

December 20, 2019

Vista Work Order No. 1903739

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 18, 2019 under your Project Name 'Gasco PDI'.

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. 1903739 Case Narrative

Sample Condition on Receipt:

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

Analytical Notes:

EPA Method 1613B

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-5MS GC column.

Holding Times

These 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 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
1903739-01	PDI-026SC-A-11-12-191014	14-Oct-19 11:01	18-Oct-19 08:59	Amber Glass, 120 mL
1903739-02	PDI-026SC-A-12-12.6-191014	14-Oct-19 11:01	18-Oct-19 08:59	Amber Glass, 120 mL
1903739-03	PDI-077SC-A-14-15-191014	14-Oct-19 08:36	18-Oct-19 08:59	Amber Glass, 120 mL
1903739-04	PDI-077SC-A-15-16-191014	14-Oct-19 08:36	18-Oct-19 08:59	Amber Glass, 120 mL
1903739-05	PDI-079SC-A-11-12-191014	14-Oct-19 13:26	18-Oct-19 08:59	Amber Glass, 120 mL
1903739-06	PDI-079SC-A-12-13.3-191014	14-Oct-19 13:26	18-Oct-19 08:59	Amber Glass, 120 mL

Vista Project: 1903739 Client Project: Gasco PDI

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ANALYTICAL RESULTS

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Sample ID: Method	Blank				_			EPA Me	ethod 1613B
Matrix: Solid Sample Size: 10.0 g	ţ.	(····	B9K0011 04-Nov-2019 7:38		1	ab Sample: B9K0011-BLK1 ate Analyzed: 08-Nov-19 17:2	9 Column: ZB-5M	S	
Analyte Conc.	(pg/g)	DL EM	MPC Qu	ıalifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0627			IS	13C-2,3,7,8-TCDD	103	25 - 164	
1,2,3,7,8-PeCDD	ND	0.102				13C-1,2,3,7,8-PeCDD	109	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0718				13C-1,2,3,4,7,8-HxCDD	102	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0754				13C-1,2,3,6,7,8-HxCDD	87.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0754				13C-1,2,3,7,8,9-HxCDD	92.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.0922				13C-1,2,3,4,6,7,8-HpCDD	101	23 - 140	
OCDD	ND	0.104				13C-OCDD	100	17 - 157	
2,3,7,8-TCDF	ND	0.0711				13C-2,3,7,8-TCDF	95.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0921				13C-1,2,3,7,8-PeCDF	101	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0915				13C-2,3,4,7,8-PeCDF	98.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0325				13C-1,2,3,4,7,8-HxCDF	102	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0329				13C-1,2,3,6,7,8-HxCDF	92.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0359				13C-2,3,4,6,7,8-HxCDF	94.0	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0467				13C-1,2,3,7,8,9-HxCDF	98.3	29 - 147	
1,2,3,4,6,7,8-HpCDF	0.172			J		13C-1,2,3,4,6,7,8-HpCDF	97.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0566				13C-1,2,3,4,7,8,9-HpCDF	107	26 - 138	
OCDF	ND	0.122				13C-OCDF	104	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	110	35 - 197	
						Toxic Equivalent Quotient (T)	EQ) Data (pg/g dr	y wt)	
						TEQMinWHO2005Dioxin	0.00172		
TOTALS									
Total TCDD	ND	0.0627							
Total PeCDD	ND	0.102							
Total HxCDD	ND	0.0745							
Total HpCDD	ND	0.0922							
Total TCDF	ND	0.0711							
Total PeCDF	ND	0.0917							
Total HxCDF	ND	0.0365							
Total HpCDF	0.172					CL - Lower control limit - unner control liv			

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

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: Solid Sample Size: 10.0 g			B9K0011 04-Nov-2019	9 7:38		Lab Sample: B9K0011-BS1 Date Analyzed: 08-Nov-19 14:17	Column: ZB-5MS	
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	20.9	20.0	104	67 - 158	IS	13C-2,3,7,8-TCDD	78.4	20 - 175
1,2,3,7,8-PeCDD	87.8	100	87.8	70 - 142		13C-1,2,3,7,8-PeCDD	91.9	21 - 227
1,2,3,4,7,8-HxCDD	95.5	100	95.5	70 - 164		13C-1,2,3,4,7,8-HxCDD	97.0	21 - 193
1,2,3,6,7,8-HxCDD	99.5	100	99.5	76 - 134		13C-1,2,3,6,7,8-HxCDD	83.6	25 - 163
1,2,3,7,8,9-HxCDD	95.5	100	95.5	64 - 162		13C-1,2,3,7,8,9-HxCDD	90.7	21 - 193
1,2,3,4,6,7,8-HpCDD	96.2	100	96.2	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	100	26 - 166
OCDD	199	200	99.7	78 - 144		13C-OCDD	100	13 - 199
2,3,7,8-TCDF	17.3	20.0	86.6	75 - 158		13C-2,3,7,8-TCDF	75.3	22 - 152
1,2,3,7,8-PeCDF	92.5	100	92.5	80 - 134		13C-1,2,3,7,8-PeCDF	88.2	21 - 192
2,3,4,7,8-PeCDF	92.6	100	92.6	68 - 160		13C-2,3,4,7,8-PeCDF	79.8	13 - 328
1,2,3,4,7,8-HxCDF	94.2	100	94.2	72 - 134		13C-1,2,3,4,7,8-HxCDF	93.0	19 - 202
1,2,3,6,7,8-HxCDF	94.4	100	94.4	84 - 130		13C-1,2,3,6,7,8-HxCDF	84.1	21 - 159
2,3,4,6,7,8-HxCDF	98.0	100	98.0	70 - 156		13C-2,3,4,6,7,8-HxCDF	84.1	22 - 176
1,2,3,7,8,9-HxCDF	94.9	100	94.9	78 - 130		13C-1,2,3,7,8,9-HxCDF	91.9	17 - 205
1,2,3,4,6,7,8-HpCDF	93.4	100	93.4	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	90.6	21 - 158
1,2,3,4,7,8,9-HpCDF	90.0	100	90.0	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	102	20 - 186
OCDF	188	200	93.9	63 - 170		13C-OCDF	102	13 - 199
					CRS	37Cl-2,3,7,8-TCDD	87.8	31 - 191

LCL-UCL - Lower control limit - upper control limit

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Sample ID: PDI-02	6SC-A-11-12-191014							EPA Metl	nod 1613B
Project: Gasco	or QEA, LLC o PDI ct-2019 11:01	Sample Dat Matrix: Sample Si % Solids:	Sediment		Lab QC	Foratory Data 1903739-01 Sample: 1903739-01 Batch: B9K0011 e Analyzed: 18-Dec-19 14:10	Date Received: Date Extracted: Column: ZB-5MS		
Analyte Conc.	(pg/g)	DL E	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.168			IS	13C-2,3,7,8-TCDD	97.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.150				13C-1,2,3,7,8-PeCDD	103	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.343				13C-1,2,3,4,7,8-HxCDD	74.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.304				13C-1,2,3,6,7,8-HxCDD	88.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.347				13C-1,2,3,7,8,9-HxCDD	88.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.33			J		13C-1,2,3,4,6,7,8-HpCDD	76.9	23 - 140	
OCDD	12.8					13C-OCDD	83.2	17 - 157	
2,3,7,8-TCDF	ND	0.0736				13C-2,3,7,8-TCDF	87.1	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0497				13C-1,2,3,7,8-PeCDF	79.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0438				13C-2,3,4,7,8-PeCDF	85.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0402				13C-1,2,3,4,7,8-HxCDF	88.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0412				13C-1,2,3,6,7,8-HxCDF	89.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0455				13C-2,3,4,6,7,8-HxCDF	88.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0680				13C-1,2,3,7,8,9-HxCDF	94.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0838				13C-1,2,3,4,6,7,8-HpCDF	83.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.120				13C-1,2,3,4,7,8,9-HpCDF	79.3	26 - 138	
OCDF	ND	0.127				13C-OCDF	91.5	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	103	35 - 197	
						Toxic Equivalent Quotient (TEQ) Data (pg/g dry v	vt)	
						TEQMinWHO2005Dioxin	0.0171		
TOTALS									
Total TCDD	0.679								
Total PeCDD	ND		0.293						
Total HxCDD	ND		1.20						
Total HpCDD	4.05								
Total TCDF	0.138								
Total PeCDF	ND	0.0497							
Total HxCDF	ND	0.0680							
Total HpCDF	ND	0.120							
DL - Sample specifc esti	imated detection limit				LCL-UC	L- Lower control limit - upper control limit			

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

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

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Sample ID: PDI-02	6SC-A-12-12.6-191014							EPA Met	hod 1613B
Project: Gasco	or QEA, LLC o PDI ct-2019 11:01	Sample I Matrix: Sample % Solid	Sediment 13.8 g		Lab QC	Doratory Data Sample: 1903739-02 Batch: B9K0011 e Analyzed: 18-Dec-19 19:10	Date Received: Date Extracted: Column: ZB-5MS		
Analyte Conc.	. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.163			IS	13C-2,3,7,8-TCDD	91.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.138				13C-1,2,3,7,8-PeCDD	94.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.174				13C-1,2,3,4,7,8-HxCDD	75.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.159				13C-1,2,3,6,7,8-HxCDD	88.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.199				13C-1,2,3,7,8,9-HxCDD	89.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		0.203			13C-1,2,3,4,6,7,8-HpCDD	80.9	23 - 140	
OCDD	1.94			J		13C-OCDD	76.7	17 - 157	
2,3,7,8-TCDF	ND	0.0920				13C-2,3,7,8-TCDF	81.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0579				13C-1,2,3,7,8-PeCDF	80.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0596				13C-2,3,4,7,8-PeCDF	77.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0309				13C-1,2,3,4,7,8-HxCDF	89.0	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0317				13C-1,2,3,6,7,8-HxCDF	89.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0325				13C-2,3,4,6,7,8-HxCDF	85.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0472				13C-1,2,3,7,8,9-HxCDF	94.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0528				13C-1,2,3,4,6,7,8-HpCDF	91.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0797				13C-1,2,3,4,7,8,9-HpCDF	81.1	26 - 138	
OCDF	ND	0.148				13C-OCDF	85.2	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	84.4	35 - 197	
						Toxic Equivalent Quotient (TEQ)	Data (pg/g dry w	vt)	
						TEQMinWHO2005Dioxin	0.000582		
TOTALS									
Total TCDD	ND	0.163							
Total PeCDD	ND	0.138							
Total HxCDD	ND		0.115						
Total HpCDD	ND		0.551						
Total TCDF	ND	0.0920							
Total PeCDF	ND	0.0596							
Total HxCDF	ND	0.0472							
Total HpCDF	ND	0.0797							
DL - Sample specifc est	imated detection limit				LCL-UC	L- Lower control limit - upper control limit			

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

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

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Sample ID: PDI-07	7SC-A-14-15-191014							EPA Met	hod 1613B
Project: Gasco	or QEA, LLC o PDI ct-2019 8:36	Sample D Matrix: Sample S % Solids	Sediment Size: 13.1 g		Lab QC	Doratory Data Sample: 1903739-03 Batch: B9K0011 e Analyzed: 18-Dec-19 19:57	Date Received: Date Extracted: Column: ZB-5MS	04-Nov-2019	
Analyte Conc.	(pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.190			IS	13C-2,3,7,8-TCDD	92.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.135				13C-1,2,3,7,8-PeCDD	92.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.235				13C-1,2,3,4,7,8-HxCDD	80.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.222				13C-1,2,3,6,7,8-HxCDD	87.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.280				13C-1,2,3,7,8,9-HxCDD	84.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.980			J		13C-1,2,3,4,6,7,8-HpCDD	87.8	23 - 140	
OCDD	7.59					13C-OCDD	97.0	17 - 157	
2,3,7,8-TCDF	ND	0.0935				13C-2,3,7,8-TCDF	85.5	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0645				13C-1,2,3,7,8-PeCDF	80.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0684				13C-2,3,4,7,8-PeCDF	83.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0404				13C-1,2,3,4,7,8-HxCDF	91.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0421				13C-1,2,3,6,7,8-HxCDF	91.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0474				13C-2,3,4,6,7,8-HxCDF	88.8	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0646				13C-1,2,3,7,8,9-HxCDF	97.2	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0425				13C-1,2,3,4,6,7,8-HpCDF	93.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0559				13C-1,2,3,4,7,8,9-HpCDF	89.5	26 - 138	
OCDF	ND	0.204				13C-OCDF	106	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	90.7	35 - 197	
						Toxic Equivalent Quotient (TEQ) Data (pg/g dry v	vt)	
						TEQMinWHO2005Dioxin	0.0121		
TOTALS									
Total TCDD	ND	0.190							
Total PeCDD	ND	0.135							
Total HxCDD	ND		0.848						
Total HpCDD	2.69								
Total TCDF	ND	0.0935							
Total PeCDF	ND	0.0684							
Total HxCDF	ND	0.0646							
Total HpCDF	ND	0.0559							
DL - Sample specifc est	imated detection limit				LCL-UC	L- Lower control limit - upper control limit			

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

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

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Sample ID: PDI-07	7SC-A-15-16-191014							EPA Met	hod 1613B
Project: Gasco	or QEA, LLC o PDI ct-2019 8:36	Sample I Matrix: Sample % Solid	Sediment 12.5 g		Lab QC	Doratory Data Sample: 1903739-04 Batch: B9K0011 e Analyzed: 18-Dec-19 20:45	Date Received: Date Extracted: Column: ZB-5MS	04-Nov-2019	
Analyte Conc.	. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.152			IS	13C-2,3,7,8-TCDD	95.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.135				13C-1,2,3,7,8-PeCDD	101	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.174				13C-1,2,3,4,7,8-HxCDD	82.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.164				13C-1,2,3,6,7,8-HxCDD	97.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.193				13C-1,2,3,7,8,9-HxCDD	95.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		0.613			13C-1,2,3,4,6,7,8-HpCDD	83.5	23 - 140	
OCDD	6.08					13C-OCDD	80.4	17 - 157	
2,3,7,8-TCDF	ND	0.0756				13C-2,3,7,8-TCDF	89.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0643				13C-1,2,3,7,8-PeCDF	82.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0575				13C-2,3,4,7,8-PeCDF	82.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0413				13C-1,2,3,4,7,8-HxCDF	87.5	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0424				13C-1,2,3,6,7,8-HxCDF	89.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0465				13C-2,3,4,6,7,8-HxCDF	88.3	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0622				13C-1,2,3,7,8,9-HxCDF	99.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0500				13C-1,2,3,4,6,7,8-HpCDF	94.5	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0732				13C-1,2,3,4,7,8,9-HpCDF	85.9	26 - 138	
OCDF	ND	0.159				13C-OCDF	93.1	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	90.1	35 - 197	
						Toxic Equivalent Quotient (TEQ) Data (pg/g dry v	vt)	
						TEQMinWHO2005Dioxin	0.00182		
TOTALS									
Total TCDD	ND	0.152							
Total PeCDD	ND	0.135							
Total HxCDD	ND		0.530						
Total HpCDD	1.48		2.09						
Total TCDF	ND	0.0756							
Total PeCDF	ND	0.0643							
Total HxCDF	ND	0.0622							
Total HpCDF	ND	0.0732							
DL - Sample specifc est	imated detection limit				LCL-UC	L- Lower control limit - upper control limit			

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

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

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Sample ID: PDI-079S	C-A-11-12-191014								EPA Met	hod 1613B
Project: Gasco PI	QEA, LLC DI 019 13:26	Sample Da Matrix: Sample S % Solids:	Sediment ize: 13.4 g		Lab QC	Batch:	1903739-05 B9K0011 18-Dec-19 21:34	Date Received: Date Extracted: Column: ZB-5MS		
Analyte Conc. (pg	g/g)	DL 1	ЕМРС	Qualifiers		Labeled Standar	rd	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND 0	0.153			IS	13C-2,3,7,8-TCE	DD	88.6	25 - 164	
1,2,3,7,8-PeCDD	ND 0	0.127				13C-1,2,3,7,8-Pe	CDD	87.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND 0	0.124				13C-1,2,3,4,7,8-I	HxCDD	73.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND 0).119				13C-1,2,3,6,7,8-l	HxCDD	84.7	28 - 130	
1,2,3,7,8,9-HxCDD	ND 0	0.145				13C-1,2,3,7,8,9-I	HxCDD	83.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.409			J		13C-1,2,3,4,6,7,8	3-HpCDD	88.6	23 - 140	
OCDD	3.88			J		13C-OCDD		81.4	17 - 157	
2,3,7,8-TCDF	ND 0	0.101				13C-2,3,7,8-TCE)F	81.8	24 - 169	
1,2,3,7,8-PeCDF	ND		0.0752			13C-1,2,3,7,8-Pe	CDF	78.8	24 - 185	
2,3,4,7,8-PeCDF	ND		0.0236			13C-2,3,4,7,8-Pe	CDF	76.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND		0.249			13C-1,2,3,4,7,8-I	HxCDF	90.2	26 - 152	
1,2,3,6,7,8-HxCDF	ND 0.	.0528				13C-1,2,3,6,7,8-I	HxCDF	91.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND 0.	.0628				13C-2,3,4,6,7,8-I	HxCDF	82.6	28 - 136	
1,2,3,7,8,9-HxCDF	ND 0.	.0866				13C-1,2,3,7,8,9-1	HxCDF	87.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND		0.115			13C-1,2,3,4,6,7,8	R-HpCDF	84.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND 0).129				13C-1,2,3,4,7,8,9	9-HpCDF	81.4	26 - 138	
OCDF	0.396			J		13C-OCDF		88.8	17 - 157	
					CRS	37Cl-2,3,7,8-TCl	DD	98.3	35 - 197	
						Toxic Equivalen	t Quotient (TEQ)	Data (pg/g dry w	t)	
						TEQMinWHO20	05Dioxin	0.00537		
TOTALS										
Total TCDD	ND 0.	153								
Total PeCDD	ND 0.	127								
	0.238									
1	0.907									
	0.478									
	ND		0.188							
	ND		0.249							
Total HpCDF DL - Sample specifc estimate	ND		0.296			L- Lower control limit				

EMPC - Estimated maximum possible concentration

The results are reported in dry weight. The sample size is reported in wet weight.

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

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Sample ID: PDI-0/98	SC-A-12-13.3-191014								EPA Met	hod 1613B
Project: Gasco P	QEA, LLC PDI 2019 13:26	Sample Da Matrix: Sample S % Solids	Sediment Size: 13.9 g		Lab QC	Sample: 1903739 Batch: B9K001 e Analyzed: 18-Dec-	11 1	Date Received: Date Extracted: olumn: ZB-5MS		
Analyte Conc. (p	og/g)	DL	EMPC	Qualifiers		Labeled Standard	(%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND (0.159			IS	13C-2,3,7,8-TCDD	8	81.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.114				13C-1,2,3,7,8-PeCDD	1	101	25 - 181	
1,2,3,4,7,8-HxCDD	ND (0.165				13C-1,2,3,4,7,8-HxCDD)	78.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND (0.157				13C-1,2,3,6,7,8-HxCDD	9	91.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND (0.204				13C-1,2,3,7,8,9-HxCDD)	83.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	1.35			J		13C-1,2,3,4,6,7,8-HpCD	D 8	83.2	23 - 140	
OCDD	12.7					13C-OCDD	g	91.3	17 - 157	
2,3,7,8-TCDF	ND (0.115				13C-2,3,7,8-TCDF		70.0	24 - 169	
1,2,3,7,8-PeCDF	1.11			J		13C-1,2,3,7,8-PeCDF	8	83.3	24 - 185	
2,3,4,7,8-PeCDF	0.520			J		13C-2,3,4,7,8-PeCDF	8	86.1	21 - 178	
1,2,3,4,7,8-HxCDF	1.11			J		13C-1,2,3,4,7,8-HxCDF	8	83.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND 0	.0924				13C-1,2,3,6,7,8-HxCDF	8	89.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND 0	.0983				13C-2,3,4,6,7,8-HxCDF	Ģ	92.0	28 - 136	
1,2,3,7,8,9-HxCDF	ND (0.141				13C-1,2,3,7,8,9-HxCDF	ģ	96.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND		0.395			13C-1,2,3,4,6,7,8-HpCD	F 9	95.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	0.114			J		13C-1,2,3,4,7,8,9-HpCD	F 8	84.4	26 - 138	
OCDF	0.538			J		13C-OCDF	1	103	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD		77.8	35 - 197	
						Toxic Equivalent Quotion	ent (TEQ) D	ata (pg/g dry w	t)	
						TEQMinWHO2005Diox	in	0.319		
TOTALS										
Total TCDD	ND 0.	.159								
Total PeCDD		.114								
Total HxCDD	0.581									
Total HpCDD	3.44									
Total TCDF	0.395									
Total PeCDF	1.63		1.99							
Total HxCDF	1.29		1.44							
Total HpCDF DL - Sample specifc estima	0.527		0.922	В		L- Lower control limit - upper co				

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

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

LOD Limit of Detection

LOQ Limit of Quantitation

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

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)

* See Cover Letter

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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POC: #

Delaney Peterson (360-715-2707)

1605 Cornwall Avenue, Bellingham, WA 98225

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

Gasco PDI

NW Natural

Project:

Client:

1903739.

+.40 3.6°C

COC ID:

VISTA-20191014-145320

Sample Custodian:

CO, SN, BJ, DL

Lab:

VISTA

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	d Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
001	PDI-026SC-A-11-12-191014	N	SE	10/14/2019	11:01	1					
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
002	PDI-026SC-A-12-12.6-191014	N	SE	10/14/2019	11:01	1					
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
003	PDI-077SC-A-14-15-191014	N	SE	10/14/2019	8:36	1					
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
004	PDI-077SC-A-15-16-191014	N	SE	10/14/2019	8:36	1					
								Dioxin/Furans	E1613B	30	4°C
	*							Total solids (VISTA)	SM2540G	30	4°C
005	PDI-079SC-A-11-12-191014	N	SE	10/14/2019	13:26	1					
			3000					Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
006	PDI-079SC-A-12-13.3-191014	N	SE	10/14/2019	13:26	1					
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C

Comment:		-			
Relinquismed By:	Received By:	Relinguished By:	Received By:	Relinquished By:	Received By:
Signature	Signature a	Signature	Signature	Signature	Signature
C'ORPHICO.	Print Name Ashly Malon	Print Name	Print Name	Print Name	Print Name
70	Company / VAL	Company	Company	Company	Company
Date/Time (0) 7/9 1355	Date/Time 10/18/19 0859	Date/Time	Date/Time	Date/Time	Date/Time



Sample Log-In Checklist

Vista Work Order #:							Std wr-2	of			
Delivered By:	FedEx	On Tra	С	GSO	DHI	DHI		d red	Otl	ner	
Preservation:	(lce	>	Blue Ice			Dr	y Ice		None		
Temp °C: 3,6 (uncorrected) Temp °C: 3,6 (corrected) Probe used: Y / N Thermometer					ter ID:	IR-	3_				
	Part of the State of the Control	The Supplier of the			15 - 15 + 1103cm, 92	uni en			VEO	NO	
Shipping Contain			· 电精制 测导 机	elim.	and visit of	il é. un	2 m2	\$ 500 A. U.S.	YES /	NO	NA
Shipping Custody		?							1		
Airbill 1 of 2		The second second	5105 61	10					1		
Shipping Documentation Present?											
Shipping Container Vista Client Return Dispose						ose					
Chain of Custody / Sample Documentation Present?						1					
Chain of Custody / Sample Documentation Complete?						1	1				

Holding Time A	cceptable?		✓			
Logged In:	Date/Time 10/21/19 1447	Initials:	Location: WR-2 Shelf/Rack: 2-1			
COC Anomaly/Sample Acceptance Form completed?						

Comments:

ID.: LR - SLC

Rev No.: 4

Rev Date: 10/08/2019

Page: 1 of 1

CoC/Label Reconciliation Report WO# 1903739

LabNumber CoC Sample ID	Label ID matches COCID		Sampled	Label Sampled matches	Sampled doesn't match	Container	Container Correct	Sample BaseMatrix Comments
1903739-01 A PDI-026SC-A-11-12-191014		001	14-Oct-19 11:0	1 🗹		Amber Glass, 120 mL	D	Solid
1903739-02 A PDI-026SC-A-12-12.6-191014		002	14-Oct-19 11:0	1 🗹		Amber Glass, 120 mL		Solid
1903739-03 A PDI-077SC-A-14-15-191014		003	14-Oct-19 08:3	6 P		Amber Glass, 120 mL		Solid
1903739-04 A PDI-077SC-A-15-16-191014		004	14-Oct-19 08:3	6 🔟		Amber Glass, 120 mL		Solid
1903739-05 A PDI-079SC-A-11-12-191014		005	14-Oct-19 13:2	6		Amber Glass, 120 mL	Ø	Solid
1903739-06 A PDI-079SC-A-12-13.3-191014	\square	006	14-Oct-19 13:2	6 🗹		Amber Glass, 120 mL	V	Solid

	8100	Yes	No	NA
Sample Container Intact?		/		
Sample Custody Seals Intact?				/
Adequate Sample Volume?	a	/		
Preservation Documented: Na2S2O3	Trizma (None Other			/
If Chlorinated or Drinking Water Sam	ples, Acceptable Preservation?			/

Comments:

Cooler #1

Printed: 10/21/2019 2:57:27PN Work Order 1903739

EXTRACTION INFORMATION

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Process Sheet

Workorder: 1903739

8-NOV-19

Workorder Due: 15-Nov-19-00:00

TAT: 26 21 (h) 10/22/19

Prep Expiration: 2020-10-13

Client: Anchor QEA, LLC

Method: 1613 Full List Matrix: Solid

Client Matrix: Sediment Also run: Percent Solids

Prep Batch: B9 KOOL

Prep Data Entered:

Initial Sequence: SG LOOM Y

LabSamplel	D R	econ ClientSampleID	Date Received	Location	Comments
1903739-01	A	PDI-026SC-A-11-12-191014	18-Oct-19 08:59	WR-2 A-1	
1903739-02	4	PDI-026SC-A-12-12.6-191014	18-Oct-19 08:59	WR-2 A-1	
1903739-03	A [PDI-077SC-A-14-15-191014	18-Oct-19 08:59	WR-2 A-1	
1903739-04	A D	PDI-077SC-A-15-16-191014	18-Oct-19 08:59	WR-2 A-1	
1903739-05	A	PDI-079SC-A-11-12-191014	18-Oct-19 08:59	WR-2 A-1	
1903739-06	A G	PDI-079SC-A-12-13.3-191014	18-Oct-19 08:59	WR-2 A-1	

WO Comments: Post 4g

Dioxin - 10g (dry weight)

Pre-Prep Check Out: TL 10/3///4 Pre-Prep Check In: IL 10/3///9 Prep Check Out: 40 11/04/19

Prep Reconciled Initals/Date: TL 10/3///4 VialBoxID: 6 ml

Page 1 of 1

	PREPARATION BENCH SHEET
Matrix: Solid	B9K0011
••	
-Method: 1613 Full List	Duenoused usings HDMS Southlet

Chemist:

Prep Date/Time: 04-Nov-19 07:38

Prepared using: HRMS - Soxhlet

	· · · · · · · · · · · · · · · · · · ·				TO A IO		OD G	AD	<u> </u>	ABSG		AA				
С	VISTA Sample ID	G Eqv	Sample Amt. (g)	CH	IS/NS IEM/WIT DATE	CHE	CRS EM/WIT DATE	AP CHEM/ DATE	CHEM/ DATE		CHEM/ DATE		Florisil CHEM/ DATE		RS CHEM/WIT DATE	
	B9K0011-BLK1	NA	(10.00)	ao 1	1 1/04/19	ao M	- 11/05/19	NA	ao	1/05/19	00	18/11/05/19	aur	11/05/19	N x	11/06/19
	B9K0011-BS1	4	00.01)	,		٩		T	1		7	_ '	T			-
	1903430-06RE1	3.63	14.03													
	1903739-01	14.67	15.79													
	1903739-02	13.64	13.75													
	1903739-03	12.79	13.13													
	1903739-04	12.42	12.51													
	1903739-05	13.17	13.37									<u> </u>				
	1903739-06	13.91	13.91													
	1903741-01	14.08	14.25													·
	1903741-02	13.53	13.65													
	1903741-03	14.83	14.96													
	1903741-04	13.76	13.95													
	1903741-05	14.32	14.32													
	1903741-06	13.70	13.86	`		•		y		Ψ		$\overline{\Psi}$		4		<i>(</i>
IS N	ame (V ₂)	NS Name	(V		CRS Name	V	RS Name		Cycle			UN SOX		Check O	out:	11/04/19
PCD	D/F 19 (1902, TOAL	PCDD/F_	18F1913,10	nL	PCDD/F 19 <u>[</u>]	102, 10M	L PCDD/F_	19I 1603/18pc		Date/Time S				ſ		•
PCB		PCB			РСВ		PCB		104/	19 1330 c	Other	NA				11/04/19
PAH		РАН		_	PAH		PAH		111) .	Date/Time F	inal Volur	ne(s) <u>C14</u> WN		Balance	ID: HR	MZ-8,
	monto								1 1 9	1 1/00						

Comments:

- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extaction; pipetted and used Nitrogen to assist

^{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

Batch: B9K0011 ' Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1903430-06RE1	14.03 v	73.35116	10.2912	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903739-01	15.79 √	68.18462	10.7664	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903739-02	13.75	73.29377	10.0779	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903739-03	13.13	78.19472	10.2670	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903739-04	12.51	80.54768	10.0765	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903739-05	13.37	75.92	10.1505	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903739-06	13.91	71.90605	10.0021	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903741-01	14.25	71.02616	10.1212	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903741-02	13.55	73.88255	10.0111	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903741-03	14.96	67.41492	10.0853	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903741-04	13.95	72.66667	10.1370	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903741-05	14.32	69.8145	9.9974	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
1903741-06	13.86	73.00522	10.1185	20	04-Nov-19 07:38	ACO			Sediment	1613 Full List
B9K0011-BLK1	10			20	04-Nov-19 07:38	ACO				QC
B9K0011-BS1	10			20	04-Nov-19 07:38	ACO	18F1913	J 10V		QC

11/06/19

Printed: 11/6/2019 2:38:08PM Page 1 of 1

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B9J0298

Analyst: TL	Test Code: %Moist/%Solids	
Analyte:	Units: %	Data Entry Verified by: (Initial and Date) TL 11/01/19
Dried at 110°C+/-5°C Oven ID: <u>01</u> 02		

Inst HRMS-9

Date/Time IN: Date/Time OUT 10/31/19 11:38 11/1/19 14:20

			F	G	н		K	L	M	N O		P		
				Intial and Date:	TL 10/31/19	TL 11/01/19			TL 10/31/19			NA		TL 10/31/19
Particle Size	SamplD		SampType	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	CI-	Before		Added	Sample Homogenized*
	1903739-01	A	Sample	1.3000	17.5500	12.3800	11.0800	68.18	Mud	NA	NA	NA	NA	Y
	1903739-02	A	Sample	1.2900 🖊	11.4000	8.7000	7.4100	73.29	Sand	NA	NA	NA	NA	Y
	1903739-03	A	Sample	1.2800	11.1400	8.9900	7.7100	78.19	Sand	NA	NA	NA	NA	Y
	1903739-04	Α	Sample	1.2900	11.8800 /	9.8200	8.5300	80.55	Sand	NA	NA	NA	NA	_Y
	1903739-05	Α	Sample	1.3000	13.8000 /	10.7900	9.4900	75.92	Sand	NA	NA	NA	NA	Y
	1903739-06		Sample	1.3000 /	12.3700 /	9.2600 /	7.9600	71.91	Sand	NA	NA	NA	NA	Y
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^{*}Sample homogenized in sample container unless otherwise noted.

BCH_PMOIST_B9J0298.xls

11/1/2019 2:55 PM

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B9J0298

 Analyst: TL	Test Code: %Moist/%Solids	
Analyte:	Units: %	Data Entry Verified by: V//
Dried at 110°C+/-5°C Oven ID: 02		

Inst HRM4-9

Date/Time IN: Date/Time OUT
| 0/31/1 | 1/38 | 1/6/19 | 1/4/2/0

	B C D E		F	G	н		К	L M	N O	P		
				Intial and Date:	TL 10/3///9 Wet Pan and Sample	TZ 11/11/19			TL 10	131119	NA	TL/0/3/11
Particle Size	SamplD		SampType	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	CI- pH	pH Acid	Sample Homogenized*
	1903739-01	A	Sample	1.30	17.55	Weight (g)	weight (g)	Rawvai	Mad	Before	Aiter Added	Homogenized
	1903739-02	+ 7	Sample	1.29	11.40	8.70			Fund	 		
	1903739-03		Sample	1.28	(), 14	3.99			7	 		
	1903739-04		Sample	1.29	11.88	9.82				 	+	7
	1903739-05	1-1,	Sample	1.30	13 80	10.79						-
	1903739-06	 U	Sample	1.30	13.80	9,76						7
	1903739-00		Sample	1.7	1 2 . 7. 7	(, 20			 			- 7
											 	
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^{*}Sample homogenized in sample container unless otherwise noted.

BCH_PMOIST_B9J0298

10/28/2019 1:26 PM

SAMPLE DATA – EPA METHOD 1613

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	ient ID: Method Blank b ID: B9K0011-BLK1		lename: 19			Acq: 8-N0: 1613VG7-1			1:10.000	•	al: ST191108D1 AL: NA	-1		Pa	ige 6 of 6
	Name	Resp	RA	RRF	RT	Conc	Qual	noise Fac	DL	Name		Conc	EMPC (Qual nois	e DL
	2,3,7,8-TCDD	*	* n	0.91	NotFi	*		119 2.5	0.0627	Total ?	Tetra-Dioxins	*	*	11	9 0.0627
	1,2,3,7,8-PeCDD	*	* n	0.90	NotFi	*		202 2.5	0.102	Total 1	Penta-Dioxins	*	*	20	0.102
	1,2,3,4,7,8-HxCDD	*	* n	1.10	Not Fi	*		94.1 2.5	0.0718	Total H	Hexa-Dioxins	*	*	94.	1 0.0745
	1,2,3,6,7,8-HxCDD	*	* n	0.94	NotFi	*		94.1 2.5	0.0754	Total H	Hepta-Dioxins	*	*	12	8 0.0922
	1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF	*		94.1 2.5	0.0754	Total 7	Tetra-Furans	*	*	18	3 0.0711
	1,2,3,4,6,7,8-HpCDD	*	* n	0.98	Not Fi	*		128 2.5	0.0922	Total 1	Penta-Furans	0.0000	0.0000	19	2 0.0917
	OCDD	*	* n	0.96	NotFi	*		105 2.5	0.104	Total I	Hexa-Furans	*	*	10	0.0365
										Total H	Hepta-Furans	0.172	0.172		* *
	2,3,7,8-TCDF	*	* n	0.95	NotFi	*		183 2.5	0.0711						
	1,2,3,7,8-PeCDF	*	* n	0.96	Not Fi	*		192 2.5	0.0921						
	2,3,4,7,8-PeCDF	*	* n	1.01	Not Fi	*		192 2.5	0.0915						
	1,2,3,4,7,8-HxCDF	*	* n	1.18	Not Fi	*		100 2.5	0.0325						
	1,2,3,6,7,8-HxCDF	*	* n	1.07	NotFi	*		100 2.5	0.0329						
	2,3,4,6,7,8-HxCDF	*	* n	1.11	Not F7	*		100 2.5	0.0359						
	1,2,3,7,8,9-HxCDF	*	* n	1.06	Not Fi	*		100 2.5	0.0467						
	1,2,3,4,6,7,8-HpCDF	5.3 6e +03	1.12 y	1.13	36:40	0.17219		* 2.5	*						
	1,2,3,4,7,8,9-HpCDF	*	* n	1.28	NotFi	*		131 2.5	0.0566						
	OCDF	*	* n	0.95	Not Fi	*		151 2.5	0.122						
										Rec	Qual				
IS	13C-2,3,7,8-TCDD	6.6 7e +06	0.79 y	1.10	26:13	205.87				103					
IS	13C-1,2,3,7,8-PeCDD	5.7 0 e+06	0.63 y	0.88	30:42	218.82				109					
IS	13C-1,2,3,4,7,8-HxCDD	4.8 8 e+06	1.29 y	0.64	34:01	203.81				102					
IS	13C-1,2,3,6,7,8-HxCDD	5.6 0 e+06	1.28 y	0.86	34:07	175.33				87.7					
IS	13C-1,2,3,7,8,9-HxCDD	5. 59 e+06	1.29 y	0.81	34:25	185.77				92.9					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.9 1e+06	1.07 y	0.65	37:52	201.08				101					
IS	13C-OCDD	8. 66 e+06	0.90 y	0.58	41:08	400.64				100					
IS	13C-2,3,7,8-TCDF	9. 52 e+06	0.79 y	1.03	25:26	190.01				95.0					
IS	13C-1,2,3,7,8-PeCDF	8. 3 3e+06	1.62 y	0.85	29:32	201.50				101					
IŞ	13C-2,3,4,7,8-PeCDF	8. 0 3e+06	1.64 y	0.85	30:25	195.91				98.0					
IS	13C-1,2,3,4,7,8-HxCDF	6. 34 e+06	0.51 y	0.83	33:07	204.17				102					
IS	13C-1,2,3,6,7,8-HxCDF	7. 1 2e+06	0.51 y	1.03	33:15	184.48				92.2					
IS	13C-2,3,4,6,7,8-HxCDF	6. 6 8e+06	0.51 y	0.95	33:50	187.95				94.0					
IS	13C-1,2,3,7,8,9-HxCDF	6. 0 7e+06	0.52 y	0.83	34:48	196.57				98.3					
IS	13C-1,2,3,4,6,7,8-HpCDF	5. 52 e+06	0.42 y	0.76	36:38	195.35				97.7					
IS	13C-1,2,3,4,7,8,9-HpCDF	4. 6 3e+06	0.45 y	0.58	38:24	213.54				107					
IS	13C-OCDF	1. 0 7e+07	0.92 y	0.69	41:22	415.62				104					
C / Up	37Cl-2,3,7,8-TCDD	3. 1 1e+06		1.20	26:14	87.757				110	Integra	ations	Review	v ed	
											by .	\ 4	by		
RS/I	T 13C-1,2,3,4-TCDD	5. 9 1e+06	0.78 y	1.00	25:39	200.00					Analyst:	// ()	Analys	st: C7	
R S	13C-1,2,3,4-TCDF	9. 68 e+06	0.81 y	1.00	24:14	200.00					-		•		
R S /I	RT 13C-1,2,3,4,6,9-HxCDF	7. 46e +06	0.51 y	1.00	33:32	200.00					Date:	1/19	Analys	12/20	119

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Totals class: HpCDF EMPC Entry #: 35

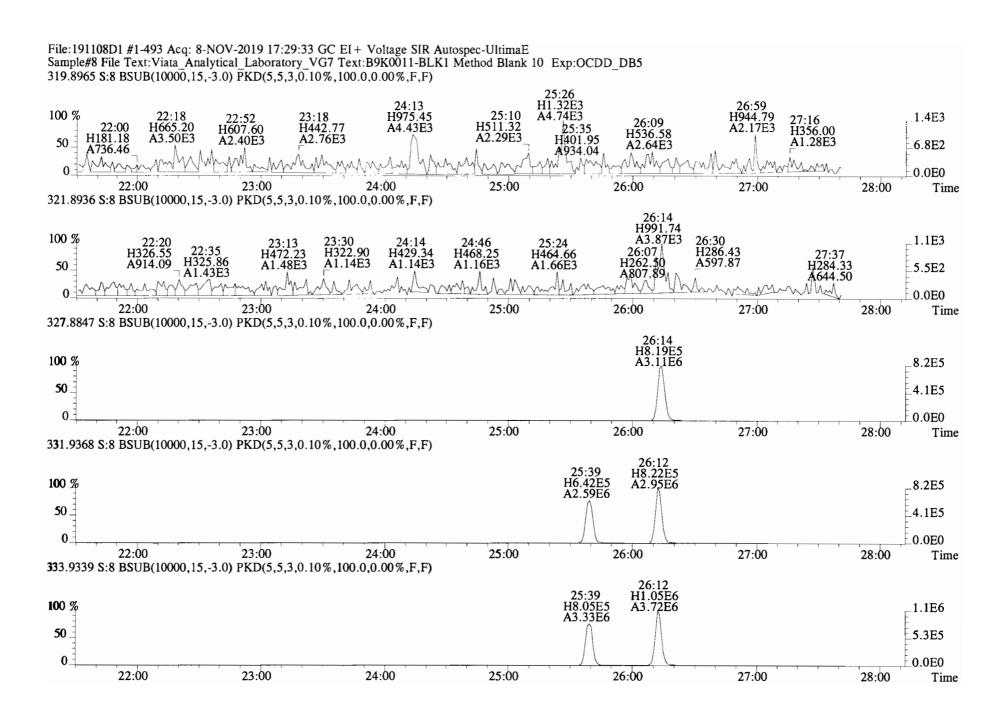
Run: 12 File: 191108D1 S: 8 I: 1 F: 4
Acquired: 8-NOV-19 17:29:33 Processed: 11-NOV-19 10:37:15

Total Concentration: 0.17219 Unnamed Concentration: *

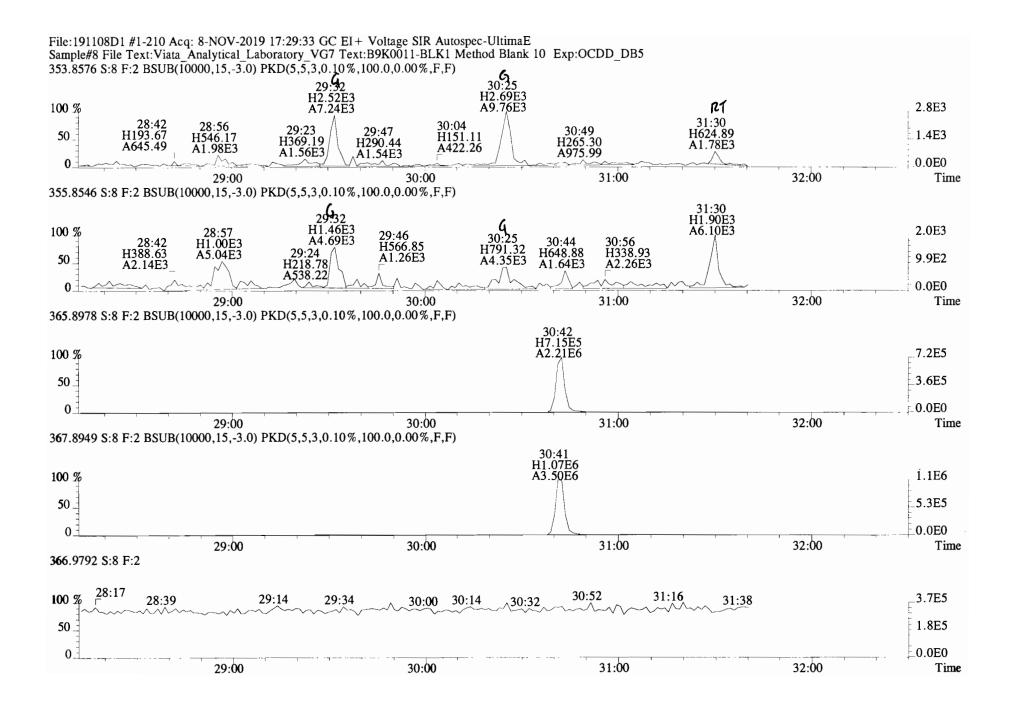
RT m1 Resp m2 Resp RA Resp Concentration Name

36:40 2.837e+03 2.523e+03 1.12 y 5.359e+03 0.17219 1,2,3,4,6,7,8-HpCDF

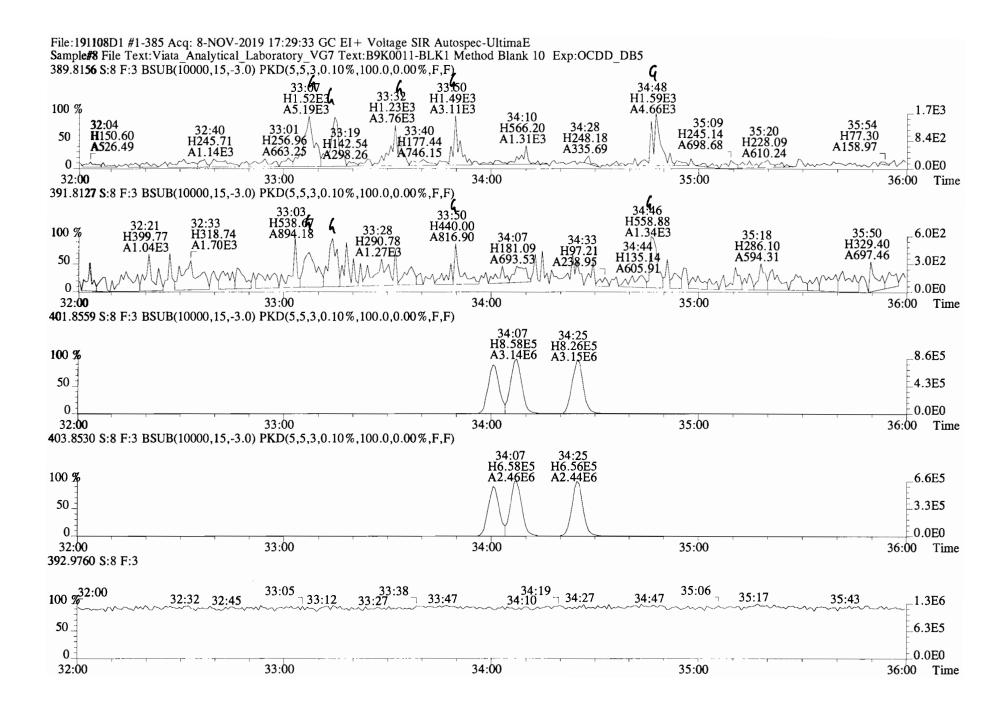
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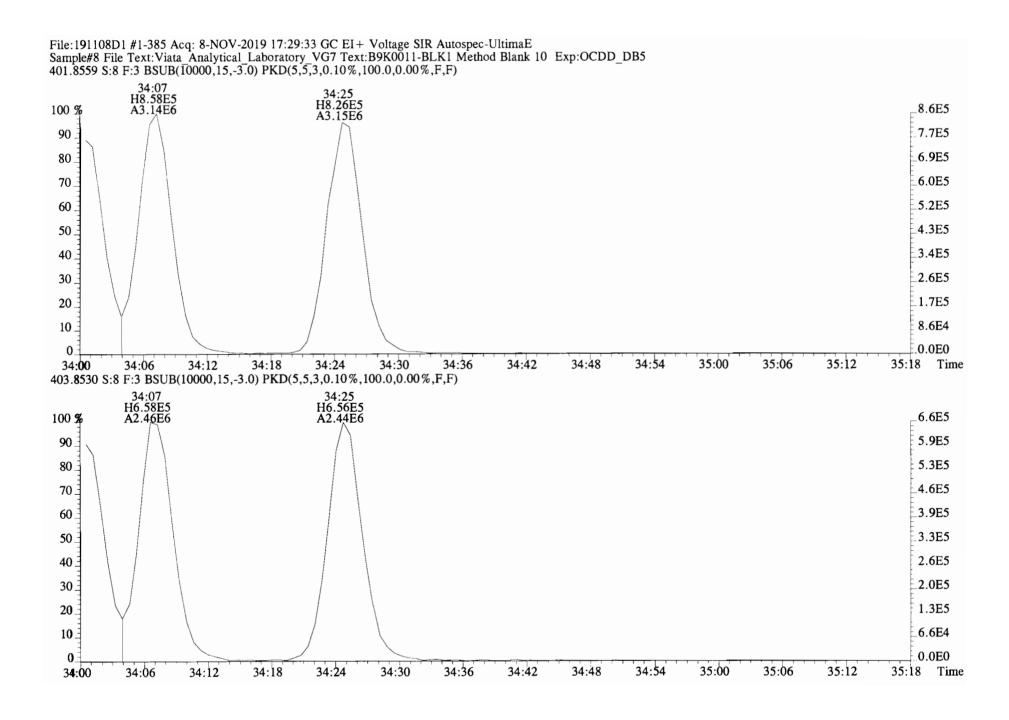
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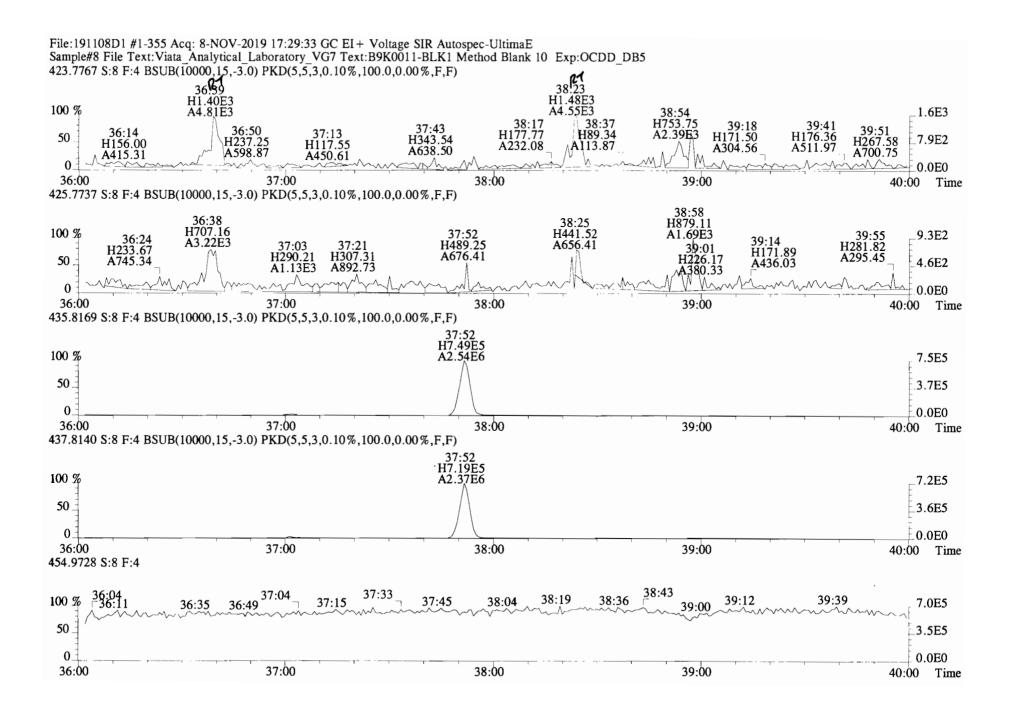
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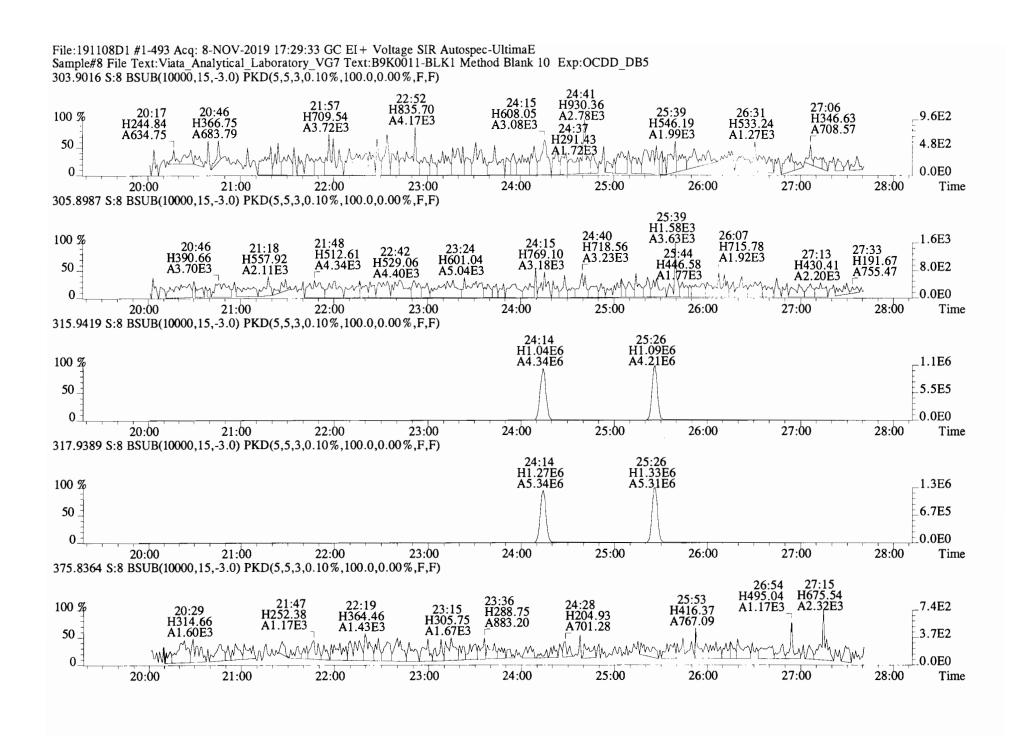


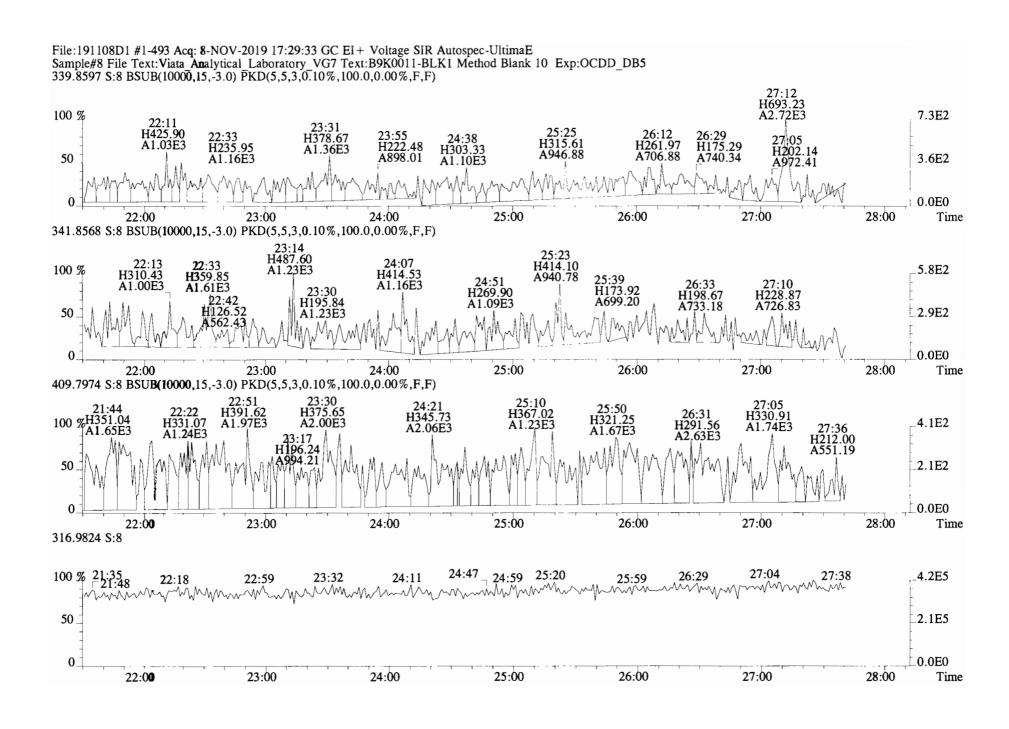
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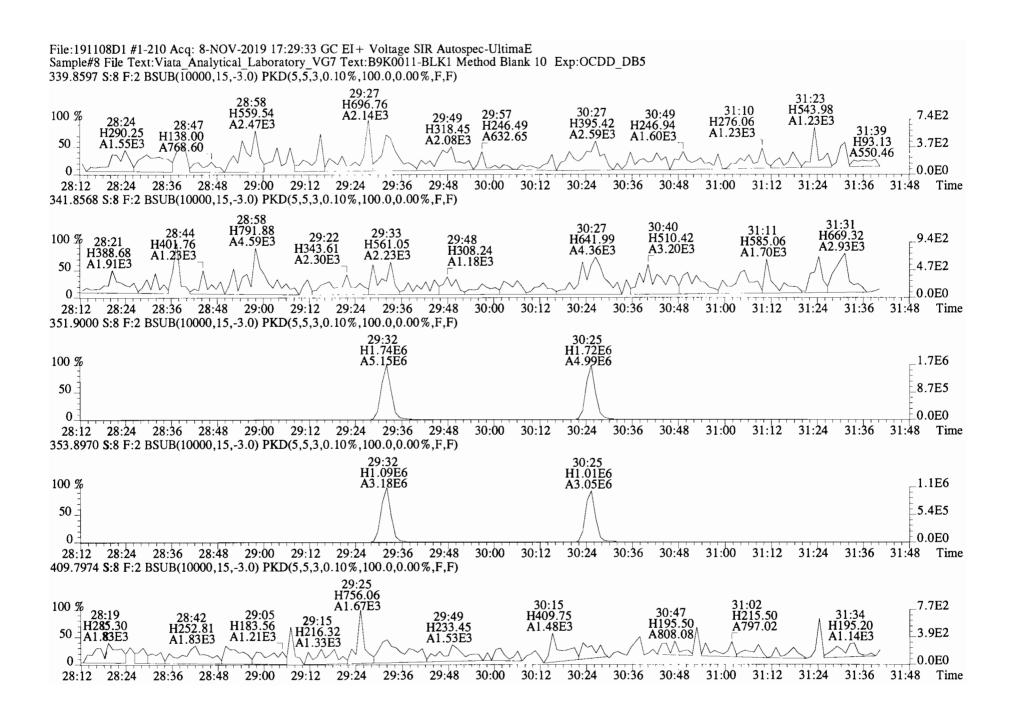
Work Order 1903739 Page 34 of 646

File:191108D1 #1-432 Acq: 8-NOV-2019 17:29:33 GC EI+ Voltage SIR Autospec-UltimaE Sample#8 File Text:Viata Analytical Laboratory VG7 Text:B9K0011-BLK1 Method Blank 10 Exp:OCDD DB5 457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) H3.90E3 100 % A1.45E4 4.1E3 42:10 H273.08 43:58 H587.38 41:55 H471.39 40:32 H321.68 41:08 H306.15 50 40:10 43:05 43:30 41:31 42:42 2.1E3 H199.70 H173.37 A437.59 H156.93 A225.72 H332.01 H176.67 A612.33 A672.70 A759.76 A299.06 A564.31 A1.36E3 A679.16 A351.87 0.0E0 40:00 41:00 42:00 43:00 44:00 Time 459.7348 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 41:22 H2.18E3 41:10 100 % A9.01E3 2.2E3 H959.21 41:42 H270.08 40:53 H194.45 42:37 H321.67 A2.92E3 43:10 41:30 42:10 50 1.1E3 H268.77 H272.63 A710.66 H235.38 A310.06 A868.06 A541.82 A631.45 A312.29 0.0E040:00 41:00 42:00 43:00 44:00 Time 469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 41:08 H9.25E5 100 % A4.10E6 9.3E5 50 4.6E5 0 0.0E040:00 41:00 42:00 43:00 44:00 Time 471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 41:09 H1.08E6 100 % A4.56E6 1.1E6 **50** \pm 5.4E5 0 0.0E0 41:00 40:00 42:00 43:00 44:00 Time 454.9728 S:8 F:5 40:48 100 % 42:23 43:05 43:19 □ 40:54 41:57 42:42 43:41 40:23 41:15 43:59 _7.9E5 50 4.0E5 0.0E0 40:00 41:00 42:00 43:00 44:00 Time

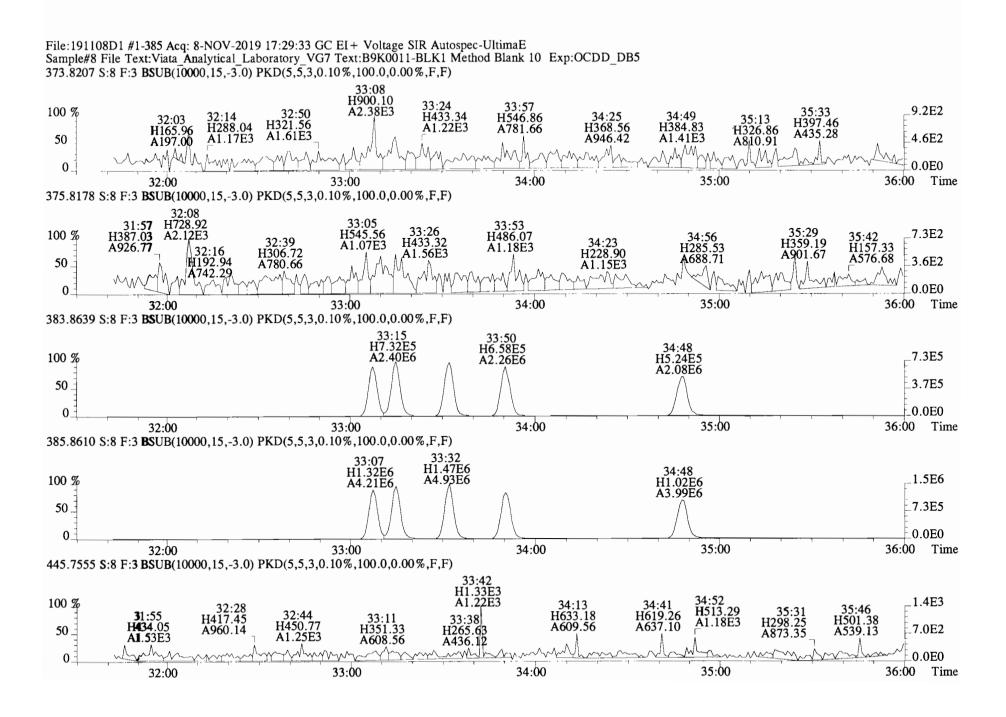




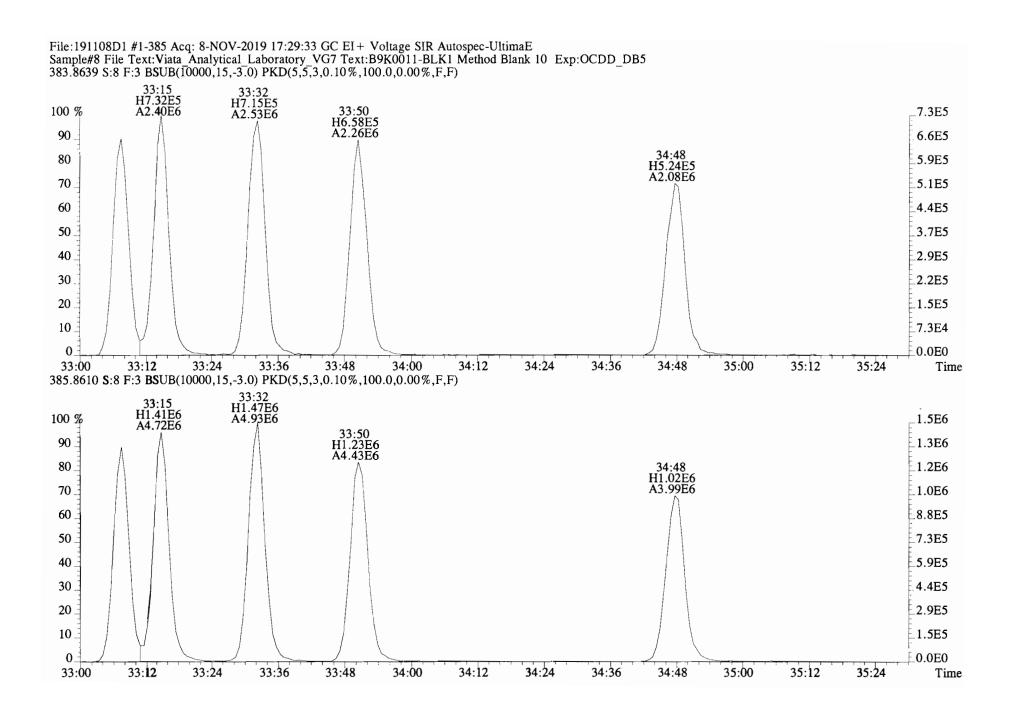
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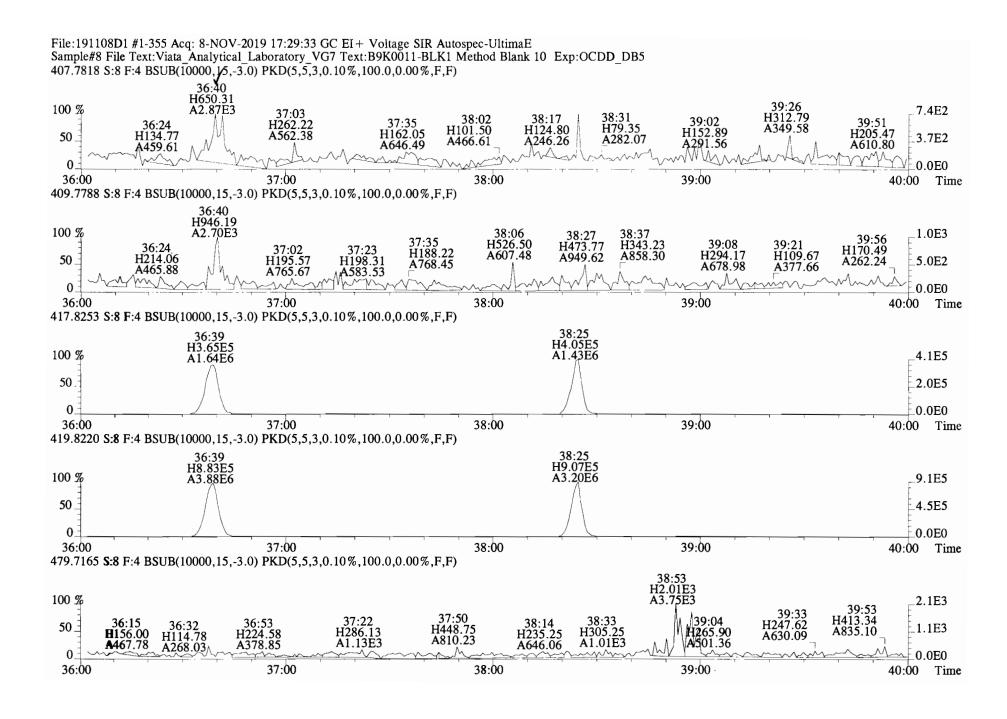
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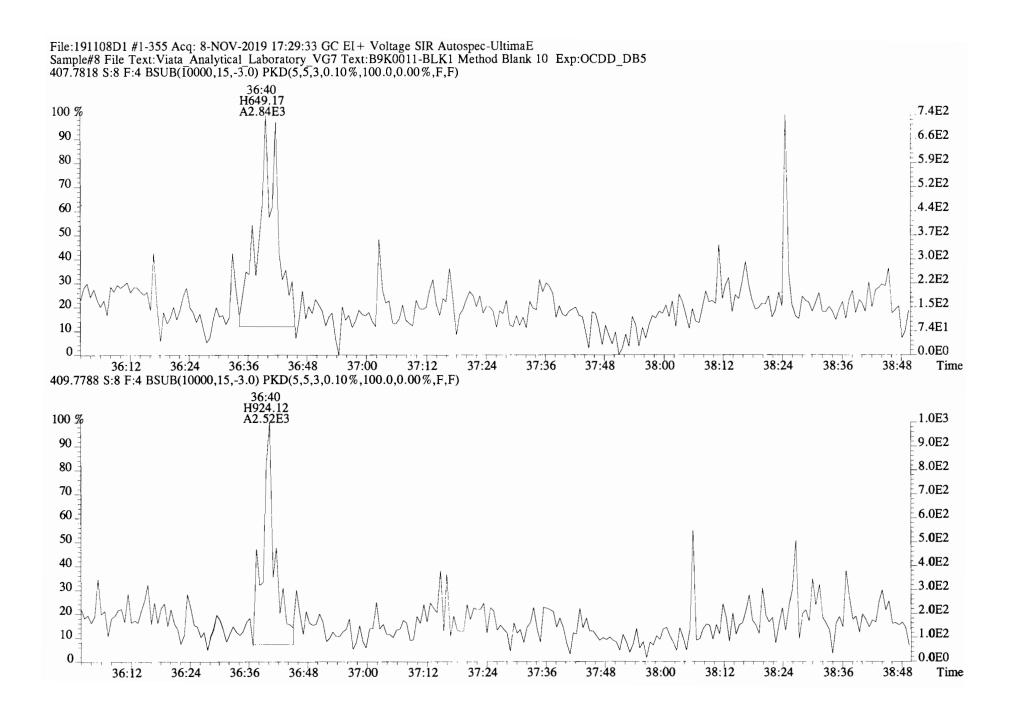
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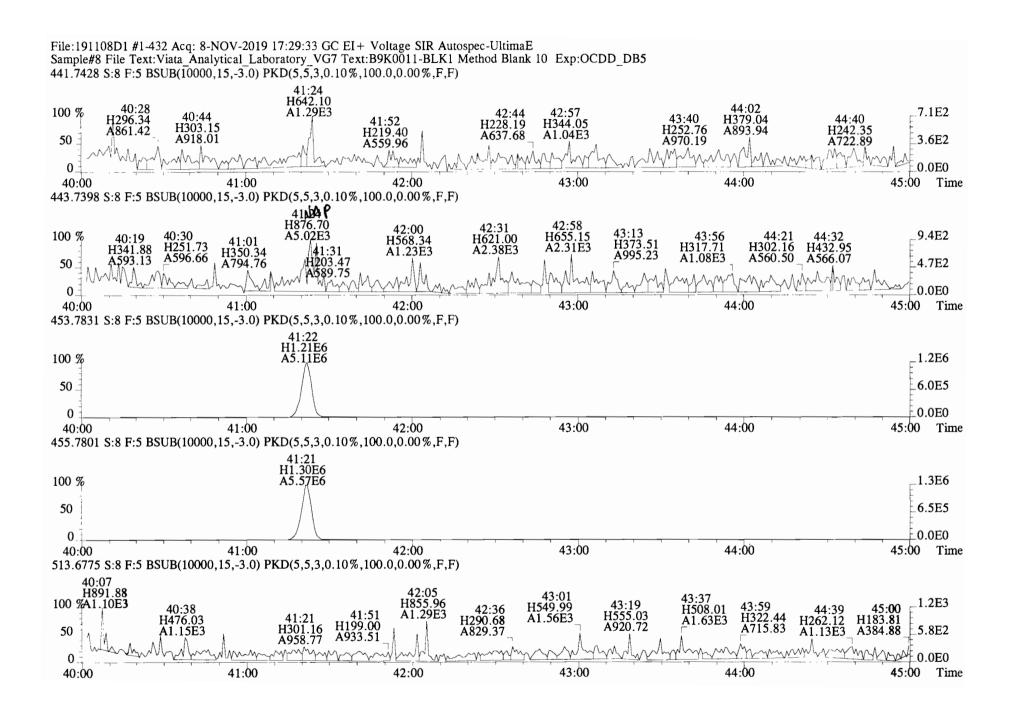
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FORM 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B9K0011-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 191108D1-4

Shift: Day Analysis Date: 8-NOV-19 Time: 14:17:51 Ext. Date:

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE	CONC.	OPR CONC.
	CONC.	FOUND	LIMITS (1)
NATIVE ANALYTES	(ng/mL)	(ng/mL)	(ng/mL)
2,3,7,8-TCDD	10	10.4	6.7 - 15.8
			7.3 - 14.6 (2)
1,2,3,7,8-PeCDD	50	43.9	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	47.8	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	49.8	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	47.8	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	48.1	35.0 - 70.0
OCDD	100	99.7	78.0 - 144.0
0 3 7 0 555	10	0.66	5.5.35.0
2,3,7,8-TCDF	10	8.66	7.5 - 15.8
			8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	46.2	40.0 - 67.0
2,3,4,7,8-PeCDF	50	46.3	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	47.1	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	47.2	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	49.0	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	47.5	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	46.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	45.0	39.0 - 69.0
OCDF	100	93.9	63.0 - 170.0

- (1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94
- (2) Contract-required concentration limits for OPR as specified in Table 6a, Method 1613. 10/94

Analyst: 0B

Date: (8/19

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FORM 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B9K0011-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 191108D1-4

Ext. Date: Shift: Day Analysis Date: 8-NOV-19 Time: 14:17:51

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

LABELED COMPOUNDS	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
13C-2,3,7,8-TCDD	100	78.4	20.0 - 175.0
13C-1,2,3,7,8-PeCDD	100	91.9	25.0 - 141.0 (2) 21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	97.0	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	83.6	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	90.7	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	100	26.0 - 166.0
13C-OCDD	200	201	26.0 - 397.0
13C-2,3,7,8-TCDF	100	75.3	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	88.2	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	79.8	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	93.0	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	84.1	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	84.1	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	91.9	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	90.6	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	102	20.0 - 186.0
13C-OCDF	200	204,	26.0 - 397.0
CLEANUP STANDARD			
37C1-2,3,7,8-TCDD	40	35.1	12.4 - 76.4

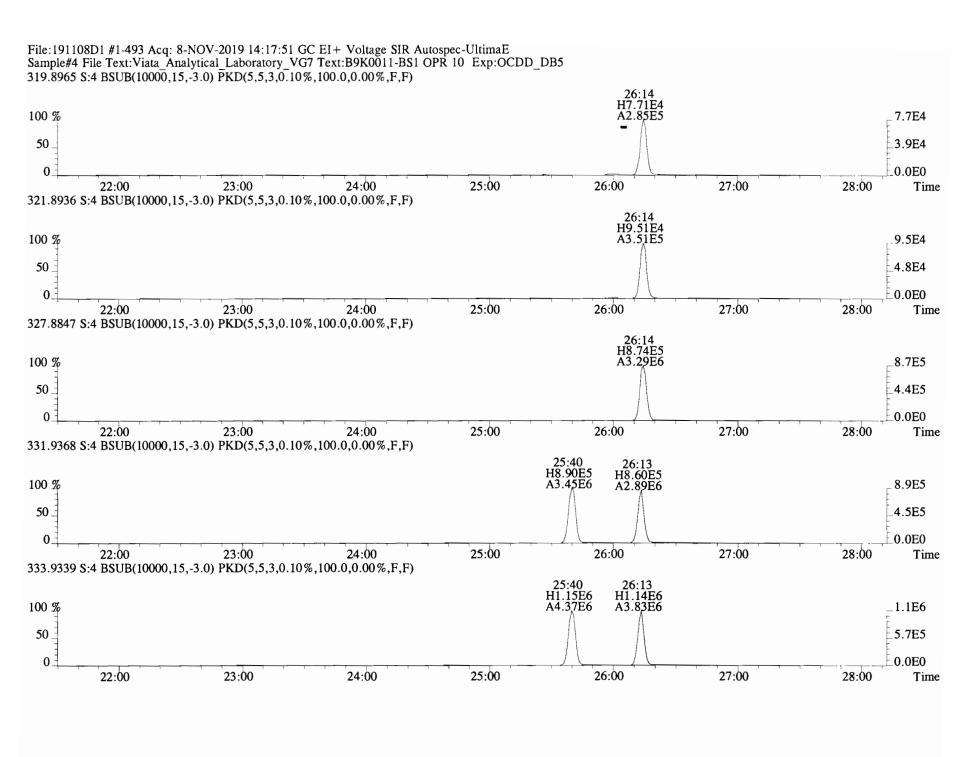
- (1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. 10/94
- (2) Contract-required concentration limits for OPR as specified in Table 6a, Method 1613. 10/94

