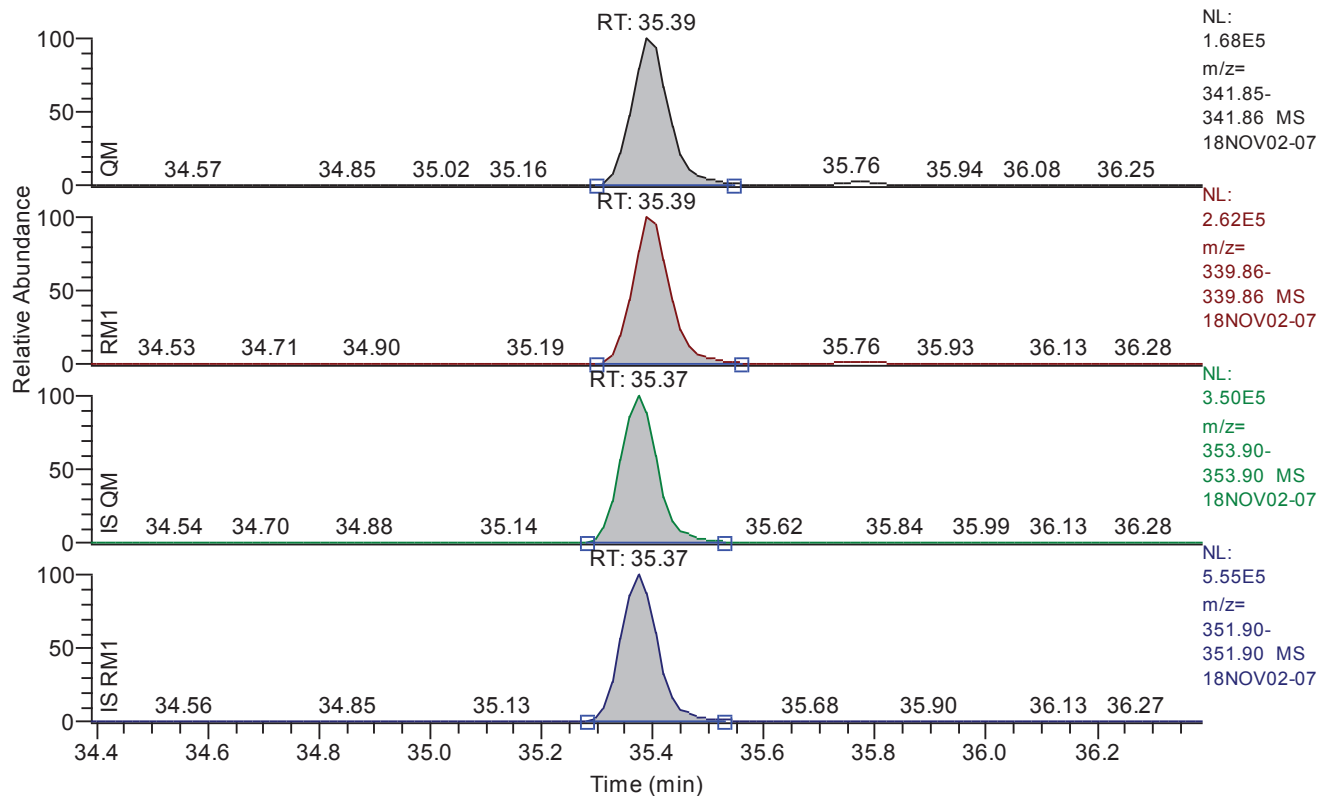


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.50
QM Area	147096
QM Integration Mode	A
RM1 Area	116809
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2517
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.39 - 36.39 SM: 3G

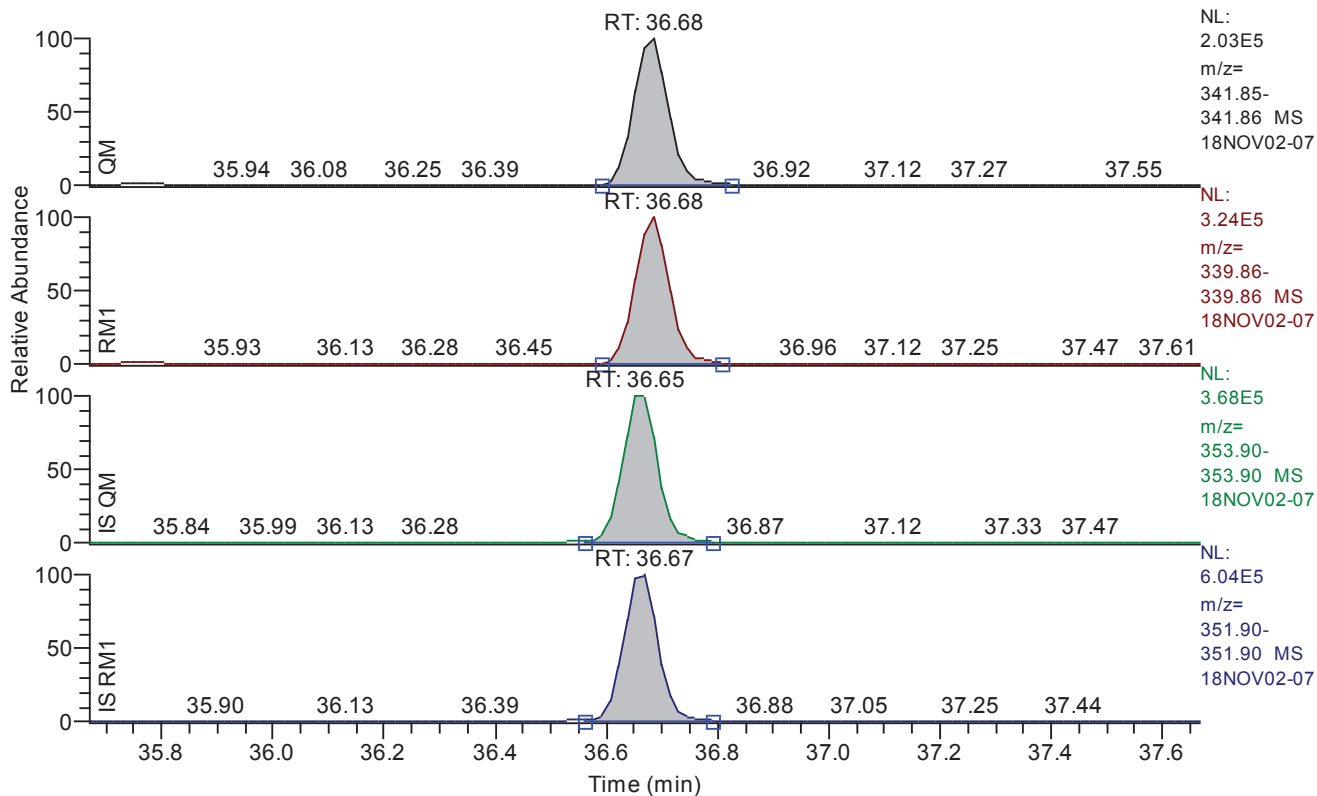


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.39
QM Area	788300
QM Integration Mode	A
RM1 Area	1234225
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0099
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	12456
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.67 - 37.67 SM: 3G

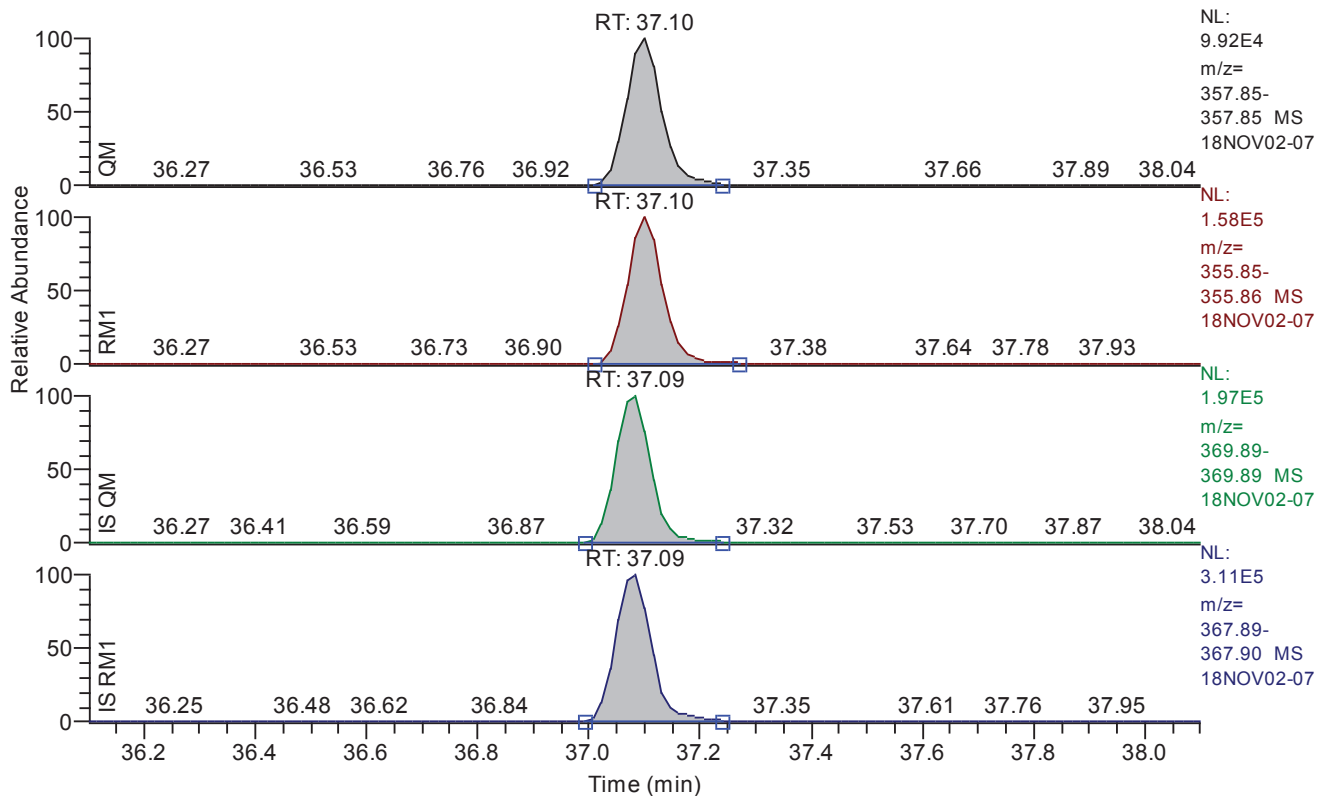


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.68
QM Area	878432
QM Integration Mode	A
RM1 Area	1380099
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0083
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	15270
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.10 - 38.10 SM: 3G

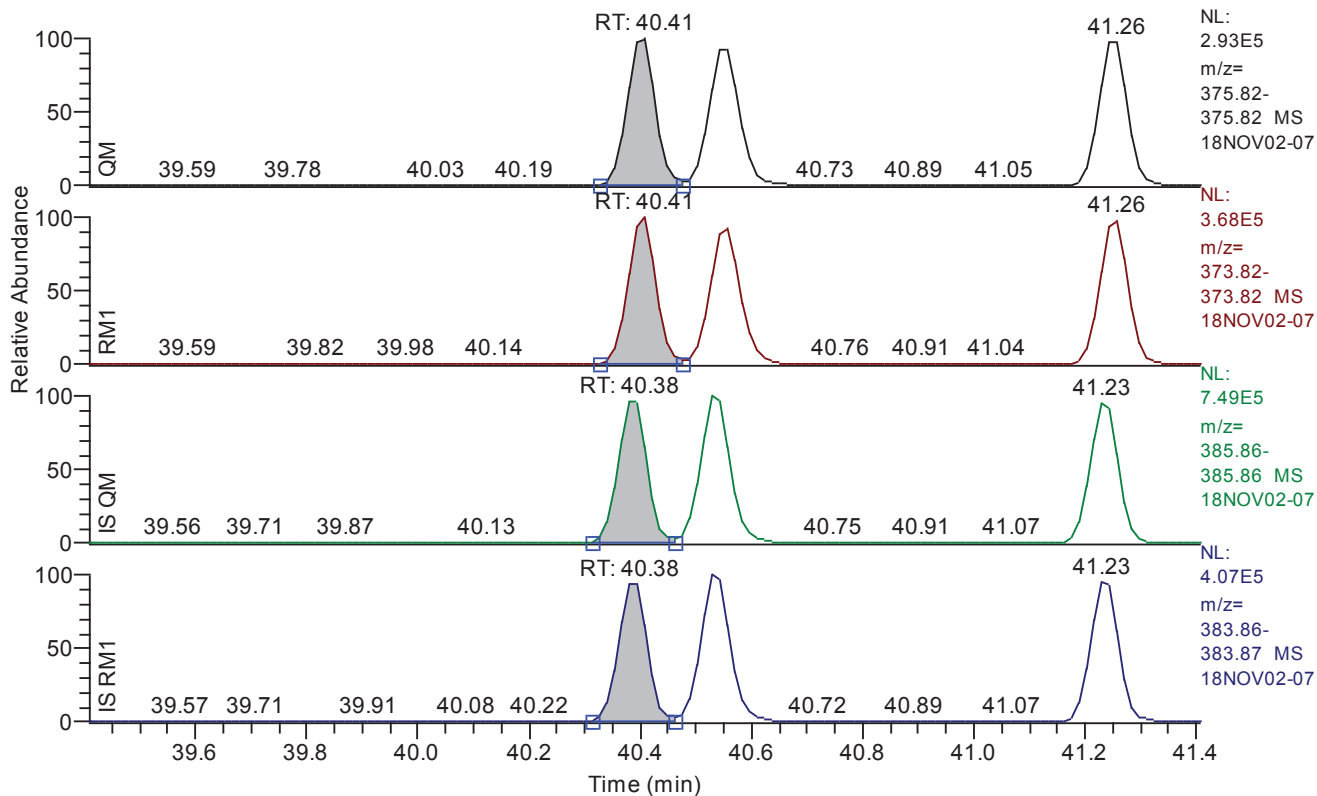


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.10
QM Area	438255
QM Integration Mode	A
RM1 Area	701442
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0158
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	8013
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.41 - 41.41 SM: 3G

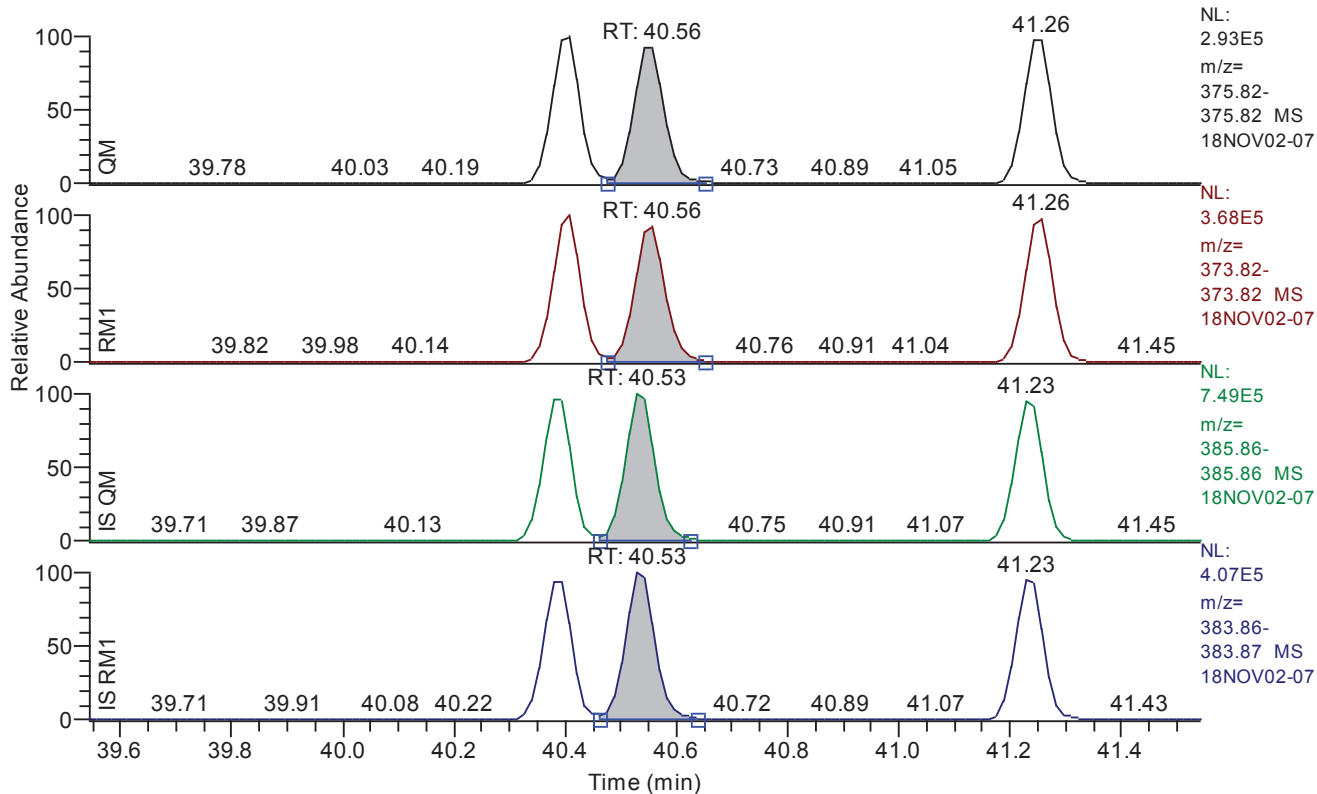


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.41
QM Area	1036885
QM Integration Mode	A
RM1 Area	1284347
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0157
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	8170
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.54 - 41.54 SM: 3G

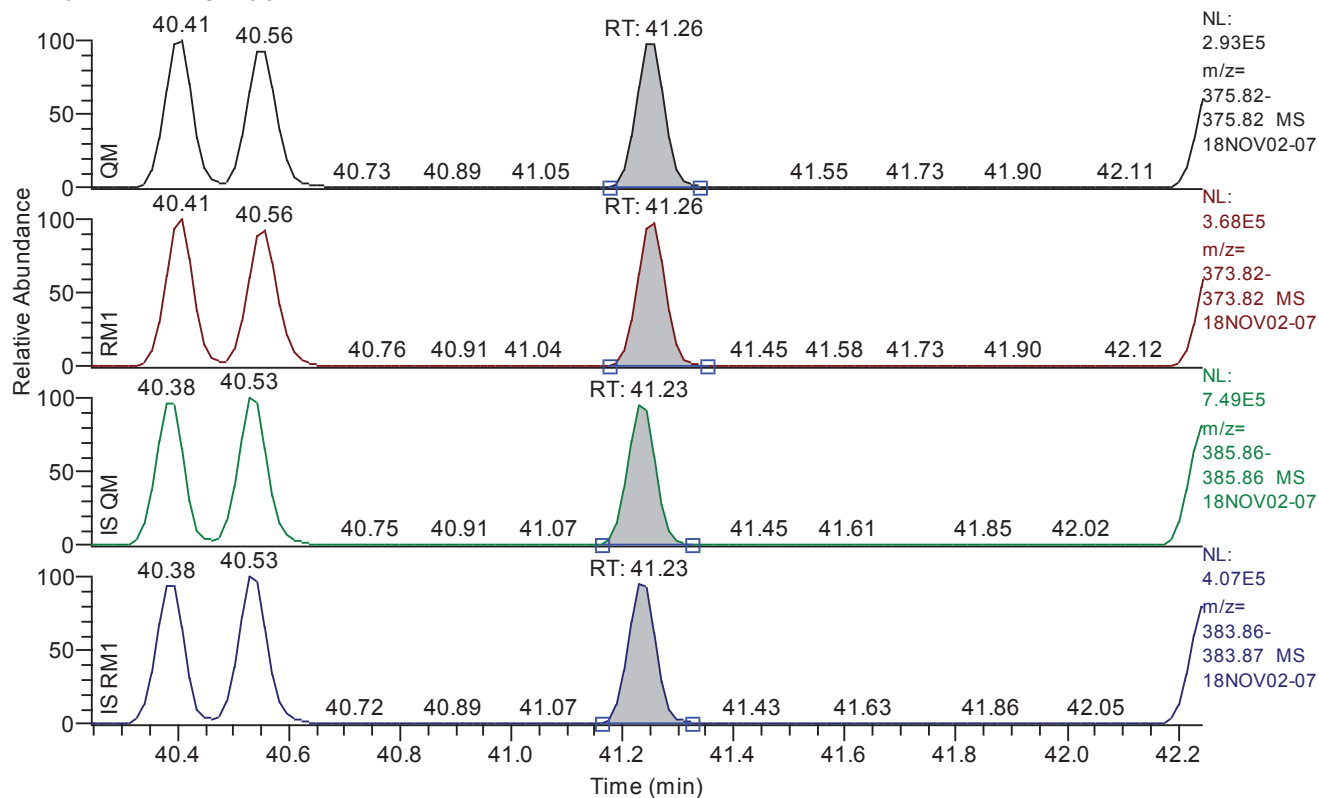


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.56
QM Area	1037006
QM Integration Mode	A
RM1 Area	1299559
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0159
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7587
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.24 - 42.24 SM: 3G

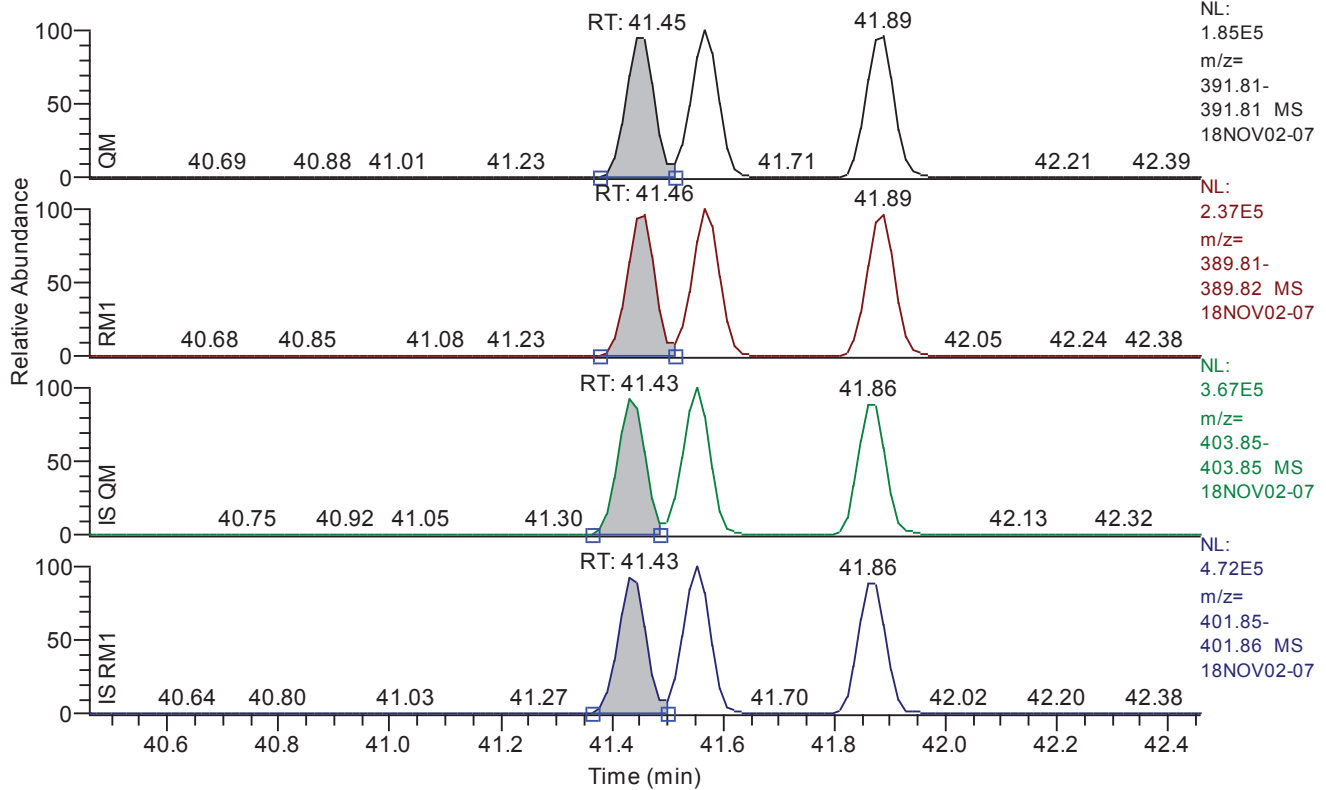


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.26
QM Area	1033180
QM Integration Mode	A
RM1 Area	1286848
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0154
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	8005
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.46 - 42.46 SM: 3G

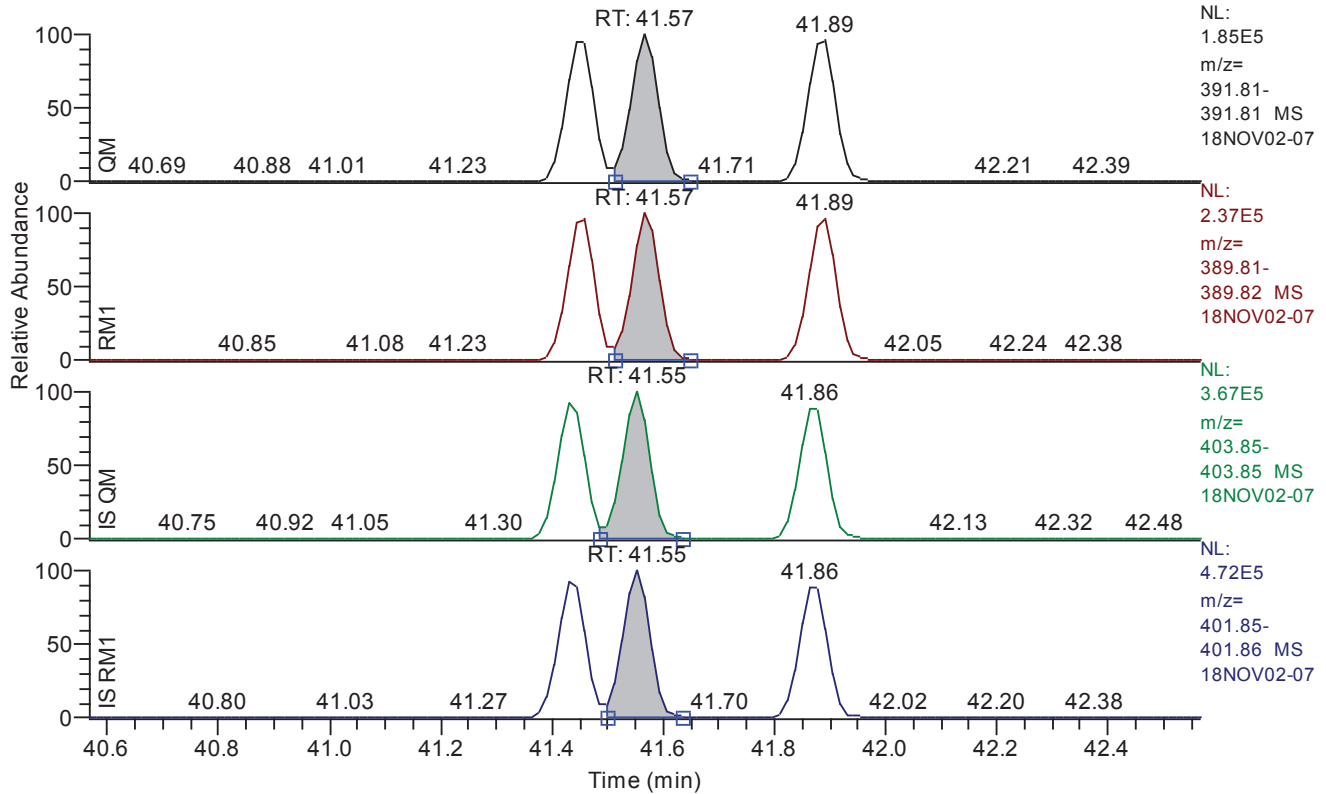


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.45
QM Area	628259
QM Integration Mode	A
RM1 Area	794491
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	10644
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.57 - 42.57 SM: 3G

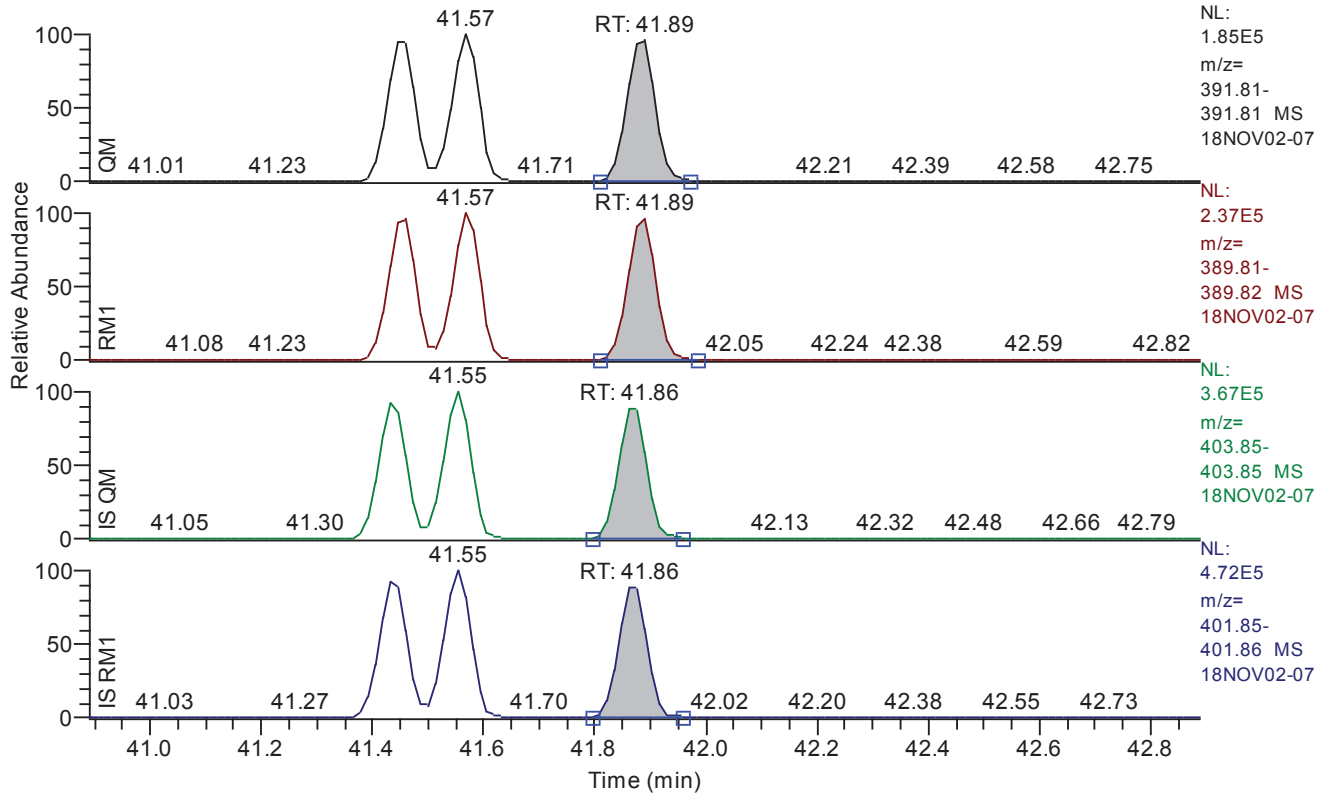


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.57
QM Area	627171
QM Integration Mode	A
RM1 Area	799069
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11057
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.89 - 42.89 SM: 3G

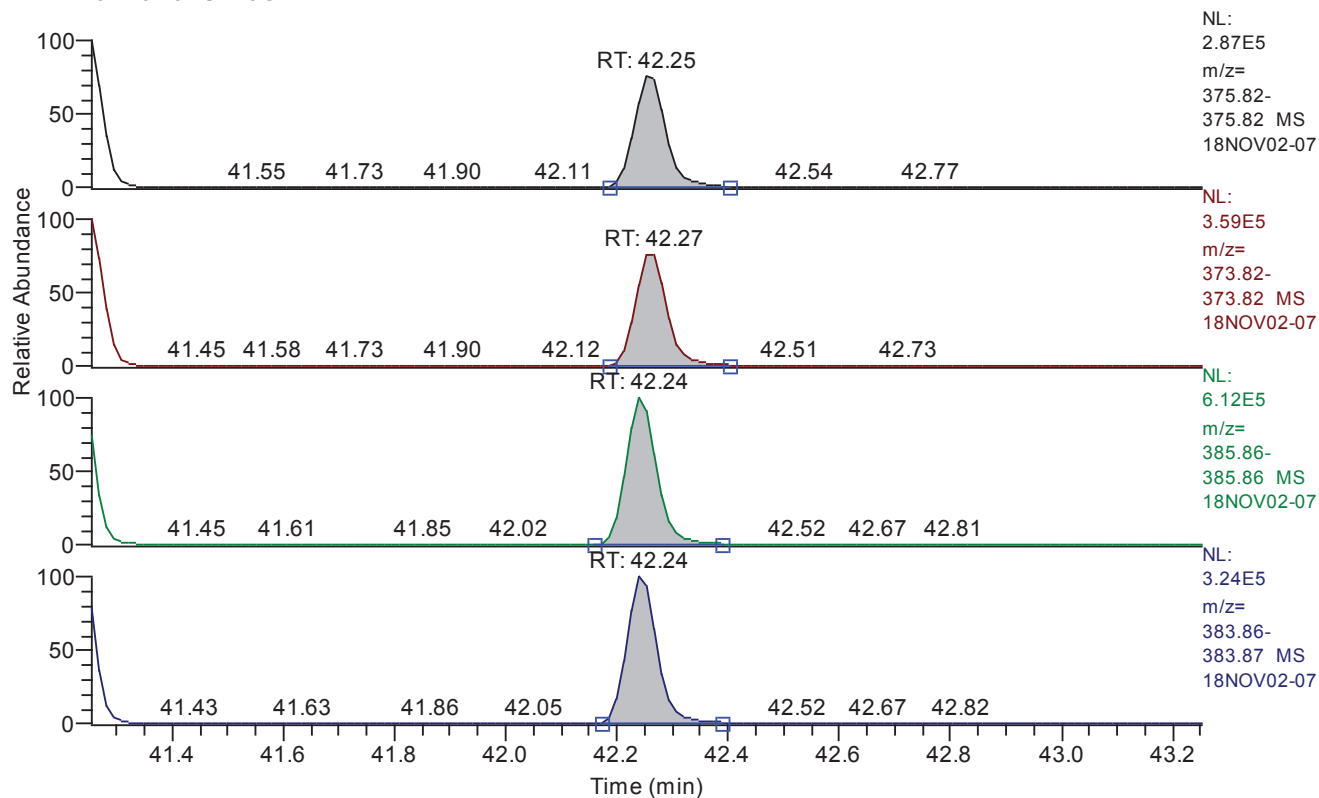


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.89
QM Area	639384
QM Integration Mode	A
RM1 Area	808773
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	10757
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.25 - 43.25 SM: 3G

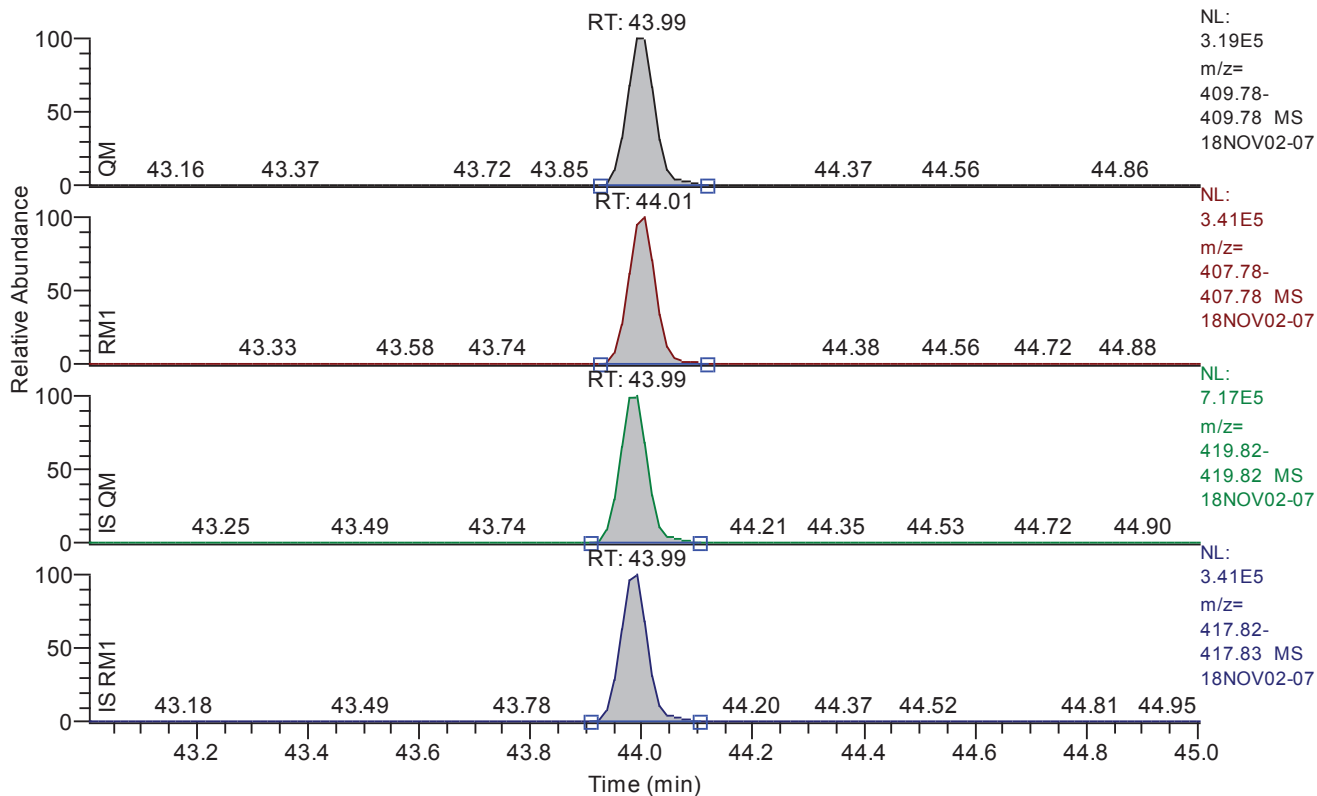


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.25
QM Area	870377
QM Integration Mode	A
RM1 Area	1094560
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0197
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6131
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 43.01 - 45.01 SM: 3G

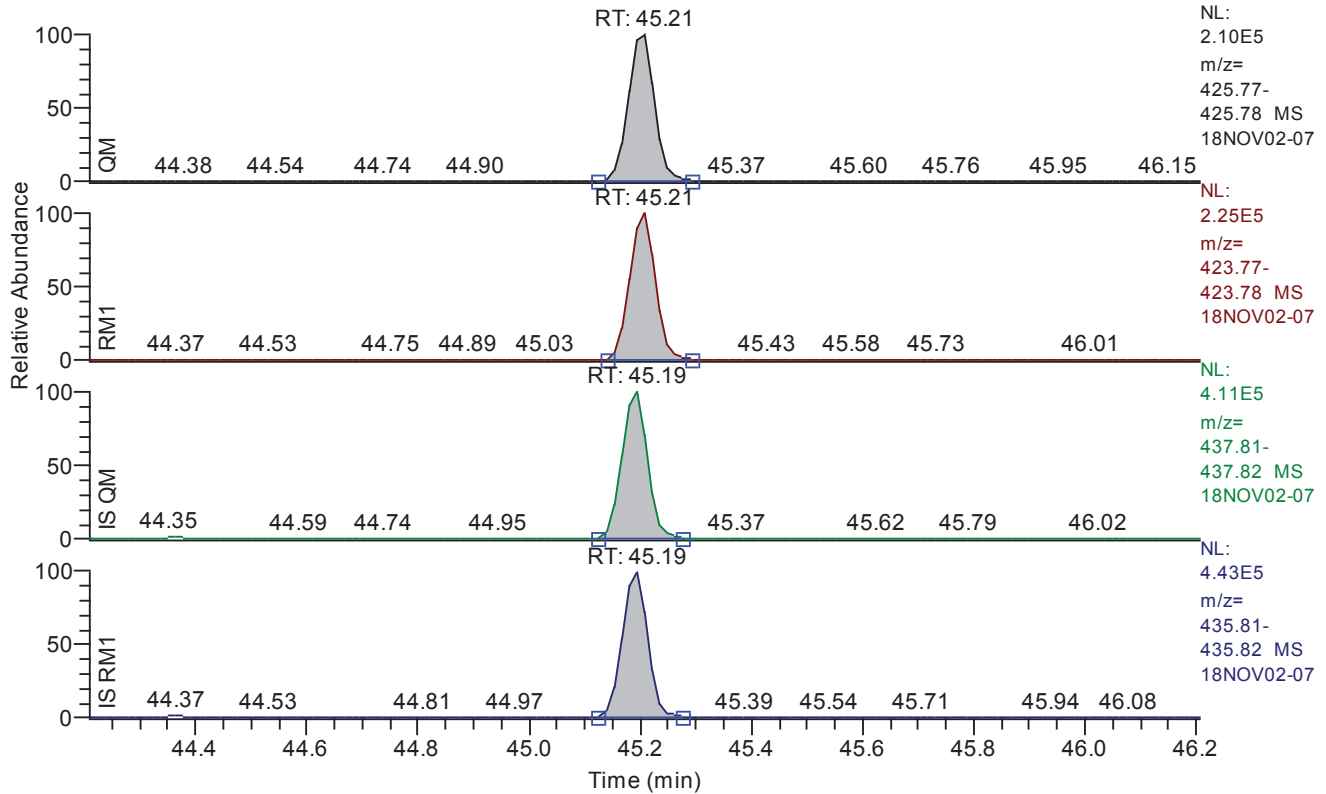


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.99
QM Area	1147032
QM Integration Mode	A
RM1 Area	1193386
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0167
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7462
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.21 - 46.21 SM: 3G

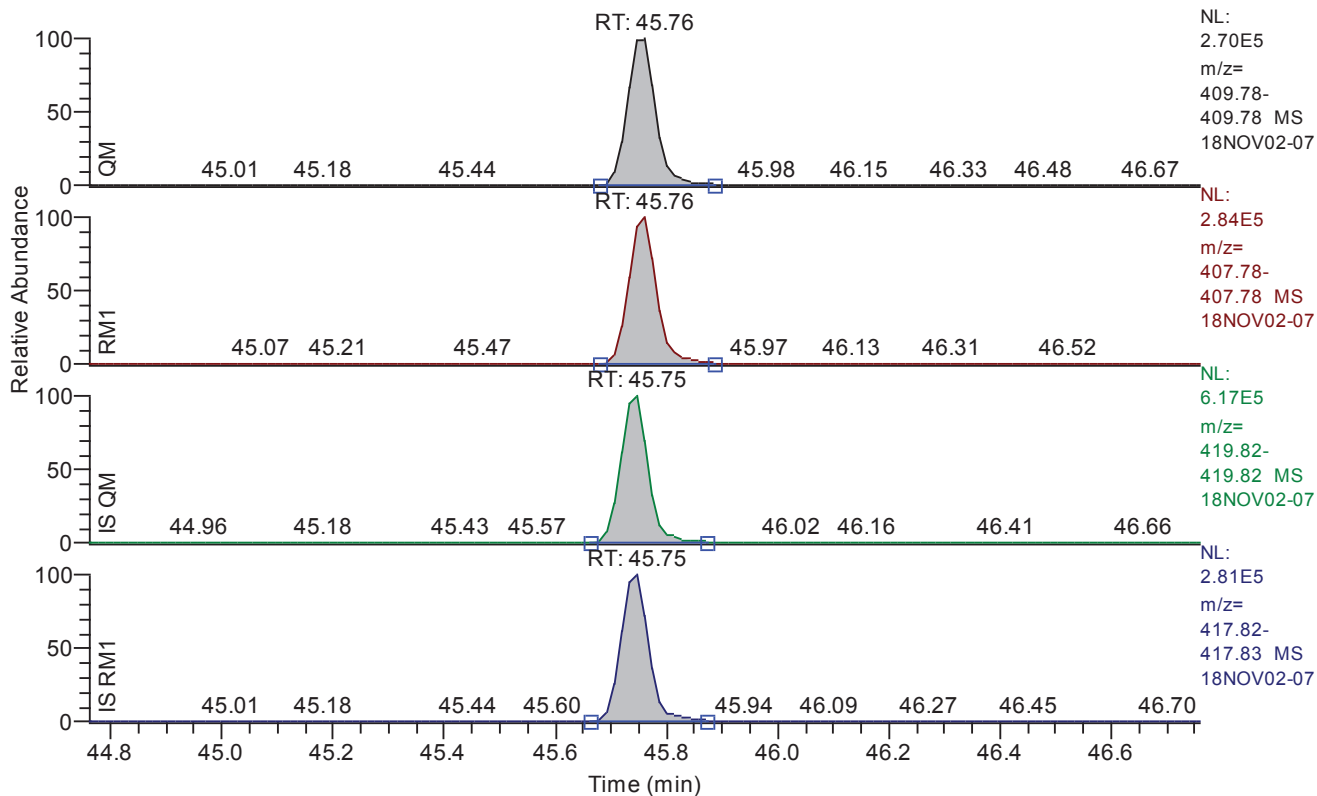


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.21
QM Area	706988
QM Integration Mode	A
RM1 Area	745393
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0164
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7431
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.76 - 46.76 SM: 3G

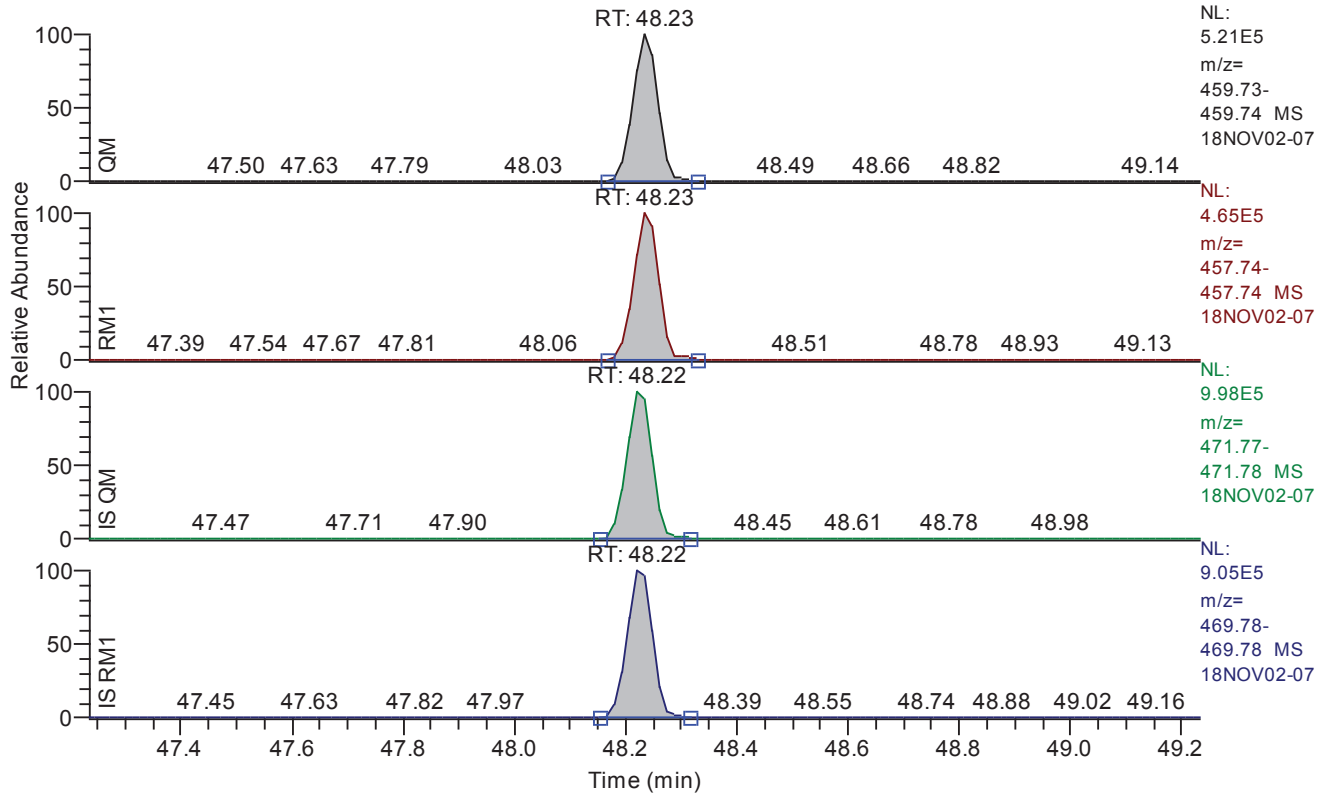


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.76
QM Area	979683
QM Integration Mode	A
RM1 Area	1011092
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0196
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6259
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.23 - 49.23 SM: 3G

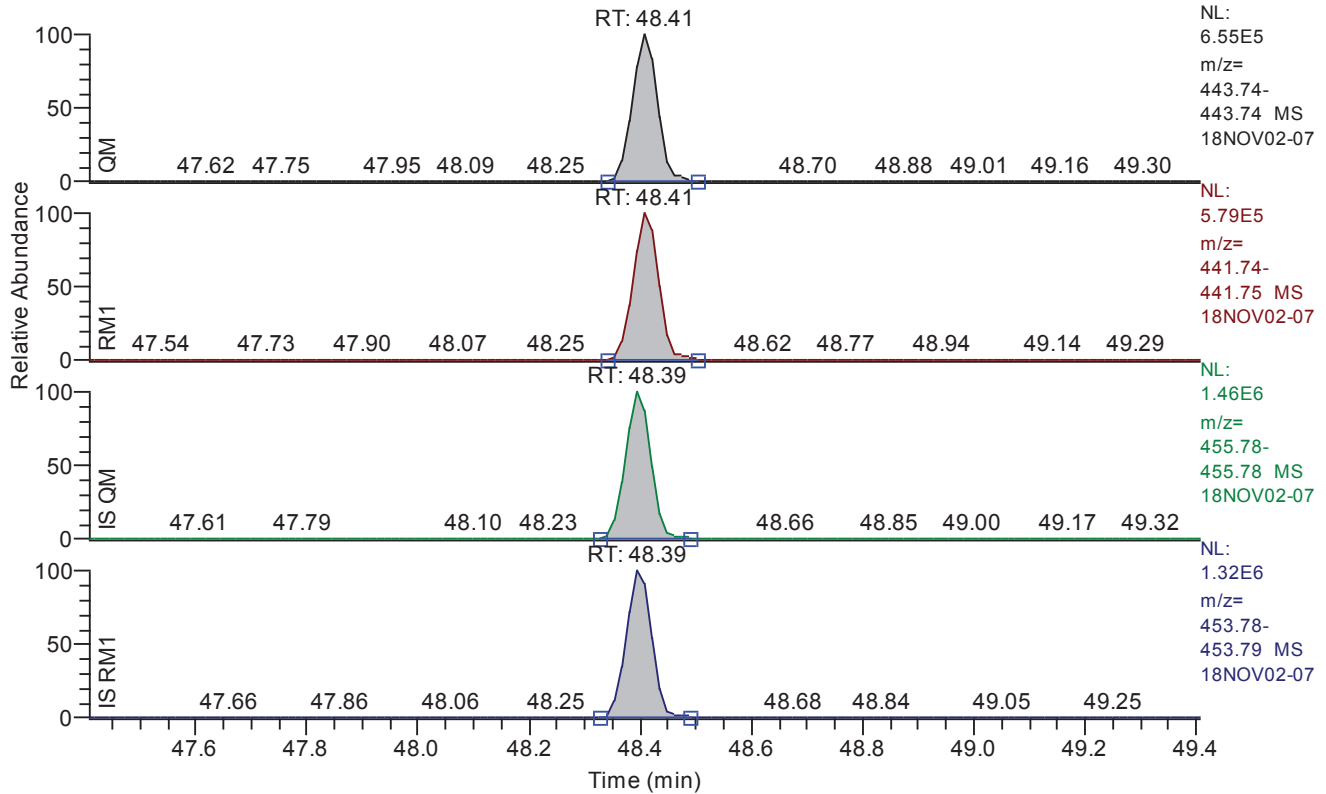


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.23
QM Area	1613076
QM Integration Mode	A
RM1 Area	1457367
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	21601
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.41 - 49.41 SM: 3G

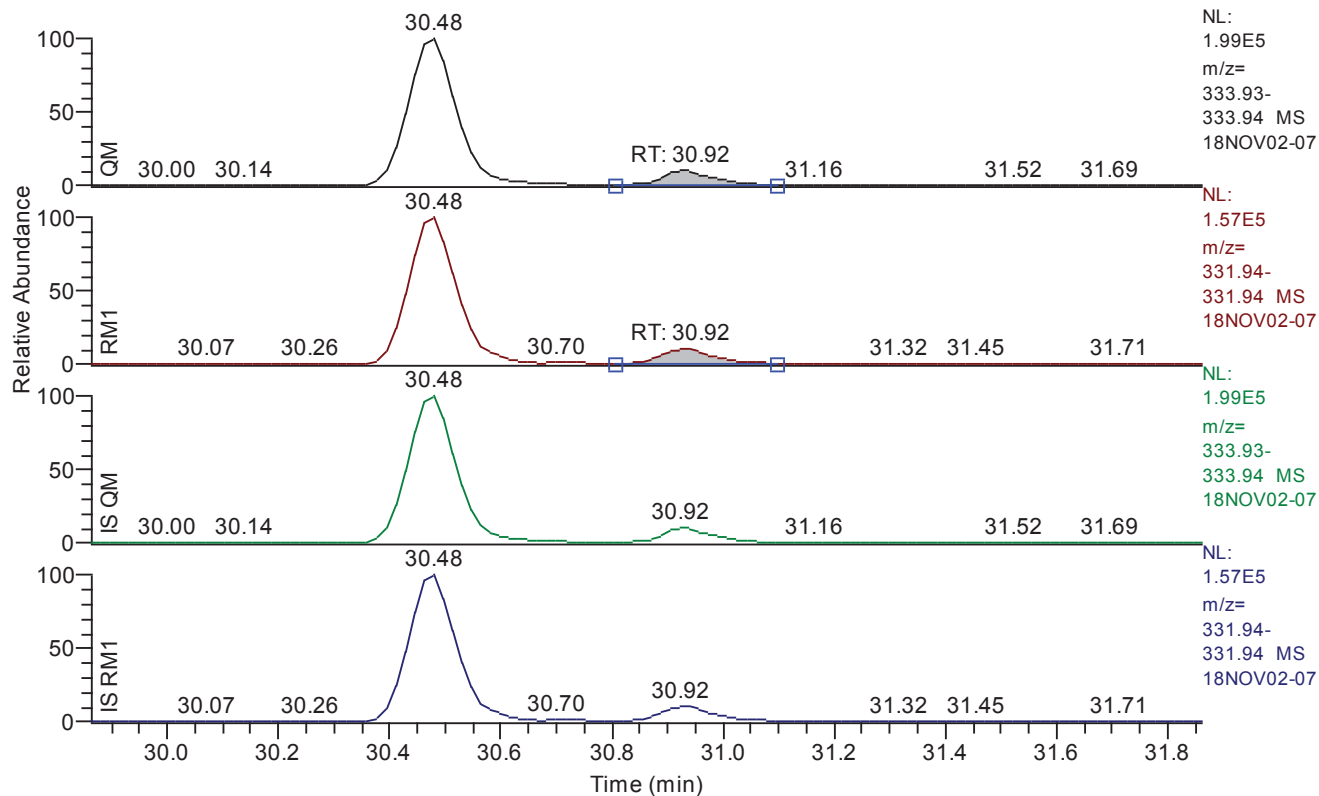


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.41
QM Area	2049645
QM Integration Mode	A
RM1 Area	1844391
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0103
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	24571
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.86 - 31.86 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.92
QM Area	127150
QM Integration Mode	A
RM1 Area	107879
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0347
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	717
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 20:20
Number of Entries	64
Comment	
Vial	6
Sample Name	CALDF41837H
Sample ID	CS301
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

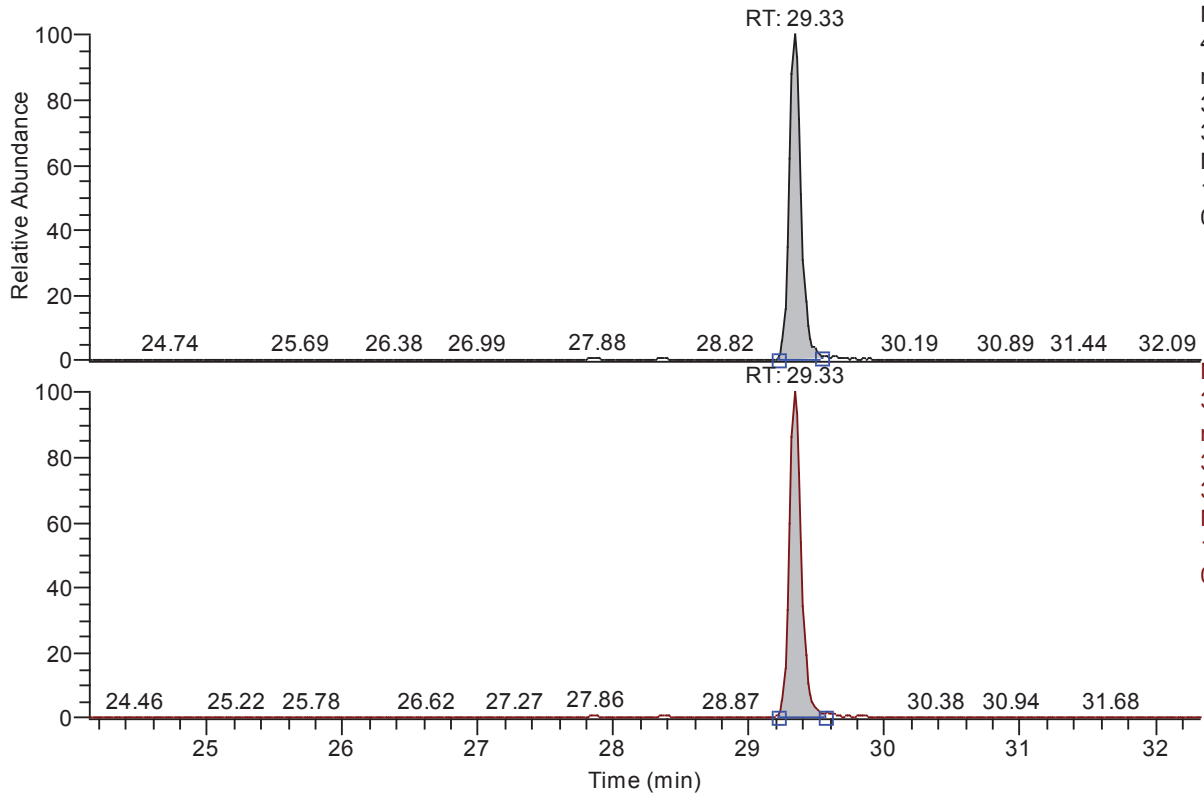
Quan	x:\18nov02\18nov02-07.quan
Data	x:\18nov02\18nov02-07.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Depend 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

Chromatogram

RT: 24.13 - 32.33 SM: 3G

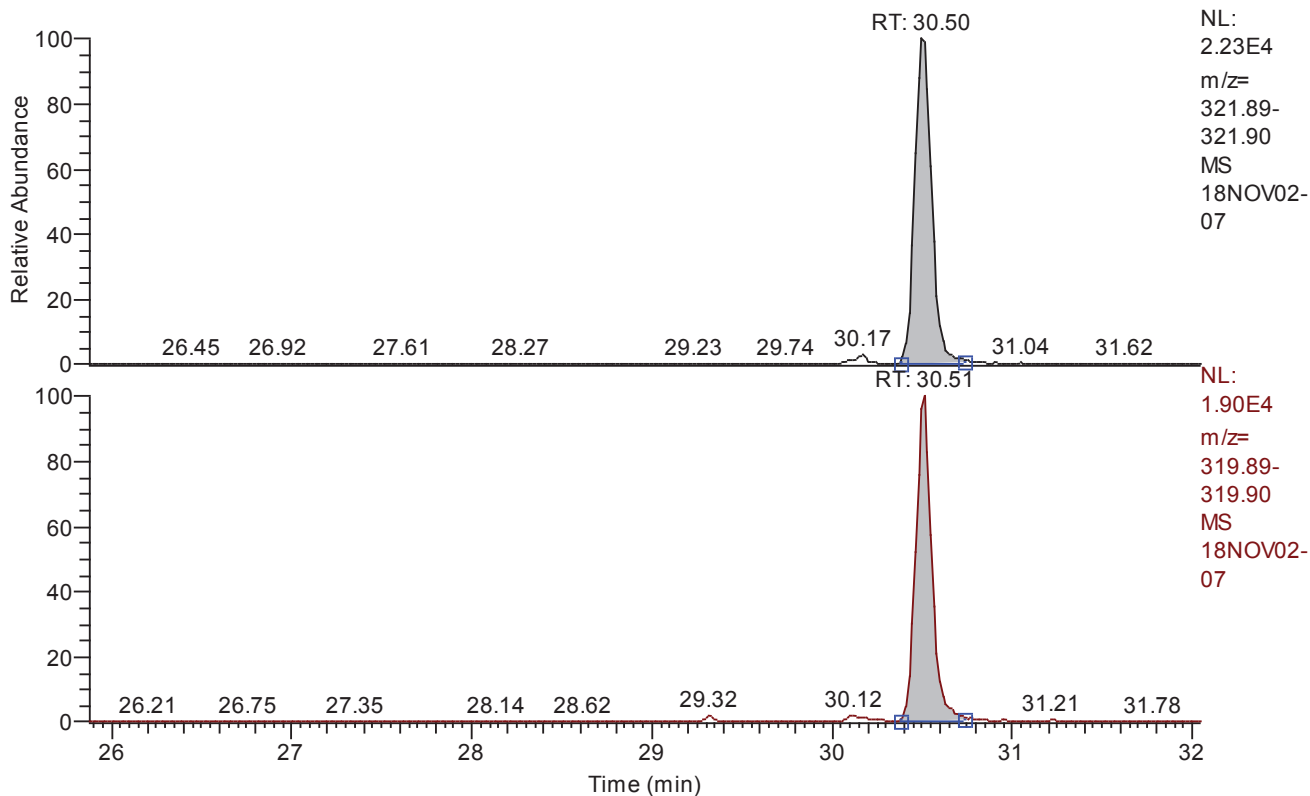
NL:
4.10E4
m/z=
305.90-
305.90
MS
18NOV02-
07NL:
3.25E4
m/z=
303.90-
303.90
MS
18NOV02-
07

Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.23
QM Area	251321
QM Integration Mode	A
RM1 Area	202352
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2575
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 25.87 - 32.05 SM: 3G

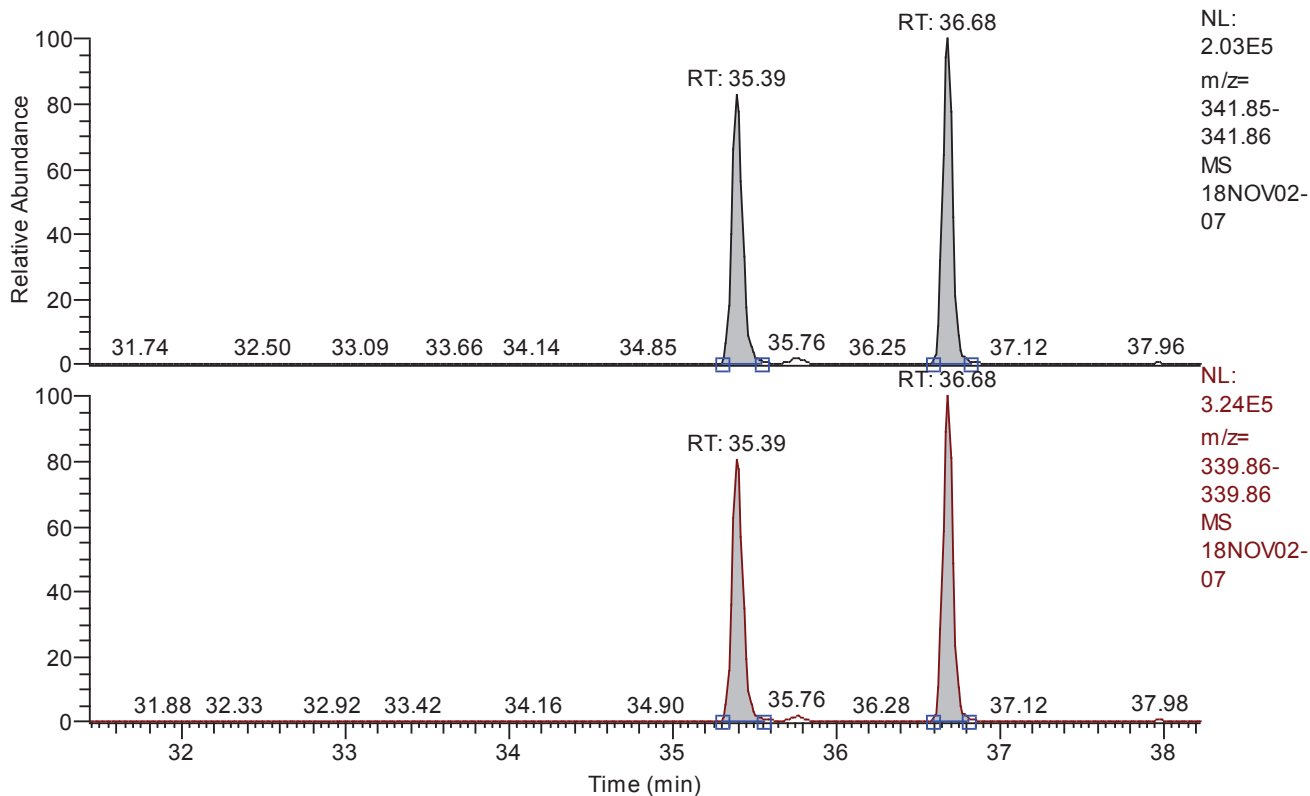


Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.96
QM Area	147096
QM Integration Mode	A
RM1 Area	116809
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2517
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 31.43 - 38.23 SM: 3G

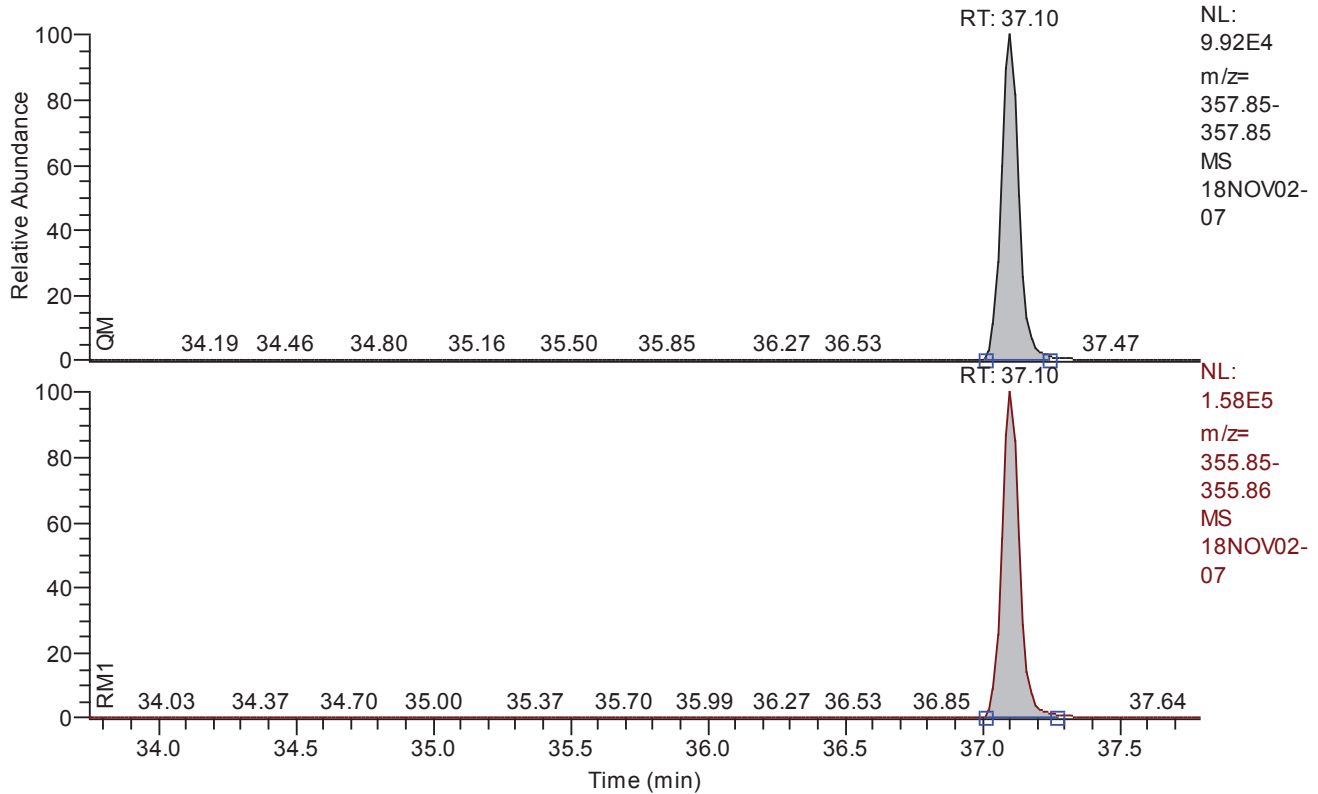


Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.83
QM Area	1666732
QM Integration Mode	A
RM1 Area	2614324
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	13863
Client Flags	
Status Overview	passed (2)
Status Info	

Chromatogram

RT: 33.75 - 37.79 SM: 3G

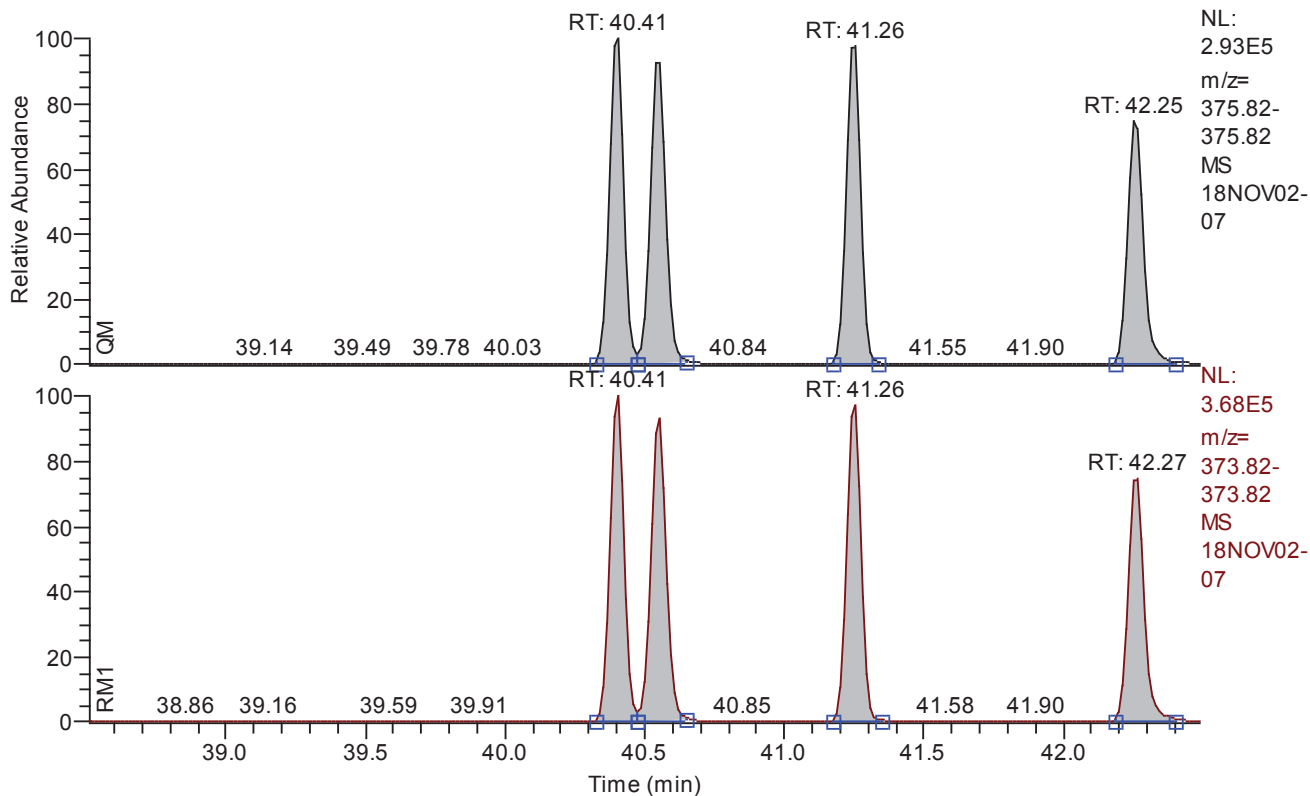


Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.77
QM Area	438255
QM Integration Mode	A
RM1 Area	701442
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0158
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	8013
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 38.51 - 42.49 SM: 3G

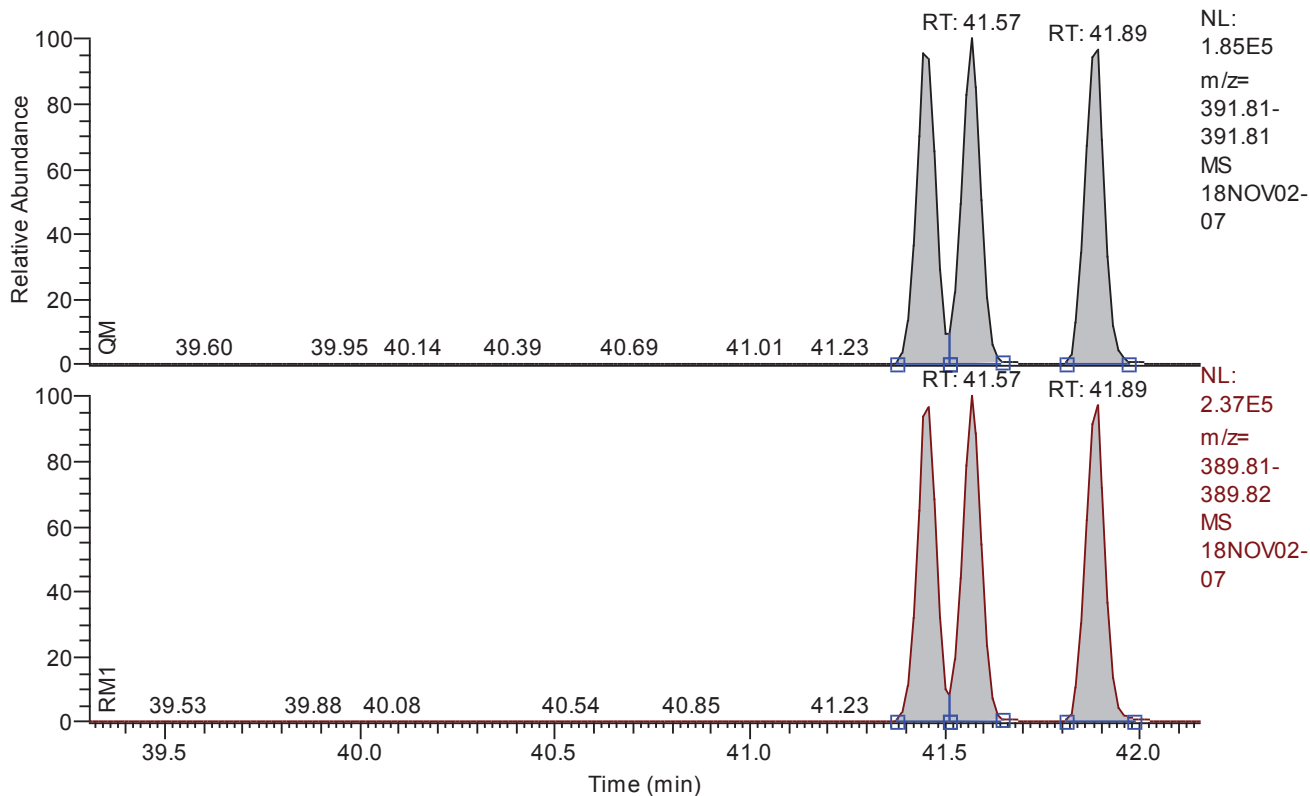


Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.50
QM Area	3977447
QM Integration Mode	A
RM1 Area	4965315
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0166
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	7473
Client Flags	
Status Overview	passed (4)
Status Info	

Chromatogram

RT: 39.31 - 42.15 SM: 3G

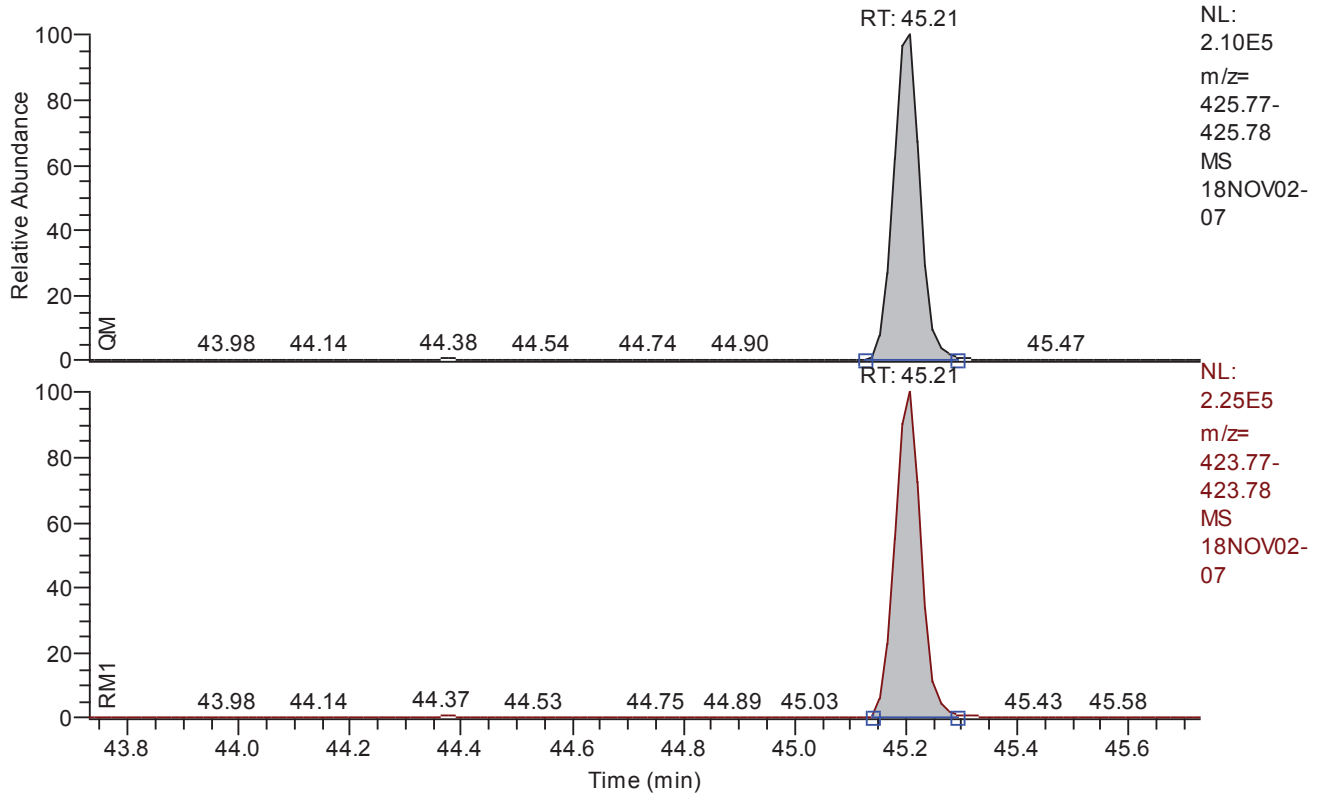


Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.73
QM Area	1894813
QM Integration Mode	A
RM1 Area	2402333
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	150.0000
Signal-to-Noise	10819
Client Flags	
Status Overview	passed (3)
Status Info	

Chromatogram

RT: 43.73 - 45.73 SM: 3G

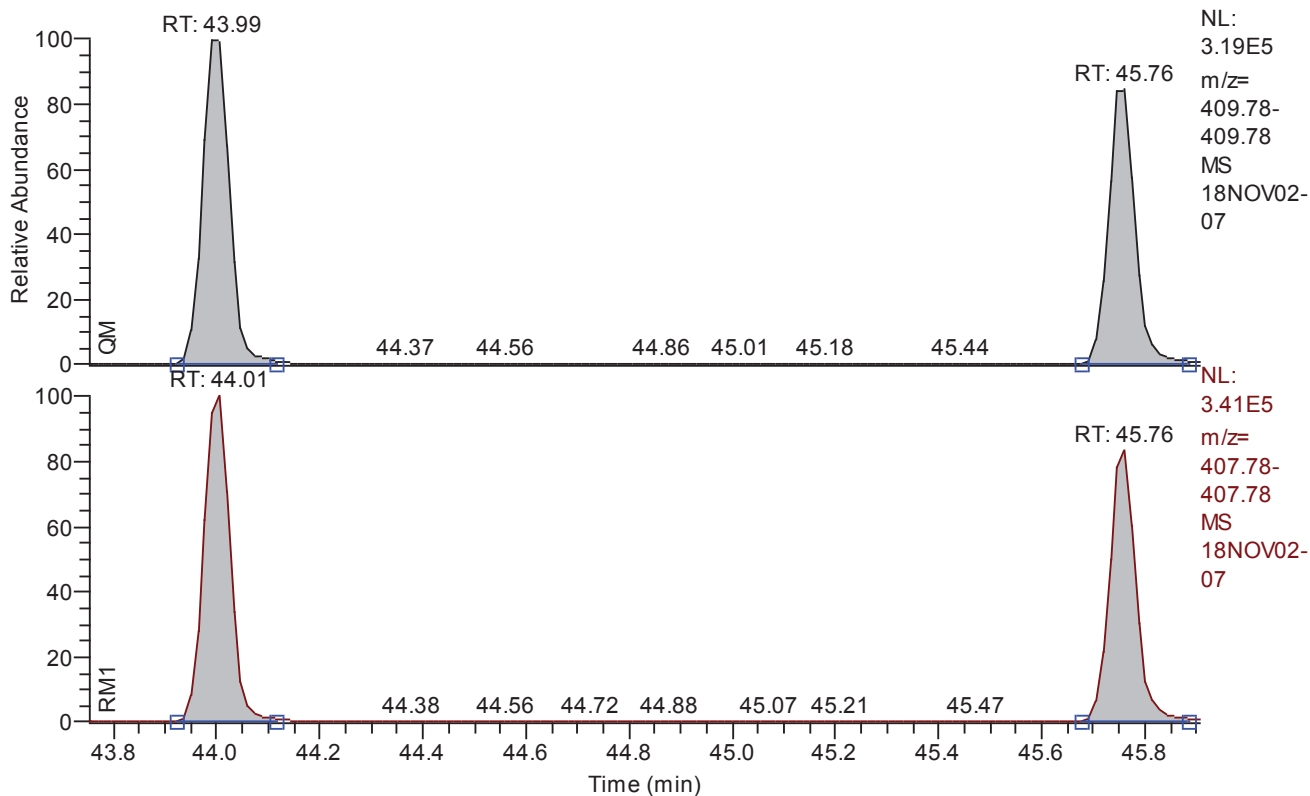


Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.73
QM Area	706988
QM Integration Mode	A
RM1 Area	745393
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0164
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7431
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 43.75 - 45.91 SM: 3G



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.83
QM Area	2126714
QM Integration Mode	A
RM1 Area	2204478
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0181
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	6860
Client Flags	
Status Overview	passed (2)
Status Info	

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	30.50	30.50	30.51	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.39	35.39	35.39	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.68	36.68	36.68	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.10	37.10	37.10	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.41	40.41	40.41	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.56	40.56	40.56	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.26	41.26	41.26	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.45	41.45	41.46	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.57	41.57	41.57	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.89	41.89	41.89	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.25	42.25	42.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.99	43.99	44.01	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.21	45.21	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.76	45.76	45.76	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.23	48.23	48.23	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.41	48.41	48.41	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.92	30.92	30.92	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.64	29.64	29.64	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.31	40.31	40.31	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.32	29.32	29.32	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.48	30.48	30.48	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.37	35.37	35.37	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.65	36.65	36.67	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.09	37.09	37.09	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.38	40.38	40.38	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.53	40.53	40.53	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.23	41.23	41.23	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.43	41.43	41.43	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.55	41.55	41.55	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.86	41.86	41.86	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.24	42.24	42.24	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.99	43.99	43.99	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.19	45.19	45.19	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.75	45.75	45.75	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.22	48.22	48.22	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.39	48.39	48.39	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	28.23	28.23	28.23	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.96	28.96	28.96	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	34.83	34.83	34.83	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	35.77	35.77	35.77	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.50	40.50	40.50	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	40.73	40.73	40.73	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.73	44.73	44.73	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	44.83	44.83	44.83	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	29.33	29.33	29.33	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.50	30.50	30.51	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	37.10	37.10	37.10	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	36.68	36.68	36.68	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	35.39	35.39	35.39	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.21	45.21	45.21	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.41	40.41	40.41	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.56	40.56	40.56	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.26	41.26	41.26	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.25	42.25	42.27	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.57	41.57	41.57	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.45	41.45	41.46	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.89	41.89	41.89	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	43.99	43.99	44.01	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	45.76	45.76	45.76	passed	passed

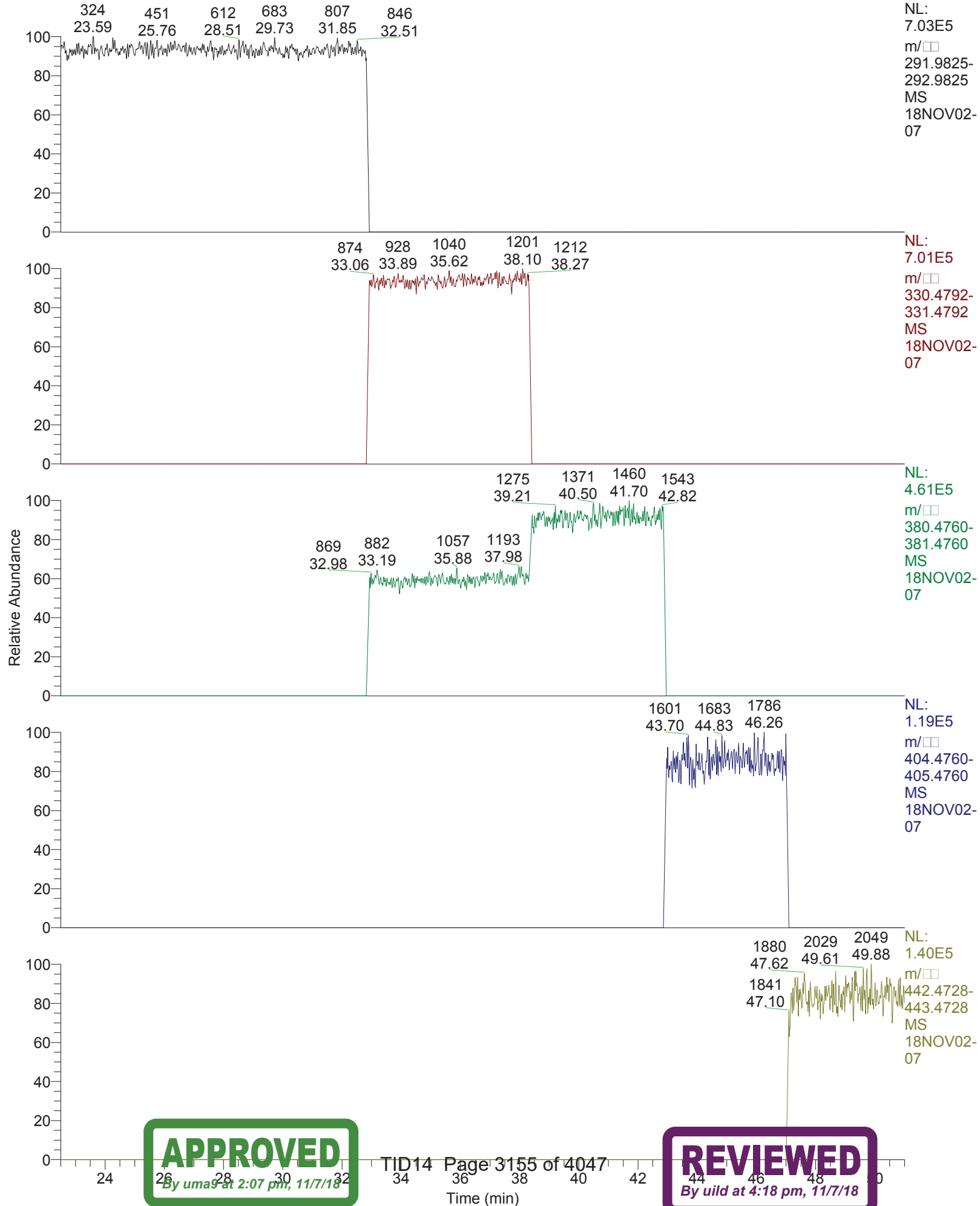
Entry Parameters

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	0.8052	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.50	0.7941	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.39	1.5657	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.68	1.5711	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.10	1.6005	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.41	1.2387	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.56	1.2532	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.26	1.2455	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.45	1.2646	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.57	1.2741	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.89	1.2649	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.25	1.2576	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.99	1.0404	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.21	1.0543	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.76	1.0321	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.23	0.9035	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.41	0.8999	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.92	0.8484	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.64	0.7955	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.31	1.2784	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.32	0.7773	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.48	0.7929	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.37	1.5825	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.65	1.6110	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.09	1.6062	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.38	0.5321	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.53	0.5427	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.23	0.5382	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.43	1.3176	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.55	1.2651	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.86	1.2913	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.24	0.5275	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.99	0.4666	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.19	1.0719	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.75	0.4644	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.22	0.9073	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.39	0.9088	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.23	0.8052	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.96	0.7941	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.83	1.5685	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.77	1.6005	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.50	1.2484	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.73	1.2678	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.73	1.0543	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.83	1.0366	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.33	0.8052	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.50	0.7941	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.10	1.6005	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.68	1.5711	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.39	1.5657	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.21	1.0543	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.41	1.2387	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.56	1.2532	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.26	1.2455	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.25	1.2576	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.57	1.2741	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.45	1.2646	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.89	1.2649	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.99	1.0404	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.76	1.0321	0.8750 - 1.2050	passed	100.00	0 - 0	passed

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	29.33	251321	A	202352	A	0.0095	10.000000	10.0000	10.000000	2575	
2	2378-TCDD	passed	30.50	147096	A	116809	A	0.0095	10.000000	10.0000	10.000000	2517	
3	12378-PeCDF	passed	35.39	788300	A	1234225	A	0.0099	50.000000	50.0000	50.000000	12456	
4	23478-PeCDF	passed	36.68	878432	A	1380099	A	0.0083	50.000000	50.0000	50.000000	15270	
5	12378-PeCDD	passed	37.10	438255	A	701442	A	0.0158	50.000000	50.0000	50.000000	8013	
6	123478-HxCDF	passed	40.41	1036885	A	1284347	A	0.0157	50.000000	50.0000	50.000000	8170	
7	123678-HxCDF	passed	40.56	1037006	A	1299559	A	0.0159	50.000000	50.0000	50.000000	7587	
8	234678-HxCDF	passed	41.26	1033180	A	1286848	A	0.0154	50.000000	50.0000	50.000000	8005	
9	123478-HxCDD	passed	41.45	628259	A	794491	A	0.0116	50.000000	50.0000	50.000000	10644	
10	123678-HxCDD	passed	41.57	627171	A	799069	A	0.0113	50.000000	50.0000	50.000000	11057	
11	123789-HxCDD	passed	41.89	639384	A	808773	A	0.0116	50.000000	50.0000	50.000000	10757	
12	123789-HxCDF	passed	42.25	870377	A	1094560	A	0.0197	50.000000	50.0000	50.000000	6131	
13	1234678-HpCDF	passed	43.99	1147032	A	1193386	A	0.0167	50.000000	50.0000	50.000000	7462	
14	1234678-HpCDD	passed	45.21	706988	A	745393	A	0.0164	50.000000	50.0000	50.000000	7431	
15	1234789-HpCDF	passed	45.76	979683	A	1011092	A	0.0196	50.000000	50.0000	50.000000	6259	
16	OCDD	passed	48.23	1613076	A	1457367	A	0.0118	100.000000	100.0000	100.000000	21601	
17	OCDF	passed	48.41	2049645	A	1844391	A	0.0103	100.000000	100.0000	100.000000	24571	
18	13C12-1278-TCDD (CRS)	passed	30.92	127150	A	107879	A	0.0347	10.000000	10.0000	10.000000	717	
19	13C12-1234-TCDD	passed	29.64	1179692	A	938433	A	0.0385	100.000000	100.0000	100.000000	6491	
20	13C12-123468-HxCDD	passed	40.31	1169984	A	1495747	A	0.0238	100.000000	100.0000	100.000000	10522	
21	13C12-2378-TCDF	passed	29.32	2453128	A	1906748	A	0.0157	100.000000	100.0000	100.000000	16747	
22	13C12-2378-TCDD	passed	30.48	1213080	A	961850	A	0.0375	100.000000	100.0000	100.000000	6960	
23	13C12-12378-PeCDF	passed	35.37	1623435	A	2569103	A	0.0487	100.000000	100.0000	100.000000	7077	
24	13C12-23478-PeCDF	passed	36.65	1621146	A	2611623	A	0.0482	100.000000	100.0000	100.000000	7605	
25	13C12-12378-PeCDD	passed	37.09	874234	A	1404187	A	0.0278	100.000000	100.0000	100.000000	12804	
26	13C12-123478-HxCDF	passed	40.38	2600052	A	1383365	A	0.0254	100.000000	100.0000	100.000000	9738	
27	13C12-123678-HxCDF	passed	40.53	2753400	A	1494375	A	0.0238	100.000000	100.0000	100.000000	10145	
28	13C12-234678-HxCDF	passed	41.23	2542233	A	1368202	A	0.0259	100.000000	100.0000	100.000000	9743	
29	13C12-123478-HxCDD	passed	41.43	1174765	A	1547837	A	0.0233	100.000000	100.0000	100.000000	11035	
30	13C12-123678-HxCDD	passed	41.55	1258771	A	1592530	A	0.0222	100.000000	100.0000	100.000000	11811	
31	13C12-123789-HxCDD	passed	41.86	1159010	A	1496654	A	0.0238	100.000000	100.0000	100.000000	10571	
32	13C12-123789-HxCDF	passed	42.24	2351497	A	1240499	A	0.0282	100.000000	100.0000	100.000000	8255	
33	13C12-1234678-HpCDF	passed	43.99	2551599	A	1190473	A	0.0274	100.000000	100.0000	100.000000	9227	
34	13C12-1234678-HpCDD	passed	45.19	1347044	A	1443854	A	0.0201	100.000000	100.0000	100.000000	13626	
35	13C12-1234789-HpCDF	passed	45.75	2164286	A	1005152	A	0.0323	100.000000	100.0000	100.000000	7827	
36	13C12-OCDD	passed	48.22	3176986	A	2882357	A	0.0189	200.000000	200.0000	200.000000	29741	
37	13C12-OCDF	passed	48.39	4633232	A	4210701	A	0.0137	200.000000	200.0000	200.000000	40986	
38	Total TCDF	passed (1)	28.23	251321	A	202352	A	0.0095	10.000000	10.0000	10.000000	2575	
39	Total TCDD	passed (1)	28.96	147096	A	116809	A	0.0095	10.000000	10.0000	10.000000	2517	
40	Total PeCDF	passed (2)	34.83	1666732	A	2614324	A	0.0091	50.000000	100.0000	50.000000	13863	
41	Total PeCDD	passed (1)	35.77	438255	A	701442	A	0.0158	50.000000	50.0000	50.000000	8013	
42	Total HxCDF	passed (4)	40.50	3977447	A	4965315	A	0.0166	50.000000	200.0000	50.000000	7473	
43	Total HxCDD	passed (3)	40.73	1894813	A	2402333	A	0.0115	50.000000	150.0000	50.000000	10819	
44	Total HpCDD	passed (1)	44.73	706988	A	745393	A	0.0164	50.000000	50.0000	50.000000	7431	
45	Total HpCDF	passed (2)	44.83	2126714	A	2204478	A	0.0181	50.000000	100.0000	50.000000	6860	
46	Single TCDF	passed	29.33	251321	A	202352	A	0.0095	10.000000	10.0000	10.000000	2575	
47	Single TCDD	passed	30.50	147096	A	116809	A	0.0095	10.000000	10.0000	10.000000	2517	
48	Single PeCDD	passed	37.10	438255	A	701442	A	0.0158	50.000000	50.0000	50.000000	8013	
49	Single PeCDF	passed	36.68	878432	A	1380099	A	0.0086	50.000000	50.0000	50.000000	15270	
50	Single PeCDD	passed	35.39	788300	A	1234225	A	0.0096	50.000000	50.0000	50.000000	12456	
51	Single HpCDD	passed	45.21	706988	A	745393	A	0.0164	50.000000	50.0000	50.000000	7431	
52	Single HxCDF	passed	40.41	1036885	A	1284347	A	0.0159	50.000000	50.0000	50.000000	8170	
53	Single HxCDF	passed	40.56	1037006	A	1299559	A	0.0158	50.000000	50.0000	50.000000	7587	
54	Single HxCDF	passed	41.26	1033180	A	1286848	A	0.0159	50.000000	50.0000	50.000000	8005	
55	Single HxCDF	passed	42.25	870377	A	1094560	A	0.0188	50.000000	50.0000	50.000000	6131	
56	Single HxCDD	passed	41.57	627171	A	799069	A	0.0116	50.000000	50.0000	50.000000	11057	
57	Single HxCDD	passed	41.45	628259	A	794491	A	0.0116	50.000000	50.0000	50.000000	10644	
58	Single HxCDD	passed	41.89	639384	A	808773	A	0.0114	50.000000	50.0000	50.000000	10757	
59	Single HpCDF	passed	43.99	1147032	A	1193386	A	0.0167	50.000000	50.0000	50.000000	7462	
60	Single HpCDF	passed	45.76	979683	A	1011092	A	0.0196	50.000000	50.0000	50.000000	6259	

RT: 22.50 - 51.00



18NOV02-07

*** file opened Fri Nov 02 20:26:24 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 02-Nov-18 20:26:23

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 7349737c-0d23-45de-89a6-193501cb8be3

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV02-07

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 22.016667 minutes

MID window end time was 22.010000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

Page 2

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3157 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-07

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	96.5000
BQUAD	3.1000	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	0.9992	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4255.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0072	FVINLET	0.0381	FVSR	0.0364
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	96.5000	LKM	442.9723	MASS	96.5000
MDAC	1410600.9560	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9841	RELEN	0.0000
RES	12218.2380	RPUSHER	-6.0879	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	788.0000	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	5.0000	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	VMAS	96.5000	XLENS_POT	972.0000
XLENS_SYM	-2.5000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.6e-008 mbar
Pirani Analyse: 7.2e-003 mbar
Pirani Source: 3.7e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11662.
MID Time window 2: Resolution is 11430.
MID Time window 3: Resolution is 12034.
MID Time window 4: Resolution is 12001.

Page 3

APPROVED

By uma9 at 2:07 pm, 11/7/18

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REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-07

MID Time Window 5: Resolution is 12904.
MID Time Window 6: Resolution is 12218.

Amplifier Offset: 81.

*** File closed Fri Nov 02 21:17:26 2018



Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 21:17
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov02\18nov02-08.quan
Data	x:\18nov02\18nov02-08.raw
Response	x:\responsefiles\df17611-18nov02dfical.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

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	29.31	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.49	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.36	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.66	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	37.07	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.39	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.53	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	41.22	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.42	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.54	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.85	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.23	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.97	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	45.17	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.73	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.21	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.39	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.88	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.61	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.29	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	29.29	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.45	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.35	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.64	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	37.06	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.36	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.51	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	41.21	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.41	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.53	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.84	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.22	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.96	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	45.16	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.71	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.20	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.37	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.23	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.96	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.83	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.77	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.50	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.73	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.73	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.83	passed (2)	---	---	---	---	---	---
46	Single TCDF	29.31	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.49	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	37.07	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.66	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.36	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	45.17	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	41.22	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.39	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	40.53	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.23	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.54	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.42	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.85	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.97	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDF	45.73	passed	passed	passed	passed	passed	passed	passed

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 21:17
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

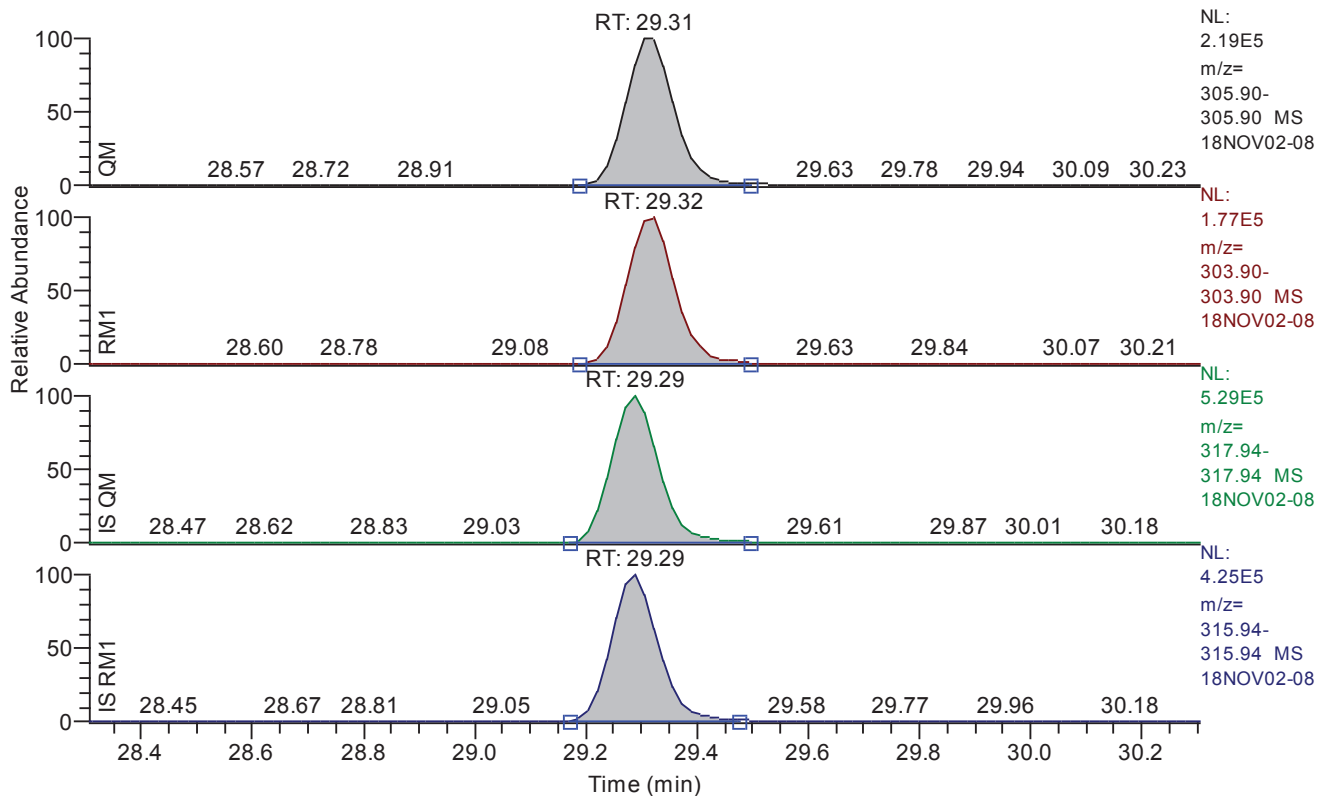
Quan	x:\18nov02\18nov02-08.quan
Data	x:\18nov02\18nov02-08.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.31 - 30.31 SM: 3G

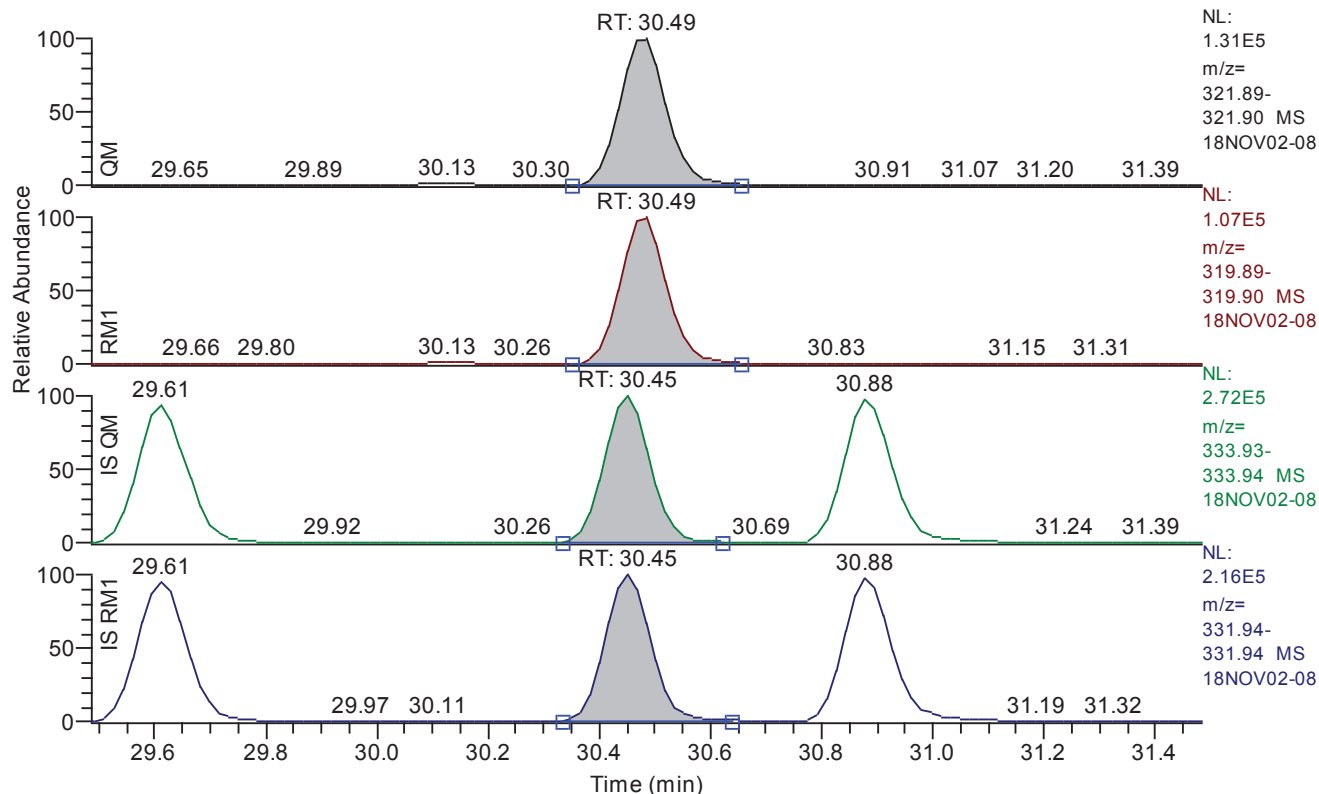


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.31
QM Area	1345764
QM Integration Mode	A
RM1 Area	1084970
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0105
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	9243
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.49 - 31.49 SM: 3G

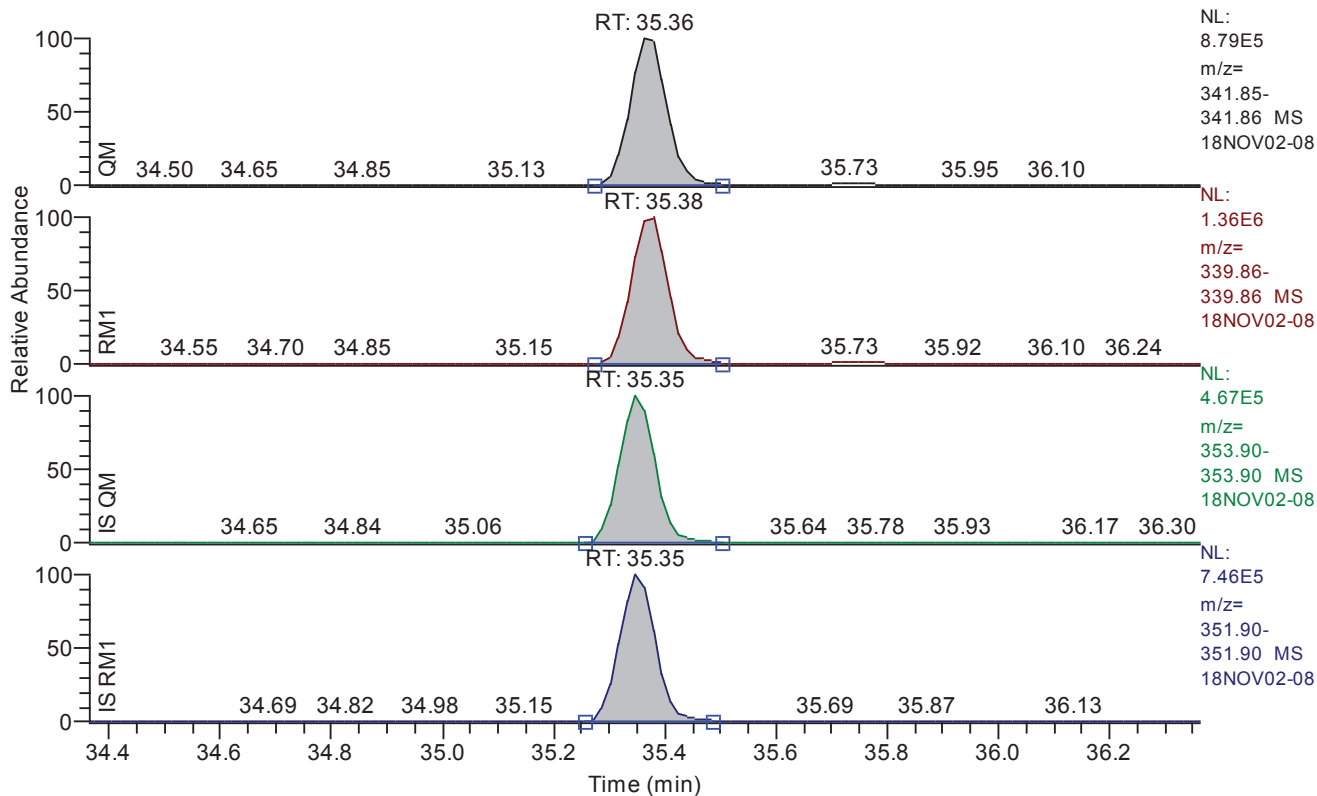


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.49
QM Area	783452
QM Integration Mode	A
RM1 Area	634232
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0101
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	9693
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.36 - 36.36 SM: 3G

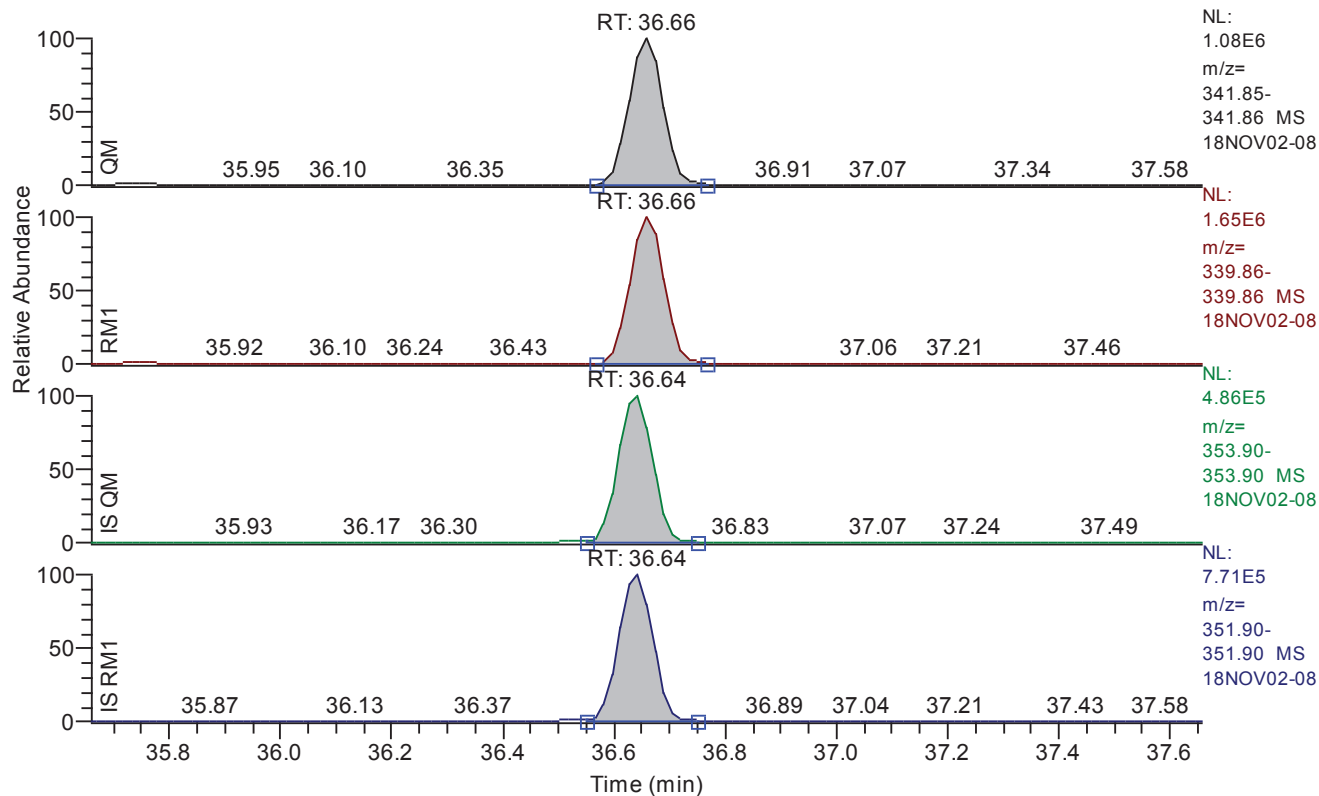


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.36
QM Area	4078765
QM Integration Mode	A
RM1 Area	6328757
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	41863
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.66 - 37.66 SM: 3G

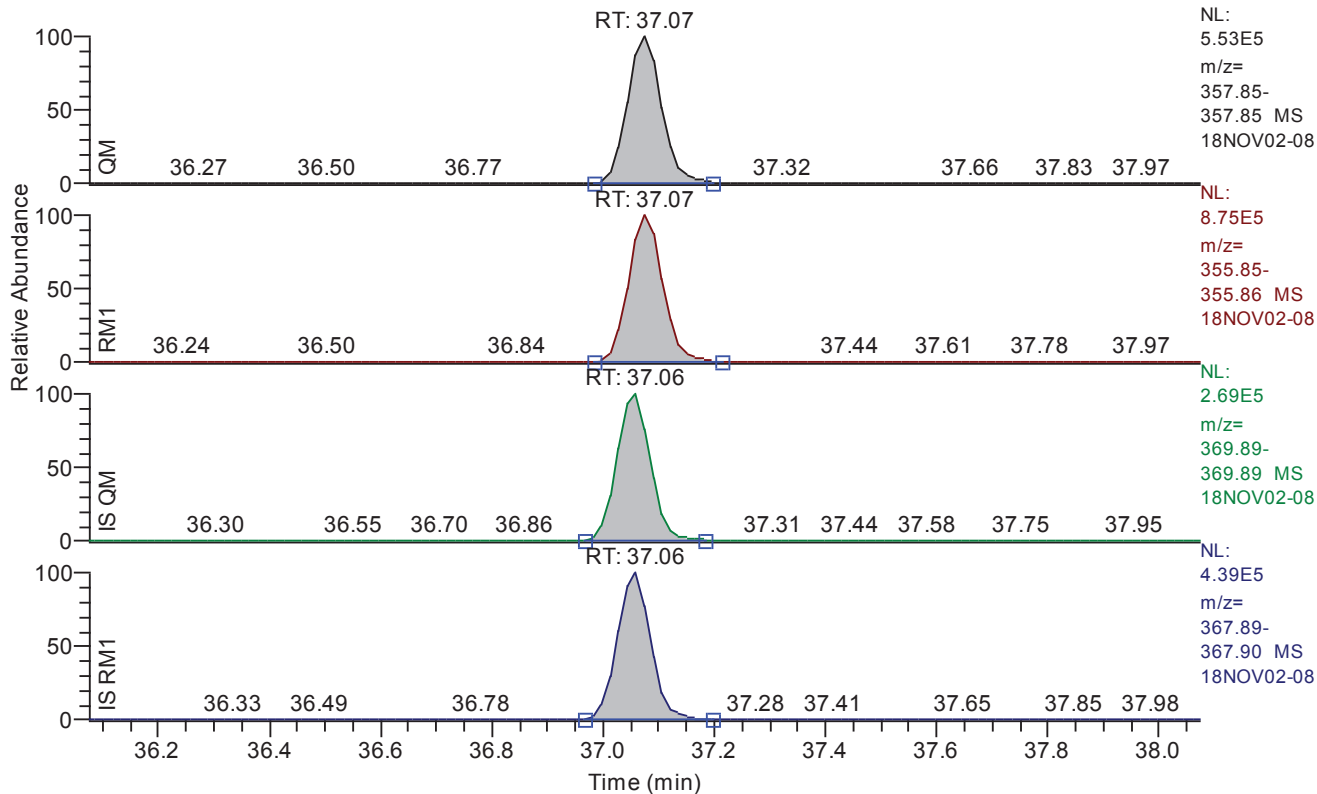


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.66
QM Area	4590509
QM Integration Mode	A
RM1 Area	7092007
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0099
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	51015
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.07 - 38.07 SM: 3G

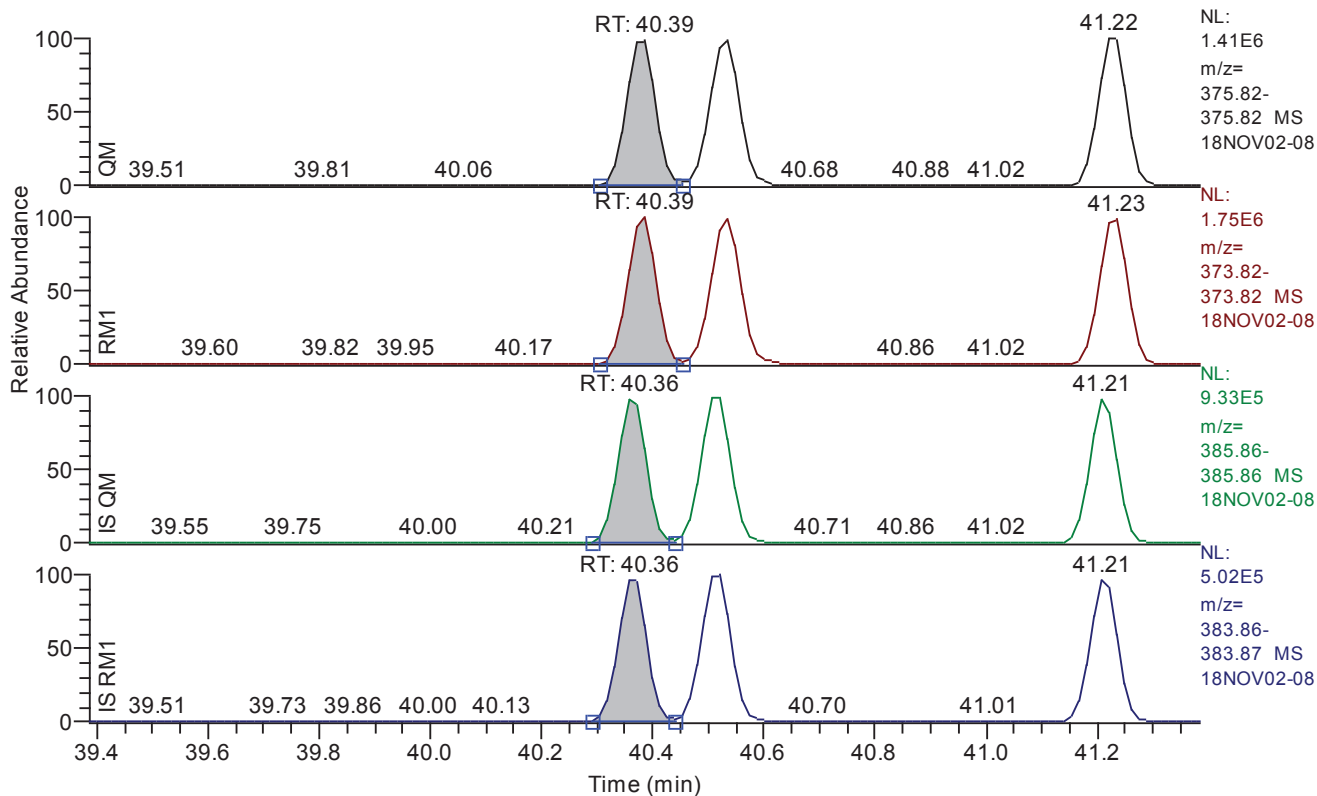


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.07
QM Area	2343612
QM Integration Mode	A
RM1 Area	3736560
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0200
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24579
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.39 - 41.39 SM: 3G

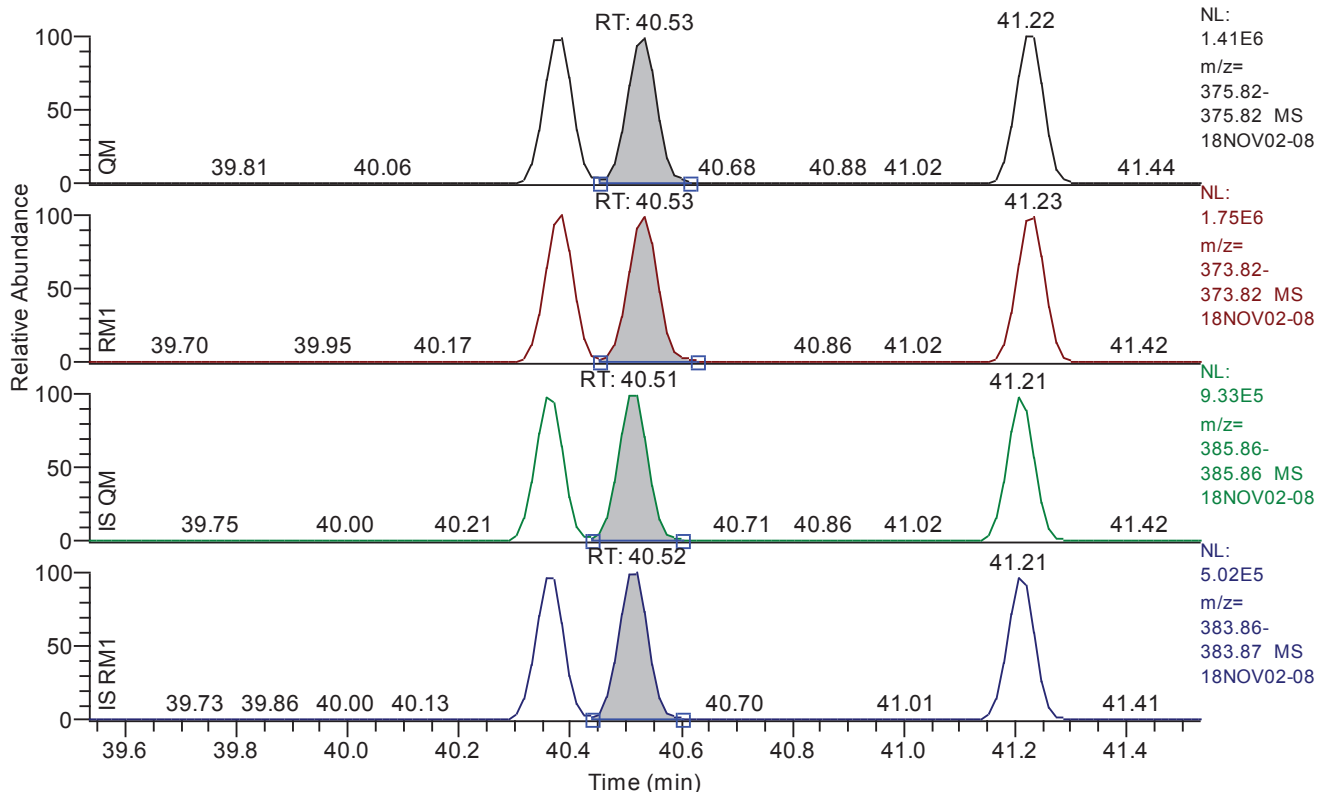


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.39
QM Area	5103571
QM Integration Mode	A
RM1 Area	6278509
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0245
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	20214
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.53 - 41.53 SM: 3G

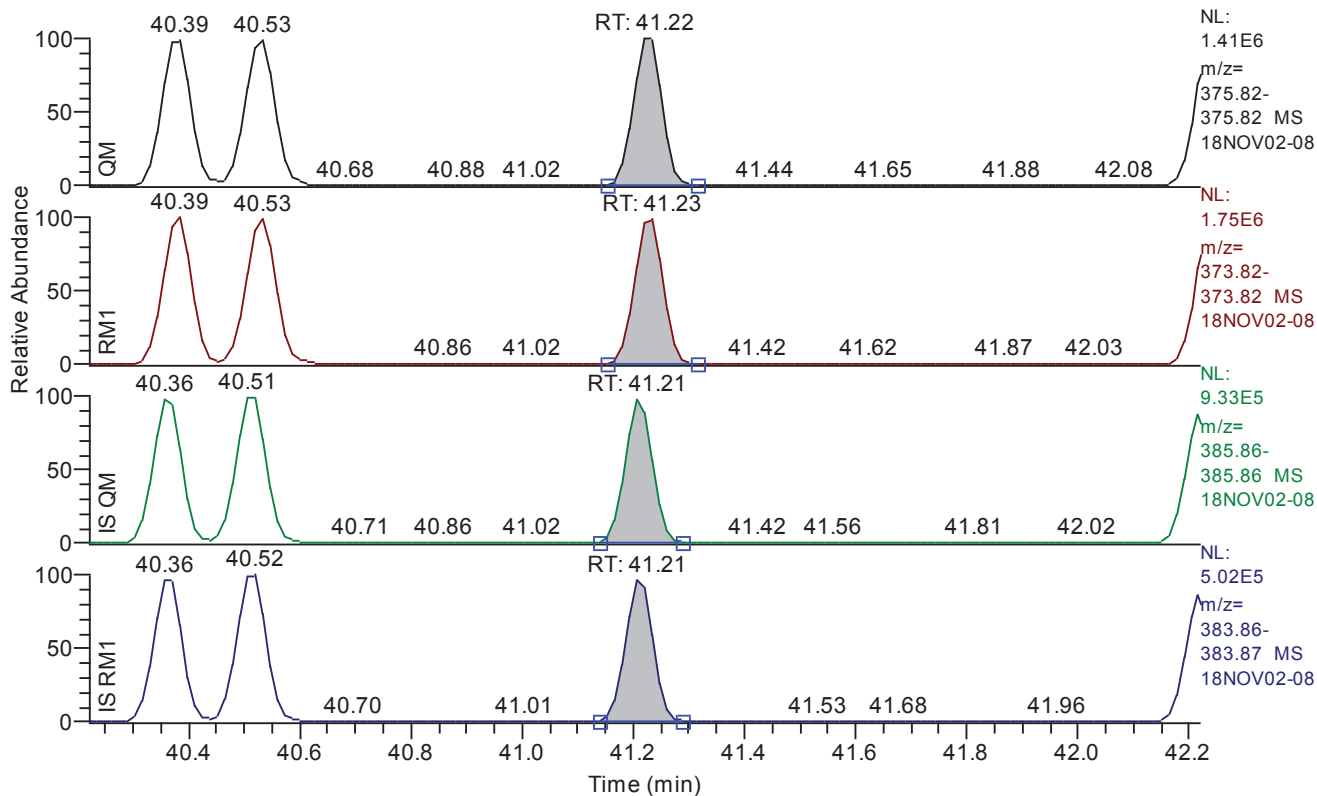


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.53
QM Area	5198980
QM Integration Mode	A
RM1 Area	6474670
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0250
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	20065
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.22 - 42.22 SM: 3G

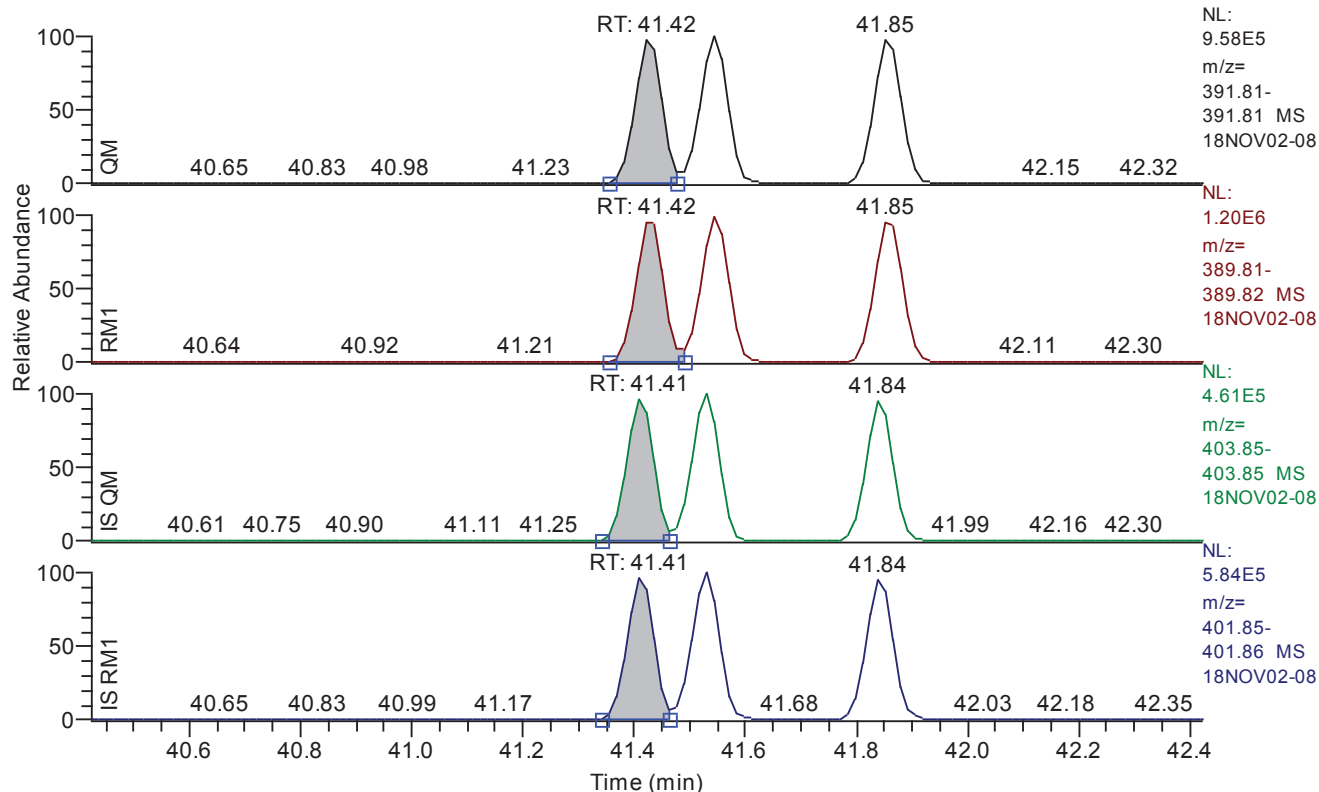


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.22
QM Area	5077447
QM Integration Mode	A
RM1 Area	6215655
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0238
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	20168
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.42 - 42.42 SM: 3G

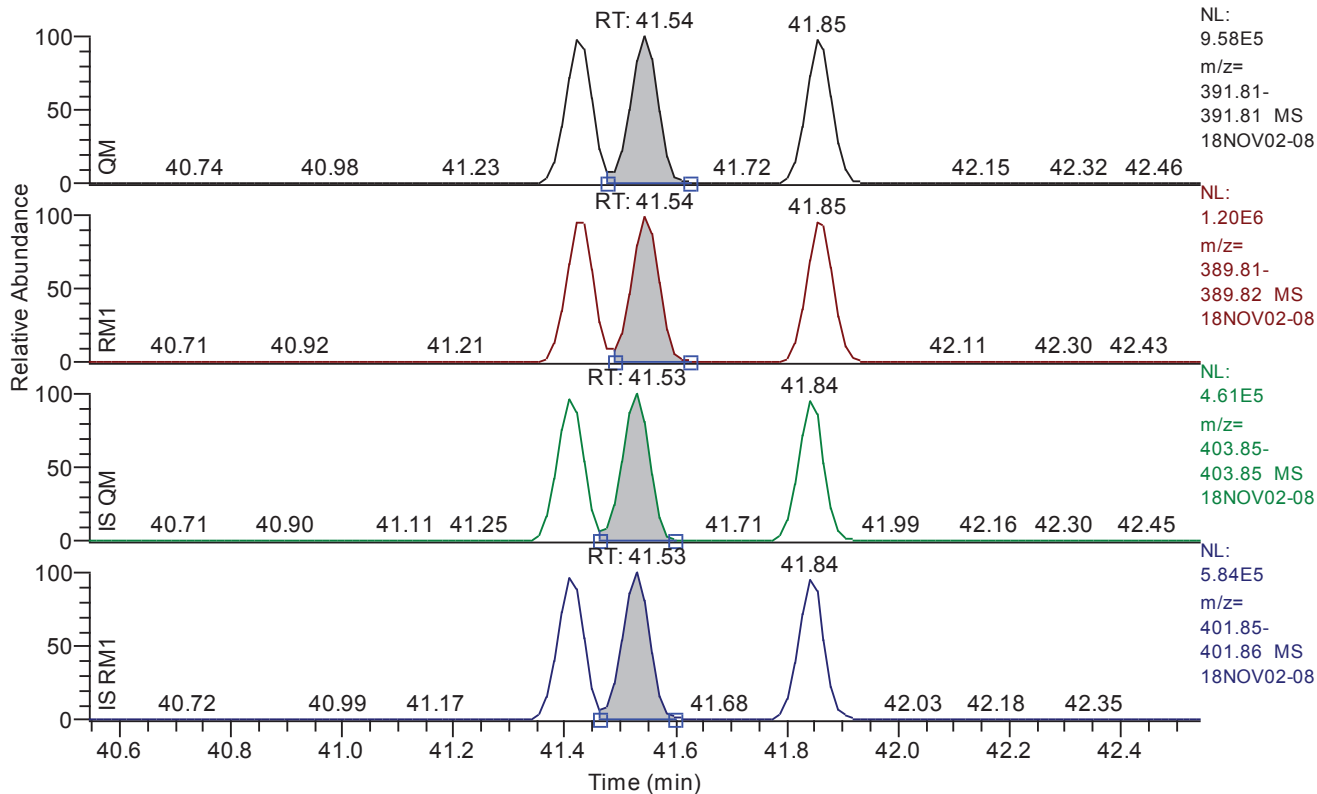


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.42
QM Area	3142621
QM Integration Mode	A
RM1 Area	3979570
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0179
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	27249
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.54 - 42.54 SM: 3G

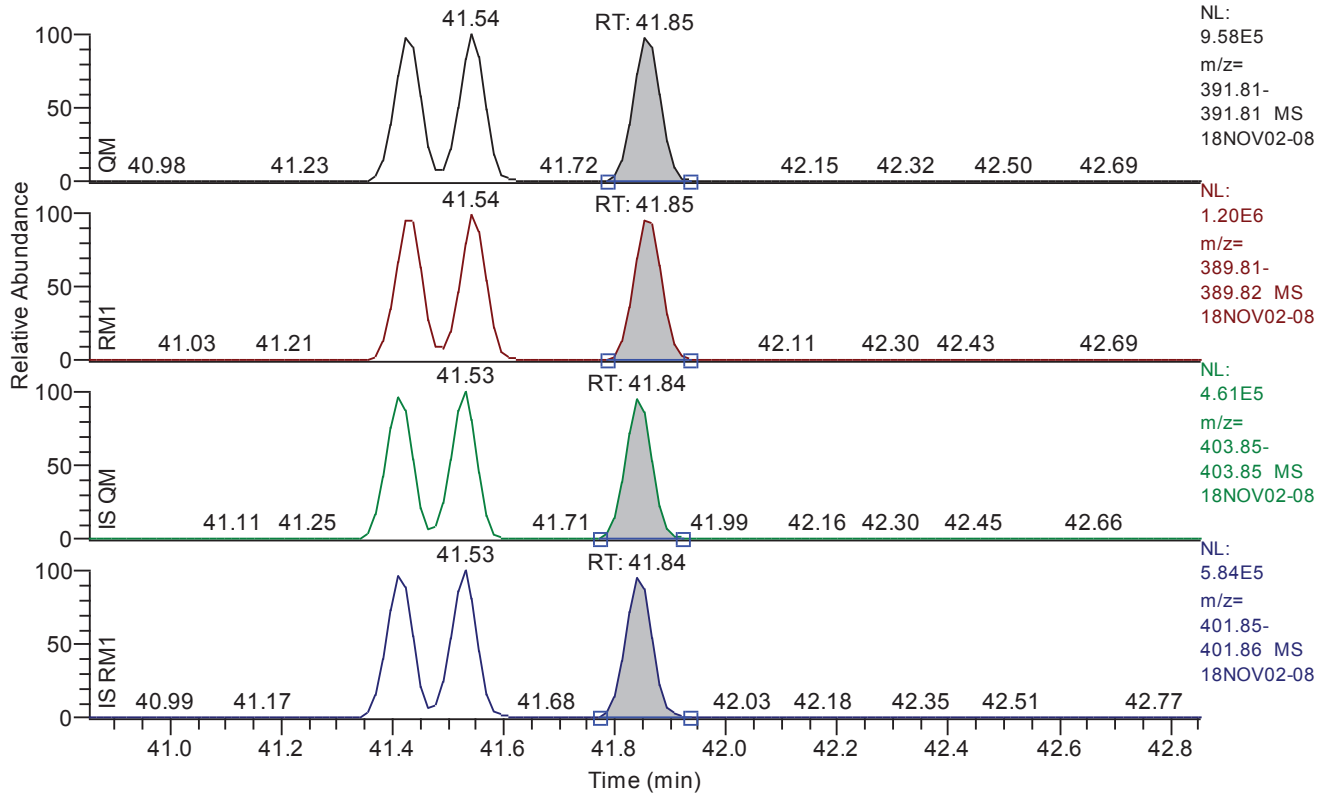


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.54
QM Area	3290380
QM Integration Mode	A
RM1 Area	4073701
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0178
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	28275
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.85 - 42.85 SM: 3G

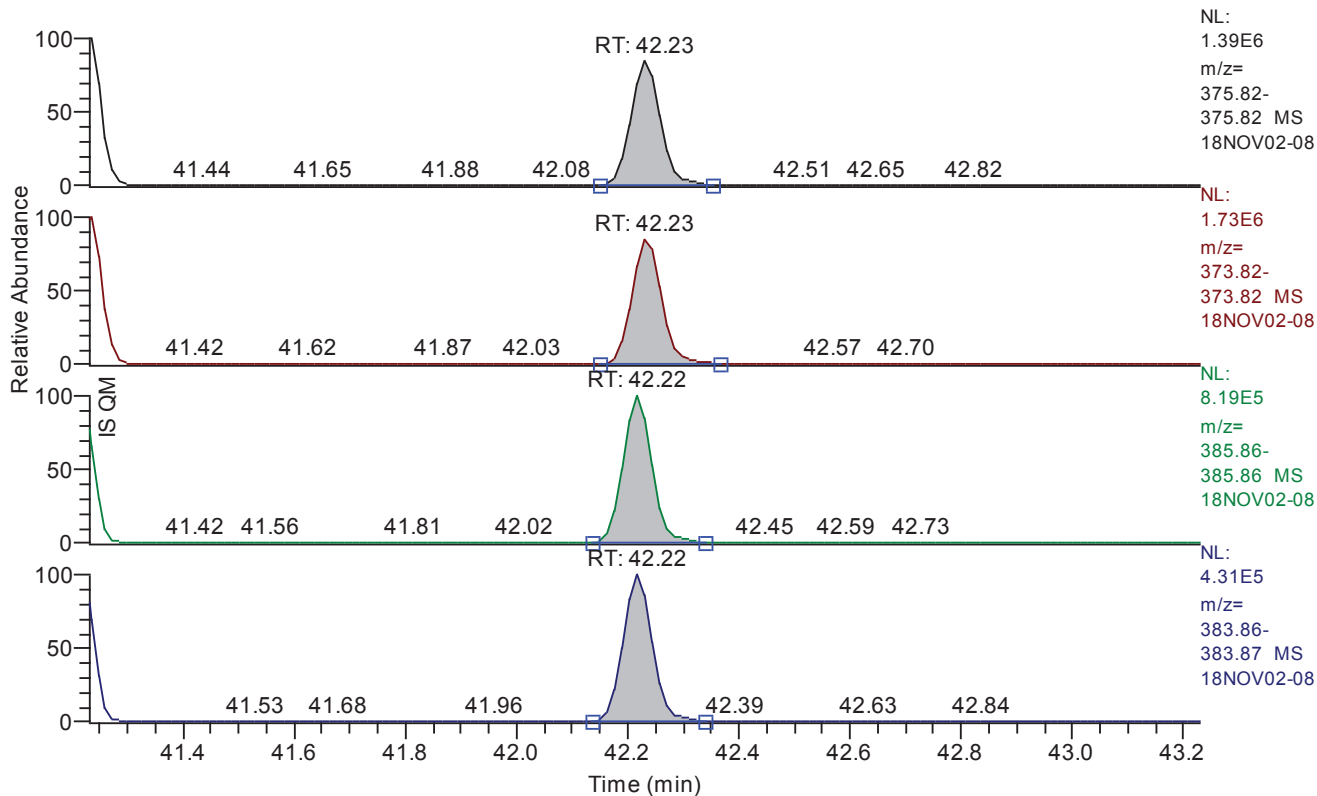


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.85
QM Area	3232687
QM Integration Mode	A
RM1 Area	4053735
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0177
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	27277
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.23 - 43.23 SM: 3G

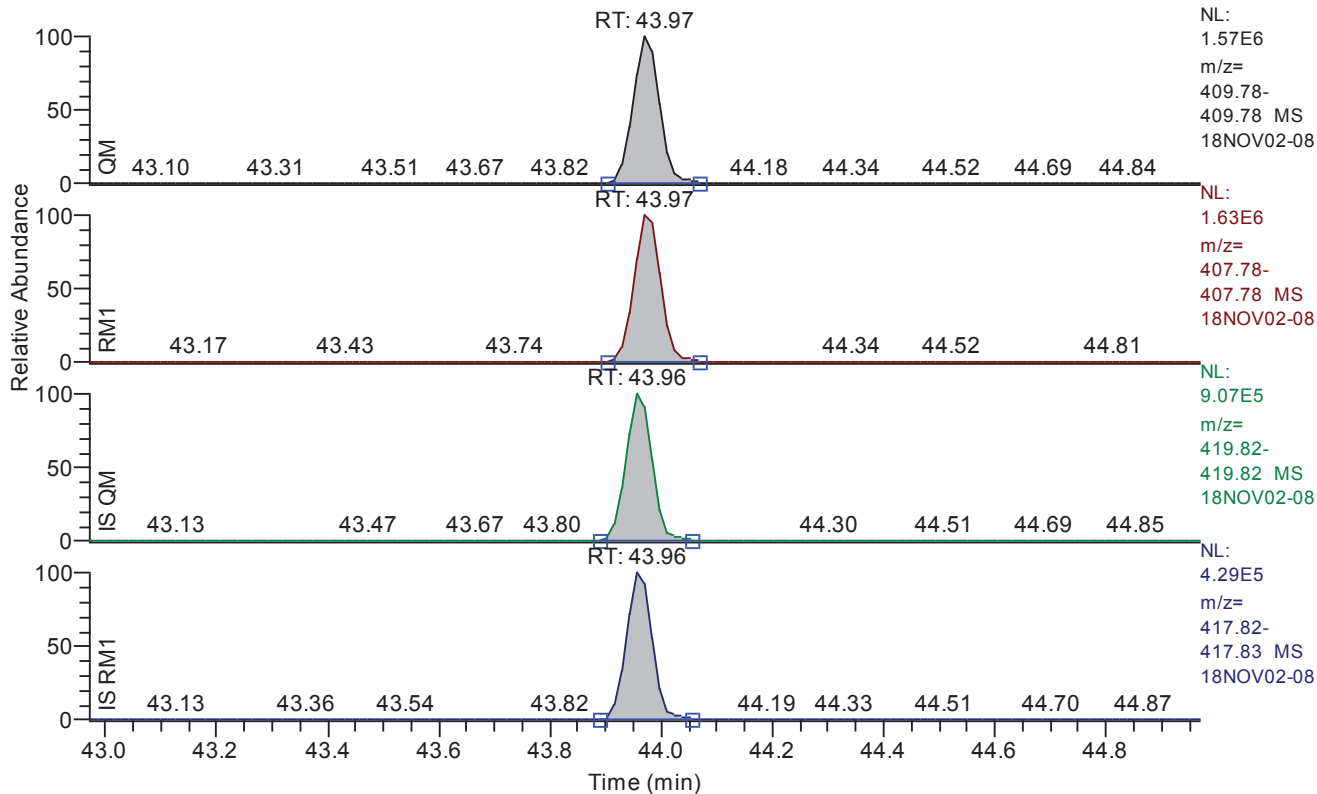


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.23
QM Area	4381503
QM Integration Mode	A
RM1 Area	5487289
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0287
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	17068
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 42.97 - 44.97 SM: 3G

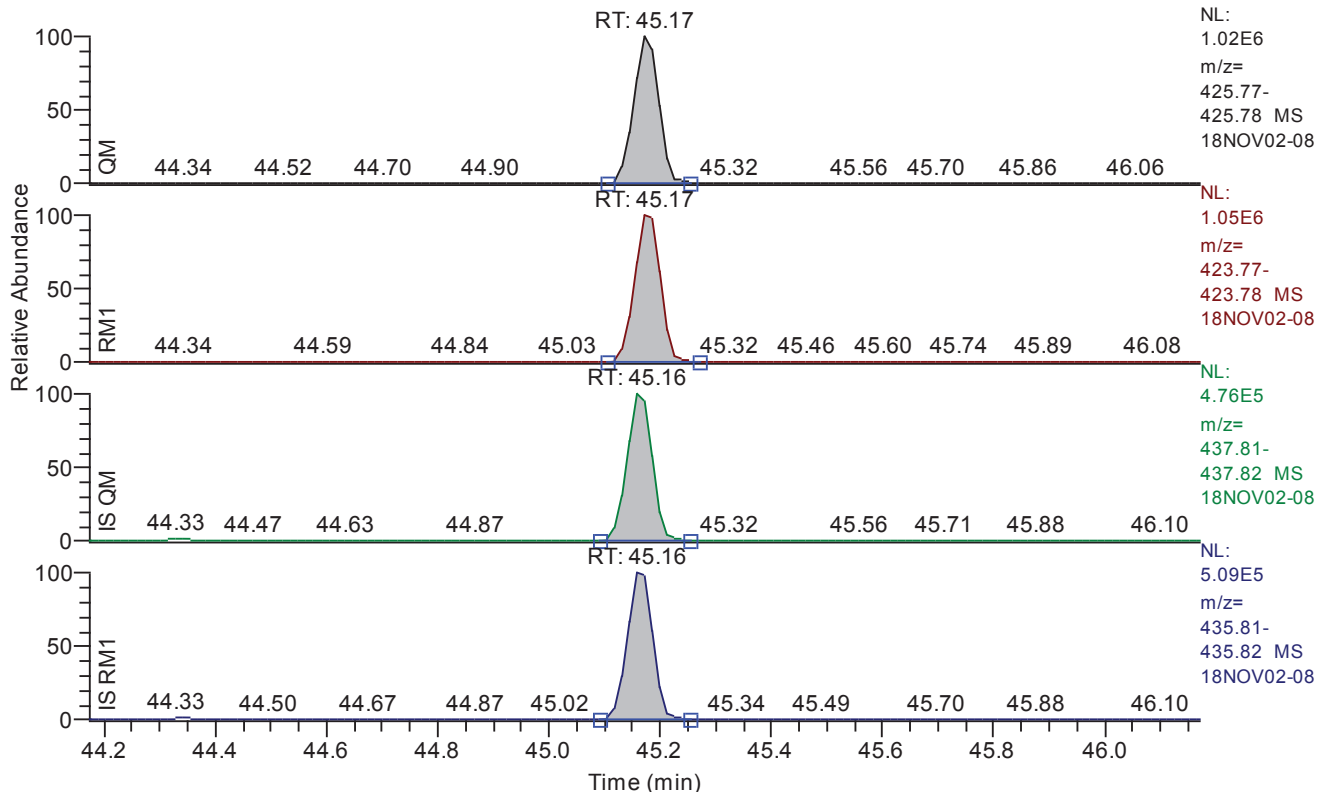


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.97
QM Area	5287251
QM Integration Mode	A
RM1 Area	5564597
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0301
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	16295
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.17 - 46.17 SM: 3G

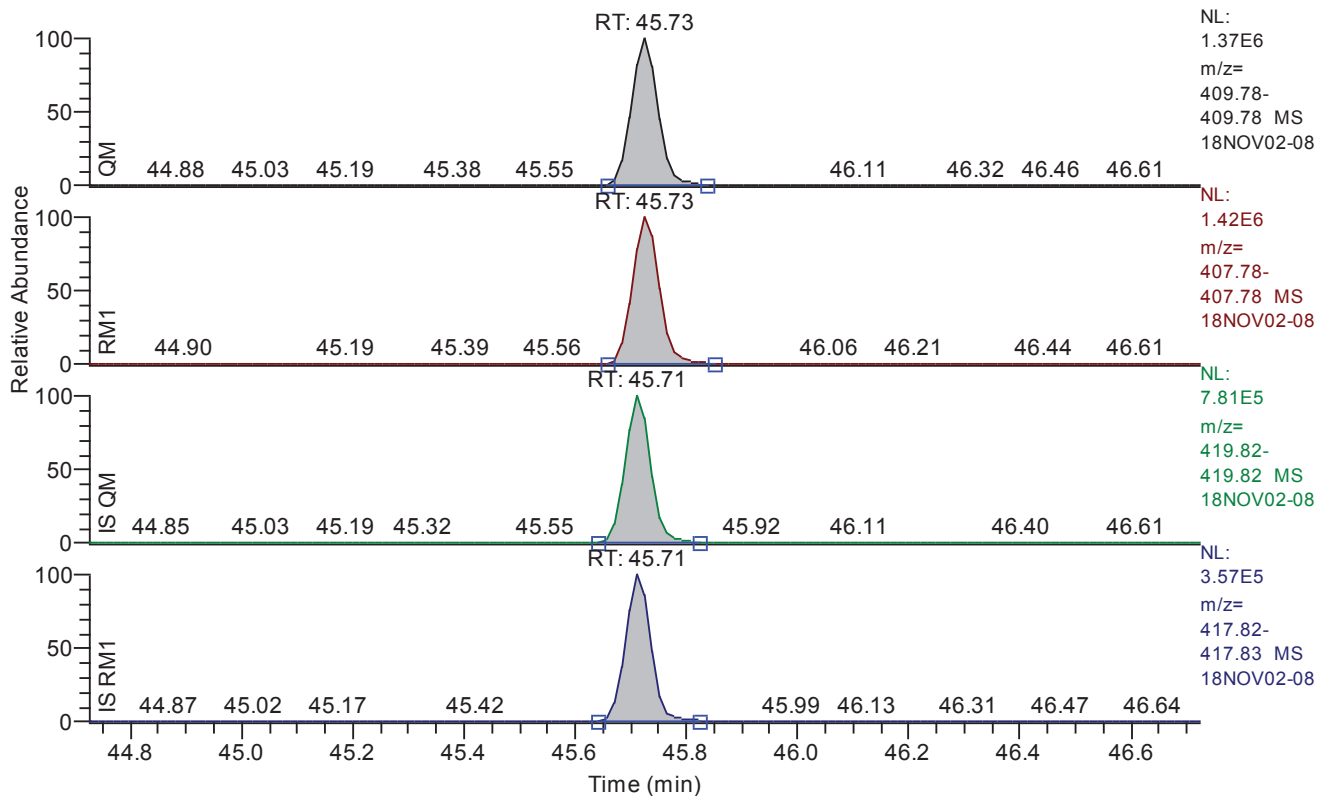


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.17
QM Area	3293798
QM Integration Mode	A
RM1 Area	3484438
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0248
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	20155
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.73 - 46.73 SM: 3G

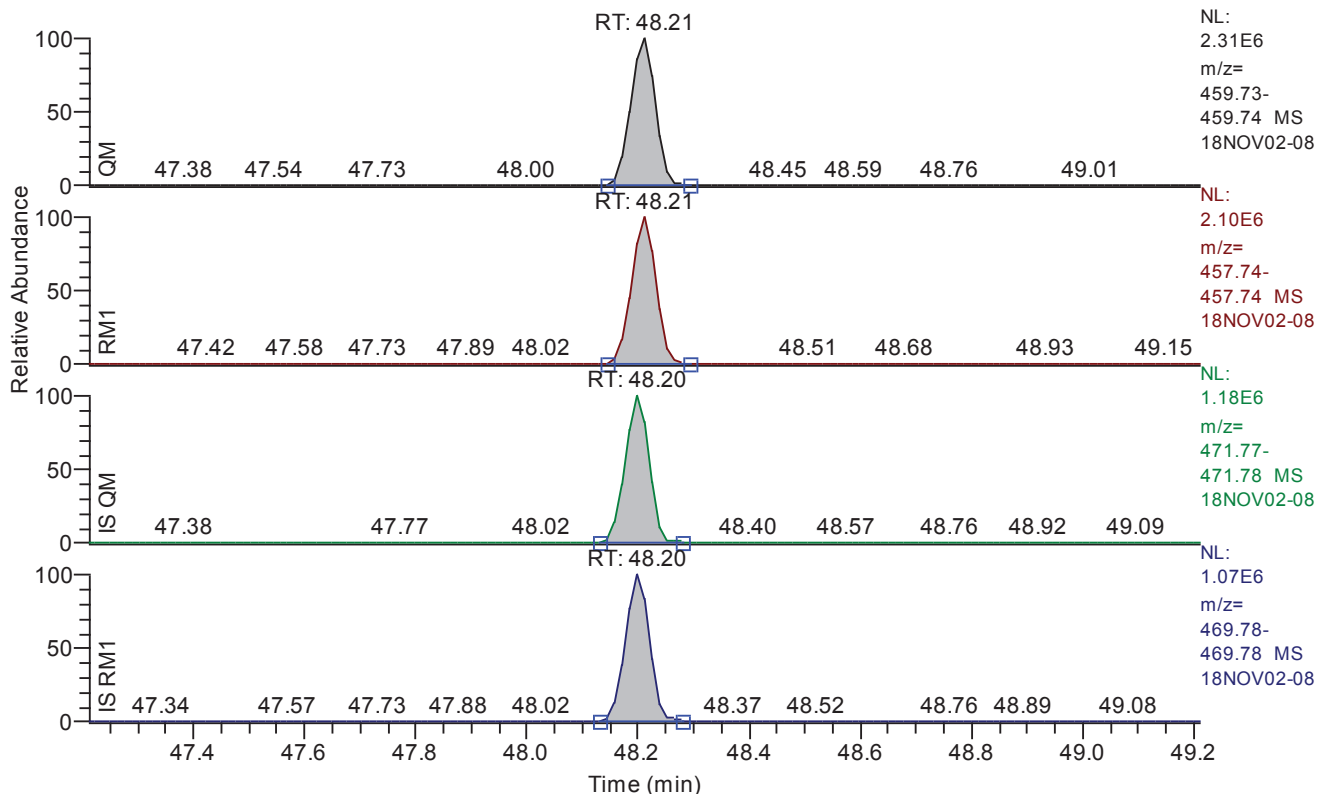


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.73
QM Area	4652358
QM Integration Mode	A
RM1 Area	4876445
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0337
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	14234
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.21 - 49.21 SM: 3G

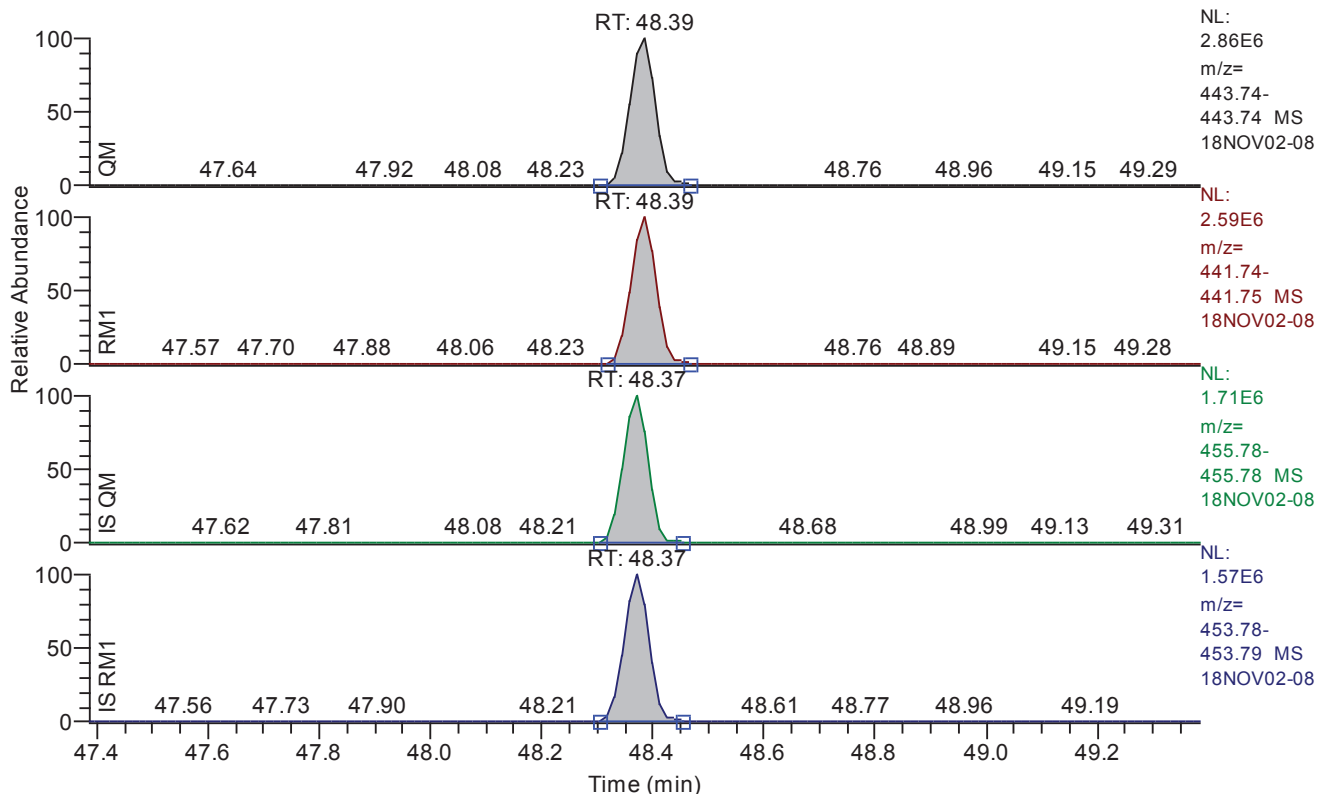


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.21
QM Area	7086447
QM Integration Mode	A
RM1 Area	6400324
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0155
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	63246
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.39 - 49.39 SM: 3G

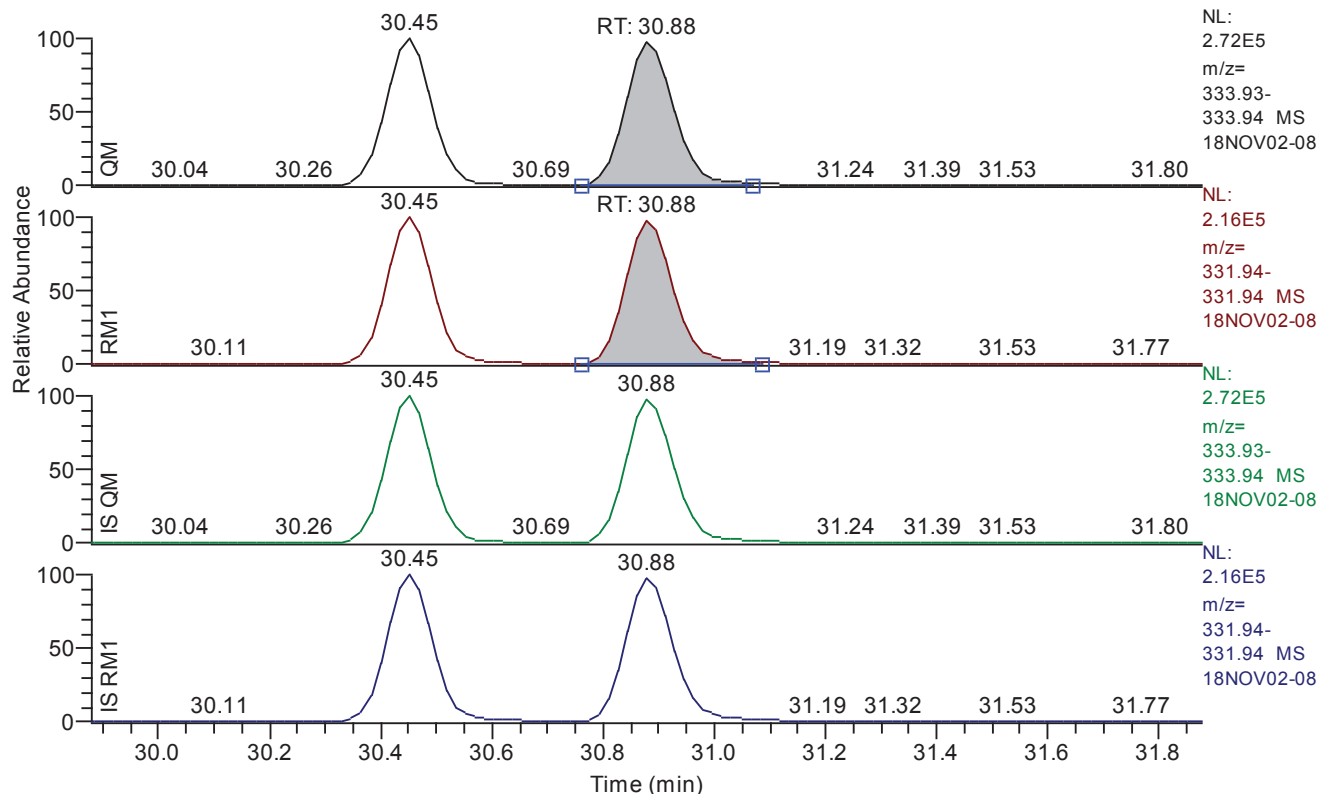


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.39
QM Area	9137144
QM Integration Mode	A
RM1 Area	8197565
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0141
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	69382
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.88 - 31.88 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.88
QM Area	1617259
QM Integration Mode	A
RM1 Area	1273508
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0222
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	11333
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/02 21:17
Number of Entries	64
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

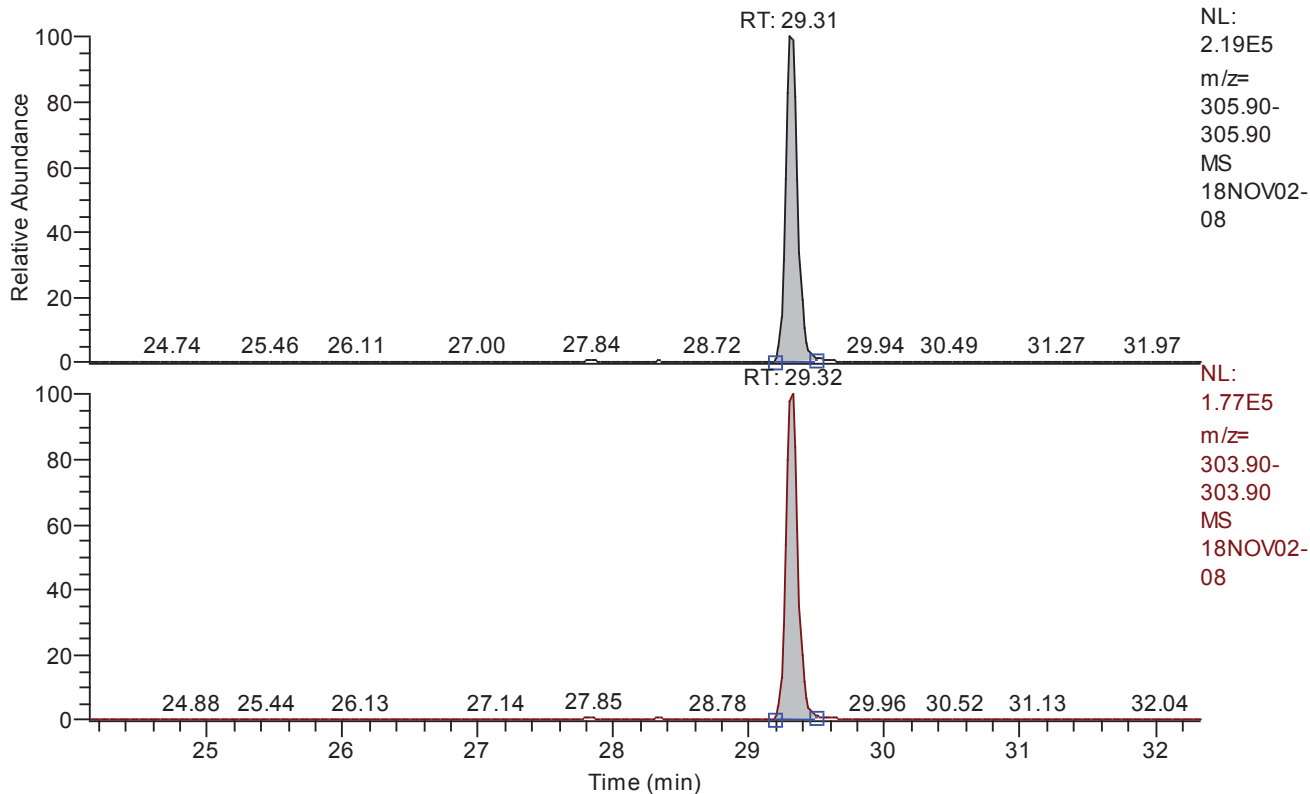
Quan	x:\18nov02\18nov02-08.quan
Data	x:\18nov02\18nov02-08.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 24.13 - 32.33 SM: 3G

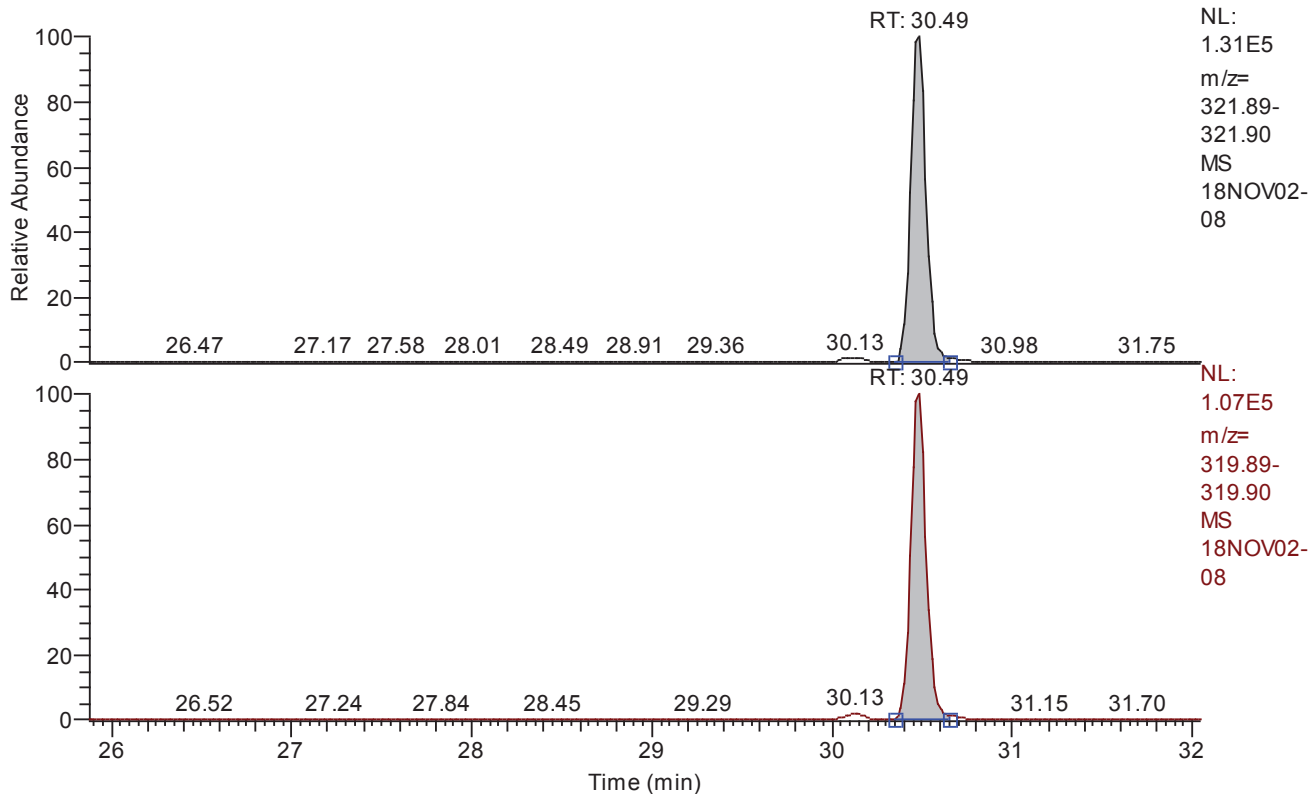


Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.23
QM Area	1345764
QM Integration Mode	A
RM1 Area	1084970
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0105
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	9243
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 25.87 - 32.05 SM: 3G

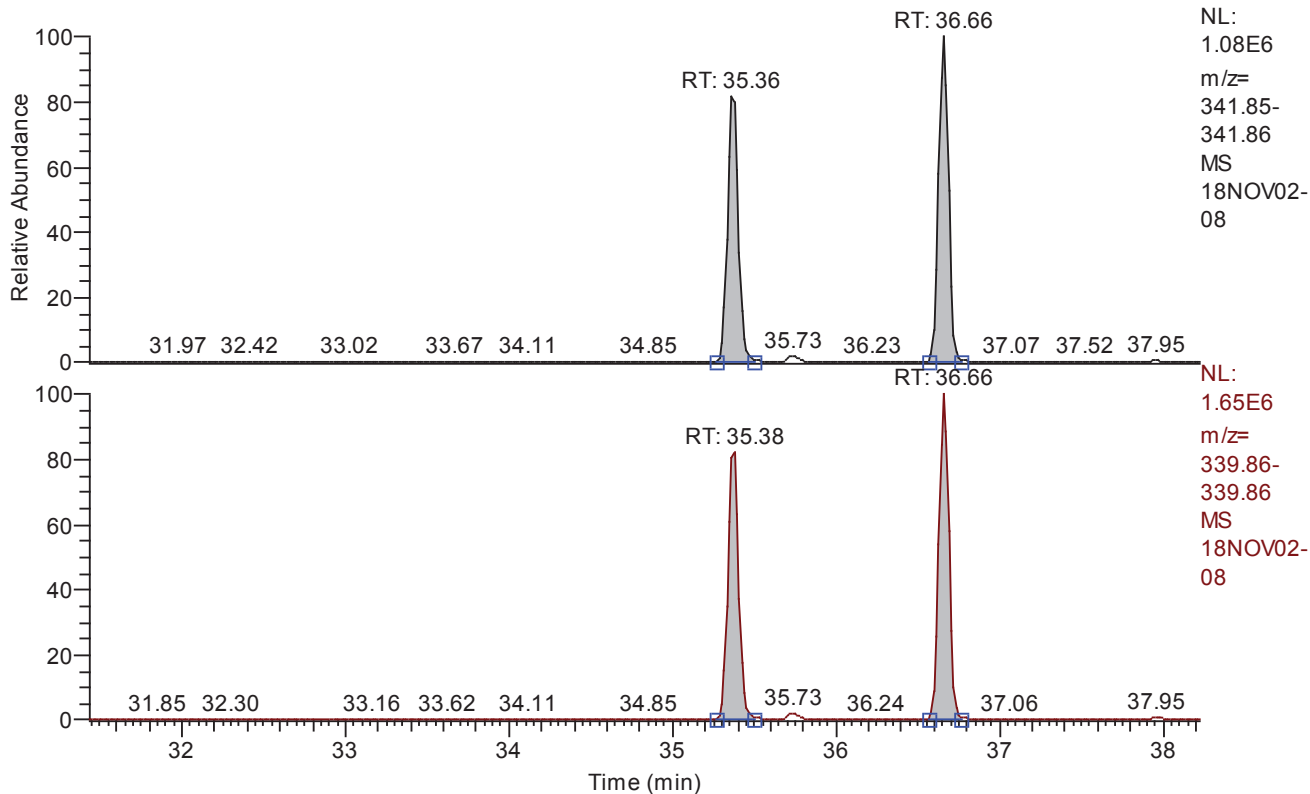


Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.96
QM Area	783452
QM Integration Mode	A
RM1 Area	634232
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0101
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	9693
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 31.43 - 38.23 SM: 3G

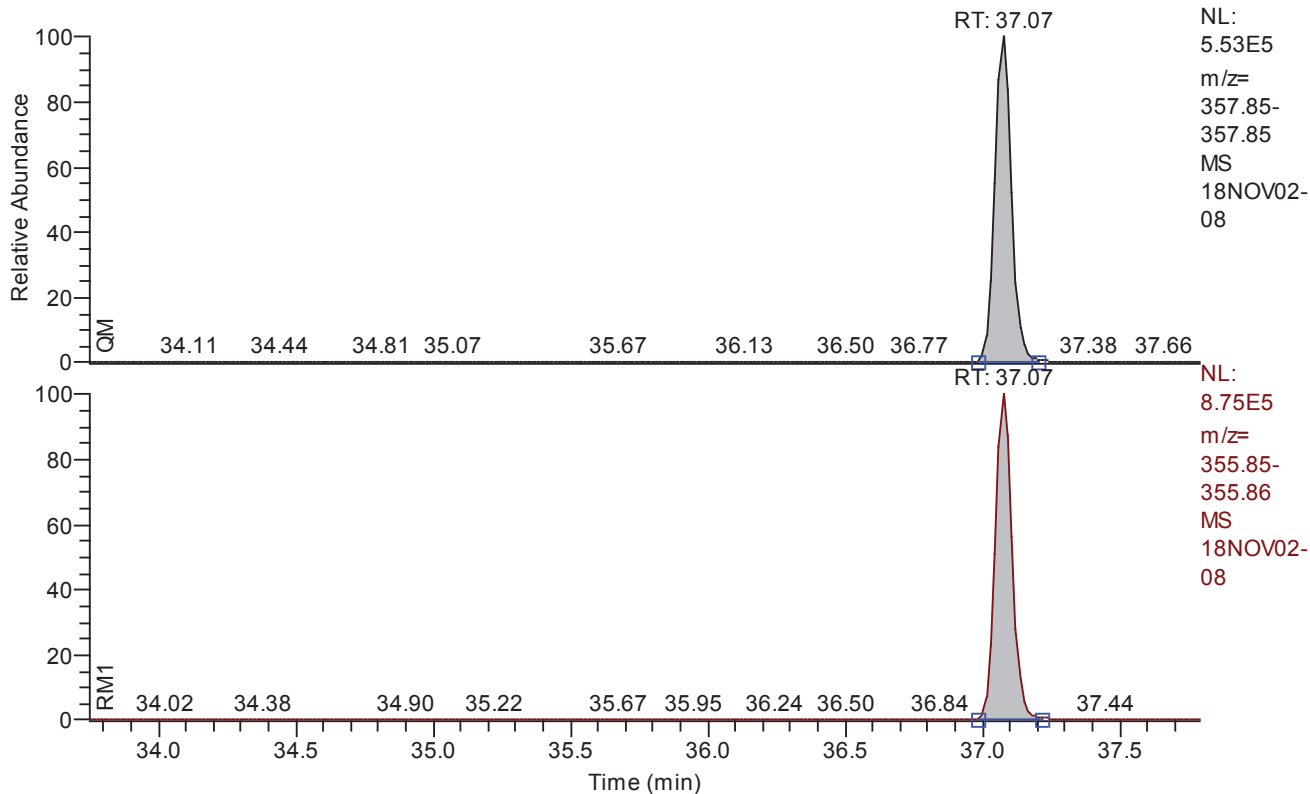


Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.83
QM Area	8669274
QM Integration Mode	A
RM1 Area	13420764
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0107
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	46439
Client Flags	
Status Overview	passed (2)
Status Info	

Chromatogram

RT: 33.75 - 37.79 SM: 3G

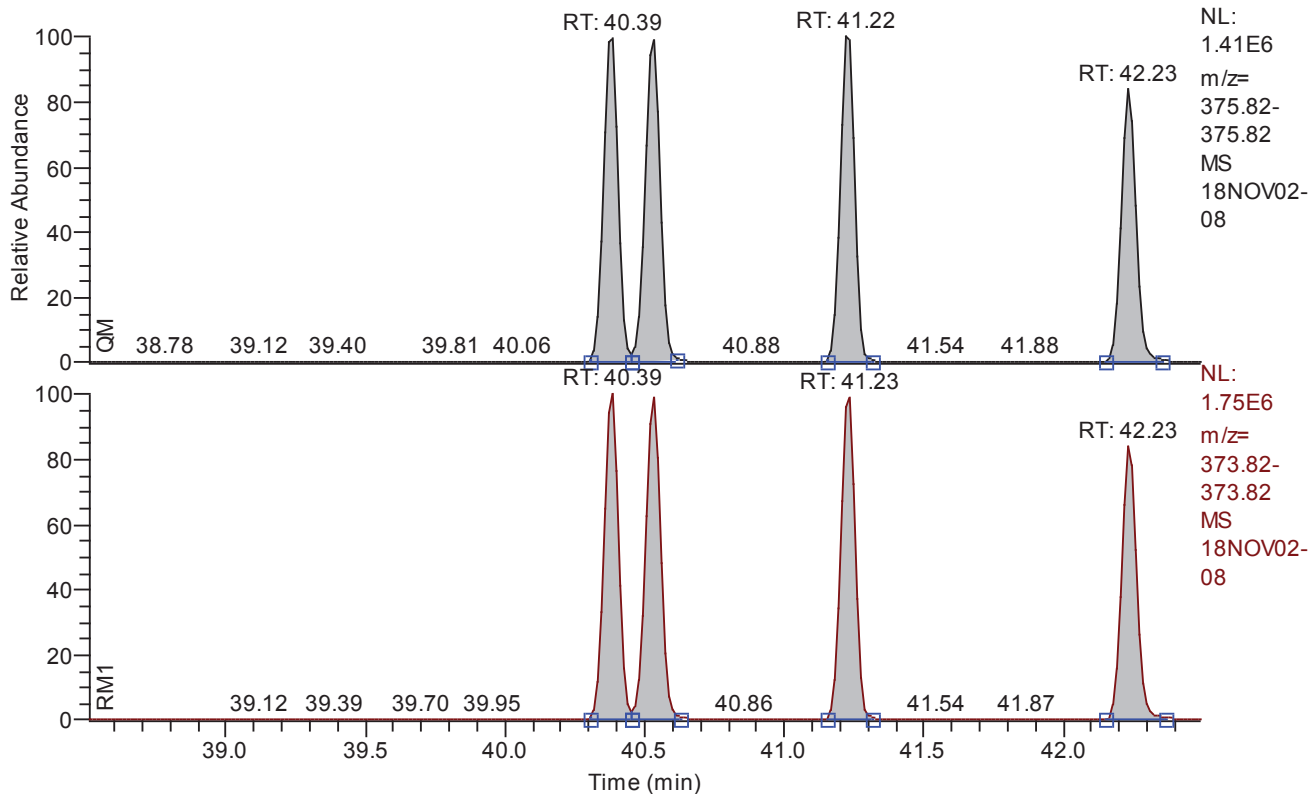


Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.77
QM Area	2343612
QM Integration Mode	A
RM1 Area	3736560
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0200
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24579
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 38.51 - 42.49 SM: 3G

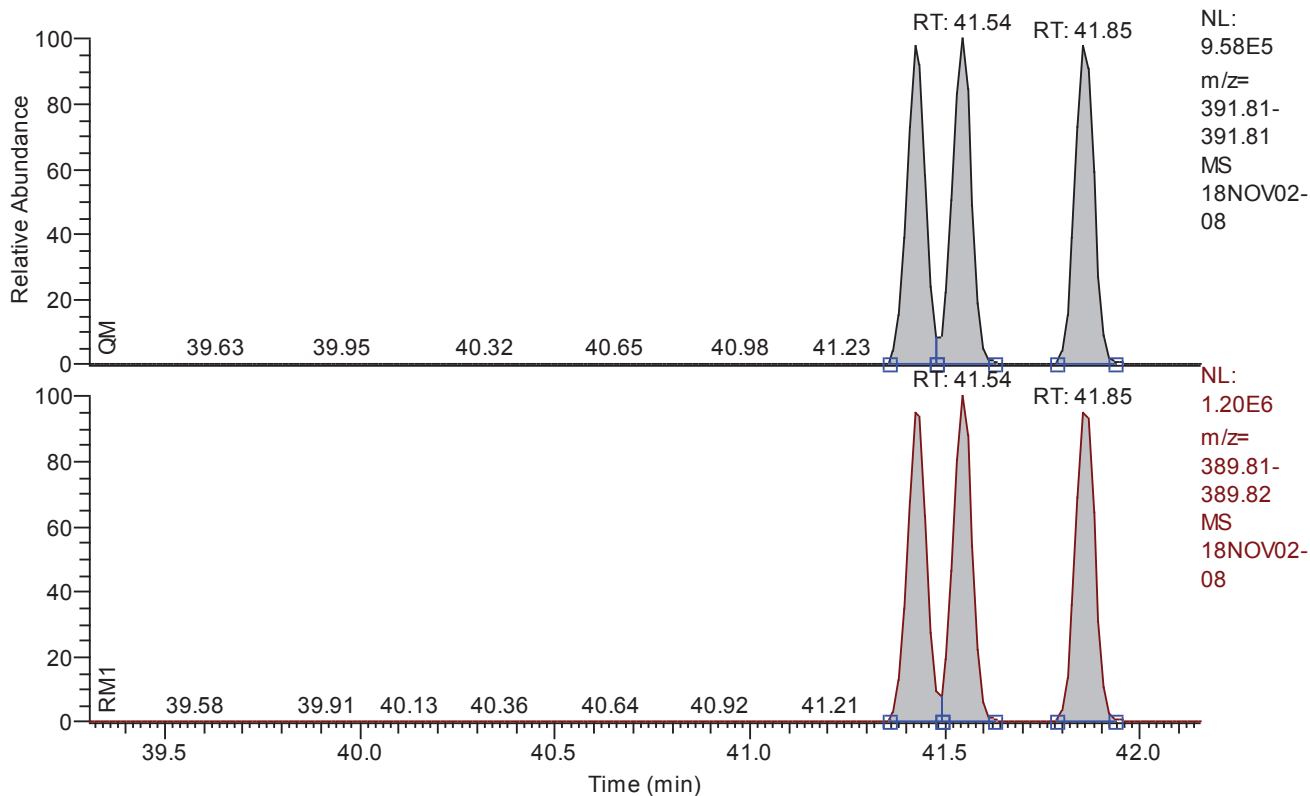


Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.50
QM Area	19761502
QM Integration Mode	A
RM1 Area	24456123
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0255
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	800.0000
Signal-to-Noise	19379
Client Flags	
Status Overview	passed (4)
Status Info	

Chromatogram

RT: 39.31 - 42.15 SM: 3G

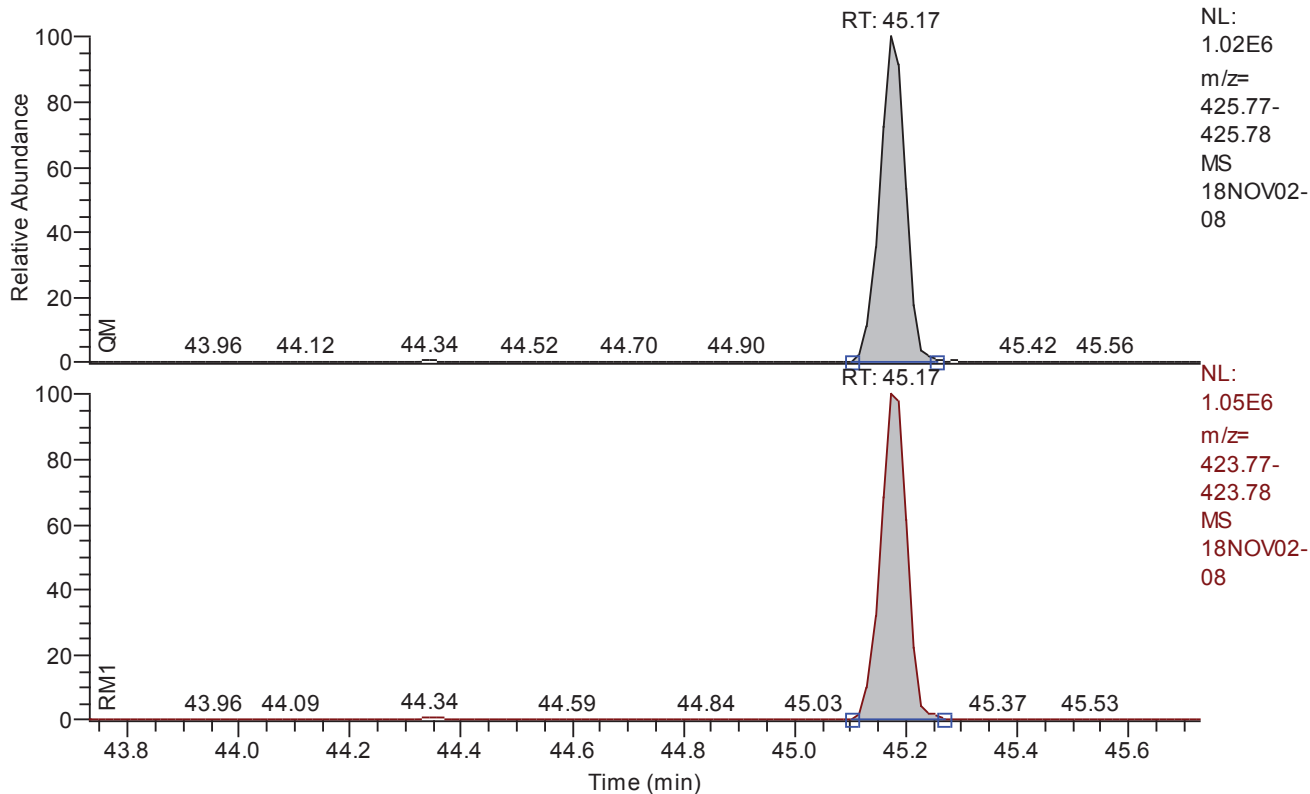


Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.73
QM Area	9665689
QM Integration Mode	A
RM1 Area	12107005
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0178
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	600.0000
Signal-to-Noise	27600
Client Flags	
Status Overview	passed (3)
Status Info	

Chromatogram

RT: 43.73 - 45.73 SM: 3G

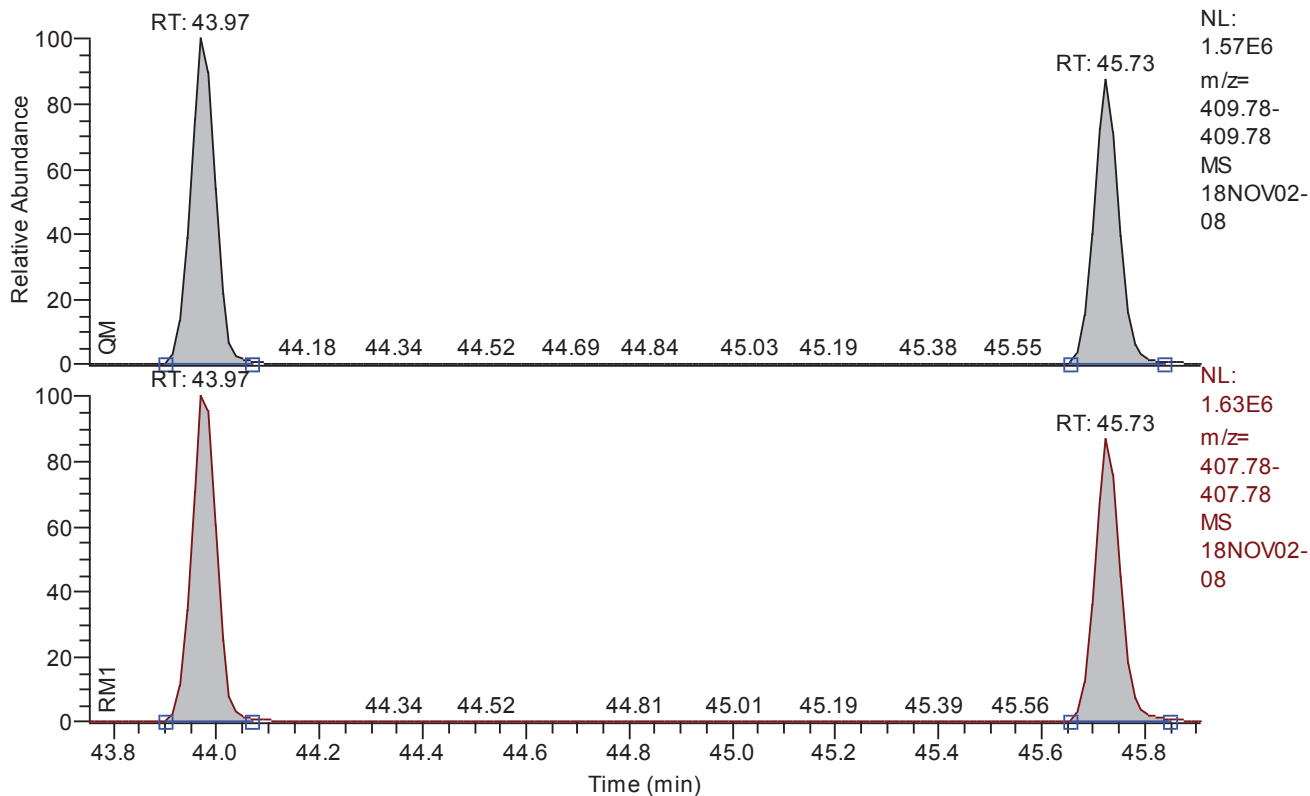


Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.73
QM Area	3293798
QM Integration Mode	A
RM1 Area	3484438
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0248
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	20155
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 43.75 - 45.91 SM: 3G



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.83
QM Area	9939609
QM Integration Mode	A
RM1 Area	10441041
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0319
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	15265
Client Flags	
Status Overview	passed (2)
Status Info	

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	29.31	29.31	29.32	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	35.36	35.36	35.38	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.66	36.66	36.66	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.07	37.07	37.07	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.39	40.39	40.39	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.53	40.53	40.53	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.22	41.22	41.23	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.42	41.42	41.42	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.54	41.54	41.54	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.85	41.85	41.85	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.23	42.23	42.23	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.97	43.97	43.97	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.17	45.17	45.17	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.73	45.73	45.73	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.39	48.39	48.39	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	29.61	29.61	29.61	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.29	40.29	40.29	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	30.45	30.45	30.45	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.35	35.35	35.35	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.64	36.64	36.64	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.06	37.06	37.06	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.36	40.36	40.36	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.51	40.51	40.52	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.21	41.21	41.21	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.41	41.41	41.41	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.53	41.53	41.53	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.84	41.84	41.84	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.22	42.22	42.22	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.96	43.96	43.96	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.16	45.16	45.16	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.71	45.71	45.71	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.20	48.20	48.20	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	7.46	28.23	28.23	28.23	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.96	28.96	28.96	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	34.83	34.83	34.83	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	35.77	35.77	35.77	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.50	40.50	40.50	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	40.73	40.73	40.73	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.73	44.73	44.73	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	44.83	44.83	44.83	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	29.31	29.31	29.32	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.49	30.49	30.49	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	37.07	37.07	37.07	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	36.66	36.66	36.66	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	35.36	35.36	35.38	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.17	45.17	45.17	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.22	41.22	41.23	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.39	40.39	40.39	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.53	40.53	40.53	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.23	42.23	42.23	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.54	41.54	41.54	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.42	41.42	41.42	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.85	41.85	41.85	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	43.97	43.97	43.97	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	45.73	45.73	45.73	passed	passed

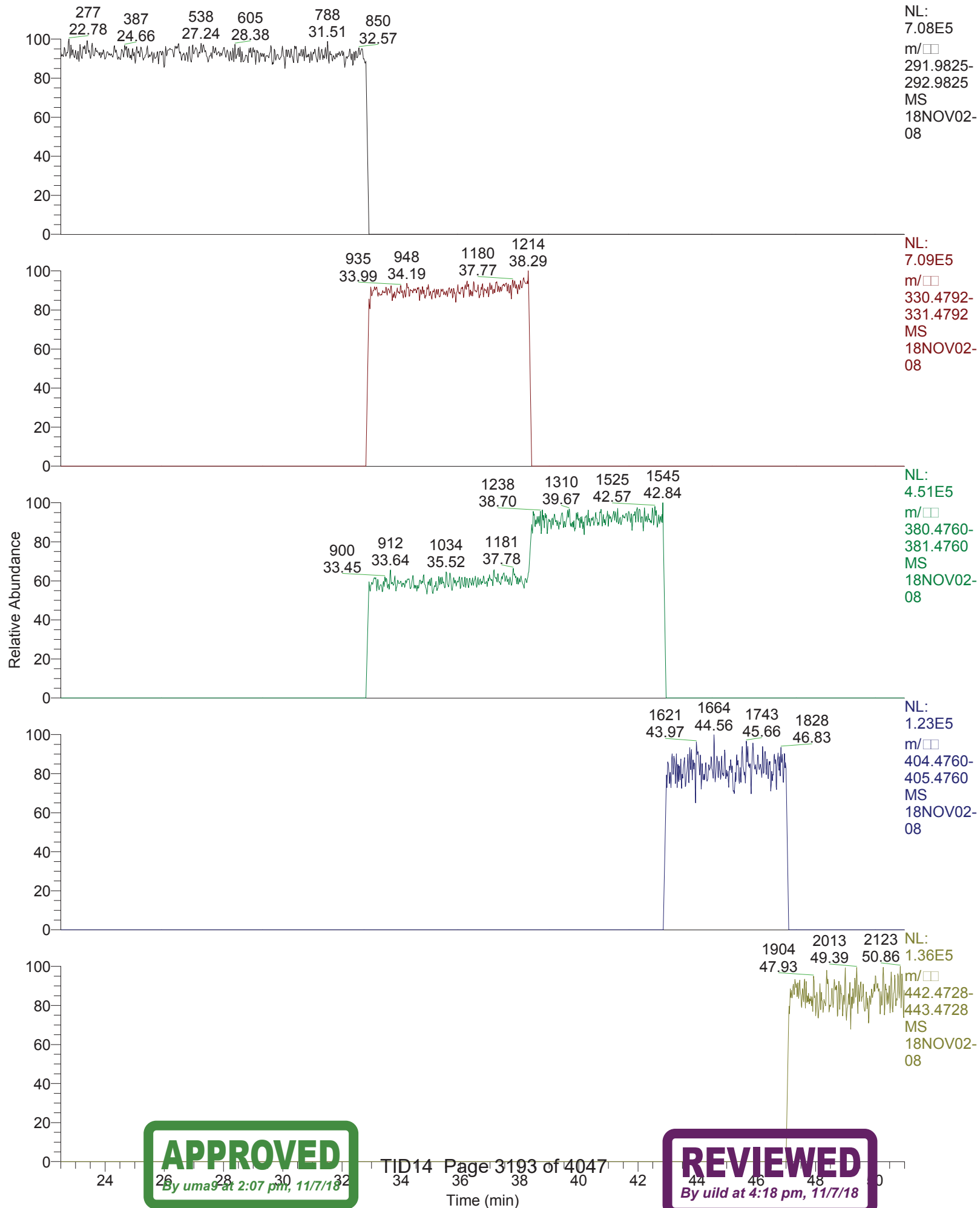
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status	
1	2378-TCDF	29.31	0.8062	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
2	2378-TCDD	30.49	0.8095	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
3	12378-PeCDF	35.36	1.5516	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
4	23478-PeCDF	36.66	1.5449	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
5	12378-PeCDD	37.07	1.5944	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
6	123478-HxCDF	40.39	1.2302	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
7	123678-HxCDF	40.53	1.2454	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
8	234678-HxCDF	41.22	1.2242	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
9	123478-HxCDD	41.42	1.2663	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
10	123678-HxCDD	41.54	1.2381	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
11	123789-HxCDD	41.85	1.2540	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
12	123789-HxCDF	42.23	1.2524	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
13	1234678-HpCDF	43.97	1.0525	0.8750 - 1.2050	passed	100.00	0 - 0	0	passed
14	1234678-HpCDD	45.17	1.0579	0.8750 - 1.2050	passed	100.00	0 - 0	0	passed
15	1234789-HpCDF	45.73	1.0482	0.8750 - 1.2050	passed	100.00	0 - 0	0	passed
16	OCDD	48.21	0.9032	0.7550 - 1.0250	passed	100.00	0 - 0	0	passed
17	OCDF	48.39	0.8972	0.7550 - 1.0250	passed	100.00	0 - 0	0	passed
18	13C12-1278-TCDD (CRS)	30.88	0.7874	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
19	13C12-1234-TCDD	29.61	0.8154	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
20	13C12-123468-HxCDD	40.29	1.2999	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
21	13C12-2378-TCDF	29.29	0.7918	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
22	13C12-2378-TCDD	30.45	0.7882	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
23	13C12-12378-PeCDF	35.35	1.5915	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
24	13C12-23478-PeCDF	36.64	1.5851	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
25	13C12-12378-PeCDD	37.06	1.6161	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
26	13C12-123478-HxCDF	40.36	0.5327	0.4250 - 0.5950	passed	100.00	0 - 0	0	passed
27	13C12-123678-HxCDF	40.51	0.5355	0.4250 - 0.5950	passed	100.00	0 - 0	0	passed
28	13C12-234678-HxCDF	41.21	0.5380	0.4250 - 0.5950	passed	100.00	0 - 0	0	passed
29	13C12-123478-HxCDD	41.41	1.2579	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
30	13C12-123678-HxCDD	41.53	1.2692	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
31	13C12-123789-HxCDD	41.84	1.2815	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
32	13C12-123789-HxCDF	42.22	0.5316	0.4250 - 0.5950	passed	100.00	0 - 0	0	passed
33	13C12-1234678-HpCDF	43.96	0.4654	0.3650 - 0.5150	passed	100.00	0 - 0	0	passed
34	13C12-1234678-HpCDD	45.16	1.0782	0.8750 - 1.2050	passed	100.00	0 - 0	0	passed
35	13C12-1234789-HpCDF	45.71	0.4596	0.3650 - 0.5150	passed	100.00	0 - 0	0	passed
36	13C12-OCDD	48.20	0.9041	0.7550 - 1.0250	passed	100.00	0 - 0	0	passed
37	13C12-OCDF	48.37	0.9099	0.7550 - 1.0250	passed	100.00	0 - 0	0	passed
38	Total TCDF	28.23	0.8062	0.6450 - 0.8950	---	100.00	0 - 0	0	---
39	Total TCDD	28.96	0.8095	0.6450 - 0.8950	---	100.00	0 - 0	0	---
40	Total PeCDF	34.83	1.5481	1.3150 - 1.7850	---	100.00	0 - 0	0	---
41	Total PeCDD	35.77	1.5944	1.3150 - 1.7850	---	100.00	0 - 0	0	---
42	Total HxCDF	40.50	1.2376	1.0450 - 1.4350	---	100.00	0 - 0	0	---
43	Total HxCDD	40.73	1.2526	1.0450 - 1.4350	---	100.00	0 - 0	0	---
44	Total HpCDD	44.73	1.0579	0.8750 - 1.2050	---	100.00	0 - 0	0	---
45	Total HpCDF	44.83	1.0504	0.8750 - 1.2050	---	100.00	0 - 0	0	---
46	Single TCDF	29.31	0.8062	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
47	Single TCDD	30.49	0.8095	0.6450 - 0.8950	passed	100.00	0 - 0	0	passed
48	Single PeCDD	37.07	1.5944	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
49	Single PeCDF	36.66	1.5449	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
50	Single PeCDF	35.36	1.5516	1.3150 - 1.7850	passed	100.00	0 - 0	0	passed
51	Single HpCDD	45.17	1.0579	0.8750 - 1.2050	passed	100.00	0 - 0	0	passed
52	Single HxCDF	41.22	1.2242	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
53	Single HxCDF	40.39	1.2302	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
54	Single HxCDF	40.53	1.2454	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
55	Single HxCDF	42.23	1.2524	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
56	Single HxCDD	41.54	1.2381	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
57	Single HxCDD	41.42	1.2663	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
58	Single HxCDD	41.85	1.2540	1.0450 - 1.4350	passed	100.00	0 - 0	0	passed
59	Single HpCDF	43.97	1.0525	0.8750 - 1.2050	passed	100.00	0 - 0	0	passed
60	Single HpCDF	45.73	1.0482	0.8750 - 1.2050	passed	100.00	0 - 0	0	passed

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	29.31	1345764	A	1084970	A	0.0105	40.000000	40.0000	40.000000	9243	
2	2378-TCDD	passed	30.49	783452	A	634232	A	0.0101	40.000000	40.0000	40.000000	9693	
3	12378-PeCDF	passed	35.36	4078765	A	6328757	A	0.0116	200.000000	200.0000	200.000000	41863	
4	23478-PeCDF	passed	36.66	4590509	A	7092007	A	0.0099	200.000000	200.0000	200.000000	51015	
5	12378-PeCDD	passed	37.07	2343612	A	3736560	A	0.0200	200.000000	200.0000	200.000000	24579	
6	123478-HxCDF	passed	40.39	5103571	A	6278509	A	0.0245	200.000000	200.0000	200.000000	20214	
7	123678-HxCDF	passed	40.53	5198980	A	6474670	A	0.0250	200.000000	200.0000	200.000000	20065	
8	234678-HxCDF	passed	41.22	5077447	A	6215655	A	0.0238	200.000000	200.0000	200.000000	20168	
9	123478-HxCDD	passed	41.42	3142621	A	3979570	A	0.0179	200.000000	200.0000	200.000000	27249	
10	123678-HxCDD	passed	41.54	3290380	A	4073701	A	0.0178	200.000000	200.0000	200.000000	28275	
11	123789-HxCDD	passed	41.85	3232687	A	4053735	A	0.0177	200.000000	200.0000	200.000000	27277	
12	123789-HxCDF	passed	42.23	4381503	A	5487289	A	0.0287	200.000000	200.0000	200.000000	17068	
13	1234678-HpCDF	passed	43.97	5287251	A	5564597	A	0.0301	200.000000	200.0000	200.000000	16295	
14	1234678-HpCDD	passed	45.17	3293798	A	3484438	A	0.0248	200.000000	200.0000	200.000000	20155	
15	1234789-HpCDF	passed	45.73	4652358	A	4876445	A	0.0337	200.000000	200.0000	200.000000	14234	
16	OCDD	passed	48.21	7086447	A	6400324	A	0.0155	400.000000	400.0000	400.000000	63246	
17	OCDF	passed	48.39	9137144	A	8197565	A	0.0141	400.000000	400.0000	400.000000	69382	
18	13C12-1278-TCDD (CRS)	passed	30.88	1617259	A	1273508	A	0.0222	100.000000	100.0000	100.000000	11333	
19	13C12-1234-TCDD	passed	29.61	1573313	A	1282930	A	0.0225	100.000000	100.0000	100.000000	11105	
20	13C12-123468-HxCDD	passed	40.29	1494530	A	1942666	A	0.0196	100.000000	100.0000	100.000000	12736	
21	13C12-2378-TCDF	passed	29.29	3191304	A	2526937	A	0.0115	100.000000	100.0000	100.000000	22196	
22	13C12-2378-TCDD	passed	30.45	1589257	A	1252701	A	0.0226	100.000000	100.0000	100.000000	11617	
23	13C12-12378-PeCDF	passed	35.35	2107599	A	3354260	A	0.0358	100.000000	100.0000	100.000000	9515	
24	13C12-23478-PeCDF	passed	36.64	2095665	A	3321753	A	0.0361	100.000000	100.0000	100.000000	9853	
25	13C12-12378-PeCDD	passed	37.06	1131491	A	1828646	A	0.0220	100.000000	100.0000	100.000000	16674	
26	13C12-123478-HxCDF	passed	40.36	3268216	A	1740955	A	0.0206	100.000000	100.0000	100.000000	12093	
27	13C12-123678-HxCDF	passed	40.51	3484165	A	1865930	A	0.0193	100.000000	100.0000	100.000000	12367	
28	13C12-234678-HxCDF	passed	41.21	3131832	A	1684861	A	0.0214	100.000000	100.0000	100.000000	12066	
29	13C12-123478-HxCDD	passed	41.41	1505606	A	1893944	A	0.0198	100.000000	100.0000	100.000000	13374	
30	13C12-123678-HxCDD	passed	41.53	1580983	A	2006657	A	0.0188	100.000000	100.0000	100.000000	13785	
31	13C12-123789-HxCDD	passed	41.84	1477160	A	1893029	A	0.0200	100.000000	100.0000	100.000000	13116	
32	13C12-123789-HxCDF	passed	42.22	2969101	A	1578417	A	0.0227	100.000000	100.0000	100.000000	10811	
33	13C12-1234678-HpCDF	passed	43.96	3041844	A	1415616	A	0.0197	100.000000	100.0000	100.000000	13545	
34	13C12-1234678-HpCDD	passed	45.16	1552343	A	1673762	A	0.0211	100.000000	100.0000	100.000000	12874	
35	13C12-1234789-HpCDF	passed	45.71	2552911	A	1173301	A	0.0236	100.000000	100.0000	100.000000	11530	
36	13C12-OCDD	passed	48.20	3566432	A	3224433	A	0.0085	200.000000	200.0000	200.000000	69321	
37	13C12-OCDF	passed	48.37	5316706	A	4837855	A	0.0115	200.000000	200.0000	200.000000	49863	
38	Total TCDF	passed (1)	28.23	1345764	A	1084970	A	0.0105	40.000000	40.0000	40.000000	9243	
39	Total TCDD	passed (1)	28.96	783452	A	634232	A	0.0101	40.000000	40.0000	40.000000	9693	
40	Total PeCDF	passed (2)	34.83	8669274	A	13420764	A	0.0107	200.000000	400.0000	200.000000	46439	
41	Total PeCDD	passed (1)	35.77	2343612	A	3736560	A	0.0200	200.000000	200.0000	200.000000	24579	
42	Total HxCDF	passed (4)	40.50	19761502	A	24456123	A	0.0255	200.000000	800.0000	200.000000	19379	
43	Total HxCDD	passed (3)	40.73	9665689	A	12107005	A	0.0178	200.000000	600.0000	200.000000	27600	
44	Total HpCDD	passed (1)	44.73	3293798	A	3484438	A	0.0248	200.000000	200.0000	200.000000	20155	
45	Total HpCDF	passed (2)	44.83	9939609	A	10441041	A	0.0319	200.000000	400.0000	200.000000	15265	
46	Single TCDF	passed	29.31	1345764	A	1084970	A	0.0105	40.000000	40.0000	40.000000	9243	
47	Single TCDD	passed	30.49	783452	A	634232	A	0.0101	40.000000	40.0000	40.000000	9693	
48	Single PeCDF	passed	37.07	2343612	A	3736560	A	0.0200	200.000000	200.0000	200.000000	24579	
49	Single PeCDD	passed	36.66	4590509	A	7092007	A	0.0101	200.000000	200.0000	200.000000	51015	
50	Single PeCDF	passed	35.36	4078765	A	6328757	A	0.0113	200.000000	200.0000	200.000000	41863	
51	Single HpCDD	passed	45.17	3293798	A	3484438	A	0.0248	200.000000	200.0000	200.000000	20155	
52	Single HxCDF	passed	41.22	5077447	A	6215655	A	0.0248	200.000000	200.0000	200.000000	20168	
53	Single HxCDF	passed	40.39	5103571	A	6278509	A	0.0247	200.000000	200.0000	200.000000	20214	
54	Single HxCDF	passed	40.53	5198980	A	6474670	A	0.0240	200.000000	200.0000	200.000000	20065	
55	Single HxCDF	passed	42.23	4381503	A	5487289	A	0.0284	200.000000	200.0000	200.000000	17068	
56	Single HxCDD	passed	41.54	3290380	A	4073701	A	0.0176	200.000000	200.0000	200.000000	28275	
57	Single HxCDD	passed	41.42	3142621	A	3979570	A	0.0182	200.000000	200.0000	200.000000	27249	
58	Single HxCDD	passed	41.85	3232687	A	4053735	A	0.0177	200.000000	200.0000	200.000000	27277	
59	Single HpCDF	passed	43.97	5287251	A	5564597	A	0.0299	200.000000	200.0000	200.000000	16295	
60	Single HpCDF	passed	45.73	4652358	A	4876445	A	0.0340	200.000000	200.0000	200.000000	14234	

RT: 22.50 - 51.00



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*** file opened Fri Nov 02 21:22:59 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 02-Nov-18 21:22:58

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 7349737c-0d23-45de-89a6-193501cb8be3

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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
375.8364	2	1	59
window # 3			
mass	F	int	gr
330.9787	l	20	1
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
409.7969	2	1	66
window # 4			
mass	F	int	gr
373.8201	1	1	117
375.8172	1	1	117
380.9755	l	20	1
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
445.7550	2	1	58
window # 5			
mass	F	int	gr
404.9755	l	20	1
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
window # 6			
mass	F	int	gr
441.7422	1	1	95
442.9723	l	20	1
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
513.6770	2	1	47

MID window terminated after 22.016667 minutes

MID window end time was 22.010000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

Page 2

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3195 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-08

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	96.0000
BQUAD	3.1000	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	0.9992	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4255.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0072	FVINLET	0.0381	FVSR	0.0370
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	96.0000	LKM	442.9723	MASS	96.0000
MDAC	1404316.6950	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9851	RELEN	0.0000
RES	12073.4270	RPUSHER	-6.0879	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	788.0000	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	5.0000	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	VMAS	96.0000	XLENS_POT	972.0000
XLENS_SYM	-2.5000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.7e-008 mbar
Pirani Analyze: 7.2e-003 mbar
Pirani Source: 3.7e-002 mbar
Pirani Inlet System: 3.9e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12142.
MID Time window 2: Resolution is 12566.
MID Time window 3: Resolution is 11955.
MID Time window 4: Resolution is 12819.

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APPROVED

By uma9 at 2:07 pm, 11/7/18

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REVIEWED

By uild at 4:18 pm, 11/7/18

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MID Time Window 5: Resolution is 12062.
MID Time Window 6: Resolution is 12073.

Amplifier Offset: 81.

*** File closed Fri Nov 02 22:14:00 2018



Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 22:14
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov02\18nov02-09.quan
Data	x:\18nov02\18nov02-09.raw
Response	x:\responsefiles\df17611-18nov02dfical.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

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	29.28	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.46	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.36	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.64	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.05	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.36	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.51	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.21	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.41	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.54	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.85	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.22	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.96	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.16	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.71	passed	passed	passed	passed	passed	passed	
16	OCDD	48.21	passed	passed	passed	passed	passed	passed	
17	OCDF	48.38	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.87	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.61	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.27	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.27	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.43	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.33	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.62	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.04	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.35	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.50	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.20	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.40	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.52	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.83	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.21	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.95	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.15	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.70	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.19	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.37	passed	passed	passed	passed	passed	passed	
38	Total TCDF	28.23	passed (1)	---	---	---	---	---	
39	Total TCDD	28.96	passed (1)	---	---	---	---	---	
40	Total PeCDF	34.83	passed (2)	---	---	---	---	---	
41	Total PeCDD	35.77	passed (1)	---	---	---	---	---	
42	Total HxCDF	40.50	passed (4)	---	---	---	---	---	
43	Total HxCDD	40.73	passed (3)	---	---	---	---	---	
44	Total HpCDD	44.73	passed (1)	---	---	---	---	---	
45	Total HpCDF	44.83	passed (2)	---	---	---	---	---	
46	Single TCDF	29.28	passed	passed	passed	passed	passed	passed	
47	Single TCDD	30.46	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	37.05	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	36.64	passed	passed	passed	passed	passed	passed	
50	Single PeCDD	35.36	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	45.16	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.21	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	40.36	passed	passed	passed	passed	passed	passed	
54	Single HxCDF	40.51	passed	passed	passed	passed	passed	passed	
55	Single HxCDF	42.22	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	41.85	passed	passed	passed	passed	passed	passed	
57	Single HxCDD	41.41	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	41.54	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	43.96	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	45.71	passed	passed	passed	passed	passed	passed	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 22:14
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

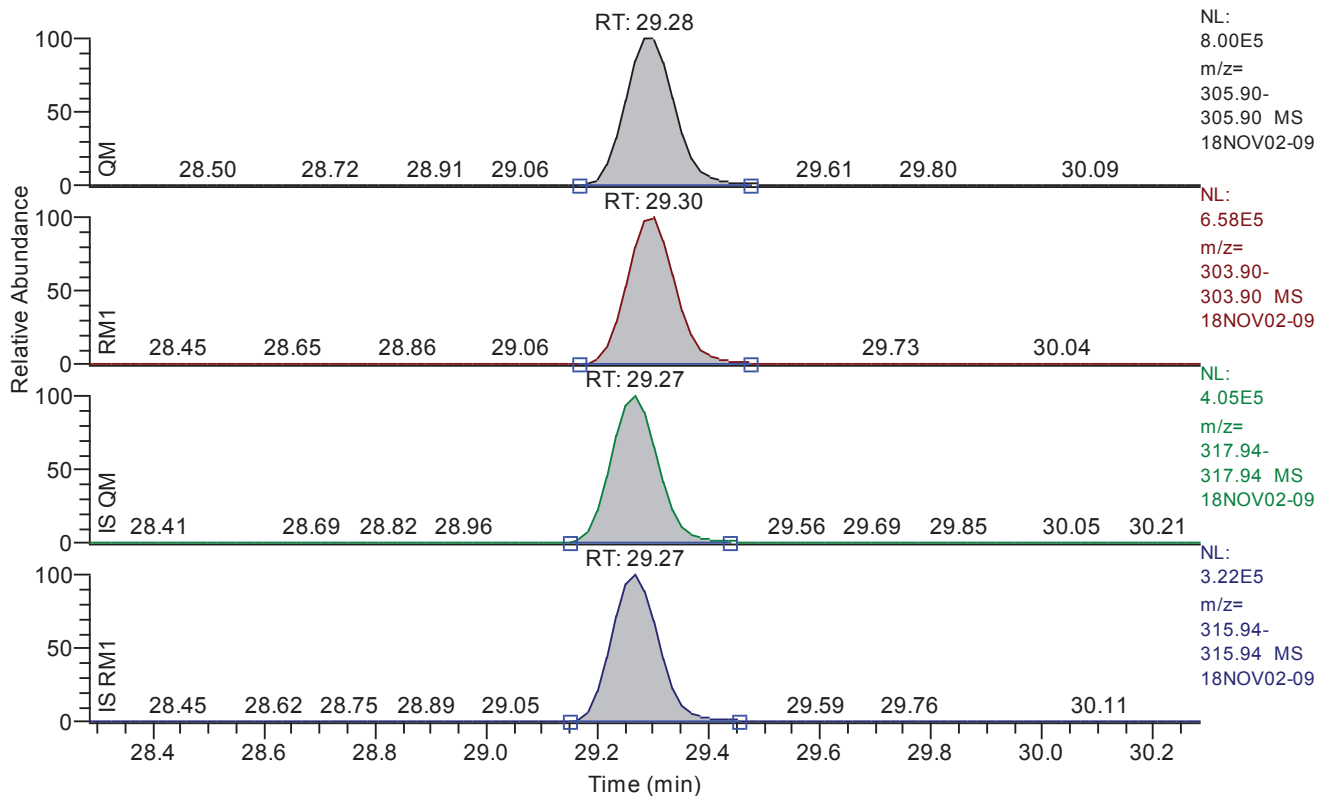
Quan	x:\18nov02\18nov02-09.quan
Data	x:\18nov02\18nov02-09.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.28 - 30.28 SM: 3G

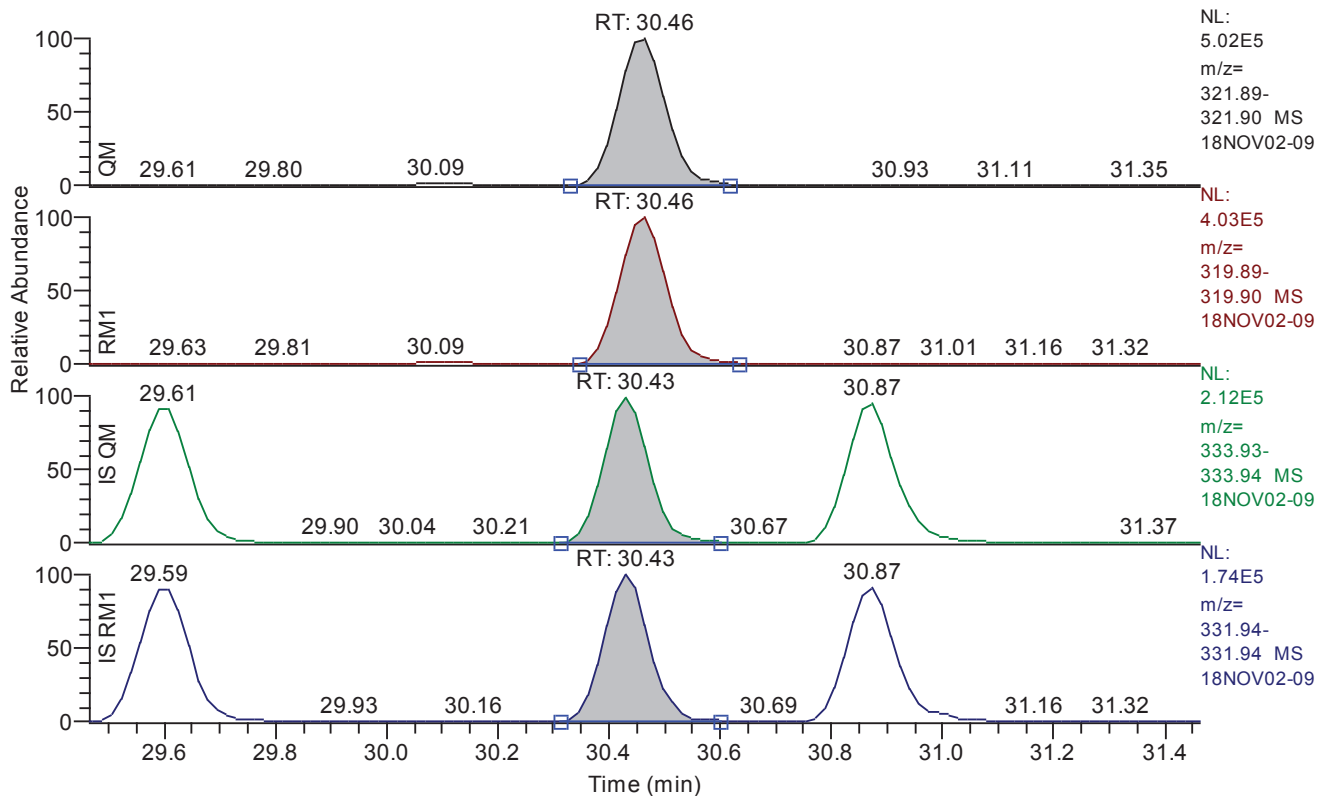


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.28
QM Area	5023433
QM Integration Mode	A
RM1 Area	4035652
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0253
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	19145
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.46 - 31.46 SM: 3G

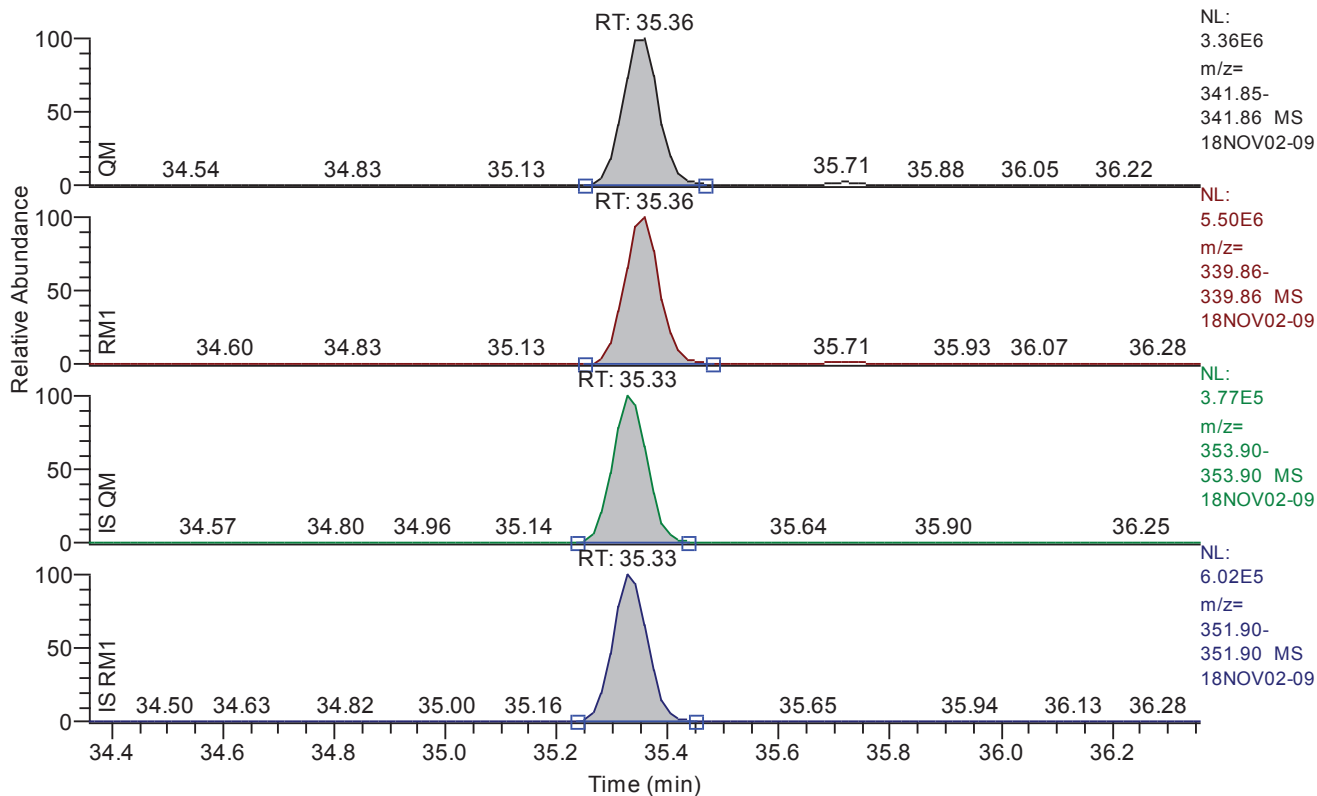


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.46
QM Area	3036548
QM Integration Mode	A
RM1 Area	2432152
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0208
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	22903
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.36 - 36.36 SM: 3G

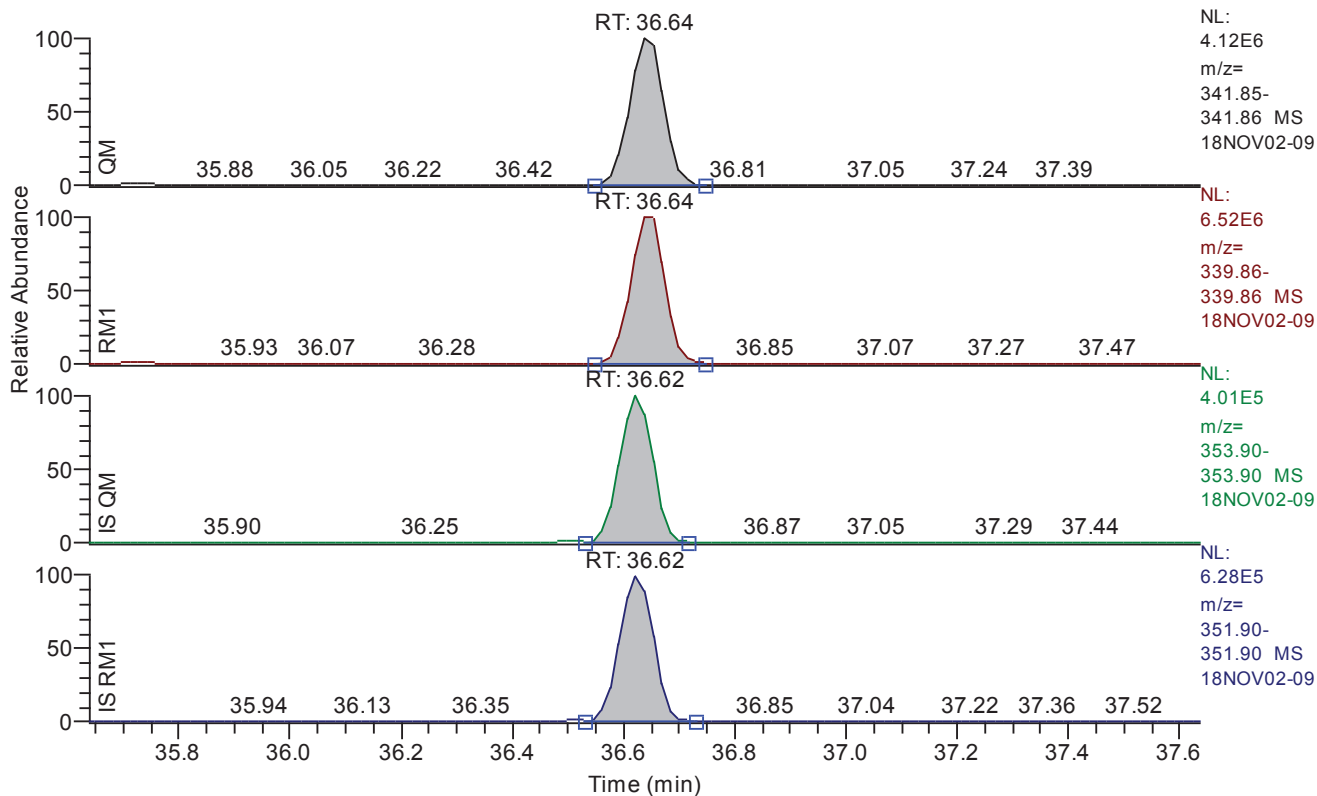


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.36
QM Area	15246182
QM Integration Mode	A
RM1 Area	24090624
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0178
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	137971
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.64 - 37.64 SM: 3G

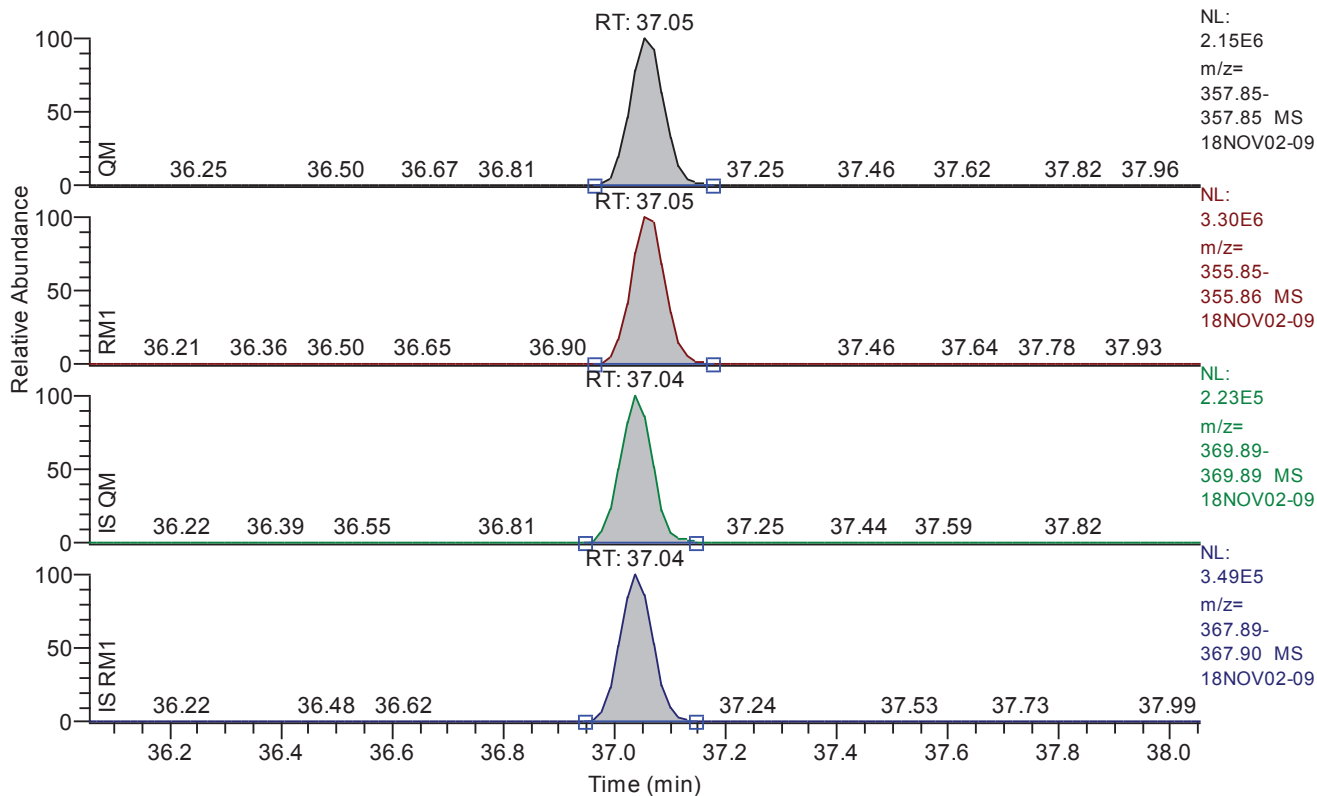


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.64
QM Area	17553881
QM Integration Mode	A
RM1 Area	27829216
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0149
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	165642
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.05 - 38.05 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.05
QM Area	9175622
QM Integration Mode	A
RM1 Area	14194264
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0319
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	75311
Client Flags	
Status Overview	passed
Status Info	

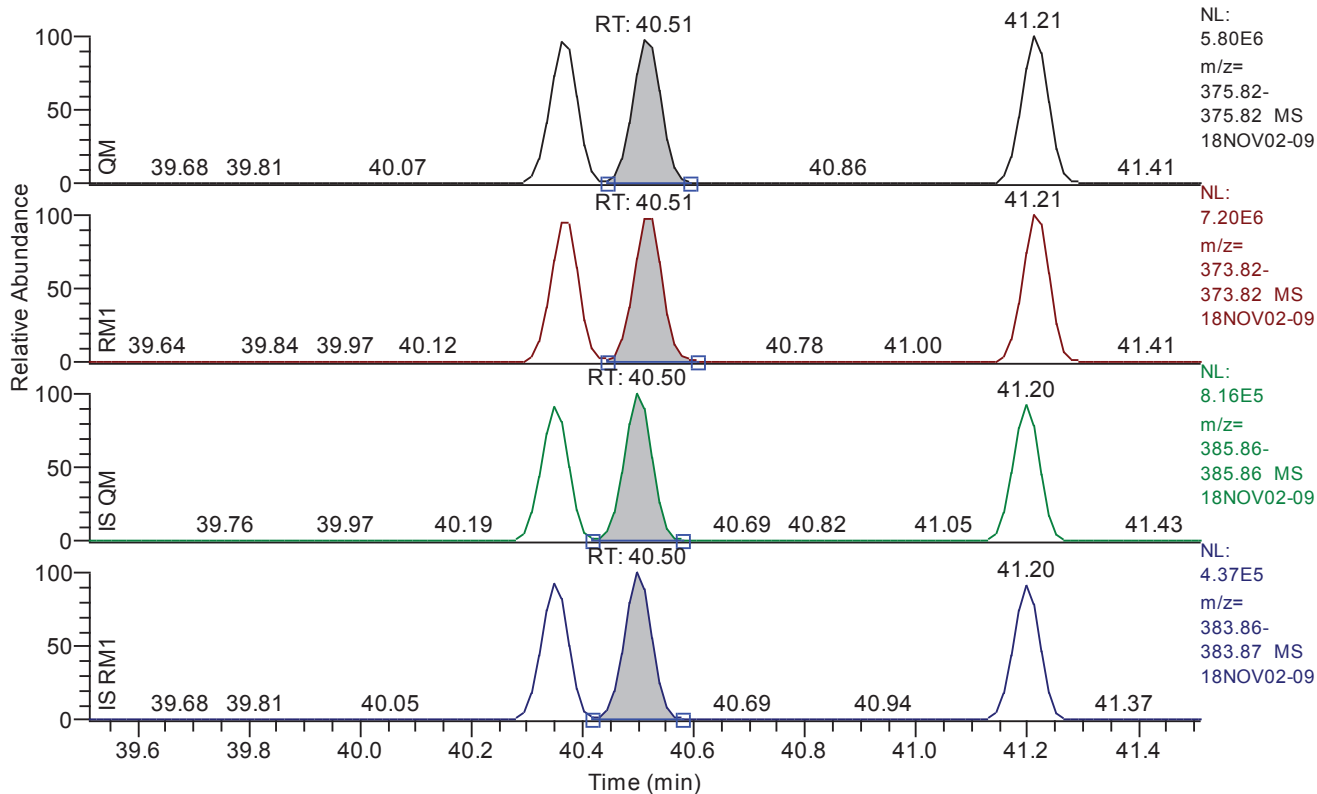
RT: 39.36 - 41.36 SM: 3G



Compound Name	123478-HxCDF
QM Retention Time	40.36
QM Area	19794616
QM Integration Mode	A
RM1 Area	24585933
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0454
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	54054
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

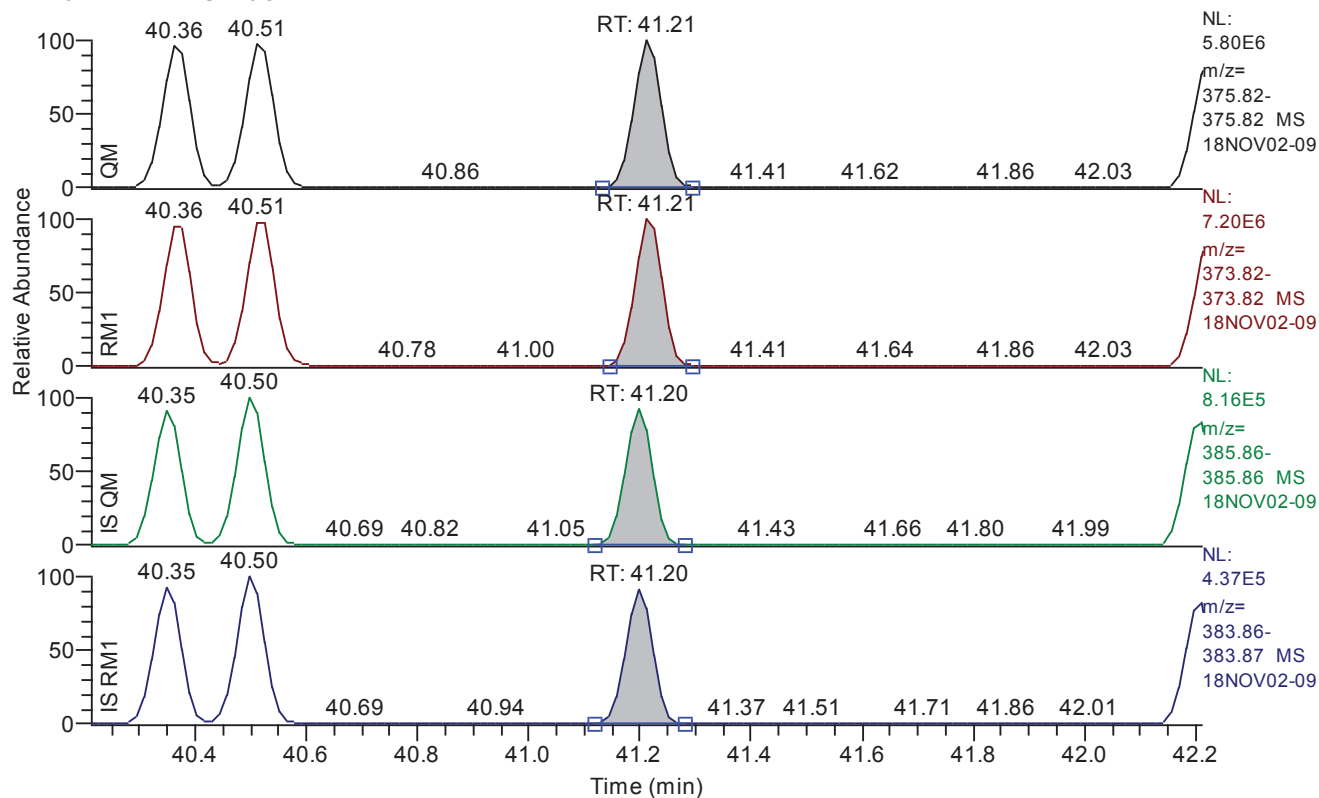
RT: 39.51 - 41.51 SM: 3G



Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.51
QM Area	20390774
QM Integration Mode	A
RM1 Area	25656045
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0444
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	54773
Client Flags	
Status Overview	passed
Status Info	

RT: 40.21 - 42.21 SM: 3G

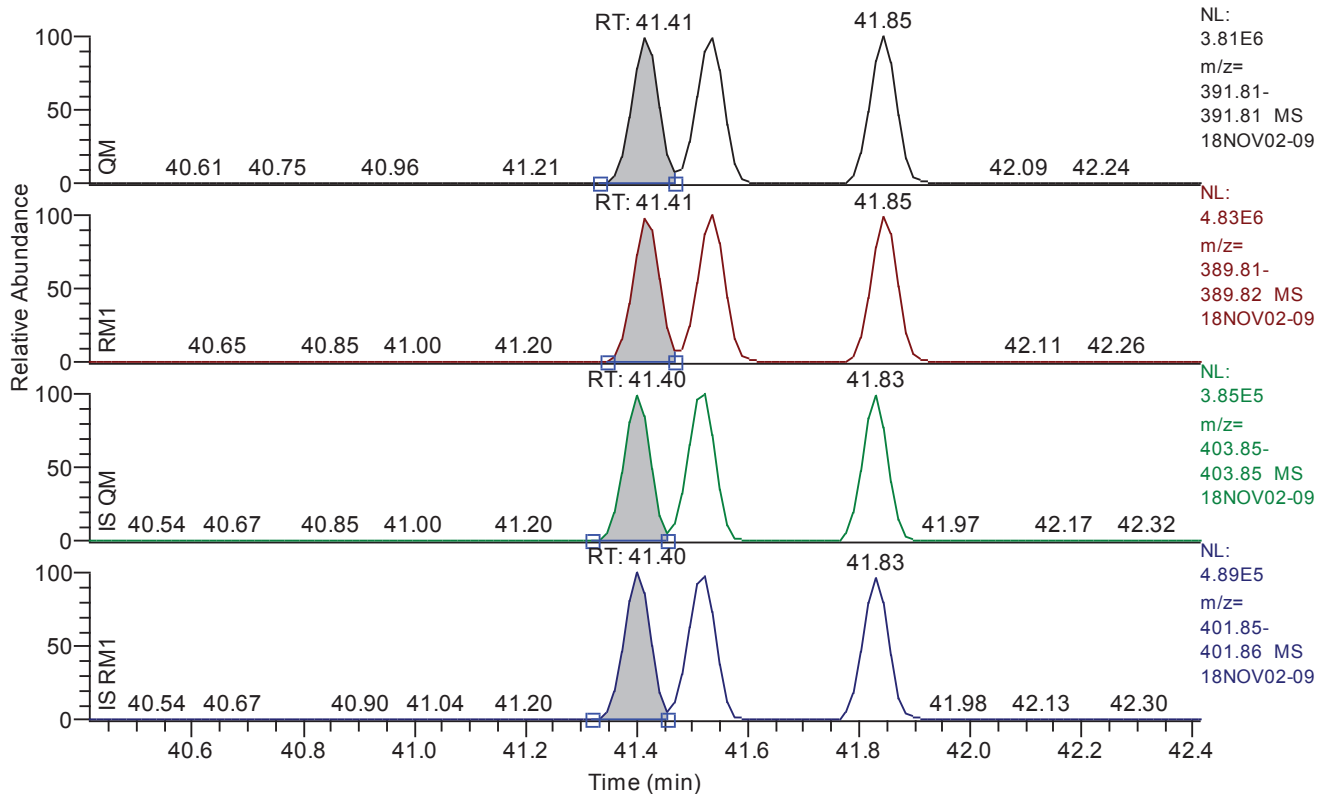


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.21
QM Area	19952973
QM Integration Mode	A
RM1 Area	24879577
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0442
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	56163
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.41 - 42.41 SM: 3G

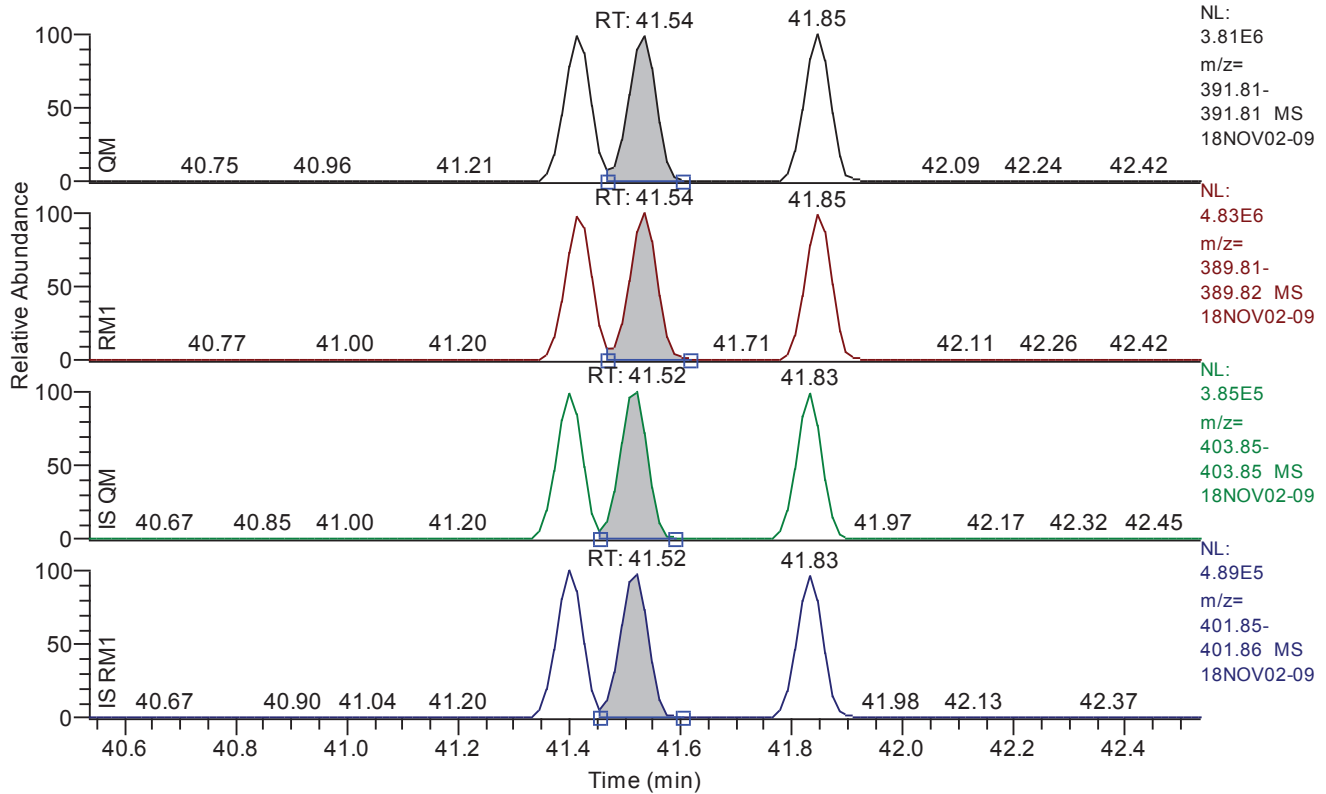


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.41
QM Area	12655384
QM Integration Mode	A
RM1 Area	15917427
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0235
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	105450
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.54 - 42.54 SM: 3G

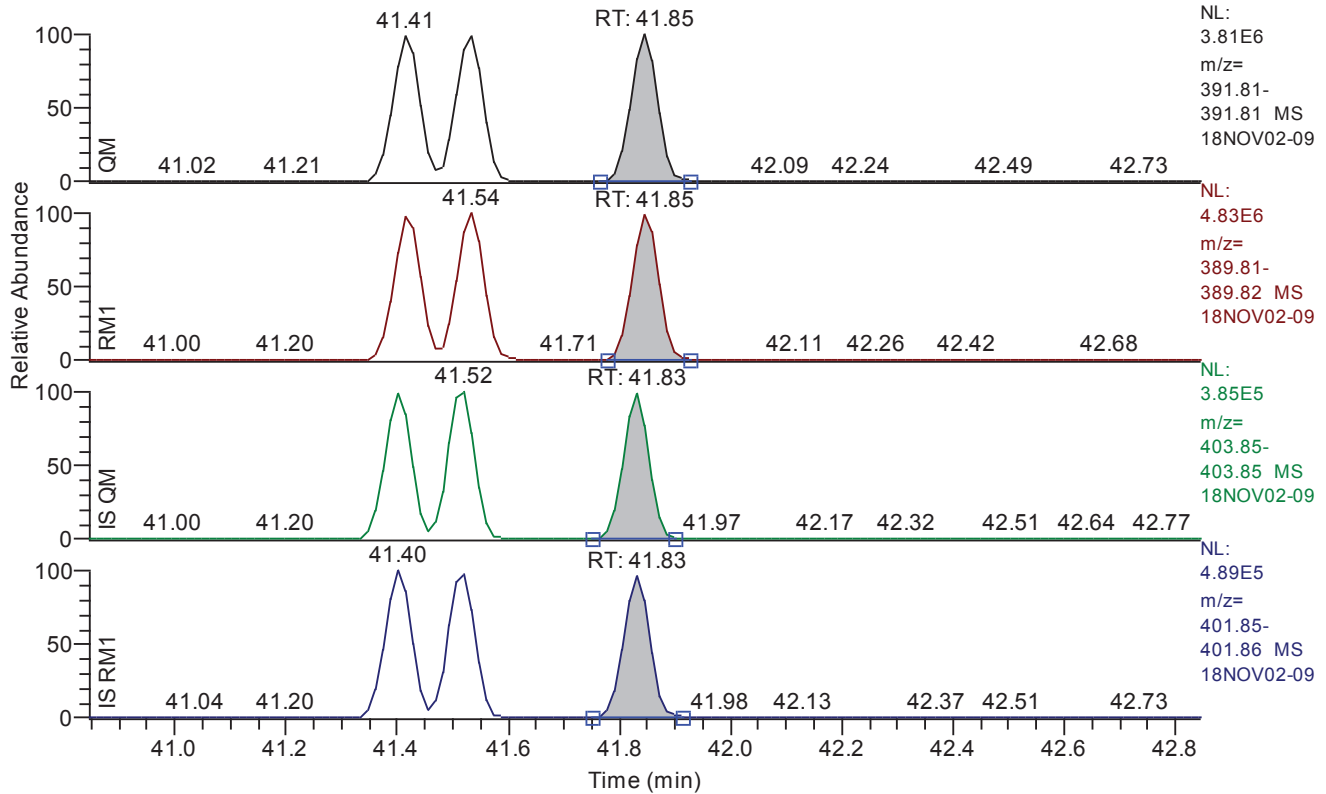


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.54
QM Area	13179734
QM Integration Mode	A
RM1 Area	16702342
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0236
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	106742
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.85 - 42.85 SM: 3G

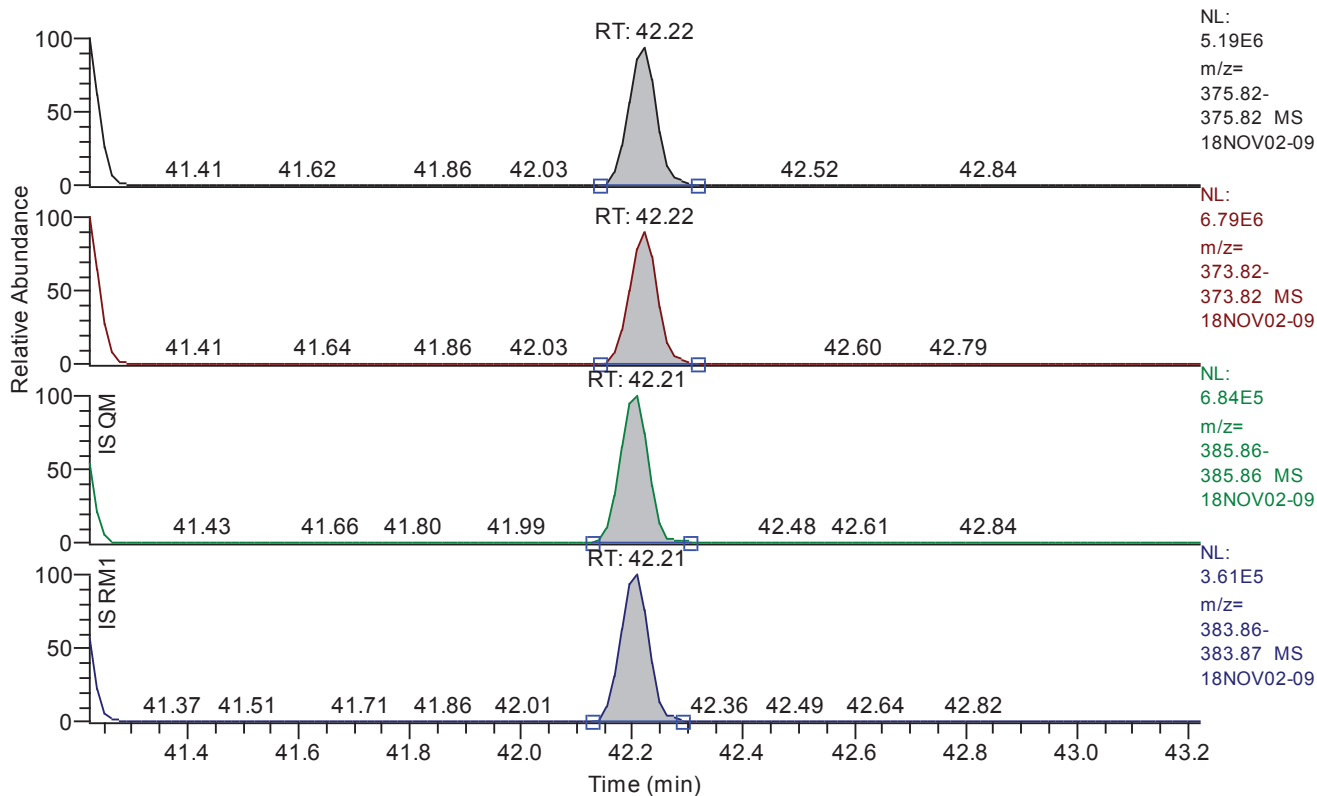


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.85
QM Area	12798618
QM Integration Mode	A
RM1 Area	16081796
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0228
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	107229
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.22 - 43.22 SM: 3G

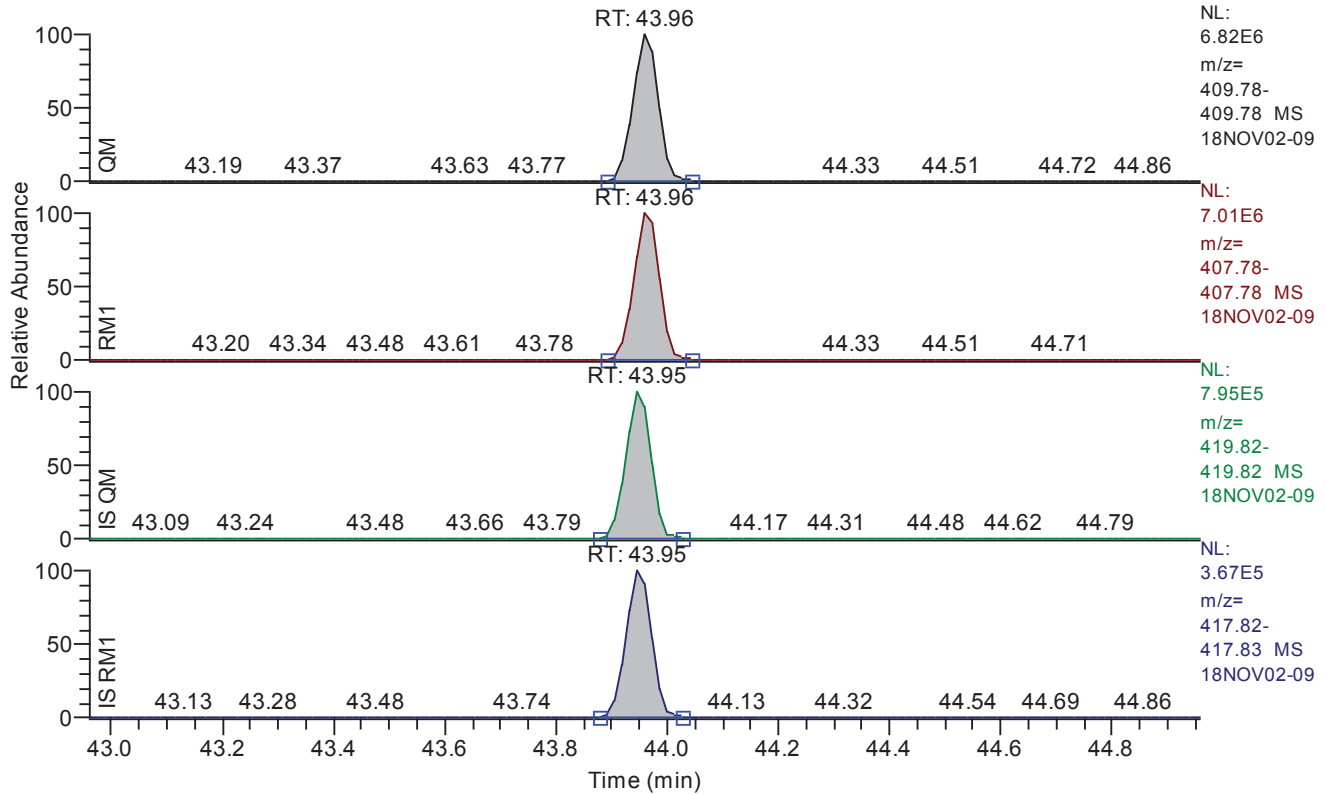


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.22
QM Area	17181998
QM Integration Mode	A
RM1 Area	21345725
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0536
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	47855
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 42.96 - 44.96 SM: 3G

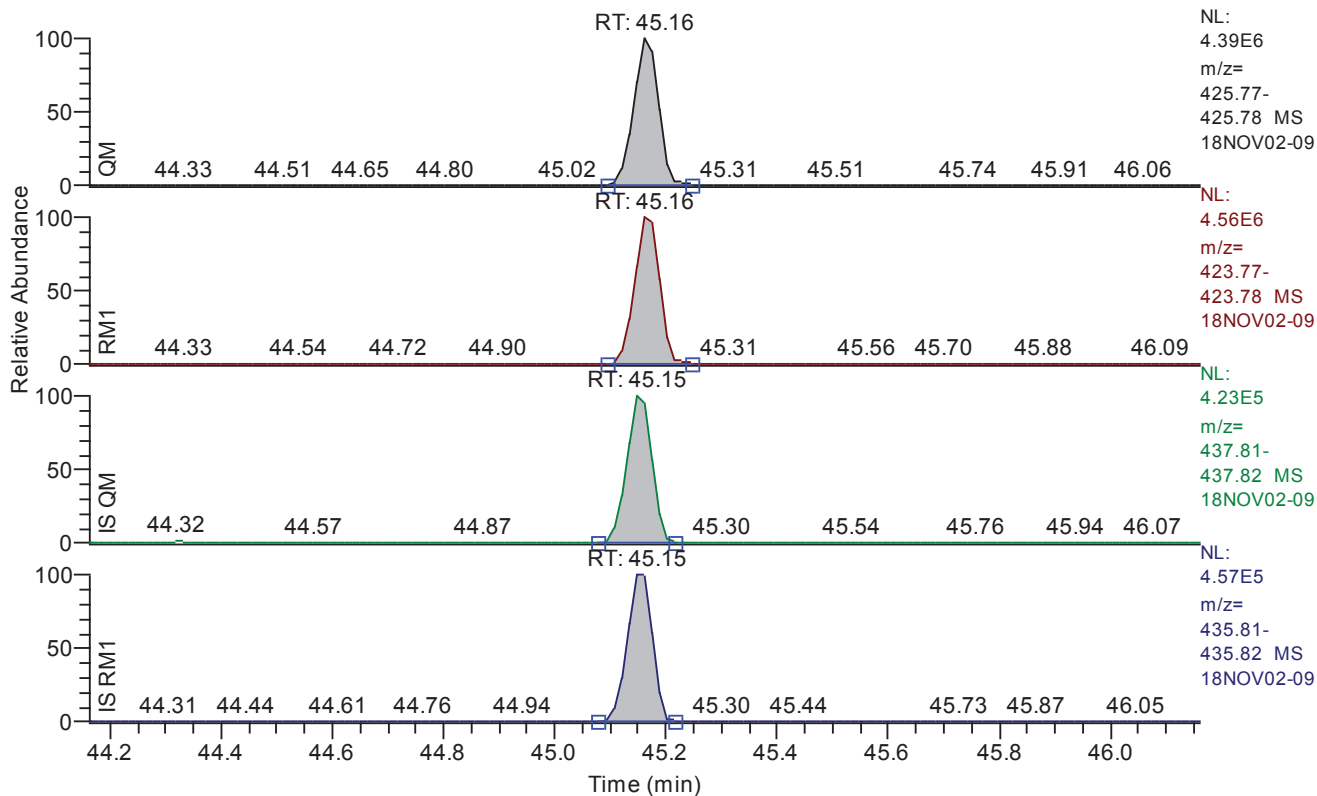


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.96
QM Area	22141760
QM Integration Mode	A
RM1 Area	23113383
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0461
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	54091
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.16 - 46.16 SM: 3G

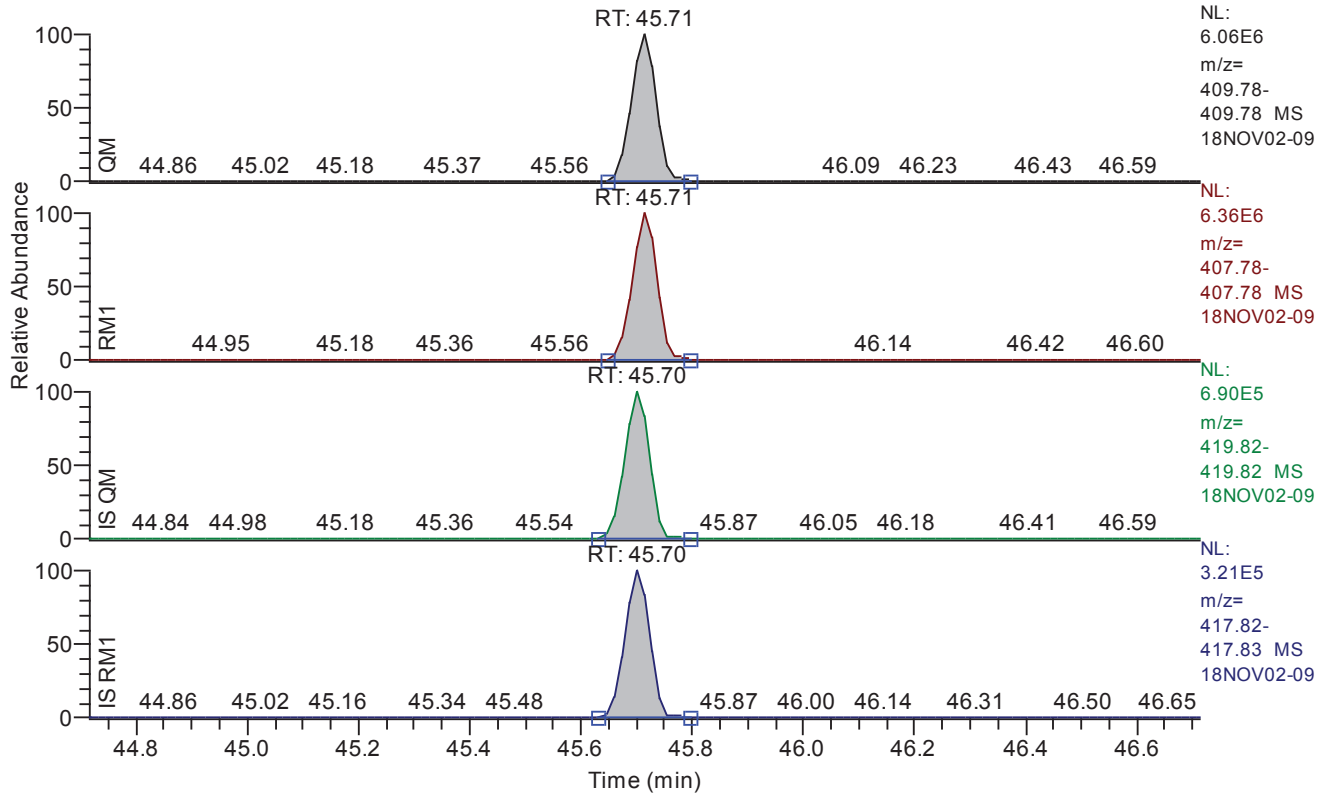


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.16
QM Area	13941245
QM Integration Mode	A
RM1 Area	14712475
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0515
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	49023
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.71 - 46.71 SM: 3G

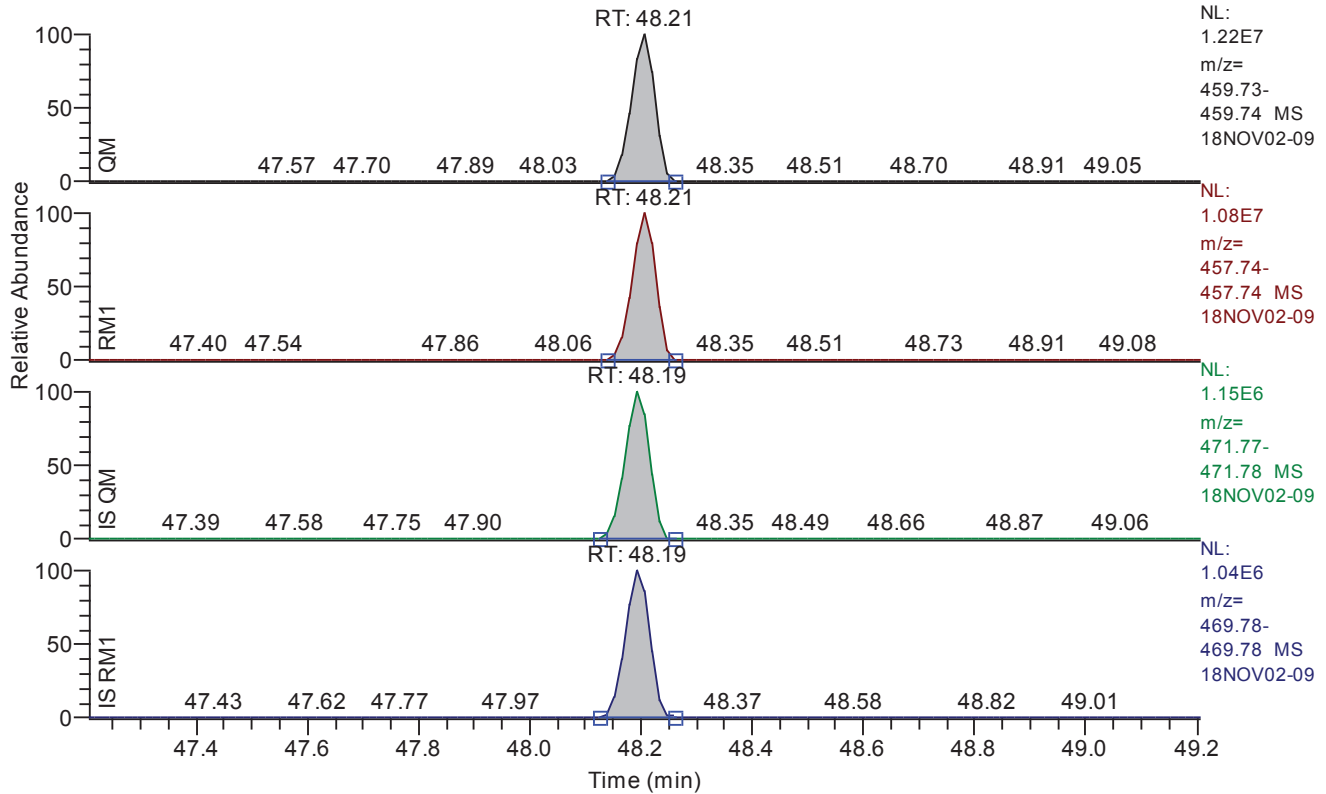


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.71
QM Area	19394847
QM Integration Mode	A
RM1 Area	20305725
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0518
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	48580
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.21 - 49.21 SM: 3G

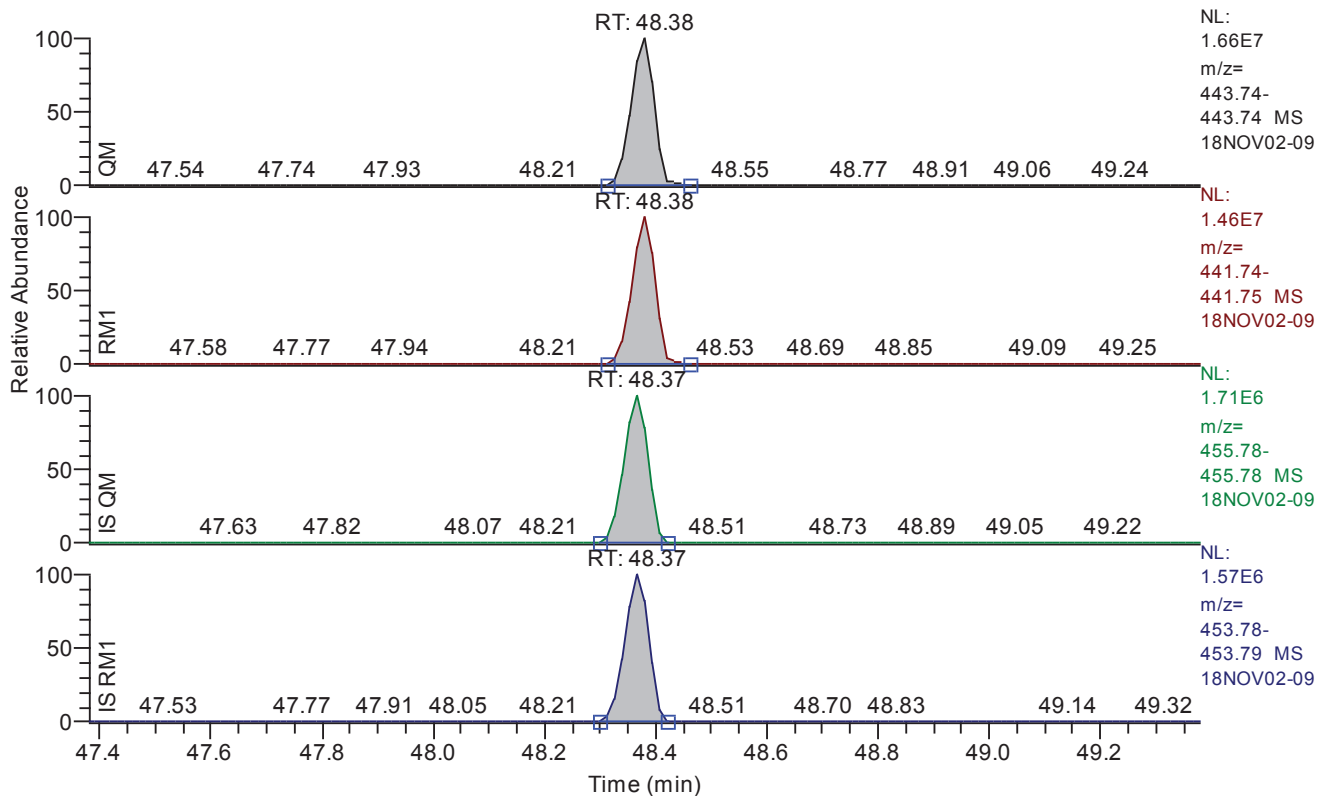


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.21
QM Area	35966635
QM Integration Mode	A
RM1 Area	31944657
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0227
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	229025
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.38 - 49.38 SM: 3G

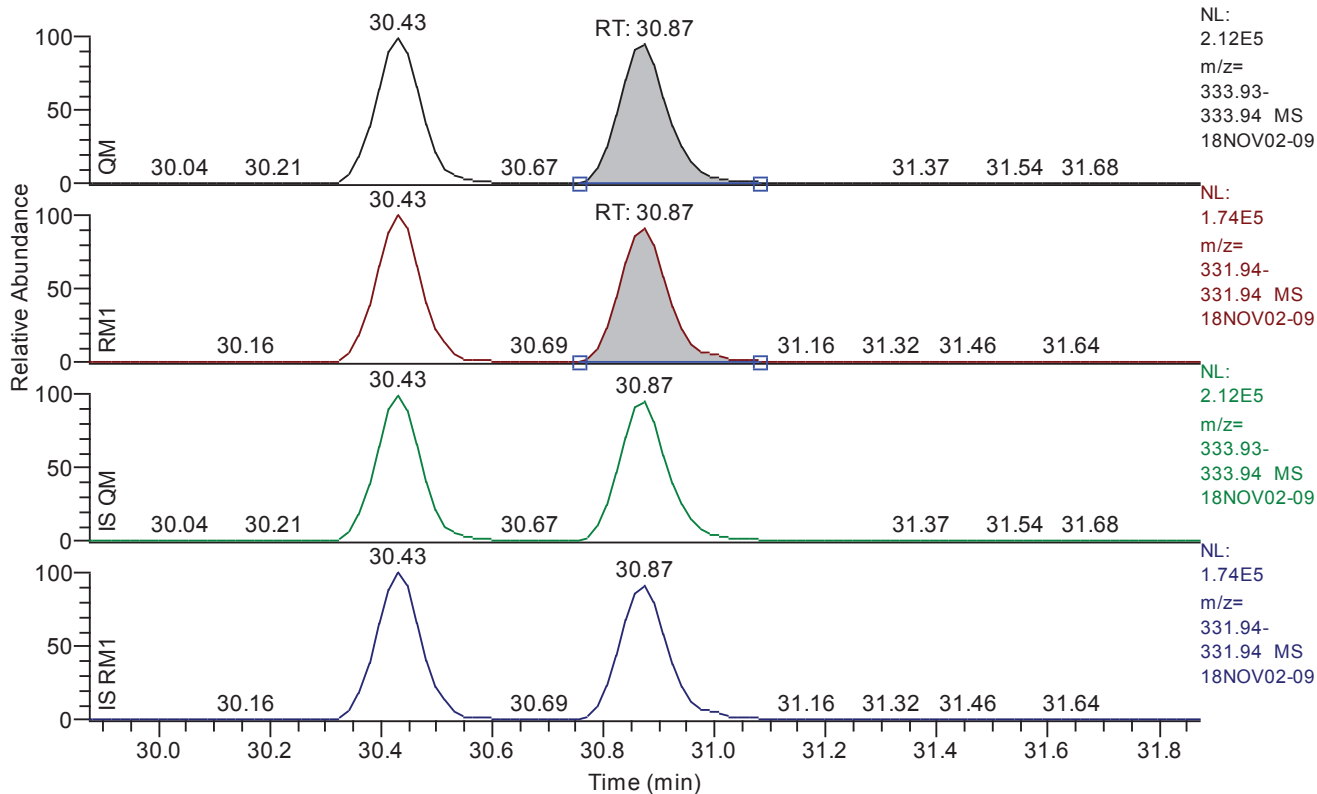


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.38
QM Area	47739931
QM Integration Mode	A
RM1 Area	41916993
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0187
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	279744
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.87 - 31.87 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.87
QM Area	1254701
QM Integration Mode	A
RM1 Area	999029
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0331
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	7647
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/02 22:14
Number of Entries	64
Comment	
Vial	8
Sample Name	CALDF61837B
Sample ID	CS501
Inst ID	DF17611-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

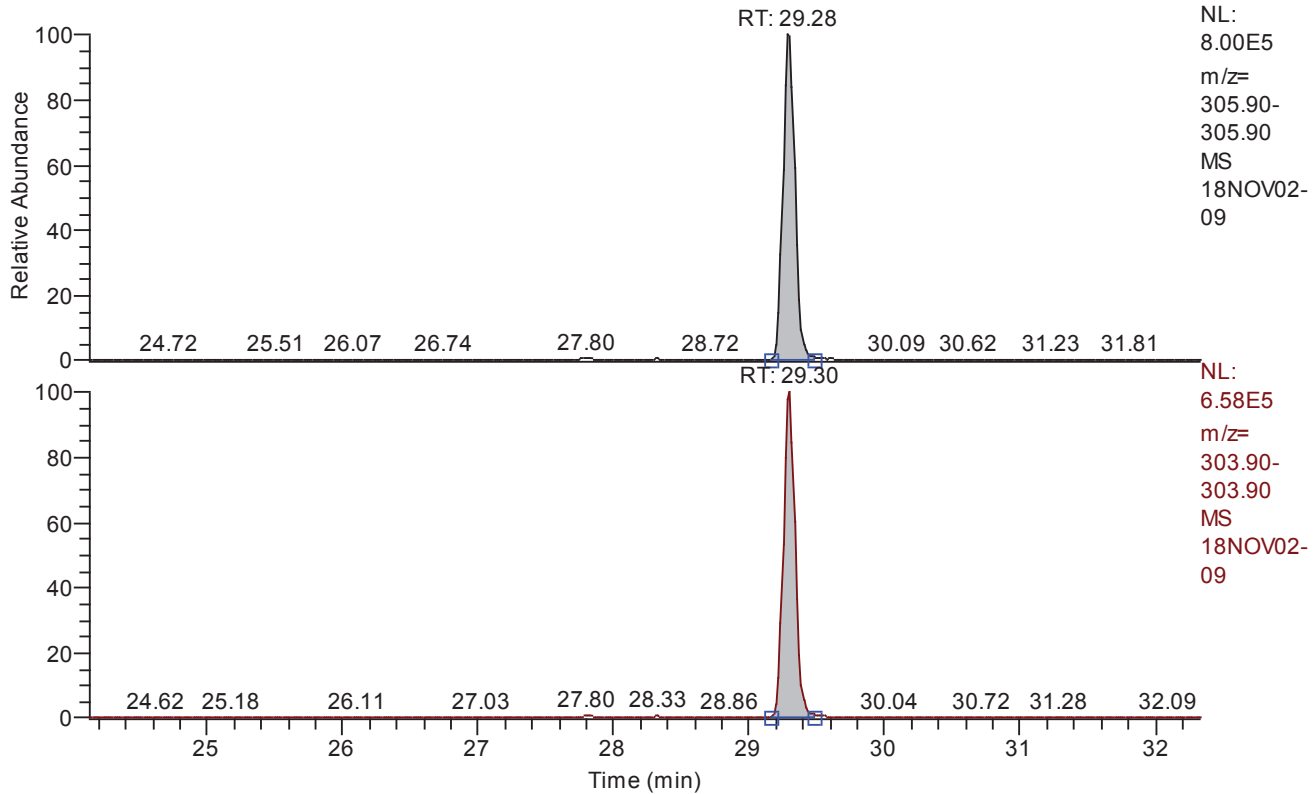
Quan	x:\18nov02\18nov02-09.quan
Data	x:\18nov02\18nov02-09.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent 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

Chromatogram

RT: 24.13 - 32.33 SM: 3G

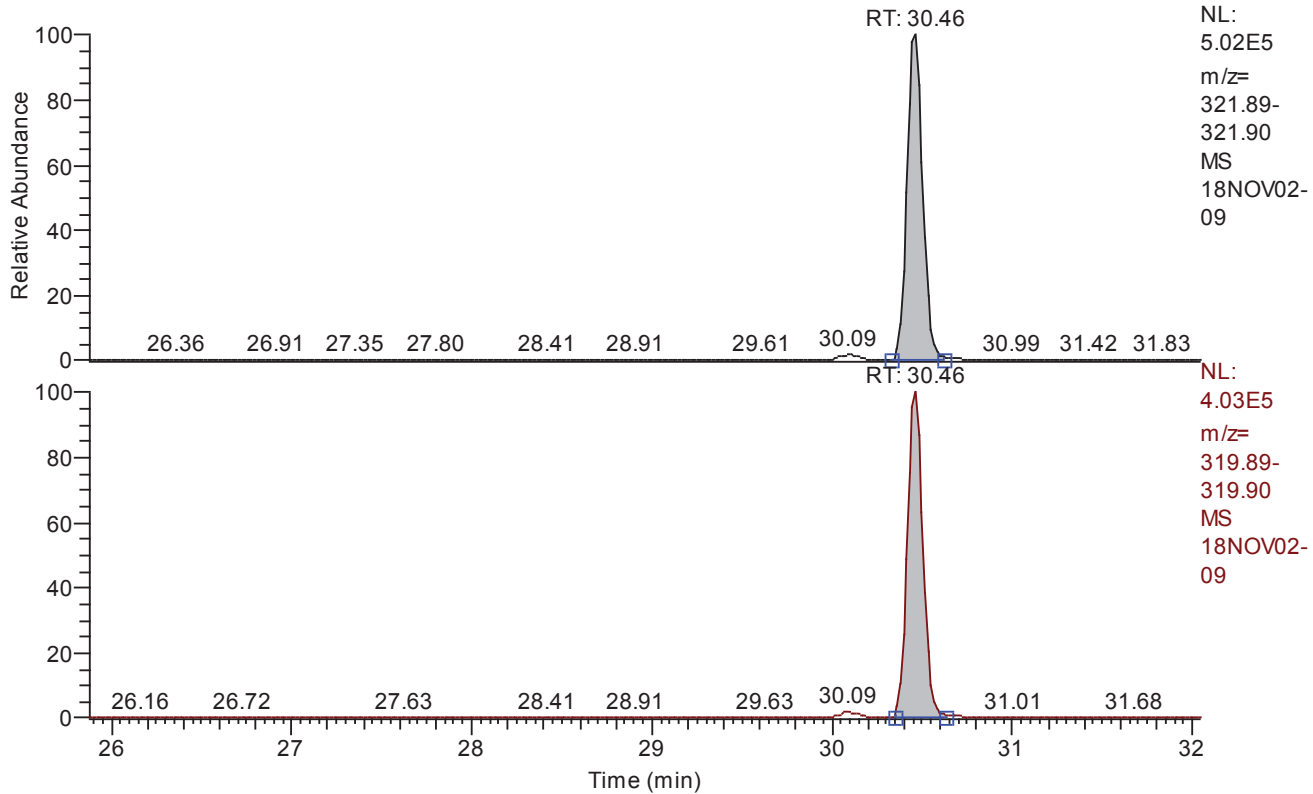


Entry Parameters

Compound Name	Total TCDF
QM Retention Time	28.23
QM Area	5023433
QM Integration Mode	A
RM1 Area	4035652
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0253
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	19145
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 25.87 - 32.05 SM: 3G

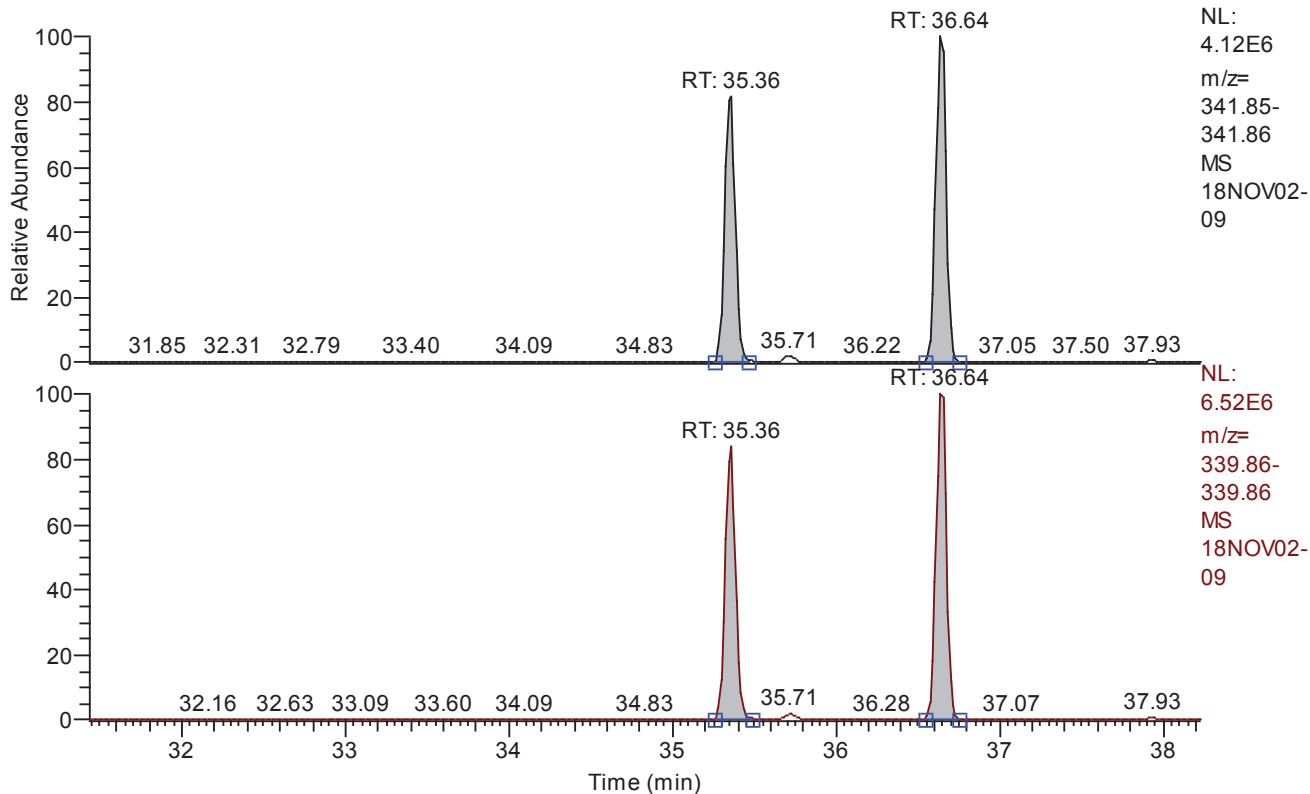


Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.96
QM Area	3036548
QM Integration Mode	A
RM1 Area	2432152
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0208
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	22903
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 31.43 - 38.23 SM: 3G

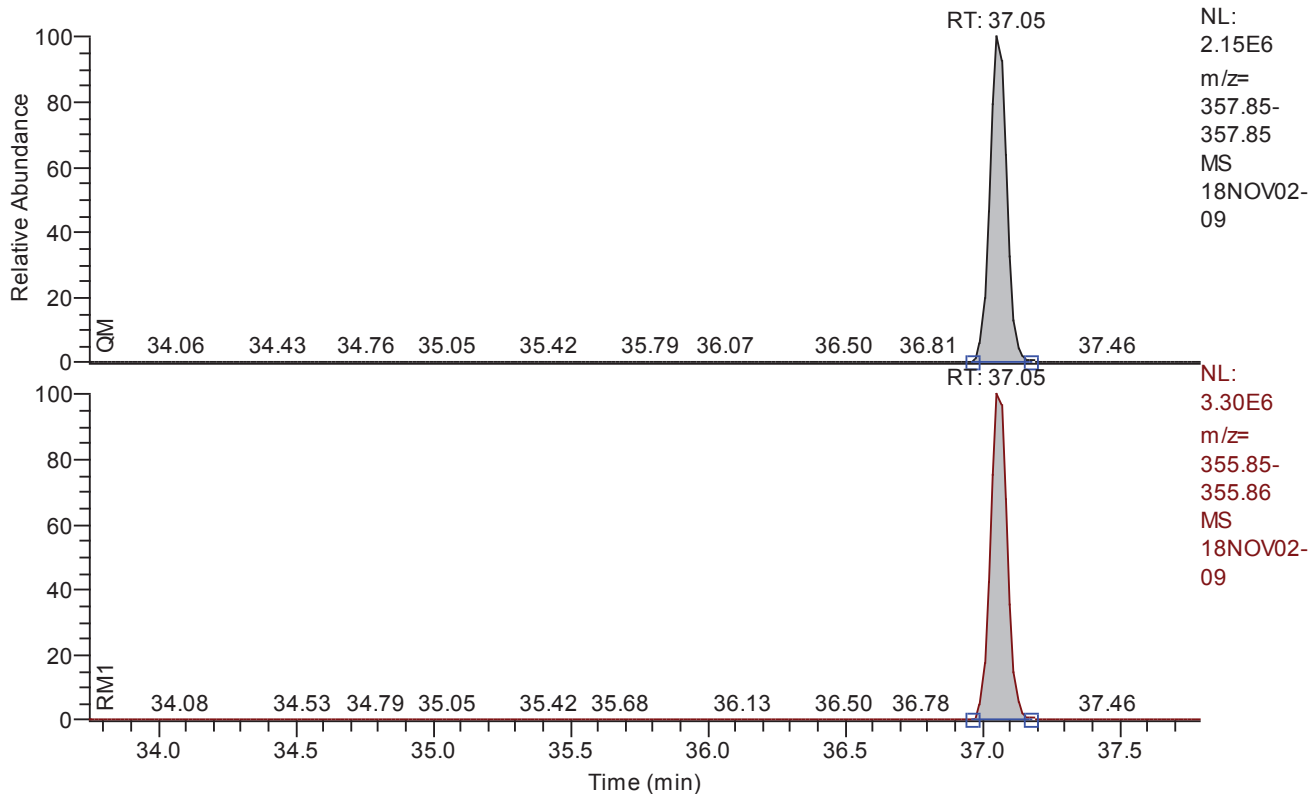


Entry Parameters

Compound Name	Total PeCDF
QM Retention Time	34.83
QM Area	32800063
QM Integration Mode	A
RM1 Area	51919840
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0162
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	151807
Client Flags	
Status Overview	passed (2)
Status Info	

Chromatogram

RT: 33.75 - 37.79 SM: 3G

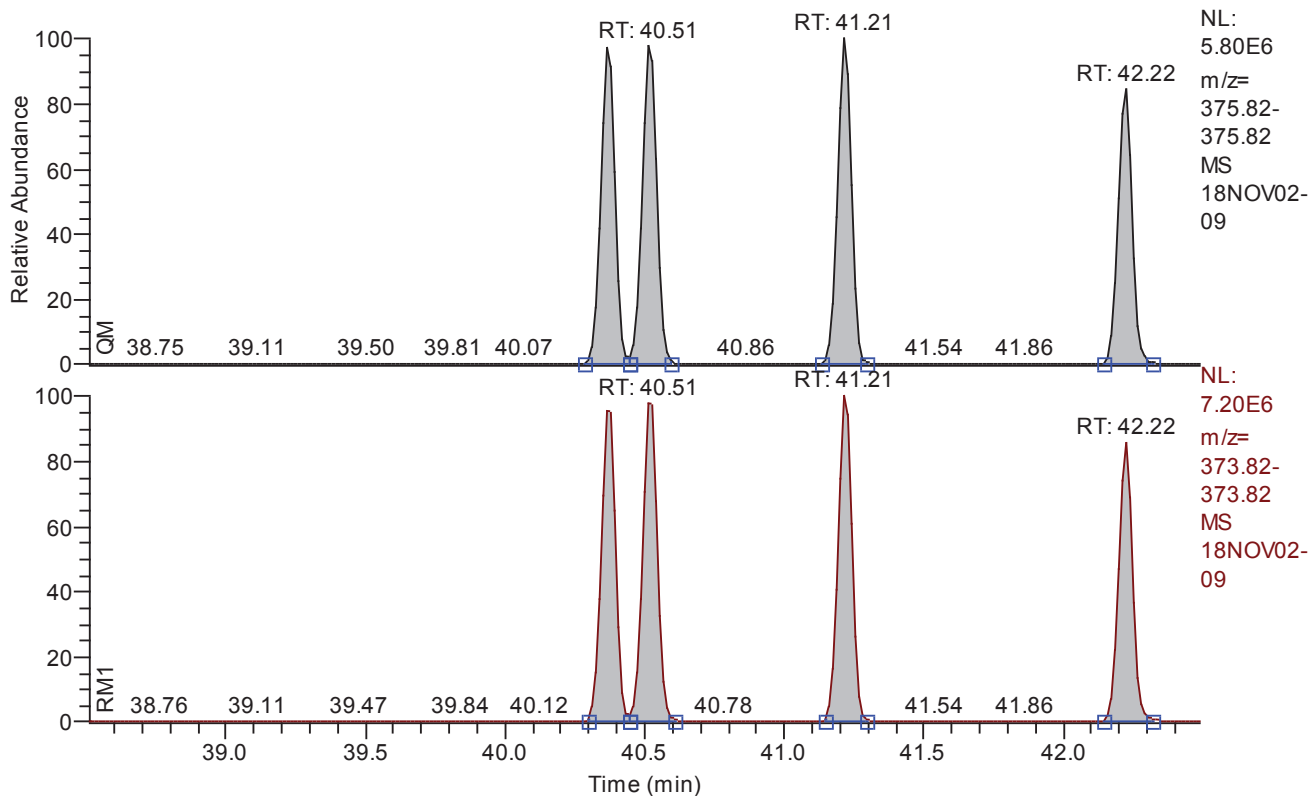


Entry Parameters

Compound Name	Total PeCDD
QM Retention Time	35.77
QM Area	9175622
QM Integration Mode	A
RM1 Area	14194264
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0319
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	75311
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 38.51 - 42.49 SM: 3G

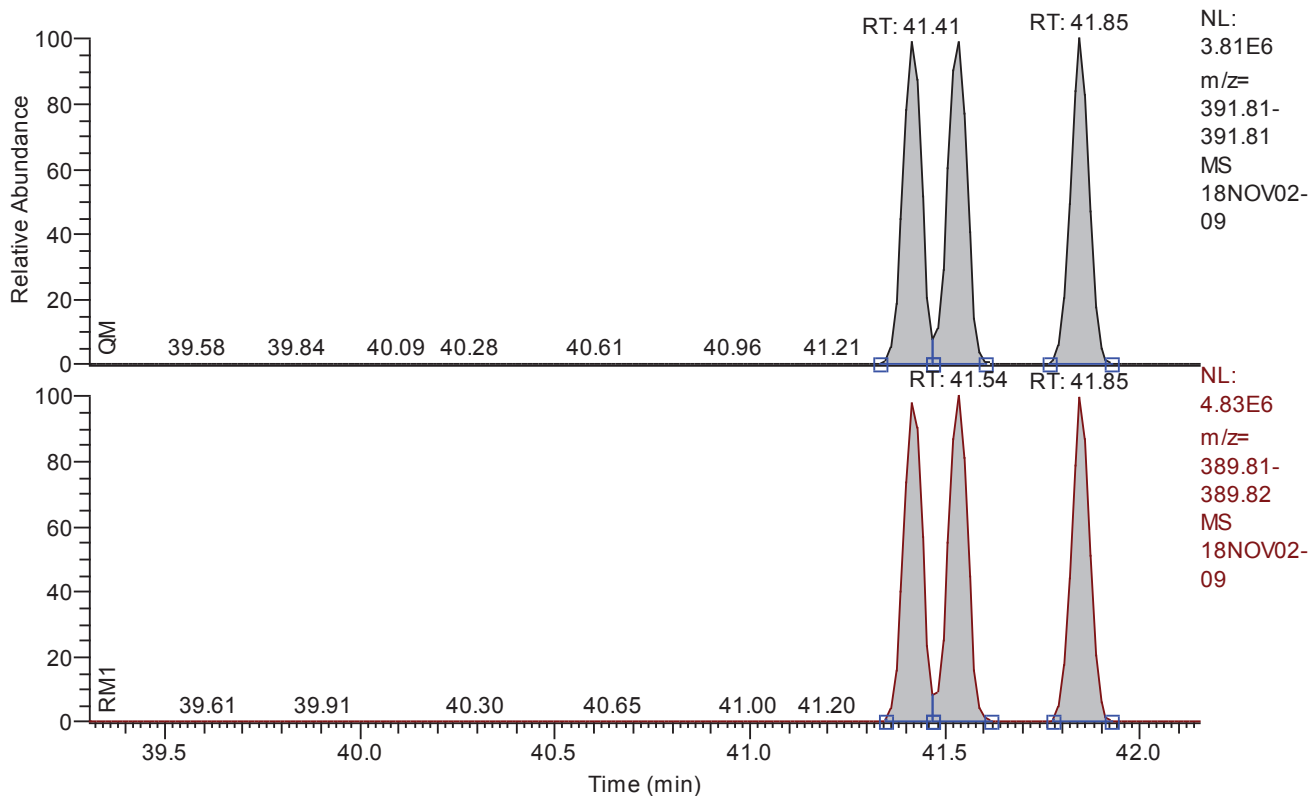


Entry Parameters

Compound Name	Total HxCDF
QM Retention Time	40.50
QM Area	77320361
QM Integration Mode	A
RM1 Area	96467280
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0466
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	4000.0000
Signal-to-Noise	53211
Client Flags	
Status Overview	passed (4)
Status Info	

Chromatogram

RT: 39.31 - 42.15 SM: 3G

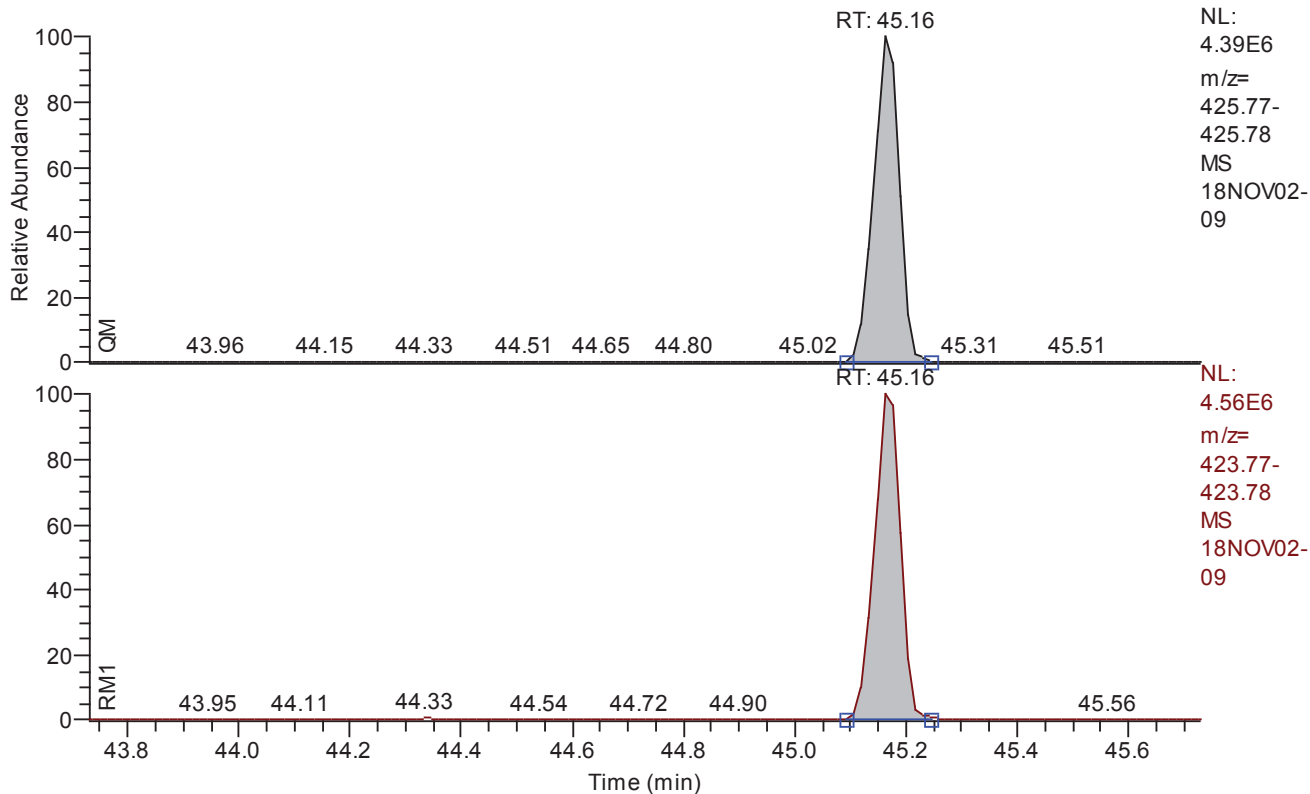


Entry Parameters

Compound Name	Total HxCDD
QM Retention Time	40.73
QM Area	38633737
QM Integration Mode	A
RM1 Area	48701565
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0233
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	3000.0000
Signal-to-Noise	106473
Client Flags	
Status Overview	passed (3)
Status Info	

Chromatogram

RT: 43.73 - 45.73 SM: 3G

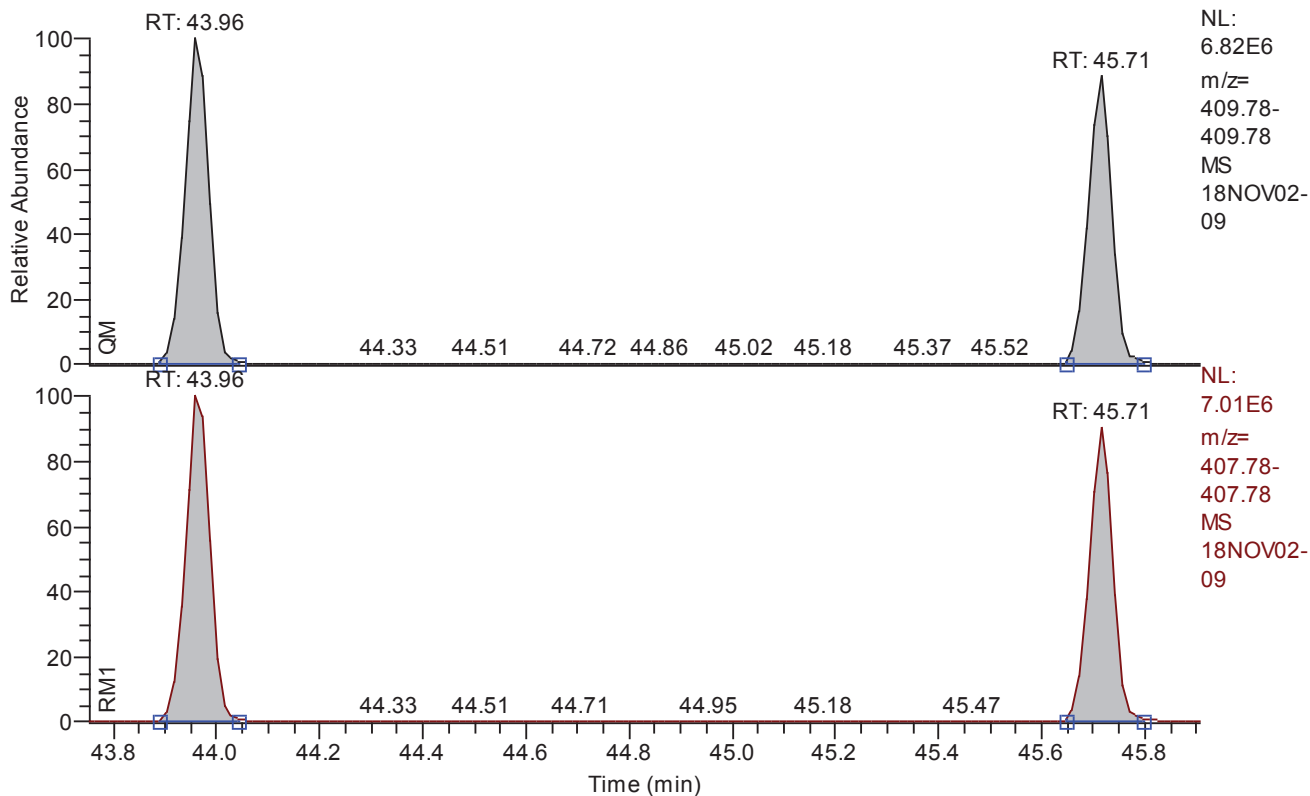


Entry Parameters

Compound Name	Total HpCDD
QM Retention Time	44.73
QM Area	13941245
QM Integration Mode	A
RM1 Area	14712475
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0515
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	49023
Client Flags	
Status Overview	passed (1)
Status Info	

Chromatogram

RT: 43.75 - 45.91 SM: 3G



Entry Parameters

Compound Name	Total HpCDF
QM Retention Time	44.83
QM Area	41536607
QM Integration Mode	A
RM1 Area	43419108
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0522
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2139.9116
Signal-to-Noise	51335
Client Flags	
Status Overview	passed (2)
Status Info	

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	29.28	29.28	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	35.36	35.36	35.36	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.64	36.64	36.64	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.05	37.05	37.05	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.36	40.36	40.36	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.51	40.51	40.51	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.21	41.21	41.21	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.41	41.41	41.41	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.54	41.54	41.54	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.85	41.85	41.85	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.22	42.22	42.22	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.96	43.96	43.96	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.16	45.16	45.16	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.71	45.71	45.71	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.38	48.38	48.38	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	29.61	29.61	29.59	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.27	40.27	40.28	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.27	29.27	29.27	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	35.33	35.33	35.33	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.62	36.62	36.62	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	37.04	37.04	37.04	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.35	40.35	40.35	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.50	40.50	40.50	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.20	41.20	41.20	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.40	41.40	41.40	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.52	41.52	41.52	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.83	41.83	41.83	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.21	42.21	42.21	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.95	43.95	43.95	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.15	45.15	45.15	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.70	45.70	45.70	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.19	48.19	48.19	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	7.46	28.23	28.23	28.23	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	28.96	28.96	28.96	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	34.83	34.83	34.83	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.68	35.77	35.77	35.77	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.50	40.50	40.50	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	40.73	40.73	40.73	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	44.73	44.73	44.73	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	44.83	44.83	44.83	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.46	29.28	29.28	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	3.68	37.05	37.05	37.05	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	36.64	36.64	36.64	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.18	35.36	35.36	35.36	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.07	45.16	45.16	45.16	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	41.21	41.21	41.21	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.36	40.36	40.36	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	40.51	40.51	40.51	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.62	42.22	42.22	42.22	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.85	41.85	41.85	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.41	41.41	41.41	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.59	41.54	41.54	41.54	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	43.96	43.96	43.96	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	1.96	45.71	45.71	45.71	passed	passed

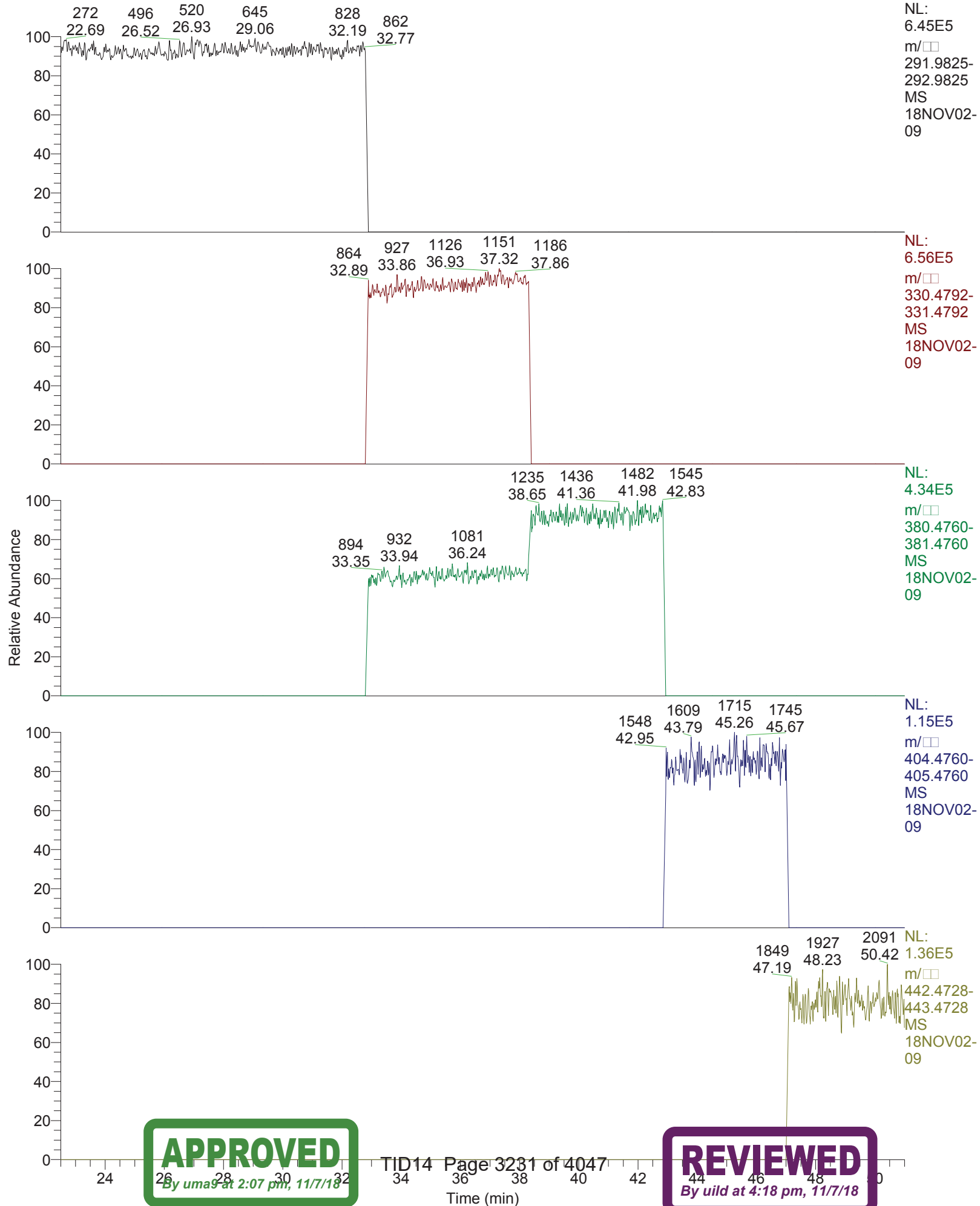
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.28	0.8034	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.46	0.8010	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.36	1.5801	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.64	1.5854	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	37.05	1.5470	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.36	1.2421	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.51	1.2582	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.21	1.2469	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.41	1.2578	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.54	1.2673	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.85	1.2565	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.22	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.96	1.0439	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	45.16	1.0553	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.71	1.0470	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.21	0.8882	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.38	0.8780	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.87	0.7962	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.61	0.8145	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.27	1.2944	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.27	0.7993	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.43	0.8284	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.33	1.5925	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.62	1.5853	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	37.04	1.5861	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.35	0.5416	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.50	0.5298	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	41.20	0.5271	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.40	1.2932	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.52	1.2613	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.83	1.2643	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.21	0.5235	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.95	0.4676	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	45.15	1.0839	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.70	0.4613	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.19	0.9048	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.37	0.9144	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.23	0.8034	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.96	0.8010	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.83	1.5829	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.77	1.5470	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.50	1.2476	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.73	1.2606	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.73	1.0553	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.83	1.0453	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	29.28	0.8034	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.46	0.8010	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	37.05	1.5470	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.64	1.5854	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.36	1.5801	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	45.16	1.0553	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	41.21	1.2469	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.36	1.2421	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.51	1.2582	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.22	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.85	1.2565	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.41	1.2578	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.54	1.2673	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.96	1.0439	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.71	1.0470	0.8750 - 1.2050	passed	100.00	0 - 0	passed

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	29.28	5023433	A	4035652	A	0.0253	200.000000	200.0000	200.000000	19145	
2	2378-TCDD	passed	30.46	3036548	A	2432152	A	0.0208	200.000000	200.0000	200.000000	22903	
3	12378-PeCDF	passed	35.36	15246182	A	24090624	A	0.0178	1000.000000	1000.0000	1000.000000	137971	
4	23478-PeCDF	passed	36.64	17553881	A	27829216	A	0.0149	1000.000000	1000.0000	1000.000000	165642	
5	12378-PeCDD	passed	37.05	9175622	A	14194264	A	0.0319	1000.000000	1000.0000	1000.000000	75311	
6	123478-HxCDF	passed	40.36	19794616	A	24585933	A	0.0454	1000.000000	1000.0000	1000.000000	54054	
7	123678-HxCDF	passed	40.51	20390774	A	25656045	A	0.0444	1000.000000	1000.0000	1000.000000	54773	
8	234678-HxCDF	passed	41.21	19952973	A	24879577	A	0.0442	1000.000000	1000.0000	1000.000000	56163	
9	123478-HxCDD	passed	41.41	12655384	A	15917427	A	0.0235	1000.000000	1000.0000	1000.000000	105450	
10	123678-HxCDD	passed	41.54	13179734	A	16702342	A	0.0236	1000.000000	1000.0000	1000.000000	106742	
11	123789-HxCDD	passed	41.85	12798618	A	16081796	A	0.0228	1000.000000	1000.0000	1000.000000	107229	
12	123789-HxCDF	passed	42.22	17181998	A	21345725	A	0.0536	1000.000000	1000.0000	1000.000000	47855	
13	1234678-HpCDF	passed	43.96	22141760	A	23113383	A	0.0461	1000.000000	1000.0000	1000.000000	54091	
14	1234678-HpCDD	passed	45.16	13941245	A	14712475	A	0.0515	1000.000000	1000.0000	1000.000000	49023	
15	1234789-HpCDF	passed	45.71	19394847	A	20305725	A	0.0518	1000.000000	1000.0000	1000.000000	48580	
16	OCDD	passed	48.21	35966635	A	31944657	A	0.0227	2000.000000	2000.0000	2000.000000	229025	
17	OCDF	passed	48.38	47739931	A	41916993	A	0.0187	2000.000000	2000.0000	2000.000000	279744	
18	13C12-1278-TCDD (CRS)	passed	30.87	1254701	A	999029	A	0.0331	100.000000	100.0000	100.000000	7647	
19	13C12-1234-TCDD	passed	29.61	1225319	A	998005	A	0.0335	100.000000	100.0000	100.000000	7460	
20	13C12-123468-HxCDD	passed	40.27	1175229	A	1521188	A	0.0146	100.000000	100.0000	100.000000	17108	
21	13C12-2378-TCDF	passed	29.27	2430707	A	1942844	A	0.0137	100.000000	100.0000	100.000000	19074	
22	13C12-2378-TCDD	passed	30.43	1214433	A	1006047	A	0.0336	100.000000	100.0000	100.000000	8161	
23	13C12-12378-PeCDF	passed	35.33	1651064	A	2629365	A	0.0351	100.000000	100.0000	100.000000	10277	
24	13C12-23478-PeCDF	passed	36.62	1672494	A	2651454	A	0.0347	100.000000	100.0000	100.000000	10804	
25	13C12-12378-PeCDD	passed	37.04	911588	A	1445872	A	0.0176	100.000000	100.0000	100.000000	21803	
26	13C12-123478-HxCDF	passed	40.35	2592815	A	1404394	A	0.0167	100.000000	100.0000	100.000000	15651	
27	13C12-123678-HxCDF	passed	40.50	2890180	A	1531089	A	0.0151	100.000000	100.0000	100.000000	17040	
28	13C12-234678-HxCDF	passed	41.20	2598909	A	1369868	A	0.0168	100.000000	100.0000	100.000000	15809	
29	13C12-123478-HxCDD	passed	41.40	1269124	A	1641218	A	0.0135	100.000000	100.0000	100.000000	20111	
30	13C12-123678-HxCDD	passed	41.52	1340982	A	1691370	A	0.0130	100.000000	100.0000	100.000000	19951	
31	13C12-123789-HxCDD	passed	41.83	1229720	A	1554688	A	0.0142	100.000000	100.0000	100.000000	19663	
32	13C12-123789-HxCDF	passed	42.21	2447426	A	1281295	A	0.0179	100.000000	100.0000	100.000000	14242	
33	13C12-1234678-HpCDF	passed	43.95	2587134	A	1209800	A	0.0213	100.000000	100.0000	100.000000	13111	
34	13C12-1234678-HpCDD	passed	45.15	1363511	A	1477891	A	0.0208	100.000000	100.0000	100.000000	13541	
35	13C12-1234789-HpCDF	passed	45.70	2225604	A	1026779	A	0.0248	100.000000	100.0000	100.000000	11395	
36	13C12-OCDD	passed	48.19	3516412	A	3181572	A	0.0083	200.000000	200.0000	200.000000	71667	
37	13C12-OCDF	passed	48.37	5159630	A	4718077	A	0.0075	200.000000	200.0000	200.000000	80165	
38	Total TCDF	passed (1)	28.23	5023433	A	4035652	A	0.0253	200.000000	200.0000	200.000000	19145	
39	Total TCDD	passed (1)	28.96	3036548	A	2432152	A	0.0208	200.000000	200.0000	200.000000	22903	
40	Total PeCDF	passed (2)	34.83	32800063	A	51919840	A	0.0162	1000.000000	2000.0000	1000.000000	151807	
41	Total PeCDD	passed (1)	35.77	9175622	A	14194264	A	0.0319	1000.000000	1000.0000	1000.000000	75311	
42	Total HxCDF	passed (4)	40.50	77320361	A	96467280	A	0.0466	1000.000000	4000.0000	1000.000000	53211	
43	Total HxCDD	passed (3)	40.73	38633737	A	48701565	A	0.0233	1000.000000	3000.0000	1000.000000	106473	
44	Total HpCDD	passed (1)	44.73	13941245	A	14712475	A	0.0515	1000.000000	1000.0000	1000.000000	49023	
45	Total HpCDF	passed (2)	44.83	41536607	A	43419108	A	0.0522	1000.000000	2139.9116	1000.000000	51335	
46	Single TCDF	passed	29.28	5023433	A	4035652	A	0.0253	200.000000	200.0000	200.000000	19145	
47	Single TCDD	passed	30.46	3036548	A	2432152	A	0.0208	200.000000	200.0000	200.000000	22903	
48	Single PeCDD	passed	37.05	9175622	A	14194264	A	0.0319	1000.000000	1000.0000	1000.000000	75311	
49	Single PeCDF	passed	36.64	17553881	A	27829216	A	0.0162	1000.000000	1071.3680	1000.000000	165642	
50	Single PeCDD	passed	35.36	15246182	A	24090624	A	0.0162	1000.000000	928.6320	1000.000000	137971	
51	Single HpCDD	passed	45.16	13941245	A	14712475	A	0.0515	1000.000000	1000.0000	1000.000000	49023	
52	Single HxCDF	passed	41.21	19952973	A	24879577	A	0.0466	1000.000000	1031.8927	1000.000000	56163	
53	Single HxCDF	passed	40.36	19794616	A	24585933	A	0.0466	1000.000000	1021.4892	1000.000000	54054	
54	Single HxCDF	passed	40.51	20390774	A	25656045	A	0.0466	1000.000000	1059.8411	1000.000000	54773	
55	Single HxCDF	passed	42.22	17181998	A	21345725	A	0.0466	1000.000000	886.7770	1000.000000	47855	
56	Single HxCDD	passed	41.85	12798618	A	16081796	A	0.0233	1000.000000	992.0529	1000.000000	107229	
57	Single HxCDD	passed	41.41	12655384	A	15917427	A	0.0233	1000.000000	981.4866	1000.000000	105450	
58	Single HxCDD	passed	41.54	13179734	A	16702342	A	0.0233	1000.000000	1026.4604	1000.000000	106742	
59	Single HpCDF	passed	43.96	22141760	A	23113383	A	0.0522	1000.000000	1139.9116	1000.000000	54091	
60	Single HpCDF	passed	45.71	19394847	A	20305725	A	0.0522	1000.000000	1000.0000	1000.000000	48580	

RT: 22.50 - 51.00



18NOV02-09

*** file opened Fri Nov 02 22:19:34 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 02-Nov-18 22:19:33

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 7349737c-0d23-45de-89a6-193501cb8be3

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV02-09

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 22.016667 minutes

MID window end time was 22.010000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

Page 2

APPROVED

By uma9 at 2:07 pm, 11/7/18

TID14 Page 3233 of 4047

REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-09

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	95.5000
BQUAD	3.1000	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	0.9992	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4255.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0072	FVINLET	0.0379	FVSR	0.0364
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	95.5000	LKM	442.9723	MASS	95.5000
MDAC	1398025.1587	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9851	RELEN	0.0000
RES	12530.2003	RPUSHER	-6.1026	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	788.0000	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	5.0000	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	VMAS	95.5000	XLENS_POT	972.0000
XLENS_SYM	-2.5000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.7e-008 mbar
Pirani Analyse: 7.2e-003 mbar
Pirani Source: 3.7e-002 mbar
Pirani Inlet System: 3.9e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11963.
MID Time window 2: Resolution is 11833.
MID Time window 3: Resolution is 12474.
MID Time window 4: Resolution is 12139.

