

November 16, 2020

Vista Work Order No. 2002298

Ms. Delaney Peterson Anchor QEA, LLC 720 Olive Way, Suite 1900 Seattle, WA 98101

Dear Ms. Peterson,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on October 28, 2020 under your Project Name 'GascoSiltronic: US Moorings'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

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Vista Work Order No. 2002298 Case Narrative

Sample Condition on Receipt:

Two QC water samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. The samples were received in good condition and within the method temperature requirements.

Analytical Notes:

EPA Method 1613B

The samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-DIOXIN GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limits in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2002298-01	SC-FB-2010261145	26-Oct-20 11:45	28-Oct-20 10:12	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
2002298-02	SC-RB-2010261130	26-Oct-20 11:30	28-Oct-20 10:12	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle 1I

Vista Project: 2002298 Client Project: GascoSiltronic: US Moorings

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ANALYTICAL RESULTS

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Sample ID: Method	l Blank							EPA Me	thod 1613B
Matrix: Aque Sample Size: 1.00		QC Batch: Date Extracted:	B0K0008 03-Nov-2020 6:57			ab Sample: B0K0008-BLK1 ate Analyzed: 12-Nov-20 10:00	6 Column: ZB-DIO	OXIN	
Analyte Conc.	(pg/L)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.278			IS	13C-2,3,7,8-TCDD	85.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.421				13C-1,2,3,7,8-PeCDD	87.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.504				13C-1,2,3,4,7,8-HxCDD	90.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.518				13C-1,2,3,6,7,8-HxCDD	92.6	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.574				13C-1,2,3,7,8,9-HxCDD	91.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.962				13C-1,2,3,4,6,7,8-HpCDD	75.8	23 - 140	
OCDD	ND	1.87				13C-OCDD	65.4	17 - 157	
2,3,7,8-TCDF	ND	0.309				13C-2,3,7,8-TCDF	85.5	24 - 169	
1,2,3,7,8-PeCDF	ND	0.323				13C-1,2,3,7,8-PeCDF	91.0	24 - 185	
2,3,4,7,8-PeCDF	ND	0.270				13C-2,3,4,7,8-PeCDF	94.4	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.592				13C-1,2,3,4,7,8-HxCDF	80.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.559				13C-1,2,3,6,7,8-HxCDF	82.5	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.678				13C-2,3,4,6,7,8-HxCDF	81.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	1.14				13C-1,2,3,7,8,9-HxCDF	74.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	3.73			J		13C-1,2,3,4,6,7,8-HpCDF	69.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	2.20			J		13C-1,2,3,4,7,8,9-HpCDF	65.9	26 - 138	
OCDF	17.8			J		13C-OCDF	62.3	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	93.3	35 - 197	
						Toxic Equivalent Quotient (TI	EQ) Data (pg/L)		
						TEQMinWHO2005Dioxin	0.0646		
TOTALS									
Total TCDD	ND	0.278							
Total PeCDD	ND	0.421							
Total HxCDD	ND	0.574							
Total HpCDD	ND	0.962							
Total TCDF	ND	0.309							
Total PeCDF	ND	0.323							
Total HxCDF	2.20		3.04	J					
Total HpCDF	13.4			J	LOLI	^L - Lower control limit - upper control lin	•.		

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

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Sample ID: OPR								EPA Method 1613B
Matrix: Aqueous Sample Size: 1.00 L	,	Batch: e Extracted:	B0K0008 03-Nov-2020	6:57		Lab Sample: B0K0008-BS1 Date Analyzed: 12-Nov-20 08:36	Column: ZB-DIOXIN	
Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	194	200	97.2	67 - 158	IS	13C-2,3,7,8-TCDD	86.5	20 - 175
1,2,3,7,8-PeCDD	997	1000	99.7	70 - 142		13C-1,2,3,7,8-PeCDD	93.2	21 - 227
1,2,3,4,7,8-HxCDD	958	1000	95.8	70 - 164		13C-1,2,3,4,7,8-HxCDD	92.6	21 - 193
1,2,3,6,7,8-HxCDD	921	1000	92.1	76 - 134		13C-1,2,3,6,7,8-HxCDD	97.6	25 - 163
1,2,3,7,8,9-HxCDD	946	1000	94.6	64 - 162		13C-1,2,3,7,8,9-HxCDD	90.9	21 - 193
1,2,3,4,6,7,8-HpCDD	938	1000	93.8	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	80.1	26 - 166
OCDD	1840	2000	92.2	78 - 144		13C-OCDD	73.9	13 - 199
2,3,7,8-TCDF	177	200	88.3	75 - 158		13C-2,3,7,8-TCDF	87.2	22 - 152
1,2,3,7,8-PeCDF	934	1000	93.4	80 - 134		13C-1,2,3,7,8-PeCDF	98.2	21 - 192
2,3,4,7,8-PeCDF	932	1000	93.2	68 - 160		13C-2,3,4,7,8-PeCDF	99.3	13 - 328
1,2,3,4,7,8-HxCDF	918	1000	91.8	72 - 134		13C-1,2,3,4,7,8-HxCDF	82.0	19 - 202
1,2,3,6,7,8-HxCDF	924	1000	92.4	84 - 130		13C-1,2,3,6,7,8-HxCDF	83.6	21 - 159
2,3,4,6,7,8-HxCDF	902	1000	90.2	70 - 156		13C-2,3,4,6,7,8-HxCDF	86.7	22 - 176
1,2,3,7,8,9-HxCDF	935	1000	93.5	78 - 130		13C-1,2,3,7,8,9-HxCDF	77.9	17 - 205
1,2,3,4,6,7,8-HpCDF	928	1000	92.8	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	73.7	21 - 158
1,2,3,4,7,8,9-HpCDF	931	1000	93.1	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	69.1	20 - 186
OCDF	1840	2000	91.8	63 - 170		13C-OCDF	70.0	13 - 199
					CRS	37Cl-2,3,7,8-TCDD	91.7	31 - 191

LCL-UCL - Lower control limit - upper control limit

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Client Data	Sample ID: SC-FB-2	2010261145							EPA Met	hod 1613B
23.7,8-TCDD	Name: Anchor Project: GascoS	Siltronic: US Moorings	Matrix:	QC Water		Lab QC	Sample: 2002298-01 Batch: B0K0008	Date Extracted	: 03-Nov-2020	
1,2,3,7,8-PcCDD	Analyte Conc. ((pg/L)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
1,23,4,7,8-HxCDD	2,3,7,8-TCDD	ND	0.274			IS	13C-2,3,7,8-TCDD	81.2	25 - 164	
1,2,3,6,7,8-HxCDD	1,2,3,7,8-PeCDD	ND	0.448				13C-1,2,3,7,8-PeCDD	77.0	25 - 181	
1,2,3,7,8,9-HxCDD	1,2,3,4,7,8-HxCDD	ND	0.651				13C-1,2,3,4,7,8-HxCDD	77.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	1,2,3,6,7,8-HxCDD	ND	0.660				13C-1,2,3,6,7,8-HxCDD	77.9	28 - 130	
OCDD ND 2.99 13C-OCDD 40.5 17-157 2,3,7,8-TCDF ND 0.157 13C-3,2,3,7.8-TCDF 82.4 24-169 1,23,7,8-PeCDF ND 0.173 13C-1,2,3,7,8-PeCDF 85.5 24-185 2,3,4,7,8-PeCDF ND 0.159 13C-1,2,3,7,8-PeCDF 85.8 21-178 1,23,4,7,8-HxCDF ND 0.223 13C-1,2,3,4,8-HxCDF 71.9 26-152 1,2,3,6,7,8-HxCDF ND 0.214 13C-1,2,3,4,8-HxCDF 73.9 26-152 1,2,3,7,8-HxCDF ND 0.265 13C-2,3,4,6,7,8-HxCDF 73.9 26-152 1,2,3,7,8-HxCDF ND 0.408 13C-1,2,3,4,6,7,8-HxCDF 70.6 29-147 1,2,3,4,7,8-HpCDF ND 0.408 13C-1,2,3,4,7,8-HpCDF 61.6 28-143 1,2,3,4,7,8-HpCDF ND 0.448 13C-1,2,3,4,7,8-HpCDF 9.9 26-138 OCDF ND 0.448 13C-1,2,3,4,7,8-HpCDF 9.9 26-138 Total TCDD ND 0.274 12C-1,2,3,4,7,8-	1,2,3,7,8,9-HxCDD	ND	0.812				13C-1,2,3,7,8,9-HxCDD	70.9	32 - 141	
2,3,7,8-TCDF ND 0.157 13C-2,3,7,8-TCDF 82.4 24-169 1,2,3,7,8-PeCDF ND 0.173 13C-12,3,7,8-PeCDF 84.5 24-185 2,3,4,7,8-PeCDF ND 0.159 13C-12,3,7,8-PeCDF 85.8 21-178 1,2,3,4,7,8-HxCDF ND 0.223 13C-12,3,4,7,8-HxCDF 71.9 26-152 1,2,3,6,7,8-HxCDF ND 0.214 13C-1,2,3,6,7,8-HxCDF 73.9 26-123 2,3,4,6,7,8-HxCDF ND 0.265 13C-1,2,3,6,7,8-HxCDF 70.6 29-147 1,2,3,4,8,9-HxCDF ND 0.406 13C-1,2,3,4,6,7,8-HxCDF 70.6 29-147 1,2,3,4,8,9-HyCDF ND 0.448 13C-1,2,3,4,7,8-HyCDF 59.9 26-138 0CDF ND 0.448 13C-0CDF 46.6 17-157 1,2,3,4,7,8,9-HyCDF ND 4.9 35-197 Toxic Equivalent Quotient (TEQ) Data (pg/L) Toxic Equivalent Quotient (TEQ) Data (pg/L) Toxic Equivalent Quotient (TEQ) Data (pg/L) Toxic Equivalent Quot	1,2,3,4,6,7,8-HpCDD	ND	0.686				13C-1,2,3,4,6,7,8-HpCDD	62.0	23 - 140	
1,2,3,7,8-PeCDF	OCDD	ND	2.99				13C-OCDD	40.5	17 - 157	
2,3,4,7,8-PeCDF ND 0.159 13C-2,3,4,7,8-PeCDF 85.8 21-178 1,2,3,4,7,8-HxCDF ND 0.223 13C-1,2,3,4,7,8-HxCDF 71.9 26-152 2,3,4,6,7,8-HxCDF ND 0.214 13C-1,2,3,4,7,8-HxCDF 73.9 26-123 2,3,4,6,7,8-HxCDF ND 0.265 13C-2,3,4,6,7,8-HxCDF 72.0 28-136 1,2,3,7,8,9-HxCDF ND 0.408 13C-1,2,3,4,6,7,8-HpCDF 70.6 29-147 1,2,3,4,6,7,8-HpCDF ND 0.408 13C-1,2,3,4,6,7,8-HpCDF 61.6 28-143 1,2,3,4,7,8-9-HpCDF ND 0.448 13C-1,2,3,4,7,8-PpCDF 61.6 28-143 0CDF ND 0.448 13C-0,23,7,8-PpCDF 9.9 26-138 0CDF ND 1.10 13C-0CDF 46.6 17-157 CRS 37C-1,2,3,7,8-PpCDF 94.9 35-197 Total TCDD ND 0.274 TEQMinWH02005Dixin 0.00 Total TCDD ND 0.448	2,3,7,8-TCDF	ND	0.157				13C-2,3,7,8-TCDF	82.4	24 - 169	
1,2,3,4,7,8-HxCDF	1,2,3,7,8-PeCDF	ND	0.173				13C-1,2,3,7,8-PeCDF	84.5	24 - 185	
1,2,3,6,7,8-HxCDF ND 0.214 13C-1,2,3,6,7,8-HxCDF 73.9 26-123 2,3,4,6,7,8-HxCDF ND 0.265 13C-2,3,4,6,7,8-HxCDF 72.0 28-136 1,2,3,7,8,9-HxCDF ND 0.408 13C-1,2,3,7,8,9-HxCDF 70.6 29-147 1,2,3,4,6,7,8-HpCDF ND 0.406 13C-1,2,3,7,8,9-HpCDF 61.6 28-143 1,2,3,4,7,8,9-HpCDF ND 0.448 13C-1,2,3,4,7,8,9-HpCDF 59.9 26-138 0CDF ND 1.10 13C-0CDF 46.6 17-157 0CDF ND 1.10 13C-0CDF 46.6 17-157 CR8 37CI-2,3,7,8-TCDD 94.9 35-197 TOTALS TEQMinWHO2005Dioxin 0.00 TOTAL TCDD ND 0.274 TOTAL TCDD ND 0.448 TOTAL TCDD ND 0.448 STACK TCDD STACK TCDD <td>2,3,4,7,8-PeCDF</td> <td>ND</td> <td>0.159</td> <td></td> <td></td> <td></td> <td>13C-2,3,4,7,8-PeCDF</td> <td>85.8</td> <td>21 - 178</td> <td></td>	2,3,4,7,8-PeCDF	ND	0.159				13C-2,3,4,7,8-PeCDF	85.8	21 - 178	
2,3,4,6,7,8-HxCDF ND 0.265 13C-2,3,4,6,7,8-HxCDF 72.0 28 - 136 1,2,3,7,8,9-HxCDF ND 0.408 13C-1,2,3,7,8,9-HxCDF 70.6 29 - 147 1,2,3,4,6,7,8-HpCDF ND 0.406 13C-1,2,3,4,6,7,8-HpCDF 61.6 28 - 143 1,2,3,4,7,8,9-HpCDF ND 0.448 13C-1,2,3,4,7,8,9-HpCDF 59.9 26 - 138 OCDF ND 1,10 CRS 37C1-2,3,7,8-TCDD 94.9 35 - 197 Toxic Equivalent Quotient (TEQ) Data (pg/L) Toxid TCDD ND 0.274 TEQMinWH02005Dioxin 0.00 Toxid TCDD ND 0.448 STEQMinWH02005Dioxin 0.00 Toxid PCDD ND 0.686 STEQMIN STEAM (STEAM (STE	1,2,3,4,7,8-HxCDF	ND	0.223				13C-1,2,3,4,7,8-HxCDF	71.9	26 - 152	
1,2,3,7,8,9-HxCDF ND 0.408 13C-1,2,3,7,8,9-HxCDF 70.6 29 - 147 1,2,3,4,6,7,8-HpCDF ND 0.406 13C-1,2,3,4,6,7,8-HpCDF 61.6 28 - 143 1,2,3,4,7,8,9-HpCDF ND 0.448 13C-1,2,3,4,7,8,9-HpCDF 59.9 26 - 138 OCDF ND 1.10 13C-OCDF 46.6 17 - 157 CRS 37C-12,3,7,8-TCDD 94.9 35 - 197 Toxic Equivalent Quotient (TEQ) Data (rg/L) Toxid TCDD ND 0.274 Total TCDD ND 0.448 Total HxCDD ND 0.812 Total HyCDD ND 0.686 Total TCDF ND 0.200 Total PCDF ND 0.173 Total HxCDF ND 0.408 Total HxCDF ND 0.448 Total HxCDF ND 0.408 Total HxCDF	1,2,3,6,7,8-HxCDF	ND	0.214				13C-1,2,3,6,7,8-HxCDF	73.9	26 - 123	
1,2,3,4,6,7,8-HpCDF ND 0.406 13C-1,2,3,4,6,7,8-HpCDF 61.6 28 - 143 1,2,3,4,7,8,9-HpCDF ND 0.448 13C-1,2,3,4,7,8,9-HpCDF 59.9 26 - 138 OCDF ND 1.10 13C-OCDF 46.6 17 - 157 CRS 37CI-2,3,7,8-TCDD 94.9 35 - 197 Total FCDD ND 0.0 TOTALS Total TCDD ND 0.274 STEQMinWHO2005Dioxin 0.0 Total PCDD ND 0.448 STEQMIN WHO2005Dioxin STEQMIN WHO2005Dioxin STEQMIN WHO2005Dioxin 0.0 Total HxCDD ND 0.448 STEQMIN WHO2005Dioxin 0.0 STEQMIN WHO2005Dioxin 0.0 STEQMIN WHO2005Dioxin 0.0 0.0 STEQMIN WHO2005Dioxin 0.0 STEQMIN WHO2005Dioxin 0.0 0.0	2,3,4,6,7,8-HxCDF	ND	0.265				13C-2,3,4,6,7,8-HxCDF	72.0	28 - 136	
1,2,3,4,7,8,9-HpCDF ND 0.448 13C-1,2,3,4,7,8,9-HpCDF 59.9 26 - 138 OCDF ND 1.10 13C-OCDF 46.6 17 - 157 CRS 37C1-2,3,7,8-TCDD 94.9 35 - 197 Toxic Equivalent Quotient (TEQ) Data (pg/L) TOTALS TOTALS Total TCDD ND 0.274 Total PcDD ND 0.448 Total HxCDD ND 0.812 Total HpCDD ND 0.686 Total TCDF ND 0.200 Total PcCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.408 Total HpCDF ND 0.408 Total HpCDF ND 0.448	1,2,3,7,8,9-HxCDF	ND	0.408				13C-1,2,3,7,8,9-HxCDF	70.6	29 - 147	
OCDF ND	1,2,3,4,6,7,8-HpCDF	ND	0.406				13C-1,2,3,4,6,7,8-HpCDF	61.6	28 - 143	
CRS 37C1-2,37,8-TCDD 94.9 35 - 197 Toxic Equivalent Quotient (TEQ Data (pg/L)) TOTALS TEQMinWHO2005Dioxin 0.00 TOTAL PCDD ND 0.274 Second Policy of the poli	1,2,3,4,7,8,9-HpCDF	ND	0.448				13C-1,2,3,4,7,8,9-HpCDF	59.9	26 - 138	
Toxic Equivalent Quotient (TEQ) Data (pg/L)	OCDF	ND	1.10				13C-OCDF	46.6	17 - 157	
TEQMinWHO2005Dioxin 0.00 TOTALS Total TCDD ND 0.274 <						CRS	37Cl-2,3,7,8-TCDD	94.9	35 - 197	
TOTALS Total TCDD ND 0.274 Total PeCDD ND 0.448 Total HxCDD ND 0.812 Total HpCDD ND 0.686 Total TCDF ND 0.200 Total PeCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.448							Toxic Equivalent Quotient (TEQ) Data (pg/L)		
Total TCDD ND 0.274 Total PcCDD ND 0.448 Total HxCDD ND 0.812 Total HpCDD ND 0.686 Total TCDF ND 0.200 Total PcCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.448							TEQMinWHO2005Dioxin	0.00		
Total PeCDD ND 0.448 Total HxCDD ND 0.812 Total HpCDD ND 0.686 Total TCDF ND 0.200 Total PeCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.448	TOTALS									
Total HxCDD ND 0.812 Total HpCDD ND 0.686 Total TCDF ND 0.200 Total PeCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.448	Total TCDD	ND 0	.274							
Total HpCDD ND 0.686 Total TCDF ND 0.200 Total PcCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.448	Total PeCDD									
Total TCDF ND 0.200 Total PeCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.448	Total HxCDD									
Total PeCDF ND 0.173 Total HxCDF ND 0.408 Total HpCDF ND 0.448			.686							
Total HxCDF ND 0.408 Total HpCDF ND 0.448				0.200						
Total HpCDF ND 0.448										
DL - Sample specific estimated detection limit LCL-UCL- Lower control limit - upper control limit			.448							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

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Sample ID: SC-RB-2	2010261130						EPA Met	hod 1613B
Project: GascoS	r QEA, LLC Siltronic: US Moorings -2020 11:30	Sample Data Matrix: QC Water Sample Size: 1.04 L		Lab QC	Sample: 2002298-02 Batch: B0K0008 e Analyzed: 13-Nov-20 15:24	Date Received: Date Extracted: Column: ZB-DIO	03-Nov-2020	
Analyte Conc. (pg/L)	DL EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.745		IS	13C-2,3,7,8-TCDD	82.9	25 - 164	
1,2,3,7,8-PeCDD		0.322			13C-1,2,3,7,8-PeCDD	83.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.525			13C-1,2,3,4,7,8-HxCDD	83.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.510			13C-1,2,3,6,7,8-HxCDD	86.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.581			13C-1,2,3,7,8,9-HxCDD	85.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.688			13C-1,2,3,4,6,7,8-HpCDD	74.7	23 - 140	
OCDD	ND	2.02			13C-OCDD	60.7	17 - 157	
2,3,7,8-TCDF	ND	0.547			13C-2,3,7,8-TCDF	83.1	24 - 169	
1,2,3,7,8-PeCDF	ND (0.254			13C-1,2,3,7,8-PeCDF	90.3	24 - 185	
2,3,4,7,8-PeCDF	ND (0.215			13C-2,3,4,7,8-PeCDF	91.8	21 - 178	
1,2,3,4,7,8-HxCDF	ND (0.290			13C-1,2,3,4,7,8-HxCDF	77.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND (0.282			13C-1,2,3,6,7,8-HxCDF	80.1	26 - 123	
2,3,4,6,7,8-HxCDF	ND (0.302			13C-2,3,4,6,7,8-HxCDF	83.0	28 - 136	
1,2,3,7,8,9-HxCDF	ND (0.491			13C-1,2,3,7,8,9-HxCDF	81.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND (0.353			13C-1,2,3,4,6,7,8-HpCDF	71.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND (0.378			13C-1,2,3,4,7,8,9-HpCDF	69.4	26 - 138	
OCDF	ND	1.04			13C-OCDF	64.0	17 - 157	
				CRS	37Cl-2,3,7,8-TCDD	94.9	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/L)		
					TEQMinWHO2005Dioxin	0.00		
TOTALS								
Total TCDD	ND 0	.745						
Total PeCDD		.322						
Total HxCDD		.581						
Total HpCDD		.688						
Total TCDF		.547						
Total PeCDF		.254						
Total HxCDF		.491						
Total HpCDF DL - Sample specifc estim		.378			L- Lower control limit - upper control limit			

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

 $\label{eq:min-The} \mbox{Min-The TEQ is calculated using zero for the concentration of congeners that are not detected} \, .$

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DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank

Conc. Concentration

CRS Cleanup Recovery Standard

D Dilution

DL Detection Limit

E The associated compound concentration exceeded the calibration range of the

instrument

H Recovery and/or RPD was outside laboratory acceptance limits

I Chemical Interference

IS Internal Standard

J The amount detected is below the Reporting Limit/LOQ

K EMPC (specific projects only)

LOD Limit of Detection

LOQ Limit of Quantitation

M Estimated Maximum Possible Concentration (CA Region 2 projects only)

MDL Method Detection Limit

NA Not applicable

ND Not Detected

OPR Ongoing Precision and Recovery sample

P The reported concentration may include contribution from chlorinated diphenyl

ether(s).

Q The ion transition ratio is outside of the acceptance criteria.

RL Reporting Limit

TEQ Toxic Equivalency

U Not Detected (specific projects only)

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

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Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-В
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

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NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA 23
Dibenzofurans	
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA TO-9A
Dibenzofurans	

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by	EPA 1699
HRGC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by	EPA 8280A/B
GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA
	1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

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ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

2002098 5.4℃

COC ID:

VISTA-20201026-115850

POC: " D

Delaney Peterson (360-715-2707)

Project:

GascoSiltronic: US Moorings

Sample Custodian:

CO

1605 Cornwall Avenue, Bellingham, WA 98225

Client:

NW Natural

Lab:

VISTA

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collecte	ed Time	# Containers	QC.	Test Request	Method	TAT**	Preservative
001	SC-FB-2010261145	FB	WQ	10/26/2020	11:45	2					
		_						Dioxin/Furans	E1613B	30	4°C
002	SC-RB-2010261130	RB	WQ	10/26/2020	11:30	2					
								Dioxin/Furans	E1613B	30	4°C

Comment:					
Comment					
1					
Relinguished By:	Received By	Relinguished By:	Received By	Relinquished By:	Received By:
Signature	Signature At	Signature	Signature	Signature	Signature
Print Name C. OYZE IRU	Print Name Y. Awste	Print Name	Pnnt Name	Print Name	Print Name
	Company AL	Company	Company	Company	Company
Date/Time 10177 (20 6900)	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

Date Printed: 10/26/2020



Sample Log-In Checklist

						Pa	ge#_	1_0	fi	_
Vista Work Orde	r#: _	00000	98	•	_	т	AT	St	4	_
Samples	Date/Time		In	itials:		Loca	tion:	UR-	7	
Arrival:	10/28/20	10:12		Ka		Shelf	/Rack		un	
Delivered By:	FedEx UPS	S On Tra	ac	GLS	DHL	-	Hand Deli v er		Oth	ıer
Preservation:	Ice	ВІ	ue I	Ice		chni ce	Dry	Ice	No	ne
Temp °C: 5	(uncorrected)	Probe us	ed:	YIN)	Ther	mome	ter ID:	12	-3
Temp °C: 5-4	(corrected)	1 TODE US	cu.			111011				
							4 10 1	YES	NO	NA
Shipping Contain	ner(s) Intact?				NEW YORK OF THE PARTY OF THE PA					1
Shipping Custod	•	_						/		
Airbill	Trk # 7-7	19 170	5	5307				/		
Shipping Docum	entation Present?							~		
Shipping Contair	ner	Vista		Client	R	etain	Re	eturn	Dis	oose
Chain of Custody	y / Sample Docun	nentation P	rese	ent?				/		
Chain of Custody	y / Sample Docun	nentation C	om	plete?				/		
Holding Time Ac	ceptable?									
	Date/Time		Ir	nitials:		Loca	ition:	W	12-2	
Logged In:	10/28/20	12:41		Ka		Shel	f/Rack	B-	1 , C	- 1
COC Anomaly/S	ample Acceptanc			eted?					V	V

Comments:

ID.: LR - SLC Rev No.: 6 Rev Date: 07/16/2020 Page: 1 of 1

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CoC/Label Reconciliation Report WO# 2002298

LabNumber CoC Sample ID	SamplcAlias	Sample Date/Time		Container	Sample BaseMatrix Comments
2002298-01 A SC-FB-2010261145		26-Oct-20 11:45	D	Amber Glass NM Bottle, 1L	Aqueous
2002298-01 B SC-FB-2010261145		26-Oct-20 11:45		Amber Glass NM Bottle, IL	Aqueous
2002298-02 A SC-RB-2010261130		26-Oct-20 11:30	D	Amber Glass NM Bottle, 1L	Aqueous
2002298-02 B SC-RB-2010261130		26-Oct-20 11:30	Q	Amber Glass NM Bottle, 1L	Aqueous

Checkmarks indicate that information on the COC reconciled with the sample label. Any discrepancies are noted in the following columns.

	Yes	No	NA	Comments:
Sample Container Intact?	/			
Sample Custody Seals Intact?			/	
Adequate Sample Volume?	/			
Container Type Appropriate for Analysis(es)	/			
Preservation Documented: Na2S2O3 Trizma None Other		/		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?				

Verifed by/Date: Ka 10/28/20

Printed: 10/28/2020 1:55:25PM 2002298 Page 1 of 1

EXTRACTION INFORMATION

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Process Sheet

Workorder: 2002298

Prep Expiration: 2021-10-26

Client: Anchor QEA, LLC

Method: 1613 Full List Matrix: Aqueous Client Matrix: QC Water

Also run: Percent Solids

Workorder Due: 25-Nov-20 00:00

TAT: 28

Prep Batch: BOK0008

Prep Data Entered:

Initial Sequence: So K-6632

LabSampleID	Recon ClientSampleID	Date Received Loca	tion Comments
2002298-01 4	SC-FB-2010261145	28-Oct-20 10:12 WR-2	B-1
2002298-02	SC-RB-2010261130	28-Oct-20 10:12 WR-2	B-1

WO Comments: 1613: 10g dw

1668A: 5g dw

Pre-Prep Check In:

Prep Reconciled Initals/Date: 11/04

Page 1 of 1

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PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 1613 Full List Method: 1613 2.3.7.8s Only

Method: 1613 2.3.7.8-TCDD Only

B0K0008

Chemist:

Prep Date/Time: 03-Nov-20

Prepared using: HRMS - Separatory Funnel

VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
B0K0008-BLK1	NA	NA	(1.00)	DG RP-11/04/20	DG 111/08/20	NA	DG_11/08/20	DG_11/08/20	DG-11/08/20	DG AM 11/09/20
B0K0008-BS1	NA	AN	(1.00)							
2002243-01(6) (7)	NA	NÀ	0.02447				pale green ring			
2002285-01	1552.28	510.82	1.04146				yellow rinas		V	
2002293-01	1542.79	510.98	1.03181						NA -	
2002294-01	1560.08	512,47	1.04761							
2002295-01	1377.87	399.17	0.9787							
2002298-01	1547.05	510.60	1.03645	-					DG_11/08/20	
2002298-02	1554.90	512.22	1.04268							
2002299-01	1561.64	511.94	1.0497					-	-	
2002300-01	1464.38	507.98	0.9564							
2002339-01	1481.17	508.05	0.97312	\forall					V	

A) Custody seal broken before extraction. Do 11/04/20
B) Powed out half of sample and alwhed to 11 with UPIC water. Do 11/04/20
C) Sharpie bled Arto sample during florisil. DG 11/09/20

			_			
IS Name (V4)	NS Name			Cycle Time	APP: (SEFUN) SOX SDS	Check Out: Chemist/Date: DG 11/04/10
PCDD/F 20F1101 10M	L PCDD/F 20F0107 10 A	L PCDD/F 20E0701 10nL	PCDD/F 20E0702 10 pL	Start Date/Time:	SOLV: DCM	· '
PCB	PCB	PCB	PCB	LVA	Other N/A	Check In: Chemist/Date: EMPTy
PAH	_ PAH	PAH	РАН	Stop Date/Time:	Final Volume(s) 20µL	Balance ID: HRMS-9
	-			NA	<u>C14</u>	

Comments: Assume 1 g = 1 mL

- 5 = Sample Centrifuged to remove particulate
- 6 = Added boiling chips to seperatory funnel
- 7 = Sample emulsed during shakeout

^{1 =} Sample approached dryness on rotovap

^{2 =} Sample bumped on rotovap; lost < 5%

^{3 =} Sample poured through Na2SO4 to remove water

^{4 =} Precipitate present at Final Volume

Percent Moisture/ Percent Solids

D2216-90

BATCHID BOKO007

Analyst: DG 🗸	Test Code: %Moist/%Solids	
Analyte:	Units: %	Data Entry Verified by: (Initial and Date)
Dried at 110°C+/-5°C Oven ID: <u>01</u> 02		50 ' '

	HRMS-9		Date/Time IN:											
Inst	HRMS-9 V		11/04/20 0742	11/08/20 0708	J									
	В	Ç	D	E	F	G	н	ı	К	Ł	M	N	0	Ρ
				Intial and Date:	DG 11/04/20 V	DG 11/08/20 🗸			DG 11/04/20	\checkmark		NA		DG 11/04/20√
Particle Size	SampID		SampType	Pan	Wet Pan and Sample	Dry Pan and Sample		%Solids		CI-		pН	Acid	Sample
				Tare Wt. (gms)	,	Weight (g)	Weight (g)	RawVal	Inspection	.,	Before		Added	
	2002243-01	A	Sample	1.2800	6.1700 🗸	1.3500	0.0700	1.43	YELLOW			NA	NA	Х
	2002285-01	_ A J	Sample	1.2600 🗸	8.0100	1.2800	0.0200	0.30	CLEAR	0	7 🗸	NA	NA	Х
	2002293-01	_A √,	Sample	1.2700	8.6500	1,2800	0.0100	0.14	CLEAR	0	7 4	NA	NA	X
	2002294-01	A √	Sample	1.2600 🗸	11.4600 V	1.2700 🗸	0.0100	0.10	CLEAR	0	7 🗸	NA	NA	x =
	2002295-01	A 🗸	Sample	1.2800	13.3900	1.2800 🗸	0.0000	0.00	CLEAR	0	7	NA	NA	x ^
	2002298-01	A 🗸	Sample	1.2600 🗸	6.7400	1.2800 🗸	0.0200	0.36	CLEAR	0	5	NA	NA	Х
	2002298-02	A V	Sample	1.2700 🗸	6.2400 🗸	1.2700 √	0.0000	0.00	CLEAR	0	5	NA	NA	X
	2002299-01	A V	Sample	1.2600 🗸	6.6400 🗸	1.2700 ✓	0.0100	0.19	CLEAR	0	5 ✔	NA	NA	Х
	2002300-01	A √ ,	Sample	1.2700 √,	7.7100 🗸	1.2900 🗸	0.0200	0.31	CLEAR	04	7 J	NA	NA	X
	2002339-01	c 🗸	Sample	1.2700	8.4300	1.2700 √	0.0000	0.00	CLEAR	04	5 🗸	NA	NA	х
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							-							
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				_										

^{*}Sample homogenized in sample container unless otherwise noted.

BCH_PMOIST_B0K0007.xls

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B0K0007

Analyst:	Test Code: %Moist/%Solids	
, ,	<i>2</i> 0	Data Entry Verified by:
Analyte:	Units: %	(Initial and Date)
D	ried at 110°C+/-5°C	
Oven ID: 10	01) 02	

HRMS-9	В	С	0742 0742	Date/Time OUT [\]/08/20 0708	F	OG 11/08/20	. ". н ".	1	к	L	M	N		Р
Particle Size	Comple		ComeTeres	Intial and Date:	DG 11/04/20	D6 11/08/20			DG 11/0	4/2	0	ΛV	<u>ح</u> ــــ	06-11/04/2
Particle Size	SamplD		SampType	Pan Tare Wt. (gms)	Wet Parl and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	CI-	pH Before	pH After	Acid Added	Sample Homogenized
	2002243-01	A	Sample	1.28	6.17	Weight (g)	3 107	7	Inspection CLEAR A	0	7		7	X
	2002285-01		Sample	11.26	8.01 8.65	1.28			CLEART	Ò	7			X
	2002293-01		Sample	1.27	8.65	1.28				0	7			X
	2002294-01		Sample	11.26	1.46	1.27				0	7		$\overline{}$	X
	2002295-01		Sample	1.28	3.39	1.28	2			0	7	N	fy	X
	2002298-01		Sample	.26 .27	6.74	1.28				0	5	7	7	X
	2002298-02		Sample	1.27	6.24	1.27				0	5			X
	2002299-01		Sample	1.26	6.64	1.27				0	5	7		X ·
	2002300-01		Sample	1.27	7.71 8.43	1.29				0	7	$\overline{}$		X
<u>_</u>	2002339-01	V.C	Sample	1.27	8.43	1.27	/		4	0	5			X
		DE NOU!	20											
	-													
												\Box		
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*Sample homogenized in sample container unless otherwise noted.

(1) Yellow VG 11/04/20

BCH_PMOIST_B0K0007.xls

11/2/2020 6:55 AM

Batch: B0K0008

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
2002243-01	0.02447 🗸		_	20	03-Nov-20 06:57	IM			Waste	1613 Full List
2002285-01	1.04146 🗸			20	03-Nov-20 06:57	IM			Water	1613 2,3,7,8s Only
2002293-01	1.03181	!		20	03-Nov-20 06:57	ΙM			Drinking Water	1613 2,3,7,8-TCDD Only
2002294-01	1.04761 🗸	 		20	03-Nov-20 06:57	IM			Drinking Water	1613 2,3,7,8-TCDD Only
2002295-01	0.9787 🗸			20	03-Nov-20 06:57	IM			Drinking Water	1613 2,3,7,8-TCDD Only
2002298-01	1.03645 🗸			20	03-Nov-20 06:57	IM			QC Water	1613 Full List
2002298-02	1.04268 🗸			20	03-Nov-20 06:57	IM			QC Water	1613 Full List
2002299-01	1.0497 🗸			20	03-Nov-20 06:57	IM			QC Water	1613 Full List
2002300-01	0.9564 √			20	03-Nov-20 06:57	IM			Wastewater	1613 Full List
2002339-01	0.97312	/		20	03-Nov-20 06:57	1M			Rinsate Water	1613 Full List
B0K0008-BLK1	1 🗸	/		20	03-Nov-20 06:57	IM				QC
B0K0008-BS1	1 🗸			20	03-Nov-20 06:57	IM	20F0107	√ 10 √		QC

All bolded data on report verified against written benchsheet by (initial/date)

DG 11/11/20

Printed: 11/11/2020 11:56:18AM Page 1 of 1

SAMPLE DATA – EPA METHOD 1613

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Page 1 of 2

Dataset:

U:\VG12.PRO\Results\201112R1\201112R1-5.qld

Last Altered:

Thursday, November 12, 2020 11:35:19 AM Pacific Standard Time

Printed:

Friday, November 13, 2020 7:42:24 AM Pacific Standard Time

GRB 11/13/2020

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201112R1_5, Date: 12-Nov-2020, Time: 10:06:46, ID: B0K0008-BLK1 Method Blank 1, Description: Method Blank

4 5 75 3	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8- TC DD			NO	0.950	1.000	26.156		1.001				0.278	
2	2 1,2,3,7,8-PeCDD			NO	0.885	1.000	30.845		1.000				0.421	
3	3 1,2,3,4,7,8-HxCDD			NO	1.02	1.000	34.166		1.000				0.504	
4	4 1,2,3,6,7,8-HxCDD			NO	0.915	1.000	34.287		1.000				0.518	
4 5	5 1,2,3,7,8,9-HxCDD			NO	0.934	1.000	34.561		1.000				0.574	
6	6 1,2,3,4,6,7,8-HpCDD			NO	0.870	1.000	38.036		1.000				0.962	
7	7 OCDD			NO	0.872	1.000	40.972		1.000				1.87	
8	8 2,3,7,8-TCDF			NO	0.824	1.000	25.440		1.000				0.309	
8 9	9 1,2,3,7,8-PeCDF			NO	0.963	1.000	29.577		1.000				0.323	
10	10 2,3,4,7,8-PeCDF			NO	1.07	1.000	30.635		1.000				0.270	
11	11 1,2,3,4,7,8-HxCDF			NO	0.953	1.000	33.245		1.000				0.592	
12	12 1,2,3,6,7,8-HxCDF			NO	1.01	1,000	33.377		1.000				0.559	
13	13 2,3,4,6,7,8-HxCDF			NO	0.991	1.000	34.050		1.000				0.678	
14	14 1,2,3,7,8,9-HxCDF			NO	0.951	1.000	35.045		1.000				1.14	
15	15 1,2,3,4,6,7,8-HpCDF	9.36e2	1.01	NO	0.999	1.000	36.635	36.60	1.000	0.999	3.7282		0.713	3.73
16	16 1,2,3,4,7,8,9-HpCDF	4.56e2	1.03	NO	1.12	1.000	38.661	38.71	1.000	1.001	2.195 3		0.767	2.19
17	17 OCDF	2.99e3	0.87	NO	0.868	1.000	41.276	41.28	1.000	1.000	17.802		1.51	17.8
18	18 13C-2,3,7,8-TCDD	1.15e6	0.79	NO	1.11	1.000	26.119	26.13	1.030	1.030	1702.7	85.1	2.08	
19	19 13C-1,2,3,7,8-PeCDD	9.20e5	0.62	NO	0.859	1.000	30.845	30.84	1.216	1.216	1755.7	87.8	3.05	
20	20 13C-1,2,3,4,7,8-HxCDD	6.24e5	1.28	NO	0.700	1.000	34.152	34.16	1.014	1.014	1804.4	90.2	5.42	
21	21 13C-1,2,3,6,7,8-HxCDD	7.62e5	1.27	NO	0.833	1.000	34.290	34.2 8	1.018	1.018	1851.9	92.6	4.56	
22	22 13C-1,2,3,7,8,9-HxCDD	6.88e5	1.18	NO	0.762	1.000	34.533	34.55	1.025	1.026	1827.6	91.4	4.98	
23	23 13C-1,2,3,4,6,7,8-HpCDD	4.86e5	1.04	NO	0.650	1.000	38.019	38.04	1.129	1.129	1515.6	75.8	7.72	
24	24 13C-OCDD	6.97e5	0.93	NO	0.539	1.000	40.987	40.97	1.217	1.216	2616.8	65.4	7.57	
25	25 13C-2,3,7,8-TCDF	1.51e6	0.77	NO	0.981	1.000	25.439	25.43	1.003	1.003	1710.0	85.5	1.70	
26	26 13C-1,2,3,7,8-PeCDF	1.30e6	1.58	NO	0.792	1.000	29.575	29.57	1.166	1.166	1819.6	91.0	5.93	
27	27 13C-2,3,4,7,8-PeCDF	1.32e6	1.57	NO	0.778	1.000	30.635	30.64	1.208	1.208	1887.6	94.4	6.04	
28	28 13C-1,2,3,4,7,8-HxCDF	7.59e5	0.50	NO	0.954	1.000	33.243	33.24	0.987	0.9 8 7	1612.0	80.6	6.55	
29	29 13C-1,2,3,6,7,8-HxCDF	8.20e5	0.50	NO	1.01	1.000	33.374	33.38	0.991	0.991	1650.2	82.5	6.21	
30	30 13C-2,3,4,6,7,8-HxCDF	7.43e5	0.50	NO	0.921	1.000	34.044	34.05	1.011	1.011	1634.2	81.7	6.79	
31	31 13C-1,2,3,7,8,9-HxCDF	5.90e5	0.50	NO	0.803	1.000	35.041	35.04	1.040	1.040	1487.1	74.4	7.78	

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U:\VG12.PRO\Results\201112R1\201112R1-5.qld

Last Altered:

Thursday, November 12, 2020 11:35:19 AM Pacific Standard Time Friday, November 13, 2020 7:42:24 AM Pacific Standard Time

Printed:

Dataset:

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32	32 13C-1,2,3,4,6,7,8-HpCDF	5.03e5	0.43	NO	0.735	1.000	36.611	36.63	1.087	1.087	1385.0	69.3	6.47	
33	33 13C-1,2,3,4,7,8,9-HpCDF	3.70e5	0.43	NO	0.568	1.000	38.649	38.66	1.147	1.148	1318.8	65.9	8.39	
34	34 13C-OCDF	7.74e5	0.86	NO	0.629	1.000	41.270	41.27	1.225	1.225	2491.0	62.3	5.51	
35	35 37CI-2,3,7,8-TCDD	4.96e5			1.09	1.000	26.119	26.14	1.030	1.031	746.34	93.3	0.466	
36	36 13C-1,2,3,4-TCDD	1.22e6	0.79	NO	1.00	1.000	25.370	25.36	1.000	1.000	2000.0	100	2.30	
37	37 13C-1,2,3,4-TCDF	1.80e6	0.78	NO	1.00	1.000	23.870	23.86	1.000	1.000	2000.0	100	1.67	
38	38 13C-1,2,3,4,6,9-HxCDF	9.88e5	0.50	NO	1.00	1.000	33.710	33.68	1.000	1.000	2000.0	100	6.25	
39	39 Total Tetra-Dioxins				0.950	1.000	24.620		0.000				0.164	
40	40 Total Penta-Dioxins				0.885	1.000	29.960		0.000				0.185	
41	41 Total Hexa-Dioxins				0.915	1.000	33.635		0.000				0.319	
42	42 Total Hepta-Dioxins				0.870	1.000	37.640		0.000				0.570	
43	43 Total Tetra-Furans				0.824	1.000	23.610		0.000				0.127	
44	44 1st Func. Penta-Furans				0.963	1.000	26.930		0.000				0.0877	
45	45 Total Penta-Furans				0.963	1.000	29.275		0.000				0.177	
46	46 Total Hexa-Furans				0.991	1.000	33.555		0.000		2.1972		0.373	3.04
47	47 Total Hepta-Furans				0.999	1.000	37.835		0.000		13.365		0.776	13.4

Vista Analytical Laboratory

Dataset:

U:\VG12.PRO\Results\201112R1\201112R1-5.qld

Last Altered:

Thursday, November 12, 2020 11:35:19 AM Pacific Standard Time

Printed:

Friday, November 13, 2020 7:42:24 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\:dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201112R1_5, Date: 12-Nov-2020, Time: 10:06:46, ID: B0K0008-BLK1 Method Blank 1, Description: Method Blank

Tetra-Dioxins

Nar	me	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1 2 2000											

Penta-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp m2 F	Resp RA n/y	Resp	Conc.	EMPC	DL
1								

Hexa-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
CONTRACTOR OF THE PARTY OF THE									1	

Hepta-Dioxins

1 5 La 18	Name	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1											

Tetra-Furans

Name	RT	m1 Height rn2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1										

Penta-Furans function 1

Name	RT	m1 Height rn2 Height	mi Resp nn2	Resp	RA	n/y	Riesp	Conc.	EMPC	DL
									4,000,000	-

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Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory

Dataset:

U:\VG12.PRO\Results\201112R1\201112R1-5.qld

Last Altered:

Thursday, November 12, 2020 11:35:19 AM Pacific Standard Time Friday, November 13, 2020 7:42:24 AM Pacific Standard Time

Printed:

Name: 201112R1_5, Date: 12-Nov-2020, Time: 10:06:46, ID: B0K0008-BLK1 Method Blank 1, Description: Method Blank

Penta-Furans

Name	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
t constant										

Hexa-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Furans	32.00	3.672e3	2.699e3	1.158e2	1.054e2	1.10 NO	2.212e2	0.61333	0.61300	0.373
2	Total Hexa-Furans	, 32.16	3.126e3	3.467e3	1.786e2	1.640e2	1.09 NO	3.426e2	0.94990	0.95000	0.373
3	Total Hexa-Furans	32.39	1.606e3	1.923e3	1.005e2	1.001e2	1.00 YES	0.000e0	0.00000	0.50300	0.373
4.	Total Hexa-Furans	32.55	2.360e3	2.817e3	1.234e2	1.053e2	1.17 NO	2.287e2	0.63399	0.63400	0.373
5	Total Hexa-Furans	32.78	1.384e3	1.201e3	6.692e1	7.303e1	0.92 YES	0.000e0	0.00000	0.33500	0.373

Hepta-Furans

Bullion	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	מם
1	1,2,3,4,6,7,8-HpCDF	36.60	4.300e3	4.969e3	4.709e2	4.655e2	1.01	NO	9.364e2	3.7282	3.7280	0.713
2	Total Hepta-Furans	37.14	4.811e3	3.750e3	4.147e2	4.183e2	0.99	NO	8.330e2	3.8234	3.8230	0.776
3	Total Hepta-Furans	37.35	4.317e3	2.960e3	4.143e2	3.740e2	1.11	NO	7.883e2	3.6184	3.6180	0.776
4	1,2,3,4,7,8,9-HpCDF	38.71	3.290e3	2.796e3	2.310e2	2.250e2	1.03	NO	4.560e2	2.1953	2.1950	0.767

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Dataset:

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Last Altered:

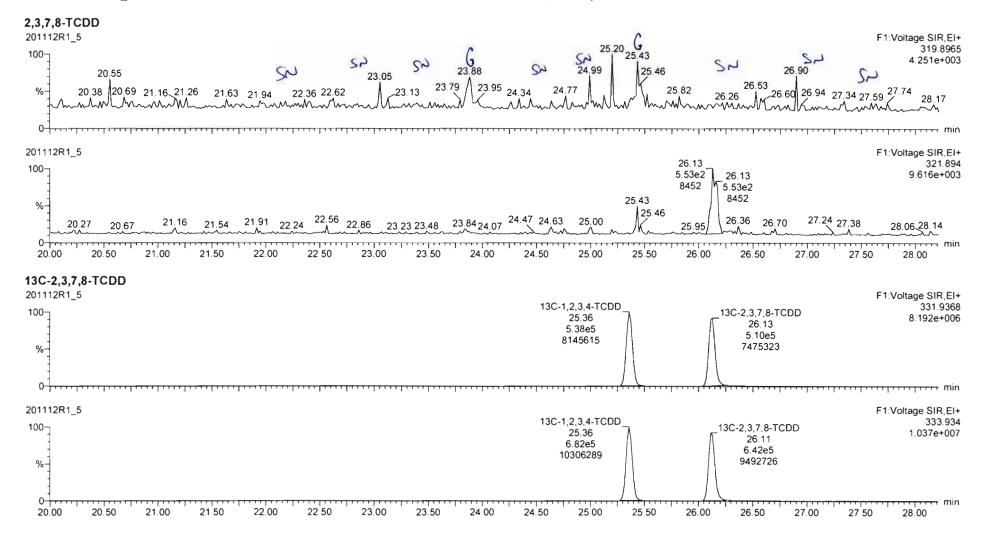
Thursday, November 12, 2020 11:03:48 Pacific Standard Time

Printed:

Thursday, November 12, 2020 11:03:54 Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10



Quantify Sample Report

MassLynx 4.1 SCN815

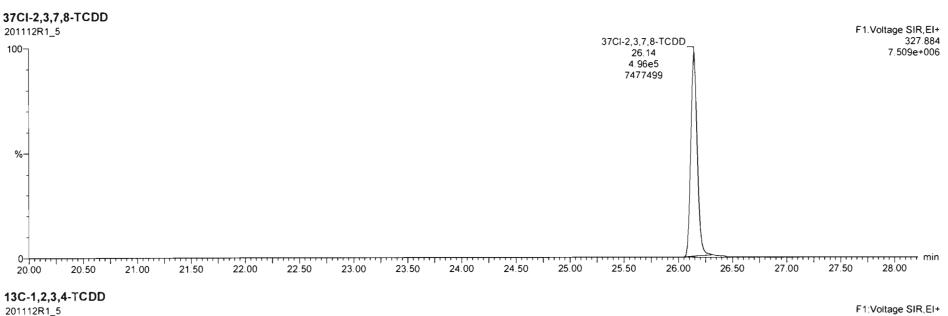
Vista Analytical Laboratory

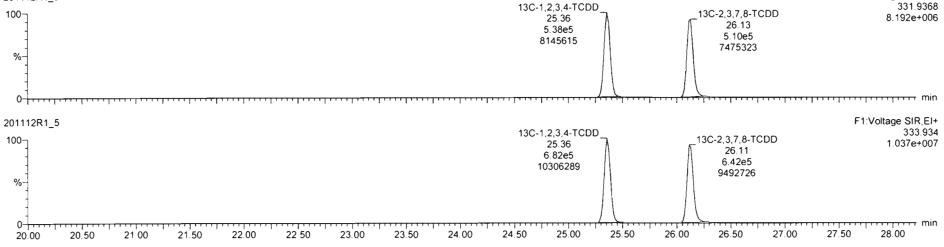
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Thursday, November 12, 2020 11:03:48 Pacific Standard Time Thursday, November 12, 2020 11:03:54 Pacific Standard Time



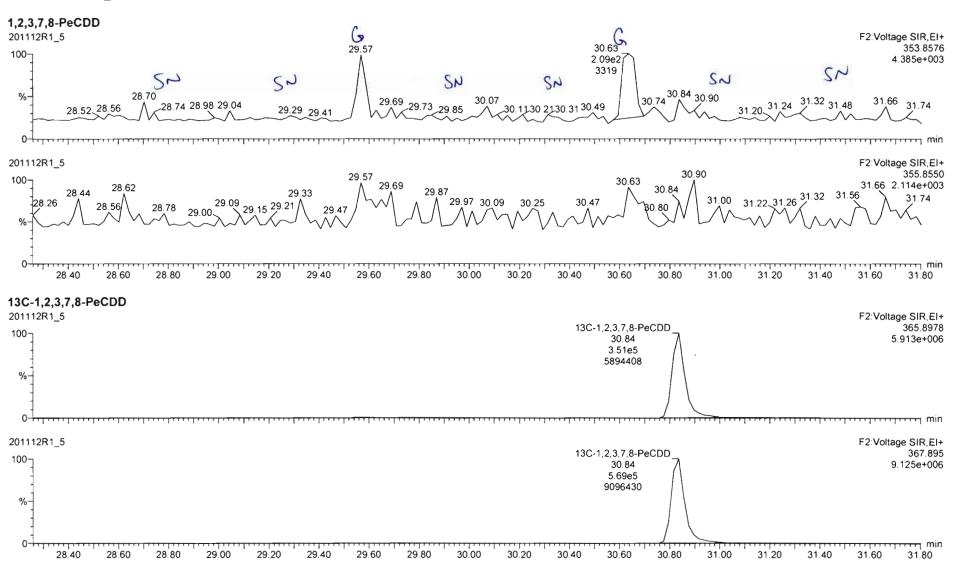


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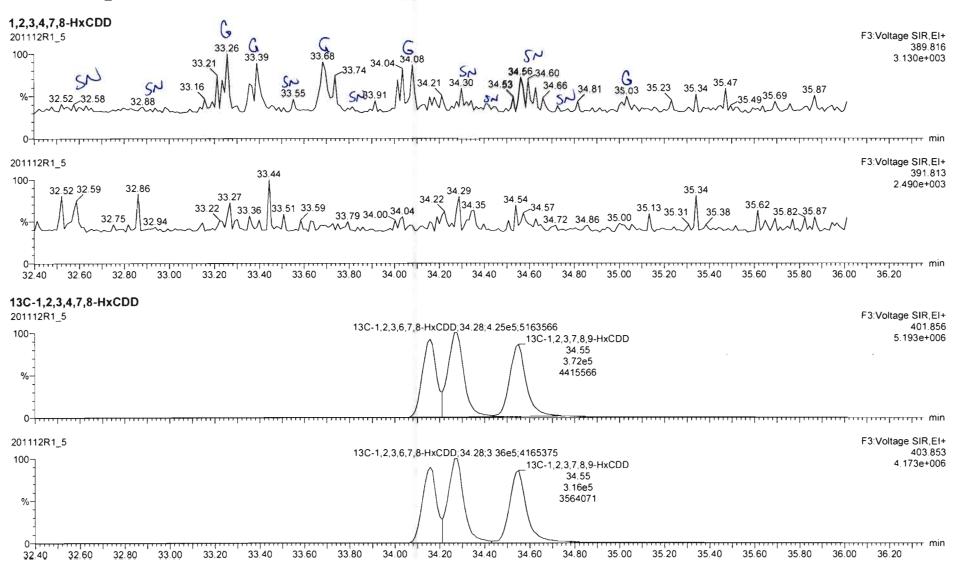
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Thursday, November 12, 2020 11:03:54 Pacific Standard Time



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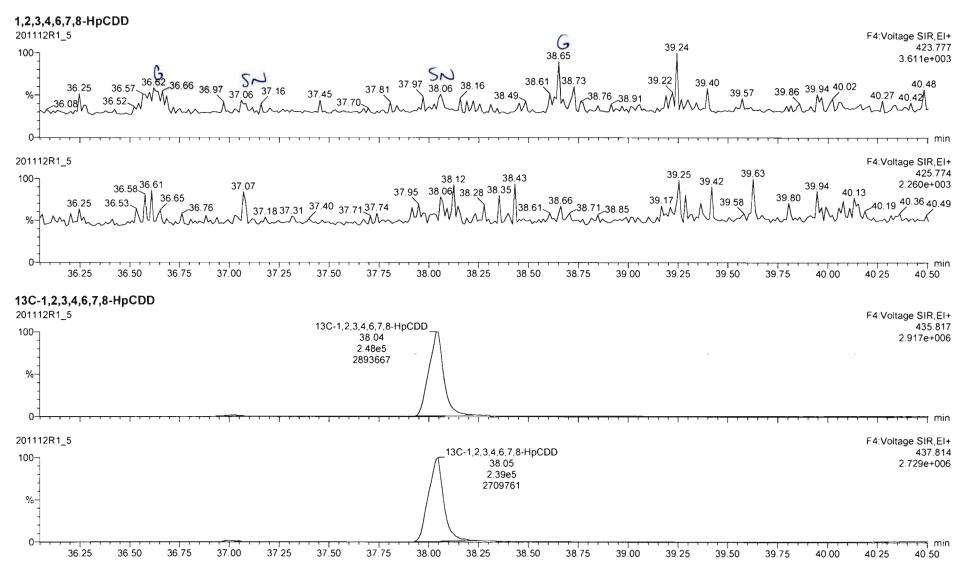
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Thursday, November 12, 2020 11:03:48 Pacific Standard Time Thursday, November 12, 2020 11:03:54 Pacific Standard Time

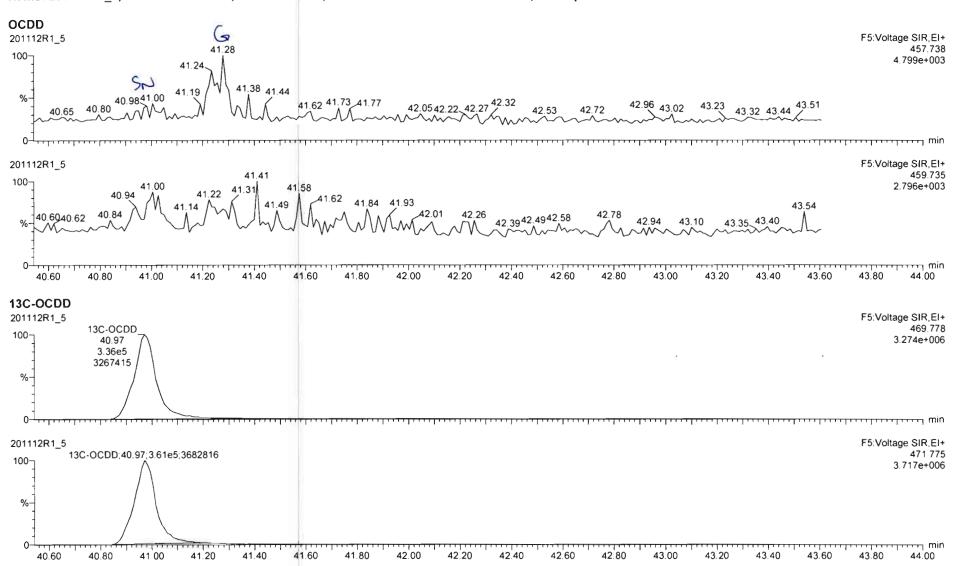


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Thursday, November 12, 2020 11:03:48 Pacific Standard Time

d: Thursday, November 12, 2020 11:03:54 Pacific Standard Time



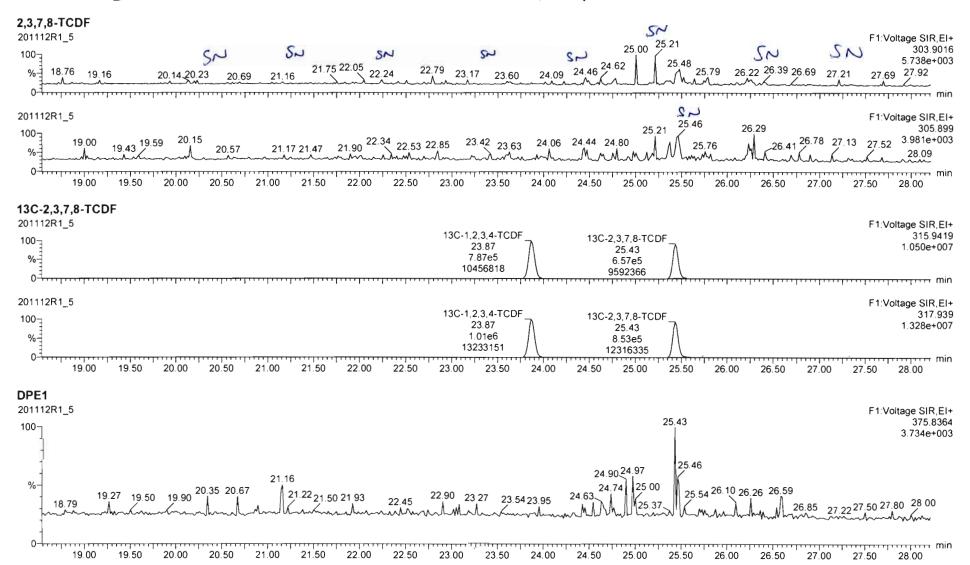
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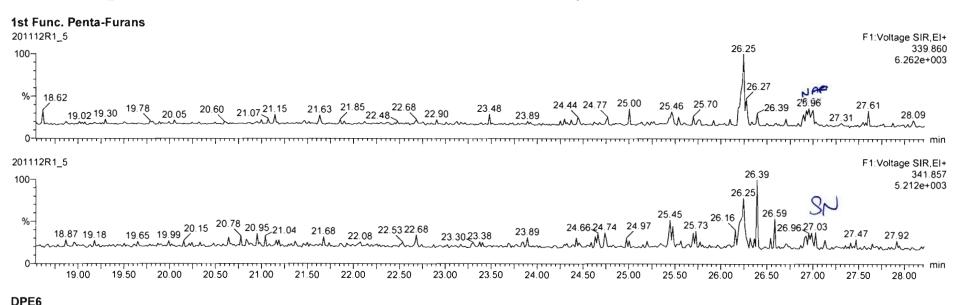
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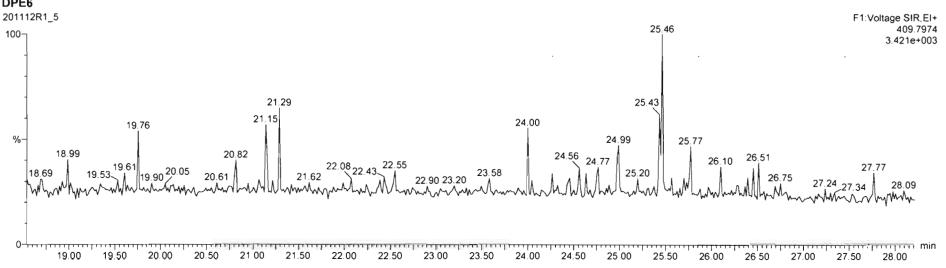
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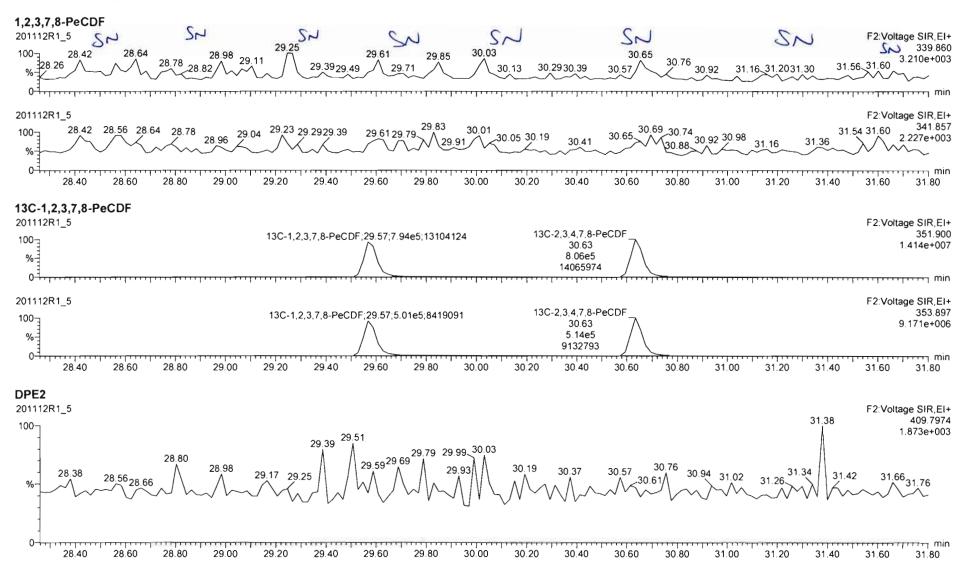


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Thursday, November 12, 2020 11:03:54 Pacific Standard Time

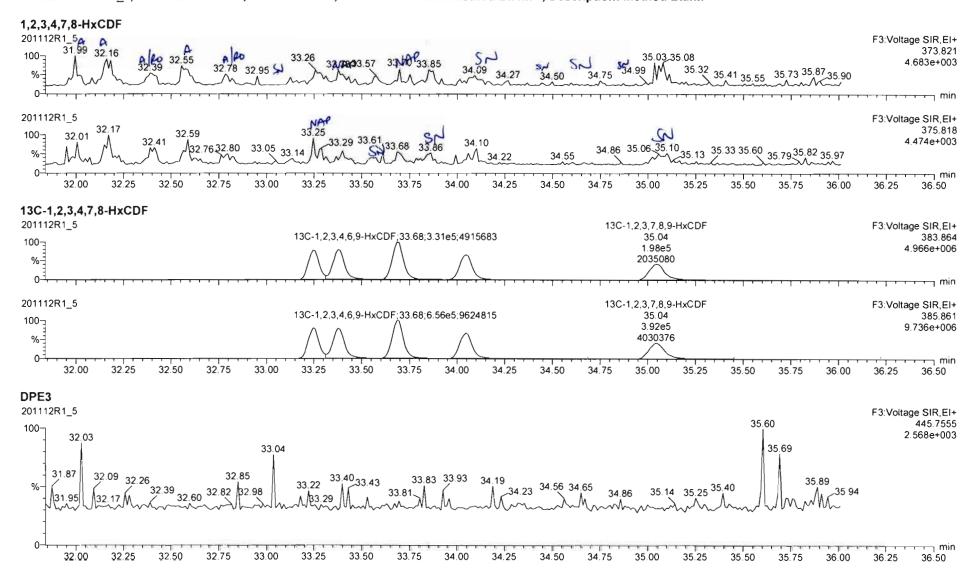


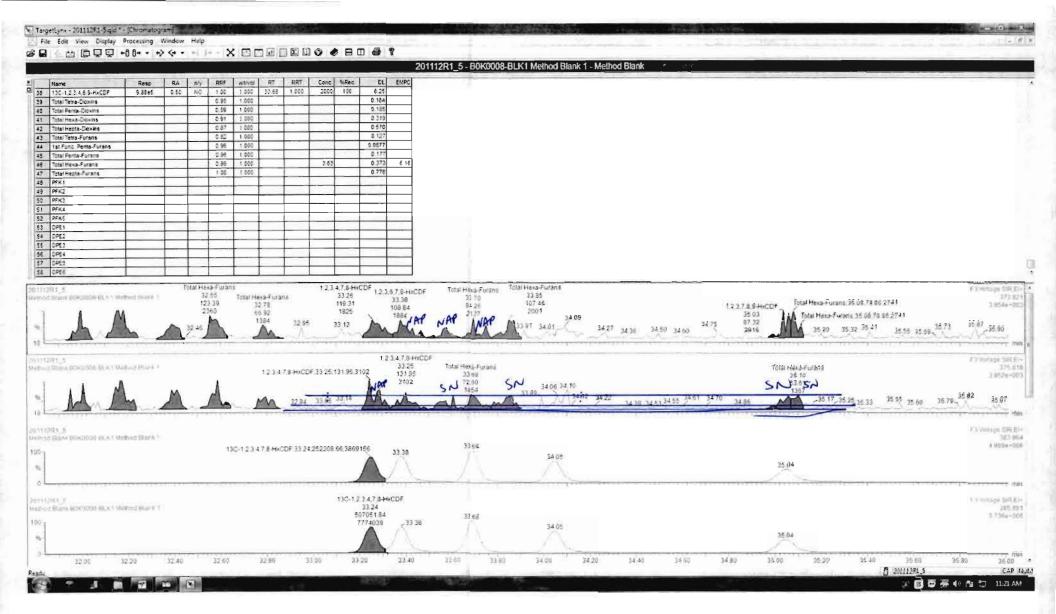
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Thursday, November 12, 2020 11:03:48 Pacific Standard Time Thursday, November 12, 2020 11:03:54 Pacific Standard Time

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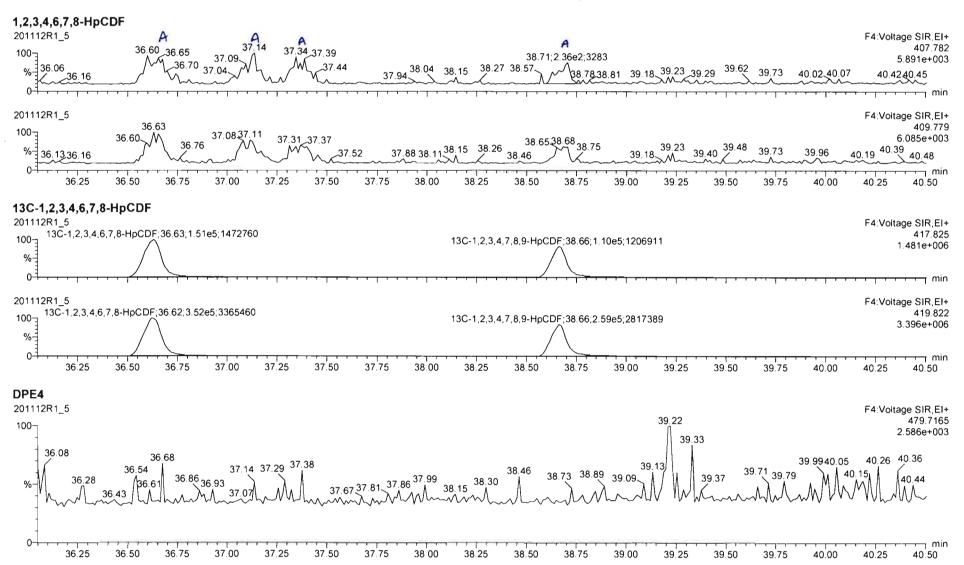
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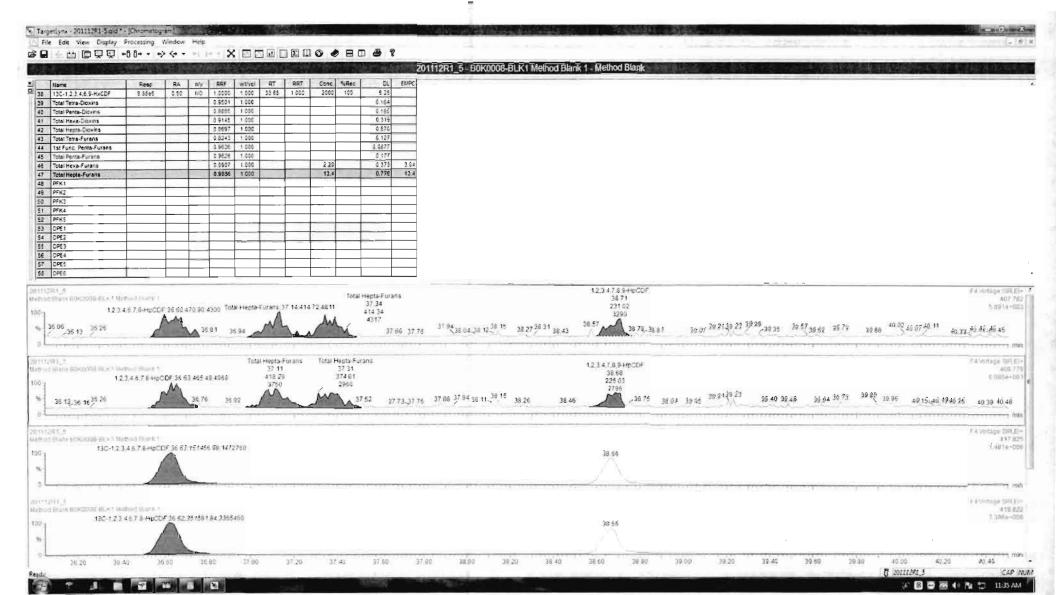
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Thursday, November 12, 2020 11:03:48 Pacific Standard Time Thursday, November 12, 2020 11:03:54 Pacific Standard Time

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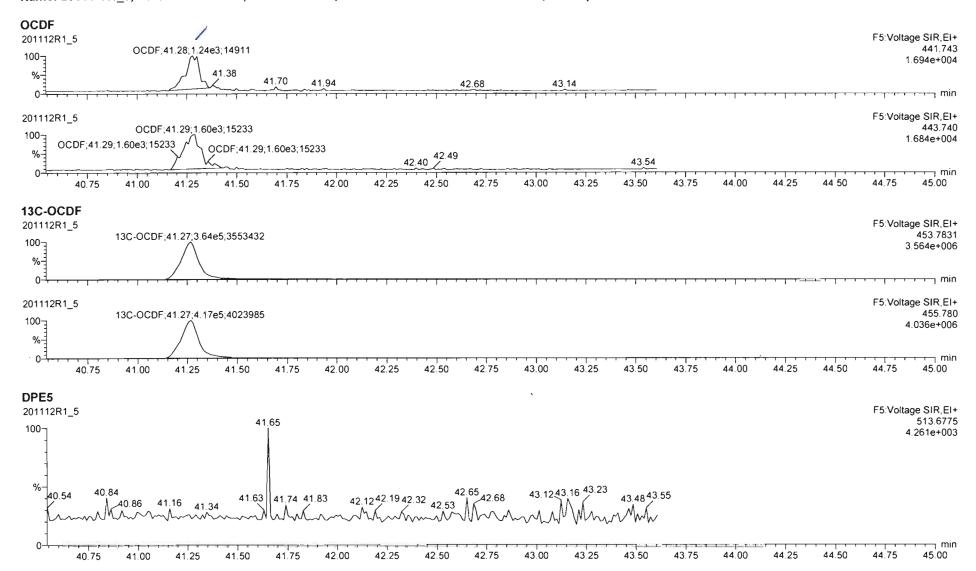


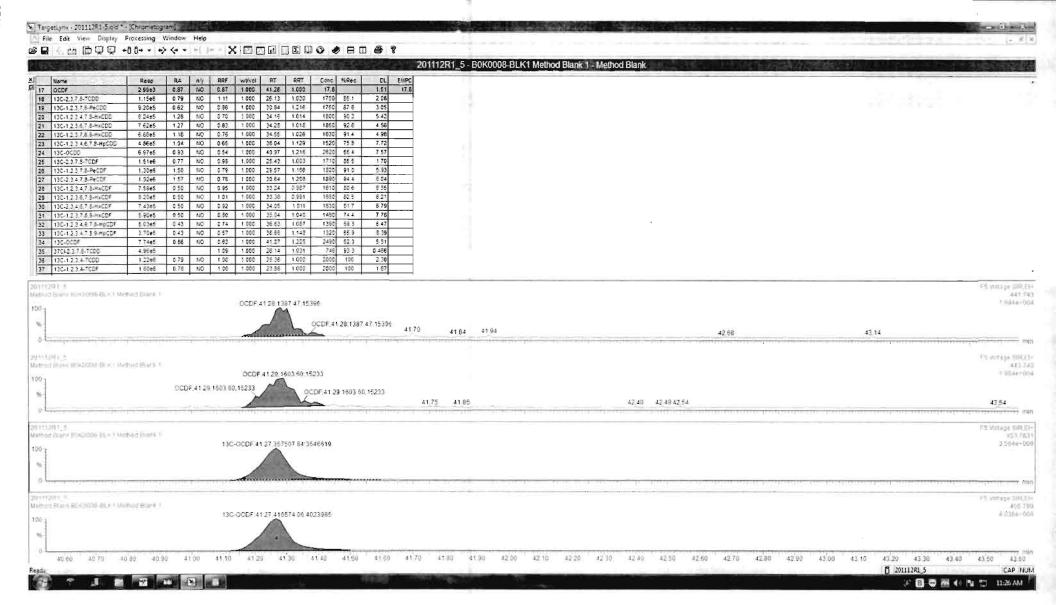
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Last Altered: Printed: Thursday, November 12, 2020 11:03:48 Pacific Standard Time Thursday, November 12, 2020 11:03:54 Pacific Standard Time