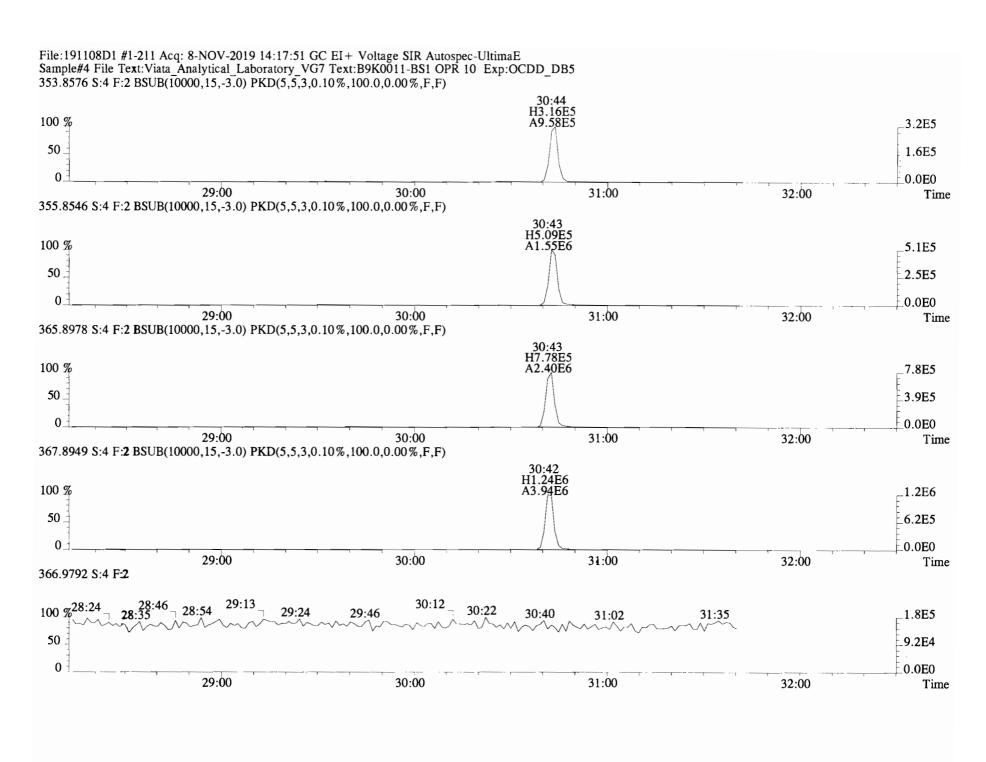
Analyst: 1)6

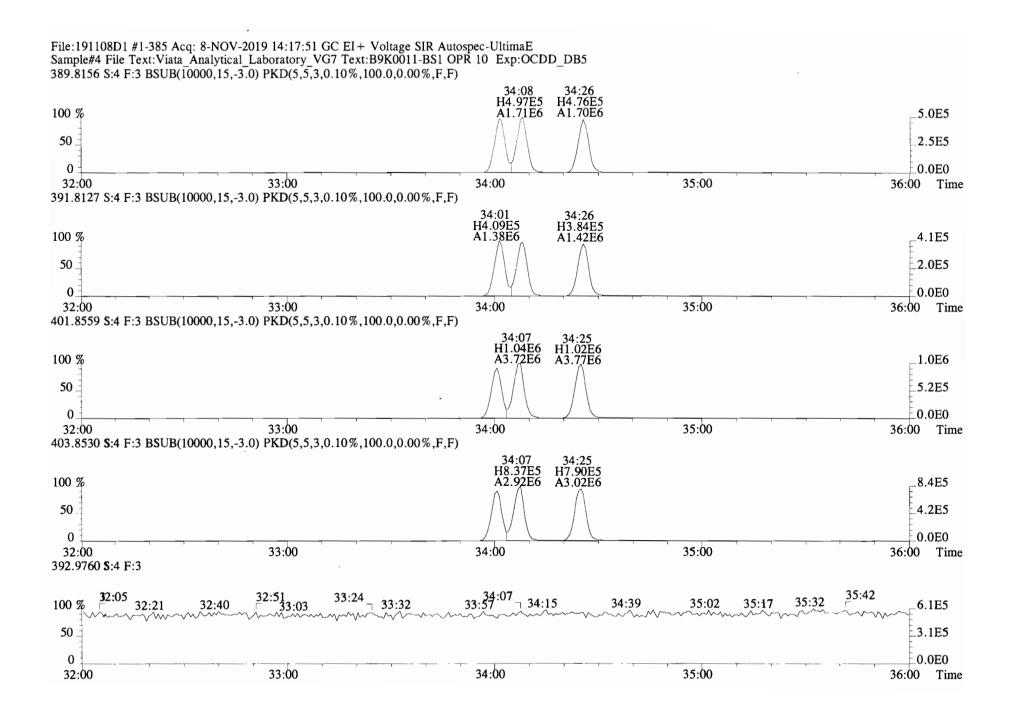
Date: 1(8/19

(Client ID: OPR	Fi	lename: 1	91108D1	S:4	Acq: 8-N	OV-19 1	4:17:51		ConCa	l: ST191108D1-	1			Page	3 of 3
I	ab ID: B9K0011-BS1	GC	Column II	D: ZB-5	MS ICal:	1613VG7-	10-9-19	wt/vol	: 1.000	EndCA	L: NA				ŭ	
	Name	Resp	RA	RRF	RT	Conc	Qual	noise Fac	DL	Name		Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	6.36e+05	0.81 y	0.91	26:14	10.449		* 2.5	*	Total T	etra-Dioxins	11.0	11.9		*	*
	1,2,3,7,8-PeCDD	2.51e+06	0.62 y	0.90	30:43	43.900		* 2.5	*	Total P	enta-Dioxins	43.9	44.4		*	*
	1,2,3,4,7,8-HxCDD	3.04e+06	1.20 y	1.10	34:01	47.757		* 2.5	*	Total H	exa-Dioxins	145	146		*	*
	1,2,3,6,7,8-HxCDD	3.10e+06	1.22 y	0.94	34:07	49.762		* 2.5	*	Total H	epta-Dioxins	48.3	50.0		*	*
	1,2,3,7,8,9-HxCDD	3.12e+06	1.20 y	0.96	34:26	47.764		* 2.5	*	Total T	etra-Furans	9.32	10.4		*	*
	1,2,3,4,6,7,8-HpCDD	2.86e+06	1.03 y	0.98	37:52	48.101		* 2.5	*	Total P	enta-Furans	93.589	94.153		*	*
	OCDD	5.16e+06	0.88 y	0.96	41:09	99.661		* 2.5	*	Total H	exa-Furans	191	192		*	*
										Total H	epta-Furans	91.7	92.9		*	*
	2,3,7,8-TCDF	8.04e+05	0.78 y	0.95	25:28	8.6600		* 2.5	*							
	1,2,3,7,8-PeCDF	4.20e+06	1.68 y	0.96	29:33	46.244		* 2.5	*							
	2,3,4,7,8-PeCDF	3.99e+06	1.71 y	1.01	30:26	46.285		* 2.5	*							
	1,2,3,4,7,8-HxCDF		1.24 y	1.18	33:08	47.117		* 2.5	*							
	1,2,3,6,7,8-HxCDF		1.22 y	1.07	33:16	47.197		* 2.5	*							
	2,3,4,6,7,8-HxCDF		1.20 y	1.11	33:51	48.992		* 2.5	*							
	1,2,3,7,8,9-HxCDF		1.22 y	1.06	34:48	47.463		* 2.5	*							
	1,2,3,4,6,7,8-HpCDF		1.03 y	1.13	36:39	46.681		* 2.5	*							
	1,2,3,4,7,8,9-HpCDF		1.01 y	1.28	38:25	45.019		* 2.5	*							
		5.81e+06	0.89 y	0.95	41:22	93.930		* 2.5	*							
	552.	3.020.00	0.05 1	0.55	11.00	30.300		2.0		Rec	Qual					
IS	13C-2,3,7,8-TCDD	6.72e+06	0.75 y	1.10	26:13	78.446				78.4	2001					
IS	13C-1,2,3,7,8-PeCDD		0.61 y	0.88	30:42	91.874				91.9						
IS	13C-1,2,3,4,7,8-HxCDD		1.24 y	0.64	34:01	97.028				97.0						
IS	13C-1,2,3,6,7,8-HxCDD		1.27 y	0.86	34:07	83.598				83.6						
IS	13C-1,2,3,7,8,9-HxCDD		1.25 y	0.81	34:25	90.731				90.7						
IS	13C-1,2,3,4,6,7,8-HpCDD		1.05 y	0.65	37:51	100.01				100						
IS	-	1.08e+07	0.90 y	0.58	41:08	200.89				100						
IS	13C-2,3,7,8-TCDF		0.80 y	1.03	25:27	75.261				75.3						
IS	13C-1,2,3,7,8-PeCDF		1.58 y	0.85	29:32	88.231				88.2						
IS	13C-2,3,4,7,8-PeCDF		1.50 y	0.85	30:26	79.817				79.8						
IS	13C-1,2,3,4,7,8-HxCDF		0.51 y	0.83	33:07	93.048				93.0						
IS	13C-1,2,3,6,7,8-HxCDF		0.52 y	1.03	33:15	84.141				84.1						
IS	13C-2,3,4,6,7,8-HxCDF		0.51 y	0.95	33:50	84.084				84.1						
IS	13C-1,2,3,7,8,9-HxCDF		0.51 y	0.83	34:48	91.938				91.9						
IS	13C-1,2,3,4,6,7,8-HpCDF		0.44 y	0.76	36:38	90.566				90.6						
IS	13C-1,2,3,4,7,8,9-HpCDF		0.44 y	0.58	38:24	102.03				102						
IS		1.31e+07	0.44 y 0.91 y	0.69	41:21	204.50				102						
13	13C-0CDF	1.316+0/	0.91 Y	0.03	41.21	204.50				102						
c/t	Jp 37C1-2,3,7,8-TCDD	3 290+06		1.20	26:14	35.104				87.8	Integra	tions	Povi	ewed		
٠,٠	P 3/C1 2/3///6-1CDD	3.236+00		1.20	20.14	33.104				07.0	by	1/	by	C#CU		
RS/	'RT 13C-1,2,3,4-TCDD	7 820+06	0.79 y	1.00	25:40	100.00					Analyst: /	<i>)/</i> 3	3	yst : _(77	
RS	13C-1,2,3,4-TCDF		0.73 y 0.81 y	1.00	24:15	100.00					Analyse:		Midi	, , , ,	-	
	'RT 13C-1,2,3,4,6,9-HxCDF		0.51 y	1.00	33:32	100.00					1	.1 .				
1.0/	13C-1,2,3,4,6,3-1XCDF	J.20C+06	0.51 Y	1.00	33.32	100.00					Date: 11/8	8/19	Dato	. 17	120/19	
											Daco	1			1-41-1	
															,	

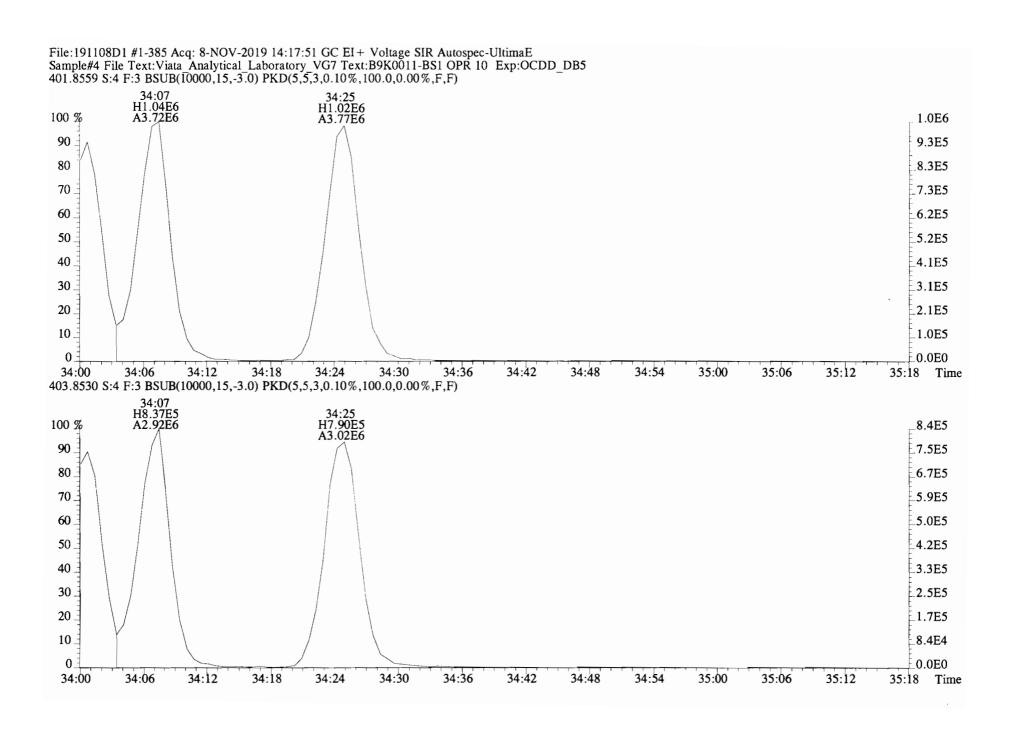
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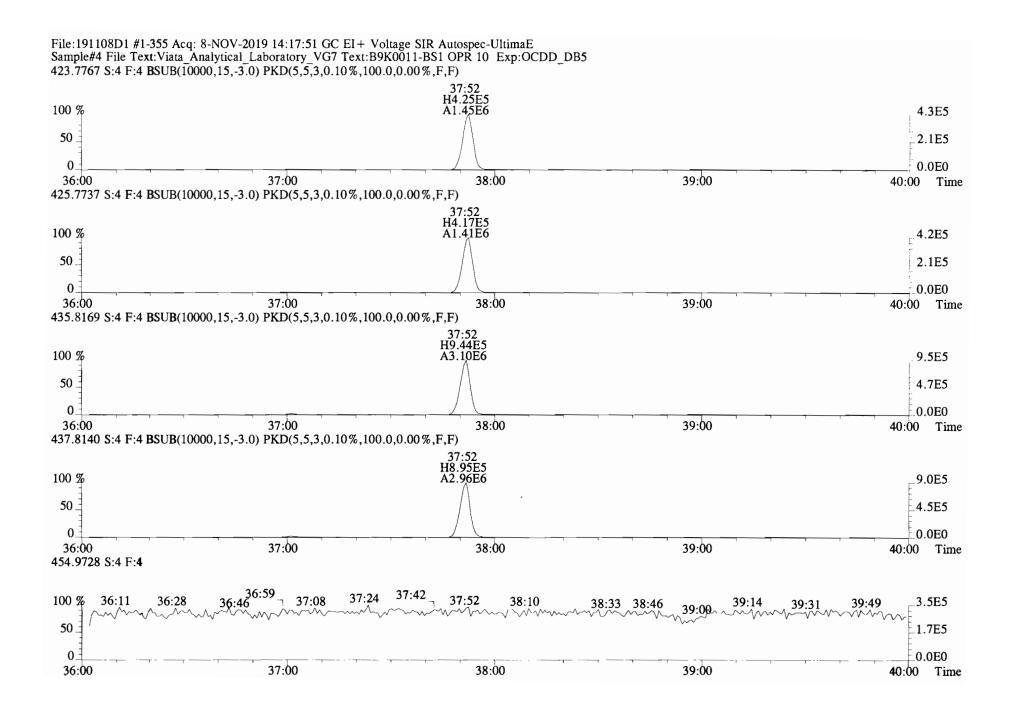




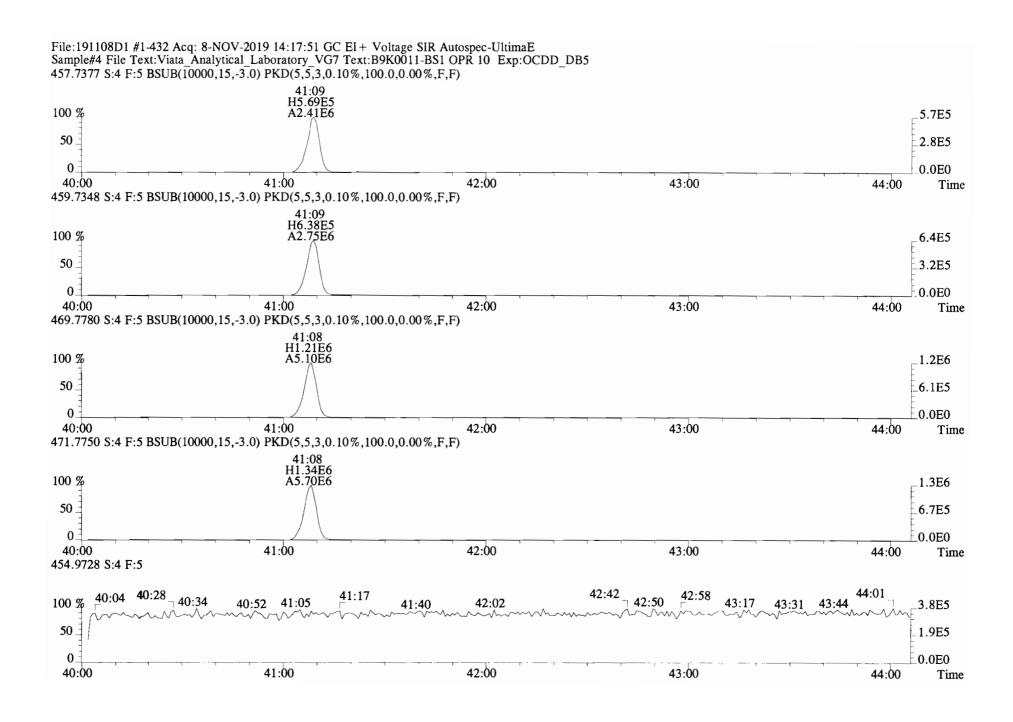
Work Order 1903739 Page 49 of 646



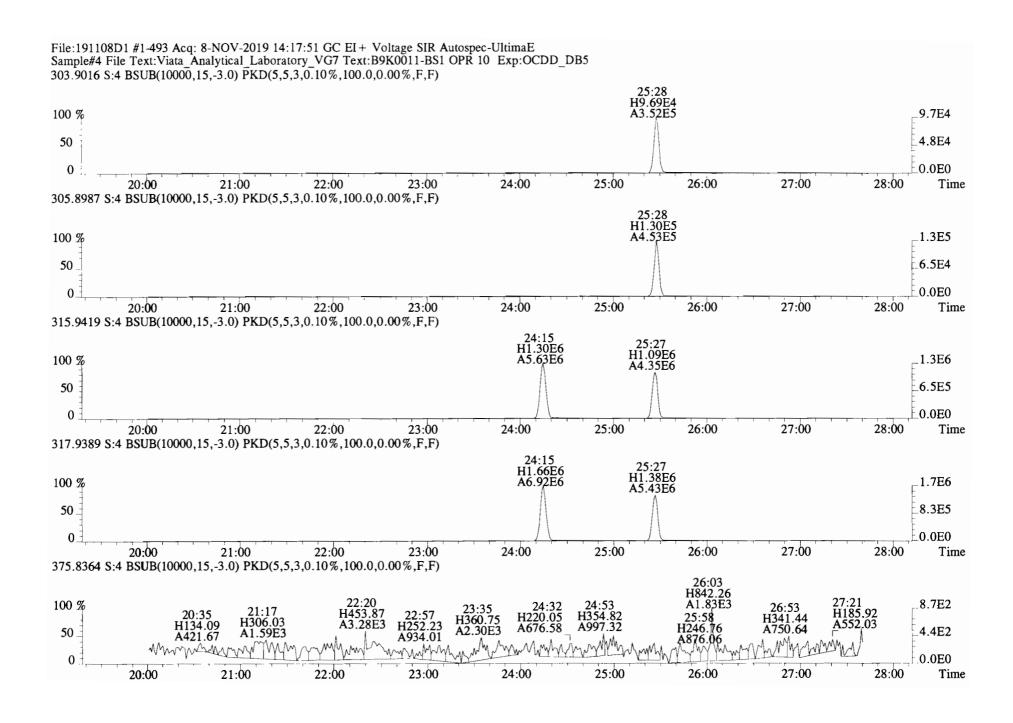
Work Order 1903739 Page 50 of 646



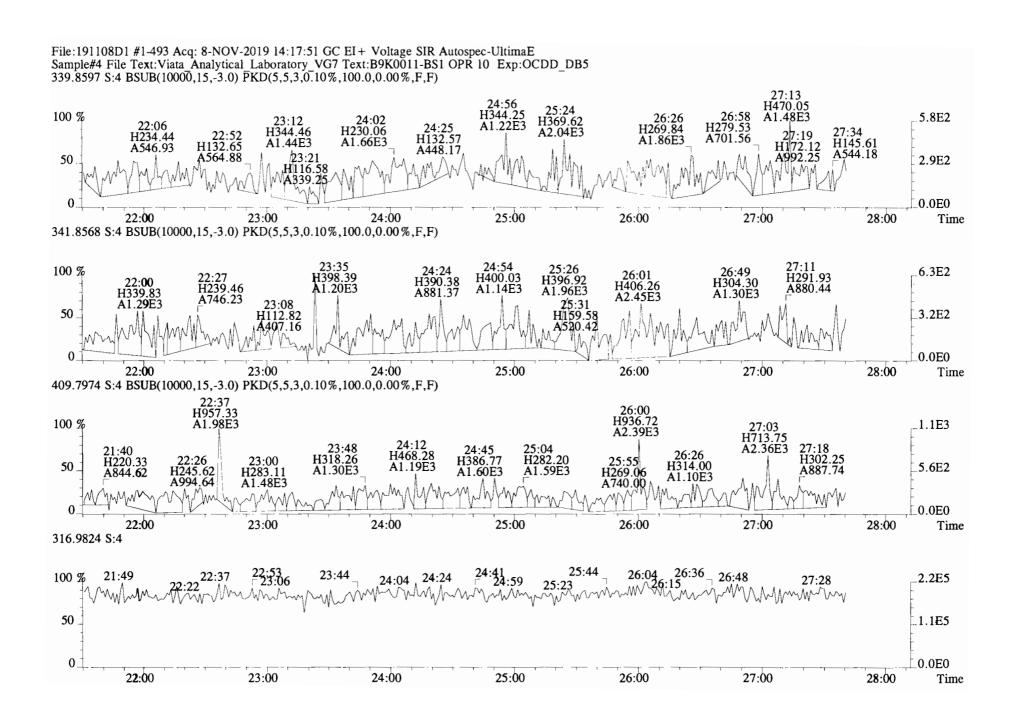
Work Order 1903739 Page 51 of 646



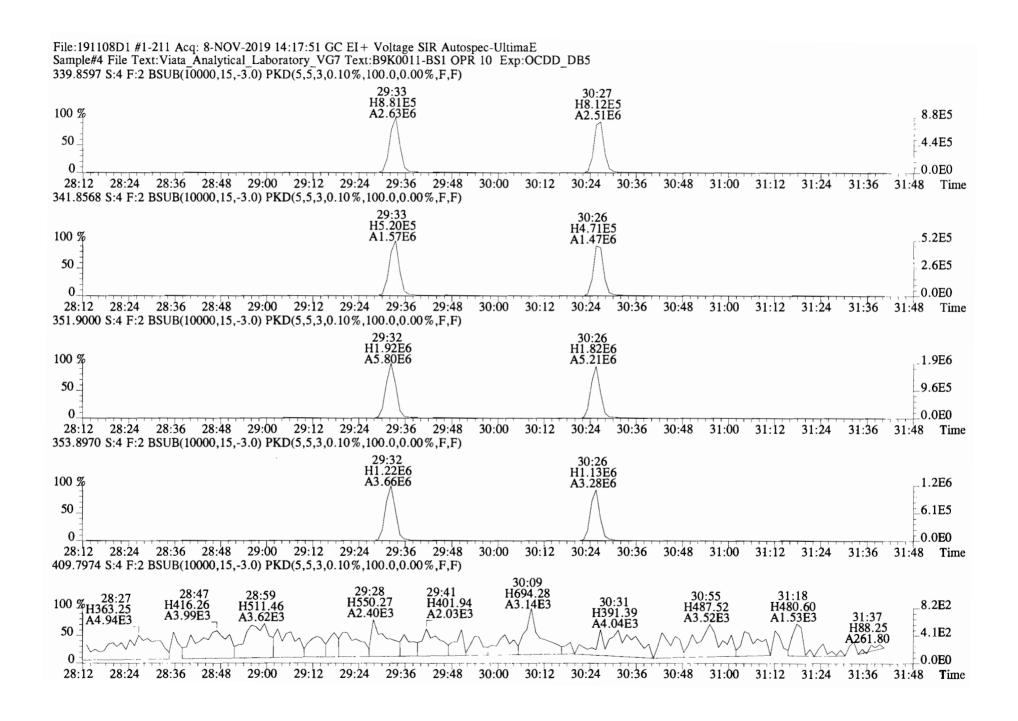
Work Order 1903739 Page 52 of 646



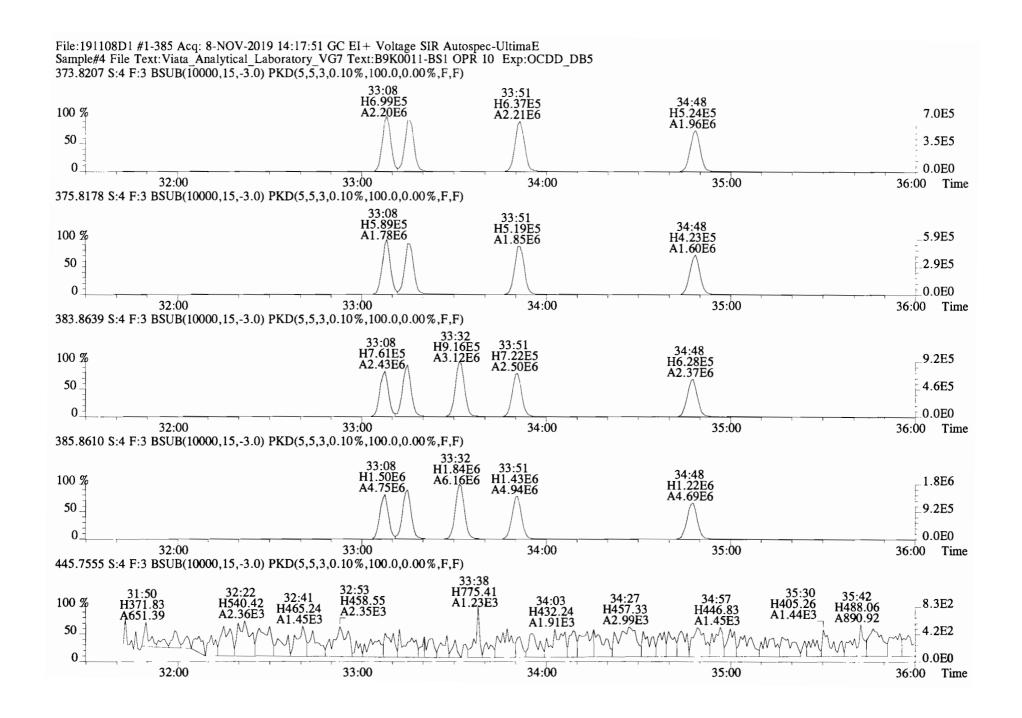
Work Order 1903739 Page 53 of 646



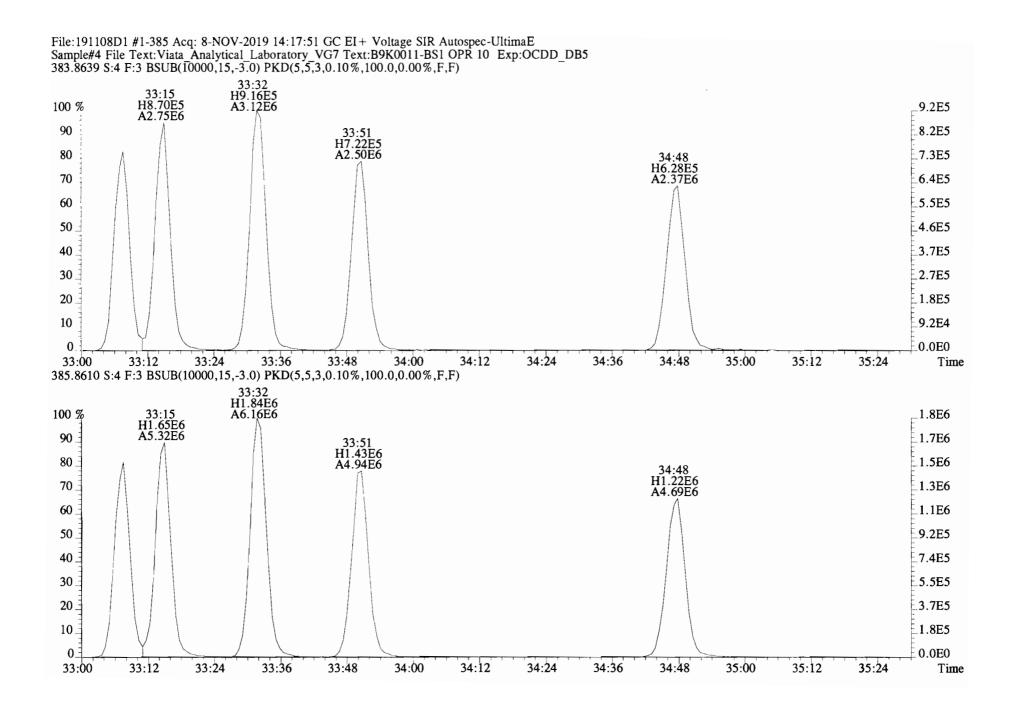
Work Order 1903739 Page 54 of 646



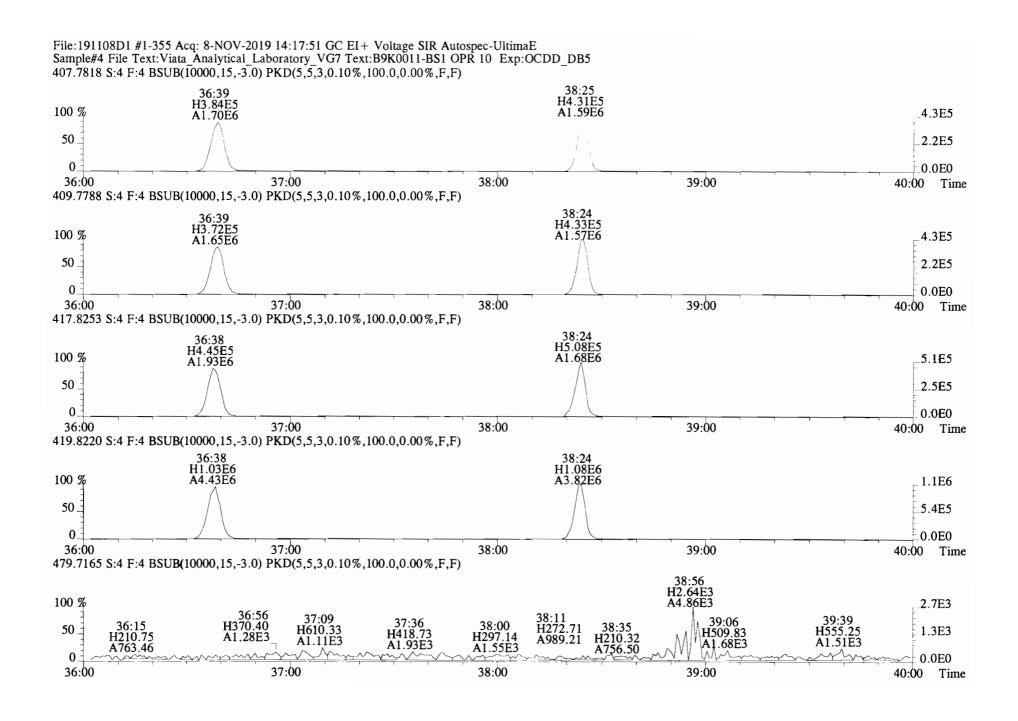
Work Order 1903739 Page 55 of 646



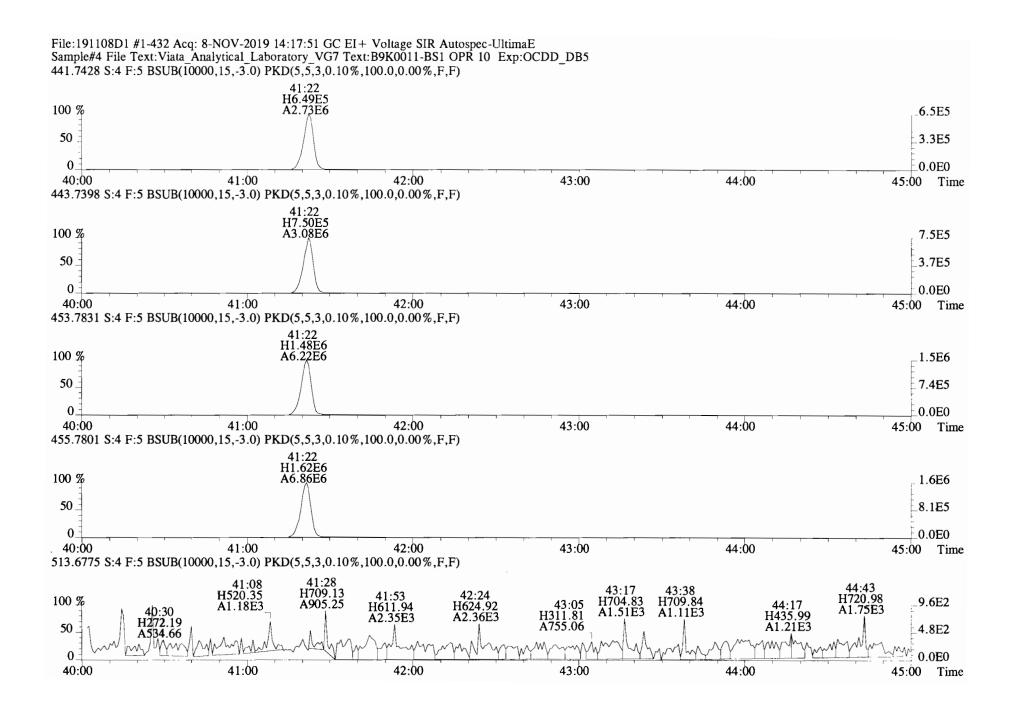
Work Order 1903739 Page 56 of 646



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Dataset:

U:\VG11.PRO\Results\191217K3\191217K3-16.qld

Last Altered: Printed:

Friday, December 20, 2019 12:22:59 Pacific Standard Time Friday, December 20, 2019 12:25:06 Pacific Standard Time

EL 12/20/19 C7 12/20/19

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014

14,842, 11,111,	# Name : 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	, Abs.Resp	RA.	∵ _⊈ n/y	RRF	wt./vol. 1	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	CEPTE A DL	EMPC
1, 1	1 2,3,7,8-TCDD				0.925	10.766 🗕	2 6.20		1.00		YES		•	0.168	
2	2 1,2,3,7,8-PeCDD				0.905	10.766	31.33		1.00		YES			0.150	
3/25/25	3 1,2,3,4,7,8-HxCDD				1.07	10.766	34.67		1.00		YES			0.343	
4.0000000000000000000000000000000000000	4 1,2,3,6,7,8-HxCDD				0.967	10.766	34.76		1.00		YES			0.304	
5 語彙是許可以	5 1,2,3,7,8,9-HxCDD				0.978	10.766	35.07		1.00		YES			0.347	
6	6 1,2,3,4,6,7,8-HpCDD	1042.358	1.069	NO	1.04	10.766	38.55	38.58	1.00	1.00	NO	1.328		0.329	1.328
7.42	7 OCDD	8961.606	0.929	NO	0.972	10.766	41.81	41.81	1.00	1.00	NO	12.80		0.936	12.80
8	8 2.3,7,8-TCDF				0.938	10.766	25.20		1.00		YES			0.0736	
91120	9 1,2,3,7,8-PeCDF				0.976	10.766	30.02		1.00		YES			0.0497	
10 1	10 2.3,4,7,8-PeCDF				1.00	10.766	31.02		1.00		YES			0.0438	
11 March	11 1,2,3,4,7,8-HxCDF				1.24	10.766	33.79		1.00		YES			0.0402	
12 7 7	12 1,2,3,6,7,8-HxCDF				1.10	10.766	33.92		1.00		YES			0.0412	
13	13 2,3,4,6,7,8-HxCDF				1.18	10.766	34.52		1.00		YES		٠.	0.0455	
	14 1,2,3,7,8,9-HxCDF				1.07	10.766	35.37		1.00		YES			0.0680	,
1511.73	15 1,2,3,4,6,7,8-HpCDF				1.13	10.766	37.15		1.00		YES			0.0838	
16 110	16 1,2,3,4,7,8,9-HpCDF				1.26	10.766	39.15		1.00		YES			0.120	
17.55.FA	17 OCDF				1.10	10.766	42.00		1.00		YES			0.127	
1832227	18 13C-2,3,7,8-TCDD	289392.727	0.760	NO	1.05	10.766	26.16	26.17	1.03	1.03	NO	180.3	97.1	0.648	
1944	19 13C-1,2,3,7,8-PeCDD	218074.751	0.646	NO	0.743	10.766	31.31	31.31	1.23	1.23	NO	191.9	103	0.880	
20 11 11 11 11	20 13C-1,2,3,4,7,8-HxCDD	165251.312	1.356	NO	0.646	10.766	34.65	34.66	1.01	1.01	NO	138.9	74.8	0.679	
215/2019	21 13C-1,2,3,6,7,8-HxCDD	233735.812	1.222	NO	0.777	10.766	34.75	34.76	1.02	1.02	NO	163.5	88.0	0.565	
200	22 13C-1,2,3,7,8,9-HxCDD	199965.304	1.210	NO	0.659	10.766	35.02	35.03	1.02	1.03	NO	164.7	88.7	0.666	
3	23 13C-1,2,3,4,6,7,8-HpCDD	140496.476	1.028	NO	0.534	10.766	38.52	38.54	1.13	1.13	NO	142.9	76.9	0.893	
	24 13C-OCDD	267712.086	0.913	NO	0.470	10.766	41.80	41.81	1.22	1.22	NO	309.2	83.2	1.77	
	25 13C-2,3,7,8-TCDF	450546.156	0.748	NO	0.977	10.766	25.17	25.17	0.99	0.99	NO	161.8	87.1	0.622	
8 .7.71	26 13C-1,2,3,7,8-PeCDF	326497.906	1.569	NO	0.778	10.766	30.00	30.00	1.18	1.18	NO	147.3	79.3	1.03	
27	27 13C-2,3,4,7,8-PeCDF	341061.687	1.651	NO	0.750	10.766	30.99	30.99	1.22	1.22	NO	159.6	85.9	1.07	
28 1 1	28 13C-1,2,3,4,7,8-HxCDF	255978.243	0.512	NO	0.845	10.766	33.79	33.79	0.99	0.99	NO	164.5	88.6	1.44	
29 46 15 16 1/2	29 13C-1,2,3,6,7,8-HxCDF	315601.563	0.550	NO	1.03	10.766	33.90	33.91	0.99	0.99	NO	167.0	89.9	1.19	
N. P. P.	30 13C-2,3,4,6,7,8-HxCDF	270121.688	0.556	NO _	0.893	10.766	34.48	34.48	1.01	1.01	NO	164.3	88.5	1.36	

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191217K3\191217K3-16.qld

Last Altered: Friday, December 20, 2019 12:22:59 Pacific Standard Time Friday, December 20, 2019 12:25:06 Pacific Standard Time

Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014

-:		# Name	Abs.Resp	RA,	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL.	EMPC
31		31 13C-1,2,3,7,8,9-HxCDF	238133.891	0.522	NO	0.734	10.766	35.38	35.37	1.04	1.03	NO	176.2	94.8	1.66	
32		32 13C-1,2,3,4,6,7,8-HpCDF	215898.929	0.448	NO	0.754	10.766	37.09	37.12	1.09	1.09	NO	155.5	83.7	1.03	٠
33		33 13C-1,2,3,4,7,8,9-HpCDF	146133.824	0.438	NO	0.539	10.766	39.12	39.15	1.14	1.15	NO	147.3	79.3	1.45	
34	\ 1	34 13C-OCDF	370829.437	0.882	NO	0.593	10.766	41.99	42.00	1.23	1.23	NO	340.0	91.5	1.39	
35		35 37CI-2,3,7,8-TCDD	124696.117			1.07	10.766	26.18	26.18	1.03	1.03	NO	76.21	103	0.106	
36	国人社	36 13C-1,2,3,4-TCDD	284219.875	0.809	NO	1.00	10.766	25.45	25.47	1.00	1.00	NO	185.8	100	0.680	
37		37 13C-1,2,3,4-TCDF	529327.656	0.755	NO	1.00	10.766	23.55	23.58	1.00	1.00	NO	185.8	100	0.608	
38 =		38 13C-1,2,3,4,6,9-HxCDF	341984.375	0.523	NO	1.00	10.766	34.16	34.17	1.00	1.00	NO	185.8	100	1.22	
39		39 Total Tetra-Dioxins				0.925	10.766	24.62		0.00		NO	0.6788		0.168	0.6788
40		.40 Total Penta-Dioxins				0.905	10.766	29.96		0.00		NO	0.0000		0.0463	0.2934
41		41 Total Hexa-Dioxins				0.967	10.766	33.63		0.00		NO	0.0000		0.153	1.196
42		42 Total Hepta-Dioxins				1.04	10.766	38.80		0.00		NO	4.055		0.329	4.055
43章		43 Total Tetra-Furans				0.938	10.766	23.61		0.00	•	NO	0.1376		0.0736	0.1376
11		44 1st Func. Penta-Furans				0.976	10.766	27.04		0.00		NO			0.0135	
45.		45 Total Penta-Furans				0.976	10.766	29.27		0.00		NO			0.0167	
46		46 Total Hexa-Furans				1.18	10.766	33.56		0.00		NO			0.0235	
47. P		47 Total Hepta-Furans				1.13	10.766	37.83		0.00		NO			0.0618	

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Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

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Last Altered: Printed:

Friday, December 20, 2019 12:22:59 Pacific Standard Time Friday, December 20, 2019 12:25:14 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014

Tetra-Dioxins

The state of the s	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	39 Total Tetra-Dioxins	9.78e2	2.89e5	0.846	NO	24.62	23.80	0.6788	0.6788

Penta-Dioxins

	#	Name	Area	IS Area	RA (YN	Pred.RT	RT	Conc.	EMPC
	40	Total Penta-Dioxins	0.00e0	2.18e5	0.749	YES	29.96	29.54	0.0000	0.2201
2	40	Total Penta-Dioxins	0.00e0	2.18e5	0.485	YES	29.96	29.06	0.0000	0.07324

Hexa-Dioxins

		Name - Aut But it			RA		Pred.RT	- HRT	Cont.	EVE
	41	Total Hexa-Dioxins	0.00e0	0.00e0	1.044	YES	33.63	33.20	0.0000	1.196

Hepta-Dioxins

, in the second		Name		HSAEB	in Editor		PiedRI	PERMIT	ti di Gini	
	6	1,2,3,4,6,7,8-HpCDD	1.04e3	1.40e5	1.069	NO	38.55	38.58	1.328	1.328
	42	Total Hepta-Dioxins	2.14e3	1.40e5	1.188	NO.	38.80	37.51	2.726	2.726

Tetra-Furans

								4. 5
43 Total Tetra-Fur	ans 3.13e2	4.51e5	0.791	NO	23.61	20.89	0.1376	0.1376

Penta-Furans function 1

Marie Constitution of the	e propies america.		
			_

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Page 1 of 2

Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191217K3\191217K3-16.qld

Last Altered:

Friday, December 20, 2019 12:22:59 Pacific Standard Time

Printed: Friday, December 20, 2019 12:25:14 Pacific Standard Time

Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014

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Penta-Furans



Hexa-Furans



Hepta-Furans



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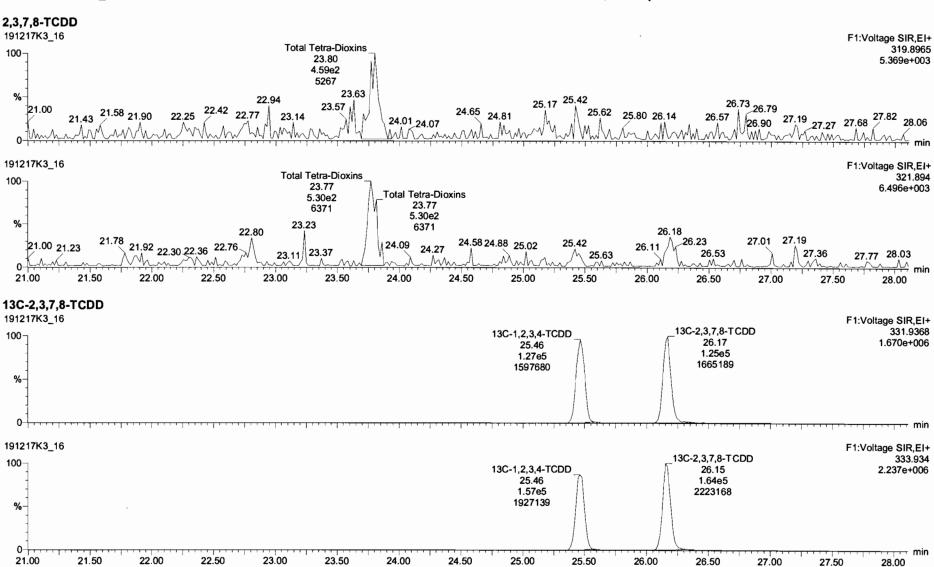
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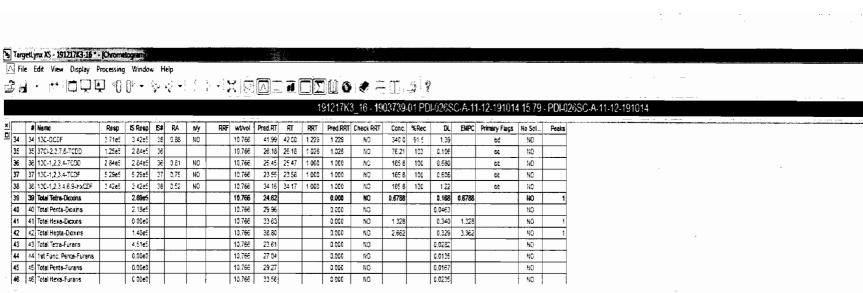
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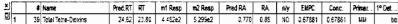
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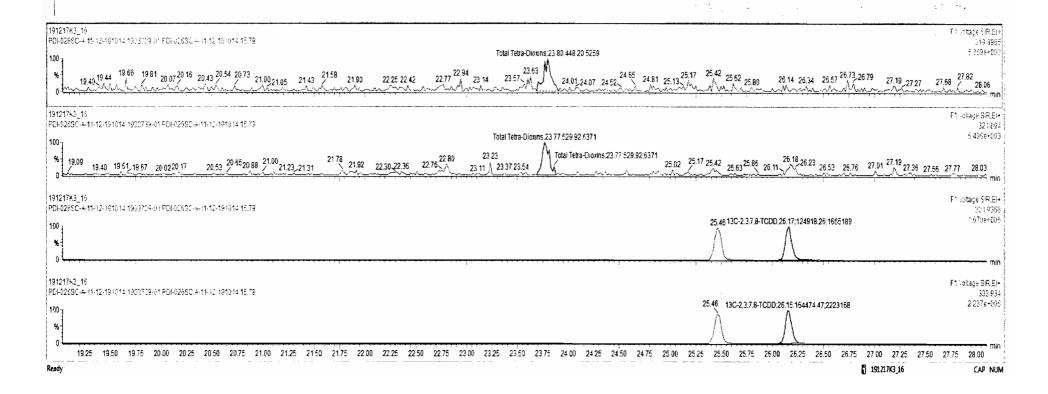
Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time

Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014

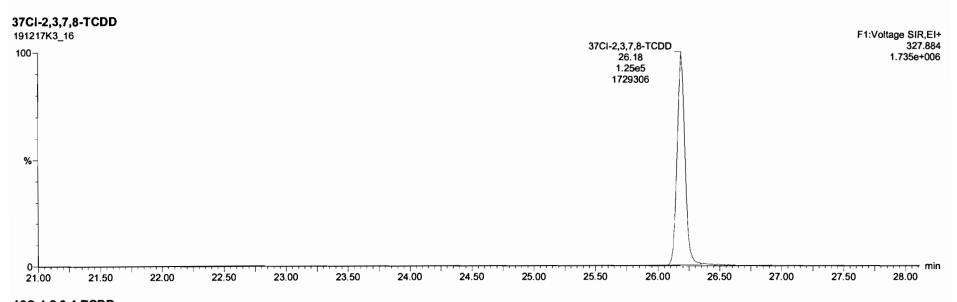


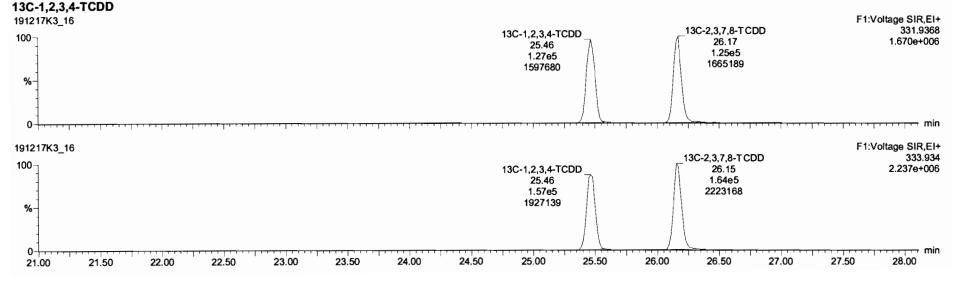


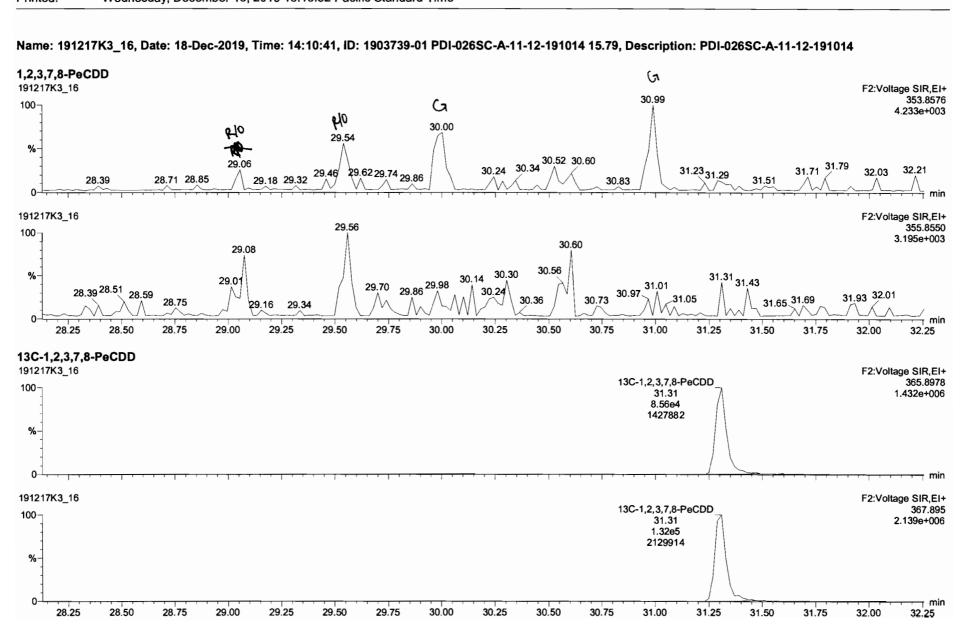




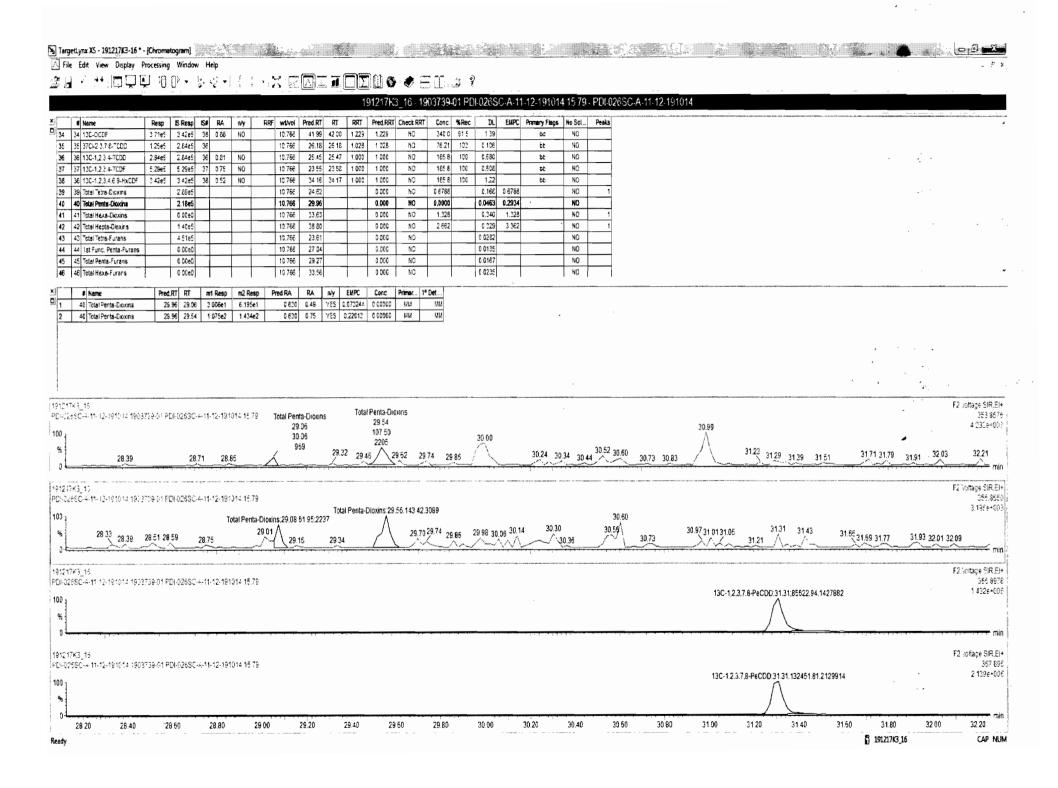








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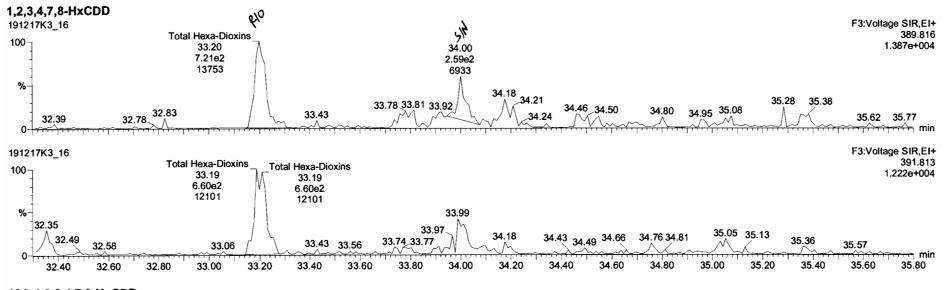


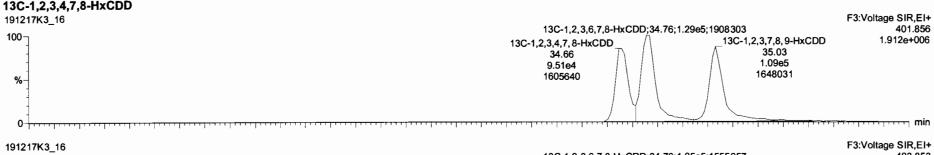
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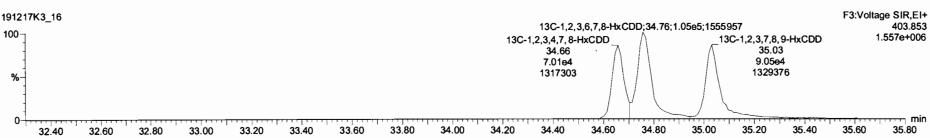
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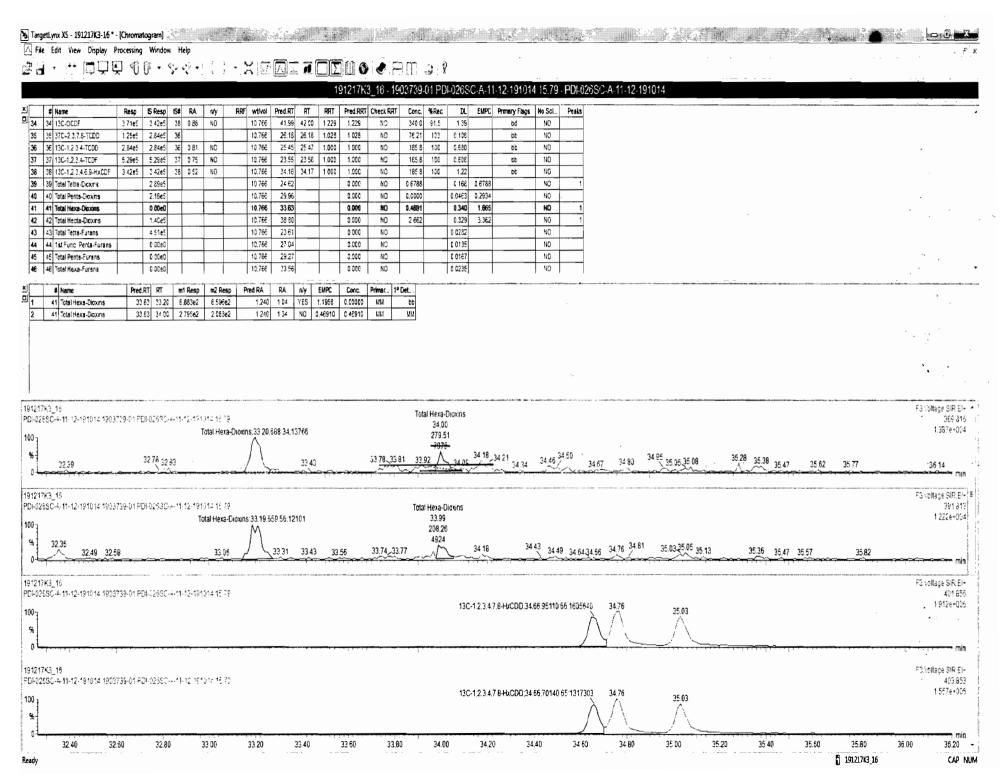
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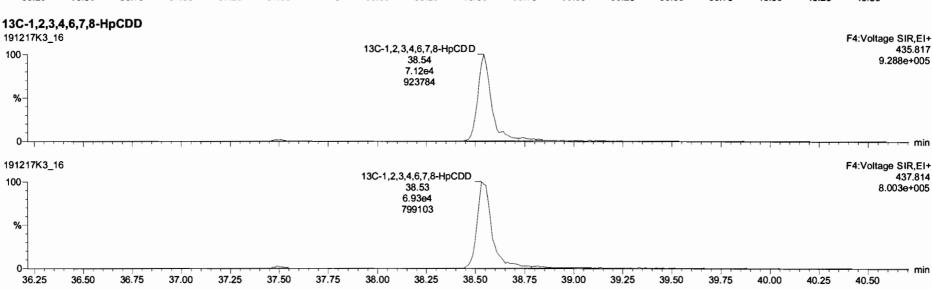
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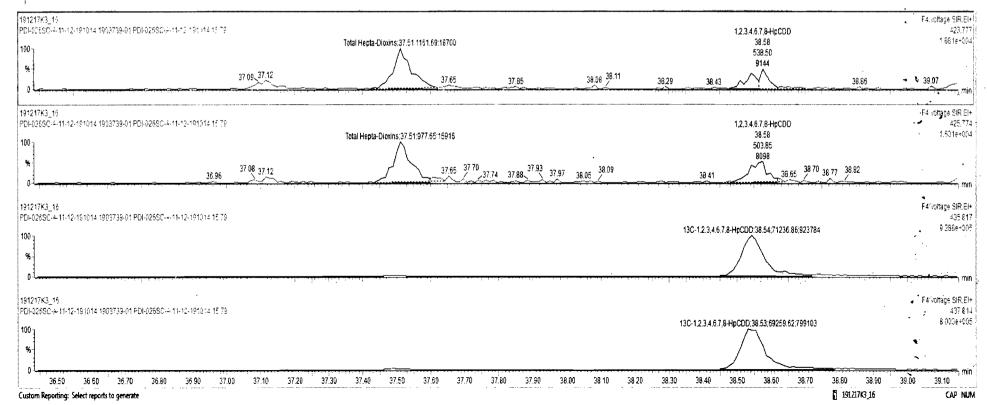




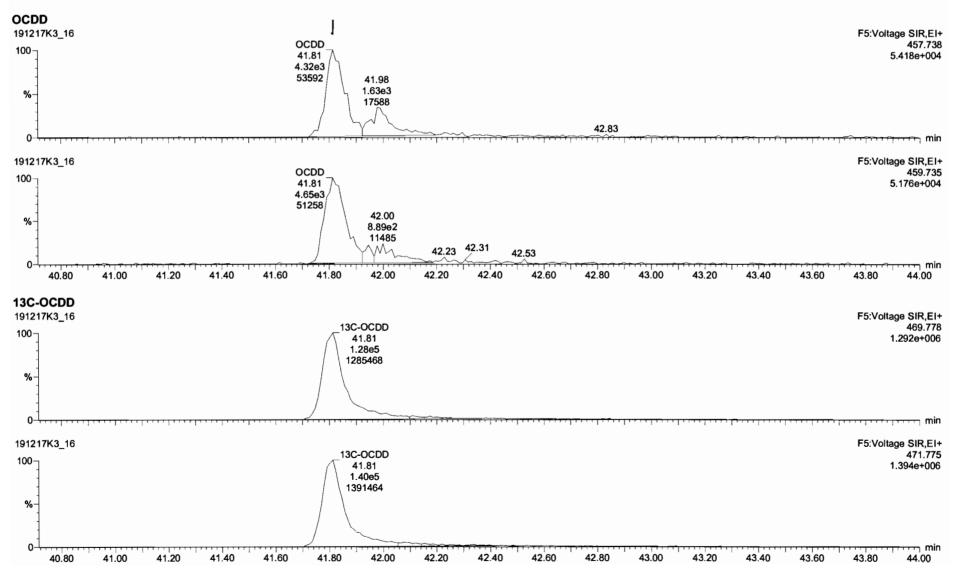
File Edit View Display Processing Window Help

	#	Name	Resp	RA	ny	RRF	wtivol	Pred.RT	RT	Pred.R	RRT	RRT Fail	Conc.	%Rec	DL	EMP(
3E	3€	13C-1 2,3.4 TCDD	2.84 e 5	0.81	NO	1 0000	10.76€	25 45	25 47	1.000	1 000	NO	185.8	100	0.680	
37	37	13C-1,2,3 4-TCDF	5 29e5	0.75	NO	1 0000	10.766	23 55	23 56	1 600	1,000	NO	185 8	100	903 0	
38	38	13C-1 2,3.4,5.9-HxCDF	3,4265	0.52	NO	1 0000	10 766	34 18	34 17	1.000	1 000	NO	185.8	100	1.22	
39	39	Total Tetra-Dioxins				0 9249	10.766	24 62		0 000		NO	9,6788		0 168	0 678
40	40	Total Penta-Dioxins				0.9046	10 766	2956		0 000		NO	0.0000		0.0463	0.293-
41	41	Total Hexa-Dicxins				0.9675	10.766	33 63		0 000		NO	0.0000		0.153	1,19
42	42	Total Hepta-Dioxins				1,0375	10,766	38.80		0.000		HO	4.055		0.329	4,05
43	43	Total Tetra-Furans				0.937€	10,766	23.61		9.006		NO	0.1376		0.0736	0.137
44	44	1st Func. Penta-Furans				0.9762	10,766	27.04		0 000		NO			0.0135	
45	45	Total Penia-Furana				0 9762	10,766	29.27		0 000		NO			0 0167	
46	48	Total Hexa-Furans				1 1806	10.766	33 56		0 000		NC			0 0235	
47	47	Total Hepta-Furans				1,1300	10,766	37.83		0 006		NO.			0.0618	
48	48	PFK1				i										

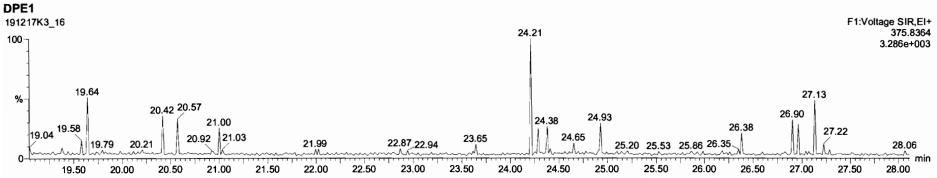
X		#	Name	Pred.RT	RT	mi Resp	ns2 Resp	1º Ratio (Pred)	RA	πλy	EMPC	Conc.
<u>ס</u>	1	42	Total Hepta-Dioxins	38 80	37,51	1 162e3	9 777 e2	1 640	1 19	NO	2 7264	2.7264
	2	Ф	1,2.3.4.6.7.8-HpCDD	38.55	38.58	5 385e2	5 03 9e 2	1.040	1.07	МО	1.3284	1.3284

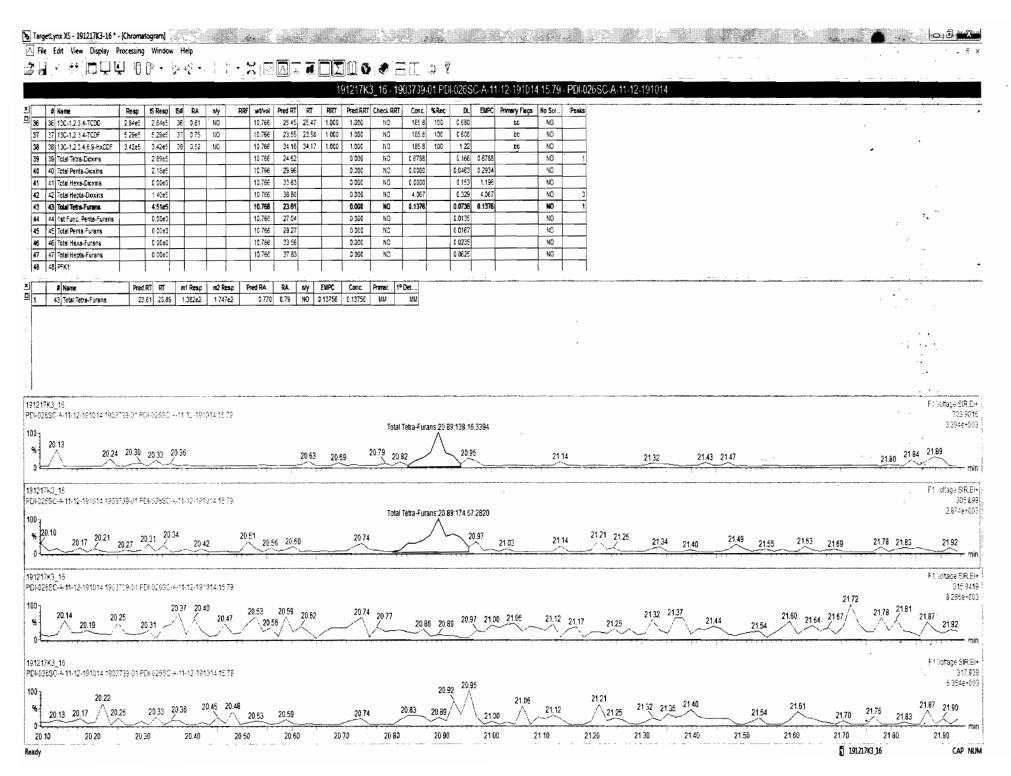






Work Order 1903739 Page 73 of 646

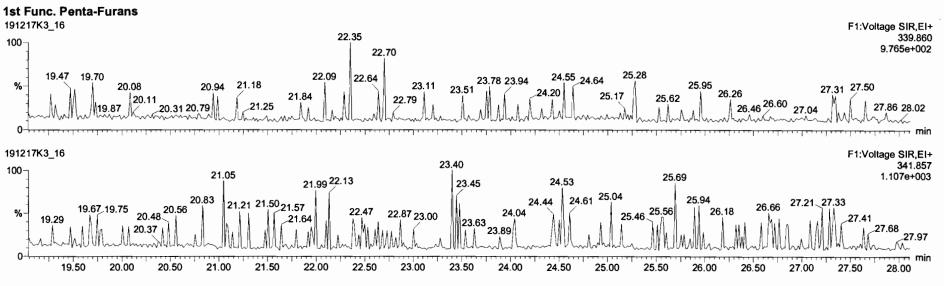


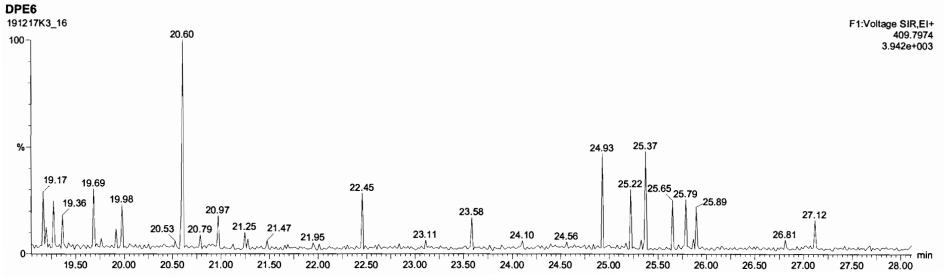


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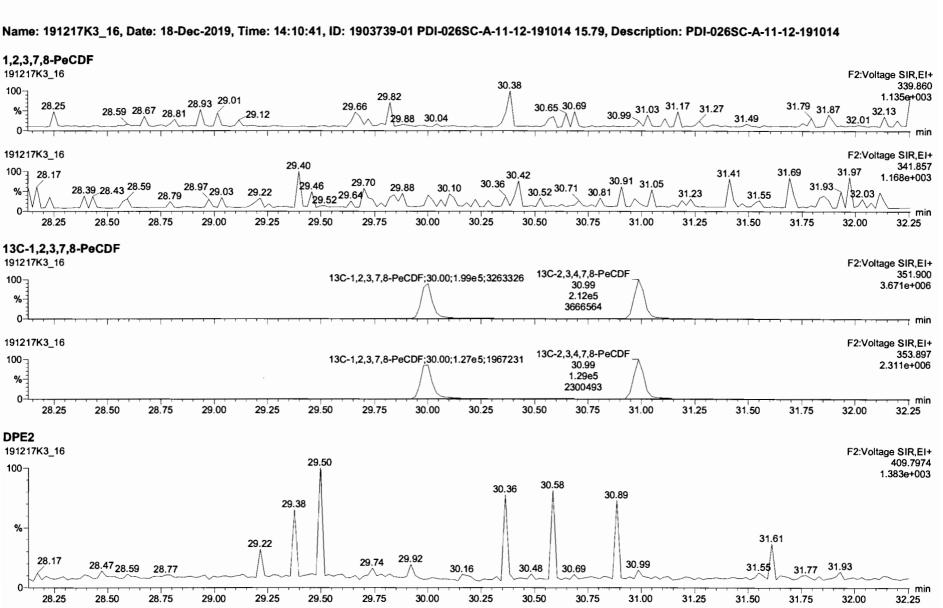
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Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014





Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014



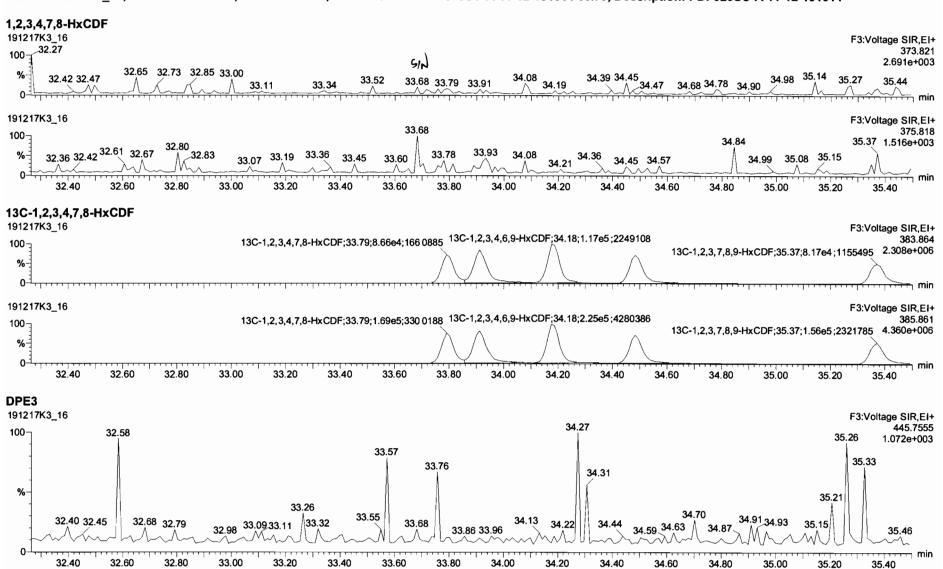
Work Order 1903739 Page 77 of 646

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Last Altered: Printed:

Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time

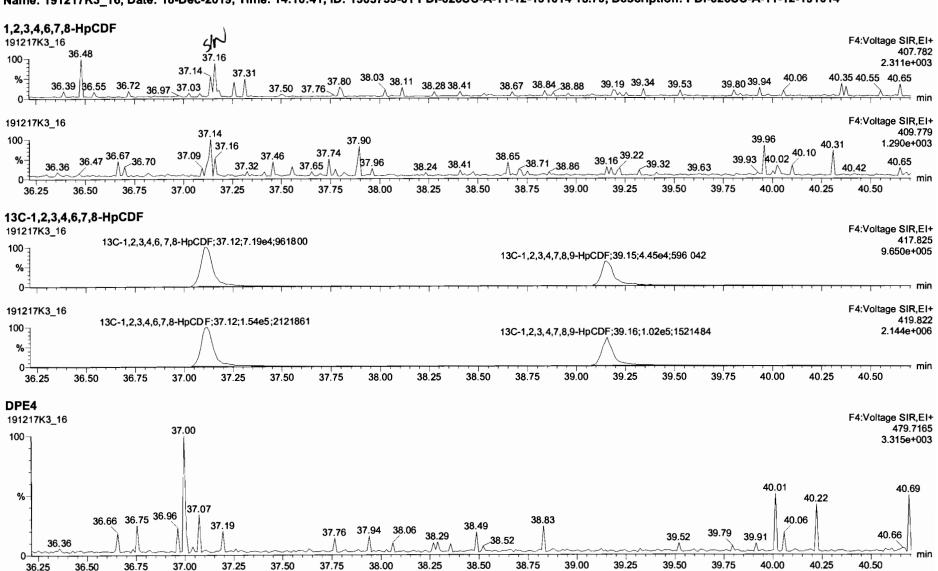
Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014