Page 3

APPROVED

By uma9 at 2:07 pm, 11/7/18

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REVIEWED

By uild at 4:18 pm, 11/7/18

18NOV02-09

MID Time Window 5: Resolution is 12487.
MID Time Window 6: Resolution is 12530.

Amplifier Offset: 81.

*** File closed Fri Nov 02 23:10:35 2018



Quantitation Settings

Data File Parameter

Acq. Data	2018/11/06 11:28
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1823237B
Sample ID	CPS02
Inst ID	DF17611-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

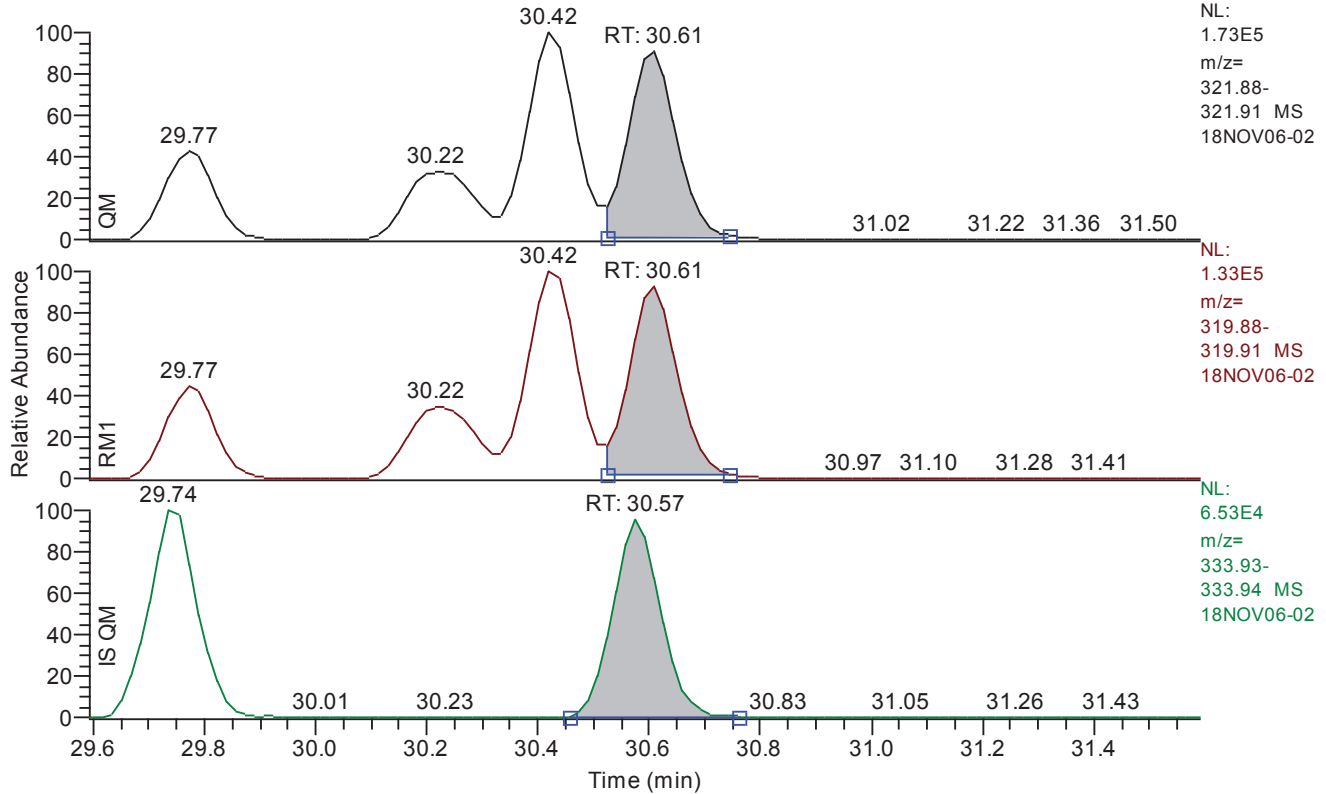
Quan	x:\18nov06\18nov06-02.quan
Data	x:\18nov06\18nov06-02.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependent 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

Chromatogram

RT: 29.59 - 31.59 SM: 3G

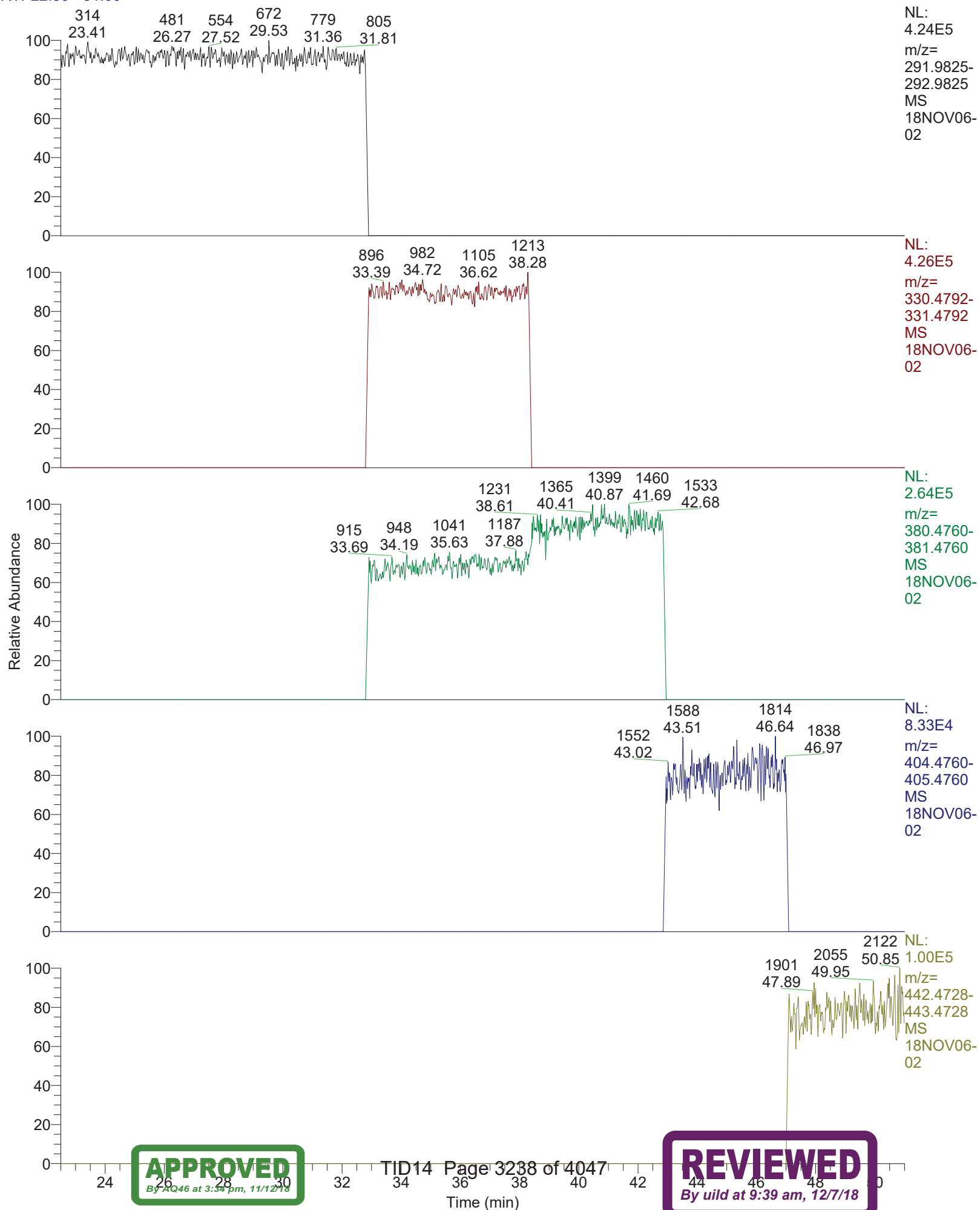


Entry: 2378-TCDD IS: 13C12-2378-TCDD

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	30.61
RM1 Left Baseline Height	2433.21
RM1 Left Height	18136
RM1 Height	121684
GC Res (%) left	15.949484

RT: 22.50 - 51.00



18NOV06-02

*** file opened Tue Nov 06 11:31:09 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 06-Nov-18 11:31:09

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : ea75024e-0155-484c-9427-82df5291ad01

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV06-02

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
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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 3:34 pm, 11/12/18

TID14 Page 3240 of 4047

REVIEWED

By uild at 9:39 am, 12/7/18

18NOV06-02

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	99.0000
BQUAD	3.1000	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	0.9993	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	3913.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0074	FVINLET	0.0376	FVSR	0.0362
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1441894.7239	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9851	RELEN	0.0000
RES	12543.8922	RPUSHER	-6.0733	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	808.0000	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	5.0000	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	VMAS	99.0000	XLENS_POT	1000.0000
XLENS_SYM	-7.0000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.0e-005 mbar
Analyzer Penning: 6.7e-008 mbar
Pirani Analyse: 7.4e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11753.
MID Time window 2: Resolution is 11695.
MID Time window 3: Resolution is 11867.
MID Time window 4: Resolution is 12471.

Page 3

APPROVED

By AQ46 at 3:34 pm, 11/12/18

TID14 Page 3241 of 4047

REVIEWED

By uild at 9:39 am, 12/7/18

18NOV06-02

MID Time Window 5: Resolution is 12556.
MID Time Window 6: Resolution is 12543.

Amplifier Offset: 81.

*** File closed Tue Nov 06 12:22:11 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/06 13:18
Number of Entries	249
Comment	
Vial	9
Sample Name	SSDFX1837C
Sample ID	ICV
Inst ID	DF17611-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov06\18nov06-04.quan
Data	x:\18nov06\18nov06-04.raw
Response	x:\responsefiles\df17611-18nov02dfical.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

Entry Parameters

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	29.32	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.48	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.37	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.65	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.08	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.38	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.53	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.23	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.43	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.54	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.86	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.24	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.98	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.18	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.73	passed	passed	passed	passed	passed	passed	
16	OCDD	48.21	passed	passed	passed	passed	passed	passed	
17	OCDF	48.38	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.87	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.61	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.29	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.28	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.44	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.36	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.64	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.05	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.35	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.52	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.22	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.40	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.85	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.21	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.96	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.16	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.72	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.19	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.37	passed	passed	passed	passed	passed	passed	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/06 13:18
Number of Entries	249
Comment	
Vial	9
Sample Name	SSDFX1837C
Sample ID	ICV
Inst ID	DF17611-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

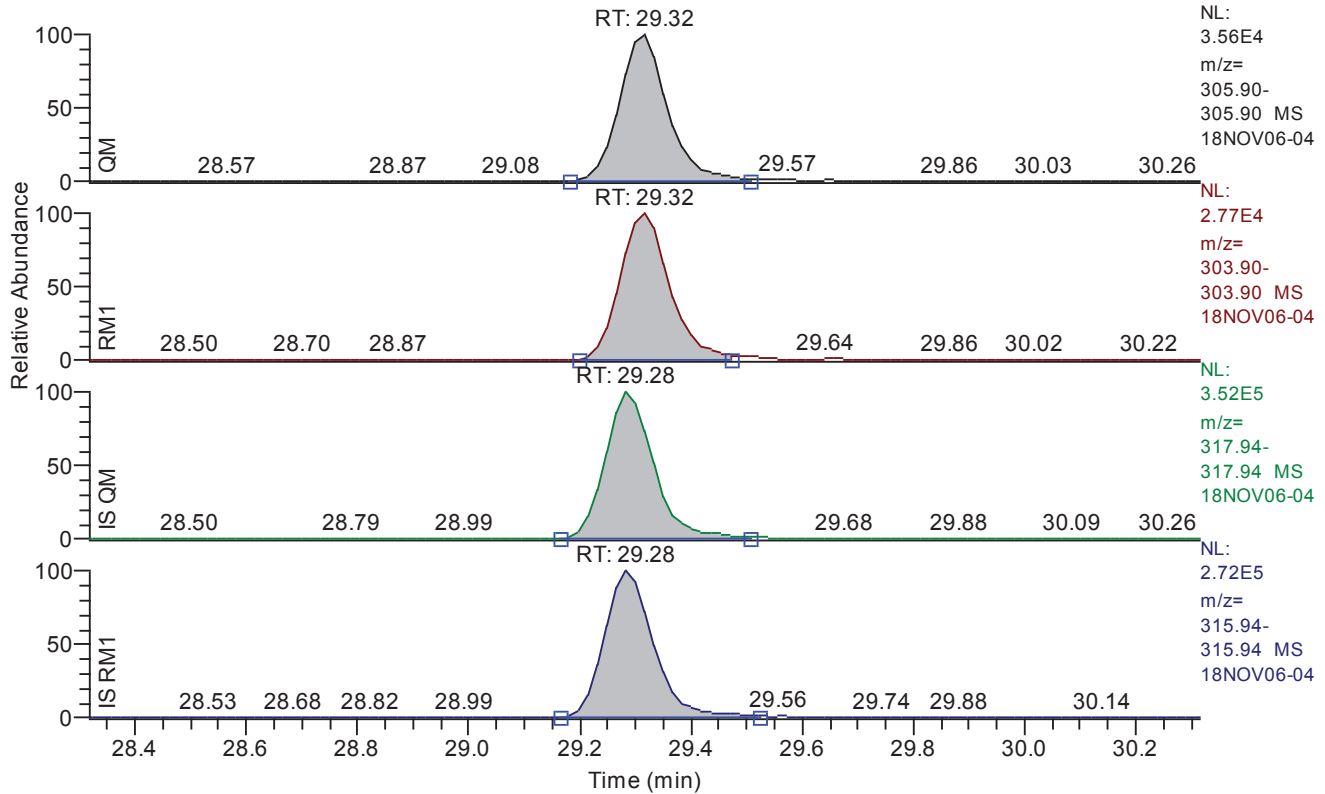
Quan	x:\18nov06\18nov06-04.quan
Data	x:\18nov06\18nov06-04.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.32 - 30.32 SM: 3G



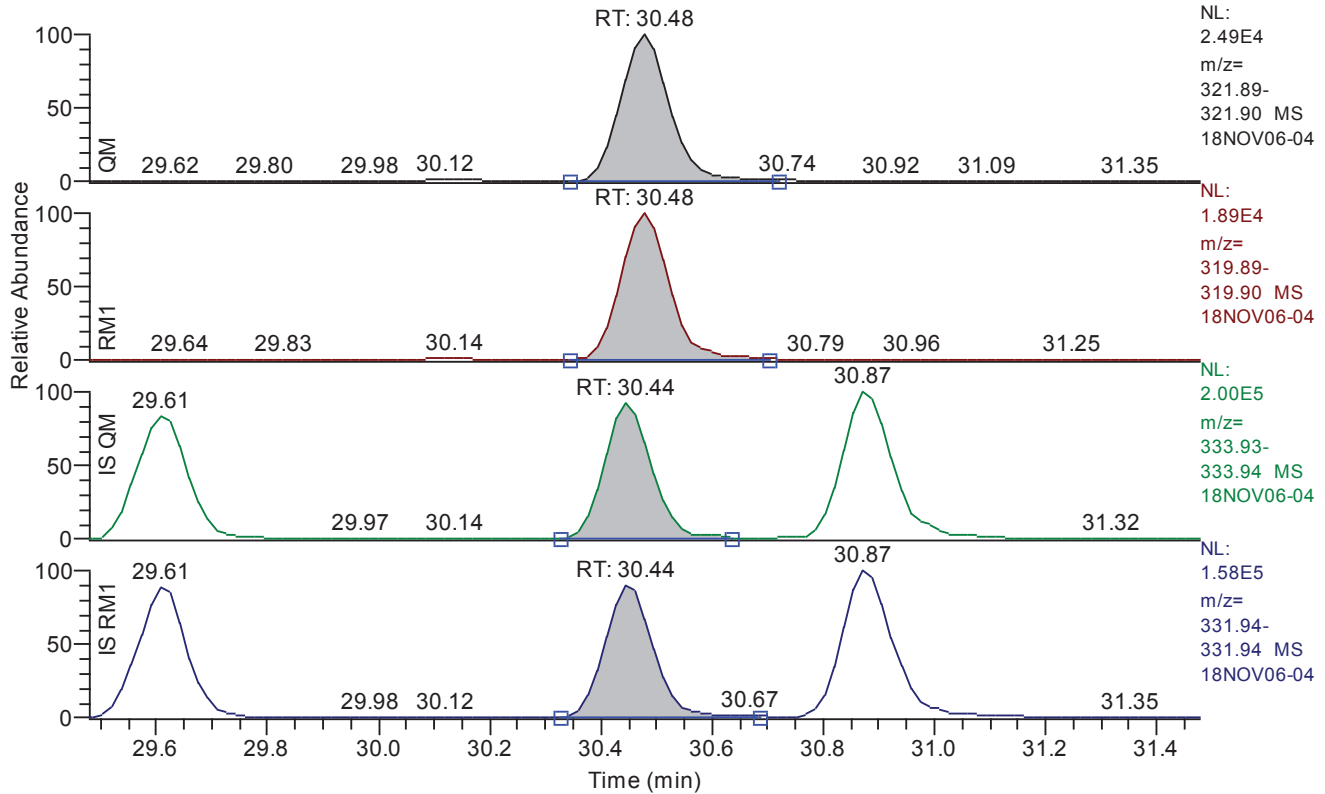
Entry: 2378-tcdf IS: 13C12-2378-TCDF

Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.32
QM Area	216418
QM Integration Mode	A
RM1 Area	172253
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	9.656744
Adjusted Amount (A)	9.6567
Signal-to-Noise	2532
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.48 - 31.48 SM: 3G



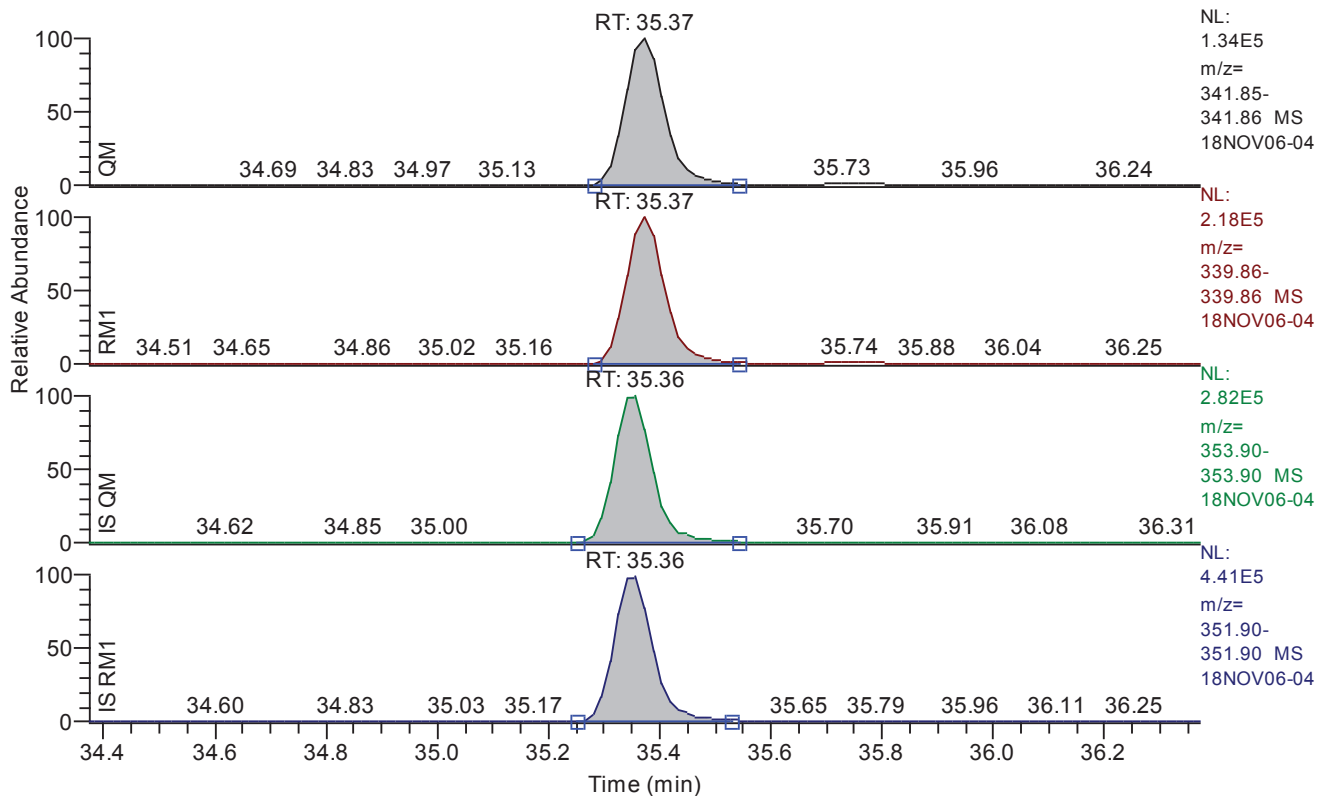
Entry: 2378-tcdd IS: 13C12-2378-TCDD

Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.48
QM Area	155742
QM Integration Mode	A
RM1 Area	117349
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0092
Unqualified Amount (A)	11.029019
Adjusted Amount (A)	11.0290
Signal-to-Noise	2895
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.37 - 36.37 SM: 3G



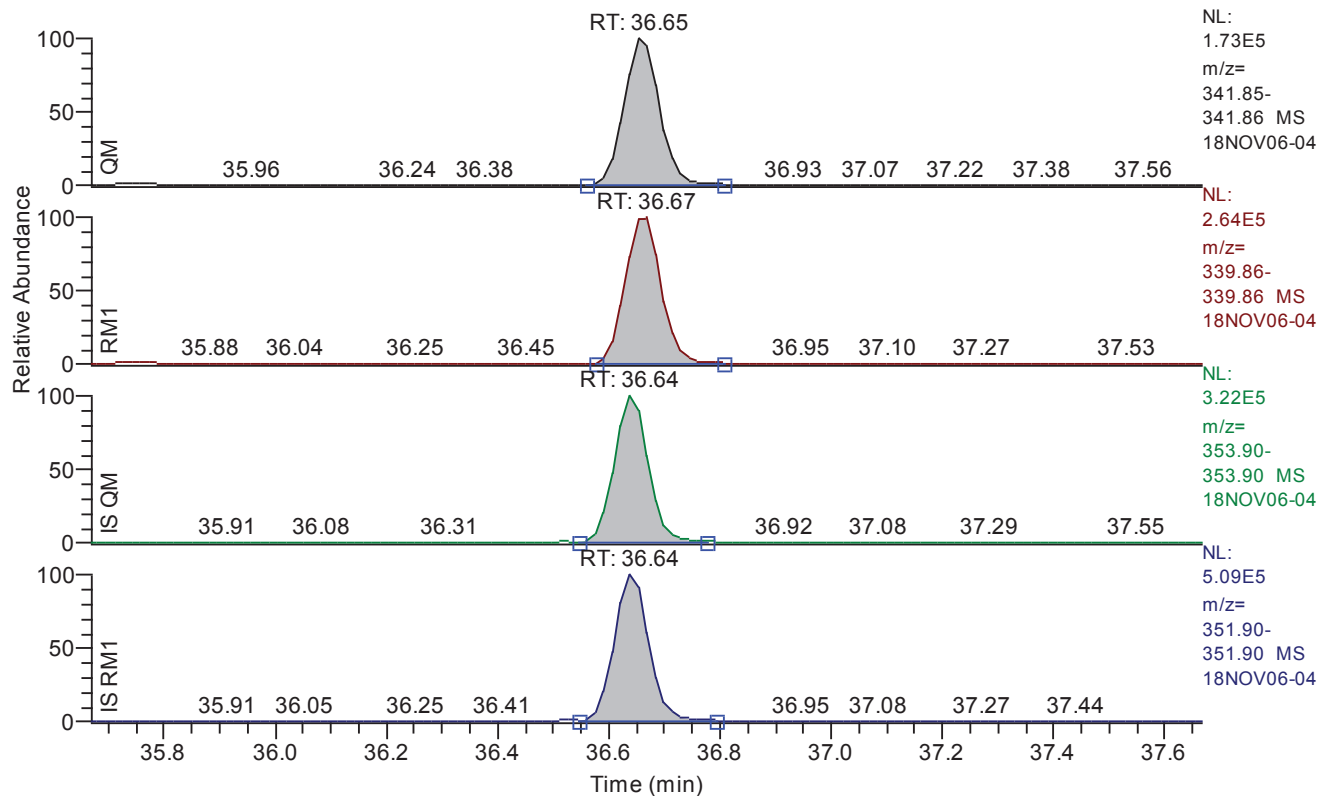
Entry: 12378-pecdf IS: 13C12-12378-PeCDF

Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.37
QM Area	663407
QM Integration Mode	A
RM1 Area	1052260
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0114
Unqualified Amount (A)	52.329698
Adjusted Amount (A)	52.3297
Signal-to-Noise	11454
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.67 - 37.67 SM: 3G



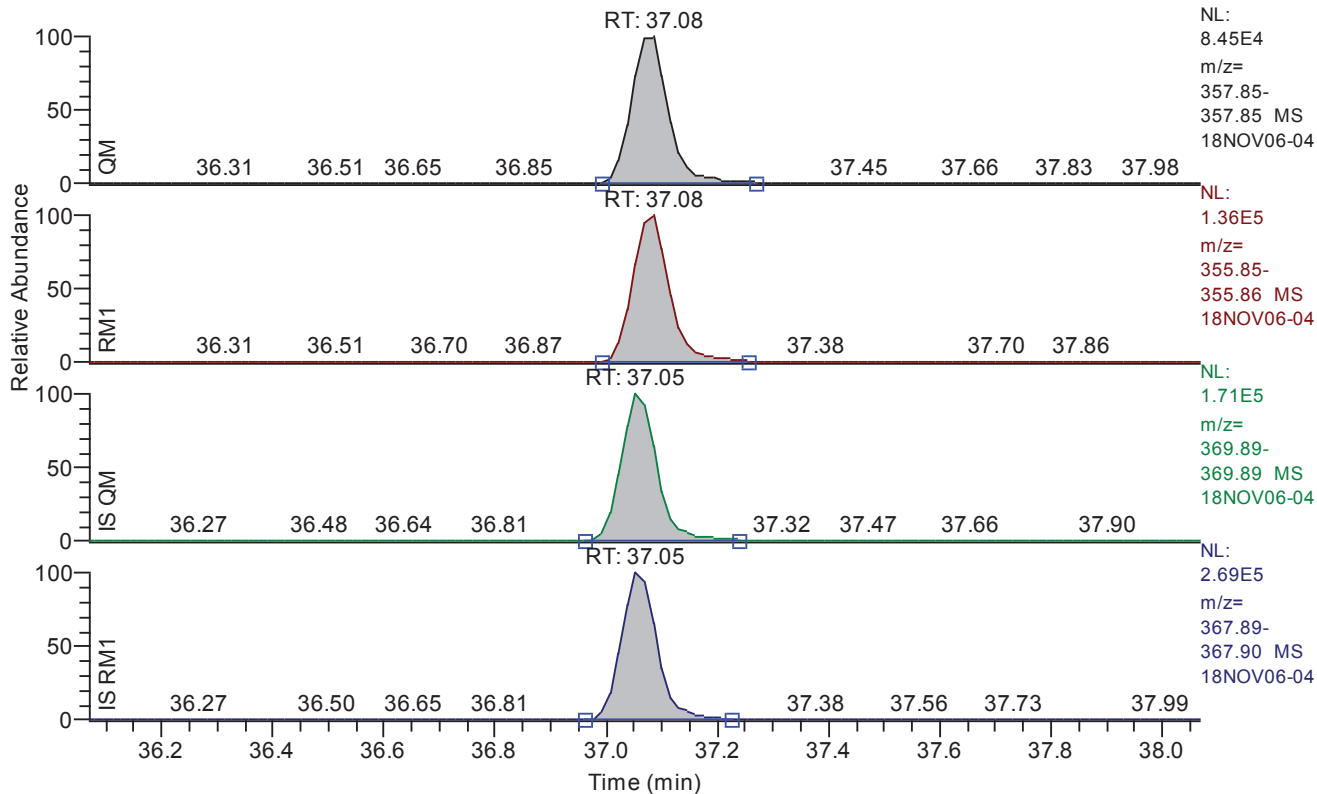
Entry: 23478-pecdf IS: 13C12-23478-PeCDF

Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.65
QM Area	772160
QM Integration Mode	A
RM1 Area	1196418
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0088
Unqualified Amount (A)	52.452196
Adjusted Amount (A)	52.4522
Signal-to-Noise	14242
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.07 - 38.07 SM: 3G



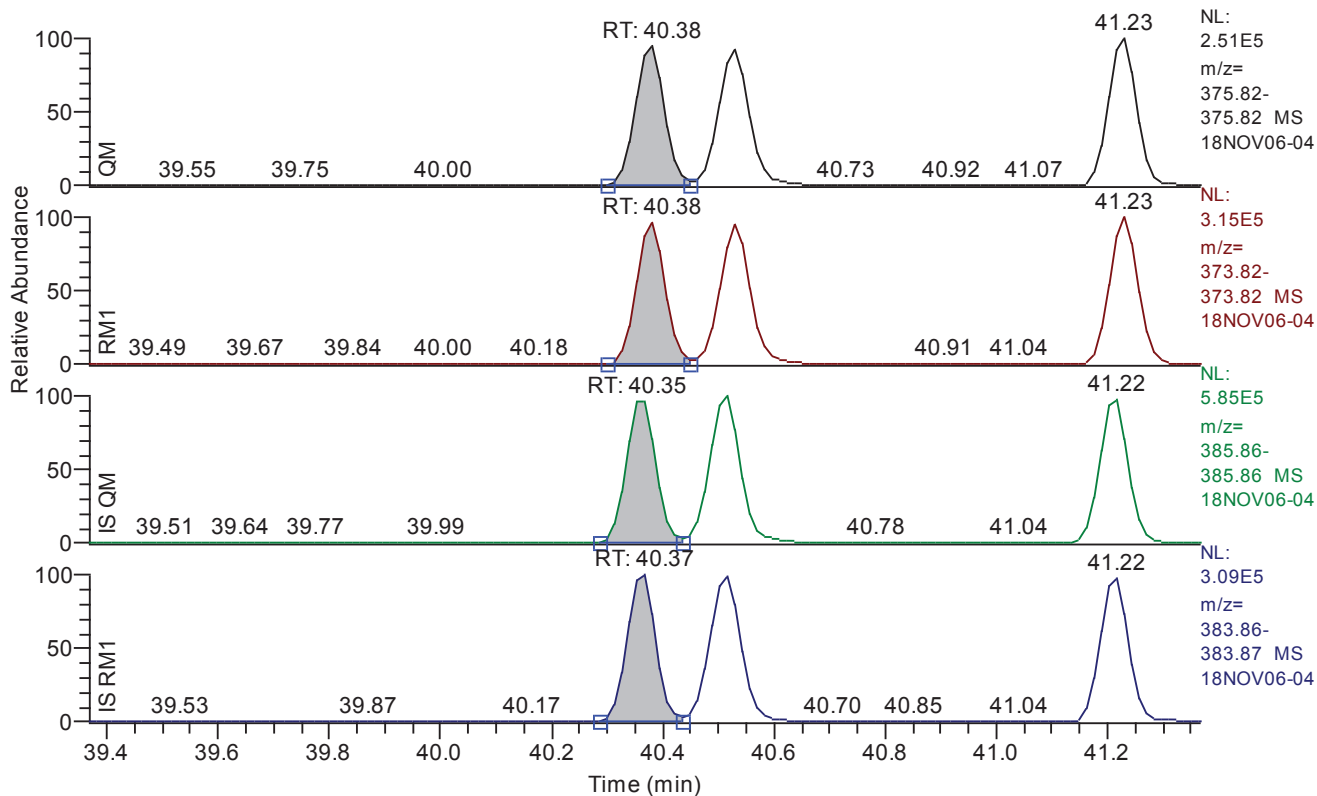
Entry: 12378-pecdd IS: 13C12-12378-PeCDD

Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.08
QM Area	391122
QM Integration Mode	A
RM1 Area	622900
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0177
Unqualified Amount (A)	51.545096
Adjusted Amount (A)	51.5451
Signal-to-Noise	7048
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.37 - 41.37 SM: 3G



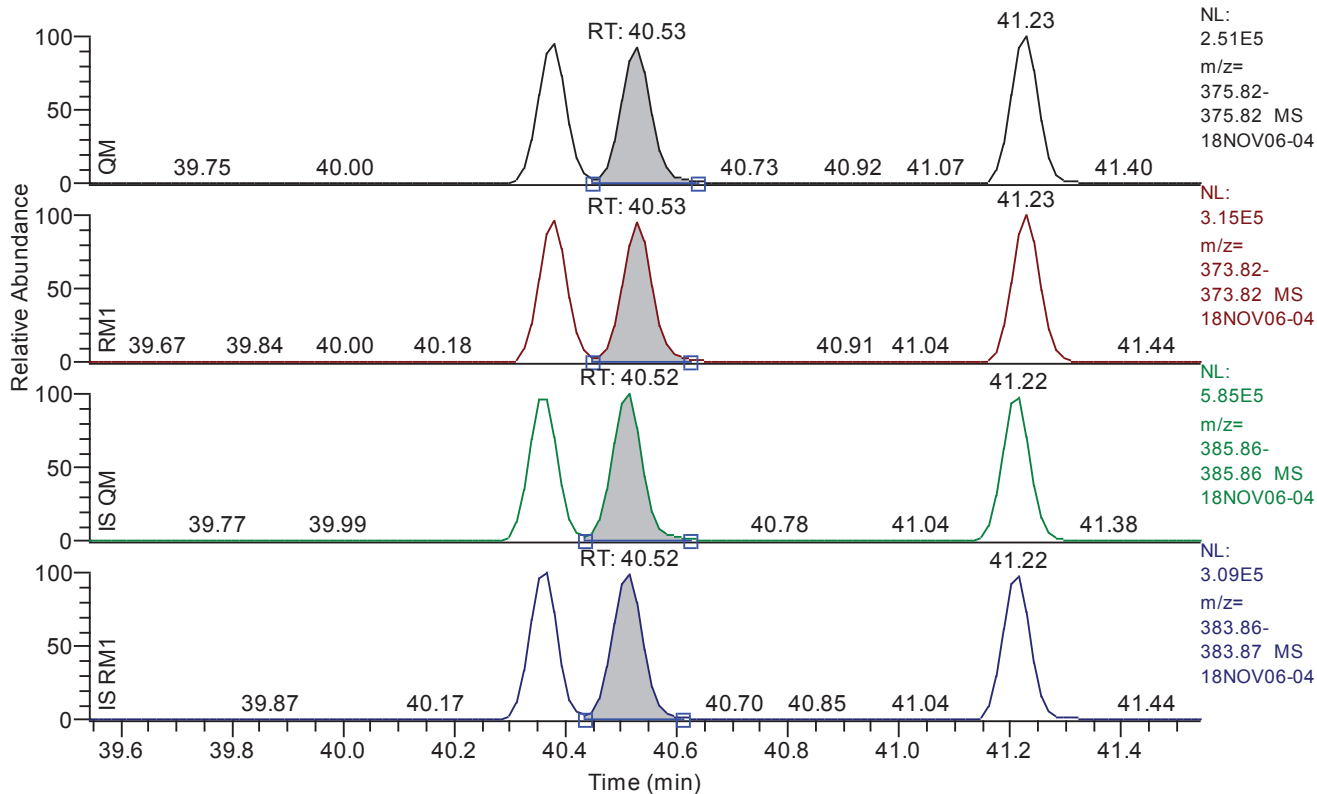
Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.38
QM Area	861764
QM Integration Mode	A
RM1 Area	1084703
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0255
Unqualified Amount (A)	54.425062
Adjusted Amount (A)	54.4251
Signal-to-Noise	5483
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.54 - 41.54 SM: 3G



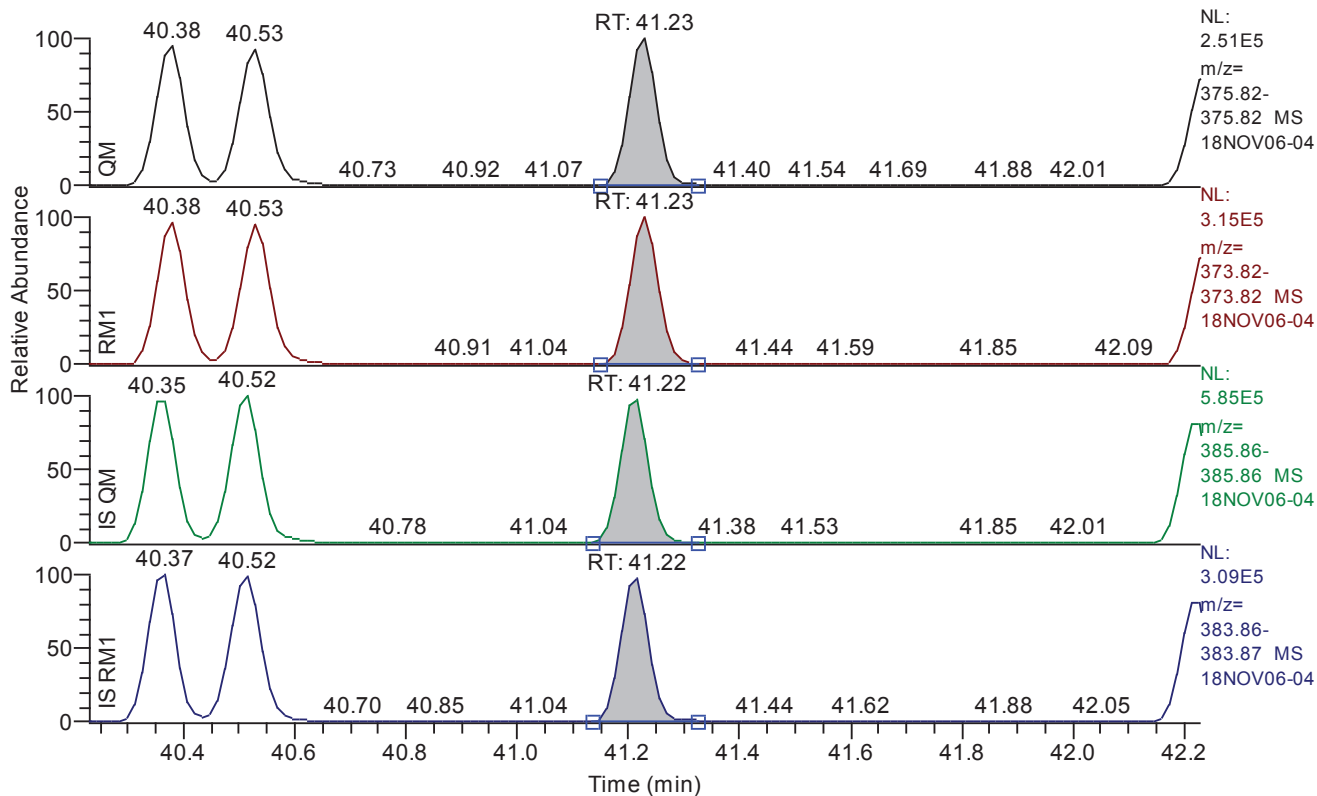
Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.53
QM Area	888212
QM Integration Mode	A
RM1 Area	1115291
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0261
Unqualified Amount (A)	54.601614
Adjusted Amount (A)	54.6016
Signal-to-Noise	5333
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.23 - 42.23 SM: 3G



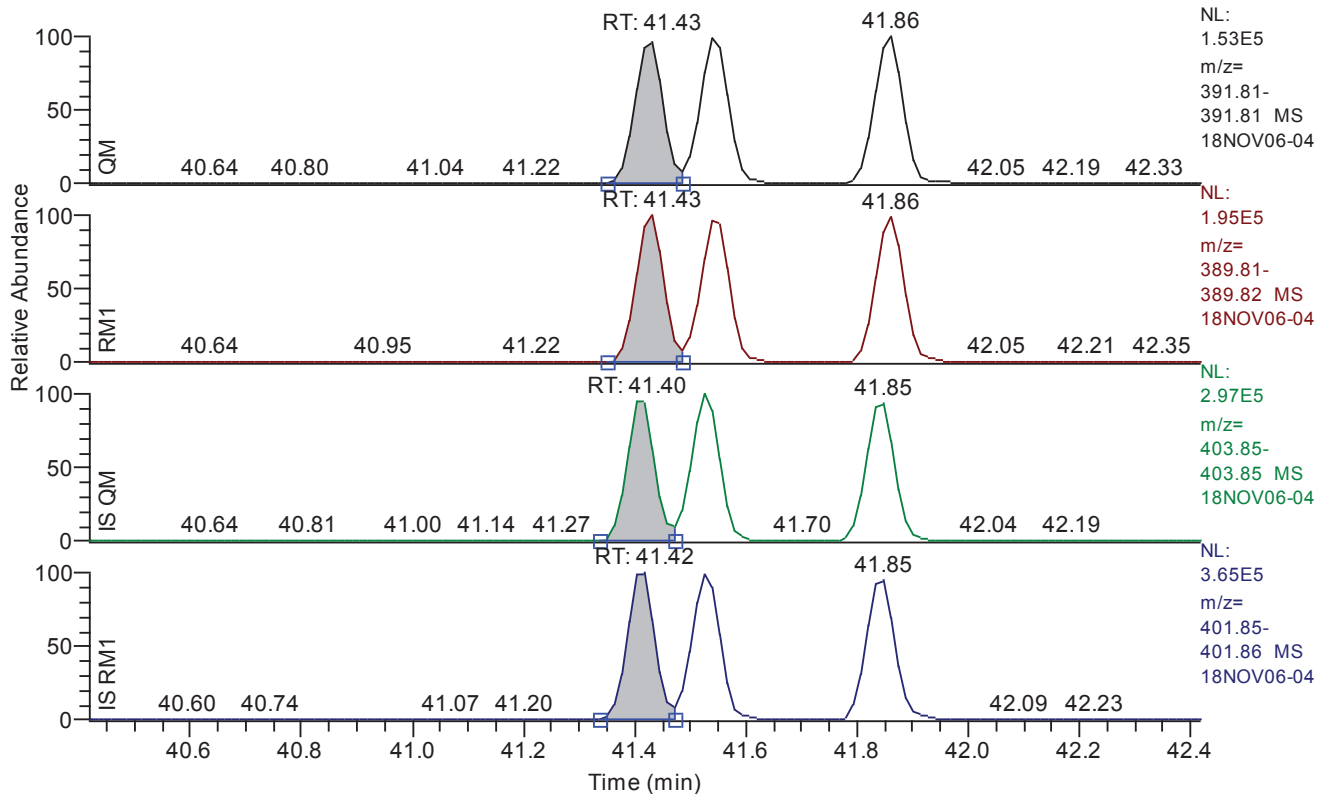
Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.23
QM Area	889456
QM Integration Mode	A
RM1 Area	1120178
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0247
Unqualified Amount (A)	55.596376
Adjusted Amount (A)	55.5964
Signal-to-Noise	5686
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.42 - 42.42 SM: 3G



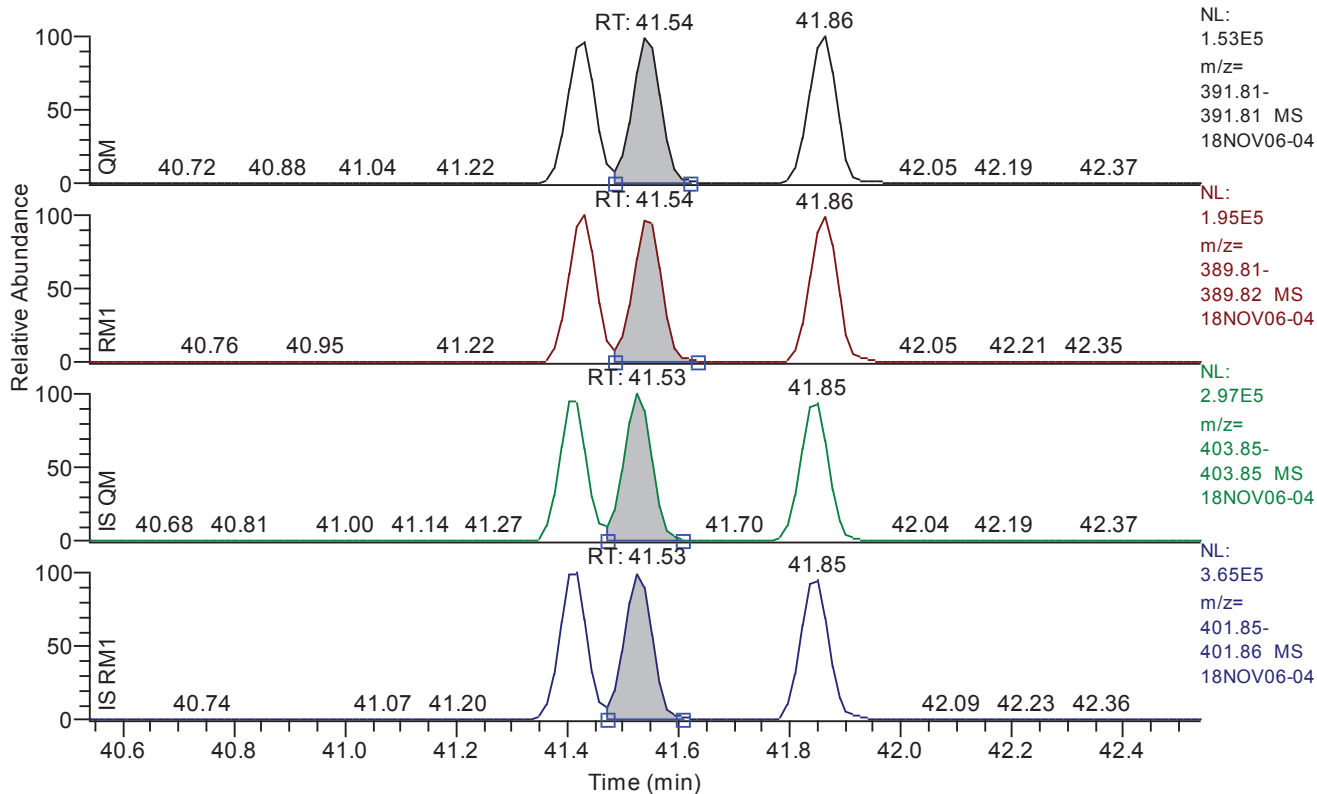
Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.43
QM Area	522244
QM Integration Mode	A
RM1 Area	671805
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0179
Unqualified Amount (A)	52.691675
Adjusted Amount (A)	52.6917
Signal-to-Noise	7313
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.54 - 42.54 SM: 3G



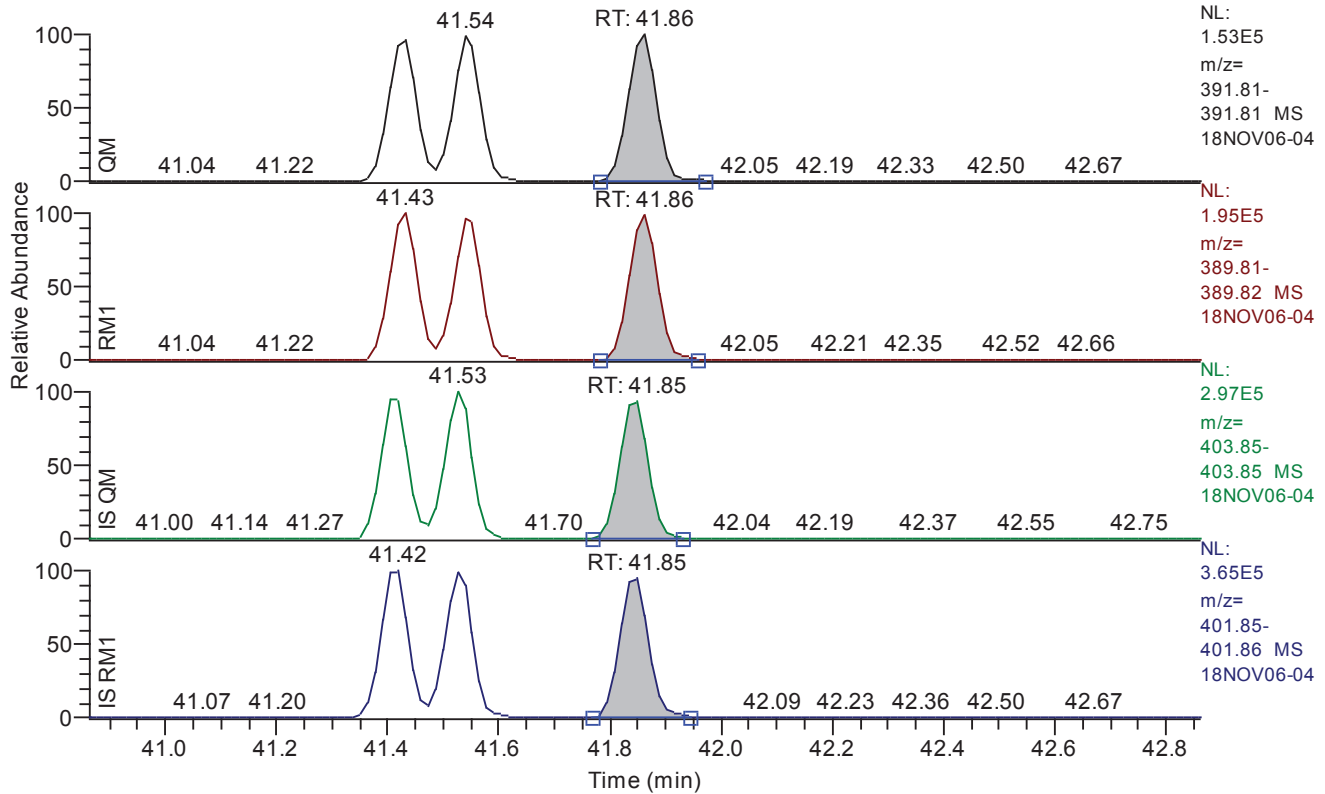
Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.54
QM Area	531587
QM Integration Mode	A
RM1 Area	675466
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0177
Unqualified Amount (A)	52.355389
Adjusted Amount (A)	52.3554
Signal-to-Noise	7270
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.86 - 42.86 SM: 3G



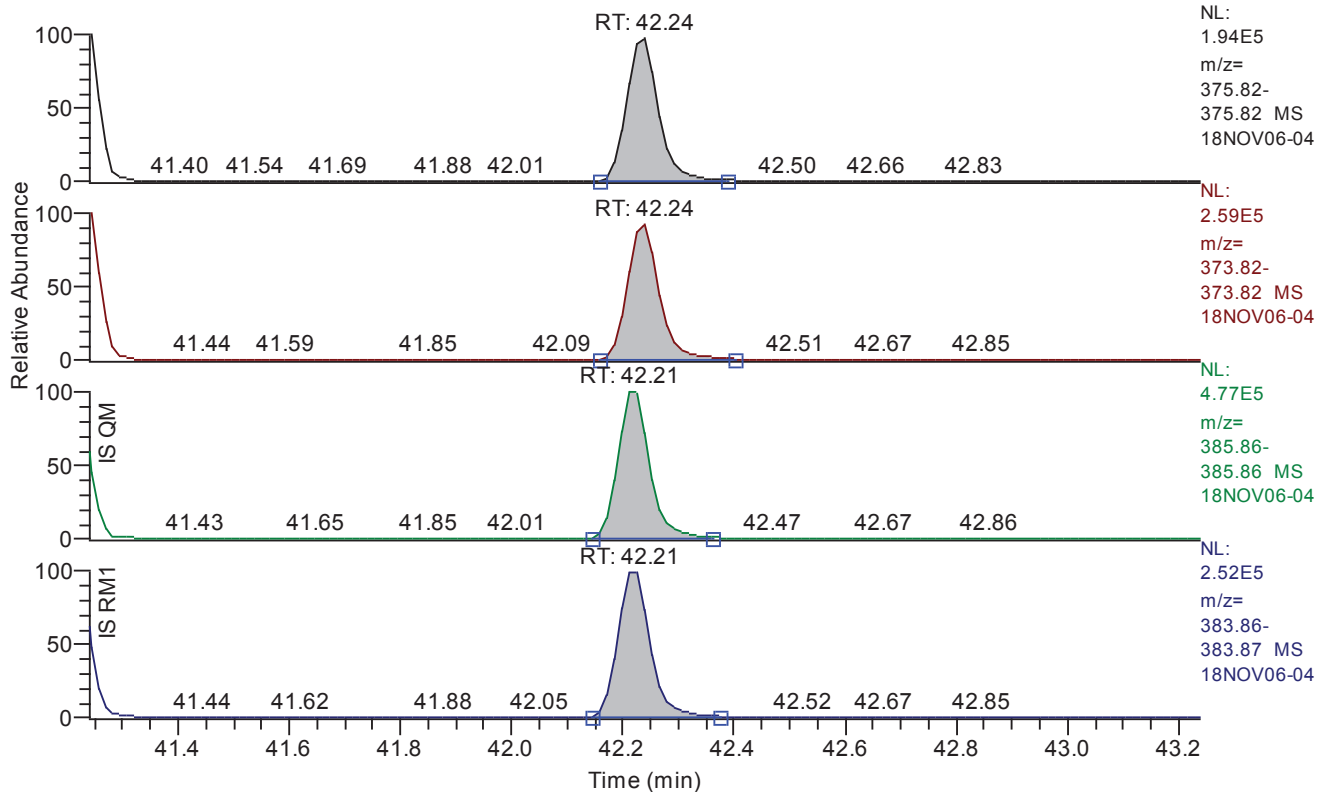
Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.86
QM Area	549848
QM Integration Mode	A
RM1 Area	686266
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0177
Unqualified Amount (A)	52.221432
Adjusted Amount (A)	52.2214
Signal-to-Noise	7393
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.24 - 43.24 SM: 3G



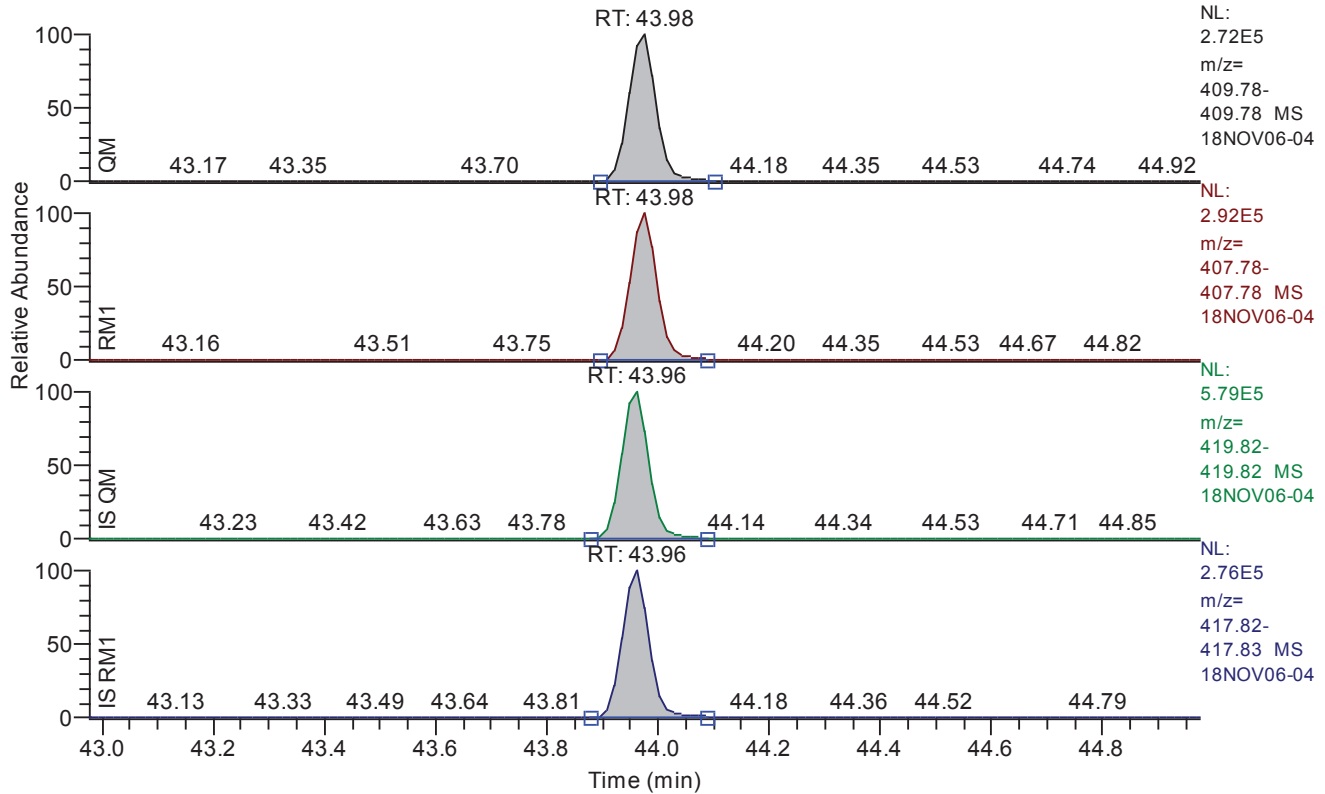
Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.24
QM Area	758573
QM Integration Mode	A
RM1 Area	963343
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0318
Unqualified Amount (A)	54.998573
Adjusted Amount (A)	54.9986
Signal-to-Noise	4321
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 42.98 - 44.98 SM: 3G



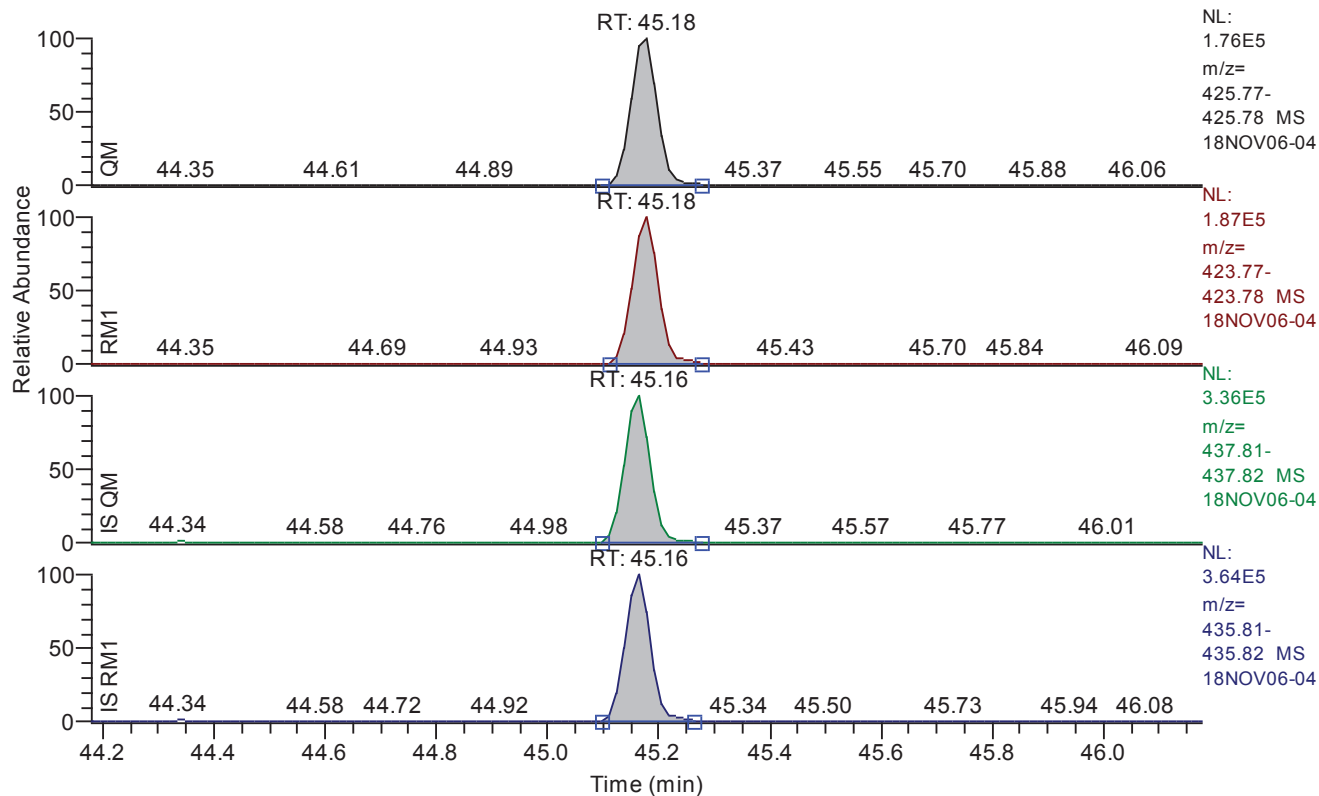
Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	43.98
QM Area	968396
QM Integration Mode	A
RM1 Area	1009265
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0218
Unqualified Amount (A)	55.852391
Adjusted Amount (A)	55.8524
Signal-to-Noise	6395
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.18 - 46.18 SM: 3G



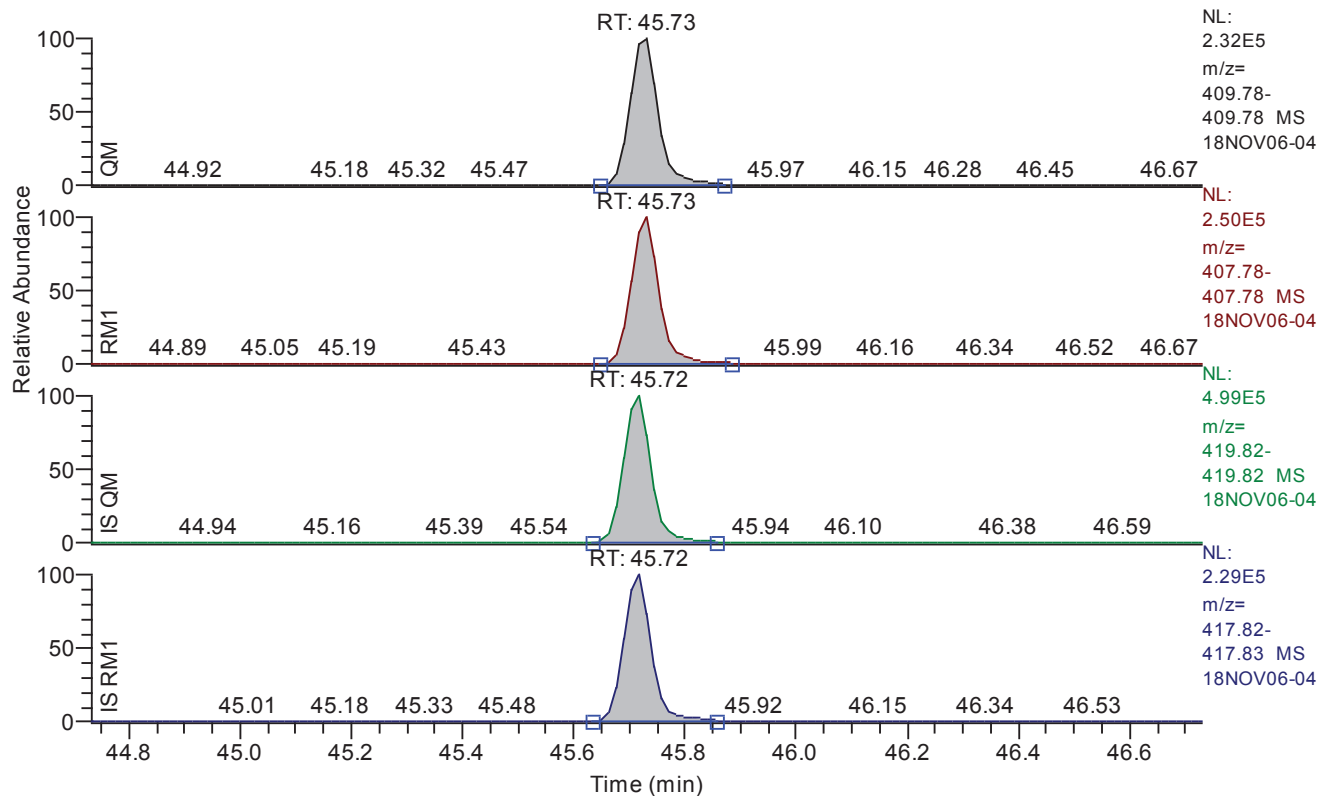
Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.18
QM Area	599464
QM Integration Mode	A
RM1 Area	624289
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0208
Unqualified Amount (A)	52.185227
Adjusted Amount (A)	52.1852
Signal-to-Noise	6127
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.73 - 46.73 SM: 3G



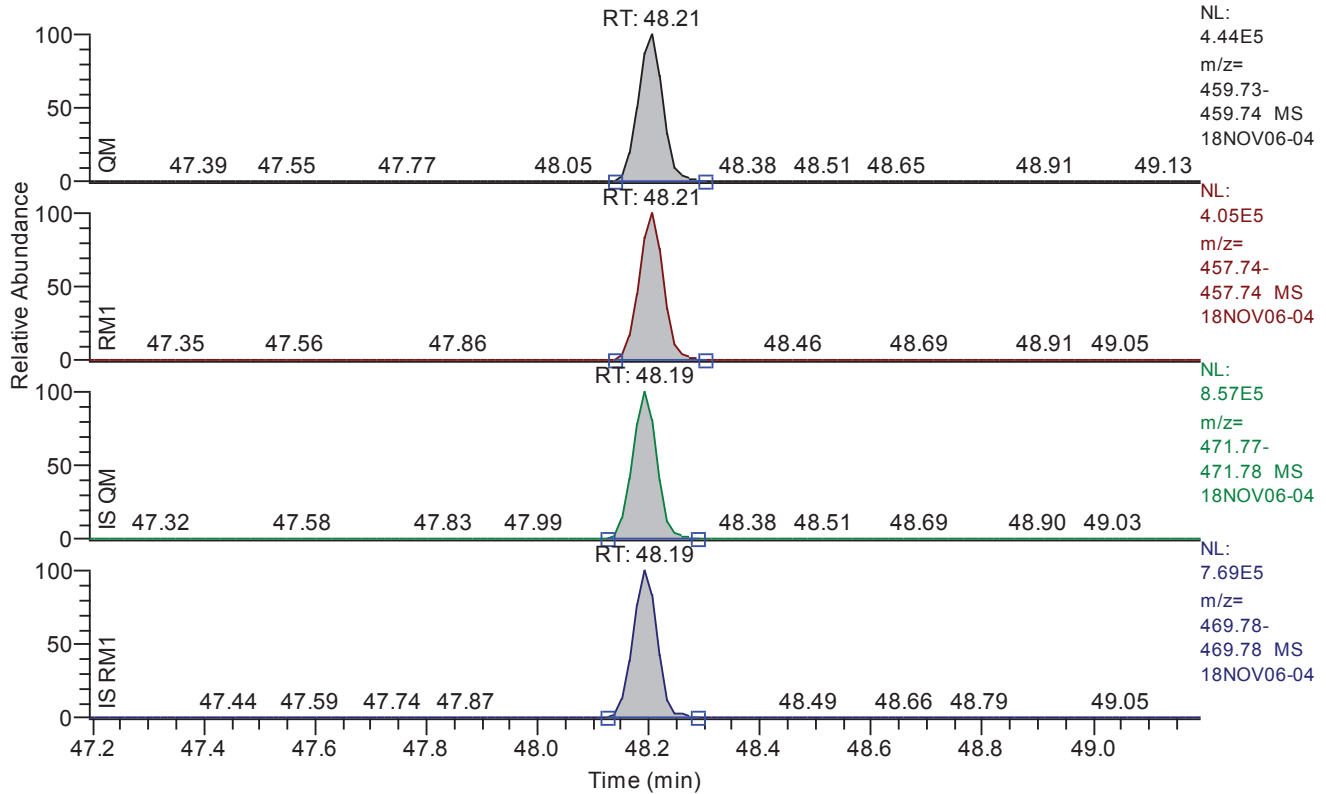
Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.73
QM Area	841032
QM Integration Mode	A
RM1 Area	891752
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0246
Unqualified Amount (A)	54.685696
Adjusted Amount (A)	54.6857
Signal-to-Noise	5453
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.19 - 49.19 SM: 3G



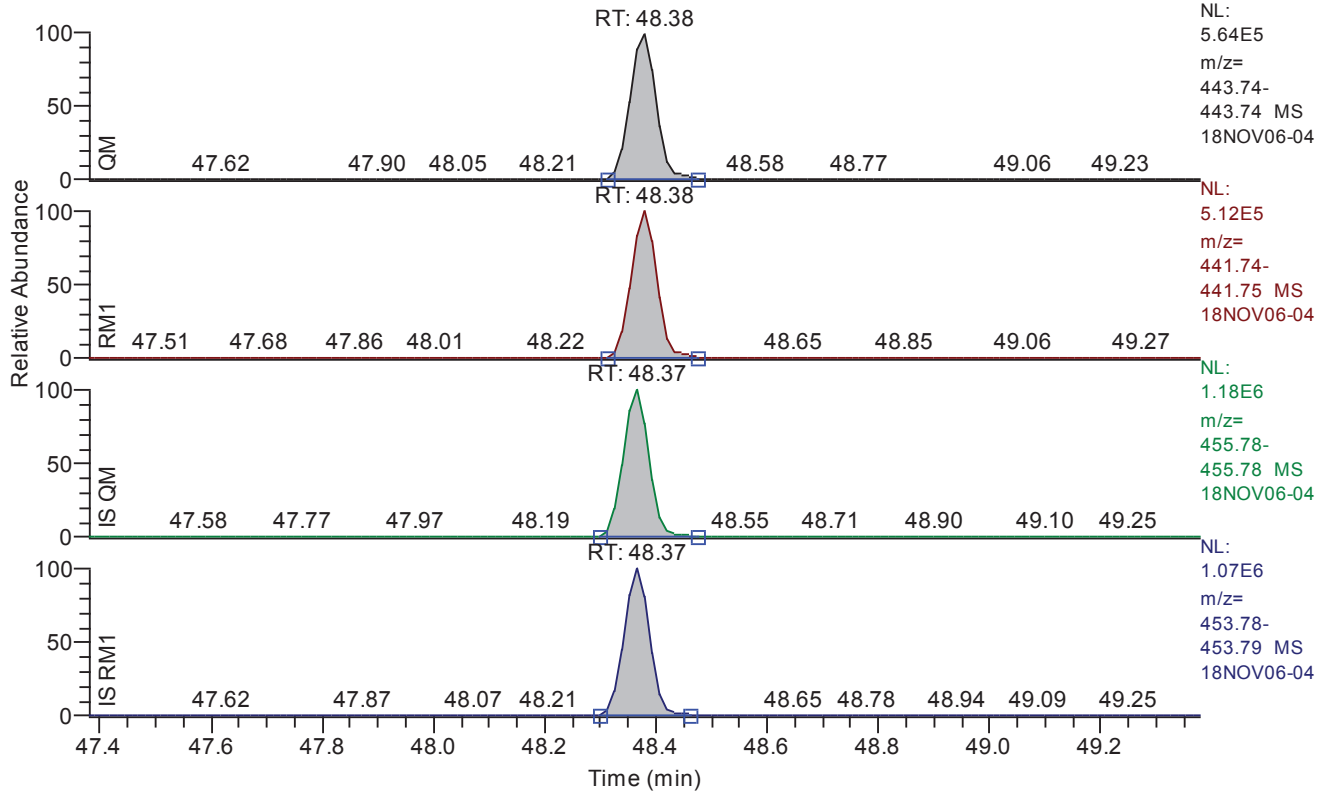
Entry: ocdd IS: 13C12-OCDD

Entry Parameters

Compound Name	OCDD
QM Retention Time	48.21
QM Area	1367176
QM Integration Mode	A
RM1 Area	1236784
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0163
Unqualified Amount (A)	106.799372
Adjusted Amount (A)	106.7994
Signal-to-Noise	16211
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.38 - 49.38 SM: 3G



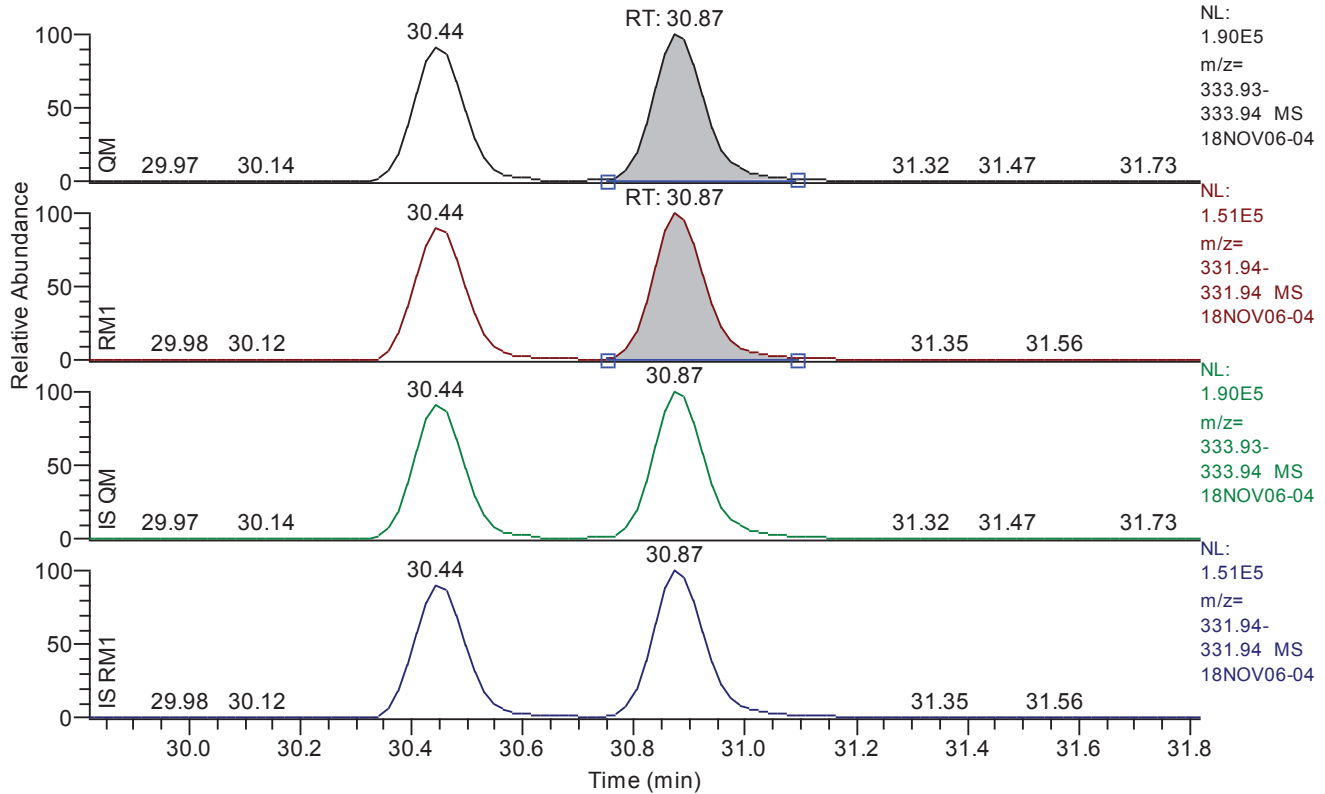
Entry: ocdf IS: 13C12-OCDF

Entry Parameters

Compound Name	OCDF
QM Retention Time	48.38
QM Area	1816226
QM Integration Mode	A
RM1 Area	1653647
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0139
Unqualified Amount (A)	111.879320
Adjusted Amount (A)	111.8793
Signal-to-Noise	19951
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.82 - 31.82 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.87
QM Area	1239294
QM Integration Mode	A
RM1 Area	992566
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0320
Unqualified Amount (A)	110.966424
Adjusted Amount (A)	110.9664
Signal-to-Noise	8144
Client Flags	
Status Overview	passed
Status Info	

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	29.31	29.32	29.32	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.43	30.48	30.48	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.14	35.37	35.37	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.65	36.67	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	37.08	37.08	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.63	40.38	40.38	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.78	40.53	40.53	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.46	41.23	41.23	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.66	41.43	41.43	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.77	41.54	41.54	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.10	41.86	41.86	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.47	42.24	42.24	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.19	43.98	43.98	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	45.40	45.18	45.18	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.95	45.73	45.73	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.40	48.21	48.21	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.59	48.38	48.38	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.82	30.87	30.87	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	40.53	40.29	40.29	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	29.27	29.28	29.28	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.40	30.44	30.44	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.12	35.36	35.36	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.35	36.64	36.64	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.76	37.05	37.05	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.61	40.35	40.37	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.75	40.52	40.52	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.45	41.22	41.22	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.65	41.40	41.42	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.76	41.53	41.53	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.08	41.85	41.85	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.45	42.21	42.21	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.18	43.96	43.96	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	45.38	45.16	45.16	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.94	45.72	45.72	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.40	48.19	48.19	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.58	48.37	48.37	passed	passed

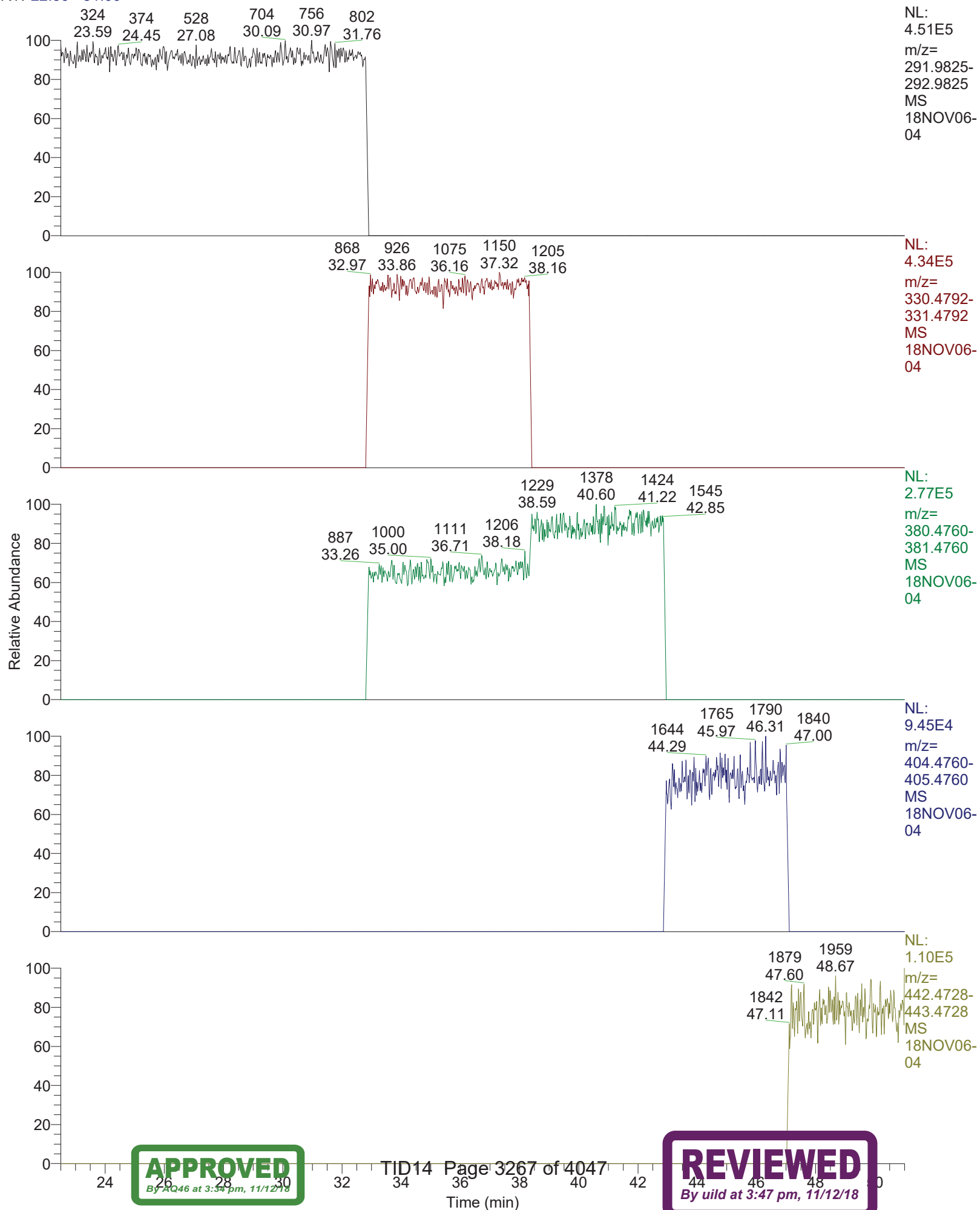
Entry Parameters

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	0.7959	0.6450 - 0.8950	passed	96.57	80 - 120	passed
2	2378-TCDD	30.48	0.7535	0.6450 - 0.8950	passed	110.29	80 - 120	passed
3	12378-PeCDF	35.37	1.5861	1.3150 - 1.7850	passed	104.66	80 - 120	passed
4	23478-PeCDF	36.65	1.5494	1.3150 - 1.7850	passed	104.90	80 - 120	passed
5	12378-PeCDD	37.08	1.5926	1.3150 - 1.7850	passed	103.09	80 - 120	passed
6	123478-HxCDF	40.38	1.2587	1.0450 - 1.4350	passed	108.85	80 - 120	passed
7	123678-HxCDF	40.53	1.2557	1.0450 - 1.4350	passed	109.20	80 - 120	passed
8	234678-HxCDF	41.23	1.2594	1.0450 - 1.4350	passed	111.19	80 - 120	passed
9	123478-HxCDD	41.43	1.2864	1.0450 - 1.4350	passed	105.38	80 - 120	passed
10	123678-HxCDD	41.54	1.2707	1.0450 - 1.4350	passed	104.71	80 - 120	passed
11	123789-HxCDD	41.86	1.2481	1.0450 - 1.4350	passed	104.44	80 - 120	passed
12	123789-HxCDF	42.24	1.2699	1.0450 - 1.4350	passed	110.00	80 - 120	passed
13	1234678-HpCDF	43.98	1.0422	0.8750 - 1.2050	passed	111.70	80 - 120	passed
14	1234678-HpCDD	45.18	1.0414	0.8750 - 1.2050	passed	104.37	80 - 120	passed
15	1234789-HpCDF	45.73	1.0603	0.8750 - 1.2050	passed	109.37	80 - 120	passed
16	OCDD	48.21	0.9046	0.7550 - 1.0250	passed	106.80	80 - 120	passed
17	OCDF	48.38	0.9105	0.7550 - 1.0250	passed	111.88	80 - 120	passed
18	13C12-1278-TCDD (CRS)	30.87	0.8009	0.6450 - 0.8950	passed	110.97	80 - 120	passed
19	13C12-1234-TCDD	29.61	0.8036	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.29	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.28	0.7837	0.6450 - 0.8950	passed	97.59	80 - 120	passed
22	13C12-2378-TCDD	30.44	0.8001	0.6450 - 0.8950	passed	102.19	80 - 120	passed
23	13C12-12378-PeCDF	35.36	1.5607	1.3150 - 1.7850	passed	94.30	80 - 120	passed
24	13C12-23478-PeCDF	36.64	1.6160	1.3150 - 1.7850	passed	96.59	80 - 120	passed
25	13C12-12378-PeCDD	37.05	1.5680	1.3150 - 1.7850	passed	98.17	80 - 120	passed
26	13C12-123478-HxCDF	40.35	0.5280	0.4250 - 0.5950	passed	96.90	80 - 120	passed
27	13C12-123678-HxCDF	40.52	0.5366	0.4250 - 0.5950	passed	96.51	80 - 120	passed
28	13C12-234678-HxCDF	41.22	0.5288	0.4250 - 0.5950	passed	97.09	80 - 120	passed
29	13C12-123478-HxCDD	41.40	1.2923	1.0450 - 1.4350	passed	97.86	80 - 120	passed
30	13C12-123678-HxCDD	41.53	1.2213	1.0450 - 1.4350	passed	96.79	80 - 120	passed
31	13C12-123789-HxCDD	41.85	1.2624	1.0450 - 1.4350	passed	100.27	80 - 120	passed
32	13C12-123789-HxCDF	42.21	0.5364	0.4250 - 0.5950	passed	96.86	80 - 120	passed
33	13C12-1234678-HpCDF	43.96	0.4672	0.3650 - 0.5150	passed	99.02	80 - 120	passed
34	13C12-1234678-HpCDD	45.16	1.0619	0.8750 - 1.2050	passed	103.28	80 - 120	passed
35	13C12-1234789-HpCDF	45.72	0.4604	0.3650 - 0.5150	passed	101.55	80 - 120	passed
36	13C12-OCDD	48.19	0.8994	0.7550 - 1.0250	passed	104.99	80 - 120	passed
37	13C12-OCDF	48.37	0.9037	0.7550 - 1.0250	passed	104.13	80 - 120	passed

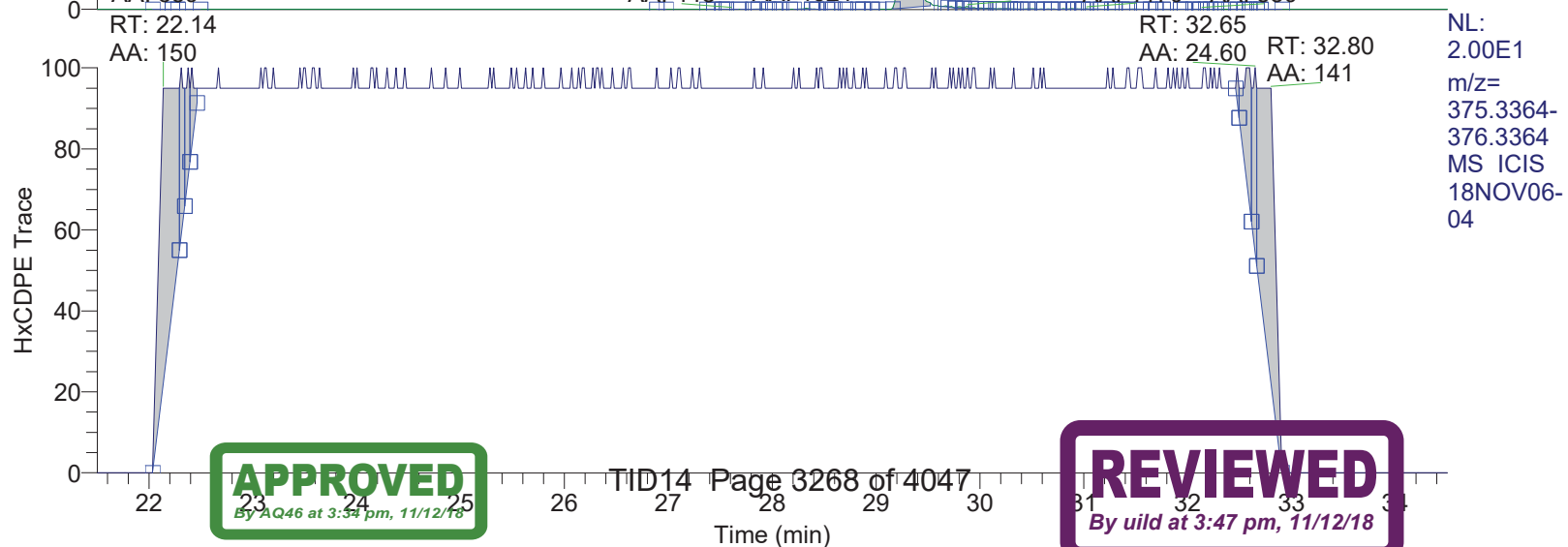
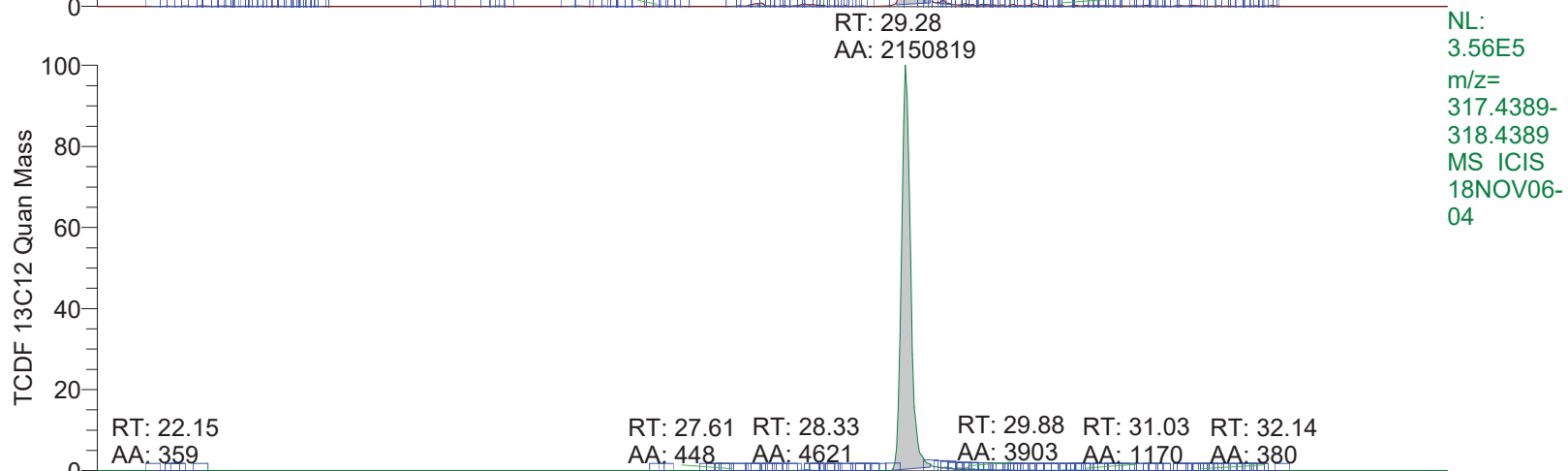
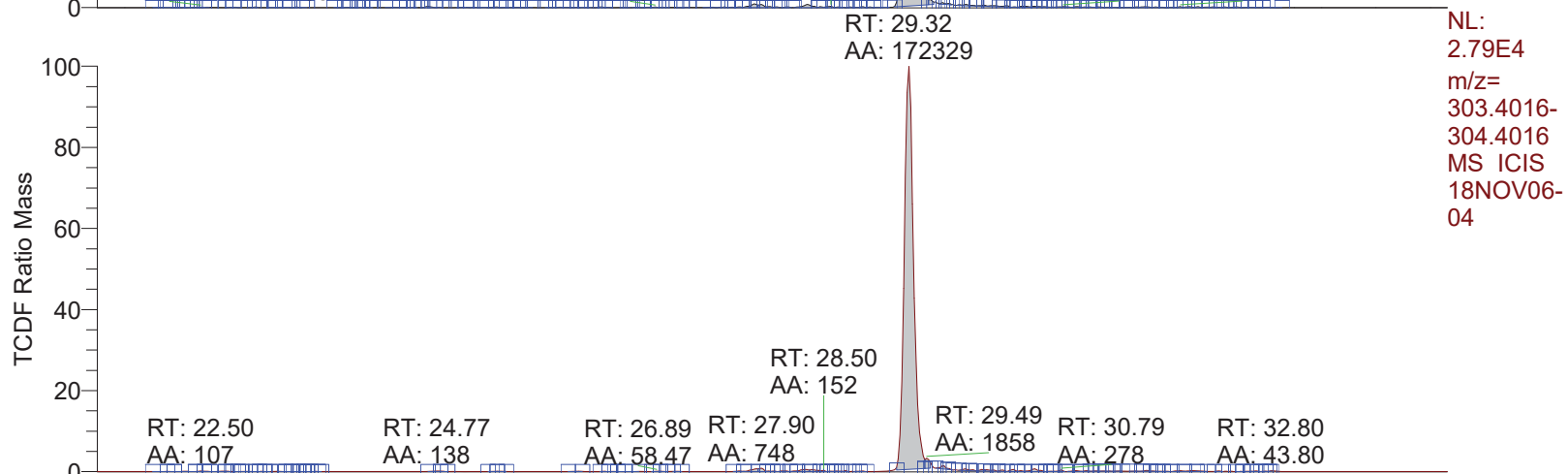
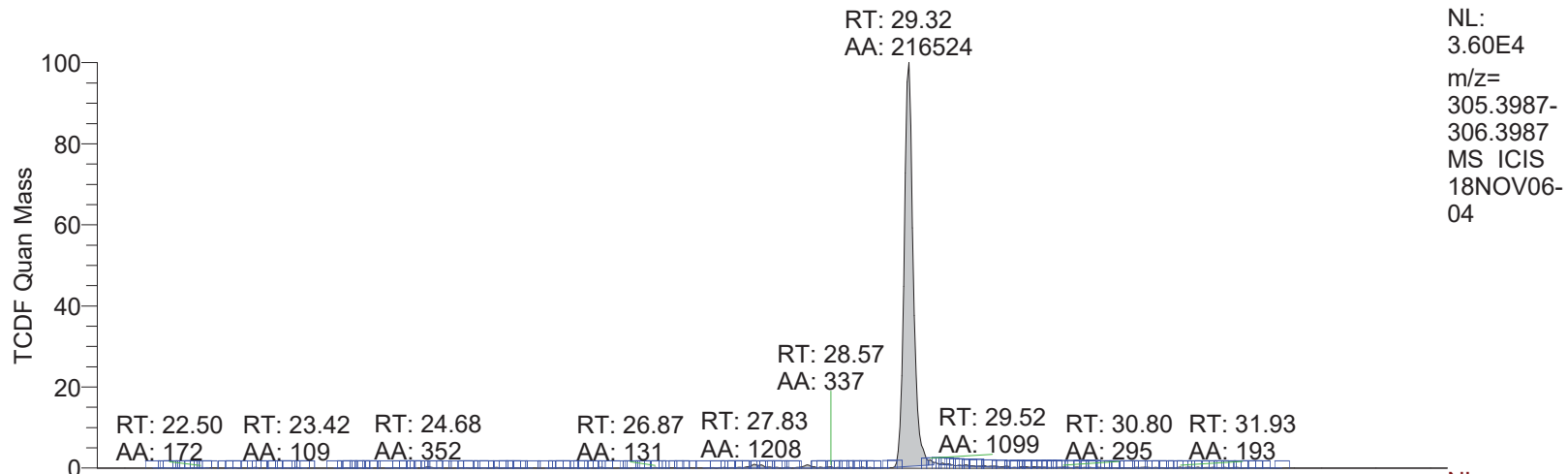
Entry Parameters

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	29.32	216418	A	172253	A	0.009515	9.656744	9.6567	10.0	2532
2	2378-TCDD	passed	30.48	155742	A	117349	A	0.009246	11.029019	11.0290	10.0	2895
3	12378-PeCDF	passed	35.37	663407	A	1052260	A	0.011352	52.329698	52.3297	50.0	11454
4	23478-PeCDF	passed	36.65	772160	A	1196418	A	0.008808	52.452196	52.4522	50.0	14242
5	12378-PeCDD	passed	37.08	391122	A	622900	A	0.017738	51.545096	51.5451	50.0	7048
6	123478-HxCDF	passed	40.38	861764	A	1084703	A	0.025483	54.425062	54.4251	50.0	5483
7	123678-HxCDF	passed	40.53	888212	A	1115291	A	0.026079	54.601614	54.6016	50.0	5333
8	234678-HxCDF	passed	41.23	889456	A	1120178	A	0.024663	55.596376	55.5964	50.0	5686
9	123478-HxCDD	passed	41.43	522244	A	671805	A	0.017901	52.691675	52.6917	50.0	7313
10	123678-HxCDD	passed	41.54	531587	A	675466	A	0.017717	52.355389	52.3554	50.0	7270
11	123789-HxCDD	passed	41.86	549848	A	686266	A	0.017704	52.221432	52.2214	50.0	7393
12	123789-HxCDF	passed	42.24	758573	A	963343	A	0.031765	54.998573	54.9986	50.0	4321
13	1234678-HpCDF	passed	43.98	968396	A	1009265	A	0.021785	55.852391	55.8524	50.0	6395
14	1234678-HpCDD	passed	45.18	599464	A	624289	A	0.020783	52.185227	52.1852	50.0	6127
15	1234789-HpCDF	passed	45.73	841032	A	891752	A	0.024647	54.685696	54.6857	50.0	5453
16	OCDD	passed	48.21	1367176	A	1236784	A	0.016332	106.799372	106.7994	100.0	16211
17	OCDF	passed	48.38	1816226	A	1653647	A	0.013899	111.879320	111.8793	100.0	19951
18	13C12-1278-TCDD	passed	30.87	1239294	A	992566	A	0.031963	110.966424	110.9664	100.0	8144
19	13C12-1234-TCDD	passed	29.61	1067829	A	858136	A	0.033380	100.000000	100.0000	100.0	7489
20	13C12-123468-HxCDD	passed	40.29	1017234	A	1273472	A	0.024137	100.000000	100.0000	100.0	10358
21	13C12-2378-TCDF	passed	29.28	2146301	A	1681974	A	0.017120	97.586568	97.5866	100.0	14398
22	13C12-2378-TCDD	passed	30.44	1100307	A	880331	A	0.033169	102.188109	102.1881	100.0	7903
23	13C12-12378-PeCDF	passed	35.36	1366251	A	2132279	A	0.048560	94.297701	94.2977	100.0	6217
24	13C12-23478-PeCDF	passed	36.64	1365746	A	2207099	A	0.048707	96.593898	96.5939	100.0	7147
25	13C12-12378-PeCDD	passed	37.05	764793	A	1199232	A	0.029017	98.173948	98.1739	100.0	11765
26	13C12-123478-HxCDF	passed	40.35	2101671	A	1109712	A	0.028257	96.896545	96.8965	100.0	8367
27	13C12-123678-HxCDF	passed	40.52	2224472	A	1193566	A	0.026442	96.508866	96.5089	100.0	8482
28	13C12-234678-HxCDF	passed	41.22	2057054	A	1087806	A	0.028912	97.089805	97.0898	100.0	8377
29	13C12-123478-HxCDD	passed	41.40	976594	A	1262016	A	0.024169	97.855993	97.8560	100.0	10449
30	13C12-123678-HxCDD	passed	41.53	1035082	A	1264123	A	0.023276	96.790533	96.7905	100.0	10658
31	13C12-123789-HxCDD	passed	41.85	993776	A	1254560	A	0.024658	100.267886	100.2679	100.0	10159
32	13C12-123789-HxCDF	passed	42.21	1897063	A	1017534	A	0.031121	96.855406	96.8554	100.0	6959
33	13C12-1234678-HpCDF	passed	43.96	2035902	A	951129	A	0.031553	99.019676	99.0197	100.0	8032
34	13C12-1234678-HpCDD	passed	45.16	1115630	A	1184683	A	0.027569	103.276736	103.2767	100.0	10197
35	13C12-1234789-HpCDF	passed	45.72	1761805	A	811052	A	0.037569	101.550406	101.5504	100.0	6833
36	13C12-OCDD	passed	48.19	2603425	A	2341471	A	0.016336	209.978766	209.9788	200.0	37821
37	13C12-OCDF	passed	48.37	3778320	A	3414545	A	0.018514	208.255797	208.2558	200.0	31490

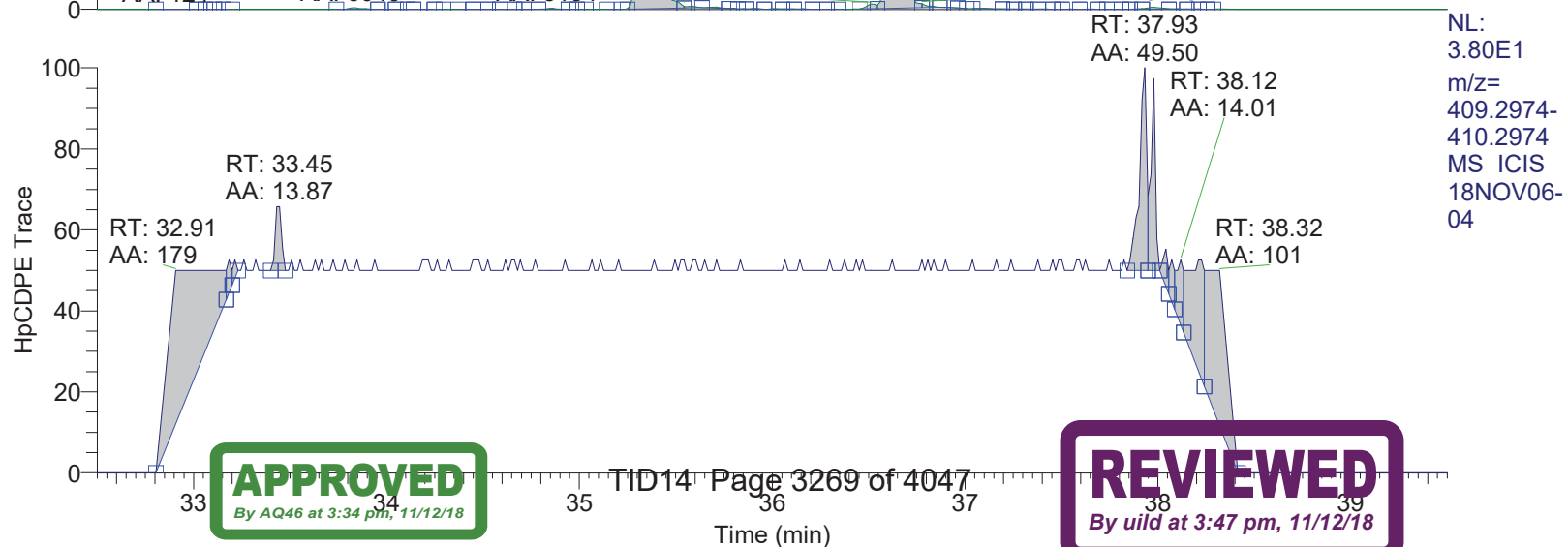
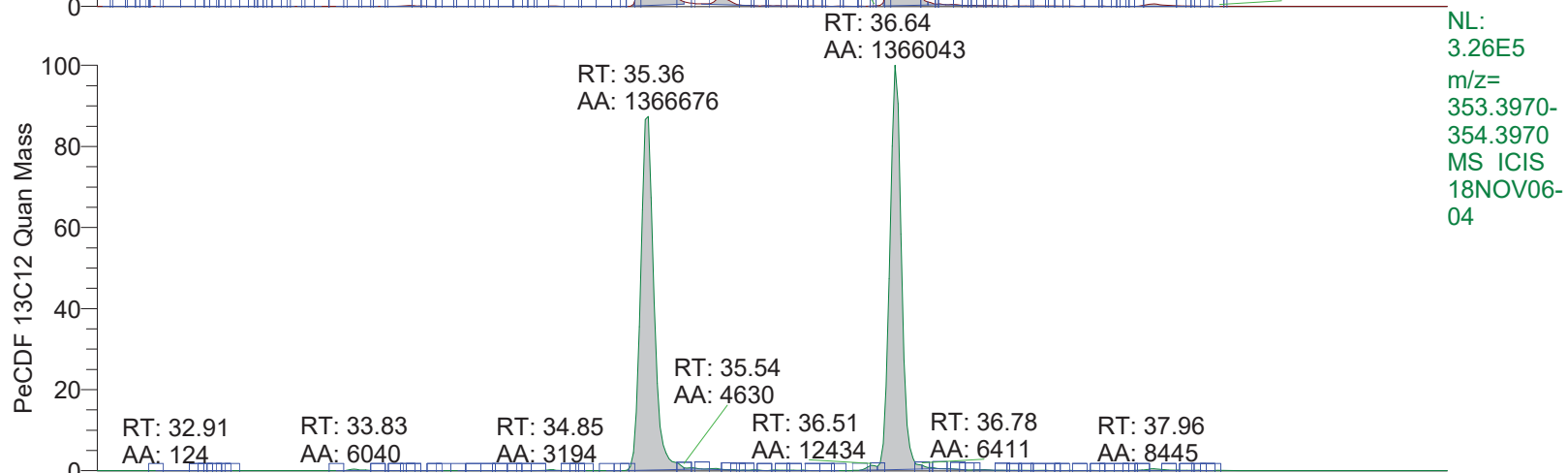
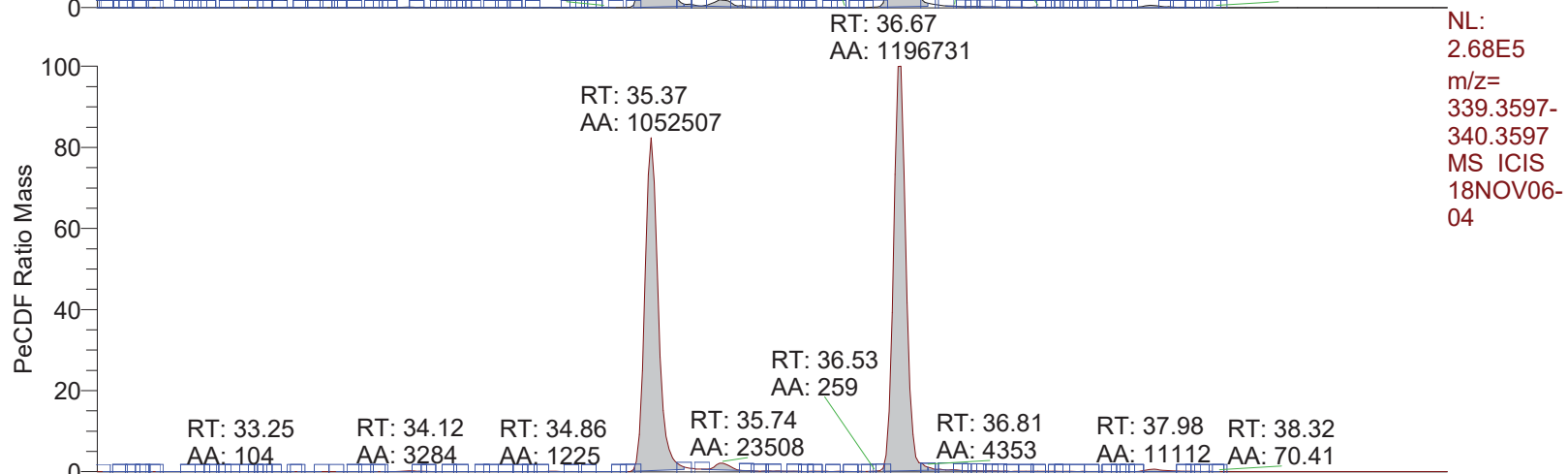
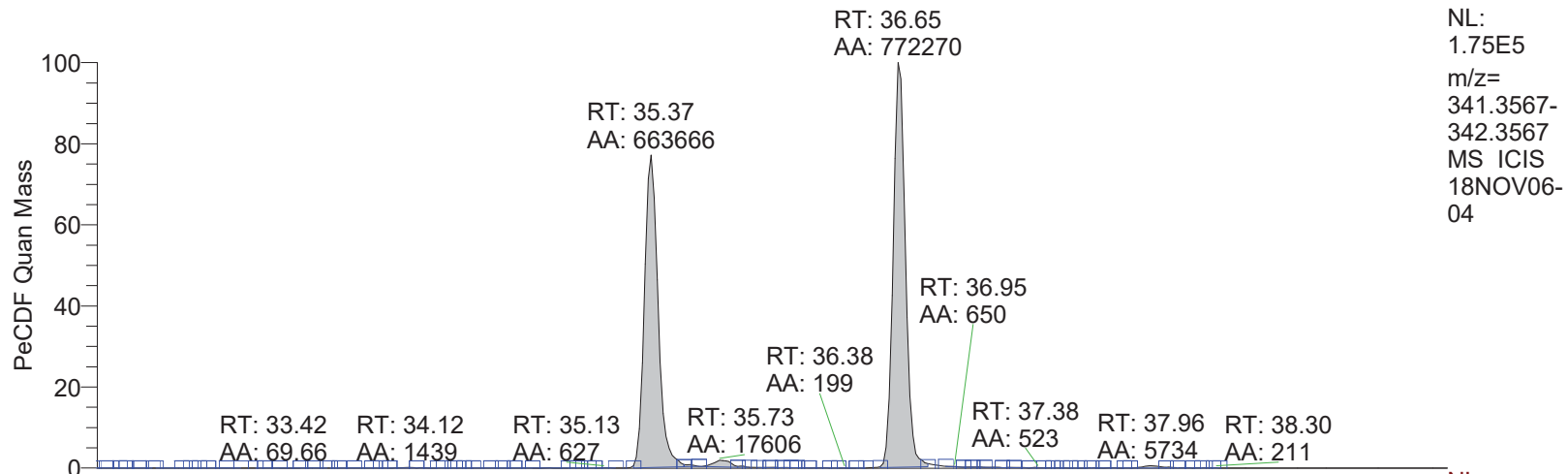
RT: 22.50 - 51.00



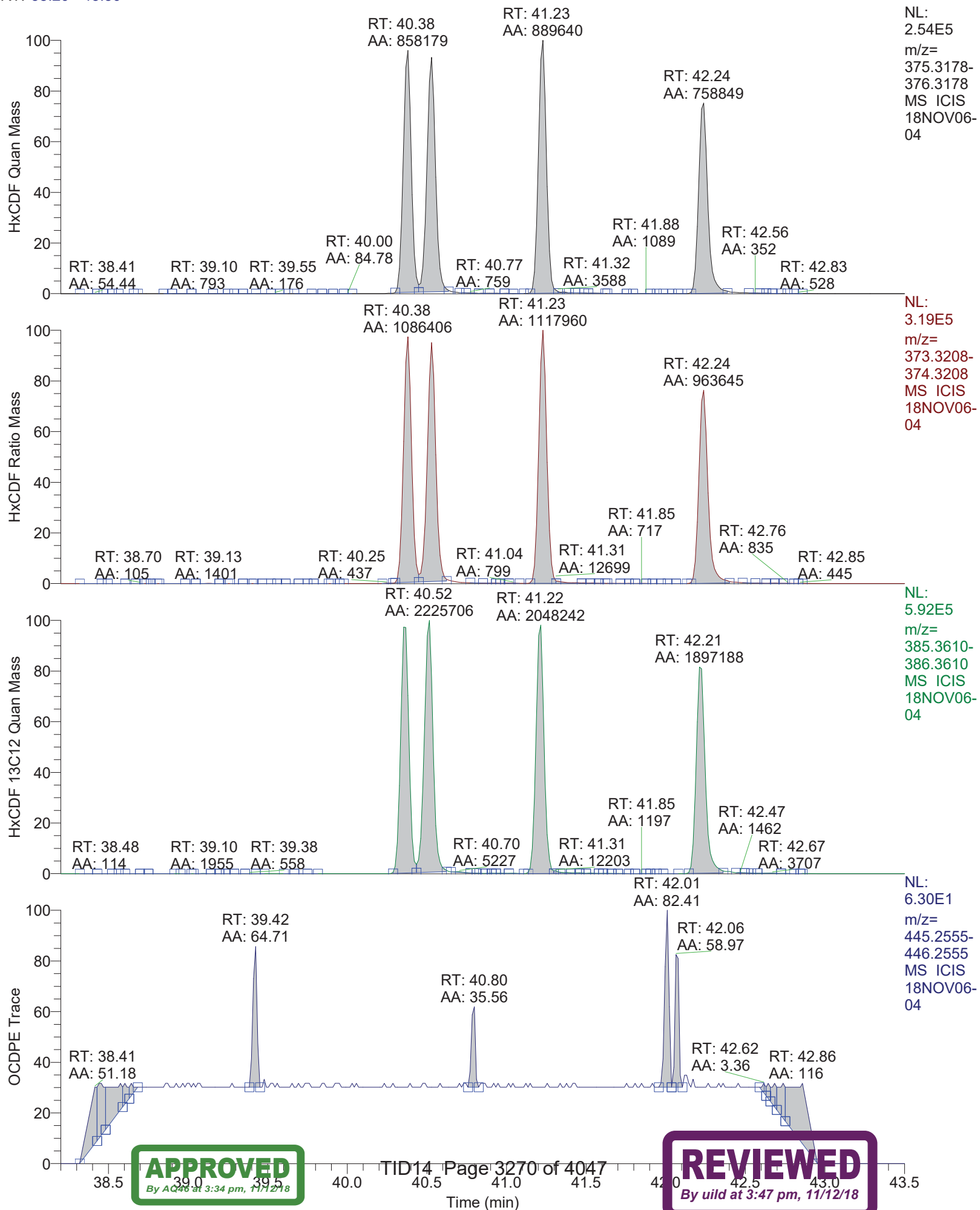
RT: 21.50 - 34.50



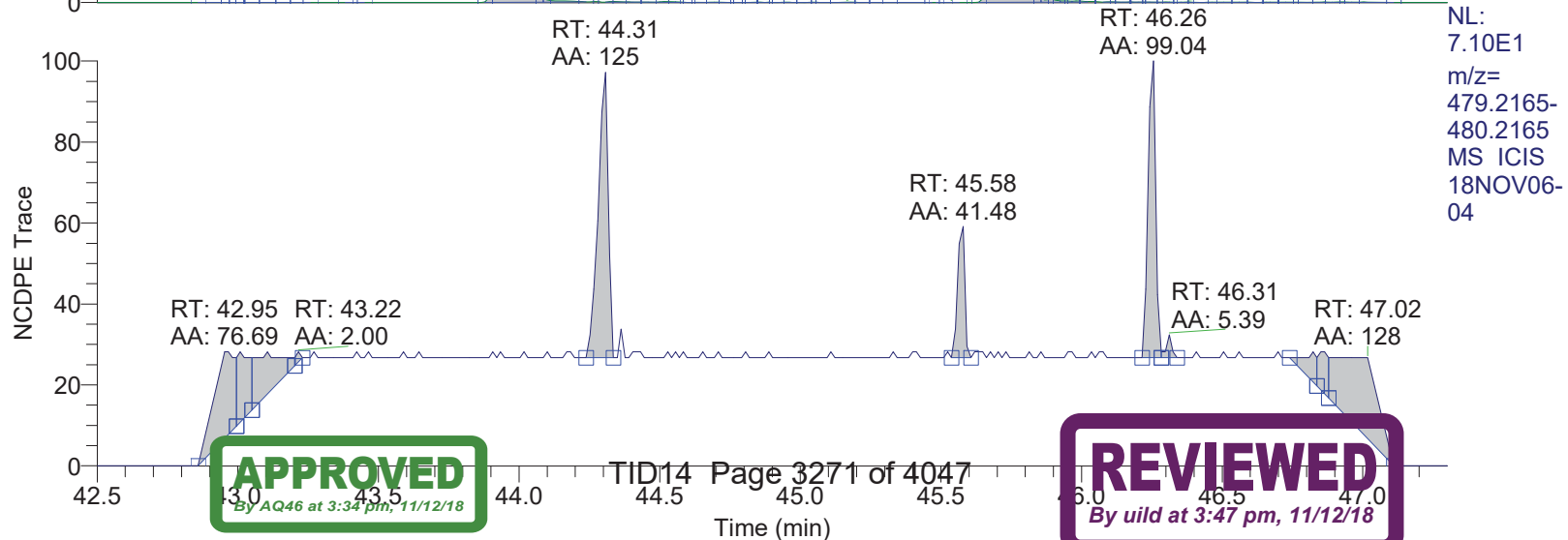
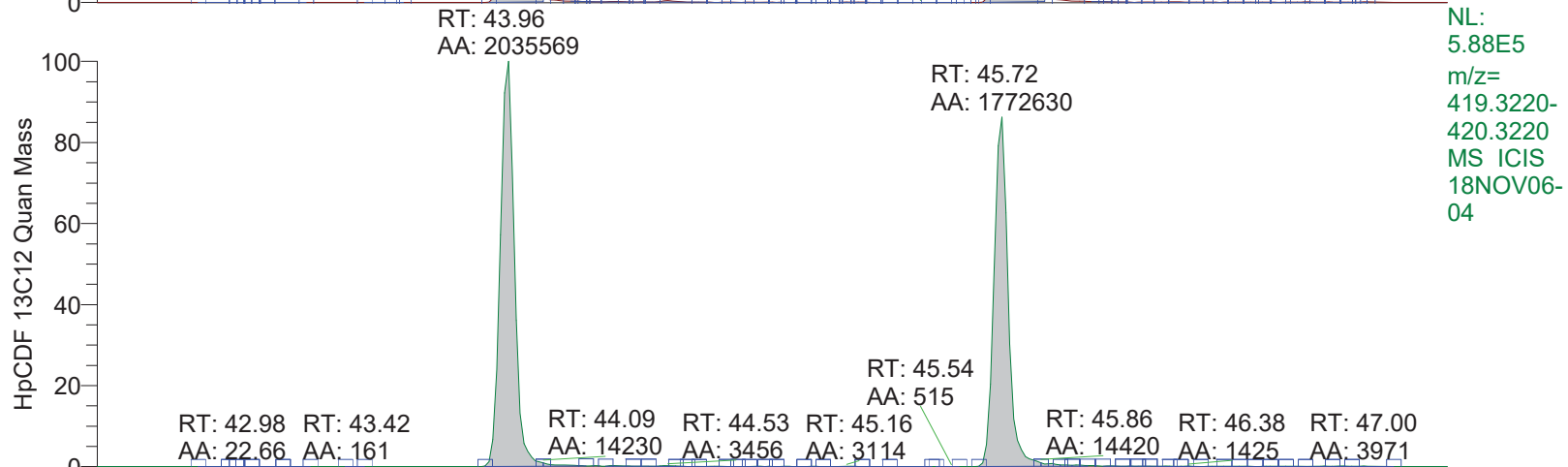
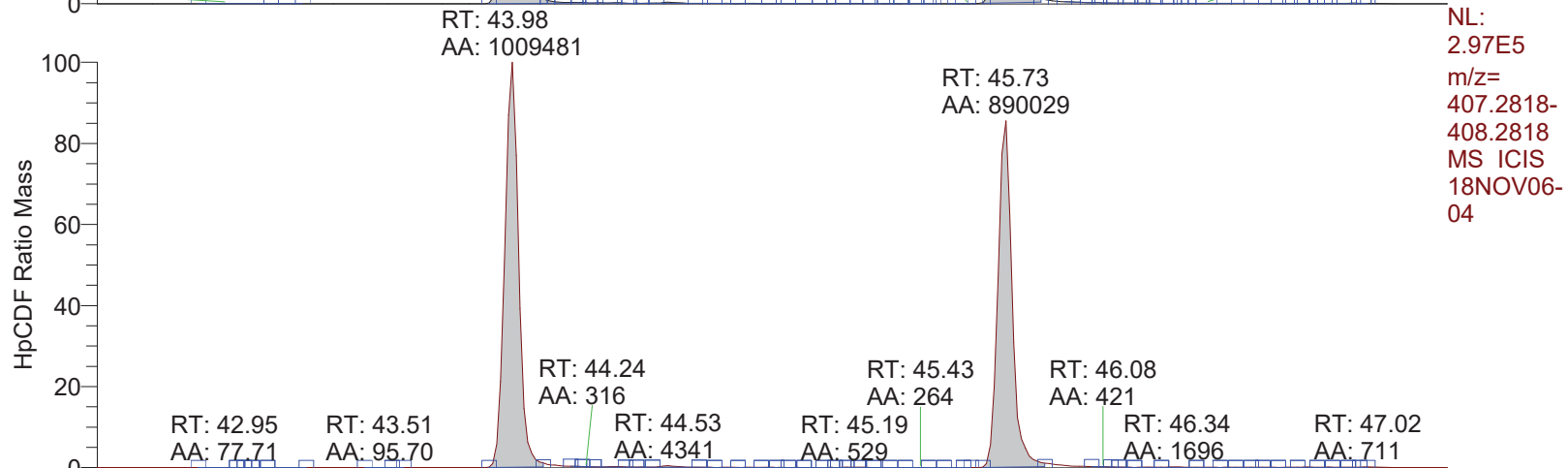
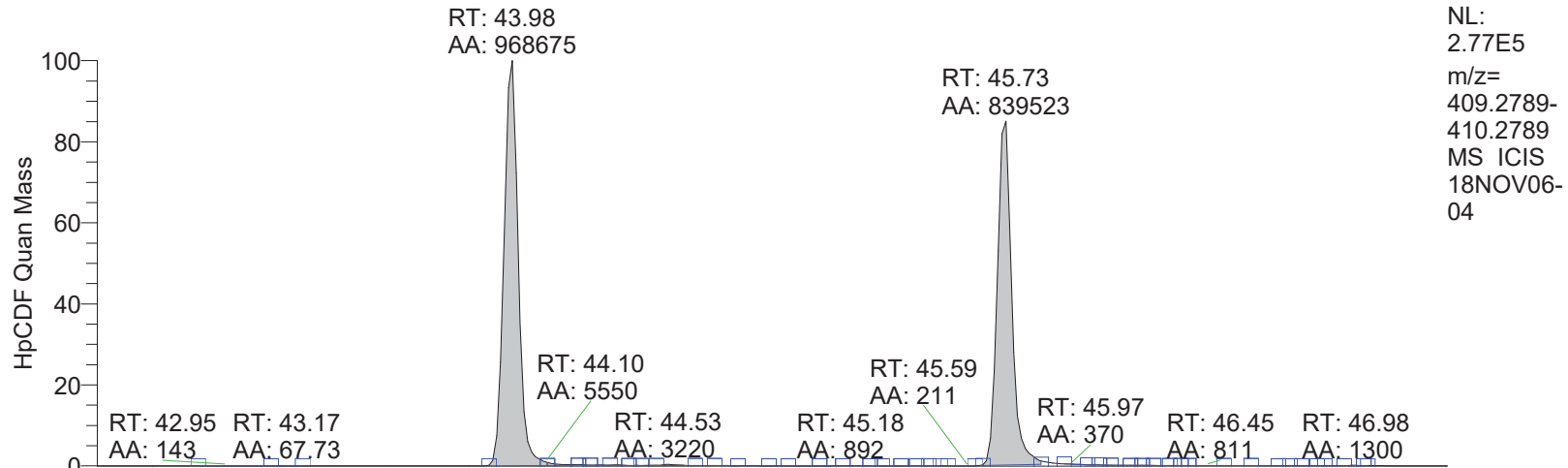
RT: 32.50 - 39.50



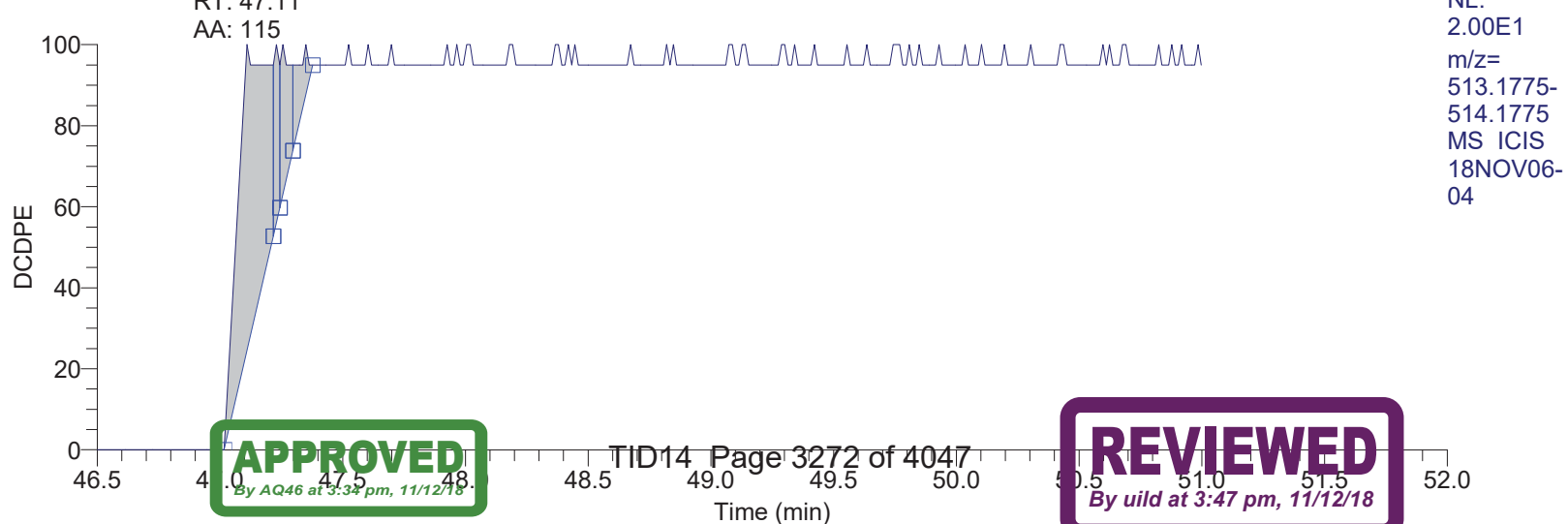
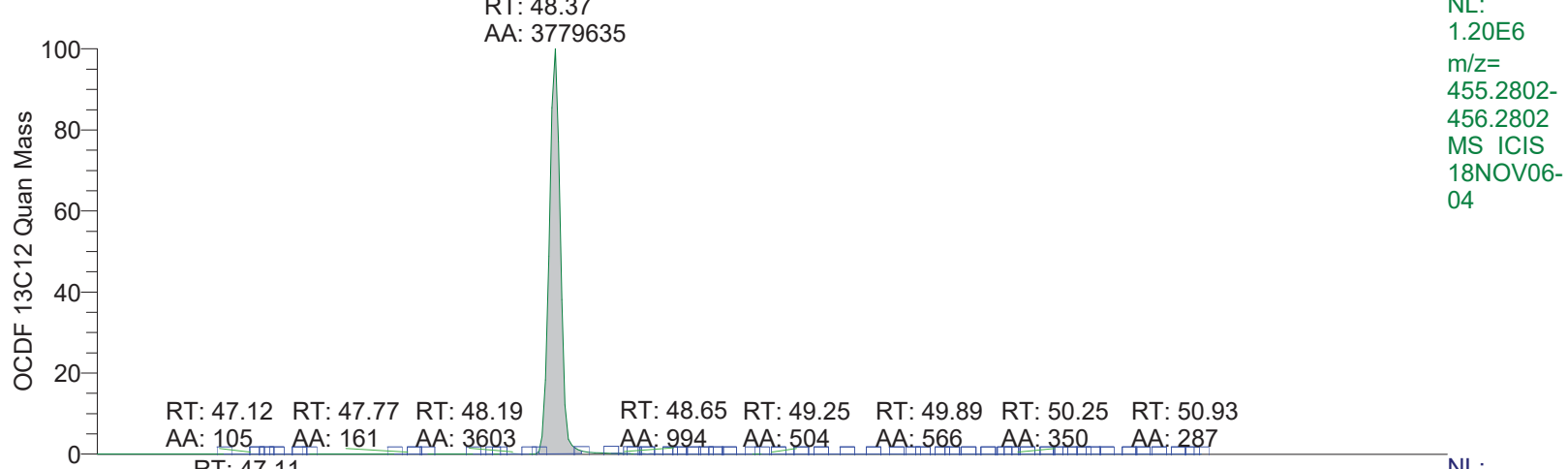
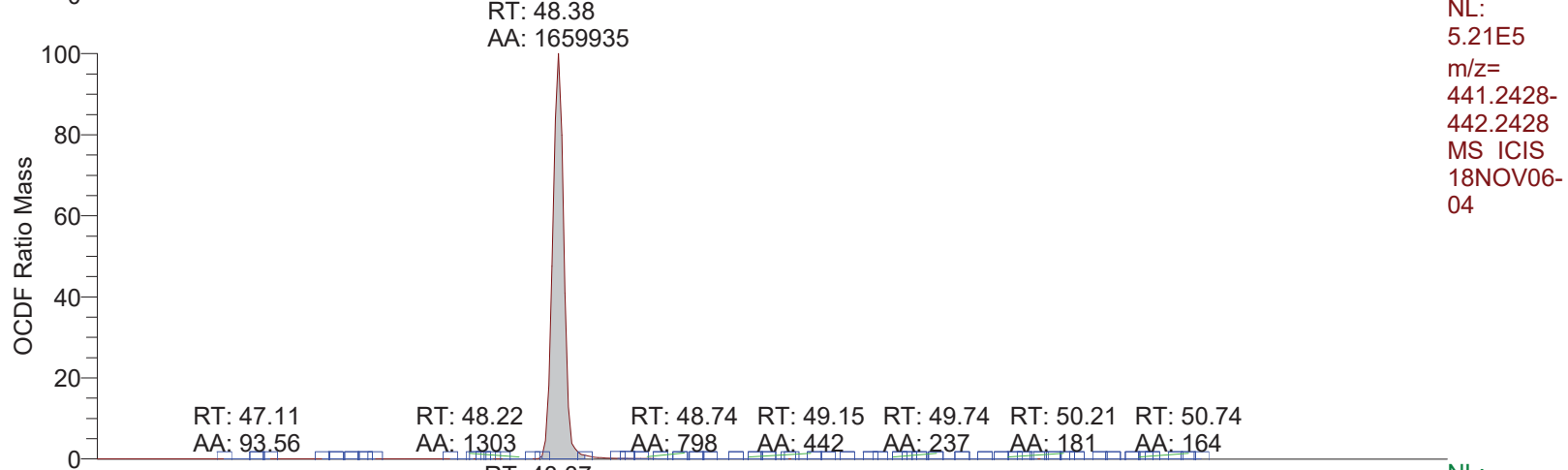
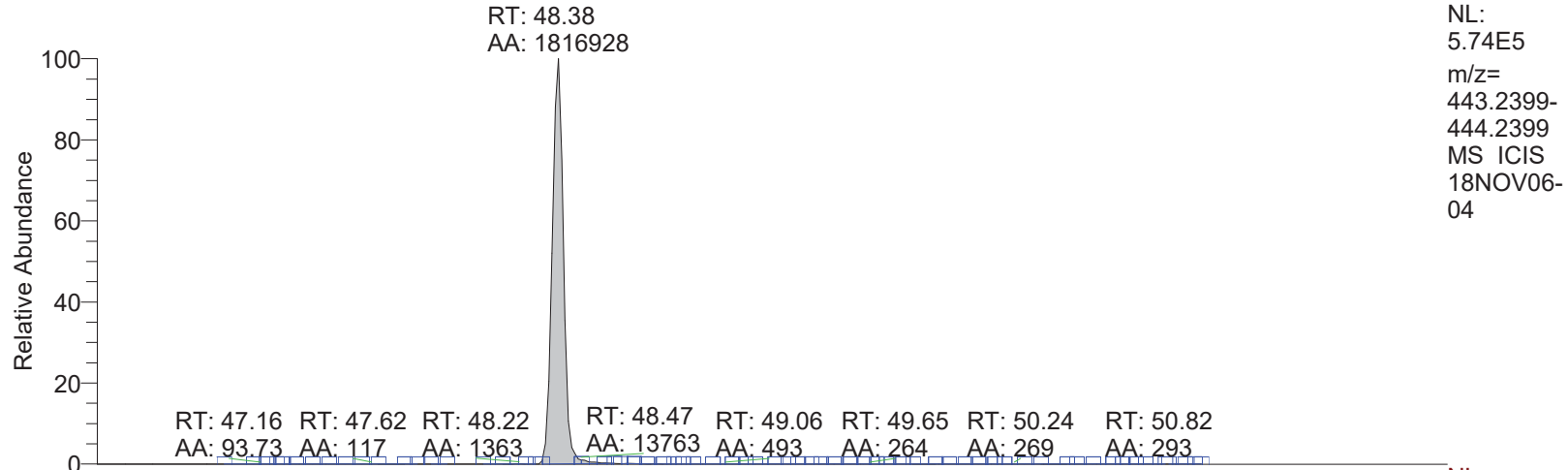
RT: 38.20 - 43.50



RT: 42.50 - 47.30



RT: 46.50 - 52.00



18NOV06-04

*** file opened Tue Nov 06 13:24:15 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 06-Nov-18 13:24:14

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : ea75024e-0155-484c-9427-82df5291ad01

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

Page 1

APPROVED

By AQ46 at 3:34 pm, 11/12/18

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REVIEWED

By uild at 3:47 pm, 11/12/18

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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

18NOV06-04
MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	98.0000
BQUAD	3.1000	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	0.9993	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	3913.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	346.0000
ENSB	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	166.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	10.6500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0074	FVINLET	0.0376	FVSR	0.0364
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	782.0000
LENS_SYM	26.7500	LM	299.9723	LMII	500.0000
LMASS	98.0000	LKM	442.9723	MASS	98.0000
MDAC	1429408.8034	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9827	RELEN	0.0000
RES	12350.6918	RPUSHER	-6.0147	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	808.0000	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	5.0000	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	VMAS	98.0000	XLENS_POT	1000.0000
XLENS_SYM	-7.0000	YLENS_POT	860.0000	YLENS_SYM	-34.0000

Source Gauge: 2.0e-005 mbar
Analyzer Penning: 6.6e-008 mbar
Pirani Analyse: 7.3e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11778.
MID Time window 2: Resolution is 12051.
MID Time window 3: Resolution is 11862.
MID Time window 4: Resolution is 11912.

Page 3

APPROVED

By AQ46 at 3:34 pm, 11/12/18

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REVIEWED

By uild at 3:47 pm, 11/12/18

18NOV06-04

MID Time Window 5: Resolution is 13317.
MID Time Window 6: Resolution is 12350.

Amplifier Offset: 81.

*** File closed Tue Nov 06 14:15:16 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 05:43
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1828537A
Sample ID	CPS03
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

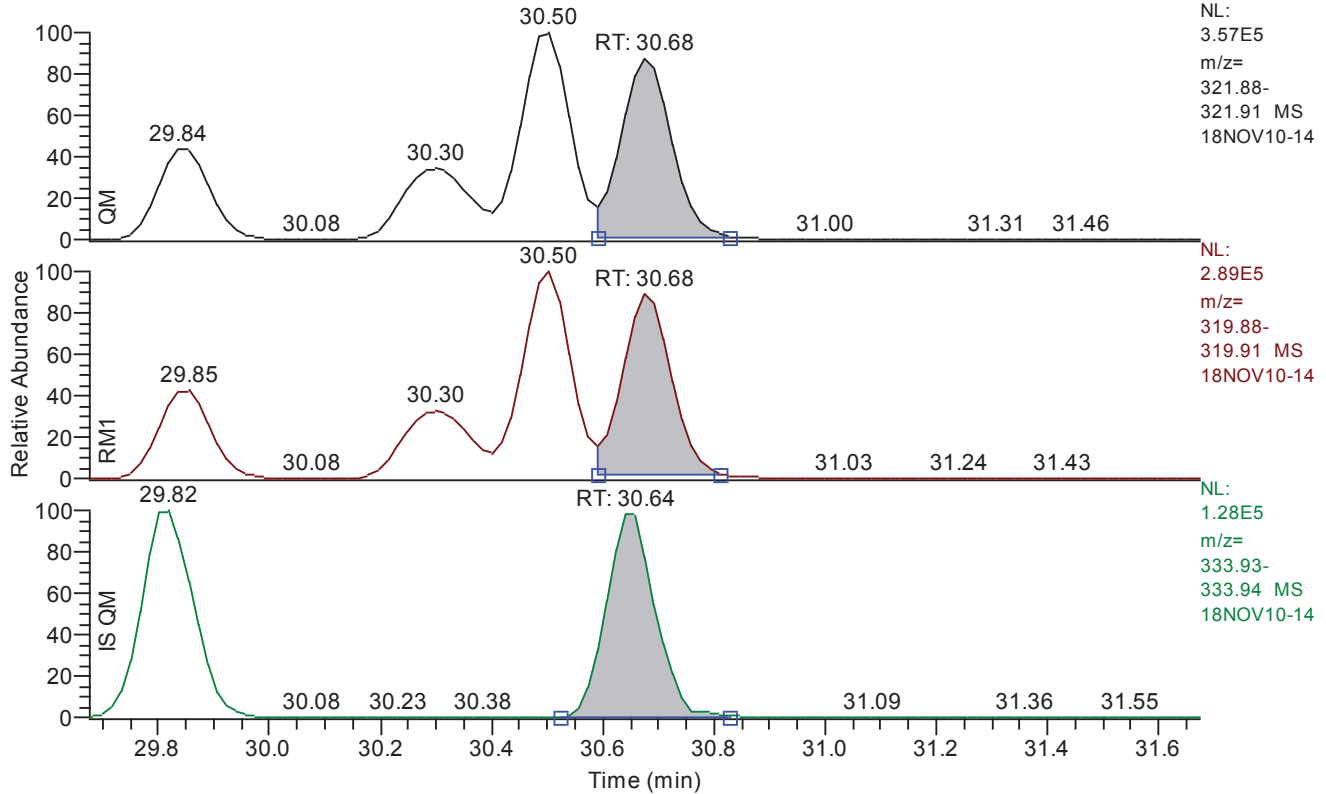
Quan	x:\18nov10\18nov10-14.quan
Data	x:\18nov10\18nov10-14.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	
Mass Ref	

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

Chromatogram

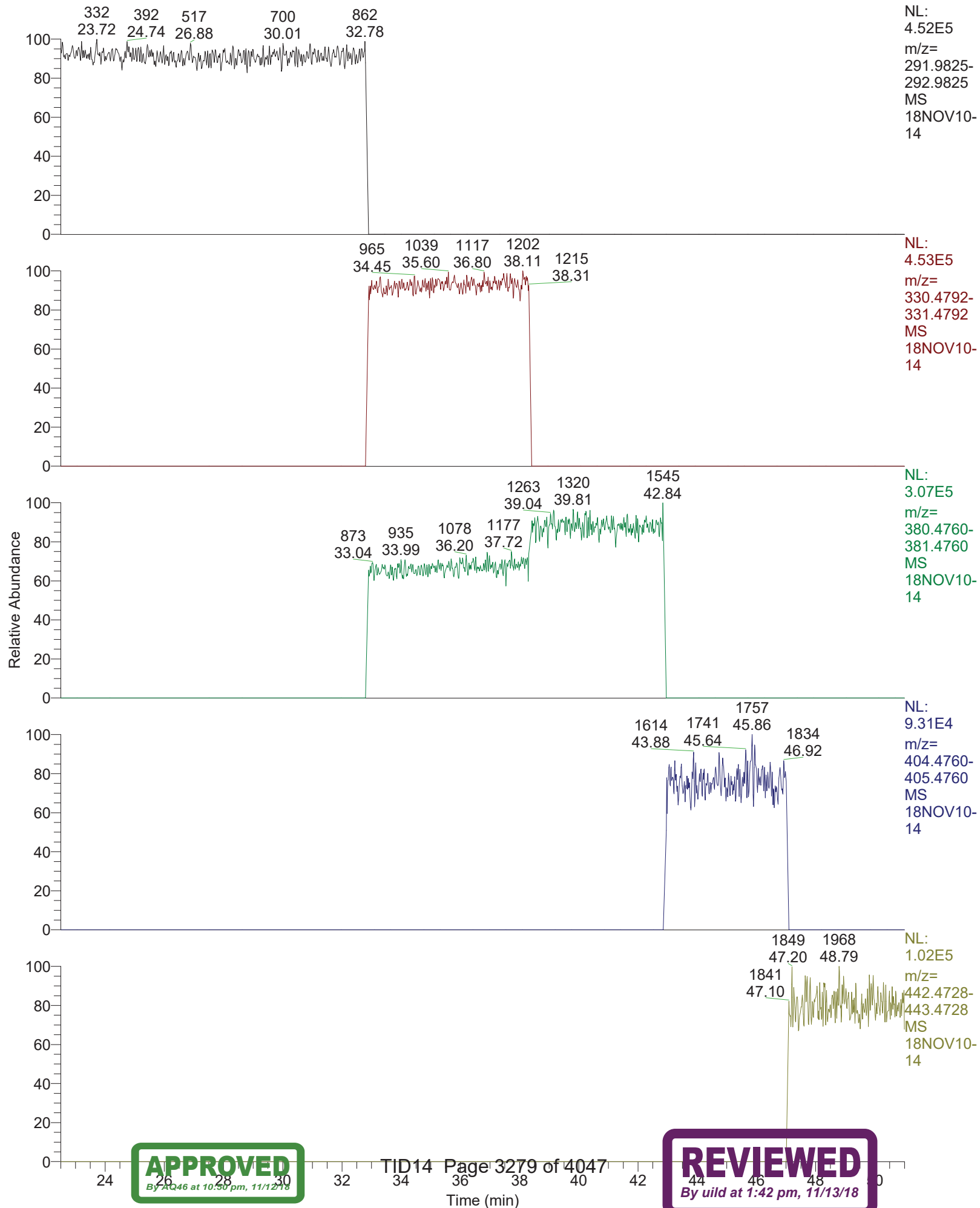
RT: 29.68 - 31.68 SM: 3G



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	30.68
RM1 Left Baseline Height	5863.26
RM1 Left Height	39002
RM1 Height	252752
GC Res (%) left	17.151479

RT: 22.50 - 51.00



18NOV10-14

*** file opened Sat Nov 10 05:46:06 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 05:46:06

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV10-14

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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3281 of 4047

REVIEWED

By uild at 1:42 pm, 11/13/18

18NOV10-14

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	99.0000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0076	FVINLET	0.0379	FVSR	0.0366
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1441894.7239	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9861	RELEN	0.0000
RES	11661.4475	RPUSHER	-6.0733	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	99.0000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.7e-008 mbar
Pirani Analyse: 7.6e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11417.
MID Time window 2: Resolution is 11681.
MID Time window 3: Resolution is 11625.
MID Time window 4: Resolution is 11587.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3282 of 4047

REVIEWED

By uild at 1:42 pm, 11/13/18

18NOV10-14
MID Time Window 5: Resolution is 12756.
MID Time Window 6: Resolution is 11661.
Amplifier Offset: 80.

*** File closed Sat Nov 10 06:37:07 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 06:37
Number of Entries	62
Comment	
Vial	6
Sample Name	VER-CALDF41837G
Sample ID	CS3CC03
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-15.quan
Data	x:\18nov10\18nov10-15.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Depend 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

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	29.40	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.58	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.47	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.74	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.16	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.45	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.59	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.28	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.60	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.91	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.29	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.02	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.78	passed	passed	passed	passed	passed	passed	
16	OCDD	48.25	passed	passed	passed	passed	passed	passed	
17	OCDF	48.42	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.99	failed	passed	passed	passed	passed	passed	Failed on: RF
19	13C12-1234-TCDD	29.71	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.35	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.38	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.55	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.43	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.73	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.13	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.43	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.58	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.27	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.47	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.59	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.90	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	45.21	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.76	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.23	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.41	passed	passed	passed	passed	passed	passed	

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/10 06:37
Number of Entries	62
Comment	
Vial	6
Sample Name	VER-CALDF41837G
Sample ID	CS3CC03
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

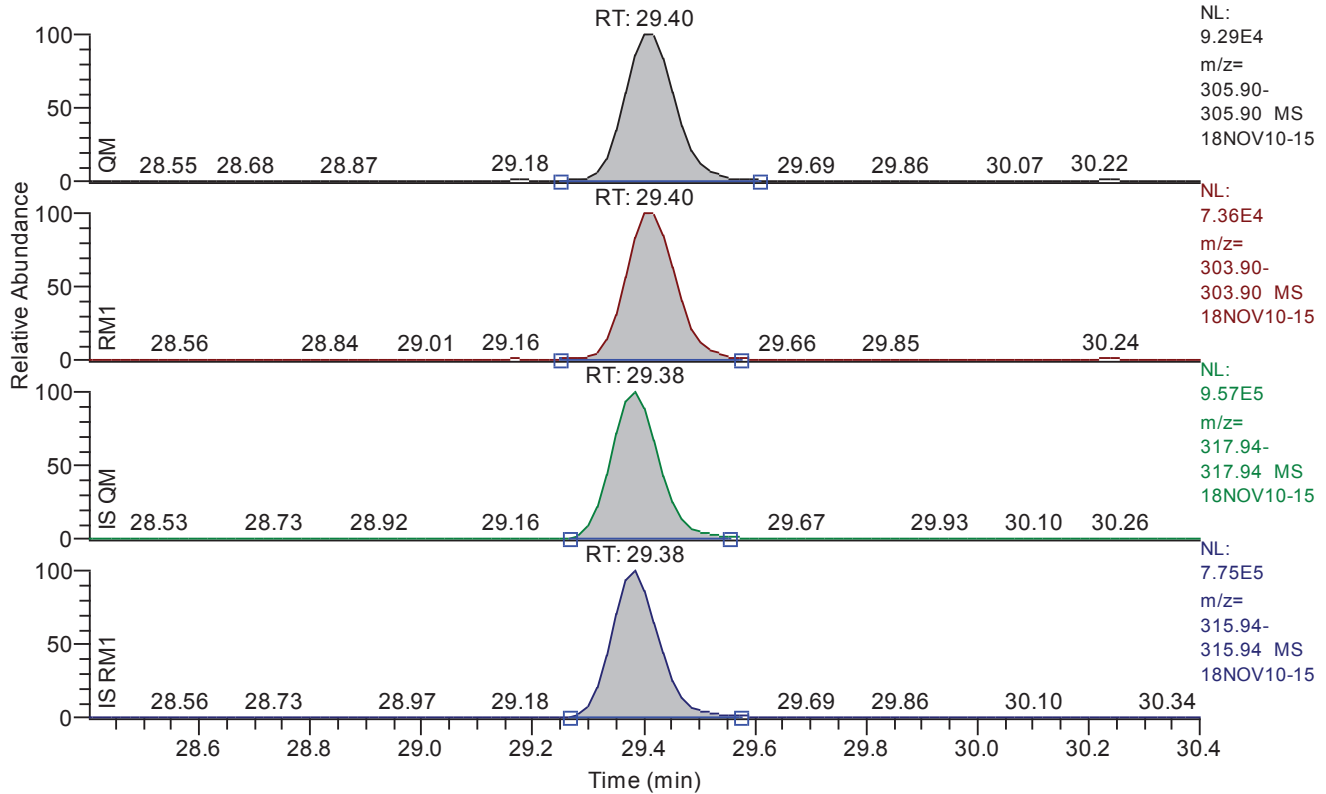
Quan	x:\18nov10\18nov10-15.quan
Data	x:\18nov10\18nov10-15.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Depend 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

Chromatogram

RT: 28.40 - 30.40 SM: 3G

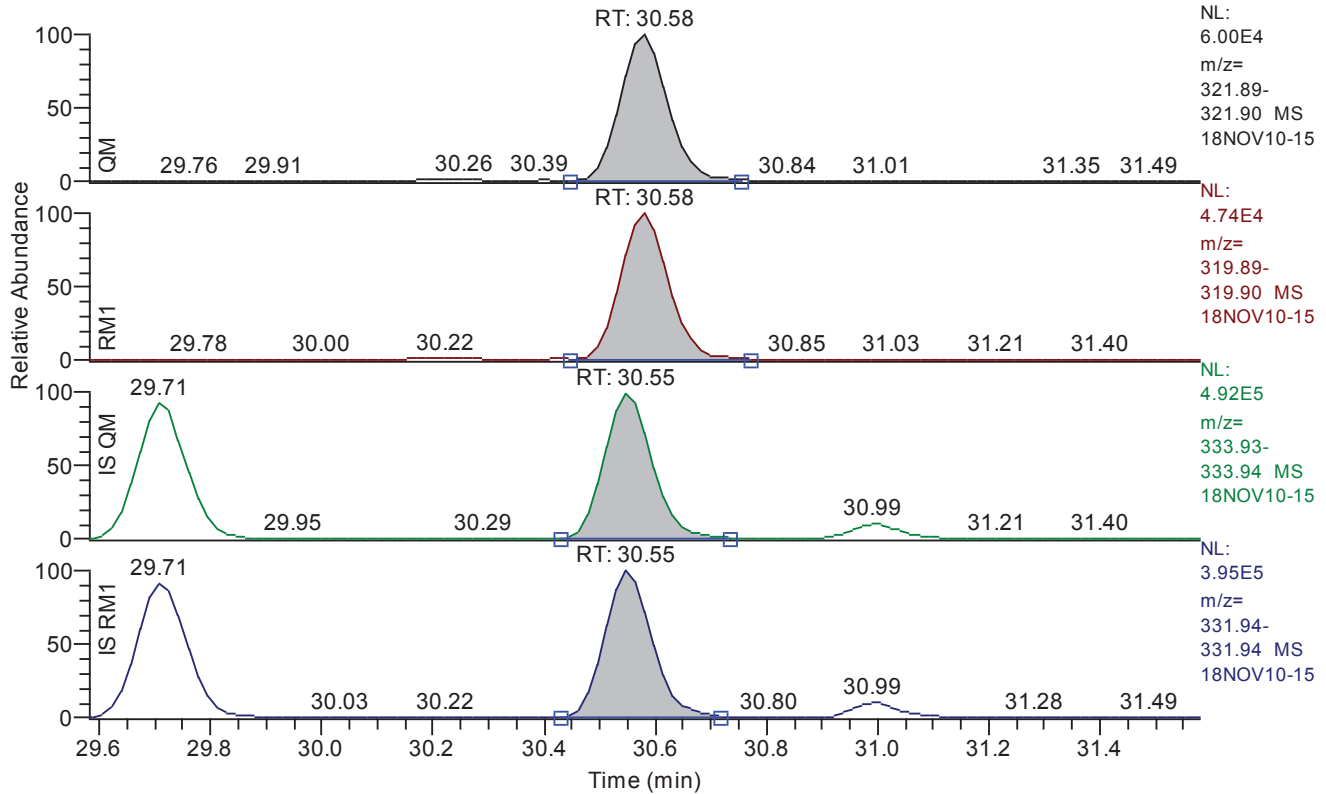


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.40
QM Area	607220
QM Integration Mode	A
RM1 Area	472710
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	9.772946
Adjusted Amount (A)	9.7729
Signal-to-Noise	3280
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.58 - 31.58 SM: 3G

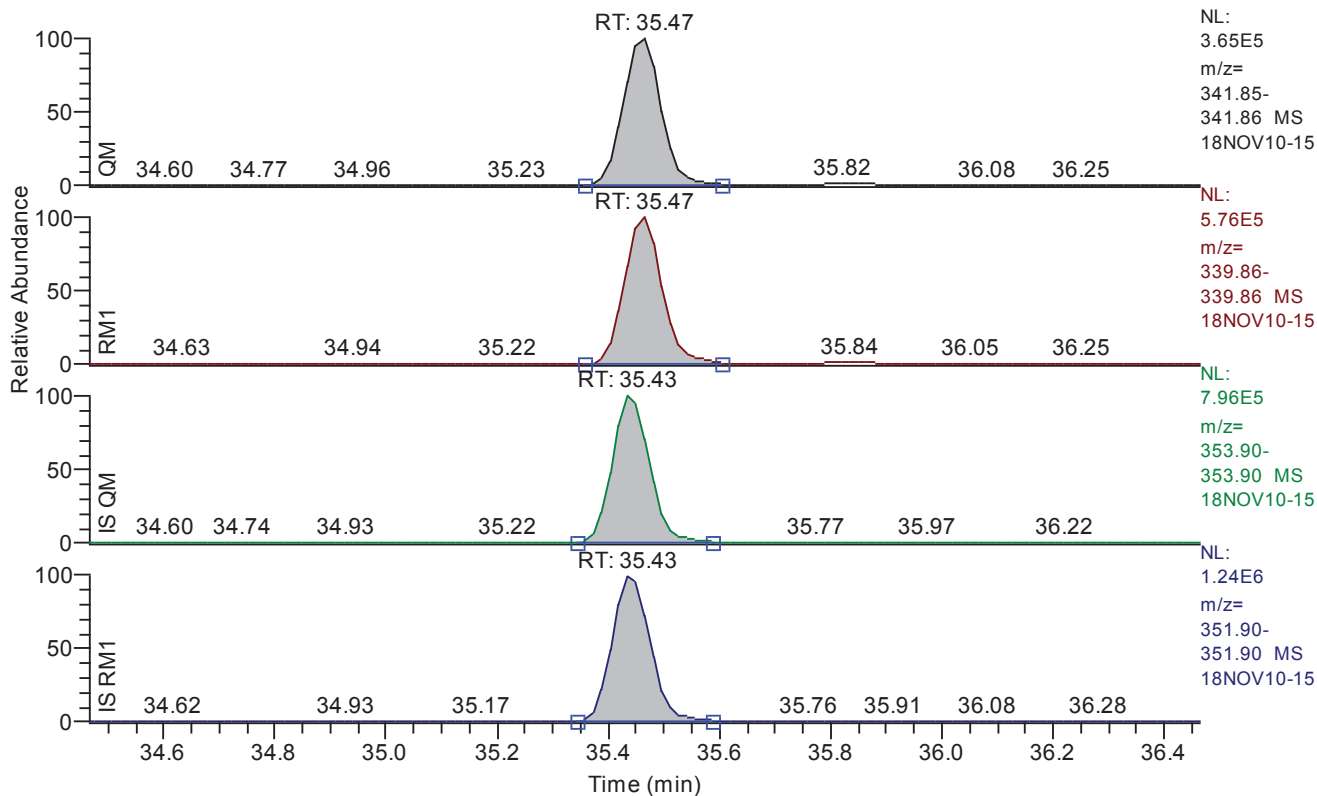


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.58
QM Area	363574
QM Integration Mode	A
RM1 Area	291295
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	9.837882
Adjusted Amount (A)	9.8379
Signal-to-Noise	3617
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.47 - 36.47 SM: 3G

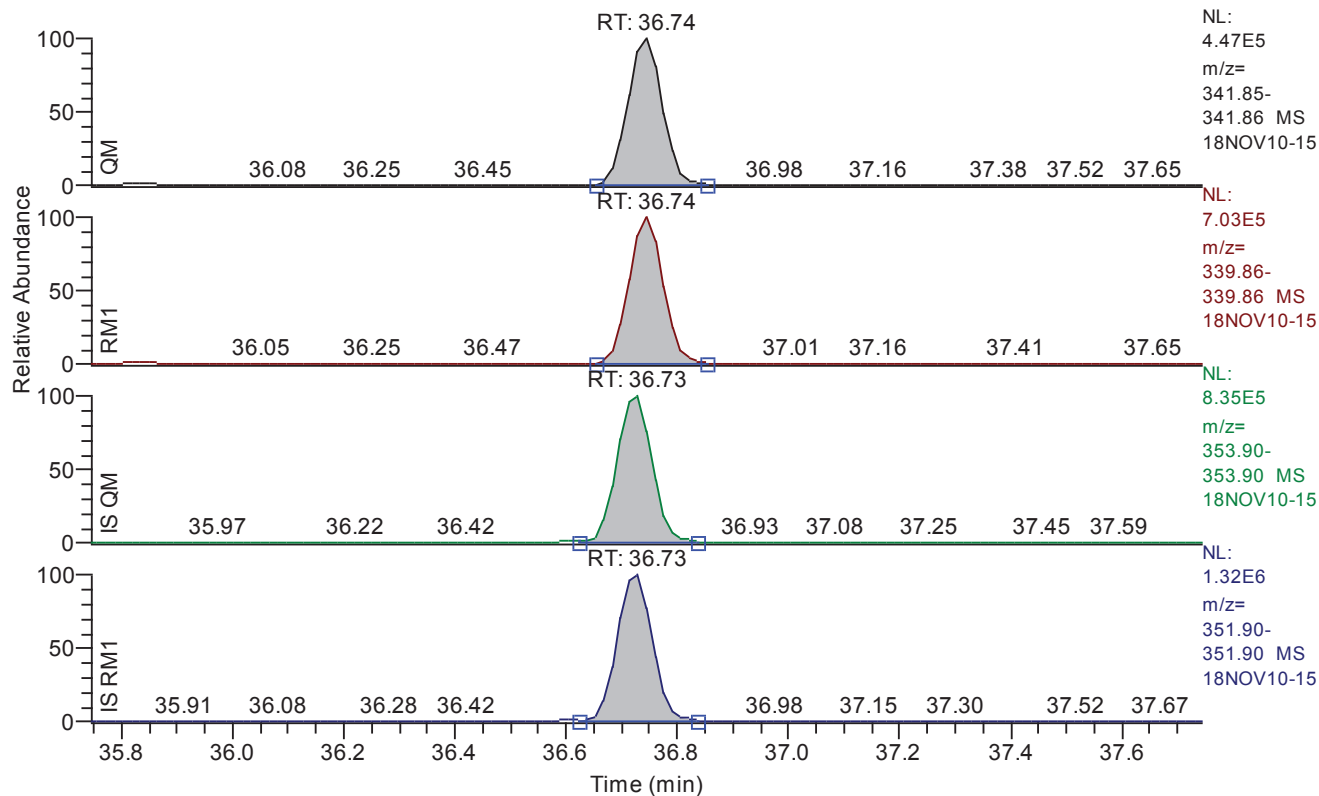


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.47
QM Area	1723594
QM Integration Mode	A
RM1 Area	2705156
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0055
Unqualified Amount (A)	49.410787
Adjusted Amount (A)	49.4108
Signal-to-Noise	22268
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.74 - 37.74 SM: 3G

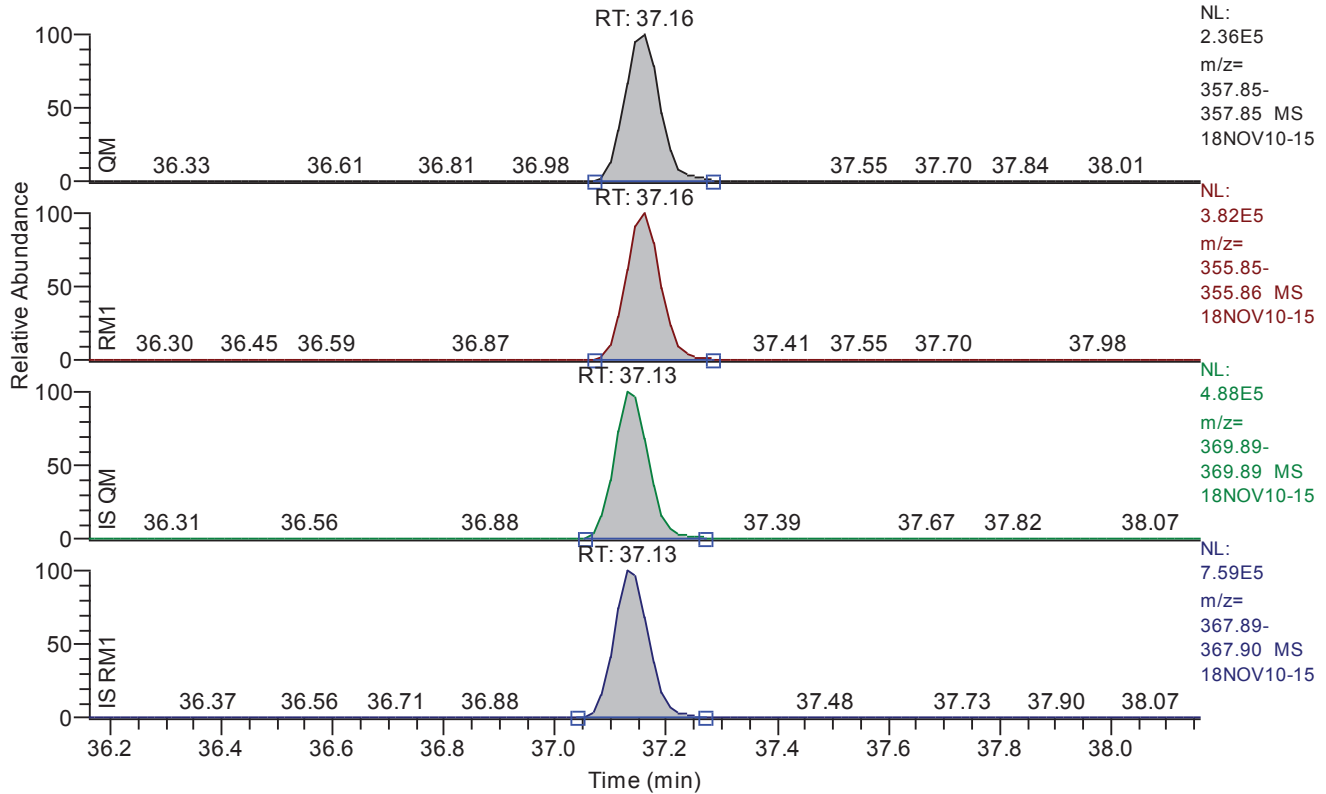


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.74
QM Area	1941483
QM Integration Mode	A
RM1 Area	3024341
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	49.636835
Adjusted Amount (A)	49.6368
Signal-to-Noise	27220
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.16 - 38.16 SM: 3G

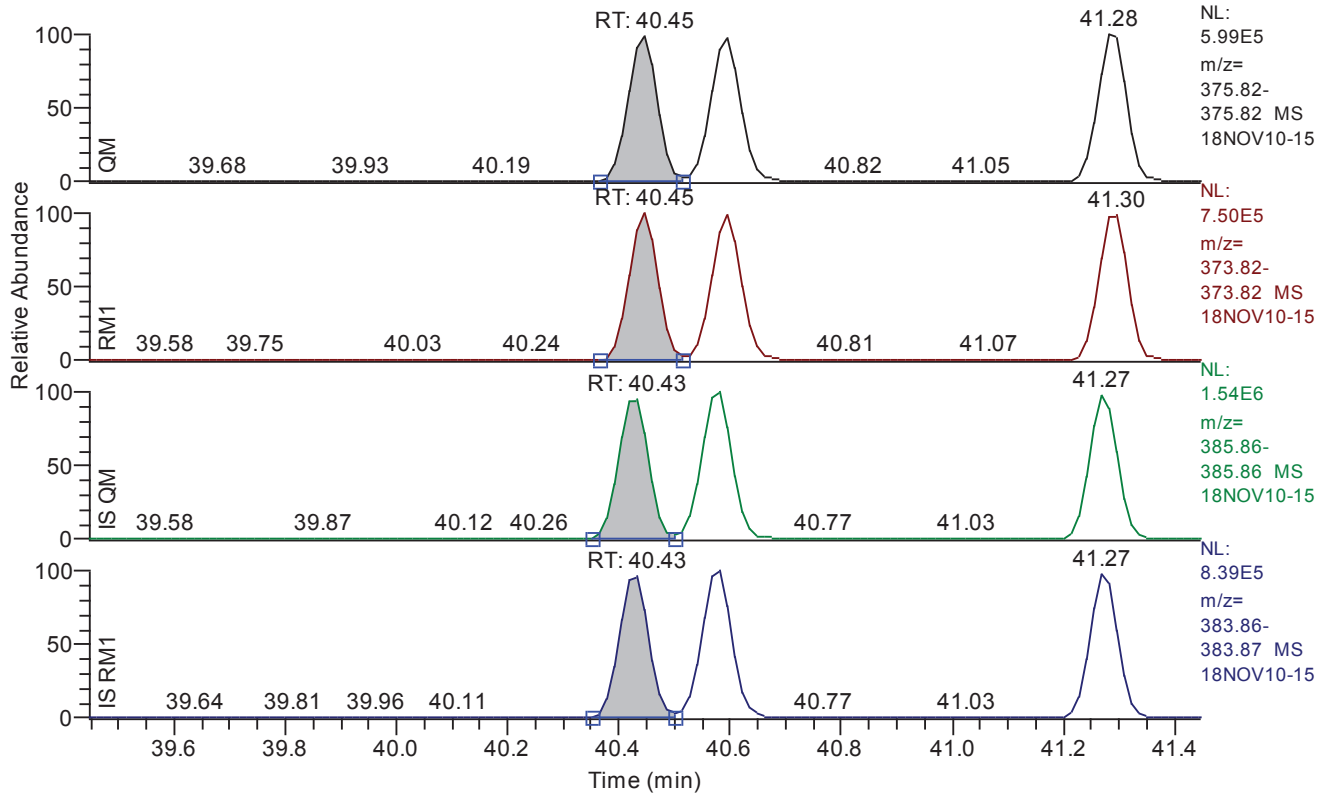


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.16
QM Area	1044924
QM Integration Mode	A
RM1 Area	1658758
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0104
Unqualified Amount (A)	49.776087
Adjusted Amount (A)	49.7761
Signal-to-Noise	11895
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.45 - 41.45 SM: 3G

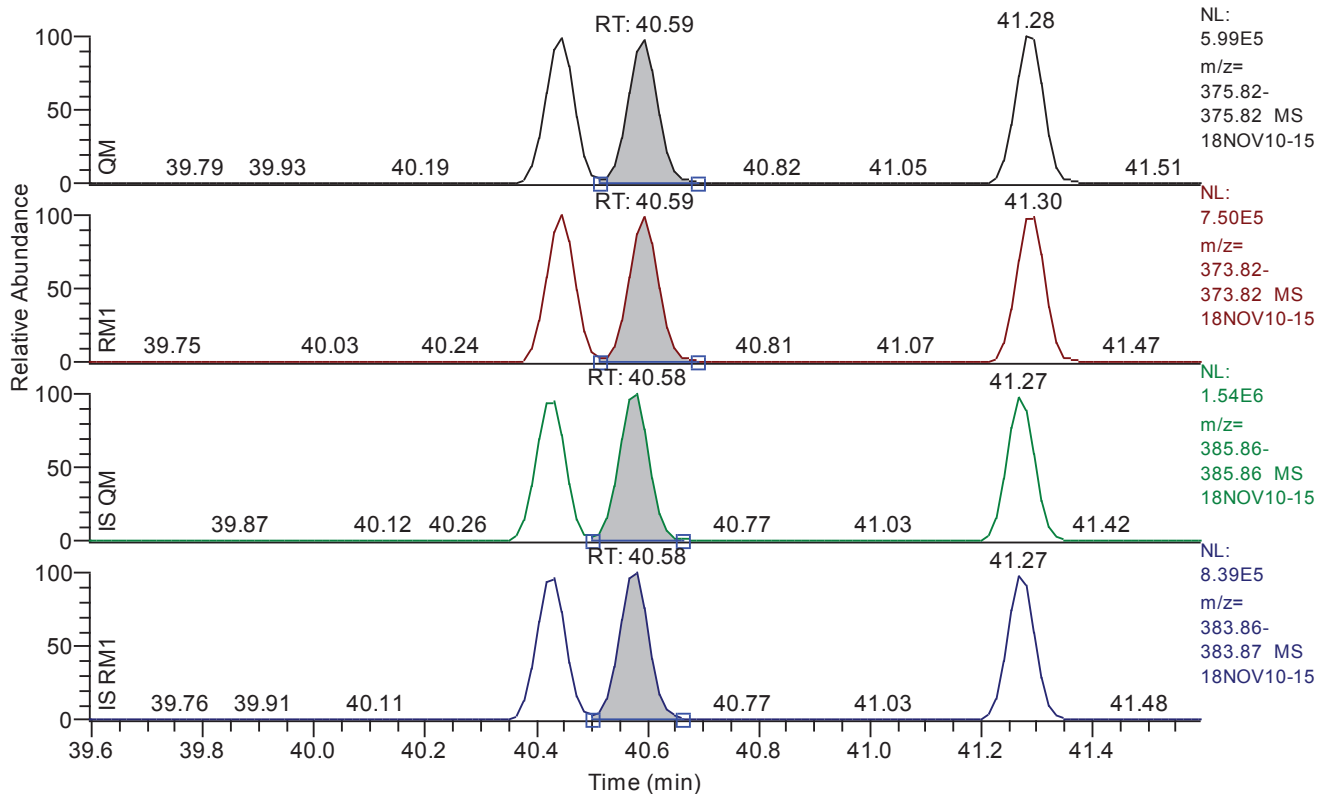


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.45
QM Area	2170249
QM Integration Mode	A
RM1 Area	2704093
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	51.161530
Adjusted Amount (A)	51.1615
Signal-to-Noise	11462
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.59 - 41.59 SM: 3G

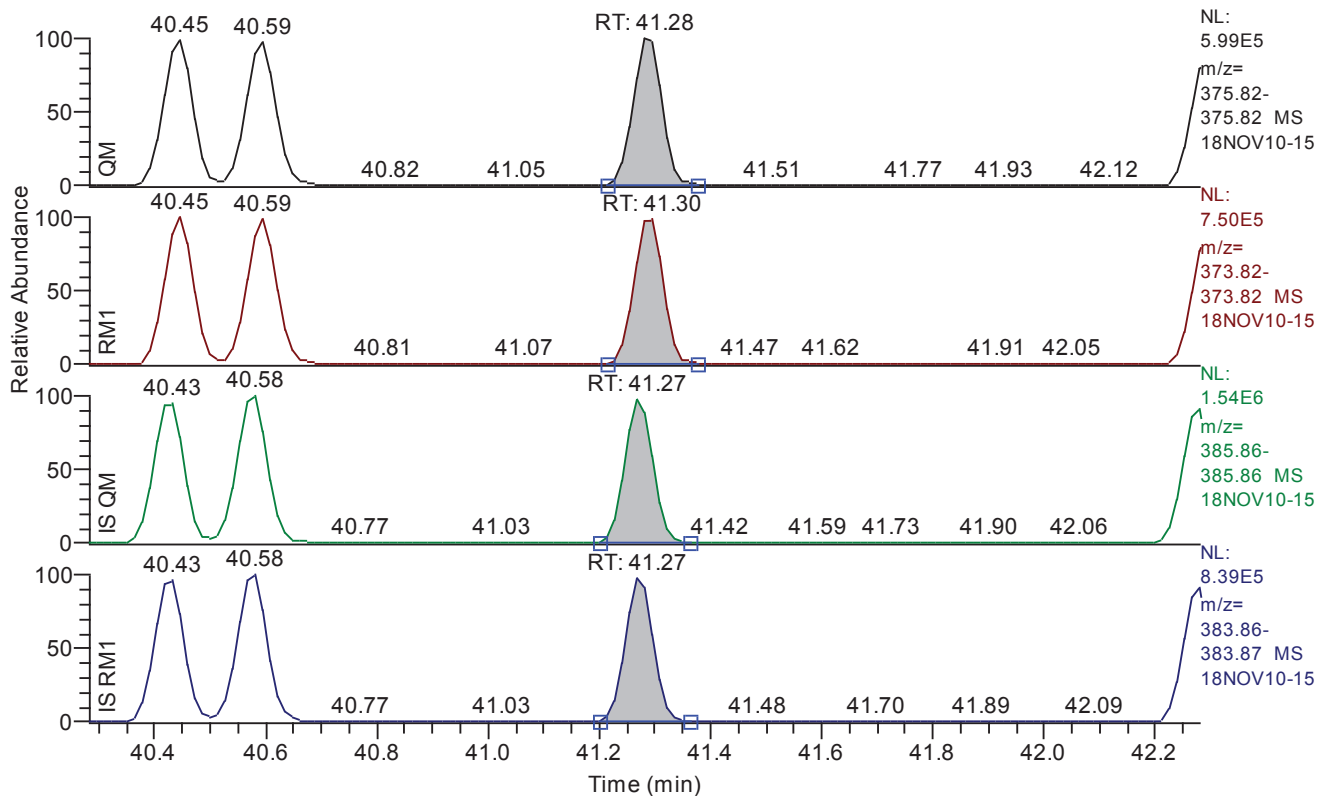


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.59
QM Area	2198325
QM Integration Mode	A
RM1 Area	2757655
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	51.409331
Adjusted Amount (A)	51.4093
Signal-to-Noise	11269
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.28 - 42.28 SM: 3G

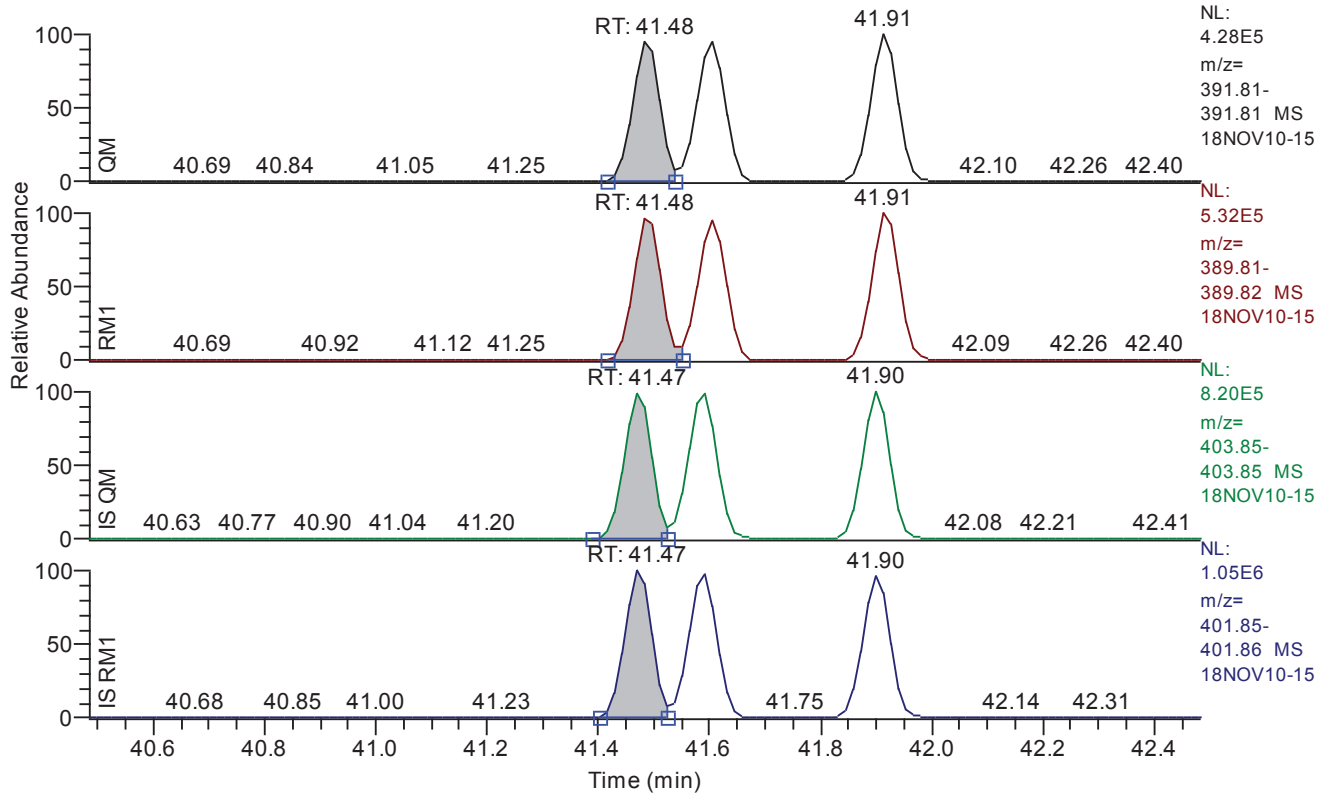


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.28
QM Area	2166531
QM Integration Mode	A
RM1 Area	2709620
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	51.542902
Adjusted Amount (A)	51.5429
Signal-to-Noise	11460
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.48 - 42.48 SM: 3G

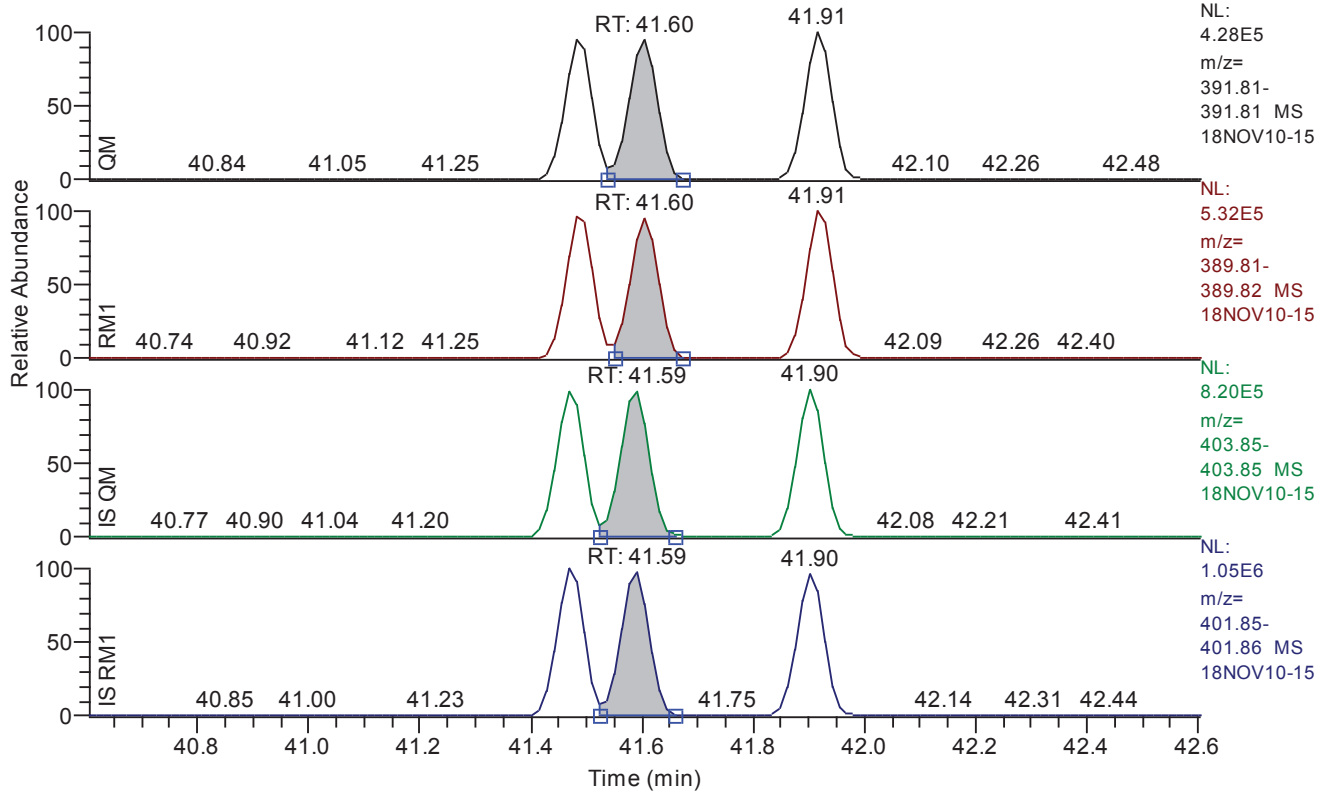


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.48
QM Area	1382638
QM Integration Mode	A
RM1 Area	1787193
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0069
Unqualified Amount (A)	49.547884
Adjusted Amount (A)	49.5479
Signal-to-Noise	17629
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.60 - 42.60 SM: 3G

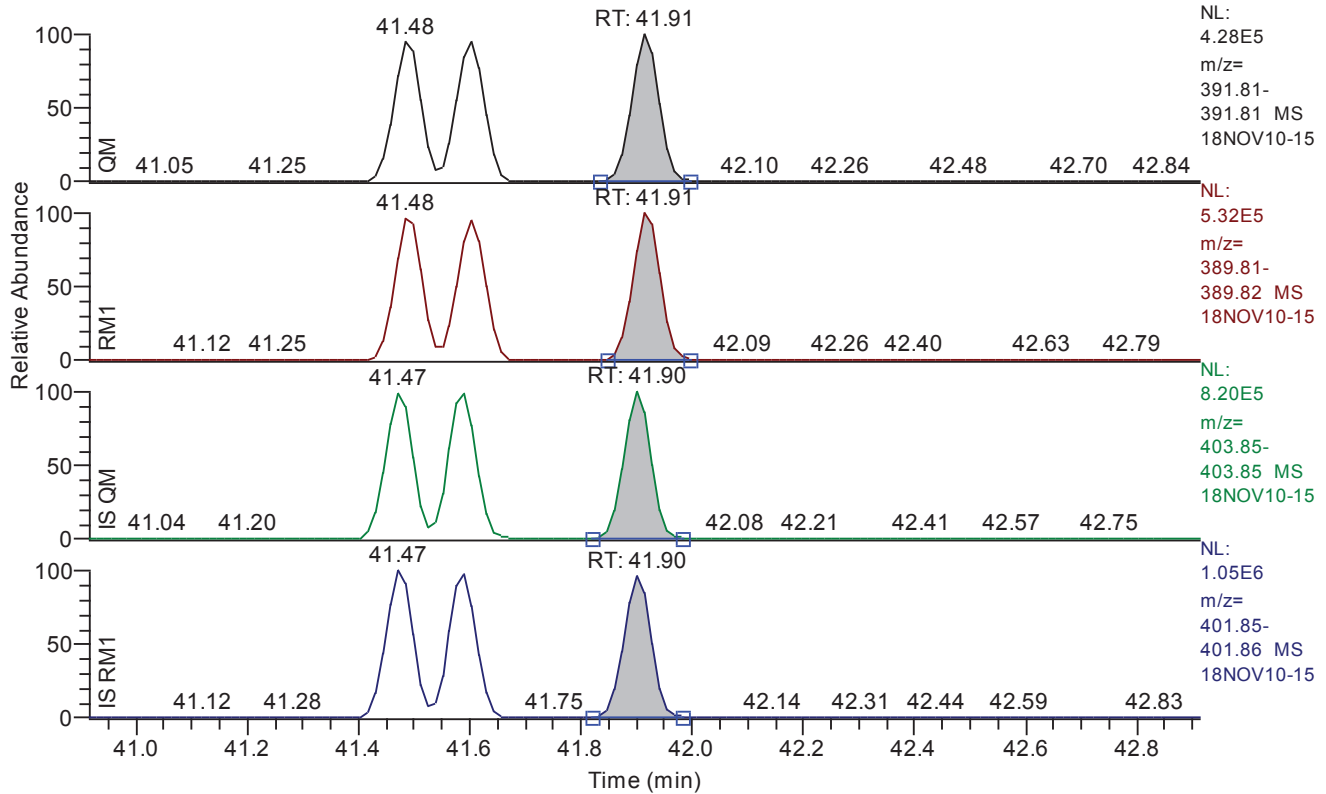


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.60
QM Area	1454089
QM Integration Mode	A
RM1 Area	1778023
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	49.151601
Adjusted Amount (A)	49.1516
Signal-to-Noise	17501
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.91 - 42.91 SM: 3G

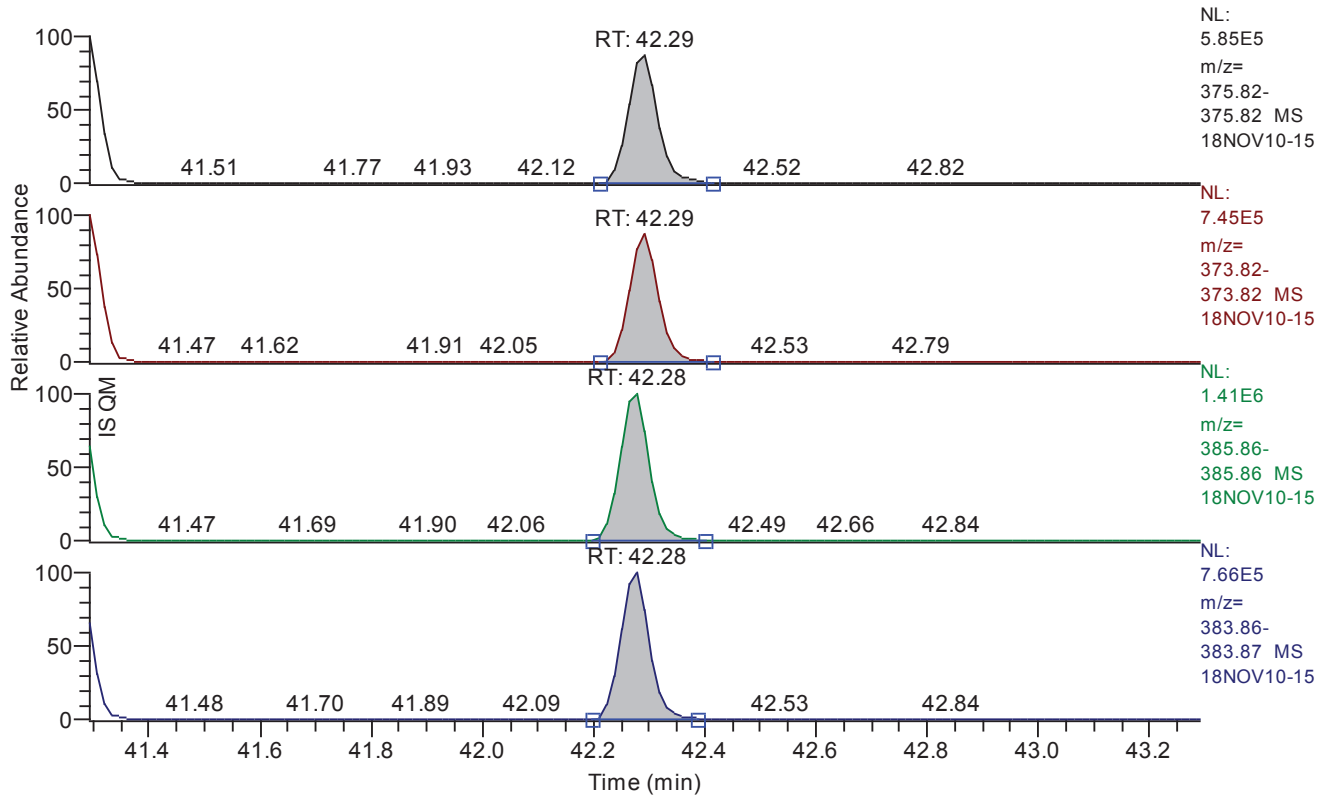


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.91
QM Area	1458571
QM Integration Mode	A
RM1 Area	1830248
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	49.776330
Adjusted Amount (A)	49.7763
Signal-to-Noise	18319
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.29 - 43.29 SM: 3G

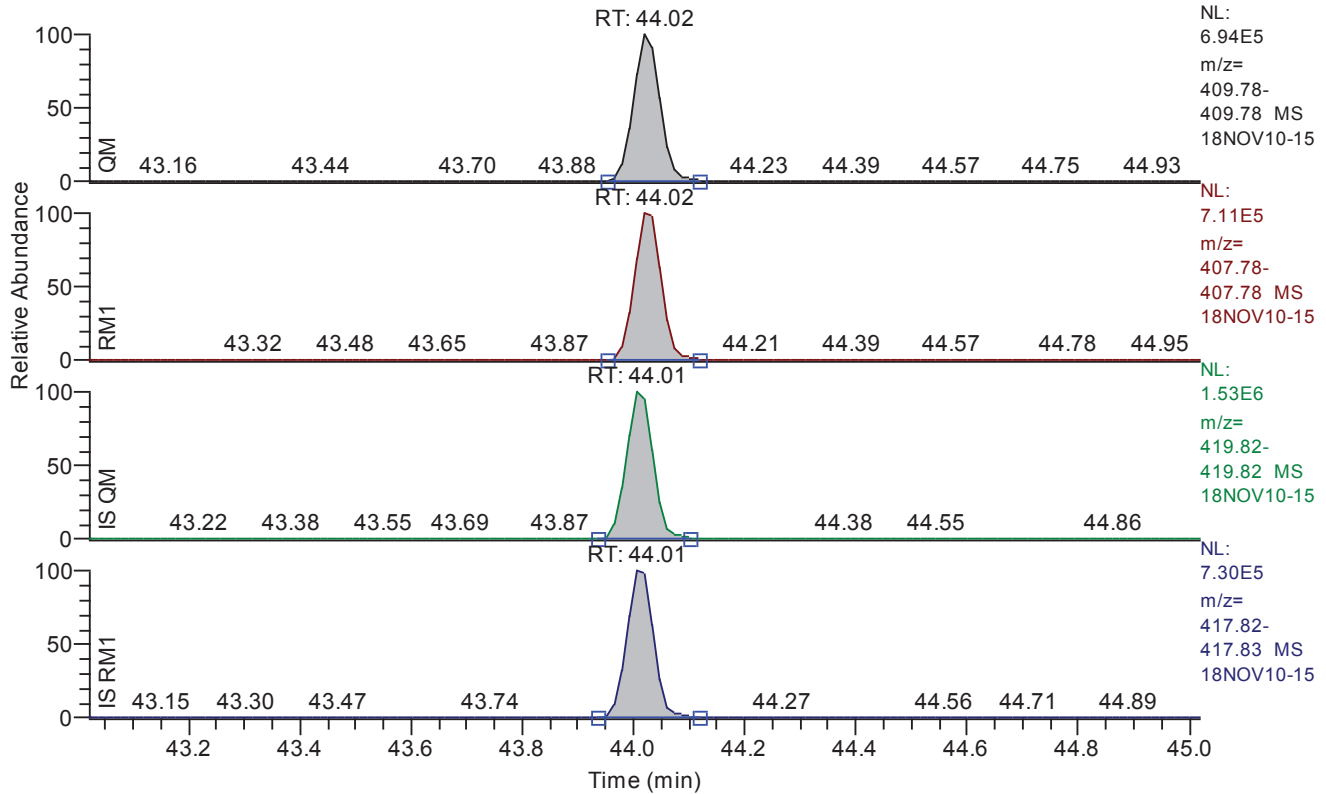


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.29
QM Area	1911444
QM Integration Mode	A
RM1 Area	2391526
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0126
Unqualified Amount (A)	50.261978
Adjusted Amount (A)	50.2620
Signal-to-Noise	9952
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 43.02 - 45.02 SM: 3G

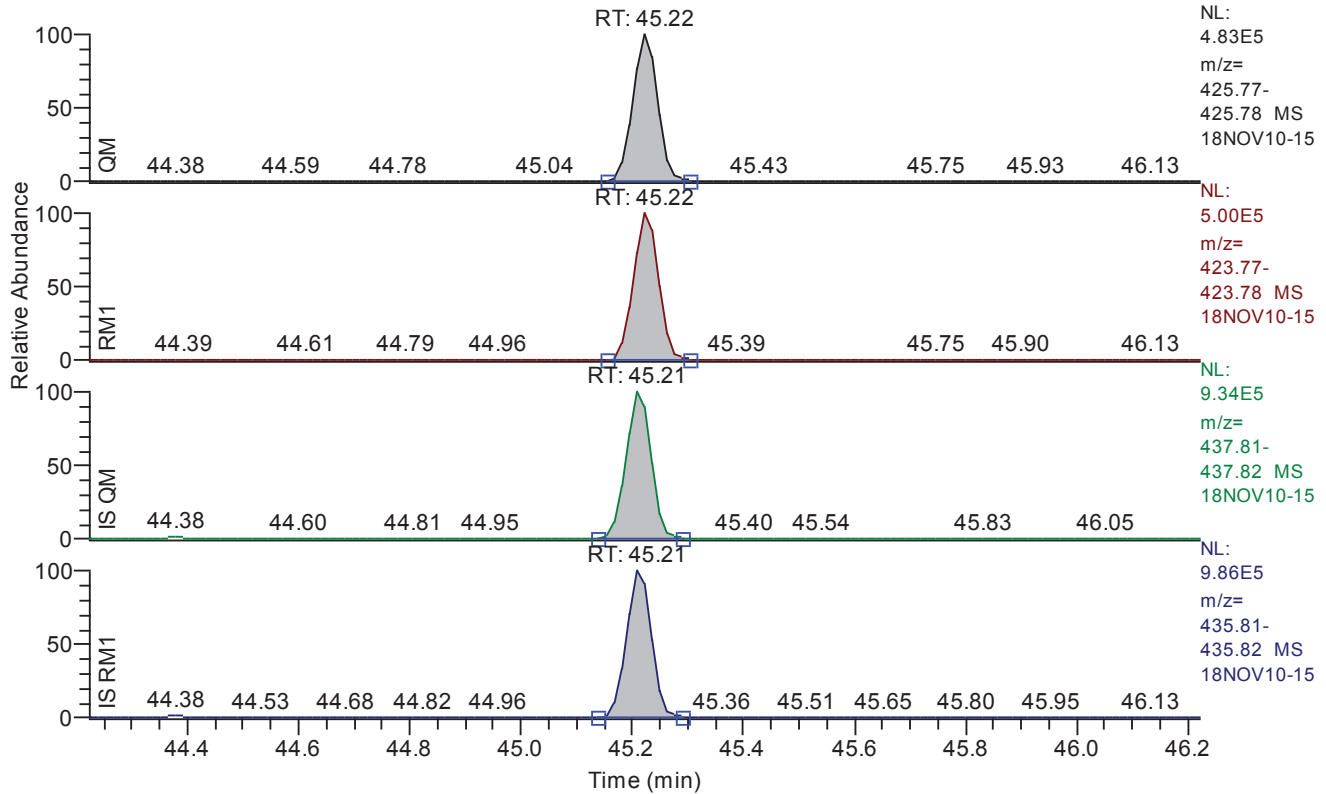


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.02
QM Area	2364367
QM Integration Mode	A
RM1 Area	2459287
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	52.289919
Adjusted Amount (A)	52.2899
Signal-to-Noise	11995
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.22 - 46.22 SM: 3G

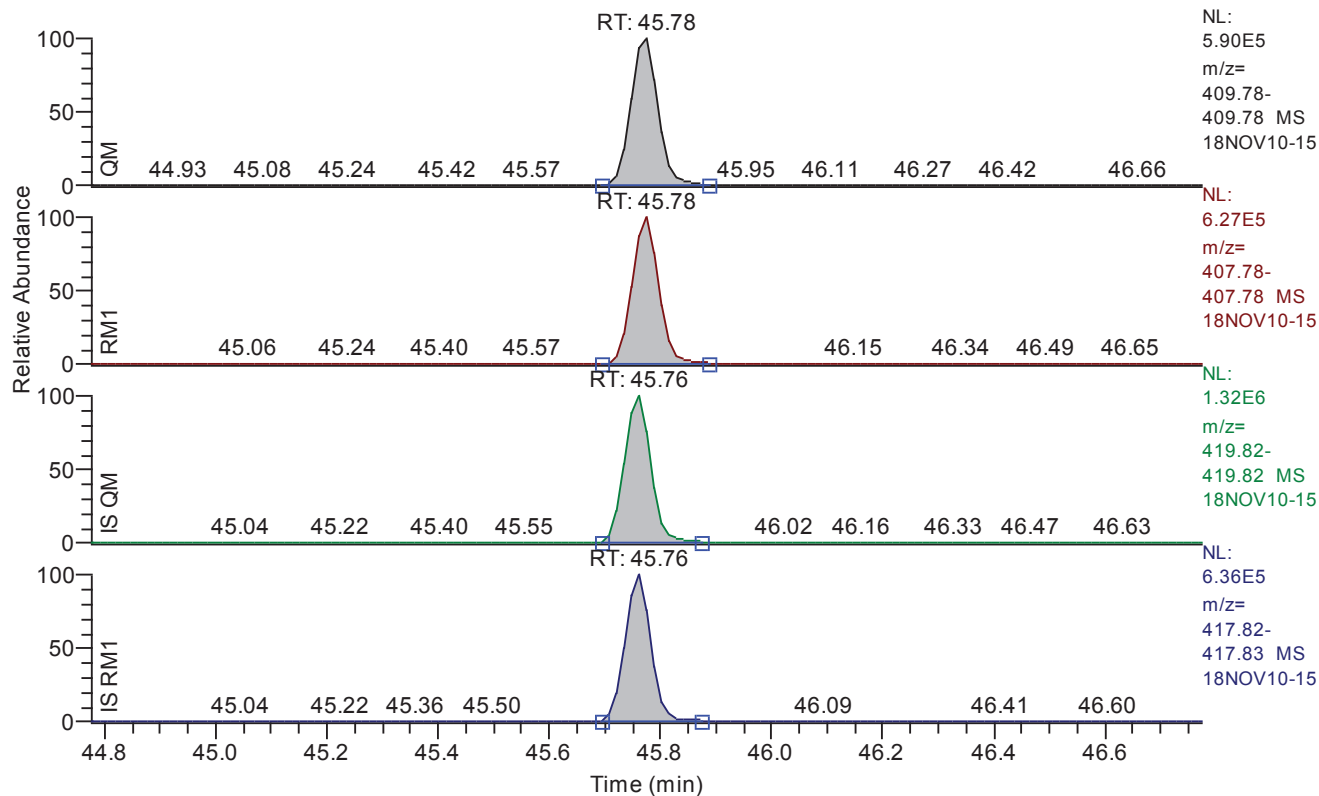


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.22
QM Area	1541012
QM Integration Mode	A
RM1 Area	1616339
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0104
Unqualified Amount (A)	49.900119
Adjusted Amount (A)	49.9001
Signal-to-Noise	12047
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.78 - 46.78 SM: 3G

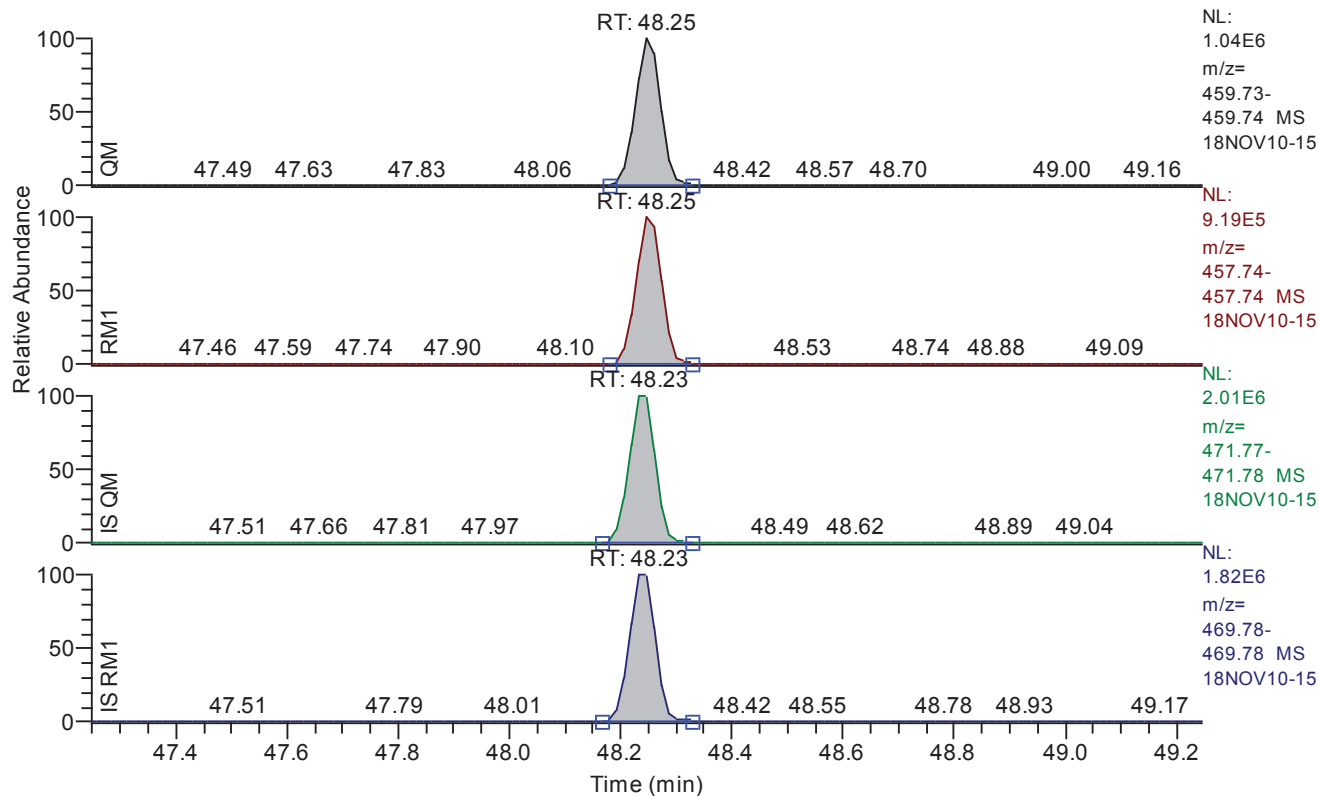


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.78
QM Area	2048846
QM Integration Mode	A
RM1 Area	2149747
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0122
Unqualified Amount (A)	51.626537
Adjusted Amount (A)	51.6265
Signal-to-Noise	10380
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.25 - 49.25 SM: 3G

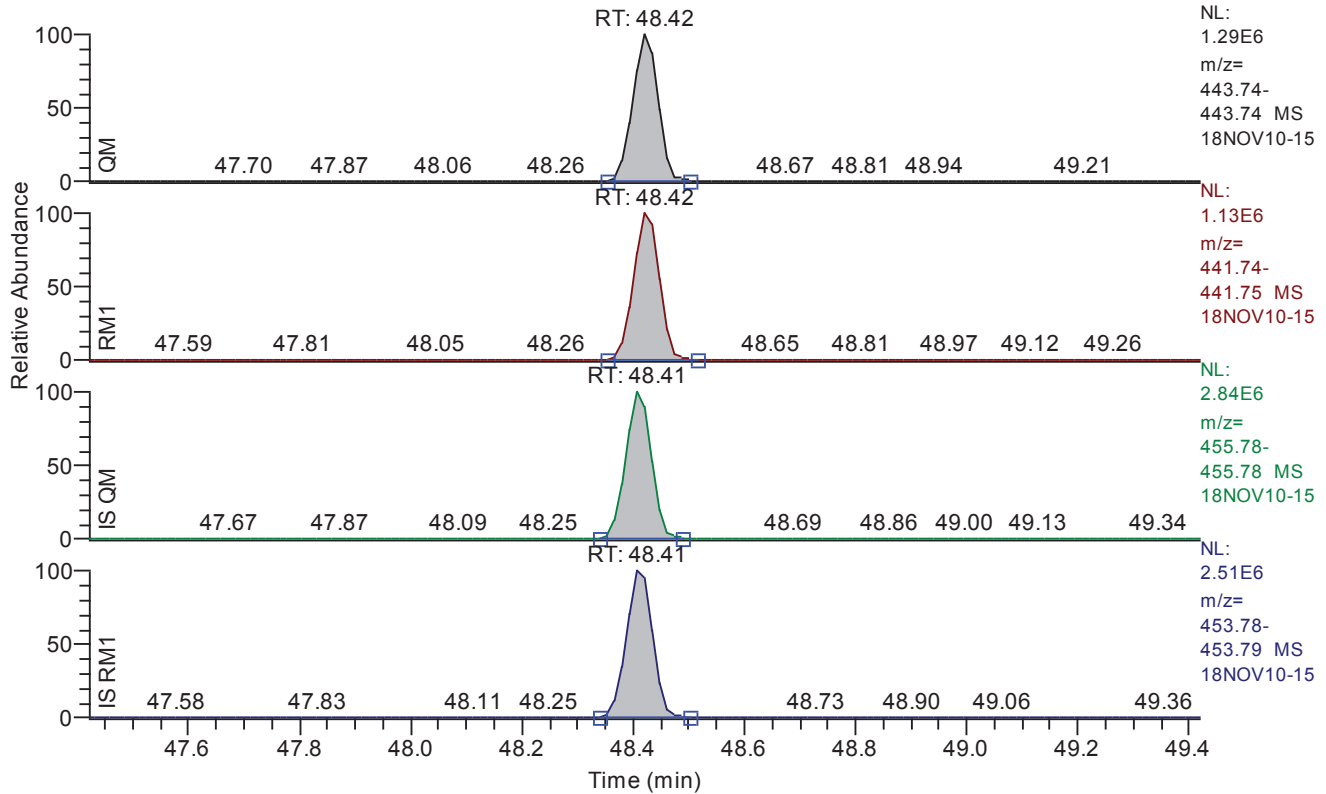


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.25
QM Area	3262345
QM Integration Mode	A
RM1 Area	2924525
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0079
Unqualified Amount (A)	100.432144
Adjusted Amount (A)	100.4321
Signal-to-Noise	32719
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.42 - 49.42 SM: 3G

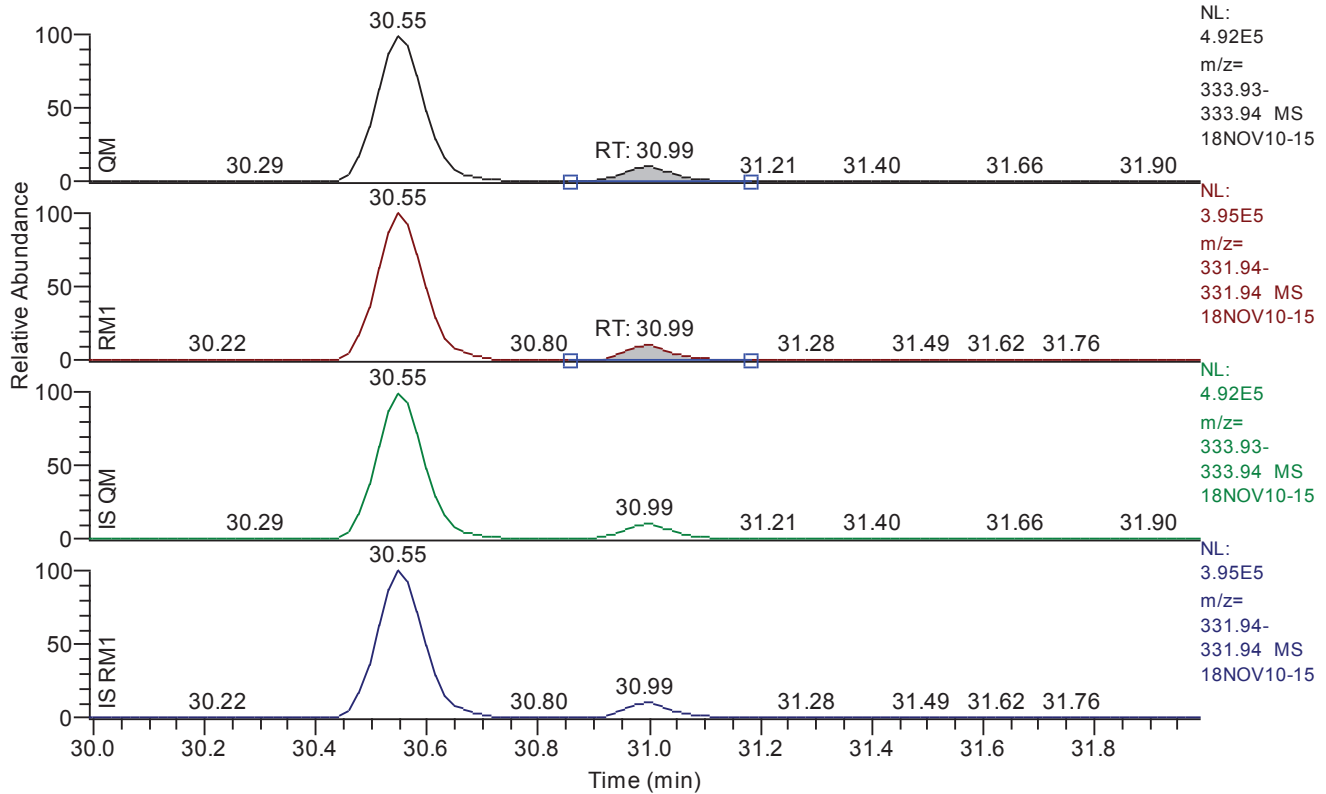


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.42
QM Area	4073993
QM Integration Mode	A
RM1 Area	3660093
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	103.528541
Adjusted Amount (A)	103.5285
Signal-to-Noise	42771
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.99 - 31.99 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.99
QM Area	321275
QM Integration Mode	A
RM1 Area	238955
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	10.541595
Adjusted Amount (A)	n.d.
Signal-to-Noise	2203
Client Flags	
Status Overview	failed
Status Info	Failed on: RF

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	29.40	29.40	29.40	29.38	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.58	30.58	30.55	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.47	35.47	35.43	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.74	36.74	36.73	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.16	37.16	37.13	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.45	40.45	40.43	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.59	40.59	40.58	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.28	41.30	41.27	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.48	41.48	41.47	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.60	41.60	41.59	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	42.29	42.29	42.29	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.02	44.02	44.01	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.22	45.22	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.78	45.78	45.76	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.25	48.25	48.23	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.42	48.42	48.41	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	29.71	29.71	29.71	29.71	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.35	40.35	40.35	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.38	29.38	29.62	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.55	30.55	30.55	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.43	35.43	35.43	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.73	36.73	36.78	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.13	37.13	37.13	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.43	40.43	40.51	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.58	40.58	40.55	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.27	41.27	41.35	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.47	41.47	41.47	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.59	41.59	41.59	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	42.28	42.28	42.28	42.18	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.01	44.01	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	45.76	45.76	45.76	45.71	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.23	48.23	48.23	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.41	48.41	48.23	passed	passed

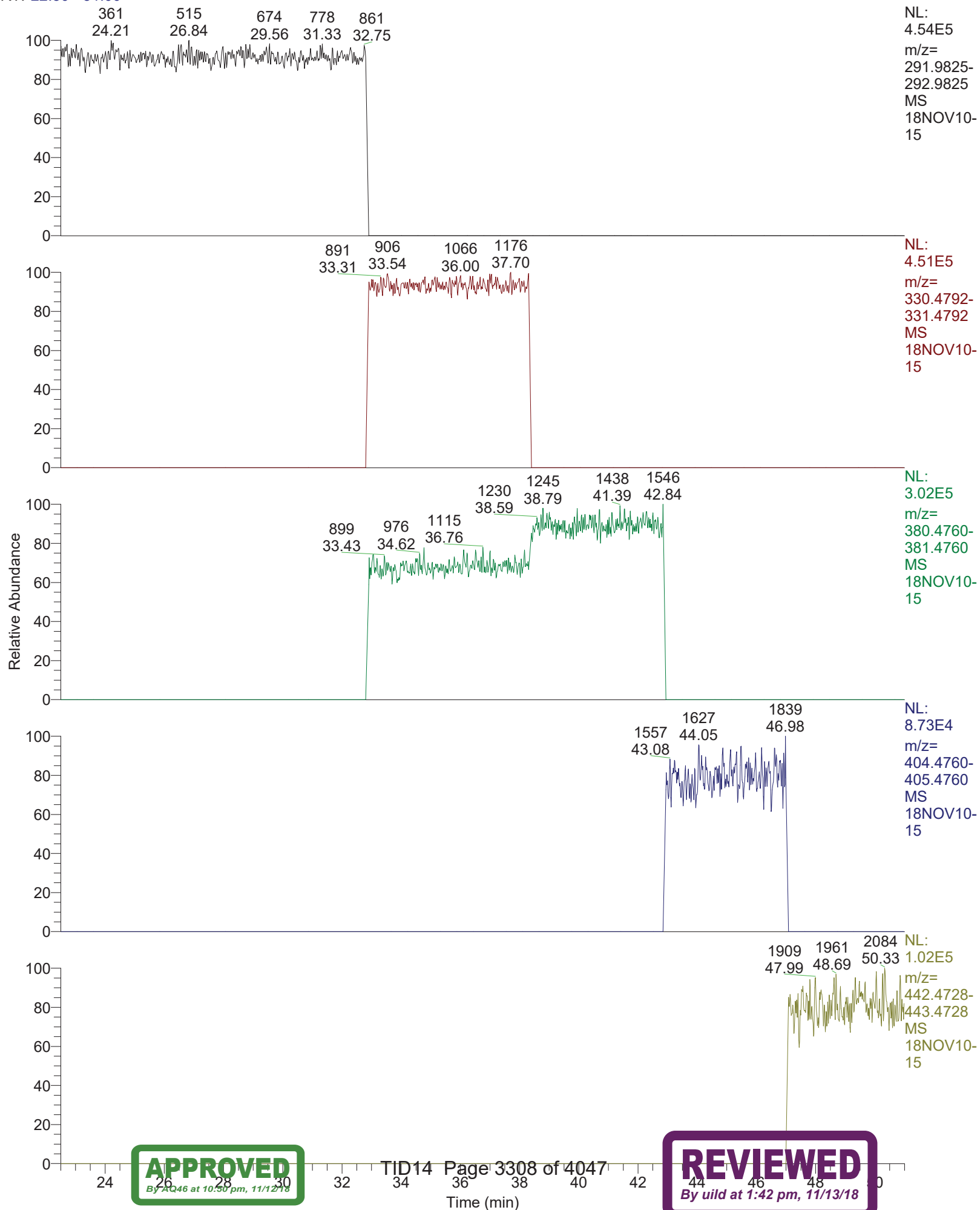
Entry Parameters

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	29.40	0.7785	0.6450 - 0.8950	passed	1.0275	1.0514	0.9604 - 1.4556	passed
2	2378-TCDD	30.58	0.8012	0.6450 - 0.8950	passed	1.2299	1.2502	1.0982 - 1.6646	passed
3	12378-PeCDF	35.47	1.5695	1.3150 - 1.7850	passed	0.9261	0.9371	0.8789 - 1.3321	passed
4	23478-PeCDF	36.74	1.5577	1.3150 - 1.7850	passed	1.0428	1.0504	0.9685 - 1.4681	passed
5	12378-PeCDD	37.16	1.5874	1.3150 - 1.7850	passed	0.9972	1.0016	0.9173 - 1.3903	passed
6	123478-HxCDF	40.45	1.2460	1.0450 - 1.4350	passed	1.1395	1.1137	0.9988 - 1.5138	passed
7	123678-HxCDF	40.59	1.2544	1.0450 - 1.4350	passed	1.1038	1.0735	0.9563 - 1.4495	passed
8	234678-HxCDF	41.28	1.2507	1.0450 - 1.4350	passed	1.1849	1.1494	1.0204 - 1.5466	passed
9	123478-HxCDD	41.48	1.2926	1.0450 - 1.4350	passed	1.0031	1.0123	0.9181 - 1.3915	passed
10	123678-HxCDD	41.60	1.2228	1.0450 - 1.4350	passed	0.9857	1.0027	0.9053 - 1.3723	passed
11	123789-HxCDD	41.91	1.2548	1.0450 - 1.4350	passed	1.0481	1.0528	0.9606 - 1.4560	passed
12	123789-HxCDF	42.29	1.2512	1.0450 - 1.4350	passed	1.0798	1.0742	0.9515 - 1.4421	passed
13	1234678-HpCDF	44.02	1.0401	0.8750 - 1.2050	passed	1.2397	1.1854	1.0778 - 1.6336	passed
14	1234678-HpCDD	45.22	1.0489	0.8750 - 1.2050	passed	1.0174	1.0194	0.9502 - 1.4402	passed
15	1234789-HpCDF	45.78	1.0492	0.8750 - 1.2050	passed	1.2716	1.2316	1.1050 - 1.6748	passed
16	OCDD	48.25	0.8964	0.7550 - 1.0250	passed	0.9904	0.9861	0.8908 - 1.3502	passed
17	OCDF	48.42	0.8984	0.7550 - 1.0250	passed	0.8928	0.8624	0.7890 - 1.1958	passed
18	13C12-1278-TCDD (CRS)	30.99	0.7438	0.6450 - 0.8950	passed	0.1101	1.0443	0.7083 - 1.3301	failed
19	13C12-1234-TCDD	29.71	0.8038	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.35	1.2710	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.38	0.8048	0.6450 - 0.8950	passed	2.0653	2.0369	1.6559 - 3.1093	passed
22	13C12-2378-TCDD	30.55	0.7999	0.6450 - 0.8950	passed	1.0463	1.0064	0.6937 - 1.3027	passed
23	13C12-12378-PeCDF	35.43	1.5767	1.3150 - 1.7850	passed	1.8794	1.9264	1.5155 - 2.8457	passed
24	13C12-23478-PeCDF	36.73	1.5885	1.3150 - 1.7850	passed	1.8715	1.9205	1.5317 - 2.8761	passed
25	13C12-12378-PeCDD	37.13	1.5819	1.3150 - 1.7850	passed	1.0656	1.0387	0.6937 - 1.3025	passed
26	13C12-123478-HxCDF	40.43	0.5424	0.4250 - 0.5950	passed	1.4114	1.4468	1.1993 - 2.2519	passed
27	13C12-123678-HxCDF	40.58	0.5342	0.4250 - 0.5950	passed	1.4815	1.5461	1.2787 - 2.4011	passed
28	13C12-234678-HxCDF	41.27	0.5409	0.4250 - 0.5950	passed	1.3579	1.4140	1.1620 - 2.1818	passed
29	13C12-123478-HxCDD	41.47	1.2718	1.0450 - 1.4350	passed	1.0427	0.9987	0.6941 - 1.3033	passed
30	13C12-123678-HxCDD	41.59	1.2473	1.0450 - 1.4350	passed	1.0819	1.0370	0.7190 - 1.3500	passed
31	13C12-123789-HxCDD	41.90	1.2518	1.0450 - 1.4350	passed	1.0354	0.9789	0.6747 - 1.2669	passed
32	13C12-123789-HxCDF	42.28	0.5351	0.4250 - 0.5950	passed	1.3149	1.3137	1.0701 - 2.0093	passed
33	13C12-1234678-HpCDF	44.01	0.4794	0.3650 - 0.5150	passed	1.2839	1.3169	1.0489 - 1.9695	passed
34	13C12-1234678-HpCDD	45.21	1.0534	0.8750 - 1.2050	passed	1.0240	0.9723	0.6249 - 1.1733	passed
35	13C12-1234789-HpCDF	45.76	0.4696	0.3650 - 0.5150	passed	1.0894	1.1060	0.8481 - 1.5925	passed
36	13C12-OCDD	48.23	0.9120	0.7550 - 1.0250	passed	1.0306	1.0280	0.6744 - 1.2662	passed
37	13C12-OCDF	48.41	0.9036	0.7550 - 1.0250	passed	1.4292	1.5078	1.1379 - 2.1367	passed

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	29.40	607220	A	472710	A	0.0070	9.772946	9.7729	10.000000	3280	
2	2378-TCDD	passed	30.58	363574	A	291295	A	0.0067	9.837882	9.8379	10.000000	3617	
3	12378-PeCDF	passed	35.47	1723594	A	2705156	A	0.0055	49.410787	49.4108	50.000000	22268	
4	23478-PeCDF	passed	36.74	1941483	A	3024341	A	0.0047	49.636835	49.6368	50.000000	27220	
5	12378-PeCDD	passed	37.16	1044924	A	1658758	A	0.0104	49.776087	49.7761	50.000000	11895	
6	123478-HxCDF	passed	40.45	2170249	A	2704093	A	0.0115	51.161530	51.1615	50.000000	11462	
7	123678-HxCDF	passed	40.59	2198325	A	2757655	A	0.0115	51.409331	51.4093	50.000000	11269	
8	234678-HxCDF	passed	41.28	2166531	A	2709620	A	0.0109	51.542902	51.5429	50.000000	11460	
9	123478-HxCDD	passed	41.48	1382638	A	1787193	A	0.0069	49.547884	49.5479	50.000000	17629	
10	123678-HxCDD	passed	41.60	1454089	A	1778023	A	0.0071	49.151601	49.1516	50.000000	17501	
11	123789-HxCDD	passed	41.91	1458571	A	1830248	A	0.0068	49.776330	49.7763	50.000000	18319	
12	123789-HxCDF	passed	42.29	1911444	A	2391526	A	0.0126	50.261978	50.2620	50.000000	9952	
13	1234678-HpCDF	passed	44.02	2364367	A	2459287	A	0.0109	52.289919	52.2899	50.000000	11995	
14	1234678-HpCDD	passed	45.22	1541012	A	1616339	A	0.0104	49.900119	49.9001	50.000000	12047	
15	1234789-HpCDF	passed	45.78	2048846	A	2149747	A	0.0122	51.626537	51.6265	50.000000	10380	
16	OCDD	passed	48.25	3262345	A	2924525	A	0.0079	100.432144	100.4321	100.000000	32719	
17	OCDF	passed	48.42	4073993	A	3660093	A	0.0061	103.528541	103.5285	100.000000	42771	
18	13C12-1278-TCDD (CRS)	failed	30.99	321275	A	238955	A	0.0116	10.541595	n.d.	100.000000	2203	
19	13C12-1234-TCDD	passed	29.71	2821286	A	2267723	A	0.0122	100.000000	100.0000	100.000000	20556	
20	13C12-123468-HxCDD	passed	40.35	2669047	A	3392304	A	0.0163	100.000000	100.0000	100.000000	15359	
21	13C12-2378-TCDF	passed	29.38	5823608	A	4686862	A	0.0091	101.396792	101.3968	100.000000	28373	
22	13C12-2378-TCDD	passed	30.55	2958261	A	2366336	A	0.0121	103.967430	103.9674	100.000000	22165	
23	13C12-12378-PeCDF	passed	35.43	3711870	A	5852585	A	0.0243	97.564268	97.5643	100.000000	13230	
24	13C12-23478-PeCDF	passed	36.73	3679232	A	5844617	A	0.0244	97.445801	97.4458	100.000000	13990	
25	13C12-12378-PeCDD	passed	37.13	2100284	A	3322496	A	0.0184	102.585583	102.5856	100.000000	19905	
26	13C12-123478-HxCDF	passed	40.43	5546484	A	3008448	A	0.0162	97.551182	97.5512	100.000000	14505	
27	13C12-123678-HxCDF	passed	40.58	5853090	A	3126985	A	0.0152	95.823089	95.8231	100.000000	15067	
28	13C12-234678-HxCDF	passed	41.27	5341579	A	2889168	A	0.0166	96.030992	96.0310	100.000000	14828	
29	13C12-123478-HxCDD	passed	41.47	2781915	A	3537971	A	0.0163	104.404220	104.4042	100.000000	17068	
30	13C12-123678-HxCDD	passed	41.59	2918108	A	3639748	A	0.0157	104.331812	104.3318	100.000000	16737	
31	13C12-123789-HxCDD	passed	41.90	2787065	A	3488729	A	0.0166	105.771625	105.7716	100.000000	16793	
32	13C12-123789-HxCDF	passed	42.28	5191694	A	2778097	A	0.0179	100.090331	100.0903	100.000000	13787	
33	13C12-1234678-HpCDF	passed	44.01	5260342	A	2521597	A	0.0168	97.492094	97.4921	100.000000	15247	
34	13C12-1234678-HpCDD	passed	45.21	3022597	A	3184119	A	0.0161	105.311884	105.3119	100.000000	18274	
35	13C12-1234789-HpCDF	passed	45.76	4493296	A	2110226	A	0.0200	98.501190	98.5012	100.000000	13167	
36	13C12-OCDD	passed	48.23	6534455	A	5959210	A	0.0082	200.497032	200.4970	200.000000	67606	
37	13C12-OCDF	passed	48.41	9101248	A	8224303	A	0.0074	189.575449	189.5754	200.000000	71469	

RT: 22.50 - 51.00



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*** file opened Sat Nov 10 06:42:41 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 06:42:40

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:51 pm, 11/12/18

TID14 Page 3310 of 4047

REVIEWED

By uild at 1:42 pm, 11/13/18

18NOV10-15

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	98.5000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0075	FVINLET	0.0381	FVSR	0.0368
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	98.5000	LKM	442.9723	MASS	98.5000
MDAC	1435656.4809	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9827	RELEN	0.0000
RES	12602.0106	RPUSHER	-6.1026	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	98.5000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.6e-008 mbar
Pirani Analyse: 7.5e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11465.
MID Time window 2: Resolution is 11644.
MID Time window 3: Resolution is 11513.
MID Time window 4: Resolution is 12026.

Page 3

APPROVED

By AQ46 at 10:51 pm, 11/12/18

TID14 Page 3311 of 4047

REVIEWED

By uild at 1:42 pm, 11/13/18

18NOV10-15

MID Time Window 5: Resolution is 12536.
MID Time Window 6: Resolution is 12602.

Amplifier Offset: 81.