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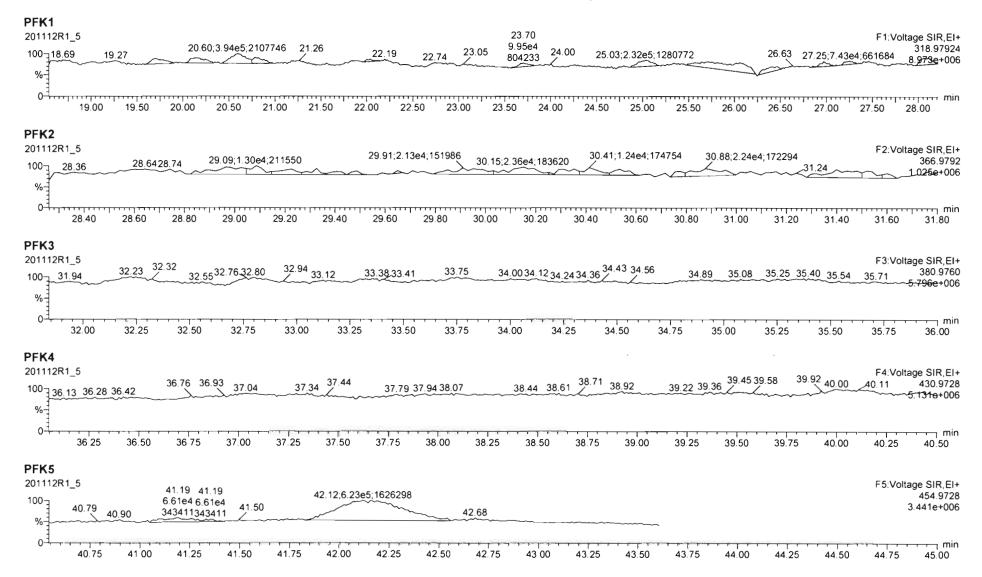


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Last Altered: Printed: Thursday, November 12, 2020 11:03:48 Pacific Standard Time Thursday, November 12, 2020 11:03:54 Pacific Standard Time

Name: 201112R1_5, Date: 12-Nov-2020, Time: 10:06:46, ID: B0K0008-BLK1 Method Blank 1, Description: Method Blank



Page 1 of 2

Dataset:

U:\VG12.PRO\Results\201112R1\201112R1-3.qld

Last Altered:

Thursday, November 12, 2020 10:11:13 AM Pacific Standard Time

Printed:

Friday, November 13, 2020 7:41:23 AM Pacific Standard Time

GEB 11/13/2020

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

The same of the	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD	1.08e5	0.76	NO	0.950	1.000	26.141	26.14	1.001	1.001	194.41		0.572	194
2	2 1,2,3,7,8-PeCDD	4.33e5	0.62	NO	0.885	1.000	30.825	30.84	1.000	1.001	997.39		0.875	997
3	3 1,2,3,4,7,8-HxCDD	3.33e5	1.22	NO	1.02	1.000	34.155	34.16	1.000	1.000	957.90		3.18	958
4	4 1,2,3,6,7,8-HxCDD	3.61e5	1.18	NO	0.915	1.000	34.265	34.28	1.000	1.001	921.24		3.03	921
5	5 1,2,3,7,8,9-HxCDD	3.23e5	1.24	NO	0.934	1.000	34.540	34.55	1.000	1.001	946.48		3.66	946
6	6 1,2,3,4,6,7,8-HpCDD	2.24e5	1.01	NO	0.870	1.000	38.025	38.04	1,000	1.000	938.39		6.15	938
7	7 OCDD	3.38e5	0.87	NO	0.872	1.000	40.972	40.98	1.000	1.000	1843.8		7.04	1840
8	8 2,3,7,8-TCDF	1.12e5	0.74	NO	0.824	1.000	25.425	25.45	1,000	1.001	176.55		0.500	177
9	9 1,2,3,7,8-PeCDF	6.28e5	1.55	NO	0.963	1.000	29.577	29.59	1.000	1.001	934.37		1.43	934
10	10 2,3,4,7,8-PeCDF	6.91e5	1.54	NO	1.07	1.000	30.635	30.64	1.000	1.000	932.46		1.34	932
11	11 1,2,3,4,7,8-HxCDF	3.61e5	1.22	NO	0.953	1.000	33.235	33.24	1.000	1.000	918.44		2.69	918
12	12 1,2,3,6,7,8-HxCDF	4.13e5	1.25	NO	1.01	1.000	33.366	33.39	1.000	1.001	923.93		2.48	924
13	13 2,3,4,6,7,8-HxCDF	3.77e5	1.19	NO	0.991	1.000	34.038	34.05	1.000	1.000	901.76		2.92	902
14	14 1,2,3,7,8,9-HxCDF	2.94e5	1.21	NO	0.951	1.000	35.023	35.04	1.000	1.001	935.15		4.61	935
15	15 1,2,3,4,6,7,8-HpCDF	2.65e5	0.99	NO	0.999	1.000	36.614	36.62	1.000	1.000	927.52		4.89	928
16	16 1,2,3,4,7,8,9-HpCDF	2.17e5	1.00	NO	1.12	1.000	38.639	38.66	1.00 0	1.001	931.29		5.31	931
17	17 OCDF	3.70e5	0.86	NO	0.868	1.000	41.254	41.26	1.000	1.000	1835.3		6.22	1840
18	18 13C-2,3,7,8-TCDD	1.17e6	0.78	NO	1.11	1.000	26.119	26.11	1.030	1.030	1729.6	86.5	1.52	
19	19 13C-1,2,3,7,8-PeCDD	9.80e5	0.63	NO	0.859	1.000	30.845	30.82	1.216	1.215	1863.2	93.2	2.08	
20	20 13C-1,2,3,4,7,8-HxCDD	6.84e5	1.33	NO	0.700	1.000	34.142	34.15	1.014	1.014	1851.8	92.6	4.55	
21	21 13C-1,2,3,6,7,8-HxCDD	8.58e5	1.21	NO	0.833	1.000	34.280	34.26	1.018	1.017	1951.8	97.6	3.82	
22	22 13C-1,2,3,7,8,9-HxCDD	7.31e5	1.23	NO	0.762	1.000	34.523	34.53	1.025	1.025	1819.0	90.9	4.18	
23	23 13C-1,2,3,4,6,7,8-HpCDD	5.49e5	1.06	NO	0.650	1.000	38.008	38.03	1.129	1.129	1601.3	80.1	7.35	
24	24 13C-OCDD	8.42e5	0.89	NO	0.539	1.000	40.975	40.97	1.217	1.217	2957.0	73.9	7.72	
25	25 13C-2,3,7,8-TCDF	1.54e6	0.76	NO	0.981	1.000	25.439	25.42	1.003	1.002	1744.0	87.2	1.87	
26	26 13C-1,2,3,7,8-PeCDF	1.40e6	1.57	NO	0.792	1.000	29.575	29.57	1.166	1.166	1963.9	98.2	4.78	
27	27 13C-2,3,4,7,8-PeCDF	1.39e6	1.59	NO	0.778	1.000	30.635	30.64	1.208	1.208	1985.6	99.3	4.87	
28	28 13C-1,2,3,4,7,8-HxCDF	8.25e5	0.50	NO	0.954	1.000	33.233	33.24	0.987	0.987	1639.2	82.0	5.99	
29	29 13C-1,2,3,6,7,8-HxCDF	8.88e5	0.51	NO	1.01	1.000	33.364	33.37	0.991	0.991	1671.8	83.6	5.68	
30	30 13C-2,3,4,6,7,8-HxCDF	8.43e5	0.49	NO	0.921	1.000	34.034	34.03	1.011	1.011	1734.2	86.7	6.20	
31	31 13C-1,2,3,7,8,9-HxCDF	6.61e5	0.50	NO	0.803	1.000	35.031	35.02	1.040	1.040	1557.9	77.9	7.11	

Page 2 of 2 **Quantify Sample Summary Report** MassLynx 4.1 SCN815

Vista Analytical Laboratory

U:\VG12.PRO\Results\201112R1\201112R1-3.qld Dataset:

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Printed:

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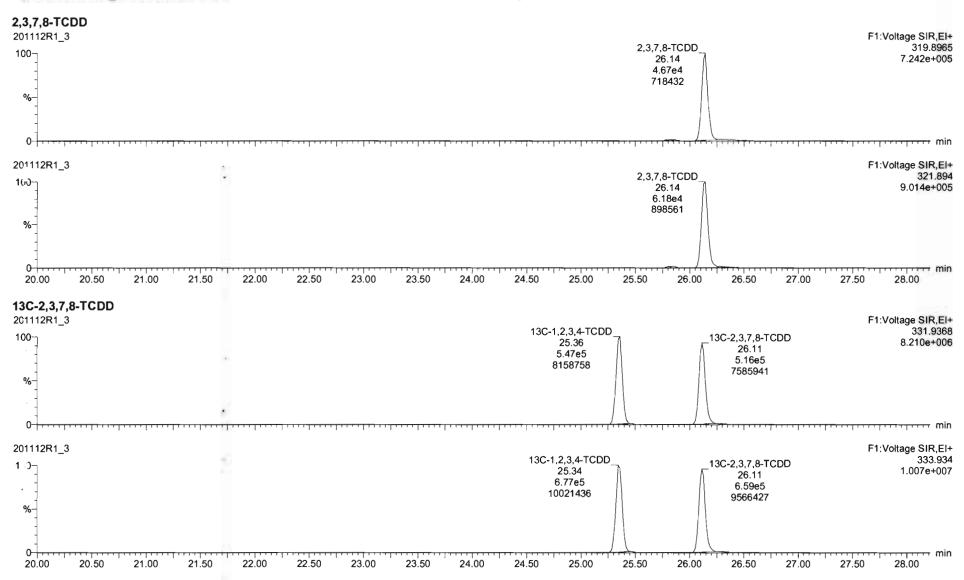
6000	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL.	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	5.72e5	0.42	NO	0.735	1.000	36.600	36.61	1.087	1.087	1473.2	73.7	6.44	
33	33 13C-1,2,3,4,7,8,9-HpCDF	4.14e5	0.42	NO	0.568	1.000	38.638	38.64	1.147	1.147	1382.1	69.1	8.34	
34	34 13C-OCDF	9.30e5	0.87	NO	0.629	1.000	41.257	41.25	1.225	1.225	2800.4	70.0	5.94	
35	35 37Cl-2,3,7,8-TCDD	4.89e5			1.09	1.000	26.119	26.14	1.030	1.031	733.84	91.7	0.374	
33	36 13C-1,2,3,4-TCDD	1.22e6	0.81	NO	1.00	1.000	25.370	25.36	1.000	1.000	2000.0	100	1.68	
37	37 13C-1,2,3,4-TCDF	1.80e6	0.79	NO	1.00	1.000	23.870	23.86	1.000	1.000	2000.0	100	1.83	
38	38 13C-1,2,3,4,6,9-HxCDF	1.06e6	0.50	NO	1.00	1.000	33.710	33.67	1.000	1.000	2000.0	100	5.71	

Work Order 2002298 Page 45 of 313 Vista Analytical Laboratory

Dataset:

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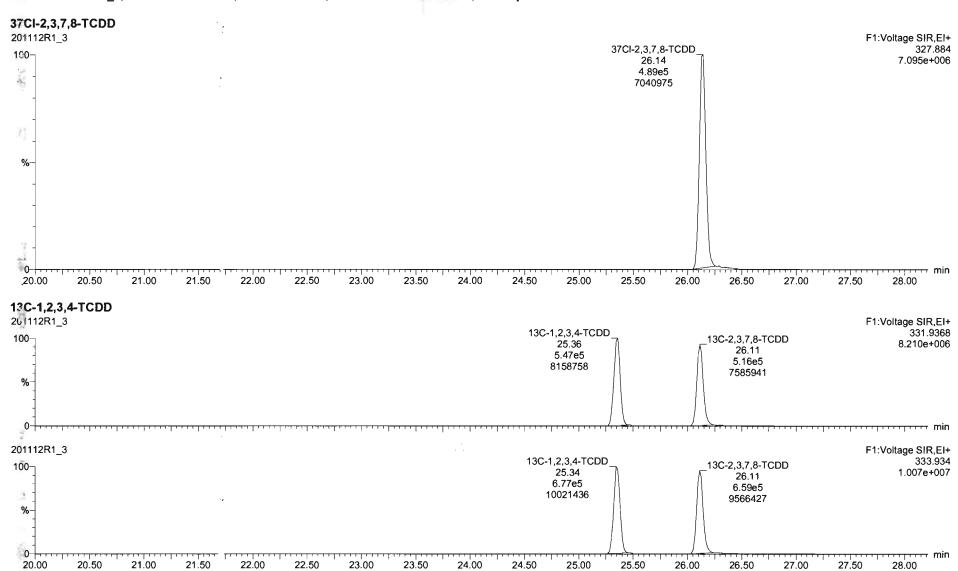


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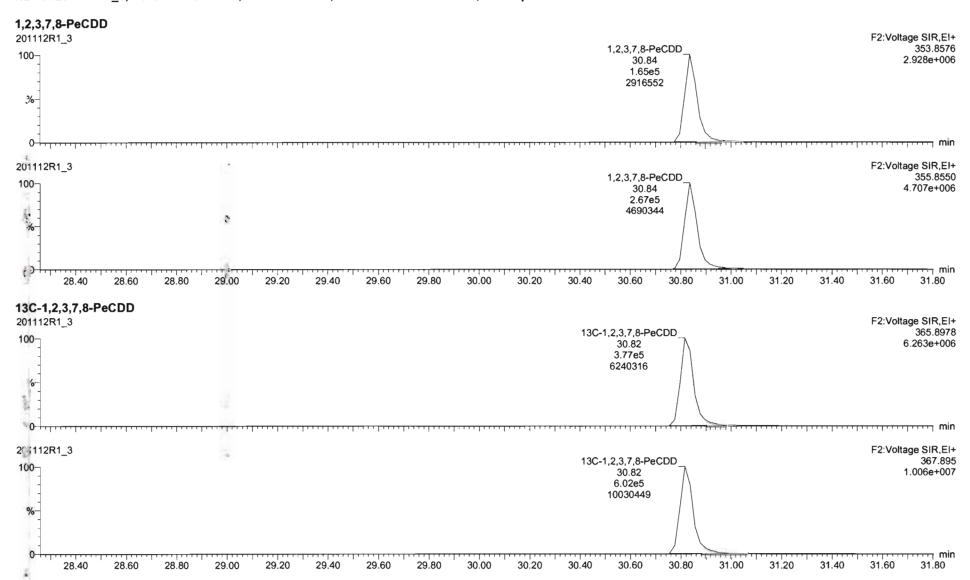
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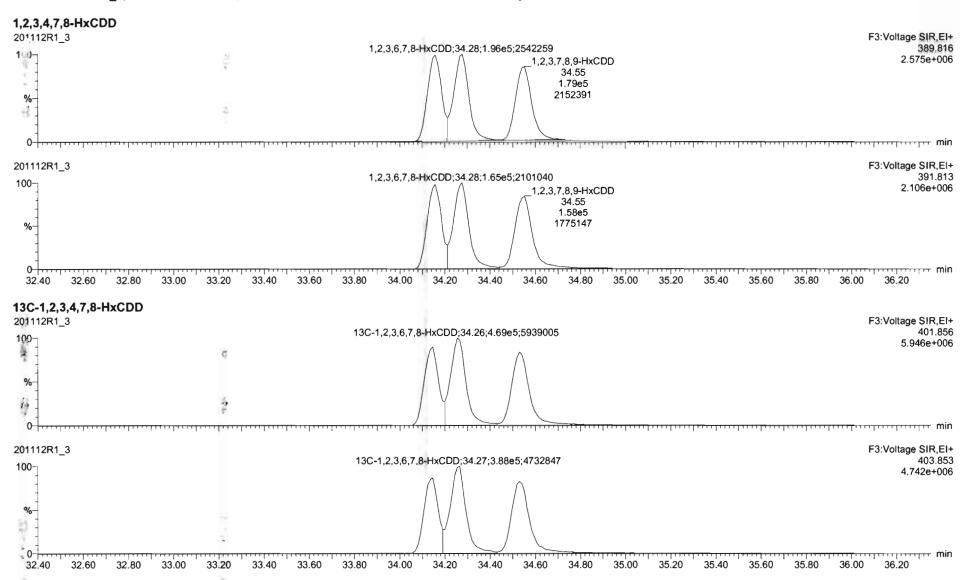
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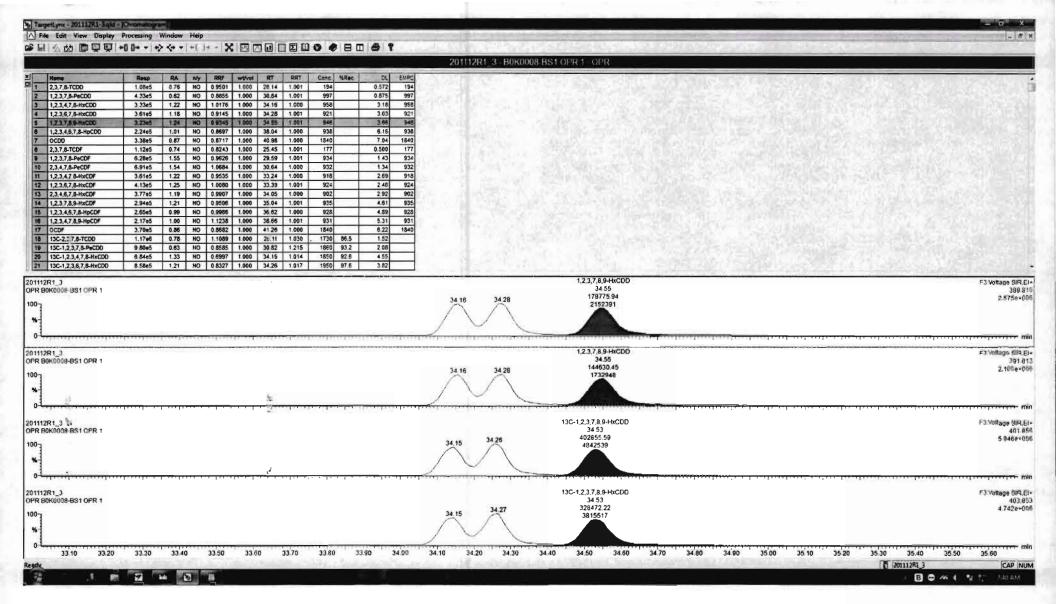
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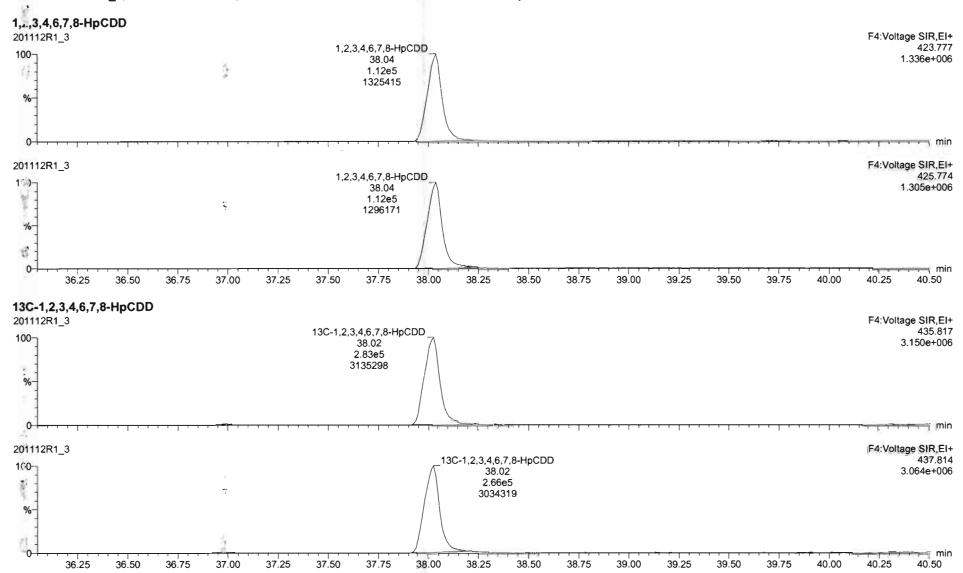


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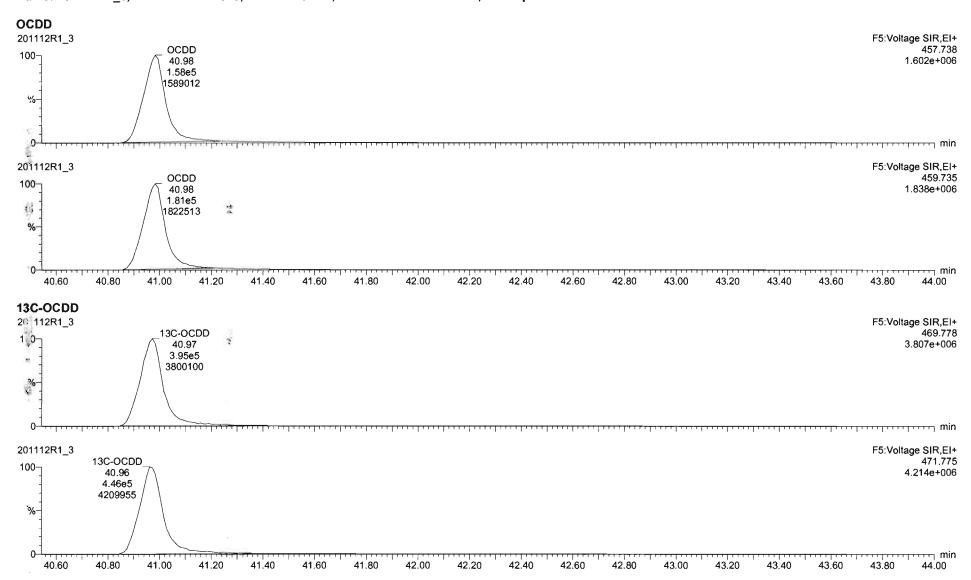
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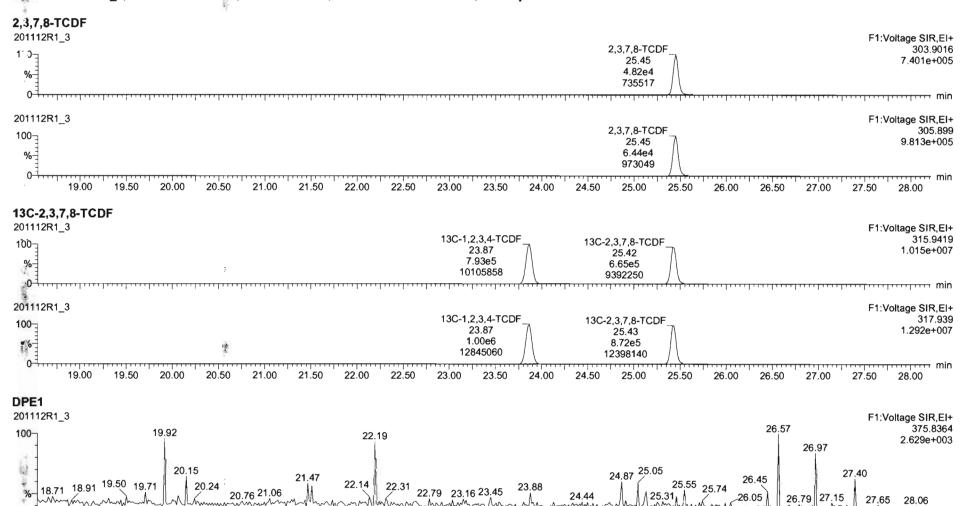


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Name: 201112R1_3, Date: 12-Nov-2020, Time: 08:36:04, ID: B0K0008-BS1 OPR 1, Description: OPR



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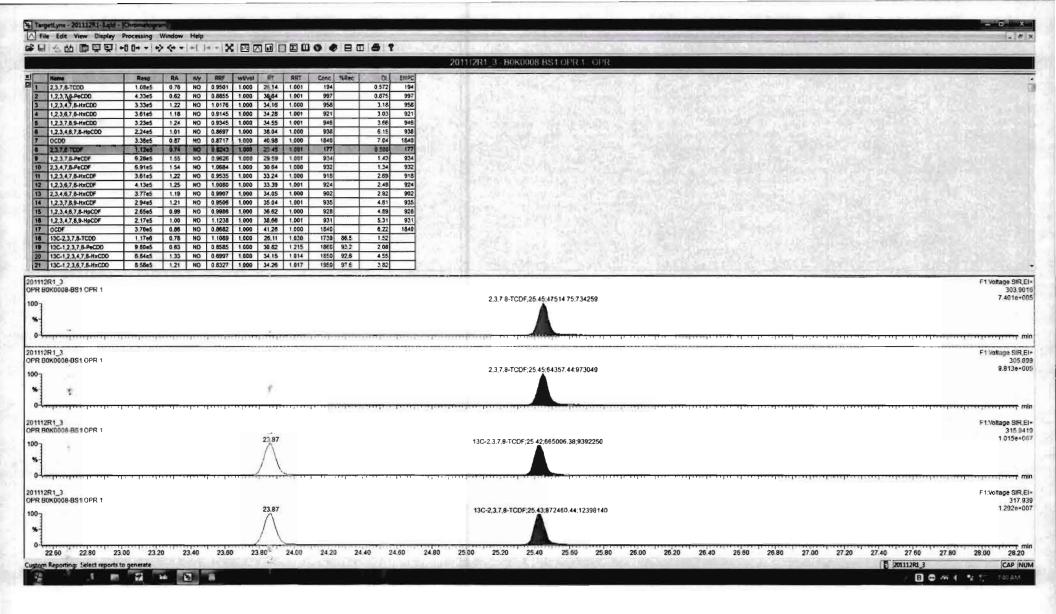
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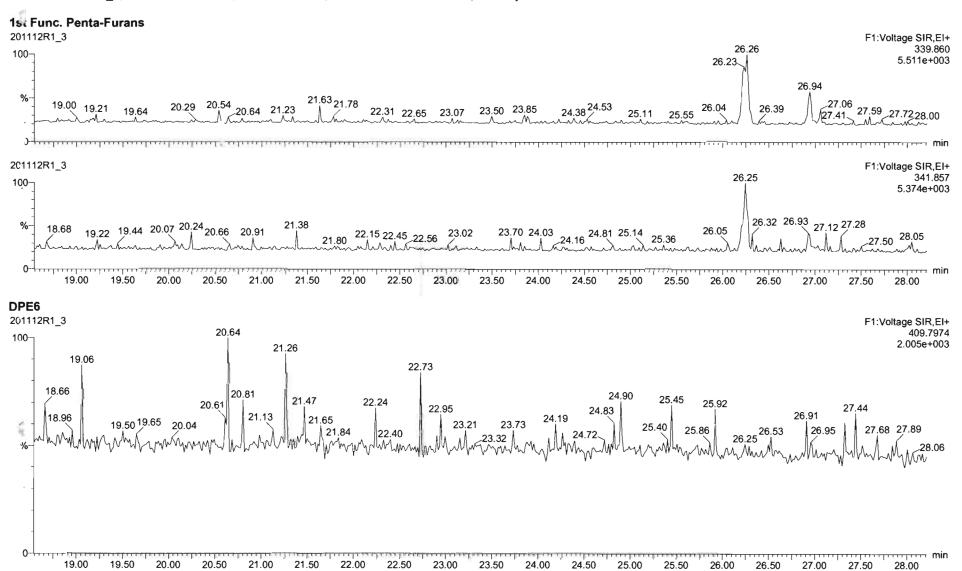
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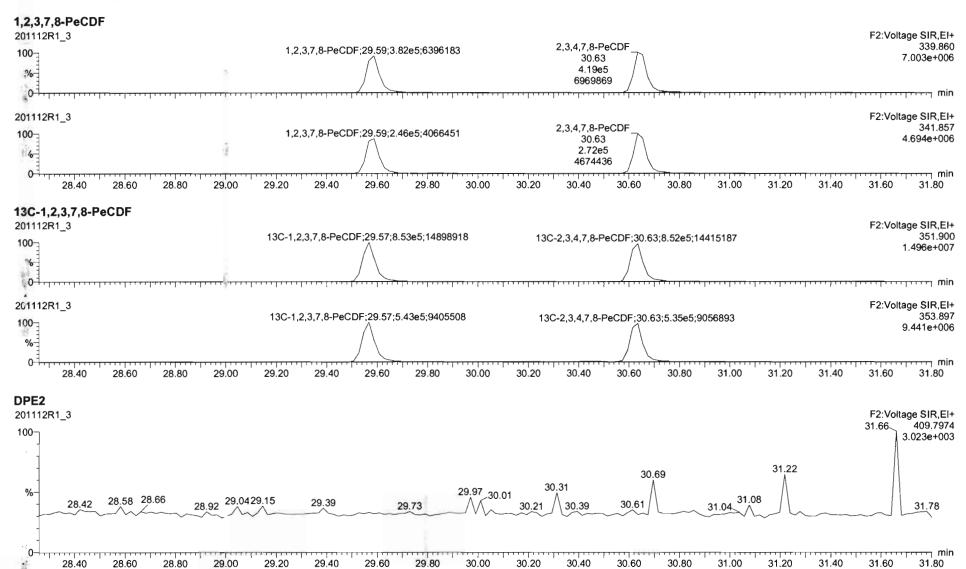
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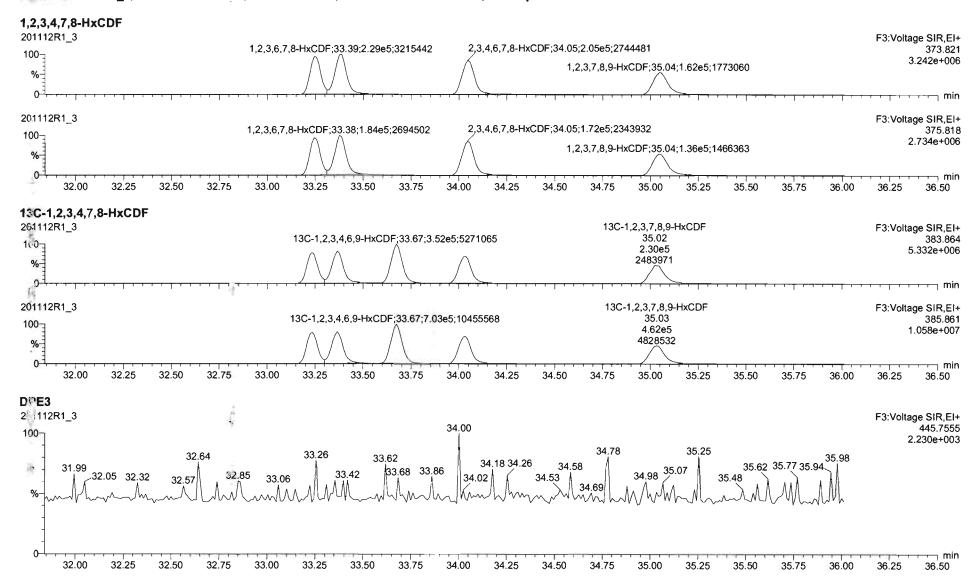
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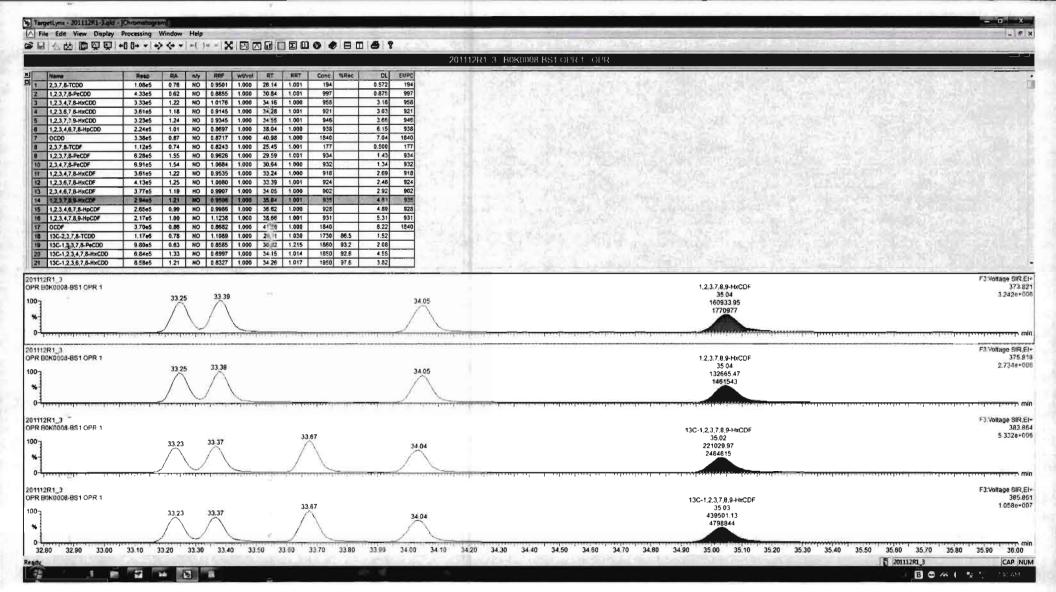


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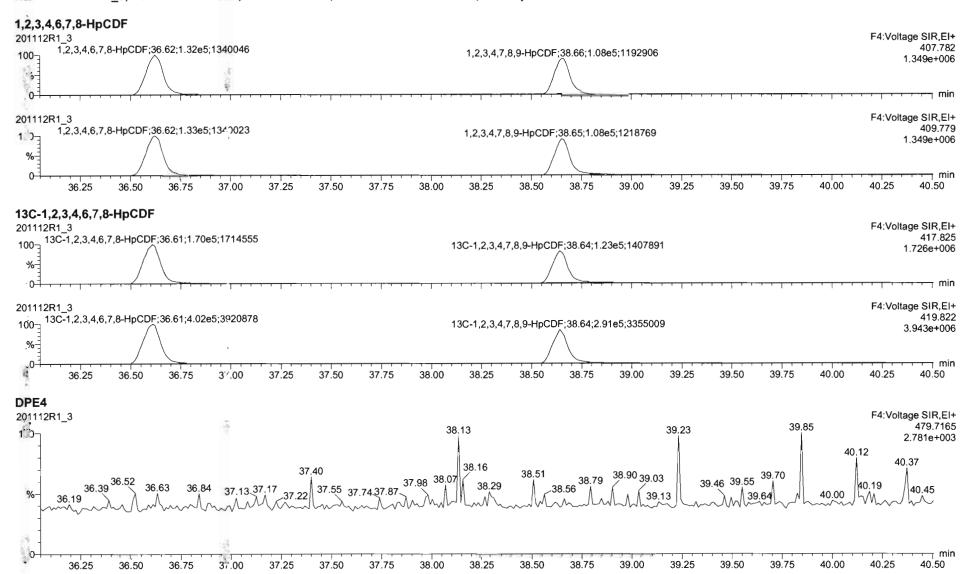
Work Order 2002298 Page 58 of 313

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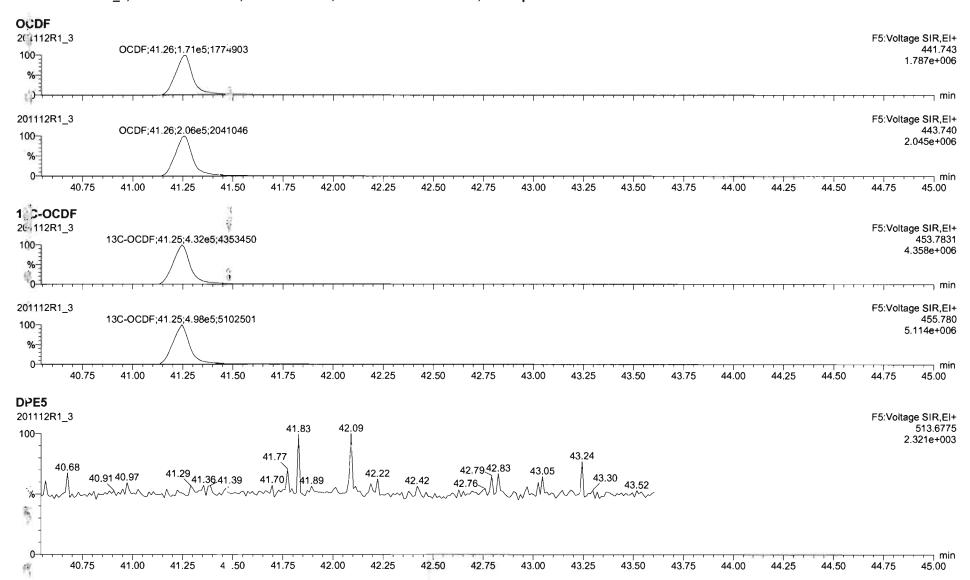
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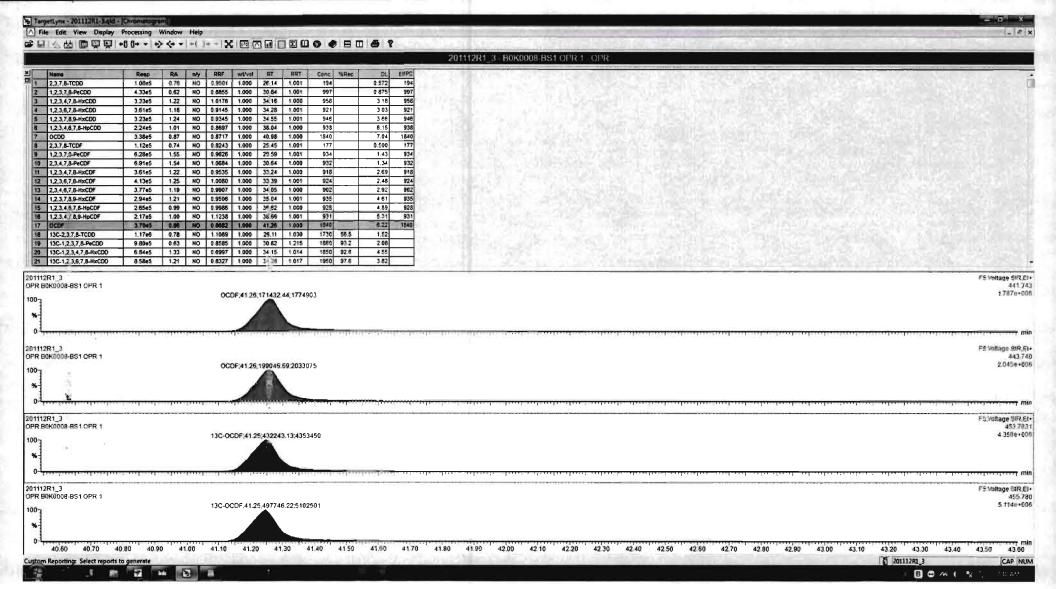


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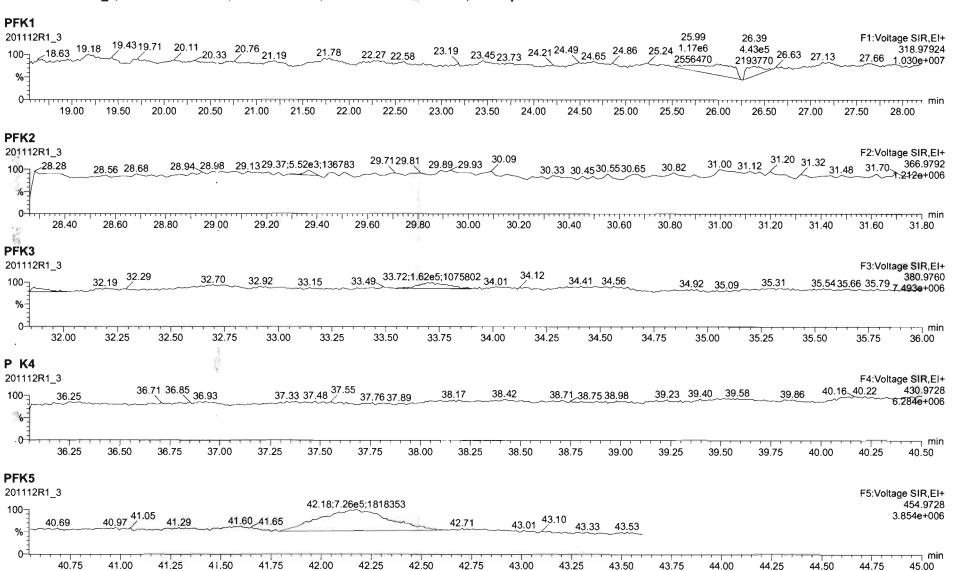


Work Order 2002298 Page 61 of 313

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Last Altered: Punted:

Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time



Page 1 of 2

Dataset:

U:\VG12.PRO\Results\201113R1\201113R1-11.qld

Last Altered:

Monday, November 16, 2020 12:58:08 Pacific Standard Time

Printed:

Monday, November 16, 2020 12:58:28 Pacific Standard Time

GRE 11/16/2020

Method: Untitled 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\dbDlOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201113R1_11, Date: 13-Nov-2020, Time: 14:39:57, ID: 2002298-01 SC-FB-2010261145 1, Description: SC-FB-2010261145

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD			NO	0.950	1.036	26.156		1.001				0.274	
2	2 1,2,3,7,8-PeCDD			NO	0.885	1.036	30.845		1.000				0.448	
3	3 1,2,3,4,7,8-HxCDD			NO	1.02	1.036	34.167		1.000				0.651	
4	4 1,2,3,6,7,8-HxCDD			NO	0.915	1.036	34.298		1.000				0.660	
5	5 1,2,3,7,8,9-HxCDD			NO	0.934	1.036	34.561		1.000				0.812	
6	6 1,2,3,4,6,7,8-HpCDD			NO	0.870	1.036	38.047		1.000				0.686	
7	7 OCDD			NO	0.872	1.036	40.983		1.000				2.99	
8	8 2,3,7,8-TCDF			NO	0.824	1.036	25.455		1.000				0.157	
9	9 1,2,3,7,8-PeCDF			NO	0.963	1.036	29.597		1.000				0.173	
10	10 2,3,4,7,8-PeCDF			NO	1.07	1.036	30.655		1.000				0.159	
11	11 1,2,3,4,7,8-HxCDF			NO	0.953	1.036	33.257		1.000				0.223	
12	12 1,2,3,6,7,8-HxCDF			NO	1.01	1.036	33.388		1.000				0.214	
13	13 2,3,4,6,7,8-HxCDF			NO	0.991	1.036	34.061		1.000				0.265	
14	14 1,2,3,7,8,9-HxCDF			NO	0.951	1.036	35.056		1.000				0.408	
15	15 1,2,3,4,6,7,8-HpCDF			NO	0.999	1.036	36.636		1.000				0.406	
16	16 1.2.3,4.7,8,9-HpCDF			NO	1.12	1.036	38.673		1.000				0.448	
17	17 OCDF			NO	0.868	1.036	41.277		1.000				1.10	
18	18 13C-2,3,7,8-TCDD	1.02e6	0.81	NO	1.11	1.036	26.134	26.13	1.030	1.030	1567.6	81.2	1.86	
19	19 13C-1,2,3,7,8-PeCDD	7.50e5	0.63	NO	0.859	1.036	30.864	30.84	1.216	1.215	1485.1	77.0	2.33	
20	20 13C-1,2,3,4,7,8-HxCDD	5.43e5	1.28	NO	0.700	1.036	34.164	34,16	1.014	1.014	1498.1	77.6	4.56	
21	21 13C-1,2,3,6,7,8-HxCDD	6.48e5	1.28	NO	0.833	1.036	34.303	34.29	1.018	1.018	1504.1	77.9	3.83	
22	22 13C-1,2,3,7,8,9-HxCDD	5.39e5	1.27	NO	0.762	1.036	34.545	34.55	1.025	1.025	1367.5	70.9	4.19	
23	23 13C-1,2,3,4,6,7,8-HpCDD	4.02e5	1.03	NO	0.650	1.036	38.033	38.05	1.129	1.129	1196.6	62.0	5.71	ľ
24	24 13C-OCDD	4 36e5	0.95	NO	0.539	1.036	41.001	40.98	1.217	1.216	1562.0	40.5	5.95	
25	25 13C-2,3,7,8-TCDF	1.34e6	0.76	NO	0.981	1.036	25.454	25.45	1.003	1.003	1590.3	82.4	1.90	
26	26 13C-1,2,3,7,8-PeCDF	1.11e6	1.58	NO	0.792	1.036	29.593	29.59	1.166	1.166	1631.1	84.5	6.01	
27	27 13C-2,3,4,7,8-PeCDF	1.11e6	1.60	NO	0.778	1.036	30.653	30.66	1.208	1.208	1655.9	85.8	6.12	
28	28 13C-1,2,3,4,7,8-HxCDF	6.85e5	0.51	NO	0.954	1.036	33.255	33.26	0.987	0.987	1387.8	71.9	5.61	
29	29 13C-1,2,3,6,7,8-HxCDF	7.43e5	0.52	NO	1.01	1.036	33.386	33.39	0.991	0.991	1426.9	73.9	5.32	
30	30 13C-2,3,4,6,7,8-HxCDF	6.63e5	0.51	NO	0.921	1.036	34.057	34.06	1.011	1.011	1389.8	72.0	5.81	

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U:\VG12.PRO\Results\201113R1\201113R1-11.qld

Last Altered:

Monday, November 16, 2020 12:58:08 Pacific Standard Time

Printed: Monday, November 16, 2020 12:58:28 Pacific Standard Time

Name: 201113R1_11, Date: 13-Nov-2020, Time: 14:39:57, ID: 2002298-01 SC-FB-2010261145 1, Description: SC-FB-2010261145

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
31	31 13C-1,2,3,7,8,9-HxCDF	5.66e5	0.48	NO	0.803	1.036	35.054	35.06	1.040	1.040	1362.3	70.6	6.66	
32	32 13C-1,2,3,4,6,7,8-HpCDF	4.52e5	0.42	NO	0.735	1.036	36.624	36.63	1.087	1.087	1187.7	61.6	5.35	
33	33 13C-1,2,3,4,7,8,9-HpCDF	3.40e5	0.43	NO	0.568	1.036	38.663	38.67	1.147	1.148	1156.1	59.9	6.93	
34	34 13C-OCDF	5.86e5	0.86	NO	0.629	1.036	41.284	41.27	1.225	1.225	1800.3	46.6	7.15	
35	35 37CI-2,3,7,8-TCDD	4.69e5			1.09	1.036	26.134	26.16	1.030	1.031	732.40	94.9	0.526	
36	36 13C-1,2,3,4-TCDD	1.14e6	0.80	NO	1.00	1.036	25.370	25.37	1.000	1.000	1929.7	100	2.07	
37	37 13C-1,2,3,4-TCDF	1.66e6	0.78	NO	1.00	1.036	23.870	23.88	1.000	1.000	1929.7	100	1.86	
38	38 13C-1,2,3,4,6,9-HxCDF	9.99e5	0.51	NO	1.00	1.036	33.710	33.70	1.000	1.000	1929.7	100	5.35	
39	39 Total Tetra-Dioxins				0.950	1.036	24.620		0.000				0.154	
40	40 Total Penta-Dioxins				0.885	1.036	29.960		0.000				0.159	
41	41 Total Hexa-Dioxins				0.915	1.036	33.635		0.000				0.375	
42	42 Total Hepta-Dioxins				0.870	1.036	37.640		0.000				0.382	
43	43 Total Tetra-Furans				0.824	1.036	23.610		0.000		0.00000		0.0717	0.200
44	44 1st Func. Penta-Furans				0.963	1.036	26.930		0.000				0.0484	
45	45 Total Penta-Furans				0.963	1.036	29.275		0.000				0.0841	
46	46 Total Hexa-Furans				0.991	1.036	33.555		0.000				0.141	
47	47 Total Hepta-Furans				0.999	1.036	37.835		0.000				0.268	

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Vista Analytical Laboratory

Dataset:

U:\VG12.PRO\Results\201113R1\201113R1-11.qld

Last Altered: Printed:

Monday, November 16, 2020 12:58:08 Pacific Standard Time Monday, November 16, 2020 12:58:28 Pacific Standard Time

Method: Untitled 12 Nov 2020 07:51:39

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Name: 201113R1_11, Date: 13-Nov-2020, Time: 14:39:57, ID: 2002298-01 SC-FB-2010261145 1, Description: SC-FB-2010261145

Tetra-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp m2 R	Resp RA	n/y	Resp	Conc.	EMPC	DL
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Penta-Dioxins

	Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA n/y	Resp	Conc.	EMPC	DL
ľ	1								

Hexa-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL	
1											

Hepta-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA n/y	Resp	Conc.	EMPC	DL
1								

Tetra-Furans

Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA n/y	Resp	Conc.	EMPC	DL
1 Total Tetra-Furans	25.39	1.450e3	1.183e3	7.569e1	6.480e1	1.17 YES	0.000e0	0.00000	0.20015	0.0717

Penta-Furans function 1

Name	RT	m1 Height m2 Height	m1 Resp m2 Re	sp RA	n/y	Resp	Conc.	EMPC	DL
1									

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Page 2 of 2

Vista Analytical Laboratory

Dataset:

Printed:

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Penta-Furans

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA n/y	Resp	Conc.	EMPC	DL
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Hexa-Furans

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA n/y	Resp	Conc.	EMPC	DL
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Hepta-Furans

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA n/y	Resp	Conc.	EMPC	DŁ
1								

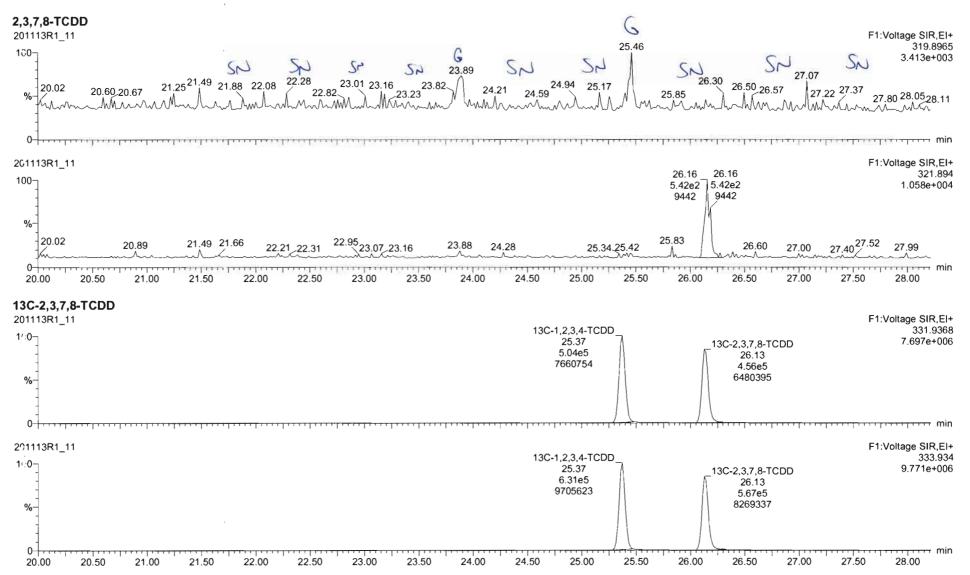
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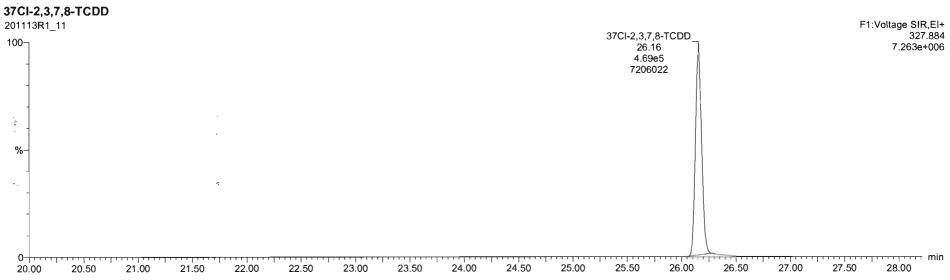


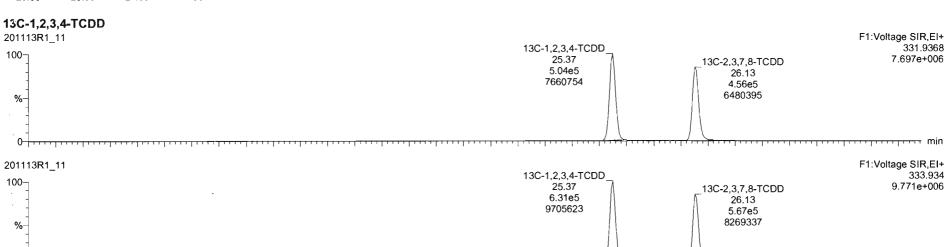
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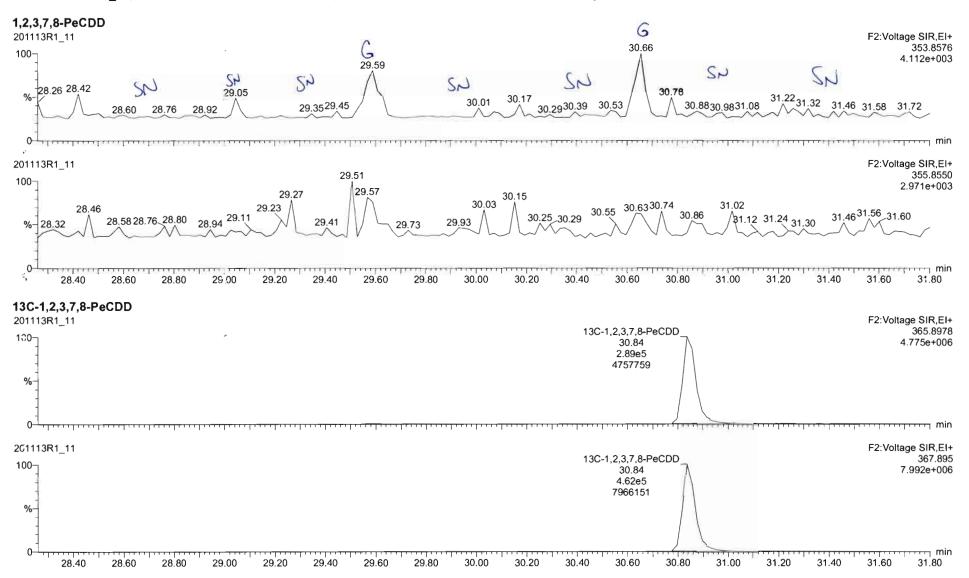
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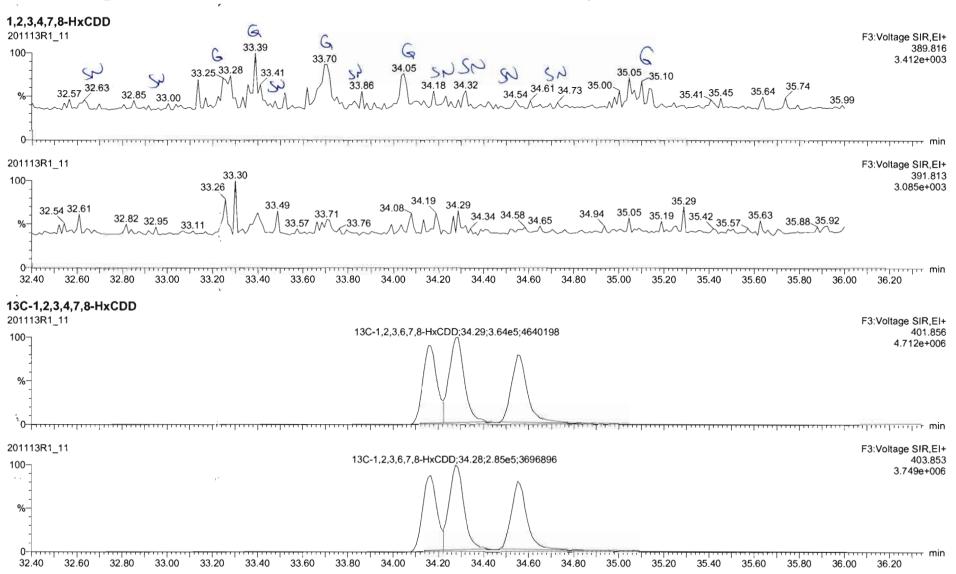


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Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time

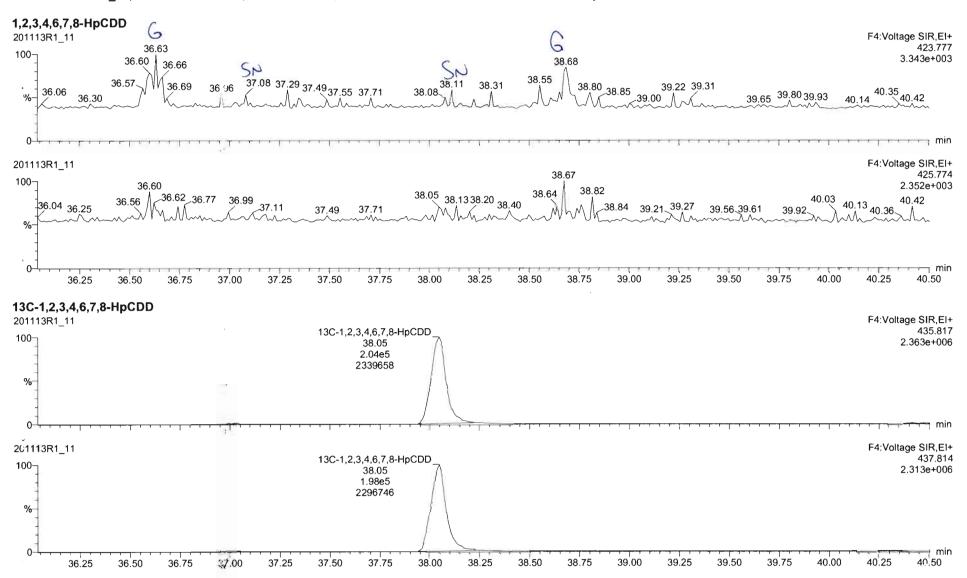
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Last Altered: Sunday, November 15, 2020 08:45:55 Pacific Standard Time Printed: Sunday, November 15, 2020 08:46:00 Pacific Standard Time

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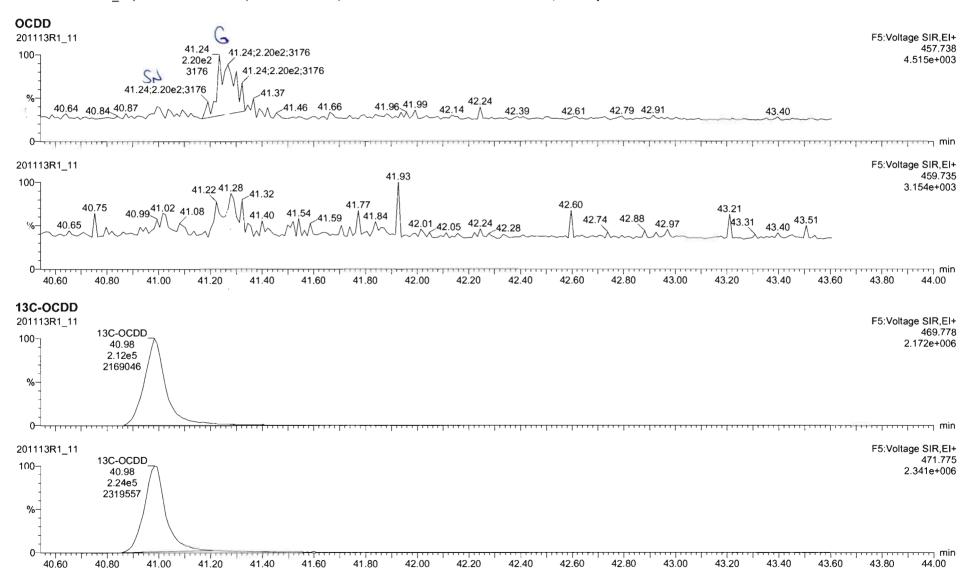
Quantify Sample Report Vista Analytical Laboratory

Dataset:

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Sunday, November 15, 2020 08:45:55 Pacific Standard Time Last Altered: Printed: Sunday, November 15, 2020 08:46:00 Pacific Standard Time

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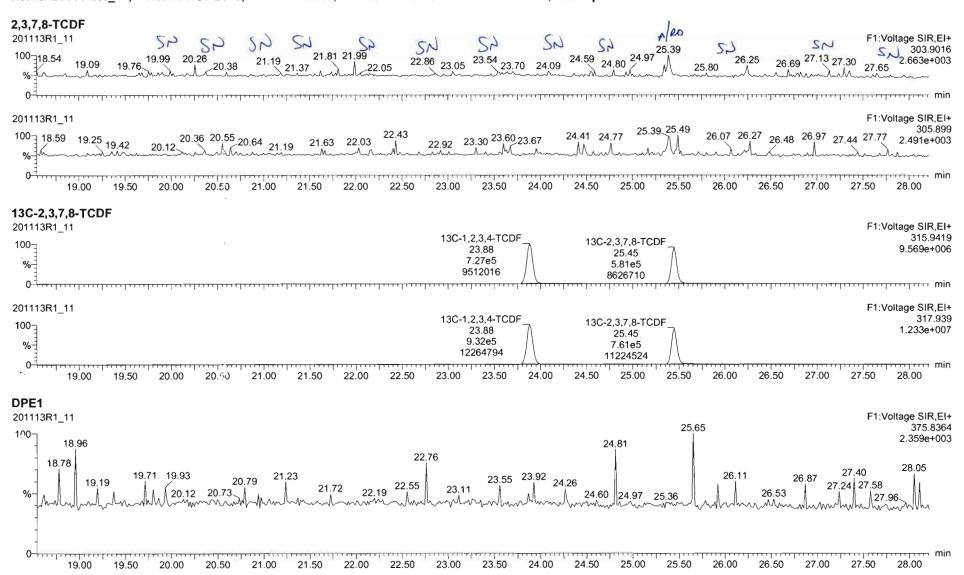


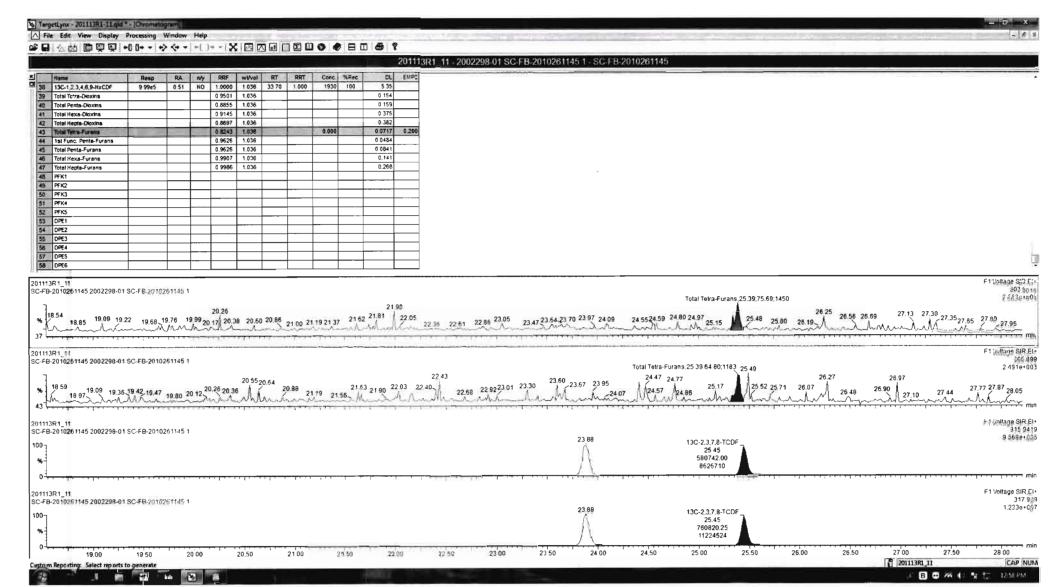
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Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time

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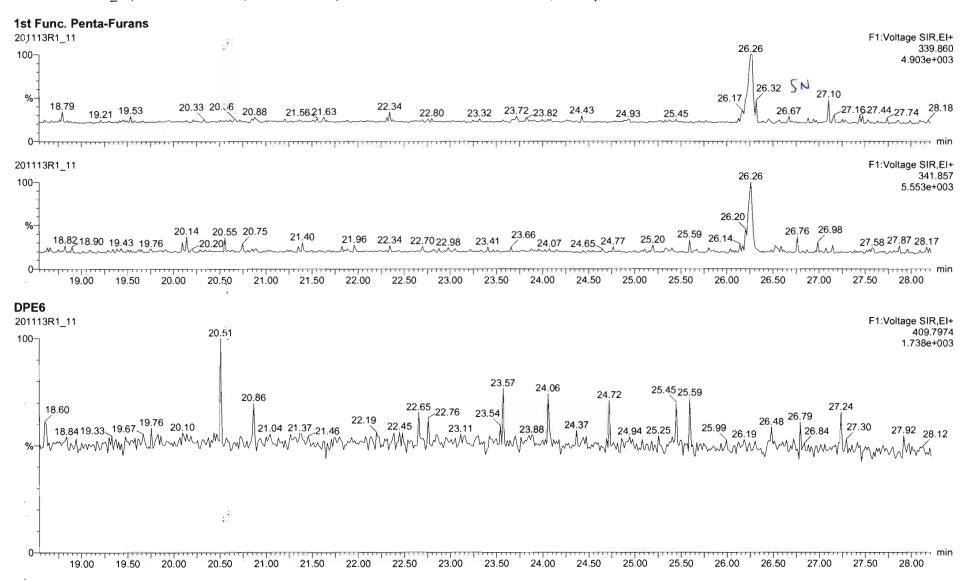


Work Order 2002298 Page 74 of 313

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Last Altered: Printed:

Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time

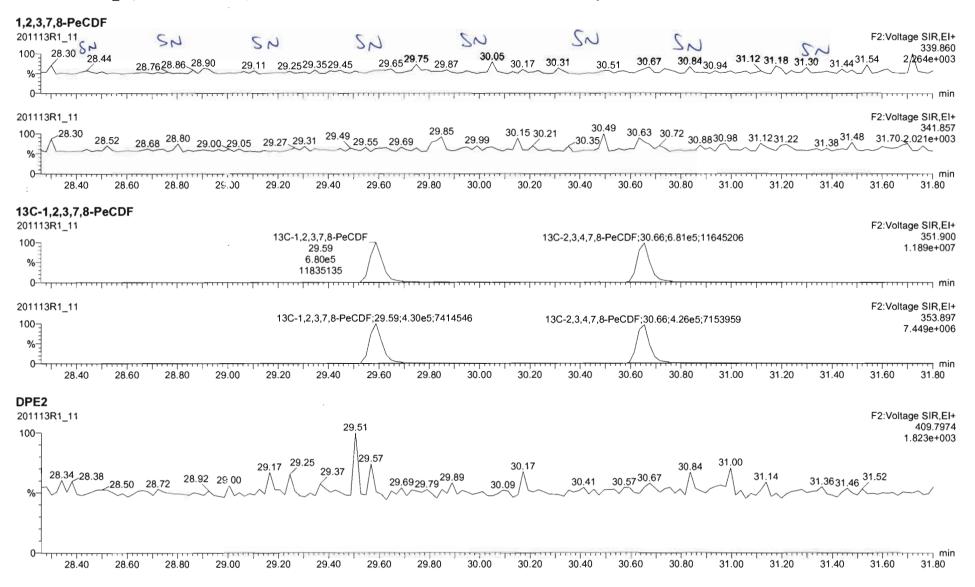


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Last Altered: Printed:

Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time

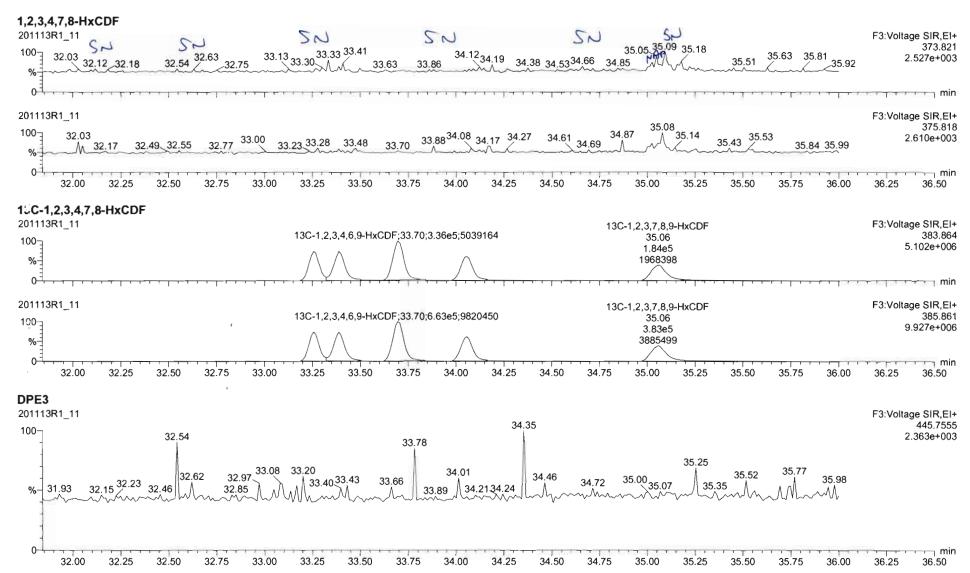
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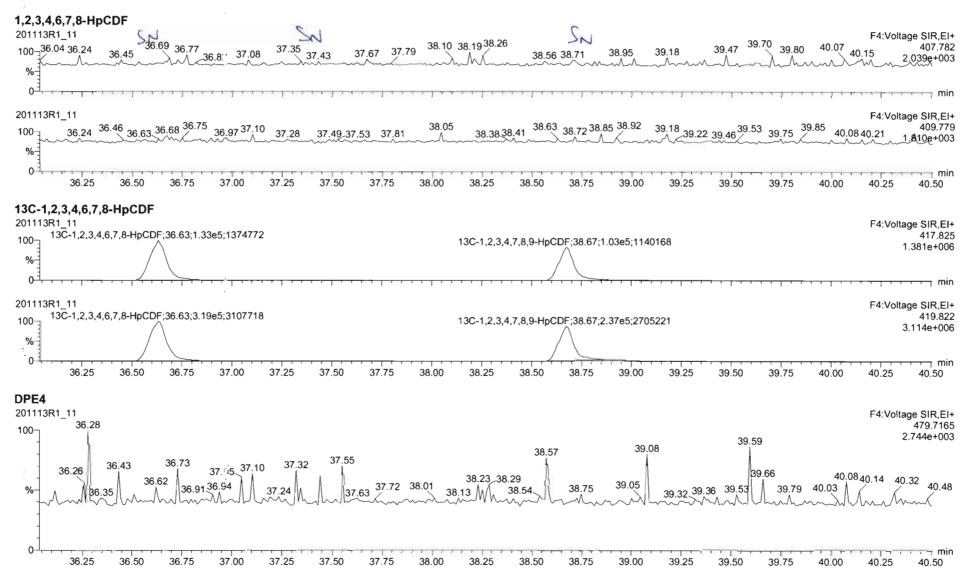
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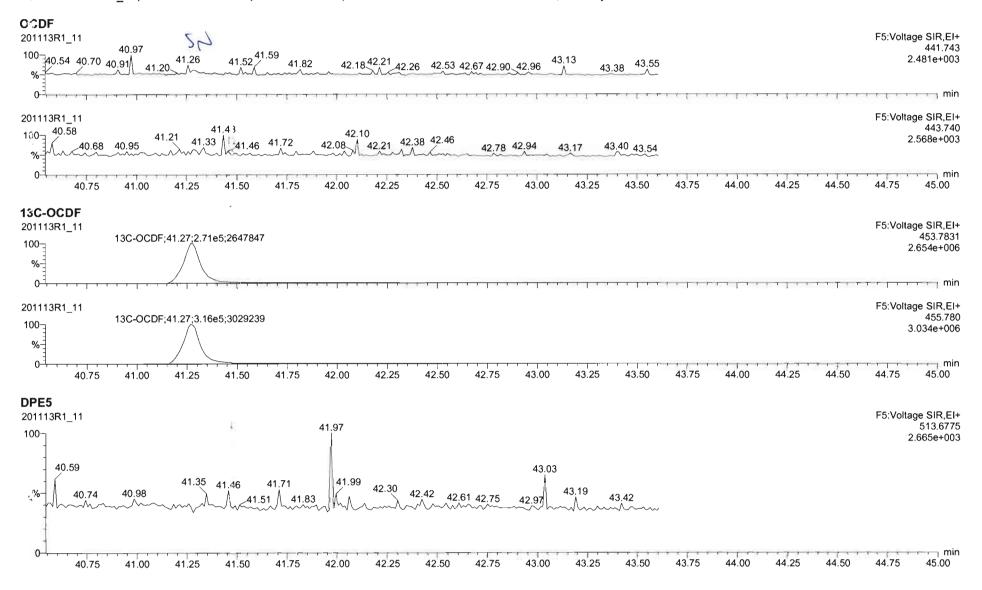
Vista Analytical Laboratory

Dataset:

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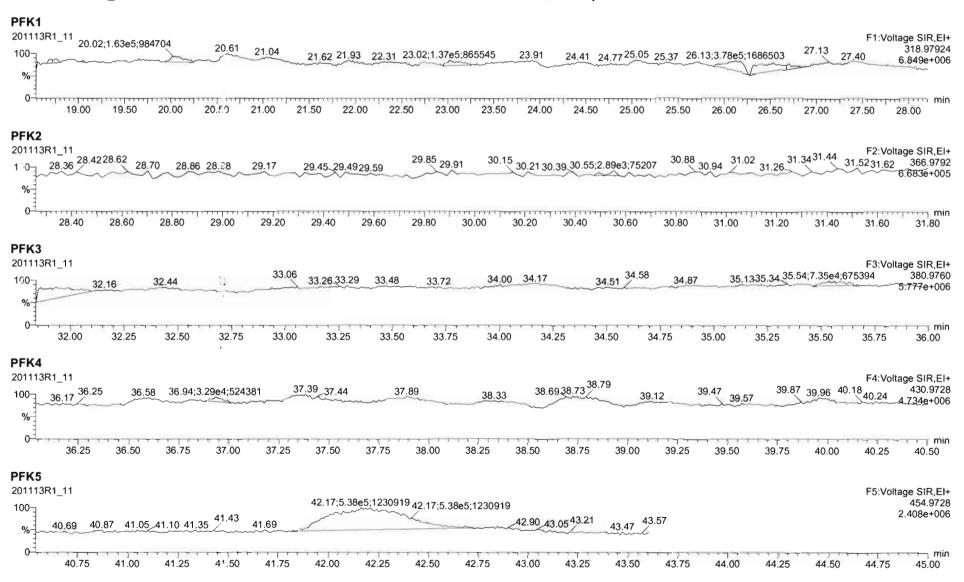
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Last Altered: Printed:

Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time



Page 1 of 2

Dataset:

U:\VG12.PRO\Results\201113R1\201113R1-12.qld

Last Altered:

Sunday, November 15, 2020 08:42:29 Pacific Standard Time

Printed:

Monday, November 16, 2020 07:58:23 Pacific Standard Time

GRB 11/16/2020

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39 Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD			NO	0.950	1.043	26.141		1.001				0.745	
2	2 1,2,3,7,8-PeCDD			NO	0.885	1.043	30.845		1.000				0.322	
3	3 1,2,3,4,7,8-HxCDD			NO	1.02	1.043	34.167		1.000				0.525	
4	4 1,2,3,6,7,8-HxCDD			NO	0.915	1.043	34.287		1.000				0.510	
5	5 1,2,3,7,8,9-HxCDD			NO	0.934	1.043	34.562		1.000				0.581	
6	6 1,2,3,4,6,7,8-HpCDD			NO	0.870	1.043	38.036		1.000				0.688	
7	7 OCDD			NO	0.872	1.043	40.983		1.000				2.02	
8	8 2,3,7,8-TCDF			NO	0.824	1.043	25.440		1.000				0.547	
9	9 1,2,3,7,8-PeCDF			NO	0.963	1.043	29.577		1.000				0.254	
10	10 2,3,4,7,8-PeCDF			NO	1.07	1.043	30.635		1.000				0.215	
11	11 1,2,3,4,7,8-HxCDF			NO	0.953	1.043	33.246		1.000				0.290	
12	12 1,2,3,6,7,8-HxCDF			NO	1.01	1.043	33.377		1.000				0.282	
13	13 2,3,4,6,7,8-HxCDF			NO	0.991	1.043	34.050		1.000				0.302	
14	14 1,2,3,7,8,9-HxCDF			NO	0.951	1.043	35.045		1.000				0.491	
15	15 1,2,3,4,6,7,8-HpCDF			NO	0.999	1.043	36.624		1.000				0.353	
16	16 1,2,3,4,7,8,9-HpCDF			NO	1.12	1.043	38.673		1.000				0.378	
17	17 OCDF			NO	0.868	1.043	41.277		1.000				1.04	
18	18 13C-2,3,7,8-TCDD	9.40e5	0.79	NO	1.11	1.043	26.119	26.11	1.030	1.030	1590.8	82.9	1.79	
19	19 13C-1,2,3,7,8-PeCDD	7.33e5	0.63	NO	0.859	1.043	30.846	30.84	1.216	1.216	1602.1	83.5	2.39	
20	20 13C-1,2,3,4,7,8-HxCDD	5.47e5	1.27	NO	0.700	1.043	34.164	34.16	1.014	1.014	1607.5	83.8	5.55	
21	21 13C-1,2,3,6,7,8-HxCDD	6.69e5	1.26	NO	0.833	1.043	34.302	34.28	1.018	1.017	1651.2	86.1	4.67	
22	22 13C-1,2,3,7,8,9-HxCDD	6.05e5	1.24	NO	0.762	1.043	34.545	34.55	1.025	1.025	1632.3	85.1	5.10	
23	23 13C-1,2,3,4,6,7,8-HpCDD	4.53e5	1.06	NO	0.650	1.043	38.032	38.04	1.129	1.129	1433.4	74.7	7.08	
24	24 13C-OCDD	6.11e5	0.93	NO	0.539	1.043	41.001	40.98	1.217	1.216	2327.7	60.7	7.35	
25	25 13C-2,3,7,8-TCDF	1.23e6	0.76	NO	0.981	1.043	25.440	25.43	1.003	1 003	1593.2	83.1	2.01	
26	26 13C-1,2,3,7,8-PeCDF	1.08e6	1.65	NO	0.792	1.043	29.576	29.57	1.166	1.166	1732.5	90.3	4.06	
27	27 13C-2,3,4,7,8-PeCDF	1.08e6	1.66	NO	0.778	1.043	30.636	30.64	1.208	1.208	1761.5	91.8	4.13	
28	28 13C-1,2,3,4,7,8-HxCDF	6.87e5	0.50	NO	0.954	1.043	33.254	33.25	0.987	0.987	1480.0	77.2	6.16	
29	29 13C-1,2,3,6,7,8-HxCDF	7.52e5	0.50	NO	1.01	1.043	33.386	33.38	0.991	0.991	1536.4	80.1	5.84	
30	30 13C-2,3,4,6,7,8-HxCDF	7.13e5	0.51	NO	0.921	1.043	34.056	34.05	1.011	1.010	1592.4	83.0	6.38	

U:\VG12.PRO\Results\201113R1\201113R1-12.qld

Last Altered: Printed:

Sunday, November 15, 2020 08:42:29 Pacific Standard Time Monday, November 16, 2020 07:58:23 Pacific Standard Time

Name: 201113R1_12, Date: 13-Nov-2020, Time: 15:24:49, ID: 2002298-02 SC-RB-2010261130 1, Description: SC-RB-2010261130

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
31	31 13C-1,2,3,7,8,9-HxCDF	6.08 e 5	0.49	NO	0.803	1.043	35.054	35.04	1.040	1.040	1555.5	81.1	7.32	
32	32 13C-1,2,3,4,6,7,8-HpCDF	4.89 e 5	0.43	NO	0.735	1.043	36.624	36.62	1.087	1.087	1368.2	71.3	6.23	
33	33 13C-1,2,3,4,7,8,9-HpCDF	3.67 e 5	0.42	NO	0.568	1.043	38.662	38.67	1.147	1.148	1330.6	69.4	8.08	
34	34 13C-OCDF	7.52e5	0.85	NO	0.629	1.043	41.284	41.27	1.225	1.225	2457.0	64.0	5.48	
35	35 37CI-2,3,7,8-TCDD	4.22e5			1.09	1.043	26.119	26.14	1.030	1.031	728.48	94.9	0.570	
36	36 13C-1,2,3,4-TCDD	1.02e6	0.79	NO	1.00	1.043	25.370	25.36	1.000	1.000	1918.1	100	1.98	
37	37 13C-1,2,3,4-TCDF	1.51e6	0.78	NO	1.00	1.043	23.870	23.86	1.000	1.000	1918.1	100	1.97	
38	38 13C-1,2,3,4,6,9-HxCDF	9.33e5	0.52	NO	1.00	1.043	33.710	33.70	1.000	1.000	1918.1	100	5.88	
39	39 Total Tetra-Dioxins				0.950	1.043	24.620		0.000				0.349	
40	40 Total Penta-Dioxins				0.885	1.043	29.960		0.000				0.133	
41	41 Total Hexa-Dioxins				0.915	1.043	33.635		0.000				0.332	
42	42 Total Hepta-Dioxins				0.870	1.043	37.640		0.000				0.414	
43	43 Total Tetra-Furans				0.824	1.043	23.610		0.000				0.294	
44	44 1st Func. Penta-Furans				0.963	1.043	26.930		0.000				0.350	
45	45 Total Penta-Furans				0.963	1.043	29.275		0.000				0.137	
46	46 Total Hexa-Furans				0.991	1.043	33.555		0.000				0.167	
47	47 Total Hepta-Furans				0.999	1.043	37.835		0.000				0.192	

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Vista Analytical Laboratory

Dataset:

U:\VG12.PRO\Results\201113R1\201113R1-12.qld

Last Altered:

Sunday, November 15, 2020 08:42:29 Pacific Standard Time

Printed:

Monday, November 16, 2020 07:58:23 Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39 Calibration: U:\VG12.PRO\CurveDB\dbDlOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201113R1 12, Date: 13-Nov-2020, Time: 15:24:49, ID: 2002298-02 SC-RB-2010261130 1, Description: SC-RB-2010261130

Tetra-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1										

Penta-Dioxins

Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
ramo							,		00		
1											
'											

Hexa-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA n/y	Resp	Conc.	EMPC	DŁ
			,	,				
1								

Hepta-Dioxins

Name	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1										

Tetra-Furans

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA n/y	Resp	Conc.	EMPC	DL
1								

Penta-Furans function 1

Name	RT	m1 Height m2 Height	m1 Resp m2 R	esp RA n	/y Resp	Conc.	EMPC	DL
1								

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Vista Analytical Laboratory

Dataset:

U:\VG12.PRO\Results\201113R1\201113R1-12.qld

Last Altered:

Sunday, November 15, 2020 08:42:29 Pacific Standard Time

Printed:

Monday, November 16, 2020 07:58:23 Pacific Standard Time

Name: 201113R1_12, Date: 13-Nov-2020, Time: 15:24:49, ID: 2002298-02 SC-RB-2010261130 1, Description: SC-RB-2010261130

Penta-Furans

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1									

Hexa-Furans

Name	RT	m1 Height m2 Height	m1 Resp m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1									

Hepta-Furans

Name	RT	m1 Height m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1										

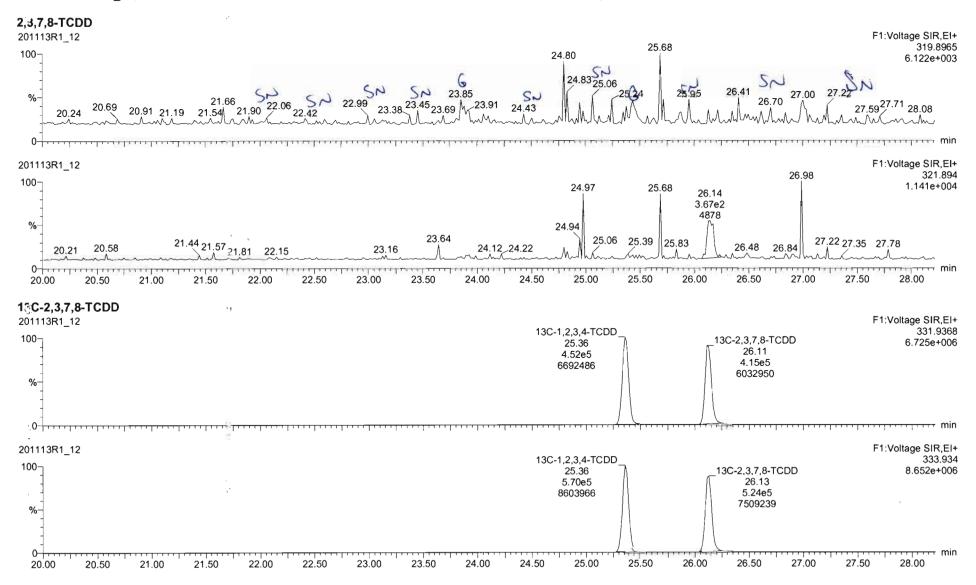
Quantify Sample Report Vista Analytical Laboratory

Dataset:

8

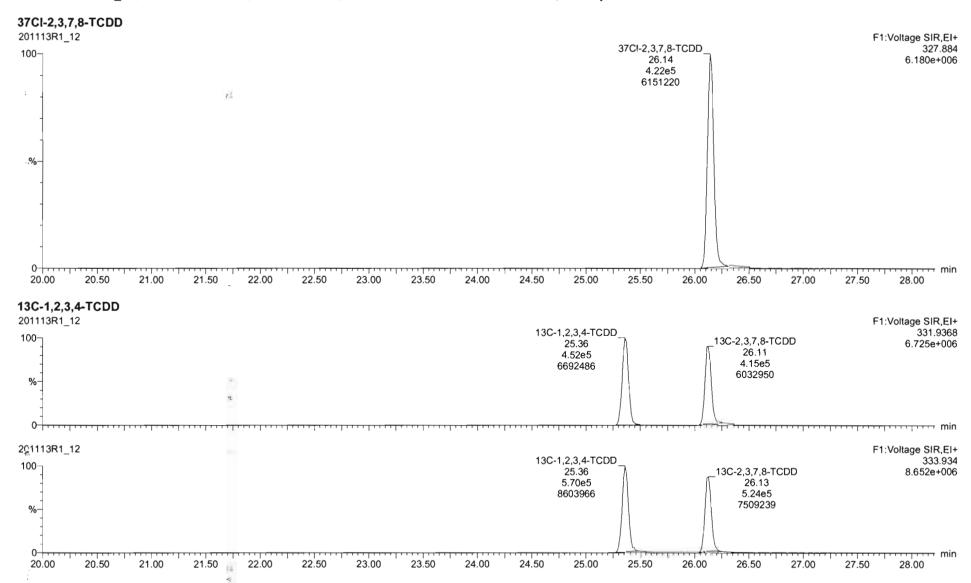
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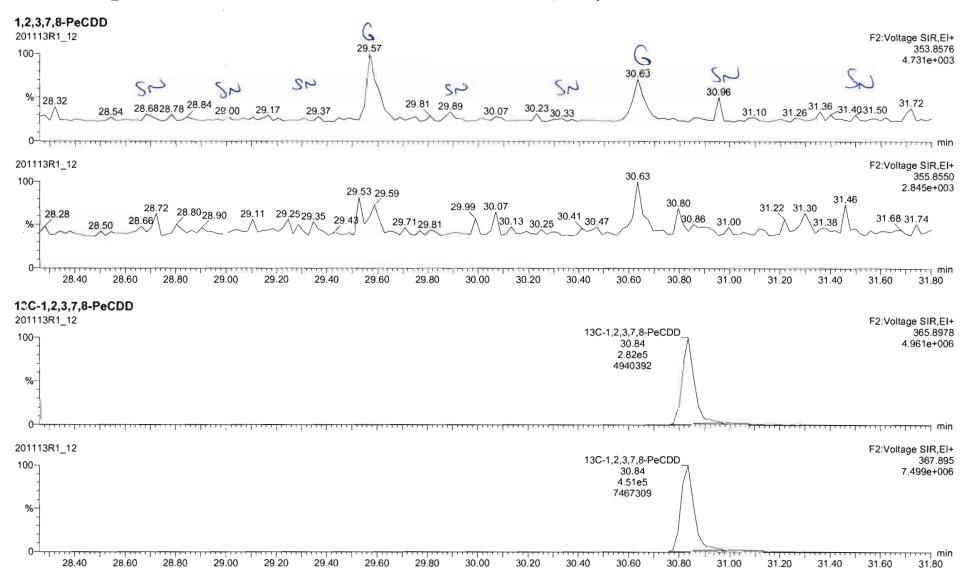
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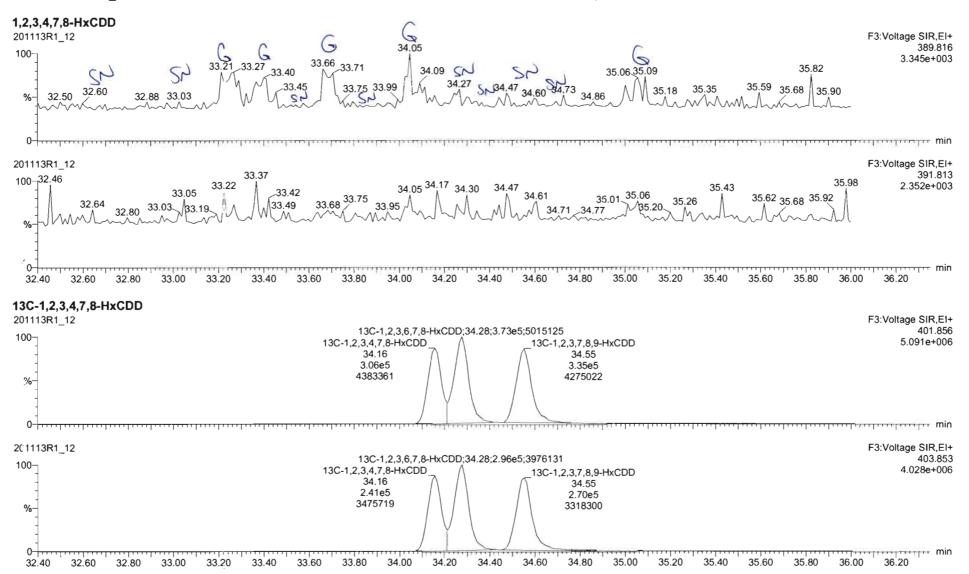
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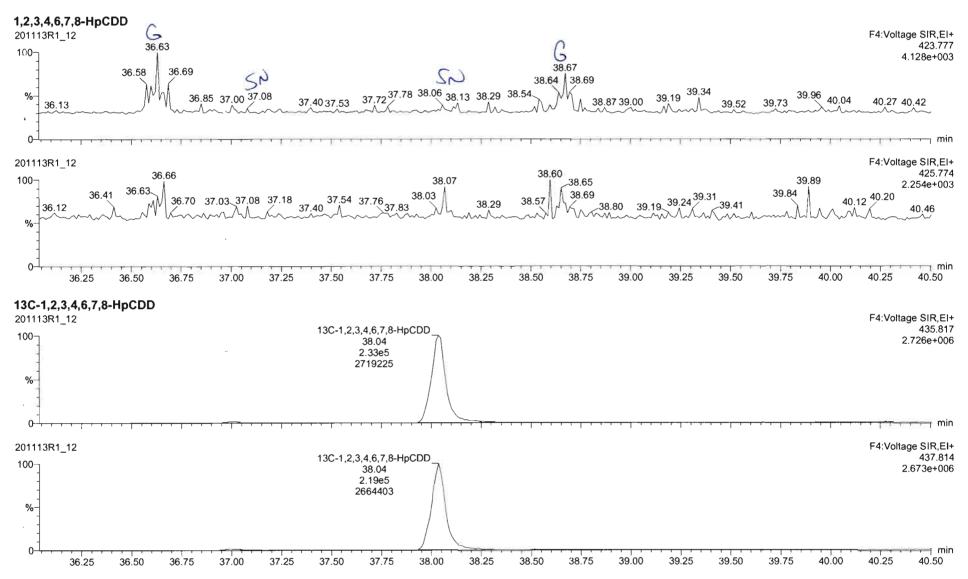
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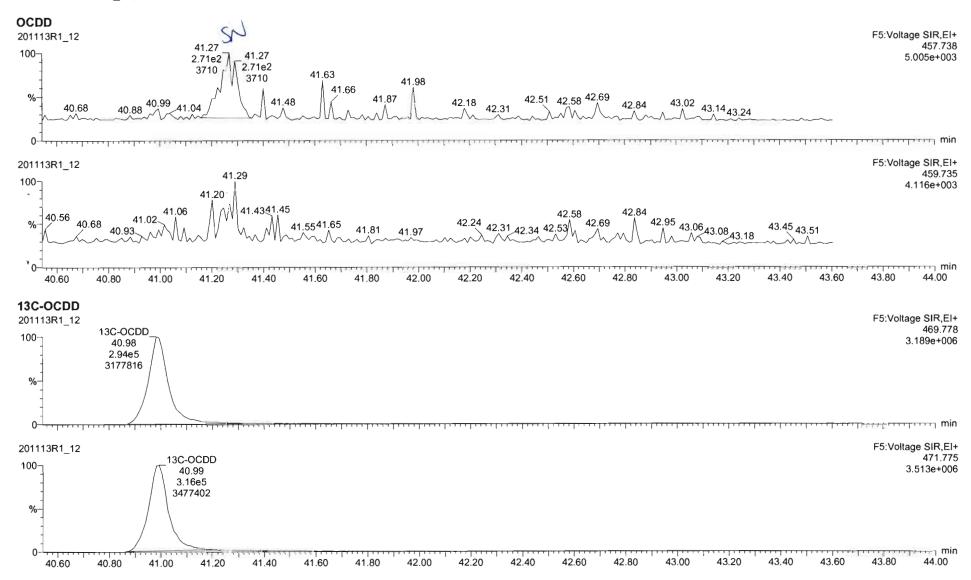
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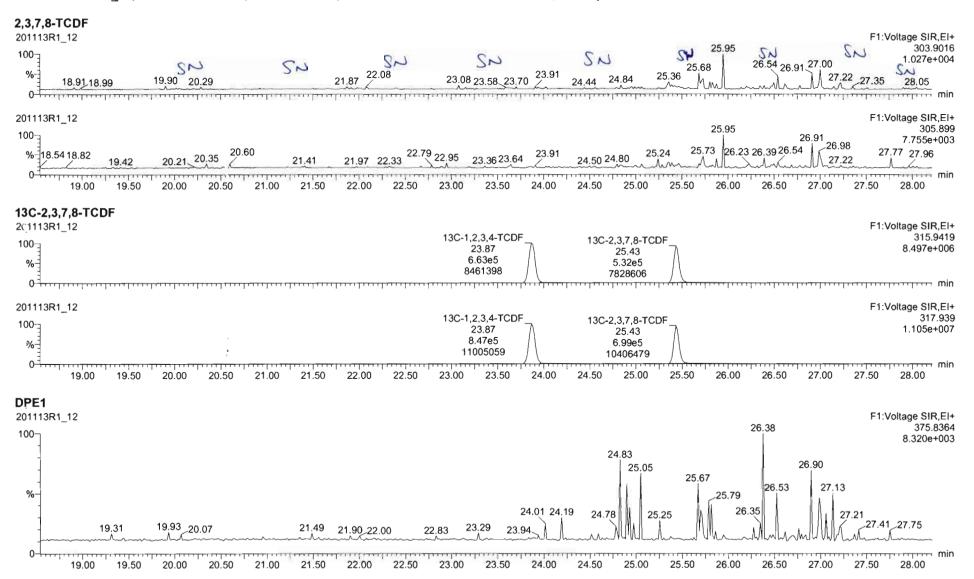
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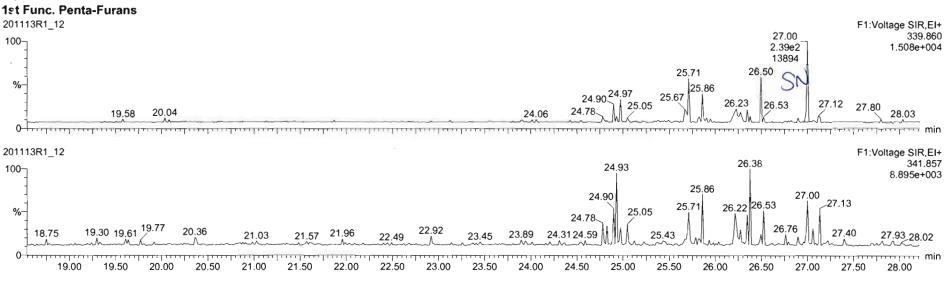
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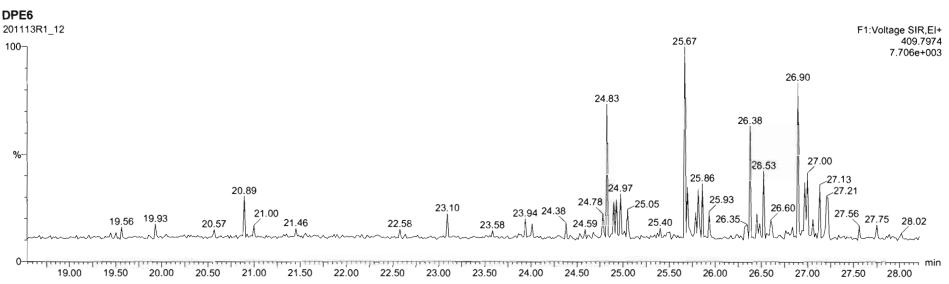
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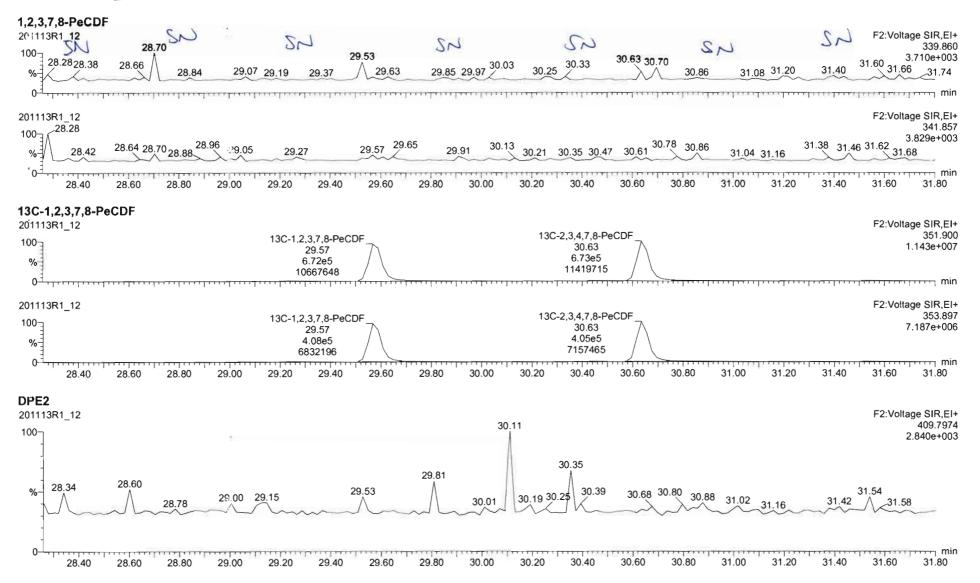




Vista Analytical Laboratory

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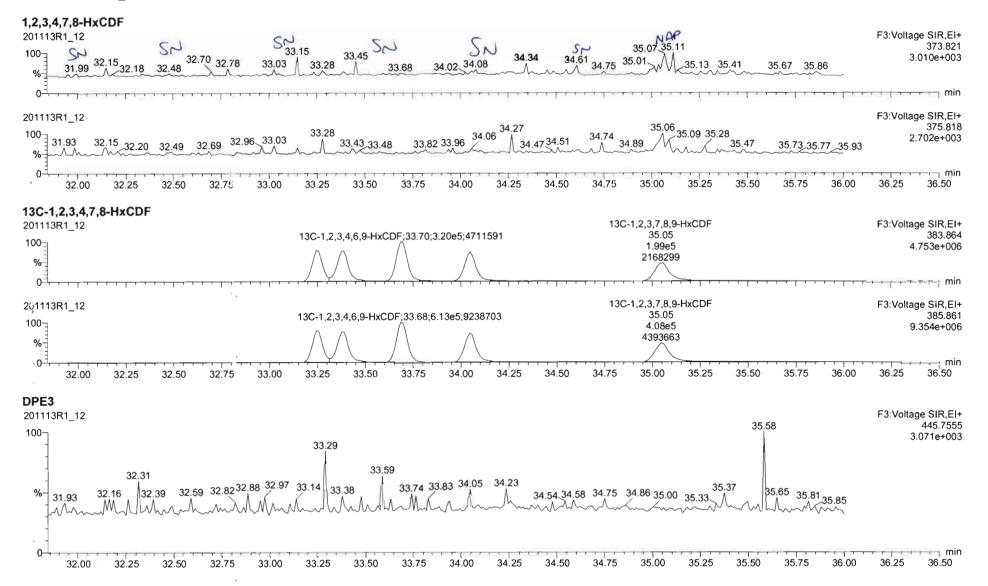
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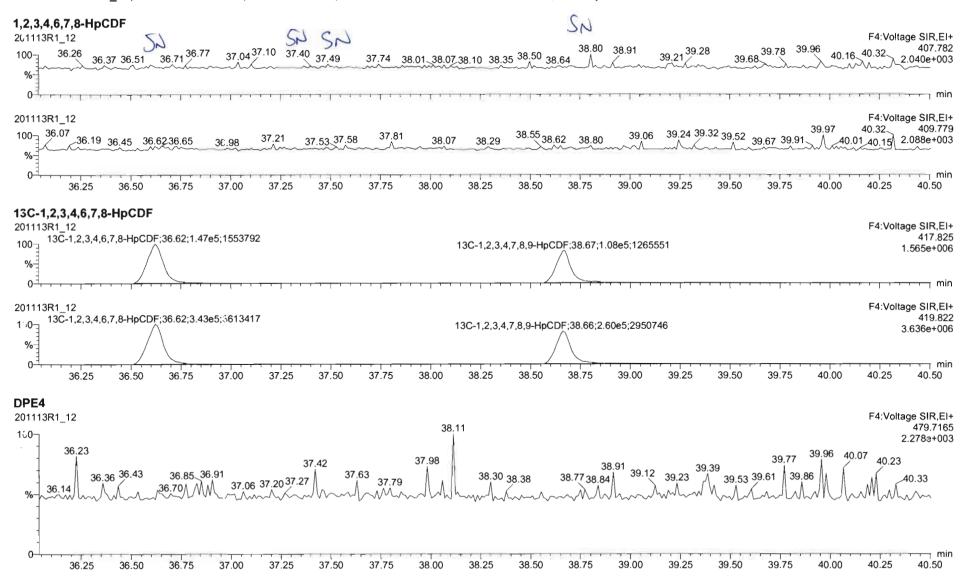
Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time



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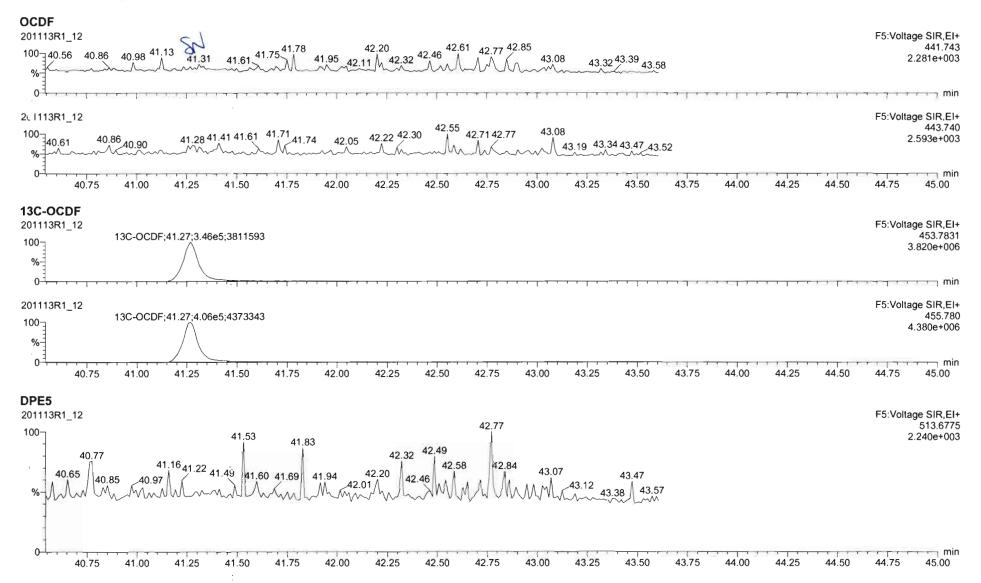
Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time



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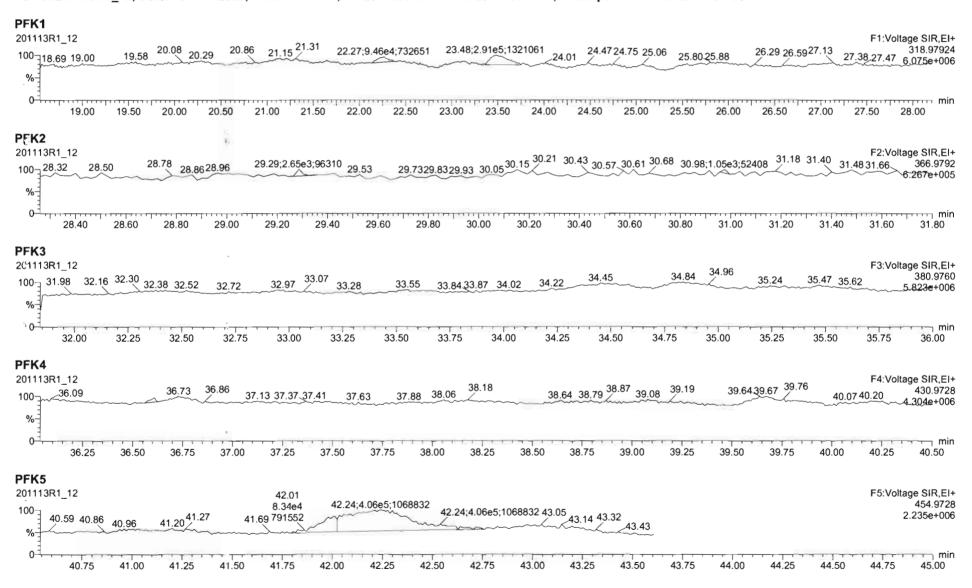
Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time



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Last Altered: Printed:

Sunday, November 15, 2020 08:45:55 Pacific Standard Time Sunday, November 15, 2020 08:46:00 Pacific Standard Time



CONTINUING CALIBRATION

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HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: STZ01112 21-1	_		Reviewed By: dy 11.13.2020 11.13.2020	А
End Calibration ID: STZ01/12R2-1	_			
	Beg.	End	<u>Be</u>	g. End
Ion abundance within QC limits?		V	Mass resolution ≥	V
Concentrations within criteria?	V	V	□ 5k □ 6-8K □ 8K ≠ 10K 1614 1699 429 1613/1668/8280	
TCDD/TCDF Valleys <25%		V	Intergrated peaks display correctly?	1
First and last eluters present?	1		GC Break <20%	
Retention Times within criteria?			8280 CS1 End Standard:	
Verification Std. named correctly?	1		- Ratios within limits, S/N <2.5औ, CS1 within 12 hours	NA
(ST-Year-Month-Day-VG ID)				
Forms signed and dated?	1	V	Comments:	
Correct ICAL referenced?	GPB	GPB		
Run Log:			•	
- Correct instrument ilsted?	1	N		*
- Samples within 12 hour clock?	Y	N		
- Bottle position verfied?	GRE)		

ID: LR - HCSRC

Rev. No.: 0 Rev. Date: 06/06/2017

Page: 1 of 1

Page 1 of 2

Dataset:

U:\VG12.PRO\Results\201112R1\201112R1-1.qld

Last Altered:

Thursday, November 12, 2020 7:56:15 AM Pacific Standard Time

Printed:

Friday, November 13, 2020 7:02:43 AM Pacific Standard Time

GPB 11/13/2020

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201112R1_1, Date: 12-Nov-2020, Time: 07:05:09, ID: ST201112R1_1 1613 CS3 20F1105, Description: 1613 CS3 20F1105

6	# Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
1	1 2,3,7,8-TCDD	1.30e5	1.30e6	0.77	NO	0.950	26.16	26.14	NO	1.001	1.001	10.510	105	NO
2	2 1,2,3,7,8-PeCDD	4.33e5	9.34e5	0.62	NO	0.885	30.84	30.86	NO	1.000	1.001	52.344	105	NO
3	3 1,2,3,4,7,8-HxCDD	3.61e5	6.85e5	1.22	NO	1.02	34.17	34.17	NO	1.000	1.000	51.724	103	NO
4	4 1,2,3,6,7,8-HxCDD	3.93e5	8.72e5	1.20	NO	0.915	34.29	34.29	NO	1.000	1.000	49.278	98.6	NO
5	5 1,2,3,7,8,9-HxCDD	3.60e5	7.66e5	1.18	NO	0.934	34.56	34.56	NO	1.000	1.000	50.239	100	NO
6	6 1,2,3,4,6,7,8-HpCDD	2.68e5	6.13 e 5	1.00	NO	0.870	38.04	38.05	NO	1.000	1.000	50.281	101	NO
7	7 OCDD	4.51e5	1.02e6	0.87	NO	0.872	40.98	40.98	NO	1.000	1.000	101.30	101	NO
8	8 2,3,7,8-TCDF	1.17e5	1.52e6	0.75	NO	0.824	25.44	25.46	NO	1.000	1.001	9.3488	93.5	NO
9	9 1,2,3,7,8-PeCDF	6.52e5	1.36e6	1.56	NO	0.963	29.60	29.59	NO	1.000	1.000	49.822	99.6	NO
10	10 2,3,4,7,8-PeCDF	6.74e5	1.29e6	1.54	NO	1.07	30.64	30.66	NO	1.000	1.001	49.088	98.2	NO
11	11 1,2,3,4,7,8-HxCDF	4.04e5	8.77e5	1.21	NO	0.953	33.26	33.27	NO	1.000	1.000	48.364	96.7	NO
12	12 1,2,3,6,7,8-HxCDF	4.58e5	9.30e5	1.20	NO	1.01	33.38	33.40	NO	1.000	1.001	48.887	97.8	NO
13	13 2,3,4,6,7,8-HxCDF	4.09e5	8.53e5	1.20	NO	0.991	34.05	34.07	NO	1.000	1.001	48.366	96.7	NO
14	14 1,2,3,7,8,9-HxCDF	3.20e5	6.94e5	1.20	NO	0.951	35.04	35.07	NO	1.000	1.001	48.531	97.1	NO
15	15 1,2,3,4,6,7,8-HpCDF	3.17e5	6.40e5	1.00	NO	0.999	36.62	36.63	NO	1.000	1.000	49.631	99.3	NO
16	16 1,2,3,4,7.8.9-HpCDF	2.60e5	4.54e5	1.02	NO	1.12	38.66	38.67	NO	1.000	1.000	50.973	102	NO
17	17 OCDF	4.74e5	1.11e6	0.88	NO	0.868	41.28	41.28	NO	1.000	1.000	98.567	98.6	NO
18	18 13C-2,3,7,8-TCDD	1.30e6	1.03e6	0.79	NO	1.11	26.12	26.13	NO	1.030	1.030	113.77	114	NO
19	19 13C-1,2,3,7,8-PeCDD	9.34e5	1.03e6	0.63	NO	0.859	30.85	30.84	NO	1.216	1.216	105.26	105	NO
20	20 13C-1,2,3,4,7,8-HxCDD	6.85e5	9.21e5	1.27	NO	0.700	34.16	34.16	NO	1.014	1.014	106.30	106	NO
21	21 13C-1,2,3,6,7,8-HxCDD	8.72e5	9.21e5	1.27	NO	0.833	34.30	34.28	NO	1.018	1.017	113.66	114	NO
22	22 13C-1,2,3,7,8,9-HxCDD	7.66e5	9.21e5	1.25	NO	0.762	34.54	34.55	NO	1.025	1.025	109.24	109	NO
23	23 13C-1,2,3,4,6,7,8-HpCDD	6.13e5	9.21e5	1.03	NO	0.650	38.03	38.04	NO	1.129	1.129	102.44	102	NO
24	24 13C-OCDD	1.02e6	9.21e5	0.90	NO	0.539	41.00	40.98	NO	1.217	1.216	205.66	103	NO
25	25 13C-2,3,7,8-TCDF	1.52e6	1.55e6	0.77	NO	0.981	25.44	25.43	NO	1.003	1.003	99.898	99.9	NO
26	26 13C-1,2,3,7,8-PeCDF	1.36e6	1.55e6	1.59	NO	0.792	29.58	29.59	NO	1.166	1.167	110.65	111	NO
27	27 13C-2,3,4,7,8-PeCDF	1.29e6	1.55e6	1.59	NO	0.778	30.64	30 64	NO	1.208	1.208	106.52	107	NO
28	28 13C-1,2,3,4,7,8-HxCDF	8.77e5	9.21e5	0.50	NO	0.954	33.25	33.26	NO	0.987	0.987	99.844	99.8	NO
29	29 13C-1,2,3,6,7,8-HxCDF	9.30e5	9.21e5	0.51	NO	1.01	33.39	33.38	NO	0.991	0.991	100.40	100	NO
30	30 13C-2,3,4,6,7,8-HxCDF	8.53e5	9.21e5	0.51	NO	0.921	34.06	34.05	NO	1.011	1.010	100.52	101	NO

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U:\VG12.PRO\Results\201112R1\201112R1-1.qld

Last Altered: Printed:

Thursday, November 12, 2020 7:56:15 AM Pacific Standard Time

Friday, November 13, 2020 7:02:43 AM Pacific Standard Time

Name: 201112R1_1, Date: 12-Nov-2020, Time: 07:05:09, ID: ST201112R1_1 1613 CS3 20F1105, Description: 1613 CS3 20F1105

S = 4	# Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
31	31 13C-1,2.3,7,8,9-HxCDF	6.94e5	9.21e5	0.50	NO	0.803	35.05	35.04	NO	1.040	1.040	93.857	93.9	NO
32	32 13C-1,2,3,4,6,7,8-HpCDF	6.40e5	9.21e5	0.43	NO	0.735	36.62	36.62	NO	1.087	1.087	94.499	94.5	NO
33	33 13C-1,2,3,4,7,8,9-HpCDF	4.54e5	9.21e5	0.41	NO	0.568	38.66	38.66	NO	1.147	1.147	86.773	86.8	NO
34	34 13C-OCDF	1.11e6	9.21e5	0.88	NO	0.629	41.28	41.27	NO	1.225	1.225	191.12	95.6	NO
35	35 37CI-2,3,7,8-TCDD	1.31e5	1.03e6			1.09	26.12	26.14	NO	1.030	1.031	11.632	116	NO
36	36 13C-1,2.3,4-TCDD	1.03e6	1.03e6	0.79	NO	1.00	25.37	25.36	NO	1.000	1.000	100.00	100	NO
37	37 13C-1,2,3,4-TCDF	1.55e6	1.55e6	0.77	NO	1.00	23.87	23.86	NO	1.000	1.000	100.00	100	NO
38	38 13C-1,2,3,4,6,9-HxCDF	9.21e5	9.21e5	0.50	NO	1.00	33.71	33.69	NO	1.000	1.000	100.00	100	YESOK

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MassLynx 4.1 SCN815

Page 1 of 1

Dataset:

Untitled

Last Altered:

Friday, November 13, 2020 6:54:52 AM Pacific Standard Time

Printed:

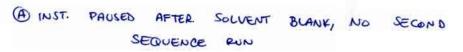
Friday, November 13, 2020 6:55:39 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Compound name: 2,3,7,8-TCDD

11-16	Name	ID .	Acq.Date	Acq.Time
1	201112R1_1	ST201112R1_1 1613 CS3 20F1105	12-Nov-20	07:05:09
2	201112R1_2	TCDF CPSM	12-Nov-20	07:51:09
3	201112R1_3	B0K0008-BS1 OPR 1	12-Nov-20	08:36:04
4	201112R1_4	SOLVENT BLANK	12-Nov-20	09:21:30
5	201112R1_5	B0K0008-BLK1 Method Blank 1	12-Nov-20	10:06:46
6	201112R1_6	QC201108-01 SPE QC/ New Screen Filter	12-Nov-20	10:52:25
7	201112R1_7	2002210-01 2020-10-13-101 15.65	12-Nov-20	11:37:19
8	201112R1_8	2002210-02 2020-10-13-102 20.16	12-Nov-20	12:22:13
9	201112R1_9	2002210-03 2020-10-13-103 17.39	12-Nov-20	13:07:08
10	201112R1_10	2002210-04 2020-10-13-104 11.1	12-Nov-20	13:52:01
11	201112R1_11	2002210-05 2020-10-13-105 12.84	12-Nov-20	14:36:55
12	201112R1_12	2002210-06 2020-10-13-106 12.14	12-Nov-20	15:21:49
13	201112R1_13	2002210-07 2020-10-13-107 10.99	12-Nov-20	16:06:43
14	201112R1_14	2002210-08 2020-10-13-108 10.53	12-Nov-20	16:51:33
15	201112R1_15	2002210-09 2020-10-13-109 10.35	12-Nov-20	17:36:24
16	201112R2_1	SOLVENT BLANK	12-Nov-20	18:30:18
17	201112R2_2	ST201112R2_1 1613 CS3 20F1105	12-Nov-20	19:15:14
18	201112R2_3	TCDF CPSM	12-Nov-20	20:00:07
19	@ 201112R2_4	SOLVENT BLANK	12-Nov-20	20:45:00



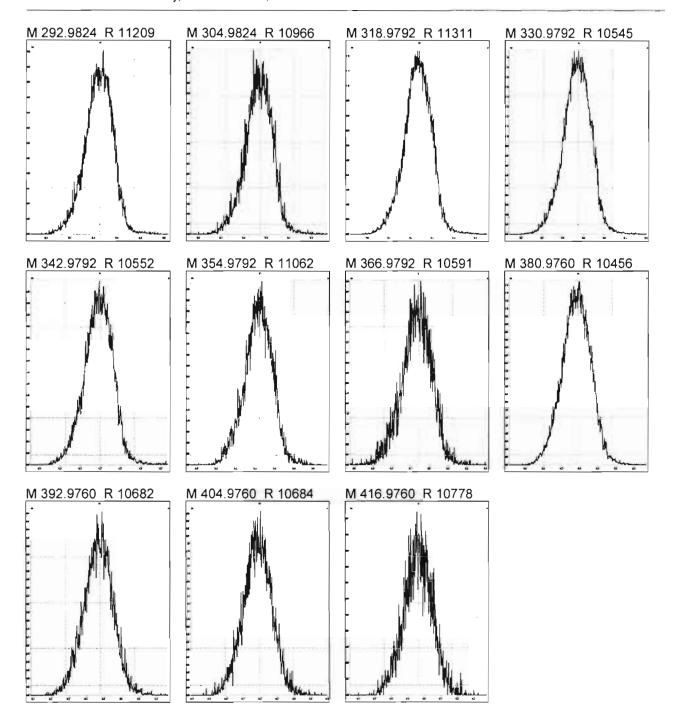
Work Order 2002298 Page 102 of 313

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed:

Thursday, November 12, 2020 06:59:27 Pacific Standard Time



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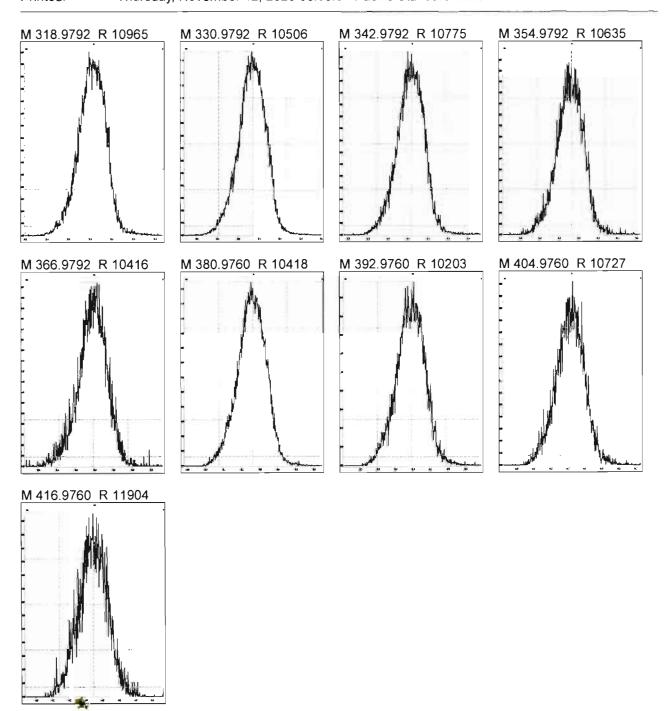
Page 1 of 1

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed:

Thursday, November 12, 2020 06:59:54 Pacific Standard Time



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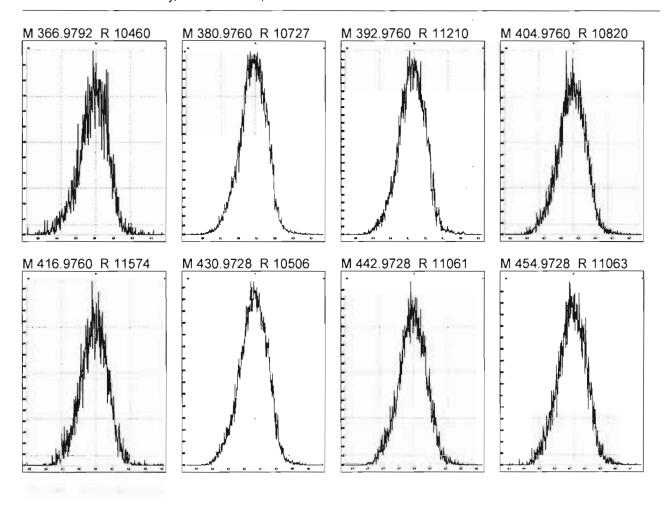
Page 1 of 1

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Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

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Thursday, November 12, 2020 07:00:17 Pacific Standard Time



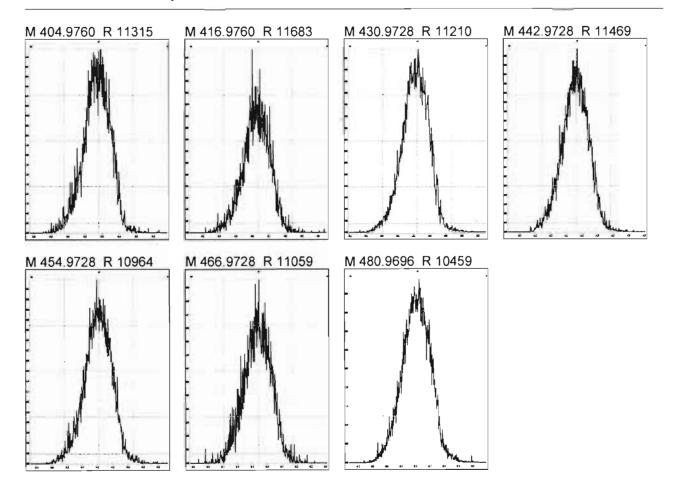
Work Order 2002298 Page 105 of 313

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed:

Thursday, November 12, 2020 07:00:38 Pacific Standard Time



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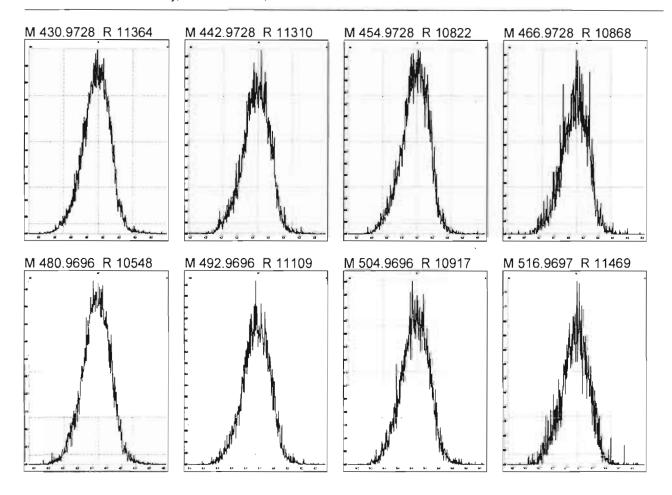
Page 1 of 1

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed:

Thursday, November 12, 2020 07:01:03 Pacific Standard Time



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Page 1 of 1

Dataset:

Untitled

Last Altered:

Friday, November 13, 2020 7:01:01 AM Pacific Standard Time

Printed:

Friday, November 13, 2020 7:01:15 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\CPSM.mdb 10 Nov 2020 10:04:22

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201112R1_1, Date: 12-Nov-2020, Time: 07:05:09, ID: ST201112R1_1 1613 CS3 20F1105, Description: 1613 CS3 20F1105

ZVUM:	# Name	RT
1	1 1,3,6,8-TCDD (First)	22.33
2	2 1,2,8,9-TCDD (Last)	27.04
3	3 1,2,4,7,9-PeCDD (First)	28.58
4	4 1.2,3,8,9-PeCDD (Last)	31.22
5	5 1,2,4,6,7,9-HxCDD (First)	32.53
6	6 1,2,3,7,8,9-HxCDD (Last)	34.56
7	7 1,2,3,4,6,7,9-HpCDD (First)	37.03
8	8 1,2,3,4,6,7,8-HpCDD (Last)	38.05
9	9 1,3,6,8-TCDF (First)	20.10
10	10 1,2,8,9-TCDF (Last)	27.35
11	11 1,3,4,6,8-PeCDF (First)	26.93
12	12 1,2,3,8,9-PeCDF (Last)	31.58
13	13 1,2,3,4,6,8-HxCDF (First)	31.99
14	14 1,2.3.7,8,9-HxCDF (Last)	35.07
15	15 1,2,3,4,6,7,8-HpCDF (First)	36.63
16	16 1,2,3,4,7,8,9-HpCDF (Last)	38.67

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Page 1 of 1

Vista Analytical Laboratory VG-11

Dataset:

Untitled

Last Altered:

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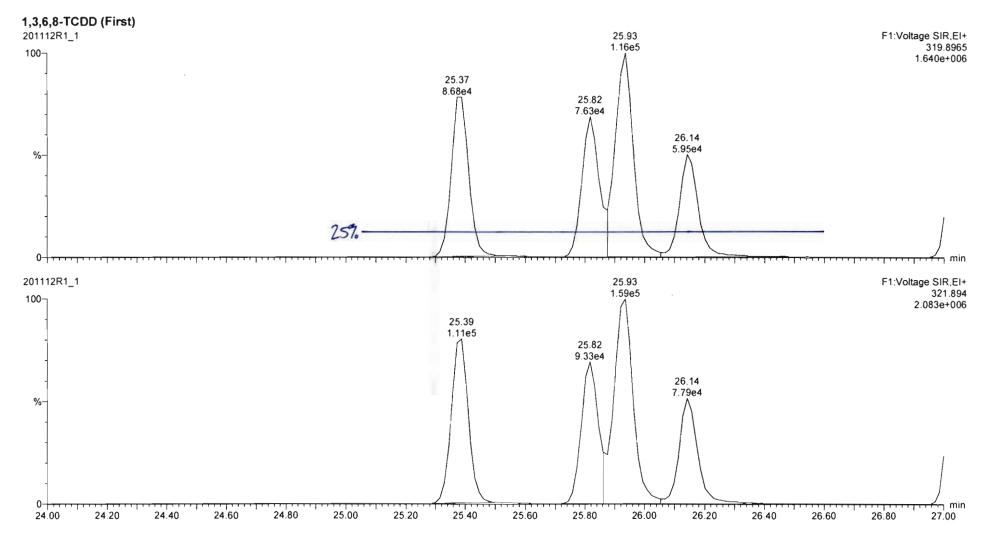
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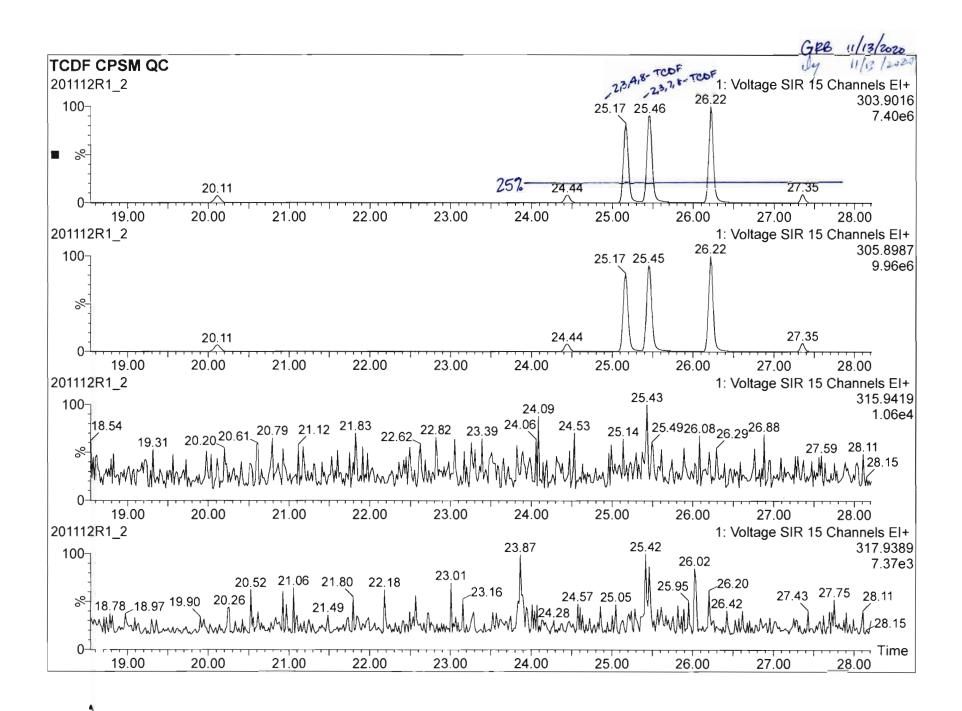
Friday, November 13, 2020 7:01:15 AM Pacific Standard Time

GRB 11/13/2020

Method: U:\VG12.PRO\MethDB\CPSM.mdb 10 Nov 2020 10:04:22

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10





Work Order 2002298 Page 110 of 313

D∃taset:

Printed:

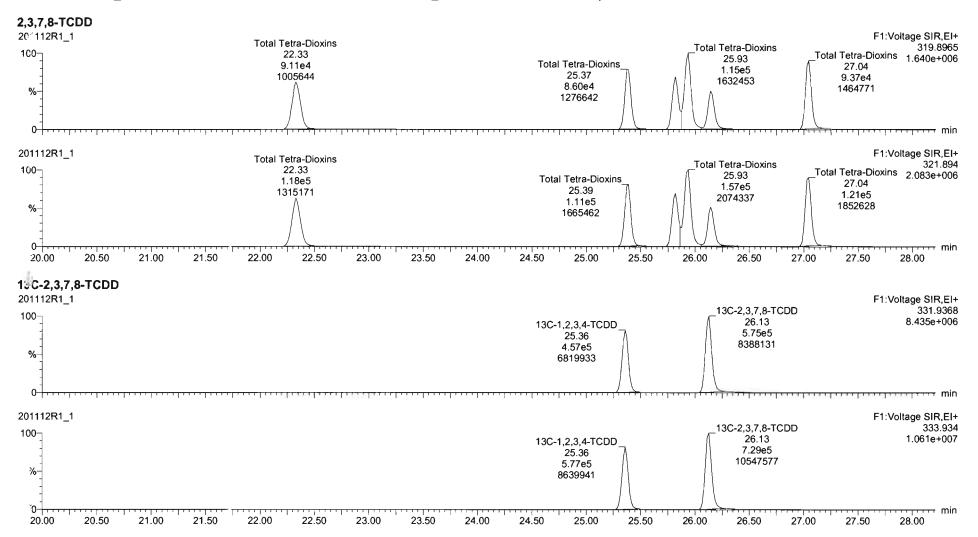
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Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

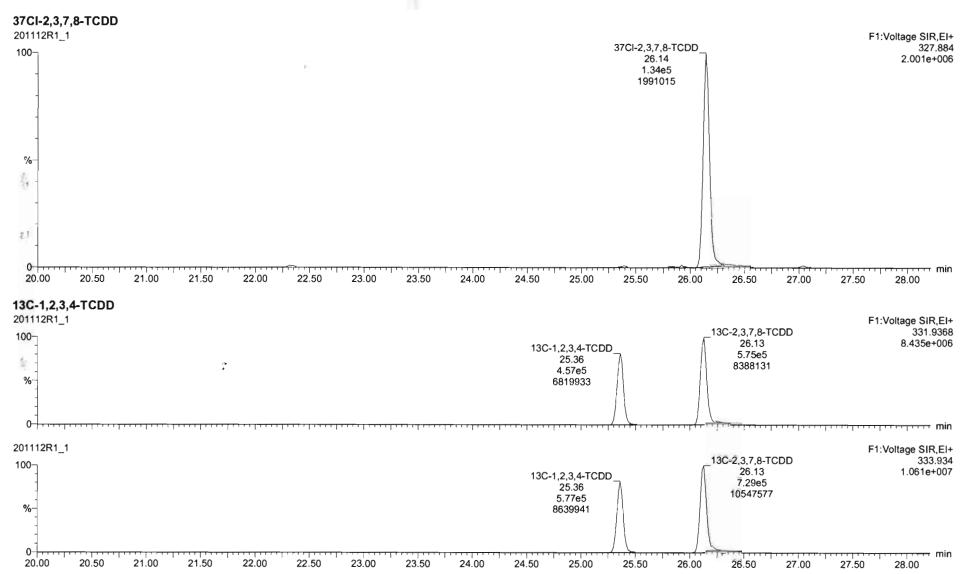
Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10



Untitled

Last Altered: P. nted:

Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time



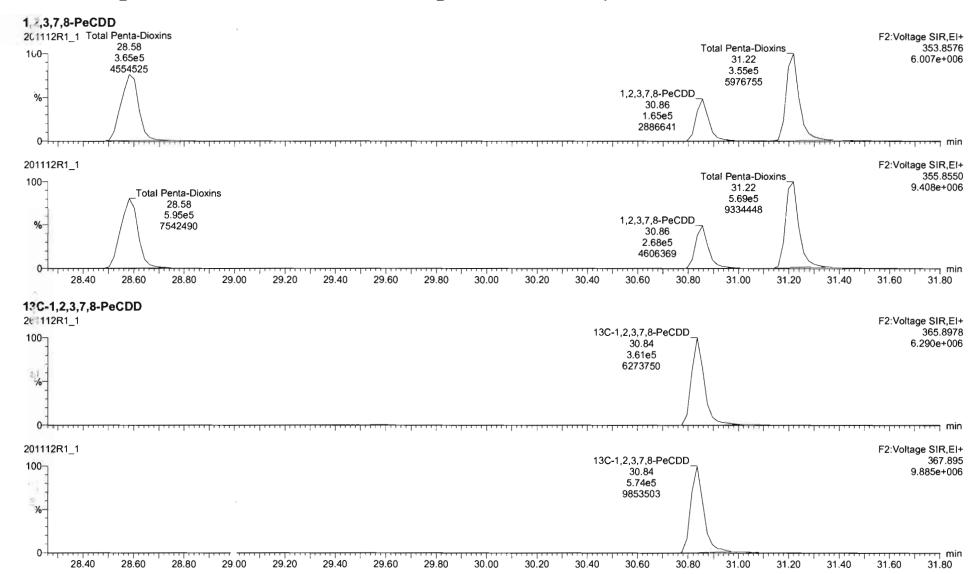
Vista Analytical Laboratory

D taset:

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Last Altered: Printed:

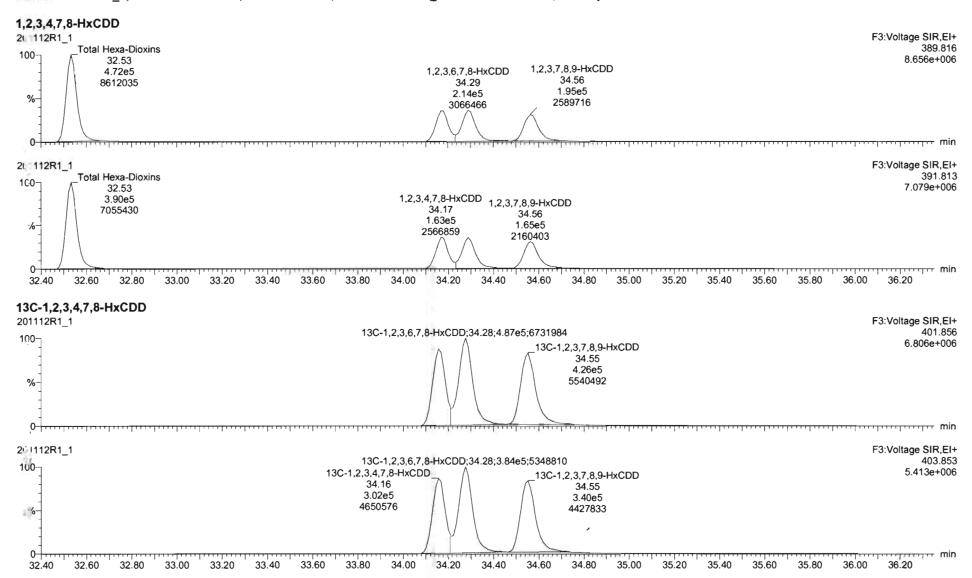
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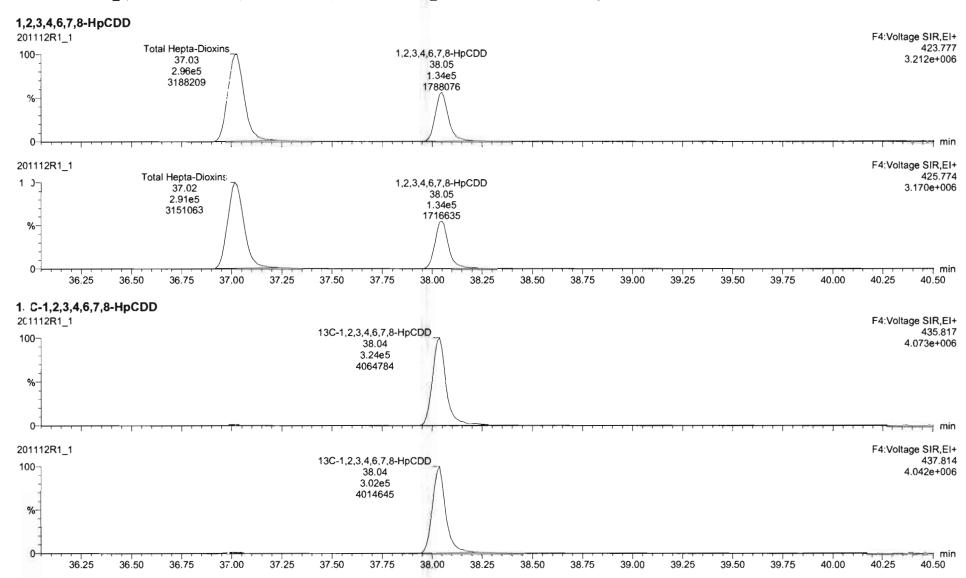
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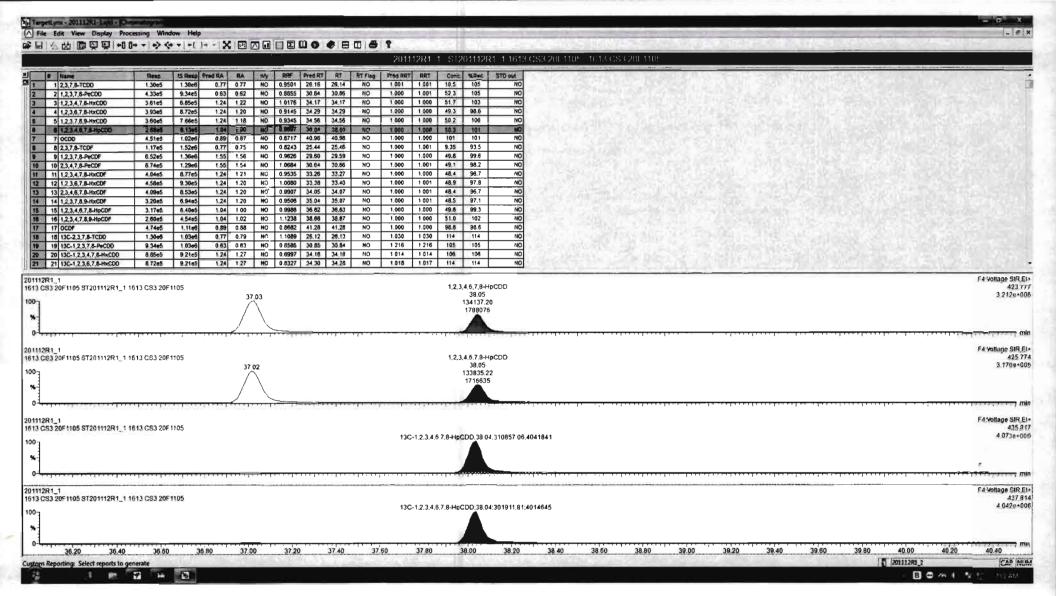
Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time



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Last Altered: Printed: Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time



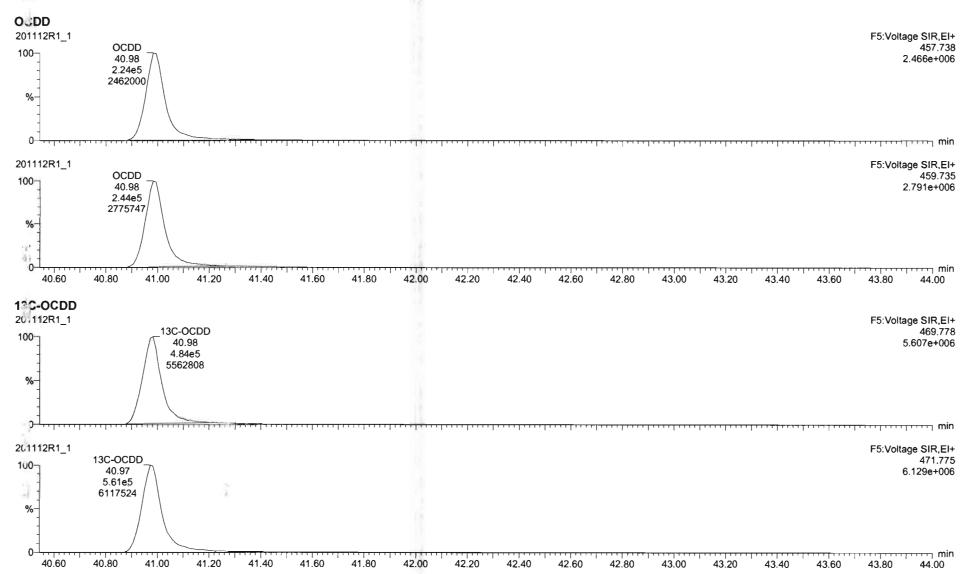


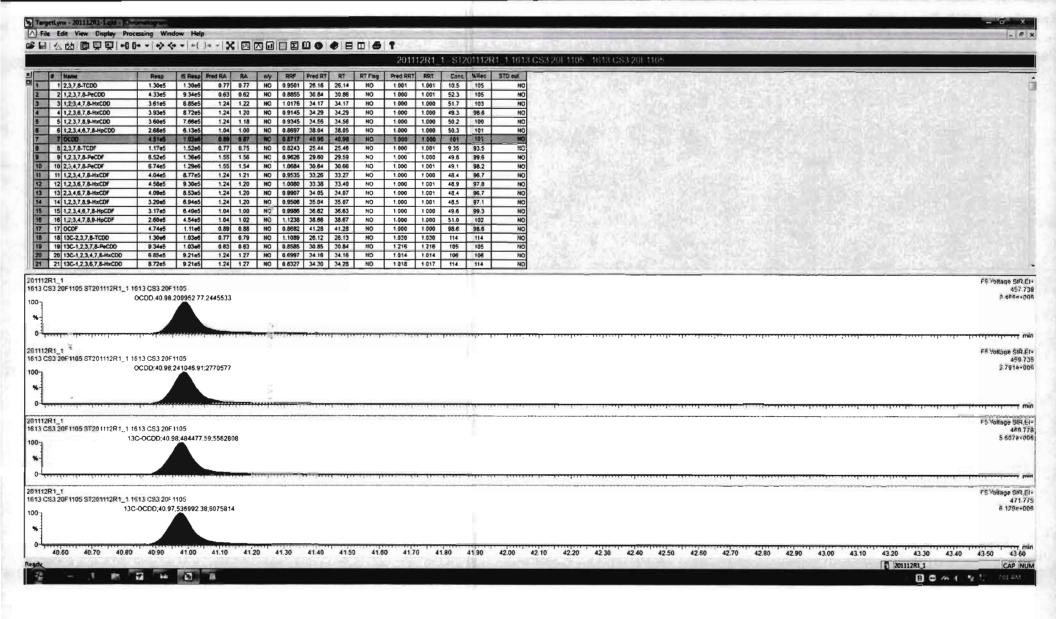
Work Order 2002298 Page 116 of 313

Dataset: Untitled

23

Last Altered: Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time

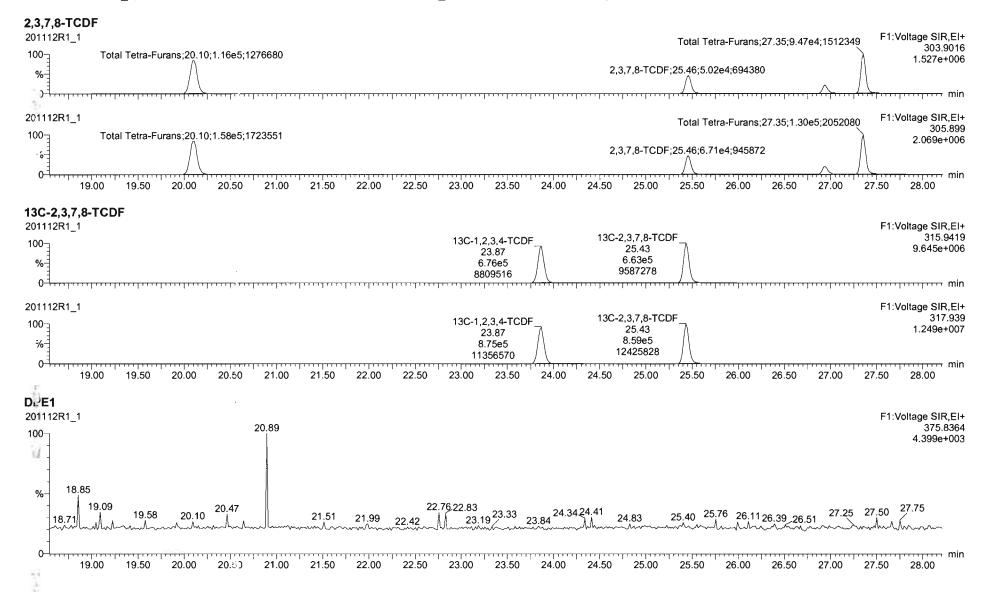




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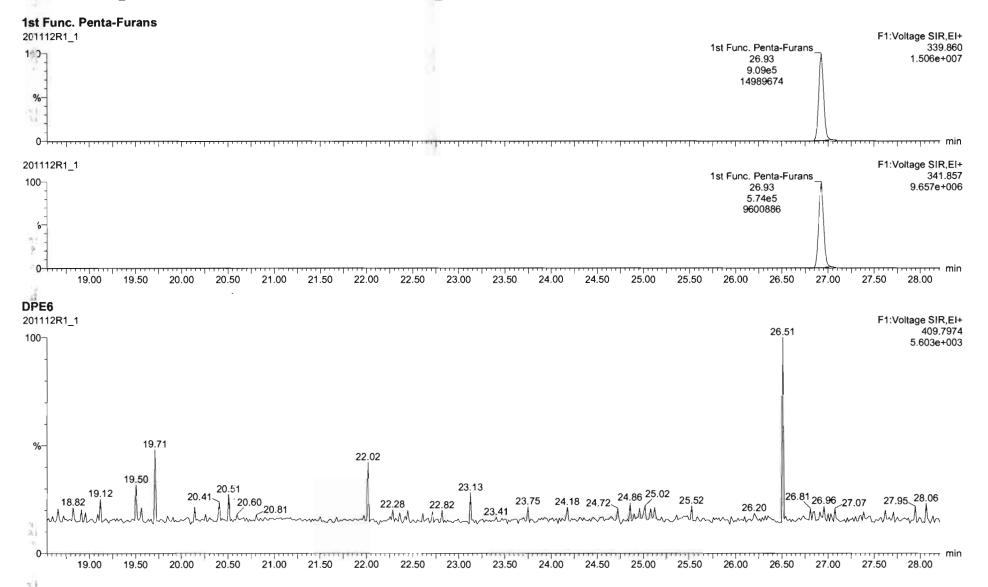