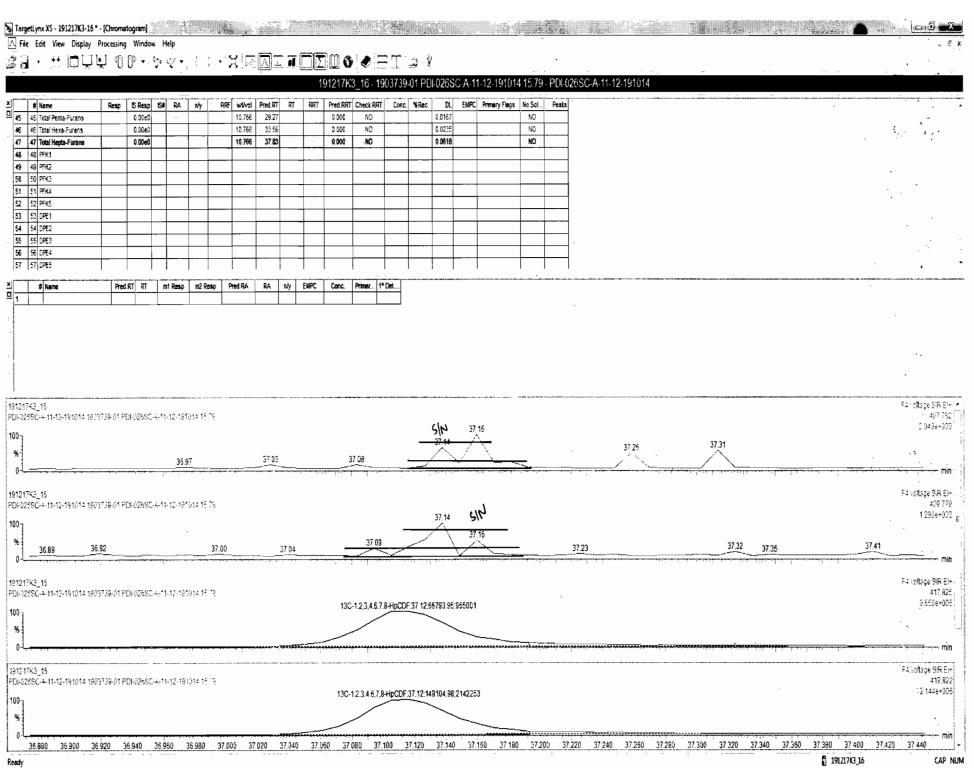


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Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014

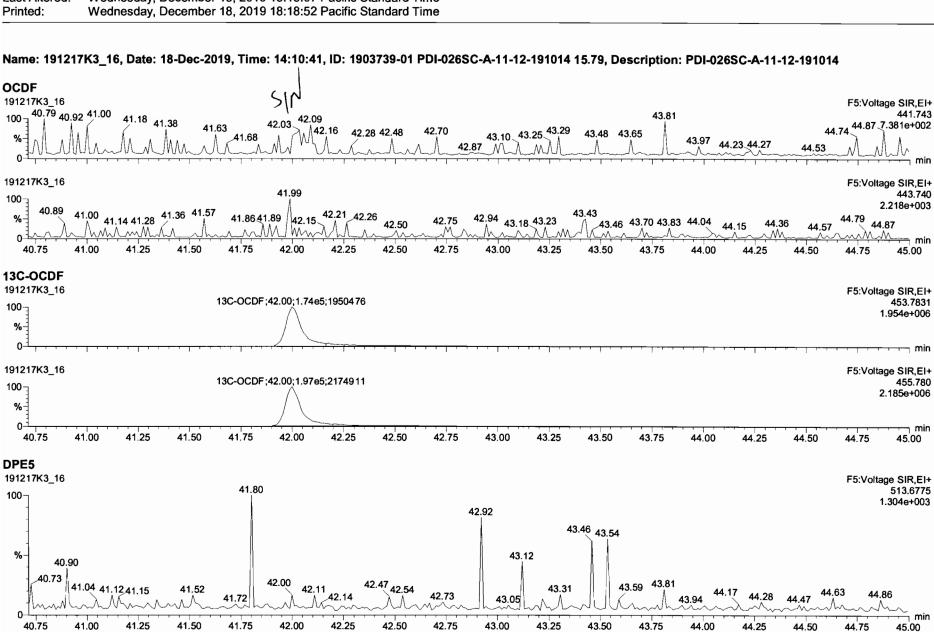




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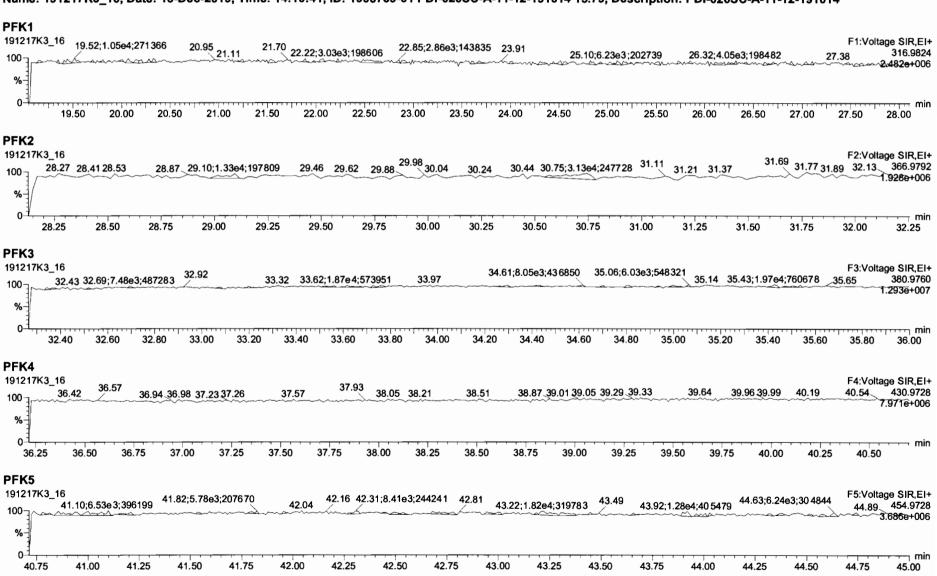
Wednesday, December 18, 2019 18:18:07 Pacific Standard Time



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Name: 191217K3_16, Date: 18-Dec-2019, Time: 14:10:41, ID: 1903739-01 PDI-026SC-A-11-12-191014 15.79, Description: PDI-026SC-A-11-12-191014



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MassLynx MassLynx V4.1 SCN 945

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Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-3.qld

Last Altered: Printed:

Thursday, December 19, 2019 15:23:41 Pacific Standard Time Thursday, December 19, 2019 15:28:48 Pacific Standard Time

E 12/19/19 C7 12/20/19

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014

· · · · · · · · · · · · · · · · · · ·	↑ # Name (#/ ↑), , , , , , + , , , , , ,	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT :	Check RRT	Conc.	%Rec	DL ()	EMPC
1	1 2,3,7,8-TCDD				0.925	10.078	⋖ 26.17		1.00		YES			0.163	
2 50 1000	2 1,2,3,7,8-PeCDD				0.905	10.078	31.31		1.00		YES			0.138	
3	3 1,2,3,4,7,8-HxCDD				1.07	10.078	34.65		1.00		YES			0.174	J
477	4 1,2,3,6,7,8-HxCDD				0.967	10.078	34.75		1.00		YES			0.159	
5 100	5 1,2,3,7,8,9-HxCDD				0.978	10.078	35.06		1.00		YES			0.199	
6	6 1,2,3,4,6,7,8-HpCDD	168.199	1.355	YES	1.04	10.078	38.53	38.54	1.00	1.00	NO	0.2342		0.154	0.2029
Zera gara	7 OCDD	1088.655	0.936	NO	0.972	10.078	41.80	41.80	1.00	1.00	NO	1.938		0.633	1.938
8	8 2,3,7,8-TCDF				0.938	10.078	25.17		1.00		YES			0.0920	
9	9 1,2,3,7,8-PeCDF				0.976	10.078	30.00		1.00		YES			0.0579	- 1
10.5	10 2,3,4,7,8-PeCDF	-			1.00	10.078	31.00		1.00		YES			0.0596	
1175	11 1,2,3,4,7,8-HxCDF				1.24	10.078	33.78		1.00		YES			0.0309	
12 Mile 1	12 1,2,3,6,7,8-HxCDF				1.10	10.078	33.90		1.00		YES			0.0317	
237	13 2,3,4,6,7,8-HxCDF				1.18	10.078	34.51		1.00		YES .			0.0325	
	14 1,2,3,7,8,9-HxCDF				1.07	10.078	35.35		1.00		YES			0.0472	
	15 1,2,3,4.6,7,8-HpCDF				1.13	10.078	37.13		1.00		YES :			0.0528	
	16 1,2,3,4,7,8,9-HpCDF				1.26	10.078	39.15		1.00		YES			0.0797	
	17 OCDF				1.10	10.078	41.99		1.00		YES			0.148	1
WENT OF	18 13C-2,3,7,8-TCDD	302858.829	0.816	NO	1.05	10.078	26.13	26.14	1.03	1.03	NO	182.2	91.8	0.574	
1025	19 13C-1,2,3,7,8-PeCDD	219614.516	0.623	NO	0.743	10.078	31.27	31.29	1.23	1.23	NO	186.6	94.0	0.497	
	20 13C-1,2,3,4,7,8-HxCDD	156007.078	1.299	NO	0.646	10.078	34.64	34.64	1.01	1.01	NO	150.7	75.9	1.21	
20000000000000000000000000000000000000	21 13C-1,2,3,6,7,8-HxCDD	219443.508	1.324	NO	0.777	10.078	34.73	34.75	1.02	1.02	NO	176.4	88.9	1.01	
Zakis ik	22 13C-1,2,3,7,8,9-HxCDD	187828.555	1.407	NO	0.659	10.078	35.01	35.02	1.02	1.03	NO	177.8	89.6	1.19	1
20 FM 150	23 13C-1,2,3,4,6,7,8-HpCDD	137352.472	1.117	NO	0.534	10.078	38.51	38.52	1.13	1.13	NO	160.5	80.9	1.25	
24.33.22.23	24 13C-OCDD	229437.289	0.930	NO	0.470	10.078	41.79	41.80	1.22	1.22	NO	304.5	76.7	1.21	
2053 Mark	25 13C-2,3,7,8-TCDF	416981.313	0.740	NO	0.977	10.078	25.1 4	25.14	0.99	0.99	NO	162.0	81.6	0.657	
26	26 13C-1,2,3,7,8-PeCDF	327373.750	1.480	NO	0.778	10.078	29.96	29.98	1.18	1.18	NO /	159.8	80.5	1.19	
27	27 13C-2,3,4,7,8-PeCDF	304613.547	1.525	NO	0.750	10.078	30.95	30.97	1.22	1.22	NO	154.2	77.7	1.23	
28	28 13C-1,2,3,4,7,8-HxCDF	239149.461	0.519	NO	0.845	10.078	33.77	33.78	0.99	0.99	NO	176.6	89.0	1.39	
2017	29 13C-1,2,3,6,7,8-HxCDF	291114.688	0.510	NO	1.03	10.078	33.89	33.89	0.99	0.99	NO	177.0	89.2	1.14	
30,15%,72.57	30 13C-2,3,4,6,7,8-HxCDF	242439.367	0.531	NO	0.893	10.078	34.46	34.47	1.01	1.01	NO	169.5	85.4	1.31	

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191218K1\191218K1-3.qld

Last Altered: Thursday, December 19, 2019 15:23:41 Pacific Standard Time Printed: Thursday, December 19, 2019 15:28:48 Pacific Standard Time

Name: 191218K1_3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014

4.2	# Name	Abs.Resp	- RA	i, n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL	EMPC
31 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	31 13C-1,2,3,7,8,9-HxCDF	220671.070	0.495	NO	0.734	10.078	35.37	35.35	1.04	1.03	NO	187.6	94.5	1.60	
32	32 13C-1,2,3,4,6,7,8-HpCDF	220386.133	0.447	NO	0.754	10.078	37.08	37.09	1.09	1.09	NO	182.4	91.9	1.31	
33	33 13C-1,2,3,4,7,8,9-HpCDF	139012.700	0.429	NO	0.539	10.078	39.11	39.15	1.14	1.15	NO	161.0	81.1	1.83	
34	34 13C-OCDF	321078.782	0.878	NO	0.593	10.078	41.97	41.99	1.23	1.23	NO	338.3	85.2	1.15	• • •
35	35 37CI-2,3,7,8-TCDD	113509.148			1.07	10.078	26.15	26.15	1.03	1.03	NO	66.98	84.4	0.133	
36 <u>Navier</u>	36 13C-1,2,3,4-TCDD	314460.563	0.822	NO	1.00	10.078	25.45	25.43	1.00	1.00	NO	198.5	100	0.602	
37. A.	37 13C-1,2,3,4-TCDF	522710.719	0.740	NO	1.00	10.078	23.55	23.54	1.00	1.00	NO	198.5	100	0.642	
38 (100 m)	38 13C-1,2,3,4,6,9-HxCDF	317900.297	0.511	NO	1.00	10.078	34.16	34.16	1.00	1.00	NO	198.5	100	1.17	٠,
39	39 Total Tetra-Dioxins				0.925	10.078	24.62		0.00		NO			0.103	
40_22	40 Total Penta-Dioxins				0.905	10.078	29.96		0.00		NO			0.0807	
41	41 Total Hexa-Dioxins				0.967	10.078	33.63		0.00		NO	0.0000		0.105	0.1150
42	42 Total Hepta-Dioxins				1.04	10.078	38.80		0.00		NO	0.0000		0.154	0.5506
	43 Total Tetra-Furans				0.938	10.078	23.61		0.00		NO			0.0296	,
	44 1st Func. Penta-Furans				0.976	10.078	27.04		0.00		NO			0.0217	*.*
45 THE 1	45 Total Penta-Furans				0.976	10.078	29.27		0.00		NO			0.0268	
6	46 Total Hexa-Furans				1.18	10.078	33.56		0.00		NO			0.0192	
42.511	47 Total Hepta-Furans				1.13	10.078	37.83		0.00		NO			0.0242	

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Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-3.qld

Last Altered:

Thursday, December 19, 2019 15:23:41 Pacific Standard Time

Printed:

Thursday, December 19, 2019 15:34:27 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57

Calibration: U:\VG11.PRO\CurveDB\db5 1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014

Tetra-Dioxins

100	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc	. EMPC
1									

Penta-Dioxins

And the second of the land	# Name	Area IS Are	a RA	redstand National	Pred.RT	RT	Conc. E	MPC

Hexa-Dioxins

				ES Area	MARA	MAYN TH	PERKI		HITCH	EMPG
19 m 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	41	Total Hexa-Dioxins	0.00e0	0.00e0	1.050	YES	33.63	33.20	0.0000	0.05886
ZER SHOWERS	41	Total Hexa-Dioxins	0.00e0	0.00e0	1.626	YES	33.63	33.18	0.0000	0.05613

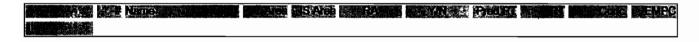
Hepta-Dioxins

			JSWeb	BE BA					ENEC
	6 1,2,3,4,6,7,8-HpCDD	1.68e2	1.37e5	1.355	YES	38.53	38.54	0.0000	0.2029
2	42 Total Hepta-Dioxins	0.00e0	1.37e5	0.858	YES	38.80	37.51	0.0000	0.3477

Tetra-Furans



Penta-Furans function 1



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Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-3.qld

Last Altered:

Thursday, December 19, 2019 15:23:41 Pacific Standard Time

Printed: Thursday, December 19, 2019 15:34:27 Pacific Standard Time

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Penta-Furans



Hexa-Furans



Hepta-Furans



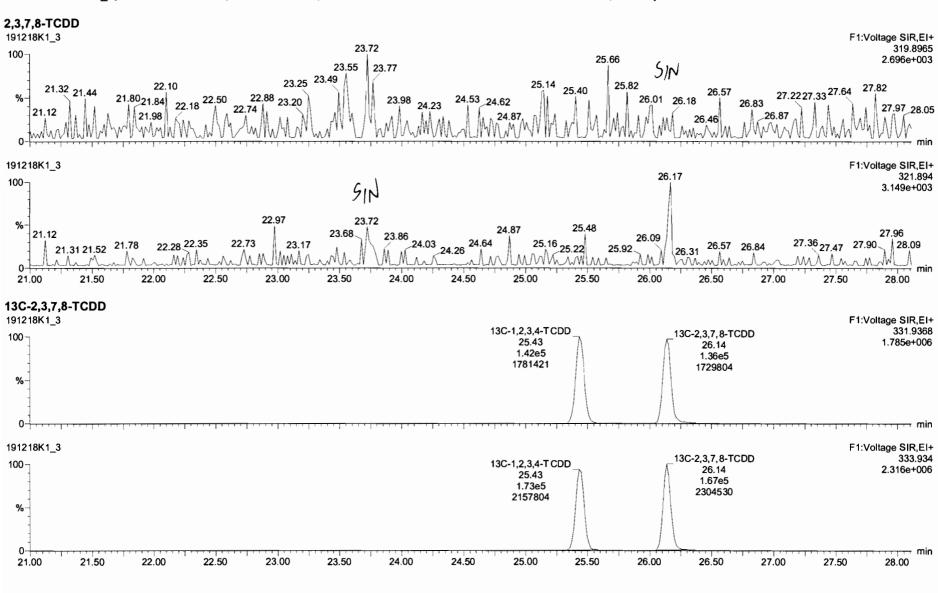
Work Order 1903739 Page 86 of 646

Untitled

Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014



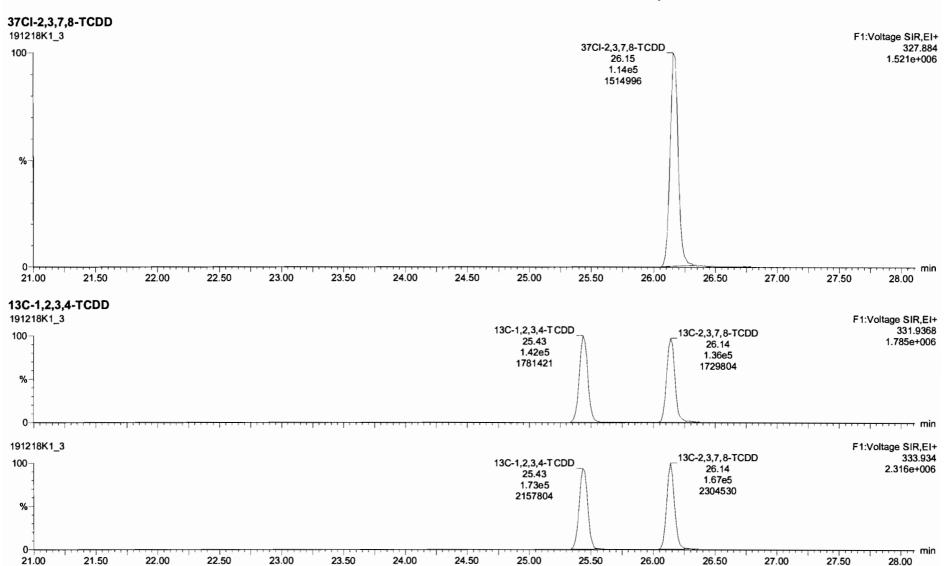
Vista Analytical Laboratory

Dataset:

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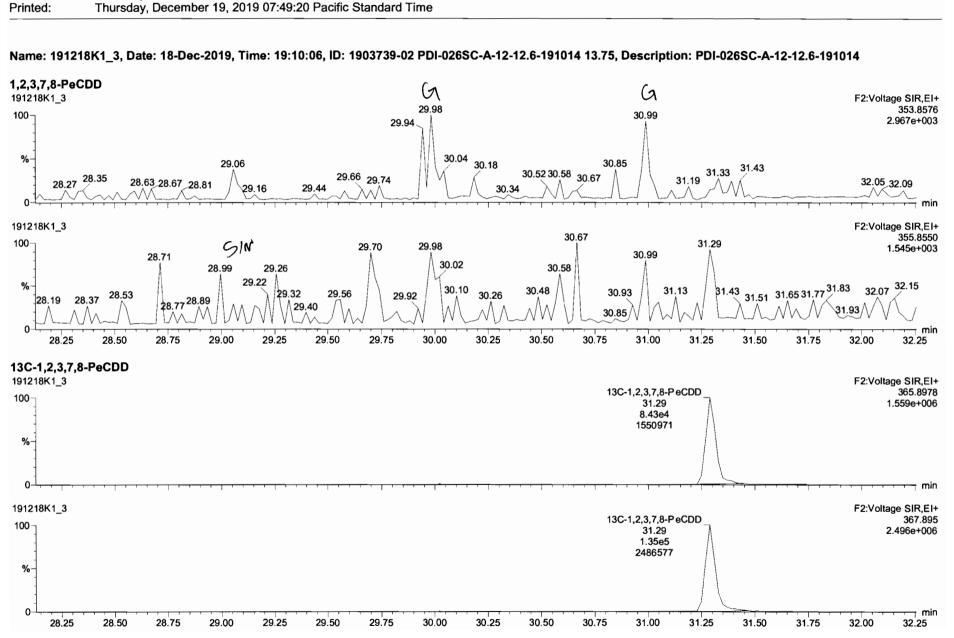
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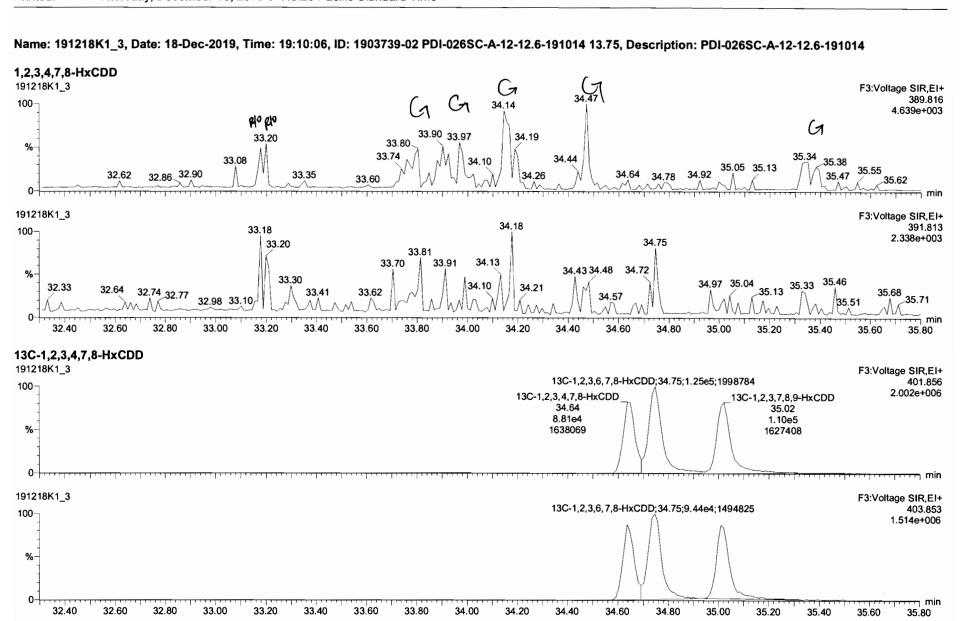


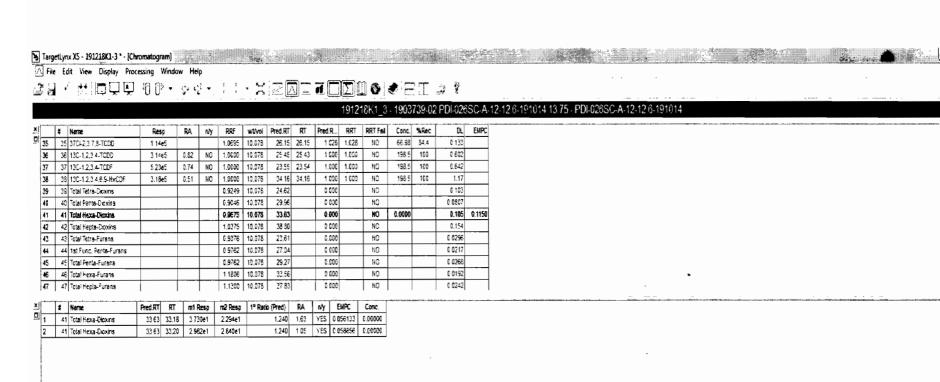
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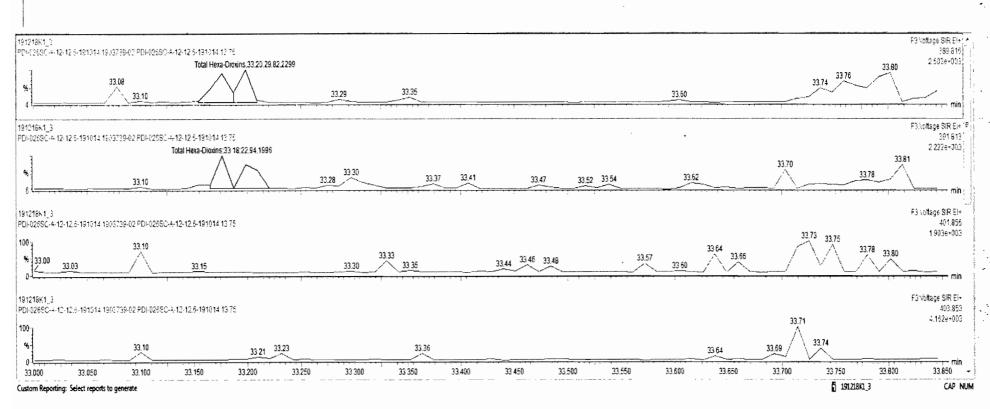
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Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



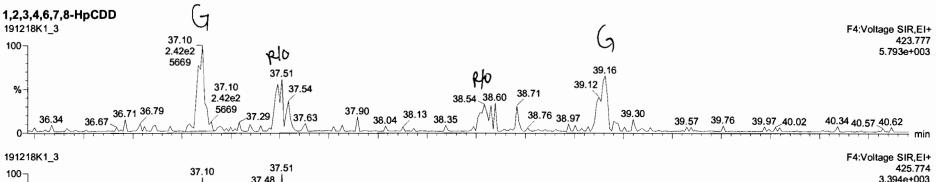


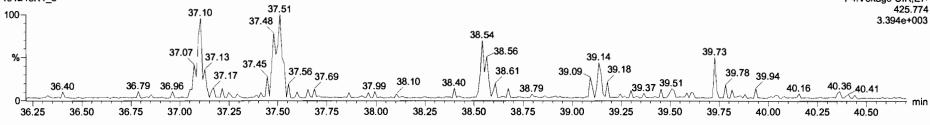


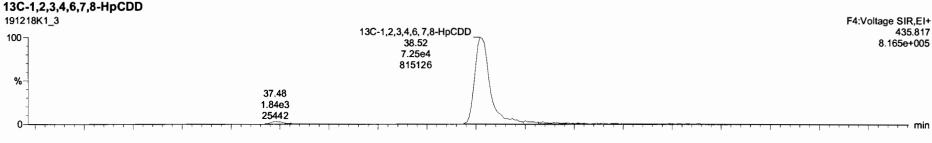
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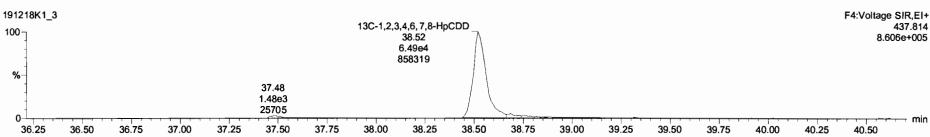
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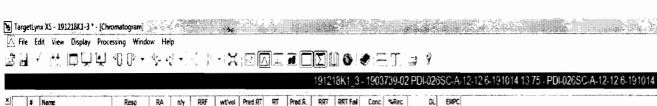
Name: 191218K1_3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014





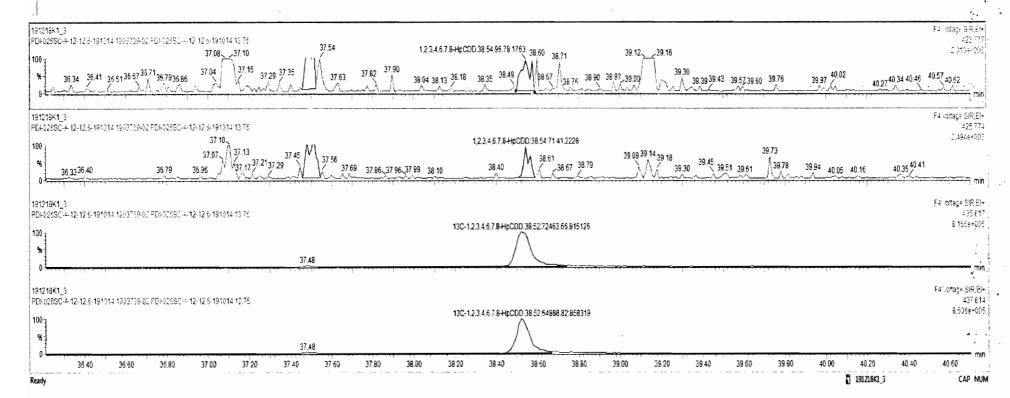


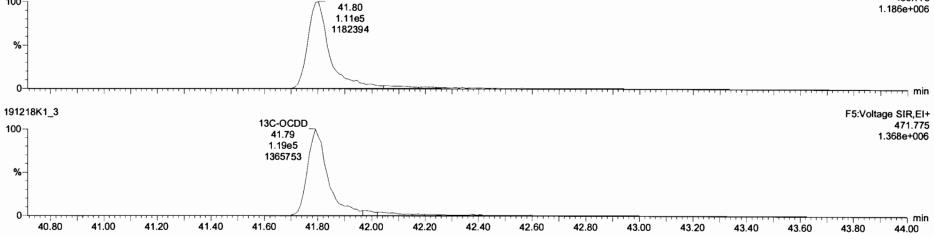




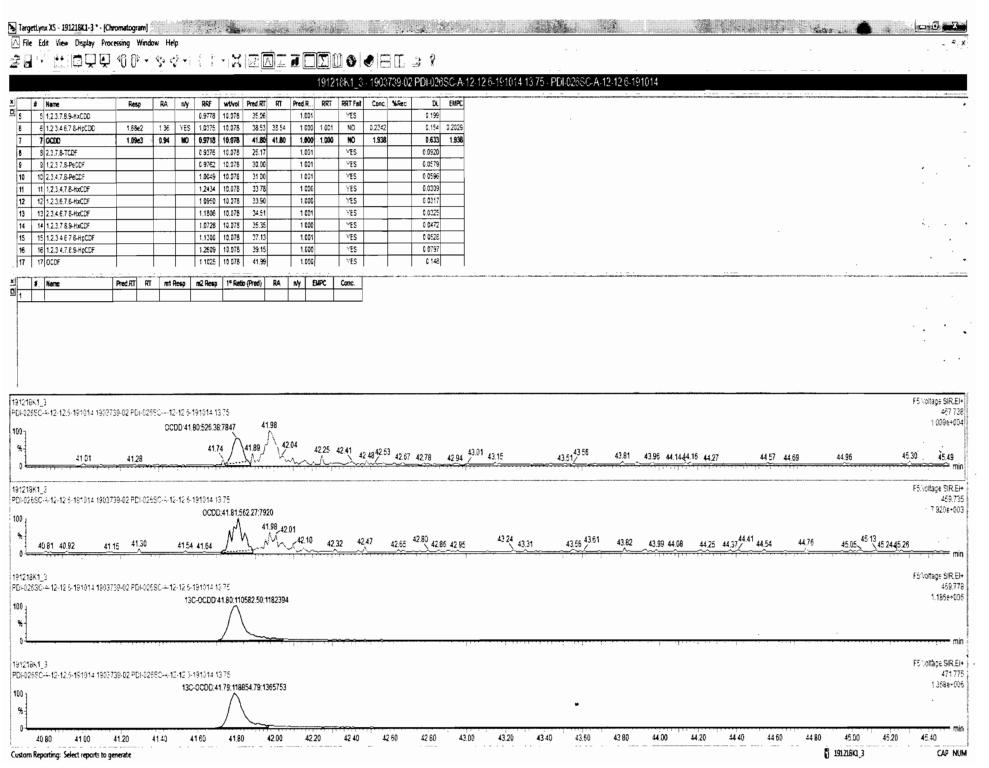
1	\$	Name	Resp	RA.	nly	RRF	wt/vol	Pred.RT	सा	Pred.R.	RRF	RRT Fail	Conc.	%Rec	DL	EMPC
35	35	37CF2.3.7 8-TCDD	1.14e£			1 0695	10.075	26 15	26 15	1 028	1.028	HO	66.98	84,4	9.133	
36	3€	13C-1,2,3 4-7CDD	3 14 e S	0.82	NO	1.0000	10.078	25.45	25 43	1 000	1.000	NO	198 5	100	0.602	
37	37	13C-1.2,3,4-TCDF	5.23e5	0.74	NO	1.0000	10.078	23.55	23.54	1 000	1.000	NO	198.5	100	0.642	
38	38	13C-1 2.3 4.6.9-HxCDF	3 18e5	9.51	NO	1.0000	10 07B	34.16	34 16	1.006	1 000	NO	198.5	100	1 17	
39	39	Total Tetra-Dioxins				G 9245	10 078	24 62		0.000		HO.			D 103	
40	40	Total Penta-Dioxins				0.9048	10 078	29.56		0.000		NO			0.0807	
41	41	Total Hexa-Dicxins				0.9675	10.078	33.63		0 000		NO	0 0000		0 105	0.1150
42	42	Total Hepta-Droxins				1.0375	10.078	38.80		0.000		MO	0.0000		0.154	0.5506
43	43	Total Tetra-Furans				0.9376	10.078	23.61		0 000		53			€ 029€	
44	44	1st Func Penta-Furans				0 9762	10,978	27.04		0 000		NO			G 0217	
45	45	Total Penta-Furans				0.9762	10.078	29.27		0.000		NO			0 02€8	
46	45	Total hexa-Furans				1.1806	10.078	33.56		0 000		NO			0.0192	
47	47	Total Hepta-Furans				1 1300	10,078	27 83		0.000		HO			0 0242	

X		#.	Name	Pred.RT	RT	m1 Resp	m2 Resp	1º Ratio (Pred)	RA	вy	EMPC	Conc.
	1	€	1,2,3,4,6 7,8-HpCDD	38.53	38 54	9 678e1	7 141e1	1.040	1.36	YES	0.20288	0.00000
	2	42	Total Hepta-Dioxins	38 80	37.51	1.273€2	1.484€2	1.040	0.86	YES	0.34774	0.00000





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Thursday December 19, 2019 07:49:20 Pacific Standard Time

20.50

20.00

19.50

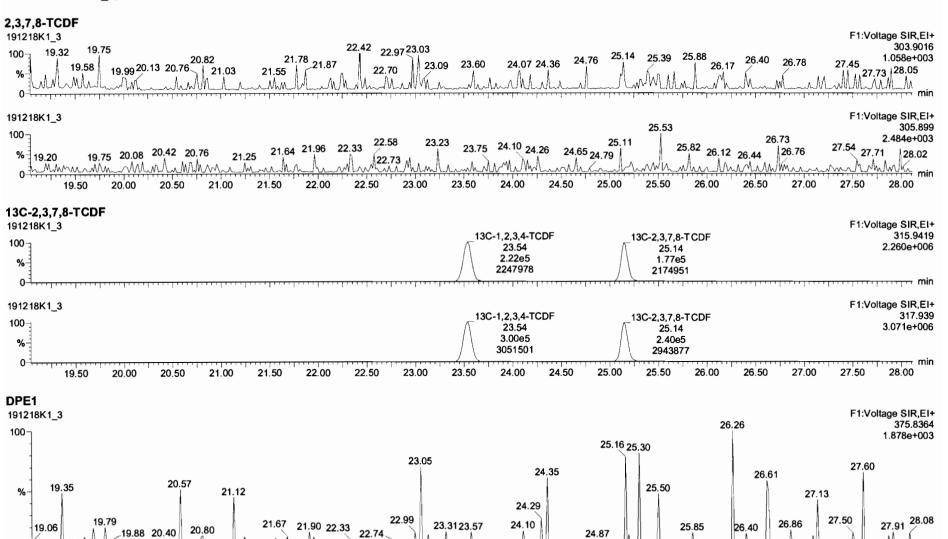
21.00

21.50

22.00

22.50

Printed:



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23.50

24.00

24.50

25.00

25.50

26.00

26.50

27.00

27.50

23.00

- min

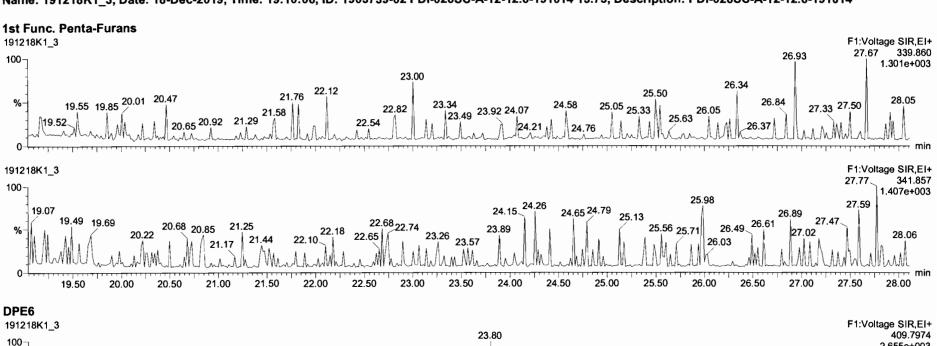
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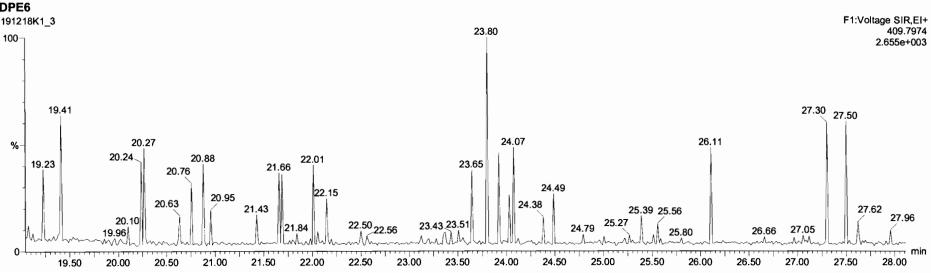
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Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1 3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014



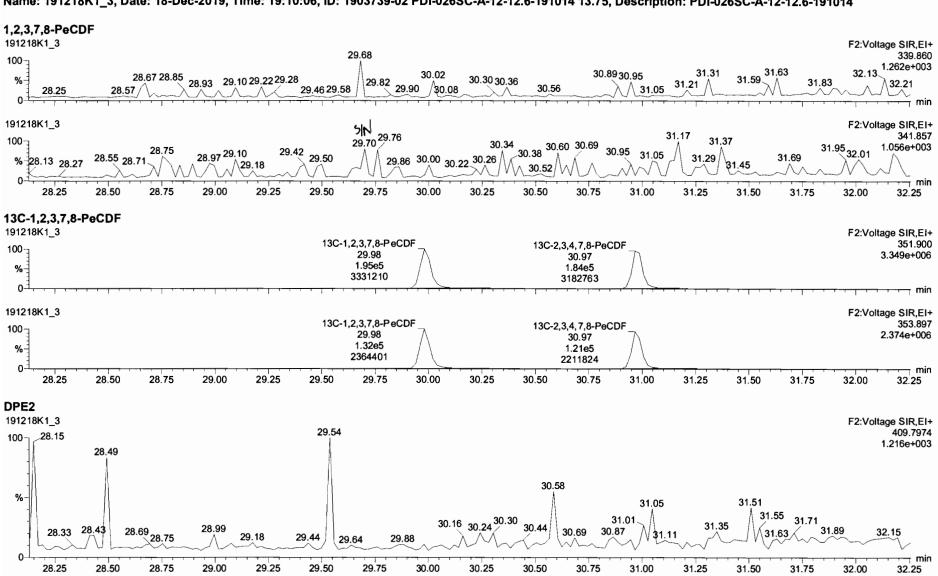


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Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

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32.40

32.80

32.60

33.00

33.20

33.40

33.60

33.80

34.00

34.20

34.40

34.60

34.80

35.00

35.20

35.40

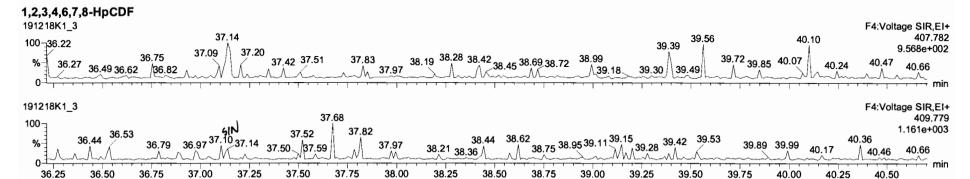
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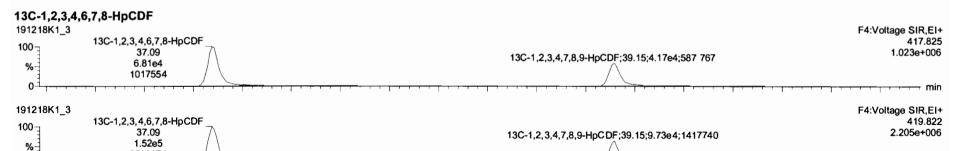
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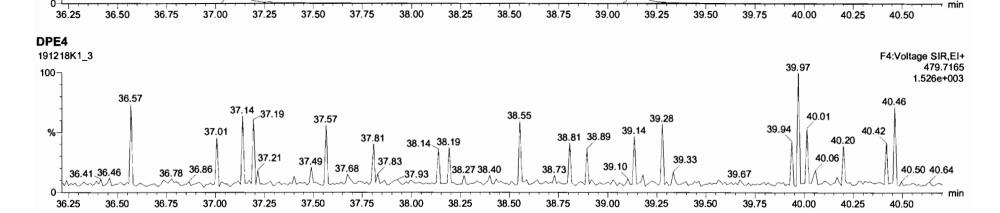
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Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014







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Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

41.66

41.50

41.75

42.33

42.50

42.75

43.00

42.25

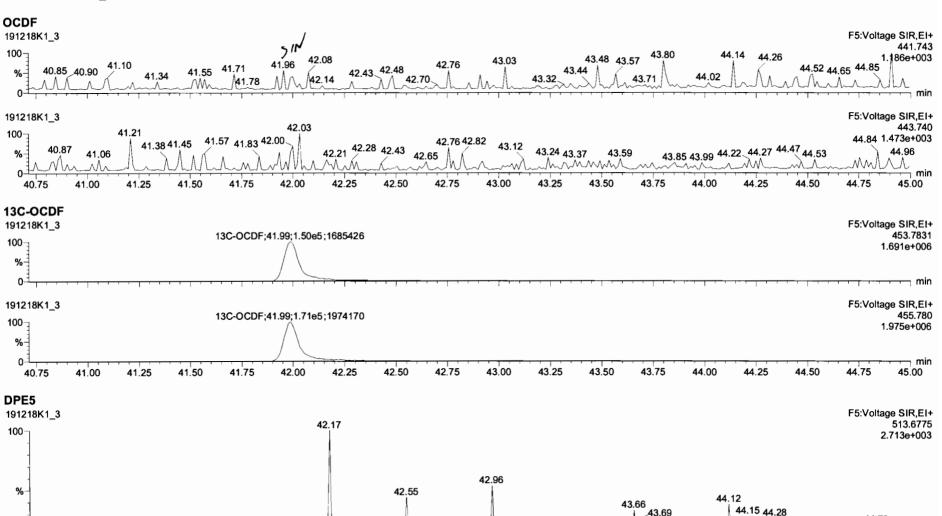
42.00

42.00

41.29

41.25





41.00

40.87

40.75

min

45.00

44.67

44.75

44.42

44.50

44.25

43.93

44.00

43.39

43.50

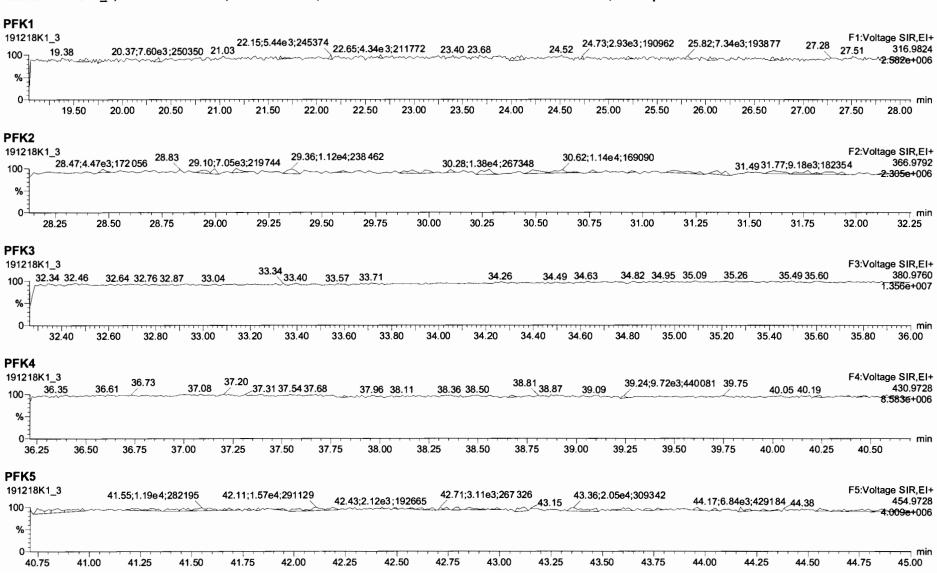
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Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_3, Date: 18-Dec-2019, Time: 19:10:06, ID: 1903739-02 PDI-026SC-A-12-12.6-191014 13.75, Description: PDI-026SC-A-12-12.6-191014



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Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-4.qld

Last Altered:

Thursday, December 19, 2019 15:40:16 Pacific Standard Time

Printed:

Thursday, December 19, 2019 15:43:10 Pacific Standard Time

2 12/19/19

CT 12/20/19

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_4, Date: 18-Dec-2019, Time: 19:57:23, ID: 1903739-03 PDI-077SC-A-14-15-191014 13.13, Description: PDI-077SC-A-14-15-191014

1.5	# Name		Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	ः RT ू	Pred.RRT	RRT	Check RRT	Conc.	%Rec	HAR ADL CAPT.	EMPC
1 557 1197	1 2,3,7,8-1	CDD .		•		0.925	10.267	2 6.17		1.00		YES			0.190	
2347 II S	2 1,2,3,7,8	3-PeCDD				0.905	10.267	31.31		1.00		ŸES			0.135	
3票据管理	3 1,2,3,4,7	7,8-HxCDD				1.07	10.267	34.65		1.00		YES			0.235	
425 TO 125 TO 1	4 1,2,3,6,7	7,8-HxCDD				0.967	10.267	34.74		1.00		YES			0.222	
5 1 2 7 1	5 1,2,3,7,8	3,9-HxCDD				0.978	10.267	35.04		1.00		YES.			0.280	
6.5 (1.4)	6 1,2,3,4,6	3,7,8-HpCDD	596.817	1.060	NO	1.04	10.267	38.53	38.52	1.00	1.00	NO	0.9795		0.252	0.9795
Zereni	7 OCDD		4212.004	0.891	NO	0.972	10.267	41.79	41.81	1.00	1.00	NO	7.587		0.630	7.587
844	8 2,3,7,8-7	CDF .				0.938	10.267	25.18		1.00		_YES			0.0935	
95/1	9 1,2,3,7,8	3-PeCDF				0.976	10.267	30.00		1.00		YES			0.0645	
1011375	10 2,3,4,7,8	3-PeCDF				1.00	10.267	31.00		1.00		YES			0.0684	
11 15 11 1	11 1,2,3,4,7	7,8-HxCDF				1.24	10.267	33.77		1.00		YES			0.0404	
12	12 1,2,3,6,7	7,8-HxCDF				1.10	10.267	33.90		1.00		YES			0.0421	
133754177	13 2,3,4,6,7					1.18	10.267	34.49		1.00		YES			0.0474	
14 15 11 11 11	14 1,2,3,7,8	3,9-HxCDF				1.07	10.267	35.35		1.00		YES			0.0646	
151111111		3,7,8-HpCDF				1.13	10.267	37.13		1.00		YES			0.0425	
16:11:12:		7,8,9-HpCDF				1.26	10.267	39.13		1.00		YES			0.0559	
1740001115	17 OCDF					1.10	10.267	41.99		1.00		YES			0.204	
18. 4.5.E.11.	18 13C-2,3	•	256795.757	0.778	NO	1.05	10.267	26.13		1.03	1.03	NO	180.9	92.8	0.666	
19 MARKET	•	,3,7,8-PeCDD	180946.633	0.634	NO	0.743	10.267	31.27	31.29	1.23	1.23	NO	179.9	92.4	0.734	
30.184.13.14.13.14.13.14.13.14.13.14.13.14.13.14.14.14.14.14.14.14.14.14.14.14.14.14.	-	,3,4,7,8-HxCDD	126604.098	1.253	NO	0.646	10.267	34.64	34.64	1.01	1.01	NO	156.4	80.3	1.43	
21372 273			165041.219	1.227	NO	0.777	10.267	34.73	34.74	1.02	1.02	NO	169.7	87.1	1.19	
22		,3,7,8,9-HxCDD		1.214	NO	0.659	10.267	35.01	35.01	1.02	1.02	NO	165.3	84.8	1.40	
23 20 71 7 7		•	114396.476	1.067	NO	0.534	10.267	38.51	38.52	1.13	1.13	NO	171.0	87.8	1.07	
	24 13C-OC		222558.930	0.873	NO	0.470	10.267	41.79	41.79	1.22	1.22	NO	377.8	97.0	1.58	
	25 13C-2,3		348779.703	0.741	NO	0.977	10.267	25.14		0.99	0.99	NO	166.5	85.5	0.829	
	•		261387.219	1.528	NO	0.778	10.267	29.96	29.98	1.18	1.18	NO	156.8	80.5	1.35	
	•		261644.476	1.563	NO	0.750	10.267	30.95	30.97	1.22	1.22	NO	162.8	83.6	1.40	
28 25 53 3	•		188124.277	0.516	NO	0.845	10.267	33.77	33.77	0.99	0.99	NO	177.7	91.2	1.89	
			228630.156	0.527	NO	1.03	10.267	33.89	33.89	0.99	0.99	NO '	177.8	91.3	1.56	
512-1-12-2-1	30 13C-2,3	,4,6,7,8-HxCDF	193391.415	0.541	NO	0.893	10.267	34.46	34.46	1.01	1.01	NO	172.9	88.8	1.79	

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Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-4.qld

Last Altered: Printed: Thursday, December 19, 2019 15:40:16 Pacific Standard Time Thursday, December 19, 2019 15:43:10 Pacific Standard Time

Name: 191218K1_4, Date: 18-Dec-2019, Time: 19:57:23, ID: 1903739-03 PDI-077SC-A-14-15-191014 13.13, Description: PDI-077SC-A-14-15-191014

	∦# Name	Abs.Resp	· RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	PH HE DL	EMPC
31	31 13C-1,2,3,7,8,9-HxCDF	174130.570	0.497	NO	0.734	10.267	35.37	35.35	1.04	1.03	NO	189.3	97.2	2.18	
32	32 13C-1,2,3,4,6,7,8-HpCDF	171445.421	0.453	NO	0.754	10.267	37.08	37.09	1.09	1.09	NO	181.5	93.2	1.28	
33	33 13C-1,2,3,4,7,8,9-HpCDF	117695.352	0.462	NO	0.539	10.267	39.11	39.13	1.14	1.15	NO	174.3	89.5	1.79	
34	34 13C-OCDF	305265.656	0.883	NO	0.593	10.267	41.97	41.99	1.23	1.23	NO	411.3	106	1.69	1
35	35 37CI-2,3,7,8-TCDD	102339.977			1.07	10.267	26.15	26.17	1.03	1.03	NO	70.69	90.7	0.113	
36	36 13C-1,2,3,4-TCDD	263706.875	0.794	NO	1.00	10.267	25.45	25.43	1.00	1.00	NO	194.8	100	0.699	
37	37 13C-1,2,3,4-TCDF	417357.890	0.744	NO	1.00	10.267	23.55	23.54	1.00	1.00	NO	194.8	100	0.810	
38	38 13C-1,2,3,4,6,9-HxCDF	243991.718	0.524	NO	1.00	10.267	34.16	34.16	1.00	1.00	NO	194.8	100	1.60	
39	39 Total Tetra-Dioxins				0.925	10.267	24.62		0.00		NO			. 0.124	
40	40 Total Penta-Dioxins				0.905	10.267	29.96		0.00		NO			0.0581	
	41 Total Hexa-Dioxins				0.967	10.267	33.63		0.00		NO	0.0000		0.159	0.8485
42 - 4 - 1	42 Total Hepta-Dioxins				1.04	10.267	38.80		0.00		NO	2.695		0.252	2.695
13 11 13 13	43 Total Tetra-Furans				0.938	10.267	23.61		0.00		NO			0.0389	
43000 000	44 1st Func. Penta-Furans				0.976	10.267	27.04		0.00		NO			0.0260	
	45 Total Penta-Furans				0.976	10.267	29.27		0.00		NO			,0.0281	
	46 Total Hexa-Furans				1.18	10.267	33. 56		0.00		NO			0.0293	
47	47 Total Hepta-Furans				1.13	10.267	37.83		0.00		NO			0.0240	

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Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Page 1 of 2

Vista Analytical Laboratory

Dataset:

Printed:

U:\VG11.PRO\Results\191218K1\191218K1-4.qld

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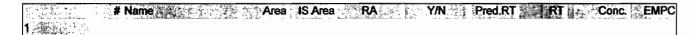
Thursday, December 19, 2019 15:40:16 Pacific Standard Time Thursday, December 19, 2019 15:43:27 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_4, Date: 18-Dec-2019, Time: 19:57:23, ID: 1903739-03 PDI-077SC-A-14-15-191014 13.13, Description: PDI-077SC-A-14-15-191014

Tetra-Dioxins



Penta-Dioxins

	# Name	Area IS Area	RA P	YN	Pred.RT RI	Conc.	EMPC

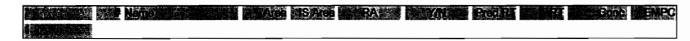
Hexa-Dioxins

		Area	18 Area	RA H	MENTAN EE	Pagg		67.174	HEMPC
41	Total Hexa-Dioxins	0.00e0	0.00e0	0.958	YES	33.63	33.19	0.0000	0.8485

Hepta-Dioxins

		100		HEARP	AS ATER	BANK M		Pietal		4-77	
	42	Total Hept	a-Dioxins	1.05e3	1.14e5	1.173	NO	38.80	37.50	1.715	1.715
2 1 1 1 1	6	1,2,3,4,6,7	,8-HpCDD	5.97e2	1.14e5	1.060	NO	38.53	38.52	0.9795	0.9795

Tetra-Furans



Penta-Furans function 1



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Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191218K1\191218K1-4.qld

Last Altered: Thursday, December 19, 2019 15:40:16 Pacific Standard Time Printed: Thursday, December 19, 2019 15:43:27 Pacific Standard Time

Name: 191218K1_4, Date: 18-Dec-2019, Time: 19:57:23, ID: 1903739-03 PDI-077SC-A-14-15-191014 13.13, Description: PDI-077SC-A-14-15-191014

Penta-Furans

# Name	Area IS Area RA Y/N	Pred.RT RT Conc. EMPC
のではでは最終します。 「大学」「東京」 「大学」「東京」		

Hexa-Furans

** Name *** Name ***

Hepta-Furans

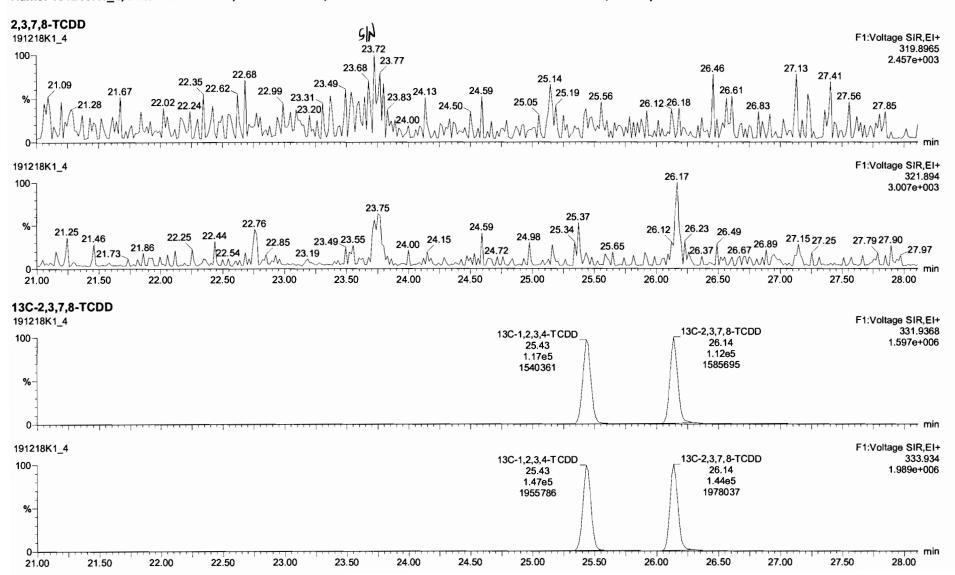
Area IS Area RA Y/N Pred RT RT Conc EMPC

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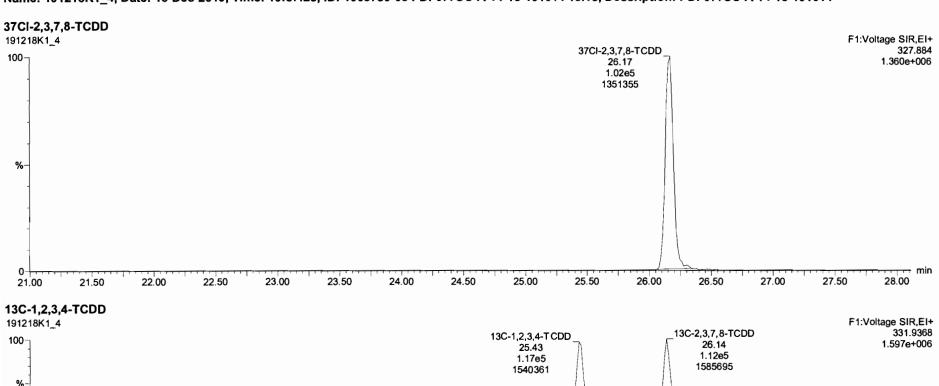
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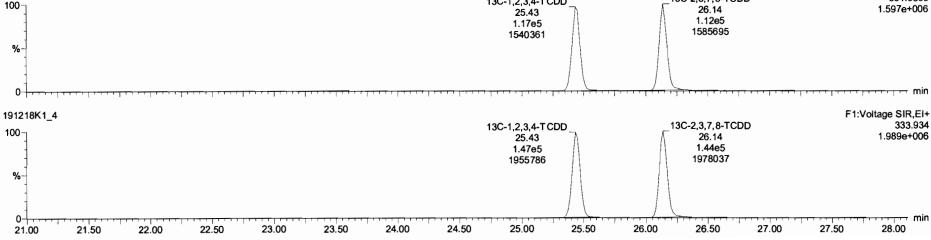
Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_4, Date: 18-Dec-2019, Time: 19:57:23, ID: 1903739-03 PDI-077SC-A-14-15-191014 13.13, Description: PDI-077SC-A-14-15-191014



Name: 191218K1_4, Date: 18-Dec-2019, Time: 19:57:23, ID: 1903739-03 PDI-077SC-A-14-15-191014 13.13, Description: PDI-077SC-A-14-15-191014





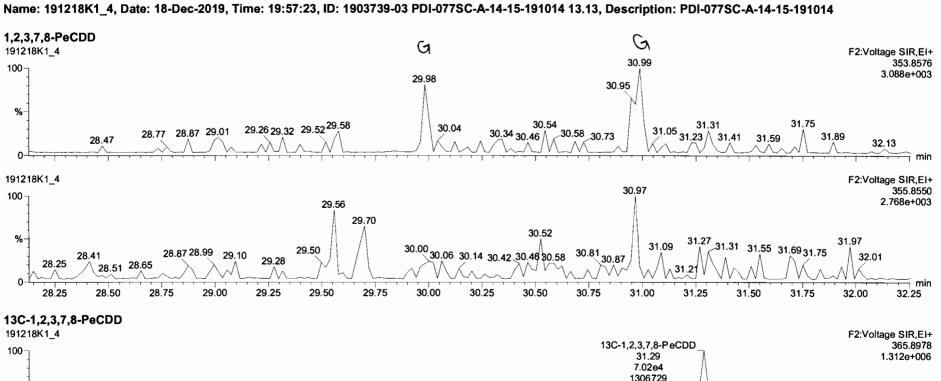
Work Order 1903739 Page 108 of 646

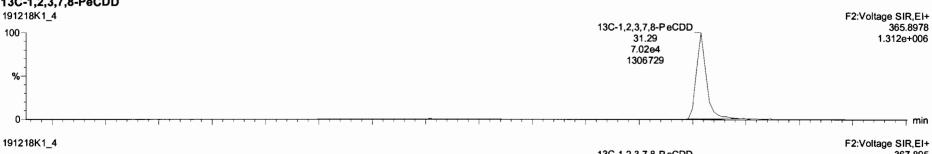
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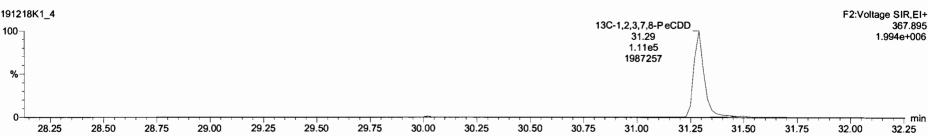
Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

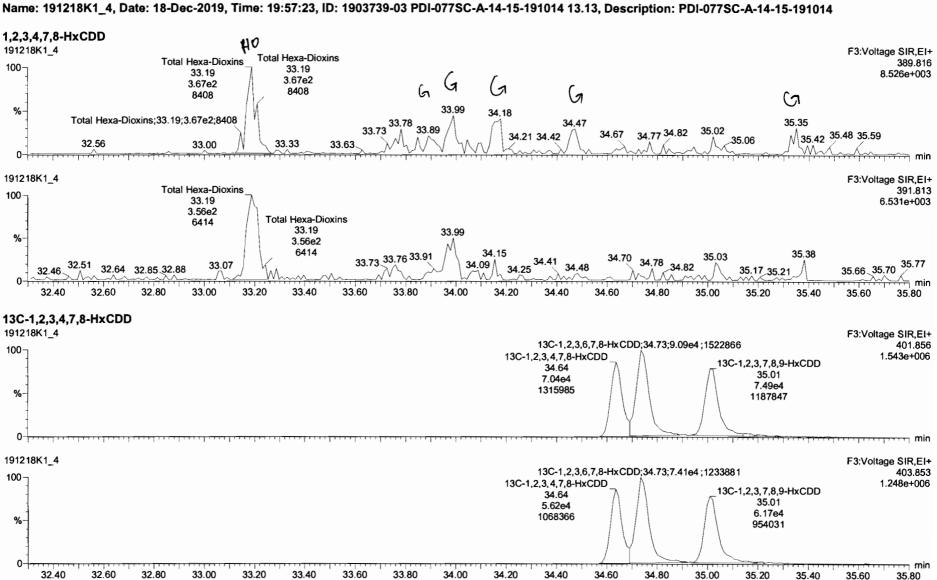
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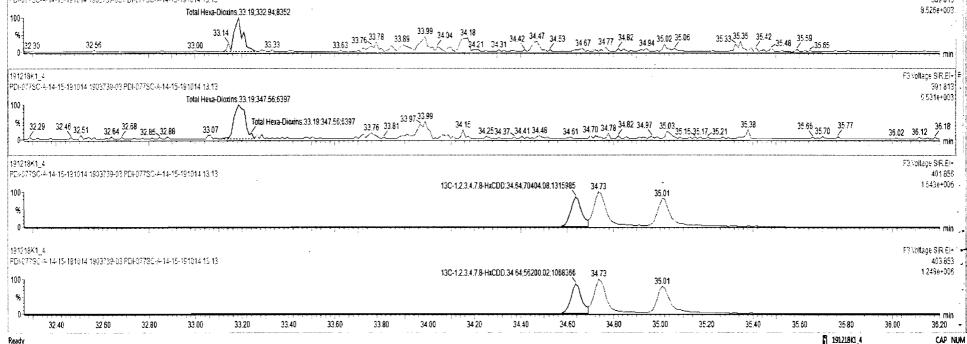








Work Order 1903739 Page 110 of 646

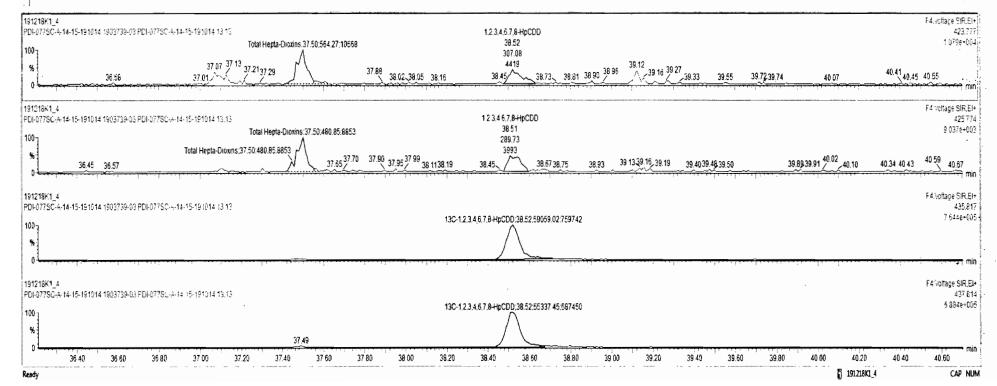


File Edit View Display Processing Window Help

- 191218K1 - 4 - 1903739-03 PDF077SC-A-14-15-191014 13 13 - PDF077SC-A-14-15-191014

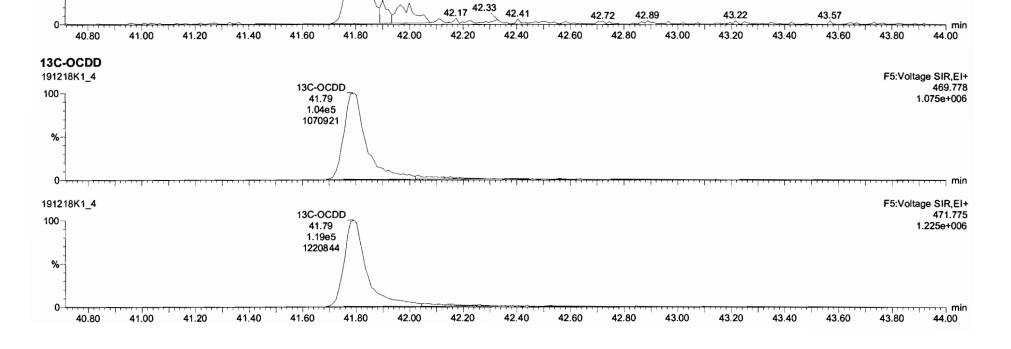
4	#	Hame	Resp	RA	n/y	RRF	wt/voi	Pred.RT	RT	Pred.R	RRT	RRT Fall	Conc.	%Rec	DL	EMPC
41	41	Total Hexa-Dioxina			1	0.9675	10.267	33 63		0 000		NC	0.0000		0.159	0.8485
42	42	Total Hepta-Dioxins				1.0375	10.267	38.80		0.000		MO	2.695		9.252	2.695
43	43	Total Tetra-Furans				0.9376	10.267	23.61		0 000		HC.			0.0389	
44	44	1st Func. Penta-Furana				0 9762	10.267	27:04		0 006		HO			0.0260	
45	45	Total Penta-Furans				0 9762	19.267	29.27		0 000		HO			0 0281	
46	46	Total Hexa-Furans				1 1896	10.267	33.56		0 000		HO			0.0293	
47	47	Total Hepta-Furans				1,1300	10.267	37.83		0.000		HO			0.0240	
48	48	PFK1														
49	49	PFK2														
50	50	PFK3														
51	51	PFK4														
52	52	PFK5														
53	53	CPE1														

X	1	*	Hame	Pred.RT	RT	mt Resp	m2 Resp	1º Ratio (Pred)	RA	aly	EMPC	Conc.
_	1	42	Total Hepta-Dioxins	38.80	37.50	5 643e2	4 808e2	1.040	1.17	ЯO	1.7153	1.7153
	2	£	1.2.3.4.6.7.8-HpCDD	38.53	38.52	3.071e2	2 897e2	1.040	1 06	NO	0.97954	0.97954

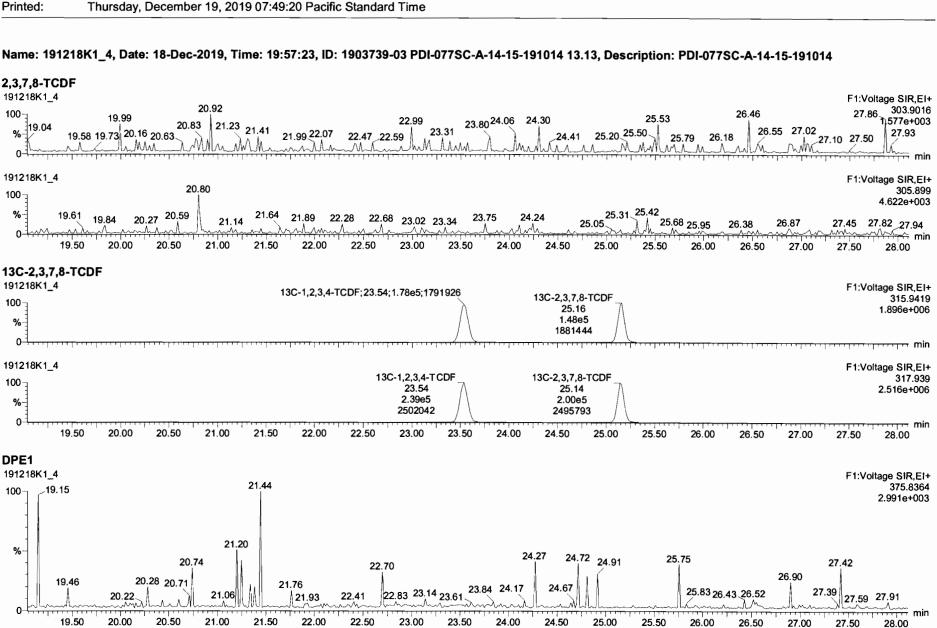


41.90;2.11e2;7068

%



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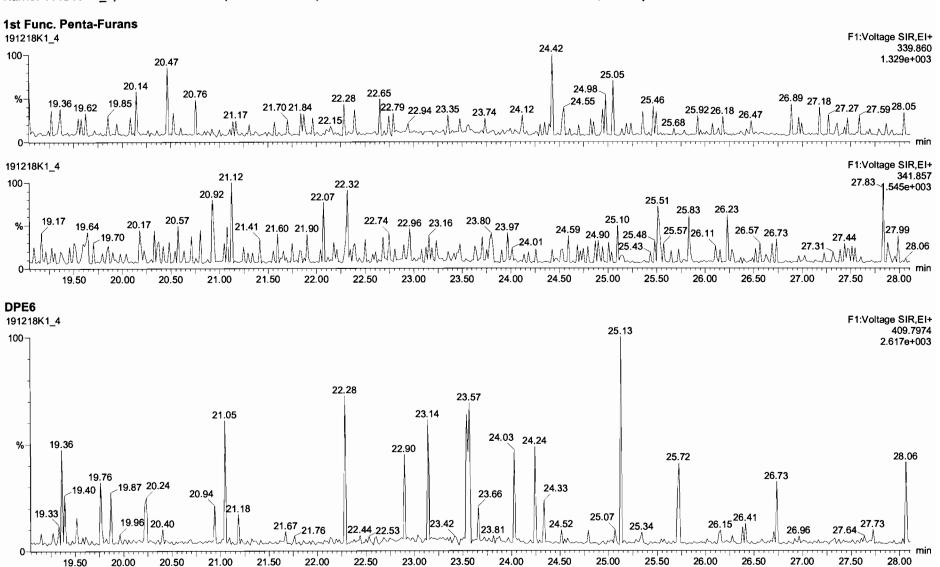


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Vista Analytical Laboratory

Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time

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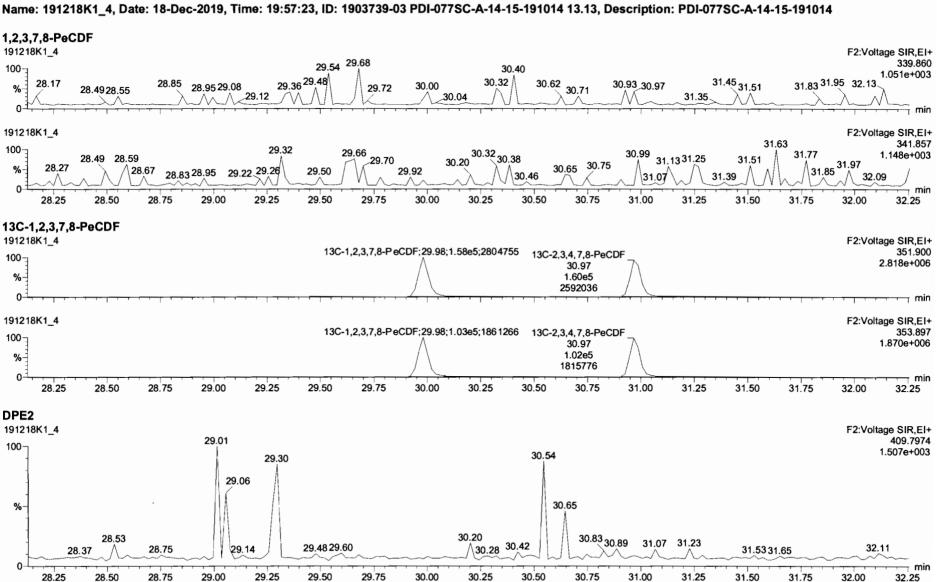