*** File closed Sat Nov 10 07:33:42 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 18:16
Number of Entries	62
Comment	
Vial	6
Sample Name	VER-CALDF41837G
Sample ID	CS3CC04
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-28.quan
Data	x:\18nov10\18nov10-28.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Depend 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

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	29.54	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	30.70	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.54	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.81	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.22	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.49	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.64	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.32	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.52	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.65	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.96	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.32	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.06	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	45.25	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	48.44	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.11	failed	passed	passed	passed	passed	passed	Failed on: RF
19	13C12-1234-TCDD	29.83	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.39	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.50	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.67	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.51	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.79	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.21	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.47	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.62	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.31	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.51	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.63	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.94	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.31	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.05	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.24	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	48.44	passed	passed	passed	passed	passed	passed	

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/10 18:16
Number of Entries	62
Comment	
Vial	6
Sample Name	VER-CALDF41837G
Sample ID	CS3CC04
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

Files Parameter

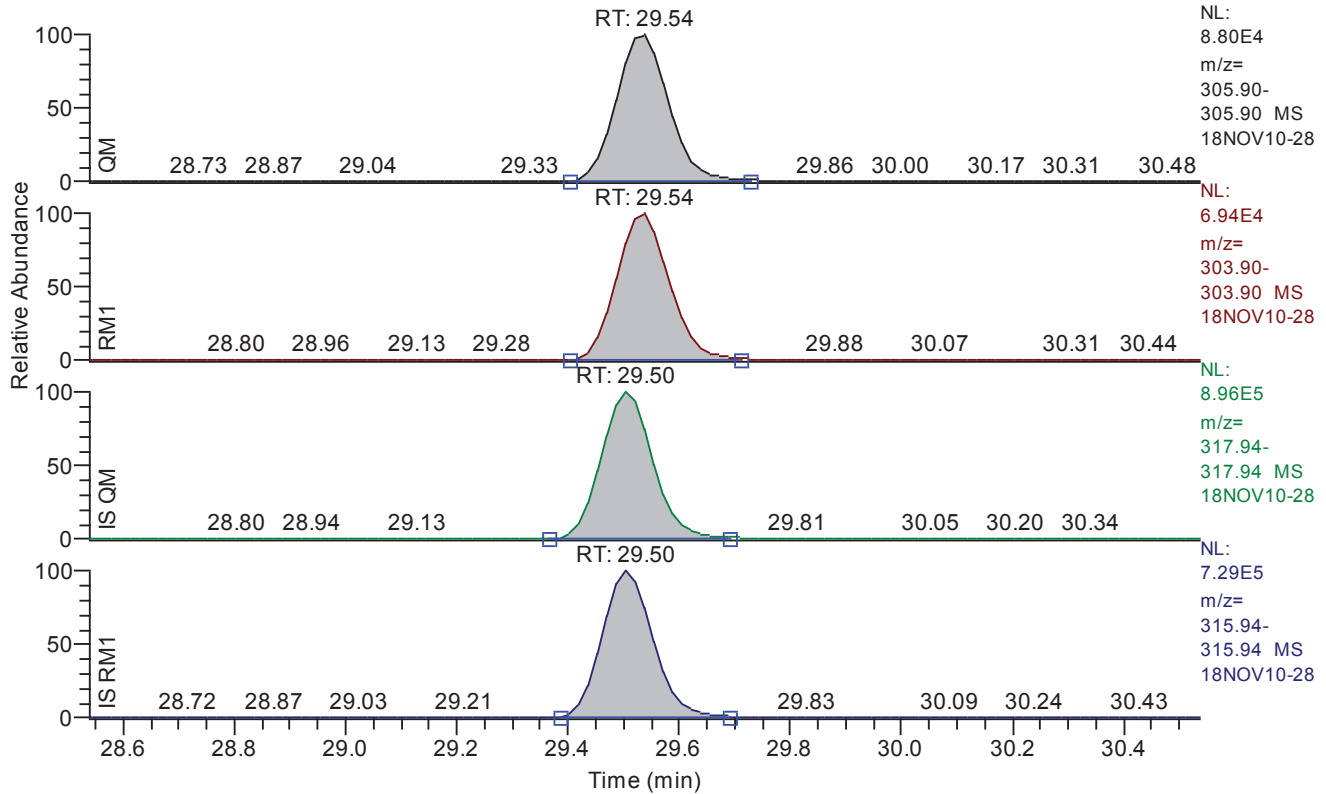
Quan	x:\18nov10\18nov10-28.quan
Data	x:\18nov10\18nov10-28.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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

Chromatogram

RT: 28.54 - 30.54 SM: 3G

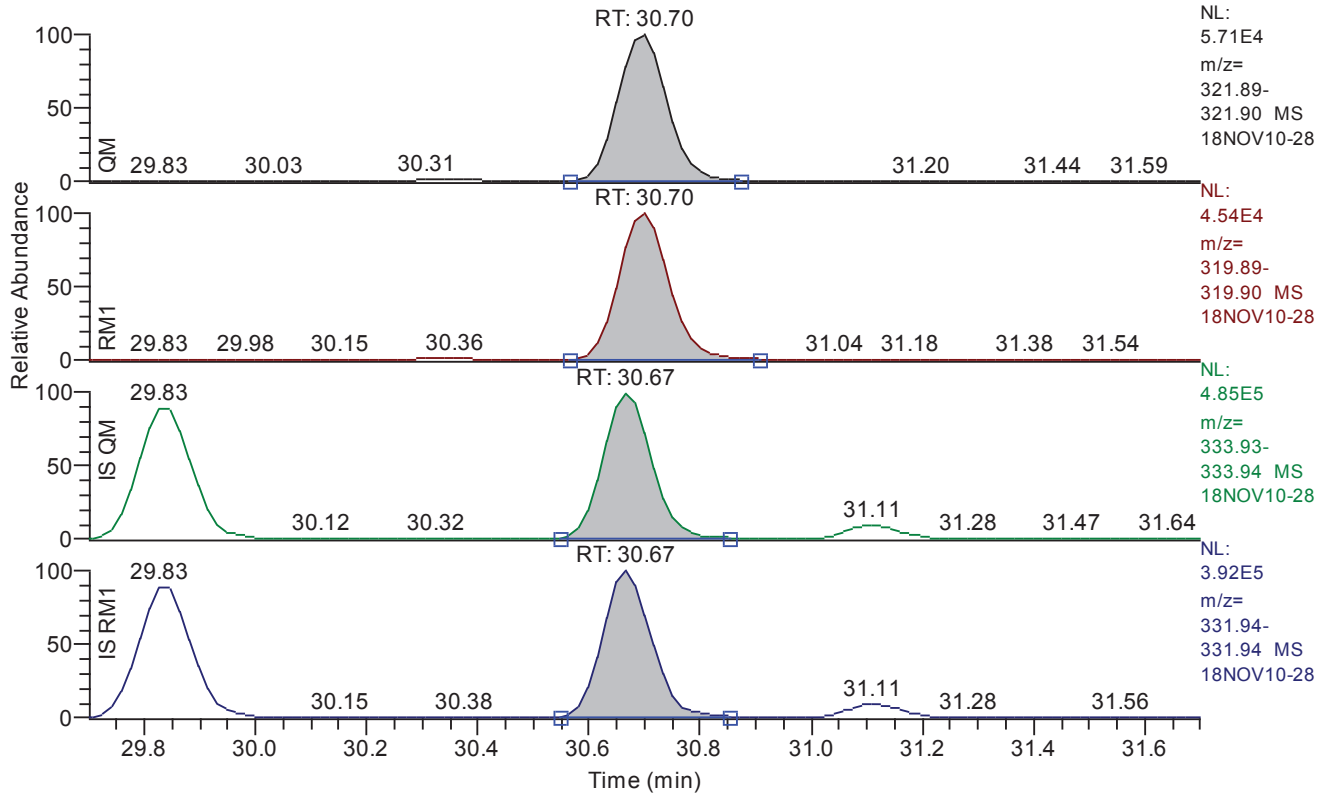


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.54
QM Area	582911
QM Integration Mode	A
RM1 Area	460702
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0053
Unqualified Amount (A)	9.395630
Adjusted Amount (A)	9.3956
Signal-to-Noise	4328
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.70 - 31.70 SM: 3G

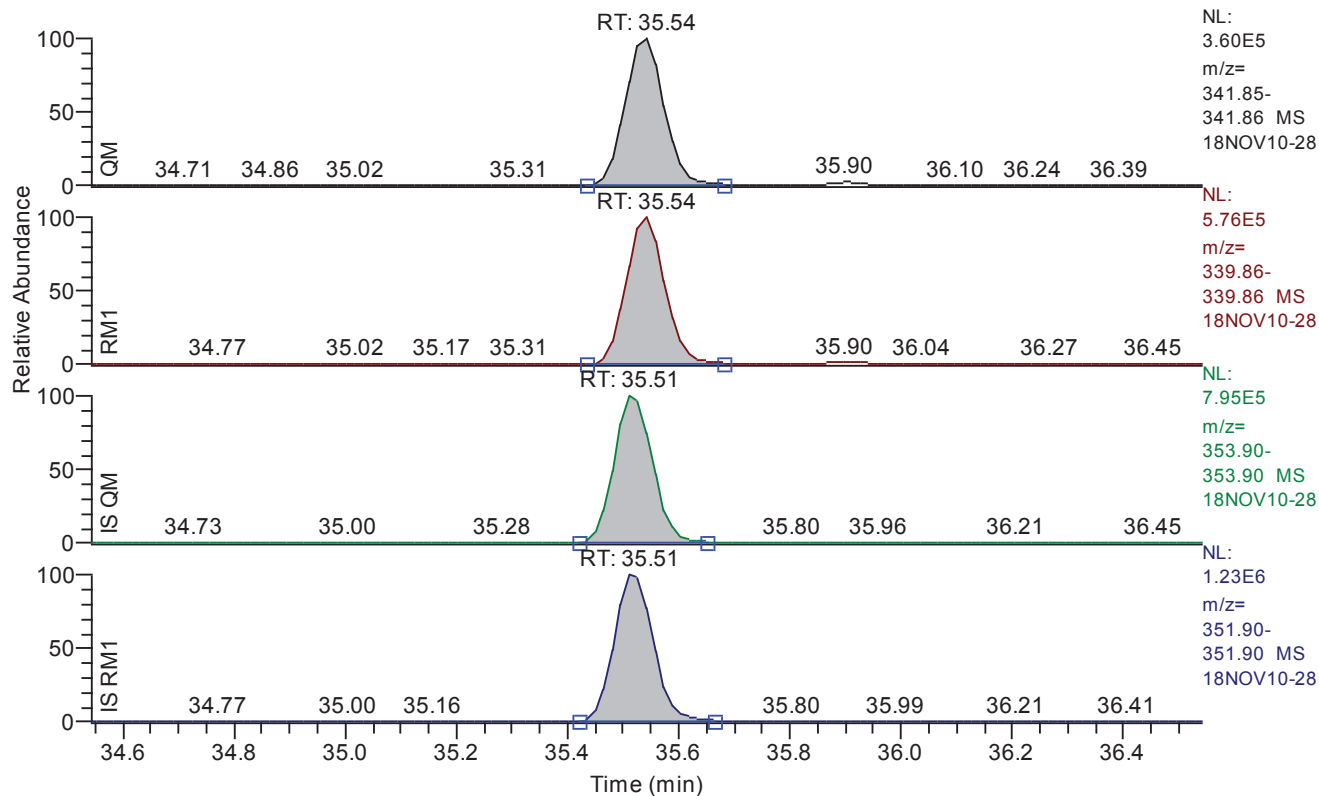


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.70
QM Area	359117
QM Integration Mode	A
RM1 Area	292118
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	9.654716
Adjusted Amount (A)	9.6547
Signal-to-Noise	5069
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.54 - 36.54 SM: 3G

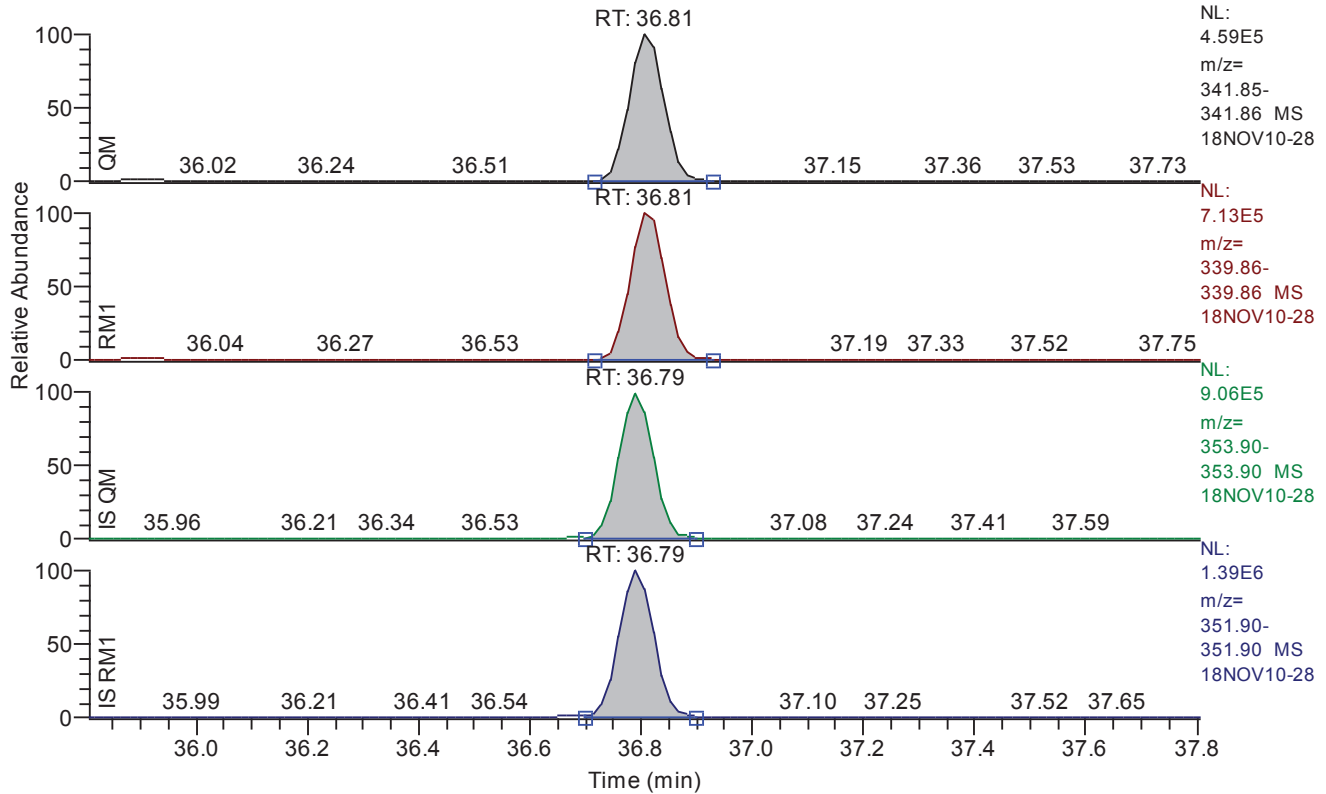


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.54
QM Area	1753260
QM Integration Mode	A
RM1 Area	2771909
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	48.709292
Adjusted Amount (A)	48.7093
Signal-to-Noise	24365
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.81 - 37.81 SM: 3G

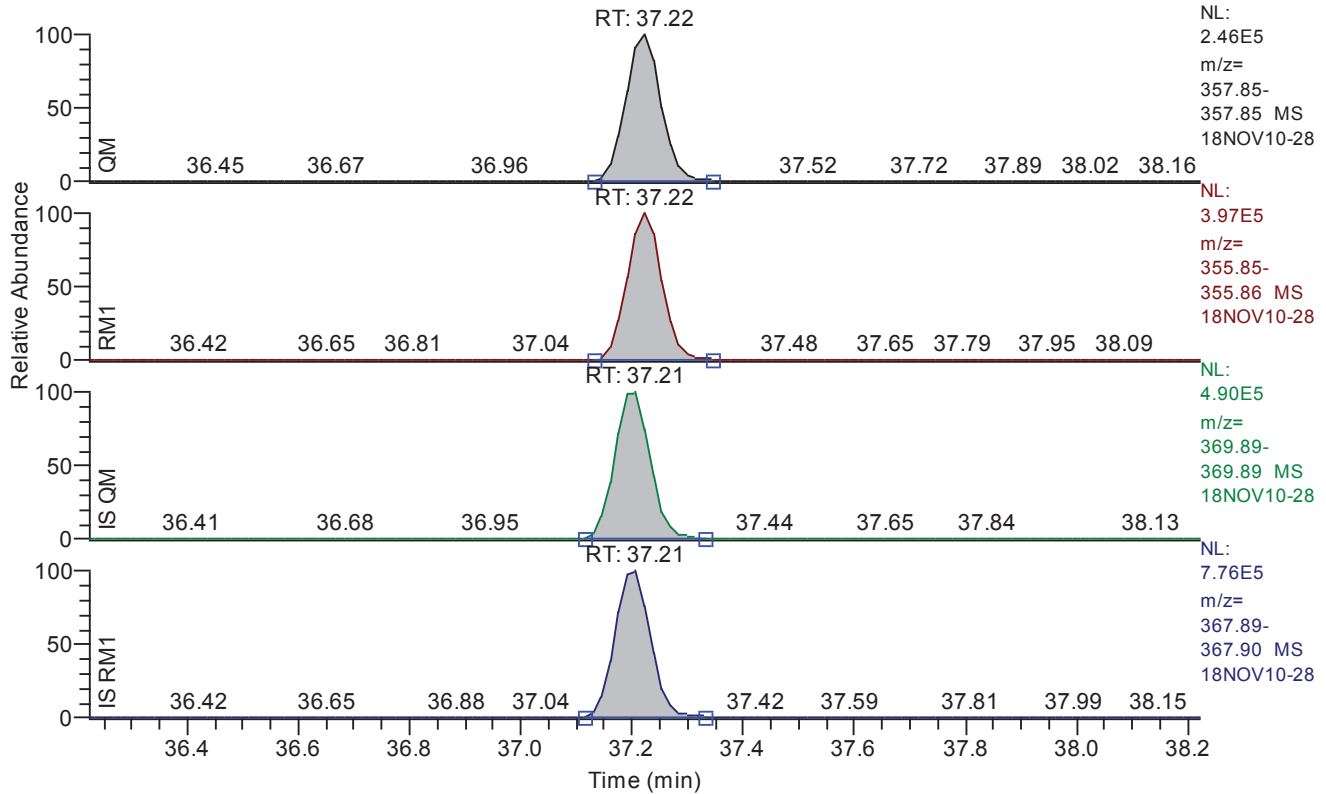


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.81
QM Area	1998718
QM Integration Mode	A
RM1 Area	3140724
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	49.437045
Adjusted Amount (A)	49.4370
Signal-to-Noise	30505
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.22 - 38.22 SM: 3G

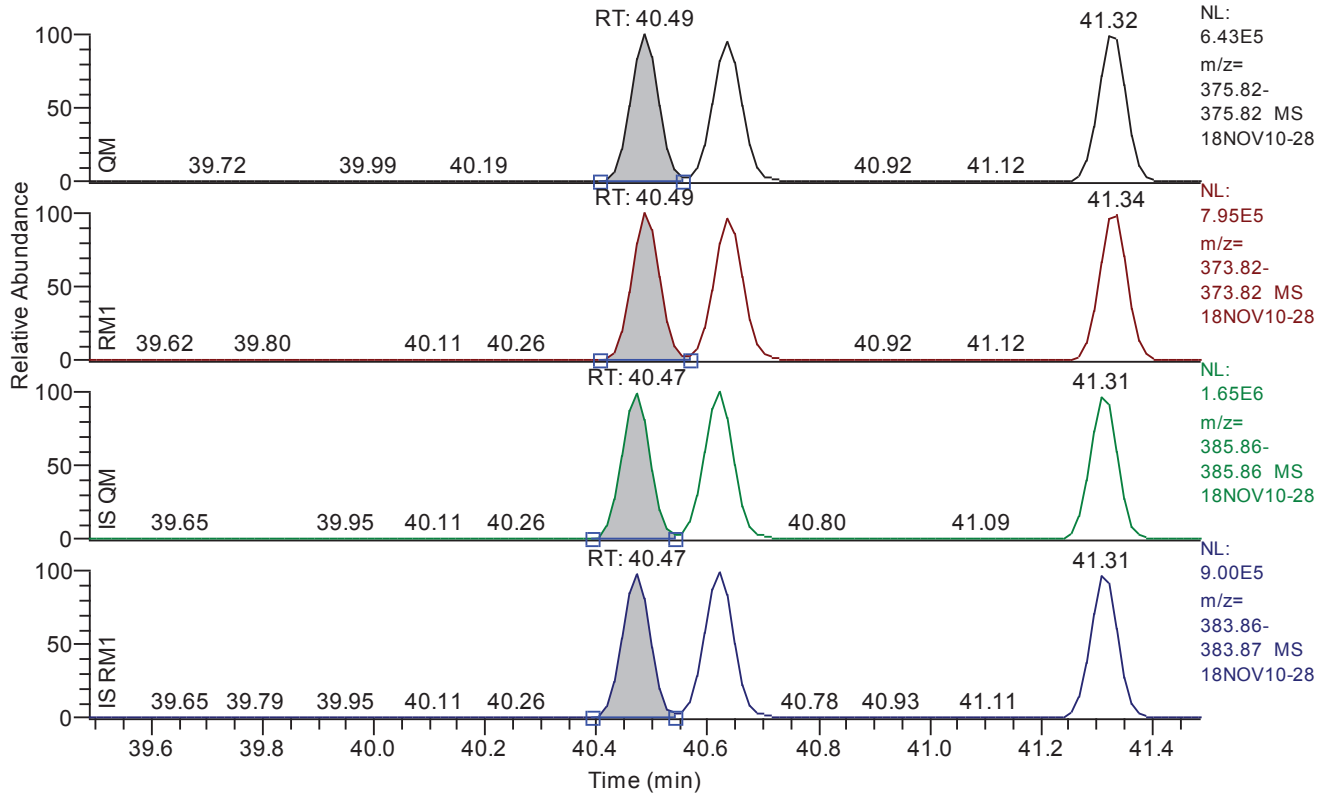


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.22
QM Area	1086870
QM Integration Mode	A
RM1 Area	1723977
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	49.525637
Adjusted Amount (A)	49.5256
Signal-to-Noise	14595
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.49 - 41.49 SM: 3G

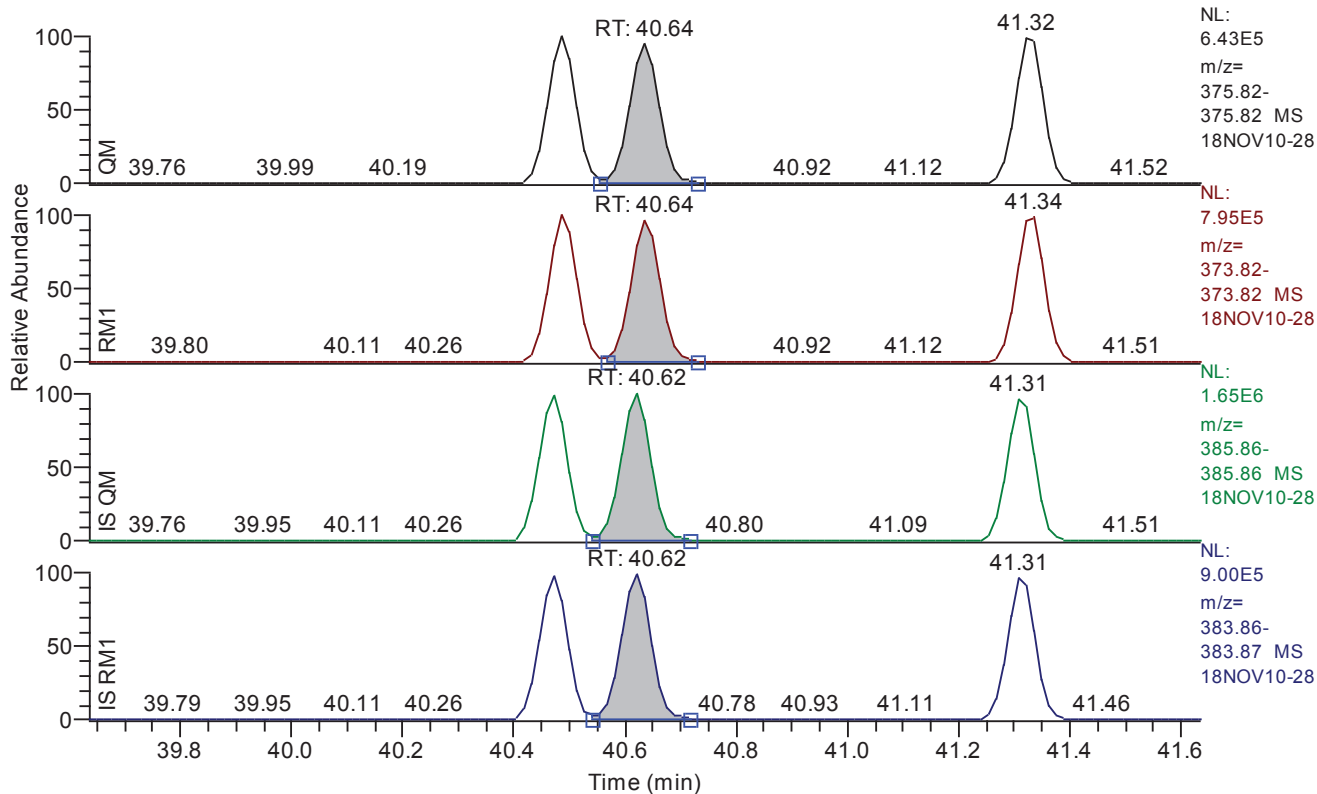


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.49
QM Area	2258638
QM Integration Mode	A
RM1 Area	2809767
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0110
Unqualified Amount (A)	51.028235
Adjusted Amount (A)	51.0282
Signal-to-Noise	11598
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.64 - 41.64 SM: 3G

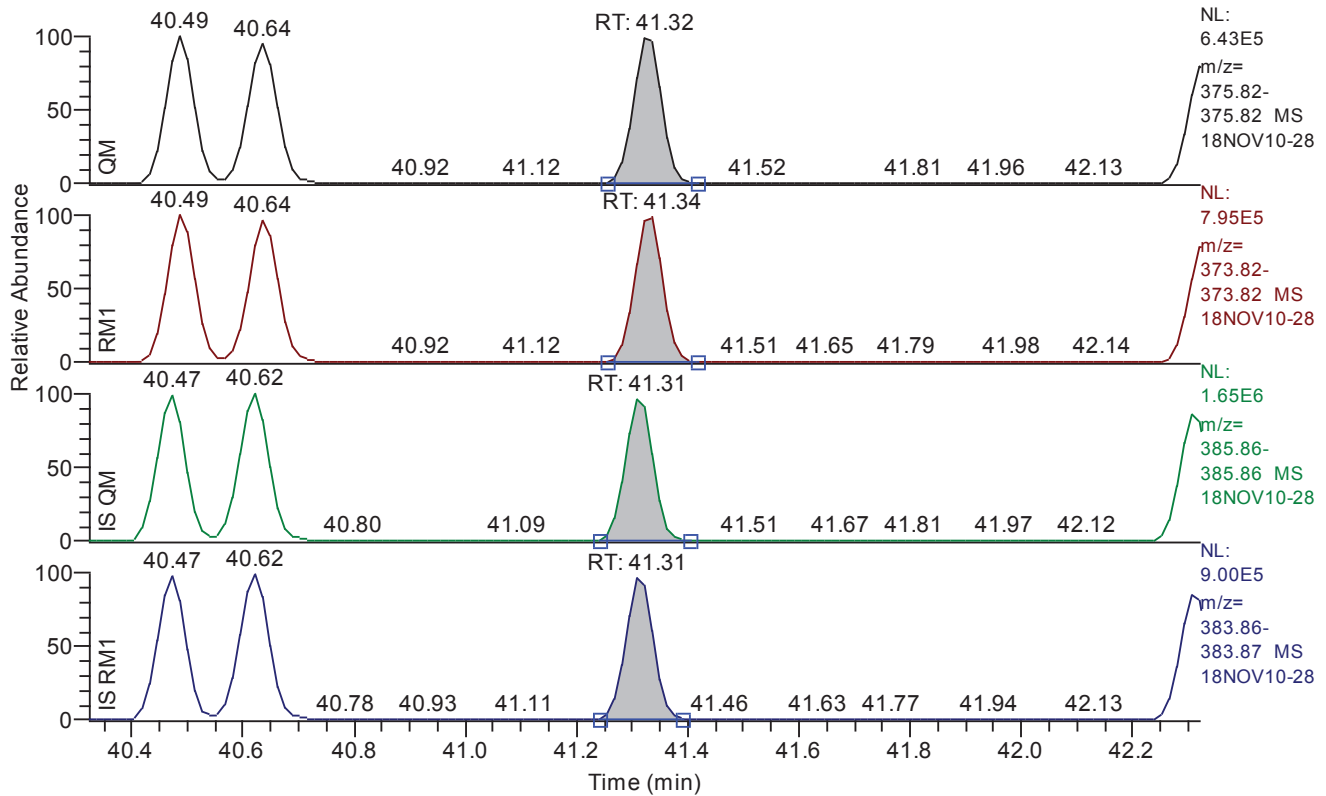


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.64
QM Area	2284374
QM Integration Mode	A
RM1 Area	2826465
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	50.265000
Adjusted Amount (A)	50.2650
Signal-to-Noise	11151
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.32 - 42.32 SM: 3G

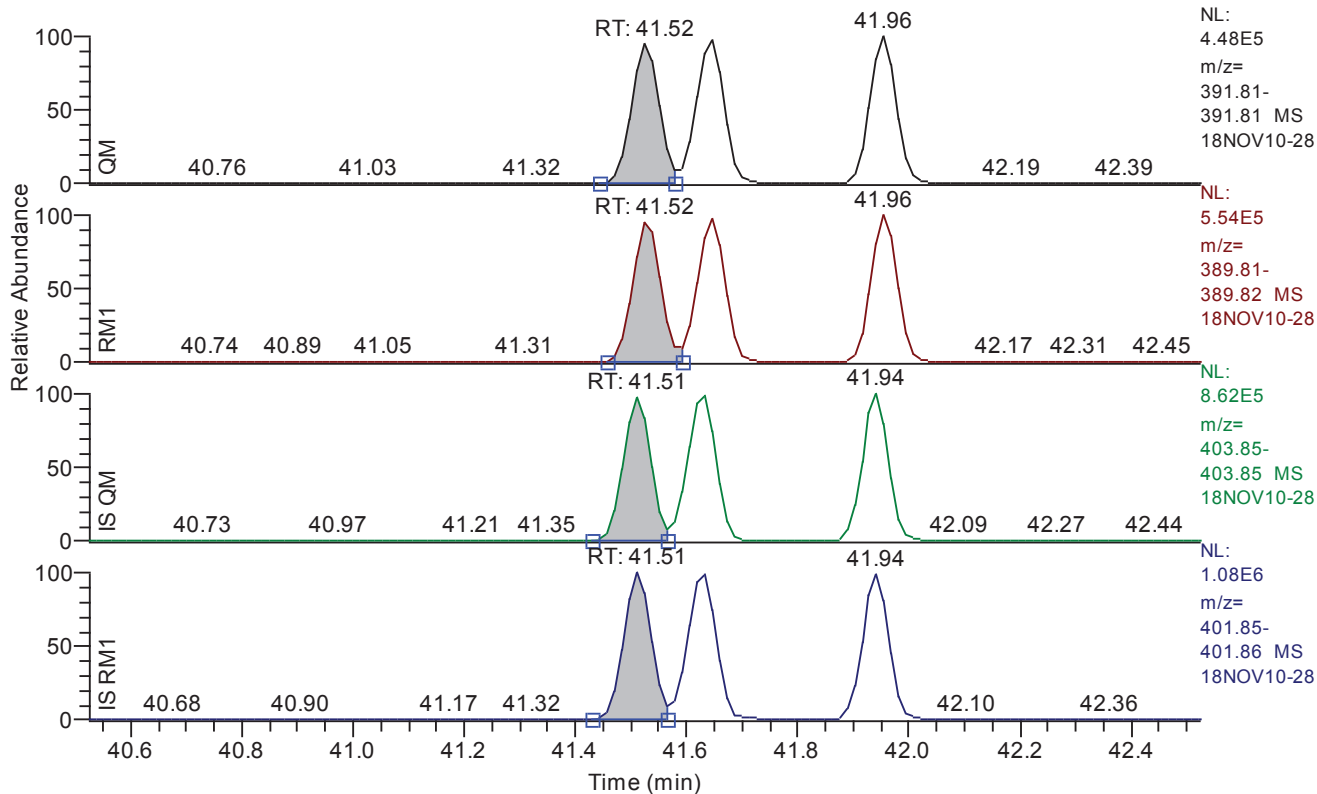


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.32
QM Area	2271077
QM Integration Mode	A
RM1 Area	2801488
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	51.083293
Adjusted Amount (A)	51.0833
Signal-to-Noise	11538
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.52 - 42.52 SM: 3G

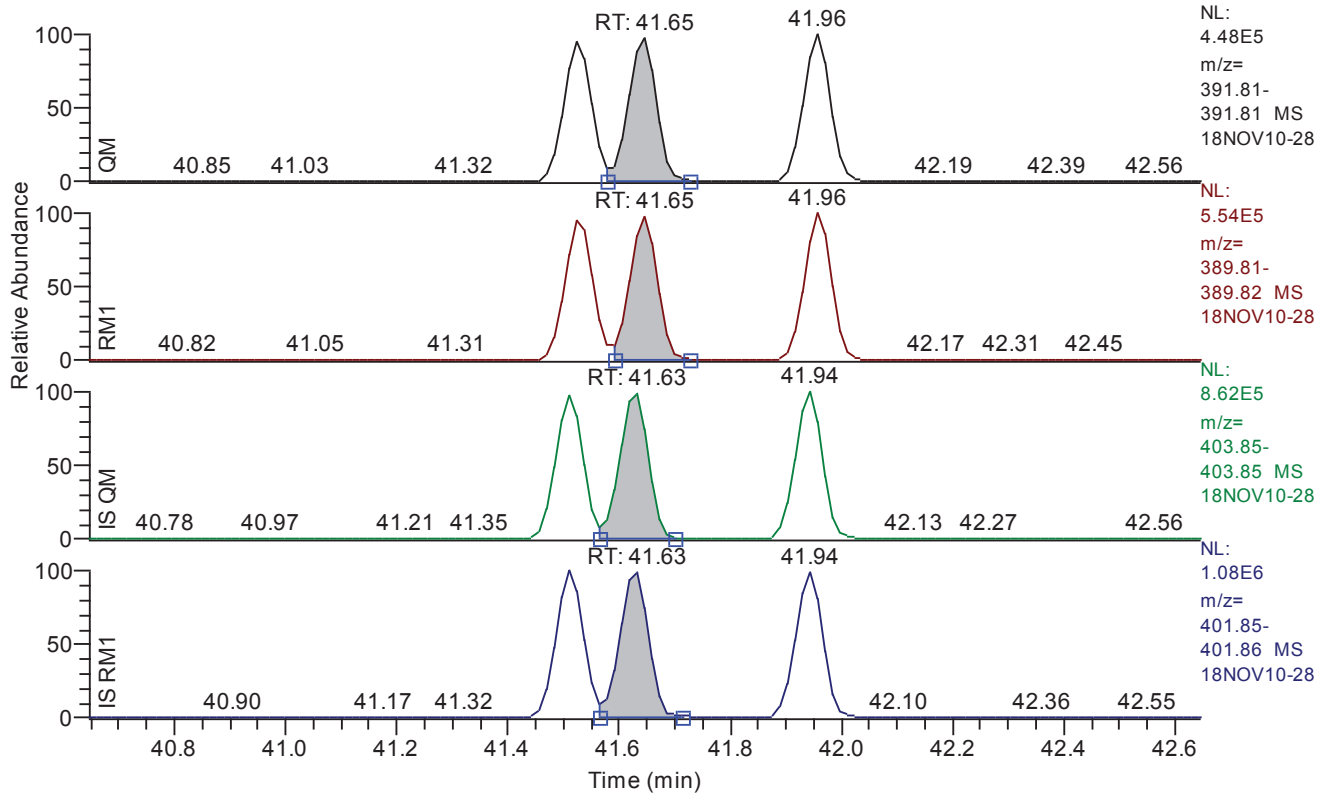


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.52
QM Area	1473322
QM Integration Mode	A
RM1 Area	1878863
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0073
Unqualified Amount (A)	49.960671
Adjusted Amount (A)	49.9607
Signal-to-Noise	16824
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.65 - 42.65 SM: 3G

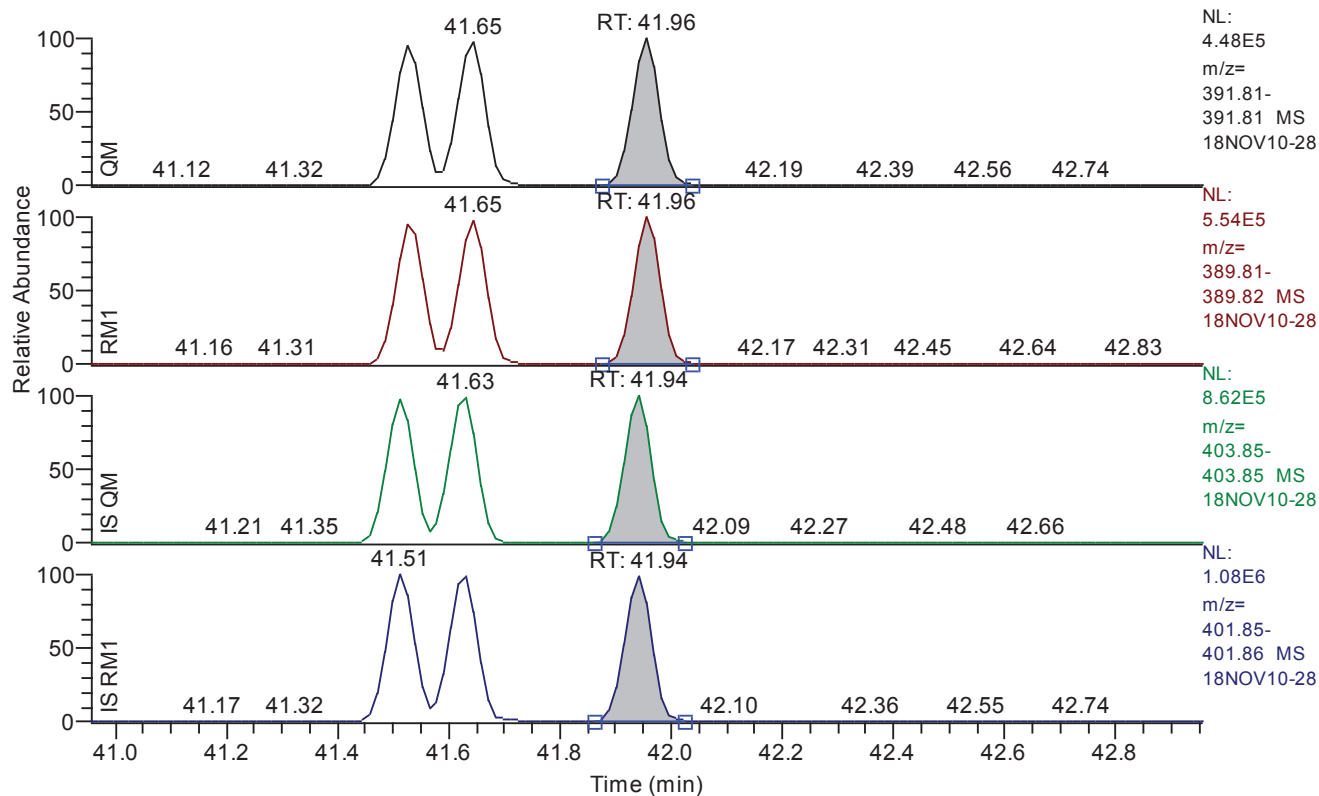


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.65
QM Area	1547423
QM Integration Mode	A
RM1 Area	1854812
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0074
Unqualified Amount (A)	48.899586
Adjusted Amount (A)	48.8996
Signal-to-Noise	17293
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.96 - 42.96 SM: 3G

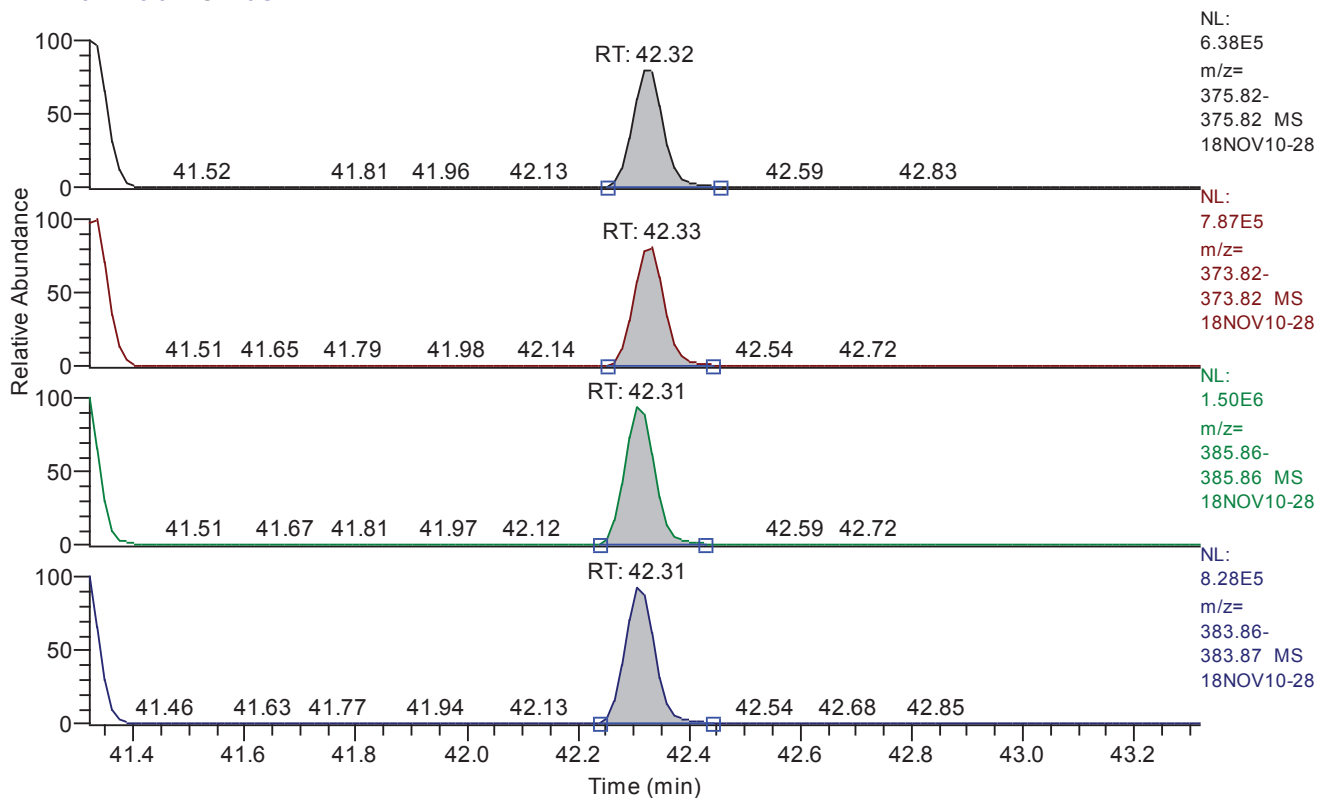


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.96
QM Area	1522974
QM Integration Mode	A
RM1 Area	1887934
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	48.929718
Adjusted Amount (A)	48.9297
Signal-to-Noise	17627
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.32 - 43.32 SM: 3G

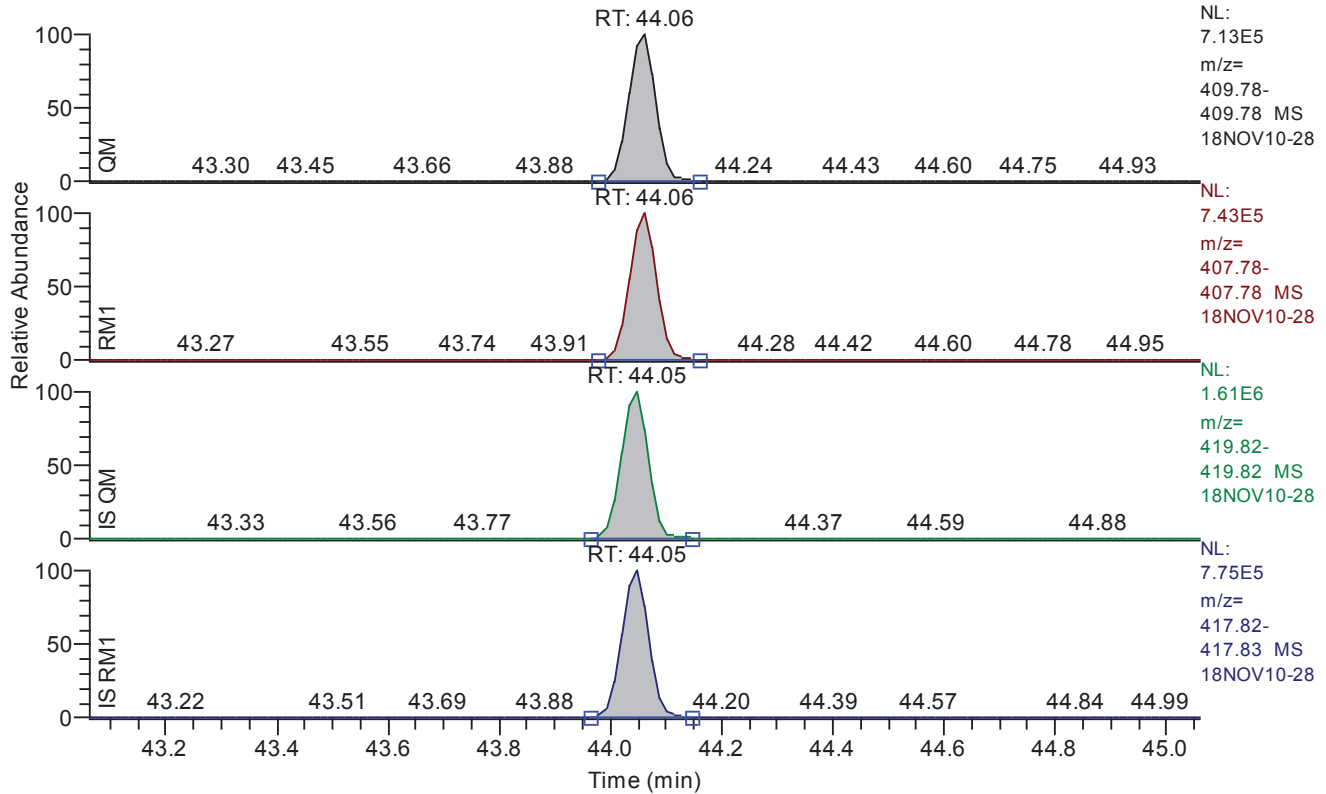


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.32
QM Area	1971054
QM Integration Mode	A
RM1 Area	2459642
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	50.199793
Adjusted Amount (A)	50.1998
Signal-to-Noise	9318
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 43.06 - 45.06 SM: 3G

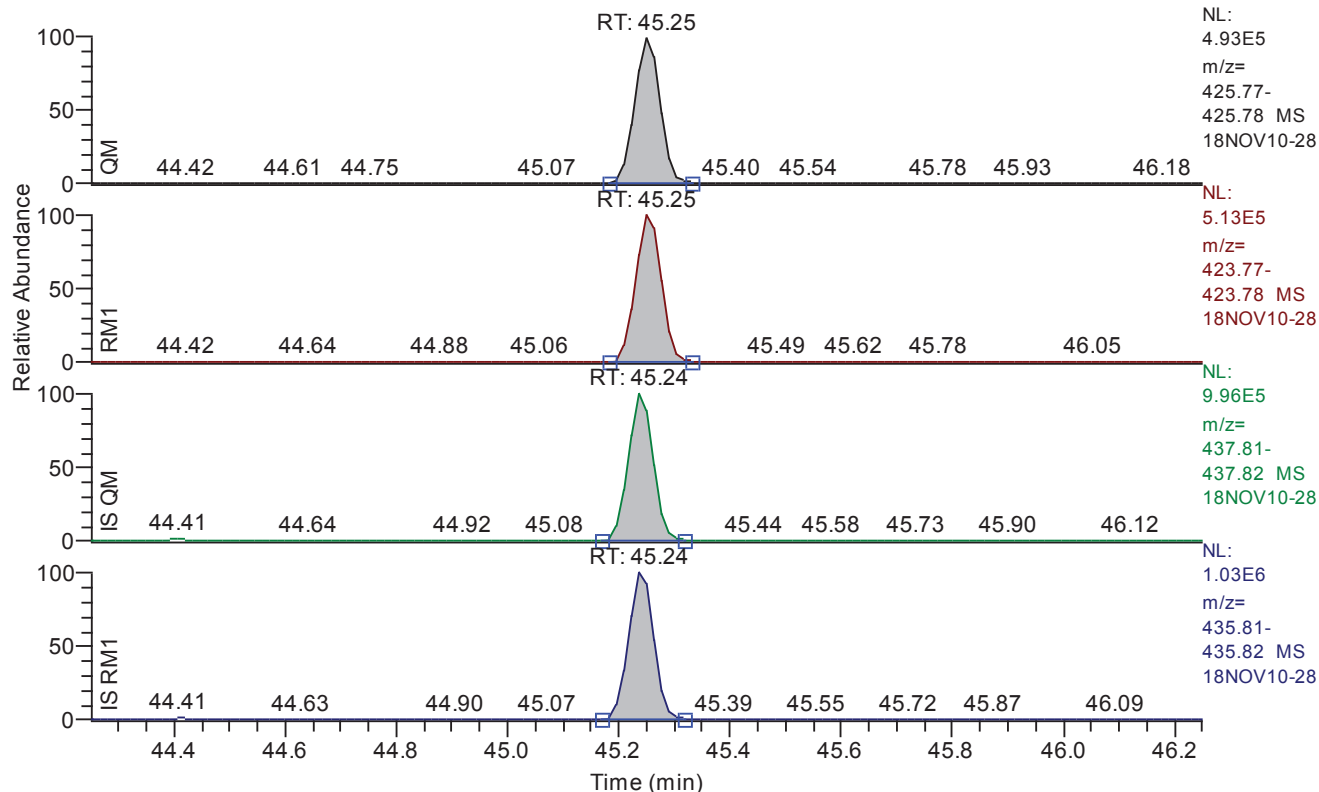


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.06
QM Area	2481986
QM Integration Mode	A
RM1 Area	2571757
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0120
Unqualified Amount (A)	51.175880
Adjusted Amount (A)	51.1759
Signal-to-Noise	10703
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.25 - 46.25 SM: 3G

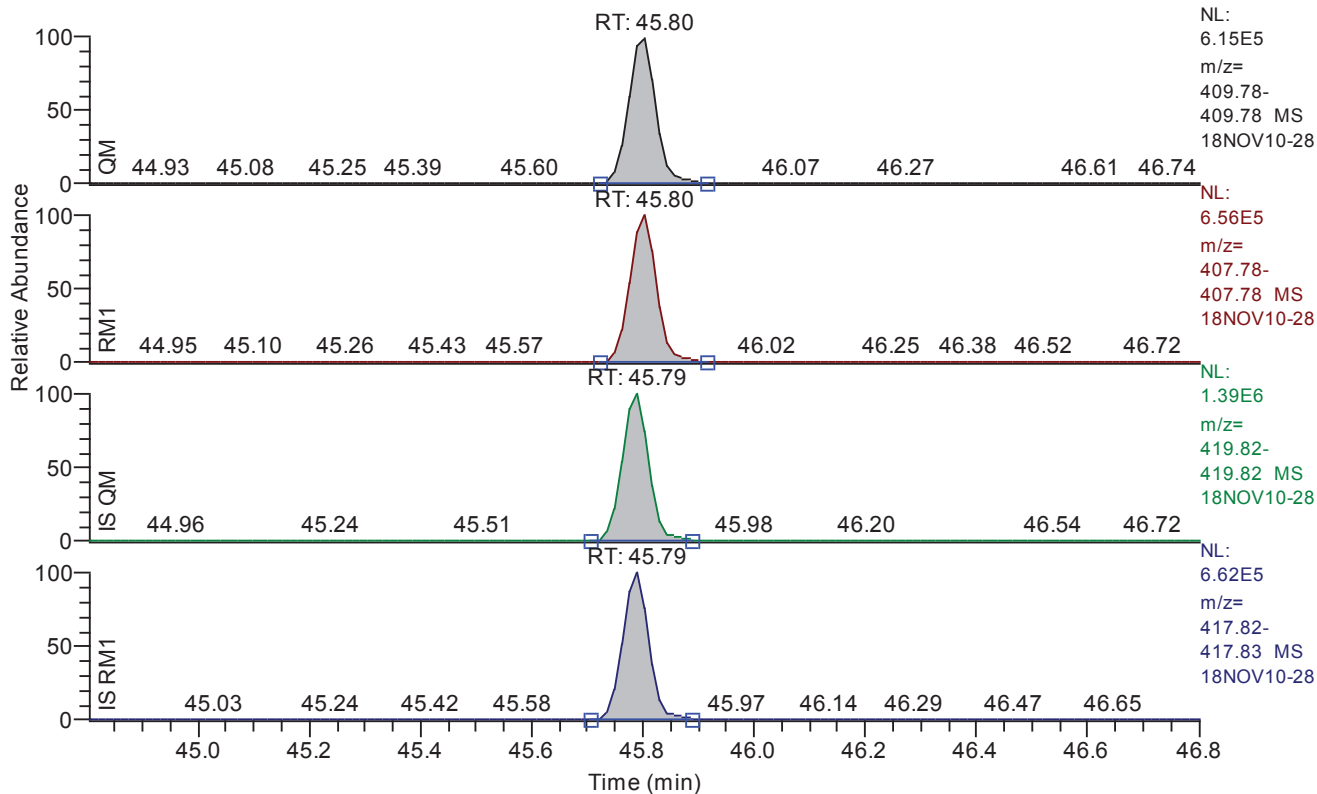


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.25
QM Area	1602269
QM Integration Mode	A
RM1 Area	1703791
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0104
Unqualified Amount (A)	49.275843
Adjusted Amount (A)	49.2758
Signal-to-Noise	11696
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.80 - 46.80 SM: 3G

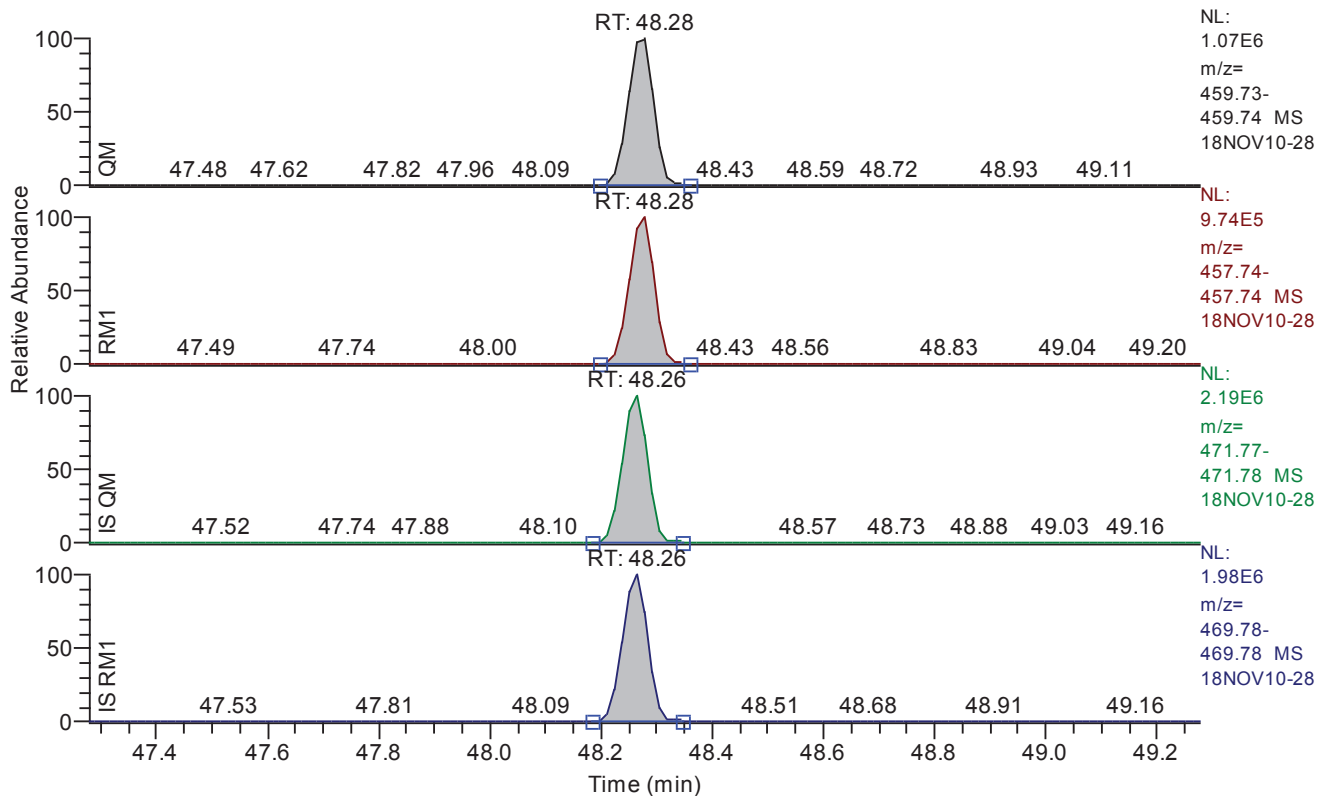


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.80
QM Area	2130153
QM Integration Mode	A
RM1 Area	2236026
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0135
Unqualified Amount (A)	51.153686
Adjusted Amount (A)	51.1537
Signal-to-Noise	9344
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.28 - 49.28 SM: 3G

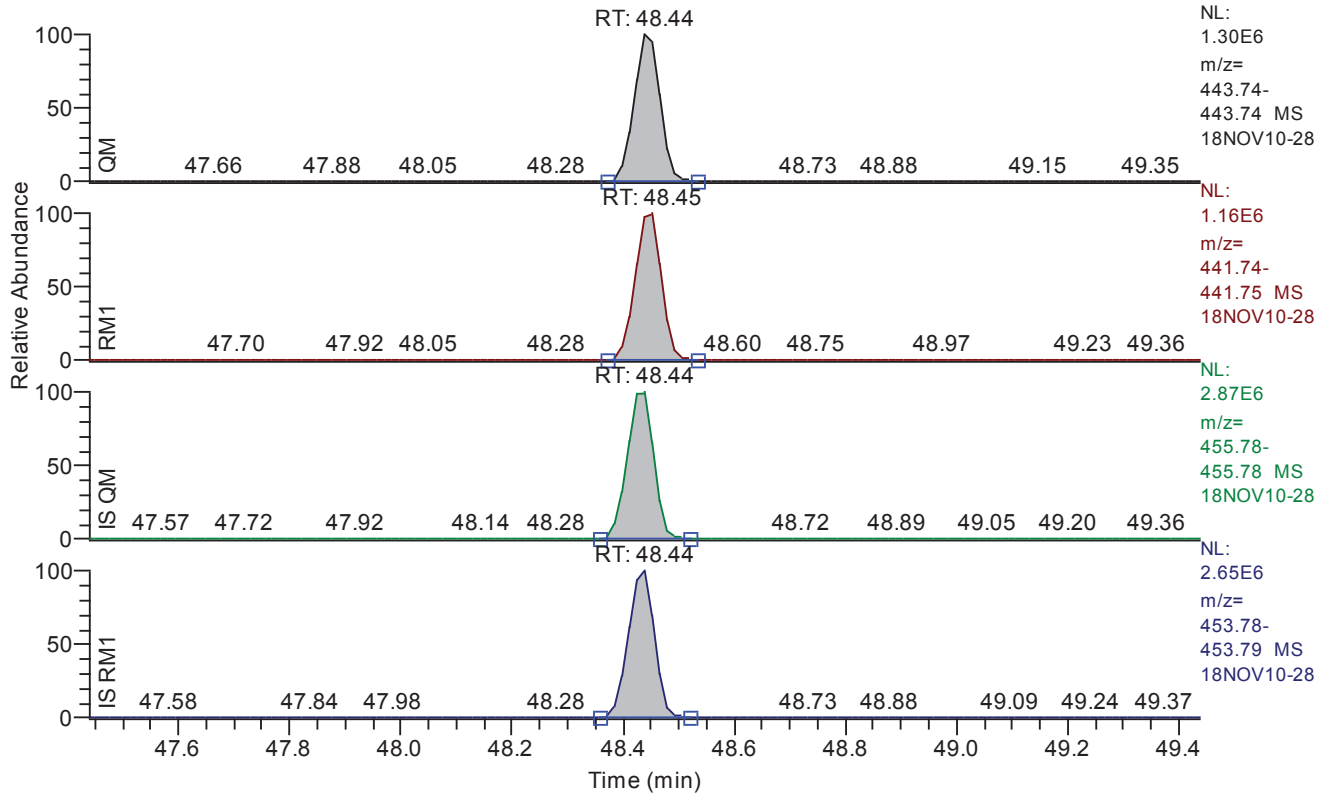


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.28
QM Area	3467818
QM Integration Mode	A
RM1 Area	3088207
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0074
Unqualified Amount (A)	100.489276
Adjusted Amount (A)	100.4893
Signal-to-Noise	33657
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.44 - 49.44 SM: 3G

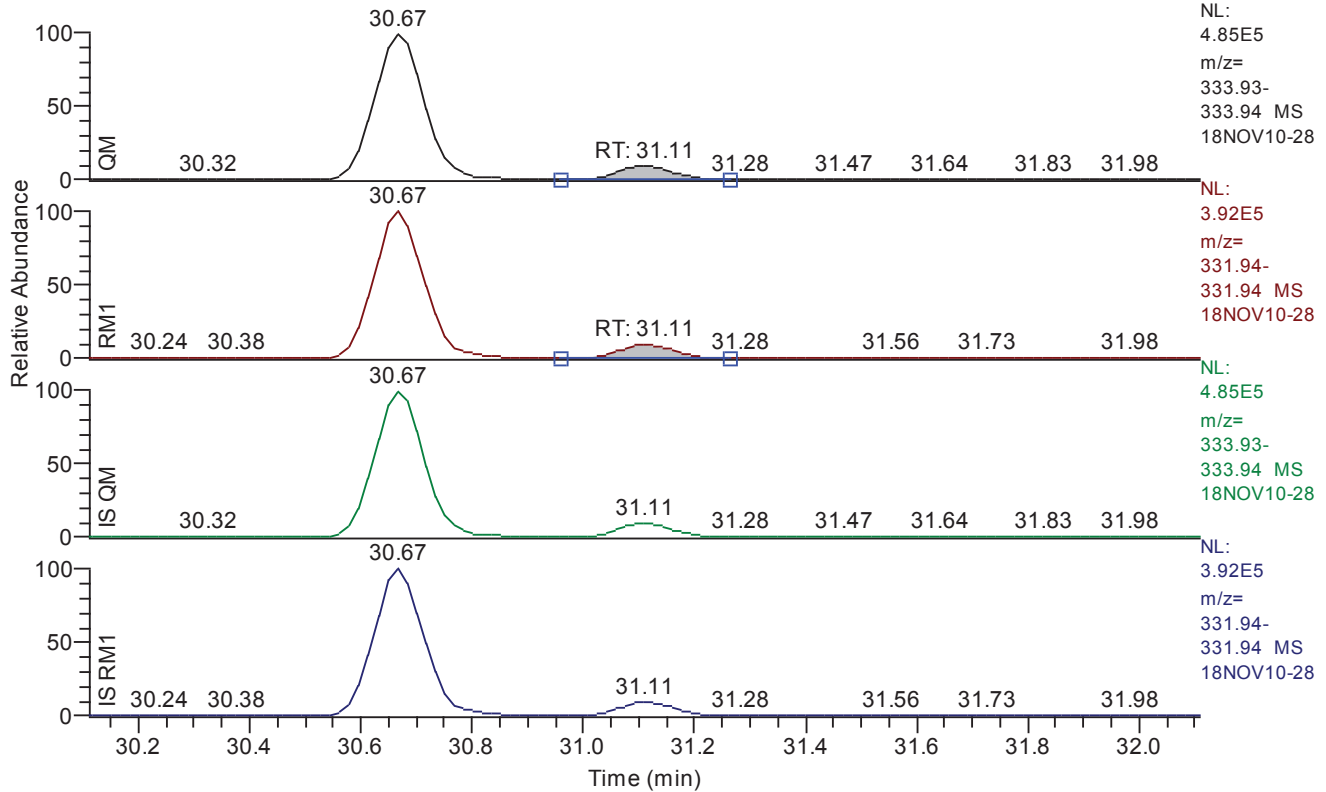


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.44
QM Area	4229324
QM Integration Mode	A
RM1 Area	3809815
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0057
Unqualified Amount (A)	102.774755
Adjusted Amount (A)	102.7748
Signal-to-Noise	45768
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 30.11 - 32.11 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.11
QM Area	315943
QM Integration Mode	A
RM1 Area	259015
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0150
Unqualified Amount (A)	10.700308
Adjusted Amount (A)	n.d.
Signal-to-Noise	1697
Client Flags	
Status Overview	failed
Status Info	Failed on: RF

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	29.54	29.54	29.54	29.50	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.70	30.70	30.70	30.67	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.54	35.54	35.54	35.51	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.81	36.81	36.81	36.79	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.22	37.22	37.22	37.21	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.49	40.49	40.49	40.47	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.64	40.64	40.64	40.62	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.32	41.32	41.34	41.31	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.52	41.52	41.52	41.51	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.65	41.65	41.65	41.63	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.96	41.96	41.96	41.94	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.32	42.32	42.33	42.31	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.06	44.06	44.06	44.05	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.25	45.25	45.25	45.24	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	48.26	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.44	48.44	48.45	48.44	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.11	31.11	31.11	31.11	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.83	29.83	29.83	29.83	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.39	40.39	40.39	40.39	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.50	29.50	29.50	29.49	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.67	30.67	30.67	30.67	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.51	35.51	35.51	35.51	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.79	36.79	36.79	36.78	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.21	37.21	37.21	37.21	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.47	40.47	40.47	40.33	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.62	40.62	40.62	40.72	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.31	41.31	41.31	41.47	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.51	41.51	41.51	41.51	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.63	41.63	41.63	41.63	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.94	41.94	41.94	41.94	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.31	42.31	42.31	42.33	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.05	44.05	44.05	44.03	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	45.79	45.79	45.79	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	48.44	48.44	48.44	48.41	passed	passed

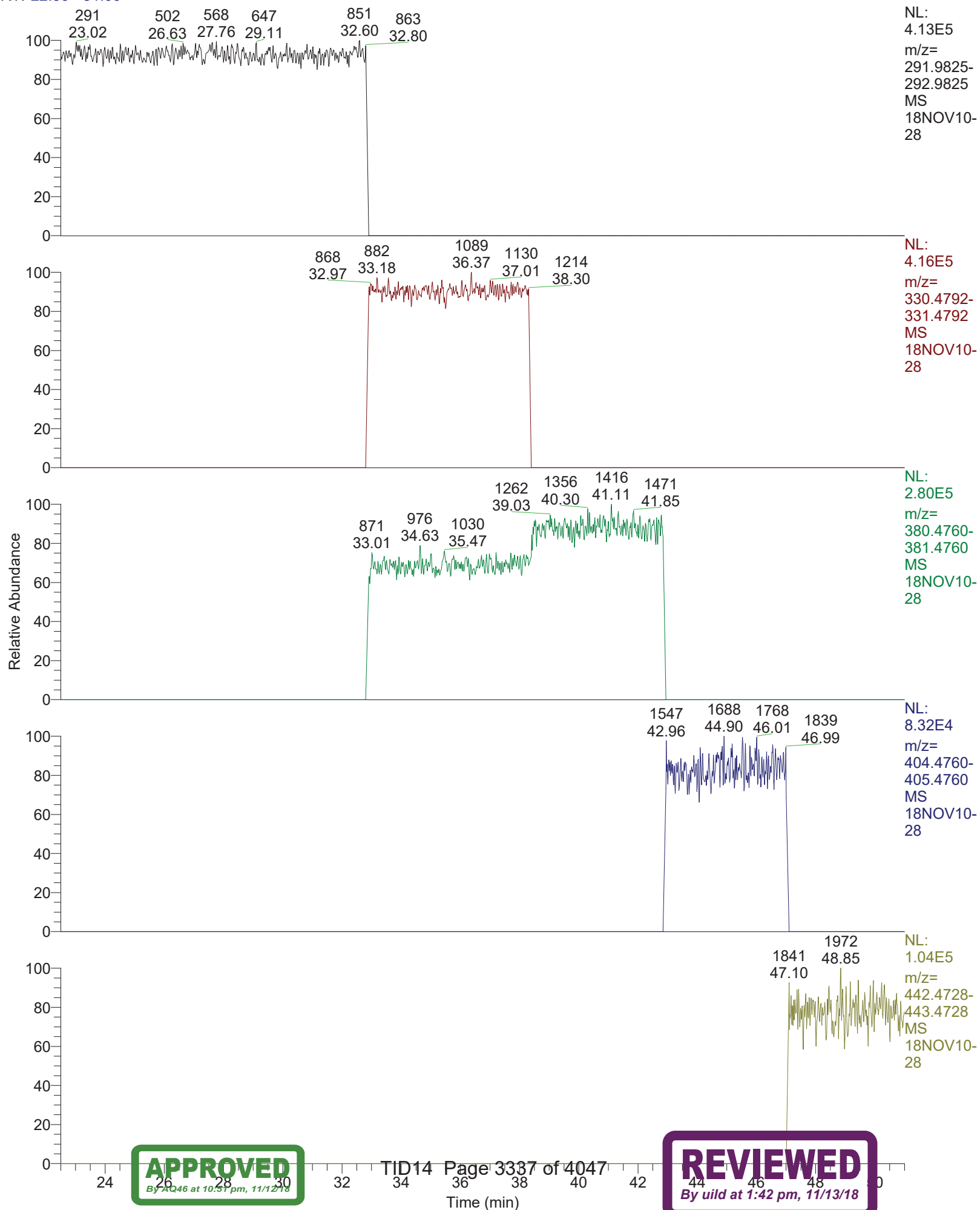
Entry Parameters

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	29.54	0.7903	0.6450 - 0.8950	passed	0.9878	1.0514	0.9604 - 1.4556	passed
2	2378-TCDD	30.70	0.8134	0.6450 - 0.8950	passed	1.2070	1.2502	1.0982 - 1.6646	passed
3	12378-PeCDF	35.54	1.5810	1.3150 - 1.7850	passed	0.9129	0.9371	0.8789 - 1.3321	passed
4	23478-PeCDF	36.81	1.5714	1.3150 - 1.7850	passed	1.0386	1.0504	0.9685 - 1.4681	passed
5	12378-PeCDD	37.22	1.5862	1.3150 - 1.7850	passed	0.9921	1.0016	0.9173 - 1.3903	passed
6	123478-HxCDF	40.49	1.2440	1.0450 - 1.4350	passed	1.1366	1.1137	0.9988 - 1.5138	passed
7	123678-HxCDF	40.64	1.2373	1.0450 - 1.4350	passed	1.0792	1.0735	0.9563 - 1.4495	passed
8	234678-HxCDF	41.32	1.2336	1.0450 - 1.4350	passed	1.1743	1.1494	1.0204 - 1.5466	passed
9	123478-HxCDD	41.52	1.2753	1.0450 - 1.4350	passed	1.0115	1.0123	0.9181 - 1.3915	passed
10	123678-HxCDD	41.65	1.1986	1.0450 - 1.4350	passed	0.9807	1.0027	0.9053 - 1.3723	passed
11	123789-HxCDD	41.96	1.2396	1.0450 - 1.4350	passed	1.0303	1.0528	0.9606 - 1.4560	passed
12	123789-HxCDF	42.32	1.2479	1.0450 - 1.4350	passed	1.0785	1.0742	0.9515 - 1.4421	passed
13	1234678-HpCDF	44.06	1.0362	0.8750 - 1.2050	passed	1.2133	1.1854	1.0778 - 1.6336	passed
14	1234678-HpCDD	45.25	1.0634	0.8750 - 1.2050	passed	1.0047	1.0194	0.9502 - 1.4402	passed
15	1234789-HpCDF	45.80	1.0497	0.8750 - 1.2050	passed	1.2600	1.2316	1.1050 - 1.6748	passed
16	OCDD	48.28	0.8905	0.7550 - 1.0250	passed	0.9910	0.9861	0.8908 - 1.3502	passed
17	OCDF	48.44	0.9008	0.7550 - 1.0250	passed	0.8863	0.8624	0.7890 - 1.1958	passed
18	13C12-1278-TCDD (CRS)	31.11	0.8198	0.6450 - 0.8950	passed	0.1117	1.0443	0.7083 - 1.3301	failed
19	13C12-1234-TCDD	29.83	0.8078	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	40.39	1.2619	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	29.50	0.8027	0.6450 - 0.8950	passed	2.0533	2.0369	1.6559 - 3.1093	passed
22	13C12-2378-TCDD	30.67	0.8168	0.6450 - 0.8950	passed	1.0486	1.0064	0.6937 - 1.3027	passed
23	13C12-12378-PeCDF	35.51	1.5694	1.3150 - 1.7850	passed	1.9267	1.9264	1.5155 - 2.8457	passed
24	13C12-23478-PeCDF	36.79	1.5396	1.3150 - 1.7850	passed	1.9234	1.9205	1.5317 - 2.8761	passed
25	13C12-12378-PeCDD	37.21	1.5934	1.3150 - 1.7850	passed	1.1012	1.0387	0.6937 - 1.3025	passed
26	13C12-123478-HxCDF	40.47	0.5389	0.4250 - 0.5950	passed	1.3730	1.4468	1.1993 - 2.2519	passed
27	13C12-123678-HxCDF	40.62	0.5443	0.4250 - 0.5950	passed	1.4580	1.5461	1.2787 - 2.4011	passed
28	13C12-234678-HxCDF	41.31	0.5386	0.4250 - 0.5950	passed	1.3299	1.4140	1.1620 - 2.1818	passed
29	13C12-123478-HxCDD	41.51	1.2853	1.0450 - 1.4350	passed	1.0204	0.9987	0.6941 - 1.3033	passed
30	13C12-123678-HxCDD	41.63	1.2661	1.0450 - 1.4350	passed	1.0681	1.0370	0.7190 - 1.3500	passed
31	13C12-123789-HxCDD	41.94	1.2599	1.0450 - 1.4350	passed	1.0193	0.9789	0.6747 - 1.2669	passed
32	13C12-123789-HxCDF	42.31	0.5418	0.4250 - 0.5950	passed	1.2649	1.3137	1.0701 - 2.0093	passed
33	13C12-1234678-HpCDF	44.05	0.4762	0.3650 - 0.5150	passed	1.2824	1.3169	1.0489 - 1.9695	passed
34	13C12-1234678-HpCDD	45.24	1.0499	0.8750 - 1.2050	passed	1.0131	0.9723	0.6249 - 1.1733	passed
35	13C12-1234789-HpCDF	45.79	0.4720	0.3650 - 0.5150	passed	1.0669	1.1060	0.8481 - 1.5925	passed
36	13C12-OCDD	48.26	0.9027	0.7550 - 1.0250	passed	1.0184	1.0280	0.6744 - 1.2662	passed
37	13C12-OCDF	48.44	0.9058	0.7550 - 1.0250	passed	1.3963	1.5078	1.1379 - 2.1367	passed

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	29.54	582911	A	460702	A	0.0053	9.395630	9.3956	10.000000	4328	
2	2378-TCDD	passed	30.70	359117	A	292118	A	0.0046	9.654716	9.6547	10.000000	5069	
3	12378-PeCDF	passed	35.54	1753260	A	2771909	A	0.0050	48.709292	48.7093	50.000000	24365	
4	23478-PeCDF	passed	36.81	1998718	A	3140724	A	0.0040	49.437045	49.4370	50.000000	30505	
5	12378-PeCDD	passed	37.22	1086870	A	1723977	A	0.0087	49.525637	49.5256	50.000000	14595	
6	123478-HxCDF	passed	40.49	2258638	A	2809767	A	0.0110	51.028235	51.0282	50.000000	11598	
7	123678-HxCDF	passed	40.64	2284374	A	2826465	A	0.0113	50.265000	50.2650	50.000000	11151	
8	234678-HxCDF	passed	41.32	2271077	A	2801488	A	0.0109	51.083293	51.0833	50.000000	11538	
9	123478-HxCDD	passed	41.52	1473322	A	1878863	A	0.0073	49.960671	49.9607	50.000000	16824	
10	123678-HxCDD	passed	41.65	1547423	A	1854812	A	0.0074	48.899586	48.8996	50.000000	17293	
11	123789-HxCDD	passed	41.96	1522974	A	1887934	A	0.0070	48.929718	48.9297	50.000000	17627	
12	123789-HxCDF	passed	42.32	1971054	A	2459642	A	0.0132	50.199793	50.1998	50.000000	9318	
13	1234678-HpCDF	passed	44.06	2481986	A	2571757	A	0.0120	51.175880	51.1759	50.000000	10703	
14	1234678-HpCDD	passed	45.25	1602269	A	1703791	A	0.0104	49.275843	49.2758	50.000000	11696	
15	1234789-HpCDF	passed	45.80	2130153	A	2236026	A	0.0135	51.153686	51.1537	50.000000	9344	
16	OCDD	passed	48.28	3467818	A	3088207	A	0.0074	100.489276	100.4893	100.000000	33657	
17	OCDF	passed	48.44	4229324	A	3809815	A	0.0057	102.774755	102.7748	100.000000	45768	
18	13C12-1278-TCDD (CRS)	failed	31.11	315943	A	259015	A	0.0150	10.700308	n.d.	100.000000	1697	
19	13C12-1234-TCDD	passed	29.83	2846159	A	2299166	A	0.0156	100.000000	100.0000	100.000000	16008	
20	13C12-123468-HxCDD	passed	40.39	2871907	A	3624122	A	0.0117	100.000000	100.0000	100.000000	21370	
21	13C12-2378-TCDF	passed	29.50	5860742	A	4704167	A	0.0090	100.806430	100.8064	100.000000	28293	
22	13C12-2378-TCDD	passed	30.67	2969809	A	2425700	A	0.0155	104.198933	104.1989	100.000000	17921	
23	13C12-12378-PeCDF	passed	35.51	3858339	A	6055089	A	0.0242	100.017223	100.0172	100.000000	13924	
24	13C12-23478-PeCDF	passed	36.79	3896938	A	5999725	A	0.0243	100.152032	100.1520	100.000000	15708	
25	13C12-12378-PeCDD	passed	37.21	2184847	A	3481383	A	0.0167	106.017835	106.0178	100.000000	23317	
26	13C12-123478-HxCDF	passed	40.47	5795433	A	3123336	A	0.0189	94.894798	94.8948	100.000000	13074	
27	13C12-123678-HxCDF	passed	40.62	6133224	A	3338279	A	0.0177	94.304111	94.3041	100.000000	13180	
28	13C12-234678-HxCDF	passed	41.31	5615074	A	3024249	A	0.0193	94.053157	94.0532	100.000000	12829	
29	13C12-123478-HxCDD	passed	41.51	2900381	A	3727855	A	0.0117	102.171159	102.1712	100.000000	23436	
30	13C12-123678-HxCDD	passed	41.63	3061897	A	3876705	A	0.0113	103.002670	103.0027	100.000000	23360	
31	13C12-123789-HxCDD	passed	41.94	2929902	A	3691484	A	0.0120	104.128816	104.1288	100.000000	23534	
32	13C12-123789-HxCDF	passed	42.31	5329024	A	2887499	A	0.0208	96.284156	96.2842	100.000000	11341	
33	13C12-1234678-HpCDF	passed	44.05	5643141	A	2687482	A	0.0197	97.382440	97.3824	100.000000	13105	
34	13C12-1234678-HpCDD	passed	45.24	3210654	A	3370731	A	0.0157	104.196788	104.1968	100.000000	18815	
35	13C12-1234789-HpCDF	passed	45.79	4708355	A	2222223	A	0.0234	96.462125	96.4621	100.000000	11222	
36	13C12-OCDD	passed	48.26	6954020	A	6277584	A	0.0078	198.130845	198.1308	200.000000	73793	
37	13C12-OCDF	passed	48.44	9518654	A	8622347	A	0.0073	185.215706	185.2157	200.000000	71280	

RT: 22.50 - 51.00



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*** file opened Sat Nov 10 18:19:43 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 18:19:42

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:51 pm, 11/12/18

TID14 Page 3339 of 4047

REVIEWED

By uild at 1:42 pm, 11/13/18

18NOV10-28

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	99.0000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4080.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0076	FVINLET	0.0376	FVSR	0.0362
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1441894.7239	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9875	RELEN	0.0000
RES	11632.8979	RPUSHER	-6.0879	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0205	TANAL	0.0000	TCURR	0.0000
TD	5.0000	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	VMAS	99.0000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.4e-008 mbar
Pirani Analyse: 7.6e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11578.
MID Time window 2: Resolution is 11409.
MID Time window 3: Resolution is 11661.
MID Time window 4: Resolution is 11083.

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APPROVED

By AQ46 at 10:51 pm, 11/12/18

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REVIEWED

By uild at 1:42 pm, 11/13/18

18NOV10-28

MID Time Window 5: Resolution is 10920.
MID Time Window 6: Resolution is 11632.

Amplifier Offset: 80.

*** File closed Sat Nov 10 19:10:43 2018

Raw QC Data

Dioxins/Furans by HRMS

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/10 09:26
Number of Entries	255
Comment	BLK:10914:12936
Vial	72
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007
Sample ID	BLK313007
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-18.quan
Data	x:\18nov10\18nov10-18.raw
Response	x:\responsefiles\df17611-18nov02dfical.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]	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

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	29.42	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	30.60	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	35.48	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.75	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	37.15	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.46	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.61	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	41.31	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
9	123478-HxCDD	41.48	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.61	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
11	123789-HxCDD	41.92	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	42.31	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
13	1234678-HpCDF	44.05	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
14	1234678-HpCDD	45.23	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
15	1234789-HpCDF	45.77	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
16	OCDD	48.26	passed	passed	passed	passed	passed	passed	
17	OCDF	48.42	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	31.01	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.72	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	40.35	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	29.40	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	35.45	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.73	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	37.15	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.43	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.58	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	41.28	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.48	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.59	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.92	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	42.28	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.02	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	45.22	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.77	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	48.25	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.42	passed	passed	passed	passed	passed	passed	

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/10 09:26
Number of Entries	255
Comment	BLK:10914:12936
Vial	72
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007
Sample ID	BLK313007
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

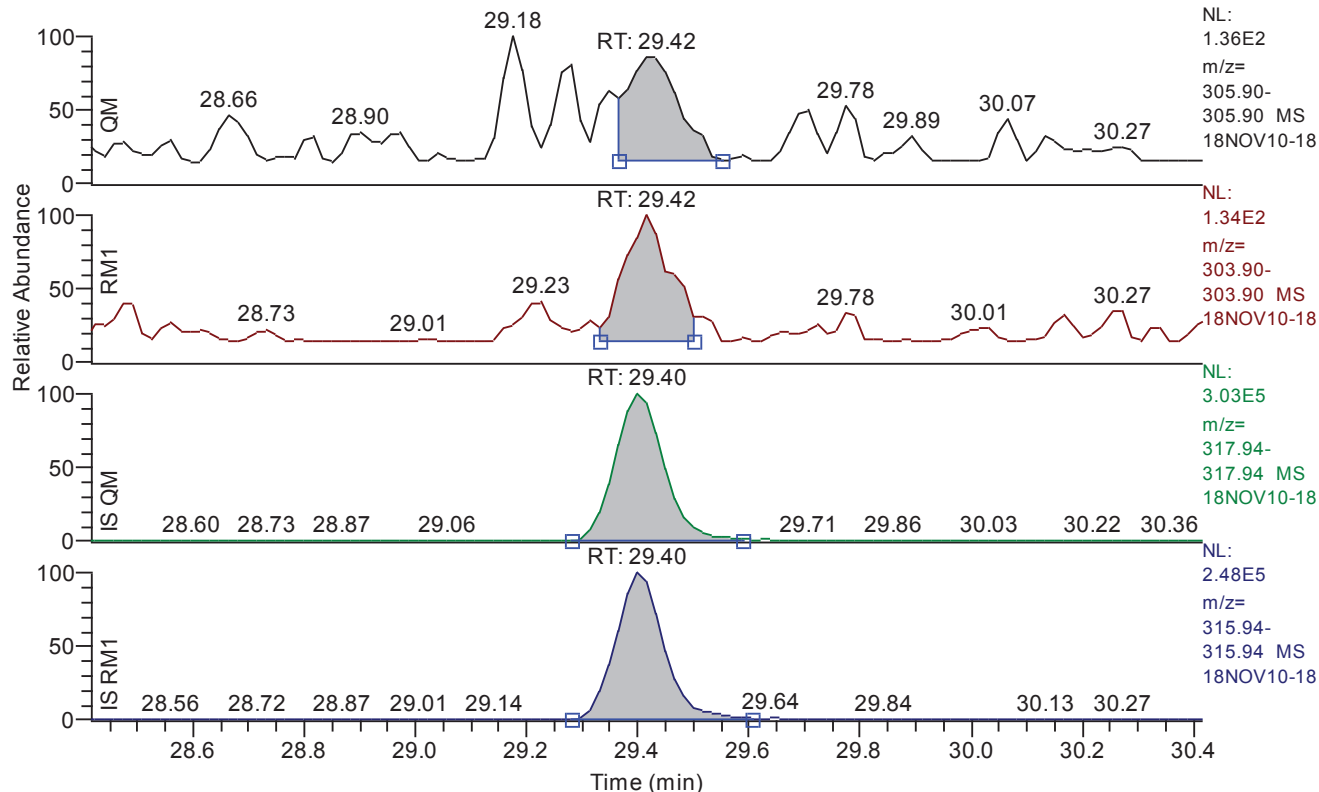
Quan	x:\18nov10\18nov10-18.quan
Data	x:\18nov10\18nov10-18.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

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]	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

Chromatogram

RT: 28.42 - 30.42 SM: 3G

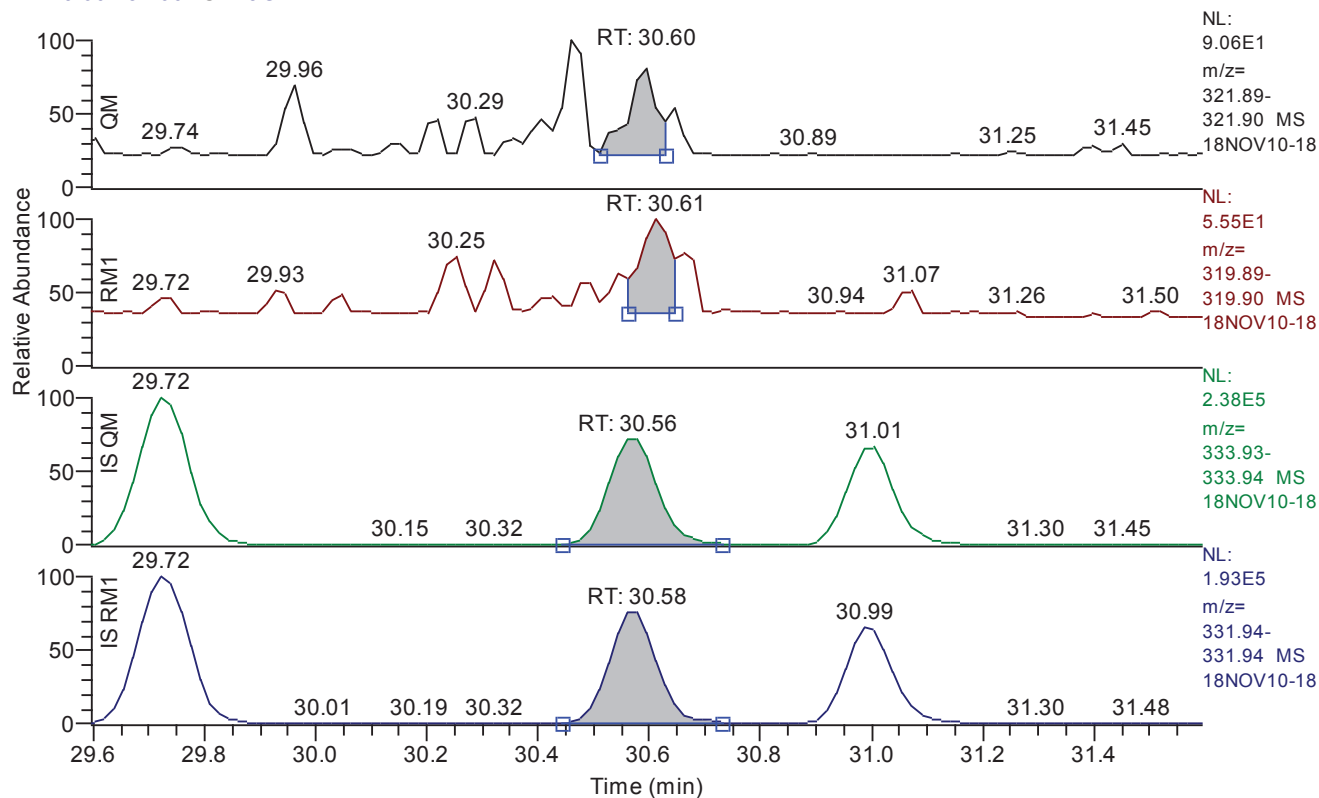


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.42
QM Area	621
QM Integration Mode	A
RM1 Area	672
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1213
Unqualified Amount (A)	0.726722
Adjusted Amount (A)	n.d.
Signal-to-Noise	15
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 29.60 - 31.60 SM: 3G

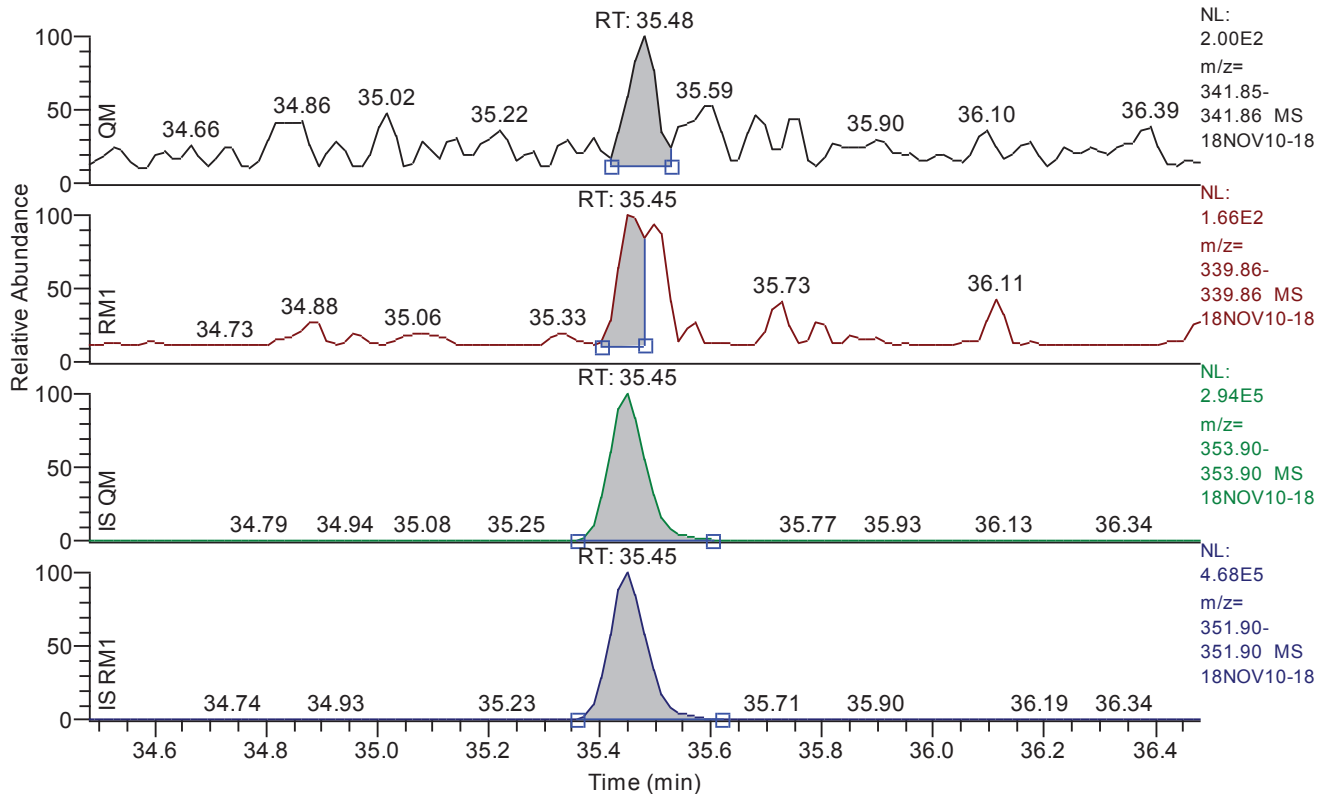


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.60
QM Area	195
QM Integration Mode	A
RM1 Area	132
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0880
Unqualified Amount (A)	0.265163
Adjusted Amount (A)	0.2652
Signal-to-Noise	13
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.48 - 36.48 SM: 3G

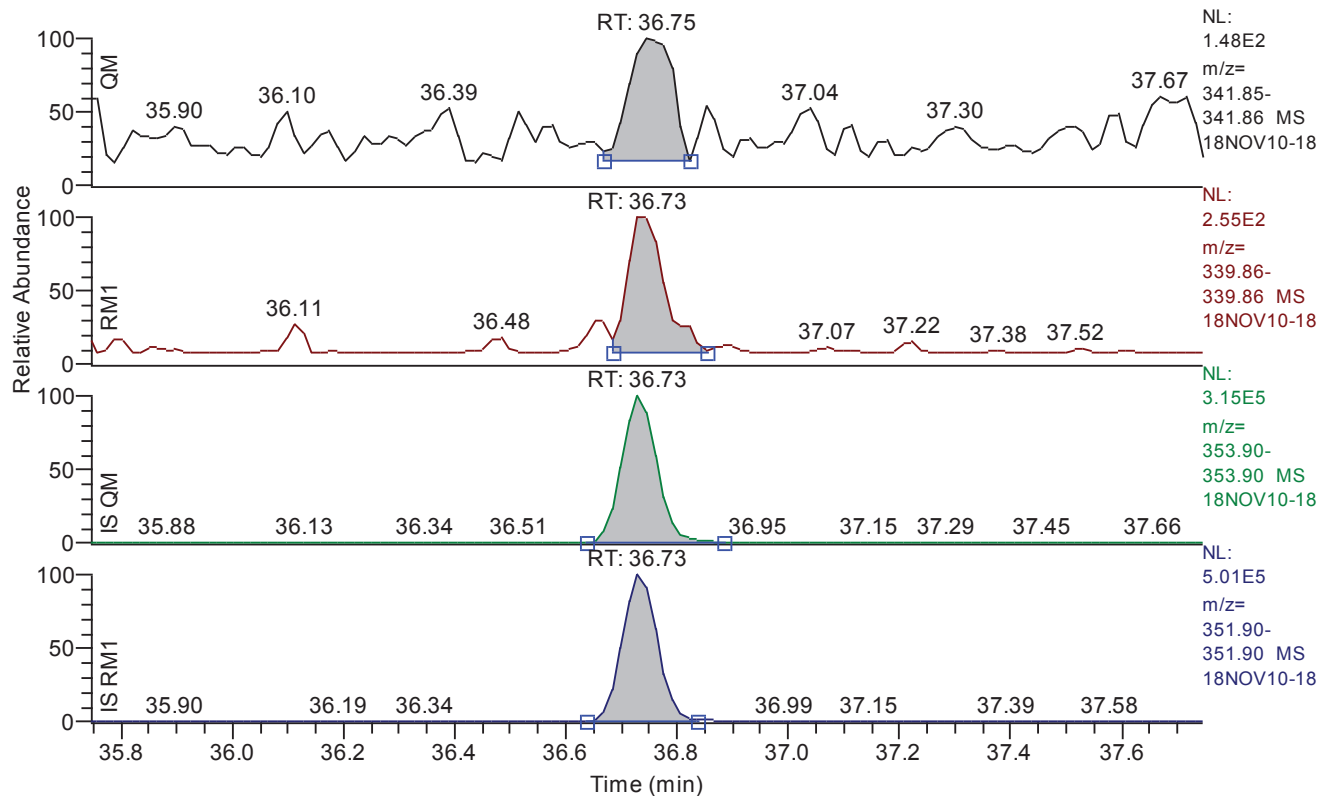


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.48
QM Area	608
QM Integration Mode	A
RM1 Area	432
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.1074
Unqualified Amount (A)	0.629130
Adjusted Amount (A)	n.d.
Signal-to-Noise	21
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 35.75 - 37.75 SM: 3G

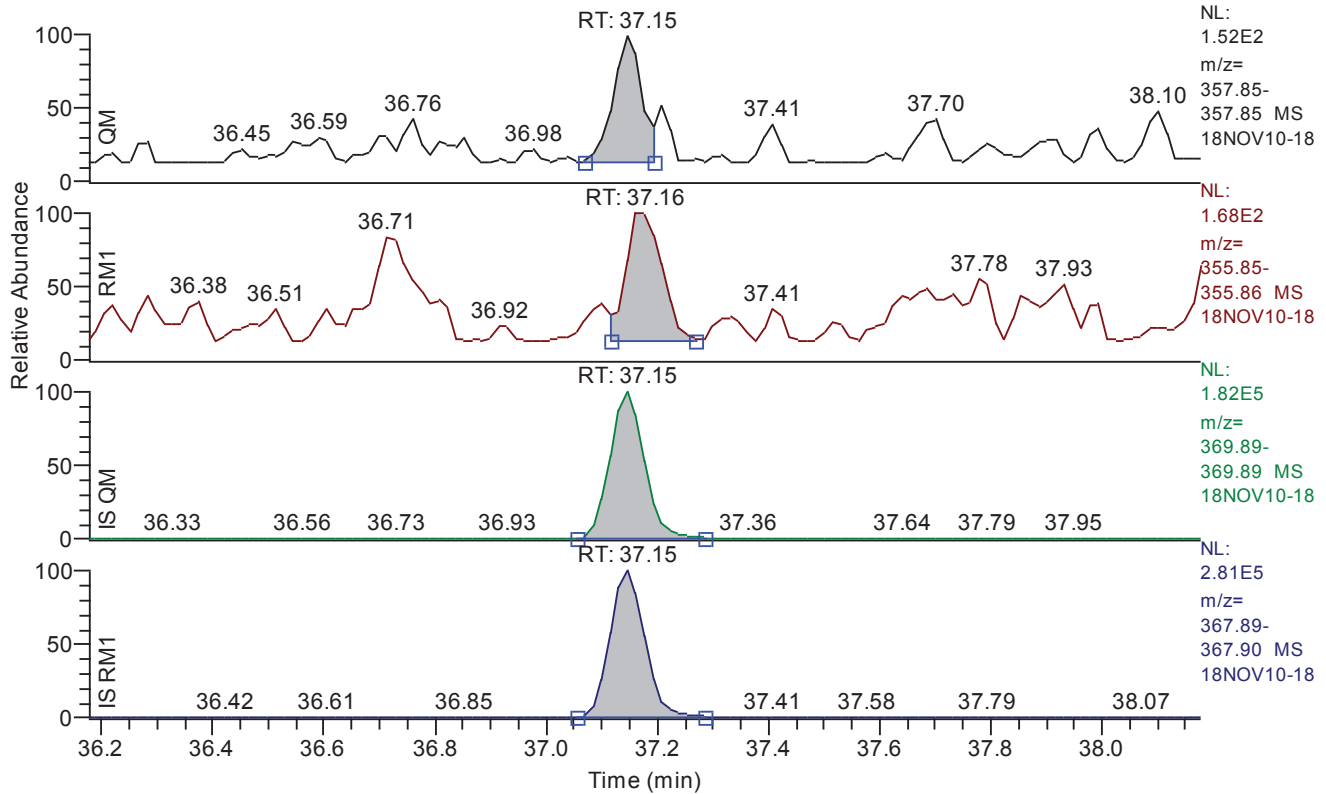


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.75
QM Area	673
QM Integration Mode	A
RM1 Area	1099
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0896
Unqualified Amount (A)	0.940956
Adjusted Amount (A)	0.9410
Signal-to-Noise	23
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.18 - 38.18 SM: 3G

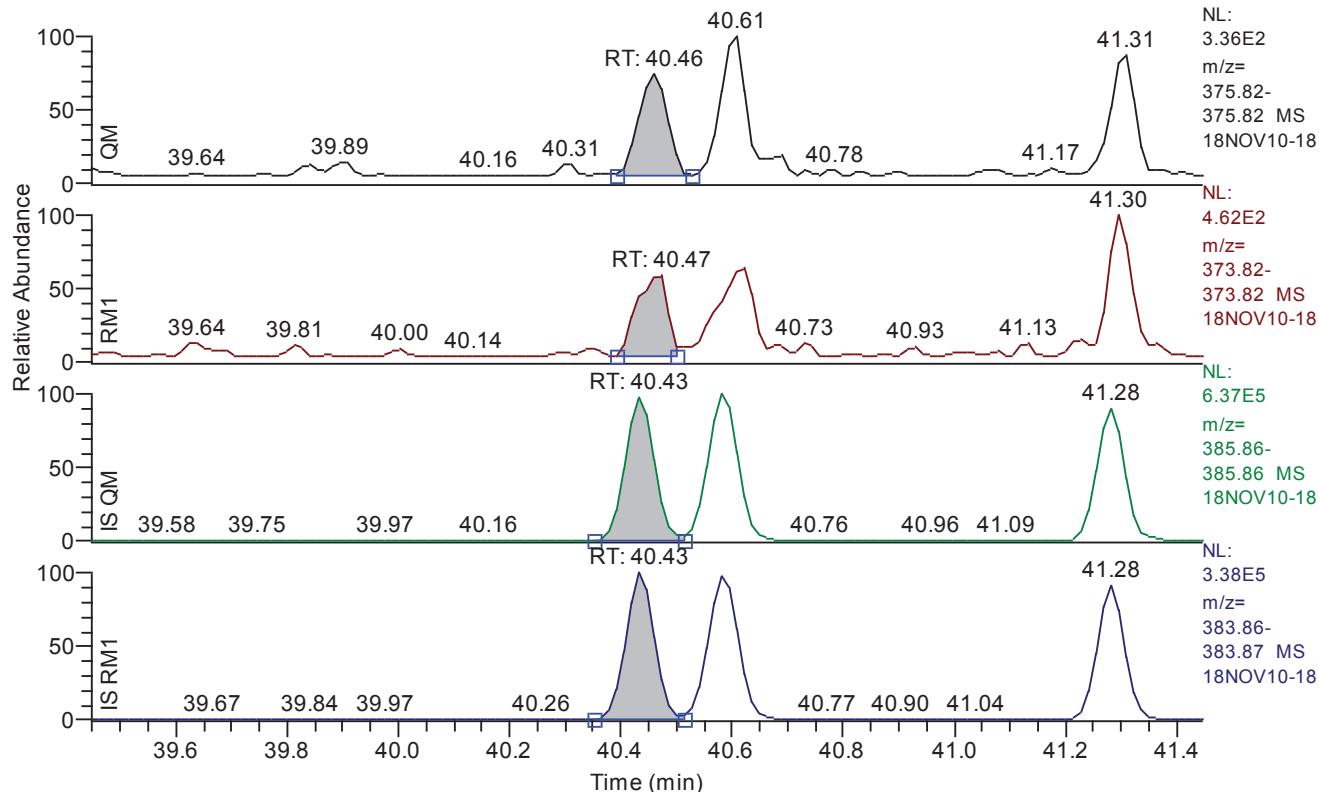


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.15
QM Area	467
QM Integration Mode	M
RM1 Area	661
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.2128
Unqualified Amount (A)	1.113450
Adjusted Amount (A)	1.1134
Signal-to-Noise	14
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.45 - 41.45 SM: 3G

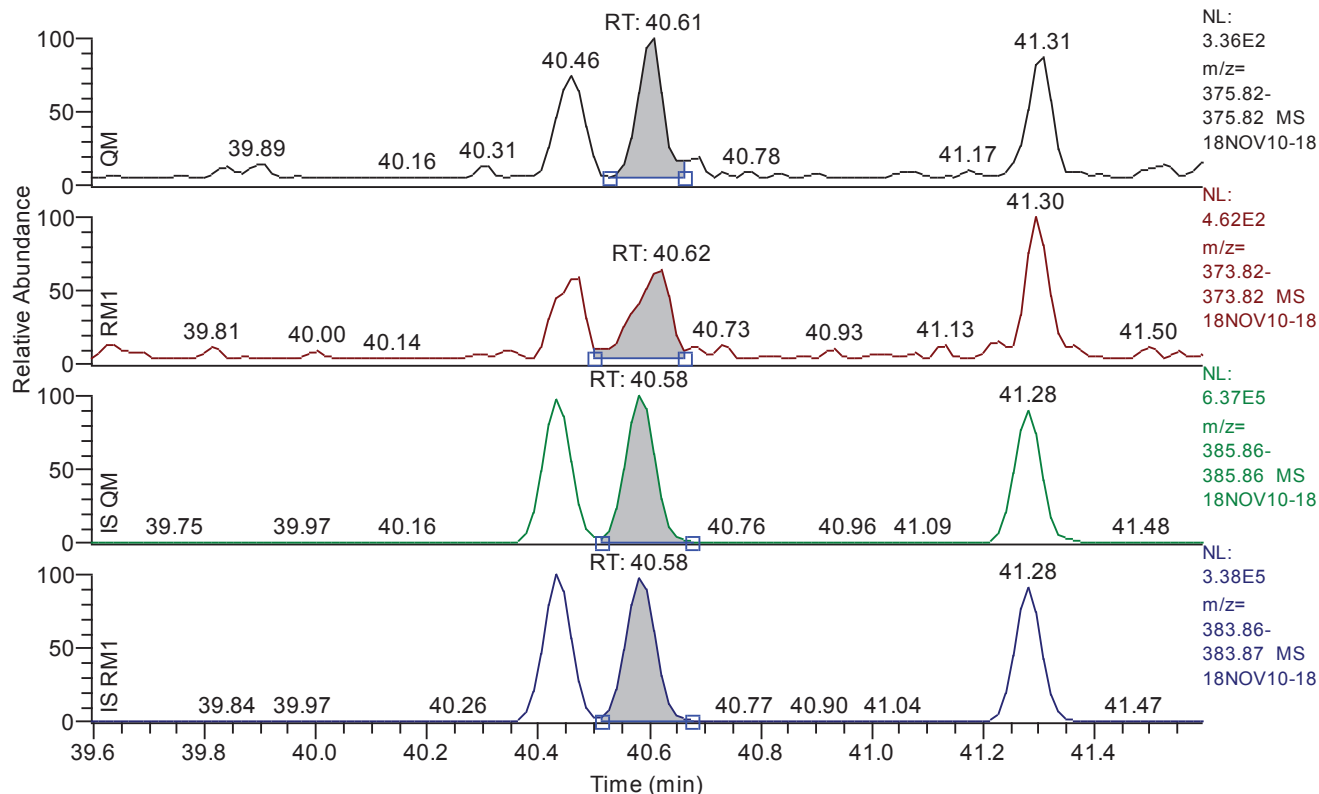


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.46
QM Area	830
QM Integration Mode	A
RM1 Area	960
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0904
Unqualified Amount (A)	0.927530
Adjusted Amount (A)	0.9275
Signal-to-Noise	25
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.59 - 41.59 SM: 3G

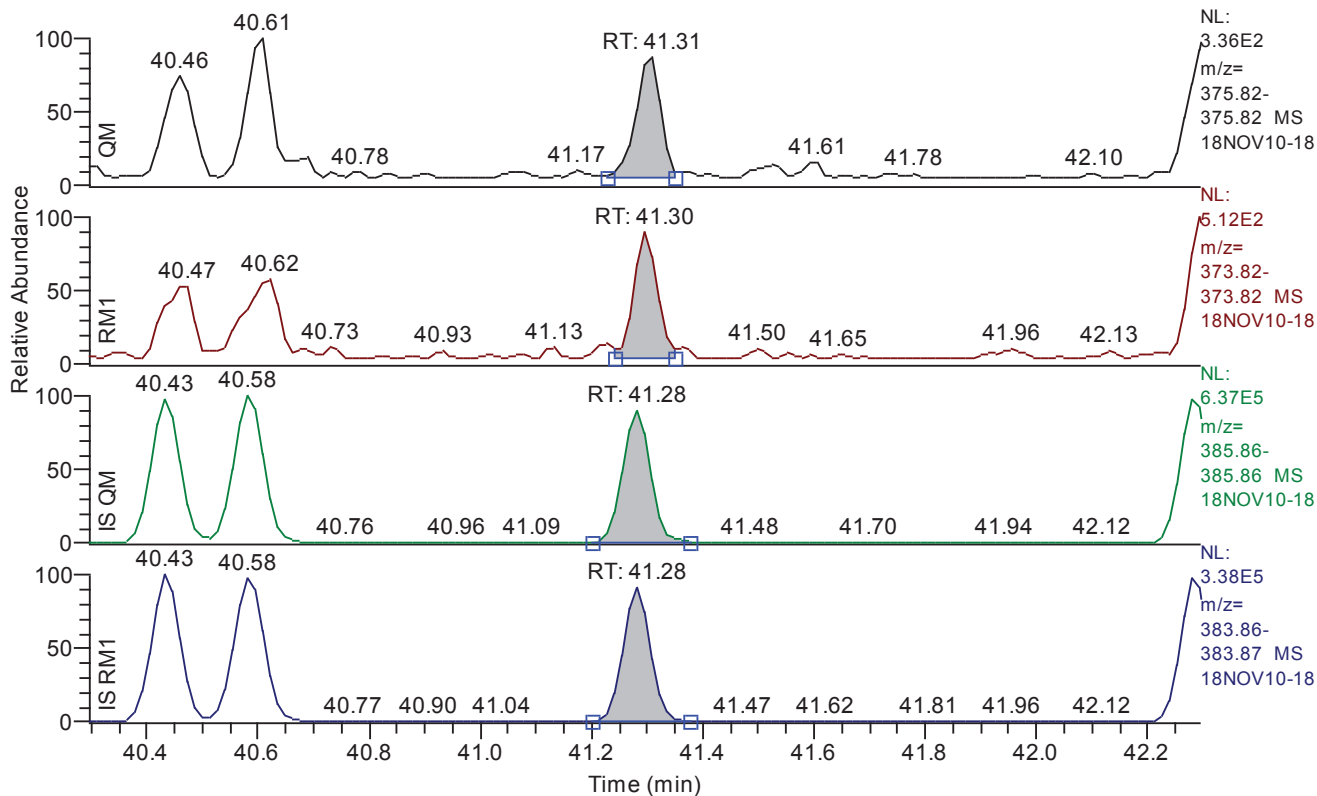


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.61
QM Area	1011
QM Integration Mode	A
RM1 Area	1267
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0936
Unqualified Amount (A)	1.170159
Adjusted Amount (A)	1.1702
Signal-to-Noise	31
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.30 - 42.30 SM: 3G

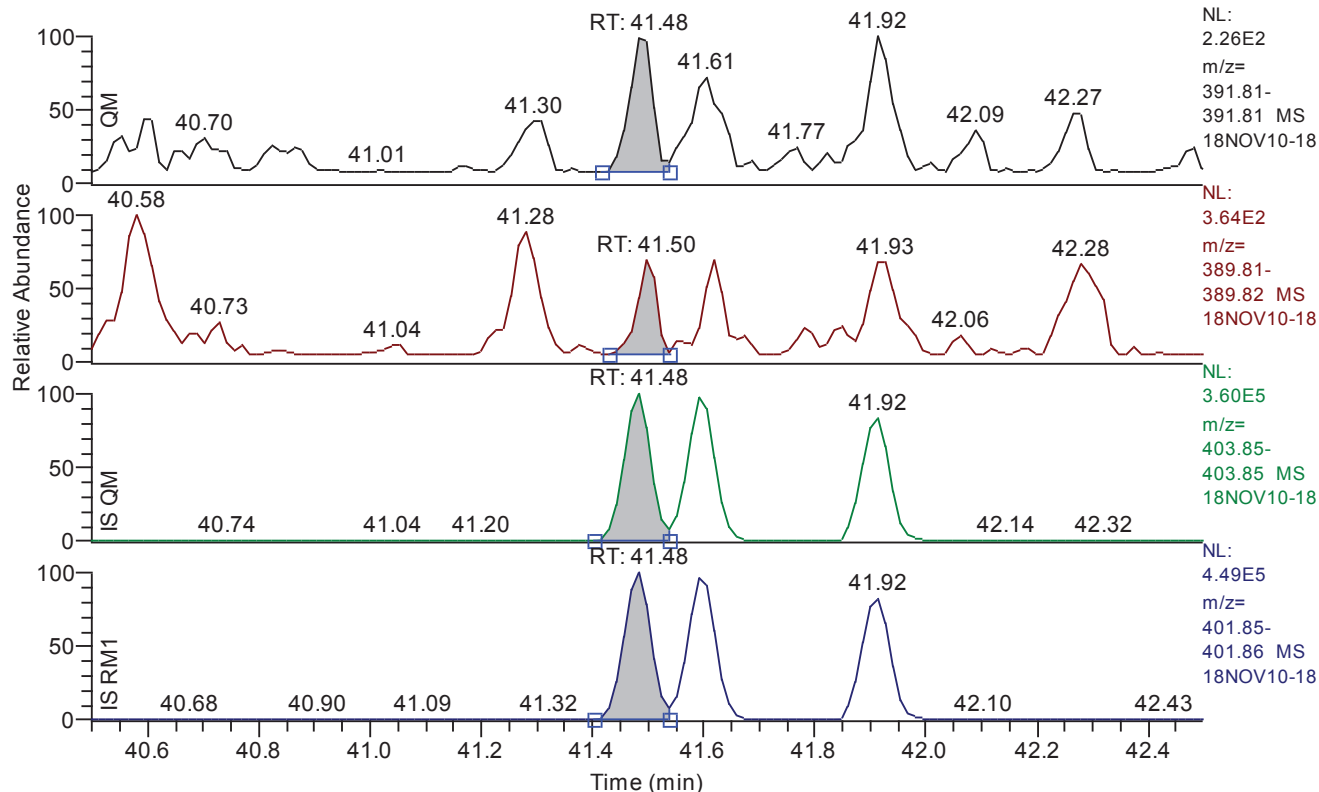


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.31
QM Area	849
QM Integration Mode	A
RM1 Area	1304
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0951
Unqualified Amount (A)	1.222840
Adjusted Amount (A)	n.d.
Signal-to-Noise	37
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.50 - 42.50 SM: 3G

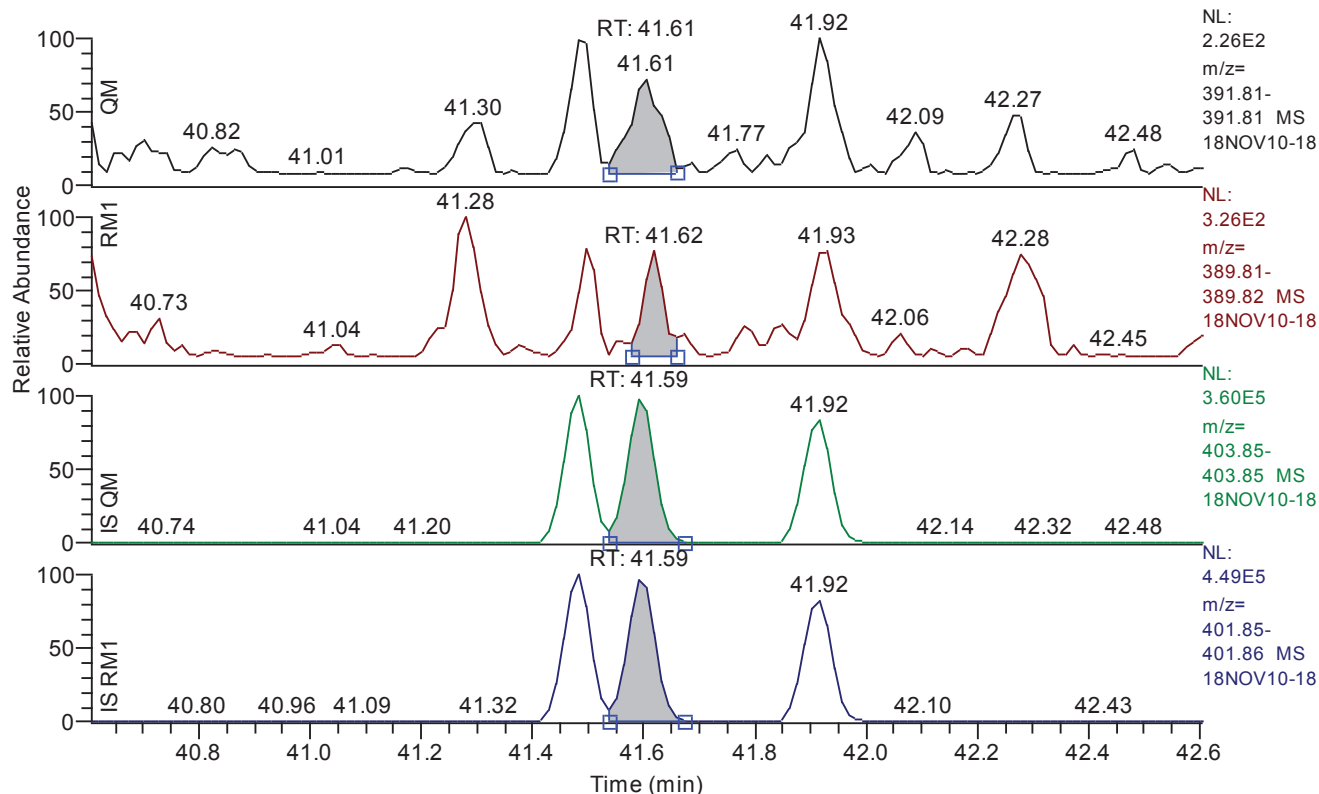


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.48
QM Area	601
QM Integration Mode	A
RM1 Area	577
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1198
Unqualified Amount (A)	0.852127
Adjusted Amount (A)	n.d.
Signal-to-Noise	23
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.61 - 42.61 SM: 3G

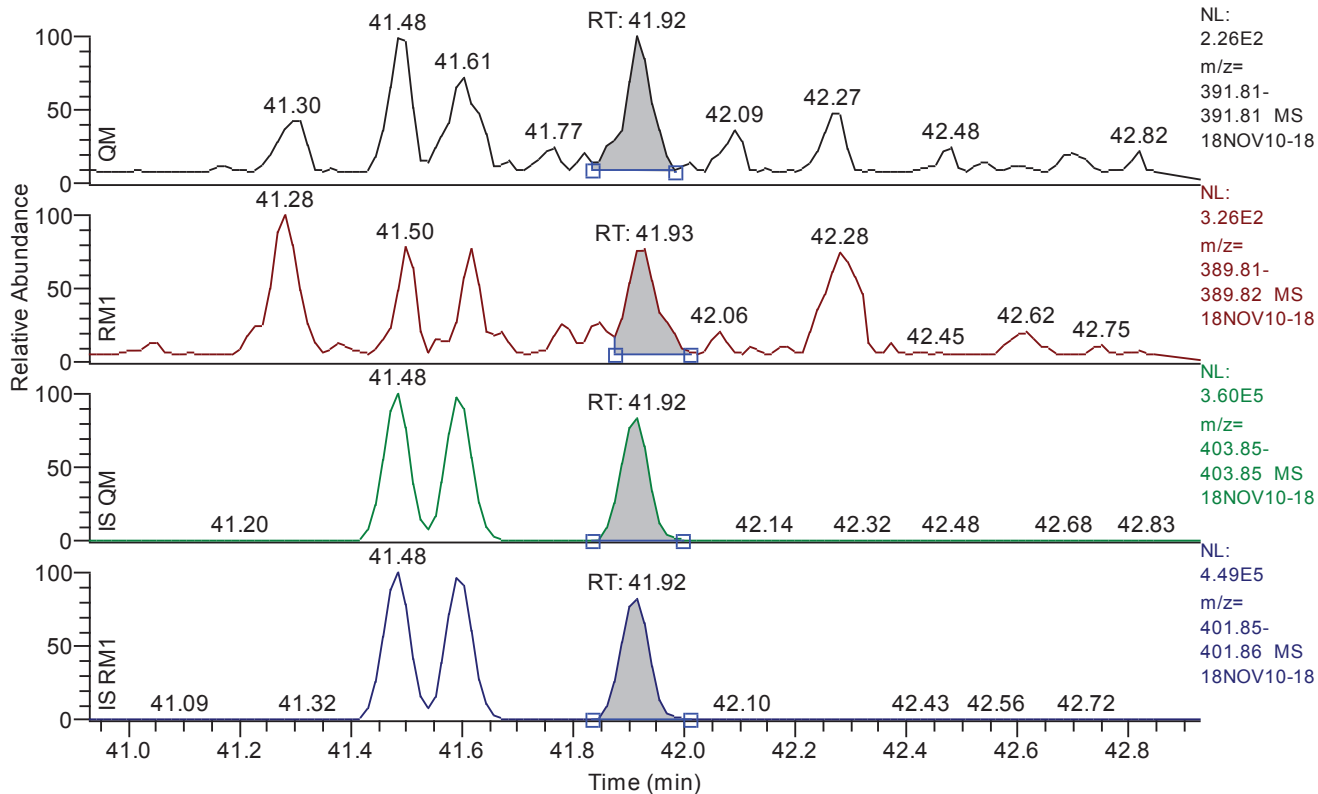


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.61
QM Area	566
QM Integration Mode	A
RM1 Area	569
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1246
Unqualified Amount (A)	0.827710
Adjusted Amount (A)	n.d.
Signal-to-Noise	19
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 40.93 - 42.93 SM: 3G

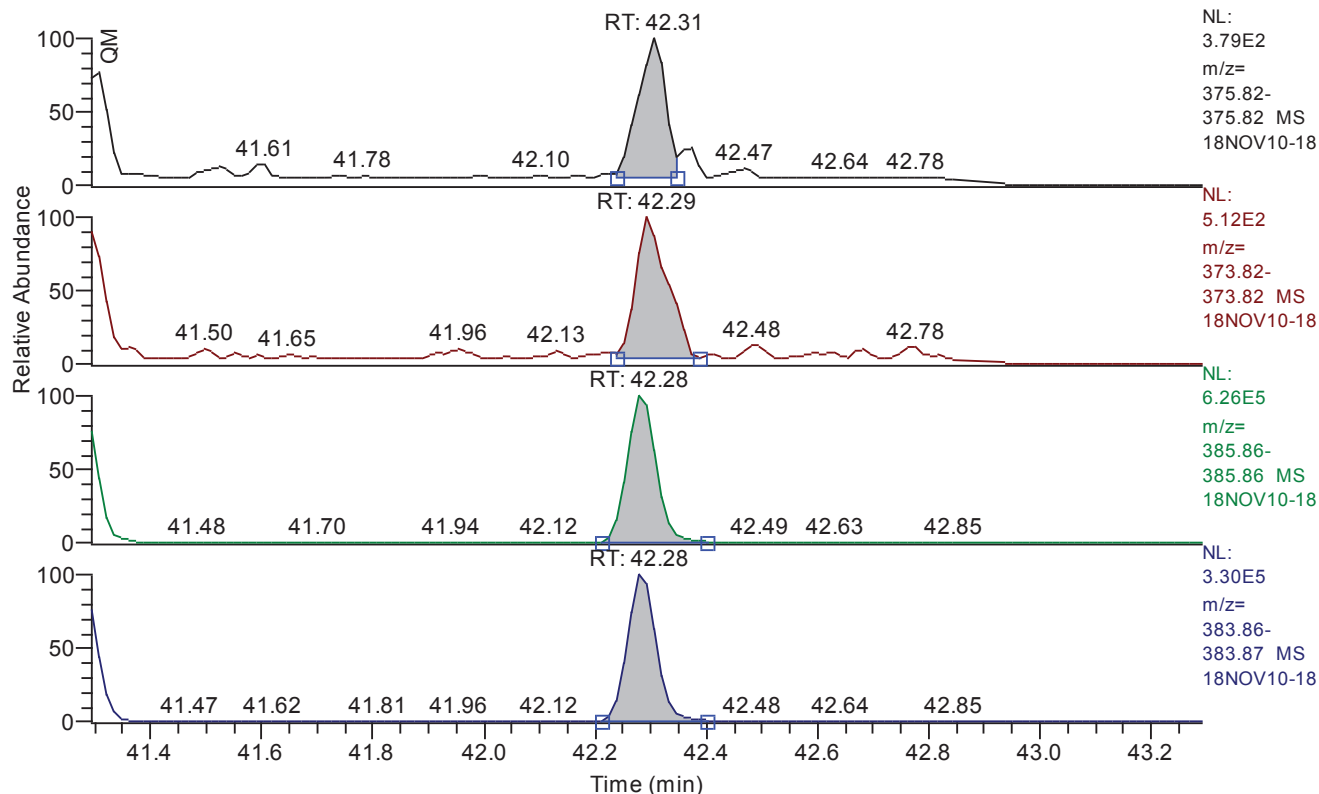


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.92
QM Area	709
QM Integration Mode	A
RM1 Area	879
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1374
Unqualified Amount (A)	1.238666
Adjusted Amount (A)	1.2387
Signal-to-Noise	22
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.29 - 43.29 SM: 3G

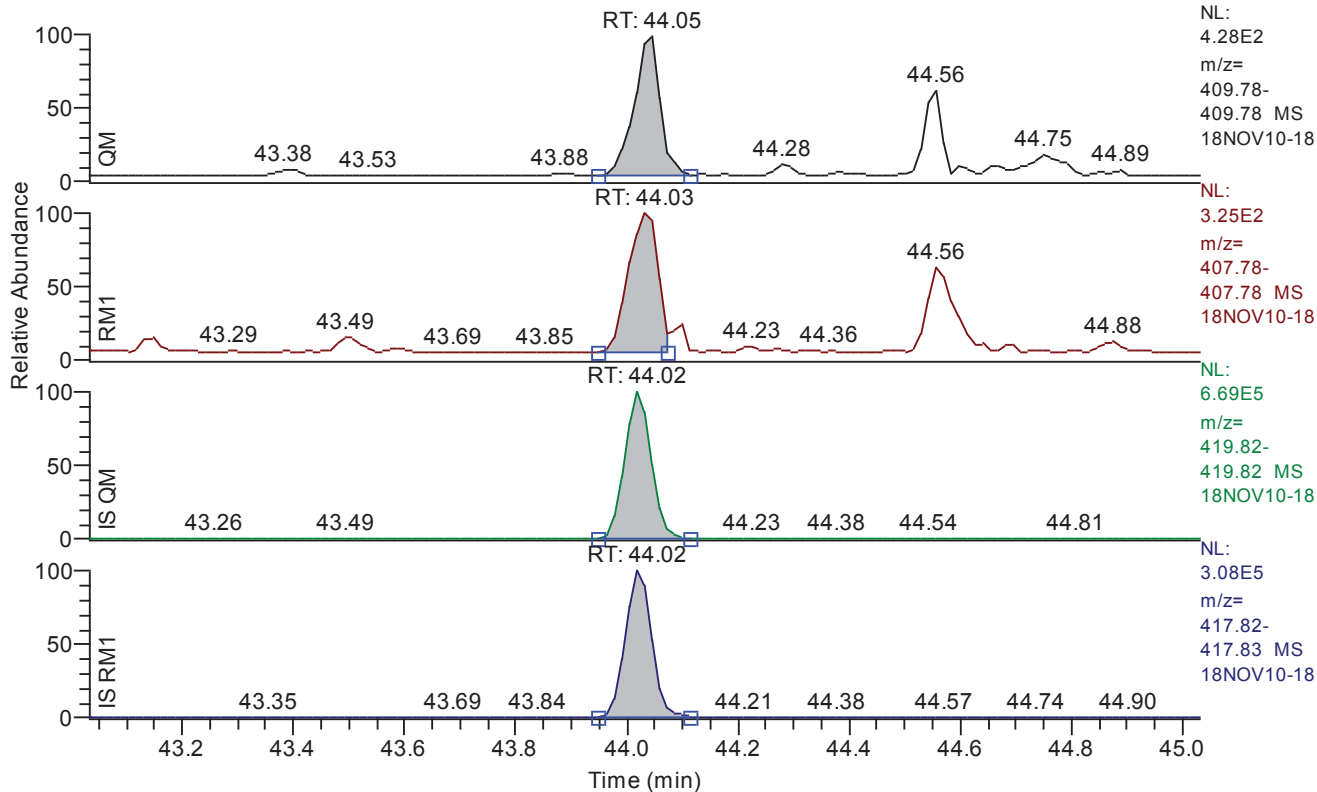


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.31
QM Area	1235
QM Integration Mode	A
RM1 Area	1950
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0942
Unqualified Amount (A)	1.703533
Adjusted Amount (A)	n.d.
Signal-to-Noise	44
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 43.03 - 45.03 SM: 3G

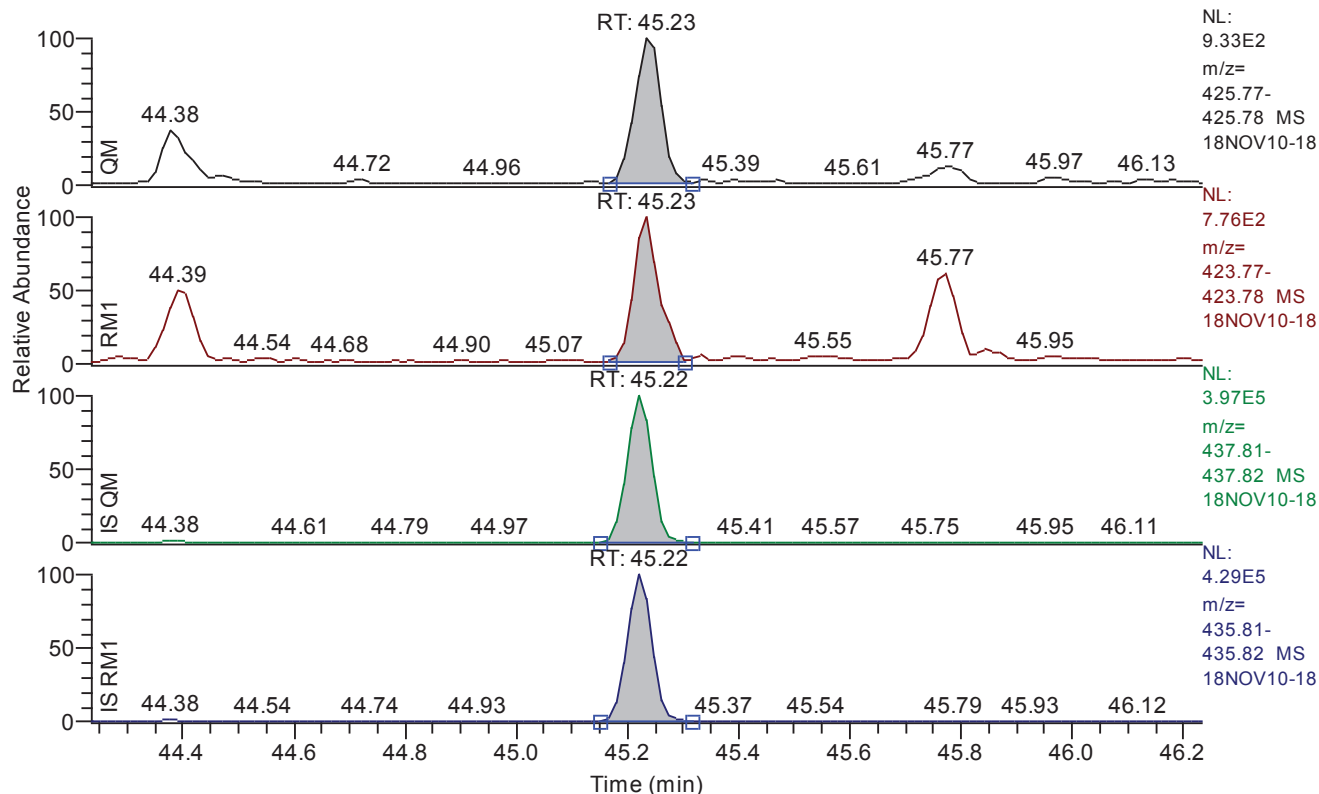


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.05
QM Area	1347
QM Integration Mode	A
RM1 Area	1154
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0621
Unqualified Amount (A)	1.270516
Adjusted Amount (A)	n.d.
Signal-to-Noise	50
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 44.23 - 46.23 SM: 3G

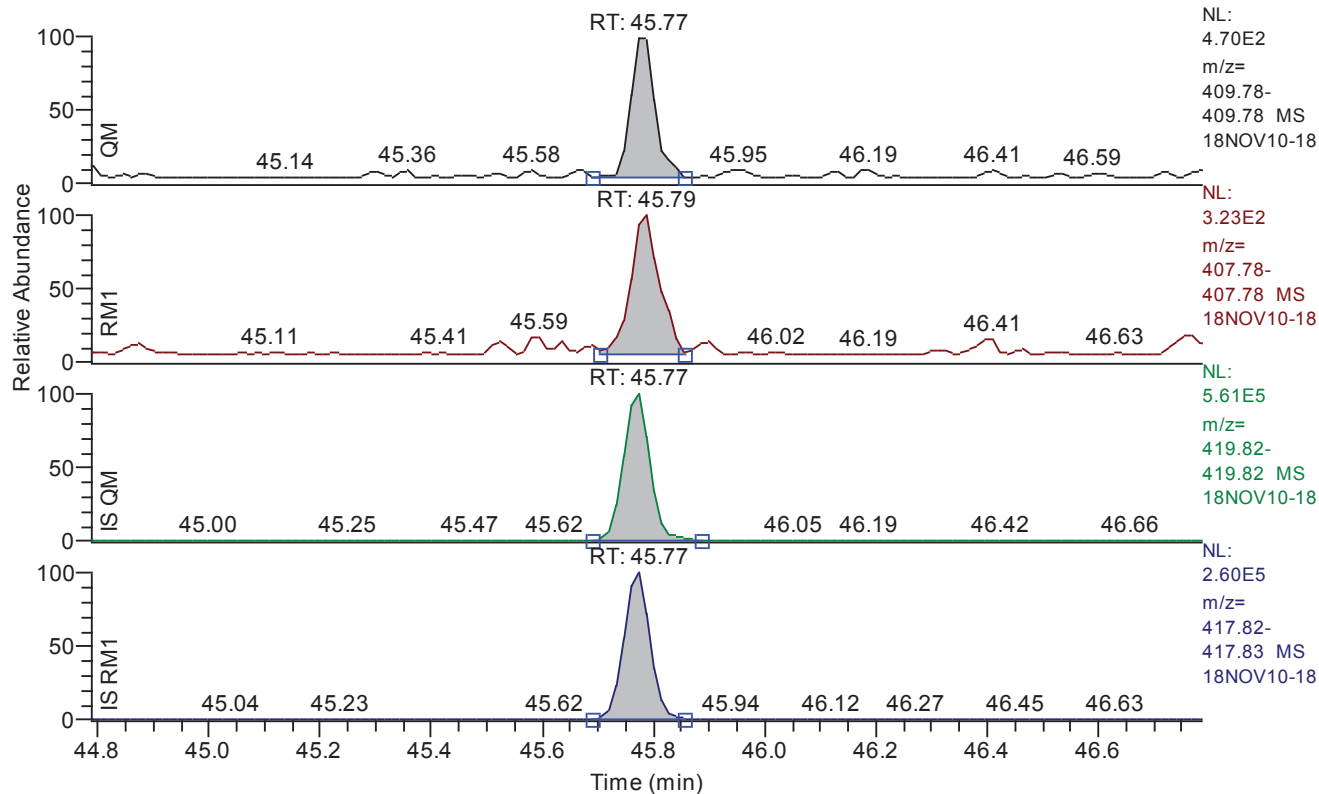


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	3125
QM Integration Mode	A
RM1 Area	2455
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0959
Unqualified Amount (A)	4.129991
Adjusted Amount (A)	n.d.
Signal-to-Noise	104
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 44.79 - 46.79 SM: 3G

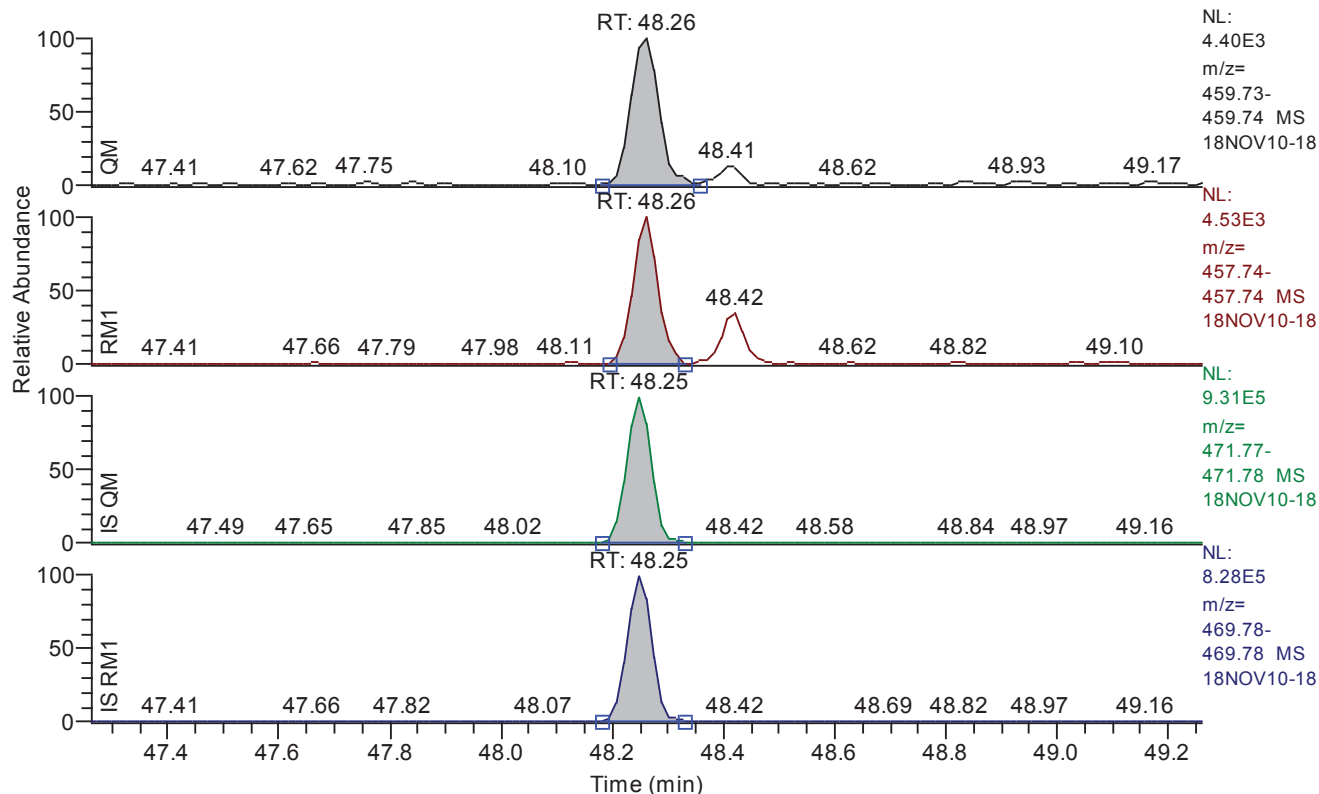


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.77
QM Area	1407
QM Integration Mode	A
RM1 Area	1125
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0712
Unqualified Amount (A)	1.471354
Adjusted Amount (A)	n.d.
Signal-to-Noise	52
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 47.26 - 49.26 SM: 3G

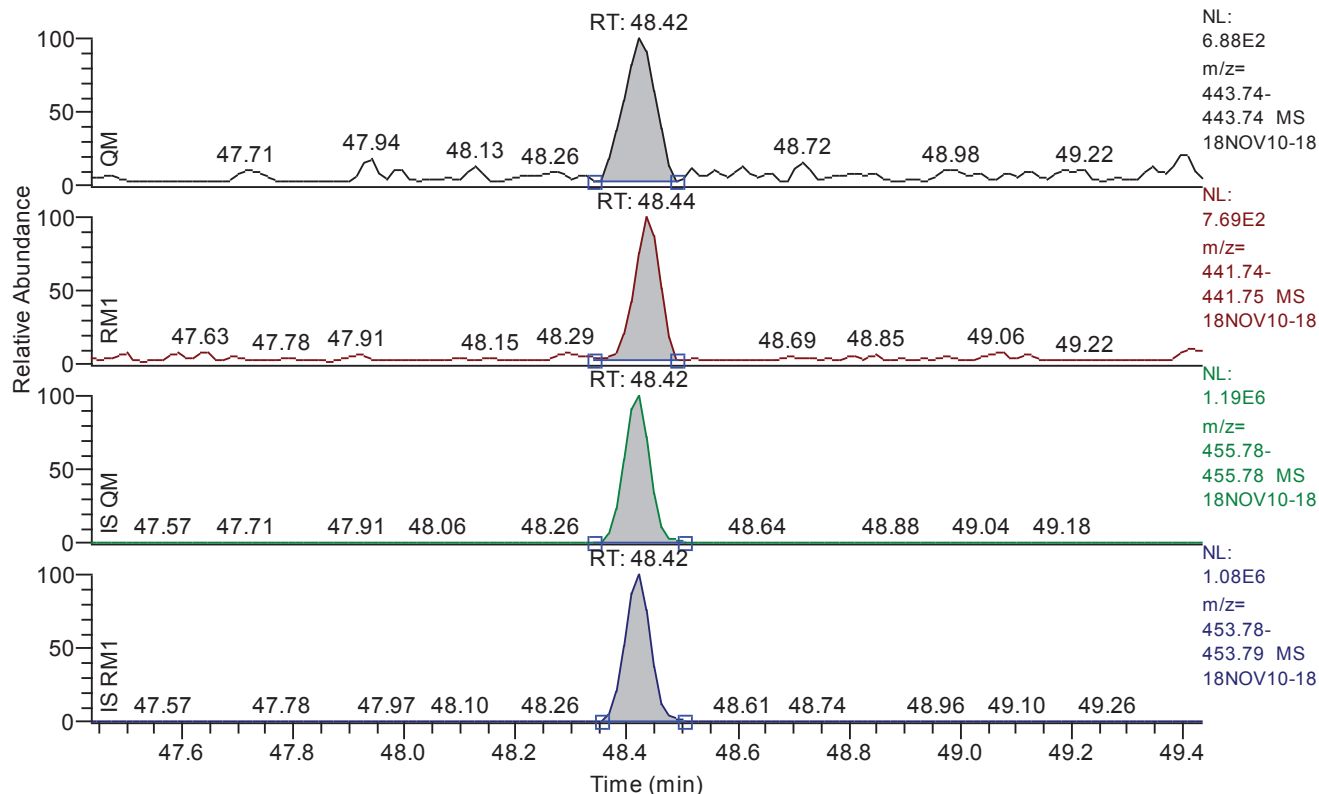


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.26
QM Area	15419
QM Integration Mode	A
RM1 Area	13975
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1924
Unqualified Amount (A)	22.169543
Adjusted Amount (A)	22.1695
Signal-to-Noise	266
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.44 - 49.44 SM: 3G

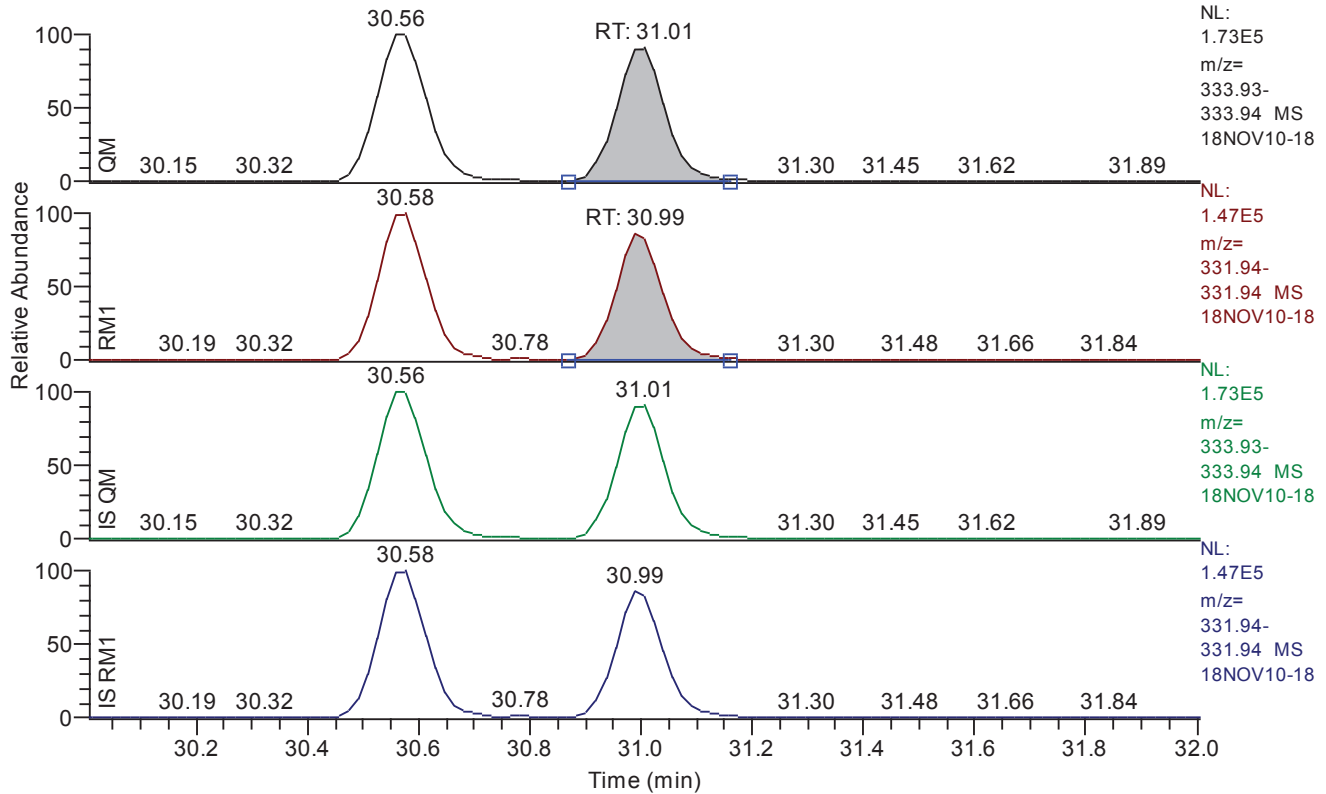


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.42
QM Area	2654
QM Integration Mode	A
RM1 Area	2414
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1389
Unqualified Amount (A)	3.221835
Adjusted Amount (A)	3.2218
Signal-to-Noise	52
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 30.01 - 32.01 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.01
QM Area	960972
QM Integration Mode	A
RM1 Area	756586
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3333
Unqualified Amount (A)	1204.088805
Adjusted Amount (A)	1204.0888
Signal-to-Noise	9509
Client Flags	
Status Overview	passed
Status Info	

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 09:26
Number of Entries	255
Comment	BLK:10914:12936
Vial	72
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007
Sample ID	BLK313007
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

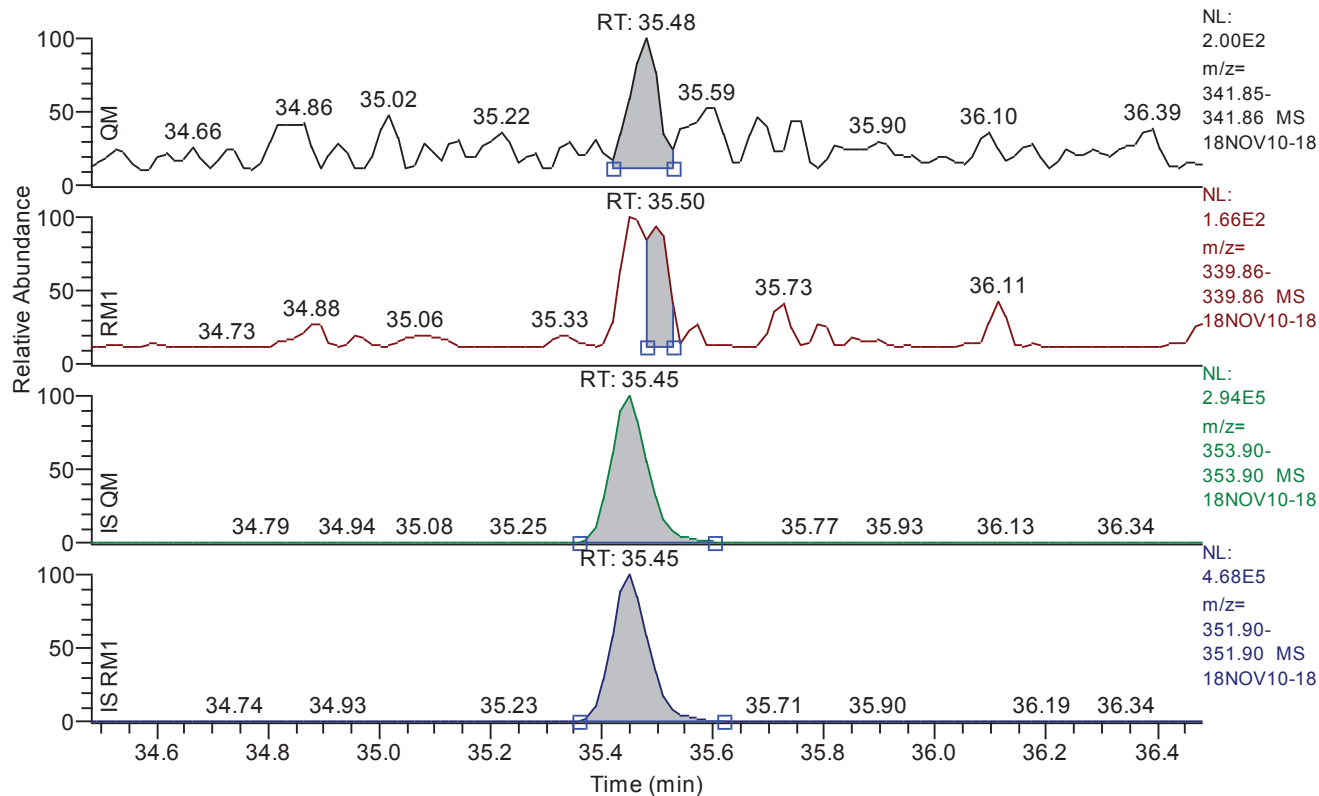
Quan	x:\18nov10\18nov10-18.quan
Data	x:\18nov10\18nov10-18.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Depend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
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

Chromatogram

RT: 34.48 - 36.48 SM: 3G

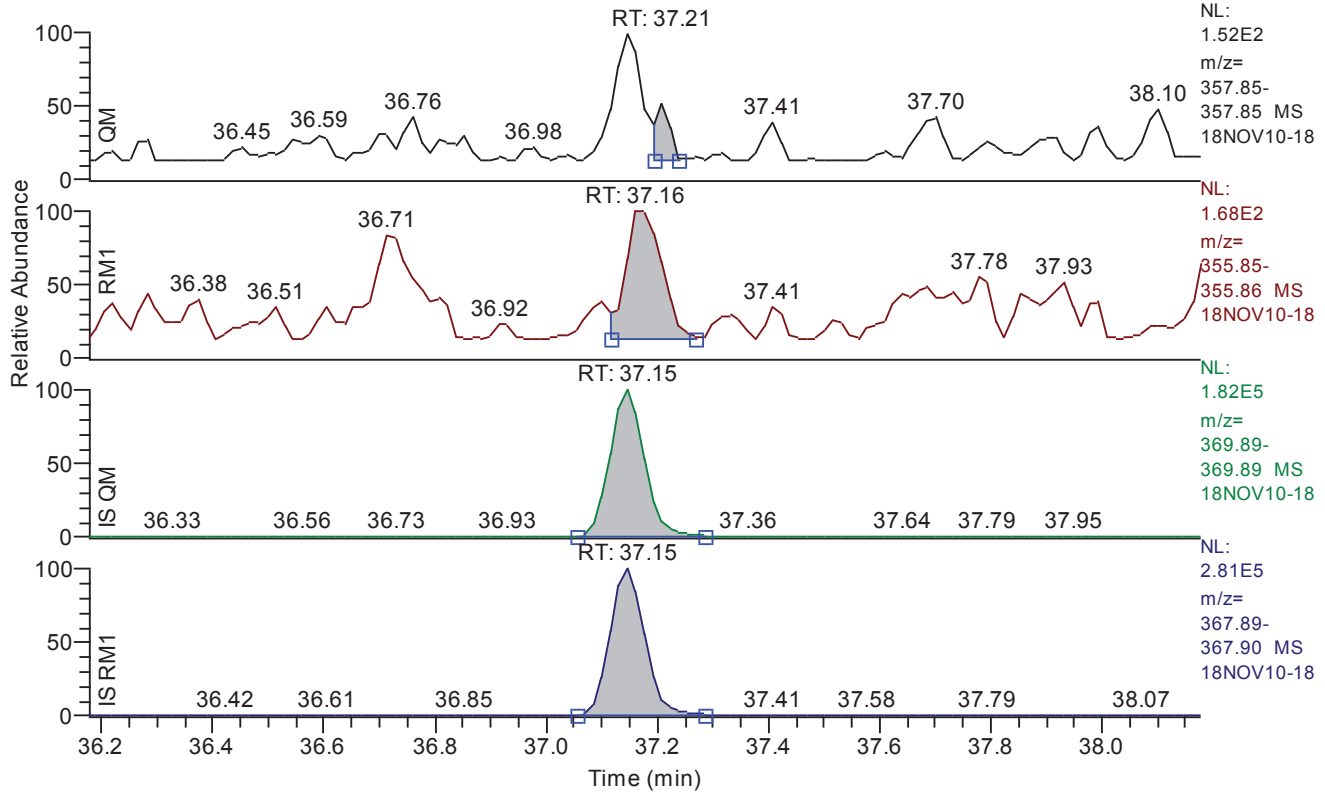


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.48
QM Area	608
QM Integration Mode	A
RM1 Area	320
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.1074
Unqualified Amount (A)	0.561567
Adjusted Amount (A)	n.d.
Signal-to-Noise	20
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Chromatogram

RT: 36.18 - 38.18 SM: 3G



Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.21
QM Area	104
QM Integration Mode	A
RM1 Area	661
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.2128
Unqualified Amount (A)	0.755624
Adjusted Amount (A)	n.d.
Signal-to-Noise	10
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time < min RM2Time < min

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	29.40	29.42	29.42	29.40	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.60	30.61	30.56	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.48	35.45	35.45	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.75	36.73	36.73	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.15	37.16	37.15	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.46	40.47	40.43	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.61	40.62	40.58	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.31	41.30	41.28	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.48	41.50	41.48	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.61	41.62	41.59	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.92	41.93	41.92	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.31	42.29	42.28	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.05	44.03	44.02	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.23	45.23	45.22	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.77	45.79	45.77	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.26	48.26	48.25	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.42	48.44	48.42	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.99	31.01	30.99	31.01	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.71	29.72	29.72	29.72	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.35	40.37	40.35	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.40	29.40	29.50	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.56	30.58	30.58	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.45	35.45	35.50	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.73	36.73	36.79	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.15	37.15	37.15	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.43	40.43	40.42	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.58	40.58	40.57	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.28	41.28	41.26	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.48	41.48	41.48	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.59	41.59	41.59	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.92	41.92	41.92	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.28	42.28	42.25	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.02	44.02	44.09	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.22	45.22	45.22	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.76	45.77	45.77	45.69	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.25	48.25	48.25	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.42	48.42	48.38	passed	passed

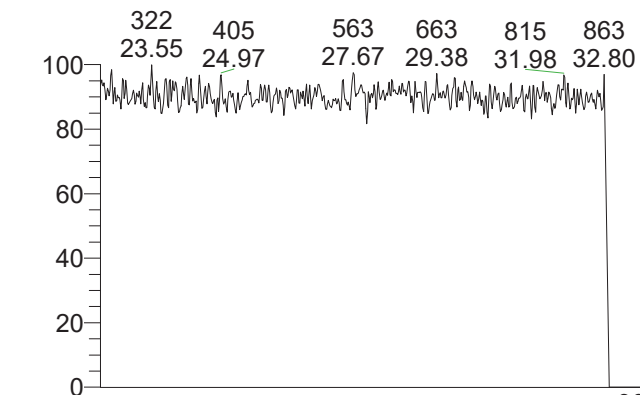
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.42	1.0823	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	30.60	0.6775	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	35.48	0.7103	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.75	1.6326	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	37.15	1.4158	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.46	1.1564	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.61	1.2533	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	41.31	1.5368	1.0450 - 1.4350	failed	---	0 - 0	passed
9	123478-HxCDD	41.48	0.9609	1.0450 - 1.4350	failed	---	0 - 0	passed
10	123678-HxCDD	41.61	1.0063	1.0450 - 1.4350	failed	---	0 - 0	passed
11	123789-HxCDD	41.92	1.2394	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	42.31	1.5795	1.0450 - 1.4350	failed	---	0 - 0	passed
13	1234678-HpCDF	44.05	0.8565	0.8750 - 1.2050	failed	---	0 - 0	passed
14	1234678-HpCDD	45.23	0.7855	0.8750 - 1.2050	failed	---	0 - 0	passed
15	1234789-HpCDF	45.77	0.7999	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	48.26	0.9063	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.42	0.9096	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	31.01	0.7873	0.6450 - 0.8950	passed	60.20	35 - 197	passed
19	13C12-1234-TCDD	29.72	0.8229	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.35	1.2741	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.40	0.7997	0.6450 - 0.8950	passed	60.86	40 - 135	passed
22	13C12-2378-TCDD	30.56	0.8277	0.6450 - 0.8950	passed	71.87	40 - 135	passed
23	13C12-12378-PeCDF	35.45	1.6136	1.3150 - 1.7850	passed	67.05	40 - 135	passed
24	13C12-23478-PeCDF	36.73	1.5904	1.3150 - 1.7850	passed	68.34	40 - 135	passed
25	13C12-12378-PeCDD	37.15	1.5687	1.3150 - 1.7850	passed	71.27	40 - 135	passed
26	13C12-123478-HxCDF	40.43	0.5355	0.4250 - 0.5950	passed	63.86	40 - 135	passed
27	13C12-123678-HxCDF	40.58	0.5290	0.4250 - 0.5950	passed	62.55	40 - 135	passed
28	13C12-234678-HxCDF	41.28	0.5270	0.4250 - 0.5950	passed	57.77	40 - 135	passed
29	13C12-123478-HxCDD	41.48	1.2649	1.0450 - 1.4350	passed	72.95	40 - 135	passed
30	13C12-123678-HxCDD	41.59	1.2569	1.0450 - 1.4350	passed	70.32	40 - 135	passed
31	13C12-123789-HxCDD	41.92	1.2583	1.0450 - 1.4350	passed	66.32	40 - 135	passed
32	13C12-123789-HxCDF	42.28	0.5199	0.4250 - 0.5950	passed	70.66	40 - 135	passed
33	13C12-1234678-HpCDF	44.02	0.4598	0.3650 - 0.5150	passed	67.24	40 - 135	passed
34	13C12-1234678-HpCDD	45.22	1.0675	0.8750 - 1.2050	passed	72.70	40 - 135	passed
35	13C12-1234789-HpCDF	45.77	0.4571	0.3650 - 0.5150	passed	67.37	40 - 135	passed
36	13C12-OCDD	48.25	0.8903	0.7550 - 1.0250	passed	69.75	40 - 135	passed
37	13C12-OCDF	48.42	0.9011	0.7550 - 1.0250	passed	64.51	40 - 135	passed

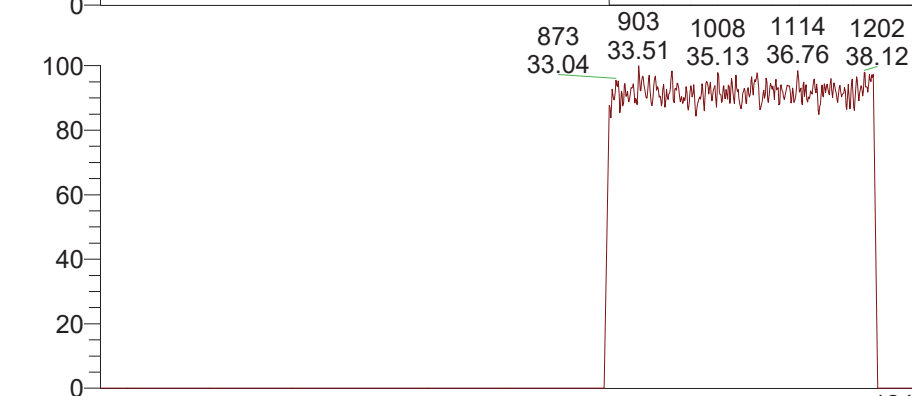
Entry Parameters

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	29.42	621	A	672	A	0.1213	0.726722	n.d.	0.000000	15	
2	2378-TCDD	passed	30.60	195	A	132	A	0.0880	0.265163	0.2652	0.000000	13	
3	12378-PeCDF	failed	35.48	608	A	432	M	0.1074	0.629130	n.d.	0.000000	21	
4	23478-PeCDF	passed	36.75	673	A	1099	A	0.0896	0.940956	0.9410	0.000000	23	
5	12378-PeCDD	passed	37.15	467	M	661	A	0.2128	1.113450	1.1134	0.000000	14	
6	123478-HxCDF	passed	40.46	830	A	960	A	0.0904	0.927530	0.9275	0.000000	25	
7	123678-HxCDF	passed	40.61	1011	A	1267	A	0.0936	1.170159	1.1702	0.000000	31	
8	234678-HxCDF	failed	41.31	849	A	1304	A	0.0951	1.222840	n.d.	0.000000	37	
9	123478-HxCDD	failed	41.48	601	A	577	A	0.1198	0.852127	n.d.	0.000000	23	
10	123678-HxCDD	failed	41.61	566	A	569	A	0.1246	0.827710	n.d.	0.000000	19	
11	123789-HxCDD	passed	41.92	709	A	879	A	0.1374	1.238666	1.2387	0.000000	22	
12	123789-HxCDF	failed	42.31	1235	A	1950	A	0.0942	1.703533	n.d.	0.000000	44	
13	1234678-HpCDF	failed	44.05	1347	A	1154	A	0.0621	1.270516	n.d.	0.000000	50	
14	1234678-HpCDD	failed	45.23	3125	A	2455	A	0.0959	4.129991	n.d.	0.000000	104	
15	1234789-HpCDF	failed	45.77	1407	A	1125	A	0.0712	1.471354	n.d.	0.000000	52	
16	OCDD	passed	48.26	15419	A	13975	A	0.1924	22.169543	22.1695	0.000000	266	
17	OCDF	passed	48.42	2654	A	2414	A	0.1389	3.221835	3.2218	0.000000	52	
18	13C12-1278-TCDD (CRS)	passed	31.01	960972	A	756586	A	0.3333	1204.088805	1204.0888	2000.000000	9509	
19	13C12-1234-TCDD	passed	29.72	1498597	A	1233245	A	0.3481	2000.000000	2000.0000	2000.000000	14364	
20	13C12-123468-HxCDD	passed	40.35	1649096	A	2101184	A	0.3210	2000.000000	2000.0000	2000.000000	15575	
21	13C12-2378-TCDF	passed	29.40	1881681	A	1504769	A	0.2311	1217.178551	1217.1786	2000.000000	13574	
22	13C12-2378-TCDD	passed	30.56	1081086	A	894835	A	0.3459	1437.433118	1437.4331	2000.000000	10676	
23	13C12-12378-PeCDF	passed	35.45	1350081	A	2178482	A	0.6165	1341.022058	1341.0221	2000.000000	7455	
24	13C12-23478-PeCDF	passed	36.73	1384151	A	2201363	A	0.6184	1366.814492	1366.8145	2000.000000	7976	
25	13C12-12378-PeCDD	passed	37.15	787292	A	1235043	A	0.5434	1425.361382	1425.3614	2000.000000	9531	
26	13C12-123478-HxCDF	passed	40.43	2256764	A	1208433	A	0.3939	1277.260827	1277.2608	2000.000000	8479	
27	13C12-123678-HxCDF	passed	40.58	2372247	A	1254802	A	0.3686	1251.063386	1251.0634	2000.000000	8498	
28	13C12-234678-HxCDF	passed	41.28	2006221	A	1057363	A	0.4031	1155.414077	1155.4141	2000.000000	7808	
29	13C12-123478-HxCDD	passed	41.48	1206347	A	1525932	A	0.3215	1459.048154	1459.0482	2000.000000	12653	
30	13C12-123678-HxCDD	passed	41.59	1211797	A	1523068	A	0.3096	1406.457392	1406.4574	2000.000000	12287	
31	13C12-123789-HxCDD	passed	41.92	1078148	A	1356586	A	0.3280	1326.440174	1326.4402	2000.000000	10610	
32	13C12-123789-HxCDF	passed	42.28	2290499	A	1190809	A	0.4339	1413.264241	1413.2642	2000.000000	8436	
33	13C12-1234678-HpCDF	passed	44.02	2274780	A	1045905	A	0.4197	1344.761002	1344.7610	2000.000000	8899	
34	13C12-1234678-HpCDD	passed	45.22	1282203	A	1368688	A	0.4172	1453.928912	1453.9289	2000.000000	10233	
35	13C12-1234789-HpCDF	passed	45.77	1917897	A	876652	A	0.4997	1347.451850	1347.4519	2000.000000	7478	
36	13C12-OCDD	passed	48.25	2845002	A	2532982	A	0.1817	2789.801673	2789.8017	4000.000000	47370	
37	13C12-OCDF	passed	48.42	3837599	A	3458095	A	0.1523	2580.461464	2580.4615	4000.000000	49745	

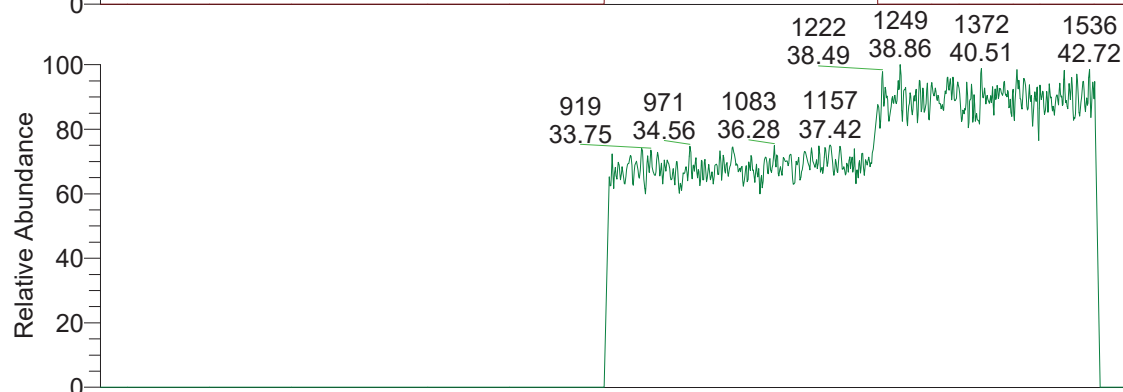
RT: 22.50 - 51.00



NL:
4.54E5
m/z=
291.9825-
292.9825
MS
18NOV10-
18



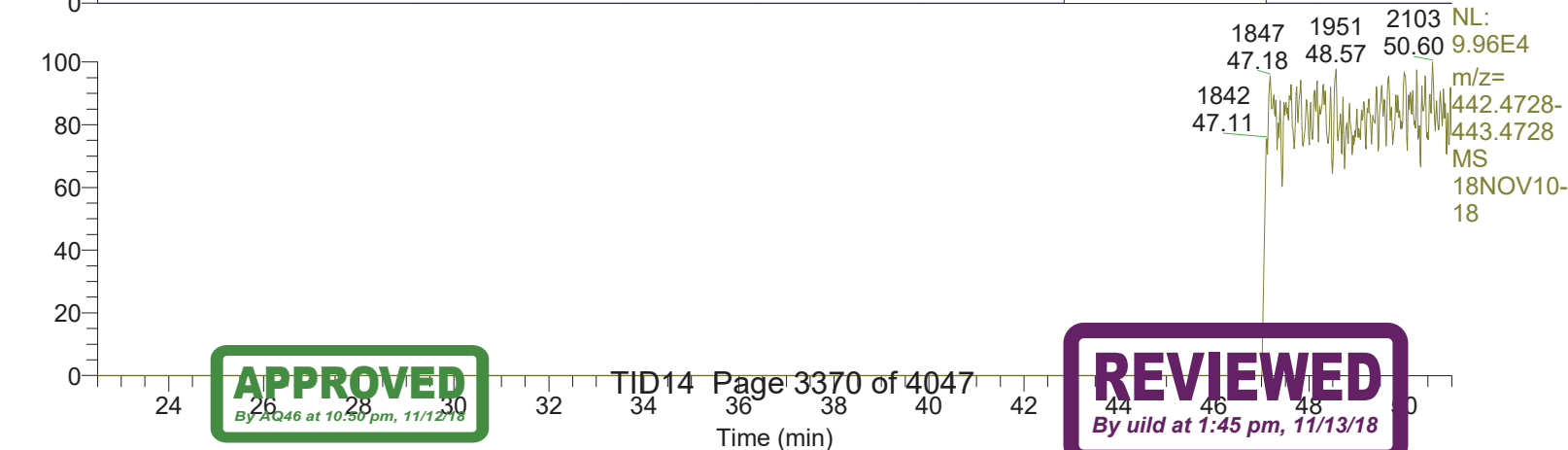
NL:
4.47E5
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330.4792-
331.4792
MS
18NOV10-
18



NL:
2.97E5
m/z=
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381.4760
MS
18NOV10-
18



NL:
8.80E4
m/z=
404.4760-
405.4760
MS
18NOV10-
18



NL:
9.96E4
m/z=
442.4728-
443.4728
MS
18NOV10-
18

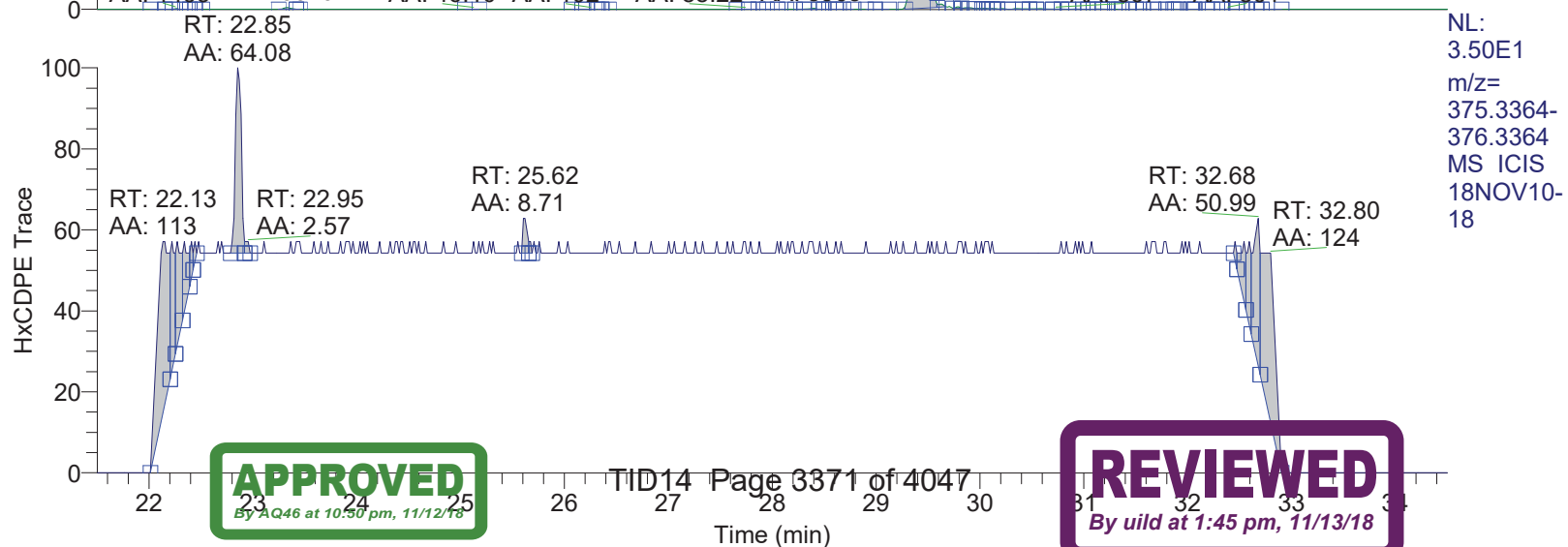
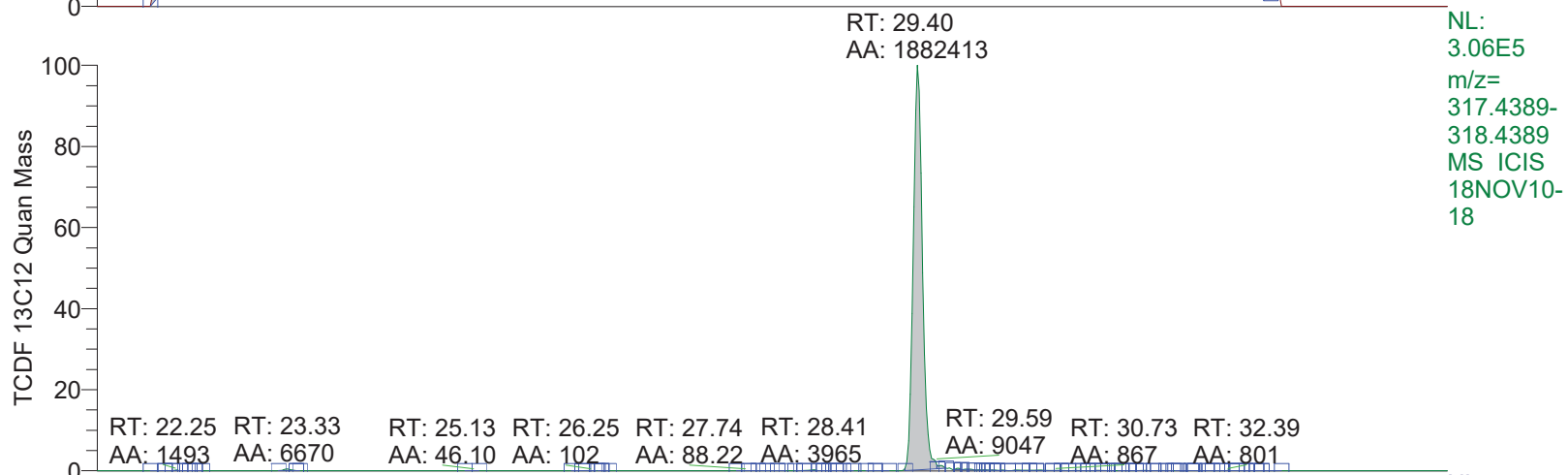
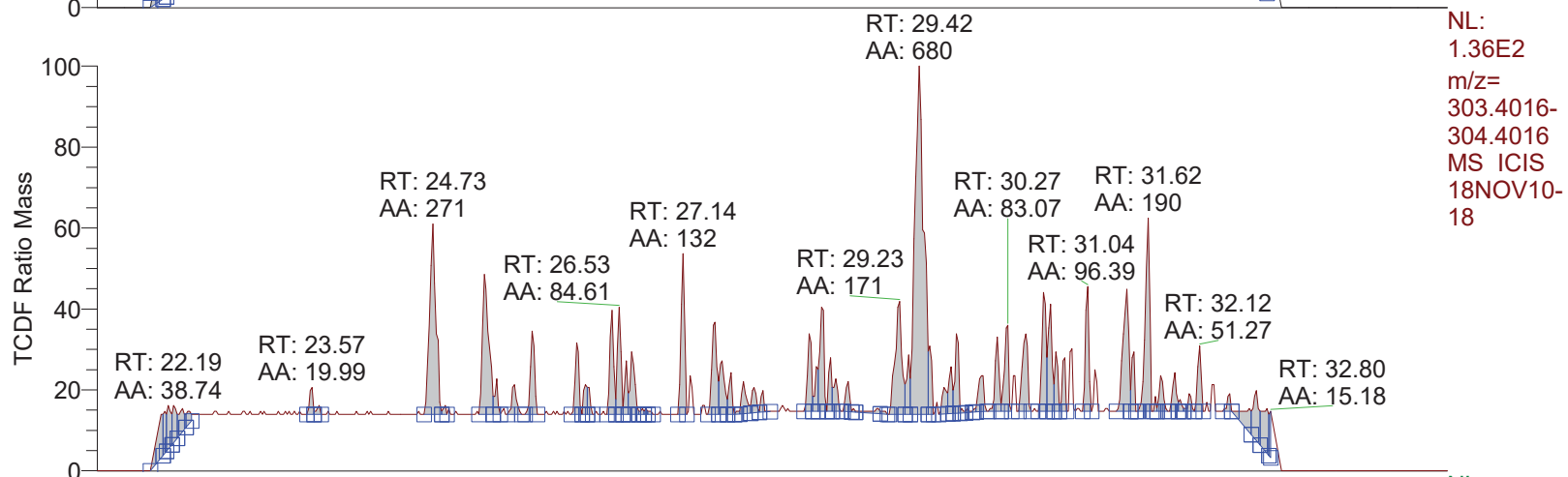
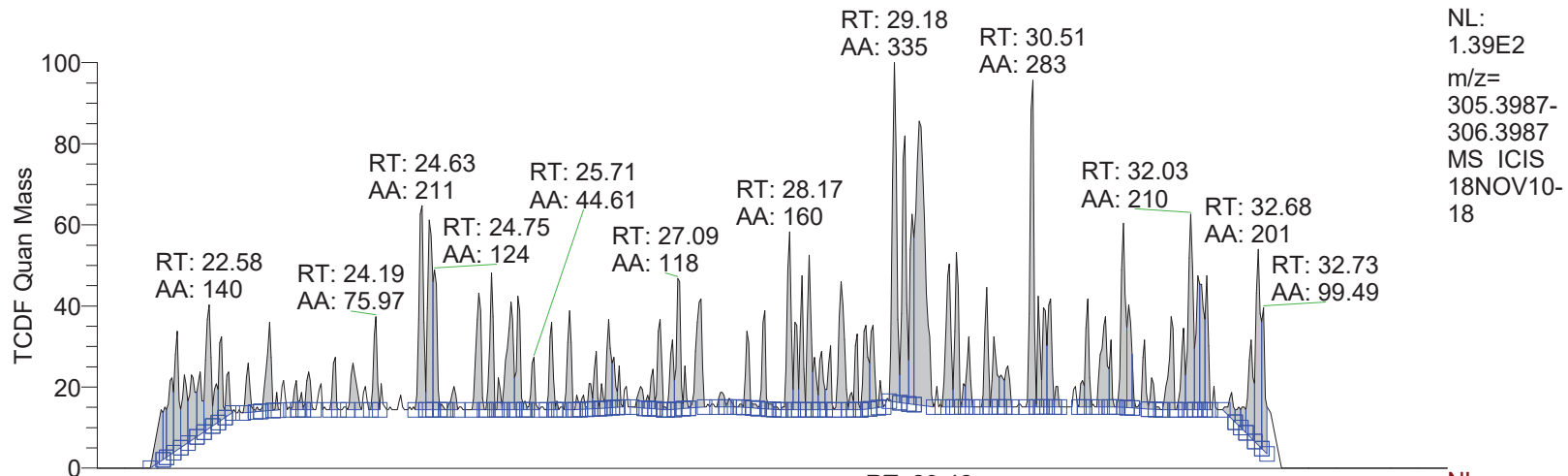
APPROVED

By AQ46 at 10:50 pm, 11/12/18

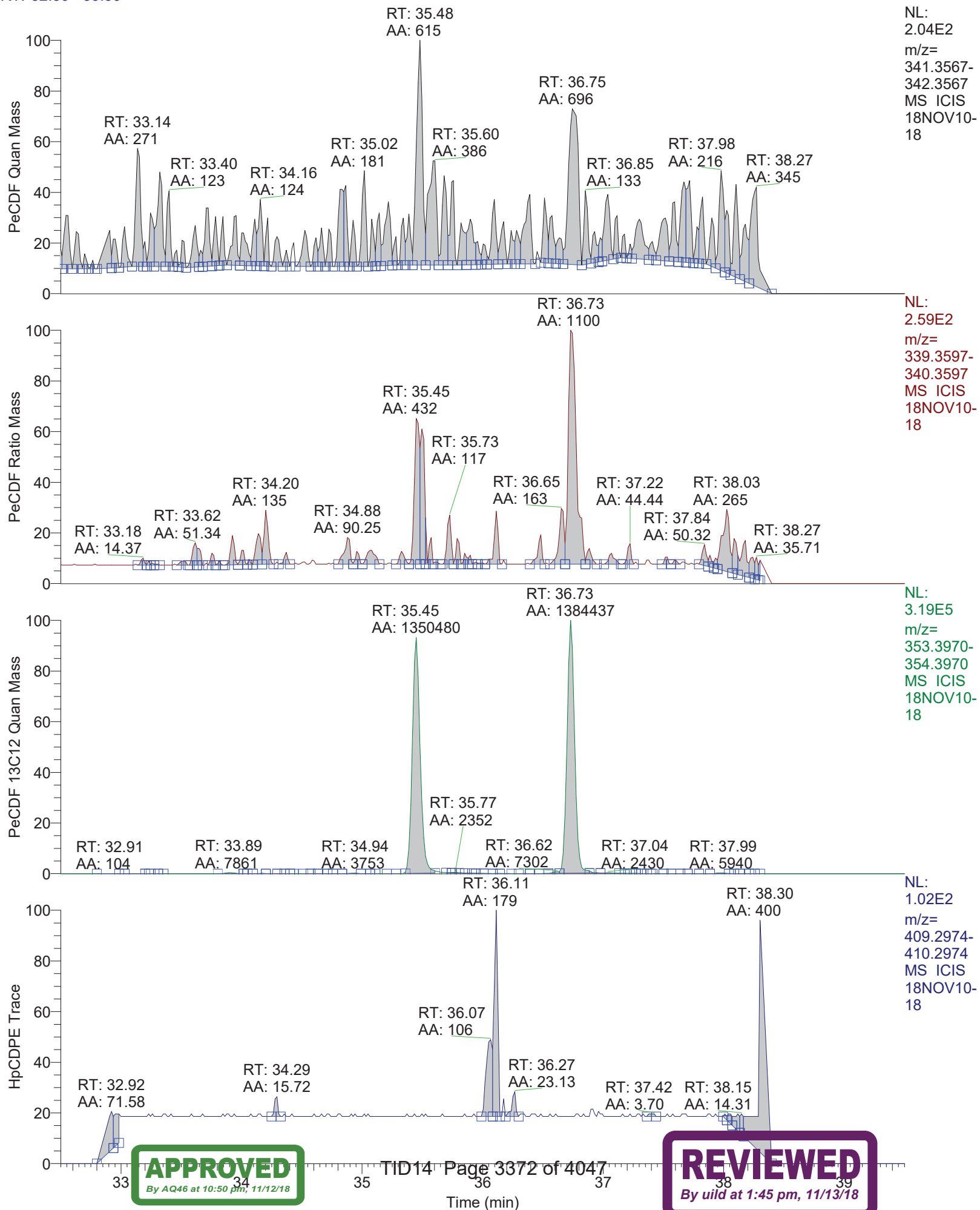
REVIEWED

By uild at 1:45 pm, 11/13/18

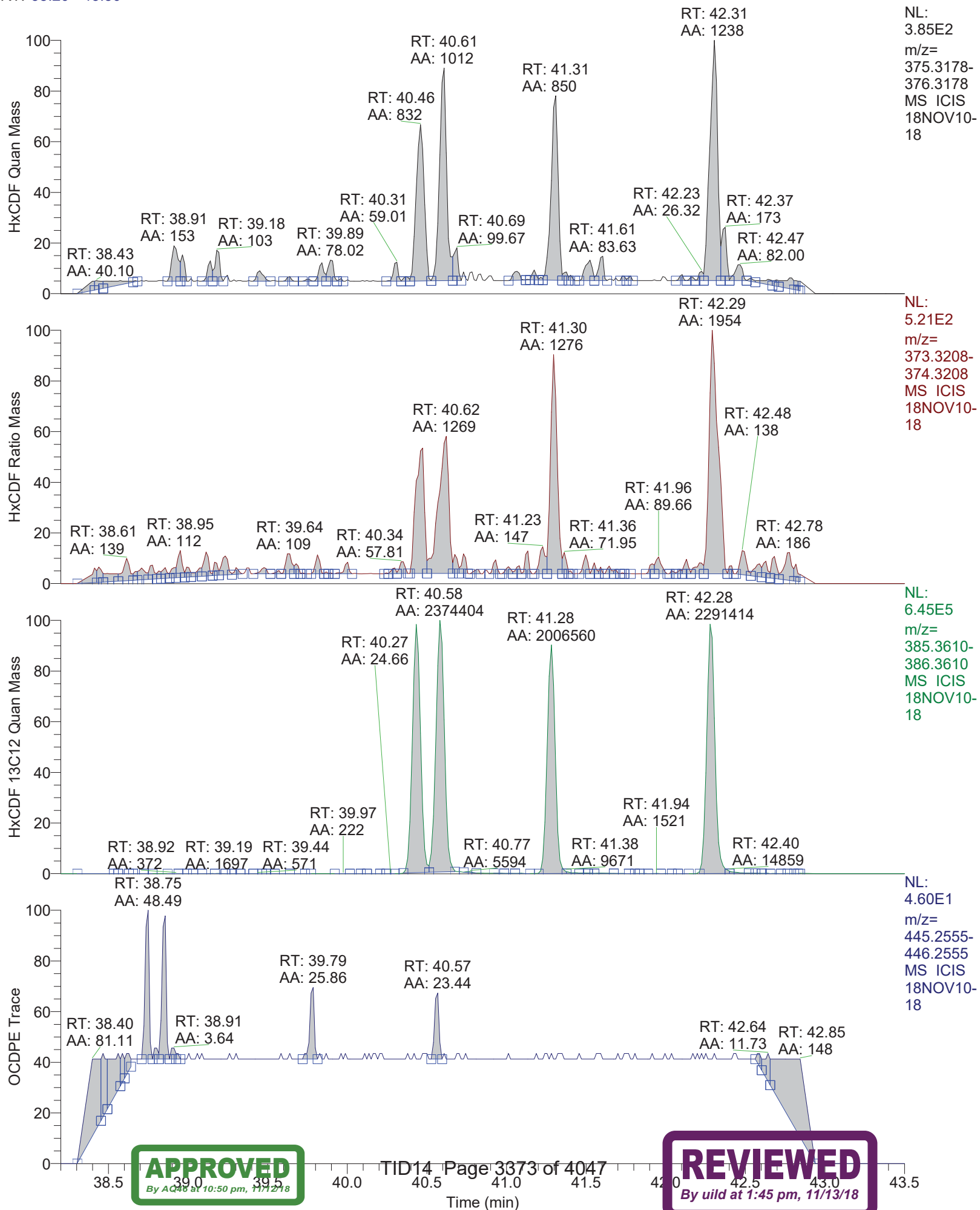
RT: 21.50 - 34.50



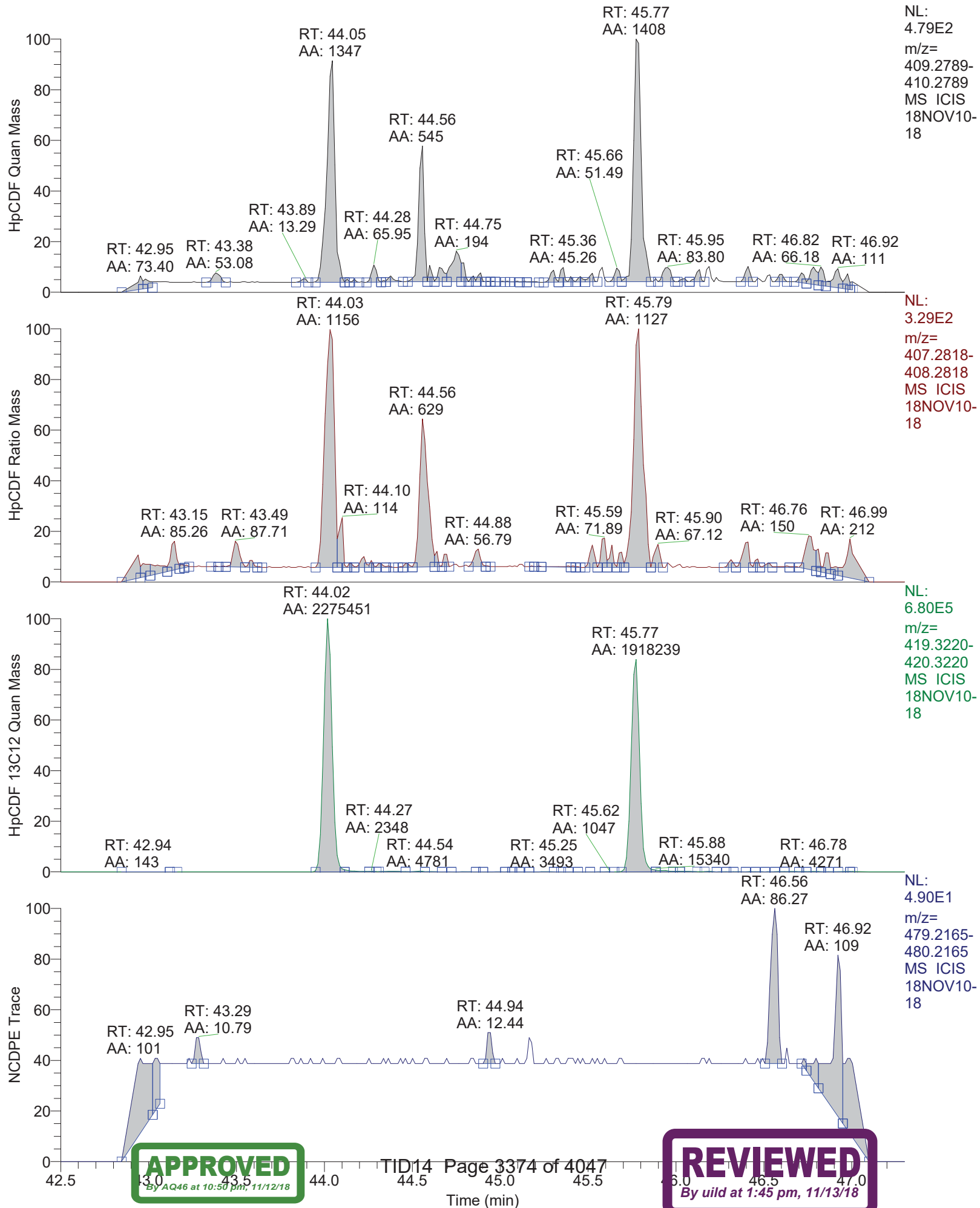
RT: 32.50 - 39.50



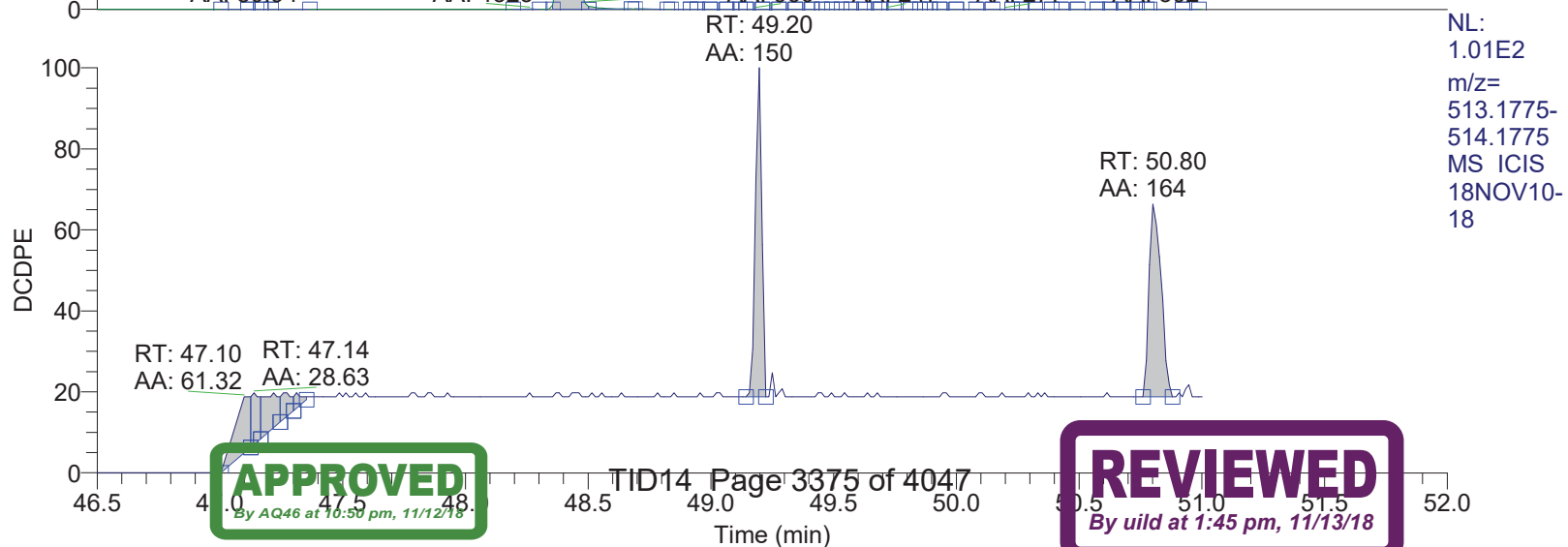
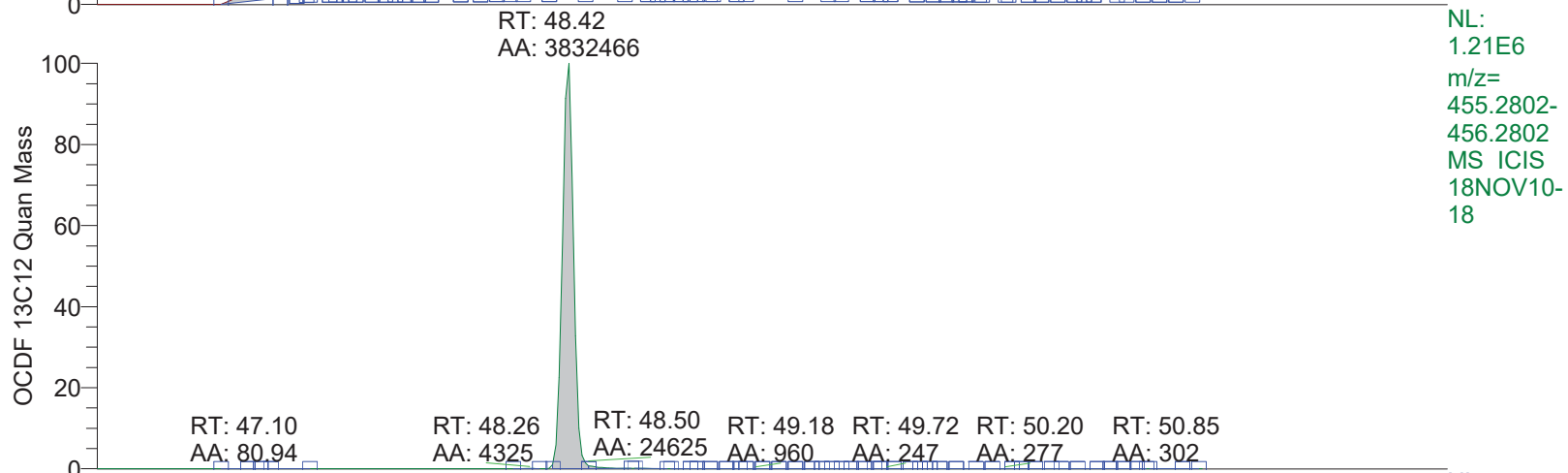
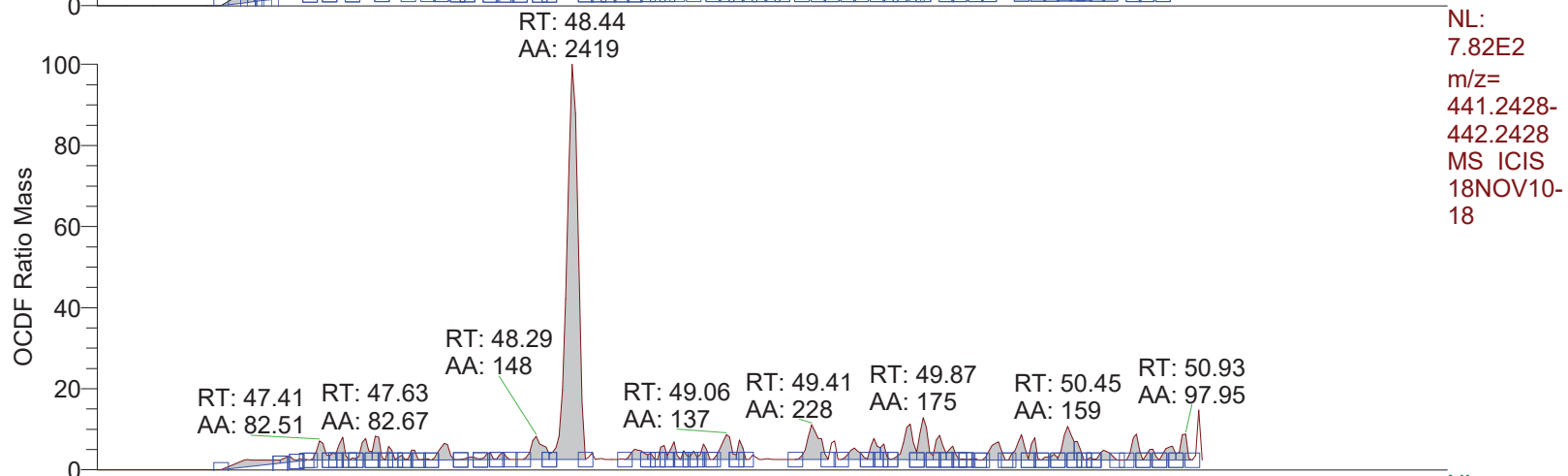
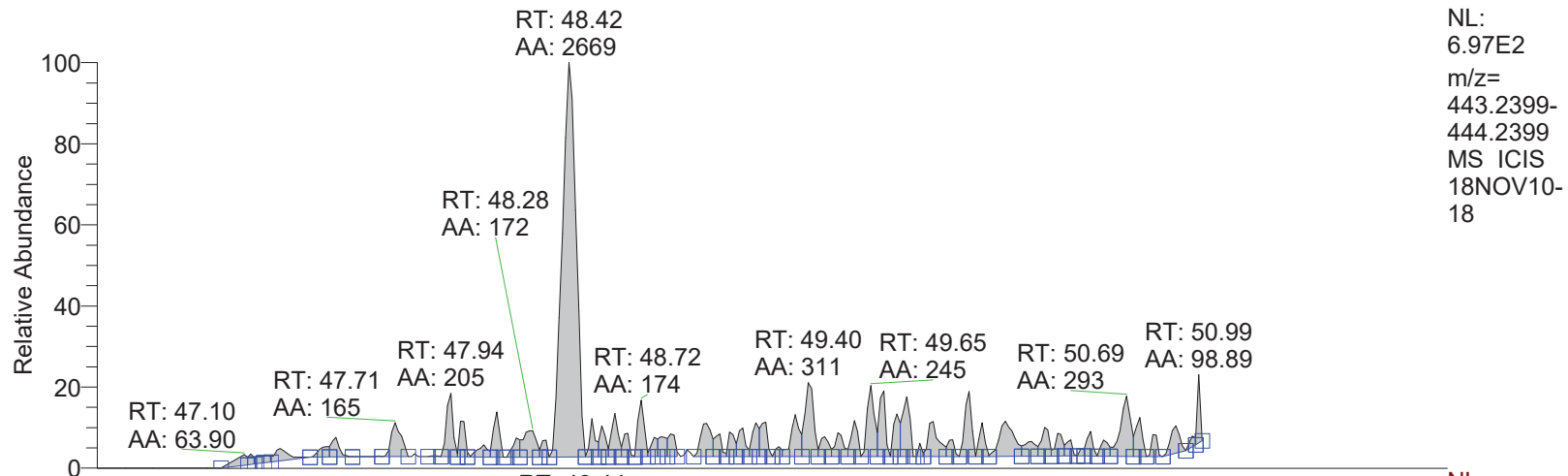
RT: 38.20 - 43.50



RT: 42.50 - 47.30



RT: 46.50 - 52.00



APPROVED

TID14 Page 3375 of 4047

REVIEWED

By wild at 1:45 pm. 11/13/18

18NOV10-18

*** file opened Sat Nov 10 09:32:22 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 09:32:22

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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

18NOV10-18

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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3377 of 4047

REVIEWED

By uild at 1:45 pm, 11/13/18

18NOV10-18
MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	97.0000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0077	FVINLET	0.0379	FVSR	0.0362
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	97.0000	LKM	442.9723	MASS	97.0000
MDAC	1416877.9667	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9856	RELEN	0.0000
RES	11653.1849	RPUSHER	-6.0879	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	97.0000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.5e-008 mbar
Pirani Analyse: 7.7e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11470.
MID Time window 2: Resolution is 11597.
MID Time window 3: Resolution is 10960.
MID Time window 4: Resolution is 11641.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3378 of 4047

REVIEWED

By uild at 1:45 pm, 11/13/18

18NOV10-18

MID Time Window 5: Resolution is 13091.
MID Time Window 6: Resolution is 11653.

Amplifier Offset: 81.

*** File closed Sat Nov 10 10:23:24 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 12:16
Number of Entries	62
Comment	MS:10914:12936:17961
Vial	75
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW008I MS Grab Groundwater
Sample ID	9876335RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-21.quan
Data	x:\18nov10\18nov10-21.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Depend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	1.05
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

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	passed
2	2378-TCDD	30.59	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.48	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.76	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	37.17	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.46	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.61	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	41.31	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.49	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.93	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.30	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	44.04	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.78	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.26	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.43	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	31.00	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.73	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.36	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	29.41	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.57	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.46	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.74	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	37.14	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.44	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.59	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	41.28	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.48	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.60	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.91	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.29	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	44.03	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.77	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.26	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.42	passed	passed	passed	passed	passed	passed	passed

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 12:16
Number of Entries	62
Comment	MS:10914:12936:17961
Vial	75
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW008I MS Grab Groundwater
Sample ID	9876335RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

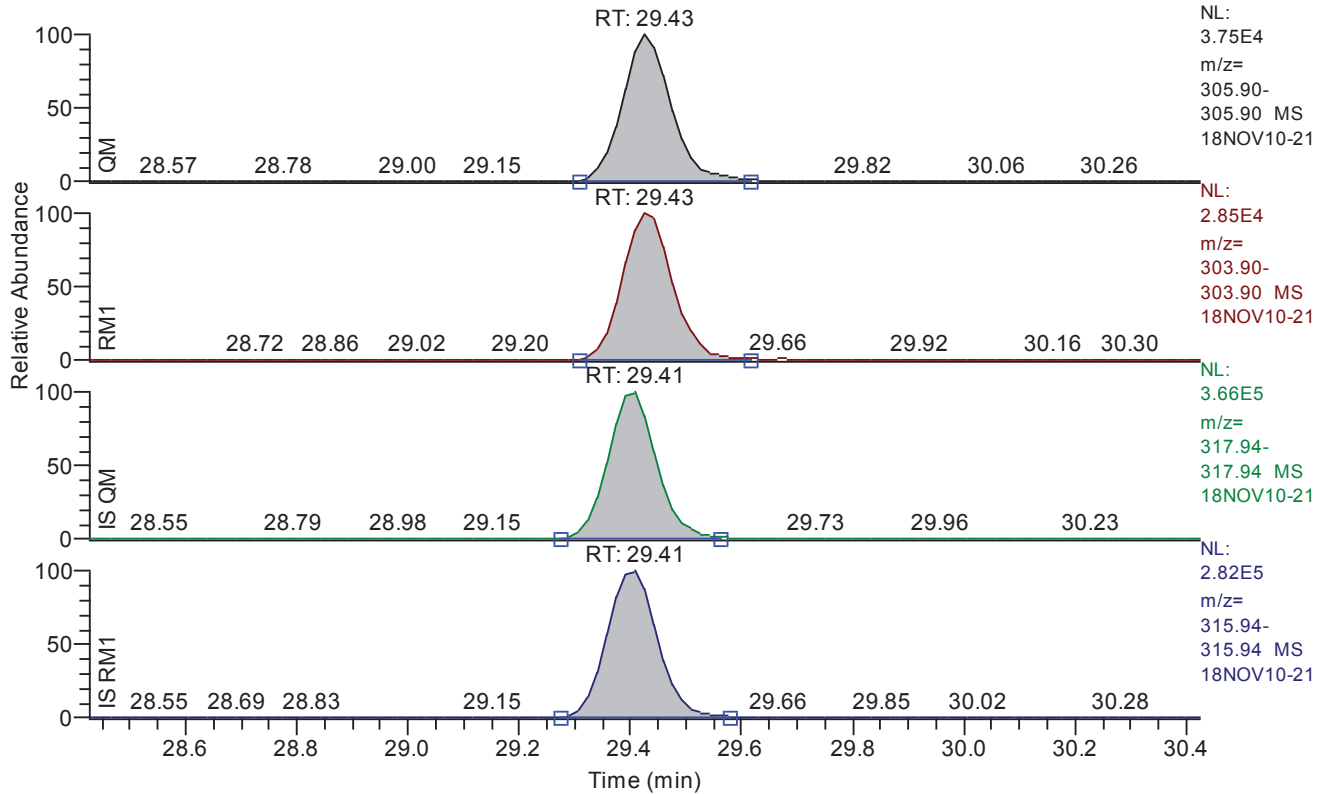
Quan	x:\18nov10\18nov10-21.quan
Data	x:\18nov10\18nov10-21.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	1.05
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

Chromatogram

RT: 28.43 - 30.43 SM: 3G

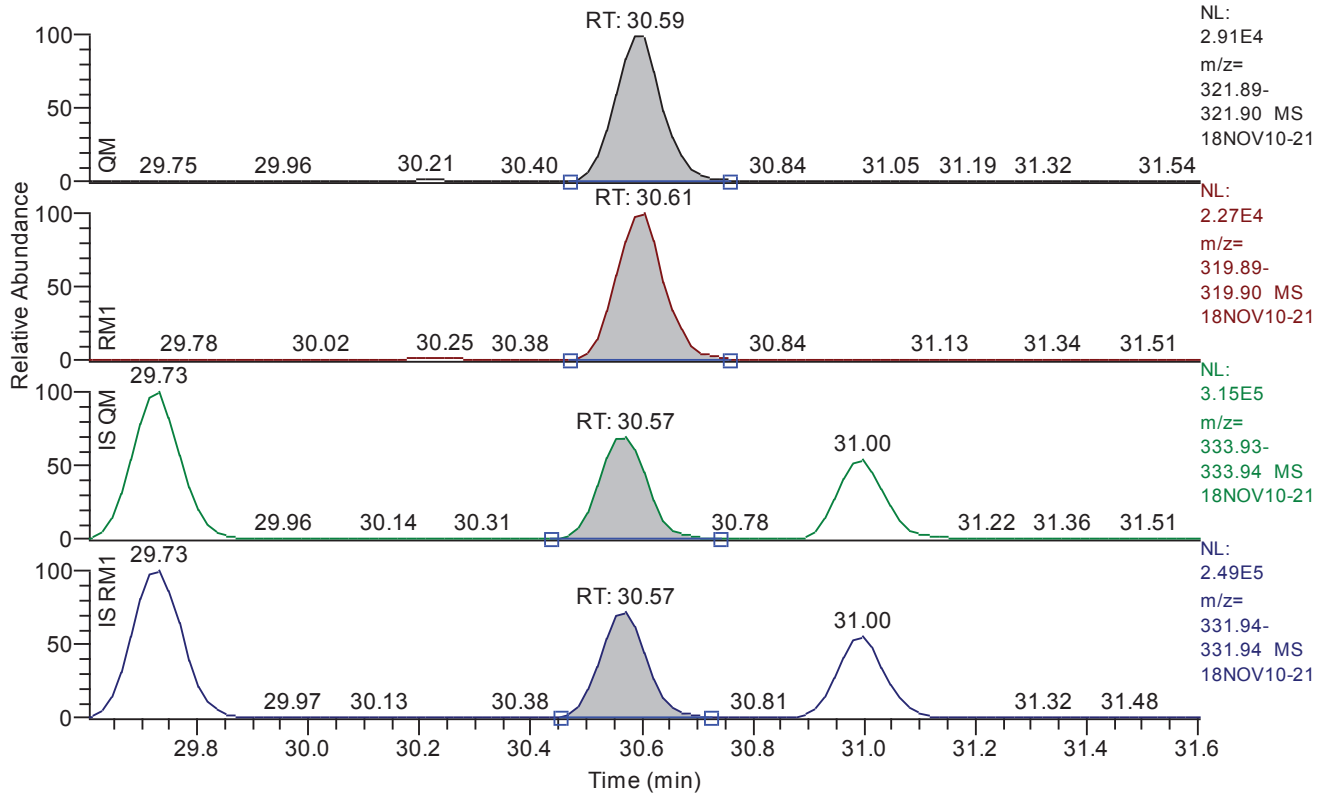


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.43
QM Area	231126
QM Integration Mode	A
RM1 Area	180574
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1798
Unqualified Amount (A)	184.481564
Adjusted Amount (A)	184.4816
Signal-to-Noise	2566
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.61 - 31.61 SM: 3G

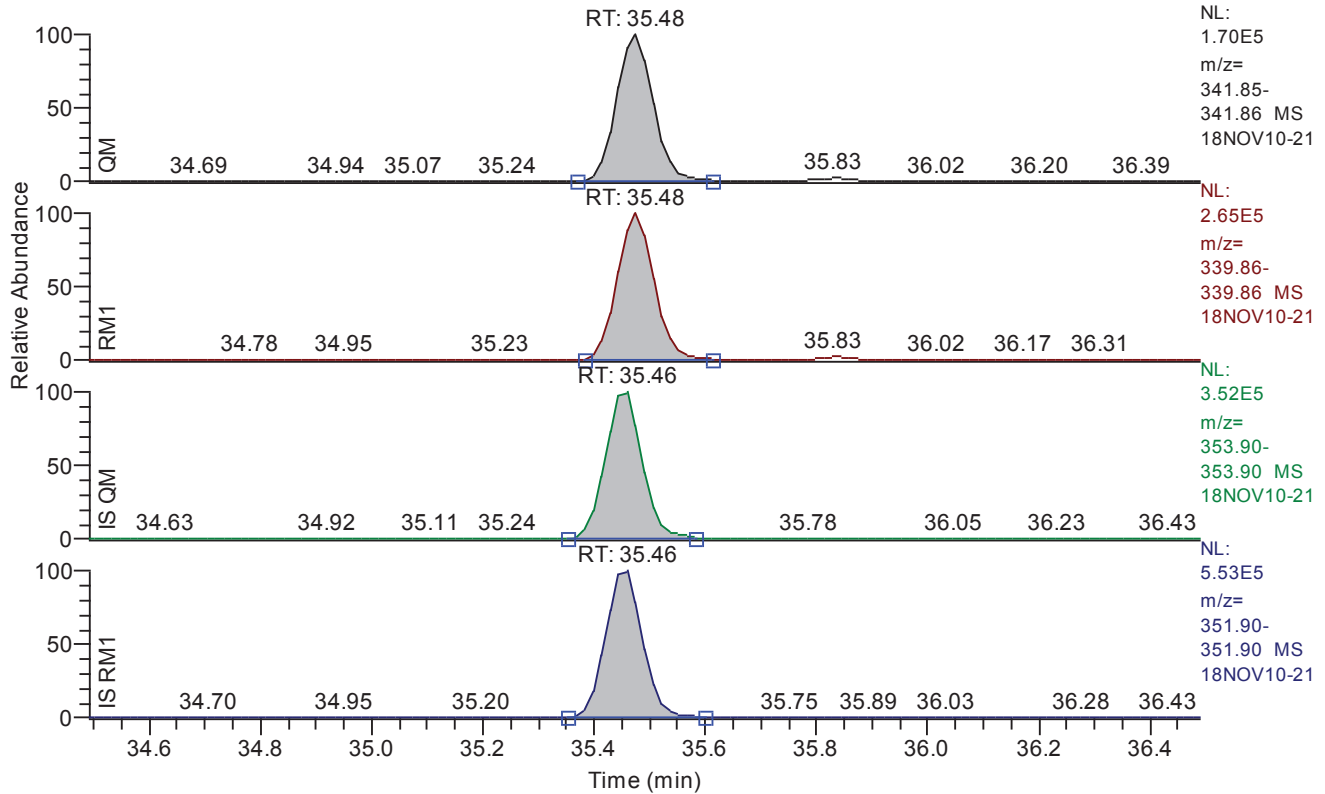


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.59
QM Area	175956
QM Integration Mode	A
RM1 Area	139875
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1375
Unqualified Amount (A)	199.143259
Adjusted Amount (A)	199.1433
Signal-to-Noise	3583
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.49 - 36.49 SM: 3G

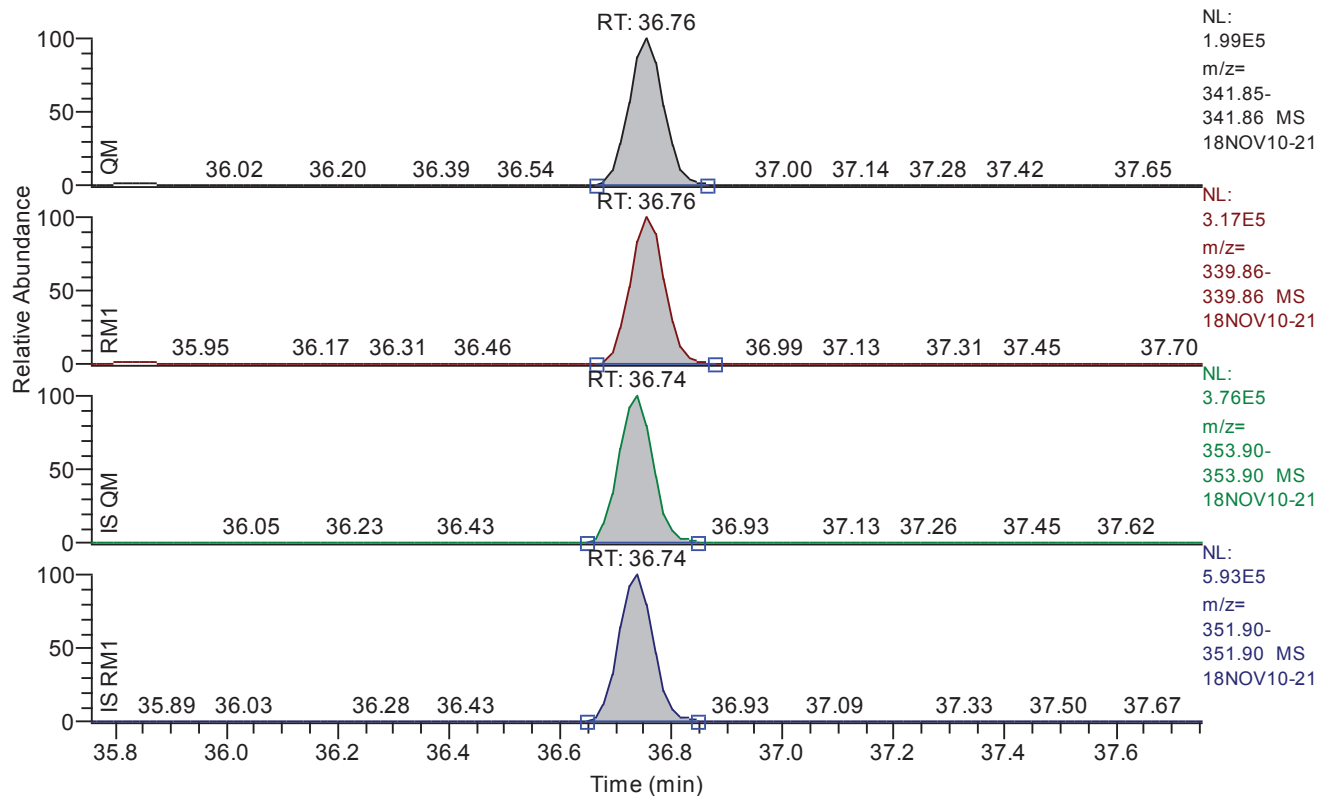


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.48
QM Area	785120
QM Integration Mode	A
RM1 Area	1224017
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1716
Unqualified Amount (A)	962.688743
Adjusted Amount (A)	962.6887
Signal-to-Noise	14240
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.76 - 37.76 SM: 3G

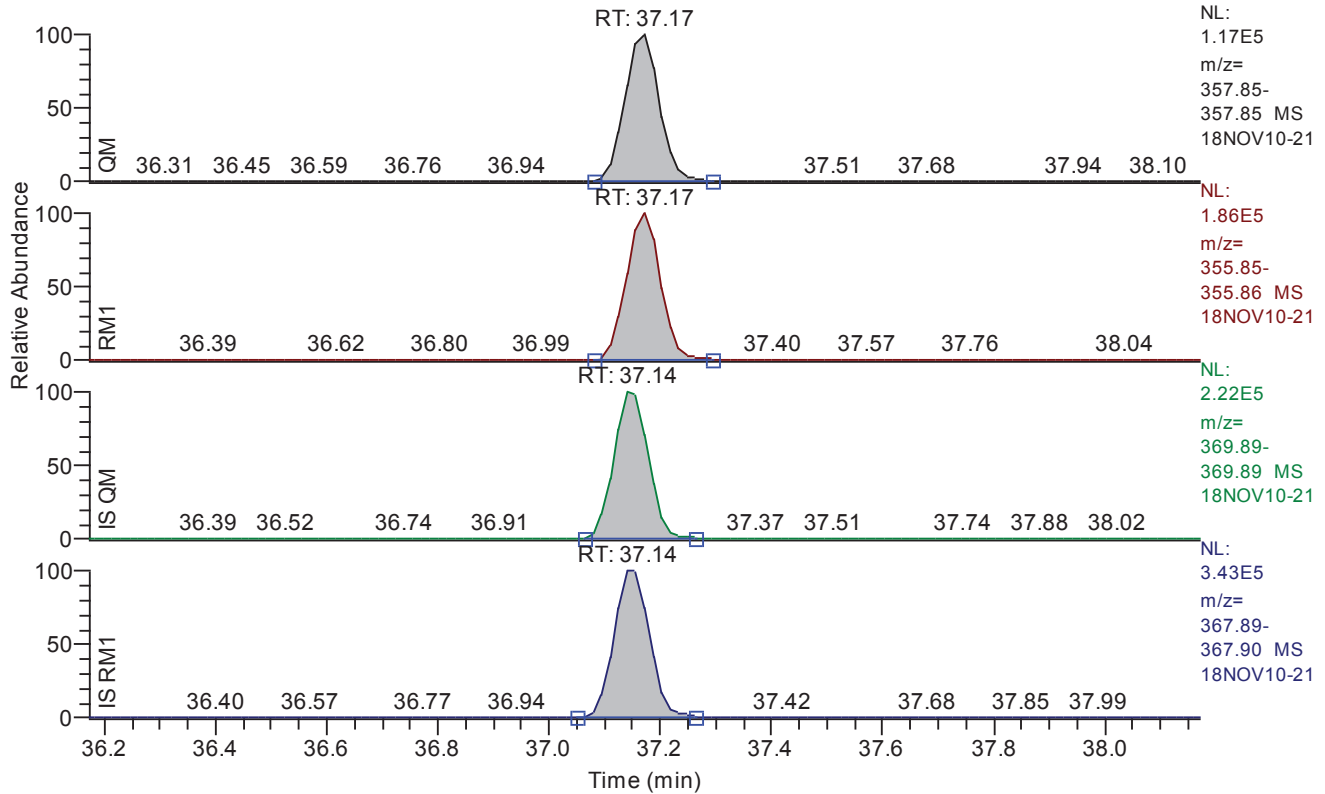


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.76
QM Area	862075
QM Integration Mode	A
RM1 Area	1372353
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1428
Unqualified Amount (A)	970.096668
Adjusted Amount (A)	970.0967
Signal-to-Noise	16889
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.17 - 38.17 SM: 3G

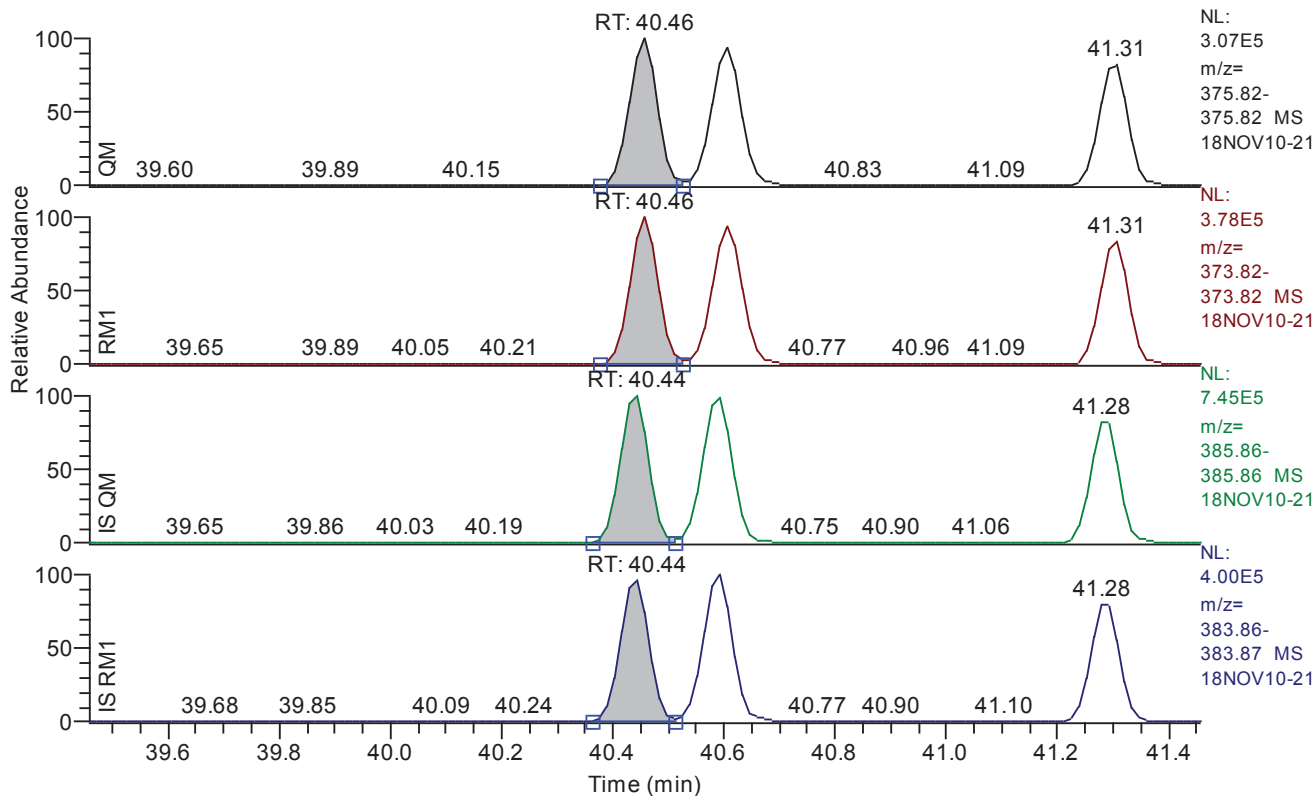


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.17
QM Area	502807
QM Integration Mode	A
RM1 Area	792601
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3543
Unqualified Amount (A)	991.163126
Adjusted Amount (A)	991.1631
Signal-to-Noise	7178
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.46 - 41.46 SM: 3G

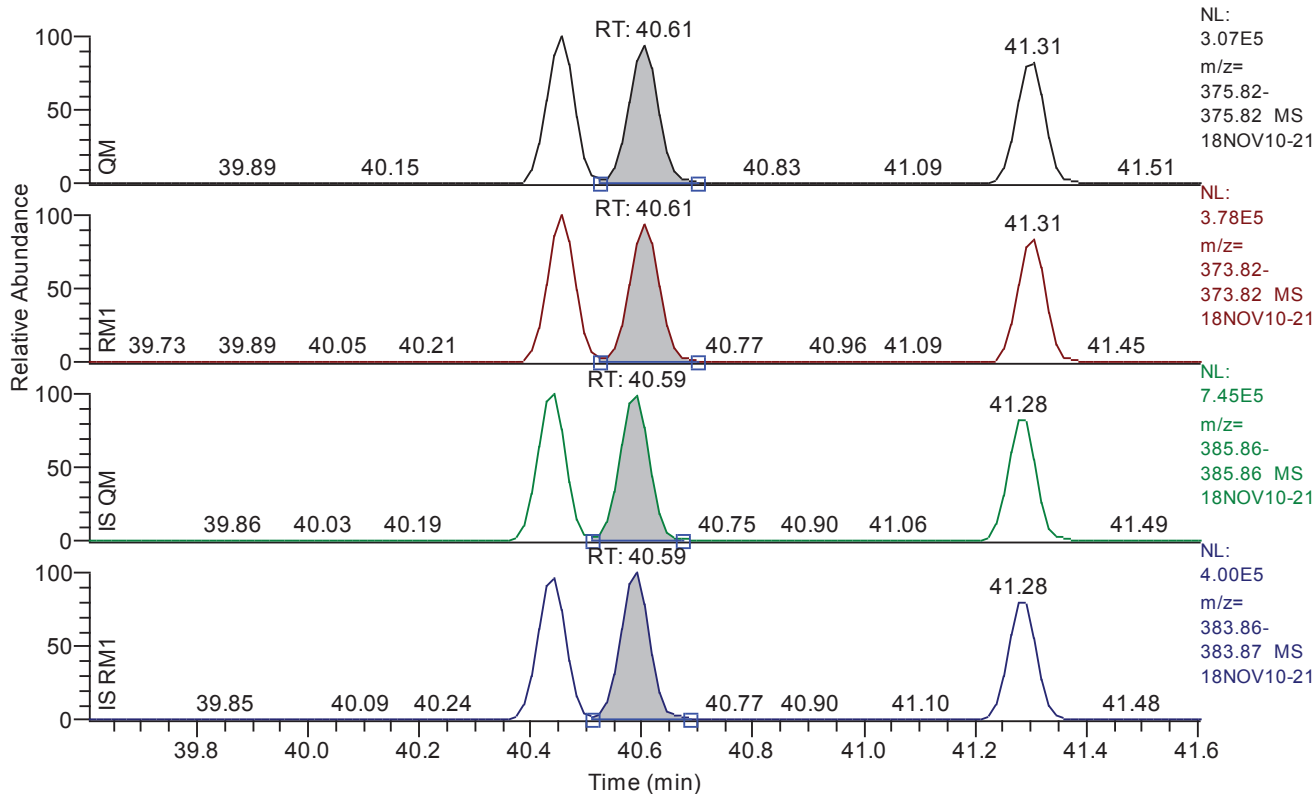


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.46
QM Area	1073029
QM Integration Mode	A
RM1 Area	1315735
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2689
Unqualified Amount (A)	1009.811035
Adjusted Amount (A)	1009.8110
Signal-to-Noise	9594
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.61 - 41.61 SM: 3G

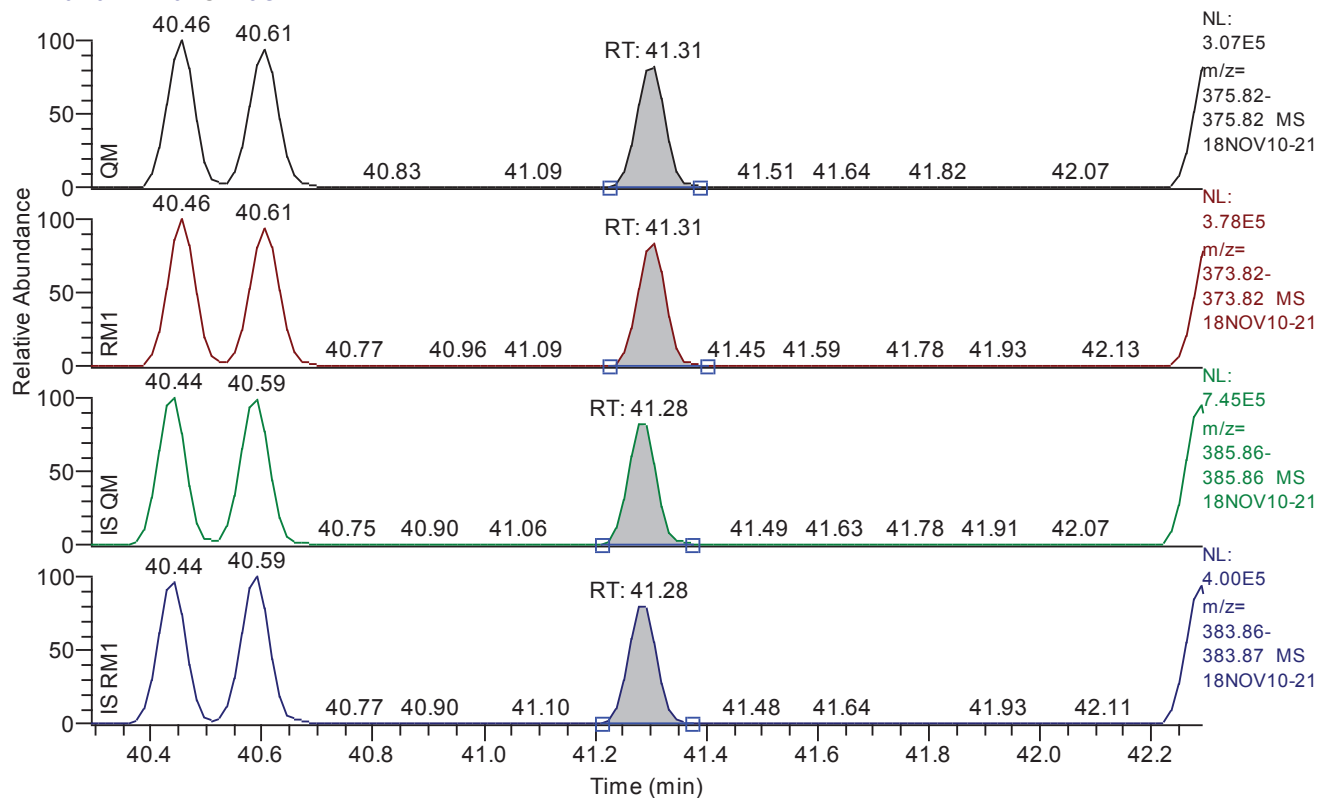


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.61
QM Area	1070609
QM Integration Mode	A
RM1 Area	1328105
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2779
Unqualified Amount (A)	1013.263800
Adjusted Amount (A)	1013.2638
Signal-to-Noise	9049
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.29 - 42.29 SM: 3G

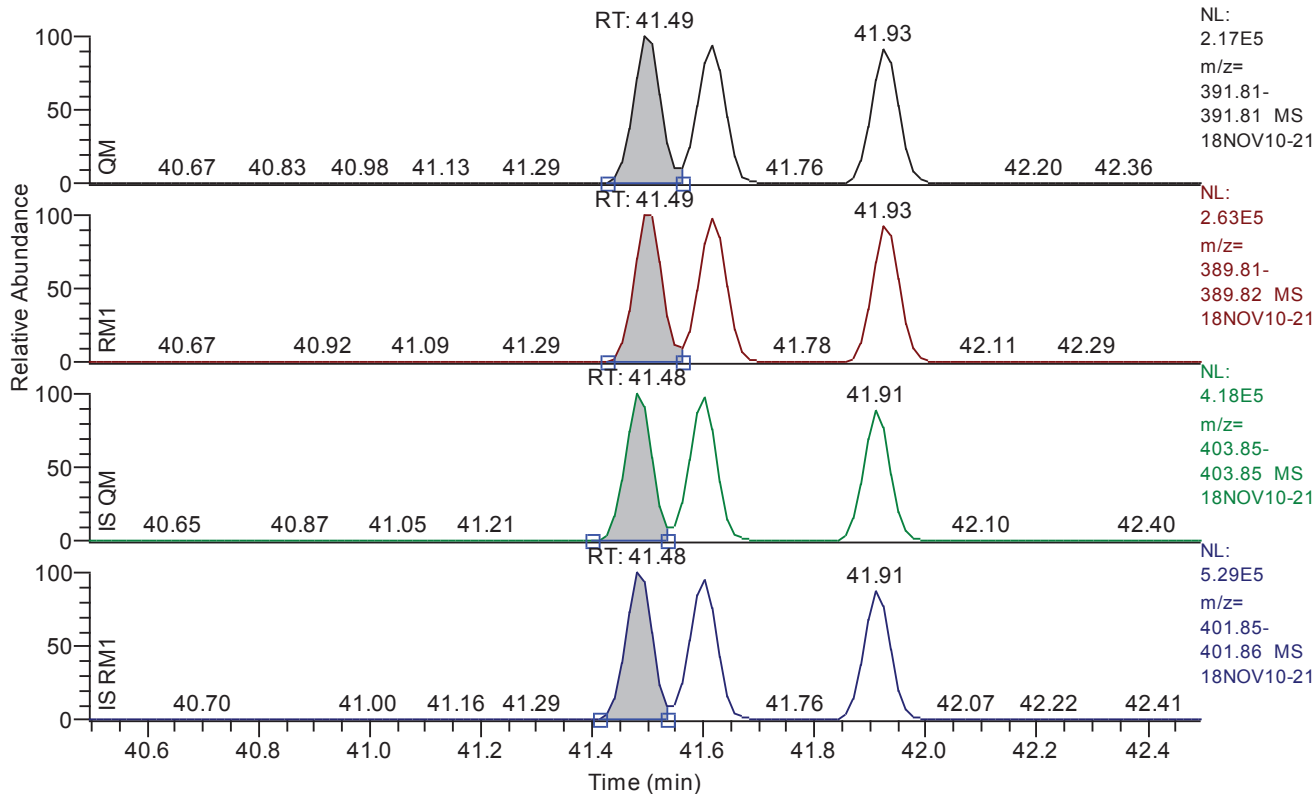


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.31
QM Area	917783
QM Integration Mode	A
RM1 Area	1134754
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3159
Unqualified Amount (A)	1012.419570
Adjusted Amount (A)	1012.4196
Signal-to-Noise	8034
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.49 - 42.49 SM: 3G

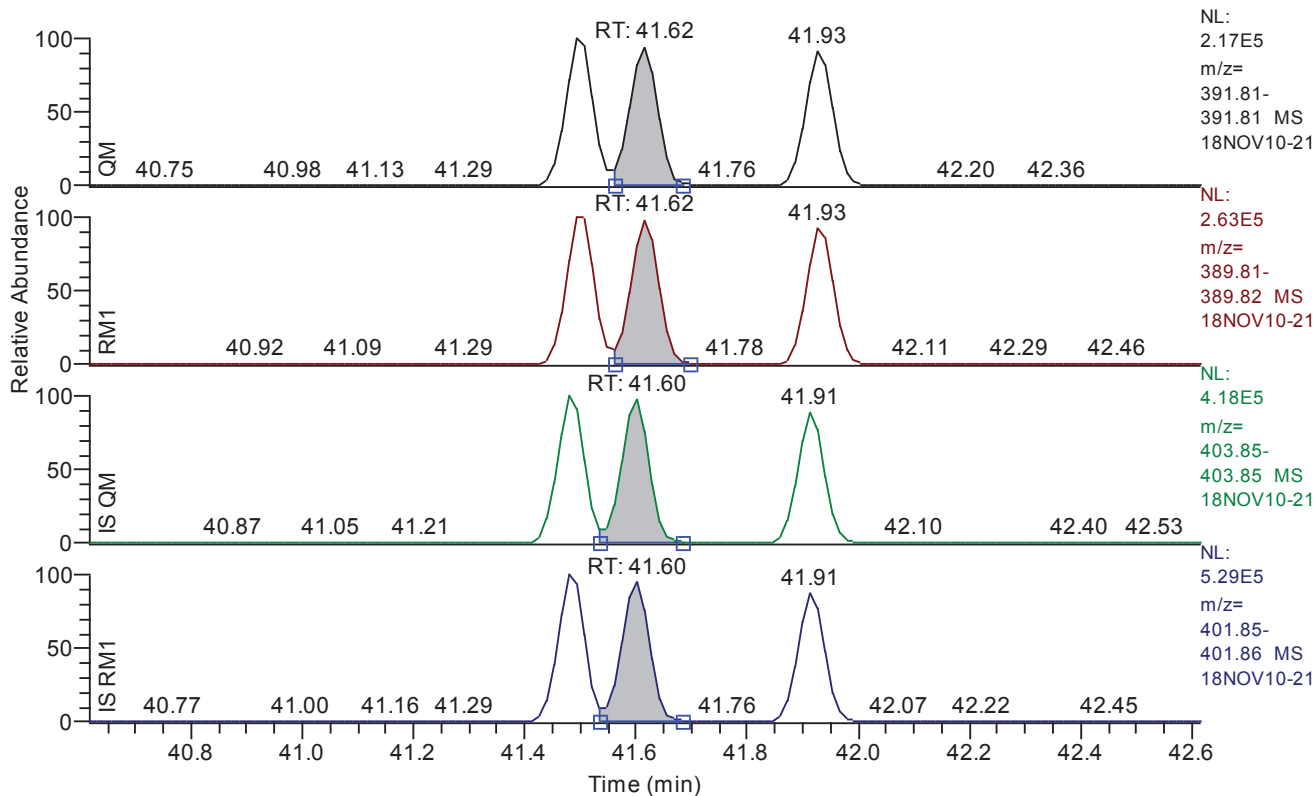


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.49
QM Area	751134
QM Integration Mode	A
RM1 Area	932252
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2313
Unqualified Amount (A)	999.048377
Adjusted Amount (A)	999.0484
Signal-to-Noise	10332
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.62 - 42.62 SM: 3G

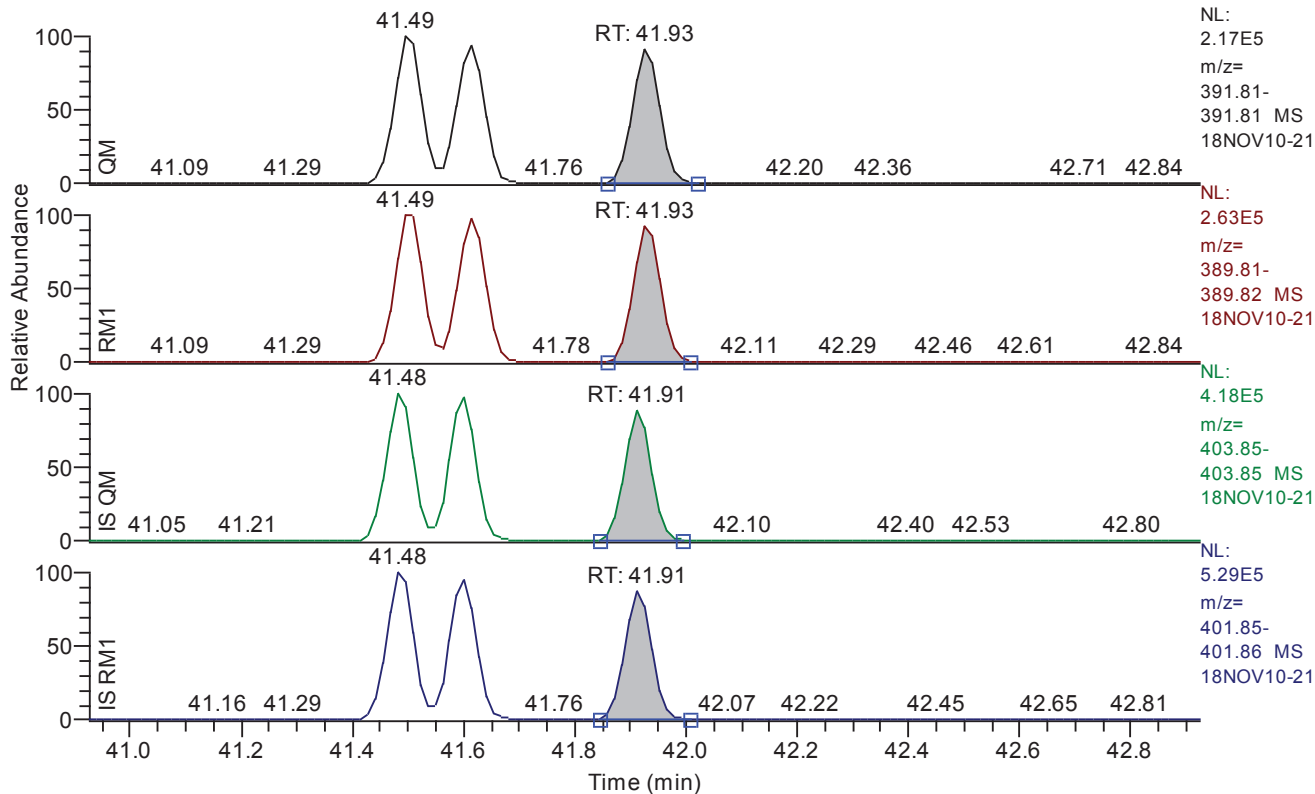


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.62
QM Area	710844
QM Integration Mode	A
RM1 Area	896855
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2427
Unqualified Amount (A)	960.733293
Adjusted Amount (A)	960.7333
Signal-to-Noise	9927
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.93 - 42.93 SM: 3G

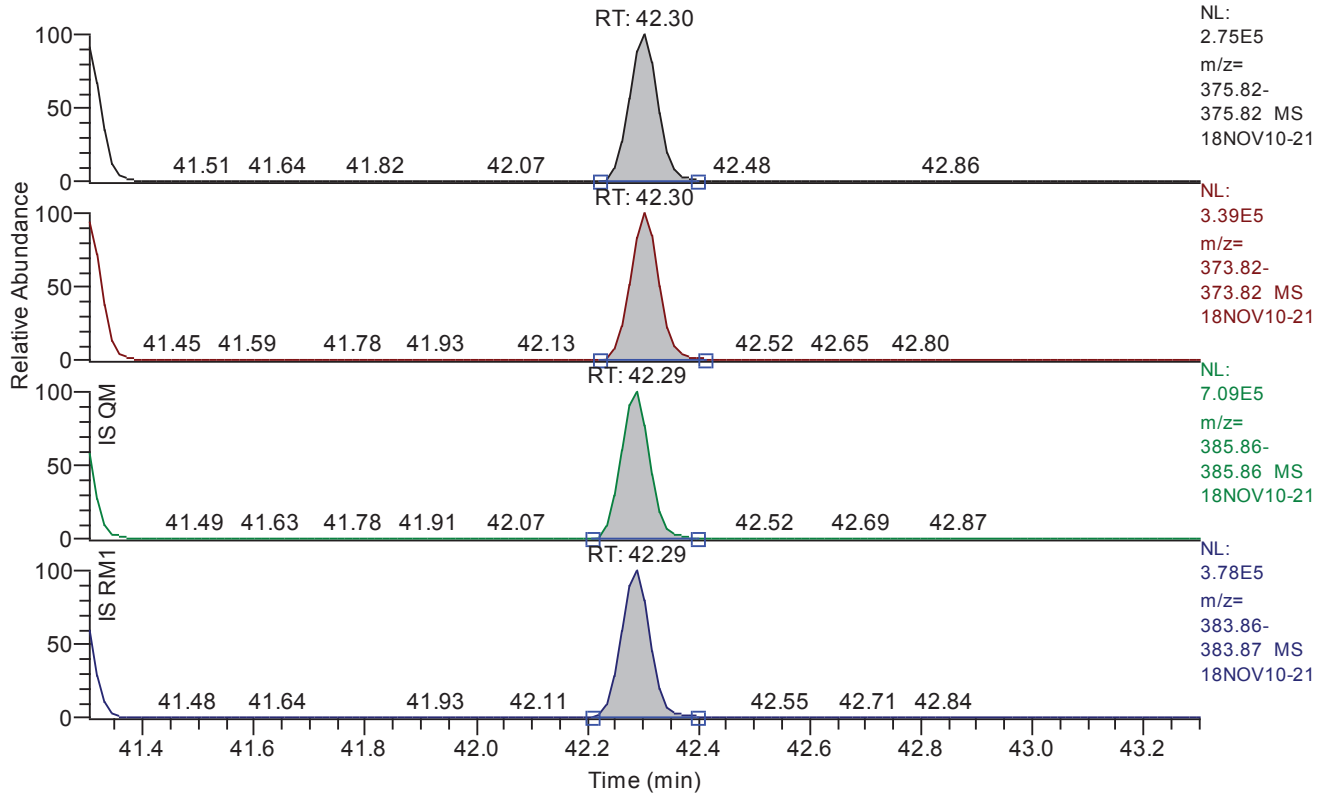


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.93
QM Area	690363
QM Integration Mode	A
RM1 Area	842530
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2521
Unqualified Amount (A)	983.451535
Adjusted Amount (A)	983.4515
Signal-to-Noise	9498
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.30 - 43.30 SM: 3G

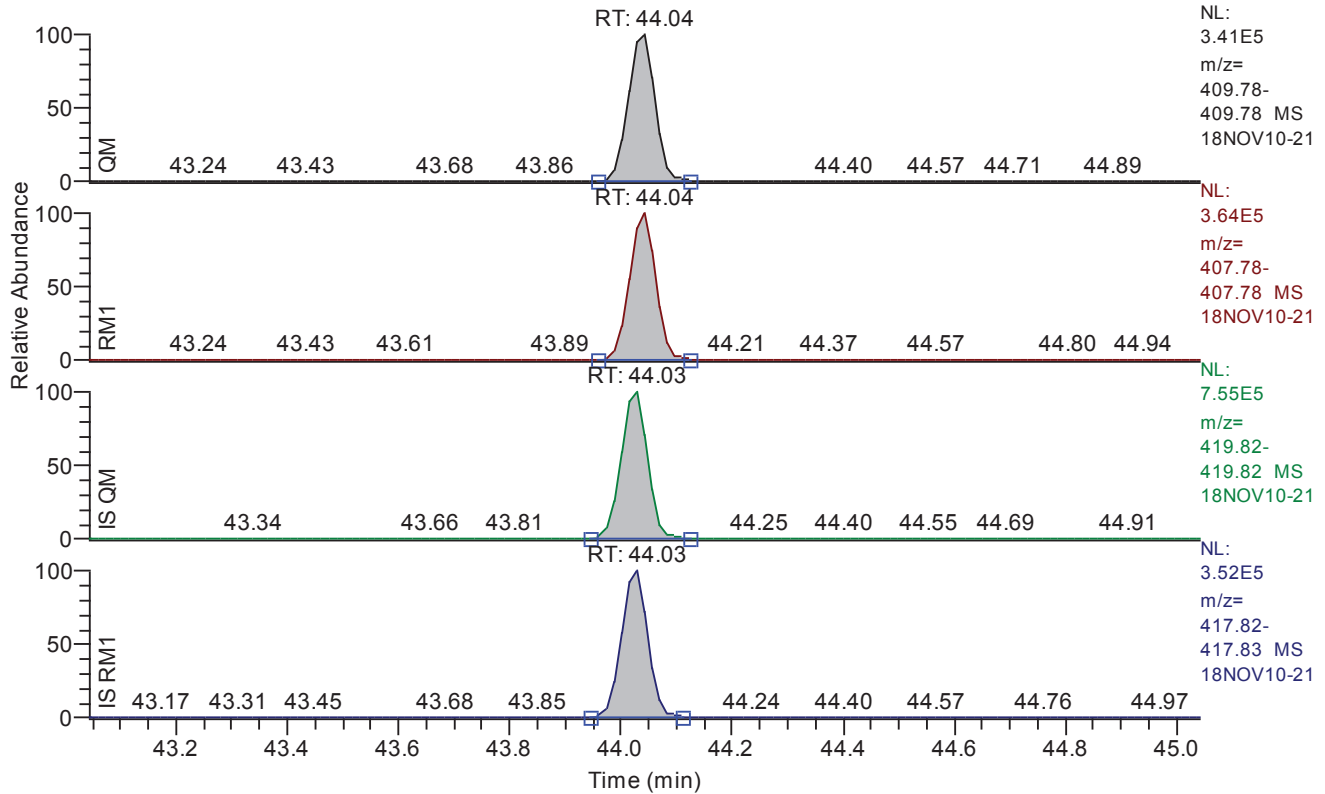


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.30
QM Area	987307
QM Integration Mode	A
RM1 Area	1214291
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2906
Unqualified Amount (A)	991.097967
Adjusted Amount (A)	991.0980
Signal-to-Noise	8624
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 43.04 - 45.04 SM: 3G

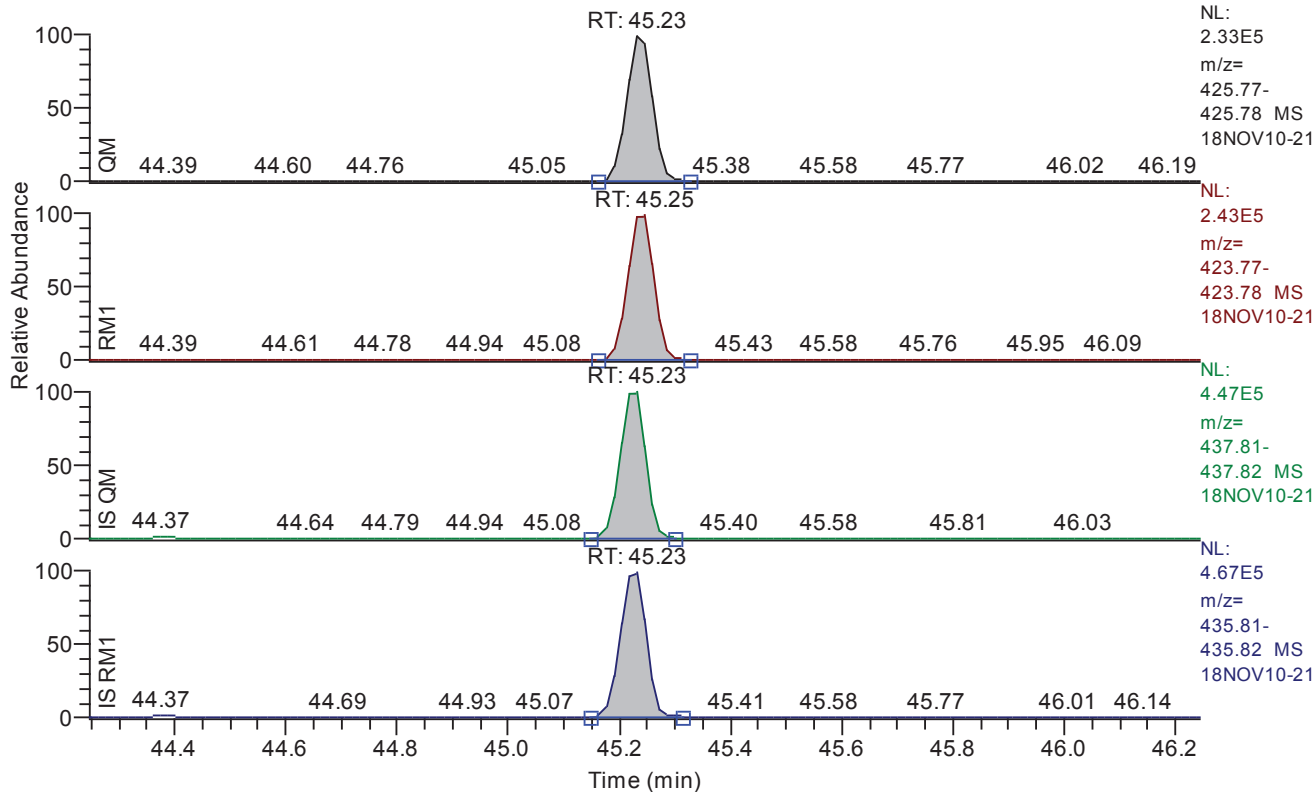


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.04
QM Area	1174894
QM Integration Mode	A
RM1 Area	1227122
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3117
Unqualified Amount (A)	1024.885378
Adjusted Amount (A)	1024.8854
Signal-to-Noise	8204
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.25 - 46.25 SM: 3G

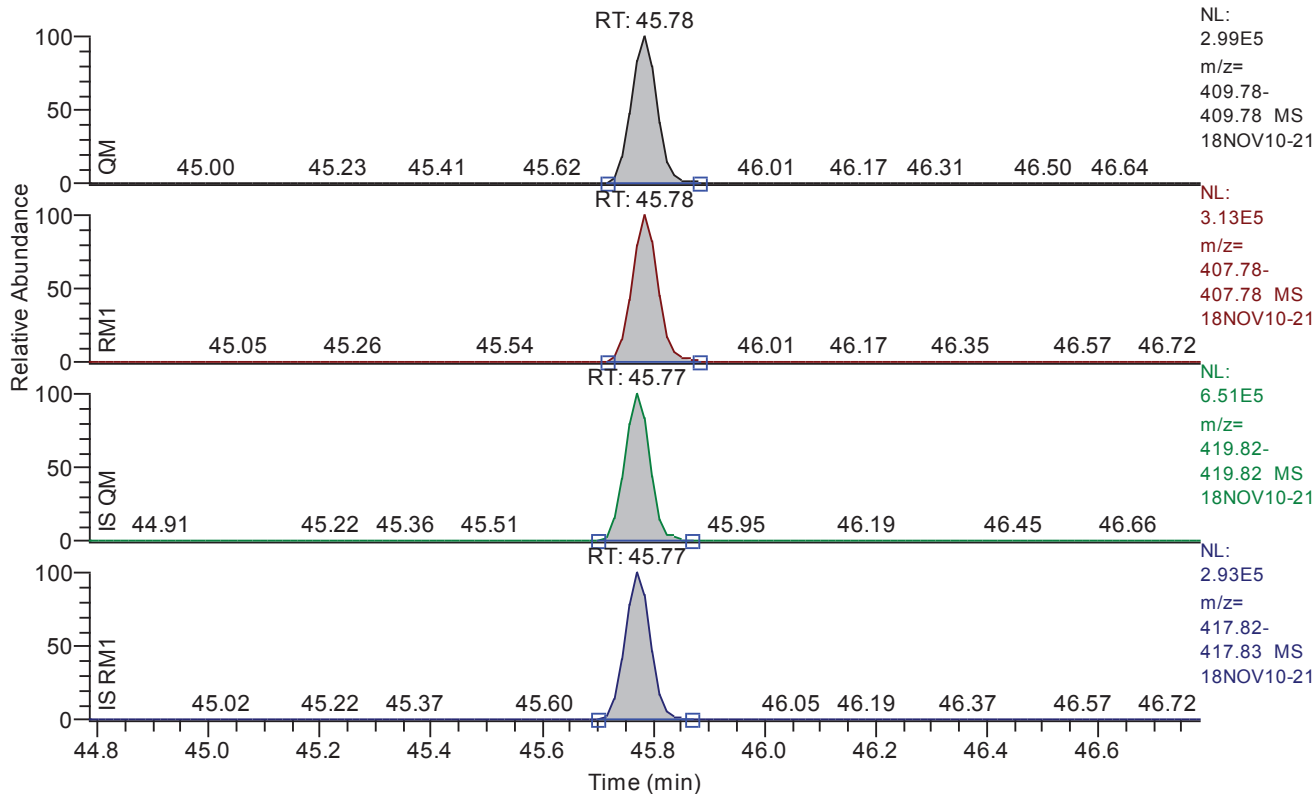


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	770556
QM Integration Mode	A
RM1 Area	813334
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3491
Unqualified Amount (A)	971.543845
Adjusted Amount (A)	971.5438
Signal-to-Noise	6968
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.78 - 46.78 SM: 3G

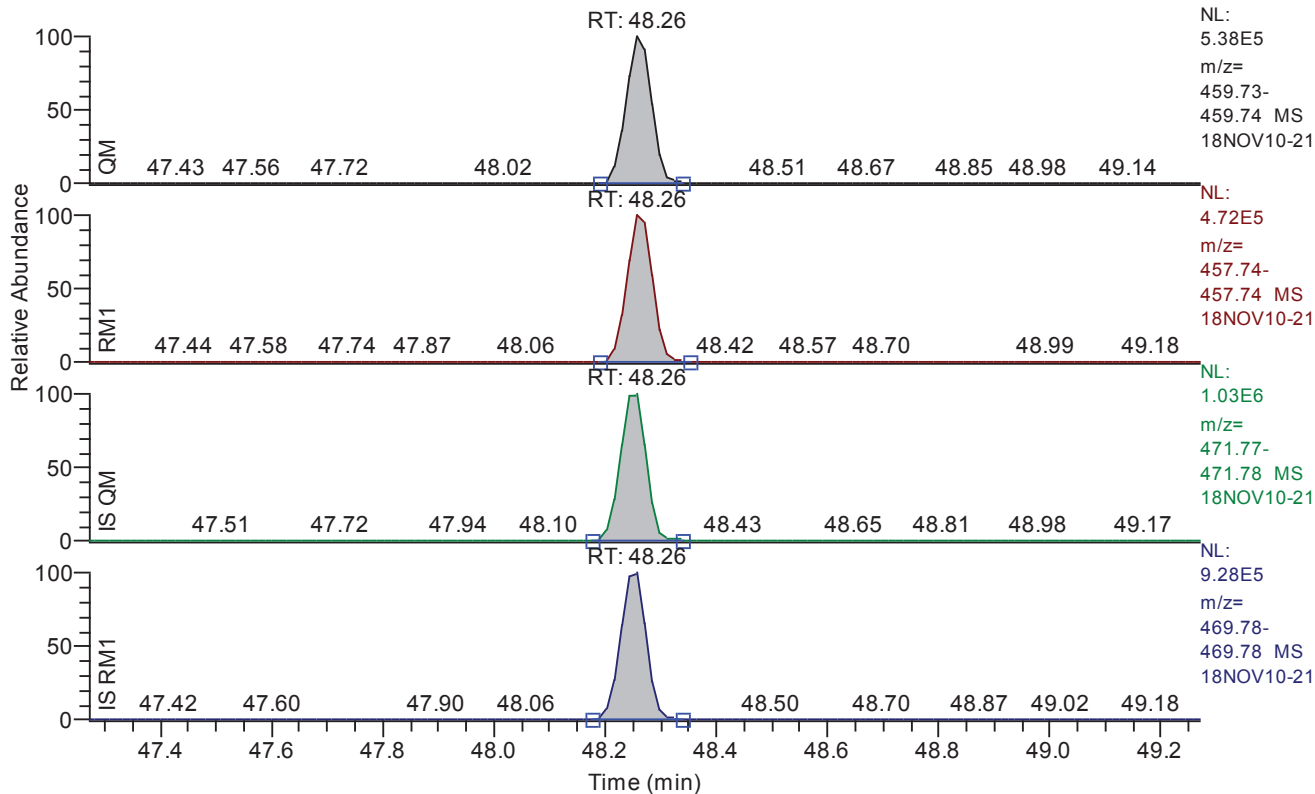


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.78
QM Area	992623
QM Integration Mode	A
RM1 Area	1029962
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3521
Unqualified Amount (A)	1014.101223
Adjusted Amount (A)	1014.1012
Signal-to-Noise	7105
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.27 - 49.27 SM: 3G

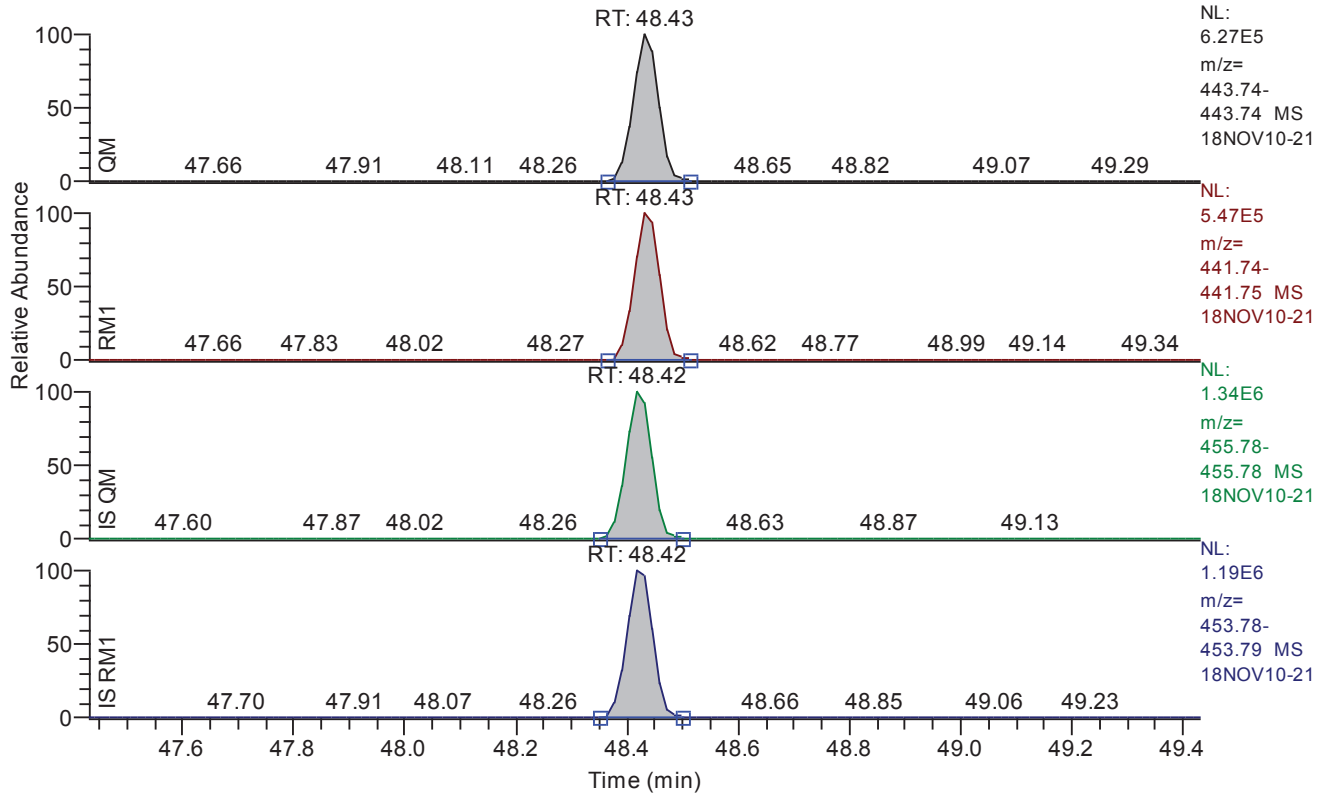


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.26
QM Area	1702143
QM Integration Mode	A
RM1 Area	1523245
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2319
Unqualified Amount (A)	1962.142572
Adjusted Amount (A)	1962.1426
Signal-to-Noise	21490
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.43 - 49.43 SM: 3G

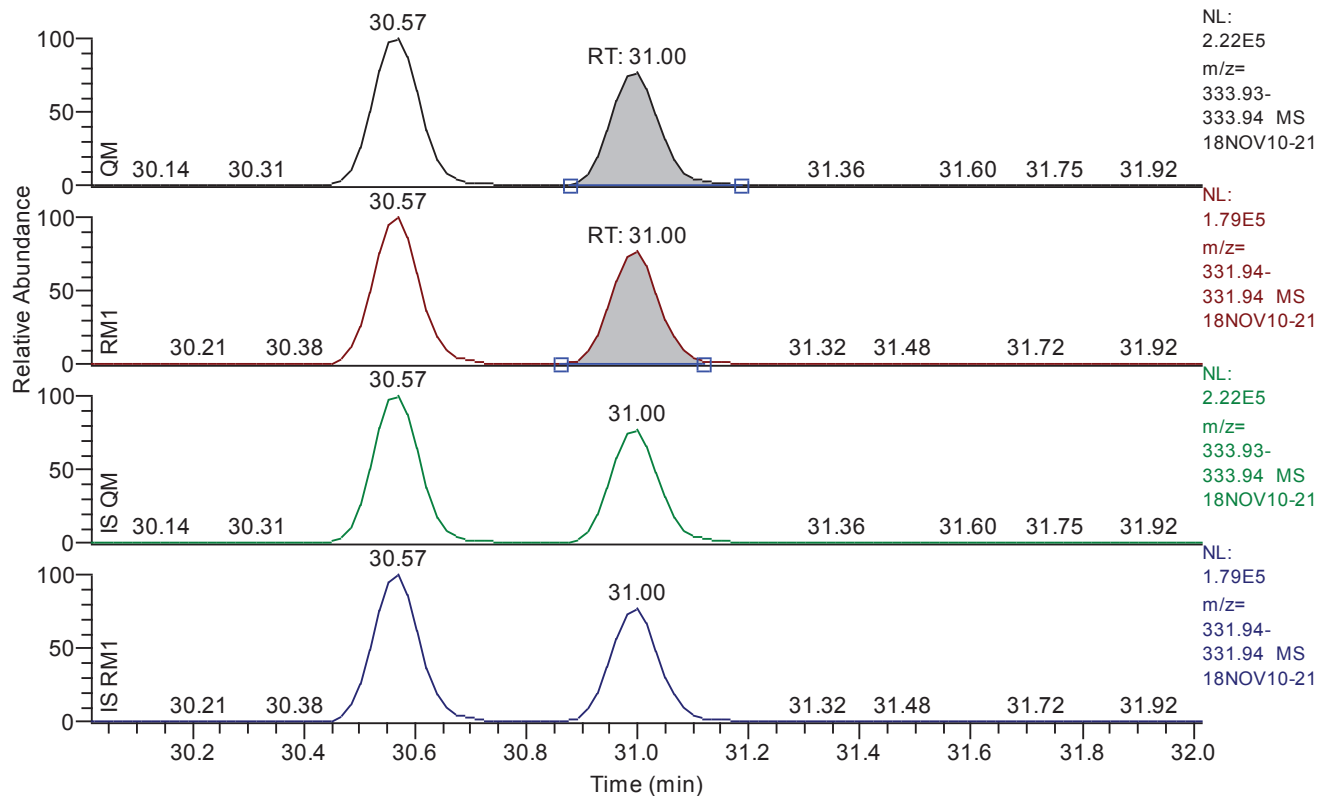


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.43
QM Area	1969270
QM Integration Mode	A
RM1 Area	1752212
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2269
Unqualified Amount (A)	2007.420050
Adjusted Amount (A)	2007.4200
Signal-to-Noise	22518
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 30.02 - 32.02 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	31.00
QM Area	1043215
QM Integration Mode	A
RM1 Area	833957
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2664
Unqualified Amount (A)	978.105826
Adjusted Amount (A)	978.1058
Signal-to-Noise	9381
Client Flags	
Status Overview	passed
Status Info	

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	29.40	29.43	29.43	29.41	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.59	30.61	30.57	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.48	35.48	35.46	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.76	36.76	36.74	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.17	37.17	37.14	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.46	40.46	40.44	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.61	40.61	40.59	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.31	41.31	41.28	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.49	41.49	41.48	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.62	41.62	41.60	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.93	41.93	41.91	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.30	42.30	42.29	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.04	44.04	44.03	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.23	45.25	45.23	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.78	45.78	45.77	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.26	48.26	48.26	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.43	48.43	48.42	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.99	31.00	31.00	31.00	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.71	29.73	29.73	29.73	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.36	40.36	40.36	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.41	29.41	29.27	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.57	30.57	30.57	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.46	35.46	35.46	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.74	36.74	36.80	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.14	37.14	37.14	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.44	40.44	40.35	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.59	40.59	40.69	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.28	41.28	41.40	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.48	41.48	41.48	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.60	41.60	41.60	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.91	41.91	41.91	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.29	42.29	42.28	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.03	44.03	43.84	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.23	45.23	45.23	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.76	45.77	45.77	45.69	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.26	48.26	48.26	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.42	48.42	48.43	passed	passed

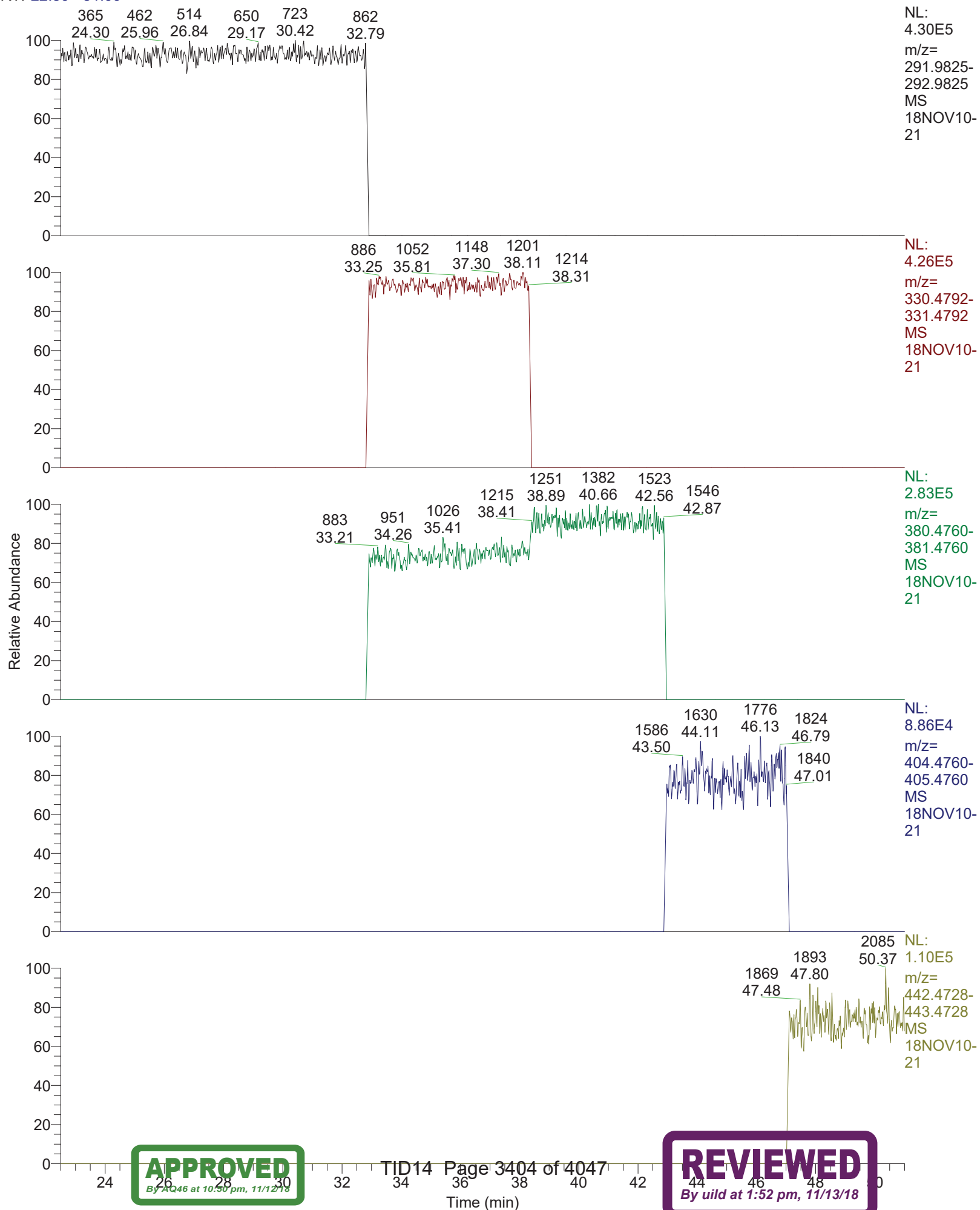
Entry Parameters

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	0.7813	0.6450 - 0.8950	passed	96.85	75 - 158	passed
2	2378-TCDD	30.59	0.7949	0.6450 - 0.8950	passed	104.55	67 - 158	passed
3	12378-PeCDF	35.48	1.5590	1.3150 - 1.7850	passed	101.08	80 - 134	passed
4	23478-PeCDF	36.76	1.5919	1.3150 - 1.7850	passed	101.86	68 - 160	passed
5	12378-PeCDD	37.17	1.5764	1.3150 - 1.7850	passed	104.07	70 - 142	passed
6	123478-HxCDF	40.46	1.2262	1.0450 - 1.4350	passed	106.03	72 - 134	passed
7	123678-HxCDF	40.61	1.2405	1.0450 - 1.4350	passed	106.39	84 - 130	passed
8	234678-HxCDF	41.31	1.2364	1.0450 - 1.4350	passed	106.30	70 - 156	passed
9	123478-HxCDD	41.49	1.2411	1.0450 - 1.4350	passed	104.90	70 - 164	passed
10	123678-HxCDD	41.62	1.2617	1.0450 - 1.4350	passed	100.88	76 - 134	passed
11	123789-HxCDD	41.93	1.2204	1.0450 - 1.4350	passed	103.26	64 - 162	passed
12	123789-HxCDF	42.30	1.2299	1.0450 - 1.4350	passed	104.07	78 - 130	passed
13	1234678-HpCDF	44.04	1.0445	0.8750 - 1.2050	passed	107.61	82 - 122	passed
14	1234678-HpCDD	45.23	1.0555	0.8750 - 1.2050	passed	102.01	70 - 140	passed
15	1234789-HpCDF	45.78	1.0376	0.8750 - 1.2050	passed	106.48	78 - 138	passed
16	OCDD	48.26	0.8949	0.7550 - 1.0250	passed	103.01	78 - 144	passed
17	OCDF	48.43	0.8898	0.7550 - 1.0250	passed	105.39	63 - 170	passed
18	13C12-1278-TCDD (CRS)	31.00	0.7994	0.6450 - 0.8950	passed	51.35	35 - 197	passed
19	13C12-1234-TCDD	29.73	0.8200	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.36	1.2970	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.41	0.8011	0.6450 - 0.8950	passed	56.71	40 - 135	passed
22	13C12-2378-TCDD	30.57	0.7956	0.6450 - 0.8950	passed	68.59	40 - 135	passed
23	13C12-12378-PeCDF	35.46	1.5808	1.3150 - 1.7850	passed	62.91	40 - 135	passed
24	13C12-23478-PeCDF	36.74	1.5725	1.3150 - 1.7850	passed	62.13	40 - 135	passed
25	13C12-12378-PeCDD	37.14	1.5861	1.3150 - 1.7850	passed	68.35	40 - 135	passed
26	13C12-123478-HxCDF	40.44	0.5208	0.4250 - 0.5950	passed	64.35	40 - 135	passed
27	13C12-123678-HxCDF	40.59	0.5305	0.4250 - 0.5950	passed	62.52	40 - 135	passed
28	13C12-234678-HxCDF	41.28	0.5294	0.4250 - 0.5950	passed	54.68	40 - 135	passed
29	13C12-123478-HxCDD	41.48	1.2589	1.0450 - 1.4350	passed	73.06	40 - 135	passed
30	13C12-123678-HxCDD	41.60	1.2550	1.0450 - 1.4350	passed	70.54	40 - 135	passed
31	13C12-123789-HxCDD	41.91	1.2564	1.0450 - 1.4350	passed	66.30	40 - 135	passed
32	13C12-123789-HxCDF	42.29	0.5344	0.4250 - 0.5950	passed	69.00	40 - 135	passed
33	13C12-1234678-HpCDF	44.03	0.4626	0.3650 - 0.5150	passed	65.81	40 - 135	passed
34	13C12-1234678-HpCDD	45.23	1.0553	0.8750 - 1.2050	passed	72.10	40 - 135	passed
35	13C12-1234789-HpCDF	45.77	0.4547	0.3650 - 0.5150	passed	64.18	40 - 135	passed
36	13C12-OCDD	48.26	0.8959	0.7550 - 1.0250	passed	71.08	40 - 135	passed
37	13C12-OCDF	48.42	0.8968	0.7550 - 1.0250	passed	62.50	40 - 135	passed

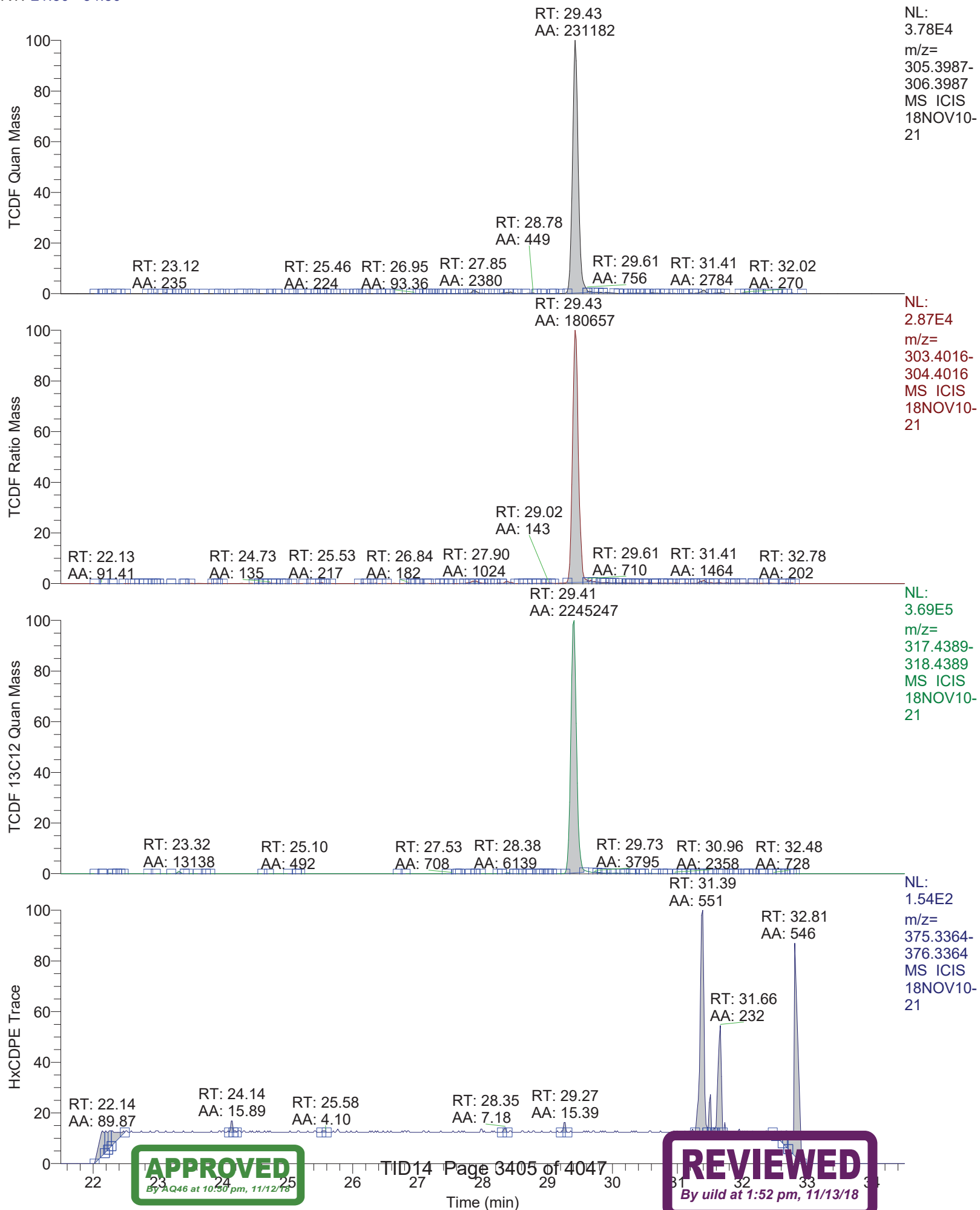
Entry Parameters

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	231126	A	180574	A	0.1798	184.481564	184.4816	190.476190	2566	
2	2378-TCDD	passed	30.59	175956	A	139875	A	0.1375	199.143259	199.1433	190.476190	3583	
3	12378-PeCDF	passed	35.48	785120	A	1224017	A	0.1716	962.688743	962.6887	952.380952	14240	
4	23478-PeCDF	passed	36.76	862075	A	1372353	A	0.1428	970.096668	970.0967	952.380952	16889	
5	12378-PeCDD	passed	37.17	502807	A	792601	A	0.3543	991.163126	991.1631	952.380952	7178	
6	123478-HxCDF	passed	40.46	1073029	A	1315735	A	0.2689	1009.811035	1009.8110	952.380952	9594	
7	123678-HxCDF	passed	40.61	1070609	A	1328105	A	0.2779	1013.263800	1013.2638	952.380952	9049	
8	234678-HxCDF	passed	41.31	917783	A	1134754	A	0.3159	1012.419570	1012.4196	952.380952	8034	
9	123478-HxCDD	passed	41.49	751134	A	932252	A	0.2313	999.048377	999.0484	952.380952	10332	
10	123678-HxCDD	passed	41.62	710844	A	896855	A	0.2427	960.733293	960.7333	952.380952	9927	
11	123789-HxCDD	passed	41.93	690363	A	842530	A	0.2521	983.451535	983.4515	952.380952	9498	
12	123789-HxCDF	passed	42.30	987307	A	1214291	A	0.2906	991.097967	991.0980	952.380952	8624	
13	1234678-HpCDF	passed	44.04	1174894	A	1227122	A	0.3117	1024.885378	1024.8854	952.380952	8204	
14	1234678-HpCDD	passed	45.23	770556	A	813334	A	0.3491	971.543845	971.5438	952.380952	6968	
15	1234789-HpCDF	passed	45.78	992623	A	1029962	A	0.3521	1014.101223	1014.1012	952.380952	7105	
16	OCDD	passed	48.26	1702143	A	1523245	A	0.2319	1962.142572	1962.1426	1904.761905	21490	
17	OCDF	passed	48.43	1969270	A	1752212	A	0.2269	2007.420050	2007.4200	1904.761905	22518	
18	13C12-1278-TCDD (CRS)	passed	31.00	1043215	A	833957	A	0.2664	978.105826	978.1058	1904.761905	9381	
19	13C12-1234-TCDD	passed	29.73	1923406	A	1577107	A	0.2782	1904.761905	1904.7619	1904.761905	17118	
20	13C12-123468-HxCDD	passed	40.36	1891722	A	2453614	A	0.3246	1904.761905	1904.7619	1904.761905	14668	
21	13C12-2378-TCDF	passed	29.41	2244823	A	1798338	A	0.2401	1080.103502	1080.1035	1904.761905	11153	
22	13C12-2378-TCDD	passed	30.57	1345715	A	1070658	A	0.2764	1306.522247	1306.5222	1904.761905	12139	
23	13C12-12378-PeCDF	passed	35.46	1643641	A	2598305	A	0.4305	1198.223681	1198.2237	1904.761905	9201	
24	13C12-23478-PeCDF	passed	36.74	1623557	A	2552990	A	0.4318	1183.341801	1183.3418	1904.761905	9861	
25	13C12-12378-PeCDD	passed	37.14	961044	A	1524314	A	0.3462	1301.953829	1301.9538	1904.761905	13266	
26	13C12-123478-HxCDF	passed	40.44	2660347	A	1385578	A	0.3083	1225.803006	1225.8030	1904.761905	10024	
27	13C12-123678-HxCDF	passed	40.59	2744406	A	1455980	A	0.2885	1190.875200	1190.8752	1904.761905	10064	
28	13C12-234678-HxCDF	passed	41.28	2196713	A	1163001	A	0.3155	1041.504673	1041.5047	1904.761905	8267	
29	13C12-123478-HxCDD	passed	41.48	1403592	A	1766968	A	0.3251	1391.655428	1391.6554	1904.761905	11506	
30	13C12-123678-HxCDD	passed	41.60	1409644	A	1769100	A	0.3131	1343.684717	1343.6847	1904.761905	11070	
31	13C12-123789-HxCDD	passed	41.91	1249794	A	1570219	A	0.3316	1262.811136	1262.8111	1904.761905	10151	
32	13C12-123789-HxCDF	passed	42.29	2567051	A	1371896	A	0.3396	1314.353399	1314.3534	1904.761905	9617	
33	13C12-1234678-HpCDF	passed	44.03	2574804	A	1191113	A	0.3762	1253.543017	1253.5430	1904.761905	8837	
34	13C12-1234678-HpCDD	passed	45.23	1482045	A	1564053	A	0.3276	1373.239384	1373.2394	1904.761905	11331	
35	13C12-1234789-HpCDF	passed	45.77	2120435	A	964251	A	0.4479	1222.541639	1222.5416	1904.761905	7531	
36	13C12-OCDD	passed	48.26	3349459	A	3000686	A	0.1588	2707.625237	2707.6252	3809.523810	47382	
37	13C12-OCDF	passed	48.42	4317609	A	3871873	A	0.1460	2380.884542	2380.8845	3809.523810	45545	

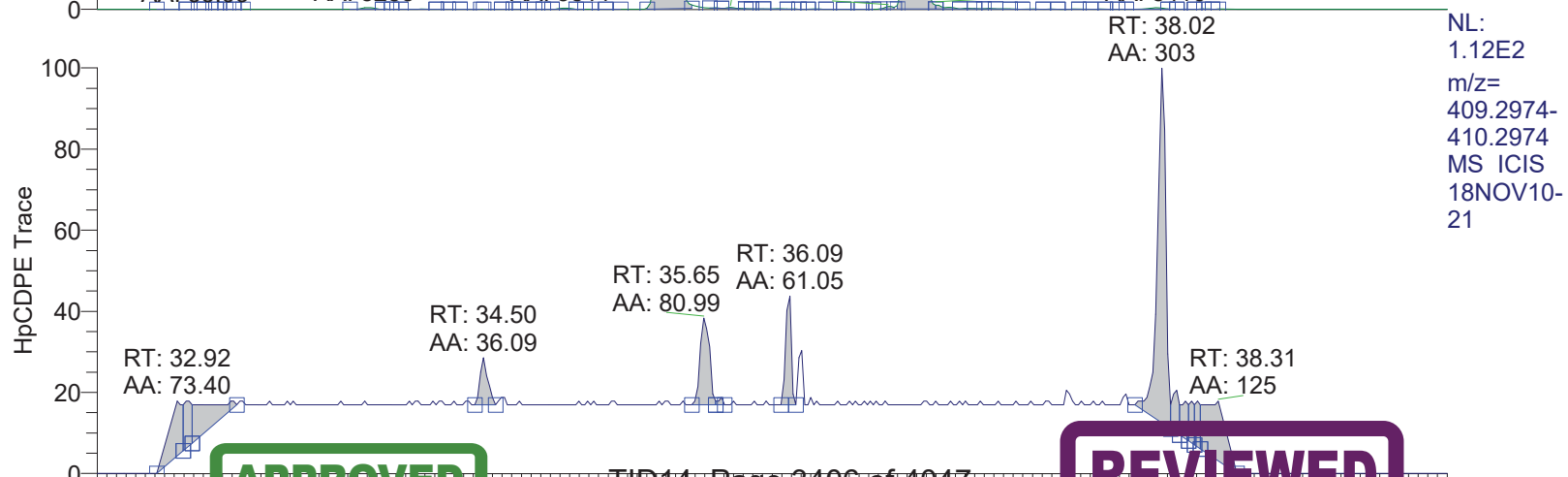
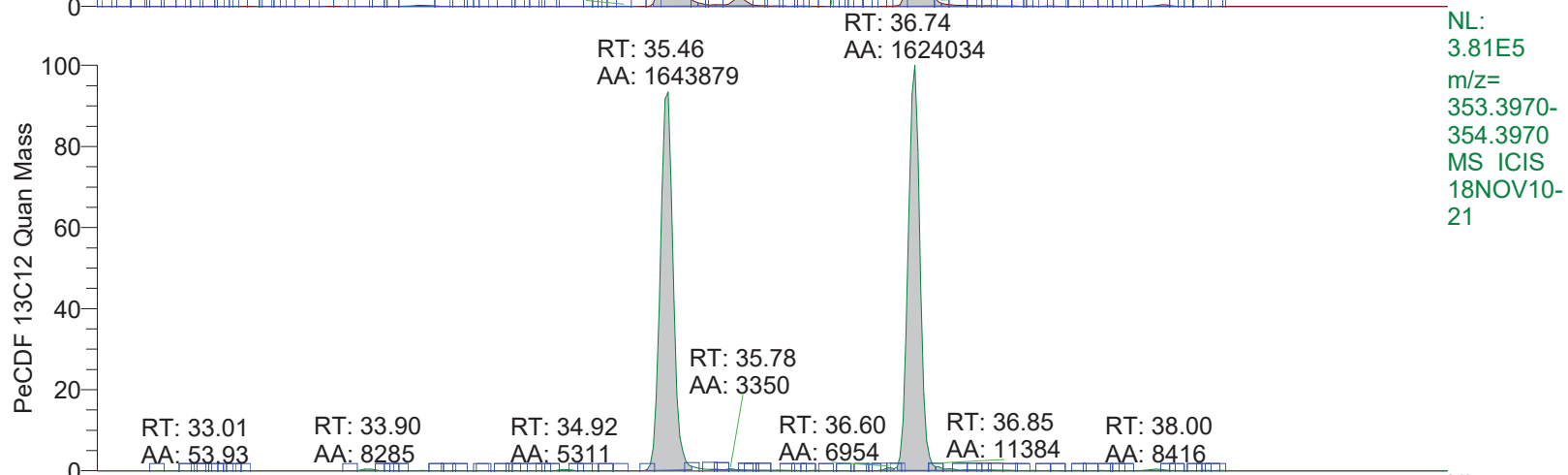
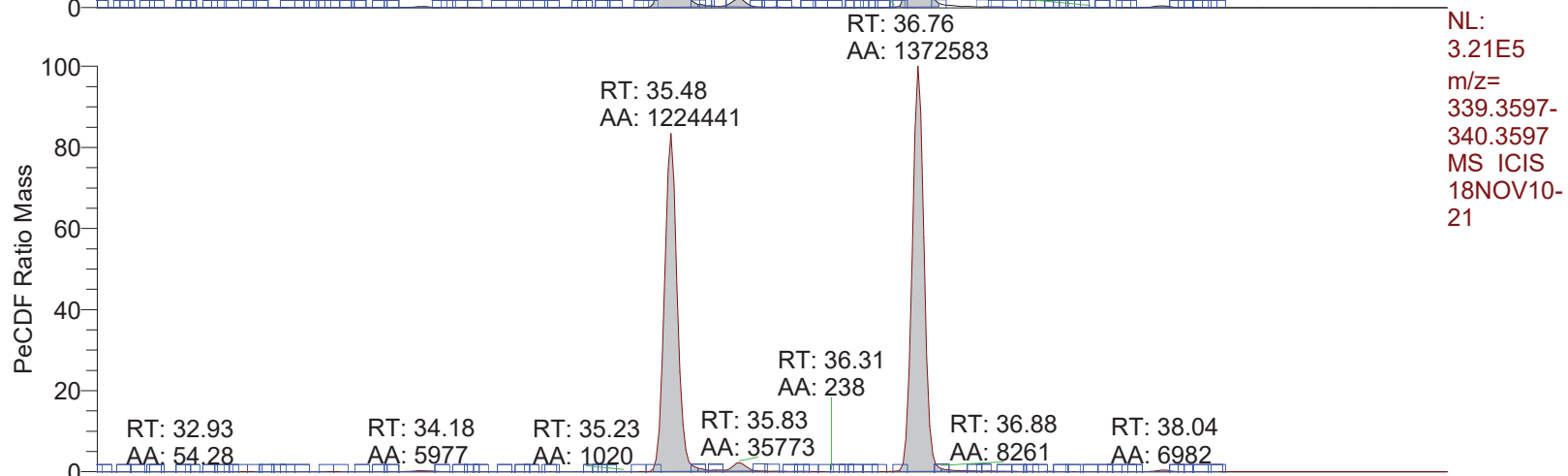
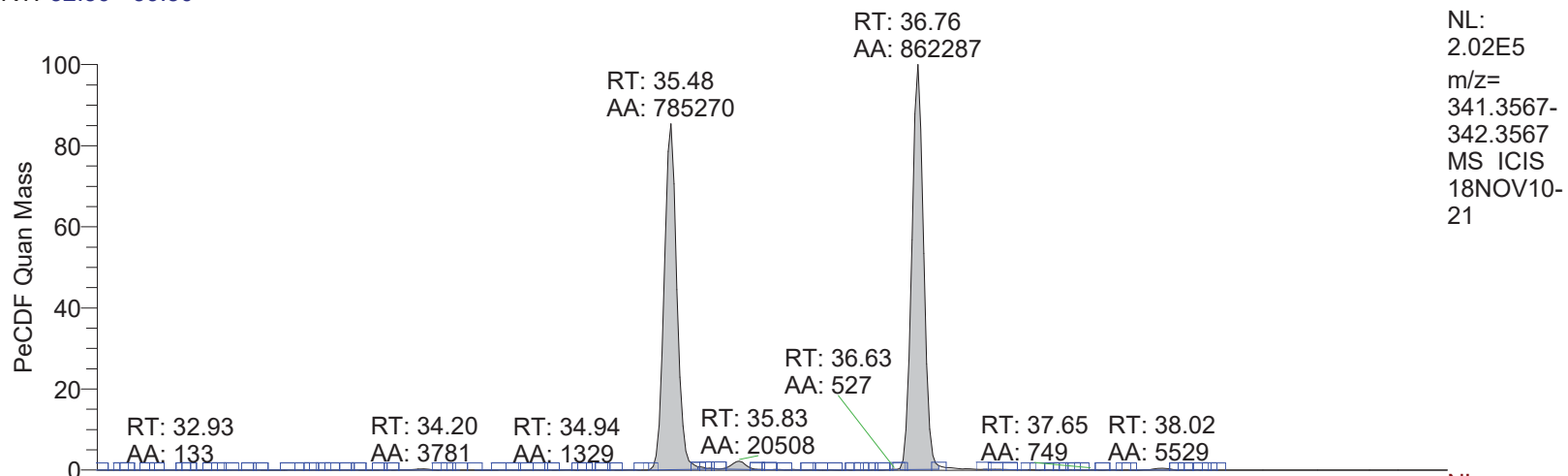
RT: 22.50 - 51.00



RT: 21.50 - 34.50



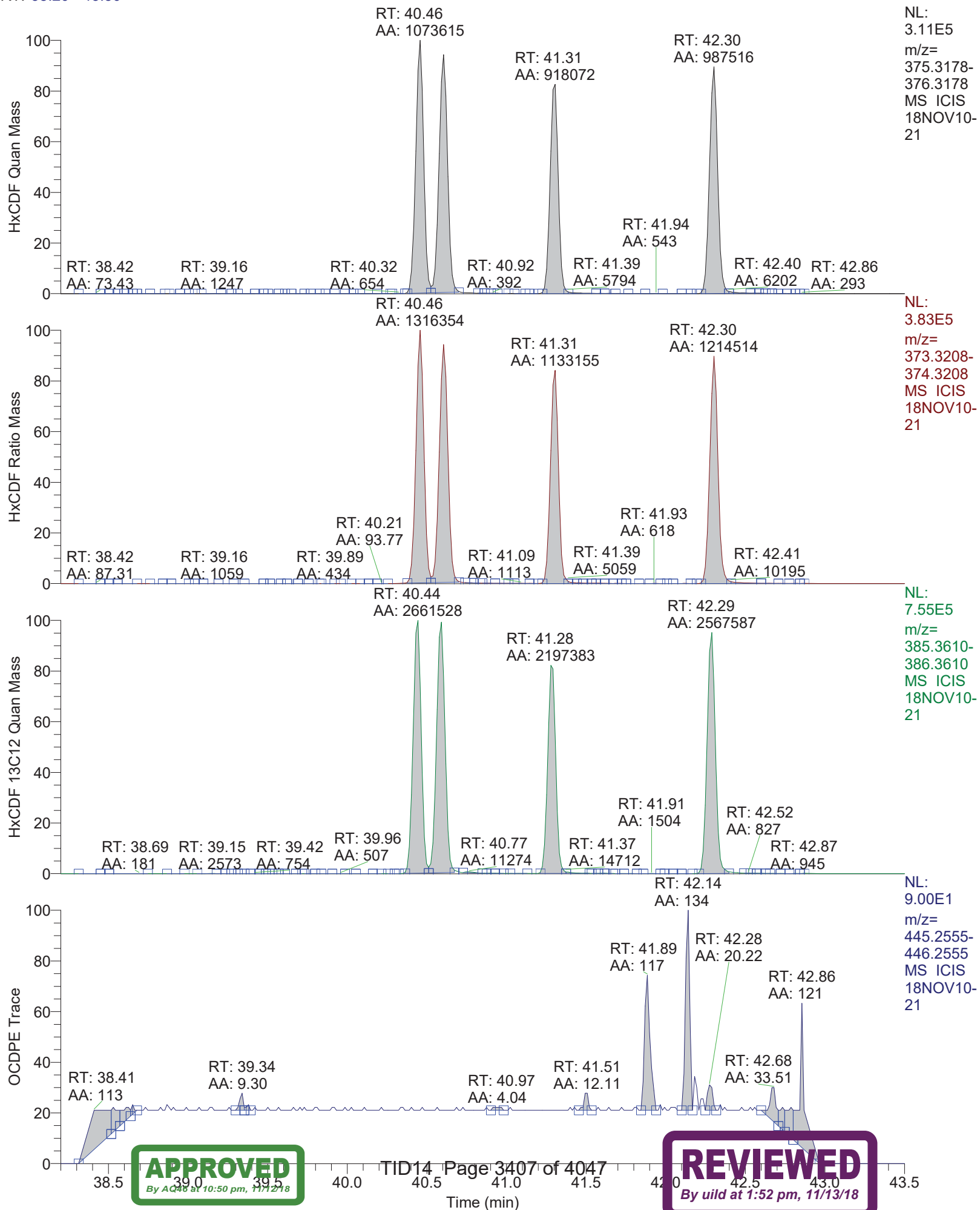
RT: 32.50 - 39.50



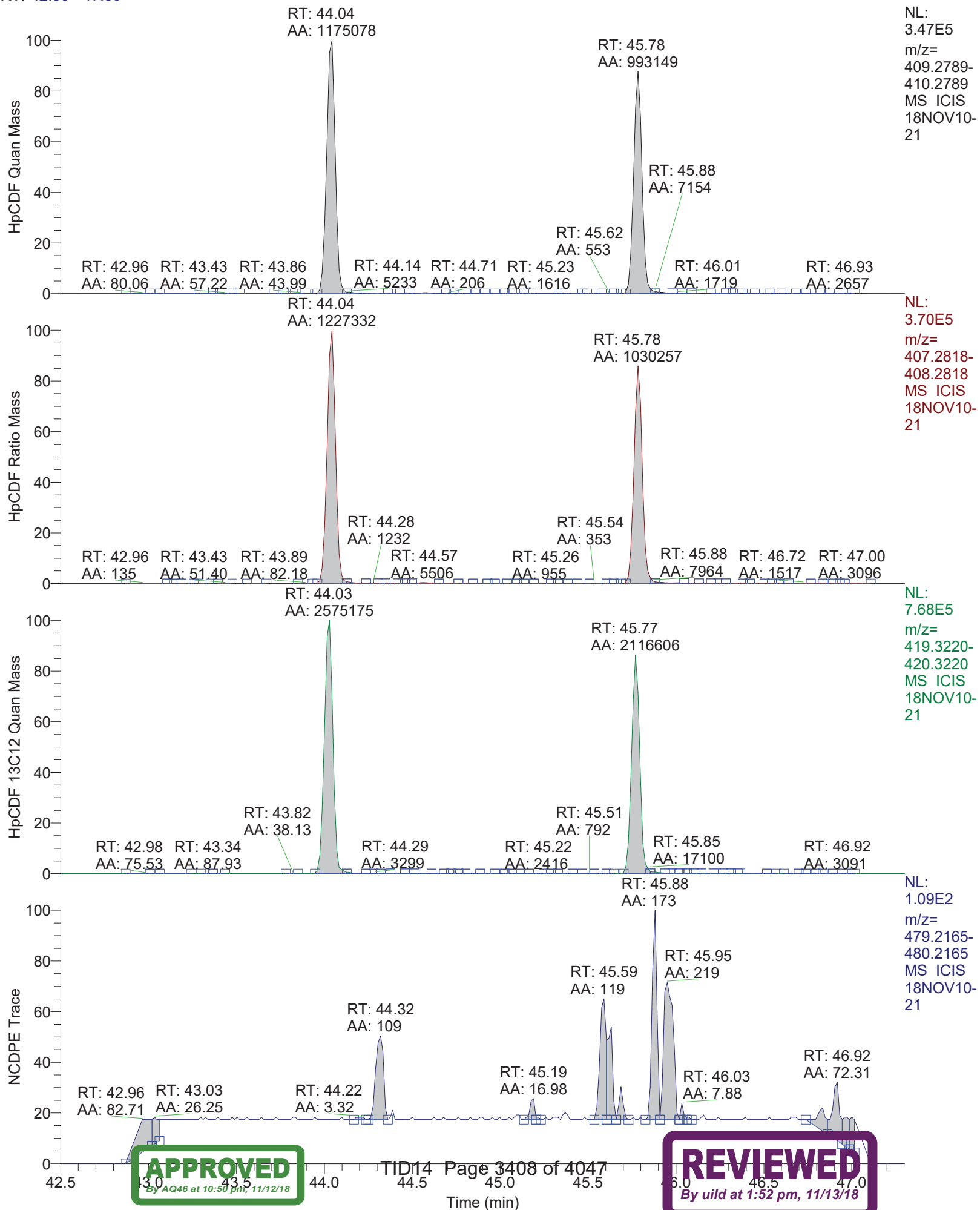
APPROVED
By AQ46 at 10:50 pm, 11/12/18

REVIEWED
By uild at 1:52 pm, 11/13/18

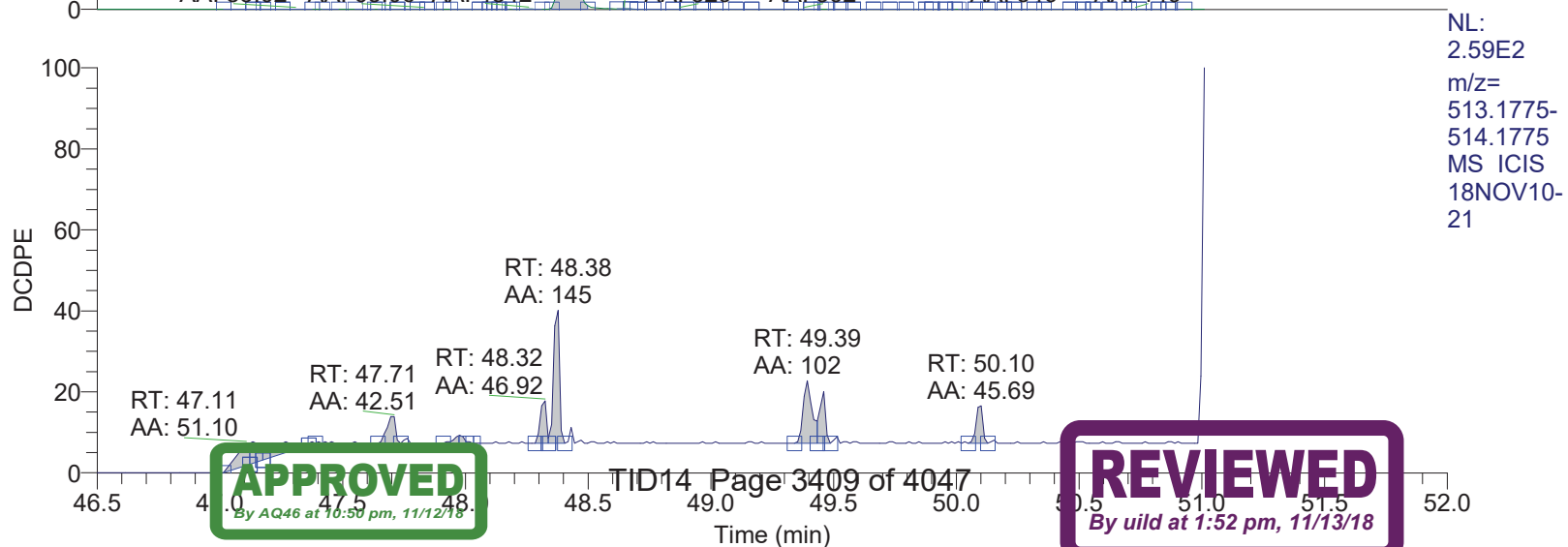
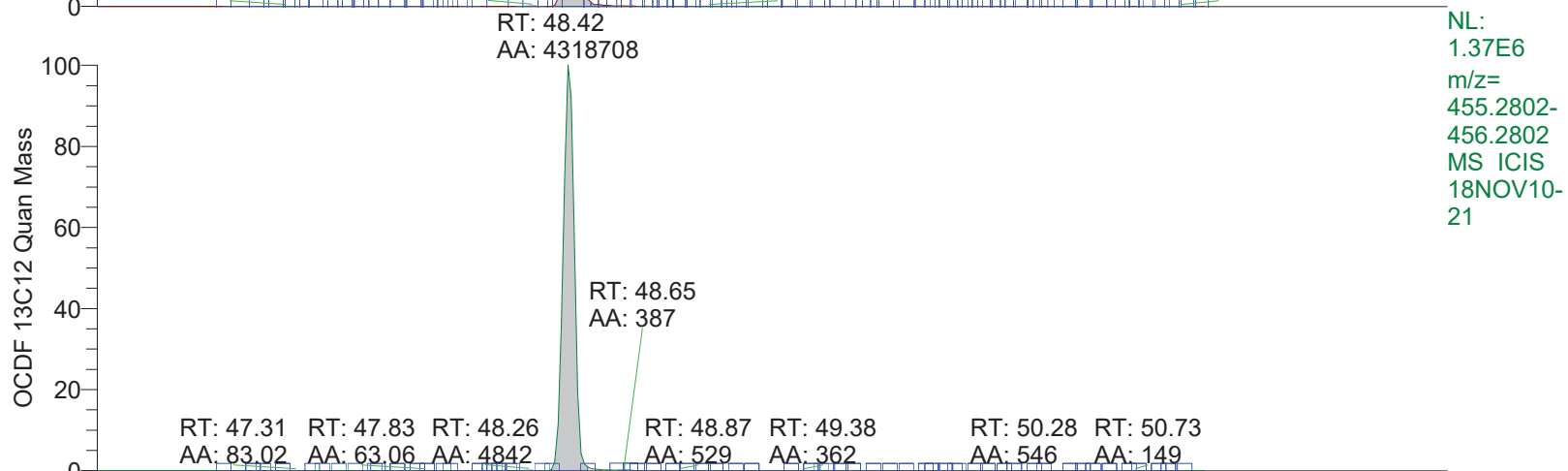
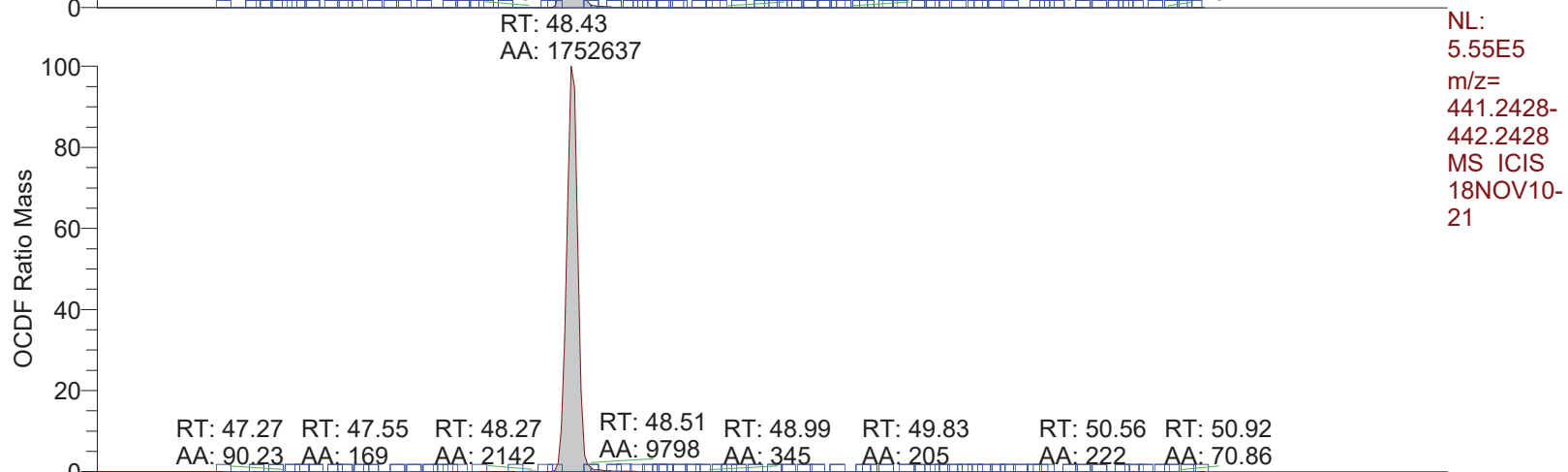
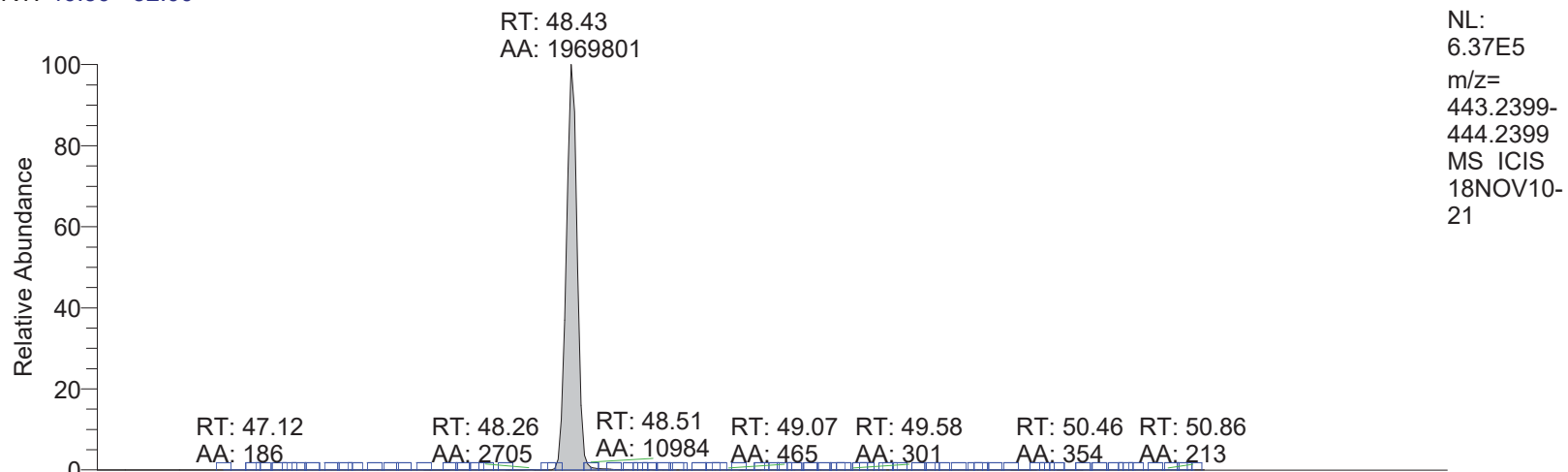
RT: 38.20 - 43.50



RT: 42.50 - 47.30



RT: 46.50 - 52.00



18NOV10-21

*** file opened Sat Nov 10 12:22:09 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 12:22:09

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3411 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-21

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	95.5000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0076	FVINLET	0.0374	FVSR	0.0360
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	95.5000	LKM	442.9723	MASS	95.5000
MDAC	1398025.1587	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9802	RELEN	0.0000
RES	11832.7097	RPUSHER	-6.0879	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	95.5000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.4e-008 mbar
Pirani Analyse: 7.6e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11723.
MID Time window 2: Resolution is 11549.
MID Time window 3: Resolution is 11231.
MID Time window 4: Resolution is 11223.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3412 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-21
MID Time Window 5: Resolution is 11287.
MID Time Window 6: Resolution is 11832.
Amplifier Offset: 80.