Vista Analytical Laboratory

Dataset:

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Last Altered: Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time



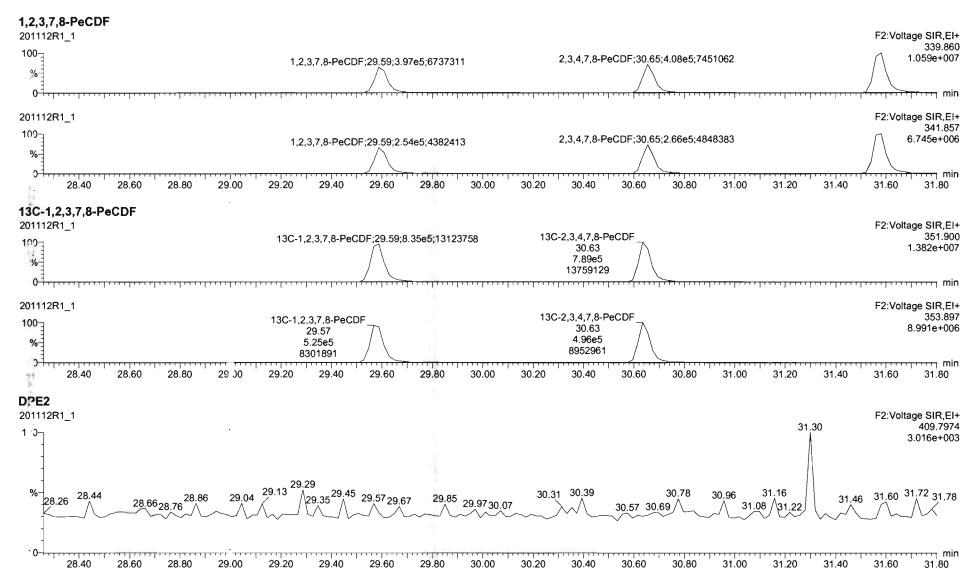
Quantify Sample Report Vista Analytical Laboratory

D taset:

Untitled

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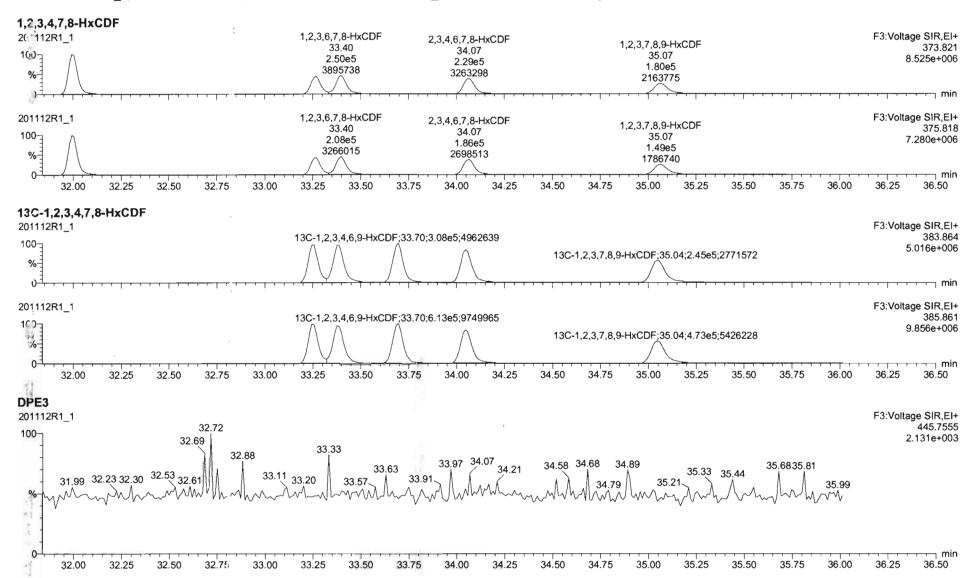
Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time

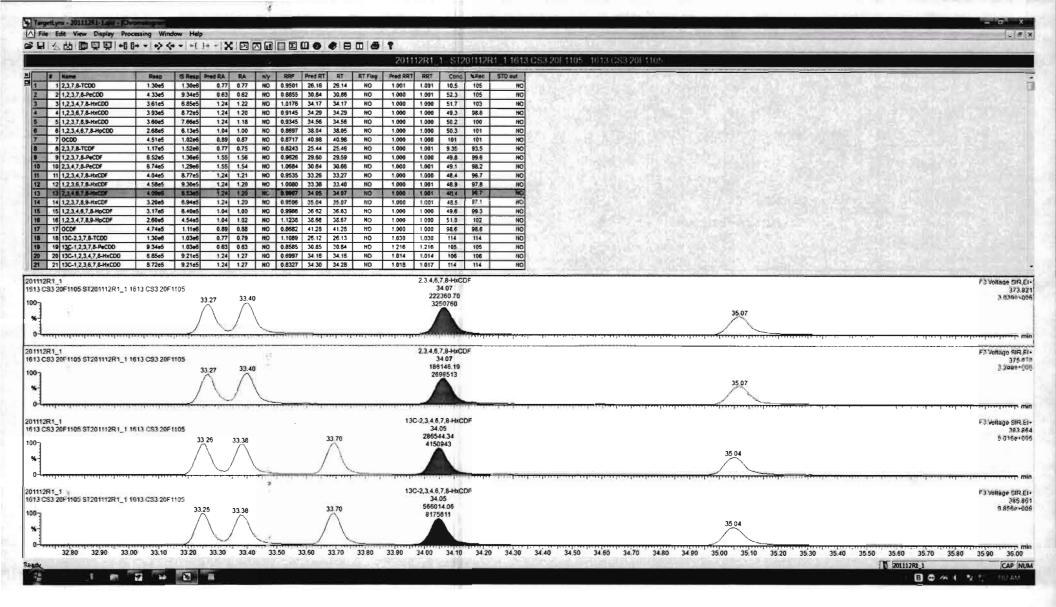


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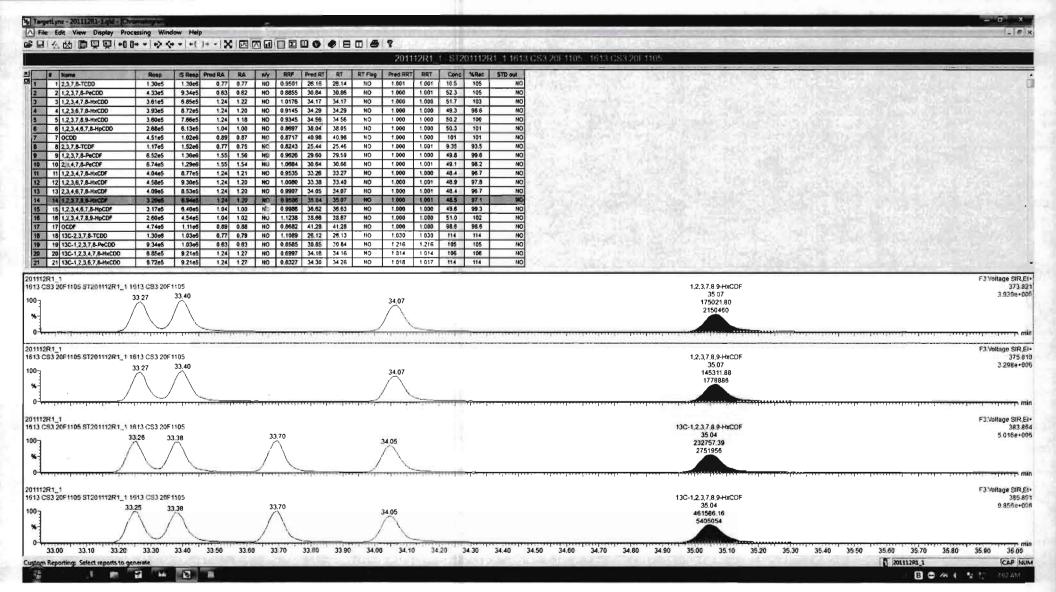
Last Altered: Printed:

Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time





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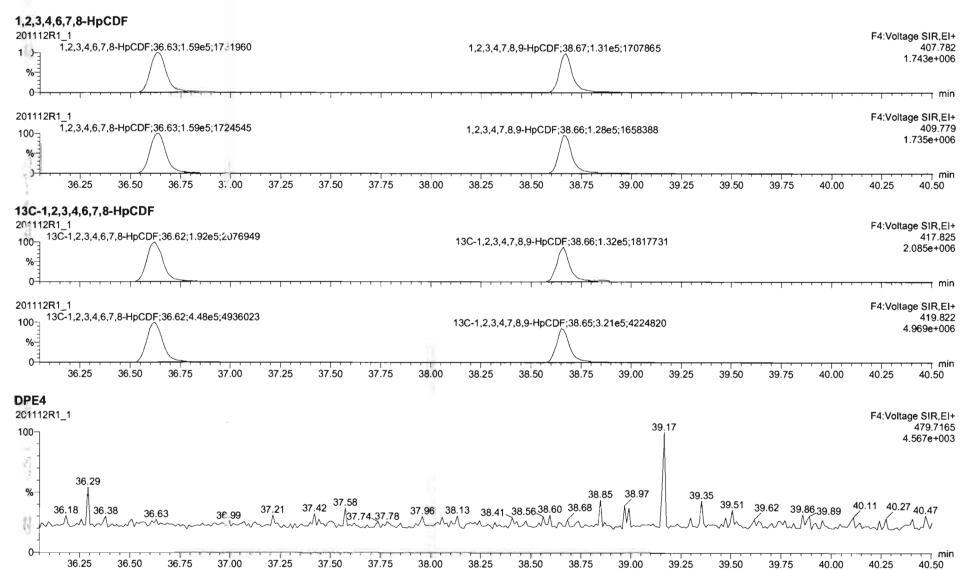


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Untitled

Last Altered: Printed:

Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time



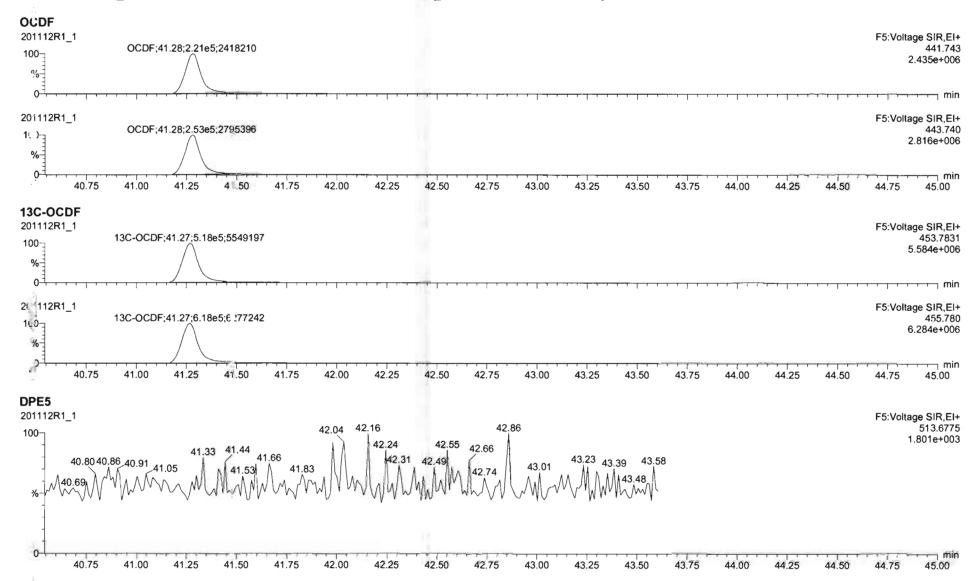
Vista Analytical Laboratory

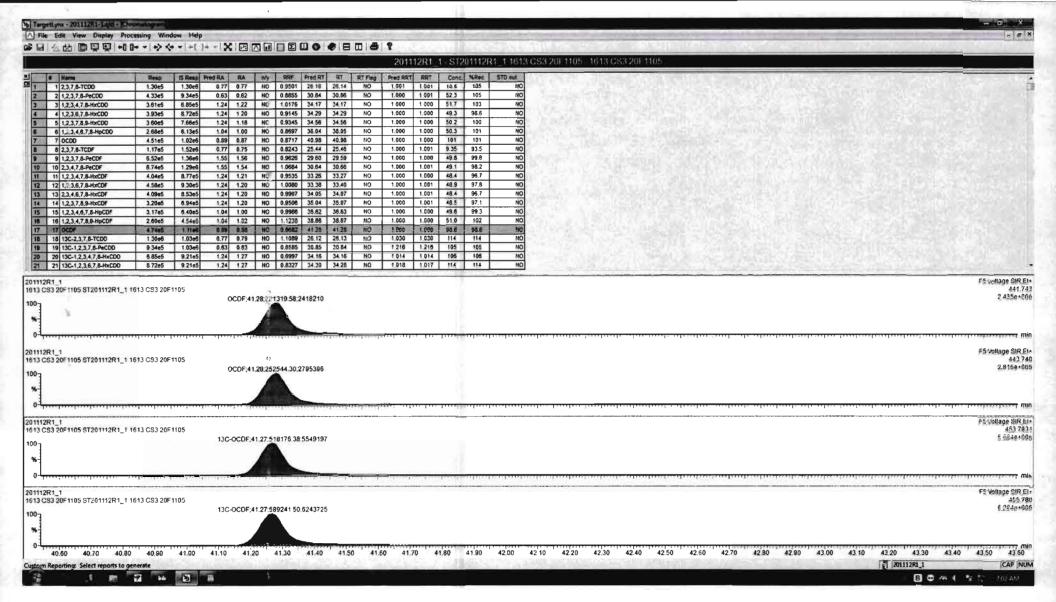
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Last Altered: Printed:

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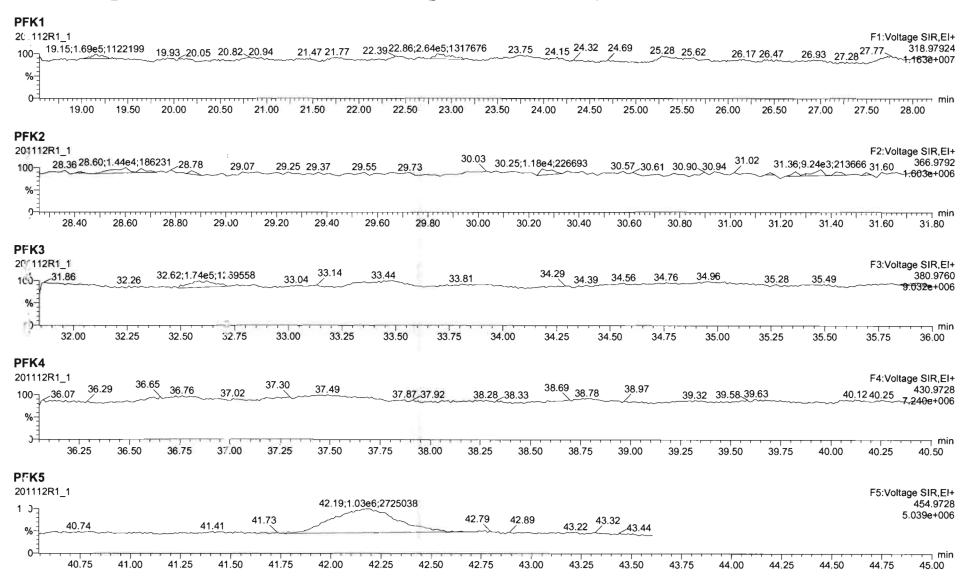


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Untitled

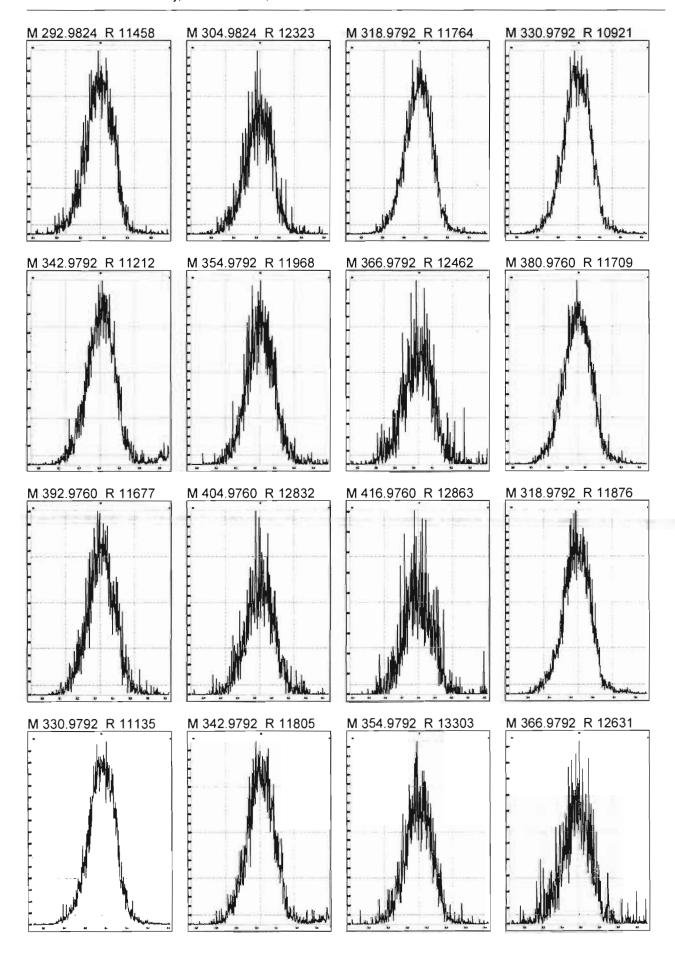
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Friday, November 13, 2020 6:56:58 AM Pacific Standard Time Friday, November 13, 2020 6:57:47 AM Pacific Standard Time



Printed:

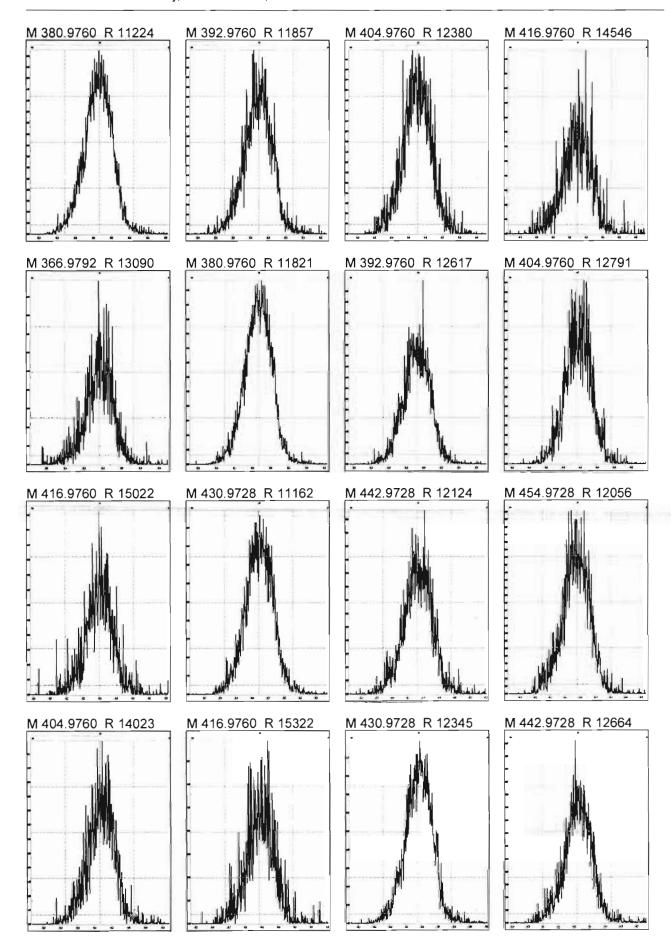
Thursday, November 12, 2020 18:30:15 Pacific Standard Time



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Printed:

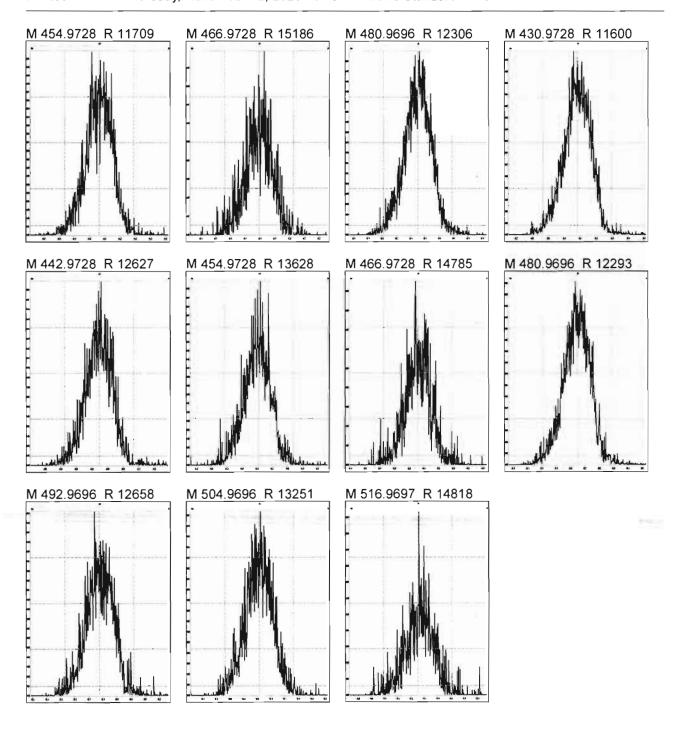
Thursday, November 12, 2020 18:30:15 Pacific Standard Time



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Printed:

Thursday, November 12, 2020 18:30:15 Pacific Standard Time



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HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: ST201113121-1	_	Re	eviewed By: HIV 11/16/2020	•
			Initials & Date	
End Calibration ID: ST20111322-1				
	Beg.	<u>End</u>	Beg.	End
ion abundance within QC limits?		V	Mass resolution ≥	
Concentrations within criteria?	V	V	□ 5k □ 6-8K □ 8K 10K 1614 1699 429 1613/1668/8280	
TCDD/TCDF Valleys <25%	V	V	Intergrated peaks display correctly?	V
First and last eluters present?	V	V	GC Break <20%	
Retention Times within criteria?	V	V	8280 CS1 End Standard:	
Verification Std. named correctly?	V	V	- Ratios within limits, S/N <2.51, CS1 within 12 hours	NA
(ST-Year-Month-Day-VG ID)	4			
Forms signed and dated?	V	V	Comments:	- 10
Correct ICAL referenced?	GRB	GRB		
Run Log:				
- Correct instrument listed?	V	V		5
- Samples within 12 hour clock?	(V)	N		
- Bottle position verfied?	COP	18		

ID: LR - HCSRC

Rev. No.: 0 Rev. Date: 06/06/2017

Page: 1 of 1

Page 1 of 2

U:\VG12.PRO\Results\201113R1\201113R1-1.qld Dataset:

Friday, November 13, 2020 11:42:09 AM Pacific Standard Time Last Altered:

Friday, November 13, 2020 3:23:53 PM Pacific Standard Time Printed:

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201113R1_1, Date: 13-Nov-2020, Time: 07:21:03, ID: ST201113R1_1 1613 CS3 20F1105, Description: 1613 CS3 20F1105

NE LONG	# Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
1	1 2,3,7,8-TCDD	9.49e	9.66e5	0.79	NO	0.950	26.16	26.16	NO	1.001	1.001	10.350	104	NO
2	2 1,2,3,7,8-PeCDD	3.40e	7.18e5	0.61	NO	0.885	30.86	30.88	NO	1.000	1.001	53.460	107	NO
2 3	3 1,2,3,4,7,8-HxCDD	2.82e	5.34e5	1.22	NO	1.02	34.18	34.19	NO	1.000	1.001	51.874	104	NO
	4 1,2,3,6,7,8-HxCDD	3.05e	6.83e5	1.24	NO	0.915	34.30	34.30	NO	1.000	1.000	48.921	97.8	NO
4 £ 6 7	5 1,2,3,7,8,9-HxCDD	2.77e	5.92e5	1.24	NO	0.934	34.57	34.57	NO	1.000	1.000	50.191	100	NO
6	6 1,2,3,4,6,7,8-HpCDD	2.06e	4.76e5	1.02	NO	0.870	38.04	38.06	NO	1.000	1.001	49.669	99.3	NO
7	7 OCDD	3.55e	7.93 e 5	0.87	NO	0.872	40.99	41.01	NO	1.000	1.000	102.63	103	NO
8	8 2,3,7,8-TCDF	1.02e	1.30e6	0.76	NO	0.824	25.45	25.46	NO	1.000	1.001	9.4910	94.9	NO
9	9 1,2,3,7,8-PeCDF	5.11e	1.05e6	1.57	NO	0.963	29.60	29.61	NO	1.000	1.001	50.446	101	NO
10	10 2,3,4,7,8-PeCDF	5.57e	1.03e6	1.55	NO	1.07	30.66	30.67	NO	1.000	1.001	50.614	101	NO
11	11 1,2,3,4,7,8-HxCDF	3.32e	6.92e5	1.20	NO	0.953	33.26	33.28	NO	1.000	1.001	50.282	101	NO
12	12 1,2,3,6, 7 ,8-HxCDF	3.82e	7.48e5	1.21	NO	1.01	33.40	33.41	NO	1.000	1.000	50.732	101	NO
13	13 2,3,4,6,7,8-HxCDF	3.36e	6.78e5	1.23	NO	0.991	34.06	34.08	NO	1.000	1.001	50.061	100	NO
14	14 1,2,3,7,8,9-HxCDF	2.70e	5.64e5	1.25	NO	0.951	35.06	35.08	NO	1.000	1.001	50.332	101	NO
15	15 1,2,3,4,6,7,8-HpCDF	2.58e	5.13e5	1.01	NO	0.999	36.64	36.65	NO	1.000	1.001	50.277	101	NO
16	16 1,2,3,4,7,8,9-HpCDF	2.11e	3.71e5	1.01	NO	1.12	38.67	38.68	NO	1.000	1.000	50.611	101	NO
17	17 OCDF	3.82e	8.88e5	0.87	NO	0.868	41.29	41.29	NO	1.000	1.000	99.138	99.1	NO
18	18 13C-2,3,7,8-TCDD	9.66e	8.79e5	0.79	NO	1.11	26.13	26.13	NO	1.030	1.030	99.082	99.1	NO
19	19 13C-1,2,3,7,8-PeCDD	7.18e	8.79e5	0.63	NO	0.859	30.86	30.86	NO	1.216	1.216	95.190	95.2	NO
20	20 13C-1,2,3,4,7,8-HxCDD	5.34e	7.47e5	1.26	NO	0.700	34.18	34.17	NO	1.014	1.014	102.26	102	NO
2i	21 13C-1,2,3,6,7,8-HxCDD	6.83e	7.47e5	1.25	NO	0.833	34.31	34.29	NO	1.018	1.017	109.77	110	NO
22	22 13C-1,2,3,7,8,9-HxCDD	5.92e	7.47e5	1.26	NO	0.762	34.56	34.56	NO	1.025	1.025	103.98	104	NO
23	23 13C-1,2,3,4,6,7,8-HpCDD	4.76e	7.47e5	1.07	NO	0.650	38.04	38.04	NO	1.129	1.128	98.179	98.2	NO
24	24 13C-OCDD	7.93e	7.47e5	0.89	NO	0.539	41.01	40.99	NO	1.217	1.216	196.98	98.5	NO
25	25 13C-2,3,7,8-TCDF	1.30e	1.30e6	0.77	NO	0.981	25.45	25.45	NO	1.003	1.003	102.12	102	NO
26	26 13C-1,2,3,7,8-PeCDF	1.05e	1.30e6	1.57	NO	0.792	29.59	29.59	NO	1.166	1.166	102.35	102	NO
27	27 13C-2,3,4,7,8-PeCDF	1.03e	1.30e6	1.59	NO	0.778	30.65	30.66	NO	1.208	1.208	101.87	102	NO
23	28 13C-1,2,3,4,7,8-HxCDF	6.92e	7.47e5	0.50	NO	0.954	33.26	33.26	NO	0.987	0.987	97.143	97.1	NO
29	29 13C-1,2,3,6,7,8-HxCDF	7.48e	7.47e5	0.51	NO	1.01	33.40	33.40	NO	0.991	0.991	99.518	99.5	NO
30	30 13C-2,3,4,6,7,8-HxCDF	6.78e	7.47e5	0.50	NO	0.921	34.07	34.06	NO	1.011	1.010	98.514	98.5	NO
31	31_13C-1,2,3,7,8,9-HxCDF	5.6 4 e	7.47e5	0.52	NO	0.803	35.06	35.06	NO	1.040	1.040	94.061	94.1	NO

Work Order 2002298

Page 2 of 2

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Dataset:

U:\VG12.PRO\Results\201113R1\201113R1-1.qld

Last Altered:

Friday, November 13, 2020 11:42:09 AM Pacific Standard Time

Printed:

Friday, November 13, 2020 3:23:53 PM Pacific Standard Time

Name: 201113R1_1, Date: 13-Nov-2020, Time: 07:21:03, ID: ST201113R1_1 1613 CS3 20F1105, Description: 1613 CS3 20F1105

	# Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
32	32 13C-1,2,3,4,6,7,8-HpCDF	5.13e5	7.47e5	0.43	NO	0.735	36.64	36.63	NO	1.087	1.087	93.457	93.5	NO
33	33 13C-1,2,3,4,7,8,9-HpCDF	3.71e5	7.47e5	0.43	NO	0.568	38.67	38.67	NO	1.147	1.147	87.412	87.4	NO
34	34 13C-OCDF	8.88e5	7.47e5	0.87	NO	0.629	41.30	41.28	NO	1.225	1.225	188.93	94.5	NO
35	35 37Cl-2,3,7,8-TCDD	9.96e4	8.79e5			1.09	26.13	26.16	NO	1.030	1.031	10.419	104	NO
36	36 13C-1,2,3,4-TCDD	8.79e5	8.79e5	0.80	NO	1.00	25.37	25.37	NO	1.000	1.000	100.00	100	NO
37	37 13C-1,2,3,4-TCDF	1.30e6	1.30e6	0.79	NO	1.00	23.87	23.86	NO	1.000	1.000	100.00	100	NO
3 č	38 13C-1,2,3,4,6,9-HxCDF	7.47e5	7.47e5	0.51	NO	1.00	33.71	33.71	NO	1.000	1.000	100.00	100	YES OF

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Vista Analytical Laboratory VG-11

Dataset:

Untitled

Last Altered: Printed: Sunday, November 15, 2020 09:28:16 Pacific Standard Time Sunday, November 15, 2020 09:28:31 Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39 Calibration: U:\VG12.PRO\CurveDB\dbDlOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Compound name: 2,3,7,8-TCDD

E	Name	ID	Acq.Date	Acq.Time
1	201113R1_1	ST201113R1_1 1613 CS3 20F1105	13-Nov-20	07:21:03
2	201113R1_2			
3	201113R1_3	TCDF CPSM	13-Nov-20	08:40:16
4	201113R1_4	B0K0041-BS1 OPR 10	13-Nov-20	09:25:04
5	201113R1_5	SOLVENT BLANK	13-Nov-20	10:10:11
6	201113R1_6	B0K0041-BLK1 Method Blank 10	13-Nov-20	10:55:28
7	201113R1_7	2002285-01 #2 IAF (Grab) 1	13-Nov-20	11:40:22
8	201113R1_8	2002293-01 Williams Rd 10 1	13-Nov-20	12:25:16
9	201113R1_9	2002294-01 McLaughlin Ave 2 1	13-Nov-20	13:10:09
10	201113R1_10	2002295-01 Gish Rd 4 1	13-Nov-20	13:55:03
11	201113R1_11	2002298-01 SC-FB-2010261145 1	13-Nov-20	14:39:57
12	201113R1_12	2002298-02 SC-RB-2010261130 1	13-Nov-20	15:24:49
13	201113R1_13	2002299-01 SC-RB-2010261000 1	13-Nov-20	16:09:44
14	201113R1_14	2002300-01 003 OUTFALL 1	13-Nov-20	16:54:34
15	201113R1_15	2002339-01 WC-S9068 1	13-Nov-20	17:39:25
16	201113R1_16	2002243-01 Sept 2020 Injection 1	13-Nov-20	18:24:18
17	201113R2_1	SOLVENT BLANK	13-Nov-20	19:18:14
18	201113R2_2	ST201113R2_1 1613 CS3 20F1105	13-Nov-20	20:03:07
19	201113R2_3	TCDF CPSM	13-Nov-20	20:48:01

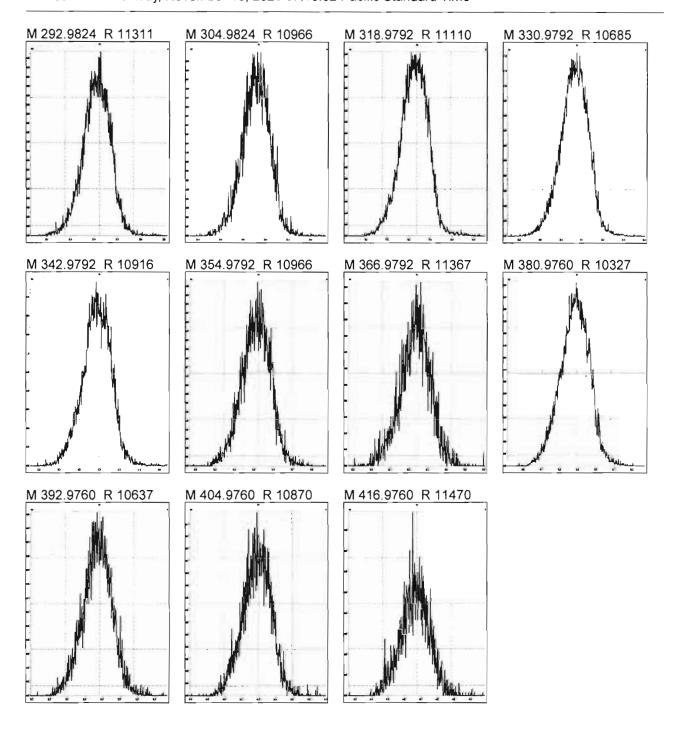
MINST. PAUSED, RI 'TODE COSM' AGAIN IMMEDIATELY APTER. GRB 11/15/2020

Work Order 2002298 Page 135 of 313

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed:

Friday, November 13, 2020 07:16:02 Pacific Standard Time

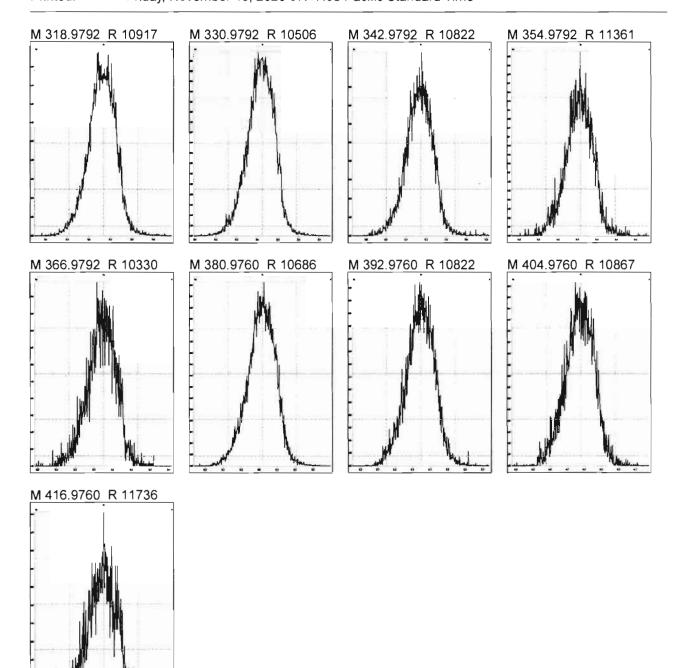


Work Order 2002298 Page 136 of 313

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed:

Friday, November 13, 2020 07:17:08 Pacific Standard Time

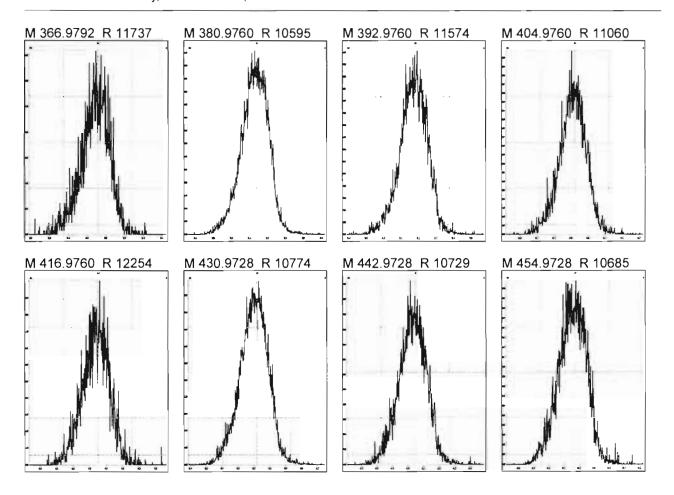


Work Order 2002298 Page 137 of 313

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed:

Friday, November 13, 2020 07:17:32 Pacific Standard Time

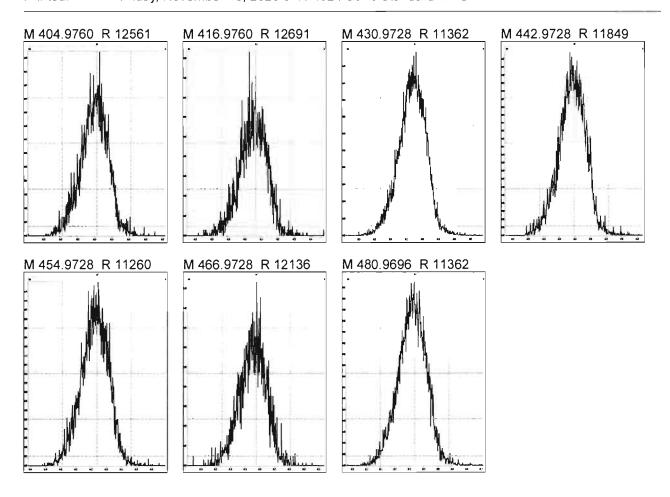


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Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed:

Friday, November 13, 2020 07:17:52 Pacific Standard Time

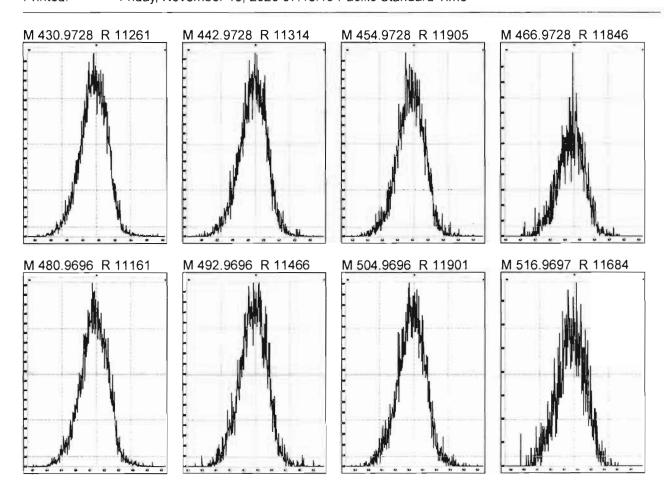


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Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed:

Friday, November 13, 2020 07:18:15 Pacific Standard Time



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MassLynx 4.1 SCN815

Page 1 of 1

Dataset:

Untitled

Last Altered:

Friday, November 13, 2020 11:15:47 AM Pacific Standard Time

Printed:

Friday, November 13, 2020 11:16:01 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\CPSM.mdb 10 Nov 2020 10:04:22

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10

Name: 201113R1_1, Date: 13-Nov-2020, Time: 07:21:03, ID: ST201113R1_1 1613 CS3 20F1105, Description: 1613 CS3 20F1105

STEP!	# Name	RT
1	1 1,3,6,8-TCDD (First)	22.33
2	2 1,2,8,9-TCDD (Last)	27.04
3	3 1,2,4,7,9-PeCDD (First)	28.60
4	4 1,2,3,8,9-PeCDD (Last)	31.22
5	5 1,2,4,6,7,9-HxCDD (First)	32.54
6	6 1,2,3,7,8,9-HxCDD (Last)	34.57
7	7 1,2,3,4,6,7,9-HpCDD (First)	37.03
8	8 1,2,3,4,6,7,8-HpCDD (Last)	38.06
9	9 1,3,6,8-TCDF (First)	20.11
10	10 1,2,8,9-TCDF (Last)	27.37
11	11 1,3,4,6,8-PeCDF (First)	26.94
12	12 1,2,3,8,9-PeCDF (Last)	31.58
13	13 1,2,3,4,6,8-HxCDF (First)	32.01
14	14 1,2,3,7,8,9-HxCDF (Last)	35.08
15	15 1,2,3,4,6,7,8-HpCDF (First)	36.65
16	16 1,2,3,4,7,8,9-HpCDF (Last)	38.68

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Vista Analytical Laboratory VG-11

Dataset:

Untitled

Last Altered:

Friday, November 13, 2020 11:15:47 AM Pacific Standard Time

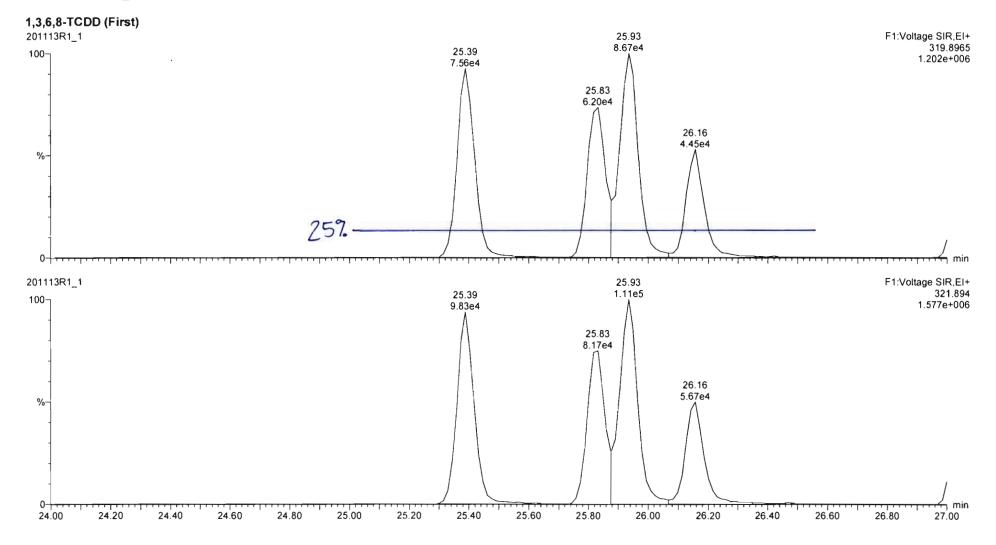
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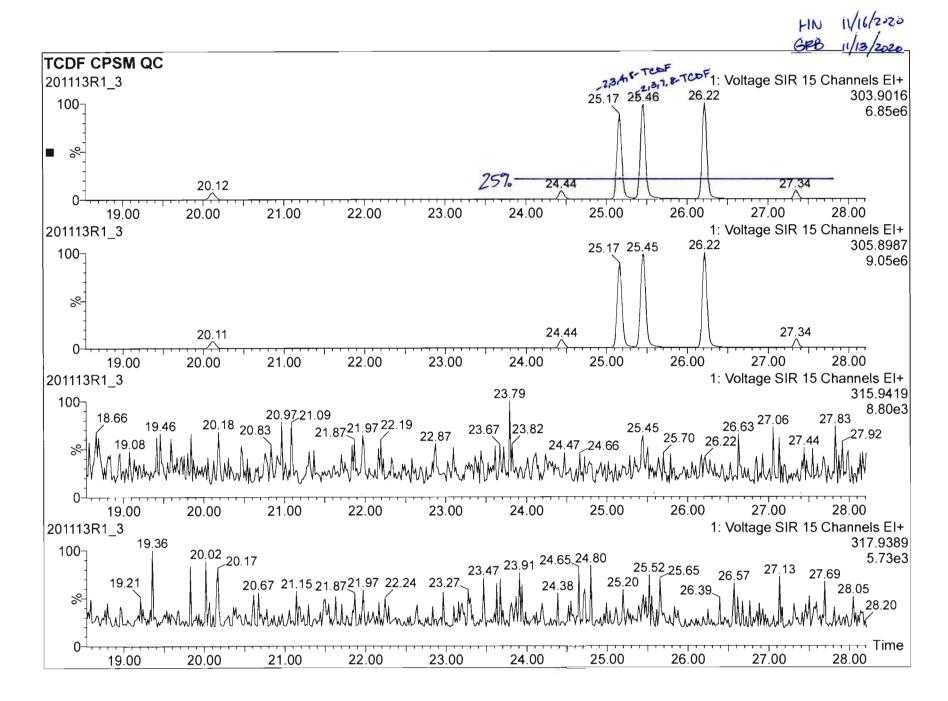
Friday, November 13, 2020 11:16:01 AM Pacific Standard Time

GPB 11/13/2020 HN 11/19/2020

Method: U:\VG12.PRO\MethDB\CPSM.mdb 10 Nov 2020 10:04:22

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 13:36:10





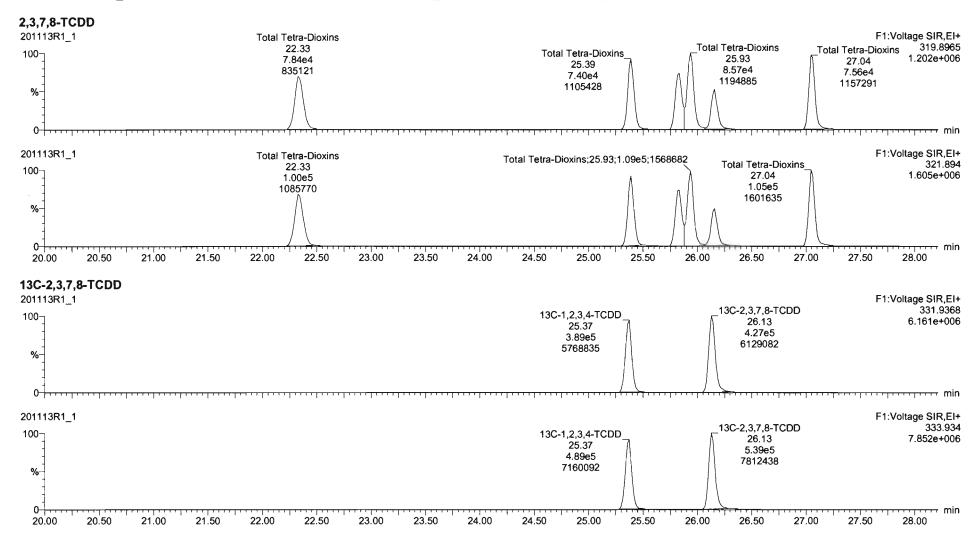
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Method: U:\VG12.PRO\MethDB\1613rrt-11-11-20.mdb 12 Nov 2020 07:51:39

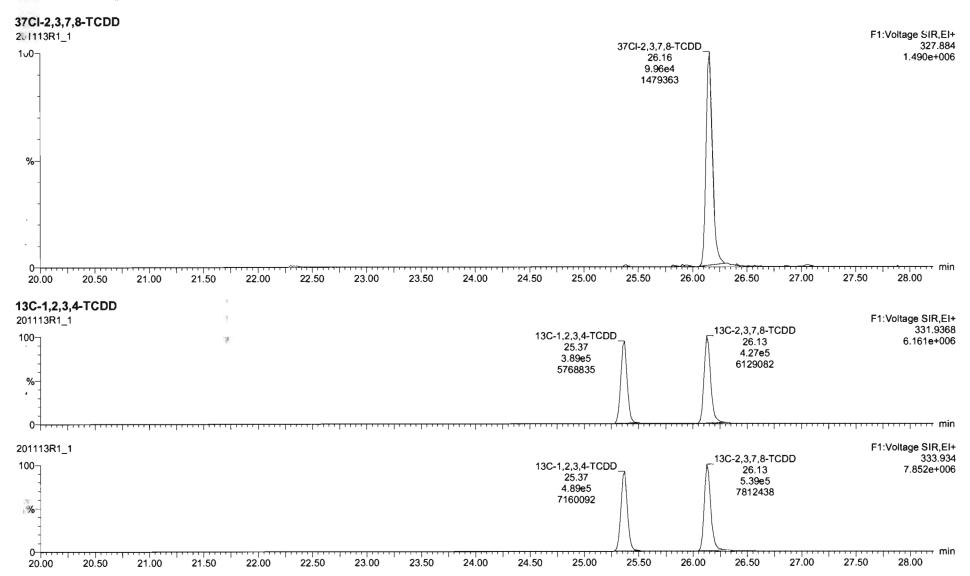
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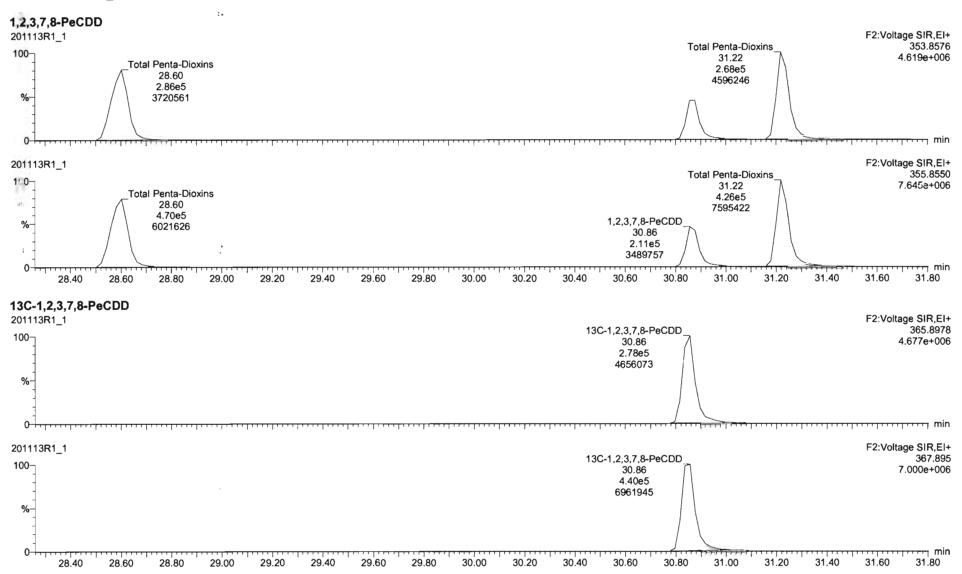
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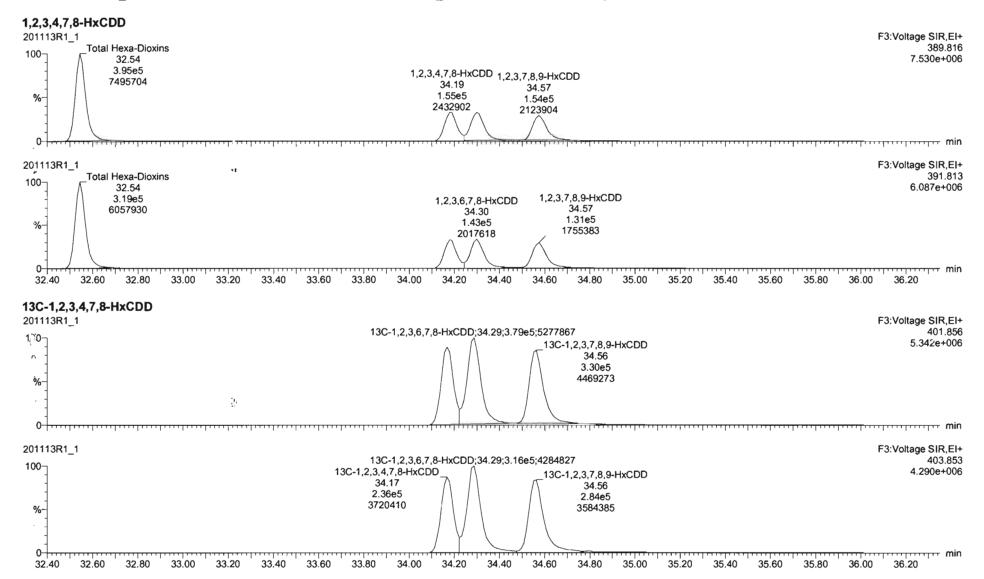


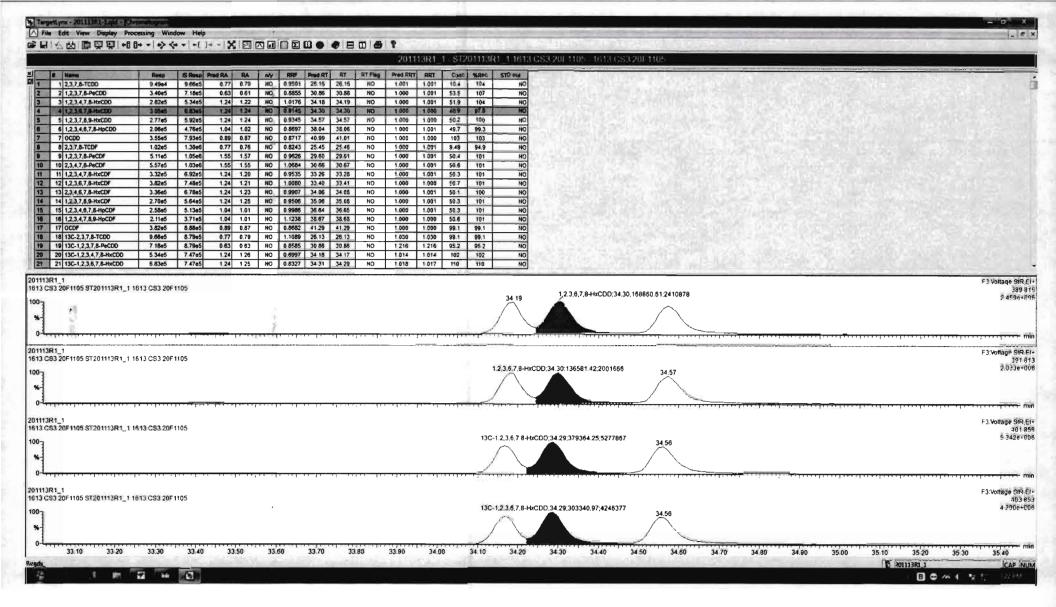
Quantify Sample Report Vista Analytical Laboratory

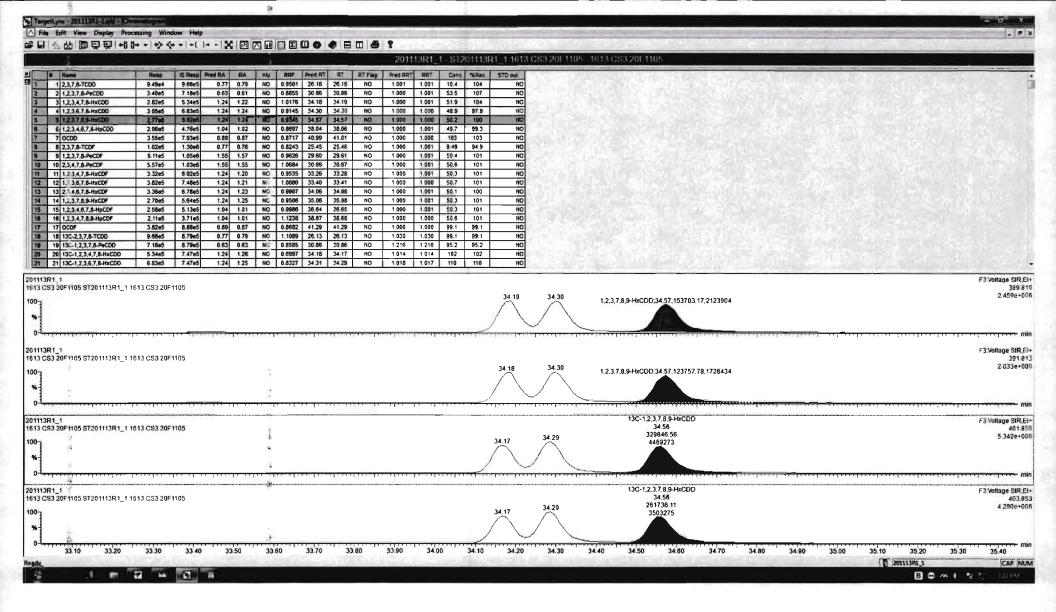
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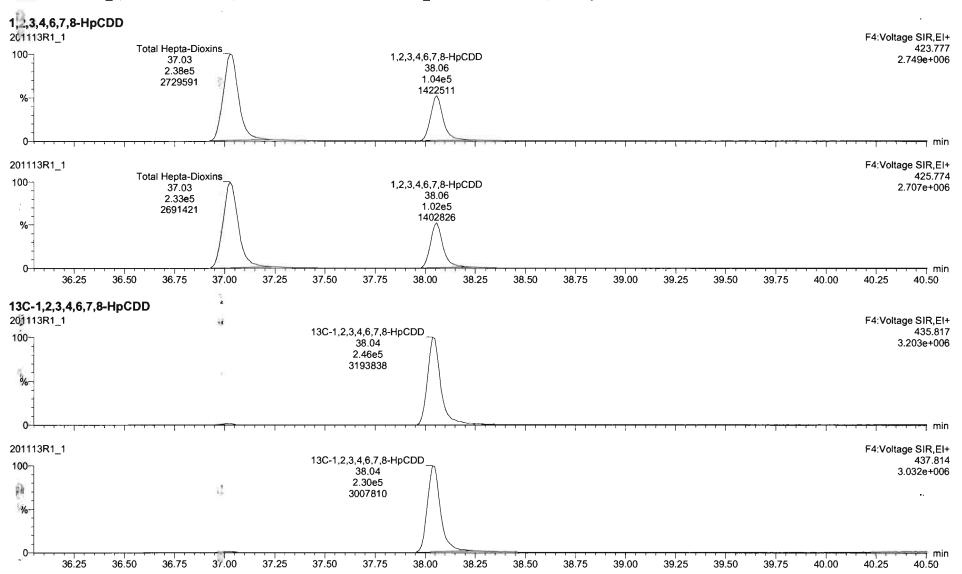




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Untitled

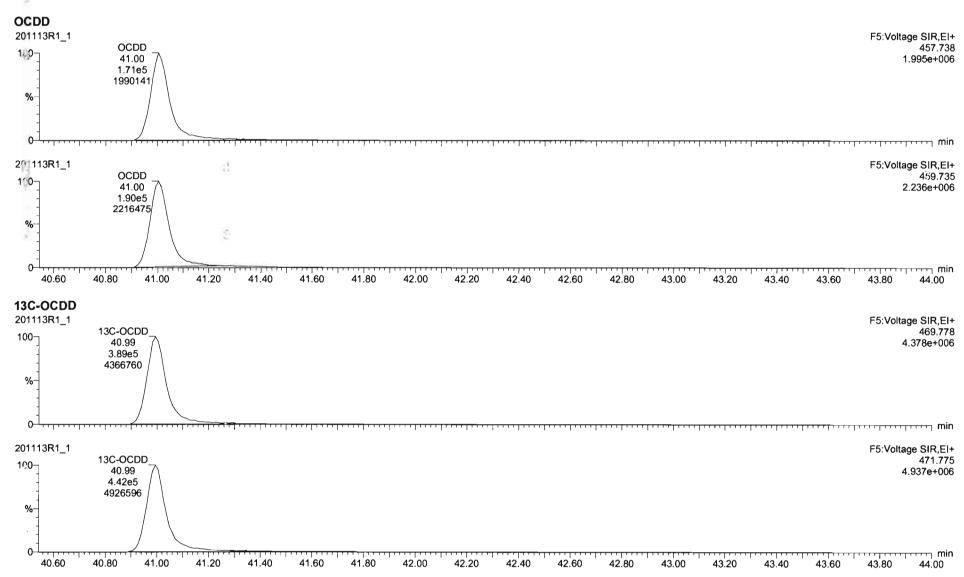
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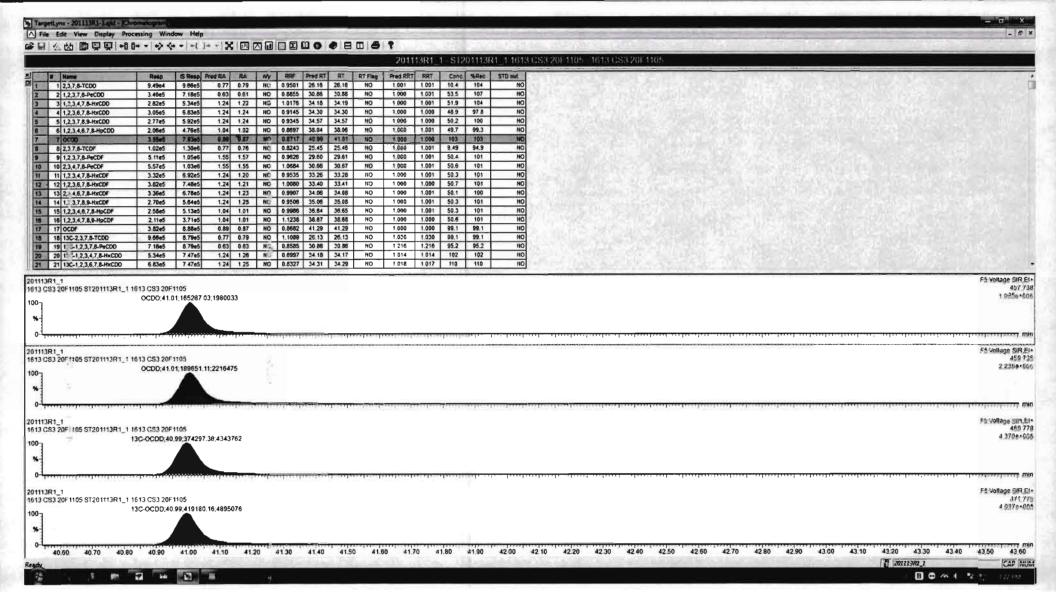


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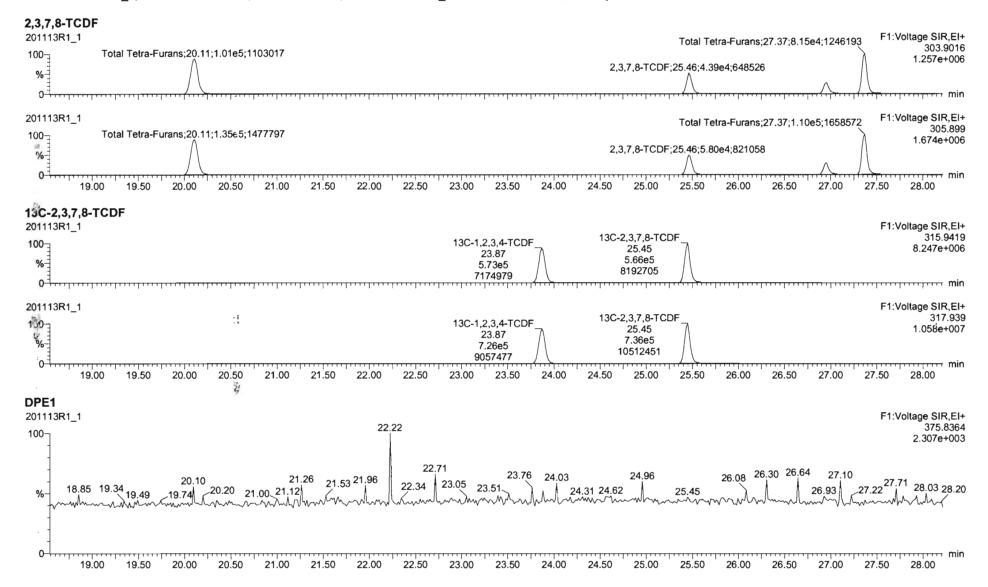


Work Order 2002298 Page 152 of 313

Untitled

Last Altered: Printed:

Friday, November 13, 2020 3:20:42 PM Pacific Standard Time Friday, November 13, 2020 3:21:00 PM Pacific Standard Time

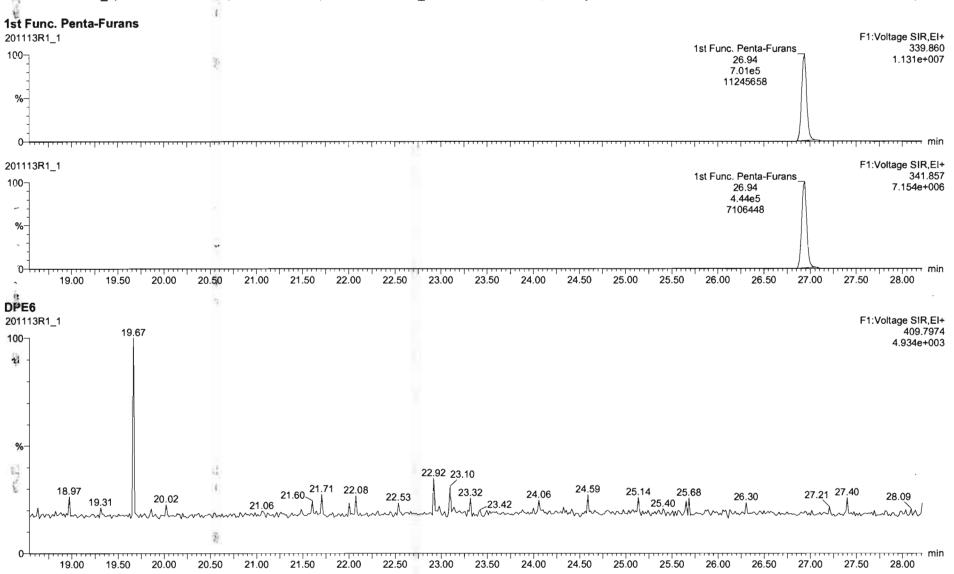


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Friday, November 13, 2020 3:20:42 PM Pacific Standard Time Friday, November 13, 2020 3:21:00 PM Pacific Standard Time

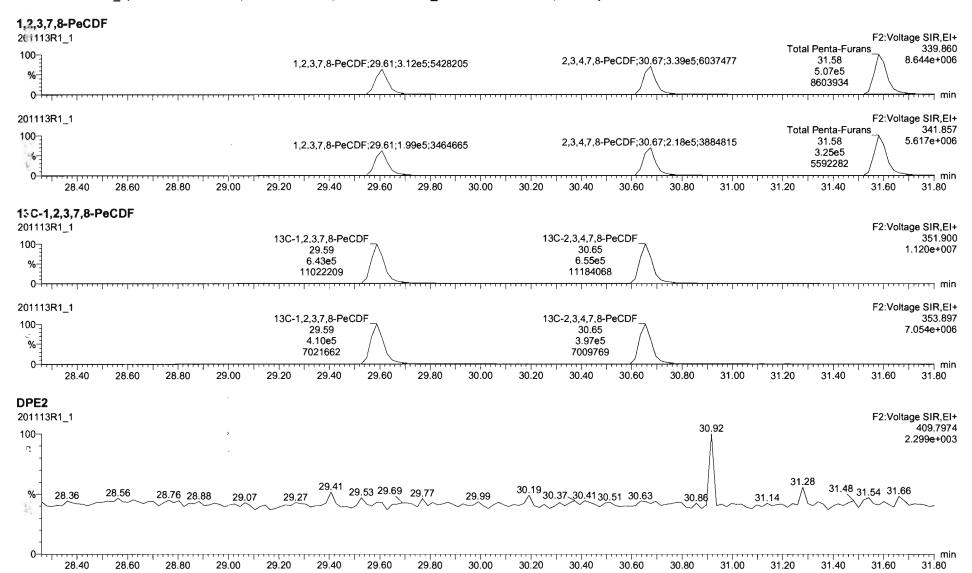


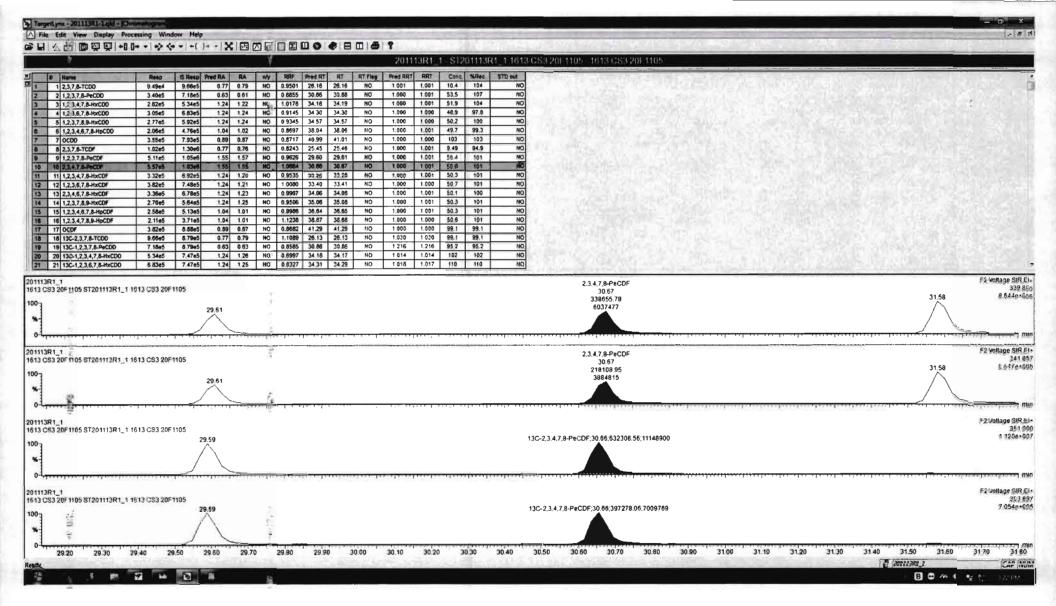


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Friday, November 13, 2020 3:20:42 PM Pacific Standard Time Friday, November 13, 2020 3:21:00 PM Pacific Standard Time