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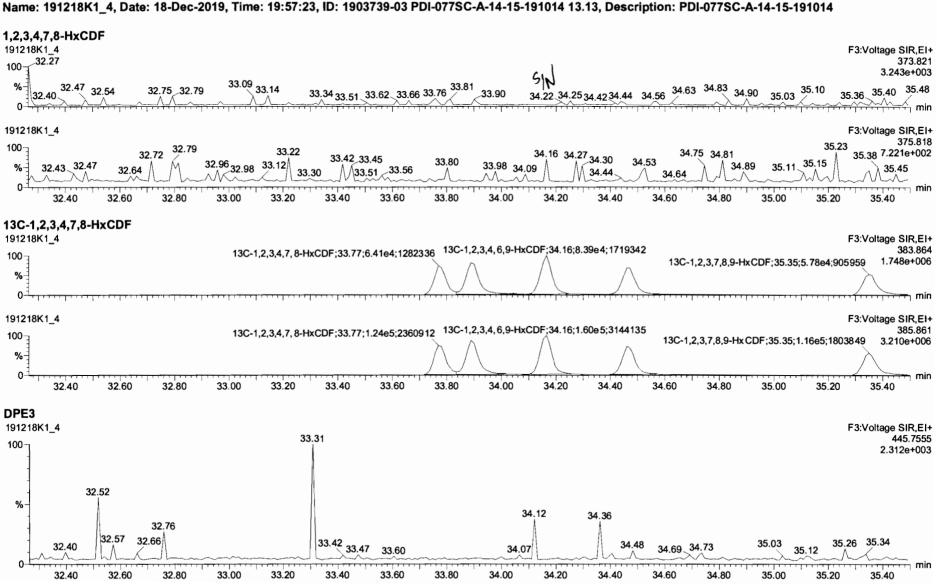
Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

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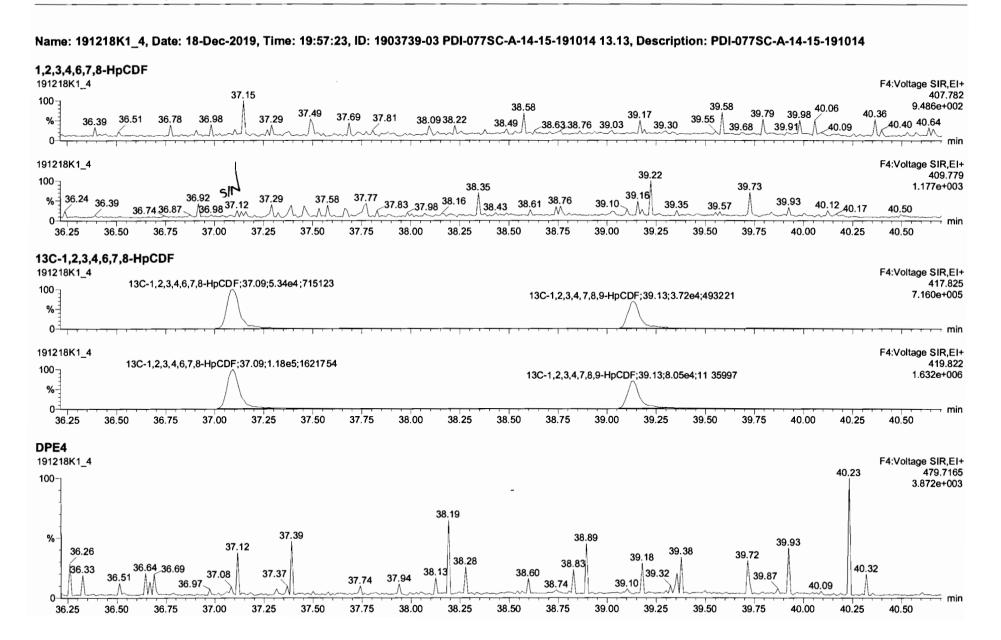
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Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



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Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

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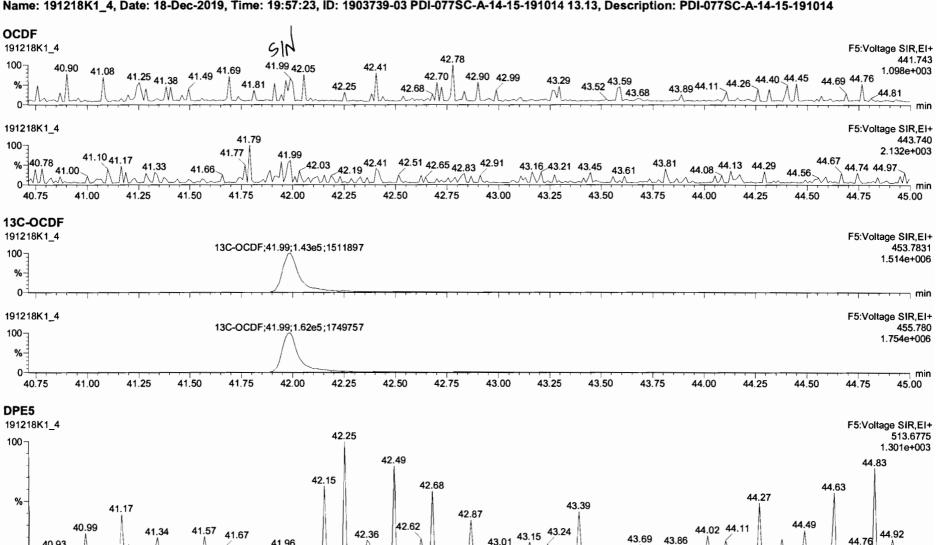
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Page 1 of 2

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-5.qld

Last Altered: Printed:

Thursday, December 19, 2019 15:58:17 Pacific Standard Time Friday, December 20, 2019 12:39:45 Pacific Standard Time

EL 12/20/19

C712/20/19

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014

1514.5	# Name	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT .	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL.	EMPC
1 7 7 7 7	1 2,3,7,8-TCDD				0.925	10.077	26.18		1.00		YES			0.152	
2	2 1,2,3,7,8-PeCDD				0.905	10.077	31.33		1.00		YES -			0.135	
3 ***	3 1,2,3,4,7,8-HxCDD				1.07	10.077	34.66		1.00		YES			0.174	
4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 1,2,3,6,7,8-HxCDD				0.967	10.077	34.76		1.00		YES			0.164	
5	5 1,2,3,7,8,9-HxCDD				0.978	10.077	35.07		1.00		YES			0.193	
6	6 1,2,3,4,6,7.8-HpCDD	540.896	0.715	YES	1.04	10.077	38.54	38.56	1.00	1.00	NO	0.7405		0.226	0.6130
3 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 OCDD	3482.224	0.858	NO	0.972	10.077	41.81	41.81	1.00	1.00	NO	6.081		0.698	6.081
8 Tangaran and I	8 2,3,7,8-TCDF				0.938	10.077	25.18		1.00		YES			0.0756	
9	9 1,2,3,7,8-PeCDF				0.976	10.077	30.02		1.00		YES			0.0643	
10	10 2,3,4,7,8-PeCDF				1.00	10.077	31.02		1.00		YES			0.0575	
11	11 1,2,3,4,7,8-HxCDF				1.24	10.077	33.79		1.00		YES			0.0413	
12	12 1,2,3,6,7,8-HxCDF				1.10	10.077	33.91		1.00		YES			0.0424	
13 11 11 11 11 11 11	13 2,3,4,6,7,8-HxCDF				1.18	10.077	34.52		1.00		YES			0.0465	
	14 1,2,3,7,8,9-HxCDF				1.07	10.077	35.36		1.00		YES			0.0622	
15	15 1,2,3,4,6,7,8-HpCDF				1.13	10.077	37.14		1.00		YES			0.0500	
16	16 1,2,3,4,7,8,9-HpCDF				1.26	10.077	39.15		1.00		YES			0.0732	
172	17 OCDF				1.10	10.077	42.00		1.00		YES			0.159	
18.4	18 13C-2,3,7,8-TCDD	328568.829	0.780	NO	1.05	10.077	26.15	26.15	1.03	1.03	NO	189.5	95.5	0.605	
1974	19 13C-1,2,3,7,8-PeCDD	245506.758	0.570	NO	0.743	10.077	31.29	31.31	1.23	1.23	NO	199.9	101	0.883	
	20 13C-1,2,3,4,7,8-HxCDD	164848.187	1.240	NO	0.646	10.077	34.65	34.65	1.01	1.01	NO	163.6	82.4	1.10	
21.02.0	21 13C-1,2,3,6,7,8-HxCDD	234222.477	1.245	NO	0.777	10.077	34.75	34.76	1.02	1.02	NO	193.4	97.5	0.913	
211	22 13C-1,2,3,7,8,9-HxCDD	195365.290	1.212	NO	0.659	10.077	35.02	35.03	1.02	1.02	NO	190.0	95.7	1.08	
23	23 13C-1,2,3,4,6,7,8-HpCDD	138052.867	1.035	NO	0.534	10.077	38.52	38.53	1.13	1.13	NO	165.8	83.5	1.19	
24 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	24 13C-OCDD	233920.211	0.904	NO	0.470	10.077	41.80	41.81	1.22	1.22	NO	319.0	80.4	1.87	
CARRIED	25 13C-2,3,7,8-TCDF	474381.813	0.717	NO	0.977	10.077	25.16	25.16	0.99	0.99	NO	176.6	89.0	0.657	
SECTION	26 13C-1,2,3,7,8-PeCDF	348941.219	1.502	NO	0.778	10.077	29.98	30.00	1.18	1.18	NO	163.3	82.3	1.17	
are the second s	27 13C-2,3,4,7,8-P€CDF	338290.453	1.483	NO	0.750	10.077	30.97	30.99	1.22	1.22	NO	164.2	82.7	1.22	
28.罗西亚克里	28 13C-1,2,3,4,7,8-HxCDF	228941.547	0.519	NO	0.845	10.077	33.79	33.79	0.99	0.99	NO .	173.8	87.5	1.70	
	29 13C-1,2,3,6,7,8-HxCDF	284483.953	0.524	NO	1.03	10.077	33.90	33.90	0.99	0.99	ŇO	177.7	89.6	1.40	
SOUTH STATES	30 13C-2,3,4,6,7,8-HxCDF	243849.617	0.529	NO	0.893	10.077	34.48	34.48	1.01	1.01	NO	175.2	88.3	1.61	

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191218K1\191218K1-5.qld

Last Altered: Thursday, December 19, 2019 15:58:17 Pacific Standard Time Friday, December 20, 2019 12:39:45 Pacific Standard Time

Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014

3242 gs - 81	: # Name > 含化氧化铯 ALEPA	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	J. Little	EMPC
31	31 13C-1,2,3,7,8,9-HxCDF	227067.172	0.498	NO	0.734	10.077	35.38	35.36	1.04	1.03	NO	198.4	99.9	1.96	
32	32 13C-1,2,3,4,6,7,8-HpCDF	220431.234	0.438	NO	0.754	10.077	37.09	37.10	1.09	1.09	NO	187.5	94.5	1.08	
33	33 13C-1,2,3,4,7,8,9-HpCDF	143291.730	0.443	NO	0.539	10.077	39.12	39.15	1.14	1.15	NO	170.5	85.9	1.51	
34	34 13C-OCDF	341468.781	0.882	NO	0.593	10.077	41.99	42.00	1.23	1.23	NO	369.7	93.1	1.47	
35	35 37Cl-2,3,7,8-TCDD	126399.477			1.07	10.077	26.17	26.17	1.03	1.03	NO	71.50	90.1	0.153	
36	36 13C-1,2,3,4-TCDD	328078.735	0.810	NO	1.00	10.077	25.45	25.45	1.00	1.00	NO	198.5	100	0.635	
37. [15]	37 13C-1,2,3,4-TCDF	545308.063	0.723	NO	1.00	10.077	23.55	23.54	1.00	1.00	NO	198.5	100	0.642	
38, 🖂 🔠 👵	38 13C-1,2,3,4,6,9-HxCDF	309422.164	0.526	NO	1.00	10.077	34.16	34.17	1.00	1.00	NO	198.5	100	1.44	
39 7	39 Total Tetra-Dioxins				0.925	10.077	24.62		0.00		NO			0.0930	
40 2 2	40 Total Penta-Dioxins				0.905	10.077	29.96		0.00		NO			0.0515	
4122	41 Total Hexa-Dioxins				0.967	10.077	33.63		0.00		NO	0.0000		0.0940	0.5300
42 140 947 17	42 Total Hepta-Dioxins				1.04	10.077	38.80		0.00		NO	1.482		0.236	2.385
43 112 113	43 Total Tetra-Furans				0.938	10.077	23.61		0.00		NO			0.0293	•
	44 1st Func. Penta-Furans				0.976	10.077	27.04		0.00		NO			0.0130	
45.76.71	45 Total Penta-Furans				0.976	10.077	29.27		0.00		NO			0.0192	
6	46 Total Hexa-Furans				1.18	10.077	33.56		0.00		NO			0.0247	
472.17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	47 Total Hepta-Furans				1.13	10.077	37.83		0.00		NO			0.0322	

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Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-5.qld

Last Altered: Printed: Friday, December 20, 2019 12:40:12 Pacific Standard Time Friday, December 20, 2019 12:40:14 Pacific Standard Time

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Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014

Tetra-Dioxins

# Name	Area MS Area RA Y/N	Pred.RT RT Conc. EMPC
★ みが、これは主義を表現しています。		

Penta-Dioxins

Ť.	*	Name	Area IS	rea RA	Y/N	Pred RT	Conc	EMPC
1								

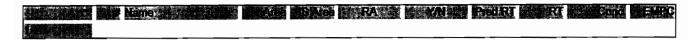
Hexa-Dioxins

	Name Court Park St		Als Area	RA	W.	Ped.RI		EL BOIC	EMPC
1. 1. 1. 41	Total Hexa-Dioxins	0.00e0	0.00e0	1.021	YES	33.63	33.20	0.0000	0.5301

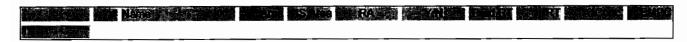
Hepta-Dioxins

				E YNEE	Piedri			EMPC
42 Total Hepta-Dioxins	1.07e3	1.38e5	1.195	NO	38.80	37.51	1.482	1.482
6 1,2,3,4,6,7,8-HpCDD	5.41e2	1.38e5	0.715	YES	38.54	38.56	0.0000	0.6131

Tetra-Furans



Penta-Furans function 1



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Page 1 of 2

Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-5.qld

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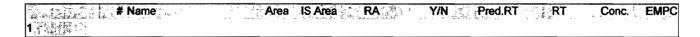
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Printed: Friday, December 20, 2019 12:40:14 Pacific Standard Time

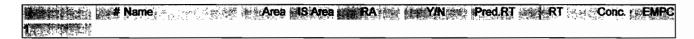
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Page 2 of 2

Penta-Furans



Hexa-Furans



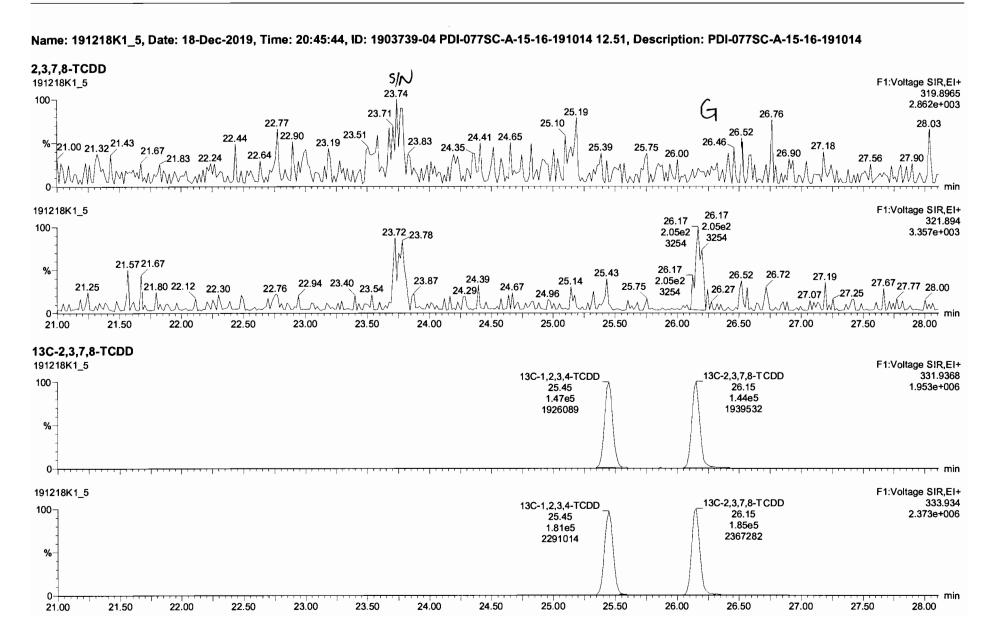
Hepta-Furans



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Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



19.25 19.50 19.75 20.00 20.25 20.50 20.75 21.00 21.25 21.50 21.75 22.00 22.25 22.50 22.75 23.00 23.25 23.50 23.75 24.00 24.25 24.50 24.75 25.00 25.25 25.50 25.75 26.00 26.25 26.50 26.75 27.00 27.25 27.50 27.75 28.00

Work Order 1903739

Page 127 of 646 AD MINA

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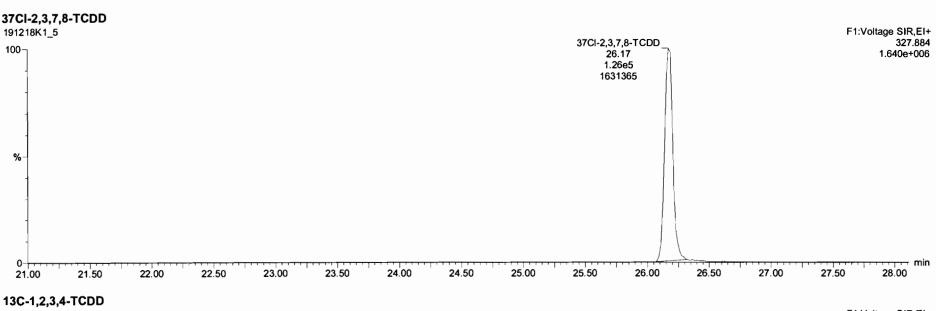
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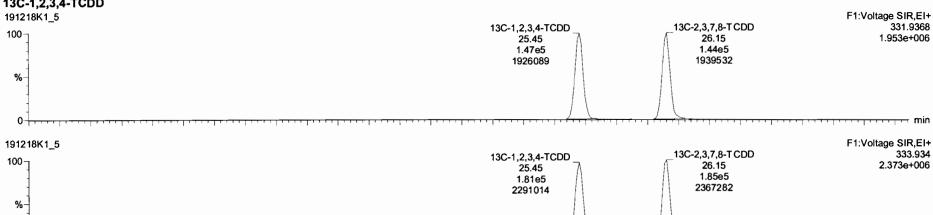
22.00

22.50

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time







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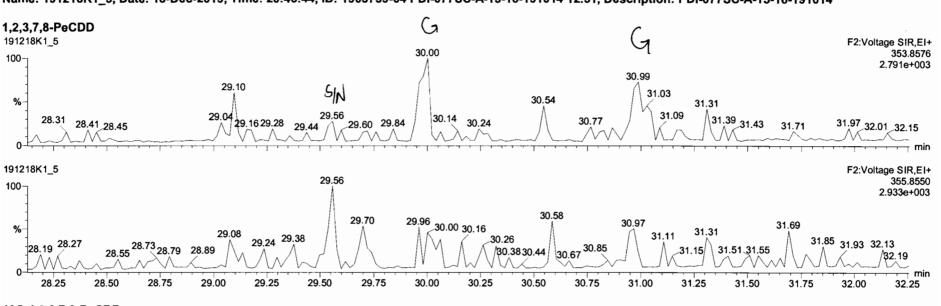
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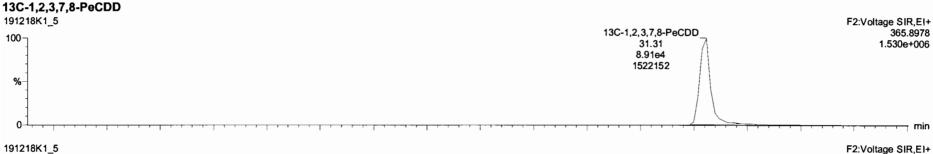
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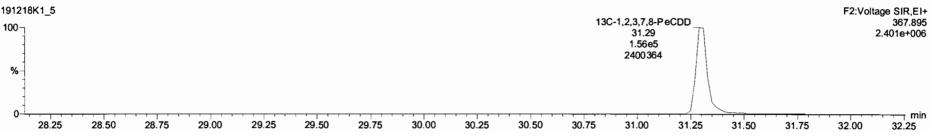
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Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



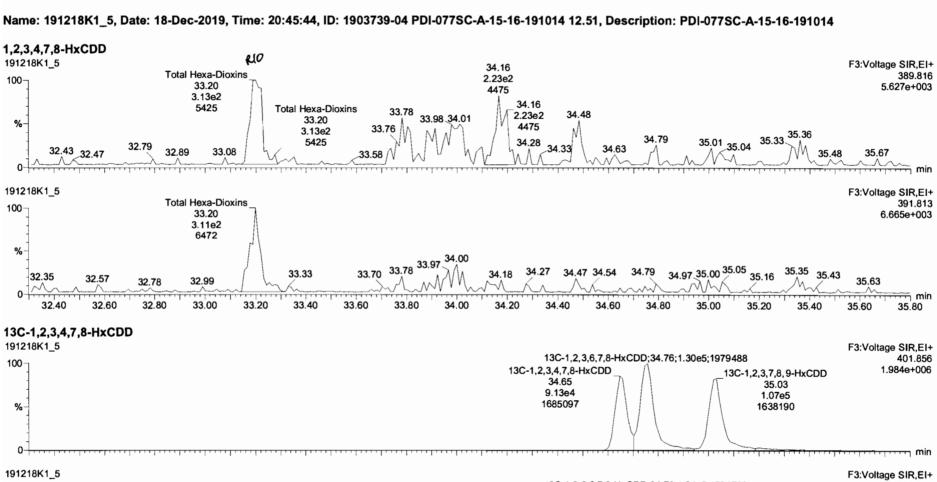


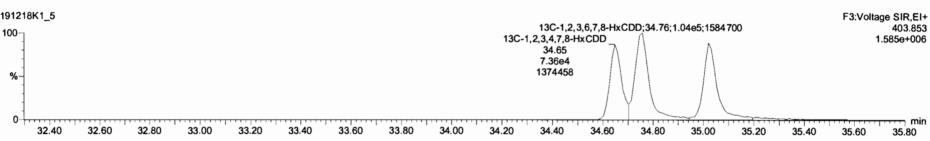




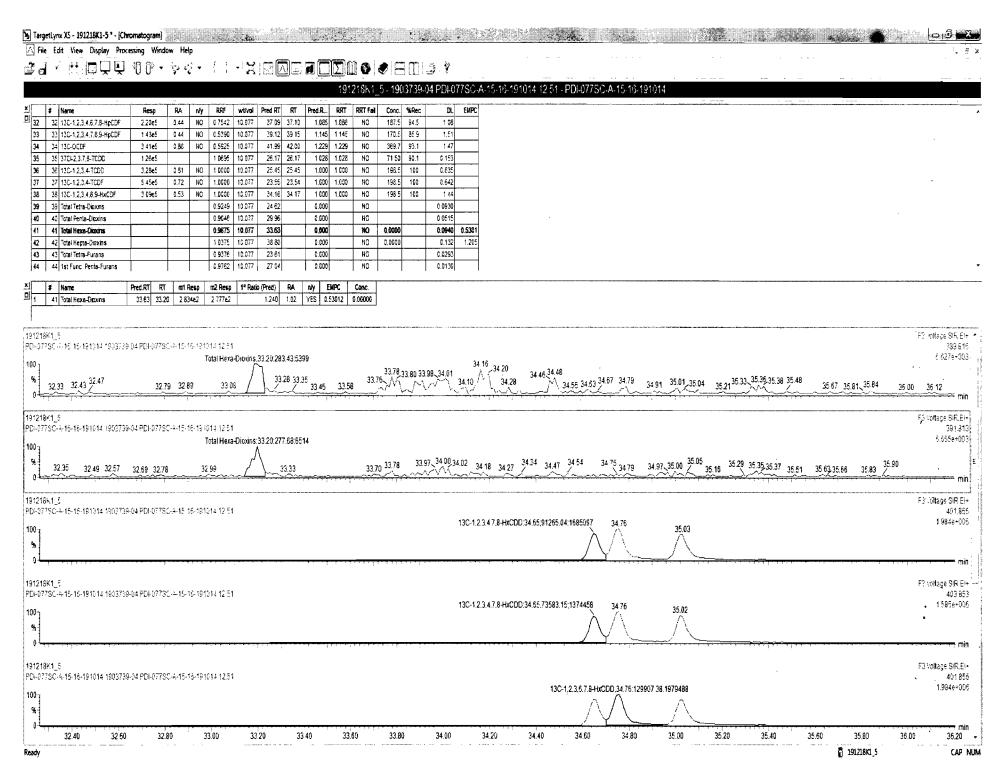
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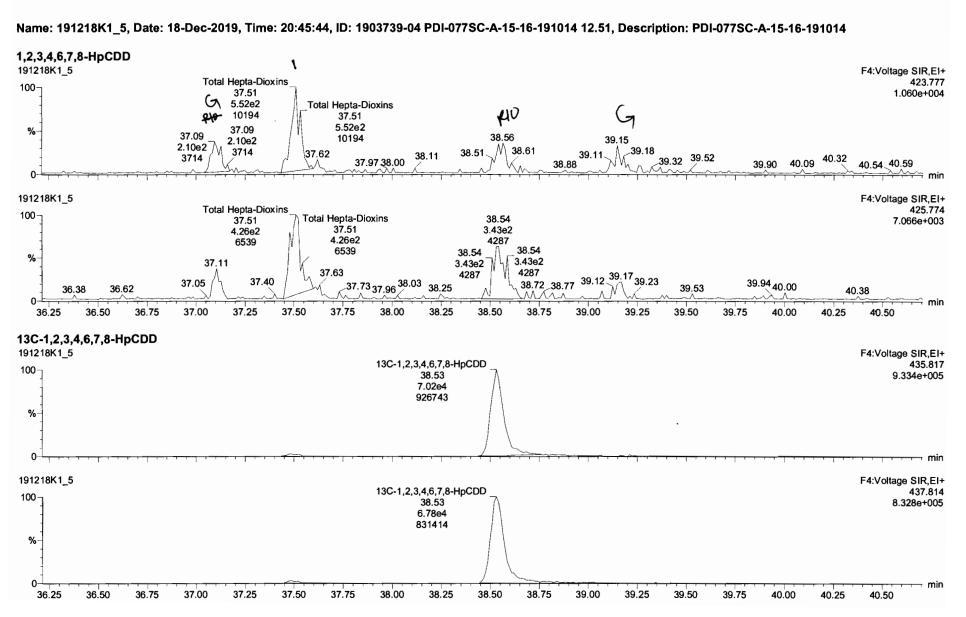
Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time





Work Order 1903739





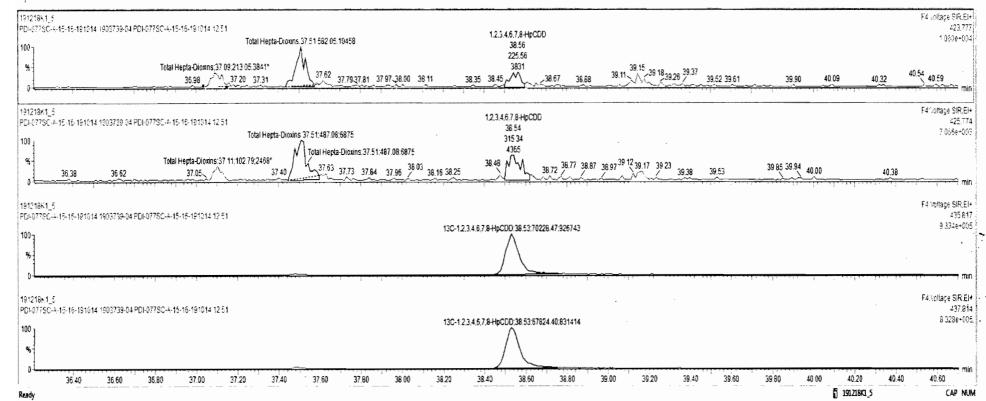
Work Order 1903739 Page 132 of 646

☐ File Edit View Display Processing Window Help

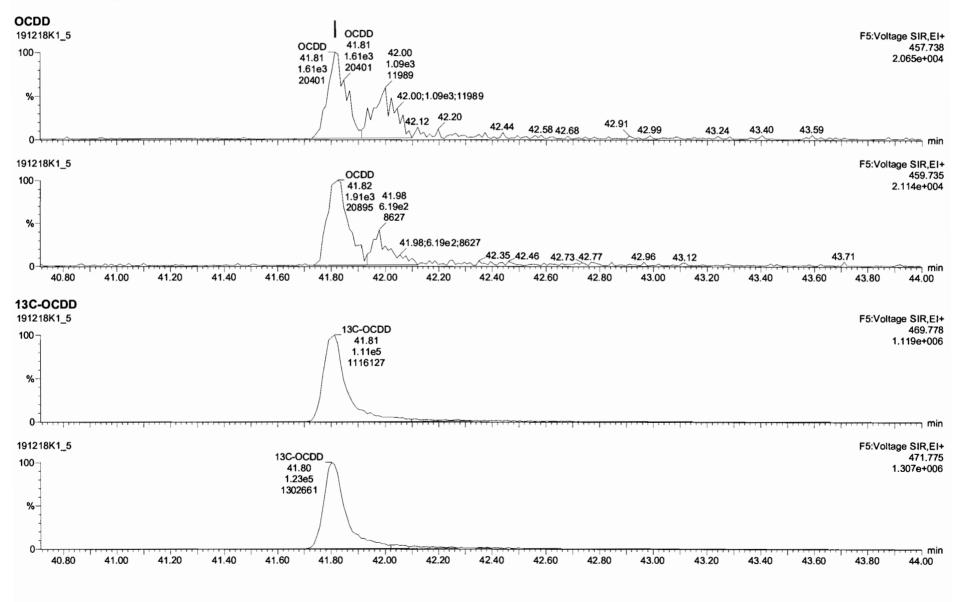
191218K1_5 - 1903739-04 PDF0	77SC-A	1-15-16-191014	12.51 - PDI-077SC-A-	15-16-191014
		•		
			/8/5.6.6/86	

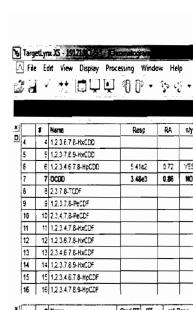
-	#	Hame	Resp	RA.	nly	RRF	wtvol	Pred.RT	RT	Pred.R.	RRE	RRT Fail	Conc.	%Rec	DL	EMPC
37	37	13C-1.2,3.4-TCDF	5.45 e 5	0.72	NO	1 0000	10.077	23 55	23 54	1 000	1 000	HO	198.5	100	0.642	
38	38	13C-1,2,3,4,6 9-HxCDF	3.09e5	0.53	NC	1 0000	10.077	34 16	34 17	1 800	1,000	HO	198.5	100	1 44	
39	39	Total Tetra-Dioxina				0 9249	10.077	24 62		0 000		NO			0.0930	
40	40	Total Penta-Dioxins				0 9046	10.077	29.56		0 000		HO			0 0515	
41	41	Total Hexa-Dioxins				0.9675	10,077	33.63		0 000		NO	0.0000		0.0946	0.5300
42	42	Total Hepta-Dioxins				1.8375	10.077	36.80		0.000		NO	1.482		9.236	2.385
43	43	Total Tetra-Furans				0.9376	19.877	23.61		0.000		HO			0.0293	
44	44	1st Func. Pents-Furans				0.9762	10.077	27.04		0 000		NO			0 0130	
45	45	Total Penta-Furans				0 9762	10 977	29.27		0 000		NO			0.0192	
46	46	Total Hexa-Furans				1 1806	10.077	33 56		0 000		HO			0 0247	
47	47	Total Hepta-Furans				1.1300	10.077	37.83		0.000		HO			C 0322	
48	48	PFK1		1												
49	49	PFK2														

×		#	Hame	Pred.RT	RT	m1 Resp	m2 Resp	1º Ratio (Pred)	RA	n/y	EMPC	Conc.
	1	€	1,2,3,4,6,7,8-HpCDC	38.54	36.56	2.256e2	3 153e2	1.040	0.72	YES	0 61300	0 00000
	2	42	Total Hepta-Dioxins	38 80	37.09	2 131e2	1 028e2	1 040	2 07	YES	0 29100	0.00000
	3	42	Total hepta-Dioxins	38 80	37.51	5.620e2	4 671e2	1.040	1.20	МО	1 4820	1 4815



Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014

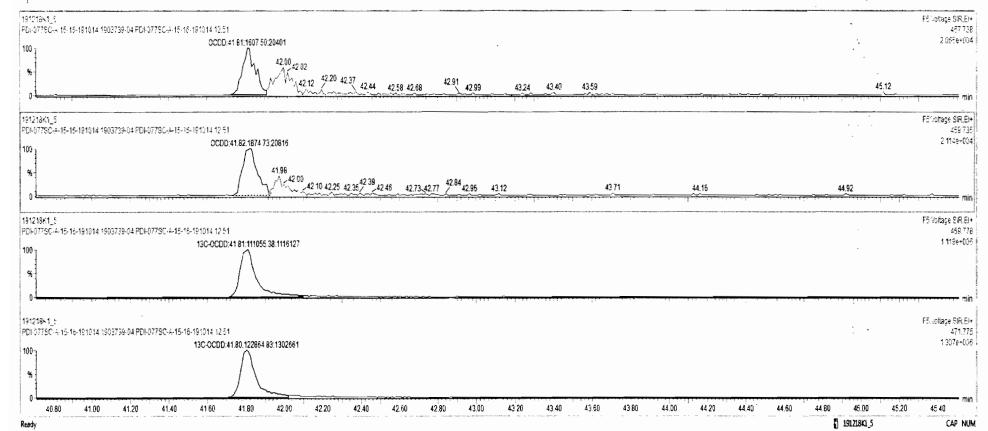




40	4340E/4 E	4060700.0	4 DOL07700	A 45 46 A04041 A0	EA ODLAZ	700 A 4E 40 404044
2	- C_1/16171	1800108-0	4 PUPUT 30-	A-15-16-121014-12	DI-PURA	7SC-A-15-16-191014

	#	Name	Resp	RA	nly	RRF	wtivol	Pred.RT	RT	Pred.R	RRT	RRT Fait	Conc.	%Rec	DL	EMPC
4	4	1,2 3,6,7,8-HxCDD				0 9675	10.077	34 76		1 000		YES			\$ 164	
5	5	1,2,3,7,8,9-HxCDD				0.9778	19.077	25 07		1.001		YES			0.193	
ę.	€	1,2,3,4,6,7,8-HpCDD	5 4162	0.72	YES	1.0375	10 077	38 54	38.56	1 000	1.001	HO	0.7495		0.236	0.6131
7	7	OCDO	3.48e3	0.86	NO	0.9718	10,077	41.81	41.81	1.000	1.000	NO	6.081		0.698	6.081
6	8	2.3 7.8-TCDF				0.9376	10 077	25 18		1,001		YES.			0.0756	
9	ş	1,2,3,7,8-PeCDF				0.9762	10.977	30 02		1.001		YES			0.0643	
10	10	2.3,4,7,8-PeCDF				10049	10 077	31 02		1 001		YES			0 0 575	
11	11	1,2,3 4,7,8-HxCDF				12434	19,977	33 79		1 000		YES			G.0413	
12	12	1.2.3.6.7.8-HxCDF				1.0950	10,077	33.91		1 000		YES			0.0424	
13	13	2.3.4.6 7.8-HxCDF				1 1806	10 077	34 52		1 881		YES.			0 0465	
14	14	1,2.3.7.6.9-HxCDF				1.0728	10.077	35 36		1.006		YES			0.0622	
15	15	1,2,3,4,6,7,8-HpCDF				1 1300	10 077	37 14		1 001		YES			0 0500	
16	16	1.2.3.4.7.8.9-HpCDF				1 2609	10.077	39 15		1.000		VES.			6 8732	

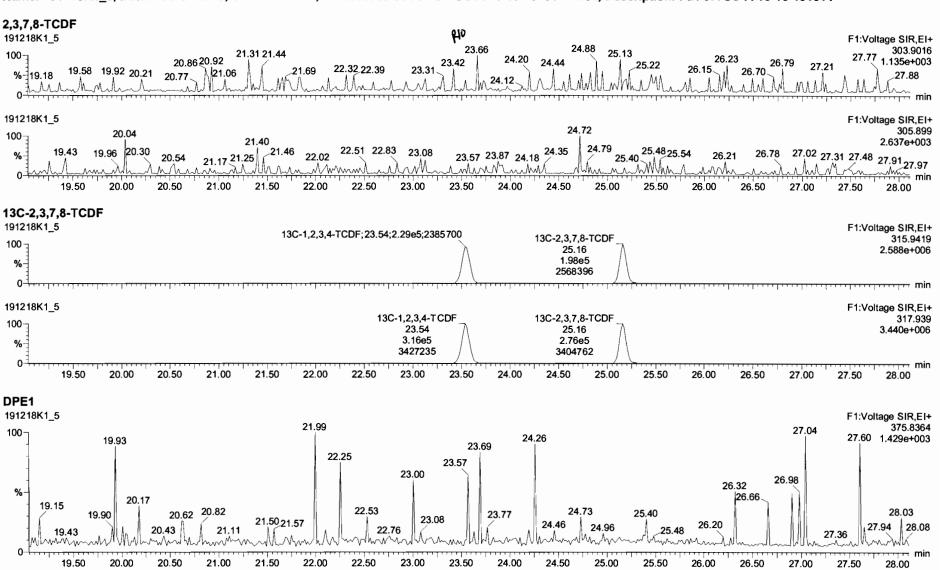
x		*	Hame	Pred.RT	RT-	mi Resp	m2 Resp	1º Ratio (Pred)	RA	яłу	EMPC	Conc.
	1											



Untitled

Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014

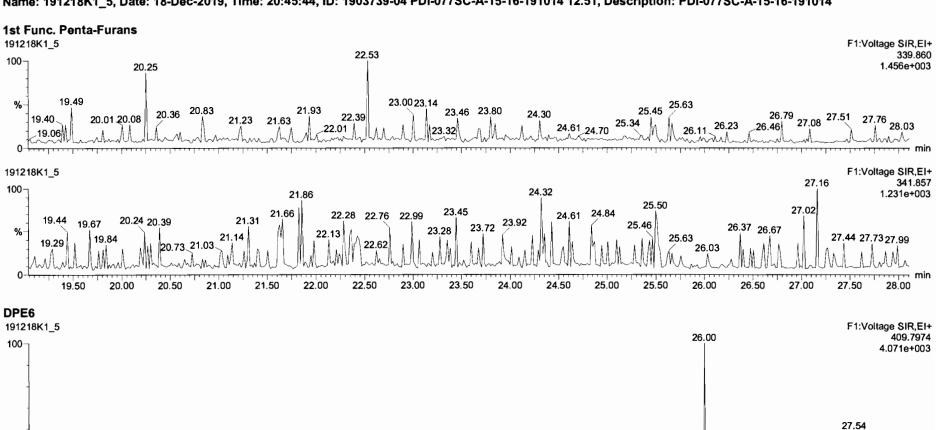


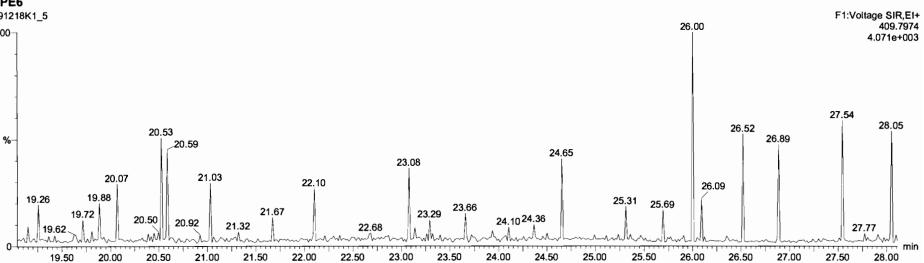
Untitled

Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014

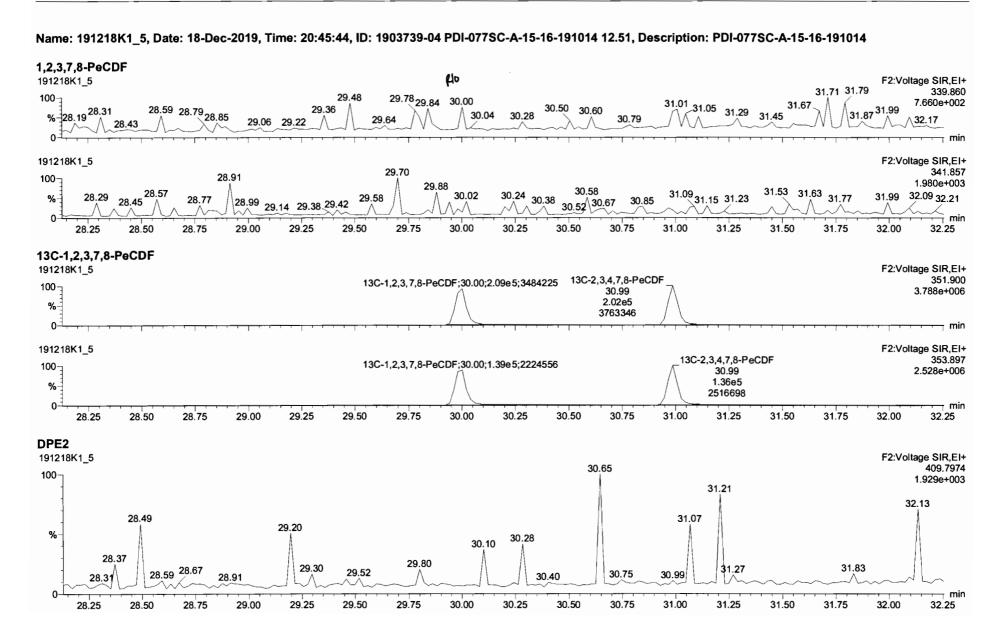




Work Order 1903739 Page 137 of 646

Untitled

Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

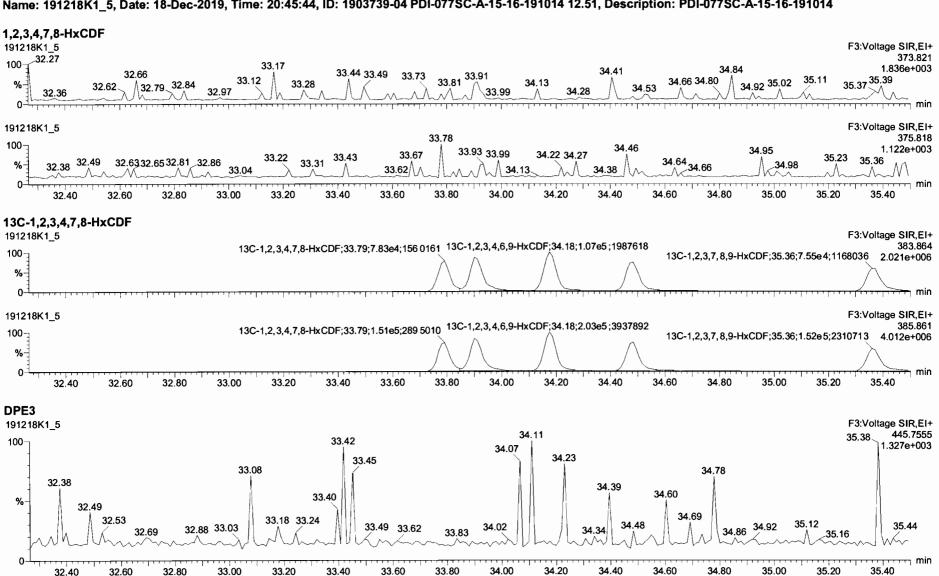


Vista Analytical Laboratory

Untitled Dataset:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Last Altered: Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1 5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014

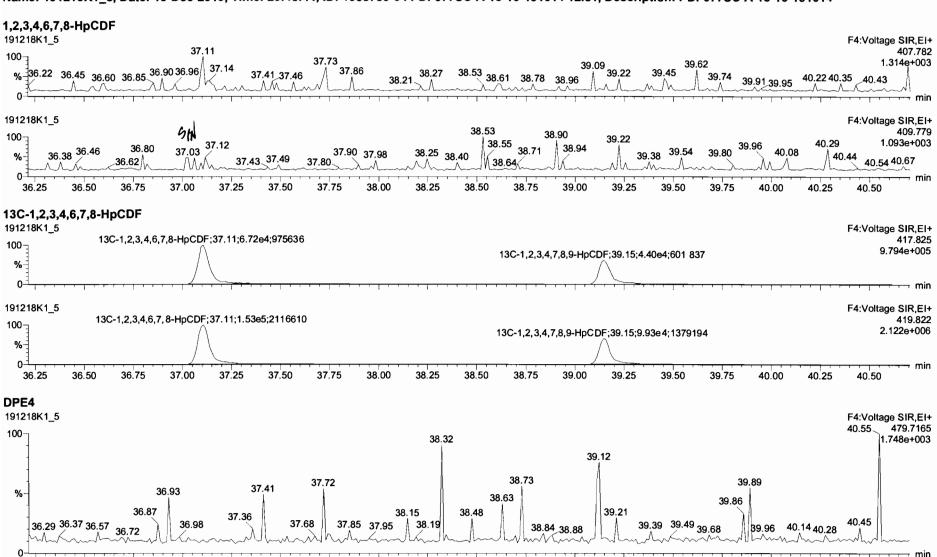


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Untitled

Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014



36.50

36.75

37.00

37.25

37.50

37.75

38.00

38.25

38.50

38.75

39.00

39.25

39.50

39.75

40.00

40.25

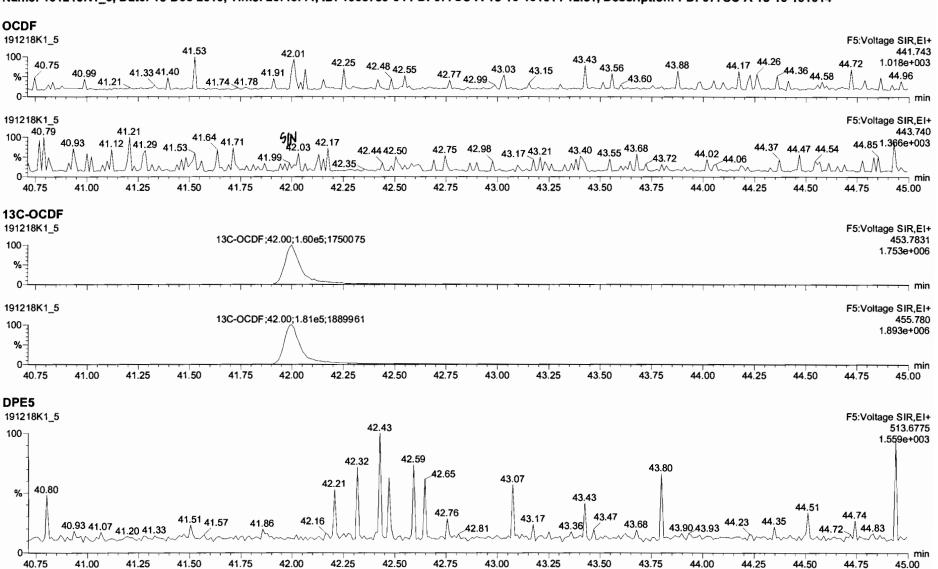
36.25

40.50

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Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

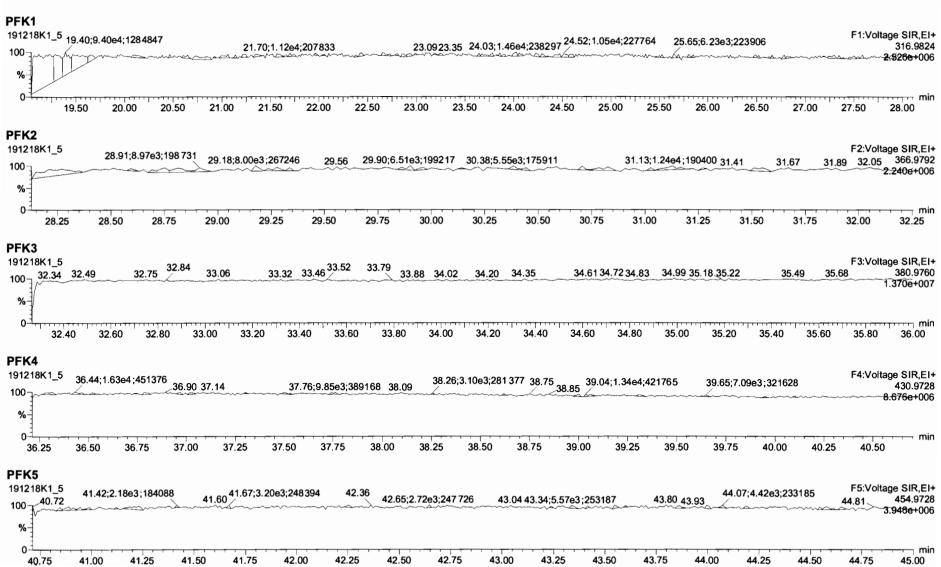
Name: 191218K1_5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014



Dataset: Untitled

Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time Printed:

Name: 191218K1 5, Date: 18-Dec-2019, Time: 20:45:44, ID: 1903739-04 PDI-077SC-A-15-16-191014 12.51, Description: PDI-077SC-A-15-16-191014



Work Order 1903739 Page 142 of 646 MassLynx MassLynx V4.1 SCN 945

Page 1 of 2

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-6.qld

Last Altered: Printed:

Friday, December 20, 2019 12:31:37 Pacific Standard Time Friday, December 20, 2019 12:34:33 Pacific Standard Time

EL 12/19/19 C7 12/20/19

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_6, Date: 18-Dec-2019, Time: 21:34:05, ID: 1903739-05 PDI-079SC-A-11-12-191014 13.37, Description: PDI-079SC-A-11-12-191014

	# Name	Abs.Resp	: RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL .	- EMPC
	1 2,3,7,8-TCDD				0.925	10.151	26.17		1.00		YES		,	0.153	J
21111111111111111111111111111111111111	2 1,2,3,7,8-PeCDD				0.905	10.151	31.31		1.00		YES		i	0.127	
314	3 1,2,3,4,7,8-HxCDD				1.07	10.151	34.66		1.00		YES			0.124	
	4 1,2,3,6,7,8-HxCDD				0.967	10.151	34.76		1.00		YES			0.119	
5.00	5 1,2,3,7,8,9-HxCDD				0.978	10.151	35.06		1.00		YES			0.145	
6	6 1,2,3,4,6,7,8-HpCDD	402.838	0.977	NO	1.04	10.151	38.55	38.54	1.00	1.00	NO	0.4090 ,		0.211	0.4090
7.4	7 OCDD	2894.226	0.847	NO	0.972	10.151	41.79	41.80	1.00	1.00	NO	3.878		0.439	3.878
8	8 2,3,7,8-TCDF				0.938	10.151	25.18		1.00		YES			0.101	
8	9 1,2,3,7,8-PeCDF	176.261	0.889	YES	0.976	10.151	30.02	29.98	1.00	1.00	NO	0.09715		0.0343	0.07522
10.38233E-1	10 2,3,4,7,8-PeCDF	60.908	0.703	YES	1.00	10.151	31.02	31.03	1.00	1.00	NO	0.03 4 81		0.0218	0.02364
113735.7	11 1,2,3,4,7,8-HxCDF	559.328	1.647	YES	1.24	10.151	33.78	33.79	1.00	1.00	NO	0.2943		0.0300	0.2491
	12 1,2,3,6,7,8-HxCDF				1.10	10.151	33.91		1.00		YES			0.0528	
	13 2,3,4,6,7,8-HxCDF				1.18	10.151	34.52		1.00		YES			0.0628	
	14 1,2,3,7,8,9-HxCDF				1.07	10.151	35.36		1.00		YES	•		0.0866	
15.	15 1,2,3,4,6,7,8-HpCDF	187.862	0.819	YES	1.13	10.151	37.14	37.13	1.00	1.00	NO	0.1364		0.0462	0.1152
192211	16 1,2,3,4,7,8,9-HpCDF				1.26	10.151	39.16		1.00		YES	•		0.129	
174114111	17 OCDF	460.504	0.846	NO	1.10	10.151	42.00	42.02	1.00	1.00	NO	0.3962		0.183	0.3962
	18 13C-2,3,7,8-TCDD	345169.485	0.769	NO	1.05	10.151	26.15	26.14	1.03	1.03	NO	174.6	88.6	0.508	
	19 13C-1,2,3,7,8-PeCDD	240637.110	0.622	NO	0.743	10.151	31.29	31.29	1.23	1.23	NO	171.9	87.2	0.427	
	20 13C-1,2,3,4,7,8-HxCDD	187663.165	1.250	NO	0.646	10.151	34.65	34.65	1.01	1.01	NO	144.8	73.5	0.899	
2 15 15 15 15 15 15 15 15 15 15 15 15 15 15	21 13C-1,2,3,6,7,8-HxCDD	259993.383	1.297	NO	0.777	10.151	34.75	34.76	1.02	1.02	NO	167.0	84.7	0.748	
	22 13C-1,2,3,7,8,9-HxCDD	216803.141	1.324	NO	0.659	10.151	35.02	35.02	1.02	1.02	NO	164.0	83.2	0.881	
李明思想	23 13C-1,2,3,4,6,7,8-HpCDD	187061.476	1.029	NO	0.534	10.151	38.52	38.54	1.13	1.13	NO	174.7	88.6	0.785	
	24 13C-OCDD	302623.985	0.873	NO	0.470	10.151	41.80	41.79	1.22	1.22	NO	320.9	81.4	1.34	
Commence of the Commence of th	25 13C-2,3,7,8-TCDF	477742.829	0.726	NO	0.977	10.151	25.16	25.16	0.99	0.99	NO	161.1	81.8	0.584	
	26 13C-1,2,3,7,8-PeCDF	366211.329	1.546	NO	0.778	10.151	29.98	30.00	1.18	1.18	NO	155.2	78.8	0.926	
20 EXTENS	27 13C-2,3,4,7,8-PeCDF	343114.781	1.545	NO	0.750	10.151	30.97	30.99	1.22	1.22	NO	150.9	76.6	0.961	
	28 13C-1,2,3,4,7,8-HxCDF	301156.953	0.523	NO	0.845	10.151	33.79	33.78	0.99	0.99	NO	177.7	90.2	1.12	
	29 13C-1,2,3,6,7,8-HxCDF	369214.094	0.541	NO	1.03	10.151	33.90	33.90	0.99	0.99	NO	179.4 .	91.0	0.923	
	30 13C-2,3,4,6,7,8-HxCDF	291351.078	0.545	NO	0.893	10.151	34.48	34.48	1.01	1.01	NO	162.8	82.6	1.06	

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191218K1\191218K1-6.qld

Last Altered: Friday, December 20, 2019 12:31:37 Pacific Standard Time Friday, December 20, 2019 12:34:33 Pacific Standard Time

Name: 191218K1_6, Date: 18-Dec-2019, Time: 21:34:05, ID: 1903739-05 PDI-079SC-A-11-12-191014 13.37, Description: PDI-079SC-A-11-12-191014

7 7 2 1 2	# Name	Abs.Resp	RA	· n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	4,	DL :	EMPC
31 1 2 2 2 2 3	31 13C-1,2,3,7,8,9-HxCDF	254796.977	0.514	NO	0.734	10.151	35.38	35.36	1.04	1.03	NO	173.1	87.8		1.29	J
32	32 13C-1,2,3,4,6,7,8-HpCDF	251180.656	0.442	NO	0.754	10.151	37.09	37.10	1.09	1.09	NO	166.1	84.3	•	1.11	
33	33 13C-1,2,3,4,7,8,9-HpCDF	173240.871	0.429	NO	0.539	10.151	39.12	39.16	1.14	1.15	NO	160.3	81.4		1.55	
34	34 13C-OCDF	415468.719	0.933	NO	0.593	10.151	41.99	42.00	1.23	1.23	NO	349.7	88.8		1.49	
35	35 37CI-2,3,7,8-TCDD	156190.891			1.07	10.151	26.17	26.17	1.03	1.03	NO	77.49	98.3		0.125	
36 [145 11]	36 13C-1,2,3,4-TCDD	371344.391	0.792	NO	1.00	10.151	25.45	25.45	1.00	1.00	NO	197.0	100	•	0.533	
37	37 13C-1,2,3,4-TCDF	597595.469	0.731	NO	1.00	10.151	23.55	23.54	1.00	1.00	NO	197.0	100	,	0.570	
38 2 1	38 13C-1,2,3,4,6,9-HxCDF	395028.547	0.531	NO	1.00	10.151	34.16	34.17	1.00	1.00	NO	197.0	100		0.947	
39	39 Total Tetra-Dioxins				0.925	10.151	24.62		0.00		NO			•	0.0898	
40 🛴 🏗	40 Total Penta-Dioxins				0.905	10.151	29.96		0.00		NO			3.	0.0469	
Alemania.	41 Total Hexa-Dioxins				0.967	10.151	33.63		0.00		NO	0.2384			0.0750	0.2384
42	42 Total Hepta-Dioxins				1.04	10.151	38.80		0.00		NO	0.9065			0.211	0.9065
43 (#27-71-71	43 Total Tetra-Furans				0.938	10.151	23.61		0.00		NO	0.4780			0.101	0.4780
4	44 1st Func. Penta-Furans				0.976	10.151	27.04		0.00		NO				0.0252	
45.13.14.13	45 Total Penta-Furans				0.976	10.151	29.27		0.00		NO	0.0000			0.0336	0.1877
40 11 11	46 Total Hexa-Furans				1.18	10.151	33.56		0.00		NO	0.0000			0.0347	0.2491
	47 Total Hepta-Furans				1.13	10.151	37.83		0.00		NO	0.0000	_	•	0.0531	0.2962

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Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-6.qld

Last Altered: Printed:

Friday, December 20, 2019 12:31:37 Pacific Standard Time Friday, December 20, 2019 12:35:17 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\1613 rrt-12-17-19.mdb 17 Dec 2019 14:52:57

Calibration: U:\VG11.PRO\CurveDB\db5 1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_6, Date: 18-Dec-2019, Time: 21:34:05, ID: 1903739-05 PDI-079SC-A-11-12-191014 13.37, Description: PDI-079SC-A-11-12-191014

Tetra-Dioxins

# Name	Area IS Area	RA Y/N	Pred.RT RT Conc. EMPC
1,75			

Penta-Dioxins

# Name	Area IS Area	RA Y/N Pred	RT Conc EMPC

Hexa-Dioxins

		Name of the Control o	Area	IS Area	RA.	YN	Perm	RI	Conc.	EMPC
11111 314.6	41	Total Hexa-Dioxins	2.59e2	0.00e0	1.351	NO	33.63	33.19	0.2384	0.2384

Hepta-Dioxins

		Yanan in in		S Area	PA TO		ENGE		Conc.	EMEX
	42	Total Hepta-Dioxins	4.90e2	1.87e5	1.003	NO	38.80	37.50	0.4976	0.4976
524	6	1,2,3,4,6,7,8-HpCDD	4.03e2	1.87e5	0.977	NO	38.55	38.54	0.4090	0.4090

Tetra-Furans

	and se	18 Ayea		E YA	Pielis		<u> </u>	SEMPC
43 Total Tetra-Furans	1.09e3	4.78e5	0.779	NO	23.61	20.86	0.4780	0.4780

Penta-Furans function 1



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Page 1 of 2

Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-6.qld

Last Altered: Printed: Friday, December 20, 2019 12:31:37 Pacific Standard Time Friday, December 20, 2019 12:35:17 Pacific Standard Time

Name: 191218K1_6, Date: 18-Dec-2019, Time: 21:34:05, ID: 1903739-05 PDI-079SC-A-11-12-191014 13.37, Description: PDI-079SC-A-11-12-191014

Page 2 of 2

Penta-Furans

The Committee of the co	# Name	Area	IS Area	RA.	Y/N	Pred.RT	RT	Conc. EMPC
1.04	45 Total Penta-Furans	0.00e0	0.00e0	1.139	YES	29.27	30.99	0.0000 0.08888
2	9 1,2,3,7,8-PeCDF	1.76e2	3.66e5	0.889	YES	30.02	29.98	0.0000 0.07522
3 \$ 5 kg	10 2,3,4,7,8-PeCDF	6.09e1	3.43e5	0.703	YES	31.02	31.03	0.0000 0.02364

Hexa-Furans

The same of the same	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
The second second	11 1,2,3,4,7,8-HxCDF	5.59e2	3.01e5	1.647	YES	33.78	33.79	0.0000	0.2491

Hepta-Furans

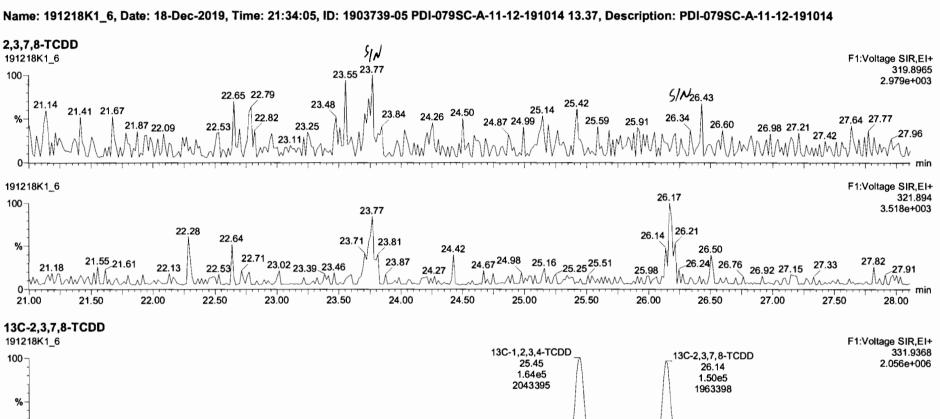
	#	Name - 1	Area	IS Area	RA :	# YN E	Pred.RT	RT	Conc	EMPC
- F - F - F - F - F - F - F - F - F - F	47	Total Hepta-Furans	0.00e0	0.00e0	1.509	YES	37.83	37.74	0.0000	0.1810
	15	1,2,3,4,6,7,8-HpCDF	1.88e2	2.51e5	0.819	YES	37.14	37.13	0.0000	0.1152

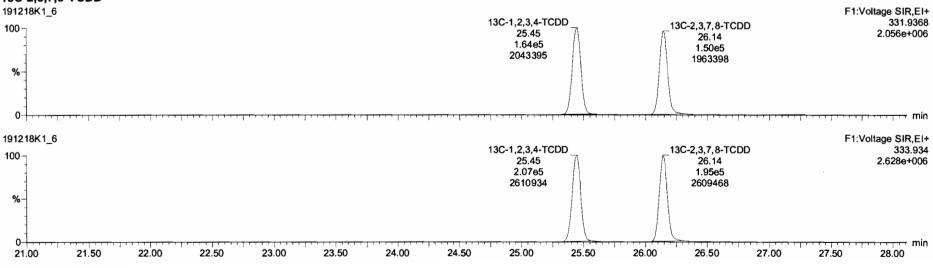
Work Order 1903739 Page 146 of 646

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Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time





24.50

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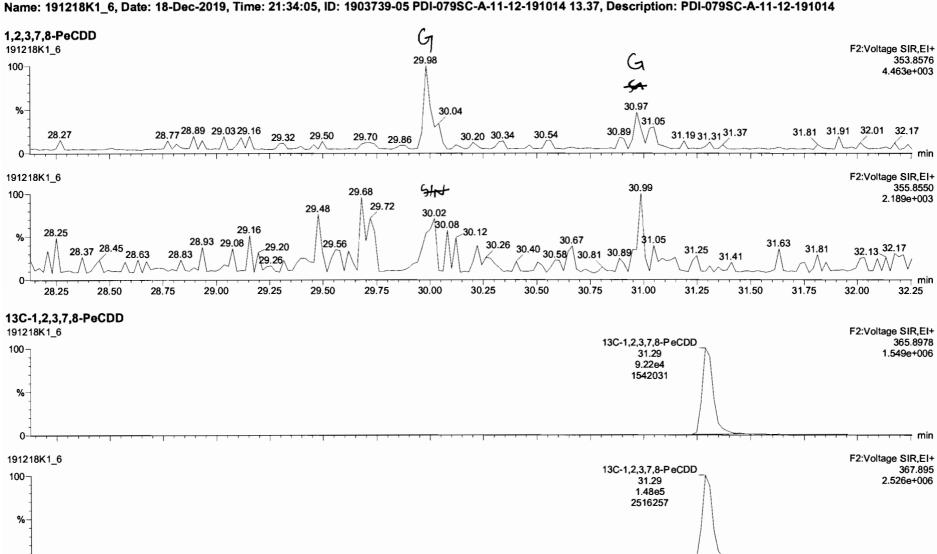
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Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time





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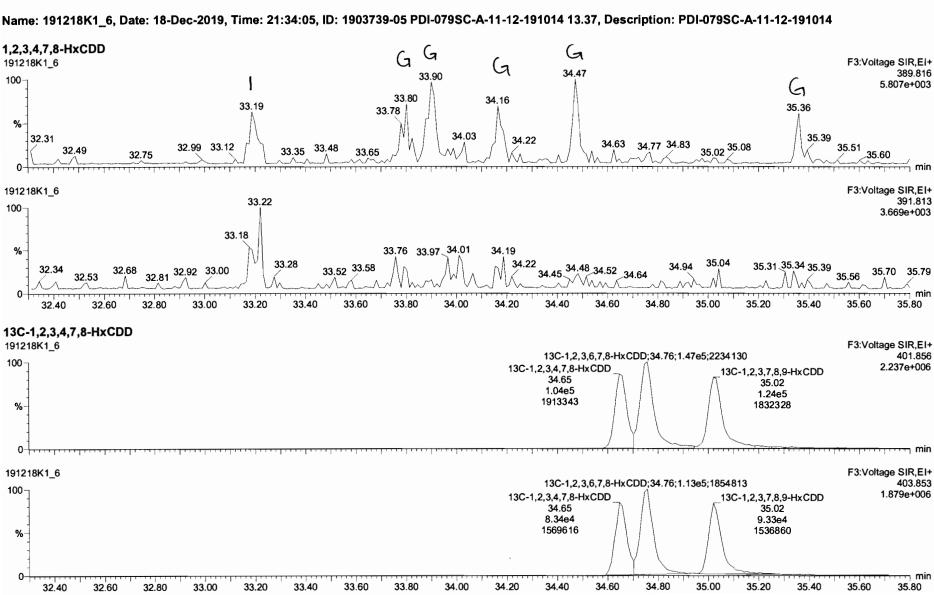
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29.25

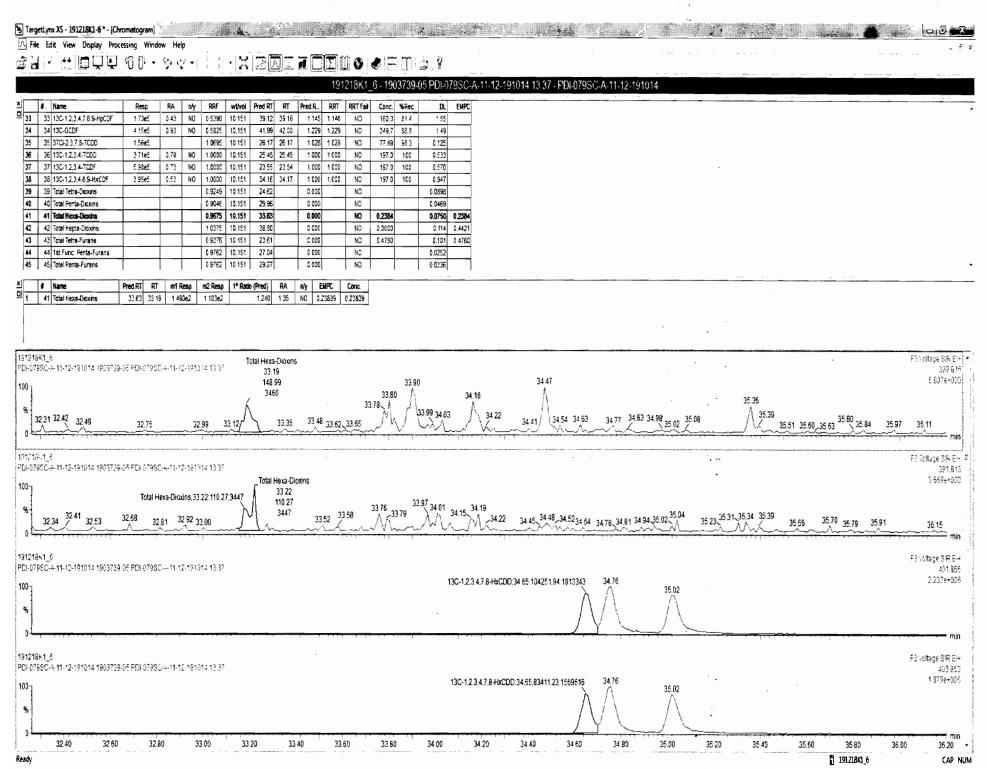
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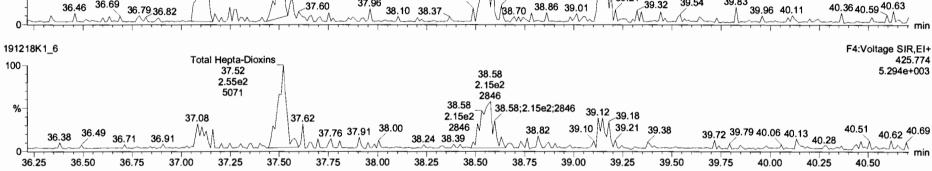
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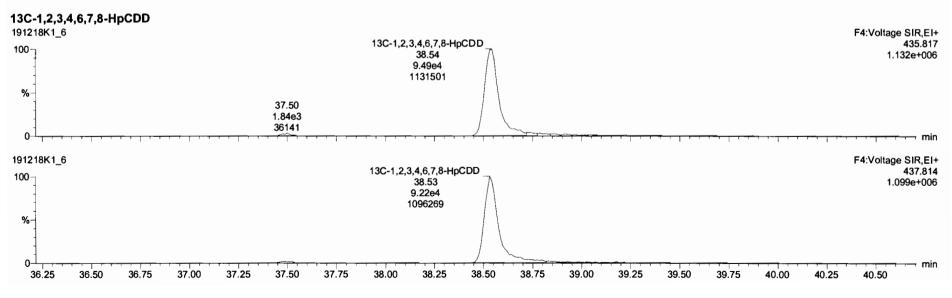
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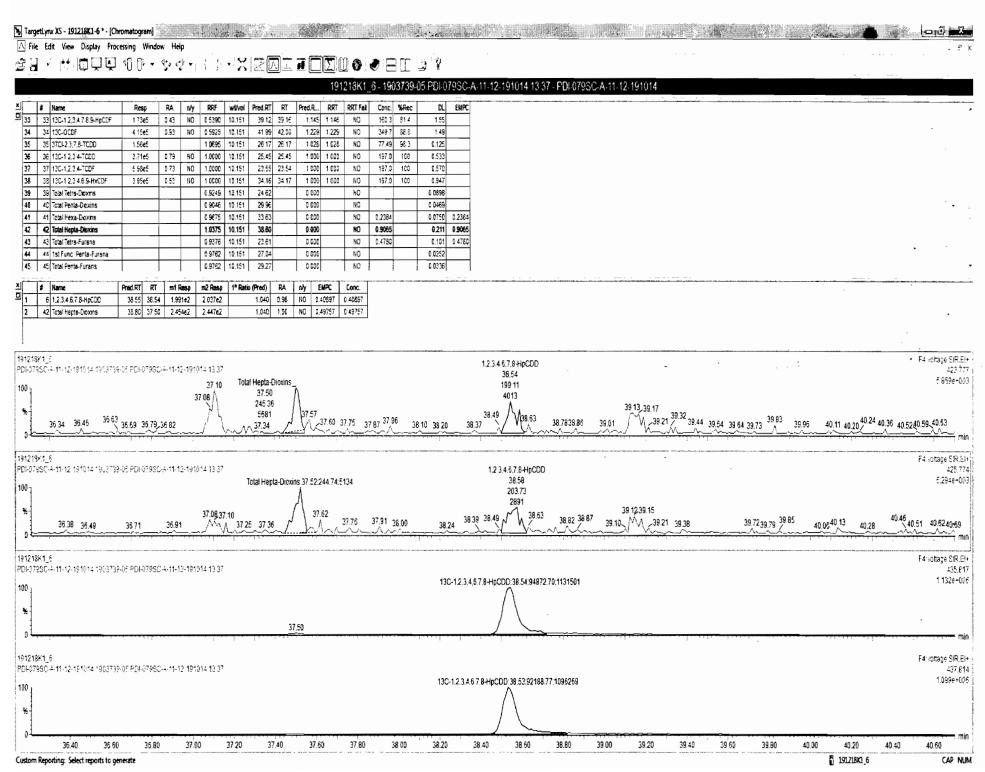


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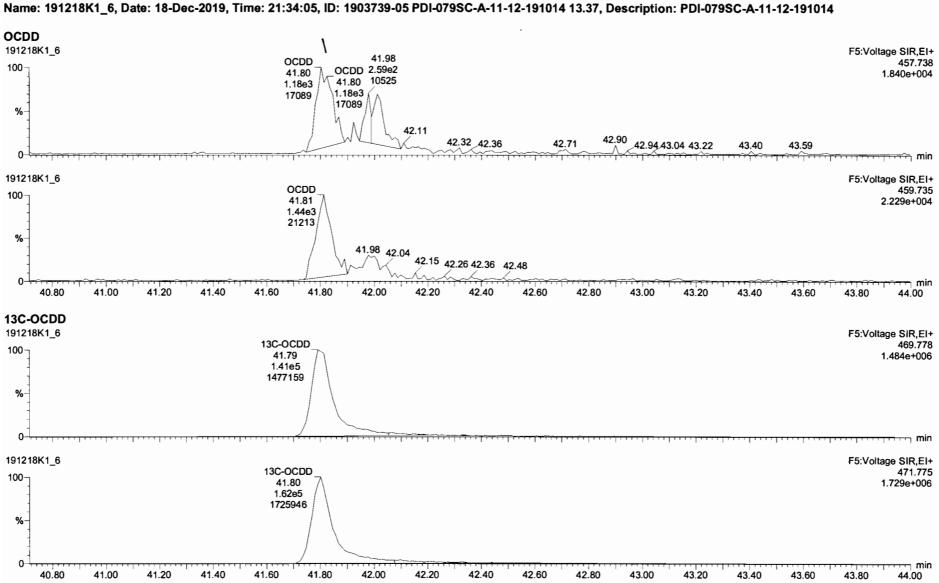