*** File closed Sat Nov 10 13:13:11 2018

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 13:13
Number of Entries	60
Comment	MSD:10914:12936:17961
Vial	76
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW008I MSD Grab Groundwater
Sample ID	9876336RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-22.quan
Data	x:\18nov10\18nov10-22.raw
Response	x:\responsefiles\df17611-18nov02dfical.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	Depend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	1.05
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

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	passed
2	2378-TCDD	30.59	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.46	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.75	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	37.17	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.45	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.60	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	41.29	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.49	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.61	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.92	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.30	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	44.03	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.78	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.25	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.43	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.98	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.72	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.36	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	29.39	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.44	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.74	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	37.14	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.43	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.59	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	41.28	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.48	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.60	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.91	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.27	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	44.01	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	45.21	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.77	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.24	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.41	passed	passed	passed	passed	passed	passed	passed

Quantitation Settings**Data File Parameter**

Acq. Data	2018/11/10 13:13
Number of Entries	60
Comment	MSD:10914:12936:17961
Vial	76
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007 OU2-1-MW008I MSD Grab Groundwater
Sample ID	9876336RE
Inst ID	DF17611-18NOV10
Client	Tidewater Inc.
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

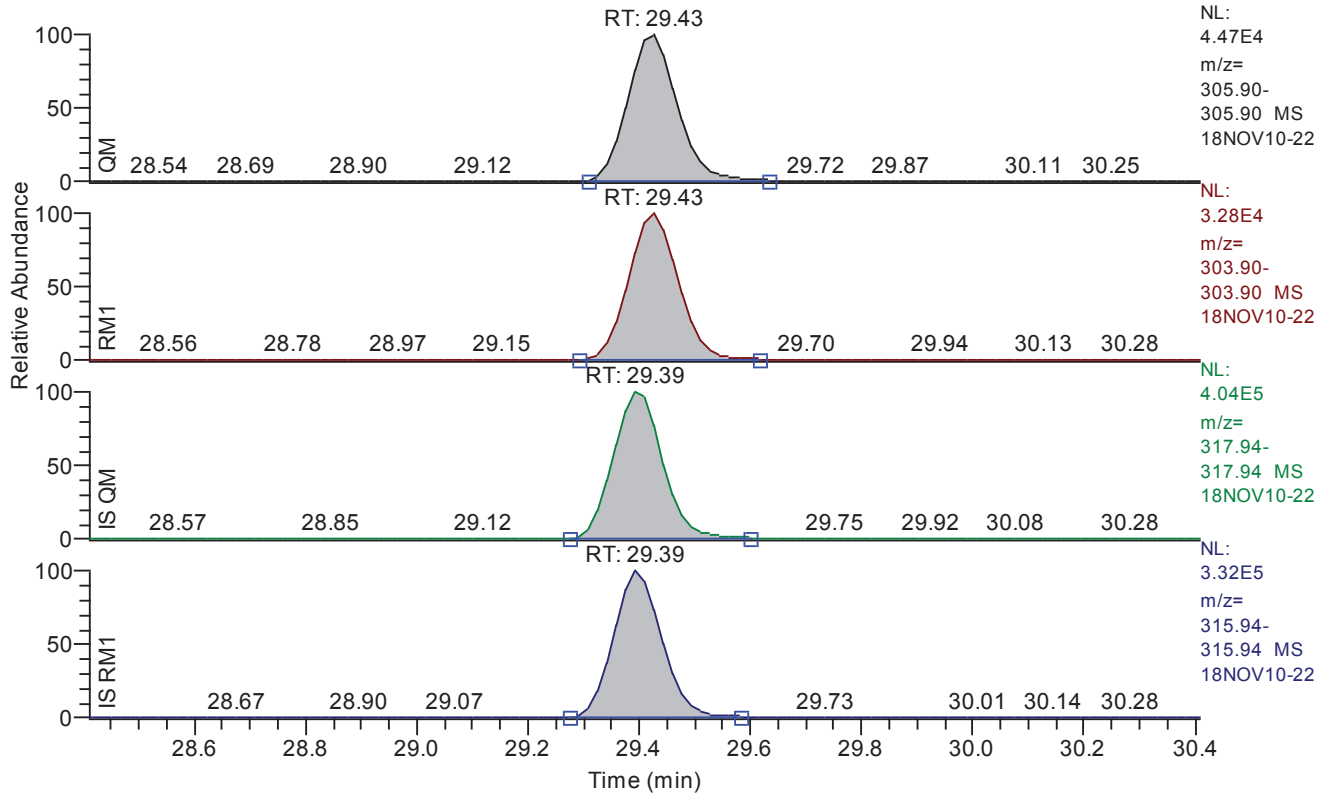
Quan	x:\18nov10\18nov10-22.quan
Data	x:\18nov10\18nov10-22.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Depend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	1.05
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

Chromatogram

RT: 28.41 - 30.41 SM: 3G

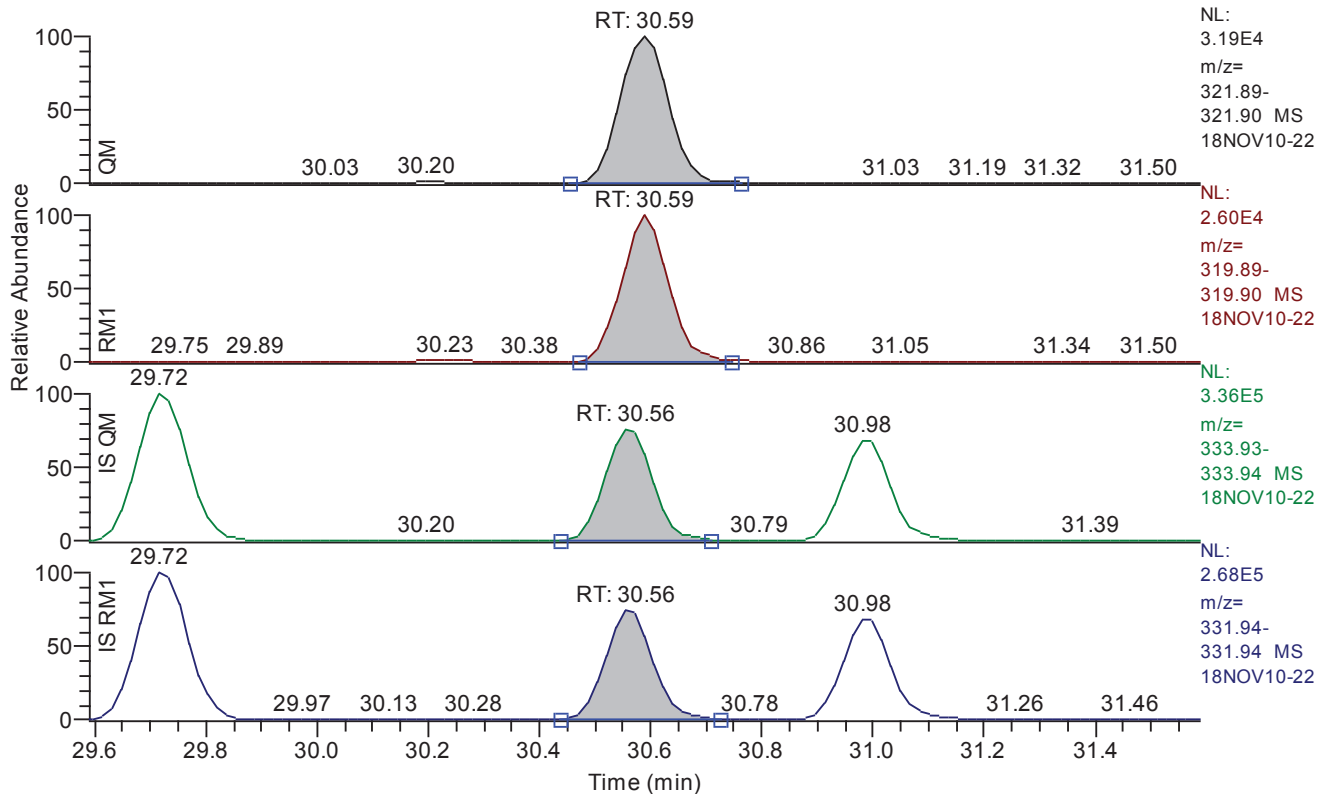


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.43
QM Area	281998
QM Integration Mode	A
RM1 Area	207094
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1757
Unqualified Amount (A)	194.487675
Adjusted Amount (A)	194.4877
Signal-to-Noise	2715
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.59 - 31.59 SM: 3G

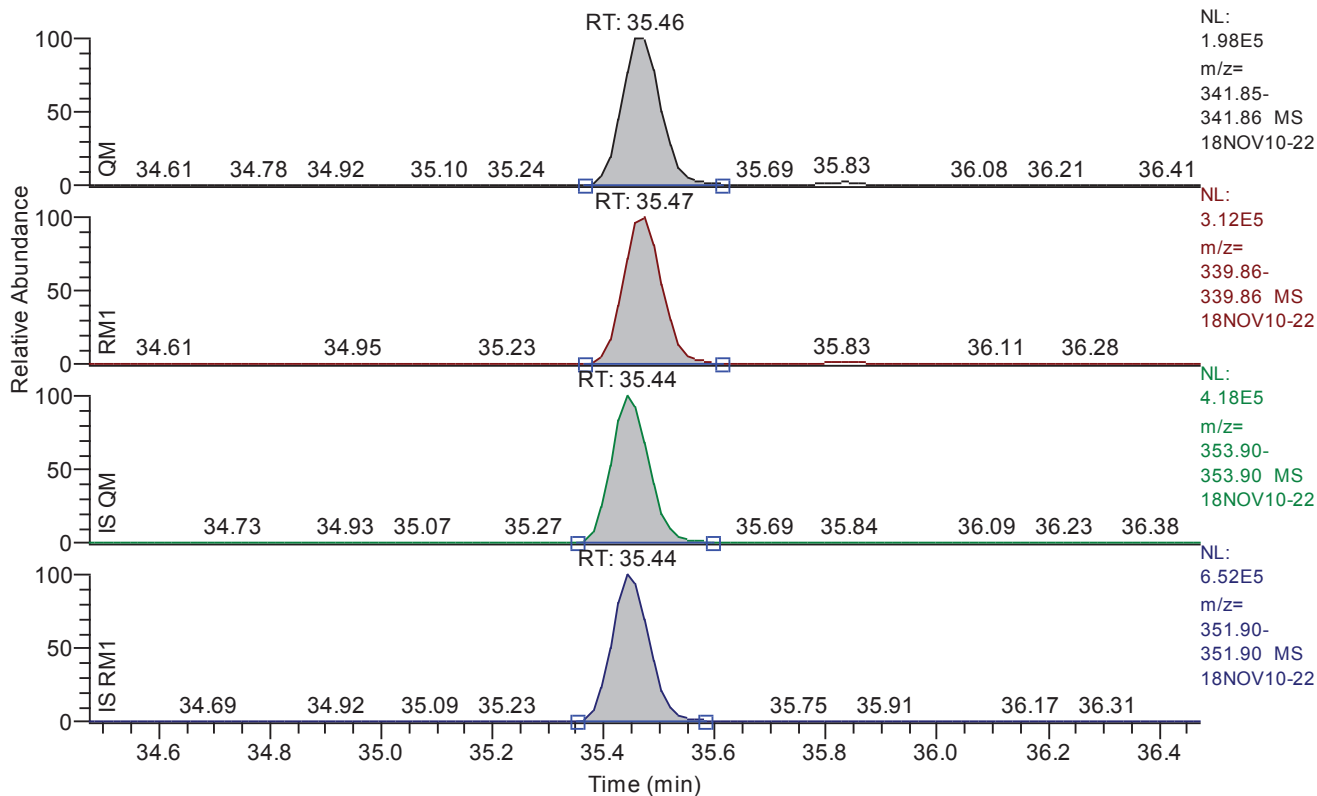


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.59
QM Area	199111
QM Integration Mode	A
RM1 Area	155179
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1297
Unqualified Amount (A)	197.417993
Adjusted Amount (A)	197.4180
Signal-to-Noise	3733
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.47 - 36.47 SM: 3G

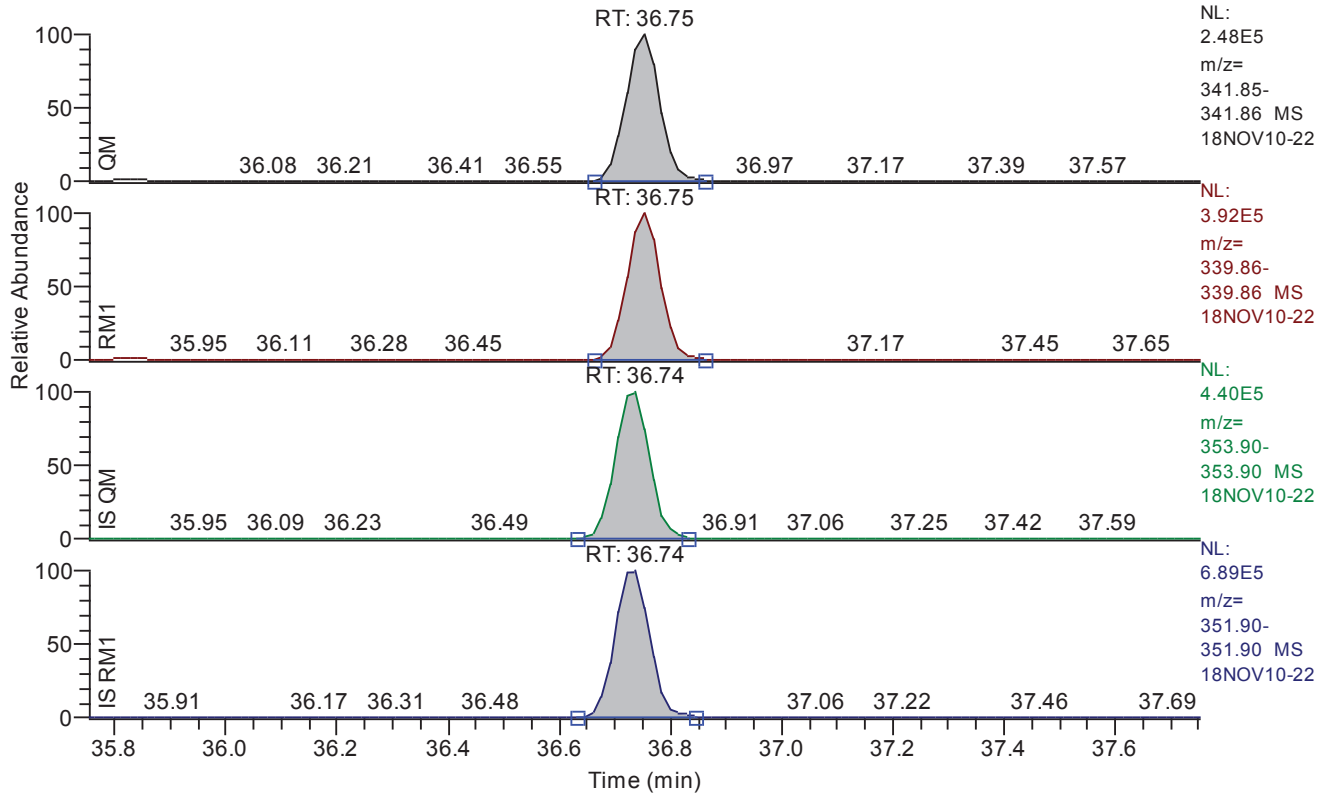


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.46
QM Area	968227
QM Integration Mode	A
RM1 Area	1509109
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1558
Unqualified Amount (A)	1001.155776
Adjusted Amount (A)	1001.1558
Signal-to-Noise	15549
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.75 - 37.75 SM: 3G

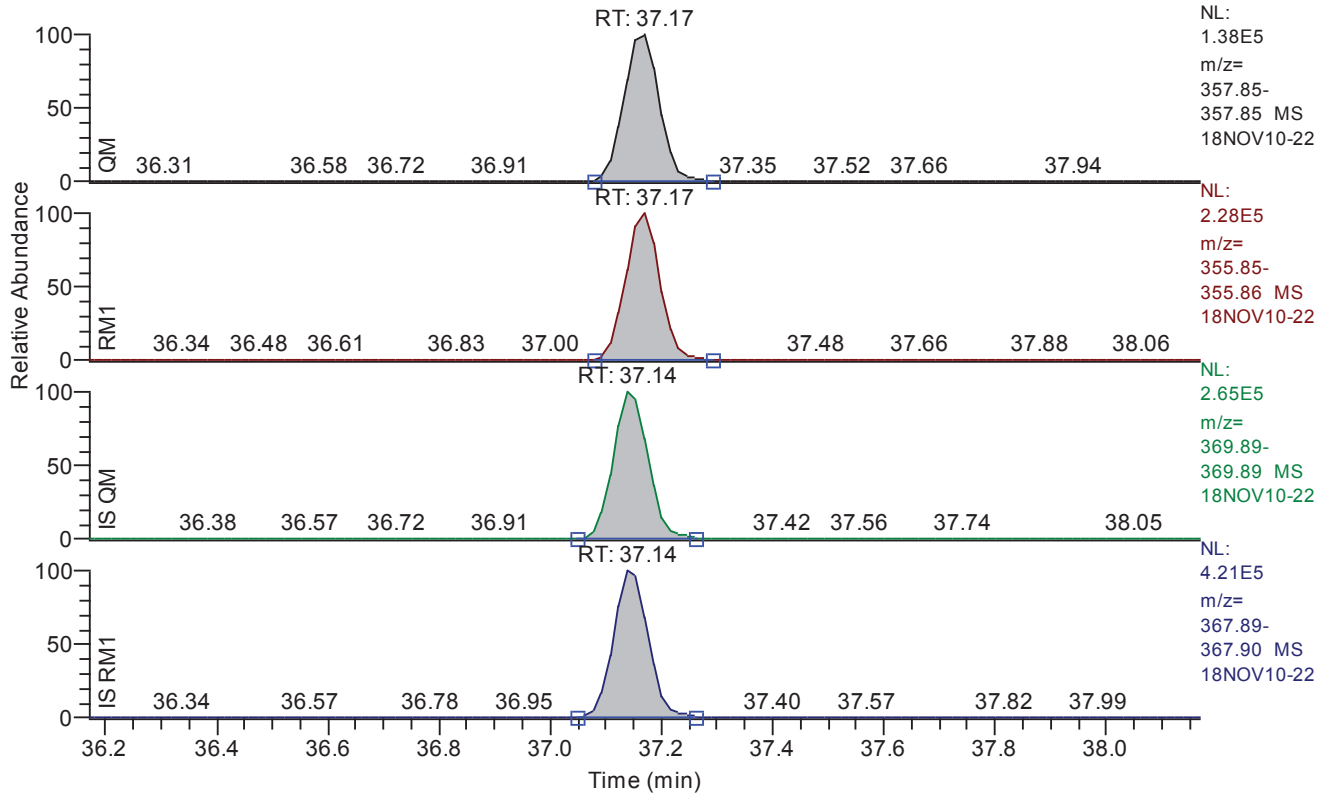


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.75
QM Area	1048481
QM Integration Mode	A
RM1 Area	1641589
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1319
Unqualified Amount (A)	994.475671
Adjusted Amount (A)	994.4757
Signal-to-Noise	19523
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.17 - 38.17 SM: 3G

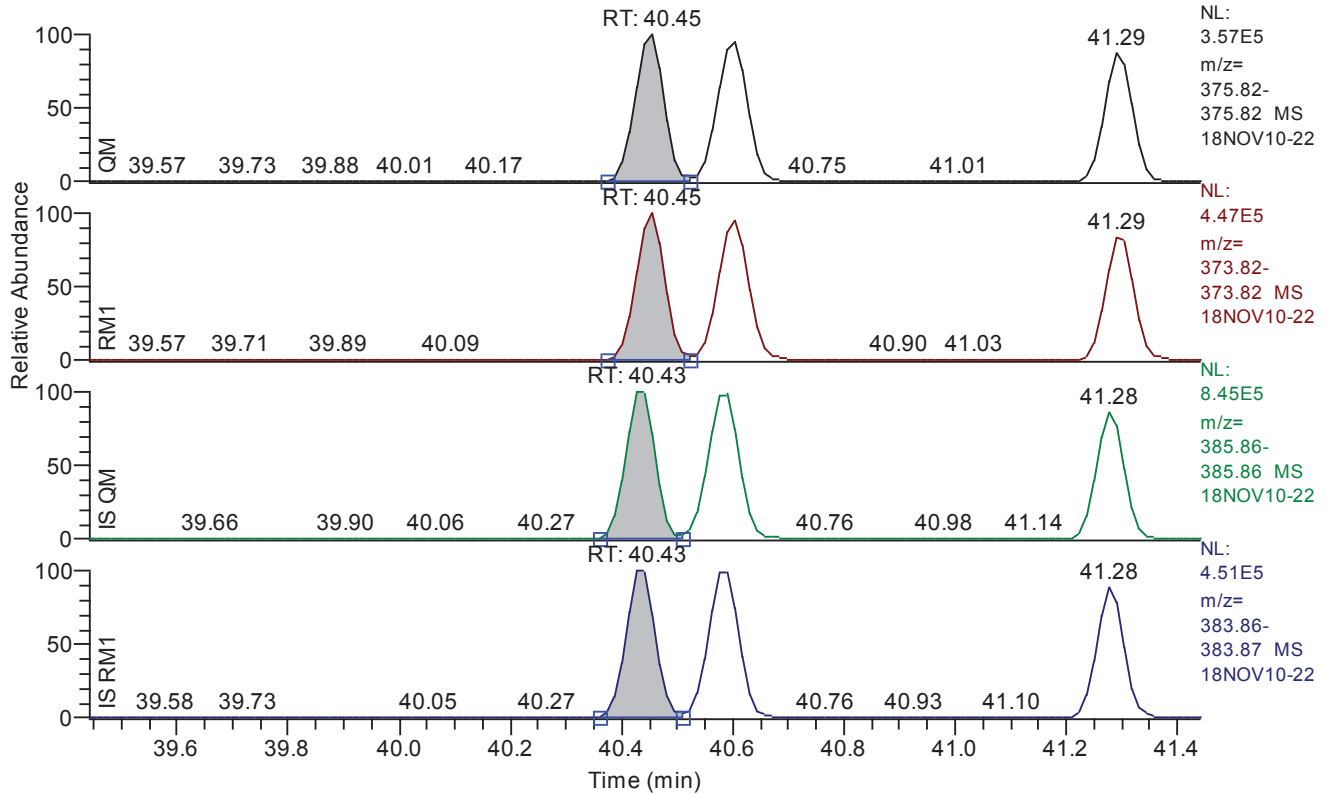


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.17
QM Area	614215
QM Integration Mode	A
RM1 Area	977296
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2493
Unqualified Amount (A)	1013.721279
Adjusted Amount (A)	1013.7213
Signal-to-Noise	10157
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.44 - 41.44 SM: 3G

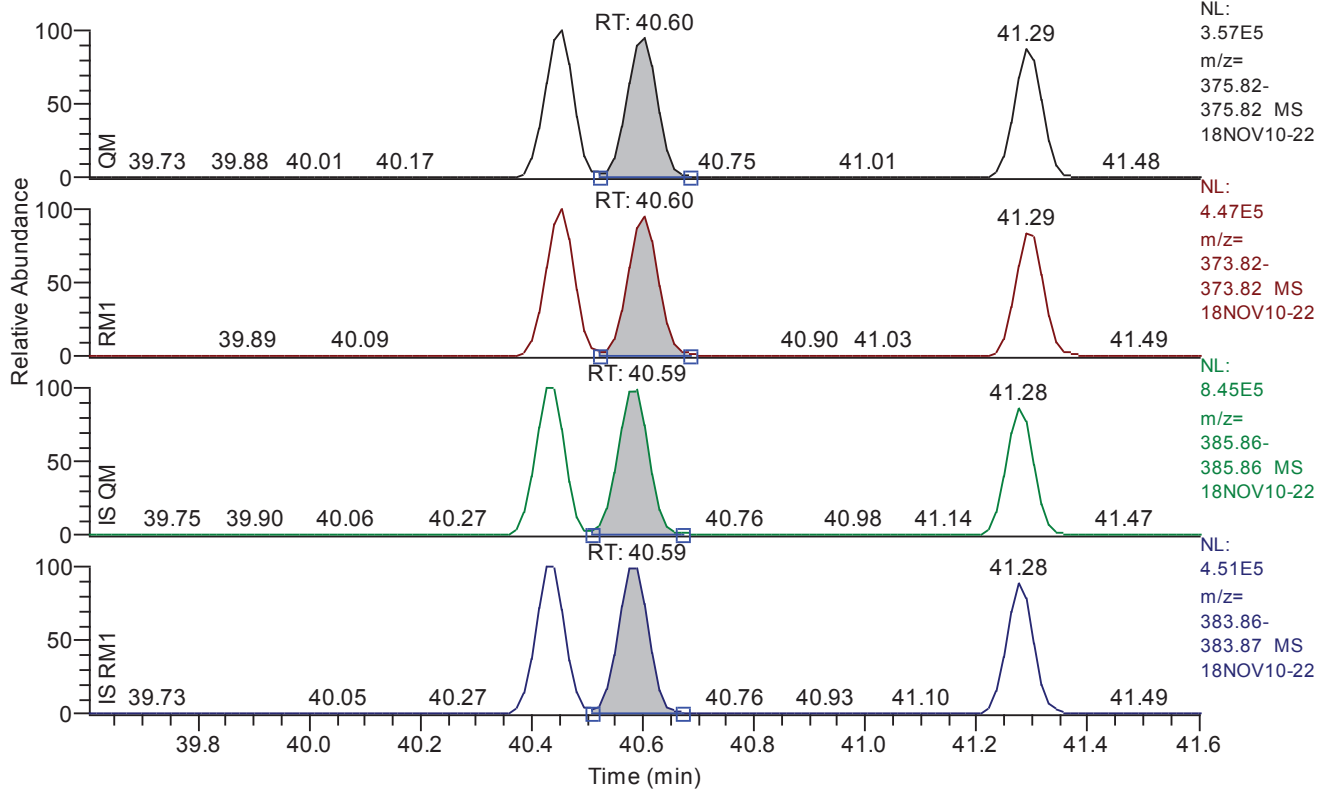


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.45
QM Area	1291454
QM Integration Mode	A
RM1 Area	1599123
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2774
Unqualified Amount (A)	1034.746681
Adjusted Amount (A)	1034.7467
Signal-to-Noise	9567
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.60 - 41.60 SM: 3G

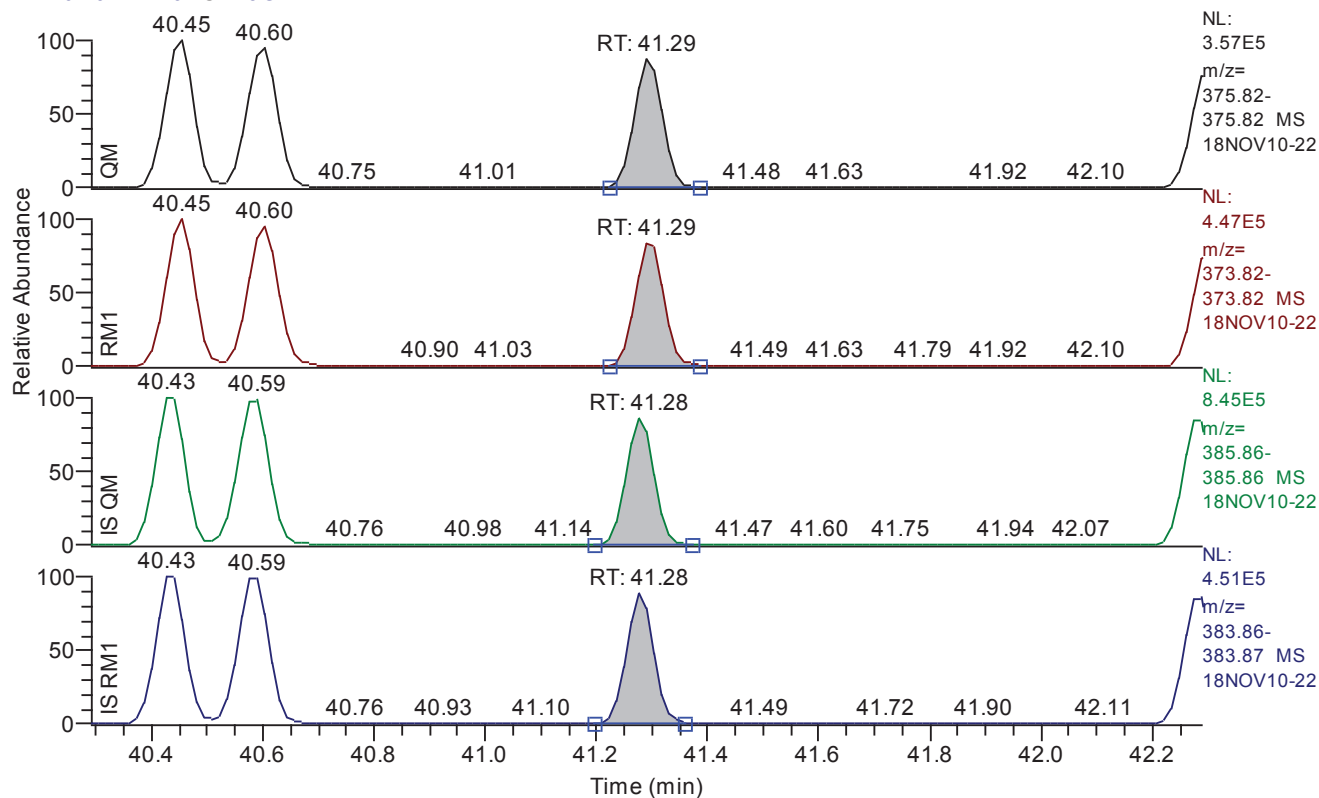


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.60
QM Area	1297332
QM Integration Mode	A
RM1 Area	1615614
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2900
Unqualified Amount (A)	1036.994004
Adjusted Amount (A)	1036.9940
Signal-to-Noise	9129
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.29 - 42.29 SM: 3G

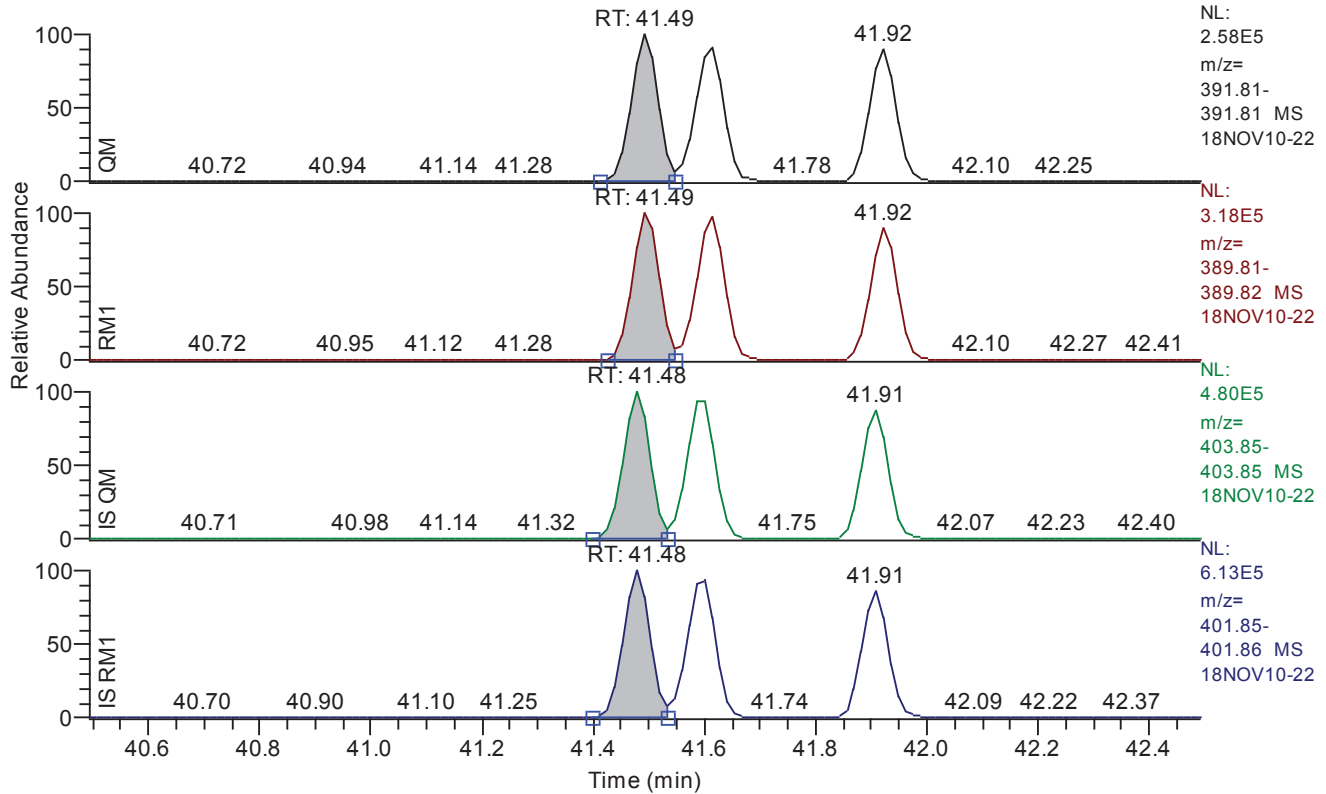


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.29
QM Area	1102868
QM Integration Mode	A
RM1 Area	1357074
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3066
Unqualified Amount (A)	1035.193844
Adjusted Amount (A)	1035.1938
Signal-to-Noise	8211
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.49 - 42.49 SM: 3G

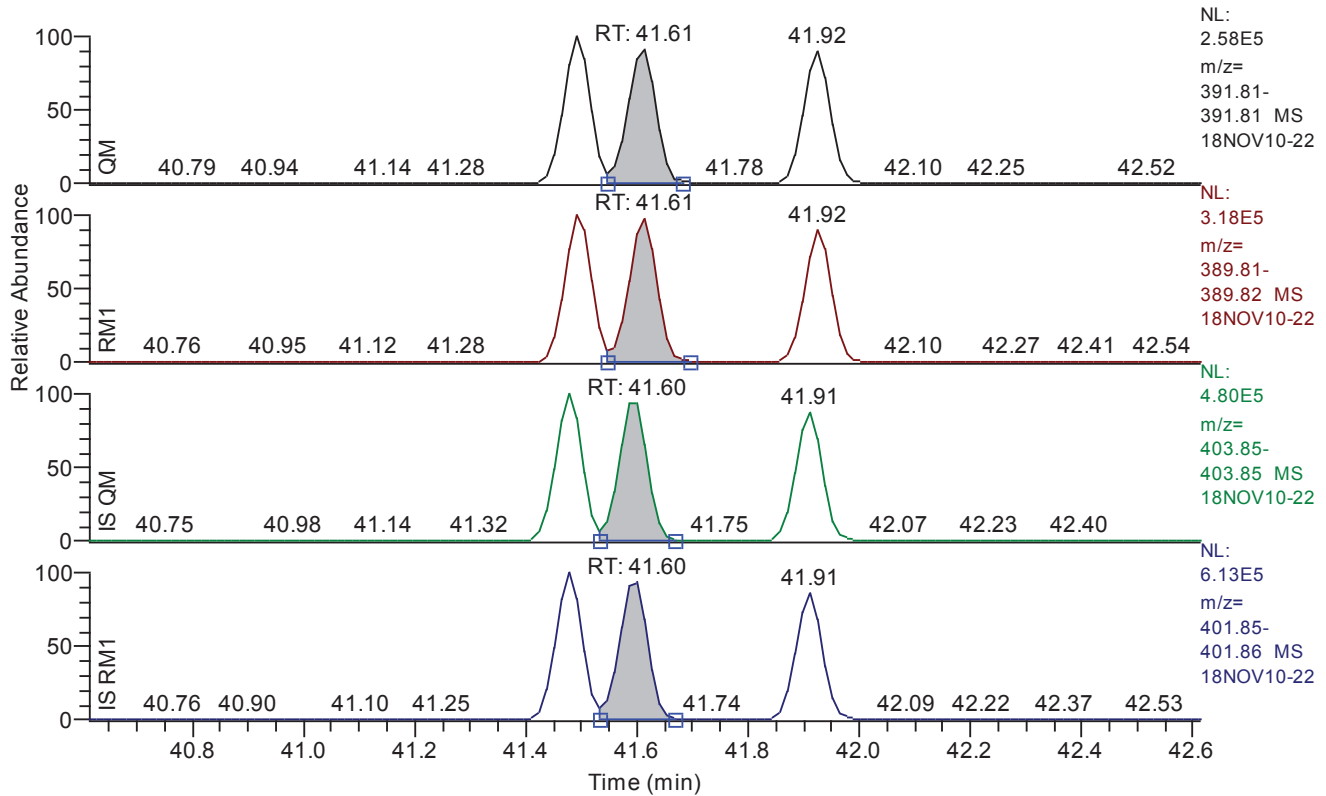


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.49
QM Area	858537
QM Integration Mode	A
RM1 Area	1071594
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1669
Unqualified Amount (A)	998.569830
Adjusted Amount (A)	998.5698
Signal-to-Noise	14845
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.61 - 42.61 SM: 3G

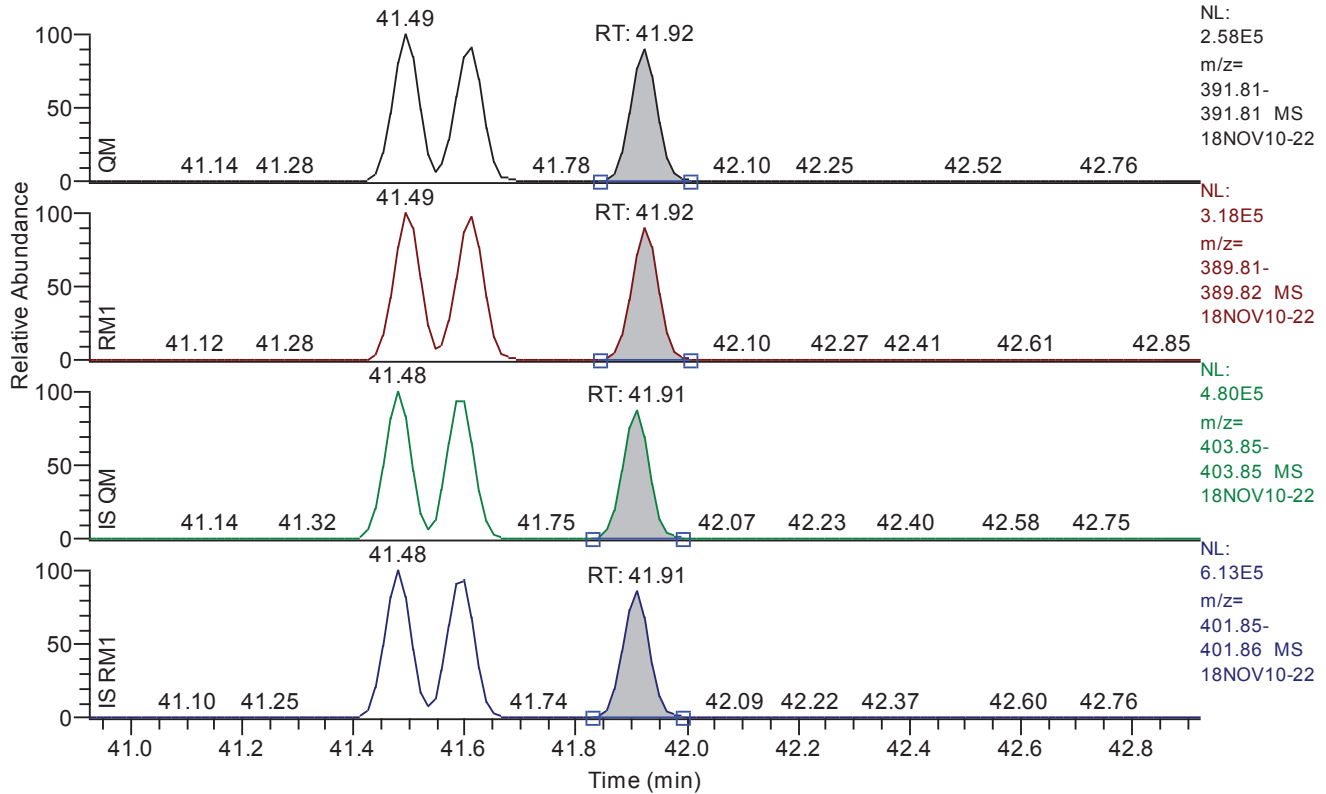


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.61
QM Area	836409
QM Integration Mode	A
RM1 Area	1088009
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1790
Unqualified Amount (A)	998.128669
Adjusted Amount (A)	998.1287
Signal-to-Noise	14106
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.92 - 42.92 SM: 3G

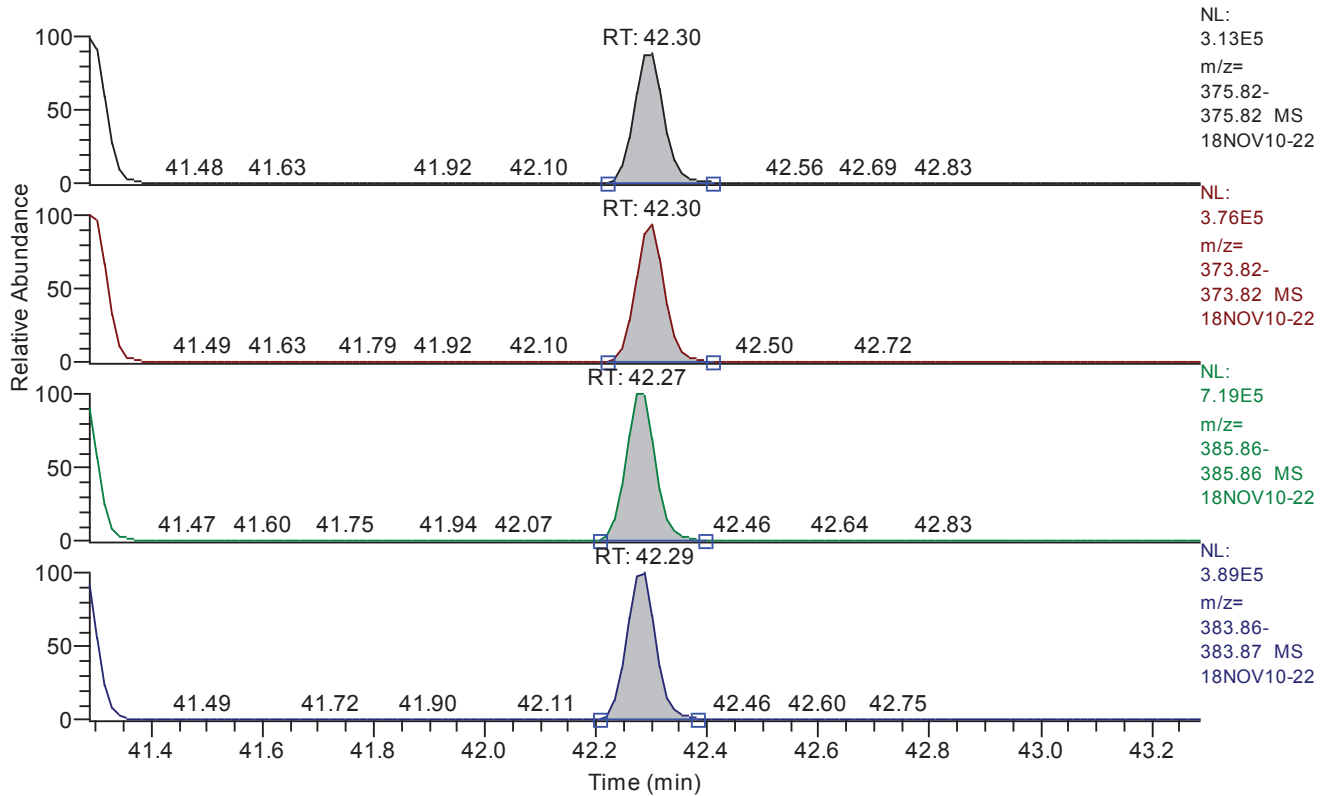


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.92
QM Area	786318
QM Integration Mode	A
RM1 Area	972195
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1853
Unqualified Amount (A)	997.941426
Adjusted Amount (A)	997.9414
Signal-to-Noise	13328
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.29 - 43.29 SM: 3G

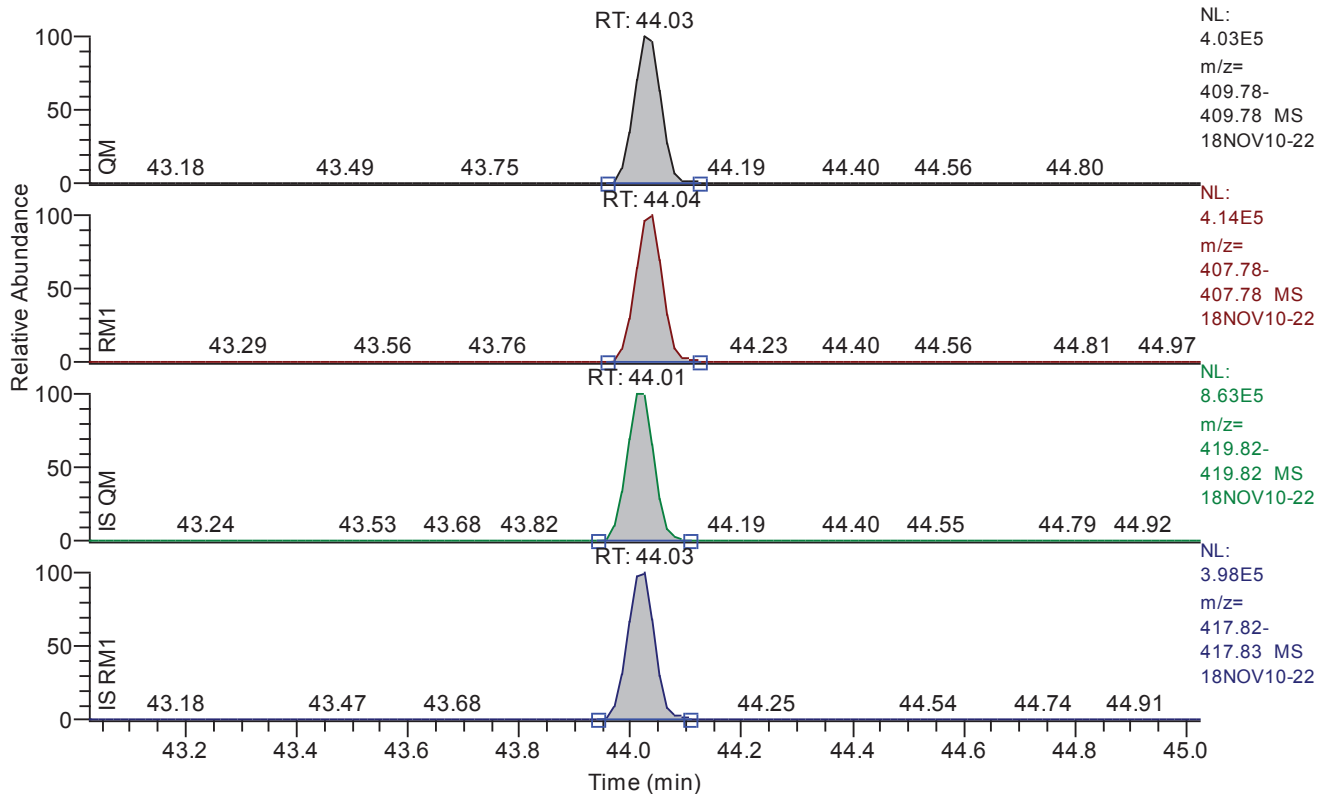


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.30
QM Area	1040446
QM Integration Mode	A
RM1 Area	1286816
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3359
Unqualified Amount (A)	1005.299839
Adjusted Amount (A)	1005.2998
Signal-to-Noise	7533
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 43.03 - 45.03 SM: 3G

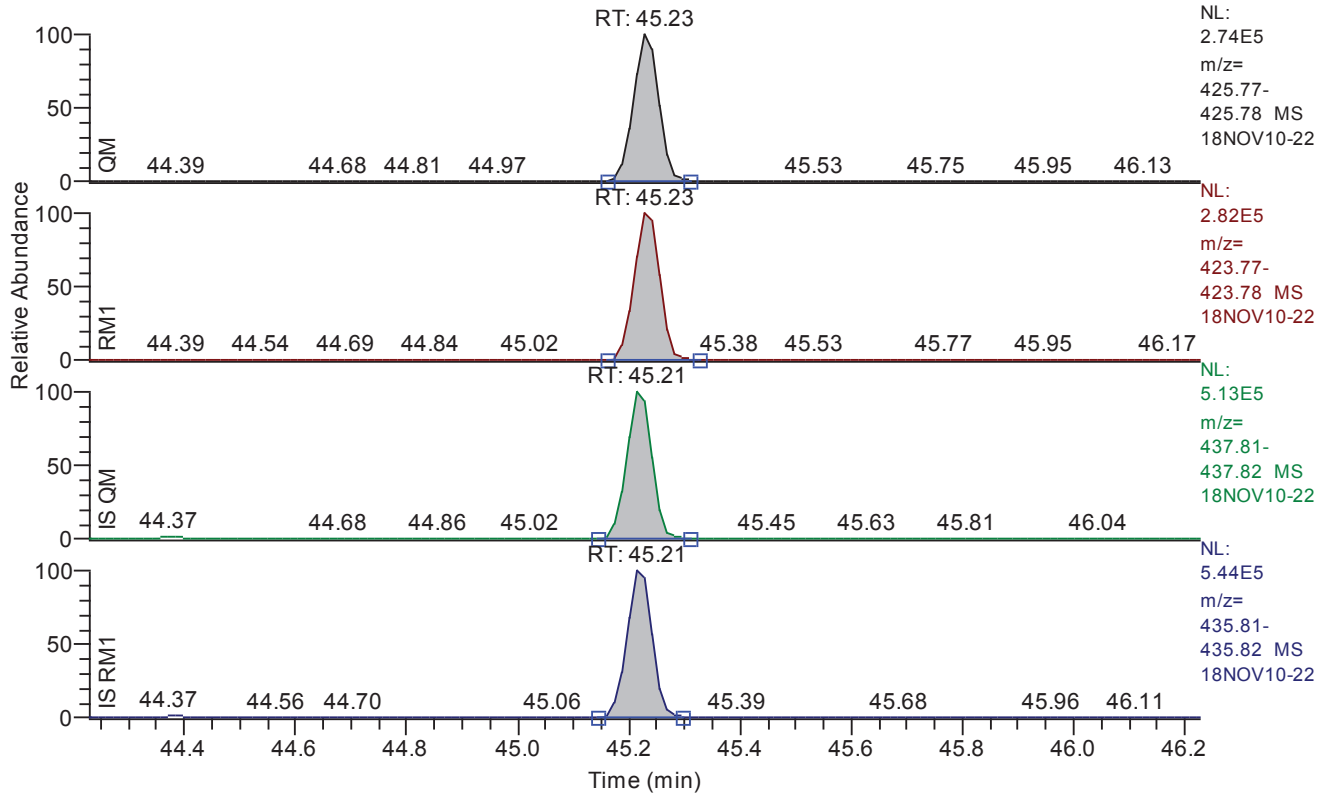


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.03
QM Area	1403245
QM Integration Mode	A
RM1 Area	1444197
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3006
Unqualified Amount (A)	1036.150729
Adjusted Amount (A)	1036.1507
Signal-to-Noise	8663
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.23 - 46.23 SM: 3G

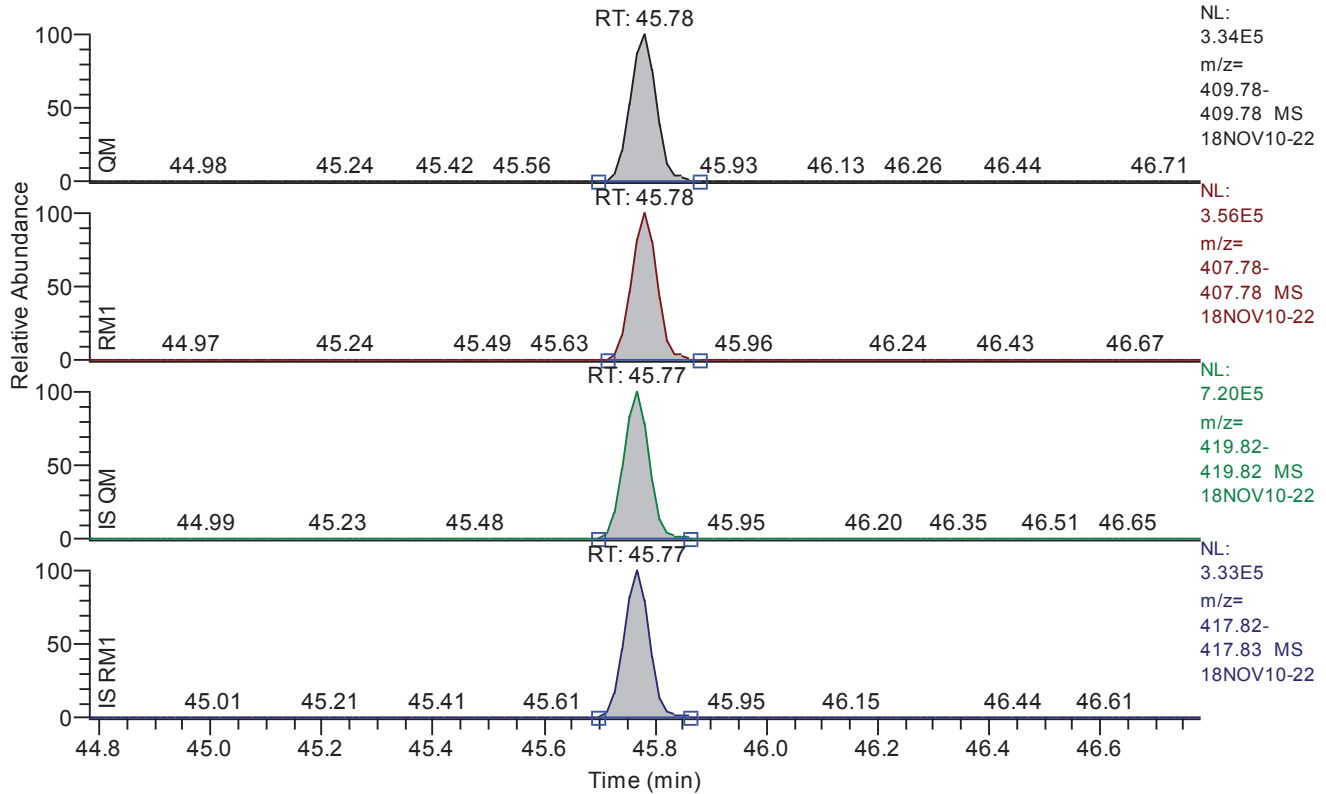


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.23
QM Area	890755
QM Integration Mode	A
RM1 Area	935120
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2866
Unqualified Amount (A)	991.532281
Adjusted Amount (A)	991.5323
Signal-to-Noise	8573
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.78 - 46.78 SM: 3G

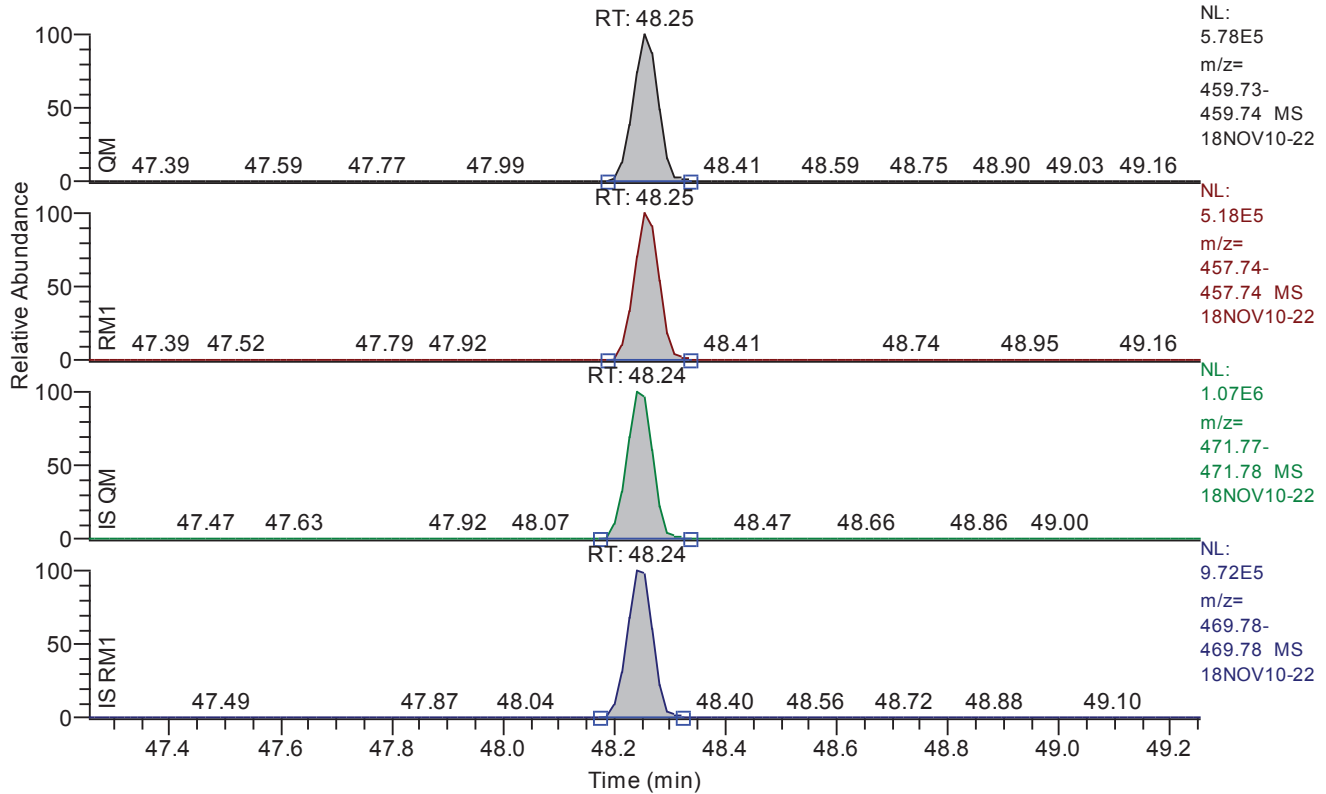


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.78
QM Area	1120956
QM Integration Mode	A
RM1 Area	1175738
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3467
Unqualified Amount (A)	1028.742249
Adjusted Amount (A)	1028.7422
Signal-to-Noise	7308
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.25 - 49.25 SM: 3G

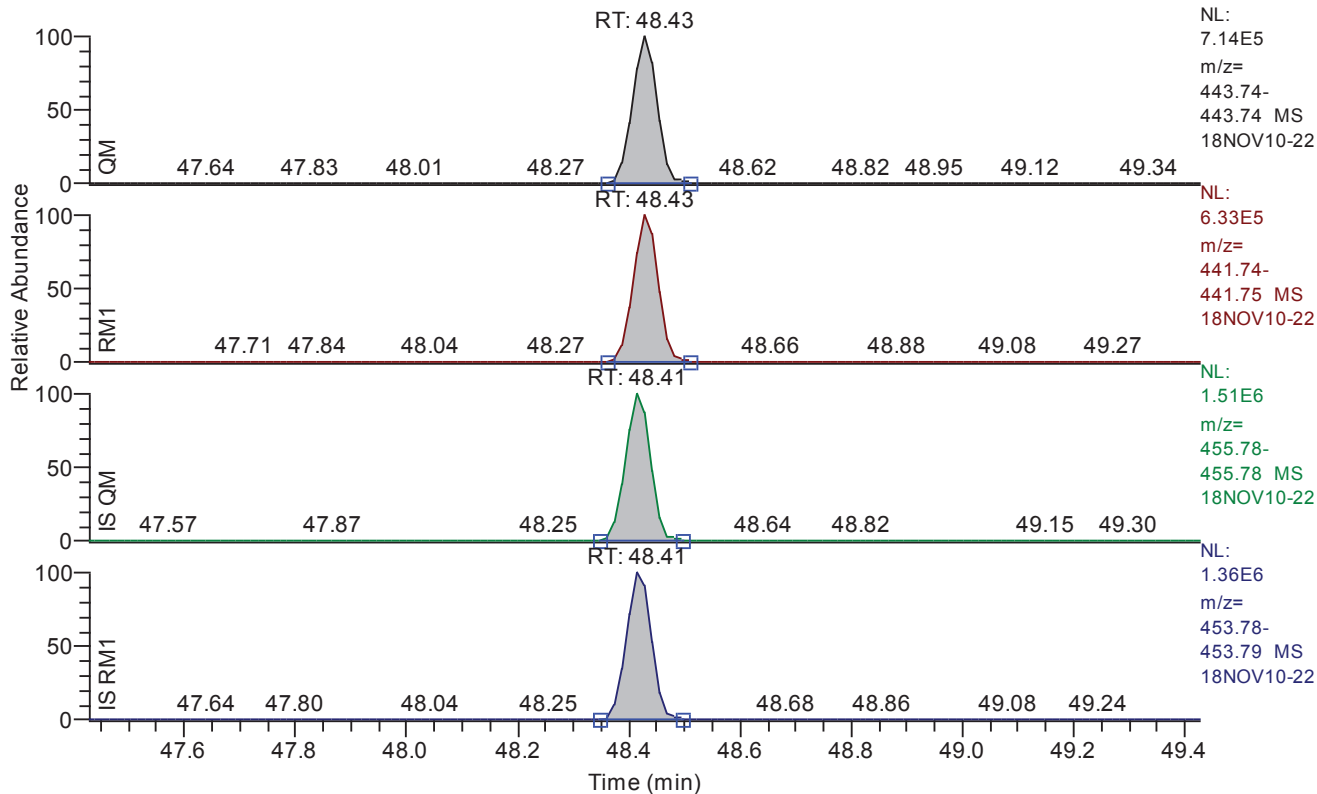


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.25
QM Area	1808238
QM Integration Mode	A
RM1 Area	1623484
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2424
Unqualified Amount (A)	2017.530028
Adjusted Amount (A)	2017.5300
Signal-to-Noise	21403
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.43 - 49.43 SM: 3G

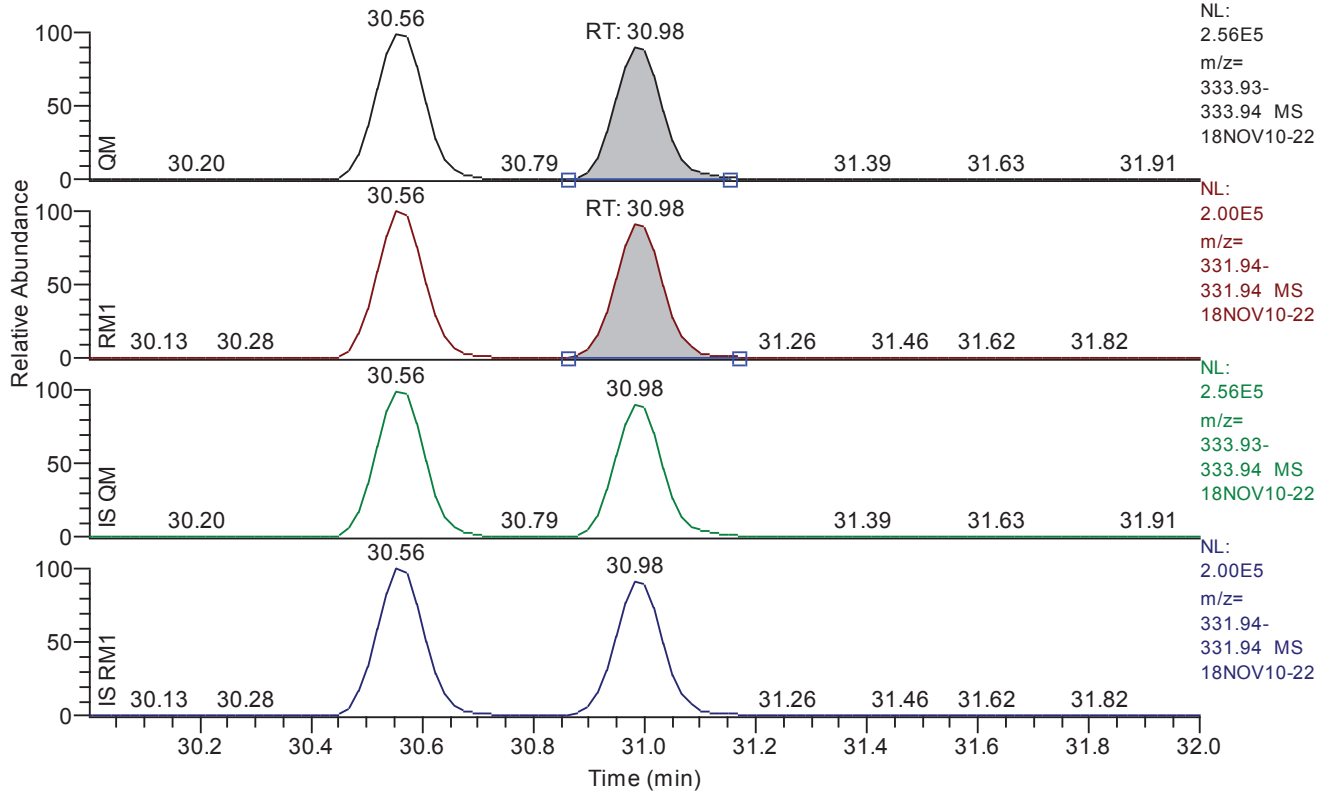


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.43
QM Area	2195627
QM Integration Mode	A
RM1 Area	1964465
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1971
Unqualified Amount (A)	2052.209957
Adjusted Amount (A)	2052.2100
Signal-to-Noise	26324
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 30.00 - 32.00 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.98
QM Area	1392561
QM Integration Mode	A
RM1 Area	1119082
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2994
Unqualified Amount (A)	1213.687950
Adjusted Amount (A)	1213.6879
Signal-to-Noise	10374
Client Flags	
Status Overview	passed
Status Info	

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	29.40	29.43	29.43	29.39	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.59	30.59	30.56	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.46	35.47	35.44	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.75	36.75	36.74	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.17	37.17	37.14	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.45	40.45	40.43	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.60	40.60	40.59	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.29	41.29	41.28	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.49	41.49	41.48	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.61	41.61	41.60	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.92	41.92	41.91	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.30	42.30	42.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.03	44.04	44.01	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.23	45.23	45.21	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.78	45.78	45.77	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.25	48.25	48.24	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.43	48.43	48.41	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	29.71	29.72	29.72	29.72	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.36	40.36	40.36	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.39	29.39	29.36	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.56	30.56	30.56	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.44	35.44	35.50	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.74	36.74	36.95	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.14	37.14	37.14	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.43	40.43	40.45	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.59	40.59	40.55	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.28	41.28	41.38	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.48	41.48	41.48	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.60	41.60	41.60	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.91	41.91	41.91	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.27	42.29	41.99	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.01	44.03	44.03	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	45.76	45.77	45.77	45.75	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.24	48.24	48.24	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.41	48.41	48.35	passed	passed

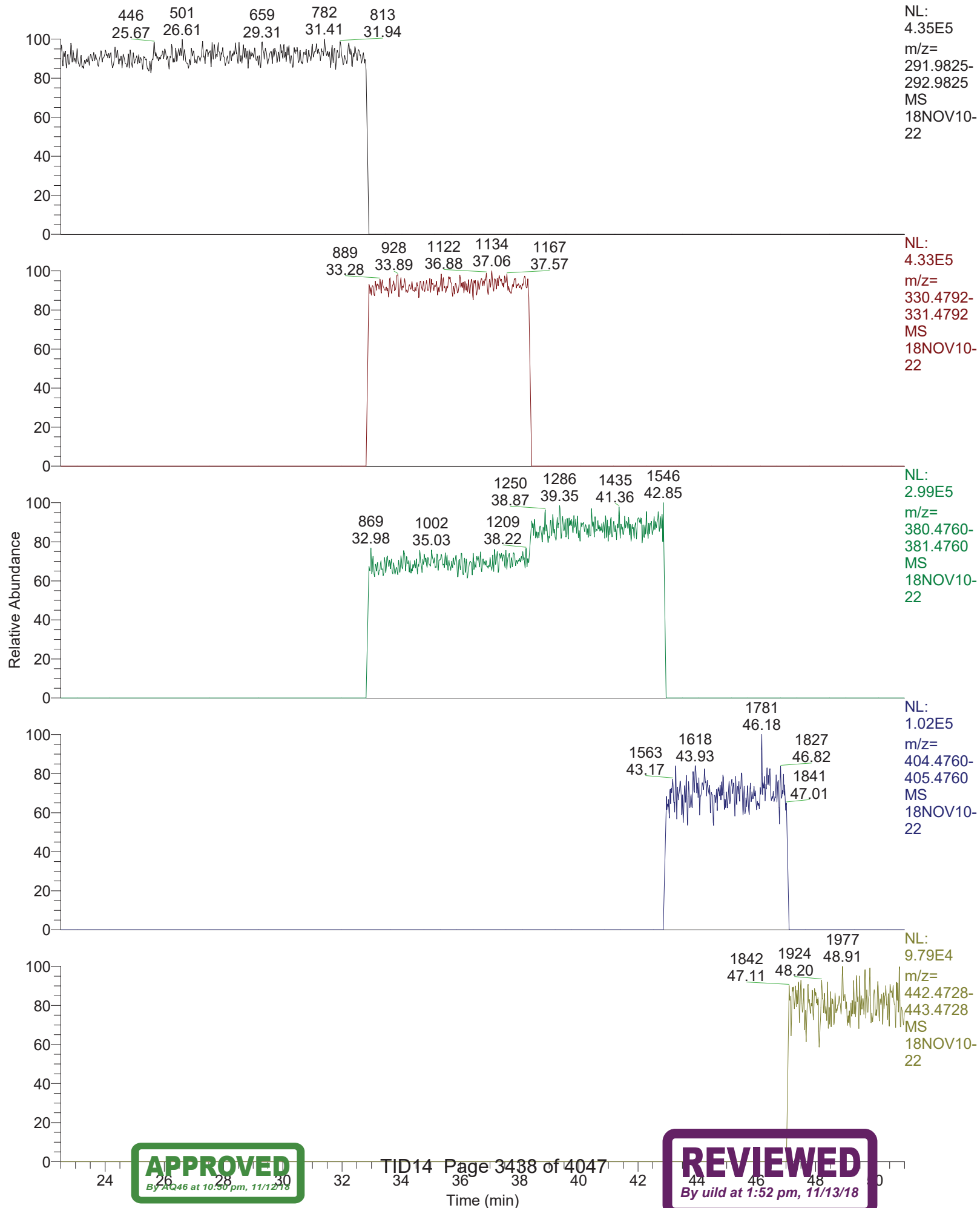
Entry Parameters

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	0.7344	0.6450 - 0.8950	passed	102.11	75 - 158	passed
2	2378-TCDD	30.59	0.7794	0.6450 - 0.8950	passed	103.64	67 - 158	passed
3	12378-PeCDF	35.46	1.5586	1.3150 - 1.7850	passed	105.12	80 - 134	passed
4	23478-PeCDF	36.75	1.5657	1.3150 - 1.7850	passed	104.42	68 - 160	passed
5	12378-PeCDD	37.17	1.5911	1.3150 - 1.7850	passed	106.44	70 - 142	passed
6	123478-HxCDF	40.45	1.2382	1.0450 - 1.4350	passed	108.65	72 - 134	passed
7	123678-HxCDF	40.60	1.2453	1.0450 - 1.4350	passed	108.88	84 - 130	passed
8	234678-HxCDF	41.29	1.2305	1.0450 - 1.4350	passed	108.70	70 - 156	passed
9	123478-HxCDD	41.49	1.2482	1.0450 - 1.4350	passed	104.85	70 - 164	passed
10	123678-HxCDD	41.61	1.3008	1.0450 - 1.4350	passed	104.80	76 - 134	passed
11	123789-HxCDD	41.92	1.2364	1.0450 - 1.4350	passed	104.78	64 - 162	passed
12	123789-HxCDF	42.30	1.2368	1.0450 - 1.4350	passed	105.56	78 - 130	passed
13	1234678-HpCDF	44.03	1.0292	0.8750 - 1.2050	passed	108.80	82 - 122	passed
14	1234678-HpCDD	45.23	1.0498	0.8750 - 1.2050	passed	104.11	70 - 140	passed
15	1234789-HpCDF	45.78	1.0489	0.8750 - 1.2050	passed	108.02	78 - 138	passed
16	OCDD	48.25	0.8978	0.7550 - 1.0250	passed	105.92	78 - 144	passed
17	OCDF	48.43	0.8947	0.7550 - 1.0250	passed	107.74	63 - 170	passed
18	13C12-1278-TCDD (CRS)	30.98	0.8036	0.6450 - 0.8950	passed	63.72	35 - 197	passed
19	13C12-1234-TCDD	29.72	0.8048	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.36	1.2718	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.39	0.8056	0.6450 - 0.8950	passed	59.26	40 - 135	passed
22	13C12-2378-TCDD	30.56	0.7753	0.6450 - 0.8950	passed	71.98	40 - 135	passed
23	13C12-12378-PeCDF	35.44	1.5461	1.3150 - 1.7850	passed	69.17	40 - 135	passed
24	13C12-23478-PeCDF	36.74	1.5889	1.3150 - 1.7850	passed	67.66	40 - 135	passed
25	13C12-12378-PeCDD	37.14	1.5854	1.3150 - 1.7850	passed	76.15	40 - 135	passed
26	13C12-123478-HxCDF	40.43	0.5290	0.4250 - 0.5950	passed	71.05	40 - 135	passed
27	13C12-123678-HxCDF	40.59	0.5306	0.4250 - 0.5950	passed	69.35	40 - 135	passed
28	13C12-234678-HxCDF	41.28	0.5340	0.4250 - 0.5950	passed	59.92	40 - 135	passed
29	13C12-123478-HxCDD	41.48	1.2694	1.0450 - 1.4350	passed	78.35	40 - 135	passed
30	13C12-123678-HxCDD	41.60	1.2627	1.0450 - 1.4350	passed	75.98	40 - 135	passed
31	13C12-123789-HxCDD	41.91	1.2547	1.0450 - 1.4350	passed	70.07	40 - 135	passed
32	13C12-123789-HxCDF	42.27	0.5322	0.4250 - 0.5950	passed	67.23	40 - 135	passed
33	13C12-1234678-HpCDF	44.01	0.4558	0.3650 - 0.5150	passed	72.14	40 - 135	passed
34	13C12-1234678-HpCDD	45.21	1.0603	0.8750 - 1.2050	passed	76.13	40 - 135	passed
35	13C12-1234789-HpCDF	45.77	0.4591	0.3650 - 0.5150	passed	67.17	40 - 135	passed
36	13C12-OCDD	48.24	0.9051	0.7550 - 1.0250	passed	68.76	40 - 135	passed
37	13C12-OCDF	48.41	0.9045	0.7550 - 1.0250	passed	63.89	40 - 135	passed

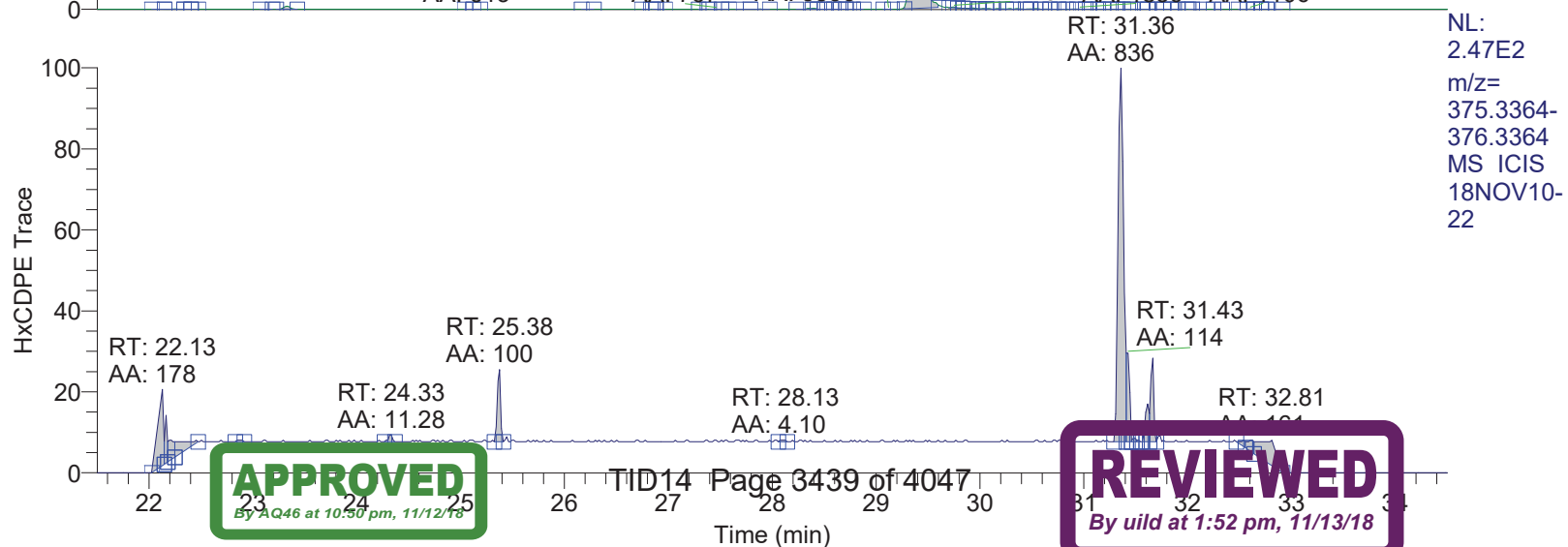
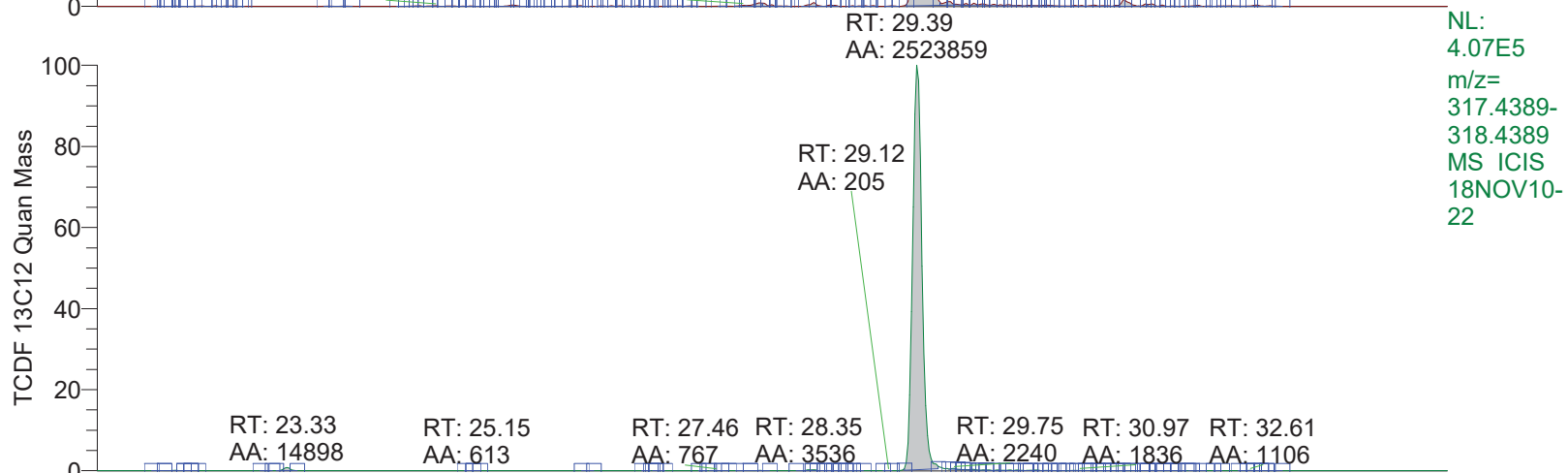
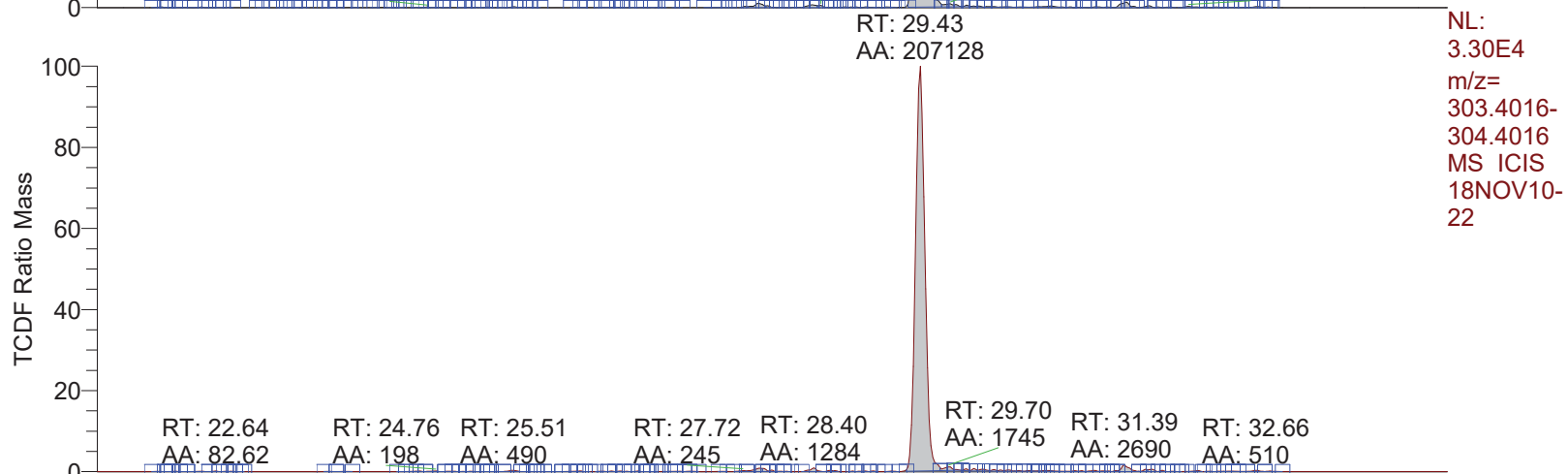
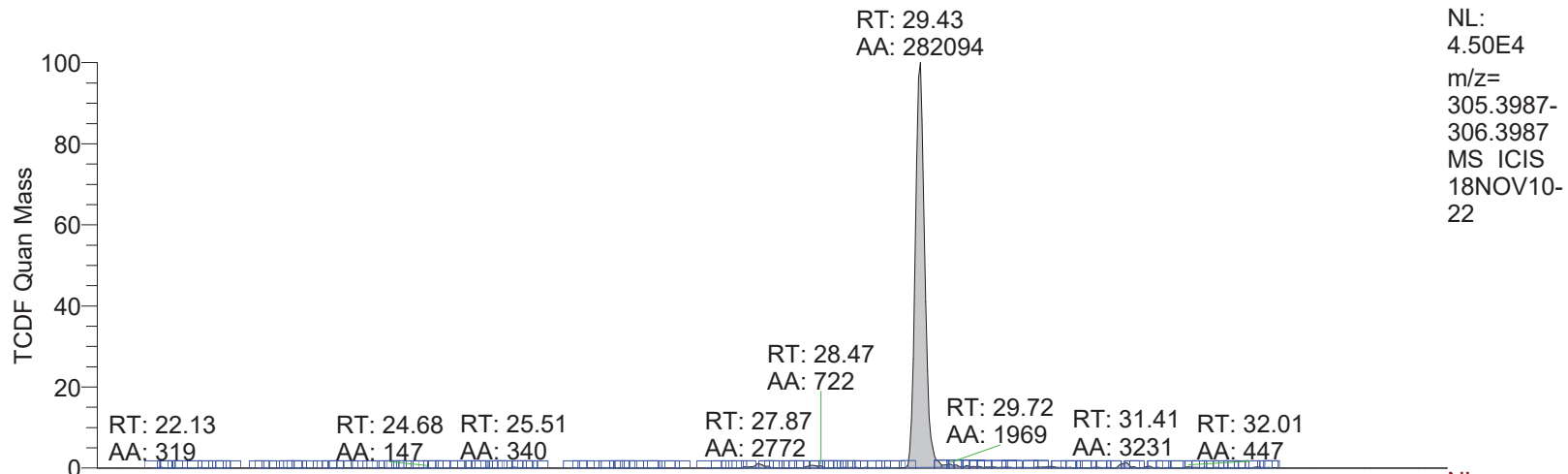
Entry Parameters

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	281998	A	207094	A	0.1757	194.487675	194.4877	190.476190	2715	
2	2378-TCDD	passed	30.59	199111	A	155179	A	0.1297	197.417993	197.4180	190.476190	3733	
3	12378-PeCDF	passed	35.46	968227	A	1509109	A	0.1558	1001.155776	1001.1558	952.380952	15549	
4	23478-PeCDF	passed	36.75	1048481	A	1641589	A	0.1319	994.475671	994.4757	952.380952	19523	
5	12378-PeCDD	passed	37.17	614215	A	977296	A	0.2493	1013.721279	1013.7213	952.380952	10157	
6	123478-HxCDF	passed	40.45	1291454	A	1599123	A	0.2774	1034.746681	1034.7467	952.380952	9567	
7	123678-HxCDF	passed	40.60	1297332	A	1615614	A	0.2900	1036.994004	1036.9940	952.380952	9129	
8	234678-HxCDF	passed	41.29	1102868	A	1357074	A	0.3066	1035.193844	1035.1938	952.380952	8211	
9	123478-HxCDD	passed	41.49	858537	A	1071594	A	0.1669	998.569830	998.5698	952.380952	14845	
10	123678-HxCDD	passed	41.61	836409	A	1088009	A	0.1790	998.128669	998.1287	952.380952	14106	
11	123789-HxCDD	passed	41.92	786318	A	972195	A	0.1853	997.941426	997.9414	952.380952	13328	
12	123789-HxCDF	passed	42.30	1040446	A	1286816	A	0.3359	1005.299839	1005.2998	952.380952	7533	
13	1234678-HpCDF	passed	44.03	1403245	A	1444197	A	0.3006	1036.150729	1036.1507	952.380952	8663	
14	1234678-HpCDD	passed	45.23	890755	A	935120	A	0.2866	991.532281	991.5323	952.380952	8573	
15	1234789-HpCDF	passed	45.78	1120956	A	1175738	A	0.3467	1028.742249	1028.7422	952.380952	7308	
16	OCDD	passed	48.25	1808238	A	1623484	A	0.2424	2017.530028	2017.5300	1904.761905	21403	
17	OCDF	passed	48.43	2195627	A	1964465	A	0.1971	2052.209957	2052.2100	1904.761905	26324	
18	13C12-1278-TCDD (CRS)	passed	30.98	1392561	A	1119082	A	0.2994	1213.687950	1213.6879	1904.761905	10374	
19	13C12-1234-TCDD	passed	29.72	2091369	A	1683176	A	0.3127	1904.761905	1904.7619	1904.761905	15230	
20	13C12-123468-HxCDD	passed	40.36	2045969	A	2602108	A	0.3051	1904.761905	1904.7619	1904.761905	15607	
21	13C12-2378-TCDF	passed	29.39	2523322	A	2032762	A	0.1821	1128.763911	1128.7639	1904.761905	15626	
22	13C12-2378-TCDD	passed	30.56	1540205	A	1194099	A	0.3107	1371.092105	1371.0921	1904.761905	11486	
23	13C12-12378-PeCDF	passed	35.44	1975367	A	3054133	A	0.4310	1317.542669	1317.5427	1904.761905	10159	
24	13C12-23478-PeCDF	passed	36.74	1894580	A	3010379	A	0.4323	1288.828864	1288.8289	1904.761905	10710	
25	13C12-12378-PeCDD	passed	37.14	1154738	A	1830774	A	0.3115	1450.415601	1450.4156	1904.761905	16729	
26	13C12-123478-HxCDF	passed	40.43	3124748	A	1653133	A	0.2833	1353.281624	1353.2816	1904.761905	11713	
27	13C12-123678-HxCDF	passed	40.59	3256354	A	1727776	A	0.2651	1321.041107	1321.0411	1904.761905	11624	
28	13C12-234678-HxCDF	passed	41.28	2567150	A	1370843	A	0.2899	1141.258232	1141.2582	1904.761905	10268	
29	13C12-123478-HxCDD	passed	41.48	1602675	A	2034359	A	0.3055	1492.426539	1492.4265	1904.761905	13296	
30	13C12-123678-HxCDD	passed	41.60	1618626	A	2043781	A	0.2942	1447.299714	1447.2997	1904.761905	12519	
31	13C12-123789-HxCDD	passed	41.91	1413976	A	1774132	A	0.3117	1334.659113	1334.6591	1904.761905	11515	
32	13C12-123789-HxCDF	passed	42.27	2679050	A	1425905	A	0.3120	1280.532120	1280.5321	1904.761905	10030	
33	13C12-1234678-HpCDF	passed	44.01	3033111	A	1382617	A	0.3034	1374.107679	1374.1077	1904.761905	11723	
34	13C12-1234678-HpCDD	passed	45.21	1670008	A	1770680	A	0.3142	1450.099044	1450.0990	1904.761905	12855	
35	13C12-1234789-HpCDF	passed	45.77	2366518	A	1086367	A	0.3612	1279.336619	1279.3366	1904.761905	9782	
36	13C12-OCDD	passed	48.24	3449069	A	3121825	A	0.1307	2619.264541	2619.2645	3809.523810	56393	
37	13C12-OCDF	passed	48.41	4701852	A	4253032	A	0.1381	2433.838833	2433.8388	3809.523810	51140	

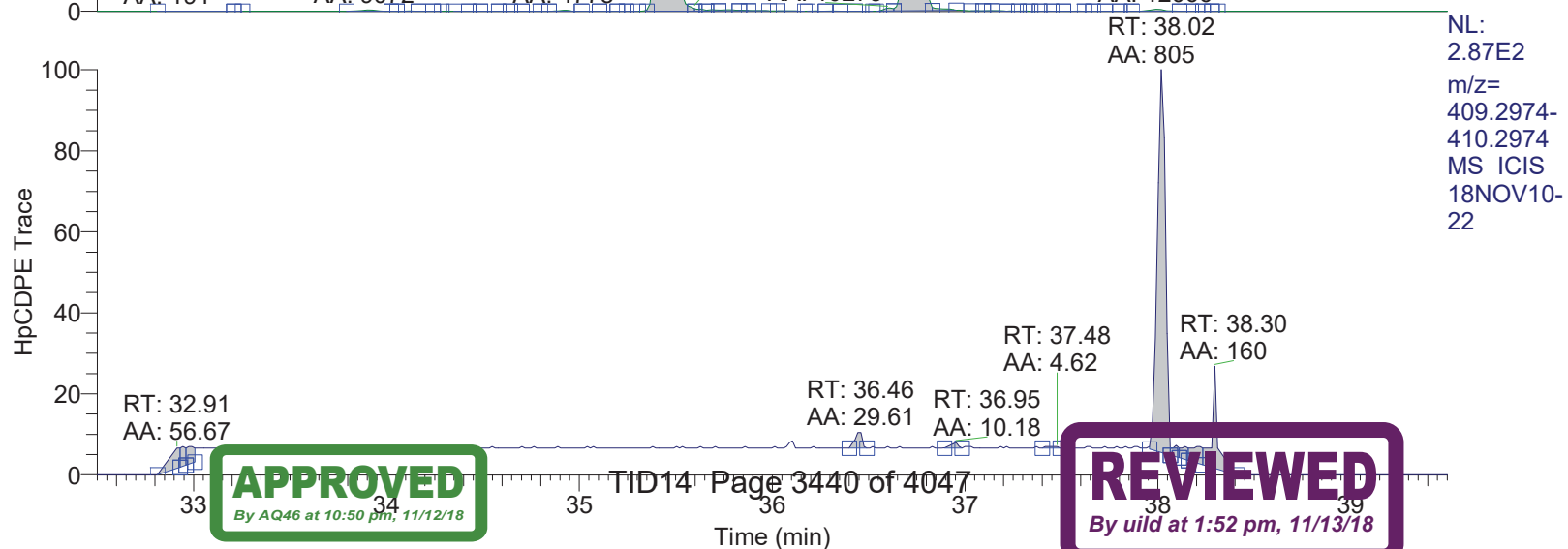
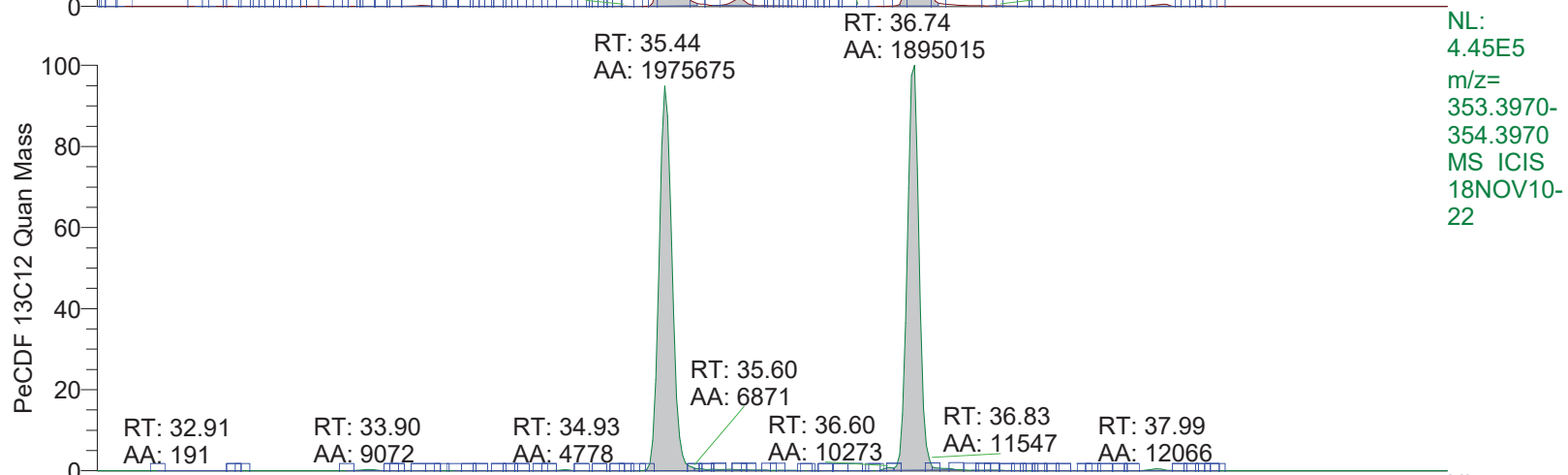
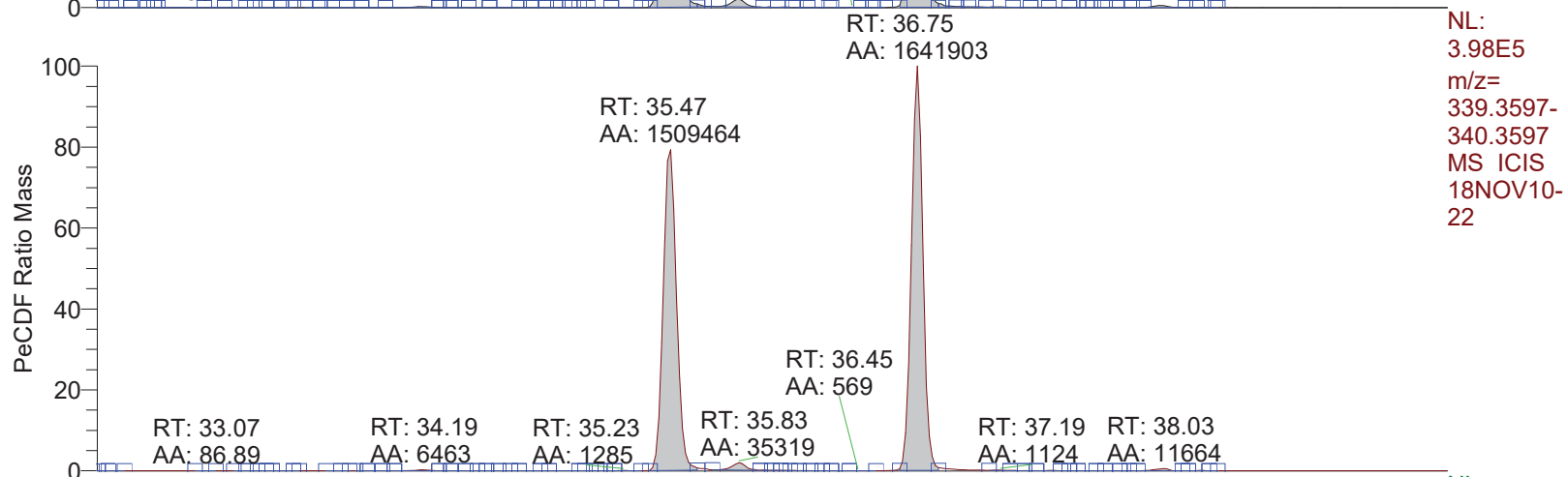
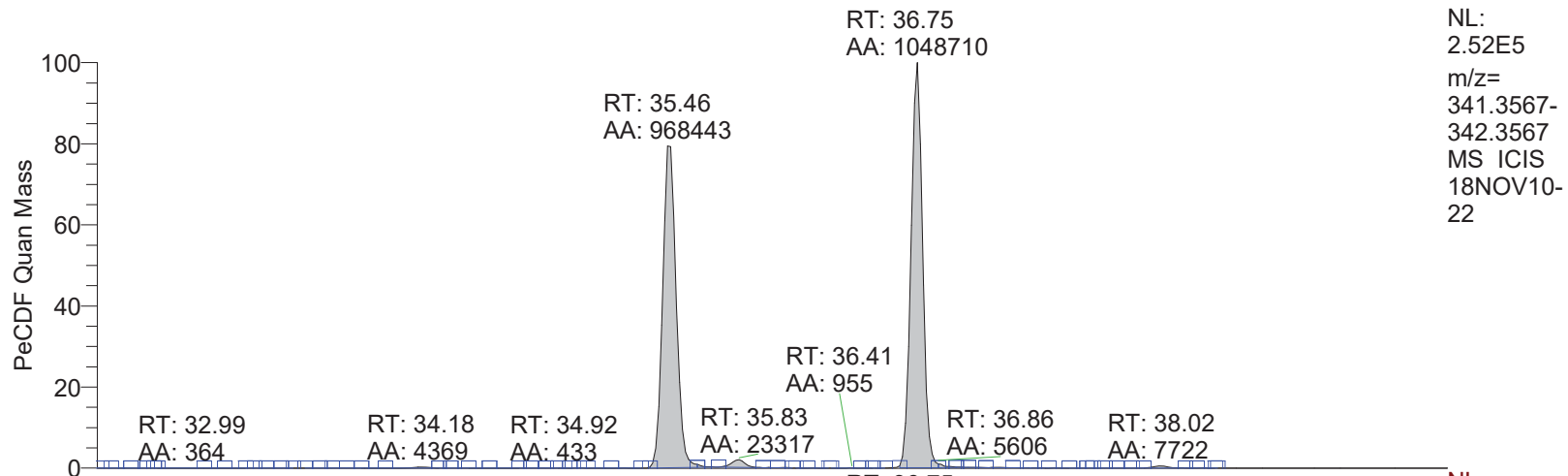
RT: 22.50 - 51.00



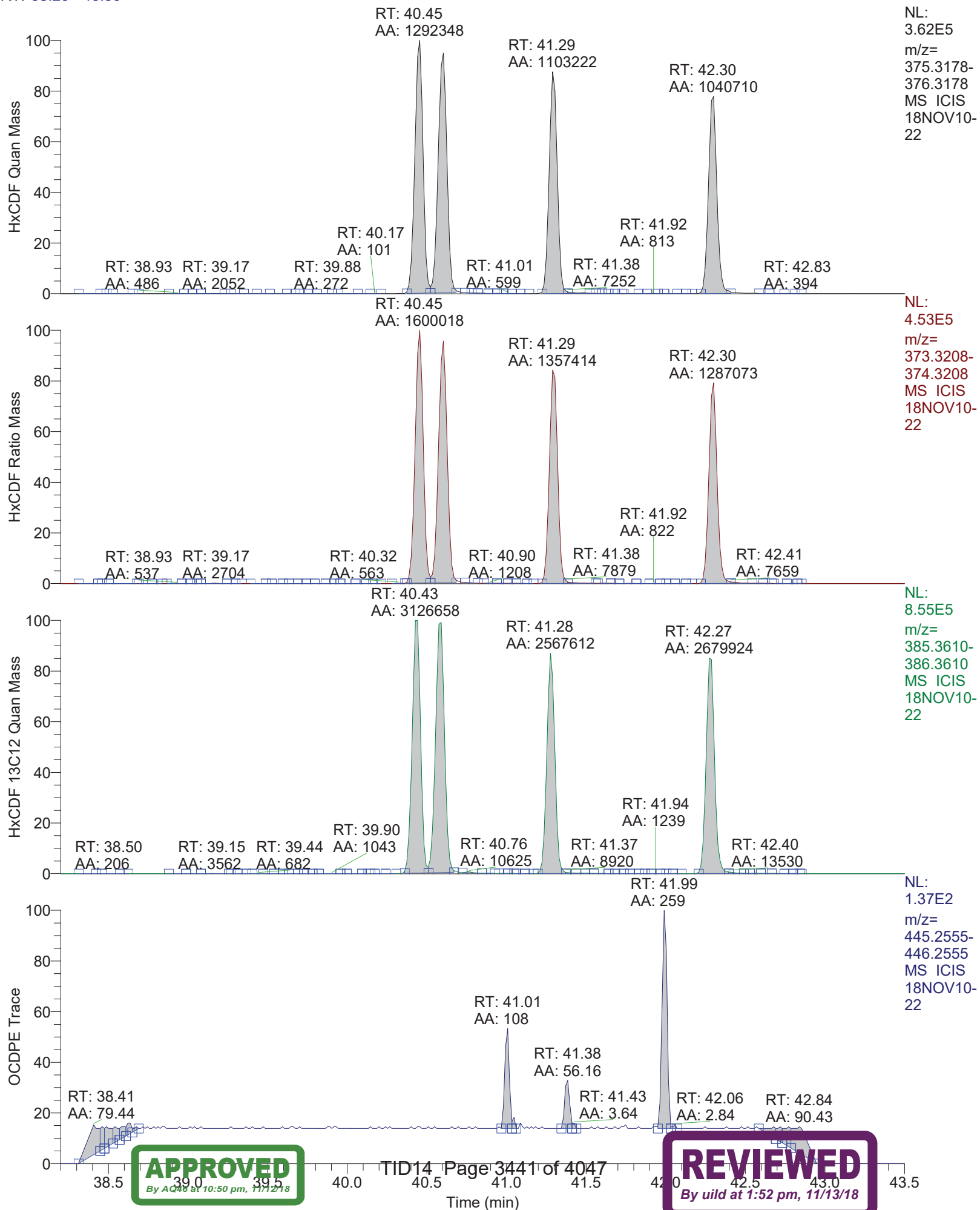
RT: 21.50 - 34.50



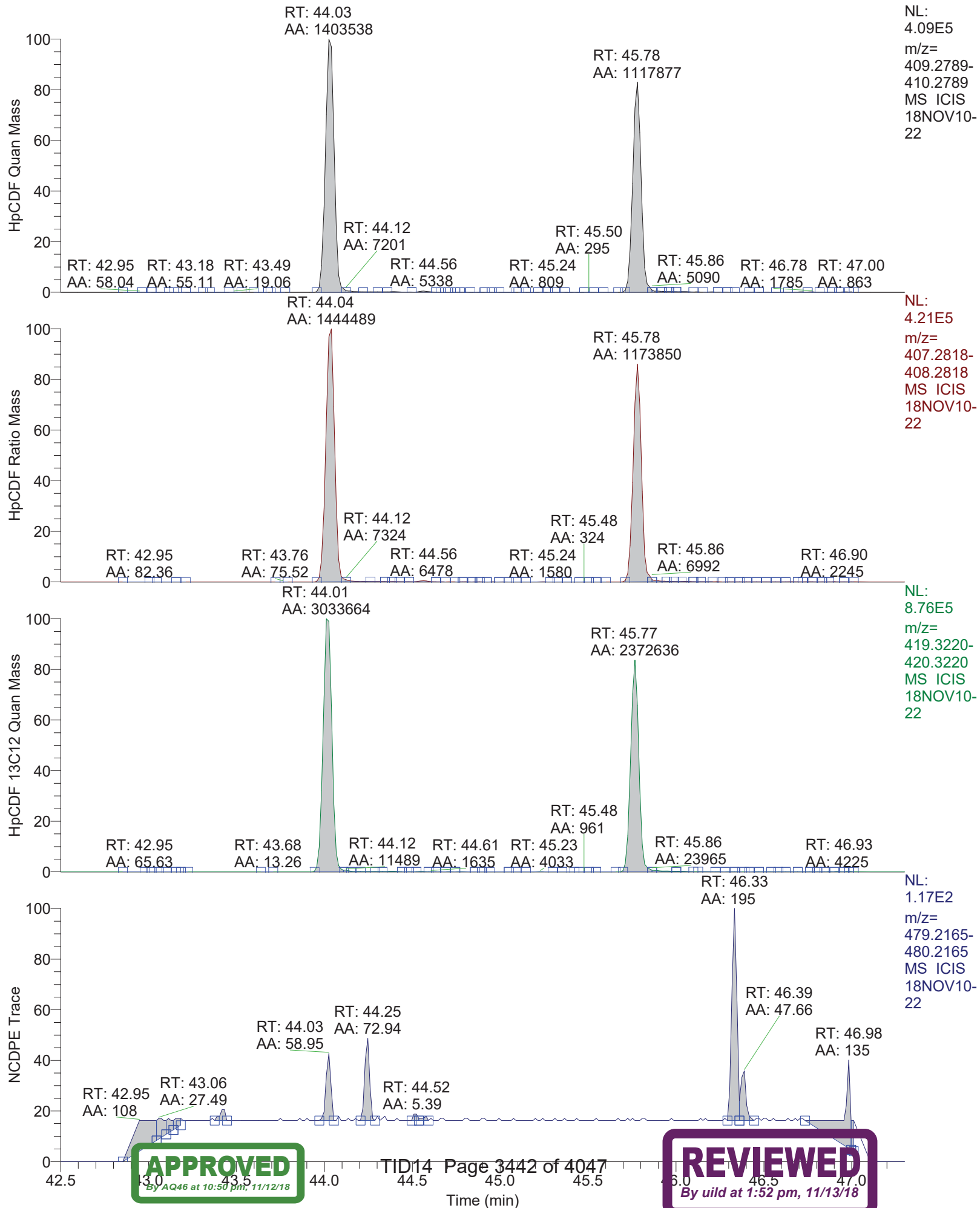
RT: 32.50 - 39.50



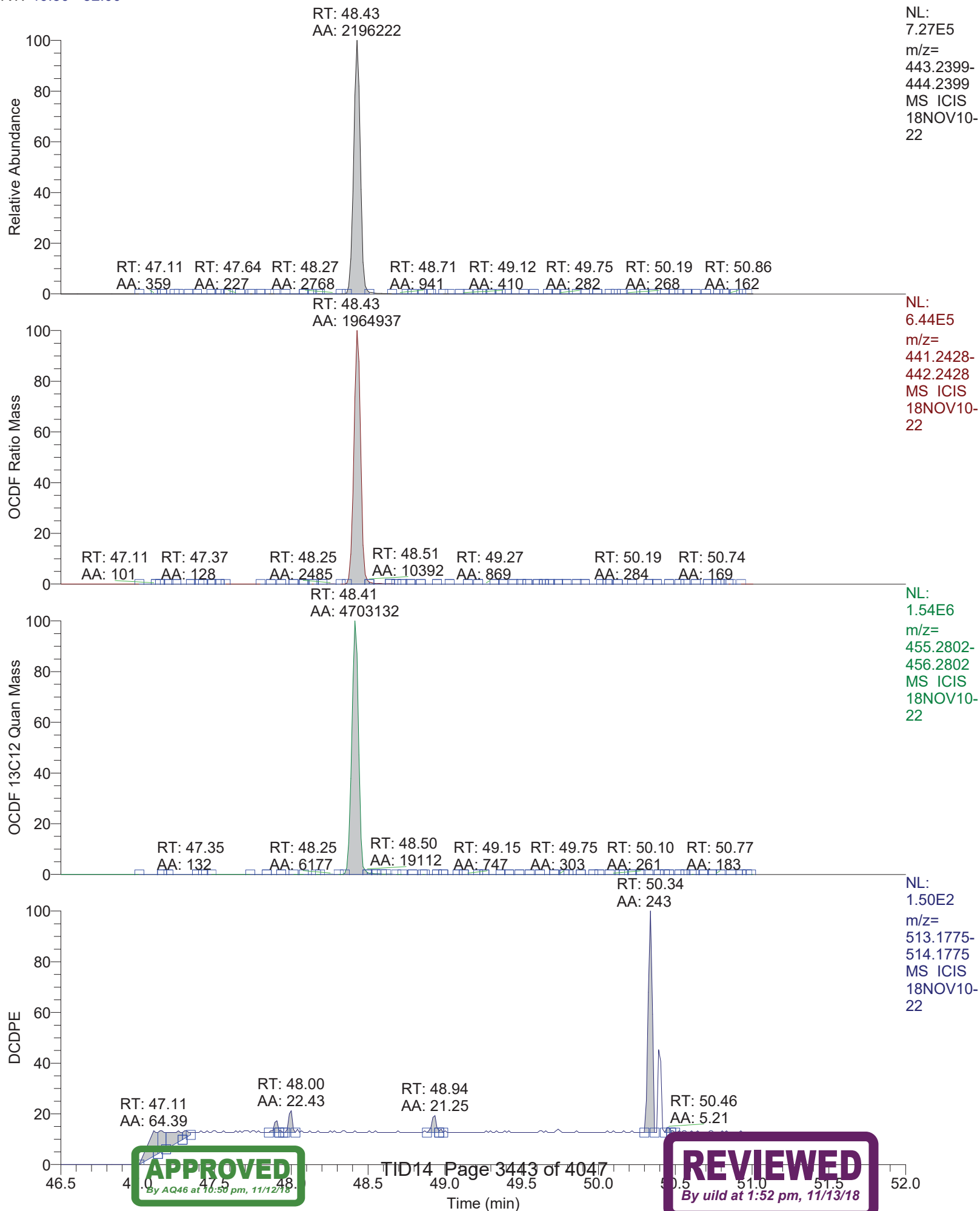
RT: 38.20 - 43.50



RT: 42.50 - 47.30



RT: 46.50 - 52.00



18NOV10-22

*** file opened Sat Nov 10 13:18:44 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 13:18:44

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3445 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-22

MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	95.0000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0077	FVINLET	0.0381	FVSR	0.0364
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	95.0000	LKM	442.9723	MASS	95.0000
MDAC	1391724.4129	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9846	RELEN	0.0000
RES	11354.4201	RPUSHER	-6.0586	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	VMAS	95.0000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.4e-008 mbar
Pirani Analyse: 7.6e-003 mbar
Pirani Source: 3.6e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11069.
MID Time window 2: Resolution is 10787.
MID Time window 3: Resolution is 11243.
MID Time window 4: Resolution is 11132.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3446 of 4047

REVIEWED

By uild at 1:52 pm, 11/13/18

18NOV10-22

MID Time Window 5: Resolution is 12542.
MID Time Window 6: Resolution is 11354.

Amplifier Offset: 81.

*** File closed Sat Nov 10 14:09:46 2018

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/10 07:33
Number of Entries	63
Comment	LCS:10914:12936
Vial	71
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007
Sample ID	OPR313007
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

Quan	x:\18nov10\18nov10-16.quan
Data	x:\18nov10\18nov10-16.raw
Response	x:\responsefiles\df17611-18nov02dfical.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]	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

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	29.42	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.58	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.47	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.75	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	37.16	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.46	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.61	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	41.30	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.50	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.93	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.31	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	44.04	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	45.24	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.79	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.27	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.44	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.99	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.73	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.37	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	29.40	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.56	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.45	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.73	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	37.15	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.43	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.58	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	41.28	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.48	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.61	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.92	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.29	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	44.02	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	45.23	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.78	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.25	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.43	passed	passed	passed	passed	passed	passed	passed

Quantitation Settings

Data File Parameter

Acq. Data	2018/11/10 07:33
Number of Entries	63
Comment	LCS:10914:12936
Vial	71
Sample Name	SW-846 8290A Feb 2007 Rev 1 18313007
Sample ID	OPR313007
Inst ID	DF17611-18NOV10
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18313007
Barcode	

Files Parameter

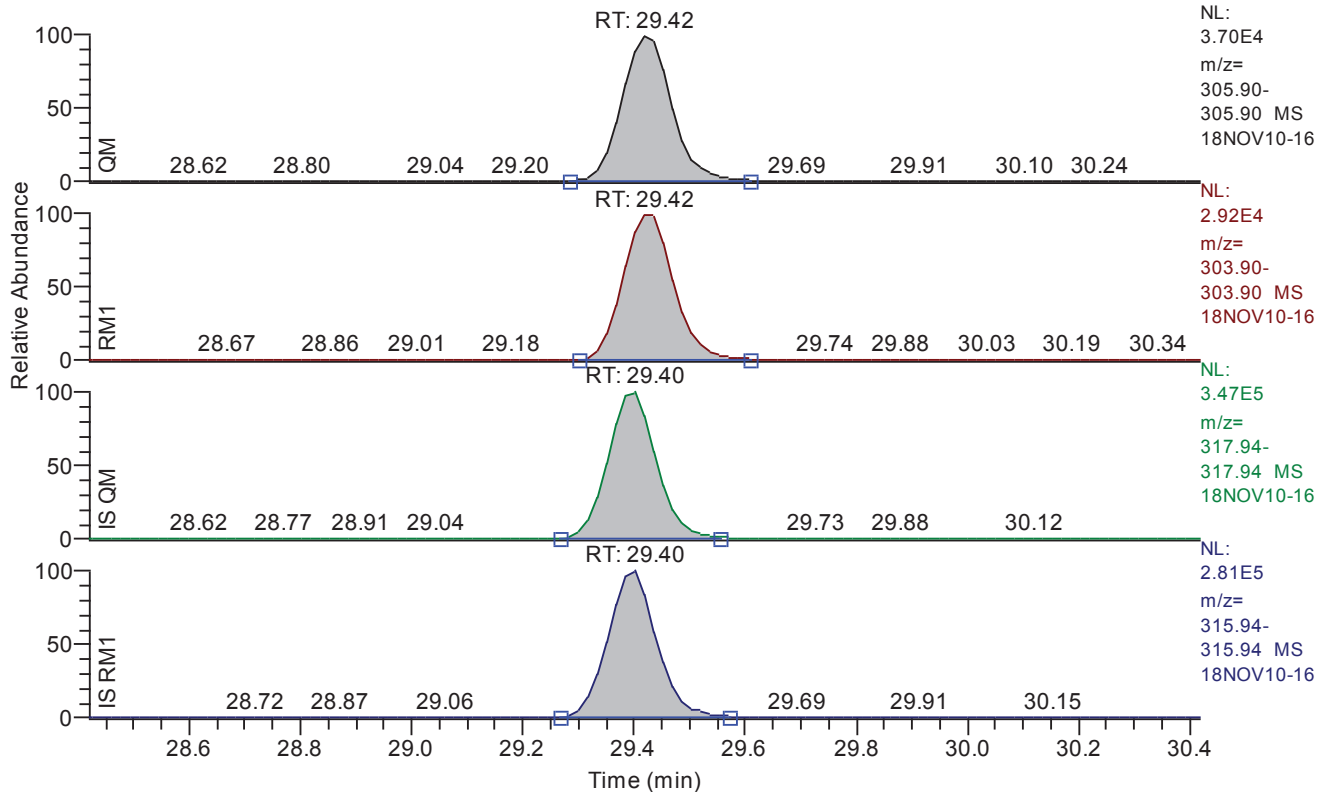
Quan	x:\18nov10\18nov10-16.quan
Data	x:\18nov10\18nov10-16.raw
Response	x:\responsefiles\df17611-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

Quan Parameter

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Depend on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
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

Chromatogram

RT: 28.42 - 30.42 SM: 3G

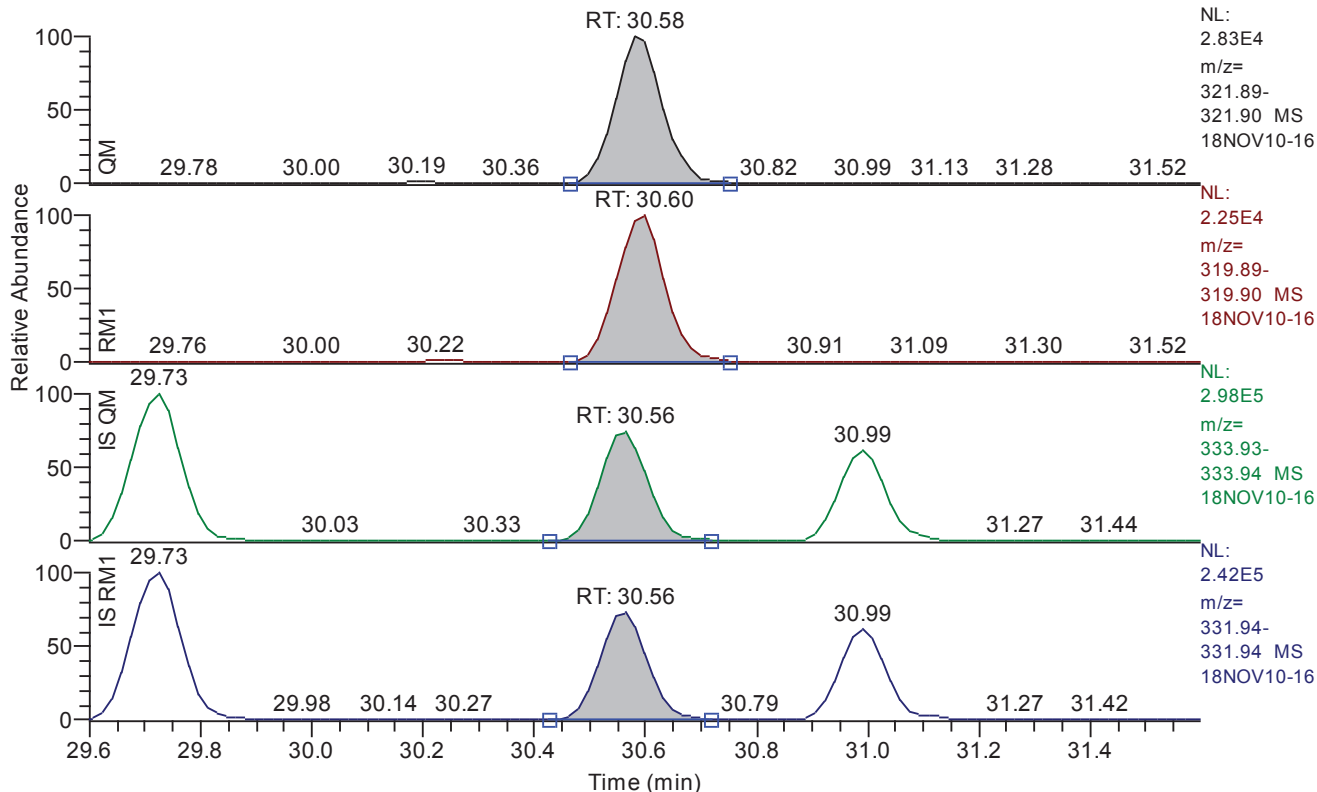


Entry Parameters

Compound Name	2378-TCDF
QM Retention Time	29.42
QM Area	231606
QM Integration Mode	A
RM1 Area	185219
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2082
Unqualified Amount (A)	206.178064
Adjusted Amount (A)	206.1781
Signal-to-Noise	2408
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 29.60 - 31.60 SM: 3G

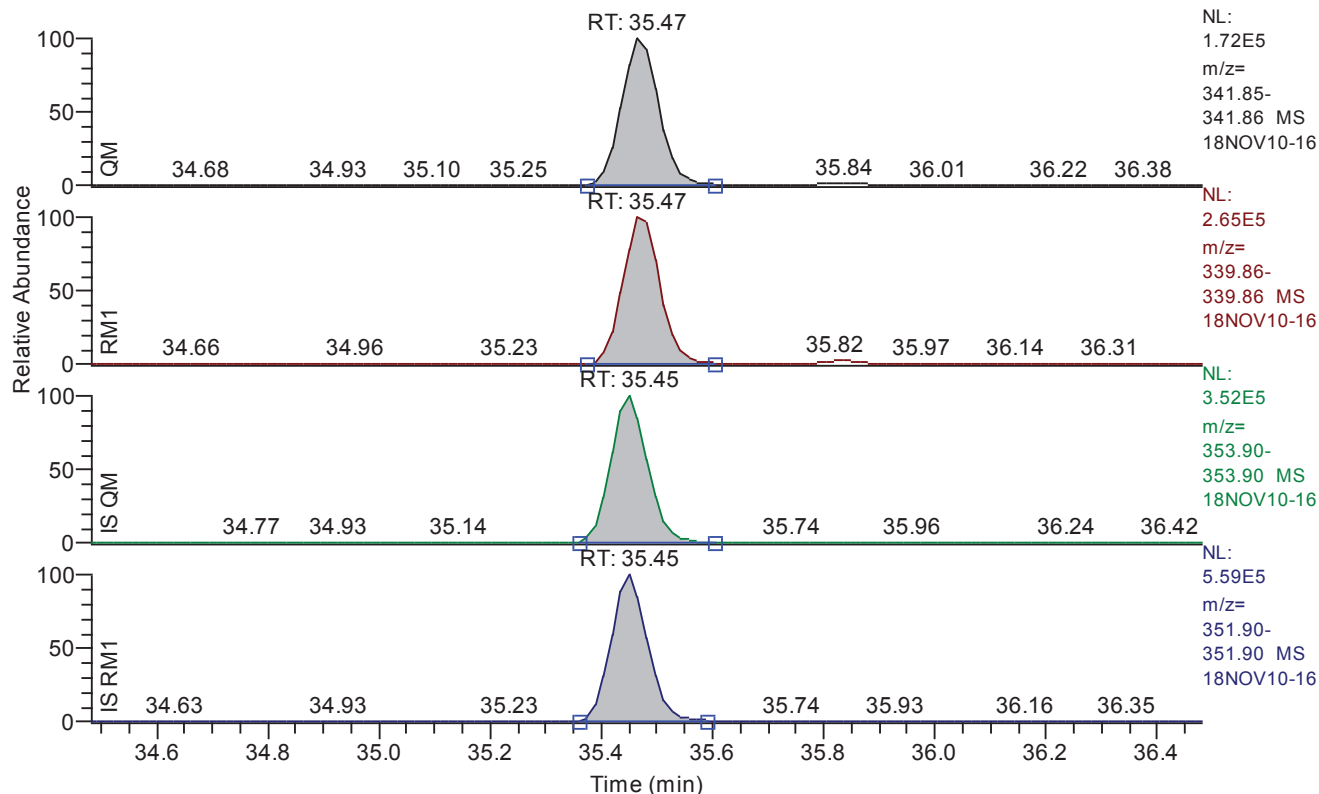


Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.58
QM Area	170947
QM Integration Mode	A
RM1 Area	139066
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1766
Unqualified Amount (A)	204.721181
Adjusted Amount (A)	204.7212
Signal-to-Noise	2861
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 34.48 - 36.48 SM: 3G

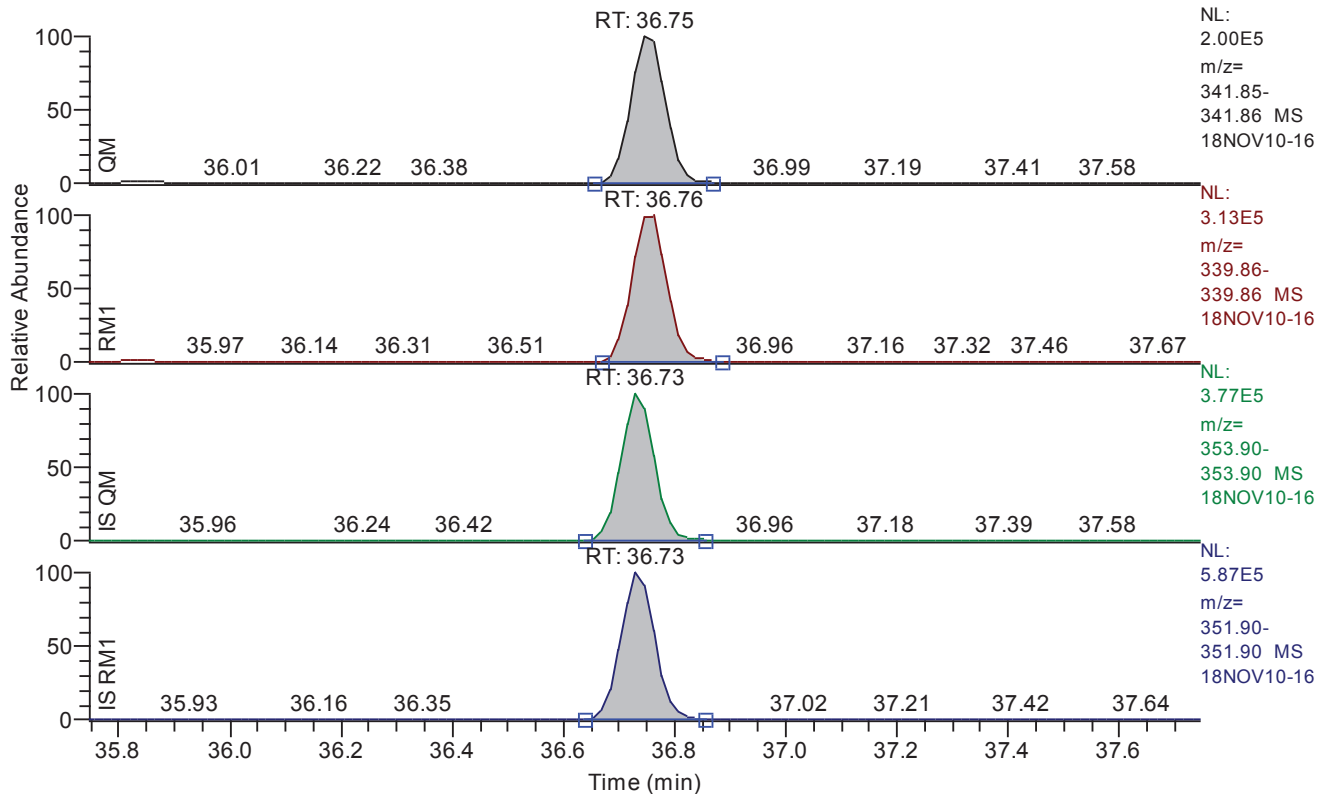


Entry Parameters

Compound Name	12378-PeCDF
QM Retention Time	35.47
QM Area	799383
QM Integration Mode	A
RM1 Area	1247293
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1828
Unqualified Amount (A)	1040.949792
Adjusted Amount (A)	1040.9498
Signal-to-Noise	13993
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 35.75 - 37.75 SM: 3G

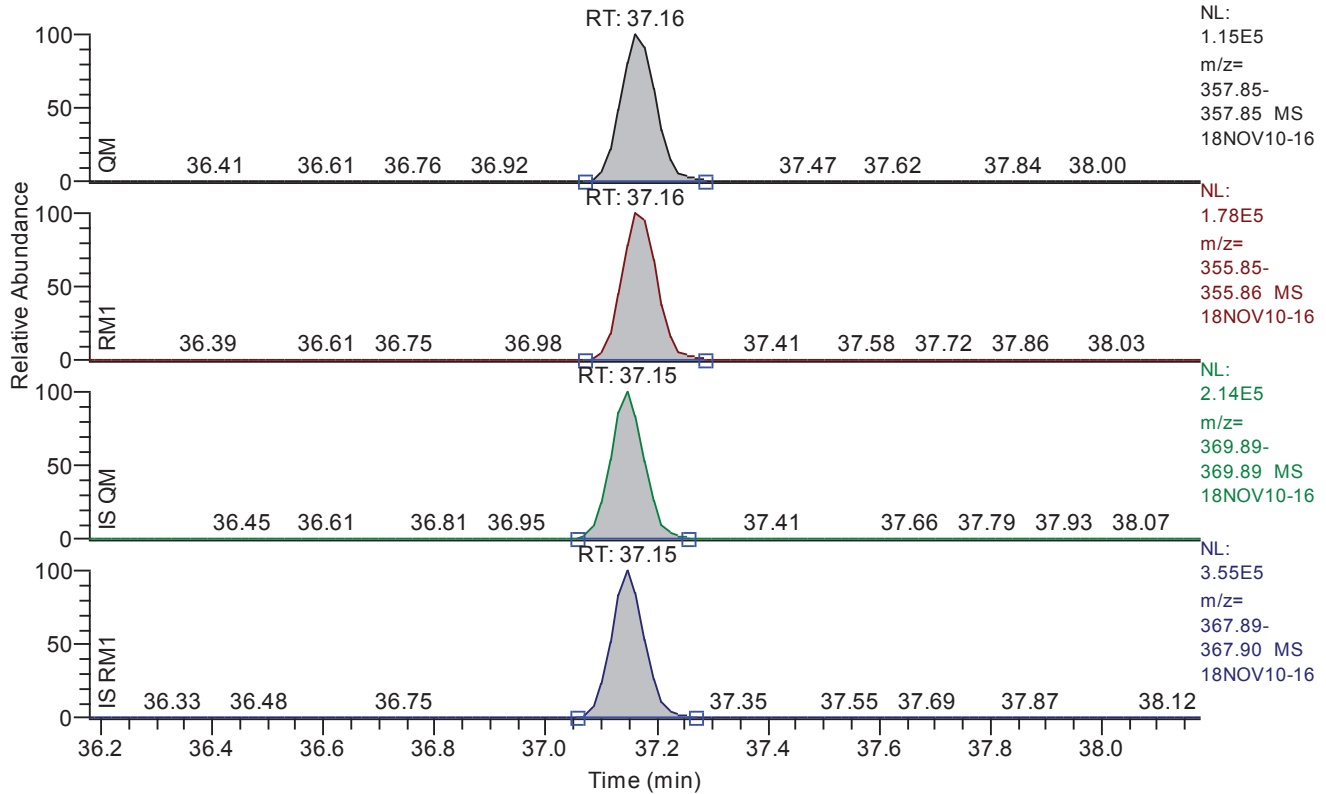


Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.75
QM Area	873100
QM Integration Mode	A
RM1 Area	1380716
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1541
Unqualified Amount (A)	1051.227134
Adjusted Amount (A)	1051.2271
Signal-to-Noise	16445
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 36.18 - 38.18 SM: 3G

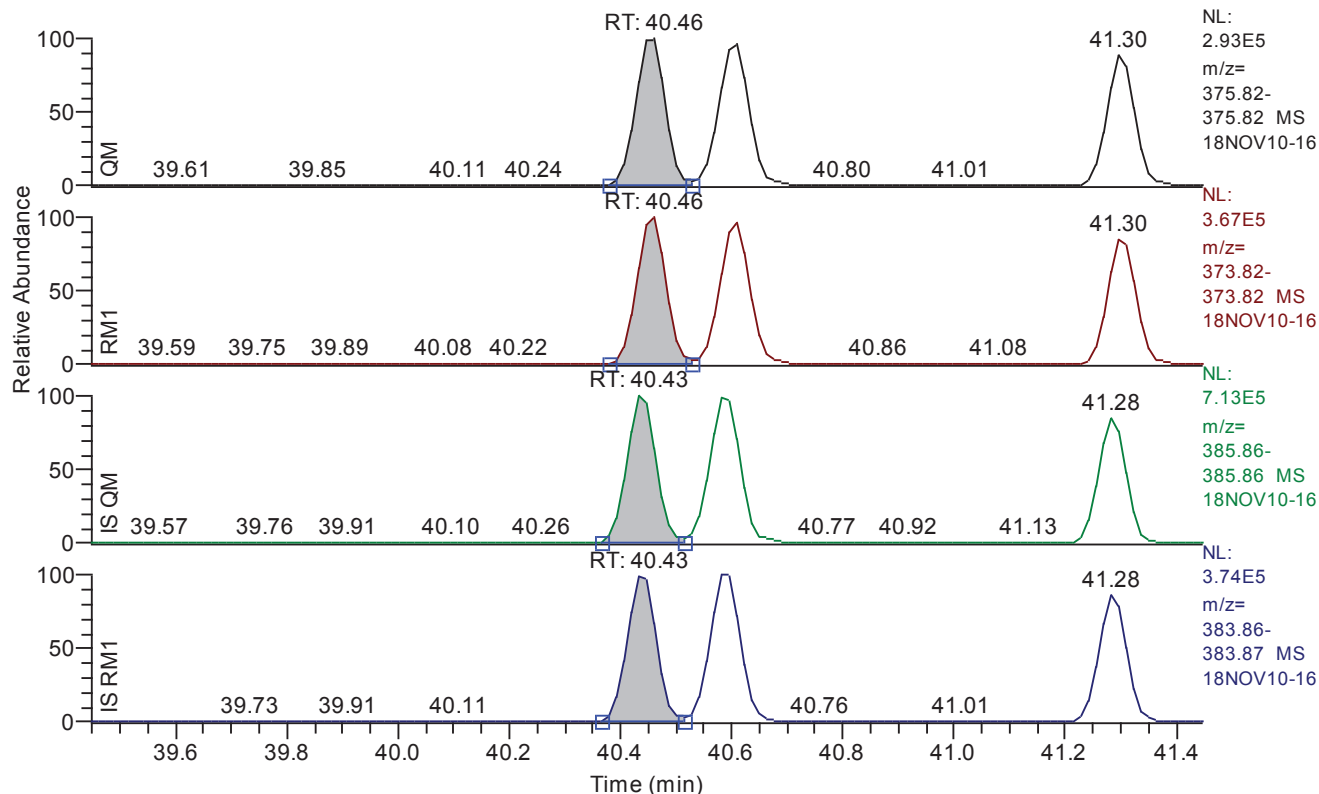


Entry Parameters

Compound Name	12378-PeCDD
QM Retention Time	37.16
QM Area	508498
QM Integration Mode	A
RM1 Area	786814
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3140
Unqualified Amount (A)	1078.489404
Adjusted Amount (A)	1078.4894
Signal-to-Noise	8198
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.45 - 41.45 SM: 3G

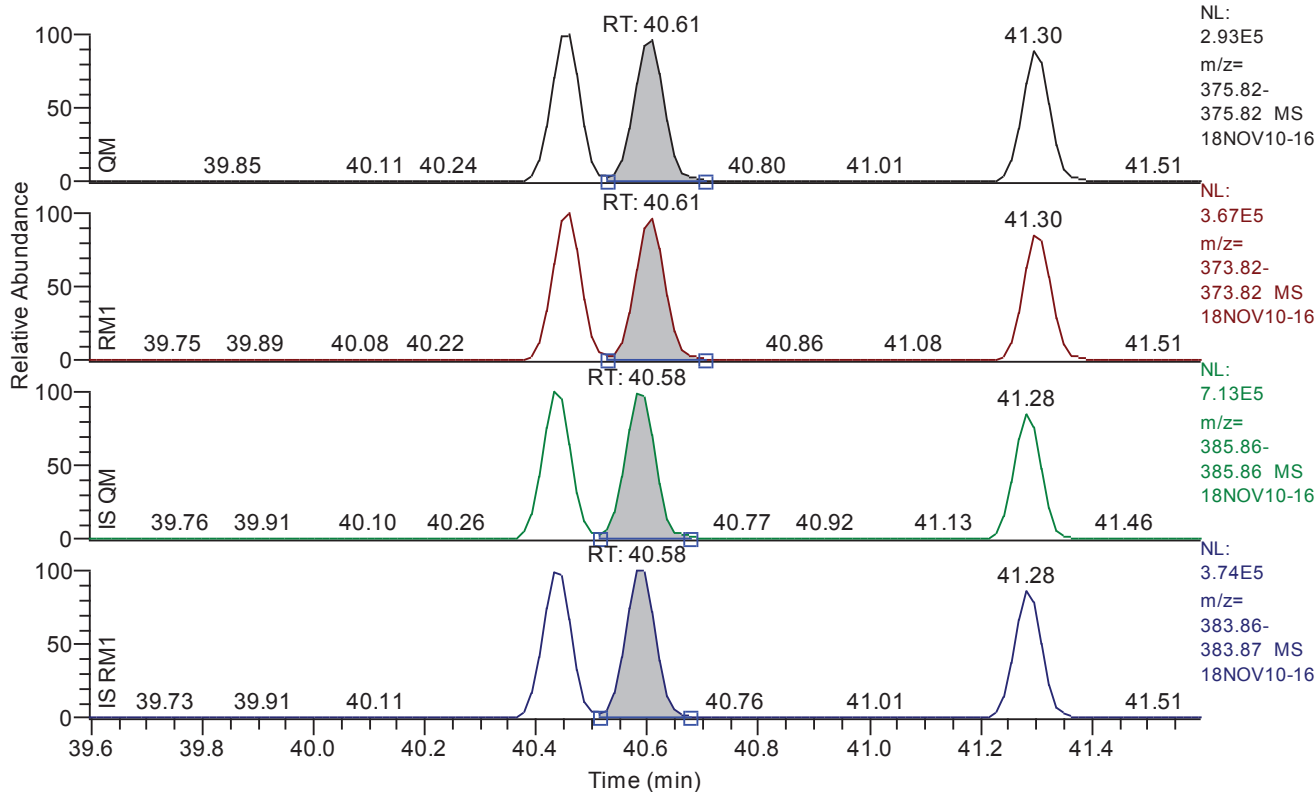


Entry Parameters

Compound Name	123478-HxCDF
QM Retention Time	40.46
QM Area	1075920
QM Integration Mode	A
RM1 Area	1330683
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3313
Unqualified Amount (A)	1098.832664
Adjusted Amount (A)	1098.8327
Signal-to-Noise	8250
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 39.60 - 41.60 SM: 3G

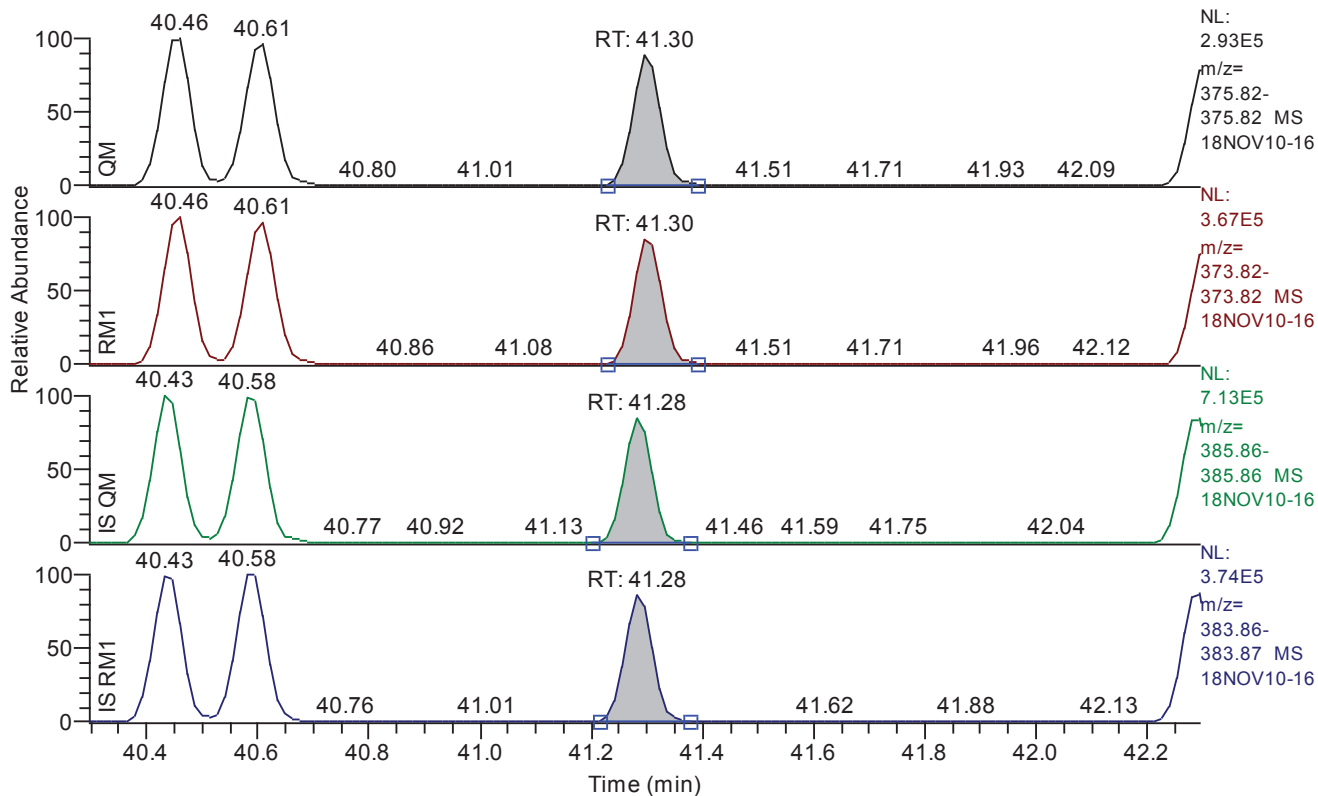


Entry Parameters

Compound Name	123678-HxCDF
QM Retention Time	40.61
QM Area	1072010
QM Integration Mode	A
RM1 Area	1327316
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3465
Unqualified Amount (A)	1094.103299
Adjusted Amount (A)	1094.1033
Signal-to-Noise	7966
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.30 - 42.30 SM: 3G

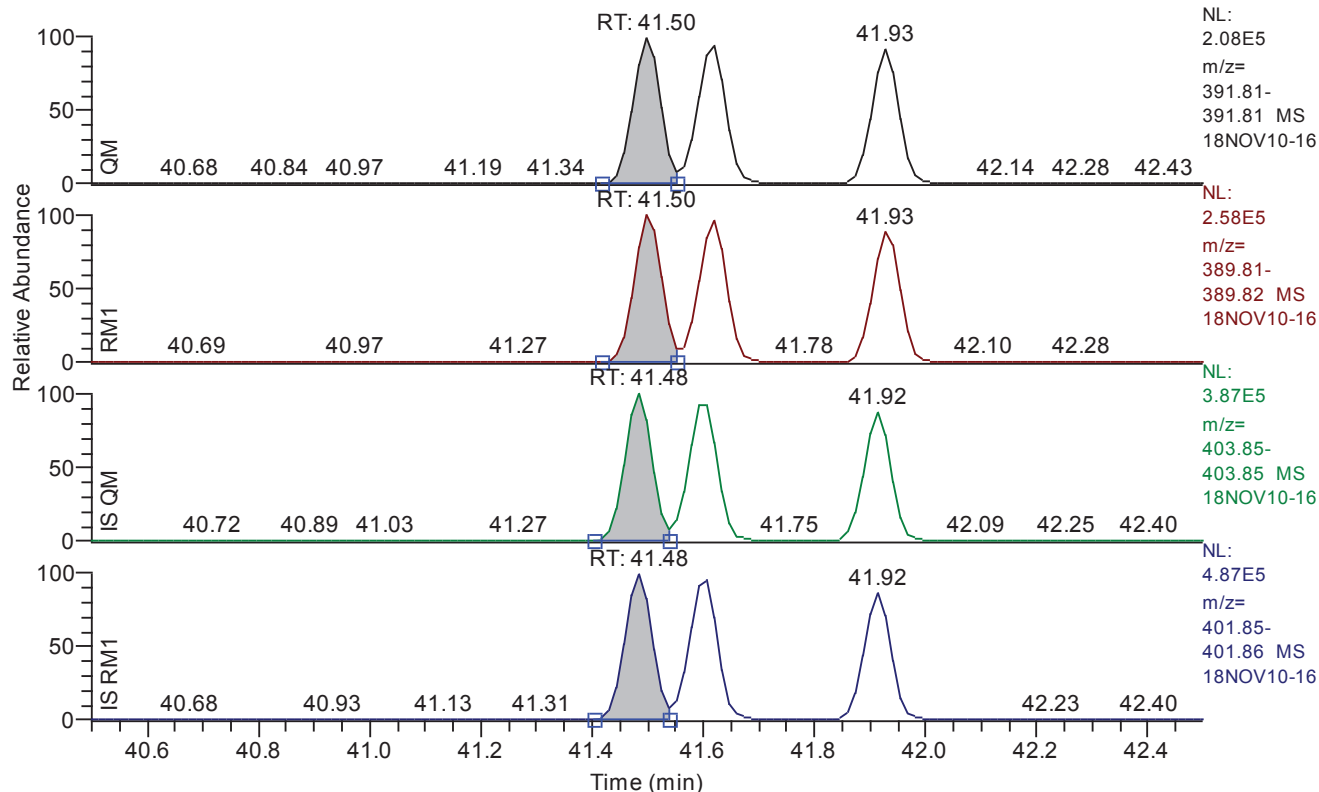


Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	41.30
QM Area	913946
QM Integration Mode	A
RM1 Area	1120991
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3712
Unqualified Amount (A)	1089.699847
Adjusted Amount (A)	1089.6998
Signal-to-Noise	7170
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.50 - 42.50 SM: 3G

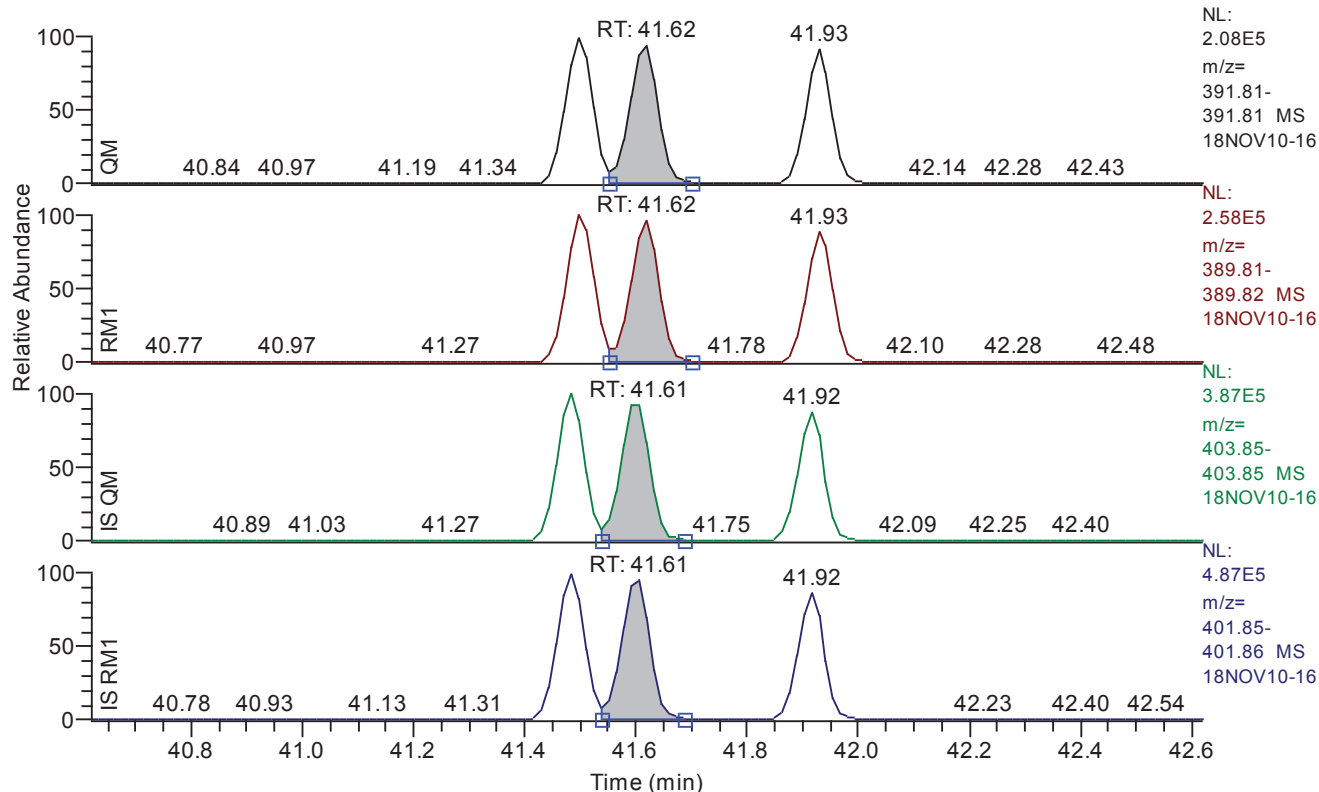


Entry Parameters

Compound Name	123478-HxCDD
QM Retention Time	41.50
QM Area	706876
QM Integration Mode	A
RM1 Area	886576
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2448
Unqualified Amount (A)	1054.819460
Adjusted Amount (A)	1054.8195
Signal-to-Noise	10734
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.62 - 42.62 SM: 3G

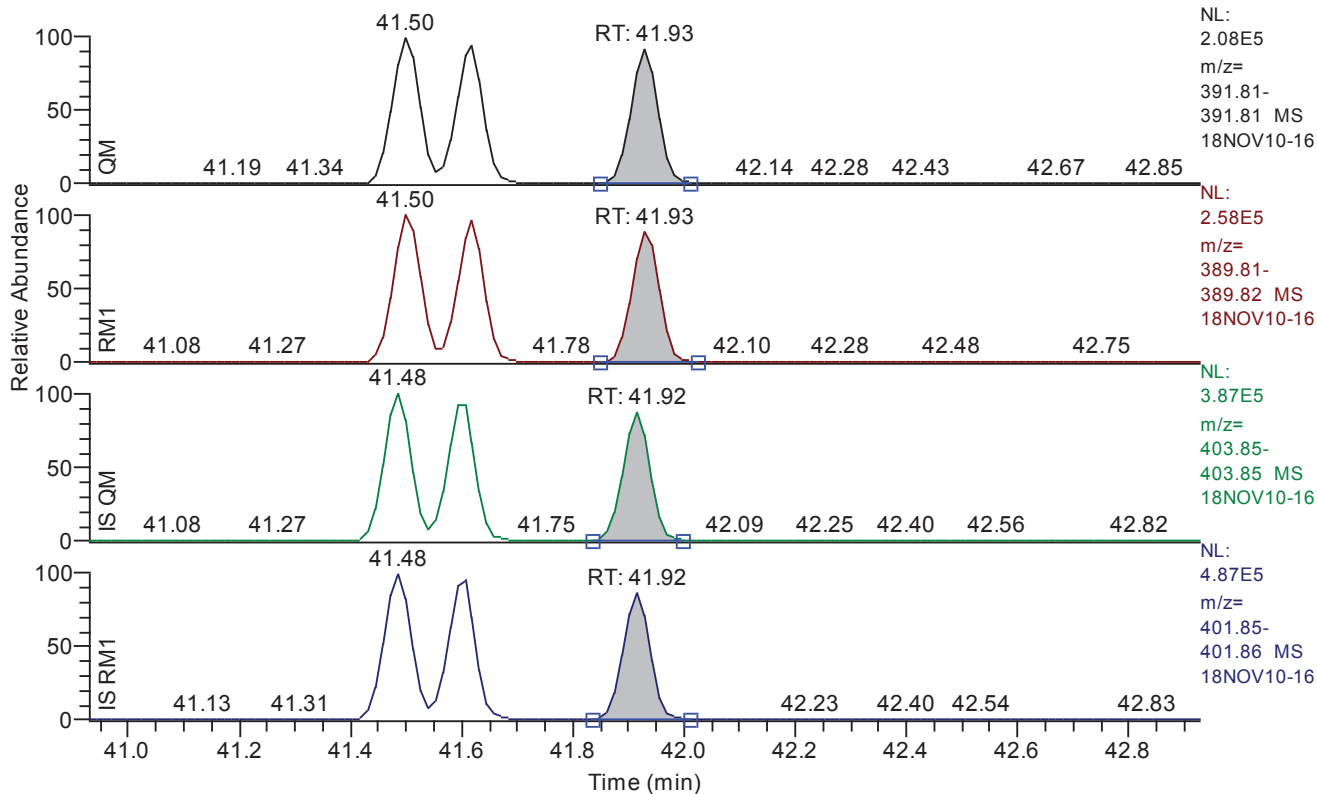


Entry Parameters

Compound Name	123678-HxCDD
QM Retention Time	41.62
QM Area	684875
QM Integration Mode	A
RM1 Area	870505
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2612
Unqualified Amount (A)	1046.828684
Adjusted Amount (A)	1046.8287
Signal-to-Noise	10212
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 40.93 - 42.93 SM: 3G

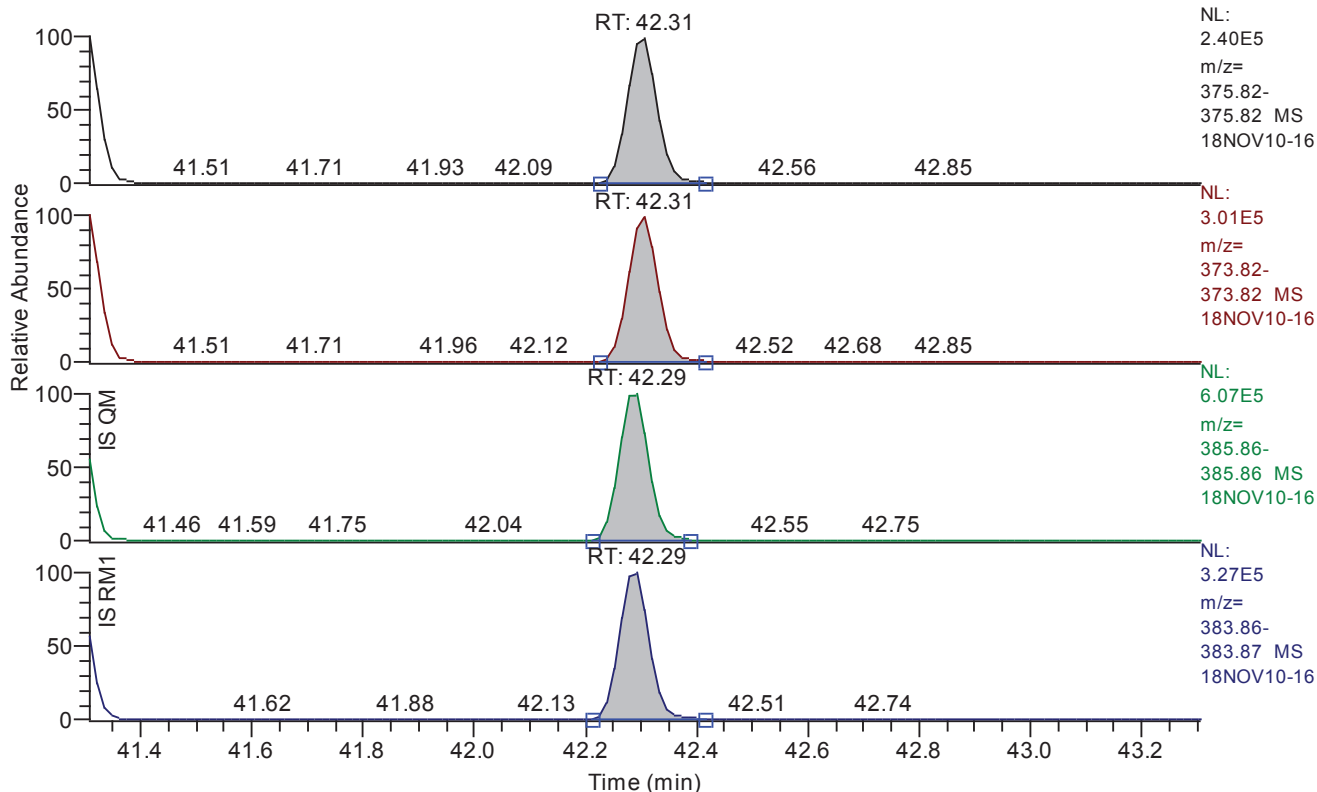


Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.93
QM Area	642771
QM Integration Mode	A
RM1 Area	796895
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2715
Unqualified Amount (A)	1064.291005
Adjusted Amount (A)	1064.2910
Signal-to-Noise	9682
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 41.31 - 43.31 SM: 3G

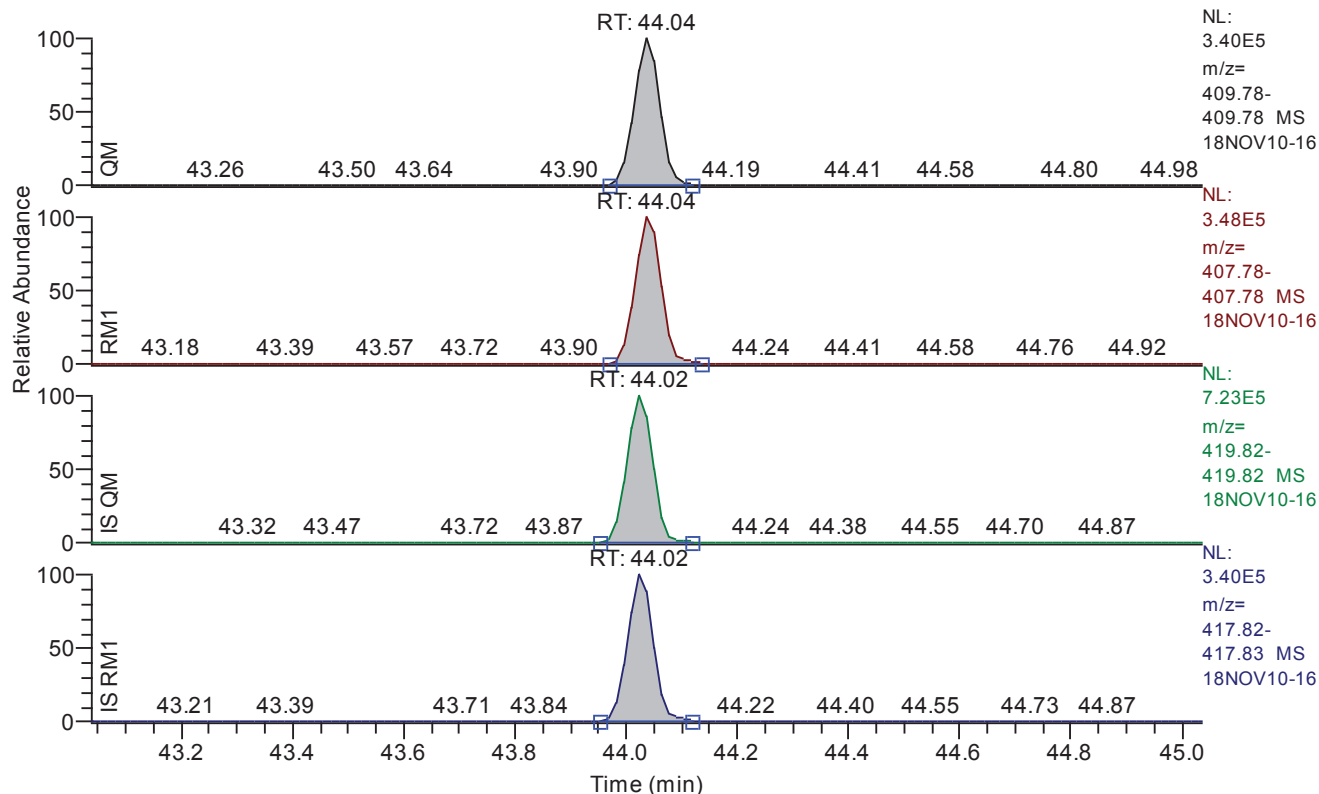


Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	42.31
QM Area	896611
QM Integration Mode	A
RM1 Area	1120459
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3977
Unqualified Amount (A)	1063.414471
Adjusted Amount (A)	1063.4145
Signal-to-Noise	6729
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 43.04 - 45.04 SM: 3G

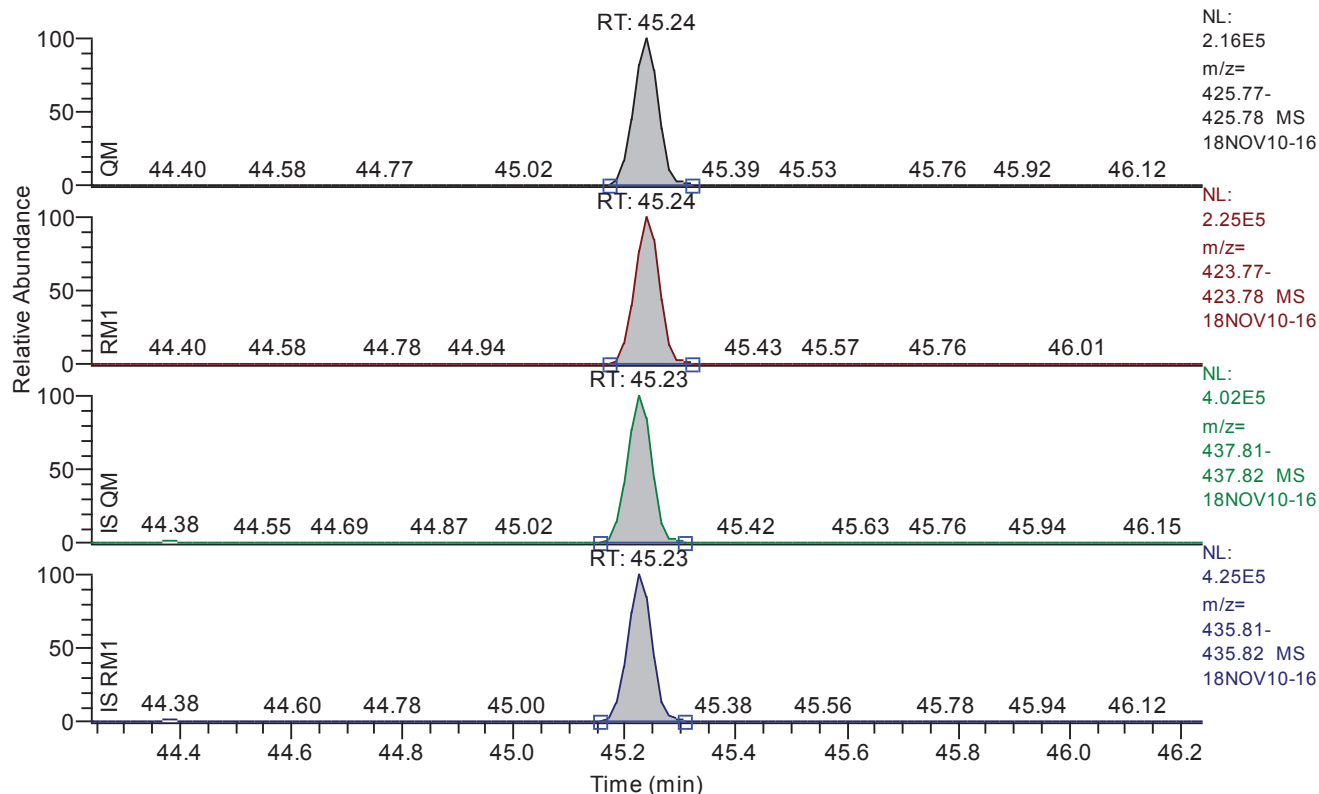


Entry Parameters

Compound Name	1234678-HpCDF
QM Retention Time	44.04
QM Area	1124392
QM Integration Mode	A
RM1 Area	1164467
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3457
Unqualified Amount (A)	1091.392975
Adjusted Amount (A)	1091.3930
Signal-to-Noise	7899
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.24 - 46.24 SM: 3G

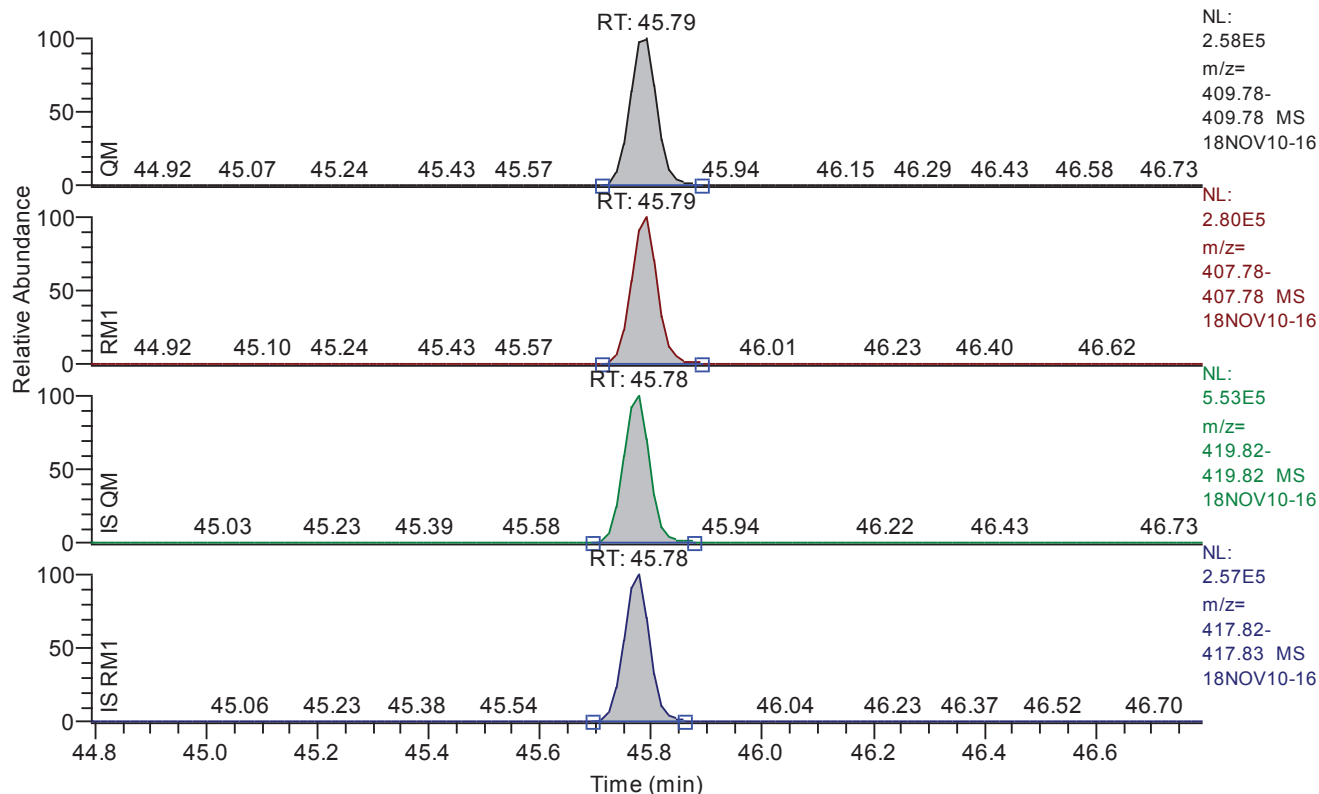


Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	45.24
QM Area	685119
QM Integration Mode	A
RM1 Area	716106
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3522
Unqualified Amount (A)	1048.971183
Adjusted Amount (A)	1048.9712
Signal-to-Noise	7413
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 44.79 - 46.79 SM: 3G

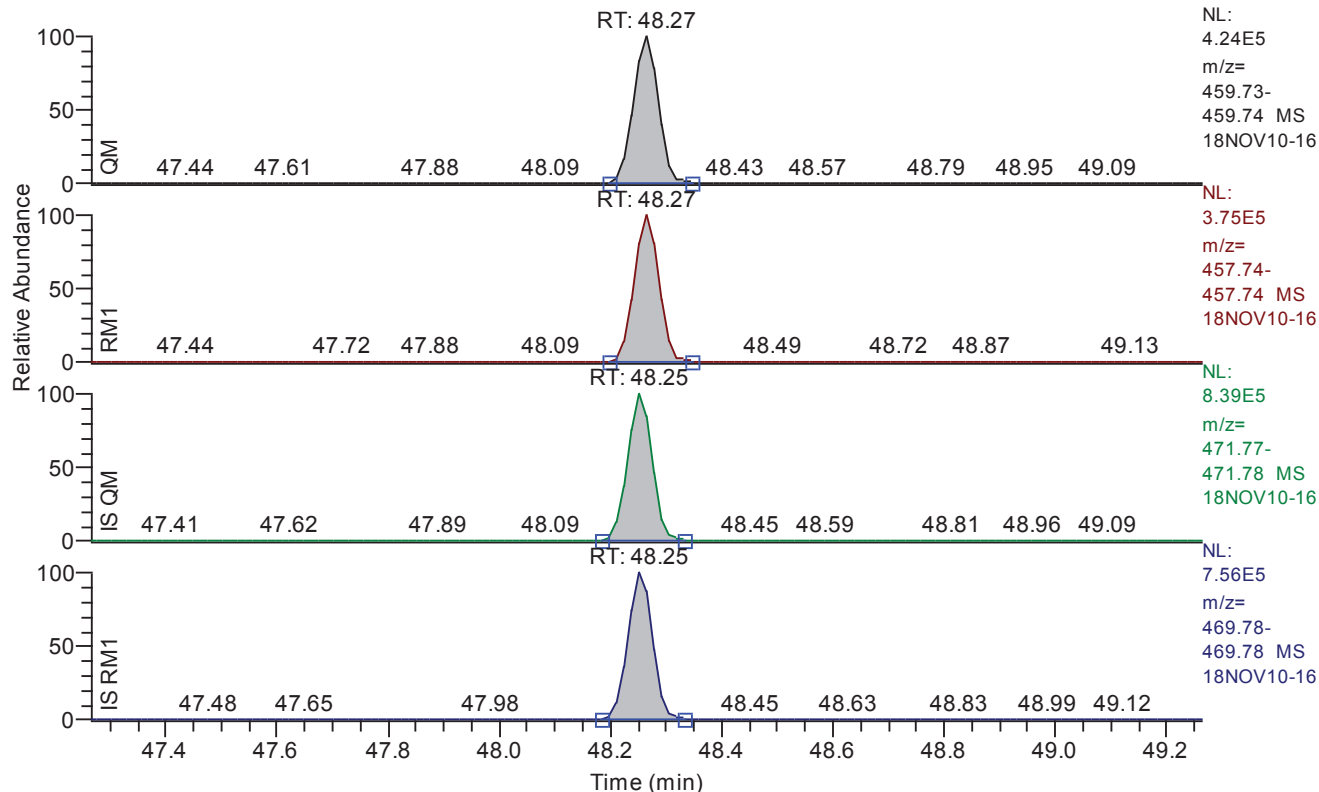


Entry Parameters

Compound Name	1234789-HpCDF
QM Retention Time	45.79
QM Area	899080
QM Integration Mode	A
RM1 Area	942202
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.4368
Unqualified Amount (A)	1093.992362
Adjusted Amount (A)	1093.9924
Signal-to-Noise	6167
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.27 - 49.27 SM: 3G

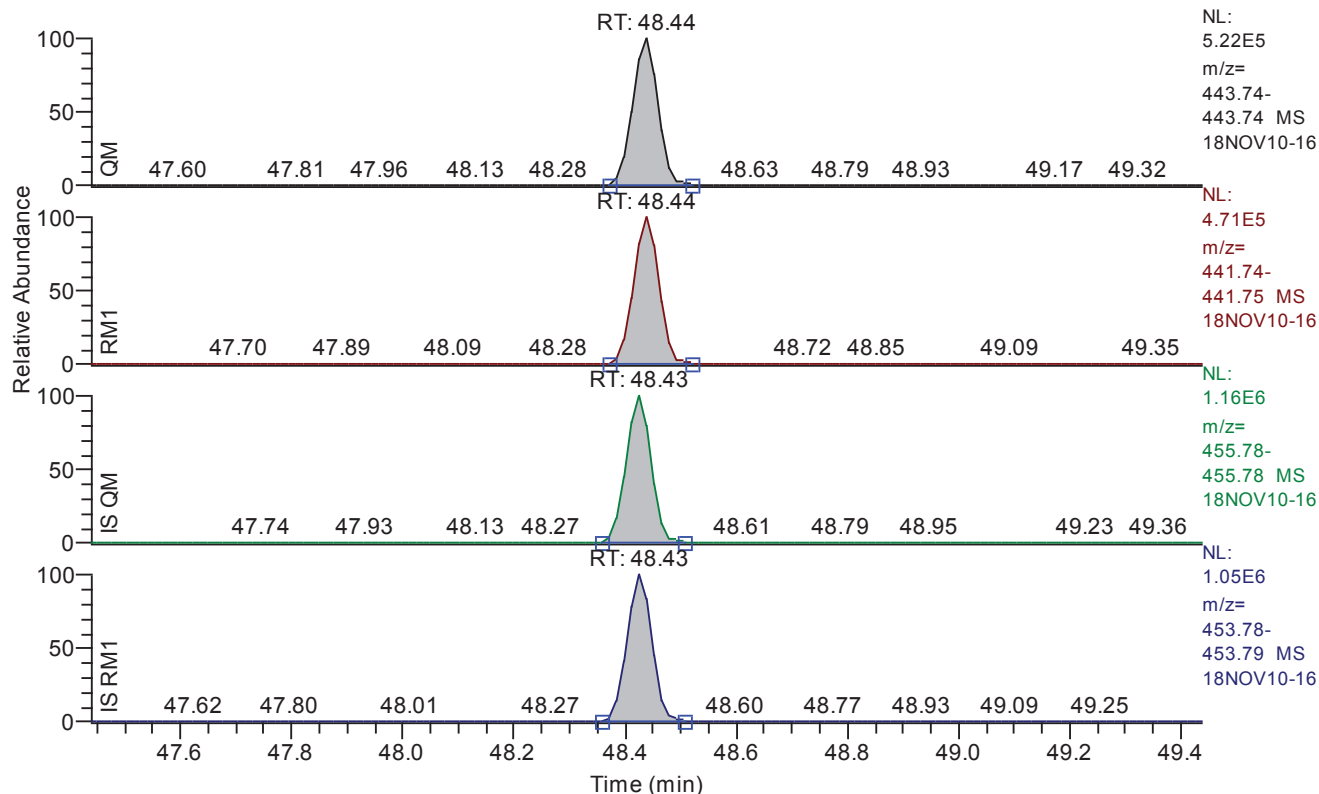


Entry Parameters

Compound Name	OCDD
QM Retention Time	48.27
QM Area	1323900
QM Integration Mode	A
RM1 Area	1165651
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3174
Unqualified Amount (A)	2057.991586
Adjusted Amount (A)	2057.9916
Signal-to-Noise	16000
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 47.44 - 49.44 SM: 3G

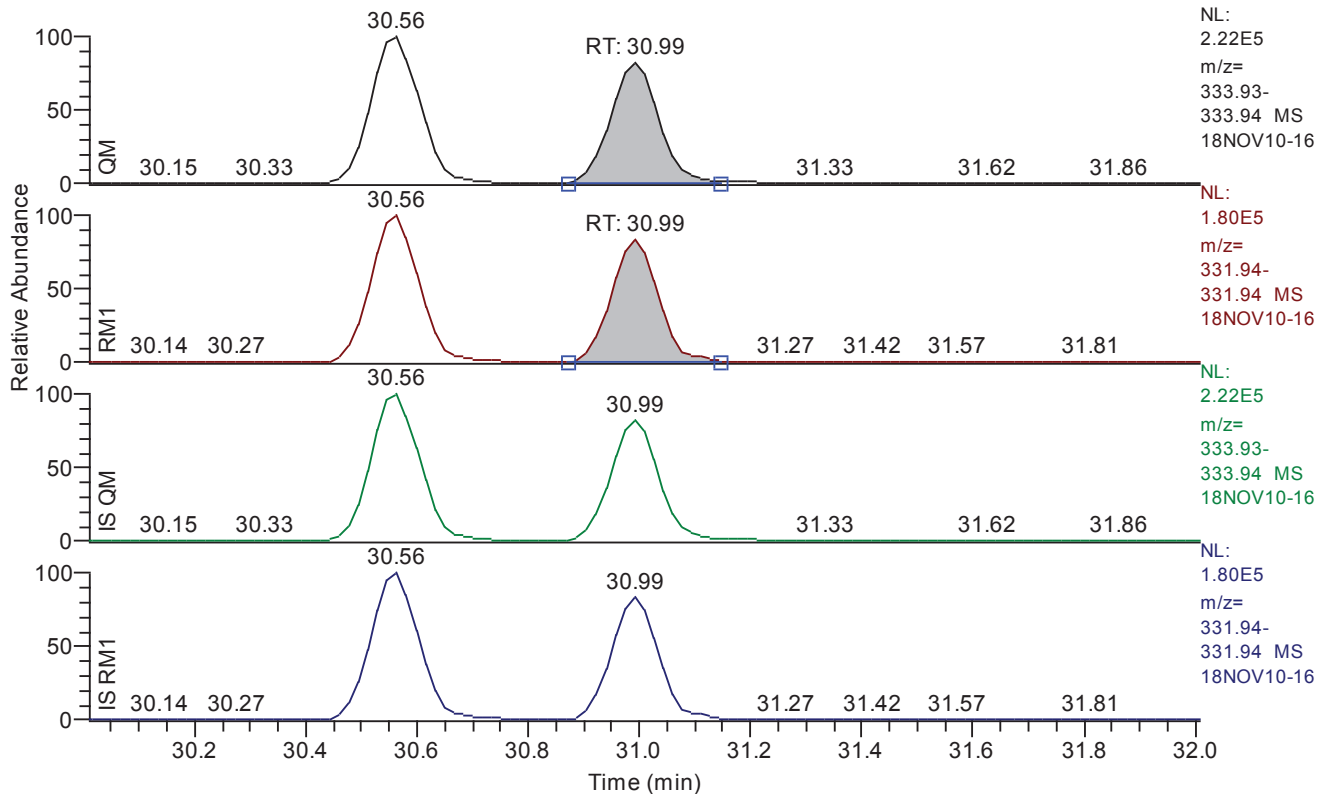


Entry Parameters

Compound Name	OCDF
QM Retention Time	48.44
QM Area	1643645
QM Integration Mode	A
RM1 Area	1481973
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.2480
Unqualified Amount (A)	2107.777481
Adjusted Amount (A)	2107.7775
Signal-to-Noise	21029
Client Flags	
Status Overview	passed
Status Info	

Chromatogram

RT: 30.01 - 32.01 SM: 3G



Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.99
QM Area	1094023
QM Integration Mode	A
RM1 Area	879343
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.3819
Unqualified Amount (A)	1121.804499
Adjusted Amount (A)	1121.8045
Signal-to-Noise	7729
Client Flags	
Status Overview	passed
Status Info	

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	29.40	29.42	29.42	29.40	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.58	30.58	30.60	30.56	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	35.47	35.47	35.47	35.45	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.74	36.75	36.76	36.73	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.16	37.16	37.16	37.15	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.45	40.46	40.46	40.43	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.59	40.61	40.61	40.58	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.28	41.30	41.30	41.28	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.50	41.50	41.48	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.60	41.62	41.62	41.61	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.91	41.93	41.93	41.92	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.29	42.31	42.31	42.29	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.02	44.04	44.04	44.02	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.22	45.24	45.24	45.23	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.78	45.79	45.79	45.78	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	48.25	48.27	48.27	48.25	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.42	48.44	48.44	48.43	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	29.71	29.73	29.73	29.73	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	40.35	40.37	40.37	40.37	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	29.38	29.40	29.40	29.27	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.55	30.56	30.56	30.56	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	35.43	35.45	35.45	35.27	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.73	36.73	36.73	36.70	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	37.13	37.15	37.15	37.15	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.43	40.43	40.43	40.41	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.58	40.58	40.58	40.54	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.27	41.28	41.28	41.28	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.47	41.48	41.48	41.48	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.59	41.61	41.61	41.61	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.90	41.92	41.92	41.92	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.28	42.29	42.29	42.29	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.01	44.02	44.02	44.01	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	45.21	45.23	45.23	45.23	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.76	45.78	45.78	45.75	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	48.23	48.25	48.25	48.25	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.41	48.43	48.43	48.45	passed	passed

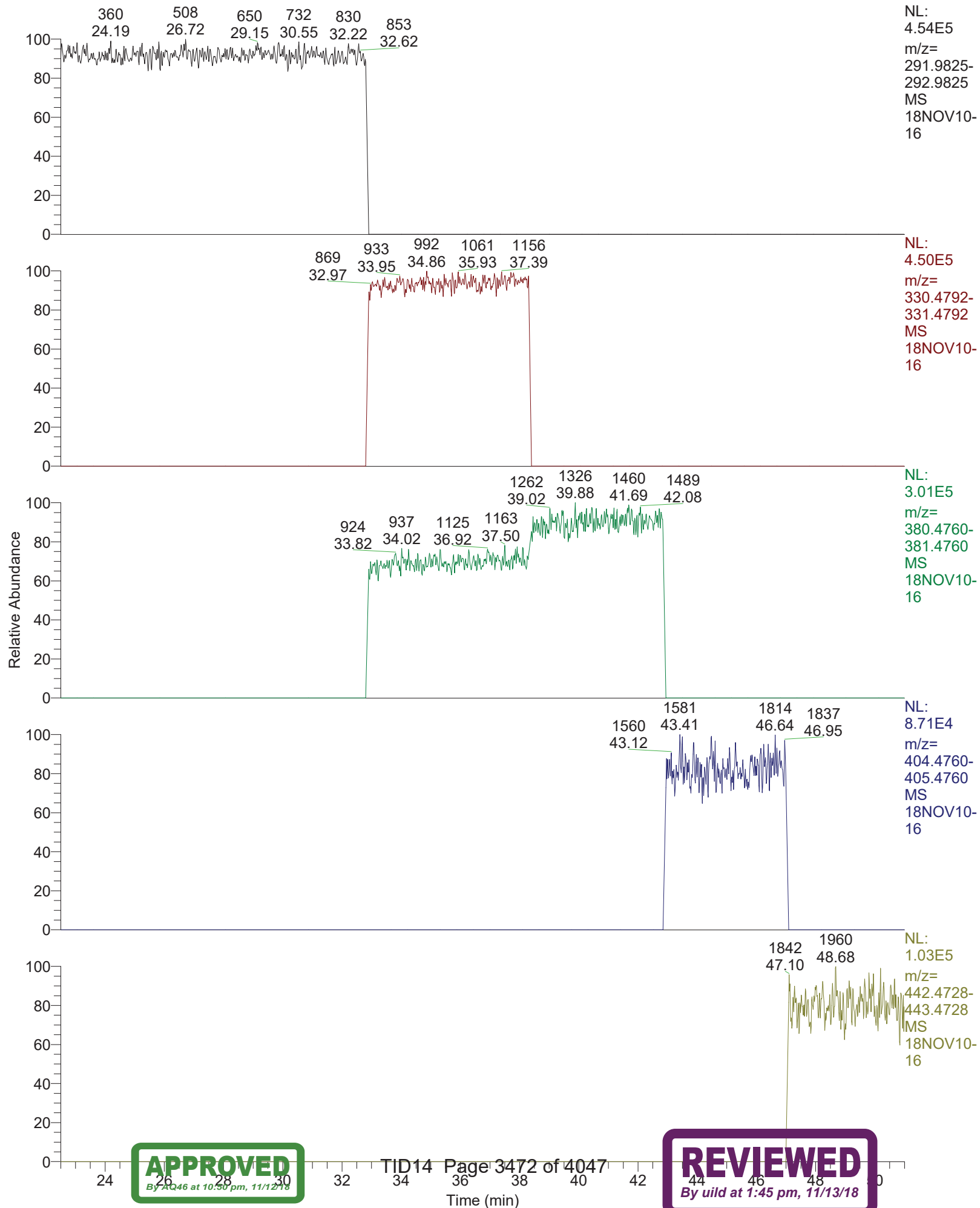
Entry Parameters

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	29.42	0.7997	0.6450 - 0.8950	passed	103.09	72 - 138	passed
2	2378-TCDD	30.58	0.8135	0.6450 - 0.8950	passed	102.36	71 - 125	passed
3	12378-PeCDF	35.47	1.5603	1.3150 - 1.7850	passed	104.09	82 - 130	passed
4	23478-PeCDF	36.75	1.5814	1.3150 - 1.7850	passed	105.12	77 - 129	passed
5	12378-PeCDD	37.16	1.5473	1.3150 - 1.7850	passed	107.85	76 - 121	passed
6	123478-HxCDF	40.46	1.2368	1.0450 - 1.4350	passed	109.88	80 - 130	passed
7	123678-HxCDF	40.61	1.2382	1.0450 - 1.4350	passed	109.41	79 - 131	passed
8	234678-HxCDF	41.30	1.2265	1.0450 - 1.4350	passed	108.97	81 - 130	passed
9	123478-HxCDD	41.50	1.2542	1.0450 - 1.4350	passed	105.48	80 - 126	passed
10	123678-HxCDD	41.62	1.2710	1.0450 - 1.4350	passed	104.68	78 - 134	passed
11	123789-HxCDD	41.93	1.2398	1.0450 - 1.4350	passed	106.43	76 - 137	passed
12	123789-HxCDF	42.31	1.2497	1.0450 - 1.4350	passed	106.34	83 - 130	passed
13	1234678-HpCDF	44.04	1.0356	0.8750 - 1.2050	passed	109.14	81 - 130	passed
14	1234678-HpCDD	45.24	1.0452	0.8750 - 1.2050	passed	104.90	79 - 122	passed
15	1234789-HpCDF	45.79	1.0480	0.8750 - 1.2050	passed	109.40	77 - 128	passed
16	OCDD	48.27	0.8805	0.7550 - 1.0250	passed	102.90	81 - 135	passed
17	OCDF	48.44	0.9016	0.7550 - 1.0250	passed	105.39	66 - 150	passed
18	13C12-1278-TCDD (CRS)	30.99	0.8038	0.6450 - 0.8950	passed	56.09	31 - 191	passed
19	13C12-1234-TCDD	29.73	0.8165	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.37	1.2689	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	29.40	0.8123	0.6450 - 0.8950	passed	56.04	40 - 135	passed
22	13C12-2378-TCDD	30.56	0.7969	0.6450 - 0.8950	passed	71.45	40 - 135	passed
23	13C12-12378-PeCDF	35.45	1.5687	1.3150 - 1.7850	passed	64.66	40 - 135	passed
24	13C12-23478-PeCDF	36.73	1.5886	1.3150 - 1.7850	passed	63.09	40 - 135	passed
25	13C12-12378-PeCDD	37.15	1.6528	1.3150 - 1.7850	passed	68.53	40 - 135	passed
26	13C12-123478-HxCDF	40.43	0.5276	0.4250 - 0.5950	passed	66.82	40 - 135	passed
27	13C12-123678-HxCDF	40.58	0.5322	0.4250 - 0.5950	passed	64.95	40 - 135	passed
28	13C12-234678-HxCDF	41.28	0.5338	0.4250 - 0.5950	passed	56.48	40 - 135	passed
29	13C12-123478-HxCDD	41.48	1.2634	1.0450 - 1.4350	passed	73.45	40 - 135	passed
30	13C12-123678-HxCDD	41.61	1.2648	1.0450 - 1.4350	passed	70.24	40 - 135	passed
31	13C12-123789-HxCDD	41.92	1.2383	1.0450 - 1.4350	passed	64.52	40 - 135	passed
32	13C12-123789-HxCDF	42.29	0.5351	0.4250 - 0.5950	passed	66.07	40 - 135	passed
33	13C12-1234678-HpCDF	44.02	0.4658	0.3650 - 0.5150	passed	66.04	40 - 135	passed
34	13C12-1234678-HpCDD	45.23	1.0480	0.8750 - 1.2050	passed	66.24	40 - 135	passed
35	13C12-1234789-HpCDF	45.78	0.4512	0.3650 - 0.5150	passed	60.74	40 - 135	passed
36	13C12-OCDD	48.25	0.9003	0.7550 - 1.0250	passed	58.65	40 - 135	passed
37	13C12-OCDF	48.43	0.9024	0.7550 - 1.0250	passed	56.06	40 - 135	passed

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	29.42	231606	A	185219	A	0.2082	206.178064	206.1781	200.000000	2408	
2	2378-TCDD	passed	30.58	170947	A	139066	A	0.1766	204.721181	204.7212	200.000000	2861	
3	12378-PeCDF	passed	35.47	799383	A	1247293	A	0.1828	1040.949792	1040.9498	1000.000000	13993	
4	23478-PeCDF	passed	36.75	873100	A	1380716	A	0.1541	1051.227134	1051.2271	1000.000000	16445	
5	12378-PeCDD	passed	37.16	508498	A	786814	A	0.3140	1078.489404	1078.4894	1000.000000	8198	
6	123478-HxCDF	passed	40.46	1075920	A	1330683	A	0.3313	1098.832664	1098.8327	1000.000000	8250	
7	123678-HxCDF	passed	40.61	1072010	A	1327316	A	0.3465	1094.103299	1094.1033	1000.000000	7966	
8	234678-HxCDF	passed	41.30	913946	A	1120991	A	0.3712	1089.699847	1089.6998	1000.000000	7170	
9	123478-HxCDD	passed	41.50	706876	A	886576	A	0.2448	1054.819460	1054.8195	1000.000000	10734	
10	123678-HxCDD	passed	41.62	684875	A	870505	A	0.2612	1046.828684	1046.8287	1000.000000	10212	
11	123789-HxCDD	passed	41.93	642771	A	796895	A	0.2715	1064.291005	1064.2910	1000.000000	9682	
12	123789-HxCDF	passed	42.31	896611	A	1120459	A	0.3977	1063.414471	1063.4145	1000.000000	6729	
13	1234678-HpCDF	passed	44.04	1124392	A	1164467	A	0.3457	1091.392975	1091.3930	1000.000000	7899	
14	1234678-HpCDD	passed	45.24	685119	A	716106	A	0.3522	1048.971183	1048.9712	1000.000000	7413	
15	1234789-HpCDF	passed	45.79	899080	A	942202	A	0.4368	1093.992362	1093.9924	1000.000000	6167	
16	OCDD	passed	48.27	1323900	A	1165651	A	0.3174	2057.991586	2057.9916	2000.000000	16000	
17	OCDF	passed	48.44	1643645	A	1481973	A	0.2480	2107.777481	2107.7775	2000.000000	21029	
18	13C12-1278-TCDD (CRS)	passed	30.99	1094023	A	879343	A	0.3819	1121.804499	1121.8045	2000.000000	7729	
19	13C12-1234-TCDD	passed	29.73	1854667	A	1514274	A	0.3988	2000.000000	2000.0000	2000.000000	12536	
20	13C12-123468-HxCDD	passed	40.37	1793256	A	2275410	A	0.3584	2000.000000	2000.0000	2000.000000	13951	
21	13C12-2378-TCDF	passed	29.40	2122074	A	1723786	A	0.1905	1120.895794	1120.8958	2000.000000	14942	
22	13C12-2378-TCDD	passed	30.56	1348217	A	1074381	A	0.3963	1429.097135	1429.0971	2000.000000	9317	
23	13C12-12378-PeCDF	passed	35.45	1633540	A	2562604	A	0.5466	1293.155236	1293.1552	2000.000000	7998	
24	13C12-23478-PeCDF	passed	36.73	1576932	A	2505108	A	0.5482	1261.820698	1261.8207	2000.000000	8466	
25	13C12-12378-PeCDD	passed	37.15	904007	A	1494137	A	0.3376	1370.595740	1370.5957	2000.000000	15032	
26	13C12-123478-HxCDF	passed	40.43	2574717	A	1358491	A	0.3323	1336.319497	1336.3195	2000.000000	9939	
27	13C12-123678-HxCDF	passed	40.58	2666478	A	1419098	A	0.3109	1298.945614	1298.9456	2000.000000	9856	
28	13C12-234678-HxCDF	passed	41.28	2118586	A	1130829	A	0.3400	1129.600156	1129.6002	2000.000000	8593	
29	13C12-123478-HxCDD	passed	41.48	1318666	A	1665955	A	0.3589	1469.079654	1469.0797	2000.000000	10764	
30	13C12-123678-HxCDD	passed	41.61	1308480	A	1655012	A	0.3456	1404.773234	1404.7732	2000.000000	10183	
31	13C12-123789-HxCDD	passed	41.92	1148051	A	1421651	A	0.3661	1290.419151	1290.4192	2000.000000	9331	
32	13C12-123789-HxCDF	passed	42.29	2300488	A	1231071	A	0.3659	1321.475343	1321.4753	2000.000000	8583	
33	13C12-1234678-HpCDF	passed	44.02	2413927	A	1124396	A	0.3198	1320.767864	1320.7679	2000.000000	11152	
34	13C12-1234678-HpCDD	passed	45.23	1279650	A	1341035	A	0.3671	1324.883569	1324.8836	2000.000000	10235	
35	13C12-1234789-HpCDF	passed	45.78	1883396	A	849862	A	0.3808	1214.769728	1214.7697	2000.000000	8496	
36	13C12-OCDD	passed	48.25	2582176	A	2324631	A	0.1149	2346.197062	2346.1971	4000.000000	59676	
37	13C12-OCDF	passed	48.43	3615588	A	3262682	A	0.1569	2242.444489	2242.4445	4000.000000	41260	

RT: 22.50 - 51.00



18NOV10-16

*** file opened Sat Nov 10 07:39:14 2018 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - 0000
Workstation internet name - US19INS07624

Analysis started at: 10-Nov-18 07:39:13

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : a22d5ac6-7a6a-480e-b3d0-c3f6f370acda

MID procedure: PFK18FEB21_DF+1MID

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	18:00 min	4:00 min	22:00 min	1.00 sec
# 2	22:00 min	10:47 min	32:47 min	1.00 sec
# 3	32:47 min	5:30 min	38:17 min	0.90 sec
# 4	38:17 min	4:33 min	42:51 min	0.80 sec
# 5	42:51 min	4:08 min	47:00 min	0.80 sec
# 6	47:00 min	4:00 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
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 22.016667 minutes
MID window end time was 22.010000 minutes
MID window terminated after 32.800000 minutes
MID window end time was 32.800000 minutes

Page 2

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3474 of 4047

REVIEWED

By uild at 1:45 pm, 11/13/18

18NOV10-16
MID window terminated after 38.300000 minutes
MID window end time was 38.300000 minutes
MID window terminated after 42.850000 minutes
MID window end time was 42.850000 minutes
MID window terminated after 47.000000 minutes
MID window end time was 47.000000 minutes
MID window terminated after 51.000000 minutes
MID window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18AUG08Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0169	BMASS	98.0000
BQUAD	3.1000	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	1.0000	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9995	EDACZ	4065.0000
ELEN	-50.0000	EMULT	2400.0000	ENS	344.0000
ENSBR	3.1000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	165.0000	EXSBR	-4.3000
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	299.9723	FMII	50.0000	FQUAD	11.3500
FQUADGAIN	0.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0075	FVINLET	0.0381	FVSR	0.0366
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	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	764.0000
LENS_SYM	33.7500	LM	299.9723	LMII	500.0000
LMASS	98.0000	LKM	442.9723	MASS	98.0000
MDAC	1429408.8034	MRANGE	1318.7819	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-6.0000	RECURR	0.9871	RELEN	0.0000
RES	12274.2367	RPUSHER	-6.0000	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	740.0000	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	5.0000	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	98.0000	XLENS_POT	1000.0000
XLENS_SYM	-8.2500	YLENS_POT	670.0000	YLENS_SYM	-61.2500

Source Gauge: 2.1e-005 mbar
Analyzer Penning: 6.6e-008 mbar
Pirani Analyse: 7.6e-003 mbar
Pirani Source: 3.7e-002 mbar
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11188.
MID Time window 2: Resolution is 11191.
MID Time window 3: Resolution is 11359.
MID Time window 4: Resolution is 11769.

Page 3

APPROVED

By AQ46 at 10:50 pm, 11/12/18

TID14 Page 3475 of 4047

REVIEWED

By uild at 1:45 pm, 11/13/18

18NOV10-16

MID Time Window 5: Resolution is 12072.
MID Time Window 6: Resolution is 12274.

Amplifier Offset: 80.

*** File closed Sat Nov 10 08:30:14 2018

Extraction Logs

Dioxins/Furans by HRMS

Organic Extraction Batchlog

Assigned to: 0

Tech 1: DM2 308

Reviewed by: JAD 12/28/11

Start Date: 11/09/18

Start time: 11:29

18313007

Tech 2: JP 26809

Sox Start: NA

Sox Stop: NA

Dry Stop: NA

Analyses on Batch: Dioxins/Furans in Water - 8290

Dept: 37 Prep Analysis: 10914 Dioxins/Furans in Water - SepF

QC	Sample Code	Amt (L)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (uL)	Filter (Y/N)	IS amt (uL)	BC	Comments
9876335MS	14T04	1.05	LCSDFX1837AS	0.1	PARDFX1837AP	0.1	20	N	10	243b	
9876336MSD	14T04	1.05	LCSDFX1837AS	0.1	PARDFX1837AP	0.1	20		10	D6	
BLANKA	BLK313007	1.0	LCSDFX1837AS	0.1			20		10	Z	
LCSA	OPR313007	1.0	LCSDFX1837AS	0.1	PARDFX1837AP	0.1	20		10		

Solvent Used	Lot No.
21mm filter paper	16815315
90mm filter paper	NA
Filter (Y/N)	N
M-vap	15614
Microvap Temp	40
S-bath ID	17607
Sox Start	NA
Sox Stop	NA
Spike Time	11:39
Witness	DM2 308
glass fiber thimble	NA
hexane	184810
methylene chloride	1873576
sodium sulfate	308116218C
toluene	NA

Spike Solutions:

Witness: DM2 308

Instrument: DF 17611

PARDFX1837AP DF Perform and Rec Spike

Sequence: X-11820016

LCSDFX1837AS DF Labeled Comp Spike

Sample #	Sample Code	Amt (L)	SS/IS Sol.	Amt (mL)	FV (uL)	Filter Y/N	IS amt (uL)	BC	Comments	Analyses	Due Date	Prio
1	9876332 R	1.04	LCSDFX1837AS	0.1	20	N	10	243b	(S) JP 26809 11/09/18	12936	11/13/2018	N
2	9876334 R	1.05	LCSDFX1837AS	0.1	20		10	243b	D6	12936	11/13/2018	N
3	9876342 R	1.05	LCSDFX1837AS	0.1	20		10	243b		12936	11/13/2018	N
4	9881309	1.04	LCSDFX1837AS	0.1	20		10	243b		12936	11/15/2018	N
5	9881310	1.01	LCSDFX1837AS	0.1	20		10	243b		12936	11/15/2018	N
6	9881313	1.03	LCSDFX1837AS	0.1	20		10	243b		12936	11/15/2018	N

IS Added by: JAD 12/28/11 Date: 11/19/18

Internal Standard 1827437B

Balance # 17779

S-bath ID 17607

Micro Unit 95

M-vap 15614

40C

18313007

DF = Dilution Factor FV = Final Volume

Page 1 of 1

Documented temps are NIST corrected.

DF column cleanup
Prep: 10914 Dioxins/Furans in Water - SepF
Batch: 18313007

Reviewed by: JAD12811
Start Date: 11/09/18
Start Time: 15:40
Tech 1: NA
Tech 2: JP 26809

Sample #	Aliquot (mL) E=entire extract	CSPDFK1831A Cleanup std	amt	Comments	Analyses
1 9876332	E	✓	0.1		12936
2 9876334					12936
3 9876335 MS					12936
4 9876336 MS					12936
5 9876342					12936
6 9881309					12936
7 9881310					12936
8 9881313					12936
9 BLANKA					
10 LCSA					Z

NA JP 26809
11/09/18

Additional Comment: _____

Media Used	Lot No.	Solvent Used	Lot No.
sodium sulfate	308110218	hexane	184810
silica gel	308110318	5% methylene chloride:	
acid silica gel	2582110718	hexane	26809110918A
basic silica gel	308110218	methylene chloride	187356
AgNO3 silica gel	1261610318	2:1 Toluene:Hexane	NA
alumina	0108035		

M-Evap 15614 40 C

DF = Dilution Factor FV = Final Volume

Miscellaneous	Lot No.
13mm filter paper	80823707
Nonane	NA

The documented temperatures are NIST corrected.

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID14

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix		Comments
		Liquid	Solid	
9876332	OU2-1-MW010	X		
9876333	OU2-1-MW010-F	X		
9876334	OU2-1-MW008I	X		Background/Unspiked
9876335	OU2-1-MW008I MS	X		Matrix Spike
9876336	OU2-1-MW008I MSD	X		Matrix Spike Duplicate
9876337	OU2-1-MW008I DUP	X		Duplicate
9876338	OU2-1-MW008I-F	X		Background/
9876339	OU2-1-MW008I-F MS	X		Matrix Spike
9876340	OU2-1-MW008I-F MSD	X		Matrix Spike Duplicate
9876341	OU2-1-MW008I-F DUP	X		Duplicate
9876342	OU2EB103018-001	X		Equipment Blank

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:

Method Blank

For noncompliant preparation/method blanks, corrective action is not required if the sample is ND or > 10 times the blank concentration, unless otherwise specified in the method or by the client.

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID14

ICP Metals

Fraction: Metals in Liquid

MS/MSD

Method defined actions are taken for any failed matrix QC.

Batch#: 183191063901A (Sample number(s): 9876333, 9876338-9876341, UNSPK: 9876338, BKG: 9876338)

The relative percent difference(s) for the following analyte(s) in the MS/MSD is outside the acceptance window: Chromium

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Chromium

Batch#: 183061063902D (Sample number(s): 9876333, 9876338-9876341, UNSPK: 9876338, BKG: 9876338)

The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: Barium

Batch#: 183061063902B (Sample number(s): 9876333, 9876338-9876341, UNSPK: 9876338, BKG: 9876338)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Calcium

The recovery(ies) for the following analyte(s) in the MSD were below the acceptance window: Calcium

Batch#: 183061063902A (Sample number(s): 9876333, 9876338-9876341, UNSPK: 9876338, BKG: 9876338)

The recovery(ies) for the following analyte(s) in the MSD were below the acceptance window: Magnesium

The recovery(ies) for the following analyte(s) in the MS and MSD were below the acceptance window: Silver

The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: Manganese, Sodium

Batch#: 183061063901D (Sample number(s): 9876332, 9876334-9876337, 9876342, UNSPK: 9876334, BKG: 9876334)

The recovery(ies) for the following analyte(s) in the MSD exceeded the acceptance window indicating a positive bias: Barium

Batch#: 183061063901B (Sample number(s): 9876332, 9876334-9876337, 9876342, UNSPK: 9876334, BKG: 9876334)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Calcium

The recovery(ies) for the following analyte(s) in the MSD were below the acceptance window: Calcium

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID14

ICP Metals

Fraction: Metals in Liquid

Batch#: 183061063901A (Sample number(s): 9876332, 9876334-9876337, 9876342, UNSPK: 9876334, BKG: 9876334)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Manganese, Sodium

The recovery(ies) for the following analyte(s) in the MS and MSD were below the acceptance window: Chromium, Nickel

The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: Magnesium

Sample Duplicate

Batch#: 183191063901A (Sample number(s): 9876333, 9876338-9876341, UNSPK: 9876338, BKG: 9876338)

The duplicate RPD for the following analyte(s) is outside the acceptance window: Chromium

Batch#: 183061063902A (Sample number(s): 9876333, 9876338-9876341, UNSPK: 9876338, BKG: 9876338)

The duplicate RPD for the following analyte(s) is outside the acceptance window: Antimony, Zinc

Batch#: 183061063901A (Sample number(s): 9876332, 9876334-9876337, 9876342, UNSPK: 9876334, BKG: 9876334)

The duplicate RPD for the following analyte(s) is outside the acceptance window: Antimony, Chromium, Nickel

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

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.

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

Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.
SDG: TID14

ICP Metals

Fraction: Metals in Liquid

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 Liquid



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876332
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	971			MS
7440-36-0	Antimony	3.5			MS
7440-38-2	Arsenic	4.2			MS
7440-39-3	Barium	1130			MS
7440-41-7	Beryllium	0.091	U		MS
7440-43-9	Cadmium	0.64	B		MS
7440-70-2	Calcium	221000			MS
7440-47-3	Chromium	16.0			MS
7440-48-4	Cobalt	5.0			MS
7440-50-8	Copper	31.1	B		MS
7439-89-6	Iron	5830			MS
7439-92-1	Lead	32.2			MS
7439-95-4	Magnesium	31800			MS
7439-96-5	Manganese	448			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	38.4			MS
7440-09-7	Potassium	31100			MS
7782-49-2	Selenium	0.65	U		MS
7440-22-4	Silver	0.24	B		MS
7440-23-5	Sodium	53000			MS
7440-28-0	Thallium	0.11	U		MS
7440-29-1	Thorium	205	U		P
7440-61-1	Uranium	1.4			MS
7440-62-2	Vanadium	6.0			MS
7440-66-6	Zinc	199			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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876333
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	219	B		MS
7440-36-0	Antimony	3.5			MS
7440-38-2	Arsenic	2.5			MS
7440-39-3	Barium	1100			MS
7440-41-7	Beryllium	0.091	U		MS
7440-43-9	Cadmium	0.41	B		MS
7440-70-2	Calcium	237000			MS
7440-47-3	Chromium	6.5			MS
7440-48-4	Cobalt	4.6			MS
7440-50-8	Copper	13.3	B		MS
7439-89-6	Iron	1800			MS
7439-92-1	Lead	9.5			MS
7439-95-4	Magnesium	30600			MS
7439-96-5	Manganese	428			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	37.6			MS
7440-09-7	Potassium	29800			MS
7782-49-2	Selenium	0.65	U		MS
7440-22-4	Silver	0.17	U		MS
7440-23-5	Sodium	53400			MS
7440-28-0	Thallium	0.11	U		MS
7440-29-1	Thorium	205	U		P
7440-61-1	Uranium	1.7			MS
7440-62-2	Vanadium	2.4			MS
7440-66-6	Zinc	171			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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876334BKG

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	41.5	B		MS
7440-36-0	Antimony	0.53	B		MS
7440-38-2	Arsenic	7.9			MS
7440-39-3	Barium	1040			MS
7440-41-7	Beryllium	0.091	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	79400			MS
7440-47-3	Chromium	41.6			MS
7440-48-4	Cobalt	2.9			MS
7440-50-8	Copper	9.9	U		MS
7439-89-6	Iron	7630			MS
7439-92-1	Lead	4.2			MS
7439-95-4	Magnesium	64700			MS
7439-96-5	Manganese	2520			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	22.5			MS
7440-09-7	Potassium	24800			MS
7782-49-2	Selenium	0.65	U		MS
7440-22-4	Silver	0.17	U		MS
7440-23-5	Sodium	88700			MS
7440-28-0	Thallium	0.11	U		MS
7440-29-1	Thorium	205	U		P
7440-61-1	Uranium	1.5			MS
7440-62-2	Vanadium	0.49	B		MS
7440-66-6	Zinc	10.2	B		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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876335MS

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2100			MS
7440-36-0	Antimony	6.4			MS
7440-38-2	Arsenic	18.7			MS
7440-39-3	Barium	1090			MS
7440-41-7	Beryllium	4.0			MS
7440-43-9	Cadmium	5.1			MS
7440-70-2	Calcium	85500			MS
7440-47-3	Chromium	49.7			MS
7440-48-4	Cobalt	245			MS
7440-50-8	Copper	50.8			MS
7439-89-6	Iron	8690			MS
7439-92-1	Lead	19.9			MS
7439-95-4	Magnesium	68100			MS
7439-96-5	Manganese	2590			MS
7439-97-6	Mercury	0.90			CV
7440-02-0	Nickel	56.1			MS
7440-09-7	Potassium	35500			MS
7782-49-2	Selenium	10.7			MS
7440-22-4	Silver	51.9			MS
7440-23-5	Sodium	101000			MS
7440-28-0	Thallium	2.0			MS
7440-29-1	Thorium	506			P
7440-61-1	Uranium	27.2			MS
7440-62-2	Vanadium	52.3			MS
7440-66-6	Zinc	512			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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876336MSD

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2110			MS
7440-36-0	Antimony	6.6			MS
7440-38-2	Arsenic	18.3			MS
7440-39-3	Barium	1100			MS
7440-41-7	Beryllium	4.2			MS
7440-43-9	Cadmium	5.3			MS
7440-70-2	Calcium	82400			MS
7440-47-3	Chromium	50.2			MS
7440-48-4	Cobalt	255			MS
7440-50-8	Copper	52.0			MS
7439-89-6	Iron	8500			MS
7439-92-1	Lead	20.5			MS
7439-95-4	Magnesium	67700			MS
7439-96-5	Manganese	2570			MS
7439-97-6	Mercury	0.87			CV
7440-02-0	Nickel	56.6			MS
7440-09-7	Potassium	35100			MS
7782-49-2	Selenium	10.5			MS
7440-22-4	Silver	53.0			MS
7440-23-5	Sodium	99800			MS
7440-28-0	Thallium	2.0			MS
7440-29-1	Thorium	493	B		P
7440-61-1	Uranium	27.8			MS
7440-62-2	Vanadium	53.1			MS
7440-66-6	Zinc	526			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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876337DUP

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	37.1	B		MS
7440-36-0	Antimony	0.43	B		MS
7440-38-2	Arsenic	8.4			MS
7440-39-3	Barium	1050			MS
7440-41-7	Beryllium	0.091	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	81400			MS
7440-47-3	Chromium	0.83	B		MS
7440-48-4	Cobalt	2.4			MS
7440-50-8	Copper	9.9	U		MS
7439-89-6	Iron	7760			MS
7439-92-1	Lead	4.4			MS
7439-95-4	Magnesium	66200			MS
7439-96-5	Manganese	2580			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	3.5	B		MS
7440-09-7	Potassium	25600			MS
7782-49-2	Selenium	0.65	U		MS
7440-22-4	Silver	0.17	U		MS
7440-23-5	Sodium	91300			MS
7440-28-0	Thallium	0.11	U		MS
7440-29-1	Thorium	205	U		P
7440-61-1	Uranium	1.5			MS
7440-62-2	Vanadium	0.42	B		MS
7440-66-6	Zinc	10.4	B		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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876338BKG

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19.7	U		MS
7440-36-0	Antimony	0.46	B		MS
7440-38-2	Arsenic	7.5			MS
7440-39-3	Barium	1030			MS
7440-41-7	Beryllium	0.091	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	81100			MS
7440-47-3	Chromium	3.8	B		MS
7440-48-4	Cobalt	2.6			MS
7440-50-8	Copper	9.9	U		MS
7439-89-6	Iron	7280			MS
7439-92-1	Lead	1.1	U		MS
7439-95-4	Magnesium	63900			MS
7439-96-5	Manganese	2430			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	3.5	B		MS
7440-09-7	Potassium	24500			MS
7782-49-2	Selenium	0.65	U		MS
7440-22-4	Silver	0.17	U		MS
7440-23-5	Sodium	89400			MS
7440-28-0	Thallium	0.11	U		MS
7440-29-1	Thorium	205	U		P
7440-61-1	Uranium	1.6			MS
7440-62-2	Vanadium	0.30	B		MS
7440-66-6	Zinc	6.2	U		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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876339MS

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2000			MS
7440-36-0	Antimony	7.0			MS
7440-38-2	Arsenic	18.5			MS
7440-39-3	Barium	1090			MS
7440-41-7	Beryllium	4.0			MS
7440-43-9	Cadmium	5.2			MS
7440-70-2	Calcium	86400			MS
7440-47-3	Chromium	68.6			MS
7440-48-4	Cobalt	243			MS
7440-50-8	Copper	50.1			MS
7439-89-6	Iron	8440			MS
7439-92-1	Lead	15.5			MS
7439-95-4	Magnesium	65800			MS
7439-96-5	Manganese	2510			MS
7439-97-6	Mercury	0.93			CV
7440-02-0	Nickel	55.1			MS
7440-09-7	Potassium	34400			MS
7782-49-2	Selenium	10.2			MS
7440-22-4	Silver	41.1			MS
7440-23-5	Sodium	112000			MS
7440-28-0	Thallium	2.1			MS
7440-29-1	Thorium	519			P
7440-61-1	Uranium	29.5			MS
7440-62-2	Vanadium	50.2			MS
7440-66-6	Zinc	523			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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876340MSD

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1960			MS
7440-36-0	Antimony	6.5			MS
7440-38-2	Arsenic	18.3			MS
7440-39-3	Barium	1110			MS
7440-41-7	Beryllium	4.2			MS
7440-43-9	Cadmium	5.1			MS
7440-70-2	Calcium	84600			MS
7440-47-3	Chromium	52.1			MS
7440-48-4	Cobalt	248			MS
7440-50-8	Copper	50.7			MS
7439-89-6	Iron	8160			MS
7439-92-1	Lead	15.7			MS
7439-95-4	Magnesium	64700			MS
7439-96-5	Manganese	2500			MS
7439-97-6	Mercury	0.91			CV
7440-02-0	Nickel	55.6			MS
7440-09-7	Potassium	33900			MS
7782-49-2	Selenium	10.6			MS
7440-22-4	Silver	41.3			MS
7440-23-5	Sodium	115000			MS
7440-28-0	Thallium	2.1			MS
7440-29-1	Thorium	512			P
7440-61-1	Uranium	28.9			MS
7440-62-2	Vanadium	50.5			MS
7440-66-6	Zinc	541			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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876341DUP

% Solids: 0.0

Concentration Units: UG/L

Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19.7	U		MS
7440-36-0	Antimony	0.41	U		MS
7440-38-2	Arsenic	7.9			MS
7440-39-3	Barium	1020			MS
7440-41-7	Beryllium	0.091	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	80100			MS
7440-47-3	Chromium	1.7	B		MS
7440-48-4	Cobalt	2.5			MS
7440-50-8	Copper	9.9	U		MS
7439-89-6	Iron	7360			MS
7439-92-1	Lead	1.1	U		MS
7439-95-4	Magnesium	62700			MS
7439-96-5	Manganese	2460			MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	2.9	B		MS
7440-09-7	Potassium	24200			MS
7782-49-2	Selenium	0.65	U		MS
7440-22-4	Silver	0.17	U		MS
7440-23-5	Sodium	87600			MS
7440-28-0	Thallium	0.11	U		MS
7440-29-1	Thorium	205	U		P
7440-61-1	Uranium	1.6			MS
7440-62-2	Vanadium	0.30	B		MS
7440-66-6	Zinc	6.4	B		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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9876342
Concentration Units: UG/L

% Solids: 0.0
Date Received: 10/31/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19.7	U		MS
7440-36-0	Antimony	0.41	U		MS
7440-38-2	Arsenic	0.68	U		MS
7440-39-3	Barium	0.75	U		MS
7440-41-7	Beryllium	0.091	U		MS
7440-43-9	Cadmium	0.15	U		MS
7440-70-2	Calcium	59.8	U		MS
7440-47-3	Chromium	0.70	U		MS
7440-48-4	Cobalt	0.16	U		MS
7440-50-8	Copper	9.9	U		MS
7439-89-6	Iron	22.8	U		MS
7439-92-1	Lead	1.1	U		MS
7439-95-4	Magnesium	10.4	U		MS
7439-96-5	Manganese	4.9	U		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	0.60	U		MS
7440-09-7	Potassium	107	U		MS
7782-49-2	Selenium	0.65	U		MS
7440-22-4	Silver	0.17	U		MS
7440-23-5	Sodium	50.0	U		MS
7440-28-0	Thallium	0.11	U		MS
7440-29-1	Thorium	205	U		P
7440-61-1	Uranium	0.11	U		MS
7440-62-2	Vanadium	0.52	B		MS
7440-66-6	Zinc	6.2	U		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

Quality Control and Calibration Summary Forms

Metals in Liquid

SDG No.: TID14

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Thorium	183061063501	9876332
		9876334BKG
		9876335MS
		9876336MSD
		9876337DUP
		9876342
		P30663AB
		P30663AQ

LEGEND:

BKG = Background

DUP = Duplicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

B = Blank

Q = Laboratory Control Sample

Y = Laboratory Control Sample Duplicate

SDG No.: TID14

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Thorium	183061063502	9876333
		9876338BKG
		9876339MS
		9876340MSD
		9876341DUP
		P30663BB
		P30663BQ

LEGEND:

BKG = Background

DUP = Duplicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

B = Blank

Q = Laboratory Control Sample

Y = Laboratory Control Sample Duplicate

SDG No.: TID14

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Aluminum	183061063901	9876332
Antimony		9876334BKG
Arsenic		9876335MS
Barium		9876336MSD
Beryllium		9876337DUP
Cadmium		9876342
Calcium		P30663AB
Chromium		P30663AQ
Cobalt		
Copper		
Iron		
Lead		
Magnesium		
Manganese		
Nickel		
Potassium		
Selenium		
Silver		
Sodium		
Thallium		
Uranium		
Vanadium		
Zinc		

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

SDG No.: TID14

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Aluminum	183061063902	9876333
Antimony		9876338BKG
Arsenic		9876339MS
Barium		9876340MSD
Beryllium		9876341DUP
Cadmium		P30663BB
Calcium		P30663BQ
Cobalt		
Copper		
Iron		
Lead		
Magnesium		
Manganese		
Nickel		
Potassium		
Selenium		
Silver		
Sodium		
Thallium		
Uranium		
Vanadium		
Zinc		

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

SDG No.: TID14

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Chromium	183191063901	9876333
		9876338BKG
		9876339MS
		9876340MSD
		9876341DUP
		P31963AB
		P31963AQ

LEGEND:

BKG = Background

DUP = Duplicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

B = Blank

Q = Laboratory Control Sample

Y = Laboratory Control Sample Duplicate

SDG No.: TID14

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Mercury	183050571306	9876333
		9876338BKG
		9876339MS
		9876340MSD
		9876341DUP
		P30571FB
		P30571FQ

LEGEND:

BKG = Background

DUP = Duplicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

B = Blank

Q = Laboratory Control Sample

Y = Laboratory Control Sample Duplicate

SDG No.: TID14

Matrix: WATER

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Mercury	183130571301	9876332
		9876334BKG
		9876335MS
		9876336MSD
		9876337DUP
		9876342
		P31371AB
		P31371AQ

LEGEND:

BKG = Background

DUP = Duplicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

B = Blank

Q = Laboratory Control Sample

Y = Laboratory Control Sample Duplicate



Method: P
Run Name: 1831303T71
Calibration Date(s): 11/09/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Thorium		600.0	557.34	92.9	500.0	470.80	94.2	500.0	495.07	99.0

(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

Method: P
Run Name: 1831303T71
Calibration Date(s): 11/09/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Thorium					500.0	483.11	96.6			

(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

Method: P

Run Name: 1831401T71

Calibration Date(s): 11/10/2018

Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Thorium		600.0	596.03	99.3	500.0	505.63	101.1	500.0	492.66	98.5

(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

Method: P
Run Name: 1831401T71
Calibration Date(s): 11/10/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Thorium					500.0	489.01	97.8			

(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

Method: MS
Run Name: 1830908E07
Calibration Date(s): 11/05/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum	27	5000.0	5042.08	100.8	2500.0	2544.94	101.8	2500.0	2590.05	103.6
Antimony	121	50.0	52.97	105.9	25.0	25.33	101.3	25.0	26.38	105.5
Arsenic	75	500.0	506.56	101.3	250.0	261.36	104.5	250.0	271.29	108.5
Barium	137	500.0	505.44	101.1	250.0	258.08	103.2	250.0	256.17	102.5
Beryllium	9	50.0	50.78	101.6	25.0	25.25	101.0	25.0	26.51	106.0
Cadmium	111	50.0	51.01	102.0	25.0	26.18	104.7	25.0	26.24	105.0
Calcium	44	5000.0	4870.96	97.4	2500.0	2770.31	110.8*	2500.0	2805.65	112.2*
Chromium	52	500.0	497.15	99.4	250.0	252.52	101.0	250.0	247.12	98.8
Cobalt	59	500.0	489.54	97.9	250.0	251.46	100.6	250.0	257.35	102.9
Copper	63	500.0	488.07	97.6	250.0	249.87	99.9	250.0	253.84	101.5
Iron	57	5000.0	4988.17	99.8	2500.0	2537.25	101.5	2500.0	2506.59	100.3
Lead	208	50.0	51.65	103.3	25.0	25.75	103.0	25.0	25.64	102.6
Magnesium	24	5000.0	4839.03	96.8	2500.0	2460.81	98.4	2500.0	2503.53	100.1
Manganese	55	500.0	513.80	102.8	250.0	260.75	104.3	250.0	256.11	102.4
Nickel	60	500.0	514.76	103.0	250.0	267.39	107.0	250.0	268.59	107.4
Potassium	39	5000.0	5004.64	100.1	2500.0	2578.79	103.2	2500.0	2550.94	102.0
Selenium	78	50.0	50.15	100.3	25.0	26.61	106.4	25.0	26.70	106.8
Silver	107	50.0	53.14	106.3	25.0	27.08	108.3	25.0	26.85	107.4
Sodium	23	5000.0	4648.65	93.0	2500.0	2411.32	96.5	2500.0	2622.14	104.9
Thallium	205	50.0	52.40	104.8	25.0	25.58	102.3	25.0	25.53	102.1
Uranium										
Vanadium	51	500.0	513.76	102.8	250.0	262.34	104.9	250.0	258.61	103.4
Zinc	66	500.0	514.58	102.9	250.0	273.29	109.3	250.0	283.70	113.5*

(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

Method: MS
Run Name: 1830908E07
Calibration Date(s): 11/05/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum	27				2500.0	2507.64	100.3			
Antimony	121				25.0	26.51	106.0			
Arsenic	75				250.0	261.80	104.7			
Barium	137				250.0	260.20	104.1			
Beryllium	9				25.0	26.37	105.5			
Cadmium	111				25.0	25.86	103.4			
Calcium	44				2500.0	2728.51	109.1			
Chromium	52				250.0	242.71	97.1			
Cobalt	59				250.0	255.54	102.2			
Copper	63				250.0	251.57	100.6			
Iron	57				2500.0	2459.96	98.4			
Lead	208				25.0	25.63	102.5			
Magnesium	24				2500.0	2431.63	97.3			
Manganese	55				250.0	253.71	101.5			
Nickel	60				250.0	265.93	106.4			
Potassium	39				2500.0	2514.48	100.6			
Selenium	78				25.0	25.28	101.1			
Silver	107				25.0	26.49	106.0			
Sodium	23				2500.0	2403.83	96.2			
Thallium	205				25.0	25.70	102.8			
Uranium										
Vanadium	51				250.0	251.91	100.8			
Zinc	66				250.0	275.88	110.4*			

(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

Method: MS
Run Name: 1831208E07
Calibration Date(s): 11/08/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	44	5000.0	4914.60	98.3	2500.0	2450.94	98.0	2500.0	2426.88	97.1
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium	24	5000.0	4700.39	94.0	2500.0	2330.56	93.2	2500.0	2364.81	94.6
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium	23	5000.0	4841.61	96.8	2500.0	2377.79	95.1	2500.0	2382.15	95.3
Thallium										
Uranium										
Vanadium										
Zinc	66	500.0	503.06	100.6	250.0	253.66	101.5	250.0	258.13	103.3

(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



Method: MS
Run Name: 1831208E07
Calibration Date(s): 11/08/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	44				2500.0	2520.21	100.8			
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium	24				2500.0	2372.15	94.9			
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium	23				2500.0	2423.47	96.9			
Thallium										
Uranium										
Vanadium										
Zinc	66				250.0	250.65	100.3			

(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

Method: MS
Run Name: 1831211E07
Calibration Date(s): 11/08/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum	27	5000.0	4873.20	97.5	2500.0	2407.62	96.3	2500.0	2452.56	98.1
Antimony	121	50.0	54.01	108.0	25.0	25.86	103.4	25.0	25.67	102.7
Arsenic	75	500.0	516.48	103.3	250.0	256.12	102.4	250.0	265.26	106.1
Barium	137	500.0	503.90	100.8	250.0	255.87	102.3	250.0	256.21	102.5
Beryllium	9	50.0	50.74	101.5	25.0	24.93	99.7	25.0	26.04	104.2
Cadmium	111	50.0	50.61	101.2	25.0	25.71	102.8	25.0	26.15	104.6
Calcium	44	5000.0	4977.15	99.5	2500.0	2385.24	95.4	2500.0	2527.90	101.1
Chromium										
Cobalt	59	500.0	484.11	96.8	250.0	243.48	97.4	250.0	246.76	98.7
Copper	63	500.0	489.83	98.0	250.0	247.03	98.8	250.0	248.87	99.5
Iron	57	5000.0	4952.19	99.0	2500.0	2440.62	97.6	2500.0	2452.07	98.1
Lead	208	50.0	50.79	101.6	25.0	25.44	101.8	25.0	25.46	101.8
Magnesium	24	5000.0	4723.68	94.5	2500.0	2312.93	92.5	2500.0	2373.81	95.0
Manganese	55	500.0	499.43	99.9	250.0	250.72	100.3	250.0	249.83	99.9
Nickel	60	500.0	513.00	102.6	250.0	260.56	104.2	250.0	260.23	104.1
Potassium	39	5000.0	4944.69	98.9	2500.0	2423.03	96.9	2500.0	2444.57	97.8
Selenium	78	50.0	50.93	101.9	25.0	26.35	105.4	25.0	26.40	105.6
Silver	107	50.0	56.07	112.1*	25.0	28.44	113.8*	25.0	28.84	115.4*
Sodium	23	5000.0	4869.54	97.4	2500.0	2332.49	93.3	2500.0	2370.66	94.8
Thallium	205	50.0	51.11	102.2	25.0	25.47	101.9	25.0	25.80	103.2
Uranium										
Vanadium	51	500.0	497.50	99.5	250.0	249.69	99.9	250.0	248.61	99.4
Zinc	66	500.0	516.76	103.4	250.0	256.01	102.4	250.0	263.76	105.5

(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



Method: MS
Run Name: 1831305E05
Calibration Date(s): 11/09/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium	238	50.0	49.18	98.4	25.0	24.70	98.8	25.0	25.25	101.0
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



Method: MS

Run Name: 1831804E05

Calibration Date(s): 11/14/2018

Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver	107	50.0	50.89	101.8	25.0	26.74	107.0	25.0	26.59	106.4
Sodium	23	5000.0	4681.59	93.6	2500.0	2571.23	102.8	2500.0	2681.05	107.2
Thallium										
Uranium	238	50.0	52.01	104.0	25.0	25.64	102.6	25.0	26.30	105.2
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



Method: MS
Run Name: 1831804E05
Calibration Date(s): 11/14/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver	107				25.0	26.98	107.9	25.0	26.76	107.0
Sodium	23				2500.0	2504.19	100.2	2500.0	2648.59	105.9
Thallium										
Uranium	238				25.0	25.38	101.5	25.0	26.07	104.3
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



Method: MS
Run Name: 1831804E05
Calibration Date(s): 11/14/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver	107				25.0	25.98	103.9			
Sodium	23				2500.0	2540.27	101.6			
Thallium										
Uranium	238				25.0	26.34	105.4			
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



Method: MS
Run Name: 1832402E05
Calibration Date(s): 11/20/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium	52	500.0	528.48	105.7	250.0	256.33	102.5	250.0	263.76	105.5
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



Method: MS
Run Name: 1832402E05
Calibration Date(s): 11/20/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium	52				250.0	260.14	104.1	250.0	256.91	102.8
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



Method: MS
Run Name: 1833106E05
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	44	5000.0	5008.45	100.2	2500.0	2564.35	102.6	2500.0	2533.11	101.3
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver	107	50.0	52.14	104.3	25.0	26.02	104.1	25.0	25.70	102.8
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



Method: MS
Run Name: 1833106E05
Calibration Date(s): 11/27/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	44				2500.0	2681.22	107.2	2500.0	2497.47	99.9
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver	107				25.0	26.04	104.2	25.0	25.37	101.5
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

Method: CV

Run Name: 1830901M07

Calibration Date(s): 11/05/2018

Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.38	95.2	1.0	1.00	100.0	1.0	0.96	96.0

(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

Method: CV

Run Name: 1830901M07

Calibration Date(s): 11/05/2018

Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.96	96.0	1.0	0.96	96.0

(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



Method: CV
Run Name: 1830901M07
Calibration Date(s): 11/05/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.96	96.0	1.0	0.95	95.0

(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

Method: CV
Run Name: 1830901M07
Calibration Date(s): 11/05/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	1.0	0.95	95.0

(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

Method: CV
Run Name: 1830901M07
Calibration Date(s): 11/05/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.96	96.0	1.0	0.96	96.0

(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

Method: CV
Run Name: 1830901M07
Calibration Date(s): 11/05/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.96	96.0	1.0	0.94	94.0

(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

Method: CV
Run Name: 1831602M09
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.42	96.8	1.0	1.00	100.0	1.0	0.98	98.0

(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

Method: CV
Run Name: 1831602M09
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	1.01	101.0	1.0	1.00	100.0

(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

Method: CV
Run Name: 1831602M09
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.99	99.0	1.0	1.00	100.0

(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

Method: CV

Run Name: 1831602M09

Calibration Date(s): 11/12/2018

Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	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



Method: CV
Run Name: 1831602M09
Calibration Date(s): 11/12/2018
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0			

(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

Method: P
Run Name: 1831303T71
Calibration Date(s): 11/09/2018
Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Thorium		500.0	461.42	92.3		

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

Method: P

Run Name: 1831401T71

Calibration Date(s): 11/10/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Thorium		500.0	489.54	97.9		

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

Method: MS

Run Name: 1830908E07

Calibration Date(s): 11/05/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum	27	400.0	401.62	100.4		
Antimony	121	2.0	2.32	116.0		
Arsenic	75	2.0	2.31	115.5		
Barium	137	4.0	4.11	102.8		
Beryllium	9	0.5	0.53	106.0		
Cadmium	111	1.0	1.09	109.0		
Calcium	44	700.0	719.21	102.7		
Chromium	52	4.0	4.28	107.0		
Cobalt	59	1.0	0.92	92.0		
Copper	63	40.0	39.90	99.8		
Iron	57	100.0	105.13	105.1		
Lead	208	3.0	3.06	102.0		
Magnesium	24	100.0	97.64	97.6		
Manganese	55	10.0	10.44	104.4		
Nickel	60	4.0	4.29	107.3		
Potassium	39	400.0	401.13	100.3		
Selenium	78	2.0	2.01	100.5		
Silver	107	0.5	0.53	106.0		
Sodium	23	900.0	849.74	94.4		
Thallium	205	0.5	0.53	106.0		
Uranium						
Vanadium	51	1.0	0.92	92.0		
Zinc	66	15.0	16.51	110.1		

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

Method: MS

Run Name: 1831208E07

Calibration Date(s): 11/08/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium	44	700.0	715.86	102.3		
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium	24	100.0	97.11	97.1		
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium	23	900.0	886.34	98.5		
Thallium						
Uranium						
Vanadium						
Zinc	66	15.0	15.75	105.0		

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

Method: MS

Run Name: 1831211E07

Calibration Date(s): 11/08/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum	27	400.0	400.17	100.0		
Antimony	121	2.0	2.11	105.5		
Arsenic	75	2.0	1.89	94.5		
Barium	137	4.0	4.19	104.8		
Beryllium	9	0.5	0.50	100.0		
Cadmium	111	1.0	0.93	93.0		
Calcium	44	700.0	699.58	99.9		
Chromium						
Cobalt	59	1.0	0.95	95.0		
Copper	63	40.0	39.48	98.7		
Iron	57	100.0	111.29	111.3		
Lead	208	3.0	2.95	98.3		
Magnesium	24	100.0	94.12	94.1		
Manganese	55	10.0	10.12	101.2		
Nickel	60	4.0	4.16	104.0		
Potassium	39	400.0	402.19	100.5		
Selenium	78	2.0	2.18	109.0		
Silver	107	0.5	0.56	112.0		
Sodium	23	900.0	852.09	94.7		
Thallium	205	0.5	0.52	104.0		
Uranium						
Vanadium	51	1.0	1.00	100.0		
Zinc	66	15.0	15.74	104.9		

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

Method: MS

Run Name: 1831305E05

Calibration Date(s): 11/09/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Uranium	238	0.5	0.51	102.0		
Vanadium						
Zinc						

Control limits: 70% - 130%

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

Method: MS

Run Name: 1831804E05

Calibration Date(s): 11/14/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver	107	0.5	0.55	110.0	0.50	100.0
Sodium	23	900.0	859.61	95.5	842.64	93.6
Thallium						
Uranium	238	0.5	0.50	100.0	0.55	110.0
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

Method: MS

Run Name: 1831804E05

Calibration Date(s): 11/14/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver	107	0.5			0.65	130.0
Sodium	23	900.0			1387.89	154.2
Thallium						
Uranium	238	0.5			0.54	108.0
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



Method: MS

Run Name: 1832402E05

Calibration Date(s): 11/20/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium	52	4.0	4.16	104.0	4.26	106.5
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

Method: MS

Run Name: 1833106E05

Calibration Date(s): 11/27/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium	44	700.0	676.97	96.7	630.45	90.1
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Nickel						
Potassium						
Selenium						
Silver	107	0.5	0.54	108.0	0.52	104.0
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

Method: CV

Run Name: 1830901M07

Calibration Date(s): 11/05/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Mercury		0.2	0.19	95.0	0.17	85.0

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

Method: CV

Run Name: 1831602M09

Calibration Date(s): 11/12/2018

Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Mercury		0.2	0.18	90.0	0.19	95.0

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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Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: P

Run Name: 1831303T71

Calibration Date(s): 11/09/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)				Preparation Blank (UG/L)						
			C	1	C	2	C	3	C	Mass		C	Batch Number
Thorium		49.1U			49.1U			49.1U				205.000U	183061063501

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: P

Run Name: 1831401T71

Calibration Date(s): 11/10/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)	
			C	1	C	2	C	3	C	Mass	Batch Number
Thorium		49.1	U	49.1	U	49.1	U	49.1	U	205.000	U183061063502

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 3

BLANKS

SDG No.: TID14

Method: MS

Run Name: 1830908E07

Calibration Date(s): 11/05/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)				Preparation Blank (UG/L)		
			C	1	C	2	C	3	C	Batch Number
Aluminum	27	19.1	U	19.1	U	19.1	U	19.1	U	27 19.700 U 183061063901A
Antimony	121	0.63	B	0.35	B	0.32	B	0.48	B	121 0.410 U 183061063901A
Arsenic	75	0.50	U	0.50	U	0.50	U	0.50	U	75 0.680 U 183061063901A
Barium	137	0.50	U	0.50	U	0.50	U	0.50	U	137 0.750 U 183061063901A
Beryllium	9	0.073	U	0.073	U	0.073	U	0.073	U	9 0.091 U 183061063901A
Cadmium	111	0.18	U	0.18	U	0.18	U	0.18	U	111 0.150 U 183061063901A
Calcium	44	615	B	649	B	673	B	627	B	
Chromium	52	0.50	U	0.50	U	0.50	U	0.50	U	52 0.700 U 183061063901A
Cobalt	59	0.13	U	0.13	U	0.13	U	0.13	U	59 0.160 U 183061063901A
Copper	63	1.4	U	1.4	U	1.4	U	1.4	U	63 9.900 U 183061063901A
Iron	57	12.6	U	12.6	U	12.6	U	12.6	U	57 22.800 U 183061063901A
Lead	208	0.14	U	0.14	U	0.14	U	0.14	U	208 1.100 U 183061063901A
Magnesium	24	18.1	B	18.1	B	47.8	B	20.3	B	24 10.400 U 183061063901A
Manganese	55	0.64	U	0.64	U	1.7	B	0.64	U	55 4.900 U 183061063901A
Nickel	60	0.55	U	0.55	U	0.55	U	0.55	U	60 0.600 U 183061063901A
Potassium	39	20.8	U	20.8	U	44.2	B	20.8	U	39 107.000 U 183061063901A
Selenium	78	0.54	U	0.54	U	0.54	U	0.54	U	78 0.650 U 183061063901A
Silver	107	0.099	U	0.099	U	0.099	U	0.099	U	107 0.170 U 183061063901A
Sodium	23	50.0	U	50.0	U	129	B	50.0	U	23 50.000 U 183061063901A
Thallium	205	0.10	U	0.10	U	0.10	U	0.10	U	205 0.110 U 183061063901A
Uranium										
Vanadium	51	0.21	U	0.21	U	0.21	U	0.21	U	51 0.240 U 183061063901A
Zinc	66	32.4		30.7		31.6		31.7		

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 3

BLANKS

SDG No.: TID14

Method: MS

Run Name: 1831208E07

Calibration Date(s): 11/08/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)				Preparation Blank (UG/L)			
		C	1	C	2	C	3	C	Mass	Batch Number
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	44	101U	101U		101U		101U		44 59.800U	183061063901A
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium	24	5.0U	5.0U		5.0U		5.0U			
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium	23	50.0U	50.0U		50.0U		50.0U			
Thallium										
Uranium										
Vanadium										
Zinc	66	1.6U	1.6U		1.6U		1.6U		66 6.200U	183061063901A

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 3

BLANKS

SDG No.: TID14

Method: MS

Run Name: 1831211E07

Calibration Date(s): 11/08/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)					Preparation Blank (UG/L)				
			C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum	27	19.1	U	19.1	U	19.1	U			27	19.700	U	183061063902A
Antimony	121	0.54	B	0.49	B	0.51	B			121	0.410	U	183061063902A
Arsenic	75	0.50	U	0.50	U	0.50	U			75	0.680	U	183061063902A
Barium	137	0.50	U	0.50	U	0.50	U			137	0.750	U	183061063902A
Beryllium	9	0.073	U	0.073	U	0.073	U			9	0.091	U	183061063902A
Cadmium	111	0.18	U	0.18	U	0.18	U			111	0.150	U	183061063902A
Calcium	44	101	U	101	U	101	U			44	59.800	U	183061063902A
Chromium													
Cobalt	59	0.13	U	0.13	U	0.13	U			59	0.160	U	183061063902A
Copper	63	1.4	U	1.4	U	1.4	U			63	9.900	U	183061063902A
Iron	57	12.6	U	12.6	U	12.6	U			57	22.800	U	183061063902A
Lead	208	0.14	U	0.14	U	0.14	U			208	1.100	U	183061063902A
Magnesium	24	5.0	U	5.0	U	5.0	U			24	10.400	U	183061063902A
Manganese	55	0.64	U	0.64	U	0.64	U			55	4.900	U	183061063902A
Nickel	60	0.55	U	0.55	U	0.55	U			60	1.034	B	183061063902A
Potassium	39	20.8	U	20.8	U	20.8	U			39	107.000	U	183061063902A
Selenium	78	0.54	U	0.54	U	0.54	U			78	0.650	U	183061063902A
Silver	107	0.099	U	0.099	U	0.099	U						
Sodium	23	50.0	U	50.0	U	50.0	U			23	50.000	U	183061063902A
Thallium	205	0.10	U	0.10	U	0.10	U			205	0.110	U	183061063902A
Uranium													
Vanadium	51	0.21	U	0.21	U	0.21	U			51	0.240	U	183061063902A
Zinc	66	1.6	U	1.6	U	1.6	U			66	6.200	U	183061063902A

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: MS

Run Name: 1831305E05

Calibration Date(s): 11/09/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)		
		C	1	C	2	C	3	C	Mass	C	Batch Number
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Uranium	238	0.080U	0.080U		0.080U				238	0.110U	183061063901A
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

Method: MS

Run Name: 1831804E05

Calibration Date(s): 11/14/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)				Preparation Blank (UG/L)			
		C	1	C	2	C	3	C	Mass	Batch Number
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Nickel										
Potassium										
Selenium										
Silver	107	0.099U	0.099U	0.099U	0.099U	0.099U	107	0.170U	183061063902A	
Sodium	23	50.0U	70.1B	50.0U	65.8B					
Thallium										
Uranium	238	0.080U	0.080U	0.080U	0.080U	0.080U	238	0.110U	183061063902A	
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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Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: MS
Run Name: 1831804E05
Calibration Date(s): 11/14/2018

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)		
			C	1	C	2	C	3	C	Mass	Batch Number
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Nickel											
Potassium											
Selenium											
Silver	107			0.099U		0.099U					
Sodium	23			76.3B		50.0U					
Thallium											
Uranium	238			0.080U		0.080U					
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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Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: MS

Run Name: 1832402E05

Calibration Date(s): 11/20/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)				Preparation Blank (UG/L)			
		C	1	C	2	C	3	C	Mass	Batch Number
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium	52	0.50 U	0.50 U		0.50 U		0.50 U	52	1.815 B	183191063901A
Cobalt										
Copper										
Iron										
Lead										
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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Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: MS
Run Name: 1832402E05
Calibration Date(s): 11/20/2018

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)		
			C	1	C	2	C	3	C	Mass	Batch Number
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium	52			0.50	U						
Cobalt											
Copper											
Iron											
Lead											
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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Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: MS
Run Name: 1833106E05
Calibration Date(s): 11/27/2018

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)				Preparation Blank (UG/L)		
		C	1	C	2	C	3	C	Batch Number
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium	44	101U	101U		101U		101U		
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Nickel									
Potassium									
Selenium									
Silver	107	0.099U	0.099U		0.099U		0.099U		
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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Environmental

QUALITY ASSURANCE SUMMARY

FORM 3

BLANKS

SDG No.: TID14

Method: MS

Run Name: 1833106E05

Calibration Date(s): 11/27/2018

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)		
			C	1	C	2	C	3	C	Mass	Batch Number
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium	44			101	U						
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Nickel											
Potassium											
Selenium											
Silver	107			0.099	U						
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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Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: CV

Run Name: 1830901M07

Calibration Date(s): 11/05/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)	Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)				
			C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury		-0.057	B		0.050	U		0.050	U		0.050	U	183050571306

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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Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: CV
Run Name: 1830901M07
Calibration Date(s): 11/05/2018

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
			C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury				0.050	U	0.050	U	0.050	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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: CV
Run Name: 1830901M07
Calibration Date(s): 11/05/2018

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)	
			C	1	C	2	C	3	C	Mass	Batch Number
Mercury				0.050	U	0.050	U	0.050	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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: CV
Run Name: 1830901M07
Calibration Date(s): 11/05/2018

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
			C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury				0.050	U	0.050	U	0.050	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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: CV

Run Name: 1831602M09

Calibration Date(s): 11/12/2018

Preparation Blank Matrix: WATER

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)	
			C	1	C	2	C	3	C	Mass	Batch Number
Mercury		0.050	U	0.050	U	0.050	U	0.050	U	0.050	U183130571301

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: CV
Run Name: 1831602M09
Calibration Date(s): 11/12/2018

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
			C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury				0.050	U	0.050	U	0.050	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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: TID14

Method: CV
Run Name: 1831602M09
Calibration Date(s): 11/12/2018

Analyte	Mass	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L)			C	Preparation Blank (UG/L)			C	Batch Number
				1	C	2	C	3	C	Mass		
Mercury				0.050	U	0.050	U	0.050	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



Instrument ID: 16315
Run Name: 1831303T71
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		501114	100.2						
Calcium	500000		489846	98.0						
Iron	200000		199640	99.8						
Magnesium	500000		483931	96.8						
Thorium	0		-88							

Control Limits: All Metals 80%-120%

Instrument ID: 16315
Run Name: 1831401T71
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		497556	99.5						
Calcium	500000		496100	99.2						
Iron	200000		195379	97.7						
Magnesium	500000		496682	99.3						
Thorium	0		-63							

Control Limits: All Metals 80%-120%

Instrument ID: 27813
Run Name: 1830908E07
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000		97000	97.0		
Antimony	121	0		1			
Arsenic	75	0		1			
Barium	137	0		1			
Beryllium	9	0		0			
Cadmium	111	0		0			
Calcium	44	300000		268597	89.5		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium	52	0		1			
Cobalt	59	0		1			
Copper	63	0		1			
Iron	57	250000		226459	90.6		
Lead	208	0		1			
Magnesium	24	100000		90857	90.9		
Manganese	55	0		3			
Molybdenum	98	2000		1987	99.4		
Nickel	60	0		1			
Phosphorus	31	10000		NA			
Potassium	39	100000		96431	96.4		
Selenium	78	0		0			
Silver	107	0		0			
Sodium	23	250000		225330	90.1		
Sulfur	34	10000		NA			
Thallium	205	0		0			
Titanium	47	2000		1909	95.5		
Uranium							
Vanadium	51	0		0			
Zinc	66	0		6			

Control Limits: All Metals 80%-120%

Instrument ID: 27813
Run Name: 1831208E07
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000		93004	93.0		
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000		279517	93.2		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper							
Iron	57	250000		227459	91.0		
Lead							
Magnesium	24	100000		89560	89.6		
Manganese							
Molybdenum	98	2000		1995	99.8		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		94941	94.9		
Selenium							
Silver							
Sodium	23	250000		228111	91.2		
Sulfur	34	10000		NA			
Thallium							
Titanium	47	2000		1919	96.0		
Uranium							
Vanadium							
Zinc	66	0		5			

Control Limits: All Metals 80%-120%

Instrument ID: 27813
Run Name: 1831211E07
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000		97676	97.7		
Antimony	121	0		1			
Arsenic	75	0		1			
Barium	137	0		1			
Beryllium	9	0		0			
Cadmium	111	0		0			
Calcium	44	300000		290158	96.7		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt	59	0		1			
Copper	63	0		1			
Iron	57	250000		233294	93.3		
Lead	208	0		1			
Magnesium	24	100000		91858	91.9		
Manganese	55	0		3			
Molybdenum	98	2000		2063	103.2		
Nickel	60	0		1			
Phosphorus	31	10000		NA			
Potassium	39	100000		98900	98.9		
Selenium	78	0		0			
Silver	107	0		0			
Sodium	23	250000		233262	93.3		
Sulfur	34	10000		NA			
Thallium	205	0		0			
Titanium	47	2000		1979	99.0		
Uranium							
Vanadium	51	0		0			
Zinc	66	0		5			

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1831305E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000		98168	98.2		
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000		300614	100.2		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper							
Iron	57	250000		258215	103.3		
Lead							
Magnesium	24	100000		99239	99.2		
Manganese							
Molybdenum	98	2000		2199	110.0		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		103560	103.6		
Selenium							
Silver							
Sodium	23	250000		244531	97.8		
Sulfur	34	10000		NA			
Thallium							
Titanium	47	2000		1958	97.9		
Uranium	238	0		0			
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1831804E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	101040	101.0	104188.1	104.2
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	273136	91.0	280152.0	93.4
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	254335	101.7	260561.5	104.2
Lead							
Magnesium	24	100000	100000	104399	104.4	107608.5	107.6
Manganese							
Molybdenum	98	2000	2000	2139	107.0	2140.6	107.0
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	101519	101.5	104552.3	104.6
Selenium							
Silver	107	0	50	0		53.5	107.0
Sodium	23	250000	250000	261810	104.7	270784.9	108.3
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2080	104.0	2162.8	108.1
Uranium	238	0	0	0		0.0	
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1831804E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	101761	101.8	107814.5	107.8
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	271156	90.4	287574.8	95.9
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	252280	100.9	268079.9	107.2
Lead							
Magnesium	24	100000	100000	105241	105.2	111600.7	111.6
Manganese							
Molybdenum	98	2000	2000	2088	104.4	2171.1	108.6
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	101874	101.9	107882.0	107.9
Selenium							
Silver	107	0	50	0		54.1	108.2
Sodium	23	250000	250000	263875	105.6	276345.4	110.5
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2050	102.5	2176.9	108.8
Uranium	238	0	0	0		0.0	
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1831804E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	102501	102.5	101570.8	101.6
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	275112	91.7	270602.1	90.2
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	253646	101.5	250801.7	100.3
Lead							
Magnesium	24	100000	100000	104637	104.6	103168.8	103.2
Manganese							
Molybdenum	98	2000	2000	2098	104.9	2139.8	107.0
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	103447	103.4	102464.0	102.5
Selenium							
Silver	107	0	50	0		53.3	106.6
Sodium	23	250000	250000	263631	105.5	259738.4	103.9
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2103	105.2	2089.3	104.5
Uranium	238	0	0	0		0.0	
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1832402E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	96487	96.5	100521.4	100.5
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	286544	95.5	298199.0	99.4
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	200	1		201.0	100.5
Cobalt							
Copper							
Iron	57	250000	250000	247926	99.2	258465.9	103.4
Lead							
Magnesium	24	100000	100000	96560	96.6	100843.4	100.8
Manganese							
Molybdenum	98	2000	2000	2104	105.2	2107.2	105.4
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	99448	99.4	104873.0	104.9
Selenium							
Silver							
Sodium	23	250000	250000	237949	95.2	247049.3	98.8
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2077	103.9	2133.3	106.7
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1832402E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	97919	97.9	96338.5	96.3
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	291418	97.1	286680.9	95.6
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	200	0		191.1	95.6
Cobalt							
Copper							
Iron	57	250000	250000	255922	102.4	246297.9	98.5
Lead							
Magnesium	24	100000	100000	98115	98.1	95022.0	95.0
Manganese							
Molybdenum	98	2000	2000	2115	105.8	2068.1	103.4
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	101368	101.4	100420.5	100.4
Selenium							
Silver							
Sodium	23	250000	250000	241804	96.7	233954.6	93.6
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2077	103.9	2063.4	103.2
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1833106E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	98392	98.4	97768.4	97.8
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	288043	96.0	290345.1	96.8
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	255443	102.2	251504.6	100.6
Lead							
Magnesium	24	100000	100000	96443	96.4	96608.0	96.6
Manganese							
Molybdenum	98	2000	2000	2237	111.9	2287.3	114.4
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	99136	99.1	98948.1	98.9
Selenium							
Silver	107	0	50	0		49.1	98.2
Sodium	23	250000	250000	244322	97.7	241142.4	96.5
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	1887	94.4	1928.1	96.4
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1833106E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	100056	100.1	104524.0	104.5
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	289990	96.7	293453.3	97.8
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	256318	102.5	269712.1	107.9
Lead							
Magnesium	24	100000	100000	98122	98.1	102460.9	102.5
Manganese							
Molybdenum	98	2000	2000	2211	110.6	2330.1	116.5
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	101668	101.7	104137.6	104.1
Selenium							
Silver	107	0	50	0		49.6	99.2
Sodium	23	250000	250000	246576	98.6	260377.4	104.2
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2005	100.3	2020.5	101.0
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

Background Lab Sample ID: 9876334BKG Matrix Spike Lab Sample ID: 9876335MS Matrix Spike Duplicate Lab Sample ID: 9876336MSD
Batch Number(s): 183061063901, 183130571301, 183061063501

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		RPD Q	Control Limit	
		Result	C	Result	C	Result	C				%R	Q	%R	Q		%R	RPD M
Aluminum	27	41.5244	B	2098.4297		2113.7334		2000.0000	2000.0000	UG/L	103		104		1	84 - 117	20MS
Antimony	121	0.5335	B	6.4248		6.6250		6.0000	6.0000	UG/L	98		102		3	85 - 117	20MS
Arsenic	75	7.8809		18.6942		18.2889		10.0000	10.0000	UG/L	108		104		2	84 - 116	20MS
Barium	137	1038.5478		1086.3757		1097.2097		50.0000	50.0000	UG/L	96		117		1		20MS
Beryllium	9	0.0910	U	3.9853		4.2145		4.0000	4.0000	UG/L	100		105		6	83 - 121	20MS
Cadmium	111	0.1510	U	5.1004		5.2587		5.0000	5.0000	UG/L	102		105		3	87 - 115	20MS
Calcium	44	79425.6756		85485.4596		82412.8222		4000.0000	4000.0000	UG/L	151		75		4		20MS
Chromium	52	41.5515		49.6874		50.2205		50.0000	50.0000	UG/L	16 N		17 N		1	85 - 116	20MS
Cobalt	59	2.8883		245.3622		254.6424		250.0000	250.0000	UG/L	97		101		4	86 - 115	20MS
Copper	63	9.9100	U	50.7893		51.9730		50.0000	50.0000	UG/L	102		104		2	85 - 118	20MS
Iron	57	7628.7376		8688.2310		8501.2577		1000.0000	1000.0000	UG/L	106		87		2		20MS
Lead	208	4.2423		19.9329		20.5338		15.0000	15.0000	UG/L	105		109		3	88 - 115	20MS
Magnesium	24	64657.5263		68070.8009		67739.7491		2000.0000	2000.0000	UG/L	171		154		0		20MS
Manganese	55	2521.3377		2594.4366		2573.3721		50.0000	50.0000	UG/L	146		104		1		20MS
Mercury		0.0500	U	0.8976		0.8703		1.0000	1.0000	UG/L	90		87		3	82 - 119	20CV
Nickel	60	22.4596		56.1225		56.6181		50.0000	50.0000	UG/L	67 N		68 N		1	85 - 117	20MS
Potassium	39	24773.6212		35516.3948		35095.6088		10000.0000	10000.0000	UG/L	107		103		1	87 - 115	20MS
Selenium	78	0.6520	U	10.7214		10.5024		10.0000	10.0000	UG/L	107		105		2	80 - 120	20MS
Silver	107	0.1700	U	51.8826		52.9911		50.0000	50.0000	UG/L	104		106		2	85 - 116	20MS
Sodium	23	88695.8994		100841.7356		99834.8281		10000.0000	10000.0000	UG/L	121		111		1		20MS
Thallium	205	0.1090	U	1.9629		2.0223		2.0000	2.0000	UG/L	98		101		3	82 - 116	20MS
Thorium		205.0000	U	505.9400		493.1600	B	500.0000	500.0000	UG/L	101		99		3	75 - 125	20P
Uranium	238	1.5330		27.2338		27.7881		25.0000	25.0000	UG/L	103		105		2	75 - 125	20MS
Vanadium	51	0.4851	B	52.3062		53.0878		50.0000	50.0000	UG/L	104		105		1	86 - 115	20MS
Zinc	66	10.1795	B	512.4792		525.6610		500.0000	500.0000	UG/L	100		103		3	83 - 119	20MS

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 MS = ICP Mass Spectrometry	CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS

Background Lab Sample ID: 9876338BKG Matrix Spike Lab Sample ID: 9876339MS Matrix Spike Duplicate Lab Sample ID: 9876340MSD
Batch Number(s): 183061063902, 183191063901, 183050571306, 183061063502

Analyte	Mass	BKG Sample		MS Sample		MSD Sample		MS Spike Added	MSD Spike Added	Units	MS		MSD		RPD Q	Control Limit	
		Result	C	Result	C	Result	C				%R	Q	%R	Q		%R	RPD M
Aluminum	27	19.7000	U	2003.2185		1958.1121		2000.0000	2000.0000	UG/L	100		98		2	84 - 117	20MS
Antimony	121	0.4642	B	7.0495		6.4734		6.0000	6.0000	UG/L	110		100		9	85 - 117	20MS
Arsenic	75	7.4921		18.5321		18.3218		10.0000	10.0000	UG/L	110		108		1	84 - 116	20MS
Barium	137	1030.4890		1092.9334		1109.0444		50.0000	50.0000	UG/L	125		157		1		20MS
Beryllium	9	0.0910	U	4.0122		4.2070		4.0000	4.0000	UG/L	100		105		5	83 - 121	20MS
Cadmium	111	0.1510	U	5.1904		5.0986		5.0000	5.0000	UG/L	104		102		2	87 - 115	20MS
Calcium	44	81148.2821		86391.7048		84551.5730		4000.0000	4000.0000	UG/L	131		85		2		20MS
Chromium	52	3.7611	B	68.6057		52.0826		50.0000	50.0000	UG/L	130	N	97		27 *	85 - 116	20MS
Cobalt	59	2.5946		242.8110		248.1561		250.0000	250.0000	UG/L	96		98		2	86 - 115	20MS
Copper	63	9.9100	U	50.0801		50.7084		50.0000	50.0000	UG/L	100		101		1	85 - 118	20MS
Iron	57	7278.7343		8442.1382		8155.6183		1000.0000	1000.0000	UG/L	116		88		3		20MS
Lead	208	1.0700	U	15.5037		15.6516		15.0000	15.0000	UG/L	103		104		1	88 - 115	20MS
Magnesium	24	63920.6641		65753.6632		64687.4237		2000.0000	2000.0000	UG/L	92		38		2		20MS
Manganese	55	2432.0641		2510.7574		2499.4683		50.0000	50.0000	UG/L	157		135		0		20MS
Mercury		0.0500	U	0.9324		0.9119		1.0000	1.0000	UG/L	93		91		2	82 - 119	20CV
Nickel	60	3.4507	B	55.0553		55.5682		50.0000	50.0000	UG/L	103		104		1	85 - 117	20MS
Potassium	39	24502.9743		34433.8325		33949.4357		10000.0000	10000.0000	UG/L	99		94		1	87 - 115	20MS
Selenium	78	0.6520	U	10.2319		10.5821		10.0000	10.0000	UG/L	102		106		3	80 - 120	20MS
Silver	107	0.1700	U	41.0735		41.3265		50.0000	50.0000	UG/L	82	N	83		1	85 - 116	20MS
Sodium	23	89438.2600		112228.3637		114549.3792		10000.0000	10000.0000	UG/L	228		251		2		20MS
Thallium	205	0.1090	U	2.1132		2.0683		2.0000	2.0000	UG/L	106		103		2	82 - 116	20MS
Thorium		205.0000	U	519.2500		512.1800		500.0000	500.0000	UG/L	104		102		1	75 - 125	20P
Uranium	238	1.5943		29.5117		28.9482		25.0000	25.0000	UG/L	112		109		2	75 - 125	20MS
Vanadium	51	0.2952	B	50.2254		50.5082		50.0000	50.0000	UG/L	100		100		1	86 - 115	20MS
Zinc	66	6.1800	U	522.5135		540.7212		500.0000	500.0000	UG/L	105		108		3	83 - 119	20MS

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 MS = ICP Mass Spectrometry	CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	CONCENTRATION QUALIFIERS: U= Below MDL, B= Below LOQ FLAGS: N = Matrix Spike OOS, * = Duplicate OOS



QUALITY ASSURANCE SUMMARY

FORM 5B

POST DIGEST SPIKE SAMPLE RECOVERY

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9876334BKG

Analyte	Mass	Sample Result (SR) C	Spike Added (SA)	Spiked Sample Result (SSR) C	SRR %R	Spiked Sample Duplicate (SSD) C	SSD %R	M
Chromium	52	41.5515	8.0000	48.2268	83	NA	NA	MS
Nickel	60	22.4596	8.0000	31.3644	111	NA	NA	MS

Comments:

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
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QUALITY ASSURANCE SUMMARY

FORM 5B

POST DIGEST SPIKE SAMPLE RECOVERY

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9876338BKG

Analyte	Mass	Sample Result (SR)	C	Spike Added (SA)	Spiked Sample Result (SSR)	C	SRR %R	Spiked Sample Duplicate (SSD)	C	SSD %R	M
Chromium	52	3.7611	B	8.0000	11.4838		97	NA	U	NA	MS
Silver	107	0.1700	U	1.0000	0.9369		94	NA	U	NA	MS

Comments:

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
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Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 6

DUPLICATES

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9876334BKG

9876337DUP

1830610639

01,

1831305713

Batch Number(s):

01,

1830610635

01

Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Max RPD	Q	M
Aluminum	27		41.5244	B	37.1113	B	11		MS	
Antimony	121		0.5335	B	0.4333	B	21		MS	
Arsenic	75	2.0	7.8809		8.4386		7		MS	
Barium	137		1038.5478		1050.3504		1		MS	
Beryllium	9		0.0910	U	0.0910	U			MS	
Cadmium	111		0.1510	U	0.1510	U			MS	
Calcium	44		79425.6756		81397.9995		2		MS	
Chromium	52		41.5515		0.8256	B	192	*	MS	
Cobalt	59	1.0	2.8883		2.4485		16		MS	
Copper	63		9.9100	U	9.9100	U			MS	
Iron	57		7628.7376		7756.7786		2		MS	
Lead	208	3.0	4.2423		4.3864		3		MS	
Magnesium	24		64657.5263		66198.6217		2		MS	
Manganese	55		2521.3377		2580.2213		2		MS	
Mercury			0.0500	U	0.0500	U			CV	
Nickel	60		22.4596		3.5440	B	145	*	MS	
Potassium	39		24773.6212		25648.0300		3		MS	
Selenium	78		0.6520	U	0.6520	U			MS	
Silver	107		0.1700	U	0.1700	U			MS	
Sodium	23		88695.8994		91307.0652		3		MS	
Thallium	205		0.1090	U	0.1090	U			MS	
Thorium			205.0000	U	205.0000	U			P	
Uranium	238	0.5	1.5330		1.4906		3		MS	
Vanadium	51		0.4851	B	0.4156	B	15		MS	
Zinc	66		10.1795	B	10.3873	B	2		MS	

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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Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY

FORM 6

DUPLICATES

SDG No.: TID14

Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9876338BKG

9876341DUP

1830610639

02,

1831910639

01,

Batch Number(s): 1830505713

06,

1830610635

02

Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Max RPD	Q	M
Aluminum	27		19.7000	U	19.7000	U			MS	
Antimony	121		0.4642	B	0.4060	U	200		MS	
Arsenic	75	2.0	7.4921		7.8684		5		MS	
Barium	137		1030.4890		1017.2140		1		MS	
Beryllium	9		0.0910	U	0.0910	U			MS	
Cadmium	111		0.1510	U	0.1510	U			MS	
Calcium	44		81148.2821		80053.2114		1		MS	
Chromium	52		3.7611	B	1.6829	B	76		MS	
Cobalt	59	1.0	2.5946		2.4715		5		MS	
Copper	63		9.9100	U	9.9100	U			MS	
Iron	57		7278.7343		7364.0710		1		MS	
Lead	208		1.0700	U	1.0700	U			MS	
Magnesium	24		63920.6641		62725.5469		2		MS	
Manganese	55		2432.0641		2457.6040		1		MS	
Mercury			0.0500	U	0.0500	U			CV	
Nickel	60		3.4507	B	2.9496	B	16		MS	
Potassium	39		24502.9743		24166.3291		1		MS	
Selenium	78		0.6520	U	0.6520	U			MS	
Silver	107		0.1700	U	0.1700	U			MS	
Sodium	23		89438.2600		87646.0719		2		MS	
Thallium	205		0.1090	U	0.1090	U			MS	
Thorium			205.0000	U	205.0000	U			P	
Uranium	238	0.5	1.5943		1.6387		3		MS	
Vanadium	51		0.2952	B	0.3023	B	2		MS	
Zinc	66		6.1800	U	6.4314	B	200		MS	

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:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	FLAGS:
AF = Cold Vapor Atomic Fluorescence	* = Duplicate Out of Spec

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Aluminum	27	183061063901	UG/L	2000.000	2010.678		84 - 117	101	MS	Yes
Antimony	121	183061063901	UG/L	6.000	6.245		85 - 117	104	MS	Yes
Arsenic	75	183061063901	UG/L	10.000	10.490		84 - 116	105	MS	Yes
Barium	137	183061063901	UG/L	50.000	50.622		86 - 114	101	MS	Yes
Beryllium	9	183061063901	UG/L	4.000	3.929		83 - 121	98	MS	Yes
Cadmium	111	183061063901	UG/L	5.000	5.174		87 - 115	103	MS	Yes
Calcium	44	183061063901	UG/L	4000.000	3931.385		87 - 118	98	MS	Yes
Chromium	52	183061063901	UG/L	50.000	49.637		85 - 116	99	MS	Yes
Cobalt	59	183061063901	UG/L	250.000	247.017		86 - 115	99	MS	Yes
Copper	63	183061063901	UG/L	50.000	49.688		85 - 118	99	MS	Yes
Iron	57	183061063901	UG/L	1000.000	994.649		87 - 118	99	MS	Yes
Lead	208	183061063901	UG/L	15.000	15.158		88 - 115	101	MS	Yes
Magnesium	24	183061063901	UG/L	2000.000	1942.726		83 - 118	97	MS	Yes
Manganese	55	183061063901	UG/L	50.000	51.331		87 - 115	103	MS	Yes
Mercury		183050571306	UG/L	1.000	0.897		82 - 119	90	CV	Yes
Nickel	60	183061063901	UG/L	50.000	52.288		85 - 117	105	MS	Yes
Potassium	39	183061063901	UG/L	10000.000	10048.061		87 - 115	100	MS	Yes
Selenium	78	183061063901	UG/L	10.000	10.075		80 - 120	101	MS	Yes
Silver	107	183061063901	UG/L	50.000	53.601		85 - 116	107	MS	Yes
Sodium	23	183061063901	UG/L	10000.000	10020.980		85 - 117	100	MS	Yes
Thallium	205	183061063901	UG/L	2.000	1.942		82 - 116	97	MS	Yes
Thorium		183061063501	UG/L	500.000	520.530		88 - 113	104	P	Yes
Uranium	238	183061063901	UG/L	25.000	25.026		86 - 115	100	MS	Yes
Vanadium	51	183061063901	UG/L	50.000	50.894		86 - 115	102	MS	Yes
Zinc	66	183061063901	UG/L	500.000	503.421		83 - 119	101	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

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Aluminum	27	183061063902	UG/L	2000.000	1973.422		84 - 117	99	MS	Yes
Antimony	121	183061063902	UG/L	6.000	6.205		85 - 117	103	MS	Yes
Arsenic	75	183061063902	UG/L	10.000	10.654		84 - 116	107	MS	Yes
Barium	137	183061063902	UG/L	50.000	49.767		86 - 114	100	MS	Yes
Beryllium	9	183061063902	UG/L	4.000	4.011		83 - 121	100	MS	Yes
Cadmium	111	183061063902	UG/L	5.000	5.065		87 - 115	101	MS	Yes
Calcium	44	183061063902	UG/L	4000.000	3936.389		87 - 118	98	MS	Yes
Chromium	52	183191063901	UG/L	50.000	52.589		85 - 116	105	MS	Yes
Cobalt	59	183061063902	UG/L	250.000	239.522		86 - 115	96	MS	Yes
Copper	63	183061063902	UG/L	50.000	50.058		85 - 118	100	MS	Yes
Iron	57	183061063902	UG/L	1000.000	1005.764		87 - 118	101	MS	Yes
Lead	208	183061063902	UG/L	15.000	15.072		88 - 115	100	MS	Yes
Magnesium	24	183061063902	UG/L	2000.000	1894.148		83 - 118	95	MS	Yes
Manganese	55	183061063902	UG/L	50.000	50.812		87 - 115	102	MS	Yes
Mercury		183130571301	UG/L	1.000	0.900		82 - 119	90	CV	Yes
Nickel	60	183061063902	UG/L	50.000	51.491		85 - 117	103	MS	Yes
Potassium	39	183061063902	UG/L	10000.000	9806.757		87 - 115	98	MS	Yes
Selenium	78	183061063902	UG/L	10.000	10.056		80 - 120	101	MS	Yes
Silver	107	183061063902	UG/L	50.000	50.907		85 - 116	102	MS	Yes
Sodium	23	183061063902	UG/L	10000.000	9846.586		85 - 117	98	MS	Yes
Thallium	205	183061063902	UG/L	2.000	1.950		82 - 116	98	MS	Yes
Thorium		183061063502	UG/L	500.000	525.950		88 - 113	105	P	Yes
Uranium	238	183061063902	UG/L	25.000	26.535		86 - 115	106	MS	Yes
Vanadium	51	183061063902	UG/L	50.000	50.676		86 - 115	101	MS	Yes
Zinc	66	183061063902	UG/L	500.000	516.833		83 - 119	103	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

Background Lab Sample ID: 9876334BKG Serial Dilution Lab Sample ID: 9876334L

Batch Number(s): 183061063901, 183061063501

Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Aluminum	27	41.5244	B	98.5000	U	100		MS
Antimony	121	0.5335	B	2.0300	U	100		MS
Arsenic	75	7.8809		6.9629	B	12		MS
Barium	137	1038.5478		1014.5682		2		MS
Beryllium	9	0.0910	U	0.4550	U			MS
Cadmium	111	0.1510	U	0.7550	U			MS
Calcium	44	79425.6756		77780.9893		2		MS
Chromium	52	41.5515		41.1499		1		MS
Cobalt	59	2.8883		2.4402	B	16		MS
Copper	63	9.9100	U	49.5500	U			MS
Iron	57	7628.7376		7464.5661		2		MS
Lead	208	4.2423		5.3500	U	100		MS
Magnesium	24	64657.5263		66288.6032		3		MS
Manganese	55	2521.3377		2289.0807		9		MS
Nickel	60	22.4596		24.1674		8		MS
Potassium	39	24773.6212		22888.6443		8		MS
Selenium	78	0.6520	U	3.2600	U			MS
Silver	107	0.1700	U	0.8500	U			MS
Sodium	23	88695.8994		87085.9835		2		MS
Thallium	205	0.1090	U	0.5450	U			MS
Thorium		205.0000	U	1025.0000	U			P
Uranium	238	1.5330		1.3760	B	10		MS
Vanadium	51	0.4851	B	1.1800	U	100		MS
Zinc	66	10.1795	B	30.9000	U	100		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

QUALITY ASSURANCE SUMMARY

FORM 9

SERIAL DILUTIONS

SDG No.: TID14

Matrix: WATER

Level (low/med): LOW

Background Lab Sample ID: 9876338BKG Serial Dilution Lab Sample ID: 9876338L

Batch Number(s): 183061063902, 183191063901, 183061063502

Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Aluminum	27	19.7000	U	98.5000	U			MS
Antimony	121	0.4642	B	2.0300	U	100		MS
Arsenic	75	7.4921		7.5549	B		1	MS
Barium	137	1030.4890		979.0695			5	MS
Beryllium	9	0.0910	U	0.4550	U			MS
Cadmium	111	0.1510	U	0.7550	U			MS
Calcium	44	81148.2821		79142.5866			2	MS
Chromium	52	3.7611	B	4.0405	B		7	MS
Cobalt	59	2.5946		2.5216	B		3	MS
Copper	63	9.9100	U	49.5500	U			MS
Iron	57	7278.7343		7011.1623			4	MS
Lead	208	1.0700	U	5.3500	U			MS
Magnesium	24	63920.6641		63218.6538			1	MS
Manganese	55	2432.0641		2229.0881			8	MS
Nickel	60	3.4507	B	3.5414	B		3	MS
Potassium	39	24502.9743		22339.2820			9	MS
Selenium	78	0.6520	U	3.2600	U			MS
Silver	107	0.1700	U	0.8500	U			MS
Sodium	23	89438.2600		87478.0557			2	MS
Thallium	205	0.1090	U	0.5450	U			MS
Thorium		205.0000	U	1025.0000	U			P
Uranium	238	1.5943		1.7428	B		9	MS
Vanadium	51	0.2952	B	1.1800	U		100	MS
Zinc	66	6.1800	U	30.9000	U			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

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

Method: MS
Instrument ID: 19204
Date: 07/2018

Analyte	MASS (amu)	Background	IDL (UG/L)
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium	44		101
Chromium	52		0.50
Cobalt			
Copper			
Iron			
Lead			
Magnesium			
Manganese			
Nickel			
Potassium			
Selenium			
Silver	107		0.098
Sodium	23		50.0
Thallium			
Uranium	238		0.080
Vanadium			
Zinc			

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Instrument ID: 27813
Date: 09/2018

Analyte	MASS (amu)	Background	IDL (UG/L)
Aluminum	27		19.1
Antimony	121		0.29
Arsenic	75		0.50
Barium	137		0.50
Beryllium	9		0.073
Cadmium	111		0.18
Calcium	44		79.0
Chromium	52		0.32
Cobalt	59		0.13
Copper	63		1.4
Iron	57		12.6
Lead	208		0.14
Magnesium	24		5.0
Manganese	55		0.64
Nickel	60		0.55
Potassium	39		20.8
Selenium	78		0.54
Silver	107		0.099
Sodium	23		28.6
Thallium	205		0.10
Uranium			
Vanadium	51		0.21
Zinc	66		1.6

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 17384
Date: 07/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury	254.00		0.050

Comments:

METHODS:

P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 23283
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

Method: P
Date: 06/2018

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Thorium	401.91		500	205

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

Method: MS
Date: 07/2018

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium	44		700	59.8
Chromium	52		4.0	0.70
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	23		900	50.0
Thallium				
Uranium	238		0.50	0.11
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



Method: MS
Date: 09/2018

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum	27		400	19.7
Antimony	121		2.0	0.41
Arsenic	75		2.0	0.68
Barium	137		4.0	0.75
Beryllium	9		0.50	0.091
Cadmium	111		1.0	0.15
Calcium	44		700	59.8
Chromium	52		4.0	0.70
Cobalt	59		1.0	0.16
Copper	63		40.0	9.9
Iron	57		100	22.8
Lead	208		3.0	1.1
Magnesium	24		100	10.4
Manganese	55		10.0	4.9
Nickel	60		4.0	0.60
Potassium	39		400	107
Selenium	78		2.0	0.65
Silver	107		0.50	0.17
Sodium	23		900	50.0
Thallium	205		0.50	0.11
Uranium				
Vanadium	51		1.0	0.24
Zinc	66		15.0	6.2

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



Method: CV
Date: 06/2018

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury			0.20	0.050

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



Method: CV
Date: 06/2018

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury	254.00		0.20	0.050

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

Instrument ID: 16315
Date: 06/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for:				
		AL	CA	FE	MG	ZR
Thorium	401.91	0.00000000	0.00000000	0.00000000	0.00000000	0.0083910

Comments:



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

Method: P

Batch Number: 183061063501

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9876332	11/05/2018	50.00	50
9876342	11/05/2018	50.00	50
9876334BKG	11/05/2018	50.00	50
9876337DUP	11/05/2018	50.00	50
9876336MSD	11/05/2018	50.00	50
9876335MS	11/05/2018	50.00	50
P30663AB	11/05/2018	50.00	50
P30663AQ	11/05/2018	1.00	1

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

Method: P

Batch Number: 183061063502

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9876333	11/05/2018	50.00	50
9876338BKG	11/05/2018	50.00	50
9876341DUP	11/05/2018	50.00	50
9876340MSD	11/05/2018	50.00	50
9876339MS	11/05/2018	50.00	50
P30663BB	11/05/2018	50.00	50
P30663BQ	11/05/2018	1.00	1

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

Method: MS
Batch Number: 183061063901

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9876332	11/05/2018	50.00	50
9876342	11/05/2018	50.00	50
9876334BKG	11/05/2018	50.00	50
9876337DUP	11/05/2018	50.00	50
9876336MSD	11/05/2018	50.00	50
9876335MS	11/05/2018	50.00	50
P30663AB	11/05/2018	50.00	50
P30663AQ	11/05/2018	1.00	1

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

Method: MS
Batch Number: 183061063902

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9876333	11/05/2018	50.00	50
9876338BKG	11/05/2018	50.00	50
9876341DUP	11/05/2018	50.00	50
9876340MSD	11/05/2018	50.00	50
9876339MS	11/05/2018	50.00	50
P30663BB	11/05/2018	50.00	50
P30663BQ	11/05/2018	1.00	1

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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Method: MS
Batch Number: 183191063901

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9876333	11/16/2018	50.00	50
9876338BKG	11/16/2018	50.00	50
9876341DUP	11/16/2018	50.00	50
9876340MSD	11/16/2018	50.00	50
9876339MS	11/16/2018	50.00	50
P31963AB	11/16/2018	50.00	50
P31963AQ	11/16/2018	1.00	1

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

Method: CV
Batch Number: 183050571306

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9876333	11/02/2018	40.00	40
9876338BKG	11/02/2018	40.00	40
9876341DUP	11/02/2018	40.00	40
9876340MSD	11/02/2018	40.00	40
9876339MS	11/02/2018	40.00	40
P30571FB	11/02/2018	40.00	40
P30571FQ	11/02/2018	1.00	1