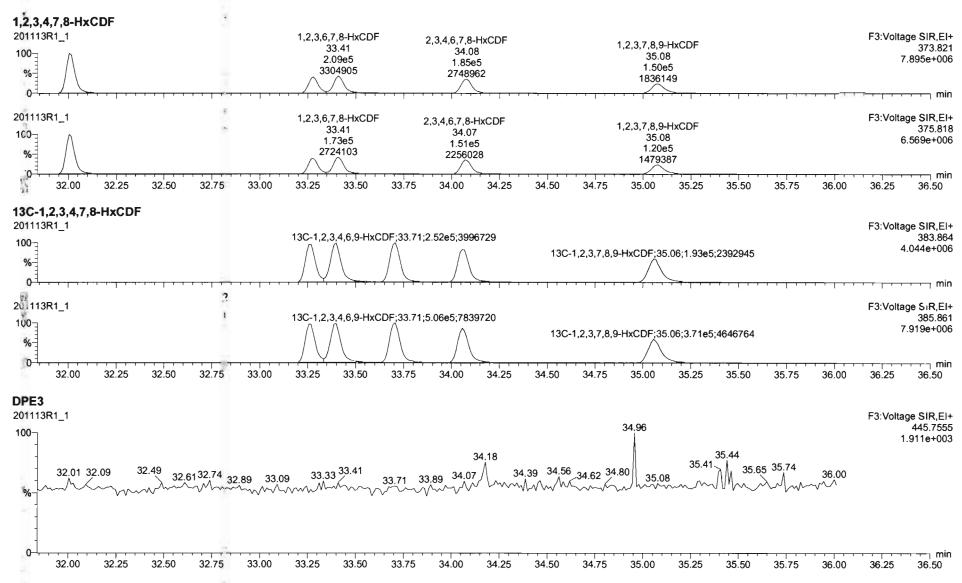


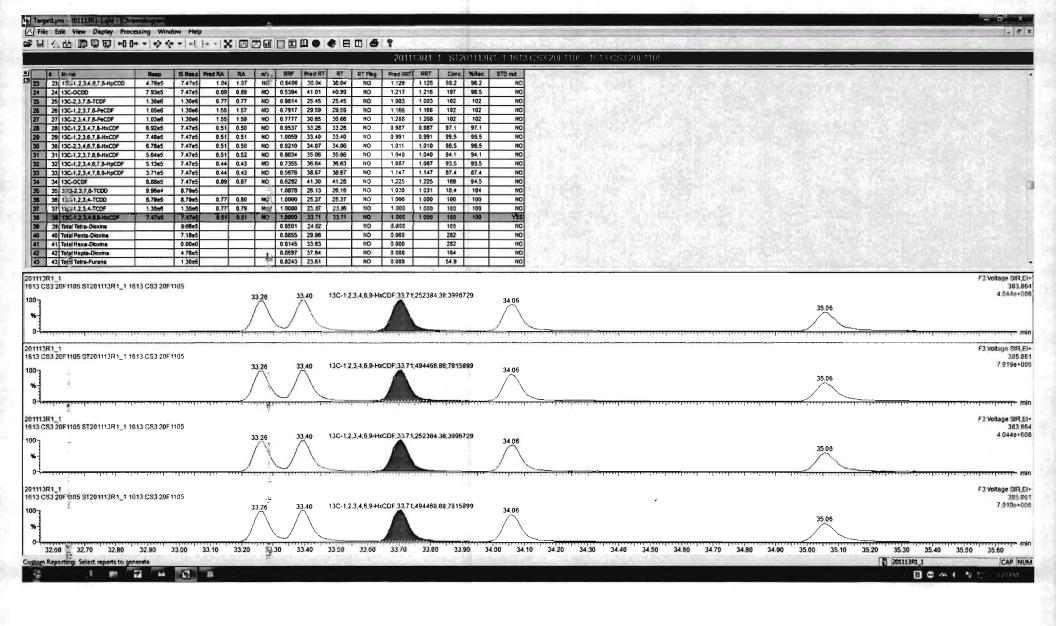


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Untitled

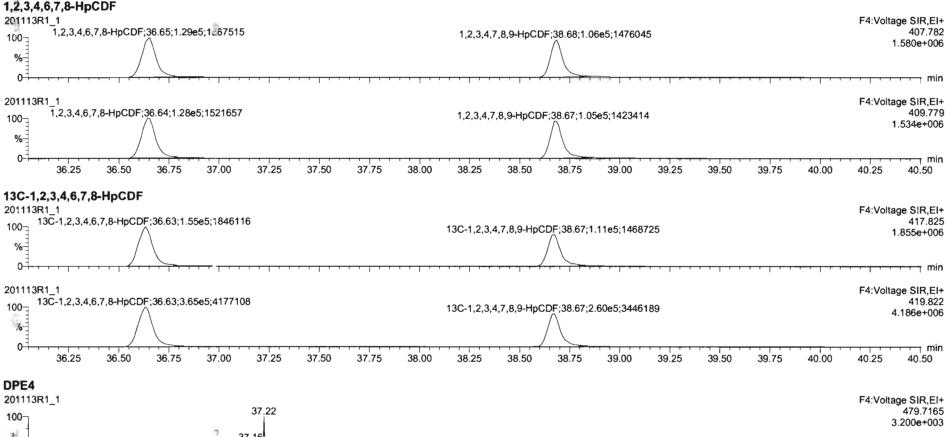
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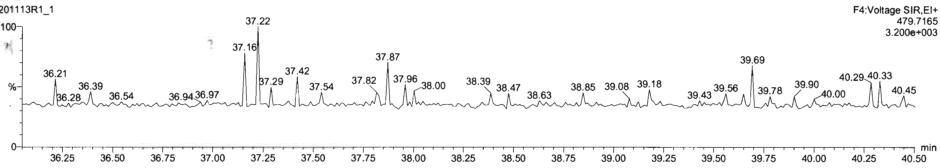


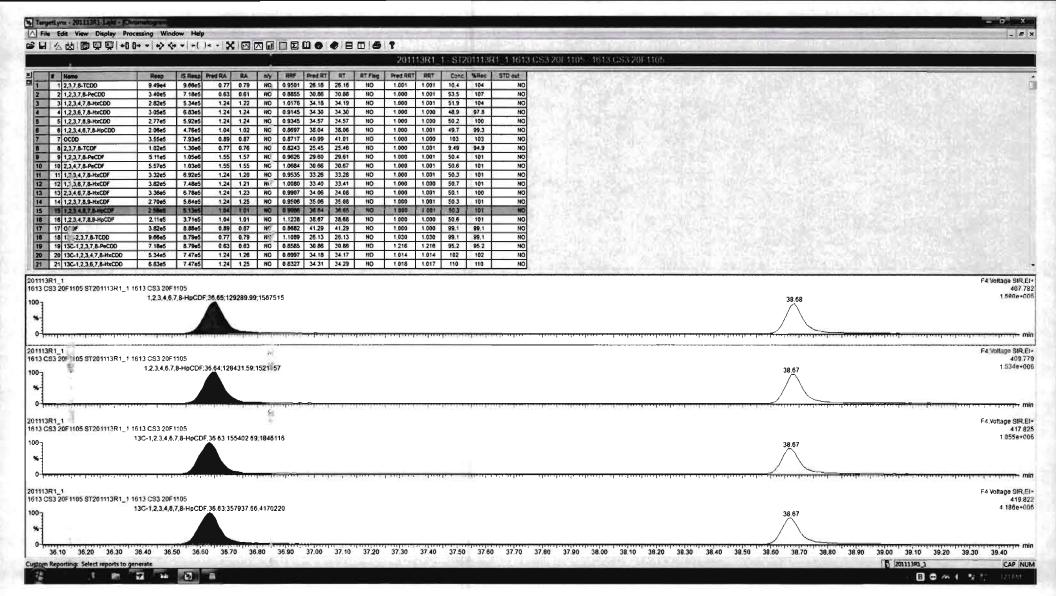


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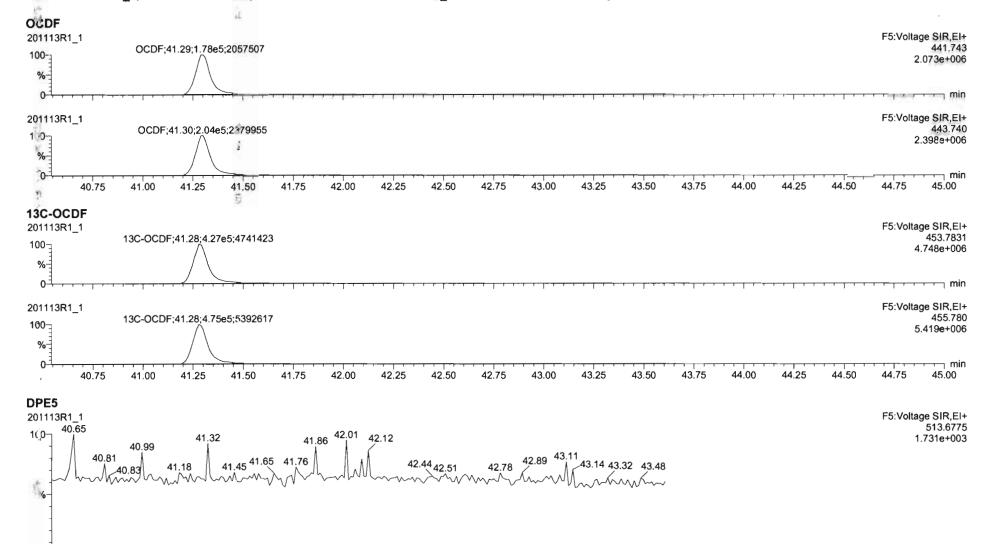
Work Order 2002298 Page 160 of 313

Untitled

Last Altered: Printed:

Friday, November 13, 2020 3:20:42 PM Pacific Standard Time Friday, November 13, 2020 3:21:00 PM Pacific Standard Time

Name: 201113R1_1, Date: 13-Nov-2020, Time: 07:21:03, ID: ST201113R1_1 1613 CS3 20F1105, Description: 1613 CS3 20F1105



43.00

42.75

43.25

43.50

43.75

44.00

44.25

44.50

40.75

41.00

41.25

41.50

41.75

42.00

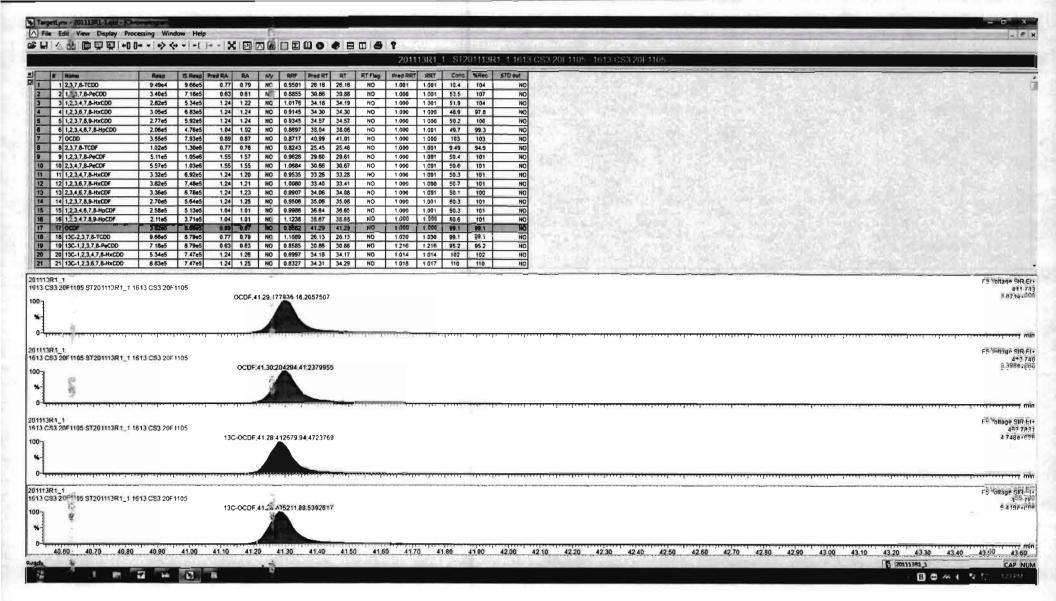
42.25

42.50

44.75

¬ min

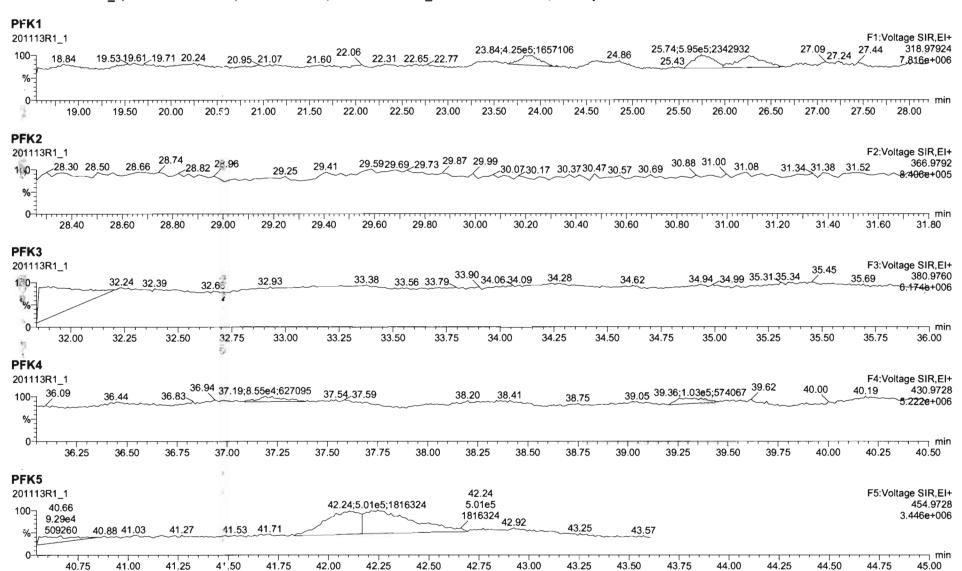
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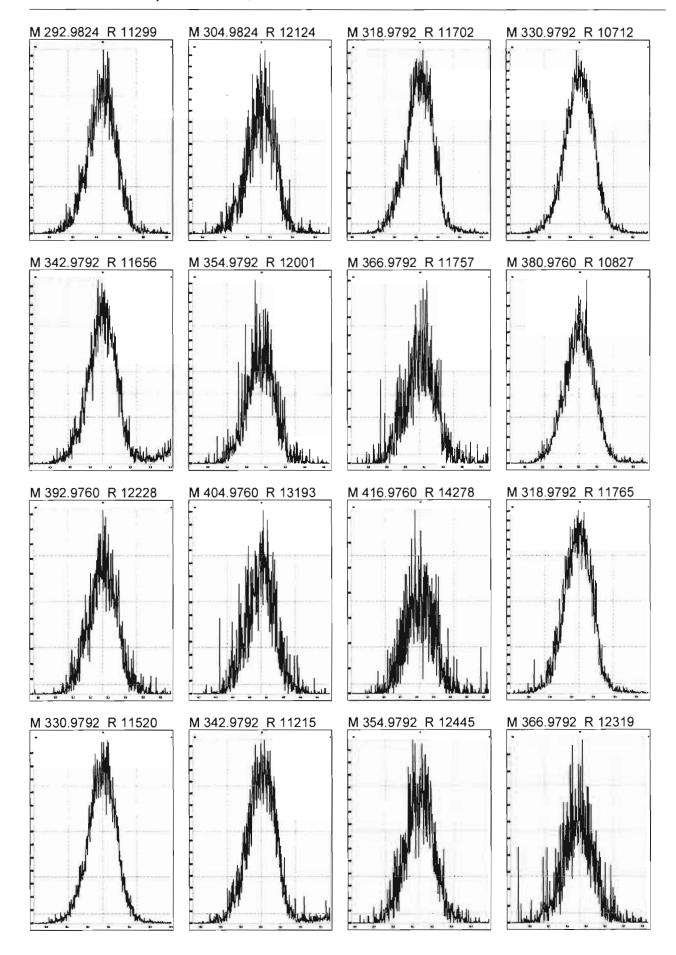
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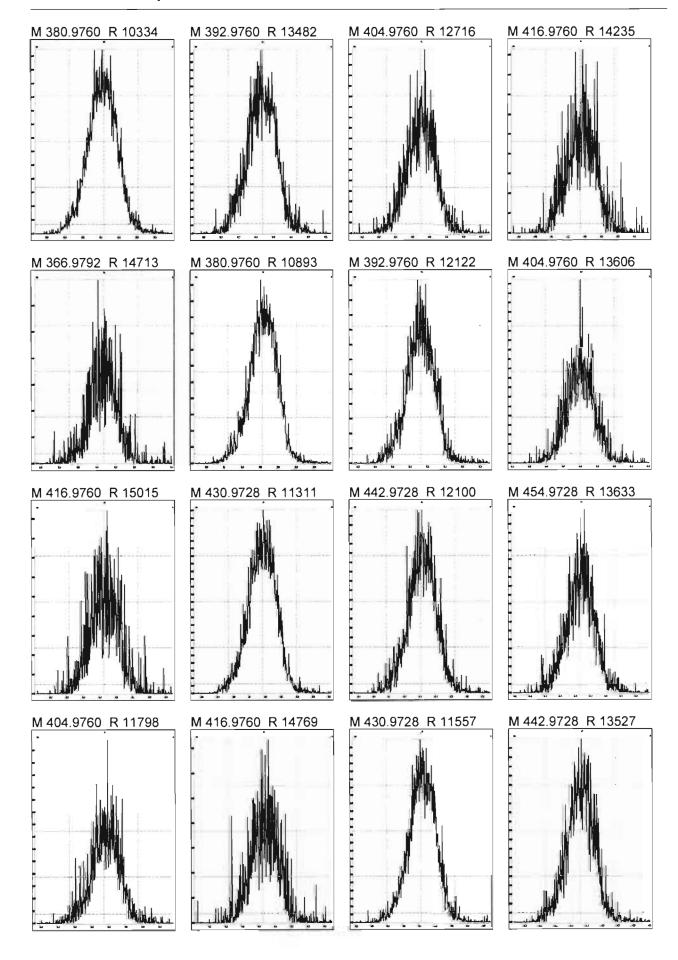
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Work Order 2002298 Page 164 of 313

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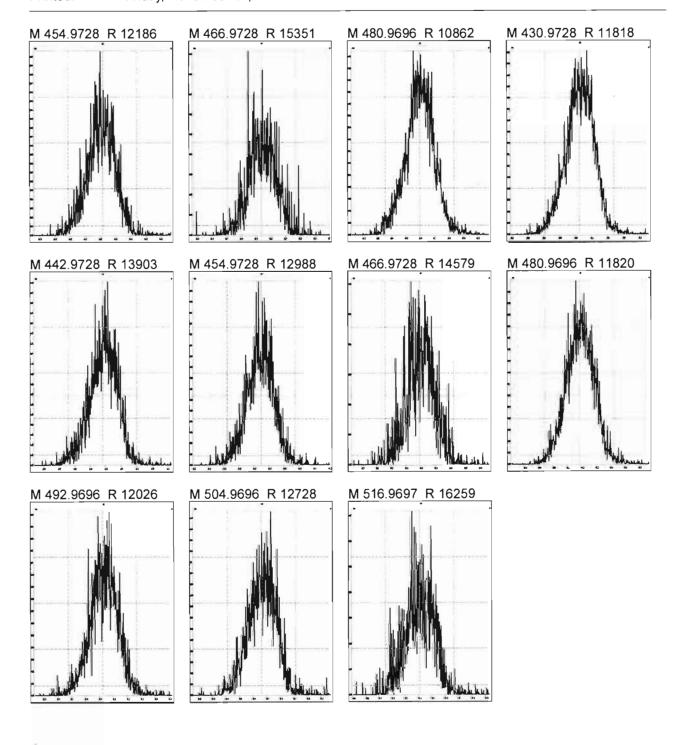
Friday, November 13, 2020 19:18:11 Pacific Standard Time



Work Order 2002298 Page 165 of 313

Printed:

Friday, November 13, 2020 19:18:11 Pacific Standard Time



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INITIAL CALIBRATION

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MassLynx 4.1 SCN815

Page 1 of 16

Dataset:

U:\VG12.PRO\Results\201020R1\201020R1-CRV.qld

Last Altered: Printed:

Tuesday, October 20, 2020 14:36:10 Pacific Daylight Time Tuesday, October 20, 2020 15:22:41 Pacific Daylight Time

GRB 10/2/2020

Method: U:\VG12.PRO\MethDB\1613rrt-10-20-20.mdb 20 Oct 2020 10:47:39

Calibration: U:\VG12.PR0\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 14:36:10

Compound name: 2,3,7,8-TCDD Response Factor: 0.950098

RRF SD: 0.10465, Relative SD: 11.0146

Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)

Curve type: RF

F) (0 545	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	0.250	0.81	NO	26.29	1.001	2.37e3	1.11e6	0.224	-10.3	0.852	MM
2	201020R1_2	0.500	0.75	NO	26.31	1.001	5.59e3	1.28e6	0.460	-8.0	0.874	bb
3	201020R1_3	2.00	0.75	NO	26.29	1.001	2.28e4	1.32e6	1.82	-8.9	0.866	bb
4	201020R1_4	40.0	0.77	NO	26.32	1.000	3.56e5	8.62e5	43.4	8.6	1.03	bb
5	201020R1_5	300	0.78	NO	26.29	1.001	4.63e6	1.39e6	350	16.7	1,11	bb
6	201020R1_6	10.0	0.76	NO	26.29	1.001	1.18e5	1.22e6	10.2	1.9	0.969	MM

Compound name: 1,2,3,7,8-PeCDD

Response Factor: 0.885499

RRF SD: 0.0848416, Relative SD: 9.58122

Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	0.59	NO	30.96	1.001	8.54e3	8.68e5	1.11	-11.0	0.788	bb
2	201020R1_2	2.50	0.63	NO	30.96	1.000	1.82e4	9.11e5	2.25	-9.8	0.798	bb
3	201020R1_3	10.0	0.61	NO	30.96	1.001	8.73e4	1.03e6	9.59	-4.1	0.849	bb
4	201020R1_4	200	0.62	NO	30.98	1.001	1.24e6	6.47e5	217	8.5	0.961	MM
5	201020R1_5	1500	0.62	NO	30.98	1.001	1.71e7	1.16e6	1670	11.0	0.983	bb
6	201020R1_6	50.0	0.62	NO	30.96	1.001	4.46e5	9.55e5	52.7	5.5	0.934	bb

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Compound name: 1,2,3,4,7,8-HxCDD

Response Factor: 1.01755

RRF SD: 0.10207, Relative SD: 10.0309

Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)

Curve type: RF

1500	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.20	NO	34.28	1.000	6.99e3	6.21e5	1.11	-11.5	0.901	bd
2	201020R1_2	2.50	1.26	NO	34.27	1.000	1.48e4	6.65e5	2.19	-12.3	0.892	bd
3	201020R1_3	10.0	1.25	NO	34.28	1.001	7.13e4	7.07e5	9.91	-0.9	1.01	bd
4	201020R1_4	200	1.24	NO	34.29	1.000	1.04e6	4.71e5	218	8.9	1.11	bd
5	201020R1_5	1500	1.23	NO	34.28	1.000	1.49e7	8.81e5	1660	10.7	1.13	bd
6	201020R1_6	50.0	1.27	NO	34.28	1.000	3.59e5	6.72e5	52.5	5.0	1.07	bd

Compound name: 1,2,3,6,7,8-HxCDD

Response Factor: 0.914527

RRF SD: 0.0845585, Relative SD: 9.24614

Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)

Curve type: RF

100	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.17	NO	34.41	1.001	7.95e3	7.36e5	1.18	-5.5	0.864	db
2	201020R1_2	2.50	1.28	NO	34.40	1.001	1.57e4	7.73e5	2.22	-11.1	0.813	db
3	201020R1_3	10.0	1.29	NO	34.40	1.001	7.37e4	8.70e5	9.27	-7.3	0.847	db
4	201020R1_4	200	1.25	NO	34.41	1.001	1.17e6	5.87e5	218	8.9	0.996	db
5	201020R1_5	1500	1.24	NO	34.40	1.000	1.55e7	1.02e6	1670	11.1	1.02	db
6	201020R1_6	50.0	1.26	NO	34.41	1.001	3.73e5	7.84e5	52.0	4.0	0.951	db

Compound name: 1,2,3,7,8,9-HxCDD

Response Factor: 0.934452

RRF SD: 0.104124, Relative SD: 11.1428

Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)

Curve type: RF

11 7 16	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.17	NO	34.67	1.000	6.89e3	6.69e5	1.10	-11.8	0.824	bb
2	201020R1_2	2.50	1.24	NO	34.67	1.000	1.48e4	7.19e5	2.21	-11.8	0.825	bb

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Compound name: 1,2,3,7,8,9-HxCDD

11 11 2 3	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	201020R1_3	10.0	1.25	NO	34.66	1.000	7.04e4	8.01e5	9.42	-5.8	0.880	bb
4	201020R1_4	200	1.24	NO	34.69	1.000	1.07 e 6	5.18e5	222	10.9	1.04	bb
5	201020R1_5	1500	1.24	NO	34.67	1.000	1.48e7	9.42e5	1680	12.3	1.05	bb
6	201020R1_6	50.0	1.24	NO	34.67	1.000	3.59e5	7.24e5	53.1	6.2	0.992	bb

Compound name: 1,2,3,4,6,7,8-HpCDD

Response Factor: 0.869732

RRF SD: 0.101922, Relative SD: 11.7188

Response type: Internal Std (Ref 23), Area * (IS Conc. / IS Area)

Curve type: RF

100	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1 . 1002	201020R1_1	1.25	1.01	NO	38.16	1.001	5.19e3	5.60e5	1.07	-14.6	0.742	bb
2	201020R1_2	2.50	1.00	NO	38.14	1.000	1.26e4	6.39e5	2.27	-9.4	0.788	bb
3	201020R1_3	10.0	1.06	NO	38.15	1.000	5.46e4	6.69e5	9.38	-6.2	0.816	bd
4	201020R1_4	200	1.03	NO	38.16	1.000	8.51e5	4.44e5	221	10.3	0.960	bb
5	201020R1_5	1500	1.03	NO	38.16	1.001	1.20e7	8.00e5	1720	14.6	0.997	bb
6	201020R1_6	50.0	1.01	NO	38.16	1.000	2.81e5	6.15e5	52.6	5.2	0.915	bb

Compound name: OCDD Response Factor: 0.871682

RRF SD: 0.0918681, Relative SD: 10.5392

Response type: Internal Std (Ref 24), Area * (IS Conc. / IS Area)

Curve type: RF

13-600	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	2.50	0.91	NO	41.11	1.000	8.88e3	8.86e5	2.30	-8.0	0.802	MM
2	201020R1_2	5.00	0.83	NO	41.10	1.000	2.03e4	1.06e6	4.38	-12.3	0.764	bd
3	201020R1_3	20.0	0.91	NO	41.12	1.000	9.08e4	1.12e6	18.6	-7.0	0.811	bd
4	201020R1_4	400	0.89	NO	41.10	1.000	1.42e6	7.38e5	442	10.4	0.963	bb
5	201020R1_5	3000	0.87	NO	41.13	1.000	2.01e7	1.36e6	3380	12.8	0.983	bb
6	201020R1_6	100	0.88	NO	41.12	1.000	4.65e5	1.02e6	104	4.1	0.907	ММ

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Compound name: 2,3,7,8-TCDF Response Factor: 0.824288

RRF SD: 0.0905517, Relative SD: 10.9854

Response type: Internal Std (Ref 25), Area * (IS Conc. / IS Area)

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	, Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	0.250	0.75	NO	25.61	1.001	2.81e3	1.53e6	0.223	-11.0	0.734	MM
2	201020R1_2	0.500	0.74	NO	25.61	1.001	6.37e3	1.70e6	0.454	-9.1	0.749	MM
3	201020R1_3	2.00	0.77	NO	25.61	1.001	2.79e4	1.82e6	1.86	-7.2	0.765	bb
4	201020R1_4	40.0	0.75	NO	25.64	1.000	4.26e5	1.19e6	43.4	8.5	0.895	bb
5	201020R1_5	300	0.76	NO	25.61	1.001	5.36e6	1.86e6	349	16.4	0.959	bb
6	201020R1_6	10.0	0.75	NO	25.61	1.001	1.42e5	1.69e6	10.2	2.4	0.844	bb

Compound name: 1,2,3,7,8-PeCDF

Response Factor: 0.962587

RRF SD: 0.0802385, Relative SD: 8.33572

Response type: Internal Std (Ref 26), Area * (IS Conc. / IS Area)

Curve type: RF

11/2	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.60	NO	29.71	1.001	1.34e4	1.22e6	1.14	-8.9	0.877	bb
2	201020R1_2	2.50	1.55	NO	29.71	1.001	2.85e4	1.30e6	2.27	-9.4	0.872	bb
3	201020R1_3	10.0	1.60	NO	29.71	1.001	1.32e5	1.42e6	9.68	-3.2	0.932	bb
4	201020R1_4	200	1.56	NO	29.73	1.001	1.94e6	9.55e5	211	5.6	1.02	bd
5	201020R1_5	1500	1.55	NO	29.71	1.000	2.60e7	1.63e6	1660	10.5	1.06	bb
6	201020R1_6	50.0	1.57	NO	29.71	1.001	7.00e5	1.38e6	52.7	5.4	1.01	bb

Compound name: 2,3,4,7,8-PeCDF

Response Factor: 1.06841

RRF SD: 0.0935936, Relative SD: 8.76011

Response type: Internal Std (Ref 27), Area * (IS Conc. / IS Area)

Curve type: RF

9650	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.58	NO	30.76	1.000	1.39e4	1.16e6	1.13	-9.8	0.964	bb
2	201020R1_2	2.50	1.59	NO	30.77	1.001	3.11e4	1.29e6	2.26	-9.6	0.966	bb

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Compound name: 2,3,4,7,8-PeCDF

18	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	201020R1_3	10.0	1.62	NO	30.75	1.000	1.51e5	1.45e6	9.71	-2.9	1.04	bb
4	201020R1_4	200	1.56	NO	30.77	1.000	2.12e6	9.27e5	214	7.1	1.14	bd
5	201020R1_5	1500	1.55	NO	30.77	1.001	2.83e7	1.59e6	1660	10.9	1.18	bb
6	201020R1_6	50.0	1.55	NO	30.76	1.000	7.58e5	1.36e6	52.1	4.2	1,11	bb

Compound name: 1,2,3,4,7,8-HxCDF

Response Factor: 0.953478

RRF SD: 0.113056, Relative SD: 11.8572

Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.21	NO	33.37	1.000	8.75e3	8.65e5	1.06	-15.1	0.809	bd
2	201020R1_2	2.50	1.22	NO	33.37	1.000	1.91e4	9.23e5	2.17	-13.2	0.828	bd
3	201020R1_3	10.0	1.23	NO	33.37	1.001	9.24e4	9.76e5	9.93	-0.7	0.947	bd
4	201020R1_4	200	1.22	NO	33.38	1.000	1.33e6	6.36e5	219	9.6	1.05	bd
5	201020R1_5	1500	1.22	NO	33.37	1.000	1.86e7	1.15e6	1690	12.9	1.08	bd
6	201020R1_6	50.0	1.23	NO	33.37	1.000	4.69e5	9.24e5	53.2	6.4	1.01	bd

Compound name: 1,2,3,6,7,8-HxCDF

Response Factor: 1.00798

RRF SD: 0.112388, Relative SD: 11.1498

Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)

Curve type: RF

1,000,00	Name	Std. Conc	RA	n/y	RT	RRT	Resp	(S Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.18	NO	33.50	1.000	1.00e4	9.15e5	1.08	-13.2	0.875	db
2	201020R1_2	2.50	1.29	NO	33.50	1.000	2.13e4	9.59e5	2.20	-11.9	0.888	db
3	201020R1_3	10.0	1.23	NO	33.50	1.001	1.00e5	1.03e6	9.63	-3.7	0.971	db
4	201020R1_4	200	1.22	NO	33.51	1.000	1.55e6	6.96e5	221	10.5	1.11	db
5	201020R1_5	1500	1.22	NO	33.50	1.000	2.04e7	1.21e6	1680	11.7	1.13	db
6	201020R1_6	50.0	1.23	NO	33.50	1.000	5.13e5	9.53 e 5	53.3	6.7	1.08	db

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Compound name: 2,3,4,6,7,8-HxCDF

Response Factor: 0.990683

RRF SD: 0.116635, Relative SD: 11.7732

Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)

Curve type: RF

BEERS	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.19	NO	34.18	1.001	8.93e3	8.28e5	1.09	-12.9	0.863	bb
2	201020R1_2	2.50	1.24	NO	34.17	1.000	1.87e4	8.79e5	2.15	-13.9	0.853	bb
3	201020R1_3	10.0	1.27	NO	34.17	1.001	9.17e4	9.58e5	9.66	-3.4	0.957	bb
4	201020R1_4	200	1.23	NO	34.18	1.000	1.37e6	6.32e5	219	9.6	1.09	bb
5	201020R1_5	1500	1.22	NO	34.17	1.000	1.87e7	1.11e6	1700	13.3	1.12	bb
6	201020R1_6	50.0	1.22	NO	34.18	1.001	4.65e5	8.75e5	53.6	7.3	1.06	bb

Compound name: 1,2,3,7,8,9-HxCDF

Response Factor: 0.950625

RRF SD: 0.11684, Relative SD: 12.2908

Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)

Curve type: RF

N. State !	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.23	NO	35.18	1.001	7.16e3	6.87e5	1.10	-12.3	0.834	bb
2	201020R1_2	2.50	1.20	NO	35.18	1.001	1.62e4	7.96e5	2.14	-14.5	0.813	bb
3	201020R1_3	10.0	1.19	NO	35.17	1.001	7.41e4	8.23e5	9.48	-5.2	0.901	bb
4	201020R1_4	200	1.23	NO	35.19	1.001	1.15e6	5.57e5	217	8.6	1.03	bb
5	201020R1_5	1500	1.23	NO	35.18	1.001	1.60e7	9.75e5	1720	14.8	1.09	bb
6	201020R1_6	50.0	1.25	NO	35.18	1.000	3.95e5	7.65e5	54.3	8.6	1.03	bb

Compound name: 1,2,3,4,6,7,8-HpCDF

Response Factor: 0.998573

RRF SD: 0.149251, Relative SD: 14.9464

Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)

Curve type: RF

TERM !	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	0.94	NO	36.74	1.000	6.80e3	6.49e5	1.05	-16.2	0.837	bb
2	201020R1_2	2.50	0.96	NO	36.73	1.000	1.54e4	7.21e5	2.13	-14.7	0.852	bb

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Compound name: 1,2,3,4,6,7,8-HpCDF

The state of	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	201020R1_3	10.0	0.99	NO	36.74	1.000	7.28e4	8.00e5	9.11	-8.9	0.909	bb
4	201020R1_4	200	1.01	NO	36.76	1.000	1.11e6	4.85e5	230	14.9	1.15	bb
5	201020R1_5	1500	1.01	NO	36.76	1.001	1.52e7	8.73e5	1750	16.3	1.16	bb
6	201020R1_6	50.0	1.01	NO	36.76	1.000	3.78e5	6.97e5	54.2	8.5	1.08	bb

Compound name: 1,2,3,4,7,8,9-HpCDF

Response Factor: 1.12384

RRF SD: 0.136934, Relative SD: 12.1845

Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	1.25	1.02	NO	38.77	1.000	5.83e3	4.78e5	1.08	-13.2	0.975	MM
2	201020R1_2	2.50	1.00	NO	38.77	1.000	1.44e4	5.79e5	2.21	-11.4	0.995	MM
3	201020R1_3	10.0	1.02	NO	38.77	1.000	5.99e4	5.77e5	9.23	-7.7	1.04	bb
4	201020R1_4	200	1.01	NO	38.77	1.000	9.50e5	3.83e5	220	10.2	1.24	bb
5	201020R1_5	1500	1.00	NO	38.78	1.000	1.36e7	7.02e5	1720	14.8	1.29	bb
6	201020R1_6	50.0	1.01	NO	38.78	1.000	3.25e5	5.39e5	53.7	7.4	1.21	bb

Compound name: OCDF Response Factor: 0.868237

RRF SD: 0.10594, Relative SD: 12.2017

Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)

Curve type: RF

Charles	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
Tuest,	201020R1_1	2.50	0.84	NO	41.38	1.000	9.82e3	1.05e6	2.16	-13.7	0.749	MM
2	201020R1_2	5.00	0.90	NO	41.39	1.000	2.31e4	1.24 e 6	4.32	-13.7	0.750	MM
3	201020R1_3	20.0	0.88	NO	41.40	1.000	1.08e5	1.29e6	19.3	-3.6	0.837	bb
4	201020R1_4	400	0.89	NO	41.39	1.000	1.66e6	8.74e5	439	9.7	0.952	bb
5	201020R1_5	3000	0.89	NO	41.41	1.000	2.39e7	1.60e6	3450	14.9	0.998	bb
6	201020R1_6	100	0.87	NO	41.41	1.000	5.43e5	1.18e6	106	6.4	0.924	bb

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Compound name: 13C-2,3,7,8-TCDD

Response Factor: 1.10889

RRF SD: 0.0354221, Relative SD: 3.19438

Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)

Curve type: RF

No. of State of	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.79	NO	26.27	1.030	1.11e6	1.05e6	95.9	-4.1	1.06	bb
2	201020R1_2	100	0.79	NO	26.27	1.030	1.28e6	1.12e6	103	2.6	1.14	bd
3	201020R1_3	100	0.79	NO	26.27	1.030	1.32e6	1.18e6	100	0.5	1.11	bb
4	201020R1_4	100	0.78	NO	26.31	1.030	8.62e5	7.98e5	97.4	-2.6	1.08	bb
5	201020R1_5	100	0.79	NO	26.27	1.030	1.39e6	1.20e6	104	4.4	1.16	bb
6	201020R1_6	100	0.78	NO	26.27	1.030	1.22e6	1.11e6	99.1	-0.9	1.10	bb

Compound name: 13C-1,2,3,7,8-PeCDD

Response Factor: 0.858504

RRF SD: 0.0583655, Relative SD: 6.79851

Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)

Curve type: RF

F F WICE IS	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	FIRE	X = dropped
1	201020R1_1	100	0.62	NO	30.94	1.212	8.68e5	1.05e6	96.7	-3.3	0.830	bb
2	201020R1_2	100	0.63	NO	30.96	1.213	9.11e5	1.12e6	94.4	-5.6	0.811	bb
3	201020R1_3	100	0.63	NO	30.94	1.212	1.03e6	1.18e6	101	1.4	0.871	bb
4	201020R1_4	100	0.62	NO	30.96	1.212	6.47e5	7.98e5	94.5	-5.5	0.811	MM
5	201020R1_5	100	0.63	NO	30.96	1.213	1.16e6	1.20e6	112	12.5	0.966	bb
6	201020R1_6	100	0.63	NO	30.94	1.212	9.55e5	1.11e6	100	0.5	0.863	bb.

Compound name: 13C-1,2,3,4,7,8-HxCDD

Response Factor: 0.699736

RRF SD: 0.0536682, Relative SD: 7.66977

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

100 100	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	1.28	NO	34.27	1.014	6.21e5	9.36e5	94.9	-5.1	0.664	bd
2	201020R1_2	100	1.27	NO	34.27	1.014	6.65e5	9.80e5	97.0	-3.0	0.679	bd

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Compound name: 13C-1,2,3,4,7,8-HxCDD

17 48	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	201020R1_3	100	1.29	NO	34.26	1.014	7.07e5	1.05e6	96.3	-3.7	0.674	bd
4	201020R1_4	100	1.27	NO	34.28	1.014	4.71e5	6.87e5	98.1	-1.9	0.686	bd
5	201020R1_5	100	1.28	NO	34.27	1.014	8.81e5	1.09e6	115	15.4	0.808	bd
6	201020R1_6	100	1.28	NO	34.27	1.014	6.72e5	9.76e5	98.4	-1.6	0.688	bd

Compound name: 13C-1,2,3,6,7,8-HxCDD

Response Factor: 0.832718

RRF SD: 0.0561256, Relative SD: 6.74005

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

S 3 3 5 5	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
4	201020R1_1	100	1.27	NO	34.38	1.017	7.36e5	9.36e5	94.5	-5.5	0.787	db
2	201020R1_2	100	1.27	NO	34.38	1.017	7.73e5	9.80e5	94.7	-5.3	0.789	db
3	201020R1_3	100	1.29	NO	34.38	1.017	8.70e5	1.05e6	99.5	-0.5	0.829	db
4	201020R1_4	100	1.28	NO	34.39	1.017	5.87e5	6.87 e 5	103	2.5	0.854	db
5	201020R1_5	100	1.26	NO	34.39	1.018	1.02e6	1.09e6	112	12.2	0.935	db
6	201020R1_6	100	1.27	NO	34.39	1.018	7.84e5	9.76e5	96.5	-3.5	0.803	db

Compound name: 13C-1,2,3,7,8,9-HxCDD

Response Factor: 0.761805

RRF SD: 0.0524899, Relative SD: 6.8902

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

STORY TO	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	1.24	NO	34.66	1.026	6.69e5	9.36e5	93.9	-6.1	0.715	bb
2	201020R1_2	100	1.21	NO	34.66	1.026	7.19e5	9.80e5	96.3	-3.7	0.733	bb
3	201020R1_3	100	1.23	NO	34.65	1.025	8.01e5	1.05e6	100	0.1	0.763	bb
4	201020R1_4	100	1.27	NO	34.67	1.026	5.18e5	6.87e5	99.1	-0.9	0.755	MM
5	201020R1_5	100	1.24	NO	34.66	1.026	9.42e5	1.09e6	113	13.3	0.863	MM
6	201020R1_6	100	1.25	NO	34.66	1.026	7.24e5	9.76e5	97.4	-2.6	0.742	bb

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Compound name: 13C-1,2,3,4,6,7,8-HpCDD

Response Factor: 0.649564

RRF SD: 0.0451664, Relative SD: 6.95334

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

G BY	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	1.05	NO	38.14	1.128	5.60e5	9.36e5	92.1	-7.9	0.598	bb
2	201020R1_2	100	1.09	NO	38.14	1.128	6.39e5	9.80e5	100	0.4	0.652	MM
3	201020R1_3	100	1.04	NO	38.14	1.128	6.69e5	1.05e6	98.2	-1.8	0.638	bb
4	201020R1_4	100	1.07	NO	38.15	1.128	4.44e5	6.87e5	99.4	-0.6	0.646	MM
5	201020R1_5	100	1.07	NO	38.14	1.128	8.00e5	1.09e6	113	12.9	0.733	MM
6	201020R1_6	100	1.04	NO	38.15	1.129	6.15e5	9.76e5	97.0	-3.0	0.630	MM

Compound name: 13C-OCDD

Response Factor: 0.539367

RRF SD: 0.0489023, Relative SD: 9.06662

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

100	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	200	0.92	NO	41.10	1.216	8.86e5	9.36e5	175	-12.3	0.473	bb
2	201020R1_2	200	0.90	NO	41.08	1.216	1.06e6	9.80e5	201	0.4	0.542	bb
3	201020R1_3	200	0.89	NO	41.11	1.216	1.12e6	1.05e6	198	-1.0	0.534	bb
4	201020R1_4	200	0.88	NO	41.08	1.215	7.38e5	6.87e5	199	-0.4	0.537	bb
5	201020R1_5	200	0.89	NO	41.10	1.216	1.36e6	1.09e6	232	15.9	0.625	bb
6	- 201020R1_6	200	0.89	NO	41.10	1.216	1.02e6	9.76e5	195	-2.6	0.525	bb

Compound name: 13C-2,3,7,8-TCDF

Response Factor: 0.981384

RRF SD: 0.0297957, Relative SD: 3.03609

Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)

Curve type: RF

1,931	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.78	NO	25.59	1.003	1.53e6	1.65e6	94.6	-5.4	0.928	bb
2	201020R1_2	100	0.77	NO	25.59	1.003	1.70e6	1.75e6	99.3	-0.7	0.974	bb

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Compound name: 13C-2,3,7,8-TCDF

2007190	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	201020R1_3	100	0.77	NO	25.59	1.003	1.82e6	1.83e6	101	1.3	0.994	bb
4	201020R1_4	100	0.77	NO	25.63	1.003	1.19e6	1.22e6	99.5	-0.5	0.976	bb
5	201020R1_5	100	0.78	NO	25.59	1.003	1.86e6	1.84e6	103	3.0	1.01	bb
6	201020R1_6	100	0.78	NO	25.59	1.003	1.69e6	1.68e6	102	2.3	1.00	bb

Compound name: 13C-1,2,3,7,8-PeCDF

Response Factor: 0.791688

RRF SD: 0.0545703, Relative SD: 6.89291

Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)

Curve type: RF

36363	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	1.58	NO	29.69	1.163	1.22e6	1.65e6	93.5	-6.5	0.740	bb
2	201020R1_2	100	1.58	NO	29.69	1.163	1.30e6	1.75e6	94.3	-5.7	0.747	bb
3	201020R1_3	100	1.61	NO	29.69	1.163	1.42e6	1.83e6	97.5	-2.5	0.772	bb
4	201020R1_4	100	1.61	NO	29.71	1.163	9.55e5	1.22e6	99.0	-1.0	0.784	bd
15	201020R1_5	100	1.58	NO	29.71	1.164	1.63e6	1.84e6	112	11.9	0.886	bb
6	201020R1_6	100	1.59	NO	29.69	1.163	1.38e6	1.68e6	104	3.7	0.821	bb

Compound name: 13C-2,3,4,7,8-PeCDF

Response Factor: 0.777714

RRF SD: 0.0578231, Relative SD: 7.435

Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)

Curve type: RF

Anna de	Name	Std. Conc	RA	nly	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	1.59	NO	30.76	1.205	1.15e6	1.65e6	90.1	-9.9	0.701	bb
2	201020R1_2	100	1.61	NO	30.75	1.205	1.29e6	1.75e6	94.8	-5.2	0.737	bb
3	201020R1_3	100	1.62	NO	30.75	1.205	1.45e6	1.83e6	102	1.9	0.793	bb
4	201020R1_4	100	1.60	NO	30.77	1.205	9.27e5	1.22e6	97.8	-2.2	0.761	dd
5	201020R1_5	100	1.60	NO	30.75	1.205	1.59e6	1.84e6	111	11.2	0.865	bb
6	201020R1_6	100	1.60	NO	30.76	1.205	1.36e6	1.68e6	104	4.1	0.810	bb

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Compound name: 13C-1,2,3,4,7,8-HxCDF

Response Factor: 0.953706

RRF SD: 0.0497892, Relative SD: 5.22061

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

Sex	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.51	NO	33.36	0.987	8.65e5	9.36e5	96.9	-3.1	0.924	bd
2	201020R1_2	100	0.51	NO	33.36	0.987	9.23e5	9.80e5	98.8	-1.2	0.942	bd
3	201020R1_3	100	0.51	NO	33.35	0.987	9.76e5	1.05e6	97.5	-2.5	0.930	bd
4	201020R1_4	100	0.51	NO	33.37	0.987	6.36e5	6.87e5	97.1	-2.9	0.926	bd
5	201020R1_5	100	0.51	NO	33.36	0.987	1.15e6	1.09e6	110	10.5	1.05	bd
6	201020R1_6	100	0.51	NO	33.36	0.987	9.24e5	9.76e5	99.3	-0.7	0.947	bd

Compound name: 13C-1,2,3,6,7,8-HxCDF

Response Factor: 1.00595

RRF SD: 0.0507361, Relative SD: 5.04362

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

300000	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.50	NO	33.49	0.991	9.15e5	9.36e5	97.2	-2.8	0.978	db
2	201020R1_2	100	0.52	NO	33.49	0.991	9.59e5	9.80e5	97.3	-2.7	0.979	db
3	201020R1_3	100	0.52	NO	33.48	0.991	1.03e6	1.05e6	97.7	-2.3	0.982	db
4	201020R1_4	100	0.51	NO	33.50	0.991	6.96e5	6.87e5	101	8.0	1.01	db
5	201020R1_5	100	0.51	NO	33.49	0.991	1.21e6	1.09e6	110	9.9	1.11	db
6	201020R1_6	100	0.51	NO	33.49	0.991	9.53e5	9.76e5	97.1	-2.9	0.977	db

Compound name: 13C-2,3,4,6,7,8-HxCDF

Response Factor: 0.921049

RRF SD: 0.0481045, Relative SD: 5.2228

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

10 45	Name	Std. (Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.52	NO	34.16	1.011	8.28e5	9.36e5	96.1	-3.9	0.885	bd
2	201020R1_2	100	0.51	NO	34.16	1.011	8.79e5	9.80e5	97.4	-2.6	0.897	bb

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Compound name: 13C-2,3,4,6,7,8-HxCDF

18 15	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	201020R1_3	100	0.51	NO	34.15	1.010	9.58e5	1.05e6	99.1	-0.9	0.913	bb
4	201020R1_4	100	0.51	NO	34.17	1.011	6.32e5	6.87e5	99.8	-0.2	0.919	bb
5	201020R1_5	100	0.51	NO	34.16	1.011	1.11e6	1.09e6	110	10.3	1.02	bb
6	201020R1_6	100	0.50	NO	34.16	1.011	8.75e5	9.76e5	97.3	-2.7	0.897	bb

Compound name: 13C-1,2,3,7,8,9-HxCDF

Response Factor: 0.803358

RRF SD: 0.0529087, Relative SD: 6.58594

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

THE STATE OF	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.51	NO	35.16	1.040	6.87e5	9.36e5	91.4	-8.6	0.734	MM
2	201020R1_2	100	0.50	NO	35.16	1.040	7.96e5	9.80e5	101	1.1	0.813	bb
3	201020R1_3	100	0.52	NO	35.15	1.040	8.23e5	1.05e6	97.6	-2.4	0.784	bd
4	201020R1_4	100	0.50	NO	35.17	1.040	5.57e5	6.87e5	101	1.0	0.811	bd
5	201020R1_5	100	0.51	NO	35.16	1.040	9.75e5	1.09e6	111	11.3	0.894	bb
6	201020R1_6	100	0.51	NO	35.17	1.041	7.65e5	9.76e5	97.6	-2.4	0.784	bb

Compound name: 13C-1,2,3,4,6,7,8-HpCDF

Response Factor: 0.735455

RRF SD: 0.0398884, Relative SD: 5.42364

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

12 00	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.42	NO	36.73	1.087	6.49e5	9.36e5	94.3	-5.7	0.694	bb
2	201020R1_2	100	0.44	NO	36.73	1.087	7.21e5	9.80e5	100	0.0	0.736	bd
3	201020R1_3	100	0.41	NO	36.73	1.087	8.00e5	1.05e6	104	3.6	0.762	bb
4	201020R1_4	100	0.43	NO	36.75	1.087	4.85e5	6.87e5	96.0	-4.0	0.706	bb
5	201020R1_5	100	0.44	NO	36.74	1.087	8.73e5	1.09e6	109	8.8	0.800	bb
6	201020R1_6	100	0.43	NO	36.75	1.087	6.97e5	9.76e5	97.2	-2 .8	0.715	bb

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Compound name: 13C-1,2,3,4,7,8,9-HpCDF

Response Factor: 0.567644

RRF SD: 0.0450507, Relative SD: 7.93644

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

6000	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.44	NO	38.76	1.147	4.78e5	9.36e5	90.0	-10.0	0.511	bd
2	201020R1_2	100	0.43	NO	38.76	1.147	5.79e5	9.80e5	104	4.1	0.591	bb
3	201020R1_3	100	0.44	NO	38.76	1.147	5.77e5	1.05e6	96.9	-3.1	0.550	bd
4	201020R1_4	100	0.43	NO	38.76	1.147	3.83e5	6.87e5	98.3	-1.7	0.558	bd
5	201020R1_5	100	0.43	NO	38.77	1.147	7.02e5	1.09e6	113	13.4	0.644	bb
6	201020R1_6	100	0.45	NO	38.77	1.147	5.39e5	9.76e5	97.3	-2 .7	0.552	bd

Compound name: 13C-OCDF Response Factor: 0.629245

RRF SD: 0.0574861, Relative SD: 9.13572

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

8 11 79	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	200	0.91	NO	41.38	1.224	1.05e6	9.36e5	178	-11.0	0.560	MM
2	201020R1_2	200	0.87	NO	41.38	1.224	1.24e6	9.80e5	200	0.2	0.630	MM
3	201020R1_3	200	0.90	NO	41.40	1.225	1.29e6	1.05e6	195	-2.5	0.614	bd
4	201020R1_4	200	0.86	NO	41.38	1.224	8.74e5	6.87e5	202	1.1	0.636	bb
5	201020R1_5	200	0.88	NO	41.40	1.225	1.60e6	1.09e6	233	16.5	0.733	bb
6	201020R1_6	200	0.90	NO	41.39	1.225	1.18e6	9.76e5	191	-4.3	0.602	bd

Compound name: 37CI-2,3,7,8-TCDD

Response Factor: 1.08781

RRF SD: 0.174332, Relative SD: 16.0259

Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)

Curve type: RF

-5 -0-AD	Name	Std. Conc R	A n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	0.250		26.29	1.030	2.24e3	1.05e6	0.197	-21.1	0.858	bb
2	201020R1_2	0.500		26.29	1.030	5.14e3	1.12e6	0.420	-15.9	0.915	bb

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Quantify Compound Summary Report

MassLynx 4.1 SCN815

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Vista Analytical Laboratory

Dataset:

U:\VG12.PRO\Results\201020R1\201020R1-CRV.qld

Last Altered: Printed:

Tuesday, October 20, 2020 14:36:10 Pacific Daylight Time Tuesday, October 20, 2020 15:22:41 Pacific Daylight Time

Compound name: 37CI-2,3,7,8-TCDD

Seites	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	201020R1_3	2.00			26.29	1.030	2.59e4	1.18e6	2.02	0.8	1.10	bb
4	201020R1_4	40.0			26.32	1.031	3.82e5	7.98e5	44.0	10.0	1.20	bb
5	201020R1_5	200			26.29	1.030	3.17e6	1.20e6	243	21.4	1.32	bb
6	201020R1_6	10.0			26.29	1.030	1.26e5	1.11 e 6	10.5	4.8	1.14	bb

Compound name: 13C-1,2,3,4-TCDD

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)

Curve type: RF

86 47	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.78	NO	25.52	1.000	1.05e6	1.05e6	100	0.0	1.00	bb
2	201020R1_2	100	0.79	NO	25.52	1.000	1.12e6	1.12e6	100	0.0	1.00	bb
3	201020R1_3	100	0.78	NO	25.52	1.000	1.18e6	1.18e6	100	0.0	1.00	bb
4	201020R1_4	100	0.77	NO	25.54	1.000	7.98e5	7.98e5	100	0.0	1.00	bb
5	201020R1_5	100	0.78	NO	25.52	1.000	1.20e6	1.20e6	100	0.0	1.00	bb
6	201020R1_6	100	0.79	NO	25.52	1.000	1.11e6	1.11 e 6	100	0.0	1.00	bb

Compound name: 13C-1,2,3,4-TCDF

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)

Curve type: RF

TO A ROW	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.80	NO	24.04	1.000	1.65e6	1.65e6	100	0.0	1.00	bb
2	201020R1_2	100	0.79	NO	24.06	1.000	1.75e6	1.75e6	100	0.0	1.00	bb
3	201020R1_3	100	0.79	NO	24.04	1.000	1.83e6	1.83e6	100	0.0	1.00	bb
4	201020R1_4	100	0.79	NO	24.07	1.000	1.22e6	1.22e6	100	0.0	1.00	bb
5	201020R1_5	100	0.79	NO	24.04	1.000	1.84e6	1.84e6	100	0.0	1.00	bb
6	201020R1_6	100	0.79	NO	24.04	1.000	1.68e6	1.68e6	100	0.0	1.00	bb

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Quantify Compound Summary Report

MassLynx 4.1 SCN815

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Vista Analytical Laboratory

Dataset:

U:\VG12.PRO\Results\201020R1\201020R1-CRV.qld

Last Altered: Printed:

Tuesday, October 20, 2020 14:36:10 Pacific Daylight Time Tuesday, October 20, 2020 15:22:41 Pacific Daylight Time

Compound name: 13C-1,2,3,4,6,9-HxCDF

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)

Curve type: RF

MAN COLOR	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	201020R1_1	100	0.51	NO	33.80	1.000	9.36e5	9.36e5	100	0.0	1.00	bb
2	201020R1_2	100	0.52	NO	33.80	1.000	9.80e5	9.80e5	100	0.0	1.00	bb
3	201020R1_3	100	0.51	NO	33.80	1.000	1.05e6	1.05e6	100	0.0	1.00	bb
4	201020R1_4	100	0.51	NO	33.81	1.000	6.87e5	6.87e5	100	0.0	1.00	bb
5	201020R1_5	100	0.51	NO	33.80	1.000	1.09e6	1.09e6	100	0.0	1.00	bb
6	201020R1_6	100	0.52	NO	33.80	1.000	9.76e5	9.76 e5	100	0.0	1.00	bd

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MassLynx 4.1 SCN815

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Dataset:

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Last Altered: Printed:

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Compound name: 2,3,7,8-TCDD

THE REAL PROPERTY.	Name	ID	Acq.Date	Acq.Time
1	201020R1_1	ST201020R1_1 1613 CS0 20F1102	20-Oct-20	09:17:10
2	201020R1_2	ST201020R1_2 1613 CS1 20F1103	20-Oct-20	10:04:05
3	201020R1_3	ST201020R1_3 1613 CS2 20F1104	20-Oct-20	10:48:17
4	201020R1_4	ST201020R1_4 1613 CS4 20F1106	20-Oct-20	11:32:31
5	201020R1_5	ST201020R1_5 1613 CS5 20F1107	20-Oct-20	12:16:56
6	201020R1_6	ST201020R1_6 1613 CS3 20F1105	20-Oct-20	13:01:38
7	201020R1_7	SOLVENT BLANK	20-Oct-20	13:45:46
8	201020R1_8	SS201020R1_1 1613 SSS 20F1108	20-Oct-20	14:29:33
9	201020R1_9	TCDF CPSM	20-Oct-20	15:13:50

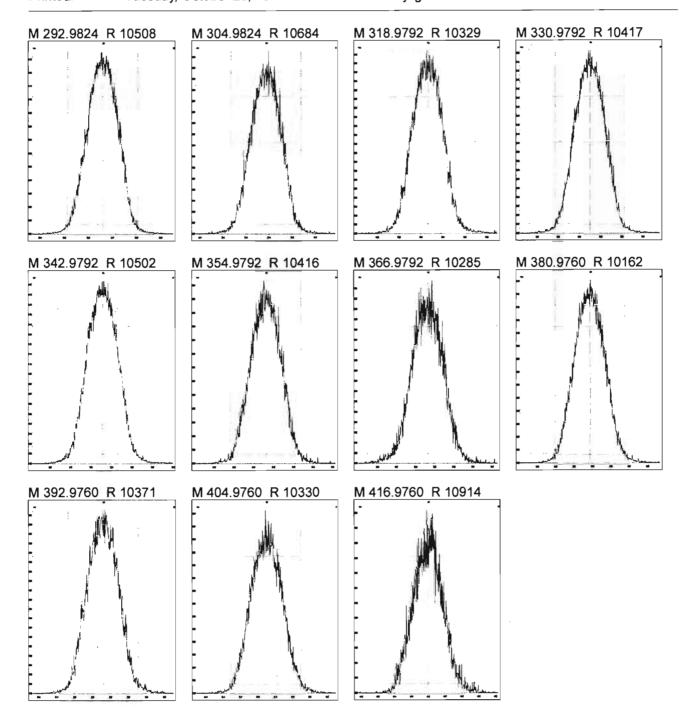
Work Order 2002298 Page 184 of 313

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed:

Tuesday, October 20, 2020 09:00:19 Pacific Daylight Time



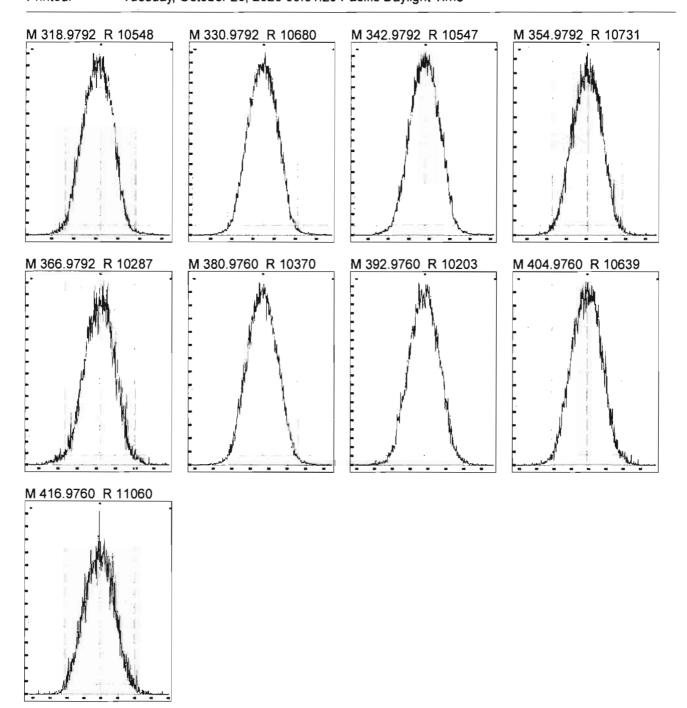
Work Order 2002298 Page 185 of 313

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed:

Tuesday, October 20, 2020 09:01:23 Pacific Daylight Time



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MassLynx 4.1 SCN815

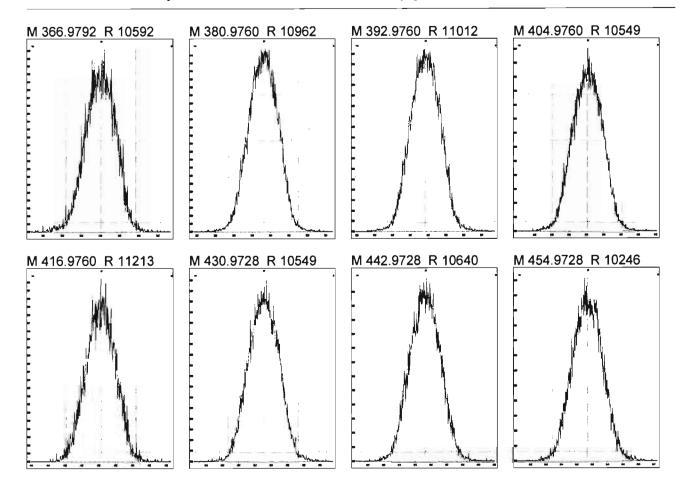
Page 1 of 1

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Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed:

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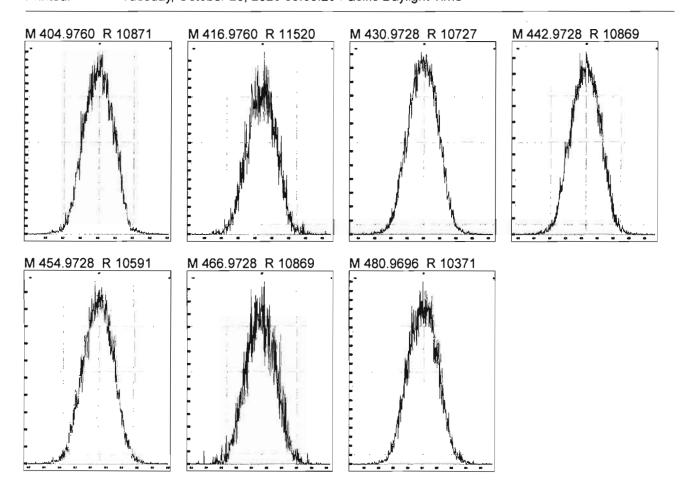
Work Order 2002298 Page 187 of 313

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed:

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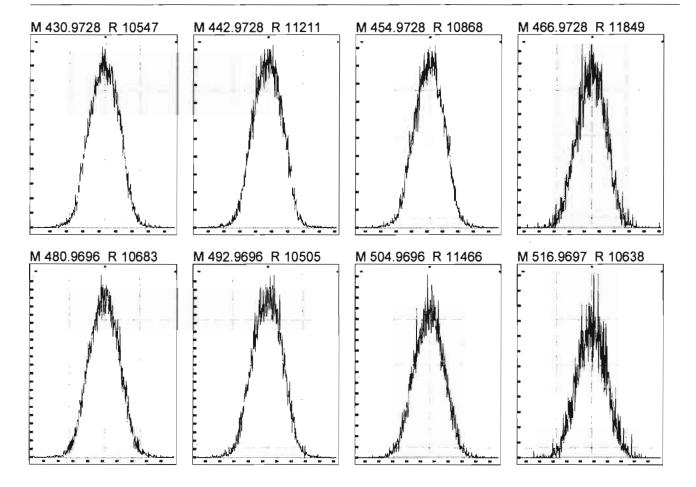
Work Order 2002298 Page 188 of 313

File:

Experiment: OCDD_DB5_2.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed:

Tuesday, October 20, 2020 09:04:30 Pacific Daylight Time



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Dataset: Untitled

Last Altered: Tuesday, October 20, 2020 14:59:30 Pacific Daylight Time Printed: Tuesday, October 20, 2020 14:59:49 Pacific Daylight Time

Method: U:\VG12.PRO\MethDB\CPSM.mdb 20 Sep 2020 10:23:28

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-10-20.cdb 12 Oct 2020 14:50:48

Name: 201020R1_6, Date: 20-Oct-2020, Time: 13:01:38, ID: ST201020R1_6 1613 CS3 20F1105, Description: 1613 CS3 20F1105

	# Name	RT
1	1 1,3,6,8-TCDD (First)	22.55
2	2 1,2,8,9-TCDD (Last)	27.18
3	3 1,2,4,7,9-PeCDD (First)	28.70
4	4 1,2,3,8,9-PeCDD (Last)	31.32
5	5 1,2,4,6,7,9-HxCDD (First)	32.63
6	6 1,2,3,7,8,9-HxCDD (Last)	34.67
7	7 1,2,3,4,6,7,9-HpCDD (First)	37.15
8	8 1,2,3,4,6,7,8-HpCDD (Last)	38.16
9	9 1,3,6,8-TCDF (First)	20.32
10	10 1,2,8,9-TCDF (Last)	27.49
11	11 1,3,4,6,8-PeCDF (First)	27.06
12	12 1,2,3,8,9-PeCDF (Last)	31.68
13	13 1,2,3,4,6,8-HxCDF (First)	32.10
14	14 1,2,3,7,8,9-HxCDF (Last)	35.18
15	15 1,2,3,4,6,7,8-HpCDF (First)	36.76
16	16 1,2,3,4,7,8,9-HpCDF (Last)	38.78

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Quantify Sample Report

MassLynx 4.1 SCN815

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Vista Analytical Laboratory VG-11

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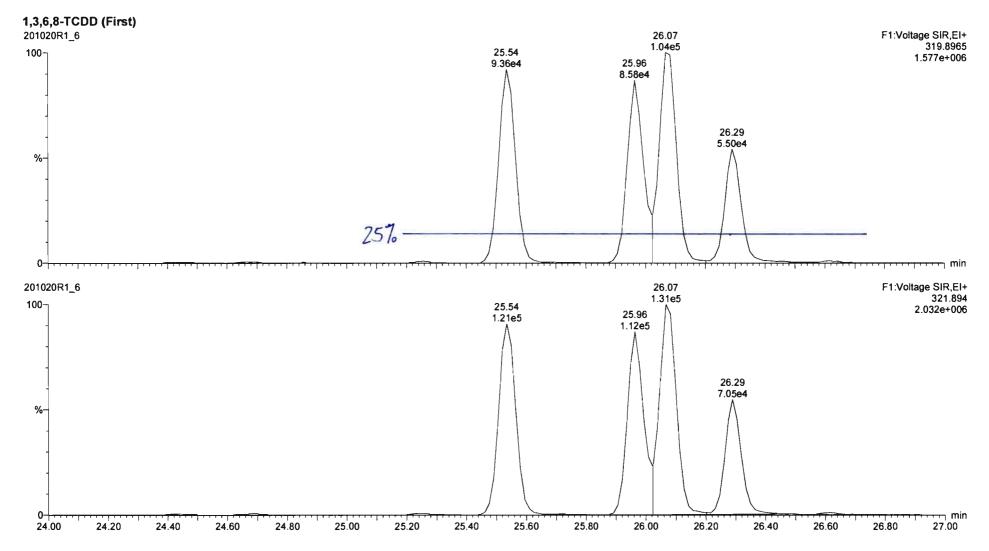
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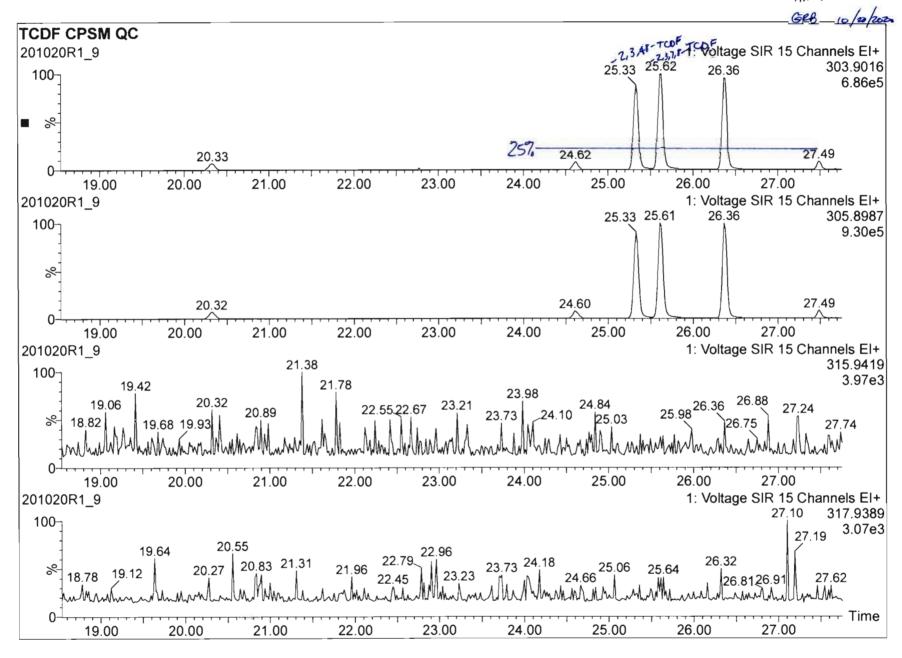
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Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-10-20.cdb 12 Oct 2020 14:50:48



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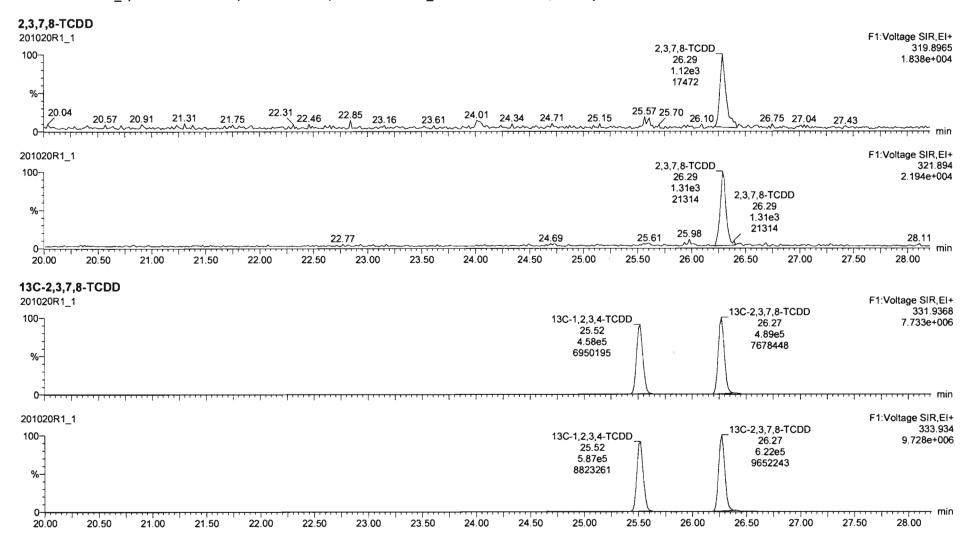
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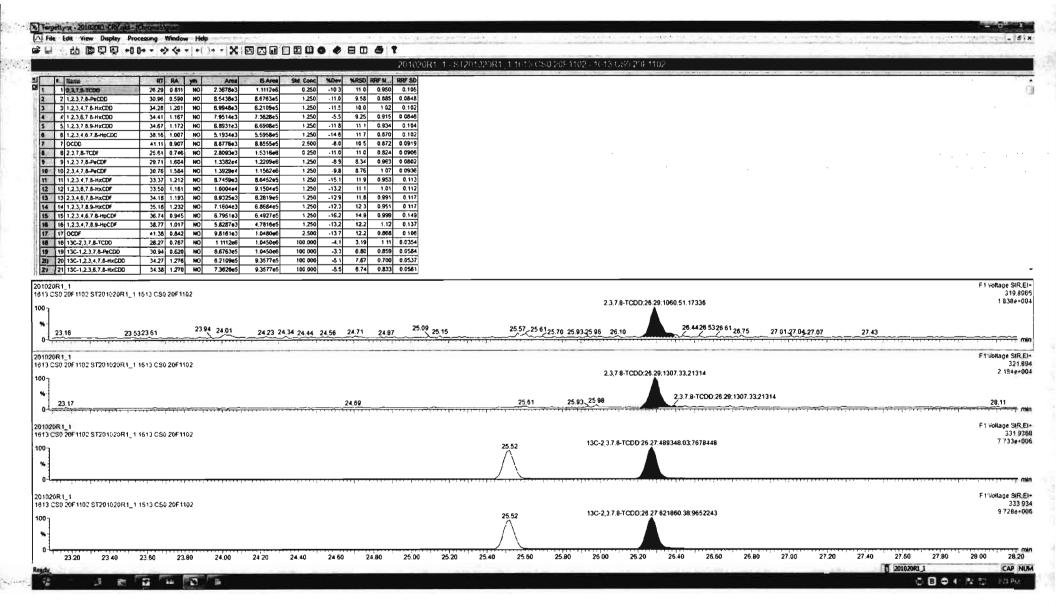
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Calibration: 20 Oct 2020 15:17:40