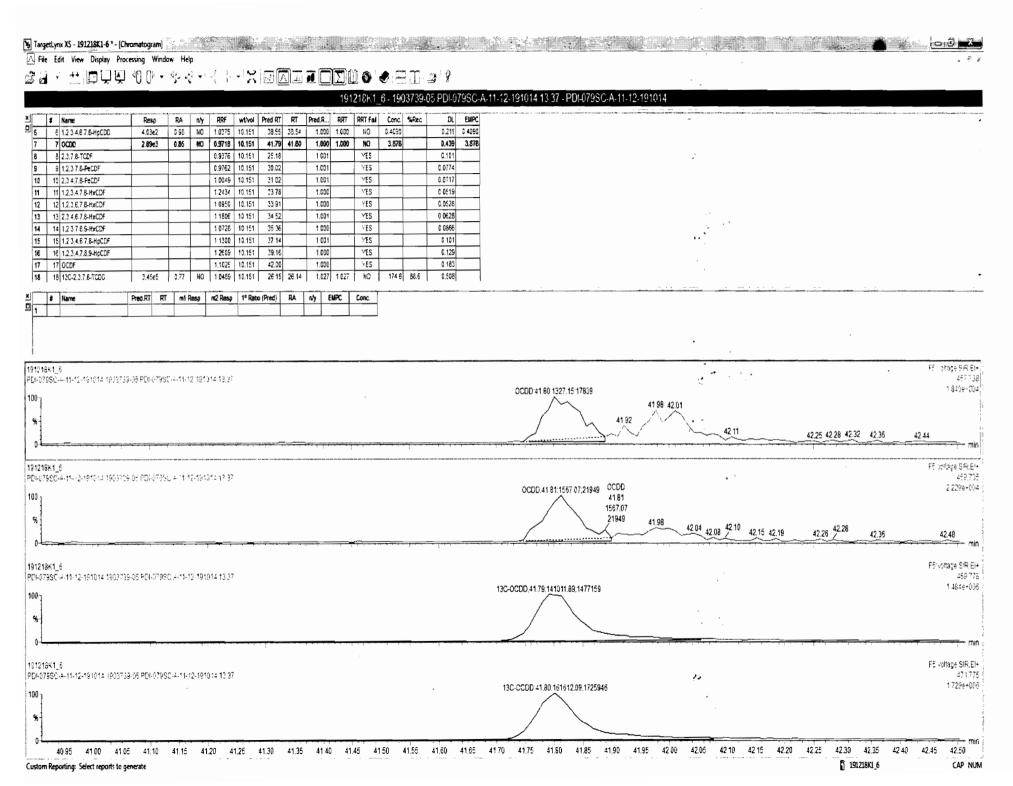
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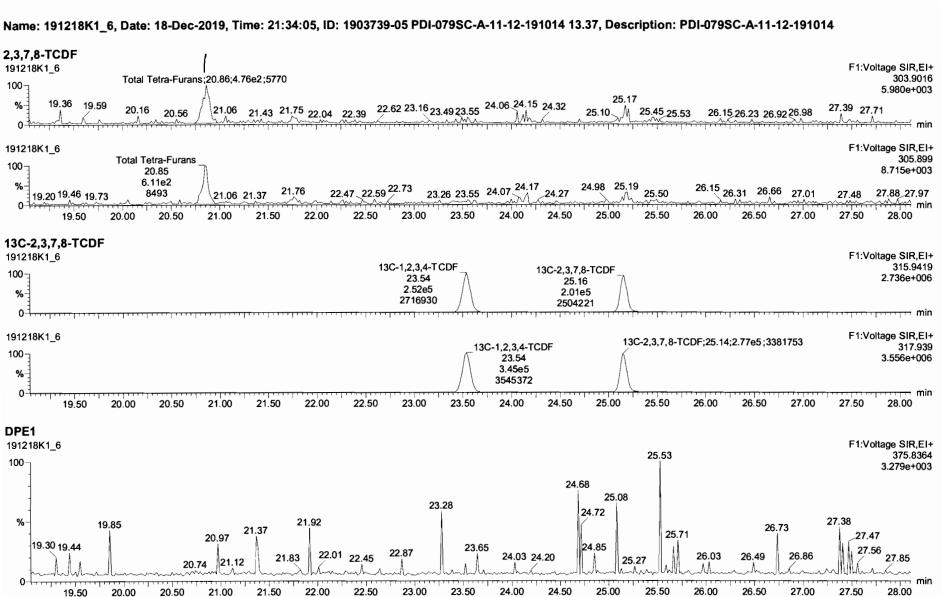
Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



Work Order 1903739



Name: 191218K1_6, Date: 18-Dec-2019, Time: 21:34:05, ID: 1903739-05 PDI-079SC-A-11-12-191014 13.37, Description: PDI-079SC-A-11-12-191014

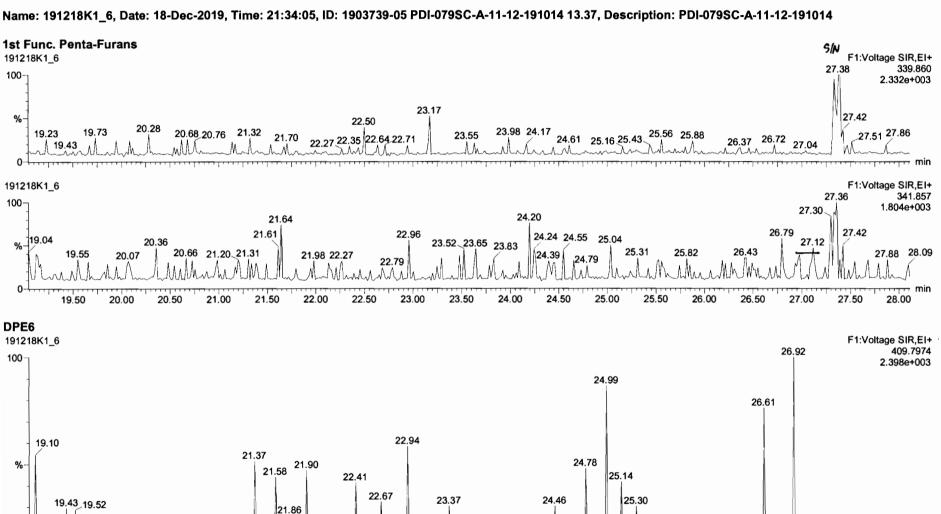


Work Order 1903739 Page 156 of 646

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Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



23.52

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27.25 27.56

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26.21

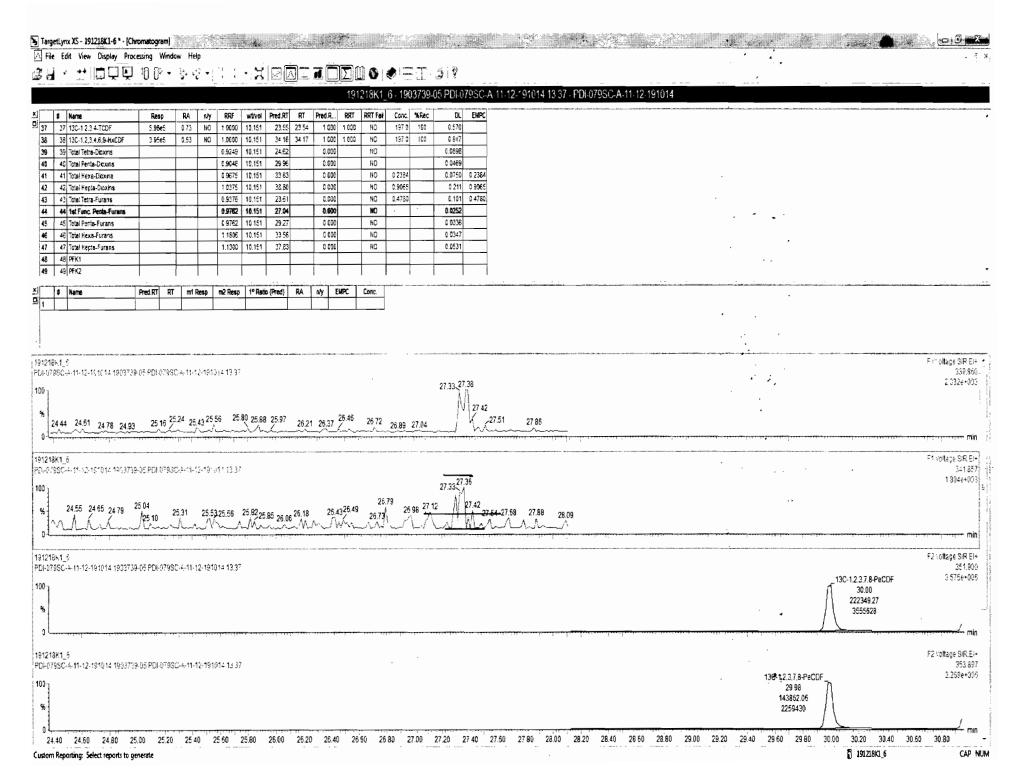
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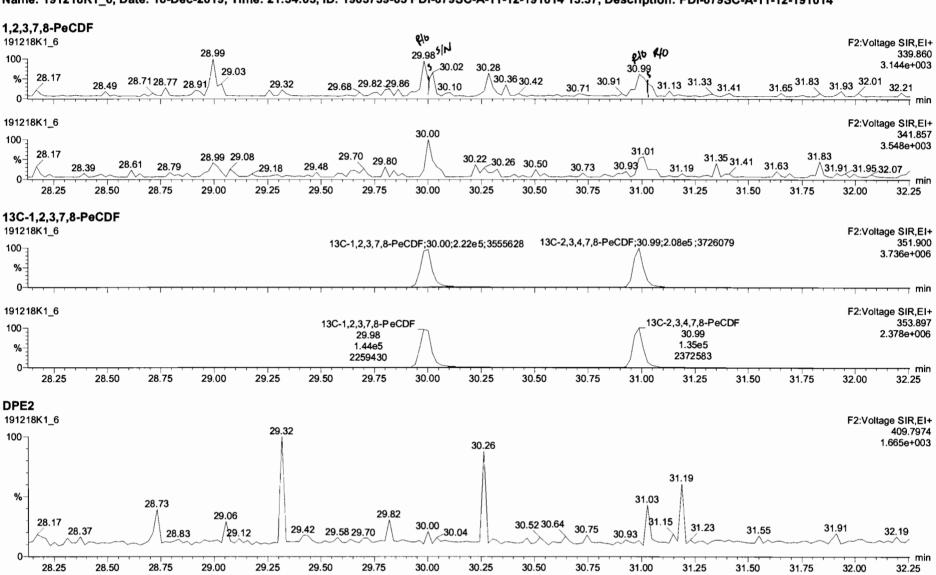
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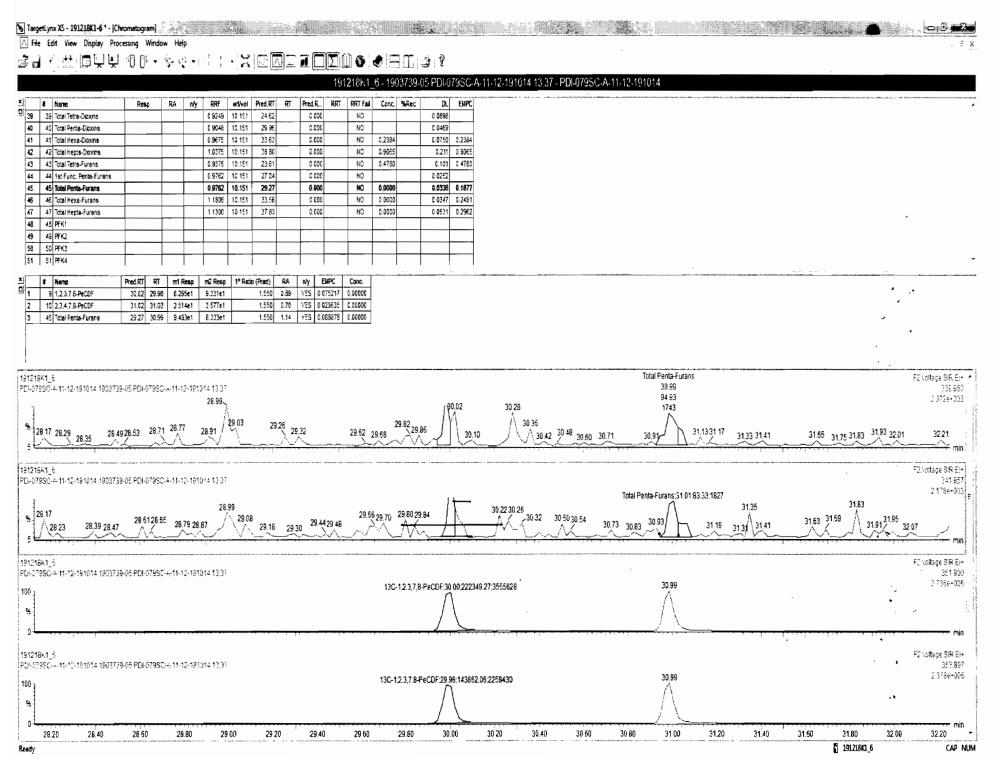


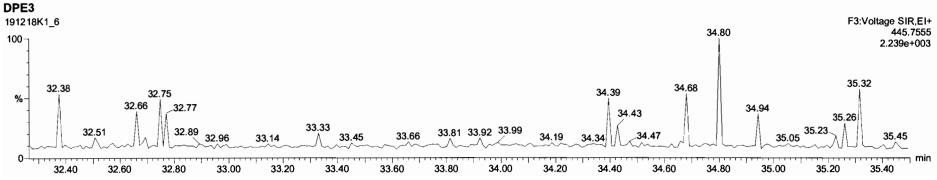
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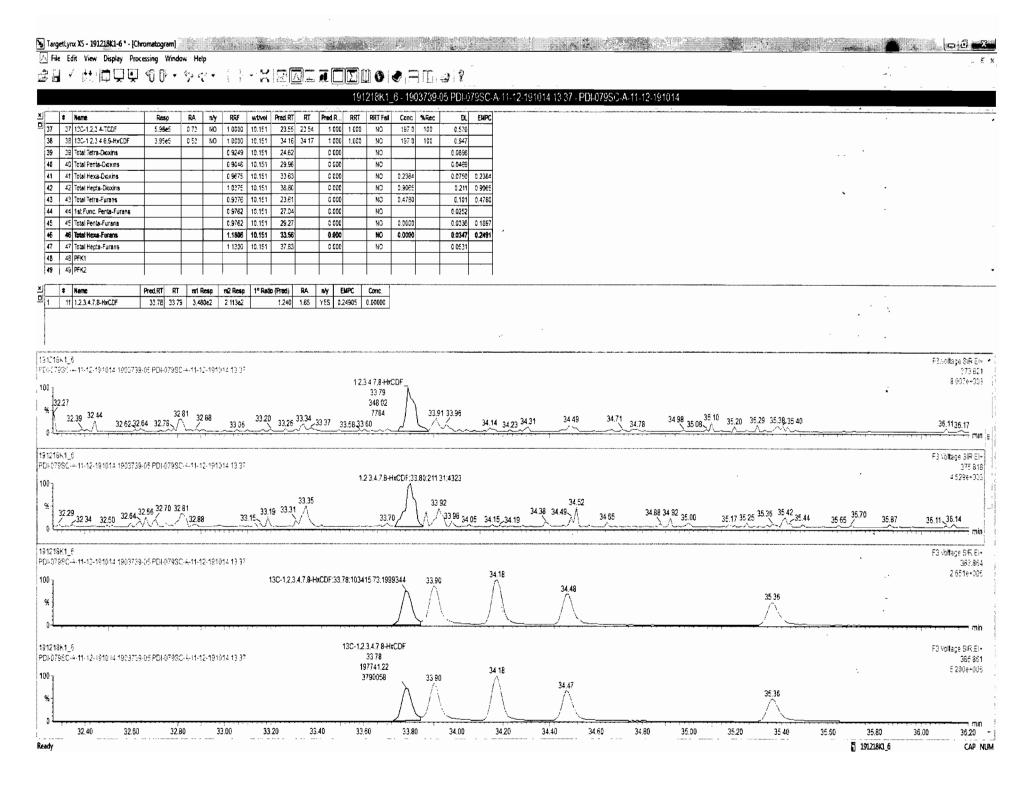
Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time







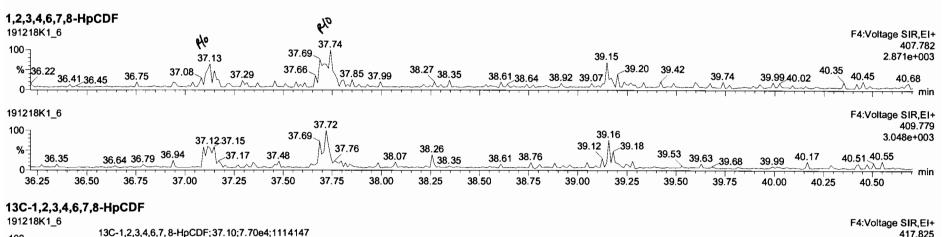


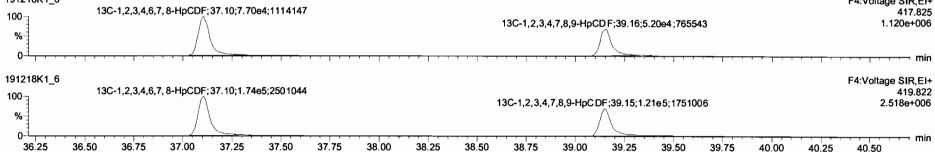
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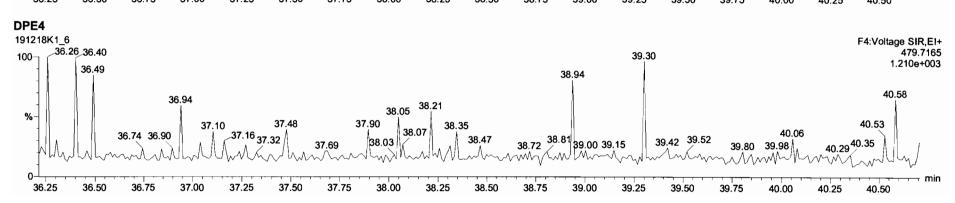
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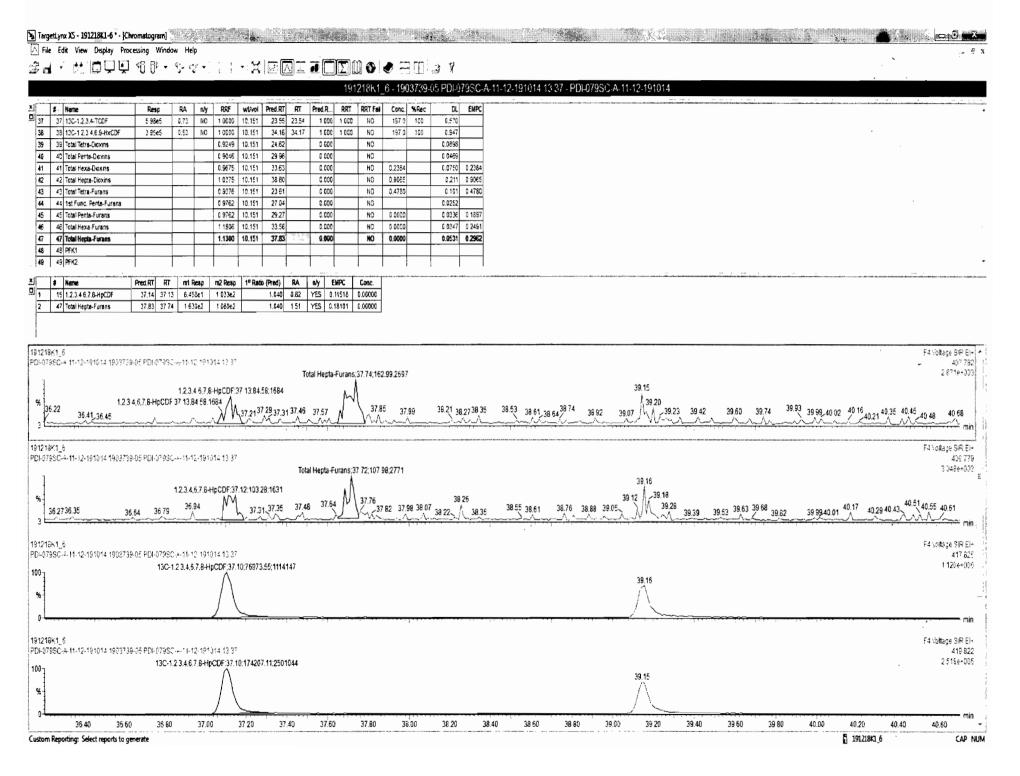
Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time





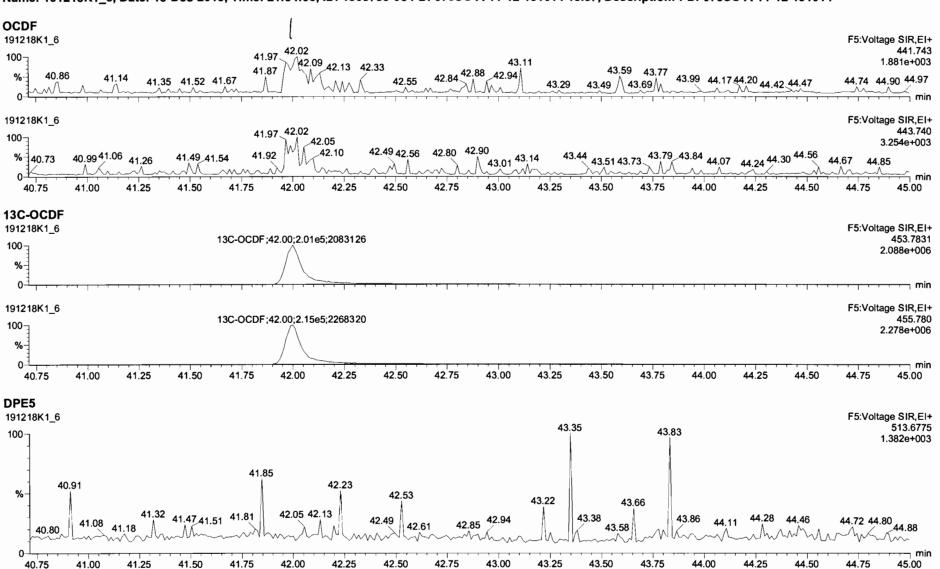


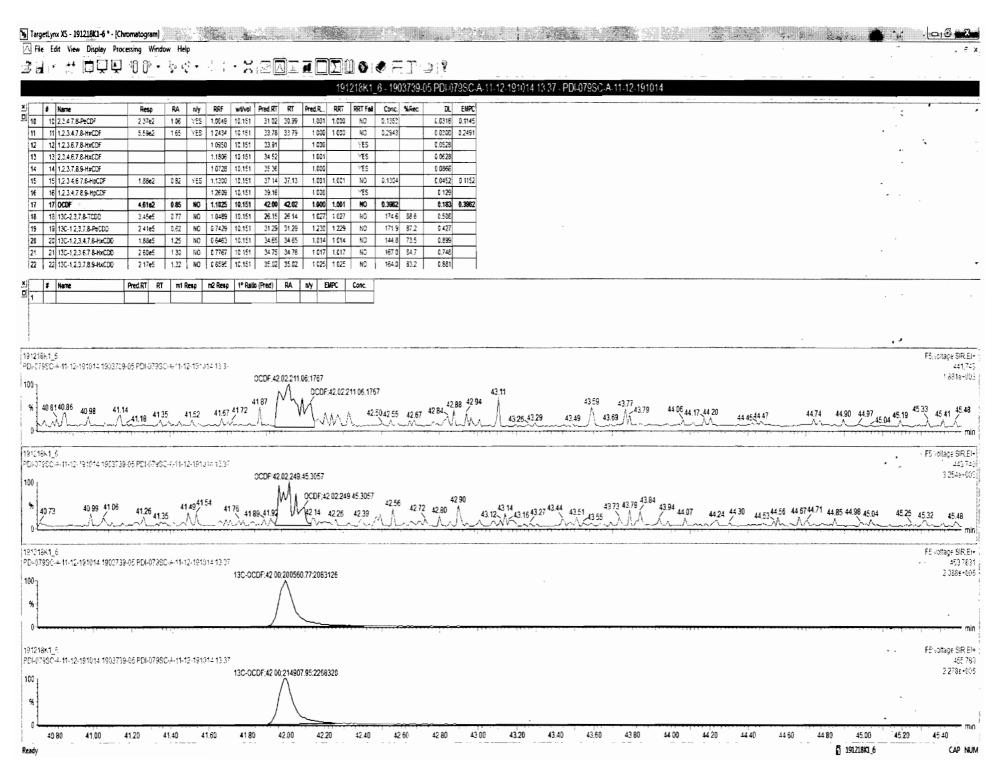


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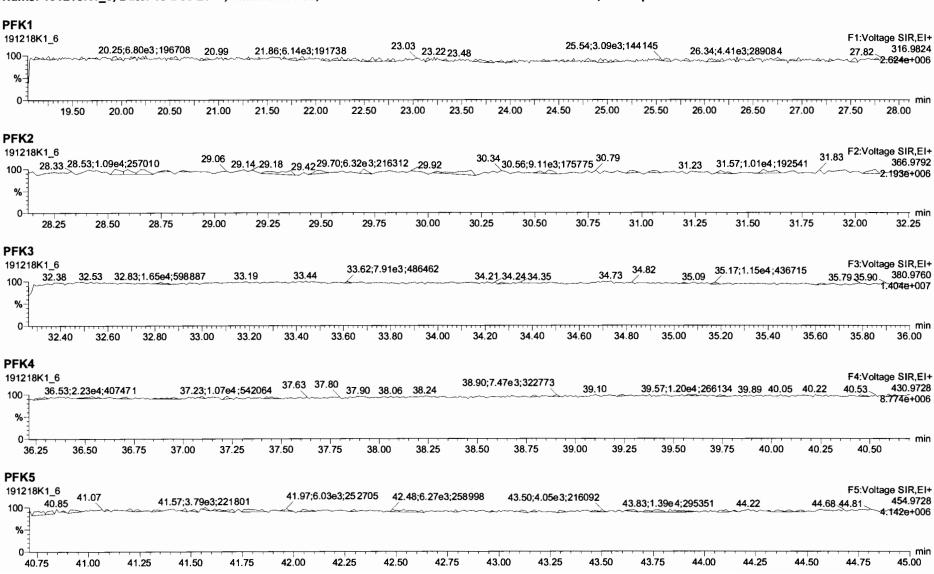
Thursday, December 19, 2019 07:49:20 Pacific Standard Time





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Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



MassLynx MassLynx V4.1 SCN 945

Page 1 of 2

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Dataset: U:\VG11.PRO\Results\191218K1\191218K1-7.qld

Last Altered: F

Friday, December 20, 2019 10:23:23 Pacific Standard Time Friday, December 20, 2019 10:24:13 Pacific Standard Time

EL 12/20/19

A- (1

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014

7 97 - 1	≱ Name	Abs.Resp	RA	n/y :	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	the party later DL	EMPC
1-11-12-13	1 2,3,7,8-TCDD				0.925	10.002	26.17		1.00		YES			0.159	
2	2 1,2,3,7,8-PeCDD				0.905	10.002	31.31		1.00		YES			0.114	
3	3 1,2,3,4,7,8-HxCDD				1.07	10.002	34.66		1.00		YES		•	0.165	
4	4 1,2,3,6,7,8-HxCDD				0.967	10.002	34.75		1.00		YES		•	0.157	
5	5 1,2,3,7,8,9-HxCDD				0.978	10.002	35.06		1.00		YES			0.204	
6.3	6 1,2,3,4,6,7,8-HpCDD	1369.916	1.131	NO	1.04	10.002	38.54	38.56	1.00	1.00	NO	1.348		0.395	1.348
7	7 OCDD	11728.803	0.850	NO	0.972	10.002	41.80	41.82	1.00	1.00	NO	12.75	•	0.466	12.75
8	8 2,3,7,8-TCDF				0.938	10.002	25.18		1.00		YES			0.115	
9 11 11 11	9 1,2,3,7,8-PeCDF	2469.615	1.480	NO	0.976	10.002	30.00	29.98	1.00	1.00	NO	1.110	•	0.0834	1.110
10	10 2,3,4,7,8-PeCDF	1186.135	1.341	NO	1.00	10.002	31.00	30.99	1.00	1.00	NO	0.5201		0.0853	0.5201
1)	11 1,2,3,4,7,8-HxCDF	2158.583	1.180	NO	1.24	10.002	33.78	33.79	1.00	1.00	NO	1.112		0.0923	1.112
12 12 12 12	12 1,2,3,6,7,8-HxCDF				1.10	10.002	33.91		1.00		YES			0.0924	
13.1.1.1.1.2	13 2,3,4,6,7,8-HxCDF				1.18	10.002	34.51		1.00		YES			0.0983	
14	14 1,2,3,7,8,9-HxCDF				1.07	10.002	35.36		1.00		YES			0.141	
15	15 1,2,3,4,6,7,8-HpCDF	797.641	0.834	YES	1.13	10.002	37.13	37.12	1.00	1.00	NO	0. 4£2 9		0.115	0.3952
16	16 1,2,3,4,7,8,9-HpCDF	144.402	1.044	NO	1.26	10.002	39.15	39.16	1.00	1.00	NO	0.1142	•	0.164	0.1142
17.4	17 OCDF	795.580	0.815	NO	1.10	10.002	41.99	42.02	1.00	1.00	NO	0.5378		0.174	0.5378
18 11	18 13C-2,3,7,8-TCDD	358786.079	0.774	NO	1.05	10.002	26.13	26.14	1.03	1.03	NO	163.8	81.9	0.475	
19 19 19 19	19 13C-1,2,3,7,8-PeCDD	312986.015	0.616	NO	0.743	10.002	31.27	31.29	1.23	1.23	NO	201.7	101	0.358	
20 1 2 5 2 5	20 13C-1,2,3,4,7,8-HxCDD	223406.812	1.302	NO	0.646	10.002	34.64	34.65	1.01	1.01	NO	156.8	78.4	0.799	
2) EXERTED	21 13C-1,2,3,6,7,8-HxCDD	313438.579	1.238	NO	0.777	10.002	34.73	34.75	1.02	1.02	NO	183.0	91.5	0.665	
2 SHEET	22 13C-1,2,3,7,8,9-HxCDD	242658.813	1.290	NO	0.659	10.002	35.01	35.02	1.02	1.03	NO	166.9	83.5	0.783	
23	23 13C-1,2,3,4,6,7,8-HpCDD	195881.344	1.094	NO	0.534	10.002	38.51	38.53	1.13	1.13	NO	166.3	83.2	1.11	
24	24 13C-OCDD	378614.751	0.900	NO	0.470	10.002	41.79	41.80	1.22	1.22	NO	365.1	91.3	1.79	
25 86 11 12 12	25 13C-2,3,7,8-TCDF	480728.532	0.732	NO	0.977	10.002	25.14	25.16	0.99	0.99	NO	139.9	70.0	0.507	
26 3 2 2	26 13C-1,2,3.7,8-PeCDF	455611.672	1.421	NO	0.778	10.002	29.96	29.98	1.18	1.18	NO	166.6	83.3	0.845	
27 5 MINES 34	27 13C-2,3,4,7,8-PeCDF	453811.187	1.557	NO	0.750	10.002	30.95	30.97	1.22	1.22	NO	172.1	86.1	0.877	
28	28 13C-1,2,3,4,7,8-HxCDF	312225.735	0.521	NO	0.845	10.002	33.77	33.78	0.99	0.99	NO	167.6	83.8	1.34	
29	29 13C-1,2,3,6,7,8-HxCDF	404053.782	0.509	NO	1.03	10.002	33.89	33.90	0.99	0.99	NO	178.5	89.3	1.11	
30	30 13C-2,3,4,6,7,8-HxCDF	362280.812	0.532	NO	0.893	10.002	34.46	34.47	1.01	1.01	NO	184.0	92.0	1.27	

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191218K1\191218K1-7.qld

Last Altered: Friday, December 20, 2019 10:23:23 Pacific Standard Time Friday, December 20, 2019 10:24:13 Pacific Standard Time

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014

	* Name ≕, dig. Sa ti	Abs.Resp	RA	n/y	RRF	wt/vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	INC. INC. DL	EMPC
31	31 13C-1,2,3,7,8,9-HxCDF	313155.391	0.533	NO	0.734	10.002	35.37	35.36	1.04	1.04	NO	193.4	96.7	1.55	
32	32 13C-1,2,3,4,6,7,8-HpCDF	318672.687	0.451	NO	0.754	10.002	37.08	37.09	1.09	1.09	NO	191.6	95.8	0.989	
33	33 13C-1,2,3,4,7,8,9-HpCDF	200517.801	0.420	NO	0.539	10.002	39.11	39.15	1.14	1.15	NO	168.7	84.4	1.38	
34	34 13C-OCDF	536544.016	0.930	NO	0.593	10.002	41.97	41.99	1.23	1.23	NO	410.7	103	1.49	
35	35 37Cl-2,3,7,8-TCDD	139057.141			1.07	10.002	26.15	26.17	1.03	1.03	NO	62.26	77.8	0.0943	
36 3 2 2	36 13C-1,2,3,4-TCDD	417601.969	0.811	NO	1.00	10.002	25.45	25.43	1.00	1.00	NO	200.0	100	0.498	
37. The Private Con.	37 13C-1,2,3,4-TCDF	702897.906	0.731	NO	1.00	10.002	23.55	23.55	1.00	1.00	NO	200.0	100	0.496	·
38 ₹\$\$\$? ↔	38 13C-1,2,3,4,6,9-HxCDF	440870.360	0.518	NO	1.00	10.002	34.16	34.16	1.00	1.00	NO	200.0	100	1.14	
39	39 Total Tetra-Dioxins				0.925	10.002	24.62		0.00		NO			0.103	
40 등을 등 등	40 Total Penta-Dioxins				0.905	10.002	29.96		0.00		NO			0.0441	
4124777	41 Total Hexa-Dioxins				0.967	10.002	33.63		0.00		NO	0.5810		0.179	0.5810
42	42 Total Hepta-Dioxins				1.04	10.002	38.80		0.00		NO	3.435		0.395	3.435
43 mm = 13	43 Total Tetra-Furans				0.938	10.002	23.61		0.00		NO	0.3948		0.115	0.3948
4	44 1st Func. Penta-Furans				0.976	10.002	27.04		0.00		NO			0.0117	
45	45 Total Penta-Furans				0.976	10.002	29.27		0.00		NO	1.630		0.0856	1.985
46	46 Total Hexa-Furans				1.18	10.002	33.56		0.00		NO	1.286		0.101	1.444
A	47 Total Hepta-Furans				1.13	10.002	37.83		0.00		NO	0.5269		0.141	0.9221

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Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-7.qld

Last Altered: Printed: Friday, December 20, 2019 10:23:23 Pacific Standard Time Friday, December 20, 2019 10:25:36 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57

Calibration: U:\VG11.PRO\CurveDB\db5 1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014

Tetra-Dioxins

# Name	Area IS Area RA	Y/N Pred.RT	RT Conc. EMPC
The state of the s			

Penta-Dioxins

# Name	Area IS Area	RA Y/N Pre	d.RT RT Cor	IC. EMPC

Hexa-Dioxins

	Harrie State The State	Area	IS Area	THRA 15	HAYN SE	REURI	PART	Conc.	EMPC
4 486 E. F. F. F. 1	Total Hexa-Dioxins	7.30e2	0.00e0	1.240	NO	33.63	33.19	0.5810	0.5810

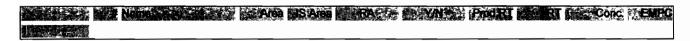
Hepta-Dioxins

	A A A A A A A A A A A A A A A A A A A	IS Area	III RA		Pelsi	13.	List Conc	EMPE
6 1,2,3,4,6,7,8	-HpCDD 1.37e3	1.96e5	1.131	NO	38.54	38.56	1.348	1.348
2 42 Total Hepta-	Dioxins 2.12e3	1.96e5	0.950	NO	38.80	37.49	2.087	2.087

Tetra-Furans

	Will Name State Line	A Purpa	IS Area	PIRA E	NAMES.	PHURT	BURT	Conc.	EMPC
	43 Total Tetra-Furans	8.90e2	4.81e5	0.750	NO	23.61	20.86	0.3948	0.3948

Penta-Furans function 1



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Page 1 of 2

Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191218K1\191218K1-7.qld

Last Altered: Printed:

Friday, December 20, 2019 10:23:23 Pacific Standard Time Friday, December 20, 2019 10:25:36 Pacific Standard Time

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014

Page 2 of 2

Penta-Furans

	# Name	Area	IS Area	RA 🚉	Y/N	Pred.RT	RT	Conc.	EMPC
1第224年7年	10 2,3,4,7,8-PeCDF	1.19e3	4.54e5	1.341	NO	31.00	30.99	0.5201	0.5201
2	9 1,2,3,7,8-PeCDF	2.47e3	4.56e5	1.480	NO	30.00	29.98	1.110	1.110
3	45 Total Penta-Furans	0.00e0	0.00e0	1.912	YES	29.27	28.99	0.0000	0.3550

Hexa-Furans

	# Name	Area	IS Area	RATE	YN -	Pred.RT	RT	Conc.	EMPC
	11 1,2,3,4,7,8-HxCDF	2:16e3	3.12e5	1.180	NO	33.78	33.79	1.112	1.112
2	46 Total Hexa-Furans	0.00e0	0.00e0	0.931	YES	33.56	32.81	0.0000	0.1577
3	46 Total Hexa-Furans	3.58e2	0.00e0	1.164	NO	33.56	33.33	0.1741	0.1741

Hepta-Furans

		Name II.	Area	IS Area	LERA EE	## PYWE	क्षेत्रं स्व	RT	Conc.	EMPC
	47	Total Hepta-Furans	6.05e2	0.00e0	0.962	NO	37.83	37.70	0.4127	0.4127
	15	1,2,3,4,6,7,8-HpCDF	7.98e2	3.19e5	0.834	YES	37.13	37.12	0.0000	0.3952
3 <u></u> £	16	1,2,3,4,7,8,9-HpCDF	1.44e2	2.01e5	1.044	NO	39.15	39.16	0.1142	0.1142

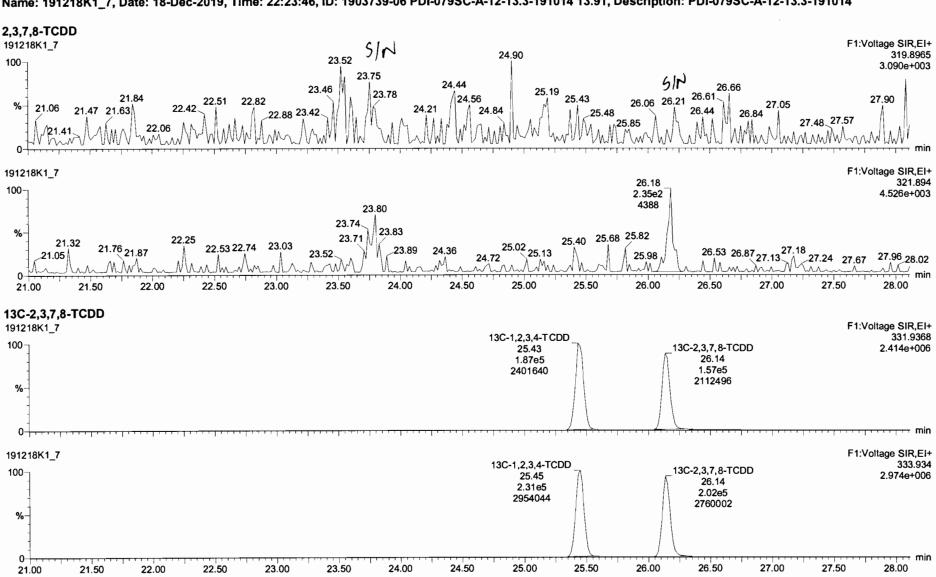
Work Order 1903739 Page 171 of 646

Untitled

Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014



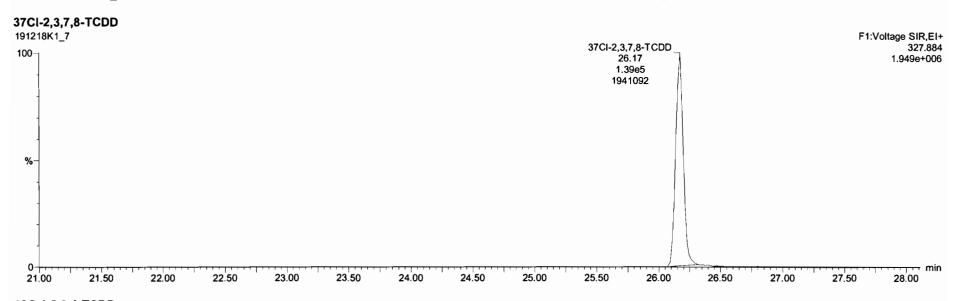
Work Order 1903739

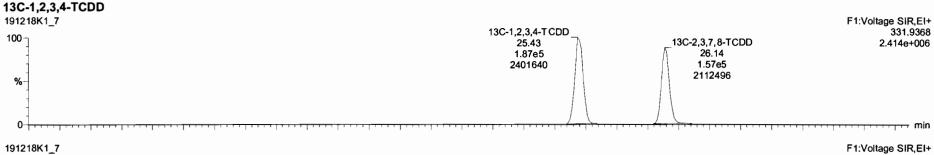
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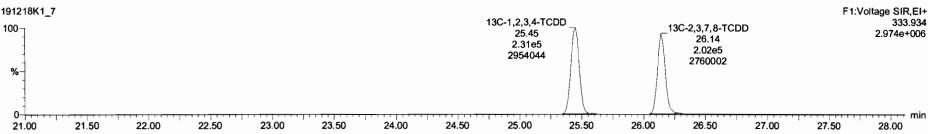
Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014







Work Order 1903739

28.25

28.50

28.75

29.00

29.25

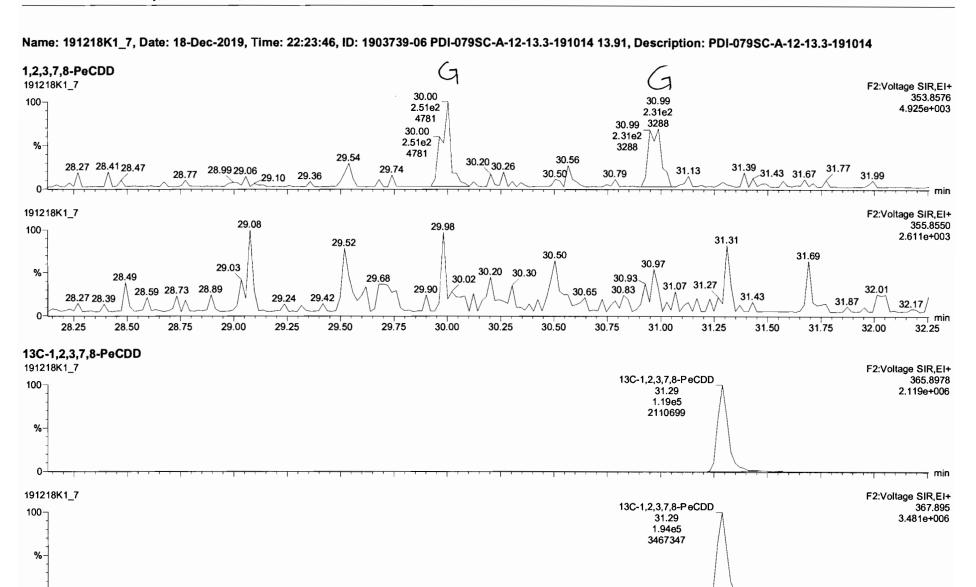
29.50

29.75

30.00

Untitled

Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time



Work Order 1903739 Page 174 of 646

30.25

30.50

30.75

31.00

31.25

31.50

31.75

32.00

¬ min

34.00

33.00

32.40

32.60

32.80

33.20

33.40

33.60

33.80

34.40

34.20

34.60

34.80

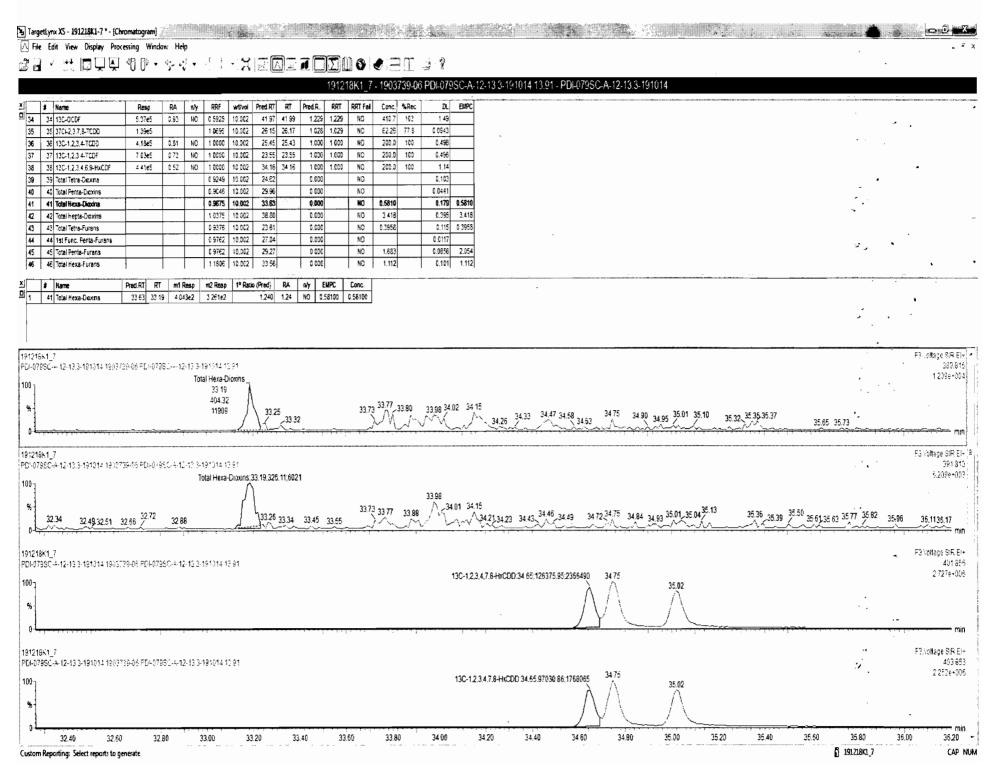
35.00

35.20

35.40

35.60

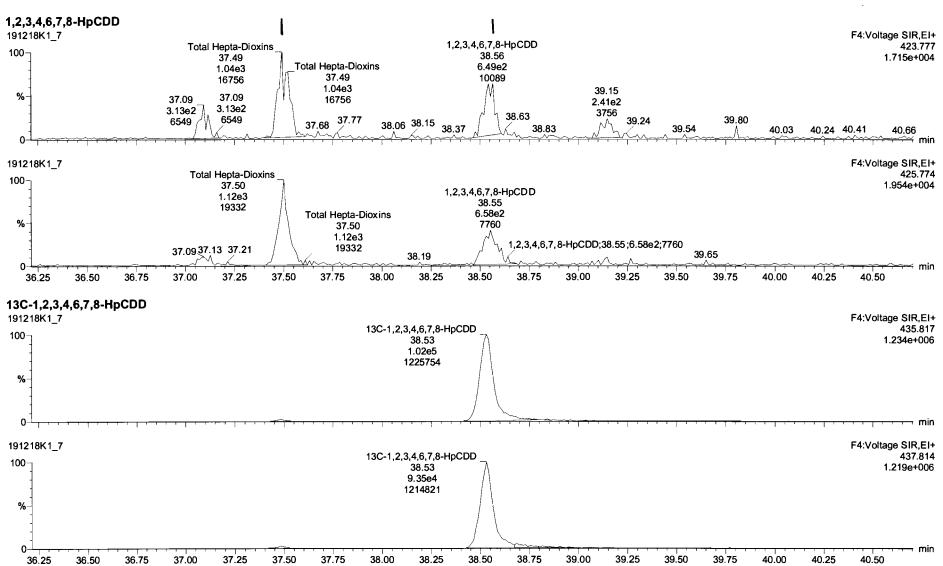
nin -



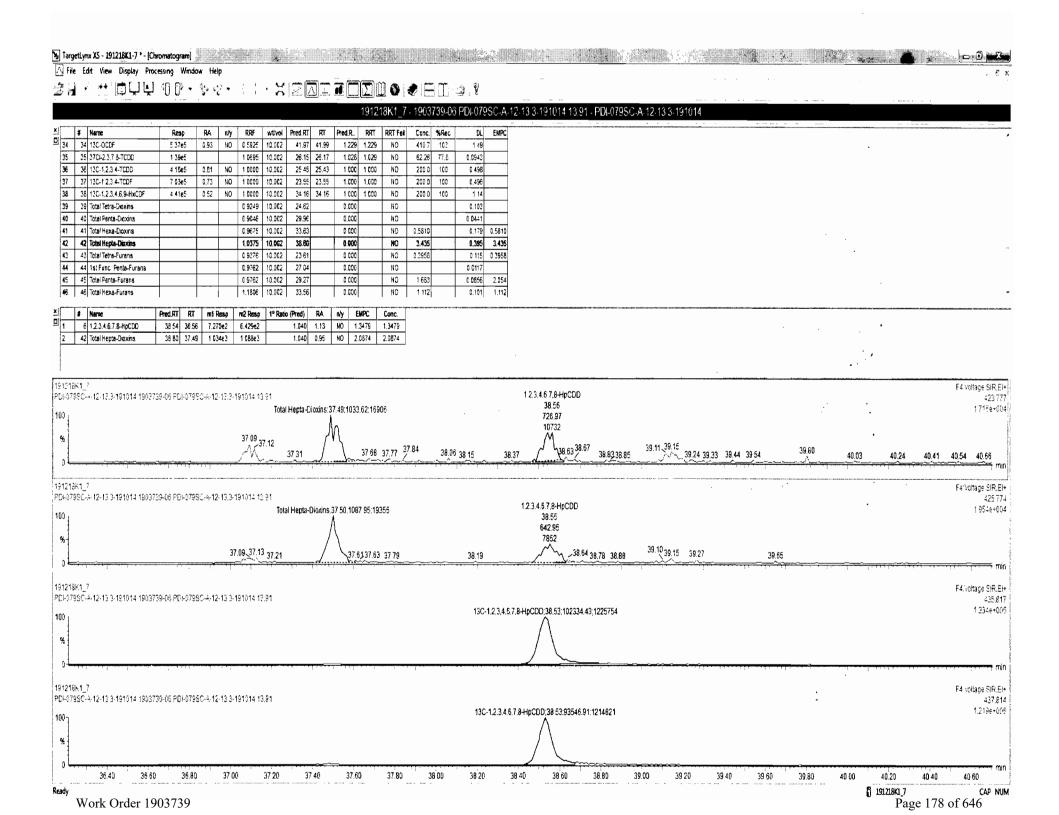
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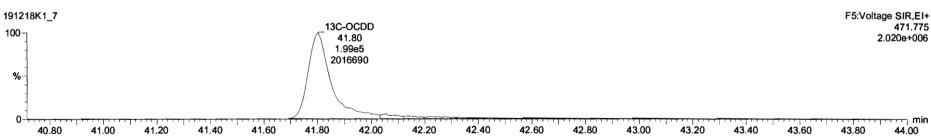
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Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014

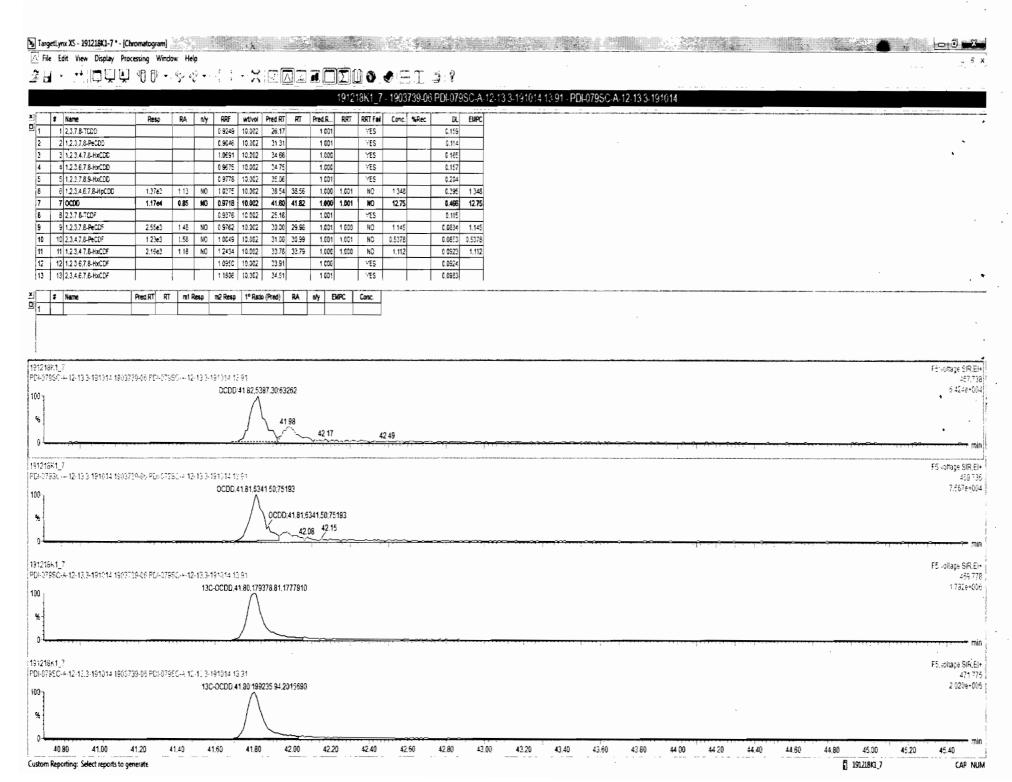


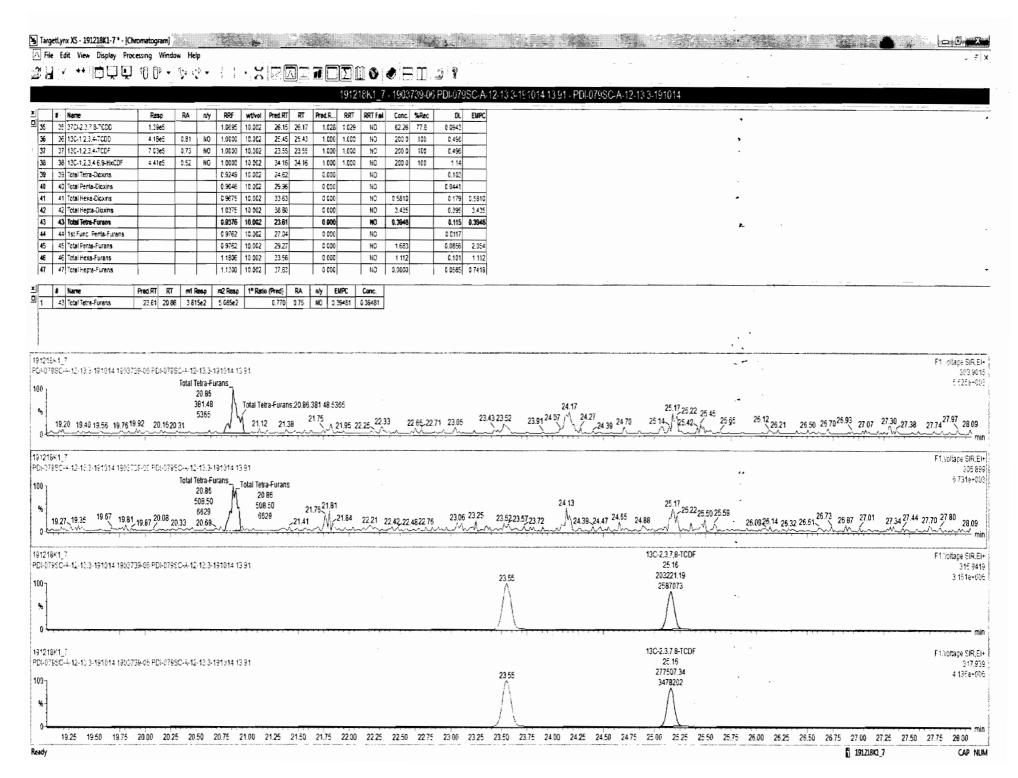
Work Order 1903739

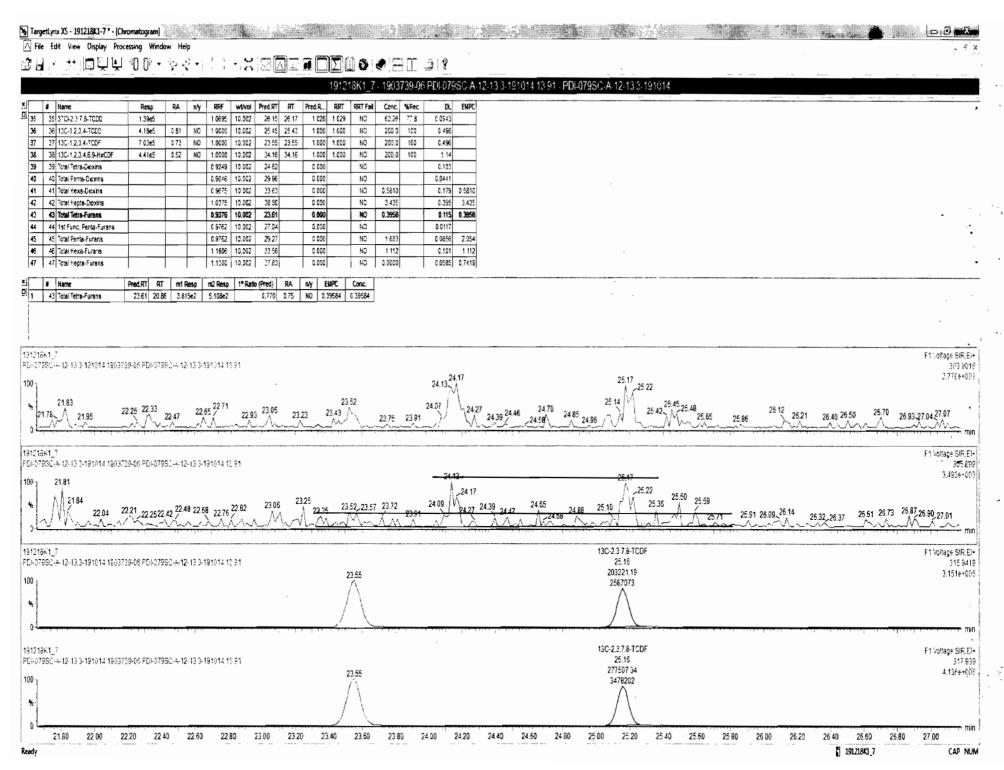




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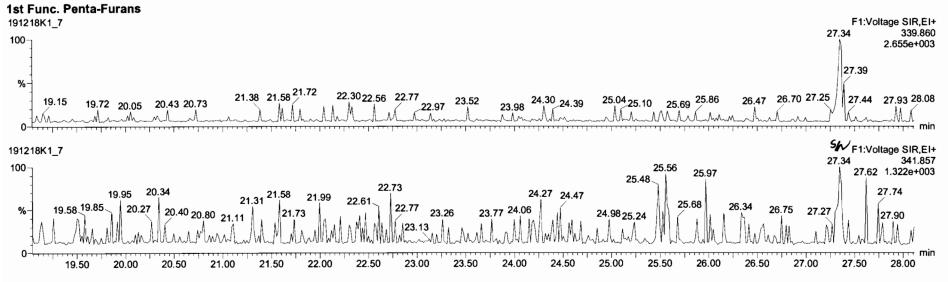


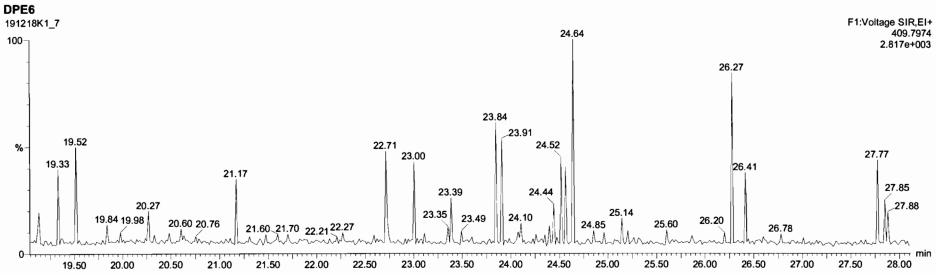
Dataset:

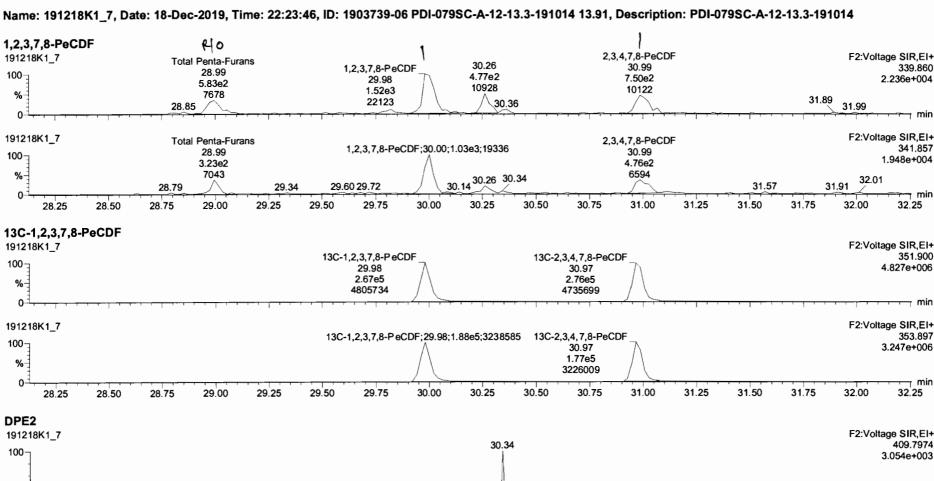
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Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014

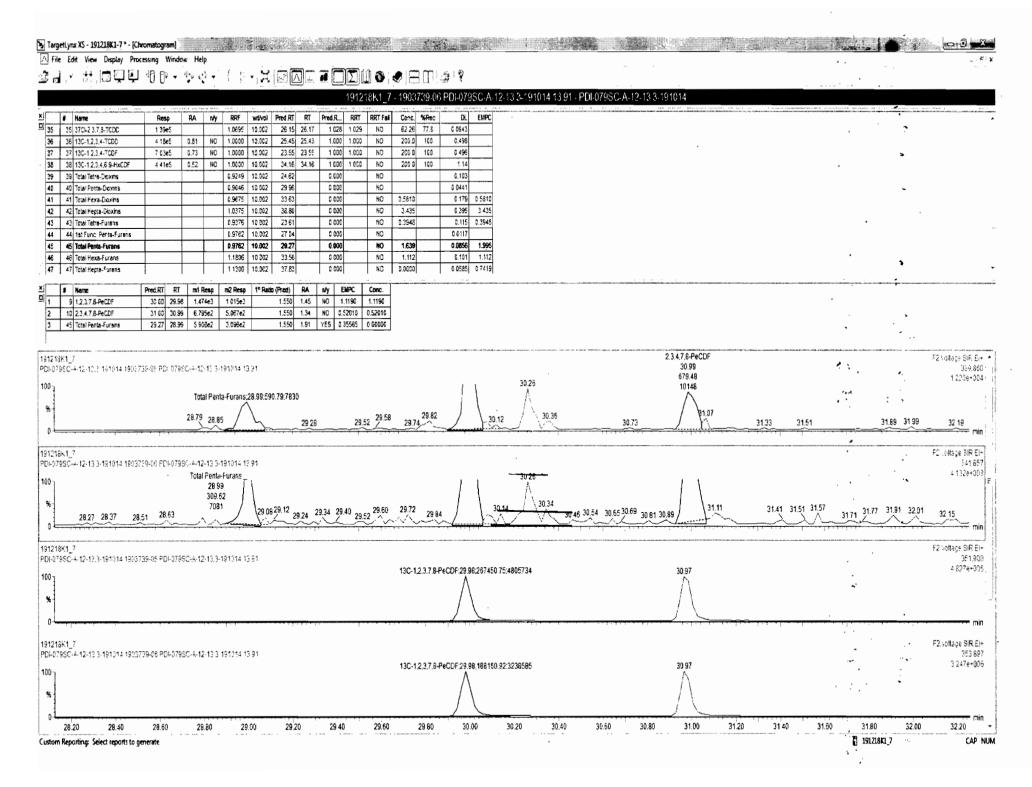


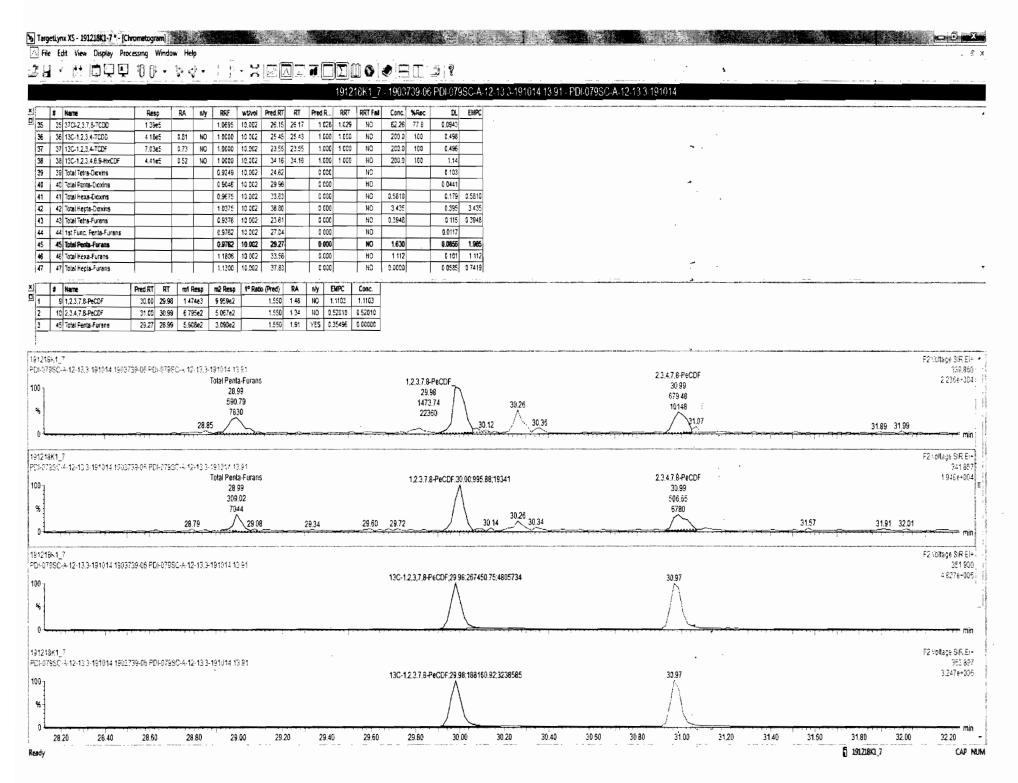


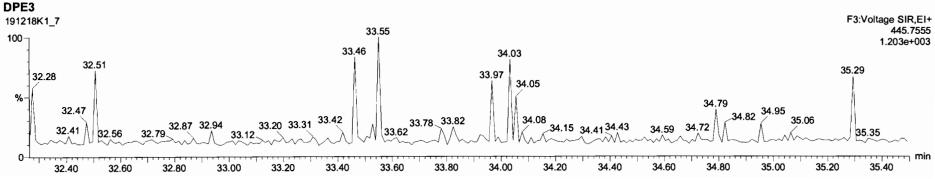


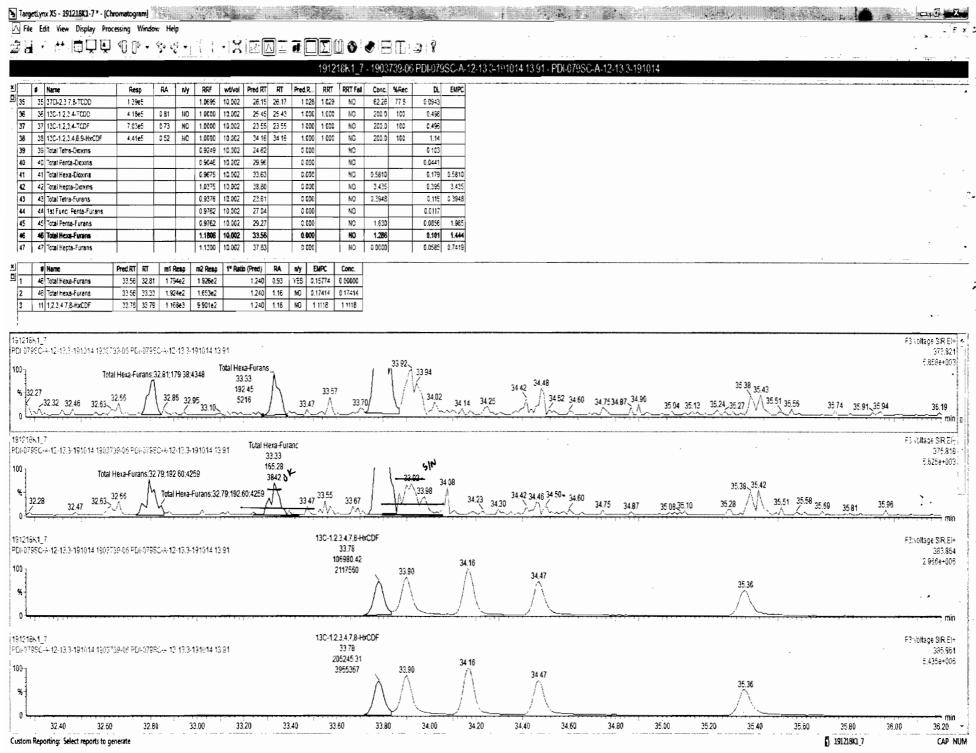
F2:Voltage SIR,EI+ 409.7974 3.054e+003 % 30.00 30.5430.60 29.12 31.13 29.72 28.31 28.25 30.71 29.20 31.77 32.21 30.18 30.42 30.95 28.53 min 30.25 30.50 31.25 31.50 31.75 32.25 28.25 28.50 28.75 29.00 29.25 29.50 29.75 30.00 30.75 31.00 32.00

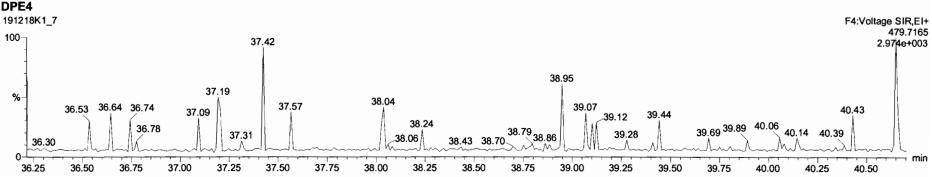
Work Order 1903739 Page 185 of 646

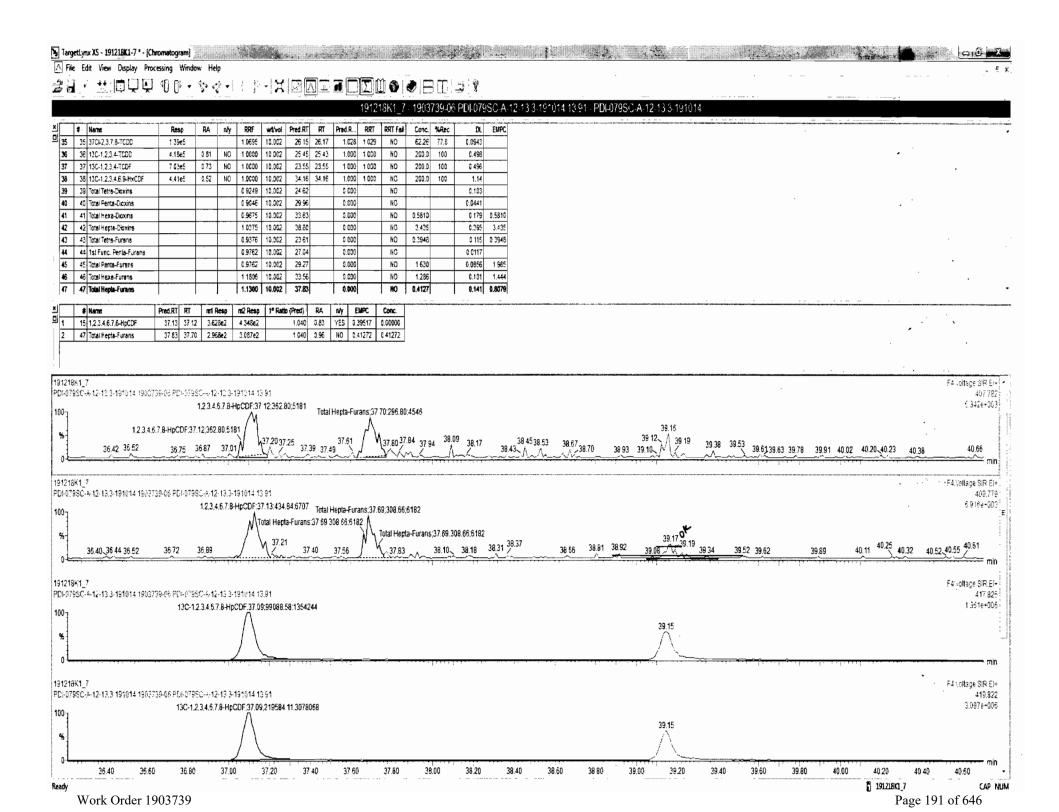


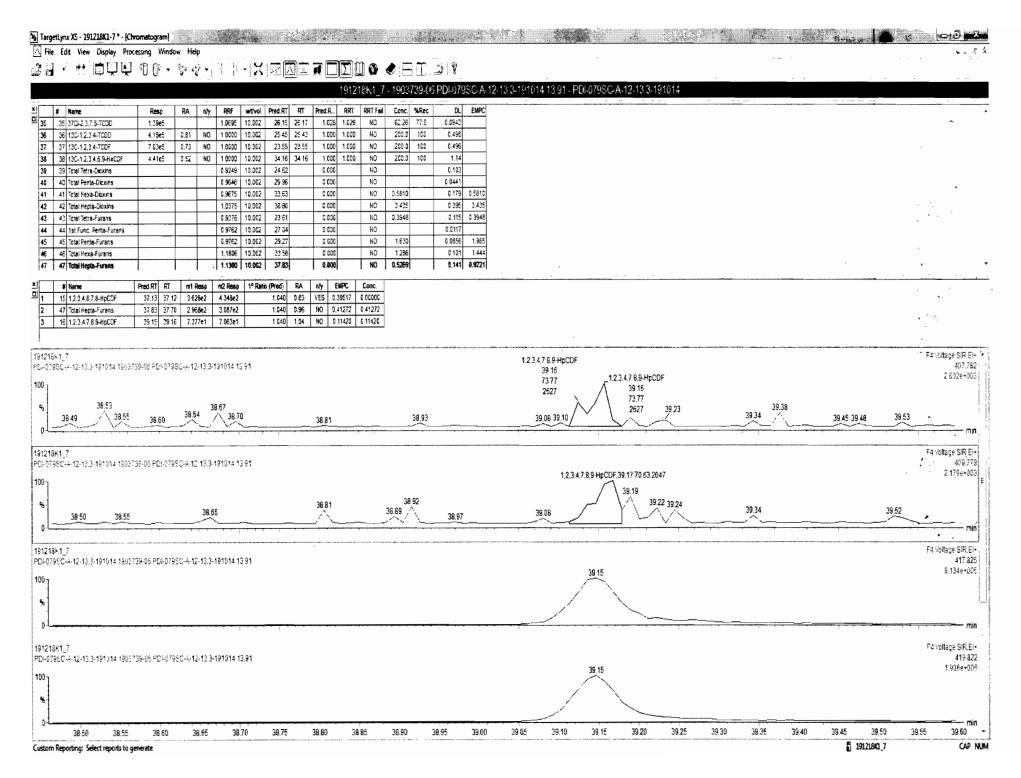










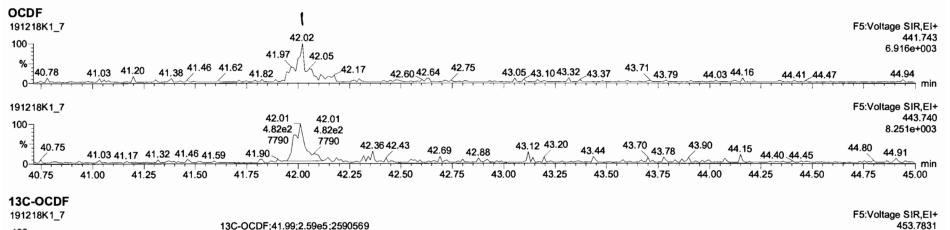


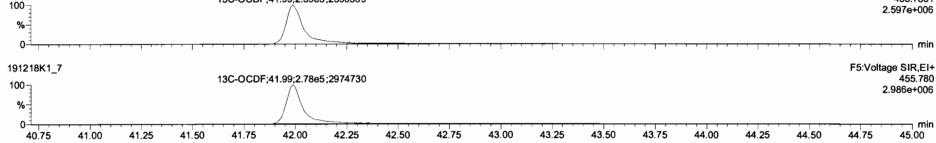
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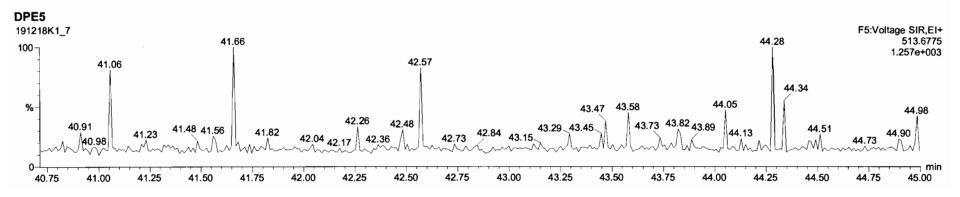
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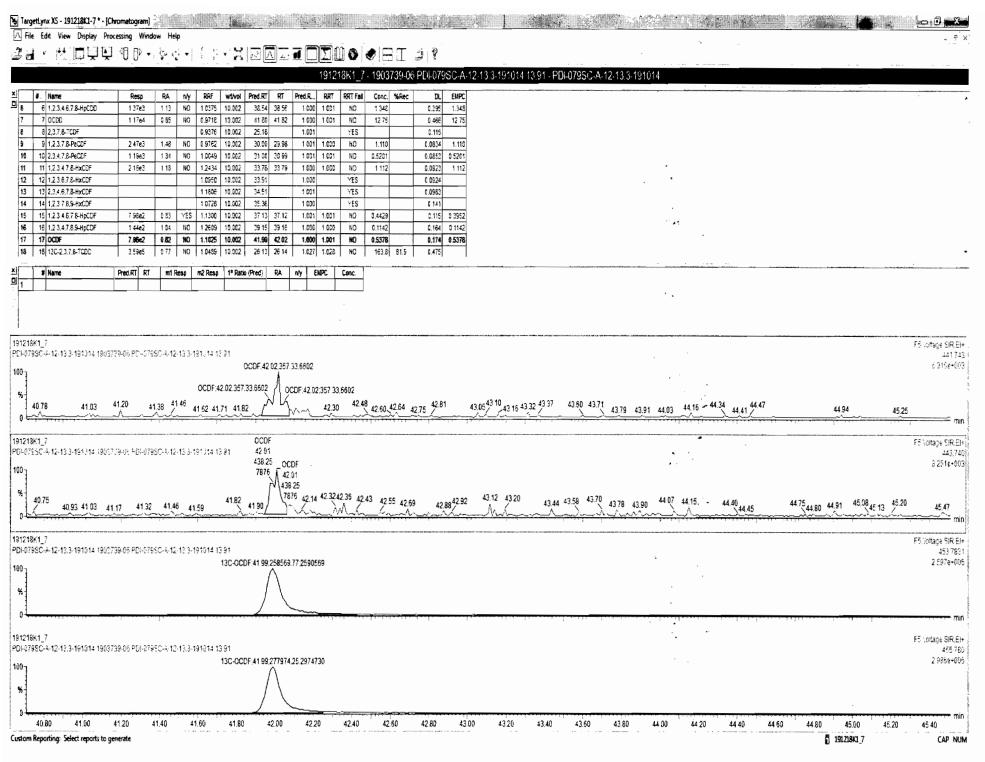
Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014









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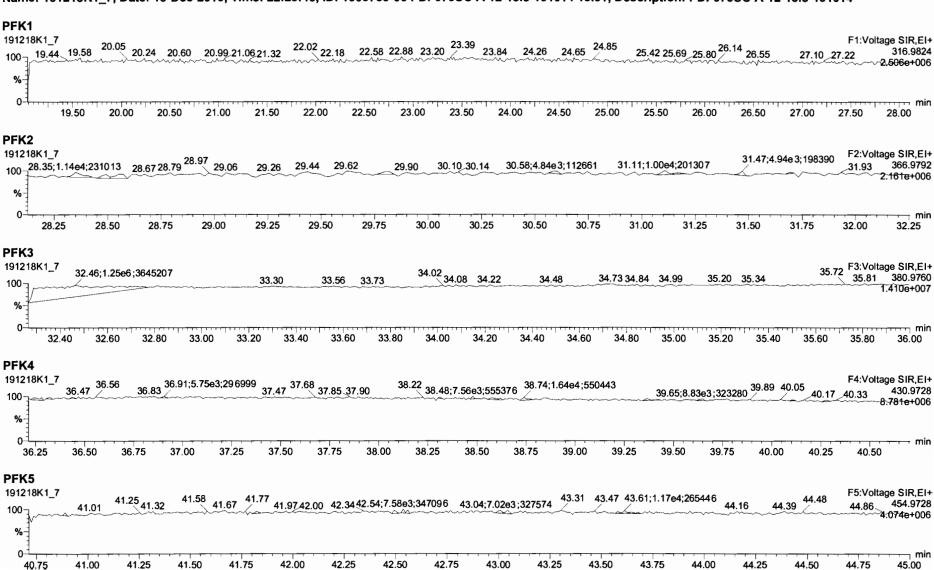
Dataset:

Printed:

Last Altered:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_7, Date: 18-Dec-2019, Time: 22:23:46, ID: 1903739-06 PDI-079SC-A-12-13.3-191014 13.91, Description: PDI-079SC-A-12-13.3-191014



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CONTINUING CALIBRATION

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TIKMS CALIBRATION	N STAND	ARDS RE	VIEW CHECKLIST		
Beg. Calbration ID: ST 19(1081) 1 -1 End Calibration ID: NA		I	Reviewed By: 01 11 19 Initials & Date	<u> </u>	
Ion abundance within QC limits?	Beg.	End NA	Mass resolution ≥	Beg.	End
Concentrations within criteria?		ф	□ 5k □ 6-8K □ 8K ☑ 10K 1614 1699 429 1613/1668/8280		[]
TCDD/TCDF Valleys <25%			Intergrated peaks display correctly?		MA

Retention Times within criteria?	
Verification Std. named correctly?	