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

Method: CV
Batch Number: 183130571301

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9876332	11/12/2018	40.00	40
9876342	11/12/2018	40.00	40
9876334BKG	11/12/2018	40.00	40
9876337DUP	11/12/2018	40.00	40
9876336MSD	11/12/2018	40.00	40
9876335MS	11/12/2018	40.00	40
P31371AB	11/12/2018	40.00	40
P31371AQ	11/12/2018	1.00	1

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: P
Instrument ID: 16315
Run Name: 1831303T71

Run Start Date: 11/09/2018
Run End Date: 11/09/2018

Lab Sample ID	D/F	Time	Analytes																											
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z			
S0	1.00	11:05																						X						
S	1.00	11:08																												
S	1.00	11:11																						X						
S	1.00	11:14																												
ICV	1.00	11:16																						X						
ICB	1.00	11:19																						X						
LLC	1.00	11:22																						X						
ICSA	1.00	11:25																						X						
CCV	1.00	11:28																						X						
CCB	1.00	11:30																						X						
P30663AB	1.00	11:33																						X						
P30663AQ	1.00	11:36																						X						
9876334BKG	1.00	11:38																						X						
9876334A	1.00	11:41																												
9876337DUP	1.00	11:44																						X						
9876335MS	1.00	11:47																						X						
9876336MSD	1.00	11:50																						X						
9876334L	5.00	11:52																						X						
ZZZZZZ	1.00	11:55																												
ZZZZZZ	1.00	11:58																												
CCV	1.00	12:01																						X						
CCB	1.00	12:03																						X						
ZZZZZZ	1.00	12:06																												
ZZZZZZ	1.00	12:09																												
ZZZZZZ	1.00	12:12																												
ZZZZZZ	1.00	12:15																												
9876332	1.00	12:17																						X						
9876342	1.00	12:20																						X						
CCV	1.00	12:23																						X						
CCB	1.00	12:26																						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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: P
Instrument ID: 16315
Run Name: 1831401T71

Run Start Date: 11/10/2018
Run End Date: 11/10/2018

Lab Sample ID	D/F	Time	Analytes																											
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z			
S0	1.00	05:13																						X						
S	1.00	05:16																												
S	1.00	05:19																						X						
S	1.00	05:22																												
ICV	1.00	05:24																						X						
ICB	1.00	05:27																						X						
LLC	1.00	05:30																						X						
ICSA	1.00	05:33																						X						
CCV	1.00	05:36																						X						
CCB	1.00	05:38																						X						
P30663BB	1.00	05:41																						X						
P30663BQ	1.00	05:44																						X						
9876338BKG	1.00	05:46																						X						
9876338A	1.00	05:49																												
9876341DUP	1.00	05:52																						X						
9876339MS	1.00	05:55																						X						
9876340MSD	1.00	05:57																						X						
9876338L	5.00	06:00																						X						
ZZZZZZ	1.00	06:03																												
ZZZZZZ	1.00	06:06																												
CCV	1.00	06:08																						X						
CCB	1.00	06:11																						X						
ZZZZZZ	1.00	06:14																												
ZZZZZZ	1.00	06:17																												
ZZZZZZ	1.00	06:20																												
ZZZZZZ	1.00	06:22																												
ZZZZZZ	1.00	06:25																												
ZZZZZZ	1.00	06:28																												
ZZZZZZ	1.00	06:31																												
9876333	1.00	06:34																						X						
CCV	1.00	06:37																						X						
CCB	1.00	06:39																						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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: MS

Instrument ID: 27813

Run Name: 1830908E07

Run Start Date: 11/05/2018

Run End Date: 11/05/2018

Lab Sample ID	D/F	Time	Analytes																									
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	A L	N T	T H	U	V	Z	
S0	1.00	18:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
S	1.00	18:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
ICV	1.00	18:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
ICB	1.00	18:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
LLC	1.00	18:18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
ICSA	1.00	18:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
ZZZZZZ	1.00	18:22																										
CCV	1.00	18:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
CCB	1.00	18:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
P30663AB	1.00	18:28	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
P30663AQ	1.00	18:31	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
9876334BKG	1.00	18:33	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
9876334A	1.00	18:35								X									X									
9876337DUP	1.00	18:37	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
9876335MS	1.00	18:39	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
9876336MSD	1.00	18:41	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
9876334L	5.00	18:43	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
ZZZZZZ	1.00	18:46																										
ZZZZZZ	1.00	18:48																										
CCV	1.00	18:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
CCB	1.00	18:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
ZZZZZZ	1.00	18:54																										
ZZZZZZ	1.00	18:56																										
ZZZZZZ	1.00	18:58																										
ZZZZZZ	1.00	19:01																										
9876332	1.00	19:03	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X			X		
9876342	1.00	19:05	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			X	X	
ZZZZZZ	1.00	19:07																										
ZZZZZZ	1.00	19:09																										
CCV	1.00	19:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	
CCB	1.00	19:13	X	X	X	X	X	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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: MS

Instrument ID: 27813

Run Name: 1831208E07

Run Start Date: 11/08/2018

Run End Date: 11/08/2018

Lab Sample ID	D/F	Time	Analytes																																	
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N									
S0	1.00	18:41						X						X							X					X										
S	1.00	18:43						X						X							X					X										
ICV	1.00	18:46						X						X							X					X										
ICB	1.00	18:48						X						X							X					X										
LLC	1.00	18:50						X						X							X					X										
ICSA	1.00	18:52						X						X							X					X										
ZZZZZZ	1.00	18:54																																		
CCV	1.00	18:56						X						X							X					X										
CCB	1.00	18:58						X						X							X					X										
P30663AB	1.00	19:01						X																			X									
P30663AQ	1.00	19:03						X																			X									
9876334BKG	1.00	19:05						X																			X									
9876334A	1.00	19:07																																		
9876337DUP	1.00	19:09						X																			X									
9876335MS	1.00	19:11						X																			X									
9876336MSD	1.00	19:13						X																			X									
9876334L	5.00	19:16						X																			X									
9876337DUP	5.00	19:18																				X														
9876335MS	5.00	19:20																				X														
CCV	1.00	19:22						X						X							X						X									
CCB	1.00	19:24						X						X							X						X									
9876336MSD	5.00	19:26																				X														
9876332	1.00	19:28																									X									
9876332	5.00	19:30						X																												
9876342	1.00	19:33												X							X															
CCV	1.00	19:35						X						X							X						X									
CCB	1.00	19:37						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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: MS

Instrument ID: 27813

Run Name: 1831211E07

Run Start Date: 11/08/2018

Run End Date: 11/08/2018

Lab Sample ID	D/F	Time	Analytes																									
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	A L	T H	U	V	Z N		
S0	1.00	23:05	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
S	1.00	23:07	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
ICV	1.00	23:09	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
ICB	1.00	23:12	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
LLC	1.00	23:14	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
ICSA	1.00	23:16	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
ZZZZZZ	1.00	23:18																										
CCV	1.00	23:20	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
CCB	1.00	23:22	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
P30663BB	1.00	23:25	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
P30663BQ	1.00	23:27	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
9876338BKG	1.00	23:29	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
9876338A	1.00	23:31																										
9876341DUP	1.00	23:33	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
9876339MS	1.00	23:35	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
9876340MSD	1.00	23:37	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
9876338L	5.00	23:39	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
9876333	1.00	23:42	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X	X		
CCV	1.00	23:44	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X		
CCB	1.00	23:46	X	X	X	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



Method: MS

Instrument ID: 19204

Run Name: 1831305E05

Run Start Date: 11/09/2018

Run End Date: 11/09/2018

Lab Sample ID	D/F	Time	Analytes																									
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z	
S0	1.00	19:08																							X			
S	1.00	19:10																							X			
ICV	1.00	19:12																							X			
ICB	1.00	19:14																							X			
LLC	1.00	19:15																							X			
ICSA	1.00	19:17																							X			
ZZZZZZ	1.00	19:19																										
CCV	1.00	19:21																							X			
CCB	1.00	19:22																							X			
P30663AB	1.00	19:24																							X			
P30663AQ	1.00	19:26																							X			
9876334BKG	1.00	19:28																							X			
9876334A	1.00	19:29																										
9876337DUP	1.00	19:31																							X			
9876335MS	1.00	19:33																							X			
9876336MSD	1.00	19:35																							X			
9876334L	5.00	19:37																							X			
9876332	1.00	19:38																							X			
9876342	1.00	19:40																							X			
CCV	1.00	19:42																							X			
CCB	1.00	19:44																							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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: MS

Instrument ID: 19204

Run Name: 1831804E05

Run Start Date: 11/14/2018

Run End Date: 11/14/2018

Lab Sample ID	D/F	Time	Analytes																											
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z			
S0	1.00	08:25																			X	X			X					
S	1.00	08:27																			X	X			X					
ICV	1.00	08:30																			X	X			X					
ICB	1.00	08:32																			X	X			X					
LLC	1.00	08:35																			X	X			X					
ICSA	1.00	08:37																			X	X			X					
ICSAB	1.00	08:40																			X	X			X					
ZZZZZZ	1.00	08:42																												
CCV	1.00	08:44																			X	X			X					
CCB	1.00	08:47																			X	X			X					
ZZZZZZ	1.00	08:49																												
ZZZZZZ	1.00	08:52																												
ZZZZZZ	1.00	08:54																												
ZZZZZZ	1.00	08:56																												
ZZZZZZ	1.00	08:59																												
ZZZZZZ	1.00	09:01																												
ZZZZZZ	1.00	09:04																												
ZZZZZZ	5.00	09:06																												
ZZZZZZ	1.00	09:08																												
ZZZZZZ	1.00	09:11																												
CCV	1.00	09:13																			X	X			X					
CCB	1.00	09:16																			X	X			X					
ZZZZZZ	1.00	09:18																												
ZZZZZZ	1.00	09:21																												
ZZZZZZ	1.00	09:23																												
LLC	1.00	09:25																			X	X			X					
ICSA	1.00	09:28																			X	X			X					
ICSAB	1.00	09:30																			X	X			X					
ZZZZZZ	1.00	09:33																												
CCV	1.00	09:35																			X	X			X					
CCB	1.00	09:37																			X	X			X					
ZZZZZZ	1.00	09:40																												
ZZZZZZ	1.00	09:42																												
ZZZZZZ	1.00	09:45																												
ZZZZZZ	1.00	09:47																												
ZZZZZZ	1.00	09:49																												
ZZZZZZ	1.00	09:52																												
LLC	1.00	09:54																			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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: MS
Instrument ID: 19204
Run Name: 1831804E05

Run Start Date: 11/14/2018
Run End Date: 11/14/2018

Lab Sample ID	D/F	Time	Analytes																																
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N								
ICSA	1.00	09:57																		X	X			X											
ICSAB	1.00	09:59																		X	X			X											
ZZZZZZ	1.00	10:01																																	
CCV	1.00	10:04																		X	X			X											
CCB	1.00	10:06																		X	X			X											
P30663BB	1.00	10:09																		X				X											
P30663BB	1.00	10:11																																	
P30663BQ	1.00	10:13																		X				X											
9876338BKG	1.00	10:16																						X											
9876338A	1.00	10:18																																	
9876341DUP	1.00	10:21																						X											
9876339MS	1.00	10:23																		X	X			X											
9876340MSD	1.00	10:26																		X	X			X											
9876338L	5.00	10:28																						X											
9876333	1.00	10:30																						X											
CCV	1.00	10:33																		X	X			X											
CCB	1.00	10:35																		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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: MS
Instrument ID: 19204
Run Name: 1832402E05

Run Start Date: 11/20/2018
Run End Date: 11/20/2018

Lab Sample ID	D/F	Time	Analytes																									
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N	
S0	1.00	07:38								X																		
S	1.00	07:40								X																		
ICV	1.00	07:42								X																		
ICB	1.00	07:44								X																		
LLC	1.00	07:46								X																		
ICSA	1.00	07:48								X																		
ICSAB	1.00	07:50								X																		
ZZZZZZ	1.00	07:51																										
CCV	1.00	07:53								X																		
CCB	1.00	07:55								X																		
ZZZZZZ	1.00	07:57																										
ZZZZZZ	1.00	07:59																										
ZZZZZZ	1.00	08:00																										
ZZZZZZ	1.00	08:02																										
ZZZZZZ	1.00	08:04																										
ZZZZZZ	1.00	08:06																										
ZZZZZZ	1.00	08:08																										
ZZZZZZ	5.00	08:09																										
CCV	1.00	08:11								X																		
CCB	1.00	08:13								X																		
LLC	1.00	08:15								X																		
ICSA	1.00	08:17								X																		
ICSAB	1.00	08:18								X																		
ZZZZZZ	1.00	08:20																										
CCV	1.00	08:22								X																		
CCB	1.00	08:24								X																		
P31963AB	1.00	08:26								X																		
P31963AB	1.00	08:27																										
P31963AQ	1.00	08:29								X																		
9876338BKG	1.00	08:31								X																		
9876338A	1.00	08:33								X																		
9876341DUP	1.00	08:35								X																		
9876339MS	1.00	08:36								X																		
9876340MSD	1.00	08:38								X																		
9876338L	5.00	08:40								X																		
9876333	1.00	08:42								X																		
CCV	1.00	08:44								X																		
CCB	1.00	08:45								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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: MS
Instrument ID: 19204
Run Name: 1833106E05

Run Start Date: 11/27/2018
Run End Date: 11/27/2018

Lab Sample ID	D/F	Time	Analytes																									
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N	
S0	1.00	13:10							X											X								
S	1.00	13:12							X											X								
ICV	1.00	13:14							X											X								
ICB	1.00	13:16							X											X								
LLC	1.00	13:18							X											X								
ICSA	1.00	13:19							X											X								
ICSAB	1.00	13:21							X											X								
ZZZZZZ	1.00	13:23																										
CCV	1.00	13:25							X											X								
CCB	1.00	13:27							X											X								
ZZZZZZ	1.00	13:28																										
ZZZZZZ	1.00	13:30																										
ZZZZZZ	1.00	13:32																										
ZZZZZZ	1.00	13:34																										
ZZZZZZ	1.00	13:36																										
ZZZZZZ	1.00	13:37																										
ZZZZZZ	1.00	13:39																										
ZZZZZZ	1.00	13:41																										
CCV	1.00	13:43							X											X								
CCB	1.00	13:44							X											X								
LLC	1.00	13:46							X											X								
ICSA	1.00	13:48							X											X								
ICSAB	1.00	13:50							X											X								
ZZZZZZ	1.00	13:52																										
CCV	1.00	13:53							X											X								
CCB	1.00	13:55							X											X								
9876338A	1.00	13:57																		X								
9876333	1.00	13:59							X																			
CCV	1.00	14:00							X											X								
CCB	1.00	14:02							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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: CV
Instrument ID: 17384
Run Name: 1830901M07

Run Start Date: 11/05/2018
Run End Date: 11/05/2018

Lab Sample ID	D/F	Time	Analytes																														
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N						
S0	1.00	06:08															X																
S0.2	1.00	06:10															X																
S0.5	1.00	06:12															X																
S1.0	1.00	06:14															X																
S2.5	1.00	06:16															X																
S5.0	1.00	06:18															X																
ICV	1.00	06:20															X																
ICB	1.00	06:22															X																
CRA	1.00	06:24															X																
CCV	1.00	06:26															X																
CCB	1.00	06:28															X																
ZZZZZZ	1.00	06:48																															
ZZZZZZ	1.00	06:50																															
ZZZZZZ	1.00	06:52																															
ZZZZZZ	1.00	06:54																															
ZZZZZZ	1.00	06:56																															
ZZZZZZ	1.00	06:58																															
ZZZZZZ	1.00	07:00																															
ZZZZZZ	1.00	07:02																															
ZZZZZZ	1.00	07:04																															
ZZZZZZ	1.00	07:06																															
CCV	1.00	07:08															X																
CCB	1.00	07:10															X																
ZZZZZZ	1.00	07:12																															
ZZZZZZ	1.00	07:14																															
ZZZZZZ	1.00	07:16																															
ZZZZZZ	1.00	07:18																															
ZZZZZZ	1.00	07:20																															
ZZZZZZ	1.00	07:22																															
ZZZZZZ	1.00	07:24																															
ZZZZZZ	1.00	07:27																															
ZZZZZZ	1.00	07:29																															
ZZZZZZ	1.00	07:31																															
CCV	1.00	07:33															X																
CCB	1.00	07:35															X																
ZZZZZZ	1.00	07:37																															
ZZZZZZ	1.00	07:39																															
ZZZZZZ	1.00	07:41																															

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

Method: CV
Instrument ID: 17384
Run Name: 1830901M07

Run Start Date: 11/05/2018
Run End Date: 11/05/2018

Lab Sample ID	D/F	Time	Analytes																														
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	T H	U	V	Z N						
ZZZZZZZ	1.00	07:43																															
ZZZZZZZ	1.00	07:45																															
ZZZZZZZ	1.00	07:47																															
ZZZZZZZ	1.00	07:49																															
ZZZZZZZ	1.00	07:51																															
ZZZZZZZ	1.00	07:53																															
ZZZZZZZ	1.00	07:55																															
CCV	1.00	07:57															X																
CCB	1.00	07:59															X																
P30571FB	1.00	08:01															X																
P30571FQ	1.00	08:03															X																
9876338BKG	1.00	08:05															X																
9876341DUP	1.00	08:07															X																
9876339MS	1.00	08:09															X																
9876340MSD	1.00	08:11															X																
9876333	1.00	08:13															X																
ZZZZZZZ	1.00	08:15																															
ZZZZZZZ	1.00	08:17																															
ZZZZZZZ	1.04	08:19																															
CCV	1.00	08:21															X																
CCB	1.00	08:23															X																
ZZZZZZZ	1.04	08:25																															
ZZZZZZZ	1.04	08:28																															
ZZZZZZZ	1.04	08:30																															
ZZZZZZZ	1.04	08:32																															

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: CV
Instrument ID: 17384
Run Name: 1830901M07

Run Start Date: 11/05/2018
Run End Date: 11/05/2018

Lab Sample ID	D/F	Time	Analytes																									
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	A L	T H	T H	U	V	Z N	
ZZZZZZ	1.00	09:00																										
ZZZZZZ	1.00	09:02																										
ZZZZZZ	1.00	09:04																										
ZZZZZZ	1.00	09:06																										
ZZZZZZ	1.00	09:08																										
CCV	1.00	09:10																X										
CCB	1.00	09:12																X										
ZZZZZZ	1.00	09:18																										
ZZZZZZ	1.00	09:20																										
ZZZZZZ	1.00	09:22																										
ZZZZZZ	1.00	09:24																										
ZZZZZZ	1.00	09:26																										
ZZZZZZ	1.00	09:28																										
ZZZZZZ	1.00	09:30																										
ZZZZZZ	1.00	09:32																										
ZZZZZZ	1.00	09:34																										
ZZZZZZ	1.00	09:36																										
CCV	1.00	09:38																X										
CCB	1.00	09:40																X										
ZZZZZZ	1.00	09:42																										
ZZZZZZ	1.00	09:44																										
ZZZZZZ	1.00	09:47																										
ZZZZZZ	1.00	09:49																										
ZZZZZZ	1.00	09:51																										
ZZZZZZ	1.00	09:53																										
ZZZZZZ	1.00	09:55																										
ZZZZZZ	1.00	09:57																										
ZZZZZZ	1.00	09:59																										
ZZZZZZ	1.00	10:01																										
CCV	1.00	10:03																X										
CCB	1.00	10:05																X										
ZZZZZZ	1.00	10:07																										
ZZZZZZ	1.00	10:09																										
ZZZZZZ	1.00	10:11																										
ZZZZZZ	1.00	10:13																										
ZZZZZZ	1.00	10:15																										
ZZZZZZ	1.00	10:17																										
ZZZZZZ	1.00	10:19																										

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: CV
Instrument ID: 17384
Run Name: 1830901M07

Run Start Date: 11/05/2018
Run End Date: 11/05/2018

Lab Sample ID	D/F	Time	Analytes																																	
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N									
ZZZZZZ	1.00	10:21																																		
ZZZZZZ	1.00	10:23																																		
ZZZZZZ	1.00	10:25																																		
CCV	1.00	10:27															X																			
CCB	1.00	10:29															X																			
ZZZZZZ	1.00	10:31																																		
ZZZZZZ	1.00	10:33																																		
ZZZZZZ	1.00	10:35																																		
ZZZZZZ	1.00	10:37																																		
ZZZZZZ	1.00	10:39																																		
ZZZZZZ	1.00	10:41																																		
ZZZZZZ	1.00	10:43																																		
ZZZZZZ	1.00	10:45																																		
ZZZZZZ	1.00	10:48																																		
ZZZZZZ	1.00	10:50																																		
CCV	1.00	10:52															X																			
CCB	1.00	10:54															X																			
ZZZZZZ	1.00	10:56																																		
CRA	1.00	11:02															X																			
CCV	1.00	11:04															X																			
CCB	1.00	11:06															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

Method: CV

Instrument ID: 23283

Run Name: 1831602M09

Run Start Date: 11/12/2018

Run End Date: 11/12/2018

[illegible]

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



Lancaster Laboratories
Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: TID14

Method: CV
Instrument ID: 23283
Run Name: 1831602M09

Run Start Date: 11/12/2018
Run End Date: 11/12/2018

Lab Sample ID	D/F	Time	Analytes																									
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N	
ZZZZZZ	1.00	12:23																										
ZZZZZZ	1.00	12:25																										
ZZZZZZ	1.00	12:27																										
ZZZZZZ	1.00	12:30																										
ZZZZZZ	1.00	12:32																										
ZZZZZZ	1.00	12:34																										
ZZZZZZ	1.00	12:36																										
ZZZZZZ	1.00	12:38																										
ZZZZZZ	1.00	12:40																										
CCV	1.00	12:42																X										
CCB	1.00	12:44																X										
ZZZZZZ	1.00	12:46																										
ZZZZZZ	1.00	12:48																										
ZZZZZZ	1.00	12:50																										
ZZZZZZ	1.00	12:52																										
ZZZZZZ	1.00	12:54																										
ZZZZZZ	1.00	12:56																										
ZZZZZZ	1.00	12:58																										
ZZZZZZ	1.00	13:00																										
ZZZZZZ	1.00	13:02																										
ZZZZZZ	1.00	13:04																										
CCV	1.00	13:06																X										
CCB	1.00	13:08																X										
ZZZZZZ	1.00	13:10																										
ZZZZZZ	1.00	13:12																										
ZZZZZZ	1.00	13:14																										
ZZZZZZ	1.00	13:16																										
ZZZZZZ	1.00	13:19																										
ZZZZZZ	1.00	13:21																										
ZZZZZZ	1.00	13:23																										
ZZZZZZ	1.00	13:25																										
ZZZZZZ	1.00	13:27																										
ZZZZZZ	1.00	13:29																										
CCV	1.00	13:31																X										
CCB	1.00	13:33																X										
ZZZZZZ	1.00	13:35																										
ZZZZZZ	1.00	13:37																										
ZZZZZZ	1.00	13:39																										

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



Method: CV
Instrument ID: 23283
Run Name: 1831602M09

Run Start Date: 11/12/2018
Run End Date: 11/12/2018

Lab Sample ID	D/F	Time	Analytes																																			
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	A A	N L	T H	T H	U H	V H	Z N										
ZZZZZZ	1.00	13:41																																				
ZZZZZZ	1.00	13:43																																				
ZZZZZZ	1.00	13:45																																				
ZZZZZZ	1.00	13:47																																				
ZZZZZZ	1.00	13:49																																				
ZZZZZZ	1.00	13:51																																				
ZZZZZZ	1.00	13:53																																				
CCV	1.00	13:55															X																					
CCB	1.00	13:57															X																					
ZZZZZZ	1.00	13:59																																				
ZZZZZZ	1.00	14:02																																				
CRA	1.00	14:04															X																					
CCV	1.00	14:06															X																					
CCB	1.00	14:08															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

Instrument ID: 27813

Start Date: 11/05/2018

Run Name: 1830908E07

End Date: 11/05/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	PB, TL	IN-2-115	SE
IN-3-115	AG, AS, BA, CD, CO, CU, NI, SB, ZN	SC-1-45	BE
SC-3-45	AL, CA, CR, FE, 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
S0	18:09	100		100		100		100		100	
S	18:11	102		104		106		106		108	
ICV	18:13	103		103		102		104		105	
ICB	18:16	99		97		101		99		101	
LLC	18:18	100		99		101		100		103	
ICSA	18:20	92		94		92		93		95	
ZZZZZZ	18:22										
CCV	18:24	107		103		106		105		107	
CCB	18:26	103		99		103		102		104	
P30663AB	18:28	101		100		103		101		102	
P30663AQ	18:31	105		102		104		103		105	
9876334BKG	18:33	99		100		100		100		102	
9876334A	18:35	101		97		97		98		98	
9876337DUP	18:37	98		99		96		99		99	
9876335MS	18:39	98		98		97		99		98	
9876336MSD	18:41	102		98		97		96		96	
9876334L	18:43	102		105		105		103		104	
ZZZZZZ	18:46										
ZZZZZZ	18:48										
CCV	18:50	104		102		102		100		101	
CCB	18:52	102		101		99		98		97	
ZZZZZZ	18:54										
ZZZZZZ	18:56										
ZZZZZZ	18:58										
ZZZZZZ	19:01										
9876332	19:03	96		99		94		95		94	
9876342	19:05	101		101		98		99		98	
ZZZZZZ	19:07										
ZZZZZZ	19:09										
CCV	19:11	104		104		103		99		100	
CCB	19:13	98		100		101		100		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

Instrument ID: 27813

Start Date: 11/08/2018

Run Name: 1831208E07

End Date: 11/08/2018

Standard	Elements Applies to	Standard	Elements Applies to
IN-3-115	ZN	SC-3-45	CA, MG, NA

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-3-45	Q	Element IN-3-115	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	18:41	100		100									
S	18:43	100		101									
ICV	18:46	102		102									
ICB	18:48	97		97									
LLC	18:50	97		99									
ICSA	18:52	93		93									
ZZZZZZ	18:54												
CCV	18:56	99		100									
CCB	18:58	96		97									
P30663AB	19:01	95		95									
P30663AQ	19:03	97		98									
9876334BKG	19:05	93		95									
9876334A	19:07	94		93									
9876337DUP	19:09	94		95									
9876335MS	19:11	93		93									
9876336MSD	19:13	96		94									
9876334L	19:16	99		99									
9876337DUP	19:18	97											
9876335MS	19:20	98											
CCV	19:22	100		100									
CCB	19:24	97		97									
9876336MSD	19:26	99											
9876332	19:28			97									
9876332	19:30	97											
9876342	19:33	94											
CCV	19:35	98		100									
CCB	19:37	94		97									

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

Instrument ID: 27813

Start Date: 11/08/2018

Run Name: 1831211E07

End Date: 11/08/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	PB, TL	IN-2-115	SE
IN-3-115	AG, AS, BA, CD, CO, CU, NI, SB, ZN	SC-1-45	BE
SC-3-45	AL, CA, FE, 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	23:05	100		100		100		100		100					
S	23:07	103		103		103		103		105					
ICV	23:09	102		104		102		103		104					
ICB	23:12	102		101		99		99		100					
LLC	23:14	99		101		101		101		101					
ICSA	23:16	101		99		93		95		98					
ZZZZZZ	23:18														
CCV	23:20	104		105		103		102		103					
CCB	23:22	100		101		100		99		99					
P30663BB	23:25	99		97		100		97		99					
P30663BQ	23:27	101		100		100		100		101					
9876338BKG	23:29	98		99		95		96		97					
9876338A	23:31	98		97		96		96		97					
9876341DUP	23:33	99		97		96		98		97					
9876339MS	23:35	99		99		97		97		98					
9876340MSD	23:37	98		103		96		97		97					
9876338L	23:39	102		104		101		101		103					
9876333	23:42	99		102		97		98		98					
CCV	23:44	104		105		102		101		102					
CCB	23:46	98		100		99		99		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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Instrument ID: 19204

Start Date: 11/09/2018

Run Name: 1831305E05

End Date: 11/09/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-1-209	U		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element BI-1-209	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	19:08	100											
S	19:10	101											
ICV	19:12	102											
ICB	19:14	99											
LLC	19:15	102											
ICSA	19:17	91											
ZZZZZZ	19:19												
CCV	19:21	101											
CCB	19:22	97											
P30663AB	19:24	100											
P30663AQ	19:26	100											
9876334BKG	19:28	99											
9876334A	19:29	98											
9876337DUP	19:31	99											
9876335MS	19:33	100											
9876336MSD	19:35	100											
9876334L	19:37	105											
9876332	19:38	100											
9876342	19:40	106											
CCV	19:42	102											
CCB	19:44	100											

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

Instrument ID: 19204

Start Date: 11/14/2018

Run Name: 1831804E05

End Date: 11/14/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	U	IN-3-115	AG
SC-3-45	NA		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-3-45	Q	Element IN-3-115	Q	Element BI-3-209	Q	Element	Q	Element	Q	Element	Q
S0	08:25	100		100		100							
S	08:27	101		98		105							
ICV	08:30	102		95		99							
ICB	08:32	97		98		100							
LLC	08:35	99		96		100							
ICSA	08:37	97		90		92							
ICSAB	08:40	94		89		90							
ZZZZZZ	08:42												
CCV	08:44	99		99		100							
CCB	08:47	92		92		94							
ZZZZZZ	08:49												
ZZZZZZ	08:52												
ZZZZZZ	08:54												
ZZZZZZ	08:56												
ZZZZZZ	08:59												
ZZZZZZ	09:01												
ZZZZZZ	09:04												
ZZZZZZ	09:06												
ZZZZZZ	09:08												
ZZZZZZ	09:11												
CCV	09:13	97		98		106							
CCB	09:16	100		94		100							
ZZZZZZ	09:18												
ZZZZZZ	09:21												
ZZZZZZ	09:23												
LLC	09:25	101		97		103							
ICSA	09:28	96		90		92							
ICSAB	09:30	94		90		93							
ZZZZZZ	09:33												
CCV	09:35	100		95		102							
CCB	09:37	96		94		100							
ZZZZZZ	09:40												

LEGEND:

BKG = Background MS = Matrix Spike
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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

Instrument ID: 19204

Start Date: 11/14/2018

Run Name: 1831804E05

End Date: 11/14/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	U	IN-3-115	AG
SC-3-45	NA		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-3-45	Q	Element IN-3-115	Q	Element BI-3-209	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	09:42												
ZZZZZZ	09:45												
ZZZZZZ	09:47												
ZZZZZZ	09:49												
ZZZZZZ	09:52												
LLC	09:54	114		106		102							
ICSA	09:57	104		95		92							
ICSAB	09:59	106		95		92							
ZZZZZZ	10:01												
CCV	10:04	104		100		102							
CCB	10:06	103		103		102							
P30663BB	10:09	103		99		103							
P30663BB	10:11	102		100		102							
P30663BQ	10:13	104		102		103							
9876338BKG	10:16					100							
9876338A	10:18	100				101							
9876341DUP	10:21					102							
9876339MS	10:23	103		98		100							
9876340MSD	10:26	103		100		103							
9876338L	10:28					107							
9876333	10:30					104							
CCV	10:33	109		106		108							
CCB	10:35	108		105		108							

LEGEND:

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 Y = Laboratory Control Sample Duplicate

FLAG:

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INTERNAL STANDARD ELEMENTS:

BE = Beryllium LI = Lithium
 BI = Bismuth SC = Scandium
 GE = Germanium TB = Terbium
 HO = Holmium Y = Yttrium
 IN = Indium

Instrument ID: 19204

Start Date: 11/20/2018

Run Name: 1832402E05

End Date: 11/20/2018

Standard	Elements Applies to	Standard	Elements Applies to
SC-1-45	CR		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-1-45	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	07:38	100											
S	07:40	99											
ICV	07:42	102											
ICB	07:44	101											
LLC	07:46	102											
ICSA	07:48	98											
ICSAB	07:50	97											
ZZZZZZ	07:51												
CCV	07:53	103											
CCB	07:55	100											
ZZZZZZ	07:57												
ZZZZZZ	07:59												
ZZZZZZ	08:00												
ZZZZZZ	08:02												
ZZZZZZ	08:04												
ZZZZZZ	08:06												
ZZZZZZ	08:08												
ZZZZZZ	08:09												
CCV	08:11	99											
CCB	08:13	101											
LLC	08:15	101											
ICSA	08:17	98											
ICSAB	08:18	101											
ZZZZZZ	08:20												
CCV	08:22	101											
CCB	08:24	105											
P31963AB	08:26	101											
P31963AB	08:27	101											
P31963AQ	08:29	103											
9876338BKG	08:31	103											
9876338A	08:33	103											
9876341DUP	08:35	106											

LEGEND:

BKG = Background MS = Matrix Spike
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 Y = Laboratory Control Sample Duplicate

FLAG:

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INTERNAL STANDARD ELEMENTS:

BE = Beryllium LI = Lithium
 BI = Bismuth SC = Scandium
 GE = Germanium TB = Terbium
 HO = Holmium Y = Yttrium
 IN = Indium

Instrument ID: 19204

Start Date: 11/20/2018

Run Name: 1832402E05

End Date: 11/20/2018

Standard	Elements Applies to	Standard	Elements Applies to
SC-1-45	CR		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-1-45	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
9876339MS	08:36	100											
9876340MSD	08:38	104											
9876338L	08:40	102											
9876333	08:42	103											
CCV	08:44	103											
CCB	08:45	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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Instrument ID: 19204

Start Date: 11/27/2018

Run Name: 1833106E05

End Date: 11/27/2018

Standard	Elements Applies to	Standard	Elements Applies to
GE-1-72	CA	IN-1-115	AG

Lab Sample ID	Time	Internal Standards %RI For:											
		Element GE-1-72	Q	Element IN-1-115	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	13:10	100		100									
S	13:12	99		99									
ICV	13:14	101		98									
ICB	13:16	103		104									
LLC	13:18	102		103									
ICSA	13:19	95		95									
ICSAB	13:21	94		94									
ZZZZZZ	13:23												
CCV	13:25	106		103									
CCB	13:27	102		104									
ZZZZZZ	13:28												
ZZZZZZ	13:30												
ZZZZZZ	13:32												
ZZZZZZ	13:34												
ZZZZZZ	13:36												
ZZZZZZ	13:37												
ZZZZZZ	13:39												
ZZZZZZ	13:41												
CCV	13:43	105		106									
CCB	13:44	107		108									
LLC	13:46	107		110									
ICSA	13:48	97		98									
ICSAB	13:50	93		93									
ZZZZZZ	13:52												
CCV	13:53	103		102									
CCB	13:55	103		101									
9876338A	13:57			104									
9876333	13:59	101											
CCV	14:00	107		104									
CCB	14:02	106		110									

LEGEND:

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 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 Liquid

ICP Data

Metals in Liquid

ICP-AES Run Data Report



Reviewed By
Eric L Eby

Reviewed Date
11/09/2018 1:50PM

Data File Name 1831303T71.TXT
Run Name: 1831303T71

Verified By:
Parker D Lindstrom

Verified Date
11/09/2018 1:59PM

Method Reference Name(s):

Analyst Employee:

943

Instrument Parameters:

Individual Integration Time: 10.00 sec

Total Integration Time: 30.00 sec

Rinse Time: 15.00 sec

<u>Element</u>	<u>Analyte Name</u>	<u>Wavelength Value</u>
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: 1831303T71

Instrument ID: 16315

Tube: 1

Date/Time: 11/09/2018 11:05

Sample Number: S0

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
AG	0.000	-7.60000	176.093	-0.00382	-0.00054	0.00051
AL	0.000	13.16308	30.660	0.05364	0.03121	0.03423
AS	0.000	0.03333	1421.160	-0.00279	0.00700	-0.00300
B	0.000	-2.46667	114.535	0.00000	-0.00001	-0.00002
BA	0.000	43.91108	11.829	0.00014	0.00014	0.00017
BE	0.000	-159.45000	8.190	-0.02476	-0.02757	-0.02915
CA	0.000	28.00787	5.547	0.00165	0.00179	0.00162
CD	0.000	-3.62000	66.912	-0.07078	-0.04804	-0.01261
CO	0.000	4.25000	22.669	0.06459	0.04273	0.04672
CR	0.000	-3.23333	107.991	-0.00002	0.00000	-0.00001
CU	0.000	14.51667	35.419	0.00228	0.00343	0.00171
FE	0.000	4.28690	53.297	0.00036	0.00010	0.00031
K	0.000	101.97212	6.968	0.28266	0.31797	0.32131
LI	0.000	7.21391	162.344	-0.00036	0.00070	0.00097
MG	0.000	2.40925	51.701	0.00015	0.00007	0.00022
MN	0.000	9.45000	71.295	0.00069	0.00124	0.00290
MO	0.000	0.69233	56.355	0.00969	0.01229	0.00313
NA	0.000	-61.36680	23.791	-0.00466	-0.00351	-0.00293
NI	0.000	9.02000	6.967	0.11715	0.10743	0.10220
P	0.000	0.83333	28.910	0.00022	0.00014	0.00024
PB	0.000	-3.09444	31.619	-0.03905	-0.04828	-0.02482
S	0.000	1.61333	35.163	0.00046	0.00023	0.00048
SB	0.000	0.64333	158.570	0.00005	0.00044	-0.00002
SE	0.000	1.18000	27.468	0.01821	0.01038	0.01417
SI	0.000	2.65185	56.053	0.00008	0.00025	0.00015
SN	0.000	0.39000	28.894	0.00401	0.00628	0.00384
SR	0.000	-38.05000	18.305	-0.00016	-0.00011	-0.00012
TH	0.000	-2.13420	43.862	-0.00012	-0.00019	-0.00008
TI	0.000	15.80000	41.525	0.00271	0.00380	0.00156
TL	0.000	-0.05333	1542.883	0.01020	-0.00773	-0.00432
V	0.000	-16.75000	20.504	-0.00257	-0.00353	-0.00247
W	0.000	-0.66667	32.270	-0.00020	-0.00018	-0.00010
Y1	0.000	4141.36333	0.543	4118.50000	4142.15000	4163.44000
Y2A	0.000	293630.66196	0.913	296535.30093	291254.13360	293102.55136
Y2R	0.000	16589.20173	0.275	16542.77168	16633.96066	16590.87286
ZN	0.000	5.99667	10.585	0.07782	0.07581	0.06365
ZR	0.000	8.74174	17.473	0.00055	0.00043	0.00061

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 2

Date/Time: 11/09/2018 11:08

Sample Number: S1

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
AL	50.000	9626.71461	0.203	29.28186	29.21640	29.16374
CA	50.000	62235.47727	0.207	3.78719	3.77342	3.77389
FE	50.000	16592.53422	0.323	1.00964	1.00358	1.00868
K	50.000	17638.21094	0.315	53.57817	53.35469	53.68487
MG	50.000	95765.64413	0.253	5.82902	5.79972	5.81242
NA	50.000	61683.60657	0.216	3.75370	3.73811	3.74220
S	50.000	2912.25000	0.299	0.73464	0.73638	0.73201
SI	50.000	9677.97145	0.128	0.58839	0.58703	0.58716
Y1	50.000	3965.80500	0.280	3975.50000	3953.70500	3968.21000
Y2R	50.000	16472.36593	0.473	16502.26729	16530.90728	16383.92323

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 3

Date/Time: 11/09/2018 11:11

Sample Number: S2

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
AG	1.000	18669.82876	0.988	3.26237	3.32505	3.27878
AS	1.000	102.83333	1.362	1.28876	1.25946	1.25826
B	1.000	6454.78864	1.203	0.02258	0.02306	0.02259
BA	1.000	42178.54343	1.112	0.14682	0.15009	0.14889
BE	1.000	470625.52463	0.781	82.19626	83.47021	83.03460
CD	1.000	4951.62333	1.143	61.74988	61.17893	60.36100
CO	1.000	2955.24333	0.934	36.81790	36.43349	36.13840
CU	1.000	15358.44025	1.063	2.68866	2.73864	2.68896
LI	1.000	6018.70572	0.188	0.36584	0.36447	0.36526
MN	1.000	56504.63741	1.001	9.87797	10.06631	9.91599
NI	1.000	2015.44000	0.141	24.88586	24.88666	24.82569
P	1.000	73.12667	0.552	0.01813	0.01794	0.01806
PB	1.000	486.60556	0.066	6.00260	6.00798	6.00020
SE	1.000	93.25333	0.448	1.14992	1.14566	1.15593
SR	1.000	858036.68659	1.892	2.97017	3.08379	3.01547
TH	1.000	165.89162	3.253	0.01038	0.01009	0.00973
TL	1.000	108.95333	0.473	1.33912	1.34213	1.35131
W	1.000	359.08333	0.363	0.08890	0.08866	0.08826
Y1	1.000	4052.62833	1.095	4011.59500	4046.56500	4099.72500
Y2A	1.000	283868.51116	1.280	287379.30749	280124.58582	284101.64016
Y2R	1.000	16480.93368	0.023	16482.60000	16483.62293	16476.57811
ZN	1.000	2680.70667	0.309	33.12947	33.13724	32.95636

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 4

Date/Time: 11/09/2018 11:14

Sample Number: S3

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
CR	1.000	9981.59785	0.935	0.03326	0.03389	0.03354
MO	1.000	585.27167	0.351	7.06148	7.03861	7.01212
SB	1.000	160.83667	0.155	0.03873	0.03870	0.03861
SN	1.000	326.77667	0.617	3.93434	3.95053	3.90286
TI	1.000	44517.90899	0.932	7.43011	7.56330	7.46082
V	1.000	17419.40954	1.001	2.90947	2.96247	2.91420
Y1	1.000	4158.33500	0.456	4145.55000	4149.31500	4180.14000
Y2A	1.000	297409.25375	1.004	300131.03505	294217.01389	297879.71230
Y2R	1.000	16756.42368	0.446	16830.82369	16681.36717	16757.08018
ZR	1.000	2938.77144	1.411	0.17513	0.17798	0.17305

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 5

Date/Time: 11/09/2018 11:16

Sample Number: **ICV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.59014	11,043.42	0.445	0.58838	0.58887	0.59315
___ AL	29.83387	5,760.03	0.361	29.81111	29.95099	29.73951
___ AS	0.59826	60.04	1.623	0.59175	0.60941	0.59360
___ B	0.57759	3,814.32	0.824	0.57542	0.57430	0.58305
___ BA	0.59394	24,946.79	0.910	0.59055	0.59109	0.60017
___ BE	0.56689	265,429.30	0.675	0.56458	0.56478	0.57131
___ CA	29.61923	36,913.63	0.349	29.59361	29.73308	29.53101
___ CD	0.58990	2,875.72	0.229	0.58881	0.58947	0.59142
___ CO	0.58535	1,701.50	0.216	0.58540	0.58406	0.58659
___ CR	0.59613	5,652.04	0.641	0.59378	0.59407	0.60054
___ CU	0.58364	8,907.19	0.761	0.58795	0.57908	0.58390
___ FE	29.84199	9,959.97	0.181	29.85678	29.88703	29.78216
___ K	29.95443	10,591.34	0.211	29.99019	29.99163	29.88146
___ LI	0.59207	3,545.03	0.555	0.59027	0.59587	0.59009
___ MG	29.47243	56,995.70	0.189	29.49902	29.50972	29.40853
___ MN	0.58892	33,119.29	0.473	0.58904	0.58607	0.59164
___ MO	0.61205	342.60	0.584	0.61610	0.61074	0.60932
___ NA	28.64089	35,270.24	0.460	28.54725	28.79165	28.58377
___ NI	0.58383	1,156.10	0.787	0.58521	0.58756	0.57870
___ P	0.58878	42.57	0.566	0.59031	0.59107	0.58495
___ PB	0.58961	281.27	0.655	0.58973	0.59340	0.58568
___ S	30.35787	1,772.53	0.360	30.34540	30.47279	30.25542
___ SB	0.61487	94.79	0.824	0.61409	0.62028	0.61023
___ SE	0.57028	53.03	1.945	0.56872	0.56005	0.58207
___ SI	30.16222	5,833.73	0.494	30.09531	30.33278	30.05857
___ SN	0.58211	182.19	0.394	0.57952	0.58293	0.58388
___ SR	0.59375	508,853.45	0.757	0.59146	0.59086	0.59893
___ TH	0.55734	98.81	4.573	0.52822	0.56820	0.57559
___ TI	0.61404	26,005.56	0.420	0.61464	0.61121	0.61626
___ TL	0.60254	61.28	2.229	0.61064	0.60995	0.58704
___ V	0.60694	10,060.18	0.397	0.60645	0.60482	0.60956
___ W	0.59009	207.62	0.911	0.59464	0.59147	0.58415
___ Y1	3976.08500	3,976.09	1.111	4005.85000	3997.10000	3925.30500
___ Y2A	282478.43495	282,478.43	0.897	284146.45461	283726.47449	279562.37575
___ Y2R	16447.27477	16,447.27	0.650	16527.92739	16326.02193	16487.87500
___ ZN	0.58398	1,544.58	0.103	0.58369	0.58467	0.58359
___ ZR	0.61282	1,870.26	2.325	0.60275	0.60659	0.62912

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 6

Date/Time: 11/09/2018 11:19

Sample Number: ICB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00073	-9.57	60.122	0.00083	0.00111	0.00025
___ AL	0.00257	13.47	985.442	-0.00896	0.03155	-0.01489
___ AS	0.00463	0.30	171.317	0.00962	0.00878	-0.00452
___ B	0.00170	8.72	25.861	0.00221	0.00143	0.00146
___ BA	-0.00024	33.41	133.716	0.00008	-0.00023	-0.00056
___ BE	0.00003	-139.32	53.208	0.00001	0.00005	0.00003
___ CA	0.00063	28.62	945.992	0.00737	-0.00368	-0.00181
___ CD	0.00038	-2.40	32.533	0.00052	0.00033	0.00029
___ CO	0.00005	4.33	1225.949	-0.00050	-0.00001	0.00066
___ CR	-0.00032	-2.35	96.450	-0.00066	-0.00007	-0.00022
___ CU	0.00043	18.62	34.205	0.00026	0.00054	0.00048
___ FE	-0.00632	2.13	102.842	-0.01116	-0.00888	0.00107
___ K	0.10451	137.78	7.128	0.09667	0.11149	0.10536
___ LI	-0.00081	2.16	287.103	-0.00260	0.00182	-0.00165
___ MG	0.00070	3.74	235.267	-0.00102	0.00225	0.00085
___ MN	0.00005	12.07	117.733	0.00003	0.00000	0.00010
___ MO	0.00729	4.36	5.126	0.00740	0.00760	0.00687
___ NA	-0.01369	-37.15	93.260	0.00102	-0.02027	-0.02183
___ NI	0.00023	9.34	304.352	-0.00047	0.00090	0.00025
___ P	0.00035	0.85	721.453	-0.00162	0.00320	-0.00053
___ PB	0.00107	-1.87	72.205	0.00028	0.00109	0.00182
___ S	0.00566	1.92	226.734	0.01034	0.01552	-0.00886
___ SB	-0.00008	0.60	1182.028	-0.00045	-0.00320	0.00341
___ SE	-0.00326	0.87	315.592	-0.01401	-0.00228	0.00651
___ SI	0.00454	3.54	141.958	0.00905	0.00742	-0.00284
___ SN	0.00020	0.45	1226.054	-0.00192	0.00284	-0.00032
___ SR	0.00005	-0.94	14.319	0.00004	0.00005	0.00004
___ TH	-0.00628	-2.96	69.493	-0.00194	-0.00623	-0.01067
___ TI	0.00001	16.36	876.167	-0.00008	0.00012	-0.00001
___ TL	-0.00146	-0.21	299.737	0.00010	-0.00639	0.00192
___ V	0.00039	-25.07	169.276	0.00012	0.00113	-0.00009
___ W	0.00374	0.68	52.173	0.00563	0.00173	0.00386
___ Y1	4078.25167	4,078.25	0.530	4062.08000	4102.80500	4069.87000
___ Y2A	292966.21473	292,966.21	0.690	292782.32474	295074.07407	291042.24537
___ Y2R	16460.82534	16,460.83	1.223	16629.91027	16238.16760	16514.39817
___ ZN	-0.00045	4.71	27.826	-0.00031	-0.00050	-0.00054
___ ZR	0.00101	10.46	49.710	0.00043	0.00128	0.00132

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 7

Date/Time: 11/09/2018 11:22

Sample Number: LLC

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00896	5.71	1.864	0.00878	0.00910	0.00900
___ AL	0.29782	77.41	5.791	0.27799	0.30616	0.30931
___ AS	0.05336	5.32	16.911	0.06154	0.05487	0.04368
___ B	0.04961	328.35	0.559	0.04946	0.04993	0.04943
___ BA	0.00482	252.58	5.540	0.00459	0.00475	0.00511
___ BE	0.00506	2,296.80	1.356	0.00507	0.00513	0.00499
___ CA	0.51359	673.58	1.450	0.50617	0.51355	0.52107
___ CD	0.00555	23.40	4.200	0.00578	0.00556	0.00532
___ CO	0.00519	19.61	3.916	0.00540	0.00518	0.00500
___ CR	0.01482	145.94	3.500	0.01530	0.01427	0.01488
___ CU	0.02486	569.21	3.099	0.02521	0.02398	0.02540
___ FE	0.19773	71.32	2.504	0.19461	0.19514	0.20344
___ K	0.53591	290.47	4.587	0.53502	0.51178	0.56093
___ LI	0.05061	312.35	4.748	0.05317	0.04841	0.05025
___ MG	0.10364	207.20	2.015	0.10576	0.10159	0.10357
___ MN	0.01044	615.70	1.903	0.01045	0.01063	0.01023
___ MO	0.01175	6.91	1.729	0.01176	0.01154	0.01195
___ NA	1.02755	1,253.15	0.727	1.02116	1.02574	1.03577
___ NI	0.01062	30.23	3.807	0.01102	0.01022	0.01061
___ P	0.09675	7.84	3.888	0.10090	0.09356	0.09580
___ PB	0.01542	5.20	10.364	0.01360	0.01605	0.01660
___ S	0.53624	33.57	3.649	0.55860	0.52785	0.52226
___ SB	0.05181	8.78	3.078	0.05045	0.05357	0.05142
___ SE	0.05241	5.99	11.442	0.05055	0.05912	0.04756
___ SI	0.52043	103.91	1.828	0.52241	0.51009	0.52880
___ SN	0.05186	16.95	3.114	0.05176	0.05352	0.05029
___ SR	0.00525	4,606.60	1.727	0.00522	0.00535	0.00518
___ TH	0.46142	75.89	2.600	0.44858	0.47233	0.46335
___ TI	0.01070	483.62	0.837	0.01067	0.01062	0.01080
___ TL	0.03843	4.09	3.452	0.03811	0.03988	0.03729
___ V	0.01013	164.77	0.453	0.01008	0.01018	0.01013
___ W	0.02982	10.07	7.398	0.03236	0.02868	0.02841
___ Y1	4070.19047	4,070.19	1.452	4007.14642	4079.06500	4124.36000
___ Y2A	291900.68342	291,900.68	1.035	292168.15476	288754.87765	294779.01786
___ Y2R	16544.32266	16,544.32	0.243	16585.19442	16542.85643	16504.91713
___ ZN	0.01989	59.22	3.113	0.02060	0.01961	0.01945
___ ZR	0.03093	180.75	14.705	0.03551	0.03085	0.02642

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 8

Date/Time: 11/09/2018 11:25

Sample Number: **ICSA**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	-0.00138	-37.90	19.927	-0.00170	-0.00127	-0.00118
___ AL	501.11413	91,359.83	0.382	502.74350	499.00521	501.59369
___ AS	0.01294	-1.27	74.311	0.01939	0.01754	0.00189
___ B	-0.01625	652.97	15.664	-0.01883	-0.01617	-0.01374
___ BA	0.00068	62.74	40.456	0.00055	0.00100	0.00049
___ BE	-0.00019	-209.03	8.492	-0.00018	-0.00020	-0.00017
___ CA	489.84608	550,613.06	1.114	495.78303	488.70369	485.05152
___ CD	0.00140	69.92	26.299	0.00181	0.00110	0.00129
___ CO	-0.00072	1.76	204.274	-0.00095	0.00085	-0.00208
___ CR	-0.00515	-42.54	7.157	-0.00557	-0.00489	-0.00497
___ CU	-0.00948	128.73	4.029	-0.00936	-0.00991	-0.00918
___ FE	199.64034	59,909.23	0.382	200.36276	198.84324	199.71503
___ K	0.10830	132.96	41.529	0.13642	0.05643	0.13205
___ LI	0.05137	79.56	4.689	0.05355	0.04878	0.05179
___ MG	483.93115	675,131.85	1.976	487.94296	490.83477	473.01571
___ MN	0.00470	241.82	2.495	0.00457	0.00480	0.00471
___ MO	-0.00375	-1.70	35.256	-0.00510	-0.00370	-0.00246
___ NA	0.00638	-12.00	181.257	0.01324	0.01286	-0.00697
___ NI	-0.00185	4.43	87.668	-0.00335	-0.00013	-0.00208
___ P	0.01232	1.48	46.367	0.01527	0.00574	0.01595
___ PB	0.01808	39.45	21.325	0.02247	0.01650	0.01526
___ S	0.01298	2.02	113.635	-0.00317	0.01638	0.02573
___ SB	-0.00232	0.60	84.644	-0.00278	-0.00017	-0.00402
___ SE	-0.00146	1.32	884.117	-0.00362	0.01242	-0.01319
___ SI	-0.00283	2.01	203.943	-0.00137	-0.00919	0.00207
___ SN	-0.00300	1.70	50.044	-0.00135	-0.00429	-0.00335
___ SR	-0.00076	10,332.84	25.609	-0.00097	-0.00073	-0.00059
___ TH	-0.08809	25.90	19.600	-0.09904	-0.06819	-0.09705
___ TI	-0.00077	-15.20	11.847	-0.00070	-0.00073	-0.00087
___ TL	-0.01338	0.29	54.044	-0.01372	-0.00598	-0.02043
___ V	0.00243	39.78	29.518	0.00199	0.00203	0.00325
___ W	0.01208	3.18	68.953	0.02166	0.00808	0.00651
___ Y1	3509.89000	3,509.89	0.779	3526.11500	3525.22000	3478.33500
___ Y2A	250159.02839	250,159.03	1.321	253042.16507	250880.49268	246554.42743
___ Y2R	15728.01566	15,728.02	0.590	15671.61609	15677.28089	15835.15000
___ ZN	0.00456	52.38	10.113	0.00454	0.00502	0.00410
___ ZR	0.00965	19.84	11.844	0.00981	0.00843	0.01070

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 9

Date/Time: 11/09/2018 11:28

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.47875	8,980.03	0.616	0.48004	0.47537	0.48082
___ AL	24.74278	4,757.54	0.735	24.95147	24.65770	24.61918
___ AS	0.49610	49.59	1.655	0.48918	0.49395	0.50518
___ B	0.46775	3,101.77	1.812	0.46478	0.46116	0.47732
___ BA	0.48854	20,601.57	0.710	0.48984	0.48461	0.49118
___ BE	0.46847	220,109.10	0.445	0.46949	0.46607	0.46985
___ CA	24.44032	30,341.64	0.601	24.60694	24.38444	24.32957
___ CD	0.48597	2,361.09	0.393	0.48510	0.48465	0.48816
___ CO	0.48847	1,416.12	0.729	0.48915	0.48463	0.49165
___ CR	0.48304	4,596.32	1.083	0.48152	0.47874	0.48886
___ CU	0.48443	7,424.83	1.333	0.48298	0.47881	0.49148
___ FE	24.89831	8,286.29	0.516	25.04530	24.80763	24.84200
___ K	25.07159	8,840.00	0.198	25.12900	25.04266	25.04311
___ LI	0.49039	2,923.86	0.766	0.49447	0.48964	0.48707
___ MG	24.18597	46,687.82	0.614	24.35557	24.12355	24.07881
___ MN	0.48078	27,136.65	0.459	0.48199	0.47824	0.48212
___ MO	0.49497	276.23	0.246	0.49363	0.49524	0.49602
___ NA	25.16194	30,839.76	0.466	25.29710	25.10009	25.08864
___ NI	0.48278	954.53	0.149	0.48312	0.48326	0.48195
___ P	0.47973	34.73	0.333	0.47816	0.47969	0.48135
___ PB	0.48433	229.88	0.846	0.48382	0.48050	0.48865
___ S	24.37034	1,418.76	0.166	24.35581	24.33921	24.41602
___ SB	0.48964	75.37	0.500	0.49186	0.48702	0.49004
___ SE	0.47847	44.54	2.310	0.48794	0.46632	0.48114
___ SI	24.56762	4,730.12	0.584	24.72819	24.52249	24.45218
___ SN	0.48113	150.19	0.423	0.48269	0.48188	0.47883
___ SR	0.48909	420,676.06	0.793	0.48772	0.48608	0.49346
___ TH	0.47080	82.70	3.474	0.45367	0.48625	0.47248
___ TI	0.50441	21,441.47	0.588	0.50623	0.50099	0.50602
___ TL	0.49343	49.97	3.038	0.49858	0.47655	0.50517
___ V	0.50344	8,372.62	0.973	0.50125	0.50002	0.50905
___ W	0.49380	173.07	0.645	0.49686	0.49050	0.49403
___ Y1	3963.82167	3,963.82	1.413	3987.15000	4004.41500	3899.90000
___ Y2A	283489.25889	283,489.26	0.629	283582.83632	285222.41551	281662.52485
___ Y2R	16370.70724	16,370.71	0.192	16334.53974	16392.11131	16385.47068
___ ZN	0.48381	1,276.67	0.184	0.48414	0.48280	0.48449
___ ZR	0.49448	1,507.46	1.400	0.49140	0.48963	0.50240

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 10

Date/Time: 11/09/2018 11:30

Sample Number: CCB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00060	-18.92	68.546	0.00021	0.00102	0.00056
___ AL	-0.00476	12.33	258.756	-0.01241	-0.01131	0.00944
___ AS	0.00063	-0.12	799.447	-0.00380	0.00604	-0.00037
___ B	0.00132	6.10	41.112	0.00138	0.00075	0.00182
___ BA	-0.00021	34.70	153.294	-0.00016	0.00009	-0.00056
___ BE	0.00007	-122.35	30.422	0.00008	0.00007	0.00004
___ CA	0.00090	28.81	491.297	0.00365	-0.00419	0.00324
___ CD	0.00054	-1.62	55.480	0.00083	0.00054	0.00024
___ CO	0.00009	4.41	162.522	0.00025	0.00003	-0.00002
___ CR	-0.00051	-4.17	48.282	-0.00045	-0.00030	-0.00077
___ CU	-0.00004	18.87	905.178	-0.00041	0.00038	-0.00010
___ FE	-0.00500	2.56	124.964	-0.00006	-0.01203	-0.00291
___ K	0.02430	109.23	231.017	-0.03751	0.03831	0.07208
___ LI	0.00145	15.83	180.628	0.00417	-0.00106	0.00125
___ MG	0.00653	15.18	23.400	0.00555	0.00829	0.00575
___ MN	0.00002	10.32	837.700	-0.00012	0.00004	0.00013
___ MO	0.00535	3.22	12.531	0.00461	0.00554	0.00591
___ NA	-0.01330	-36.60	55.968	-0.00471	-0.01787	-0.01731
___ NI	0.00040	9.61	47.728	0.00056	0.00019	0.00046
___ P	-0.00125	0.72	454.262	-0.00515	-0.00383	0.00524
___ PB	0.00111	-1.83	242.338	-0.00192	0.00202	0.00323
___ S	0.01542	2.48	7.699	0.01435	0.01670	0.01521
___ SB	0.00083	0.74	427.409	0.00307	0.00270	-0.00327
___ SE	-0.00488	0.71	308.378	0.00076	0.00653	-0.02191
___ SI	0.00664	3.93	37.473	0.00754	0.00382	0.00855
___ SN	0.00383	1.60	39.824	0.00541	0.00372	0.00237
___ SR	0.00006	12.02	3.811	0.00006	0.00006	0.00006
___ TH	0.01363	0.37	9.503	0.01477	0.01222	0.01391
___ TI	0.00020	24.43	59.957	0.00032	0.00019	0.00008
___ TL	0.00350	0.33	97.822	0.00308	0.00711	0.00030
___ V	0.00070	-18.20	26.204	0.00056	0.00091	0.00065
___ W	0.00421	0.84	29.433	0.00440	0.00535	0.00289
___ Y1	4042.27667	4,042.28	0.456	4026.49000	4062.51000	4037.83000
___ Y2A	292971.50573	292,971.51	1.056	292563.07870	296250.41336	290101.02513
___ Y2R	16403.41909	16,403.42	0.558	16495.72927	16401.87824	16312.64976
___ ZN	-0.00072	3.95	41.136	-0.00099	-0.00041	-0.00076
___ ZR	-0.00131	7.32	16.115	-0.00116	-0.00155	-0.00121

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 11

Date/Time: 11/09/2018 11:33

Sample Number: **PBW**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00050	-19.08	21.220	0.00038	0.00055	0.00057
___ AL	-0.02056	9.37	61.486	-0.00671	-0.02350	-0.03148
___ AS	0.00097	-0.09	618.608	-0.00441	-0.00014	0.00747
___ B	0.00109	4.77	55.317	0.00177	0.00087	0.00062
___ BA	-0.00009	40.54	115.753	-0.00018	0.00002	-0.00011
___ BE	0.00004	-135.25	11.681	0.00004	0.00005	0.00004
___ CA	0.00814	38.55	61.776	0.00994	0.01201	0.00246
___ CD	0.00029	-2.89	16.173	0.00034	0.00028	0.00025
___ CO	-0.00010	3.90	363.857	-0.00019	0.00031	-0.00043
___ CR	-0.00043	-3.47	49.153	-0.00056	-0.00054	-0.00019
___ CU	0.00037	22.95	169.170	0.00051	-0.00031	0.00090
___ FE	-0.01764	-1.71	33.954	-0.01161	-0.02358	-0.01772
___ K	0.02358	111.14	53.135	0.03745	0.02022	0.01307
___ LI	-0.00166	-2.87	41.490	-0.00217	-0.00088	-0.00193
___ MG	0.00278	7.99	49.084	0.00409	0.00137	0.00288
___ MN	0.00082	57.90	14.034	0.00069	0.00088	0.00088
___ MO	0.00081	0.65	60.799	0.00026	0.00120	0.00098
___ NA	0.00246	-17.59	219.096	0.00386	0.00703	-0.00349
___ NI	0.00309	15.21	17.186	0.00251	0.00320	0.00355
___ P	0.00283	1.03	123.619	0.00610	-0.00086	0.00324
___ PB	-0.00298	-3.88	82.728	-0.00015	-0.00462	-0.00417
___ S	0.00757	2.05	36.866	0.00790	0.00463	0.01018
___ SB	0.00380	1.24	122.087	0.00534	0.00747	-0.00141
___ SE	-0.00831	0.40	129.100	-0.01484	0.00407	-0.01415
___ SI	0.01857	6.31	61.898	0.00701	0.03000	0.01871
___ SN	0.00100	0.71	120.788	0.00040	0.00020	0.00238
___ SR	0.00015	93.17	7.926	0.00016	0.00014	0.00016
___ TH	0.00657	-0.84	274.583	-0.00972	0.02598	0.00347
___ TI	0.00008	19.71	69.863	0.00002	0.00014	0.00008
___ TL	0.00468	0.46	59.080	0.00376	0.00249	0.00778
___ V	0.00075	-16.93	33.905	0.00102	0.00051	0.00072
___ W	0.00069	-0.41	536.089	0.00465	0.00010	-0.00268
___ Y1	4103.06333	4,103.06	0.547	4128.87000	4087.89500	4092.42500
___ Y2A	296884.81041	296,884.81	0.214	297617.64220	296485.86310	296550.92593
___ Y2R	16714.62634	16,714.63	0.616	16828.31505	16627.54085	16688.02312
___ ZN	0.00045	7.20	46.216	0.00036	0.00069	0.00030
___ ZR	-0.00264	2.31	124.310	0.00111	-0.00498	-0.00405

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 12

Date/Time: 11/09/2018 11:36

Sample Number: **LCSW**

Class: ****

Batch: 183061063501

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.04693	865.56	1.574	0.04773	0.04628	0.04678
___ AL	1.98083	423.84	1.042	1.97112	1.96684	2.00454
___ AS	0.14044	14.81	4.220	0.13762	0.14725	0.13646
___ B	1.81738	12,170.42	0.075	1.81593	1.81760	1.81863
___ BA	1.97612	85,853.30	0.403	1.98124	1.96695	1.98017
___ BE	0.04728	22,784.00	0.272	0.04740	0.04714	0.04730
___ CA	4.01061	5,141.38	0.416	4.01609	3.99188	4.02386
___ CD	0.05072	248.87	0.678	0.05090	0.05094	0.05033
___ CO	0.51772	1,548.23	0.098	0.51829	0.51735	0.51751
___ CR	0.19731	1,937.73	1.114	0.19669	0.19548	0.19974
___ CU	0.24471	3,925.18	1.150	0.24435	0.24209	0.24769
___ FE	1.00036	348.36	0.617	0.99610	0.99753	1.00744
___ K	10.27286	3,774.62	0.417	10.23210	10.26902	10.31746
___ LI	1.01250	6,204.27	0.444	1.01347	1.00760	1.01643
___ MG	1.96896	3,945.95	0.344	1.97639	1.96739	1.96312
___ MN	0.49776	28,989.26	0.395	0.49846	0.49554	0.49928
___ MO	2.00778	1,151.39	0.490	2.01912	2.00277	2.00145
___ NA	10.12753	12,714.49	0.304	10.12513	10.09797	10.15950
___ NI	0.51600	1,049.95	0.170	0.51702	0.51547	0.51552
___ P	0.95535	70.29	0.539	0.95840	0.94940	0.95826
___ PB	0.15451	73.70	1.290	0.15223	0.15536	0.15593
___ S	1.01597	62.06	0.324	1.01257	1.01913	1.01620
___ SB	0.52725	78.68	1.405	0.53152	0.53154	0.51870
___ SE	0.14763	14.87	11.357	0.13285	0.16585	0.14419
___ SI	1.06252	218.83	0.525	1.06049	1.06882	1.05824
___ SN	3.94215	1,261.28	0.366	3.94935	3.95156	3.92554
___ SR	1.00976	893,008.13	0.815	1.01926	1.00473	1.00530
___ TH	0.52053	88.68	2.717	0.53657	0.50989	0.51512
___ TI	1.01527	44,459.20	0.269	1.01823	1.01287	1.01471
___ TL	0.17269	15.63	2.246	0.17400	0.17574	0.16832
___ V	0.50976	8,405.75	0.323	0.51099	0.50789	0.51042
___ W	0.18928	69.09	1.286	0.18786	0.18788	0.19209
___ Y1	4075.02000	4,075.02	0.673	4082.73000	4044.54500	4097.78500
___ Y2A	292515.12897	292,515.13	0.268	292233.38294	293401.20701	291910.79696
___ Y2R	16784.98111	16,784.98	0.518	16843.01397	16826.96332	16684.96605
___ ZN	0.49375	1,334.44	0.550	0.49659	0.49346	0.49119
___ ZR	1.00420	3,050.62	0.485	1.00257	1.00036	1.00968

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 13

Date/Time: 11/09/2018 11:38

Sample Number: 9876334

Class: U***

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00020	-15.96	494.942	-0.00082	0.00119	0.00024
___ AL	0.01787	16.27	139.345	0.01448	-0.00516	0.04430
___ AS	0.00460	0.19	163.369	0.00423	-0.00273	0.01229
___ B	0.44841	2,838.42	1.614	0.45488	0.44975	0.44059
___ BA	1.02959	42,004.76	2.324	1.04378	1.04303	1.00197
___ BE	-0.00001	-151.08	98.046	-0.00003	0.00000	-0.00001
___ CA	80.95814	99,592.70	0.298	81.17970	80.70135	80.99337
___ CD	0.00056	1.36	35.292	0.00063	0.00034	0.00072
___ CO	0.00242	9.66	3.083	0.00246	0.00233	0.00246
___ CR	0.00062	6.42	37.310	0.00087	0.00058	0.00041
___ CU	-0.00023	52.88	321.341	0.00041	-0.00106	-0.00005
___ FE	7.52171	2,517.39	1.345	7.62079	7.41860	7.52573
___ K	23.52037	8,286.07	0.462	23.51709	23.41344	23.63057
___ LI	0.05851	317.82	3.408	0.05893	0.06026	0.05634
___ MG	64.18961	121,044.27	0.265	64.33946	64.00455	64.22482
___ MN	2.24281	122,571.64	2.272	2.27431	2.27010	2.18401
___ MO	0.03440	18.67	2.976	0.03359	0.03406	0.03555
___ NA	90.94111	111,338.38	0.256	91.09829	90.67386	91.05116
___ NI	0.00628	19.18	7.223	0.00659	0.00649	0.00576
___ P	0.62201	43.19	1.045	0.62476	0.62669	0.61458
___ PB	0.00763	0.65	25.487	0.00556	0.00792	0.00941
___ S	15.06695	846.79	0.313	15.02442	15.11760	15.05883
___ SB	0.00038	0.56	1219.484	-0.00028	0.00533	-0.00390
___ SE	-0.00061	1.17	762.615	-0.00055	0.00399	-0.00526
___ SI	16.00365	3,075.52	1.231	16.22025	15.83502	15.95566
___ SN	0.00480	1.80	19.213	0.00471	0.00577	0.00393
___ SR	0.26296	218,684.97	2.278	0.26696	0.26584	0.25607
___ TH	-0.01811	-3.27	97.952	-0.03745	-0.01431	-0.00258
___ TI	0.00508	223.41	5.295	0.00510	0.00534	0.00480
___ TL	0.00343	0.59	156.382	-0.00029	0.00957	0.00100
___ V	0.00065	-24.15	77.578	0.00012	0.00071	0.00112
___ W	0.00434	0.87	28.093	0.00517	0.00294	0.00491
___ Y1	3822.04167	3,822.04	0.613	3816.24500	3802.06000	3847.82000
___ Y2A	274653.96756	274,653.97	2.301	271065.28239	270944.08549	281952.53479
___ Y2R	16344.74445	16,344.74	0.249	16340.79131	16387.29059	16306.15147
___ ZN	0.00818	27.66	1.555	0.00828	0.00804	0.00822
___ ZR	0.00065	7.28	196.832	0.00101	0.00172	-0.00077

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 14

Date/Time: 11/09/2018 11:41

Sample Number: **9876334**

Class: UP**

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.01639	263.36	2.581	0.01681	0.01638	0.01597
___ AL	1.02100	215.93	3.271	0.98620	1.02404	1.05278
___ AS	0.51734	49.80	1.112	0.52359	0.51228	0.51615
___ B	0.62408	3,900.45	1.208	0.63081	0.61593	0.62549
___ BA	1.04403	42,219.33	0.903	1.05022	1.04870	1.03318
___ BE	0.01916	8,503.34	0.278	0.01921	0.01916	0.01910
___ CA	77.88505	95,579.86	0.023	77.89676	77.89407	77.86431
___ CD	0.04969	230.20	0.704	0.05009	0.04945	0.04953
___ CO	0.10130	284.53	0.757	0.10076	0.10218	0.10098
___ CR	0.19779	1,807.25	1.401	0.20014	0.19474	0.19850
___ CU	0.49530	7,320.78	1.318	0.50055	0.48800	0.49737
___ FE	7.75224	2,586.93	0.475	7.78510	7.71241	7.75920
___ K	24.50590	8,604.85	0.118	24.53835	24.49629	24.48307
___ LI	1.05283	6,229.60	0.418	1.05555	1.04775	1.05519
___ MG	61.75130	116,275.01	0.110	61.73828	61.82471	61.69091
___ MN	2.21666	120,077.99	0.449	2.22763	2.21414	2.20820
___ MO	0.20745	111.30	0.143	0.20755	0.20711	0.20768
___ NA	88.77795	108,384.84	0.221	88.90660	88.87523	88.55202
___ NI	0.14954	289.20	0.626	0.14922	0.15060	0.14882
___ P	1.57934	108.06	0.215	1.58192	1.57550	1.58059
___ PB	0.48963	222.23	0.902	0.49472	0.48706	0.48709
___ S	15.38067	860.77	0.473	15.37081	15.45786	15.31334
___ SB	0.41250	61.12	2.013	0.42150	0.40513	0.41086
___ SE	0.77086	67.48	1.397	0.78297	0.76235	0.76726
___ SI	16.41249	3,146.24	0.463	16.49397	16.34348	16.40000
___ SN	0.58305	174.60	0.136	0.58389	0.58232	0.58295
___ SR	0.27234	224,503.33	0.590	0.27135	0.27420	0.27149
___ TH	0.46696	78.67	3.266	0.47651	0.44937	0.47500
___ TI	0.11159	4,559.73	1.443	0.11307	0.10987	0.11181
___ TL	0.91894	93.58	1.966	0.92531	0.89856	0.93296
___ V	0.10371	1,627.76	1.689	0.10528	0.10182	0.10404
___ W	0.20066	66.91	0.648	0.20124	0.20157	0.19917
___ Y1	3807.28167	3,807.28	0.775	3774.83000	3814.47000	3832.54500
___ Y2A	272146.78848	272,146.79	0.210	271504.48505	272598.17276	272337.70764
___ Y2R	16298.70432	16,298.70	0.656	16354.59845	16366.10000	16175.41450
___ ZN	0.12498	321.44	0.281	0.12498	0.12533	0.12463
___ ZR	0.99919	2,938.62	0.877	1.00863	0.99760	0.99132

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 15

Date/Time: 11/09/2018 11:44

Sample Number: **9876337**

Class: D***

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00069	-9.87	21.612	0.00053	0.00082	0.00072
___ AL	0.02360	17.37	57.667	0.01260	0.01939	0.03882
___ AS	0.01002	0.71	52.390	0.01490	0.00447	0.01067
___ B	0.44952	2,820.50	0.892	0.45281	0.44505	0.45068
___ BA	1.03384	41,813.13	0.298	1.03639	1.03472	1.03042
___ BE	-0.00002	-151.30	91.827	-0.00003	0.00000	-0.00002
___ CA	80.21003	98,535.82	0.482	80.52351	79.77805	80.32854
___ CD	0.00057	1.39	52.259	0.00071	0.00077	0.00023
___ CO	0.00244	9.74	10.235	0.00230	0.00273	0.00229
___ CR	0.00051	5.38	38.324	0.00068	0.00030	0.00054
___ CU	0.00009	60.39	752.889	-0.00028	-0.00033	0.00088
___ FE	7.51193	2,510.42	0.715	7.52314	7.45353	7.55912
___ K	23.47923	8,259.59	0.340	23.56283	23.40381	23.47104
___ LI	0.05850	317.60	1.457	0.05947	0.05786	0.05817
___ MG	63.49317	119,599.97	0.311	63.63008	63.26706	63.58237
___ MN	2.25119	121,964.03	0.421	2.25320	2.25950	2.24088
___ MO	0.00660	3.72	7.881	0.00627	0.00632	0.00720
___ NA	90.39040	110,500.52	0.395	90.65426	89.98402	90.53291
___ NI	0.00568	18.08	6.794	0.00565	0.00531	0.00608
___ P	0.62149	43.21	1.875	0.60805	0.62762	0.62880
___ PB	0.00543	-0.37	13.169	0.00521	0.00484	0.00622
___ S	14.98020	843.09	0.465	14.89995	15.02385	15.01680
___ SB	-0.00005	0.57	3781.290	0.00340	0.00390	-0.00744
___ SE	-0.00242	1.02	104.168	-0.00172	-0.00520	-0.00032
___ SI	15.89001	3,049.10	0.748	15.96758	15.75311	15.94935
___ SN	0.00315	1.31	13.788	0.00297	0.00364	0.00283
___ SR	0.26149	215,589.16	0.213	0.26085	0.26185	0.26178
___ TH	-0.00825	-1.63	103.790	-0.01597	0.00096	-0.00973
___ TI	0.00534	232.08	2.555	0.00523	0.00528	0.00549
___ TL	0.01098	1.37	5.922	0.01168	0.01040	0.01086
___ V	0.00035	-22.52	129.781	0.00086	0.00000	0.00018
___ W	0.00436	0.88	63.098	0.00750	0.00236	0.00323
___ Y1	3827.27667	3,827.28	0.306	3817.82500	3840.36000	3823.64500
___ Y2A	272181.81063	272,181.81	0.368	272594.60133	271040.61462	272910.21595
___ Y2R	16320.62638	16,320.63	0.318	16329.63851	16367.35253	16264.88809
___ ZN	0.00851	28.51	3.407	0.00837	0.00884	0.00831
___ ZR	0.00085	9.57	173.702	0.00186	-0.00085	0.00154

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 16

Date/Time: 11/09/2018 11:47

Sample Number: **9876335**

Class: R***

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.04864	840.90	1.103	0.04922	0.04853	0.04816
___ AL	2.07346	428.97	1.092	2.07757	2.09377	2.04903
___ AS	0.16042	15.87	4.213	0.15615	0.16821	0.15689
___ B	2.36456	14,686.20	0.731	2.38127	2.36566	2.34675
___ BA	3.16156	127,172.93	1.030	3.19760	3.15280	3.13429
___ BE	0.04945	22,071.98	0.649	0.04980	0.04936	0.04917
___ CA	84.83782	103,863.88	0.497	85.21547	84.38297	84.91500
___ CD	0.05074	238.18	0.401	0.05060	0.05098	0.05065
___ CO	0.50888	1,437.90	0.334	0.50714	0.51053	0.50897
___ CR	0.20498	1,864.25	1.418	0.20768	0.20191	0.20536
___ CU	0.24910	3,739.10	0.904	0.25152	0.24706	0.24872
___ FE	8.70178	2,897.93	0.956	8.76542	8.60770	8.73223
___ K	34.19561	11,949.58	0.178	34.26524	34.15180	34.16978
___ LI	1.07911	6,373.10	1.134	1.09323	1.07177	1.07233
___ MG	66.18328	124,128.57	0.502	66.51700	65.85296	66.17988
___ MN	2.75316	148,447.47	0.731	2.77498	2.74919	2.73533
___ MO	2.07719	1,125.88	0.562	2.06426	2.08698	2.08033
___ NA	102.33760	124,752.62	0.362	102.66369	101.93553	102.41358
___ NI	0.50104	962.79	0.355	0.49924	0.50280	0.50107
___ P	1.65592	114.58	1.163	1.63401	1.67017	1.66356
___ PB	0.15451	69.02	1.504	0.15670	0.15208	0.15476
___ S	16.15729	914.73	1.059	15.96914	16.19931	16.30344
___ SB	0.54909	77.45	0.716	0.55357	0.54623	0.54746
___ SE	0.14542	14.01	7.766	0.15151	0.15236	0.13239
___ SI	17.19024	3,295.61	1.486	17.40312	16.90704	17.26055
___ SN	3.99107	1,206.94	0.379	3.97405	3.99630	4.00287
___ SR	1.26811	1,039,014.15	0.640	1.27384	1.27165	1.25883
___ TH	0.50594	85.28	2.098	0.51713	0.49602	0.50466
___ TI	1.06933	43,363.25	0.592	1.07546	1.06971	1.06281
___ TL	0.15735	13.33	5.334	0.15259	0.16705	0.15243
___ V	0.53671	8,204.16	1.606	0.54533	0.53672	0.52809
___ W	0.19755	68.15	1.389	0.19838	0.19449	0.19979
___ Y1	3851.58333	3,851.58	0.435	3835.84500	3849.68000	3869.22500
___ Y2A	270893.07063	270,893.07	0.703	268793.85382	271376.32890	272509.02916
___ Y2R	16274.17605	16,274.18	0.407	16300.71742	16323.01857	16198.79217
___ ZN	0.50869	1,300.44	0.557	0.50542	0.51022	0.51043
___ ZR	1.04196	3,062.64	1.449	1.05384	1.02497	1.04706

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 17

Date/Time: 11/09/2018 11:50

Sample Number: **9876336**

Class: M***

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.04831	835.12	2.318	0.04770	0.04763	0.04960
___ AL	2.04979	423.88	1.025	2.07386	2.04030	2.03520
___ AS	0.16227	15.92	4.085	0.16842	0.16313	0.15525
___ B	2.37326	14,710.47	0.837	2.35787	2.36622	2.39570
___ BA	3.14060	126,074.06	1.312	3.11842	3.11526	3.18813
___ BE	0.04949	22,046.62	1.305	0.04917	0.04907	0.05023
___ CA	84.70768	103,591.90	0.671	85.33146	84.21813	84.57346
___ CD	0.05035	234.27	0.422	0.05038	0.05054	0.05012
___ CO	0.50548	1,416.23	0.294	0.50675	0.50585	0.50385
___ CR	0.20432	1,854.38	1.485	0.20289	0.20226	0.20780
___ CU	0.25058	3,748.04	1.287	0.24889	0.24855	0.25430
___ FE	8.56759	2,850.28	1.055	8.66842	8.49395	8.54041
___ K	33.78040	11,792.54	0.891	34.12139	33.55246	33.66734
___ LI	1.06464	6,280.16	1.125	1.07352	1.05101	1.06938
___ MG	66.24897	124,109.95	0.684	66.75205	65.87169	66.12318
___ MN	2.76381	148,720.02	1.090	2.74557	2.74726	2.79860
___ MO	2.09616	1,126.50	0.377	2.10213	2.09917	2.08719
___ NA	101.97370	124,171.83	0.644	102.69644	101.41498	101.80967
___ NI	0.50147	955.44	0.197	0.50245	0.50148	0.50047
___ P	1.63944	112.48	0.192	1.63880	1.63666	1.64285
___ PB	0.15497	68.66	1.809	0.15594	0.15717	0.15181
___ S	16.09924	903.68	0.371	16.16746	16.07420	16.05604
___ SB	0.55459	77.56	0.573	0.55262	0.55825	0.55288
___ SE	0.14483	13.83	4.174	0.15000	0.13818	0.14629
___ SI	16.96740	3,249.47	1.034	17.14282	16.79203	16.96734
___ SN	3.97553	1,192.01	0.319	3.98906	3.97360	3.96392
___ SR	1.26845	1,037,148.92	1.447	1.25924	1.25653	1.28959
___ TH	0.49316	83.03	2.359	0.48020	0.49662	0.50268
___ TI	1.06783	43,214.59	1.059	1.06234	1.06031	1.08084
___ TL	0.16585	14.09	2.232	0.16529	0.16980	0.16246
___ V	0.53631	8,177.35	0.380	0.53514	0.53513	0.53867
___ W	0.19370	66.28	0.672	0.19232	0.19490	0.19387
___ Y1	3818.92000	3,818.92	0.787	3786.67000	3823.90500	3846.18500
___ Y2A	270360.68660	270,360.69	1.259	272542.27575	272100.66445	266439.11960
___ Y2R	16256.48454	16,256.48	0.449	16175.22500	16316.42030	16277.80832
___ ZN	0.50793	1,287.47	0.029	0.50779	0.50790	0.50809
___ ZR	1.02666	3,013.57	1.066	1.03726	1.01541	1.02732

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 18

Date/Time: 11/09/2018 11:52

Sample Number: **9876334**

Class: UL**

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 5.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00053	-15.29	65.294	0.00072	0.00013	0.00074
___ AL	0.01184	15.28	132.225	-0.00220	0.02872	0.00900
___ AS	0.00450	0.26	30.114	0.00417	0.00334	0.00599
___ B	0.09300	609.38	1.857	0.09417	0.09101	0.09380
___ BA	0.19542	8,317.49	0.643	0.19684	0.19446	0.19495
___ BE	0.00004	-132.10	27.735	0.00005	0.00003	0.00004
___ CA	15.89720	19,680.16	0.690	15.80345	16.01784	15.87032
___ CD	0.00013	-3.01	89.294	0.00015	0.00000	0.00023
___ CO	0.00064	5.74	83.605	0.00055	0.00015	0.00121
___ CR	-0.00002	0.55	1870.385	-0.00031	0.00046	-0.00023
___ CU	0.00030	28.11	126.903	-0.00003	0.00071	0.00021
___ FE	1.47950	498.24	0.169	1.47783	1.48238	1.47828
___ K	4.70914	1,734.52	1.095	4.65001	4.73261	4.74481
___ LI	0.01043	61.69	22.473	0.01233	0.00781	0.01114
___ MG	12.61160	24,390.95	1.138	12.48014	12.76463	12.59003
___ MN	0.44896	25,498.39	0.656	0.45225	0.44657	0.44807
___ MO	0.02624	14.83	3.970	0.02508	0.02654	0.02710
___ NA	18.02432	21,989.97	0.687	17.92851	18.16413	17.98033
___ NI	0.00156	11.51	23.886	0.00116	0.00162	0.00190
___ P	0.11629	9.04	1.413	0.11804	0.11605	0.11478
___ PB	0.00240	-1.31	193.348	0.00503	0.00513	-0.00296
___ S	2.89410	170.15	1.741	2.85099	2.94948	2.88183
___ SB	-0.00562	-0.31	102.483	-0.00636	-0.01096	0.00048
___ SE	-0.00494	0.73	301.552	0.00617	-0.02186	0.00088
___ SI	3.08109	592.64	0.991	3.05099	3.08021	3.11207
___ SN	0.00264	1.20	65.735	0.00439	0.00262	0.00092
___ SR	0.05213	45,010.57	0.552	0.05244	0.05187	0.05209
___ TH	-0.00034	-1.62	1021.789	0.00358	-0.00163	-0.00296
___ TI	0.00284	136.78	5.997	0.00267	0.00301	0.00285
___ TL	0.00624	0.67	87.199	0.00194	0.01235	0.00442
___ V	0.00031	-29.37	48.449	0.00014	0.00040	0.00040
___ W	0.00166	-0.06	43.460	0.00168	0.00238	0.00093
___ Y1	3969.57173	3,969.57	1.715	4034.91500	3899.02020	3974.78000
___ Y2A	285247.71274	285,247.71	0.591	283456.43188	285481.64683	286805.05952
___ Y2R	16300.23304	16,300.23	0.957	16467.31766	16158.63564	16274.74581
___ ZN	0.00131	9.49	5.829	0.00124	0.00129	0.00139
___ ZR	0.00014	8.95	548.823	0.00085	0.00030	-0.00071

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 19

Date/Time: 11/09/2018 11:55

Sample Number: 9861917

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00054	-20.27	105.084	0.00007	0.00117	0.00038
___ AL	0.04051	20.63	82.715	0.02220	0.02015	0.07919
___ AS	0.00040	-0.14	895.352	0.00097	-0.00340	0.00361
___ B	0.19083	1,166.20	1.322	0.18791	0.19225	0.19231
___ BA	0.03244	1,332.29	0.271	0.03252	0.03235	0.03244
___ BE	-0.00001	-146.15	100.198	-0.00002	0.00000	-0.00002
___ CA	59.00268	71,568.43	0.503	58.93394	58.74660	59.32751
___ CD	0.00037	-2.21	48.970	0.00019	0.00055	0.00037
___ CO	0.00122	6.73	22.772	0.00152	0.00097	0.00117
___ CR	0.00114	11.00	23.107	0.00141	0.00114	0.00088
___ CU	0.00085	67.32	79.787	0.00025	0.00158	0.00071
___ FE	0.20975	73.23	4.856	0.20627	0.20177	0.22122
___ K	13.21025	4,619.02	1.762	13.15653	13.00909	13.46514
___ LI	0.01936	93.19	13.784	0.02084	0.02095	0.01627
___ MG	34.49045	64,996.99	0.696	34.41095	34.30015	34.76026
___ MN	0.14252	7,620.52	0.838	0.14114	0.14325	0.14316
___ MO	0.00498	2.80	16.535	0.00589	0.00473	0.00431
___ NA	246.27058	296,485.47	1.090	245.51764	244.04437	249.24973
___ NI	0.01276	31.43	6.773	0.01240	0.01214	0.01375
___ P	0.10596	7.86	1.205	0.10738	0.10559	0.10490
___ PB	-0.00010	-2.27	2105.547	-0.00017	-0.00207	0.00195
___ S	55.12442	3,043.09	0.184	55.09187	55.23822	55.04315
___ SB	-0.00397	0.00	110.887	0.00071	-0.00458	-0.00802
___ SE	-0.00572	0.59	232.776	-0.00286	-0.02022	0.00593
___ SI	8.13349	1,538.12	0.697	8.13753	8.07491	8.18804
___ SN	0.00218	0.99	113.918	-0.00039	0.00237	0.00457
___ SR	0.35655	289,234.74	0.367	0.35629	0.35538	0.35797
___ TH	0.01971	1.41	58.491	0.03303	0.01316	0.01295
___ TI	0.00559	238.97	0.753	0.00558	0.00564	0.00556
___ TL	0.00088	0.05	396.788	0.00491	-0.00101	-0.00126
___ V	0.00056	-18.53	51.212	0.00086	0.00054	0.00028
___ W	0.00300	0.41	46.601	0.00243	0.00198	0.00460
___ Y1	3758.89333	3,758.89	1.134	3783.42000	3783.57000	3709.69000
___ Y2A	268343.41085	268,343.41	0.074	268249.58472	268570.26578	268210.38206
___ Y2R	16071.54380	16,071.54	0.779	16108.09396	16174.32176	15932.21567
___ ZN	0.00835	26.26	0.963	0.00839	0.00840	0.00826
___ ZR	-0.00175	6.99	56.002	-0.00272	-0.00076	-0.00177

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 20

Date/Time: 11/09/2018 11:58

Sample Number: **9861918**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00082	-9.50	44.531	0.00124	0.00058	0.00064
___ AL	0.15367	40.79	10.651	0.16762	0.13565	0.15775
___ AS	0.00638	0.39	59.018	0.01068	0.00479	0.00367
___ B	0.41854	2,450.21	1.580	0.41837	0.41201	0.42523
___ BA	0.29432	11,194.14	0.212	0.29498	0.29425	0.29374
___ BE	-0.00002	-142.84	74.823	-0.00003	0.00000	-0.00002
___ CA	84.74067	100,329.78	0.555	84.74135	85.21097	84.26969
___ CD	0.00050	-0.67	5.199	0.00051	0.00047	0.00051
___ CO	0.00128	6.51	7.340	0.00131	0.00117	0.00135
___ CR	0.00229	20.33	18.220	0.00181	0.00258	0.00249
___ CU	0.00606	142.83	8.510	0.00577	0.00665	0.00575
___ FE	2.73175	884.38	2.517	2.76078	2.78123	2.65323
___ K	27.97365	9,470.99	0.437	27.94027	28.10905	27.87161
___ LI	0.06081	317.52	1.265	0.06111	0.05994	0.06139
___ MG	77.62988	139,913.48	0.617	77.71903	78.05767	77.11293
___ MN	0.60175	30,589.32	0.263	0.60203	0.60004	0.60317
___ MO	0.00234	1.33	82.550	0.00099	0.00147	0.00455
___ NA	581.79796	685,965.44	0.449	581.07568	584.69304	579.62518
___ NI	0.01071	26.31	2.162	0.01083	0.01085	0.01044
___ P	0.19498	13.23	3.473	0.19995	0.19771	0.18727
___ PB	0.00232	-1.31	113.349	0.00022	0.00526	0.00147
___ S	25.01739	1,321.56	0.410	24.89918	25.08242	25.07057
___ SB	-0.00495	-0.12	88.364	0.00001	-0.00824	-0.00661
___ SE	0.00278	1.30	264.932	0.00672	0.00735	-0.00572
___ SI	9.81644	1,817.35	2.101	9.84853	10.00471	9.59606
___ SN	0.00007	0.36	1395.463	-0.00092	0.00011	0.00102
___ SR	0.67918	524,409.26	0.327	0.67925	0.67693	0.68136
___ TH	0.00119	-1.06	960.420	0.00714	-0.01195	0.00836
___ TI	0.01002	396.60	1.711	0.00992	0.00992	0.01022
___ TL	0.00172	0.19	322.903	0.00401	0.00579	-0.00462
___ V	0.00109	-9.40	57.258	0.00039	0.00128	0.00159
___ W	0.00208	0.15	80.806	0.00401	0.00097	0.00125
___ Y1	3595.02167	3,595.02	1.250	3645.55000	3580.00000	3559.51500
___ Y2A	255334.27165	255,334.27	0.121	255024.90527	255645.09967	255332.81001
___ Y2R	15738.40091	15,738.40	0.408	15769.85748	15664.53802	15780.80722
___ ZN	0.02001	53.09	2.188	0.02039	0.01953	0.02010
___ ZR	-0.00175	3.69	86.740	-0.00304	-0.00213	-0.00008

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 21

Date/Time: 11/09/2018 12:01

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.48802	9,025.40	0.640	0.48913	0.49043	0.48449
___ AL	24.70063	4,689.26	0.491	24.76369	24.56074	24.77746
___ AS	0.50529	49.58	0.581	0.50326	0.50395	0.50866
___ B	0.47474	3,106.20	0.457	0.47434	0.47708	0.47280
___ BA	0.49170	20,455.84	0.413	0.49404	0.49065	0.49041
___ BE	0.46891	217,353.34	0.564	0.47098	0.46983	0.46593
___ CA	24.31824	29,805.79	0.355	24.33704	24.22400	24.39366
___ CD	0.49331	2,352.09	0.252	0.49309	0.49465	0.49219
___ CO	0.49883	1,419.11	0.364	0.49751	0.50090	0.49808
___ CR	0.49551	4,651.59	0.780	0.49556	0.49935	0.49162
___ CU	0.48563	7,351.68	0.390	0.48346	0.48689	0.48655
___ FE	25.21318	8,283.11	0.472	25.20384	25.09922	25.33650
___ K	25.46409	8,862.34	0.545	25.51905	25.30634	25.56689
___ LI	0.49752	2,928.60	1.207	0.49708	0.49174	0.50373
___ MG	24.10477	45,940.08	0.382	24.17068	23.99951	24.14410
___ MN	0.48307	26,898.37	0.687	0.48519	0.48477	0.47924
___ MO	0.49137	269.09	0.673	0.49095	0.49486	0.48829
___ NA	25.59981	30,976.59	0.602	25.58690	25.45260	25.75992
___ NI	0.48469	940.37	0.359	0.48363	0.48670	0.48374
___ P	0.46850	33.30	1.565	0.47374	0.47162	0.46012
___ PB	0.49446	230.33	0.291	0.49328	0.49607	0.49405
___ S	24.45002	1,396.82	0.119	24.42028	24.47818	24.45160
___ SB	0.49807	75.26	1.536	0.49070	0.50597	0.49752
___ SE	0.48684	44.46	2.284	0.49514	0.49118	0.47421
___ SI	24.26286	4,611.97	0.340	24.28363	24.17193	24.33302
___ SN	0.48454	148.41	1.177	0.47843	0.48973	0.48545
___ SR	0.49433	419,471.56	0.499	0.49340	0.49713	0.49246
___ TH	0.49507	85.70	1.377	0.50168	0.48806	0.49548
___ TI	0.50870	21,332.78	0.502	0.51027	0.51007	0.50575
___ TL	0.48845	48.54	2.289	0.49301	0.47571	0.49663
___ V	0.50217	8,240.78	1.625	0.50482	0.50868	0.49302
___ W	0.49980	171.89	0.391	0.49847	0.50204	0.49888
___ Y1	3889.79938	3,889.80	1.006	3930.99500	3853.09314	3885.31000
___ Y2A	279672.88980	279,672.89	0.423	279460.15573	278609.29233	280949.22134
___ Y2R	16161.92223	16,161.92	0.335	16218.02616	16157.59892	16110.14160
___ ZN	0.48652	1,259.86	0.216	0.48642	0.48762	0.48553
___ ZR	0.49517	1,494.41	0.731	0.49099	0.49722	0.49730

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 22

Date/Time: 11/09/2018 12:03

Sample Number: CCB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00073	-15.07	43.687	0.00099	0.00037	0.00082
___ AL	0.00355	13.78	71.806	0.00137	0.00635	0.00293
___ AS	0.00405	0.23	128.130	0.00392	-0.00108	0.00930
___ B	0.00345	20.37	8.803	0.00316	0.00343	0.00376
___ BA	-0.00004	41.88	850.459	-0.00029	-0.00017	0.00034
___ BE	0.00007	-120.42	25.270	0.00008	0.00005	0.00007
___ CA	0.00345	31.78	38.456	0.00265	0.00271	0.00497
___ CD	0.00038	-2.38	38.032	0.00029	0.00030	0.00054
___ CO	0.00003	4.20	393.978	0.00018	-0.00008	0.00000
___ CR	-0.00056	-4.65	29.205	-0.00045	-0.00048	-0.00074
___ CU	-0.00060	8.83	67.609	-0.00060	-0.00019	-0.00100
___ FE	-0.00978	0.95	50.535	-0.01144	-0.01367	-0.00422
___ K	0.06221	121.78	13.438	0.06745	0.06661	0.05257
___ LI	-0.00031	5.19	901.925	-0.00158	0.00287	-0.00222
___ MG	0.00172	5.72	84.834	0.00185	0.00020	0.00311
___ MN	0.00010	14.95	54.228	0.00005	0.00008	0.00015
___ MO	0.00516	3.07	7.769	0.00474	0.00519	0.00554
___ NA	0.02981	16.22	11.257	0.02758	0.02817	0.03366
___ NI	0.00076	10.19	58.244	0.00041	0.00061	0.00125
___ P	-0.00435	0.49	140.560	-0.00656	-0.00904	0.00256
___ PB	-0.00024	-2.47	906.612	-0.00005	-0.00247	0.00181
___ S	0.00801	2.02	14.005	0.00719	0.00929	0.00755
___ SB	-0.00288	0.16	121.630	-0.00554	-0.00419	0.00109
___ SE	-0.00463	0.72	134.082	-0.01178	-0.00139	-0.00071
___ SI	0.00235	3.07	382.618	-0.00789	0.00602	0.00890
___ SN	-0.00069	0.16	119.541	-0.00136	0.00023	-0.00094
___ SR	0.00007	17.62	14.789	0.00008	0.00006	0.00007
___ TH	0.00985	-0.25	178.612	0.02153	-0.01038	0.01839
___ TI	0.00004	17.39	399.877	0.00017	0.00007	-0.00013
___ TL	0.00456	0.43	98.724	-0.00063	0.00738	0.00693
___ V	0.00046	-22.43	51.289	0.00029	0.00073	0.00037
___ W	0.00324	0.49	54.504	0.00122	0.00449	0.00402
___ Y1	3993.02833	3,993.03	1.472	4043.89500	4006.48500	3928.70500
___ Y2A	291477.01720	291,477.02	0.380	292091.51786	292140.95569	290198.57804
___ Y2R	16299.98635	16,299.99	0.870	16462.51246	16201.74870	16235.69788
___ ZN	-0.00032	4.95	41.132	-0.00021	-0.00028	-0.00047
___ ZR	-0.00113	7.13	244.472	0.00017	0.00074	-0.00431

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 23

Date/Time: 11/09/2018 12:06

Sample Number: **9861919**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00087	-9.35	50.636	0.00108	0.00117	0.00036
___ AL	0.00120	13.33	2202.101	0.00998	-0.02841	0.02202
___ AS	0.00021	-0.24	5327.272	0.00724	0.00618	-0.01278
___ B	0.12230	809.44	2.246	0.11936	0.12275	0.12480
___ BA	0.13623	5,734.45	1.121	0.13453	0.13750	0.13665
___ BE	0.00005	-125.69	27.227	0.00005	0.00006	0.00003
___ CA	24.27715	30,235.53	0.546	24.41880	24.15611	24.25655
___ CD	0.00074	1.81	9.216	0.00079	0.00077	0.00066
___ CO	0.00171	8.64	13.502	0.00165	0.00152	0.00197
___ CR	0.00059	6.29	65.588	0.00020	0.00058	0.00097
___ CU	0.01636	271.99	6.606	0.01620	0.01536	0.01751
___ FE	6.34153	2,134.11	0.524	6.32952	6.31596	6.37911
___ K	7.04323	2,563.82	1.467	7.02557	6.94989	7.15423
___ LI	0.02296	133.20	13.832	0.01949	0.02365	0.02572
___ MG	12.25905	23,893.17	0.648	12.34380	12.18614	12.24722
___ MN	0.06680	3,751.59	1.566	0.06569	0.06695	0.06776
___ MO	0.00131	0.90	69.474	0.00205	0.00159	0.00029
___ NA	47.09691	57,924.94	0.655	47.40846	46.79110	47.09117
___ NI	0.01995	47.07	2.862	0.02047	0.02004	0.01934
___ P	0.12772	9.75	3.555	0.13071	0.12996	0.12250
___ PB	0.01098	2.33	46.419	0.01086	0.01614	0.00595
___ S	0.67182	40.28	2.578	0.68362	0.67990	0.65194
___ SB	0.00524	1.41	79.254	0.00459	0.00145	0.00968
___ SE	-0.01042	0.31	31.023	-0.01133	-0.00683	-0.01310
___ SI	5.02718	972.48	0.717	5.04871	4.98555	5.04728
___ SN	0.00177	0.91	65.259	0.00174	0.00294	0.00063
___ SR	0.16277	138,869.21	0.539	0.16189	0.16364	0.16277
___ TH	-0.00018	-0.55	3181.591	0.01606	-0.00439	-0.01221
___ TI	0.00427	195.14	4.920	0.00412	0.00419	0.00451
___ TL	-0.00292	-0.33	126.198	-0.00716	-0.00044	-0.00116
___ V	0.00584	69.83	3.859	0.00576	0.00566	0.00609
___ W	0.00292	0.52	47.680	0.00453	0.00224	0.00200
___ Y1	3930.23710	3,930.24	1.985	3982.64000	3840.59129	3967.48000
___ Y2A	281496.80335	281,496.80	0.617	283404.26587	280006.28307	281079.86111
___ Y2R	16422.89607	16,422.90	0.594	16328.56786	16523.47031	16416.65004
___ ZN	0.03610	100.43	2.098	0.03683	0.03614	0.03532
___ ZR	-0.00099	5.79	196.662	-0.00324	0.00011	0.00016

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 24

Date/Time: 11/09/2018 12:09

Sample Number: **9861920**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00019	-19.87	354.079	-0.00043	0.00009	0.00092
___ AL	0.00721	14.35	229.544	-0.00606	0.00193	0.02576
___ AS	0.00670	0.47	63.431	0.00740	0.00214	0.01056
___ B	0.10562	663.51	1.124	0.10674	0.10575	0.10438
___ BA	0.14892	6,137.02	1.221	0.14787	0.15101	0.14786
___ BE	0.00001	-140.71	274.535	0.00003	-0.00002	0.00003
___ CA	82.56216	101,902.27	0.279	82.73186	82.65432	82.30029
___ CD	0.00042	-1.65	57.818	0.00015	0.00062	0.00047
___ CO	0.00074	5.45	66.356	0.00054	0.00130	0.00038
___ CR	0.00062	6.47	28.485	0.00082	0.00057	0.00047
___ CU	-0.00045	56.40	102.382	-0.00037	-0.00096	-0.00004
___ FE	1.23827	420.34	0.722	1.23031	1.24795	1.23657
___ K	5.70733	2,094.06	0.676	5.66861	5.74582	5.70755
___ LI	0.04401	231.39	2.554	0.04373	0.04525	0.04305
___ MG	25.30929	48,920.63	0.385	25.35679	25.37393	25.19715
___ MN	0.90068	49,441.75	1.099	0.90268	0.90942	0.88993
___ MO	0.00141	0.93	55.046	0.00123	0.00074	0.00225
___ NA	65.06399	79,931.29	0.227	65.04214	65.22154	64.92827
___ NI	0.01079	28.40	3.845	0.01033	0.01115	0.01088
___ P	0.09124	7.06	10.720	0.08698	0.08432	0.10243
___ PB	0.00118	-1.83	234.203	0.00113	0.00395	-0.00155
___ S	5.05286	287.50	0.213	5.04733	5.04599	5.06527
___ SB	-0.00134	0.40	220.932	-0.00280	-0.00328	0.00207
___ SE	-0.01119	0.15	11.473	-0.01226	-0.00977	-0.01155
___ SI	9.38309	1,810.58	0.597	9.32430	9.38919	9.43579
___ SN	0.00254	1.13	41.634	0.00133	0.00300	0.00329
___ SR	0.40795	340,122.82	1.484	0.40788	0.41404	0.40194
___ TH	-0.00436	-2.36	136.968	0.00233	-0.00916	-0.00626
___ TI	0.00453	201.67	2.320	0.00461	0.00456	0.00441
___ TL	0.00382	0.45	42.165	0.00279	0.00298	0.00567
___ V	0.00056	-19.22	85.982	0.00005	0.00062	0.00100
___ W	0.00521	1.15	79.240	0.00530	0.00928	0.00103
___ Y1	3856.02333	3,856.02	0.801	3827.46500	3851.79000	3888.81500
___ Y2A	275772.26681	275,772.27	1.179	275857.72156	272477.79987	278981.27899
___ Y2R	16402.12223	16,402.12	0.162	16429.53321	16376.46971	16400.36376
___ ZN	0.00371	15.36	4.338	0.00389	0.00359	0.00364
___ ZR	-0.00101	4.97	90.910	-0.00167	0.00004	-0.00141

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 25

Date/Time: 11/09/2018 12:12

Sample Number: **9861921**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00054	-15.96	67.032	0.00015	0.00061	0.00086
___ AL	0.06331	24.98	35.735	0.06954	0.08217	0.03823
___ AS	-0.00230	-0.41	176.274	-0.00007	0.00015	-0.00698
___ B	0.11640	729.89	0.405	0.11651	0.11681	0.11589
___ BA	0.11653	4,788.31	0.089	0.11652	0.11644	0.11665
___ BE	0.00002	-134.43	53.686	0.00001	0.00002	0.00004
___ CA	55.77972	68,421.73	0.134	55.85934	55.71039	55.76942
___ CD	0.00039	-1.64	40.013	0.00045	0.00050	0.00021
___ CO	0.00120	6.72	22.825	0.00133	0.00089	0.00139
___ CR	0.00067	6.90	69.621	0.00014	0.00101	0.00086
___ CU	0.00037	54.31	365.904	0.00184	-0.00080	0.00007
___ FE	1.56540	525.15	1.198	1.57032	1.54468	1.58121
___ K	6.95653	2,506.16	1.555	6.85438	6.94530	7.06990
___ LI	0.02401	123.22	7.958	0.02259	0.02326	0.02618
___ MG	23.93309	45,852.99	0.135	23.96932	23.92249	23.90745
___ MN	0.72241	39,465.12	0.556	0.72492	0.72454	0.71778
___ MO	0.00129	0.86	54.467	0.00168	0.00170	0.00048
___ NA	126.94687	154,484.90	0.139	127.11833	126.76530	126.95697
___ NI	0.01051	27.59	5.509	0.01114	0.01039	0.01000
___ P	0.11705	8.73	4.754	0.11081	0.11884	0.12150
___ PB	0.00237	-1.27	88.567	0.00268	0.00430	0.00013
___ S	3.58300	202.12	0.020	3.58229	3.58369	3.58301
___ SB	-0.00078	0.48	50.047	-0.00116	-0.00038	-0.00081
___ SE	-0.01111	0.16	11.144	-0.01251	-0.01017	-0.01065
___ SI	8.98177	1,716.68	0.831	8.92950	8.94858	9.06724
___ SN	0.00120	0.71	328.147	-0.00093	-0.00120	0.00572
___ SR	0.27626	229,242.16	1.020	0.27624	0.27909	0.27345
___ TH	0.00376	-0.93	261.492	-0.00242	0.01508	-0.00140
___ TI	0.00619	268.85	3.969	0.00603	0.00647	0.00606
___ TL	-0.00192	-0.17	225.526	0.00046	-0.00692	0.00070
___ V	0.00093	-12.56	45.702	0.00091	0.00051	0.00136
___ W	-0.00024	-0.69	1119.756	0.00028	-0.00320	0.00219
___ Y1	3814.62333	3,814.62	0.977	3823.94500	3846.33000	3773.59500
___ Y2A	274416.40030	274,416.40	0.627	273344.51624	273502.73360	276401.95106
___ Y2R	16245.49431	16,245.49	0.182	16279.37363	16224.67026	16232.43905
___ ZN	0.00308	13.69	6.850	0.00302	0.00291	0.00332
___ ZR	-0.00129	5.56	57.276	-0.00211	-0.00069	-0.00106

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 26

Date/Time: 11/09/2018 12:15

Sample Number: **9861922**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00079	-14.49	48.473	0.00122	0.00058	0.00056
___ AL	0.09176	30.46	14.541	0.09424	0.10368	0.07735
___ AS	0.00175	-0.16	85.523	0.00254	0.00268	0.00002
___ B	0.18108	1,169.07	0.501	0.18116	0.18014	0.18195
___ BA	0.28162	11,402.78	1.170	0.28533	0.27903	0.28049
___ BE	0.00000	-141.83	711.789	0.00002	0.00002	-0.00002
___ CA	129.00671	156,751.63	0.486	128.58913	129.72811	128.70287
___ CD	0.00027	1.79	108.562	0.00037	-0.00006	0.00051
___ CO	0.00146	7.40	25.665	0.00115	0.00135	0.00187
___ CR	0.00093	9.21	50.066	0.00138	0.00045	0.00097
___ CU	-0.00161	72.01	44.718	-0.00116	-0.00244	-0.00123
___ FE	12.37797	4,106.80	1.118	12.26739	12.53319	12.33333
___ K	7.02236	2,528.23	1.180	6.92931	7.08822	7.04953
___ LI	0.08154	429.63	5.448	0.07696	0.08583	0.08184
___ MG	23.17981	44,416.54	0.491	23.10556	23.31093	23.12293
___ MN	1.16936	63,266.16	0.969	1.18244	1.16321	1.16244
___ MO	-0.00089	-0.31	21.923	-0.00111	-0.00080	-0.00074
___ NA	64.78791	78,812.14	0.425	64.55652	65.09224	64.71497
___ NI	0.00995	26.51	9.877	0.00892	0.01005	0.01088
___ P	0.38543	27.06	1.846	0.38365	0.39326	0.37937
___ PB	0.00369	-1.56	103.357	0.00695	0.00460	-0.00050
___ S	6.99305	393.86	0.359	7.02111	6.98524	6.97279
___ SB	0.00279	1.01	77.369	0.00526	0.00132	0.00178
___ SE	-0.00700	0.71	107.172	-0.01565	-0.00282	-0.00252
___ SI	10.00934	1,912.26	0.975	9.93378	10.11959	9.97465
___ SN	0.00093	0.63	305.163	0.00096	-0.00193	0.00376
___ SR	0.64968	534,526.84	1.158	0.65781	0.64298	0.64824
___ TH	0.01058	2.55	73.739	0.01764	0.01191	0.00220
___ TI	0.00980	413.08	1.879	0.01001	0.00968	0.00970
___ TL	0.00102	0.27	421.596	0.00555	0.00048	-0.00298
___ V	0.00151	-0.33	26.397	0.00119	0.00139	0.00196
___ W	-0.00036	-0.72	683.262	-0.00080	-0.00255	0.00228
___ Y1	3822.34833	3,822.35	1.223	3831.59000	3863.80000	3771.65500
___ Y2A	271804.94809	271,804.95	0.977	268753.72763	273593.77071	273067.34592
___ Y2R	16241.68866	16,241.69	0.731	16369.82914	16135.24385	16219.99300
___ ZN	0.00663	24.80	5.647	0.00678	0.00690	0.00620
___ ZR	-0.00152	6.10	119.451	-0.00210	-0.00299	0.00051

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 27

Date/Time: 11/09/2018 12:17

Sample Number: **9876332**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00032	-16.21	143.388	0.00062	-0.00021	0.00055
___ AL	0.68074	140.21	0.885	0.67401	0.68257	0.68563
___ AS	0.01096	0.80	26.371	0.01387	0.01092	0.00809
___ B	1.09810	6,727.76	1.324	1.08314	1.11217	1.09900
___ BA	1.17586	46,641.29	0.507	1.18209	1.17021	1.17528
___ BE	0.00002	-130.70	92.885	0.00000	0.00004	0.00003
___ CA	230.66959	273,162.85	0.853	230.54918	232.69376	228.76582
___ CD	0.00080	1.88	33.532	0.00103	0.00051	0.00084
___ CO	0.00478	15.96	2.400	0.00478	0.00489	0.00466
___ CR	0.01554	139.98	4.475	0.01475	0.01584	0.01604
___ CU	0.02630	518.25	1.792	0.02656	0.02575	0.02657
___ FE	6.08977	2,000.89	0.194	6.08144	6.10327	6.08460
___ K	30.26065	10,428.23	0.169	30.31225	30.21006	30.25962
___ LI	0.22424	1,211.66	0.646	0.22399	0.22580	0.22293
___ MG	30.84780	58,104.31	0.293	30.78705	30.80450	30.95184
___ MN	0.44386	23,594.21	0.252	0.44508	0.44288	0.44363
___ MO	0.01023	5.52	8.585	0.00998	0.01121	0.00951
___ NA	56.00963	67,250.61	0.230	55.93737	55.93293	56.15859
___ NI	0.03906	79.09	1.193	0.03949	0.03911	0.03856
___ P	0.07721	5.87	5.739	0.07417	0.08230	0.07517
___ PB	0.03674	13.88	8.042	0.03406	0.03991	0.03625
___ S	21.40908	1,170.28	0.136	21.37610	21.41971	21.43142
___ SB	0.00998	2.01	86.495	0.00008	0.01596	0.01391
___ SE	-0.01017	0.33	181.703	0.01047	-0.01582	-0.02517
___ SI	15.67531	2,954.67	0.560	15.59944	15.77137	15.65512
___ SN	0.01448	4.58	12.390	0.01374	0.01652	0.01317
___ SR	1.37036	1,106,392.30	0.235	1.36791	1.37400	1.36918
___ TH	-0.00755	-1.79	99.319	-0.00989	0.00084	-0.01359
___ TI	0.02737	1,107.79	2.351	0.02672	0.02801	0.02738
___ TL	0.00556	0.57	229.138	0.01629	0.00890	-0.00852
___ V	0.00592	65.64	4.627	0.00623	0.00586	0.00569
___ W	0.00111	0.49	24.675	0.00139	0.00108	0.00085
___ Y1	3719.32000	3,719.32	1.704	3791.20500	3671.49000	3695.26500
___ Y2A	266973.87895	266,973.88	0.165	266467.11398	267273.77402	267180.74884
___ Y2R	16031.54795	16,031.55	0.384	16101.78536	15986.63475	16006.22376
___ ZN	0.18972	470.42	0.093	0.18955	0.18969	0.18990
___ ZR	0.00151	11.38	75.612	0.00160	0.00261	0.00033

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 28

Date/Time: 11/09/2018 12:20

Sample Number: **9876342**

Class: ****

Batch: 183061063501

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00038	-21.42	61.988	0.00015	0.00037	0.00062
___ AL	-0.00498	12.15	704.203	-0.00593	-0.03955	0.03054
___ AS	0.00388	0.22	56.850	0.00584	0.00431	0.00149
___ B	0.00379	22.75	16.083	0.00326	0.00366	0.00445
___ BA	0.00000	43.78	3881.086	0.00005	0.00000	-0.00005
___ BE	0.00004	-134.08	32.830	0.00003	0.00005	0.00005
___ CA	0.02085	53.54	11.737	0.01886	0.02010	0.02358
___ CD	0.00022	-3.18	81.079	0.00026	0.00038	0.00003
___ CO	-0.00018	3.61	83.327	-0.00030	-0.00023	-0.00001
___ CR	-0.00004	0.43	568.932	0.00020	-0.00018	-0.00013
___ CU	0.00017	20.08	349.188	0.00067	-0.00047	0.00031
___ FE	-0.01010	0.85	25.972	-0.01292	-0.00773	-0.00964
___ K	0.05952	121.31	52.728	0.02421	0.08424	0.07012
___ LI	0.00096	12.83	125.528	0.00222	-0.00019	0.00086
___ MG	0.00320	8.63	61.422	0.00165	0.00254	0.00541
___ MN	0.00081	56.67	12.703	0.00087	0.00069	0.00086
___ MO	0.00098	0.73	6.368	0.00099	0.00091	0.00103
___ NA	0.01954	3.69	53.264	0.02859	0.00817	0.02186
___ NI	0.00238	13.54	25.585	0.00167	0.00275	0.00270
___ P	-0.00311	0.59	189.192	-0.00014	-0.00989	0.00070
___ PB	-0.00142	-3.06	70.969	-0.00045	-0.00135	-0.00246
___ S	0.01573	2.50	44.108	0.00916	0.01503	0.02298
___ SB	-0.00401	0.00	112.905	0.00101	-0.00778	-0.00525
___ SE	0.00003	1.16	4783.423	0.00169	0.00593	-0.00753
___ SI	0.01835	6.15	31.072	0.01860	0.02393	0.01253
___ SN	0.00060	0.57	190.613	0.00018	0.00191	-0.00027
___ SR	0.00014	86.51	12.996	0.00015	0.00016	0.00012
___ TH	0.00791	-0.58	75.037	0.01345	0.00866	0.00164
___ TI	0.00022	25.50	48.414	0.00018	0.00034	0.00014
___ TL	0.00117	0.07	511.885	-0.00445	0.00746	0.00050
___ V	0.00056	-19.98	39.761	0.00054	0.00035	0.00079
___ W	0.00277	0.34	42.030	0.00390	0.00284	0.00157
___ Y1	4036.85333	4,036.85	1.265	4076.29500	4055.12000	3979.14500
___ Y2A	292950.92247	292,950.92	0.811	295546.30247	292424.35516	290882.10979
___ Y2R	16360.89285	16,360.89	0.322	16338.26174	16421.05919	16323.35763
___ ZN	0.00058	7.42	45.348	0.00045	0.00089	0.00041
___ ZR	-0.00107	6.97	134.454	-0.00021	-0.00027	-0.00273

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 29

Date/Time: 11/09/2018 12:23

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.48997	8,968.19	0.943	0.48482	0.49375	0.49134
___ AL	24.72875	4,642.05	0.752	24.59810	24.94151	24.64666
___ AS	0.50854	49.26	1.619	0.50038	0.51685	0.50840
___ B	0.47181	3,055.40	0.703	0.46799	0.47393	0.47352
___ BA	0.49288	20,287.53	0.805	0.48927	0.49713	0.49224
___ BE	0.46768	214,493.01	0.545	0.46520	0.47029	0.46756
___ CA	24.18380	29,311.30	0.770	24.06030	24.39805	24.09306
___ CD	0.49689	2,339.18	0.294	0.49523	0.49799	0.49744
___ CO	0.50591	1,420.99	0.290	0.50437	0.50729	0.50607
___ CR	0.50105	4,653.92	0.575	0.49785	0.50186	0.50343
___ CU	0.48418	7,248.47	0.619	0.48098	0.48691	0.48465
___ FE	25.36398	8,239.30	0.893	25.17367	25.61459	25.30369
___ K	25.68130	8,837.38	1.033	25.45910	25.97512	25.60967
___ LI	0.50011	2,911.22	0.821	0.50015	0.50420	0.49599
___ MG	24.02923	45,287.42	0.741	23.90794	24.23366	23.94610
___ MN	0.48332	26,628.59	0.409	0.48126	0.48521	0.48350
___ MO	0.48942	264.65	0.424	0.49156	0.48742	0.48927
___ NA	25.68968	30,739.13	0.698	25.54808	25.89137	25.62961
___ NI	0.48830	935.36	0.247	0.48745	0.48778	0.48968
___ P	0.47567	33.37	1.249	0.48248	0.47157	0.47296
___ PB	0.49452	227.42	0.938	0.48932	0.49603	0.49822
___ S	24.46440	1,379.95	0.188	24.41899	24.51105	24.46317
___ SB	0.50504	75.36	1.310	0.49763	0.50711	0.51037
___ SE	0.48458	43.71	2.973	0.49891	0.47010	0.48472
___ SI	24.04183	4,519.13	0.647	24.03213	24.20191	23.89144
___ SN	0.48876	147.82	0.137	0.48915	0.48915	0.48799
___ SR	0.49939	419,271.35	1.107	0.49306	0.50180	0.50329
___ TH	0.48311	82.81	1.401	0.47600	0.48948	0.48384
___ TI	0.50985	21,155.32	0.611	0.50641	0.51247	0.51068
___ TL	0.48277	47.35	0.882	0.48071	0.47993	0.48766
___ V	0.50040	8,124.85	1.320	0.50123	0.50656	0.49342
___ W	0.50428	171.25	0.780	0.50851	0.50072	0.50359
___ Y1	3840.61333	3,840.61	1.263	3896.58500	3810.56500	3814.69000
___ Y2A	276719.51224	276,719.51	0.554	278380.55003	275355.28496	276422.70172
___ Y2R	15982.13777	15,982.14	0.520	16068.21585	15902.50300	15975.69444
___ ZN	0.48771	1,247.00	0.116	0.48811	0.48795	0.48706
___ ZR	0.48292	1,441.42	1.445	0.47486	0.48698	0.48691

LANCASTER LABORATORIES

Run Name: 1831303T71

Instrument ID: 16315

Tube: 30

Date/Time: 11/09/2018 12:26

Sample Number: CCB

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00070	-8.47	41.194	0.00102	0.00064	0.00045
___ AL	-0.00362	11.96	284.116	-0.00975	-0.00934	0.00824
___ AS	0.00681	0.51	15.022	0.00751	0.00728	0.00564
___ B	0.00243	13.27	8.914	0.00262	0.00248	0.00219
___ BA	-0.00007	39.76	442.322	0.00010	0.00013	-0.00045
___ BE	0.00008	-112.05	7.300	0.00009	0.00008	0.00008
___ CA	-0.00301	23.47	65.374	-0.00205	-0.00171	-0.00528
___ CD	0.00026	-2.95	59.112	0.00029	0.00009	0.00040
___ CO	0.00000	4.09	1582.133	0.00024	-0.00057	0.00033
___ CR	-0.00035	-2.63	180.902	-0.00093	-0.00046	0.00033
___ CU	0.00065	19.60	105.753	0.00012	0.00142	0.00040
___ FE	-0.00983	0.92	90.928	-0.01834	-0.01064	-0.00051
___ K	0.05259	116.75	158.224	-0.02905	0.13729	0.04954
___ LI	-0.00080	2.31	143.148	0.00036	-0.00193	-0.00082
___ MG	0.00183	5.86	94.396	0.00069	0.00098	0.00382
___ MN	0.00007	13.35	37.251	0.00007	0.00005	0.00010
___ MO	0.00544	3.23	12.962	0.00551	0.00470	0.00610
___ NA	0.00255	-16.90	812.170	-0.00263	0.02535	-0.01508
___ NI	0.00076	10.18	69.781	0.00047	0.00044	0.00137
___ P	-0.00060	0.76	484.673	0.00224	-0.00051	-0.00352
___ PB	-0.00088	-2.76	407.125	-0.00328	0.00322	-0.00256
___ S	0.00943	2.10	24.101	0.01128	0.00689	0.01010
___ SB	-0.00528	-0.21	67.499	-0.00939	-0.00329	-0.00315
___ SE	-0.00846	0.38	55.255	-0.00512	-0.01380	-0.00645
___ SI	0.01010	4.51	94.308	0.01457	0.01658	-0.00084
___ SN	0.00076	0.61	53.108	0.00031	0.00090	0.00107
___ SR	0.00007	20.82	18.572	0.00007	0.00006	0.00008
___ TH	-0.01166	-3.77	109.684	0.00297	-0.02069	-0.01725
___ TI	0.00000	15.46	2455.859	0.00018	0.00003	-0.00021
___ TL	0.00391	0.37	36.080	0.00236	0.00512	0.00425
___ V	0.00063	-20.27	64.203	0.00059	0.00024	0.00105
___ W	0.00536	1.23	19.137	0.00615	0.00420	0.00575
___ Y1	3987.70500	3,987.71	0.424	3979.56500	4007.15500	3976.39500
___ Y2A	287043.26499	287,043.26	0.812	288337.63228	284352.76124	288439.40146
___ Y2R	16083.68670	16,083.69	0.582	16170.13958	15984.20028	16096.72025
___ ZN	-0.00082	3.64	48.634	-0.00114	-0.00037	-0.00095
___ ZR	-0.00026	5.69	826.396	-0.00232	0.00203	-0.00051

ICP-AES Run Data Report



Reviewed By
Lisa J Cooke

Reviewed Date
11/10/2018 7:02AM

Data File Name 1831401T71.TXT
Run Name: 1831401T71

Verified By:
Parker D Lindstrom

Verified Date
11/11/2018 7:16PM

Method Reference Name(s):

Analyst Employee:

943

Instrument Parameters:

Individual Integration Time: 10.00 sec

Total Integration Time: 30.00 sec

Rinse Time: 15.00 sec

<u>Element</u>	<u>Analyte Name</u>	<u>Wavelength Value</u>
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: 1831401T71

Instrument ID: 16315

Tube: 1

Date/Time: 11/10/2018 05:13

Sample Number: S0

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
AG	0.000	-6.61667	32.468	-0.00077	-0.00153	-0.00128
AL	0.000	6.72262	60.517	0.02002	0.03607	0.00973
AS	0.000	0.18333	167.830	0.00525	0.00443	-0.00229
B	0.000	-8.13333	0.350	-0.00003	-0.00003	-0.00003
BA	0.000	47.99171	23.900	0.00013	0.00019	0.00020
BE	0.000	-94.53333	4.801	-0.01754	-0.01736	-0.01605
CA	0.000	17.88308	14.017	0.00098	0.00121	0.00130
CD	0.000	-1.65000	71.937	-0.00430	-0.02727	-0.03499
CO	0.000	4.41333	11.903	0.06000	0.05200	0.06608
CR	0.000	-5.56667	73.359	-0.00001	-0.00004	-0.00002
CU	0.000	21.41667	45.732	0.00186	0.00455	0.00521
FE	0.000	-1.76270	254.154	0.00017	-0.00042	-0.00010
K	0.000	103.19640	5.855	0.34388	0.31348	0.35030
LI	0.000	-2.79627	229.871	-0.00059	0.00023	-0.00018
MG	0.000	-1.31368	220.809	-0.00016	0.00013	-0.00022
MN	0.000	7.81667	26.274	0.00179	0.00105	0.00136
MO	0.000	0.90733	60.660	0.00615	0.02045	0.01000
NA	0.000	-50.54347	12.030	-0.00311	-0.00375	-0.00302
NI	0.000	8.12333	6.658	0.11676	0.10224	0.10875
P	0.000	0.72000	85.771	0.00001	0.00024	0.00033
PB	0.000	-3.15000	8.920	-0.04170	-0.03896	-0.04643
S	0.000	1.37667	48.498	0.00057	0.00023	0.00031
SB	0.000	0.38000	107.141	0.00009	0.00022	0.00000
SE	0.000	0.44667	39.180	0.00404	0.00537	0.00861
SI	0.000	1.96322	75.011	0.00021	0.00002	0.00015
SN	0.000	0.33667	186.375	-0.00430	0.01249	0.00538
SR	0.000	-26.34000	28.645	-0.00009	-0.00007	-0.00012
TH	0.000	-0.89484	94.991	-0.00001	-0.00005	-0.00012
TI	0.000	20.36667	31.546	0.00298	0.00301	0.00500
TL	0.000	0.88000	92.768	0.00646	0.02445	0.00458
V	0.000	-24.41667	28.683	-0.00579	-0.00392	-0.00340
W	0.000	-0.19667	435.225	-0.00030	0.00000	0.00015
Y1	0.000	3717.81500	0.089	3716.88000	3721.50500	3715.06000
Y2A	0.000	278256.11056	2.387	285633.41106	272752.14947	276382.77116
Y2R	0.000	15357.71976	0.811	15469.80519	15223.74201	15379.61209
ZN	0.000	4.61000	18.463	0.04883	0.06960	0.06756
ZR	0.000	2.12796	192.694	-0.00016	0.00035	0.00024

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 2

Date/Time: 11/10/2018 05:16

Sample Number: S1

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
AL	50.000	9020.91374	0.392	29.64666	29.61329	29.43127
CA	50.000	55557.89578	0.478	3.65770	3.64378	3.62312
FE	50.000	16251.19613	0.349	1.06605	1.06839	1.06111
K	50.000	17776.98530	0.281	58.29727	58.40093	58.08005
MG	50.000	84423.49971	0.395	5.54454	5.54772	5.50834
NA	50.000	62568.20881	0.288	4.10945	4.10608	4.08751
S	50.000	2656.98667	0.331	0.74399	0.74893	0.74641
SI	50.000	8440.01403	0.522	0.55582	0.55368	0.55011
Y1	50.000	3559.56500	0.445	3572.81500	3542.04500	3563.83500
Y2R	50.000	15256.88777	0.490	15246.26271	15188.03696	15336.36364

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 3

Date/Time: 11/10/2018 05:19

Sample Number: S2

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
AG	1.000	17956.00880	0.212	3.35788	3.37171	3.36784
AS	1.000	98.94667	1.016	1.35694	1.37995	1.35508
B	1.000	5762.81410	0.128	0.02162	0.02157	0.02162
BA	1.000	40972.23860	0.280	0.15363	0.15402	0.15316
BE	1.000	423718.30130	0.478	78.98688	79.65427	79.63525
CD	1.000	4592.73333	0.340	63.06383	63.45916	63.40944
CO	1.000	2858.65667	0.286	39.27631	39.46814	39.47523
CU	1.000	13597.34720	0.016	2.54867	2.54844	2.54924
LI	1.000	5989.42412	0.488	0.39021	0.39071	0.38720
MN	1.000	50920.91582	0.095	9.53715	9.55495	9.54286
NI	1.000	1797.29333	0.057	24.75996	24.78691	24.78021
P	1.000	60.57000	0.555	0.01667	0.01680	0.01663
PB	1.000	446.91111	0.796	6.10571	6.20004	6.17625
SE	1.000	81.21333	1.139	1.11076	1.13416	1.11368
SR	1.000	850695.67953	0.488	3.17252	3.19192	3.20328
TH	1.000	153.79881	1.728	0.01020	0.00993	0.00987
TL	1.000	87.96667	1.202	1.20234	1.20620	1.22929
W	1.000	341.46667	0.441	0.09401	0.09461	0.09381
Y1	1.000	3627.13000	0.144	3625.43000	3622.96000	3633.00000
Y2A	1.000	266741.99293	0.294	267623.26389	266476.64016	266126.07474
Y2R	1.000	15381.95998	0.414	15436.75150	15397.02797	15312.10048
ZN	1.000	2376.20667	0.179	32.69157	32.80577	32.77071

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 4

Date/Time: 11/10/2018 05:22

Sample Number: **S3**

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
CR	1.000	9634.20791	0.857	0.03471	0.03432	0.03413
MO	1.000	518.72333	0.289	6.90519	6.90303	6.86965
SB	1.000	156.65000	0.188	0.04154	0.04167	0.04168
SN	1.000	304.26667	0.423	4.06260	4.03544	4.03098
TI	1.000	43794.23196	0.729	7.88066	7.77675	7.78817
V	1.000	15859.45910	0.810	2.85639	2.81389	2.82024
Y1	1.000	3762.91333	0.380	3749.20000	3761.80000	3777.74000
Y2A	1.000	280194.49956	0.643	278353.67063	281953.45569	280276.37235
Y2R	1.000	15495.45439	0.609	15587.40527	15500.19944	15398.75848
ZR	1.000	2707.40261	2.280	0.17796	0.17589	0.17026

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 5

Date/Time: 11/10/2018 05:24

Sample Number: **ICV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.60860	10,984.36	0.648	0.60596	0.60669	0.61313
___ AL	29.84938	5,419.25	0.773	29.60831	29.87202	30.06781
___ AS	0.60675	59.85	1.054	0.61367	0.60552	0.60105
___ B	0.60338	3,563.56	1.136	0.59726	0.60209	0.61078
___ BA	0.60943	24,955.26	0.516	0.60929	0.60636	0.61265
___ BE	0.58406	247,103.27	0.243	0.58283	0.58374	0.58561
___ CA	29.85985	33,343.69	0.429	29.72824	29.86752	29.98379
___ CD	0.60371	2,768.37	0.181	0.60454	0.60248	0.60412
___ CO	0.59581	1,699.10	0.278	0.59528	0.59448	0.59766
___ CR	0.59474	5,448.68	1.061	0.58971	0.59268	0.60182
___ CU	0.60659	8,233.48	0.791	0.60139	0.60753	0.61085
___ FE	29.67271	9,734.90	0.365	29.54783	29.73361	29.73668
___ K	29.79518	10,659.09	0.240	29.72029	29.80249	29.86276
___ LI	0.61032	3,618.87	0.102	0.60998	0.61104	0.60995
___ MG	29.69366	50,808.01	0.430	29.54804	29.74575	29.78719
___ MN	0.60900	30,973.14	0.582	0.60766	0.60631	0.61302
___ MO	0.60915	303.18	0.393	0.60684	0.60897	0.61162
___ NA	28.54892	35,799.80	0.440	28.40610	28.59821	28.64246
___ NI	0.59913	1,072.88	0.134	0.60000	0.59842	0.59897
___ P	0.60819	36.93	1.879	0.61985	0.59702	0.60771
___ PB	0.59846	265.99	1.199	0.59574	0.59305	0.60660
___ S	30.17558	1,625.67	0.149	30.19053	30.12514	30.21106
___ SB	0.60549	91.12	0.546	0.60710	0.60169	0.60768
___ SE	0.60453	49.35	1.002	0.61058	0.59847	0.60454
___ SI	30.28799	5,128.17	0.358	30.16818	30.31636	30.37942
___ SN	0.57960	169.44	0.341	0.58097	0.57734	0.58049
___ SR	0.61261	522,286.59	0.498	0.60921	0.61351	0.61510
___ TH	0.59603	96.88	2.701	0.61420	0.59035	0.58354
___ TI	0.61447	25,628.63	0.759	0.61108	0.61255	0.61979
___ TL	0.60249	50.54	0.605	0.60067	0.60011	0.60669
___ V	0.61023	9,224.15	0.410	0.60907	0.60851	0.61310
___ W	0.60268	204.71	0.704	0.60757	0.60057	0.59992
___ Y1	3609.41167	3,609.41	0.359	3623.12000	3607.76500	3597.35000
___ Y2A	266400.01016	266,400.01	0.669	267500.24851	267356.77601	264343.00595
___ Y2R	15291.75885	15,291.76	0.616	15398.78573	15254.81153	15221.67930
___ ZN	0.60036	1,426.96	0.174	0.60008	0.59949	0.60152
___ ZR	0.61274	1,736.12	1.343	0.60332	0.61633	0.61857

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 6

Date/Time: 11/10/2018 05:27

Sample Number: ICB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00066	-17.23	46.057	0.00080	0.00086	0.00031
___ AL	0.03341	13.13	112.722	-0.00968	0.06001	0.04989
___ AS	0.00358	0.24	51.149	0.00565	0.00289	0.00219
___ B	0.00288	9.37	30.294	0.00370	0.00196	0.00297
___ BA	-0.00028	36.33	75.885	-0.00029	-0.00048	-0.00006
___ BE	0.00015	-76.98	12.228	0.00017	0.00013	0.00014
___ CA	0.00097	19.16	390.937	0.00204	-0.00325	0.00412
___ CD	0.00029	-2.51	65.376	0.00011	0.00027	0.00048
___ CO	-0.00017	3.90	443.350	0.00045	0.00006	-0.00103
___ CR	-0.00070	-3.97	27.128	-0.00051	-0.00069	-0.00090
___ CU	-0.00113	10.55	85.009	-0.00214	-0.00024	-0.00101
___ FE	0.00522	-0.05	138.172	0.00076	0.00136	0.01355
___ K	0.00704	106.67	458.509	-0.01369	0.04423	-0.00942
___ LI	0.00231	11.18	63.414	0.00282	0.00066	0.00346
___ MG	0.00254	3.16	98.334	-0.00033	0.00375	0.00420
___ MN	-0.00003	6.32	85.333	0.00000	-0.00004	-0.00004
___ MO	0.00655	3.61	15.574	0.00581	0.00612	0.00771
___ NA	-0.01319	-32.36	29.872	-0.01122	-0.01062	-0.01773
___ NI	0.00109	10.12	41.309	0.00161	0.00086	0.00080
___ P	0.00049	0.75	351.270	0.00229	-0.00111	0.00028
___ PB	-0.00181	-3.01	46.604	-0.00084	-0.00240	-0.00220
___ S	0.00417	1.61	183.869	0.01272	-0.00209	0.00188
___ SB	-0.00206	0.04	195.339	-0.00364	-0.00507	0.00252
___ SE	0.00189	0.60	287.271	0.00675	0.00289	-0.00397
___ SI	0.01229	4.09	46.221	0.01198	0.01811	0.00677
___ SN	0.00037	0.45	519.830	0.00108	-0.00182	0.00186
___ SR	0.00006	13.99	2.883	0.00006	0.00006	0.00006
___ TH	0.01387	-0.57	64.335	0.02237	0.01468	0.00457
___ TI	0.00003	21.68	322.848	0.00010	-0.00007	0.00005
___ TL	-0.00966	0.02	41.893	-0.01372	-0.00563	-0.00964
___ V	-0.00035	-24.73	157.004	-0.00063	-0.00069	0.00028
___ W	-0.00115	-0.60	130.329	0.00057	-0.00186	-0.00217
___ Y1	3718.09167	3,718.09	0.358	3714.57500	3706.88500	3732.81500
___ Y2A	278572.88911	278,572.89	0.789	276121.61045	279225.44643	280371.61045
___ Y2R	15503.29454	15,503.29	0.088	15518.94621	15497.20615	15493.73127
___ ZN	-0.00022	4.09	105.480	-0.00040	-0.00032	0.00004
___ ZR	-0.00124	1.15	85.123	-0.00003	-0.00193	-0.00175

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 7

Date/Time: 11/10/2018 05:30

Sample Number: LLC

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00973	11.85	6.338	0.00960	0.01040	0.00919
___ AL	0.32455	73.15	2.516	0.33005	0.31517	0.32843
___ AS	0.05313	5.29	3.519	0.05195	0.05216	0.05529
___ B	0.05075	298.68	0.712	0.05041	0.05113	0.05070
___ BA	0.00501	261.96	1.882	0.00508	0.00490	0.00504
___ BE	0.00525	2,178.90	0.312	0.00523	0.00525	0.00526
___ CA	0.51767	606.84	0.748	0.51734	0.52170	0.51398
___ CD	0.00550	22.24	3.384	0.00541	0.00538	0.00572
___ CO	0.00513	19.56	4.545	0.00508	0.00539	0.00493
___ CR	0.01475	143.90	2.399	0.01456	0.01516	0.01454
___ CU	0.02745	564.70	4.218	0.02779	0.02616	0.02840
___ FE	0.21254	69.74	2.566	0.20809	0.21862	0.21090
___ K	0.52449	293.01	8.414	0.49839	0.57545	0.49964
___ LI	0.05295	317.28	7.013	0.05700	0.04969	0.05218
___ MG	0.10462	183.34	2.186	0.10335	0.10326	0.10726
___ MN	0.01063	572.43	0.032	0.01063	0.01063	0.01063
___ MO	0.01035	5.58	11.691	0.00897	0.01085	0.01124
___ NA	1.00812	1,268.57	0.814	1.01306	1.01264	0.99865
___ NI	0.01094	28.28	3.683	0.01141	0.01068	0.01074
___ P	0.10407	7.14	7.234	0.11158	0.09653	0.10409
___ PB	0.01447	4.51	9.135	0.01446	0.01580	0.01315
___ S	0.54443	31.66	2.043	0.53241	0.54655	0.55434
___ SB	0.05301	8.62	3.196	0.05392	0.05106	0.05406
___ SE	0.04707	4.35	7.169	0.04320	0.04859	0.04942
___ SI	0.50250	88.40	2.531	0.51325	0.50577	0.48846
___ SN	0.04908	15.14	2.243	0.05033	0.04865	0.04826
___ SR	0.00548	4,841.03	0.893	0.00553	0.00544	0.00547
___ TH	0.48954	74.68	3.416	0.48151	0.50876	0.47834
___ TI	0.01065	483.90	1.940	0.01088	0.01048	0.01058
___ TL	0.02390	2.98	39.117	0.01314	0.03009	0.02846
___ V	0.00895	143.37	5.158	0.00942	0.00849	0.00894
___ W	0.03275	11.27	6.584	0.03195	0.03519	0.03110
___ Y1	3733.30167	3,733.30	0.412	3738.80000	3715.94500	3745.16000
___ Y2A	278310.65366	278,310.65	0.596	277106.31614	280203.04233	277622.60251
___ Y2R	15526.44058	15,526.44	0.748	15604.37063	15581.97987	15392.97125
___ ZN	0.02053	54.67	0.850	0.02072	0.02038	0.02049
___ ZR	0.03209	171.23	7.957	0.03503	0.03080	0.03044

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 8

Date/Time: 11/10/2018 05:33

Sample Number: **ICSA**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	-0.00152	-45.78	46.859	-0.00177	-0.00206	-0.00071
___ AL	497.55616	85,860.15	0.540	500.58728	496.61966	495.46154
___ AS	-0.00416	-0.35	363.958	-0.00060	-0.02077	0.00888
___ B	-0.01762	568.74	3.264	-0.01819	-0.01764	-0.01704
___ BA	0.00056	61.90	58.160	0.00086	0.00059	0.00022
___ BE	-0.00009	-156.39	32.199	-0.00006	-0.00011	-0.00010
___ CA	496.10009	502,173.74	1.254	503.09452	491.19173	494.01401
___ CD	0.00008	60.62	1190.411	-0.00098	0.00087	0.00035
___ CO	-0.00020	3.35	375.600	0.00033	-0.00106	0.00013
___ CR	-0.00431	-33.11	3.682	-0.00418	-0.00448	-0.00426
___ CU	-0.01025	124.94	9.757	-0.01048	-0.00916	-0.01112
___ FE	195.37854	58,074.67	0.612	196.74621	194.85942	194.52999
___ K	0.07586	124.62	13.792	0.08456	0.06425	0.07876
___ LI	0.05222	72.01	2.634	0.05192	0.05102	0.05373
___ MG	496.68150	611,078.35	1.318	502.94124	489.88465	497.21860
___ MN	0.00483	227.84	2.282	0.00481	0.00495	0.00474
___ MO	-0.00617	-2.55	23.491	-0.00482	-0.00599	-0.00770
___ NA	0.00992	-2.81	43.989	0.00779	0.00703	0.01494
___ NI	-0.00319	2.00	9.269	-0.00345	-0.00324	-0.00287
___ P	0.01597	1.49	63.530	0.00847	0.01192	0.02751
___ PB	0.01086	34.71	4.701	0.01104	0.01029	0.01126
___ S	0.00055	1.24	157.302	0.00151	-0.00019	0.00035
___ SB	0.00408	1.26	127.066	0.01004	0.00074	0.00144
___ SE	0.00255	0.91	377.483	-0.00160	-0.00431	0.01355
___ SI	-0.00384	1.23	135.688	-0.00967	-0.00217	0.00033
___ SN	0.00081	2.59	317.804	-0.00204	0.00297	0.00149
___ SR	-0.00043	10,469.92	11.885	-0.00044	-0.00037	-0.00046
___ TH	-0.06289	26.22	25.028	-0.07351	-0.07035	-0.04481
___ TI	-0.00092	-17.09	3.297	-0.00094	-0.00089	-0.00094
___ TL	-0.01765	0.68	58.245	-0.02342	-0.02375	-0.00578
___ V	0.00257	47.34	8.661	0.00232	0.00263	0.00276
___ W	-0.00187	-0.72	274.797	-0.00436	0.00404	-0.00529
___ Y1	3259.85333	3,259.85	0.260	3269.15500	3252.57500	3257.83000
___ Y2A	239681.42734	239,681.43	0.726	238078.89753	239434.53449	241530.85000
___ Y2R	14705.43653	14,705.44	0.612	14607.75000	14785.16171	14723.39788
___ ZN	0.00518	48.13	11.923	0.00569	0.00535	0.00449
___ ZR	0.00772	11.91	25.190	0.00549	0.00906	0.00861

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 9

Date/Time: 11/10/2018 05:36

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.49924	9,075.52	0.471	0.49978	0.50127	0.49666
___ AL	24.88473	4,563.82	0.488	24.93183	24.97566	24.74671
___ AS	0.50926	50.56	0.934	0.50443	0.50941	0.51394
___ B	0.49749	2,962.73	0.523	0.50028	0.49707	0.49513
___ BA	0.50467	20,844.72	0.925	0.50868	0.50579	0.49955
___ BE	0.49112	209,484.24	0.602	0.49326	0.49236	0.48775
___ CA	24.86648	28,059.74	0.479	24.94863	24.92106	24.72975
___ CD	0.50080	2,312.05	0.267	0.50079	0.50215	0.49947
___ CO	0.49918	1,434.23	0.230	0.49962	0.50005	0.49788
___ CR	0.49400	4,563.93	0.551	0.49633	0.49466	0.49101
___ CU	0.51086	6,996.66	0.557	0.51208	0.51290	0.50761
___ FE	24.88810	8,258.66	0.285	24.95374	24.89755	24.81300
___ K	24.98554	9,042.66	0.480	24.98434	25.10598	24.86628
___ LI	0.50680	3,033.90	0.784	0.51003	0.50799	0.50237
___ MG	24.67623	42,751.72	0.582	24.79745	24.71380	24.51746
___ MN	0.50442	25,869.07	0.466	0.50579	0.50577	0.50171
___ MO	0.49349	247.39	0.316	0.49340	0.49509	0.49198
___ NA	25.02796	31,690.07	0.455	25.10184	25.08529	24.89676
___ NI	0.50036	903.61	0.641	0.49996	0.50375	0.49737
___ P	0.51789	31.77	1.172	0.51435	0.52490	0.51442
___ PB	0.50285	224.71	0.613	0.50126	0.50641	0.50089
___ S	24.66232	1,338.22	0.462	24.71456	24.74078	24.53160
___ SB	0.48613	73.77	1.434	0.47816	0.49106	0.48918
___ SE	0.51080	42.05	1.723	0.50203	0.51963	0.51075
___ SI	25.10038	4,291.76	0.608	25.22435	25.14679	24.93000
___ SN	0.48184	141.90	0.204	0.48108	0.48295	0.48148
___ SR	0.50439	433,602.53	1.464	0.51281	0.50133	0.49903
___ TH	0.50563	82.47	0.159	0.50538	0.50497	0.50652
___ TI	0.50928	21,420.98	0.654	0.51206	0.51020	0.50559
___ TL	0.51058	43.27	0.334	0.50892	0.51050	0.51233
___ V	0.51534	7,855.99	0.667	0.51773	0.51689	0.51140
___ W	0.50008	171.03	0.774	0.50087	0.50350	0.49588
___ Y1	3634.74167	3,634.74	0.327	3648.36000	3626.36500	3629.50000
___ Y2A	268611.93783	268,611.94	0.566	267340.36045	268200.39683	270295.05622
___ Y2R	15441.27793	15,441.28	0.105	15450.54315	15422.62617	15450.66447
___ ZN	0.50220	1,202.76	0.324	0.50187	0.50396	0.50076
___ ZR	0.49833	1,429.70	1.169	0.49695	0.50472	0.49332

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 10

Date/Time: 11/10/2018 05:38

Sample Number: CCB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00085	-10.63	32.987	0.00077	0.00062	0.00116
___ AL	0.03250	12.73	13.250	0.02937	0.03741	0.03071
___ AS	0.00104	-0.02	616.796	-0.00447	-0.00046	0.00805
___ B	0.00188	3.25	26.138	0.00231	0.00198	0.00135
___ BA	-0.00014	42.59	74.679	-0.00007	-0.00026	-0.00008
___ BE	0.00016	-73.77	11.382	0.00015	0.00014	0.00017
___ CA	0.00672	25.49	64.264	0.01034	0.00789	0.00194
___ CD	0.00013	-3.23	141.591	0.00011	0.00033	-0.00005
___ CO	-0.00004	4.32	349.989	0.00009	-0.00003	-0.00017
___ CR	-0.00085	-5.43	35.875	-0.00121	-0.00066	-0.00070
___ CU	-0.00019	20.70	214.878	-0.00064	0.00012	-0.00004
___ FE	0.00796	0.86	54.492	0.00641	0.00462	0.01286
___ K	0.02521	112.25	96.934	0.02219	0.00243	0.05103
___ LI	0.00017	-1.74	2055.028	0.00016	0.00375	-0.00339
___ MG	0.00548	8.28	7.950	0.00581	0.00499	0.00563
___ MN	-0.00002	6.53	200.419	0.00000	0.00001	-0.00008
___ MO	0.00482	2.72	18.025	0.00382	0.00522	0.00541
___ NA	-0.02457	-46.51	60.846	-0.03857	-0.02631	-0.00883
___ NI	-0.00012	7.92	451.322	-0.00027	0.00049	-0.00059
___ P	-0.00182	0.61	208.728	-0.00283	0.00238	-0.00502
___ PB	-0.00154	-2.89	168.445	-0.00282	0.00144	-0.00324
___ S	0.00137	1.46	910.841	0.01215	0.00430	-0.01233
___ SB	-0.00018	0.34	1798.893	0.00013	0.00286	-0.00352
___ SE	0.00595	0.94	111.040	0.01317	0.00449	0.00019
___ SI	0.00625	3.03	68.416	0.00148	0.00974	0.00752
___ SN	0.00135	0.74	70.061	0.00209	0.00166	0.00028
___ SR	0.00005	10.08	15.158	0.00006	0.00005	0.00005
___ TH	0.00488	-1.98	177.116	-0.00494	0.00822	0.01136
___ TI	0.00001	21.10	795.977	0.00009	-0.00010	0.00004
___ TL	-0.01481	-0.44	17.257	-0.01748	-0.01458	-0.01238
___ V	-0.00039	-25.67	57.907	-0.00048	-0.00014	-0.00057
___ W	0.00145	0.31	130.964	0.00324	0.00163	-0.00053
___ Y1	3725.37500	3,725.38	0.618	3742.99000	3733.83000	3699.30500
___ Y2A	280112.08502	280,112.09	0.356	278963.45899	280607.55622	280765.23984
___ Y2R	15373.02287	15,373.02	0.689	15494.56196	15299.77567	15324.73097
___ ZN	-0.00019	4.17	122.984	-0.00044	0.00000	-0.00011
___ ZR	0.00004	3.06	1381.303	-0.00003	-0.00045	0.00060

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 11

Date/Time: 11/10/2018 05:41

Sample Number: **PBW**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00072	-17.93	37.919	0.00066	0.00048	0.00102
___ AL	0.03639	13.85	73.833	0.06157	0.03949	0.00811
___ AS	-0.00017	-0.14	3097.027	-0.00469	-0.00121	0.00540
___ B	0.00170	2.07	5.078	0.00177	0.00160	0.00171
___ BA	-0.00029	36.51	19.691	-0.00036	-0.00027	-0.00025
___ BE	0.00013	-85.33	4.540	0.00013	0.00014	0.00013
___ CA	0.00595	24.99	95.699	-0.00007	0.00667	0.01126
___ CD	0.00033	-2.37	40.440	0.00030	0.00021	0.00047
___ CO	0.00001	4.51	1719.194	0.00031	0.00009	-0.00038
___ CR	-0.00061	-3.15	108.316	-0.00068	0.00008	-0.00124
___ CU	-0.00088	15.92	53.744	-0.00143	-0.00060	-0.00062
___ FE	0.00576	0.13	61.737	0.00303	0.00447	0.00979
___ K	0.01167	109.12	451.985	0.00344	0.06805	-0.03648
___ LI	0.00276	13.98	33.978	0.00365	0.00284	0.00178
___ MG	0.00359	5.06	29.802	0.00311	0.00284	0.00482
___ MN	0.00069	45.45	8.770	0.00067	0.00064	0.00076
___ MO	0.00038	0.46	170.963	0.00113	0.00011	-0.00009
___ NA	-0.02446	-46.99	58.622	-0.00949	-0.02582	-0.03807
___ NI	0.00250	12.93	4.962	0.00247	0.00264	0.00240
___ P	-0.00047	0.70	1408.030	0.00696	-0.00243	-0.00595
___ PB	-0.00005	-2.23	1572.732	0.00075	-0.00023	-0.00066
___ S	0.00518	1.69	126.094	-0.00130	0.01175	0.00508
___ SB	-0.00369	-0.20	37.136	-0.00211	-0.00449	-0.00448
___ SE	-0.00180	0.31	235.291	-0.00240	0.00270	-0.00569
___ SI	0.01316	4.26	104.515	-0.00204	0.02475	0.01676
___ SN	0.00159	0.83	81.492	0.00159	0.00288	0.00029
___ SR	0.00004	-4.73	32.126	0.00003	0.00003	0.00005
___ TH	0.01865	0.19	54.327	0.02754	0.00762	0.02079
___ TI	-0.00012	15.37	105.226	-0.00024	-0.00015	0.00002
___ TL	-0.00746	0.22	101.306	0.00115	-0.01054	-0.01299
___ V	0.00003	-17.57	1500.611	0.00050	-0.00009	-0.00033
___ W	0.00321	0.93	106.773	0.00716	0.00127	0.00119
___ Y1	3780.10167	3,780.10	0.306	3792.16000	3779.00500	3769.14000
___ Y2A	284775.78673	284,775.79	1.364	289053.96402	283806.38228	281467.01389
___ Y2R	15623.85316	15,623.85	0.905	15775.11998	15494.88012	15601.55939
___ ZN	0.00076	6.60	55.418	0.00101	0.00101	0.00028
___ ZR	-0.00123	1.94	307.760	-0.00557	0.00061	0.00128

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 12

Date/Time: 11/10/2018 05:44

Sample Number: **LCSW**

Class: ****

Batch: 183061063502

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.04842	862.90	0.521	0.04837	0.04870	0.04820
___ AL	2.03161	401.54	1.797	1.99077	2.04294	2.06111
___ AS	0.14653	15.30	1.364	0.14493	0.14877	0.14589
___ B	1.93193	11,593.80	0.929	1.91231	1.94752	1.93596
___ BA	2.02574	85,761.97	0.985	2.00401	2.04324	2.02998
___ BE	0.04980	21,680.90	1.059	0.04928	0.05034	0.04977
___ CA	4.12277	4,711.46	1.324	4.06026	4.14692	4.16114
___ CD	0.05203	243.04	0.679	0.05241	0.05196	0.05172
___ CO	0.52752	1,564.41	0.189	0.52867	0.52700	0.52689
___ CR	0.20272	1,924.55	0.691	0.20111	0.20361	0.20345
___ CU	0.25839	3,681.56	0.668	0.25683	0.25809	0.26024
___ FE	1.02576	343.86	1.578	1.00715	1.03657	1.03355
___ K	10.32326	3,823.46	1.001	10.20407	10.38819	10.37753
___ LI	1.04613	6,331.62	1.463	1.02847	1.05446	1.05546
___ MG	2.02761	3,579.29	0.724	2.01070	2.03712	2.03503
___ MN	0.52447	27,614.73	1.003	0.51949	0.52997	0.52394
___ MO	2.03801	1,050.26	0.250	2.04171	2.03220	2.04013
___ NA	10.16008	12,945.11	0.284	10.13302	10.15682	10.19041
___ NI	0.53651	997.80	0.322	0.53832	0.53488	0.53633
___ P	0.99913	62.39	1.396	0.98969	0.99254	1.01515
___ PB	0.15641	70.33	1.723	0.15402	0.15933	0.15588
___ S	1.04054	59.16	1.041	1.03544	1.03320	1.05299
___ SB	0.53162	78.20	0.268	0.53249	0.53240	0.52998
___ SE	0.15383	13.29	5.931	0.14836	0.14877	0.16436
___ SI	1.06667	191.32	0.422	1.06342	1.07180	1.06479
___ SN	3.96406	1,197.56	0.264	3.97597	3.95988	3.95631
___ SR	1.04532	919,443.44	1.097	1.03397	1.05689	1.04510
___ TH	0.52595	82.01	1.478	0.51791	0.53342	0.52652
___ TI	1.02728	44,282.98	1.127	1.01539	1.03852	1.02793
___ TL	0.16836	13.27	2.044	0.17046	0.17023	0.16439
___ V	0.52732	7,935.03	0.581	0.52436	0.52712	0.53048
___ W	0.19165	68.62	0.465	0.19260	0.19084	0.19151
___ Y1	3739.25167	3,739.25	0.267	3738.86500	3729.45500	3749.43500
___ Y2A	275799.68464	275,799.68	1.172	279124.50033	272667.82407	275606.72950
___ Y2R	15549.23878	15,549.24	0.549	15643.05000	15528.60995	15476.05641
___ ZN	0.51531	1,265.05	0.092	0.51580	0.51486	0.51528
___ ZR	1.01181	2,836.79	1.010	1.00003	1.01842	1.01696

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 13

Date/Time: 11/10/2018 05:46

Sample Number: 9876338

Class: U***

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00078	-9.87	75.084	0.00098	0.00012	0.00124
___ AL	0.03718	13.73	28.294	0.04770	0.03718	0.02666
___ AS	0.00442	0.32	60.532	0.00448	0.00172	0.00707
___ B	0.47011	2,685.83	0.610	0.46765	0.47326	0.46943
___ BA	1.03638	41,595.39	0.734	1.02906	1.03583	1.04424
___ BE	0.00007	-103.96	10.970	0.00008	0.00007	0.00006
___ CA	80.80043	90,800.77	0.473	80.55179	81.24048	80.60902
___ CD	0.00039	0.62	61.148	0.00012	0.00047	0.00057
___ CO	0.00264	10.57	12.452	0.00287	0.00278	0.00226
___ CR	0.00078	9.58	37.392	0.00072	0.00109	0.00052
___ CU	-0.00185	39.91	36.116	-0.00113	-0.00245	-0.00196
___ FE	7.25850	2,429.82	0.902	7.27661	7.31304	7.18585
___ K	23.23736	8,443.65	1.378	23.23091	23.56087	22.92031
___ LI	0.06101	326.81	3.861	0.05974	0.06373	0.05956
___ MG	64.53647	109,755.61	0.634	64.24420	65.00410	64.36111
___ MN	2.31167	115,300.93	0.983	2.28562	2.32195	2.32743
___ MO	0.03315	16.46	9.320	0.03030	0.03271	0.03643
___ NA	88.74582	112,763.70	0.493	88.61541	89.23328	88.38876
___ NI	0.00567	16.73	7.709	0.00541	0.00542	0.00617
___ P	0.62775	37.48	1.802	0.62619	0.63975	0.61729
___ PB	0.00188	-1.82	102.643	0.00411	0.00070	0.00083
___ S	14.91135	791.36	0.047	14.91605	14.90332	14.91468
___ SB	0.00330	0.77	143.313	-0.00162	0.00782	0.00370
___ SE	-0.00397	0.23	85.821	-0.00621	-0.00567	-0.00005
___ SI	16.05113	2,752.33	0.525	16.07394	16.12157	15.95789
___ SN	0.00752	2.48	19.314	0.00630	0.00913	0.00714
___ SR	0.26731	223,168.84	1.465	0.26280	0.26942	0.26973
___ TH	-0.00051	-1.34	1954.702	-0.01134	0.00175	0.00807
___ TI	0.00415	188.55	1.401	0.00410	0.00413	0.00421
___ TL	-0.00495	0.67	165.705	-0.01113	-0.00808	0.00436
___ V	-0.00006	-23.51	108.662	-0.00005	-0.00012	0.00000
___ W	0.00056	0.02	241.663	0.00204	-0.00062	0.00027
___ Y1	3550.79333	3,550.79	0.616	3571.97000	3528.26500	3552.14500
___ Y2A	261319.17347	261,319.17	1.178	264783.89550	260275.51359	258898.11133
___ Y2R	15490.38036	15,490.38	0.708	15584.79108	15370.17500	15516.17500
___ ZN	0.00540	18.28	4.409	0.00559	0.00547	0.00513
___ ZR	0.00266	9.30	114.752	0.00618	0.00092	0.00088

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 14

Date/Time: 11/10/2018 05:49

Sample Number: **9876338**

Class: UP**

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.01579	236.67	0.664	0.01578	0.01568	0.01589
___ AL	1.04213	204.92	3.271	1.00757	1.07572	1.04310
___ AS	0.52735	51.20	2.132	0.53737	0.51519	0.52948
___ B	0.65066	3,708.26	0.983	0.65744	0.64473	0.64981
___ BA	1.04544	41,985.80	0.531	1.05074	1.04592	1.03967
___ BE	0.02011	8,219.97	0.700	0.02027	0.02002	0.02003
___ CA	79.42077	88,530.35	0.264	79.63777	79.40440	79.22012
___ CD	0.05014	225.31	0.197	0.05007	0.05025	0.05011
___ CO	0.10126	287.78	0.516	0.10170	0.10140	0.10068
___ CR	0.19695	1,772.77	1.112	0.19873	0.19451	0.19761
___ CU	0.51596	6,914.11	0.699	0.51928	0.51213	0.51648
___ FE	7.47648	2,482.00	0.790	7.41102	7.49263	7.52579
___ K	24.36254	8,774.78	0.461	24.29240	24.49203	24.30320
___ LI	1.06704	6,345.34	0.544	1.06036	1.07076	1.07000
___ MG	63.37726	106,964.91	0.193	63.51742	63.29455	63.31981
___ MN	2.28317	113,954.80	0.593	2.29882	2.27571	2.27500
___ MO	0.20995	103.28	1.012	0.20761	0.21177	0.21046
___ NA	87.67080	110,479.52	0.184	87.79395	87.73040	87.48805
___ NI	0.15303	275.75	0.568	0.15230	0.15399	0.15279
___ P	1.64499	97.41	0.531	1.63847	1.64158	1.65492
___ PB	0.49657	216.49	0.661	0.49278	0.49864	0.49827
___ S	15.33322	816.03	0.251	15.28943	15.36154	15.34870
___ SB	0.40753	60.67	2.603	0.41697	0.40957	0.39605
___ SE	0.79272	63.03	1.747	0.78727	0.78242	0.80847
___ SI	16.61193	2,825.90	0.724	16.48560	16.72502	16.62517
___ SN	0.57723	166.40	0.397	0.57469	0.57912	0.57788
___ SR	0.27591	230,508.24	0.310	0.27626	0.27494	0.27654
___ TH	0.51291	80.30	2.689	0.50928	0.50129	0.52815
___ TI	0.10835	4,446.06	1.157	0.10945	0.10699	0.10861
___ TL	0.97804	84.11	1.142	0.97372	0.96967	0.99072
___ V	0.10419	1,527.31	0.262	0.10407	0.10399	0.10450
___ W	0.20541	68.43	1.457	0.20855	0.20259	0.20510
___ Y1	3562.13667	3,562.14	0.167	3568.98000	3558.96500	3558.46500
___ Y2A	261474.45880	261,474.46	0.327	260524.85089	262183.31677	261715.20875
___ Y2R	15362.37203	15,362.37	0.300	15381.78237	15395.63373	15309.70000
___ ZN	0.12581	299.17	0.273	0.12592	0.12609	0.12543
___ ZR	1.01317	2,804.31	1.068	1.00499	1.02544	1.00908

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 15

Date/Time: 11/10/2018 05:52

Sample Number: 9876341

Class: D***

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00103	-8.82	67.193	0.00031	0.00169	0.00108
___ AL	0.02524	11.51	120.088	0.02755	0.05432	-0.00616
___ AS	-0.00042	-0.15	610.790	0.00146	-0.00337	0.00064
___ B	0.47649	2,736.49	1.496	0.47861	0.46854	0.48231
___ BA	1.04598	42,202.55	0.971	1.05420	1.03462	1.04913
___ BE	0.00006	-110.41	5.681	0.00005	0.00006	0.00006
___ CA	83.12978	92,771.74	0.420	83.22421	82.74300	83.42214
___ CD	0.00035	0.49	70.246	0.00012	0.00060	0.00032
___ CO	0.00257	10.39	18.331	0.00286	0.00282	0.00202
___ CR	0.00042	6.39	68.343	0.00050	0.00065	0.00010
___ CU	-0.00185	45.12	14.020	-0.00160	-0.00185	-0.00212
___ FE	7.36042	2,447.54	0.069	7.36269	7.35461	7.36396
___ K	23.75259	8,571.65	0.375	23.85075	23.72977	23.67725
___ LI	0.05861	309.17	2.370	0.05899	0.05707	0.05977
___ MG	66.16891	111,685.91	0.372	66.23831	65.89552	66.37288
___ MN	2.34556	117,614.44	0.551	2.35136	2.33075	2.35458
___ MO	0.00591	3.15	2.775	0.00609	0.00576	0.00588
___ NA	90.42025	114,129.36	0.384	90.52859	90.03191	90.70026
___ NI	0.00556	16.59	11.754	0.00507	0.00630	0.00530
___ P	0.64483	38.67	1.775	0.63364	0.64434	0.65651
___ PB	0.00381	-0.99	112.978	0.00858	0.00024	0.00259
___ S	15.19724	810.49	0.278	15.16305	15.18429	15.24439
___ SB	0.00161	0.59	67.491	0.00175	0.00046	0.00262
___ SE	0.00217	0.72	524.533	-0.00822	0.01434	0.00039
___ SI	16.58480	2,824.84	0.243	16.61922	16.59468	16.54050
___ SN	0.00414	1.52	26.413	0.00360	0.00540	0.00342
___ SR	0.26772	224,709.47	0.741	0.26967	0.26570	0.26779
___ TH	0.01033	0.38	113.645	-0.00305	0.01515	0.01891
___ TI	0.00405	185.40	2.346	0.00404	0.00396	0.00415
___ TL	0.00346	1.39	346.991	0.01312	-0.00999	0.00726
___ V	-0.00011	-18.58	506.989	-0.00072	0.00043	-0.00005
___ W	-0.00037	-0.29	517.347	-0.00215	0.00165	-0.00061
___ Y1	3568.30667	3,568.31	0.097	3564.51000	3569.16000	3571.25000
___ Y2A	262695.93618	262,695.94	0.541	261906.89198	264336.39828	261844.51827
___ Y2R	15387.36336	15,387.36	0.486	15461.64034	15388.27345	15312.17629
___ ZN	0.00546	18.52	3.469	0.00565	0.00527	0.00544
___ ZR	0.00143	7.70	18.368	0.00172	0.00135	0.00122

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 16

Date/Time: 11/10/2018 05:55

Sample Number: 9876339

Class: R***

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.04912	837.09	2.984	0.05013	0.04980	0.04744
___ AL	2.06028	407.03	1.508	2.08514	2.07027	2.02545
___ AS	0.16268	16.15	3.579	0.16810	0.15653	0.16341
___ B	2.51350	14,320.62	0.796	2.52673	2.52327	2.49050
___ BA	3.21826	129,136.32	1.538	3.27038	3.21247	3.17192
___ BE	0.05217	21,542.13	0.938	0.05259	0.05230	0.05163
___ CA	87.31773	98,315.70	0.352	87.32534	87.62147	87.00637
___ CD	0.05175	232.51	0.240	0.05167	0.05170	0.05189
___ CO	0.51176	1,443.15	0.405	0.51141	0.50989	0.51399
___ CR	0.20564	1,850.73	0.965	0.20786	0.20504	0.20403
___ CU	0.26495	3,616.53	1.218	0.26854	0.26401	0.26230
___ FE	8.29270	2,782.89	0.705	8.22922	8.34444	8.30443
___ K	33.43026	12,135.43	0.450	33.39550	33.59505	33.30021
___ LI	1.09326	6,570.67	0.212	1.09150	1.09589	1.09241
___ MG	68.25508	116,162.97	0.251	68.21810	68.44213	68.10501
___ MN	2.88183	143,818.56	0.956	2.90718	2.88576	2.85253
___ MO	2.12981	1,043.97	0.314	2.12622	2.13752	2.12569
___ NA	99.85920	127,237.58	0.337	100.01990	100.08555	99.47214
___ NI	0.52266	923.81	0.423	0.52369	0.52012	0.52416
___ P	1.71968	101.64	0.748	1.70555	1.72283	1.73068
___ PB	0.15376	65.16	2.876	0.15870	0.15015	0.15244
___ S	16.36683	869.65	0.208	16.32777	16.38314	16.38959
___ SB	0.54380	75.96	1.150	0.55091	0.53917	0.54132
___ SE	0.16014	13.26	10.830	0.14301	0.17768	0.15973
___ SI	17.59766	3,031.61	0.712	17.47039	17.60187	17.72072
___ SN	4.00714	1,151.48	0.096	4.00648	4.00365	4.01129
___ SR	1.29255	1,078,236.29	1.290	1.30816	1.29449	1.27499
___ TH	0.51925	82.41	3.529	0.49856	0.52579	0.53341
___ TI	1.06565	43,549.52	0.973	1.07330	1.06980	1.05385
___ TL	0.16360	12.33	5.584	0.16618	0.17117	0.15345
___ V	0.55736	7,956.20	0.812	0.56189	0.55737	0.55283
___ W	0.19905	67.77	0.786	0.19728	0.20027	0.19959
___ Y1	3556.72000	3,556.72	0.256	3564.34000	3546.64500	3559.17500
___ Y2A	261461.41624	261,461.42	0.903	258926.57807	261862.32604	263595.34460
___ Y2R	15532.83254	15,532.83	0.451	15613.18445	15500.12465	15485.18851
___ ZN	0.52771	1,233.17	0.116	0.52750	0.52723	0.52840
___ ZR	1.05434	2,948.06	0.438	1.04910	1.05610	1.05782

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 17

Date/Time: 11/10/2018 05:57

Sample Number: **9876340**

Class: M***

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.04734	806.98	1.704	0.04654	0.04732	0.04816
___ AL	2.01584	398.00	2.741	1.99454	2.07857	1.97441
___ AS	0.15800	15.89	3.289	0.16357	0.15329	0.15712
___ B	2.45206	14,010.47	1.806	2.40688	2.45394	2.49536
___ BA	3.12213	125,640.22	2.206	3.05191	3.12493	3.18955
___ BE	0.05058	20,941.53	1.471	0.04981	0.05063	0.05130
___ CA	84.91683	95,550.53	1.182	84.43302	86.07080	84.24667
___ CD	0.04998	227.40	0.859	0.05026	0.04948	0.05019
___ CO	0.49367	1,410.70	0.730	0.49508	0.48958	0.49636
___ CR	0.20055	1,810.17	1.799	0.19680	0.20085	0.20399
___ CU	0.25836	3,538.87	1.945	0.25360	0.25786	0.26361
___ FE	8.04778	2,698.34	1.422	7.97677	8.17977	7.98681
___ K	32.41253	11,757.99	1.273	32.20198	32.88792	32.14770
___ LI	1.07207	6,437.36	1.648	1.05853	1.09205	1.06564
___ MG	66.56697	113,288.73	1.129	66.29948	67.41555	65.98588
___ MN	2.82070	141,175.73	1.675	2.77434	2.81898	2.86878
___ MO	2.08529	1,035.67	0.653	2.08512	2.07177	2.09899
___ NA	97.58075	124,216.34	1.168	96.83338	98.89220	97.01667
___ NI	0.50437	903.52	0.514	0.50536	0.50143	0.50633
___ P	1.66493	99.73	0.607	1.67376	1.65391	1.66712
___ PB	0.14654	62.82	2.487	0.14424	0.15074	0.14464
___ S	15.69814	845.21	0.328	15.68182	15.65680	15.75580
___ SB	0.53293	75.43	0.908	0.53851	0.53006	0.53020
___ SE	0.15329	12.88	3.813	0.15207	0.14815	0.15965
___ SI	17.28670	2,975.20	1.575	17.09457	17.59837	17.16714
___ SN	3.86186	1,124.41	0.720	3.87523	3.82989	3.88046
___ SR	1.25393	1,049,110.96	1.361	1.23529	1.25773	1.26877
___ TH	0.51218	81.14	3.459	0.51721	0.52684	0.49250
___ TI	1.03499	42,419.71	1.631	1.01799	1.03523	1.05175
___ TL	0.16277	12.49	2.093	0.16318	0.16595	0.15918
___ V	0.54273	7,767.38	1.347	0.53583	0.54196	0.55038
___ W	0.18664	64.44	1.123	0.18689	0.18444	0.18860
___ Y1	3603.73833	3,603.74	0.206	3597.42000	3611.91000	3601.88500
___ Y2A	262253.23833	262,253.24	1.693	266675.26455	262288.02187	257796.42857
___ Y2R	15519.48807	15,519.49	1.102	15586.08396	15325.17465	15647.20559
___ ZN	0.51134	1,210.82	0.611	0.51366	0.50779	0.51259
___ ZR	1.03339	2,887.28	1.690	1.01993	1.05312	1.02711

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 18

Date/Time: 11/10/2018 06:00

Sample Number: 9876338

Class: UL**

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 5.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00081	-12.93	49.036	0.00048	0.00070	0.00125
___ AL	0.01881	10.60	115.076	-0.00511	0.02448	0.03705
___ AS	0.00296	0.18	116.298	0.00349	-0.00072	0.00610
___ B	0.09779	583.36	2.967	0.09952	0.09444	0.09941
___ BA	0.19627	8,359.70	0.495	0.19533	0.19620	0.19727
___ BE	0.00009	-102.36	17.429	0.00009	0.00010	0.00007
___ CA	16.09437	18,401.62	0.903	16.25582	15.97387	16.05341
___ CD	0.00045	-1.23	28.719	0.00034	0.00059	0.00041
___ CO	0.00043	5.49	102.460	-0.00005	0.00080	0.00052
___ CR	-0.00040	-1.08	138.023	-0.00089	0.00021	-0.00053
___ CU	-0.00038	28.38	231.539	0.00029	-0.00137	-0.00005
___ FE	1.42562	480.86	0.997	1.43870	1.41048	1.42769
___ K	4.56299	1,756.83	1.671	4.57437	4.63291	4.48167
___ LI	0.01304	68.85	16.500	0.01234	0.01545	0.01132
___ MG	12.75757	22,506.23	1.134	12.91774	12.63635	12.71862
___ MN	0.46127	24,308.15	1.002	0.46046	0.45710	0.46624
___ MO	0.02990	15.64	8.500	0.02704	0.03078	0.03188
___ NA	17.48537	22,396.54	0.766	17.63696	17.38301	17.43614
___ NI	0.00164	10.99	35.770	0.00232	0.00135	0.00125
___ P	0.12469	8.41	8.183	0.13176	0.12932	0.11299
___ PB	0.00339	-0.74	43.769	0.00507	0.00226	0.00283
___ S	2.85798	160.64	0.678	2.84200	2.85240	2.87952
___ SB	0.00291	0.76	119.089	0.00231	0.00663	-0.00022
___ SE	0.00475	0.86	274.018	-0.00336	-0.00216	0.01976
___ SI	3.15132	546.71	0.390	3.15247	3.16298	3.13851
___ SN	0.00339	1.36	45.161	0.00182	0.00487	0.00347
___ SR	0.05219	45,997.46	1.247	0.05210	0.05159	0.05288
___ TH	0.01027	-0.84	144.248	-0.00631	0.02220	0.01490
___ TI	0.00232	120.16	5.739	0.00220	0.00246	0.00229
___ TL	-0.00260	0.70	67.527	-0.00243	-0.00443	-0.00093
___ V	0.00026	-19.72	136.706	-0.00005	0.00018	0.00065
___ W	0.00223	0.59	139.186	0.00368	0.00433	-0.00133
___ Y1	3734.76167	3,734.76	0.894	3749.32500	3758.39500	3696.56500
___ Y2A	276027.63999	276,027.64	1.164	276839.20304	278756.11772	272487.59921
___ Y2R	15624.18222	15,624.18	0.692	15518.64517	15734.74331	15619.15818
___ ZN	0.00098	7.31	15.527	0.00085	0.00114	0.00095
___ ZR	0.00068	5.79	169.235	0.00086	0.00174	-0.00055

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 19

Date/Time: 11/10/2018 06:03

Sample Number: 9874399

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00084	-12.02	63.870	0.00073	0.00142	0.00036
___ AL	0.02529	11.82	16.083	0.02997	0.02258	0.02333
___ AS	0.00718	0.60	96.568	0.00463	0.01502	0.00188
___ B	0.05625	319.03	1.726	0.05547	0.05594	0.05734
___ BA	0.07029	2,984.09	0.821	0.06973	0.07088	0.07027
___ BE	0.00006	-113.42	23.421	0.00005	0.00007	0.00006
___ CA	71.48693	81,605.80	0.617	71.08847	71.96109	71.41124
___ CD	0.00038	-1.84	61.301	0.00014	0.00060	0.00039
___ CO	0.00153	7.91	55.939	0.00124	0.00086	0.00250
___ CR	0.04963	467.28	2.029	0.04871	0.04948	0.05071
___ CU	0.00884	185.02	2.448	0.00901	0.00892	0.00860
___ FE	0.67572	228.38	2.680	0.67997	0.69133	0.65586
___ K	2.67033	1,078.00	1.753	2.69742	2.69730	2.61627
___ LI	0.02451	112.62	11.091	0.02309	0.02765	0.02280
___ MG	10.02333	17,814.35	0.334	10.01371	10.06059	9.99569
___ MN	0.05431	2,830.52	2.013	0.05335	0.05409	0.05550
___ MO	0.01005	5.40	12.425	0.01046	0.00865	0.01104
___ NA	28.48450	36,712.52	0.578	28.35195	28.66885	28.43269
___ NI	0.25892	481.66	0.683	0.25963	0.26022	0.25691
___ P	0.00161	0.82	437.806	0.00059	0.00913	-0.00488
___ PB	0.00110	-1.72	97.263	-0.00001	0.00120	0.00213
___ S	24.48175	1,357.60	0.520	24.33487	24.56082	24.54957
___ SB	0.00045	0.54	1245.165	0.00065	-0.00521	0.00590
___ SE	0.00871	1.17	95.655	0.01358	-0.00091	0.01345
___ SI	14.86027	2,585.47	1.181	14.78686	15.06048	14.73347
___ SN	0.00245	1.07	56.385	0.00405	0.00157	0.00175
___ SR	0.44527	386,726.63	0.632	0.44236	0.44547	0.44798
___ TH	0.01058	-0.97	83.528	0.00521	0.02077	0.00574
___ TI	0.00371	177.99	3.926	0.00365	0.00388	0.00361
___ TL	-0.00513	0.42	232.576	-0.00468	-0.01729	0.00657
___ V	0.00300	27.42	8.453	0.00323	0.00304	0.00273
___ W	-0.00065	-0.33	240.682	-0.00215	-0.00075	0.00096
___ Y1	3712.66667	3,712.67	0.679	3737.67500	3687.27500	3713.05000
___ Y2A	272325.39683	272,325.40	0.945	275296.13095	270861.19378	270818.86574
___ Y2R	15717.14501	15,717.15	0.553	15805.11988	15631.34112	15714.97404
___ ZN	0.02325	64.09	1.412	0.02321	0.02294	0.02360
___ ZR	0.00239	10.55	103.537	0.00335	-0.00042	0.00423

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 20

Date/Time: 11/10/2018 06:06

Sample Number: **9874400**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00121	-12.58	42.332	0.00174	0.00072	0.00117
___ AL	0.01241	9.67	261.662	-0.02194	0.01658	0.04258
___ AS	0.00253	0.13	67.097	0.00081	0.00259	0.00421
___ B	0.05858	331.83	0.594	0.05849	0.05828	0.05896
___ BA	0.07172	3,049.41	1.163	0.07078	0.07239	0.07197
___ BE	0.00005	-115.78	26.378	0.00007	0.00004	0.00005
___ CA	75.67038	85,893.36	0.460	75.95839	75.76937	75.28337
___ CD	0.00025	-2.56	87.046	0.00028	0.00002	0.00044
___ CO	0.00168	8.26	19.206	0.00133	0.00196	0.00175
___ CR	0.02258	214.48	1.462	0.02226	0.02255	0.02292
___ CU	0.00552	150.37	5.253	0.00527	0.00584	0.00545
___ FE	0.34119	113.83	2.402	0.35060	0.33731	0.33565
___ K	2.74682	1,100.17	0.399	2.74196	2.75935	2.73913
___ LI	0.02602	119.29	8.022	0.02579	0.02821	0.02406
___ MG	10.61206	18,757.89	0.373	10.64386	10.62460	10.56771
___ MN	0.04257	2,224.85	1.205	0.04199	0.04296	0.04277
___ MO	0.00761	4.12	10.821	0.00687	0.00745	0.00849
___ NA	29.66924	38,044.03	0.374	29.74405	29.72196	29.54172
___ NI	0.26445	489.82	0.409	0.26320	0.26518	0.26495
___ P	0.00666	1.12	119.341	0.00776	-0.00178	0.01399
___ PB	0.00110	-1.69	93.541	0.00040	0.00062	0.00228
___ S	25.85546	1,428.09	0.149	25.81696	25.89387	25.85554
___ SB	0.00038	0.47	1349.399	0.00306	-0.00552	0.00360
___ SE	0.00462	0.83	120.562	0.00783	-0.00181	0.00785
___ SI	15.42108	2,669.22	0.186	15.45391	15.40096	15.40836
___ SN	-0.00024	0.26	592.131	0.00124	-0.00162	-0.00034
___ SR	0.46595	405,457.47	1.242	0.45927	0.46943	0.46915
___ TH	0.03367	2.64	8.538	0.03676	0.03107	0.03318
___ TI	0.00381	182.61	3.628	0.00390	0.00365	0.00388
___ TL	-0.00600	0.34	134.413	0.00225	-0.01386	-0.00639
___ V	0.00220	16.37	12.925	0.00189	0.00244	0.00229
___ W	0.00046	0.05	974.026	0.00171	-0.00451	0.00418
___ Y1	3698.09333	3,698.09	1.129	3729.96500	3713.49500	3650.82000
___ Y2A	272862.32363	272,862.32	0.683	275013.47553	271852.01720	271721.47817
___ Y2R	15636.19556	15,636.20	0.232	15610.58941	15677.61581	15620.38147
___ ZN	0.02334	64.05	0.641	0.02321	0.02350	0.02331
___ ZR	-0.00130	4.33	65.822	-0.00199	-0.00156	-0.00034

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 21

Date/Time: 11/10/2018 06:08

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.48905	9,022.16	1.291	0.48811	0.49578	0.48326
___ AL	24.75166	4,573.50	0.442	24.65874	24.72408	24.87215
___ AS	0.48813	49.32	1.058	0.48344	0.49366	0.48727
___ B	0.49864	3,011.38	0.705	0.49996	0.50130	0.49465
___ BA	0.49045	20,555.50	0.957	0.48915	0.49565	0.48654
___ BE	0.48923	211,732.56	1.041	0.48961	0.49412	0.48395
___ CA	24.95373	28,369.56	0.173	24.91168	24.95138	24.99814
___ CD	0.49710	2,335.25	0.261	0.49798	0.49561	0.49771
___ CO	0.49134	1,436.58	0.468	0.49335	0.48883	0.49182
___ CR	0.48694	4,564.99	0.593	0.49028	0.48530	0.48524
___ CU	0.51021	7,086.46	0.368	0.51098	0.51157	0.50807
___ FE	24.41769	8,164.77	0.256	24.34560	24.45426	24.45320
___ K	24.45211	8,918.33	0.442	24.36787	24.41447	24.57398
___ LI	0.49580	2,989.98	0.728	0.49164	0.49809	0.49767
___ MG	24.82997	43,337.74	0.334	24.73423	24.88245	24.87323
___ MN	0.50107	26,073.57	0.908	0.50209	0.50502	0.49609
___ MO	0.49739	253.74	0.202	0.49629	0.49825	0.49763
___ NA	24.50203	31,257.01	0.260	24.42865	24.53566	24.54179
___ NI	0.50048	919.76	0.090	0.50100	0.50026	0.50019
___ P	0.50794	31.73	0.412	0.50556	0.50946	0.50880
___ PB	0.49911	226.98	0.106	0.49918	0.49854	0.49959
___ S	24.71676	1,364.82	0.089	24.69994	24.70873	24.74160
___ SB	0.48023	74.13	0.572	0.48121	0.47713	0.48235
___ SE	0.51127	42.81	2.618	0.52671	0.50400	0.50309
___ SI	25.34282	4,365.72	0.286	25.28065	25.32533	25.42247
___ SN	0.48052	144.01	0.365	0.47919	0.47986	0.48250
___ SR	0.49172	428,914.84	1.186	0.49063	0.49802	0.48651
___ TH	0.49266	80.95	2.128	0.49863	0.48056	0.49880
___ TI	0.50095	21,379.58	1.014	0.50072	0.50615	0.49599
___ TL	0.51973	44.84	2.094	0.51702	0.51046	0.53172
___ V	0.51695	7,995.17	0.332	0.51836	0.51745	0.51504
___ W	0.49119	170.99	0.351	0.49316	0.48995	0.49047
___ Y1	3698.80833	3,698.81	0.269	3697.51500	3709.33500	3689.57500
___ Y2A	272558.54637	272,558.55	1.040	273802.33135	269313.78396	274559.52381
___ Y2R	15557.44957	15,557.45	0.492	15641.77316	15538.24440	15492.33114
___ ZN	0.50317	1,226.21	0.320	0.50344	0.50144	0.50463
___ ZR	0.50014	1,443.16	0.996	0.49494	0.50060	0.50487

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 22

Date/Time: 11/10/2018 06:11

Sample Number: CCB

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00054	-18.27	109.956	0.00042	0.00119	0.00002
___ AL	0.02566	11.80	56.521	0.03635	0.00915	0.03149
___ AS	0.00612	0.51	56.317	0.00620	0.00952	0.00263
___ B	0.00422	17.60	20.439	0.00510	0.00420	0.00337
___ BA	-0.00009	44.60	304.289	-0.00017	-0.00030	0.00021
___ BE	0.00011	-94.20	16.973	0.00012	0.00012	0.00009
___ CA	0.00397	22.80	45.942	0.00187	0.00520	0.00483
___ CD	0.00033	-2.40	23.295	0.00024	0.00038	0.00036
___ CO	0.00000	4.55	3422.754	0.00017	0.00007	-0.00024
___ CR	-0.00088	-5.67	51.050	-0.00077	-0.00049	-0.00137
___ CU	-0.00059	17.13	36.077	-0.00074	-0.00069	-0.00035
___ FE	0.01158	2.11	13.968	0.01344	0.01078	0.01052
___ K	-0.00670	102.82	500.492	-0.04135	0.02555	-0.00428
___ LI	-0.00053	-6.07	137.732	-0.00012	-0.00010	-0.00138
___ MG	0.00320	4.37	39.833	0.00397	0.00390	0.00173
___ MN	0.00003	9.45	244.977	-0.00006	0.00007	0.00008
___ MO	0.00597	3.42	12.127	0.00598	0.00525	0.00669
___ NA	-0.01745	-38.18	29.129	-0.02248	-0.01231	-0.01758
___ NI	0.00058	9.47	153.798	0.00161	0.00004	0.00009
___ P	-0.00256	0.58	193.663	0.00270	-0.00715	-0.00322
___ PB	-0.00135	-2.89	394.416	0.00441	-0.00607	-0.00238
___ S	0.00916	1.94	42.722	0.00758	0.01361	0.00628
___ SB	-0.00119	0.18	452.918	-0.00046	-0.00693	0.00381
___ SE	-0.00633	-0.07	172.419	-0.01894	-0.00025	0.00019
___ SI	0.01106	3.93	87.973	0.00469	0.02227	0.00624
___ SN	0.00034	0.45	902.077	-0.00245	-0.00012	0.00358
___ SR	0.00007	22.23	5.789	0.00007	0.00007	0.00006
___ TH	0.01131	-0.98	138.892	-0.00478	0.02660	0.01210
___ TI	-0.00004	18.80	32.603	-0.00004	-0.00003	-0.00005
___ TL	-0.00930	0.05	101.119	-0.00813	-0.01924	-0.00054
___ V	-0.00003	-19.77	228.693	-0.00001	-0.00011	0.00003
___ W	0.00029	-0.10	741.918	-0.00179	0.00015	0.00250
___ Y1	3834.08333	3,834.08	0.312	3820.91000	3837.02000	3844.32000
___ Y2A	279543.71352	279,543.71	0.801	279463.04563	281823.24735	277344.84758
___ Y2R	15665.80509	15,665.81	0.177	15657.35294	15696.79155	15643.27077
___ ZN	-0.00051	3.48	13.426	-0.00046	-0.00048	-0.00059
___ ZR	0.00107	7.02	225.092	0.00008	-0.00068	0.00381

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 23

Date/Time: 11/10/2018 06:14

Sample Number: 9874401

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00051	-20.08	143.356	-0.00014	0.00129	0.00037
___ AL	0.02641	12.13	49.638	0.04153	0.01930	0.01839
___ AS	0.00412	0.30	156.401	-0.00161	0.00287	0.01109
___ B	0.05631	316.70	0.614	0.05650	0.05652	0.05591
___ BA	0.15648	6,589.81	1.089	0.15774	0.15454	0.15717
___ BE	0.00007	-110.28	4.592	0.00006	0.00007	0.00007
___ CA	49.08251	56,341.31	0.457	49.13245	48.83766	49.27742
___ CD	0.00054	-1.31	36.548	0.00043	0.00077	0.00042
___ CO	0.00018	3.93	183.221	0.00028	0.00045	-0.00019
___ CR	0.00049	7.30	117.946	0.00115	0.00005	0.00028
___ CU	0.00355	102.57	17.908	0.00323	0.00315	0.00429
___ FE	0.05609	17.33	3.428	0.05783	0.05643	0.05403
___ K	2.51539	1,024.30	0.920	2.51289	2.49359	2.53967
___ LI	0.02135	104.45	11.941	0.02126	0.02394	0.01884
___ MG	6.88914	12,297.05	0.319	6.89588	6.86460	6.90694
___ MN	0.08435	4,395.20	0.981	0.08526	0.08417	0.08363
___ MO	0.00508	2.88	28.066	0.00374	0.00658	0.00492
___ NA	25.67366	33,177.59	0.260	25.70869	25.59657	25.71572
___ NI	0.00586	18.04	1.895	0.00593	0.00591	0.00573
___ P	0.01017	1.36	119.629	0.02367	0.00676	0.00007
___ PB	0.00263	-0.98	68.883	0.00091	0.00247	0.00452
___ S	13.03072	730.35	0.244	13.06380	13.00025	13.02810
___ SB	0.00038	0.43	514.910	-0.00101	-0.00048	0.00263
___ SE	0.00438	0.81	107.735	0.00876	0.00497	-0.00061
___ SI	15.77926	2,752.63	0.905	15.85176	15.61480	15.87121
___ SN	0.00167	0.85	147.061	0.00430	0.00127	-0.00056
___ SR	0.33180	288,340.37	1.279	0.33527	0.32707	0.33307
___ TH	0.01609	-0.21	77.798	0.01521	0.02903	0.00404
___ TI	0.00361	173.82	4.043	0.00362	0.00375	0.00346
___ TL	-0.00436	0.49	292.649	0.00688	-0.01824	-0.00173
___ V	0.00427	48.38	1.262	0.00432	0.00427	0.00421
___ W	-0.00090	-0.38	152.974	-0.00222	0.00051	-0.00098
___ Y1	3749.03833	3,749.04	0.414	3765.35000	3734.45000	3747.31500
___ Y2A	272521.22226	272,521.22	0.777	270813.45262	274892.27844	271857.93572
___ Y2R	15759.38188	15,759.38	0.373	15759.43679	15818.15007	15700.55877
___ ZN	0.03151	81.58	1.162	0.03109	0.03169	0.03175
___ ZR	0.00027	5.67	540.243	0.00160	-0.00126	0.00046

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 24

Date/Time: 11/10/2018 06:17

Sample Number: **9874402**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00058	-17.67	113.967	0.00086	0.00105	-0.00017
___ AL	0.03982	14.57	35.658	0.02399	0.05144	0.04402
___ AS	0.00390	0.28	112.074	0.00871	0.00286	0.00015
___ B	0.05465	311.35	1.739	0.05462	0.05561	0.05371
___ BA	0.15018	6,420.33	0.484	0.15064	0.15055	0.14934
___ BE	0.00006	-115.60	37.457	0.00003	0.00006	0.00008
___ CA	47.94814	55,112.35	0.311	47.78986	48.08564	47.96894
___ CD	0.00027	-2.61	100.714	0.00050	0.00036	-0.00003
___ CO	-0.00015	3.01	121.636	0.00003	-0.00032	-0.00015
___ CR	0.00024	5.07	114.740	0.00023	0.00053	-0.00003
___ CU	0.00194	79.65	14.534	0.00183	0.00225	0.00172
___ FE	0.01033	1.70	11.023	0.01103	0.00901	0.01094
___ K	2.38944	979.46	1.925	2.34074	2.43214	2.39544
___ LI	0.01951	93.78	9.154	0.01881	0.02154	0.01817
___ MG	6.74908	12,062.14	0.295	6.73015	6.76985	6.74724
___ MN	0.07727	4,086.80	0.540	0.07772	0.07721	0.07689
___ MO	0.00319	1.92	16.843	0.00274	0.00305	0.00378
___ NA	25.07115	32,436.76	0.351	24.98176	25.15743	25.07426
___ NI	0.00454	15.76	14.302	0.00392	0.00449	0.00522
___ P	0.00980	1.34	51.546	0.01543	0.00568	0.00827
___ PB	0.00021	-2.11	1144.836	-0.00170	-0.00064	0.00298
___ S	12.75041	720.93	0.464	12.79146	12.68259	12.77717
___ SB	0.00000	0.38	5111.166	-0.00484	0.00241	0.00243
___ SE	-0.00209	0.28	162.788	-0.00327	-0.00473	0.00174
___ SI	15.45443	2,699.25	0.315	15.47231	15.49166	15.39931
___ SN	0.00010	0.37	927.156	-0.00096	0.00051	0.00074
___ SR	0.32035	282,522.45	0.840	0.32313	0.31777	0.32014
___ TH	0.01141	-0.97	159.411	0.02865	0.01316	-0.00759
___ TI	0.00361	176.33	2.267	0.00355	0.00370	0.00357
___ TL	-0.00972	0.00	45.568	-0.01390	-0.01017	-0.00508
___ V	0.00475	56.95	8.932	0.00516	0.00431	0.00477
___ W	-0.00031	-0.19	274.162	-0.00093	0.00067	-0.00067
___ Y1	3781.95833	3,781.96	0.307	3768.97500	3791.41500	3785.48500
___ Y2A	276563.57923	276,563.58	0.325	275590.12591	277364.74868	276735.86310
___ Y2R	15777.92411	15,777.92	0.379	15838.37453	15776.56655	15718.83123
___ ZN	0.02826	74.27	0.920	0.02849	0.02797	0.02831
___ ZR	-0.00040	3.06	229.534	0.00056	-0.00127	-0.00050

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 25

Date/Time: 11/10/2018 06:20

Sample Number: **9874403**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00084	-13.05	35.520	0.00050	0.00105	0.00098
___ AL	0.04554	15.72	19.361	0.03580	0.05298	0.04784
___ AS	0.00037	-0.09	1567.795	-0.00554	0.00592	0.00072
___ B	0.06512	371.18	1.750	0.06614	0.06532	0.06389
___ BA	0.09892	4,218.60	0.401	0.09912	0.09917	0.09846
___ BE	0.00004	-123.72	38.945	0.00005	0.00003	0.00003
___ CA	64.21567	73,759.87	0.274	64.13908	64.09101	64.41692
___ CD	0.00030	-2.42	10.241	0.00033	0.00031	0.00027
___ CO	0.00019	3.83	138.444	0.00007	0.00001	0.00048
___ CR	0.00260	27.27	5.595	0.00262	0.00273	0.00244
___ CU	0.00436	122.62	7.651	0.00472	0.00406	0.00431
___ FE	0.08340	26.73	5.159	0.08585	0.08591	0.07843
___ K	3.09759	1,240.07	0.837	3.06860	3.11859	3.10558
___ LI	0.02536	121.98	5.891	0.02383	0.02681	0.02543
___ MG	9.86038	17,618.49	0.482	9.81530	9.85590	9.90996
___ MN	0.00469	253.75	2.433	0.00479	0.00472	0.00456
___ MO	0.00364	2.13	21.246	0.00326	0.00453	0.00313
___ NA	31.91458	41,352.38	0.275	31.82382	31.92097	31.99894
___ NI	0.00406	14.55	24.734	0.00442	0.00484	0.00293
___ P	0.00754	1.19	15.355	0.00638	0.00869	0.00754
___ PB	0.00133	-1.58	137.258	-0.00033	0.00103	0.00328
___ S	33.09497	1,844.10	0.148	33.11688	33.03873	33.12930
___ SB	-0.00131	0.18	334.006	-0.00129	0.00305	-0.00568
___ SE	0.00289	0.69	170.020	0.00252	-0.00183	0.00799
___ SI	17.32196	3,029.36	0.516	17.27451	17.42501	17.26635
___ SN	0.00193	0.92	47.341	0.00152	0.00130	0.00298
___ SR	0.41442	363,226.22	0.807	0.41196	0.41822	0.41307
___ TH	0.01420	-0.51	59.746	0.01646	0.02133	0.00482
___ TI	0.00457	216.34	3.073	0.00441	0.00467	0.00463
___ TL	-0.01042	-0.07	46.116	-0.00935	-0.00624	-0.01567
___ V	0.00591	75.00	4.292	0.00619	0.00586	0.00569
___ W	-0.00026	-0.15	505.798	-0.00008	0.00095	-0.00165
___ Y1	3731.52167	3,731.52	0.517	3746.93000	3737.73000	3709.90500
___ Y2A	274837.67063	274,837.67	0.471	274171.71968	274011.26574	276330.02646
___ Y2R	15799.79861	15,799.80	0.129	15820.31094	15799.64079	15779.44411
___ ZN	0.03351	86.05	1.007	0.03315	0.03357	0.03382
___ ZR	0.00278	12.31	65.975	0.00101	0.00468	0.00266

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 26

Date/Time: 11/10/2018 06:22

Sample Number: **9874404**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00074	-14.32	61.492	0.00105	0.00022	0.00096
___ AL	0.06718	19.70	31.937	0.06940	0.04470	0.08744
___ AS	0.00289	0.17	150.469	0.00374	-0.00182	0.00674
___ B	0.06447	368.95	0.421	0.06416	0.06465	0.06460
___ BA	0.09838	4,215.84	1.836	0.09866	0.10004	0.09646
___ BE	0.00006	-116.33	8.993	0.00005	0.00005	0.00006
___ CA	64.61048	74,168.11	0.035	64.60771	64.63456	64.58917
___ CD	0.00036	-2.17	66.410	0.00016	0.00029	0.00063
___ CO	-0.00009	3.06	679.626	-0.00010	-0.00069	0.00052
___ CR	0.00248	26.23	27.035	0.00323	0.00225	0.00195
___ CU	0.00462	125.62	2.478	0.00460	0.00451	0.00474
___ FE	0.06969	22.02	10.325	0.07800	0.06540	0.06568
___ K	3.16002	1,262.21	0.905	3.13037	3.16223	3.18744
___ LI	0.02485	118.62	10.341	0.02272	0.02414	0.02770
___ MG	9.90858	17,694.33	0.323	9.94504	9.88507	9.89562
___ MN	0.00395	215.82	1.147	0.00394	0.00400	0.00391
___ MO	0.00321	1.92	45.195	0.00201	0.00279	0.00482
___ NA	31.92150	41,338.21	0.114	31.89576	31.96320	31.90553
___ NI	0.00398	14.54	13.968	0.00335	0.00440	0.00419
___ P	0.00461	1.02	139.257	0.01201	0.00087	0.00094
___ PB	0.00127	-1.61	140.045	0.00074	-0.00018	0.00326
___ S	33.32527	1,875.05	0.557	33.20851	33.53933	33.22797
___ SB	0.00178	0.66	260.098	0.00249	0.00602	-0.00317
___ SE	0.01096	1.37	24.840	0.00868	0.01024	0.01398
___ SI	17.33073	3,029.20	0.674	17.29567	17.46105	17.23546
___ SN	0.00056	0.51	532.729	0.00363	-0.00231	0.00035
___ SR	0.41357	364,203.61	0.615	0.41298	0.41636	0.41138
___ TH	0.00995	-1.20	124.210	0.01922	-0.00408	0.01472
___ TI	0.00452	215.14	2.680	0.00446	0.00443	0.00465
___ TL	-0.00605	0.32	131.593	-0.00449	-0.01466	0.00102
___ V	0.00630	81.40	8.810	0.00612	0.00693	0.00587
___ W	0.00125	0.39	110.125	0.00276	0.00089	0.00009
___ Y1	3768.01500	3,768.02	0.405	3776.41500	3750.39000	3777.24000
___ Y2A	276150.75185	276,150.75	0.974	277148.97487	273103.46256	278199.81812
___ Y2R	15790.92086	15,790.92	0.205	15822.07410	15793.27978	15757.40870
___ ZN	0.03608	93.17	0.476	0.03588	0.03613	0.03621
___ ZR	-0.00178	-1.02	120.172	-0.00400	0.00028	-0.00164

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 27

Date/Time: 11/10/2018 06:25

Sample Number: **9874405**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00055	-15.45	102.292	0.00110	0.00058	-0.00003
___ AL	0.04093	14.69	30.754	0.04250	0.02763	0.05266
___ AS	0.00278	0.16	225.348	0.00294	0.00897	-0.00357
___ B	0.04740	269.12	1.586	0.04723	0.04822	0.04674
___ BA	0.08478	3,673.92	1.076	0.08550	0.08375	0.08508
___ BE	0.00002	-132.55	116.967	0.00004	-0.00001	0.00003
___ CA	33.44521	38,502.78	0.675	33.21575	33.66730	33.45257
___ CD	0.00025	-2.75	187.912	0.00060	0.00043	-0.00028
___ CO	-0.00030	2.48	46.409	-0.00025	-0.00020	-0.00046
___ CR	0.00256	27.25	5.241	0.00267	0.00258	0.00241
___ CU	0.00244	75.85	42.157	0.00125	0.00295	0.00311
___ FE	0.02966	8.30	18.260	0.02375	0.03087	0.03438
___ K	2.08932	869.43	1.902	2.05243	2.08411	2.13141
___ LI	0.01527	74.74	3.525	0.01473	0.01527	0.01581
___ MG	5.02932	8,993.30	0.658	4.99166	5.05388	5.04243
___ MN	0.00340	188.60	1.428	0.00337	0.00345	0.00337
___ MO	0.00240	1.52	15.405	0.00282	0.00214	0.00224
___ NA	19.62135	25,373.70	0.630	19.50062	19.74762	19.61580
___ NI	0.00282	12.55	29.571	0.00190	0.00302	0.00353
___ P	0.01047	1.40	55.624	0.00721	0.00701	0.01720
___ PB	0.00015	-2.16	2502.851	-0.00429	0.00220	0.00255
___ S	10.07125	573.48	0.165	10.05291	10.08537	10.07547
___ SB	0.00243	0.77	166.573	0.00305	0.00612	-0.00189
___ SE	0.00192	0.62	90.864	0.00214	0.00008	0.00355
___ SI	16.60974	2,899.92	0.841	16.59818	16.47627	16.75478
___ SN	0.00331	1.36	26.524	0.00324	0.00421	0.00246
___ SR	0.22489	199,892.83	0.914	0.22578	0.22254	0.22634
___ TH	0.00283	-2.34	332.927	0.01114	0.00472	-0.00738
___ TI	0.00329	163.74	3.804	0.00331	0.00340	0.00315
___ TL	-0.00400	0.51	169.460	0.00362	-0.00933	-0.00627
___ V	0.00697	92.63	2.206	0.00705	0.00679	0.00706
___ W	0.00012	-0.10	2828.237	0.00410	-0.00189	-0.00184
___ Y1	3806.74167	3,806.74	0.657	3805.61000	3782.33000	3832.28500
___ Y2A	278753.00977	278,753.01	0.489	277846.56085	280320.02315	278092.44533
___ Y2R	15772.85971	15,772.86	0.767	15912.49750	15701.23229	15704.84933
___ ZN	0.01407	39.61	1.169	0.01417	0.01388	0.01416
___ ZR	0.00092	5.21	63.562	0.00054	0.00062	0.00158

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 28

Date/Time: 11/10/2018 06:28

Sample Number: **9874406**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00052	-15.50	80.808	0.00089	0.00006	0.00062
___ AL	0.03156	13.09	71.736	0.04441	0.00542	0.04486
___ AS	0.00740	0.64	36.768	0.01037	0.00503	0.00681
___ B	0.04698	267.35	3.334	0.04518	0.04805	0.04770
___ BA	0.08511	3,700.44	0.920	0.08421	0.08551	0.08561
___ BE	0.00003	-129.88	48.508	0.00001	0.00003	0.00004
___ CA	33.63141	39,259.79	0.216	33.54940	33.65772	33.68712
___ CD	0.00045	-1.80	38.013	0.00046	0.00027	0.00061
___ CO	-0.00001	3.36	3457.293	-0.00008	-0.00038	0.00043
___ CR	0.00250	26.83	4.653	0.00250	0.00239	0.00262
___ CU	0.00285	81.20	19.756	0.00236	0.00273	0.00347
___ FE	0.02717	7.56	14.705	0.03067	0.02802	0.02282
___ K	2.11101	889.72	0.624	2.10968	2.09855	2.12479
___ LI	0.01712	87.23	9.990	0.01898	0.01675	0.01562
___ MG	5.05072	9,158.32	0.081	5.05137	5.04634	5.05445
___ MN	0.00313	174.97	4.288	0.00303	0.00328	0.00309
___ MO	0.00172	1.17	12.414	0.00197	0.00158	0.00162
___ NA	19.66901	25,792.49	0.044	19.67799	19.66841	19.66064
___ NI	0.00415	15.10	15.710	0.00416	0.00349	0.00480
___ P	0.01149	1.46	24.180	0.00914	0.01078	0.01456
___ PB	0.00212	-1.24	64.158	0.00264	0.00057	0.00313
___ S	10.27489	586.71	0.013	10.27480	10.27361	10.27625
___ SB	0.00291	0.85	128.471	-0.00031	0.00203	0.00702
___ SE	0.00015	0.47	5517.453	-0.00928	0.00373	0.00599
___ SI	16.60207	2,939.21	0.427	16.64845	16.52052	16.63724
___ SN	0.00034	0.45	625.459	0.00051	0.00239	-0.00187
___ SR	0.22870	203,953.79	1.061	0.22624	0.23109	0.22877
___ TH	0.00059	-2.75	747.785	-0.00431	0.00188	0.00419
___ TI	0.00322	161.17	2.861	0.00318	0.00315	0.00332
___ TL	-0.00947	0.01	37.206	-0.00688	-0.00804	-0.01348
___ V	0.00719	96.62	6.311	0.00756	0.00668	0.00731
___ W	0.00066	0.09	232.035	0.00243	-0.00009	-0.00035
___ Y1	3817.56333	3,817.56	0.706	3802.01500	3848.70000	3801.97500
___ Y2A	279694.19643	279,694.20	1.389	284112.43386	276813.82275	278156.33267
___ Y2R	15993.86983	15,993.87	0.121	16015.97763	15979.85403	15985.77784
___ ZN	0.01375	38.93	3.376	0.01428	0.01341	0.01355
___ ZR	-0.00055	0.80	570.597	-0.00059	-0.00368	0.00261

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 29

Date/Time: 11/10/2018 06:31

Sample Number: **9874407**

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00100	-12.77	31.565	0.00099	0.00131	0.00069
___ AL	0.04221	15.39	22.558	0.04785	0.03122	0.04757
___ AS	-0.00005	-0.14	3479.293	0.00846	-0.00508	-0.00352
___ B	0.00384	15.90	16.666	0.00311	0.00433	0.00406
___ BA	0.00552	296.31	0.704	0.00549	0.00551	0.00556
___ BE	0.00005	-126.68	15.390	0.00005	0.00005	0.00004
___ CA	0.24562	309.28	3.263	0.23822	0.24450	0.25413
___ CD	0.00025	-2.81	74.495	0.00043	0.00006	0.00025
___ CO	-0.00051	3.08	52.907	-0.00076	-0.00053	-0.00023
___ CR	0.00681	70.87	3.809	0.00651	0.00694	0.00697
___ CU	0.00742	136.05	5.003	0.00749	0.00701	0.00775
___ FE	0.04179	12.75	10.076	0.04665	0.03949	0.03923
___ K	0.08166	138.99	27.826	0.10562	0.06041	0.07896
___ LI	-0.00013	-3.85	1237.094	0.00116	-0.00188	0.00034
___ MG	0.01657	29.06	7.108	0.01793	0.01589	0.01589
___ MN	0.00579	329.18	0.871	0.00580	0.00583	0.00573
___ MO	0.00036	0.46	26.224	0.00044	0.00038	0.00026
___ NA	0.57374	743.79	2.570	0.56175	0.59020	0.56927
___ NI	0.01217	31.91	3.021	0.01259	0.01197	0.01193
___ P	0.08902	6.48	9.558	0.09868	0.08571	0.08266
___ PB	-0.00194	-3.22	80.957	-0.00279	-0.00013	-0.00289
___ S	0.07998	6.09	16.084	0.09384	0.06843	0.07766
___ SB	0.00401	1.07	46.378	0.00239	0.00360	0.00604
___ SE	0.00078	0.54	894.061	-0.00522	-0.00082	0.00837
___ SI	0.08487	17.21	4.786	0.08900	0.08088	0.08473
___ SN	0.00069	0.57	133.035	0.00123	0.00119	-0.00037
___ SR	0.00075	654.08	1.419	0.00073	0.00075	0.00076
___ TH	0.01813	0.11	56.596	0.02386	0.02425	0.00628
___ TI	0.00031	35.46	47.207	0.00019	0.00047	0.00027
___ TL	-0.00657	0.31	86.336	-0.01272	-0.00155	-0.00543
___ V	-0.00019	-21.55	101.340	-0.00035	-0.00022	0.00002
___ W	-0.00008	-0.18	2645.301	0.00031	0.00191	-0.00247
___ Y1	3897.30167	3,897.30	1.224	3846.40500	3904.53500	3940.96500
___ Y2A	290499.77954	290,499.78	0.091	290789.76521	290437.91336	290271.66005
___ Y2R	16145.54455	16,145.54	0.462	16127.12288	16227.55580	16081.95496
___ ZN	0.01491	42.80	1.186	0.01479	0.01482	0.01511
___ ZR	-0.00263	-1.98	50.030	-0.00203	-0.00172	-0.00414

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 30

Date/Time: 11/10/2018 06:34

Sample Number: 9876333

Class: ****

Batch: 183061063502

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	AVERAGE INTENSITY	%RSD	#1	#2	#3
___ AG	0.00066	-14.01	82.837	0.00095	0.00003	0.00099
___ AL	0.18776	41.64	26.198	0.20567	0.22547	0.13212
___ AS	0.00482	0.36	105.711	-0.00043	0.00514	0.00976
___ B	1.14646	6,585.97	0.327	1.14214	1.14890	1.14834
___ BA	1.09442	44,396.96	0.716	1.09939	1.09848	1.08539
___ BE	-0.00002	-143.49	81.657	-0.00002	-0.00001	-0.00004
___ CA	235.73521	261,682.57	0.868	237.16942	233.39092	236.64528
___ CD	0.00056	-0.59	50.292	0.00033	0.00048	0.00088
___ CO	0.00443	15.94	10.325	0.00461	0.00476	0.00391
___ CR	0.00386	37.63	6.517	0.00393	0.00406	0.00358
___ CU	0.00839	263.66	8.994	0.00925	0.00808	0.00784
___ FE	1.65046	556.10	0.918	1.65311	1.66412	1.63416
___ K	28.18994	10,293.74	0.241	28.26042	28.18485	28.12456
___ LI	0.22019	1,222.12	1.337	0.22290	0.22060	0.21706
___ MG	31.35999	54,692.02	0.240	31.43658	31.35724	31.28616
___ MN	0.43106	21,738.76	0.563	0.42943	0.43385	0.42990
___ MO	0.00841	4.43	18.734	0.00671	0.00982	0.00872
___ NA	52.53508	67,219.64	0.268	52.68141	52.52343	52.40041
___ NI	0.03865	75.89	0.775	0.03871	0.03891	0.03832
___ P	0.02539	2.21	5.082	0.02678	0.02423	0.02516
___ PB	0.01001	2.25	14.297	0.00918	0.01166	0.00918
___ S	22.91951	1,236.80	0.398	22.82211	23.00302	22.93341
___ SB	0.00645	1.33	56.867	0.01068	0.00448	0.00419
___ SE	0.00030	0.48	3982.087	0.00275	-0.01273	0.01088
___ SI	15.20501	2,625.69	0.359	15.14630	15.21459	15.25415
___ SN	0.00501	1.79	8.092	0.00531	0.00455	0.00518
___ SR	1.31511	1,107,914.31	0.369	1.31249	1.32071	1.31214
___ TH	0.00666	-1.38	287.828	-0.00003	-0.00826	0.02826
___ TI	0.00914	396.38	2.420	0.00929	0.00888	0.00923
___ TL	-0.00429	0.52	92.356	-0.00475	-0.00800	-0.00012
___ V	0.00167	6.83	29.175	0.00205	0.00184	0.00112
___ W	-0.00323	-0.64	65.569	-0.00120	-0.00542	-0.00306
___ Y1	3612.54667	3,612.55	0.384	3618.56000	3622.39000	3596.69000
___ Y2A	264129.90033	264,129.90	0.512	265034.71761	262576.57807	264778.40532
___ Y2R	15599.71424	15,599.71	0.498	15687.91242	15569.37238	15541.85791
___ ZN	0.16197	385.90	0.400	0.16122	0.16227	0.16241
___ ZR	0.00110	6.29	65.985	0.00068	0.00068	0.00194

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 31

Date/Time: 11/10/2018 06:37

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.48180	9,000.94	0.964	0.48711	0.47974	0.47854
___ AL	24.61443	4,588.70	0.474	24.74529	24.52146	24.57654
___ AS	0.47071	49.04	2.188	0.46040	0.48100	0.47074
___ B	0.49902	3,049.87	1.815	0.50810	0.49896	0.48998
___ BA	0.48573	20,616.33	1.039	0.49150	0.48356	0.48213
___ BE	0.48942	214,495.84	1.246	0.49621	0.48762	0.48442
___ CA	25.10964	28,799.86	0.350	25.18724	25.01404	25.12763
___ CD	0.48396	2,343.88	0.446	0.48515	0.48147	0.48527
___ CO	0.47541	1,433.18	0.528	0.47629	0.47258	0.47736
___ CR	0.47920	4,548.81	1.814	0.48815	0.47865	0.47079
___ CU	0.51454	7,233.93	2.076	0.52475	0.51543	0.50344
___ FE	23.93552	8,076.01	0.402	24.01822	23.82977	23.95856
___ K	23.99020	8,829.68	0.332	23.99711	23.90737	24.06611
___ LI	0.48607	2,957.05	0.324	0.48729	0.48429	0.48663
___ MG	24.83817	43,737.34	0.443	24.95658	24.73926	24.81866
___ MN	0.50021	26,358.09	1.220	0.50714	0.49784	0.49564
___ MO	0.49498	260.33	0.200	0.49612	0.49438	0.49444
___ NA	24.09675	31,012.96	0.392	24.15313	23.98773	24.14939
___ NI	0.49406	936.13	0.576	0.49657	0.49097	0.49464
___ P	0.51579	33.20	0.556	0.51813	0.51664	0.51259
___ PB	0.49268	231.01	0.748	0.49595	0.49340	0.48869
___ S	24.45232	1,392.05	0.295	24.43898	24.38787	24.53012
___ SB	0.46573	74.12	0.267	0.46538	0.46470	0.46711
___ SE	0.49661	42.89	3.389	0.51532	0.48270	0.49183
___ SI	25.82060	4,487.43	0.537	25.93943	25.66831	25.85404
___ SN	0.47447	146.60	0.771	0.47207	0.47267	0.47868
___ SR	0.48485	428,285.68	1.066	0.48959	0.48563	0.47934
___ TH	0.48901	80.98	3.608	0.48897	0.47138	0.50667
___ TI	0.49559	21,418.49	1.289	0.50235	0.49476	0.48966
___ TL	0.52496	46.69	1.624	0.52424	0.51682	0.53382
___ V	0.51952	8,136.53	1.918	0.52955	0.51940	0.50962
___ W	0.48001	172.30	1.206	0.47335	0.48390	0.48276
___ Y1	3813.37000	3,813.37	0.584	3803.03500	3838.95000	3798.12500
___ Y2A	276016.23592	276,016.24	1.077	272614.64546	277328.44599	278105.61630
___ Y2R	15695.75595	15,695.76	0.369	15665.10562	15762.51496	15659.64728
___ ZN	0.49959	1,255.12	0.319	0.50032	0.49776	0.50069
___ ZR	0.50124	1,458.41	0.442	0.50067	0.49936	0.50368

LANCASTER LABORATORIES

Run Name: 1831401T71

Instrument ID: 16315

Tube: 32

Date/Time: 11/10/2018 06:39

Sample Number: CCB

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.00086	-14.78	32.407	0.00078	0.00063	0.00117
___ AL	0.02524	11.88	125.789	0.06097	0.01442	0.00031
___ AS	0.00115	-0.01	173.045	0.00225	0.00236	-0.00115
___ B	0.00370	14.67	12.487	0.00375	0.00414	0.00322
___ BA	-0.00016	42.31	117.118	-0.00019	-0.00032	0.00004
___ BE	0.00008	-108.28	2.771	0.00008	0.00008	0.00008
___ CA	0.00953	29.32	13.259	0.00942	0.00833	0.01085
___ CD	0.00040	-2.05	8.159	0.00042	0.00042	0.00036
___ CO	-0.00031	3.63	142.330	-0.00052	0.00020	-0.00061
___ CR	-0.00070	-4.02	50.800	-0.00110	-0.00056	-0.00044
___ CU	-0.00076	17.37	48.417	-0.00038	-0.00079	-0.00112
___ FE	0.01045	1.73	56.409	0.01090	0.00435	0.01611
___ K	0.01616	111.60	156.504	-0.01302	0.03181	0.02968
___ LI	-0.00042	-5.43	447.640	0.00018	-0.00251	0.00108
___ MG	0.00510	7.80	19.870	0.00424	0.00622	0.00484
___ MN	-0.00002	7.03	326.252	0.00003	-0.00008	-0.00001
___ MO	0.00395	2.37	9.894	0.00435	0.00357	0.00392
___ NA	-0.00582	-23.30	111.740	-0.00355	-0.00076	-0.01315
___ NI	0.00009	8.63	95.942	0.00018	0.00009	0.00001
___ P	-0.00224	0.61	253.350	-0.00706	-0.00367	0.00402
___ PB	0.00026	-2.14	719.748	-0.00188	0.00164	0.00103
___ S	0.01022	2.02	111.745	0.01993	0.01309	-0.00236
___ SB	0.00161	0.64	82.727	0.00282	0.00018	0.00182
___ SE	0.00127	0.57	390.739	0.00573	0.00213	-0.00406
___ SI	0.01344	4.35	65.964	0.00668	0.01015	0.02347
___ SN	0.00141	0.79	63.766	0.00241	0.00066	0.00117
___ SR	0.00007	27.87	11.176	0.00007	0.00008	0.00007
___ TH	0.01811	0.10	38.695	0.01082	0.02479	0.01873
___ TI	-0.00004	19.12	457.335	0.00015	-0.00005	-0.00022
___ TL	-0.00895	0.09	19.415	-0.00923	-0.01053	-0.00709
___ V	-0.00001	-19.00	678.031	-0.00001	0.00005	-0.00007
___ W	-0.00005	-0.22	2401.183	-0.00056	-0.00094	0.00135
___ Y1	3870.78500	3,870.79	0.826	3892.82000	3834.10000	3885.43500
___ Y2A	284247.96076	284,247.96	0.547	286044.64286	283332.67196	283366.56746
___ Y2R	15738.31337	15,738.31	0.716	15803.36491	15803.43950	15608.13571
___ ZN	-0.00036	3.90	60.124	-0.00037	-0.00013	-0.00056
___ ZR	0.00012	5.60	1139.765	-0.00010	-0.00116	0.00162

ICP-MS Data

Metals in Liquid



Date File Name: 18K05H00.E07

Method Reference Name(s):

Run Name: 1830908E07

Analyst: 25839

Reviewed By: Reviewed Date
Bradley M Berlot 11/05/2018 20:30

Verified By: Verified Date
Parker D Lindstrom 11/11/2018 20:02
Tara L Snyder 11/09/2018 12:22

Instrument Parameters:

Rinse Time (sec): 25.00

<u>INTERNAL STD.</u>	<u>ELEMENT</u>	<u>MASS</u>
SC-1		45
	BE	9
	B	11
<hr/>		
SC-3		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
<hr/>		
IN-2		115
	SE	78
<hr/>		
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
<hr/>		
BI-3		209
	TL	205
	PB	208
	U	238
<hr/>		

Run Name: 1830908E07
 Tube Number: 1
 Sample Number: **S0**

Date/Time: 11/05/2018 18:09:09

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	16.00000	0.000	-0.02865	0.06271	-0.03406
B	11	0.00000	5035.54300	0.000	-1.18756	0.51474	0.67283
NA	23	0.00000	5548.64700	0.000	-3.70011	-2.26994	5.97005
MG	24	0.00000	130.01300	0.000	-1.02757	-0.58410	1.61167
AL	27	0.00000	50.00300	0.000	-0.97724	-0.21909	1.19633
K	39	0.00000	4134.06300	0.000	2.02096	-2.35136	0.33041
CA	44	0.00000	36.67000	0.000	-3.18127	-3.05337	6.23464
SC-1	45	973563.40000	0.00000	0.000	980237.02000	990489.83000	949963.35000
SC-2	45	205888.50300	0.00000	0.000	204964.59000	203960.90000	208740.02000
SC-3	45	78527.64300	0.00000	0.000	79365.40000	76762.34000	79455.19000
TI	47	0.00000	6.66700	0.000	-0.20727	0.41454	-0.20727
V	51	0.00000	13.33300	0.000	-0.01328	-0.00306	0.01634
CR	52	0.00000	133.33700	0.000	-0.02570	0.02222	0.00348
MN	55	0.00000	253.34700	0.000	0.00482	-0.04219	0.03737
FE	57	0.00000	130.01000	0.000	-1.65739	-2.92917	4.58656
CO	59	0.00000	280.01300	0.000	-0.03876	0.01628	0.02247
NI	60	0.00000	13.33300	0.000	-0.00614	-0.02479	0.03093
CU	63	0.00000	90.00300	0.000	-0.01783	-0.01118	0.02900
ZN	66	0.00000	46.66700	0.000	0.11778	-0.08247	-0.03531
GE-1	72	823200.48300	0.00000	0.000	837052.18000	814766.16000	817783.11000
GE-2	72	253490.21000	0.00000	0.000	253938.82000	249399.88000	257131.93000
GE-3	72	184878.08300	0.00000	0.000	185313.04000	183646.95000	185674.26000
AS	75	0.00000	12.00000	0.000	-0.05231	0.05353	-0.00122
SE	78	0.00000	3.33300	0.000	0.01301	-0.02548	0.01247
SR	88	0.00000	6.66700	0.000	-0.00664	-0.00664	0.01329
MO	98	0.00000	20.00000	0.000	-0.01530	-0.00751	0.02280
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	0.00000	2.00000	0.000	0.01251	-0.00625	-0.00625
IN-2	115	281968.29300	0.00000	0.000	282298.81000	279337.21000	284268.86000
IN-3	115	100263.21300	0.00000	0.000	100733.18000	98919.12000	101137.34000
SN	120	0.00000	573.46300	0.000	0.09931	0.02338	-0.12269
SB	121	0.00000	16.66700	0.000	0.00559	-0.02753	0.02194
BA	137	0.00000	3.33300	0.000	-0.01064	-0.01064	0.02127
TB-3	159	255593.72300	0.00000	0.000	254437.20000	255997.26000	256346.71000
TL	205	0.00000	83.33300	0.000	0.00768	-0.00926	0.00158
PB	208	0.00000	66.66700	0.000	0.00513	-0.00347	-0.00165
BI-3	209	128150.12700	0.00000	0.000	128248.34000	126087.32000	130114.72000
U	238	0.00000	3.33300	0.000	0.00158	-0.00079	-0.00079

Run Name: 1830908E07
 Tube Number: 2
 Sample Number: S1

Date/Time: 11/05/2018 18:11:32

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	990523.24000	0.00000	0.000	991792.33000	986208.50000	993568.89000
SC-3	45	81816.26700	0.00000	0.000	82262.52000	81588.67000	81597.61000
AL	27	10000.00000	426403.15700	1.500	9883.84475	10174.51890	9941.63635
B	11	1000.00000	216433.50300	0.800	993.99687	1008.60353	997.39960
BE	9	100.00000	34974.81700	0.900	101.01788	99.52237	99.45975
CA	44	10000.00000	54703.41700	0.800	9974.76147	10088.66887	9936.56966
CR	52	1000.00000	1408006.75000	1.800	993.64654	986.38051	1019.97294
FE	57	10000.00000	313366.42700	0.700	9938.57427	9986.45449	10074.97125
K	39	10000.00000	947923.60700	1.100	9912.81522	10125.62503	9961.55975
MG	24	10000.00000	1209701.18000	1.600	9906.95031	10187.07896	9905.97073
MN	55	1000.00000	940444.41300	0.800	998.56559	993.27575	1008.15866
NA	23	10000.00000	2292599.96300	1.900	9829.64295	10208.79829	9961.55876
TI	47	1000.00000	34287.64000	2.100	982.41074	1022.77468	994.81458
V	51	1000.00000	1042827.93000	1.300	1005.66313	985.63188	1008.70499
IN-2	115	297609.63000	0.00000	0.000	295500.19000	297299.77000	300028.93000
IN-3	115	106404.71700	0.00000	0.000	103280.67000	106381.40000	109552.08000
AG	107	100.00000	258771.79000	2.400	102.02103	100.58284	97.39613
AS	75	1000.00000	123010.07000	2.800	1011.54611	1019.92409	968.52980
BA	137	1000.00000	329609.03300	1.800	1019.18216	997.77509	983.04275
CD	111	100.00000	33769.82700	1.800	102.07556	98.66065	99.26379
CO	59	1000.00000	2219128.56000	2.900	1029.80710	998.88499	971.30790
CU	63	1000.00000	1791516.17300	1.800	1013.04960	1007.99339	978.95701
MO	98	100.00000	138052.17000	1.400	101.29182	100.27625	98.43193
NI	60	1000.00000	566137.30700	3.500	1030.60962	1007.36634	962.02404
SB	121	100.00000	63811.20300	0.300	100.33557	100.01050	99.65393
SE	78	100.00000	5423.70000	0.300	99.73569	100.30177	99.96254
SN	120	100.00000	110969.03300	2.300	102.64224	98.94848	98.40929
SR	88	100.00000	105563.29300	1.100	100.45808	100.78415	98.75777
ZN	66	1000.00000	208040.92300	2.900	1015.41381	1017.48664	967.09955
BI-3	209	138053.66700	0.00000	0.000	138302.32000	137610.96000	138247.72000
PB	208	100.00000	490010.25000	0.500	99.47763	100.04826	100.47411
TL	205	100.00000	376056.59700	0.700	99.22222	100.24357	100.53421
U	238	100.00000	455564.16000	1.300	98.70944	100.01408	101.27648
SC-2	45	219927.58700	0.00000	0.000	216622.22000	220010.13000	223150.41000
GE-1	72	844023.48000	0.00000	0.000	848489.21000	839561.16000	844020.07000
GE-2	72	266306.42300	0.00000	0.000	263820.13000	265859.53000	269239.61000
GE-3	72	194847.06000	0.00000	0.000	195328.04000	195013.38000	194199.76000
TB-3	159	276709.50700	0.00000	0.000	271630.11000	282776.30000	275722.11000

Run Name: 1830908E07
 Tube Number: 3
 Sample Number: ICV

Date/Time: 11/05/2018 18:13:54

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	1002993	0	0.000	1016620	994824.44000	997533.89000
SC-3	45	80732.66700	0.00000	0.000	78088.82000	81868.81000	82240.37000
AL	27	5042.08372	212103.69700	2.100	5156.76316	4955.40581	5014.08219
B	11	754.78817	166686.80300	0.500	750.21672	755.91563	758.23217
BE	9	50.78415	17994.22000	0.800	51.22942	50.63609	50.48695
CA	44	4870.95792	26307.79700	2.600	4932.82379	4726.71640	4953.33356
CR	52	497.14516	690567.88000	1.800	506.83118	494.82431	489.78000
FE	57	4988.16811	154303.99300	1.300	5008.30514	4915.34849	5040.85071
K	39	5004.63686	470175.51300	1.200	5057.71069	4942.38280	5013.81708
MG	24	4839.02666	577495.22700	2.000	4945.99050	4807.00758	4764.08190
MN	55	513.79656	476805.48700	1.400	521.79316	508.87444	510.72207
NA	23	4648.64589	1054657.35700	1.700	4675.75633	4561.32785	4708.85348
TI	47	514.64392	17407.53000	2.700	530.67990	507.62715	505.62470
V	51	513.75802	528589.08000	0.800	518.25998	510.71531	512.29877
IN-2	115	288378.13700	0.00000	0.000	284362.50000	283941.27000	296830.64000
IN-3	115	104772.60300	0.00000	0.000	103393.32000	105215.41000	105709.08000
AG	107	53.13658	135453.36300	0.900	53.34019	52.58676	53.48278
AS	75	506.55560	61387.18000	0.800	506.54119	510.59882	502.52678
BA	137	505.44315	164114.56000	1.100	499.61924	510.36578	506.34442
CD	111	51.00714	16968.30700	1.400	50.19840	51.32541	51.49759
CO	59	489.53916	1070454.88300	0.500	489.86545	486.98414	491.76788
CU	63	488.06636	861292.51300	0.600	489.63284	484.91522	489.65102
MO	98	51.59555	70160.90000	1.200	52.23040	51.00897	51.54727
NI	60	514.75579	287142.09000	0.900	518.44643	509.67229	516.14867
SB	121	52.96998	33290.70300	0.900	53.47983	52.58483	52.84528
SE	78	50.14901	2637.14000	0.200	50.23368	50.20523	50.00811
SN	120	51.26566	56331.17000	0.800	51.24876	51.66605	50.88217
SR	88	50.60630	52614.40700	0.600	50.55043	50.92505	50.34342
ZN	66	514.57804	105484.65700	0.300	514.48326	516.39436	512.85650
BI-3	209	134627.76700	0.00000	0.000	132983.93000	136258.94000	134640.43000
PB	208	51.64590	246831.87000	0.800	51.22748	51.61334	52.09689
TL	205	52.39938	192208.45000	1.600	51.78561	52.08429	53.32825
U	238	50.80229	225693.96000	1.600	50.39371	50.27521	51.73795
SC-2	45	208213.63700	0.00000	0.000	206691.05000	204703.59000	213246.27000
GE-1	72	852134.51700	0.00000	0.000	857080.61000	846980.69000	852342.25000
GE-2	72	251873.73300	0.00000	0.000	249758.90000	248901.05000	256961.25000
GE-3	72	187883.81700	0.00000	0.000	184234.96000	191505.13000	187911.36000
TB-3	159	269987.86000	0.00000	0.000	263067.30000	271214.88000	275681.40000

Run Name: 1830908E07
 Tube Number: 4
 Sample Number: ICB

Date/Time: 11/05/2018 18:16:04

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	963388.11000	0.00000	0.000	970299.05000	942504.20000	977361.08000
SC-3	45	76141.09000	0.00000	0.000	77083.20000	74006.32000	77333.75000
AL	27	6.14302	293.35000	31.700	6.74763	3.96708	7.71436
B	11	193.14081	44666.87000	3.600	197.14185	197.24493	185.03564
BE	9	-0.03221	4.66700	0.000	-0.02847	-0.02795	-0.04019
CA	44	615.13012	3163.77700	2.900	595.03088	630.17467	620.18483
CR	52	0.26460	476.69000	19.200	0.22527	0.24660	0.32192
FE	57	3.95074	240.01000	17.900	3.16479	4.53355	4.15389
K	39	17.15897	5507.89300	20.900	15.35872	21.29282	14.82538
MG	24	18.13401	2166.90700	10.000	16.35088	18.08250	19.96867
MN	55	0.60094	770.04700	21.600	0.67938	0.67224	0.45120
NA	23	23.16875	10299.41300	18.000	26.27082	24.80094	18.43448
TI	47	-0.00120	6.66700	0.000	0.10234	-0.20727	0.10134
V	51	0.01750	30.00000	55.800	0.02743	0.00792	0.01715
IN-2	115	284658.93000	0.00000	0.000	282778.00000	284388.93000	286809.86000
IN-3	115	99680.37300	0.00000	0.000	99104.13000	99535.83000	100401.16000
AG	107	0.03296	80.00000	21.200	0.02488	0.03716	0.03684
AS	75	0.08120	21.33300	86.200	0.12304	0.00043	0.12011
BA	137	0.20575	66.66700	64.000	0.28243	0.28116	0.05365
CD	111	0.01061	5.33300	69.100	0.00646	0.01906	0.00630
CO	59	-0.04092	193.34300	0.000	-0.04687	-0.01835	-0.05754
CU	63	0.20887	440.02700	6.900	0.19246	0.21527	0.21887
MO	98	0.08262	126.67000	78.100	0.03136	0.15505	0.06146
NI	60	0.22632	133.34000	16.700	0.18369	0.23942	0.25585
SB	121	0.63106	393.35300	15.700	0.71299	0.65951	0.52069
SE	78	-0.02614	2.00000	0.000	-0.02596	-0.00050	-0.05197
SN	120	0.07710	650.04000	72.700	0.07089	0.13596	0.02445
SR	88	0.31006	313.34700	9.300	0.27812	0.31739	0.33468
ZN	66	32.44353	6371.65000	2.900	31.60512	32.28948	33.43598
BI-3	209	129846.80300	0.00000	0.000	129378.18000	128662.87000	131499.36000
PB	208	0.03167	213.33300	18.000	0.02673	0.03791	0.03035
TL	205	0.00829	113.33700	178.300	-0.00395	0.02470	0.00411
U	238	0.01947	86.66700	19.400	0.02029	0.02277	0.01534
SC-2	45	205626.26700	0.00000	0.000	206374.94000	203688.57000	206815.29000
GE-1	72	820794.65000	0.00000	0.000	836390.30000	804614.52000	821379.13000
GE-2	72	248728.45300	0.00000	0.000	251894.31000	244217.34000	250073.71000
GE-3	72	180664.92000	0.00000	0.000	182744.59000	178045.80000	181204.37000
TB-3	159	257445.19300	0.00000	0.000	256209.31000	253718.73000	262407.54000

Run Name: 1830908E07
 Tube Number: 5
 Sample Number: LLC

Date/Time: 11/05/2018 18:18:13

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	977223.03300	0.00000	0.000	988142.80000	980702.88000	962823.42000
SC-3	45	77472.06700	0.00000	0.000	76349.09000	79144.51000	76922.60000
AL	27	401.62038	16262.84300	5.900	382.28148	394.45898	428.12069
B	11	118.98169	29856.34300	1.800	117.48123	117.98193	121.48190
BE	9	0.52832	198.00000	4.700	0.50455	0.52606	0.55434
CA	44	719.21046	3757.29000	3.400	732.20546	690.95452	734.47140
CR	52	4.28328	5841.39000	2.200	4.24065	4.21954	4.38964
FE	57	105.13218	3243.81000	14.500	95.96091	96.71129	122.72435
K	39	401.13274	39911.72000	2.600	398.89454	392.20090	412.30279
MG	24	97.64216	11311.31300	5.000	93.27487	96.69715	102.95445
MN	55	10.43800	9540.14300	6.700	9.98136	10.09196	11.24069
NA	23	849.73573	189423.73700	2.700	855.78574	824.75797	868.66347
TI	47	24.86849	816.72000	26.900	18.86131	32.06032	23.68382
V	51	0.92118	923.40000	6.400	0.86026	0.97812	0.92516
IN-2	115	285973.66300	0.00000	0.000	284998.46000	284706.52000	288216.01000
IN-3	115	100701.51300	0.00000	0.000	98169.07000	101831.96000	102103.51000
AG	107	0.52650	1290.11300	3.000	0.52339	0.51263	0.54347
AS	75	2.30886	281.34000	11.200	2.04547	2.56267	2.31844
BA	137	4.11126	1286.77700	9.400	4.00018	3.79253	4.54106
CD	111	1.09360	351.34300	11.200	1.16184	0.95277	1.16620
CO	59	0.92427	2220.23700	11.100	1.04281	0.87339	0.85662
CU	63	39.90131	67759.41300	0.600	40.02528	39.61440	40.06426
MO	98	2.10951	2777.03300	2.000	2.07316	2.15699	2.09837
NI	60	4.28537	2313.61000	8.200	3.87876	4.45782	4.51954
SB	121	2.31945	1413.45300	17.700	2.79299	2.11822	2.04714
SE	78	2.00949	108.00000	8.700	1.97741	2.19801	1.85307
SN	120	1.70087	2353.62700	11.600	1.67725	1.90950	1.51587
SR	88	6.22884	6234.90700	6.800	5.83646	6.67588	6.17417
ZN	66	16.51130	3297.15300	3.100	17.05806	16.03418	16.44167
BI-3	209	132529.27300	0.00000	0.000	130609.54000	132904.28000	134074.00000
PB	208	3.05906	14456.97300	1.100	3.03885	3.09851	3.03983
TL	205	0.53309	2010.23000	1.500	0.52447	0.53987	0.53495
U	238	0.50616	2216.92700	4.800	0.50043	0.53283	0.48522
SC-2	45	206468.57700	0.00000	0.000	208729.47000	205668.65000	205007.61000
GE-1	72	837828.11000	0.00000	0.000	847551.78000	840797.02000	825135.53000
GE-2	72	252061.89000	0.00000	0.000	252650.19000	250106.81000	253428.67000
GE-3	72	185535.59300	0.00000	0.000	185525.09000	188189.45000	182892.24000
TB-3	159	259220.49300	0.00000	0.000	256587.11000	259655.31000	261419.06000

Run Name: 1830908E07
 Tube Number: 6
 Sample Number: ICSA

Date/Time: 11/05/2018 18:20:22

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	891284.62000	0.00000	0.000	893122.56000	902346.47000	878384.83000
SC-3	45	73796.95700	0.00000	0.000	73515.15000	72309.98000	75565.74000
AL	27	96999.65947	3730371.92700	0.400	96613.12702	97299.91591	97085.93550
B	11	68.86475	17703.89000	1.000	68.77569	68.25147	69.56709
BE	9	-0.02909	5.33300	0.000	-0.03330	-0.02087	-0.03309
CA	44	268596.68753	1324356.54300	0.400	269518.68056	268919.04728	267352.33476
CR	52	0.70634	1023.40700	8.400	0.65210	0.69676	0.77015
FE	57	226459.14907	6398861.78000	0.700	227500.68285	224652.42023	227224.34411
K	39	96430.78576	8211895.91700	0.600	95799.85923	96579.54961	96912.94843
MG	24	90857.36591	9912250.26700	0.700	90405.06344	91611.92880	90555.10548
MN	55	3.26782	3010.41000	4.200	3.31877	3.11387	3.37082
NA	23	225329.79295	46484015.97700	1.000	222946.06711	227387.87120	225655.44053
TI	47	1908.67067	59040.63000	1.600	1907.62724	1877.82372	1940.56104
V	51	0.05387	63.33300	40.000	0.07210	0.03012	0.05940
IN-2	115	258362.04000	0.00000	0.000	254478.13000	261086.07000	259521.92000
IN-3	115	93666.08000	0.00000	0.000	94244.01000	91434.81000	95319.42000
AG	107	0.05538	126.67300	25.800	0.05670	0.04046	0.06899
AS	75	0.83852	102.00000	6.400	0.79537	0.89866	0.82152
BA	137	1.19440	350.01700	18.000	0.98241	1.18943	1.41137
CD	111	0.37493	113.33300	3.200	0.36143	0.37962	0.38372
CO	59	0.74783	1723.49700	9.300	0.82734	0.71532	0.70083
CU	63	1.30000	2133.57000	3.800	1.27633	1.35614	1.26755
MO	98	1986.97340	2414095.90000	3.000	1941.11554	2053.03869	1966.76598
NI	60	1.38525	703.37700	5.400	1.47005	1.33108	1.35464
SB	121	1.30422	746.71300	12.500	1.33523	1.45006	1.12737
SE	78	0.02993	4.44700	122.300	0.06467	0.03342	-0.00830
SN	120	-0.19540	346.68300	0.000	-0.31632	-0.20368	-0.06620
SR	88	15.64896	14547.84000	3.700	14.98388	15.96293	16.00008
ZN	66	5.65712	1080.07700	19.600	6.92495	5.18740	4.85902
BI-3	209	121613.02300	0.00000	0.000	120708.30000	121889.42000	122241.35000
PB	208	0.80544	3540.31300	5.800	0.75343	0.81997	0.84292
TL	205	-0.00474	63.33300	0.000	-0.01469	-0.00273	0.00322
U	238	0.03663	150.01000	34.600	0.04943	0.02408	0.03640
SC-2	45	193229.43700	0.00000	0.000	187897.91000	194643.47000	197146.93000
GE-1	72	765684.13000	0.00000	0.000	763352.72000	778754.29000	754945.38000
GE-2	72	226804.45300	0.00000	0.000	220822.67000	227333.43000	232257.26000
GE-3	72	169657.89700	0.00000	0.000	168956.35000	167484.26000	172533.08000
TB-3	159	243430.78700	0.00000	0.000	241849.53000	242354.55000	246088.28000

Run Name: 1830908E07
 Tube Number: 7
 Sample Number: RINSE

Date/Time: 11/05/2018 18:22:31

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	1006719	0	0.000	1014518	1016771	988866.39000
SC-3	45	80980.81300	0.00000	0.000	80349.95000	79465.82000	83126.67000
AL	27	1.23380	103.33700	32.100	1.64707	1.19576	0.85857
B	11	26.06063	10804.60000	3.100	26.75026	25.16095	26.27067
BE	9	-0.03660	3.33300	0.000	-0.04599	-0.02927	-0.03453
CA	44	18.42198	136.67300	43.500	17.26387	26.95032	11.05176
CR	52	0.33346	603.36700	13.900	0.34952	0.28137	0.36950
FE	57	6.88535	346.68300	17.900	5.46228	7.54325	7.65054
K	39	6.39203	4857.64000	15.000	7.48224	5.67246	6.02140
MG	24	0.43742	186.67700	131.000	0.23418	-0.00627	1.08433
MN	55	0.06030	316.68300	31.300	0.05548	0.08114	0.04427
NA	23	23.24627	10971.14300	13.000	26.50868	22.71441	20.51571
TI	47	0.96427	40.00000	49.500	0.68379	0.69371	1.51532
V	51	-0.00030	13.33300	0.000	-0.00352	0.00646	-0.00384
IN-2	115	288263.20300	0.00000	0.000	288880.36000	289574.71000	286334.54000
IN-3	115	102555.57300	0.00000	0.000	102190.50000	102360.59000	103115.63000
AG	107	0.00803	20.00000	50.300	0.01207	0.00803	0.00399
AS	75	-0.01400	10.66700	0.000	-0.03612	-0.03624	0.03036
BA	137	-0.00020	3.33300	0.000	-0.01064	-0.01064	0.02066
CD	111	-0.00215	1.33300	0.000	-0.00625	0.00606	-0.00625
CO	59	-0.06070	156.67300	0.000	-0.07295	-0.04495	-0.06420
CU	63	0.11670	293.34700	20.500	0.14437	0.10343	0.10228
MO	98	2.65504	3553.89700	3.900	2.65476	2.55244	2.75793
NI	60	0.04848	40.00000	38.000	0.06711	0.03026	0.04807
SB	121	0.06992	60.00000	60.700	0.05408	0.03765	0.11804
SE	78	-0.00124	3.33300	0.000	0.01124	-0.02687	0.01191
SN	120	-0.40109	160.00700	0.000	-0.39120	-0.38205	-0.43003
SR	88	0.00313	10.00000	540.800	-0.00664	-0.00664	0.02268
ZN	66	1.47486	343.35000	37.400	1.11352	2.11042	1.20063
BI-3	209	133381.20300	0.00000	0.000	134023.44000	132397.60000	133722.57000
PB	208	0.00013	70.00000	5584.200	-0.00413	-0.00401	0.00853
TL	205	-0.00728	60.00000	0.000	-0.01560	-0.00163	-0.00460
U	238	0.00224	13.33300	57.900	0.00373	0.00150	0.00148
SC-2	45	203811.79700	0.00000	0.000	203578.59000	205829.65000	202027.15000
GE-1	72	858482.46000	0.00000	0.000	863686.00000	866623.97000	845137.41000
GE-2	72	249860.34000	0.00000	0.000	249977.61000	250999.86000	248603.55000
GE-3	72	193492.48000	0.00000	0.000	195433.06000	190420.93000	194623.45000
TB-3	159	268358.25000	0.00000	0.000	266880.09000	268343.47000	269851.19000

Run Name: 1830908E07
 Tube Number: 8
 Sample Number: **CCV**

Date/Time: 11/05/2018 18:24:40

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	1040944	0	0.000	1046263	1043015	1033554
SC-3	45	80816.10700	0.00000	0.000	80209.55000	80088.66000	82150.11000
AL	27	2544.93909	107212.88300	1.900	2571.06187	2574.17573	2489.57967
B	11	268.20401	64943.50300	0.700	266.01769	268.77188	269.82246
BE	9	25.24564	9290.93000	2.000	24.71951	25.30762	25.70978
CA	44	2770.30882	14994.80300	2.100	2737.42258	2838.86754	2734.63634
CR	52	252.52326	351258.83700	1.700	254.85966	255.21614	247.49397
FE	57	2537.24996	78632.53300	1.000	2525.55638	2566.40392	2519.78958
K	39	2578.79377	244586.35000	1.700	2584.89035	2619.35097	2532.13998
MG	24	2460.80759	294126.45300	1.000	2480.79469	2468.12904	2433.49902
MN	55	260.74507	242406.70000	0.400	260.31441	261.81018	260.11063
NA	23	2411.32492	550361.82700	1.100	2427.84637	2424.32541	2381.80299
TI	47	259.36235	8789.63700	3.200	268.26401	251.67435	258.14869
V	51	262.33742	270191.03000	2.300	260.58712	268.92672	257.49841
IN-2	115	298001.92700	0.00000	0.000	292945.52000	299504.44000	301555.82000
IN-3	115	104932.61000	0.00000	0.000	104811.79000	105536.64000	104449.40000
AG	107	27.07739	69126.76300	1.600	27.23433	26.57786	27.41999
AS	75	261.35778	31727.89300	1.800	256.04999	263.76621	264.25714
BA	137	258.07939	83917.88000	2.000	253.49548	257.04400	263.69869
CD	111	26.17609	8720.74700	2.600	26.85431	25.50501	26.16895
CO	59	251.45599	550804.79700	1.600	249.40168	248.96148	256.00481
CU	63	249.87357	441661.15300	1.100	250.22242	246.98719	252.41108
MO	98	26.96633	36735.13000	2.500	27.40335	26.18973	27.30591
NI	60	267.38888	149390.47300	1.100	266.31760	265.19033	270.65870
SB	121	25.33452	15956.41300	0.400	25.40050	25.22602	25.37704
SE	78	26.60979	1447.63300	3.700	26.51461	27.64392	25.67084
SN	120	25.70643	28586.37300	2.900	25.80155	24.90682	26.41093
SR	88	25.74815	26812.56300	1.800	25.69302	25.31517	26.23625
ZN	66	273.29207	56127.77000	2.800	268.12051	269.77564	281.98007
BI-3	209	136801.98300	0.00000	0.000	136498.34000	135974.01000	137933.60000
PB	208	25.75227	125101.40300	2.200	25.10433	26.06442	26.08807
TL	205	25.57708	95379.28300	0.700	25.38033	25.69058	25.66034
U	238	25.25892	114027.70700	1.500	24.88897	25.64399	25.24380
SC-2	45	213552.52300	0.00000	0.000	213819.00000	212967.32000	213871.25000
GE-1	72	881497.46000	0.00000	0.000	881603.58000	884434.75000	878454.05000
GE-2	72	263279.41700	0.00000	0.000	266367.09000	261308.88000	262162.28000
GE-3	72	192285.80000	0.00000	0.000	191548.34000	189964.92000	195344.14000
TB-3	159	269063.88300	0.00000	0.000	268724.41000	269056.23000	269411.01000

Run Name: 1830908E07
 Tube Number: 9
 Sample Number: CCB

Date/Time: 11/05/2018 18:26:50

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	998971.26000	0.00000	0.000	1014965	996971.86000	984977.33000
SC-3	45	77472.14000	0.00000	0.000	77525.74000	76550.11000	78340.57000
AL	27	9.01950	413.35700	0.900	8.92984	9.05919	9.06947
B	11	77.82056	21753.79300	1.100	77.98355	78.57597	76.90217
BE	9	-0.03457	4.00000	0.000	-0.04041	-0.04031	-0.02298
CA	44	649.48167	3397.17300	3.200	659.18845	663.76031	625.49624
CR	52	0.32094	560.03000	9.200	0.32837	0.28826	0.34619
FE	57	3.46599	230.01000	50.800	1.43766	4.58154	4.37878
K	39	18.47046	5727.97700	13.900	20.38118	15.55683	19.47337
MG	24	18.14214	2206.91700	10.500	19.21822	15.94225	19.26595
MN	55	0.47619	673.37700	7.200	0.43817	0.50416	0.48625
NA	23	28.15488	11564.88300	2.600	27.33191	28.65698	28.47575
TI	47	0.20129	13.33300	230.800	-0.20727	0.10450	0.70665
V	51	0.01377	26.66700	44.200	0.01708	0.01747	0.00675
IN-2	115	290813.34700	0.00000	0.000	288744.12000	291651.51000	292044.41000
IN-3	115	102243.51000	0.00000	0.000	102388.23000	100716.56000	103625.74000
AG	107	0.00537	13.33300	86.600	0.00000	0.00816	0.00793
AS	75	0.08825	22.66700	47.400	0.06509	0.13658	0.06308
BA	137	0.23062	76.66700	33.000	0.24151	0.14957	0.30078
CD	111	0.00197	2.66700	361.800	-0.00625	0.00626	0.00591
CO	59	-0.01950	243.34300	0.000	0.00183	0.00885	-0.06916
CU	63	0.15608	360.01700	21.700	0.18458	0.16495	0.11871
MO	98	0.10769	163.34300	13.000	0.11267	0.09184	0.11858
NI	60	0.21415	130.00700	9.300	0.23206	0.21767	0.19272
SB	121	0.34727	230.01000	22.800	0.42859	0.27056	0.34267
SE	78	0.03173	5.11000	139.000	0.03656	0.07321	-0.01459
SN	120	-0.16169	413.35300	0.000	-0.13735	-0.14962	-0.19810
SR	88	0.29188	303.35000	20.300	0.32806	0.22353	0.32406
ZN	66	30.71405	6184.90000	6.800	30.78388	32.77165	28.58663
BI-3	209	133358.87300	0.00000	0.000	132561.11000	132460.21000	135055.30000
PB	208	0.02201	173.33700	66.200	0.03850	0.01088	0.01665
TL	205	0.01376	136.67300	81.400	0.00111	0.01777	0.02240
U	238	0.01584	73.33300	34.900	0.01064	0.01523	0.02165
SC-2	45	209306.14300	0.00000	0.000	211130.60000	208810.00000	207977.83000
GE-1	72	847747.69300	0.00000	0.000	856928.50000	848902.80000	837411.78000
GE-2	72	256032.17000	0.00000	0.000	254947.93000	258571.73000	254576.85000
GE-3	72	188689.27300	0.00000	0.000	187735.31000	187505.27000	190827.24000
TB-3	159	262671.60300	0.00000	0.000	261033.90000	261989.61000	264991.30000

Run Name: 1830908E07
 Tube Number: 10
 Sample Number: **PBW**

Date/Time: 11/05/2018 18:28:59
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	983023.63000	0.00000	0.000	991861.55000	990241.39000	966967.95000
SC-3	45	78417.13700	0.00000	0.000	77877.00000	77525.29000	79849.12000
AL	27	0.65609	76.66700	56.200	0.99862	0.26612	0.70353
B	11	34.42788	12305.10300	2.000	33.66651	34.98365	34.63349
BE	9	-0.04023	2.00000	0.000	-0.03457	-0.04599	-0.04013
CA	44	4.53810	60.00000	87.600	4.57813	8.49154	0.54461
CR	52	0.39312	663.37700	10.700	0.42347	0.41084	0.34506
FE	57	-0.83823	103.33300	0.000	0.06991	-0.58415	-2.00045
K	39	4.00937	4487.52300	25.700	4.60233	4.60671	2.81906
MG	24	0.67203	206.67700	42.000	0.97179	0.63225	0.41205
MN	55	0.23786	466.69300	50.000	0.12203	0.35958	0.23198
NA	23	10.44047	7818.99000	20.900	12.47590	10.70820	8.13732
TI	47	-0.10764	3.33300	0.000	-0.20727	-0.20727	0.09162
V	51	0.00346	16.66700	173.200	0.00687	0.00696	-0.00346
IN-2	115	289379.44700	0.00000	0.000	286453.16000	291056.97000	290628.21000
IN-3	115	101531.15700	0.00000	0.000	102612.75000	100042.68000	101938.04000
AG	107	0.00402	10.00000	100.200	0.00401	0.00000	0.00806
AS	75	0.01554	14.00000	117.700	0.01416	0.03448	-0.00202
BA	137	0.06308	23.33300	114.700	0.14661	0.02162	0.02102
CD	111	0.00200	2.66700	174.600	0.00603	0.00004	-0.00007
CO	59	-0.10711	56.66700	0.000	-0.11524	-0.10038	-0.10571
CU	63	0.06575	203.34300	42.100	0.08569	0.07738	0.03418
MO	98	0.04303	76.66700	38.600	0.03728	0.06174	0.03006
NI	60	0.04347	36.66700	138.000	-0.02479	0.08786	0.06734
SB	121	0.05479	50.00000	53.100	0.02123	0.07250	0.07064
SE	78	-0.02244	2.22300	0.000	0.01188	-0.01442	-0.06479
SN	120	-0.33334	230.01000	0.000	-0.37307	-0.36849	-0.25844
SR	88	0.01327	20.00000	76.600	0.01300	0.02358	0.00324
ZN	66	2.00829	446.69000	22.000	2.30403	1.50031	2.22052
BI-3	209	131136.78300	0.00000	0.000	129884.64000	130217.56000	133308.15000
PB	208	0.00040	70.00000	552.200	0.00271	-0.00166	0.00015
TL	205	-0.00702	60.00000	0.000	-0.00686	-0.00690	-0.00729
U	238	0.00306	16.66700	42.900	0.00155	0.00387	0.00376
SC-2	45	206570.28000	0.00000	0.000	204107.15000	207663.69000	207940.00000
GE-1	72	839262.25300	0.00000	0.000	841899.60000	848386.16000	827501.00000
GE-2	72	252293.40700	0.00000	0.000	249685.05000	251547.22000	255647.95000
GE-3	72	186926.40300	0.00000	0.000	186561.89000	183917.07000	190300.25000
TB-3	159	261927.59300	0.00000	0.000	265841.46000	260838.26000	259103.06000

Run Name: 1830908E07
 Tube Number: 11
 Sample Number: LCSW

Date/Time: 11/05/2018 18:31:07
 Batch: 183061063901A
 Class: *****

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

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	1024782	0	0.000	1007346	1025873	1041127
SC-3	45	79714.20700	0.00000	0.000	76952.27000	81728.14000	80462.21000
AL	27	2010.67839	83569.26000	2.000	2008.40039	1972.19660	2051.43818
B	11	274.54383	65314.30700	1.300	277.72090	275.29430	270.61630
BE	9	3.92872	1437.41000	4.100	4.04961	3.74361	3.99293
CA	44	3968.58893	21166.02300	1.900	4051.22138	3905.80966	3948.73574
CR	52	49.63699	68189.90700	3.000	50.69900	47.92978	50.28220
FE	57	994.64876	30472.81300	3.500	1010.98661	954.85855	1018.10113
K	39	10048.06143	927627.04000	2.100	10255.83560	9837.23843	10051.11026
MG	24	1942.72577	228976.83300	2.400	1989.20149	1897.66954	1941.30628
MN	55	51.33111	47240.62000	3.900	53.35376	49.33287	51.30670
NA	23	10020.97955	2237542.98700	2.500	10204.07414	9737.10693	10121.75758
TI	47	258.16750	8632.83300	1.700	254.18213	262.69123	257.62914
V	51	50.89399	51709.44700	1.200	51.57621	50.43971	50.66603
IN-2	115	293692.70000	0.00000	0.000	287252.28000	293921.58000	299904.24000
IN-3	115	102785.63700	0.00000	0.000	100827.06000	102350.25000	105179.60000
AG	107	53.60053	134044.72000	0.100	53.61178	53.65720	53.53261
AS	75	10.49046	1259.40000	2.500	10.61725	10.18725	10.66688
BA	137	50.62184	16123.28300	1.700	51.61524	50.31036	49.93991
CD	111	5.17360	1690.11700	2.400	5.26181	5.02949	5.22950
CO	59	247.01675	530071.45000	0.600	246.79975	245.66245	248.58805
CU	63	49.68777	86097.21000	0.800	49.82617	49.97634	49.26081
MO	98	51.57404	68791.26300	1.600	52.46928	51.45414	50.79869
NI	60	52.28815	28629.09300	0.500	51.98203	52.45832	52.42409
SB	121	6.24505	3870.70700	9.300	5.66366	6.24738	6.82410
SE	78	10.07478	542.45300	2.000	10.01523	9.91111	10.29798
SN	120	51.03261	55005.65700	1.300	51.75061	50.86836	50.47885
SR	88	41.56716	42403.87000	1.400	40.90658	41.98647	41.80843
ZN	66	514.39876	103433.96700	2.000	525.49485	505.25261	512.44880
BI-3	209	134276.96700	0.00000	0.000	133204.61000	133712.58000	135913.71000
PB	208	15.15809	72309.58000	1.300	14.95480	15.17706	15.34241
TL	205	1.94153	7188.83700	5.400	1.82088	1.99523	2.00847
U	238	25.88011	114681.33300	0.500	25.85606	25.76926	26.01501
SC-2	45	211206.61700	0.00000	0.000	210403.18000	209396.83000	213819.84000
GE-1	72	868052.04300	0.00000	0.000	858514.75000	871685.30000	873956.08000
GE-2	72	257698.18700	0.00000	0.000	252026.56000	260571.07000	260496.93000
GE-3	72	187928.00700	0.00000	0.000	189055.49000	183322.77000	191405.76000
TB-3	159	269169.52000	0.00000	0.000	266787.52000	271390.05000	269330.99000

Run Name: 1830908E07
 Tube Number: 12
 Sample Number: **9876334**

Date/Time: 11/05/2018 18:33:15
 Batch: 183061063901A
 Class: U*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	967034.72300	0.00000	0.000	959079.75000	973116.86000	968907.56000
SC-3	45	78156.12700	0.00000	0.000	78380.99000	77324.56000	78762.83000
AL	27	41.52444	1740.15700	10.900	44.56655	43.70284	36.30394
B	11	586.64035	126030.69300	0.600	582.93662	587.30261	589.68183
BE	9	-0.03234	4.66700	0.000	-0.04008	-0.03435	-0.02260
CA	44	79776.08439	416610.03300	0.900	79159.86643	80536.13158	79632.25517
CR	52	41.55150	56015.49700	1.300	40.92031	41.77530	41.95891
FE	57	7628.73762	228393.29700	0.900	7691.26610	7641.50051	7553.44624
K	39	24773.62123	2237227.15300	0.300	24724.55186	24868.95371	24727.35813
MG	24	64657.52633	7470464.26300	1.600	64163.20938	65841.04077	63968.32883
MN	55	2521.33773	2264735.12000	0.400	2533.24219	2516.53069	2514.24032
NA	23	88695.89942	19380742.62700	1.200	88475.07889	89868.92693	87743.69244
TI	47	1.72371	63.33300	44.000	2.53306	1.02730	1.61076
V	51	0.48505	496.69000	12.800	0.54730	0.42304	0.48481
IN-2	115	280726.04300	0.00000	0.000	278950.98000	280836.13000	282391.02000
IN-3	115	100096.42000	0.00000	0.000	100823.62000	99425.04000	100040.60000
AG	107	0.01230	30.00000	32.700	0.01631	0.00827	0.01233
AS	75	7.88090	924.03700	6.700	7.59837	8.48947	7.55484
BA	137	1038.54784	322115.57300	1.300	1026.35547	1052.76203	1036.52601
CD	111	0.00635	4.00000	99.600	-0.00001	0.00642	0.01264
CO	59	2.88828	6311.62000	0.700	2.86638	2.90859	2.88988
CU	63	6.08122	10340.78000	1.000	6.01506	6.14228	6.08632
MO	98	4.02038	5241.14000	2.600	3.89908	4.07821	4.08384
NI	60	22.45961	11982.08300	5.700	21.68792	21.74728	23.94364
SB	121	0.53353	336.68000	12.000	0.48529	0.50928	0.60603
SE	78	0.01348	4.00000	257.000	0.04012	-0.02569	0.02601
SN	120	0.84845	1453.46700	21.100	0.79639	1.04801	0.70096
SR	88	275.06805	273181.52700	0.700	273.05402	276.82045	275.32967
ZN	66	11.00224	2200.24700	0.900	10.97188	10.92400	11.11083
BI-3	209	130954.51700	0.00000	0.000	130167.06000	129812.84000	132883.65000
PB	208	4.24229	19779.79700	2.500	4.30973	4.29551	4.12163
TL	205	-0.01446	33.33300	0.000	-0.01818	-0.00967	-0.01553
U	238	1.43764	6215.07700	4.400	1.38713	1.50771	1.41807
SC-2	45	206748.03700	0.00000	0.000	206279.29000	210183.18000	203781.64000
GE-1	72	812598.21700	0.00000	0.000	808293.19000	820354.68000	809146.78000
GE-2	72	247978.75300	0.00000	0.000	243969.43000	250275.78000	249691.05000
GE-3	72	185877.62300	0.00000	0.000	186576.76000	185046.85000	186009.26000
TB-3	159	258585.06700	0.00000	0.000	255989.33000	259021.23000	260744.64000

Run Name: 1830908E07
 Tube Number: 13
 Sample Number: **9876334**

Date/Time: 11/05/2018 18:35:23
 Batch: 183061063901A
 Class: UP*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	981436.75300	0.00000	0.000	991051.78000	983529.67000	969728.81000
SC-3	45	76266.64700	0.00000	0.000	77234.65000	74078.55000	77486.74000
AL	27	857.89416	34140.50700	1.700	867.67867	864.71669	841.28713
B	11	732.42846	158414.38000	1.300	723.28670	731.51344	742.48524
BE	9	0.95451	346.67700	9.300	0.94325	1.04877	0.87150
CA	44	79973.87804	407481.29700	1.200	79409.34429	81115.00904	79397.28080
CR	52	48.22685	63432.66000	1.500	49.04001	47.64242	47.99811
FE	57	7749.53439	226424.13000	1.700	7899.70889	7692.45240	7656.44187
K	39	25346.41709	2232972.77700	1.600	25135.65111	25817.86173	25085.73841
MG	24	63903.74952	7204170.10000	1.200	63315.77023	64796.28355	63599.19478
MN	55	2464.59182	2160246.79000	0.500	2478.50513	2463.18999	2452.08035
NA	23	88787.99775	18930523.46700	1.000	88053.79388	89713.59436	88596.60500
TI	47	50.11097	1610.14000	8.100	51.40041	45.54373	53.38879
V	51	2.73434	2670.33300	5.400	2.56729	2.78316	2.85256
IN-2	115	274852.96700	0.00000	0.000	278083.33000	273266.82000	273208.75000
IN-3	115	98061.46000	0.00000	0.000	98127.65000	96368.32000	99688.41000
AG	107	1.02075	2433.62000	6.500	1.00954	1.09195	0.96074
AS	75	12.27970	1404.08000	4.800	12.92147	12.15427	11.76336
BA	137	1023.72799	311051.57700	0.900	1021.37644	1033.76053	1016.04701
CD	111	1.97725	617.35300	4.400	2.07410	1.95517	1.90248
CO	59	4.81075	10117.17300	7.700	5.24090	4.59749	4.59385
CU	63	83.94572	138727.49700	2.000	85.84917	82.91533	83.07267
MO	98	7.70886	9827.05300	2.200	7.86495	7.73668	7.52495
NI	60	31.36442	16379.87000	4.300	31.44300	32.68086	29.96939
SB	121	4.68474	2770.39300	1.500	4.61318	4.74988	4.69117
SE	78	4.27998	217.56000	5.200	4.52930	4.10132	4.20932
SN	120	4.62213	5264.50000	2.400	4.49780	4.65001	4.71859
SR	88	279.89363	272294.11300	1.600	282.98436	281.84093	274.85561
ZN	66	42.13452	8125.94000	0.300	41.98438	42.17158	42.24760
BI-3	209	125354.30000	0.00000	0.000	125955.96000	124230.34000	125876.60000
PB	208	10.26509	45735.96000	2.600	10.56569	10.05166	10.17793
TL	205	1.03614	3620.62000	12.100	1.14834	0.90147	1.05861
U	238	2.51675	10414.52700	2.600	2.59155	2.48597	2.47272
SC-2	45	206048.55300	0.00000	0.000	208785.45000	205160.60000	204199.61000
GE-1	72	827900.74300	0.00000	0.000	834975.85000	835703.03000	813023.35000
GE-2	72	246527.78300	0.00000	0.000	250957.91000	245066.44000	243559.00000
GE-3	72	180532.56700	0.00000	0.000	186505.64000	177250.97000	177841.09000
TB-3	159	253567.90300	0.00000	0.000	255446.70000	251254.14000	254002.87000

Run Name: 1830908E07
 Tube Number: 14
 Sample Number: **9876337**

Date/Time: 11/05/2018 18:37:30
 Batch: 183061063901A
 Class: D*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	952869.83000	0.00000	0.000	958543.97000	953824.13000	946241.39000
SC-3	45	77623.16300	0.00000	0.000	75977.42000	79154.33000	77737.74000
AL	27	37.11126	1550.15300	1.800	37.68033	36.36078	37.29268
B	11	692.98772	145796.87000	0.900	686.16954	697.90087	694.89276
BE	9	-0.03805	2.66700	0.000	-0.04008	-0.04005	-0.03402
CA	44	81753.14484	424023.10700	0.500	81859.65935	81289.36102	82110.41415
CR	52	0.82559	1236.78000	13.000	0.73484	0.94373	0.79821
FE	57	7756.77860	230640.97300	0.200	7776.10386	7751.01498	7743.21694
K	39	25648.03001	2300188.61300	0.400	25719.51487	25531.84230	25692.73286
MG	24	66198.62173	7595836.97000	1.200	67029.90732	65394.72360	66171.23428
MN	55	2580.22130	2301749.96700	0.800	2574.19032	2562.30494	2604.16864
NA	23	90762.43062	19695359.29000	1.100	91879.56631	89812.62838	90595.09717
TI	47	1.43697	53.33300	26.500	1.67741	0.99876	1.63474
V	51	0.41559	423.35700	23.800	0.52373	0.39313	0.32989
IN-2	115	269774.92300	0.00000	0.000	264670.32000	269826.84000	274827.61000
IN-3	115	98949.31000	0.00000	0.000	99932.81000	99430.03000	97485.09000
AG	107	0.01249	30.00000	34.400	0.01234	0.00827	0.01686
AS	75	8.43858	977.37300	1.700	8.42850	8.29771	8.58952
BA	137	1050.35037	322034.87700	1.100	1037.90510	1052.66691	1060.47911
CD	111	0.01707	7.33300	42.400	0.01266	0.02543	0.01313
CO	59	2.44846	5331.19000	5.000	2.54290	2.31046	2.49201
CU	63	0.97466	1713.49300	4.400	1.01047	0.98598	0.92752
MO	98	3.41974	4410.83300	2.800	3.52510	3.33369	3.40043
NI	60	3.54400	1880.18000	2.700	3.64067	3.45135	3.53997
SB	121	0.43334	273.34300	3.600	0.42311	0.42539	0.45153
SE	78	-0.01505	2.44300	0.000	-0.02330	0.00297	-0.02483
SN	120	0.50105	1080.08700	15.200	0.48047	0.43720	0.58548
SR	88	276.80434	271725.66000	1.700	272.00271	276.86086	281.54944
ZN	66	11.20128	2213.57700	3.100	10.91840	11.59194	11.09350
BI-3	209	127144.47300	0.00000	0.000	127785.67000	126652.54000	126995.21000
PB	208	4.38643	19859.82700	2.000	4.46530	4.29175	4.40225
TL	205	-0.01036	46.66700	0.000	-0.00083	-0.01512	-0.01514
U	238	1.52084	6385.15000	8.800	1.56721	1.37058	1.62473
SC-2	45	202471.98700	0.00000	0.000	198612.59000	200606.46000	208196.91000
GE-1	72	805250.14300	0.00000	0.000	800964.99000	813828.03000	800957.41000
GE-2	72	244214.47700	0.00000	0.000	244544.16000	240692.22000	247407.05000
GE-3	72	186173.63000	0.00000	0.000	183706.70000	189934.90000	184879.29000
TB-3	159	254789.10000	0.00000	0.000	250030.78000	258136.95000	256199.57000

Run Name: 1830908E07
 Tube Number: 15
 Sample Number: **9876335**

Date/Time: 11/05/2018 18:39:37
 Batch: 183061063901A
 Class: R*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	957351.96300	0.00000	0.000	957412.17000	958827.33000	955816.39000
SC-3	45	76953.47700	0.00000	0.000	75265.09000	78250.85000	77344.49000
AL	27	2098.42966	84179.63700	2.100	2135.50319	2048.55261	2111.23319
B	11	959.07353	200829.54300	0.700	964.84727	952.07056	960.30276
BE	9	3.98534	1362.07300	3.400	4.11524	3.84312	3.99766
CA	44	85188.74765	437980.25700	1.300	86140.58997	84003.08964	85422.56336
CR	52	49.68738	65923.47700	0.500	49.95326	49.49776	49.61114
FE	57	8688.23100	256068.67300	1.100	8754.83664	8579.62005	8730.23630
K	39	35516.39476	3155587.66000	1.900	36143.35931	34832.81939	35573.00558
MG	24	68070.80091	7743213.84300	1.800	68795.40316	66686.69061	68730.30898
MN	55	2594.43658	2294160.69700	1.500	2619.75692	2549.46032	2614.09249
NA	23	100549.45934	21631250.51000	1.200	101205.96827	99159.90707	101282.50268
TI	47	260.21301	8392.75700	4.000	271.94375	252.40590	256.28936
V	51	52.30620	51310.90000	1.500	52.50168	51.45365	52.96328
IN-2	115	274641.67000	0.00000	0.000	268209.42000	274666.41000	281049.18000
IN-3	115	99007.49000	0.00000	0.000	101395.88000	96802.27000	98824.32000
AG	107	51.88256	124931.52000	2.600	50.36188	52.94989	52.33589
AS	75	18.69424	2150.84700	4.300	17.85815	19.47892	18.74564
BA	137	1086.37568	333161.50700	2.900	1051.14524	1109.61709	1098.36472
CD	111	5.10035	1603.44000	6.100	4.75374	5.36366	5.18366
CO	59	245.36224	506812.92000	4.100	234.55179	254.69433	246.84060
CU	63	50.78925	84731.98300	3.500	49.13400	52.63344	50.60031
MO	98	55.25743	70975.23300	4.000	52.78643	56.04363	56.94224
NI	60	56.12247	29571.10700	5.800	52.45123	58.51885	57.39733
SB	121	6.42476	3827.32000	5.000	6.09241	6.72751	6.45435
SE	78	10.72142	539.57000	0.700	10.63552	10.74380	10.78494
SN	120	50.85667	52787.58000	3.100	49.03453	52.01709	51.51837
SR	88	319.59907	313837.71000	2.600	310.30984	326.54528	321.94210
ZN	66	530.55497	102695.81300	4.900	504.07238	556.42015	531.17240
BI-3	209	125287.04700	0.00000	0.000	123180.25000	125522.21000	127158.68000
PB	208	19.93288	88702.29700	1.400	19.82620	19.71425	20.25820
TL	205	1.96291	6781.96300	4.500	1.87259	1.96599	2.05016
U	238	27.96051	115589.16700	1.500	28.09153	28.31281	27.47719
SC-2	45	207158.60300	0.00000	0.000	202149.53000	205771.95000	213554.33000
GE-1	72	806825.09300	0.00000	0.000	806934.99000	802729.44000	810810.85000
GE-2	72	247105.97300	0.00000	0.000	242560.47000	242997.32000	255760.13000
GE-3	72	183509.09000	0.00000	0.000	180805.70000	185909.74000	183811.83000
TB-3	159	251250.01700	0.00000	0.000	248795.72000	251047.20000	253907.13000

Run Name: 1830908E07
 Tube Number: 16
 Sample Number: **9876336**

Date/Time: 11/05/2018 18:41:45
 Batch: 183061063901A
 Class: M*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	992285.71300	0.00000	0.000	991961.70000	984008.74000	1000887
SC-3	45	76929.88700	0.00000	0.000	74421.60000	77807.19000	78560.87000
AL	27	2113.73339	84802.68300	1.000	2090.47193	2133.88888	2116.83936
B	11	1009.21454	218761.12700	1.000	1013.21113	1016.97527	997.45721
BE	9	4.21454	1492.09000	0.300	4.22741	4.19860	4.21762
CA	44	83699.99897	430206.40300	0.800	84422.93143	83022.63022	83654.43525
CR	52	50.22052	66606.76000	1.000	50.59071	49.67650	50.39437
FE	57	8501.25765	250435.63000	1.700	8652.25574	8481.43523	8370.08198
K	39	35095.60885	3118533.60000	1.100	34707.16937	35469.73646	35109.92072
MG	24	67739.74909	7703941.55000	1.100	67919.94696	68383.24759	66916.05272
MN	55	2573.37208	2275151.16300	0.800	2572.33225	2593.72417	2554.05983
NA	23	100662.41205	21650818.84300	0.100	100796.47465	100686.64877	100504.11273
TI	47	267.91201	8642.86300	4.100	269.89196	255.99064	277.85342
V	51	53.08781	52053.96000	1.400	53.91167	52.49679	52.85496
IN-2	115	273782.64000	0.00000	0.000	277407.85000	272835.64000	271104.43000
IN-3	115	96694.74000	0.00000	0.000	94843.21000	98316.49000	96924.52000
AG	107	52.99108	124662.63300	0.600	53.33856	52.92648	52.70818
AS	75	18.28893	2056.83300	8.400	18.88031	19.44118	16.54530
BA	137	1097.20971	328783.61000	0.800	1088.58798	1097.87857	1105.16258
CD	111	5.25867	1616.10700	6.300	5.08925	5.04381	5.64293
CO	59	254.64236	513988.00000	0.400	255.92946	253.89762	254.09998
CU	63	51.97295	84704.97700	2.000	53.17396	51.31810	51.42679
MO	98	55.87372	70114.54700	1.200	56.41017	55.08627	56.12473
NI	60	56.61813	29156.70000	1.200	57.08869	55.87450	56.89119
SB	121	6.62496	3857.35300	7.500	6.32188	6.35205	7.20096
SE	78	10.50242	526.89700	0.400	10.49171	10.46736	10.54819
SN	120	53.17372	53904.99000	0.600	53.11198	53.50055	52.90864
SR	88	315.10171	302299.09700	1.200	314.87148	311.42774	319.00589
ZN	66	549.15582	103882.83000	1.900	557.52959	552.66682	537.27105
BI-3	209	122909.18300	0.00000	0.000	123292.72000	123958.86000	121475.97000
PB	208	20.53383	89627.77700	1.200	20.26619	20.61959	20.71572
TL	205	2.02227	6848.68700	1.000	1.99899	2.03556	2.03227
U	238	28.27116	114668.07300	0.200	28.34135	28.25313	28.21899
SC-2	45	208216.08000	0.00000	0.000	211658.63000	206371.33000	206618.28000
GE-1	72	833226.75700	0.00000	0.000	832770.14000	837028.89000	829881.24000
GE-2	72	246294.69000	0.00000	0.000	250359.43000	242050.54000	246474.10000
GE-3	72	180999.81000	0.00000	0.000	180322.15000	181751.44000	180925.84000
TB-3	159	248619.61300	0.00000	0.000	247695.02000	248877.38000	249286.44000

Run Name: 1830908E07
 Tube Number: 17
 Sample Number: **9876334**

Date/Time: 11/05/2018 18:43:53
 Batch: 183061063901A
 Class: UL*****

Initial Vol: 50.00

Final Vol: 50.00

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	995329.10000	0.00000	0.000	990892.72000	994916.31000	1000178
SC-3	45	82411.74700	0.00000	0.000	83236.57000	80540.83000	83457.84000
AL	27	9.19828	446.68700	15.900	7.77245	10.69421	9.12818
B	11	345.34294	78474.86300	1.700	349.97115	347.42797	338.62970
BE	9	-0.03652	3.33300	0.000	-0.04027	-0.04030	-0.02900
CA	44	15558.03154	85676.38700	3.600	14950.44157	16067.92963	15655.72342
CR	52	8.22998	11811.90000	1.500	8.11516	8.21666	8.35813
FE	57	1492.91322	47234.11700	1.200	1472.67564	1508.43424	1497.62979
K	39	4577.72885	439366.63300	2.200	4465.05080	4663.83375	4604.30201
MG	24	13257.72064	1615220.34000	1.200	13124.46559	13433.47614	13215.22019
MN	55	457.81614	433818.82300	0.900	453.01742	459.16012	461.27086
NA	23	17417.19671	4017204.00300	1.500	17231.88951	17725.16032	17294.54029
TI	47	0.56615	26.66700	30.700	0.36617	0.68168	0.65061
V	51	0.10066	120.00300	23.000	0.10927	0.07439	0.11833
IN-2	115	295523.00700	0.00000	0.000	288908.95000	301279.60000	296380.47000
IN-3	115	103577.69700	0.00000	0.000	102194.97000	102576.37000	105961.75000
AG	107	0.00393	10.00000	98.800	0.00402	0.00000	0.00776
AS	75	1.39259	179.33300	4.800	1.38542	1.32930	1.46305
BA	137	202.91364	65137.49300	1.400	199.57651	204.77885	204.38556
CD	111	0.00585	4.00000	100.000	0.00608	-0.00011	0.01158
CO	59	0.48804	1343.44000	6.300	0.48519	0.52027	0.45866
CU	63	1.22463	2230.26000	4.500	1.20776	1.17991	1.28622
MO	98	0.86500	1183.43000	13.300	0.74640	0.97651	0.87208
NI	60	4.83348	2680.35700	7.800	4.40510	5.10296	4.99238
SB	121	0.12297	93.33700	55.500	0.07039	0.20012	0.09839
SE	78	0.00067	3.55700	6850.200	-0.05206	0.03235	0.02173
SN	120	0.14349	746.71700	44.200	0.21240	0.08740	0.13066
SR	88	53.08971	54561.92700	0.700	53.48041	53.07382	52.71489
ZN	66	2.43345	540.03300	18.400	2.91489	2.35478	2.03067
BI-3	209	132717.81300	0.00000	0.000	133125.24000	131096.31000	133931.89000
PB	208	0.87814	4203.74300	6.100	0.91041	0.90753	0.81647
TL	205	-0.01364	36.66700	0.000	-0.02106	-0.00701	-0.01285
U	238	0.31194	1370.12300	6.300	0.30427	0.29744	0.33411
SC-2	45	218062.39300	0.00000	0.000	216773.45000	221342.07000	216071.66000
GE-1	72	847920.12000	0.00000	0.000	848266.24000	846061.32000	849432.80000
GE-2	72	264755.89000	0.00000	0.000	259211.58000	271161.17000	263894.92000
GE-3	72	190147.77700	0.00000	0.000	191373.06000	187351.93000	191718.34000
TB-3	159	264323.11700	0.00000	0.000	264997.69000	263291.70000	264679.96000

Run Name: 1830908E07
 Tube Number: 18
 Sample Number: **9861917**

Date/Time: 11/05/2018 18:46:02
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	930678.14000	0.00000	0.000	945902.02000	926436.55000	919695.85000
SC-3	45	74098.29000	0.00000	0.000	71816.61000	74360.05000	76118.21000
AL	27	90.04193	3523.89000	1.900	90.97848	88.08427	91.06302
B	11	367.16975	77710.29000	0.600	364.57203	367.88290	369.05433
BE	9	0.00676	17.33300	45.100	0.00793	0.00906	0.00330
CA	44	60478.53646	299359.06300	1.700	61629.67707	60180.15624	59625.77606
CR	52	1.97841	2650.32700	5.000	1.87573	2.07393	1.98557
FE	57	330.98485	9510.16300	0.800	334.07001	328.82523	330.05930
K	39	13259.54777	1136911.39000	1.600	13286.66359	13461.56093	13030.41879
MG	24	36560.72486	4004358.79300	1.300	36950.18328	36720.90314	36011.08817
MN	55	180.34417	153800.14300	0.400	180.00576	181.24066	179.78608
NA	23	255195.72713	52847494.21300	1.600	257903.90085	257027.21300	250656.06753
TI	47	8.04077	260.28300	107.300	3.11585	3.00219	18.00426
V	51	0.73582	706.71000	9.900	0.75150	0.79921	0.65674
IN-2	115	262472.60700	0.00000	0.000	257972.72000	262492.53000	266952.57000
IN-3	115	95011.18000	0.00000	0.000	93085.16000	95570.43000	96377.95000
AG	107	0.00291	6.66700	86.600	0.00442	0.00430	0.00000
AS	75	0.78206	97.33300	6.400	0.76941	0.83718	0.73958
BA	137	33.30637	9803.79300	4.600	35.08743	32.38383	32.44785
CD	111	0.02915	10.66700	26.900	0.03436	0.02012	0.03297
CO	59	0.97674	2200.26000	9.600	1.06590	0.87921	0.98512
CU	63	3.27133	5321.17700	2.600	3.19428	3.25899	3.36072
MO	98	0.54345	690.04300	16.400	0.46491	0.52501	0.64044
NI	60	11.34886	5754.67000	3.200	11.17654	11.10146	11.76858
SB	121	0.33388	206.68000	54.500	0.24125	0.21681	0.54358
SE	78	0.06058	6.00300	37.200	0.03461	0.07473	0.07240
SN	120	-0.24470	303.35000	0.000	-0.33410	-0.18848	-0.21152
SR	88	378.45573	356768.16000	1.000	380.12880	373.92209	381.31629
ZN	66	10.05880	1913.52700	6.300	9.70608	10.78547	9.68484
BI-3	209	119104.38000	0.00000	0.000	115834.92000	121474.86000	120003.36000
PB	208	0.60751	2630.19300	5.700	0.59111	0.58386	0.64756
TL	205	-0.00628	56.66700	0.000	-0.00163	-0.00870	-0.00852
U	238	0.55097	2166.93000	6.700	0.57222	0.50818	0.57252
SC-2	45	197736.18300	0.00000	0.000	198725.84000	195961.23000	198521.48000
GE-1	72	777027.30300	0.00000	0.000	791632.02000	772936.39000	766513.50000
GE-2	72	238044.90700	0.00000	0.000	237147.63000	238136.29000	238850.80000
GE-3	72	174797.89000	0.00000	0.000	173988.36000	175406.91000	174998.40000
TB-3	159	240660.52300	0.00000	0.000	236083.55000	242109.35000	243788.67000