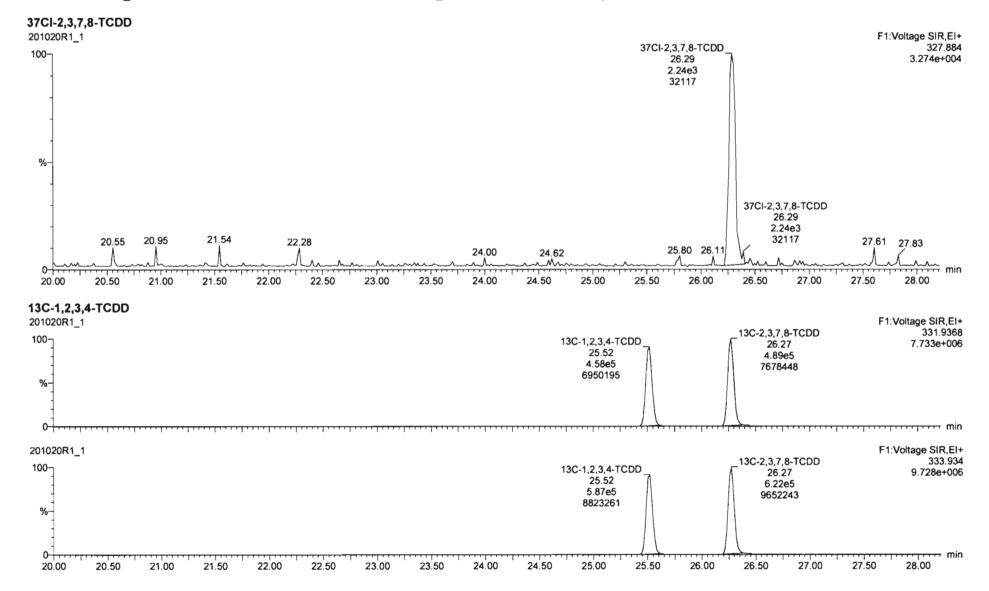


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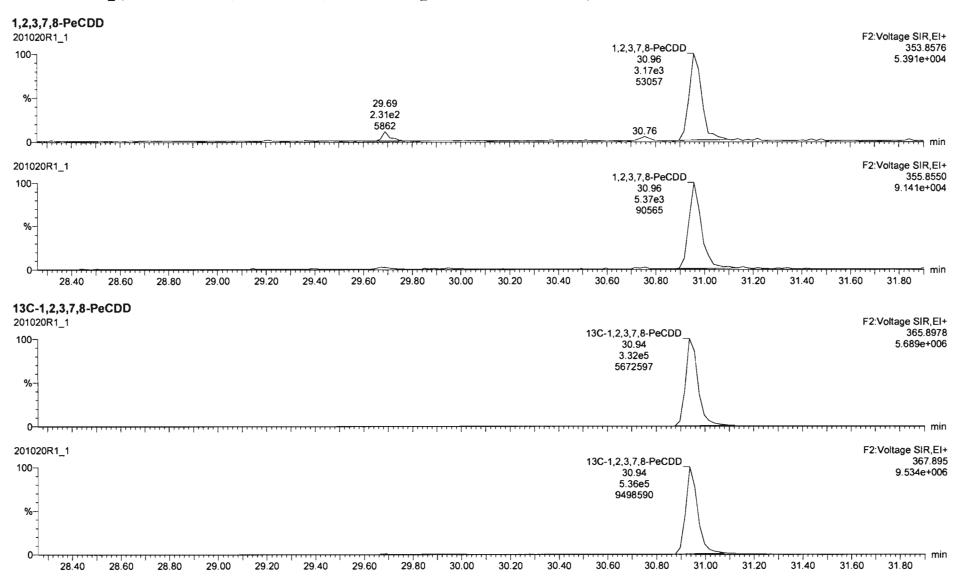
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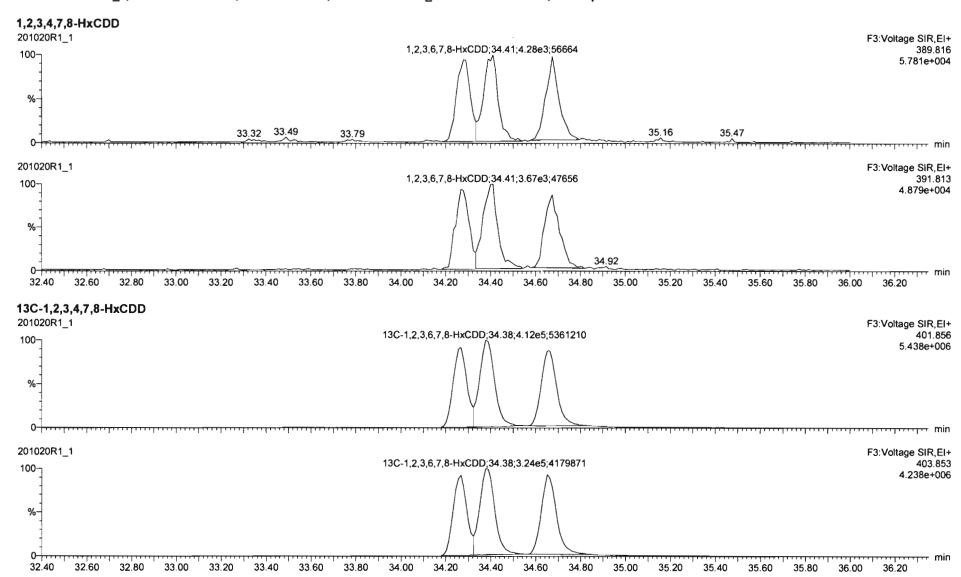


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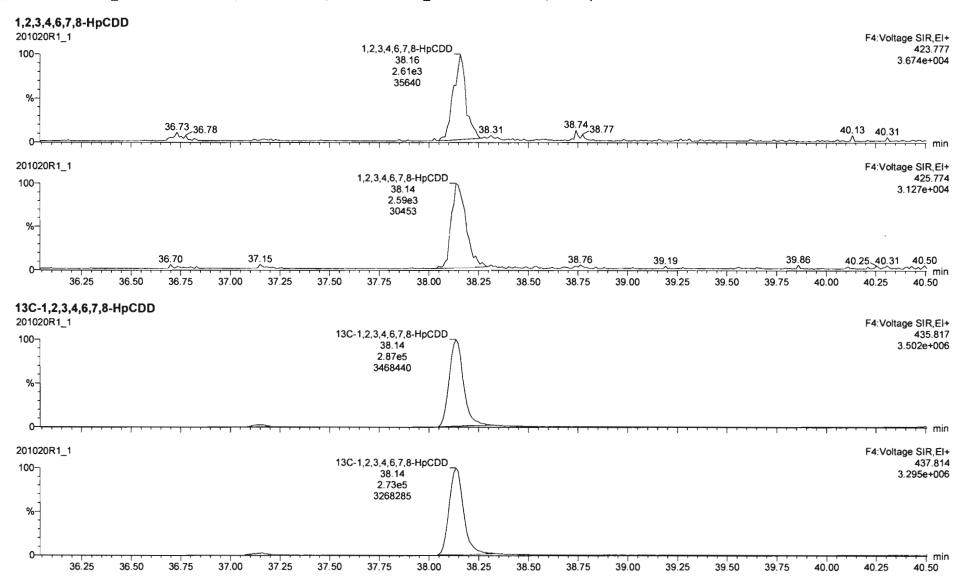


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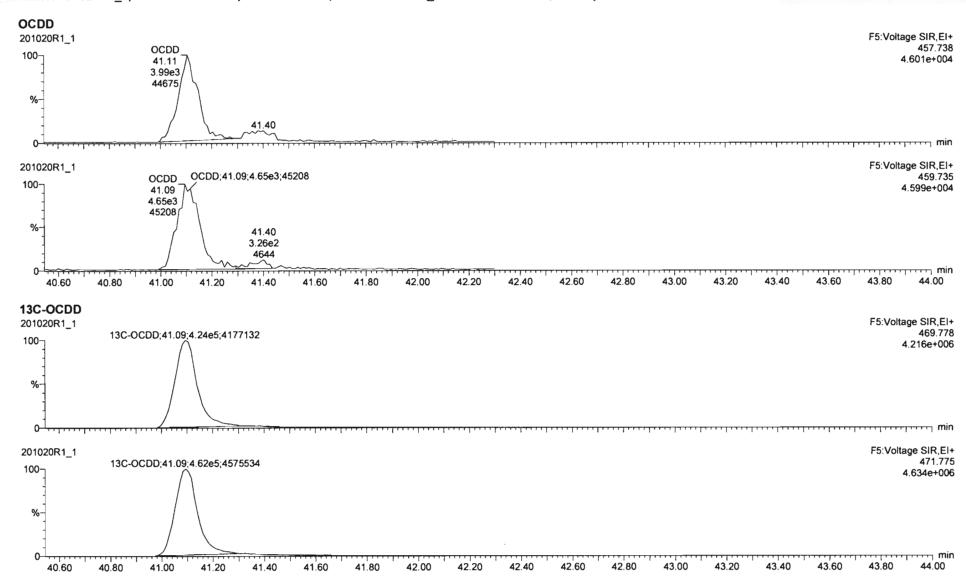


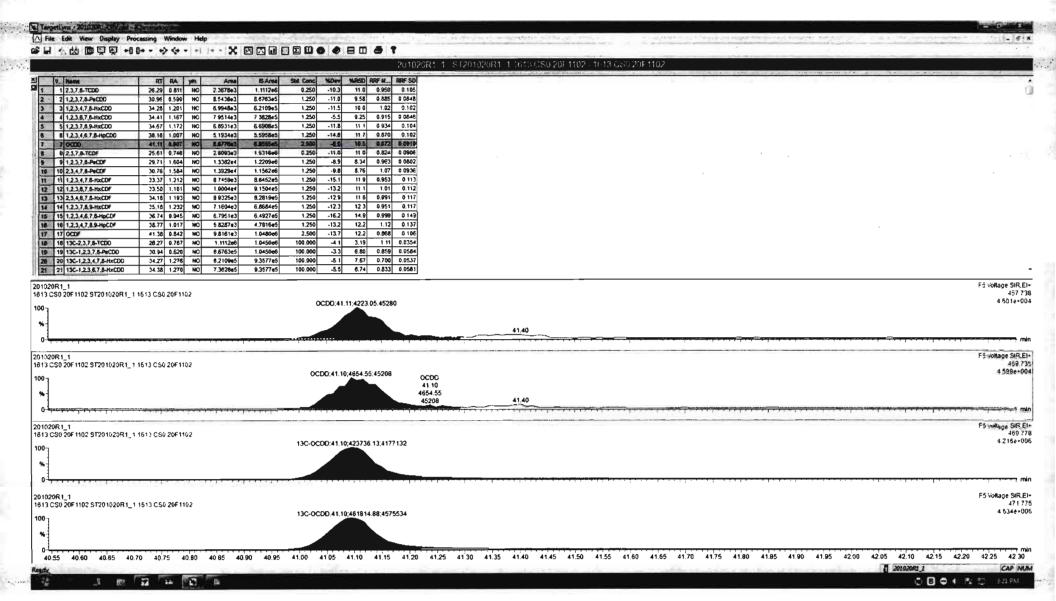
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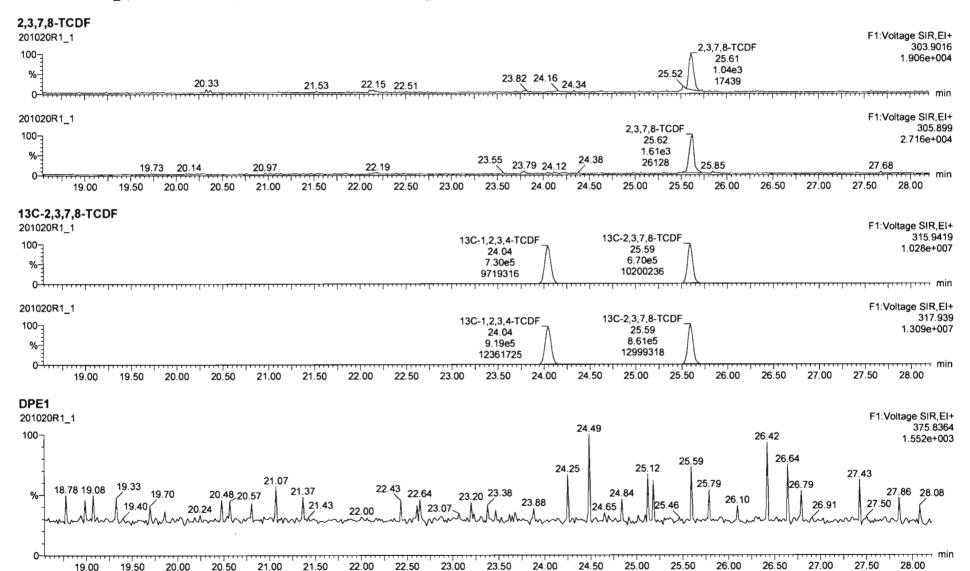
Work Order 2002298 Page 200 of 313

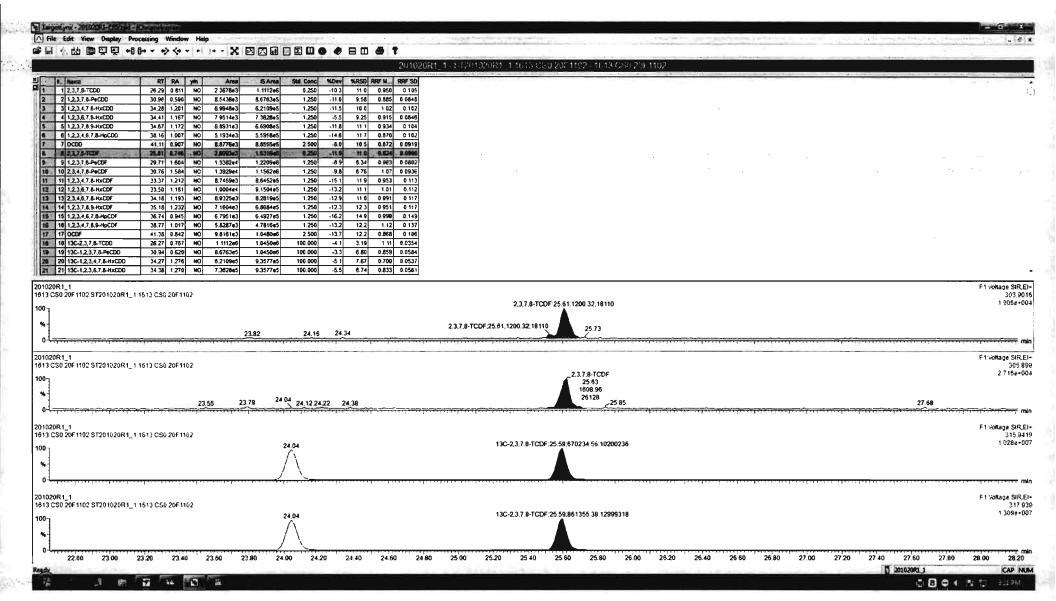
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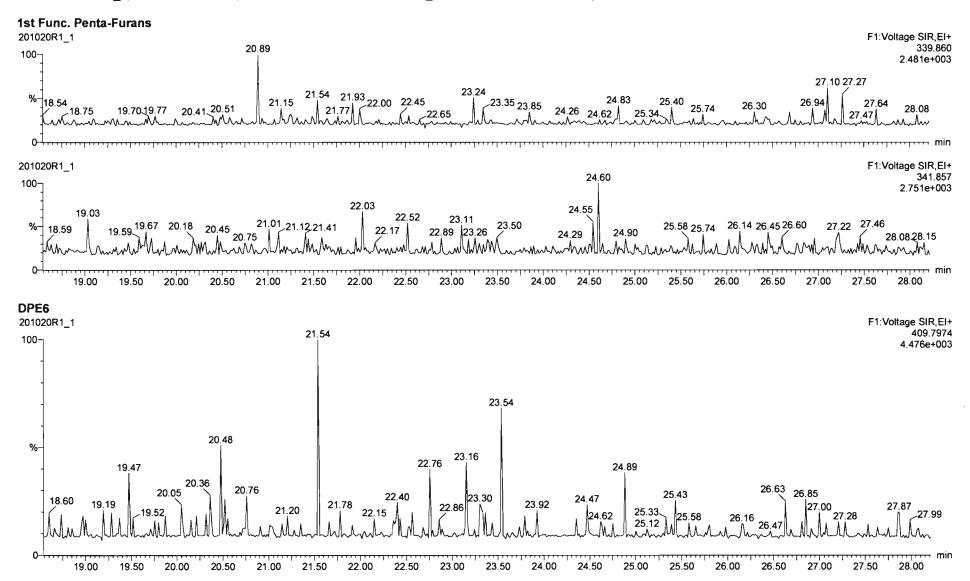
Work Order 2002298 Page 202 of 313

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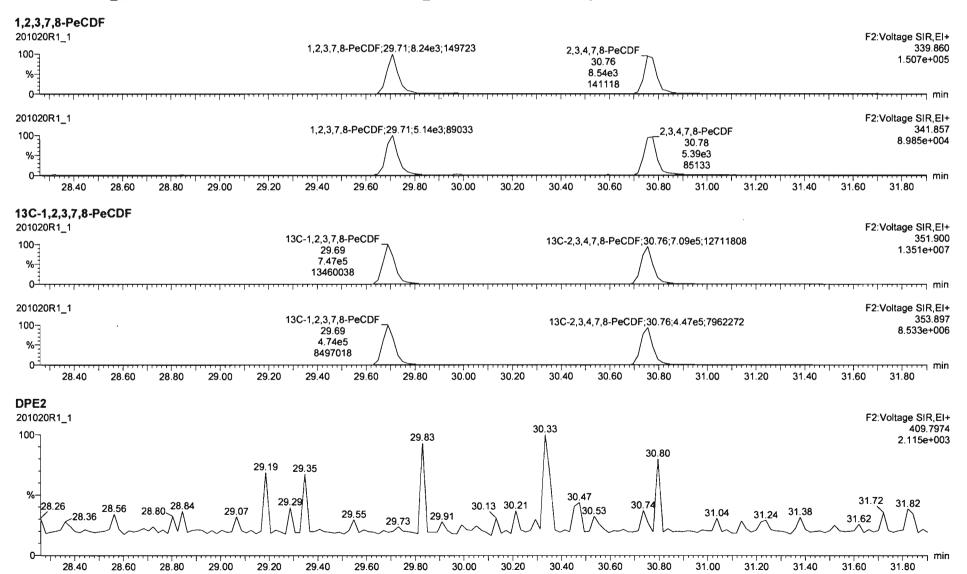
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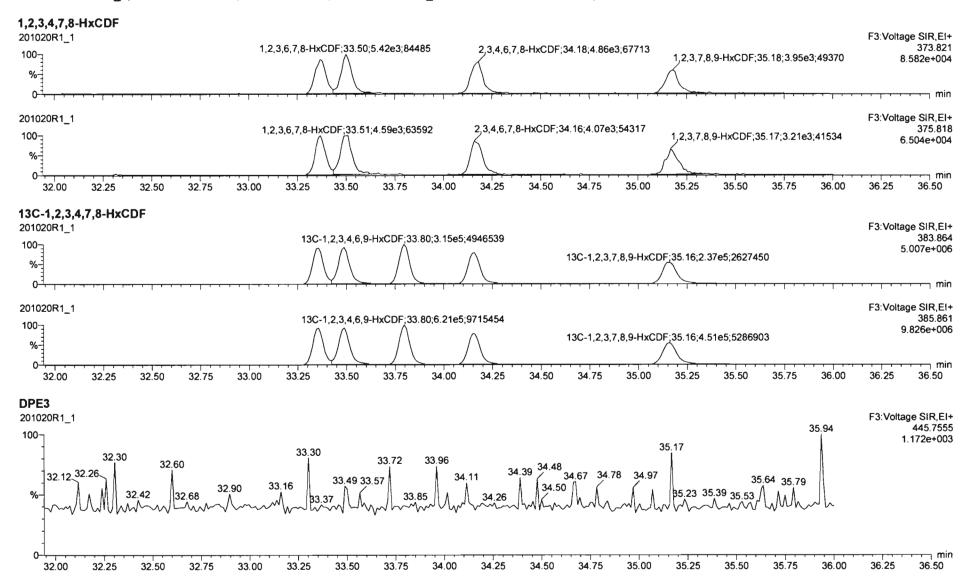
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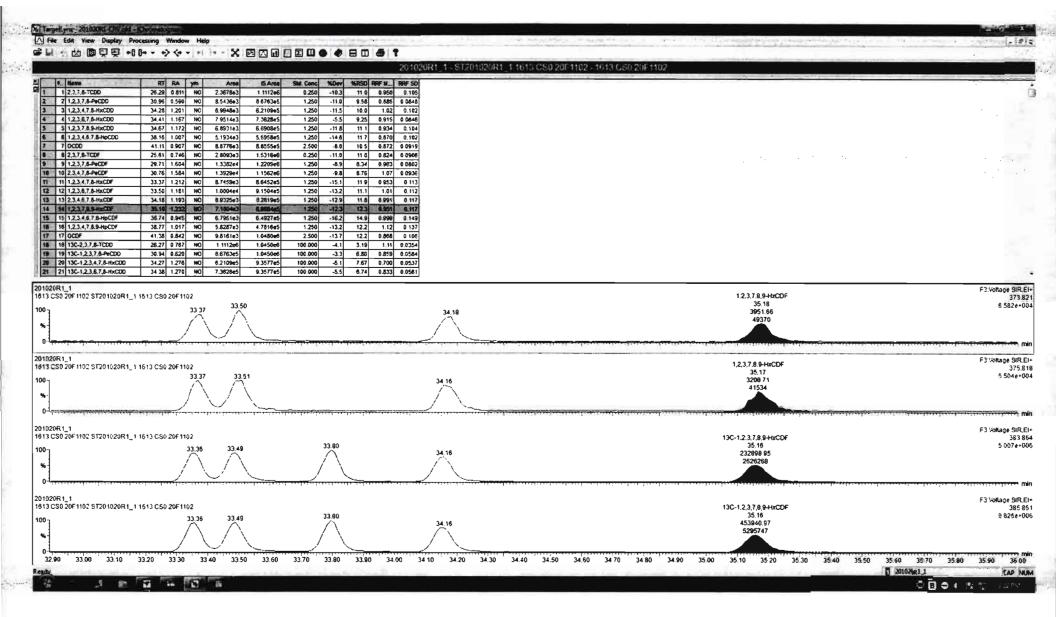


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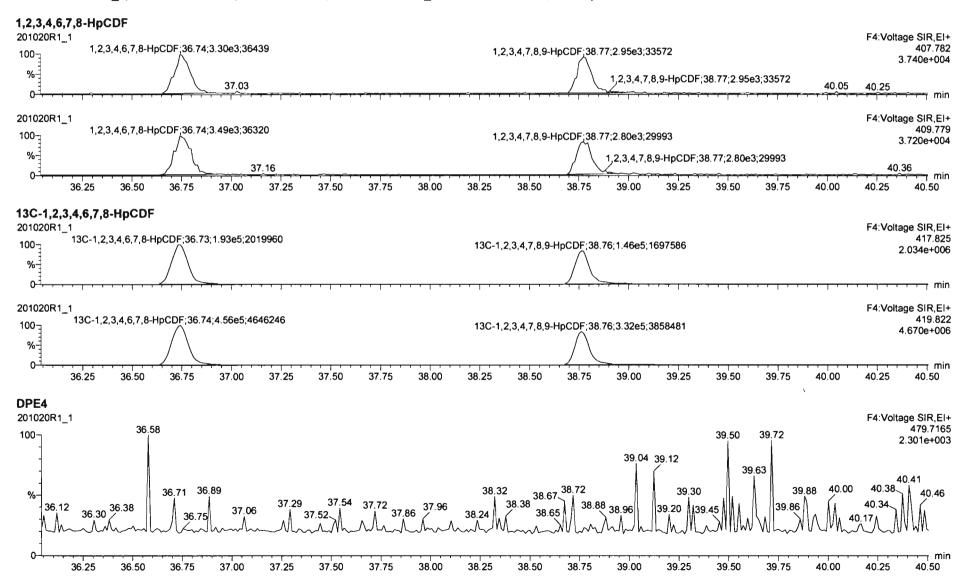
Work Order 2002298 Page 206 of 313

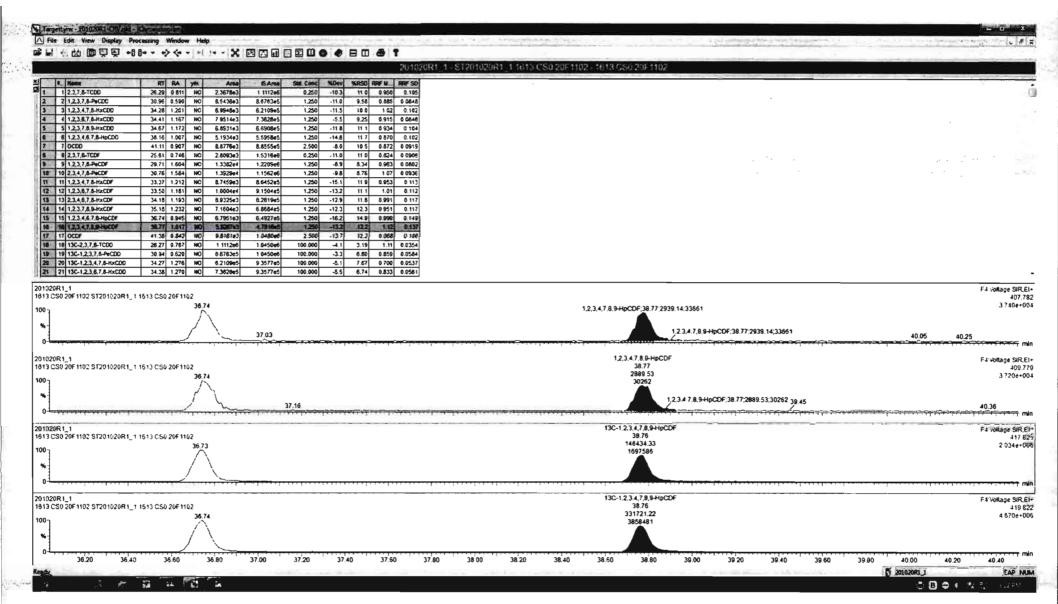
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Tuesday, October 20, 2020 15:18:47 Pacific Daylight Time





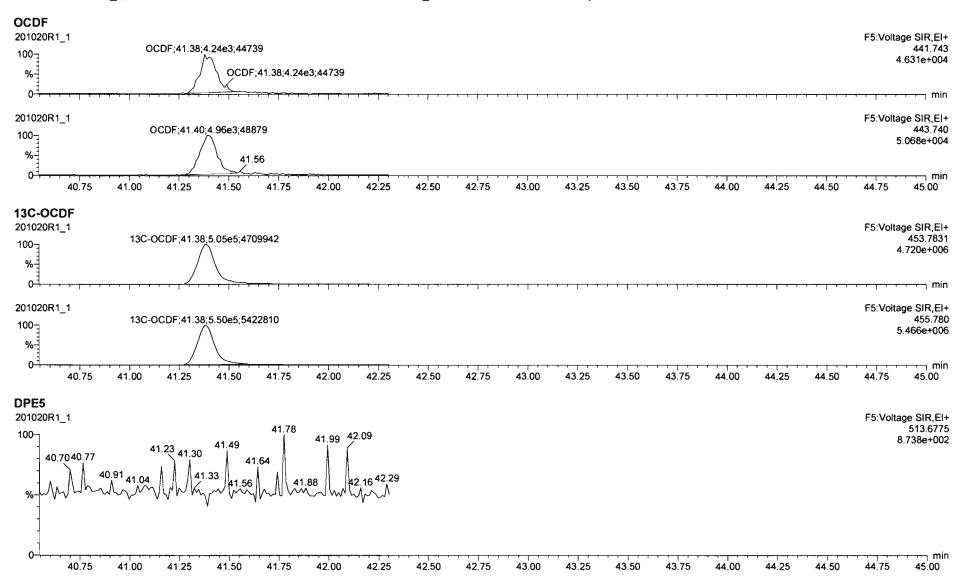
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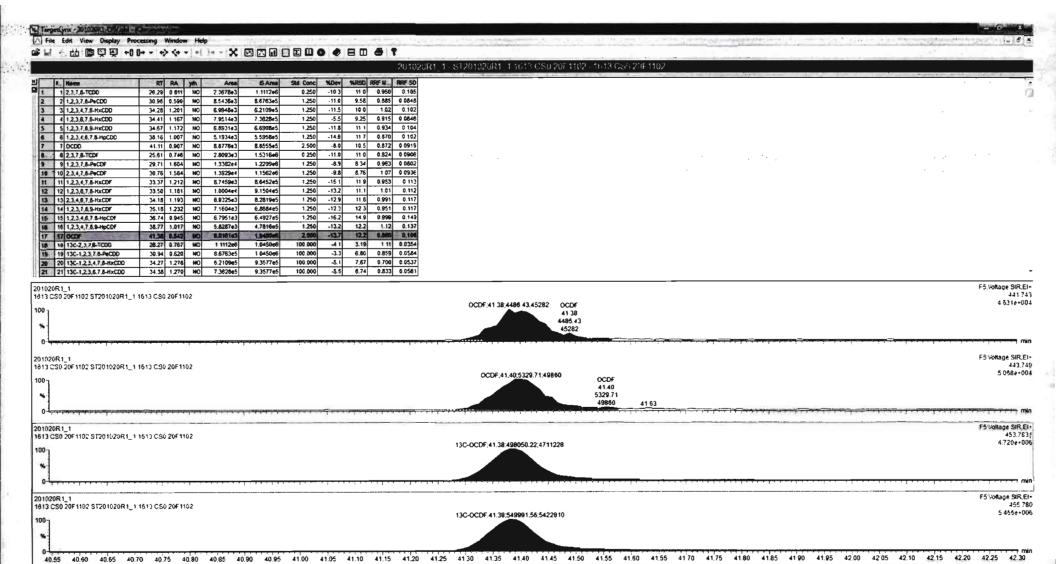
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Name: 201020R1_1, Date: 20-Oct-2020, Time: 09:17:10, ID: ST201020R1_1 1613 CS0 20F1102, Description: 1613 CS0 20F1102



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Custom Reporting: Select reports to generate

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201020R1_1

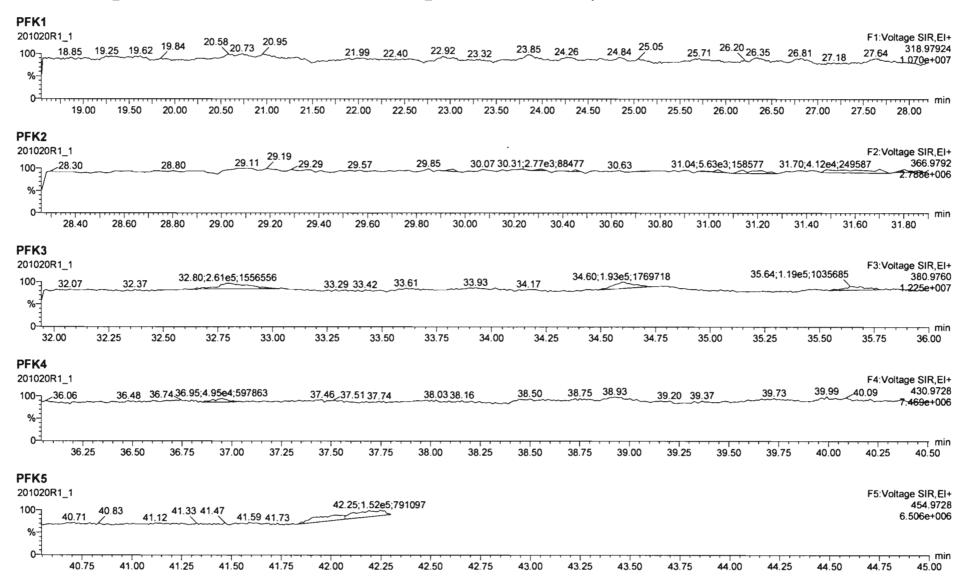
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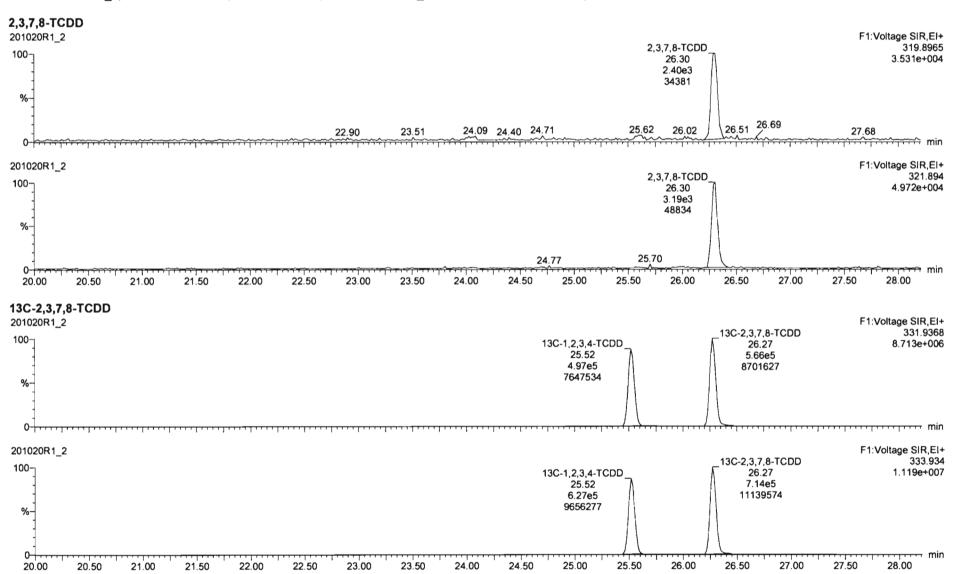
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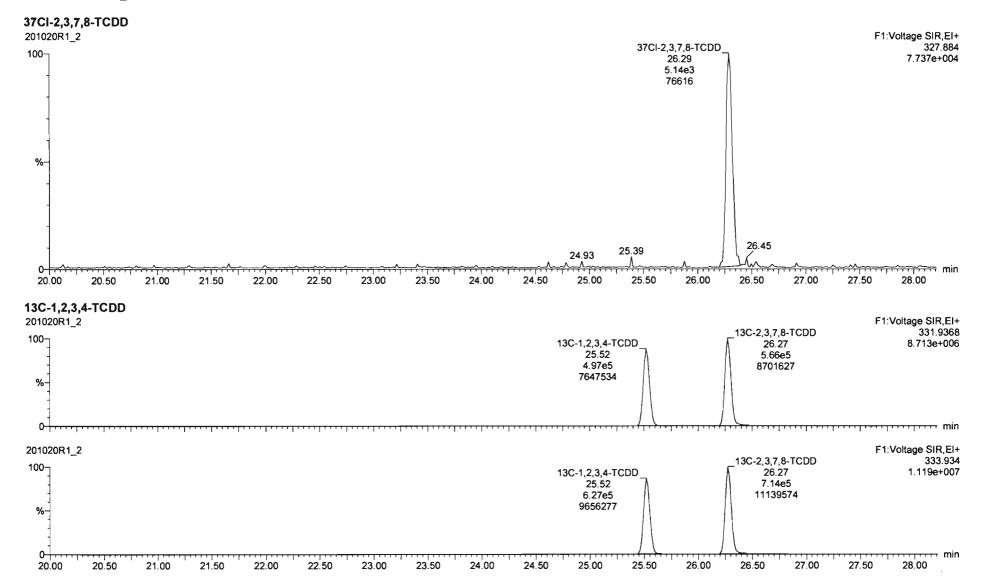
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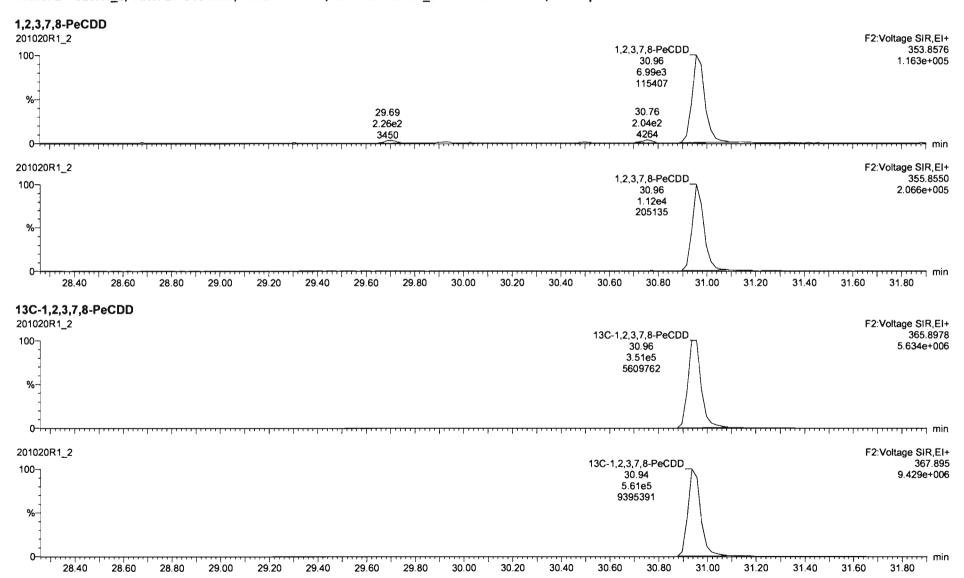
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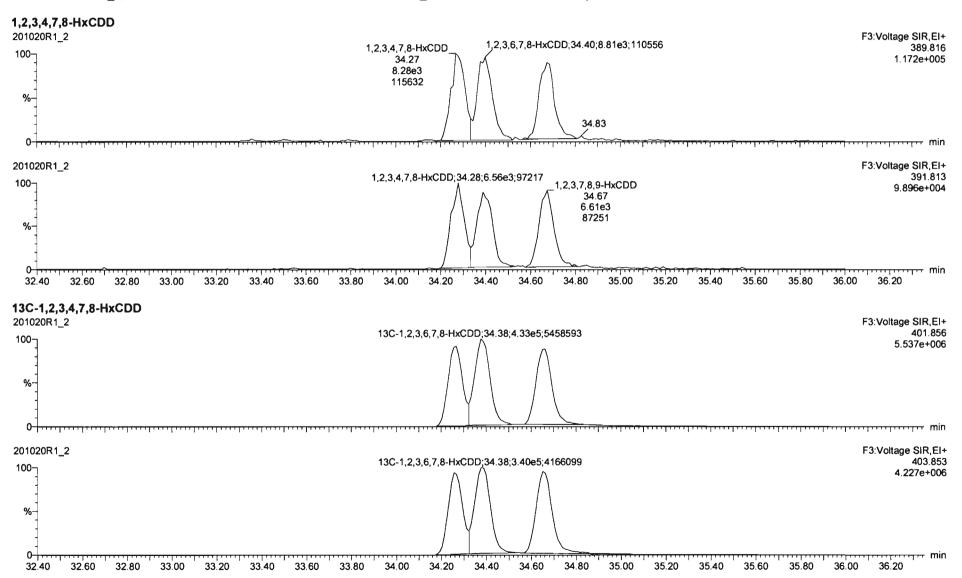
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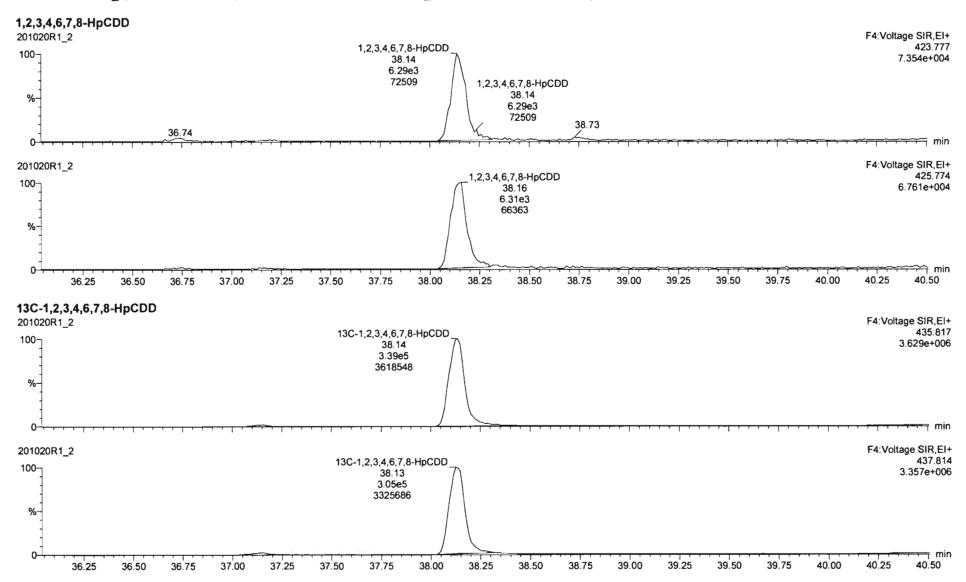
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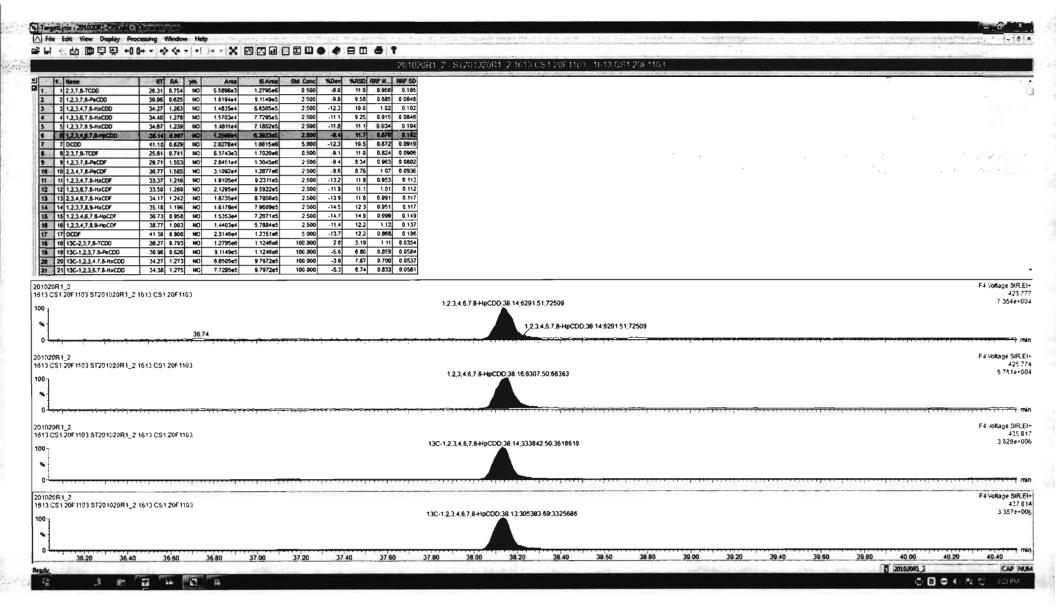


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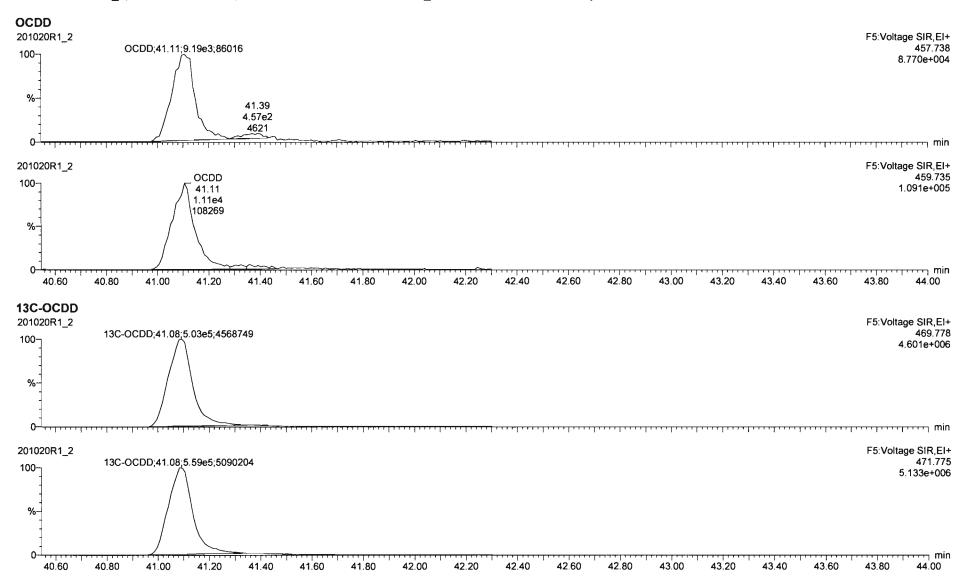




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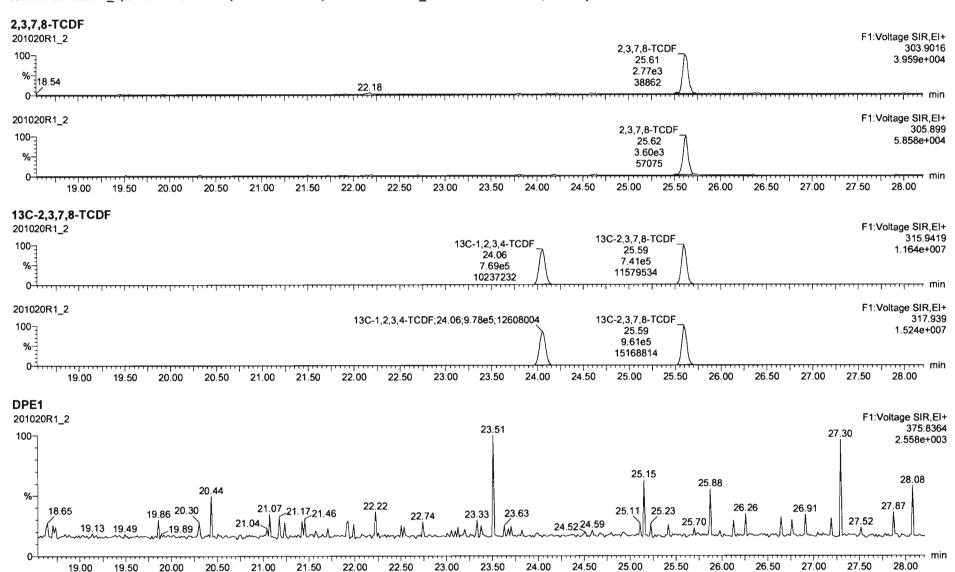
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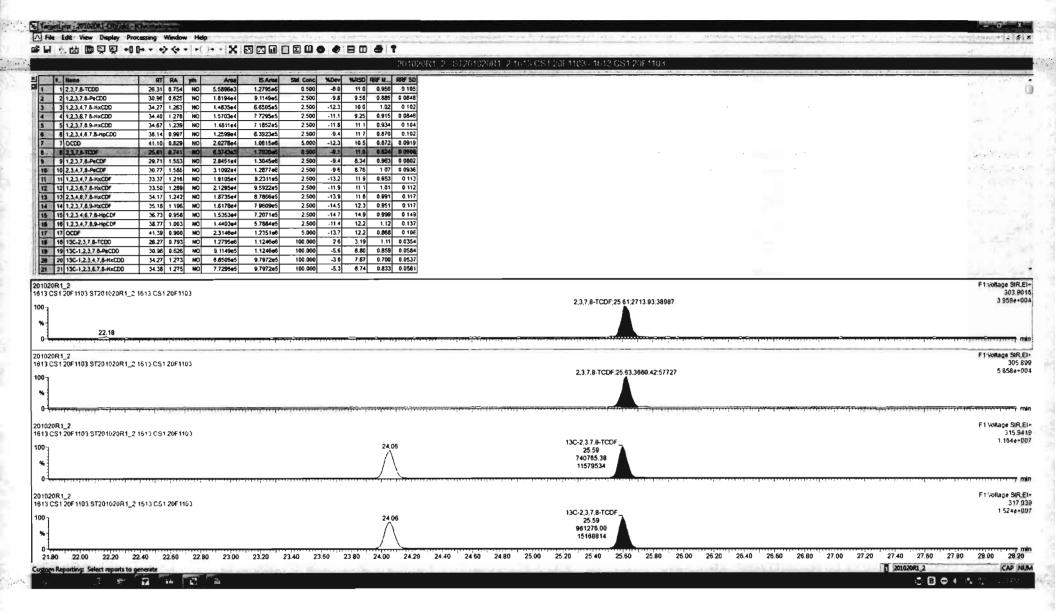


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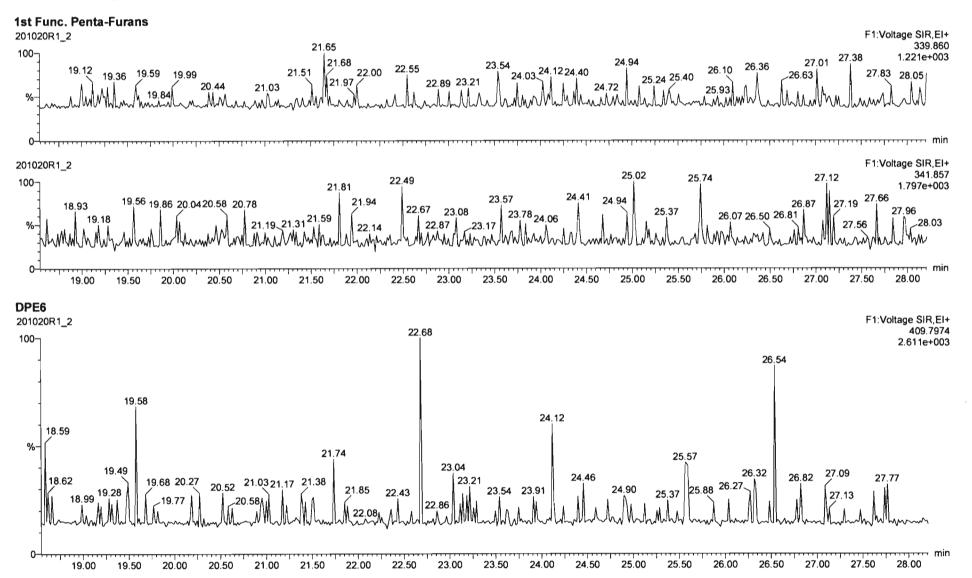


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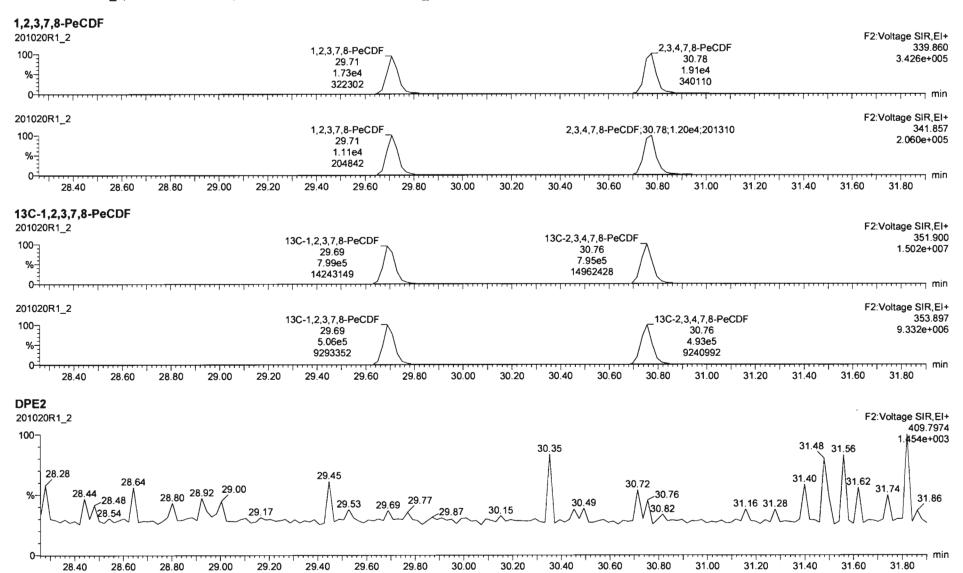
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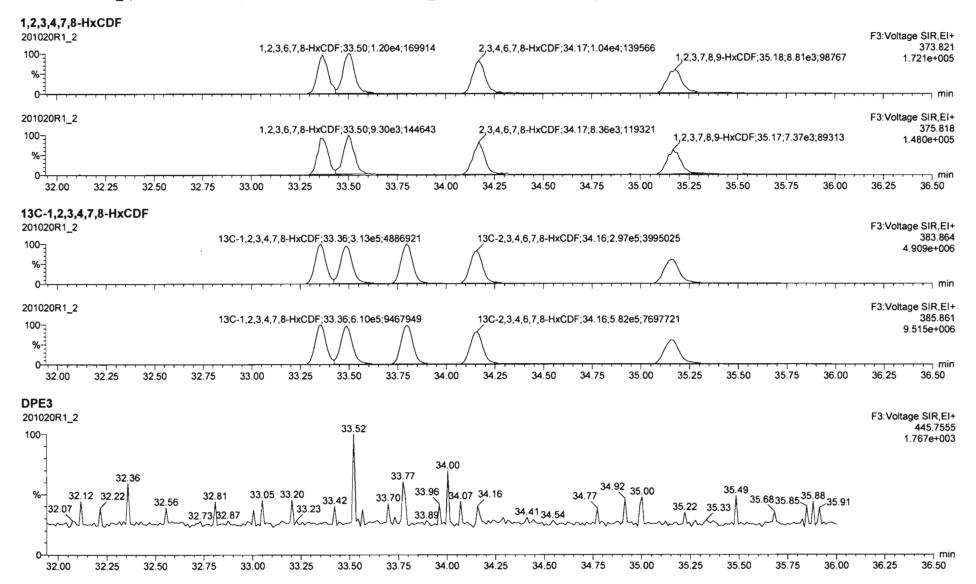
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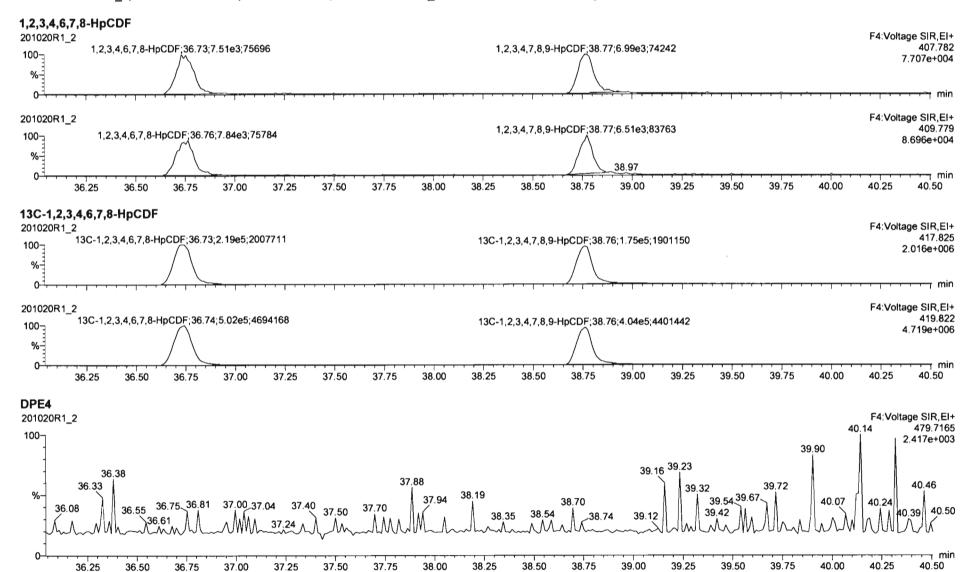
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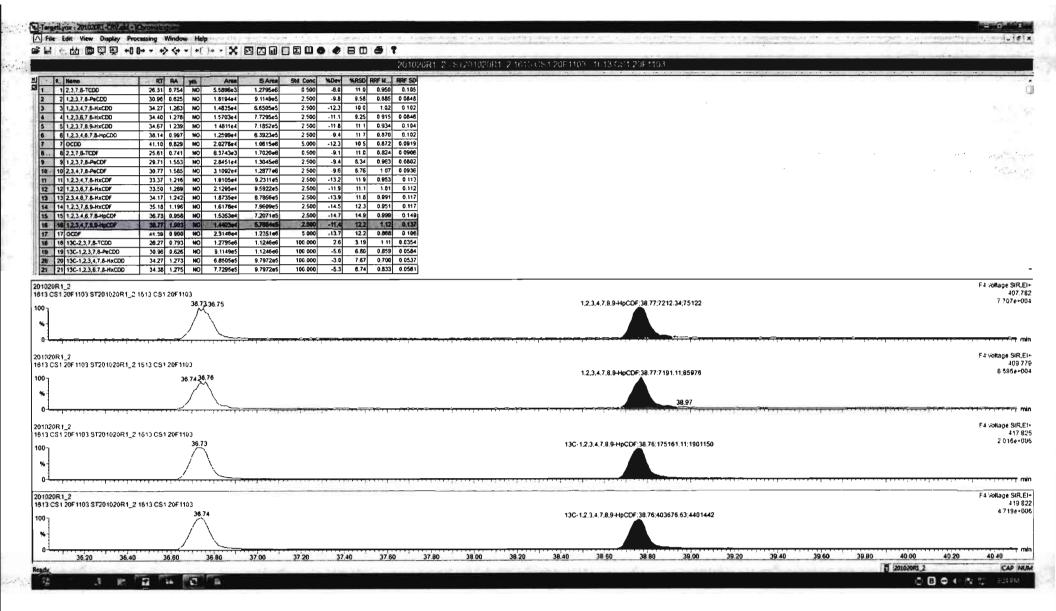


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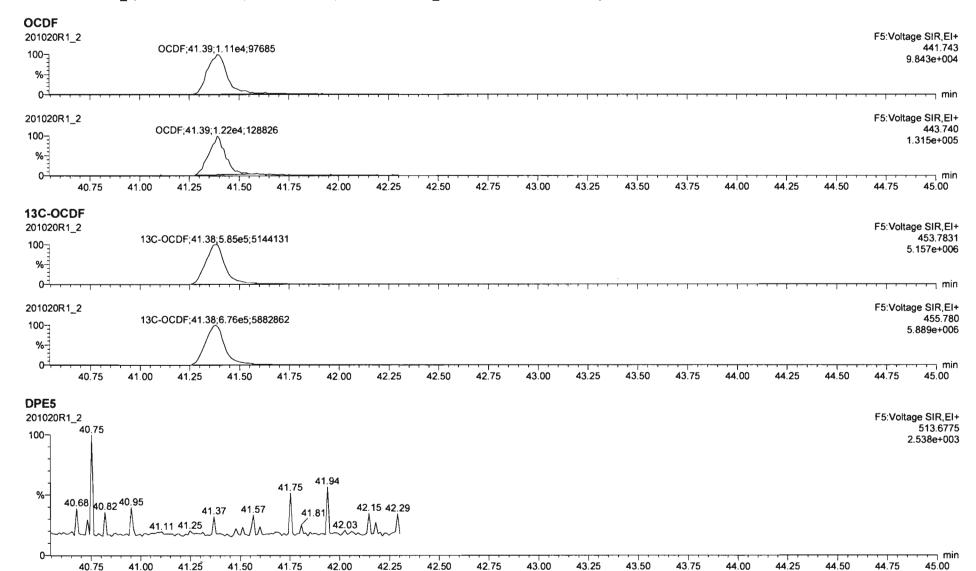


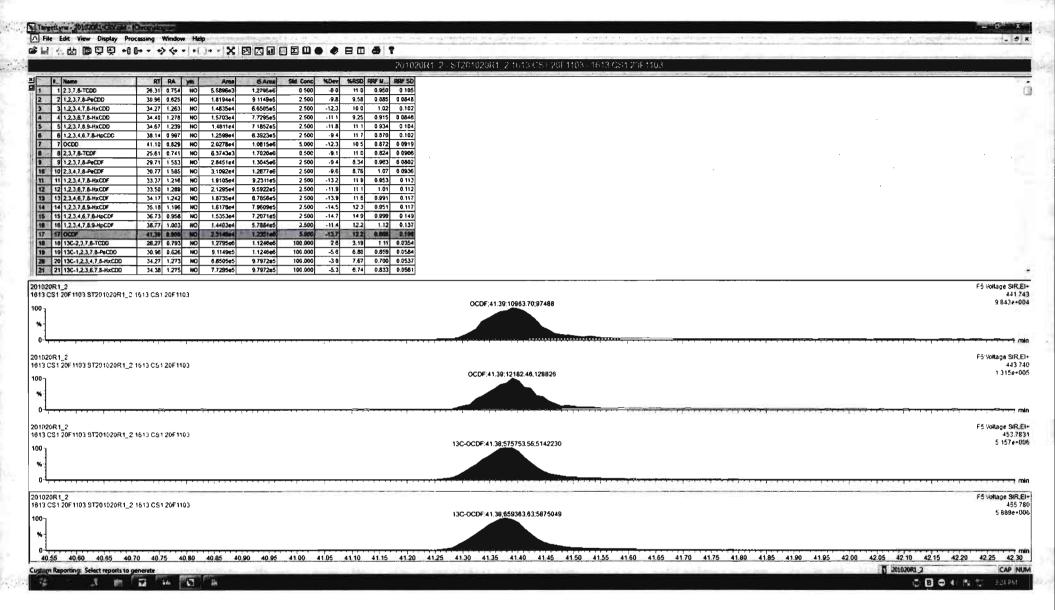
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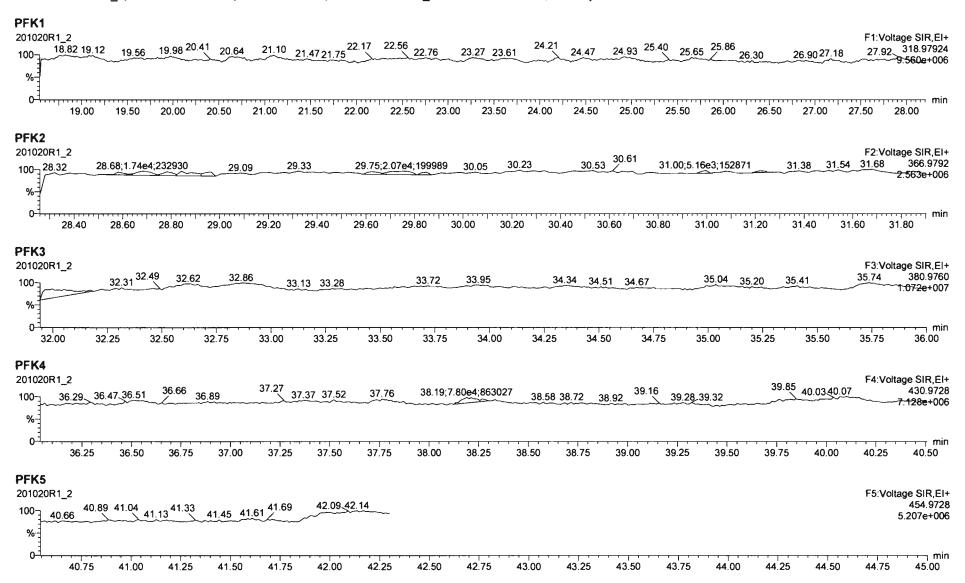


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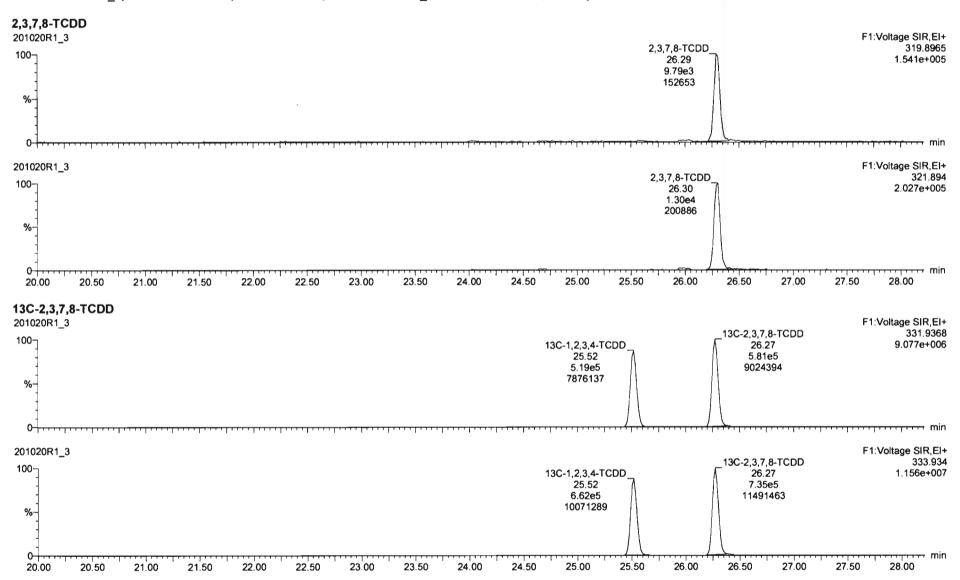
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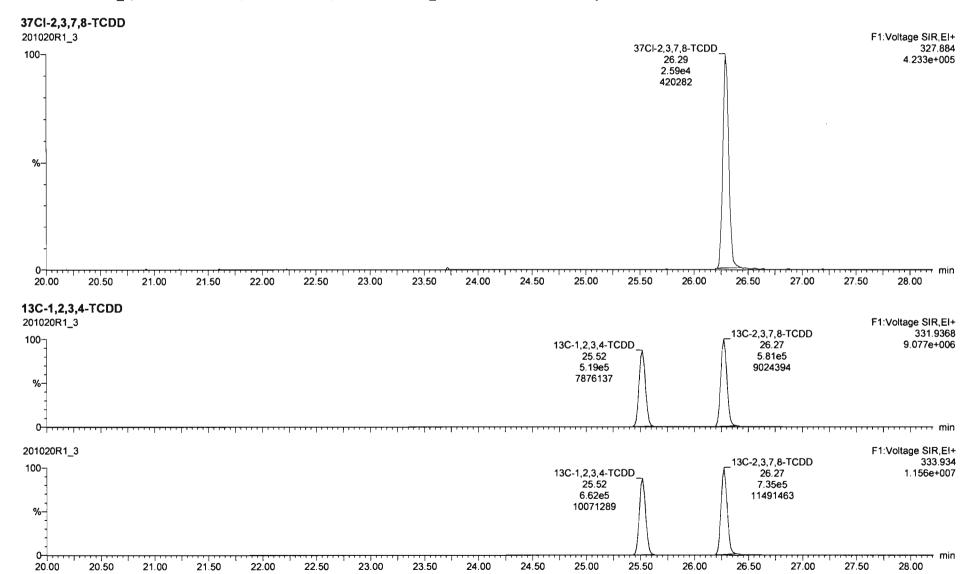
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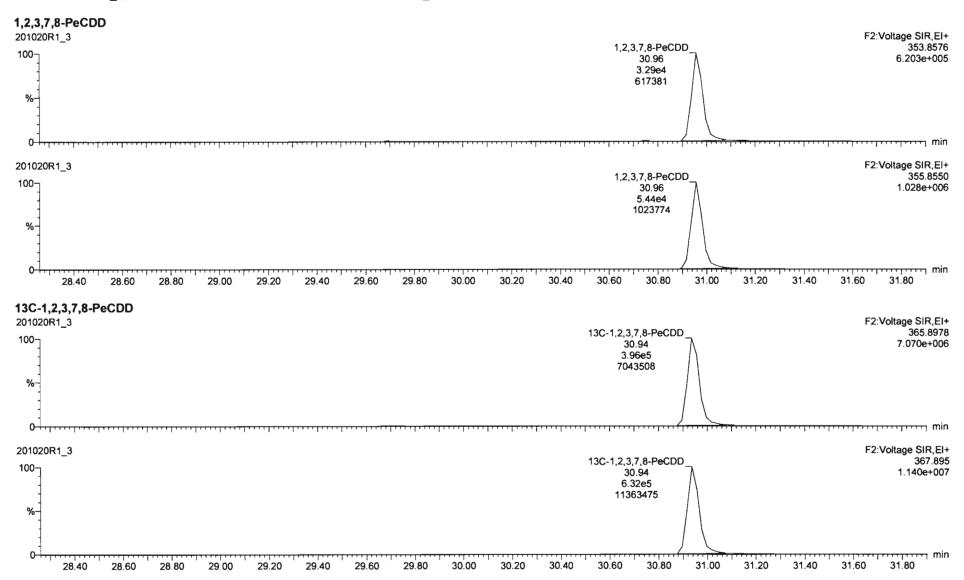
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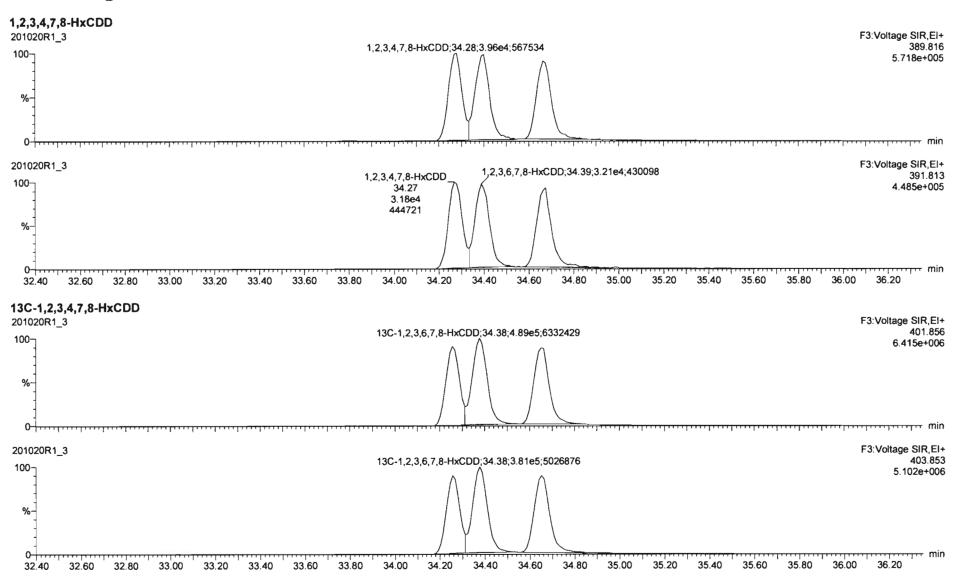
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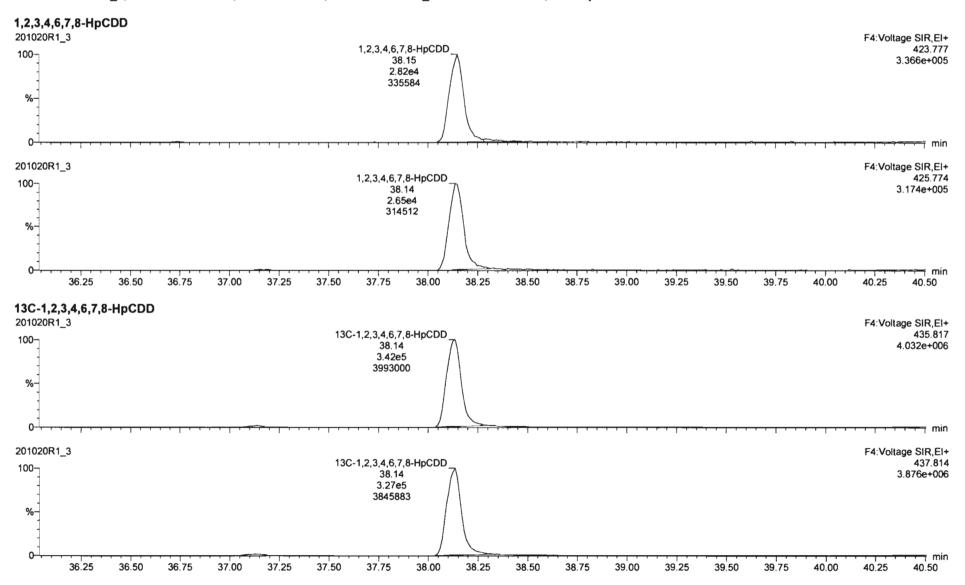
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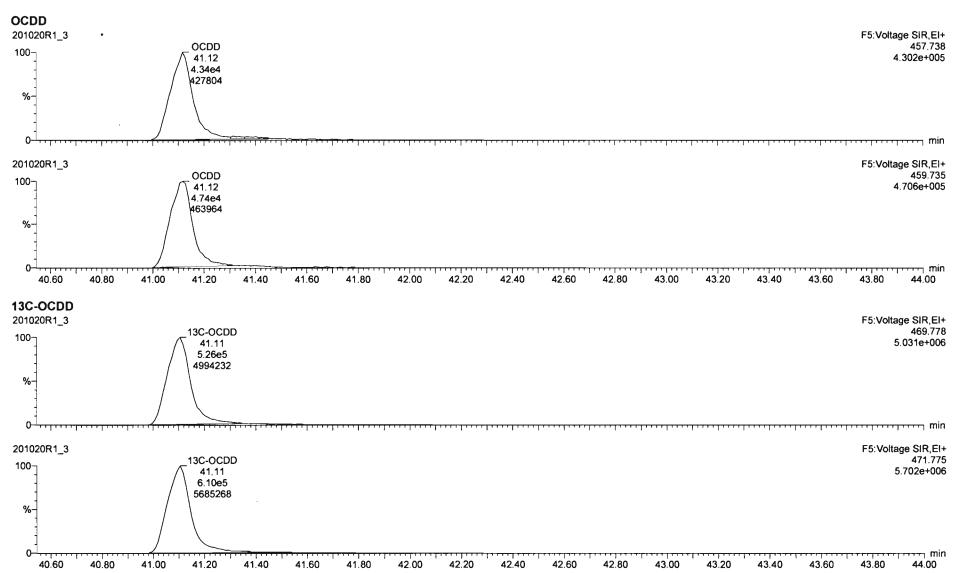
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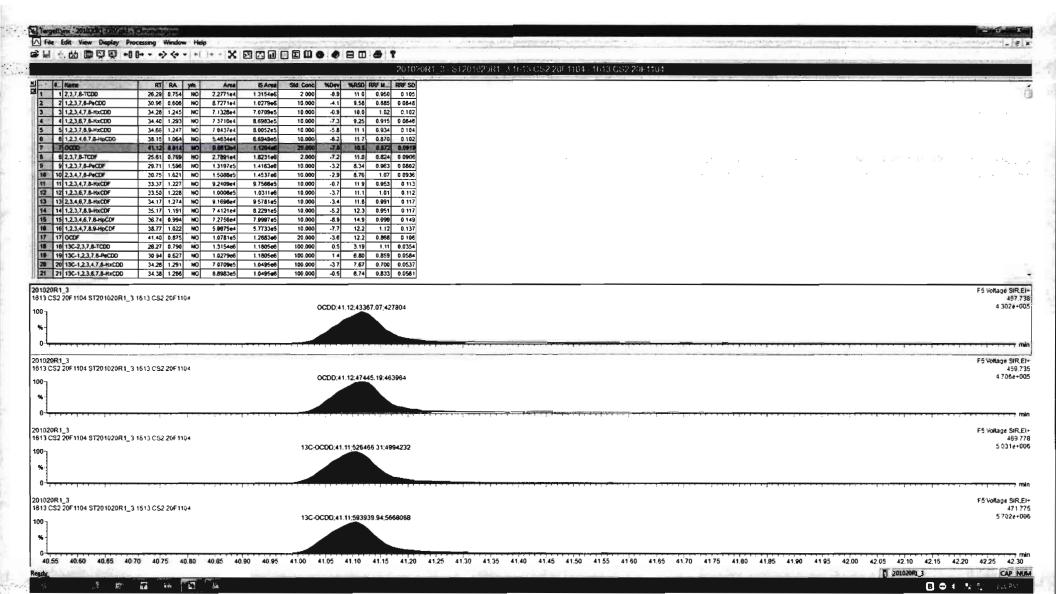