(ST-Year-Month-Day-VG ID)

First and last eluters present?

Forms signed and dated?

Correct ICAL referenced?
Run Log:

- Correct instrument listed?
- Samples within 12 hour clock?
- Bottle position verfied?

	Щ
<u> </u>	
(Y)	N N

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1 within 12 hours

Comments:

GC Break <20%

SIOS CRASUED DURING GNI) RES CUECIC

2 FUNCTIONS PRINTED)

DB 11/11/19

W

Vista Analytical Laboratory - Injection Log Run file: 191108D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191108D1	1	ST191108D1-1	DB	8-NOV-19	11:54:06	ST191108D1-1	NA
191108D1	2	ST191108D1-2	DB	8-NOV-19	12:42:00	ST191108D1-2	NA
191108D1	3	B9J0316-BS1	DB	8-NOV-19	13:29:56	ST191108D1-1	NA
191108D1	4	B9K0011-BS1	DB	8-NOV-19	14:17:51	ST191108D1-1	NA
191108D1	5	QC191108D1-1	DB	8-NOV-19	15:05:47	ST191108D1-1	NA
191108D1	6	SOLVENT BLANK	DB	8-NOV-19	15:53:43	NA	NA
191108D1	7	B9J0316-BLK1	DB	8-NOV-19	16:41:38	ST191108D1-1	NA
191108D1	8	B9K0011-BLK1	DB	8-NOV-19	17:29:33	ST191108D1-1	NA
191108D1	9	QC191108D1-2	DB	8-NOV-19	18:17:28	ST191108D1-1	NA
191108D1	10	QC191108D1-3	DB	8-NOV-19	19:05:16	ST191108D1-1	NA
191108D1	11	QC191108D1-4	DB	8-NOV-19	19:53:05	ST191108D1-2	NA
191108D1	12	QC191108D1-5	DB	8-NOV-19	20:40:50	ST191108D1-2	NA
191108D1	13	1903584-10RE1	DB	8-NOV-19	21:28:44	ST191108D1-1	NA
191108D1	14	1903580-01RE1	DB	8-NOV-19	22:16:28	ST191108D1-1	NA
191108D1	15	1903430-06RE1	DB	8-NOV-19	23:04:17	ST191108D1-1	NA

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FORM 4A PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191108D1 S#1 Analysis Date: 8-NOV-19 Time: 11:54:06

	M/Z'S	ION	QC			CONC.	
	FORMING	ABUND.	LIMITS		CONC.	RANGE (3)	
	RATIO (1)	RATIO	(2)	Pass	FOUND	(ng/mL)	
NATIVE ANALYTES							
							(1) See Table 8, Method 1613, for \mathfrak{m}/\mathbf{z} specifications.
2,3,7,8-TCDD	M/M +2	0.82	0.65-0.89	У	10.8	7.8 - 12.9	
						8.2 - 12.3 (4)	(2) Ion Abundance Ratio Control Limits as specified
1,2,3,7,8-PeCDD	M/M +2	0.63	0.54-0.72	У	47.9	39.0 - 65.0	in Table 9, Method 1613.
1,2,3,4,7,8-HxCDD	M +2/M+4	1.25	1.05-1.43	У	48.3	39.0 - 64.0	(3) Contract-required concentration range as specified
1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	У	52.2	39.0 - 64.0	in Table 6, Method 1613.
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	У	50.6	41.0 - 61.0	
							(4) Contract-required concentration range as specified
1,2,3,4,6,7,8-HpCDD	₩+2/M+4	1.05	0.88-1.20	У	48.7	43.0 - 58.0	in Table 6a, Method 1613, for tetras only.
OCDD	M+2/M+4	0.89	0.76-1.02	У	103	79.0 - 126.0	
2,3,7,8-TCDF	M/M +2	0.78	0.65-0.89	У	9.43	8.4 - 12.0	
						8.6 - 11.6 (4)	
1,2,3,7,8-PeCDF	M+2/M+4	1.69	1.32-1.78	У	50.8	41.0 - 60.0	
2,3,4,7,8-PeCDF	M+2/M+4	1.67	1.32-1.78	У	49.0	41.0 - 61.0	
1,2,3,4,7,8-HxCDF	图+2/M+4	1.22	1.05-1.43	У	47.6	45.0 - 56.0	
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	У	48.2	44.0 - 57.0	
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	У	49.0	44.0 - 57.0	
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	У	48.8	45.0 - 56.0	> .
							\mathcal{M}
1,2,3,4,6,7,8-HpCDE	M+2/M+4	1.02	0.88-1.20	У	47.0	45.0 - 55.0	Analyst: //->
1,2,3,4,7,8,9-HpCDE	M+2/M+4	1.01	0.88-1.20	У	46.4	43.0 - 58.0	Analyst: 1/8/19
							110/10
OCDF	M+2/M+4	0.88	0.76-1.02	У	95.7	63.0 - 159.0	Date: [[8 19

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CCAL ID: ST191108D1-1

FORM 4B PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191108D1 S#1 Analysis Date: 8-NOV-19 Time: 11:54:06

F	M/Z'S ORMING ATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
HABEBED COMPOUNDS	H110 (1)	MILO	(2)	1433	POOND	(119/1111)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	У	105	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	У	115	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	у	113	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.31	1.05-1.43	У	94.7	85.0 ~ 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	У	105	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCD	D M+2/M+4	1.06	0.88-1.20	У	117	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	У	246	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.80	0.65-0.89	У	104	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	у	111	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	У	104	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	У	109	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	у	98.2	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	У	102	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	У	109	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCD	F M+2/M+4	0.44	0.37-0.51	у	109	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCD	F M+2/M+4	0.45	0.37-0.51	У	123	77.0 - 129.0
13C-OCDF	M+2/M+4	0.88	0.76-1.02	У	248	96.0 - 415.0
CLEANUP STANDARD (3)						
37C1-2,3,7,8-TCDD					10.1	7.9 - 12.7

- (1) See Table 8, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified
- (3) No ion abundance ratio; report concentration found.

Analyst:)B

Date: 1/8/19

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FORM 6A PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191108D1 S#1 Analysis Date: 8-NOV-19 Time: 11:54:06

Compounds Using 13C-1234-TCDD as RT Internal Standard

	RETENTION TIME	RRT				
NATIVE ANALYTES	REFERENCE	RRT	QC LIMITS (1)			
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002			
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002			
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003			
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002			
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002			
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043			
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.198	1.000-1.567			
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.991	0.923-1.103			
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.152	1.000-1.425			
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.187	1.011-1.526			
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052			

Analyst: 76

Date: 118/19

FORM 6B

PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191108D1 S#1 Analysis Date: 8-NOV-19 Time: 11:54:06

RETENTION TIME RRT									
	NATIVE ANALYTES	REFERENCE	RRT	QC LIMITS (1)					
	1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001					
	1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005					
	2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001					
	1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001					
	1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001					
	1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004					
	1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.001	0.998-1.004					
	1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001					
	1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001					
	1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001					
	OCDD	13C-OCDD	1.000	0.999-1.001					
	OCDF	13C-OCDF	1.000	0.999-1.001					
	LABELED COMPOUNDS								
	13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001					
	13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005					
	13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020					
	13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072					
	13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026					
	13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029					
	13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038					
	13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111					
	13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192					
	13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141					
	13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365					
	13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.234	1.091-1.371					

Analyst: DB

Date: 11/8/19

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FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.:

SAS No.:

Instrument ID: VG-7

Initial Calibration Date: 10-9-19

RT Window Data Filename: 191108D1 S#1 Analysis Date: 8-NOV-19 Time: 11:54:06

ZB-5MS IS Data Filename: 191108D1 S#1 Analysis Date: 8-NOV-19 Time: 11:54:06

DB 225 IS Data Filename:

Analysis Date:

Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

	ABSOLUTE		ABSOLUTE
ISOMERS	RT	ISOMERS	RT
1,3,6,8-TCDD (F)	22:49	1,3,6,8-TCDF (F)	20:42
1,2,8,9-TCDD (L)	27:04	1,2,8,9-TCDF (L)	27:12
1,2,4,7,9-PeCDD (F)	28:40	1,3,4,6,8-PeCDF (F)	27:10
1,2,3,8,9-PeCDD (L)	31:04	1,2,3,8,9-PeCDF (L)	31:18
1,2,4,6,7,9-HxCDD (F)	32:29	1,2,3,4,6,8-HxCDF (F)	31:57
1,2,3,7,8,9-HxCDD (L)	34:26	1,2,3,7,8,9-HxCDF (L)	34:48
1,2,3,4,6,7,9-HpCDD (F)	37:02	1,2,3,4,6,7,8-HpCDF (F)	36:39
1,2,3,4,6,7,8-HpCDD (L)	37:53	1,2,3,4,7,8,9-HpCDF (L)	38:25

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT BETWEEN COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: 18/19

Work Order 1903739 Page 203 of 646 Client ID: 1613 CS3 19C2204 Filename: 191108D1 S:1 Acq: 8-NOV-19 11:54:06 ConCal: ST191108D1-1 Page 1 of 1

CII	.cnc 15. 1015 cc5 17c1101		1011401		~		0. 10 1	1.51.00		0011	041. 0117110001	-			- 450	- 01 1
Lab	DID: ST191108D1-1	GC	Column II	D: ZB-51	MS ICal:	: 1613VG7-	10-9-19	wt/vol	: 1.000	End	CAL: NA					
	Name	Resp	RA	RRF	RT	Conc	Qual	noise Fac	DL	Name		Conc	EMPC	Oual	noise	DĹ
	2,3,7,8-TCDD	-	0.82 y	0.91	26:12	10.836	~	* 2.5	*		Tetra-Dioxins	78.5	79.2	~	*	*
	1,2,3,7,8-PeCDD	3.38e+06	0.63 y	0.90	30:43	47.860		* 2.5	*	Total	Penta-Dioxins	179	179		*	*
	1,2,3,4,7,8-HxCDD	3.70e+06	1.25 y	1.10	34:01	48.335		* 2.5	*	Total	Hexa-Dioxins	220	221		*	*
	1,2,3,6,7,8-HxCDD	3.79e+06	1.23 y	0.94	34:08	52.168		* 2.5	*	Total	Hepta-Dioxins	113	114		*	*
	1,2,3,7,8,9-HxCDD	3.94e+06	1.21 y	0.96	34:26	50.556		* 2.5	*	Total	Tetra-Furans	34.1	34.9		*	*
	1,2,3,4,6,7,8-HpCDD	3.50e+06	1.05 y	0.98	37:53	48.712		* 2.5	*	Total	Penta-Furans	211.11	211.66		*	*
	OCDD	6.73e+06	0.89 y	0.96	41:09	102.98		* 2.5	*	Total	Hexa-Furans	257	257		*	*
										Total	Hepta-Furans	93.7	94.3		*	*
	2,3,7,8-TCDF	1.18e+06	0.78 y	0.95	25:25	9.4278		* 2.5	*							
	1,2,3,7,8-PeCDF	5.66e+06	1.69 y	0.96	29:32	50.783		* 2.5	*							
	2,3,4,7,8-PeCDF	5.37e+06	1.67 y	1.01	30:26	48.958		* 2.5	*							
	1,2,3,4,7,8-HxCDF		1.22 y	1.18	33:08	47.606		* 2.5	*							
	1,2,3,6,7,8-HxCDF		1.23 y	1.07	33:15	48.233		* 2.5	*							
	2,3,4,6,7,8-HxCDF		1.24 y	1.11	33:51	48.997		* 2.5	*							
	1,2,3,7,8,9-HxCDF		1.24 y	1.06	34:48	48.840		* 2.5	*							
	1,2,3,4,6,7,8-HpCDF		1.02 y	1.13	36:39	47.036		* 2.5	*							
	1,2,3,4,7,8,9-HpCDF		1.01 y	1.28	38:24	46.432		* 2.5	*							
	OCDF	7.41e+06	0.88 y	0.95	41:23	95.740		* 2.5	*	_						
	120 0 2 0 0 000	0.0005	0 50		06.11					Rec	Qual					
IS	13C-2,3,7,8-TCDD		0.78 y	1.10	26:11	104.61				105						
IS	13C-1,2,3,7,8-PeCDD		0.62 y	0.88	30:42	114.56				115						
IS IS	13C-1,2,3,4,7,8-HxCDD 13C-1,2,3,6,7,8-HxCDD		1.29 y 1.31 y	0.64 0.86	34:00 34:07	113.18 94.674				113 94.7						
IS	13C-1,2,3,7,8,9-HxCDD		1.31 y 1.27 y	0.81	34:07	105.04				105						
IS	13C-1,2,3,4,6,7,8-HpCDD		1.27 y 1.06 y	0.65	37:51	117.33				117						
IS		1.36e+07	0.91 y	0.58	41:09	246.16				123						
IS	13C-2,3,7,8-TCDF		0.80 y	1.03	25:24	103.75				104						
IS	13C-1,2,3,7,8-PeCDF		1.57 y	0.85	29:31	111.14				111						
IS	13C-2,3,4,7,8-PeCDF		1.61 y	0.85	30:25	104.34				104						
IS	13C-1,2,3,4,7,8-HxCDF		0.51 y	0.83	33:07	108.86				109						
IS	13C-1,2,3,6,7,8-HxCDF		0.51 y	1.03	33:15	98.249				98.2						
IŞ	13C-2,3,4,6,7,8-HxCDF		0.51 y	0.95	33:50	102.14				102						
IS	13C-1,2,3,7,8,9-HxCDF	8.62e+06	0.51 y	0.83	34:47	108.95				109						
IS	13C-1,2,3,4,6,7,8-HpCDF	7.86e+06	0.44 y	0.76	36:38	108.53				109						
IS	13C-1,2,3,4,7,8,9-HpCDF	6.85 e +06	0.45 y	0.58	38:24	123.27				123						
IS	13C-OCDF	1.63e+07	0.88 y	0.69	41:22	248.08				124						
C/Up	37Cl-2,3,7,8-TCDD	9.41e+05		1.20	26:12	10.136				101	Integr	ations	Revi	.ewed		
DC (***	n 120 1 2 2 4 mans	7 7505	0.75	1 00	25.35	100.00					by	7)/3	by	•	0-1	
RS/RC	T 13C-1,2,3,4-TCDD 13C-1,2,3,4-TCDF		0.76 y	1.00	25:37 24:12	100.00					Analyst:	<i></i>	Anal	ysc:		
			0.80 y	1.00	33:32	100.00						10/0				
K⊅/ K .	Г 13C-1,2,3,4,6,9-HxCDF	J.30 C+ U6	0.51 у	1.00	33:32	100.00					Date:	18/19	Date	: <u> </u>	<u> 21</u> Juji 9	.—

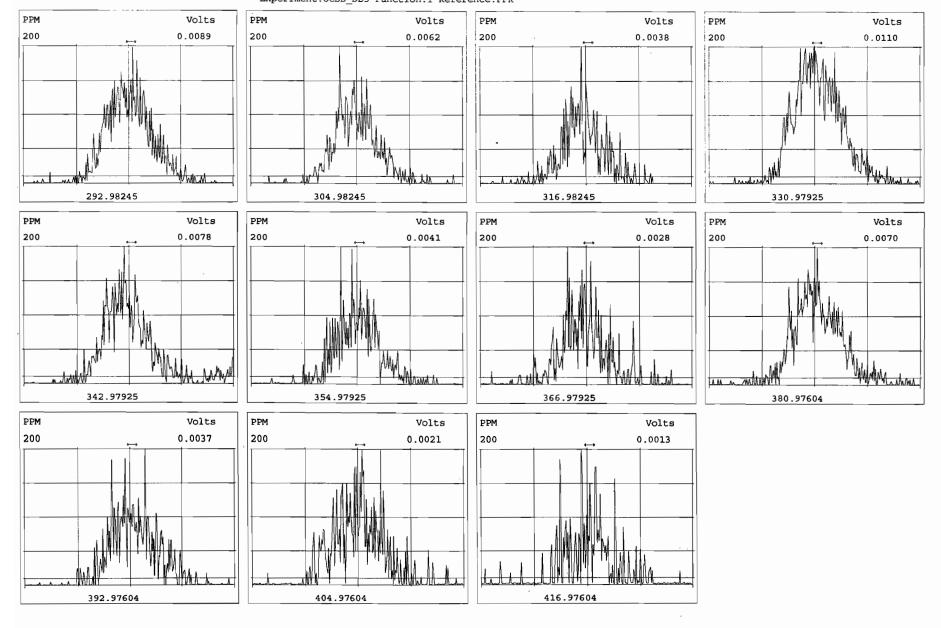
Work Order 1903739 Page 204 of 646

Vista Analytical Laboratory - Injection Log Run file: 191108D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

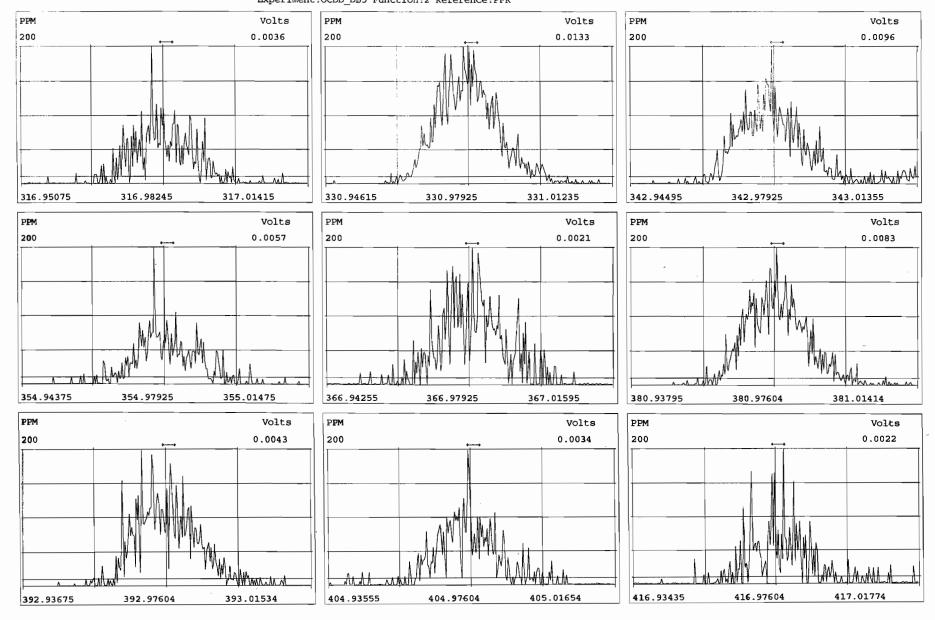
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191108D1	1	ST191108D1-1	DB	8-NOV-19	11:54:06	ST191108D1-1	AN
191108D1	2	ST191108D1-2	DB	8-NOV-19	12:42:00	ST191108D1-2	NA
191108D1	3	B9J0316-BS1	DB	8-NOV-19	13:29:56	ST191108D1-1	NA
191108D1	4	B9K0011-BS1	DB	8-NOV-19	14:17:51	ST191108D1-1	NA
191108D1	5	QC191108D1-1	DB	8-NOV-19	15:05:47	ST191108D1-1	NA
191108D1	6	SOLVENT BLANK	DB	8-NOV-19	15:53:43	NA	NA
191108D1	7	B9J0316-BLK1	DB	8-NOV-19	16:41:38	ST191108D1-1	NA
191108D1	8	B9K0011-BLK1	DB	8-NOV-19	17:29:33	ST191108D1-1	NA
191108D1	9	QC191108D1-2	DB	8-NOV-19	18:17:28	ST191108D1-1	NA
191108D1	10	QC191108D1-3	DB	8-NOV-19	19:05:16	ST191108D1-1	NA
191108D1	11	QC191108D1-4	DB	8-NOV-19	19:53:05	ST191108D1-2	NA
191108D1	12	QC191108D1-5	DB	8-NOV-19	20:40:50	ST191108D1-2	NA
191108D1	13	1903584-10RE1	DB	8-NOV-19	21:28:44	ST191108D1-1	NA
191108D1	14	1903580-01RE1	DB	8-NOV-19	22:16:28	ST191108D1-1	NA
191108D1	15	1903430-06RE1	DB	8-NOV-19	23:04:17	ST191108D1-1	NA

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Peak Locate Examination: 8-NOV-2019:11:43 File:191108D1 Experiment:OCDD_DB5 Function:1 Reference:PFK

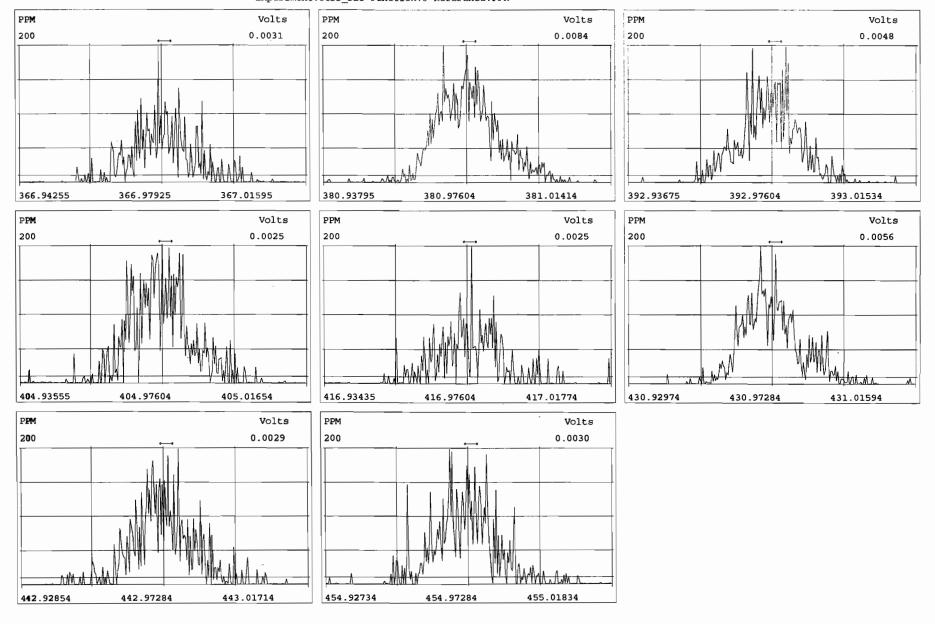


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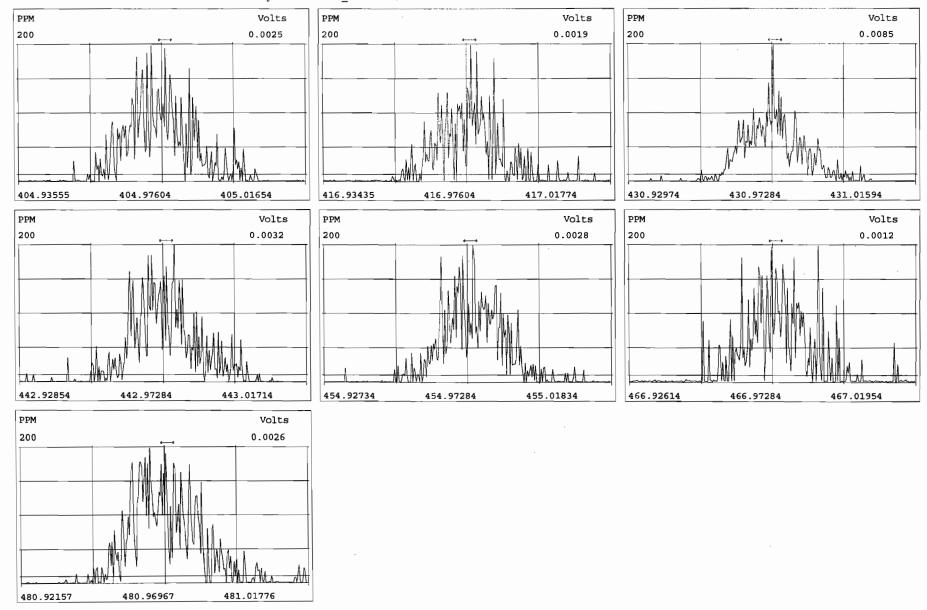


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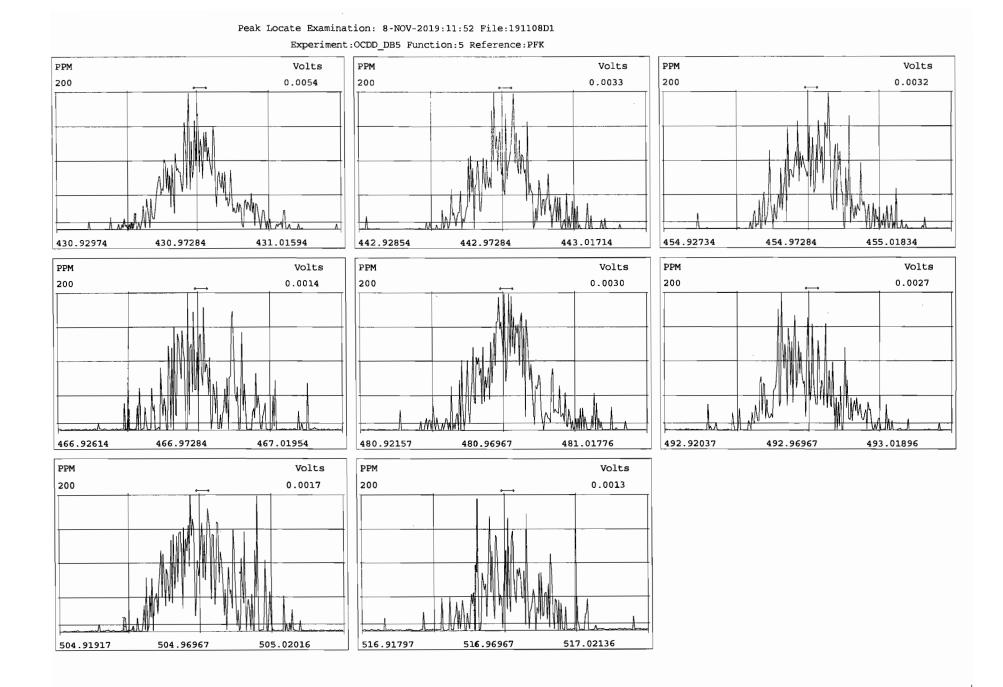
Peak Locate Examination: 8-NOV-2019:11:50 File:191108D1
Experiment:OCDD_DB5 Function:3 Reference:PFK



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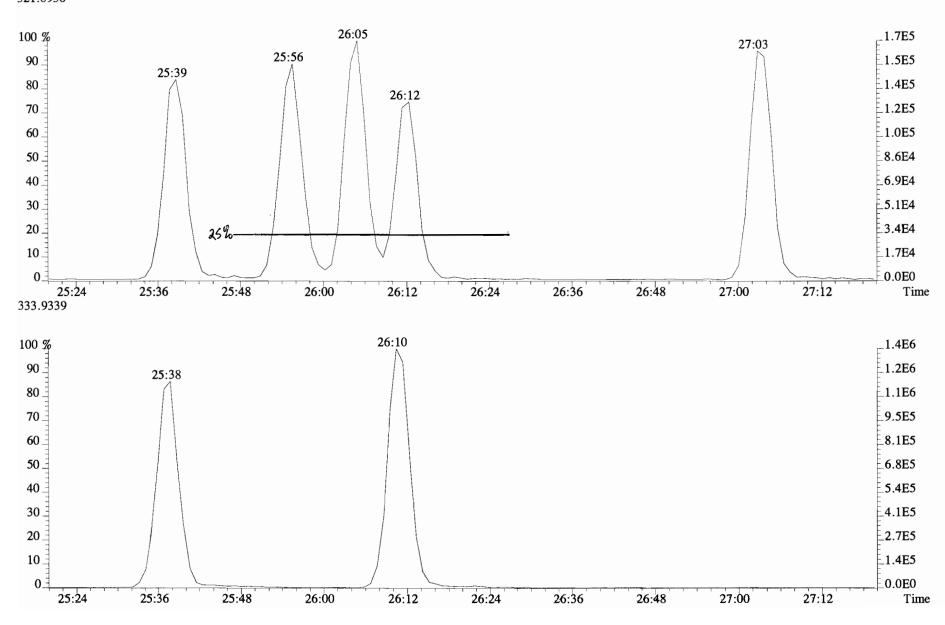


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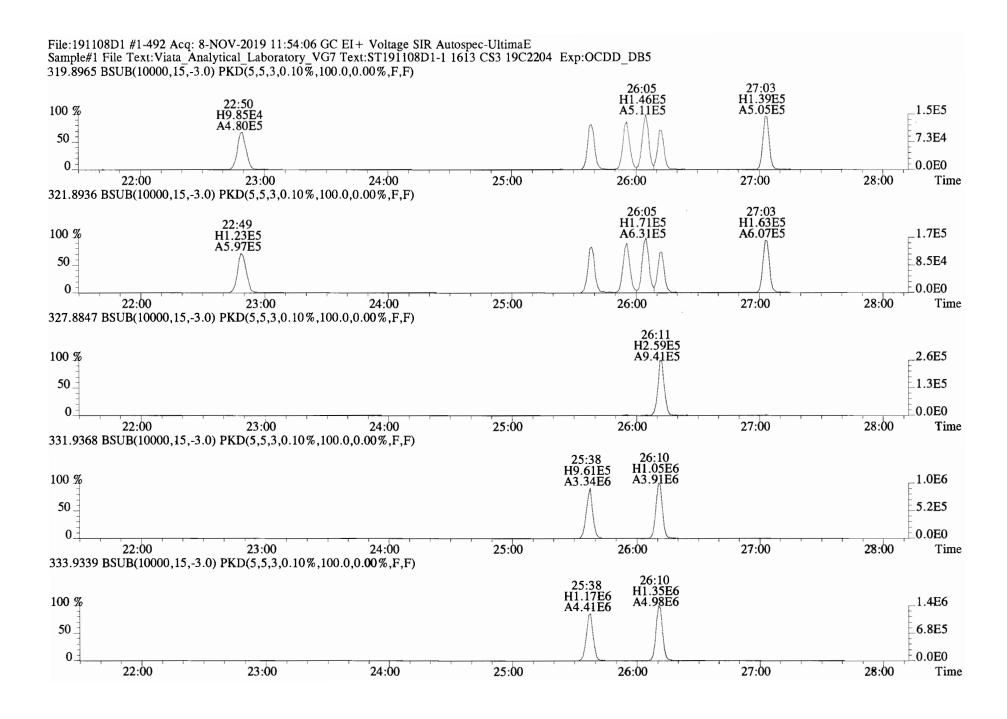


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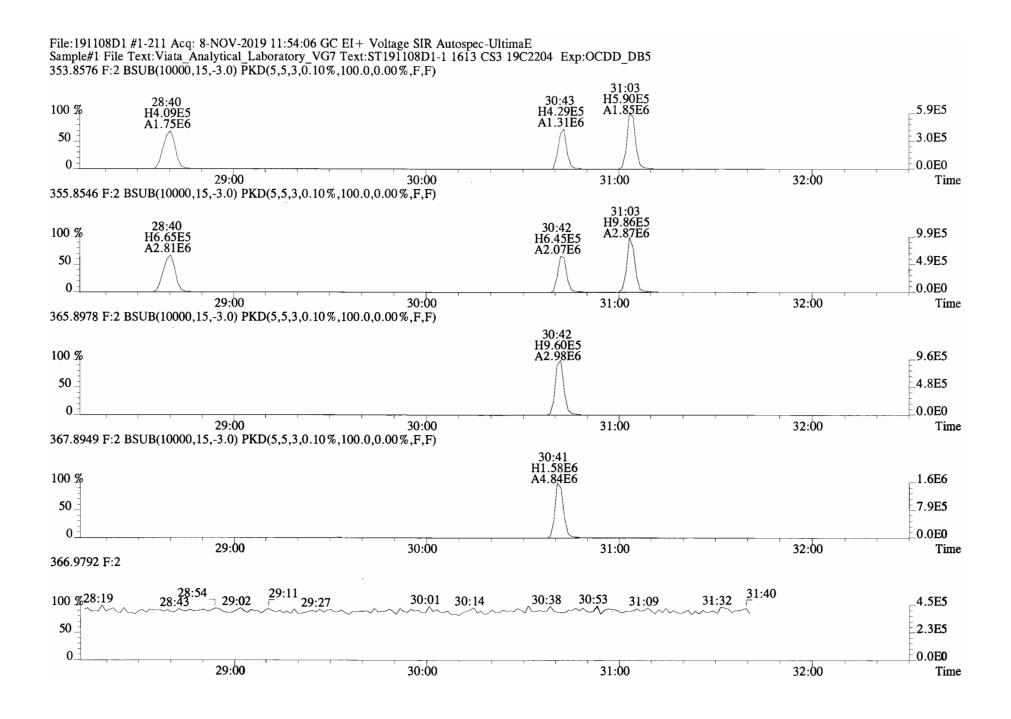
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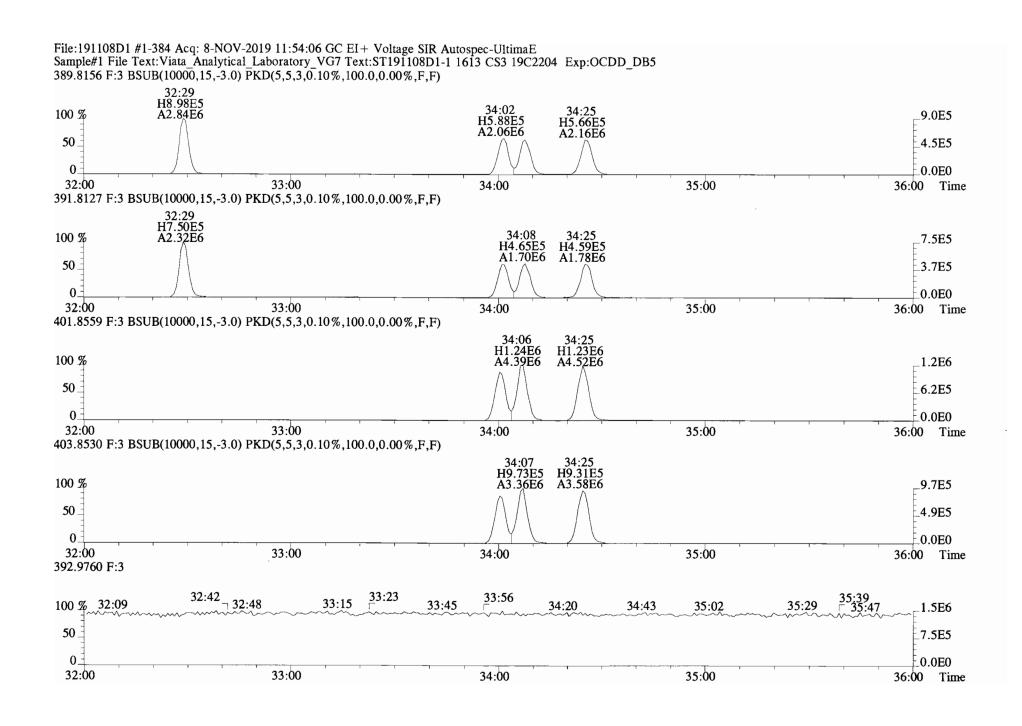
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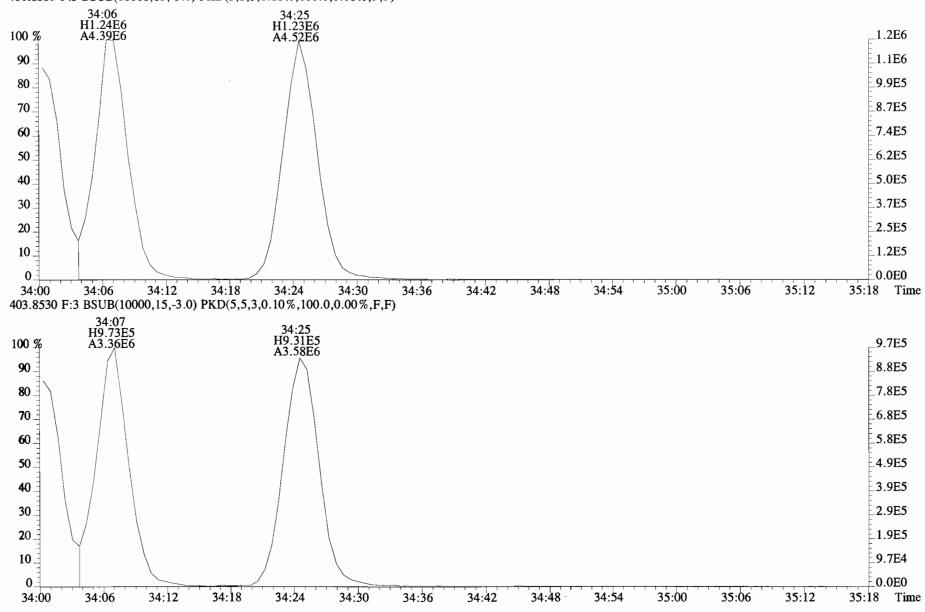


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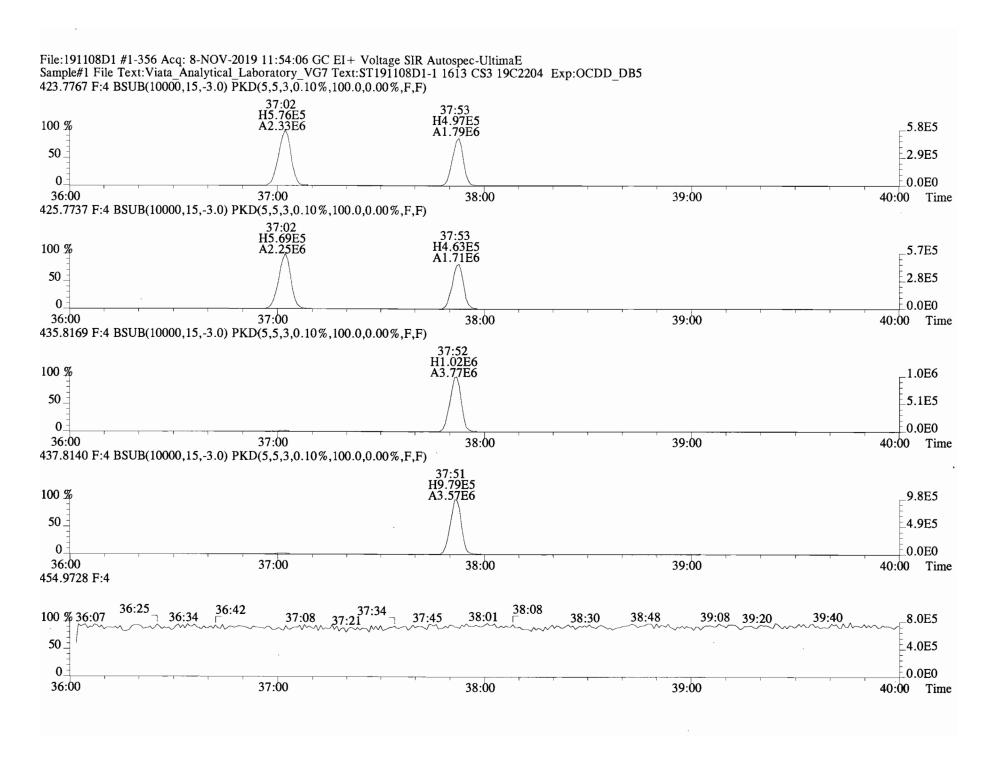


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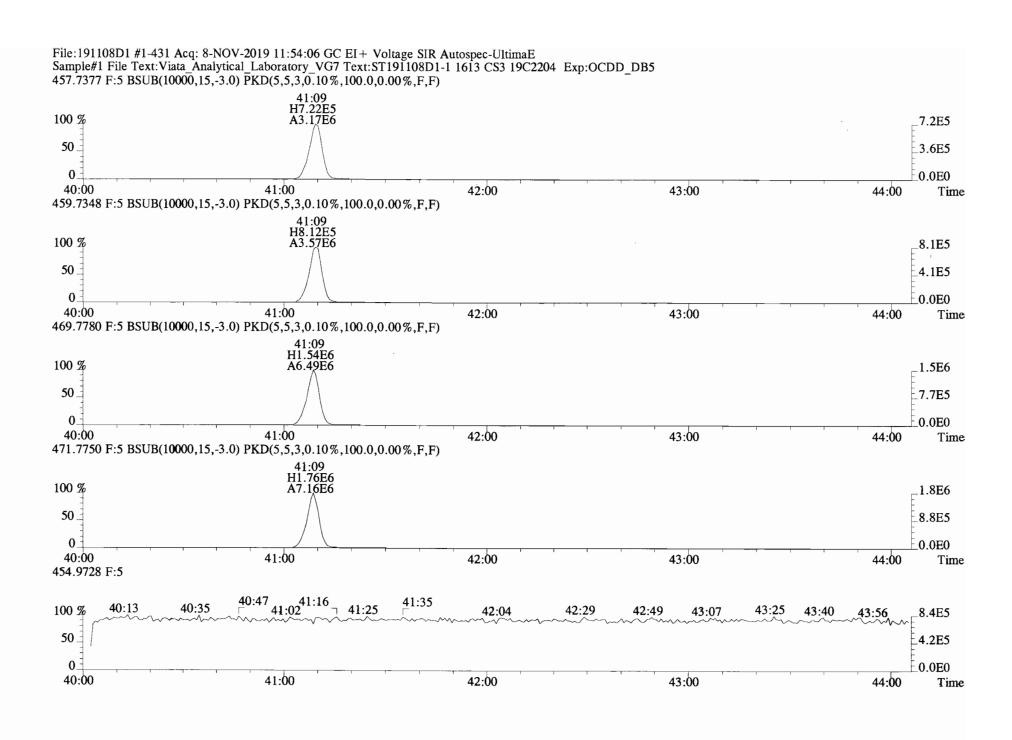
File:191108D1 #1-384 Acq: 8-NOV-2019 11:54:06 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191108D1-1 1613 CS3 19C2204 Exp:OCDD_DB5 401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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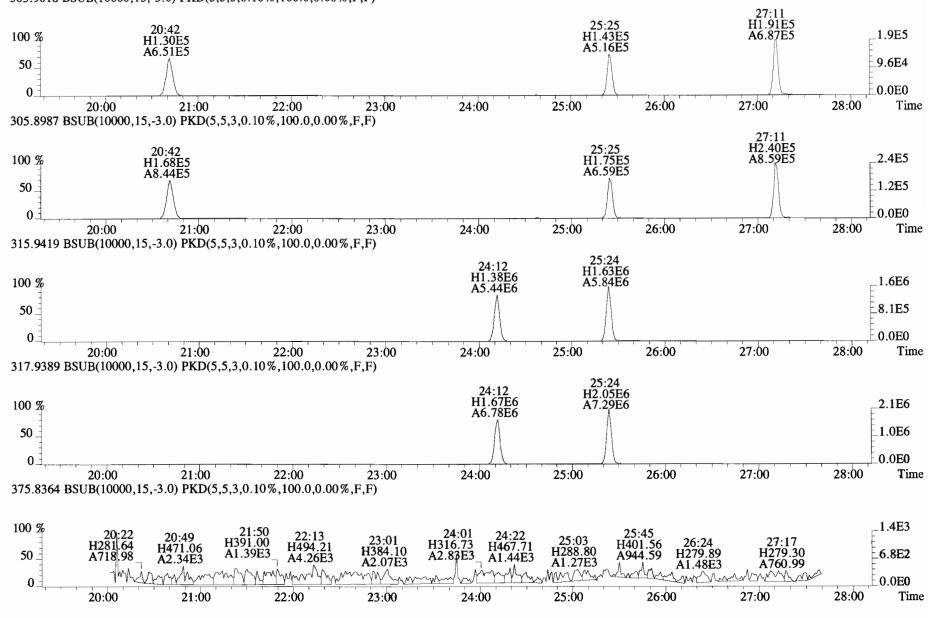


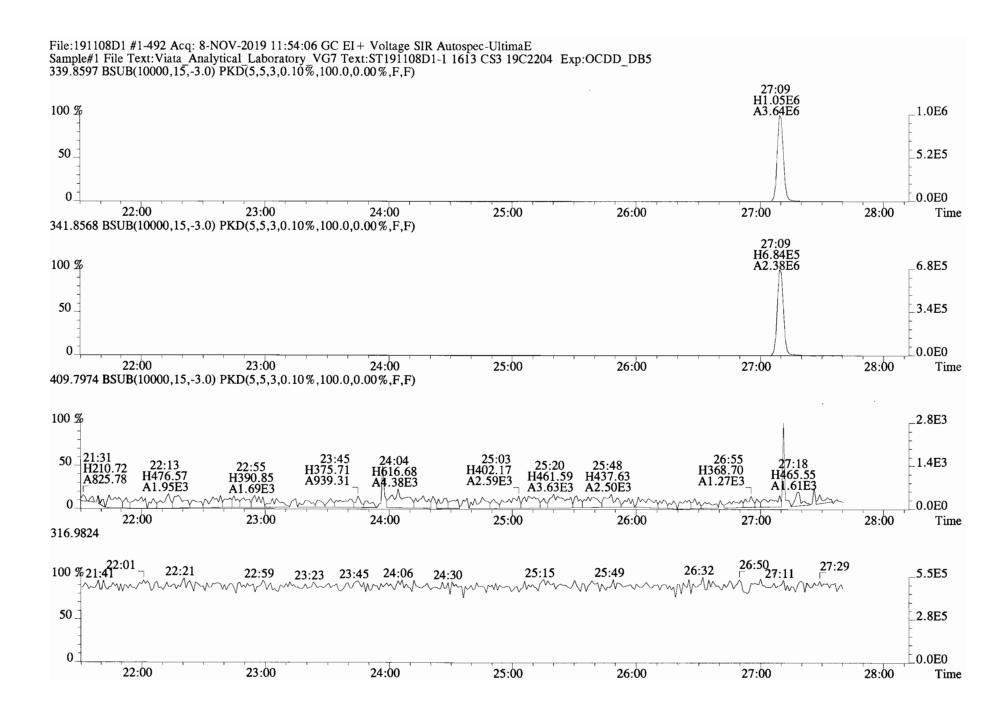
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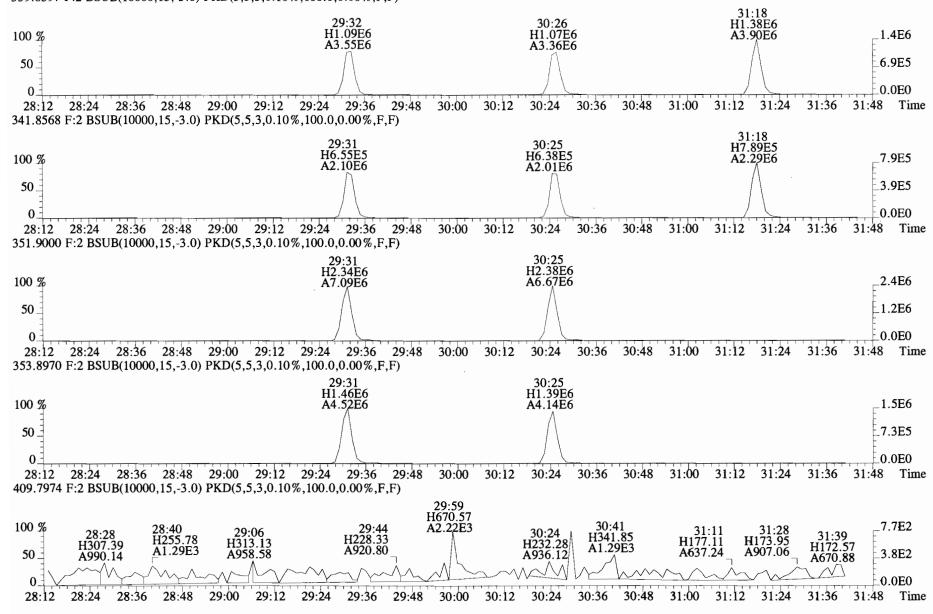
File:191108D1 #1-492 Acq: 8-NOV-2019 11:54:06 GC EI + Voltage SIR Autospec-UltimaE Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191108D1-1 1613 CS3 19C2204 Exp:OCDD_DB5 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



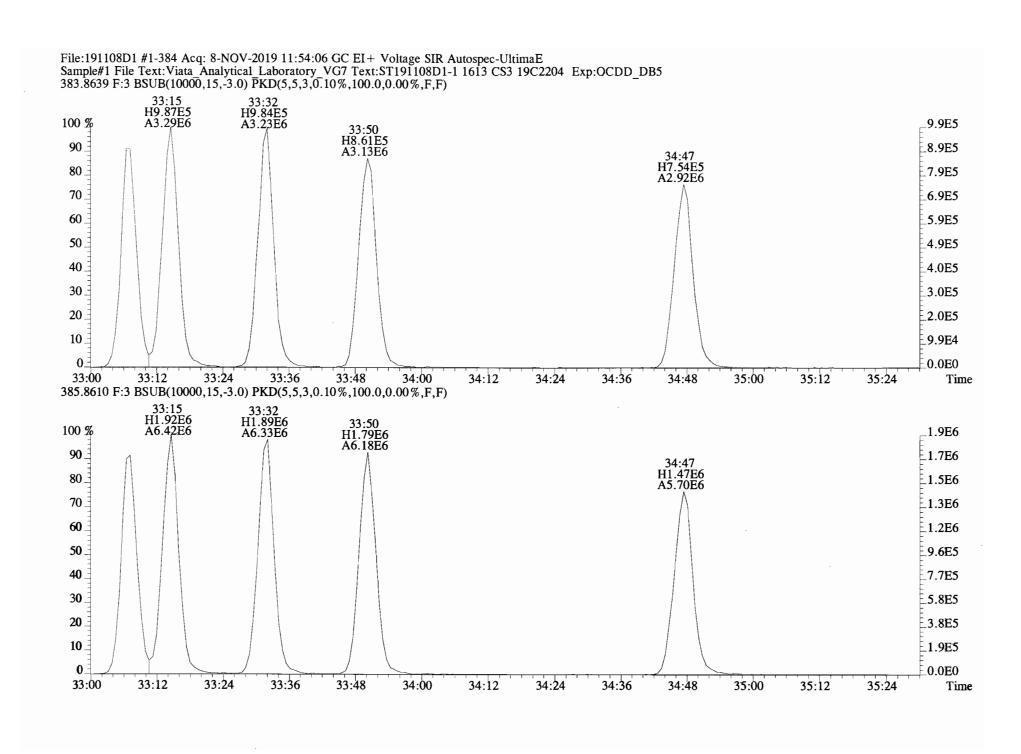


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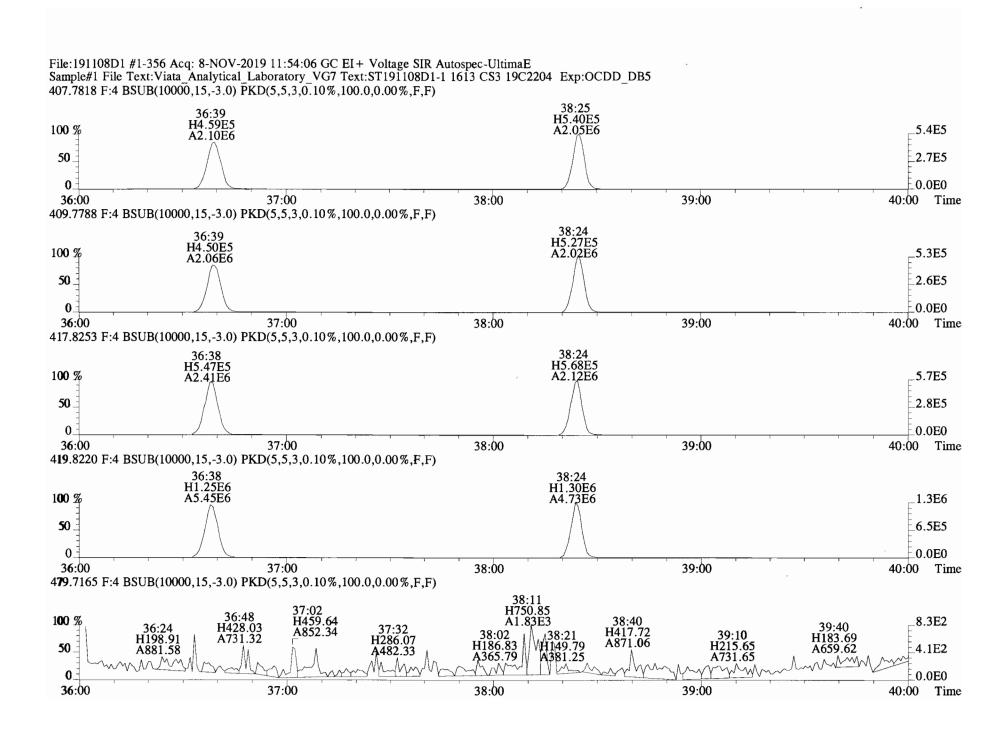
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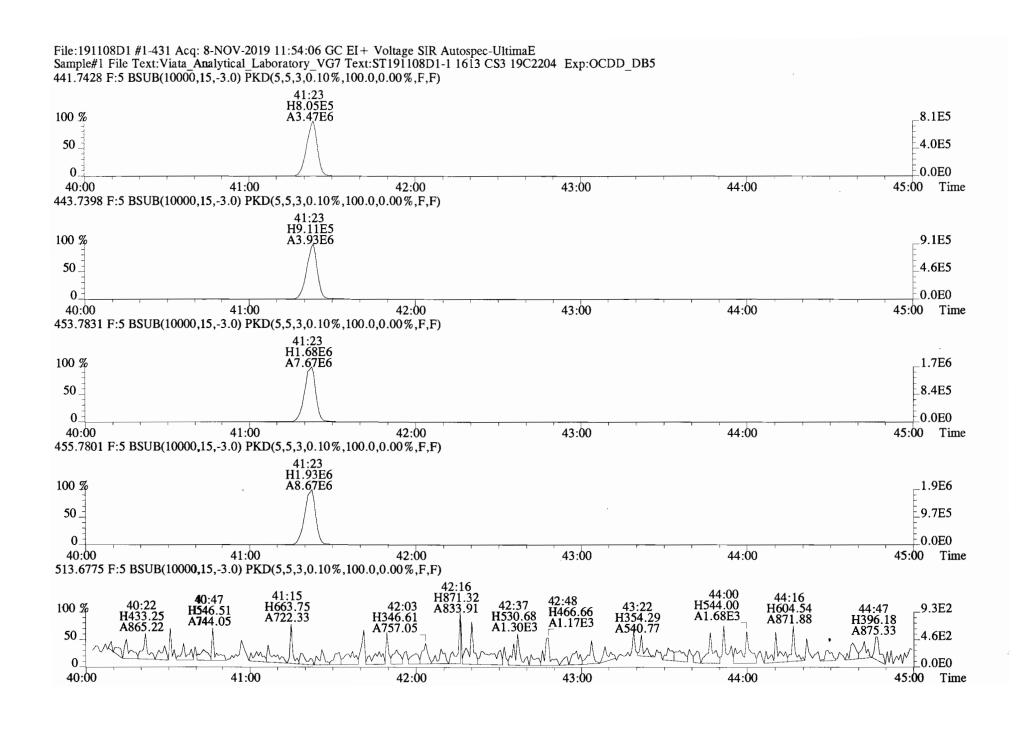
File:191108D1 #1-384 Acq: 8-NOV-2019 11:54:06 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text: Viata Analytical Laboratory VG7 Text: ST191108D1-1 1613 CS3 19C2204 Exp: OCDD DB5 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 31:57 H1.14E6 33:15 33:51 H7.90E5 100 % A3.47E6 34:49 _1.1E6 H8.28E5 H₆.23E₅ A2.76E6 A2.81E6 A2.47E6 50 5.7E5 0.0E032:00 33:00 34:00 35:00 36:00 Time 375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 31:57 H9.38E5 33:08 33:51 H6.49E5 A2.84E6 9.4E5 100 % 34:48 H₆.82E5 H5.21E5 A2.18E6 A2.27E6 A2.00E6 50. 4.7E5 0.0E0 0. 32:00 33:00 34:00 35:00 36:00 Time 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 33:15 H9.87E5 33:50 34:47 H7.54E5 H8.61E5 9.9E5 100 % A3.29E6 A3.13E6 A2.92E6 50 4.9£5 0.0E032:00 33:00 34:00 35:00 36:00 Time 385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 33:15 H1.92E6 33:50 H1.79E6 34:47 H1.47E6 100 % A6.42E6 A6.18E6 _1.9E6 A5.70E6 50 _ 9.6E5 .0.0E0 35:00 32:00 33:00 34:00 36:00 Time 445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 33:11 H992.26 32:23 H449.22 35:18 100 % A1.19E3 34:47 1.0E3 32:09 33:29 H612.51 A975.67 34:01 H382.93 H513.63 H519.32 H415.21 35:38 A781.03 34:21 32:56 A1.16E3 H196.68 A726.18 A713.65 H238.06 H242.81 50 A1.05E3 5.0E2 A580.19 A612.86 A697.60 0 .0.0E0 32:00 33:00 34:00 35:00 36:00 Time



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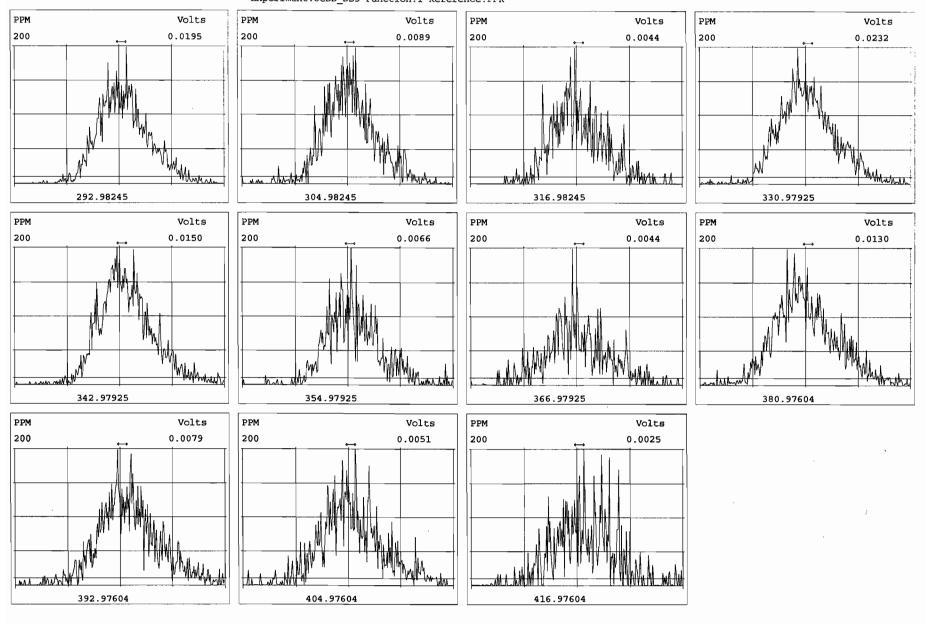


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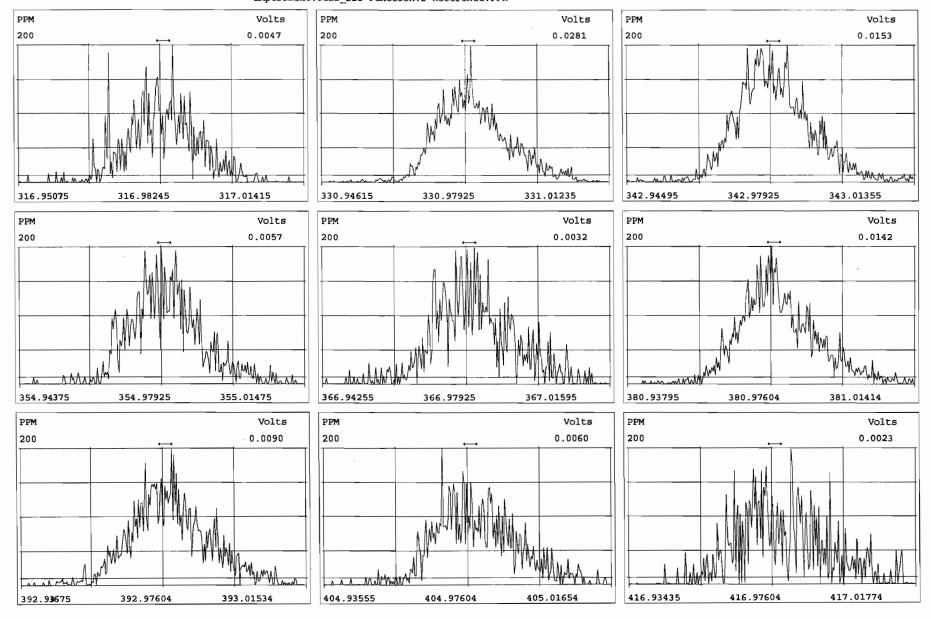


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Peak Locate Examination: 9-NOV-2019:00:01 File:RES_CHECK Experiment:OCDD_DB5 Function:1 Reference:PFK



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HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: ST 19121743-1	_	Reviewed By: GPB 17/19/19 Initials & Date	•.
End Calibration ID:N	_		·A
	Beg. End		Beg. End
Ion abundance within QC limits?	V WA	Mass resolution ≥	
Concentrations within criteria?		□ 5k □ 6-8K □ 8K 10K 1614 1699 429 1613/1668/8280	
TCDD/TCDF Valleys <25%		Intergrated peaks display correctly?	M
First and last eluters present?		GC Break <20%	
Retention Times within criteria?		8280 CS1 End Standard:	
Verification Std. named correctly?		- Ratios within limits, S/N <2.5:1, CS1 within 12 hours	M
(ST-Year-Month-Day-VG ID)			
Forms signed and dated?		Omments: (A) one mass did not controid	
Correct ICAL referenced?	1/c 0	· ·	
Run Log:	,		
- Correct Instrument listed?	NA		
- Samples within 12 hour clock?			
- Bottle position verfied?			