Run Name: 1830908E07
 Tube Number: 19
 Sample Number: **9861918**

Date/Time: 11/05/2018 18:48:10
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	913385.27300	0.00000	0.000	933822.64000	906358.58000	899974.60000
SC-3	45	73364.52300	0.00000	0.000	71394.93000	73595.58000	75103.06000
AL	27	231.13947	8883.31700	1.400	232.96545	227.52784	232.92514
B	11	635.11772	128463.19000	1.500	627.94085	631.22574	646.18658
BE	9	-0.01916	8.66700	0.000	-0.01565	-0.01473	-0.02710
CA	44	85906.90215	421008.12000	2.400	88165.06159	84247.37659	85308.26828
CR	52	2.82721	3690.61000	5.900	2.98652	2.83895	2.65616
FE	57	3058.62130	85991.28700	3.000	3164.24079	3004.53449	3007.08862
K	39	28890.40396	2448032.93300	1.800	29396.56110	28375.75586	28898.89492
MG	24	79507.14866	8621659.66300	2.000	81275.01841	78067.45631	79178.97125
MN	55	586.91650	494877.78000	2.300	602.38652	577.51230	580.85069
NA	23	626483.64746	128440391.42000	2.300	642462.55071	613588.02934	623400.36232
TI	47	5.62567	180.01000	24.000	4.13864	5.95436	6.78400
V	51	1.77536	1673.49000	3.500	1.71220	1.77790	1.83597
IN-2	115	251723.01700	0.00000	0.000	254193.94000	250141.07000	250834.04000
IN-3	115	89739.64000	0.00000	0.000	89176.19000	88623.56000	91419.17000
AG	107	0.07331	160.01000	6.800	0.06914	0.07884	0.07194
AS	75	1.79712	197.33300	7.500	1.64162	1.86716	1.88256
BA	137	287.15112	79847.40700	1.300	284.65880	291.55829	285.23627
CD	111	0.10828	32.66700	14.800	0.09266	0.10749	0.12469
CO	59	0.96040	2050.22300	10.500	0.84971	0.98566	1.04581
CU	63	8.72987	13273.20700	2.000	8.58027	8.92239	8.68696
MO	98	1.34195	1580.14300	1.900	1.34161	1.36748	1.31675
NI	60	9.86769	4724.26000	6.900	10.61398	9.70501	9.28409
SB	121	0.53655	303.35000	12.900	0.47746	0.61237	0.51982
SE	78	0.24029	14.00000	23.200	0.29529	0.18391	0.24167
SN	120	0.41138	893.93700	93.100	0.20502	0.85318	0.17593
SR	88	742.59913	661157.69700	0.700	744.23090	746.83917	736.72734
ZN	66	22.93706	4064.04700	7.400	22.93180	24.63464	21.24473
BI-3	209	113383.03700	0.00000	0.000	113010.08000	113574.66000	113564.37000
PB	208	1.87677	7611.15300	4.000	1.82076	1.84637	1.96318
TL	205	-0.00009	73.33700	0.000	-0.01407	0.01175	0.00205
U	238	0.44296	1660.17000	4.800	0.46317	0.42083	0.44489
SC-2	45	195951.95000	0.00000	0.000	197063.94000	195341.87000	195450.04000
GE-1	72	760831.88700	0.00000	0.000	764795.14000	758376.08000	759324.44000
GE-2	72	228510.69000	0.00000	0.000	230039.70000	225379.33000	230113.04000
GE-3	72	170421.80000	0.00000	0.000	169057.03000	170192.38000	172015.99000
TB-3	159	229515.54300	0.00000	0.000	229129.37000	230196.03000	229221.23000

Run Name: 1830908E07
 Tube Number: 20
 Sample Number: **CCV**

Date/Time: 11/05/2018 18:50:23

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	1013576	0	0.000	995479.20000	1029315	1015935
SC-3	45	80065.74000	0.00000	0.000	78781.55000	78651.94000	82763.73000
AL	27	2590.05283	108114.74000	0.500	2605.64825	2580.71614	2583.79411
B	11	398.47060	91402.13000	0.300	399.82185	397.22412	398.36584
BE	9	26.50710	9500.37700	2.000	26.16513	27.10487	26.25131
CA	44	2805.65170	15051.54000	1.800	2789.09368	2765.12171	2862.73972
CR	52	247.12249	340553.23700	1.000	247.60161	249.22418	244.54167
FE	57	2506.58774	76947.26700	1.600	2548.73525	2503.87994	2467.14802
K	39	2550.93559	239769.20300	0.500	2543.49836	2564.45059	2544.85782
MG	24	2503.52845	296353.68000	2.300	2553.48462	2516.88294	2440.21778
MN	55	256.10940	235882.23000	0.700	258.26751	254.89449	255.16621
NA	23	2622.14240	592139.57300	3.300	2700.17831	2637.28107	2528.96781
TI	47	261.17491	8772.91000	3.900	266.16045	249.59476	267.76952
V	51	258.60811	263887.97000	0.600	259.15237	259.88709	256.78489
IN-2	115	286442.90000	0.00000	0.000	286147.70000	283207.98000	289973.02000
IN-3	115	100233.15700	0.00000	0.000	99399.52000	98500.40000	102799.55000
AG	107	26.85316	65479.35000	0.900	26.83522	27.10968	26.61456
AS	75	271.28895	31455.94300	0.400	271.58479	272.19768	270.08437
BA	137	256.17007	79559.60300	1.400	253.81625	260.21492	254.47904
CD	111	26.24111	8349.85700	1.200	26.33805	26.49537	25.88993
CO	59	257.34867	538526.64300	0.800	258.35034	255.10742	258.58824
CU	63	253.83689	428651.90700	1.100	254.44517	250.69715	256.36835
MO	98	26.42193	34382.60000	0.500	26.56429	26.42265	26.27884
NI	60	268.58998	143323.51300	1.200	268.01546	271.94335	265.81113
SB	121	26.38028	15872.98700	1.500	25.97865	26.40307	26.75911
SE	78	26.69690	1396.07000	0.900	26.45525	26.91142	26.72402
SN	120	24.99042	26555.92300	2.500	24.82738	25.67661	24.46727
SR	88	26.59396	26445.25000	2.600	27.18335	26.77568	25.82284
ZN	66	283.70382	55662.49300	0.600	284.23387	281.87235	285.00526
BI-3	209	129153.76700	0.00000	0.000	127834.36000	125673.68000	133953.26000
PB	208	25.63718	117523.21000	2.200	25.59478	26.21014	25.10662
TL	205	25.52578	89861.02000	1.300	25.90738	25.30911	25.36085
U	238	24.80949	105722.61000	0.800	24.98185	24.86901	24.57762
SC-2	45	216463.65000	0.00000	0.000	212104.57000	215679.57000	221606.81000
GE-1	72	848153.13700	0.00000	0.000	827484.52000	857697.25000	859277.64000
GE-2	72	260789.05700	0.00000	0.000	254090.93000	262286.32000	265989.92000
GE-3	72	189143.02700	0.00000	0.000	188770.47000	184946.29000	193712.32000
TB-3	159	254999.86300	0.00000	0.000	252535.09000	253258.08000	259206.42000

Run Name: 1830908E07
 Tube Number: 21
 Sample Number: CCB

Date/Time: 11/05/2018 18:52:32

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	992228.73700	0.00000	0.000	978939.36000	998568.74000	999178.11000
SC-3	45	79164.19300	0.00000	0.000	81507.05000	77696.02000	78289.51000
AL	27	14.53406	646.87700	60.100	8.43411	10.63645	24.53161
B	11	145.24706	35872.09700	3.500	149.73733	146.26103	139.74282
BE	9	-0.03650	3.33300	0.000	-0.04020	-0.04599	-0.02331
CA	44	673.30573	3597.27700	2.800	659.71143	665.42604	694.77973
CR	52	0.29374	533.39300	59.300	0.19342	0.19280	0.49501
FE	57	11.99821	490.26300	147.500	1.79879	1.76128	32.43455
K	39	44.18347	8184.66000	61.000	29.28948	27.94064	75.32030
MG	24	47.75816	5680.32700	107.900	17.47800	18.56401	107.23247
MN	55	1.72469	1812.38000	123.000	0.55256	0.44778	4.17372
NA	23	129.04865	34023.85000	66.000	80.04702	79.72410	227.37483
TI	47	0.40396	20.00000	150.900	-0.20727	0.40706	1.01208
V	51	0.08022	93.35300	159.300	-0.00366	0.01701	0.22730
IN-2	115	278627.89000	0.00000	0.000	274255.17000	283364.52000	278263.98000
IN-3	115	98471.96700	0.00000	0.000	97848.08000	97565.53000	100002.29000
AG	107	0.00554	13.33300	86.600	0.00840	0.00000	0.00822
AS	75	0.15295	29.33300	60.500	0.09060	0.10889	0.25936
BA	137	0.33517	106.68000	127.900	0.05533	0.12167	0.82852
CD	111	0.02330	9.33300	148.400	0.00018	0.00666	0.06305
CO	59	-0.00875	260.11000	0.000	-0.08493	-0.11427	0.17296
CU	63	0.25309	510.14000	60.700	0.23203	0.11113	0.41610
MO	98	0.16027	226.75000	130.900	0.06346	0.01630	0.40104
NI	60	0.34274	193.36000	43.400	0.32076	0.20623	0.50125
SB	121	0.31680	203.34300	10.700	0.34748	0.28019	0.32273
SE	78	-0.02531	2.00000	0.000	-0.01134	-0.02604	-0.03855
SN	120	-0.19555	363.35000	0.000	-0.17723	-0.16627	-0.24313
SR	88	0.45191	450.08300	54.400	0.26118	0.36526	0.72931
ZN	66	31.59579	6131.56000	5.500	32.95531	29.64312	32.18894
BI-3	209	123665.88300	0.00000	0.000	125037.00000	123515.65000	122445.00000
PB	208	0.05012	283.35700	75.100	0.03043	0.02642	0.09353
TL	205	0.01697	136.70000	191.700	-0.00620	0.00294	0.05418
U	238	0.02551	106.67300	97.500	0.00648	0.01639	0.05367
SC-2	45	210233.71300	0.00000	0.000	205242.42000	213658.59000	211800.13000
GE-1	72	835771.73000	0.00000	0.000	827137.64000	834876.39000	845301.16000
GE-2	72	251544.97300	0.00000	0.000	246938.86000	255540.54000	252155.52000
GE-3	72	183794.68700	0.00000	0.000	185263.01000	181858.40000	184262.65000
TB-3	159	247074.75000	0.00000	0.000	249989.98000	246241.19000	244993.08000

Run Name: 1830908E07
 Tube Number: 22
 Sample Number: 9861919

Date/Time: 11/05/2018 18:54:40
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	955228.44700	0.00000	0.000	964920.45000	952315.45000	948449.44000
SC-3	45	79365.14700	0.00000	0.000	77193.76000	79988.53000	80913.15000
AL	27	25.50247	1103.42000	10.300	28.36541	24.93202	23.20999
B	11	221.17244	50009.85300	1.200	218.18234	222.42669	222.90830
BE	9	-0.01639	10.00000	0.000	-0.00488	-0.02219	-0.02209
CA	44	24665.16195	130794.03000	1.900	25204.48278	24314.17972	24476.82334
CR	52	17.83945	24484.52700	3.800	18.61728	17.37417	17.52692
FE	57	6215.53547	188940.31300	1.700	6330.79401	6183.81442	6131.99798
K	39	6950.50234	640295.74300	1.100	7029.71012	6938.46558	6883.33133
MG	24	13330.96684	1564183.04700	1.000	13448.86976	13184.81224	13359.21853
MN	55	68.70353	62903.09000	1.100	69.55911	68.46324	68.08823
NA	23	46526.03323	10324695.88700	1.400	47280.29286	46194.02756	46103.77926
TI	47	0.99016	40.00000	50.100	0.72022	0.68782	1.56245
V	51	5.13810	5211.12000	1.000	5.11036	5.19626	5.10767
IN-2	115	278134.39000	0.00000	0.000	268029.16000	280185.57000	286188.44000
IN-3	115	98981.59700	0.00000	0.000	98410.74000	100546.99000	97987.06000
AG	107	0.30894	743.38300	10.100	0.33413	0.27389	0.31881
AS	75	3.14403	372.01000	8.100	3.16501	3.38797	2.87910
BA	137	138.26152	42405.98700	2.500	135.78992	136.83443	142.16020
CD	111	0.29925	96.00000	14.800	0.34586	0.29452	0.25737
CO	59	1.55877	3493.88000	6.600	1.57577	1.44885	1.65168
CU	63	16.97525	28391.80700	2.000	16.79106	17.37398	16.76071
MO	98	1.30071	1690.16000	1.500	1.28478	1.29548	1.32186
NI	60	24.94324	13156.40700	3.500	25.96428	24.47717	24.38827
SB	121	0.92716	566.70000	2.400	0.92160	0.95121	0.90868
SE	78	0.32108	19.55300	8.700	0.30395	0.35321	0.30607
SN	120	-0.22614	333.35000	0.000	-0.16958	-0.33107	-0.17776
SR	88	166.58656	163596.16700	1.200	165.75115	165.17975	168.82879
ZN	66	40.15900	7819.08700	1.000	40.09542	39.79856	40.58302
BI-3	209	125616.35700	0.00000	0.000	124532.57000	124814.62000	127501.88000
PB	208	8.22665	36731.20300	3.100	8.25793	8.46077	7.96126
TL	205	-0.00722	56.66700	0.000	-0.00908	-0.00028	-0.01230
U	238	0.21567	896.73700	7.000	0.22797	0.22017	0.19887
SC-2	45	211063.31300	0.00000	0.000	204194.22000	210729.10000	218266.62000
GE-1	72	800132.02000	0.00000	0.000	803072.80000	801724.44000	795598.82000
GE-2	72	251189.94000	0.00000	0.000	239968.81000	256849.39000	256751.62000
GE-3	72	183908.44300	0.00000	0.000	181790.92000	184992.34000	184942.07000
TB-3	159	251667.92000	0.00000	0.000	248991.97000	252033.92000	253977.87000

Run Name: 1830908E07
 Tube Number: 23
 Sample Number: **9861920**

Date/Time: 11/05/2018 18:56:47
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1001987	0	0.000	967164.59000	1041339	997456.94000
SC-3	45	79822.26700	0.00000	0.000	81054.68000	80122.02000	78290.10000
AL	27	46.32156	1978.61700	4.700	48.08116	46.97781	43.90571
B	11	207.81869	49579.20000	2.700	214.22505	203.43722	205.79380
BE	9	0.06576	40.66700	202.500	-0.04013	0.21522	0.02218
CA	44	80615.80726	429969.82700	1.800	81405.41344	78944.05948	81497.94885
CR	52	1.00880	1520.68300	19.700	0.81888	1.21476	0.99275
FE	57	1246.52770	38230.00700	3.000	1230.97010	1289.77022	1218.84277
K	39	5453.23868	506280.05700	0.800	5504.98238	5419.71652	5435.01713
MG	24	26031.14659	3071976.20300	1.000	26124.07297	25738.63568	26230.73113
MN	55	916.35584	840746.83700	1.800	923.77667	897.12176	928.16908
NA	23	61736.11434	13779636.04700	1.400	62204.98000	60714.70373	62288.65928
TI	47	1.69100	63.33700	37.600	0.97048	2.17595	1.92657
V	51	0.87574	903.84700	34.500	0.60628	1.20214	0.81879
IN-2	115	275061.17700	0.00000	0.000	270585.55000	275266.31000	279331.67000
IN-3	115	97612.99700	0.00000	0.000	98743.88000	97173.60000	96921.51000
AG	107	0.00560	13.33300	86.600	0.00832	0.00846	0.00000
AS	75	1.23657	151.33300	3.400	1.27983	1.19541	1.23448
BA	137	146.56771	44335.55300	0.700	145.69324	147.78263	146.22725
CD	111	0.04765	16.66700	80.300	0.03203	0.01968	0.09125
CO	59	1.39055	3104.94700	9.000	1.38081	1.51980	1.27104
CU	63	1.39113	2371.13300	24.100	1.02935	1.68978	1.45426
MO	98	1.23038	1576.93700	8.800	1.10878	1.31734	1.26502
NI	60	9.47740	4937.73700	6.200	9.22157	10.14468	9.06595
SB	121	0.25180	163.34300	15.100	0.20896	0.28143	0.26503
SE	78	0.17926	12.22300	9.000	0.19231	0.16121	0.18426
SN	120	-0.30762	246.68300	0.000	-0.37584	-0.23413	-0.31288
SR	88	416.30492	403227.22000	1.000	420.94840	413.48450	414.48186
ZN	66	4.61986	926.77300	13.100	4.11259	5.28867	4.45833
BI-3	209	124486.35300	0.00000	0.000	127328.60000	122727.86000	123402.60000
PB	208	0.17348	830.06000	11.600	0.15134	0.17823	0.19087
TL	205	0.01462	130.02300	125.200	0.00502	0.00311	0.03571
U	238	0.36051	1483.52700	5.900	0.34434	0.35235	0.38483
SC-2	45	213109.22300	0.00000	0.000	211679.18000	214689.29000	212959.20000
GE-1	72	830667.22700	0.00000	0.000	811288.74000	845659.28000	835053.66000
GE-2	72	252958.24000	0.00000	0.000	250494.92000	252669.10000	255710.70000
GE-3	72	184960.79000	0.00000	0.000	187967.18000	185438.69000	181476.50000
TB-3	159	251412.17000	0.00000	0.000	254470.91000	250407.48000	249358.12000

Run Name: 1830908E07
 Tube Number: 24
 Sample Number: 9861921

Date/Time: 11/05/2018 18:58:55
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	951283.91700	0.00000	0.000	960115.61000	945857.72000	947878.42000
SC-3	45	75893.01700	0.00000	0.000	80723.27000	78912.68000	68043.10000
AL	27	112.46904	4457.80700	14.400	101.74008	104.58095	131.08609
B	11	221.68321	49910.09000	0.200	221.69777	222.14137	221.21050
BE	9	-0.00831	12.66700	0.000	0.00123	-0.01005	-0.01610
CA	44	59504.79262	300064.07000	9.500	56235.32922	56259.15030	66019.89835
CR	52	9.35793	12282.26000	9.200	8.71663	9.01473	10.34243
FE	57	1657.60530	48077.34700	7.400	1592.38819	1581.82240	1798.60531
K	39	7185.44270	629218.15700	9.900	6762.75684	6784.86406	8008.70722
MG	24	26756.47151	2984083.08000	10.100	25161.75803	25221.18428	29886.47222
MN	55	801.18685	694984.67700	9.500	749.19293	766.03208	888.33553
NA	23	132827.52599	28017420.41300	9.800	124184.11238	126568.25540	147730.21018
TI	47	2.08456	73.33300	28.500	2.74919	1.60731	1.89718
V	51	0.89536	873.39700	10.800	0.81293	0.87166	1.00149
IN-2	115	276713.22700	0.00000	0.000	276550.82000	277293.69000	276295.17000
IN-3	115	94956.55300	0.00000	0.000	97990.09000	100457.21000	86422.36000
AG	107	0.00438	10.00000	96.000	0.00839	0.00000	0.00476
AS	75	1.71106	198.00000	13.500	1.55522	1.60055	1.97740
BA	137	121.88870	35653.55300	11.600	113.52202	113.95310	138.19098
CD	111	0.00679	4.00000	88.600	0.01303	0.00629	0.00104
CO	59	0.88766	2010.22000	14.900	0.84440	0.78220	1.03638
CU	63	1.60599	2633.67300	15.500	1.60126	1.35961	1.85709
MO	98	1.24291	1546.80700	4.300	1.21956	1.20459	1.30459
NI	60	11.17691	5644.65000	6.700	10.59674	10.91563	12.01834
SB	121	0.37836	230.01000	10.400	0.38098	0.33774	0.41636
SE	78	0.23939	15.33000	16.500	0.27929	0.23876	0.20011
SN	120	-0.30032	246.67700	0.000	-0.29581	-0.32128	-0.28388
SR	88	308.13577	289092.75000	8.000	296.66859	291.21148	336.52724
ZN	66	3.69533	730.04700	8.000	3.36321	3.93665	3.78613
BI-3	209	119952.51000	0.00000	0.000	124603.90000	124461.23000	110792.40000
PB	208	0.50195	2186.83300	14.400	0.49420	0.43365	0.57799
TL	205	-0.01350	33.33300	0.000	-0.00908	-0.02087	-0.01056
U	238	0.60594	2390.30700	11.300	0.54649	0.59095	0.68037
SC-2	45	211594.84700	0.00000	0.000	211215.66000	211095.00000	212473.88000
GE-1	72	791439.72700	0.00000	0.000	797914.05000	777361.63000	799043.50000
GE-2	72	253718.55300	0.00000	0.000	254450.88000	255619.43000	251085.35000
GE-3	72	177926.19300	0.00000	0.000	182956.17000	188751.13000	162071.28000
TB-3	159	240618.46000	0.00000	0.000	251029.12000	252576.40000	218249.86000

Run Name: 1830908E07
 Tube Number: 25
 Sample Number: 9861922

Date/Time: 11/05/2018 19:01:03
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	998144.46300	0.00000	0.000	1004584	1011271	978577.64000
SC-3	45	78755.29000	0.00000	0.000	78309.29000	78972.87000	78983.71000
AL	27	152.95835	6325.22700	11.900	173.81553	139.74415	145.31537
B	11	288.82168	66662.71700	0.400	289.30931	287.40193	289.75380
BE	9	-0.01591	10.66700	0.000	-0.01215	-0.00116	-0.03441
CA	44	130607.04117	687305.01700	0.500	130189.40820	130233.41641	131398.29890
CR	52	1.32284	1926.87700	11.800	1.29638	1.49071	1.18142
FE	57	11989.61555	361649.51300	1.700	11857.84492	11886.76925	12224.23247
K	39	6786.83092	620623.54700	1.000	6761.85478	6734.13171	6864.50628
MG	24	24531.29297	2856322.56300	1.000	24811.05210	24345.36159	24437.46521
MN	55	1227.95642	1111585.56000	1.200	1220.44238	1218.04546	1245.38141
NA	23	63600.81595	14006481.87300	0.300	63574.90143	63408.99988	63818.54655
TI	47	6.15770	210.01000	5.400	6.49775	5.83702	6.13834
V	51	0.93329	950.07300	14.000	0.95866	1.04983	0.79138
IN-2	115	275102.35300	0.00000	0.000	273665.56000	271924.43000	279717.07000
IN-3	115	98357.76700	0.00000	0.000	96699.52000	97797.16000	100576.62000
AG	107	0.01940	46.66700	68.800	0.00425	0.02942	0.02452
AS	75	4.71624	548.01300	3.300	4.83259	4.77710	4.53904
BA	137	280.29374	85434.32000	0.600	278.78978	281.97203	280.11941
CD	111	0.00236	2.66700	416.700	0.00026	0.01307	-0.00625
CO	59	1.75134	3870.65700	3.600	1.71510	1.71396	1.82497
CU	63	1.63267	2790.37000	6.800	1.75231	1.61061	1.53508
MO	98	1.11296	1436.79300	16.800	1.29185	1.12742	0.91959
NI	60	8.06378	4237.44000	5.500	8.15410	7.58198	8.45527
SB	121	0.43707	273.34700	47.100	0.35194	0.67172	0.28756
SE	78	0.17903	12.22300	33.900	0.10916	0.21790	0.21002
SN	120	-0.21489	343.35300	0.000	-0.16282	-0.26573	-0.21613
SR	88	673.19923	656938.11700	0.600	677.55110	671.76999	670.27659
ZN	66	7.92445	1570.13300	4.600	8.17097	7.50135	8.10103
BI-3	209	124741.49000	0.00000	0.000	122998.51000	123684.75000	127541.21000
PB	208	1.57248	7024.32000	4.800	1.53192	1.66007	1.52545
TL	205	-0.00615	60.00300	0.000	-0.00292	-0.00897	-0.00654
U	238	0.25513	1053.41700	14.800	0.22097	0.29570	0.24871
SC-2	45	212920.08000	0.00000	0.000	210687.28000	210922.46000	217150.50000
GE-1	72	833864.72700	0.00000	0.000	839147.49000	843464.67000	818982.02000
GE-2	72	250394.89300	0.00000	0.000	243459.18000	253268.41000	254457.09000
GE-3	72	185935.07000	0.00000	0.000	181721.17000	188019.67000	188064.37000
TB-3	159	251296.54300	0.00000	0.000	249032.69000	249877.16000	254979.78000

Run Name: 1830908E07
 Tube Number: 26
 Sample Number: **9876332**

Date/Time: 11/05/2018 19:03:11
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	936379.46300	0.00000	0.000	937766.00000	948096.78000	923275.61000
SC-3	45	77512.50000	0.00000	0.000	73856.80000	80259.23000	78421.47000
AL	27	971.41326	39335.06000	4.500	930.63585	1016.90488	966.69905
B	11	1268.73871	258266.62300	1.600	1249.19695	1266.77740	1290.24177
BE	9	0.05071	32.00000	52.900	0.02652	0.07953	0.04607
CA	44	227270.63187	1177233.39300	2.100	224570.64075	224416.81384	232824.44103
CR	52	15.97115	21440.51300	5.400	15.53065	15.42231	16.96048
FE	57	5833.15629	173142.26000	2.000	5967.31797	5783.30234	5748.84855
K	39	31083.47934	2782809.12700	0.200	31155.24292	31059.70926	31035.48583
MG	24	31770.10577	3639143.59300	1.800	32314.65064	31199.71011	31795.95655
MN	55	447.82324	399005.80300	1.300	452.88309	441.56374	449.02290
NA	23	52997.21948	11480125.66300	2.600	54261.73172	51524.50681	53205.41991
TI	47	35.86892	1167.00300	26.900	38.90856	25.06974	43.62846
V	51	5.95326	5905.10700	14.400	5.28868	5.64810	6.92299
IN-2	115	265052.00300	0.00000	0.000	263759.88000	269597.91000	261798.22000
IN-3	115	94833.38000	0.00000	0.000	94924.55000	91984.54000	97591.05000
AG	107	0.24177	556.70000	16.700	0.27712	0.25023	0.19795
AS	75	4.18561	470.68000	8.300	3.81343	4.23946	4.50395
BA	137	1134.96590	333364.42000	2.700	1122.93133	1169.40308	1112.56330
CD	111	0.63895	194.66700	14.300	0.70394	0.53485	0.67808
CO	59	5.00177	10160.92300	7.200	4.58355	5.22447	5.19728
CU	63	31.06308	49673.06300	2.600	30.76880	31.96800	30.45244
MO	98	10.75288	13256.89000	2.500	10.65792	10.54630	11.05443
NI	60	38.40910	19390.20700	3.900	38.26984	39.98492	36.97255
SB	121	3.52983	2020.23000	11.700	3.92625	3.56294	3.10030
SE	78	0.41412	23.11300	29.400	0.28223	0.43765	0.52246
SN	120	12.17512	12522.76700	1.000	12.30838	12.12167	12.09531
SR	88	1395.37486	1312473.86000	2.100	1408.92249	1414.95511	1362.24700
ZN	66	200.03173	37119.41300	3.800	204.68228	204.04575	191.36716
BI-3	209	120476.80700	0.00000	0.000	118912.83000	118800.21000	123717.38000
PB	208	32.23963	137879.01700	1.300	32.38897	32.56736	31.76255
TL	205	0.06043	280.03700	118.500	0.02868	0.01018	0.14242
U	238	1.55093	6175.14700	8.500	1.40887	1.57611	1.66781
SC-2	45	205415.80700	0.00000	0.000	205877.15000	205488.71000	204881.56000
GE-1	72	772212.87700	0.00000	0.000	774278.11000	775629.52000	766731.00000
GE-2	72	242680.10300	0.00000	0.000	243876.60000	244588.36000	239575.35000
GE-3	72	172378.45700	0.00000	0.000	174814.51000	171920.41000	170400.45000
TB-3	159	242590.31700	0.00000	0.000	237803.88000	242660.88000	247306.19000

Run Name: 1830908E07
 Tube Number: 27
 Sample Number: **9876342**

Date/Time: 11/05/2018 19:05:19
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	985595.79000	0.00000	0.000	983427.64000	993868.42000	979491.31000
SC-3	45	78956.53300	0.00000	0.000	77918.02000	80058.37000	78893.21000
AL	27	6.65644	323.37000	48.900	10.11185	6.21164	3.64584
B	11	309.45124	70162.28300	2.800	319.39229	304.45717	304.50425
BE	9	-0.04025	2.00000	0.000	-0.03447	-0.04029	-0.04599
CA	44	45.22574	273.39000	106.200	100.64366	19.22153	15.81205
CR	52	0.38983	663.37300	21.400	0.48286	0.36567	0.32097
FE	57	8.51593	383.55300	187.200	26.90690	-0.04857	-1.31056
K	39	17.01235	5692.41700	86.900	33.88909	6.37594	10.77203
MG	24	14.90649	1851.49000	143.300	39.55173	3.36538	1.80237
MN	55	0.91258	1074.73000	123.700	2.21489	0.30673	0.21612
NA	23	90.05678	25329.35700	79.300	172.54229	49.42125	48.20681
TI	47	0.09629	10.00000	318.100	0.40531	0.09083	-0.20727
V	51	0.52495	540.03700	39.200	0.76213	0.39834	0.41437
IN-2	115	275306.96300	0.00000	0.000	271104.86000	273232.46000	281583.57000
IN-3	115	98831.19700	0.00000	0.000	98110.61000	97846.98000	100536.00000
AG	107	0.00556	13.33300	44.300	0.00419	0.00840	0.00409
AS	75	0.17096	31.33300	84.100	0.33687	0.09061	0.08541
BA	137	0.30721	96.67700	134.000	0.77888	0.12129	0.02146
CD	111	0.00429	3.33300	223.800	0.00659	-0.00625	0.01255
CO	59	-0.04606	180.03000	0.000	0.02732	-0.05064	-0.11485
CU	63	0.16594	363.41000	69.600	0.29189	0.14100	0.06493
MO	98	0.05274	86.68000	185.100	0.16540	0.00046	-0.00763
NI	60	0.26109	150.00700	41.600	0.37728	0.24396	0.16204
SB	121	0.04562	43.33300	93.900	0.09147	0.00656	0.03883
SE	78	0.00177	3.33300	2012.700	-0.02429	0.04232	-0.01273
SN	120	-0.33001	226.67700	0.000	-0.27648	-0.32498	-0.38856
SR	88	0.22887	230.06000	101.500	0.49689	0.08607	0.10364
ZN	66	1.41980	320.01300	32.500	1.95154	1.12124	1.18662
BI-3	209	126071.36700	0.00000	0.000	125361.13000	126149.43000	126703.54000
PB	208	0.01222	120.01000	157.500	0.03256	-0.00571	0.00982
TL	205	-0.01507	30.00000	0.000	-0.00917	-0.02091	-0.01512
U	238	0.00645	30.00000	135.300	0.01613	-0.00079	0.00400
SC-2	45	203474.79000	0.00000	0.000	200790.11000	200485.90000	209148.36000
GE-1	72	820148.21700	0.00000	0.000	809808.66000	825266.39000	825369.60000
GE-2	72	244622.12300	0.00000	0.000	241208.65000	239933.06000	252724.66000
GE-3	72	182815.71000	0.00000	0.000	184431.74000	179652.48000	184362.91000
TB-3	159	250570.43300	0.00000	0.000	247025.91000	250888.26000	253797.13000

Run Name: 1830908E07
 Tube Number: 28
 Sample Number: 9878662

Date/Time: 11/05/2018 19:07:27
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1008348	0	0.000	1013189	994026.00000	1017828
SC-3	45	77938.02700	0.00000	0.000	77515.55000	77867.95000	78430.58000
AL	27	8.22045	383.35000	17.400	7.44561	9.87097	7.34476
B	11	184.55357	44912.92700	1.200	184.04853	186.99417	182.61801
BE	9	-0.03852	2.66700	0.000	-0.04040	-0.04029	-0.03486
CA	44	50552.33464	263286.01000	0.200	50578.91244	50442.13717	50635.95433
CR	52	0.42543	703.37700	14.800	0.44089	0.35635	0.47906
FE	57	151.00394	4634.22300	2.400	147.03212	151.71760	154.26210
K	39	2660.54655	243265.29000	1.000	2663.75414	2631.81388	2686.07163
MG	24	7311.36796	842590.74000	0.900	7350.93528	7238.77401	7344.39458
MN	55	290.14505	260111.05700	1.100	292.17129	286.41025	291.85361
NA	23	25433.63498	5546186.79300	1.300	25764.80115	25089.83294	25446.27085
TI	47	0.19992	13.33300	176.400	-0.20727	0.40571	0.40131
V	51	1.01039	1016.74000	3.600	1.04956	1.00446	0.97714
IN-2	115	279875.22300	0.00000	0.000	274526.28000	281802.66000	283296.73000
IN-3	115	99395.62700	0.00000	0.000	97002.22000	99419.04000	101765.62000
AG	107	0.00542	13.33300	113.700	0.00000	0.00413	0.01212
AS	75	0.70228	92.66700	9.300	0.73415	0.62680	0.74591
BA	137	157.76203	48599.56000	0.900	157.28618	156.62314	159.37677
CD	111	0.00014	2.00000	4684.200	0.00024	0.00642	-0.00625
CO	59	-0.02104	233.34000	0.000	0.02913	-0.07607	-0.01617
CU	63	3.01277	5127.77000	5.800	3.16725	3.04712	2.82392
MO	98	13.16452	16990.71000	4.000	13.75395	12.75158	12.98804
NI	60	0.77107	420.02300	19.400	0.94343	0.69316	0.67661
SB	121	0.03935	40.00000	38.600	0.02405	0.03957	0.05442
SE	78	0.01825	4.22300	153.600	0.04181	-0.01277	0.02572
SN	120	-0.33151	226.67700	0.000	-0.32301	-0.31887	-0.35265
SR	88	360.30345	355211.62300	2.300	369.73379	357.25009	353.92645
ZN	66	21.52641	4230.79300	7.000	20.58815	23.27174	20.71933
BI-3	209	127649.10000	0.00000	0.000	125541.91000	128450.05000	128955.34000
PB	208	0.08396	446.68300	8.100	0.08411	0.09066	0.07713
TL	205	-0.01041	46.66700	0.000	-0.01212	-0.00952	-0.00958
U	238	1.38490	5834.85300	4.100	1.43824	1.39151	1.32494
SC-2	45	213077.79700	0.00000	0.000	205992.42000	213971.68000	219269.29000
GE-1	72	835127.72000	0.00000	0.000	841352.17000	822348.50000	841682.49000
GE-2	72	254759.74300	0.00000	0.000	246494.10000	256977.65000	260807.48000
GE-3	72	188559.81700	0.00000	0.000	188840.43000	186674.41000	190164.61000
TB-3	159	253418.64300	0.00000	0.000	251943.96000	251880.35000	256431.62000

Run Name: 1830908E07
 Tube Number: 29
 Sample Number: **9878664**

Date/Time: 11/05/2018 19:09:38
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	981545.27300	0.00000	0.000	980583.97000	980766.08000	983285.77000
SC-3	45	79073.76700	0.00000	0.000	78942.89000	79204.12000	79074.29000
AL	27	2.50162	153.35000	53.300	2.42739	3.86975	1.20772
B	11	150.02869	36493.63700	1.800	152.37957	147.04628	150.66022
BE	9	-0.04021	2.00000	0.000	-0.03443	-0.04021	-0.04599
CA	44	37988.58194	200743.89700	0.600	37766.31176	37973.60184	38225.83221
CR	52	0.30778	553.36300	6.200	0.32806	0.28997	0.30531
FE	57	18.94056	703.38700	18.500	14.90104	21.10546	20.81518
K	39	2259.09104	210192.93700	0.800	2240.67856	2260.99673	2275.59784
MG	24	5506.37281	643850.84000	0.900	5552.60227	5509.29898	5457.21717
MN	55	239.57841	217954.41300	1.600	235.60178	240.04061	243.09285
NA	23	23852.40495	5277634.50700	0.400	23745.93566	23896.03435	23915.24483
TI	47	-0.10666	3.33300	0.000	-0.20727	-0.20727	0.09454
V	51	0.10244	116.67300	39.000	0.06623	0.14522	0.09587
IN-2	115	281255.28300	0.00000	0.000	283708.87000	278603.42000	281453.56000
IN-3	115	98980.14700	0.00000	0.000	97425.91000	98593.62000	100920.91000
AG	107	0.00556	13.33300	44.800	0.00844	0.00417	0.00407
AS	75	0.61211	82.00000	8.600	0.60624	0.56275	0.66734
BA	137	90.01095	27611.58700	1.600	88.81612	91.56917	89.64755
CD	111	0.00425	3.33300	225.200	-0.00625	0.00653	0.01247
CO	59	-0.04497	183.35300	0.000	-0.07489	0.02166	-0.08168
CU	63	1.27106	2206.91000	10.700	1.19632	1.42849	1.18835
MO	98	10.53151	13546.88000	0.700	10.49467	10.48755	10.61232
NI	60	0.55263	303.35000	29.400	0.63073	0.66107	0.36607
SB	121	0.17532	120.00300	30.800	0.22927	0.17547	0.12121
SE	78	-0.00404	3.11000	0.000	-0.01312	0.00084	0.00017
SN	120	-0.33093	226.67700	0.000	-0.30422	-0.38535	-0.30324
SR	88	274.89460	269951.97700	0.700	275.88816	276.18046	272.61517
ZN	66	12.03739	2373.61700	11.400	13.62023	11.27744	11.21451
BI-3	209	126757.37000	0.00000	0.000	126047.78000	125986.29000	128238.04000
PB	208	0.02463	176.67000	31.800	0.01665	0.03232	0.02490
TL	205	-0.01417	33.33300	0.000	-0.01799	-0.01216	-0.01236
U	238	1.04185	4360.89000	3.600	1.01157	1.08425	1.02973
SC-2	45	209572.11300	0.00000	0.000	212363.79000	206516.93000	209835.62000
GE-1	72	812490.30000	0.00000	0.000	811075.14000	806244.05000	820151.71000
GE-2	72	250691.64300	0.00000	0.000	249120.35000	243283.06000	259671.52000
GE-3	72	181905.26300	0.00000	0.000	180504.41000	180323.67000	184887.71000
TB-3	159	251208.34300	0.00000	0.000	249569.98000	250377.28000	253677.77000

Run Name: 1830908E07
 Tube Number: 30
 Sample Number: **CCV**

Date/Time: 11/05/2018 19:11:47

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	1009584	0	0.000	1011539	1025943	991270.06000
SC-3	45	81332.69700	0.00000	0.000	82633.17000	80380.44000	80984.48000
AL	27	2507.63763	106329.63700	0.700	2490.45004	2527.09955	2505.36332
B	11	322.91241	74759.28300	1.600	321.37157	318.82329	328.54236
BE	9	26.36661	9412.33000	2.500	27.06628	26.24906	25.78450
CA	44	2728.50704	14867.99000	3.500	2763.89522	2619.77833	2801.84758
CR	52	242.70582	339795.94300	1.200	241.19650	246.15351	240.76744
FE	57	2459.95925	76713.18000	2.900	2377.31457	2494.69503	2507.86814
K	39	2514.47838	240131.71300	1.100	2490.90584	2544.02478	2508.50453
MG	24	2431.62856	292494.41700	1.100	2401.88424	2452.01425	2440.98718
MN	55	253.71460	237364.70300	1.200	250.25194	255.44318	255.44867
NA	23	2403.82609	552201.90700	0.600	2390.39793	2417.49597	2403.58437
TI	47	263.24116	8976.40300	2.300	257.78960	269.77574	262.15814
V	51	251.91196	261151.92300	1.000	252.41326	254.20936	249.11326
IN-2	115	291533.72000	0.00000	0.000	289086.45000	293863.57000	291651.14000
IN-3	115	99716.03700	0.00000	0.000	99744.20000	100681.23000	98722.68000
AG	107	26.49052	64263.84300	1.700	26.73845	25.96474	26.76839
AS	75	261.80229	30197.36300	2.600	265.97196	254.02758	265.40733
BA	137	260.19570	80386.76700	3.400	255.56896	254.73752	270.28063
CD	111	25.85561	8185.75000	1.600	26.22810	25.42039	25.91835
CO	59	255.53911	531882.81700	1.700	256.57294	250.77872	259.26567
CU	63	251.57347	422545.61700	1.100	252.01859	248.62725	254.07459
MO	98	26.32381	34074.95700	2.400	26.39465	25.65022	26.92655
NI	60	265.92692	141165.66300	3.400	271.04282	255.59989	271.13806
SB	121	26.50977	15862.91700	3.200	26.87656	25.53154	27.12122
SE	78	25.27564	1345.17700	3.900	26.10968	24.18921	25.52802
SN	120	25.70097	27160.56000	1.600	25.34007	25.62644	26.13642
SR	88	26.19098	25917.61700	1.600	25.78376	26.14536	26.64382
ZN	66	275.87757	53842.32300	1.300	279.02609	271.99308	276.61354
BI-3	209	128759.62700	0.00000	0.000	129297.50000	128996.50000	127984.88000
PB	208	25.62928	117179.65000	0.900	25.36418	25.83060	25.69307
TL	205	25.69675	90187.56300	2.200	25.87450	25.06934	26.14641
U	238	25.30703	107523.23000	2.000	24.88089	25.16630	25.87391
SC-2	45	216245.20700	0.00000	0.000	213132.01000	217821.68000	217781.93000
GE-1	72	847683.14000	0.00000	0.000	847091.47000	861085.38000	834872.57000
GE-2	72	261758.47300	0.00000	0.000	259583.90000	264680.41000	261011.11000
GE-3	72	183286.55700	0.00000	0.000	183846.34000	179148.84000	186864.49000
TB-3	159	254351.33300	0.00000	0.000	252513.71000	251608.61000	258931.68000

Run Name: 1830908E07
 Tube Number: 31
 Sample Number: CCB

Date/Time: 11/05/2018 19:13:57

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	952162.33000	0.00000	0.000	971891.86000	956309.99000	928285.14000
SC-3	45	78704.81000	0.00000	0.000	78338.94000	78932.66000	78842.83000
AL	27	8.12854	383.35700	8.800	8.57954	8.50608	7.29999
B	11	138.90281	33143.18700	0.500	139.50350	139.00751	138.19742
BE	9	-0.03406	4.00000	0.000	-0.02850	-0.04599	-0.02768
CA	44	627.01121	3333.83700	1.900	623.60464	616.96366	640.46534
CR	52	0.34410	600.03300	7.200	0.33136	0.32812	0.37284
FE	57	3.67965	240.01000	47.800	5.71263	2.65920	2.66712
K	39	19.49764	5911.40000	11.300	17.48210	21.84214	19.16868
MG	24	20.26639	2486.99300	12.200	22.54831	17.65597	20.59490
MN	55	0.61548	810.05000	7.000	0.65290	0.56868	0.62485
NA	23	43.29277	15078.40700	4.900	45.39212	43.36252	41.12367
TI	47	-0.00482	6.66700	0.000	0.09738	-0.20727	0.09543
V	51	0.02330	36.66700	65.900	0.03679	0.00660	0.02652
IN-2	115	284831.93700	0.00000	0.000	280318.11000	286110.59000	288067.11000
IN-3	115	100350.23700	0.00000	0.000	99405.91000	101269.08000	100375.72000
AG	107	0.01357	33.33300	105.000	0.00000	0.02841	0.01228
AS	75	0.03996	16.66700	91.700	0.05276	-0.00135	0.06848
BA	137	0.24653	80.00000	34.400	0.18415	0.21243	0.34302
CD	111	0.00427	3.33300	226.500	0.01276	-0.00625	0.00630
CO	59	-0.07967	113.33700	0.000	-0.07606	-0.11499	-0.04797
CU	63	0.14811	340.01700	19.000	0.15588	0.11685	0.17160
MO	98	0.05378	90.00000	13.100	0.04672	0.06080	0.05380
NI	60	0.19995	120.00300	19.200	0.20195	0.16069	0.23720
SB	121	0.48212	306.68300	8.300	0.49263	0.51599	0.43773
SE	78	-0.00918	2.89000	0.000	-0.01249	-0.03927	0.02422
SN	120	-0.19271	373.35300	0.000	-0.15401	-0.23746	-0.18666
SR	88	0.30809	313.35000	9.500	0.32796	0.32180	0.27451
ZN	66	31.66565	6261.58000	3.200	30.68511	31.58104	32.73081
BI-3	209	125888.95300	0.00000	0.000	124713.88000	126834.43000	126118.55000
PB	208	0.02126	160.00000	75.400	0.03958	0.00979	0.01440
TL	205	-0.00724	56.66700	0.000	0.00268	-0.01224	-0.01217
U	238	0.01607	70.00000	15.200	0.01622	0.01355	0.01843
SC-2	45	208115.79000	0.00000	0.000	207055.00000	209953.51000	207338.86000
GE-1	72	801737.80000	0.00000	0.000	817708.58000	802587.41000	784917.41000
GE-2	72	252335.12000	0.00000	0.000	251552.20000	249728.30000	255724.86000
GE-3	72	183883.32700	0.00000	0.000	183205.74000	187596.27000	180847.97000
TB-3	159	253792.91300	0.00000	0.000	250870.70000	259573.63000	250934.41000

US EPA Tune Check Report

Operator Name US19_USR_INS27814
Acq/Data Batch D:\Agilent\ICPMH\1\DATA\EPA_Tune.b
Acq. Date-Time 2018-11-05 17:40:56
Report Comment ---
Instrument Name G8403A SG18254097

[No Gas]

Sensitivity

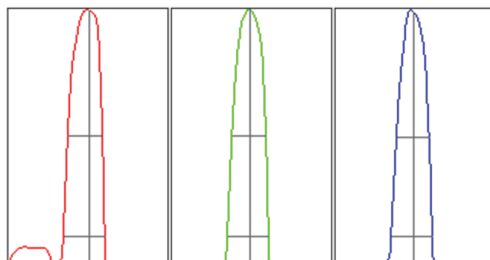
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1227	12265.29			1.547	5.000
89	10.00	8418	84183.04			0.486	5.000
205	10.00	3773	37729.40			1.248	5.000

Mass	RSD% (Flag)
7	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1254	1226	1209	1235	1210
89	8485	8389	8382	8426	8410
205	3800	3698	3754	3810	3803

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	1930.59	7.05	6.90 - 7.10	
89	13717.99	89.00	88.90 - 89.10	
205	6389.82	205.00	204.90 - 205.10	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.66	0.774	0.800	
89	0.65	0.772	0.800	
205	0.62	0.771	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	11.6 V	Deflect	17.0 V
Extract 2	-170.0 V	Cell Entrance	-40 V	Plate Bias	-50 V
Omega Bias	-70 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	190 V		

QP Parameters

Mass Gain	124	Axis Gain	0.9995	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.03		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.1 mm
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EM

Discriminator	3.9 mV	Analog HV	2142 V	Pulse HV	1608 V
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Date File Name: 18K985 99HE97

Method Reference Name(s):

Run Name: 1831098E97Analyst: 0. 832Reviewed By: Reviewed Date
Bradley M Berlot 11/98/0918 09:92Verified By: Verified Date
Parker D Lindstrom 11/11/0918 09:90
Tara L Snyder 11/92/0918 10:00Instrument Parameters:

Rinse Time (sec): 0. 199

INTERNAL STDH	ELEMENT	MASS
SC-1		4.
	BE	2
	B	11
SC-3		4.
	NA	03
	MG	04
	AL	07
	K	32
	CA	44
	TI	47
	V	. 1
	CR	. 0
	MN	. .
	FE	. 7
IN-2		11.
	SE	78
IN-3		11.
	CO	. 2
	NI	69
	CU	63
	ZN	66
	AS	7.
	SR	88
	MO	28
	AG	197
	CD	111
	SN	109
	SB	101
	BA	137
BI-3		092
	TL	09.
	PB	098
	U	038

Run Name: 1831098E97
 Tube Number: 1
 Sample Number: S0

Date/Time: 11/98/0918 18:41:03

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
BE	2	9199999	9166799	91999	919904.	-9199100	-9199100
B	11	9199999	19423197399	91999	1199942	-9183293	-916146
NA	03	9199999	07894161799	91999	-3191389	0164261	9136412
MG	04	9199999	093134399	91999	91491.	-9100989	919896.
AL	07	9199999	193133799	91999	9177888	9143402	-9121317
K	32	9199999	4874139399	91999	9171610	-9177078	919. 666
CA	44	9199999	. 3133399	91999	0174903	-919817	-0103096
SC-1	4.	164. 360	9	91999	1647323	1676066	1610407
SC-2	4.	007212142999	9199999	91999	00208212999	039096134999	00406014999
SC-3	4.	2739. 124999	9199999	91999	2. 61114999	26819149999	2242. 188999
TI	47	9199999	3133399	91999	916748	-9198374	-9198374
V	. 1	9199999	09199999	91999	-9199760	9199723	-9199931
CR	. 0	9199999	166167999	91999	-9190908	9193784	-91917. 7
MN	. .	9199999	023134399	91999	9190819	-9199128	-9190611
FE	. 7	9199999	193133799	91999	9193003	-9197201	-91. 390
CO	. 2	9199999	176167799	91999	9191384	-9199678	-9199797
NI	69	9199999	46166799	91999	-9190478	9193. 33	-91919. .
CU	63	9199999	196166799	91999	-9199066	-9199332	919969.
ZN	66	9199999	66166799	91999	-9196712	-9197934	91937. 3
GE-1	70	1048398	9	91999	10. 664.	10. . 923	1033186
GE-2	70	08180710. 799	9199999	91999	0806. 2198999	083094198999	072618161999
GE-3	70	000310142799	9199999	91999	004021144999	000142190999	00942613999
AS	7.	9199999	16199999	91999	-919. 741	-9199990	919. 743
SE	78	9199999	3133399	91999	-9191016	-9190360	9193. 78
SR	88	9199999	06166799	91999	9199309	9199081	-9199691
MO	28	9199999	33133399	91999	-9199844	91903. 4	-9191. 19
AG	197	9199999	06166799	91999	-9199634	9199. 10	9199100
CD	111	9199999	0199999	91999	9199997	-9199990	-919999.
IN-2	11.	33. 36118999	9199999	91999	33830119999	338. 4216999	30201418999
IN-3	11.	197112131799	9199999	91999	19. 820190999	197489179999	19728. 103999
SN	109	9199999	61919999	91999	-919. 788	-9193720	9192. 89
SB	101	9199999	. 6166799	91999	91900. 3	-9190622	9199446
BA	137	9199999	13133399	91999	-9191990	9190966	-9191964
TB-3	1. 2	067049104999	9199999	91999	064463134999	06. 86213999	07138718. 999
TL	09.	9199999	. 3133399	91999	-9199371	9199780	-9199411
PB	098	9199999	383134799	91999	-9199461	9191497	-9199246
BI-3	092	13088218. 799	9199999	91999	13124019999	1028. 3104999	136873183999
U	038	9199999	49199999	91999	9199919	-9199090	9199120

Run Name: 1831098E97
 Tube Number: 0
 Sample Number: S1

Date/Time: 11/98/0918 18:43:46

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	17964. 6	9	91999	17991. 9	1712146	1799974
SC-3	4.	279. 7187999	919999	91999	2646712. 999	26004128999	28489168999
AL	07	1999919999	424192124999	11799	22. 7103730	1918. 171897	28. 7194461
B	11	1999199999	34026216999	11299	28614362	220179682	190114243
BE	2	199199999	. 648919399	91899	22132. 00	22173934	199187444
CA	44	1999919999	6447214999	11299	191. 01211. 8	199. 410434	2720126498
CR	. 0	1999199999	162798618. 999	91699	199117014	1994183023	223122423
FE	. 7	1999919999	366672146999	11799	1994714477	19140130130	281913321
K	32	1999919999	11. 796214999	01499	276. 14. 967	2229132804	190441. 192
MG	04	1999919999	146. 41718399	01199	2884199671	19044133241	287116. 388
MN	. .	1999199999	1133219196999	91299	22. 1874. 2	1919190423	22419942
NA	03	1999919999	0761731141799	91299	19914133166	19984140137	2291104627
TI	47	1999199999	49419198799	11499	2861328.	1914196766	222132042
V	. 1	1999199999	108921819. 799	01299	22. 1601. 9	1931193896	273134944
IN-2	11.	34131410. 799	919999	91999	340390130999	34089. 182999	33883416999
IN-3	11.	198676189999	919999	91999	197743174999	19204712999	192932197999
AG	197	199199999	06343910399	11099	22180. 13	28121896	19110. 680
AS	7.	1999199999	1388. 7182399	11999	227172083	2211914. 1	191112066
BA	137	1999199999	30463. 107999	91199	228100043	226180. 17	199. 1. 049
CD	111	199199999	3. 000162999	91199	199148860	2219189	1991992. 2
CO	. 2	1999199999	06969. 9130799	11099	1911147326	28719036.	199119032
CU	63	1999199999	0983. 0118399	11199	19101034. 7	223132481	224137963
MO	28	199199999	1. 7163148799	91799	2213196	199176604	22179079
NI	69	1999199999	66. 07. 161799	91699	1996164787	22. 14. 060	2271822. 9
SB	101	199199999	634. . 146399	91799	2213. 173	199170602	22120128
SE	78	199199999	. 21916799	11499	199196617	28181. .	19113. 008
SN	109	199199999	111699170799	11999	199186176	199101. . 6	28120068
SR	88	199199999	11. 7. 9184799	01999	191143674	27162900	199187394
ZN	66	1999199999	041990192399	91799	1997163328	228120896	223143726
BI-3	092	13. 402144799	919999	91999	1333981. 999	138916149999	134263172999
PB	098	199199999	478200163399	11699	199146. 23	28101433	19113127.
TL	09.	199199999	367. . 7132999	11099	199194203	2817. 926	19112281
U	038	199199999	461218197799	11199	199136829	28174262	199188141
SC-2	4.	030. 70142399	919999	91999	031401136999	03. 166138999	031102174999
GE-1	70	13134. 2	9	91999	1316. 1.	131. 466	139832.
GE-2	70	08814714399	919999	91999	087200167999	088. 3011999	08728718. 999
GE-3	70	00337710999	919999	91999	009470138999	00. . 3919999	004102168999
TB-3	1. 2	0716. 0171799	919999	91999	0672. . 121999	073316164999	07368. 169999

Run Name: 1831098E97
 Tube Number: 3
 Sample Number: ICV

Date/Time: 11/98/0918 18:46:97

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1649088	9	91999	1648739	1648140	1603221
SC-3	4.	28244H1399	9199999	91999	27140H. 999	28661H26999	191907H73999
AL	07	4216H78482	04773. H38799	9H99	4244H0313	4828H1771	4296H71380
B	11	77. H247. 8	0. 814. H90999	1H99	774H4398	768H22889	784H99987
BE	2	. 1H62. 7	07833H. 399	9H99	. 9H3606	. 1H36. 09	. 1H9703
CA	44	4214H699. 9	30336H1999	9H99	4230H. 200	4826H. 822	4214H8308
CR	. 0	484H02211	837282H. 399	9H799	486H6691	489H2. 92	48. H43600
FE	. 7	4238H99838	18463. H. 399	1H099	4286H2190	42. 8H08884	4862H4. 07
K	32	4860H7. 93	. 7. 223H1799	9H399	4866H2223	4843H72900	4876H43423
MG	04	4799H32442	790022H9799	1H99	4716H7044	4738H1. . 8	464. H2. 47
MN	. .	. 93H88. 7	. 81689H2799	9H99	. 97H3913	422H6436	. 91H77104
NA	03	4841H1097	1377611H. 399	1H099	4296H. 373	481. H7137	4890H1111
TI	47	. 19H333.	01938H2399	0H99	. 1. H410.	428H38204	. 17H62. 8
V	. 1	486H43. 0	63. 994H. 399	1H99	486H4281	481H6402	429H21646
IN-2	11.	338011H79399	9199999	91999	341422H1999	33602. H3999	336849H97999
IN-3	11.	198223H0999	9199999	91999	1927. 8H3999	198331H2999	198882H4999
AG	197	. . H00. 1	146624H34399	1H99	. 4H6988	. . H21811	. . H788. 6
AS	7.	. 91H. 891	62211H8799	9H799	422H1810	422H4407	. 96H1163
BA	137	. 98H67. 9	16. 673H4799	0H99	428H0066	. 98H8220	. 12H8229
CD	111	42H40264	17463H7999	1H499	. 9H374.	48H831.	42H6834
CO	. 2	486H88. 0	1071886H32999	1H99	472H7814	48. H90889	424H. 864
CU	63	48. H37373	1914088H47799	1H99	476H42781	48. H8927	423H74040
MO	28	. 9H2497	727. 4H. 799	0H99	42H38720	. 1H1182	. 9H28032
NI	69	. 98H23074	332. 82H32799	1H799	. 91H3440	. 96H. 311	. 18H1968
SB	101	. 0H38064	33369H2399	1H499	. 1H38. 1	. 3H4861	. 0H46981
SE	78	. 9H8062	023. H2799	9H99	. 9H32878	42H7342	42H27. 89
SN	109	. 9H38139	. 6628H78399	9H99	. 9H17. 49	. 9H6002	. 9H79609
SR	88	. 1H8. 41	. 2822H1799	9H99	. 1H3427	. 1H280. .	. 1H3879
ZN	66	. 93H. 240	10160. H9999	1H99	428H94783	. 93H8. 26	. 97H24447
BI-3	092	13. 760H7399	9199999	91999	13. 14. H. 999	133784H78999	1383. 7H2999
PB	098	42H22048	049002H90999	1H99	42H0907	. 9H24368	42H21347
TL	09.	. 9H7116	1874. 7H36999	1H399	. 1H6266	. 1H1088	. 9H3923
U	038	48H21440	006. 36H9399	9H99	48H62771	42H32. 8	48H9. 27
SC-2	4.	039167H9399	9199999	91999	030418H. 999	039824H79999	007188H69999
GE-1	70	1064286	9	91999	1064701	1073760	10. 6474
GE-2	70	080978H49999	9199999	91999	08. 313H28999	08. 423H62999	07. 407H3999
GE-3	70	000989H33999	9199999	91999	000947H27999	012073H1999	004212H1999
TB-3	1. 2	079871H8799	9199999	91999	079691H21999	068164H37999	073847H8999

Run Name: 1831098E97
 Tube Number: 4
 Sample Number: ICB

Date/Time: 11/98/0918 18:48:16

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 61407	9	91999	1. . 873.	1. . 0817	1. 70708
SC-3	4.	24122163799	9199999	91999	2300614. 999	23448129999	2. 20316999
AL	07	-9171344	66166799	91999	-91833. 1	-110. 626	-9194287
B	11	012103138	76. 68170399	31999	00612129	009163. . 6	019186667
BE	2	9191026	7133399	4. 1999	9191816	91996. 6	919141.
CA	44	19188036	109199799	771799	1716. . 3	1183. 6	13162891
CR	. 0	9131210	686179799	61799	91337. 6	9130402	9102. . 9
FE	. 7	9137896	113134999	1661799	9187892	918691	-9130221
K	32	4143. .	. 004144799	. 11999	61786. 1	4168697	01. 898
MG	04	9146737	063134799	691399	917214	91740. 1	9148944
MN	. .	91. 677	4. 6162999	4. 1399	9192270	9103639	913408
NA	03	-7193228	0. 93. 118799	91999	-. 197363	-. 11340	-19123087
TI	47	9140142	09199999	1181899	-9188374	9143933	9121788
V	. 1	9193808	66166799	. 41799	919. 7. 2	9194101	919169.
IN-2	11.	30012810. 999	9199999	91999	30778110999	31884413999	312262109999
IN-3	11.	194064164399	9199999	91999	19464916999	193947128999	19. 19. 172999
AG	197	9191006	. 6166799	2. 1999	9199. . 3	9190. 89	9199. 46
AS	7.	9196206	04166799	139199	9193397	917019	9199061
BA	137	9193394	03133399	1191699	919. 434	-919921.	919. 320
CD	111	9199000	0166799	6001999	-9199. 76	9191812	-9199. 76
CO	. 2	91936. 9	063134399	301699	9190081	9194446	9194004
CU	63	919. . 93	013134399	681999	9196770	919847.	9191069
MO	28	9197147	149199799	. 11299	919492	9197218	9193114
NI	69	9194412	73133399	1171399	9190061	9199330	919966.
SB	101	911621	379190399	181799	914816	9149831	912407
SE	78	919176.	4100999	1481299	9194899	91990. 2	9199037
SN	109	9193101	606179999	741799	91913. 2	9190049	919. 764
SR	88	91999. 4	06166799	0. 4. 1999	9191042	-9191402	9199349
ZN	66	9167172	009191999	491099	913664.	9177938	91878. .
BI-3	092	108. 7. 118799	9199999	91999	10. 97218999	108008163999	13041812. 999
PB	098	9190091	479190999	2. 1399	9194488	9191742	9199366
TL	09.	9191870	116167399	711099	9190947	9193119	9199469
U	038	9191429	193134999	641999	9191799	9190300	9199442
SC-2	4.	012613178799	9199999	91999	00011813999	0184. 8139999	01806413999
GE-1	70	109822.	9	91999	1127999	101943.	1012. . 1
GE-2	70	07341319999	9199999	91999	074444178999	0709421. 999	07374617999
GE-3	70	01673. 102799	9199999	91999	014860167999	01. 8. 418999	012482194999
TB-3	1. 2	0. 264. 134999	9199999	91999	0. 63. . 19. 999	0. 870. 188999	0638. . 192999

Run Name: 1831098E97
 Tube Number:
 Sample Number: LLC

Date/Time: 11/98/0918 18.: 9:0.

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	161. 303	9	91999	1630677	1. 89607	163066.
SC-3	4.	24180H7399	919999	91999	23306H2999	24796H7999	24. 14196999
AL	07	497H6008	126. 6126799	3H99	32. H2096	496H8093.	409H27444
B	11	100H29602	48239H38999	0H99	100H. 442	10. H8924	109H4834.
BE	2	9H4098	029H66799	. H99	9H. 764	9H9703	9H613.
CA	44	71. H6170	4. 07H9399	4H299	730H7191	732H73. 2	67. H49. 6
CR	. 0	4H. . 96	7168H2399	0H299	4H2027	4H7077	4H2243
FE	. 7	19. H. 209	3867H39399	7H799	28H46723	194H4001	114H674.
K	32	323H1089.	48664H26999	9H299	324H89. 1	326H3866	382H96428
MG	04	27H1096	14993H39999	4H99	199H72468	27H2476	20H4673
MN	. .	19H36. 10	1168. H1999	. H99	19H44. 0	2H74377	19H79797
NA	03	886H3436.	060132H9399	2H99	840H96422	272H8026	837H38399
TI	47	04H41688	269H97999	14H799	07H. 7. 9	09H4619.	0. H3092
V	. 1	9H27264	1036H76999	7H699	1H96416	9H2. 043	9H20033
IN-2	11.	306713H. 799	919999	91999	309849H78999	306840H23999	3304. . H76999
IN-3	11.	196414H91999	919999	91999	1940. 8H4999	19737. H2999	197697H9999
AG	197	9H3870	1416H78799	6H399	9H9406	9H3208	9H7061
AS	7.	1H23344	078H66799	1H99	1H. . . 8	1H21999	1H2347.
BA	137	3H6. 80	1043H4999	14H99	3H. 867	3H3773	4H9197
CD	111	9H24270	302H34399	7H699	1H9641	9H6783	9H27420
CO	. 2	1H94042	0837H93799	. H99	9H22. 04	1H9409	1H90893
CU	63	32H948. .	72742H7399	0H399	49H96081	38H32934	38H620. 1
MO	28	1H26067	39. 9H44799	6H99	0H9834	1H29476	1H87482
NI	69	4H04477	0819H37799	3H299	4H32. 12	4H96779	4H7143
SB	101	0H642.	1499H3999	4H899	0H2429	0H4870	0H. 100
SE	78	0H9878.	101H33399	3H99	0H1. 06	0H91631	0H3127
SN	109	1H. 893	0026H20399	2H899	1H70. 0.	1H0016	1H40668
SR	88	6H931. 9	6861H29999	0H99	6H91089	. H299.	6H216.
ZN	66	1. H74731	3789H. 999	6H99	1. H24. 29	16H9260	14H8640
BI-3	092	102966H99399	919999	91999	106730H72999	139382H4999	139976H98999
PB	098	3H922. 0	14. 19H36399	3H99	3H92601	3H9714	3H2. 12
TL	09.	9H. 162	1283H6999	4H299	9H8103	9H0777	9H4698
U	038	9H. 268	0963H7399	. H299	9H0842	9H4762.	9H47361
SC-2	4.	018723H1799	919999	91999	010242H4999	012924H24999	00433. H7999
GE-1	70	1049. . 9	9	91999	10. 1892	1002. 06	1049314
GE-2	70	062067H1399	919999	91999	061039H37999	062887H23999	076683H34999
GE-3	70	01. 128H79399	919999	91999	010779H99999	018. 14H37999	014311H74999
TB-3	1. 2	0. 2932H26999	919999	91999	0. 3663H89999	060. . 7H7999	069828H1999

Run Name: 1831098E97
 Tube Number: 6
 Sample Number: ICSA

Date/Time: 11/98/0918 18.: 0:34

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 77270	9	91999	1. 76439	1. 77764	1. 72703
SC-3	4.	29260H7399	919999	91999	29. 3212. 999	298. 1101999	2142. 136999
AL	07	23994190214	439664142799	11999	20969100427	2394. 120118	2329. 134106
B	11	711327. 8	31282H0799	01299	73137. 00	71113. 81	62108171
BE	2	9190687	14166799	4. 1299	9194924	9191723	9190173
CA	44	072. 17148290	1687203H9999	1H99	083863H103.	07208716239	07. 491108. 40
CR	. 0	9162843	1066176799	191699	91748. 9	9161332	9173349
FE	. 7	0074. 8H7640	781. 848101399	91299	006296172. 77	00. 6. 613036.	002810169284
K	32	24249126124	190. . 001192799	91899	24124H8496	2. 991122484	2. 606139623
MG	04	82. . 2174930	1002224. 16. 399	91499	821. 1H7642	82737104071	82729109176
MN	. .	313. 207	3843122999	0H99	3139793	31330. 1	3143807
NA	03	008111101774	. 8489187146399	91699	006423193. . 6	008848128918	008221163748
TI	47	12121406. 9	70624169999	1H99	1294121. 92	129119. 113	12. 0131302
V	. 1	9193229	66166799	. 21499	9190602	919061.	9196706
IN-2	11.	39989113. 799	9199999	91999	0243. 2132999	022768168999	398076199999
IN-3	11.	221. . H8999	9199999	91999	286. 0188999	2804217999	199. 64162999
AG	197	919. 293	166167399	071799	9196203	919491.	9196770
AS	7.	9178729	114166799	181399	9160208	91603. .	9121988
BA	137	1H3210	3. 9191799	141899	1101494	91246. 6	110. 674
CD	111	9140787	132133399	41999	914133.	9144647	9140372
CO	. 2	9184012	0166129799	81099	9176328	9166202	9182331
CU	63	9186273	17. 3H9799	141799	9120630	9170307	912. 269
MO	28	122. 146623	0869. . . 196999	91299	1282168602	0916133868	1289137. 83
NI	69	1142248	2. 3132799	141699	110. 377	1167423	11627.
SB	101	1108. . 8	726170999	21899	1104739	118399	1140643
SE	78	9193637	4182999	. 81199	9196991	9191234	9190277
SN	109	-9101162	3. 9190999	91999	-9103260	-911284.	-9112628
SR	88	1. 179288	16616177399	3H99	1. 1232. 3	1. 198661	161193. 1
ZN	66	. H17. 6	118617. 799	7H99	4179377	. 136797	. 10818.
BI-3	092	100703171799	9199999	91999	109798166999	10360. 14. 999	103837194999
PB	098	9189668	38. 3179999	91899	9172262	9181924	9189240
TL	09.	9199010	. 6166799	1. 61899	9199938	9199990	9199. 2.
U	038	9190377	136167399	491399	9191397	91931. 3	9190670
SC-2	4.	011. 20177799	9199999	91999	097794188999	092104188999	017242137999
GE-1	70	10104. 2	9	91999	1019. 82	1097. . 9	1012038
GE-2	70	0. 022612. 799	9199999	91999	0. 1708166999	0. 9211164999	0. 63. 9127999
GE-3	70	09712. 118399	9199999	91999	096174H1999	094210161999	019428143999
TB-3	1. 2	0. 1912163799	9199999	91999	047182131999	0. 9322164999	0. . 462126999

Run Name: 1831098E97
 Tube Number: 7
 Sample Number: RINSE

Date/Time: 11/98/0918 18.: 4:40

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1641849	9	91999	1644118	1663396	161892.
SC-3	4.	2441917. 999	9199999	91999	23478196999	240. 0188999	2. . 91131999
AL	07	110271.	163134399	481299	119. 462	918093.	0191640
B	11	0819. . 64	12433126799	41199	08122244	06177924	081326. 4
BE	2	919119.	6166799	121199	9191348	9199268	9199228
CA	44	3126444	76166799	10. 1699	2143743	-9102797	017. 02.
CR	. 0	910. 716	. 86179399	131999	9100913	9106697	9108. 06
FE	. 7	13180. 44	. 23137999	091899	111213. .	17110263	1014331.
K	32	619. 406	. 49718. 799	161299	. 148033	7103662	. 144377
MG	04	011806	. . 6162399	071199	1173383	319434.	01777. 1
MN	. .	91943. 2	33313. 999	781299	9191630	9193004	9198000
NA	03	11196939	02214104799	141799	19118206	10123073	1919. 821
TI	47	9112826	06166799	1041099	114. 899	9117119	9116777
V	. 1	91998. 3	39199999	31999	9199877	91998. 7	9199806
IN-2	11.	33060814. 799	9199999	91999	33. 3. 712999	33. 62. 198999	306830179999
IN-3	11.	193610103999	9199999	91999	190369134999	1940. 312. 999	194000149999
AG	197	-9199421	13133399	91999	-9199018	-9199030	-9191904
AS	7.	919448.	01133399	881999	9198008	91993. 2	9194862
BA	137	9191188	16166799	. 601499	-9194164	9198681	-91992. 0
CD	111	9191919	. 133399	671199	9199639	9199698	9191720
CO	. 2	9199983	173134399	03381399	-9191180	9190314	-9199884
CU	63	91938. 2	189191999	. 91099	9191243	919. 816	9193817
MO	28	0173414	4107143799	31699	01893. 9	0177871	0160909
NI	69	9191080	. 3133399	6911899	-9190318	-9193270	91919136
SB	101	91936. 9	76166799	1871499	9111918	-9190. 90	919043.
SE	78	-9199302	3111999	91999	-9193484	-9190333	9194831
SN	109	-9132717	179199799	91999	-9142939	-913004.	-913787.
SR	88	-9199808	16166799	91999	-9199. 9.	-9199. 32	-9191432
ZN	66	9134430	143134999	371499	9140420	912. 74	9141030
BI-3	092	107831107999	9199999	91999	10. 091104999	102007162999	102964188999
PB	098	91991. 4	376168999	3621499	-919994.	9199726	-9199082
TL	09.	91999. 0	. 3133399	3721199	9199078	-9199960	-9199961
U	038	-9199426	16166799	91999	-9199411	-9199872	-9199128
SC-2	4.	000332107399	9199999	91999	00. . . 418999	001. 63142999	0122991. 999
GE-1	70	10. . 966	9	91999	10. 1219	1061413	10. 187.
GE-2	70	0792. 6106399	9199999	91999	07. 082164999	079139131999	067448184999
GE-3	70	010402183399	9199999	91999	011624166999	014311110999	011083130999
TB-3	1. 2	0. 204210. 399	9199999	91999	0. 6092166999	0. 2778147999	0617. 2143999

Run Name: 1831098E97
 Tube Number: 8
 Sample Number: CCV

Date/Time: 11/98/0918 18.: 6.: 9

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	16. 1369	9	91999	166361.	1641. 79	1648827
SC-3	4.	26188137799	9199999	91999	2. 987126999	2798112999	2632. 128999
AL	07	04. 2140. 09	109. 06169799	11699	0479140022	0420148. 33	041. 136708
B	11	072197699	19901413399	01699	070140821	07717249.	087199. 93
BE	2	0. 16900.	13223108399	11399	0. 1002. 1	0. 166777	0. 129247
CA	44	04. 9124092	1. 79. 117799	01199	043016469	0. 92104813	04191413. .
CR	. 0	032146063	49087912999	91899	041108. 99	037148130	0321001. 8
FE	. 7	0467177871	82779106399	91199	04. 4196494	047017. 692	047611699
K	32	049411347	072084120399	91899	0403192088	049. 12. 647	0383102198
MG	04	03391. . 71	3386. 0172399	91499	0339191317	0300136166	0332102031
MN	. .	0. 018837	083697177999	11399	0. 41099. 3	04813. 737	0. 4199701
NA	03	0377172172	67177418399	91899	032. 199092	0372110. 42	03. 2104772
TI	47	0. 8191119	19334191799	01199	063103. 07	0. 0183171	0. 8141633
V	. 1	044169918	319. 62107399	91299	04616. 00	041128688	04. 16484.
IN-2	11.	330076133799	9199999	91999	33144916999	333464131999	33120414999
IN-3	11.	19796812799	9199999	91999	19. 72110999	19719. 132999	19839818999
AG	197	0811077	70272146399	11499	08132621	07164. 72	08102. 60
AS	7.	0. 6169347	3. 11613399	91299	0. 7163771	0. 3166962	0. 8131099
BA	137	0. 316624	81194146799	11899	0. 714. 024	0481443.	0. 41793. 4
CD	111	0. 18109	8749176999	01999	04164716	0. 166427	0. 10314.
CO	. 2	041138702	6128. 4143999	11799	046199693	03216300	038122061
CU	63	041173279	426392144799	11399	044136460	0381986. 3	04017672.
MO	28	0. 110470	32. 40186799	11199	0. 109328	0. 18. 23.	0. 11983
NI	69	0. 1123906	16. 1. 6187799	11999	0. 4136477	04214. 27	0. 0108994
SB	101	0. 11836	1. 22610799	41199	0418630	06178363	0. 118. 1.
SE	78	0. 174364	1483186999	11299	0. 10. 420	0. 170. 94	0610. 92.
SN	109	041824. .	07831164399	91299	04174. 82	04178343	0. 11. 434
SR	88	0. 167170	02027148999	01099	0. 128463	0. 199704	06190308
ZN	66	0. 3166143	69074143799	11099	0. 6184839	0. 3191439	0. 1110167
BI-3	092	139. 49143999	9199999	91999	10722. 181999	131803190999	131890146999
PB	098	0. 118142	118386137999	91899	0. 162883	0. 134639	0. 162234
TL	09.	0. 178166	21384138799	91699	0. 120479	0. 161668	0. 189369
U	038	0. 109392	110046148799	11999	0. 143340	0. 104601	04120264
SC-2	4.	006299140999	9199999	91999	006991191999	006067192999	00843316999
GE-1	70	10. 4186	9	91999	1063642	1041226	10. 6213
GE-2	70	072974104999	9199999	91999	080938141999	07463118999	089. . 0173999
GE-3	70	01274412399	9199999	91999	009678167999	0166. 9103999	001294188999
TB-3	1. 2	063800171999	9199999	91999	0606. 019999	0. 220. 123999	068882179999

Run Name: 1831098E97
 Tube Number: 2
 Sample Number: CCB

Date/Time: 11/98/0918 18.: 8.: 2

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 28681	9	91999	1. 706. 4	1. 87637	163. 7. 1
SC-3	4.	23384147799	9199999	91999	20720188999	2. 439163999	21202120999
AL	07	9101924	11919399	048199	9144064	917848	-9138802
B	11	87124806	37. 4014399	41699	21137140	88101603	8317. 710
BE	2	9191910	6199999	01399	9191939	9191909	9199286
CA	44	812432.	196167999	321499	10181642	. 12172.	8192740
CR	. 0	910307.	. 49193999	. 1499	9104714	9100. 61	9100. 42
FE	. 7	-914. 813	83133399	91999	9193218	-9193268	-1137382
K	32	31160. 6	. 907171999	011499	3147317	0138741	3160711
MG	04	9136723	046167799	1091299	-9190762	910818.	9184263
MN	. .	919737.	36313. 999	13. 1699	-9190778	917009	9197680
NA	03	-7144496	0471110. 399	91999	-6131947	-19187. 78	-. 14. 23
TI	47	919933.	3133399	4428199	-9198374	-9198374	9177. 4
V	. 1	9199984	09199999	12. 11399	9191711	-9191. . 4	9199924
IN-2	11.	30138111399	9199999	91999	31810614999	30163. 12999	304380181999
IN-3	11.	193867129399	9199999	91999	19004212999	194004129999	19. 102100999
AG	197	-91997. 2	6166799	91999	-9199609	-9191904	-9199631
AS	7.	9190322	18166799	6. 1099	9199. 24	9193366	9193037
BA	137	-9190990	6166799	91999	-9199829	-91992. 0	-9194164
CD	111	-9199172	1133399	91999	9199907	-9199. 76	9199911
CO	. 2	9190346	039191999	111799	9190987	9190317	919063.
CU	63	9193913	163134399	061999	9190271	9193817	91900. 1
MO	28	9144903	043134799	391099	9111372	911786	918294
NI	69	9196. 18	86166799	111099	919. 67.	9197999	9196872
SB	101	9146131	1. 3134999	74199	91906. 7	910. 463	919074
SE	78	9199040	3133399	17481299	919. 101	-9190183	-9190013
SN	109	-913184.	0. 3134799	91999	-91346. 7	-9103780	-9137927
SR	88	-9199001	03133399	91999	919941.	9191064	-9190349
ZN	66	918601.	06313. 999	321699	9180062	914013	1100161
BI-3	092	10671916. 799	9199999	91999	10023818. 999	10844910. 999	1087. 0187999
PB	098	9191769	446168799	093199	-91993. 6	-91990. 9	919. 88.
TL	09.	9191449	19919399	861099	9190798	9191381	9199002
U	038	9199660	66166799	141499	9199. . 0	9199712	919971.
SC-2	4.	018419128999	9199999	91999	016419133999	012409123999	012491168999
GE-1	70	1017673	9	91999	1098329	109. 72.	1038834
GE-2	70	06760612999	9199999	91999	060683163999	071439127999	06876. 17999
GE-3	70	011283177399	9199999	91999	092930104999	092722128999	017112119999
TB-3	1. 2	0. 7362144399	9199999	91999	0. . 979143999	0. 7678129999	0. 23. 2199999

Run Name: 1831098E97
 Tube Number: 19
 Sample Number: PBW

Date/Time: 11/98/0918 12:91:97
 Batch: 183961963291A
 Class: *****

Initial Vol: . 9199

Final Vol: . 9199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 7888.	9	91999	1. 40181	1696727	1. 8767.
SC-3	4.	20. 3. H4399	9199999	91999	21174H7999	20962H6999	24363H9999
AL	07	-9H8201	29H9999	91999	-9H7410	-9H77. 9	-9H1699
B	11	38H2643	00913H. 999	. H799	41H41973	38H4. . 9	37H339.
BE	2	919999.	9H66799	4778H99	-9H9100	-9H9100	9H90. 8
CA	44	2H60481	119H9399	4. H399	6H8114	14H61849	7H67421
CR	. 0	9H34240	703H37799	14H299	9H34192	9H49. 16	9H39091
FE	. 7	9H449. .	113H3799	049H399	1H4121	9H34214	-9H6238
K	32	0H2. 2. 1	42. 7H62399	84H99	. H67106	0H4. 219	9H7481.
MG	04	9H6269.	029H1399	61H999	9H72. . 9	1H6014	9H39. 1
MN	. .	9H99184	426H62399	. 3H99	9H30377	9H0080	9H. 820
NA	03	-19H33438	03743H97999	91999	-8H67637	-10H47418	-2H. 061
TI	47	9H7674	19H99999	142H99	9H44316	-9H8374	9H7981
V	. 1	-9H973.	19H99999	91999	-9H9703	-9H9731	-9H97. 1
IN-2	11.	316. 93H69399	9199999	91999	31. 097H. 999	31617. H37999	318108H2999
IN-3	11.	190198H9399	9199999	91999	191. 94H72999	190. 70H8999	190048H64999
AG	197	-9H993. 0	16H66799	91999	-9H9617	9H99. 8.	-9H1904
AS	7.	9H. 184	00H99999	1. 0H99	-9H3243	9H2713	9H2781
BA	137	9H99014	13H33399	826H399	9H90433	-9H9299	-9H9829
CD	111	9H99039	0H66799	393H399	9H99649	9H99607	-9H99. 76
CO	. 2	-9H90893	199H99999	91999	-9H90778	-9H90997	-9H93603
CU	63	9H90138	143H34999	191H99	9H94. 70	9H99490	9H91449
MO	28	9H93704	86H67999	08H699	9H94664	9H90. 79	9H93238
NI	69	9H967. .	86H66799	06H99	9H9. 762	9H98809	9H9. 67.
SB	101	-9H94947	39H99999	91999	-9H97329	-9H97498	9H906. 7
SE	78	-9H99923	3H11399	91999	-9H90119	9H907. 8	-9H99207
SN	109	-9H33288	006H67799	91999	-9H34. 93	-9H3. 678	-9H31784
SR	88	-9H91114	13H33399	91999	-9H9141.	-9H9140.	-9H99. 93
ZN	66	1H1. 47	496H68799	16H399	1H3976	1H6. 477	1H6982
BI-3	092	104849H66399	9199999	91999	10462. H2999	1042. 8H72999	104867H71999
PB	098	-9H99048	3. 9H91999	91999	9H9901.	9H99127	-9H911. 7
TL	09.	9H99184	. 6H66799	749H699	-9H99690	9H917. 6	-9H99693
U	038	-9H99488	16H66799	91999	-9H99644	-9H99419	-9H99492
SC-2	4.	014987H3. 799	9199999	91999	013610H9999	01. 902H20999	013612H. 999
GE-1	70	112. . . 7	9	91999	1123616	1090674	1129381
GE-2	70	064337H23399	9199999	91999	063364H24999	063298H72999	06. 749H97999
GE-3	70	098448H3. 799	9199999	91999	097484H8999	09630. H8999	011. 3. H1999
TB-3	1. 2	0. . 327H64799	9199999	91999	0. 4399H60999	0. 4911H77999	0. 7881H. 999

Run Name: 1831098E97
 Tube Number: 11
 Sample Number: LCSW

Date/Time: 11/98/0918 12:93:16
 Batch: 183961963291A
 Class: *****

Initial Vol: 1199

Final Vol: 1199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	16998.6	9	91999	1610821	1600177	1.67422
SC-3	4.	24027141799	9199999	91999	23819104999	23270109999	2.192181999
AL	07	127.1673.4	24233124799	91399	1272161794	1277164722	126217...2
B	11	08.11062.	22148183399	1199	08.13333.	081107338	082127410
BE	2	41.1662	0090184799	31499	4108882	4191928	417909
CA	44	3231138423	04664174799	1199	323719.019	387918.679	3286104699
CR	.0	47121337	721.0104799	1199	481071..	481371.3	47192794
FE	.7	279129.68	3468.169799	11499	2..180874	277194.69	272184079
K	32	268417119	1988680143999	91399	267219668	26..189170	2718149421
MG	04	187912709	06643.161999	01999	121912.928	186912.41	1832144.00
MN	..	42123933	..078170799	11499	.9163697	42107769	42187730
NA	03	288.100824	06.02.9107399	9199	287416..22	2846140934	2234161942
TI	47	0.6140827	1997914399	11799	0.114.100	0.2126.4.	0.7187904
V	.1	4810.474	69981163799	11999	48172803	47122491	47127122
IN-2	11.	304.29184399	9199999	91999	318406172999	307.23189999	3077.1124999
IN-3	11.	194201197799	9199999	91999	193966172999	19602016.999	19.493172999
AG	197	..11.298	149029193799	1199	..1013.6	.419819	..17...8
AS	7.	19139614	1327141799	01399	19196970	19130.1	19130.12
BA	137	.9177734	1.20319.799	31799	.0148179	.1197713	48177309
CD	111	412..43	1686178999	.1199	412.016	4179399	.101111
CO	.2	041132748	697448183999	11099	0441620..	049132748	032119032
CU	63	4811991	27680166999	11399	48134187	47126967	42100748
MO	28	4214167	74.7217399	9199	42196622	4218.8.	4217018
NI	69	.914231	300.317999	91499	.9134188	.918046	42120369
SB	101	.12.982	3627139999	31499	6192763	6193873	.171631
SE	78	19110761	.70103399	.1199	1919331	216121.	19166936
SN	109	.917041	.43.6104399	1199	.9148379	.917086.	42139488
SR	88	41199.23	4.841106399	0199	49121362	4917636	41120774
ZN	66	.9314096.	1171.2181799	91899	.9612706.	422141418	.93187.14
BI-3	092	102930182399	9199999	91999	10.072124999	102244176999	131873128999
PB	098	1.193126	68291187399	31499	1.13220.	14116.1	1.118910
TL	09.	019.690	70.0106399	01299	0196816	11229.3	0119237
U	038	0.1397.4	111381127399	01999	0.181033	0.13940.	04189694
SC-2	4.	001618192799	9199999	91999	01837216999	012326197999	007972196999
GE-1	70	100.982	9	91999	103.33.	103.482	1094444
GE-2	70	070432144999	9199999	91999	07116710999	062691173999	076.42147999
GE-3	70	01301219.999	9199999	91999	0971.2179999	01787613999	01460130999
TB-3	1.2	0.8637101799	9199999	91999	0.299411.999	0.7161191999	0.2746192999

Run Name: 1831098E97
 Tube Number: 10
 Sample Number: 9876334

Date/Time: 11/98/0918 12:9. :03
 Batch: 183961963291A
 Class: U*****

Initial Vol: . 9199

Final Vol: . 9199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 07. 9.	9	91999	1. 32941	142. 043	1. 48030
SC-3	4.	29697189799	9199999	91999	82333183999	29022182999	20129149999
AL	07	32167374	1206187999	11499	32190844	32182410	49192866
B	11	61814663	123. 2011999	11199	603119487	60412. 170	69718339
BE	2	919920.	. 133399	871099	9199663	9199080	9191802
CA	44	7240. 167. 63	47780010. 799	11699	893. 6121393	7727014939	72247173. 6
CR	. 0	491069. 2	63238199399	11399	4918970.	3216. 9. 7	4910326
FE	. 7	769614739.	0694. . 163799	91899	7. 341493. 3	76431814. 9	7641109111
K	32	03. 6. 168. 49	0. 38776163999	11799	032. 6120881	03166162778	03. 73140261
MG	04	63888188313	873292612. 399	11199	6. 99316606.	6302717108.	6336. 107388
MN	. .	0432122110	0. 80. 27192799	91099	043619214.	0446191. 64	043718660.
NA	03	29479164603	03114680128799	01399	2084612. 74.	8296910223.	82. 94168129
TI	47	1186466	73133399	031399	0133616	1177808	11472. 4
V	. 1	91489. .	. 23136799	11799	9148480	9147192	9148. 7.
IN-2	11.	398196160999	9199999	91999	39282. 183999	398. 84190999	39. 849191999
IN-3	11.	19144013399	9199999	91999	22606106999	1998. . 174999	19384. 169999
AG	197	9199970	06166799	101. 1699	9191947	-9199096	-9199606
AS	7.	7187886	1936171999	191699	8107429	6121. 17	81446. 9
BA	137	1949104191	31. 123128799	11199	1936181003	19. 012013.	1939128244
CD	111	9191648	7133399	. 41799	9191290	9199648	919032.
CO	. 2	01231. 8	702. 140999	31399	31902. 8	012027.	0183. 41
CU	63	. 128238	11741189999	. 1699	6196962	6188109	. 160606
MO	28	3128716	. 874173999	. 1299	4111907	4113. 37	3171. 83
NI	69	03119040	14637188999	11199	0310. 8. 9	031214. 4	03133400
SB	101	913. 377	063134399	21399	9130012	913. 11.	913872.
SE	78	9194000	. 133399	081699	9194160	919. 4. 8	9193947
SN	109	9124688	1. 6914799	131699	9180871	9120833	1198369
SR	88	074180777	026863147799	11399	078130271	0741828. .	07110. . 9.
ZN	66	1911724.	03. 3161799	21099	2118313	11193694	19131212
BI-3	092	10308. 190799	9199999	91999	100121178999	100040140999	10. 409188999
PB	098	4140492	12636147999	01699	4133111	41382. 3	411. 164
TL	09.	-9199421	33133399	91999	9199909	-919988.	-9199697
U	038	1111313	6328142999	01099	1111764	1114341	1117834
SC-2	4.	013261190799	9199999	91999	010. 2. 189999	014. 0. 10. 999	014760193999
GE-1	70	116. 097	9	91999	1177663	1140. 60	117. 32.
GE-2	70	0. 2643136399	9199999	91999	0. 8. 1719. 999	0. 248. 11. 999	069207182999
GE-3	70	092201144399	9199999	91999	093609132999	019801144999	01. 300119999
TB-3	1. 2	0. 3902167999	9199999	91999	0. 9301193999	0. 0. 86197999	0. 6181121999

Run Name: 1831098E97
 Tube Number: 13
 Sample Number: 9876334

Date/Time: 11/98/0918 12:97:31
 Batch: 183961963291A
 Class: UP*****

Initial Vol: . 9199

Final Vol: . 9199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 68911	9	91999	1. 46884	1. 4321.	161303.
SC-3	4.	2142. 129799	919999	91999	2091242999	2147476999	2922347999
AL	07	840198771	32316106799	11099	839111. 9	846121001	842103249
B	11	767160044	044139103399	31199	77114909	78218988	74014604
BE	2	11966. 8	. . 4191799	61499	1144338	1191042	1194387
CA	44	72702129713	4843. 0123799	91199	7276313107	7277. 14993	726. 114. 919
CR	. 0	4710314	7617616. 999	01199	4613. 987	4811797	4819147
FE	. 7	761018719	063124106999	91299	7. 34197179	764118832	7661189109
K	32	04132196. 47	060691. 184399	91799	04939138904	04960134986	04304147. 31
MG	04	6024214129.	862. 247137999	91099	60728102046	60240126276	63196132423
MN	. .	0401191877	0. 87. 8. 196799	91299	04171. 970	0491136. 06	044414930
NA	03	82. 29182291	0311843416. 399	11199	2936. 140310	88907179106	2937217064
TI	47	. 116. 01	1266186399	81399	46164. 3.	. 4191412	. 4193692
V	. 1	0117822	06. 9131999	31399	0118087	0119483	0114208
IN-2	11.	398761148799	919999	91999	39202012999	31916. 11999	39680716999
IN-3	11.	199148131999	919999	91999	28. 08167999	191613102999	199390127999
AG	197	111901	070913. 799	01299	1192100	114710	1192039
AS	7.	11166. 37	1. 97140799	11099	11169228	1116013	11180490
BA	137	1936139972	392281197999	11099	194719. 970	190310240.	19381. 749
CD	111	0116919	79313. 799	61999	011119.	0110310	0114610
CO	. 2	417787.	11638149999	01799	4121977	416. 620	41768. 6
CU	63	83143936	169083160399	11099	84110782	831209. 0	80114067
MO	28	8196837	1171. 109799	31199	8192622	8133401	7177321
NI	69	3918. 287	18263197799	31499	31187. 8	311712. .	02167042
SB	101	411. 161	0713179399	61699	4199709	4179194	4174669
SE	78	318. . . 4	092111399	01699	3129047	3174039	3120186
SN	109	4162986	. 36414999	21099	. 148. 2	4160830	4102. 68
SR	88	081164246	399373172799	11999	084168908	072108386	08912840.
ZN	66	41140613	2069193399	11799	4118. 106	41181. 28	49161114
BI-3	092	101292149799	919999	91999	1004831. 999	101768184999	10147. 183999
PB	098	19143643	4. 311188399	01699	1913417	1919808	19166684
TL	09.	9127664	308913399	41199	912789.	1190909	9123167
U	038	01136. 4	19. 84170799	31799	0169639	0117343	01140288
SC-2	4.	01. 646147799	919999	91999	01022213. 999	01688170999	0179. 8136999
GE-1	70	1177683	9	91999	1161649	1166. 72	1094802
GE-2	70	06961011799	919999	91999	069636107999	06910112. 999	061972133999
GE-3	70	09749817. 399	919999	91999	093461146999	0192. 4161999	09781912999
TB-3	1. 2	0. 0667119799	919999	91999	0. 9724190999	0. . 771123999	0. 143. 137999

Run Name: 1831098E97
 Tube Number: 14
 Sample Number: 9876337

Date/Time: 11/98/0918 12:92:38
 Batch: 183961963291A
 Class: D*****

Initial Vol: . 9199

Final Vol: . 9199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. . 4. 42	9	91999	1. . 7032	1. 79284	1. 3. 403
SC-3	4.	21. 79197799	9199999	91999	20784H9999	204. 0198999	8247419. 999
AL	07	34178243	1709H6399	41999	3610080.	34166. 22	33147494
B	11	718169630	007317H3799	91699	713127121	701126426	712188011
BE	2	9191439	8199999	. 31699	91996. 4	9190186	91914. 0
CA	44	813271222. 4	424899193999	11499	89391120424	8130612. 172	80. 6. H0182
CR	. 0	9162232	1076177999	. H99	9173409	9166023	917919.
FE	. 7	7698134816	063177196999	01899	7. 481987. 4	7402H641.	7847172089
K	32	0413116. 2. .	060689. H4399	11899	037. 2161918	04940H. 686	04. 2311160
MG	04	64. . 1186781	8200900122399	01099	63729H6212	636661848. 8	66128108. 6.
MN	. .	0. 90H6649	0676197187799	0H99	0489H3792	04. 419394.	0. 73H316.
NA	03	21932H8707	03. 9331. H8399	01499	8210810893.	29. 9812260.	23489108. 00
TI	47	1103404	. 9199999	321499	912. 177	912. . 42	1172. 4.
V	. 1	9149828	. 13136399	161299	91480. .	9134. 90	9132236
IN-2	11.	392301148399	9199999	91999	39818. H42999	319218186999	398869H9999
IN-3	11.	19093314. 999	9199999	91999	19010712. 999	1997. 4121999	193017142999
AG	197	9199121	39199999	0141999	9199. 20	919909.	-9199004
AS	7.	819. 494	196. 138999	31899	814. 22	7171479	8139144
BA	137	1947194941	312107183399	91799	1938H4701	19. 91H. 927	19. 018039.
CD	111	9191034	6199999	471399	9191037	9199642	919181.
CO	. 2	0H1874	6331161399	11999	0H16. 3	0142380	0H4. 87
CU	63	9188309	1839H8999	61299	9187069	918080.	9124876
MO	28	314. 304	. 107178399	. H99	313. 864	3134082	316. 812
NI	69	3H3607	00. 3H8399	61299	3189932	3131893	3142932
SB	101	9103493	123134399	141799	91H24. 8	91042. 1	910. 899
SE	78	9191071	3177799	0991699	-9199779	9194102	91994. 4
SN	109	9142. 63	192617. 999	21499	9142748	91H4193	9144832
SR	88	073H9730	02703. 167399	11099	071123. 07	071143630	077H. 937
ZN	66	19138739	0413160799	01899	19142741	19196031	19199018
BI-3	092	101287163799	9199999	91999	109241163999	103. 8. 146999	10143. 180999
PB	098	4H979.	12772121799	41699	4149914	4137394	4174727
TL	09.	-9199489	33133399	91999	-9199062	-9199. 24	-9199. 78
U	038	1H0186	636. H4999	71499	1H2163	113210.	1H8079
SC-2	4.	01. 848162399	9199999	91999	0138. 3198999	01. 1. 8H7999	018. 34143999
GE-1	70	1184924	9	91999	118. 109	1188910	11721. 9
GE-2	70	0. 2. 4. 133999	9199999	91999	0. 8. 9. 141999	0. 7. 92143999	060601H. 999
GE-3	70	09829317. 999	9199999	91999	098. 06107999	09. 914H3999	01317914. 999
TB-3	1. 2	0. 3897139999	9199999	91999	0. 4314176999	0. 9244168999	0. 6160146999

Run Name: 1831098E97
 Tube Number: 1.
 Sample Number: 9876335

Date/Time: 11/98/0918 12:11:4.
 Batch: 183961963291A
 Class: R*****

Initial Vol: . 9199

Final Vol: . 9199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 29937	9	91999	1. 821. 1	1. 8. . 48	1. 2. 410
SC-3	4.	29. 21H6399	919999	91999	88. 22H2999	21. 06H7999	21647H3999
AL	07	0942H4927	24611H7999	91299	0946H3. 020	0962H67. 94	0930H2423
B	11	284H67924	314831H23999	91799	280H31141	220H69761	278H2381
BE	2	4H306. 6	0077H0399	1H399	4H8839	4H2337	4H2899
CA	44	8. 48. H. 260	. 14199H34399	1H999	86660H76. . 7	84. 87H083.	8. 096H4842.
CR	. 0	48H74000	77342H3399	1H399	42H39694	48H. 9. 0	48H97911
FE	. 7	86. 7H3869	026026H8799	0H999	8808H30780	8662H30768	847. H6902
K	32	34423H4416	3713114H91999	9H999	34762H73928	340. 3H90041	344. 6H67219
MG	04	67478H40397	2008692H. 799	9H999	68971H7600	66243H66708	67412H70. 79
MN	. .	0. 64H47832	0713464H4999	1H999	0. 27H30. 42	0. . 0H91738	0. 44H92008
NA	03	190809H49636	06063. 30H9799	9H999	193710H. 4. 1	190146H991. .	190690H76390
TI	47	069H287.	2813H61999	3H399	067H2799	0. 9H82. 03	060H9494
V	. 1	. 9H11999	. 2241H91399	9H399	. 9H97066	42H22244	. 9H. 782
IN-2	11.	3924. 3H63799	919999	91999	39. . 78H8999	392417H70999	31336. H11999
IN-3	11.	22208H31999	919999	91999	28877H11999	28611H2999	190026H3999
AG	197	. 3H21104	139. 73H29799	1H999	. 4H73803	. 3H23094	. 3H9634.
AS	7.	17H72. 12	0086H9999	4H999	18H63193	17H33187	17H40067
BA	137	1111H698. 1	331628H47399	0H799	1116H36948	1138H89228	1972H. . 96
CD	111	. H3847.	1746H0999	1H999	. H8983	. H32. 04	. H47818
CO	. 2	040H89907	. 81704H69999	3H999	044H79894	042H34731	034H34. 44
CU	63	. 9H68. 81	27160H41399	3H999	. 1H300.	. 1H3. 208	48H6. 29
MO	28	. 4H37020	78. 71H47399	1H999	. 4H28. 6	. 4H272. 7	. 3H44960
NI	69	. 4H9967.	33968H7999	0H999	. 3H7. 300	. . H69871	. 0H6. 830
SB	101	6H44437	3819H67999	3H799	6H6781	6H68. 2	6H2671
SE	78	19H31207	. . . H6799	. H799	19H6. 667	19H669. 8	2H649. 6
SN	109	. 1H68372	. 3028H7999	0H999	. 1H4189	. 0H73277	. 9H6281
SR	88	312H71429	3491. 2H30999	0H999	301H62866	304H20. 96	310H0199
ZN	66	. 10H47217	113. 08H8799	4H999	. 07H8829	. 04H4694	48. H990. 8
BI-3	092	100131H34799	919999	91999	1120. . H. 999	100867H00999	104071H7999
PB	098	09H6426	87363H2. 799	0H999	09H612. 6	12H23098	12H2430.
TL	09.	0H9. 393	68. 0H93399	3H999	0H98680	0H92196	1H28109
U	038	07H89. 87	11. 834H8999	0H999	08H44869	07H890. 4	07H36648
SC-2	4.	012304H3. 399	919999	91999	016667H0999	018217H3999	000388H1999
GE-1	70	1128336	9	91999	1010774	1186676	112. . . 8
GE-2	70	064137H9799	919999	91999	0. 846. H6999	066917H4999	067202H6999
GE-3	70	094630H26799	919999	91999	096248H6999	094619H9999	090349H94999
TB-3	1. 2	0. 0330H4799	919999	91999	0. 0169H6999	0. 0. 7. H9999	0. 00. 2H28999

Run Name: 1831098E97
 Tube Number: 16
 Sample Number: 9876336

Date/Time: 11/98/0918 12:13.: 0
 Batch: 183961963291A
 Class: M*****

Initial Vol: . 9199

Final Vol: . 9199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. . 71. 4	9	91999	1. 30160	1. 6. 376	1. 73204
SC-3	4.	23304187399	9199999	91999	23966131999	29. 49189999	26367171999
AL	07	09. 018017	27. 2912399	11399	097119711.	096. 128801	0909128714
B	11	19. 0124. 10	308220181399	91899	1960106968	19471479. 8	1942119411
BE	2	4107. . 6	009311399	41199	414. . 76	4119638	41064. 3
CA	44	80410180001	. 19. 0016799	11399	8082216163	83176129064	8116014903.
CR	. 0	4818711.	728. 0124399	31399	42182939	42120333	46122283
FE	. 7	8070106104	021. . 6140399	01899	8011194. 88	8. 08129678	8976183196
K	32	33364197026	3799191142799	91799	3314113. 37	33631101989	33312147073
MG	04	6. 48. 133431	200. . 21130999	11999	6691310367.	6. 704184983	64717120. 3.
MN	. .	0472130222	07900. 8120999	11199	04. 617894	0. 011739.	04. 2183888
NA	03	199609121080	06473131107999	11499	19112717333	19161. 18. 666	229421984.
TI	47	0. 2110. 79	19973178399	. 1199	040186738	06. 194442	062146. 04
V	. 1	421823. 0	61002184399	91799	4214. 824	. 9197324	4214779
IN-2	11.	39671. 146799	9199999	91999	393122146999	396. 01130999	31940. 160999
IN-3	11.	19960. 14. 799	9199999	91999	22847124999	199467101999	191. 61100999
AG	197	. 0182694	10293612. 999	91299	. 01846. 2	. 0147093	. 3186242
AS	7.	18186102	037. 11. 999	11399	18189764	1816083	18181349
BA	137	192. 192934	30218319. 399	11199	198217630	1987139. . 7	1198178211
CD	111	. 112318	162. 14. 999	11199	. 104899	. 113. 73	. 112. 83
CO	. 2	047103218	. 26744194999	91399	04614916	047123. 04	047104014
CU	63	. 9133313	27096120799	11899	42131206	. 1198466	. 9112. 47
MO	28	. . 161220	892. 7177999	11799	. 4188166	. . 163178	. 614630
NI	69	. . 19. 399	332. 714. 799	01699	. 314431.	. 612346	. . 110049
SB	101	6110484	3884194999	111499	. 181600	7102886	614. 243
SE	78	19184387	. 78129399	31299	19132770	191887. 2	11104631
SN	109	. 3142. 19	. . . 47188799	91699	. 3111343	. 3166369	. 3179806
SR	88	312130863	340002172799	11199	317188384	31618. 12.	30310. 911
ZN	66	. 0. 166193	11734910999	31499	. 9818122	. 43180394	. 0417898
BI-3	092	103873184799	9199999	91999	103. 33107999	101868170999	10601211. 999
PB	098	09108719	821. 4196999	31999	121797. 9	09120. 91	0910877
TL	09.	0197723	7938178999	31299	019. 080	01911. 9	0116246
U	038	07171326	117108109799	91499	07160193	0718. . 09	07166. 63
SC-2	4.	0177. . 199799	9199999	91999	01. . . 1182999	0164. 2107999	0010. 3186999
GE-1	70	1179767	9	91999	116. 302	1170923	1174872
GE-2	70	0697. 3186399	9199999	91999	0. 2. 11186999	0. 826712. 999	06378118999
GE-3	70	09848. 162399	9199999	91999	09109012. 999	011. 40130999	010711181999
TB-3	1. 2	0. 030918. 999	9199999	91999	04. 723181999	0. 044111. 999	0. 8707172999

Run Name: 1831098E97
 Tube Number: 17
 Sample Number: 9876334

Date/Time: 11/98/0918 12:16:99
 Batch: 183961963291A
 Class: UL*****

Initial Vol: . 9199

Final Vol: . 9199

DF: . 199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1693026	9	91999	1. 82626	1. 28921	1600190
SC-3	4.	2689210399	9199999	91999	2. 3. 9193999	2. 22317999	2298417999
AL	07	19139192	61913399	161399	1011827	2127793	8189706
B	11	3. 7197126	101617142399	01299	367124766	3. 610. 640	347191189
BE	2	9199. 97	3133399	861499	91990. 8	9191910	91990. 9
CA	44	1. . . 612786	19991911399	01099	1. 2. 412011	1. 496120132	1. 397198998
CR	. 0	8149877	1449918. 399	31099	8110376	816. 398	8144246
FE	. 7	14261017. 8	. 4894199399	01199	1. 37122149	1481170676	14681234. 2
K	32	4402178001	. 13897100999	91299	4470178464	4412183778	4326170409
MG	04	1081816. 193	1873673166799	91899	102341128.	10761164940	107. 2172083
MN	. .	4. 811020.	. 18031172999	11199	46411. 237	4. 811. 001	4. 1107612
NA	03	17464121779	4782071118999	01399	178. 118988.	1748814409	179. 4149996
TI	47	9116648	19199999	0691399	-9198374	9166623	-9198374
V	. 1	91107. 8	183134399	0. 1699	9110748	919242.	9116930
IN-2	11.	30679913. 999	9199999	91999	3084041. 999	3063. 0113999	30. 304177999
IN-3	11.	196118186399	9199999	91999	196023186999	194770123999	197082189999
AG	197	-9199109	03133399	91999	9199141	-9199639	9199139
AS	7.	11377. 8	090166799	21899	1188061	1131786	1133006
BA	137	0901662. 0	640. 3147999	31199	12. 14. 399	09610. 176	096139389
CD	111	9199. 29	4199999	1991699	9199994	9191121	9199. 74
CO	. 2	9113139	1. 06189399	. 1499	911. 198	911441.	9142868
CU	63	1100640	0699130999	01699	1109446	11060. 4	1101007
MO	28	9181394	108919399	61299	917. 082	9186316	9180398
NI	69	4170042	3113177799	61999	. 1947. 3	4169703	4111071
SB	101	919. 226	23133799	611299	9119076	9194919	9193793
SE	78	-91919. 6	0166799	91999	-91900. 7	-9191942	9199138
SN	109	9107331	299196399	421299	91408. 1	91018. 9	9117021
SR	88	. 314. 2.	69. 40108999	11999	. 3187698	. 0129077	. 318. 299
ZN	66	0147966	646179999	131299	0162949	0164738	0197400
BI-3	092	102877189399	9199999	91999	108893186999	102098197999	131601189999
PB	098	9121281	4. 2711. 999	01699	9124403	9182703	9121727
TL	09.	-9199. 49	33133399	91999	-9199216	9199003	-9199208
U	038	9139642	1326172799	31999	910260.	913134.	9139277
SC-2	4.	00498. 117799	9199999	91999	004006121999	00. 61216999	000419169999
GE-1	70	103. 86.	9	91999	1008000	1034032	104. 13.
GE-2	70	074. 6816. 799	9199999	91999	071314174999	076339199999	076961103999
GE-3	70	018. 83148999	9199999	91999	018966181999	017142194999	009. 3412999
TB-3	1. 2	060031131799	9199999	91999	061710183999	0. 28. 8198999	06. 103194999

Run Name: 1831098E97
 Tube Number: 18
 Sample Number: 9876337

Date/Time: 11/98/0918 12:18:98
 Batch: 183961963291A
 Class: D*****

Initial Vol: . 9199

Final Vol: . 9199

DF: . 199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1609791	9	91999	16936. 9	1630979	160638.
SC-3	4.	24397130799	9199999	91999	2416314. 999	2. 804137999	2023416999
AL	07	8104496	426102399	61199	814066	816304	710608
B	11	002101260	8081710. 399	11799	033129781	00213. 869	00611204.
BE	2	9199600	4199999	. 21399	91990. .	9199618	9199220
CA	44	160. 913. 771	19176. 177999	01799	1607614037	1. 72614. 784	16678197020
CR	. 0	9138113	72919. 999	11799	9137. 7.	9137248	9138817
FE	. 7	1. 90103080	. 363913. 999	11099	142218. 99	1486191. 76	1. 00102779
K	32	4. 6710. 671	. 1. 727100399	31199	4647126938	438417. 416	466219. . . 2
MG	04	13408173169	1211668106799	31999	13. 4410467	1028414637	137. 7110374
MN	. .	470101786	. 0983914999	11099	47. 1917. 2	46. 102384	47612401.
NA	03	18061141393	4877817104399	11799	18. 9. 146923	17298139198	18379147798
TI	47	910. 860	13133399	1141799	9140643	-9198374	9143318
V	. 1	9196227	196107799	3. 1299	919829.	9197234	91941. 3
IN-2	11.	316. 6419399	9199999	91999	39640910. 999	3184791. 999	30489011999
IN-3	11.	194438124399	9199999	91999	196416147999	19. 489138999	191412128999
AG	197	-9199927	03133399	91999	-9199636	91991. 9	9199127
AS	7.	1146738	011133399	41999	1141332	113986	114. 729
BA	137	09. 10. 381	64182100999	41199	1271. 4. 2	0961096. 6	014109902
CD	111	9199122	0106799	44. 1399	9191164	9199992	-9199. 76
CO	. 2	9119. 16	1436178999	71299	9146901	913692	911218
CU	63	9101198	. 06179999	. 1799	9109028	9100. 90	9109. 0.
MO	28	91700. 7	110617. 399	091199	917. 122	910. 967	9116. 93
NI	69	9174963	. 09193999	131299	9109490	9172608	91001. 2
SB	101	9191298	66106799	3. 11799	919. 412	-919. 802	9196133
SE	78	9193108	4102999	231199	9193939	9199066	9196982
SN	109	-9196. 08	. 03136399	91999	-91161. 8	-9194666	9191041
SR	88	. 412148.	61981110399	01199	. 4131872	. 4101134	. 6101444
ZN	66	0112. 98	. 73136399	311799	1100706	0126288	1128811
BI-3	092	10631913399	9199999	91999	10260010999	106182139999	103112178999
PB	098	9124301	4. 79147799	191399	9103730	110802	9126490
TL	09.	-9199894	03133399	91999	-9191094	-9199309	-9199882
U	038	9106689	1186176399	41099	910. 369	9107233	9106746
SC-2	4.	018391121399	9199999	91999	010947138999	009114104999	00074410999
GE-1	70	1031822	9	91999	1030346	1033118	1039030
GE-2	70	068021106999	9199999	91999	061863172999	07992213999	070211106999
GE-3	70	010781123799	9199999	91999	014908147999	017806106999	096429174999
TB-3	1. 2	0. 89. 9120399	9199999	91999	0602. 614999	060. 80146999	048613177999

Run Name: 1831098E97
 Tube Number: 12
 Sample Number: 9876335

Date/Time: 11/98/0918 12:09:16
 Batch: 183961963291A
 Class: R*****

Initial Vol: . 9199

Final Vol: . 9199

DF: . 199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1602327	9	91999	16. 6406	1612. . .	1610019
SC-3	4.	2424912. 799	9199999	91999	23612194999	2. 661H6999	2. . 40107999
AL	07	493141781	12699H2999	3H99	327162286	417H4490	32. 1992. 7
B	11	0. 1132371	29193129799	91799	042H6624	0. 11876. 9	0. 0173762
BE	2	9180. 38	446191999	81899	9188. 07	9174. 91	9184. 86
CA	44	16237174040	19689810799	1H99	16289186. 13	1673. 1983. 8	179271078. 4
CR	. 0	19H9162	16207196399	3H499	19H48369	19191830	218931.
FE	. 7	1718104464	6170118. 799	11899	17121724. 9	168613. . . 1	1748H8382
K	32	64811628. 1	73. 17. 192399	91299	6471H2121	6430H9287	6. 41172376
MG	04	137. 1138331	1271082171999	91299	13898160910	13839199002	1361. H07. 1
MN	. .	4891473. 4	. 339. 2131399	1H99	486H149.	477108686	477161271
NA	03	09168134710	. 40924917. 999	11999	0936416. 417	0916716276.	122701682. 4
TI	47	. 1H232.	0906187799	11799	. 9127886	. 0H4823	. 9H4. 49.
V	. 1	218323.	10348127399	11899	19199790	218. 6. 9	218. 4. 0
IN-2	11.	307637177999	9199999	91999	30. 6. . 164999	3044. 4104999	330893143999
IN-3	11.	196044122399	9199999	91999	19. . 99147999	19. 318166999	19721. 18. 999
AG	197	19147883	07992128999	91399	19H4613.	19H1974	19H46441
AS	7.	3H64. 3	422134399	21699	3123448	3H2. . .	31063. .
BA	137	013131787	67792148799	11299	017171960	092181186	010143113
CD	111	1191660	3. 0191999	11399	119109.	1193138	1199640
CO	. 2	47138760	109829140399	11499	47H3371	47124071	46168643
CU	63	2162112	1284918. 799	01799	216312	2180. 70	213846.
MO	28	1914892.	16106133999	6H99	19107976	11H2. 80	2127607
NI	69	11192. 22	7060196399	41399	11160317	19171012	1912. 060
SB	101	1H2904	723138399	191799	1130024	1H7888	1196829
SE	78	019. 124	112H. 399	71899	0192484	0H8. 27	1187. 99
SN	109	2H1. 73	1920712. 999	31699	2121667	2131143	2131298
SR	88	60181803	71983164799	01699	63146404	6419482.	691241. 9
ZN	66	190H0619	0401110. 799	31999	19. 189133	191122082	22178498
BI-3	092	108484169999	9199999	91999	106168174999	10783. H. 999	131442121999
PB	098	31276. 9	1841812. 399	. 1499	312. 649	41099. 3	31770. 6
TL	09.	913. . 81	1023144999	61399	913. 901	9133681	9138949
U	038	. 134900	0343. H4399	01999	. 141288	. 137826	. 100183
SC-2	4.	00. 70710799	9199999	91999	000111131999	006396122999	008763138999
GE-1	70	1032746	9	91999	106. . 96	1031874	10018. 8
GE-2	70	07. 227142999	9199999	91999	071. 38H4999	07. 81. 10. 999	089632198999
GE-3	70	012440144999	9199999	91999	01468. 107999	009460127999	003172198999
TB-3	1. 2	061847178399	9199999	91999	0610. 8198999	061307173999	0602. 7H4999

Run Name: 1831098E97
 Tube Number: 09
 Sample Number: CCV

Date/Time: 11/98/0918 12:00:0.

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	161383.	9	91999	1. 29889	1603. 7.	16079. 9
SC-3	4.	27449H. 399	9199999	91999	26134H2999	28. 21H. 999	27. 24H0999
AL	07	0. 93191129	104049H2999	1H99	0. 431H71. 0	0471H7. 96	0423H8211
B	11	360192810	104913H2799	1H99	364H36808	3. . H369. 8	366H6. . 9
BE	2	061H3417	14008H. 999	91299	06H37. 32	06H828.	06H3706
CA	44	0406H7. . 7	1. 742H9399	01299	0. 94H4437	0367H7341	0498H9824
CR	. 0	040H1687	41313. H. 399	1H99	043H2. 7. 1	032H9020	044H2917
FE	. 7	0447H1904	2917. H7399	0H499	0469H9807	0380H2311.	0422H02139
K	32	04. 9H7. 3.	088006H1799	1H499	0488H28744	0439H48402	0431H. 430
MG	04	0364H1462	348979H2399	1H499	0389H23473	030. H3012	0387H27716
MN	. .	0. 3H682.	088396H3799	9H799	0. 4H39683	0. 1H91720	0. 3H8019
NA	03	0380H. 941	681667H9399	1H99	0498H69. 4	03. 9H1666	0386H27490
TI	47	0. 3H26607	19393H27999	4H299	0. 4H682.	041H2782	06. H3127
V	. 1	048H8600	312973H4799	1H499	0. 1H763.	044H4881.	048H2417
IN-2	11.	302428H97999	9199999	91999	3072. . H0999	302924H9999	331444H62999
IN-3	11.	197961H7999	9199999	91999	197277H8999	19. 407H8999	197789H. 999
AG	197	08H366.	74964H9799	1H899	08H9. . 7	02H160.	08H8813
AS	7.	0. 4H0448	34832H7799	1H299	048H2. 891	0. 7H21. 08	0. 7H99917
BA	137	0. 1H326.	89. 4. H3399	1H99	048H62940	0. 4H99998	0. 0H084.
CD	111	0. H29. 9	8741H43999	1H99	04H21441	0. H3417	0. H0023
CO	. 2	048H31084	637610H03999	1H99	046H10698	0. 1H3664	047H77. 72
CU	63	047H. . 64	. 973. 3H. 999	1H899	040H967. 3	0. 9H49879	048H22979
MO	28	0. H3394	32796H38999	0H999	0. H. 2. 3	0. H2881.	0. H. 143
NI	69	061H88. 6	171182H2399	0H799	0. 3H2800	066H8. 8.	063H38160
SB	101	0. H7. 92	16013H02999	0H699	0. H9760	06H6983.	0. H39202
SE	78	0. H2. . 14	1483H41399	0H99	06H4966	06H4887.	0. H33691
SN	109	04H7781	07936H70999	3H99	03H49673	0. H98441	04H94008
SR	88	06H90772	02621H2399	3H899	0. H43006	07H7031	0. H47881
ZN	66	0. 8H0894	61302H4999	1H299	0. 0H327. .	061H77920	069H01. 66
BI-3	092	139903H46799	9199999	91999	102774H28999	102068H38999	131907H4999
PB	098	0. H6939	117831H78999	1H399	0. H2077	0. H44. 10	0. H24399
TL	09.	0. H6779	21337H1799	1H99	0. H10. 1	0. H9937	06H02904
U	038	04H486.	11903. H4999	9H899	04H4266	0. H. 46.	04H44163
SC-2	4.	006224H33399	9199999	91999	007360H. 999	007037H21999	006380H34999
GE-1	70	1033679	9	91999	109. . 64	1030287	1060461
GE-2	70	074637H1799	9199999	91999	077706H3999	074787H39999	071328H30999
GE-3	70	0019. 3H. 399	9199999	91999	018247H6999	00976. H4999	003447H6999
TB-3	1. 2	06. 390H2399	9199999	91999	063978H7999	063246H30999	068880H92999

Run Name: 1831098E97
 Tube Number: 01
 Sample Number: CCB

Date/Time: 11/98/0918 12:04:33

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. . . 62	9	91999	1. 47249	1. . 1067	1. 67. 91
SC-3	4.	24140172999	9199999	91999	23936121999	2344712. 999	2. 24311999
AL	07	-9140296	89199999	91999	9100483	-110. 62.	-910. . 9.
B	11	143193. 37	. 3012132399	11799	144128. 3.	143186967	149106998
BE	2	9199. 00	3133399	1. 31699	9199068	-9199100	9191409
CA	44	19123. 98	109199399	071499	14138916	214431.	812812.
CR	. 0	91064. 1	. 26162799	311199	9112929	913. 482	9104773
FE	. 7	-9192314	26167999	91999	-1167. . 7	01990. 1	-916963.
K	32	1170. 37	4297164399	. 21799	0113760	019711.	911673.
MG	04	9192374	019191999	761799	919322.	9117. 44	9196. 84
MN	. .	9194470	333134799	201499	9199840	9198271	9193693
NA	03	-10188867	03472116799	91999	-1413. 694	-11119449	-10189. . 7
TI	47	-9198374	9199999	91999	-9198374	-9198374	-9198374
V	. 1	9199393	03133399	. 261799	-9199749	-9199744	9190324
IN-2	11.	31. 771184999	9199999	91999	31333134999	313438199999	309. 44118999
IN-3	11.	194332116799	9199999	91999	19008814999	194191136999	196602109999
AG	197	-9199039	09199999	91999	9199186	-9199607	-91990. 9
AS	7.	9199373	16199999	4681699	9190109	9199376	-9191377
BA	137	-9199273	19199999	91999	-9194164	9190068	-9191904
CD	111	9199610	4199999	281199	9199639	9191090	9199993
CO	. 2	-9191898	106167399	91999	-9199779	-9191678	-919027.
CU	63	9193396	179191999	101799	9193478	9190806	9193614
MO	28	919. 897	109199399	01299	919. 264	919. 800	919. 633
NI	69	9193342	66166799	221199	9190476	9197917	9199. . 4
SB	101	9116791	1. 6167799	471399	911438.	910. . 94	911901.
SE	78	91907. .	4166799	491699	9190836	9191. 28	9193831
SN	109	-910. 947	306168999	91999	-9107997	-9112941	-9102924
SR	88	-9199. 49	09199999	91999	-9199. 94	-9199. 36	-9199. 72
ZN	66	9167194	009191399	. 61399	9110. 41	1119641	9118102
BI-3	092	104614172799	9199999	91999	103323129999	10366. 17999	106784120999
PB	098	9193727	. 06162999	421199	9194661	919. 929	9191632
TL	09.	9199129	. 6166799	3311399	9199291	-9199026	-919993.
U	038	9199394	. 9199999	0921099	9199784	9199. 43	-9199417
SC-2	4.	01. 206169399	9199999	91999	01630612. 999	01. 981149999	016371146999
GE-1	70	1120308	9	91999	11809. 8	1182178	109. 748
GE-2	70	06698616. 399	9199999	91999	06. 079148999	064103198999	068866149999
GE-3	70	013861177399	9199999	91999	092847173999	01. 942132999	016688109999
TB-3	1. 2	0. 692719. 399	9199999	91999	0. 3392113999	0. 6720162999	0. 8188124999

Run Name: 1831098E97
 Tube Number: 00
 Sample Number: 9876336

Date/Time: 11/98/0918 12:06:43
 Batch: 183961963291A
 Class: M*****

Initial Vol: . 9199

Final Vol: . 9199

DF: . 199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 79043	9	91999	1. 727. 9	1. . 6380	1. 74. 27
SC-3	4.	260. 0170399	9199999	91999	27040199999	26712199999	24726127999
AL	07	4941870. 2	12249161799	11699	4111107. 6	32811047	494127770
B	11	030194971	89217134799	01399	00. 1291. 0	03. 117824	034164166
BE	2	91299. 8	468167799	01399	9121680	9129731	9187761
CA	44	16636103146	196344198999	01199	166181880. 9	16021143237	162281370. 0
CR	. 0	2120666	16866121399	01699	2173691	2180479	19101206
FE	. 7	166613. 401	69689121999	01199	167611. 16	1601116644	1791178190
K	32	6401133134	738346179799	11499	6380163. 3.	636917287	6. 09177889
MG	04	13. . 1172894	1262484102399	91799	13. . 016. 4. 7	134. 81362. 6	13644136222
MN	. .	470102439	. 3101. 199399	11799	470196968	464140760	489132469
NA	03	12266126. 60	. 449894102999	01999	12290101747	12611112336	09387198694
TI	47	. 0170343	0116129799	. 1999	. 3107792	. . 19. . 3.	42183786
V	. 1	2128740	1079. 120399	31699	2126192	216387.	19136041
IN-2	11.	30716819399	9199999	91999	30697318. 999	303366163999	330963183999
IN-3	11.	197913142399	9199999	91999	19804717999	19. 836142999	1962. 6140999
AG	197	1911906.	0706711. 999	01099	19169899	1916. 846	19104148
AS	7.	3148837	420167799	191099	31484. 2	3184767	313087
BA	137	011180263	67716119999	11899	097161400	014128401	01018294.
CD	111	912. 373	330167799	41399	9129641	9127266	9127. 10
CO	. 2	47127907	103079123399	91699	47188708	48106844	4717. . 98
CU	63	2177304	091. 4164799	01499	216. 913	19194880	2160976
MO	28	19169777	16446108399	11799	19169448	19140783	19172922
NI	69	19129. 1.	7188167399	41799	19137. 11	19123737	1114902.
SB	101	1149049	233149399	121699	116. 134	1119788	1144722
SE	78	1122177	116199999	71099	1121482	011. 778	1129060
SN	109	21164. 7	11964179799	31699	21200. 3	2103. 39	2113. 88
SR	88	69124148	62466103999	01099	. 2149329	611649. 4	61177222
ZN	66	191174249	04097122399	11799	193103401	190101216	22172480
BI-3	092	102181142399	9199999	91999	131068172999	102. 99126999	106774173999
PB	098	41900. 1	1873014999	01199	3127412	312. . 07	4113898
TL	09.	914017.	1. 3911. 799	31199	9141184	9141481	91438. 2
U	038	. 107890	03084108399	31799	. 14183	. 118249	. 119083
SC-2	4.	006103191799	9199999	91999	00. 820192999	00394. 121999	00243119. 999
GE-1	70	1126729	9	91999	1187240	1122696	1090800
GE-2	70	073244173999	9199999	91999	074. 98124999	07306. 179999	0749. 211. 999
GE-3	70	013237174799	9199999	91999	01. 236166999	014061192999	01161. 142999
TB-3	1. 2	069. 20186999	9199999	91999	061844129999	060999182999	0. 7230172999

Run Name: 1831098E97
 Tube Number: 03
 Sample Number: 9876332

Date/Time: 11/98/0918 12:08.: 9
 Batch: 183961963291A
 Class: *****

Initial Vol: . 9H99

Final Vol: . 9H99

DF: 1H99

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 799. 4	9	9H999	1. 73892	1. 62. . 1	1. 66891
SC-3	4.	26611H7999	9H9999	9H999	27930H3999	2. 283H. 999	26818H3999
AL	07	768H6413	37886H7399	1H99	777H80. 7	766H1288	769H822.
B	11	13. 4H37044	403837H46999	9H999	1347H8202	1342H8947	1366H47. 7
BE	2	9H8340	44H99999	03H799	9H9608	9H7123	9H709.
CA	44	00. 127H7991.	1444442H94999	9H799	003722H116.	004779H67448	007903H1430
CR	. 0	14H20220	0. 380H76999	0H99	14H89347	1. H3709	14H84298
FE	. 7	. 77. H9384	0198. 7H96999	9H699	. 737H8673	. 893H90084	. 784H79124
K	32	08260H87101	3306937H34799	9H699	08783H82907	08279H48720	02134H03. 46
MG	04	39031H0681	4492222H9399	1H99	399. 1H39290	02298H0820	3973. H940. 1
MN	. .	449H2204.	42723. H. 999	9H899	438H8926	432H8627.	44. H9066.
NA	03	. 0146H92. 4	14012238H. 399	1H999	. 1669H479. 8	. 123. H3870	. 0840H81231
TI	47	04H. . 71	1996H73399	19H699	00H44419	07H62609	04H70680
V	. 1	. H8041	6608H43999	1H899	. H8498	. H6619	. H2797
IN-2	11.	313467H8399	9H99999	9H999	3922. 1H78999	31. 131H20999	31. 312H. 999
IN-3	11.	193731H3799	9H99999	9H999	190930H63999	193071H61999	19. 882H7999
AG	197	9H1726	806H70999	16H899	9H8291	9H8. 40	9H7243
AS	7.	3H360.	484H91999	8H999	3H. 19.	3H7933	3H8737
BA	137	1130H87013	3. 9222H46999	1H999	1134H1912	1143H90971	1101H48. . 1
CD	111	9H6687	120H6799	7H399	9H0943	9H7284	9H69933
CO	. 2	4H6391.	1168. H92399	3H999	4H72021	4H4867	4H4887
CU	63	39H887. 0	61. 98H49799	0H799	31H79121	39H2. 998	39H919. 8
MO	28	19H8202	16960H87999	1H999	19H72799	19H8673	19H8410
NI	69	38H1968	04049H. 999	1H999	38H8940	38H86208	37H8033
SB	101	3H4736	1269H1399	2H399	3H6272	0H1443	3H. 786
SE	78	9H6847	03H1999	00H799	9H41441	9H41823	9H7096
SN	109	11H62. 4	10846H34999	9H299	11H6. 63	11H. 033	11H296.
SR	88	1487H0613	16404. 9H90799	1H699	1. 96H26177	1424H9321	1469H31070
ZN	66	122H39186	4. 82. H. 999	1H699	128H3. 991	090H8741	126H681.
BI-3	092	106991H28399	9H99999	9H999	10. 72. H8999	10. 716H41999	106424H96999
PB	098	30H. 739	1444. 1H. 999	1H799	31H74134	30H1973	30H1284
TL	09.	9H6. 90	073H3. 999	30H299	9H7399	9H4981	9H810.
U	038	1H38217	6998H7799	3H999	1H41. 69	1H3712	1H41471
SC-2	4.	008942H63399	9H99999	9H999	00608. H80999	008724H89999	002968H8999
GE-1	70	1176069	9	9H999	1180968	1170. 13	1174122
GE-2	70	071019H7799	9H99999	9H999	0682. 9H6999	062160H8999	07. . 17H62999
GE-3	70	010710H27999	9H99999	9H999	010464H99999	011373H3999	014391H8999
TB-3	1. 2	0. 7. 7. H34799	9H99999	9H999	0. 396. H74999	0. 8. 68H8999	061920H0999

Run Name: 1831098E97
 Tube Number: 04
 Sample Number: 9876332

Date/Time: 11/98/0918 12:39.: 7
 Batch: 183961963291A
 Class: *****

Initial Vol: . 9H99

Final Vol: . 9H99

DF: . H99

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	161. 0. 4	9	9H99	1603771	1610478	1692. 10
SC-3	4.	24471H46799	9H9999	9H99	23. 62H49999	23729H60999	269. 4H8999
AL	07	1. 4H7392	7. 1. H4399	0H79	1. 7H39024	142H37297	1. . H83707
B	11	. . . H8709	184724H42799	9H99	. . 8H9473	. . 4H0421	. . 0H6312.
BE	2	9H90601	14H66799	16H49	9H908. .	9H90106	9H90881
CA	44	44017H20907	077301H76799	0H99	44. 61H72. 19	44277H. 077	43114H8102.
CR	. 0	3H8. 06	. . 87H82799	1H29	3H3. 607	3H9. 9. 1	3H4290
FE	. 7	1161H20333	41. . 4H3799	0H89	1179H98. .	1182H78. 06	110. H77612
K	32	. . 81H90644	639466H21799	1H99	. 63. H6038	. 693H6. 80	. . 94H. 111
MG	04	. 263H. . 86	8. 9664H29799	1H99	6943H0706	. 282H47434	. 8. 7H6. 22
MN	. .	88H71014	28167H0399	1H39	82H2723.	88H26. 1	87H69. 6
NA	03	19772H3284	082. 417H4799	1H99	19862H6699	19892H7460	196. 8H7829
TI	47	4H6821	186H7799	13H29	. H. 964	. H38. 3	3H217. .
V	. 1	1H94933	1316H76799	0H99	1H96137	1H9193.	1H94207
IN-2	11.	30. 279H64399	9H9999	9H99	303839H1999	306230H43999	307148H22999
IN-3	11.	19446. H47999	9H9999	9H99	193490H2999	194926H2999	19. 827H3999
AG	197	9H94888	1. 9H9399	33H99	9H94163	9H93730	9H96762
AS	7.	9H76398	117H33399	19H99	9H761. 6	9H84. 24	9H88174
BA	137	000H40308	62414H. 799	1H99	001H98796	006H071. 0	012H21107
CD	111	9H0049	43H33399	16H79	9H3747	9H39. 2	9H92213
CO	. 2	9H8. 378	0319H. 399	8H29	9H4673	9H23078	9H78184
CU	63	6H93031	1018. H1399	1H99	6H1. 98	. H298. 6	6H97339
MO	28	0H02940	3429H. 999	4H99	0H8900	0H31766	0H7338
NI	69	7H74. 1	4887H. 999	4H39	7H249. 3	7H46302	7H31279
SB	101	9H7. 24	496H62999	14H39	9H8242	9H8443	9H6. 329
SE	78	9H9218.	8H44799	38H99	9H9610.	9H98360	9H3968
SN	109	0H99446	0733H62999	6H99	1H483.	0H9. 14	0H9. 229
SR	88	074H6641	39. 4. 1H. 399	1H99	077H4707.	074H1312	070H1339
ZN	66	32H44838	2122H27399	. H99	41H74097	37H02264	32H9340
BI-3	092	1027. 6H23999	9H9999	9H99	102703H3999	108834H68999	139710H8999
PB	098	6H41642	02727H36799	1H39	6H42890	6H40462	6H30677
TL	09.	9H99782	89H9399	146H99	9H99784	9H91244	-9H99369
U	038	9H06848	1006H77399	7H99	9H. 720	9H02163	9H. . 29
SC-2	4.	008873H62399	9H9999	9H99	007280H81999	03396. H1999	00. . 73H6999
GE-1	70	100. 478	9	9H99	1038373	1030319	109. 7. 1
GE-2	70	078. 90H61399	9H9999	9H99	077319H76999	080834H29999	07. 360H8999
GE-3	70	017632H44399	9H9999	9H99	018823H8999	018191H. 999	01. 204H9999
TB-3	1. 2	061722H2999	9H9999	9H99	061134H24999	0612. 2H0999	060393H1999

Run Name: 1831098E97
 Tube Number: 0.
 Sample Number: 9876342

Date/Time: 11/98/0918 12:33:9.
 Batch: 183961963291A
 Class: *****

Initial Vol: . 9199

Final Vol: . 9199

DF: 1199

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. 01999	9	91999	1. 98140	1. 16418	1. 38449
SC-3	4.	21. . 6190799	9199999	91999	2988118. 999	2079018. 999	2198318999
AL	07	3132. 43	0. 6168999	601299	0187490	. 17433.	116823
B	11	12013. . . 7	66639139799	01099	12. 12823.	123137163	187179. 73
BE	2	9191338	7133399	211799	9190680	9199076	91919. 6
CA	44	19131867	113134999	741999	116. 673	1619867.	131010. 4
CR	. 0	9133248	79914999	191399	91340. 1	9139399	9137023
FE	. 7	911. 676	116167999	0. . 1099	111. . 20	118404	-1196286
K	32	6161219	. 394147399	411899	2181063	4188114	. 1163. 0
MG	04	9123340	309191399	. . 1199	113137	9161666	916. 003
MN	. .	9131. 76	613137999	081499	913707.	91010. 8	913612.
NA	03	-414880	0. 98019. 399	91999	-4197322	-7171078	-916. 268
TI	47	9144497	09199999	1181899	914448.	-9198374	9127111
V	. 1	9136. 99	469190999	111499	9132023	9138421	9131717
IN-2	11.	311. 70120399	9199999	91999	31198418999	398797183999	314206134999
IN-3	11.	19917717. 799	9199999	91999	22699171999	199. 7612999	1993. 6137999
AG	197	-9199474	13133399	91999	-919912.	-9191904	-9199090
AS	7.	9199832	16199999	3161099	-9190004	91903. .	919038.
BA	137	9198982	36166799	601299	9192081	9110472	9190. 98
CD	111	9199043	0166799	0201199	-9199. 76	91996. 1	91996. 4
CO	. 2	-9194. 06	. 6166799	91999	-91932. .	-9194813	-9194898
CU	63	9196061	009191999	. 91399	91947. 2	9194144	9192880
MO	28	9190211	73133799	3. 1899	9190916	9190663	91949. 3
NI	69	9104433	123134999	491399	910. 622	9144992	9133. 21
SB	101	-9193243	39199999	91999	-9193216	-9197374	-9199. 38
SE	78	9191002	3177799	1171699	9190828	91994. 7	9199334
SN	109	-9141966	1. 9199799	91999	-9149272	-9138091	-9144918
SR	88	9191714	43133399	1361199	-91994. .	919412.	9191493
ZN	66	1100971	333134799	141899	110. 2. 2	113720.	1190308
BI-3	092	100717194399	9199999	91999	100888172999	100343177999	10021817999
PB	098	919. 079	. 83136999	3. 1199	9197916	919. 46.	9193302
TL	09.	919911.	. 3133399	6631099	9199911	9199201	-9199. 82
U	038	-9199983	33133399	91999	-9199490	-9199169	9199314
SC-2	4.	0139. 6131999	9199999	91999	019696146999	01419. 166999	0144. 6181999
GE-1	70	11. 1610	9	91999	1138201	1169061	11. . 6. 3
GE-2	70	069678172399	9199999	91999	064166182999	0. . 413109999	0604. 6102999
GE-3	70	09333614. 799	9199999	91999	093804141999	090467138999	09371718999
TB-3	1. 2	048608172999	9199999	91999	0. 0676172999	044. 8618. 999	048600173999

Run Name: 1831098E97
 Tube Number: 06
 Sample Number: CCV

Date/Time: 11/98/0918 12:3. :14

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1691346	9	91999	1. 64229	1601. 98	1617. 41
SC-3	4.	2. 904182799	9199999	91999	20132143999	27464138999	2. 479188999
AL	07	0. 0. 134. 78	100123167799	01899	069. 14788.	0474124266	042. 169884
B	11	3. 9100. 8	11243. 10399	11399	3. 4143932	34. 1697. 2	3. 11027.
BE	2	06143712	14919163799	11499	0617. 378	06194. 96	0611073
CA	44	0. 09101992	1. 242103799	91899	0. 41172843	0. 1010884.	0. 9614338
CR	. 0	04418. 028	4968. 9137999	01999	0. 913. 3. 7	0431363. 6	049184181
FE	. 7	0477180091	82991186399	01199	0. 42173. 04	0437194829	0446188182
K	32	0402143322	078681182799	01499	0420131402	040910299	037. 14. 862
MG	04	037011. 449	349413137999	01099	04391843. 1	03. 6124876	0308167923
MN	. .	0. 4147. 18	080. 73143399	31199	06316602	048176186	0. 1192738
NA	03	0403147986	67. 663181799	11299	0473142708	038017. 096	041416304
TI	47	0. 0174444	2223174799	41699	06317071	049132. 1	0. 410192
V	. 1	048143084	311477133399	31999	0. 719. 96.	04416. . 8.	04312093
IN-2	11.	30704. 122399	9199999	91999	30643813999	30. . 84137999	30271. 131999
IN-3	11.	196708198399	9199999	91999	196. 3. 107999	19647917999	197178181999
AG	197	0810. . 23	73116128399	11899	07126. 01	0818. 8. 1	07124497
AS	7.	0. 0122. . 4	34. 1914. 799	01499	0. 0137. 01	0. 2136780	0471043. 2
BA	137	0. 4119439	81909142399	11099	0. 7142990	0. 010342	0. 0102249
CD	111	0. 142. 04	8809181399	11799	0. 190. 66	0. 1864. 2	0. 112. 48
CO	. 2	04312604	603. 22107799	91899	04. 167. 97	043109337	041121902
CU	63	04418216.	. 99779114799	11099	04614. 333	046143360	041118899
MO	28	0. 104. 30	38287172799	11099	0. 107. 92	0. 113160	0412020.
NI	69	0. 71099. 1	16897314399	11299	06110884	0. 818916	0. 11720. 0
SB	101	0. 142908	1. 206101999	11999	0. 119216	0. 1173408	0. 110749
SE	78	0. 110301	1430197399	01699	0. 118811	04163341	0. 1124811
SN	109	04126800	07801178399	01499	04133209	0. 119606	0. 119. 201
SR	88	0. 162898	0203419. 799	91899	0. 110979	0. 1120. 32	0. 1164814
ZN	66	0. 916468.	. 237417399	91499	0. 9171. 29	0. 1171296	042119. 69
BI-3	092	131368149399	9199999	91999	108078181999	13392610999	130739108999
PB	098	0. 116121	112933106399	11099	0. 118203.	0. 1139762	0. 1148. 68
TL	09.	04184162	88601122399	11199	04176021	0. 113431	0416078.
U	038	0411714	19286. 161799	01399	0. 1192341	04142. 83	03126018
SC-2	4.	00719213399	9199999	91999	007461149999	00384210. 999	03991712. 999
GE-1	70	1018266	9	91999	109178.	1007164	1007247
GE-2	70	077. 67199799	9199999	91999	072479122999	074937148999	07212011. 999
GE-3	70	016438193999	9199999	91999	018997181999	01706. 127999	014949131999
TB-3	1. 2	064842191999	9199999	91999	06346011. 999	06. . 28126999	06. 48. 110999

Run Name: 1831098E97
 Tube Number: 07
 Sample Number: CCB

Date/Time: 11/98/0918 12:37:03

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per secondH

Element	MASS	CONCHMEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#0	#3
SC-1	4.	1. . 0. 38	9	91999	1. 41033	1. 61198	1. . . 073
SC-3	4.	21766180399	9199999	91999	29166172999	20118174999	23914124999
AL	07	-9H3414	73133399	91999	-1144400	9146103	-9161243
B	11	142104131	. 4229122399	11299	1. 0136. 93	148H2272	14617. 210
BE	2	9199066	0199999	1461099	-9199100	919906.	91996. .
CA	44	17128848	169199799	491999	01178320	2162822	001480. 0
CR	. 0	9139363	643136799	391499	913. 034	9136143	9112710
FE	. 7	91976. 1	199199399	1906H99	9141617	9163480	-9180146
K	32	4146411	. 98119. 399	44H99	6H7273	4H7338	0163200
MG	04	9H4114	066167799	29H99	9174632	-9191776	9182478
MN	. .	9196076	34313. 999	1341899	9H428.	919. 7. 6	-9191213
NA	03	-13141260	00738197999	91999	-2H3344	-1310. . 20	-17146242
TI	47	9H7617	19199999	1481999	-9198374	9143776	9H74. 9
V	. 1	919090.	43133399	601099	9191897	9193389	9199882
IN-2	11.	312379H7399	9199999	91999	309. 42H. 999	312399H9999	318069187999
IN-3	11.	193492H4999	9199999	91999	190422148999	190880129999	194846104999
AG	197	-91997. .	6166799	91999	-9199012	-9191904	-9191904
AS	7.	9197998	04166799	441999	9193612	9192642	91977. 6
BA	137	-919091.	6166799	91999	-9194164	-9199219	-9199271
CD	111	-9199184	1133399	91999	-9199. 76	-9199. 76	9199691
CO	. 2	-9190162	116167999	91999	-9190994	-9199499	-9194190
CU	63	9191. 42	133134999	107H99	9190440	9190201	-9199714
MO	28	9192681	176167799	181899	9H1346	91922. 1	919774.
NI	69	91918. 9	. 6166799	172H99	-9199731	919. . 26	9199684
SB	101	9H6061	1. 3134999	641499	919. 273	9H. 216	9196823
SE	78	-91991. 9	3H1999	91999	9191434	-9193362	9191486
SN	109	-919. 986	30313. 999	91999	-9199378	-9197170	-9197798
SR	88	9199383	39199999	037H99	-9199. 98	9191311	9199347
ZN	66	9160983	096167799	011299	9146726	9170800	9166630
BI-3	092	104331101399	9199999	91999	1001. 9H2999	104997192999	106836136999
PB	098	9190369	46313. 399	691899	919198.	9193213	9190981
TL	09.	9199188	. 6166799	16. 1999	9199909	-9199990	9199. 46
U	038	9199371	. 3133399	1. 01899	-91991. 2	9199393	9199279
SC-2	4.	001687126999	9199999	91999	009417183999	000200187999	001703H8999
GE-1	70	1183912	9	91999	1171191	1180942	112. 297
GE-2	70	062146H8399	9199999	91999	068292137999	068382184999	079149H4999
GE-3	70	011207H0799	9199999	91999	019367122999	09200. 180999	016187H7999
TB-3	1. 2	0. . . 92174399	9199999	91999	0. 161712. 999	0. . 374142999	0. 2. 36172999

US EPA Tune Check Report

Operator Name US19_USR_INS27814
Acq/Data Batch D:\Agilent\ICPMH\1\DATA\EPA_Tune.b
Acq. Date-Time 2018-11-08 18:07:09
Report Comment ---
Instrument Name G8403A SG18254097

[No Gas]

Sensitivity

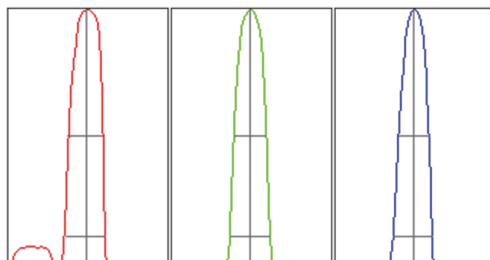
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1729	17286.34			0.889	5.000
89	10.00	10316	103164.67			0.784	5.000
205	10.00	3343	33426.96			0.580	5.000

Mass	RSD% (Flag)
7	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1748	1732	1726	1731	1706
89	10455	10316	10251	10289	10271
205	3368	3354	3344	3328	3320

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2758.20	7.00	6.90 - 7.10	
89	17504.70	89.00	88.90 - 89.10	
205	6081.07	205.00	204.90 - 205.10	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.65	0.761	0.800	
89	0.62	0.761	0.800	
205	0.58	0.732	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	10.4 V	Deflect	17.2 V
Extract 2	-140.0 V	Cell Entrance	-40 V	Plate Bias	-50 V
Omega Bias	-65 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	125	Axis Gain	0.9994	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.1 mm
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EM

Discriminator	4.1 mV	Analog HV	2140 V	Pulse HV	1727 V
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Date File Name: 18K08K00.E07

Method Reference Name(s):

Run Name: 1831211E07

Analyst: 25839

Reviewed By: Reviewed Date
Choon Y Tian 11/09/2018 04:05

Verified By: Verified Date
Deborah A Krady 11/21/2018 08:51
Parker D Lindstrom 11/27/2018 14:49

Instrument Parameters:

Rinse Time (sec): 25.00

<u>INTERNAL STD.</u>	<u>ELEMENT</u>	<u>MASS</u>
SC-1		45
	BE	9
	B	11
<hr/>		
SC-3		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
<hr/>		
IN-2		115
	SE	78
<hr/>		
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
<hr/>		
BI-3		209
	TL	205
	PB	208
	U	238
<hr/>		

Run Name: 1831211E07
 Tube Number: 1
 Sample Number: S0

Date/Time: 11/08/2018 23:05:15

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	3.33300	0.000	-0.00302	-0.00302	0.00604
B	11	0.00000	11754.65700	0.000	0.62105	-0.77641	0.15536
NA	23	0.00000	16082.52000	0.000	1.57520	-1.22591	-0.34929
MG	24	0.00000	320.01300	0.000	-0.17599	-0.27252	0.44852
AL	27	0.00000	76.66700	0.000	0.06541	0.37379	-0.43920
K	39	0.00000	4170.74000	0.000	-2.71951	3.46447	-0.74496
CA	44	0.00000	80.00000	0.000	1.78771	0.35780	-2.14551
SC-1	45	1344176	0	0.000	1350443	1351059	1331025
SC-2	45	187929.70000	0.00000	0.000	185888.67000	189997.09000	187903.34000
SC-3	45	80713.23300	0.00000	0.000	81144.90000	78782.70000	82212.10000
TI	47	0.00000	6.66700	0.000	-0.19844	0.10556	0.09288
V	51	0.00000	23.33300	0.000	0.00605	0.00690	-0.01295
CR	52	0.00000	196.67700	0.000	0.00171	-0.00849	0.00678
MN	55	0.00000	346.68300	0.000	0.02367	-0.10384	0.08017
FE	57	0.00000	103.33700	0.000	1.48697	-0.68820	-0.79878
CO	59	0.00000	106.67000	0.000	-0.01583	0.00972	0.00611
NI	60	0.00000	83.33300	0.000	-0.07536	0.04511	0.03025
CU	63	0.00000	150.00700	0.000	0.00682	-0.01244	0.00562
ZN	66	0.00000	76.66700	0.000	-0.02806	0.01107	0.01698
GE-1	72	1056301	0	0.000	1061435	1054763	1052705
GE-2	72	235869.11000	0.00000	0.000	232403.84000	237299.51000	237903.98000
GE-3	72	190114.79700	0.00000	0.000	190460.82000	190332.85000	189550.72000
AS	75	0.00000	20.00000	0.000	-0.03262	-0.07032	0.10295
SE	78	0.00000	5.33300	0.000	-0.06734	0.00012	0.06722
SR	88	0.00000	36.66700	0.000	0.00379	0.01221	-0.01600
MO	98	0.00000	46.66700	0.000	-0.02577	0.04448	-0.01871
AG	107	0.00000	36.66700	0.000	0.01025	0.00114	-0.01138
CD	111	0.00000	0.66700	0.000	-0.00213	0.00426	-0.00213
IN-2	115	298068.22000	0.00000	0.000	294262.81000	298939.63000	301002.22000
IN-3	115	98606.74300	0.00000	0.000	97250.74000	100028.85000	98540.64000
SN	120	0.00000	800.41700	0.000	0.20334	-0.27209	0.06875
SB	121	0.00000	10.00000	0.000	-0.01786	-0.00018	0.01804
BA	137	0.00000	13.33300	0.000	0.02349	0.02159	-0.04508
TB-3	159	248233.24000	0.00000	0.000	245571.05000	250005.43000	249123.24000
TL	205	0.00000	43.33300	0.000	-0.00400	0.00826	-0.00426
PB	208	0.00000	126.66700	0.000	-0.00602	0.00335	0.00266
BI-3	209	118445.33700	0.00000	0.000	116996.69000	117923.81000	120415.51000
U	238	0.00000	10.00000	0.000	0.00003	0.00001	-0.00004

Run Name: 1831211E07
 Tube Number: 2
 Sample Number: S1

Date/Time: 11/08/2018 23:07:37

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	1385723	0	0.000	1401384	1374384	1381401
SC-3	45	83485.46000	0.00000	0.000	81719.45000	83658.86000	85078.07000
AL	27	10000.00000	423650.68700	1.600	10152.35964	10020.53521	9827.10515
B	11	1000.00000	284935.58700	1.800	978.93450	1008.58555	1012.47995
BE	9	100.00000	46300.15300	0.900	98.95234	100.41176	100.63590
CA	44	10000.00000	54776.52700	1.400	9916.09348	10158.24425	9925.66227
CR	52	1000.00000	1473760.34300	0.600	1006.20197	1000.25116	993.54687
FE	57	10000.00000	319850.25000	1.600	10088.97839	10091.73345	9819.28816
K	39	10000.00000	972181.88700	1.000	9991.68141	10104.30710	9904.01149
MG	24	10000.00000	1236964.22700	1.400	10101.82898	10060.06420	9838.10682
MN	55	1000.00000	991162.01700	1.200	1006.95171	1006.70021	986.34808
NA	23	10000.00000	2325852.62300	1.200	10031.15994	10105.42562	9863.41444
TI	47	1000.00000	34865.78300	1.000	992.17871	1011.64956	996.17173
V	51	1000.00000	1089669.49000	0.400	998.60710	1004.55286	996.84004
IN-2	115	307675.12700	0.00000	0.000	306796.59000	310077.96000	306150.83000
IN-3	115	101612.85700	0.00000	0.000	100894.23000	100834.32000	103110.02000
AG	107	100.00000	242146.41000	1.500	100.67246	101.02540	98.30214
AS	75	1000.00000	120106.11000	1.200	1012.77040	990.27254	996.95705
BA	137	1000.00000	304750.29000	0.600	1004.23748	1002.56733	993.19520
CD	111	100.00000	31782.52000	1.700	101.33139	100.54018	98.12843
CO	59	1000.00000	2306538.35000	1.200	988.64763	1012.18052	999.17185
CU	63	1000.00000	1823923.36000	1.800	988.68425	1020.69229	990.62346
MO	98	100.00000	144232.77300	1.700	100.67425	101.20752	98.11823
NI	60	1000.00000	580688.77000	1.600	987.61935	1018.47692	993.90374
SB	121	100.00000	57433.04300	3.500	98.95886	103.91586	97.12528
SE	78	100.00000	5036.67700	2.300	102.08994	97.56272	100.34734
SN	120	100.00000	103203.57700	0.500	99.38947	100.19359	100.41694
SR	88	100.00000	106995.95300	1.100	101.29021	99.29105	99.41874
ZN	66	1000.00000	207780.54300	0.700	1003.56759	991.48388	1004.94853
BI-3	209	124075.91700	0.00000	0.000	122939.13000	124139.73000	125148.89000
PB	208	100.00000	440442.94300	0.700	100.79901	99.68867	99.51232
TL	205	100.00000	341222.48000	0.700	100.80237	99.73255	99.46508
U	238	100.00000	426502.19300	0.100	100.15441	99.86524	99.98035
SC-2	45	195239.65000	0.00000	0.000	195641.95000	196511.40000	193565.60000
GE-1	72	1096872	0	0.000	1095598	1094356	1100663
GE-2	72	243851.24000	0.00000	0.000	246797.44000	243501.38000	241254.90000
GE-3	72	197321.04700	0.00000	0.000	197891.27000	192914.33000	201157.54000
TB-3	159	255176.10300	0.00000	0.000	252105.64000	256518.57000	256904.10000

Run Name: 1831211E07
 Tube Number: 3
 Sample Number: ICV

Date/Time: 11/08/2018 23:09:58

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	1367235	0	0.000	1363725	1371862	1366118
SC-3	45	84189.16000	0.00000	0.000	83829.83000	84555.22000	84182.43000
AL	27	4873.20415	208288.54700	1.600	4782.65379	4924.52272	4912.43593
B	11	756.55025	215624.36700	0.500	760.86268	752.93054	755.85753
BE	9	50.73600	23180.04000	1.200	50.72942	50.10519	51.37340
CA	44	4977.14776	27533.13700	1.800	5009.88016	4876.31420	5045.24893
CR	52	484.37789	720041.99700	0.100	484.09022	484.73047	484.31300
FE	57	4952.18845	159815.01000	1.300	4893.13635	4944.72548	5018.70353
K	39	4944.68506	486991.68300	0.600	4918.76721	4935.48485	4979.80313
MG	24	4723.67964	589502.88300	0.200	4731.28078	4726.50997	4713.24818
MN	55	499.42967	499433.36700	0.700	497.66253	497.31764	503.30884
NA	23	4869.53989	1150872.56300	0.700	4829.38054	4896.99534	4882.24378
TI	47	503.49157	17704.54000	3.700	501.81469	485.87705	522.78296
V	51	497.50073	546692.72700	1.300	495.14999	492.63253	504.71965
IN-2	115	303755.80300	0.00000	0.000	301553.79000	306441.52000	303272.10000
IN-3	115	101392.36000	0.00000	0.000	101514.91000	101694.42000	100967.75000
AG	107	56.07269	135513.75300	1.000	55.67086	55.81794	56.72927
AS	75	516.47904	61909.57700	1.500	525.54261	512.06590	511.82861
BA	137	503.90252	153244.76300	0.400	502.01730	504.08015	505.61010
CD	111	50.61361	16053.87300	0.400	50.39270	50.73173	50.71642
CO	59	484.11217	1114255.92300	0.600	481.30518	484.38240	486.64892
CU	63	489.82855	891618.68700	0.300	489.26430	491.28169	488.93965
MO	98	50.96833	73387.09300	0.700	51.35566	50.70061	50.84873
NI	60	512.99867	297298.99300	0.600	509.83156	513.23001	515.93446
SB	121	54.01380	30965.18000	1.100	54.27925	53.31145	54.45070
SE	78	50.93035	2535.56300	2.500	49.54862	51.12495	52.11748
SN	120	49.82220	51719.95000	2.300	48.68874	50.93274	49.84511
SR	88	50.70616	54156.98000	0.400	50.90492	50.71237	50.50118
ZN	66	516.75556	107169.38000	1.400	517.20034	509.50678	523.55954
BI-3	209	123036.72000	0.00000	0.000	122233.25000	122636.93000	124239.98000
PB	208	50.79324	221900.44700	1.100	51.25169	50.97875	50.14928
TL	205	51.11270	172963.67000	1.500	51.23753	51.81454	50.28602
U	238	49.07230	207540.76700	1.300	48.78035	49.82746	48.60909
SC-2	45	191998.85000	0.00000	0.000	191609.94000	191620.13000	192766.48000
GE-1	72	1071640	0	0.000	1077512	1060472	1076938
GE-2	72	239414.33700	0.00000	0.000	236376.01000	241327.77000	240539.23000
GE-3	72	197773.27300	0.00000	0.000	198094.92000	198160.80000	197064.10000
TB-3	159	252137.33300	0.00000	0.000	252391.46000	251087.77000	252932.77000

Run Name: 1831211E07
 Tube Number: 4
 Sample Number: ICB

Date/Time: 11/08/2018 23:12:07

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	1369165	0	0.000	1364659	1374262	1368576
SC-3	45	81384.03700	0.00000	0.000	82884.76000	79769.31000	81498.04000
AL	27	0.70266	106.66700	48.500	0.73787	0.34594	1.02416
B	11	193.79729	64216.79300	2.700	199.62129	191.91880	189.85177
BE	9	0.00566	6.00000	76.700	0.00571	0.00997	0.00130
CA	44	5.57728	110.00300	127.600	-2.25099	11.64950	7.33333
CR	52	0.26609	580.03000	13.500	0.26535	0.30241	0.23050
FE	57	-0.34593	93.33300	0.000	0.12550	-0.06645	-1.09684
K	39	0.46604	4250.77700	643.700	0.35680	3.51900	-2.47767
MG	24	-0.51898	260.01000	0.000	0.01593	-0.64066	-0.93221
MN	55	-0.02560	323.34700	0.000	-0.06572	-0.03308	0.02201
NA	23	-0.07529	16195.96700	0.000	0.07328	0.62031	-0.91945
TI	47	0.09216	10.00000	313.600	0.37948	-0.19844	0.09543
V	51	0.01871	43.33300	81.400	0.00546	0.03536	0.01533
IN-2	115	294062.40300	0.00000	0.000	284868.19000	298637.44000	298681.58000
IN-3	115	97917.83000	0.00000	0.000	100029.01000	97692.30000	96032.18000
AG	107	0.00141	40.00000	497.600	0.00953	-0.00276	-0.00253
AS	75	0.08128	29.33300	162.300	0.04810	0.22659	-0.03086
BA	137	0.03508	23.33300	153.300	-0.01175	0.02318	0.09380
CD	111	0.01324	4.66700	77.900	0.00426	0.01096	0.02450
CO	59	0.01544	140.01000	25.100	0.01853	0.01109	0.01669
CU	63	0.04565	230.01000	71.500	0.06554	0.06343	0.00798
MO	98	0.12084	213.34300	21.600	0.10084	0.11125	0.15043
NI	60	-0.00494	80.00300	0.000	0.04512	-0.02195	-0.03800
SB	121	0.54245	310.01000	6.300	0.51275	0.57977	0.53484
SE	78	-0.02635	4.00000	0.000	-0.06597	0.01395	-0.02701
SN	120	-0.21222	586.70300	0.000	-0.23239	-0.34055	-0.06373
SR	88	0.00320	40.00000	772.100	0.03120	-0.00611	-0.01550
ZN	66	0.38745	153.34000	33.500	0.30458	0.32091	0.53687
BI-3	209	117947.01700	0.00000	0.000	118610.17000	116238.21000	118992.67000
PB	208	0.02166	216.67000	60.200	0.00791	0.02323	0.03384
TL	205	0.02061	110.00300	26.700	0.01427	0.02422	0.02335
U	238	0.02555	113.33700	30.700	0.02698	0.03259	0.01710
SC-2	45	188488.38300	0.00000	0.000	183432.87000	192285.82000	189746.46000
GE-1	72	1080691	0	0.000	1085252	1073048	1083774
GE-2	72	238448.23000	0.00000	0.000	233476.83000	236957.73000	244910.13000
GE-3	72	187295.31000	0.00000	0.000	192094.80000	182822.07000	186969.06000
TB-3	159	245345.24300	0.00000	0.000	245766.97000	247517.14000	242751.62000

Run Name: 1831211E07
 Tube Number: 5
 Sample Number: LLC

Date/Time: 11/08/2018 23:14:16

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	1324849	0	0.000	1317747	1318169	1338631
SC-3	45	81634.30700	0.00000	0.000	80562.57000	82320.81000	82019.54000
AL	27	400.16692	16656.42300	0.900	396.31712	400.99047	403.19319
B	11	110.99793	40538.07700	2.300	113.78997	110.40052	108.80329
BE	9	0.50169	225.33300	10.400	0.56037	0.46028	0.48443
CA	44	699.57979	3820.64000	8.000	739.09926	635.80565	723.83447
CR	52	4.38999	6524.99300	5.500	4.32137	4.19174	4.65686
FE	57	111.29438	3583.92700	6.000	115.92881	114.33217	103.62216
K	39	402.19354	42284.98300	3.100	403.78144	389.05552	413.74365
MG	24	94.11883	11704.94700	2.100	95.73294	94.69842	91.92513
MN	55	10.11579	10150.55700	1.000	10.21619	10.11325	10.01794
NA	23	852.09130	208666.35700	2.600	862.10915	826.61528	867.54949
TI	47	27.46023	943.40000	9.400	24.47846	28.89769	29.00456
V	51	1.00393	1093.41300	16.300	1.03343	1.15050	0.82785
IN-2	115	302123.44000	0.00000	0.000	299839.94000	303463.39000	303066.99000
IN-3	115	99956.38300	0.00000	0.000	96769.19000	101045.38000	102054.58000
AG	107	0.55630	1363.45300	4.600	0.52647	0.56999	0.57242
AS	75	1.88567	242.66700	12.800	2.11911	1.63695	1.90096
BA	137	4.18663	1266.77000	12.400	4.64136	3.61795	4.30060
CD	111	0.93240	292.01000	3.700	0.96913	0.92803	0.90003
CO	59	0.95266	2270.26000	5.000	0.93595	0.91613	1.00591
CU	63	39.48358	70968.69000	2.300	40.40713	38.57115	39.47247
MO	98	1.97160	2843.71300	2.100	1.97700	1.92680	2.01101
NI	60	4.16116	2460.29700	11.700	4.12117	4.66808	3.69423
SB	121	2.10693	1200.09000	2.600	2.15789	2.04832	2.11458
SE	78	2.18093	113.11000	7.400	2.33832	2.18820	2.01628
SN	120	1.42802	2250.26000	7.600	1.50016	1.48109	1.30280
SR	88	6.15512	6515.01300	2.400	6.09211	6.04908	6.32417
ZN	66	15.73759	3297.16300	6.900	14.48586	16.22980	16.49710
BI-3	209	119811.50000	0.00000	0.000	118136.31000	119820.76000	121477.43000
PB	208	2.94624	12652.86300	2.000	2.99984	2.95721	2.88166
TL	205	0.51895	1753.51300	3.800	0.53466	0.49661	0.52558
U	238	0.50271	2080.24300	2.400	0.50244	0.51476	0.49094
SC-2	45	192045.33300	0.00000	0.000	192409.33000	191386.54000	192340.13000
GE-1	72	1043281	0	0.000	1047623	1039824	1042396
GE-2	72	243466.09000	0.00000	0.000	244837.36000	245337.63000	240223.28000
GE-3	72	195419.64300	0.00000	0.000	192625.56000	195022.24000	198611.13000
TB-3	159	250031.44000	0.00000	0.000	247457.77000	251493.08000	251143.47000

Run Name: 1831211E07
 Tube Number: 6
 Sample Number: ICSA

Date/Time: 11/08/2018 23:16:24

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	1353624	0	0.000	1354684	1339503	1366684
SC-3	45	79566.37000	0.00000	0.000	80239.27000	77315.08000	81144.76000
AL	27	97675.92937	3942145.56700	2.800	96820.70056	100710.77082	95496.31673
B	11	60.62196	27992.88000	2.000	60.13826	62.02264	59.70498
BE	9	0.01615	10.66700	42.100	0.02348	0.01489	0.01007
CA	44	290157.77786	1511673.72700	3.400	286052.31395	301326.97932	283094.04029
CR	52	0.79985	1316.77000	1.900	0.80116	0.81469	0.78369
FE	57	233293.60427	7107898.85300	2.300	230306.31746	239442.76504	230131.73029
K	39	98899.63198	9123605.70000	2.600	96999.85103	101876.00943	97823.03547
MG	24	91858.40887	10823283.17300	2.900	90472.16627	94907.04123	90196.01912
MN	55	3.20620	3370.51000	8.900	2.96842	3.12697	3.52321
NA	23	233262.17117	51335492.56700	2.700	229179.78077	240547.66926	230059.06347
TI	47	1978.68826	65715.28300	2.600	1936.23301	2036.88969	1962.94207
V	51	0.06462	90.00000	28.000	0.07321	0.07682	0.04382
IN-2	115	276974.63700	0.00000	0.000	274261.09000	278008.31000	278654.51000
IN-3	115	93645.33700	0.00000	0.000	92702.56000	93890.21000	94343.24000
AG	107	0.03374	110.00700	74.900	0.05679	0.00670	0.03774
AS	75	0.88174	116.66700	11.300	0.77744	0.89160	0.97618
BA	137	1.18802	346.68300	19.200	0.92608	1.33998	1.29799
CD	111	0.39856	117.33300	7.700	0.43237	0.37240	0.39093
CO	59	0.85001	1906.87300	13.000	0.90780	0.91918	0.72304
CU	63	1.04198	1893.52700	5.600	1.09319	1.05454	0.97821
MO	98	2063.10214	2741793.81300	0.900	2077.99418	2042.77573	2068.53649
NI	60	1.48662	873.39300	25.100	1.74059	1.66079	1.05846
SB	121	1.48869	796.71700	17.000	1.77620	1.30122	1.38865
SE	78	-0.00585	4.66700	0.000	-0.00478	0.02307	-0.03583
SN	120	-0.44048	346.68300	0.000	-0.43318	-0.45908	-0.42918
SR	88	16.03404	15839.31300	2.900	16.11431	16.44676	15.54107
ZN	66	5.39856	1106.75300	11.600	4.68662	5.87323	5.63582
BI-3	209	116000.02000	0.00000	0.000	115571.99000	117107.01000	115321.06000
PB	208	0.82180	3506.99000	2.100	0.80382	0.82417	0.83740
TL	205	-0.00078	40.00000	0.000	-0.00703	-0.00090	0.00560
U	238	0.04027	170.00700	38.600	0.04789	0.02239	0.05052
SC-2	45	185116.05300	0.00000	0.000	184572.87000	184655.02000	186120.27000
GE-1	72	1069129	0	0.000	1060101	1073797	1073490
GE-2	72	225462.70700	0.00000	0.000	222750.41000	226424.86000	227212.85000
GE-3	72	183357.19000	0.00000	0.000	183848.28000	182119.00000	184104.29000
TB-3	159	239047.84700	0.00000	0.000	235996.83000	242791.58000	238355.13000

Run Name: 1831211E07
 Tube Number: 7
 Sample Number: RINSE

Date/Time: 11/08/2018 23:18:33

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	1402176	0	0.000	1380404	1406420	1419704
SC-3	45	81969.44300	0.00000	0.000	83186.16000	81034.09000	81688.08000
AL	27	1.65379	146.67700	44.300	1.20240	2.50008	1.25888
B	11	17.01276	16955.64000	8.000	18.35916	17.03180	15.64730
BE	9	0.00397	5.33300	165.200	0.00556	0.00957	-0.00324
CA	44	-4.53587	56.66700	0.000	-11.47262	-0.07285	-2.06214
CR	52	0.19870	486.69000	20.900	0.17535	0.24660	0.17416
FE	57	11.34376	460.02000	34.700	7.95881	15.66911	10.40337
K	39	8.64120	5061.04700	11.000	9.32114	7.55906	9.04339
MG	24	0.64801	403.35300	42.900	0.81769	0.32728	0.79905
MN	55	-0.06572	286.68000	0.000	-0.06679	-0.01739	-0.11297
NA	23	30.34963	23215.48000	7.100	32.58016	30.17601	28.29272
TI	47	0.86859	36.66700	76.900	1.24113	0.09712	1.26753
V	51	-0.00681	16.66700	0.000	0.00536	-0.02227	-0.00352
IN-2	115	306387.13000	0.00000	0.000	303342.17000	303700.74000	312118.48000
IN-3	115	99651.52700	0.00000	0.000	98160.38000	101405.26000	99388.94000
AG	107	-0.00580	23.33300	0.000	-0.00282	-0.00737	-0.00720
AS	75	0.01516	22.00000	302.600	0.00057	-0.02164	0.06655
BA	137	0.02113	20.00000	311.300	-0.04508	0.08644	0.02202
CD	111	0.00648	2.66700	153.800	0.01741	0.00417	-0.00213
CO	59	-0.00334	100.00300	0.000	0.00632	0.00460	-0.02094
CU	63	0.12942	383.35300	3.900	0.12516	0.13493	0.12817
MO	98	2.51745	3603.92000	13.700	2.89631	2.43421	2.22185
NI	60	0.08089	130.00700	19.100	0.08445	0.09429	0.06395
SB	121	0.04763	36.66700	150.900	0.03621	-0.01786	0.12454
SE	78	-0.03776	3.55700	0.000	-0.05508	-0.00159	-0.05660
SN	120	-0.66799	140.00700	0.000	-0.64615	-0.72965	-0.62818
SR	88	-0.00647	30.00000	0.000	0.01311	-0.02591	-0.00661
ZN	66	-0.03615	70.00000	0.000	-0.03132	-0.09073	0.01359
BI-3	209	120345.39700	0.00000	0.000	120163.49000	120748.72000	120123.98000
PB	208	0.00814	163.33300	42.600	0.00742	0.01191	0.00509
TL	205	-0.00124	40.00000	0.000	-0.01030	-0.00128	0.00787
U	238	0.00157	16.66700	88.500	0.00239	0.00236	-0.00003
SC-2	45	190216.33300	0.00000	0.000	187854.06000	191214.55000	191580.39000
GE-1	72	1104749	0	0.000	1090456	1109635	1114156
GE-2	72	240269.29300	0.00000	0.000	235118.20000	241054.33000	244635.35000
GE-3	72	190428.60300	0.00000	0.000	192285.41000	191110.60000	187889.80000
TB-3	159	247482.34700	0.00000	0.000	250082.69000	247107.07000	245257.28000

Run Name: 1831211E07
 Tube Number: 8
 Sample Number: **CCV**

Date/Time: 11/08/2018 23:20:42

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	1401419	0	0.000	1394361	1399738	1410158
SC-3	45	84493.98700	0.00000	0.000	83628.36000	86315.57000	83538.03000
AL	27	2407.62171	103295.54000	1.500	2427.91344	2366.29873	2428.65297
B	11	258.31036	83533.15300	0.700	257.26281	260.43892	257.22934
BE	9	24.92739	11674.61000	1.900	25.30099	25.07544	24.40575
CA	44	2385.24341	13279.78300	4.400	2462.97803	2265.47240	2427.27979
CR	52	239.91609	357863.96700	4.100	247.94639	229.08046	242.72143
FE	57	2440.62183	79052.13300	5.400	2557.36503	2297.33225	2467.16820
K	39	2423.03011	241679.72700	1.700	2453.52549	2374.66654	2440.89830
MG	24	2312.93134	289759.90700	3.000	2334.56962	2236.35547	2367.86893
MN	55	250.71792	251721.95300	2.900	256.57457	242.70252	252.87668
NA	23	2332.49246	561858.36700	2.400	2370.09176	2268.41738	2358.96823
TI	47	256.84317	9063.12000	4.400	264.80867	243.78448	261.93634
V	51	249.69374	275289.90000	2.900	253.47750	241.21378	254.38995
IN-2	115	306497.56700	0.00000	0.000	304359.26000	306451.24000	308682.20000
IN-3	115	100760.48000	0.00000	0.000	99057.35000	101467.40000	101756.69000
AG	107	28.44104	68309.69300	3.200	29.33450	27.50714	28.48149
AS	75	256.12380	30511.56700	2.900	264.54606	250.00062	253.82473
BA	137	255.86532	77322.49700	1.900	260.97824	251.17650	255.44120
CD	111	25.70614	8103.04300	0.600	25.75820	25.52465	25.83557
CO	59	243.47836	556791.20300	3.200	252.60389	239.19565	238.63553
CU	63	247.02950	446792.53000	3.200	256.21378	241.41875	243.45596
MO	98	25.74199	36842.08700	4.300	26.99955	24.98579	25.24063
NI	60	260.56500	150038.56300	4.800	274.90592	252.50158	254.28749
SB	121	25.86367	14734.91000	4.100	27.03785	25.01627	25.53688
SE	78	26.35031	1326.28700	0.900	26.07736	26.48384	26.48974
SN	120	25.03961	26232.19000	3.100	25.79159	25.09134	24.23590
SR	88	25.40615	26982.88000	0.700	25.59533	25.27742	25.34571
ZN	66	256.00639	52788.47300	2.900	264.55573	250.99955	252.46387
BI-3	209	122491.36000	0.00000	0.000	120788.95000	124049.41000	122635.72000
PB	208	25.43624	110685.05700	1.900	25.99386	25.07712	25.23773
TL	205	25.47118	85830.82700	1.200	25.80236	25.16812	25.44307
U	238	25.13490	105819.00300	2.300	25.65407	24.50460	25.24605
SC-2	45	192084.60700	0.00000	0.000	191244.55000	189825.58000	195183.69000
GE-1	72	1110258	0	0.000	1107632	1113786	1109355
GE-2	72	241318.84300	0.00000	0.000	241883.57000	242380.56000	239692.40000
GE-3	72	195862.12000	0.00000	0.000	198123.24000	195227.32000	194235.80000
TB-3	159	252270.67700	0.00000	0.000	252038.10000	254247.59000	250526.34000

Run Name: 1831211E07
 Tube Number: 9
 Sample Number: CCB

Date/Time: 11/08/2018 23:22:51

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	1345871	0	0.000	1346122	1328478	1363014
SC-3	45	81751.84300	0.00000	0.000	82050.04000	80974.39000	82231.10000
AL	27	-0.10744	73.33300	0.000	0.04398	0.31286	-0.67917
B	11	76.53844	32046.42000	3.900	77.98241	78.54285	73.09006
BE	9	-0.00745	0.00000	0.000	-0.00745	-0.00745	-0.00745
CA	44	7.29055	120.00700	79.100	1.60095	13.13588	7.13482
CR	52	0.22477	523.36000	14.000	0.25564	0.22589	0.19277
FE	57	3.36907	210.01000	59.300	1.11557	4.07629	4.91536
K	39	2.88021	4500.89000	124.900	6.70342	2.37680	-0.43959
MG	24	0.93698	436.69000	71.000	1.11280	1.49659	0.20154
MN	55	-0.03738	313.35000	0.000	-0.11406	0.01408	-0.01214
NA	23	8.09690	18121.60000	45.200	6.62933	5.39546	12.26592
TI	47	0.19011	13.33300	234.000	0.09346	-0.19844	0.67533
V	51	0.01840	43.33300	107.200	-0.00360	0.03450	0.02431
IN-2	115	299404.04300	0.00000	0.000	298914.40000	299303.07000	299994.66000
IN-3	115	97910.75700	0.00000	0.000	96717.89000	97676.62000	99337.76000
AG	107	-0.00993	13.33300	0.000	-0.01130	-0.00705	-0.01142
AS	75	0.01828	22.00000	501.800	-0.04935	0.12270	-0.01851
BA	137	0.01226	16.66700	585.500	0.09282	-0.01094	-0.04508
CD	111	0.00216	1.33300	344.000	-0.00213	-0.00213	0.01074
CO	59	0.01104	130.00300	88.500	0.02079	0.01109	0.00124
CU	63	0.04776	233.34300	124.800	-0.00996	0.10909	0.04415
MO	98	0.13475	233.34300	24.400	0.09813	0.16177	0.14433
NI	60	-0.02205	70.00000	0.000	-0.00259	-0.02193	-0.04164
SB	121	0.48776	280.01700	13.900	0.49435	0.41685	0.55208
SE	78	-0.04540	3.11000	0.000	-0.06799	-0.02718	-0.04103
SN	120	-0.44213	360.01700	0.000	-0.39743	-0.36081	-0.56814
SR	88	0.00026	36.66700	2020.900	-0.00581	0.00362	0.00297
ZN	66	0.32079	140.00300	113.200	0.22681	0.72178	0.01380
BI-3	209	117264.24000	0.00000	0.000	118499.29000	116106.98000	117186.45000
PB	208	-0.00768	93.33300	0.000	-0.00394	-0.00583	-0.01327
TL	205	0.00220	50.00000	286.500	0.00202	0.00860	-0.00401
U	238	0.00832	43.33300	62.700	0.00245	0.01007	0.01244
SC-2	45	188084.18700	0.00000	0.000	188630.51000	188783.26000	186838.79000
GE-1	72	1056025	0	0.000	1057576	1051295	1059203
GE-2	72	240254.55700	0.00000	0.000	241724.88000	236901.72000	242137.07000
GE-3	72	188274.19700	0.00000	0.000	185075.19000	189760.88000	189986.52000
TB-3	159	245706.58000	0.00000	0.000	243097.83000	244257.32000	249764.59000

Run Name: 1831211E07
 Tube Number: 10
 Sample Number: **PBW**

Date/Time: 11/08/2018 23:25:00
 Batch: 183061063902A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1326379	0	0.000	1354868	1288117	1336150
SC-3	45	78350.49000	0.00000	0.000	79174.79000	76722.05000	79154.63000
AL	27	1.56175	136.67300	40.800	0.86041	1.71873	2.10612
B	11	27.91389	18880.64000	9.500	27.79894	30.63335	25.30939
BE	9	0.00604	6.00000	71.500	0.00580	0.00184	0.01047
CA	44	-2.14477	66.66700	0.000	-1.64692	-1.21547	-3.57192
CR	52	5.11837	7268.70300	4.800	5.32306	5.18737	4.84467
FE	57	11.12995	433.35300	26.100	8.20183	14.01499	11.17302
K	39	1.26514	4164.07300	212.500	0.28415	4.30592	-0.79464
MG	24	0.45453	363.35000	84.700	0.82397	0.05585	0.48376
MN	55	0.28474	600.03700	16.900	0.23542	0.28742	0.33137
NA	23	8.97105	17550.82000	33.000	10.99359	10.34507	5.57450
TI	47	0.00647	6.66700	2742.700	-0.19844	0.11373	0.10413
V	51	0.02653	50.00000	34.200	0.02611	0.01767	0.03580
IN-2	115	298530.92300	0.00000	0.000	299402.88000	296015.90000	300173.99000
IN-3	115	95349.96300	0.00000	0.000	95430.03000	94333.75000	96286.11000
AG	107	-0.01123	10.00000	0.000	-0.00685	-0.01119	-0.01564
AS	75	-0.06508	12.00000	0.000	-0.10090	-0.01038	-0.08395
BA	137	-0.02165	6.66700	0.000	-0.01014	-0.00973	-0.04508
CD	111	0.01352	4.66700	57.400	0.00457	0.01820	0.01779
CO	59	0.01260	130.00700	231.300	-0.01984	0.03653	0.02110
CU	63	0.11600	343.35000	30.300	0.12533	0.14549	0.07717
MO	98	0.11450	200.01000	37.400	0.11467	0.07157	0.15727
NI	60	1.03357	643.37000	1.500	1.04471	1.04003	1.01596
SB	121	0.09965	63.33300	10.700	0.11191	0.09466	0.09238
SE	78	-0.04500	3.11300	0.000	-0.06806	-0.01244	-0.05451
SN	120	-0.50968	286.68000	0.000	-0.43349	-0.56594	-0.52961
SR	88	-0.00542	30.00000	0.000	-0.01537	-0.00507	0.00419
ZN	66	0.93742	256.67700	9.700	0.95279	1.02015	0.83932
BI-3	209	117032.03700	0.00000	0.000	118326.03000	115793.88000	116976.20000
PB	208	0.00606	150.00000	161.700	-0.00390	0.00640	0.01567
TL	205	-0.00398	30.00000	0.000	-0.00718	-0.00076	-0.00400
U	238	0.00418	26.66700	35.700	0.00246	0.00508	0.00500
SC-2	45	189755.36700	0.00000	0.000	188098.45000	190387.67000	190779.98000
GE-1	72	1044525	0	0.000	1057602	1032088	1043887
GE-2	72	234555.06700	0.00000	0.000	233564.35000	236236.46000	233864.39000
GE-3	72	182926.41000	0.00000	0.000	184235.45000	184816.56000	179727.22000
TB-3	159	239058.53700	0.00000	0.000	237238.10000	239619.31000	240318.20000

Run Name: 1831211E07
 Tube Number: 11
 Sample Number: LCSW

Date/Time: 11/08/2018 23:27:08
 Batch: 183061063902A
 Class: *****

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

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	1357050	0	0.000	1351939	1370802	1348408
SC-3	45	80847.40300	0.00000	0.000	78622.89000	82784.21000	81135.11000
AL	27	1973.42173	81005.82000	3.300	2007.92565	1897.55010	2014.78943
B	11	256.29006	80347.47000	0.500	255.77119	255.32833	257.77065
BE	9	4.01066	1821.46000	3.900	4.03086	3.84427	4.15686
CA	44	3936.38892	20925.53000	1.000	3969.74117	3891.31041	3948.11519
CR	52	48.51495	69410.17300	2.100	49.70556	47.94976	47.88955
FE	57	1005.76376	31237.66300	4.300	1048.72503	1006.90633	961.65992
K	39	9806.75715	923053.66000	2.500	9972.61725	9525.85314	9921.80105
MG	24	1894.14796	227101.72300	3.300	1921.75183	1823.15524	1937.53681
MN	55	50.81204	49070.31000	4.600	52.74102	48.23338	51.46171
NA	23	9846.58598	2217437.26000	2.600	10012.61170	9549.00929	9978.13696
TI	47	256.74772	8672.84300	0.700	257.29188	254.77079	258.18050
V	51	50.67607	53465.77700	3.500	52.56191	49.06371	50.40258
IN-2	115	297329.59300	0.00000	0.000	293244.36000	298847.78000	299896.64000
IN-3	115	98656.31700	0.00000	0.000	97417.92000	99305.92000	99245.11000
AG	107	56.29322	132364.22000	1.600	57.25252	55.48526	56.14188
AS	75	10.65356	1261.40000	8.600	11.71106	10.13870	10.11091
BA	137	49.76650	14734.97300	3.600	51.63210	48.06216	49.60526
CD	111	5.06539	1563.43000	4.800	5.31421	5.05862	4.82333
CO	59	239.52196	536436.48000	1.300	242.49030	239.69757	236.37802
CU	63	50.05824	88790.20300	3.000	50.53339	51.24244	48.39888
MO	98	49.47538	69310.57700	1.200	50.14360	49.26866	49.01388
NI	60	51.49116	29106.77000	1.800	52.56029	51.15282	50.76036
SB	121	6.20522	3470.55300	2.400	6.12133	6.37893	6.11540
SE	78	10.05632	494.23300	1.400	10.17834	10.09472	9.89591
SN	120	50.40036	50896.76700	0.900	50.66753	50.64246	49.89108
SR	88	40.29885	41882.39000	1.600	41.02174	39.72350	40.15130
ZN	66	516.83310	104288.66700	2.400	523.32183	524.83674	502.34073
BI-3	209	120066.33700	0.00000	0.000	118145.06000	120557.13000	121496.82000
PB	208	15.07247	64339.90700	2.100	15.43088	14.86144	14.92509
TL	205	1.94970	6478.45700	4.500	2.04954	1.91472	1.88484
U	238	25.05265	103393.22000	1.300	25.42899	24.83731	24.89165
SC-2	45	188499.19300	0.00000	0.000	188118.53000	187265.15000	190113.90000
GE-1	72	1066016	0	0.000	1061051	1076272	1060726
GE-2	72	236743.43300	0.00000	0.000	236980.09000	239771.25000	233478.96000
GE-3	72	191631.03300	0.00000	0.000	189894.53000	194886.03000	190112.54000
TB-3	159	246176.37700	0.00000	0.000	245027.75000	248581.40000	244919.98000

Run Name: 1831211E07
 Tube Number: 12
 Sample Number: **9876338**

Date/Time: 11/08/2018 23:29:17
 Batch: 183061063902A
 Class: U*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1315840	0	0.000	1314835	1323860	1308824
SC-3	45	79567.25700	0.00000	0.000	80562.65000	80039.34000	78099.78000
AL	27	7.62464	383.35000	16.300	6.19470	8.46352	8.21570
B	11	574.21741	160278.83300	0.900	569.04351	574.65346	578.95526
BE	9	-0.00441	1.33300	0.000	-0.00290	-0.00745	-0.00288
CA	44	81148.28214	423046.81300	0.600	80650.90077	81252.67863	81541.26702
CR	52	0.70023	1176.75700	4.400	0.67080	0.69732	0.73258
FE	57	7278.73432	221900.71300	2.000	7177.67937	7209.02390	7449.49968
K	39	24502.97435	2264428.76700	1.000	24269.58890	24737.50547	24501.82867
MG	24	63920.66410	7534402.38700	1.800	62570.29370	64741.26362	64450.43499
MN	55	2432.06406	2296666.78700	2.400	2398.65622	2398.67116	2498.86479
NA	23	89438.26001	19699757.62300	1.900	87541.12661	90705.93893	90067.71450
TI	47	0.50213	23.33300	89.900	0.99072	0.10079	0.41489
V	51	0.29523	330.01300	22.600	0.36766	0.23619	0.28185
IN-2	115	284592.33300	0.00000	0.000	279984.93000	286267.27000	287524.80000
IN-3	115	95143.65700	0.00000	0.000	92084.98000	96955.56000	96390.43000
AG	107	-0.00384	26.66700	0.000	-0.00197	-0.01132	0.00177
AS	75	7.49213	860.70000	8.300	8.02489	6.81022	7.64130
BA	137	1030.48899	293965.09000	1.800	1051.47532	1017.79395	1022.19769
CD	111	0.01617	5.33300	125.200	0.03953	0.00446	0.00450
CO	59	2.59464	5701.30300	4.600	2.72800	2.49307	2.56286
CU	63	0.16738	430.02300	13.700	0.19348	0.15076	0.15792
MO	98	3.76931	5134.46300	2.400	3.74023	3.69614	3.87157
NI	60	3.45074	1956.87300	2.100	3.36886	3.49914	3.48421
SB	121	0.46423	260.01000	19.900	0.38561	0.56607	0.44101
SE	78	-0.02291	4.00000	0.000	-0.02155	0.00495	-0.05212
SN	120	-0.08572	693.37700	0.000	-0.13963	0.07252	-0.19007
SR	88	270.01379	270403.08700	1.200	273.52462	267.20724	269.30951
ZN	66	6.01875	1243.43000	4.900	6.31465	5.72593	6.01566
BI-3	209	114746.31300	0.00000	0.000	112870.47000	114453.27000	116915.20000
PB	208	0.39721	1740.11300	10.000	0.42429	0.35153	0.41580
TL	205	0.00040	43.33300	1207.300	-0.00366	0.00574	-0.00088
U	238	1.51499	5981.60300	5.700	1.55991	1.56882	1.41625
SC-2	45	187377.03000	0.00000	0.000	184521.70000	190307.36000	187302.03000
GE-1	72	1033161	0	0.000	1037451	1047135	1014899
GE-2	72	230561.78000	0.00000	0.000	228541.54000	232431.79000	230712.01000
GE-3	72	181335.02000	0.00000	0.000	181230.78000	177794.65000	184979.63000
TB-3	159	240551.07700	0.00000	0.000	237975.19000	240114.06000	243563.98000

Run Name: 1831211E07
 Tube Number: 13
 Sample Number: **9876338**

Date/Time: 11/08/2018 23:31:25
 Batch: 183061063902A
 Class: UP*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1316127	0	0.000	1308647	1333025	1306710
SC-3	45	78357.75700	0.00000	0.000	78421.35000	78109.78000	78542.14000
AL	27	782.99277	31210.26000	1.000	784.46490	774.45589	790.05753
B	11	727.45089	200012.42000	1.000	727.69932	719.98510	734.66824
BE	9	0.97952	434.01000	3.200	1.01260	0.97599	0.94998
CA	44	81480.19607	418338.73000	0.500	81702.54676	81753.74010	80984.30134
CR	52	8.11053	11408.17700	5.100	7.71765	8.54747	8.06648
FE	57	7321.80141	219864.18300	1.300	7232.04004	7426.67767	7306.68650
K	39	24852.17067	2261793.09000	0.400	24822.53683	24758.22967	24975.74551
MG	24	63422.07993	7362839.89000	1.000	64112.68000	63210.87464	62942.68515
MN	55	2408.81969	2240670.43700	1.200	2380.32857	2439.46351	2406.66699
NA	23	90689.71792	19673826.37300	0.800	91330.06121	89890.74549	90848.34706
TI	47	48.40328	1590.15000	5.500	51.42036	46.41270	47.37678
V	51	2.24008	2313.59700	9.400	2.00029	2.40082	2.31914
IN-2	115	286716.93300	0.00000	0.000	287951.69000	284685.94000	287513.17000
IN-3	115	94827.89300	0.00000	0.000	94060.95000	95048.27000	95374.46000
AG	107	1.07406	2463.63000	10.500	0.94367	1.13243	1.14610
AS	75	11.57658	1316.74000	4.800	11.21749	12.22096	11.29130
BA	137	1007.04215	286419.06700	0.500	1007.90419	1001.25899	1011.96327
CD	111	2.06340	612.68700	3.700	2.10507	1.97556	2.10957
CO	59	4.36919	9506.72000	2.500	4.34273	4.48725	4.27760
CU	63	75.37638	128443.52300	2.200	74.91942	77.24597	73.96375
MO	98	7.44369	10060.57700	3.800	7.61117	7.60593	7.11396
NI	60	10.63949	5844.71700	3.700	10.85105	10.18419	10.88324
SB	121	4.69740	2526.98000	3.600	4.89183	4.58021	4.62017
SE	78	4.10391	197.55700	7.600	4.44972	4.01509	3.84692
SN	120	3.84679	4447.52000	2.800	3.73042	3.87133	3.93863
SR	88	279.39818	278924.94300	0.500	281.00561	278.76060	278.42834
ZN	66	35.91625	7035.31300	8.700	34.89486	39.42060	33.43327
BI-3	209	115414.73000	0.00000	0.000	117187.23000	112950.14000	116106.82000
PB	208	6.35262	26141.17300	1.000	6.27971	6.37656	6.40159
TL	205	1.07041	3437.24000	5.600	1.00780	1.12661	1.07682
U	238	2.42729	9637.27700	1.900	2.37927	2.46859	2.43402
SC-2	45	184981.78700	0.00000	0.000	186375.23000	187905.41000	180664.72000
GE-1	72	1028430	0	0.000	1011456	1032950	1040884
GE-2	72	228976.14700	0.00000	0.000	232523.82000	227051.58000	227353.04000
GE-3	72	181090.33700	0.00000	0.000	177210.64000	185547.83000	180512.54000
TB-3	159	238737.38700	0.00000	0.000	238628.22000	237488.92000	240095.02000

Run Name: 1831211E07
 Tube Number: 14
 Sample Number: **9876341**

Date/Time: 11/08/2018 23:33:33
 Batch: 183061063902A
 Class: D*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1327450	0	0.000	1315014	1333454	1333881
SC-3	45	78625.75000	0.00000	0.000	78571.71000	76923.19000	80382.35000
AL	27	6.56519	336.68300	13.100	5.64685	7.34539	6.70335
B	11	656.05538	183075.12300	1.200	664.25064	648.18291	655.73259
BE	9	0.00905	7.33300	75.000	0.00165	0.01499	0.01050
CA	44	80053.21136	412370.42300	0.900	79966.68051	80787.30930	79405.64427
CR	52	0.66221	1110.07700	3.300	0.65524	0.68696	0.64441
FE	57	7364.07103	221886.43000	0.200	7368.44428	7378.13957	7345.62926
K	39	24166.32913	2206635.95300	1.100	24175.61435	24428.12124	23895.25179
MG	24	62725.54688	7304400.72700	2.300	62992.41987	64038.55652	61145.66424
MN	55	2457.60403	2293612.67300	1.000	2443.60966	2485.98433	2443.21809
NA	23	87646.07187	19071759.71700	2.600	87118.16480	90150.27821	85669.77260
TI	47	0.51259	23.33300	34.500	0.71603	0.42427	0.39747
V	51	0.30232	333.35000	22.400	0.37754	0.24666	0.28275
IN-2	115	287378.96000	0.00000	0.000	288704.34000	287149.65000	286282.89000
IN-3	115	96473.29000	0.00000	0.000	96727.52000	95712.29000	96980.06000
AG	107	0.02636	96.67000	77.200	0.01039	0.01943	0.04927
AS	75	7.86841	916.70300	1.300	7.98148	7.83801	7.78574
BA	137	1017.21403	294328.91300	0.800	1007.56184	1020.92159	1023.15864
CD	111	0.01341	4.66700	125.400	0.01109	0.03127	-0.00213
CO	59	2.47150	5517.89700	8.200	2.65856	2.25441	2.50153
CU	63	0.24044	563.36300	4.100	0.24347	0.22949	0.24836
MO	98	3.51524	4857.68700	1.800	3.55191	3.55306	3.44074
NI	60	2.94962	1706.82700	8.800	3.10963	3.08931	2.64993
SB	121	0.40373	230.01000	11.300	0.42112	0.35184	0.43822
SE	78	0.02348	6.22300	68.400	0.03237	0.03313	0.00494
SN	120	-0.38273	413.35300	0.000	-0.34616	-0.40349	-0.39854
SR	88	266.95336	271130.19000	0.900	264.13396	268.24899	268.47713
ZN	66	6.43137	1343.44000	7.500	6.95439	6.00986	6.32986
BI-3	209	115446.24300	0.00000	0.000	114575.11000	115221.21000	116542.41000
PB	208	0.38492	1700.11000	2.500	0.39540	0.38323	0.37612
TL	205	0.00142	46.66700	519.600	0.00572	0.00561	-0.00708
U	238	1.49640	5948.24700	3.100	1.45030	1.54319	1.49570
SC-2	45	187589.17300	0.00000	0.000	188970.04000	186510.08000	187287.40000
GE-1	72	1037119	0	0.000	1031079	1029512	1050766
GE-2	72	231214.57700	0.00000	0.000	233189.31000	232121.32000	228333.10000
GE-3	72	188767.11300	0.00000	0.000	189039.04000	187345.23000	189917.07000
TB-3	159	243284.02700	0.00000	0.000	242181.11000	243554.90000	244116.07000

Run Name: 1831211E07
 Tube Number: 15
 Sample Number: **9876339**

Date/Time: 11/08/2018 23:35:42
 Batch: 183061063902A
 Class: R*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1334665	0	0.000	1347450	1313323	1343222
SC-3	45	80236.86000	0.00000	0.000	77726.99000	80843.63000	82139.96000
AL	27	2003.21850	81598.32000	2.900	2070.57341	1977.19754	1961.88455
B	11	929.22068	255832.80700	1.500	917.96320	944.94154	924.75729
BE	9	4.01221	1792.12000	5.500	4.13317	4.14502	3.75845
CA	44	86391.70484	454146.87000	0.500	86862.43070	86354.13826	85958.54556
CR	52	49.20842	69885.21000	1.800	49.17402	50.09657	48.35467
FE	57	8442.13825	259509.08000	1.700	8541.07374	8505.39458	8279.94643
K	39	34433.83252	3206549.84700	1.300	34924.21737	34356.17623	34021.10396
MG	24	65753.66317	7813664.26000	2.000	67211.73932	65319.46603	64729.78417
MN	55	2510.75736	2391027.88300	1.400	2534.49156	2527.23280	2470.54772
NA	23	100189.30849	22245274.67000	2.100	102518.13536	99469.89317	98579.89693
TI	47	257.03524	8616.15700	1.400	258.71910	259.40863	252.97799
V	51	50.22537	52609.09000	1.300	50.90196	50.20375	49.57041
IN-2	115	288294.05300	0.00000	0.000	290497.92000	286568.16000	287816.08000
IN-3	115	95640.49300	0.00000	0.000	95809.69000	95796.12000	95315.67000
AG	107	48.90218	111489.46700	1.300	49.60703	48.77979	48.31974
AS	75	18.53210	2114.17000	2.000	18.90604	18.52001	18.17027
BA	137	1092.93337	313507.35000	0.900	1081.15203	1100.13747	1097.51060
CD	111	5.19042	1553.43000	6.100	5.40348	4.82350	5.34427
CO	59	242.81099	527209.01700	1.800	237.79601	245.50623	245.13073
CU	63	50.08014	86117.05300	1.200	49.39447	50.38443	50.46153
MO	98	53.83279	73112.65000	0.800	54.32703	53.71378	53.45754
NI	60	55.05528	30168.87700	1.400	54.61698	55.96098	54.58790
SB	121	7.04954	3820.67700	1.100	7.09262	7.09363	6.96235
SE	78	10.23191	487.56300	1.900	10.41600	10.24730	10.03243
SN	120	50.64846	49582.24000	2.000	49.94150	51.83055	50.17333
SR	88	311.34120	313482.18000	0.400	312.70138	310.80253	310.51970
ZN	66	522.51350	102217.78300	1.900	511.75525	531.02138	524.76389
BI-3	209	116400.94000	0.00000	0.000	113979.68000	118136.93000	117086.21000
PB	208	15.50368	64153.11300	2.100	15.87925	15.37465	15.25714
TL	205	2.11323	6805.33300	2.100	2.14730	2.06201	2.13038
U	238	27.02448	108122.22300	1.200	27.35413	26.67985	27.03946
SC-2	45	189639.79700	0.00000	0.000	188644.90000	189623.81000	190650.68000
GE-1	72	1037465	0	0.000	1028141	1043845	1040410
GE-2	72	235004.93700	0.00000	0.000	234977.01000	233644.66000	236393.14000
GE-3	72	185328.42700	0.00000	0.000	183868.61000	187594.41000	184522.26000
TB-3	159	241159.94700	0.00000	0.000	237500.43000	242476.15000	243503.26000

Run Name: 1831211E07
 Tube Number: 16
 Sample Number: **9876340**

Date/Time: 11/08/2018 23:37:50
 Batch: 183061063902A
 Class: M*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1318475	0	0.000	1307116	1307867	1340441
SC-3	45	83152.87300	0.00000	0.000	83548.40000	82653.11000	83257.11000
AL	27	1958.11210	82707.36000	1.400	1941.55921	1942.97240	1989.80469
B	11	1003.44534	272006.48000	1.300	1001.18461	1017.84918	991.30222
BE	9	4.20700	1856.79000	1.200	4.17848	4.17608	4.26646
CA	44	84551.57299	460677.39000	1.200	85457.15593	84701.01537	83496.54765
CR	52	47.71131	70236.75700	2.000	48.76993	47.34384	47.02015
FE	57	8155.61831	259883.45700	2.300	8306.56480	8216.99366	7943.29648
K	39	33949.43572	3277231.72000	0.700	34173.98833	33973.16909	33701.14972
MG	24	64687.42371	7969381.75700	0.300	64886.55242	64462.22808	64713.49062
MN	55	2499.46835	2467165.53700	2.400	2504.56897	2557.73323	2436.10285
NA	23	97168.69870	22367262.17000	0.800	96289.70237	97777.98577	97438.40795
TI	47	248.41021	8632.86000	12.100	279.69058	245.60609	219.93397
V	51	50.50822	54844.55700	4.100	52.67457	50.33286	48.51722
IN-2	115	286817.27300	0.00000	0.000	282468.62000	287449.28000	290533.92000
IN-3	115	95234.66000	0.00000	0.000	92903.85000	95419.27000	97380.86000
AG	107	48.79983	110724.34000	3.400	50.63149	48.30782	47.46018
AS	75	18.32177	2078.83300	8.300	20.03110	17.81338	17.12082
BA	137	1109.04444	316661.85000	2.400	1134.50521	1111.73060	1080.89751
CD	111	5.09857	1519.42700	3.800	5.02882	5.31836	4.94854
CO	59	248.15605	536034.15700	5.900	263.68503	246.46524	234.31788
CU	63	50.70844	86740.66300	6.300	54.08437	50.34190	47.69904
MO	98	54.01822	73011.91000	3.500	56.06545	53.68138	52.30782
NI	60	55.56820	30299.36300	5.200	58.85990	53.46291	54.38179
SB	121	6.47335	3497.22300	6.100	6.19110	6.30565	6.92329
SE	78	10.58210	501.56300	2.700	10.26771	10.82544	10.65315
SN	120	51.61959	50291.40300	1.500	52.30073	51.80898	50.74906
SR	88	315.70795	316407.28700	2.400	323.59108	315.27393	308.25883
ZN	66	540.72116	105187.73700	8.600	590.74279	532.34183	499.07886
BI-3	209	115428.56000	0.00000	0.000	112668.70000	116783.09000	116833.89000
PB	208	15.65162	64216.59300	3.100	16.10221	15.13720	15.71544
TL	205	2.06831	6608.55000	1.300	2.03679	2.07985	2.08828
U	238	27.44833	108904.81300	1.000	27.69600	27.16726	27.48172
SC-2	45	190785.43700	0.00000	0.000	189910.95000	190844.27000	191601.09000
GE-1	72	1032491	0	0.000	1028029	1034601	1034843
GE-2	72	232146.11300	0.00000	0.000	229599.49000	233012.13000	233826.72000
GE-3	72	188458.71700	0.00000	0.000	196858.83000	188226.29000	180291.03000
TB-3	159	244189.07700	0.00000	0.000	244562.34000	242110.95000	245893.94000

Run Name: 1831211E07
 Tube Number: 17
 Sample Number: **9876338**

Date/Time: 11/08/2018 23:39:58
 Batch: 183061063902A
 Class: UL*****

Initial Vol: 50.00

Final Vol: 50.00

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	1369676	0	0.000	1352599	1377220	1379208
SC-3	45	84041.54300	0.00000	0.000	82684.48000	85328.89000	84111.26000
AL	27	2.27278	176.67700	58.700	3.60432	2.27975	0.93425
B	11	324.88405	99590.26700	0.800	328.04500	323.59964	323.00749
BE	9	0.00132	4.00000	339.300	0.00582	-0.00311	0.00123
CA	44	15828.51732	87223.62000	1.000	16001.35416	15789.13990	15695.05791
CR	52	0.33446	700.04000	14.300	0.38281	0.28699	0.33356
FE	57	1402.23246	45241.12700	2.500	1440.24428	1393.96882	1372.48427
K	39	4467.85640	439632.41300	0.900	4512.49664	4428.77093	4462.30163
MG	24	12643.73077	1574378.52000	1.300	12774.71899	12458.28541	12698.18790
MN	55	445.81762	444967.06300	2.500	458.17493	437.18727	442.09065
NA	23	17495.61115	4083345.56300	2.100	17908.58622	17228.69097	17349.55626
TI	47	-0.10488	3.33300	0.000	-0.19844	0.08224	-0.19844
V	51	0.04145	70.00000	43.000	0.02406	0.04058	0.05971
IN-2	115	300184.17700	0.00000	0.000	296969.16000	301370.26000	302213.11000
IN-3	115	99542.37300	0.00000	0.000	99867.42000	98698.94000	100060.76000
AG	107	-0.00723	20.00000	0.000	-0.00304	-0.01139	-0.00726
AS	75	1.51098	198.00000	11.400	1.70912	1.42276	1.40106
BA	137	195.81390	58467.83700	2.000	197.19731	198.78570	191.45869
CD	111	0.01069	4.00000	59.500	0.01708	0.00435	0.01065
CO	59	0.50432	1246.76300	11.100	0.55688	0.51046	0.44562
CU	63	0.12767	380.02000	34.900	0.11600	0.09014	0.17686
MO	98	0.82814	1216.76000	8.200	0.90548	0.78092	0.79802
NI	60	0.70828	486.69300	14.000	0.81651	0.68607	0.62224
SB	121	0.11250	73.33300	32.900	0.07071	0.12553	0.14126
SE	78	-0.03210	3.78000	0.000	-0.06772	-0.01415	-0.01441
SN	120	-0.20629	603.37000	0.000	-0.19170	-0.20452	-0.22266
SR	88	52.04356	54571.83700	0.800	52.43284	51.56627	52.13157
ZN	66	1.58571	400.02000	2.300	1.57946	1.55309	1.62457
BI-3	209	121717.00000	0.00000	0.000	120173.90000	122867.13000	122109.97000
PB	208	0.06563	413.35300	35.000	0.07777	0.07999	0.03913
TL	205	-0.00633	23.33300	0.000	-0.00122	-0.00444	-0.01332
U	238	0.33069	1393.46300	7.600	0.33649	0.30301	0.35256
SC-2	45	193396.07700	0.00000	0.000	191974.02000	194740.76000	193473.45000
GE-1	72	1080938	0	0.000	1076511	1085621	1080683
GE-2	72	240684.25000	0.00000	0.000	238887.97000	240645.27000	242519.51000
GE-3	72	193357.12000	0.00000	0.000	199015.39000	190314.55000	190741.42000
TB-3	159	248799.05700	0.00000	0.000	249146.01000	248920.27000	248330.89000

Run Name: 1831211E07
 Tube Number: 18
 Sample Number: **9876333**

Date/Time: 11/08/2018 23:42:07
 Batch: 183061063902A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1328434	0	0.000	1329616	1338285	1317401
SC-3	45	82352.72700	0.00000	0.000	80512.43000	82493.85000	84051.90000
AL	27	219.11830	9236.54300	1.500	219.20715	215.81437	222.33337
B	11	1324.59746	358075.94700	1.100	1311.93390	1321.41833	1340.44014
BE	9	0.01959	12.00000	1.100	0.01956	0.01939	0.01981
CA	44	227552.19100	1227565.06000	1.000	230084.12211	226784.17469	225788.27620
CR	52	4.83564	7225.37700	4.600	5.07042	4.80791	4.62858
FE	57	1799.69685	56872.36000	1.100	1820.86136	1782.13070	1796.09848
K	39	29838.58945	2852673.18700	1.400	30313.84639	29604.13381	29597.78816
MG	24	30614.05058	3734697.55000	1.600	31166.64400	30315.48214	30360.02559
MN	55	427.77755	418412.24300	1.700	432.64056	431.05610	419.63598
NA	23	53388.59167	12175946.07000	1.900	54165.60355	53726.73585	52273.43561
TI	47	7.27505	256.68000	27.000	6.94127	9.38305	5.50082
V	51	2.42538	2627.00300	10.600	2.70923	2.35564	2.21126
IN-2	115	290008.21700	0.00000	0.000	289525.89000	293393.12000	287105.64000
IN-3	115	96778.49000	0.00000	0.000	95644.40000	96792.66000	97898.41000
AG	107	0.09713	260.01000	12.100	0.09405	0.11009	0.08724
AS	75	2.48046	303.34300	1.000	2.48232	2.50328	2.45578
BA	137	1095.98970	318124.89300	0.300	1098.96574	1091.98629	1097.01708
CD	111	0.41452	126.00000	14.200	0.47917	0.40080	0.36359
CO	59	4.62915	10270.61300	3.900	4.83698	4.53307	4.51739
CU	63	13.29058	23236.02300	2.000	13.34105	13.00299	13.52770
MO	98	9.98225	13753.86700	2.100	10.21287	9.80725	9.92663
NI	60	37.64067	20899.19700	2.300	36.73046	38.46612	37.72545
SB	121	3.50361	1926.86700	3.800	3.34900	3.56500	3.59682
SE	78	0.33550	21.11000	31.300	0.36989	0.41901	0.21759
SN	120	3.59413	4290.82300	7.500	3.65531	3.82808	3.29901
SR	88	1434.26258	1461323.98700	1.700	1406.37979	1452.00391	1444.40404
ZN	66	170.53287	33804.74700	1.700	172.31363	172.19665	167.08832
BI-3	209	116551.01000	0.00000	0.000	116934.00000	115168.94000	117550.09000
PB	208	9.51873	39491.24300	1.900	9.53781	9.68678	9.33159
TL	205	0.04808	196.67700	35.900	0.06443	0.04983	0.02999
U	238	1.51783	6091.64700	6.200	1.43094	1.50599	1.61657
SC-2	45	194257.08000	0.00000	0.000	194653.92000	195151.40000	192965.92000
GE-1	72	1039193	0	0.000	1043669	1042275	1031636
GE-2	72	234633.41700	0.00000	0.000	234818.59000	234729.16000	234352.50000
GE-3	72	189762.63000	0.00000	0.000	188841.15000	189225.04000	191221.70000
TB-3	159	242534.81700	0.00000	0.000	241217.01000	241357.01000	245030.43000

Run Name: 1831211E07
 Tube Number: 19
 Sample Number: **CCV**

Date/Time: 11/08/2018 23:44:15

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	1394969	0	0.000	1379274	1416266	1389367
SC-3	45	84413.97300	0.00000	0.000	83166.80000	84514.39000	85560.73000
AL	27	2452.56058	105124.81300	1.700	2493.92724	2454.31910	2409.43540
B	11	568.02017	168191.44300	2.300	582.97940	559.20859	561.87252
BE	9	26.04093	12140.32300	2.000	26.53336	26.09821	25.49123
CA	44	2527.90160	14060.57700	3.400	2544.74413	2605.16637	2433.79429
CR	52	240.61912	358702.45700	1.600	245.01395	237.52159	239.32182
FE	57	2452.07133	79384.34300	1.900	2483.21996	2474.96806	2398.02599
K	39	2444.57378	243586.39700	1.100	2467.92211	2449.74939	2416.04983
MG	24	2373.81174	297174.15300	1.100	2396.90190	2377.17982	2347.35349
MN	55	249.82588	250671.62700	1.300	251.89238	246.08168	251.50357
NA	23	2370.66061	570342.28300	1.600	2411.45146	2337.07642	2363.45394
TI	47	249.17046	8789.62700	3.000	251.00545	241.04512	255.46082
V	51	248.61227	273907.89300	1.600	252.97496	245.36827	247.49359
IN-2	115	304792.91300	0.00000	0.000	302194.00000	307936.98000	304247.76000
IN-3	115	99595.34000	0.00000	0.000	99565.15000	97607.86000	101613.01000
AG	107	28.83770	68469.76300	1.800	29.37072	28.82432	28.31806
AS	75	265.25876	31229.02300	3.200	263.31365	274.55822	257.90440
BA	137	256.20508	76528.64300	2.200	250.99446	262.24660	255.37418
CD	111	26.15055	8146.40700	1.500	25.99306	26.58645	25.87214
CO	59	246.76445	557888.96000	1.000	247.98431	248.36785	243.94119
CU	63	248.86945	444993.46700	1.200	246.94979	252.30749	247.35107
MO	98	25.34789	35862.88000	2.300	25.48524	25.85889	24.69956
NI	60	260.23294	148181.12700	0.700	258.02326	261.62299	261.05257
SB	121	25.67303	14464.65700	1.100	25.53003	25.48030	26.00875
SE	78	26.39675	1320.95300	3.100	27.34411	25.81283	26.03330
SN	120	25.27450	26165.21000	2.300	25.71581	25.50371	24.60397
SR	88	25.50302	26772.48300	0.400	25.52185	25.60573	25.38148
ZN	66	263.76147	53748.96000	3.100	265.22812	271.20716	254.84913
BI-3	209	121252.71000	0.00000	0.000	119607.98000	120768.39000	123381.76000
PB	208	25.45738	109673.86000	0.600	25.58486	25.30312	25.48417
TL	205	25.80194	86062.37700	1.600	25.93473	26.14321	25.32787
U	238	24.99212	104165.90700	0.900	25.09349	25.14349	24.73939
SC-2	45	197154.88000	0.00000	0.000	194861.54000	197778.18000	198824.92000
GE-1	72	1094884	0	0.000	1089214	1101526	1093913
GE-2	72	245405.77000	0.00000	0.000	241545.25000	249607.36000	245064.70000
GE-3	72	197197.90700	0.00000	0.000	196713.10000	197608.22000	197272.40000
TB-3	159	251917.13700	0.00000	0.000	250141.38000	250783.43000	254826.60000

Run Name: 1831211E07
 Tube Number: 20
 Sample Number: CCB

Date/Time: 11/08/2018 23:46:24

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	1316962	0	0.000	1313739	1310779	1326369
SC-3	45	80706.20000	0.00000	0.000	79355.81000	81346.61000	81416.18000
AL	27	0.39707	93.33300	120.900	-0.13911	0.78732	0.54301
B	11	194.85440	62041.69000	1.400	196.21319	196.59447	191.75554
BE	9	0.00620	6.00000	74.500	0.00622	0.01082	0.00157
CA	44	3.08678	96.67300	208.700	-3.60126	9.25353	3.60805
CR	52	0.24120	540.03000	14.700	0.24759	0.27297	0.20304
FE	57	0.52956	120.00700	257.800	-1.03631	1.15409	1.47089
K	39	4.45399	4590.89300	12.400	4.09672	4.17685	5.08842
MG	24	-0.49886	260.01300	0.000	-0.71514	-0.76302	-0.01842
MN	55	-0.00870	336.68300	0.000	0.03233	-0.03943	-0.01900
NA	23	13.60970	19112.75000	16.600	16.04986	11.58070	13.19854
TI	47	-0.10039	3.33300	0.000	-0.19844	-0.19844	0.09573
V	51	0.00621	30.00000	151.900	0.00669	0.01540	-0.00345
IN-2	115	295894.86300	0.00000	0.000	294805.58000	295744.87000	297134.14000
IN-3	115	97729.28700	0.00000	0.000	97484.36000	97233.05000	98470.45000
AG	107	-0.00993	13.33300	0.000	-0.00703	-0.01564	-0.00712
AS	75	0.02439	22.66700	80.500	0.00176	0.03702	0.03440
BA	137	0.02316	20.00000	2.000	0.02333	0.02350	0.02264
CD	111	0.01096	4.00000	60.100	0.00443	0.01760	0.01086
CO	59	-0.00997	83.33300	0.000	-0.00235	-0.01582	-0.01175
CU	63	0.01765	180.01000	166.700	-0.00483	0.00684	0.05095
MO	98	0.10133	186.71000	62.700	0.06819	0.06121	0.17459
NI	60	0.02580	96.67000	81.800	0.05015	0.01464	0.01261
SB	121	0.50719	290.01300	7.300	0.47216	0.54622	0.50318
SE	78	-0.04928	2.88700	0.000	-0.03983	-0.08141	-0.02659
SN	120	-0.44290	360.01700	0.000	-0.48212	-0.55274	-0.29385
SR	88	0.01012	46.66700	113.200	0.00370	0.02334	0.00331
ZN	66	0.37135	150.00700	36.900	0.42283	0.47522	0.21600
BI-3	209	117828.74000	0.00000	0.000	117680.45000	117610.20000	118195.57000
PB	208	-0.00459	106.66700	0.000	-0.00376	-0.00614	-0.00388
TL	205	0.00829	70.00000	65.100	0.01140	0.01141	0.00206
U	238	0.01895	86.66700	15.200	0.01732	0.02228	0.01723
SC-2	45	192350.46700	0.00000	0.000	192118.81000	192108.69000	192823.90000
GE-1	72	1049114	0	0.000	1043035	1051353	1052955
GE-2	72	237312.66700	0.00000	0.000	238039.31000	236411.99000	237486.70000
GE-3	72	189906.77300	0.00000	0.000	187565.45000	191720.58000	190434.29000
TB-3	159	241980.14700	0.00000	0.000	241570.74000	244163.51000	240206.19000

US EPA Tune Check Report

Operator Name US19_USR_INS27814
 Acq/Data Batch D:\Agilent\ICPMH\1\DATA\EPA_Tune.b
 Acq. Date-Time 2018-11-08 18:07:09
 Report Comment ---
 Instrument Name G8403A SG18254097

[No Gas]

Sensitivity

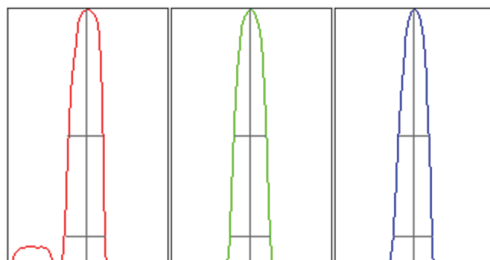
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1729	17286.34			0.889	5.000
89	10.00	10316	103164.67			0.784	5.000
205	10.00	3343	33426.96			0.580	5.000

Mass	RSD% (Flag)
7	
89	
205	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1748	1732	1726	1731	1706
89	10455	10316	10251	10289	10271
205	3368	3354	3344	3328	3320

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2758.20	7.00	6.90 - 7.10	
89	17504.70	89.00	88.90 - 89.10	
205	6081.07	205.00	204.90 - 205.10	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.65	0.761	0.800	
89	0.62	0.761	0.800	
205	0.58	0.732	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	10.4 V	Deflect	17.2 V
Extract 2	-140.0 V	Cell Entrance	-40 V	Plate Bias	-50 V
Omega Bias	-65 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	125	Axis Gain	0.9994	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.1 mm
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EM

Discriminator	4.1 mV	Analog HV	2140 V	Pulse HV	1727 V
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Date File Name: 18K09F00.E05

Method Reference Name(s):

Run Name: 1831305E05

Analyst: 25839

Reviewed By: Reviewed Date
Bradley M Berlot 11/09/2018 20:15

Verified By: Verified Date
Parker D Lindstrom 11/11/2018 20:00

Instrument Parameters:

Rinse Time (sec): 25.00

<u>INTERNAL STD.</u>	<u>ELEMENT</u>	<u>MASS</u>
SC-1		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57

IN-1		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-1		209
	TL	203
	PB	208
	U	238

Run Name: 1831305E05
 Tube Number: 1
 Sample Number: **S0**

Date/Time: 11/09/2018 19:08:21

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	26579.72300	0.000	12.41122	11.20207	-23.61329
MG	24	0.00000	36.66700	0.000	-0.20103	0.11831	0.08273
AL	27	0.00000	40.00000	0.000	3.87772	-1.27112	-2.60660
K	39	0.00000	2887.13000	0.000	-15.42173	15.90856	-0.48683
CA	44	0.00000	6.66700	0.000	-7.25121	14.50243	-7.25121
SC-1	45	18820.49700	0.00000	0.000	18533.42000	18703.67000	19224.40000
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	6.66700	0.000	-0.01472	0.02943	-0.01472
CR	52	0.00000	433.36000	0.000	0.02251	0.03278	-0.05529
MN	55	0.00000	26.66700	0.000	0.02027	-0.08571	0.06544
FE	57	0.00000	26.66700	0.000	-1.52681	-0.59033	2.11714
CO	59	0.00000	56.67000	0.000	-0.02088	0.03357	-0.01269
NI	60	0.00000	76.67000	0.000	-0.13005	-0.10634	0.23640
CU	63	0.00000	386.69300	0.000	0.01866	0.05797	-0.07663
ZN	66	0.00000	20.00000	0.000	0.00162	-0.10804	0.10641
GE-1	72	70458.36700	0.00000	0.000	69299.16000	70786.94000	71289.00000
AS	75	0.00000	5.33300	0.000	0.04193	0.00774	-0.04967
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	126.67300	0.000	0.07140	-0.07680	0.00539
AG	107	0.00000	3.33300	0.000	-0.00214	0.00428	-0.00214
CD	111	0.00000	0.66700	0.000	-0.00457	0.00915	-0.00457
IN-1	115	25490.73700	0.00000	0.000	25123.16000	26176.03000	25173.02000
SN	120	0.00000	233.35000	0.000	0.20549	-0.02419	-0.18130
SB	121	0.00000	10.00000	0.000	-0.02787	0.02714	0.00073
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-1	159	149870.14000	0.00000	0.000	147300.78000	151618.13000	150691.51000
TL	203	0.00000	66.67300	0.000	0.00948	-0.02565	0.01617
PB	208	0.00000	106.66700	0.000	-0.00136	-0.00782	0.00919
BI-1	209	125231.78700	0.00000	0.000	124924.83000	125198.22000	125572.31000
U	238	0.00000	16.66700	0.000	-0.00115	0.00232	-0.00116

Run Name: 1831305E05
 Tube Number: 2
 Sample Number: S1

Date/Time: 11/09/2018 19:10:19

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	18670.27300	0.00000	0.000	18483.42000	18363.14000	19164.26000
AL	27	10000.00000	78797.11300	3.700	10349.83386	10041.25231	9608.91383
CA	44	10000.00000	9180.22700	3.300	10320.87288	10022.59934	9656.52778
CR	52	1000.00000	579699.26000	1.500	1007.88679	1009.51694	982.59627
FE	57	10000.00000	105572.38000	4.100	10210.08221	10267.00187	9522.91591
K	39	10000.00000	160923.64700	2.600	10195.88030	10100.76655	9703.35315
MG	24	10000.00000	303897.76300	2.400	10113.25689	10166.50459	9720.23853
MN	55	1000.00000	190927.92700	2.800	999.43757	1027.89821	972.66422
NA	23	10000.00000	664542.54300	2.800	10142.61177	10178.53918	9678.84905
TI	47	1000.00000	8903.32000	6.500	1039.73177	1035.13715	925.13109
V	51	1000.00000	451949.99300	3.600	1011.62989	1028.30952	960.06059
IN-1	115	25136.88300	0.00000	0.000	25009.27000	25209.84000	25191.54000
AG	107	100.00000	149471.73300	0.700	100.31258	100.48015	99.20726
AS	75	1000.00000	65583.86700	1.300	986.00827	1003.16131	1010.83041
BA	137	1000.00000	107709.88700	1.000	1011.16363	992.94518	995.89119
CD	111	100.00000	13995.50300	1.200	98.65899	100.49838	100.84263
CO	59	1000.00000	1212674.67000	0.600	995.40116	1006.76929	997.82955
CU	63	1000.00000	1056641.28700	1.000	1003.49771	1007.73390	988.76839
MO	98	100.00000	76300.89000	1.500	98.40524	100.10902	101.48575
NI	60	1000.00000	354189.91700	0.700	998.22313	1007.81490	993.96197
SB	121	100.00000	34924.64700	1.100	99.79966	101.20902	98.99132
SN	120	100.00000	39120.21300	1.200	99.68558	101.30337	99.01105
SR	88	100.00000	18684.12300	4.600	98.62803	96.23810	105.13387
ZN	66	1000.00000	94933.17700	1.200	992.85414	1014.16628	992.97959
BI-1	209	125979.79700	0.00000	0.000	125905.86000	126733.90000	125299.63000
PB	208	100.00000	470656.02000	0.900	100.63713	100.34814	99.01473
TL	203	100.00000	143824.89000	2.100	98.37184	99.22285	102.40531
U	238	100.00000	579470.08000	0.900	100.02802	100.84909	99.12289
GE-1	72	67243.03700	0.00000	0.000	67309.05000	67340.49000	67079.57000
TB-1	159	148733.65000	0.00000	0.000	150187.74000	148427.05000	147586.16000

Run Name: 1831305E05
 Tube Number: 3
 Sample Number: ICV

Date/Time: 11/09/2018 19:12:18

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	18883.94000	0.00000	0.000	19254.34000	18202.95000	19194.53000
AL	27	5046.83971	40246.63000	1.900	4999.94926	5155.96770	4984.60219
CA	44	5313.84096	4931.17000	8.300	5181.70211	5805.74047	4954.08030
CR	52	515.68636	302445.32000	3.200	505.63992	534.55063	506.86854
FE	57	5093.68368	54410.48000	3.600	4885.23997	5230.02010	5165.79096
K	39	5054.80352	83671.34000	4.000	4894.70332	5282.49456	4987.21267
MG	24	4986.28643	153249.53700	3.000	4920.89361	5154.78674	4883.17895
MN	55	508.19977	98083.61300	5.600	481.96533	538.54607	504.08791
NA	23	4907.03080	343324.09700	3.500	4765.17898	5099.93479	4855.97862
TI	47	486.59292	4380.96700	6.200	458.15740	518.01524	483.60613
V	51	506.52954	231558.38000	2.900	490.69890	520.23978	508.64994
IN-1	115	25353.33300	0.00000	0.000	24947.57000	26197.23000	24915.20000
AG	107	54.46182	82059.31700	3.200	55.79457	52.51273	55.07817
AS	75	512.68825	33893.72000	3.300	520.86446	493.37633	523.82396
BA	137	509.91230	55349.82700	4.600	515.69900	483.94196	530.09594
CD	111	51.58561	7272.73700	6.700	52.82948	47.70208	54.22528
CO	59	512.53063	626516.74700	3.300	518.39682	493.59486	525.60023
CU	63	518.82889	552780.60300	3.500	520.73771	499.60456	536.14441
MO	98	51.55438	39727.48000	1.200	51.52786	50.96948	52.16580
NI	60	519.84351	185613.44000	4.200	520.19821	498.06802	541.26428
SB	121	54.60839	19238.37700	1.200	54.15179	54.29306	55.38031
SN	120	50.17318	19909.52300	2.100	51.39789	49.70881	49.41285
SR	88	53.45937	10074.41700	0.300	53.30400	53.53715	53.53697
ZN	66	517.43954	49532.16000	3.400	510.60738	504.19916	537.51209
BI-1	209	128343.50300	0.00000	0.000	127928.46000	126258.02000	130844.03000
PB	208	49.97726	239663.98700	0.700	50.14207	50.21245	49.57727
TL	203	50.06511	73377.49000	2.300	49.62995	51.36245	49.20292
U	238	49.18387	290351.95000	0.300	49.02210	49.29416	49.23537
GE-1	72	69946.95700	0.00000	0.000	68012.15000	70547.25000	71281.47000
TB-1	159	149089.19300	0.00000	0.000	149460.02000	147152.65000	150654.91000

Run Name: 1831305E05
 Tube Number: 4
 Sample Number: ICB

Date/Time: 11/09/2018 19:14:04

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	18429.98300	0.00000	0.000	19014.16000	18533.34000	17742.45000
AL	27	-0.27244	36.66700	0.000	-2.57934	-2.51468	4.27669
CA	44	25.19813	30.00300	145.900	67.65394	3.72557	4.21487
CR	52	0.47608	693.38300	71.600	0.37602	0.19640	0.85581
FE	57	-1.19468	13.33300	0.000	-2.48065	0.38089	-1.48428
K	39	9.24068	2967.15000	146.200	6.47928	-2.67517	23.91792
MG	24	-0.08696	33.33300	0.000	0.09686	-0.20103	-0.15671
MN	55	0.04290	33.33300	418.300	-0.08656	-0.03248	0.24773
NA	23	18.13287	27167.82300	87.000	-0.03633	26.01337	28.42157
TI	47	0.36726	3.33300	173.200	1.10178	0.00000	0.00000
V	51	0.02251	16.66700	149.100	0.05043	-0.01472	0.03183
IN-1	115	25510.49700	0.00000	0.000	24602.50000	26104.82000	25824.17000
AG	107	0.01548	26.66700	26.000	0.01837	0.01719	0.01088
AS	75	0.17024	16.66700	7.900	0.16916	0.18418	0.15737
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	-0.00458	0.00000	0.000	-0.00457	-0.00457	-0.00457
CO	59	0.02424	86.67000	163.900	-0.01193	0.01790	0.06676
CU	63	0.03361	423.36000	183.500	-0.03136	0.04088	0.09132
MO	98	0.00610	133.34000	1104.300	-0.07115	0.03723	0.05221
NI	60	-0.00907	73.33700	0.000	0.07374	-0.10605	0.00509
SB	121	0.72966	270.01700	31.200	0.46964	0.82714	0.89219
SN	120	0.00799	236.68300	1288.100	0.01216	-0.09692	0.10872
SR	88	0.03646	6.66700	173.200	0.10937	0.00000	0.00000
ZN	66	0.31325	50.00000	90.700	0.54433	0.39951	-0.00410
BI-1	209	123458.55700	0.00000	0.000	123290.00000	122715.33000	124370.34000
PB	208	-0.00978	60.00000	0.000	-0.01411	-0.00534	-0.00988
TL	203	0.04075	123.34300	104.900	0.00312	0.03191	0.08723
U	238	0.01469	100.00700	51.700	0.01827	0.00596	0.01983
GE-1	72	69962.78300	0.00000	0.000	68977.13000	70264.59000	70646.63000
TB-1	159	149993.17000	0.00000	0.000	149427.33000	150183.63000	150368.55000

Run Name: 1831305E05
 Tube Number: 5
 Sample Number: LLC

Date/Time: 11/09/2018 19:15:50

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	19207.72700	0.00000	0.000	18863.95000	19184.46000	19574.77000
AL	27	423.79910	3477.32300	1.800	415.79465	424.81712	430.78553
CA	44	656.61425	626.71700	17.700	736.92651	523.00273	709.91352
CR	52	4.75640	3277.23300	2.600	4.77585	4.86851	4.62485
FE	57	91.01855	1016.75700	9.300	88.42915	84.14501	100.48150
K	39	404.29240	9510.55300	15.700	448.86163	432.19347	331.82210
MG	24	97.17171	3077.17000	2.700	95.19651	96.14801	100.17061
MN	55	10.14947	2020.27000	4.000	10.59122	10.05516	9.80202
NA	23	894.02554	85838.26300	3.700	917.56237	908.81355	855.70069
TI	47	25.78902	236.68300	18.400	21.10155	30.57806	25.68746
V	51	0.83920	396.69700	19.200	1.01406	0.69555	0.80798
IN-1	115	25774.11700	0.00000	0.000	25386.55000	26739.38000	25196.42000
AG	107	0.56799	873.41300	6.000	0.60737	0.55137	0.54522
AS	75	2.23703	156.00000	13.300	2.45658	2.35691	1.89761
BA	137	3.18894	353.35700	23.700	3.58531	3.66583	2.31568
CD	111	1.12558	162.00000	6.400	1.09919	1.07022	1.20733
CO	59	1.03611	1343.47300	22.000	0.82815	1.00106	1.27912
CU	63	40.38823	44090.15300	4.700	41.87639	38.24843	41.03986
MO	98	1.86222	1580.18000	13.800	2.13606	1.62467	1.82593
NI	60	3.93998	1510.16300	8.300	4.11976	4.13941	3.56075
SB	121	2.34202	850.07300	12.200	2.04252	2.61103	2.37251
SN	120	1.78098	946.75300	17.500	2.08150	1.80117	1.46027
SR	88	5.77413	1106.77300	19.800	4.50506	6.08872	6.72861
ZN	66	15.14260	1493.50000	13.900	13.04156	15.14458	17.24167
BI-1	209	128152.62700	0.00000	0.000	128422.42000	127170.33000	128865.13000
PB	208	3.01990	14564.23300	0.700	3.00520	3.00975	3.04474
TL	203	0.45931	740.06700	16.500	0.54705	0.41507	0.41580
U	238	0.50541	2997.23300	11.000	0.47800	0.46905	0.56918
GE-1	72	68435.01000	0.00000	0.000	68213.33000	67419.64000	69672.06000
TB-1	159	148406.04300	0.00000	0.000	147595.93000	147575.84000	150046.36000

Run Name: 1831305E05
 Tube Number: 6
 Sample Number: ICSA

Date/Time: 11/09/2018 19:17:36

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	17815.83300	0.00000	0.000	17161.51000	17812.43000	18473.56000
AL	27	98167.51344	737570.69300	3.200	101248.22486	98308.27755	94946.03791
CA	44	300614.40493	263061.18700	3.200	310811.04430	299447.28850	291584.88199
CR	52	0.87385	890.08700	34.000	1.06016	1.03048	0.53091
FE	57	258215.41538	2600991.36700	2.100	264073.73888	257269.86201	253302.64524
K	39	103560.14942	1563958.72700	3.500	107495.63395	102896.71396	100288.10034
MG	24	99238.74000	2876588.29000	3.000	102561.08911	98241.80233	96913.32854
MN	55	3.26695	620.04700	8.000	3.50813	2.99064	3.30209
NA	23	244531.02605	14910221.44700	3.400	251645.63032	246527.59280	235419.85504
TI	47	1957.74048	16637.63000	3.300	2031.37433	1920.65537	1921.19175
V	51	0.07810	40.00000	103.100	0.12964	-0.01472	0.11938
IN-1	115	23040.23300	0.00000	0.000	22649.24000	23270.74000	23200.72000
AG	107	0.07068	100.01000	26.100	0.04984	0.07736	0.08485
AS	75	0.87365	57.33300	3.700	0.86763	0.90821	0.84511
BA	137	1.17901	116.67300	54.200	0.92733	1.90560	0.70411
CD	111	0.11980	16.00000	38.000	0.07473	0.11893	0.16575
CO	59	0.91554	1070.09700	22.200	0.74156	1.13925	0.86581
CU	63	1.13117	1443.49300	4.500	1.18445	1.08183	1.12723
MO	98	2199.07647	1535130.08000	2.400	2259.31542	2174.79483	2163.11917
NI	60	1.23308	470.03300	15.900	1.22698	1.43254	1.03972
SB	121	1.13587	373.36000	26.200	0.79866	1.36444	1.24451
SN	120	-0.09804	176.67700	0.000	-0.27821	-0.00883	-0.00707
SR	88	16.82895	2880.47700	9.800	17.70448	14.91841	17.86394
ZN	66	4.35693	396.69700	14.800	5.05327	3.77439	4.24314
BI-1	209	114116.87300	0.00000	0.000	114709.01000	112002.78000	115638.83000
PB	208	0.86771	3797.12000	4.600	0.85257	0.83786	0.91270
TL	203	-0.00307	56.67000	0.000	-0.02373	0.00813	0.00640
U	238	0.03328	190.01300	24.300	0.04260	0.02817	0.02907
GE-1	72	65068.67000	0.00000	0.000	66717.10000	63350.32000	65138.59000
TB-1	159	147021.53300	0.00000	0.000	148469.77000	148040.84000	144553.99000

Run Name: 1831305E05
 Tube Number: 7
 Sample Number: RINSE

Date/Time: 11/09/2018 19:19:21

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	40883.29000	0.00000	0.000	61012.39000	31675.87000	29961.61000
AL	27	342.53604	4702.25000	111.600	53.96653	197.70485	775.93674
CA	44	951.43786	1503.61700	113.100	142.81104	538.73984	2172.76269
CR	52	-0.15569	660.05700	0.000	-0.41507	-0.22371	0.17170
FE	57	881.04701	16154.45300	106.100	169.40256	534.38503	1939.35344
K	39	244.34213	11701.57700	175.400	-93.20803	99.78612	726.44830
MG	24	352.60264	18315.26700	110.300	49.45624	216.99737	791.35429
MN	55	0.16330	103.34000	117.900	-0.05786	0.29414	0.25361
NA	23	705.34089	125480.58300	152.100	-148.39877	354.98118	1909.44025
TI	47	8.55354	133.34000	76.100	1.71681	9.25979	14.68403
V	51	0.04902	50.00300	155.800	-0.00118	0.01135	0.13688
IN-1	115	53684.28300	0.00000	0.000	79903.01000	42232.26000	38917.58000
AG	107	0.01477	43.33700	106.800	0.00207	0.00980	0.03243
AS	75	0.25035	43.33300	37.500	0.16934	0.22848	0.35326
BA	137	0.05945	13.33300	100.900	0.05841	0.00000	0.11993
CD	111	0.04094	11.33300	118.500	0.01341	0.01244	0.09696
CO	59	0.05737	213.35300	191.900	-0.01969	0.00837	0.18343
CU	63	0.00910	733.39300	2460.000	-0.15772	-0.07849	0.26351
MO	98	8.55578	11204.87000	105.000	1.61134	5.35542	18.70057
NI	60	-0.01485	140.00700	0.000	-0.06378	-0.13078	0.15000
SB	121	0.09176	73.33700	91.300	0.00817	0.09146	0.17564
SN	120	-0.44504	100.00700	0.000	-0.55171	-0.42378	-0.35962
SR	88	0.04428	13.33300	86.800	0.00000	0.06371	0.06914
ZN	66	0.14249	56.67000	192.300	-0.14292	0.16705	0.40333
BI-1	209	272316.27300	0.00000	0.000	392899.29000	222168.28000	201881.25000
PB	208	0.03466	483.37000	140.800	-0.00644	0.02180	0.08861
TL	203	-0.00619	106.67700	0.000	-0.03103	-0.01903	0.03149
U	238	0.00521	86.67300	88.700	-0.00013	0.00787	0.00788
GE-1	72	149713.35000	0.00000	0.000	217773.69000	121003.27000	110363.09000
TB-1	159	322488.15000	0.00000	0.000	478113.74000	252399.39000	236951.32000

Run Name: 1831305E05
 Tube Number: 8
 Sample Number: **CCV**

Date/Time: 11/09/2018 19:21:07

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	18987.41300	0.00000	0.000	20306.08000	18202.79000	18453.37000
AL	27	2450.49157	19658.30000	2.700	2386.56527	2518.23541	2446.67402
CA	44	2733.77329	2550.36700	10.700	2517.75109	3066.67158	2616.89721
CR	52	258.70501	152461.18700	6.800	238.38280	269.35733	268.37491
FE	57	2566.87013	27502.33000	8.700	2323.45546	2765.42617	2611.72876
K	39	2457.21224	42306.49000	7.700	2240.47051	2539.09812	2592.06808
MG	24	2438.06415	75252.15700	5.100	2293.32230	2506.86198	2514.00816
MN	55	254.84346	49388.54700	6.900	235.77074	270.74196	258.01767
NA	23	2475.48785	187008.78300	8.500	2234.72637	2624.44405	2567.29311
TI	47	242.04707	2193.62700	0.300	241.44682	241.71955	242.97485
V	51	258.90461	118752.61000	6.900	238.64233	265.78593	272.28558
IN-1	115	25463.18300	0.00000	0.000	25316.34000	25312.85000	25760.36000
AG	107	27.48001	41610.50000	0.500	27.63050	27.34751	27.46201
AS	75	255.39290	16970.74000	2.000	260.03205	250.06070	256.08594
BA	137	261.36771	28515.76000	2.100	258.76763	267.67513	257.66037
CD	111	26.47012	3752.57300	3.300	27.47185	26.07020	25.86831
CO	59	256.97495	315688.16000	1.100	257.51120	259.45573	253.95792
CU	63	258.27157	276728.95300	0.500	257.12218	259.68019	258.01233
MO	98	27.03468	20990.84700	2.300	26.64404	26.69989	27.76012
NI	60	256.47681	92068.71000	1.900	255.27103	261.82238	252.33701
SB	121	25.42396	9000.25300	2.500	25.83274	25.75118	24.68798
SN	120	24.69192	9961.03700	4.600	23.44322	25.69556	24.93699
SR	88	24.54979	4644.42000	11.900	22.90995	27.91124	22.82817
ZN	66	263.11536	25314.65700	2.500	259.58851	270.62932	259.12826
BI-1	209	126891.86300	0.00000	0.000	126833.87000	126653.69000	127188.03000
PB	208	25.52476	121079.46000	1.300	25.33415	25.90664	25.33347
TL	203	26.28498	38130.00300	3.300	25.30601	26.90375	26.64516
U	238	24.70172	144184.34000	0.500	24.64418	24.62485	24.83614
GE-1	72	68622.90300	0.00000	0.000	68305.15000	66616.45000	70947.11000
TB-1	159	149583.37000	0.00000	0.000	150587.72000	148677.07000	149485.32000

Run Name: 1831305E05
 Tube Number: 9
 Sample Number: CCB

Date/Time: 11/09/2018 19:22:53

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	19388.09700	0.00000	0.000	17982.95000	19684.99000	20496.35000
AL	27	-1.81763	26.66700	0.000	-2.43642	-0.25689	-2.75957
CA	44	17.89430	23.33300	100.900	37.99975	3.08338	12.59978
CR	52	0.58207	790.07000	48.300	0.90614	0.40341	0.43665
FE	57	1.13755	40.00300	60.000	0.46847	1.11152	1.83267
K	39	-16.16979	2693.75300	0.000	7.38232	-26.91224	-28.97945
MG	24	-0.63584	16.66700	0.000	0.17095	-0.88322	-1.19524
MN	55	-0.05116	16.66700	0.000	0.02512	-0.08831	-0.09028
NA	23	18.96617	28560.56300	177.700	51.35989	21.45267	-15.91405
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00692	10.00000	303.600	0.00824	0.02723	-0.01472
IN-1	115	25254.74300	0.00000	0.000	25113.95000	26867.63000	23782.65000
AG	107	0.01150	20.00000	116.500	0.02464	-0.00214	0.01200
AS	75	0.09409	11.33300	77.800	0.04198	0.06254	0.17776
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	-0.00458	0.00000	0.000	-0.00457	-0.00457	-0.00457
CO	59	0.01156	70.00700	367.600	-0.03738	0.03925	0.03282
CU	63	-0.03073	350.02700	0.000	-0.00963	-0.03251	-0.05005
MO	98	-0.00513	123.34300	0.000	-0.04677	0.04377	-0.01240
NI	60	0.00931	80.00700	1040.200	-0.10176	0.07583	0.05384
SB	121	0.36913	140.00700	34.600	0.23014	0.48129	0.39597
SN	120	-0.37950	83.34000	0.000	-0.46347	-0.32750	-0.34753
SR	88	0.01886	3.33300	173.200	0.00000	0.00000	0.05657
ZN	66	-0.02558	16.66700	0.000	-0.10376	-0.20922	0.23623
BI-1	209	121866.04300	0.00000	0.000	121563.42000	122714.49000	121320.22000
PB	208	-0.00155	96.66700	0.000	0.00584	-0.00534	-0.00514
TL	203	0.02290	96.67300	262.400	0.09033	0.00334	-0.02498
U	238	0.00304	33.33300	146.400	-0.00111	0.00774	0.00248
GE-1	72	67155.33700	0.00000	0.000	67671.78000	67962.27000	65831.96000
TB-1	159	144907.42700	0.00000	0.000	145443.11000	145007.91000	144271.26000

Run Name: 1831305E05
 Tube Number: 10
 Sample Number: **PBW**

Date/Time: 11/09/2018 19:24:39
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	18797.02000	0.00000	0.000	18823.76000	18954.04000	18613.26000
AL	27	0.82816	46.66700	491.400	3.73968	-3.82155	2.56633
CA	44	7.21541	13.33300	88.700	3.55622	3.48193	14.60809
CR	52	0.59426	780.06300	18.700	0.50720	0.71963	0.55595
FE	57	0.65395	33.33300	82.500	1.27587	0.31737	0.36860
K	39	-6.02089	2787.11300	0.000	-2.28897	-7.25946	-8.51426
MG	24	0.76327	60.00300	127.000	-0.21637	1.72152	0.78465
MN	55	0.50475	123.34300	42.900	0.38143	0.37786	0.75496
NA	23	27.72900	28343.47000	26.300	33.40213	19.51668	30.26820
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00007	6.66700	35832.000	-0.01472	-0.01472	0.02965
IN-1	115	24947.33300	0.00000	0.000	24363.21000	25614.64000	24864.15000
AG	107	-0.00214	0.00000	0.000	-0.00214	-0.00214	-0.00214
AS	75	0.04387	8.00000	147.000	0.10868	-0.02027	0.04321
BA	137	0.12423	13.33300	115.700	0.00000	0.09111	0.28157
CD	111	0.00969	2.00000	144.800	0.01017	0.02348	-0.00457
CO	59	-0.02645	23.33300	0.000	-0.03712	-0.01326	-0.02896
CU	63	0.09437	476.70000	30.800	0.10863	0.11360	0.06090
MO	98	-0.03734	96.67700	0.000	-0.04312	-0.02331	-0.04558
NI	60	0.19314	143.34300	47.600	0.13485	0.14548	0.29910
SB	121	0.07805	36.66700	43.200	0.06078	0.05645	0.11691
SN	120	-0.40326	73.33700	0.000	-0.51256	-0.36505	-0.33217
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	1.95789	203.35000	41.800	1.96515	1.13504	2.77348
BI-1	209	125477.96300	0.00000	0.000	123168.73000	126571.90000	126693.26000
PB	208	-0.00928	63.33300	0.000	-0.00975	-0.00587	-0.01223
TL	203	-0.03268	20.00000	0.000	-0.03242	-0.03280	-0.03281
U	238	0.00057	20.00000	300.200	0.00064	0.00226	-0.00118
GE-1	72	67500.94700	0.00000	0.000	68446.07000	66747.47000	67309.30000
TB-1	159	146747.22000	0.00000	0.000	147495.38000	145562.42000	147183.86000

Run Name: 1831305E05
 Tube Number: 11
 Sample Number: LCSW

Date/Time: 11/09/2018 19:26:25
 Batch: 183061063901A
 Class: *****

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

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	18680.29000	0.00000	0.000	18533.27000	18723.71000	18783.89000
AL	27	1960.87352	15499.49000	0.800	1944.52495	1975.36061	1962.73500
CA	44	4404.49652	4050.81000	3.800	4505.14535	4209.27435	4499.06985
CR	52	51.74758	30425.34000	2.900	53.30670	51.58524	50.35081
FE	57	1008.65771	10684.86700	4.000	1015.73797	965.69724	1044.53791
K	39	10062.01767	162048.75000	2.200	10164.70360	9802.54601	10218.80338
MG	24	1987.61586	60489.60700	0.800	1969.28724	1998.01297	1995.54738
MN	55	49.61861	9507.21300	3.200	50.31153	47.81280	50.73149
NA	23	9902.62859	658969.99000	0.800	9855.14868	9853.89745	9998.83963
TI	47	259.47387	2313.69000	5.400	263.41444	243.94887	271.05829
V	51	48.86846	22115.51000	1.400	49.46298	48.14176	49.00064
IN-1	115	25441.55700	0.00000	0.000	24944.40000	25001.93000	26378.34000
AG	107	54.02407	81687.63300	2.900	55.65216	53.93502	52.48504
AS	75	9.79188	655.36000	9.600	10.64655	8.78191	9.94719
BA	137	50.28029	5478.13000	4.100	52.59300	49.57638	48.67149
CD	111	4.90307	694.69300	9.700	4.54651	5.44133	4.72136
CO	59	247.66649	303859.67000	2.500	252.52445	249.73283	240.74221
CU	63	50.51409	54344.64000	4.400	52.81637	50.37827	48.34764
MO	98	48.33405	37347.40300	5.500	49.76957	49.94593	45.28667
NI	60	52.67092	18930.66700	5.900	54.46465	54.48099	49.06712
SB	121	6.44187	2287.00000	2.100	6.29384	6.48098	6.55080
SN	120	48.64035	19365.22700	3.200	49.66531	49.42061	46.83513
SR	88	38.66277	7309.05300	3.000	37.98236	39.99528	38.01066
ZN	66	516.39472	49628.94300	1.200	521.11084	509.70712	518.36619
BI-1	209	125385.35000	0.00000	0.000	125927.95000	124885.40000	125342.70000
PB	208	14.84194	69613.22300	1.500	14.65767	14.76952	15.09863
TL	203	1.97758	2897.16000	15.300	2.05523	1.64464	2.23286
U	238	25.02580	144335.85300	1.900	24.54034	25.07279	25.46427
GE-1	72	67684.11700	0.00000	0.000	65772.05000	68182.93000	69097.37000
TB-1	159	147578.91000	0.00000	0.000	148238.96000	143168.72000	151329.05000

Run Name: 1831305E05
 Tube Number: 12
 Sample Number: **9876334**

Date/Time: 11/09/2018 19:28:10
 Batch: 183061063901A
 Class: U*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	19177.64300	0.00000	0.000	19093.99000	19645.18000	18793.76000
AL	27	39.56777	360.02300	32.100	33.40022	31.11467	54.18842
CA	44	84276.89226	79438.43700	2.400	86400.35860	82456.96412	83973.35406
CR	52	42.40265	25668.68000	4.700	40.65980	41.97998	44.56816
FE	57	7754.88212	84137.72300	2.900	8000.87069	7562.81129	7700.96437
K	39	22917.15506	375067.74300	1.700	22853.88256	22571.21986	23326.36274
MG	24	66075.99827	2061893.35700	4.100	66832.71682	63046.69319	68348.58479
MN	55	2336.69987	458258.35300	2.700	2387.79340	2266.83454	2355.47168
NA	23	89634.46237	5901320.53700	4.400	90888.50641	85228.49066	92786.39003
TI	47	1.77731	16.66700	173.200	0.00000	5.33193	0.00000
V	51	0.57149	273.35300	28.000	0.59079	0.72095	0.40272
IN-1	115	25010.18000	0.00000	0.000	25862.56000	25270.28000	23897.70000
AG	107	0.04243	66.67000	46.700	0.03687	0.06442	0.02601
AS	75	7.93347	522.68700	6.000	8.22022	7.38328	8.19691
BA	137	1033.72972	110661.94000	4.100	996.27464	1024.64829	1080.26623
CD	111	0.02321	4.00000	207.300	0.07877	-0.00457	-0.00457
CO	59	3.25321	3970.79700	11.000	3.18520	2.93267	3.64175
CU	63	6.26508	6955.44700	7.100	5.76059	6.60143	6.43322
MO	98	3.69290	2930.49300	8.800	3.95706	3.79250	3.32914
NI	60	23.66554	8406.44700	3.300	23.15146	23.27764	24.56754
SB	121	0.44243	163.34700	14.400	0.38972	0.51350	0.42406
SN	120	0.82851	550.04700	8.800	0.90751	0.76361	0.81441
SR	88	271.02940	50356.90700	2.400	263.68080	273.87392	275.53349
ZN	66	10.74998	1033.43000	8.900	10.85167	9.74823	11.65004
BI-1	209	123511.02700	0.00000	0.000	125086.12000	123117.78000	122329.18000
PB	208	4.38207	20317.76300	3.000	4.33461	4.28244	4.52915
TL	203	-0.01373	46.67000	0.000	0.01641	-0.02529	-0.03232
U	238	1.53295	8727.01000	3.800	1.59865	1.48464	1.51556
GE-1	72	69228.48300	0.00000	0.000	67479.47000	70454.92000	69751.06000
TB-1	159	150024.28700	0.00000	0.000	151616.24000	148368.20000	150088.42000

Run Name: 1831305E05
 Tube Number: 13
 Sample Number: **9876334**

Date/Time: 11/09/2018 19:29:57
 Batch: 183061063901A
 Class: UP*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	18780.43700	0.00000	0.000	18833.81000	18453.34000	19054.16000
AL	27	824.92250	6581.91700	4.800	829.29194	783.52723	861.94832
CA	44	84342.91368	77862.07000	0.900	83749.24073	85233.36007	84046.14025
CR	52	51.90761	30682.34000	3.000	50.11225	53.10353	52.50705
FE	57	7767.82080	82544.85000	1.200	7666.69655	7842.26119	7794.50466
K	39	23900.69589	382954.55300	1.900	23935.71319	24330.35463	23436.01985
MG	24	66978.95297	2048158.14700	0.500	67001.84390	66629.99600	67305.01901
MN	55	2349.84053	451433.70700	0.200	2354.26432	2350.64918	2344.60809
NA	23	89776.83868	5792191.16300	1.500	88270.99412	90054.46471	91005.05721
TI	47	53.18499	476.70700	13.500	61.18241	51.09126	47.28131
V	51	2.64532	1210.11700	1.400	2.66008	2.60335	2.67253
IN-1	115	25118.02700	0.00000	0.000	25306.63000	24844.10000	25203.35000
AG	107	1.09634	1640.20700	8.800	0.98816	1.12845	1.17240
AS	75	11.74941	775.36300	7.100	11.55331	11.02930	12.66563
BA	137	1006.49410	108321.66300	1.600	988.03221	1019.67291	1011.77718
CD	111	1.89951	266.00700	21.500	1.92609	2.29462	1.47782
CO	59	5.17330	6325.17300	12.100	4.80504	4.82015	5.89470
CU	63	86.38260	91556.20300	0.600	86.96103	86.30098	85.88581
MO	98	7.41378	5768.25000	3.700	7.12620	7.43485	7.68028
NI	60	30.88124	11001.69000	2.600	30.73884	31.74410	30.16077
SB	121	4.76660	1673.53000	9.600	4.80909	4.29049	5.20023
SN	120	4.73455	2070.28700	2.700	4.79790	4.58586	4.81991
SR	88	278.79192	52049.44300	0.100	278.92162	278.89281	278.56133
ZN	66	42.53656	4054.17700	2.000	43.44102	42.44089	41.72776
BI-1	209	122298.29700	0.00000	0.000	121675.67000	120442.89000	124776.33000
PB	208	10.23696	46860.76000	1.900	10.46193	10.15952	10.08943
TL	203	0.96866	1416.82700	11.600	0.84647	1.06665	0.99286
U	238	2.40978	13571.76300	2.400	2.47349	2.35784	2.39801
GE-1	72	69544.05700	0.00000	0.000	69600.65000	69672.45000	69359.07000
TB-1	159	147677.65700	0.00000	0.000	147506.72000	146011.14000	149515.11000

Run Name: 1831305E05
 Tube Number: 14
 Sample Number: **9876337**

Date/Time: 11/09/2018 19:31:43
 Batch: 183061063901A
 Class: D*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	18913.97300	0.00000	0.000	19114.44000	18753.54000	18873.94000
AL	27	37.15193	336.69300	20.600	28.40057	40.41728	42.63793
CA	44	85675.21549	79650.52300	2.500	84265.19862	88191.69066	84568.75719
CR	52	0.93387	983.42700	17.600	0.79169	1.11333	0.89660
FE	57	7764.09177	83087.81000	1.800	7659.14784	7921.48152	7711.64595
K	39	23754.08728	383401.31000	0.200	23729.88964	23804.38623	23727.98597
MG	24	69300.63254	2134100.64300	0.100	69265.42712	69284.04310	69352.42739
MN	55	2384.01920	461194.36700	2.600	2338.39273	2455.49818	2358.16669
NA	23	91524.57906	5946184.49700	1.000	91772.10913	92310.33815	90491.28990
TI	47	0.73066	6.66700	173.200	2.19199	0.00000	0.00000
V	51	0.43634	206.68300	12.300	0.43894	0.38160	0.48847
IN-1	115	25468.42000	0.00000	0.000	24971.21000	26043.75000	25390.30000
AG	107	-0.00214	0.00000	0.000	-0.00214	-0.00214	-0.00214
AS	75	8.14603	546.01700	15.600	9.46824	8.04473	6.92512
BA	137	1049.35193	114487.90300	2.000	1071.98974	1029.92570	1046.14034
CD	111	0.00002	0.66700	34274.400	-0.00457	0.00922	-0.00457
CO	59	2.70854	3383.97700	3.700	2.62794	2.67701	2.82067
CU	63	1.06740	1526.84700	6.400	1.12660	0.99226	1.08333
MO	98	3.30962	2677.12300	12.700	3.64169	2.83843	3.44875
NI	60	3.73441	1413.48300	19.000	4.50461	3.11078	3.58784
SB	121	0.48028	180.01300	35.900	0.54881	0.60797	0.28407
SN	120	0.66009	493.37000	9.400	0.62449	0.62405	0.73172
SR	88	271.93747	51464.18000	2.100	274.88020	265.27044	275.66177
ZN	66	8.92263	876.74700	12.600	9.54930	7.62173	9.59685
BI-1	209	123988.71000	0.00000	0.000	124629.83000	124199.97000	123136.33000
PB	208	4.36690	20327.79300	1.400	4.29467	4.39810	4.40793
TL	203	-0.00896	53.33700	0.000	-0.01852	0.00981	-0.01818
U	238	1.49058	8516.72300	5.700	1.41595	1.58376	1.47202
GE-1	72	68958.29000	0.00000	0.000	69540.65000	67359.97000	69974.25000
TB-1	159	147828.64700	0.00000	0.000	152148.60000	146577.31000	144760.03000

Run Name: 1831305E05
 Tube Number: 15
 Sample Number: **9876335**

Date/Time: 11/09/2018 19:33:29
 Batch: 183061063901A
 Class: R*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	18947.29700	0.00000	0.000	18242.85000	19424.68000	19174.36000
AL	27	2099.00018	16807.85000	4.700	2207.04349	2011.38066	2078.57640
CA	44	90694.66251	84415.04300	3.300	94114.27134	88480.96061	89488.75557
CR	52	52.52618	31307.38700	2.200	53.86685	51.85777	51.85392
FE	57	8900.34321	95367.39300	2.700	9143.82274	8671.75676	8885.45013
K	39	34080.26527	549372.60700	3.400	35357.08411	33051.92897	33831.78272
MG	24	70788.58899	2182423.82300	3.000	72872.42589	68667.27878	70826.06231
MN	55	2454.23984	475353.17000	3.200	2539.58008	2385.06276	2438.07669
NA	23	102967.78851	6692857.81700	3.600	107198.35554	100295.10857	101409.90142
TI	47	265.11160	2397.01300	1.700	268.75512	259.95089	266.62880
V	51	50.63465	23237.45000	1.700	51.40650	50.76937	49.72806
IN-1	115	26001.71300	0.00000	0.000	25906.74000	26731.82000	25366.58000
AG	107	49.80693	76985.56000	1.900	49.95408	48.81671	50.65000
AS	75	17.93681	1221.40000	5.600	17.11400	17.64457	19.05186
BA	137	1078.30800	120078.47000	3.300	1067.81801	1048.95222	1118.15377
CD	111	4.85341	702.69700	4.600	4.80739	4.65887	5.09397
CO	59	249.07497	312344.41000	2.400	249.54003	242.81634	254.86853
CU	63	50.73464	55806.29000	2.200	51.29020	49.44626	51.46747
MO	98	52.66912	41607.44700	3.200	53.48582	50.74172	53.77981
NI	60	51.87897	19077.89700	1.800	52.81843	50.91665	51.90182
SB	121	6.25811	2266.98700	10.100	6.75399	5.54789	6.47244
SN	120	50.13507	20400.16000	3.700	48.37285	49.96121	52.07116
SR	88	310.98161	60077.03000	3.700	301.97397	307.22017	323.75070
ZN	66	520.02576	51044.60000	3.500	528.02213	499.17808	532.87708
BI-1	209	125158.64300	0.00000	0.000	124047.27000	126400.30000	125028.36000
PB	208	19.70801	92241.66300	1.000	19.49753	19.90385	19.72266
TL	203	1.99582	2917.17700	7.800	1.89632	1.91562	2.17552
U	238	27.23382	156773.58300	2.400	27.34621	26.52412	27.83113
GE-1	72	68534.90700	0.00000	0.000	68564.67000	68736.83000	68303.22000
TB-1	159	150419.61700	0.00000	0.000	152152.22000	149777.32000	149329.31000

Run Name: 1831305E05
 Tube Number: 16
 Sample Number: **9876336**

Date/Time: 11/09/2018 19:35:15
 Batch: 183061063901A
 Class: M*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	20456.23700	0.00000	0.000	19745.27000	20486.30000	21137.14000
AL	27	1931.00142	16691.01000	6.400	2037.52216	1961.33932	1794.14277
CA	44	85354.50805	85773.29700	3.200	87678.91800	86094.53442	82290.07173
CR	52	51.44506	33108.25700	4.300	52.11606	53.26313	48.95598
FE	57	8178.36118	94571.98700	4.400	8523.67543	8203.11076	7808.29734
K	39	32161.71980	559916.79000	3.200	33203.00628	32166.78074	31115.37239
MG	24	66586.06167	2216537.26000	2.500	68507.07369	65801.75103	65449.36029
MN	55	2295.51683	480139.17300	2.000	2345.92455	2284.57851	2256.04744
NA	23	97599.49268	6850661.98000	3.500	100678.20923	98248.26879	93872.00002
TI	47	268.04635	2617.08300	4.300	263.16348	281.25972	259.71586
V	51	49.97114	24740.27300	4.800	52.75278	48.78397	48.37665
IN-1	115	25929.13000	0.00000	0.000	24798.07000	25363.59000	27625.73000
AG	107	50.07048	77069.84300	4.500	51.76432	50.90397	47.54315
AS	75	17.32653	1175.40000	4.600	17.78996	17.78461	16.40501
BA	137	1097.97317	121808.27700	4.300	1113.93936	1135.30376	1044.67638
CD	111	5.52718	797.36300	4.400	5.79032	5.47699	5.31422
CO	59	254.99479	318418.63700	4.800	263.61943	260.47503	240.88991
CU	63	52.26306	57248.77700	4.100	54.30276	52.47214	50.01429
MO	98	54.20989	42606.74300	7.300	56.47185	56.51387	49.64396
NI	60	55.51945	20289.41000	9.700	57.30973	59.75613	49.49250
SB	121	7.14991	2580.41000	4.700	7.43467	7.23990	6.77516
SN	120	52.33793	21174.89000	7.200	55.00140	53.99065	48.02174
SR	88	310.67878	59781.74700	5.300	311.17123	326.82172	294.04340
ZN	66	524.98815	51298.91300	6.100	544.77404	542.16802	488.02238
BI-1	209	124657.26300	0.00000	0.000	122967.23000	124564.86000	126439.70000
PB	208	20.33377	94777.36300	0.900	20.27404	20.54688	20.18038
TL	203	2.02999	2953.84000	11.600	2.19848	1.76158	2.12991
U	238	27.78810	159328.27000	1.500	27.77910	28.21468	27.37051
GE-1	72	71551.13300	0.00000	0.000	70937.95000	70494.91000	73220.54000
TB-1	159	151006.85300	0.00000	0.000	147070.28000	152848.11000	153102.17000

Run Name: 1831305E05
 Tube Number: 17
 Sample Number: **9876334**

Date/Time: 11/09/2018 19:37:00
 Batch: 183061063901A
 Class: UL*****

Initial Vol: 50.00

Final Vol: 50.00

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	19728.42700	0.00000	0.000	20085.54000	19114.11000	19985.63000
AL	27	7.31681	103.34000	35.100	10.26545	6.08636	5.59860
CA	44	16855.96092	16357.27000	4.700	16299.91079	16510.54498	17757.42698
CR	52	8.86579	5884.89300	3.100	9.17473	8.64990	8.77275
FE	57	1489.90878	16647.65700	3.500	1501.79866	1535.64727	1432.28039
K	39	4541.09509	78890.32700	0.700	4519.05742	4575.29262	4528.93524
MG	24	12886.07354	413739.74700	2.800	12715.80676	13298.18688	12644.22697
MN	55	454.47818	91679.09300	3.800	440.40786	473.91464	449.11204
NA	23	18523.13395	1276770.92000	3.200	17993.39285	19175.78533	18400.22368
TI	47	1.07835	10.00000	101.700	1.04301	2.19203	0.00000
V	51	0.15931	83.34000	17.700	0.19087	0.13649	0.15058
IN-1	115	26431.82700	0.00000	0.000	27215.94000	26366.51000	25713.03000
AG	107	0.01476	26.66700	64.100	0.02258	0.00424	0.01748
AS	75	1.45567	106.00000	13.900	1.44100	1.66446	1.26157
BA	137	203.25213	23014.83000	1.800	199.20777	206.24454	204.30407
CD	111	0.01331	2.66700	116.400	0.02182	0.02268	-0.00457
CO	59	0.56638	780.07000	7.600	0.53329	0.61484	0.55101
CU	63	1.17734	1706.86300	7.500	1.17012	1.09306	1.26884
MO	98	0.78051	756.74000	5.400	0.73231	0.79878	0.81043
NI	60	4.40303	1720.22300	12.400	4.24580	5.00899	3.95430
SB	121	0.14522	63.33700	31.300	0.13085	0.10866	0.19615
SN	120	0.00008	240.01700	369832.300	-0.33089	0.11882	0.21230
SR	88	52.95306	10404.59300	2.400	52.72028	54.31662	51.82229
ZN	66	2.59155	280.02000	11.200	2.80768	2.70397	2.26301
BI-1	209	130892.97300	0.00000	0.000	131967.16000	133646.72000	127065.04000
PB	208	0.79773	4007.14000	6.600	0.76853	0.76661	0.85807
TL	203	-0.01543	46.66700	0.000	-0.00680	-0.02042	-0.01906
U	238	0.27520	1673.54000	7.700	0.25086	0.28672	0.28802
GE-1	72	72154.81000	0.00000	0.000	72717.58000	72597.62000	71149.23000
TB-1	159	153603.82000	0.00000	0.000	158383.50000	150612.51000	151815.45000

Run Name: 1831305E05
 Tube Number: 18
 Sample Number: **9876332**

Date/Time: 11/09/2018 19:38:47
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	19801.99700	0.00000	0.000	18863.93000	20636.66000	19905.40000
AL	27	771.33089	6475.26300	7.400	816.64869	707.01389	790.33008
CA	44	236628.39959	230038.81700	4.300	247062.89263	226748.47911	236073.82703
CR	52	15.79610	10154.26300	4.700	16.05582	14.95663	16.37586
FE	57	5756.64247	64430.35700	4.800	5947.28520	5443.01670	5879.62550
K	39	28595.74193	482218.73000	2.700	29460.97439	27967.05316	28359.19823
MG	24	30854.36051	993578.44700	4.100	32084.18333	29558.27467	30920.62352
MN	55	444.00075	89830.81300	5.000	464.30170	420.48776	447.21279
NA	23	53142.97606	3621050.46700	5.000	56015.97263	50740.97506	52671.98048
TI	47	18.78372	180.01000	46.400	9.99495	27.41113	18.94507
V	51	5.87743	2820.42700	6.700	6.22420	5.44812	5.95998
IN-1	115	25821.02700	0.00000	0.000	25058.66000	26113.44000	26290.98000
AG	107	0.27612	426.69700	18.600	0.30659	0.21684	0.30492
AS	75	3.77201	259.34000	8.200	3.95844	3.41350	3.94410
BA	137	1139.58831	126057.83700	2.200	1161.48781	1111.49456	1145.78256
CD	111	0.67095	97.33300	13.700	0.56887	0.69703	0.74695
CO	59	4.85289	6091.73000	9.600	5.37443	4.70282	4.48143
CU	63	31.91866	35006.76000	2.900	32.97042	31.20469	31.58085
MO	98	10.65237	8463.17000	0.900	10.74304	10.55524	10.65883
NI	60	38.80014	14184.81700	7.500	39.63638	41.21153	35.55249
SB	121	3.44849	1246.81700	0.900	3.44892	3.41887	3.47769
SN	120	12.12054	5071.25300	8.800	13.28876	11.88598	11.18689
SR	88	1401.08592	268781.70300	2.600	1442.96061	1377.01477	1383.28237
ZN	66	202.00751	19705.35000	5.300	207.20972	209.19676	189.61606
BI-1	209	124803.75000	0.00000	0.000	124665.03000	124096.48000	125649.74000
PB	208	32.40015	151125.87700	1.900	32.36502	33.04863	31.78679
TL	203	0.01646	90.00700	151.800	0.02365	-0.01134	0.03705
U	238	1.44819	8329.99300	1.800	1.46614	1.41856	1.45985
GE-1	72	70864.46300	0.00000	0.000	71761.83000	69993.22000	70838.34000
TB-1	159	151197.74000	0.00000	0.000	151357.63000	150328.77000	151906.82000

Run Name: 1831305E05
 Tube Number: 19
 Sample Number: **9876342**

Date/Time: 11/09/2018 19:40:33
 Batch: 183061063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	19421.43700	0.00000	0.000	19414.65000	19474.76000	19374.90000
AL	27	1.02599	50.00000	236.600	-1.41030	3.44514	1.04312
CA	44	20.70573	26.66700	105.700	3.22729	13.64110	45.24878
CR	52	0.37446	673.39300	39.400	0.35298	0.53162	0.23879
FE	57	4.20196	73.34000	123.300	8.44681	-1.57291	5.73199
K	39	7.62415	3103.86300	92.800	3.82640	3.25686	15.78919
MG	24	3.02668	133.34000	97.400	3.86685	-0.24909	5.46228
MN	55	0.39904	106.67300	58.300	0.66775	0.26362	0.26574
NA	23	39.35584	30060.36300	44.900	53.32050	45.26043	19.48658
TI	47	1.07905	10.00000	173.200	3.23715	0.00000	0.00000
V	51	0.28989	143.34300	29.300	0.24050	0.38812	0.24103
IN-1	115	26459.39000	0.00000	0.000	26155.53000	26365.86000	26856.78000
AG	107	0.00420	10.00000	151.900	-0.00214	0.01062	0.00412
AS	75	0.03545	8.00000	139.200	-0.02150	0.06526	0.06260
BA	137	0.17487	20.00000	99.400	0.00000	0.17702	0.34758
CD	111	-0.00012	0.66700	0.000	-0.00457	-0.00457	0.00880
CO	59	-0.00917	46.66700	0.000	-0.02185	-0.00632	0.00068
CU	63	0.09043	500.04000	117.000	0.18570	0.10912	-0.02352
MO	98	-0.05694	86.67300	0.000	-0.07673	-0.02735	-0.06673
NI	60	0.14292	133.34300	28.700	0.11089	0.18906	0.12881
SB	121	0.06247	33.33300	64.300	0.02718	0.05405	0.10617
SN	120	-0.32368	110.01000	0.000	-0.32029	-0.37149	-0.27926
SR	88	0.06831	13.33300	86.600	0.10288	0.10206	0.00000
ZN	66	0.82680	103.33700	29.400	1.10724	0.69484	0.67831
BI-1	209	132752.18000	0.00000	0.000	133351.66000	131977.07000	132927.81000
PB	208	0.00546	140.00700	134.800	0.00732	0.01169	-0.00265
TL	203	-0.02676	30.00000	0.000	-0.04007	-0.00017	-0.04005
U	238	0.00038	20.00000	428.400	0.00200	0.00040	-0.00126
GE-1	72	72090.93000	0.00000	0.000	71823.35000	71762.52000	72686.92000
TB-1	159	153528.24700	0.00000	0.000	155780.03000	151997.04000	152807.67000

Run Name: 1831305E05
 Tube Number: 20
 Sample Number: **CCV**

Date/Time: 11/09/2018 19:42:19

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	20012.28700	0.00000	0.000	20376.34000	19674.99000	19985.53000
AL	27	2475.16560	20946.71700	0.600	2467.98026	2492.24711	2465.26943
CA	44	2915.73475	2873.80000	6.000	2828.63094	3115.93136	2802.64195
CR	52	261.56652	162874.67700	1.800	257.43559	266.50835	260.75563
FE	57	2524.43533	28591.52700	4.300	2405.89528	2621.38940	2546.02132
K	39	2526.60677	45881.34000	2.100	2468.72328	2572.76834	2538.32869
MG	24	2497.82657	81420.08700	0.500	2486.69005	2509.78761	2497.00205
MN	55	251.69205	51545.78000	1.000	248.87210	252.66104	253.54300
NA	23	2472.27768	197415.35700	2.600	2399.50833	2517.83629	2499.48842
TI	47	243.28862	2323.67000	2.200	241.64548	249.19034	239.03005
V	51	258.21041	125126.73700	2.900	254.45633	266.78715	253.38776
IN-1	115	26311.26700	0.00000	0.000	26443.49000	26136.26000	26354.05000
AG	107	27.36195	42811.54700	0.600	27.19938	27.36443	27.52205
AS	75	260.09717	17857.88000	1.100	256.95727	262.50442	260.82982
BA	137	257.59744	29040.50300	2.400	255.52259	264.43139	252.83833
CD	111	27.12268	3973.97300	2.800	27.98579	26.69236	26.68990
CO	59	261.10270	331455.33700	0.700	260.11268	263.20661	259.98881
CU	63	259.13527	286897.90000	1.600	261.38510	261.54225	254.47847
MO	98	25.42013	20400.06000	2.600	26.11393	25.36037	24.78609
NI	60	263.20252	97635.27700	2.100	257.84239	262.79237	268.97282
SB	121	26.12807	9557.30300	4.600	25.60221	27.50252	25.27947
SN	120	26.37222	10975.14300	3.000	25.47650	26.97095	26.66922
SR	88	23.24069	4544.38300	6.900	21.42444	23.78742	24.51021
ZN	66	266.39093	26483.84700	1.600	262.87075	271.13475	265.16730
BI-1	209	128151.28300	0.00000	0.000	128593.61000	126369.84000	129490.40000
PB	208	26.08977	124971.62000	1.500	26.03919	26.50837	25.72174
TL	203	26.35055	38598.00000	2.100	26.46954	26.84569	25.73643
U	238	25.24917	148809.94000	2.500	25.14002	25.93400	24.67349
GE-1	72	72808.02000	0.00000	0.000	70647.23000	73943.20000	73833.63000
TB-1	159	153653.24000	0.00000	0.000	154455.93000	153466.68000	153037.11000

Run Name: 1831305E05
 Tube Number: 21
 Sample Number: CCB

Date/Time: 11/09/2018 19:44:05

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	19942.26300	0.00000	0.000	19685.15000	20185.89000	19955.75000
AL	27	-1.10013	33.33300	0.000	0.94675	-1.55019	-2.69694
CA	44	23.39797	30.00300	44.100	23.75233	12.90509	33.53649
CR	52	0.41590	716.73300	33.100	0.38703	0.29516	0.56552
FE	57	0.48983	33.33300	427.500	2.90755	-0.72913	-0.70893
K	39	-15.77519	2793.77300	0.000	-23.91378	0.85707	-24.26885
MG	24	-0.57262	20.00000	0.000	0.36483	-1.19524	-0.88746
MN	55	0.17091	63.34000	114.000	-0.03865	0.34638	0.20500
NA	23	15.13380	29208.41700	63.500	21.89289	4.13554	19.37298
TI	47	0.34993	3.33300	173.200	0.00000	0.00000	1.04979
V	51	-0.00782	3.33300	0.000	-0.01472	-0.01472	0.00597
IN-1	115	26303.11700	0.00000	0.000	25835.70000	26437.13000	26636.52000
AG	107	0.00654	13.33300	229.900	0.02390	-0.00214	-0.00214
AS	75	0.07522	10.66700	20.100	0.06824	0.06487	0.09256
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	-0.00458	0.00000	0.000	-0.00457	-0.00457	-0.00457
CO	59	0.00948	70.00000	77.100	0.00251	0.01710	0.00885
CU	63	0.01924	420.02700	279.800	-0.02864	0.00883	0.07754
MO	98	-0.09007	60.00300	0.000	-0.12672	-0.06517	-0.07832
NI	60	0.03563	93.33700	407.400	-0.10491	0.02684	0.18496
SB	121	0.30848	123.34000	39.700	0.16720	0.38065	0.37759
SN	120	-0.37226	90.00700	0.000	-0.51710	-0.29874	-0.30094
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	0.09290	30.00000	5.200	0.09832	0.09132	0.08907
BI-1	209	125457.73700	0.00000	0.000	124662.18000	123117.47000	128593.56000
PB	208	0.00702	140.01000	99.800	0.01157	-0.00105	0.01052
TL	203	0.01620	90.00300	199.000	0.05177	-0.01106	0.00787
U	238	0.00224	30.00000	197.600	0.00059	-0.00113	0.00725
GE-1	72	70646.45700	0.00000	0.000	70334.95000	70395.16000	71209.26000
TB-1	159	150130.39300	0.00000	0.000	148950.99000	149051.84000	152388.35000

US EPA Tune Check Report

Operator Name US19_USR_INS14259
Acq/Data Batch C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time 11/9/2018 4:12:43 PM
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

[No Gas]

Sensitivity

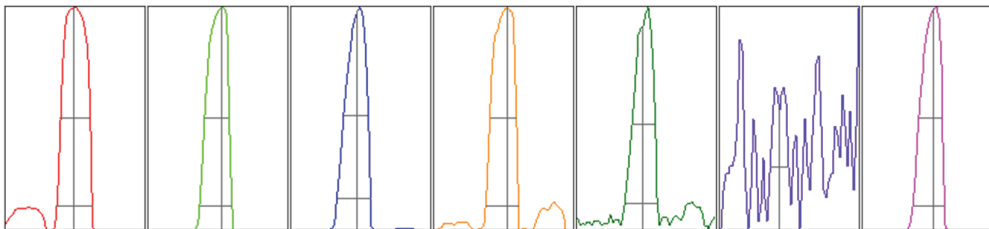
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1492	14923.65			1.073	5.000
89	10.00	6794	67936.69			0.806	5.000
205	10.00	3186	31863.18			0.993	5.000
70	1.00	87	865.50	0.00		5.317	
156	1.00	11	107.31	0.00		12.679	
220	1.00	1	11.00	0.00		7.873	
140	10.00	5882	58821.16	0.00		0.752	

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	1518	1478	1485	1497	1484
89	6831	6752	6729	6862	6795
205	3216	3135	3193	3182	3206
70	83	82	89	93	85
156	11	10	11	13	9
220	1	1	1	1	1
140	5896	5816	5865	5901	5933

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2391.20	7.00	6.90 - 7.10	
89	12904.83	89.10	88.90 - 89.10	
205	6219.57	204.95	204.90 - 205.10	
70	153.37	70.10	-	
156	20.45	155.95	-	
220	1.35	219.80	-	
140	11859.25	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.64	0.756	0.800	
89	0.54	0.704	0.800	
205	0.52	0.714	0.800	
70	0.58	0.709		
156	0.49	0.707		
220	0.40			
140	0.52	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	9.3 V	Deflect	14.8 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-100 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	123	Axis Gain	0.9985	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.07		

Hardware Settings

Torch

Torch H	1.0 mm	Torch V	-1.3 mm
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EM

Discriminator	4.5 mV	Analog HV	1749 V	Pulse HV	1269 V
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Date File Name: 18K14C08.E05

Method Reference Name(s):

Run Name: 1831804E05Analyst: 1242

<u>Reviewed By:</u>	<u>Reviewed Date</u>
Choon Y Tian	11/14/2018 12:07
Deborah A Krady	11/20/2018 12:38

<u>Verified By:</u>	<u>Verified Date</u>
Deborah A Krady	11/21/2018 08:51
Parker D Lindstrom	11/27/2018 15:44

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
GE-3		72
	CO	59
	NI	60
	CU	63
	ZN	66
IN-2		115
	SE	78
IN-3		115
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
TB-3		159
	SB	121
	BA	137
BI-3		209
	TL	203
	PB	208
	U	238

Run Name: 1831804E05
 Tube Number: 1
 Sample Number: S0

Date/Time: 11/14/2018 8:25:07

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	20.66700	0.000	0.00500	-0.00766	0.00267
B	11	0.00000	1631.44700	0.000	0.12375	0.11748	-0.24122
NA	23	0.00000	35693.70000	0.000	-30.04125	-5.89753	35.93878
MG	24	0.00000	90.00700	0.000	-0.47458	0.40513	0.06945
AL	27	0.00000	46.66700	0.000	0.59677	0.59687	-1.19363
K	39	0.00000	3680.70700	0.000	-11.30738	-7.31241	18.61978
CA	44	0.00000	10.00000	0.000	-16.07000	15.79106	0.27895
SC-1	45	1852652	0	0.000	1877402	1850449	1830106
SC-2	45	546659.52300	0.00000	0.000	539885.50000	549976.01000	550117.06000
SC-3	45	13183.62700	0.00000	0.000	13297.15000	13297.02000	12956.71000
TI	47	0.00000	13.33300	0.000	-2.46904	-2.46904	4.93808
V	51	0.00000	16.66700	0.000	-0.01954	0.00902	0.01052
CR	52	0.00000	293.35300	0.000	-0.28270	0.05186	0.23084
MN	55	0.00000	33.33300	0.000	-0.11364	-0.03112	0.14476
FE	57	0.00000	56.67000	0.000	-2.25272	5.73095	-3.47822
CO	59	0.00000	40.00300	0.000	-0.01933	-0.02967	0.04900
NI	60	0.00000	96.67300	0.000	0.12050	-0.05845	-0.06204
CU	63	0.00000	260.02000	0.000	0.02799	-0.01213	-0.01585
ZN	66	0.00000	16.66700	0.000	-0.24187	0.19578	0.04610
GE-1	72	1961791	0	0.000	2000012	1980879	1904482
GE-2	72	1164794	0	0.000	1157636	1185474	1151272
GE-3	72	47863.09000	0.00000	0.000	47083.72000	47936.87000	48568.68000
AS	75	0.00000	8.66700	0.000	0.07402	-0.14471	0.07069
SE	78	0.00000	7.33000	0.000	0.03268	-0.03317	0.00049
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	110.00700	0.000	-0.07212	0.01316	0.05896
AG	107	0.00000	3.33300	0.000	0.00603	-0.00301	-0.00301
CD	111	0.00000	0.66700	0.000	-0.00710	0.01421	-0.00710
IN-2	115	544910.11700	0.00000	0.000	543545.90000	552346.12000	538838.33000
IN-3	115	14123.34700	0.00000	0.000	13836.19000	14517.72000	14016.13000
SN	120	0.00000	113.34000	0.000	0.08585	-0.30397	0.21812
SB	121	0.00000	3.33300	0.000	-0.01800	0.03599	-0.01800
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-3	159	89205.59300	0.00000	0.000	87238.66000	88285.54000	92092.58000
TL	203	0.00000	20.00000	0.000	-0.02358	0.01195	0.01163
PB	208	0.00000	200.01000	0.000	-0.02501	0.01106	0.01395
BI-3	209	76024.14700	0.00000	0.000	75248.78000	76075.40000	76748.26000
U	238	0.00000	6.66700	0.000	-0.00201	0.00401	-0.00201

Run Name: 1831804E05
 Tube Number: 2
 Sample Number: S1

Date/Time: 11/14/2018 8:27:49

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	1878292	0	0.000	1872609	1867262	1895006
SC-3	45	13377.17000	0.00000	0.000	13136.94000	13156.90000	13837.67000
AL	27	10000.00000	50332.75700	1.500	9845.90230	10141.53410	10012.56360
B	11	1000.00000	287063.61700	0.800	991.44623	1001.93116	1006.62261
BE	9	100.00000	61380.84000	0.400	99.65322	100.38970	99.95708
CA	44	10000.00000	6325.16000	3.300	9677.58705	10339.36272	9983.05022
CR	52	1000.00000	451185.17300	2.300	1011.21055	1014.73195	974.05750
FE	57	10000.00000	75630.68300	3.200	10079.38145	10277.57044	9643.04811
K	39	10000.00000	104536.49000	4.100	9661.64166	10453.44585	9884.91249
MG	24	10000.00000	228909.17000	1.900	9851.17007	10215.62462	9933.20531
MN	55	1000.00000	121956.84300	2.500	973.74778	1022.86539	1003.38683
NA	23	10000.00000	546129.99300	1.900	10008.25770	10180.92445	9810.81786
TI	47	1000.00000	5584.79300	9.400	940.17346	1108.41140	951.41514
V	51	1000.00000	352207.36700	2.300	991.84182	1025.72151	982.43668
GE-3	72	47907.29000	0.00000	0.000	46291.05000	48017.88000	49412.94000
CO	59	1000.00000	1001240.03700	1.700	1011.95044	1007.53421	980.51534
CU	63	1000.00000	873571.96700	2.200	1021.47476	1000.80142	977.72382
NI	60	1000.00000	292247.24000	3.800	1036.30862	1002.94410	960.74728
ZN	66	1000.00000	68497.79300	1.900	1021.88931	987.94825	990.16243
IN-2	115	543615.27000	0.00000	0.000	536286.69000	544077.36000	550481.76000
IN-3	115	13903.71300	0.00000	0.000	13826.38000	13637.99000	14246.77000
AG	107	100.00000	111137.53000	1.800	98.27024	99.82264	101.90712
AS	75	1000.00000	46378.65000	1.500	984.24606	1013.54829	1002.20565
CD	111	100.00000	8988.48000	4.500	94.86320	103.09810	102.03870
MO	98	100.00000	52404.71000	1.100	100.91847	98.73162	100.34991
SE	78	100.00000	12237.10300	1.200	99.64875	101.38258	98.96867
SN	120	100.00000	21341.76000	1.200	98.78615	101.21368	100.00017
SR	88	100.00000	9680.72000	5.300	99.79026	105.38015	94.82959
TB-3	159	90487.04700	0.00000	0.000	88233.85000	90207.61000	93019.68000
BA	137	1000.00000	56595.33700	0.700	993.19858	1006.36948	1000.43195
SB	121	100.00000	18978.03700	3.900	100.64834	103.52566	95.82600
BI-3	209	80035.75000	0.00000	0.000	78147.63000	80179.74000	81779.88000
PB	208	100.00000	287803.71300	1.000	99.00877	99.93607	101.05516
TL	203	100.00000	88892.13300	2.500	98.29086	98.89854	102.81059
U	238	100.00000	349657.53300	1.100	101.07172	100.07469	98.85360
SC-2	45	547999.83700	0.00000	0.000	535013.00000	559651.32000	549335.19000
GE-1	72	1985817	0	0.000	1940718	2006326	2010406
GE-2	72	1159650	0	0.000	1139703	1168938	1170310