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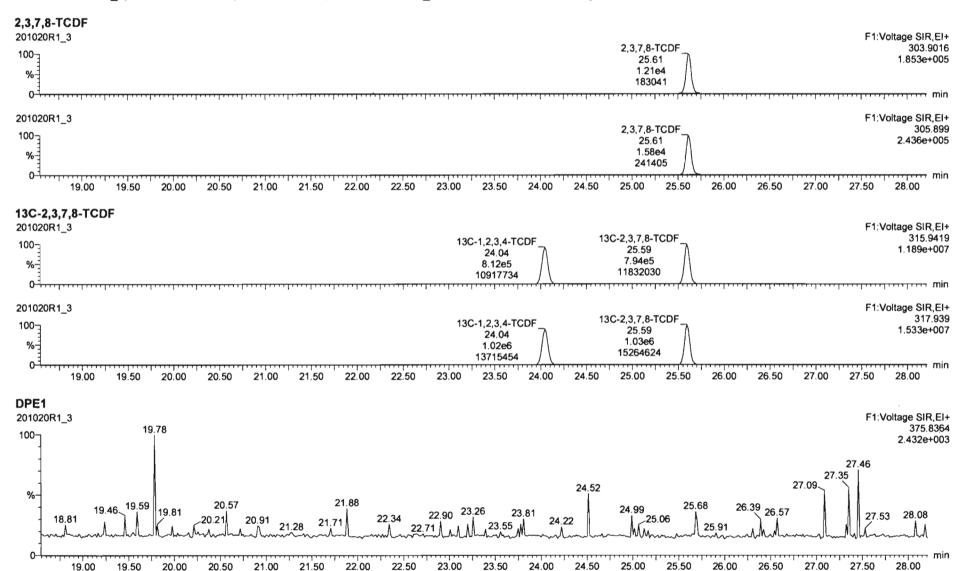


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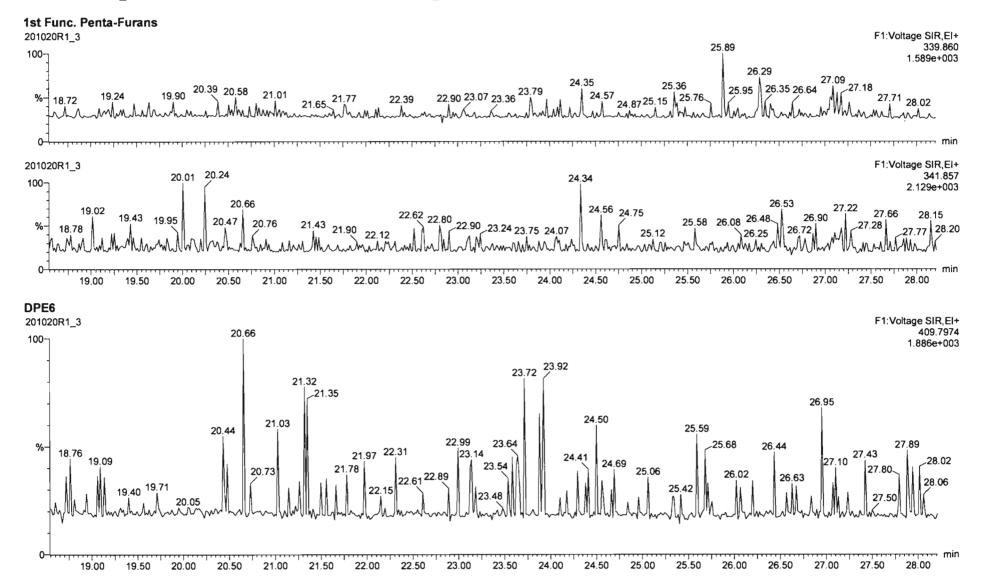
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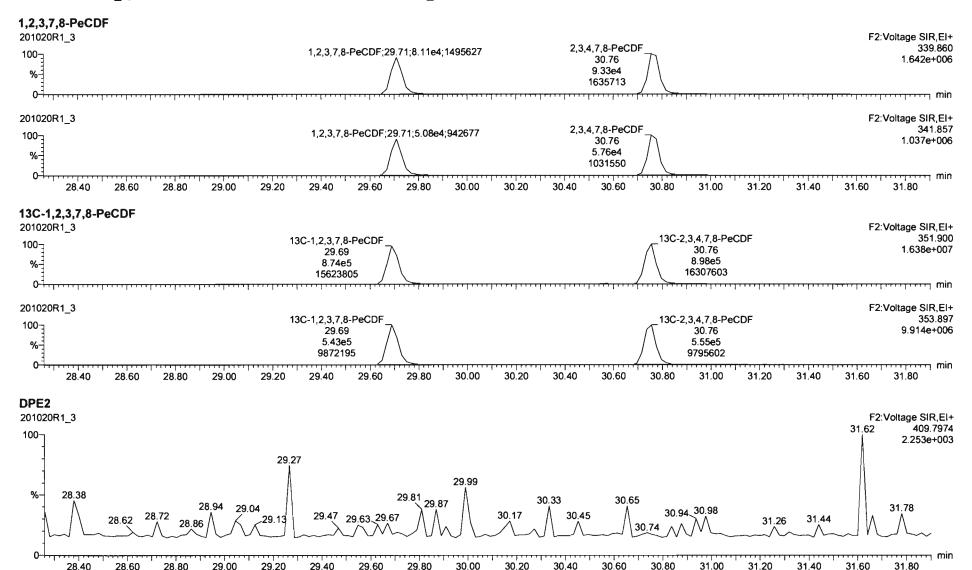
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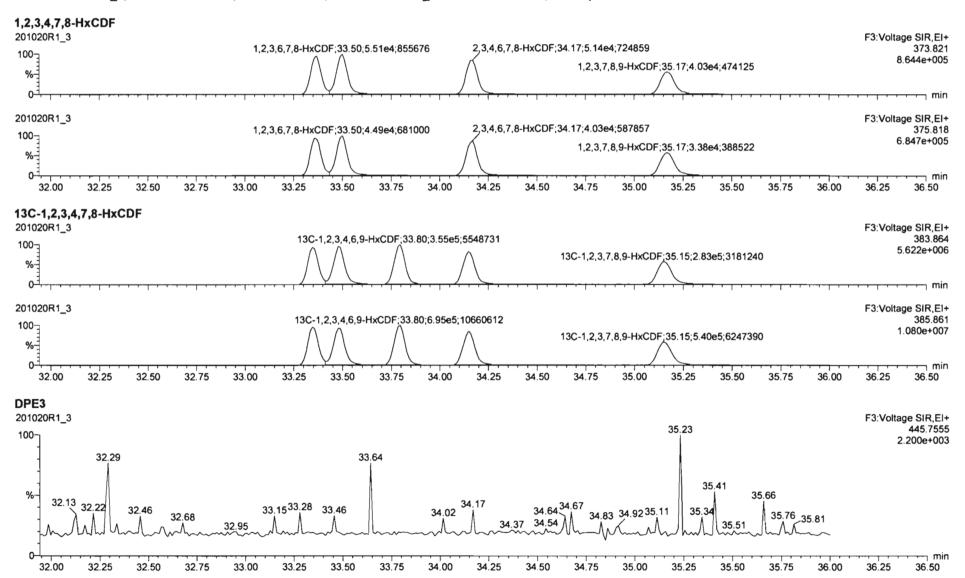
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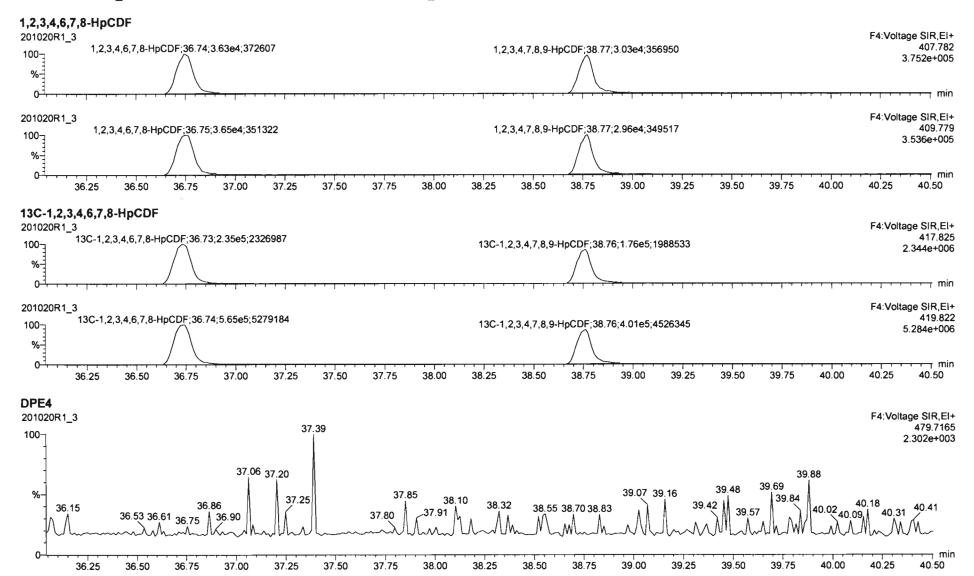
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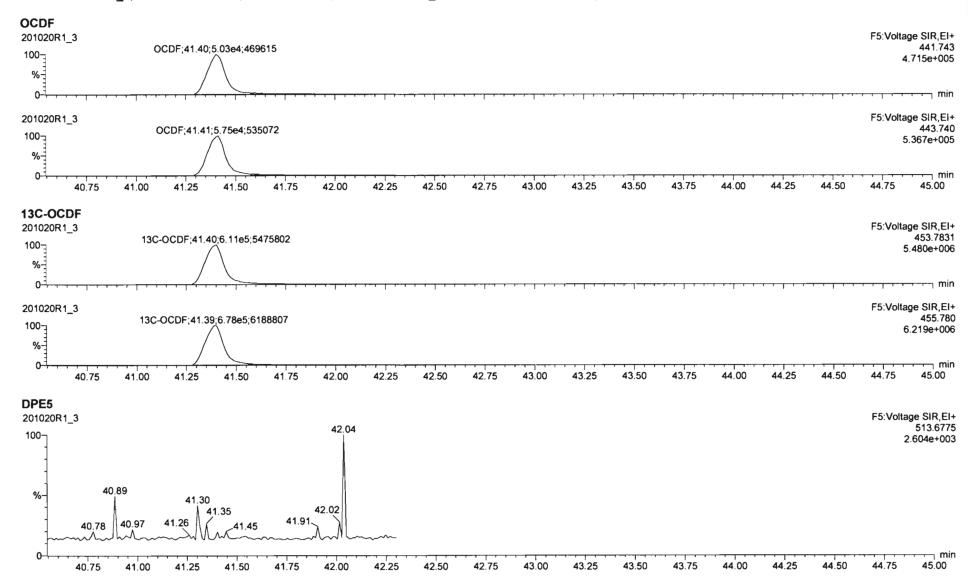
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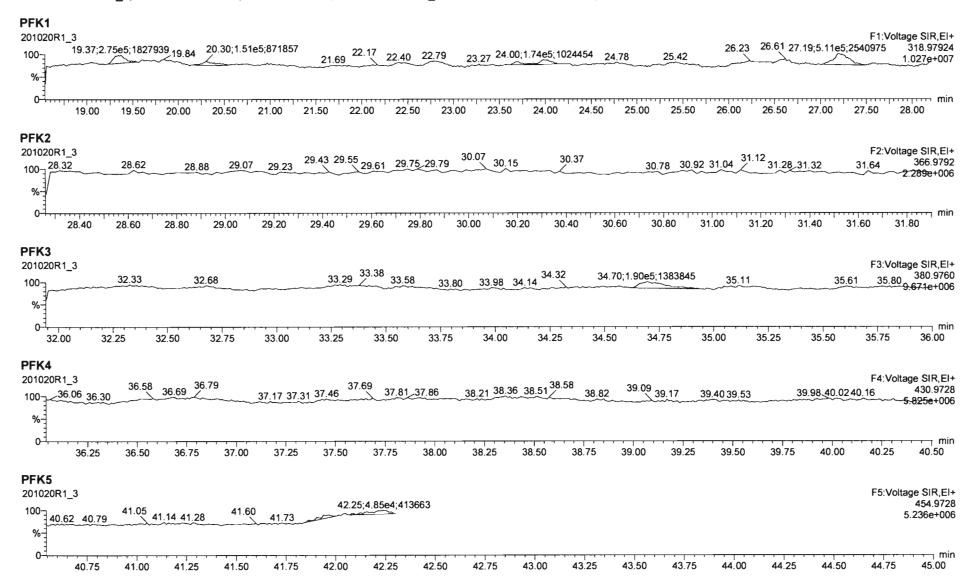
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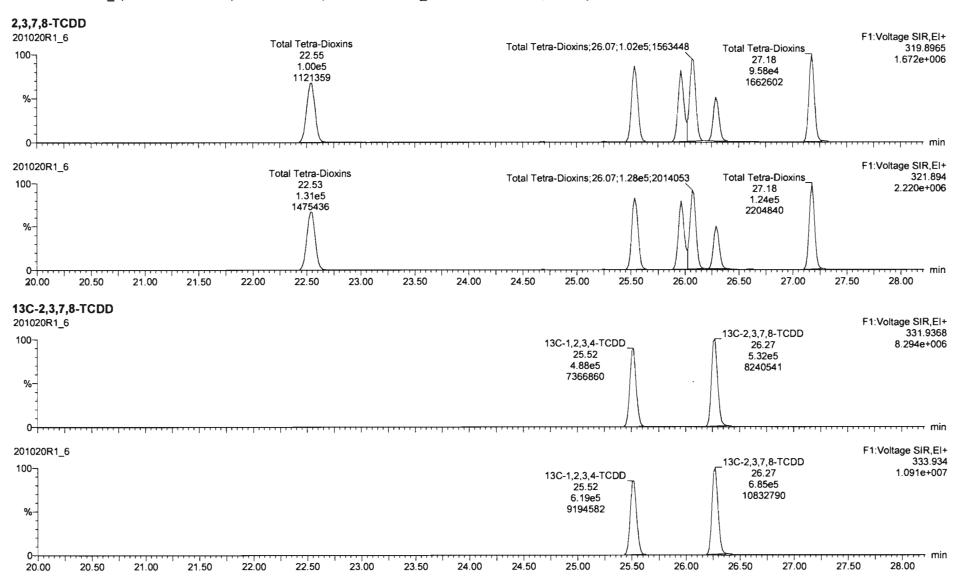
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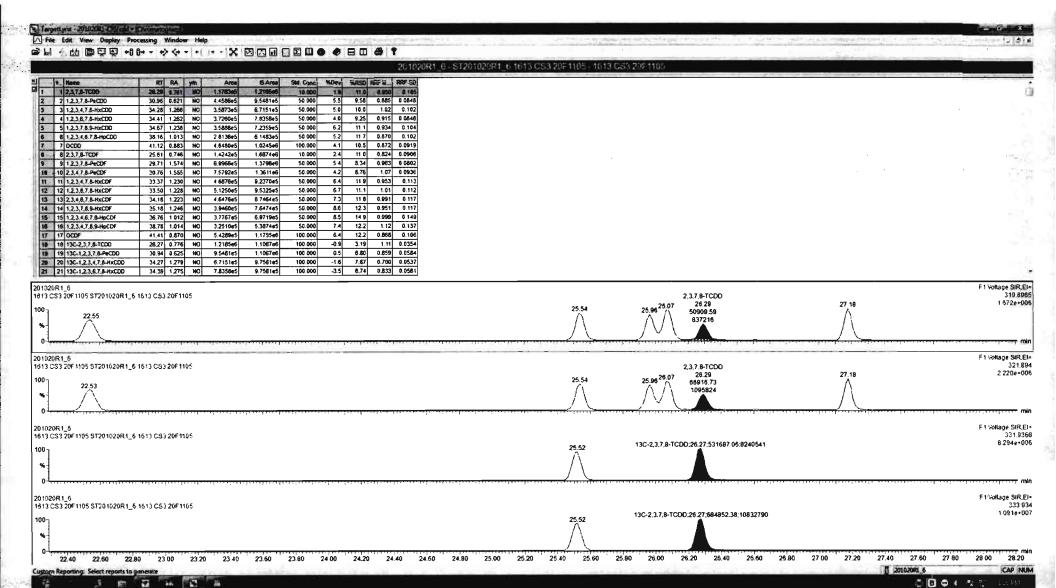


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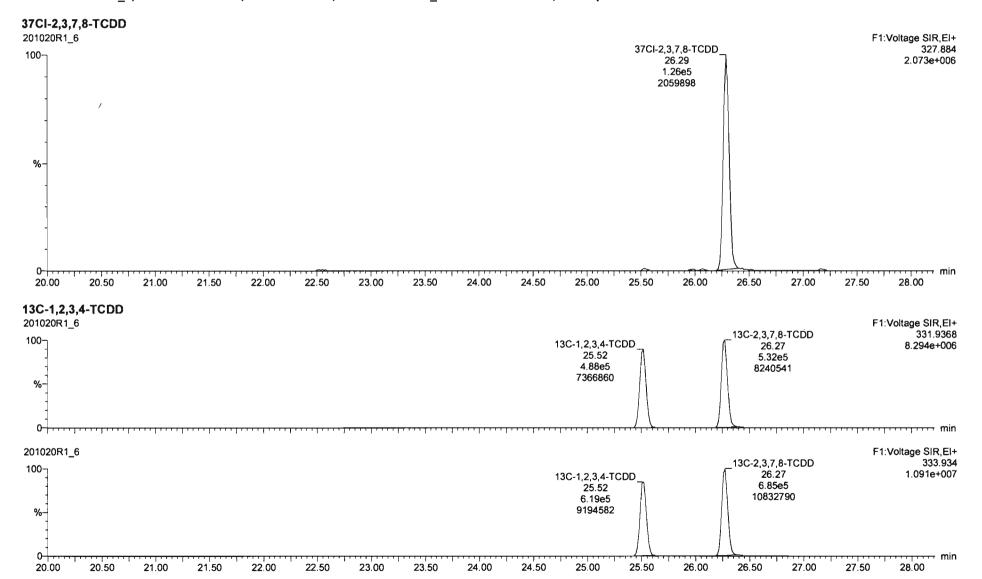


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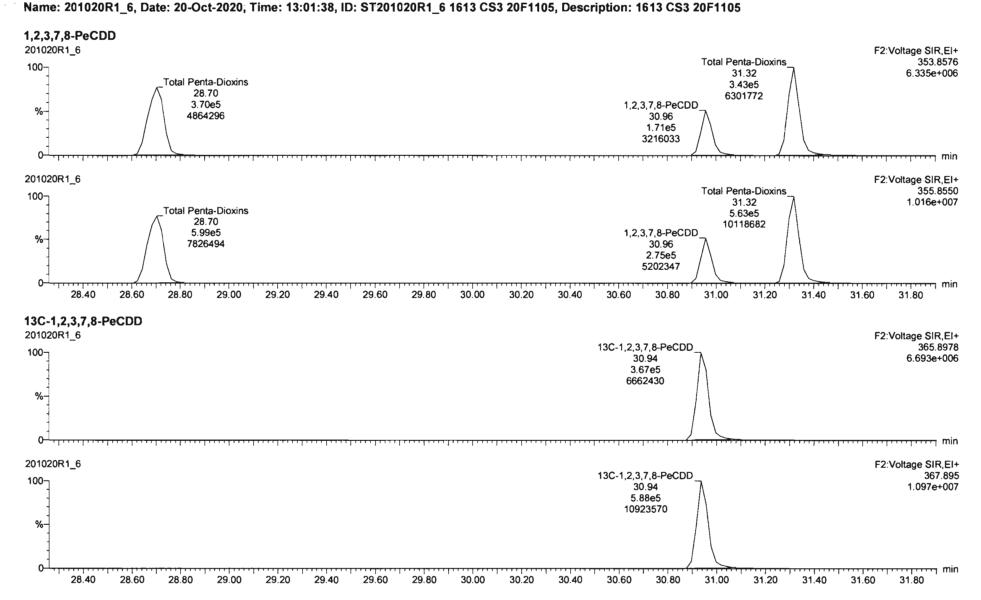
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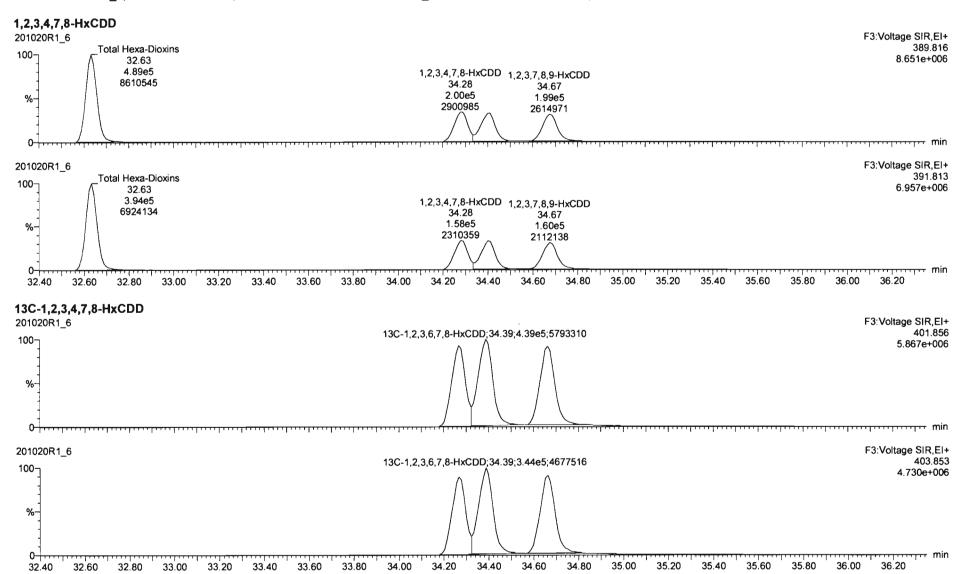
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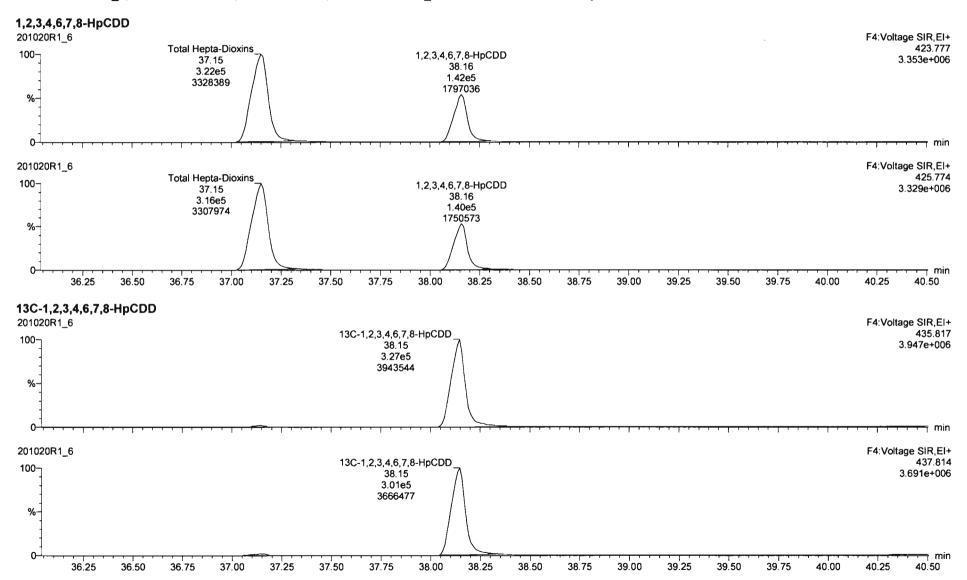
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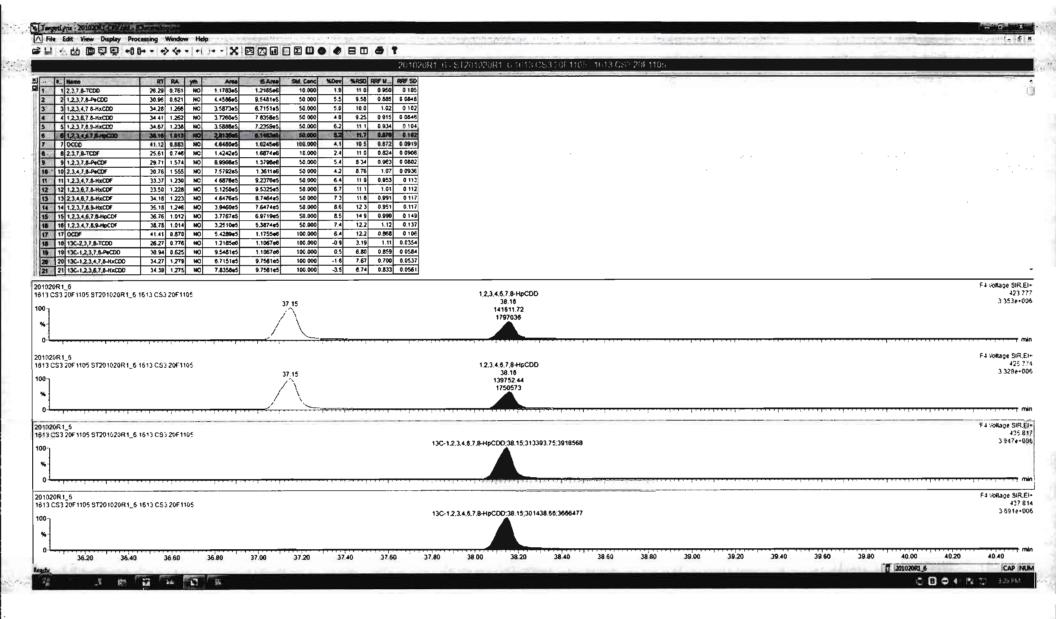


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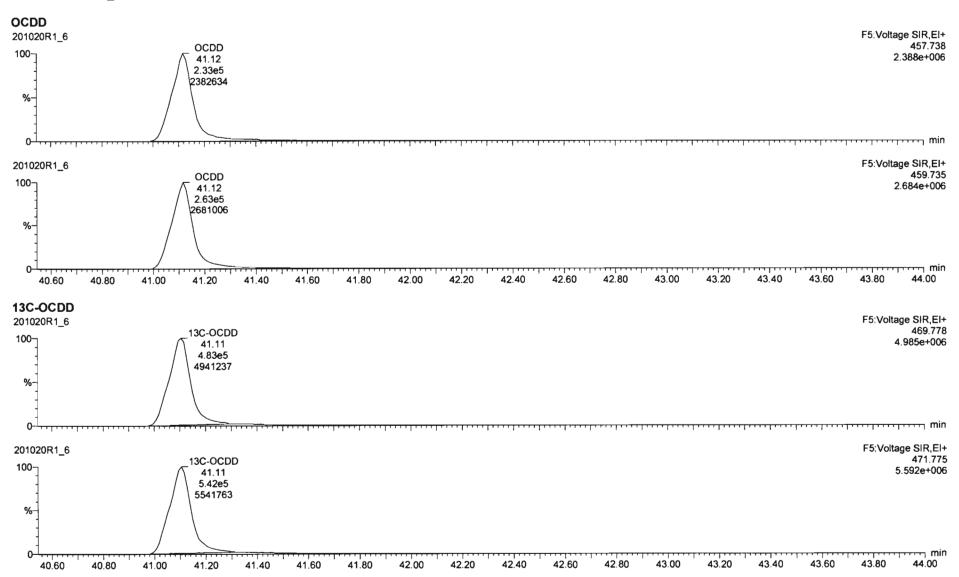
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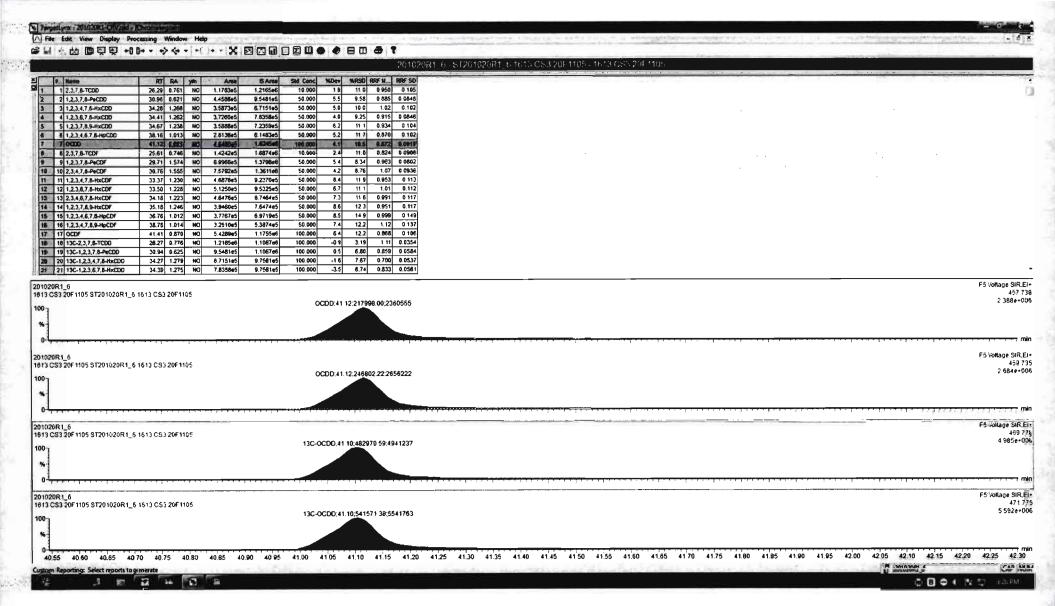
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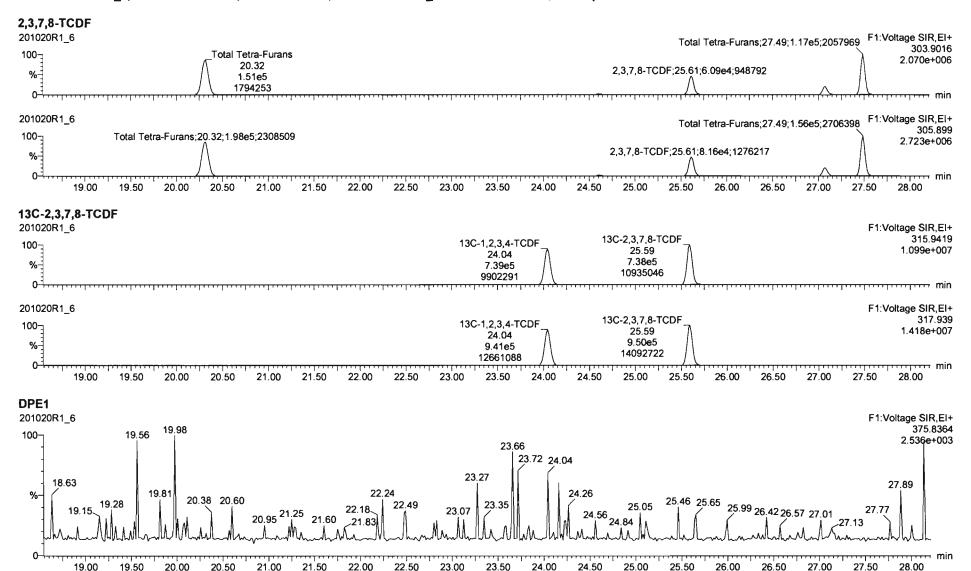




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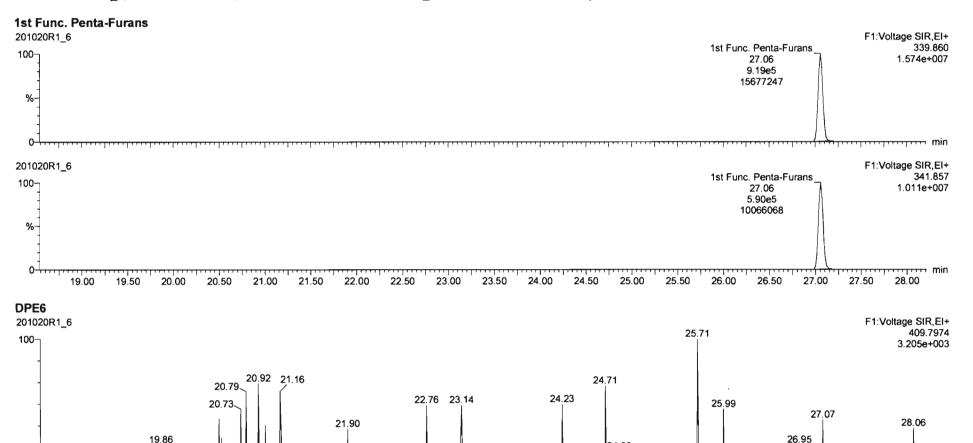
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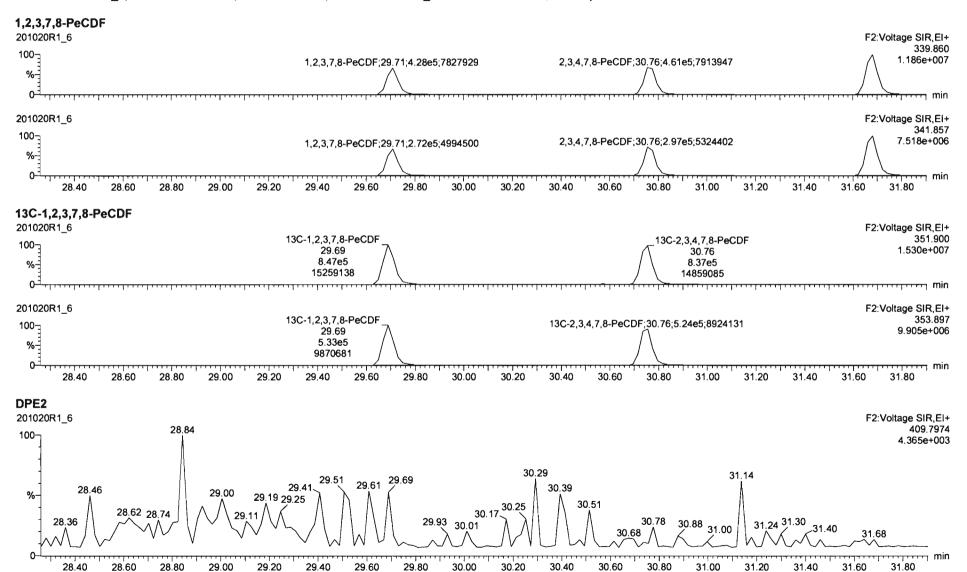
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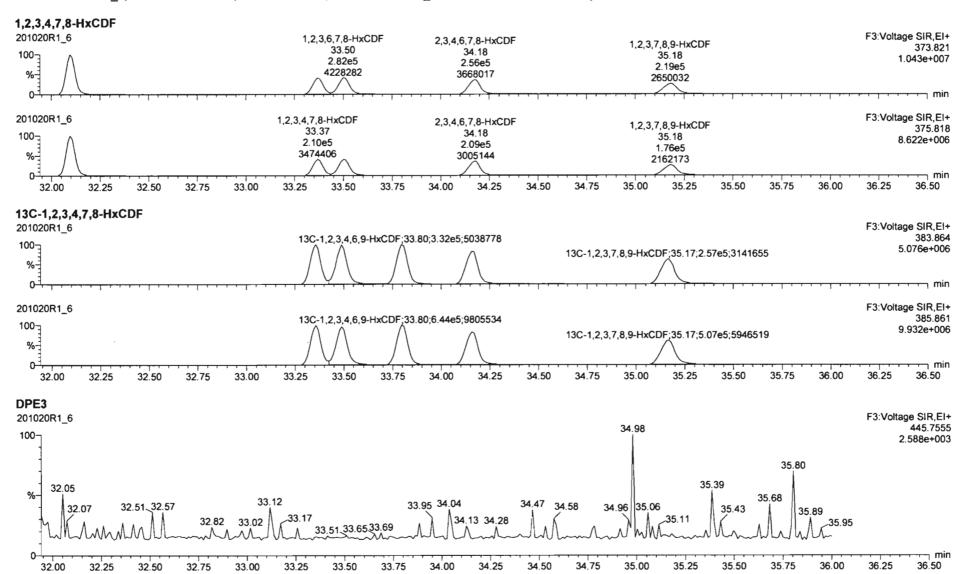
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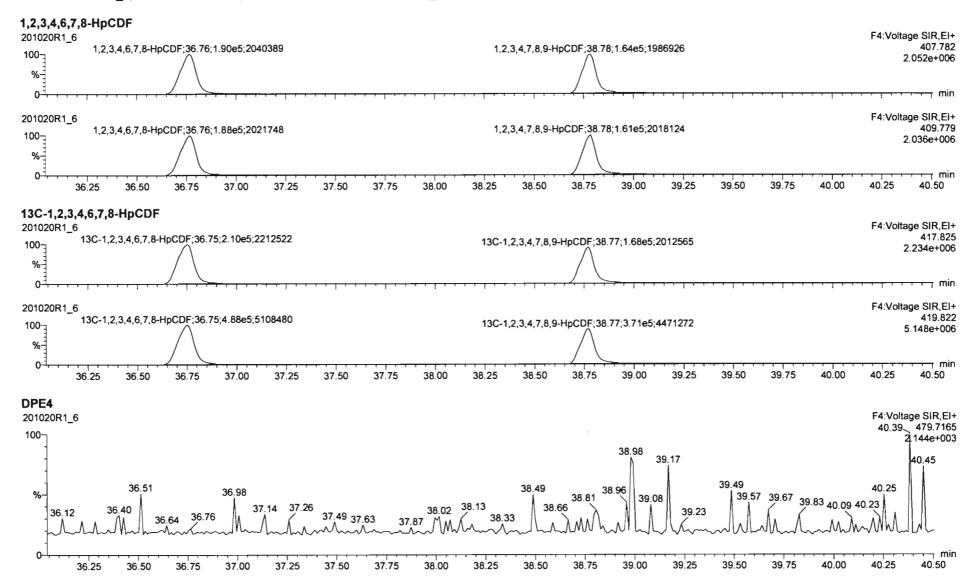
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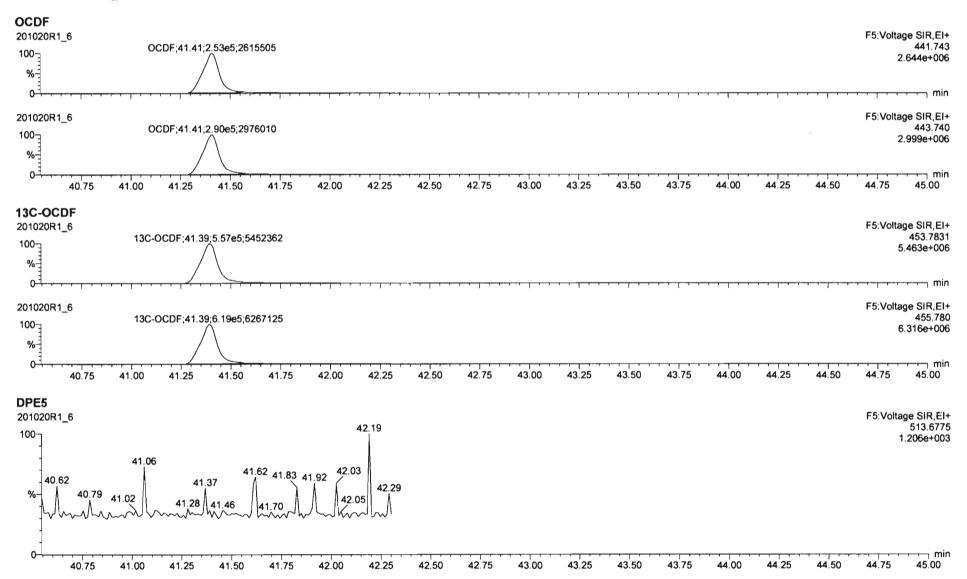


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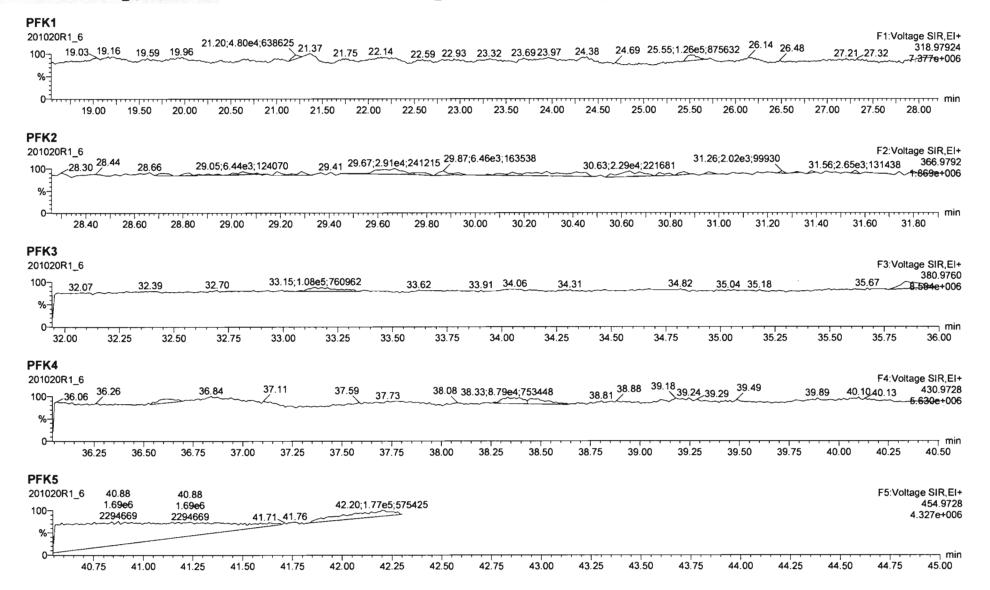
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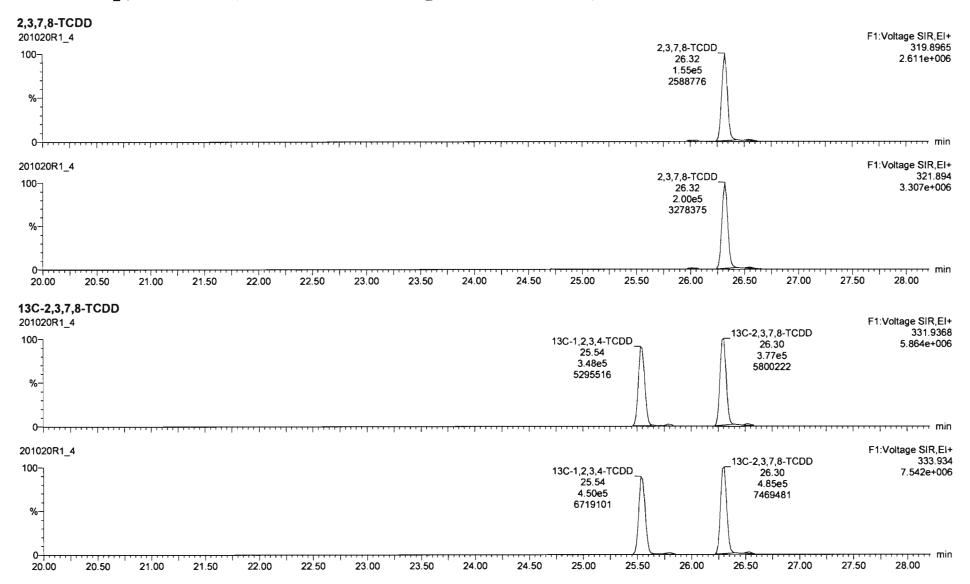


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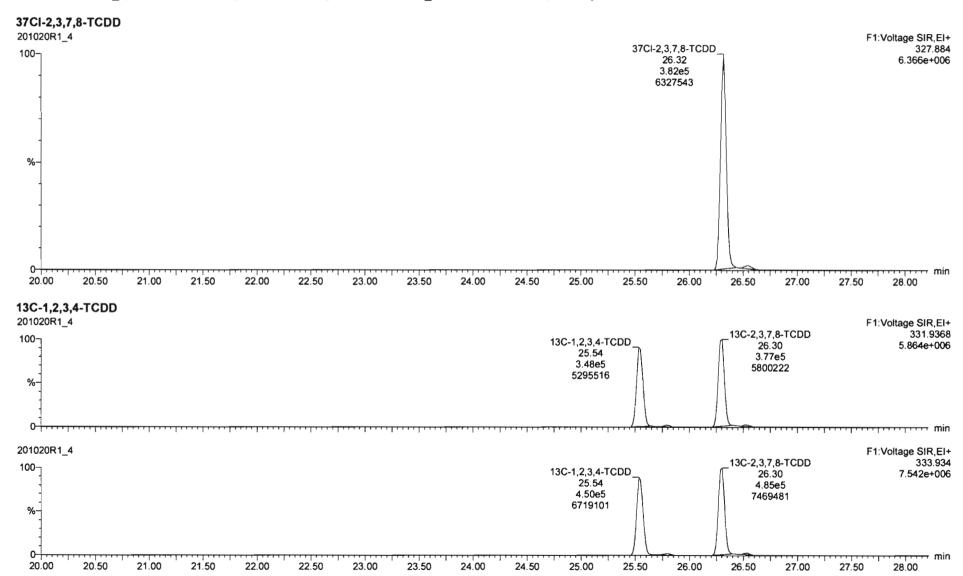
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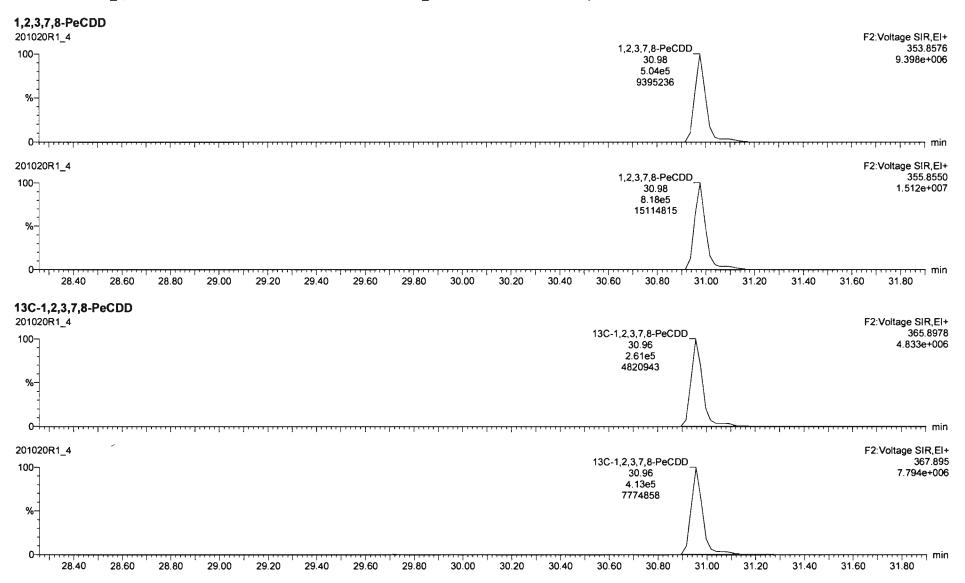
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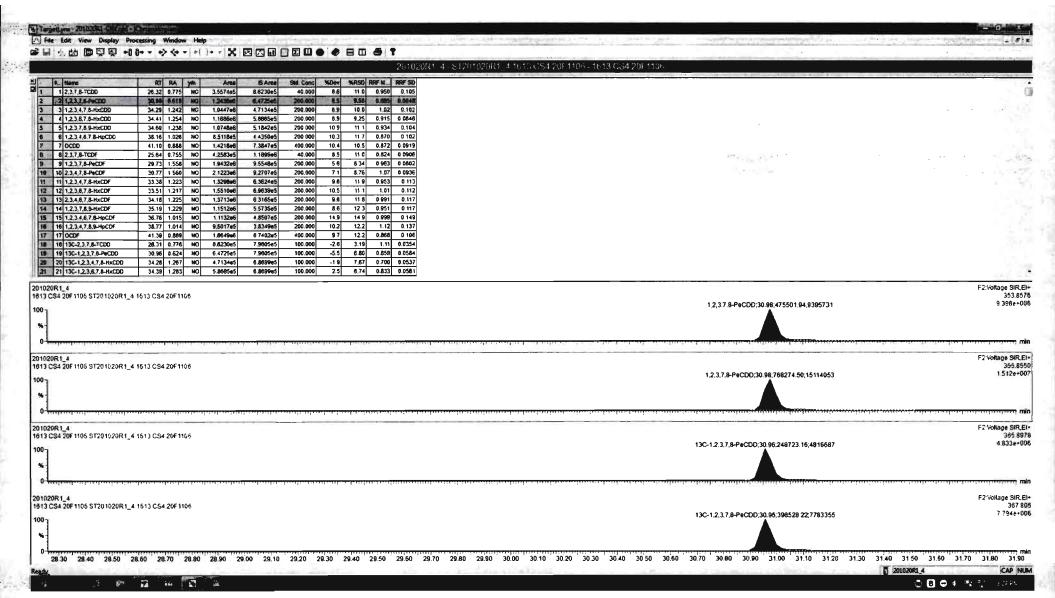


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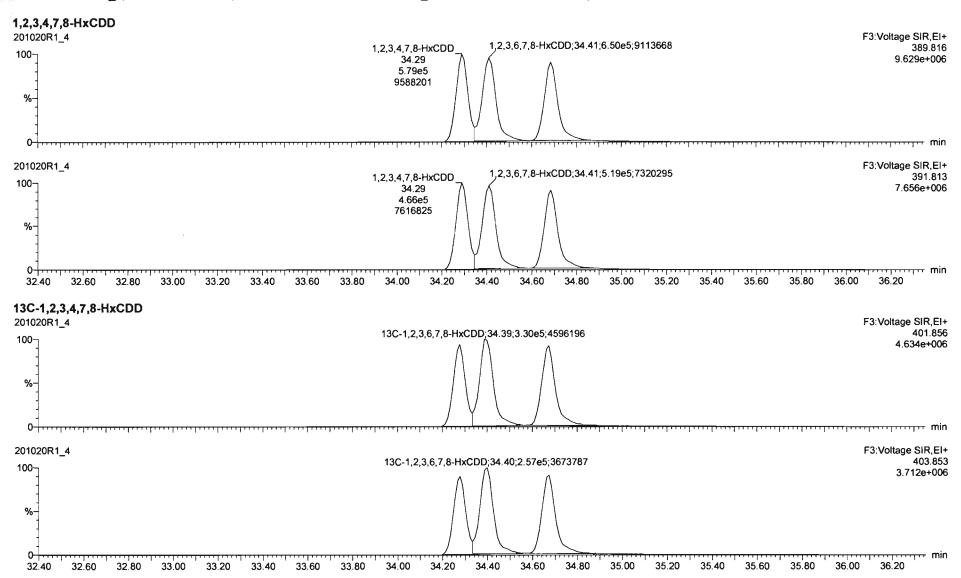


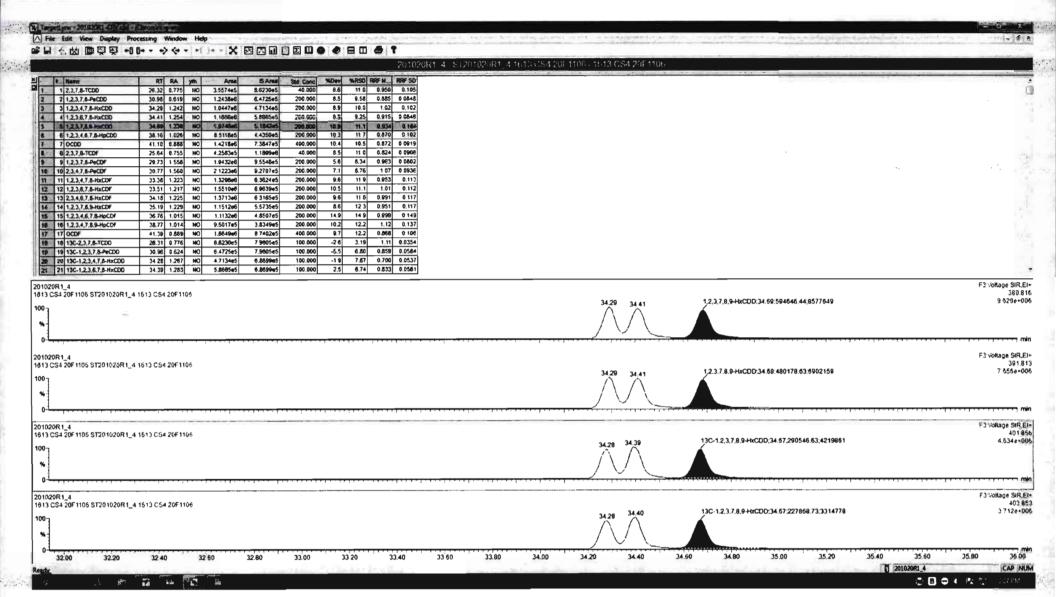
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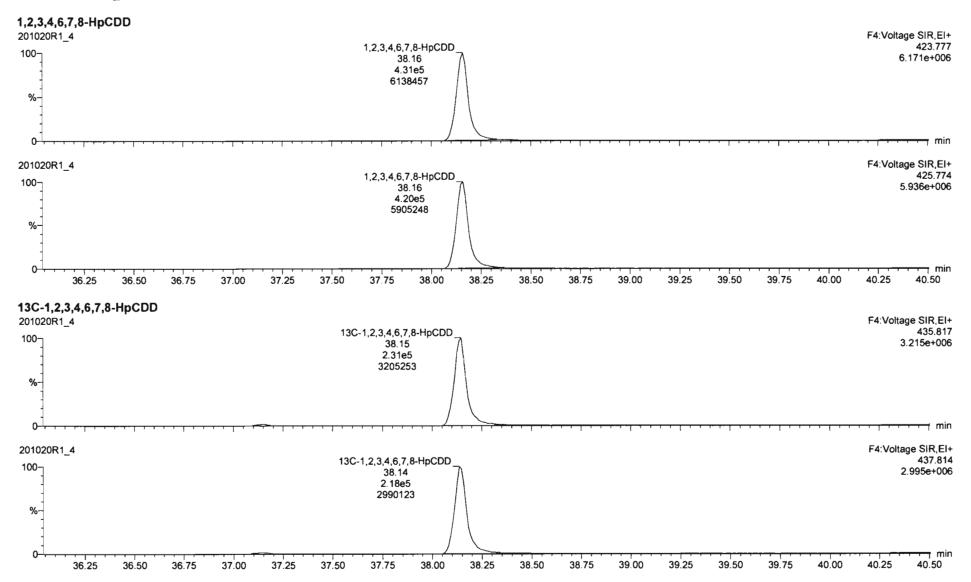
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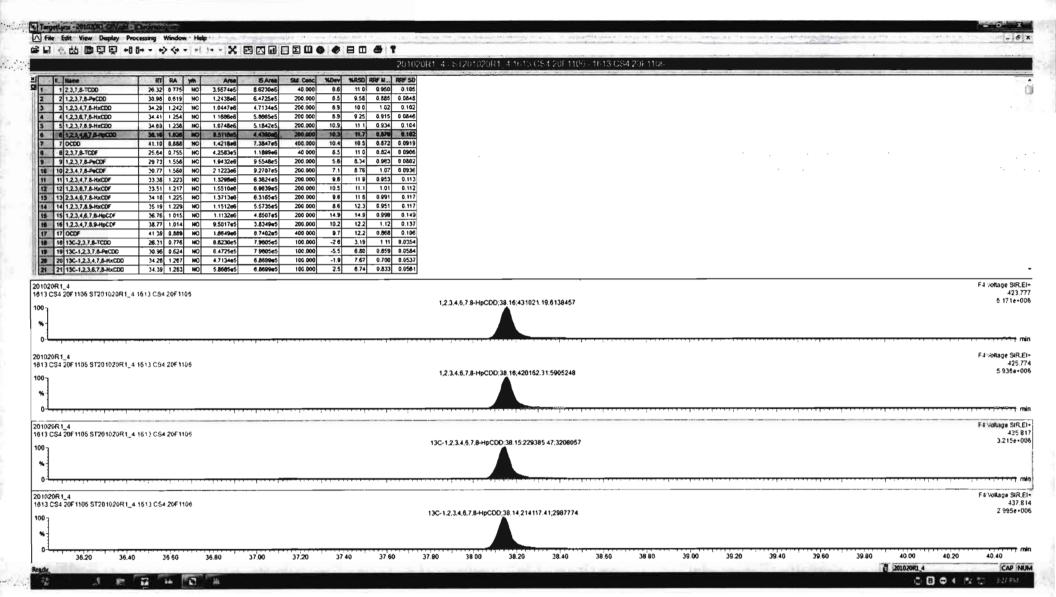
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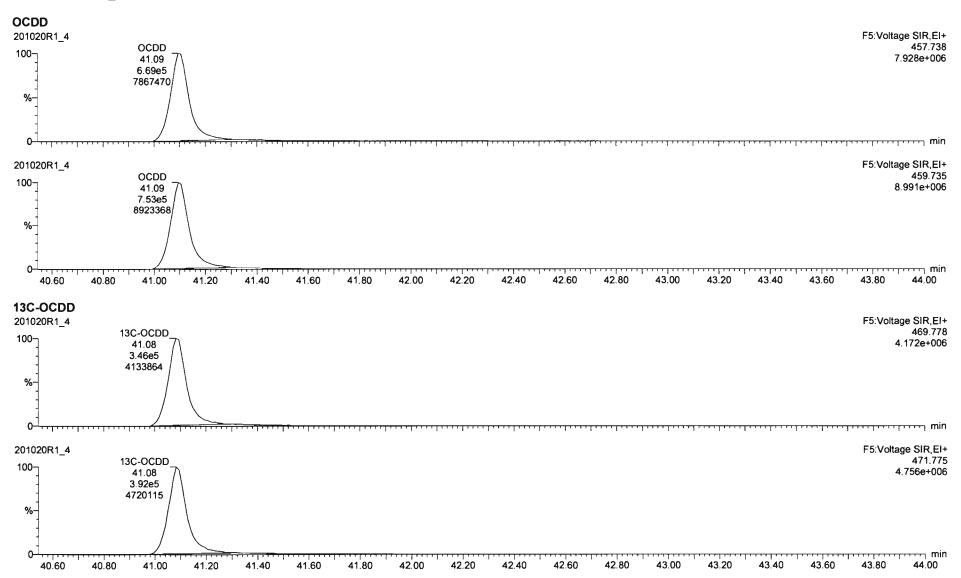
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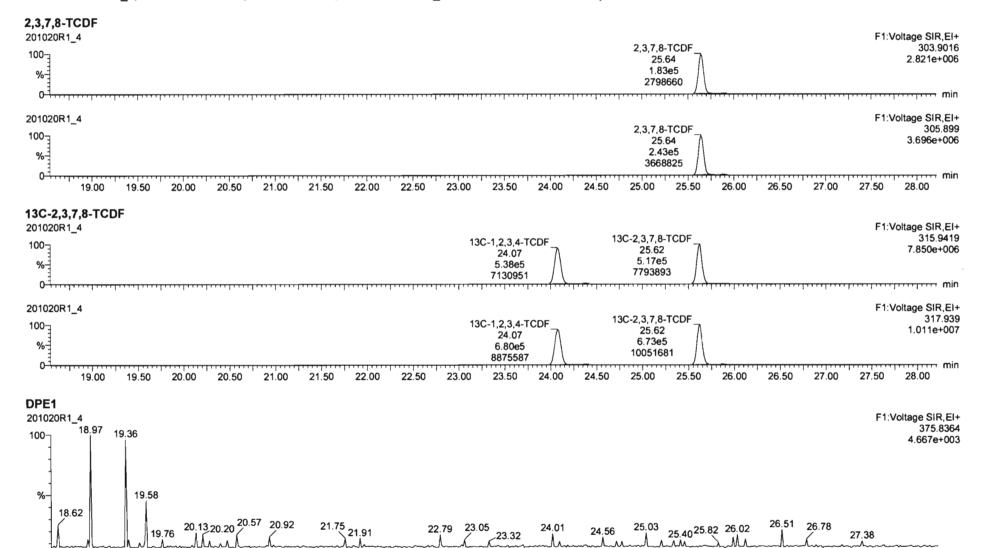
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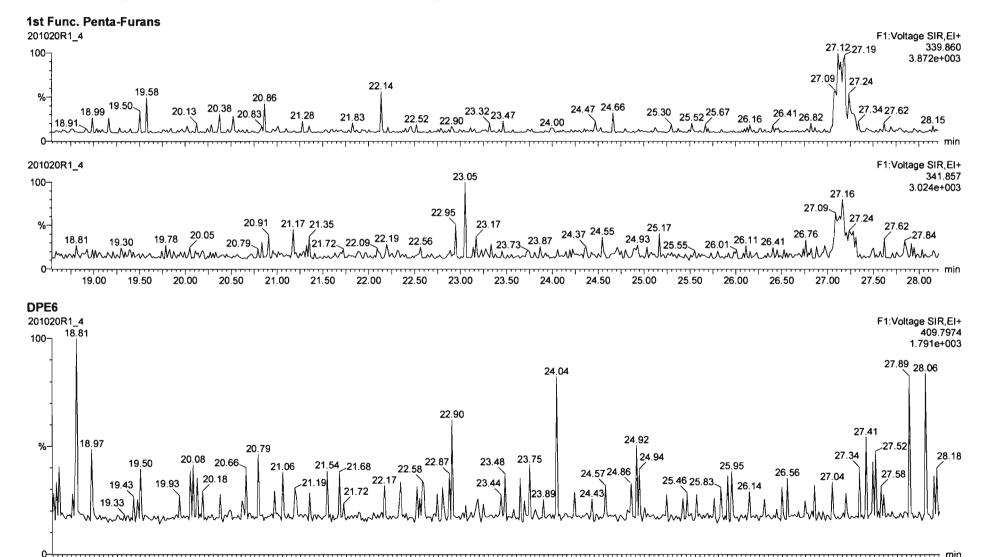
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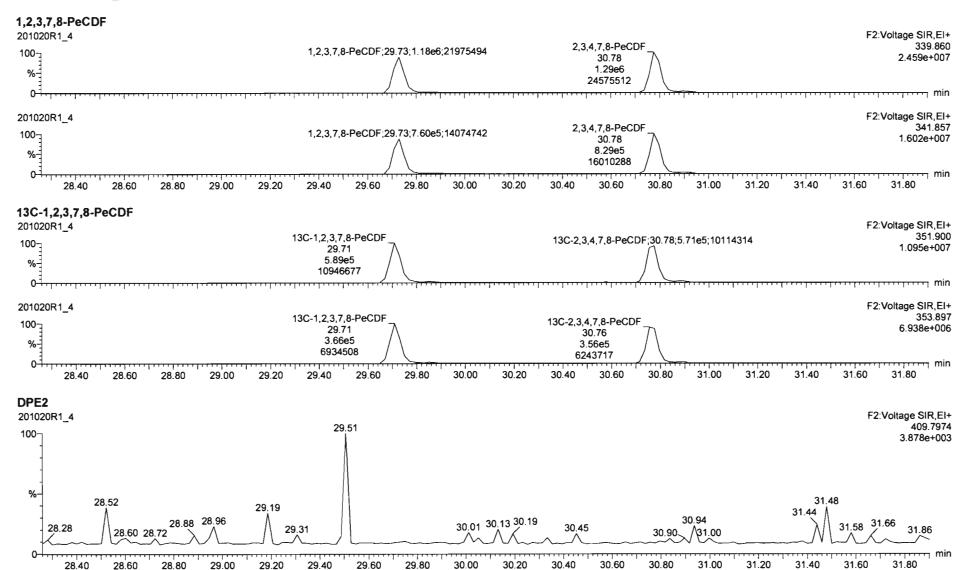
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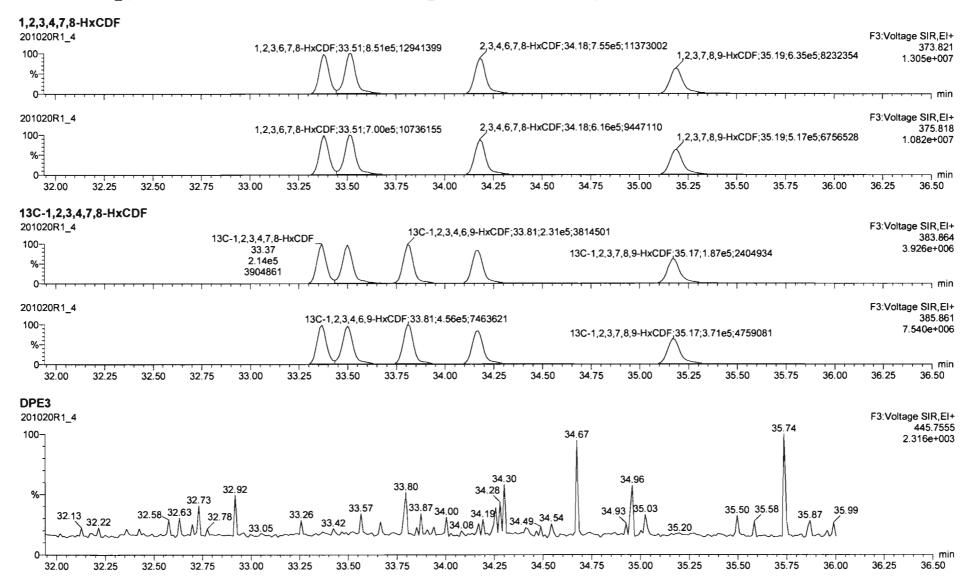
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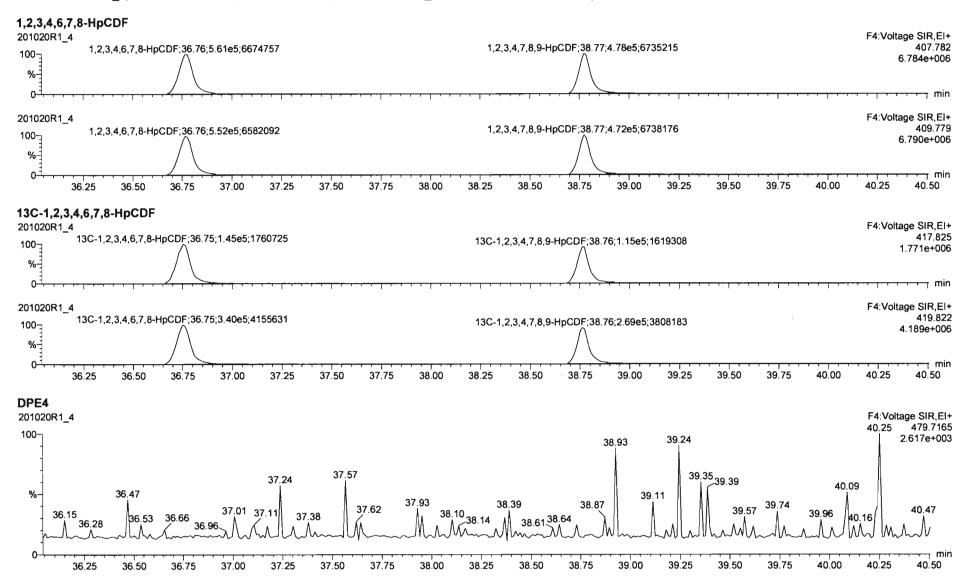
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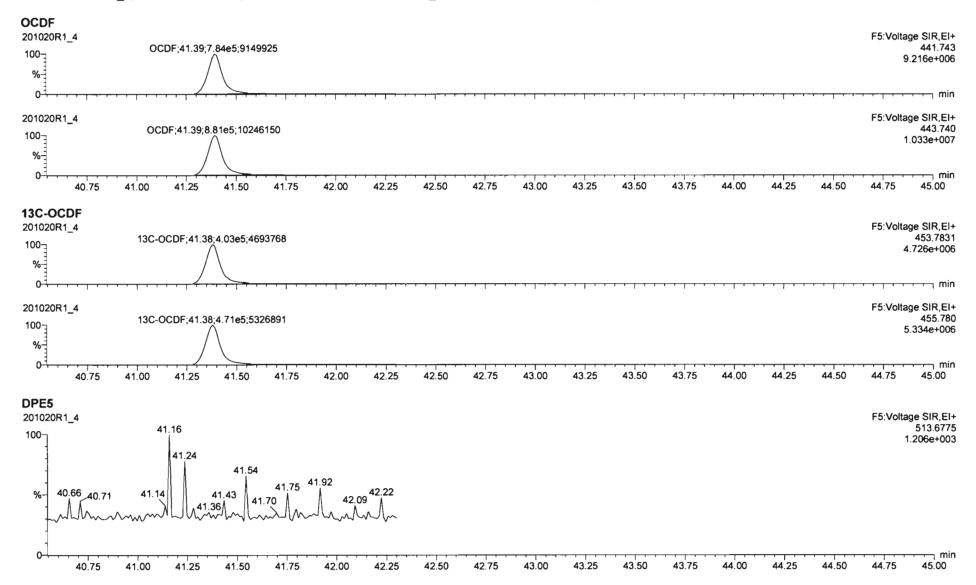
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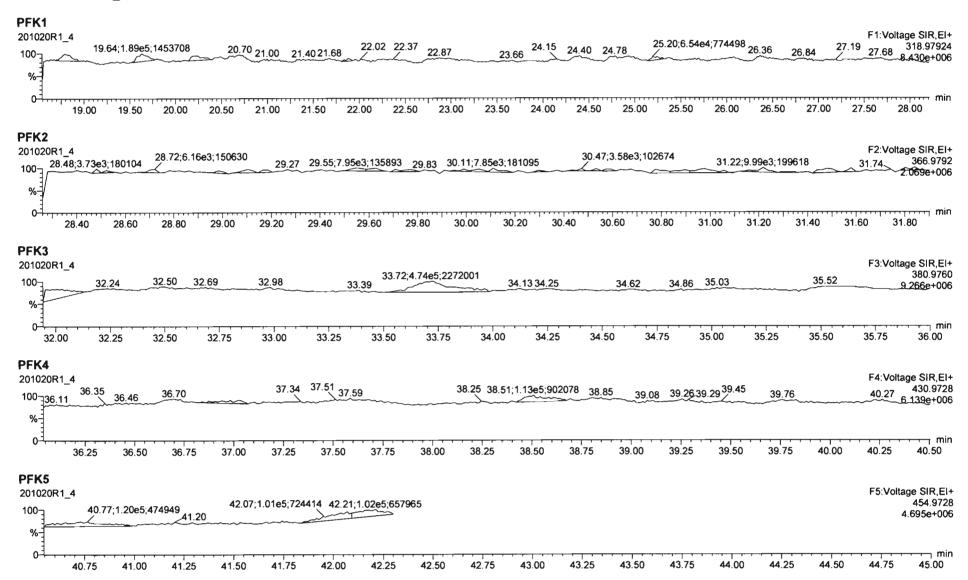
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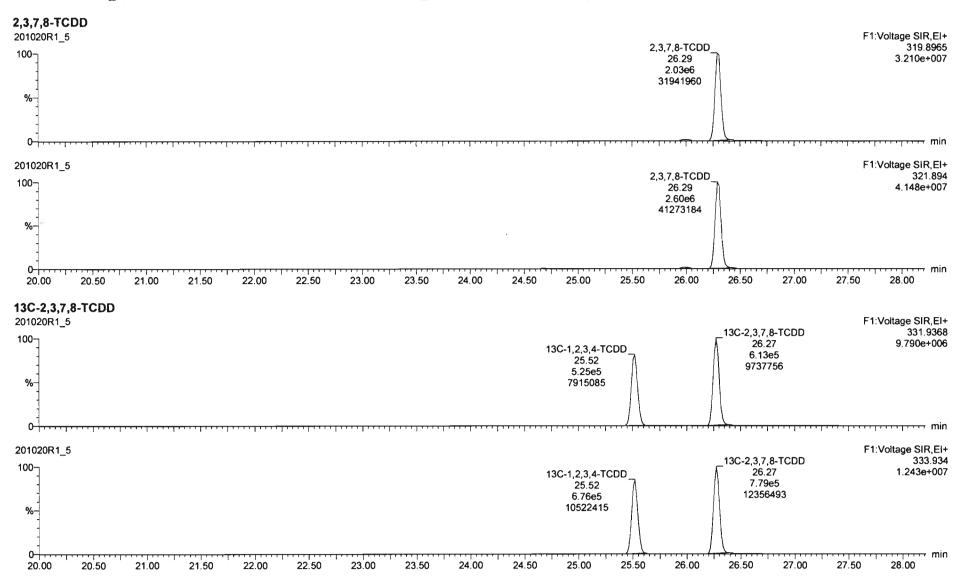
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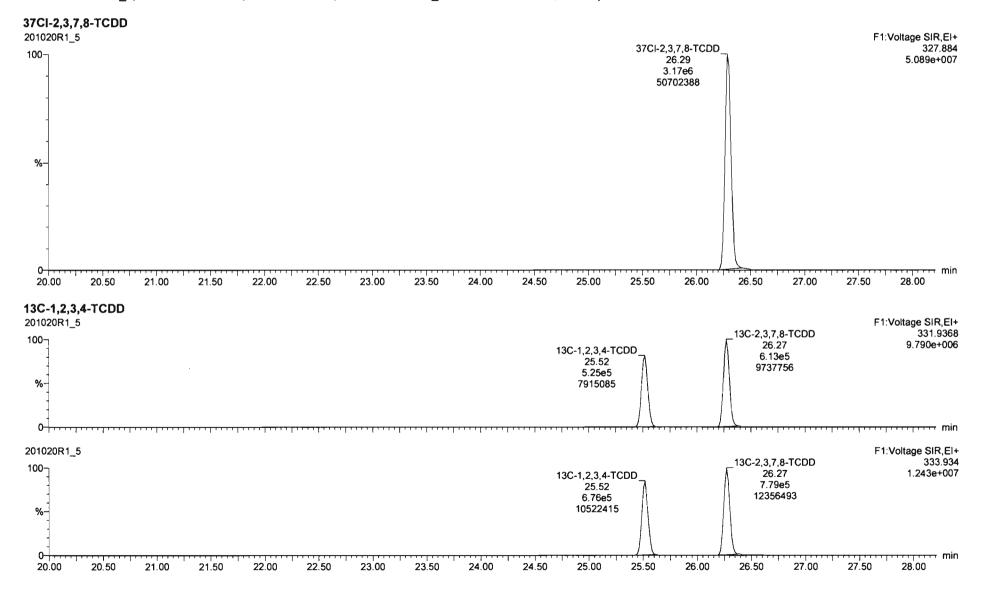
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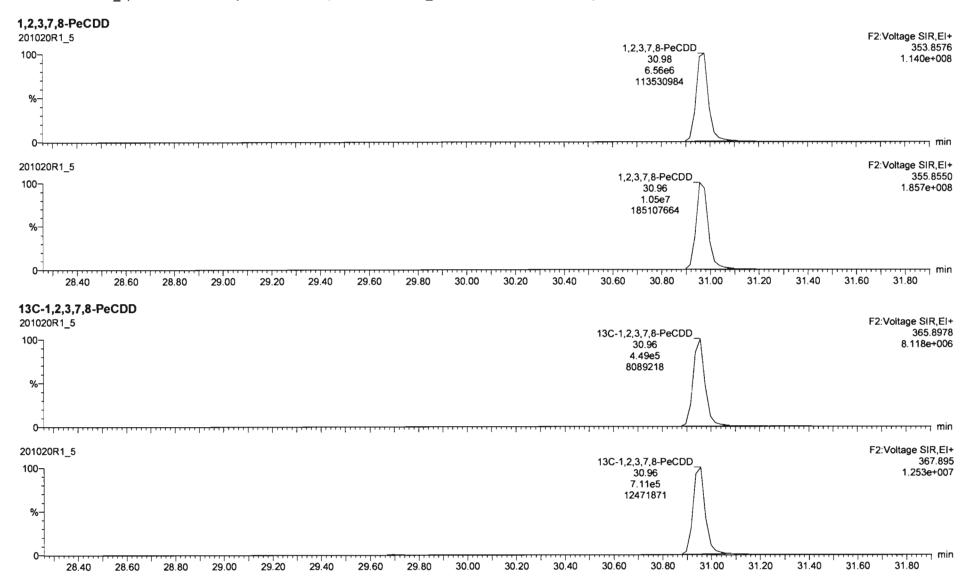
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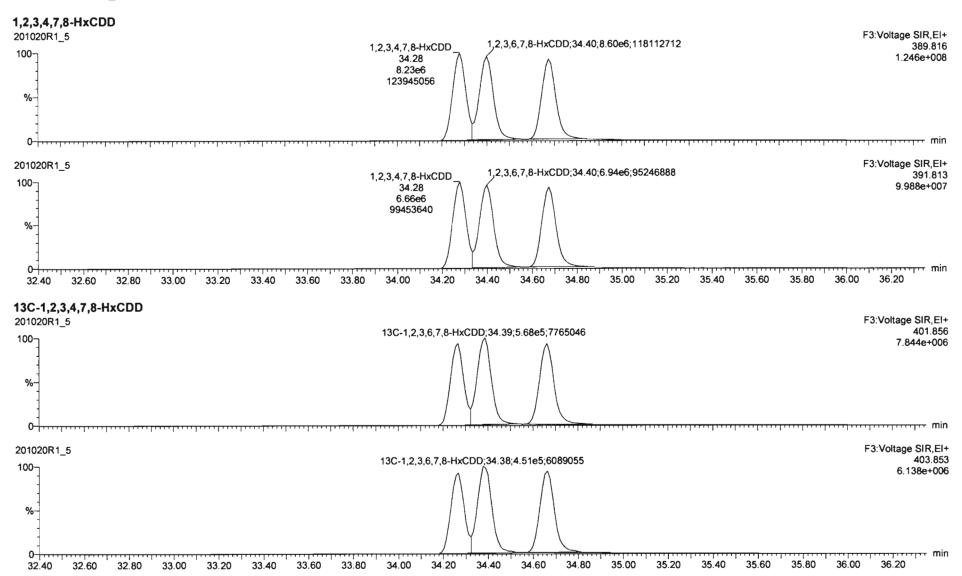
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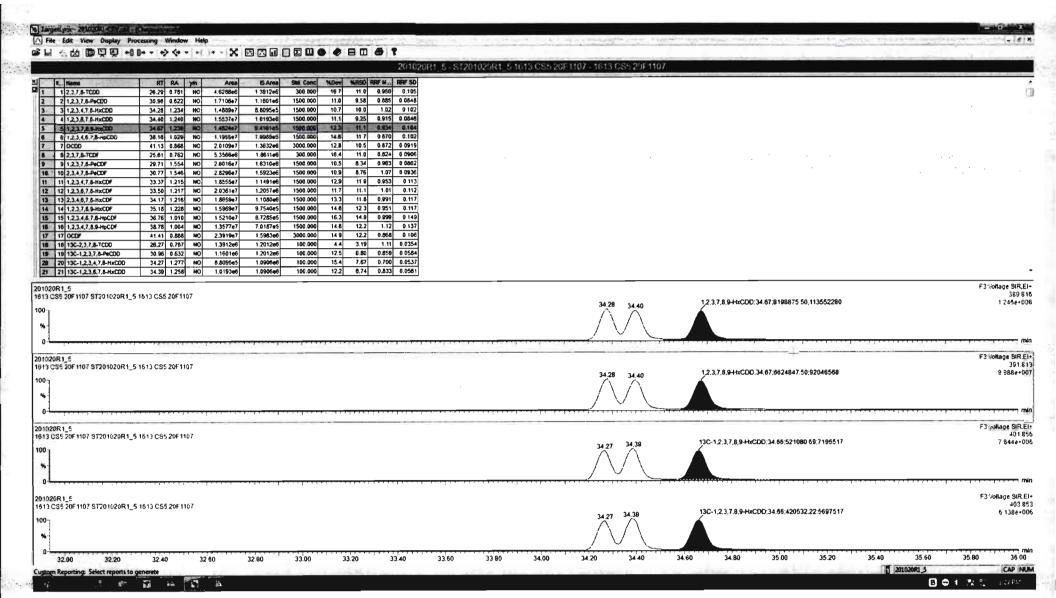