ID: LR - HCSRC Rev. No.: 0 Rev. Date: 06/06/2017

Page: 1 of 1

Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\191217K3\191217K3-2.qld

Last Altered:

Wednesday, December 18, 2019 18:16:15 Pacific Standard Time

Printed:

Wednesday, December 18, 2019 18:16:32 Pacific Standard Time

HC 121819 GRB 12/19/19

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191217K3_2, Date: 18-Dec-2019, Time: 02:54:19, ID: ST191217K3-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204

	#-Name	- Resp	: IS Resp	RA	- n/y	RRF	: Pred.RT -	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
	1 2,3,7,8-TCDD	3.22e4	3.31e5	0.80	NO	0.925	26.18	26.18	NO	1.001	1.001	10.511	105	NO
2	2 1,2,3,7,8-PeCDD	9.90e4	2.13e5	0.63	NO	0.905	31.33	31.33	NO	1.001	1.001	51.499	103	NO
3	3 1,2,3,4,7,8-HxCDD	9.03e4	1.60e5	1.26	NO	1.07	34.67	34.67	NO	1.000	1.000	52.816	106	NO
40 402%	4 1,2,3,6,7,8-HxCDD	1.01e5	1.94e5	1.24	NO	0.967	34.76	34.77	NO	1.000	1.000	53.907	108	NO
57 H	5 1,2,3,7,8,9-HxCDD	8.24e4	1.67e5	1.20	NO	0.978	35.07	35.05	NO	1.001	1.001	50.441	101	NO
	6 1,2,3,4,6,7,8-HpCDD	6.33e4	1.2 4e 5	1.03	NO	1.04	38.55	38.55	NO	1.000	1.000	49.410	98.8	NO
	7 OCDD	1.07e5	2.12e5	0.87	NO	0.972	41.81	41.82	NO	1.000	1.000	103.77	104	NO
8	8 2,3,7,8-TCDF	5.01e4	4.99e5	0.79	NO	0.938	25.20	25.19	NO	1.001	1.001	10.705	107	NO
9 11 11 1	9 1,2,3,7,8-PeCDF	1.83e5	3.54e5	1.69	NO	0.976	30.02	30.02	NO	1.001	1.001	52.888	106	NO
10	10 2,3,4,7,8-PeCDF	1.74e5	3.21e5	1.55	NO	1.00	31.02	31.01	NO	1.001	1.001	54.076	108	NO
Mary Constitution	11 1,2,3,4,7,8-HxCDF	1.51e5	2.35e5	1.25	NO	1.24	33.80	33.81	NO	1.000	1.000	51.767	104	NO
12 :	12 1,2,3,6,7,8-HxCDF	1.75e5	2.96e5	1.22	NO	1.10	33.92	33.92	NO	1.000	1.000	53.912	108	NO
	13 2,3,4,6,7,8-HxCDF	1.61e5	2.46e5	1.21	NO	1.18	34.52	34.50	NO	1.001	1.001	55.499	111	NO
	14 1,2,3,7,8,9-HxCDF	1.23e5	2.11e5	1.19	NO	1.07	35.37	35.38	NO	1.000	1.000	54.366	109	NO
15	15 1,2,3,4,6,7,8-HpCDF	1.21e5	1.99e5	1.09	NO	1.13	37.15	37.13	NO	1.001	1.000	53.743	107	NO
	16 1,2,3,4,7,8,9-HpCDF	9.09e4	1.36e5	1.04	NO	1.26	39.15	39.16	NO	1.000	1.000	52.891	106	NO
12.50 (6.25)	17 OCDF	1.56e5	2.99e5	0.92	NO	1.10	42.00	42.01	NO	1.000	1.000	94.818	94.8	NO
18	18 13C-2,3,7,8-TCDD	3.31e5	3.22e5	0.78	NO	1.05	26.16	26.15	NO	1.027	1.027	98.008	98.0	NO
19	19 13C-1,2,3,7,8-PeCDD	2.13e5	3.22e5	0.65	NO	0.743	31.31	31.31	NO	1.230	1.229	88.801	88.8	NO
20	20 13C-1,2,3,4,7,8-HxCDD	1.60e5	2.89e5	1.24	NO	0.646	34.66	34.66	NO	1.014	1.014	85.637	85.6	NO
	21 13C-1,2,3,6,7,8-HxCDD	1.94e5	2.89e5	1.23	NO	0.777	34.76	34.76	NO	1.017	1.017	86.585	86.6	NO
22	22 13C-1,2,3,7,8,9-HxCDD	1.67e5	2.89e5	1.20	NO	0.659	35.03	35.03	NO	1.025	1.025	87.698	87.7	NO
23	23 13C-1,2,3,4,6,7,8-HpCDI	1.24e5	2.89e5	1.06	NO	0.534	38.53	38.54	NO	1.127	1.127	80.063	80.1	NO
24	24 13C-OCDD	2.12e5	2.89e5	0.90	NO	0.470	41.81	41.81	NO	1.223	1.223	155.80	77.9	NO
25	25 13C-2,3,7,8-TCDF	4.9 9e 5	5.29e5	0.73	NO	0.977	25.17	25.17	NO	0.989	0.989	96.535	96.5	NO
26	26 13C-1,2,3,7,8-PeCDF	3.54e5	5.29e5	1.61	NO	0.778	30.00	30.00	NO	1.178	1.178	86.067	86.1	NO
27	27 13C-2,3,4,7,8-PeCDF	3.21e5	5.29e5	1.52	NO	0.750	30.99	30.99	NO	1.217	1.217	80.793	8.08	NO
28	28 13C-1,2,3,4,7,8-HxCDF	2.35e5	2.89e5	0.54	NO	0.845	33.80	33.80	NO	0.989	0.989	96.108	96.1	NO
	29 13C-1,2,3,6,7,8-HxCDF	2.96e5	2.89e5	0.52	NO	1.03	33.91	33.91	NO	0.992	0.992	99.767	99.8	NO
30	30 13C-2,3,4,6,7,8-HxCDF	2.46e5	2.89e5	0.54	NO	0.893	34.49	34.48	NO	1.009	1.009	95.297	95.3	NO
31	31 13C-1,2,3,7,8,9-HxCDF	2.11e5	2.89e5	0.54	NO	0.734	35.39	35.37	NO	1.035	1.035	99.524	99.5	NO

Work Order 1903739 Page 228 of 646 Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191217K3\191217K3-2.qld

Last Altered: Wednesday, December 18, 2019 18:16:15 Pacific Standard Time Printed: Wednesday, December 18, 2019 18:16:32 Pacific Standard Time

Name: 191217K3_2, Date: 18-Dec-2019, Time: 02:54:19, ID: ST191217K3-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204

#-Name	Resp	IS Resp	; RA .	n/y :	RRF	: Pred.RT	· RT .	RT Flag	Pred.RR	r; rrt ;	Conc.	- %Rec ·	STD out
32 13C-1,2,3,4,6,7,8-HpCDF	1.99e5	2.89e5	0.45	NO	0.754	37.11	37.12	NO	1.085	1.086	91.233	91.2	NO
33 33 13C-1,2,3,4,7,8,9-HpCDF	1.36e5	2.89e5	0.46	NO	0.539	39.13	39.15	NO	1.145	1.145	87.538	87.5	NO
34 3C-OCDF	2.99e5	2.89e5	0.88	NO	0.593	42.00	42.00	NO	1.229	1.229	174.54	87.3	NO
35 37CI-2,3,7,8-TCDD	3.48e4	3.22e5			1.07	26.18	26.18	NO	1.028	1.028	10.092	101	NO
36 36 13C-1,2,3,4-TCDD	3.22e5	3.22e5	0.81	NO	1.00	25.45	25.47	NO	1.000	1.000	100.00	100	NO
37 37 13C-1,2,3,4-TCDF	5.29e5	5.29e5	0.75	NO	1.00	23.55	23.55	NO	1.000	1.000	100.00	100	NO
38 13C-1,2,3,4,6,9-HxCDF	2.89e5	2.89e5	0.52	NO	1.00	34.16	34.19	NO	1.000	1.000	100.00	100	NO

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Quantify Compound Summary Report Vista Analytical Laboratory VG-11 MassLynx 4.1 SCN815

Page 1 of 1

Dataset: Untitled

Last Altered: Printed: Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:17 Pacific Standard Time

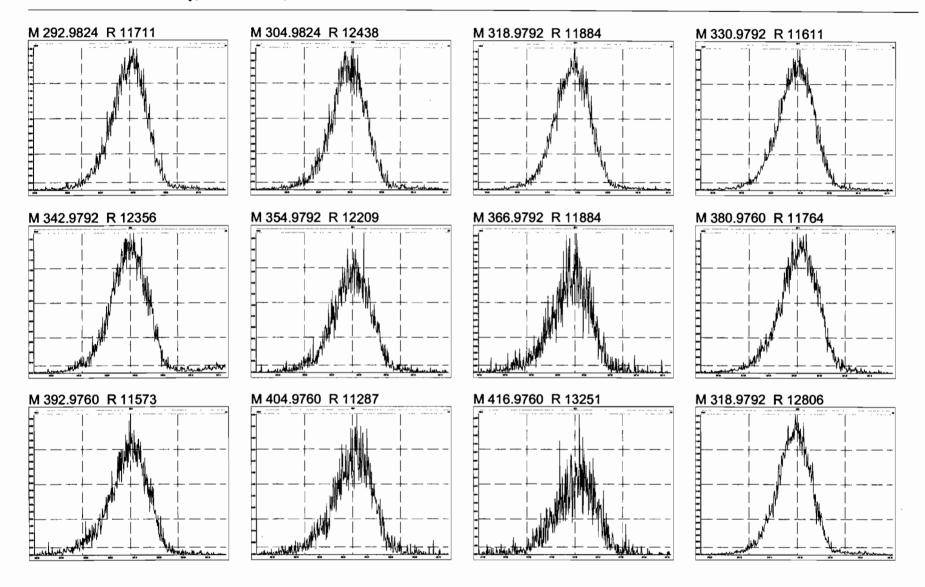
Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

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

, Name		:Acq.Date	-Acq.Time
1 191217K3_1	SOLVENT BLANK	18-Dec-19	02:06:30
2 191217K3_2	ST191217K3-1 1613 CS3 19C2204	18-Dec-19	02:54:19
3 191217K3_3	SOLVENT BLANK	18-Dec-19	03:41:48
4 191217K3_4	1903655-01 PDI-032SC-A-00-01-191010 12.22	18-Dec-19	04:30:11
ទំ់ំ់ំ់់់់់់់់់់ំ∙ំ191217K3_5	1903655-02 PDI-032SC-A-11-12-191010 11.52	18-Dec-19	05:18:35
6 ် ်္်္််္်် 191217K3_6	1903655-03 PDI-032SC-A-12-12.8-191010 14	18-Dec-19	06:08:15
7 191217K3_7	1903655-06 PDI-035SC-A-00-01-191010 15.92	18-Dec-19	06:56:35
8 191217K3_8	1903655-07 PDI-035SC-A-11-12-191010 11.88	18-Dec-19	07:44:36
9 : 191217K3_9	1903655-08 PDI-035SC-A-12-12.7-191010 13	. 18-Dec-19	08:32:07
10 : 191217K3_10	1903655-09 PDI-041SC-A-12-13-191010 11.8	18-Dec-19	09:20:29
11 ,191217K3_11	1903655-10 PDI-041SC-A-13-14.2-191010 14	. 18-Dec-19	10:08:52
12 191217K3_12	1903655-11 PDI-045SC-A-12-13-191010 13.17	18-Dec-19	10:57:15
13 113 191217K3_13	1903655-12 PDI-045SC-A-13-13.6-191010 13	. 18-Dec-19	11:45:38
14 191217K3_14	1903655-13 PDI-067SC-A-12-13-191010 14.56	18-Dec-19	12:35:17
1 5 191217K3_15	1903655-14 PDI-067SC-A-13-13.8-191010 14	. 18-Dec-19	13:23:13
16 191217K3_16	1903739-01 PDI-026SC-A-11-12-191014 15.79	18-Dec-19	14:10:41

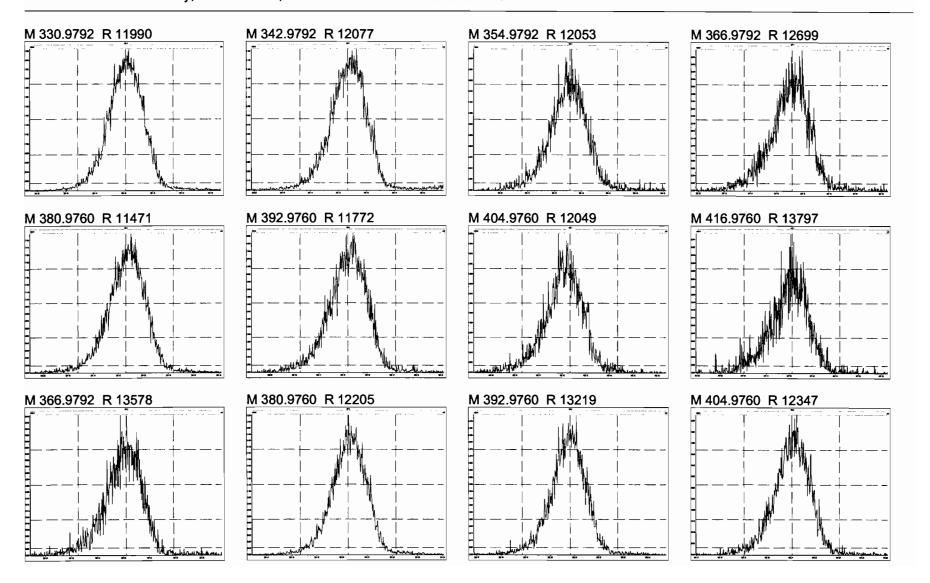
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Wednesday, December 18, 2019 02:05:14 Pacific Standard Time



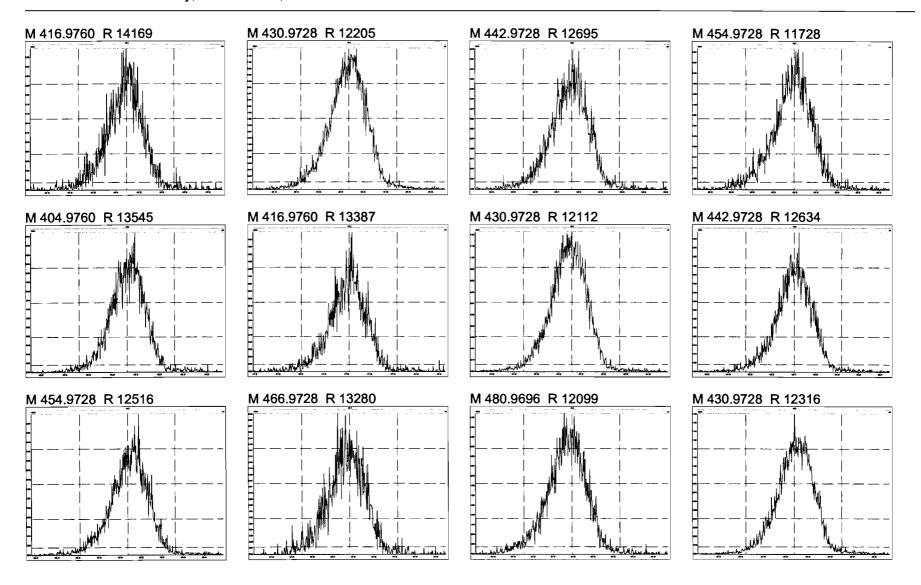
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Wednesday, December 18, 2019 02:05:14 Pacific Standard Time



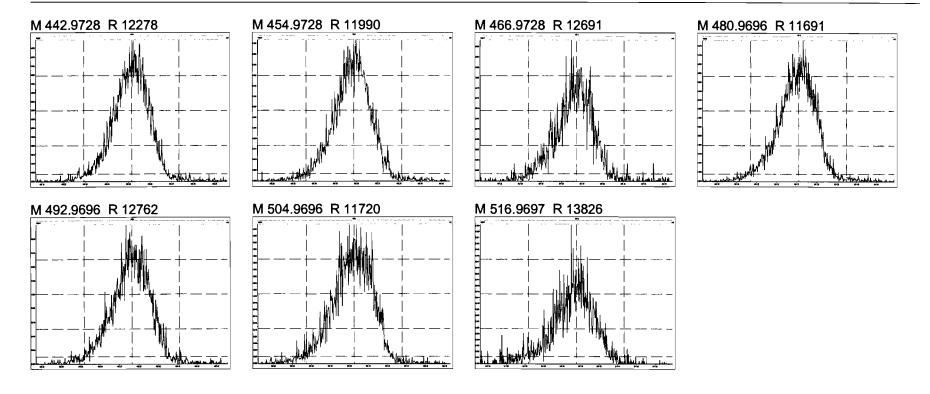
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Wednesday, December 18, 2019 02:05:14 Pacific Standard Time



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Wednesday, December 18, 2019 02:05:14 Pacific Standard Time



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MassLynx 4.1 SCN815

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Dataset: U:\VG11.PRO\Results\191217K3\191217K3-CPSM.qld

Last Altered: Wednesday, December 18, 2019 17:57:05 Pacific Standard Time Printed: Wednesday, December 18, 2019 17:57:27 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\CPSM.mdb 18 Dec 2019 17:58:17

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191217K3_2, Date: 18-Dec-2019, Time: 02:54:19, ID: ST191217K3-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204

	#-Name	RT
i tiket	1 1,3,6,8-TCDD (First)	21.84
2	2 1,2,8,9-TCDD (Last)	27.19
3 - 3 - 3	3 1,2,4,7,9-PeCDD (First)	29.08
46119843	4 1,2,3,8,9-PeCDD (Last)	31.71
ś ;	5 1,2,4,6,7,9-HxCDD (First)	33.20
6	6 1,2,3,7,8,9-HxCDD (Last)	35.05
7,:	7 1,2,3,4,6,7,9-HpCDD (First)	37.51
8	8 1,2,3,4,6,7,8-HpCDD (Last)	38.55
9 :	9 1,3,6,8-TCDF (First)	19.78
10	10 1,2,8,9-TCDF (Last)	27.34
Marie Series	11 1,3,4,6,8-PeCDF (First)	27.33
12// 12// // :	12 1,2,3,8,9-PeCDF (Last)	31.93
13 1	13 1,2,3,4,6,8-HxCDF (First)	32.65
16.4	14 1,2,3,7,8,9-HxCDF (Last)	35.38
15 . 150	15 1,2,3,4,6,7,8-HpCDF (First)	37.13
16	16 1,2,3,4,7,8,9-HpCDF (Last)	39.16

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Quantify Sample Report

MassLynx 4.1 SCN815

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Vista Analytical Laboratory VG-11

Dataset:

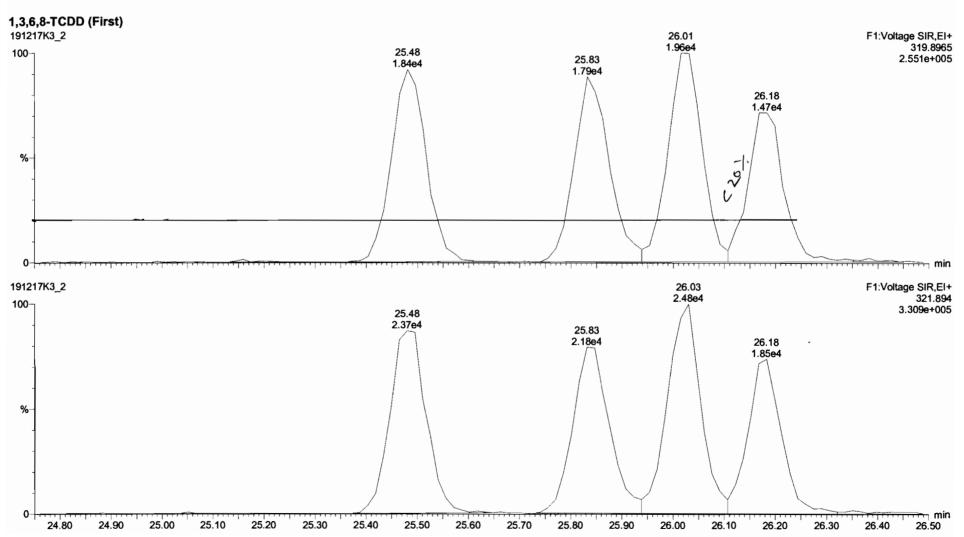
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Method: U:\VG11.PRO\MethDB\CPSM.mdb 18 Dec 2019 17:58:17

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191217K3_2, Date: 18-Dec-2019, Time: 02:54:19, ID: ST191217K3-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204



Work Order 1903739

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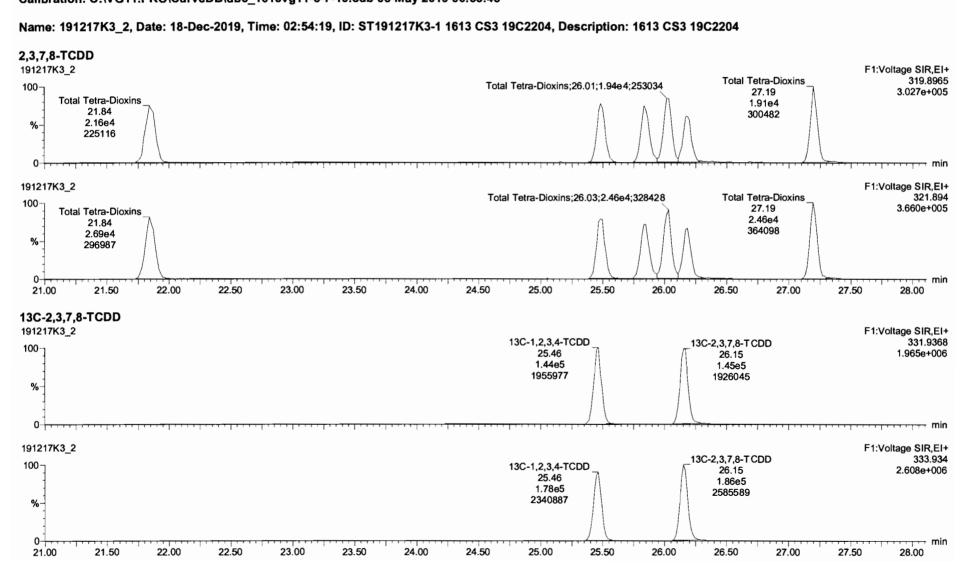
Dataset:

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Last Altered: Printed:

Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time

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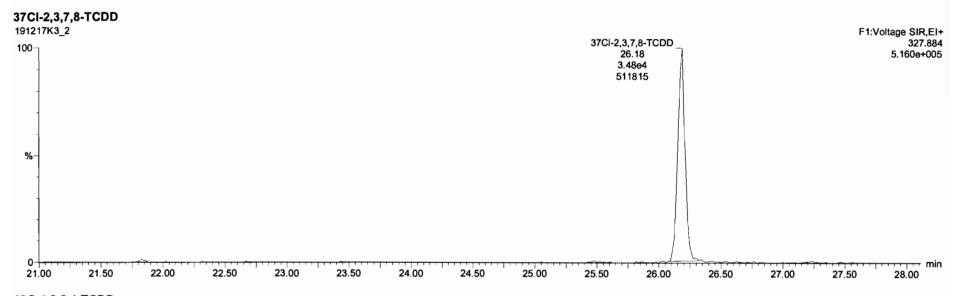
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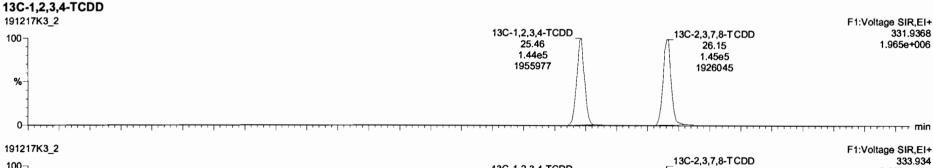
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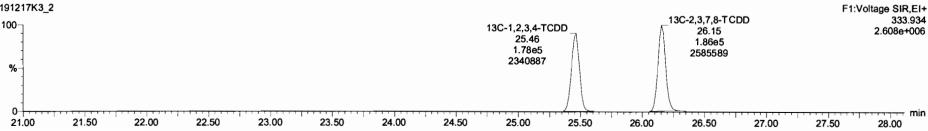
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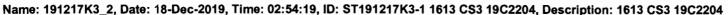
Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time

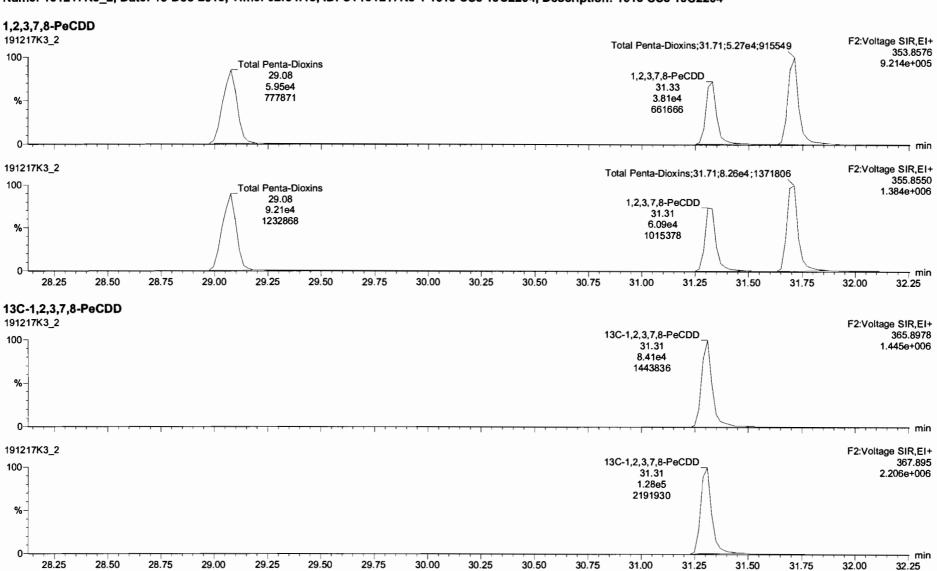


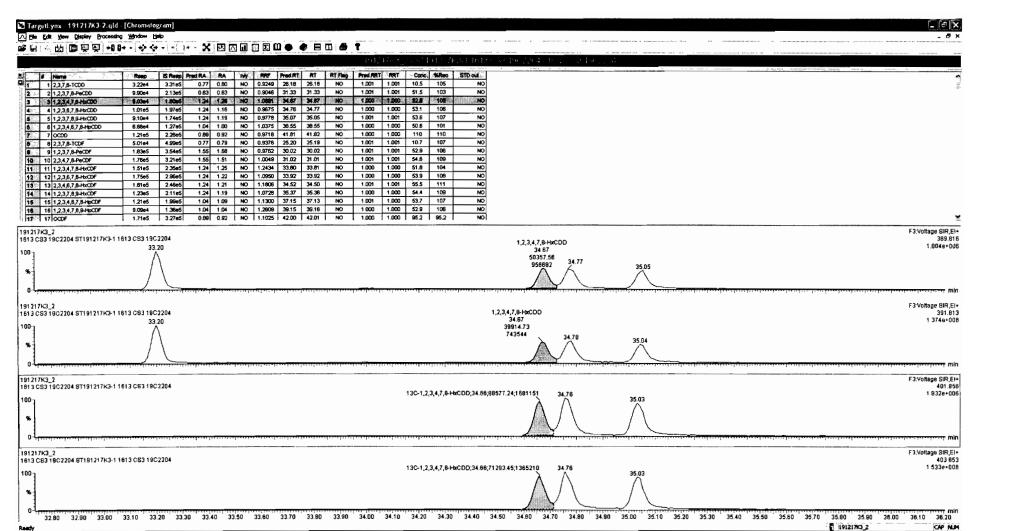




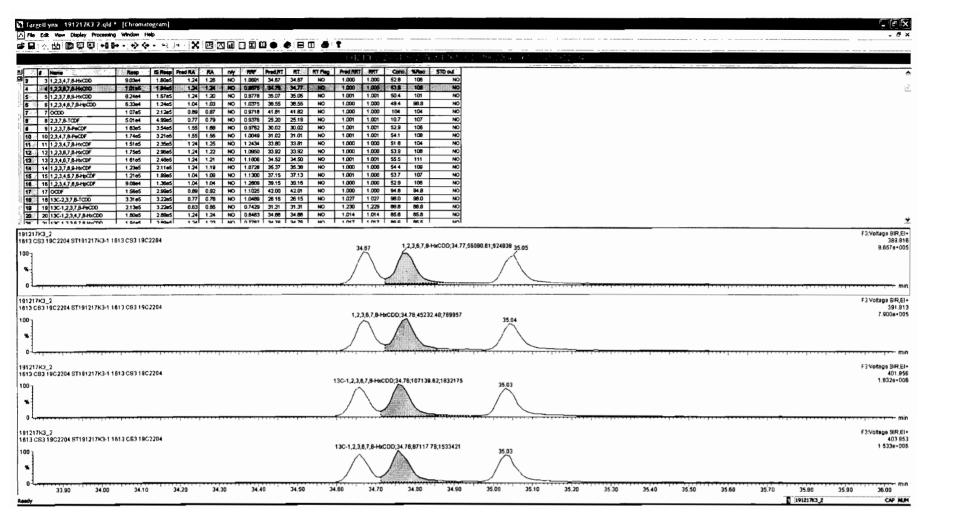




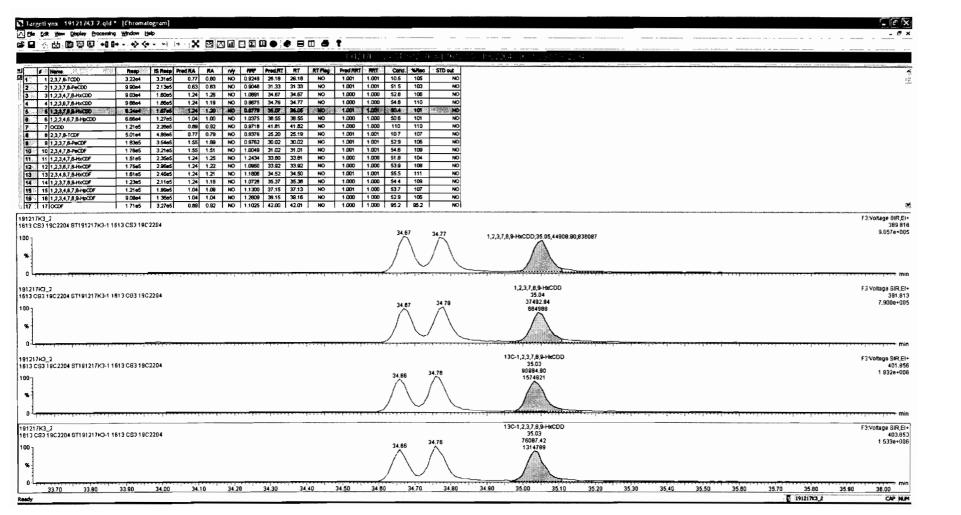




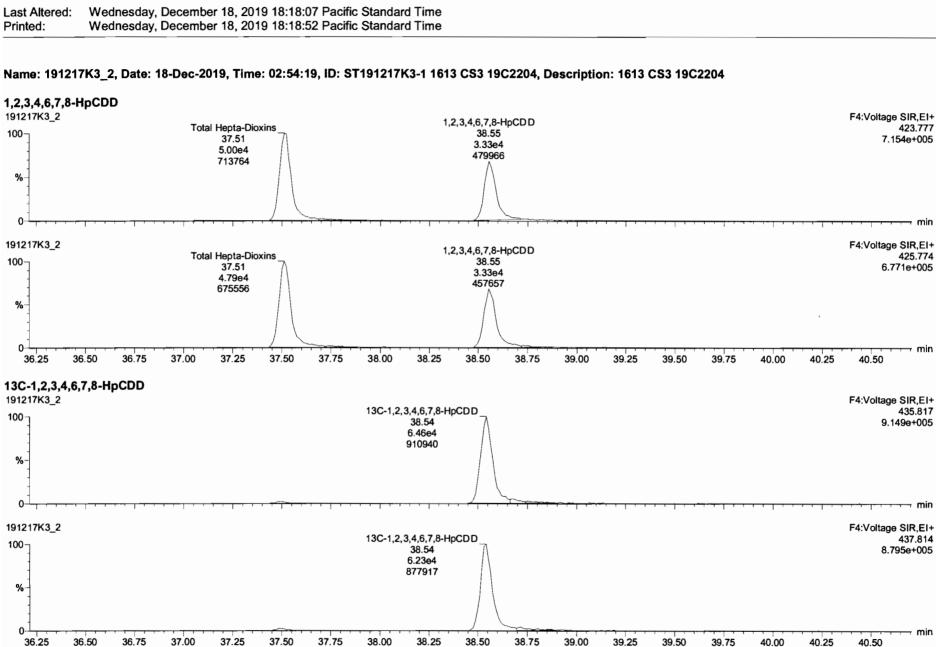
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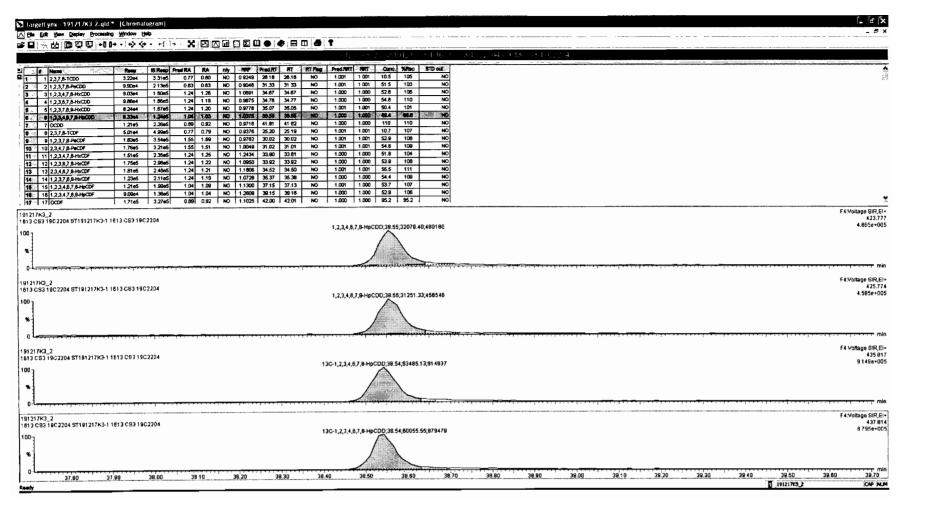
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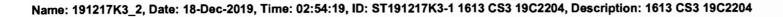


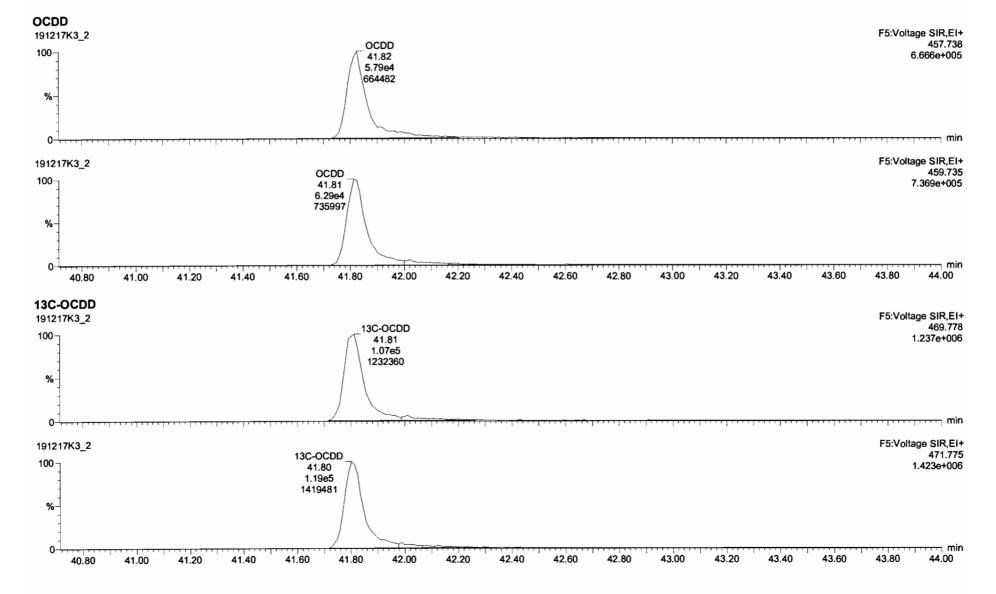
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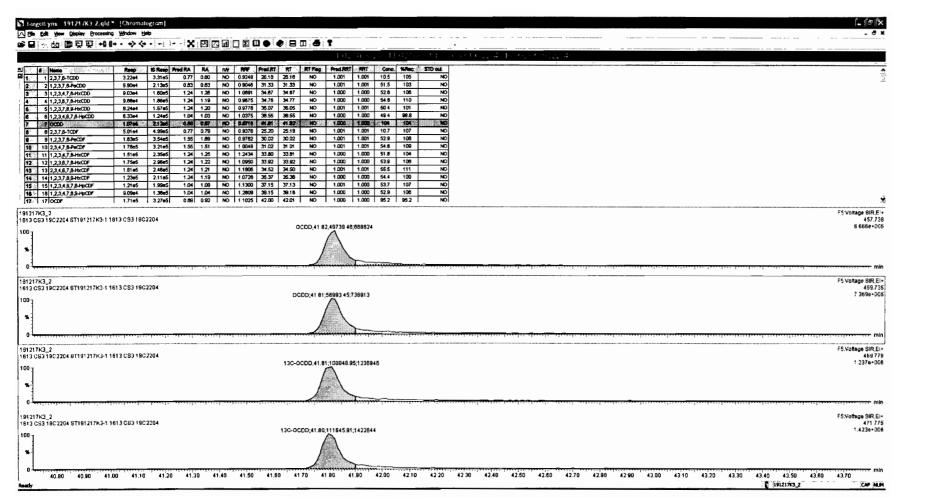
Dataset:

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Last Altered: Printed: Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time







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23.50

23.31 23.4323.89 24.17

24.00

24.65

25.00

25.50

26.00

26.50

24.50

26.15 26.35 26.79 27.12 27.19 27.76 27.93

27.50

27.00

min 🖳

28.00

22.87

23.00

22.67

22.50

21.34 21.47

21.50

21.00

22.09

22.00

20.24 20.53

20.00

20.50

19.23

19.62

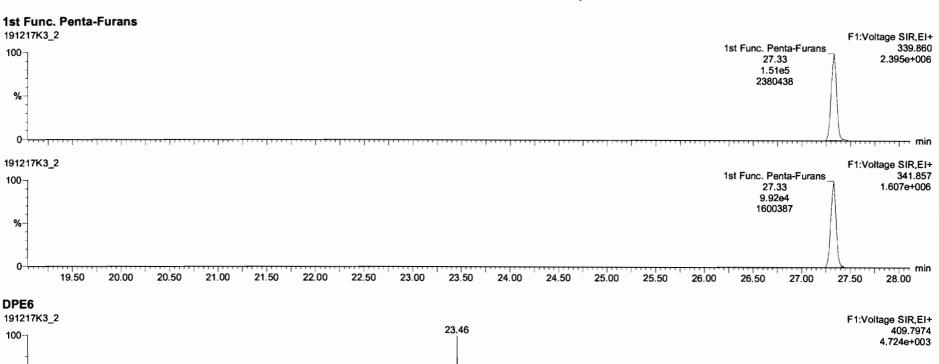
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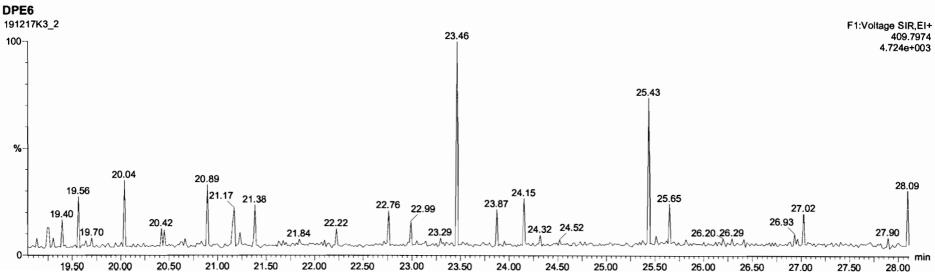
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Last Altered: Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time

Name: 191217K3_2, Date: 18-Dec-2019, Time: 02:54:19, ID: ST191217K3-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204



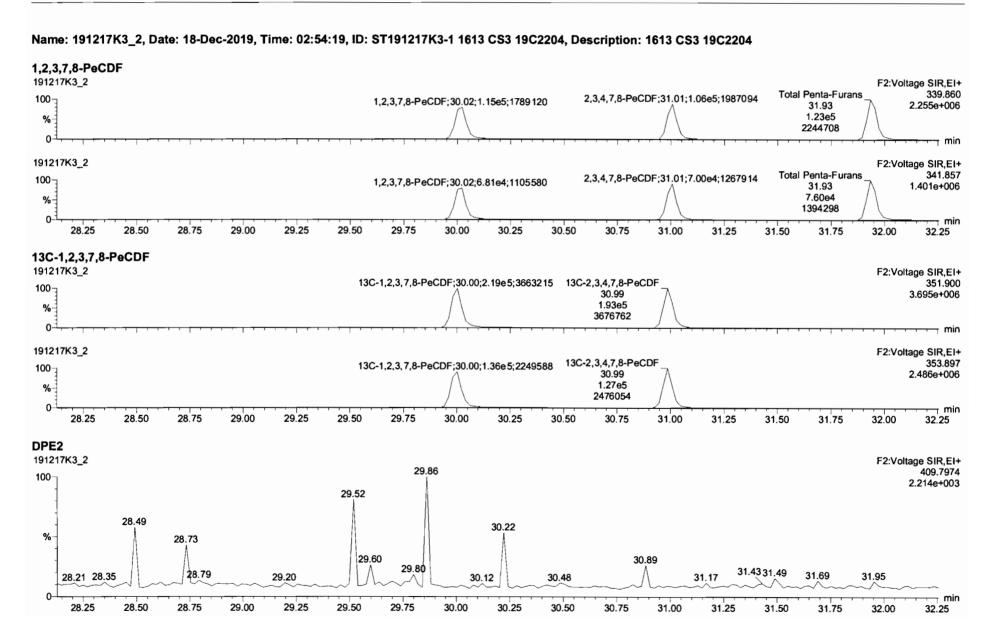


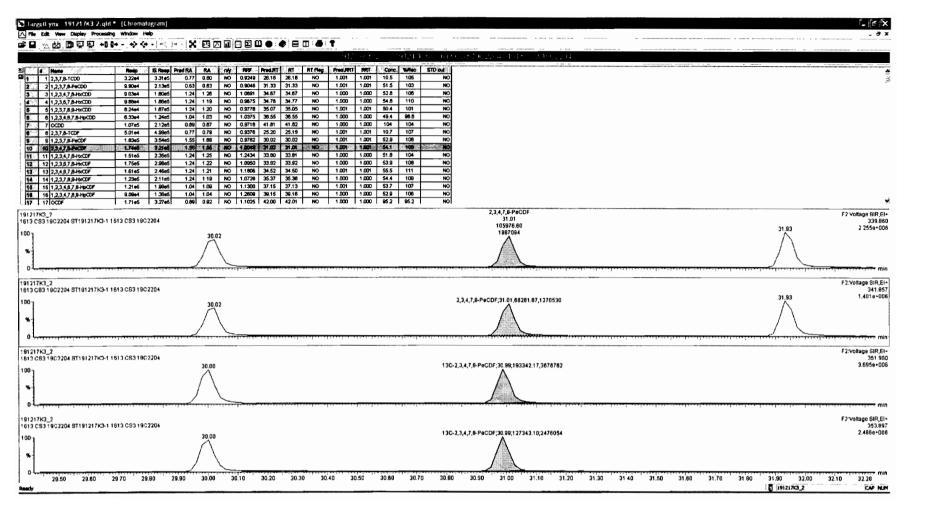
Work Order 1903739 Page 249 of 646

Dataset:

Untitled

Last Altered: Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time





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33.89 33.99

34.00

34.20

34.40

34.60

33.80

33.53 33.57 33.75

33.60

35.38

35.40

35.22 35.33 35.46

35.20

35.04 35.09

35.00

34.80

%

32.36 32.46

32.40

32.53

32.60

32.92

33.00

32.88

32.80

32.76

33.19

33.20

33.34

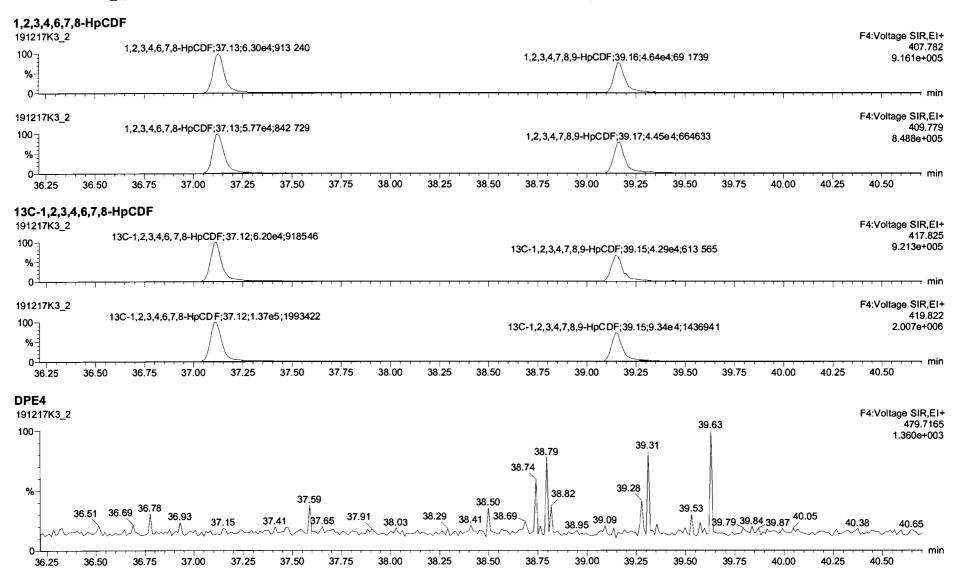
33.40

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Last Altered: Printed:

Wednesday, December 18, 2019 18:18:07 Pacific Standard Time Wednesday, December 18, 2019 18:18:52 Pacific Standard Time

Name: 191217K3_2, Date: 18-Dec-2019, Time: 02:54:19, ID: ST191217K3-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204



43.00

43.25

43.50

42.75

43.75

44.00

44.25

44.50

44.75

42.00

42.25

42.50

41.00

40.75

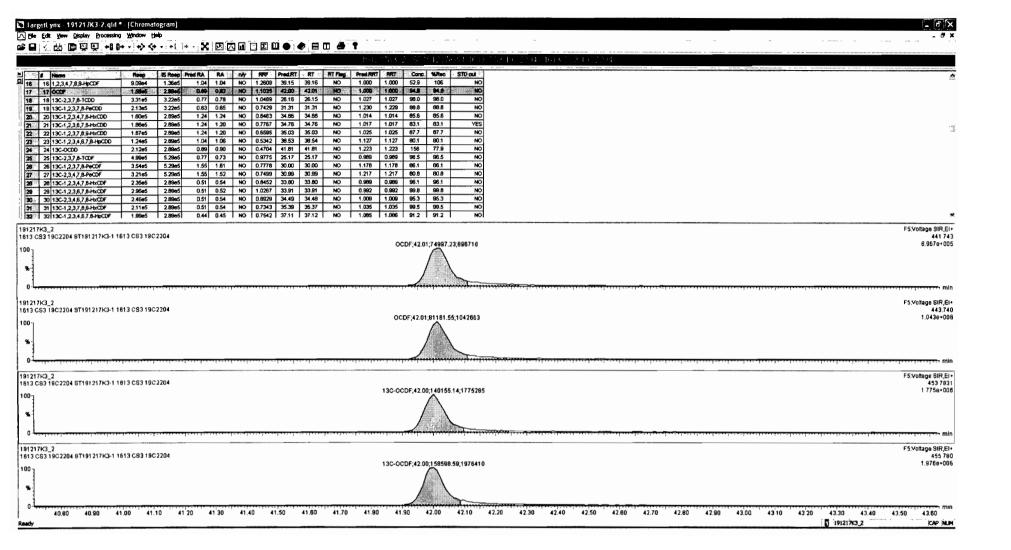
41.25

41.50

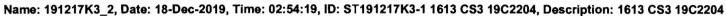
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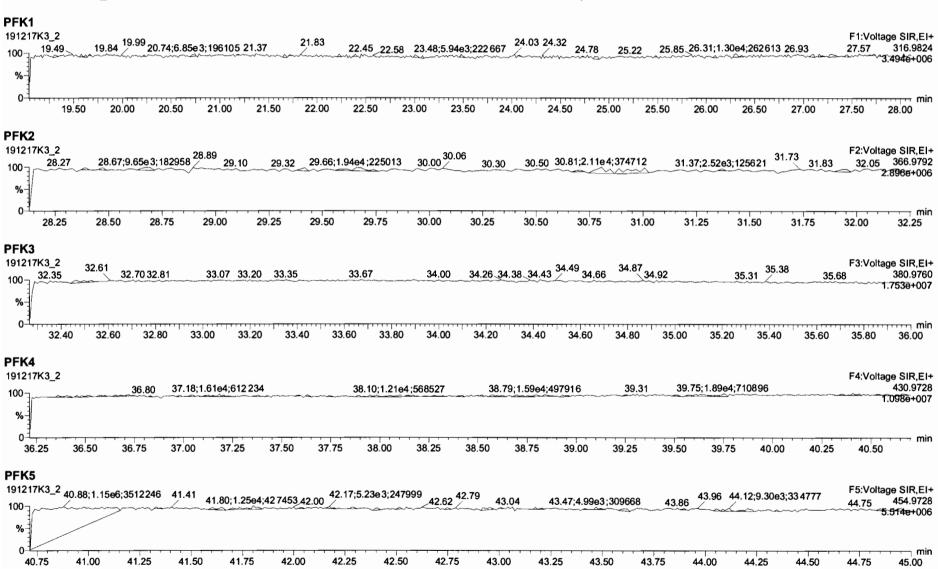
min

45.00



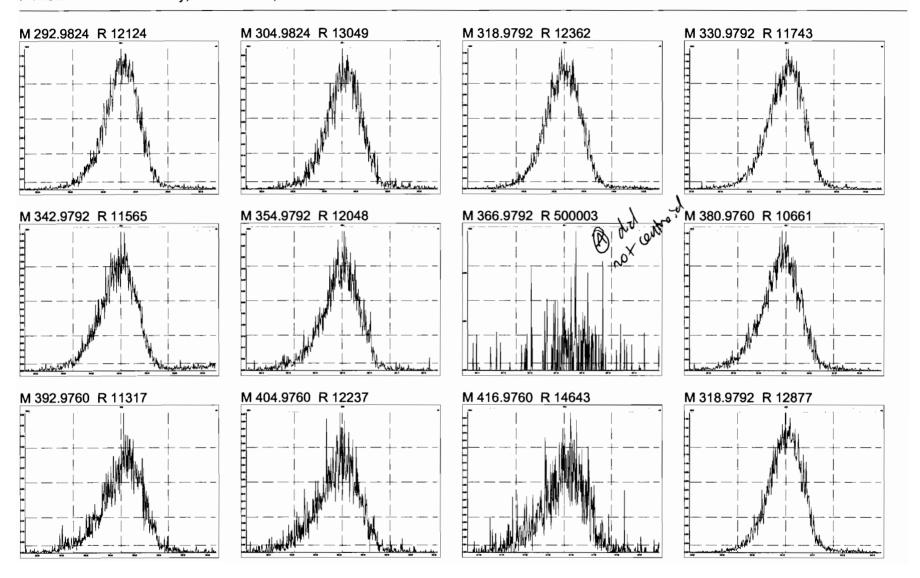
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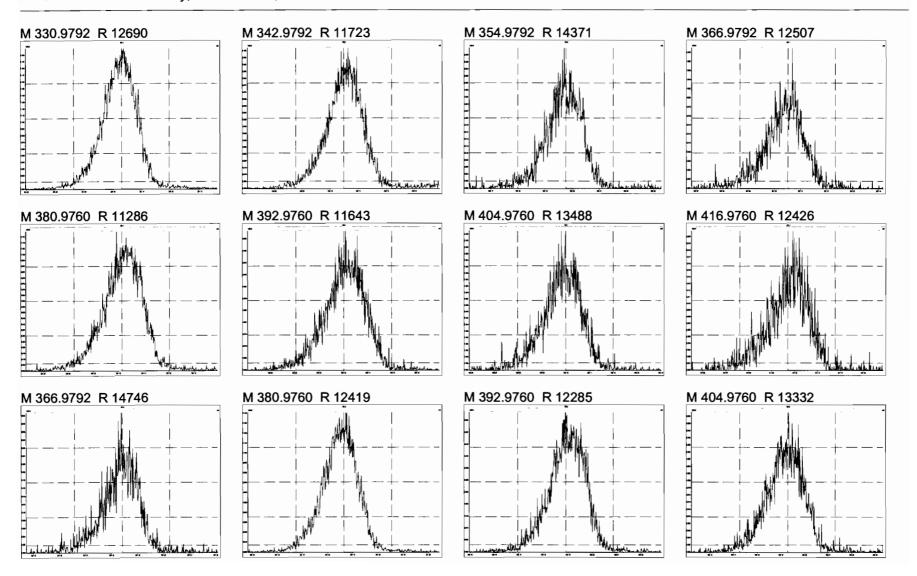
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Wednesday, December 18, 2019 15:07:50 Pacific Standard Time



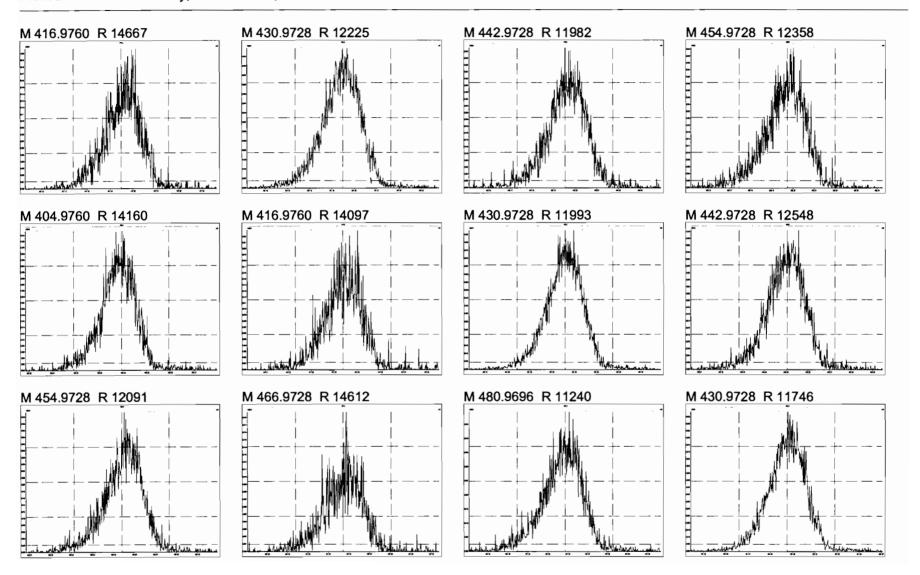
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Wednesday, December 18, 2019 15:07:50 Pacific Standard Time



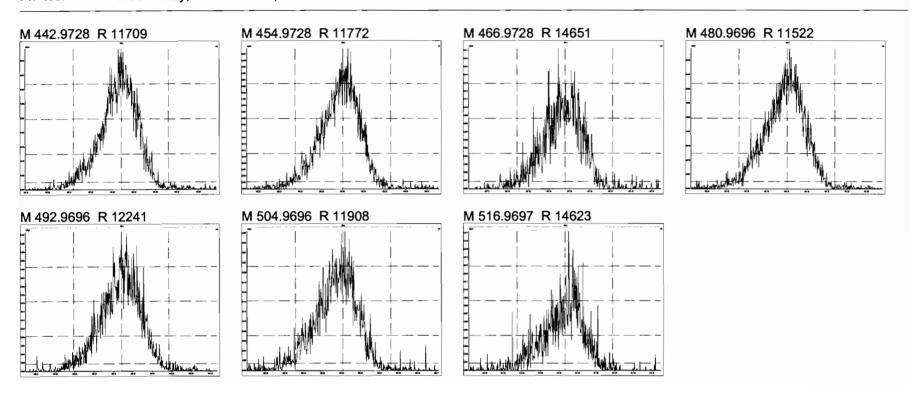
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Wednesday, December 18, 2019 15:07:50 Pacific Standard Time



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Wednesday, December 18, 2019 15:07:50 Pacific Standard Time



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HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: ST 9 2 8 4 - 1	_		Reviewed By: <u>GPB (2/19/19</u>		
End Calibration ID:			Initials & Date		
Ion abundance within QC limits?	Beg.	End N ^A	Mass resolution <u>></u>	Beg.	End
Concentrations within criteria?	Image: Control of the	中	□ 5k □ 6-8K □ 8K #210K 1614 1699 429 1613/1668/8280	/	
TCDD/TCDF Vaileys <25%		\Box	Intergrated peaks display correctly?	P	N4
First and last eluters present?	\Box		GC Break <20%		
Retention Times within criteria?			8280 CS1 End Standard:		
Verification Std. named correctly?	I		- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		M4
(ST-Year-Month-Day-VG ID)					
Forms signed and dated?	g	Ф	Comments:		
Correct ICAL referenced?	1/L	4			
Run Log:					
- Correct instrument listed?	V	NA			
- Samples within 12 hour clock?	\bigcirc	N			
- Bottle position verfied?	18	<u> </u>			

ID: LR - HCSRC Rev. No.: 0 Rev. Date: 06/06/2017 Page: 1 of 1

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Vista Analytical Laboratory

U:\VG11.PRO\Results\191218K1\191218K1-1.qld Dataset:

Thursday, December 19, 2019 09:55:43 Pacific Standard Time Last Altered: Thursday, December 19, 2019 09:56:04 Pacific Standard Time Printed:

HC 12.19.19

GPB 12/19/19

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204

	#-Name	- Resp :	IS Resp:	RA -	n/y	RRF	Pred.RT-	RT	RT Flag	Pred.RRT	RRT :	Conc	%Rec - S	STD out
May:	1 2,3,7,8-TCDD	2.44e4	2.62e5	0.76	NO	0.925	26.17	26.17	NO	1.001	1.001	10.086	101	NO
2 :	2 1,2,3,7,8-PeCDD	7.44e4	1.58e5	0.65	NO	0.905	31.31	31.31	NO	1.001	1.001	51.864	104	NO
3: 147 :	3 1,2,3,4,7,8-HxCDD	6.56e4	1.19e5	1.29	NO	1.07	34.66	34.67	NO	1.000	1.001	51.672	103	NO
4	4 1,2,3,6,7,8-HxCDD	7.30e4	1.41e5	1.27	NO	0.967	34.76	34.77	NO	1.000	1.000	53.605	107	NO
5 6	5 1,2,3,7,8,9-HxCDD	6.36e4	1.27e5	1.26	NO	0.978	35.06	35.03	NO	1.001	1.000	51.135	102	NO
6	6 1,2,3,4,6,7,8-HpCDD	4.74e4	9.10e4	1.05	NO	1.04	38.54	38.55	NO	1.000	1.001	50.210	100	NO
7	7 OCDD	8.25e4	1.61e5	0.90	NO	0.972	41.81	41.82	NO	1.000	1.000	105.33	105	NO
8	8 2,3,7,8-TCDF	3.66e4	3.62e5	0.78	NO	0.938	25.18	25.19	NO	1.001	1.001	10.785	108	NO
9 :	9 1,2,3,7,8-PeCDF	1.27e5	2.50e5	1.59	NO	0.976	30.00	30.00	NO	1.001	1.001	51.930	104	NO
10	10 2,3,4,7,8-PeCDF	1.23e5	2.31e5	1.53	NO	1.00	31.02	30.99	NO	1.001	1.000	53.073	106	NO
11	11 1,2,3,4,7,8-HxCDF	1.05e5	1.67e5	1.29	NO	1.24	33.78	33.80	NO	1.000	1.001	50.758	102	NO
	12 1,2,3,6,7,8-HxCDF	1.20e5	2.07e5	1.21	NO	1.10	33.91	33.92	NO	1.000	1.001	53.035	106	NO
13	13 2,3,4,6,7,8-HxCDF	1.14e5	1.81e5	1.28	NO	1.18	34.51	34.49	NO	1.001	1.001	53.291	107	NO
14	14 1,2,3,7,8,9-HxCDF	8.71e4	1.48e5	1.26	NO	1.07	35.36	35.37	NO	1.000	1.000	54.720	109	NO
15	15 1,2,3,4,6,7,8-HpCDF	8.53e4	1.44e5	1.02	NO	1.13	37.14	37.12	NO	1.001	1.000	52.481	105	NO
16 ;	16 1,2,3,4,7,8,9-HpCDF	6.48e4	9.69e4	1.00	NO	1.26	39.15	39.16	NO	1.000	1.000	53.041	106	NO
17	17 OCDF	1.13e5	2.17e5	0.90	NO	1.10	42.00	42.01	NO	1.000	1.000	94.527	94.5	NO
18	18 13C-2,3,7,8-TCDD	2.62e5	2.47e5	0.78	NO	1.05	26.15	26.14	NO	1.027	1.027	101.03	101	NO
19	19 13C-1,2,3,7,8-PeCDD	1.58e5	2.47e5	0.64	NO	0.743	31.29	31.29	NO	1.230	1.229	86.388	86.4	NO
20	20 13C-1,2,3,4,7,8-HxCD	DD 1.19e5	2.13e5	1.26	NO	0.646	34.64	34.65	NO	1.014	1.014	86.382	86.4	NO [
21	21 13C-1,2,3,6,7,8-HxCD	D 1.41e5	2.13e5	1.24	NO	0.777	34.73	34.76	NO	1.017	1.017	85.169	85.2	NO
22	22 13C-1,2,3,7,8,9-HxCD	DD 1.27e5	2.13e5	1.15	NO	0.659	35.01	35.02	NO	1.025	1.025	90.688	90.7	NO
23	23 13C-1,2,3,4,6,7,8-HpC	CDD 9.10e4	2.13e5	1.06	NO	0.534	38.51	38.53	NO	1.127	1.128	80.142	80.1	NO
24	24 13C-OCDD	1.61e5	2.13e5	0.88	NO	0.470	41.79	41.81	NO	1.223	1.224	161.20	80.6	NO
25	25 13C-2,3,7,8-TCDF	3.62e5	3.83e5	0.72	NO	0.977	25.16	25.16	NO	0.989	0.989	96.665	96.7	NO
26	26 13C-1,2,3,7,8-PeCDF	2.50e5	3.83e5	1.48	NO	0.778	29.98	29.98	NO	1.178	1.178	83.829	83.8	NO
	27 13C-2,3,4,7,8-PeCDF	2.31e5	3.83e5	1.55	NO	0.750	30.97	30.99	NO	1.217	1.218	80.244	80.2	NO
	28 13C-1,2,3,4,7,8-HxCD	0F 1.67e5	2.13e5	0.52	NO	0.845	33.77	33.78	NO	0.989	0.989	92.801	92.8	NO
29	29 13C-1,2,3,6,7,8-HxCD	OF 2.07e5	2.13e5	0.52	NO	1.03	33.89	33.90	NO	0.992	0.992	95.002	95.0	NO
1 2 2 2 2 2 2 2 2 2	30 13C-2,3,4,6,7,8-HxCD		2.13e5	0.50	NO	0.893	34.46	34.47	NO	1.009	1.009	95.288	95.3	NO
31	31 13C-1,2,3,7,8,9-HxCD)F 1.48e5	2.13e5	0.52	NO	0.734	35.37	35.36	NO	1.035	1.035	94.970	95.0	NO

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\191218K1\191218K1-1.qld

Last Altered: Thursday, December 19, 2019 09:55:43 Pacific Standard Time Printed: Thursday, December 19, 2019 09:56:04 Pacific Standard Time

Name: 191218K1_1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204

#-Name	Resp	; IS Resp;	RA	n/y	RRF	; Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	- %Rec -	STD out
32 13C-1,2,3,4,6,7,8-HpCDF	1.44e5	2.13e5	0.43	NO	0.754	37.08	37.10	NO	1.085	1.086	89.722	89.7	NO
33 13C-1,2,3,4,7,8,9-HpCDF	9.69e4	2.13e5	0.44	NO	0.539	39.11	39.15	NO	1.145	1.146	84.560	84.6	NO
34 13C-OCDF	2.17e5	2.13e5	0.91	NO	0.593	41.97	42.00	NO	1.229	1.229	172.22	86.1	NO
35 37Cl-2,3,7,8-TCDD	2.57e4	2.47e5			1.07	26.17	26.17	NO	1.028	1.028	9.7287	97.3	NO
36 13C-1,2,3,4-TCDD	2.47e5	2.47e5	0.77	NO	1.00	25.45	25.45	NO	1.000	1.000	100.00	100	NO
37 13C-1,2,3,4-TCDF	3.83e5	3.83e5	0.74	NO	1.00	23.55	23.54	NO	1.000	1.000	100.00	100	NO
38 13C-1,2,3,4,6,9-HxCDF	2.13e5	2.13e5	0.50	NO	1.00	34.16	34.16	NO	1.000	1.000	100.00	100	NO

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Quantify Compound Summary Report
Vista Analytical Laboratory VG-11

MassLynx 4.1 SCN815

Page 1 of 1

Dataset:

Untitled

Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:48:47 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\1613_rrt-12-17-19.mdb 17 Dec 2019 14:52:57 Calibration: U:\VG11.PRO\CurveDB\db5 1613vg11-5-7-19.cdb 08 May 2019 06:55:45

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

Name		;Acq.Date	-Acq.Time
ៀំំំំ់់ំំំំំំំំំំំំំំំំំំំំំំំំំំំំំំំ	ST191218K1-1 1613 CS3 19C2204	18-Dec-19	17:33:49
2 191218K1_2	SOLVENT BLANK	18-Dec-19	18:22:04
3 . ் ு ஈ ു. 191218K1_3	1903739-02 PDI-026SC-A-12-12.6-191014 13	18-Dec-19	19:10:06
4 ் ் ் இட்ட் 191218K1_4	1903739-03 PDI-077SC-A-14-15-191014 13.1	3 18-Dec-19	19:57:23
ទ ៎់ ំ្លែ្ំ់ 191218K1_5	1903739-04 PDI-077SC-A-15-16-191014 12.5	1 18-Dec-19	20:45:44
6 191218K1_6	1903739-05 PDI-079SC-A-11-12-191014 13.3	7 18-Dec-19	21:34:05
7 191218K1_7	1903739-06 PDI-079SC-A-12-13.3-191014 13	18-Dec-19	22:23:46
8 191218K1_8	1903741-01 PDI-049SC-A-14-15-191015 14.2	5 18-Dec-19	23:11:52
191218K1_9	1903741-02 PDI-049SC-A-15-15.5-191015 13	18-Dec-19	23:59:08
10 191218K1_10	1903741-03 PDI-052SC-A-11-12-191015 14.9	6 19-Dec-19	00:47:28
11 191218K1_11	1903741-04 PDI-052SC-A-12-13.4-191015 13	19-Dec-19	01:37:11
12 191218K1_12	1903741-05 PDI-055SC-A-11-12-191015 14.3	2 19-Dec-19	02:25:04
13 191218K1_13	1903741-06 PDI-055SC-A-12-13.1-191015 13	19-Dec-19	03:12:27

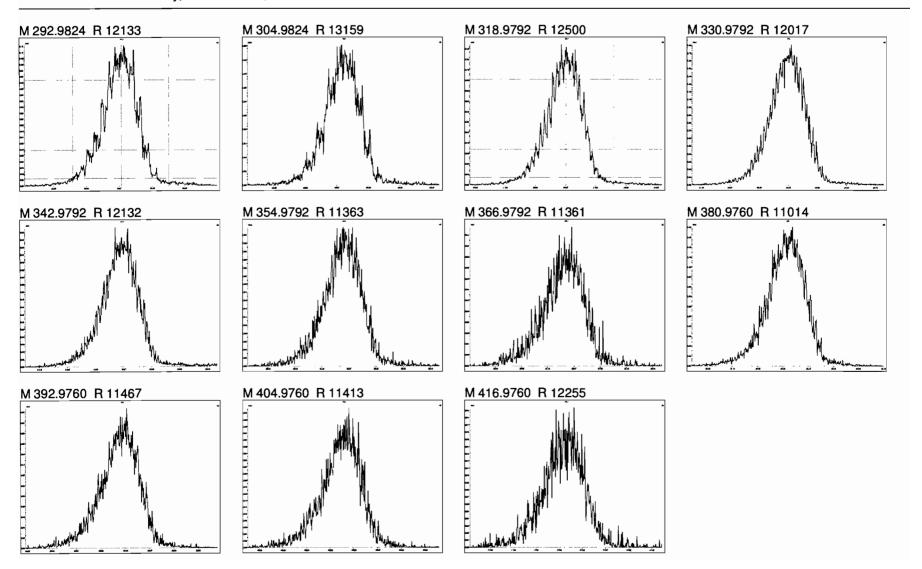
Work Order 1903739 Page 264 of 646

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Experiment: ocdd_db5.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed:

Wednesday, December 18, 2019 17:27:06 Pacific Standard Time



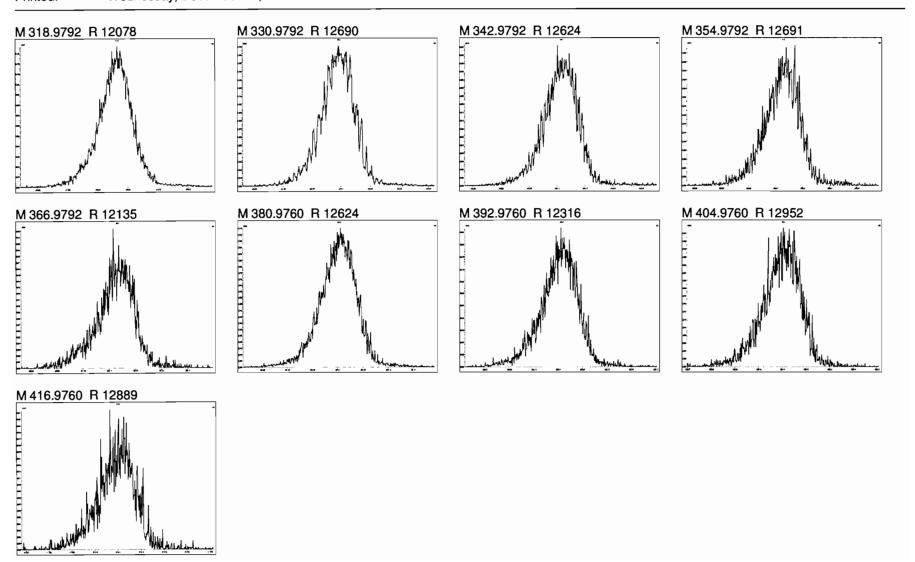
Work Order 1903739 Page 265 of 646

File:

Experiment: ocdd_db5.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

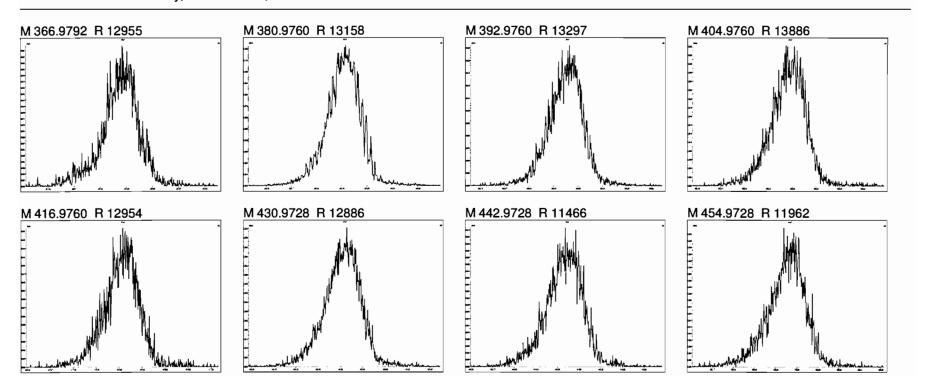
Wednesday, December 18, 2019 17:27:50 Pacific Standard Time



Work Order 1903739 Page 266 of 646

File: Experiment: ocdd_db5.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, December 18, 2019 17:28:41 Pacific Standard Time



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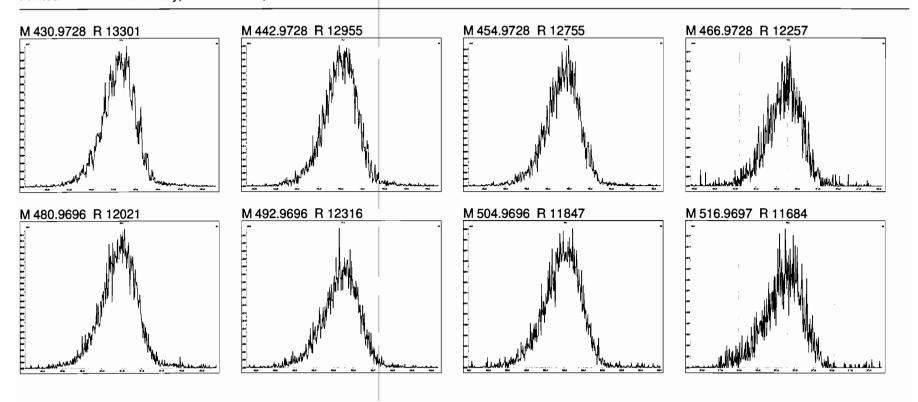
Work Order 1903739 Page 268 of 646

File:

Experiment: ocdd db5.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed:

Wednesday, December 18, 2019 17:30:07 Pacific Standard Time



Work Order 1903739 Page 269 of 646 **Quantify Sample Summary Report** Vista Analytical Laboratory VG-11 MassLynx 4.1 SCN815

Page 1 of 1

Dataset:

U:\VG11.PRO\Results\191218K1\191218K1-CPSM.qld

Last Altered:

Thursday, December 19, 2019 09:50:13 Pacific Standard Time

Printed:

Thursday, December 19, 2019 09:50:41 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\CPSM.mdb 18 Dec 2019 17:58:17

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204

	#-Name	P RE
in the You	1 1,3,6,8-TCDD (First)	21.83
3 77 (2 1,2,8,9-TCDD (Last)	27.19
34776 -:	3 1,2,4,7,9-PeCDD (First)	29.06
40000	4 1,2,3,8,9-PeCDD (Last)	31.69
5	5 1,2,4,6,7,9-HxCDD (First)	33.19
6*	6 1,2,3,7,8,9-HxCDD (Last)	35.03
7	7 1,2,3,4,6,7,9-HpCDD (First)	37.51
8 : :	8 1,2,3,4,6,7,8-HpCDD (Last)	38.55
9 1	9 1,3,6,8-TCDF (First)	19.76
10	10 1,2,8,9-TCDF (Last)	27.33
	11 1,3,4,6,8-PeCDF (First)	27.31
12	12 1,2,3,8,9-PeCDF (Last)	31.93
13	13 1,2,3,4,6,8-HxCDF (First)	32.64
14	14 1,2,3,7,8,9-HxCDF (Last)	35.37
15	15 1,2,3,4,6,7,8-HpCDF (First)	37.12
16	16 1,2,3,4,7,8,9-HpCDF (Last)	39.16

Quantify Sample Report

MassLynx 4.1 SCN815

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Vista Analytical Laboratory VG-11

Dataset:

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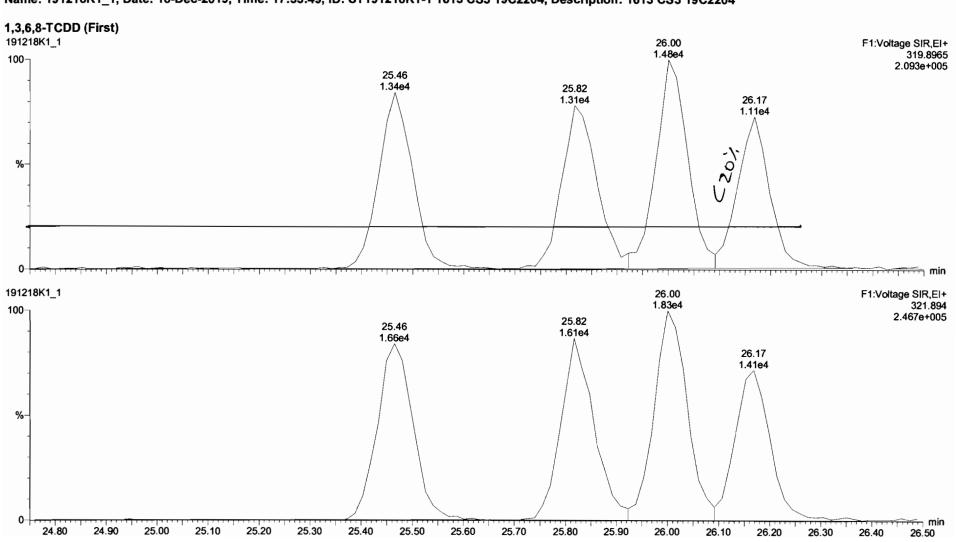
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Thursday, December 19, 2019 09:50:41 Pacific Standard Time

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Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 06:55:45

Name: 191218K1_1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204

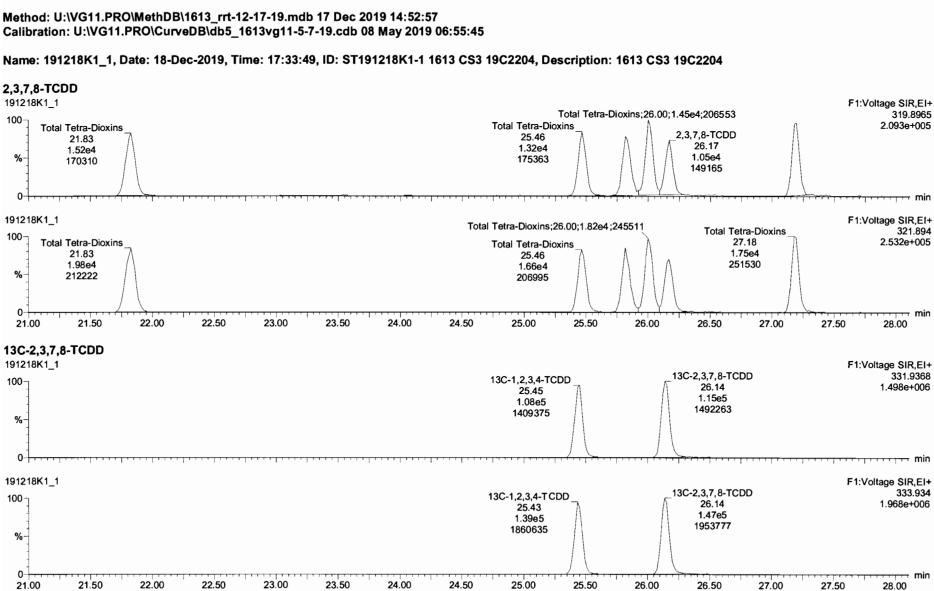


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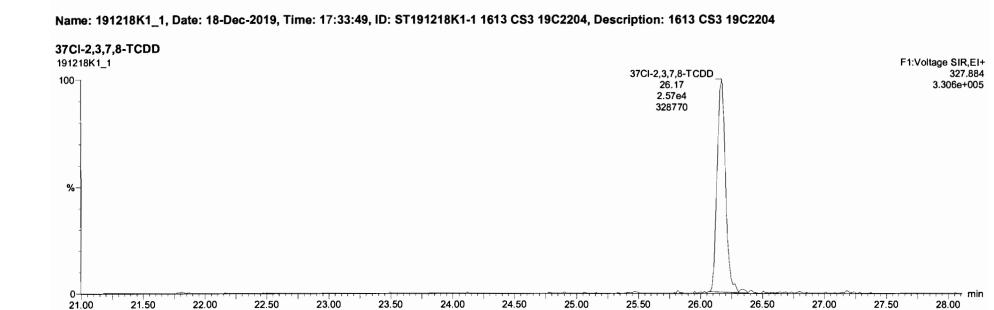
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Thursday, December 19, 2019 07:42:21 Pacific Standard Time Last Altered: Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\1613 rrt-12-17-19.mdb 17 Dec 2019 14:52:57