Run Name: 1831804E05
 Tube Number: 3
 Sample Number: ICV

Date/Time: 11/14/2018 8:30:30

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	1875002	0	0.000	1881708	1900389	1842909
SC-3	45	13393.97300	0.00000	0.000	13487.42000	14047.87000	12646.63000
AL	27	4903.40252	24736.50700	1.100	4841.42676	4951.45122	4917.32957
B	11	598.09606	172021.70300	1.800	591.11051	593.04377	610.13389
BE	9	50.65187	31040.14700	2.000	50.47057	49.74806	51.73697
CA	44	4437.28154	2817.12000	5.700	4162.35315	4659.16044	4490.33103
CR	52	504.77090	227795.11300	6.300	490.63205	482.41418	541.26646
FE	57	4940.51948	37369.81300	7.200	4865.31305	4628.03496	5328.21041
K	39	4824.95349	52371.11700	4.600	4717.38792	4675.55806	5081.91449
MG	24	4915.21104	112511.36300	5.300	4808.82151	4726.13371	5210.67789
MN	55	507.03486	61805.09700	5.600	499.31379	483.15936	538.63144
NA	23	4681.59427	274704.22700	8.100	4533.13058	4397.66804	5113.98420
TI	47	524.75612	2940.48000	2.700	525.95556	509.99580	538.31700
V	51	492.83535	173544.65300	5.700	475.31026	477.87977	525.31601
GE-3	72	47184.00700	0.00000	0.000	46582.10000	47745.62000	47224.30000
CO	59	507.73885	500855.48700	1.100	508.29432	501.88820	513.03401
CU	63	505.36941	435092.47000	2.400	507.90911	492.09136	516.10777
NI	60	511.55042	147391.10000	2.000	515.83640	499.75761	519.05724
ZN	66	499.53873	33716.91300	1.500	507.99668	493.70038	496.91913
IN-2	115	547464.09700	0.00000	0.000	562277.86000	544288.47000	535825.96000
IN-3	115	13455.88700	0.00000	0.000	13496.83000	13116.97000	13753.86000
AG	107	50.88574	54705.28700	2.800	49.55139	52.42451	50.68130
AS	75	523.13370	23481.82700	1.000	523.21264	528.52263	517.66584
CD	111	50.59930	4400.77700	1.300	50.80279	51.14173	49.85337
MO	98	51.31297	26066.99000	2.400	50.09977	52.53101	51.30813
SE	78	49.99240	6164.31300	0.800	49.62792	50.40411	49.94518
SN	120	55.22230	11458.99000	8.400	50.19825	56.06618	59.40249
SR	88	52.42878	4917.85000	9.200	47.32766	53.07629	56.88239
TB-3	159	88762.52000	0.00000	0.000	85829.24000	88536.30000	91922.02000
BA	137	480.03694	26661.85300	2.200	468.25041	482.53122	489.32919
SB	121	54.50236	10144.51700	3.700	55.93090	55.40513	52.17105
BI-3	209	75021.73700	0.00000	0.000	73780.37000	73891.86000	77392.98000
PB	208	52.62400	141980.09300	3.000	52.23709	54.38379	51.25112
TL	203	53.12836	44247.15000	2.100	54.19139	53.24108	51.95263
U	238	52.01063	170439.21000	3.300	51.23027	53.96396	50.83765
SC-2	45	552508.37700	0.00000	0.000	565786.83000	546363.39000	545374.91000
GE-1	72	1982240	0	0.000	2010140	1982070	1954509
GE-2	72	1170085	0	0.000	1189848	1159993	1160415

Run Name: 1831804E05
 Tube Number: 4
 Sample Number: ICB

Date/Time: 11/14/2018 8:32:55

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	1827265	0	0.000	1823641	1836189	1821967
SC-3	45	12813.23000	0.00000	0.000	12686.46000	12606.45000	13146.78000
AL	27	0.29916	46.66700	834.600	3.17528	-0.96544	-1.31237
B	11	87.64917	25943.93700	4.700	92.25137	86.41028	84.28586
BE	9	-0.01070	14.00000	0.000	-0.00728	-0.00412	-0.02069
CA	44	17.16488	20.00000	169.300	50.71887	0.73319	0.04258
CR	52	0.39540	456.69700	36.400	0.24986	0.53793	0.39839
FE	57	4.31431	86.67000	122.300	3.58107	-0.55790	9.91975
K	39	4.78560	3620.69000	1023.900	59.34515	-9.51994	-35.46841
MG	24	1.04454	110.00700	198.200	-0.30528	3.42816	0.01073
MN	55	0.06334	40.00000	359.100	-0.19219	0.24356	0.13864
NA	23	17.62069	35556.75300	130.500	3.75584	44.15440	4.95184
TI	47	-1.83463	3.33300	0.000	-2.46904	-0.56581	-2.46904
V	51	0.15741	70.00700	120.900	-0.04809	0.19290	0.32741
GE-3	72	47408.59700	0.00000	0.000	47305.29000	46712.78000	48207.72000
CO	59	0.11396	153.34300	102.100	0.04125	0.05252	0.24812
CU	63	0.17122	406.70000	77.300	0.25830	0.01884	0.23651
NI	60	0.11726	130.01000	26.200	0.08374	0.12409	0.14394
ZN	66	0.05072	20.00000	491.100	-0.09404	-0.09217	0.33838
IN-2	115	548152.74000	0.00000	0.000	531722.40000	539829.18000	572906.64000
IN-3	115	13819.65000	0.00000	0.000	13776.44000	13575.82000	14106.69000
AG	107	0.02432	30.00000	66.800	0.01515	0.04307	0.01473
AS	75	0.27844	21.33300	61.900	0.16221	0.47655	0.19657
CD	111	0.03740	4.00000	57.500	0.03781	0.01569	0.05870
MO	98	0.10824	163.34300	127.900	-0.03294	0.24386	0.11380
SE	78	0.03746	12.00000	54.300	0.02362	0.06082	0.02793
SN	120	0.16532	146.67700	40.700	0.08852	0.19413	0.21332
SR	88	0.03524	3.33300	173.200	0.00000	0.10571	0.00000
TB-3	159	88849.05700	0.00000	0.000	87409.58000	90036.91000	89100.68000
BA	137	0.05982	3.33300	173.200	0.00000	0.00000	0.17945
SB	121	1.19533	226.68000	23.300	0.90909	1.46438	1.21253
BI-3	209	76023.96700	0.00000	0.000	73326.88000	77604.59000	77140.43000
PB	208	-0.00990	173.34300	0.000	-0.02375	0.00940	-0.01536
TL	203	0.02774	43.33300	22.600	0.02556	0.02285	0.03481
U	238	0.02469	90.00300	90.400	0.00112	0.02749	0.04547
SC-2	45	551448.28700	0.00000	0.000	540086.71000	548926.63000	565331.52000
GE-1	72	1972915	0	0.000	1996675	1995701	1926370
GE-2	72	1162108	0	0.000	1157291	1140459	1188573

Run Name: 1831804E05
 Tube Number: 5
 Sample Number: LLC

Date/Time: 11/14/2018 8:35:20

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	1869379	0	0.000	1882572	1850926	1874640
SC-3	45	13053.54300	0.00000	0.000	12466.40000	12336.10000	14358.13000
AL	27	407.38334	2030.26300	13.500	417.44360	456.46971	348.23672
B	11	85.76886	26010.74000	1.700	86.72367	84.05181	86.53109
BE	9	0.55878	362.01000	5.100	0.55775	0.58772	0.53087
CA	44	781.72921	493.37000	7.000	731.62727	773.88487	839.67551
CR	52	4.45953	2243.63700	10.000	4.52462	4.86802	3.98594
FE	57	101.34494	796.74000	16.200	111.63508	110.02477	82.37496
K	39	439.02341	7899.37000	28.900	553.58975	461.11324	302.36725
MG	24	101.97614	2356.99000	7.200	104.34026	107.85477	93.73339
MN	55	9.98460	1213.46000	14.400	11.51698	9.77341	8.66340
NA	23	859.61153	77851.40300	11.800	902.84431	932.06788	743.92241
TI	47	28.74686	170.01000	6.400	30.25126	26.70699	29.28233
V	51	0.76839	280.02000	22.100	0.95712	0.62915	0.71889
GE-3	72	46992.99700	0.00000	0.000	45618.40000	46842.44000	48518.15000
CO	59	1.06410	1083.44300	4.200	1.10340	1.07355	1.01536
CU	63	41.11416	35464.39000	4.100	42.98397	40.63147	39.72704
NI	60	4.36595	1346.81300	2.800	4.40969	4.46058	4.22758
ZN	66	17.82436	1213.45700	6.100	17.54260	19.01866	16.91180
IN-2	115	541264.66000	0.00000	0.000	544327.59000	535087.17000	544379.22000
IN-3	115	13492.42700	0.00000	0.000	13422.36000	14072.66000	12982.26000
AG	107	0.55306	600.04700	3.500	0.53774	0.57500	0.54644
AS	75	1.66913	83.33300	15.500	1.42233	1.64629	1.93876
CD	111	1.03216	90.66700	4.000	1.07633	1.02627	0.99389
MO	98	2.13163	1186.79300	3.400	2.21035	2.11759	2.06694
SE	78	1.97830	248.22300	1.700	2.01416	1.95030	1.97044
SN	120	1.76918	473.36700	3.700	1.71503	1.75096	1.84156
SR	88	6.77813	636.72000	3.800	6.62963	6.62931	7.07546
TB-3	159	87252.31300	0.00000	0.000	85295.79000	88930.20000	87530.95000
BA	137	4.09263	223.34700	17.900	3.74933	3.59610	4.93246
SB	121	1.95042	360.02300	36.600	2.38513	2.34051	1.12563
BI-3	209	76111.61000	0.00000	0.000	73550.00000	77462.26000	77322.57000
PB	208	3.14121	8788.37300	3.300	3.16309	3.02845	3.23210
TL	203	0.61563	540.04000	9.600	0.61339	0.55795	0.67553
U	238	0.49750	1660.20300	3.000	0.51460	0.49146	0.48643
SC-2	45	549795.46300	0.00000	0.000	549885.58000	550821.83000	548678.98000
GE-1	72	1989811	0	0.000	2000057	1964406	2004972
GE-2	72	1159609	0	0.000	1147825	1166314	1164688

Run Name: 1831804E05
 Tube Number: 6
 Sample Number: ICSA

Date/Time: 11/14/2018 8:37:45

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	1818494	0	0.000	1853755	1836670	1765057
SC-3	45	12753.31000	0.00000	0.000	12326.25000	12796.72000	13136.96000
AL	27	101039.62286	484081.99700	3.300	104863.72809	99818.65731	98436.48318
B	11	38.17947	12153.99000	4.000	39.91110	36.97222	37.65508
BE	9	0.01042	26.66700	200.300	0.01871	0.02587	-0.01332
CA	44	273136.37126	164451.70000	0.200	272977.69923	273872.87959	272558.53497
CR	52	0.91758	676.72700	32.600	1.26301	0.75191	0.73784
FE	57	254335.39445	1833194.60700	1.300	256487.83741	256028.98561	250489.36034
K	39	101519.17698	979037.98000	1.500	103226.88655	100835.65204	100494.99235
MG	24	104399.05386	2276427.51700	2.800	107522.34996	103817.64298	101857.16865
MN	55	3.77945	470.03700	21.700	4.70670	3.15140	3.48027
NA	23	261810.05489	12763856.47700	0.700	263881.32249	261053.52414	260495.31803
TI	47	2080.16436	11071.72300	4.300	2022.72843	2182.88793	2034.87671
V	51	0.03114	26.66700	142.800	0.04432	-0.01842	0.06752
GE-3	72	44347.88000	0.00000	0.000	43843.09000	45437.68000	43762.87000
CO	59	1.04055	1003.42300	14.700	0.92054	1.21322	0.98788
CU	63	1.00564	1056.77000	19.900	0.91512	1.23459	0.86720
NI	60	1.30811	443.36300	10.700	1.38727	1.14664	1.39042
ZN	66	5.23371	346.69300	11.700	5.66028	4.52955	5.51130
IN-2	115	510994.39300	0.00000	0.000	509921.67000	510983.44000	512078.07000
IN-3	115	12665.95300	0.00000	0.000	12266.30000	12555.90000	13175.66000
AG	107	0.03947	43.33300	33.900	0.02759	0.03685	0.05397
AS	75	0.71207	38.00000	39.400	0.44951	1.00797	0.67873
CD	111	0.14646	12.66700	34.200	0.11902	0.11611	0.20425
MO	98	2138.96700	1018340.71300	2.800	2182.38962	2163.92937	2070.58201
SE	78	0.04253	11.78000	77.900	0.07950	0.01545	0.03265
SN	120	0.00336	103.34000	8495.000	-0.26257	0.30507	-0.03242
SR	88	17.29761	1530.18000	10.400	15.32823	17.71855	18.84604
TB-3	159	87167.81700	0.00000	0.000	85980.39000	87016.03000	88507.03000
BA	137	1.04117	56.67000	67.000	0.74386	1.83769	0.54197
SB	121	1.40663	260.01700	25.200	1.53437	1.68023	1.00530
BI-3	209	69837.96000	0.00000	0.000	69094.33000	70219.48000	70200.07000
PB	208	0.85024	2316.90300	7.400	0.83741	0.79507	0.91823
TL	203	-0.00212	16.66700	0.000	-0.01054	-0.01075	0.01492
U	238	0.01877	63.34000	53.300	0.02118	0.00777	0.02734
SC-2	45	529036.42300	0.00000	0.000	518774.17000	528202.53000	540132.57000
GE-1	72	1885970	0	0.000	1909425	1917596	1830891
GE-2	72	1098209	0	0.000	1088124	1095646	1110857

Run Name: 1831804E05
 Tube Number: 7
 Sample Number: ICSAB

Date/Time: 11/14/2018 8:40:08

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	1770825	0	0.000	1761831	1804159	1746484
SC-3	45	12376.28700	0.00000	0.000	12246.05000	12036.09000	12846.72000
AL	27	104188.07256	484552.28300	2.300	102939.88289	107008.16010	102616.17470
B	11	25.37451	8385.22700	3.000	26.18384	24.68902	25.25068
BE	9	0.01738	30.00000	197.600	0.02494	0.04731	-0.02011
CA	44	280151.98213	163675.39700	1.100	277453.95885	283362.62995	279639.35759
CR	52	209.40384	87628.45300	2.300	208.13713	214.70679	205.36759
FE	57	260561.51914	1822130.28300	2.700	257058.62557	268744.35082	255881.58103
K	39	104552.34856	978325.48000	2.300	103087.97642	107317.35211	103251.71716
MG	24	107608.53920	2278074.44700	0.900	107028.41713	108684.15412	107113.04634
MN	55	214.96167	24249.56300	6.300	209.30938	230.50301	205.07261
NA	23	270784.89912	12803979.81000	3.100	268693.58523	279920.67089	263740.44123
TI	47	2162.79113	11158.48700	5.800	2094.85106	2307.02139	2086.50095
V	51	214.10756	69789.70300	0.700	214.95011	215.05290	212.31968
GE-3	72	44213.79000	0.00000	0.000	43541.92000	43792.34000	45307.11000
CO	59	201.66510	186400.75700	1.700	202.06251	204.86586	198.06694
CU	63	202.23386	163261.52300	2.300	205.60150	204.06976	197.03033
NI	60	204.66020	55300.90700	2.300	209.66667	203.88103	200.43290
ZN	66	104.02979	6592.00000	2.700	106.91633	101.34920	103.82385
IN-2	115	500857.88700	0.00000	0.000	506109.25000	496818.88000	499645.53000
IN-3	115	12636.07000	0.00000	0.000	12305.16000	13087.33000	12515.72000
AG	107	53.48049	53998.89700	1.200	53.47323	52.84969	54.11856
AS	75	107.17692	4523.47300	4.900	104.11922	104.11919	113.29236
CD	111	100.24406	8183.29000	2.900	102.84229	97.07444	100.81546
MO	98	2140.63968	1016909.38300	2.700	2158.85370	2076.04086	2187.02448
SE	78	103.14603	11628.78700	0.900	102.34159	104.08317	103.01334
SN	120	-0.08260	86.67000	0.000	-0.21019	0.02098	-0.05858
SR	88	18.17101	1600.19300	1.900	18.31309	18.42473	17.77521
TB-3	159	86426.56000	0.00000	0.000	86836.00000	84357.83000	88085.85000
BA	137	1.85083	100.01000	2.200	1.84150	1.89560	1.81538
SB	121	1.52526	280.02000	5.100	1.51902	1.45122	1.60555
BI-3	209	68775.41700	0.00000	0.000	66278.64000	67686.29000	72361.32000
PB	208	0.90365	2413.55300	6.400	0.95169	0.83988	0.91939
TL	203	-0.00112	16.66700	0.000	0.01720	0.00304	-0.02358
U	238	0.04568	143.34300	20.500	0.05325	0.03519	0.04860
SC-2	45	524704.63000	0.00000	0.000	523691.48000	520870.15000	529552.26000
GE-1	72	1802548	0	0.000	1819141	1788096	1800406
GE-2	72	1086566	0	0.000	1084349	1094002	1081347

Run Name: 1831804E05
 Tube Number: 8
 Sample Number: RINSE

Date/Time: 11/14/2018 8:42:31

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	1848801	0	0.000	1839278	1857622	1849503
SC-3	45	12623.16000	0.00000	0.000	12966.94000	13086.73000	11815.81000
AL	27	67.72157	353.37700	112.700	4.95475	45.48417	152.72579
B	11	14.56803	5719.87300	4.600	15.15705	14.71619	13.83084
BE	9	-0.00985	14.66700	0.000	-0.00750	-0.00777	-0.01427
CA	44	96.83179	66.66700	32.300	98.28235	64.86258	127.35044
CR	52	0.49037	490.03000	44.000	0.25299	0.67521	0.54292
FE	57	84.18243	643.39700	71.000	19.71211	95.17032	137.66488
K	39	56.84614	4077.52700	56.600	80.75440	69.52659	20.25742
MG	24	20.80728	530.05700	58.900	6.82835	25.94060	29.65287
MN	55	0.12867	46.66700	49.600	0.05980	0.14055	0.18564
NA	23	101.83254	39043.28700	33.900	66.58526	103.30638	135.60600
TI	47	1.40057	20.00000	151.900	-0.61872	1.19772	3.62270
V	51	0.09269	46.66700	80.200	0.01047	0.15501	0.11259
GE-3	72	45979.86000	0.00000	0.000	47092.79000	46581.90000	44264.89000
CO	59	0.03655	73.33700	89.200	0.01114	0.07332	0.02519
CU	63	0.16251	386.69000	43.100	0.12107	0.24339	0.12307
NI	60	3.66339	1083.79700	169.100	0.12041	0.05502	10.81474
ZN	66	3.67723	256.68700	19.400	3.32237	3.21134	4.49798
IN-2	115	541562.33700	0.00000	0.000	545274.29000	536334.30000	543078.42000
IN-3	115	13257.06300	0.00000	0.000	13767.49000	13246.92000	12756.78000
AG	107	0.00631	10.00000	149.700	0.00607	0.01588	-0.00301
AS	75	0.04973	10.66700	499.700	0.33666	-0.09548	-0.09200
CD	111	0.02434	2.66700	60.700	0.01537	0.01625	0.04140
MO	98	3.92086	2046.95300	22.200	2.99963	4.02907	4.73388
SE	78	0.09525	18.88700	85.500	0.00524	0.11680	0.16371
SN	120	-0.41540	23.33300	0.000	-0.38681	-0.38120	-0.47818
SR	88	0.07223	6.66700	173.200	0.00000	0.21667	0.00000
TB-3	159	85266.77000	0.00000	0.000	84770.88000	88980.54000	82048.89000
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.11605	23.33300	161.700	-0.01800	0.03557	0.33057
BI-3	209	74562.91000	0.00000	0.000	72532.57000	77122.36000	74033.80000
PB	208	0.00794	216.67300	226.700	0.02668	0.00631	-0.00918
TL	203	0.00393	23.33700	952.700	-0.01116	0.04652	-0.02358
U	238	-0.00102	3.33300	0.000	-0.00201	0.00096	-0.00201
SC-2	45	539314.53700	0.00000	0.000	546402.30000	538779.64000	532761.67000
GE-1	72	1944924	0	0.000	1960837	1956745	1917190
GE-2	72	1145549	0	0.000	1150295	1139408	1146944

Run Name: 1831804E05
 Tube Number: 9
 Sample Number: **CCV**

Date/Time: 11/14/2018 8:44:56

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	1878129	0	0.000	1931009	1913106	1790271
SC-3	45	13040.26700	0.00000	0.000	12976.76000	13117.13000	13026.91000
AL	27	2446.14798	12035.97300	2.600	2433.42309	2389.02853	2515.99232
B	11	259.47213	75663.58300	2.000	257.67266	255.49487	265.24885
BE	9	25.92896	15921.72700	1.800	25.55989	25.76093	26.46607
CA	44	2371.90567	1470.17300	2.400	2334.78598	2438.86930	2342.06172
CR	52	259.04863	114202.02700	1.500	255.94774	257.62739	263.57075
FE	57	2581.75505	19084.39300	5.900	2598.12992	2423.04299	2724.09223
K	39	2666.95200	29850.55000	3.600	2669.62626	2569.16643	2762.06330
MG	24	2546.60309	56898.20700	1.800	2514.30775	2526.27563	2599.22588
MN	55	264.26550	31437.55700	5.300	258.51163	254.14635	280.13852
NA	23	2571.22826	163166.35700	2.300	2526.97540	2548.36573	2638.34367
TI	47	285.86055	1566.83700	12.200	273.04926	259.12424	325.40815
V	51	258.92806	88937.04300	2.300	255.31709	255.75716	265.70992
GE-3	72	47575.24700	0.00000	0.000	46441.36000	47625.92000	48658.46000
CO	59	252.75029	251421.06700	0.400	253.37585	251.65320	253.22181
CU	63	253.90304	220508.61700	1.600	257.92187	253.89570	249.89154
NI	60	258.52361	75149.84700	1.700	259.40893	262.39338	253.76851
ZN	66	258.54142	17598.93700	2.300	264.96485	257.63544	253.02398
IN-2	115	550028.74700	0.00000	0.000	553764.94000	539325.59000	556995.71000
IN-3	115	13929.48700	0.00000	0.000	12661.45000	13656.37000	15470.64000
AG	107	26.74392	29597.79000	8.800	29.02713	26.85716	24.34746
AS	75	251.30013	11627.10700	7.700	272.49706	246.43347	234.96985
CD	111	25.62547	2302.23000	5.800	25.60546	27.11581	24.15515
MO	98	24.91252	13093.82000	8.400	25.80465	26.42371	22.50919
SE	78	25.75097	3193.49700	2.700	24.94885	26.22846	26.07559
SN	120	26.13451	5634.92700	9.600	28.34031	26.66896	23.39426
SR	88	23.32682	2243.65000	14.000	26.86729	22.70241	20.41075
TB-3	159	89081.93300	0.00000	0.000	85023.25000	90753.40000	91469.15000
BA	137	256.29102	14258.62300	6.200	271.15762	258.09430	239.62115
SB	121	26.85184	5014.58000	5.400	28.52449	25.98696	26.04408
BI-3	209	76040.73300	0.00000	0.000	74907.55000	76184.67000	77029.98000
PB	208	26.45579	72467.14300	1.300	26.82059	26.40224	26.14455
TL	203	26.72296	22578.17700	1.300	26.53166	26.50114	27.13606
U	238	25.64240	85211.73700	1.400	25.27167	25.97306	25.68249
SC-2	45	556127.18000	0.00000	0.000	551807.96000	556917.49000	559656.09000
GE-1	72	1979047	0	0.000	2040355	1985081	1911705
GE-2	72	1188228	0	0.000	1178541	1191788	1194356

Run Name: 1831804E05
 Tube Number: 10
 Sample Number: CCB

Date/Time: 11/14/2018 8:47:20

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	1891398	0	0.000	1905399	1867353	1901442
SC-3	45	12069.21000	0.00000	0.000	11114.97000	12185.95000	12906.71000
AL	27	216.35507	980.24000	90.300	414.37940	211.11124	23.57457
B	11	38.46104	12717.81700	4.300	39.71653	39.07731	36.58928
BE	9	-0.00493	18.00000	0.000	-0.01807	0.00521	-0.00193
CA	44	7.10735	13.33300	564.800	-16.07000	53.46207	-16.07000
CR	52	0.68696	546.70700	52.400	0.64560	1.06610	0.34919
FE	57	0.33234	53.33300	1024.200	3.56670	-3.21915	0.64948
K	39	56.19015	3830.76700	216.500	196.56760	-9.04279	-18.95436
MG	24	1.76272	116.67700	130.900	4.42378	0.32630	0.53809
MN	55	0.53936	90.00700	30.500	0.60990	0.35163	0.65657
NA	23	70.11152	35797.40000	74.800	127.19179	58.97991	24.16288
TI	47	-1.74950	3.33300	0.000	-0.31042	-2.46904	-2.46904
V	51	0.02271	23.33300	291.000	-0.01393	-0.01693	0.09901
GE-3	72	45625.95700	0.00000	0.000	43873.95000	46321.94000	46681.98000
CO	59	0.00833	46.66700	513.100	-0.03965	0.02231	0.04233
CU	63	0.12330	350.02300	88.400	0.17683	-0.00217	0.19524
NI	60	23.05057	6391.44700	92.200	43.92538	23.76806	1.45828
ZN	66	1.55448	116.67300	69.800	1.83039	2.47572	0.35735
IN-2	115	542397.57300	0.00000	0.000	543629.59000	538932.11000	544631.02000
IN-3	115	12926.48000	0.00000	0.000	12025.58000	13446.52000	13307.34000
AG	107	0.03207	36.66700	83.100	0.01780	0.01560	0.06281
AS	75	0.10692	12.66700	172.900	0.06331	-0.05223	0.30967
CD	111	0.00065	0.66700	2077.500	-0.00710	-0.00710	0.01615
MO	98	0.10057	150.01000	47.800	0.05871	0.08999	0.15303
SE	78	0.00737	8.22000	332.000	-0.01639	0.00601	0.03250
SN	120	-0.03921	96.67300	0.000	-0.03934	-0.18859	0.11030
SR	88	0.03978	3.33300	173.200	0.11934	0.00000	0.00000
TB-3	159	85414.61300	0.00000	0.000	82179.94000	85023.13000	89040.77000
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.52640	96.67000	65.000	0.50402	0.87905	0.19613
BI-3	209	71598.05700	0.00000	0.000	69619.21000	72652.33000	72522.63000
PB	208	-0.01837	140.00000	0.000	0.00287	-0.04245	-0.01553
TL	203	0.01867	33.33300	109.300	0.04112	0.01362	0.00126
U	238	0.01709	60.00300	47.600	0.01114	0.02635	0.01377
SC-2	45	555340.93000	0.00000	0.000	552749.33000	551493.23000	561780.23000
GE-1	72	1989058	0	0.000	1973687	1994091	1999397
GE-2	72	1165745	0	0.000	1163464	1151663	1182109

Run Name: 1831804E05
 Tube Number: 11
 Sample Number: **PBW**

Date/Time: 11/14/2018 8:49:45
 Batch: 183161063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RUSSELL, DA

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	1795148	0	0.000	1801580	1794691	1789174
SC-3	45	12659.92000	0.00000	0.000	12176.15000	13016.95000	12786.66000
AL	27	-5.25981	20.00000	0.000	-7.22173	-1.23164	-7.32605
B	11	20.88220	7276.61000	1.800	21.05564	21.12932	20.46164
BE	9	0.01820	30.66700	188.900	-0.01374	0.05456	0.01377
CA	44	40.04716	33.33300	121.600	70.91504	65.29644	-16.07000
CR	52	0.57014	526.70300	19.700	0.45856	0.56847	0.68339
FE	57	-1.07441	46.66700	0.000	-1.76280	0.57984	-2.04027
K	39	33.96004	3850.76300	126.300	79.54620	-5.61395	27.94788
MG	24	0.52097	96.67000	454.400	3.21028	-0.39887	-1.24850
MN	55	0.56171	96.67300	40.300	0.62257	0.31139	0.75116
NA	23	-3.76841	34082.94000	0.000	23.30963	-20.43332	-14.18153
TI	47	0.65830	16.66700	822.800	-2.46904	-2.46904	6.91299
V	51	-0.04809	0.00000	0.000	-0.04809	-0.04809	-0.04809
GE-3	72	46220.81000	0.00000	0.000	46120.60000	46000.26000	46541.57000
CO	59	-0.00177	36.66700	0.000	0.01221	-0.02925	0.01174
CU	63	0.03794	283.35000	86.900	0.05857	-0.00010	0.05535
NI	60	-0.06025	76.66700	0.000	-0.15430	-0.01136	-0.01509
ZN	66	0.41290	43.33300	148.300	0.97115	-0.24187	0.50941
IN-2	115	542830.72000	0.00000	0.000	547452.54000	541103.50000	539936.12000
IN-3	115	13593.98000	0.00000	0.000	13307.09000	13116.59000	14358.26000
AG	107	0.00911	13.33300	50.400	0.00639	0.00653	0.01442
AS	75	-0.05062	6.00000	0.000	-0.09589	0.08829	-0.14425
CD	111	-0.00710	0.00000	0.000	-0.00710	-0.00710	-0.00710
MO	98	-0.04305	83.34000	0.000	-0.06677	-0.00391	-0.05847
SE	78	-0.01077	6.00000	0.000	-0.02749	-0.00518	0.00037
SN	120	-0.20574	66.67000	0.000	-0.13576	-0.18002	-0.30146
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-3	159	86476.90000	0.00000	0.000	82467.30000	87248.13000	89715.27000
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.24073	46.66700	36.600	0.27100	0.30980	0.14139
BI-3	209	76685.13000	0.00000	0.000	74585.88000	76286.30000	79183.21000
PB	208	-0.02488	133.33300	0.000	-0.03578	-0.02202	-0.01685
TL	203	0.01159	30.00000	99.800	0.00058	0.02366	0.01055
U	238	-0.00008	6.66700	0.000	-0.00201	-0.00201	0.00378
SC-2	45	544181.24300	0.00000	0.000	541249.80000	540146.05000	551147.88000
GE-1	72	1888403	0	0.000	1952502	1868230	1844477
GE-2	72	1158686	0	0.000	1158216	1151162	1166679

Run Name: 1831804E05
 Tube Number: 12
 Sample Number: LCSW

Date/Time: 11/14/2018 8:52:09
 Batch: 183161063901A
 Class: *****

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

Protocol: RUSSELL, DA

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	1873462	0	0.000	1909015	1895192	1816178
SC-3	45	12963.52300	0.00000	0.000	12296.16000	13417.18000	13177.23000
AL	27	2097.28291	10264.30000	1.100	2103.03924	2071.39562	2117.41387
B	11	280.63019	81515.27300	1.500	276.70315	280.04232	285.14512
BE	9	4.17676	2576.92700	2.300	4.24443	4.06885	4.21701
CA	44	3472.99890	2130.29300	8.000	3791.69568	3331.39880	3295.90224
CR	52	52.41988	23214.20700	4.100	51.09002	51.28177	54.88784
FE	57	1048.32111	7732.66700	5.500	1061.71530	985.56758	1097.68046
K	39	10502.04025	106153.08700	2.700	10747.98138	10188.48762	10569.65174
MG	24	2050.79074	45516.56300	4.700	2123.61653	1941.89442	2086.86129
MN	55	58.23723	6895.46300	8.600	63.90281	54.53053	56.27833
NA	23	10313.04037	544805.69700	1.800	10323.06390	10123.57395	10492.48326
TI	47	264.36598	1440.15700	5.400	272.68736	247.91131	272.49927
V	51	52.44757	17896.08300	6.000	54.83453	48.88975	53.61843
GE-3	72	46936.52700	0.00000	0.000	45127.42000	47193.26000	48488.90000
CO	59	259.96288	255024.92000	1.800	265.43051	256.82278	257.63534
CU	63	53.86356	46354.31700	0.800	54.36203	53.74109	53.48756
NI	60	53.11383	15309.49000	2.600	52.63602	54.66228	52.04318
ZN	66	523.86949	35150.56300	3.100	541.76511	520.42514	509.41824
IN-2	115	545061.18300	0.00000	0.000	541861.92000	544580.30000	548741.33000
IN-3	115	13221.07700	0.00000	0.000	12525.96000	14241.32000	12895.95000
AG	107	55.54420	58535.65000	5.900	57.28603	51.73553	57.61105
AS	75	10.43719	466.01000	12.600	10.92088	8.95146	11.43922
CD	111	5.26263	448.01300	15.800	5.22973	4.44687	6.11129
MO	98	52.25044	25980.19300	8.800	55.40211	46.96386	54.38535
SE	78	10.39142	1281.62300	3.300	10.60455	10.00168	10.56805
SN	120	53.15248	10794.97700	8.800	55.96255	47.73054	55.76435
SR	88	44.63767	4094.21000	9.800	47.32838	39.61165	46.97297
TB-3	159	87749.20700	0.00000	0.000	83875.55000	87662.07000	91710.00000
BA	137	48.94975	2687.10700	1.000	48.61875	48.70782	49.52269
SB	121	5.22002	963.43000	11.600	5.72230	4.54988	5.38790
BI-3	209	76345.59300	0.00000	0.000	73215.57000	76415.94000	79405.27000
PB	208	15.70061	43259.02000	0.700	15.76059	15.76881	15.57243
TL	203	2.00215	1716.88700	1.200	1.98229	2.02801	1.99616
U	238	0.00208	13.33300	230.800	0.00737	-0.00201	0.00088
SC-2	45	557583.68700	0.00000	0.000	559681.94000	555980.89000	557088.23000
GE-1	72	1972133	0	0.000	1949552	2012868	1953980
GE-2	72	1165284	0	0.000	1174761	1157465	1163627

Run Name: 1831804E05
 Tube Number: 13
 Sample Number: **9868194**

Date/Time: 11/14/2018 8:54:33
 Batch: 183161063901A
 Class: U*****

Initial Vol: 25.00

Final Vol: 25.00

DF: 1.00

Protocol: RUSSELL, DA

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	1913448	0	0.000	1914037	1921582	1904724
SC-3	45	13170.44700	0.00000	0.000	13046.92000	12246.11000	14218.31000
AL	27	52.51605	300.03000	66.500	29.33727	92.70842	35.50246
B	11	37.67684	12639.75300	2.700	37.91422	38.54475	36.57156
BE	9	0.01810	32.66700	96.900	0.03624	0.01684	0.00122
CA	44	33253.70826	20629.91300	5.700	32708.65171	35368.29224	31684.18084
CR	52	1.09525	773.40000	33.800	1.36127	1.25139	0.67310
FE	57	50.72113	433.37300	19.300	39.88580	58.88084	53.39674
K	39	1253.47475	16113.59000	1.100	1255.56997	1266.42832	1238.42596
MG	24	21297.76348	478436.91000	6.500	21015.37553	22802.57464	20075.34029
MN	55	5.81131	726.72700	12.200	5.94531	6.44201	5.04660
NA	23	1801.71894	125797.98300	8.400	1756.09469	1970.03106	1679.03107
TI	47	-0.63006	10.00000	0.000	3.04789	-2.46904	-2.46904
V	51	0.72120	270.01700	26.700	0.76687	0.51006	0.88667
GE-3	72	47863.17300	0.00000	0.000	47304.73000	47033.31000	49251.48000
CO	59	0.09559	136.67700	96.200	0.01091	0.08240	0.19346
CU	63	11.30381	10131.01000	3.000	11.44843	10.92142	11.54159
NI	60	0.43427	223.34700	47.700	0.67261	0.33000	0.30019
ZN	66	256.00927	17538.97000	4.100	266.93618	245.99303	255.09859
IN-2	115	537794.63300	0.00000	0.000	544479.21000	539891.32000	529013.37000
IN-3	115	13749.57000	0.00000	0.000	13827.61000	14516.65000	12904.45000
AG	107	0.02155	26.66700	69.200	0.00603	0.02285	0.03577
AS	75	0.05941	11.33300	133.500	-0.01255	0.14445	0.04633
CD	111	0.08916	8.66700	49.400	0.12715	0.09947	0.04085
MO	98	0.18335	200.01700	100.400	-0.01433	0.21467	0.34972
SE	78	0.00227	7.55700	1122.900	0.01081	0.02236	-0.02636
SN	120	0.27050	170.01000	157.300	-0.10326	0.73375	0.18103
SR	88	16.73628	1600.18000	16.200	13.70127	17.59942	18.90815
TB-3	159	88765.02300	0.00000	0.000	87369.51000	87187.25000	91738.31000
BA	137	22.24307	1233.47300	7.300	23.97657	22.00958	20.74306
SB	121	0.32517	63.33700	60.100	0.52762	0.31003	0.13788
BI-3	209	76885.65300	0.00000	0.000	76124.25000	76869.74000	77662.97000
PB	208	1.25681	3673.75300	1.100	1.24334	1.27041	1.25670
TL	203	0.00767	26.66700	176.500	0.00009	0.02330	-0.00038
U	238	0.10108	346.69300	17.900	0.08819	0.09327	0.12178
SC-2	45	551076.60700	0.00000	0.000	552658.35000	552352.18000	548219.29000
GE-1	72	1986074	0	0.000	2020180	1988860	1949182
GE-2	72	1149937	0	0.000	1150828	1164036	1134946

Run Name: 1831804E05
 Tube Number: 14
 Sample Number: **9868194**

Date/Time: 11/14/2018 8:56:57
 Batch: 183161063901A
 Class: UP*****

Initial Vol: 25.00

Final Vol: 25.00

DF: 1.00

Protocol: RUSSELL, DA

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	1892650	0	0.000	1872646	1929398	1875904
SC-3	45	13527.46300	0.00000	0.000	12806.72000	14248.27000	13527.40000
AL	27	835.97841	4284.21000	9.700	911.02685	750.65700	846.25138
B	11	124.64319	37507.76000	1.200	126.19854	123.28097	124.45006
BE	9	1.04456	666.69000	8.800	1.14939	1.00668	0.97761
CA	44	31960.11453	20379.50700	5.600	33620.45470	30039.11314	32220.77573
CR	52	8.64060	4244.21300	3.900	8.39394	8.49798	9.02990
FE	57	246.08762	1947.00300	17.600	199.64784	253.21586	285.39917
K	39	1945.69785	23584.76700	6.500	1973.99152	1807.67951	2055.42252
MG	24	20385.81431	471254.69300	3.900	20906.87971	19466.17869	20784.38454
MN	55	22.74877	2837.10700	1.900	23.11506	22.28882	22.84244
NA	23	3351.65753	209205.85700	5.300	3487.16766	3148.58435	3419.22058
TI	47	50.79828	300.02000	27.300	44.37137	41.31459	66.70888
V	51	2.46298	896.74700	8.200	2.35371	2.69712	2.33809
GE-3	72	47485.39000	0.00000	0.000	46140.28000	47816.60000	48499.29000
CO	59	1.98168	2006.93000	3.500	1.98217	1.91134	2.05154
CU	63	89.99218	78183.14000	1.500	91.19233	88.51502	90.26920
NI	60	8.00612	2420.36700	10.000	7.09082	8.37301	8.55453
ZN	66	276.20202	18777.29300	2.500	268.97447	282.53047	277.10111
IN-2	115	544257.40300	0.00000	0.000	541983.26000	535475.13000	555313.82000
IN-3	115	13688.37300	0.00000	0.000	12930.63000	14327.18000	13807.31000
AG	107	1.07261	1176.77700	0.600	1.07125	1.08010	1.06649
AS	75	4.22771	202.00000	10.500	3.75589	4.29245	4.63480
CD	111	2.04006	181.33300	7.300	2.02681	2.19569	1.89767
MO	98	4.05016	2180.32700	18.800	4.54402	3.17144	4.43502
SE	78	3.97643	494.45300	3.700	3.98601	3.82492	4.11836
SN	120	3.73590	886.74300	19.800	4.58635	3.35610	3.26524
SR	88	28.28791	2703.75700	7.200	25.97469	29.05373	29.83531
TB-3	159	89238.85300	0.00000	0.000	86169.76000	91066.14000	90480.66000
BA	137	32.19104	1796.89300	0.700	31.91948	32.31073	32.34291
SB	121	4.05849	763.39700	4.900	4.02034	4.27439	3.88072
BI-3	209	75893.29300	0.00000	0.000	73066.17000	76315.35000	78298.36000
PB	208	7.20068	19837.60000	2.800	7.04160	7.43220	7.12824
TL	203	1.02372	880.09000	11.100	1.13553	1.02716	0.90847
U	238	1.09219	3630.76000	4.800	1.04125	1.14684	1.08849
SC-2	45	560668.49300	0.00000	0.000	563197.88000	551553.78000	567253.82000
GE-1	72	1996815	0	0.000	1991396	2022136	1976911
GE-2	72	1184918	0	0.000	1175962	1174145	1204647

Run Name: 1831804E05
 Tube Number: 15
 Sample Number: **9868194**

Date/Time: 11/14/2018 8:59:21
 Batch: 183161063901A
 Class: D*****

Initial Vol: 25.00

Final Vol: 25.00

DF: 1.00

Protocol: RUSSELL, DA

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	1913505	0	0.000	1901915	1902821	1935780
SC-3	45	13106.93300	0.00000	0.000	12856.63000	12906.83000	13557.34000
AL	27	59.93649	340.03300	41.300	52.67630	87.47893	39.65422
B	11	24.85880	8910.22000	4.500	25.46285	25.53782	23.57574
BE	9	0.02899	39.33300	104.100	0.04956	0.04309	-0.00567
CA	44	36429.14080	22542.94300	2.900	36015.10316	37617.47181	35654.84743
CR	52	0.86734	676.72700	11.400	0.79145	0.83175	0.97882
FE	57	47.95043	413.40300	32.200	46.09206	33.54656	64.21267
K	39	1438.34650	17852.51000	5.900	1482.18588	1492.48389	1340.36974
MG	24	23946.24814	536926.20300	1.800	23701.44872	24436.47405	23700.82165
MN	55	21.55899	2607.04700	6.600	23.19494	20.55254	20.92947
NA	23	2042.08751	137488.37700	3.800	2048.50723	2117.16874	1960.58655
TI	47	-0.01293	13.33300	0.000	3.12954	-2.46904	-0.69930
V	51	1.02391	370.03000	9.900	0.92664	1.12879	1.01630
GE-3	72	48535.95000	0.00000	0.000	46773.16000	49091.28000	49743.41000
CO	59	0.01266	53.33300	107.100	0.00126	0.00907	0.02766
CU	63	12.81602	11602.24000	3.200	13.13068	12.96625	12.35114
NI	60	0.27812	180.01000	39.800	0.40374	0.23550	0.19512
ZN	66	284.52800	19765.36700	2.200	282.24939	291.73400	279.60062
IN-2	115	561667.75700	0.00000	0.000	565802.90000	560127.80000	559072.57000
IN-3	115	13850.10300	0.00000	0.000	13236.10000	13946.83000	14367.38000
AG	107	0.00860	13.33300	233.900	-0.00301	-0.00301	0.03182
AS	75	0.11797	14.00000	227.000	0.04051	0.41593	-0.10254
CD	111	0.06140	6.00000	102.600	0.13315	0.01508	0.03597
MO	98	-0.09218	60.00300	0.000	-0.12629	-0.07319	-0.07707
SE	78	0.02088	10.22000	162.400	0.03430	-0.01768	0.04601
SN	120	-0.06489	96.67000	0.000	0.26218	-0.20082	-0.25602
SR	88	19.44778	1880.24000	6.900	17.89236	20.17109	20.27987
TB-3	159	89135.55700	0.00000	0.000	84378.54000	89807.81000	93220.32000
BA	137	23.78326	1326.81700	10.100	24.25798	21.18913	25.90266
SB	121	0.10861	23.33300	60.400	0.15147	0.14123	0.03314
BI-3	209	77490.12000	0.00000	0.000	73579.54000	78377.91000	80512.91000
PB	208	1.41235	4133.86300	1.900	1.44022	1.38664	1.41019
TL	203	0.02209	40.00300	172.000	0.00091	-0.00059	0.06595
U	238	0.10971	380.02700	21.600	0.08509	0.13232	0.11171
SC-2	45	571799.50700	0.00000	0.000	565284.09000	573222.80000	576891.63000
GE-1	72	1986609	0	0.000	1965437	2020077	1974312
GE-2	72	1199178	0	0.000	1204726	1197125	1195684

Run Name: 1831804E05
 Tube Number: 16
 Sample Number: **9868194**

Date/Time: 11/14/2018 9:01:46
 Batch: 183161063901A
 Class: R*****

Initial Vol: 25.00

Final Vol: 25.00

DF: 1.00

Protocol: RUSSELL, DA

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	1961822	0	0.000	1976269	1979374	1929823
SC-3	45	13524.12700	0.00000	0.000	12896.82000	13097.18000	14578.38000
AL	27	2068.61174	10527.96000	7.700	2147.13359	2173.10515	1885.59649
B	11	294.30015	89447.44000	1.100	292.02261	292.78013	298.09770
BE	9	4.21570	2722.96000	3.200	4.21968	4.07998	4.34744
CA	44	39070.24089	24943.92000	1.100	39505.86173	39030.77542	38674.08550
CR	52	52.65909	24256.07300	6.100	53.40150	55.45492	49.12086
FE	57	1123.57533	8636.58000	7.100	1077.78536	1215.26993	1077.67069
K	39	11814.68211	123910.58000	5.300	12197.92006	12155.62419	11090.50208
MG	24	24900.71870	575173.05000	4.700	24951.01961	26042.32098	23708.81552
MN	55	54.52980	6742.00700	5.900	54.18796	57.88127	51.52018
NA	23	12449.18120	677231.92000	5.400	12522.87324	13087.27545	11737.39491
TI	47	254.55452	1450.17700	10.500	226.38163	279.68479	257.59713
V	51	52.74081	18770.46300	5.200	52.24900	55.68704	50.28637
GE-3	72	48462.35000	0.00000	0.000	47645.72000	47195.02000	50546.31000
CO	59	256.88380	260150.10000	3.000	254.22591	265.55021	250.87528
CU	63	63.16311	56081.36000	0.700	63.47518	63.32368	62.69048
NI	60	51.64930	15356.20300	5.000	52.21272	53.89544	48.83975
ZN	66	784.74759	54394.25700	1.600	773.18656	797.95885	783.09735
IN-2	115	558132.52700	0.00000	0.000	563608.57000	556264.21000	554524.80000
IN-3	115	14181.17300	0.00000	0.000	13436.30000	14221.19000	14886.03000
AG	107	52.85520	59800.76700	5.100	55.41597	53.09003	50.05958
AS	75	10.77554	518.01300	7.400	10.65930	11.62111	10.04621
CD	111	5.48596	503.35000	4.100	5.42759	5.73695	5.29334
MO	98	51.29152	27459.57000	3.300	50.82093	53.17524	49.87838
SE	78	10.56002	1333.63000	4.500	10.64527	10.98374	10.05105
SN	120	51.04706	11162.06300	5.300	50.57373	53.97616	48.59129
SR	88	59.36193	5865.00300	2.100	60.25691	57.94169	59.88719
TB-3	159	92246.46700	0.00000	0.000	88315.65000	93422.01000	95001.74000
BA	137	80.51297	4634.43700	9.000	88.55375	78.57740	74.40774
SB	121	5.15279	1000.10000	2.700	5.27173	5.18679	4.99984
BI-3	209	77040.63700	0.00000	0.000	76517.96000	77734.75000	76869.20000
PB	208	17.15038	47675.43300	2.600	16.67281	17.23165	17.54667
TL	203	2.19130	1893.59300	14.900	2.03703	1.97000	2.56687
U	238	0.12284	420.03300	11.700	0.12662	0.10694	0.13496
SC-2	45	567476.51700	0.00000	0.000	583734.37000	556301.16000	562394.02000
GE-1	72	2019989	0	0.000	2054700	2025690	1979576
GE-2	72	1201779	0	0.000	1222351	1182601	1200385

Run Name: 1831804E05
 Tube Number: 17
 Sample Number: **9868194**

Date/Time: 11/14/2018 9:04:10
 Batch: 183161063901A
 Class: M*****

Initial Vol: 25.00

Final Vol: 25.00

DF: 1.00

Protocol: RUSSELL, DA

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	1949773	0	0.000	1988097	1966697	1894524
SC-3	45	13187.02700	0.00000	0.000	12145.89000	13897.85000	13517.34000
AL	27	2292.75979	11385.33300	5.400	2409.81651	2162.28910	2306.17377
B	11	322.22941	97165.43000	1.500	316.49320	325.23667	324.95835
BE	9	4.29395	2760.30000	7.700	4.54549	4.41474	3.92163
CA	44	39614.07402	24576.39300	10.000	42770.22129	35177.91169	40894.08906
CR	52	54.81497	24616.65700	5.900	57.20787	51.15300	56.08404
FE	57	1163.34420	8703.30300	8.200	1230.88437	1054.39359	1204.75464
K	39	12147.66612	124148.26000	6.000	12683.63124	11310.59577	12448.77135
MG	24	26274.70345	590975.39300	6.800	28177.17708	24633.86250	26013.07077
MN	55	88.82443	10694.87000	3.900	91.00670	84.86927	90.59731
NA	23	12765.21584	675746.11000	6.400	13582.88878	11947.60172	12765.15701
TI	47	266.37815	1473.50000	7.300	282.01584	244.43081	272.68780
V	51	54.04605	18727.13000	6.800	58.08123	50.91742	53.13948
GE-3	72	48913.97000	0.00000	0.000	47404.70000	48429.12000	50908.09000
CO	59	252.67383	258348.98000	1.200	256.11567	251.88964	250.01618
CU	63	64.12832	57476.63700	1.600	63.20463	65.25091	63.92940
NI	60	51.77625	15559.79000	1.300	51.68335	51.15944	52.48595
ZN	66	781.73911	54709.09700	1.400	769.25886	788.20402	787.75446
IN-2	115	555926.11700	0.00000	0.000	549546.71000	551084.22000	567147.42000
IN-3	115	13688.33000	0.00000	0.000	13407.09000	13649.47000	14008.43000
AG	107	54.48596	59607.29700	0.500	54.24298	54.74376	54.47115
AS	75	10.54339	490.01300	6.500	10.72765	9.78699	11.11552
CD	111	5.21831	462.67700	5.000	5.02403	5.11603	5.51485
MO	98	52.29515	27035.44700	1.700	51.52845	52.11204	53.24495
SE	78	10.43776	1312.73300	1.600	10.59558	10.44753	10.27015
SN	120	53.86777	11372.09700	2.800	54.10727	52.27194	55.22408
SR	88	60.93498	5815.02000	5.100	60.49641	58.05362	64.25492
TB-3	159	91159.61700	0.00000	0.000	87399.04000	90682.42000	95397.39000
BA	137	78.66575	4477.68700	7.100	80.33133	83.24400	72.42190
SB	121	5.97395	1140.11300	17.700	6.80000	6.34278	4.77907
BI-3	209	78156.32300	0.00000	0.000	74654.47000	77904.84000	81909.66000
PB	208	17.35341	48883.60700	4.000	18.15885	16.92577	16.97561
TL	203	2.06573	1810.22700	6.200	2.20913	1.96566	2.02241
U	238	0.11923	413.36300	15.000	0.11449	0.13902	0.10418
SC-2	45	566952.70000	0.00000	0.000	562980.69000	563780.11000	574097.30000
GE-1	72	2025681	0	0.000	2061766	2072463	1942815
GE-2	72	1182677	0	0.000	1170045	1186679	1191308

Run Name: 1831804E05
 Tube Number: 18
 Sample Number: **9868194**

Date/Time: 11/14/2018 9:06:34
 Batch: 183161063901A
 Class: UL*****

Initial Vol: 25.00

Final Vol: 25.00

DF: 5.00

Protocol: RUSSELL, DA

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	1961405	0	0.000	1986847	1956961	1940407
SC-3	45	13293.76000	0.00000	0.000	12646.47000	12656.41000	14578.40000
AL	27	6.15873	76.67000	82.600	5.31867	11.61508	1.54244
B	11	39.31170	13443.81700	1.500	39.53501	39.76275	38.63733
BE	9	0.00639	26.00000	123.100	0.01209	0.00967	-0.00258
CA	44	6771.04780	4240.88700	7.800	7104.24493	7048.32508	6160.57340
CR	52	0.87228	680.05700	37.600	0.93285	1.16593	0.51806
FE	57	11.20292	140.01000	38.900	16.20711	9.19983	8.20182
K	39	245.20415	6141.70300	26.000	313.67514	234.46166	187.47565
MG	24	4330.90809	98126.49000	8.300	4520.11667	4556.51883	3916.08878
MN	55	1.00744	156.67700	53.100	0.41544	1.45542	1.15146
NA	23	328.81462	52450.16300	25.400	400.88282	348.21558	237.34545
TI	47	-1.92044	3.33300	0.000	-2.46904	-2.46904	-0.82325
V	51	0.11141	56.67000	40.300	0.07201	0.10192	0.16030
GE-3	72	48043.96000	0.00000	0.000	47194.08000	48308.23000	48629.57000
CO	59	0.04579	86.67000	231.300	-0.02951	-0.00004	0.16693
CU	63	2.48938	2440.36300	10.700	2.78117	2.25606	2.43093
NI	60	0.61086	276.68700	39.500	0.46662	0.88919	0.47677
ZN	66	54.65444	3767.38300	10.500	60.82020	53.61956	49.52357
IN-2	115	550340.96000	0.00000	0.000	557545.72000	551068.34000	542408.82000
IN-3	115	13976.52000	0.00000	0.000	13485.62000	14146.95000	14296.99000
AG	107	0.02970	36.66700	32.300	0.02482	0.02352	0.04075
AS	75	-0.05860	6.00000	0.000	-0.14155	0.02592	-0.06019
CD	111	0.03661	4.00000	155.700	0.01584	-0.00710	0.10110
MO	98	-0.01718	100.00700	0.000	-0.06862	0.03771	-0.02064
SE	78	0.01881	9.77700	126.500	0.04630	0.00456	0.00559
SN	120	0.35863	190.01000	32.200	0.24753	0.35008	0.47827
SR	88	3.92332	380.03000	30.600	5.21497	2.84065	3.71436
TB-3	159	90776.60700	0.00000	0.000	90804.28000	88949.53000	92576.01000
BA	137	6.04346	343.36000	10.700	6.69177	5.39307	6.04555
SB	121	0.38400	76.67000	13.900	0.34945	0.35711	0.44545
BI-3	209	77134.35300	0.00000	0.000	75480.38000	76375.46000	79547.22000
PB	208	0.28380	990.07000	10.800	0.28831	0.25127	0.31183
TL	203	-0.01965	3.33300	0.000	-0.02358	-0.01178	-0.02358
U	238	0.02553	93.34000	33.900	0.01922	0.02197	0.03540
SC-2	45	562026.89000	0.00000	0.000	557981.98000	566460.85000	561637.84000
GE-1	72	1992115	0	0.000	2015706	2007773	1952867
GE-2	72	1180242	0	0.000	1185464	1190525	1164736

Run Name: 1831804E05
 Tube Number: 19
 Sample Number: **9868191**

Date/Time: 11/14/2018 9:08:59
 Batch: 183161063901A
 Class: *****

Initial Vol: 25.00

Final Vol: 25.00

DF: 1.00

Protocol: RUSSELL, DA

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	1923325	0	0.000	1964393	1924472	1881110
SC-3	45	12716.66000	0.00000	0.000	12226.35000	13267.26000	12656.37000
AL	27	13.80335	110.00700	52.200	21.05809	6.63484	13.71711
B	11	24.23901	8777.48000	4.100	24.95142	23.09128	24.67434
BE	9	0.02556	37.33300	84.500	0.01262	0.01359	0.05049
CA	44	23002.97487	13801.00300	5.300	23663.42179	21598.48448	23747.01834
CR	52	2.43129	1326.80700	19.500	2.07926	2.24423	2.97040
FE	57	21.56428	210.01700	54.500	11.23674	19.09578	34.36031
K	39	1983.29142	22519.70000	8.000	2097.26340	1802.47150	2050.13936
MG	24	15876.74499	344989.17700	5.900	16333.75788	14806.80603	16489.67107
MN	55	4.37291	540.04700	10.700	3.84998	4.51851	4.75023
NA	23	1127.27664	88990.71300	8.100	1184.59040	1022.57988	1174.65964
TI	47	-1.26342	6.66700	0.000	-2.46904	1.14783	-2.46904
V	51	0.78427	276.68300	35.800	0.88368	0.46710	1.00204
GE-3	72	48014.06000	0.00000	0.000	47375.08000	47033.83000	49633.27000
CO	59	0.02712	66.67000	82.300	0.02093	0.05189	0.00854
CU	63	0.55809	750.06300	6.300	0.58157	0.51801	0.57470
NI	60	0.38444	210.01300	46.800	0.18689	0.53905	0.42737
ZN	66	4.16201	303.35300	25.700	3.00576	4.36763	5.11263
IN-2	115	547818.82700	0.00000	0.000	543960.54000	551475.25000	548020.69000
IN-3	115	13820.51700	0.00000	0.000	13727.27000	13797.73000	13936.55000
AG	107	0.01809	23.33300	27.900	0.01522	0.01512	0.02392
AS	75	0.47948	30.66700	14.300	0.46924	0.55282	0.41638
CD	111	0.04500	4.66700	75.000	0.03798	0.01532	0.08170
MO	98	0.76813	506.70700	14.300	0.83938	0.64132	0.82369
SE	78	0.06981	16.00000	61.300	0.03808	0.05287	0.11847
SN	120	-0.16701	76.67000	0.000	-0.24327	-0.29220	0.03442
SR	88	7.93360	763.41000	16.900	9.41007	7.59361	6.79713
TB-3	159	90508.37700	0.00000	0.000	87108.48000	91318.78000	93097.87000
BA	137	12.62993	710.07000	30.000	16.88899	11.38228	9.61853
SB	121	0.12121	26.66700	86.700	0.09144	0.03420	0.23800
BI-3	209	78564.43000	0.00000	0.000	77122.02000	79546.57000	79024.70000
PB	208	0.06754	396.69000	23.400	0.07488	0.04938	0.07837
TL	203	0.07558	86.67300	42.100	0.05819	0.11233	0.05623
U	238	0.31163	1076.79000	7.500	0.31259	0.33466	0.28764
SC-2	45	553653.41700	0.00000	0.000	549981.36000	543891.16000	567087.73000
GE-1	72	1988629	0	0.000	2005029	1976725	1984132
GE-2	72	1162988	0	0.000	1151838	1150388	1186738

Run Name: 1831804E05
 Tube Number: 20
 Sample Number: **9868192**

Date/Time: 11/14/2018 9:11:23
 Batch: 183161063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RUSSELL, DA

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	1903427	0	0.000	1896727	1939430	1874124
SC-3	45	13237.08300	0.00000	0.000	13387.29000	12986.74000	13337.22000
AL	27	360.90500	1843.59700	25.000	455.67590	351.17922	275.85986
B	11	33.40079	11333.30300	2.400	33.45121	32.57360	34.17757
BE	9	0.07827	70.00000	26.800	0.09175	0.08898	0.05407
CA	44	4120.86458	2583.73000	6.100	3845.38637	4339.67420	4177.53317
CR	52	0.99354	736.73300	54.400	0.40150	1.46204	1.11710
FE	57	187.58851	1460.15300	2.200	182.72876	189.95908	190.07770
K	39	1722.78800	20886.84000	1.700	1754.15961	1696.90824	1717.29614
MG	24	1586.67095	36015.14000	1.200	1569.64478	1607.82048	1582.54759
MN	55	29.32666	3570.65300	5.200	27.59369	29.88996	30.49635
NA	23	3203.40376	197465.25000	5.400	3006.52555	3333.93293	3269.75281
TI	47	-0.63773	10.00000	0.000	-2.46904	1.22596	-0.67009
V	51	0.57344	216.68000	5.300	0.54758	0.56598	0.60675
GE-3	72	48653.09300	0.00000	0.000	47665.51000	48750.83000	49542.94000
CO	59	0.29750	343.35700	11.200	0.26143	0.30379	0.32727
CU	63	0.41281	630.05000	27.600	0.43816	0.51176	0.28851
NI	60	1.33431	496.71000	43.600	0.66500	1.71840	1.61951
ZN	66	2.77817	210.01300	18.300	3.13268	2.19687	3.00495
IN-2	115	539481.23700	0.00000	0.000	537041.65000	548830.99000	532571.07000
IN-3	115	13977.89300	0.00000	0.000	14128.33000	13477.05000	14328.30000
AG	107	0.00918	13.33300	155.200	-0.00301	0.02484	0.00572
AS	75	0.08600	12.66700	103.800	-0.01624	0.12545	0.14880
CD	111	0.01459	2.00000	148.000	0.01480	-0.00710	0.03608
MO	98	-0.07395	70.00300	0.000	-0.11254	-0.08826	-0.02105
SE	78	0.17418	28.44700	22.800	0.20488	0.18842	0.12924
SN	120	-0.26353	56.67000	0.000	-0.06594	-0.28655	-0.43810
SR	88	17.59927	1713.54300	3.400	18.08325	17.78534	16.92923
TB-3	159	90007.63700	0.00000	0.000	88296.03000	88879.39000	92847.49000
BA	137	35.65658	2003.60300	12.400	40.56953	34.36498	32.03524
SB	121	0.08809	20.00000	61.600	0.14395	0.03563	0.08468
BI-3	209	78089.61700	0.00000	0.000	77804.29000	78024.87000	78439.69000
PB	208	0.19906	763.38700	12.400	0.22743	0.18733	0.18241
TL	203	-0.00440	16.66700	0.000	-0.02358	-0.00049	0.01087
U	238	0.07615	266.68300	18.200	0.06566	0.09186	0.07094
SC-2	45	552515.87700	0.00000	0.000	552413.35000	556572.53000	548561.75000
GE-1	72	1979894	0	0.000	1995483	1953796	1990404
GE-2	72	1172151	0	0.000	1165819	1183159	1167475

Run Name: 1831804E05
 Tube Number: 21
 Sample Number: **CCV**

Date/Time: 11/14/2018 9:13:47

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	1924675	0	0.000	1943950	1972370	1857707
SC-3	45	12766.61300	0.00000	0.000	12856.59000	12376.26000	13066.99000
AL	27	2669.47742	12853.34300	1.200	2642.63781	2704.69607	2661.09839
B	11	270.58511	80796.23300	1.900	268.69731	266.65555	276.40247
BE	9	27.02634	17001.68700	3.600	26.65392	26.28800	28.13709
CA	44	2394.34048	1453.50300	9.400	2653.41448	2243.42738	2286.17957
CR	52	271.18430	116963.02700	3.300	265.07813	281.61436	266.86040
FE	57	2786.84410	20155.95700	4.000	2681.75740	2902.04289	2776.73200
K	39	2725.89473	29770.06300	6.400	2565.62832	2909.53510	2702.52078
MG	24	2726.79884	59589.61300	5.000	2628.20998	2884.06917	2668.11737
MN	55	277.32506	32276.29300	5.100	263.92072	292.30866	275.74579
NA	23	2681.05075	165035.38000	2.500	2631.00361	2756.25392	2655.89473
TI	47	297.21984	1590.18000	15.500	294.28837	344.58407	252.78708
V	51	271.43032	91231.46700	3.000	264.98161	280.57802	268.73133
GE-3	72	48495.18700	0.00000	0.000	47003.68000	49451.68000	49030.20000
CO	59	253.05849	256536.18700	1.300	256.77873	250.25840	252.13834
CU	63	254.42334	225255.57300	0.800	256.77131	253.12232	253.37639
NI	60	259.21109	76814.95300	3.300	258.43260	250.95947	268.24120
ZN	66	261.23424	18149.73300	5.300	245.25692	270.48675	267.95904
IN-2	115	554723.62300	0.00000	0.000	547757.56000	553399.19000	563014.12000
IN-3	115	13899.11300	0.00000	0.000	12971.67000	14227.64000	14498.03000
AG	107	26.58737	29500.80300	4.400	27.65601	25.34679	26.75932
AS	75	259.17210	12016.76300	1.600	263.52244	255.13410	258.85976
CD	111	26.12409	2345.57000	4.300	26.99680	24.85220	26.52326
MO	98	26.06557	13731.26000	1.900	26.29091	25.50404	26.40176
SE	78	25.67923	3212.61300	3.000	25.90493	24.81004	26.32272
SN	120	27.43831	5935.03000	1.200	27.59925	27.05034	27.66535
SR	88	25.42318	2467.03000	5.100	24.01116	25.72546	26.53292
TB-3	159	91820.07000	0.00000	0.000	89584.62000	92091.00000	93784.59000
BA	137	263.49739	15129.56700	3.300	269.85774	253.47412	267.16033
SB	121	25.95752	5001.26700	4.200	27.17787	25.03953	25.65516
BI-3	209	80368.58700	0.00000	0.000	77966.21000	81337.44000	81802.11000
PB	208	26.12548	75631.77700	1.200	26.48110	25.93639	25.95893
TL	203	26.06147	23262.90300	2.800	26.57801	26.37497	25.23144
U	238	26.30220	92373.62300	0.200	26.24602	26.33440	26.32617
SC-2	45	565339.53300	0.00000	0.000	562269.64000	558625.34000	575123.62000
GE-1	72	2003419	0	0.000	2013869	2004522	1991867
GE-2	72	1189942	0	0.000	1168400	1188134	1213294

Run Name: 1831804E05
 Tube Number: 22
 Sample Number: CCB

Date/Time: 11/14/2018 9:16:12

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	1906870	0	0.000	1914031	1948128	1858450
SC-3	45	13123.57700	0.00000	0.000	13086.90000	12696.52000	13587.31000
AL	27	-3.32051	30.00000	0.000	-3.30815	-3.12064	-3.53275
B	11	37.65234	12586.36700	4.300	39.37351	36.14846	37.43506
BE	9	-0.00306	19.33300	0.000	-0.00215	-0.00585	-0.00119
CA	44	10.31105	16.66700	232.300	16.30261	-16.07000	30.70053
CR	52	0.33241	440.03000	17.000	0.26726	0.36592	0.36404
FE	57	-1.86831	43.33700	0.000	-4.87071	-6.18089	5.44669
K	39	-4.98952	3614.00700	0.000	2.58010	0.45503	-18.00368
MG	24	-1.48206	56.67000	0.000	-3.09812	-1.22902	-0.11903
MN	55	-0.02576	30.00000	0.000	-0.02714	0.06701	-0.11716
NA	23	-43.84805	33351.16300	0.000	-59.88595	-33.67534	-37.98285
TI	47	-1.88043	3.33300	0.000	-2.46904	-2.46904	-0.70320
V	51	0.02780	26.66700	205.200	0.00994	-0.01819	0.09164
GE-3	72	47137.32300	0.00000	0.000	45809.50000	46822.92000	48779.55000
CO	59	0.01106	50.00000	158.000	0.02300	-0.00900	0.01919
CU	63	0.03344	283.35000	274.300	0.12084	0.04151	-0.06205
NI	60	-0.04197	83.34000	0.000	-0.04575	-0.01695	-0.06321
ZN	66	0.10687	23.33700	215.400	0.06344	0.35569	-0.09851
IN-2	115	534642.13300	0.00000	0.000	534735.35000	530506.54000	538684.51000
IN-3	115	13263.43300	0.00000	0.000	13236.95000	13176.52000	13376.83000
AG	107	0.00010	3.33300	5217.000	-0.00301	-0.00301	0.00634
AS	75	0.15912	15.33300	207.100	-0.09541	0.04153	0.53124
CD	111	0.01631	2.00000	143.300	0.03965	0.01638	-0.00710
MO	98	-0.00640	100.00700	0.000	-0.10620	0.01535	0.07166
SE	78	-0.01759	5.11300	0.000	-0.02672	-0.03760	0.01157
SN	120	-0.13358	80.00300	0.000	-0.23267	0.11665	-0.28473
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-3	159	87598.12000	0.00000	0.000	86797.42000	86412.52000	89584.42000
BA	137	0.12281	6.66700	173.200	0.36843	0.00000	0.00000
SB	121	0.63357	120.01000	29.700	0.42139	0.69915	0.78017
BI-3	209	75998.08000	0.00000	0.000	73147.87000	76598.94000	78247.43000
PB	208	-0.02070	143.33700	0.000	-0.02363	-0.02586	-0.01262
TL	203	0.02010	36.67000	235.800	0.01337	0.07052	-0.02358
U	238	0.00291	16.66700	154.000	-0.00201	0.00397	0.00677
SC-2	45	541534.81000	0.00000	0.000	540759.09000	539608.20000	544237.14000
GE-1	72	1980456	0	0.000	1997601	1998050	1945717
GE-2	72	1157520	0	0.000	1152386	1152465	1167708

Run Name: 1831804E05
 Tube Number: 23
 Sample Number: **9868193**

Date/Time: 11/14/2018 9:18:37
 Batch: 183161063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RUSSELL, DA

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	1890814	0	0.000	1906886	1878241	1887315
SC-3	45	12769.96700	0.00000	0.000	12526.51000	12696.55000	13086.84000
AL	27	41.36041	243.35300	13.900	47.93903	38.78978	37.35241
B	11	24.57509	8725.44700	0.700	24.75976	24.41233	24.55317
BE	9	-0.00061	20.66700	0.000	-0.00845	0.02128	-0.01467
CA	44	76594.01204	46199.67700	2.300	75428.05853	75708.11776	78645.85983
CR	52	1.53754	946.76000	10.900	1.70579	1.37041	1.53641
FE	57	44.45289	376.69700	29.500	41.85752	32.83430	58.66685
K	39	1990.84825	22719.94700	2.500	2036.01629	1998.53394	1937.99452
MG	24	53730.41499	1174171.51700	2.200	53457.30692	52692.72570	55041.21235
MN	55	2.87093	366.69300	4.300	2.87492	2.74635	2.99151
NA	23	9652.24178	504576.94700	0.200	9628.16979	9661.55153	9667.00402
TI	47	0.08479	13.33300	5216.600	5.19246	-2.46904	-2.46904
V	51	0.79767	283.35700	28.700	1.04326	0.75946	0.59030
GE-3	72	46629.15000	0.00000	0.000	46040.12000	47044.08000	46803.25000
CO	59	0.05273	90.00700	34.300	0.06426	0.06204	0.03189
CU	63	0.10209	340.02000	50.400	0.15447	0.05157	0.10023
NI	60	0.11385	126.67300	111.800	0.23752	0.12088	-0.01686
ZN	66	1.20664	96.67300	18.000	0.97342	1.24464	1.40186
IN-2	115	540806.43300	0.00000	0.000	547887.66000	537092.71000	537438.93000
IN-3	115	13333.84000	0.00000	0.000	12936.54000	13687.33000	13377.65000
AG	107	0.01885	23.33300	114.500	0.00666	0.00613	0.04375
AS	75	0.05476	10.66700	104.000	0.09211	-0.01077	0.08294
CD	111	0.00814	1.33300	162.200	-0.00710	0.01550	0.01602
MO	98	-0.03211	86.67300	0.000	0.04002	-0.14836	0.01201
SE	78	0.08606	17.77700	19.300	0.09685	0.06690	0.09444
SN	120	-0.28196	50.00000	0.000	-0.17515	-0.38598	-0.28474
SR	88	36.19184	3360.60300	3.100	37.39225	35.13115	36.05212
TB-3	159	89430.79300	0.00000	0.000	86532.94000	89323.69000	92435.75000
BA	137	34.94975	1956.91300	5.600	33.81824	33.83586	37.19514
SB	121	0.10763	23.33700	79.700	0.20239	0.03537	0.08514
BI-3	209	76081.02300	0.00000	0.000	74030.95000	76828.69000	77383.43000
PB	208	0.11871	523.36700	20.400	0.14498	0.09719	0.11395
TL	203	0.01995	36.66700	91.400	0.02510	0.03505	-0.00030
U	238	0.55962	1866.92300	6.800	0.55453	0.59982	0.52450
SC-2	45	554541.85300	0.00000	0.000	557270.85000	551446.94000	554907.77000
GE-1	72	1952095	0	0.000	1981117	1898468	1976702
GE-2	72	1150015	0	0.000	1145577	1145556	1158913

Run Name: 1831804E05
 Tube Number: 24
 Sample Number: 9868195

Date/Time: 11/14/2018 9:21:01
 Batch: 183161063901A
 Class: *****

Initial Vol: 25.00

Final Vol: 25.00

DF: 1.00

Protocol: RUSSELL, DA

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	1941041	0	0.000	1953846	1968982	1900295
SC-3	45	13113.59700	0.00000	0.000	12836.79000	12376.07000	14127.93000
AL	27	18.65529	140.01000	46.600	11.31969	16.39040	28.25577
B	11	15.68592	6332.82000	4.400	15.70787	14.98075	16.36916
BE	9	0.00383	24.00000	446.000	-0.01533	0.00940	0.01741
CA	44	40028.80090	24736.80700	4.700	40517.16879	41614.24196	37954.99194
CR	52	0.87769	686.72000	36.200	0.93231	0.53631	1.16447
FE	57	7.99979	113.34000	95.600	4.82851	16.72669	2.44415
K	39	848.11065	12039.27300	5.200	804.16303	892.96435	847.20456
MG	24	27809.12476	622066.76300	6.600	28022.46705	29527.43373	25877.47351
MN	55	1.69778	233.34700	43.900	1.26001	2.55862	1.27472
NA	23	524.13280	61513.78700	18.400	521.43228	621.77408	429.19203
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	0.59459	220.01000	27.100	0.51396	0.78034	0.48947
GE-3	72	47451.35300	0.00000	0.000	45196.74000	47545.21000	49612.11000
CO	59	0.01073	50.00300	245.000	0.02386	-0.01953	0.02784
CU	63	0.00022	260.01700	44843.900	-0.03120	-0.07898	0.11085
NI	60	0.06870	116.67300	310.300	0.10313	-0.15962	0.26257
ZN	66	0.65645	60.00300	118.600	1.46028	-0.09479	0.60387
IN-2	115	545488.79300	0.00000	0.000	542780.75000	545450.76000	548234.87000
IN-3	115	13900.71000	0.00000	0.000	13357.05000	14017.85000	14327.23000
AG	107	0.02131	26.66700	68.100	0.03446	0.02377	0.00572
AS	75	0.32672	24.00000	68.100	0.12825	0.28455	0.56737
CD	111	-0.00710	0.00000	0.000	-0.00710	-0.00710	-0.00710
MO	98	0.15851	190.01300	51.600	0.25124	0.09687	0.12743
SE	78	0.01257	8.89000	248.100	0.03830	0.02152	-0.02211
SN	120	0.00162	110.03700	33187.900	0.59871	-0.15577	-0.43810
SR	88	14.79636	1436.84000	11.100	12.89463	15.66579	15.82865
TB-3	159	88984.68300	0.00000	0.000	87884.08000	88667.72000	90402.25000
BA	137	24.61277	1370.16300	18.100	20.56115	29.39710	23.88005
SB	121	0.05350	13.33300	58.300	0.03624	0.08952	0.03473
BI-3	209	76838.89000	0.00000	0.000	75419.27000	77130.88000	77966.52000
PB	208	0.02367	266.68700	89.400	0.04501	0.00269	0.02330
TL	203	-0.00017	20.00000	0.000	0.00031	-0.01190	0.01108
U	238	0.22534	763.39300	4.700	0.22560	0.21462	0.23578
SC-2	45	548529.98000	0.00000	0.000	549746.67000	543958.94000	551884.33000
GE-1	72	1992545	0	0.000	1993492	2030657	1953486
GE-2	72	1156521	0	0.000	1136761	1160082	1172720

Run Name: 1831804E05
 Tube Number: 25
 Sample Number: 9868196

Date/Time: 11/14/2018 9:23:24
 Batch: 183161063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

Protocol: RUSSELL, DA

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	1914305	0	0.000	1924667	1925175	1893072
SC-3	45	13120.32000	0.00000	0.000	13357.21000	12576.34000	13427.41000
AL	27	0.73013	50.00000	814.300	-5.42324	1.17011	6.44351
B	11	11.05611	4901.56700	8.400	12.07244	10.24847	10.84741
BE	9	0.00745	26.00000	43.000	0.00404	0.01039	0.00791
CA	44	5.70380	13.33300	180.900	-0.21126	17.61684	-0.29417
CR	52	0.57906	550.04000	17.100	0.60373	0.47007	0.66339
FE	57	1.89780	70.00300	131.400	-0.95226	3.68015	2.96550
K	39	0.41906	3664.09000	7653.300	16.89398	20.90483	-36.54165
MG	24	9.42142	300.02300	31.700	6.07502	11.81295	10.37630
MN	55	1.80768	250.01300	26.000	2.35021	1.55362	1.51920
NA	23	-87.42441	31136.02300	0.000	-98.63429	-60.43035	-103.20859
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	0.03763	30.00000	148.800	0.09404	-0.01790	0.03674
GE-3	72	47448.85700	0.00000	0.000	45739.45000	48087.98000	48519.14000
CO	59	-0.00953	30.00000	0.000	-0.01873	0.01009	-0.01993
CU	63	0.20505	433.36300	55.900	0.33727	0.13521	0.14266
NI	60	0.03500	106.67000	697.400	-0.08117	0.31548	-0.12931
ZN	66	0.84147	73.33300	14.400	0.98126	0.77610	0.76705
IN-2	115	538714.49000	0.00000	0.000	537568.94000	534394.80000	544179.73000
IN-3	115	13830.91000	0.00000	0.000	12335.90000	13857.39000	15299.44000
AG	107	0.00516	10.00000	274.300	-0.00301	-0.00301	0.02152
AS	75	-0.08640	4.66700	0.000	-0.18602	0.07363	-0.14682
CD	111	0.02634	2.66700	219.900	0.09322	-0.00710	-0.00710
MO	98	-0.09299	60.00300	0.000	-0.09887	-0.12989	-0.05021
SE	78	-0.00503	6.66300	0.000	0.00064	-0.01564	-0.00010
SN	120	-0.38442	30.00000	0.000	-0.31716	-0.43500	-0.40110
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-3	159	88742.61000	0.00000	0.000	84913.81000	88447.67000	92866.35000
BA	137	0.06026	3.33300	173.200	0.00000	0.18078	0.00000
SB	121	0.05364	13.33300	116.000	0.09427	-0.01800	0.08466
BI-3	209	77509.40700	0.00000	0.000	74755.30000	77552.38000	80220.54000
PB	208	-0.02762	126.67300	0.000	-0.03586	-0.01208	-0.03493
TL	203	-0.00820	13.33300	0.000	-0.01153	-0.01196	-0.00112
U	238	-0.00003	6.66700	0.000	0.00106	-0.00201	0.00085
SC-2	45	549655.91700	0.00000	0.000	554719.09000	539386.05000	554862.61000
GE-1	72	1978715	0	0.000	2000374	2007648	1928122
GE-2	72	1147427	0	0.000	1145001	1142286	1154993

Run Name: 1831804E05
 Tube Number: 26
 Sample Number: LLC

Date/Time: 11/14/2018 9:25:49

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	1976304	0	0.000	2024412	1999311	1905188
SC-3	45	13253.63300	0.00000	0.000	13317.02000	13006.72000	13437.16000
AL	27	409.48346	2086.95000	1.200	404.18048	409.94033	414.32955
B	11	58.41775	19282.62300	1.300	59.08868	57.59586	58.56870
BE	9	0.50519	348.01000	3.400	0.48604	0.51094	0.51859
CA	44	719.48346	460.03300	8.300	652.05516	765.72736	740.66785
CR	52	4.47096	2293.64000	1.900	4.39384	4.56003	4.45899
FE	57	95.14516	770.06300	6.000	96.04767	88.99925	100.38855
K	39	402.16665	7722.56000	14.100	463.64498	351.87663	390.97835
MG	24	109.03930	2560.37000	8.800	104.00759	120.06832	103.04198
MN	55	10.23610	1270.13000	10.600	9.03290	10.52055	11.15484
NA	23	842.63542	78475.43700	2.100	823.56427	858.96079	845.38122
TI	47	22.89360	140.00700	34.700	13.74605	27.04735	27.88740
V	51	1.09960	400.03000	30.300	0.72180	1.35333	1.22366
GE-3	72	48297.76000	0.00000	0.000	47063.24000	48448.35000	49381.69000
CO	59	0.91042	960.08700	16.200	0.79385	1.07613	0.86128
CU	63	39.94604	35440.98000	1.500	40.62658	39.66036	39.55119
NI	60	3.92395	1253.46300	6.800	4.08999	4.06496	3.61691
ZN	66	14.52427	1020.09700	5.900	13.87546	15.49309	14.20425
IN-2	115	537994.86300	0.00000	0.000	533412.37000	540985.19000	539587.03000
IN-3	115	13676.83300	0.00000	0.000	13503.98000	13301.16000	14225.36000
AG	107	0.49949	550.04300	10.500	0.53447	0.43918	0.52482
AS	75	2.26804	112.00000	10.700	1.98989	2.42882	2.38540
CD	111	0.92233	82.66700	33.100	1.04687	0.57444	1.14568
MO	98	2.11991	1193.47000	17.300	2.49118	2.11243	1.75611
SE	78	2.08628	259.78000	6.900	2.04552	1.96675	2.24656
SN	120	1.52010	430.03300	26.900	1.45903	1.14460	1.95667
SR	88	5.61015	536.71000	28.700	3.82620	6.04266	6.96159
TB-3	159	88736.05300	0.00000	0.000	87620.49000	88891.26000	89696.41000
BA	137	3.47788	193.35000	28.700	2.37247	4.31735	3.74382
SB	121	2.31129	433.36700	14.500	2.37577	2.60971	1.94838
BI-3	209	78268.26700	0.00000	0.000	76657.02000	78299.63000	79848.15000
PB	208	2.91317	8401.66700	6.400	2.88307	2.74281	3.11364
TL	203	0.54909	496.70700	13.600	0.63460	0.51723	0.49545
U	238	0.55316	1900.26300	7.900	0.50262	0.58266	0.57419
SC-2	45	554486.98300	0.00000	0.000	557685.54000	552655.07000	553120.34000
GE-1	72	2044909	0	0.000	2096899	2058985	1978843
GE-2	72	1163824	0	0.000	1160042	1152601	1178828

Run Name: 1831804E05
 Tube Number: 27
 Sample Number: ICSA

Date/Time: 11/14/2018 9:28:14

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	1833065	0	0.000	1861304	1831232	1806659
SC-3	45	12609.83300	0.00000	0.000	12526.40000	12916.90000	12386.20000
AL	27	101760.62929	482191.75000	3.700	99815.59482	99350.78140	106115.51164
B	11	17.00697	6350.83000	0.200	17.02452	17.03248	16.96390
BE	9	0.02346	34.66700	130.300	0.05796	0.01267	-0.00025
CA	44	271156.13957	161308.96300	6.100	264194.33119	259137.73702	290136.35049
CR	52	1.00084	706.72300	29.600	0.68767	1.03721	1.27763
FE	57	252279.92724	1797738.35700	2.800	249726.29447	246821.97138	260291.51586
K	39	101874.09142	971324.13000	3.700	99581.98187	99790.06125	106250.23114
MG	24	105240.74790	2270061.00700	0.900	104860.52384	104584.20829	106277.51156
MN	55	4.30601	526.70700	4.800	4.53953	4.13894	4.23954
NA	23	263875.48867	12716823.56000	2.700	262739.84115	257458.12521	271428.49966
TI	47	2049.83895	10791.44300	3.500	2047.93257	2121.59204	1979.99225
V	51	0.03102	26.66700	271.500	-0.01778	0.12829	-0.01744
GE-3	72	43999.88300	0.00000	0.000	42036.43000	45016.22000	44947.00000
CO	59	0.86369	830.07000	5.600	0.90491	0.81050	0.87565
CU	63	0.95439	1003.43000	9.800	1.04553	0.85911	0.95851
NI	60	1.06674	376.69300	34.500	0.87646	0.83287	1.49090
ZN	66	4.82762	320.02300	16.400	4.08382	5.66181	4.73723
IN-2	115	509249.33700	0.00000	0.000	514863.85000	507608.49000	505275.67000
IN-3	115	12719.97300	0.00000	0.000	12276.38000	12606.33000	13277.21000
AG	107	0.01014	13.33300	57.300	0.00718	0.01684	0.00641
AS	75	0.95484	48.66700	35.700	0.93746	0.62265	1.30442
CD	111	0.10641	9.33300	109.400	0.01810	0.23834	0.06281
MO	98	2087.73858	998236.91300	2.400	2120.96156	2113.24334	2029.01085
SE	78	0.02936	10.22300	52.600	0.01488	0.02759	0.04559
SN	120	-0.13768	76.67300	0.000	-0.36948	0.04198	-0.08554
SR	88	17.16698	1523.52000	6.800	17.06964	16.05377	18.37752
TB-3	159	87507.87000	0.00000	0.000	88276.58000	87148.34000	87098.69000
BA	137	1.03206	56.67000	66.000	1.81145	0.55042	0.73431
SB	121	1.03580	193.34700	21.700	0.89998	0.91187	1.29554
BI-3	209	69580.48000	0.00000	0.000	67355.52000	70752.76000	70633.16000
PB	208	0.88561	2396.89300	4.400	0.87743	0.85147	0.92792
TL	203	-0.01041	10.00000	0.000	0.00317	-0.02358	-0.01083
U	238	0.04860	153.34700	20.000	0.05916	0.04005	0.04660
SC-2	45	534898.03700	0.00000	0.000	543114.17000	538850.77000	522729.17000
GE-1	72	1825744	0	0.000	1859283	1821984	1795964
GE-2	72	1095751	0	0.000	1108263	1100535	1078456

Run Name: 1831804E05
 Tube Number: 28
 Sample Number: ICSAB

Date/Time: 11/14/2018 9:30:37

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	1872519	0	0.000	1915222	1855249	1847087
SC-3	45	12439.72700	0.00000	0.000	12216.33000	11935.76000	13167.09000
AL	27	107814.48322	503593.58700	3.900	106850.81100	112403.00204	104189.63661
B	11	10.24432	4562.12000	5.400	9.82995	10.86735	10.03565
BE	9	0.02213	34.66700	142.900	0.05857	0.00217	0.00564
CA	44	287574.79523	168712.67000	3.800	283252.58606	300012.35848	279459.44114
CR	52	216.72851	91037.86300	5.200	215.92606	228.34937	205.91009
FE	57	268079.86148	1882106.38000	4.700	271860.85507	278482.55510	253896.17429
K	39	107882.01794	1013889.28300	3.500	106611.99260	112132.70765	104901.35359
MG	24	111600.71532	2371634.60000	4.500	110966.65792	116893.81503	106941.67300
MN	55	227.84593	25815.67000	5.500	228.26337	240.08722	215.18722
NA	23	276345.36030	13126390.22300	3.500	275395.59911	286548.25223	267092.22954
TI	47	2176.90779	11288.66700	2.800	2190.40971	2229.82962	2110.48405
V	51	215.89921	70624.13000	5.000	219.68850	224.21283	203.79628
GE-3	72	45441.78300	0.00000	0.000	44464.70000	44284.62000	47576.03000
CO	59	202.64148	192337.74300	4.400	202.83355	211.50263	193.58827
CU	63	203.45065	168682.96700	4.300	203.57468	212.12528	194.65198
NI	60	205.96733	57155.20700	4.500	205.42065	215.46825	197.01310
ZN	66	108.64416	7075.57000	4.500	103.59155	113.33451	109.00642
IN-2	115	517257.62300	0.00000	0.000	525166.35000	507381.26000	519225.26000
IN-3	115	12773.29000	0.00000	0.000	13307.40000	12796.61000	12215.86000
AG	107	54.09475	55139.91000	5.800	52.17351	52.40079	57.70994
AS	75	111.13315	4732.88000	7.100	103.88198	110.05146	119.46600
CD	111	102.38195	8440.75300	5.500	96.30588	103.36817	107.47181
MO	98	2171.14361	1041061.36300	6.900	2023.67280	2165.13705	2324.62098
SE	78	103.34334	12031.35700	1.400	101.75999	104.53395	103.73607
SN	120	-0.15016	73.34000	0.000	-0.28345	-0.12005	-0.04697
SR	88	15.96733	1416.83300	15.000	13.26627	17.83408	16.80164
TB-3	159	89389.53300	0.00000	0.000	88436.82000	87368.34000	92363.44000
BA	137	1.48996	83.34000	42.500	2.16977	0.91505	1.38508
SB	121	1.46385	276.69000	44.100	2.19203	1.23692	0.96258
BI-3	209	70628.63300	0.00000	0.000	69596.24000	70390.75000	71898.91000
PB	208	0.89534	2456.90700	2.000	0.91084	0.89972	0.87545
TL	203	0.02727	40.00000	91.000	0.02820	0.00202	0.05160
U	238	0.03682	120.01000	15.900	0.03088	0.03701	0.04256
SC-2	45	539142.87000	0.00000	0.000	544771.48000	523368.31000	549288.82000
GE-1	72	1892264	0	0.000	1902933	1895881	1877978
GE-2	72	1111353	0	0.000	1119122	1096725	1118212

Run Name: 1831804E05
 Tube Number: 29
 Sample Number: RINSE

Date/Time: 11/14/2018 9:33:00

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	1896225	0	0.000	1881428	1879099	1928147
SC-3	45	12826.58300	0.00000	0.000	12166.05000	13357.10000	12956.60000
AL	27	16.72521	126.67000	130.500	3.71348	4.53525	41.92689
B	11	5.28337	3191.06000	5.800	5.61788	5.21171	5.02050
BE	9	-0.01145	14.00000	0.000	0.00492	-0.01784	-0.02143
CA	44	38.80839	33.33300	96.500	18.75290	15.64775	82.02452
CR	52	0.64996	566.71000	7.700	0.70329	0.60374	0.64286
FE	57	59.38639	486.70000	65.700	38.95848	34.80917	104.39152
K	39	38.13516	3930.78300	184.200	119.20209	-4.97497	0.17835
MG	24	21.41276	563.37700	44.800	10.42400	25.77018	28.04409
MN	55	-0.19483	10.00000	0.000	-0.27868	-0.19653	-0.10930
NA	23	39.17808	36622.58000	67.300	59.58430	9.42125	48.52870
TI	47	1.91662	23.33300	115.300	3.44733	2.91977	-0.61724
V	51	-0.00990	13.33300	0.000	-0.04809	0.03719	-0.01879
GE-3	72	48619.18300	0.00000	0.000	47705.45000	49051.66000	49100.44000
CO	59	0.02273	63.33700	90.700	0.03055	-0.00064	0.03829
CU	63	0.07852	333.36000	81.900	0.15018	0.05963	0.02576
NI	60	-0.06388	80.00300	0.000	-0.22889	-0.03130	0.06855
ZN	66	2.20234	170.01300	35.700	2.10372	1.46908	3.03421
IN-2	115	539216.68700	0.00000	0.000	534402.29000	543675.98000	539571.79000
IN-3	115	13714.25000	0.00000	0.000	13196.93000	14087.97000	13857.85000
AG	107	0.02468	30.00000	77.800	0.04440	0.02363	0.00602
AS	75	0.00057	8.66700	22585.800	-0.14058	0.11194	0.03035
CD	111	0.03073	3.33300	44.900	0.03979	0.01486	0.03755
MO	98	3.94745	2143.63700	13.400	3.70249	3.58745	4.55240
SE	78	0.05548	14.00000	20.900	0.06754	0.05449	0.04440
SN	120	-0.38536	30.00000	0.000	-0.33102	-0.39006	-0.43500
SR	88	0.03452	3.33300	173.200	0.00000	0.00000	0.10356
TB-3	159	89339.39000	0.00000	0.000	88959.75000	87428.88000	91629.54000
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	-0.01800	0.00000	0.000	-0.01800	-0.01800	-0.01800
BI-3	209	75360.08300	0.00000	0.000	74675.64000	76677.34000	74727.27000
PB	208	-0.00052	196.68000	0.000	-0.02464	0.00677	0.01631
TL	203	-0.00750	13.33300	0.000	0.02468	-0.02358	-0.02358
U	238	0.00103	10.00000	296.900	0.00412	0.00098	-0.00201
SC-2	45	546340.67000	0.00000	0.000	542089.37000	553924.05000	543008.59000
GE-1	72	2000008	0	0.000	2001134	1985328	2013562
GE-2	72	1157223	0	0.000	1144452	1175636	1151580

Run Name: 1831804E05
 Tube Number: 30
 Sample Number: **CCV**

Date/Time: 11/14/2018 9:35:24

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	1918989	0	0.000	1927097	1941801	1888070
SC-3	45	13230.42700	0.00000	0.000	13247.22000	13287.08000	13156.98000
AL	27	2523.47122	12593.02300	8.600	2435.79305	2364.30957	2770.31105
B	11	253.73541	75655.27000	2.900	249.31427	249.56857	262.32339
BE	9	26.17365	16429.00300	1.200	25.79954	26.34570	26.37571
CA	44	2343.77273	1473.50000	14.500	1982.92414	2391.51071	2656.88334
CR	52	258.46172	115591.20000	4.500	248.16383	256.01277	271.20856
FE	57	2465.63856	18496.78700	2.800	2387.10205	2505.23008	2504.58355
K	39	2553.40520	29155.66000	1.300	2587.47045	2521.53690	2551.20824
MG	24	2534.82360	57457.37700	3.400	2444.72752	2542.50480	2617.23848
MN	55	267.12422	32239.50700	3.000	262.35655	262.56435	276.45178
NA	23	2504.19326	162146.80300	5.600	2370.01767	2494.17101	2648.39112
TI	47	249.67430	1390.15700	5.600	240.25301	243.13995	265.62994
V	51	258.76335	90169.52300	3.600	249.92214	257.89667	268.47125
GE-3	72	46317.56700	0.00000	0.000	45688.37000	45688.67000	47575.66000
CO	59	261.92096	253576.14000	2.700	260.34241	269.59428	255.82618
CU	63	262.63719	222040.61700	2.300	262.42022	268.90755	256.58381
NI	60	261.96095	74130.01000	1.900	260.94491	267.32670	257.61123
ZN	66	274.84279	18216.50300	6.000	260.44402	292.63511	271.44922
IN-2	115	548887.87000	0.00000	0.000	551626.13000	552735.67000	542301.81000
IN-3	115	13406.09300	0.00000	0.000	12767.58000	13773.60000	13677.10000
AG	107	26.97505	28882.84700	2.500	27.76416	26.57369	26.58729
AS	75	263.90251	11802.61000	3.200	268.16195	254.09610	269.44948
CD	111	25.95461	2250.22000	2.600	25.65914	25.49197	26.71274
MO	98	26.38709	13400.64700	3.200	26.98489	25.42375	26.75263
SE	78	25.52680	3159.49000	0.700	25.38973	25.47269	25.71797
SN	120	25.67442	5358.05000	4.200	26.91956	25.05733	25.04637
SR	88	26.10105	2437.03700	5.500	26.75625	27.09477	24.45212
TB-3	159	88588.82300	0.00000	0.000	86575.17000	87793.35000	91397.95000
BA	137	247.10618	13691.35300	5.100	236.34516	260.95733	244.01604
SB	121	25.42377	4731.09300	5.100	23.93687	26.37484	25.95960
BI-3	209	77913.19000	0.00000	0.000	74686.62000	80512.74000	78540.21000
PB	208	25.97856	72894.85300	3.200	26.15574	25.06282	26.71711
TL	203	25.92985	22441.55700	0.800	26.16393	25.78176	25.84385
U	238	25.37743	86363.43000	2.100	25.72006	24.75996	25.65228
SC-2	45	549954.77000	0.00000	0.000	552716.98000	550743.82000	546403.51000
GE-1	72	1974031	0	0.000	1985701	1981548	1954843
GE-2	72	1162583	0	0.000	1162289	1172581	1152880

Run Name: 1831804E05
 Tube Number: 31
 Sample Number: CCB

Date/Time: 11/14/2018 9:37:49

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	1882132	0	0.000	1923778	1876557	1846060
SC-3	45	12699.94300	0.00000	0.000	12656.57000	12416.43000	13026.83000
AL	27	23.59505	156.68000	166.700	68.37115	7.73622	-5.32222
B	11	31.44233	10648.10300	1.300	31.32459	31.12142	31.88097
BE	9	-0.00497	18.00000	0.000	-0.00231	0.00828	-0.02087
CA	44	23.30588	23.33300	150.200	50.87660	35.11103	-16.07000
CR	52	0.49037	493.36700	9.600	0.43948	0.53241	0.49922
FE	57	50.19802	413.39000	165.600	146.19394	3.82510	0.57501
K	39	31.03002	3837.43000	313.900	136.91582	10.97120	-54.79696
MG	24	13.87117	386.70700	171.300	41.27610	1.18774	-0.85033
MN	55	0.20664	56.67300	166.400	0.41497	-0.19030	0.39525
NA	23	65.75618	37565.88300	81.700	124.93416	52.32016	20.01422
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	0.09135	46.67000	211.500	0.31195	-0.04809	0.01020
GE-3	72	47886.25700	0.00000	0.000	47033.32000	48116.83000	48508.62000
CO	59	0.06416	103.33700	94.400	0.13326	0.02000	0.03924
CU	63	0.09586	343.36000	80.000	0.17990	0.07797	0.02971
NI	60	0.09064	123.34300	64.500	0.15582	0.04268	0.07343
ZN	66	0.09752	23.33300	371.400	0.05550	-0.24187	0.47894
IN-2	115	533878.25000	0.00000	0.000	527250.15000	536673.58000	537711.02000
IN-3	115	13209.94000	0.00000	0.000	13267.42000	12705.82000	13656.58000
AG	107	0.01618	20.00000	63.000	0.01585	0.02653	0.00615
AS	75	-0.00823	8.00000	0.000	0.03997	-0.18602	0.12135
CD	111	0.02355	2.66700	112.800	0.03954	-0.00710	0.03821
MO	98	0.49220	346.69300	104.500	1.07608	0.29562	0.10489
SE	78	0.00841	8.22300	205.900	-0.00374	0.00074	0.02823
SN	120	0.03426	113.34300	273.300	-0.03586	0.14059	-0.00197
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-3	159	89226.41000	0.00000	0.000	88397.95000	89190.92000	90090.36000
BA	137	0.12059	6.66700	173.200	0.36176	0.00000	0.00000
SB	121	0.76456	146.67700	34.400	0.73696	0.51648	1.04023
BI-3	209	75729.02700	0.00000	0.000	74536.49000	75087.67000	77562.92000
PB	208	-0.00439	186.67700	0.000	0.01653	-0.02120	-0.00850
TL	203	-0.01181	10.00000	0.000	-0.01149	-0.02358	-0.00035
U	238	0.00898	36.66700	82.300	0.00106	0.01019	0.01570
SC-2	45	544963.56000	0.00000	0.000	536390.97000	548478.27000	550021.44000
GE-1	72	1959329	0	0.000	1994278	1982795	1900915
GE-2	72	1146849	0	0.000	1138628	1153503	1148415

Run Name: 1831804E05
 Tube Number: 32
 Sample Number: **PBW**

Date/Time: 11/14/2018 9:40:14
 Batch: 183121063901A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1916628	0	0.000	1940567	1913351	1895965
SC-3	45	13267.11700	0.00000	0.000	12556.41000	13547.55000	13697.39000
AL	27	0.63441	50.00000	75.900	1.18690	0.41187	0.30447
B	11	13.62315	5655.19000	4.200	13.56144	14.22894	13.07907
BE	9	-0.00960	15.33300	0.000	-0.01205	-0.01813	0.00139
CA	44	17.25890	20.00000	260.000	68.28077	-0.43407	-16.07000
CR	52	0.69748	610.05000	19.900	0.54274	0.73920	0.81050
FE	57	-0.03156	56.66700	0.000	-0.52994	0.26048	0.17477
K	39	12.16665	3810.75300	465.900	70.14596	9.47817	-43.12418
MG	24	2.54691	150.01000	105.300	-0.26710	5.07061	2.83722
MN	55	0.22072	60.00000	48.100	0.33303	0.20728	0.12186
NA	23	-32.90257	34256.75300	0.000	-20.67895	-51.34119	-26.68756
TI	47	-0.65142	10.00000	0.000	-0.55822	1.07300	-2.46904
V	51	-0.03875	3.33300	0.000	-0.04809	-0.02007	-0.04809
GE-3	72	47260.82000	0.00000	0.000	45839.46000	47524.31000	48418.69000
CO	59	-0.01275	26.66700	0.000	-0.00834	-0.03965	0.00975
CU	63	0.18853	420.03000	20.200	0.14450	0.20957	0.21152
NI	60	0.12559	130.01000	292.700	0.52600	0.04735	-0.19657
ZN	66	1.93263	146.67700	12.000	2.19921	1.81837	1.78031
IN-2	115	538461.95700	0.00000	0.000	543142.88000	533910.48000	538332.51000
IN-3	115	13310.36700	0.00000	0.000	13527.55000	13196.62000	13206.93000
AG	107	0.00015	3.33300	3747.000	-0.00301	0.00647	-0.00301
AS	75	-0.09627	4.00000	0.000	-0.05303	-0.14058	-0.09521
CD	111	0.01577	2.00000	251.200	0.06151	-0.00710	-0.00710
MO	98	-0.09986	53.33300	0.000	-0.12802	-0.04545	-0.12611
SE	78	-0.01225	5.77700	0.000	-0.01087	0.00105	-0.02694
SN	120	-0.31654	43.33300	0.000	-0.28746	-0.33101	-0.33117
SR	88	0.14403	13.33300	115.400	0.10609	0.00000	0.32599
TB-3	159	87332.41000	0.00000	0.000	86935.94000	85386.69000	89674.60000
BA	137	0.06131	3.33300	173.200	0.18392	0.00000	0.00000
SB	121	0.12898	26.66700	67.000	0.14649	0.20530	0.03516
BI-3	209	77580.55300	0.00000	0.000	75511.85000	76687.29000	80542.52000
PB	208	-0.01333	166.67300	0.000	0.00063	-0.03317	-0.00743
TL	203	-0.01190	10.00000	0.000	0.00028	-0.02358	-0.01239
U	238	0.00287	16.66700	157.700	-0.00201	0.00695	0.00368
SC-2	45	544512.61000	0.00000	0.000	546375.19000	547187.69000	539974.95000
GE-1	72	1961913	0	0.000	1960127	1954247	1971366
GE-2	72	1158953	0	0.000	1158036	1161789	1157035

Run Name: 1831804E05
 Tube Number: 33
 Sample Number: ZLCSW

Date/Time: 11/14/2018 9:42:40

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	0.00000	0.00000	0.000	4942804	3843945	4723639
SC-3	45	0.00000	0.00000	0.000	27768.78600	31852.69200	27274.29600
AL	27	0.00000	0.00000	0.000	0.00000	40.00200	80.00500
B	11	0.00000	0.00000	0.000	2322.21000	2210.19900	2474.23800
BE	9	0.00000	0.00000	0.000	18.00000	24.00000	56.00100
CA	44	0.00000	0.00000	0.000	0.00000	30.00200	20.00100
CR	52	0.00000	0.00000	0.000	370.02200	280.01700	390.02600
FE	57	0.00000	0.00000	0.000	20.00100	80.00500	60.00400
K	39	0.00000	0.00000	0.000	3790.73100	3260.54400	3160.52100
MG	24	0.00000	0.00000	0.000	60.00400	70.00300	20.00100
MN	55	0.00000	0.00000	0.000	0.00000	40.00300	10.00000
NA	23	0.00000	0.00000	0.000	31467.28200	30544.39900	33221.45500
TI	47	0.00000	0.00000	0.000	0.00000	10.00000	0.00000
V	51	0.00000	0.00000	0.000	10.00000	0.00000	30.00200
GE-3	72	0.00000	0.00000	0.000	100812.13700	124138.72900	96049.49100
CO	59	0.00000	0.00000	0.000	10.00000	20.00100	10.00000
CU	63	0.00000	0.00000	0.000	340.02200	310.02400	410.03200
NI	60	0.00000	0.00000	0.000	140.00900	60.00400	100.00600
ZN	66	0.00000	0.00000	0.000	0.00000	20.00100	0.00000
IN-2	115	0.00000	0.00000	0.000	210442.10600	296853.27700	244005.38700
IN-3	115	0.00000	0.00000	0.000	27349.09400	35036.11500	26433.00700
AG	107	0.00000	0.00000	0.000	0.00000	20.00100	0.00000
AS	75	0.00000	0.00000	0.000	6.00000	10.00000	30.00000
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	0.00000	0.000	10.00000	40.00200	10.00000
SE	78	0.00000	0.00000	0.000	3.33300	6.00000	2.66700
SN	120	0.00000	0.00000	0.000	20.00200	30.00200	20.00200
SR	88	0.00000	0.00000	0.000	30.00200	0.00000	0.00000
TB-3	159	0.00000	0.00000	0.000	185022.63400	219821.73500	181199.88000
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
BI-3	209	0.00000	0.00000	0.000	158624.28500	184966.15000	153823.94300
PB	208	0.00000	0.00000	0.000	200.01400	140.01000	120.00700
TL	203	0.00000	0.00000	0.000	20.00200	10.00000	10.00000
U	238	0.00000	0.00000	0.000	30.00200	10.00000	40.00300
SC-2	45	0.00000	0.00000	0.000	210297.28200	300457.84700	248092.14500
GE-1	72	0.00000	0.00000	0.000	5174348	3910573	4915328
GE-2	72	0.00000	0.00000	0.000	471655.34500	655604.75600	554423.31200

Run Name: 1831804E05
 Tube Number: 34
 Sample Number: LCSW

Date/Time: 11/14/2018 9:45:06
 Batch: 183121063901A
 Class: *****

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

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	1901727	0	0.000	1895498	1922555	1887128
SC-3	45	13293.83700	0.00000	0.000	13086.94000	12796.71000	13997.86000
AL	27	2146.48399	10764.71700	3.000	2125.95841	2218.07069	2095.42287
B	11	285.24421	84093.46000	1.200	287.57406	281.31774	286.84082
BE	9	4.30264	2693.62300	4.500	4.22648	4.15698	4.52446
CA	44	4027.34405	2527.01700	13.400	4112.02466	4520.21360	3449.79388
CR	52	54.67277	24797.25300	1.100	55.13638	54.91537	53.96657
FE	57	980.88173	7422.48300	2.400	987.62632	1000.54010	954.47878
K	39	10301.73333	106885.85000	3.100	10020.88796	10648.50500	10235.80704
MG	24	2072.77770	47158.73700	4.800	2124.16342	2136.61892	1957.55075
MN	55	54.88041	6678.66300	5.700	51.97068	58.21751	54.45304
NA	23	10439.33873	564677.03700	3.500	10312.87574	10851.65331	10153.48712
TI	47	283.82479	1583.52000	9.400	265.23142	314.43569	271.80727
V	51	50.27592	17592.27300	6.000	48.99070	53.72870	48.10836
GE-3	72	46719.51700	0.00000	0.000	46391.19000	44615.31000	49152.05000
CO	59	264.02708	257670.24700	3.300	260.40549	273.96012	257.71563
CU	63	53.68452	45932.64000	4.500	53.14517	56.33281	51.57558
NI	60	53.66958	15399.46700	0.300	53.56202	53.57453	53.87220
ZN	66	549.41114	36670.84700	4.800	538.33589	579.26860	530.62892
IN-2	115	544824.15000	0.00000	0.000	533453.10000	539901.62000	561117.73000
IN-3	115	13245.80300	0.00000	0.000	12556.04000	13841.52000	13339.85000
AG	107	55.69027	58869.22300	6.400	57.13777	51.63060	58.30245
AS	75	10.50469	472.01300	9.200	11.13307	10.99186	9.38913
CD	111	5.25713	448.68000	13.900	6.03050	4.57552	5.16536
MO	98	54.56551	27269.11000	3.000	55.11917	52.73395	55.84341
SE	78	10.36728	1277.39700	6.700	11.14486	9.79241	10.16459
SN	120	54.12820	11038.62000	5.500	56.03543	50.68811	55.66105
SR	88	43.56808	4034.18000	10.000	38.75387	47.18684	44.76353
TB-3	159	88690.35700	0.00000	0.000	85377.31000	90702.65000	89991.11000
BA	137	54.14704	3000.51300	6.600	57.31699	54.83355	50.29057
SB	121	6.13603	1143.45700	7.600	6.62642	6.07866	5.70302
BI-3	209	77218.42300	0.00000	0.000	73467.87000	77352.85000	80834.55000
PB	208	15.96156	44433.64300	3.900	16.42700	16.19645	15.26123
TL	203	2.13006	1840.23700	12.400	2.25749	2.30600	1.82668
U	238	-0.00097	3.33300	0.000	0.00111	-0.00201	-0.00201
SC-2	45	551123.52000	0.00000	0.000	549794.52000	542986.09000	560589.95000
GE-1	72	1979368	0	0.000	1993444	1964056	1980603
GE-2	72	1154864	0	0.000	1154365	1133510	1176718

Run Name: 1831804E05
 Tube Number: 35
 Sample Number: 9882883

Date/Time: 11/14/2018 9:47:32
 Batch: 183121063901A
 Class: UP*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1996138	0	0.000	1994138	1999241	1995036
SC-3	45	14498.53000	0.00000	0.000	14358.36000	14618.62000	14518.61000
AL	27	736.27424	4064.15300	3.100	737.43111	758.71510	712.67650
B	11	163.88620	51465.53000	0.700	165.06974	163.78762	162.80125
BE	9	1.08428	729.36000	7.200	1.00052	1.15407	1.09827
CA	44	312434.31635	213861.03000	1.700	308694.50424	309941.35929	318667.08551
CR	52	9.21371	4827.75300	5.000	9.17153	8.77319	9.69641
FE	57	235.00660	1986.94700	10.400	261.04923	212.69569	231.27487
K	39	3314.40654	40267.28000	0.700	3295.23524	3340.06022	3307.92417
MG	24	207162.07615	5137656.06700	2.000	210666.93507	202576.58409	208242.70929
MN	55	24.35800	3253.94300	8.400	26.70303	23.51926	22.85170
NA	23	915107.11854	50625195.91000	1.500	918873.09424	899535.96691	926912.29447
TI	47	53.39333	336.69000	45.000	79.41712	31.99907	48.76381
V	51	3.75758	1453.49000	5.600	3.52244	3.82260	3.92769
GE-3	72	48967.14300	0.00000	0.000	47345.11000	49733.89000	49822.43000
CO	59	1.99443	2080.26000	5.100	2.11261	1.94190	1.92878
CU	63	75.84447	67978.44700	1.800	77.24539	75.82559	74.46243
NI	60	9.89679	3053.84000	7.000	10.53654	9.15771	9.99612
ZN	66	34.70756	2443.67700	7.800	37.72413	33.93173	32.46682
IN-2	115	524902.83300	0.00000	0.000	515666.96000	526178.32000	532863.22000
IN-3	115	13798.02700	0.00000	0.000	13067.78000	13928.85000	14397.45000
AG	107	1.06827	1180.12700	4.500	1.11746	1.02123	1.06614
AS	75	5.20232	248.00300	12.900	4.90762	5.97061	4.72875
CD	111	2.32460	206.00300	29.100	3.07106	2.14761	1.75512
MO	98	4.62891	2507.04300	11.300	4.57550	5.17734	4.13389
SE	78	4.36951	523.12300	8.200	4.17525	4.78342	4.14985
SN	120	4.71942	1100.11700	18.000	5.58513	4.68999	3.88315
SR	88	1085.77490	104338.20700	2.000	1098.83536	1097.78265	1060.70668
TB-3	159	89964.74300	0.00000	0.000	90006.65000	87794.46000	92093.12000
BA	137	484.72721	27263.43300	4.700	461.82647	507.05348	485.30166
SB	121	4.53566	860.07700	15.800	5.33122	3.94566	4.33009
BI-3	209	71071.55000	0.00000	0.000	71386.00000	69989.95000	71838.70000
PB	208	6.43198	16612.04000	1.700	6.54573	6.32369	6.42653
TL	203	1.02429	826.74300	7.600	1.11231	0.99338	0.96719
U	238	16.78608	52123.02700	2.400	16.52190	17.25216	16.58419
SC-2	45	569825.77000	0.00000	0.000	574190.38000	560934.09000	574352.84000
GE-1	72	1960074	0	0.000	1964611	1952259	1963351
GE-2	72	1154516	0	0.000	1152040	1142917	1168592

Run Name: 1831804E05
 Tube Number: 36
 Sample Number: 9882883

Date/Time: 11/14/2018 9:49:57
 Batch: 183121063901A
 Class: R*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	2020834	0	0.000	2079179	2024537	1958785
SC-3	45	14551.82700	0.00000	0.000	14198.00000	14278.27000	15179.21000
AL	27	2164.39139	11875.74700	5.500	2185.78179	2272.30766	2035.08473
B	11	358.09939	111711.53300	1.300	354.74101	356.35628	363.20089
BE	9	4.71497	3132.38700	4.700	4.54515	4.63246	4.96729
CA	44	329338.79002	226088.47300	3.300	330973.83911	339261.40818	317781.12276
CR	52	51.28440	25468.22700	3.700	53.09245	51.45753	49.30322
FE	57	989.82184	8199.57700	5.600	958.37819	1053.35254	957.73478
K	39	12820.48336	144584.95700	2.700	12848.68065	13156.63113	12456.13829
MG	24	219622.39233	5463749.08700	3.200	219499.23180	226686.21532	212681.72986
MN	55	59.42494	7906.07300	7.300	59.40377	63.75853	55.11251
NA	23	966561.18055	53636090.86700	2.500	976100.56024	984889.65078	938693.33062
TI	47	269.54241	1653.53300	9.400	249.35564	261.38467	297.88691
V	51	51.17751	19618.45700	5.900	49.46536	54.64611	49.42106
GE-3	72	48388.84300	0.00000	0.000	46160.93000	49452.43000	49553.17000
CO	59	255.58965	258314.21000	4.100	267.62362	250.04216	249.10316
CU	63	51.71263	45835.89300	5.900	54.90161	48.85784	51.37843
NI	60	51.17097	15206.00000	1.200	51.80492	50.59136	51.11663
ZN	66	501.34774	34682.63300	2.800	516.87464	489.82732	497.34127
IN-2	115	507291.30700	0.00000	0.000	508139.34000	506900.97000	506833.61000
IN-3	115	14042.23700	0.00000	0.000	14406.62000	13435.67000	14284.42000
AG	107	50.79964	56941.46300	5.100	48.30661	53.48107	50.61124
AS	75	11.47055	546.68300	9.300	11.13614	10.61517	12.66033
CD	111	4.94721	450.01300	11.200	4.54611	4.71395	5.58156
MO	98	52.39426	27743.48700	5.700	49.45574	55.40352	52.32352
SE	78	10.64583	1221.84000	0.300	10.67076	10.65602	10.61070
SN	120	52.87452	11435.63000	7.600	48.26916	55.74750	54.60689
SR	88	1142.25547	111643.15000	5.900	1065.97043	1193.41342	1167.38256
TB-3	159	89637.51300	0.00000	0.000	88082.95000	89140.33000	91689.26000
BA	137	539.05251	30223.35300	3.600	520.30545	558.90327	537.94883
SB	121	8.00525	1510.18000	14.300	8.37077	6.72024	8.92474
BI-3	209	69002.95700	0.00000	0.000	67594.95000	69365.28000	70048.64000
PB	208	16.37655	40785.08300	1.500	16.14926	16.63138	16.34902
TL	203	2.31104	1790.25000	9.600	2.05580	2.41842	2.45891
U	238	16.25540	49006.81300	3.000	16.67351	15.72107	16.37163
SC-2	45	563565.72000	0.00000	0.000	562762.49000	561539.44000	566395.23000
GE-1	72	1949196	0	0.000	2001337	1947247	1899005
GE-2	72	1134416	0	0.000	1129130	1133894	1140223

Run Name: 1831804E05
 Tube Number: 37
 Sample Number: 9882883

Date/Time: 11/14/2018 9:52:21
 Batch: 183121063901A
 Class: M*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	2108030	0	0.000	2097497	2127819	2098774
SC-3	45	14988.99700	0.00000	0.000	14348.10000	15960.15000	14658.74000
AL	27	2095.29663	11839.17300	7.700	2045.90696	1965.11321	2274.86972
B	11	362.81285	118071.01700	1.300	357.51486	364.00774	366.91594
BE	9	4.68215	3247.74700	1.600	4.76791	4.64194	4.63661
CA	44	330073.58145	233293.79000	4.700	327561.68148	315911.82956	346747.23331
CR	52	51.42715	26279.87000	5.200	52.42549	48.38556	53.47041
FE	57	1005.86483	8573.21300	4.400	1027.22577	954.88386	1035.48486
K	39	13312.64405	154263.50000	6.900	13353.19629	12372.98497	14211.75089
MG	24	220943.08913	5654918.45700	5.400	224676.10033	207677.31363	230475.85345
MN	55	57.68630	7922.70700	7.000	53.57626	57.83577	61.64686
NA	23	976489.22355	55775559.17000	5.200	968784.96703	930420.03089	1030263
TI	47	262.37585	1650.20300	11.500	255.08224	236.58488	295.46041
V	51	53.44703	21080.55000	5.000	54.29992	50.47913	55.56205
GE-3	72	50934.61300	0.00000	0.000	48278.72000	51800.16000	52724.96000
CO	59	245.11888	260921.83000	1.900	250.14944	240.84114	244.36605
CU	63	48.96545	45712.21700	3.900	50.81585	49.06227	47.01822
NI	60	48.64345	15222.74700	2.400	49.14525	47.30136	49.48375
ZN	66	502.14293	36590.81300	1.600	500.43606	510.93669	495.05605
IN-2	115	513943.16700	0.00000	0.000	517647.58000	515692.27000	508489.65000
IN-3	115	14631.87000	0.00000	0.000	13971.92000	15121.26000	14802.43000
AG	107	49.68278	58056.26700	3.500	50.81677	47.70999	50.52159
AS	75	10.87630	539.34700	11.400	10.93024	9.60943	12.08924
CD	111	4.83927	458.01000	4.000	4.95351	4.61739	4.94692
MO	98	51.43981	28421.93300	4.100	50.73328	49.76964	53.81652
SE	78	11.22508	1304.95300	1.500	11.35526	11.27787	11.04213
SN	120	51.97967	11745.89000	4.500	49.36536	53.85293	52.72071
SR	88	1139.51228	116174.50000	1.500	1136.01731	1124.31909	1158.20043
TB-3	159	89055.06300	0.00000	0.000	84229.54000	89323.38000	93612.27000
BA	137	569.84101	31717.03000	2.400	585.39725	559.55422	564.57155
SB	121	7.80629	1463.50300	4.900	7.39616	8.14739	7.87533
BI-3	209	68328.80300	0.00000	0.000	66761.09000	68569.22000	69656.10000
PB	208	16.47647	40635.55300	2.500	16.37295	16.12199	16.93446
TL	203	2.22485	1706.87300	6.600	2.05474	2.30219	2.31762
U	238	16.28446	48625.47000	1.400	16.35167	16.03115	16.47055
SC-2	45	574494.43000	0.00000	0.000	567819.72000	581162.37000	574501.20000
GE-1	72	1989348	0	0.000	1997608	1990595	1979840
GE-2	72	1147846	0	0.000	1144744	1150588	1148206

Run Name: 1831804E05
 Tube Number: 38
 Sample Number: LLC

Date/Time: 11/14/2018 9:54:46

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	2201803	0	0.000	2223198	2239616	2142596
SC-3	45	14995.55000	0.00000	0.000	15329.28000	14458.22000	15199.15000
AL	27	386.88034	2233.64300	6.000	407.16617	391.76657	361.70827
B	11	80.80062	28979.83000	2.200	80.84135	82.55043	79.01009
BE	9	0.53965	412.67700	3.400	0.55794	0.52080	0.54021
CA	44	638.73933	463.37000	23.300	495.25820	628.62162	792.33817
CR	52	4.24445	2477.01300	10.300	3.76886	4.63082	4.33367
FE	57	88.19185	813.40000	10.500	96.29458	78.08045	90.20054
K	39	470.71456	9503.86000	10.300	498.80588	498.81976	414.51804
MG	24	153.50379	4040.85300	24.600	119.96298	146.03673	194.51165
MN	55	11.20338	1566.85000	12.600	11.67651	12.32073	9.61289
NA	23	1387.89315	119896.90700	6.000	1293.93533	1451.46290	1418.28121
TI	47	23.83377	163.34700	43.500	24.14045	34.04259	13.31826
V	51	0.98597	406.70000	20.600	0.81893	1.21266	0.92631
GE-3	72	53725.71700	0.00000	0.000	52876.12000	53247.03000	55054.00000
CO	59	1.18621	1380.14700	17.900	1.09128	1.03847	1.42887
CU	63	39.63846	39128.20000	2.600	40.72408	38.63102	39.56028
NI	60	4.05444	1436.83300	7.900	4.19275	4.28434	3.68623
ZN	66	17.48970	1363.48000	6.600	16.95324	16.70212	18.81375
IN-2	115	559334.03000	0.00000	0.000	553548.05000	560433.24000	564020.80000
IN-3	115	14951.15000	0.00000	0.000	15295.45000	13923.29000	15634.71000
AG	107	0.64670	776.73300	18.400	0.52062	0.66210	0.75738
AS	75	2.16957	117.33300	6.500	2.00948	2.26892	2.23032
CD	111	0.99778	96.66700	11.600	0.96388	1.12624	0.90323
MO	98	1.81243	1140.12300	11.700	1.91438	1.56953	1.95337
SE	78	2.16892	280.44700	3.100	2.23127	2.09732	2.17816
SN	120	1.86273	546.71000	7.900	1.73991	1.82242	2.02585
SR	88	6.69428	700.05700	9.400	6.94387	5.97871	7.16027
TB-3	159	94053.77700	0.00000	0.000	89333.43000	94892.99000	97934.91000
BA	137	4.71666	280.02000	36.500	3.57987	3.87563	6.69450
SB	121	2.31057	460.03700	4.200	2.22316	2.29283	2.41573
BI-3	209	77654.78700	0.00000	0.000	75660.90000	77634.38000	79669.08000
PB	208	3.05502	8725.06300	2.200	3.07285	3.11125	2.98097
TL	203	0.44915	406.69700	17.500	0.53609	0.38259	0.42877
U	238	0.54047	1840.26000	2.700	0.53952	0.55525	0.52664
SC-2	45	604618.46700	0.00000	0.000	592740.30000	610728.98000	610386.12000
GE-1	72	2188781	0	0.000	2288782	2191445	2086116
GE-2	72	1259345	0	0.000	1236476	1261595	1279964

Run Name: 1831804E05
 Tube Number: 39
 Sample Number: ICSA

Date/Time: 11/14/2018 9:57:09

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	1958521	0	0.000	1995166	1931465	1948934
SC-3	45	13747.61000	0.00000	0.000	12586.24000	15079.15000	13577.44000
AL	27	102501.31168	527440.69300	7.100	109334.82564	94796.55594	103372.55346
B	11	26.97046	9751.46300	2.800	27.51400	27.28959	26.10778
BE	9	0.00545	25.33300	83.800	0.00576	0.00073	0.00985
CA	44	275112.49105	177737.09000	7.600	292252.52597	251704.29282	281380.65435
CR	52	0.66018	610.04300	16.100	0.72838	0.53787	0.71427
FE	57	253646.31644	1961125.23000	8.500	271661.20882	229811.46146	259466.27904
K	39	103446.87195	1071020.11300	7.100	110291.48064	95685.43124	104363.70397
MG	24	104637.31490	2450334.49300	7.100	111152.51858	96546.46562	106212.96052
MN	55	3.81691	513.37000	1.400	3.81902	3.86939	3.76231
NA	23	263630.98899	13787128.96000	8.200	284001.40520	240794.76865	266096.79312
TI	47	2102.50725	11989.23300	10.000	2320.53353	1901.45889	2085.52932
V	51	0.04841	33.33300	206.500	0.16309	0.00227	-0.02013
GE-3	72	47800.83300	0.00000	0.000	46463.08000	48449.78000	48489.64000
CO	59	0.76044	800.07300	4.500	0.72225	0.77001	0.78907
CU	63	1.05579	1180.11700	4.500	1.07093	1.09405	1.00240
NI	60	1.38369	500.03300	7.800	1.50191	1.29144	1.35772
ZN	66	3.22280	236.68000	4.600	3.37053	3.22240	3.07547
IN-2	115	516382.89000	0.00000	0.000	522252.54000	511835.08000	515061.05000
IN-3	115	13462.47300	0.00000	0.000	12846.34000	13685.03000	13856.05000
AG	107	0.07872	86.67000	64.200	0.13337	0.03356	0.06923
AS	75	0.88306	48.00000	1.800	0.88761	0.86564	0.89593
CD	111	0.08395	8.00000	52.100	0.04107	0.12855	0.08222
MO	98	2097.54239	1061274.28000	3.100	2167.61442	2087.09236	2037.92040
SE	78	0.04533	12.22000	38.600	0.02514	0.05579	0.05506
SN	120	0.03960	116.67300	407.300	0.13326	-0.14668	0.13223
SR	88	17.97127	1680.19000	12.500	20.55781	16.88573	16.47027
TB-3	159	90179.05000	0.00000	0.000	86282.82000	91345.85000	92908.48000
BA	137	1.29493	73.33700	42.400	0.92656	1.92563	1.03258
SB	121	1.33540	256.68700	36.000	1.30796	0.86914	1.82909
BI-3	209	69815.29700	0.00000	0.000	68661.45000	71870.56000	68913.88000
PB	208	0.85576	2330.22300	3.000	0.82693	0.86421	0.87614
TL	203	0.01500	30.00000	228.600	0.04202	0.02656	-0.02358
U	238	0.04836	153.34300	23.300	0.06133	0.04258	0.04117
SC-2	45	560545.65700	0.00000	0.000	559581.52000	560373.04000	561682.41000
GE-1	72	1942605	0	0.000	1984750	1935355	1907711
GE-2	72	1136893	0	0.000	1141855	1136380	1132443

Run Name: 1831804E05
 Tube Number: 40
 Sample Number: ICSAB

Date/Time: 11/14/2018 9:59:32

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	1945205	0	0.000	1961246	1901428	1972942
SC-3	45	13987.85300	0.00000	0.000	13937.82000	14037.84000	13987.90000
AL	27	101570.80281	534093.30300	1.800	101500.75955	99808.71150	103402.93738
B	11	16.50407	6589.60000	2.300	16.09001	16.85458	16.56761
BE	9	0.00784	26.66700	160.900	-0.00604	0.01094	0.01862
CA	44	270602.14615	178697.13300	1.800	269442.76376	266327.37048	276036.30420
CR	52	202.73591	95940.27000	1.400	199.90187	202.64465	205.66122
FE	57	250801.72714	1983149.34700	1.700	250836.13628	246559.53464	255009.51050
K	39	102464.02018	1084097.79300	0.800	101696.00614	102426.70328	103269.35113
MG	24	103168.82227	2468778.50300	1.900	102640.95528	101476.27984	105389.23169
MN	55	207.37231	26470.14000	2.300	209.58189	201.89960	210.63545
NA	23	259738.35532	13890740.21000	2.000	258187.21836	255514.09986	265513.74773
TI	47	2089.33608	12196.04000	4.100	1993.62186	2116.24038	2158.14599
V	51	203.52829	74991.65000	1.400	203.34249	200.77805	206.46434
GE-3	72	47535.36700	0.00000	0.000	47575.22000	46963.25000	48067.63000
CO	59	203.92416	202679.26700	1.800	200.05439	207.13725	204.58083
CU	63	202.27146	175614.54000	2.000	197.62394	204.59504	204.59540
NI	60	202.86656	58953.57300	2.100	198.05712	204.21544	206.32713
ZN	66	106.46342	7252.30700	3.900	101.94914	110.13498	107.30615
IN-2	115	519132.82300	0.00000	0.000	523206.83000	524714.21000	509477.43000
IN-3	115	13370.00300	0.00000	0.000	13236.79000	12976.85000	13896.37000
AG	107	53.25797	56890.66700	2.300	52.29088	54.64499	52.83805
AS	75	113.43008	5057.67300	7.400	113.86370	121.60265	104.82390
CD	111	103.79898	8972.48300	1.800	101.63828	104.70044	105.05823
MO	98	2139.83697	1075709.09700	2.200	2114.00720	2193.22592	2112.27778
SE	78	105.78827	12360.30700	1.600	105.67852	104.14814	107.53817
SN	120	-0.20426	66.67300	0.000	-0.18314	-0.27718	-0.15245
SR	88	17.68879	1643.52300	13.800	16.69849	20.46198	15.90591
TB-3	159	88494.74000	0.00000	0.000	88165.02000	86021.86000	91297.34000
BA	137	1.01811	56.67000	60.200	0.36271	1.11525	1.57638
SB	121	1.46567	276.68700	22.700	1.44184	1.14569	1.80948
BI-3	209	69824.60300	0.00000	0.000	69223.94000	67907.69000	72342.18000
PB	208	0.97485	2623.60000	15.100	0.87592	1.14436	0.90427
TL	203	-0.00660	13.33300	0.000	0.00245	-0.02358	0.00133
U	238	0.02527	83.33700	45.700	0.03767	0.01485	0.02330
SC-2	45	559867.07700	0.00000	0.000	557715.19000	559418.98000	562467.06000
GE-1	72	1944221	0	0.000	1958753	1925701	1948210
GE-2	72	1130049	0	0.000	1149194	1123709	1117244

Run Name: 1831804E05
 Tube Number: 41
 Sample Number: RINSE

Date/Time: 11/14/2018 10:01:57

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	1977749	0	0.000	1967111	1973091	1993044
SC-3	45	13397.22300	0.00000	0.000	12966.98000	13377.15000	13847.54000
AL	27	19.30340	146.67700	99.900	2.90309	14.45988	40.54721
B	11	8.47080	4286.69300	1.200	8.58787	8.39078	8.43376
BE	9	0.00299	24.00000	370.700	-0.00923	0.01241	0.00580
CA	44	137.39075	96.67300	42.700	196.31433	78.94063	136.91729
CR	52	0.59491	566.70700	20.200	0.73332	0.53532	0.51609
FE	57	67.56683	576.72000	74.200	34.72142	42.68144	125.29764
K	39	63.01084	4370.96700	92.900	124.77987	8.37137	55.88129
MG	24	18.42786	523.38000	109.900	4.12348	9.55588	41.60421
MN	55	0.26409	66.67000	88.700	0.22904	0.04942	0.51379
NA	23	215.26944	47271.60700	12.700	241.66450	187.09051	217.05331
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	0.00803	20.00000	706.800	-0.04809	0.06545	0.00675
GE-3	72	49385.42000	0.00000	0.000	49251.02000	48438.71000	50466.53000
CO	59	0.01491	56.67000	178.700	-0.00080	-0.00015	0.04567
CU	63	0.17856	430.03700	68.400	0.04703	0.20000	0.28865
NI	60	0.01863	106.67000	1564.500	-0.19886	-0.09515	0.34990
ZN	66	2.36536	183.34700	37.400	2.03012	3.36771	1.69825
IN-2	115	543106.46000	0.00000	0.000	537124.24000	542807.18000	549387.96000
IN-3	115	14271.55300	0.00000	0.000	13957.77000	14328.29000	14528.60000
AG	107	0.03176	40.00300	110.000	-0.00301	0.06686	0.03144
AS	75	-0.05750	6.00000	0.000	0.15768	-0.14416	-0.18602
CD	111	0.02149	2.66700	115.200	-0.00710	0.03608	0.03549
MO	98	4.33447	2443.70700	20.100	3.45130	4.35904	5.19305
SE	78	0.08564	17.78000	16.400	0.09453	0.09291	0.06948
SN	120	-0.26956	56.66700	0.000	-0.24800	-0.34669	-0.21398
SR	88	0.06585	6.66700	173.200	0.00000	0.00000	0.19756
TB-3	159	92318.78000	0.00000	0.000	91638.76000	92548.87000	92768.71000
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SB	121	0.06806	16.66700	115.500	0.08603	-0.01800	0.13615
BI-3	209	76734.99000	0.00000	0.000	74353.69000	77050.28000	78801.00000
PB	208	-0.02046	146.67300	0.000	-0.04315	-0.03697	0.01875
TL	203	0.00051	20.00000	6290.500	0.03700	-0.01189	-0.02358
U	238	0.00198	13.33300	174.400	0.00415	-0.00201	0.00380
SC-2	45	565124.71700	0.00000	0.000	559524.56000	562990.34000	572859.25000
GE-1	72	2027585	0	0.000	2020449	2009638	2052667
GE-2	72	1188490	0	0.000	1178256	1192053	1195161

Run Name: 1831804E05
 Tube Number: 42
 Sample Number: **CCV**

Date/Time: 11/14/2018 10:04:21

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	1981941	0	0.000	2008368	1992357	1945098
SC-3	45	13700.89700	0.00000	0.000	13887.93000	13417.23000	13797.53000
AL	27	2584.91210	13357.07300	3.900	2468.68334	2638.99046	2647.06249
B	11	264.71518	81458.72000	1.000	261.71316	266.34749	266.08488
BE	9	27.25911	17671.16700	1.400	26.93026	27.66379	27.18328
CA	44	2177.94823	1416.83000	23.100	1600.86992	2415.53586	2517.43890
CR	52	263.27634	121899.72000	2.900	255.93833	271.06845	262.82223
FE	57	2558.59285	19868.93300	3.000	2474.40066	2620.87864	2580.49926
K	39	2634.88610	31033.00700	0.900	2648.25018	2649.08966	2607.31845
MG	24	2573.96690	60413.83300	1.600	2576.96845	2613.24023	2531.69202
MN	55	268.93691	33609.31000	1.900	268.53780	274.19503	264.07791
NA	23	2648.59073	175437.92700	2.400	2578.49552	2705.99444	2661.28224
TI	47	271.09416	1563.52000	7.400	282.62155	247.91216	282.74876
V	51	262.09089	94548.26700	4.200	249.43063	270.03764	266.80441
GE-3	72	49385.22300	0.00000	0.000	48327.39000	48750.15000	51078.13000
CO	59	256.71859	265071.05300	1.300	254.33706	260.39793	255.42077
CU	63	252.71684	227821.63300	1.500	253.95962	255.76513	248.42578
NI	60	260.90932	78712.39000	2.000	262.29022	265.22220	255.21553
ZN	66	256.66268	18133.16300	3.300	256.35826	265.33585	248.29395
IN-2	115	556163.19300	0.00000	0.000	550916.27000	569544.87000	548028.44000
IN-3	115	14130.81000	0.00000	0.000	13366.38000	14076.25000	14949.80000
AG	107	26.76220	30185.88000	3.500	27.69312	26.76007	25.83341
AS	75	260.88116	12294.34700	2.800	269.11609	255.79070	257.73669
CD	111	25.75849	2352.23700	1.500	25.99104	25.97693	25.30750
MO	98	26.04295	13917.96000	6.400	27.75823	25.91299	24.45764
SE	78	26.02406	3263.73700	1.500	25.59470	26.08778	26.38969
SN	120	26.55135	5844.98300	5.100	25.49442	28.09122	26.06840
SR	88	29.55012	2903.82700	5.800	30.60500	30.48964	27.55572
TB-3	159	91588.85000	0.00000	0.000	87178.81000	92797.87000	94789.87000
BA	137	254.78084	14602.28700	2.000	249.76243	254.47384	260.10625
SB	121	26.95559	5174.63000	5.600	28.58454	26.69857	25.58368
BI-3	209	77395.83300	0.00000	0.000	76838.03000	75018.31000	80331.16000
PB	208	26.23195	73142.70300	0.500	26.08702	26.36347	26.24534
TL	203	26.60544	22858.92000	3.800	26.33474	27.72039	25.76117
U	238	26.07497	88149.79300	2.200	25.75278	26.74910	25.72302
SC-2	45	571810.79700	0.00000	0.000	566649.91000	584297.37000	564485.11000
GE-1	72	2037026	0	0.000	2042459	2089835	1978785
GE-2	72	1200665	0	0.000	1181753	1224009	1196233

Run Name: 1831804E05
 Tube Number: 43
 Sample Number: CCB

Date/Time: 11/14/2018 10:06:46

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	1969083	0	0.000	1989308	1987937	1930005
SC-3	45	13517.52000	0.00000	0.000	13227.18000	13607.61000	13717.77000
AL	27	-0.22910	46.66700	0.000	-1.36157	2.32357	-1.64929
B	11	35.35371	12310.12700	1.100	35.33978	34.96403	35.75733
BE	9	0.01236	30.00000	135.200	0.03050	0.00898	-0.00241
CA	44	41.74281	36.67000	96.800	80.03388	-0.50308	45.69764
CR	52	0.19326	390.03000	144.500	0.21259	-0.09519	0.46237
FE	57	-1.91732	43.33300	0.000	-3.56198	0.22590	-2.41589
K	39	19.41513	3967.44000	235.400	70.86393	3.89830	-16.51686
MG	24	1.22050	120.00700	150.100	3.07997	1.16394	-0.58241
MN	55	-0.06296	26.66700	0.000	-0.11277	-0.11740	0.04128
NA	23	76.29346	40537.07300	32.800	86.28504	94.76855	47.82679
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	-0.00181	16.66700	0.000	-0.04809	0.00772	0.03495
GE-3	72	50255.18700	0.00000	0.000	49041.18000	51259.13000	50465.25000
CO	59	0.03315	76.67000	157.000	-0.00063	0.00701	0.09306
CU	63	0.01444	286.68700	472.600	-0.02975	-0.01997	0.09306
NI	60	-0.09249	73.33300	0.000	-0.06464	-0.10817	-0.10465
ZN	66	-0.10402	10.00000	0.000	-0.24187	-0.10545	0.03527
IN-2	115	554699.63300	0.00000	0.000	550174.79000	555923.52000	558000.59000
IN-3	115	14501.62300	0.00000	0.000	14277.80000	14498.46000	14728.61000
AG	107	0.03713	46.67000	93.900	0.00575	0.07467	0.03097
AS	75	0.02077	10.00000	15.500	0.02398	0.02079	0.01755
CD	111	0.00001	0.66700	130557.800	-0.00710	0.01424	-0.00710
MO	98	0.05660	143.34300	74.100	0.09134	0.06847	0.01001
SE	78	0.05047	13.77700	58.500	0.05314	0.07859	0.01969
SN	120	-0.09241	96.67000	0.000	-0.07084	-0.03260	-0.17380
SR	88	0.10001	10.00000	100.500	0.20103	0.09898	0.00000
TB-3	159	91908.99700	0.00000	0.000	87058.69000	93249.68000	95418.62000
BA	137	0.05716	3.33300	173.200	0.00000	0.17147	0.00000
SB	121	0.35591	73.33700	91.800	0.20101	0.13535	0.73137
BI-3	209	77858.83300	0.00000	0.000	75118.89000	80380.62000	78076.99000
PB	208	-0.02530	133.34000	0.000	-0.01751	-0.02808	-0.03031
TL	203	0.00746	26.66700	245.900	0.02439	0.01004	-0.01204
U	238	0.00976	40.00000	4.100	0.01018	0.00938	0.00972
SC-2	45	572160.72000	0.00000	0.000	562528.82000	576074.95000	577878.39000
GE-1	72	2035168	0	0.000	2063582	2043926	1997997
GE-2	72	1198190	0	0.000	1177276	1199354	1217940

Run Name: 1831804E05
 Tube Number: 44
 Sample Number: **PBW**

Date/Time: 11/14/2018 10:09:10
 Batch: 183061063902A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	2025228	0	0.000	2075854	2029902	1969930
SC-3	45	13534.01700	0.00000	0.000	13116.96000	14358.20000	13126.89000
AL	27	4.49538	70.00300	100.200	8.84884	-0.14247	4.77976
B	11	16.38220	6825.05000	3.800	16.13149	17.08841	15.92669
BE	9	-0.00078	22.00000	0.000	-0.01349	0.01111	0.00005
CA	44	-5.77329	6.66700	0.000	-16.07000	-1.31686	0.06699
CR	52	5.48941	2807.13300	10.100	4.94586	5.47338	6.04898
FE	57	4.73680	93.33700	120.200	1.86631	1.05020	11.29388
K	39	21.38695	3994.16300	201.700	69.52583	8.35980	-13.72478
MG	24	0.23790	96.67000	922.800	-0.42626	-1.54872	2.68868
MN	55	0.38298	80.00300	172.300	0.05593	-0.04941	1.14242
NA	23	21.46416	37695.37000	188.600	33.03452	-23.54676	54.90474
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	-0.02881	6.66700	0.000	-0.04809	-0.04809	0.00976
GE-3	72	48616.40000	0.00000	0.000	47213.99000	46984.30000	51650.91000
CO	59	0.02375	63.33700	155.100	0.06167	0.02144	-0.01187
CU	63	0.13076	380.02700	63.200	0.05031	0.21541	0.12655
NI	60	0.70973	303.35700	92.400	0.60513	1.41186	0.11221
ZN	66	0.92837	80.00700	60.700	1.38756	1.09784	0.29970
IN-2	115	549664.91300	0.00000	0.000	547068.11000	551984.48000	549942.15000
IN-3	115	13997.64300	0.00000	0.000	13737.62000	13897.02000	14358.29000
AG	107	0.02094	26.66700	51.600	0.03342	0.01499	0.01442
AS	75	-0.11452	3.33300	0.000	-0.05506	-0.18602	-0.10249
CD	111	0.00008	0.66700	15772.100	-0.00710	-0.00710	0.01445
MO	98	-0.04262	86.67300	0.000	-0.09051	-0.03442	-0.00292
SE	78	0.03350	11.55700	25.600	0.04297	0.03126	0.02627
SN	120	-0.27923	53.33700	0.000	-0.14810	-0.38814	-0.30146
SR	88	0.06885	6.66700	173.200	0.00000	0.20654	0.00000
TB-3	159	89881.73700	0.00000	0.000	87602.65000	90895.64000	91146.92000
BA	137	0.11695	6.66700	173.200	0.00000	0.00000	0.35085
SB	121	0.14115	30.00000	2.500	0.14524	0.13932	0.13889
BI-3	209	77978.88700	0.00000	0.000	76375.17000	77954.92000	79606.57000
PB	208	-0.03146	116.67000	0.000	-0.02207	-0.05167	-0.02065
TL	203	0.00748	26.66700	389.700	0.01181	0.03420	-0.02358
U	238	-0.00105	3.33300	0.000	-0.00201	-0.00201	0.00087
SC-2	45	561164.37000	0.00000	0.000	564771.87000	555046.83000	563674.41000
GE-1	72	2019179	0	0.000	2031056	2008304	2018177
GE-2	72	1182669	0	0.000	1177396	1191095	1179517

Run Name: 1831804E05
 Tube Number: 45
 Sample Number: PBW

Date/Time: 11/14/2018 10:11:34
 Batch: 183061063902A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1993313	0	0.000	2022611	1961668	1995660
SC-3	45	13397.24700	0.00000	0.000	12506.43000	13817.73000	13867.58000
AL	27	0.54942	50.00000	710.900	1.22923	4.07049	-3.65146
B	11	10.89448	5056.29000	5.200	11.51977	10.39976	10.76390
BE	9	-0.01660	11.33300	0.000	-0.02808	-0.00292	-0.01879
CA	44	-10.42415	3.33300	0.000	0.86757	-16.07000	-16.07000
CR	52	5.99941	2997.16300	15.900	6.83237	4.96198	6.20388
FE	57	5.71063	100.00700	66.100	7.98651	7.79005	1.35532
K	39	38.59025	4117.48300	95.800	80.39172	25.10223	10.27681
MG	24	3.30945	170.01000	98.700	-0.25222	6.16215	4.01842
MN	55	0.34595	76.67000	27.000	0.24774	0.35660	0.43352
NA	23	11.59268	36813.43300	299.000	51.03449	-13.99399	-2.26246
TI	47	-1.31353	6.66700	0.000	-2.46904	-0.73265	-0.73889
V	51	0.03806	30.00000	134.400	0.07335	-0.02061	0.06143
GE-3	72	48218.07700	0.00000	0.000	45678.91000	49241.52000	49733.80000
CO	59	-0.00664	33.33300	0.000	-0.00823	-0.01051	-0.00118
CU	63	0.06578	320.02300	107.300	0.07402	-0.00857	0.13189
NI	60	0.99394	390.03300	14.000	0.99535	1.13228	0.85419
ZN	66	0.94736	80.00300	101.500	2.05469	0.32620	0.46119
IN-2	115	545714.38700	0.00000	0.000	547725.51000	545261.91000	544155.74000
IN-3	115	14081.22700	0.00000	0.000	13427.43000	14838.71000	13977.54000
AG	107	0.01139	16.66700	114.200	-0.00301	0.02228	0.01489
AS	75	0.05788	11.33300	132.000	0.12660	-0.02437	0.07139
CD	111	0.02070	2.66700	232.700	-0.00710	0.07630	-0.00710
MO	98	-0.09923	56.66700	0.000	-0.06802	-0.09913	-0.13055
SE	78	-0.01108	6.00000	0.000	-0.01672	-0.02736	0.01085
SN	120	-0.29685	50.00000	0.000	-0.23688	-0.26471	-0.38896
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-3	159	89595.65000	0.00000	0.000	85225.81000	90843.48000	92717.66000
BA	137	0.25015	13.33300	173.200	0.75044	0.00000	0.00000
SB	121	0.05055	13.33300	234.900	-0.01800	-0.01800	0.18764
BI-3	209	77309.20300	0.00000	0.000	73760.56000	78730.30000	79436.75000
PB	208	-0.03477	106.67000	0.000	-0.03913	-0.02713	-0.03806
TL	203	0.00350	23.33300	489.300	0.00085	-0.01214	0.02178
U	238	0.00006	6.66700	5692.200	0.00420	-0.00201	-0.00201
SC-2	45	558641.72300	0.00000	0.000	554595.34000	566341.40000	554988.43000
GE-1	72	2004468	0	0.000	2044335	1966038	2003031
GE-2	72	1184906	0	0.000	1176800	1200299	1177619

Run Name: 1831804E05
 Tube Number: 46
 Sample Number: LCSW

Date/Time: 11/14/2018 10:13:59
 Batch: 183061063902A
 Class: *****

Initial Vol: 1.00

Final Vol: 1.00

DF: 1.00

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	1985171	0	0.000	2010688	2004840	1939986
SC-3	45	13767.57000	0.00000	0.000	13407.25000	13657.53000	14237.93000
AL	27	2098.92954	10901.54700	4.500	2200.06121	2083.54211	2013.18530
B	11	280.23511	86259.14000	1.800	277.58525	277.17556	285.94453
BE	9	4.31891	2822.98000	1.000	4.27477	4.36063	4.32133
CA	44	3663.75924	2393.68300	4.200	3555.13505	3598.26136	3837.88129
CR	52	52.43604	24633.49000	4.000	53.13749	54.08796	50.08267
FE	57	1016.75053	7969.40700	4.300	998.17154	1066.58180	985.49826
K	39	10513.13689	112938.09300	2.400	10681.88376	10216.99292	10640.53398
MG	24	2000.60071	47199.12300	1.500	2014.68913	2020.17703	1966.93596
MN	55	55.91993	7052.25700	6.600	58.50333	51.71645	57.54002
NA	23	10214.65851	573342.45000	1.800	10423.85873	10136.10746	10084.00936
TI	47	269.95876	1563.49700	0.800	267.78002	269.85989	272.23636
V	51	49.17986	17829.10300	5.800	50.51303	51.14584	45.88072
GE-3	72	48572.51000	0.00000	0.000	47605.51000	48208.13000	49903.89000
CO	59	258.10043	262065.64000	1.400	261.18870	259.01179	254.10081
CU	63	51.72252	46063.10000	3.800	51.68918	53.68728	49.79109
NI	60	53.43233	15946.75700	3.400	51.63579	53.43566	55.22555
ZN	66	524.79199	36470.89700	0.700	520.78629	525.75897	527.83072
IN-2	115	546877.72300	0.00000	0.000	537682.35000	546190.93000	556759.89000
IN-3	115	14405.13700	0.00000	0.000	13954.51000	14882.27000	14378.63000
AG	107	50.90735	58554.49000	4.200	52.91534	48.64451	51.16218
AS	75	11.00063	537.35300	4.200	11.37405	11.13692	10.49090
CD	111	4.90389	456.67700	6.700	5.11491	4.52533	5.07142
MO	98	49.11565	26698.05000	4.300	50.75825	46.75896	49.82974
SE	78	10.29939	1274.50700	3.500	10.10869	10.70988	10.07959
SN	120	50.13624	11131.89700	5.400	52.38602	47.10613	50.91656
SR	88	39.29311	3940.78300	3.900	40.73402	37.71212	39.43320
TB-3	159	90270.40300	0.00000	0.000	86878.04000	91388.04000	92545.13000
BA	137	49.98561	2830.47000	15.900	43.25580	47.94703	58.75402
SB	121	6.52522	1240.12700	6.800	6.18235	7.02398	6.36932
BI-3	209	78174.28700	0.00000	0.000	78419.50000	77594.26000	78509.10000
PB	208	15.05791	42503.97300	4.000	15.56271	14.38565	15.22536
TL	203	2.30198	2016.94700	14.400	1.98708	2.64715	2.27170
U	238	26.53524	90640.97700	2.200	25.86475	26.88315	26.85783
SC-2	45	565966.54000	0.00000	0.000	560845.38000	568735.73000	568318.51000
GE-1	72	1997837	0	0.000	2036643	2013454	1943415
GE-2	72	1188902	0	0.000	1172435	1199475	1194796

Run Name: 1831804E05
 Tube Number: 47
 Sample Number: **9876338**

Date/Time: 11/14/2018 10:16:23
 Batch: 183061063902A
 Class: U*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1981519	0	0.000	1984433	1998948	1961176
SC-3	45	13487.25300	0.00000	0.000	13256.96000	13267.11000	13937.69000
AL	27	9.46722	96.67000	111.400	6.64731	0.61942	21.13494
B	11	621.08527	188743.02300	1.000	614.06093	623.89755	625.29734
BE	9	0.00402	24.66700	187.000	-0.00020	-0.00044	0.01269
CA	44	79514.05585	50648.35000	1.500	78182.00595	79819.94056	80540.22104
CR	52	1.06552	786.74300	27.800	0.72517	1.26066	1.21072
FE	57	7439.59395	56783.47300	1.300	7326.65818	7515.17535	7476.94832
K	39	25071.56303	258561.90000	2.300	24712.97209	25744.57124	24757.14575
MG	24	73768.36434	1702059.09000	2.300	72137.67924	75568.69197	73598.72180
MN	55	2454.99583	301769.05000	2.500	2400.72372	2523.45409	2440.80970
NA	23	101286.84405	5243360.54700	2.400	100923.29697	103915.71075	99021.52442
TI	47	-1.86622	3.33300	0.000	-2.46904	-0.66058	-2.46904
V	51	0.29811	123.34300	20.500	0.23836	0.29538	0.36059
GE-3	72	48328.08700	0.00000	0.000	47415.11000	48448.33000	49120.82000
CO	59	2.69691	2763.75700	10.200	2.67453	2.98203	2.43417
CU	63	0.13328	380.02700	96.500	0.21074	-0.01515	0.20424
NI	60	3.84485	1233.46300	11.400	3.43509	3.79437	4.30510
ZN	66	5.40514	390.02300	6.700	5.80544	5.09910	5.31086
IN-2	115	530734.85300	0.00000	0.000	534594.31000	536507.22000	521103.03000
IN-3	115	13996.73700	0.00000	0.000	13586.28000	14267.03000	14136.90000
AG	107	0.03261	40.00000	24.900	0.02462	0.04084	0.03239
AS	75	7.89778	377.34300	0.400	7.93547	7.88421	7.87366
CD	111	0.06631	6.66700	75.600	0.03844	0.03627	0.12422
MO	98	3.65026	2033.60700	9.900	3.23812	3.91265	3.80000
SE	78	0.02361	10.00000	122.000	0.05643	0.01186	0.00255
SN	120	0.36160	190.01000	39.300	0.48279	0.20497	0.39703
SR	88	276.22747	26955.23300	3.200	266.02856	282.46759	280.18627
TB-3	159	91569.24300	0.00000	0.000	88375.76000	92336.46000	93995.51000
BA	137	1042.09113	59682.10000	1.100	1035.91889	1055.86419	1034.49032
SB	121	0.30901	63.33700	51.000	0.19774	0.24011	0.48916
BI-3	209	75702.16300	0.00000	0.000	74001.84000	73418.51000	79686.14000
PB	208	0.39692	1280.11000	13.900	0.33315	0.43116	0.42643
TL	203	-0.00819	13.33300	0.000	-0.02358	-0.01131	0.01034
U	238	1.59425	5278.10300	3.700	1.54473	1.65994	1.57808
SC-2	45	559040.18300	0.00000	0.000	555294.09000	561641.94000	560184.52000
GE-1	72	2002164	0	0.000	2005164	2006343	1994986
GE-2	72	1161574	0	0.000	1162055	1172083	1150585

Run Name: 1831804E05
 Tube Number: 48
 Sample Number: **9876338**

Date/Time: 11/14/2018 10:18:49
 Batch: 183061063902A
 Class: UP*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	2022723	0	0.000	2052004	2002170	2013996
SC-3	45	13243.92300	0.00000	0.000	12726.54000	12386.53000	14618.70000
AL	27	875.01507	4404.25700	4.700	916.83414	834.81583	873.39523
B	11	752.52497	233049.33300	1.000	744.91381	760.29960	752.36149
BE	9	1.05863	722.03000	1.400	1.05191	1.07588	1.04809
CA	44	80908.74938	50357.10000	7.800	83228.19979	85736.13754	73761.91079
CR	52	9.67288	4581.02700	14.300	9.63995	11.07222	8.30646
FE	57	7845.21779	58504.43000	8.300	7960.47058	8428.66365	7146.51916
K	39	25921.91149	261331.67000	7.300	26225.77863	27633.36449	23906.59134
MG	24	75177.14482	1695450.70300	8.100	75526.79722	81065.96429	68938.67296
MN	55	2501.35201	300750.87300	6.700	2533.40011	2650.52092	2320.13499
NA	23	104538.80007	5290098.04700	8.100	105386.69598	112552.09003	95677.61419
TI	47	58.86603	343.35700	33.600	67.28971	36.27330	73.03508
V	51	2.12175	760.06300	12.200	2.27934	1.82202	2.26389
GE-3	72	49418.72300	0.00000	0.000	48960.77000	51178.30000	48117.10000
CO	59	4.66597	4854.47300	6.900	4.76828	4.30744	4.92219
CU	63	77.29873	69902.12300	2.400	77.51222	75.34729	79.03668
NI	60	10.67276	3317.25300	3.100	10.91435	10.29903	10.80491
ZN	66	35.61760	2533.69700	4.200	37.32871	34.88039	34.64370
IN-2	115	534588.64300	0.00000	0.000	538418.53000	537428.29000	527919.11000
IN-3	115	14237.08300	0.00000	0.000	14205.97000	13445.98000	15059.30000
AG	107	1.10559	1260.14300	4.800	1.05410	1.16040	1.10227
AS	75	12.22332	588.02000	7.300	11.59155	13.23839	11.84004
CD	111	1.86016	172.00000	6.900	1.99668	1.74176	1.84204
MO	98	7.42450	4074.19700	8.100	7.30028	8.08070	6.89252
SE	78	3.95292	482.68000	1.500	3.99083	3.98176	3.88616
SN	120	4.14389	1013.42700	7.800	4.26538	4.39013	3.77615
SR	88	282.27188	27927.21000	7.900	271.73441	307.94925	267.13200
TB-3	159	91593.10000	0.00000	0.000	90221.20000	91729.32000	92828.78000
BA	137	1015.26564	58179.06000	3.700	976.29853	1018.02019	1051.47819
SB	121	4.19817	810.06700	7.600	4.10326	4.55514	3.93610
BI-3	209	76970.64700	0.00000	0.000	76698.93000	77503.78000	76709.23000
PB	208	6.38642	17862.78700	2.200	6.25427	6.36827	6.53671
TL	203	1.07313	936.76300	11.100	1.20984	0.98779	1.02175
U	238	2.56464	8630.21000	5.400	2.65480	2.40558	2.63355
SC-2	45	560375.18700	0.00000	0.000	566652.57000	557756.83000	556716.16000
GE-1	72	1996774	0	0.000	2018274	1993446	1978601
GE-2	72	1178617	0	0.000	1180338	1177006	1178509

Run Name: 1831804E05
 Tube Number: 49
 Sample Number: **9876341**

Date/Time: 11/14/2018 10:21:12
 Batch: 183061063902A
 Class: D*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	1878583	0	0.000	2040936	1692748	1902063
SC-3	45	13860.96700	0.00000	0.000	13967.76000	13547.23000	14067.91000
AL	27	2.76682	63.33300	49.300	2.02111	4.33959	1.93976
B	11	667.05033	191992.90000	1.600	656.82461	666.73722	677.58916
BE	9	-0.02195	7.33300	0.000	-0.02813	-0.01967	-0.01804
CA	44	76696.11494	50180.24000	3.200	74203.67554	79158.17564	76726.49364
CR	52	0.37395	483.36700	59.600	0.52718	0.47653	0.11815
FE	57	7347.80574	57600.68000	5.400	6959.81617	7747.70154	7335.89950
K	39	24252.23910	257150.10300	3.700	23245.12842	24986.29278	24525.29610
MG	24	71410.44428	1692889.92000	2.300	70081.20285	73273.54680	70876.58320
MN	55	2383.47621	301022.89300	3.200	2310.32781	2461.48859	2378.61224
NA	23	98212.48955	5227016.17300	2.300	95838.91590	100373.94900	98424.60374
TI	47	-0.73353	10.00000	0.000	0.96644	-0.69798	-2.46904
V	51	0.22733	100.00700	50.700	0.22378	0.34434	0.11386
GE-3	72	48612.55300	0.00000	0.000	46651.77000	49522.45000	49663.44000
CO	59	2.43006	2503.69700	11.200	2.72919	2.36580	2.19520
CU	63	0.12145	370.03000	78.500	0.23083	0.05621	0.07730
NI	60	3.83057	1233.46300	15.300	4.05874	4.26743	3.16555
ZN	66	5.14406	373.35700	14.500	5.90454	4.41841	5.10924
IN-2	115	530467.85700	0.00000	0.000	522966.93000	528834.71000	539601.93000
IN-3	115	14547.48300	0.00000	0.000	14197.65000	14406.92000	15037.88000
AG	107	0.04597	56.66700	30.800	0.04987	0.05778	0.03027
AS	75	7.26191	361.34300	17.600	8.34601	5.84956	7.59015
CD	111	-0.00710	0.00000	0.000	-0.00710	-0.00710	-0.00710
MO	98	3.37262	1956.92000	7.900	3.67045	3.15271	3.29469
SE	78	0.02749	10.44300	63.900	0.03633	0.00727	0.03888
SN	120	-0.12795	90.00300	0.000	-0.25275	-0.21132	0.08022
SR	88	267.09856	27095.35000	4.200	254.98007	269.34120	276.97443
TB-3	159	92287.04700	0.00000	0.000	90209.30000	93160.36000	93491.48000
BA	137	1024.15785	59116.74300	0.600	1017.56324	1026.34507	1028.56523
SB	121	0.48229	96.67300	18.100	0.56328	0.49371	0.38987
BI-3	209	77168.27300	0.00000	0.000	76758.96000	77684.80000	77061.06000
PB	208	0.42694	1386.77700	10.900	0.41284	0.47872	0.38927
TL	203	0.00761	26.67000	321.900	0.03511	-0.00039	-0.01189
U	238	1.63869	5531.62000	6.500	1.59357	1.56281	1.75971
SC-2	45	555414.58700	0.00000	0.000	546609.44000	556076.67000	563557.65000
GE-1	72	1888737	0	0.000	2028361	1725233	1912616
GE-2	72	1159930	0	0.000	1146454	1159592	1173742

Run Name: 1831804E05
 Tube Number: 50
 Sample Number: **9876339**

Date/Time: 11/14/2018 10:23:36
 Batch: 183061063902A
 Class: R*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	2004586	0	0.000	2023912	1987300	2002544
SC-3	45	13620.77700	0.00000	0.000	13437.30000	13777.67000	13647.36000
AL	27	2101.70092	10808.17700	0.800	2113.87885	2082.68337	2108.54054
B	11	997.22617	305516.17700	0.800	1002.89898	1001.06828	987.71125
BE	9	4.49521	2965.67300	3.700	4.32527	4.50419	4.65616
CA	44	82430.59949	53014.54700	0.700	82070.00181	82124.99149	83096.80516
CR	52	50.94212	23701.74300	3.100	50.27600	49.81508	52.73528
FE	57	8583.30887	66148.81300	1.000	8516.05395	8554.61598	8679.25666
K	39	35293.55530	366101.32300	0.300	35397.04750	35282.59638	35201.02202
MG	24	75540.36135	1760113.04700	1.000	76269.21830	74810.36931	75541.49644
MN	55	2521.57015	313096.66300	2.800	2448.87020	2526.77248	2589.06777
NA	23	112228.36373	5865037.62300	0.900	113089.85952	111058.56470	112536.66697
TI	47	281.18144	1610.18300	2.900	286.82384	284.90133	271.81914
V	51	51.31652	18426.63300	1.100	50.76836	51.88574	51.29545
GE-3	72	47344.94300	0.00000	0.000	45890.03000	46973.65000	49171.15000
CO	59	257.31988	254507.74000	3.700	264.81146	260.55837	246.58981
CU	63	52.01117	45133.19700	3.600	52.84215	53.33698	49.85437
NI	60	54.19114	15743.28300	3.600	56.43803	53.41777	52.71763
ZN	66	536.11577	36313.73300	3.100	522.68297	554.79991	530.86445
IN-2	115	539084.45000	0.00000	0.000	538655.85000	538407.45000	540190.05000
IN-3	115	13864.98300	0.00000	0.000	13389.99000	14177.33000	14027.63000
AG	107	41.07354	45513.50300	0.100	41.09298	41.07689	41.05075
AS	75	17.63514	824.04000	0.700	17.68384	17.49508	17.72652
CD	111	4.87359	436.01000	16.100	5.74679	4.22691	4.64707
MO	98	54.65999	28612.09700	3.200	54.16133	53.20887	56.60976
SE	78	10.20110	1244.50700	2.100	10.12884	10.02895	10.44550
SN	120	52.21913	11158.66300	4.200	54.47163	50.07550	52.11025
SR	88	327.41991	31618.86000	2.700	334.27134	317.42819	330.56019
TB-3	159	91505.87700	0.00000	0.000	89385.12000	94470.06000	90662.45000
BA	137	1095.45567	62690.25000	1.300	1085.14428	1089.34033	1111.88241
SB	121	7.37549	1420.16000	7.200	7.60843	7.75315	6.76489
BI-3	209	75836.11000	0.00000	0.000	74888.18000	77110.25000	75509.90000
PB	208	16.39931	44873.95000	1.600	16.53842	16.09198	16.56755
TL	203	2.33886	1986.94300	12.400	2.34660	2.04455	2.62544
U	238	29.51165	97788.29300	1.100	29.88375	29.31869	29.33251
SC-2	45	565065.76000	0.00000	0.000	561562.10000	560362.84000	573272.34000
GE-1	72	1997348	0	0.000	2022386	1974444	1995214
GE-2	72	1168365	0	0.000	1175344	1162899	1166851

Run Name: 1831804E05
 Tube Number: 51
 Sample Number: **9876340**

Date/Time: 11/14/2018 10:26:00
 Batch: 183061063902A
 Class: M*****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	2060970	0	0.000	2069506	2087147	2026256
SC-3	45	13560.67700	0.00000	0.000	13247.09000	13827.56000	13607.38000
AL	27	2205.41996	11291.84000	3.500	2144.36430	2179.07916	2292.81642
B	11	1024.30658	322557.32000	0.900	1021.82482	1016.49483	1034.60008
BE	9	4.58369	3109.04300	0.300	4.56656	4.58928	4.59523
CA	44	83789.90370	53636.59000	1.900	85141.81710	82058.82874	84169.06527
CR	52	52.77638	24426.22000	2.800	54.34799	51.39473	52.58642
FE	57	8633.69108	66229.55000	2.600	8661.18465	8397.75615	8842.13243
K	39	35889.74719	370546.81700	0.900	36077.02076	35507.88214	36084.33868
MG	24	77848.97704	1805211.64000	3.300	80206.23286	75082.66696	78258.03129
MN	55	2586.76833	319686.41000	2.000	2589.05035	2533.48009	2637.77454
NA	23	114549.37921	5958267.82700	1.900	115906.20078	112042.90981	115699.02705
TI	47	272.20065	1553.50300	5.000	256.55789	282.12934	277.91472
V	51	52.95855	18924.03700	3.000	53.76578	51.14917	53.96070
GE-3	72	48629.09300	0.00000	0.000	47053.47000	48086.95000	50746.86000
CO	59	255.12406	259183.90300	3.300	261.07487	258.80957	245.48774
CU	63	51.12721	45551.28000	5.100	52.46382	52.81589	48.10191
NI	60	53.14826	15880.23700	5.600	54.58166	49.75107	55.11205
ZN	66	521.62201	36243.42700	4.800	543.14034	527.95416	493.77153
IN-2	115	534952.39300	0.00000	0.000	530112.95000	531517.63000	543226.60000
IN-3	115	14139.30000	0.00000	0.000	13743.68000	14152.68000	14521.54000
AG	107	41.32651	46690.85300	1.600	41.50559	41.89461	40.57933
AS	75	19.40956	923.37700	4.200	20.19114	19.47494	18.56258
CD	111	5.03301	460.67700	2.500	4.94584	5.17436	4.97883
MO	98	54.74725	29206.96000	3.100	56.44681	54.69592	53.09900
SE	78	10.43866	1263.62000	3.100	10.67321	10.07049	10.57227
SN	120	52.95672	11542.47300	7.600	52.24508	57.29725	49.32783
SR	88	332.10503	32711.50700	2.000	334.25007	337.39728	324.66773
TB-3	159	91858.03000	0.00000	0.000	89977.69000	90691.62000	94904.78000
BA	137	1101.65304	63293.01300	0.300	1100.87526	1098.74751	1105.33636
SB	121	7.12467	1380.17000	20.400	7.39950	5.55372	8.42080
BI-3	209	78355.23000	0.00000	0.000	75330.21000	77744.04000	81991.44000
PB	208	15.93644	45037.94300	2.600	16.38167	15.84219	15.58545
TL	203	2.19541	1930.24700	9.600	2.03361	2.43334	2.11929
U	238	28.94815	99029.36000	3.000	29.73684	29.10374	28.00386
SC-2	45	568269.71700	0.00000	0.000	554071.55000	566728.82000	584008.78000
GE-1	72	2022005	0	0.000	2030895	2026777	2008341
GE-2	72	1181739	0	0.000	1160129	1186019	1199069

Run Name: 1831804E05
 Tube Number: 52
 Sample Number: **9876338**

Date/Time: 11/14/2018 10:28:26
 Batch: 183061063902A
 Class: UL*****

Initial Vol: 50.00

Final Vol: 50.00

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	2072486	0	0.000	2051763	2039047	2126648
SC-3	45	14705.38300	0.00000	0.000	13867.64000	15329.39000	14919.12000
AL	27	3.11323	70.00300	136.600	-1.73312	6.21410	4.85872
B	11	204.49432	66198.26300	2.400	207.43826	207.32184	198.72288
BE	9	0.00813	28.66700	80.800	0.00167	0.00790	0.01481
CA	44	14204.12434	9867.46300	2.200	14485.78169	14250.85589	13875.73543
CR	52	0.38006	516.71000	82.000	0.27915	0.13136	0.72968
FE	57	1382.83676	11538.96300	4.900	1457.57926	1325.95410	1364.97692
K	39	4643.45923	55477.06300	5.900	4878.53444	4344.12947	4707.71377
MG	24	13068.64808	328346.15300	4.600	13702.86669	12497.04849	13006.02906
MN	55	454.25550	60857.75700	3.100	466.70271	439.22044	456.84335
NA	23	17960.34144	1045265.71300	4.900	18808.03152	17047.10915	18025.88364
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	0.04644	36.66700	135.500	0.06143	0.10053	-0.02264
GE-3	72	50436.20700	0.00000	0.000	48689.75000	50224.94000	52393.93000
CO	59	0.51959	590.05000	29.700	0.60880	0.34134	0.60862
CU	63	0.01732	290.02700	60.800	0.02850	0.00759	0.01588
NI	60	0.38333	220.01300	37.500	0.30748	0.54895	0.29355
ZN	66	1.67217	140.01000	66.300	0.61989	1.56835	2.82827
IN-2	115	557423.93700	0.00000	0.000	553428.25000	551509.94000	567333.62000
IN-3	115	14770.25700	0.00000	0.000	14247.11000	15257.21000	14806.45000
AG	107	0.02457	33.33300	117.100	-0.00301	0.05440	0.02234
AS	75	1.37860	77.33300	16.800	1.16087	1.62195	1.35299
CD	111	-0.00710	0.00000	0.000	-0.00710	-0.00710	-0.00710
MO	98	0.72432	516.70300	24.800	0.67056	0.57763	0.92478
SE	78	0.01097	8.88700	334.200	0.05247	-0.01701	-0.00254
SN	120	0.19321	163.34300	132.600	0.25197	0.41484	-0.08717
SR	88	53.54856	5504.79700	8.400	54.50953	48.64352	57.49262
TB-3	159	94371.94700	0.00000	0.000	90519.96000	94590.71000	98005.17000
BA	137	201.29102	11886.07700	2.700	199.87681	196.68759	207.30865
SB	121	0.14873	33.33300	81.300	0.13998	0.03239	0.27382
BI-3	209	81129.34700	0.00000	0.000	78851.20000	81910.62000	82626.22000
PB	208	0.06405	400.02300	54.500	0.06458	0.02885	0.09872
TL	203	-0.00898	13.33300	0.000	-0.02358	-0.00158	-0.00177
U	238	0.34855	1243.46700	7.300	0.33762	0.33052	0.37751
SC-2	45	577515.04300	0.00000	0.000	572123.43000	567404.17000	593017.53000
GE-1	72	2097359	0	0.000	2094160	2092838	2105080
GE-2	72	1221832	0	0.000	1214408	1214775	1236312

Run Name: 1831804E05
 Tube Number: 53
 Sample Number: **9876333**

Date/Time: 11/14/2018 10:30:50
 Batch: 183061063902A
 Class: *****

Initial Vol: 50.00

Final Vol: 50.00

DF: 1.00

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	2078175	0	0.000	2118427	2078086	2038012
SC-3	45	14034.56000	0.00000	0.000	14218.08000	13857.55000	14028.05000
AL	27	233.07865	1280.12700	8.800	256.31365	217.14675	225.77555
B	11	1523.82798	482897.77000	1.900	1493.73720	1525.87908	1551.86766
BE	9	0.03081	44.00000	47.100	0.02656	0.01890	0.04698
CA	44	227570.42768	150753.72000	3.000	219827.94376	230934.40430	231948.93499
CR	52	5.18849	2767.11000	7.800	4.74105	5.52377	5.30065
FE	57	1832.21757	14591.86700	3.500	1762.70440	1886.68577	1847.26253
K	39	31124.90144	333051.98700	3.100	30062.49742	31905.02802	31407.17889
MG	24	34343.09624	824438.68700	2.900	33227.20567	35090.56916	34711.51388
MN	55	459.37419	58775.01300	3.400	442.56048	473.65208	461.91002
NA	23	61588.48482	3333261.62000	1.900	60219.09657	62431.02106	62115.33683
TI	47	0.95869	20.00000	471.600	-2.46904	-0.73764	6.08274
V	51	2.47593	933.41700	14.000	2.80980	2.50043	2.11756
GE-3	72	49482.51700	0.00000	0.000	47967.18000	49803.11000	50677.26000
CO	59	4.98155	5191.31300	5.000	5.07731	5.16745	4.69990
CU	63	13.78183	12706.62000	0.800	13.81467	13.65824	13.87257
NI	60	38.16923	11622.30700	2.400	39.20883	37.84924	37.44962
ZN	66	170.83774	12092.87300	6.500	183.25862	162.16053	167.09406
IN-2	115	548725.26700	0.00000	0.000	544413.25000	556242.71000	545519.84000
IN-3	115	14558.59000	0.00000	0.000	13939.48000	14398.12000	15338.17000
AG	107	0.12030	143.34300	30.300	0.09574	0.16212	0.10305
AS	75	2.31711	120.66700	45.000	3.47060	1.43828	2.04246
CD	111	0.34810	33.33300	33.100	0.45903	0.22928	0.35600
MO	98	10.00057	5584.82300	3.700	9.98166	10.37782	9.64224
SE	78	0.41760	58.89000	19.600	0.50608	0.34493	0.40178
SN	120	3.90767	986.75700	5.600	4.02808	3.65543	4.03949
SR	88	1425.93326	144580.89700	1.700	1437.64350	1441.51683	1398.63944
TB-3	159	94107.32000	0.00000	0.000	92777.26000	94620.30000	94924.40000
BA	137	1103.28092	64937.44000	1.900	1101.07593	1083.86158	1124.90526
SB	121	3.40882	676.72700	15.400	3.37310	2.90404	3.94933
BI-3	209	78791.46000	0.00000	0.000	76285.38000	79999.88000	80089.12000
PB	208	10.04811	28661.32700	2.200	9.81600	10.26551	10.06282
TL	203	0.01448	33.33300	117.500	0.01185	-0.00106	0.03266
U	238	1.70725	5878.41000	6.400	1.81960	1.60050	1.70166
SC-2	45	578728.75700	0.00000	0.000	577267.73000	578490.85000	580427.69000
GE-1	72	2030856	0	0.000	2031364	2076109	1985094
GE-2	72	1195620	0	0.000	1183629	1211802	1191430

Run Name: 1831804E05
 Tube Number: 54
 Sample Number: **CCV**

Date/Time: 11/14/2018 10:33:14

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	2097241	0	0.000	2137271	2058687	2095766
SC-3	45	14354.90700	0.00000	0.000	13767.60000	14498.64000	14798.48000
AL	27	2702.35276	14631.95700	2.700	2730.24188	2619.63213	2757.18426
B	11	404.61621	130763.25000	1.500	398.05828	409.49397	406.29639
BE	9	29.43823	20193.24000	1.500	29.31682	29.08523	29.91264
CA	44	2698.27867	1843.58300	9.300	2415.24446	2789.47563	2890.11591
CR	52	261.59923	126925.47000	1.500	264.89507	257.39057	262.51204
FE	57	2553.98016	20786.98000	0.400	2552.66015	2543.33579	2565.94456
K	39	2629.33090	32439.56300	4.200	2725.84154	2507.30618	2654.84496
MG	24	2587.53780	63613.73000	4.100	2666.42727	2468.18058	2628.00556
MN	55	272.09285	35647.81300	3.100	269.28446	265.48485	281.50923
NA	23	2540.27165	177825.60000	4.400	2647.03483	2424.04587	2549.73425
TI	47	271.79957	1643.53300	7.400	255.48193	265.64350	294.27328
V	51	256.12228	96810.72300	2.000	261.21998	251.02622	256.12064
GE-3	72	50285.39000	0.00000	0.000	48699.14000	48257.44000	53899.59000
CO	59	261.86866	275031.44300	2.700	266.79145	264.94826	253.86627
CU	63	258.68890	237209.86000	3.100	263.59065	263.10440	249.37164
NI	60	260.16810	79828.75700	3.600	264.04242	267.01177	249.45011
ZN	66	265.04670	19044.28000	4.100	267.48197	274.57505	253.08307
IN-2	115	560635.92300	0.00000	0.000	560496.08000	557613.83000	563797.86000
IN-3	115	14936.55000	0.00000	0.000	14387.88000	14264.28000	16157.49000
AG	107	25.98114	30950.75000	4.600	26.88615	26.43326	24.62401
AS	75	258.44970	12853.54300	5.600	258.59003	272.95123	243.80783
CD	111	25.17361	2430.25300	8.200	23.15580	27.28327	25.08176
MO	98	24.87804	14078.19700	2.200	25.38424	24.97161	24.27828
SE	78	26.55276	3356.20300	3.700	26.68447	27.46591	25.50790
SN	120	25.65509	5958.27700	7.600	27.83550	25.04989	24.07989
SR	88	24.09445	2503.70300	5.000	25.43885	23.74749	23.09701
TB-3	159	96023.19000	0.00000	0.000	92848.04000	93656.40000	101565.13000
BA	137	258.65776	15530.12700	3.400	251.74907	268.38661	255.83760
SB	121	25.66216	5191.34000	10.700	24.52704	23.65377	28.80565
BI-3	209	82357.66300	0.00000	0.000	79052.76000	82594.87000	85425.36000
PB	208	26.58656	78910.09700	1.600	26.34998	26.33703	27.07266
TL	203	26.13683	23910.76700	1.200	26.23550	26.37663	25.79836
U	238	26.34282	94768.47000	2.100	26.93267	25.85238	26.24341
SC-2	45	589558.24700	0.00000	0.000	590804.52000	585740.97000	592129.25000
GE-1	72	2099537	0	0.000	2144805	2057348	2096457
GE-2	72	1228995	0	0.000	1231183	1239423	1216378

Run Name: 1831804E05
 Tube Number: 55
 Sample Number: CCB

Date/Time: 11/14/2018 10:35:39

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	2172275	0	0.000	2168608	2168452	2179765
SC-3	45	14201.47700	0.00000	0.000	13757.65000	13967.80000	14878.98000
AL	27	1.42547	56.67000	755.500	13.79980	-3.69276	-5.83064
B	11	92.72403	32516.79700	2.300	94.61631	93.19975	90.35604
BE	9	-0.00498	20.66700	0.000	0.01104	-0.00308	-0.02290
CA	44	-16.07000	0.00000	0.000	-16.07000	-16.07000	-16.07000
CR	52	0.29389	456.70000	49.400	0.45912	0.18745	0.23510
FE	57	-0.83216	53.33700	0.000	0.14083	2.55901	-5.19633
K	39	-0.60171	3934.14000	0.000	78.94358	15.14730	-95.89600
MG	24	-1.52531	60.00000	0.000	-2.71678	-0.22493	-1.63422
MN	55	-0.04461	30.00000	0.000	0.04035	-0.04301	-0.13118
NA	23	-39.06867	36308.90700	0.000	-6.93261	-42.55216	-67.72125
TI	47	-2.46904	0.00000	0.000	-2.46904	-2.46904	-2.46904
V	51	0.03069	30.00000	224.400	-0.04809	0.06065	0.07951
GE-3	72	51738.31300	0.00000	0.000	50275.99000	51982.58000	52956.37000
CO	59	-0.00001	43.33700	0.000	-0.02062	-0.01204	0.03262
CU	63	0.06347	340.02700	140.200	0.11634	0.11330	-0.03924
NI	60	0.06889	126.67300	156.100	0.09177	-0.04825	0.16315
ZN	66	-0.10665	10.00000	0.000	-0.10278	-0.10734	-0.10982
IN-2	115	571980.08000	0.00000	0.000	572695.84000	567418.80000	575825.60000
IN-3	115	14844.69000	0.00000	0.000	14337.62000	14497.10000	15699.35000
AG	107	0.03446	43.33700	106.500	0.07554	0.02288	0.00496
AS	75	-0.00887	8.66700	0.000	0.10675	-0.06192	-0.07143
CD	111	0.00604	1.33300	377.100	-0.00710	-0.00710	0.03231
MO	98	-0.06666	80.00300	0.000	-0.13246	-0.11493	0.04742
SE	78	0.02295	10.66700	60.700	0.00732	0.03403	0.02749
SN	120	-0.22298	70.00700	0.000	-0.34681	-0.16808	-0.15404
SR	88	0.09720	10.00000	103.100	0.20019	0.00000	0.09141
TB-3	159	97092.50700	0.00000	0.000	96949.23000	96131.19000	98197.10000
BA	137	0.10995	6.66700	173.200	0.32985	0.00000	0.00000
SB	121	0.91477	190.01300	18.500	0.71954	1.02336	1.00141
BI-3	209	82247.50000	0.00000	0.000	80019.43000	82102.37000	84620.70000
PB	208	-0.02490	143.34000	0.000	-0.04527	-0.01885	-0.01060
TL	203	0.03437	53.33300	89.300	-0.00106	0.05323	0.05094
U	238	0.01085	46.67000	70.000	0.00657	0.00636	0.01963
SC-2	45	588426.07000	0.00000	0.000	579277.02000	585914.60000	600086.59000
GE-1	72	2151842	0	0.000	2122653	2185699	2147173
GE-2	72	1254765	0	0.000	1243929	1259033	1261332

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

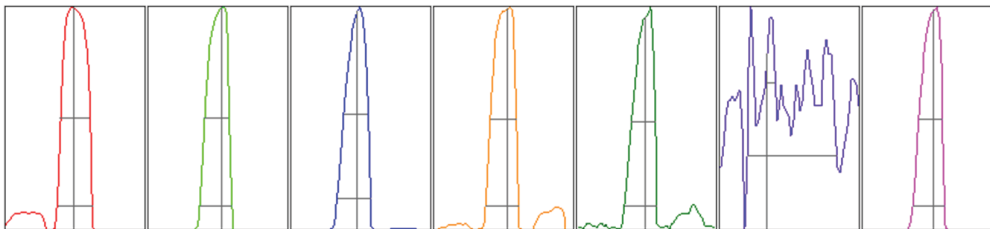
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	2595	25953.96			0.611	5.000
89	10.00	11746	117458.47			0.416	5.000
205	10.00	5109	51091.89			0.378	5.000
70	1.00	131	1314.18	0.00		3.816	
156	1.00	27	272.92	0.00		3.256	
220	1.00	1	14.20	0.00		20.012	
140	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
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EM

Discriminator	4.5 mV	Analog HV	1745 V	Pulse HV	1255 V
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Date File Name: 18. 20500970K

Method Reference Name(s):

Run Name: 1832E0270KAnalyst: 12E2

<u>Reviewed 5y:</u>	<u>Reviewed Date</u>
Bhoon C Yian	11/2/2018 1K:EK
De4orah A . rady	11/21/2018 0V:32

<u>berified 5y:</u>	<u>berified Date</u>
Parker D Lindstrom	11/2/2018 1K:EK

Instrument Parameters:

Rinse Yime (sec): 2K900

INY7RNAL SYD9	7L7M7NY	MASS
SC-1		EK
	NA	23
	MG	2E
	AL	2/
	.	3O
	BA	EE
	YI	E/
	b	K1
	BR	K2
	MN	KK
	F7	K/
IN-1		11K
	B6	KO
	NI	V0
	BU	V3
	ZN	W
	AS	/ K
	SR	88
	M6	O8
	AG	10/
	BD	111
	SN	120
	S5	121
	5A	13/
BI-1		20O
	YL	203
	P5	208
	U	238

Run Name: 1832E0270K
 Yu4e Num4er: 1
 Sample Num4er: S0

DateTime: 11/20/2018 / :38:KE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
NA	23	0900000	/ 00/ / 908300	0900	3298E12V	-3988/ 08	-289KE18
MG	2E	0900000	E/ 38/ 000	0900	-090 3V1	-19K08K	29K 2OV
AL	2/	0900000	2090000	0900	-190E1V0	3922/ E3	-2918K82
K	3O	0900000	3K2390 000	0900	-09 EE82	K9/KE22	-E900C8O
CA	EE	0900000	13983300	0900	-29 1E8K	1K91E221	-129E2/ 3V
SC-1	EK	228V39K0800	0900000	0900	22018988000	232/ 191V000	233009 E000
TI	E/	0900000	0900000	0900	0900000	0900000	0900000
V	K1	0900000	3883300	0900	-0900K08	-0900K08	090118V
CR	K2	0900000	K1090E000	0900	0910030	09013EE	-09113/ 3
MN	KK	0900000	3090000	0900	0900K2K	-090E/ 00	090E2/ E
FE	K/	0900000	30900300	0900	-29E30 1	29EE20K	-090023E
CO	KO	0900000	23983300	0900	-090082V	09010KV	-090022O
NI	V0	0900000	110901000	0900	090/ 2/ /	-090V/ / O	-0900E08
CU	V3	0900000	22V9/8000	0900	-09001E/	-090K032	090K1/ O
ZN	VV	0900000	23983300	0900	-0902EK0	090KK2O	-09030/ O
GE-1	/ 2	0021890/ 00	0900000	0900	800CK91K000	802KE901000	0230E98V000
AS	/ K	0900000	V900000	0900	-090/ 20/	090008K	090/ 122
SR	88	0900000	0900000	0900	0900000	0900000	0900000
MO	08	0900000	V99/ 000	0900	-090K028	-0901/ V8	090V/ OV
AG	10/	0900000	23983300	0900	0901E30	-090122/	-0900203
CD	111	0900000	1983300	0900	-0900/ / K	0901KK0	-0900/ / K
IN-1	11K	20E/ / 9/0000	0900000	0900	28011911000	20E00900000	300229E0000
SN	120	0900000	2V99/0000	0900	-090018V	-0928K38	0928/ 23
SB	121	0900000	V99/ 00	0900	090333O	-0901V/ 0	-0901V/ 0
BA	13/	0900000	0900000	0900	0900000	0900000	0900000
TB-1	1KO	1/ 8VK29EK300	0900000	0900	1/ 0 10900000	182/ V190/ 000	1/ 3E8K90000
TL	203	0900000	1090000	0900	-0900KK8	0900KK1	090000/
PB	208	0900000	180901000	0900	0901133	-0900K08	-0900KE1
BI-1	200	1K0E008/ 000	0900000	0900	1KV/ 0900000	1V2E/ E92000	1K082V9K0000
U	238	0900000	E0900300	0900	-09001K3	-090032O	0900E82

Run Name: 1832E0270K
 Yu4e Num4er: 2
 Sample Num4er: S1

Date Time: 11/20/2018 / :E0:KE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22/ 239E/ 00	0900000	09000	2220C28000	23/ 81983000	221/ C2C0000
AL	2/	10000900000	C01EV9KE300	29000	102E0C0C3/ E	OV8/ 9EKVQ2	100V29KEC8E
BA	EE	10000900000	10V3/ 908/ 00	39100	1032E2121E	OOVE9 12V3	O' 1190/ K23
BR	K2	10000900000	VCK0139K3000	E9E00	102V9 / 12E	CE89OV221	102E2VWKK
F7	K/	10000900000	1108089 1000	K9800	1031088/ 322	08089EK23	1028/ 981KK
.	3O	10000900000	1830K/ 9K0300	E9A00	10E0/ 983183	CECK900EV	100O' 90V/ / 1
MG	2E	10000900000	3/ 283/ 9 K/ 00	E2200	1030V902E1	CK2K93E13	101V/ 9KV3EV
MN	KK	10000900000	21E38/ 902300	K9A00	1030900' 0	08E98/ 11K	103E9K101K
NA	23	10000900000	88282E9V2300	E9000	1033K2E010	CE3/ 9010VE	1022V98E01/
YI	E/	10000900000	CKE3900300	/ 9800	10129 1002	C219 E082	10VK9KE01V
b	K1	10000900000	KE/ K3E9V000	39800	10219K123	OV19EE13/	101V900/ E0
IN-1	11K	2808E980300	0900000	09000	2CE0090V000	2803290/ 000	2CE23280000
AG	10/	100900000	188K8E9/ 300	29100	089O' 2E	1022208/	CO9A8180
AS	/ K	1000900000	8080E901000	39E00	08V98K008	10389EE3V1	O' K91 O' 31
5A	13/	1000900000	11VK1/ 90V000	39000	08/ 98E2EK	103E9A20E0	O' 890281K
BD	111	100900000	1V0039KE/ 00	19000	CO220VK	10220V3E	089KE01
B6	KO	1000900000	1KKEK3098V300	39000	OV89 E38K	10E391EKK1	088910VE
BU	V3	1000900000	120VE389V300	29800	08K92/ CK	103198EE32	082902/ / 3
M6	08	100900000	8022890K300	29000	089811KK	10222KV/ 2	COE31/ 3
NI	V0	1000900000	E3O1809E1000	39800	COE90K0V8	103K9C2VW	O' 09/KVW
S5	121	100900000	E0010E8/ 00	39800	100902102	103980232	CK9 / K/ V
SN	120	100900000	E3/ 0E9 E300	39800	CO881232	O' 913K1E	1039K2KE
SR	88	100900000	1O' EK9E/ / 00	V9 00	CK91EVE0	10/ 9VW80	O' 918V80
ZN	VW	1000900000	11810898V000	19A00	CO09010/ K	101892/ 8/	CO19EV13/
BI-1	200	1V1V809EK/ 00	0900000	09000	1V081098/ 000	1V332E910000	1V0C83981000
P5	208	100900000	K/ 0K/ 0988000	09 00	CO9KK1V3	CO9A33V8	100981EV8
YL	203	100900000	1/ CKEV90K300	12000	1009E0K/ K	089A1000	100988E3K
U	238	100900000	V30VEE2/ 300	09000	1009D1E38	CO22V20	CO88K083
GE-1	/ 2	8CK089 E/ 00	0900000	09000	CO2V298K000	8/ E22908000	O1109EV000
TB-1	1KO	1/ OVK8913/ 00	0900000	09000	1/ O1EK900000	1/ 8C81980000	1808O' 9K2000

Run Name: 1832E0270K
 Yu4e Num4er: 3
 Sample Num4er: ICV

Date Time: 11/20/2018 / :E2:KE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	232/ 0980/ 00	0900000	09000	22/ 8091V000	2E0E298000	220009K000
AL	2/	K1V198C811	E/ V/ 091E000	39000	K2V29W/ EK	EC8290K/11	K2E090K/ /
BA	EE	K1K3913/ 03	KV1E980/ 00	V9000	K1002082K	E/ 029121/ 3	KEV/ 900V11
BR	K2	K289E/ V/ K	3/ W1V982000	39100	K3091813	K009 001E	K3V9K1208
F7	K/	K2209K0882	VE18391K300	29 00	K38390K/ 38	K13/ 920K0	K1E09818KV
.	30	K1E39K88/ E	081/ / 91V/ 00	K9000	K3V3982E12	E82E921EK1	K2E392/ KO
MG	2E	K13E91KV3K	10V32090/ 300	E9200	K20K9 V088	E88V92EE8E	K2209KE33
MN	KK	K208121K	11V33K9 8000	39200	KEV98/ 10K	K129K4K00	K289K08V0
NA	23	EC8E9KEK/ 0	E833K09EE/ 00	39800	K08V9E/ / 2/	E/ 3090K2KK	K01/ 910/ 30
YI	E/	K3V923V30	K2E/ 90 000	39200	K389EV220	K18910E22	KK291E2VV
b	K1	K2098/ EEV	2018E09V/ 00	39 00	K3E9VEK/ E	EC89821K	K2890CK40
IN-1	11K	201VE9 C800	0900000	09000	20V01910000	28CK1981000	288K1988000
AG	10/	K290KC88	100K3398/ 000	09800	K29E8E/ 0	K390KV13	K3983/ 22
AS	/ K	K3K9020V8	E3V0298/ 00	09E00	K339201EO	K3V9008E0	K3/ 9/ 01V
5A	13/	K31920/ 20	V2308900300	09000	K2K90/ 002	K3K9008KK	K329V3E30
BD	111	K29 3K02	80/ / V89K/ 00	19 00	K19810E3	K29 / 8E0	K39V1V2K
B6	K0	K1V9131CK	80/ / V89K/ 00	29100	K0V9K3802	K1E9132V2	K2/ 9 2E31
BU	V3	K3390018E	VOV8KE98/ 00	19 00	K2/ 9803V/	K20E30V/	KEE9EV210
M6	08	K29K/ / / 3	E/ 2EK9K300	19 00	K19K2KE/	K390V/ 02	K3913080
NI	V0	K3K9K3038	23V/ 8V9/1000	29200	K21908CKK	KE29K112E	KE290003K
S5	121	KK9E130	22K0098V/ 00	09K00	KK9 300V	KK9VE80/	KV91EK1K
SN	120	K198802E	22/ 1E911300	19800	K09V3E00	K29EK0CK	K1982/ /
SR	88	KE90K018	10/ K19KE300	09000	K39KE023	KE9KV1/ 2	KE9030K8
ZN	VV	KE1988E/ 8	VEE1892K000	39K00	K3E90VE/ 2	K2890E128	KV39KE83K
BI-1	200	1K0V209 0/ 00	0900000	09000	1K0/ 30902000	1K08V391V000	1K0/ 0V91000
P5	208	K39V/ E10	302E3E9E3000	19100	K3911/ / 8	KE92VKOE	K39V388E
YL	203	KE90/ E00	0K8VK9K0/ 00	19E00	KE98V2E2	K392EE21	KE9V180K
U	238	K2988V00	320811913000	19200	K39EK0E8	K3901/ 0E	K29183KE
GE-1	/ 2	802K39V1/ 00	0900000	09000	00V/ V988000	88KV3900000	88K2090/ 000
TB-1	1K0	1/ 00 0981/ 00	0900000	09000	181V0002000	1/ 81K891V000	1800K39 / 000

Run Name: 1832E0270K
 Yu4e Num4er: E
 Sample Num4er: ICB

Date Time: 11/20/2018 / :EE:E3

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	231E09 E300	0900000	09000	22V0030V000	23V31901000	230009V000
AL	2/	090V	2393300	808200	E9E/ 3K3	-2918K82	-190CE/ 0
BA	EE	189K000	3393300	/ E9100	1K93K0E	32920E0	V90V2/
BR	K2	090888V	K8090E/ 00	1129E00	09100KV	0908K0K	-09000E
F7	K/	39E30V	/ V9// 000	KK900	K9000/ 2	390V88/	19/K0KO
.	30	-89/E821	3E109/2000	09000	-1/ 9 0083	290V38E	-1090013
MG	2E	1913E20	K2090E300	2V19200	290 EK8	-298310	29 1122
MN	KK	-090232	3090000	09000	-090EK/ 0	090E020	-09001EE
NA	23	-EV922K1	V/ 11V902/ 00	09000	-2/ 9103E	-/ / 92020/	-3E91KK13
YI	E/	090V 0	V9V// 00	1/ 39200	2900300	0900000	0900000
b	K1	0903VEK	2393300	1V19K00	09103V/	09011V1	-0900K08
IN-1	11K	28/ 2/ 90/ 00	0900000	09000	28/ 019K000	2008393000	2/ EK89/1000
AG	10/	-09001/ 1	2090000	09000	-09001V0	0900313	-0900V//
AS	/ K	0910EK1	2193300	09000	091/ V0V	09101E2	0921K1V
5A	13/	0900000	0900000	09000	0900000	0900000	0900000
BD	111	-0900308	09V// 00	09000	-0900/ / K	09003/ 1	-0900/ / K
B6	K0	090/ 0VK	1EV9// 300	EE9000	091082V	0900112	09030K8
BU	V3	090K2V3	28V98/ 00	1K39000	0913121	-09020V8	090KV3/
M6	08	0900100	V9V// 000	3/ 31900	-090/ 2/ V	090V838	0901008
NI	V0	0902121	11V9// / 00	28900	090282/	0901/ / 8	0901/ KO
S5	121	09801V	11V9// 300	309K00	0983K38	091K2V2	098K2E/
SN	120	-0900202	0090/ 00	09000	-0900CEK	-0983EK/	-0983E/ V
SR	88	0901V0	393300	1/ 39200	090K002	0900000	0900000
ZN	VV	-0902213	2090000	09000	090V1E2	-0911228	-0901KK3
BI-1	200	1K83V39 K000	0900000	09000	1K81/ 098/ 000	1K0V8902000	1K/ 1K29V000
P5	208	-0900233	1V9V// / 00	09000	090001/	09008/ 1	-0901K8V
YL	203	090K312	1039E000	E39000	090/ E13	090KVE3	0902880
U	238	09002/ 3	KV9V// 00	V89000	0900E00	09001K8	09001/ 1
GE-1	/ 2	8/ K/ K9K2300	0900000	09000	8/ 82/ 90000	0000190000	8E80V 908000
TB-1	1K0	1813089E/ 00	0900000	09000	1/ 8V0891000	18E/ 209/8000	180/ K090K000

Run Name: 1832E0270K
 Yu4e Num4er: K
 Sample Num4er: LLC

DateTime: 11/20/2018 / :EV:31

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	232EE91 / / 00	0900000	09000	23V11E8000	231309/0000	220008V000
AL	2/	E0C9/0/ 03	3/ 0' 88/ 00	K9100	38/ 8K08E	E12988/ 21	E289K/ EK3
BA	EE	V3/ 90/ 128	/ 0V9 2/ 00	129E00	/ 21928KEV	V2K9K/ 00E	KVE98E08E
BR	K2	E91V1K8	3E/ / 20000	139200	39/20V2	E9 23/ 3	E9131E0
F7	K/	11V982030	1EV091/ 000	1V9200	13398/ / 08	1189 010/	0V98210
.	30	E019/0080	100V19/K300	129K00	3EV9V/100	EEK9E2EK8	E13901232
MG	2E	0V98EVE	E1KE918000	E9000	009CE38V	0898V812	008E10K
MN	KK	090V/ 18	222082300	V9 00	109V2130	09288CE	0900122
NA	23	80/ 98E3/ E	138KV09K300	29E00	/ 8V908K1/	8119E/ 283	82K912321
YI	E/	2E9K082	2E0901300	189900	21913820	209 082E	229 E301
b	K1	0901K02	K1V9 0000	39E00	0900/ 30	09800E3	090K003
IN-1	11K	20K08911300	0900000	09000	300/ K9 0000	20V/ / 912000	28/ / 192000
AG	10/	09K2188	102V9 / 300	119 00	09K00V	09E/ EE8	09K00E8
AS	/ K	29CK0E	10E9V/ 00	129000	190' 81/	29EVE/ K	29EEEE01
5A	13/	398/ 32E	EV0903/ 00	K9000	E9133KV	39 / 020	39 1K0V
BD	111	190/ 828	18/ 93300	1K9 00	191E3V0	190K2/	0988K0'
B6	K0	0900E01	1K0V98E300	/ 9100	1902000	0901EKO	190E/ EV
BU	V3	E0901V	K300191000	K9800	3/ 9/80/ V	E09EE008	E1988320
M6	08	19808/ 2	1/ 0023000	E9100	190K8/ /	1981083	1902VKV
NI	V0	E9VE01E	218V90' 300	09100	E920V08	E980083	K90K112
S5	121	2982K3E	0K39E3000	109200	292CEKK	2910V00	29K/ KE/
SN	120	190080E	1110911/ 00	209E00	292V111	19E80' K	190' 32V
SR	88	V91K2/ 3	12E0913300	09000	V9E8300	V9K21K8	K9EK2/ 2
ZN	V	1K901080	108V902000	39100	1K9E/ 2K2	1K98E8KK	1V9E38V2
BI-1	200	1VE02V908000	0900000	09000	1VK1V/ 9K0000	1V3K/ 0928000	1V33E3901000
P5	208	390K028	1/ 83V912300	19V00	390K302	390' 00	39000/ 1
YL	203	09K3/ 80	000911300	/ 9 00	09KVV0V	09KVV0E	09E00V
U	238	09E0' VK	322390E000	89E00	09EK1K/	09K3288	09K08K1
GE-1	/ 2	800E/ 981000	0900000	09000	000/ 0988000	00011E8000	80' V090/ 000
TB-1	1K0	182EK29EK300	0900000	09000	181K089E000	1820EE9K3000	183/ 1E9K000

Run Name: 1832E0270K
 Yu4e Num4er: V
 Sample Num4er: ICSA

Date Time: 11/20/2018 / :E8:10

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22K1V88300	090000	0900	228V082000	211V/ 9 1000	23K21912000
AL	2/	0VE8/ 90KE/ K	8V0V209K/ 00	K9 00	0VEV89E1/ 81	1010V08KE8K/	0102391 0 80
BA	EE	28VKE39KE0 3	30111891/ 00	K9E00	280/ 0 82833	30E1208/ EEK	2/ E/ 129EEVE1
BR	K2	09/21VO	08392300	11900	09K08/ 1	09KV0V	09 0031
F7	K/	2E/ 02K9 3EK8	20E283E90K/ 00	K900	2E0/ 0V912/ 2	2VEEV89202K	238K129 / 0/ 8
.	30	00EE/ 9 2EK0	1/ / 10/ 390/ 00	V9100	0V8/ E9D1ECE	10V3E19V38/	0K12V900EV8
MG	2E	0VKV0808E2	3KV018/ 98E000	K9K00	0K2K083KEV	10230 9K1/ VV	020339E21K
MN	KK	290000	VV9 2000	K9000	29D1/ 1K	298V1K0	391013E
NA	23	23/ 0E891E0/	1023283020 00	E900	23E200810 1	2K0/ 0 9K8/ 1/	228/ K/ 908K3E
YI	E/	20/ V9/0211	10VE890 00	39000	203K900K/ K	21V09VE118	202K9E2080
b	K1	090KE/ 0	33983300	1129 00	-090K08	090K283	0911/ E/
IN-1	11K	2/ V00911/ 00	090000	0900	28/ 3198V000	2/ VK08K000	2V/ 0V9VE000
AG	10/	09032E2	8090300	30800	0901082	090321/	090EK2/
AS	/ K	090802E	8290000	29E00	090 V0V	1901V8	090 E08
5A	13/	19800K	1E39E300	2E9 00	19VEE20	190/ 8/ 3	1911/ 21
BD	111	09111KV	1083300	13900	09123K1	091V21	090CE0K
B6	K0	0981023	12239EK/ 00	109100	09 3/ V3	09 08/ 3	0980033
BU	V3	098/ EV/	120V80/ 00	89K00	09830 8	090K083	0982EE0
M6	08	210E9081E	1/ 01EK08V000	K900	10808VW1K	211098K200	22129 0V1/
NI	V0	190V8E	/ 3V9 3/ 00	18900	19E0V/ /	19828/ 0	198K0E
S5	121	19130 0	EE39V300	219V00	1911/ 3K	1980V01	0900K00
SN	120	-09K/ 0V	1E39E300	0900	-090/ 21	-093V/ 0	-092/ 2K
SR	88	1/ 90 KV	33/ / 90800	K9000	1/ 92K00E	1/ 983K3V	10910/ 2/
ZN	VV	198E2E	1/ V9/8000	E1900	09 EK20	198023	1982/ 20
BI-1	200	1EV8009K000	090000	0900	1EV3V890000	1EVK089/8000	1E/ 822988000
P5	208	098VV/	EVK/ 92K300	39 00	098KVCK	09002KK	098E0K2
YL	203	090VVE	2090000	1K9900	09000K/	09000K/	09018/ 0
U	238	09020V3	20V9// / 00	129K00	090338K	0902V81	090282K
GE-1	/ 2	83KKV9 / / 00	090000	0900	8311/ 9E0000	8318/ 983000	8E3VK910000
TB-1	1K0	1/ KV23980/ 00	090000	0900	1/ E2E29 0000	1/ ECE89K000	1/ / V8098000

Run Name: 1832E0270K
 Yu4e Num4er: /
 Sample Num4er: ICSAB

Date Time: 11/20/2018 / :K0:0K

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	221V29E000	0900000	09000	223VC9IK000	22EVC8/ 000	21VE890000
AL	2/	100K219V/ 21	88E0029 2300	29200	1001/ 890E2V8	08KE098KE31	1028EK9 0EVK
BA	EE	20810890 K32	3000009/1300	19200	200E0391EV//	20E2V29 EC88	300081902OE2
BR	K2	2019010/ 3	13V/ V09K0000	29000	10 98/ 02	10 908/ V	20/ 9/8KK1
F7	K/	2K8EVK9V320	302E/ V9K1/ 00	29 00	2KKEVE93E82	2K3EK09023E0	2VVE82931VK
.	30	10E8/ 390303K	18E1V2K90/300	29000	10E2009EK1/	1031K89K18V2	10/ 1V19K2/ 2V
MG	2E	1008E39/ 0K0	3VVK0V09/ 000	19000	003V9V/0ECK	1001809K2E//	1020/ 39021K
MN	KK	20V90033/	E332/ 901300	E9200	20191880K	2029 01K2	21V9820KK
NA	23	2E/ 0E09E00V	10V/ 81K890E000	29000	2E200290EK02	2E3/ / 098/ 8/ 8	2KK3/ E9 2338
YI	E/	213392/ EK	108/ 89 2000	V9800	213090000	100V900K/	22VE983E/
b	K1	2029K/ 10	1082E29K2000	19 00	2009/2V/ K	2009EK0KV	20V9K8K2K
IN-1	11K	282/ / 98/ 00	0900000	09000	281E09 2000	282K09V000	28EE1918000
AG	10/	E0923231	00V22923000	19800	E0902120	E89VEE8	E091111K
AS	/ K	101901VV	80EE9E8000	09800	1019// 23/	102982EK1	1019K310
5A	13/	198/ KV0	1KV98000	E09K00	090 102	191EE1E	29010/ 3
BD	111	0K9 0IVE	1K80291/ 300	19800	0V9E812V	0V9K0K00	0E98/ V8
B6	K0	18/ 913012	28E0219V000	19000	18V912E31	18090822	18K90 28E
BU	V3	1029V08VK	2E301898/ 00	09E00	1019 E8/ K	1029V0K2	108980V/
M6	08	210/ 91/ K/ O	1833K0191/ 000	29200	21E29K1K00	212E9/81/ E	20KE930K2
NI	V0	18V918E1/	/ 000390/ 300	09 00	18V900V//	18V900E80	18E9 E00V
S5	121	19EV1/	E098/ 300	1K9K00	190382E	19E18V0	1981V0
SN	120	-0921VV	1V398E/ 00	09000	-0981/ K2	-0982233	-09K012
SR	88	1V9E01KK	31V398/ / 00	V9800	1V9 2V13	1K91KK/	1/ 9822CK
ZN	VV	089/112/	1138K98K/ 00	29V00	0090KV02	10092V1/ E	0K9/1V0V
BI-1	200	1E01119 0000	0900000	09000	1E0E2981000	1E0K81918000	1K1/ 119/1000
P5	208	098K0/	EVC990K300	E9E00	098181/	098/ 008	098010K
YL	203	0900838	23983300	1V29V00	09000K0	09000EE	0902E10
U	238	0903132	220901300	1/ 9V00	0902K1V	0903208	0903K81
GE-1	/ 2	8KV// 90V300	0900000	09000	8EE2K980000	8/ 2K3910000	8K3K290000
TB-1	1K0	1/ 811E90000	0900000	09000	1/ E02191K000	180VK398000	1/ 8/ V890E000

Run Name: 1832E0270K
 Yu4e Num4er: 8
 Sample Num4er: RINSE

DateTime: 11/20/2018 / :K1:K2

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23C889/C000	090000	0900	2E2/ 29 E000	2EVK392000	228C091000
AL	2/	E911VO	V9// 000	E2900	390E0V	/ 9012/ /	E9E182E
BA	EE	3K9V8E/	K393300	38900	EO9E/ 1O	229/ 11O	3E98/ 0E
BR	K2	0903K3/	KV39/ 300	3089E00	09/ VO	091/ K3	-09088E0
F7	K/	1E9E000	2139E/ 00	K/ 9E00	139IK0K2	22901OV	V9K8K1
.	3O	-09E2/ KK	3K0390/ 00	0900	-09012K8	-319 E1/ V	39E/ 1VO
MG	2E	092K20	K2V9/ 0/ 00	/ 2900	09EK82E	09K038O	19K13E/
MN	KK	091VVO	/ 090/ 00	8V9 00	09K3KK	09E/ EO	-090002E
NA	23	-13V9 K02V	V1V/ / 92/ 00	0900	-13E9V/ 3/	-1EV9K8V1	-12C8K181
YI	E/	09K2/ E	V9V/ 00	1/ 39200	19K822	090000	090000
b	K1	-090002E	3933300	0900	090111K	-0900K08	-0900K08
IN-1	11K	2C2109 E/ 00	090000	0900	28C029C000	2C0129/3000	2C/ EE9K2000
AG	10/	-0900K3E	1393300	0900	-090122/	-0900VO	0900323
AS	/ K	09/ KKV	1290000	8/ 9 00	09K1O	09IK03K	0902E3K
5A	13/	090000	090000	0900	090000	090000	090000
BD	111	0901K/ 2	E90000	2900	0901K08	0901K8O	0901K30
B6	KO	0902/ O8	V9// 000	10V900	0901108	090V23V	090103K
BU	V3	0900K/	23V9/8000	113900	09021/ O	0900KVE	0900128
M6	O8	09KE8CO	KV09E000	309 00	09KEK1	09VEE12	09VE833
NI	VO	0908E18	1EV9/ / 00	K8900	0902/ 22	0911/ 1E	0910818
S5	121	09080O	1090000	E900	09083V	09082V	090/ VK
SN	120	-09EK01O	V9V/ 00	0900	-09K0C8O	-09E1813	-09E22VK
SR	88	0911V38	2393300	VE900	09101EK	090K0K3	091O 1K
ZN	VV	39/12K3	EK39V000	119K00	39201CE	E903E8K	39/0081
BI-1	200	1V0/ 109E/ / 00	090000	0900	1K0CE190000	1V011E922000	1V20/ K901000
P5	208	0903/ /	2039E/ 00	211900	-0903/ E	090121/	090028O
YL	203	-0903/ O	3933300	0900	-0900KK8	090000K	-0900KK8
U	238	-09011E	3393300	0900	-0900E8E	-09001VE	090030K
GE-1	/ 2	8O K29/E000	090000	0900	Q20CK9/E000	8C21K9E000	8/ CE/ 9KE000
TB-1	1KO	182V/ / 91C000	090000	0900	181CK/ 9/K000	183EO191000	182K82981000

Run Name: 1832E0270K
 Yu4e Num4er: O
 Sample Num4er: CCV

DateTime: 11/20/2018 / :K3:E0

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23K019K000	0900000	09000	2380290K000	23V819/0000	22C809E0000
AL	2/	2EK/ 90E3/ K	22C83983000	39800	2E/ 891E/ 81	23V90K/ 10	2K2V902V33
BA	EE	2E289E22E8	2V839 V000	39000	2E8K932V8	2E809802EO	23109E228
BR	K2	2KV928/ 2	18E/ 839V000	29000	2K090CK23	2KE92VK1	2VE9VEE1
F7	K/	2VEE918E01	328E/ 9E/ 000	29200	2K/ 0833E2	2V290V081	2V009K/ / O
.	3O	2EE091K330	EO12098000	E9200	238090K120	2E009E133	2KV/ 91V/ 3/
MG	2E	2EE29 K128	OEVK090/ 00	09800	2EK29// E03	2E1090CE33	2EKV98KE8
MN	KK	2KE9012K2	KVE189E3/ 00	19E00	2K1981V2	2K29K0KE	2K89V0E2
NA	23	23089K2K88	2VE3392K000	19V00	22/ 098/ 30/	230092801/	23EK9E23K0
YI	E/	2K192812/	2E839V0800	K9V00	2KE9/8E3/	23K9V/ 03	2V392CE1
b	K1	2K19KEE1/	1E2K3093300	29100	2K098K/ V8	2EV9KV3E1	2K/ 911E1
IN-1	11K	2008K9 8/ 00	0900000	09000	2008/ 9K000	20V2V9K000	312E392K000
AG	10/	2K98/ 0/ /	K0E8E9EV300	39E00	2V9K3VE0	2V922K3	2E98/ / 30
AS	/ K	2KE9203E0	212EV9 V/ 00	E9800	2VK9EEKO/	2K3980881	2E39 / 0E3
5A	13/	2V190VK3	31KKV9 E/ 00	E9K00	2VE90KE0V	2/ 192K/ 3	2E8900881
BD	111	2K9V000	EE8K9E/ / 00	K9K00	2V90208K	2K90E203	2E913810
B6	KO	2EE9 88EV	308K009V0800	E9800	2KK9KV1EV	2EV9EK3V/	23298K02K
BU	V3	2K19V0VE0	33/ E3K9K8000	E9K00	2V1901V/ K	2K392101/	2309V022/
M6	08	2K90V01E	2300V90K/ 00	K9000	2V98V1/ 2	2/ 9012EO	2E9K0V20
NI	V0	2KK9 / 030	11V2EK910/ 00	E9200	2V0921K0K	2V39V0833	2E3980/ K3
S5	121	2K98V108	10/ 019 1/ 00	V9200	2V982812	2V9 KV11	2E901/ 1
SN	120	2K9231V/	11K0K9 K000	V9800	2E9// K1K	2/ 91VCE2	2398K0EK
SR	88	2390 2EV	E80E9K2300	/ 9800	2K9 112V	2E900K82	22920031
ZN	VV	2E8980008	30E189// / 00	29800	2KK98/ 18K	2E080002E	2E19K18/ 0
BI-1	200	1V3E83901000	0900000	09000	1V332391/ 000	1V20K29K/ 000	1VE1/ K900000
P5	208	2V901K33	1K022E902/ 00	09V00	2K988KE2	2K90K28	2V90K30
YL	203	2K98811K	EV08V9/ 300	19200	2K91CK1/	2K9 3K48	2K9212/ 1
U	238	2K9222KK	1V08VE91/ 300	09800	2K98/ 00	2K9202E3	2E908/ 32
GE-1	/ 2	8088/ 92300	0900000	09000	8/ CK/ 922000	8V82091K000	0838E980000
TB-1	1K0	18200E921000	0900000	09000	18K83K900000	1812E898E000	18180/ 980000

Run Name: 1832E0270K
 Yu4e Num4er: 10
 Sample Num4er: CCB

DateTime: 11/20/2018 / :KK:28

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22C209E1000	0900000	09000	22K/ C9/2000	2283093000	233K198000
AL	2/	1908381	30900000	2VK9100	-2918K82	292830	392088K
BA	EE	392101V	1V9V/ 00	3E39K00	1K908VK8	-390V00V	-392V003
BR	K2	0910KK/	K8V9 1/ 00	C9 00	090CE1E	09113/ 1	091088V
F7	K/	29K2VE3	V0900300	8/ 9/00	19 K231	K902300	0903000
.	30	-391E233	3E/ / 900000	09000	-19VE28V	-1891VK01	10981/ O
MG	2E	09CK/ V1	K1090E000	3V39100	-290/ 228	E9 KEV3	09100E/
MN	KK	090/ / E1	EV9/ / 000	1839000	090E8KK	0923108	-090E831
NA	23	-1K890V221	K/ 20K9VK300	09000	-12V90E/ 0/	-1V39020V	-1839E3/ K1
YI	E/	09302K	393300	1/ 39200	0900000	0900000	1901/ / K
b	K1	0900K01	V9V/ 00	3E/ 9200	-0900K03	-0900K03	09020K8
IN-1	11K	300119E8/ 00	0900000	09000	28/ E2913000	3000/ 91/ 000	3020K91V000
AG	10/	-09010EO	393300	09000	-0900V02	-090122/	-090122/
AS	/ K	09032/ V	89V/ 00	10/ 900	09102KK	09020EK	-0902E/ E
5A	13/	0900000	0900000	09000	0900000	0900000	0900000
BD	111	0900020	193300	V/ E89100	0901V11	-0900/ / K	-0900/ / K
B6	KO	09032EK	/ V9/ / 000	CE9200	0900E/ E	0902/ 3/	090VK2K
BU	V3	0903V03	280902300	1E29E00	0900/ 31	090CK2K	0900K02
M6	C8	090EK20	110900/ 00	1/ / 9200	-0902/ KE	0903208	091310K
NI	V0	0902CKK	12V9/8000	3/ V9100	-090E012	091K/ / 1	-09028CE
S5	121	091132E	K393300	E89000	091K0V3	090K338	0912V/ 0
SN	120	-098201	100900/ 00	09000	-09K0C20	-09K/ V2	-0988183
SR	88	0900000	0900000	09000	0900000	0900000	0900000
ZN	VV	-0900KVE	2393300	09000	-0910888	090E323	090E8/ E
BI-1	200	1K/ 8VE902300	0900000	09000	1K/ 08E980000	1K82K191/ 000	1K82KV910000
P5	208	-0900C8E	12V9/ 000	09000	-0900322	-0901K0/	-0900881
YL	203	09030KO	V393E000	K/ 9E00	090EV02	09011EO	0903E2V
U	238	-0900320	20900000	09000	-0900VEE	090000E	-0900320
GE-1	/ 2	800EV9 / / 00	0900000	09000	880339K/ 000	00V339E0000	002/ 39V000
TB-1	1KO	18202098000	0900000	09000	183K0K902000	1831029K0000	18200093000

Run Name: 1832E0270K
 Yu4e Num4er: 11
 Sample Num4er: PBW

DateTime: 11/20/2018 / :K/ :1V
 5atch: 1832010V300EA
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	228K390/ 00	0900000	09000	22E0C9/ 0000	220/ 0928000	231809K1000
AL	2/	198/ 1/ 2	3V9V/ 00	/ 29E00	3E3KV/	1910E/	190/ E83
BA	EE	080KV	2383300	KV9E00	V9/KCE1	1K9K0333	V902E23
BR	K2	091208	V090K000	339V00	0918/ 02	0908K2	091K/ 3E
F7	K/	K92E/	10090300	3K9E00	E918K/	E90/ V0	891/ / 8E
.	30	-/ 91V13E	330093000	09000	39/ / K12	-0883/ 3	-1K9/ KE2
MG	2E	29K000E	K/ 090E/ 00	/ 08000	2900EEV	09E0201	E900EE
MN	KK	09K10E0	1E0901000	108000	09/1V82	09E1E0E	09K003K
NA	23	-1/ 39 08E3	KK8EV8E000	09000	-1K2902KE/	-1839/ 0KV	-18K9E002V
YI	E/	19031K0	10900000	100900	0900000	290V02V	1902K2K
b	K1	09018K3	1383300	1K29000	090E0K8	-0900K08	090110V
IN-1	11K	30V1291V300	0900000	09000	30CE/ 9E0000	3030E9 8000	30K8E81000
AG	10/	-09000KE	2383300	09000	-090023E	090020E	-0900222
AS	/ K	090EE/ O	10900000	8/ 9V00	0900011	09022K/	09021/ 0
5A	13/	09081KE	10900000	009 00	0900000	090820E	091V2K8
BD	111	-090003V	1983300	09000	0901EE1	-0900/ / K	-0900/ / K
B6	KO	0903K8V	8383E000	// 9V00	090K1K3	09003/ E	090K231
BU	V3	-0900K82	22V9/8000	09000	-090V322	-0900102	090E/ VO
M6	08	-090080E	V090300	09000	-090E12V	-09008E2	0902288
NI	V0	090000E	2K38K000	309000	0900008	0988EV	0981E18
S5	121	090K308	30900000	8V800	0910028	0900/ 20	090KE32
SN	120	-090EVK8	1V383E000	09000	-091023V	-098K000	-0918/ EO
SR	88	0900000	0900000	09000	0900000	0900000	0900000
ZN	VV	09000/ 3	3V9V/ 00	089100	090E3V2	090E8VV	0900V00
BI-1	200	1VE23/ 981000	0900000	09000	1V20019E/ 000	1V3/ 029 E000	1VV01022000
P5	208	-0901E/ O	10090300	09000	-0900/ / 3	-0901E/ O	-090218K
YL	203	-090000K	10900000	09000	0901101	-0900K8	-0900K8
U	238	-090002E	E090300	09000	-0900E8/	-0900331	0900/ EV
GE-1	/ 2	8808E928000	0900000	09000	88KE19V000	88K1291V000	80/ E0002000
TB-1	1K0	181K3008/ 00	0900000	09000	1/ 088290K000	182K3/ 9KV000	18210/ 9/K000

Run Name: 1832E0270K
 Yu4e Num4er: 12
 Sample Num4er: LCSW

DateTime: 11/20/2018 / :KQ03
 5atch: 1832010V300EA
 Blass: *****

Initial bol: 1900

Final bol: 1900

DF: 1900

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23E019IE000	0900000	09000	232109 E000	23330900000	23VV19 8000
AL	2/	188/ 908023	1/ KE89/8300	V800	1CKE9I002E	1CK09I / / 2	1/ K09K12/ 2
BA	EE	E0EV8E/ 00	EEEE090K000	V800	38K89IV13K	E3V09000V	30I000/ 0KO
BR	K2	K39EK03	38/ 0820300	E200	KK8V1K/	KE90V20	K191021
F7	K/	101K9I0303	12K/ 000/ 00	0800	100K8E880	10188K2EK	10218/ / 8E
.	30	100K890EE80	18080/ 2V300	1900	101VV90102V	1010V80/ E/	000E900/ V8
MG	2E	108/ 9002V	/ V/ K/ 9V300	39/00	20V39I1010	10209002E	10/ / 901/ 3E
MN	KK	K2923V2	11K322E300	19 00	K2831/ 8	K19I0E80	K29I3E20
NA	23	0/ 009120VK	88K/ K/ 908300	29I00	00289EECE3	0V/ 9E1/ KO	0K3192108
YI	E/	2V/ 9E03/ 3	2V309E0000	1K800	31182020	2V38V/ 08	22/ 9230K
b	K1	K1900V0	288CK9E/ 00	29K00	K29/VE22	K09/20/ 3	K080/ 8E
IN-1	11K	20/2V28/ 00	0900000	09000	3003122000	2088323000	280VEE1000
AG	10/	K29/ V/ VV	101K09 V000	2200	K18330I	K323K02	K39331V
AS	/ K	1080/ 2V	8VE9 0300	K9/00	09 E103	1090K43	108EK23
5A	13/	K198/ 1K	V1V182/ 00	E200	K19K0I08	K39280/	E0K1E1
BD	111	K90I032	8818/ 300	1200	K9I0/ 00	K9I E380	K9231E
B6	KO	2E89K0I0I	3CK2/ K9/V000	09K00	2E88K/ 01	2E/ 9K2V82	2E080I80
BU	V3	K223V12	V0EVK8V/ 00	29 00	K32KV1V	K09/E8/ 2	K2803EO
M6	08	E08888K	EKKK39EC800	0800	E0811K2	K081008	E0KEECE
NI	V0	K22VKK1	23KV89I8300	E900	K09K03/ 0	K19/8E01	KE9/0883
S5	121	K9K1208	22V39/ 000	K9 00	K8VW80	K9E1113	K2K831
SN	120	E09K2K0E	222EV9/8000	1900	E89ECKVO	K09K00I	E081CK2
SR	88	E020K2V	812V82300	K900	E29 32V/	3893EE1	308E8/ 0
ZN	VV	K139/ V/ EE	V20E08K000	19I00	K089V120	K1080C00	K138K202
BI-1	200	1V383E90E000	0900000	09000	1VV3322000	1V3K239I0000	1V13E89K0000
P5	208	1K9K4K32	000/ K9E0300	19K00	1K82EV2	1K9KEKE1	1K9 CKCE
YL	203	29EEEE0	3/ 2/ 9E3/ 00	8900	190082	1980I0	22EE1/
U	238	-09038E	1V9/ V/ 00	0900	-090EOI	-09001/	-090VEE
GE-1	/ 2	8CK1/ 2000	0900000	0900	002/ 283000	888K39I/ 000	8CE2K8/ 000
TB-1	1KO	183/ / 280800	0900000	0900	188CE18E000	180E309E/ 000	181CEK8/ 000

Run Name: 1832E0270K
 Yu4e Num4er: 13
 Sample Num4er: 9899573

DateTime: 11/20/2018 8:00:K2
 5atch: 1832010V300EA
 Blass: U*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2281V8C800	0900000	09000	22V0C8/ 000	22K1C9 2000	2332190C000
AL	2/	89E813K	0V9/ 300	KE800	3988K/ K	1298K088	09/C801
BA	EE	203/ 2/ OVO	210081300	129000	18E19/ E20	108E9/31E8	233K93330
BR	K2	191OECK	13E39/ / 00	1E900	19/ CKV	191/ 03/	1903E08
F7	K/	080K280	1K0901000	E3900	088300	K90V/ E8	1E90/ 82
.	30	102K90082K	22032901/ 00	29000	10EK9IEE32	10289 K0VK	100E908E/ /
MG	2E	82K9EVEKE	313KV8V000	19800	83090/ / EO	832900EOO	8129 K80K
MN	KK	3/ 9EE221	8000K3/ 00	19000	3/ 98/ 23/	389180/ O	3V9 / 3E8
NA	23	20829CKK/	300V809E0000	29V00	20K89/13K1	20029/ CKV	28E/ 2CKV
YI	E/	09 03KK	V9V/ 00	1/ 39200	0900000	2910VW	0900000
b	K1	0982VCE	18398E300	1K9100	098V08/	092/ 02/	098EOV8
IN-1	11K	2011E8V000	0900000	09000	28E0091/ 000	281/ C8K000	30V/ E9KV000
AG	10/	-0901KK	20900000	09000	-0901E8	0900EOO	-0900/ 2V
AS	/ K	090V001	109V/ 00	019E00	0910E10	09080KO	-0901CK
5A	13/	2E901VW	201/ 91E000	39000	2E9001KK	2K90E2K1	2E90K01
BD	111	0903ECK	/ 983300	108900	090VEEV	-0900/ / K	090E81E
B6	KO	E3983CK2	V8E13922300	K9E00	EK92EK8V	EK91K32/	E1911CEE
BU	V3	0982000	12089V/ 00	39 00	09 8KKO	0983K80	098E130
M6	C8	0918088	22V9/8300	1V9 00	091VW/ /	0921KKK	091V032
NI	V0	191C8V1	VE090E/ 00	E09200	19E20/ 2	09VE200	19K1/ 11
S5	121	090V/ 2/	33983300	V19200	090KCKE	09111/ /	09030K1
SN	120	-0983VCK	11V9/ 300	09000	-098V/ 8/	-0988000	-092K300
SR	88	1V9K010V	320 9/ 300	29K00	1V9K/ 2VO	1V9182KK	1/ 901/ CK
ZN	VW	19001EO	2EV9/8300	329V00	29E/ K8O	1908283	192EK/ 3
BI-1	200	1V331E900300	0900000	09000	1V31V/ 913000	1V208/ 98000	1V3/ 809/C000
P5	208	090V0EK	K339V/ 00	3/ 9V00	090VK20	0903K/ E	09080E1
YL	203	0901280	33983300	2K9000	0901VK0	0901100	09010C2
U	238	090003V	E3983/ 00	01/ 9100	09001E1	-0900330	09002CK
GE-1	/ 2	880K/ 9 3000	0900000	09000	8CE0K983000	8/ K239/2000	8/ 2E39 E000
TB-1	1KO	181K0E9K000	0900000	09000	18EE2K98000	1802E39CE000	1/ C8E39K3000

Run Name: 1832E0270K
 Yu4e Num4er: 1E
 Sample Num4er: 9899573

DateTime: 11/20/2018 8:02:E0
 5atch: 1832010V300EA
 Blass: UP*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	238819C800	0900000	09000	23V/ 1983000	2E0V190000	230119C000
AL	2/	E0/ 90 KV3	388/ 9E0300	/ 9E00	E3190/ 8K1	E1891V32	3/ E90320/
BA	EE	2KV900VE/	28809EV300	89 00	2EKE9KEKK	2E239108/ E	282391/ 110
BR	K2	E98201	E1009E000	K9000	K91100/	E92130	E901EVE
F7	K/	10E9E301	13EV981000	K9200	1109832CE	102900VE2	009/00V8
.	3O	13KV901K8/	20200913000	29000	13K19 2/ V0	133098EK82	138K9E/ E1/
MG	2E	8K291/ EK8	338829V/ 00	19200	8E1983/ E0	8V3901/ 01	8K19V8E3
MN	KK	E/ 9EE22E	10/ 3891E000	V9000	EE9E1E3V	E/ 98312/	K0908110
NA	23	3K2190/ EV3	3/ EK/ 8902/ 00	29000	3VE1928K0/	3EKE900KV	3E/ 09E82/
YI	E/	209K02V1	209V8/ 00	219K00	2390022K	20932VK	3K9 82CE
b	K1	1918K/ K	V8V9 2/ 00	109E00	19801K	1982110	191KK00
IN-1	11K	3002V9E0000	0900000	09000	31V01913000	28E/ 1982000	2001V9K000
AG	10/	09E0 20	00V9 V/ 00	289800	09E38V0	09802K3	09V0VW
AS	/ K	1983EV2	1K0983300	129000	1980K/ 8	290V8E8	19/20K0
5A	13/	2/ 9/0KE/	33K092300	E9000	209180 V	2V9K030	2/ 9EV3K
BD	111	1901K22	1/ 0983300	E9K00	1902000	090V/ V2	190K80K
B6	KO	E398130	V0/ 809E1000	V9200	E09800V2	EV92/ K13	E290V0E3
BU	V3	309EK1K8	K31K29E/ 000	E9800	3/ 98V023	E192V288	309231VK
M6	08	198E80K	1/ 80922000	139E00	29111KO	19810V3	19/2108
NI	V0	K98223V	2K2/ 90K/ 00	89800	E980V2E	K982K3/	K98EKEK
S5	121	290EEVO	8KV9 E000	109000	292V812	290E32E	19822/ 2
SN	120	1980VE0	00098000	/ 9K00	19K0E2V	19800/ 1	1980EE0
SR	88	1090211/	E0VE921000	119V00	1/ 92K8V/	219E/ V2	21902823
ZN	VV	1/ 901/ 1K	2100928300	119K00	1E900V20	1/ 9880 0	189 KKKK
BI-1	200	1VV02190/ 00	0900000	09000	1V0VMK9V0000	1VEE8/ 9/0000	1V3010983000
P5	208	2908K02	1/ V/ 0982/ 00	19V00	3903083	290K3/ E	290VE21
YL	203	09K0V30	0E39E2/ 00	09000	09E8800	09K838	09E/ 2EE
U	238	09E8V0K	318/ 98300	K9800	09EV3V2	09E/ V8V	09K1/ V8
GE-1	/ 2	802309 3/ 00	0900000	09000	8080K9K000	8/ 3VK91E000	010E8982000
TB-1	1K0	181E1V9EE000	0900000	09000	183K309E/ 000	1/ / 0/ E918000	183VEE9/ 000

Run Name: 1832E0270K
 Yu4e Num4er: 1K
 Sample Num4er: 9899573

DateTime: 11/20/2018 8:0E:28
 5atch: 1832010V300EA
 Blass: D*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2310/ 90/ / 00	0900000	09000	23K109 8000	22E0C8C000	23E0190V000
AL	2/	1890/ / 02	1C88K000	3E800	2088202K	2E9 C02E	11811K/
BA	EE	203/ 908K/ K	221393/ 00	C800	183E818E1	20V892/ C0/	22089K888
BR	K2	19/ 8KO	13K091E/ 00	0800	1918/ K2	191/ C08	191V8K/
F7	K/	209E0010	2/ V98/ 00	K3800	189E0 08	3291 C8KE	109K0EVO
.	3O	10/ K91K20V	2320/ 91E300	29 00	10E39C8/ V3	1102900KEK	10/ C9K1310
MG	2E	83K822K/	321VK8E8300	2800	8KV801C/	8309K32E8	82091332/
MN	KK	3891 CKEK	83K09 0300	V8E00	3/ 91 CKCO	E09DVO/	3V9E20V8
NA	23	28E29/O11V	30V10E90/ 00	3800	28E39VK23	2CE09 KEK1	2/ 3E8K3/ 3
YI	E/	09// / 0V	V9V/ 00	1/ 38200	0900000	0900000	290311/
b	K1	08K2EO	200901300	20800	09E3K01	082/ 1E	09CK31
IN-1	11K	30V0V920300	0900000	0900	30V8V9 C000	3081V92E000	3031K98000
AG	10/	09002/ E	30900000	3139000	0900/ / V	0900/ V/	-0900/ 20
AS	/ K	091232E	1V9V/ 00	12800	0911E8K	0911E0/	091E0/ O
5A	13/	209 C081	2KV09E0300	89000	1C88K2V0	22901VEV	1C90338
BD	111	090E832	10900000	2E8200	090E811	0903V/ K	090V011
B6	KO	E3800C1E	/ 11V190E/ 00	19100	E39VK1K	E29 / 281	E39/8CE/
BU	V3	0831C8	13/ 39E/ / 00	11800	0811/ V	09 EO1	0908EE1
M6	C8	091CK8O	2K388K000	V19100	082C0/	091K02E	090C8/ V
NI	V0	19010KE	K8388/ 00	EK800	19K3/ CK	09/ 3CE	081C/ E
S5	121	0900V83	10900000	3E39000	0900V00	090302O	-0901V/ 0
SN	120	-08E032	120901000	09000	-08E11E	-08V3C0	-081K02
SR	88	1E9/22V8	30K38E/ 00	89100	1K9/ 2C0	1E8EKV8	138EC8V
ZN	VV	09/0K28	100900/ 00	V89100	08EK3E	08E0C8	0912CK2
BI-1	200	1VK8089EK000	0900000	09000	1V/ K20910000	1VV/ K18K000	1V31K390000
P5	208	090KEK3	K0V9 0300	1/ 9/00	090EK/ K	090VE81	090K30E
YL	203	0901V1/	E0900000	V/ 900	090K1/	0902V82	0901VK0
U	238	0900E88	/ 383/ 00	12V9 00	0900121	0901201	09001E1
GE-1	/ 2	O1V3E9C8300	0900000	09000	O183291000	O2K088C000	O0KVE920000
TB-1	1KO	18EK/ 8912300	0900000	09000	18C8E/ 8V000	18332E918000	180KV283000

Run Name: 1832E0270K
 Yu4e Num4er: 1V
 Sample Num4er: 9899573

DateTime: 11/20/2018 8:0V:1V
 5atch: 1832010V300EA
 Blass: R*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22V0C8K000	0900000	09000	222/ C8/ 000	22/ 3C9 C000	228109C000
AL	2/	2011923KK	180V08E/ 00	39E00	20/ V9W/ KO	201V91KW	1CE1908/ 30
BA	EE	V02/ 9K18EK	V38K92V/ 00	119200	K0/ C9I21CO	V/ 239K/ 023	K3/ C8V312
BR	K2	K19/0281	3V20291000	19K00	K29E8K/ 3	K1923EEE	K19882V
F7	K/	10EV9IE8E3	12K1C9 K000	E9K00	10CE9K/3O	1001920KK	10E290V03V
.	3O	111V291010	20311E921/ 00	19K00	113109K/ 08	111C99VO1V	10C829K0E0/
MG	2E	280K90C800	10EK0V91/ 00	09 00	282/ 98EV0V	280098C02	2/ 8/ 9K8C02
MN	KK	8C8/ 8/ 2	1C22/ 90V/ 00	19800	C09I C82	C098832K	889K/ 11
NA	23	1300C9K08/ 1	11230V983000	29E00	133E8928280	12C839K2V88	12/ EV9 1VEV
YI	E/	2V09K1EV	2E/ / 903/ 00	K9 00	2V091801	2EK9/3K8O	2/ K9I 00EV
b	K1	K19/3EO	281KV9OE/ 00	K9I 00	K19 K0CK	KE9210KO	E89CE33/
IN-1	11K	2C KV91/ 00	0900000	09000	30KK191000	2C8129C000	28C0K9I K000
AG	10/	K2902/ 2V	102EV9 / / 00	29800	K1980K3O	K3922V8	KE9EO 0
AS	/ K	109K/ EE1	88398/ 300	29E00	1092/ 81V	109 K112	109/08C/
5A	13/	/ K9V83/	C0/ 39W300	E9000	/ 29/0C8K	/ V98V0O	/ 89101O
BD	111	K90/ EE1	882903/ 00	V9 00	K92EE3/	E9/8EE/	K92CEE0
B6	KO	28K9E083K	EKKV/ 290C000	19000	28090V2/ K	28K9E013/	2C09 V0O1
BU	V3	K192811V	V8EK391300	E9I 00	EO9C/ 21	K0902/ C2	K39K183K
M6	C8	K09K/ KV/	EV3KK9KC800	29800	EO9K801	K09 C03E	K198/ 8V/
NI	V0	K09 V223	230109VE000	19200	K19I/ K23	K190KE18	K090K/ 2/
S5	121	V9I12EV	2K20988/ 00	39200	V983KE2	V99312O	K90 0VV
SN	120	K19K0 0E	232V19 E000	29E00	K190/ E0V	K09/CE88	K390221/
SR	88	KV90301E	113V8983300	39E00	KE9K0/ 8	K/ 9008/ K	KV9I2188
ZN	VV	EO 92E/ O	V03029I2/ 00	19000	EO29EV082	EO192O1KO	K0/ 9012CK
BI-1	200	1V2/ E39K1/ 00	0900000	09000	1V0ECK9K/ 000	1V31K190V000	1VEK83902000
P5	208	1K9KE108	8C88V9KC800	39200	1K90208E	1K9 3E08	1E90V833
YL	203	2901V23	3VKE908/ 00	K9800	290E281	198880E	29I1/ 8E
U	238	0900E0E	V99/ 000	C9K00	-090000K	0900/ / 0	0900EEV
GE-1	/ 2	88EV/ 9E/ 300	0900000	09000	8C02/ 980000	8/ EV3900000	883109/3000
TB-1	1KO	18180K9 K000	0900000	09000	180EV09/0000	18EK1E983000	180EE2982000

Run Name: 1832E0270K
 Yu4e Num4er: 1/
 Sample Num4er: 9899573

DateTime: 11/20/2018 8:08:0E
 5atch: 1832010V300EA
 Blass: M*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	231V092/ 00	0900000	09000	22K209KE000	2E031980000	22Q209E000
AL	2/	1C889E/ 1E	1/ 822982/ 00	E9800	2023982C8/	18KV983228	1C8E9/ 0/
BA	EE	V32091K330	V8V290K000	K9200	V/ 10913223	V1209 V/ VO	V1E/ 9KV02/
BR	K2	K19E02VO	3/ 0019K/ 00	19200	K29E0KK	K09E03E	K190/ 1/
F7	K/	102E91K010	12KKV9C800	19000	10E19 0/ 0/	101398820	101/ 98102
.	30	1108K9/ 200	20VKK098/ 00	29000	112819D13CE	10/ KE9 0V0	1121091CK/ 3
MG	2E	2/ / V92V81	10KQ2V9K000	29000	283290K/ 3/	2VCK9K/ V2	28029VKEE
MN	KK	889001EV	1CE8K9E/ 00	K9000	CE908K88	8K9/81EK	8/ 90/ 0E
NA	23	12/ V2983VO	112C81V98/ 00	E9200	133V098K3K1	123K09E03/	12K/ V90E18
YI	E/	2V99/ 801	2K0/ 90K300	09E00	2VK9VW28	2E29201V	2029E020
b	K1	K09030K8	28E3E91V000	29800	K19 V20	E090/ VV	K19 1/ 8/
IN-1	11K	303289 3300	0900000	09000	20CK89K3000	30V089/ 000	30E1080000
AG	10/	K19002K	101EK08K300	29100	K29CK00	K0901V2	K1910113
AS	/ K	1098280	8/ V903300	V9200	10902811	09813V/	11900V3
5A	13/	/ K90100	02239 0300	K9000	/ 19/EV12	/ K9EK3K	/ 098EE0
BD	111	E98EE3	8VK9/ 000	K9100	K900K2	E90E33K	E9/13E1
B6	K0	2819/8/ / E	EK8K0K92300	19000	28V9E02E1	2829E0828	2/ V90/ / K1
BU	V3	K19E/ VE	V00219V/ 00	19800	K09/ E2/	K1901/ VE	K198K102
M6	08	E02VW8K	EV0E090V000	29000	K09V08KV	E891K/ 03	E890E00/
NI	V0	K398KEE0	2E8V/ 9V000	29100	KE90/ 2KE	K398EE38	K29 EV2/
S5	121	V91K0KV	2K839 E/ 00	89800	V921CEV	V9ME8K	K9/ / 3V
SN	120	E09K0VK0	2280E90/ 00	39200	K1988138	E090010	E890001
SR	88	KK900/ / 0	11KV890E000	K9000	KE9EEBK	K09E232/	K390KK/
ZN	VV	K0090K883	V1CEV9 0300	29E00	E089/82V/	K139V0/ /	E0982E0V
BI-1	200	1VV0091/ / 00	0900000	09000	1/ 022K9K2000	1V080/ 918000	1V1E3/ 983000
P5	208	1K91KK83	8CEK8912/ 00	19000	1K91KV0V	1K901000	1K90133
YL	203	19080K0	3V809 V000	K9000	2902100	198KVE1	290VE3V
U	238	-0900032	E0900000	09000	-09003E3	0900E1V	-09001V8
GE-1	/ 2	8008E902/ 00	0900000	09000	8CE2/ 913000	8/ CE/ 9E3000	8088092000
TB-1	1K0	18E20K9/1/ 00	0900000	09000	18E/ 8090E000	18VK3K9/ 000	1812019KE000

Run Name: 1832E0270K
 Yu4e Num4er: 18
 Sample Num4er: 9899573

Date Time: 11/20/2018 8:00K2
 5atch: 1832010V300EA
 Blass: UL*****

Initial bol: K090

Final bol: K090

DF: K90

Protocol: DRAP7RAD7N

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22CE081300	0900000	0900	222E021000	22VE09 K000	23C219C8000
AL	2/	2091K8CE	200901300	1039/00	EE92EK08	89C8882	/ 92C08
BA	EE	E0CE8VVK	EK39/ 000	/ 9200	301980E00	3089/1K81	EE39KE013
BR	K2	09V/ 32	C8090C800	1K9100	09 8211	09/2KK1	09KE3E
F7	K/	39K0V88	/ 39E000	EE9000	E9V/ C8	19 3C83	E9/8331
.	30	23292V81	// K90K000	8900	228901K30	2KE90E131	21V9E23/ E
MG	2E	1VK91312V	V8K91/ 00	39000	1/ 2988/ 00	1V09E0V/	1V29K10V2
MN	KK	/ 90CE31	1KV98E000	E900	V900/ K	/ 9E32E2	V9K2/ /
NA	23	E1K9/03K8	10EEK398/ 00	C9100	E2/ 9K1830	EEV91E010	3/ 391E32K
YI	E/	1930V/	1090000	1019000	0900000	290C8KE	09008E/
b	K1	0903VK/	23983300	/ C9100	090V8V1	0901238	09028/ 3
IN-1	11K	301E19E2000	0900000	0900	28/ 2290V000	300/ E9/ 000	31V2/ 9K3000
AG	10/	0900VK3	3V9V/ 00	KV9K00	0900C13	090081/	0900230
AS	/ K	0901VE2	/ 983300	32C9100	090/ / / 1	-0902E30	-0900E0V
5A	13/	E9 VE33	K8090K000	1C9 00	39 223V	K9K3C21	K9031E2
BD	111	-0900K2	1983300	0900	-0900/ / K	-0900/ / K	09013C8
B6	K0	C920E00	1E88K9E0/ 00	V9E00	C8/ 100	C900E81	89 3881
BU	V3	09181VV	E/ 398/ 000	389E00	092KVEK	091/ 032	0911820
M6	C8	09008VE	/ V9/ 000	EKK9E00	-0902/ K0	0900288	090K0KE
NI	V0	098VE0V	E0V9 2000	0V9V00	198208/	09E0020	092/ E82
S5	121	090/ / 20	E0900000	1009100	09033/ 2	09031EK	091VVEE
SN	120	-098E8V/	1139E300	0900	-092K3KV	-098021	-09E1222
SR	88	298V/ E	K8V9 1000	1E9100	392V/ 00	298/ V28	29EKVCE
ZN	VV	0981V00	V3983/ 00	K19200	09232C1	09213/ 0	09K0E08
BI-1	200	1VV1K89E/ 00	0900000	0900	1V03389/ 000	1V83V098000	1V0V89 C000
P5	208	-090011/	180900300	0900	0901210	-09013K8	-090020E
YL	203	0900V8V	23983300	1V29100	-0900KK8	0901K82	0901033
U	238	-090022E	2V9V/ 00	0900	090031K	-0900E02	-0900E08
GE-1	/ 2	C01E02K/ 00	0900000	0900	8/ KEV921000	80/ C09E0000	C81029/ 000
TB-1	1K0	183KV091K000	0900000	0900	1/ 820/ 9K8000	18/ E/ 090E000	18E012983000

Run Name: 1832E0270K
 Yu4e Num4er: 10
 Sample Num4er: CCV

Date Time: 11/20/2018 8:11:00

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22V2V9EE/ 00	0900000	09000	21KV890/ 000	23/ 2198K000	22K8CE2000
AL	2/	2V339K/ 11V	23VK/ 902/ 00	19800	2V/ 298/ / E8	2K82912EO	2VEK9 23K1
BA	EE	2K0/ 9 E2VE	2VV39 K/ 00	V9K00	2EOV9KKV10	23EO80E01V	2V/ V9 31VK
BR	K2	2V39 KOV8	18201V22000	39V00	2/ E91/ 832	2KK220VE	2V1988000
F7	K/	2VEK90E/ 32	31V11980/ 00	K9800	2VC89K/ / VE	2E/ K91 O130	2/ VO00/ 303
.	30	2KKK9// K/ 8	EO13000/ / 00	V9K00	2/ 2V988003	23CE9 00KK	2KEK9E/ / 8
MG	2E	2KV/ 90 CEE	CKV2V902000	K9E00	2VO198V/ 32	2E1080E1V/	2K02912083
MN	KK	2V190K12V	KKCE088/ / 00	E9800	2/ 29/EVVK	2K091VE3K	2V390E2/ O
NA	23	233/ 98KKV3	2K8E8/ 21/ 00	V9 00	2EOV98KE3	218191O1K	233E918K31
YI	E/	2/ 09E00V2	2KV/ 90/ 000	109000	2OV9EKE/ 8	2E29E8K/ 8	2/ 29K3130
b	K1	2V19 K2/ 2	1E2V32983/ 00	E9K00	2/ 39K313	2K090238/	2V19K811K
IN-1	11K	20/ CE92/ 00	0900000	09000	3001/ 9 K000	20V/ K980000	20V80008000
AG	10/	2V902V20	K0E819E8/ 00	39V00	2K90008V	2V9102/ V	2V98/ V2K
AS	/ K	2K191832	2001V92/ 000	19K00	2E/ 9 V00V	2K19 0033	2KK20CKV
5A	13/	2V192V8/	3131K90K/ 00	19800	2K89E8V3V	2K891O1K	2VV9 0810
BD	111	2E90EK30	E33/ 9E2000	29 00	2K91K1/	2E90K1VE	2E9VC8K
B6	KO	2EV92/ 31	30802K90/ 000	19000	2E/ 9K1/ E2	2E/ 90EV2V	2E39K182E
BU	V3	2K293E/ 2	33VV239E3300	09800	2K391EVK1	2K392120	2K0903V3/
M6	08	2V91K180	2E0308/2000	K9000	2E91K3V/	2V9 0EK3	2/ 900 21
NI	V0	2K/ 93KKE	11VEV09E000	09V00	2K09K2000	2KV9800E/	2KV9E/ 81V
S5	121	2K9082E/	10/ 019/ 300	K9800	2/ 9V18V	2K9K1K1E	2E9 / 0E0
SN	120	2K90E380	118E080300	E9E00	2V90K0/ /	2/ 9033V1	2E9 E/ 28
SR	88	2E9KE380	EO8/ 98/ 000	39000	2E98/ VC8	23901WO	2K93/ / O
ZN	VV	2KK9KVE13	310K39V0/ 00	19V00	2K39 V3/ E	2K29 1V2K	2V0212E0
BI-1	200	1VV201910/ 00	0900000	09000	1VV8/ 89V3000	1V/ 00820000	1VEV319 V000
P5	208	2V91V0/ 3	1K3KVK90V000	29000	2V9KK002	2K9KV228	2V9VC88
YL	203	2K9K31VK	E/ 12/ 9EE/ 00	19 00	2K91V/ 3K	2K9E332K	2K900E3K
U	238	2E92E/ O	1V0CK191300	29100	2E92E022	2E90000K	2K92K20
GE-1	/ 2	8OV8020/ 00	0900000	09000	00001900000	0002198/ 000	88CKE9K000
TB-1	1K0	18EKO19E000	0900000	09000	183030912000	18K08090/ 000	18E/ K39/3000

Run Name: 1832E0270K
 Yu4e Num4er: 20
 Sample Num4er: CCB

Date Time: 11/20/2018 8:13:28

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22C839K1300	0900000	09000	23K1190V000	22/ / 09K000	22VK083000
AL	2/	-098K00K	1V9V/ 00	09000	-1911E22	0902V20	0903/ 80
BA	EE	09K2/ 0K	23983300	20K9E00	-129E2/ 3V	2K912K21	1K98V00
BR	K2	0903V/ O	KE090E/ 00	1K39 00	090V1EV	-0902/ 80	090/ V80
F7	K/	0983KVO	E0900000	1809100	2901E3	0988EEV	-09 V883
.	30	-2290K2V/	31E398K/ 00	09000	-0983V81	-2/ 920801	-2091131/
MG	2E	-19/320V	E1398V300	09000	-292301K	-09K01/	-29100KK
MN	KK	-0901833	2V9/ / 000	09000	091/ V22	-091380V	-090022K
NA	23	-23891V38E	K08/ 0983300	09000	-2E080/ E/ /	-2339223VW	-231920800
YI	E/	0900000	0900000	09000	0900000	0900000	0900000
b	K1	-0900K08	0900000	09000	-0900K08	-0900K08	-0900K08
IN-1	11K	3008K9/ / 00	0900000	09000	302/ K9EV000	20K09K3000	3038V92E000
AG	10/	-090088K	V9V/ 00	09000	-090122/	-0900/ 08	-0900/ 21
AS	/ K	0913EV/	1/ 983300	V29100	0921212	091EK00	090EK01
5A	13/	0900000	0900000	09000	0900000	0900000	0900000
BD	111	09003K8	2900000	KE89K00	0902V22	-0900/ / K	-0900/ / K
B6	KO	09032EE	/ V9/ / 300	1009100	090K300	-09008E1	090K2/ K
BU	V3	090118E	2EV9/8300	2V29E00	-0902300	090323/	0902/ 0K
M6	08	-09022E1	EV9V/ 00	09000	-0901000	-090288E	-0901020
NI	V0	09110V3	1V398E/ 00	1129K00	090K83/	0902082	090K2/ 0
S5	121	0911CKO	KV9V/ 00	229V00	091K0/ 0	0910KV3	09102EE
SN	120	-09E031V	00900/ 00	09000	-0983/ KO	-09E8CE0	-09882EO
SR	88	0900000	0900000	09000	0900000	0900000	0900000
ZN	VV	092VVVV	KV9/ / 000	8V9E00	09120CE	0913/ E1	09K32V1
BI-1	200	1V2/ 219EE300	0900000	09000	1V2V0V922000	1V22819 V000	1V32/ V98K000
P5	208	-0900828	13V9/ / 00	09000	-0900E20	-0900C80	-090112V
YL	203	0901EV8	3V9/ / 000	1089200	0900KK0	0900KK2	0903303
U	238	-0900KE0	V9V/ 00	09000	-0900VEE	-0900VEE	-0900330
GE-1	/ 2	88CE090E300	0900000	09000	80K2/ 920000	88CE291000	883K09 2000
TB-1	1K0	18EV/ / 98/ 00	0900000	09000	18E8/ K9 8000	18V/ V8920000	18238/ 928000

Run Name: 1832E0270K
 Yu4e Num4er: 21
 Sample Num4er: LLC

Date Time: 11/20/2018 8:1K:1V

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2303/ 98K000	090000	0900	22VK0908000	22CK09K000	23K119/2000
AL	2/	38K90V3EV	3KE09/ / 00	29100	3C29 V820	3/ V9/18/ 0	38K903E0
BA	EE	/ 8090083	8K39E1000	V9/00	/ 0090K30	82V928V3K	/ 2E9E1083
BR	K2	E9V33V	3K1/ 93300	0900	E9 38E8	E9113V	390E02E
F7	K/	113901882	1E039E0300	89000	122910/ 3K	11E9 0381	1029EK31
.	30	3889E20V	10V389E300	V9 00	E0E92810V	3K890EK33	E039E088/
MG	2E	0191V32V	3C2E912300	0900	019031KO	83903EKE	009E23VV
MN	KK	109EK81	22V0983/ 00	29800	109E238E	0901VKO	1090VO8
NA	23	VE2900/ 8	123V389 2/ 00	E9800	V89/2821	VE090KK/	V089 0KKK
YI	E/	219/ V0K	20V9/8300	219100	2E913ECO	2391C22	1V91/ 3CE
b	K1	090V010	K3V9 0/ 00	289000	09 V300	19/ V08	09E0VE
IN-1	11K	301/ 1980/ 00	090000	0900	310E0918000	28C8090/ 000	30K3K9/ 000
AG	10/	09K1E81	103090000	219/00	09E/ 2/ V	09/E10/	09E30V0
AS	/ K	190001K	1/ 393300	1E9200	29121/ 2	2918321	19/VKKE
5A	13/	E98/ / K	K2090E300	1V9000	39/03V0	E921118	K90E8E8
BD	111	090K8E	1V083300	109 00	090 ECO	190EVCK	09EKK/
B6	KO	190EVE8	1/ 139K3/ 00	119000	090V3KK	19180/ /	0908V12
BU	V3	E09/18VO	KK00V981300	E9/00	309KK011	E29 C22K	309K13/ 2
M6	08	198EE3E	1/ 839KK/ 00	1V9000	291/ / V/	19 3K82	19/1CK2
NI	V0	3908318	10139/ 000	1K9200	E9KKV20	398130	398V1CK
S5	121	292138K	02V9 K300	129K00	190VKKE	29K1108	291VE02
SN	120	19EVO2	0839E2/ 00	2/ 9100	1901031	19 0K2K	19/0830
SR	88	K9 8K30	118V9 8/ 00	139 00	K900KKK	V9K8833	K9 V201
ZN	VV	1K923/ K	100V900/ 00	V9E00	1K9 / 18K	1V900/ V0	1E910181
BI-1	200	1V8/ 0/ 90300	090000	0900	1V00/ V9E2000	1V8012911000	1V/ 233908000
P5	208	390302/	1822V9E1300	09000	390V2KO	390818	390200K
YL	203	09K2EEO	0089E3/ 00	119 00	09K081K	09E/ E28	090V0E
U	238	09E8EKV	32309/2000	29200	09E/ 332	09E0EK/	09E8K/ O
GE-1	/ 2	00CKV908300	090000	0900	80/ 10901000	01E3090/ 000	01/ 2090/ 000
TB-1	1KO	18V3V/ 9E/ 00	090000	0900	18V302900000	18K0819/ 000	18V/ / / 9E000

Run Name: 1832E0270K
 Yu4e Num4er: 22
 Sample Num4er: ICSA

DateTime: 11/20/2018 8:17:00E

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22E8V80000	090000	0900	2200082000	220009K000	21KV/ 908000
AL	2/	0109138/ /	8/ 31EK9 E300	E900	0VE/ K98800	0E0 09EK20	1023119810E
BA	EE	201E1/ 9/ 10K	30V1089/2000	3900	200V0 922/ E	281V08910/ / V	3010E8918K3K
BR	K2	09VOV8	/ V09V000	K2900	09V801	09V2/ 3	09/ 828
F7	K/	2KK02282EE2	303VOVE82/ 00	E900	2K32K8900EKE	2EVI/ / 90KV/	2V/ 8309/ 30E
.	30	1013V890880	180E8K/ 9V/ 00	E900	00K08EV21	08V229 80/ 1	10VE22900/ /
MG	2E	0811K9/ 8/ /	3V1VE3/ 9EE/ 00	E900	0V2K8902VK3	0K139 V/ 3	102K/ 29E30K
MN	KK	2900818	VEV9 1/ 00	E900	29VKKO	2980/ / K	390K121
NA	23	2E18039 E/ KE	10K3E8KV8/ / 00	3900	23/ 2019KV/ VK	23VK290KOV	2K1KKV8V000
YI	E/	20/ / 901E1	10V389000	E900	100V912K8K	20/ 29E/ 21	21V39/311/
b	K1	09KK0K	3393300	E89100	09E830	098E2E	09032K2
IN-1	11K	28KE1982000	090000	0900	2001E91K000	2/ 010912000	2/ / 009/0000
AG	10/	0902KE0	/ 090300	8/ 9100	09023VO	0900E2K	090E8KE
AS	/ K	09K20V	/ 393300	18900	09/CE08	09K2/ V	191110
5A	13/	09 KK23	8V9/ 300	V900	09 E808	09 12V3	090E08
BD	111	091V8V	209V/ 00	2V900	090KE0	091K10E	091032K
B6	KO	09EK8E	13139EV000	1K900	09 1E11	090V/ 3	098KV8
BU	V3	09 V8/ 0	110V9 000	1V9100	09VE280	09 / 3EE	0980/ 8
M6	08	211K92038	18KKVK923300	E900	200E90/1K3	21V39120KK	21/ / 9K/ 00/
NI	V0	1921332	V3398300	13900	1988KE8	19/ / 13	19/ / 3E
S5	121	19/ / 21	K0V9 0/ 00	2E900	0902/ 20	198K82/	19KEV0/
SN	120	-09/ 82E	1E091000	0900	-09133KK	-093008	-098V20/
SR	88	1/ 9 KEE8	3EK390 000	E900	1/ 9KE31	1/ 9EE23E	189KV/ 8
ZN	VV	29002/	2VV9/8/ 00	209/00	29102/ 0	19E/ V28	29 1883
BI-1	200	1K32EE91300	090000	0900	1K2/ / 298/ 000	1KE/ 3K908000	1K222E9EE000
P5	208	0938/ 8	E/ 109VE/ 00	109100	0981E11	09083E8	09 V8/ K
YL	203	09022E	1393300	1E8900	0900032	090V0V	090003E
U	238	09010 K	1KV9/8000	20900	09020E1	0902338	0901KEK
GE-1	/ 2	8V018918/ 00	090000	0900	8E1V390/ 000	8V33V9 0000	8/ KKE9 0000
TB-1	1K0	181V0091K000	090000	0900	1810889/K000	181/ 109E0000	182001981000

Run Name: 1832E0270K
 Yu4e Num4er: 23
 Sample Num4er: ICSAB

Date Time: 11/20/2018 8:18:K0

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	230809 3/ 00	090000	0900	231009 3000	22K/ 0902000	23E819EV000
AL	2/	0V3389K10K8	882EK89K2/ 00	1900	0V1319C8K18	0 300821E1	CKE839 / K1K
BA	EE	28VW80902K/ 0	30C8E190/ / 00	1900	28V2CE8KV88	2010VK8300E	281/ 829K811/
BR	K2	10190/ / V2	13KE1/ 9/ 300	2900	1009E81V/	10V9/1V0/	18V913E22
F7	K/	2EV20 908K/ 3	30010V81000	2900	2EK0129KE00V	2K2V/ 09 KE0V	2E12019K1308
.	30	100E2098/ 8V	183V/ 829K/ / 00	1900	1013309/ / 1K3	101VV19K088V	082V09/0820
MG	2E	CK02292088	3K08E119 2000	0900	CE8009830/ K	CK0E19K3/ 22	CK22E91CEV8
MN	KK	10V9K/ V3	E200V901300	1900	108900020	20098380K	10V9K3KKK
NA	23	233CKE9/28V/	1CE1K/ 039EV000	1900	23E20298088V	23VK8/ 9208V3	2310/ 39 83K2
YI	E/	20V3900V3	2002002/ 00	3900	203E9 VKVO	21K190081E	20039E00/
b	K1	10V9K8K3/	10CE2098/ 00	1900	1089 0300	1089E008	10 921213
IN-1	11K	2802891000	090000	0900	28/ 2190000	201839/ 000	288819 V000
AG	10/	E89E02V/	01E890K/ 00	0900	E89V/3KK	E8982200	E8921EK
AS	/ K	1019K08E	81/ K98300	1900	1009 30KV	1009/ KVE	10293/ 30
5A	13/	0901VE/	10V9/ 300	13900	090K228	1902230	09 / E/ E
BD	111	0890020	1K830900/ 00	19 00	0E9K1881	01900EE	0E90V83K
B6	K0	182902EE8	28E010921000	1900	18K98330V	1/ 080031K	183903V33
BU	V3	1809/3801	2EKV8E901000	0900	1019V0K2	1809 3K/ E	18/ 9011E8
M6	08	20V89130V0	18E100091000	1900	208K9802EV	20E09KV0/ 3	20/ 89VK8/
NI	V0	1809EE/ E1	831/ 89E2300	1900	1809 0/ / /	1019E8/ 8	18/ 98KVO
S5	121	198K00	KV090E/ 00	13900	19KEV3E	19/ E2E	19E3/ 38
SN	120	-09E0KK	1139E300	0900	-090003	-09K0KV	-09/ 10K
SR	88	1V9V020	32109K/ 000	E900	1V9KE111	1V9 8222	1K9E8EKK
ZN	VV	029E8K2E	1002E90K300	29 00	089E8EK8	809VEK/ /	0E92K3V
BI-1	200	1K210008/ 00	090000	0900	1K2E809 3000	1K0K2/ 9 1000	1K331892000
P5	208	09KKEE	E/ V09VE/ 00	8900	09 CK2/	090030E	09E0/ 0
YL	203	0901010	2V9V/ 00	1EK900	-0900KK8	090123/	09023/ 0
U	238	0902830	20V98000	22900	0903KKO	0902K02	09023VV
GE-1	/ 2	8V1CK908/ 00	090000	0900	8V8K0980000	8EV0V908000	8/ 130918000
TB-1	1K0	18283E923000	090000	0900	18E12E9K1000	18330082000	1810V89V000

Run Name: 1832E0270K
 Yu4e Num4er: 2E
 Sample Num4er: RINSE

Date Time: 11/20/2018 8:20:3V

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2282380/00	0900000	09000	22/ / C8/ 000	233209CK000	223VC8/ 000
AL	2/	K9KEC8/	/ 090/ 00	K39E00	292381/	V9EK/ OV	/ 90K1OV
BA	EE	E39 KKKO	V090300	209V00	K39C8E0	E29KE0V	3K9/ E30
BR	K2	09EE1O	V809K/ 00	E8900	0930/ O	0910OV	090183
F7	K/	1/ 9021/ 1	2339K/ 00	K1900	129K1O E	119V0O1	2/ 918EE0
.	3O	-E90000	3EE09VE000	09000	1V9/3CE1	-109E0VE3	-109E2O/
MG	2E	39VKK/	KOV9 2000	V89100	29K208	19K1E28	K9C03E
MN	KK	-09EK00	2090000	09000	-090C2K0	-090E81O	090200
NA	23	-2309V120	K11EV93300	09000	-22K9K0820	-2KV90K31	-2089800/
YI	E/	093OV0	393300	1/ 39200	0900000	190100/	0900000
b	K1	0901831	1393300	K/ 9V00	09030E/	090118K	09012V0
IN-1	11K	2C80391V000	0900000	09000	2C80E9E2000	28E009V000	2O/ 0E9E0000
AG	10/	090V82	3V9V/ 00	21V9100	0902382	-09001EK	-09001C2
AS	/ K	0900O V	V9V/ 00	208900	0902E1V	09028O1	-09023/ O
5A	13/	0900000	0900000	09000	0900000	0900000	0900000
BD	111	0900030	193300	EVK09 00	-0900/ / K	0901VE0	-0900/ / K
B6	KO	090E0K8	8V9/ 300	K19K00	0901VKK	090K000	090KE30
BU	V3	090V01	2339E/ 00	K139 00	09000C8	-0902202	090301E
M6	C8	09 2V13	/ 209V/ 00	209V00	09K/ 0KK	09 3OV0	090V81E
NI	V0	0902E/	11090300	3E8K900	-090E/ K1	090101/ K	-090EV8E
S5	121	0901V00	1393300	231900	0900/ V0	090K0/ 8	-0901V/ 0
SN	120	-0980VK	OV9/ 300	09000	-09EEKE1	-090OV2	-0900002
SR	88	0903EE1	V9V/ 00	1/ 39200	0900000	09032E	0900000
ZN	VV	3931/ 8	E20903000	109V00	29V0K1E	390V8/	3902333
BI-1	200	1V21019K000	0900000	09000	1K8E0K9K000	1V3/ 0391000	1VE10K9C000
P5	208	0900O 8	2E0901300	08900	090018O	0900/ / 3	0901O/ 3
YL	203	09012C2	3393300	239200	09011E/	09010C2	0901V3/
U	238	-090220	2V9V/ 00	09000	0900003	-0900331	-0900332
GE-1	/ 2	8CE0V9 2300	0900000	09000	88V/ 29KK000	882889 E000	O12K898000
TB-1	1KO	1/ VOV91V300	0900000	09000	1/ VKE09C000	1/ 00E1901000	1/ K3139KK000

Run Name: 1832E0270K
 Yu4e Num4er: 2K
 Sample Num4er: CCV

Date Time: 11/20/2018 8:22:2K

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	230809/K/ 00	0900000	09000	23E01920000	23/ V19/K000	220/ C912000
AL	2/	2K0/ 90/2/ 0	220/ 39E3300	E9200	2E2E9E381	2E/ E9 / 3EE	2V2E9/V08/
BA	EE	2KV/ 98E/ 8K	2/ 809E3/ 00	89 00	2/ 1190/ / 8	230090VEV3	2V809/811K
BR	K2	2V0913V/ O	18E0EE9C000	E9200	2K8922031	2K0920/ 2	2/ 190V03K
F7	K/	2K809 0E12	31EK09C000	K9 00	2K809E0VE/	2E289/C0EK	2/ 2E90/ EE
.	3O	2KV9102V1	K03809 1300	29800	2KV988012	2E0K91033O	2V3V91K31
MG	2E	2K1291/ 182	CKK1E9C000	39E00	2E0/ 9/ 302	2E339C080	2V0K91K1KV
MN	KK	2VE9 2281	K/ / 0/ 91300	E9800	2V09C012	2K193100	2/ 29 3830
NA	23	223/ 908103	2KKV392/ 00	E9V00	223K9V080K	213V9E0100	23E19083CK
YI	E/	2/ K9KVV0	2VV39 K000	229E00	2K/ 90083/	22K9V0/ 0	3EE901/ E
b	K1	2K898E32	1E30/ V9V/ 00	39V00	2KK9100C0	2K291V03E	2V0901/ 3
IN-1	11K	30K109V300	0900000	09000	31E209E8000	303K091000	20/ V0900000
AG	10/	2V9/ 020	K2181910000	29 00	2K92EK8	2K900210	2/ 90808
AS	/ K	2K3922KV	21KK092000	29000	2EK9E3330	2KE92308	2V09210EV
5A	13/	2KE92K42	3110890/ 00	19V00	2K09/8V1O	2K39V002	2K89/303E
BD	111	2V90VE0V	EV3/ 9KE300	E9000	2E9V0V28	2V9E/ 10	2/ 9038/ O
B6	KO	2E393311	30/ 800K000	39000	23E9V1E8	2EV9 C0K0	2E/ 9/E/ 3K
BU	V3	2E09303V	3E11K89 2000	39000	23090/ V/	2K19EE3V	2K89 VV0E
M6	C8	2K91K800	23V8092000	29000	2E9020E0	2E9K/ 8/ 3	2K90/ K13
NI	V0	2K39020E/	11/ K129/ 000	29000	2EK9/1EK3	2K/ 9023V8	2K0912318
S5	121	2K92KV	10/ V19 0000	29 00	2E9B/ E3E	2K9EE0/ 0	2V92V108
SN	120	2E9/K1/ K	11KE9 8000	29K00	2E9 V808	23900EE	2K91CK83
SR	88	2K91/ 83V	K2E19/ 000	09E00	2K91CK/ /	2K9V001	2K9/ 028
ZN	VV	2K291E23O	3138092000	19V00	2K1900232	2E891ECEE	2KV9/ KE0
BI-1	200	1VE8E1918300	0900000	09000	1VVK8/ 9 1000	1VKK229/ 000	1V2E1391/ 000
P5	208	2V9130E0	1K218V9 E/ 00	19100	2K9EV3K	2V9E0K/ V	2V91V08
YL	203	2K923E1	EV3VE9 8300	19100	2K9103E2	2K9/E1K/	2K92K2K
U	238	2E90/ 3/	1V0KK09K3/ 00	09800	2E9 C0V	2E9011VO	2K91CE3/
GE-1	/ 2	8CE09/C000	0900000	09000	8V0/ 902000	C00V93000	C081V93000
TB-1	1KO	18E08/ 9KV000	0900000	09000	182VK190K000	18K80/C0K000	18VE1E9 8000

Run Name: 1832E0270K
 Yu4e Num4er: 2V
 Sample Num4er: CCB

Date Time: 11/20/2018 8:2E:13

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2E02C0V/ 00	0900000	0900	232K098000	2E08E90000	2300292000
AL	2/	29E332	E393300	112900	-09018VE	19KKCK	K91Q2VE
BA	EE	119K1Q2K	2V9V/ 00	0V900	2E9VE11	E9 2VKK	K9E/ 10
BR	K2	0903KK2	KV39/ / 00	2/ K900	0912EO	090V8V	-09/ EKO
F7	K/	E9E1/ 1	8V9/ 300	KE900	19312O	K9012VK	K9E121
.	3O	-1093KKO	3K0/ 92/ 00	0900	-0902E/	-89208/	-13908E2
MG	2E	-090VE20	EV090E000	0900	-2911E10	09012/	-19/ O 8
MN	KK	-090V03	2393300	0900	-090E/ O1	-090KE0V	-090V11
NA	23	-28/ 9 / / 82	E88K092O 00	0900	-2EE90E22O	-32090V212	-2089200K
YI	E/	0900000	0900000	0900	0900000	0900000	0900000
b	K1	090222V	1V9V/ 00	11E900	-0900KC8	090E3OV	09028/ V
IN-1	11K	2083/ 9E2300	0900000	0900	30E1K982000	30VKK9KE000	28EE0901000
AG	10/	09003EE	30900000	28E9100	-090021/	-090022K	0901E/ E
AS	/ K	09121V/	1V900000	K/ 9100	091E00O	090EE8/	0918003
5A	13/	0900000	0900000	0900	0900000	0900000	0900000
BD	111	-0900/ / K	0900000	0900	-0900/ / K	-0900/ / K	-0900/ / K
B6	KO	0902/ 3V	V9V/ 000	// 900	0903E31	09003K3	090EE2K
BU	V3	-090K218	1V0901000	0900	-090/ V02	-090111K	-090VC88
M6	O8	090302V	O89E000	1V/ 900	09012/ 2	-0900O1V	0908/ 21
NI	V0	0900E8K	1139E000	1/ 80900	-090CE0	090KEKO	090KE8V
S5	121	0921O 3	OV9/ 300	EV900	092V8O	090113O	0928881
SN	120	-09E81E8	K393300	0900	-09K8023	-09EEO V	-09E1EE3
SR	88	0901V0/	393300	1/ 39200	090E820	0900000	0900000
ZN	VV	092EE30	K393300	1/ 9800	0928O80	0920KO	0923/ 13
BI-1	200	1V1K229O 00	0900000	0900	1V282K981000	1V1OV911000	1KO / K9E 000
P5	208	-090813	13V9/ 000	0900	-0900KC8	-0900K8E	-09012K8
YL	203	0900CE0	2V9V/ 00	1839E00	-0900KK8	0900KKE	090282E
U	238	-0900K38	V9V/ 00	0900	-0900VEE	-0900E8V	-0900E8E
GE-1	/ 2	800V09/ / 00	0900000	0900	0002/ 923000	801EK910000	8081090000
TB-1	1KO	1818CK98300	0900000	0900	181VE/ 91/ 000	18WE1908000	1/ / 3O 90K000

Run Name: 1832E0270K
 Yu4e Num4er: 2/
 Sample Num4er: PBW

DateTime: 11/20/2018 8:2V:02
 5atch: 1831O10V3O01A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2310/ 9E000	0900000	09000	2300982000	23V019E0000	22V209K0000
AL	2/	/ 9EE00	8V9/ 000	209E00	/ 9/3E12	89E002K	K90/ V1
BA	EE	1VE0911VE1	1/ 8V9/ 000	1E9200	188V9E382/	1V009 20CE	1E2E91C001
BR	K2	1981K10	1/ 0V9C000	189000	19 EV1K	19K12EO	2918VVK
F7	K/	/ 91V2VE	11V9/ 300	V09000	109/ 8V1	29/ 2CE	89E3V3V
.	3O	22390V818	/ VK990300	29 00	2309/8018	2229KE/ CK	2189/ VEO
MG	2E	22910KE0	131V981/ 00	109100	219EK/ 1	2E9KCEKO	209VE8O
MN	KK	398VK2	8/ V9 K/ 00	239K00	E9/288K	299V13	E91VEK8
NA	23	VK9O18O	/ V2V00/ 300	339900	K0912E28	KK9 380V	C091333
YI	E/	19/ 188	1393300	E39E00	290K8EV	190V0V	190K021
b	K1	191833E	VV39C800	09E00	192V013	192E00	190KV00
IN-1	11K	30E009E/ 00	0900000	09000	280/ 988000	323819V000	30130910000
AG	10/	1912118	22K09E000	09200	19101V3	191VCE8	19002EE
AS	/ K	19/ 2CE	1229V/ 00	V9100	19E3/ 2O	19/ 8V3	19E0200
5A	13/	2E9180CE	20E3981300	209 00	2098E83E	109K0OV	2398E3K3
BD	111	09230KE	E2900000	309900	092K2KK	091K10/	0928801
B6	KO	1923KKE	20E39K8/ 00	E9 00	192K21E	191/ 0/ /	19283VO
BU	V3	191EK1V	1/ 09K3/ 00	09100	19130/ K	190E33K	192K23/
M6	08	29883EV	220V900000	09000	29K8K3V	2912K23	29E30/ 8
NI	V0	198K8E1	/ E09V300	139V00	198E/ 1/	191/ 0V2	19KE8EE
S5	121	19E3/ / /	V1090E300	1V9K00	19EK/ KE	19100/ 8	19VVE00
SN	120	109KE/ E3	K0/ / 90V/ 00	09200	1192V3/ 8	09E3000	10908CK1
SR	88	E9E1VK1	0139E2000	239900	K9/1VEK	3908EKK	39/E8K2
ZN	VV	19E8KKO	20V9/8000	309K00	1902283	1901828	19K1KVE
BI-1	200	1V/ 18K9/C800	0900000	09000	1V20198K000	1V8V2980000	1V/ V02908000
P5	208	1918802	/ 10/ 901/ 00	E9100	191EK20	192E0E0	191/ 8EK
YL	203	1920K2/	22EV900800	/ 9V00	192/ 01/	19000/ O	192EK8K
U	238	-09028O	2393300	09000	-0900VEE	-0900188	-0900033
GE-1	/ 2	02383911000	0900000	09000	01V309KE000	02K88922000	02C0909/ 000
TB-1	1KO	18E1K39CK/ 00	0900000	09000	18E21K9 V000	18E8E098E000	183E0K9/ 000

Run Name: 1832E0270K
 Yu4e Num4er: 28
 Sample Num4er: PBW

Date Time: 11/20/2018 8:21:K1
 Batch: 1831O10V3O01A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	230C89 3/ 00	0900000	09000	22V3C8E0000	231E09K3000	23K0198000
AL	2/	89 2C8O	10090300	339200	/ 982008	1190V01V	V9800K/
BA	EE	2020920K23	210893000	08000	220/ 9 3/ 1V	18089EE3/ 8	20EE9EE3E/ V
BR	K2	19 0K2E	1/ 20921000	09100	198821/	19/E108	19K01V3
F7	K/	/ 902K2K	12V9// 00	219000	K90230E	0901E2V	89838EE
.	3O	21390108E	/ EE0912300	V9000	22/ 9E301/	10890VE22	2139KKEV3
MG	2E	1V9 / 8C8	11139E3/ 00	V9100	1K9// 21V	1/ 9/CE3E	1V90/ 0E3
MN	KK	E91K2V1	08V9 K000	119000	39/ 88V2	E9VE30	E900E8O
NA	23	E2900E0O	/ E3/ V8V/ 00	EE9000	K19E/ 0V1	KV9210K3	2198011E
YI	E/	290/ 00O	20900000	889800	E910000	1902/ 02	190112K
b	K1	192V/ 1/	/ 1090K/ 00	129000	190C80/	198380/	198/ 03/
IN-1	11K	300V391K/ 00	0900000	09000	2002E922000	3003K90E000	30220881000
AG	10/	191/ 03/	23139// 000	08E00	19112E2	190/ KO	1910108
AS	/ K	1913/ 1V	101983300	2V9V00	19E8K3/	090/ 828	090E/ 8E
5A	13/	2K9K/ V1	30K398V300	89100	2E9K13EO	2/ 9KV880	239V00KE
BD	111	09K08V	EK983300	239100	09EE31	098118V	0910VE0
B6	KO	1910000	10V092/ 000	109V00	190V2V2	1981200	192E3V
BU	V3	1921V1V	18VV902300	K9V00	191CKE0	191V0KK	1902KE
M6	08	29E1/ 8E	23039// 000	119800	29E03EO	29V0/ 2/	291K2/ K
NI	V0	1921V2E	VV9 1/ 00	2K9K00	090E308	19KKEV1	191K01/
S5	121	198E010	KV3988300	08000	19E3K12	19188VE	1980VKE
SN	120	109/2122	K0KE9K000	39100	109VE2/ E	10908EV1	10928V32
SR	88	E9113/ 3	8E39E0/ 00	89E00	E9K0/ VO	398KV3E	390/ 1/
ZN	VV	19/2K00	22398K000	EO8000	098/ 18E	19K21EE	298E/ 0
BI-1	200	1V/ 30/ 92/ 00	0900000	09000	1V/ VK390E000	1VV0K290K000	1V8E8/ 9 0000
P5	208	191VW13	/ 0/ E9K000	K9E00	1910C8O	1923E/ O	191KE23
YL	203	1913K2V	2120981000	E9V00	1900033	1910813	1912233
U	238	-0900E02	10900000	09000	-090033O	-0900VEE	-0900E02
GE-1	/ 2	8003E980000	0900000	09000	8VVK192E000	80838902000	00V1E9K1000
TB-1	1KO	182EVK9E0000	0900000	09000	18288K9E0000	182/ K9K/ 000	181/ K9KE000

Run Name: 1832E0270K
 Yu4e Num4er: 20
 Sample Num4er: LCSW

DateTime: 11/20/2018 8:20E1
 5atch: 1831010V3001A
 Blass: *****

Initial bol: 100

Final bol: 100

DF: 100

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23K08911/ 00	0900000	09000	23K2190K000	220' 0900000	2E302901000
AL	2/	10009028E/	18/ K0918000	39800	101E98EE80	20V393002	20219000K0
BA	EE	E/ 0E90E22	K20192/ 000	39000	E80/ 9/ 812	E8119E318V	EE0E90/ 2V0
BR	K2	K29K8CK0	38E029K300	19800	K39K3E3	K2981/ E	K19K3332
F7	K/	102890EE31	128K39E8000	19000	10E0901K2	103K9/00E8	10109 K002
.	30	103/ K9E31K0	10' 2/ EE3000	19000	10EV89V20K	10E80923/ K	101/ 89080/
MG	2E	20EE9K8K/	/ CK8298000	39200	20VK903012	200' 90V8K/	10' 090/ / 00
MN	KK	KV913CKV	12KE390V000	E9800	K09113EE	KK9V/ 01	K3908/ 3E
NA	23	0' 239K0K/	80E0E1903000	39200	0' / 098/ 8/ E	1000V9308V	08089E33V0
YI	E/	28/ 9KV88V	28K392000	E9100	2/ 89010V0	3019131/ 0	2829KK10
b	K1	K09/8080	2883898/ 00	29 00	K19EKV20	K19E/ 01E	E0913E23
IN-1	11K	20' 0090/ 00	0900000	09000	202339E/ 000	20E2V92K000	30/ 13918000
AG	10/	KK9KVK/ 2	10/ V0020800	29000	K/ 9021E8	KK93V1K	K39830K2
AS	/ K	109E102	00V90E000	K9000	10900001	119KV13	1091/ V02
5A	13/	/ 19/8280	8K8V9/2000	29100	/ 392K2V0	/ 190EV1	/ 090110
BD	111	K9220/	02V90E/ 00	39000	K9K2811	K91VKKK	K92/ 2KV
B6	K0	2K090311V	300V0E988/ 00	19000	2K39/8E38	2K0922003	2EV91800/
BU	V3	K390V08	/ 20E3918300	29200	KE9 38V2	KE9008K	K29K2EV
M6	08	KE981/ K	E080890/ 00	29000	KK9E2200	KE90831E	K29 3022
NI	V0	K39E/ 3K1	2E2E081300	19000	KE9EV02	K39000E	K29EK3K/
S5	121	V90E281	28V392300	19000	/ 901828	V92EE/	V908KVO
SN	120	V09 / 833	2/ 30890' 00	09000	V19VW0/	V09EV10	V09/2283
SR	88	E3981K8E	80039EE300	K9000	EK9KE/ K	E19K1V01	EE90/ K8/
ZN	VV	K2090001/	V31K09 / 300	19000	K119K/ 8K	K2/ 9 E13V	K209/2831
BI-1	200	1VEVCK9K1300	0900000	09000	1V/ 1K900000	1V202191V000	1VE00080000
P5	208	1V9K/ VK8	0VE839/0300	19800	1V9E1KE	1V902132	1V9EV8V
YL	203	391000/	KV0E900000	39100	39033/ /	3921/ 8K	390/ KKO
U	238	2K9 V2/ 8	1VKK1088300	29200	2K9 1V0'	2V9EV82	2K92EKV
GE-1	/ 2	802EV9E0/ 00	0900000	09000	80K2/ 903000	880VE9/2000	802E/ 9/ 000
TB-1	1K0	1821KV900/ 00	0900000	09000	1808V09E0000	180K0292000	18K10/ 901000