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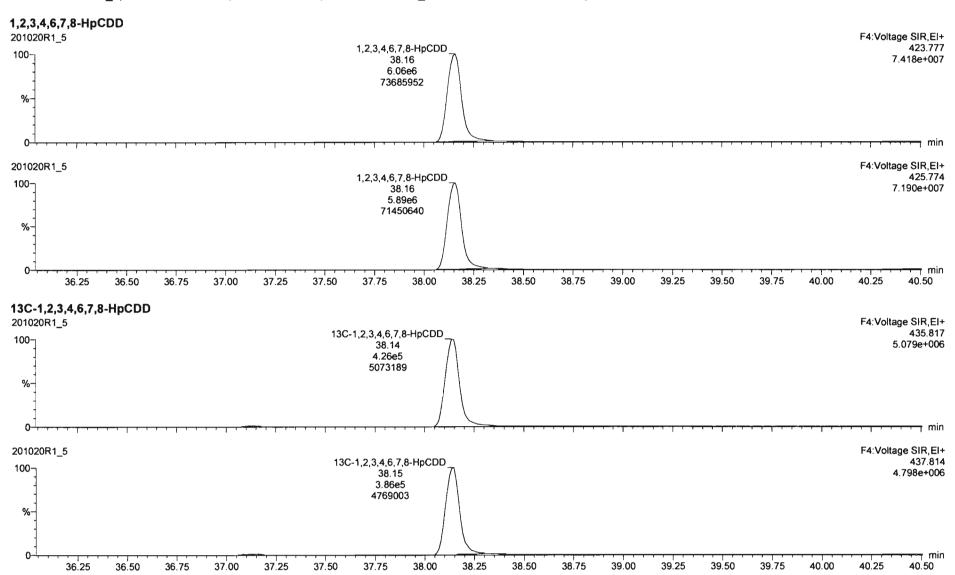


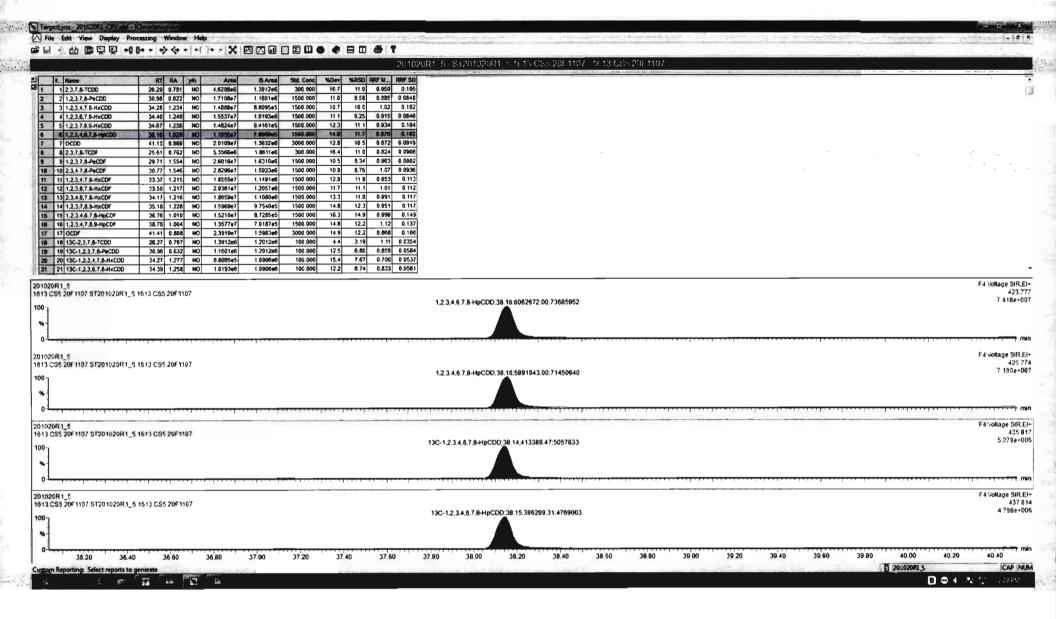
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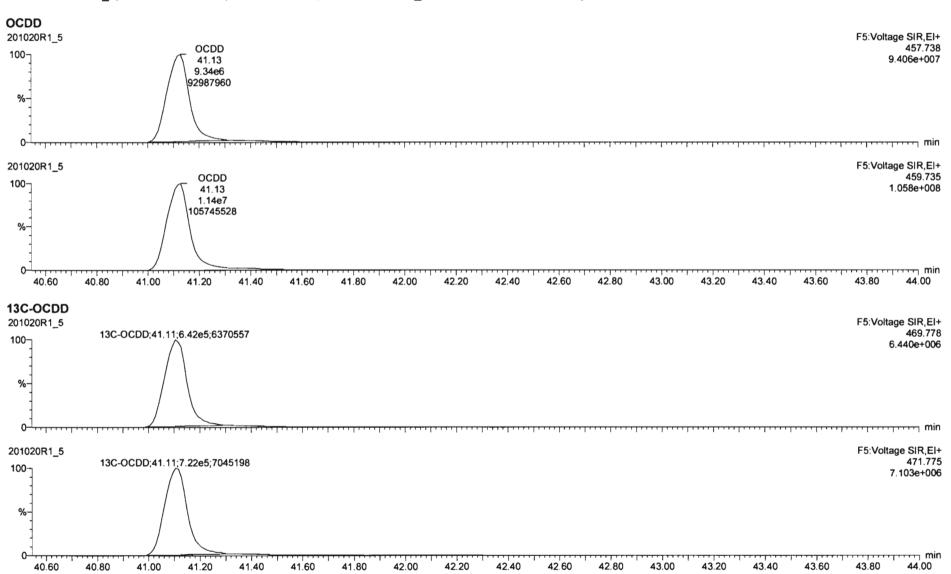
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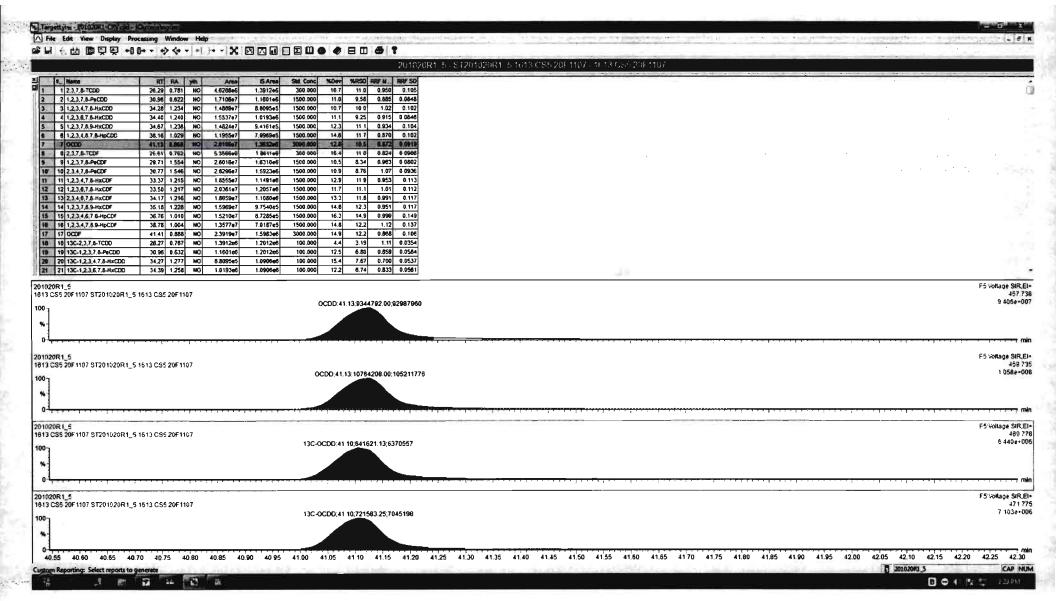
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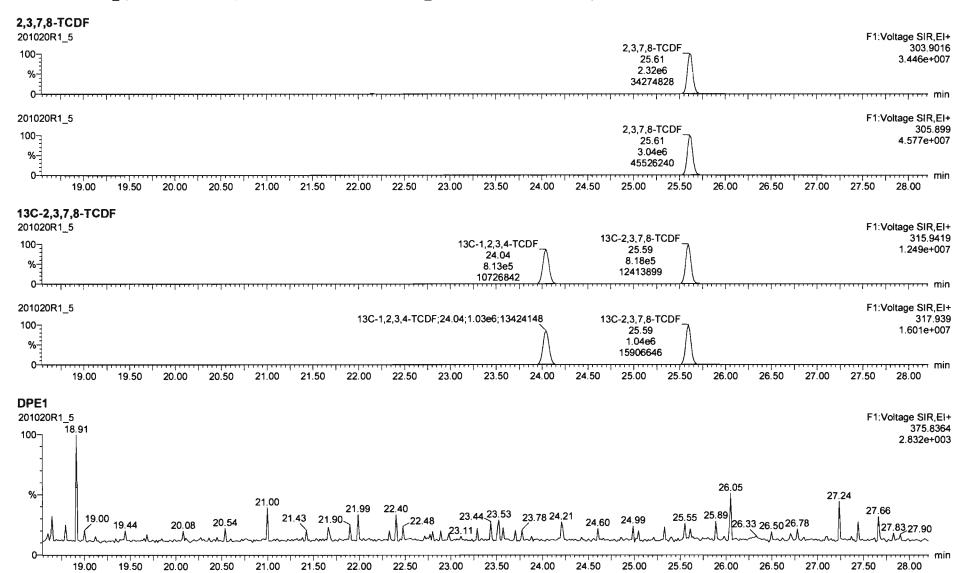




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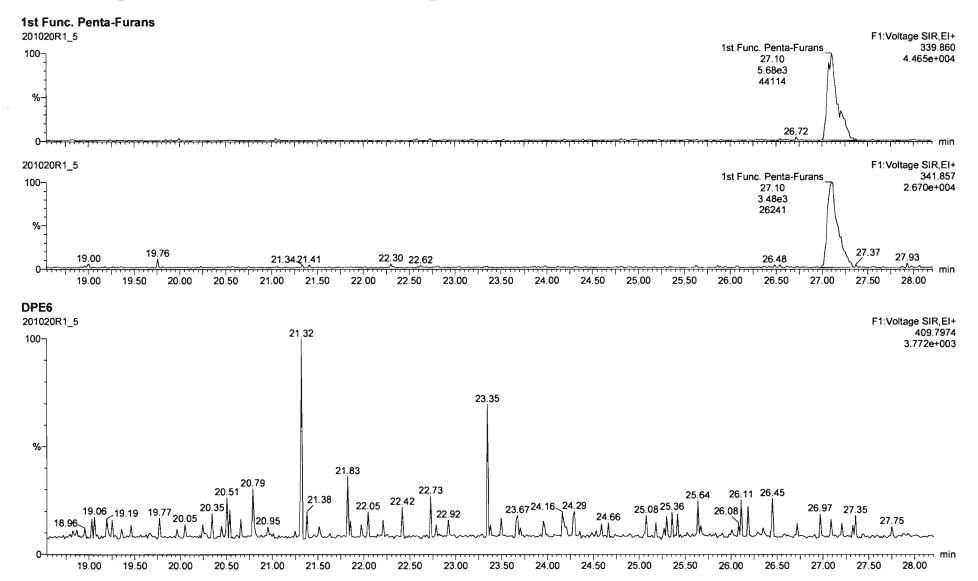


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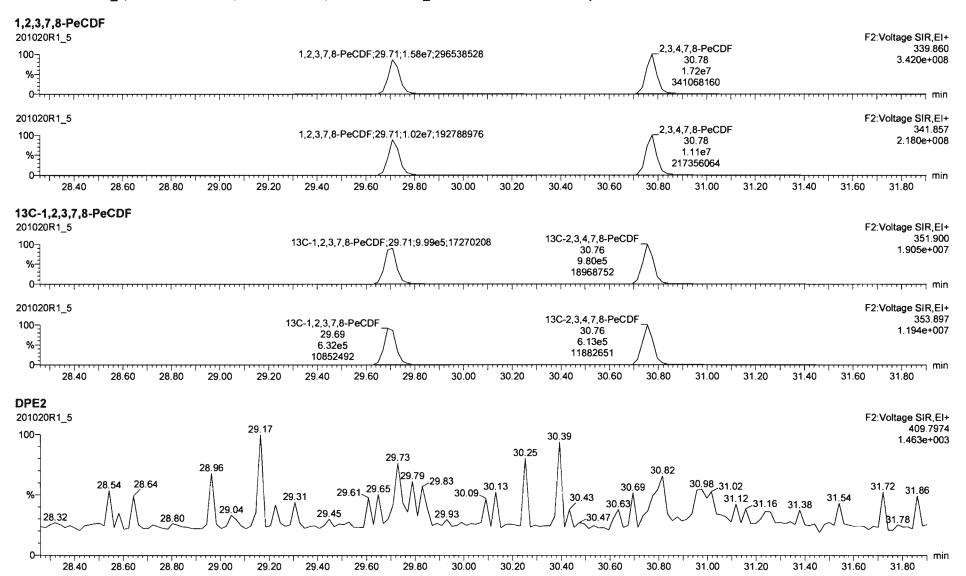


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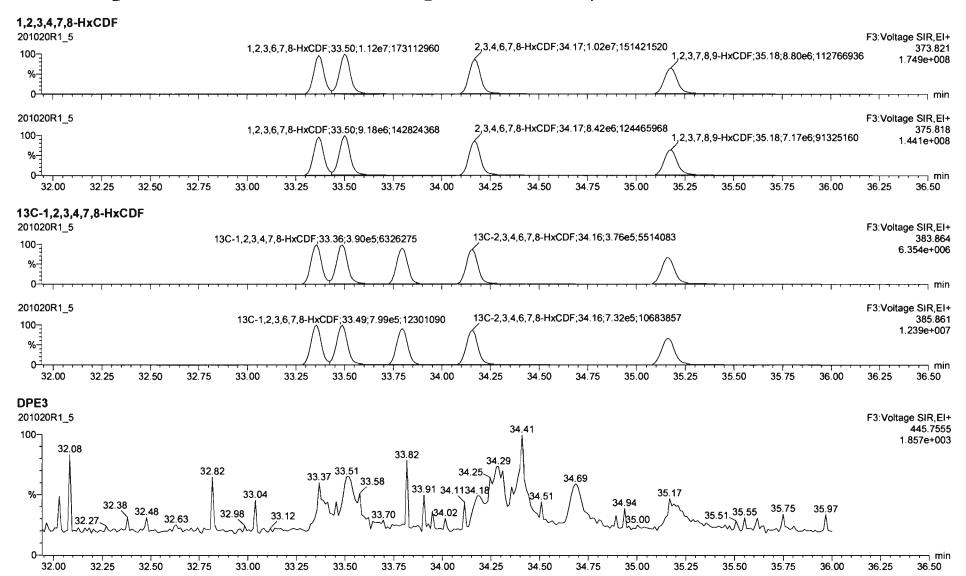
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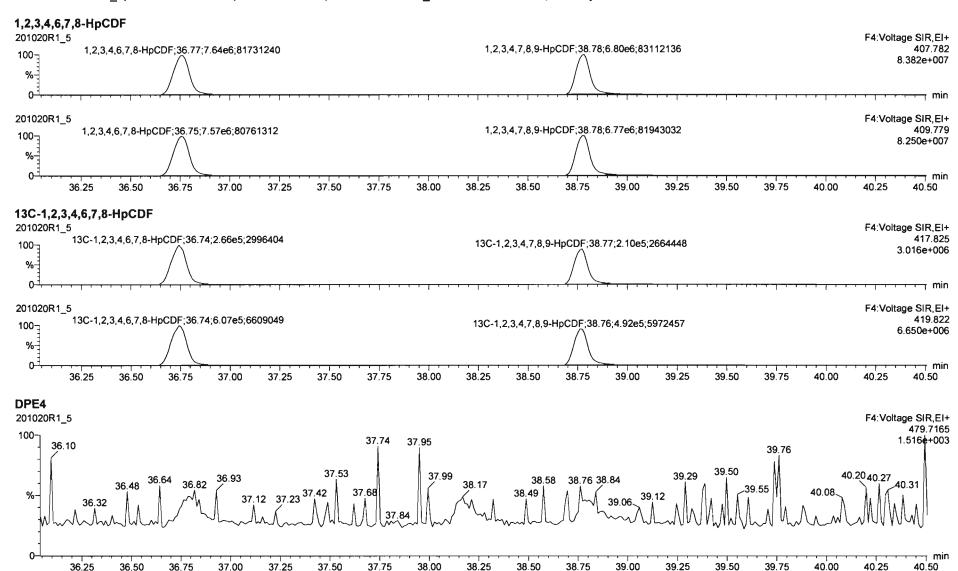
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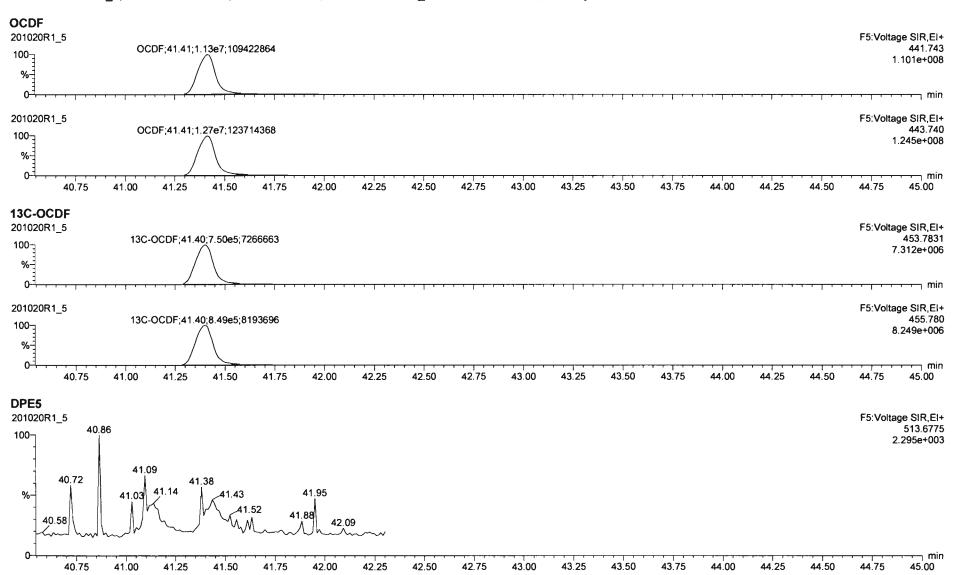
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Tuesday, October 20, 2020 15:17:40 Pacific Daylight Time

Printed:

Tuesday, October 20, 2020 15:18:47 Pacific Daylight Time

Name: 201020R1 5, Date: 20-Oct-2020, Time: 12:16:56, ID: ST201020R1_5 1613 CS5 20F1107, Description: 1613 CS5 20F1107



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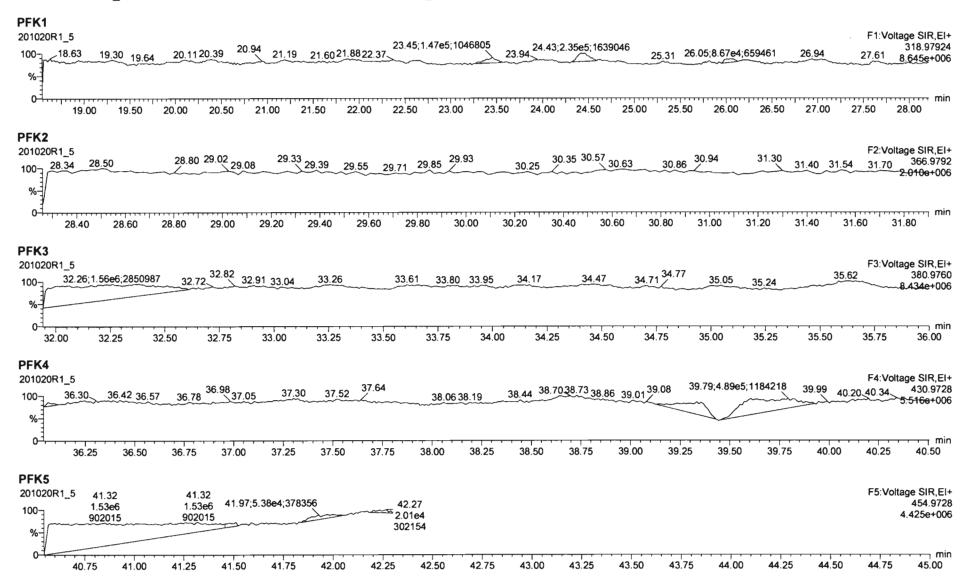
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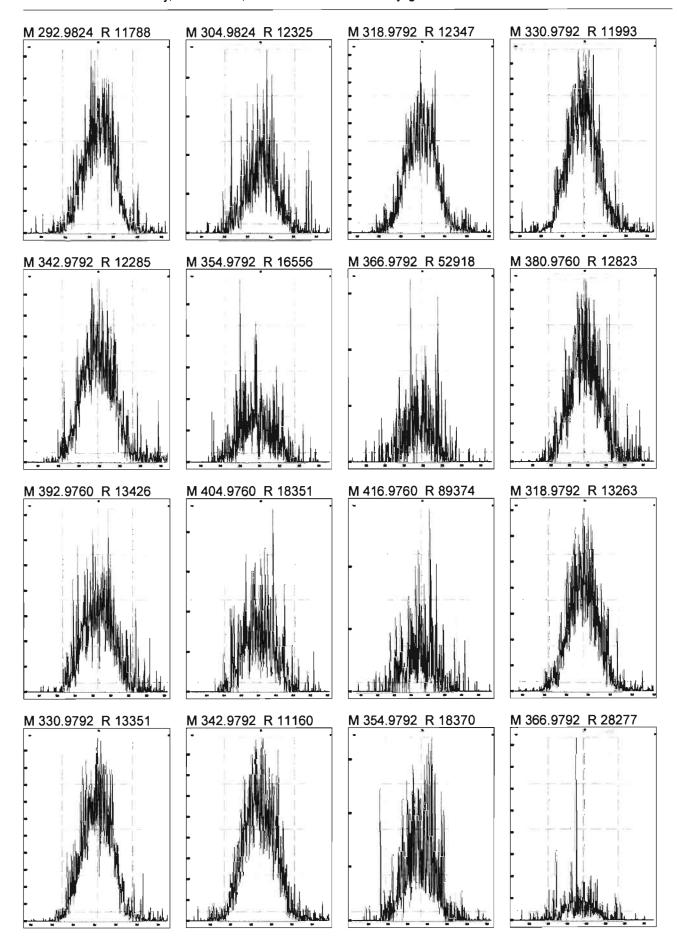
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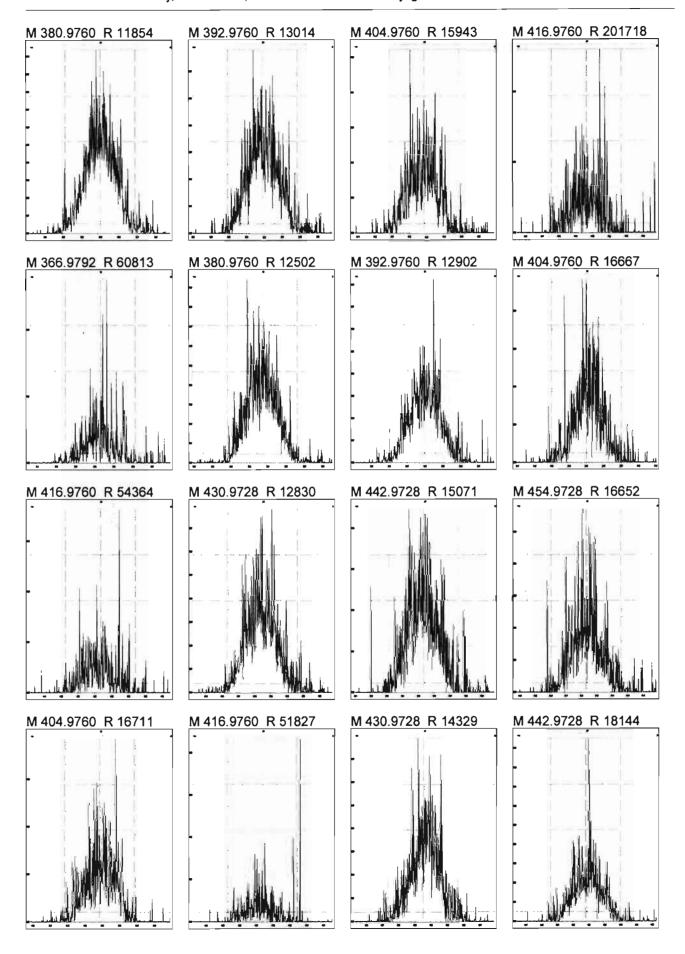


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Page 2 of 3

Printed:

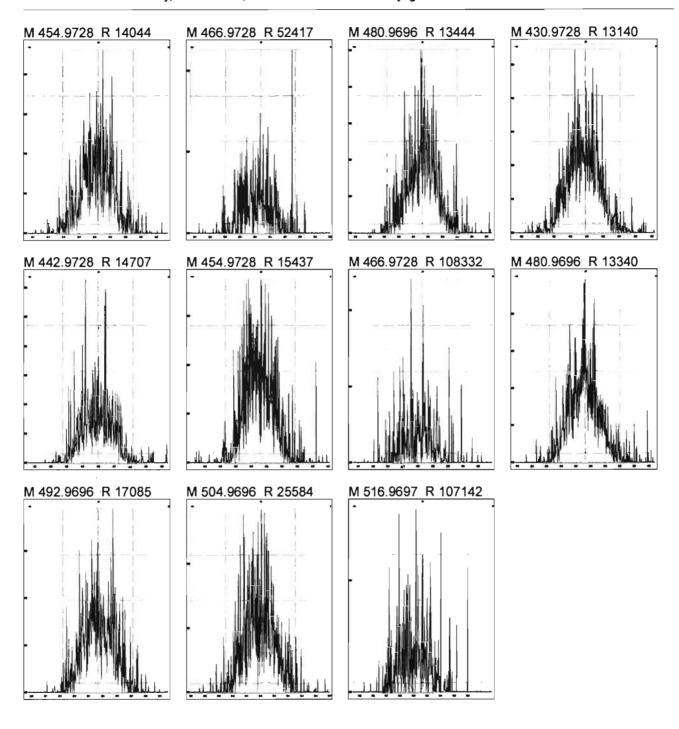
Tuesday, October 20, 2020 16:06:25 Pacific Daylight Time



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Printed:

Tuesday, October 20, 2020 16:06:25 Pacific Daylight Time



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Page 1 of 2

Dataset:

U:\VG12.PRO\Results\201020R1\201020R1-8.qld

Last Altered: Printed:

Tuesday, October 20, 2020 15:15:37 Pacific Daylight Time Tuesday, October 20, 2020 15:16:22 Pacific Daylight Time

HIN W/20/2020

Method: U:\VG12.PRO\MethDB\1613rrt-10-20-20.mdb 20 Oct 2020 10:47:39

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN_1613vg12-10-20-20.cdb 20 Oct 2020 14:36:10

P 73 W/60 S	# Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	,STD out
1	1 2,3,7,8-TCDD	1.37e5	1.40e6	0.74	NO	0.950	26.30	26.30	NO	1.001	1.001	10.363	1045	NO NO
2	2 1,2,3,7,8-PeCDD	4.97e5	1.07e6	0.62	NO	0.885	30.97	30.96	NO	1.000	1.000	52.349	105	NO
3	3 1,2,3,4,7,8-HxCDD	4.14e5	7.58e5	1.30	NO	1.02	34.31	34.29	NO	1.001	1.000	53.693	107	NO
4	4 1,2,3,6,7,8-HxCDD	4.51e5	8.90e5	1.21	NO	0.915	34.40	34.41	NO	1.000	1.001	55.421	111	NO
5	5 1,2,3,7,8,9-HxCDD	4.02e5	8.09e5	1.25	NO	0.934	34.67	34.69	NO	1.000	1.001	53.130	106	NO
6	6 1,2,3,4,6,7,8-HpCDD	3.08e5	6.75e5	1.02	NO	0.870	38.15	38.17	NO	1.000	1.001	52.362	105	NO
7	7 OCDD	5.24e5	1.11e6	0.87	NO	0.872	41.11	41.12	NO	1.000	1.000	108.80	109	NO
8	8 2,3,7,8-TCDF	1.63e5	1.90e6	0.75	NO	0.824	25.60	25.62	NO	1.000	1.001	10.438	104	NO
9	9 1,2,3,7,8-PeCDF	7.63e5	1.57e6	1.57	NO	0.963	29.70	29.71	NO	1.000	1.001	50.613	101	NO
10	10 2,3,4,7,8-PeCDF	8.90e5	1.52e6	1.58	NO	1.07	30.76	30.78	NO	1.000	1.001	54.945	110	NO
11	11 1,2,3,4,7,8-HxCDF	5.48e5	1.04e6	1.22	NO	0.953	33.36	33.38	NO	1.000	1.001	55.545	111	NO
12	12 1,2,3,6,7,8-HxCDF	6.04e5	1.08e6	1.22	NO	1.01	33.50	33.51	NO	1.000	1.000	55.330	111	NO
13	13 2,3,4,6,7,8-HxCDF	5.48e5	1.01e6	1.23	NO	0.991	34.16	34.18	NO	1.000	1.001	54.856	110	NO
14	14 1,2,3,7,8,9-HxCDF	4.44e5	8.60e5	1.23	NO	0.951	35.17	35.18	NO	1.000	1.000	54.262	109	NO
15	15 1,2,3,4,6,7,8-HpCDF	4.29e5	7.84e5	1.01	NO	0.999	36.76	36.77	NO	1.000	1.000	54.767	110	NO
16	16 1,2,3,4,7,8,9-HpCDF	3.47e5	6.01e5	1.01	NO	1.12	38.77	38.78	NO	1.000	1.000	51.464	103	NO
17	17 OCDF	6.03e5	1.28e6	0.88	NO	0.868	41.41	41.41	NO	1.000	1.000	108.21	108 🗸	NO
18	18 13C-2,3,7,8-TCDD	1.40e6	1.26e6	0.78	NO	1.11	26.27	26.27	NO	1.029	1.030	100.10	100	NO
19	19 13C-1,2,3,7,8-PeCDD	1.07e6	1.26e6	0.62	NO	0.859	30.91	30.96	NO	1.211	1.213	99.348	99.3	NO
20	20 13C-1,2,3,4,7,8-HxCDD	7.58e5	1.11e6	1.28	NO	0.700	34.26	34.28	NO	1.013	1.014	97.536	97.5	NO
21	21 13C-1,2,3,6,7,8-HxCDD	8.90e5	1.11e6	1.26	NO	0.833	34.39	34.39	NO	1.017	1.017	96.285	96.3	NO
22	22 13C-1,2,3,7,8,9-HxCDD	8.09e5	1.11e6	1.26	NO	0.762	34.66	34.66	NO	1.025	1.025	95.612	95.6	NO
23	23 13C-1,2,3,4,6,7,8-HpCDD	6.75e5	1.11e6	1.05	NO	0.650	38.10	38.15	NO	1.127	1.128	93.625	93.6	NO
24	24 13C-OCDD	1.11e6	1.11e6	0.89	NO	0.539	41.04	41.11	NO	1.214	1.216	184.54	92.3	NO
25	25 13C-2,3,7,8-TCDF	1.90e6	1.96e6	0.78	NO	0.981	25.60	25.59	NO	1.003	1.003	98.983	99.0	NO
26	26 13C-1,2,3,7,8-PeCDF	1.57e6	1.96e6	1.60	NO	0.792	29.66	29.69	NO	1.162	1.163	101.15	101	NO
27	27 13C-2,3,4,7,8-PeCDF	1.52e6	1.96e6	1.59	NO	0.778	30.72	30.76	NO	1.204	1.205	99.698	99.7	NO
28	28 13C-1,2,3,4,7,8-HxCDF	1.04e6	1.11e6	0.50	NO	0.954	33.36	33.36	NO	0.987	0.987	97.788	97.8	NO
29	29 13C-1,2,3,6,7,8-HxCDF	1.08e6	1.11e6	0.50	NO	1.01	33.50	3 3.50	NO	0.991	0.991	96.967	97.0	NO
30	30 13C-2,3,4,6,7,8-HxCDF	1.01e6	1.11e6	0.52	NO	0.921	34.16	34.16	NO	1.010	1.010	98.529	98.5	NO
31	31 13C-1,2,3,7,8,9-HxCDF	8.60e5	1.11e6	0.51	NO	0.803	35.16	3 5.17	NO	1.040	1.040	96.452	96.5	NO

MassLynx 4.1 SCN815

Page 2 of 2

Dataset:

U:\VG12.PRO\Results\201020R1\201020R1-8.qld

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Printed:

Name: 201020R1_8, Date: 20-Oct-2020, Time: 14:29:33, ID: SS201020R1_1 1613 SSS 20F1108, Description: 1613 SSS 20F1108

No. of Street, Square,	# Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
32	32 13C-1,2,3,4,6,7,8-HpCDF	7.84e5	1.11e6	0.44	NO	0.735	36.72	36.75	NO	1.086	1.087	96.055	96.1	NO
33	33 13C-1,2,3,4,7,8,9-HpCDF	6.01e5	1.11e6	0.42	NO	0.568	38.71	38.77	NO	1.145	1.147	95.309	95.3	NO
34	34 13C-OCDF	1.28e6	1.11e6	0.89	NO	0.629	41.33	41.40	NO	1.222	1.225	183.63	91.8	NO
35	35 37CI-2,3,7,8-TCDD	1.45e5	1.26e6			1.09	26.29	26.29	NO	1.030	1.030	10.596	106	NO
36	36 13C-1,2,3,4-TCDD	1.26e6	1.26e6	0.79	NO	1.00	25.59	25.52	NO	1.000	1.000	100.00	100	NO
37	37 13C-1,2,3,4-TCDF	1.96e6	1.96e6	0.80	NO	1.00	24.13	24.06	NO	1.000	1.000	100.00	100	NO
38	38 13C-1,2,3,4,6,9-HxCDF	1.11e6	1.11e6	0.51	NO	1.00	33.84	33.81	NO	1.000	1.000	100.00	100	YESOK

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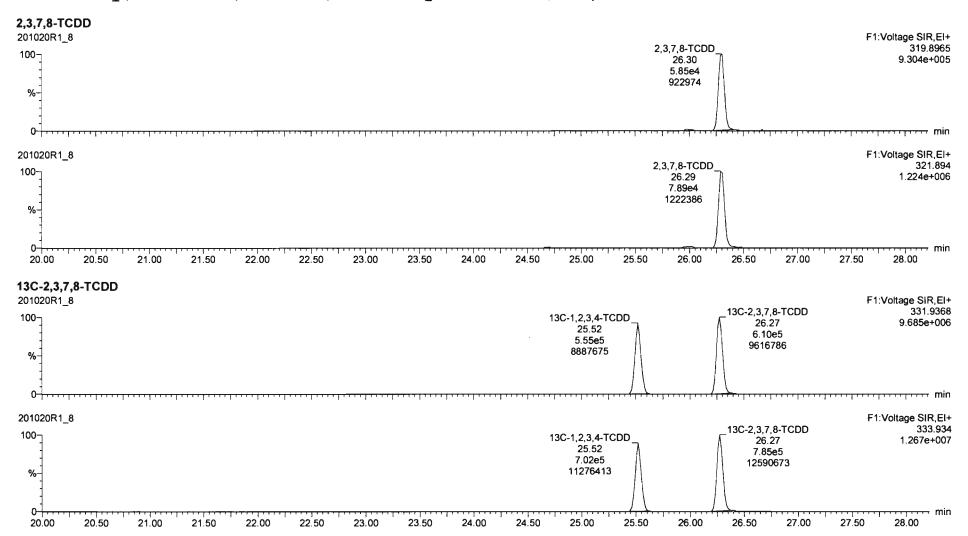
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Tuesday, October 20, 2020 15:17:24 Pacific Daylight Time Tuesday, October 20, 2020 15:17:27 Pacific Daylight Time

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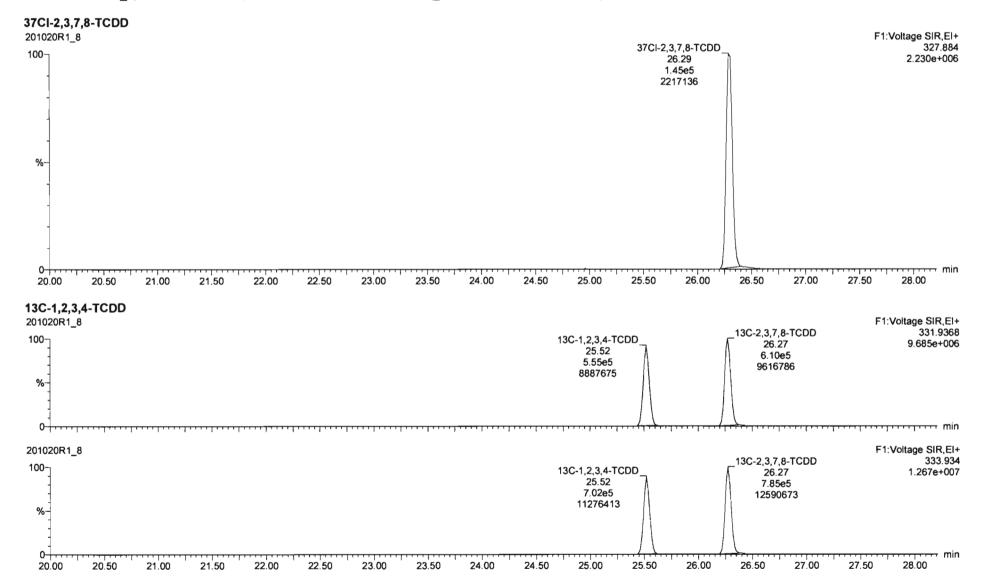
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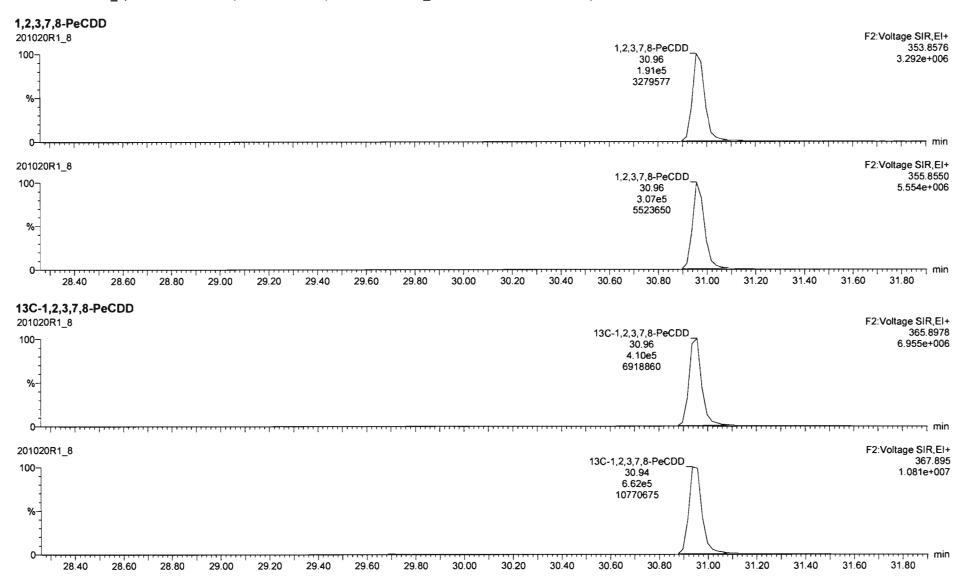
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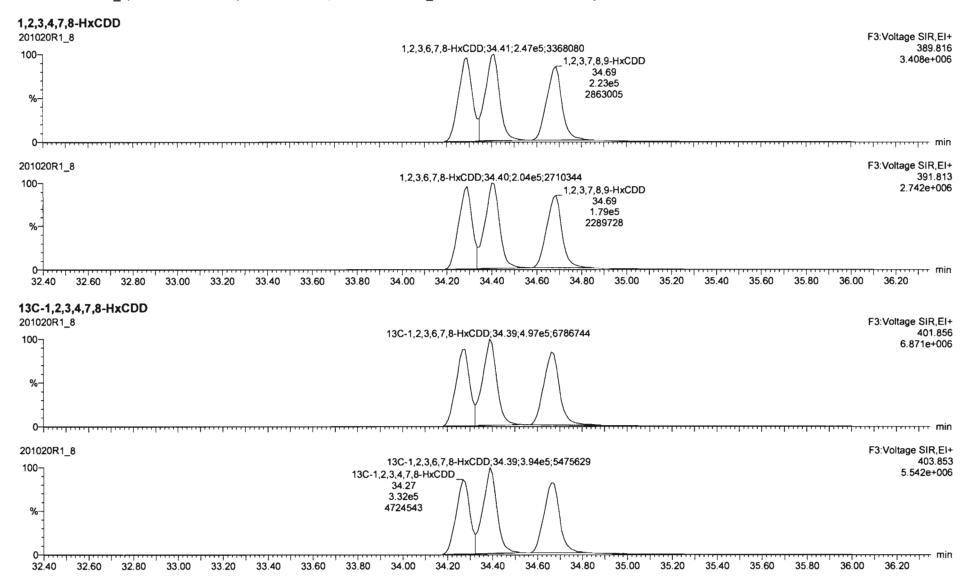
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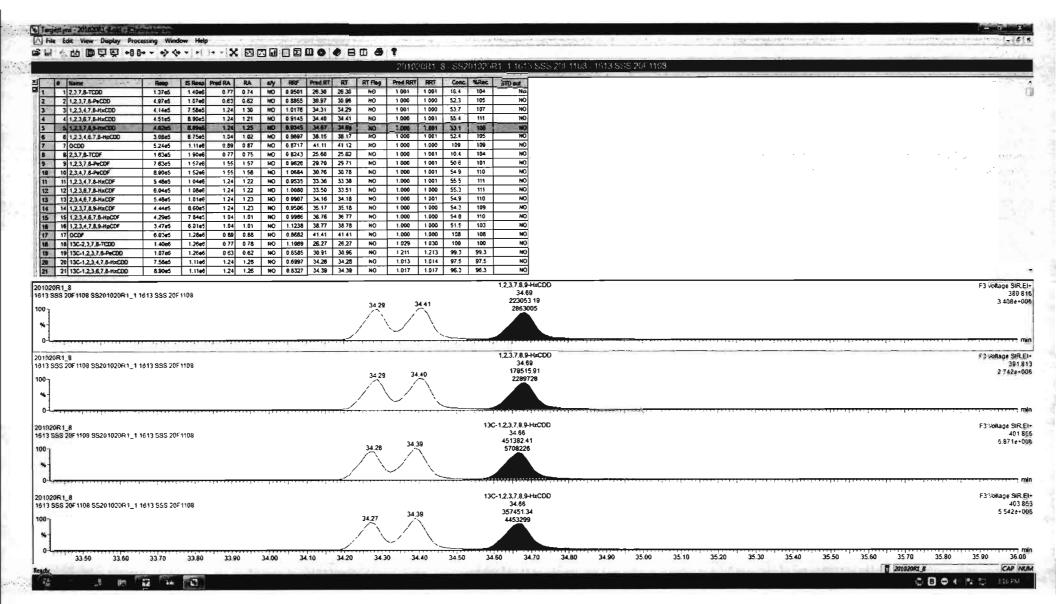


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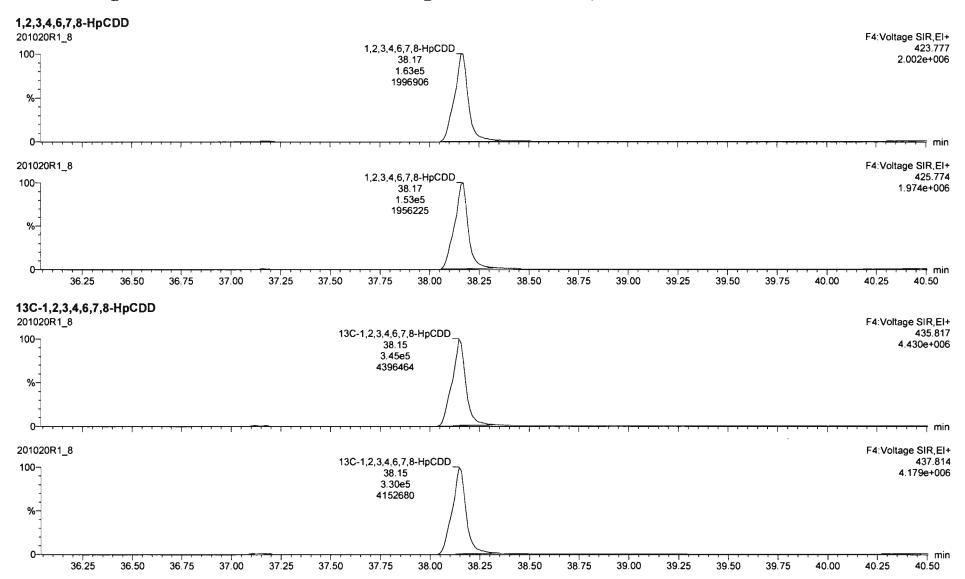
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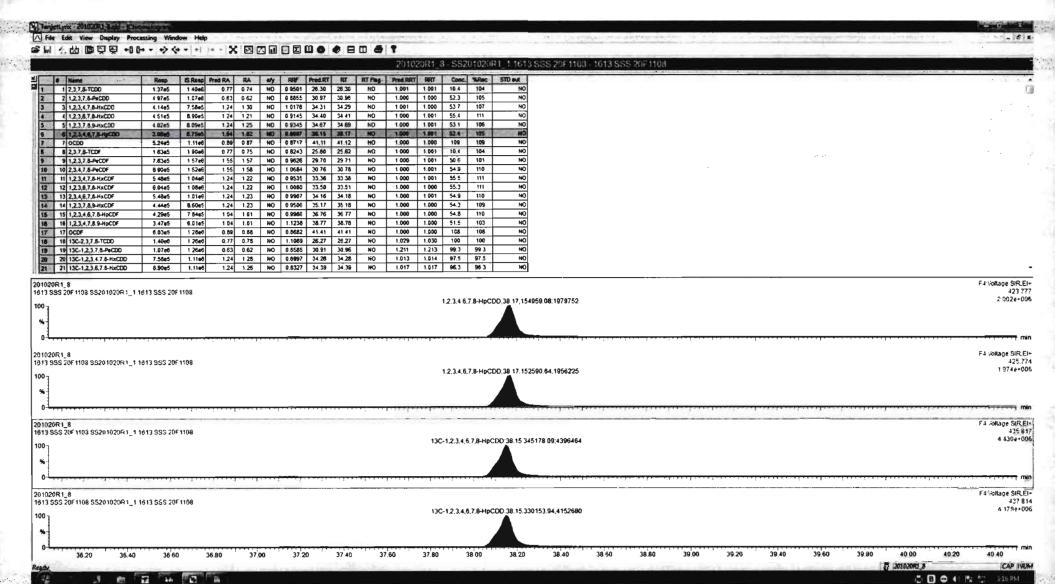
Quantify Sample Report

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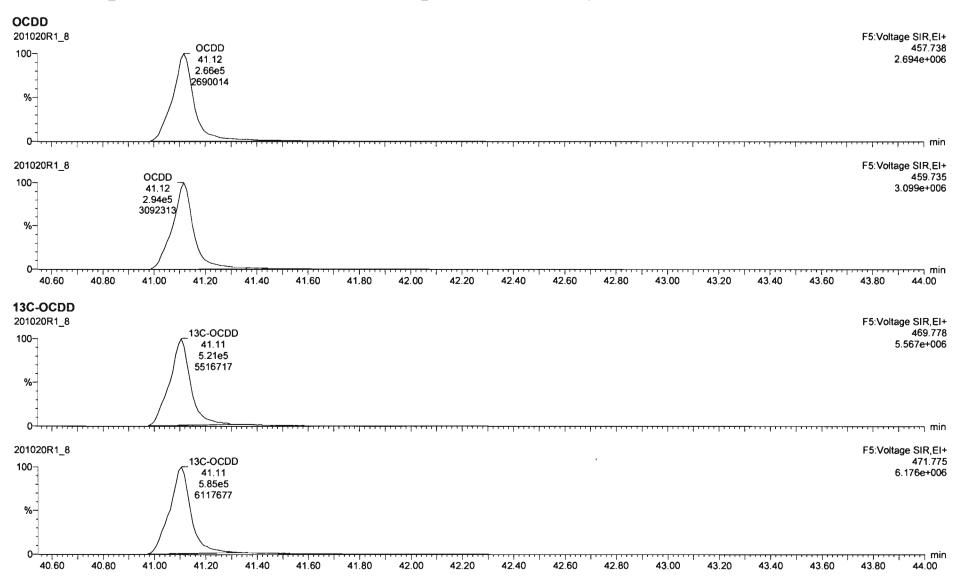


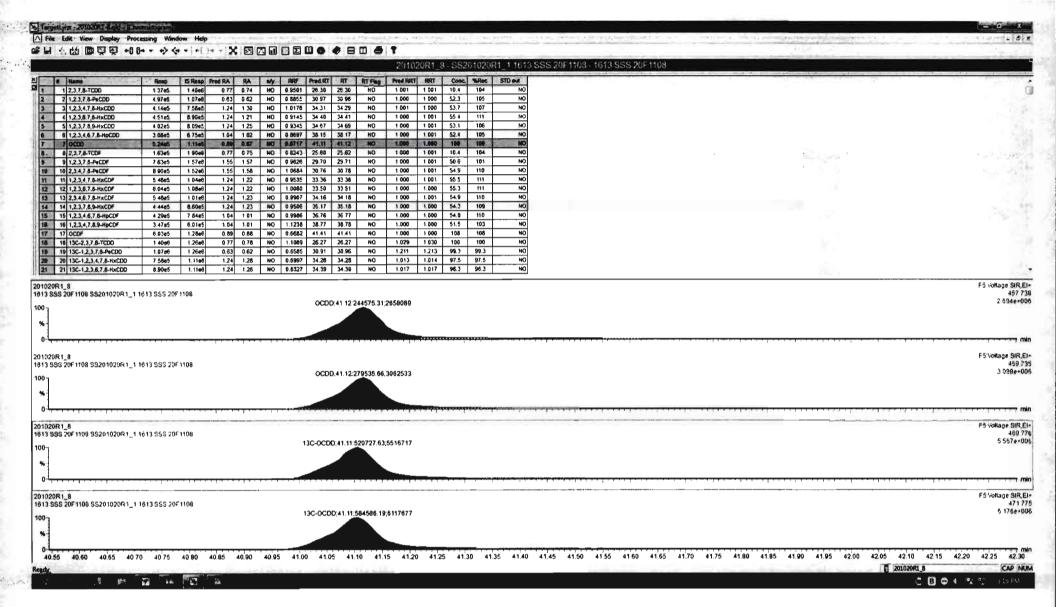
Work Order 2002298 Page 302 of 313

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Last Altered: Printed:

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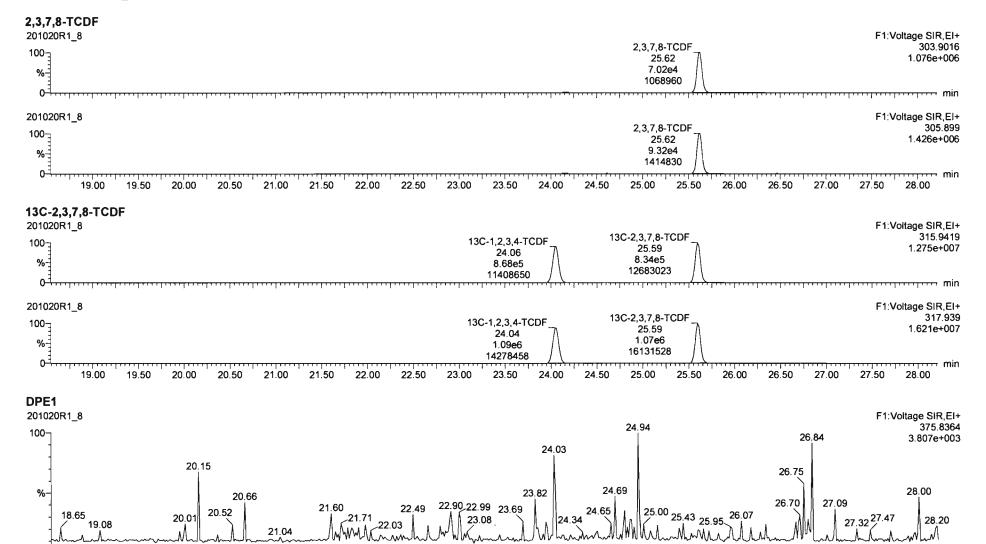


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Name: 201020R1_8, Date: 20-Oct-2020, Time: 14:29:33, ID: SS201020R1_1 1613 SSS 20F1108, Description: 1613 SSS 20F1108



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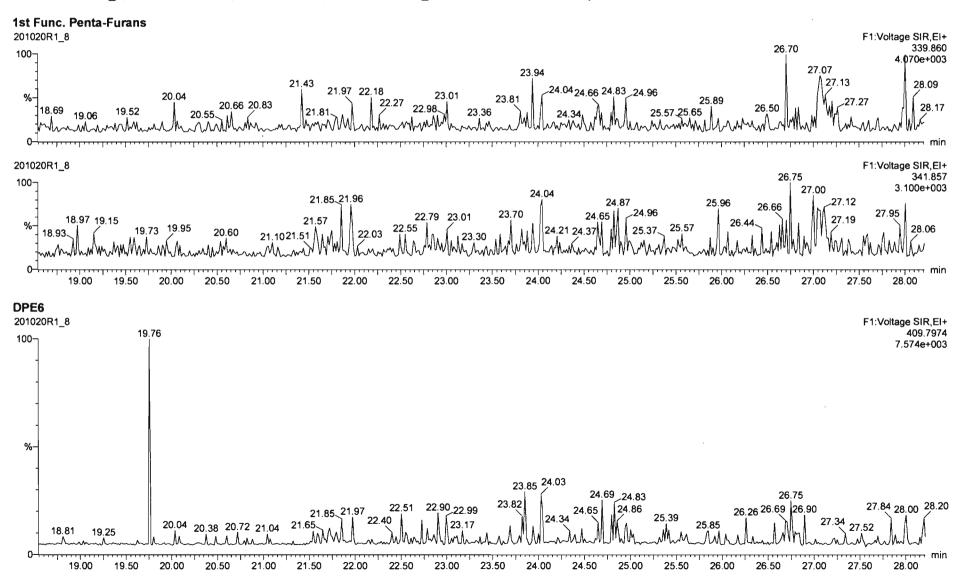
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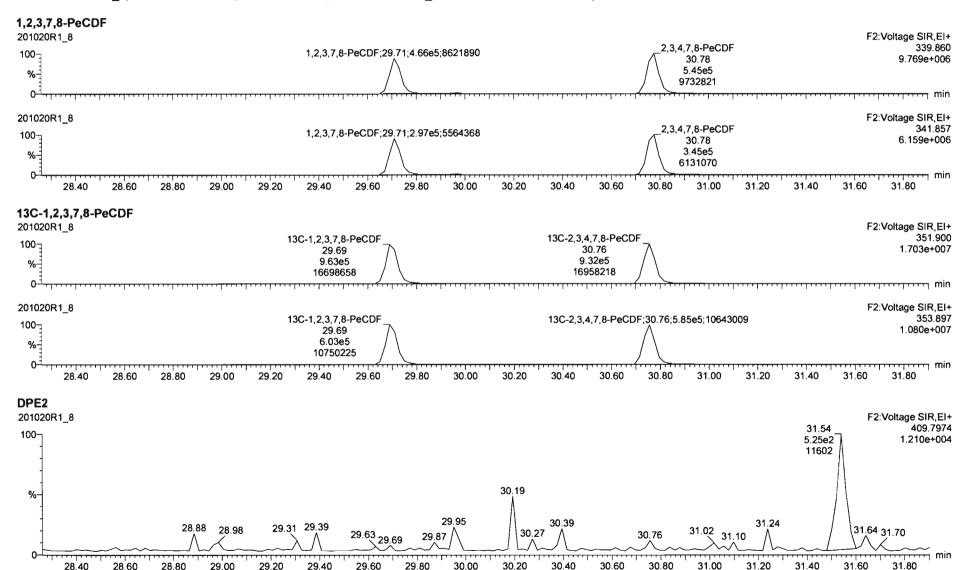
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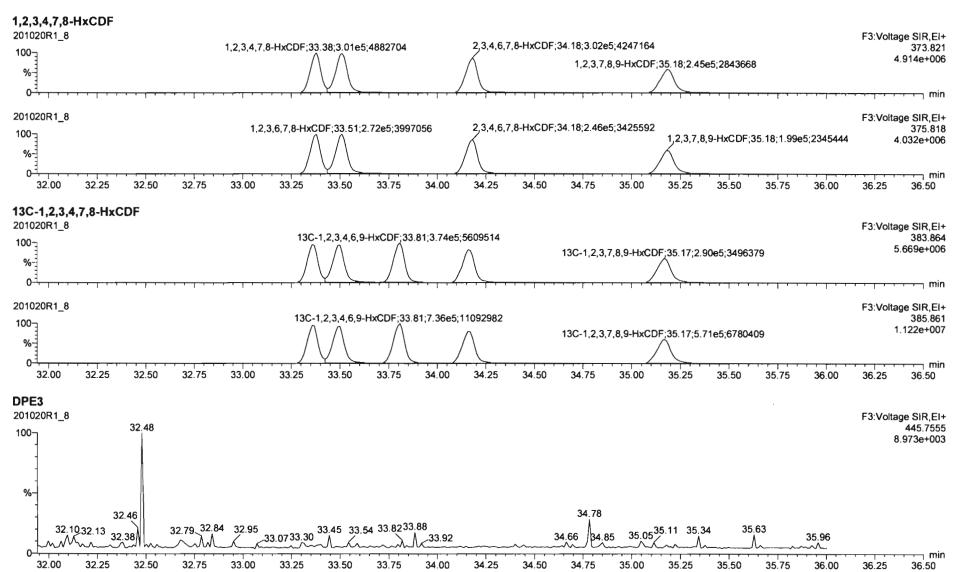
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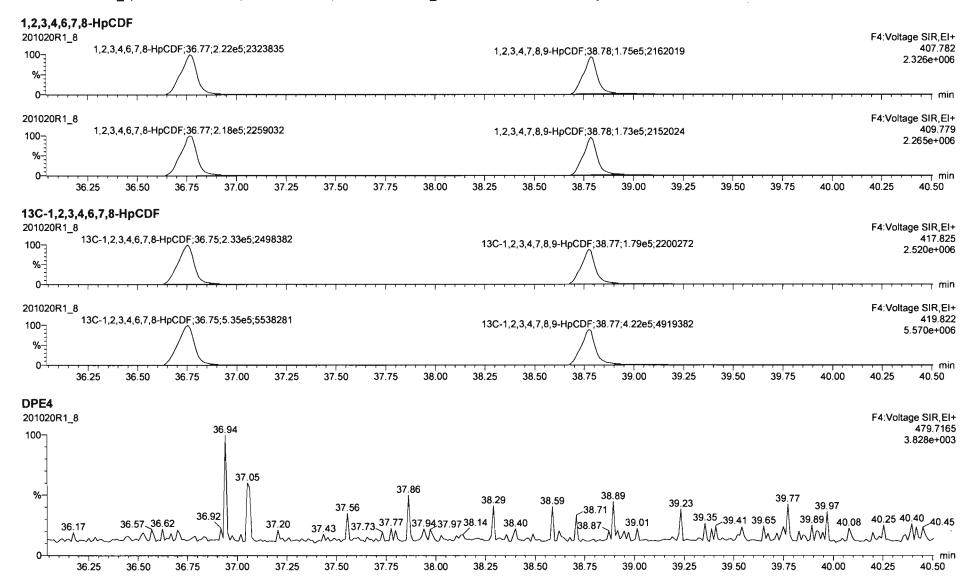
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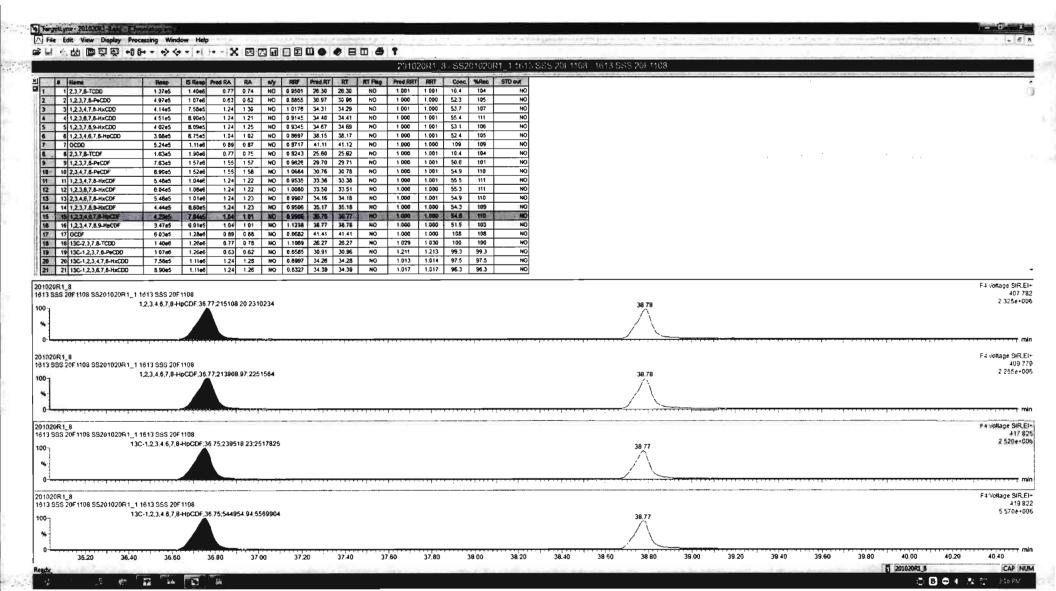


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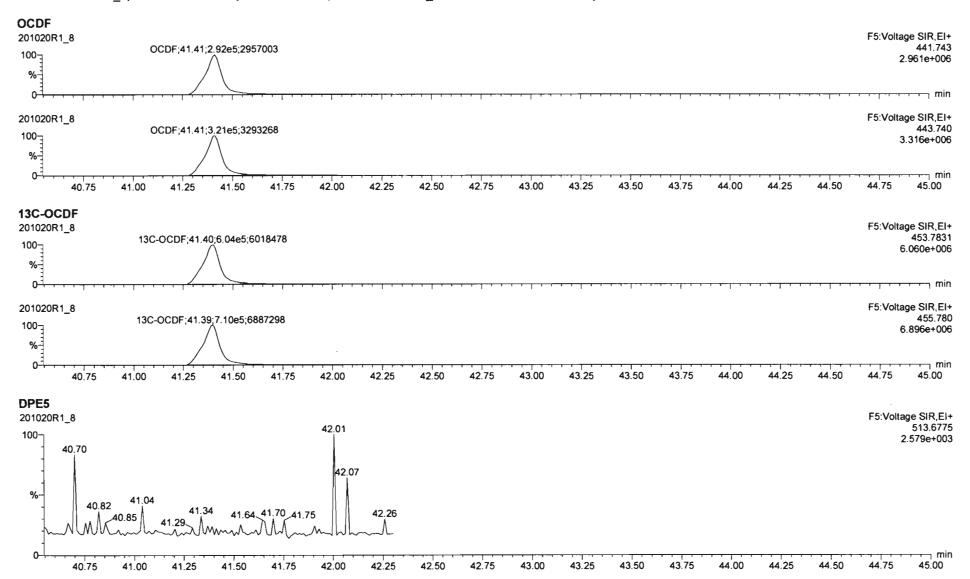


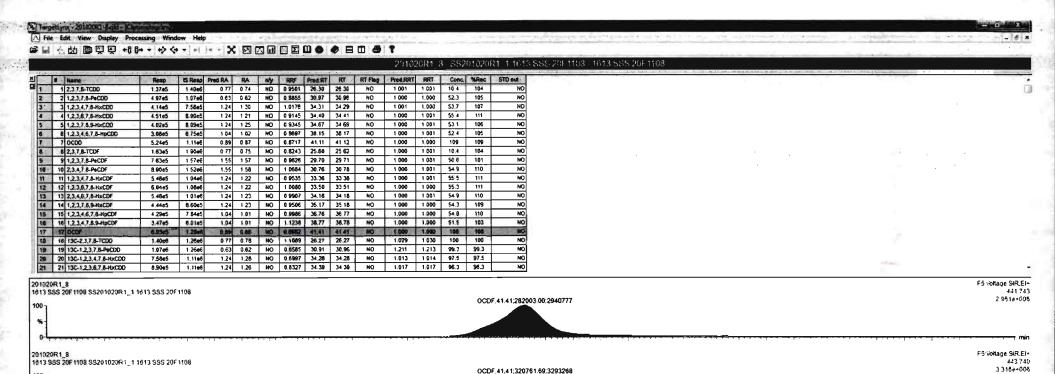


Work Order 2002298 Page 310 of 313

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Last Altered: Printed: Tuesday, October 20, 2020 15:17:24 Pacific Daylight Time Tuesday, October 20, 2020 15:17:27 Pacific Daylight Time





13C-OCDF,41.40;603505.31;6018478

13C-OCDF,41 39;679607.56;6844626

40.60 40.65 40.70 40.75 40.80 40.85 40.90 40.95 41.80 41.85 41.90 41.95 42.00

201020R1 8

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1613 95S 20F 1108 SS201020R1_1 1613 SSS 20F 1108

1813 SSS 20F1108 SS201020R1_1 1813 SSS 20F1108

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Custom Reporting: Select reports to generate

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Quantify Sample Report Vista Analytical Laboratory

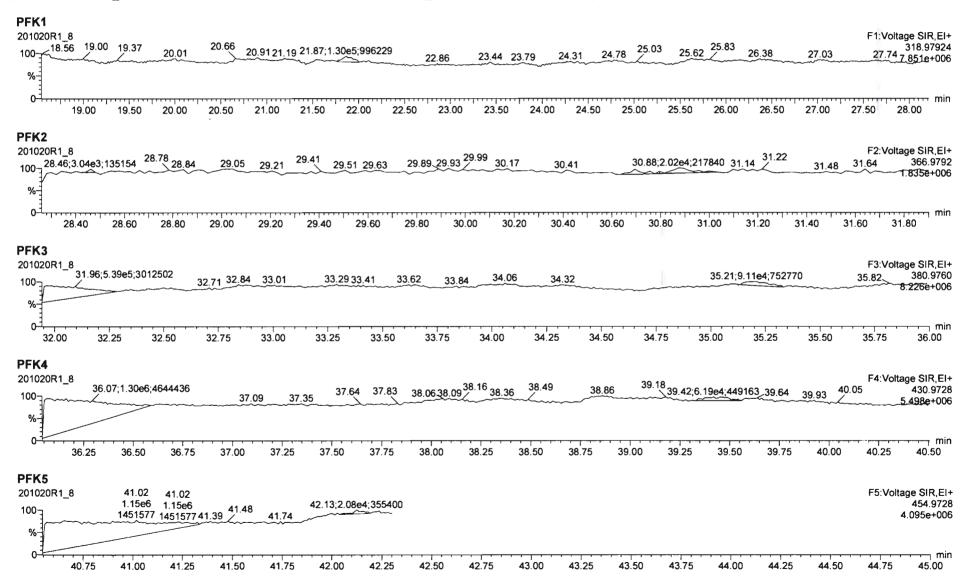
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Name: 201020R1_8, Date: 20-Oct-2020, Time: 14:29:33, ID: SS201020R1_1 1613 SSS 20F1108, Description: 1613 SSS 20F1108



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