Run Name: 1832E0270K
 Yu4e Num4er: 30
 Sample Num4er: 9876338

DateTime: 11/20/2018 8:31:30
 5atch: 1831O10V3O01A
 Blass: U*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23K319E1000	0900000	09000	220V0920000	23V01988000	2E03290V000
AL	2/	139838E/	1K0901000	189100	1090820/	1E98CE01	1K93/ K3
BA	EE	8210K9E800K	0033/ 900800	29200	8301E9KCE0K	803E00/ 00E	820K29 CE0V
BR	K2	39 V100	323/ 9/ 000	00000	39K0/ /	39K3EK3	E91K10/
F7	K/	/ E089/CKK/	021019V300	19V00	/ KE29CB08	/ 3E1980K2	/ 3E291311
.	3O	233V/ 9CK333	E38V1/ 980000	09800	23EE298/ 00	233K898183	233039E002/
MG	2E	VK08390VEE8	2KEK2209K3300	19800	VV/ E/ 908EE3	VV0219 1/ / 8	VK0209E012E
MN	KK	23K290K/ 88	K2303392000	19E00	230090 803	2332983121	233K9KVE3O
NA	23	8800 9E2VK3	/ K/ E3V190 000	19E00	0000892180/	802KK9203K8	8/ V389K/ CE
YI	E/	0001021	00900300	V09100	E91E032	890KKKE	1E983E/ V
b	K1	39E0081	108V901/ 00	K9800	39V0VE1	398V/ V2	392KKE2
IN-1	11K	3083/ 9 3000	0900000	09000	30V20901000	30/ 2V9E8000	311VK980000
AG	10/	39VCE	/ 3/ 0910300	V9800	39K11K1	39020/ 8	39K4K3K3
AS	/ K	109E2/ E2	00398/ / 00	V9100	09V02V	109 / 010	109810E0
5A	13/	1080900008	13E0V9K0000	09K00	108K9K080V	108192K/ 0	10/ K98E18
BD	111	09 0/ 3/	1289V/ 00	/ 9000	09 3122	09K0K8	09 E030
B6	KO	K9V10E	080 90V/ 00	39E00	K9K0 VK	K9K11VV	K98/ VK1
BU	V3	290VE8	E32/ 9V1/ 00	09V00	392V000	2908K00	29V0 EK
M6	08	1090132E	0K/ 09K0 00	29000	10923K8V	0908K80	088V/ 08
NI	V0	V91K030	20009E0800	K9E00	V980E3V	K9 V3K	V9880E8
S5	121	39 1021	1K8V98E/ 00	/ 9K00	E902V0V	39K888E	39K1E83
SN	120	329832E	1K10V98300	39 00	319133/ 3	3291/ / 81	339K3818
SR	88	2V89K81KO	KVE8E8V300	39000	2/ 29/8122	2/ 39 0001	2K092VEKK
ZN	VV	89KV22	1100911300	1/ 9E00	89EV13V	109108KO	/ 9128/ 0
BI-1	200	1V3K2083000	0900000	09000	1V2V0E981000	1V20E/ 90V000	1VK08K9 2000
P5	208	39803KE	221229E2000	E9V00	39V0810	E900K23	39 1220
YL	203	3983/ 8K	V0 00E/ 00	29800	390880/	39 / EKV	3980003
U	238	19EK301	080E90V300	V9000	19EK2/ 3	19E0000	198V20
GE-1	/ 2	001E1901300	0900000	09000	8/ 3089K000	80000908000	080E19E1000
TB-1	1KO	18V21/ 98V000	0900000	09000	18E13190K000	18V021908000	18/ K08920000

Run Name: 1832E0270K
 Yu4e Num4er: 31
 Sample Num4er: 9876338

DateTime: 11/20/2018 8:33:18
 5atch: 1831O10V3O01A
 Blass: UP*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23EVE9/0300	0900000	09000	23V21982000	232109 / 000	23KV192000
AL	2/	/ V2900K2	/ 1189CE300	V9800	81/ 922800	/ 33908VE1	/ 3E9012K
BA	EE	812189 113K	8011392300	39/00	810809 K100	83/ E298E231	// 0829K08E
BR	K2	119E838E	8/ / 0900300	19200	119KEK21	119K/ 08K	11982V0K
F7	K/	/ 3KE9 K300	011889 E/ 00	19200	/ E02982380	/ E1090KK10	/ 2K198018
.	30	23E009233V2	E3810E900300	29000	2200092100E	2301K9K/ / 0/	2331290038K
MG	2E	VK1KE9K2/ 08	2K082/ 29E1300	19800	VE0319 3VE8	WE2298EC8E	VE108900812
MN	KK	23019E3322	K1020V9K2/ 00	09/00	22009E// 00	231/ 98V02	220V9KEK/ E
NA	23	8801E9K0801	/ KEV3V99K300	29200	8/ K0398013K	0110V9/008/	880E3902281
YI	E/	E0K0EE0	E0090E000	2E9/00	EE92/ 210	E09K0CE/	V39K100
b	K1	V902K0K	3E109VE000	129/00	K9CEK/ /	V9810V3	K9800V
IN-1	11K	20V82921300	0900000	09000	303VK9E2000	2081V98K000	288VE98/ 000
AG	10/	E9/012/	00/ V90K300	V9 00	E983100	E982880	E901301
AS	/ K	1K9E0/ V0	12809 E000	K9100	1E9E0/ V8	1K982302	1K900121
5A	13/	111E9888/ /	1330/ 39K300	19000	11119 0K2/	100K9 38/ 1	113/ 92232
BD	111	29K0010	EK198E300	E9K00	29E088E	29 2808	29KVC80
B6	K0	/ 90/ EVE	11281901300	89 00	V90CK80	V9K0K/ /	/ 9 222/
BU	V3	/ 09133/ V	10K30191K000	19800	/ 89130E/	/ 001008	809K1/ E
M6	08	139080E	12202980/ 00	39800	1298280V	1398380E	139 1308
NI	V0	13912E3	V00K902000	K9E00	129V/28V	129 EKEE	13902000
S5	121	/ 9K2100	30009K2300	29100	/ 9EE/ EO	/ 9 0V3K	/ 9E001E
SN	120	389V/ 82	1/ EK0913000	19000	3/ 982/ / V	30920/ 3	3890EK0/
SR	88	28E910/ K	K/ K3K9/ 300	29200	2/ 89/ E0CE	20190EE00	2829 0023
ZN	VV	3/ 9EEKE	EK3190E300	E9100	3/ 9E/ 1V1	389/K8K3	3K9/03E0
BI-1	200	1V0V30901300	0900000	09000	1KCK1V980000	1V13EC988000	1V10239 / 000
P5	208	088/ 300	KV12V90K/ 00	39 00	1098300	09 E320	09K0K/
YL	203	E90EK1E	8830920000	39E00	K90V0E1	K902K1V	E9 EC8V
U	238	29EK88V	1KEEE901000	29200	29K123K	29EK080	29E0E3E
GE-1	/ 2	808EV9 K000	0900000	09000	88E319/1000	000029 V000	0101K98000
TB-1	1K0	18K3019 / / 00	0900000	09000	18/ EV8902000	18VK/ 89EK000	1818K98V000

Run Name: 1832E0270K
 Yu4e Num4er: 32
 Sample Num4er: 9876341

DateTime: 11/20/2018 8:3K:0K
 5atch: 1831O10V3O01A
 Blass: D*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2E13K9/K300	0900000	09000	231009E1000	2EV13903000	2EVC89K2000
AL	2/	139K/ 30	1K0901000	2K9200	1/ 9EE/ 01	1291EKCK	1190/ 8CK
BA	EE	80E1K90V2EK	00VE091/ / 00	K9000	8K/ / 29K2113	/// VE91VW0K	/// 1192001/
BR	K2	1982C2	1/ 80921300	1E9V00	193001	19818/ 0	19E000K
F7	K/	/ 1289/832E	008209 K/ 00	E9V00	/ E8V981E0/	V8KE98VW/	/ 0EE9VE808
.	3O	22V829/818K	E3VEVE98/ 00	39000	23K329/08/ 3	22E3E9VCK1	220819/ / 30
MG	2E	VEEV29VE13O	2KK08/ 8918/ 00	39200	VW80/ 9D1E/ V	V32E39K08/	V333V9EK8KE
MN	KK	233/ 90EEK8	K323E3920/ 00	E9K00	2EK090VW10	22V89V0113	228398/ VK0
NA	23	88/ 808/ 03E	// EK8K39E300	39000	022V391K182	88V10918CEK	8KECE9 VO' K
YI	E/	E90/ E/	E393300	309200	V91/ 281	398V230	2988/ 28
b	K1	292121E	128V9 O' 00	1E9200	29K112	19CE8E/	2912V82
IN-1	11K	31/ 2298/ 00	0900000	09000	311V/ 90K000	318V39K000	3213K9/8000
AG	10/	19E12VO	2CE09EO' 00	V9 00	19K01KE	1981E11	19E22EE
AS	/ K	89820C8	/ E29VO' 00	09000	89K1K	89801K	8981/ EO
5A	13/	102E9101K	130V3000/ 00	29000	10E29010/	10E0918CEK	080830C8
BD	111	09382K	VE900000	E09V00	098112V	098/ 20	0921V30
B6	KO	39V0/ 22	V1V89E2/ 00	39100	39E8CEE	39/23E/	39 08/ V
BU	V3	198/ VV2	210V90/ 00	39000	190000	19E0V8V	19823O1
M6	C8	K9 08/ 1	KVE19E/ 300	V9E00	K988212	K9CKV12	K988/ 80
NI	V0	E9E3E/ 0	22K0982/ 00	189000	E980K12	K980332	39/CKVK
S5	121	19KE0C2	V83980000	1E9 00	198E30	19 1033	19/2812
SN	120	139VE/ VO	V/ / K9E/ 300	K9000	139001EE	139K2130	1E9E2032
SR	88	2V390K212	KVC0391000	39 00	2V892/ 00K	2V090/ 001	2K1980/ 31
ZN	VV	V921V03	83090/ / 00	239000	E9 VV1/	/ 9V1K1	V9220E0
BI-1	200	1V3O1O91K000	0900000	09000	1V1E00003000	1VV021903000	1V333/ 980000
P5	208	1983318	10/ 8K98/ 300	19K00	198K8/ 2	1983812	19802/ 1
YL	203	19K2C2O	2/ 009EV300	119K00	19 1/ / 3	198/ 03V	19EOO' O
U	238	19K03/ 1	OVK0900000	39K00	19KK010	19EEK/ 3	19K1K30
GE-1	/ 2	002008O' 00	0900000	09000	88V/ 1921000	O11V08/ 000	O10K/ 9/1000
TB-1	1KO	1882O19C800	0900000	09000	18E1E1981000	1O1CEK91000	188/ 8/ 9EV000

Run Name: 1832E0270K
 Yu4e Num4er: 33
 Sample Num4er: 9876339

DateTime: 11/20/2018 8:3V:KE
 5atch: 1831O10V3O01A
 Blass: R*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2283V9 V/ 00	0900000	09000	22C090C000	222K0900000	2333191000
AL	2/	213C8OVEO	1CE118V300	19000	21E09 EK81	21/ 3810VK	210K913200
BA	EE	00C8891O1VE	0/ 0/ 0928/ 00	38000	00V308VEE0	0E0CK9KE21E	880889V830
BR	K2	V89/0K/ 1	E8E309// / 00	29000	V88V00V	/ 09// / 82	VV9 / 83K
F7	K/	88KK9E3K8E	10V82K98300	29000	8/ 009212K1	00/ 1910803	8/ CE98V08
.	3O	3K3EK9K0018	VE1/ EK9 3300	39000	3KEK39// 3E8	3VE/ K9 881E	3E10/ 903802
MG	2E	/ 1V10900V/ K	2V822V391C800	29000	/ 1K109EKV28	/ 338K982V2	V002891813K
MN	KK	2K3E9EK80	KEV/ / V91V300	19000	2ECE8E1/ O	2K8E9031K0	2K2K9KVE02
NA	23	1038289 10VK	8KV1E8V90K300	38000	103/ 1E900V33	10/ 2V8902313	100K039220EO
YI	E/	32882E21	31K38/ 000	28000	330823KV	33E9EV0E	31000302
b	K1	/ 1983118	302/ 1920/ 00	39000	/ 09K2K18	/ 39 E0VV	V09 2/ VO
IN-1	11K	200809E0000	0900000	09000	20V2K900000	20/ 0088000	30E029K0000
AG	10/	3V91028/	/ 03/ 390V300	09000	3K9 20/ 2	3V9E1VK	3V8EV2K
AS	/ K	3K981/ 3	20/ V8V300	V9100	3KEV180	3/ 81K1V2	339E// /
5A	13/	1EKV9E021/	1/ K3K0910000	29000	1E/ V9030K1	1E/ 290 3/ 0	1E2090220
BD	111	89K0CK	1E8/ 9E3300	39000	883EK/	89V/ 3E	89E2/ 08
B6	KO	2K09 EK08	E1/ 3/ 29 K/ 00	08000	2V098838	2V1988K8/	2K/ 9KV008
BU	V3	VE8E8E0	8/ 0839K0300	28000	VV9/ E0V	VE908310	V39880K
M6	08	8V800V/	801129/ / 00	29 00	8890E80V	8/ 8K/ KV	8E80830
NI	V0	V090VCK	31EV/ 9 0000	09000	V09/32K0	V8800VE	V09K8/ 2
S5	121	229010V	022/ 90K300	28000	229V E1/	229 E038	219K0132
SN	120	2089E3803	08/ E08K/ 00	19000	211920V1	2009V202	20E8E1K/
SR	88	33892VK2	V00V39// / 00	29000	3EV9/31V0	3338818E	33E9VV13
ZN	VV	K109E000	V33KV9/K000	38000	K3E9K010E	K2V82002	E0V83/ / 3
BI-1	200	1V28E/ 92000	0900000	09000	1V18C8911000	1VE/ E181000	1V100/ 9E000
P5	208	328/ E83	18V1V080300	19000	329 0223	329EEEE0	328/ / / /
YL	203	189/K8E1	33/ K09/3300	09000	188K000	189/22K2	189K02/ 0
U	238	2/ 9 322K	1/ V2039K0/ 00	29000	2/ 80801	288E801	2V90KE83
GE-1	/ 2	0000V80/ 00	0900000	09000	002209 C000	0080VE8000	8800391K000
TB-1	1K0	18V2E8883000	0900000	09000	18VK2888E000	18K0889/1000	18V22C09E000

Run Name: 1832E0270K
 Yu4e Num4er: 3E
 Sample Num4er: 9876340

Date Time: 11/20/2018 8:38:E2
 Batch: 1831O10V3O01A
 Blass: M*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23VE90/ 00	0900000	09000	23K219EK000	2383298000	23VE191V000
AL	2/	20129VC0V	18C239K/ 00	K9200	20K09K8C0	20C192K3O	18C9022C0
BA	EE	8K4E19110V	CEV/ 891E300	29V00	830119CKK00	8VE0293E80	8/ 20C91E23O
BR	K2	K2982K/	382EK9E8000	19800	K291E21V	K29 308V	K19/ EVO
F7	K/	82K89C000	1032829K/ 00	29100	81289VKK0	8EV09C22O	818/ 9VO11
.	3O	33220931K1	V2KV1E93/ 00	19V00	32V2V9EOV2V	33V/ 09 1C00	333V3E/ 83/
MG	2E	V/ C8K9/2/ 28	2VE00KE92300	29000	VVE2E9 E/ 30	V000V9 83C01	V8K2K9K0V2
MN	KK	2E0E9 / EV/	K3/ V809C/ 00	09200	2E0C983VE/	23C091EV8K	2E0V9E0VO
NA	23	00K009E0018	8K180KE92E/ 00	19100	08EKE91/ E1K	0C/ C09E2VE	100KEE9183/ V
YI	E/	2/ 09K03/ 0	2VC99 K000	V9200	2/ / 9CKE/	2829V00K	2K19KKK/
b	K1	K19 E013	2CK3C09300	19 00	K09 83C8	K29E0V/ 8	K29KVV8
IN-1	11K	310/ 89K300	0900000	09000	313/ V9 8000	30C219/3000	30C9V9K000
AG	10/	3K9K022O	/ 18209KC800	29K00	3E9K0332	3K91K28	3V91882V
AS	/ K	1C918VV8	1VVC9EK300	19000	1C90102E	1C91/ K18	1C98/ EV1
5A	13/	10C29V/ V1	13VK339E1000	29800	10VK9C21KK	111K9EEE/ K	10CK9 3VK3
BD	111	E98/ EE	C0K9/ 300	E9V00	E9 23/ V	K91E821	K9C03E
B6	KO	23K9EE381	3C2/ 0V9EC000	19 00	231928K88	23C0922/ E	23V902283
BU	V3	E09KKVO	V8/ 2K91/ 00	19800	E891KE8	K09K33O	E09C822
M6	C8	KK98K/ K	K2/ EV9 E300	39000	K39/8110	KE9/8E11	KV9C0203
NI	V0	K29/CE3O	2EC8/ 921/ 00	19000	K298081O	K29K0EE0	K39/ 0K/
S5	121	/ 9K3EK2	32E09K8/ 00	E9V00	/ 91V08E	/ 9K202	/ 9K00/ 0
SN	120	K09032V	2/ / K09/1000	19200	K892832E	K09V0C2E	K09K/ 30
SR	88	30V910KK	VE8VK9V000	19100	3029C/ 38	3089EV0V	30V98821
ZN	VV	E8C9EKCK/	V200/ 91000	29 00	E/ E9 2302	EC09E1K8/	EC0923C82
BI-1	200	1V331E9 2/ 00	0900000	09000	1V0E8C9C000	1V1109K8000	1V33EE91000
P5	208	1V9EEK0	C/ 21E9EV/ 00	19V00	1/ 91V202	1V9VKK12	1V9 1V3V
YL	203	39EK02	V0/ K918/ 00	E9200	3933C0	39102K	39EC081
U	238	2/ 9E0VK3	1/ EK/ 19K0/ 00	29200	2/ 9223O	2V9 12VO	2/ 9/8EK0
GE-1	/ 2	C03K09C/ 00	0900000	09000	8V0119C000	C1V29 8000	C2E/ 89 V000
TB-1	1KO	18/ 3/ C911300	0900000	09000	18K2/ V91000	18/ K039K/ 000	18C8K/ 9EV000

Run Name: 1832E0270K
 Yu4e Num4er: 3K
 Sample Num4er: 9876338

DateTime: 11/20/2018 8:E0:20
 5atch: 1831O10V3O01A
 Blass: UL*****

Initial bol: K0900

Final bol: K0900

DF: K900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2338/ 9 3000	0900000	09000	232809CE000	22820928000	2E0V190 000
AL	2/	89/1V00	100900/ 00	2V9000	109801V0	898KKVO	V9100/ 2
BA	EE	1V/ 3K9C283	1830V9K/ 00	K9 00	1/ / K/ 9E8/ 1V	1VKCK9 K800	1K8KE9E323E
BR	K2	090810	1100911000	319 00	19CE1K	09 2008	09/0022
F7	K/	1E20883E2	1/ V/ K9/ 300	E9 00	1E/ 09801K1	1EVK9V282	13K29ECK08
.	3O	EKK190/ / E/	8/ / E39 2000	E9K00	EVE/ 98VE33	EV889/33E3	E31V9 3EVV
MG	2E	12/ 1/ 902V0K	E881V198/ 000	29800	128K39831V8	12088902KV3	1230898208K
MN	KK	EK0813VK	101K8180/ 00	29 00	EV09CE001	E/ 19 0 38	EEV9/CEKV
NA	23	1/ / E190VW1K	1KK/ 0V391K300	29200	180VE90K22E	1/ 8EV9K1K08	1/ 3119 302E
YI	E/	19 1K11	1V9V/ 00	019200	390V2E/	29828V	0900000
b	K1	09 V8KO	E3V9/0 00	219 00	09K818/	09002V2	098212/
IN-1	11K	31200903300	0900000	09000	310K29 E000	31V11982000	30C889 E000
AG	10/	09/ E2O	13C890 00	V9200	09/ 0V/	09/3E30	09 1/ 00
AS	/ K	29VK20	212900000	109000	2923V02	2910V12	29V2K/
5A	13/	2119EE081	2VK319VK300	29800	2139 V028	20K90V28/	21E9/2V2/
BD	111	0908/ E0	1/ 983300	139200	0980K8	09100/ 1	0908000
B6	KO	1902/ 31	1/ E39K3300	119000	1903KEE	09010/ 8	1913K/ 0
BU	V3	09/021O	1080911300	E9K00	09K/ / 03	09K0018	09/3038
M6	C8	2903V01	20239/3300	1K9K00	19800V	19011EO	29CK88
NI	V0	191E113	VKV9 2300	119800	190V01	19/ V08	1913CK0
S5	121	09 E1V/	32V9/C800	/ 9200	09 0CE2	09/C83V	09 3222
SN	120	V90302O	3103988000	29800	V90V2E/	K9V03K	V91CK03
SR	88	K09E0203	10/ 2E988000	E9000	K29VKK2	E89K/ / 8	EO9/82/ 8
ZN	VV	19K32/ 3	220901300	329K00	19/2330	19/ C88	090CKK0
BI-1	200	1VVO 892300	0900000	09000	1V/ 8/ / 980000	1VK30 9E2000	1V/ VVO9K000
P5	208	09 02KV	E32/ 921300	E9 00	09 2V1K	09 1VO/	09/VEK/
YL	203	091038	1K1390/ 00	09200	09 C8/ 8	09 EK8/	0901K1
U	238	09VV0/	1/ / 39K/ 00	139E00	09K/ 81	090K1O	0923K20
GE-1	/ 2	01CK19V000	0900000	09000	020VK9K000	C81C98/ 000	00KCK9V000
TB-1	1KO	18/ 3/ 89EE300	0900000	09000	18CEV89E2000	18V2009/E000	18VEV92/ 000

Run Name: 1832E0270K
 Yu4e Num4er: 3V
 Sample Num4er: 9876333

DateTime: 11/20/2018 8:E2:1/
 5atch: 1831O10V3O01A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23EVE9K1000	0900000	09000	2E0C298E000	231209/K000	231809KE000
AL	2/	2209888V	20/ V9C8300	39800	21K9BV11V	21V9B/ 0V	2309E3E1V
BA	EE	22/ 2839/2VE3	2E08K/ 9EE/ 00	09000	22K10V9/ V2E	22/ K1/ 9C001V	22C22/ 9E0380
BR	K2	V9KE31	K1KE9/2300	V9 00	K9C8K23	V9K3V0K	V9E1VK
F7	K/	18V29 0120	231109/2/ 00	29100	181/ 9E2E81	188K9 1/ 00	188E90V20/
.	30	28V019101K8	K3EE/ 191K000	09 00	283K89KEO /	28/ K/ 9B13/ 8	28V8/ 9EE118
MG	2E	312E19KCE2	12022V398000	E9000	2CKC29K8K8	31K2098/ 32	32V129 323V
MN	KK	E2/ 9881V8	CE8819 8000	09K00	E2V9W/ 8V	E309KE03/	E2V9E3V81
NA	23	K2/ 329V0111	EK03K/ / 9VE000	29 00	K10OV91VK80	K3VK09VVKV	K3EE29K/ 008
YI	E/	20923K08	20092300	219100	219 0K/ 1	1K9E1CKE	239K82VO
b	K1	39 EK02	212098/ 00	109800	39EK38/	E920O1K	39K/ 20E
IN-1	11K	31E8/ 9K0300	0900000	09000	31/ V/ 9K1000	308C29V000	3180291E000
AG	10/	19/ E3V	2V3/ 988300	29K00	19808EE	19EV32	19V833
AS	/ K	391E800	2829/ / 00	V9E00	39200/ E	3981V1	2902V3
5A	13/	10V081810	13KE0C91C000	19000	10EV9 3/ 3/	108K9CEE/ O	10/ K9/ 21E
BD	111	09KCE31	1109W/ 00	89800	09/K0KO	09KE 1K	098K1O
B6	KO	K9233E8	88/ 092300	K9E00	K9KE18K	K91V803	E9000KV
BU	V3	139K0280	1C88E9W/ 00	39 00	139E3/ CK	1E91KVK8	13918388
M6	C8	119C883	1110K91C800	K9200	1098VW	1292O E	1198E/ /
NI	V0	3K9E1E03	1/ 018980/ 00	19V00	3E9 / 1E1	3K9/KVEV	3K981E2E
S5	121	E918E8/	182V901000	1K9E00	E9 C288	E9EC23	39K12K1
SN	120	1K9/2V1E	/ VKV91E000	39K00	1K91V1C8	1K9E/ 8/ V	1V923/ / 2
SR	88	130K982CK	2802C891/ 00	19K00	13239KKCO	130898K13	1283980/ 82
ZN	VV	1EV9K00/ 8	188309/3/ 00	39200	1E/ 9/81/ 2	1K09K0W/2	1E19CE01
BI-1	200	1VK3C89O 00	0900000	09000	1VK/ VK9K8000	1V2C029/0000	1V/ E389K1000
P5	208	109E188K	V0O C9EV300	19 00	109/22K/	109E3KK	109C0E3
YL	203	19E3/ / E	2VK09EK000	V9800	19K3211	19E311E	19E008
U	238	19/1300	10EE89E2000	19 00	19/02C2	19C2K2	19/E3K/
GE-1	/ 2	8C80V9 2/ 00	0900000	09000	8C1/ E9 K000	C0ECK98000	882K091K000
TB-1	1KO	18/ CE2911/ 00	0900000	09000	1O12C988000	18E80/ 9O 000	18/ / 2K900000

Run Name: 1832E0270K
 Yu4e Num4er: 3/
 Sample Num4er: CCV

Date Time: 11/20/2018 8:EE:0E

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23V119E000	0900000	0900	2E2229K000	22/ V092000	238K19V000
AL	2/	2K3392V8E	23/ 3E82000	K800	2E019K00V8	2V/ 092V/ 0/	2K2/ 9822/ K
BA	EE	281K90E3EK	31139V/ 00	1V9 00	2/ K19E/ E8V	331E9E233K	238190821E
BR	K2	2KV901EEE	18K00890E/ 00	3900	2E00000V	2V89200 1	2K29K330V
F7	K/	2KV/ 9102/	3201K9 8/ 00	K9200	2E0091/ 8E0	2/ 2092/ / 2	2E81982VO
.	30	2KVE9EE210	K1E019E2300	V900	238/ 90E80	2V/ E92381/	2V319 8332
MG	2E	2K3V92V0/ /	08V8E9E000	29200	2K01913VK3	2K0081C8V	2K0/ 982VE2
MN	KK	2V39 K1/ 2	K883190K/ 00	39V00	2V29 VKV8	2/ 392/ 83	2KE9V1V3
NA	23	22009030V	2K832390V000	/ 900	21009K2EO	238/ 902081	211K92/ 3/
YI	E/	2/ 198/ K1/	2V039 / / 00	1E9200	2K00V00E	31K90080	2E191V08
b	K1	2K/ 92000	1EV3309 0/ 00	E900	2K2903KEE	2/ 1910E83	2E89000V3
IN-1	11K	31E109E8300	0900000	0900	300829V0000	3201K9 2000	30383913000
AG	10/	2K9 V100	K2V23908300	E900	2K983083	2E91K83	2V93V33
AS	/ K	2K191/ K0E	220029VE000	19 00	2K39 VK0K	2EV910/ 02	2K39K21V
5A	13/	2KE9200 K	3200E90000	E900	2V1923EOV	2E19 8EKE	2K00000 E
BD	111	2K9 000V	E/ 0898/ 00	29 00	2V91 KEVE	2E902228	2V90K20V
B6	K0	2E09K21K1	E0K31/ 902300	19V00	2E29E10KV	23V9120K1	2E3902EEV
BU	V3	2EE90 2/ 1	3EE2189K/ 00	3900	2E0913080	23K9 K3K2	2K0902K32
M6	08	2E9 V0KE	2308K9 8000	39V00	2E90V3VO	239 011K	2K9KEE80
NI	V0	2K19000V0	110V129E000	1900	2K39031E8	2EV9 081K	2K39K01/
S5	121	2V9K00K/	11K3K9 3000	39 00	2/ 9V3VK	2K9 00KK	2V908K1
SN	120	2K920/ / /	121209E000	E900	2K9K2131	239V20	2V923K/ 1
SR	88	2K903EO	KK219EV000	K900	2K9V00E1	2E93/ 08	2/ 91/ 200
ZN	VV	2K390VEK3	323V0000800	K9E00	2K08/ 10K	23/ 9KK88	2V29VK/ V
BI-1	200	1/ 1/ / 29/ / 00	0900000	0900	1/ 2E239EK000	1/ EV0K902000	1V82209V000
P5	208	2V912EE/	1K8EOV90000	1900	2K9K/ / K0	2V9E22V2	2V9/ 320
YL	203	2E902EE1	E/ KK89// 000	19100	2K91K003	2K900/ V2	2E910K0
U	238	2E9E810K	1VE0E092V000	19100	2E921VVE	2E9EVC2K	2E9 K/ 2V
GE-1	/ 2	020KE923000	0900000	0900	0230K91E000	02/ / 0900000	010/ / 9K000
TB-1	1K0	18002V93/ 00	0900000	0900	1010K19 K000	10810V9EV000	18KV219 0000

Run Name: 1832E0270K
 Yu4e Num4er: 38
 Sample Num4er: CCB

Date Time: 11/20/2018 8:EK:K3

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2302K9/2/ 00	0900000	09000	23/ 319 0000	230309/1000	2K01E9E8000
AL	2/	29// 3/ /	EV9V/ 00	/ 39200	290V0/ 2	190V0K	E98VEKV
BA	EE	1190/ 8KO	2V9V/ 00	11K9800	1E9V0/ 00	-391E1K2	219 / 021
BR	K2	09021/	K3V9 1000	12309V00	-09028KE	0902121	0901382
F7	K/	19 8083	K393/ 00	0K9100	-090EW1	3981K02	291010/
.	3O	-12910/ 80	3EK09/1000	09000	-1E9220KV	3900V08	-2V90808
MG	2E	-1903000	EKV9 0000	09000	-2982VW2	-29E31K	19 / V/ O
MN	KK	-090V3K8	1V9V/ 00	09000	-09138OV	090EE8/	-0900VK
NA	23	-30V9801V	E/ 00093000	09000	-308901EK1	-2V99 V33E	-3EK980V2
YI	E/	09E30/	3983300	1/ 39200	0900000	1903102	0900000
b	K1	0901/ 2E	13983300	K08800	0902001	090120/	09010VE
IN-1	11K	30/ / V9// / 00	0900000	09000	3013E9V000	31EK89/8000	30/ 3V9/0000
AG	10/	-0900/ 28	10900000	09000	-0900/ 1/	-0900/ 3O	-0900/ 2/
AS	/ K	0911K0K	1V900000	KK9 00	091E20/	090E18O	091V120
5A	13/	0900000	0900000	09000	0900000	0900000	0900000
BD	111	-09000E8	1983300	09000	-0900/ / K	0901E0K	-0900/ / K
B6	KO	090KV10	11V9// 300	V/ 9E00	09000E1	090V22O	0901KV0
BU	V3	-09018VE	210901/ 00	09000	0902130	-0903VKV	-090E0VK
M6	08	-090E11K	30900000	09000	-090E0E1	-09031EE	-090K1V1
NI	V0	-090E000	OV9/ 000	09000	-0913/ 2/	-090K/ 08	090/ K2V
S5	121	090202E	0898E000	0E9200	090313V	091V/ EK	09E0/ 32
SN	120	-09E133/	8V9// 000	09000	-098K8K1	-09E/ E8/	-09E0V/ 3
SR	88	0900000	0900000	09000	0900000	0900000	0900000
ZN	VV	0918202	EV9V/ 00	1/ 09100	098/ K/ E	-0910E2K	098VEK8
BI-1	200	1V8EK0E/ 000	0900000	09000	1VE08E9 2000	1V/ K009E1000	1/ 280898000
P5	208	-0900V/ 8	1K0900300	09000	-0900V32	090000V	-0901E0V
YL	203	0901E08	3V9V// 00	2E9800	0901V2K	0901K08	090100K
U	238	-090018E	30900000	09000	-09001/ 8	0900121	-0900E0V
GE-1	/ 2	0210198V300	0900000	09000	018229/ 000	030E19 E000	01EE1988000
TB-1	1KO	188/ K/ 9/1/ 00	0900000	09000	18CE08988000	18CEK8920000	18/ 31V9/ 000

Run Name: 1832E0270K
 Yu4e Num4er: 30
 Sample Num4er: PBW

DateTime: 11/20/2018 8:E/:E0
 5atch: 1832010V3002A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23EVE9K1000	0900000	09000	230K09 2000	232K09// 000	2E0C29I E000
AL	2/	V9 2K03	8398E000	009 00	0900018	11900211	89/ 2/ O
BA	EE	0E98E/ V	11V9/ 300	/ K9 00	1/ 39I 3V/ K	/ 09KV130	3190KV12
BR	K2	09/2333	0 090000	EE9K00	09CE220	09CE20E	09E3K/ K
F7	K/	1V9210K3	23092000	E09000	109 3/ 0E	209K0 2	89KV18E
.	30	-29K282	3KK/ 98K300	09000	2K9I 30V3	1K9/223E	-E89E11EE
MG	2E	319E338	1V/ 39/0 00	/ E9000	K0988EO/	3/ 9E81EO	K9V3/ 0
MN	KK	19E0001	3E0903/ 00	V89800	29010K0	1900080	09800E2
NA	23	-2E190E0VO	K1K309E1/ 00	09000	-18E9 8121	-21E9I 3820	-32V9002V/
YI	E/	0900000	0900000	09000	0900000	0900000	0900000
b	K1	0903K/ E	23983/ 00	1V09E00	090120V	09010100	-0900K08
IN-1	11K	31822911/ 00	0900000	09000	333029V000	3110/ 988000	300V9/1000
AG	10/	-0900K80	13983300	09000	-090/ VV	-09002E2	-090/ 31
AS	/ K	09I 21K0	1/ 983300	K09E00	09I 8V20	09I 3E/ 8	090E3/ 0
5A	13/	09E0322	K3983/ 00	12K9E00	090 0K0	0923008	0900000
BD	111	-0900E32	09V/ 00	09000	09002KK	-090/ / K	-090/ / K
B6	K0	0900081	10V9/000	/ 39200	09I E10	09I E0V0	0901K38
BU	V3	-090013E	2E398K300	09000	0902300	090E330	-090/ 0K0
M6	08	090K8KV	130901000	089800	09I 22E0	09010K8	090E2V8
NI	V0	09/08V2	E1398V000	2K9200	09/VEVE	09 2V13	09E3K00
S5	121	0901E2K	13983300	3/ V9200	-0901V/ 0	090/ V13	-0901V/ 0
SN	120	-09280V0	1K0901000	09000	-0900120	-092E01	-09E3K0
SR	88	0908/ 0	8V9/ 300	V09/00	09/1V3V	09E2208	09I E203
ZN	VV	09I 0/ V0	E0900000	2E29 00	09CK21	-09I 1KV0	090E3E/
BI-1	200	1/ 31K89K/ 00	0900000	09000	1/ 18809I 1000	1/ 220I 988000	1/ K303908000
P5	208	0900V22	23398E300	2V89 00	0901003	0901233	-09012VO
YL	203	0901K20	E0900000	V09200	0902K8V	0901K33	090EVO
U	238	09000K1	EV9V/ 00	121V9 00	0900KE0	09002E8	-0900VEE
GE-1	/ 2	01KK/ 988300	0900000	09000	02E2/ 98E000	002829KV000	010V39 K000
TB-1	1K0	1018V/ 9K1300	0900000	09000	101/ 02988000	101KE8902000	1023K29E000

Run Name: 1832E0270K
 Yu4e Num4er: E0
 Sample Num4er: LCSW

Date Time: 11/20/2018 8:00:28
 Batch: 1832010V3002A
 Blass: *****

Initial bol: 1900

Final bol: 1900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	238/ K2K300	0900000	09000	2EK239/K000	231809K0000	2302291000
AL	2/	10/ 3288/ 8	18V0/9 K000	V9 00	18E898K8E2	2112980282	10K020K11
BA	EE	3/ V09021EK	E21098/ / 00	29E00	3VK09 21K/	382V92/ 0V0	3/ 0V9 / 210
BR	K2	K09/K000	3/ 10K9 2300	19K00	EO9 01K/	K190K20K	EO83130
F7	K/	100E9/8302	12/ 032V300	19000	100V2V/ 00	0039/0003	101E91810E
.	30	100V2282/ O	108V02983300	39800	0VE19 2/ / 1	1038/ 9/0/ 32	101K/ 9K133E
MG	2E	102E90/ 8E	/ K8EE90/ 00	29200	18/ V9 VE8K	10K19K3083	10EK92/ 8K
MN	KK	K093K02	11E0K9E3/ 00	19800	K09/8/ 0E	K198021/	K0901K8E
NA	23	K0009/KVK0	88V2209/0000	39E00	0100800V8	08E89K008V	0E809E/ 80/
YI	E/	2EO9 00V1	2K10983300	E9800	2V39/EEVK	2E3901838	2E29E3880
b	K1	EO8082/	28/ 1891V300	39000	EO918302	K2912330	E898/ EO
IN-1	11K	310839/V000	0900000	09000	31KKE9/K000	32KVK90V000	31V8098/ 000
AG	10/	K09/VK10	10K20K9 8/ 00	29E00	K09/313E	EO8EE/ 8V	K1901V11
AS	/ K	10902EO2	8008/ 300	E9E00	09/300E	09EOV00	109EO/ 3
5A	13/	K39K3V/	V01K9K/ 00	E9000	KV9K3VE	K29E/ 10	K298V018
BD	111	E90V03	0139/ 300	29800	E9EO20	E91E18	K902E/ 2
B6	K0	23390V21E	3008V2982000	29800	23V920028	22V98V01E	23V911/ 01
BU	V3	E89/02K1	V0/ 0E9 1300	39 00	E89 2KE8	EV98/ V33	K09E/ K/ 2
M6	08	E89120K/	E/ 3EO80000	29100	EO90V08	E/ 90K0K0	E89EE23
NI	V0	EO9K1KOE	2EO/ 090V300	39 00	K19/3K1K	E892K832	E89/KE3E
S5	121	K90/ 8KV	22E/ 900300	1/ 9/00	K90EO08	K910V2	E91V11
SN	120	E89/1832	23K3890/ 00	39E00	EO9/2008	EV9 2/ K/	EO90VE1
SR	88	309K/ 8E	8V1V9K300	39200	E19EO0V1	389 302V	389082VK
ZN	VV	E/ 09101/ 8	V23/ K91E000	39 00	EVC8K1K20	EV/ 90/ / EE	EO9 E2V3
BI-1	200	1/ 1/ 1K90000	0900000	09000	1/ 0/ / 39/3000	1/ 3/ 13922000	1/ 0VK0902000
P5	208	1K9/ 2E2	02V08923000	19000	1K9E/ / 1V	1E9EO01/	1K90008
YL	203	290200/	38/ / 9EK/ 00	119800	29/ 20E	19810KE	1900E/ 2
U	238	0900002	E3983300	/ 08V900	-090010E	090000E	090010/
GE-1	/ 2	08V0V902300	0900000	09000	08083911000	0231V9 V000	0KE1890000
TB-1	1K0	100V1E918300	0900000	09000	1882/ V9EE000	180E1/ 981000	10E1E8980000

Run Name: 1832E0270K
 Yu4e Num4er: E1
 Sample Num4er: 9894999

DateTime: 11/20/2018 8:K1:1V
 5atch: 1832010V3002A
 Blass: U*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	238K190K/ 00	0900000	09000	23VV19/K000	2E2K29K0000	23VE19/3000
AL	2/	139V2V8	1EV9/8000	8K9800	V9833K0	/ 91VE/ V	2V9K80 O
BA	EE	18V0KV9K231	20/ E8893/ 00	19000	188EK9EKV18	1820KK90V0E	18/ VK8902E/ 3
BR	K2	19EK318	1K089K2300	209/00	190288	198/ 1E2	19 8K2E
F7	K/	1E92388K	21091300	319/00	1098V213	139/ 2E8	1091810E
.	3O	E83E9/ E2K	0E802900/ 00	09 00	E821900/KK	E8089K18E/	E8/ 29/0/ / E
MG	2E	283389/238O	11002039/0300	19 00	2880/ 9808/ /	2/ 8K8920K0V	283K09KVOE
MN	KK	098VE8V	11398E000	/ 29E00	09/VV28	092K38/	09/ / EEE
NA	23	K83E09/ / 31	K0K828098V300	19 00	K8K039D1001	K/ 2/ 09 K3E/	K02EK9K0EK
YI	E/	19830/ /	13983300	8V9/00	290880	0900000	29010K0
b	K1	39/2303	208V902/ 00	39000	39 0CKO	39E008V	39/V01E
IN-1	11K	30023908/ 00	0900000	09000	3010E9KE000	30E0E9EK000	2CE/ 290/ 000
AG	10/	0900303	30900000	1V19E00	0900300	0900/ CK	-090018E
AS	/ K	09 0022	VK983300	1K9/00	09/8/ 81	09/1181	09280K
5A	13/	E/ 9/VEV3	K/ K8983300	39/00	E/ 9 V08V	E09218K	EK900218
BD	111	09003/ /	2900000	300000	-0900/ / K	09003K3	0901KK2
B6	KO	09082EO	1KV9/ / 00	289000	09108/ 1	090VE0V	090/ 380
BU	V3	29EV22E	3K3/ 92/ 00	V9/00	29/ 88O	29KE1E0	29/VVE2
M6	08	0908000	8089E2000	189200	190/ 88O	09 / 1V3	0931E3
NI	V0	09/8E10	E2398/ 000	1K9/00	09KV1/ O	09 2083	09 V0VO
S5	121	19 V0E2	/ E090V/ 00	09/00	19/130/	19 EKV1	190E8/ 0
SN	120	-092V0/ 1	1K398E300	09000	-0981E/ 8	-092/ 28K	-091 0EK0
SR	88	1112913338	22/ / / 298/ / 00	09000	110K90 V12	11239/1/ V2	110V980V3O
ZN	VV	109182K3	23/ 0983300	39/00	189E1820	1083028	109 0011
BI-1	200	1VE20E901/ 00	0900000	09000	1V330V9KV000	1VE01E9 0000	1VE/V39E0000
P5	208	0900 8E	/ K3988/ 00	1V9/00	0908E21	091K/ E	09008K8
YL	203	09012/ 2	33983300	V99 00	0902100	0901080	0900K3V
U	238	29/ EE2	1VK389K8/ 00	39/00	29K2/ / V	29K18VE	29// V8/
GE-1	/ 2	00V2/ 9/0/ 00	0900000	09000	0080K9VE000	00KVE9E0000	00E2390K000
TB-1	1KO	18K33/ 9 E300	0900000	09000	1832VE91V000	18/ 0EE980000	18K/ 0E92/ 000

Run Name: 1832E0270K
 Yu4e Num4er: E2
 Sample Num4er: 9894999

DateTime: 11/20/2018 8:K3:0V
 5atch: 1832010V302A
 Blass: UP*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2303082/ 00	0900000	09000	22/ 2090E000	232109E000	231K09K0000
AL	2/	38/ 900V/ K	3KK/ 830000	19200	30198/ 0KE	38291EQ20	38/ 9E01K1
BA	EE	1803189/ 03K	2038V092/ 00	19800	102180900KE8	18/ / E29E2EQ2	18802E921/ VV
BR	K2	K9E820	E280901000	119100	V902803	E90EEEV	K90/ 210
F7	K/	1039218/	120091E/ 00	09200	10E91/ 88/	08912V2	11298/ E12
.	30	K2EK9000/ V	00108902/ 00	29000	K3829100EV	K110903E3	K2EE9K0V30
MG	2E	28KV3918K30	10/ 0K309 E000	19000	2802198/ KEO	2808290V380	28V8K9/1V80
MN	KK	109232V	22K39E300	/ 9 00	1098K23K	08E/ K/	109EV08E
NA	23	V000093/ 2K	K021KVK9V/ 00	09000	V0EE29832K8	K0/ E09/3E18	K08189EEK00
YI	E/	2290V03K	21398E/ 00	319000	2092/ 80E	219033E	1K9000V
b	K1	E9K1333	2K1098300	29100	E9EEK8V	E921V/	E9E/ 2EK
IN-1	11K	30/ 809 V/ 00	0900000	09000	3082V9/2000	300V09K000	30KKK9/3000
AG	10/	09K0/ 30	10E0910300	1V9100	09EV30	09EKE31	090/0131
AS	/ K	2920/ 2	232900000	K9000	29 8882	29K0122	29K001E
5A	13/	EV9KE33/	K/ V192000	39100	EK982288	EK9/2KE0	E8918182
BD	111	0983KK/	1K1983300	1E9000	09 K0VK	09 V/ E2	090/ 0VK
B6	K0	090K828	1V0V98V000	/ 900	090VEK/	0988211	190281K
BU	V3	309/3233	KE82V903000	29000	30982083	E09K0KV0	389KV1KV
M6	08	2981/ 12	2/ 3/ 911/ 00	V9000	292V2V2	298/ / 11	290E801
NI	V0	39/ V30	1830923000	119000	E91V2/ E	39812EV	39KK30V
S5	121	39V233	1KV39K2/ 00	09800	39 VK00	39810E	390E08/
SN	120	1980EE0	1110911000	1K9800	2910E/ 1	19 V0V2	19K388K
SR	88	10V891K101	22E2K8928000	09 00	10V39VEK03	10VE9KK00	10/ V9 KE/ O
ZN	VV	319K30V3	3080982300	09100	209000K/	3E98EK0V	208EV2K
BI-1	200	1V2KV09 K/ 00	0900000	09000	1V1V009 V000	1V108E921000	1VE1E/ 980000
P5	208	390K/ K8	1/ / 1V900000	29000	39131/ 0	390V38E	290/ / 10
YL	203	09K1001	0EV9 K/ 00	109800	09E8E8K	09K83CK	09E8822
U	238	2908/ 0/	18VV290K/ 00	39800	298V122	390EKV0	2900E3/
GE-1	/ 2	000K19K2000	0900000	09000	80/ E09K3000	00/ 0K9K000	80V00918000
TB-1	1K0	18E08V903300	0900000	09000	18V0K900000	18E/ 389/0000	183K239K1000

Run Name: 1832E0270K
 Yu4e Num4er: E3
 Sample Num4er: 9895002

DateTime: 11/20/2018 8:KE:K3
 5atch: 1832010V3002A
 Blass: D*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23/ 2E9/V000	0900000	09000	231809/ 000	2E1V293000	2383198000
AL	2/	/ 9/ E0	0090300	29 00	/ 9K0V2/	/ 9/ 08V8	/ 98200K
BA	EE	181K/ V93VEK	201E21903300	19800	18E08K90020	1813KV9/ 800	1/ 028V9 2/ 3/
BR	K2	19E/ VK	1K109/ / 00	09100	192280	19E/ 308	1983000
F7	K/	1K9/810V	22V9/8300	2/ 900	109/123/	1V9VKV1	1190VK21
.	30	E/ / 192/ 31	081/ 890K300	29800	E880E8K3/	EV/ / 91280	E/ E/ 9883V
MG	2E	2/ / KV9/ EV	10803089 3300	29 00	28E089/ 8VE	2V0E09E083	2/ 01190EK1
MN	KK	092KK/	12V9/ 300	VK9000	092/ 20K	092KK30	09 E08/
NA	23	K/ 8K092/ 02	E0802/ 0913300	19 00	K88E29082/	KV0239E020K	K/ / 8E9V08V
YI	E/	0900000	0900000	09000	0900000	0900000	0900000
b	K1	39K/ 331	20EV90K300	1V9 00	3902002	3900/ E1	29882V1
IN-1	11K	3110E98/ 00	0900000	09000	3100/ 9E1000	3100003000	30E8K92000
AG	10/	0900103	2V9V/ 00	103K9000	-0900230	-0900/ E/	0901208
AS	/ K	093VK8	V2900000	EE9800	09E3K18	090K8VK	09K1K01
5A	13/	E39/ V0K	KE/ 891V300	K9000	EV980322	E19KV23	E390/ 1E0
BD	111	-0900E18	09V/ 00	09000	-0900/ / K	090020	-0900/ / K
B6	K0	0908213	1V398E300	KK9V00	0908/ 1V	0912K0K	0903E10
BU	V3	291V12/	32K3900000	/ 9800	29013V3	2912V/ 3	29E3EV
M6	08	09 / V83	81390/ 00	209 00	09 00K/	09V8V3	090V120
NI	V0	09/ / 18	E3V9 0000	/ 9 00	09V2318	09V811V	09 2/ 20
S5	121	190E200	EKV9 0300	K9200	0908EK0	190020/	190K211
SN	120	-09E101/	00900/ 00	09000	-09K1V32	-0983008	-0988321
SR	88	10EK9E20K0	2223E8900/ 00	39E00	10229K8EV3	102/ 9 V28E	108K90E102
ZN	VV	1892VV2	23K092000	129800	1/ 9E0E30	1V9/ 830	2090/ 2V
BI-1	200	1V20/ K9 K300	0900000	09000	1V031V90K000	1VK2K/ 900000	1V33K39 1000
P5	208	090V008	K8V9 1000	109800	090V1V2	090V22K	0908K02
YL	203	-090000/	10900000	09000	090000E	0900K32	-0900K48
U	238	29K2KK0	1V001988000	29 00	29KK00K	29EEV2	29K/ 110
GE-1	/ 2	000K0911/ 00	0900000	09000	002V29K1000	01E3093000	011K/ 981000
TB-1	1K0	18V/ 819V0/ 00	0900000	09000	18/ K489K/ 000	18/ E3/ 900000	18K3E/ 908000

Run Name: 1832E0270K
 Yu4e Num4er: EE
 Sample Num4er: 9895000

Date Time: 11/20/2018 8:KV:E0
 5atch: 1832010V3002A
 Blass: R*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	231V/ 93/ 00	0900000	09000	231V09E2000	22V008E000	23/ 319E000
AL	2/	108V9820E	1828V88000	39E00	20V3900E88	10E19E30/ K	10K39 20E/
BA	EE	1001KV9 / 208	20K0VK90 00	19K00	101KE/ 9 310V	10108/ 93/ E1	18V08E9 E/ /
BR	K2	K29/ E/ E	3/ / 8/ 91V/ 00	19 00	K39/1KKO	K29/ 00 8	K190088V
F7	K/	100E9E2VK/	123009K3300	V9E00	102E9 0E1O	10KV9E1KO	082913302
.	3O	1E8VE9 EE/ K	2/ K08V98300	19 00	1EO/ E908/ O	1K0E39K0EO	1EK/ K9 80K3
MG	2E	30VV/ 90VE81	11VK/ 1890E300	19000	3008V9K0E2O	31031903/ 8/	2008V98022/
MN	KK	K391EK/ 8	11VV29K300	09800	K29/ 133	K39K3KV8	K392303E
NA	23	VO/ E098300	K8V03KV98/ 300	19E00	/ O/ / E9E0820	VOV2391O1/ 2	V88K091V1/ 8
YI	E/	2K2908V0E	2EV/ 90E300	V9K00	23K90220E	2KV9K10CK	2V/ 9E/ 82
b	K1	KE9E10EO	30388923/ 00	39800	K390800K	KV98V0V/	K29800/ K
IN-1	11K	3031E9K/ 300	0900000	09000	308K291V000	20021980000	301/ 091/ 000
AG	10/	E/ 9/ 383	0E0K1908300	29V00	EV98100E	E/ 900EKK	E89 1V01
AS	/ K	1198108	0V890E/ 00	K9E00	1098K11O	1290K3/ /	119E082
5A	13/	0K9/828V	11V/ 29K/ 00	V9100	10198333E	0K910330	0091110E
BD	111	K9800 0	0E09 1000	89800	K9E0E3K	E980E8O	K9 108/
B6	KO	23/ 9EO1E	38V3V/ 98/ 00	29000	2329K/ K0E	23/ 9 / / EK	2E2913K08
BU	V3	K09KV3E0	V883K9E/ 300	29V00	K298883E	E09/30KK	E00Y 132
M6	08	K190VK/	E/ 0019V000	K9100	E89E0EE2	K19/8E1K	K39 1112
NI	V0	K09KK/ 3	2320/ 98300	29K00	K09K23/ O	E89000V0	K198E281
S5	121	/ 9KE2O	30E/ 91/ 000	109000	/ 98EV13	V9EEEO	/ 9E/ 18K
SN	120	K0982088	233V2902300	39800	K290KE8/	K098/ 3EO	E0913E2O
SR	88	1130EE301	23KK00918/ 00	19800	112V921/ VK	113/ 980CKK	11KE90183
ZN	VV	K119KV28O	V320K980000	39000	E0E9V0/ CE	K1V91OV/ /	K239 08OV
BI-1	200	1V21189/8000	0900000	09000	1VKVMK923000	1K0VEV9EO000	1V10EE92000
P5	208	1K9EE3E2	88K1E980800	19200	1K9/11K8	1K9E/ K12	1K9E3KV
YL	203	29021VV	3VK09 K000	K9800	290KK0K	190013V	29108K/
U	238	29KE218	1V118903000	39E00	29V032O	29K/ 0E2	29EE383
GE-1	/ 2	0081092V300	0900000	09000	000K0901000	001K39EV000	0222V9E2000
TB-1	1KO	18E2/ 19K000	0900000	09000	18/ 0K39KK000	181380982000	18E380988000

Run Name: 1832E0270K
 Yu4e Num4er: EK
 Sample Num4er: 9895001

DateTime: 11/20/2018 8:K8:28
 5atch: 1832010V3002A
 Blass: M*****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23O/891300	0900000	09000	2EO/39/E000	23E21982000	23K21988000
AL	2/	100082082	181/ V902000	29000	18V191838E	100098000	10K/ 921V03
BA	EE	18/ E300KV03	2000809 1/ 00	29000	1828V/ 9K/ 8EK	102V202VVEE	18V82092310
BR	K2	K2901820	38VVK90/ 00	29000	K09/08VV	K39K2810	K1901/ 8K
F7	K/	10K09/K021	13323900/ 00	39000	101K901/ 0	10889K30KK	10E/ 9/183/
.	3O	1E8K001VK1	28K2K028000	39000	1E3K290/8VO	1K2009K03KO	1E02/ 9/ / 2E
MG	2E	30EV8901K0	110/ V08910/ 00	E9100	20K0E98KVE2	318V39K/ V/ K	3003V90/ 133
MN	KK	K090/ 2EV	11KKK9EE300	89000	EV981010	K09E0038	KK9K0881
NA	23	V/ O1K90E2V	K00180392/ 00	39100	VKKV2928081	V08V983EE/	V8EOV900/ K1
YI	E/	2V081/ 00	2/ 2092000	29000	2VK9/K381	2V/ 9022/ 8	2/ K98/ / 38
b	K1	KE9K8E18	31K2E9KE000	E9000	K290EK02	K/ 98/ 1KO	KE983K0K
IN-1	11K	31V2K9 V/ 00	0900000	09000	322E09K/ 000	320V1983000	30K/ K9E0000
AG	10/	E390/ K/ K	00K01921000	29000	E39K2K3	E39880K/	EE900E1V
AS	/ K	10923280	0089 0/ 00	29000	008V01	10980K0K	109E/ V1
5A	13/	800E3/ 1	11EE292/ 00	19000	8890KVO	019EOV3	8082EKE
BD	111	E9 V22	881903/ 00	29000	E98E11	E9 3K02	E9/ 0K2
B6	KO	231982/ 08	30822V9KV000	E9100	2289220VO	22E9 VEE0	2E29E088E
BU	V3	E89/00/ 0	V008E90E000	E9000	E/ 9/02V3	E/ 91E/ 00	K1923230
M6	08	K091VW/ /	E888K92/ 00	19800	K09E00KK	EO91VW12	K09E3V3
NI	V0	E890E222	2313/ 983/ 00	29000	EV982030	E890/ 3K/	EO9232/ 1
S5	121	V9 V/ / V	20V09K3000	K9800	V9KVE2V	V9K4K80	/ 91831E
SN	120	K09802EE	2E3V390/ 00	29000	K0983K2V	K1980K0E	EO9// / 01
SR	88	108/ 9K021	23EEV898E300	39000	10/ 89EK208	10K/ 98322/	112V98323/
ZN	VW	EOV9 8VKE	VE0129/1300	39000	EO900E1K	E8392V30V	K1V91 02E2
BI-1	200	1VE0VE9EK300	0900000	09000	1V/ 18E912000	1VW8VK9/E000	1V08E3900000
P5	208	1K9K823	880K29EE/ 00	29800	1K90EEEEV	1K90V323	1K9V/ 02
YL	203	291K21	38/ / 9K2/ 00	139E00	190K012	190K38V	29EE1W
U	238	29E08/ V	1V118912300	K9 00	298KV00	29V/E301	29EOV3V
GE-1	/ 2	O132V9K1000	0900000	09000	O1VK39K0000	O1/ K1908000	00K/ E910000
TB-1	1KO	18803290/ 00	0900000	09000	18082398E000	18V38K9E/ 000	18/ 88898000

Run Name: 1832E0270K
 Yu4e Num4er: EV
 Sample Num4er: 9894999

DateTime: 11/20/2018 Q00:1/
 5atch: 1832010V3002A
 Blass: UL*****

Initial bol: K0900

Final bol: K0900

DF: K900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23V2E9 O' 00	0900000	09000	2E2329E2000	22C809I C000	23/ 119 8000
AL	2/	29 CEO	EV9M/ 00	239200	39012VO	390/ C2	290VE30
BA	EE	38/ EK9O 3V2	E280K92000	19000	380K09/230I	30I C29 3/ CE	380CE9K C000
BR	K2	0901VE	8139E1000	309E00	09KV38O	092V82	09EE20
F7	K/	29/ V3/	V0900000	3K9800	19EW3O	29K1381	39I E8O1
.	3O	08K921E2	2203K9V000	V9I 00	O1/ 9I C0K1	10319/81VO	100V9 KV0V
MG	2E	KO1390KK8E	22CK189/1/ 00	39800	K/ E190V0V/	V1239 E232	K8/ E9VEK3
MN	KK	09I K/ V2	V99/ 300	889E00	09210K2	-09000E8	092V283
NA	23	1211E912OE	10O 2/ 292300	39E00	11/ KV90K1K0	12K/ 19KOV1	1201K92/ / 3
YI	E/	0900000	0900000	09000	0900000	0900000	0900000
b	K1	09E33/	E8399V/ 00	V9000	09 C83V	09C82/	09833EO
IN-1	11K	30K389CK300	0900000	09000	3123V9 E000	3038V9E000	2000E980000
AG	10/	-09000VK	23983300	09000	090/ E1	09002C0	-090122/
AS	/ K	09I 31KE	1/ 983300	219000	09I11KV	09I V38O	09I10I/
5A	13/	09 V1EV	12009I3000	89000	1092V8K/	109228V1	89 8/ 20
BD	111	-0900/ / K	0900000	09000	-0900/ / K	-0900/ / K	-0900/ / K
B6	KO	090E02K	00901000	2/ 900	0903302	090K2/ K	0903E00
BU	V3	09EC88V	0139E2300	E09E00	092C8KK	09/ OVEK	090VKO
M6	C8	09I1238	1/ 398E/ 00	K/ 9 00	090/ 28O	090/ VO	09I 8/ 28
NI	V0	09I V30O	100901300	809E00	092V022	090138E	0921K21
S5	121	098/ 212	1V398E300	K29E00	09I O1O1	09K/ C03	098KEE1
SN	120	-09832O	12398E300	09000	-0980300	-09838KK	-098K/ 3V
SR	88	22E9I 880O	EW/ O9 0000	39000	21898E83V	2209I 0311	23E9I 1280
ZN	VV	E982KK2	V23988300	219000	E920K1E	E92E/ KV	V90238K
BI-1	200	1V/ 80/ 9K2/ 00	0900000	09000	1VK80/ 90C000	1VEVK9EC000	1/ 20K0900000
P5	208	0901O O	30V9/8300	3V9000	0901K/ 8	090281V	0901KEE
YL	203	09003E2	1V9M/ 00	0V9000	0900K28	0900K3V	-090003/
U	238	09K21O	3EKE903000	89800	09K101E	09K/ 20I	09E828V
GE-1	/ 2	00EK3903/ 00	0900000	09000	802KE923000	808289I 2000	02/ / C9EV000
TB-1	1KO	18KEC89K0300	0900000	09000	18VK1E92V000	18VE219 2000	183KEE9K3000

Run Name: 1832E0270K
 Yu4e Num4er: E/
 Sample Num4er: CCV

Date Time: 11/20/2018 002:0K

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23K3E9/2300	0900000	09000	230/ 290/ 000	22/ 008V000	2383190E000
AL	2/	2K2V9IK/ V8	23V0E82000	39000	2E2/ 9/ / 0E	2V0V908/ 8V	2KE39 081E
BA	EE	2E1/ 8K882	2V/ 09E1000	109000	2EV890E/ 10	2VE29E8E31	21E19KEK0K
BR	K2	2K89/K82V	18V/ 319I 0/ 00	39000	2V0888VV	2VK9E0VKE	2K09I/ CKO
F7	K/	2K/ E900/ 32	320329K000	19000	2KEK8/ KO8	2V109K2K3	2KK0208E3
.	3O	2K219K3/ 00	K0KEE9/8300	39 00	2EOE9K321	2V2E9/831O	2EEK9/ / K/
MG	2E	2K1K9KKEV0	0/ K/ 2901000	29800	2K08920030	2K/ / 9K323V	2EV0908113
MN	KK	2V09I/ E/ O	K/ 8E/ 9/0300	39800	2K/ 0822E	2V09 K120	2K39/0008
NA	23	21OE9E2K	2K/ 122923000	39E00	21E89I33E1	22808/ KEE	21KE9E38O
YI	E/	2/ 09/10V0	2V/ 39 3300	129000	2EO8VKV/	3009/3K0K	2K29310O
b	K1	2KV9 088K	1EKV8E82000	39100	2KK9/138/	2VK9V3/ O	2EO9K03O1
IN-1	11K	312819 0000	0900000	09000	3118K9I/ 000	310139CK000	31VEK908000
AG	10/	2E9V108	K0V229E8/ 00	E9 00	2E9K8323	2V9I300V	239V00V
AS	/ K	2EO000/ V	21/ 319K1/ 00	19800	2K1988V/ K	2K09K0VV	2EK9VE8V
5A	13/	2K002223	32K829V300	E900	2KK9/ 01V	2/ 19K08K	2K09281/
BD	111	2K98333	EV1E9I8000	39200	2K9 88/ 3	2K9 210K	2E9E022
B6	KO	238902KO	E010EV91000	29100	2E190I/ 2O	2E19K2EK	23390803
BU	V3	2EE92E2K	3E2001920300	39K00	2K19K/ 81	2EV9E183K	23E9/8VKO
M6	08	2E9/82/ 1	2382022000	19000	2K92102E	2E9K18O	2E98V00
NI	V0	2EE9K0DK2	11V0/ 190 300	29800	2EO011/ 8	2EK9I8230	2389/ / EV
S5	121	2V9/802K	11K3K9/2000	19E00	2V9EV83	2V9/088O	2/ 98K02
SN	120	2K9I2818	120KV92/ 00	K9000	2V9K1012	2E92828	2E90EV1V
SR	88	2E9/K20/	K2V1981300	29000	2E9K081/	2390 213	2K908V0
ZN	VV	2EE930/ 3	3123/ 90800	19200	2E8928008	2E29K1128	2E39 2V08
BI-1	200	1V/ 0V190/ 300	0900000	09000	1V008900000	1V818390000	1V300192000
P5	208	2V9202E0	1KEK8E93/ 00	19800	2K90V802	2V90E8KE	2V9K80 K
YL	203	2K9K1108	E/ 3EE902000	19200	2K9/8V82	2K9/02/ /	2K9IK3VK
U	238	2E9 80/ 2	1V1EO89/ / 00	09800	2E93/ 03	2E9K1V01	2E9EO13
GE-1	/ 2	01KV190/ 00	0900000	09000	8CEEC9IK000	0E08/ 91000	011EO9K3000
TB-1	1KO	18V2K892000	0900000	09000	18VE339 0000	18/ CK0900000	18E309 8000

Run Name: 1832E0270K
 Yu4e Num4er: E8
 Sample Num4er: CCB

Date Time: 11/20/2018 Q03:K3

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23/ E191/ 00	090000	0900	231309EV000	23K019KV000	2EK039E3000
AL	2/	-090V223	2090000	0900	-090/ 3K	-090E003	-0912CE2
BA	EE	-090K20	1393300	0900	-39181V0	-392V231	K90280E
BR	K2	091KVE1	VE390000	80900	0900K8	09/ 2V1	090V0K
F7	K/	29E1Q20	V090300	181900	/ 9823/	09 / 00V	-090CE4K
.	30	-2K91VK2	31839/ 000	0900	-229000 E	-1090E100	-3E9KK82
MG	2E	-E918E/	32V9/000	0900	-K9 EC2V	-292VKKE	-E9/E0V0
MN	KK	09008EK	3393300	1K/ 9800	090EE08	-091380V	0912022
NA	23	-33K9/ 8EO	EE2K89E/ 00	0900	-302911/ E0	-3319EEV8	-3/ 19 / 330
YI	E/	090000	090000	0900	090000	090000	090000
b	K1	-090020	3933300	0900	-0900K03	-0900K03	0901000
IN-1	11K	320129KV300	090000	0900	318189K000	3133/ 9EK000	328819K000
AG	10/	-09002KE	2090000	0900	-090122/	090122K	-0900/ V0
AS	/ K	09031/ E	0933300	13/ 900	090180/	-09003E3	09080K/
5A	13/	0902K20	3933300	1/ 3900	090000	090000	090/ KV1
BD	111	-0900/ / K	090000	0900	-0900/ / K	-0900/ / K	-0900/ / K
B6	K0	0902V0K	/ 090300	K09 00	09008/ 2	0903881	09030V2
BU	V3	-0900012	2339E/ 00	0900	-090020V	-090E31/	09018/ 8
M6	08	-0903KE0	3V9V/ 00	0900	-090K233	-0902001	-0903323
NI	V0	-0910CKE	VV9V/ 00	0900	-090808K	-091E1E/	-0910V28
S5	121	091KV00	/ V9/ 000	E8900	090/ E32	091V813	0922KK3
SN	120	-098/ 8/ 0	10V9/ 300	0900	-0982CEE	-098EVKV	-09EV008
SR	88	090EK8	1090000	1019100	090021K	0900000	090EEKO
ZN	VV	090KCE0	3393300	38V9800	-091CE2K	091180V	092K3K0
BI-1	200	1VVK3K9 0 00	090000	0900	1VK/ 23908000	1VV38E9K/ 000	1V/ E009 E000
P5	208	-0902V1	1/ 39E/ 00	0900	-090081K	-0900313	09003EK
YL	203	0900K2E	2090000	1/ 0900	-090001K	0901V0/	-0900020
U	238	-090028V	2393300	0900	-090033K	-0900E00	-0900032
GE-1	/ 2	02V029E000	090000	0900	0E3E09V000	02K189E8000	01218918000
TB-1	1K0	1802K/ 9K0000	090000	0900	18K8029E2000	1012/ 29K0000	100V0 9K8000

Run Name: 1832E0270K
 Yu4e Num4er: EO
 Sample Num4er: 9895007

Date Time: 11/20/2018 Q0K:E0
 5atch: 1832010V3002A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23K0883/ 00	0900000	09000	22/ 1091/ 000	2EKC8E2000	23EO19E2000
AL	2/	129 KEV/	1E0901000	3K9000	1K9KVK8	1K930/ 0	/ 9E/ / E
BA	EE	3K23091301O	388EO9 K/ 00	39000	3V38092000/	33/ 8E9K8E1	3KK2K9K010
BR	K2	29E/ 81K	231092/ 00	1E9 00	29K2/ K	2912VE0	29KK30
F7	K/	2E912CE2	33092/ 00	28900	239E0300	1/ 9K KE1	319E00 K
.	3O	20839K1KVK	E2K209E0300	1900	20CE9MEK81	20EV98CE0	210CE11/ E
MG	2E	E0K29/ 00K	1C2033923000	39000	K08E9 KECE	E/ 289EE0V8	K0EK91EK2
MN	KK	09 C00E	20V98000	1V9 00	09C310	09 VE80	09/ 212
NA	23	2103K9V3/ /	18EO28E9 1300	39 00	21/ 8K9 00 1	202EE9E2/ C8	210/ V9K3V2
YI	E/	0900000	0900000	09000	0900000	0900000	0900000
b	K1	/ 90C8/ O	E0EE91E300	E900	/ 9E3CE	/ 9/ C00	V9 / 33K
IN-1	11K	30C2090 000	0900000	09000	30E0K980000	31C8C80000	30EEK91000
AG	10/	0900E32	3393300	180900	-09021V	09021V	090120V
AS	/ K	1980/ 12	1189V/ 00	109E00	19/ 208	19/ 283	19K VE/
5A	13/	1129/ / K8	1E00892/ 000	3900	11E98/ 232	10/ 9EO0 E	11K910V8
BD	111	090033E	2900000	09200	09003K3	0900200	09003K1
B6	KO	090E21V	C89E000	839 00	090K2/ 1	09002/ O	090/ 008
BU	V3	E91/ 82K	V01893/ 00	1900	E91811/	E91210	E9E1EO
M6	C8	E98/ E3	E1K0900300	29E00	E91/ 103	E933V1	E9K/ V/
NI	V0	0980 K8	K3V9 0/ 00	K9000	0902K00	09080/ 8	0983V8/
S5	121	090VCE0	3V9V/ 00	10K9200	0900/ 12	090K131	091EO /
SN	120	-098/ E0K	10V9/ 000	09000	-09E2VKV	-09EV88	-09EE8/ 1
SR	88	2E092088K	K0VE/ 90K000	39200	2EV9E3VK/	23190VW1	2E29K8338
ZN	VV	209 0KKO	2V309E1/ 00	8900	229E0V10	189 8EOV	20902K/ 3
BI-1	200	1/ 08319K/ 300	0900000	09000	1VC21E92/ 000	1/ 38KE908000	1VCE2K9E/ 000
P5	208	09EOC8E	1/ 0091E/ 00	/ 9E00	09232V1	092VCK/	09E/ 3E
YL	203	0908V0	2V9V/ 00	1K9K00	0901030	-0900K8	0902100
U	238	191C8C8	802C9 / 000	29 00	191CKK8	191V/ O1	19233EE
GE-1	/ 2	O118E9C8/ 00	0900000	09000	C02219K000	O10C0908000	C023K908000
TB-1	1KO	18/ VCE9E300	0900000	09000	18V0829EE000	18C22/ 90 000	18V8/ 2982000

Run Name: 1832E0270K
 Yu4e Num4er: K0
 Sample Num4er: 9895010

DateTime: 11/20/2018 Q0/:28
 5atch: 1832010V3002A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	22009EV/ 00	090000	0900	222V021000	220V09/1000	23/ E198000
AL	2/	E902812	KV9V/ 00	1V900	E9V023E	3900VE	E91813V
BA	EE	3V0/ 901300	30E389/1300	3900	3803E20E82	3V3/ K9E1EV8	3KV8E920/ 8
BR	K2	29 20V	2E3398/ 00	13900	3911/ 8	290111	29/ V08
F7	K/	10900E0	1V39E/ 00	K09 00	V9D121E	1/ 9EQ /	89 2E20
.	30	22329E001	EE1389/ 000	19E00	22E0233V2	22K89K3/ 0	21089/01/ 2
MG	2E	K1V390K1V	10K1V09/ 3/ 00	1900	K1V0202/ V	K22/ 908121	K0019831K2
MN	KK	09/E32K	1/ 091000	2E900	09 1V3	09EV03/	09 K2/ E
NA	23	21V/ 19100V	18KE8/ 29V/ 00	2900	220E09K330	218/ 09KV80	211029K3/ 08
YI	E/	09V/ 3E	V9V/ 00	1/ 39200	090000	090000	2900203
b	K1	V9 81V2	3/ K/ 9E1000	89000	/ 9E8080	V9E2E2V	V9E3080
IN-1	11K	30E808/ 300	090000	0900	2008E9K2000	30EEV9/ 000	3108/ 983000
AG	10/	-0900K1	13983300	0900	-090122/	-0900218	-0900238
AS	/ K	19V332	113983300	20900	1988003	19E3K12	090VK82
5A	13/	1039K2/ K	12V0V9E/ 00	E9200	1039/ EV/	10890123V	0080123
BD	111	-0900/ / K	090000	0900	-0900/ / K	-0900/ / K	-0900/ / K
B6	K0	09/ 303	1E39E300	10900	09/ 8V	0908321	090K/ 22
BU	V3	1908800	20E/ 91V000	19200	190080V	2900001	190VE01
M6	08	E91K108	30VE91E300	09 00	E91K08E	E9122V1	E9182K0
NI	V0	19/288/	8V99 E/ 00	09V00	19/2V88	19/38V8	19/210E
S5	121	090KK0K	30900000	1209V00	090KK8V	0912K08	-0901V/ 0
SN	120	-0900823	089E000	0900	-09001E/	-090E8/ 2	-090EEK0
SR	88	2EE9/3801	K08/ 8988300	0900	2EE90100V	2EE9KK80	2EK93V80
ZN	V	022E1K	11/ 0911/ 00	19100	081KEE	023V20	0912082
BI-1	200	1VK/ 3/ 910300	090000	0900	1V120900000	1V/ 8V3902000	1V322V9E0000
P5	208	090V02V	KE0903/ 00	1V900	09/ 200	090KE03	090KE/ E
YL	203	-0900KK8	090000	0900	-0900KK8	-0900KK8	-0900KK8
U	238	19E12V	01/ 3908300	1900	19E03V	19E0/ 01	1900KO
GE-1	/ 2	0012K9E300	090000	0900	80VK09EK000	880229 K000	01/ 09E3000
TB-1	1K0	18V23023000	090000	0900	18EV12988000	18V1K1901000	18/ 02V9E0000

Run Name: 1832E0270K
 Yu4e Num4er: K1
 Sample Num4er: 9895012

Date Time: 11/20/2018 00:01V
 Batch: 1832010V3002A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 1900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	230VKE1/ 00	0900000	09000	2301098V000	2E/ C89KV000	2E0C893000
AL	2/	109K833V	120900/ 00	K09K00	1V9E28C2	39D1121	119E0C0K
BA	EE	3K0829K02E	E030/ 9 3000	29000	3/ 0339022/ /	3E0 E9K0C08	3K0808VK03
BR	K2	V39E3C2E	E/ 0K292/ 00	19000	V39K28EO	V29 E2CE	VE9EV28
F7	K/	K2E90230	VVK89/ 000	V9000	KV09VK20	K029E0/ 1K	K10903E83
.	30	20EE9VW20	E2E2/ 90/ 00	39000	213K900/ KE	201K900122	10829 C08E
MG	2E	K1K89E8C02	20312E98/ / 00	39/00	K3329KVEEV	EOV3903C03	K1/ C89V3KV
MN	KK	V9K0VCE	1K2V98E300	89200	V90/ 1VE	V9KVE3E	/ 91KE8E
NA	23	20KE/ 9K0V2	183K8109K0/ 00	E9 00	21KV091EE31	10VE3912083	20E2C9 8V/ 3
YI	E/	09EE28	3983300	1/ 39200	1903283	0900000	0900000
b	K1	V92/ / 3	3V0/ 98E300	C8900	V9121C0	V9K210	K9 0C01
IN-1	11K	3083C9/ 000	0900000	09000	2C8K390/ 000	32K208EK000	3013E9C0000
AG	10/	0900VE	E3983/ 00	13V9 00	0900832	-0900282	09023E3
AS	/ K	19E108	1209V/ 00	2/ 9200	19K/ 21	09E18K	19E2V80
5A	13/	8/ 982283	1080198V300	29000	8K981/ / E	8/ 9010 8	C09/300
BD	111	-090013	1983300	09000	09003/ E	-0900/ / K	09003V3
B6	K0	09E22EO	/ 2090K300	189100	09E3E/ 0	09E0EE	09E023E
BU	V3	E902E10	/ 02K9EV300	K9000	E9 / 00V	E9 E23K	K9K8C0
M6	C8	E930/ V	E18E9K/ 00	K9100	E9E/ V/	E9KE3E3	E910118
NI	V0	E390/ / 1	203E298300	39100	E29 E0DK	E29810E2	EE982EVV
S5	121	09C001	1339E300	K/ 9 00	09E/ 12	09E28EO	09103E3
SN	120	-0920V0	1/ 398E/ 00	09000	-09E9E1	-0913010	-0981E21
SR	88	2EE9/11/ /	K1383981000	K9800	2EE9/8KE0	2319K1C2K	2K/ 9/30KV
ZN	VV	1E9KE8VK	18K0923300	E9800	1E9 V/ 30	139 V2VE	1K911K00
BI-1	200	1/ 0C2/ 91C000	0900000	09000	1VCK0C80000	1/ 0KK09KE000	1/ 2/ 21923000
P5	208	0982332	21E39K3000	39/00	09810/ K	0982K28	09833C2
YL	203	09008K2	2V9V/ 00	1C09 00	0902V30	-0900K8	090E8K
U	238	19E00KE	C0/ 90V000	39800	19K42/	19EKO0V	19EKE0
GE-1	/ 2	C0VCK9/ 000	0900000	09000	88E01922000	C0/ KV9/1000	C283898000
TB-1	1K0	18K18V92/ 00	0900000	09000	1833E0K/ 000	18/ E0C9 V000	18E/ 109K000

Run Name: 1832E0270K
 Yu4e Num4er: K2
 Sample Num4er: 9895012

DateTime: 11/20/2018 Q11:0K
 5atch: 1832010V3002A
 Blass: *****

Initial bol: K0900

Final bol: K0900

DF: 10900

Protocol: D6 D-UE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	2E3EV9IK300	0900000	09000	2EKE290E000	2EE3390E000	2E0V29E8000
AL	2/	290 VVK	K0900000	K89800	390 3E/	E90011/	090K331
BA	EE	3283912KE2	3/ K09 E/ 00	89100	208K911/ / 0	3E08910808	33VK9K0VE
BR	K2	V9833V0	K2V198300	/ 9200	K9808K2	V9K 38V	V9/18E2
F7	K/	V198K02	8239E1300	09000	V198/ 3/	V198/ K3V	V19E0233
.	30	18E9V/ CK	/ 308900000	2K9 00	1309VE03	21V91011V	208938V/
MG	2E	K20980EK1	2128/ 9/ 300	29 00	K21982CE8	K339E/ 8KV	K0K9/0KE8
MN	KK	09E132E	12V9/ / 00	K19800	09E022	0983/ V1	09/K28/
NA	23	1VK19 / 808	218/ / 090V000	09V00	1VW19IK8/ 3	1VKE91/ 00	1VE09IK8K0
YI	E/	09VE8EV	V9V/ 00	1/ 39200	0900000	190EK38	0900000
b	K1	09VVEEE	30898V000	229E00	09K00CE	09 O1/ E	09 00V3
IN-1	11K	310EE9/ 000	0900000	09000	30CE/ 9E0000	31E08913000	30/ / V9K0000
AG	10/	-0900KV3	13983300	09000	-090023E	-090122/	-0900228
AS	/ K	0923V00	2V9V/ 00	239000	09208V2	092018/	0920/ EO
5A	13/	09EVE0E	11K39EK000	1K9K00	109203/ 1	/ 9K00/	0908/ 32
BD	111	-0900/ / K	0900000	09000	-0900/ / K	-0900/ / K	-0900/ / K
B6	KO	0910KK/	200901300	3V9V00	0908V/	090/ E28	091E8/ V
BU	V3	09E2312	82V9 E/ 00	2/ 9000	0980K12	09K3200	09E312K
M6	08	09E0E2V	EKV9 0000	3V9800	098K/ / 8	09KV8/ V	0988V2K
NI	V0	390E020	10V902300	109V00	39V0/ E	E981VE2	39833V0
S5	121	090V1E8	33983300	1239E00	0903000	0900V3V	091E/ 08
SN	120	-09K08/ O	E3983300	09000	-09K1K01	-09K38E2	-09E/ 20K
SR	88	2K91V2/ O	K32890300	09 00	2K91V008	2E90/ 8K3	2K98E88K
ZN	VV	1981030	100901300	329800	19/20KV	09821E/	198801K
BI-1	200	1/ 010090 000	0900000	09000	1V/ 0109E/ 000	1/ 30829K2000	1VC800902000
P5	208	090233E	33398K/ 00	E09V00	0901V8V	0903V/ 0	0901VEV
YL	203	09001K2	13983300	KE09800	09010K1	-0900038	-0900KK8
U	238	0913V00	0K0900 00	08800	091EV2V	09122EE	091E100
GE-1	/ 2	020K1982300	0900000	09000	02VE0900000	08KVK9IK000	02VE8982000
TB-1	1K0	1000VE9K8000	0900000	09000	1808K9EK000	1888189K3000	102280V 0000

Run Name: 1832E0270K
 Yu4e Num4er: K3
 Sample Num4er: CCV

Date Time: 11/20/2018 012:KE

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	238C89/E/ 00	0900000	0900	233K190000	2E2/ 29/E000	2E0/ 290000
AL	2/	2EKE9CEK/ K	23303902000	19 00	2E/ CE0812	2E089EEV2	2E/ / 98EK2
BA	EE	2/ 039 181O	303393000	39 00	281/ 908E13	2VE89EC8K	2VEE92100
BR	K2	2K190003/	18E/ CK9 / / 00	1900	2KE91V2	2K092VKE	2K09KECK
F7	K/	2E839E23EV	313/ 09 E000	29 00	2K439K2VEO	2E1/ 98/ O11	2E/ C8VE/ /
.	3O	2EQ29V8EO	K0/ CK9IC800	1900	2K2V9VCK3	2K00023K0	2EE19E121/
MG	2E	2E3/ 98VK0	OV01E9 / 000	39100	2K1K903/ / 2	23V29V1O/	2E3E9K080
MN	KK	2K3910088	K/ 1K19C800	3900	2VE90KOW	2EOCK/ EE	2EK928K43
NA	23	208/ 9113VK	2K10809/2000	39E00	21V89K8132	20309K23K/	20K3923V0V
YI	E/	2K090/ 1/ 2	2K239 0/ 00	1900	2K29E3C2V	2KE9/113K	2EK9VEK3
b	K1	2K29V08V	1EKE089/0/ 00	29E00	2K89K812	2EV9 010O	2K19K233/
IN-1	11K	31V109IE000	0900000	0900	30K239E/ 000	322239CK000	32110900000
AG	10/	2K91K8C2	K1/ K08K1000	39/00	2V91/ / 13	2E9E83/ 8	2E91K8V
AS	/ K	2E/ 982311	2180290300	E900	2K890/ 888	2EE9CK22E	238903822
5A	13/	2K89 000E	328C89/ 300	2900	2V198818K	2K1988V33	2V2931CK
BD	111	2K90CK/	EV2V98K000	E9100	2V92K80O	2E9 VKK8	2E92V03
B6	KO	23K93031	300008912000	3900	2E39/8KV2	22898E881	23K9EKVE8
BU	V3	2E19 2E03	3E100/ 98K000	E9/00	2KE9/8KVE	23K92103K	23K92/ V12
M6	C8	2K90VE1K	2EE3092/ 000	K9000	2V9 V0K0	2E90313O	2E9E00KK
NI	V0	2E39E08EV	11V/ 2V91K000	2900	2E89CEVKE	2E098OV3K	2E09882EO
S5	121	2K9K88E	1120K98C800	3900	2V9/8110	2K92/ 220	2K902323
SN	120	2E9/ 31E	120E09K8300	89/00	2/ 91E1VO	2E9K/ 8VE	22980010
SR	88	2K90/ 2OV	KE0E9 2000	V900	2K9CE28/	2V90/ V31	239100/ 0
ZN	VV	2EK9E80/	31K819E3/ 00	E9100	2KE98C2EO	2EV9EE8C8	23E902/ K
BI-1	200	1/ 0EE08C800	0900000	0900	1V8/ 1K9DV000	1/ 28019/0000	1V0833902000
P5	208	2K9 000/	1KE/ 08908000	2900	2V9E2183	2K92E/ 13	2K9E33CE
YL	203	2K912OV8	E/ KV29 E/ 00	3900	2K9/33K1	2E91V8V3	2K9K8VO1
U	238	2E9E02K	1VK1V191K000	2900	2K9E8KKV	2E9K083K	2E9EE183
GE-1	/ 2	O12/ 000/ 000	0900000	0900	00/ EE922000	O228K9/0000	O080/ 980000
TB-1	1KO	18V0/ 00V300	0900000	0900	18VCK1901000	18VWKE9 V000	18/ 3309K2000

Run Name: 1832E0270K
 Yu4e Num4er: KE
 Sample Num4er: CCB

Date Time: 11/20/2018 01:E2

Note: All Analyte values are in pp4, except Internal Standards, B, P, S and BL are in counts per second9

7lement	MASS	B6 NB9M7AN (pp4)	BPS M7AN	%RSD	INTEGRATIONS		
					#1	#2	#3
SC-1	EK	23/ 3880/ 00	090000	0900	232808K000	2EK339I8000	23E008C000
AL	2/	-09E1800	1V9V/ 00	0900	190V0/ /	-09I310I	-29I8K82
BA	EE	-V9/1K0K	V9V/ 00	0900	-129E2/ 3V	K90V88	-129E2/ 3V
BR	K2	09I E3V/	V3388/ 00	089V00	09223/ 2	-09011K2	0921881
F7	K/	-19I010/	1V9V/ 00	0900	-09813E1	-19V80/	-09821/ K
.	3O	-229EKV80	32309/ / 00	0900	-119V32E	-E29/ 0I0	-1398280V
MG	2E	-K9K0V2	2838K300	0900	-V9K/ 002	-3900EV0	-K9KV822
MN	KK	0908V08	K090300	1809I00	09I3383	-0900K82	092220E
NA	23	-3V8982V/	E1E/ V9E0300	0900	-3VK9K0282	-38/ 980820	-3K198EVOI
YI	E/	09// / 0V	V9V/ 00	1/ 39200	0900000	0900000	2903118
b	K1	0900K3E	V9V/ 00	3VK9800	-0900K08	0902/ 8/	-0900K08
IN-1	11K	3120082/ 00	0900000	0900	31EK/ 8K000	2000E93000	321E080000
AG	10/	-09002V8	20900000	0900	-0900/ 30	-090122/	09011V3
AS	/ K	090/ 30E	129V/ 00	0I9800	-09003VO	09I0I0V	09I0V3K
5A	13/	0902/ V3	3983300	1/ 39200	0900000	0908280	0900000
BD	111	0900200	2900000	3KV9200	090031K	-0900/ / K	09013K8
B6	KO	090200I	V090300	1009000	090EEK3	0900308	0901E2/
BU	V3	0900E83	2E38K300	2080E00	-090/ 208	09I00/	-09032K0
M6	08	-090E8/ 8	23883300	0900	-090K210	-090V108	-0903233
NI	V0	090138K	1238E000	V029K00	09I0082	-0902V/ 8	-090E1K0
S5	121	09I00/ V	00900/ 00	E09V00	09I21E2	09I0K22/	09208V1
SN	120	-09EK1VK	/ 0900000	0900	-09E32E3	-09E2E1K	-09E083/
SR	88	0900000	0900000	0900	0900000	0900000	0900000
ZN	VV	09002V1	3V9V/ 00	1/ 39000	092/ 3/ V	-09030VE	0903E/ 2
BI-1	200	1V8K1/ 9I V000	0900000	0900	1/ 1808928000	1V08109I0000	1V30839I0000
P5	208	-09000I3	13V9/ 000	0900	-09010VK	-0900K30	-090113K
YL	203	0901E0V	3V9V/ 00	2E9800	090101K	0901KV3	0901V30
U	238	-090008/	3V9V/ 00	0900	-090010/	0900111	-09001/ K
GE-1	/ 2	08810880300	0900000	0900	020V19E8000	0E022908000	08K/ 39 / 000
TB-1	1K0	100EV39I E300	0900000	0900	10I3K390V000	10I/ V09/ 000	1882VK980000

US EPA Tune Check Report

Operator Name US19_USR_INS14259
Acq/Data Batch C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time 11/20/2018 4:13:35 AM
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

[No Gas]

Sensitivity

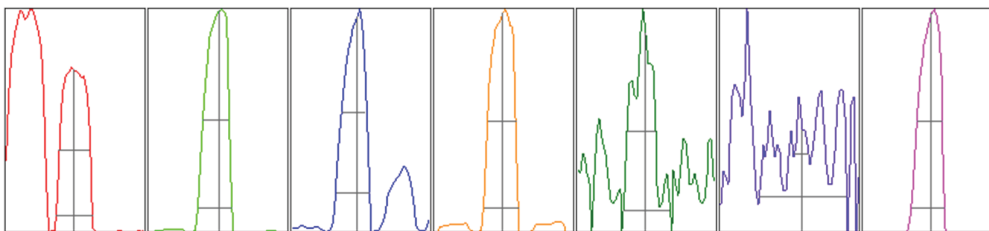
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	92	922.99			3.101	5.000
89	10.00	336	3364.81			1.017	5.000
205	10.00	167	1672.38			2.390	5.000
70	1.00	132	1323.38	0.00		1.830	
156	1.00	1	14.90	0.00		28.316	
220	1.00	1	6.40	0.00		25.555	
140	10.00	295	2952.32	0.00		1.248	

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	90	90	97	92	93
89	332	334	341	338	337
205	173	163	166	165	169
70	130	131	135	130	135
156	1	1	1	2	2
220	1	1	1	1	1
140	291	300	295	293	297

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	141.27	7.00	6.90 - 7.10	
89	603.42	89.05	88.90 - 89.10	
205	314.36	204.95	204.90 - 205.10	
70	224.88	70.00	-	
156	2.55	156.00	-	
220	0.75	220.30	-	
140	561.75	140.00	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.67	0.773	0.800	
89	0.58	0.738	0.800	
205	0.53	0.722	0.800	
70	0.61	0.750		
156	0.61	0.990		
220	0.31	1.871		
140	0.55	0.722		

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	7.6 V	Deflect	13.4 V
Extract 2	-160.0 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	180 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9983	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.08		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	-1.3 mm
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EM

Discriminator	4.5 mV	Analog HV	1745 V	Pulse HV	1255 V
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Date File Name: 18K. 5F22027

h etodf Rereæn(e Name)sv.

Run Name: 183312E027

Analyst: 1. M

<u>RewieBef Cy:</u>	<u>RewieBef Date</u>
Yoddn T / ian	114 54 218 1M. V

<u>bedrief Cy:</u>	<u>bedrief Date</u>
DePdcao A Kcaf y	114 14 218 28:71
kaDecD I inf stædm	114 54 218 17:MM

System parameters:

Rinse / ime)se(v. . 702

<u>SN/ 0RNAI G/ D9</u>	<u>0I 0h 0N/</u>	<u>h AGG</u>
SC-1		M7
	NA	. 3
	h O	. M
	Al	. 5
	K	3V
	/ S	M5
	b	71
	YR	7.
	h N	77
	F0	75
GE-1		5.
	YA	MM
IN-1		117
	Y6	7V
	NS	E2
	YU	E3
	ZN	EE
	AG	57
	GR	88
	h 6	V8
	AO	125
	YD	111
	GN	1. 2
	GC	1. 1
	CA	135
BI-1		. 2V
	/ I	. 23
	k C	. 28
	U	. 38

Run Name: 183312E027
 / uPe NumPec 1
 Gample NumPec S0

Date4 ime: 114 54 218 13:12:M

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
NA	. 3	2Q2222	M7225E1522	2Q22	-1V9VE138	1M9V537	75EM23
MG	. M	2Q2222	172Q1222	2Q22	-29M3ME	2QEEV2E	-29 37E2
AL	. 5	2Q2222	72Q2222	2Q22	19I5. E5	2Q. 155	-19I VMM
K	3V	2Q2222	E. 589ME222	2Q22	-12Q2V8V	-1Q8M28M	1. 9I 7253
CA	MM	2Q2222	. E9EE522	2Q22	-. M787. 8	1. 971VEV	1. 9E7E2
SC-1	M7	15ME79M522	2Q2222	2Q22	158M 978222	15M7. 9IM22	151219V222
TI	M5	2Q2222	3Q3322	2Q22	2Q8. 5V	-2Q8MI3V	-2Q8MI3V
V	71	2Q2222	. 2Q2222	2Q22	2Q21VEM	-2Q. 2EE	2Q2123
CR	7.	2Q2222	32E9E8522	2Q22	-29I 8532	29I 38. 3	2Q2M25
MN	77	2Q2222	M8Q3522	2Q22	29I 57M8	-2QEE3V7	-29I 1173
FE	75	2Q2222	E3Q8M22	2Q22	-79 EM52	397. E81	1Q5358V
CO	7V	2Q2222	3E9EE522	2Q22	2Q2323	2Q2. . 5	-2Q2732
NI	E2	2Q2222	V3Q8M22	2Q22	-2QEE7. 8	29I 2185	-2Q3E7V
CU	E3	2Q2222	. 82Q1522	2Q22	-2Q. 553	-2Q213V3	2Q2MEE
ZN	EE	2Q2222	2Q2222	2Q22	2Q2222	2Q2222	2Q2222
GE-1	5.	EE1VM9 E522	2Q2222	2Q22	EE3279I 5222	E7531E. 222	EE7ME91222
AS	57	2Q2222	E92222	2Q22	2Q. 853	2Q73. 2	-2Q81V3
SR	88	2Q2222	E9EE522	2Q22	2Q21EE2	-2Q3328	2Q21EM5
MO	V8	2Q2222	32Q2222	2Q22	-2Q. 81M	-2Q22E2	2Q. 85M
AG	125	2Q2222	. 3Q3322	2Q22	2Q21178	2Q2M 7	-2Q21783
CD	111	2Q2222	2Q2222	2Q22	2Q2222	2Q2222	2Q2222
IN-1	117	. 1E2E95522	2Q2222	2Q22	. 1M18E1222	. 1V. 797222	. 1M53E5222
SN	1. 2	2Q2222	7339ME322	2Q22	-29 EM7M	-29M 2MI	2Q8M7
SB	1. 1	2Q2222	. 3Q3322	2Q22	2Q. 212	-2Q212E7	-2Q2VMM
BA	135	2Q2222	E9EE522	2Q22	2Q. VV3	-2Q27VEM	2Q. V52
TB-1	17V	11273V9 M22	2Q2222	2Q22	12V. 23QE222	12VEV9 M22	11. 5179M 222
TL	. 23	2Q2222	3Q3322	2Q22	-2Q2. 57	-2Q2. 57	2Q2772
PB	. 28	2Q2222	. ME9E8322	2Q22	-2Q2E7E	2Q21MI5	-2Q25E1
BI-1	. 2V	V27839/5222	2Q2222	2Q22	V2225Q8222	V227E9I 8222	V1E88Q7222
U	. 38	2Q2222	12Q2222	2Q22	2Q22MM/	-2Q2. . M	-2Q2. . M

Run Name: 183312E027
 / uPe NumPec
 Gampe NumPec S1

Date4 ime: 114 54 218 13:1. :38

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	153879 3522	292222	2922	15M819/7222	152V19E2222	15E3. 9I E222
AI	. 5	1222292222	57. 389E1222	2922	WV39E. 7	122319723V	W579I853E
YR	7.	122292222	7V72859E3322	1922	12129M5E	122V9E855E	V5V933578
F0	75	1222292222	12. . 559IV322	. 922	1223M8. 1M8	12. . 19I25V2	V5MM752E8
K	3V	1222292222	1V1. 539V322	1922	1228V9 VE38	122E59I582V	V8M89. 773
h O	. M	1222292222	. V88. M9 V322	. 9I22	W739E2MIV	12. 3295M7	V81E9. 155
h N	77	122292222	. 2283193522	1922	121E9M8M8	WMMI81M	V8V9I2EV8
NA	. 3	1222292222	EV58. . 9E 222	. 9I22	W1M557M	12. 3591M8E	V8M59M12. .
/ S	M5	122292222	V7139E222	39I22	W3938ME	12339/51E8	V5. 9I8V87
b	71	122292222	M582V59V322	2922	12239M 3V.	122. 9ME235	WMMI1752
GE-1	5.	E7ME597322	292222	2922	E7M8V58222	E783193222	E71. V9E7222
YA	MM	1222292222	125E19ME322	M522	W7V92218E	V779E1. 33	12M8M88782
IN-1	117	. 1M7. 977322	292222	2922	. . 2129/5222	. . M7M78222	1V8V. 9I1222
AO	125	12292222	1M785E93322	7922	V89I3355	V79E. 588	12E9 3837
AG	57	122292222	5. . 319/5222	7922	V8. 92118	V7. 9M2V3	12E79 88V2
CA	135	122292222	111M839M22	59 22	V529I32V1	VM89I1278	1281957871
YD	111	12292222	1328398522	M722	V89IME13	VE9E175	1279V. 31
Y6	7V	122292222	1. 28MEE9 8322	M822	VE89531V	V579782V	12779 E85.
YU	E3	122292222	WE. 259V322	E822	V5V97832	VM9E772V	12529/8EE1
h 6	V8	12292222	5225V9/1322	7922	V59581M/	V7955V22	12E9M8V72
NS	E2	122292222	3M25519V222	7922	V819E8323	V7M82. M2	12E3971M75
GC	1. 1	12292222	33V789EE522	V922	V59IVE. 2	V. 9MI75	1129E. .
GN	1. 2	12292222	38. 1597322	E922	V59 7V3.	V79 7VM	1259M1. 7
GR	88	12292222	. 21. . 9E3522	7922	1229E5E1	VM9 V. 38	1279EM22.
ZN	EE	122292222	V73M89E222	59M2	V7. 9I. 5. 5	VE. 98. 17	12879V278
BI-1	. 2V	V. 18. 9E2222	292222	2922	V. 3. 39M22	V1. 8E9I7222	V. V389/1222
k C	. 28	12292222	3VM77192522	19 22	W9/88E7	1219I758E	V8973M/
/ I	. 23	12292222	1. 1VE59. 322	1922	W9/552V	1219V535	V89E. 77M
U	. 38	12292222	M7EME98322	29I22	122981EV	W9/V8VE	W9/1V37
TB-1	17V	12V3V291522	292222	2922	1121339V222	12V719M222	1282879E222

Run Name: 183312E027
 / uPe NumPec 3
 Gampe NumPec ICV

Date4 ime: 114 54 218 13:1M37

Ndte: All Analyte values are in ppP, ex(ept Stenal Ganf ad s, Y, k, Ganf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	1553. 918222	292222	2922	182M 9M222	1811. 95222	152M91V222
AI	. 5	717V9M2E5	3V751918222	79122	MMV79V28V8	721V9V552E	7ME19 37VE
YR	7.	7179571E	31. 8889V522	3922	7289M22M	721982. 3	737927. .
F0	75	71285. V. E	7331E915522	39M22	M259M878	71V. 9M233	7. . 7958888
K	3V	7175978751	123E1898222	ME22	M8891V282	727M51712	7M V971. 3
h O	. M	71M897. 2E	17E5M79M522	39E22	72. V971V3V	72MM25V7V	737E9M75. 2
h N	77	7129V1. E3	12ME1291222	3922	72V9M88E	ME91V1E5	7. 59M637
NA	. 3	M3V921. 2	35MM 59V522	M522	M1M8M8. V	M5189211EE	71879M8EE
/ S	M5	72E9 M8.	M259. 522	5922	72M9153V8	ME59V1E5	7ME9835V
b	71	7289V8M27	M82379. 522	3922	7219E271	ME9V5V53	7. 89 11V1
GE-1	5.	EE82E9 . 222	292222	2922	E5E72911222	E52559M222	E7EV1911222
YA	MM	72289MM71	771M5E522	M822	7. 2M728M8	M5E9177V2	72MM8M18
IN-1	117	. 12V591522	292222	2922	. 1128912222	. 278V9V222	. 17VM2E222
AO	125	7. 91M8M1	5M5M2. 222	1922	7. 9M8E2	7. 95V. 2V	7191M77
AG	57	7. V97V383	3552197222	. 922	7329878.	7M 98283	71791M83
CA	135	7. E91V3	75V1M7V222	1922	7. E9M7VE	73M7V73	71V98V32
YD	111	7M78322	523. 9V522	7922	759 V71V	779 523E	719183ME
Y6	7V	7. 59VEM53	E. 87M19. 522	1922	732917E8.	73E9E7EM	71E9V5153
YU	E3	7379V7V5	7. EME9 3222	. 922	7379M5V3	7ME9E. 823	7. 79711VM
h 6	V8	7M917318	35M1M9 . 522	. 922	739E8ME	77975E77	73971M7M
NS	E2	7. V9V2838	1582139V522	1922	7. 59M777	73V91VEEM	7. . 988. VE
GC	1. 1	7E9M8. 5M	18V359V8222	M822	779V. 8E2	7V9113VV	7M9M27E3
GN	1. 2	779. 8VM	. 2VE. 9 3322	ME22	739 E215	759V22. V	739V. E3M
GR	88	7M7. M2M	128189 E222	. 9 22	73915. 31	7M85355	7797. E27
ZN	EE	7MM9M2E1E	711889 3222	. 922	7M988VME	773978E88	7329 M 1M
BI-1	. 2V	V. 52M91322	292222	2922	VM289V. 222	8V8389EV222	V38EM53222
k C	. 28	71975E5V	. 2ME5E57522	3922	729. 777	7397ME.	729772. 1
/ I	. 23	71955M2	E3E. 5918222	1922	719EE17V	7. 9M82M	719M8. 78
U	. 38	719V11VM	. 38. 1397M222	. 9122	719E3MIE	7391EE8	729V8MV
TB-1	17V	1118359E222	292222	2922	11125. 9M222	1132189 V222	111M . 917222

Run Name: 183312E027
/ uPe NumPec: M
Gample NumPec: ICB

Date4 ime: 114 54 218 13:1E: 1

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	183EE9V322	2Q2222	2Q22	183M89 V222	18EE3Q8M222	182V. 9E7222
AI	. 5	-29 8E55	72Q2222	2Q22	29VE2MM	-. 987V7	1QE7. 1
YR	7.	29I5V75	M8E52222	. 8Q22	29I3835	29 3E58	29IE375
F0	75	39VE812	112Q1222	M29M2	. 9I. E38	M51E35	7QE17E
K	3V	-32Q38EV	E228Q1322	2Q22	-32Q2387	-72QV1V8	-VQE 2. 3
h O	. M	29 V815	1EE9E5322	V139I22	. 9I31EV	-. 92777	29ME835
h N	77	2Q. 3. 3	72Q2222	. 12Q22	2Q52M8	-2Q. 5. .	2Q. EMV
NA	. 3	-MI81157	MM88Q. 222	2Q22	-339 18. 8	-M95. . 73	-M29VMM8
/ S	M6	-2QM13V	2Q2222	2Q22	-2QM13V	-2QM13V	-2QM13V
b	71	2Q358.	M2Q2222	73Q22	2Q75E.	2Q1EV7	2Q388V
GE-1	5.	E8185QV322	2Q2222	2Q22	E8253Q3222	E53. V93222	EV1789M 222
YA	MM	-2Q58823	. E9EE522	2Q22	-17QE 812	. 978. 85	12QE8113
IN-1	117	. . MM7Q222	2Q2222	2Q22	. 18E1Q2222	. 3275QE222	. . MIE9IE222
AO	125	2Q18V3	73Q3322	123Q22	2Q. MM7	2Q3728	-2Q2. 53
AG	57	29 EE57	. E9EE522	5. 9E22	2Q73E2	29Q. 2E	2Q1M7V
CA	135	-2Q2113	E9EE522	2Q22	29I1788	-2Q7VEM	-2Q7VEM
YD	111	2Q2M53	29EE522	1539 22	2Q2222	2Q1MIV	2Q2222
Y6	7V	2Q. 5E5	53Q3522	1ME322	-2Q275M	2Q1E27	2Q5. 52
YU	E3	29I28M8	M23QE222	ME9 22	29IE35M	2QEE. E	2QV7. V
h 6	V8	2Q3M6V	7E9EE522	113Q22	2Q1372	2Q12E2	2Q82. E
NS	E2	-2Q187V	V2Q2522	2Q22	-2Q11V5	-2Q. 73V	-2Q18M2
GC	1. 1	2QV17E	32E9E8522	ME22	2Q5E513	2Q3321	2Q55M7M
GN	1. 2	-29M12E1	3V3QE322	2Q22	-2QE711V	-29M33.	-2Q853.
GR	88	-2Q3328	2Q2222	2Q22	-2Q3328	-2Q3328	-2Q3328
ZN	EE	29 EM8	. E9EE522	117QE22	2Q2222	29IVM7E	2QE2238
BI-1	. 2V	V2572Q5322	2Q2222	2Q22	V22379 V222	V25819M 222	V1M8MM1222
k C	. 28	-2Q2378	. 33QM522	2Q22	-2Q23VV	2Q2783	-2Q1. 75
/ I	. 23	2Q385V	72Q2322	7E9 22	2Q1M2M	2QM5. 1	2Q7711
U	. 38	2Q2VE2	73Q3322	EE9M2	2Q2. . M	2Q1333	2Q13. .
TB-1	17V	113M89IM222	2Q2222	2Q22	111M5M51222	11M8V9I7222	11M782QE222

Run Name: 183312E027
 / uPe NumPec: 7
 Gample NumPec: LLC

Date/ time: 114 54 218 13:18:25

Note: All Analyte values are in ppP, except Internal Standard s, Y, k, G and YI are in (dunits pecse(dnf 9

					INTEGRATIONS		
Element	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	#1	#.	#3
SC-1	M7	1821. 5E222	292222	2922	18M539 3222	15E . 9V222	15VM 9E222
AI	. 5	M1. 9M82.	3. E39/3222	7922	M . 95V2E	M 59EM72	38E92272
YR	7.	M91331.	. 8E392322	8922	39838V	39/8213	M73733
F0	75	1139E53E	1. E39/5322	5922	12897E51	12597811	1. . 9E85. E
K	3V	35893311	135MM82322	5922	355978M/1	3729 1. . 1	M2892. . .
h O	. M	12M782M6	33859 E522	8922	VM7EM7	11. 9787. 3	12E97V15.
h N	77	V95E35	. 1229 5322	M922	1298813.	V9E1725	V9E3. 5.
NA	. 3	8V395EVE	12E8V895322	M922	8779E 2. 8	88898M12	V3595271
/ S	M6	159775. 7	15E9E5522	. 7922	159ME7M/	139IM237	. . 9E7V1
b	71	1911M62	75398522	. 8922	193E7E	19 787V	295M8V7
GE-1	5.	E5. . 79/1222	292222	2922	E53229 V222	EE53E9/7222	E5EM29M/222
YA	MM	E5E9/E887	55398V522	M722	EM79/. 212	52E98V87	E5897E7V
IN-1	117	. . . 2291322	292222	2922	. . EE59/8222	. 1. 339V222	. . EVV95222
AO	125	2973E38	83E9M222	1E922	29E382M	29M7E1	29M772
AG	57	. 9IM8E3	1EE9EE522	17922	. 9 ME3	. 9M V55	1951M8
CA	135	39VEE7	M229. 522	1. 922	. 9/85M	395M13	39. 83V
YD	111	19 2E. 3	1E393322	1. 9122	1923VE2	1912. M	19 E88M
Y6	7V	29/72V.	1. 339M522	1M822	29/8E1.	29VE28	195277
YU	E3	M29713E8	M 11E9E3222	E922	M1E3. . 1	M 91V212	359185M
h 6	V8	19M873	1MME9. 522	2922	19/E7V5	19M8M2	19/3E .
NS	E2	M2V8E1	17M2915322	11922	39EV. EV	ME117.	39V1E.
GC	1. 1	. 9. 31.	V839M 522	139 22	. 9. 2E5	. 935V3	39125E
GN	1. 2	. 9. 735	1MM9ME222	E79 22	. 92158	39/5551	29/VEE1
GR	88	79517. 7	11VE9V522	12922	7983VM	E9 815E	79822E
ZN	EE	. 295273	1V8E9/3322	1922	. 298V5M	1V9E. 82	. 29 7V2M
BI-1	. 2V	V335. 9ME222	292222	2922	VM839 V222	V32329V222	V. . 2392222
kC	. 28	391V375	132239M222	5922	. 9M731	39/8213	39 27. 8
/ I	. 23	297V2. 3	5339V522	119 22	29EEE38	297758M	297MEME
U	. 38	29M5M7	. . 239EE222	89122	29M77ME	2971887	29MM2M
TB-1	17V	11. 7E29 . 322	292222	2922	11. VV59EM222	11. V8E93222	111EVE9 2222

Run Name: 183312E027
 / uPe NumPec: E
 Sample NumPec: ICSA

Date/Time: 114 54 218 13:1V:73

Note: All Analyte values are in ppP, except Internal Standard s, Y, k, G and YI are in (dunits per sec) (dnf 9

Element	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	157119/8522	292222	2922	15. V19/3222	15EV. 98222	157719/7222
AI	. 5	V83V19/8E53	5M7175912222	19/22	12232M58118	VEE229V. 3V	V8. 5198EE2
YR	7.	29317V	5ME9. 522	1M822	29378E	29E. 722	2933V.
F0	75	. 77MM89E1E7	. E327M 9V522	19122	. 78MM 9V. E1	. 7ME. 95MV.	. 73. E79115M2
K	3V	VV137917ME	187M12E9. 522	29 22	VV23MM/782M	VV3729/27V1	VV2. . 98. M8
h O	. M	VEMM89E32.	. V2. 32291E322	29522	VE. 379VW5.	V788M7E22E	V5. 1291. V. 5
h N	77	39 733E	52297522	. . 9822	395V333	. 9M217	3973EE1
NA	. 3	. M8. . 9 5835	1E118V3E91222	29M22	. M7M289EV2	. M8E. 9812M	. M8EVE98M1V
/ S	M6	188E9/E1E3	1828. 9M822	. 9E22	1V. 39M15E	18329155EM	1V2598E772
b	71	29. 2M8	3292222	1V9722	-29. 2M6	29E1. 5	29. 2E7
GE-1	5.	E. 88895522	292222	2922	E352. 982222	E112291222	E38E. 9. 222
YA	MM	. 882M 9EV8EV	. V521591V522	. 9 22	. 8. 1129 E227	. VM7E. 9787M7	. 85M79 7275
IN-1	117	. 278. 9/. 522	292222	2922	. 22. 29. 222	. 1153973222	. 277M53222
AO	125	29728.	V39M222	. . 9522	29721M	293VE1	29E. 51
AG	57	29V337	E29E522	. . 9122	29/83E2	29575EE	29385V
CA	135	193E3E	11E95322	M9E22	195585	29M2.	19 M18
YD	111	291M81E	1892222	389E22	2915V83	291522M	295VE.
Y6	7V	29/18M8	11239M222	1M8 22	29/1EV3	19MM8	2958888
YU	E3	29/2E2M	11339M822	1E9 22	29/1. E5	2957EW	19M8V5
h 6	V8	. . 3591218	172EE 3912222	. 9522	. 3219/1381	. 18. 9M1V8M	. . . 597VE88
NS	E2	19/38MM	5. 39M1322	59122	19/. 7VM	192E7M	. 98. 87
GC	1. 1	1972MM2	71395522	V9122	19EE1E	19M1853	19M8. 8E
GN	1. 2	29 MEV.	7V29/3222	735922	1955V11	-2975311	-29M7. M
GR	88	1E9/723M	3. 839/2322	M9M22	1595. 1. 8	1E9/2775	1E9 . M1E
ZN	EE	. 9777V	1V292522	M8822	192833	. 9EM8M8	. 972VW5
BI-1	. 2V	8783E98222	292222	2922	852EM7E222	87717952222	8M/3298222
k C	. 28	29M78M	35259V522	29822	29/7M2M	29M M2	29M128
/ I	. 23	291M81	. 292222	789122	29. 3. V	292E2V	291727
U	. 38	2938M	1539M522	3V9 22	297757	29328.	29. 8E5
TB-1	17V	12V7. 195322	292222	2922	1283589M222	111. 335. 222	128V739E222

Run Name: 183312E027
 / uPe NumPec 5
 Gampe NumPec ICSAB

Date4 ime: 114 54 218 13.: 1:38

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	15M285. 222	222222	2222	155M 971222	15. E157222	15. . 19/2222
AI	. 5	V55E88EE8V	53E2EM88322	1522	VE3. E9V. V2.	V5ME1931. E	VW71E8M2M2
YR	7.	1VM8V. 5E	11EM 32V522	. 522	1889/87V2	1V59 22M	1V85V188
F0	75	. 7172ME. 32E	. 75M8328522	19/22	. ME3. 89/E. 8M	. 7771. 9M523	. 7. E5. 9MEV3.
K	3V	V8VM89. 775	183V3M59V322	19/22	V51V783875	V8EV391EM8E	122V7785382
h O	. M	VEE2822VE.	. 88V5V88V322	19 22	V77. M125. 5	VE5M8V71M2	V58. 79M218
h N	77	1V79. 783	3V3M882522	1522	1V182587	1V59/E. EE	1VE82EV5
NA	. 3	. M1M 9V. 5V	1781711V8M522	1222	. 3V2E59M8V5M	. M85E791V.	. M27VM7E852
/ S	M5	1V. 891M531	183EE9E322	. 522	185M8M53	1V3325V1E	1V5E85827
b	71	1VE9ME812	VM2758. 222	. 9122	1V. 28123	. 22223MM	1V581V87
GE-1	5.	E. 15M73322	222222	2222	E. 2. 32E222	E13M9 E222	E317V9 8222
YA	MM	. V23M725V83	. VE2M79E322	19/22	. V3. V39V77E	. V. 7. 797. . .	. 87. 179EV152
IN-1	117	. 2. 1M8 5222	222222	2222	. 215582222	. 21E322222	. 23219M222
AO	125	M22E2EM	E5E259E322	2822	M9828. .	M8E. 23V	M9 7331
AG	57	12E82172	5. 7821522	19122	1259EE578	1275MEEV	1279M2. M
CA	135	28753V	VE9E5222	. 922	282121	28VE51	125MM7
YD	111	1219/2VM	1. 7859M1522	1822	1239IEE2E	12. 5521V	V85V1V5
Y6	7V	1V59M5315	. . 73379EE222	2822	1V881. E2	1V58V5V7	1V7528V7
YU	E3	. 2. 9V. 82M	1V1. 11913222	29122	. 2. 5M8. 7	. 2. 9V. 518	. 23912852
h 6	V8	. . 859 VV35	1713M179E522	. 822	. . M79 8787	. 3ME22M2	. . 529E2537
NS	E2	. 2288E5M	EM5. 85. 222	2822	. 228. VM8	. 2. 9M225	1VV872EE
GC	1. 1	19E. M12	7M888222	15822	182M8V	183E5M	1532E5
GN	1. 2	-29 33M8	M1E51522	2222	-29IEE37	-22. M8	-297VM5
GR	88	159 22EV	3. 539/1322	. 9/22	159E885.	1E9/E. MM	1E9/72V1
ZN	EE	VV9M 5V8	8VE2915322	19E22	VV87. 18	1228. 581	V5523VE
BI-1	. 2V	83E58975522	222222	2222	8333V2V222	83288918222	8ME289ME222
k C	. 28	29/2878	3M828V522	1222	29/1738	28V8E3	29/115M
/ I	. 23	2222. 3	383322	. . M89122	-222. 57	-222. 57	222E18
U	. 38	223. M1	1M88M822	3M822	22M882	22315V	22. 1E3
TB-1	17V	12831155522	222222	2222	12V81123222	12555. 9E3222	1253719E5222

Run Name: 183312E027
 / uPe NumPec 8
 Gampe NumPec RINSE

Date/ time: 114 54 218 13:. 3:. M

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
lement	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	#1	#.	#3
SC-1	M	155M2V322	222222	2222	15. V19/5222	18. V39/2222	15EE. 9 1222
AI	. 5	1. 8V1. M	1ME95522	M8822	E955227	18955E2	119. E28
YR	7.	28. . 51	72E92322	E7922	297EE87	291882V	29 13. 2
F0	75	732VE5.	E. 38V522	78822	M83VMM	878. 2. 7	. 39E VV
K	3V	-E2. EM	E. E89M322	2222	29E87E3	-597EM 5	-119 22E2
h O	. M	139V232	75E9. 222	78822	118. 873	. . 9E212	E9E. . E
h N	77	291V188	838M222	EV822	223575	29 E278	29 55M
NA	. 3	8V9 73EM	7152288222	V9722	VE97375V	V19 71EM	5V9/53M
/ S	M6	. 23VWE	. 383322	539722	195. 1V	39E7MM8	29EV3. 7
b	71	223. M8	3E9E522	18M822	-22. 2M6	22V5E7	22. 2. E
GE-1	5.	EE. 239M5222	222222	2222	EEE779M222	E7V519/1222	E7V8. 9E222
YA	MM	. 19M8381	7222222	113922	3282273	-E912235	M29121. E
IN-1	117	. 18. 89/. 322	222222	2222	. 1ME9/8222	. . . 2M87222	. 15879M222
AO	125	22357V	8222322	V1822	2211M8	225E52	22. M7V
AG	57	291253.	1M22222	889 22	2283ME	29 11E3	22. E85
CA	135	-227VEM	222222	2222	-227VEM	-227VEM	-227VEM
YD	111	222222	222222	2222	222222	222222	222222
Y6	7V	2212. M	7222322	. 829/22	-22. 181	22335V	22185M
YU	E3	28727M	EM227322	. 79122	29 711V	29M181E	288. . 7
h 6	V8	. 85EE1	15329 1322	339122	19EM8VE	. 9 EV3M	39 117.
NS	E2	2257. 1	1. 222522	1M2822	22728E	-221E22	291V258
GC	1. 1	-2212M6	. 222222	2222	-22E828	-223V53	225EM
GN	1. 2	-251378	. EE9V222	2222	-285E11	-28817M	-288312
GR	88	-222113	E9E522	2222	-223328	22E. 5E	-223328
ZN	EE	12E287	1238M822	139722	12M87.	19 1. 31	29/. E5M
BI-1	. 2V	V27. E9E7322	222222	2222	V2V839EM222	V1. M7E1222	8V37281222
k C	. 28	221778	32E98222	829 22	2217V7	222. V1	22. 585
/ I	. 23	222. 55	E9E522	3MM822	-222. 57	22138.	-222. 57
U	. 38	2221M7	1E9E522	318822	-22222.	222EE1	-222. . M
TB-1	17V	12V5739 8522	222222	2222	112E1585222	111. V3971222	1253M89/8222

Run Name: 183312E027
/ uPe NumPec V
Gample NumPec CCV

Date4 ime: 114 54 218 13.: 7:1V

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, Ganf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	18V359 7222	2Q2222	2Q22	1VMM8M22	187M8M22	18553E5222
AI	. 5	. 757E1535	. 11. 3E5322	5Q22	. 3819M85.	. 535E177E	. E259E. 83
YR	7.	. M89 2M85	1E1123915322	. 9122	. M 8E2. 2	. 7. 9E35E2	. M9E1E81
F0	75	. 735E3. EE	. 831M21522	39 22	. MME388.	. E22QMI5.	. 7EE9 15M8
K	3V	. M829/871M	7E5E 9 E222	E9M2	. 3119M . 12	. E. M828V3	. 72E9E MM2
h O	. M	. 7789773. 1	833VE9 M622	. Q22	. 72. 9E 735	. 7E8917. 71	. E2M88157
h N	77	. 719785V7	772MM9 . 322	. 9722	. MM8223V	. 77Q2137M	. 779MMV3
NA	. 3	. 7M89M2V.	. . VE8E917522	3E22	. M839MMV	. E719M722	. M7987. 55
/ S	M6	. ME9M132	. 775Q3322	7Q22	. 35E8535	. M29MW. E	. E19735. E
b	71	. 739M8. 75	131VE29VE222	19/22	. M8852. 7	. 75E31. 2	. 7M81VE. 5
GE-1	5.	52. 329M5322	2Q2222	2Q22	5251E978222	E8V75E7222	51215QV222
YA	MM	. 7EM8721V	. V829M222	5E22	. 3ME9/35E7	. 5. 7E5VV3	. E. 281. V8
IN-1	117	. . 371E7522	2Q2222	2Q22	. 1525978222	. . EM797E222	. . 521983222
AO	125	. E21VM7	3VEMM87322	. 9722	. E9EE73.	. 7Q85135	. E2. 1E7
AG	57	. E3E7M 5	1V8V3E5222	39M2	. 539173. V	. E. 9V772	. 7791M21
CA	135	. E1E7V1V	32M859M522	29/22	. EM1E. VE	. 7V9332E	. E19M8177
YD	111	. 5E8EE82	353V9 3322	3E22	. E9EV1. V	. E921M8	. 89725E7
Y6	7V	. E2973EV8	3. 87379/2222	3E22	. 52E. 38M	. 7V9M75V	. 71E5M3.
YU	E3	. E. 9VW58	. 53EV39 5322	3Q22	. 51E7121	. 7V8E. 8M	. 75918772
h 6	V8	. 597M2E	. 215VE7222	2E22	. 597E388	. 5E2V2M1	. 5E8E7V1
NS	E2	. EE98151	V721. 9. 222	. 822	. 579MM8M8	. E1E8M8	. EM81EE5
GC	1. 1	. E9 118E	V3. 29M7522	V822	. 89 . 118	. 3E. 13M	. 5E2V325
GN	1. 2	. 79 V8V3	1272M83322	E9M2	. 5Q2E2. .	. 3E537E	. M8E321
GR	88	. M27272	7275E5222	1E22	. MM8. 5.	. M81. 35.	. 397V727
ZN	EE	. EM8 E2V1	. E33E8E522	2E22	. E19/8V28	. EM8E35M5	. EE917E1V
BI-1	. 2V	VE8. 5917222	2Q2222	2Q22	V7M 7Q25222	V7EV89M8222	V3759/2222
k C	. 28	. 79/MMM	1255. 7E5222	1E22	. E9 ME37	. E92M62	. 797V5. E
/ I	. 23	. E9 2M71	3375E8M822	1E22	. 7EEM15	. E9E518M	. E915571
U	. 38	. 791173M	1. 2M2597V322	2E22	. 7918MEE	. 79 8352	. M855E7
TB-1	17V	11EE7ME1522	2Q2222	2Q22	11V1E 97222	113M83E222	1153E59M1222

Run Name: 183312E027
 / uPe NumPec: 12
 Sample NumPec: CCB

Date/ Time: 114 54 218 13: 5:27

Note: All Analyte values are in ppP, except Internal Standard s, Y, k, G and YI are in (dunits per sec) (dnf 9

Element	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	1833E9M5322	2Q2222	2Q22	18M39M222	15E2. 912222	18V1398222
Al	. 5	-. 982M87	32Q2222	2Q22	-7987. . 2	-198M8. .	-1981. E3
YR	7.	298EM81	772Q222	3V922	29. 588	2971M78	29872M7
F0	75	7Q273M	1. 2Q2522	13M22	597577V	129 2E18	-. 9E 17.
K	3V	-379E 812	78VM8V. 322	2Q22	-319/822M	-. 5915338	-M595328E
h O	. M	197827.	. 2E9E5522	13V9 22	-29/288E	39 E7E8	. 988M53
h N	77	2Q8837	E39M222	V7922	2Q8E815	2918258	2Q1E12
NA	. 3	2Q. 25E	M6. . 19M322	1. V229/22	-398MM18	. 89518ME	-. M811VW
/ S	M6	19888V	1E9EE522	. 17922	-298M13V	M8MM6	-298M13V
b	71	-2Q. 8E8	E9EE522	2Q22	-2Q2M172	-2Q2M172	-2Q2327
GE-1	5.	E57859V222	2Q2222	2Q22	E52E891E222	E818398222	E5712953222
YA	MM	-1. 9M8332	13983322	2Q22	. 9E8885	-. M787. 8	-17977372
IN-1	117	. . M V9EM222	2Q2222	2Q22	. 1VW7Q. 222	. 37M9EE222	. 15MM9 M222
AO	125	-2Q22M82	1E9EE522	2Q22	-2Q2. M8	-2Q22VE2	-2Q2. 33
AG	57	291335E	1E92222	11M22	291E27M	-2Q31E1	29 5. 3M
CA	135	-2Q327E	3983322	2Q22	2Q. 57V	-2Q7VEM	-2Q7VEM
YD	111	2Q122M	1983322	1539 22	2Q22222	2Q22222	2Q3212
Y6	7V	-2Q22V3	3E9EE522	2Q22	2Q2. 15	-2Q225M8	2Q2. 7M
YU	E3	2Q873E	382Q. 522	3. 9122	2911. . .	2Q8EM8	2Q75MM
h 6	V8	2913778	132Q2522	EV922	2Q7M83	29113. V	29 38E1
NS	E2	2Q2M7. 8	1139M222	1. 7922	2Q2M878	2912. 8E	-2Q12E1
GC	1. 1	29 5VMV	1. 39M222	E89 22	29123EE	29 7. 57	29M8. 2E
GN	1. 2	-29E8E .	. 839E322	2Q22	-29/E7M/	-29E8127	-29M1. 11
GR	88	-2Q2283	E9EE522	2Q22	2Q2E3E8	-2Q3328	-2Q3328
ZN	EE	29 . . . M	. 3983322	1539 22	2Q22222	29EE53	2Q22222
BI-1	. 2V	V. ME89E1522	2Q2222	2Q22	V283. 98222	V. 818915222	V357792222
k C	. 28	-2Q1V2.	15E9E5222	2Q22	-2Q1538	-2Q1835	-2Q. 13.
/ I	. 23	2Q2M8MM	7E9E5222	. 59 22	2Q3273	2Q2ME11	2Q73EV
U	. 38	2Q23E.	. E9E5222	1M2922	2Q2EE7	2Q2EME	-2Q2. . M
TB-1	17V	113MM89 7522	2Q2222	2Q22	11. E5M87222	11. . E19V222	117M2893222

Run Name: 183312E027
 / uPe NumPec: 11
 Sample NumPec: ZLCSW

Date/ Time: 114 54 218 13: 8:71

Note: All Analyte values are in ppP, except Internal Standard s, Y, k, G and YI are in (dunits per cc) (dnf 9

Element	h AGG	INTEGRATIONS			#1	#.	#3
		Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD			
SC-1	M	202222	202222	2022	M1712E1722	M 8ME9/3322	MEE59M. 22
Al	. 5	202222	202222	2022	3202. 22	V202E22	5202722
YR	7.	202222	202222	2022	3520. 322	32201522	M120. V22
F0	75	202222	202222	2022	13201222	8202M2	1M02V22
K	3V	202222	202222	2022	73819ME122	M219IEE22	77119ME822
h O	. M	202222	202222	2022	7E20ME22	3120. . 22	. 1201122
h N	77	202222	202222	2022	E202322	7202322	M02322
NA	. 3	202222	202222	2022	MEV82915722	M51820. M2	MEM2V91E22
/ S	M6	202222	202222	2022	202222	202222	202222
b	71	202222	202222	2022	202222	202222	1202222
GE-1	5.	202222	202222	2022	17. . V391M 22	1EM 73915M2	15V. 870. . 22
YA	MM	202222	202222	2022	11202822	M02122	3202. 22
IN-1	117	202222	202222	2022	71M539M722	732E70V522	7EV3201V22
AO	125	202222	202222	2022	7202322	202222	. 202122
AG	57	202222	202222	2022	. . 02222	7202122	. . 02222
CA	135	202222	202222	2022	202222	. 202122	1202222
YD	111	202222	202222	2022	202222	E02222	202222
Y6	7V	202222	202222	2022	7202322	3202. 22	8202M2
YU	E3	202222	202222	2022	M8203722	M0203322	M7203222
h 6	V8	202222	202222	2022	7202322	15201122	M02122
NS	E2	202222	202222	2022	V202M2	V202722	13202822
GC	1. 1	202222	202222	2022	12202E22	12202722	7202322
GN	1. 2	202222	202222	2022	1M7103222	18889 . . 22	. 5EE0. 822
GR	88	202222	202222	2022	202222	202222	202222
ZN	EE	202222	202222	2022	7202322	1202222	1202222
BI-1	. 2V	202222	202222	2022	. 2EE87057V22	. 111EM0VV22	. 3V5329 3122
k C	. 28	202222	202222	2022	13202822	V202E22	18201E22
/ I	. 23	202222	202222	2022	1202222	202222	1202222
U	. 38	202222	202222	2022	M02. 22	E202322	. 202122
TB-1	17V	202222	202222	2022	. 7227M8. 222	. 538230E2V22	. V8815917E22

Run Name: 183312E027
 / uPe NumPec 1.
 Gampe NumPec **Z868194**

Date4 ime: 114 54 218 13:32:38

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	2Q2222	2Q2222	2Q22	158E 9M1V22	1E8219 1V22	18E1398. 22
AI	. 5	2Q2222	2Q2222	2Q22	E. 519M522	E5E. Q. M22	E331982522
YR	7.	2Q2222	2Q2222	2Q22	7M51983522	75V1971522	7351985122
F0	75	2Q2222	2Q2222	2Q22	. 5129M1322	. 732985222	. M52983522
K	3V	2Q2222	2Q2222	2Q22	M E159MM22	M 7M698322	MM. . Q5222
h O	. M	2Q2222	2Q2222	2Q22	EM VM83M22	E3E13. Q. 722	E3M577987222
h N	77	2Q2222	2Q2222	2Q22	71319 EE22	73V1983. 22	71719 . 522
NA	. 3	2Q2222	2Q2222	2Q22	. 8. 7E2QV322	. 5V7M2QV322	. 557VM5E122
/ S	M6	2Q2222	2Q2222	2Q22	7E2QV22	752QV22	772QV322
b	71	2Q2222	2Q2222	2Q22	1M129IM 22	1382913222	13. 2913322
GE-1	5.	2Q2222	2Q2222	2Q22	E85V5QEV22	E53529M1M22	E53. 897M22
YA	MM	2Q2222	2Q2222	2Q22	3VE38983222	3513191222	3877791E822
IN-1	117	2Q2222	2Q2222	2Q22	. . 3. V98V722	. 157V98M22	. 1V3V91M22
AO	125	2Q2222	2Q2222	2Q22	13V291ME22	1E2291EV22	1. 7291. 722
AG	57	2Q2222	2Q2222	2Q22	32. Q2522	31E92822	312Q2522
CA	135	2Q2222	2Q2222	2Q22	3352978. 22	3E72952722	377295M22
YD	111	2Q2222	2Q2222	2Q22	. 5E92E22	. V892E22	322Q2E22
Y6	7V	2Q2222	2Q2222	2Q22	. 38298. 222	328297M22	. EM298V322
YU	E3	2Q2222	2Q2222	2Q22	8VE3E9V3. 22	V117E912. 22	V. 72E93M22
h 6	V8	2Q2222	2Q2222	2Q22	3122973M22	. V7298322	. 752985322
NS	E2	2Q2222	2Q2222	2Q22	3122973222	315297522	32729ME722
GC	1. 1	2Q2222	2Q2222	2Q22	1E729 2V22	13V2917322	1E. 29 . 322
GN	1. 2	2Q2222	2Q2222	2Q22	15529 3522	. 272951822	18129 3M22
GR	88	2Q2222	2Q2222	2Q22	E. 71952V22	752197M122	E2. 19EE222
ZN	EE	2Q2222	2Q2222	2Q22	. 55M9EE822	. 82. V98222	. 51E898V22
BI-1	. 2V	2Q2222	2Q2222	2Q22	VM2. 59 M722	V288. 9M22	V28E. Q1222
k C	. 28	2Q2222	2Q2222	2Q22	1E2V198. 522	1EM8. Q. . 22	17VE191. 722
/ I	. 23	2Q2222	2Q2222	2Q22	11V2911M22	1. 7291. 722	1112911722
U	. 38	2Q2222	2Q2222	2Q22	M819 V322	7M1975M22	M581918822
TB-1	17V	2Q2222	2Q2222	2Q22	117. 5E95. 522	11. EM 988V22	111E179/7722

Run Name: 183312E027
 / uPe NumPec 13
 Gampe NumPec **Z868194**

Date4 ime: 114 54 218 13:3. . M

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	INTEGRATIONS			#1	#.	#3
		Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD			
SC-1	M7	2Q2222	2Q2222	2Q22	3V. M79ME322	M55. 79E1222	ME7E3975M22
AI	. 5	2Q2222	2Q2222	2Q22	1V2Q1M22	112Q2522	82Q2M22
YR	7.	2Q2222	2Q2222	2Q22	M12Q3222	M22Q. M22	1V2Q1122
F0	75	2Q2222	2Q2222	2Q22	172Q1222	172Q1222	M2Q2. 22
K	3V	2Q2222	2Q2222	2Q22	522. 9IM22	7M519ME22	7MM19E. 22
h O	. M	2Q2222	2Q2222	2Q22	1. 1. . 975322	583398522	1382917M22
h N	77	2Q2222	2Q2222	2Q22	1M2Q1222	E2Q2M22	52Q2M22
NA	. 3	2Q2222	2Q2222	2Q22	7. E219M522	M852E9M222	M51219 2222
/ S	M5	2Q2222	2Q2222	2Q22	52Q1322	2Q2222	2Q2222
b	71	2Q2222	2Q2222	2Q22	32Q2. 22	32Q2. 22	2Q2222
GE-1	5.	2Q2222	2Q2222	2Q22	17M15E97V22	157M5973E22	15M17. 98M22
YA	MM	2Q2222	2Q2222	2Q22	5M2Q8522	M82Q. 822	122Q2522
IN-1	117	2Q2222	2Q2222	2Q22	M5M2E9M5V22	772M891322	781M8977M22
AO	125	2Q2222	2Q2222	2Q22	72Q2322	. 2Q2122	. 2Q2122
AG	57	2Q2222	2Q2222	2Q22	18Q2222	. . Q2222	. E2222
CA	135	2Q2222	2Q2222	2Q22	E2Q2722	2Q2222	. 2Q2122
YD	111	2Q2222	2Q2222	2Q22	2Q2222	M22222	2Q2222
Y6	7V	2Q2222	2Q2222	2Q22	72Q2322	112Q2E22	32Q2. 22
YU	E3	2Q2222	2Q2222	2Q22	. M2297E322	1M5291E122	M 2Q. E22
h 6	V8	2Q2222	2Q2222	2Q22	. 22Q1322	82Q2M22	E2Q2M22
NS	E2	2Q2222	2Q2222	2Q22	132Q2E22	182Q1E22	. 22Q1. 22
GC	1. 1	2Q2222	2Q2222	2Q22	112Q2E22	12Q2222	12Q2222
GN	1. 2	2Q2222	2Q2222	2Q22	732QMM22	1E2. 9E. M22	1E3198E22
GR	88	2Q2222	2Q2222	2Q22	112Q2522	E2Q2322	. 2Q2122
ZN	EE	2Q2222	2Q2222	2Q22	M52QMI22	M22Q3122	132Q2822
BI-1	. 2V	2Q2222	2Q2222	2Q22	1V87M8Q8322	. 327M2Q3E22	. 31. V897122
k C	. 28	2Q2222	2Q2222	2Q22	. 32Q1722	372Q. M22	. E2Q. 122
/ I	. 23	2Q2222	2Q2222	2Q22	M2Q2. 22	. 2Q2. 22	12Q2222
U	. 38	2Q2222	2Q2222	2Q22	172Q1122	172Q2V22	. 2Q2. 22
TB-1	17V	2Q2222	2Q2222	2Q22	. M27529V522	. V13E89 1822	322113983722

Run Name: 183312E027
 / uPe NumPec 1M
 Gample NumPec LCSW

Date4 ime: 114 54 218 13:3M. .
 Cat(o: 1831E12E3V21A
 Ylass: *****

Initial bdl: 192

Final bdl: 192

DF: 192

k dtd(dl: RUGG01 I , DA

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	#1	#.	#3
SC-1	M	157889M822	292222	2922	152. 1981222	15E3. 915222	1811397222
AI	. 5	. . E. 9E1E3	15. 789M222	19522	. . VM8E5M81	. . 5M8711.	. . 1V987VME
YR	7.	779 . 33M	3373. 9M522	M8122	759 83M6	7. 9838V	7797M675
F0	75	12V19857E3	113M791322	39822	113V9 272E	12EM8E31.	1252917851
K	3V	128V29. 52M	. 122229M522	M522	11ME39 738V	125. 8973V8.	12M689 853V
h O	. M	. . 22917217	EEE2E982522	M822	. . V59MEV53	. 13291. M83	. 15. 987E35
h N	77	7M8V. E	111E89E322	39822	779818E.	7E918EW	7. 98V. EV
NA	. 3	12V5M9/5212	5521MM88322	. 9/22	11. 35975EM8	1125198EV81	12E179MEV22
/ S	M6	. 82952323	. 5239M522	39822	. 8M8 2373	. 8598. 288	. 5298ME5
b	71	7M9/711M	. E755912522	M8122	759 25E5	7M9/77M8	7. 9EV233
GE-1	5.	EE3EM8. 522	292222	2922	EE57E9M5222	E75519E1222	EE7EE912222
YA	MM	M 1V9331V	ME159E8522	7922	3V79172M	MM159. M7	M MM9. M1V
IN-1	117	. 18M8E. 222	292222	2922	. 1822957222	. 1. EV98. 222	. . ME29 V222
AO	125	73917VM8	5V2V59V522	M822	7. 9528V.	77E. 833	7191M12M
AG	57	12935. 1	82M82222	ME22	119E18M	1298351	1298E2V
CA	135	7. 91VME.	7VM89V322	39122	739V2V1	7195. V1E	7298E381
YD	111	79 . 138	EVE9EV522	. 922	79 EV88	79 V351	791227E
Y6	7V	. E5971331	3. VE789M 222	39822	. E8915ME3	. 579/551E	. 7898817
YU	E3	77958ME	7E. 819 V522	19M22	7798822V	7M9/82. 3	7M8572E
h 6	V8	779M71. V	3VE7298322	M8122	7E9523M	7E98. . 85	7. 98. 572
NS	E2	779E375	1V. . 59M822	E9822	78981833	7797872	71981388
GC	1. 1	E9E1E3	. 1. 39E3222	89 22	E97M7	E97E31E	797EE58
GN	1. 2	7ME. M V	. 177E982522	19122	7M8V33M	77931. .	7M91M833
GR	88	M893. V2	88V39M1522	79822	M 95387E	ME912V. 1	M19172V.
ZN	EE	7M9 2M8V	73MM89/8222	M822	7789M8222	7EE982855	7. . 98. 78V
BI-1	. 2V	V12859. 222	292222	2922	8V. V295M222	V2V2. 9/2222	V32E89. 222
k C	. 28	1E93785	E388191M222	. 9M22	1E973VE.	1E975V7M	17988MM
/ I	. 23	19/8881	. M2295322	1E9 22	. 91V8. 7	1E18E8	. 91M72
U	. 38	29221M8	1E9EE522	158922	2922M7M	-292222.	-2922225
TB-1	17V	11282191222	292222	2922	1123. E951222	111. V19E7222	11258E95222

Run Name: 183312E027
/ uPe NumPec 17
Gample NumPec 9868194

Date4 ime: 114 54 218 13:3E:2V
Cat(o: 1831E12E3V21A
Ylass: UK *****

Initial bdl: . 7922

Final bdl: . 7922

DF: 1922

k dtd(dl: RUGG01 I , DA

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	#1	#.	#3
SC-1	M7	18. V395322	292222	2922	187M893222	155E. 9 5222	187539E 222
AI	. 5	8M 9E. V7V	E51895322	2922	83E9M575	8MM8E5M/	8ME95351
YR	7.	V9M71V	E. E191322	M822	V9I215V	V9/1V81	V9E3V8
F0	75	. 259M 878	. 32293222	7922	. 129 . 83M	1VM873. E	. 159 2MIM
K	3V	1V179/. VEV	M88EM5E222	3922	18M 9 3M/5	1V819E2M55	1V. 39MM/33
h O	. M	. 255V9 85V5	E732M9 7222	. 9E22	. 2MME9/7M/3	. 1M2E9E7. 13	. 2M8M9 7E8M
h N	77	. . 981M8M	M575953522	7922	. 192351M	. . 98V5V8	. 39258V
NA	. 3	37. 79. 28E	. 8V. 5. 95322	M722	338V9E8581	35219/81M/	3M8M8V3. 8
/ S	M5	7V9MI71	7VE51222	. 2922	ME9EMMM	519E827.	7V9E5V7E
b	71	. 9EE1V3	137E91222	17922	. 9E. 753	392V111	. 9 E8VM
GE-1	5.	E8. 82951222	292222	2922	E5E8297222	E88EE9. 222	E8. VM5E222
YA	MM	3M 189 72M/	383M 9 7322	1922	3M88. 9 . ME7	33EEV9 8V/2	3M25E9 3EV.
IN-1	117	. . ME798222	292222	2922	. 1V879 2222	. . 1. 395. 222	. 3. 8895. 222
AO	125	29VEM13	1MVE93222	139122	192V8V.	29M7V/	29M5M5
AG	57	M9M MI	3M 91222	M922	M81177	M8128.	M8E7287
CA	135	3. 93838	38E298222	129M22	329 . E81	319V882	3E9E8V7.
YD	111	. 97728	. 819M822	1V9E22	19/7231	. 9722. 5	1951MEE
Y6	7V	1988V83	. M293M222	139 22	19877V3	19E7V8V	. 9173E5
YU	E3	8V9. 117	V33. 797222	39 22	V198E123	8V98523E	8793. 25
h 6	V8	M8E8M8	3. M295222	M722	M9M5ME3	M9M8557	M9M82M
NS	E2	598781V	. V259IM522	M722	89IM8871	59M8. . 7	59/238.
GC	1. 1	M8M87E	175391522	12922	M81352	M8V8EE	39/3332
GN	1. 2	79E311	. 7M89M 222	. E9/22	E9 M82.	79553M	39E8VE
GR	88	. 89/1V. 8	E12195. 522	V922	. V9887M8	329/21. E	. 79/5112
ZN	EE	. 559731V	. 553. 95. 522	. 9/22	. 829M7E7.	. 8. 98E17V	. E59MIM5
BI-1	. 2V	VMIV597222	292222	2922	VM7329 V222	V35. M77222	VM8359EE222
k C	. 28	59I2M77	. 888795522	19 22	59I1EE3	592137V	59I83MM
/ I	. 23	29/7152	11V2911322	1M922	1925EE5	29115M	29/EE52
U	. 38	1913825	73189IM222	39122	19122ME	1915233	19IM8M8
TB-1	17V	11. 8129 M522	292222	2922	1111V39M222	113M. 9E8222	1135M79. 222

Run Name: 183312E027
 / uPe NumPec 1E
 Gample NumPec 9868194

Date/ ime: 114 54 218 13:35:77
 Cat(o: 1831E12E3V21A
 Ylass: R*****

Initial bdl: . 792

Final bdl: . 792

DF: 192

k dtd(dl: RUGG01 I , DA

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
lement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	#1	#.	#3
SC-1	M7	18V23987322	292222	2922	188239E3222	1V3EMMI222	187M89. 222
AI	. 5	. 1139/7VMM	153389M222	1922	. 1M19583. 3	. 11191555	. 2889 5531
YR	7.	729MEME2	3. V519 M822	19122	7291252V	72918M71	71912. . 1
F0	75	12E895ME1	11VM9 1322	. 922	12MM1V5. M	12E19 EM28	112191E. 72
K	3V	11MIM78. 75	. 3EM8. 9V322	1922	11MM89M788.	11. V39M 83V	1172E9E271
h O	. M	. MMI198EE8	5V3V81953322	1922	. ME7. 9M5778	. M2859238V	. M7879 8278
h N	77	739EM227	1157V921522	1922	73985. 25	7M227V8	739M 12
NA	. 3	1. . . V9M 1M/	V152VM9M222	1922	1. 11V9M8. 3	1. 2V9M578	1. MEV9M18E5
/ S	M6	. 5E9131E7	. 8E29M522	3922	. EM2M235	. 8. 91118	. 819M8M1
b	71	719328M	. EV519M822	1922	719BV533	7. 9M173	719113EE
GE-1	5.	E8MM8V322	292222	2922	E8EV797222	E83. 3952222	E83179M222
YA	MM	M1. 8V958E2.	ME35E9M522	2922	M1M229. . 57	M12M89/8. EM	M1M 797. EE
IN-1	117	. . ME195522	292222	2922	. . 5M29. 222	. . 87V975222	. 158M2M222
AO	125	7. 91. 5EE	5V5889E2322	. 9122	719M2V1	719E7E22	7398E2V
AG	57	129VE1. .	83E952222	M822	129BV3EV	119E728	119M M8V
CA	135	8295M83	V38297E522	. 922	819/5VM1	559E882.	82977527
YD	111	79M 221	5M89E322	M8 22	798. 77E	79 7M85	79E5V7V
Y6	7V	. 789VE8E	3. 5MM9 E322	. 9M22	. 739BV323	. 7793187	. E79ME75.
YU	E3	E79. M1E	EV2859M8322	. 922	EM55853	E7912VM2	E5978M83
h 6	V8	739E. 75	3V7E291522	2922	7M8 . . 8M	7397115M	73977313
NS	E2	739M271	1V2M5978222	M522	729V. E1E	7. 9M 1M1	77953V5
GC	1. 1	E917E8V	. . . 39E8222	V922	E92. 3MM	E9E332	79E3VM
GN	1. 2	739M 585	. 1EV79/1222	2922	7. 9/871E	739EVM1	7397V23
GR	88	E29M82M	1. 5EE95. 222	3922	7V97178.	7V91E223	E. 9E73V
ZN	EE	5V1923V.	5V. 23923222	. 922	5829E3. VM	5559M73. 3	81798. 7E2
BI-1	. 2V	V311. 9/2522	292222	2922	V273V9E. 222	V3711975222	V7. 85973222
k C	. 28	159EEM83	5277. 915322	79122	189E27M	1597V137	1E95V553
/ I	. 23	. 93. E5	. 723951322	V9M22	. 9 M822	19/8751	19EV31
U	. 38	29125M8	72E952322	. 19/22	298M5E	29131E5	291278E
TB-1	17V	11M/1591M822	292222	2922	117. 859M222	11723MM222	11MM V9/2222

Run Name: 183312E027
 / uPe NumPec 15
 Gample NumPec 9868194

Date4 ime: 114 54 218 13:3V:M
 Cat(o: 1831E12E3V21A
 Ylass: h *****

Initial bdl: . 7Q2

Final bdl: . 7Q2

DF: 1Q2

k ætd(dl: RUGG0 I I , DA

Ndte: All Analyte values æe in ppP, ex(ept Stæmal Gtanf æd s, Y, k, G ænf YI æe in (dunts pecse(dnf 9

					INTEGRATIONS		
Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	#1	#.	#3
SC-1	M7	1VM5E522	2Q2222	2Q22	1V737Q2222	1V57Q2222	188. 3Q2222
AI	. 5	. 128Q2. V	1555. Q1222	39Q2	. 25V91382M	. 27E92223	. 188Q8. 82
YR	7.	M5177E	3311M8322	EQ22	M8Q51E1	ME5VV.	7. Q5717
F0	75	127E9/17V5	1. 17. Q5E322	. 9122	123V53E77	12M9273M	12819/75V7
K	3V	111139 3. 75	. 3E8859M822	. Q22	112. 391VE52	12V2VQ. 3M	11M259M571
h O	. M	. M 1M/7723	828E5VE5522	3QE22	. M2V19 12E3	. 3M27Q3152	. 71M5Q. . 57
h N	77	82QV. . M	18. 2E9M5522	. 9/22	8. 9ME75.	589IE537	8. Q2MEE
NA	. 3	11833QE288	V1M27391222	39 22	11531Q8M2M2	117159VE .	1. . 719IME23
/ S	M5	. . VQ818M	. M5Q27222	8Q22	. M7Q. 31M	. 25Q7MMV	. 3E9E53V
b	71	M5Q1M2	. EEE2Q77522	7Q22	M59M8V8	MQ3. 77	73Q2E1EE
GE-1	5.	EV7E1Q1522	2Q2222	2Q22	EV13VQ2222	525E59/2222	E855EQE222
YA	MM	MIME1QEE3M	M531291M22	39/22	M1858Q5EM8	3VEE29 EE8V	M 8ME9 77E7
IN-1	117	. . E819 5322	2Q2222	2Q22	. . 875Q8222	. . 5V91M22	. . 38EQ2222
AO	125	M5VV7V	5E3579M322	. 9122	M89 . VE7	72Q2712M	M9/182V
AG	57	129MEE8	82EQ3322	89/22	VE3VVE	119Q7872	129 M175
CA	135	58QV58.	V333Q3322	. Q22	829 13E8	5EQ58M	829121. V
YD	111	79 5EV	532QV522	1. Q22	M58. EE	7Q3V11	EQ2V. 1
Y6	7V	. 7M91EV2	3. 73. VQ5222	1Q22	. 7. 9M7. 3	. 7. 93MM	. 7591512.
YU	E3	E39 7M73	E52E39/. 322	. 9/22	E1Q157E	E. Q1. 11	E7Q33V3
h 6	V8	73Q73. 1V	3V552Q1222	1Q22	7. 9/. 78V	73Q8M81	7M8E37
NS	E2	719M8V83	18E53Q5E322	. Q22	7. 9VM87	7. 915MEE	72Q2MV5
GC	1. 1	7QE878E	. 253QE2322	E9M2	E912. 3M	7Q12E7	79MM78
GN	1. 2	7. 9/. M87	. 15279/7222	19M2	7. QE25VE	7. 9VEE1	73QE5VV
GR	88	E. 9. 8E1	1333M25322	. Q22	E191. 2E2	E. 9E57E	E3Q7V5EV
ZN	EE	555QE5E75	58E3. 911322	19 22	5E59M. 28	55V9V7. 5	58EQ2. 37
BI-1	. 2V	VM837QV322	2Q2222	2Q22	V. M8M8 3222	V3. 119. 222	V53129M222
k C	. 28	15QM881	EV2. 791V522	. QE22	15Q2113	15Q. V5.	1EQE1775
/ I	. 23	. 912312	. E329M7222	5Q22	. 915132	19/1V1M	. 9 188M
U	. 38	291. 8. 7	E12QM522	12QE22	291373M	2911. E2	2913E8.
TB-1	17V	11E33M8 1522	2Q2222	2Q22	1182V. 9. 222	11772V9M7222	117M22QE8222

Run Name: 183312E027
/ uPe NumPec 18
Gample NumPec 9868191

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Cat(o: 1831E12E3V21A
Ylass: *****

Initial bdl: . 792

Final bdl: . 792

DF: 192

k dtd(dl: RUGG01 I , DA

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	#1	#.	#3
SC-1	M7	181. V9EM822	292222	2922	158. . 95M222	188839V222	15E8. 9 2222
AI	. 5	1E928E.	15E98222	339122	. 19M2EE	119EME3	1M8. 275
YR	7.	. 9 521V	15. E95322	E9/22	. 9IM85	. 9. M6M	. 9M8V5
F0	75	. 292. 22	. 8E98522	3V922	1E98173	179V77.	329. 8VE
K	3V	1V239/1. V8	M8. M89. 222	. 922	18829IE8ME	18EV92877	1VE19E1V3
h O	. M	173139 8. VV	M6EV2M98322	. 9822	173V89 M2. V	1M87. 97733	17E889/7333
h N	77	39E17E1	8239M2222	1E922	39VE772	39VE223	. 9/. 1. V
NA	. 3	11229/57VM	1. 1E2M915322	E9822	11789E7515	121E9ME15E	11. 5928V2
/ S	M6	-29MI3V	292222	2922	-29MI3V	-29MI3V	-29MI3V
b	71	2951112	35E9EV322	189/22	29513MM	29MM8E	2957MW
GE-1	5.	E8M5M8E322	292222	2922	E5338E. 222	E8V359V222	EV1M898222
YA	MM	. MM59M73	. 573897222	29122	. MM8M/5. 17	. M73E9531M	. MM529V131
IN-1	117	. . 2EV9V522	292222	2922	. 32839M8222	. 2V589 5222	. . 1ME9M222
AO	125	29. 18E	7E9E5222	859 22	292VE2	291. 17	29M881
AG	57	2972535	MM92222	. 29/22	29E1118	29711. 7	29VVEV
CA	135	179 8V51	15E29. 522	129/22	1M8 353M	159137VE	1M9M/783
YD	111	2977MIM	593322	7E9 22	29M 7M	2931. 2	2988E5
Y6	7V	2935. M	8393522	M2922	293137	297MMI	29. 7V7
YU	E3	297525M	85298522	339M2	29E172.	29537M2	29E15V
h 6	V8	29/32E3	5239V222	39122	29VE37.	29/1883	29/2V7M
NS	E2	29M 851	. M89M622	E59/22	2987733	295M57E	29183. E
GC	1. 1	298M8V1	1M89M822	3. 9M2	29 8E72	29M. 1M	29 5328
GN	1. 2	29IM872	7VE9M822	M839M2	-295E1E	29/7158	-29M213
GR	88	895. 8M	1E5E9E322	V9M2	59EE757	89/M757	59E2523
ZN	EE	79IM2. 8	723985222	159822	M881M8	79EE5. 7	79E5. 1E
BI-1	. 2V	V3VV917522	292222	2922	V7. 87982222	V388797222	V. 8. E9E 222
k C	. 28	29V81E	E729M822	. ME22	2958E2	29V2E8	291. 718
/ I	. 23	29V12V	11E9E5322	. 8922	2912235	29E1E7	29111. M
U	. 38	29 E37E	1. 3E9V322	39122	29 7M M	29 EEE8	29 EV5M
TB-1	17V	1175V98322	292222	2922	11E33E983222	11EM8V9M222	11M7E19M222

Run Name: 183312E027
/ uPe NumPec 1V
Gample NumPec CCV

Date4 ime: 114 54 218 13:M8:13

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, Ganf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
0lement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	#1	#.	#3
SC-1	M7	18V239/8522	2Q2222	2Q22	1V1MM2222	183E39V222	1V. 2M85222
AI	. 5	. E2ME81. M	. 13M253222	3Q22	. 7. E98E271	. E87Q775E	. E2. 9I. 5ME
YR	7.	. M9M1V88	1E1E2853222	. 922	. M9/5VE2	. 77Q185V	. M 9/E1. 3
F0	75	. 753QV18V	. 8EEME8322	. Q22	. 73E9V8. 5	. E3. 9/V2M8	. 7M988EV.
K	3V	. M5V971131	7EE7893222	3Q22	. M79E5MEE	. 75V9/8. 8E	. M13985EM8
h O	. M	. 7M6Q35. 8	8. 87ME3322	3Q22	. 72E9M17. 5	. EM2V7. V	. M29E21. V
h N	77	. 7. 9E. . E	771EE9. 522	M8122	. 729/7281	. E39E. EM8	. M89 8V73
NA	. 3	. M193817	. . 7E2E9V522	3Q22	. ME89E. . 25	. 7819/MM6	. M M/M V2
/ S	M6	. M9M2VM1	. 73297322	12Q22	. 179M11M1	. 7E9M278	. E195E. 7
b	71	. 719 327.	1327E79V522	. 922	. M59. E1M	. 7V9/823V	. ME9/8723
GE-1	5.	EVEEM9 E322	2Q2222	2Q22	5257E951222	E8M2M28222	EV83. Q2222
YA	MM	. 7339113. 3	. V. 29V5322	E9 22	. 37M9 18EV	. EM1QV785	. E2M2. 71M
IN-1	117	. . 8E89E7522	2Q2222	2Q22	. 33839V2222	. . 1M7951222	. 325E9E222
AO	125	. 795231.	M22E792222	39M22	. 79823V5	. E97. . 7.	. M58. 87
AG	57	. 72977E3	1V312975522	7922	. M Q2VE22	. EE91V373	. M 5553E
CA	135	. 7. 9/8232	322V9E2522	2Q22	. 729V3M6	. 739285.	. 7. 93851
YD	111	. E97785E	352E977322	5Q22	. 79871V7	. 89EV1. 7	. 79E332V
Y6	7V	. 7397882.	3. 5. M897222	19/22	. 729V8VV	. 7V9 1M51	. 7191723E
YU	E3	. 7791275	. 5. M8987322	39M22	. M89EV. M	. E79/8555	. 73975MEV
h 6	V8	. E9M152.	1V5V911222	39/22	. E955785	. 59. 73E	. 79 M/81
NS	E2	. 7795VV3	V31V59EE522	39 22	. 7. 9E. . 2E	. E792385	. M95138E
GC	1. 1	. E9ME3E	V5E5972322	M8/22	. 7952837	. 89 857V	. E97M81M
GN	1. 2	. E953572	1133. 9/1322	M722	. 79887. V	. 5911. 8M	. 5951M85
GR	88	. 395M V3	71119 V222	. 9122	. 39E5VE	. 39 57EM	. M9 531V
ZN	EE	. 719333.	. 77889E5222	. Q22	. M79M1VM7	. 73Q7. 3V	. 7ME. 81.
BI-1	. 2V	V58219E2322	2Q2222	2Q22	V5. 21958222	V8V13917222	V5. 8V98222
k C	. 28	. 795. 11V	1258539M222	2Q22	. 79MM13	. 79E8. 28	. 7973. 3E
/ I	. 23	. 7912E3	3. 57M72222	. 9E22	. E925. 5M	. M85587	. M9/81. V
U	. 38	. M5218.	11VE159/5322	1922	. M831E1	. M91VE38	. 79255M/
TB-1	17V	115E279M822	2Q2222	2Q22	118. V7983222	11E5329/2222	1155V29M222

Run Name: 183312E027
 / uPe NumPec: . 2
 Gampe NumPec: CCB

Date/ time: 114 54 218 13:MM7V

Ndte: All Analyte values are in ppP, except Internal Standard s, Y, k, G and YI are in (dunits per se) (dnf 9

Element	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	18V7395222	292222	2922	18M839 3222	1V. 8M9 E222	1V1MM9. 222
Al	. 5	-M7EM83	1E9EE522	2922	-M2V35V	-M9 2M72	-79VM52
YR	7.	29 E231	72395222	729/22	29 1MM7	29M2VE	2917E8M
F0	75	-. 9MMW	M893322	2922	-39M72. M	-29M7. 3	-397321
K	3V	-73971E1V	753M8M522	2922	-ME9 8285	-E3973V. M	-7295. 8ME
h O	. M	M9/7M8E	3. 397322	389E22	E9M/58.	ME753V	39 258E
h N	77	29. 251	7292322	17V. 9M22	298V58V	-29. . VV	-29 1. 5V
NA	. 3	-7E9 52. 2	M8. E9/2322	2922	-319E 21	-E195M 1M	-5792EM7
/ S	M6	-2912VM	3983322	2922	29EMV5	-29M13V	-29M13V
b	71	-2922372	. 292222	2922	-29. 155	297. 58	-29M72
GE-1	5.	52E. V92222	292222	2922	E8EM9M222	51V. 39EV222	5131V9 5222
YA	MM	-1297115	1E9EE522	2922	. 9E182	-59E322.	-. M787. 8
IN-1	117	. 33879/5522	292222	2922	. 37EE9M222	. M27E9EV222	. . 73M8M222
AO	125	-292571	13983322	2922	-2922VE2	-29223E3	-2922V3.
AG	57	291. 8M1	1E9EE522	M1922	29VM28	2918V2.	2912. 1M
CA	135	-292. 88	E9EE522	2922	-2927VEM	-2927VEM	29112E3
YD	111	2922VM5	1983322	8E9522	29138V	292222	2921M7.
Y6	7V	-2922MV	33983322	2922	292257M	-29. . EV	292213V
YU	E3	29M552	3739E222	. 239122	2912MM1	-29EM1E	2912. 8E
h 6	V8	29M173	E393522	13E922	2922VM7	29228M2	2912E5M
NS	E2	2921M81	12E9E5322	3E79E22	29M. 8	29M 5E	-29M6E1
GC	1. 1	29M1. 17	15E9E8222	719/22	29227V7	29 5. 1E	29E7837
GN	1. 2	-291V533	M/29 7522	2922	-29E8175	-29EM/13	29538EV
GR	88	-292. . V	E9EE522	2922	291. 25	-293328	2921MM
ZN	EE	29 73V5	. E9EE522	559E22	29M678V	2918EM8	292V7M
BI-1	. 2V	VM8. V93322	292222	2922	V71V7957222	V7MM982222	V38ME9/222
k C	. 28	-293285	133983322	2922	-29. E85	-29. VM	-293E31
/ I	. 23	29M5EV	E3983522	789 22	29. 125	295EMM	29M775
U	. 38	29223M8	. E9EE522	1. 89 22	-292221.	292283M	292. 2E
TB-1	17V	1155859V222	292222	2922	11E. V59E2222	1185389E222	1183. 7951222

Run Name: 183312E027
 / uPe NumPec . 1
 Gample NumPec LLC

Date4 ime: 114 54 218 13:ME:M7

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	1V35M75522	2Q2222	2Q22	18V. 3Q5E222	1V75M8E222	1VE. 7Q21222
AI	. 5	38397182	3. 539/2222	3Q22	3529W5E.	3V. 5E2EW	388917132
YR	7.	M21V3M	32259E222	E9E22	3Q8M2V1	M8. 3. V	3Q8V381
F0	75	V. 97551M	11. E95522	. 2Q22	8. 5711E	11M7M8MM	829M8E83
K	3V	375Q2388	1M8MM57322	M722	3EM21M 7	3EV9/5512	33V9M 2. 8
h O	. M	VE928EV	33V29E2522	E922	V39M M17	12MM 37.	V. 9758M2
h N	77	V97E5E	. . ME9W222	. 1Q22	1. 9 3MM	8Q7E27	89M5V5V
NA	. 3	81M172. 1	12V1ME93322	5Q22	881Q251V	5E29M813	8229E731
/ S	M6	. 79M. V.	. 53Q7322	15Q22	. 1Q8528M	329ME531	. 3Q852E.
b	71	2Q817. 1	M7E52222	18Q22	2Q8E7E.	29/82. 8	2QEW5.
GE-1	5.	528219 8322	2Q2222	2Q22	5232E97V222	51E51Q5V222	52M 79M5222
YA	MM	E3297M7	5E2Q5222	12Q22	EE2Q1. M8	7739/52EV	E5E582M6
IN-1	117	. 38ME9 M222	2Q2222	2Q22	. M 7V98M222	. 32E89ME222	. M 129M 222
AO	125	2971882	852Q5522	. 29122	29MMV7	29ME5E7	29E3881
AG	57	. QMEV7	151Q3322	3Q22	19/EV8M	. Q721.	. 91. 288
CA	135	MMIV. 1	77E51222	V922	M8M887	M8M81E8	39/8. 12
YD	111	1Q717.	17. 9EE522	. 3Q722	1Q8E78.	19 V113	2Q5V5E.
Y6	7V	29/EE75	13M89M5522	11Q22	29MM13M	2Q8E8EM	1Q8V53
YU	E3	38Q1. E5	M ME8972222	ME22	3E95332V	3V9/8VM	35Q817M
h 6	V8	19/2EM	17. 3971222	89722	19/8732	1Q51V1V	. Q21M57
NS	E2	3Q837V3	17E2915222	M822	39V. ME5	3QE. 38E	39/7V. E
GC	1. 1	19/8. E.	55E53322	E522	1Q87. M8	19/58VM	. 911EM7
GN	1. 2	29/M5EV	VV2912322	3. 9122	29/7V31	2QE3832	19 M7M7
GR	88	7QEM85M	1. 5291M522	11Q22	M8V. 351	E91VME2	7Q81. V1
ZN	EE	15Q2177	182E9V222	79 22	179W5. 1	15Q82VEE	15QEV55V
BI-1	. 2V	VE5V5Q7222	2Q2222	2Q22	VE5M953222	V7V22Q2M222	V55M89M8222
k C	. 28	. 9/5V. E	1. 7VE97E322	MM22	3Q22331	3Q2VE3.	. Q381M
/ I	. 23	29M8M2	E. 3Q8522	17Q22	297. 2EE	2973318	2Q8V37
U	. 38	29725E2	. MM851522	E9122	29M51E8	297. M83	297. E82
TB-1	17V	11551. 911322	2Q2222	2Q22	11V23. 9 2222	1152519M222	11523. 9E7222

Run Name: 183312E027
 / uPe NumPec: ...
 Gample NumPec: ICSA

Date4 ime: 114 54 218 13:M8:31

Ndte: All Analyte values are in ppP, ex(ept Stenal Ganf ad s, Y, k, Ganf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	157E792222	292222	2922	151E1973222	155. 98M22	1581. 9E3222
AI	. 5	12227E9MEE8	57VMM9 8322	. 922	12. 7E19M3VM	1222719M5	V57779 311.
YR	7.	29. 52M	5ME93322	. 7922	29EE2. M	293EMI	2978MM5
F0	75	. 7E3189V71M	. EM53829M222	1922	. 7V. 7MMMEM	. 787359 2873	. 711E39M. E
K	3V	121EE59/21E3	1V2EE389M522	. 922	123E139V2E3	1215V895E. V	VV7V19 35V5
h O	. M	V81. . 91MM5M	. VE2VV9EM822	. 9 22	12271M9757M8	V5MI29 51M5	VEMMI985. 5
h N	77	39 15E	EVE9. 522	119M2	. 9/177.	39I2V5.	39E 5E
NA	. 3	. ME75791E3V	1E313773971222	19822	. 713529VMM	. M77. M7158V	. M 83. 983E87
/ S	M5	. 22791238	1V. 5M88222	M822	. 2339/1V75	. 25. 95V182	1V2V9 1V5E
b	71	2923MM7	3E9EE522	V1922	29M8. 7	-2922ME	29E275
GE-1	5.	EM5. 91222	292222	2922	E3V. 9M5222	EEM579E222	E. VM892222
YA	MM	. 8VV8V955M8	32E7EV95M522	19M2	. V227. 9M522M	. 8757V9151M8	. VM1759V2V.
IN-1	117	. 11539E222	292222	2922	. 2EV198. 222	. 1M7911222	. 13339E7222
AO	125	29. 82.	E393522	589M2	2921VE3	29211M8	297. VE
AG	57	192E2V	5593322	MMM22	197. 18.	295M712	2957137
CA	135	193123	1. 292522	3V9 22	19 3877	297E71M	19 8V3V
YD	111	29V5M/	1. 9EE522	31922	29E3. 5	29I. 181	29I253V
Y6	7V	2985E. 5	1282911522	. 79/22	19115M8	298M53	29EE5E1
YU	E3	19. E7E	1. 8E95V522	M9 22	29/55V2	192M85	19E2V.
h 6	V8	. . 1198. 2V.	173. 15V9 7222	. 922	. . E. 9731E	. 1589 2M8V	. 1V392271V
NS	E2	19 85EV	7. E952322	. 7922	29/1371	1971. . 1	19M53E
GC	1. 1	198. 822	M5293522	12922	1915V71	1935V1	19MEE7V
GN	1. 2	-29ME8	72E92322	2922	-297735M	-29M 525	2983158
GR	88	1791587M	32. 591V322	59M2	1M8312.	1M9 57M8	1E9M V11
ZN	EE	197735M	1ME95522	. 39E22	19E. E15	1958MI	1917EE7
BI-1	. 2V	857. 895522	292222	2922	8EMI V91222	8V3519V222	8E5V. 9/3222
k C	. 28	29VVE3	3E2597322	. 922	29882M5	29/217V	29/1E81
/ I	. 23	29221E	393322	3. MM922	-292. 57	-292. 57	2927VE
U	. 38	29. E1M	1. 39M922	3M9 22	29. 81M	2933V1	291E35
TB-1	17V	11. V3M9V222	292222	2922	11. 1119V222	11328598222	113E2792222

Run Name: 183312E027
 / uPe NumPec . 3
 Gample NumPec ICSAB

Date4 ime: 114 54 218 13:72:1E

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	1E78593522	292222	2922	1E81198222	1E. 529M222	1EE819M222
AI	. 5	12M7. 39/8872	5M/5. . 9/2522	. 922	1238V. 98. 758	1257E29V358	12. 1189M7VM
YR	7.	. 279M 3E3	11E85795222	1922	. 2E9 7278	. 259VM 3	. 2. 9M E28
F0	75	. EV51. 912V5.	. E323M293322	. 922	. EMME. 9158V1	. 5EE179. V82	. E82789. 2MM
K	3V	12M135978V82	18M8VV39 7222	. 9/22	123. 8. 922V. 2	125M759M 53	121E5. 9815M5
h O	. M	12. ME29/23. 8	. V1V53798522	. 9/22	121. 539VE77E	12787M527E7	122. 7M238E3
h N	77	. 2V98. 828	M2. . 59M1222	. 9/22	. 2. 9VE 1M	. 1M8M53.	. 11975M82
NA	. 3	. E23559EV82	1E. EM82. 9 7522	. 922	. 75EE598EV1	. E87539I. 831	. 7M8V191111V
/ S	M5	. 2. 292757	1833V9/3522	19/22	1V589E322	. 27M9 M12.	. 2. 89/13. M
b	71	. 2E9E2727	VM. V97222	3922	. 239V725	. 1M8. 1ME	. 2191V8E3
GE-1	5.	E1835913322	292222	2922	E3M7293222	E35. . 9E222	7833891222
YA	MM	. V3M73932EM	. V5. 5V9M522	3922	. 881M79E2M 1	. 8E7M9 7M 5	327EEV9133M7
IN-1	117	1VVV392322	292222	2922	. 22V397222	. 21M897. 222	1V5M89M222
AO	125	M9E EV	E5E38915522	19/22	M89. M2V	729. . 25	7293M83
AG	57	1279VM 3	51359M822	19 22	1259. EM	12M97. M8V	127931M2
CA	135	29V553	12292522	35922	19181E8	29/8813	297. 33V
YD	111	12M877M/	1. 5729/1222	. 922	12. 9VE1E8	12598M M5	12. 95E 33
Y6	7V	. 2M9 . M/1	. 3271793222	29/22	. 27975357	. 27973E7	. 2. 9M53M
YU	E3	. 2E97851	1V. 82E95322	1922	. 2V98M27V	. 289. 128	. 2. 91M8
h 6	V8	. 3329I. V8.	17. 72379/1322	2922	. 3379MEVE	. 3M19/1VV3	. 3139. 7E
NS	E2	. 2398. 3E	EM/559M 222	. 922	. 289VE2M2	1VV9E3522	. 239ME5
GC	1. 1	19M2V3V	M5293522	. 5922	19M87V3	1955E28	1921E15
GN	1. 2	29 1. 83	75295322	75. 9/22	-29. E. 2	1978V7.	-29 . M8.
GR	88	1597V. 3	3. 139/2222	11922	1E982V31	1V923V58	1798. 87V
ZN	EE	12E9M52. 8	VM/29M522	. 922	1239E31. M	1289M513	12E983. M8
BI-1	. 2V	83. V595322	292222	2922	87272953222	8M1779/7222	82E879M222
k C	. 28	29/23EV	3MM59M522	12922	29/8E3V	2922. V	29/ M8V
/ I	. 23	292318	E9EE522	3. 3922	292172.	-292. 57	-292. 57
U	. 38	2923. 35	1M89M822	. 89 22	2923338	29M2VE	29. . 5V
TB-1	17V	12E5VE9E2522	292222	2922	12V1M89/8222	12EM2. 98222	12M8M89E222

Run Name: 183312E027
 / uPe NumPec: . M
 Gampe NumPec: RINSE

Date/ time: 114 54 218 13:7. :2.

Ndte: All Analyte values are in ppP, except Internal Standard, Y, k, G and YI are in (dunits per second) (dnf 9)

Element	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	151719E7222	292222	2922	1E3729E2222	15M . 95222	15E8. 9 8222
Al	. 5	V9E1V83	1. 292522	7E9M2	1298E817	1ME3. V5	398783E
YR	7.	29 8E71	ME952322	8. 922	29775E3	291. . 7V	2915V3.
F0	75	. E9/1M81	33E98522	389 22	159523. 8	. 7915MM	389. . . 2
K	3V	1798E8. 5	EM8791E222	1VM8 22	MM8/23. 5	179/EM6M	-1M8E3. 2
h O	. M	129M177M	M73985222	189 22	1. 98775	89E . .	1295V883
h N	77	2917E11	53983522	15. 9122	29175V2	-29133V	29M 383
NA	. 3	V19EV2M1	7227191322	M19/22	13M5. M2M	5V9E7V8	E29E85. .
/ S	M6	198V13M	1E9EE522	1139522	-298M13V	1987EM1	. 987V22
b	71	-2923ME7	3983322	2922	-292M172	-292M172	-292. 2VM
GE-1	5.	E5V. . 91522	292222	2922	E82V3978222	EV338982222	EE3339E5222
YA	MM	. 39E5332	73983522	1. 59822	. 9 5817	12978V3V	78917. 3E
IN-1	117	. 13. M83522	292222	2922	. 2M 29E7222	. 1. VE978222	. . . 759 8222
AO	125	292. 111	73983322	M89E22	292. 5. V	292. 771	292127M
AG	57	29238E3	89EE522	M89M2	2923M1M	292751V	292. M7E
CA	135	-29232V1	3983322	2922	-2927VEM	-2927VEM	292. E7E
YD	111	292222	292222	2922	2922222	2922222	2922222
Y6	7V	2922827	ME9E5222	M79822	2922ME7	-2923227	292M7E
YU	E3	29222. 5	753985322	. 89122	2988M81	29 1783	2922EE
h 6	V8	. 9M8E5E	158397V222	359822	1983813	. 91813V	397M257
NS	E2	291M8E5	1M291222	. 279M2	29MM872	-292EM1M	29211E7
GC	1. 1	-29225EV	. 292222	2922	29277. M	-292387.	-2923V82
GN	1. 2	-297M8V1	3. 2925522	2922	-29M23. V	-29 7555	-29/52EE
GR	88	-292151M	3983322	2922	-2923328	-2923328	2921M53
ZN	EE	19M 755	13E9E5322	339 22	2985853	19E87. 5	1981331
BI-1	. 2V	V2. 779M822	292222	2922	V287M2M222	V2E. 192222	8V. V19EV222
k C	. 28	2922V51	. 83987322	12V9722	-29221V7	2921887	2921. . 3
/ I	. 23	2922. 81	E9EE522	3M 9M2	-2922. 57	29213V3	-2922. 57
U	. 38	29221M	1E9EE522	. . 89E22	-2922. . M	2922MM	2922. . 8
TB-1	17V	112M679/. 522	292222	2922	12V5M9 8222	1111. 19/2222	11277E9E2222

Run Name: 183312E027
/ uPe NumPec: . 7
Gample NumPec: CCV

Date4 ime: 114 54 218 13:73:MB

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	15. . 7921222	292222	2922	1E752987222	151E197. 222	15VM 9EE222
AI	. 5	. 5719721EE	. 27. E9 1522	MM22	. 8. E9E8MEV	. 8259MM5M8	. E. 2985. 8.
YR	7.	. E89 2333	178. 239. 322	MM22	. 81918VV1	. E7921857	. 789M2131
F0	75	. EV897521E	. 538195322	. 922	. 5879. 2V.	. E73922778	. E7E983V5
K	3V	. EV39EEEE	777. E95522	39/22	. 81M5M EV	. E. 8953E1M	. E379. 11E
h O	. M	. 51797718	82M759 8322	39E22	. 82291285	. 5389/21M2	. E28973. 8
h N	77	. E59M M88	7317V98222	E922	. 819MEEM	. 519E131V	. M9E1M8.
NA	. 3	. 5E797157	. . 31. 59E8522	MM22	. 8V1983353	. 57M9IMM12	. EWM9155M
/ S	M5	. EM9 . 3M8	. M297522	79/22	. 5. 98M12	. 5MM 3V7	. ME91E. 3V
b	71	. E89 E7E5	1. EVW79E322	. 9/22	. 5E9221E7	. E89MEE8	. E29 V8E8
GE-1	5.	E82839 M222	292222	2922	E8VE5912222	E85359M1222	EE7M79 1222
YA	MM	. E819 . 225	32. 2973522	89/22	. 87891M2. M	. M M9V1VW	. 5E19M 5V8
IN-1	117	. 1VM79V222	292222	2922	. 1M8M83222	. . 1. 597222 795V222
AO	125	. E9M 7E	38V5. 9 E522	29 22	. E9258EE	. E927V7M	. 79/8VM8
AG	57	. E. 9M7VW	1VM5. 9V522	19/22	. E59EM8E	. 7V9/725M	. E197. . 37
CA	135	. 7898E1E	. V7789M522	. 9E22	. E39M53V	. 729V15V	. E295EV31
YD	111	. E9. . E7	37V797522	39E22	. 5951M5V	. 791725	. E9/3812
Y6	7V	. 759E3175	31V12195522	19E22	. E. 9VE28	. 7E9V371	. 7M9 2711
YU	E3	. E29M5E7	. EE7819/7522	. 9M22	. E59E3E7	. 789 12VE	. 7E9 E83M
h 6	V8	. 597MM12	1V81. 971522	. 9122	. 892377M	. 59EV218	. E9/2E78
NS	E2	. 789VM8E	V27M19 7522	39122	. E89152EE	. 779M2. 5E	. 739M111E
GC	1. 1	. E9EV72	V3V29V322	. 9722	. E9E3811	. 59E. 821	. E9M 38
GN	1. 2	. E95M85	1285V91V222	E922	. 59875VE	. ME511M	. 595277.
GR	88	. E9 8V. 3	7M819M822	89/22	. 79M58V3	. M9MMME	. 89/3V32
ZN	EE	. E29777MM	. 7MM7913222	1922	. 789M511	. 7V9 73E7	. E397E77E
BI-1	. 2V	V. 5VM9. 222	292222	2922	V1E729M1222	V12839EE222	V7EM89 V222
k C	. 28	. E953378	12E. 8V93222	M922	. 59113V	. 59M518V	. 79M15ME
/ I	. 23	. E9/1M7E	3323895222	. 9122	. E9V. M8M	. 59ME75E	. E97312
U	. 38	. 79E8388	115V779EM222	3922	. 79/73M8	. E9 8711	. M81311
TB-1	17V	11M1319EM522	292222	2922	11M23598222	11351MM 222	11MEM 9EM222

Run Name: 183312E027
 / uPe NumPec: . E
 Gampe NumPec: CCB

Date/ time: 114 54 218 13:77:37

Ndte: All Analyte values are in ppP, except Internal Standard s, Y, k, G and YI are in (dunits pecse)(dnf 9

Element	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	1581. 9M 322	202222	2022	18. 839 8222	1535101222	1558. 9 8222
Al	. 5	2022. V	7303322	E1. 9 22	. 9 M88	2027. MM	-19021ME
YR	7.	29M7V38	7V308322	V9 22	29M. . 5	29MME1	29051. 8
F0	75	301EM	12201222	73022	M0M0V7	3051V.	19033E
K	3V	-329 3225	78. 891E222	2022	-E20M0V	-3. 05M02	. 9M058
h O	. M	502V58	35203222	EV9122	1. 028. 1	305732	791M78M
h N	77	20V. 1V	E303522	. E2022	207777	203EM	-29117M2
NA	. 3	1M05V7M	M0839/2222	12E022	1E0V. . V	. 89/8. V8	-19/3EE7
/ S	M0	20. MM	E0E522	3779 22	1E757V	-20M13V	-20M13V
b	71	-20M172	202222	2022	-20M172	-20M172	-20M172
GE-1	5.	E825E9M 322	202222	2022	EEE779E222	EV7V19 1222	E5V8. 912222
YA	MM	-E9ME871	. 202222	2022	. 07573	-. M087. 8	. 0. . . 2
IN-1	117	. 18M09 M222	202222	2022	. 12830E5222	. 1ME703222	. . V705. 222
AO	125	202M72	3202222	1E. 022	202727	202117.	-20232E
AG	57	291. 153	1ME0522	1. 5022	29. 5. 3	291VM13	-207E1E
CA	135	202123	E0E522	12. M09/22	291. . 37	-207VEM	-207VEM
YD	111	202222	202222	2022	202222	202222	202222
Y6	7V	-202788	3202222	2022	-2022M0M	-2021377	202225E
YU	E3	20V. ME	3530E222	137022	29 22M0	291. 18E	-20MM.
h 6	V8	29155V	1E201222	E1022	2912. 7.	291. 8M	202323
NS	E2	20V5V2	1. E0E5322	1M0022	29 37V3	2912V8E	-207. 28
GC	1. 1	29M 385	15201322	. 5022	2077V27	20M 7E	20EVV
GN	1. 2	-29M13MM	3839M1322	2022	-20E7231	-20ME37	-29 M0EM
GR	88	-201E. 7	303322	2022	202153V	-203328	-203328
ZN	EE	2915217	1E0E522	3. 022	2912E3V	29 28V	291V728
BI-1	. 2V	V157V07222	202222	2022	V2V230E7222	V2V539/3222	V3M2105222
k C	. 28	-20. . 28	1E30M222	2022	-2021M0M	-20. 553	-20. 3EE
/ I	. 23	2028. E	1303322	17M022	-202. 57	20. . 15	20273M
U	. 38	-202258	E0E522	2022	-202. . M	-20222.	-202228
TB-1	17V	113EV291. 322	202222	2022	1111. . 05222	11. E3. 05222	11531703222

Run Name: 183312E027
 / uPe NumPec: . 5
 Gample NumPec: 9876338

Date4 ime: 114 54 218 13:75:. 1
 Cat(o: 1832E12E3V2. A
 Ylass: UK *****

Initial bdl: 72922

Final bdl: 72922

DF: 1922

k dtd(dl: D6 D-UM

Ndte: All Analyte values are in ppP, ex(ept Stenal Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
Olment	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	#1	#.	#3
SC-1	M7	15. . 19V522	292222	2922	1E7529. 222	15. 2198222	158V. 9M222
AI	. 5	8779M7. . M	EM189M7522	79522	8VE9MIE28	8219MM7MM	8E89M7. 1
YR	7.	V9MM V	78289 M822	79822	V953M58	895812V	V971522
F0	75	58EV9152.	5VE859M522	39822	8. 2M58E22	55E. 953E71	5EM29M 87E
K	3V	. 7. . 29M25. 7	ME82. 59. 222	39V22	. E2E. 9VE8V1	. 7M789/271E	. M13V9M5EE
h O	. M	5285897. V32	. 2V71M892322	M522	5M2M89 152M	5117E9E85.	E5M8797. 17
h N	77	. MM197MM 5	M87. . M8E522	39722	. 7. E9E2215	. MM9MM2E7	. 37397V1V8
NA	. 3	V551E915M7E	E3E2. 11917522	M922	121M7897E3E1	V5V85987757	V352. 9E2M8.
/ S	M5	M591VW8	M72923222	. 19E22	M. 9EEV37	M293117	789VMM7
b	71	. 91V5. 5	127E95E522	379E22	. 9M838	39M7. M	197231V
GE-1	5.	E788V92522	292222	2922	E717V983222	EE. 239 5222	EE3239/. 222
YA	MM	8. M1M9 5M8M	8V2EV98V322	. 9E22	8M87597E. 37	8257295. 7. 5	81E3M73E88
IN-1	117	. . 3V89M2222	292222	2922	. 312397. 222	. 11M891. 222	. . VM897E222
AO	125	293EV.	1M7291E222	V922	29853M7	1923. . 5	29/2723
AG	57	11921ME7	83E952222	89822	129E3VM6	1. 977M12	12987235
CA	135	V8M9/3V. 1	11M5V597322	79M22	VM19 M123	12MM5327.	VE898ME2V
YD	111	. 92M/37	. 82921222	179E22	. 9 EE5M	. 91V8. 5	19E8323
Y6	7V	M73778	75589 M822	7922	M9M5. E7	M8M7. 3	M58887
YU	E3	559E. 522	8123V9M1222	59 22	5MB. V3M	8M2M8V7	5M72. 5.
h 6	V8	5978V22	77V19M5522	79722	598E535	595V1. 8	591283M
NS	E2	11912V53	M27M91E522	E9822	129 7M2E	119M28. 3	119EEEV2
GC	1. 1	M91. 132	1M/291E322	. 9822	M9 12E3	M91E2EM	39V. E.
GN	1. 2	39E3E83	1V839E7522	119822	3983858	M91. 5. 2	39MM72
GR	88	. 5MM2. 73	75E8V9/3222	M9E22	. E. 98287	. 8598VM11	. 5393. E3
ZN	EE	339/7E5V	33839/M822	59822	31925317	3E9 8832	3M728V.
BI-1	. 2V	V27. V972322	292222	2922	V. EVE9M222	V287297V222	882M198222
k C	. 28	E9. 3V5	. M5329V222	19M22	E9 31. 8	E9833M	E9M25. 1
/ I	. 23	1978E7	1. 5291M822	89 22	29/7VM1	191. 23V	19VE1M
U	. 38	. 977M8V	11MME9M522	89M22	. 98ME8	. 98MM2	. 95V778
TB-1	17V	111812971222	292222	2922	1113539EE222	12V3E79E2222	11MEV. 9 5222

Run Name: 183312E027
 / uPe NumPec: . 8
 Gample NumPec: 9876333

Date4 ime: 114 54 218 13:7V:2E
 Cat(o: 1832E12E3V2. A
 Ylass: *****

Initial bdl: 7292

Final bdl: 7292

DF: 192

k dtd(dl: D6 D-UM

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

					INTEGRATIONS		
Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk G h 0AN	%RGD	#1	#.	#3
SC-1	M7	15V. 9E7322	292222	2922	182. . 957222	15V2. 9M1222	1827. 982222
AI	. 5	. E19E7V82	. 28E9M222	129822	. M89VM7	. VM8E3E8	. M69. 255
YR	7.	7938V5	3V1291222	V922	79VM5E	E9MM123	79M5E1.
F0	75	18VM97. E2	. 211. 9M2322	7922	18279537. 7	18E595M8M	. 2129 M552
K	3V	31. 3V9. 153	E2MEVE58522	19122	312379. 5E1	31E3M9MVE5	312ME985V.
h O	. M	3M223937M2	1271M839/5222	29E22	338M89. 11.	33V779/722M	3M 11983723
h N	77	M7591752	V72379. 222	29522	ME29ME2E	M7E952EE	M7M1823V
NA	. 3	7V3. . 92858	M27E32V953222	29522	78V729. 32E	7V5V. 97. V1.	7V. . M15M17
/ S	M6	E95817	5292322	7ME22	3951M85	129885VE	7953. 13
b	71	. 9E7M8M	13339M5322	11922	. 9ME2EM	3927E7	. 9ME5M
GE-1	5.	E513792322	292222	2922	EV5M19E2222	E75. 19M 222	E7VM89M/222
YA	MM	. 3EV8M87122	. E25EV912322	39 22	. . 812198EE83	. M1287915E5E	. M15E592VM1
IN-1	117	. . 27V9M222	292222	2922	. . 1M29E7222	. . E5393222	. 13EM2M222
AO	125	291253E	1839M622	789122	29V2. .	2927735	2915E72
AG	57	. 9 383V	15. 9EE522	1E9322	1981832	. 9M 523	. 9MEV8M
CA	135	11. 19177M2	1. 887M21522	. 922	111E9VM81	12V7958V3	11719 V. V5
YD	111	29M2238	7M2222	139522	29M222	29M572	29M13EM
Y6	7V	79127MM	E3V89E522	79822	79V527	79131E	M82E11
YU	E3	1M9M115V	172879. 322	19M22	1ME3MIM	1M832V	1M9 52. M
h 6	V8	119 3E28	813E9E522	89/22	1. 91E235	12915M6.	119531E
NS	E2	389/E2E3	135559E522	29822	3V92. 87	389/. 55M	389E7132
GC	1. 1	39M25E7	1. 1E95V522	79122	39M8E52	39 285E	397. 5M8
GN	1. 2	M6. E2V	. 382917522	7V922	595E2E	. 975EV2	395. 731
GR	88	1M29M28V2	. V8M7V98222	. 9822	1M8. 91553.	1M2M71. M7	1M8M73EV3
ZN	EE	1519M1E3	1EV119M 222	19122	15. 9EM85M	1EV95E. M	1539M7M1
BI-1	. 2V	V. M7591V322	292222	2922	V1872917222	V. E5E987222	V. 8M798222
k C	. 28	V9E17. .	38. 589/8522	19 22	V95233M	V9E7M E	V9M8827
/ I	. 23	2923735	ME9E5222	859 22	29. 1VM	2952E7	2921373
U	. 38	19E7772	578V9ME522	. 9M22	19E38E8	19E. E. .	19521E1
TB-1	17V	113. . 39M822	292222	2922	11. E5M22222	11. 3V39. 222	11ME2. 981222

Run Name: 183312E027
 / uPe NumPec . V
 Gampe NumPec CCV

Date4 ime: 114 54 218 1M22:7.

Ndte: All Analyte values are in ppP, ex(ept Stental Ganf ad s, Y, k, Ganf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M7	1875E9/2522	2Q2222	2Q22	1V2. M85222	18733973222	1815. 9. 222
AI	. 5	. E829/M2M	. 1E219 M522	39722	. 58E9 8. V3	. EM593M2E	. E25973213
YR	7.	. 779E537E	1E. 8119E322	19722	. 739 V. 81	. 739M885	. E29 . V21
F0	75	. 7M8938V8	. 587395322	19822	. MV9 1EVV	. 7889722VM	. 7M89MV21
K	3V	. 7719 M831	7512E92522	39E22	. 71V95173.	. M5V97. 87	. E7M9E5E55
h O	. M	. E2. 9M58. 8	83. 2V9EV522	. 9822	. 73MMME8	. E389M 2. 7	. E3M9715V1
h N	77	. 7M83. 33	7M78297M822	39/22	. M895M2V	. 77973V3	. E39E8VW
NA	. 3	. 785913. .	. . 83E89E222	. 9/22	. 7229/7513	. E. 29 M EE	. EM29VE8E
/ S	M6	. MM91575M	. M85921322	59722	. E29/E8V2	. . MMMEEM	. M69E1E5
b	71	. 789VEM8	13. 3329 7222	29522	. 759E388M	. E193. 31	. 789818. 8
GE-1	5.	525839M 322	2Q2222	2Q22	51. 2V9 2222	5. 7M797222	E87V79 . 222
YA	MM	. M59ME5E3	. V. 398. 222	129/22	. EV29 788E	. 18E9 E. V3	. E1798112
IN-1	117	. . M73973522	2Q2222	2Q22	. 3211987222	. . 3MM95. 222	. 1VV97M222
AO	125	. 798E813	388. 792V322	39M22	. M85M8V	. 792E1E21	. E89MM2
AG	57	. 7V97M83.	1VEE592M822	. 9/22	. 719E3538	. E29 2M61	. EE92. 88
CA	135	. 719M1. M1	. VM819M2322	29122	. 719M5V7	. 719EE372	. 7191. 758
YD	111	. E9 V712	3E259 2322	19122	. E922M 5	. E9 V28.	. E97V2. 1
Y6	7V	. 7E9818.	3. M679E3322	. 9122	. 729EE31M	. 7E9E2E3	. E197. 1EV
YU	E3	. 759MM 8	. EV. 839M7322	. 9 22	. 719M5V. E	. 78918385	. E. 9EEV5.
h 6	V8	. E9. . 35	1V351973522	. 9E22	. 79/5. VV	. 799VM8	. 592V52
NS	E2	. 7V92M118	V. E7V95522	. 9122	. 7. 9572M8	. E. 9M81EM	. E198V1M6
GC	1. 1	. 798E88	V2529 V322	E922	. 3987327	. 79M2E8V	. E9/2251
GN	1. 2	. E987VM	1285. 911222	19122	. 795E88E	. E91M 77	. E89MEM2
GR	88	. 791278E	7. V8923222	89722	. . 9/25EM	. 79 735M	. 5917E1V
ZN	EE	. EV95VV.	. EV189 3522	MM22	. 759M2288	. E895M812	. 819V75V
BI-1	. 2V	V33V59M2322	2Q2222	2Q22	V3. 589E7222	VM2M79EE222	V. 8E59/2222
k C	. 28	. E9178M	12M6E29 1222	19M22	. 7988322	. E9933E1	. E9788M
/ I	. 23	. E9M8V. 7	3. E559EE222	29722	. E9 838V	. E97. 23.	. E971377
U	. 38	. 791M7V3	11E. V5983322	29822	. 79 32V.	. 792VM85	. 7911. 2.
TB-1	17V	11M51V983322	2Q2222	2Q22	11M53. 9M 222	11MM 98E222	11M/8M5. 222

Run Name: 183312E027
/ uPe NumPec 32
Gample NumPec CCB

Date4 ime: 114 54 218 1M2. :3V

Ndte: All Analyte values are in ppP, ex(ept Stental Gtanf ad s, Y, k, G anf YI are in (dunts pecse(dnf 9

Olement	h AGG	Y6 NY9h 0AN)ppPv	Yk Gh 0AN	%RGD	INTEGRATIONS		
					#1	#.	#3
SC-1	M	18V739/7222	2Q2222	2Q22	1V38ME5222	1VEM7Q1222	1583. 915222
AI	. 5	-19 3138	M883322	2Q22	2977MI7	-79M 7M	19155. 1
YR	7.	29M552	E12Q7322	829/22	29 288.	29 785M	29M77.
F0	75	-1Q3VE2	72Q2222	2Q22	- . 5288E	-3Q. 2V7	19M122
K	3V	-779. 723	7521973522	2Q22	-7198325	-E3Q2EE8	-729873M
h O	. M	39ME8E1	. 5397222	57922	M22EVM	2Q. 85.	7955217
h N	77	2QE7V1	E2Q2322	. 129722	-2Q3MI.	2Q257V	29 . M E
NA	. 3	- . 89 . 2. 1	ME57V57222	2Q22	-3V9/2V25	-7E97VVM	1. Q283V
/ S	M6	29VE1V3	13983322	115522	-29MI3V	1971V23	15281E
b	71	2Q1225	. E9EE522	. V. 922	2Q3373	-2Q. . VV	2Q1VE8
GE-1	5.	EV8MM9 8222	2Q2222	2Q22	51E52982222	E8M2E91222	EV61Q3222
YA	MM	129 VV1	M2Q2222	839722	V9MM8V	. 9177ME	1V9 VV35
IN-1	117	. 3EE39/2522	2Q2222	2Q22	. 318M71222	. M 1V9M1222	. 378592222
AO	125	-2Q2331	. 2Q2222	2Q22	-2Q2315	-2Q21783	2Q2V2E
AG	57	2QE275	11983322	E59/22	2QVEV8	2Q217VM	2QE882
CA	135	2Q. 257	12Q2222	381922	2Q. 311	2QV85V	-2Q7VEM
YD	111	2Q2V. 7	1983322	1539 22	2Q2222	2Q2222	2Q. 557
Y6	7V	2Q2V5V	73983322	8. 922	2Q22271	2Q2138M	2Q1721
YU	E3	2Q1M5E	3. 3987322	. M89E22	2Q2182M	2QM5.	-2Q. 3ME
h 6	V8	2QE7E.	839M22	MM9 22	2Q8V3V	2Q33. 8	2Q5M18
NS	E2	29MEV7	17E9E5522	5V9 22	29 5131	2QM2EE	29. 88V
GC	1. 1	29M825	1V2Q1322	E39722	29 8ME	29 EV85	297V38
GN	1. 2	29M837	5. 59E1322	73. 9722	-29V. 11	-29E32MI	. 9M7. 75
GR	88	-2Q3328	2Q2222	2Q22	-2Q3328	-2Q3328	-2Q3328
ZN	EE	2Q3. . 7	3983322	1539 22	2QVE57	2Q2222	2Q2222
BI-1	. 2V	V. 1E79E7322	2Q2222	2Q22	VM 25987222	V21759/. 222	V. 1319EV222
k C	. 28	-2Q17M8	1V2Q2322	2Q22	-2Q1M28	-2Q2V. 7	-2Q. 311
/ I	. 23	2Q3755	ME9EE522	7M9M22	2Q21332	2QM577	2QM5M5
U	. 38	2Q121V	7E9EE522	1M522	2Q228M8	2Q11. 2	2Q12V1
TB-1	17V	11M17M5322	2Q2222	2Q22	11M5V79E222	11. 5239/. 222	11ME39EM222

US EPA Tune Check Report

Operator Name US19_USR_INS14259
Acq/Data Batch C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b
Acq. Date-Time 11/26/2018 3:46:25 PM
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

[No Gas]

Sensitivity

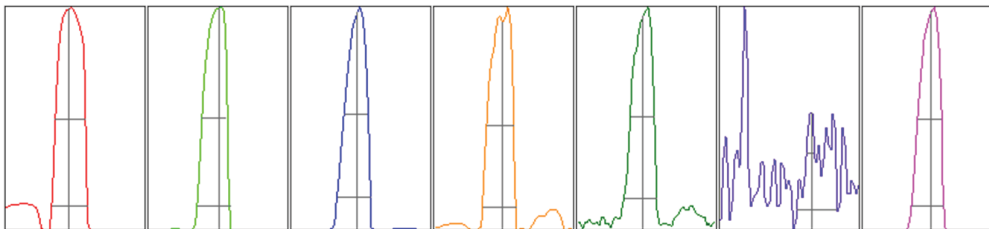
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1468	14678.76			0.784	5.000
89	10.00	7562	75615.03			1.241	5.000
205	10.00	3092	30919.45			1.405	5.000
70	1.00	94	939.01	0.00		5.420	
156	1.00	17	170.61	0.00		3.739	
220	1.00	1	14.80	0.00		12.321	
140	10.00	6320	63201.27	0.00		0.381	

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	1482	1476	1460	1468	1454
89	7713	7578	7535	7465	7517
205	3167	3090	3074	3069	3059
70	93	90	93	103	91
156	17	17	16	17	18
220	2	1	2	2	1
140	6344	6307	6349	6301	6300

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2325.49	6.90	6.90 - 7.10	
89	14273.28	89.05	88.90 - 89.10	
205	6073.86	204.95	204.90 - 205.10	
70	162.32	70.00	-	
156	32.70	155.95	-	
220	2.20	220.50	-	
140	12781.92	140.00	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.65	0.763	0.800	
89	0.55	0.705	0.800	
205	0.51	0.709	0.800	
70	0.58	0.718		
156	0.51	0.704		
220	0.17	0.886		
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	8.8 V	Deflect	14.6 V
Extract 2	-160.0 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	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9989	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	-0.01		

Hardware Settings

Torch

Torch H	1.1 mm	Torch V	-1.3 mm
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EM

Discriminator	4.5 mV	Analog HV	1748 V	Pulse HV	1264 V
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Mercury Data

Metals in Liquid



Mercury Run Data Report

Analyst Employee ID:

354

Data File Name: 1830901.M07

Run Name: 1830901M07

Instrument No.: 17384

Element: Hg

Reviewed By
Damary ValentinReviewed Date
11/05/2018 12:24PMMethod Reference Name(s):
SW-846 7470AVerified By:
Tara L SnyderVerified Date
11/08/2018 2:50PM

LANCASTER LABORATORIES

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

1

Burn Date/Time: 11/05/2018 06:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00
AVG (ppb)		Intensity		
0.0000		239.0		

2

Burn Date/Time: 11/05/2018 06:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00
AVG (ppb)		Intensity		
0.0000		1627.0		

3

Burn Date/Time: 11/05/2018 06:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00
AVG (ppb)		Intensity		
0.0000		3521.0		

4

Burn Date/Time: 11/05/2018 06:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00
AVG (ppb)		Intensity		
0.0000		6461.0		

5

Burn Date/Time: 11/05/2018 06:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00
AVG (ppb)		Intensity		
0.0000		16001.0		

6

Burn Date/Time: 11/05/2018 06:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00
AVG (ppb)		Intensity		
0.0000		31027.0		

CorrelationCoefficient = 1.00000
Slope = 6152.3255000000
Y-Intercept = 379.1009000000

LANCASTER LABORATORIES

Page 3 of 24

Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

7

Burn Date/Time: 11/05/2018 06:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00
AVG (ppb)		Intensity		
2.3848		15052.0		

8

Burn Date/Time: 11/05/2018 06:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00
AVG (ppb)		Intensity		
-0.0572		26.0		

9

Burn Date/Time: 11/05/2018 06:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00
AVG (ppb)		Intensity		
0.1861		1523.0		

10

Burn Date/Time: 11/05/2018 06:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00
AVG (ppb)		Intensity		
0.9964		6509.0		

11

Burn Date/Time: 11/05/2018 06:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00
AVG (ppb)		Intensity		
-0.0391		137.0		

12

Burn Date/Time: 11/05/2018 06:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	*****	40	40	1.00	183050571303
V					Re-read
					Re-digest
AVG (ppb)		Intensity			
0.0062		416.0			

LANCASTER LABORATORIES

Page 4 of 24

Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

13

Burn Date/Time: 11/05/2018 06:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	*****	1	1	1.00	183050571303
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9083	5967.0			

14

Burn Date/Time: 11/05/2018 06:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876759	U*****	40	40	1.00	183050571303
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0481	82.0			

15

Burn Date/Time: 11/05/2018 06:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876759	D*****	40	40	1.00	183050571303
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0442	106.0			

16

Burn Date/Time: 11/05/2018 06:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876759	R*****	40	40	1.00	183050571303
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9371	6144.0			

17

Burn Date/Time: 11/05/2018 06:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876759	M*****	40	40	1.00	183050571303
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9192	6034.0			

18

Burn Date/Time: 11/05/2018 07:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876525	*****	40	40	1.00	183050571303
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0529	52.0			

LANCASTER LABORATORIES

Page 5 of 24

Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

19		Burn Date/Time: 11/05/2018 07:02				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876757	*****	40	40	1.00	183050571303	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0448	102.0				

20		Burn Date/Time: 11/05/2018 07:04				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
PBW	*****	40	40	1.00	183050571304	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0453	99.0				

21		Burn Date/Time: 11/05/2018 07:06				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
LCSW	*****	1	1	1.00	183050571304	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.8955	5888.0				

22		Burn Date/Time: 11/05/2018 07:08				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF		
CCV 2		1	1	1.00		
	AVG (ppb)	Intensity				
	0.9553	6256.0				

23		Burn Date/Time: 11/05/2018 07:10				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF		
CCB 2		1	1	1.00		
	AVG (ppb)	Intensity				
	-0.0408	127.0				

24		Burn Date/Time: 11/05/2018 07:12				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9874792	U*****	40	40	1.00	183050571304	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0354	160.0				

LANCASTER LABORATORIES

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

25

Burn Date/Time: 11/05/2018 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874792	D*****	40	40	1.00	183050571304
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0325	178.0			

26

Burn Date/Time: 11/05/2018 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874792	R*****	40	40	1.00	183050571304
V	AVG (ppb)	Intensity			Re-read Re-digest
	0.9357	6135.0			

27

Burn Date/Time: 11/05/2018 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874792	M*****	40	40	1.00	183050571304
V	AVG (ppb)	Intensity			Re-read Re-digest
	0.8976	5901.0			

28

Burn Date/Time: 11/05/2018 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9874791	*****	40	40	1.00	183050571304
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0469	89.0			

29

Burn Date/Time: 11/05/2018 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	*****	40	40	1.00	183060571304
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0598	10.0			

30

Burn Date/Time: 11/05/2018 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	*****	1	1	1.00	183060571304
V	AVG (ppb)	Intensity			Re-read Re-digest
	0.8986	5907.0			

LANCASTER LABORATORIES

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

<div>31</div>		Burn Date/Time: 11/05/2018 07:27			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877492	U*****	40	40	1.00	183060571304
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0630	-10.0			

<div>32</div>		Burn Date/Time: 11/05/2018 07:29			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877492	D*****	40	40	1.00	183060571304
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0580	21.0			

<div>33</div>		Burn Date/Time: 11/05/2018 07:31			
<u>Sample Number</u>	<u>Class</u>	<u>Initial Vol / Wt</u>	<u>Final Vol</u>	<u>DF</u>	<u>Batch Number</u>
9877492	R*****	40	40	1.00	183060571304
<u>V</u>	<u>AVG (ppb)</u>	<u>Intensity</u>	<u>Re-read</u> <u>Re-digest</u>		
	0.9116	5987.0			

<div>34</div>		Burn Date/Time: 11/05/2018 07:33		
<div>Sample Number</div>	<div>Class</div>	<div>Initial Vol / Wt</div>	<div>Final Vol</div>	<div>DF</div>
CCV 3		1	1	1.00
<div>AVG (ppb)</div>		<div>Intensity</div>		
0.9599		6284.0		

<div>35</div>		Burn Date/Time: 11/05/2018 07:35		
Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00
AVG (ppb)		Intensity		
-0.0438		108.0		

<div>36</div>		Burn Date/Time: 11/05/2018 07:37			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877492	M*****	40	40	1.00	183060571304
V	AVG (ppb)	Intensity	Re-read Re-digest		
	0.8975	5900.0			

LANCASTER LABORATORIES

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

37		Burn Date/Time: 11/05/2018 07:39				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9879265	*****	40	40	1.00	183060571304	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0637	-14.0				

38		Burn Date/Time: 11/05/2018 07:41				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
PBW	*****	40	40	1.00	183050571305	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.1203	1118.0				

39		Burn Date/Time: 11/05/2018 07:43				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
LCSW	*****	1	1	1.00	183050571305	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	1.0753	6994.0				

40		Burn Date/Time: 11/05/2018 07:45				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876334	U*****	40	40	1.00	183050571305	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.0777	856.0				

41		Burn Date/Time: 11/05/2018 07:47				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876337	D*****	40	40	1.00	183050571305	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.0800	870.0				

42		Burn Date/Time: 11/05/2018 07:49				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876335	R*****	40	40	1.00	183050571305	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	1.0603	6902.0				

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

43

Burn Date/Time: 11/05/2018 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876336	M*****	40	40	1.00	183050571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	1.0631	6919.0			

44

Burn Date/Time: 11/05/2018 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876332	*****	40	40	1.00	183050571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	0.1468	1281.0			

45

Burn Date/Time: 11/05/2018 07:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876342	*****	40	40	1.00	183050571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	0.0772	853.0			

46

Burn Date/Time: 11/05/2018 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00
	AVG (ppb)	Intensity		
	0.9634	6306.0		

47

Burn Date/Time: 11/05/2018 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0286	202.0		

48

Burn Date/Time: 11/05/2018 08:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	*****	40	40	1.00	183050571306
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0442	106.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

49		Burn Date/Time: 11/05/2018 08:03				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
LCSW	*****	1	1	1.00	183050571306	
V	AVG (ppb)	Intensity			Re-read	Re-digest
	0.8968	5896.0				

50		Burn Date/Time: 11/05/2018 08:05				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876338	U*****	40	40	1.00	183050571306	
V	AVG (ppb)	Intensity			Re-read	Re-digest
	-0.0494	74.0				

51		Burn Date/Time: 11/05/2018 08:07				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876341	D*****	40	40	1.00	183050571306	
V	AVG (ppb)	Intensity			Re-read	Re-digest
	-0.0440	107.0				

52		Burn Date/Time: 11/05/2018 08:09				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876339	R*****	40	40	1.00	183050571306	
V	AVG (ppb)	Intensity			Re-read	Re-digest
	0.9324	6115.0				

53		Burn Date/Time: 11/05/2018 08:11				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876340	M*****	40	40	1.00	183050571306	
V	AVG (ppb)	Intensity			Re-read	Re-digest
	0.9119	5989.0				

54		Burn Date/Time: 11/05/2018 08:13				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9876333	*****	40	40	1.00	183050571306	
V	AVG (ppb)	Intensity			Re-read	Re-digest
	-0.0251	223.0				

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

<div>55</div>		Burn Date/Time: 11/05/2018 08:15			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	*****	1	40	1.00	183060571301
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0599	9.0			

<div>56</div>		Burn Date/Time: 11/05/2018 08:17			
<div>Sample Number</div>	<div>Class</div>	<div>Initial Vol / Wt</div>	<div>Final Vol</div>	<div>DF</div>	<div>Batch Number</div>
LCSW	*****	1	1	1.00	183060571301
<div>V</div>	<div>AVG (ppb)</div>	<div>Intensity</div>	<div>Re-read</div> <div>Re-digest</div>		
	0.7821	5190.0			

<div>57</div>		Burn Date/Time: 11/05/2018 08:19			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9868681	U*****	1	40	1.04	183060571301
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0612	1.0			

<div>58</div>		Burn Date/Time: 11/05/2018 08:21		
Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00
AVG (ppb)		Intensity		
0.9643		6311.0		

<div>59</div>		Burn Date/Time: 11/05/2018 08:23		
Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00
AVG (ppb)		Intensity		
-0.0284		203.0		

<div>60</div>		Burn Date/Time: 11/05/2018 08:25			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9868681	D*****	1	40	1.04	183060571301
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0551	39.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

61		Burn Date/Time: 11/05/2018 08:28				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9868681	R*****	1	40	1.04	183060571301	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.8702	5732.0				

62		Burn Date/Time: 11/05/2018 08:30				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9868681	M*****	1	40	1.04	183060571301	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.8689	5724.0				

63		Burn Date/Time: 11/05/2018 08:32				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9874094	*****	1	40	1.04	183060571301	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0671	-35.0				

64		Burn Date/Time: 11/05/2018 08:34				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
PBW	*****	40	40	1.00	183060571302	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0492	75.0				

65		Burn Date/Time: 11/05/2018 08:36				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
LCSW	*****	1	1	1.00	183060571302	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.9717	6357.0				

66		Burn Date/Time: 11/05/2018 08:38				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9874857	U*****	40	40	1.00	183060571302	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.0295	559.0				

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

67		Burn Date/Time: 11/05/2018 08:40				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9874857	D*****	40	40	1.00	183060571302	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.0358	598.0				

68		Burn Date/Time: 11/05/2018 08:42				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9874857	R*****	4	40	1.00	183060571302	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	1.6652	10624.0				

69		Burn Date/Time: 11/05/2018 08:44				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9874857	M*****	4	40	1.00	183060571302	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	1.7466	11125.0				

70		Burn Date/Time: 11/05/2018 08:46				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF		
CCV 6		1	1	1.00		
	AVG (ppb)	Intensity				
	0.9500	6223.0				

71		Burn Date/Time: 11/05/2018 08:48				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF		
CCB 6		1	1	1.00		
	AVG (ppb)	Intensity				
	-0.0323	179.0				

72		Burn Date/Time: 11/05/2018 08:50				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9868545	*****	40	40	1.00	183060571302	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	0.0208	506.0				

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

<div>73</div>		Burn Date/Time: 11/05/2018 08:52			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9873558	*****	40	40	1.00	183060571302
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0186	263.0			

<div>74</div>		Burn Date/Time: 11/05/2018 08:54			
<u>Sample Number</u>	<u>Class</u>	<u>Initial Vol / Wt</u>	<u>Final Vol</u>	<u>DF</u>	<u>Batch Number</u>
9873560	U*1*****	40	40	1.00	183060571302
<u>V</u>	<u>AVG (ppb)</u>	<u>Intensity</u>	<u>Re-read</u> <u>Re-digest</u>		
	-0.0255	221.0			

<div>75</div>		Burn Date/Time: 11/05/2018 08:56			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9873560	R*1*****	4	40	1.00	183060571302
V	AVG (ppb)	Intensity	Re-read Re-digest		
	1.6046	10251.0			

<div>76</div>		Burn Date/Time: 11/05/2018 08:58			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9873561	*****	40	40	1.00	183060571302
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0237	232.0			

<div>77</div>		Burn Date/Time: 11/05/2018 09:00			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9875180	*****	40	40	1.00	183060571302
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0570	27.0			

<div>78</div>		Burn Date/Time: 11/05/2018 09:02			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9875886	*****	40	40	1.00	183060571302
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0533	50.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

<div>79</div>		Burn Date/Time: 11/05/2018 09:04			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9876447	*****	40	40	1.00	183060571302
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0541	45.0			

<div>80</div>		Burn Date/Time: 11/05/2018 09:06			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878991	*****	40	40	1.00	183060571302
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0547	41.0			

<div>81</div>		Burn Date/Time: 11/05/2018 09:08			
<div>Sample Number</div>	<div>Class</div>	<div>Initial Vol / Wt</div>	<div>Final Vol</div>	<div>DF</div>	<div>Batch Number</div>
PBW	*****	40	40	1.00	183060571303
<div>V</div>	<div>AVG (ppb)</div>	<div>Intensity</div>			<div>Re-read</div> <div>Re-digest</div>
	-0.0482	81.0			

<div>82</div>		Burn Date/Time: 11/05/2018 09:10		
Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00
AVG (ppb)		Intensity		
0.9846		6436.0		

<div>83</div>		Burn Date/Time: 11/05/2018 09:12		
Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00
AVG (ppb)		Intensity		
-0.0300		193.0		

<div>84</div>		Burn Date/Time: 11/05/2018 09:18			
<u>Sample Number</u>	<u>Class</u>	<u>Initial Vol / Wt</u>	<u>Final Vol</u>	<u>DF</u>	<u>Batch Number</u>
LCSW	*****	1	1	1.00	183060571303
<u>V</u>	<u>AVG (ppb)</u>	<u>Intensity</u>	<u>Re-read</u> <u>Re-digest</u>		
	0.9012	5923.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

<div>85</div>		Burn Date/Time: 11/05/2018 09:20			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877423	U*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0601	8.0			

<div>86</div>		Burn Date/Time: 11/05/2018 09:22			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877426	D*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0520	58.0			

<div>87</div>		Burn Date/Time: 11/05/2018 09:24			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877424	R*****	4	40	1.00	183060571303
V	AVG (ppb)	Intensity	Re-read Re-digest		
	1.6519	10542.0			

<div>88</div>		Burn Date/Time: 11/05/2018 09:26			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877425	M*****	4	40	1.00	183060571303
V	AVG (ppb)	Intensity	Re-read Re-digest		
	1.6494	10527.0			

<div>89</div>		Burn Date/Time: 11/05/2018 09:28			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877406	U*1*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity	Re-read Re-digest		
	-0.0671	-35.0			

<div>90</div>		Burn Date/Time: 11/05/2018 09:30			
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877406	R*1*****	4	40	1.00	183060571303
V	AVG (ppb)	Intensity	Re-read Re-digest		
	1.6333	10428.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

91		Burn Date/Time: 11/05/2018 09:32				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9877409	*****	40	40	1.00	183060571303	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0624	-6.0				

92		Burn Date/Time: 11/05/2018 09:34				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9877412	*****	40	40	1.00	183060571303	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0557	35.0				

93		Burn Date/Time: 11/05/2018 09:36				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9877415	*****	40	40	1.00	183060571303	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0529	52.0				

94		Burn Date/Time: 11/05/2018 09:38				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF		
CCV 8		1	1	1.00		
	AVG (ppb)	Intensity				
	0.9480	6211.0				

95		Burn Date/Time: 11/05/2018 09:40				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF		
CCB 8		1	1	1.00		
	AVG (ppb)	Intensity				
	-0.0295	196.0				

96		Burn Date/Time: 11/05/2018 09:42				
Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number	
9877418	*****	40	40	1.00	183060571303	
V	AVG (ppb)	Intensity	Re-read		Re-digest	
	-0.0359	157.0				

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

97

Burn Date/Time: 11/05/2018 09:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877431	*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0477	84.0			

98

Burn Date/Time: 11/05/2018 09:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877434	*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0456	97.0			

99

Burn Date/Time: 11/05/2018 09:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877437	*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0464	92.0			

100

Burn Date/Time: 11/05/2018 09:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877440	*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0417	121.0			

101

Burn Date/Time: 11/05/2018 09:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877443	*****	40	40	1.00	183060571303
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0390	138.0			

102

Burn Date/Time: 11/05/2018 09:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0021	365.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

103

Burn Date/Time: 11/05/2018 09:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	*****	1	1	1.00	183060571305
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9376	6147.0			

104

Burn Date/Time: 11/05/2018 09:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878389	U*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0216	245.0			

105

Burn Date/Time: 11/05/2018 10:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878389	D*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0284	203.0			

106

Burn Date/Time: 11/05/2018 10:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 9		1	1	1.00
	AVG (ppb)	Intensity		
	0.9566	6264.0		

107

Burn Date/Time: 11/05/2018 10:05

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 9		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0307	189.0		

108

Burn Date/Time: 11/05/2018 10:07

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878389	R*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.7008	4690.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

109

Burn Date/Time: 11/05/2018 10:09

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878389	M*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	0.6711	4507.0			

110

Burn Date/Time: 11/05/2018 10:11

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9871677	*****	1	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0646	-20.0			

111

Burn Date/Time: 11/05/2018 10:13

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9877866	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0378	145.0			

112

Burn Date/Time: 11/05/2018 10:15

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878252	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0351	162.0			

113

Burn Date/Time: 11/05/2018 10:17

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878253	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0367	152.0			

114

Burn Date/Time: 11/05/2018 10:19

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878390	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0424	117.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

115

Burn Date/Time: 11/05/2018 10:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878391	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0346	165.0			

116

Burn Date/Time: 11/05/2018 10:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878392	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	0.9075	5962.0			

117

Burn Date/Time: 11/05/2018 10:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9878394	*****	40	40	1.00	183060571305
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0029	360.0			

118

Burn Date/Time: 11/05/2018 10:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 10		1	1	1.00
	AVG (ppb)	Intensity		
	0.9638	6308.0		

119

Burn Date/Time: 11/05/2018 10:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 10		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0308	188.0		

120

Burn Date/Time: 11/05/2018 10:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0047	349.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

121

Burn Date/Time: 11/05/2018 10:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9132	5997.0			

122

Burn Date/Time: 11/05/2018 10:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.8926	5870.0			

123

Burn Date/Time: 11/05/2018 10:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859469	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0705	-56.0			

124

Burn Date/Time: 11/05/2018 10:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859478	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0630	-10.0			

125

Burn Date/Time: 11/05/2018 10:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859481	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0629	-9.0			

126

Burn Date/Time: 11/05/2018 10:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859484	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	-0.0629	-9.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

127

Burn Date/Time: 11/05/2018 10:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859491	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0619	-3.0			

128

Burn Date/Time: 11/05/2018 10:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859494	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0620	-4.0			

129

Burn Date/Time: 11/05/2018 10:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859528	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0627	-8.0			

130

Burn Date/Time: 11/05/2018 10:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 11		1	1	1.00
	AVG (ppb)	Intensity		
	0.9576	6270.0		

131

Burn Date/Time: 11/05/2018 10:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 11		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0299	194.0		

132

Burn Date/Time: 11/05/2018 10:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9859535	*****	1	1	1.00	183060479201
V	AVG (ppb)	Intensity			Re-read Re-digest
	-0.0614	0.0			

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Run Name: 1830901M07

Instrument ID: 17384

Analyst ID: 354.00

CV Element: Hg

133

Burn Date/Time: 11/05/2018 11:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00
AVG (ppb)		Intensity		
0.1749		1454.0		

134

Burn Date/Time: 11/05/2018 11:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 12		1	1	1.00
AVG (ppb)		Intensity		
0.9396		6159.0		

135

Burn Date/Time: 11/05/2018 11:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 12		1	1	1.00
AVG (ppb)		Intensity		
-0.0323		179.0		



Mercury Run Data Report

Analyst Employee ID:	354	Data File Name:	1831094.M97
		Run Name:	183109HM97
		Instrument No.:	H3HB3
		Element:	g h

<u>Re-iev</u> ef / y Damary 2alentin	<u>Re-iev</u> ef Date 11F11P018 H49WM	Metdof Reæren(e Name)sS EWA H45.1 re- 3 6v v040 B4B9A
<u>2eridef</u> / y: Tara L 6nyf er	<u>2eridef</u> Date 11F14P018 7:H0WM	

LANCASTER LABORATORIES

Whe Hoc10

Run Name: 183109HM97

Instrument ID: HB3

Analyst ID: 354.99

C2 Element: gh

1

/ urn DateTime: 11/11/18 97:97

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
69		1	1	1.99
<u>A2 G)ppbS</u>		<u>Intensity</u>		
9.9999		H47.9		

2

/ urn DateTime: 11/11/18 97:11

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
69.H		1	1	1.99
<u>A2 G)ppbS</u>		<u>Intensity</u>		
9.9999		1879.9		

3

/ urn DateTime: 11/11/18 97:13

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
69.5		1	1	1.99
<u>A2 G)ppbS</u>		<u>Intensity</u>		
9.9999		4373.9		

4

/ urn DateTime: 11/11/18 97:15

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
61.9		1	1	1.99
<u>A2 G)ppbS</u>		<u>Intensity</u>		
9.9999		8518.9		

5

/ urn DateTime: 11/11/18 97:1B

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
6H5		1	1	1.99
<u>A2 G)ppbS</u>		<u>Intensity</u>		
9.9999		H374.9		

6

/ urn DateTime: 11/11/18 97:17

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
65.9		1	1	1.99
<u>A2 G)ppbS</u>		<u>Intensity</u>		
9.9999		4934H9		

CorrelationCoefficient = 1.99999
Slope = 8990.H39099999
Yintercept = 354.B140599999

LANCASTER LABORATORIES

Whe 3 oc10

Run Name: 183109HM97

Instrument ID: H3H3

Analyst ID: 354.99

C2 Element: gh

7

/ urn DateTime: 11/11/2018 97:H1

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
IC2		1	1	1.99
A2 G)ppbS		Intensity		
H4104		17B91.9		

8

/ urn DateTime: 11/11/2018 97:H3

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
IC/		1	1	1.99
A2 G)ppbS		Intensity		
0.93B0		53.9		

9

/ urn DateTime: 11/11/2018 97:H5

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CRA		1	1	1.99
A2 G)ppbS		Intensity		
9.18H7		1817.9		

10

/ urn DateTime: 11/11/2018 97:H3

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC2 1		1	1	1.99
A2 G)ppbS		Intensity		
9.7753		83HB.9		

11

/ urn DateTime: 11/11/2018 97:H7

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC/ 1		1	1	1.99
A2 G)ppbS		Intensity		
0.9H19		180.9		

12

/ urn DateTime: 11/11/2018 11:H3

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC2 H		1	1	1.99
A2 G)ppbS		Intensity		
9.7B85		8187.9		

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Whe 4 oc10

Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

13

/ urn DateTime: 11/11/18 11:39

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC/ H		1	1	1.99
	A2 G)ppbS	Intensity		
	0.9114	1B5.9		

14

/ urn DateTime: 11/11/18 11:33

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
W v	*****	49	49	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Rewef Rewihest
	0.9444	1.9			

15

/ urn DateTime: 11/11/18 11:35

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
LC6v	*****	1	1	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Rewef Rewihest
	9.8770	B55B.9			

16

/ urn DateTime: 11/11/18 11:3B

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78B0334	U*****	49	49	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Rewef Rewihest
	0.940B	19.9			

17

/ urn DateTime: 11/11/18 11:37

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78B033B	D*****	49	49	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Rewef Rewihest
	0.9301	05.9			

18

/ urn DateTime: 11/11/18 11:41

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78B0335	R*****	49	49	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Rewef Rewihest
	9.87B0	B541.9			

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Whe 5 oc10

Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

19

/ urn DateTime: 11/11/18 11:43

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78B0330	M*****	49	49	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.8B93	B3H9			

20

/ urn DateTime: 11/11/18 11:45

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78B033H	*****	49	49	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.9H0H	504.9			

21

/ urn DateTime: 11/11/18 11:4B

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78B034H	*****	49	49	1.99	1831395B1391
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.94H1	1B.9			

22

/ urn DateTime: 11/11/18 11:47

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
W v	*****	49	49	1.99	1831395B1394
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9490	H7.9			

23

/ urn DateTime: 11/11/18 11:51

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
LC6v	*****	1	1	1.99	1831395B1394
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.8830	B4H7.9			

24

/ urn DateTime: 11/11/18 11:53

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	
CC2 3		1	1	1.99	
	A2 G)ppbS	Intensity			
	1.9191	844H9			

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Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

25

/ urn DateTime: 11/11/18 11:55

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC/ 3		1	1	1.99
	A2 G)ppbS	Intensity		
	0.91B8	H1H9		

26

/ urn DateTime: 11/11/18 11:56

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7887358	U*****	49	49	1.99	1831395B1394
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9H17	1B7.9			

27

/ urn DateTime: 11/11/18 11:57

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7887301	D*****	49	49	1.99	1831395B1394
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9H11	185.9			

28

/ urn DateTime: 11/11/18 1H91

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7887357	R*****	49	49	1.99	1831395B1394
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.7H85	BB88.9			

29

/ urn DateTime: 11/11/18 1H93

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7887309	M*****	49	49	1.99	1831395B1394
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.719H	B04H9			

30

/ urn DateTime: 11/11/18 1H95

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7887353	*****	49	49	1.99	1831395B1394
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9591	4B.9			

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Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

31		/ urn DateTime: 11/11/18 1H9B				
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number	
7887354	*****	49	49	1.99	1831395B1394	
2	A2 G)ppbS	Intensity			Reweaf	ReWihest
	0.9490	H7.9				

32		/ urn DateTime: 11/11/18 1H97				
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number	
7887355	*****	49	49	1.99	1831395B1394	
2	A2 G)ppbS	Intensity			Reweaf	ReWihest
	0.9415	H1.9				

33		/ urn DateTime: 11/11/18 1H11				
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number	
7887350	*****	49	49	1.99	1831395B1394	
2	A2 G)ppbS	Intensity			Reweaf	ReWihest
	0.949H	3H9				

34		/ urn DateTime: 11/11/18 1H13				
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number	
788735B	*****	49	49	1.99	1831395B1394	
2	A2 G)ppbS	Intensity			Reweaf	ReWihest
	0.949H	3H9				

35		/ urn DateTime: 11/11/18 1H15				
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number	
788730H	*****	49	49	1.99	1831395B1394	
2	A2 G)ppbS	Intensity			Reweaf	ReWihest
	0.9HB3	1HB.9				

36		/ urn DateTime: 11/11/18 1H1B				
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number	
CC2 4		1	1	1.99		
	A2 G)ppbS	Intensity				
	9.7771	8354.9				

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Run Name: 183109HM97

Instrument ID: HBH3

Analyst ID: 354.99

C2 Element: gh

37		/ urn DateTime: 11/11/2018 1H17			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	
CC/ 4		1	1	1.99	
	A2 G)ppbS	Intensity			
	0.9137	43.9			

38		/ urn DateTime: 11/11/2018 1H11			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
W v	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Rewef Rew ihest
	0.9410	13.9			

39		/ urn DateTime: 11/11/2018 1H13			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
LC6v	*****	1	1	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Rewef Rew ihest
	9.8791	B481.9			

40		/ urn DateTime: 11/11/2018 1H15			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B80	U*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Rewef Rew ihest
	0.9404	1B.9			

41		/ urn DateTime: 11/11/2018 1H13			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B80	D*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Rewef Rew ihest
	0.9384	4B.9			

42		/ urn DateTime: 11/11/2018 1H39			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B80	R*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Rewef Rew ihest
	9.8754	B5H3.9			

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Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

43

/ urn DateTime: 11/11/18 1H3H

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
788097B	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.947H	49.9			

44

/ urn DateTime: 11/11/18 1H34

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
788B39H	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9HB4	135.9			

45

/ urn DateTime: 11/11/18 1H30

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B84	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9389	59.9			

46

/ urn DateTime: 11/11/18 1H38

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B85	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9494	31.9			

47

/ urn DateTime: 11/11/18 1H49

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B8B	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9497	HB.9			

48

/ urn DateTime: 11/11/18 1H4H

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
CC2 5		1	1	1.99	
	A2 G)ppbS	Intensity			
	9.774B	8318.9			

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Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

49

/ urn DateTime: 11/11/18 1H44

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC/ 5		1	1	1.99
	A2 G)ppbS	Intensity		
	0.9101	15.9		

50

/ urn DateTime: 11/11/18 1H40

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B88	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9348	80.9			

51

/ urn DateTime: 11/11/18 1H48

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B87	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.949H	3H9			

52

/ urn DateTime: 11/11/18 1H59

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78871H0	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9374	37.9			

53

/ urn DateTime: 11/11/18 1H5H

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7887133	*****	49	49	1.99	1831395B149H
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9490	H7.9			

54

/ urn DateTime: 11/11/18 1H54

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
W v	*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9495	39.9			

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Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

55		/ urn DateTime: 11/11/18 1H50			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
LC6v	*****	1	1	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewi hest
	9.87H4	B477.9			

56		/ urn DateTime: 11/11/18 1H58			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78889B4	U*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewi hest
	0.9934	3HB.9			

57		/ urn DateTime: 11/11/18 13:99			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78889BB	D*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewi hest
	9.994H	388.9			

58		/ urn DateTime: 11/11/18 13:9H			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78889B5	R*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewi hest
	9.70B7	8194.9			

59		/ urn DateTime: 11/11/18 13:94			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
78889B0	M*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewi hest
	9.7009	8987.9			

60		/ urn DateTime: 11/11/18 13:90			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
CC2 0		1	1	1.99	
	A2 G)ppbS	Intensity			
	9.7775	835B.9			

LANCASTER LABORATORIES

Wahe 1Hoc10

Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

61

/ urn DateTime: 11/11/18 13:98

6 ample Number	Class	Initial 2ol Pv t	Final 2ol	DF								
CC/ 0		1	1	1.99								
	A2 G)ppbS	Intensity										
	0.9108	119.9										

62

/ urn DateTime: 11/11/18 13:19

6 ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number							
78889BH	*****	49	49	1.99	1831395B1494							
2	A2 G)ppbS	Intensity										
	0.9441	1.9										

63

/ urn DateTime: 11/11/18 13:1H

6 ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number							
78889B3	*****	49	49	1.99	1831395B1494							
2	A2 G)ppbS	Intensity										
	0.9495	39.9										

64

/ urn DateTime: 11/11/18 13:14

6 ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number							
78889B8	*****	49	49	1.99	1831395B1494							
2	A2 G)ppbS	Intensity										
	9.99B3	413.9										

65

/ urn DateTime: 11/11/18 13:10

6 ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number							
78889B7	*****	49	49	1.99	1831395B1494							
2	A2 G)ppbS	Intensity										
	0.93B0	53.9										

66

/ urn DateTime: 11/11/18 13:17

6 ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number			
7888989	*****	49	49	1.99	1831395B1494			
2	A2 G)ppbS	Intensity						
	0.93B7	51.9						

LANCASTER LABORATORIES

Wahe 13 oc10

Run Name: 183109HM97

Instrument ID: HBH3

Analyst ID: 354.99

C2 Element: gh

67		/ urn DateTime: 11/11/18 13:H1			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888981	*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.9B9B	7H9.9			

68		/ urn DateTime: 11/11/18 13:H3			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
788898H	*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9497	HB.9			

69		/ urn DateTime: 11/11/18 13:H5			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888983	*****	49	49	1.99	1831395B1494
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9419	H0.9			

70		/ urn DateTime: 11/11/18 13:H3			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
W v	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9415	HL9			

71		/ urn DateTime: 11/11/18 13:H7			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
LC6v	*****	1	1	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.7HBB	BB8H9			

72		/ urn DateTime: 11/11/18 13:31			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
CC2 B		1	1	1.99	
	A2 G)ppbS	Intensity			
	9.7894	8H94.9			

LANCASTER LABORATORIES

Wahe 14 oc10

Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

73		/ urn DateTime: 11/11/18 13:33			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	
CC/ B		1	1	1.99	
	A2 G)ppbS	Intensity			
	0.91B9	H18.9			
74		/ urn DateTime: 11/11/18 13:35			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888351	U*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.99B8	41B.9			
75		/ urn DateTime: 11/11/18 13:3B			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888351	D*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.99B1	411.9			
76		/ urn DateTime: 11/11/18 13:37			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888351	R*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.07B3	587B.9			
77		/ urn DateTime: 11/11/18 13:41			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
788BB73	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.903H	15H.9			
78		/ urn DateTime: 11/11/18 13:43			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
788B785	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	9.9559	B75.9			

LANCASTER LABORATORIES

Wahe 15 oc10

Run Name: 183109HM97

Instrument ID: HB83

Analyst ID: 354.99

C2 Element: gh

79		/ urn DateTime: 11/11/18 13:45			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
788B78B	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.93H5	74.9			

80		/ urn DateTime: 11/11/18 13:48			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888HDH	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9375	38.9			

81		/ urn DateTime: 11/11/18 13:47			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888471	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9301	05.9			

82		/ urn DateTime: 11/11/18 13:51			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B00	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.949B	H8.9			

83		/ urn DateTime: 11/11/18 13:53			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888BB3	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewihest
	0.9H44	157.9			

84		/ urn DateTime: 11/11/18 13:55			
6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	
CC2 8		1	1	1.99	
	A2 G)ppbS	Intensity			
	9.78B9	8H5B.9			

LANCASTER LABORATORIES

Wahe 10 oc10

Run Name: 183109HM97

Instrument ID: H3H3

Analyst ID: 354.99

C2 Element: g h

85

/ urn DateTime: 11/11/18 13:5B

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC/ 8		1	1	1.99
	A2 G)ppbS	Intensity		
	0.9145	H38.9		

86

/ urn DateTime: 11/11/18 13:57

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888BB5	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewi hest
	0.941H	H4.9			

87

/ urn DateTime: 11/11/18 14:9H

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF	/ at(d Number
7888B89	*****	49	49	1.99	1831395B1495
2	A2 G)ppbS	Intensity			Reweaf Rewi hest
	0.94HH	10.9			

88

/ urn DateTime: 11/11/18 14:94

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CRA		1	1	1.99
	A2 G)ppbS	Intensity		
	9.187H	1807.9		

89

/ urn DateTime: 11/11/18 14:90

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC2 7		1	1	1.99
	A2 G)ppbS	Intensity		
	9.7894	H894.9		

90

/ urn DateTime: 11/11/18 14:98

6ample Number	Class	Initial 2ol Pv t	Final 2ol	DF
CC/ 7		1	1	1.99
	A2 G)ppbS	Intensity		
	0.9100	H11.9		

Extraction/Distillation/Digestion Logs

Metals in Liquid

Start Time: 11/5/18 6:18 End Time: 11/5/18 9:50 Hot Block: DEENA3

Pipette ID: I43551C /1000

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
1:1 HCL	P18-295D	5.00
1:1 HNO3	P18-285B	2.00
ICP Spike 1A	1824912#13	1.00
ICP Spike 1B	1824913#13	1.00
LCS A1	1824912#13	1.00
LCS B1	1824913#13	1.00
TH,W Spike	P18-302A	1.00

Method Ref:

SampleID		Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.							1807160		Add New Spike
2)	LCSW	.							1807160		
3)	9861917	10/31/18 00:00	WW	N7			Y	008A	1807160	/	LCS/QC not spiked Thorium (needs spiked w/ Th spike)
4)	9861918	10/31/18 00:00	WW	N7			Y	008A	1807160	/	LCS/QC not spiked Thorium (needs spiked w/ Th spike)
5)	9861919	10/31/18 00:00	WW	N7			Y	008A	1807160	E00862/	LCS/QC not spiked Thorium (needs spiked w/ Th spike)
6)	9861920	10/31/18 00:00	WW	N7			Y	008A	1807160	E00862/	LCS/QC not spiked Thorium (needs spiked w/ Th spike)
7)	9861921	10/31/18 00:00	WW	N7			Y	008A	1807160	E00862/	LCS/QC not spiked Thorium (needs spiked w/ Th spike)
8)	9861922	10/31/18 00:00	WW	N7			Y	008A	1807160	E00862/	LCS/QC not spiked Thorium (needs spiked w/ Th spike)
9)	9876332	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET39/D3	
10)	9876334U	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET03/F8	
11)	9876335R	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET39/F1	
12)	9876336M	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET03/F9	
13)	9876337D	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET03/D9	
14)	9876342EB	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET53/C2	
15)	9878662	11/12/18 10:40	WW	N7			Y	800A	1807160	WMET03/A3	
16)	9878663	11/12/18 10:40	WW	N7			Y	800A	1807160	WMET03/D8	
17)	9878664	11/12/18 10:40	WW	N7			Y	800A	1807160	WMET03/C3	
18)	9878665	11/12/18 10:40	WW	N7			Y	800A	1807160	WMET03/D4	



LLENS Batch Chronology and Change Log - SW846 Water

<u>Operation</u>	<u>Instrument</u>	<u>Operation Date</u>	<u>ANALYST</u>
1) Batch Creation		11/2/18 8:05	862
2) Sample Vol		11/5/18 7:57	862
3) Final Vol	CLEAR	11/5/18 7:57	862
4) Trial		11/5/18 7:57	862
5) Upload Prep	US19PCC0678	11/5/18 12:10	862

<u>Sample ID</u>	<u>Analysis</u>	<u>D</u>	<u>Operation</u>	<u>Measurement</u>	<u>Date/Time</u>	<u>Original Entry Data</u>	<u>Units</u>	<u>Analyst</u>	<u>Date/Time</u>	<u>Data Changed Analyst Reason</u>
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<u>Sample ID</u>	<u>Due Date</u>	<u>P</u>	<u>EPA#</u>	<u>SDG#</u>	<u>Initial Volume</u>	<u>Final Volume</u>	<u>Trial</u>
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
9861917	10/31/18	N7	GKP01	TID07-02	50.0000	50.0000	2
9861918	10/31/18	N7	GKP03	TID07-03	50.0000	50.0000	2
9861919	10/31/18	N7	GKP04	TID07-04	50.0000	50.0000	2
9861920	10/31/18	N7	GKPR1	TID07-05	50.0000	50.0000	2
9861921	10/31/18	N7	GKP05	TID07-06	50.0000	50.0000	2
9861922	10/31/18	N7	GKP02	TID07-07*	50.0000	50.0000	2
9876332	11/09/18	N7	14T02	TID14-02	50.0000	50.0000	1
9876334U	11/09/18	N7	14T04	TID14-04BKG	50.0000	50.0000	1
9876335R	11/09/18	N7	14T04	TID14-04MS	50.0000	50.0000	1
9876336M	11/09/18	N7	14T04	TID14-04MSD	50.0000	50.0000	1
9876337D	11/09/18	N7	14T04	TID14-04DUP	50.0000	50.0000	1
9876342EB	11/09/18	N7	14T06	TID14-06EB*	50.0000	50.0000	1
9878662	11/12/18	N7	29701	KR297-01	50.0000	50.0000	1
9878663	11/12/18	N7	29702	KR297-02	50.0000	50.0000	1
9878664	11/12/18	N7	29703	KR297-03	50.0000	50.0000	1
9878665	11/12/18	N7	29704	KR297-04	50.0000	50.0000	1

Start Time: 11/5/18 6:18 End Time: 11/5/18 9:50 Hot Block: DEENA3

Pipette ID: I43551C /1000

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
1:1 HCL	P18-295D	5.00
1:1 HNO3	P18-285B	2.00
ICP Spike 1A	1824912#13	1.00
ICP Spike 1B	1824913#13	1.00
LCS A1	1824912#13	1.00
LCS B1	1824913#13	1.00
Th,W Spike	P18-302A	1.00

Method Ref:

SampleID		Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.							1807160		Add New Spike
2)	LCSW	.							1807160		
3)	9874399	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/C3	
4)	9874400	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/B3	
5)	9874401	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/A2	
6)	9874402	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/B2	
7)	9874403	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/D3	
8)	9874404	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/C2	
9)	9874405	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/D2	
10)	9874406	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/E5	
11)	9874407EB	11/08/18 10:20	WW	N7			Y	800A	1807160	WMET02/F6	
12)	9876333	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET39/B3	
13)	9876338U	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET3/B10	
14)	9876339R	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET03/E9	
15)	9876340M	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET3/F10	
16)	9876341D	11/09/18 10:05	WW	N7			Y	800A	1807160	WMET3/A10	



LLENS Batch Chronology and Change Log - SW846 Water

<u>p i e r a t i o n</u>		<u>s u b t r a m e n t</u>	<u>p i e r a t i o n l a t e</u>	<u>Y N Y L T S</u>
1/	Batch Creation		11/20/18 8:06	860
2/	SaA i l e Vol		11/25/18 7:5F	860
3/	R u n a l Vol	CLEYU	11/25/18 7:5F	860
4/) r l a l		11/25/18 7:5F	860
5/	P i l o a d 9 r e i	PS1F9CC06781125218	1Q13	860

<u>S a A i l e s</u>	<u>Y n a l y u t</u>	<u>l p i e r a t i o n</u>	<u>M e a s u r e m e n t</u>	<u>p r i n t e d a l E n t r y</u>	<u>P n t d</u>	<u>Y n a l y u t</u>	<u>I a t e 2</u>	<u>I a t e 2</u>	<u>I a t a C h a n g e d</u>
									<u>Y n a l y u t U e a u o n</u>

Analysis: 0635 SW846 Water

Batch# 18 306 1063 502

<u>Sample ID</u>	<u>Due Date</u>	<u>P</u>	<u>EPA#</u>	<u>SDG#</u>	<u>Initial Volume</u>	<u>Final Volume</u>	<u>Trial</u>
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
9874399	11/08/18	N7	GW019	KR295-01	50.0000	50.0000	1
9874400	11/08/18	N7	GW19F	KR295-02	50.0000	50.0000	1
9874401	11/08/18	N7	GW069	KR295-03	50.0000	50.0000	1
9874402	11/08/18	N7	GW69F	KR295-04	50.0000	50.0000	1
9874403	11/08/18	N7	GW101	KR295-05	50.0000	50.0000	1
9874404	11/08/18	N7	G101F	KR295-06	50.0000	50.0000	1
9874405	11/08/18	N7	GW102	KR295-07	50.0000	50.0000	1
9874406	11/08/18	N7	G102F	KR295-08	50.0000	50.0000	1
9874407EB	11/08/18	N7	ER184	KR295-09EB	50.0000	50.0000	1
9876333	11/09/18	N7	14T03	TID14-03	50.0000	50.0000	1
9876338U	11/09/18	N7	14T05	TID14-05BKG	50.0000	50.0000	1
9876339R	11/09/18	N7	14T05	TID14-05MS	50.0000	50.0000	1
9876340M	11/09/18	N7	14T05	TID14-05MSD	50.0000	50.0000	1
9876341D	11/09/18	N7	14T05	TID14-05DUP	50.0000	50.0000	1

Start Time: 11/5/18 5:32 End Time: 11/5/18 10:13 Hot Block: 14

Pipette ID: JU06758 S11/250

Reflux Cap Lot#: 18034028253NJ

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
HNO3	191695	3.00
ICP/MS Spike	1824915#	0.50
LCS	1824915#1	0.50
U spike	P18278A	0.25

Method Ref:

SampleID		Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.				10685	Y		1807160		Add U Spike
2)	LCSW	.				10685	Y		1807160		
3)	9861917	10/31/18 09:40	WW	N7		10685	Y	008a	1807160	/	Prep Blank High Cr
4)	9861918	10/31/18 09:40	WW	N7		10685	Y	008a	1807160	/	Prep Blank High Cr
5)	9861919	10/31/18 09:40	WW	N7		10685	Y	008a	1807160	E00862/	Prep Blank High Cr
6)	9861920	10/31/18 09:40	WW	N7		10685	Y	008a	1807160	E00862/	Prep Blank High Cr
7)	9861921	10/31/18 09:40	WW	N7		10685	Y	008a	1807160	E00862/	Prep Blank High Cr
8)	9861922	10/31/18 09:40	WW	N7		10685	Y	008a	1807160	E00862/	Prep Blank High Cr
9)	9876332	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET39/E2	
10)	9876334U	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET01/C8	
11)	9876335R	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET39/A3	
12)	9876336M	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET01/D8	
13)	9876337D	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET01/B8	
14)	9876342EB	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET39/E1	
15)	9878662	11/12/18 10:40	WW	N7		10685	Y	802A	1807160	WMET01/D5	
16)	9878664	11/12/18 10:40	WW	N7		10685	Y	802A	1807160	WMET01/A6	



<u>I seration</u>		<u>WArYt ent</u>	<u>I seration mate</u>	<u>) N) L/ S2</u>
Q	Batch Creation		00A401 7R7	0013
V:	SaT sle Uol		00R401 RfV	0013
p:	Punal Uol	Q 01R	00R401 RfV	0013
3:	2ruaI		00R401 RfV	0013
R	9 sload 8 res	9 SC08 CCi 07V00R401 Q FOR		0013

<u>SaT sle W</u>	<u>) nalyAA</u>	<u>m I seration</u>	<u>6 eaAYreT ent</u>	<u>I riginal Entry</u>	<u>mate2U e</u>	<u>mate2U e</u>	<u>) nalyAt MeaAon</u>	<u>mata Changed</u>
				mata	9 nuA) nalyAt		

e ap E# S\$	GT#	Gat#	8	.8Ao	eGL o	\$ilial mFITp #	Dinal mFITp #	Pfal
82r						000000	000000	u
7W6r						u00000	u00000	u
5B6u5u/	u043u4JB	N/	L K80u	P\$G0/ R0-		000000	000000	-
5B6u5uB	u043u4JB	N/	L K803	P\$G0/ R03		000000	000000	-
5B6u5u5	u043u4JB	N/	L K80c	P\$G0/ R0c		000000	000000	-
5B6u5- 0	u043u4JB	N/	L K8Mu	P\$G0/ R0C		000000	000000	-
5B6u5- u	u043u4JB	N/	L K80C	P\$G0/ R06		000000	000000	-
5B6u5- -	u043u4JB	N/	L K80-	P\$G0/ R0/		000000	000000	-
5B/ 633-	uu4054JB	N/	ucP0-	P\$GucR0-		000000	000000	u
9876334U	uu4054JB	N/	ucP0c	P\$GucR0c2KL		000000	000000	u
9876335R	uu4054JB	N/	ucP0c	P\$GucR0ct e		000000	000000	u
9876336M	uu4054JB	N/	ucP0c	P\$GucR0ct eG		000000	000000	u
9876337D	uu4054JB	N/	ucP0c	P\$GucR0cGU8		000000	000000	u
5B/ 63c- . 2	uu4054JB	N/	ucP06	P\$GucR06. 2		000000	000000	u
5B/ B66-	uu41- 4JB	N/	- 5/ 0u	KM- 5/ R0u		000000	000000	u
5B/ B66c	uu41- 4JB	N/	- 5/ 03	KM- 5/ R03		000000	000000	u

Start Time: 11/5/18 5:47 End Time: 11/5/18 10:24 Hot Block: 15

Pipette ID: JU06758 S11/250

Reflux Cap Lot#: 18034028253NJ

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
HNO3	191695	3.00
ICP/MS Spike	1824915#1	0.50
LCS	1824915#1	0.50
u spike	P18278A	0.25

Method Ref:

SampleID		Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1)	PBW	.				10685			1807160		
2)	LCSW	.				10685			1807160		
3)	9876333	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET39/C3	
4)	9876338U	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET01/A8	
5)	9876339R	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET01/E8	
6)	9876340M	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET01/F8	
7)	9876341D	11/09/18 10:05	WW	N7		10685	Y	802A	1807160	WMET01/F7	



<u>s ueratron</u>		<u>WtrT) ent</u>	<u>s ueratron Aate</u>	<u>/ N/ L2 S:</u>
OV	Batch Creation		004 401 7R1	0013
IV	Sa) ule Uol		00R401 R37	0013
pV	Pmal Uol	Q 01R	00R401 R37	0013
3V	: mal		00R401 R37	0013
RV	9 uload 8reu	9 SC08 CCi 071 100R401 Q H 3		0013

<u>Sa) ule W</u>	<u>/ nalyYtr</u>	<u>A s ueratron</u>	<u>6 eaYTre) ent</u>	<u>s rrgmal Entry</u>	<u>Aate4 m e</u>	<u>Aate4 m e</u>	<u>Aata Changed / nalyYt Mea Yon</u>
				Aata	9 mtrY		

Analysis: 0639 ICP/MS SW846 Water

Batch# 18 306 1063 902

<u>Sample ID</u>	<u>Due Date</u>	<u>P</u>	<u>EPA#</u>	<u>SDG#</u>	<u>Initial Volume</u>	<u>Final Volume</u>	<u>Trial</u>
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
9876333	11/09/18	N7	14T03	TID14-03	50.0000	50.0000	1
9876338U	11/09/18	N7	14T05	TID14-05BKG	50.0000	50.0000	1
9876339R	11/09/18	N7	14T05	TID14-05MS	50.0000	50.0000	1
9876340M	11/09/18	N7	14T05	TID14-05MSD	50.0000	50.0000	1
9876341D	11/09/18	N7	14T05	TID14-05DUP	50.0000	50.0000	1

Start Time: 11/16/18 3:14 End Time: 11/16/18 7:43 Hot Block: Block14

Pipette ID: JU06758 S11/250

Reflux Cap Lot#: 18020438176NK

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
HNO3	191695	3.00
ICP/MS Spike	1824915#1	0.50
LCS	1824915#1	0.50
U Spike	P18278A	0.25

Method Ref:

SampleID	Date Due	ST	P	H	Method	PH<2	BC	Vessel Lot#	Location ID	Comments
1) PBW	.							1807160		Add U Spike
2) LCSW	.							1807160		
3) 9876333	11/09/18 10:05	WW	N7		SW-846 6020A	Y	802A	1807160	WMET39/C3	Prep Blank High CR batch only DOD
4) 9876338U	11/09/18 10:05	WW	N7		SW-846 6020A	Y	802A	1807160	WMET01/A8	Prep Blank High CR batch only DOD
5) 9876339R	11/09/18 10:05	WW	N7		SW-846 6020A	Y	802A	1807160	WMET01/E8	Prep Blank High CR batch only DOD
6) 9876340M	11/09/18 10:05	WW	N7		SW-846 6020A	Y	802A	1807160	WMET01/F8	Prep Blank High CR batch only DOD
7) 9876341D	11/09/18 10:05	WW	N7		SW-846 6020A	Y	802A	1807160	WMET01/F7	Prep Blank High CR batch only DOD



<u>I seration</u>		<u>WArYt ent</u>	<u>I seration mate</u>	<u>) N) L/ S2</u>
Q	Batch Creation		0040V401 7RV	0013
R	SaT sle Uol		00400401 pF8	0013
p:	Punal Uol	CLE) 9	00400401 pF8	0013
3:	2ruaI		00400401 pF8	0013
V:	Msload 8 res	MSQ 8 CC D07Rf00400401 1Rf		0013
0:	Msload 8 res	MSQ 8 CC D07Rf00400401 i F7		0013

SaT sle W) nalyvAA	m l seration	6 eaAYreT ent	<u>I riginal Entry</u>	<u>mata</u>	<u>MnuA</u>	<u>) nalyA</u>	<u>mate4U e</u>	<u>mata Changed</u> <u>) nalyA 9 eaAon</u>
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Sau Tie Ip	oe pate	P	DPA#	SpE#	Initial 2 Mou e	Final 2 Mou e	Frial
PBW					000000	000000	1
. CSW					10000	10000	1
98L6333	11/09/18	7 L	14F03	Flp 14N03	000000	000000	-
9876338U	11/09/18	7 L	14F0G	Flp 14N03KE	000000	000000	-
9876339R	11/09/18	7 L	14F0G	Flp 14N0GMS	000000	000000	-
9876340M	11/09/18	7 L	14F0G	Flp 14N0GMSp	000000	000000	-
9876341D	11/09/18	7 L	14F0G	Flp 14N0Gp UP	000000	000000	-

Start Time: 11/2/18 9:05 End Time: 11/2/18 11:05 Hot Block: 11

Pipette ID: W/1000

Reflux Cap Lot#: 1803402-8253-NJ

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
5%K ₂ S ₂ O ₈	P18-299E	6.00
5%KMnO ₄	P18-289F	3.20
H ₂ SO ₄	1845172	2.00
HNO ₃	191695	1.00
LCS 40ppb Hg	P18-303A	1.00
NaCl/NH ₂ OH.HCl	P18-296B	2.40
Spike 40ppb Hg	P18-303A	1.00

Method Ref:

Vessel Location										Comments
SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Lot#	ID	
1) PBW	.									
2) LCSW	.									
3) 9876333	11/09/18 10:05	WW	N7			Y	801A	1807160	WMET20/B3	
4) 9876338U	11/09/18 10:05	WW	N7			Y	801A	1807160	WMET20/D4	
5) 9876339R	11/09/18 10:05	WW	N7			Y	801A	1807160	WMET20/F3	
6) 9876340M	11/09/18 10:05	WW	N7			Y	801A	1807160	WMET20/D3	
7) 9876341D	11/09/18 10:05	WW	N7			Y	008A	1807160		



LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

<u>Operation</u>	<u>Instrument</u>	<u>Operation Date</u>	<u>ANALYST</u>
1) Batch Creation		11/1/18 8:45	277
2) Sample Vol		11/2/18 10:10	277
3) Final Vol	CLEAR	11/2/18 10:10	277
4) Trial		11/2/18 10:10	277
5) Upload Prep	US19PCC0678	11/2/18 13:26	277

<u>Sample ID</u>	<u>Analysis</u>	<u>D</u>	<u>Operation</u>	<u>Measurement</u>	<u>Date/Time</u>	<u>Original Entry Data</u>	<u>Units</u>	<u>Analyst</u>	<u>Date/Time</u>	<u>Data Changed Analyst Reason</u>
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Analysis: 5713 Hg SW846 Digest Water

Batch# 18 305 0571 306

<u>Sample ID</u>	<u>Due Date</u>	<u>P</u>	<u>EPA#</u>	<u>SDG#</u>	<u>Initial Volume</u>	<u>Dilution</u>	<u>Final Volume</u>	<u>Trial</u>
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
9876333	11/09/18	N7	14T03	TID14-03	40.0000		40.0000	1
9876338U	11/09/18	N7	14T05	TID14-05BKG	40.0000		40.0000	1
9876339R	11/09/18	N7	14T05	TID14-05MS	40.0000		40.0000	1
9876340M	11/09/18	N7	14T05	TID14-05MSD	40.0000		40.0000	1
9876341D	11/09/18	N7	14T05	TID14-05DUP	40.0000		40.0000	1

Start Time: 11/12/18 8:05 End Time: 11/12/18 10:05 Hot Block: 10

Pipette ID: W/1000

Reflux Cap Lot#: 1807160-8Z90DN

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
5%K ₂ S ₂ O ₈	P18-309F	6.00
5%KMnO ₄	P18-307D	3.20
H ₂ SO ₄	184517	2.00
HNO ₃	191695	1.00
LCS 40ppb Hg	P18-310A	1.00
NaCl/NH ₂ OH.HCl	P18-308A	2.40
Spike 40ppb Hg	P18-310A	1.00

Method Ref:

SampleID	Date Due	ST	P	H	Method	PH<2	BC	Vessel	Location	Comments
								Lot#	ID	
1) PBW	.									
2) LCSW	.									
3) 9876332	11/09/18 10:05	WW	N7		SW-846 6010C	Y	801A	1807160	WMET20/B2	Prep Blank High Hg
4) 9876334U	11/09/18 10:05	WW	N7		SW-846 6010C	Y	801A	1807160	WMET20/F4	Prep Blank High Hg
5) 9876335R	11/09/18 10:05	WW	N7		SW-846 6010C	Y	801A	1807160	WMET20/D2	Prep Blank High Hg
6) 9876336M	11/09/18 10:05	WW	N7		SW-846 6010C	Y	801A	1807160	WMET20/F3	Prep Blank High Hg
7) 9876337D	11/09/18 10:05	WW	N7		SW-846 6010C	Y	008A	1807160		Prep Blank High Hg
8) 9876342EB	11/09/18 10:05	WW	N7		SW-846 6010C	Y	008A	1807160	E00277/	Prep Blank High Hg



LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

<u>Operation</u>	<u>Instrument</u>	<u>Operation Date</u>	<u>ANALYST</u>
1) Batch Creation		11/1/18 11:55	V77
2) Sample Fol		11/1/18 10:21	V77
3) Rinal Fol	CLEAU	11/1/18 10:21	V77
4) Trial		11/1/18 10:21	V77
5) Pload 9 rep	PS1: 9CC0678:11/1/18 10:21		V77

<u>Sample ID</u>	<u>Analysis</u>	<u>D</u>	<u>Operation</u>	<u>Measurement</u>	<u>Date/Time</u>	<u>Original Entry Data</u>	<u>Pnits</u>	<u>Analyst</u>	<u>Date/Time</u>	<u>Data Changed Analyst</u>	<u>Ueason</u>

Analysis: 5713 Hg SW846 Digest Water

Batch# 18 313 0571 301

<u>Sample ID</u>	<u>Due Date</u>	<u>P</u>	<u>EPA#</u>	<u>SDG#</u>	<u>Initial Volume</u>	<u>Dilution</u>	<u>Final Volume</u>	<u>Trial</u>
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
9876332	11/09/18	N7	14T02	TID14-02	40.0000		40.0000	2
9876334U	11/09/18	N7	14T04	TID14-04BKG	40.0000		40.0000	2
9876335R	11/09/18	N7	14T04	TID14-04MS	40.0000		40.0000	2
9876336M	11/09/18	N7	14T04	TID14-04MSD	40.0000		40.0000	2
9876337D	11/09/18	N7	14T04	TID14-04DUP	40.0000		40.0000	2
9876342EB	11/09/18	N7	14T06	TID14-06EB*	40.0000		40.0000	2



Lancaster Laboratories
Environmental

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

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 #
Hg-5700	1CN	H18282N	15	10-11-18	H18-283C	0.25ml	1	6	1911.95
↓	CCN	Hg-1.0mg/L-Cal	↓	↓	H18-282A	0.20	↓	↓	↓
↓	CEA	Hg-0.1mg/L-Cont	↓	↓	H18-282D	0.20	↓	↓	↓
Hg-1.0mg/L-Taber-Cal	H18283A	Hg-1.0mg/L-Cal	15	10-19-18	H18-144A	1.0ml			
↓	1.0mg/L-Taber-Cal	1.0mg/L-Cal	15	10-17-18	H18-283A				
↓	1.0mg/L-Taber-Cont	1.0mg/L-Cont	16	4-19-19	W046153372				
↓	1.0mg/L-Taber-Cal	1.0mg/L-Cont	15	10-17-18	H18-283C	↓			
Hg-5701	1CN	↓			↓	0.25ml			
	CCN	Hg-1.0mg/L-Cal			H18-283A	0.10			
	CCN	↓			↓	0.10			
	CCN	↓			↓	0.10			
	CCN	↓			↓	0.10			
	CEA	Hg-0.1mg/L-Cont			H18-283D	0.40			
	CEA	↓			↓	0.80			
	CEA	Hg-0.1mg/L-Cal			H18-283B	0.20			
	CEA	↓			↓	0.50			
	CEA	Hg-1.0mg/L-Cal			H18-283A	0.10			
	↓	↓			↓	0.25			
	↓	↓			↓	0.50			
	↓	↓			↓	0.50			

Key - Manufacturer (M•)

- 1 - Aldrich Chemical
- 2 - Constan 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.)

HCl Used				Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
Vol (mL)	M•	Lot #	Vol (mL*)	M•	Lot #							
1	20ml H ₂ O	4	18+517	3.2ml K ₂ S ₂ O ₈ 15ml KMnO ₄		H18-2204 H18-22515	100	2.5mg/L	354	10-9-18	10-16-18	RT
2	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
4	↓	↓	↓	↓	↓	↓	10	1.0	354	10-10-18	10-17-18	RT
5	↓	↓	↓	↓	↓	↓	↓	0.1	↓	↓	↓	↓
6	↓	↓	↓	↓	↓	↓	↓	1.0	↓	↓	↓	↓
7	↓	↓	↓	↓	↓	↓	↓	0.1	↓	↓	↓	↓
8	↓	↓	↓	↓	↓	↓	100	2.5mg/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 (mm) Other Used

RT = Room Temperature Storage

* units are mL unless otherwise specified
* units are mg/L unless otherwise specified

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 #
Hg-5701	ICN	Hg-1.0mg/L-Cal	15	10-17-18	H18-283C	0.25ml	19		
Aqua Regia									1911695
Hg-4792	ICN	Hg-1.0mg/L-Cal	15	10-17-18	H18-283C	.25ml			
	CCX	Hg-1.0mg/L-Cal			H18-283A	0.10			
	CAH	Hg-1.0mg/L-Cal			H18-283D	0.40			
	CAH	Hg-1.0mg/L-Cal				0.80			
	SMA Cal	Hg-1.0mg/L-Cal			H18-283B	0.20			
						0.50			
					H18-283A	0.10			
						0.25			
						0.50			
Hg-1.0mg/L-Inlab Cal	H18284A	Hg-1.0mg/L-Cal	15	10-19-18	H18-144A	1.0ml			
1.0mg/L-Inlab Cal	B	1.0mg/L-Cal	15	16-18-18	H18-283A				
1.0mg/L-Inlab Cont	C	1.0mg/L-Cont	16	4-19-19	MDHG15732				
1.0mg/L-Inlab Cont	D	1.0mg/L-Cont	15	10-18-18	H18-284C				
Hg-5705	ICN					0.25ml	1		1911695
	CCN	Hg-1.0mg/L-Cal			H18-284A	0.20			
	CAF	Hg-1.0mg/L-Cal			H18-284D	0.20			
	SMA Cal	Hg-1.0mg/L-Cal			H18-284E	0.20			

- 1 - Aldrich Chemical
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- 4 - Fisher Scientific

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Key – Manufacturer (M)

- 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.)

HCl Used				Other Used		Final Vol (mL)	Final Conc (mg/L ^{**})	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
Vol (mL)	M [•]	Lot #	Vol (mL [*])	M ^{••}	Lot #						
57			150 mL km ^{•••}		H18-22518	100	2.5 µg/L	01354	10-16-18	10-17-18	RT
5		18107104				40	1:3			10-16-18	
						100	2.5 µg/L				
							1.0				
							0.4				
							6.8				
							0.2				
							0.5				
							1.0				
							2.5				
							5.0				
							0.0				
						10	1.0	01354	10-11-18	10-18-18	RT
							0.1				
							1.0				
							0.1				
							2.5 µg/L				
						100	1.0				
						200	0.2				
						100	0.2				
						100	0.2				

Footnotes

Key (••) - Other Used

A = CaCl₂ (0.053%)

RT = Room Temperature

Effective date : 02 Feb 2017

Effective

RT = Room Temperature Storage

* units are mL unless otherwise specified
* units are mg/L unless otherwise specified

units are mg/L unless otherwise specified

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 #
Hg-500 Std Cal	H18284E	Hg-0.1mg/L-Cal	15	10-18-18	H18-284B	0.50 ml	1	16	1911695
	J	Hg-1.0mg/L-Cal			H18-284A	0.20	1		
	K					0.25	1		
	L					0.50	1		
	M								
	N	Hg-1.0mg/L-Cont	15	10-18-18	H18-284C	0.25ml	1		
	O	Hg-1.0mg/L-Cal			H18-284A	0.20	1		
	P	Hg-0.1mg/L-Cont			H18-284D	0.20	1		
Hg-1.0mg/L-Std Cal	H18284F	Hg-1.0mg/L-Cal	15	10-19-18	H18-284E	1.0ml			
	B	1.0mg/L-Cal	15	10-19-18	H18-284F				
	C	1.0mg/L-Cont	16	4-19-19	MD-HG15302				
	D	1.0mg/L-Cont	15	10-19-18	H18-284G				
Hg-500 Std	1CX					0.25ml	1	16	1911695
	E								
	F	Hg-1.0mg/L-Cal			H18-284H	0.20	1		
	G	Hg-0.1mg/L-Cont			H18-284B	0.20	1		
	H	Hg-0.1mg/L-Cal			H18-284B	0.20	1		
	I					0.50	1		
	J	Hg-1.0mg/L-Cal			H18-284A	0.20	1		
	K					0.25	1		
	L								
	M					0.50	1		

1 - Aldrich Chemical
2 - Conostan Specialty Products
3 - EIM 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.)

Key - Manufacturer (M#)



Lancaster Laboratories
Environmental

Document Title:
Standard/Reagent Preparation Logbook

Eurofins Document Reference :
T-MET-FRM9079

Revision:
3

Effective date : 02 Feb 2017

Historical Reference:
1-P-QM-FOR-9009818; Form 1105

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
2	2mL H ₂ SO ₄	4	184517	32mL H ₂ SO ₄	100mL H ₂ SO ₄	100	0.5mg/L	201354	10-11-18	10-18-18	21
3						200	1.0				
4						100	2.5				
5							5.0				
6							6.0				
7							2.5				
8						200	1.0				
9						100	0.2				
10						10	1.0	201354	10-13-18	10-19-18	21
11							0.1				
12							1.0				
13	2mL H ₂ SO ₄	4	184517	32mL H ₂ SO ₄	100mL H ₂ SO ₄	100	0.1				
14						200	2.5mg/L				
15						200	1.0				
16						100	0.2				
17							0.2				
18						200	1.0				
19						100	2.5				
20						100	5.0				

Footnotes

Key (••) - Other Used

A = CaCl₂ (0.053%)

B = CsCl (10%)

C = KCl

D = La₂O₃ (10%)

E = Al (NO₃)₃ (40%)

F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified

** units are mg/L unless otherwise specified

Effective

13 - VMR Scientific
14 - EMD
15 - Prepared in house
16-Inorganic Ventures

10-16-18 10:01



Lancaster Laboratories
Environmental

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Standard/Reagent Preparation Logbook

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Revision:
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1-P-QM-FOR-9009818; Form 1105

Effective

HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L **)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
Vol (mL)	M.	Lot #	Vol (mL*)	M.	Lot #						
1	200	184517	32 mL 0.5% 10 mL 0.5% 10 mL 0.5%	H18-200A H18-225B		100	0.04 mg/L	201354	10-13-18	10-19-18	RT
2	200	184517				100	2.5				
3	200	184517				200	1.0				
4	200	184517				100	0.2				
5	200	184517				2000	10%	201354	10-15-18	4-15-19	RT
6	200	184517				100	10 mg/L	201354	10-16-18	4-16-19	RT
7	200	184517				100	1.0				
8	200	184517				100	0.1				
9	200	184517				100	1.0				
10	200	184517				100	0.1				
11	200	184517				100	0.1				
12	200	184517				100	0.1				
13	200	184517				100	0.1				
14	200	184517				100	0.1				
15	200	184517				100	0.1				
16	200	184517				100	0.1				
17	200	184517				100	0.1				
18	200	184517				100	0.1				
19	200	184517				100	0.1				
20	200	184517				100	0.1				

Key (**) - Other Used
A = CaCl₂ (0.053%)
B = CsCl (10%)
C = KCl

D = La₂O₃ (10%)
E = Al (NO₃)₃ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified



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3

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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 #
Hg-5300 Std Cal	H18289L	Hg-1.0mg/L Cal	15	10-23-18	H18-289A	0.50ml	1	10 191695
↓	M							
1 CV	N	Hg-1.0mg/L Cont	15	10-23-18	H18-289C	0.25ml	1	
2 CV	O	Hg-1.0mg/L Cal	1		H18-289A	0.20	1	
3 CEA	P	Hg-0.1mg/L Cont	1		H18-289D	0.20	1	
4								
5								
6	Q	Hg-1.0mg/L Cal	↓	↓	H18-289A	0.20	↓	↓
7								
8	H18290A	Hg-1.0mg/L Cal	15	4-11-19	H18-289AA	1.0ml		
9	B	1.0mg/L Cal	15	10-24-18	H18-290A			
10	C	1.0mg/L Cont	16	4-19-19	MAY 15 2019			
11	D	1.0mg/L Cont	15	10-24-18	H18-290C			
12	E	↓				0.25ml		
13	F	Hg-1.0mg/L Cal			H18-290A	0.10		
14	G					0.10		
15	H					0.10		
16	I	↓				0.10		
17	J	Hg-1.0mg/L Cont			H18-290D	0.46		
18	K	↓				0.80		
19	L	Hg-0.1mg/L Cal			H18-290B	0.20		
20	M	↓				0.50		
	N	Hg-1.0mg/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
- 16 - Inorganic Ventures
- XX - Other (footnote Manuf.)

HCl Used						Other Used			Effective date : 02 Feb 2017				Effective	
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			
2ml to 804	✓	184517	3.2ml 12.3208 5ml Kmax	✓	H18-2607 H18-2607	100	5.0ug/L	DL354	10-16-18	10-23-18	RT			
✓	✓	✓	✓	✓	✓	✓	0.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	2.5	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.2	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
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✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
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✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
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✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
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✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	0.1	✓	✓	✓	✓			
✓	✓	✓	✓	✓	✓	✓	1.0	✓	✓</					

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

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 #
Hg-5% I Std Cal	H18290D	Hg-1.0mg/L-Cal	15	10-24-18	H18-290A	0.25ml			
↓	q					0.50ml			
↓	B	Hg-1.0mg/L-cont	15	10-24-18	H18-291C	0.25ml			
Papua Regue	S						19	6	191695
Hg-1.0mg/L-Instr Cal	H18292A	Hg-1.0mg/L-Cal	15	4-16-19	H18-289AA	1.0ml			
0.1mg/L-Instr Cal	B	1.0mg/L-Cal	15	10-26-18	H18-292A	↓			
1.0mg/L-Instr Cont	C	1.0mg/L-cont	16	4-19-19	mz-H18-5732	↓			
0.1mg/L-Instr Cont	D	1.0mg/L-cont	15	10-26-18	H18-292C	↓			
Hg-5% CD	E	↓			↓	0.25 ml	1	6	191695
CCN	F	Hg-1.0mg/L-Cal			H18-292A	0.20			
CBN	G	Hg-0.1mg/L-Cont			H18-292D	0.20			
Std Cal	H	Hg-0.1mg/L-Cal			H18-292B	0.20			
↓	I	↓			↓	0.50			
↓	J	Hg-1.0mg/L-Cal			H18-292A	0.20			
↓	K	↓			↓	0.25			
↓	L	↓			↓	0.50			
↓	M								
CCN	N	Hg-1.0mg/L-Cont	15	10-26-18	H18-292C	0.25ml			
CCN	O	Hg-1.0mg/L-Cal	15	↓	H18-292A	0.20 ml	✓	✓	✓

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9 - Mallinckrodt
10 - Plasma Pure
11 - Solutions Plus
12 - SPEx Industries

13 - VMR Scientific
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16-Inorganic Ventures
XX - Other (footnote Manuf.)

[illegible]

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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 #
Hg-5700 CFA	H18292P	Hg-0.1mg/L-Cont	15	10-26-18	H18-292D	0.20mL	1	16	1911695
↓ CCV	Q	Hg-0.1mg/L-Cal	15	↓	H18-292A	0.20mL	1	16	1911695
Hg-5701 CCV	R	↓			↓	0.10			
↓ CCV	S	↓			↓	0.10			
↓ CCV	T	↓			↓	0.10			
↓ SA-Cal	U	↓			↓				
Agua Regia	V	↓			↓		5	16	1911695
Stannous Chloride	H18295A	SnCl ₂	4	10-4-19	180818 #10	200.00g			
↓	B	↓			10-11	200.00g			
↓	C	↓			#11	200.00g			
Hg-0.1mg/L-Cont	H18296A	Hg-0.1mg/L-Cal	15	4-16-19	H18-289A	1.0mL			
↓ 0.1mg/L-Inter-Cal	B	1.0mg/L-Cal	15	10-30-18	H18-296A	↓			
1.0mg/L-Inter-Cal	C	1.0mg/L-Cont	16	4-19-19	M2451653392 #12	↓			
* 0.1mg/L-Inter-Cal	D	* 1.0mg/L-Cont	15	10-30-18	H18-291C	↓			
Hg-5700 CCV	E	↓			↓	0.25mL	1	16	1911695
↓ CCV	F	Hg-0.1mg/L-Cal			H18-296A	0.20			
↓ CCV	G	Hg-0.1mg/L-Cont			H18-296D	0.20			
↓ SA-Cal	H	Hg-0.1mg/L-Cal			H18-296B	0.20			
↓	I	↓			↓	0.50			
↓	J	Hg-0.1mg/L-Cal			H18-296A	0.20			

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[illegible]

A = CaCl_2 (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $\text{Al}(\text{NO}_3)_3$ (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 #
Hg-5700 Std Cal	H18291A	Hg-1.0mg/L Cal	15	10-30-18	H18-291A	0.25ml	1	191105
✓	✓	✓	✓	✓	✓	0.50	✓	✓
ICV	N	Hg-1.0mg/L Cont	15	10-30-18	H18-291A	0.25ml	✓	✓
CCV	5	Hg-1.0mg/L Cal	✓	✓	H18-291A	0.20	✓	✓
CCA	9	Hg-0.1mg/L Cont	✓	✓	H18-291A	0.20	✓	✓
CCV	10	Hg-1.0mg/L Cal	✓	✓	H18-291A	0.20	✓	✓
Hg-1.0mg/L Inter Cal	H18291A	Hg-1.0mg/L Cal	15	4-11-19	H18-291A	1.0ml	✓	✓
1.0mg/L Inter Cal	B	1.0mg/L Cal	15	10-31-18	H18-291A	✓	✓	✓
1.0mg/L Inter Cal	C	10mg/L Cont	16	4-19-19	M2H615T392	✓	✓	✓
✓ 0.1mg/L Inter Cont	D	1.0mg/L Cont	15	10-31-18	H18-291A	✓	✓	✓
Hg-5701	ICV	✓	✓	✓	✓	0.25ml	✓	✓
CCV	E	Hg-1.0mg/L Cal	✓	✓	H18-291A	0.16	✓	✓
CCV	F	✓	✓	✓	✓	0.10	✓	✓
CCV	G	✓	✓	✓	✓	0.10	✓	✓
CCV	H	✓	✓	✓	✓	0.10	✓	✓
CCV	I	✓	✓	✓	✓	0.10	✓	✓
CCA	J	Hg-0.1mg/L Cont	✓	✓	H18-291A	0.40	✓	✓
CCA	K	✓	✓	✓	✓	0.80	✓	✓
Std Cal	L	Hg-1.0mg/L Cal	✓	✓	H18-291A	0.20	✓	✓
✓	M	✓	✓	✓	✓	0.50	✓	✓

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 - 11 - Solutions Plus
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 - 13 - WVR Scientific
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 - 15 - Prepared in house
 - 16 - Inorganic Ventures
 - XX - Other (footnote Manuf.)

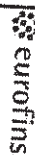
[illegible]

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Lancaster Laboratories
Environmental

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Eurofins Document Reference :
T-MET-FRM9079

Effective date : 02 Feb 2017

Revision: 3

Historical Reference:
1-P-QM-F-OR-9009818; Form 1105

Effective

HCl Used				Other Used				Effective date : 02 Feb 2017				Effective	
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 HNO ₃		H18-2975 H18-26-10	100	1.0mg/L	10-31-18			RT		
2							2.5						
3							5.0						
4							0.0						
5							2.5						
6	57	1807-04					1:3						
7							1.0						
8			10ml up to 157 HNO ₃		H18-26-80	10	0.1	10-31-18	10-25-18	11-01-18	RT		
9							1.0						
10							0.1						
11	2ml H ₂ SO ₄	4	184517	3.2ml H ₂ SO ₄ 6ml HNO ₃	H18-206A H18-26-10	100	2.5mg/L						
12						100	1.0						
13						200	0.2						
14						100	0.2						
15						200	0.5						
16						200	1.0						
17						100	2.5						
18						200	5.0						
19						200	0.0						
20						200	2.5						

Footnotes

Key (••) - Other Used

A = CaCl₂ (0.053%)
B = 0.2M H₂SO₄
D = La₂O₃ (10%)
RT = Room Temperature Storage

Footnotes

Key (••) - Other Used

A = CaCl₂ (0.053%)
B = CsCl (10%)
C = KCl

D = La₂O₃ (10%)
E = Al (NO₃)₃ (40%)
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Standard/Reagent Prepared			Standards/Reagents Used				HNO ₃ Used		
Name	Lot #	Identification	M•	Expire Date (MM/YY)	10-25-18 V354 Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
Hg 5700	CCV	H182980	15	11-01-18	H182984	0.20 ml	1	6	191685
CEA	CEA	Hg 0.1 mg/L Cont	1	11-01-18	H18298D	0.20	1	1	191685
CCV	CCV	Hg 0.1 mg/L Cont	1	11-01-18	H18298A	0.20	1	1	191685
Hg 11992	Hg 0.1 mg/L Cal	Hg 0.1 mg/L Cal	15	4-16-19	H182894A	1.0 ml	1	1	191685
Hg 0.1 mg/L Cal	Hg 0.1 mg/L Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	1.0 ml	1	1	191685
1.0 mg/L Baker Cont	1.0 mg/L Baker Cont	1.0 mg/L Baker Cont	16	4-19-19	MH667372	1.0 ml	1	1	191685
6.1 mg/L Baker Cont	6.1 mg/L Baker Cont	6.1 mg/L Baker Cont	15	11-02-18	H18299C	1.0 ml	1	1	191685
Hg 4392	CCV	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	0.25 ml	1	1	191685
CCV	CCV	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	0.10	1	1	191685
CCV	CCV	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	0.10	1	1	191685
CEA	CEA	Hg 0.1 mg/L Cont	15	11-02-18	H18299D	0.40	1	1	191685
CEA	CEA	Hg 0.1 mg/L Cont	15	11-02-18	H18299D	0.80	1	1	191685
Std Cal	Std Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299B	0.20	1	1	191685
Std Cal	Std Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299B	0.50	1	1	191685
Std Cal	Std Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	0.10	1	1	191685
Std Cal	Std Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	0.25	1	1	191685
Std Cal	Std Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	0.50	1	1	191685
Std Cal	Std Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	1.0 ml	1	1	191685
Std Cal	Std Cal	Hg 0.1 mg/L Cal	15	11-02-18	H18299A	1.0 ml	1	1	191685

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HCl Used				Other Used		Final Vol (mL)	Final Conc (mg/L ^{**})	Inlt/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
Vol (mL)	M•	Lot #	Vol (mL [*])	M•	Lot #						
2 mL H ₂ SO ₄	4	184517	3.2 mL H ₂ SO ₄ 10 mL KMnO ₄	4	H18-206A H18-2104Q	200	1.0 mg/L	201354	10-25-18	11-01-18	B
↓	✓	↓	✓	↓	↓	100	0.2	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	200	1.0	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	10	1.0	201354	10-26-18	11-02-18	F1
↓	✓	↓	✓	↓	↓	100	0.1	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	10	1.0	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	0.1	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	2.5 mg/L	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	1.0	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	1.0	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	0.4	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	0.8	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	0.2	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	0.5	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	1.0	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	2.5	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	5.0	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	6.0	↓	↓	↓	✓
↓	✓	↓	✓	↓	↓	100	1.0	201354	10-27-18	11-03-18	B
↓	✓	↓	✓	↓	↓	10	0.1	↓	↓	↓	✓

A = CaCl_2 (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $\text{Al}(\text{NO}_3)_3$ (40%)
F = Element Specific

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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 #
Hg 1.0 mg/L Inter Cal	H18-300C	Hg 1.0 mg/L Cal	16	4-19-19	M2H8-165392 ^{#2}	1.0 ml			
Hg 0.1 mg/L Inter Cal	D	Hg 0.1 mg/L Cal	15	11-03-18	H18-300C	1.0 ml			
Hg 5700 ICN	E					0.25 ml	1	6	1911/95
ICN	F	Hg 1.0 mg/L Cal			H18-300A	0.20			
CEA	G	Hg 0.1 mg/L Cal			H18-300D	0.20			
SEA Cal	H	Hg 0.1 mg/L Cal			H18-300B	0.20			
	I					0.50			
	J	Hg 1.0 mg/L Cal			H18-300A	0.20			
	K					0.25			
	L					0.50			
	M								
ICN	N	Hg 1.0 mg/L Cal	15	11-03-18	H18-300C	0.25 ml			
ICN	O	Hg 1.0 mg/L Cal			H18-300A	0.20 ml			
CEA	P	Hg 0.1 mg/L Cal			H18-300D	0.20			
ICN	Q	Hg 1.0 mg/L Cal			H18-300A	0.20			
Hg 1.0 mg/L Inter Cal	H18-303A	Hg 1.0 mg/L Cal	15	4-16-19	H18-28944A	1.0 ml			
8.1 mg/L Inter Cal	B	1.0 mg/L Cal	15	11-6-18	H18-303A				
1.0 mg/L Inter Cal	C	1.0 mg/L Cal	16	4-19-19	M2H8-165392 ^{#2}				
0.1 mg/L Inter Cal	D	1.0 mg/L Cal	15	11-02-18	H18-303C				
Hg 5700 ICN	E					0.25 ml	1	6	1911/95

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HCl Used				Other Used				Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
Vol (mL)	M•	Lot #	Vol (mL*)	M•	Lot #								
1			10 mL 0.15% HNO ₃		H18-2064			10	0.1	20354	10-27-18	11-03-18	RT
2													
3	2 mL H ₂ SO ₄	4	18-1517	3.2 mL 0.5% KMnO ₄	H18-2064			100	2.5 mg/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								10	1.0	20354	10-30-18	11-06-18	RT
17									0.1				
18									1.0				
19									0.1				
20	2 mL H ₂ SO ₄	4	18-1517	3.2 mL 0.5% KMnO ₄	H18-2064			100	2.5 mg/L				

Footnotes

Key (••) - Other Used

A = CaCl₂ (0.053%)
B = CsCl (10%)
C = KCl
D = La₂O₃ (10%)
E = Al (NO₃)₃ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified



Lancaster Laboratories
Environmental

Document Title:

Standard/Reagent Preparation Logbook

Eurofins Document Reference :

1-MET-FRM9079

Revision:

3

Historical Reference:

1-P-QM-FOR-9009818; Form 1105

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 #
Hg 5000 ③	H18303F	Hg 1.0 mg/L Cal	15	11-01-18	H18303A	0.20 ml	1	1911695
CCA	G	Hg 0.1 mg/L Cont			H18303D	0.20 ml		
3rd Cal	H	Hg 0.1 mg/L Cal			H18303B	0.20		
	1					0.50		
	1	Hg 1.0 mg/L Cal			H18303A	0.20		
	K					0.25		
	L					0.50		
	M							
	N	Hg 1.0 mg/L Cont	15	11-01-18	H18303C	0.25 ml		
	O	Hg 1.0 mg/L Cal			H18303A	0.20		
CCA	P	Hg 0.1 mg/L Cont			H18303D	0.20		
CCA	Q	Hg 1.0 mg/L Cal			H18303A	0.20		
	R		4	10-04-19	H18303A #11	200.01 g		
Stannous Chloride	S	SnCl ₂			H18303A #11-12	200.02 g		
	T				#12	200.02 g		
Hg 1.0 mg/L Inb Cal	H18303A	Hg 10 mg/L Cal	15	4-11-19	H18303A	1.0 ml		
0.1 mg/L Inb Cal	B	10 mg/L Cal	15	11-07-18	H18303C			
1.0 mg/L Inb Cal	C	10 mg/L Cont	16	4-19-19	H18303A			
0.1 mg/L Inb Cal	D	10 mg/L Cont	15	11-07-18	H18303C			
Hg 5000 1CN	E					0.25 ml	1	1911695

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.)