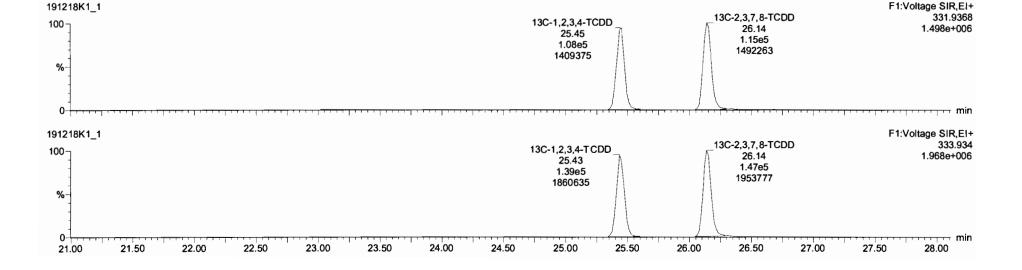
Work Order 1903739 Page 272 of 646



Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Printed:

13C-1,2,3,4-TCDD

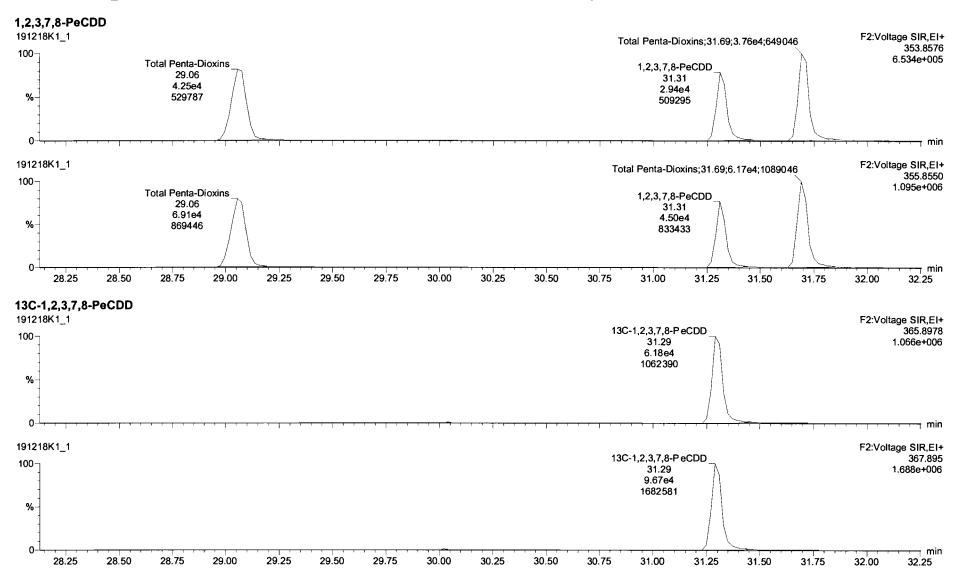


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Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time

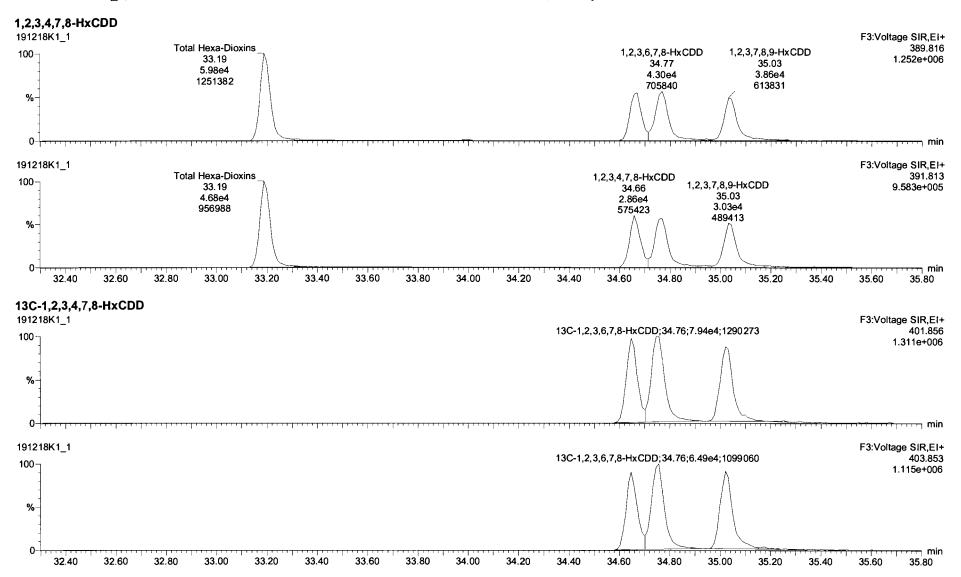
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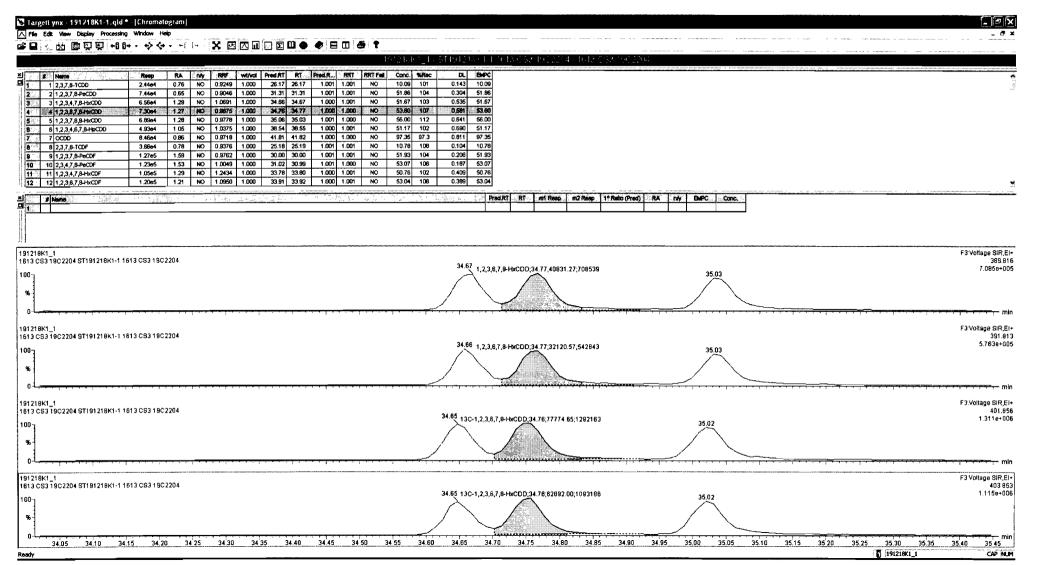


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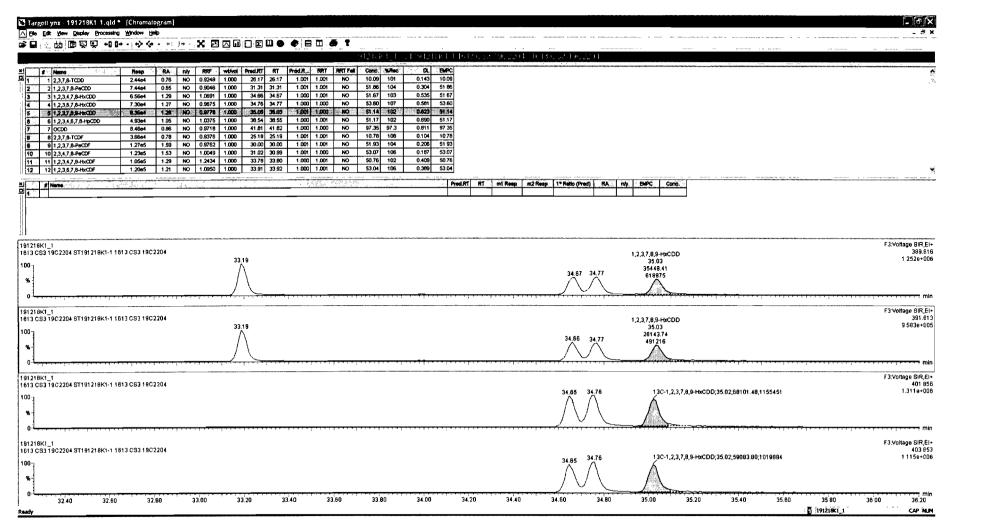
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Name: 191218K1 1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204



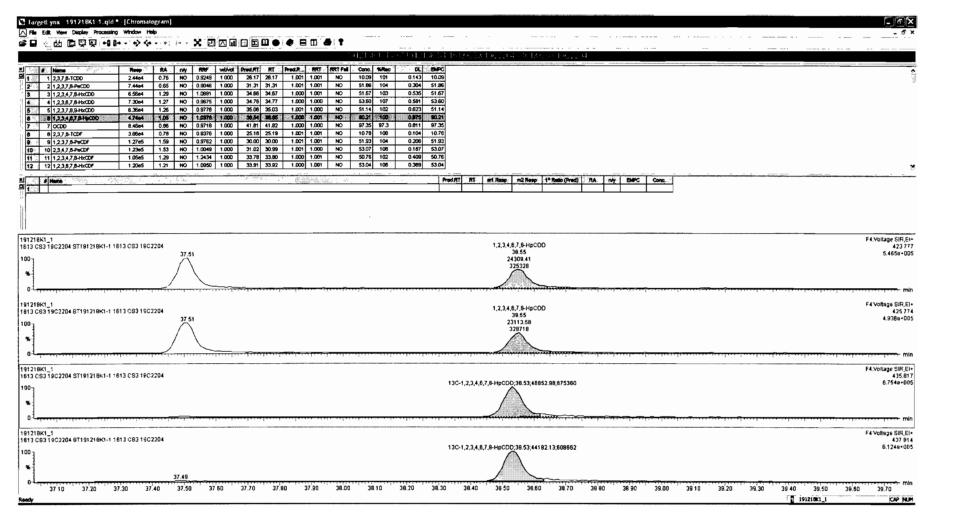


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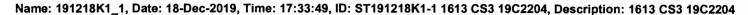


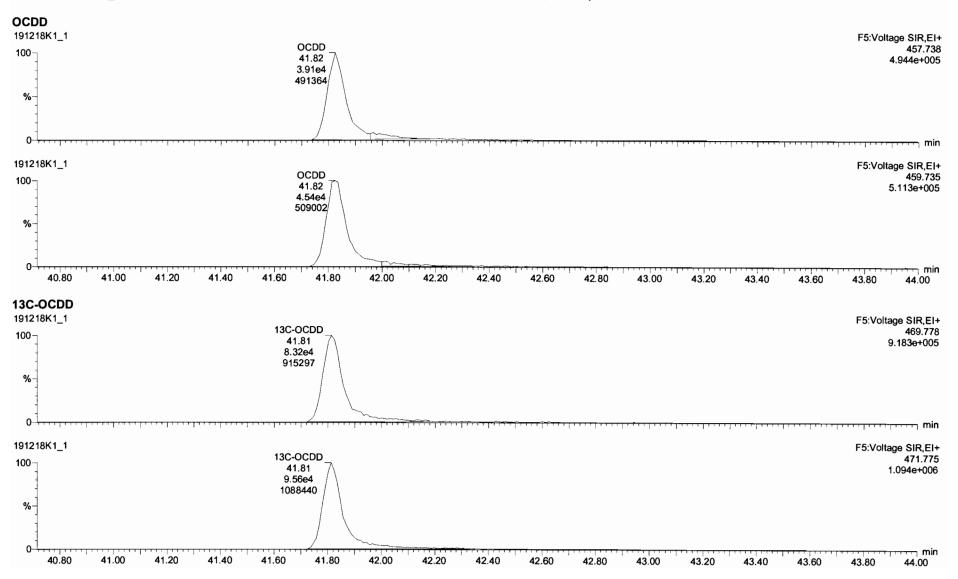
Work Order 1903739 Page 277 of 646

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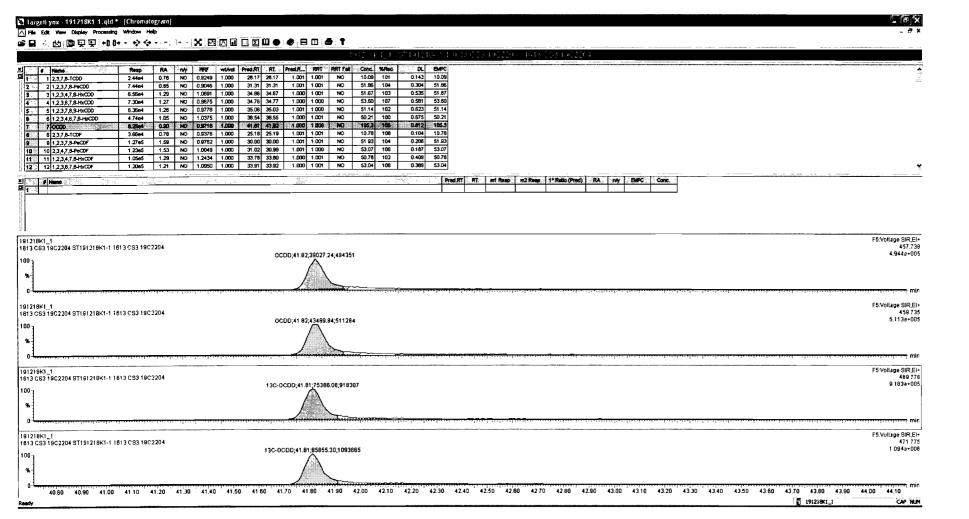


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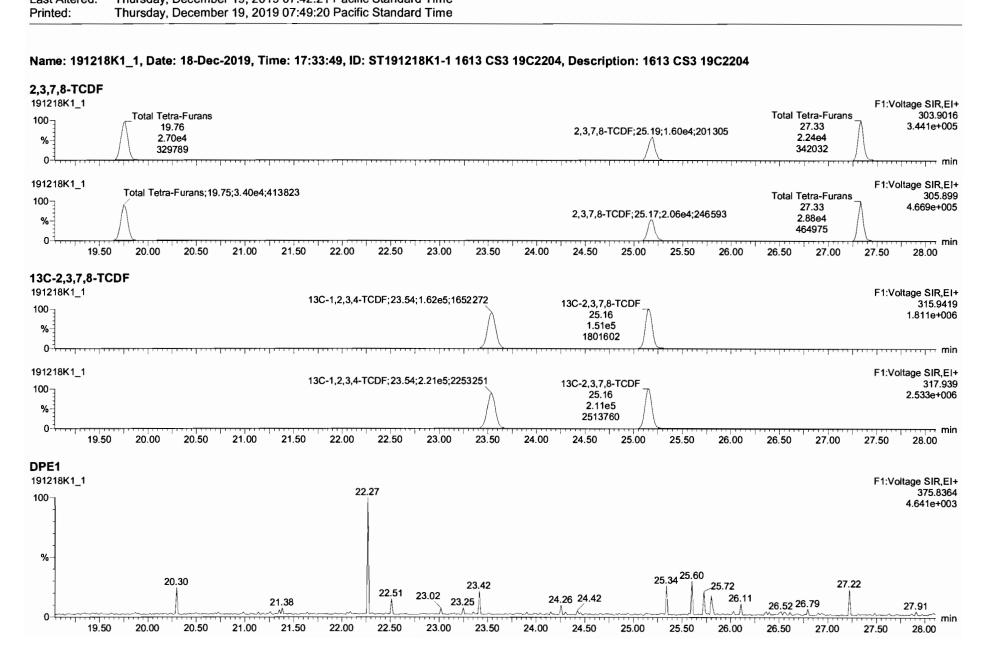




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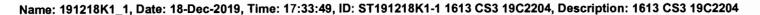
Work Order 1903739 Page 281 of 646

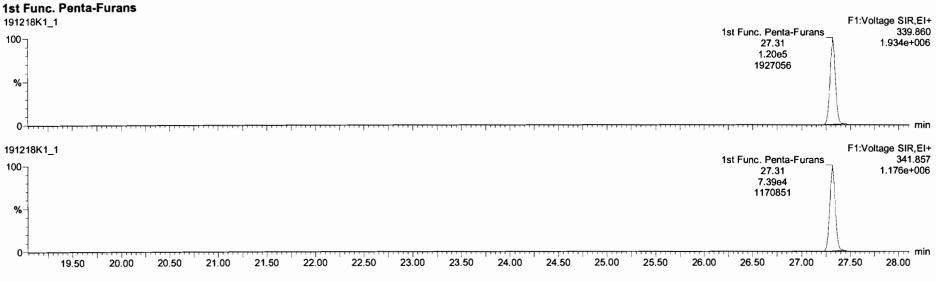


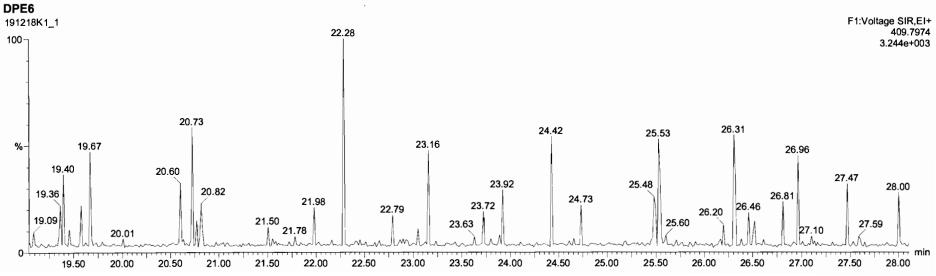
Work Order 1903739 Page 282 of 646

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Last Altered: Printed: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time



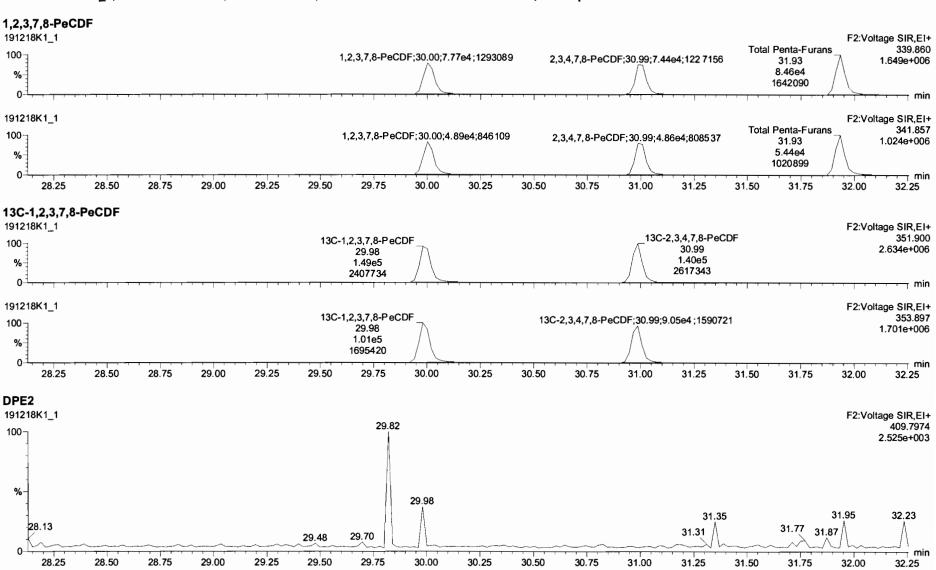




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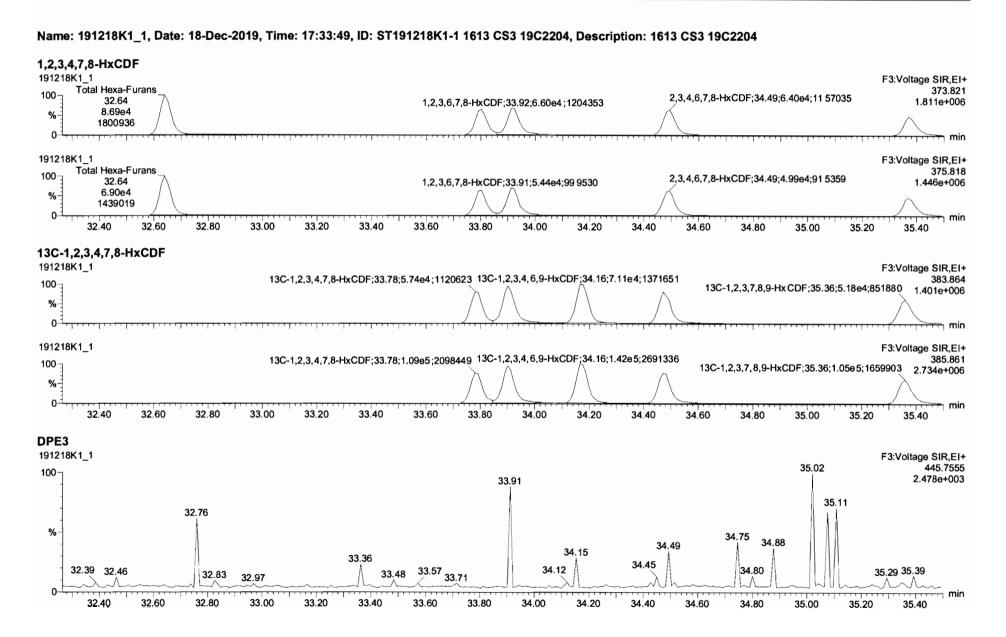
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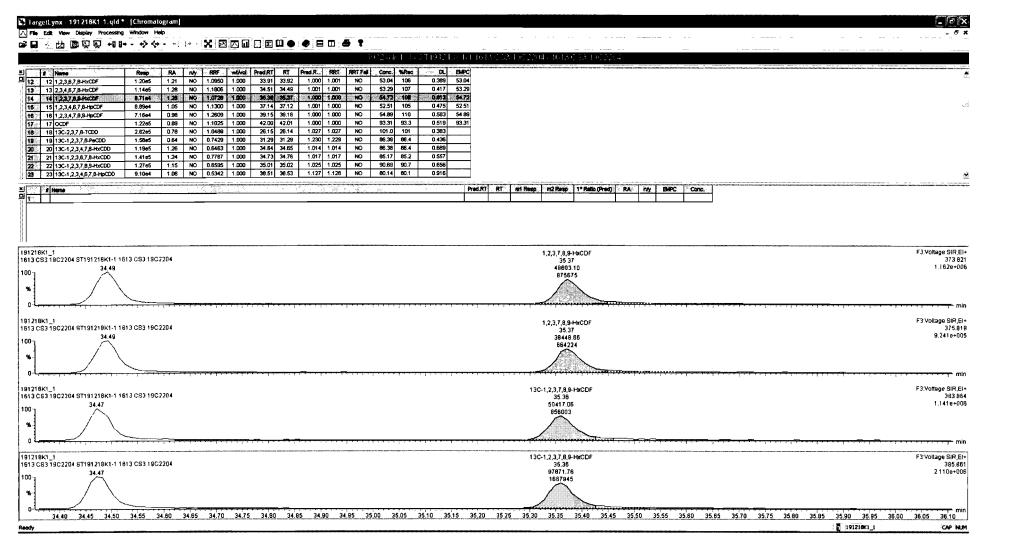
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Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time



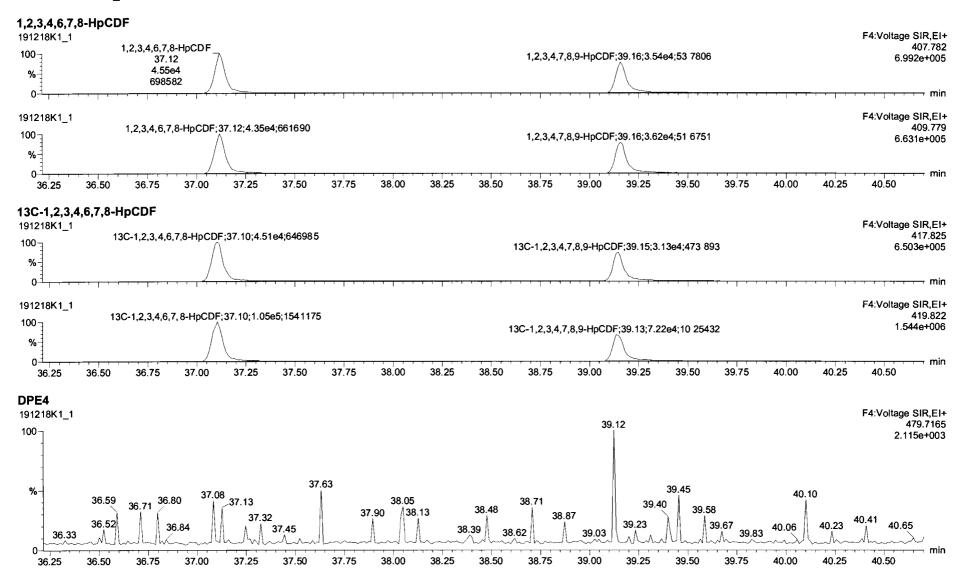


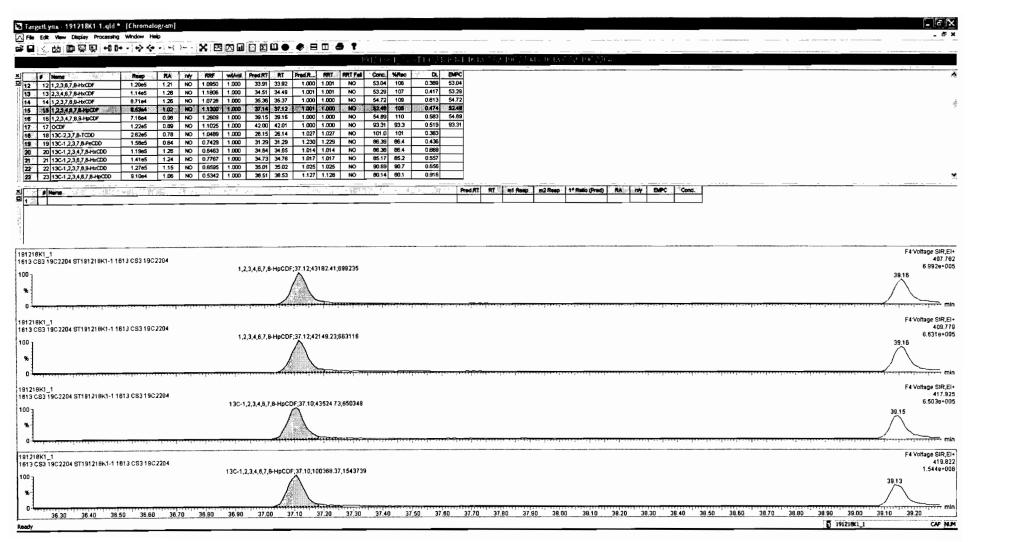
Work Order 1903739 Page 286 of 646

Dataset: Untitled

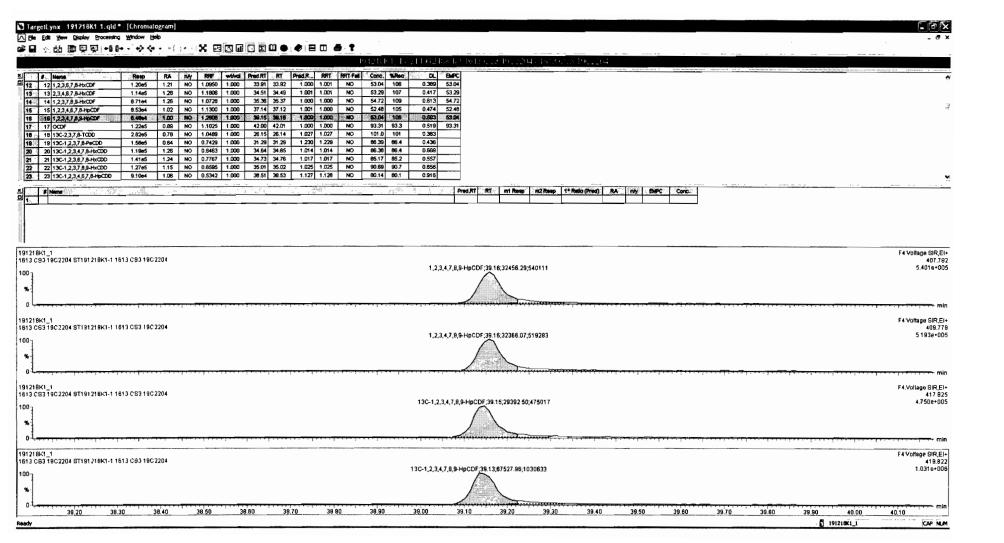
Last Altered: Thursday, December 19, 2019 07:42:21 Pacific Standard Time Printed: Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204





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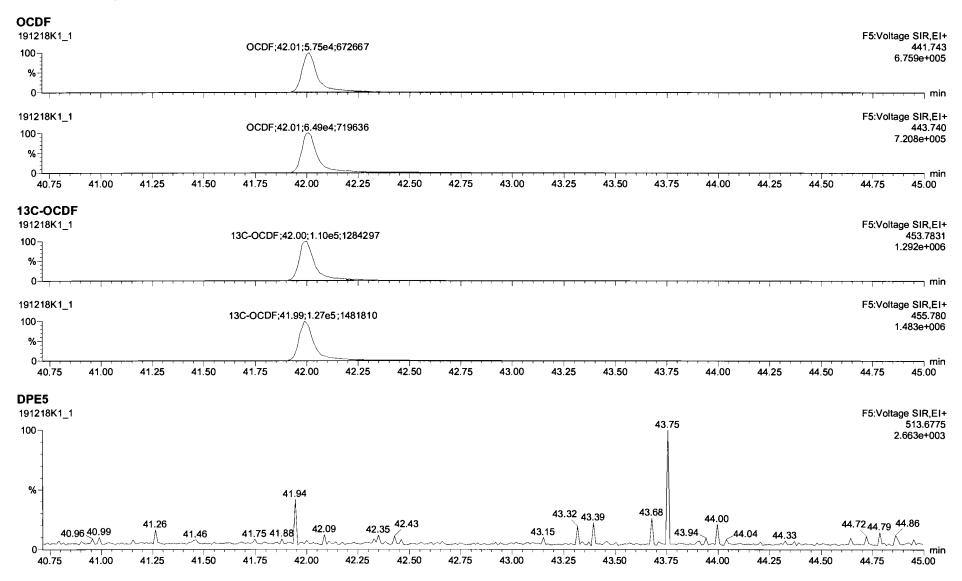
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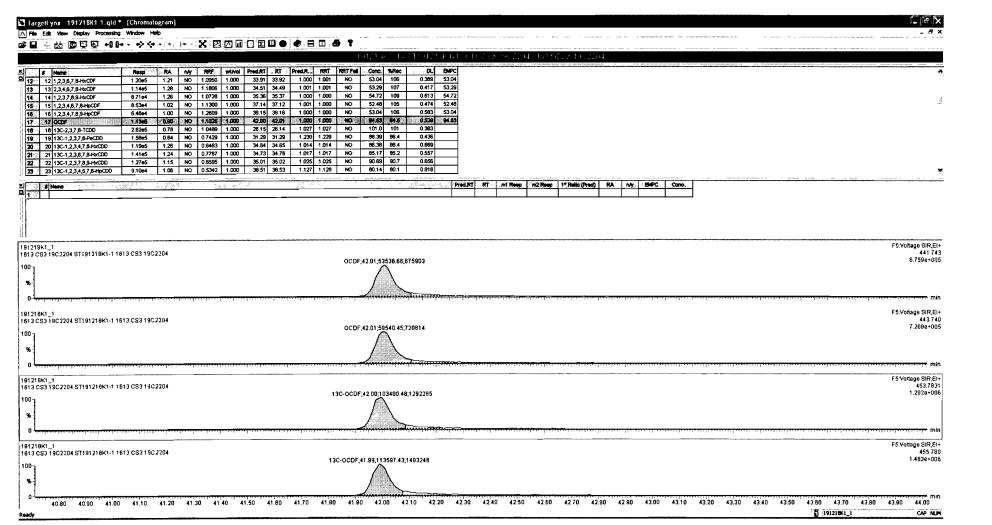
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Last Altered: Printed:

Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1_1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204





Work Order 1903739 Page 291 of 646

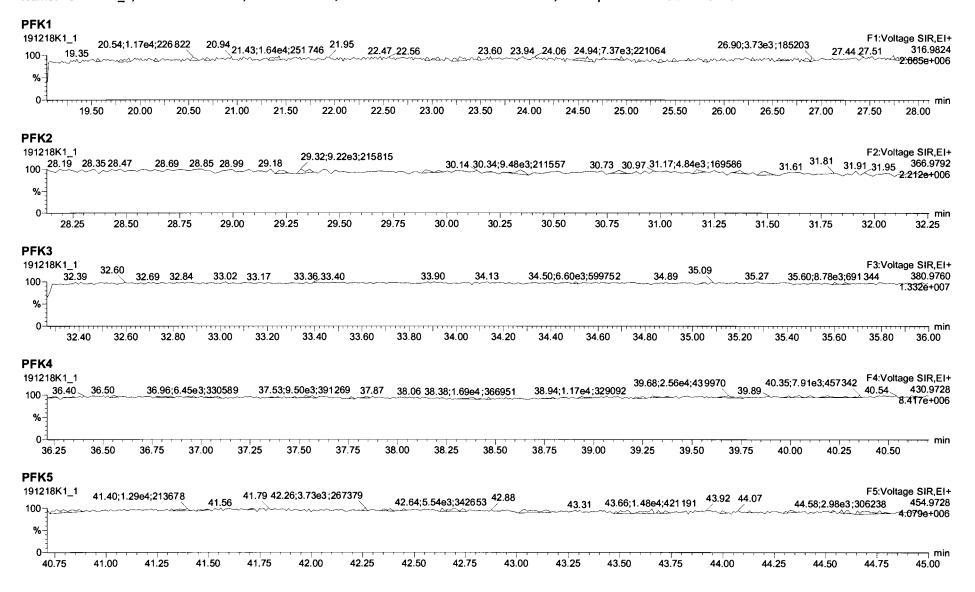
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Last Altered: Printed:

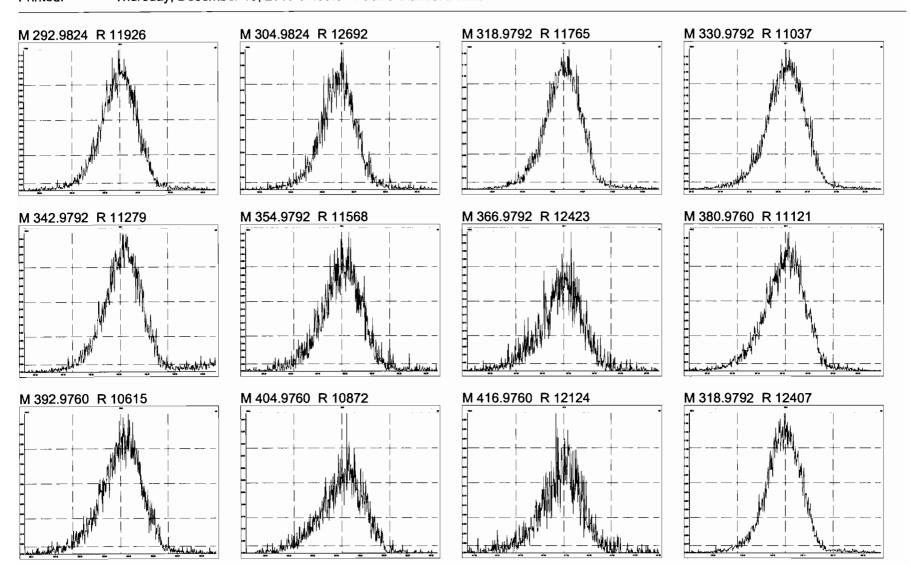
Thursday, December 19, 2019 07:42:21 Pacific Standard Time Thursday, December 19, 2019 07:49:20 Pacific Standard Time

Name: 191218K1 1, Date: 18-Dec-2019, Time: 17:33:49, ID: ST191218K1-1 1613 CS3 19C2204, Description: 1613 CS3 19C2204



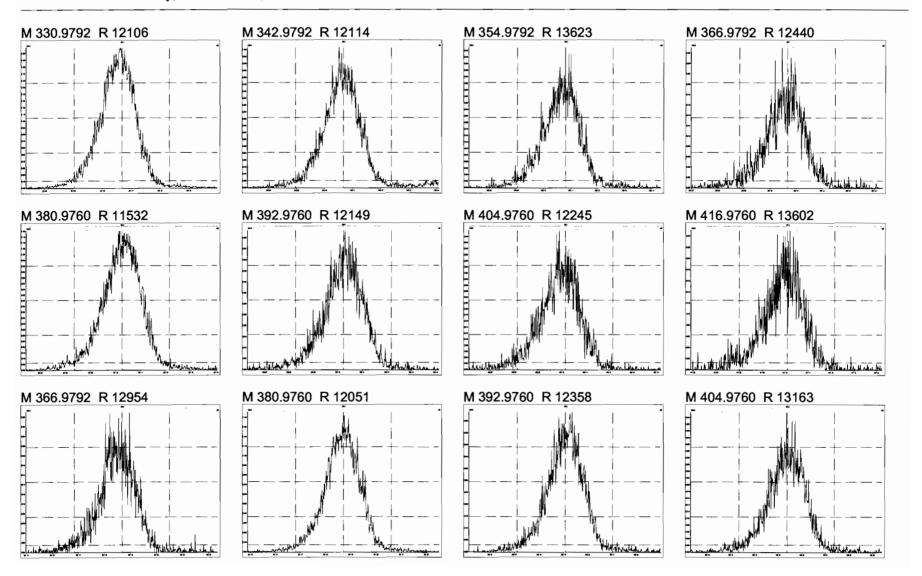
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Thursday, December 19, 2019 04:09:34 Pacific Standard Time



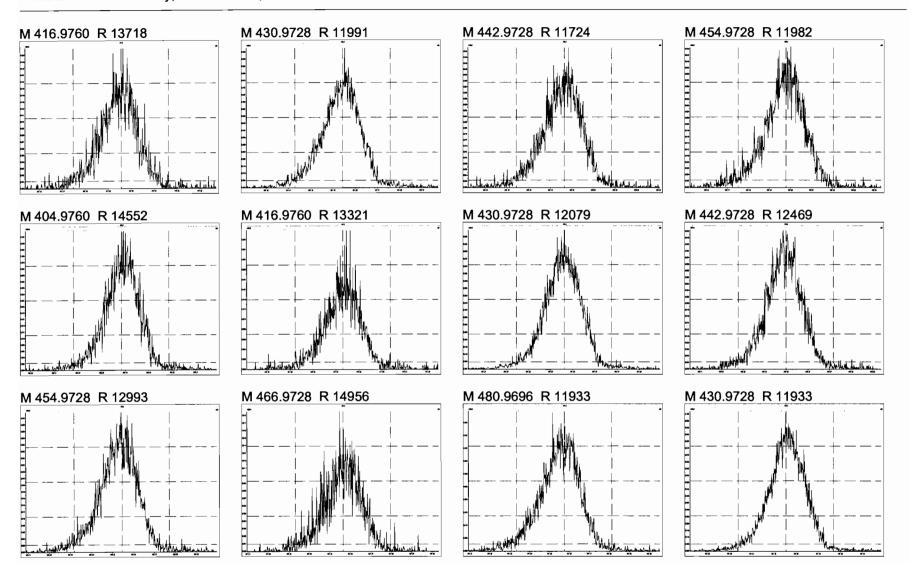
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Thursday, December 19, 2019 04:09:34 Pacific Standard Time



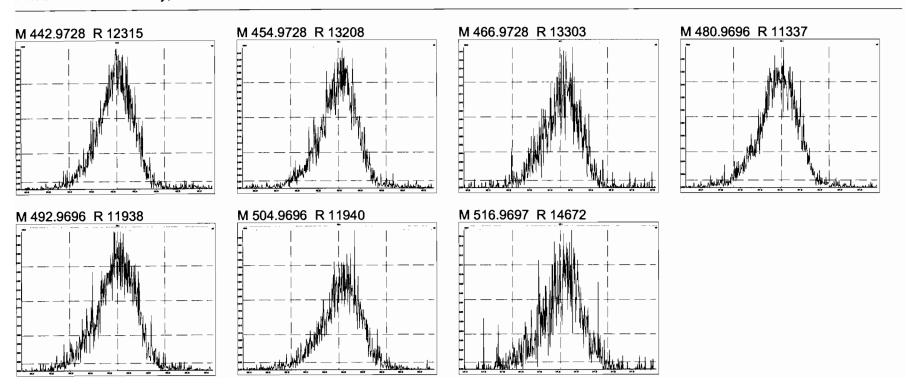
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Thursday, December 19, 2019 04:09:34 Pacific Standard Time



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Thursday, December 19, 2019 04:09:34 Pacific Standard Time



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INITIAL CALIBRATION

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Initial Calibration RF	RF Summary (ICAL;	Vista Analy	tical Labo	ratory			
Run: 191009D1	Analyte:		Cal:	1613VG7-10	-9-19	Inst.	ID. VG-7	
Data filename: 191009D	01		Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6
			0.25	0.50	2.0	10	40	300
Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
2,3,7,8-TCDD	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
1,2,3,7,8-PeCDD	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
1,2,3,4,7,8-HxCDD	1.1013	3.97 %	1.12	1.13	1.03	1.08	1.09	1.15
1,2,3,6,7,8-HxCDD	0.9386	7.68 %	0.83	0.88	1.01	0.92	0.98	1.00
1,2,3,7,8,9-HxCDD	0.9613	4.62 %	0.95	0.90	0.93	0.95	1.00	1.03
1,2,3,4,6,7,8-HpCDD	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
OCDD	0.9585	4.07 %	0.93	0.94	0.92	0.94	1.01	1.01
							2	2.2-
2,3,7,8-TCDF	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
1,2,3,7,8-PeCDF	0.9603	4.05 %	0.94	0.94	0.92	0.95	1.00	1.01
2,3,4,7,8-PeCDF	1.0148	3.01 %	1.00	0.99	1.00	1.00	1.03	1.07
1,2,3,4,7,8-HxCDF	1.1768	4.35 %	1.23	1.11	1.15	1.14	1.20	1.24
1,2,3,6,7,8-HxCDF	1.0689	3.63 %	1.01	1.07	1.06	1.05	1.12	1.11
2,3,4,6,7,8-HxCDF	1.1136	5.58 %	1.06	1.03	1.12	1.11	1.16	1.20
1,2,3,7,8,9-HxCDF	1.0616	3.91 %	1.05	1.02	1.02	1.06	1.08	1.13
1,2,3,4,6,7,8-HpCDF	1.1276	3.90 %	1.13	1.13	1.06	1.10	1.17	1.18
1,2,3,4,7,8,9-HpCDF	1.2799	3.29 %	1.30	1.24	1.25	1.25	1.31	1.34
OCDF	0.9472	3.80 %	0.95	0.92	0.91	0.92	1.00	0.98
13C-2,3,7,8-TCDD	1.0954	1.91 %	1.11	1.08	1.06	1.10	1.12	1.11
13C-1,2,3,7,8-PeCDD	0.8814	5.11 %	0.89	0.86	0.83	0.86	0.89	0.96
13C-1,2,3,4,7,8-HxCDD	0.6421	10.35 %	0.65	0.60	0.58	0.61	0.65	0.77
13C-1,2,3,6,7,8-HxCDD	0.8555	4.13 %	0.86	0.87	0.82	0.87	0.80	0.90
13C-1,2,3,7,8,9-HxCDD	0.8066	5.57 %	0.84	0.80	0.76	0.80	0.76	0.88
13C-1,2,3,4,6,7,8-HpCI	OD 0.6539	9.07 %	0.70	0.63	0.59	0.62	0.63	0.75
13C-OCDD	0.5797	10.98 %	0.60	0.52	0.53	0.55	0.59	0.69
13C-2,3,7,8-TCDF	1.0349	1.62 %	1.04	1.00	1.03	1.05	1.04	1.04
13C-1,2,3,7,8-PeCDF	0.8542	4.58 %	0.84	0.82	0.82	0.87	0.86	0.92
13C-2,3,4,7,8-PeCDF	0.8471	3.79 %	0.81	0.84	0.83	0.84	0.85	0.91
13C-1,2,3,4,7,8-HxCDF	0.8317	8.50 %	0.76	0.80	0.79	0.86	0.83	0.96
13C-1,2,3,6,7,8-HxCDF	1.0344	5.35 %	1.00	1.03	1.03	1.03	0.98	1.14
13C-2,3,4,6,7,8-HxCDF		6.17 %	0.94	0.94	0.90	0.93	0.93	1.07
13C-1,2,3,7,8,9-HxCDF	0.8277	8.68 %	0.82	0.80	0.77	0.78	0.83	0.96
13C-1,2,3,4,6,7,8-HpCI		6.47 %	0.76	0.73	0.72	0.75	0.73	0.85
13C-1,2,3,4,7,8,9-HpCI		8.97 %	0.62	0.54	0.52	0.55	0.58	0.66
13C-OCDF	0.6890	12.48 %	0.69	0.62	0.62	0.65	0.72	0.85
37Cl-2,3,7,8-TCDD	1 1077	0 03 0						
3/C1-2,3,7,8-TCDD	1.1977	8.83 %	1.40	1.16	1.16	1.11	1.15	1.21
13C-1,2,3,4-TCDD	1.0000	0.00 %	1 00	1 00	1 00	3 00	1 00	1 00
13C-1,2,3,4-TCDD	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00

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									Page 1 of 6	
F	ilename	: 191009D1 S: 1 Acqui	red: 9-00	CT-19 16:13	: 04					
		1009D1 Analyte:		613VG 7 -10-9		Results:				
		text: ST191009D1-1 1613 CS		313 (3, 10 3		100042001				
			.0 1902201							
	Тур	Name	Amount	Resp	RA	RT	RF	RRF		
	Unk	2,3,7,8-TCDD	0.25	1.97e+04	0.80 y	26:32	_	0.84		
	Unk	1,2,3,7,8-PeCDD	1.25	8.06e+04	0.62 y	30:54	_	0.86		
	Unk	1,2,3,4,7,8-HxCDD	1.25	7.34e+04	1.23 y	34:16	_	1.12		
	Unk	1,2,3,6,7,8-HxCDD	1.25	7.23e+04	1.12 y	34:23	-	0.83		
	Unk	1,2,3,7,8,9-HxCDD	1.25	8.01e+04	1.19 y	34:43	_	0.95		
	Unk	1,2,3,4,6,7,8-HpCDD	1.25	6.39e+04	1.06 y	38:05	_	0.90		
	Unk	OCDD	2.50	1.14e+05	0.95 y	41:28	_	0.93		
		0000	2.50	1.110.03	J.,, y	11.20		3.73		
	Unk	2,3,7,8-TCDF	0.25	3.62e+04	0.85 y	25:49	_	1.09		
	Unk	1,2,3,7,8-PeCDF	1.25	1.26e+05	1.52 y	29:46	_	0.94		
)	Unk	2,3,4,7,8-PeCDF	1.25	1.31e+05	1.52 y	30:40	_	1.00		
Ĺ	Unk	1,2,3,4,7,8-HxCDF	1.25	9.36e+04	1.22 y	33:22	_	1.23		
2	Unk	1,2,3,6,7,8-HxCDF	1.25	1.02e+05	1.11 y	33:29	_	1.01		
3	Unk	2,3,4,6,7,8-HxCDF	1.25	1.01e+05	1.30 y	34:07	_	1.06		
1	Unk	1,2,3,7,8,9-HxCDF	1.25	8.74e+04	1.10 y	35:08	_	1.05		
5	Unk	1,2,3,4,6,7,8-HpCDF	1.25	8.63e+04	1.01 y	36:57	_	1.13		
5	Unk	1,2,3,4,7,8,9-HpCDF	1.25	8.18e+04	1.14 y	38:40	_	1.30		
7	Unk	OCDF	2.50	1.32e+05	0.94 y	41:43	_	0.95		
					0171			0.120		
6	IS	13C-2,3,7,8-TCDD	100.00	9.40e+06	0.78 y	26:32	_	1.11		
7	IS	13C-1,2,3,7,8-PeCDD	100.00	7.48e+06	0.62 y	30:55	_	0.89		
8	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.24e+06	1.19 y	34:15	_	0.65		
9	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.96e+06	1.32 y	34:22	_	0.86		
)	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.74e+06	1.31 y	34:42	_	0.84		
L	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.68e+06	1.05 y	38:05	_	0.70		
2	IS	13C-OCDD	200.00	9.75e+06	0.88 y	41:28	_	0.60		
3	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.79 y	25:49	_	1.04		
4	IS	13C-1,2,3,7,8-PeCDF	100.00	1.07e+07	1.58 y	29:46	_	0.84		
5	IS	13C-2,3,4,7,8-PeCDF	100.00	1.05e+07	1.58 y	30:39	-	0.81		
5	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.11e+06	0.51 y	33:21	_	0.76		
7	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.04e+06	0.50 y	33:29	_	1.00		
8	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.61e+06	0.50 y	34:07	-	0.94		
9	IS	13C-1,2,3,7,8,9-HxCDF	100.00	6.66e+06	0.48 y	35:07	_	0.82		
0	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.12e+06	0.42 y	36:57	_	0.76		
1	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.02e+06	0.45 y	38:41	_	0.62		
2	IS	13C-OCDF		1.11e+07	_		_	0.69		
					1) A
3	C/Up	37Cl-2,3,7,8-TCDD	0.25	2.97e+04		26:33	_	1.40		/) /b
										DB 10/10/19
4	RS/RT	13C-1,2,3,4-TCDD	100.00	8.45e+06	0.80 y	25:59	_	1.00		1.10
5	RS	13C-1,2,3,4-TCDF	100.00	1.28e+07	0.79 y	24:39	_	1.00		10 10 69
6	RS/RT		100.00	8.07e+06	0.52 y	33:47	_	1.00		
	.,				I					

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2 Unk 1,2,3,7,8-PeCDD 2,50 1,46e-05 0,60 y 30,56 - 0,87 3 Unk 1,2,3,4,7,8-PECDD 2,50 1,25e-05 1,20 y 34:16 - 1,13 4 Unk 1,2,3,4,7,8-PECDD 2,50 1,46e-05 1,22 y 34:23 - 0,88 5 Unk 1,2,3,4,6,7,8-PECDD 2,50 1,46e-05 1,22 y 34:23 - 0,90 Water 1,2,3,4,6,7,8-PECDD 2,50 1,39e-05 1,15 y 34:43 - 0,90 Water 1,2,3,4,6,7,8-PECDF 2,50 2,09e-05 1,59 y 36:06 - 0,97 Water 1,2,3,4,7,8-PECDF 2,50 2,09e-05 1,59 y 36:06 - 0,94 Water 1,2,3,4,7,8-PECDF 2,50 2,09e-05 1,50 y 30:40 - 0,99 Water 1,2,3,4,7,8-PECDF 2,50 1,62e-05 1,50 y 30:40 - 0,99 Water 1,2,3,4,7,8-PECDF 2,50 1,62e-05 1,60 y 30:06 - 0,99 Water 1,2,3,4,7,8-PECDF 2,50 1,59e-05 1,20 y 33:30 - 1,07 Water 1,2,3,4,7,8-PECDF 2,50 1,59e-05 1,20 y 30:40 - 0,99 Water 1,2,3,4,7,8-PECDF 2,50 1,59e-05 1,20 y 30:30 - 1,07 Water 1,2,3,4,7,8-PECDF 2,50 1,59e-05 1,20 y 30:30 - 1,07 Water 1,2,3,4,7,8-PECDF 2,50 1,59e-05 1,20 y 30:30 - 1,07 Water 1,2,3,4,6,7,8-PECDF 2,50 1,59e-05 1,20 y 30:30 - 1,02 Water 1,2,3,4,6,7,8-PECDF 2,50 1,59e-05 1,20 y 30:00 - 1,00 Water 1,2,3,4,7,8,9-PECDF 2,50 1,59e-05 0,91 y 36:57 - 1,03 Water 1,2,3,4,7,8,9-PECDF 2,50 1,59e-05 0,91 y 36:57 - 1,03 Water 1,2,3,4,7,8,9-PECDF 2,50 1,59e-05 0,91 y 41:43 - 0,92 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 1,03 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,86 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,86 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,86 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1,00 0,00 6,76e-06 0,78 y 36:57 - 0,80 Water 1,2,3,4,7,8,9-PECDF 1										Page 2 of 6	
Rins 1300951	F	ilename	: 191009D1 S: 2 Acqui	red: 9-00	CT-19 17:00	: 45	•				
Typ Name Amount Resp RA RT RF RF RRF 1 Unk 2,3,7,8-FCCDD 0.50 3.54e-04 0.78 y 26:34							Results:				
1 DNR		Sample 1	text: ST191009D1-2 1613 CS	1 19C2202							
1 DNR											
2 UNK 1,2,3,4,7,8-PecUD 2.50 1.28e-05 1.20 y 31:56 - 0.87 3 UNK 1,2,3,4,7,8-PecUD 2.50 1.29e-05 1.20 y 34:16 - 1.13 4 UNK 1,2,3,4,7,8-PecUD 2.50 1.29e-05 1.20 y 34:23 - 0.88 5 UNK 1,2,3,4,6,7,8-PecUD 2.50 1.39e-05 1.15 y 34:43 - 0.99 6 UNK 1,2,3,4,6,7,8-PecUD 5.00 1.39e-05 1.15 y 34:43 - 0.99 7 UNK 0.23,4,6,7,8-PecUD 5.00 1.39e-05 0.10 y 41:28 - 0.94 7 UNK 0.23,4,7,8-PecUD 5.00 1.39e-05 0.10 y 41:28 - 0.94 7 UNK 0.23,4,7,8-PecUD 5.00 1.39e-05 0.10 y 41:28 - 0.94 7 UNK 0.23,4,7,8-PecUD 5.00 1.39e-05 0.10 y 41:28 - 0.94 7 UNK 0.23,4,7,8-PecUD 5.50 2.28e-05 1.59 y 29:48 - 0.94 1 UNK 0.23,4,7,8-PecUD 5.50 2.28e-05 1.59 y 30:40 - 0.99 1 UNK 0.23,4,7,8-PecUD 5.50 1.62e-05 1.16 y 33:22 - 1.11 1 UNK 0.23,4,7,8-PecUD 5.50 1.62e-05 1.16 y 33:30 - 1.07 1 UNK 0.23,4,7,8-PecUD 5.50 1.62e-05 1.16 y 33:30 - 1.07 1 UNK 0.23,4,7,8-PecUD 5.50 1.62e-05 1.10 y 33:30 - 1.07 1 UNK 0.23,4,7,8-PecUD 5.50 1.62e-05 1.20 y 33:30 - 1.07 1 UNK 0.23,4,7,8-PecUD 5.50 1.62e-05 1.20 y 33:30 - 1.07 1 UNK 0.23,4,7,8-PecUD 5.50 1.29e-05 1.20 y 33:30 - 1.02 1 UNK 0.23,4,7,8-PecUD 5.50 1.29e-05 1.20 y 33:30 - 1.02 1 UNK 0.23,4,7,8-PecUD 5.50 1.29e-05 1.29e-05 1.39 y 31:07 - 1.03 1 UNK 0.23,4,7,8-PecUD 5.50 1.29e-05 1.39 y 31:07 - 1.03 1 UNK 0.23,4,7,8-PecUD 5.50 1.59e-05 1.39 y 31:07 - 1.02 1 UNK 0.23,4,7,8-PecUD 5.50 1.59e-05 1.99 y 11:43 - 0.92 2 1 UNK 0.23,4,7,8-PecUD 5.50 1.59e-05 1.99 y 11:43 - 0.92 2 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.78 y 26:34 - 1.08 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.78 y 26:34 - 1.08 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.78 y 26:34 - 1.08 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.78 y 26:34 - 1.08 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.78 y 26:34 - 1.08 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.78 y 26:34 - 1.08 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.78 y 26:34 - 1.08 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.89 y 31:43 - 0.86 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.89 y 31:42 - 0.80 1 UNK 0.23,4,7,8-PecUD 100.00 6.85e-06 0.89 y 31:42 - 0.89 0 UNK 0.23 - 0.89 1 UNK 0.23,4,7,8-PecUD 100.00 7.86e-06 0.89 y		Тур	Name	Amount	Resp	RA	RT	RF	RRF		
3 UNA 1,2,3,4,7,8-hxCDD 2.50 1.29e+05 1.20 y 34:16 - 1.13 4 UNA 1,2,3,6,7,8-hxCDD 2.50 1.40e+05 1.22 y 34:23 - 0.88 5 UNA 1,2,3,4,6,7,8-hxCDD 2.50 1.33e+05 1.15 y 34:43 - 0.50 6 UNA 1,2,3,4,6,7,8-hxCDD 2.50 1.33e+05 1.55 y 34:43 - 0.90 7 UNA 2,3,4,6,7,8-hxCDD 2.50 1.79e+05 0.95 y 41:28 - 0.94 8 UNA 2,3,4,7,8-hxCDD 2.50 2.29e+05 1.59 y 29:48 - 0.94 10 UNA 1,2,3,7,8-hxCDD 2.50 2.29e+05 1.59 y 29:48 - 0.94 11 UNA 1,2,3,4,7,8-hxCDD 2.50 2.32e+06 1.50 y 30:40 - 0.99 11 UNA 1,2,3,4,7,8-hxCDD 2.50 1.79e+05 1.20 y 33:100 - 1.07 13 UNA 1,2,3,4,6,7,8-hxCDD 2.50 1.79e+05 1.20 y 33:100 - 1.07 13 UNA 2,3,4,6,7,8-hxCDD 2.50 1.79e+05 1.20 y 33:100 - 1.07 13 UNA 1,2,3,4,6,7,8-hxCDD 2.50 1.59e+05 1.20 y 31:50	1			0.50	3.54e+04	0.78 y	26:34	-	0.83		
4 Unk 1.2,3,4,7,8-HKCDD 2.50 1.40e+05 1.22 y 34:23 - 0.88 5 Unk 1.2,3,7,8.9-HKCDD 2.50 1.33e+05 1.15 y 34:43 - 0.99 6 Unk 1.2,3,4,6,7,8-HKCDD 2.50 1.33e+05 0.97 y 38:06 - 0.97 7 Unk 2.3,3,4,6,7,8-HKCDF 2.50 1.32e+05 0.97 y 38:06 - 0.99 9 Unk 2,3,7,8-PECDF 0.50 5.25e+04 0.74 y 25:51 - 0.90 9 Unk 2,3,4,7,8-PECDF 2.50 2.25e+05 1.59 y 29:48 - 0.94 10 Unk 2,3,4,7,8-HKCDF 2.50 1.25e+05 1.59 y 30:40 - 0.99 110 Unk 2,3,4,7,8-HKCDF 2.50 1.25e+05 1.16 y 30:40 - 0.99 111 Unk 1,2,3,4,7,8-HKCDF 2.50 1.25e+05 1.16 y 31:40 - 0.99 112 Unk 1,2,3,4,7,8-HKCDF 2.50 1.25e+05 1.16 y 31:40 - 0.99 113 Unk 2,3,4,6-7,8-HKCDF 2.50 1.25e+05 1.16 y 31:40 - 0.99 114 Unk 1,2,3,4,7,8-HKCDF 2.50 1.26e+05 1.20 y 31:30 - 1.07 115 Unk 1,2,3,4,7,8-HKCDF 2.50 1.30e+05 1.20 y 31:40 - 1.03 114 Unk 1,2,3,4,7,8-HKCDF 2.50 1.30e+05 1.20 y 35:08 - 1.02 115 Unk 1,2,3,4,7,8-HKCDF 2.50 1.30e+05 1.20 y 35:08 - 1.02 116 Unk 1,2,3,4,7,8-HKCDF 2.50 1.26e+05 0.94 y 38:41 - 1.24 117 Unk CDF 5.00 2.09e+05 0.91 y 41:43 - 0.92 118 13C-1,2,3,4,7,8-HKCDD 100.00 8.50e+06 0.63 y 30:56 - 0.86 118 13C-1,2,3,7,8-PKCDD 100.00 6.74e+06 0.63 y 30:56 - 0.86 118 13C-1,2,3,7,8-PKCDD 100.00 6.75e+06 1.20 y 34:22 - 0.87 118 13C-1,2,3,7,8-PKCDD 100.00 6.57e+06 1.20 y 34:22 - 0.87 118 13C-1,2,3,7,8-PKCDD 100.00 7.58e+06 1.20 y 34:22 - 0.80 118 13C-1,2,3,7,8-PKCDD 100.00 7.58e+06 0.89 y 41:20 - 0.80 118 13C-1,2,3,7,8-PKCDD 100.00 7.58e+06 0.89 y 41:20 - 0.80 118 13C-1,2,3,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,8-PKCDD 100.00 7.58e+06 0.89 y 34:20 - 0.80 118 13C-1,2,3,4,7,	2			2.50		0.60 y	30:56	-	0.87		
5 UNK 1,2,3,7,8,9 HXCDD 2,50 1,33e+05 1.15 y 34.43 - 0.90 6 UNK 1,2,3,4,6,7,8 HXCDD 2,50 1,78e+05 0.97 y 38.96 - 0.97 7 UNK 2,3,4,7,8-TCDF 0.50 5.25e+04 0.74 y 25:51 - 0.90 9 UNK 1,2,3,7,8-TCDF 2.50 2.42e+05 1.50 y 29:48 - 0.94 10 UNK 2,3,4,7,8-PCDF 2.50 2.42e+05 1.50 y 30:40 - 0.99 11 UNK 1,2,3,4,7,8-HXCDF 2.50 1.52e+05 1.50 y 30:40 - 0.99 11 UNK 1,2,3,4,7,8-HXCDF 2.50 1.52e+05 1.50 y 31:22 - 1.11 12 UNK 1,2,3,4,6-7,8-HXCDF 2.50 1.52e+05 1.10 y 31:22 - 1.11 13 UNK 2,3,4,6,7-8-HXCDF 2.50 1.9e+05 1.20 y 34:07 - 1.03 14 UNK 2,3,4,7,8-HXCDF 2.50 1.79e+05 1.30 y 34:07 - 1.03 15 UNK 1,2,3,4,6,7-8-HXCDF 2.50 1.51e+05 0.91 y 36:57 - 1.12 16 UNK 1,2,3,4,7,8-HXCDF 2.50 1.51e+05 0.91 y 36:57 - 1.12 17 UNK CCF 5.00 2.09e+05 0.91 y 41:43 - 0.92 18 UNK 1,2,3,7,8-FCDD 100.00 6.7e+066 0.78 y 26:34 - 1.08 18 13C-1,2,3,4,7,8-HXCDD 100.00 6.5e+06 1.38 y 34:16 - 0.60 18 13C-1,2,3,4,7,8-HXCDD 100.00 6.15e+06 1.38 y 34:16 - 0.60 18 13C-1,2,3,4,6,7,8-HXCDD 100.00 6.15e+06 1.38 y 34:16 - 0.60 18 13C-1,2,3,4,7,8-HXCDD 100.00 6.15e+06 1.20 y 34:23 - 0.87 18 18 13C-1,2,3,4,7,8-HXCDD 100.00 6.15e+06 1.38 y 34:16 - 0.60 18 13C-1,2,3,4,7,8-HXCDD 100.00 6.15e+06 1.38 y 34:16 - 0.60 18 13C-1,2,3,4,7,8-HXCDD 100.00 6.15e+06 1.38 y 34:16 - 0.60 18 13C-1,2,3,4,7,8-HXCDD 100.00 6.5e+06 1.26 y 34:23 - 0.87 18 18 13C-1,2,3,4,7,8-HXCDD 100.00 5.8e+06 1.26 y 34:23 - 0.87 18 18 13C-1,2,3,4,7,8-HXCDD 100.00 5.8e+06 1.59 y 29:48 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDD 100.00 5.8e+06 0.89 y 34:23 - 0.87 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 7.8e+06 0.89 y 34:23 - 0.87 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.82 18 18 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.89 y 34:28 - 0.8	3					-		-	1.13		
6 Ubk 1,2,3,4,6,7,8-BpCDD 2.50 1.13e-05 0.97 y 38:06 - 0.97 y Ubk 0.97 y Ubk 0.000 5.00 1.78e-05 0.97 y 41:28 - 0.94 8 Ubk 2,3,7,8-PCDF 0.50 5.25e-04 0.74 y 25:51 - 0.90 9 Ubk 1,2,3,4,7,8-PCDF 2.50 2.55e-05 1.59 y 29:48 - 0.94 10 Ubk 2,3,4,7,8-PCDF 2.50 2.52e-05 1.69 y 30:40 - 0.99 11 Ubk 1,2,3,4,7,8-PCDF 2.50 1.62e-05 1.16 y 30:40 - 0.99 12 Ubk 1,2,3,4,7,8-PCDF 2.50 1.62e-05 1.16 y 31:02 y 31:00 - 1.07 12 Ubk 1,2,3,4,7,8-PCDF 2.50 1.62e-05 1.16 y 31:02 y 31:00 - 1.07 14 Ubk 1,2,3,4,7,8-PCDF 2.50 1.79e-05 1.30 y 31:00 - 1.07 14 Ubk 1,2,3,4,7,8-PCDF 2.50 1.79e-05 1.30 y 38:41 - 1.02 15 Ubk 1,2,3,4,7,8-PCDF 2.50 1.29e-05 0.91 y 38:41 - 1.24 10 Ubk 1,2,3,4,7,8-PCDF 2.50 1.29e-05 0.91 y 38:41 - 1.24 10 Ubk 0.1,2,3,4,7,8-PCDF 2.50 1.29e-05 0.91 y 38:41 - 1.24 10 Ubk 0.1,2,3,4,7,8-PCDD 100.00 6.74e-06 0.63 y 30:56 - 0.66 37 IS 13C-1,2,3,4,7,8-PCDD 100.00 6.74e-06 0.63 y 30:56 - 0.68 38 IS 13C-1,2,3,4,7,8-PCDD 100.00 6.74e-06 0.63 y 31:67 - 0.68 39 IS 13C-1,2,3,4,7,8-PCDD 100.00 6.75e-06 1.20 y 34:42 - 0.80 41 IS 13C-1,2,3,4,7,8-PCDD 100.00 6.75e-06 1.20 y 34:42 - 0.80 42 IS 13C-2,3,7,8-PCDD 100.00 7.58e-06 1.20 y 34:42 - 0.80 43 IS 13C-2,3,7,8-PCDF 100.00 9.60e-06 1.50 y 29:48 - 0.62 44 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 29:48 - 0.62 45 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 29:48 - 0.82 46 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 47 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 48 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 49 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 40 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 40 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 40 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 40 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 40 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80 50 IS 13C-1,2,3,4,7,8-PCDF 100.00 9.60e-06 1.50 y 34:42 - 0.80	4					_		-			
7 Unk						-		-			
8 Umk 2,3,7,8-TCDF 0.50 5.25e+04 0.74 y 25:51 - 0.90 9 Umk 1,2,3,7,8-PeCDF 2.50 2.25e+05 1.59 y 29:48 - 0.94 10 Umk 2,3,4,7,8-PeCDF 2.50 2.42e+05 1.50 y 30:40 - 0.99 11 Umk 1,2,3,4,7,8-PeCDF 2.50 1.50 t 30:40 - 0.99 11 Umk 1,2,3,4,7,8-PeCDF 2.50 1.50 t 33:22 - 1.11 12 Umk 1,2,3,4,7,8-PeCDF 2.50 1.20 y 31:30 y 34:07 - 1.03 14 Umk 2,3,4,6,7,8-HECDF 2.50 1.49e-05 1.20 y 33:30 - 1.07 14 Umk 1,2,3,4,6,7,8-HECDF 2.50 1.49e-05 1.20 y 31:08 - 1.02 15 Umk 1,2,3,4,6,7,8-HECDF 2.50 1.49e-05 1.20 y 36:57 - 1.13 16 Umk 1,2,3,4,6,7,8-HECDF 2.50 1.49e-05 0.91 y 36:57 - 1.13 17 Umk 0CDF 5.00 2.09e+05 0.91 y 41:43 - 0.92 18 13C-1,2,3,4,7,8-PeCDD 100.00 8.50e+06 0.78 y 26:34 - 1.08 18 13C-1,2,3,4,7,8-HECDD 100.00 6.74e+06 0.63 y 30:56 - 0.86 18 13C-1,2,3,4,7,8-HECDD 100.00 4.4e+06 1.38 y 34:16 - 0.60 18 13C-1,2,3,4,7,8-HECDD 100.00 4.64e+06 1.38 y 34:16 - 0.80 18 13C-1,2,3,4,7,8-HECDD 100.00 6.35e+06 1.20 y 34:23 - 0.87 18 13C-1,2,3,4,7,8-HECDD 100.00 6.35e+06 1.20 y 34:23 - 0.87 18 13C-1,2,3,4,6,7,8-HECDD 100.00 5.35e+06 1.20 y 34:23 - 0.87 18 13C-1,2,3,4,6,7,8-HECDD 100.00 5.35e+06 1.20 y 34:23 - 0.80 18 13C-1,2,3,4,6,7,8-HECDD 100.00 5.35e+06 1.20 y 34:23 - 0.80 18 13C-1,2,3,4,6,7,8-HECDD 100.00 5.35e+06 1.20 y 34:23 - 0.80 18 13C-1,2,3,4,6,7,8-HECDD 100.00 5.35e+06 1.20 y 34:23 - 0.80 18 13C-1,2,3,4,6,7,8-HECDD 100.00 5.35e+06 1.20 y 34:23 - 0.80 18 13C-1,2,3,4,6,7,8-HECDD 100.00 5.86e+06 0.89 y 41:28 - 0.82 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.52 y 33:21 - 0.80 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.84 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.84 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.84 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.84 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.84 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.84 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.80 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.80 18 13C-1,2,3,4,6,7,8-HECDF 100.00 5.86e+06 0.51 y 34:40 - 0.8						-		-			
9 Unk 1,2,3,7,8-PeCDF 2.50 2.25e+05 1.59 y 29:48 - 0.99 10 Unk 2,3,4,7,8-PeCDF 2.50 2.42e+05 1.50 y 30:40 - 0.99 11 Unk 1,2,3,4,7,8-PeCDF 2.50 2.42e+05 1.50 y 30:40 - 0.99 11 Unk 1,2,3,4,7,8-PeCDF 2.50 2.00e+05 1.20 y 33:30 - 1.07 12 Unk 1,2,3,6,7,8-HxCDF 2.50 2.00e+05 1.20 y 33:30 - 1.07 14 Unk 1,2,3,4,6,7,8-PECDF 2.50 1.9e+05 1.30 y 34:07 - 1.03 14 Unk 1,2,3,4,6,7,8-PECDF 2.50 1.49e+05 1.24 y 35:08 - 1.02 15 Unk 1,2,3,4,6,7,8-PECDF 2.50 1.50e+05 0.91 y 36:57 - 1.13 16 Unk 1,2,3,4,6,7,8-PECDF 2.50 1.50e+05 0.91 y 36:57 - 1.13 16 Unk 1,2,3,4,7,8-PECDF 2.50 1.50e+05 0.91 y 36:57 - 1.13 17 Unk 0.00F 5.00 2.09e+05 0.91 y 41:43 - 0.92 36 IS 13C-1,2,3,7,8-PECDD 100.00 8.50e+06 0.78 y 26:34 - 1.08 38 IS 13C-1,2,3,4,7,8-PECDD 100.00 6.74e+06 0.63 y 30:55 - 0.86 38 IS 13C-1,2,3,4,6,7,8-HxCDD 100.00 6.74e+06 0.63 y 30:55 - 0.86 38 IS 13C-1,2,3,4,6,7,8-HxCDD 100.00 6.74e+06 0.63 y 30:55 - 0.86 39 IS 13C-1,2,3,4,6,7,8-HxCDD 100.00 6.74e+06 0.63 y 30:55 - 0.80 41 IS 13C-1,2,3,7,8-PECDD 100.00 6.78e+06 1.20 y 34:23 - 0.87 41 IS 13C-1,2,3,4,6,7,8-HxCDD 100.00 5.8e+06 1.20 y 38:05 - 0.60 41 IS 13C-1,2,3,7,8-PECDF 100.00 1.00e+06 1.59 y 30:05 - 0.63 41 IS 13C-1,2,3,4,6,7,8-HxCDD 00.00 5.8e+06 1.50 y 38:05 - 0.63 42 IS 13C-1,2,3,7,8-PECDF 100.00 5.8e+06 1.59 y 39:40 - 0.82 43 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.52 y 33:21 - 0.80 44 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 39:40 - 0.84 45 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 39:40 - 0.84 46 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 36:07 - 0.80 47 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 36:07 - 0.80 48 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 36:07 - 0.80 48 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 36:07 - 0.94 49 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 36:07 - 0.94 49 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.59 y 36:07 - 0.94 49 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.43 y 36:07 - 0.94 49 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.8e+06 0.88 y 41:41 - 0.54 54 RS/RT 13C-1,2,3,4,7-CDD 0.50 4.55e+04 26:34 - 1.16	7	Unk	OCDD	5.00	1.78e+05	0.90 y	41:28	-	0.94		
9 Unk 1,2,3,7,8-PECDF 2.50 2.25e+05 1.59 y 29:48 - 0.94 10 Unk 2,3,4,7,8-PECDF 2.50 2.42e+05 1.50 y 30:40 - 0.99 11 Unk 1,2,3,4,7,8-PECDF 2.50 2.62e+05 1.50 y 30:40 - 0.99 12 Unk 1,2,3,4,7,8-PECDF 2.50 2.03e+05 1.20 y 33:30 - 1.07 13 Unk 2,3,4,6,7,8-HXCDF 2.50 2.03e+05 1.20 y 33:30 - 1.07 14 Unk 1,2,3,4,6,7,8-HXCDF 2.50 1.59e+05 1.30 y 34:07 - 1.03 14 Unk 1,2,3,4,6,7,8-HXCDF 2.50 1.49e+05 1.24 y 35:08 - 1.02 15 Unk 1,2,3,4,6,7,8-HXCDF 2.50 1.59e+05 1.24 y 35:08 - 1.02 16 Unk 1,2,3,4,6,7,8-PECDF 10.00 8.50e+06 0.91 y 41:43 - 0.92 16 IS 13C-2,3,7,8-PECDD 10.00 8.50e+06 0.78 y 26:34 - 1.08 17 Unk 0.23,4,7,8-PECDD 10.00 8.50e+06 0.78 y 26:34 - 1.08 18 13C-1,2,3,7,8-PECDD 10.00 6.74e+06 0.63 y 30:55 - 0.86 18 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 6.74e+06 0.63 y 30:55 - 0.86 18 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 6.75e+06 1.26 y 34:23 - 0.87 18 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 6.75e+06 1.26 y 34:23 - 0.87 19 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 6.75e+06 1.26 y 34:25 - 0.80 11 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 5.5e+06 1.20 y 34:23 - 0.87 11 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 5.5e+06 1.20 y 34:23 - 0.87 12 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 5.5e+06 1.20 y 34:23 - 0.80 13 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 5.5e+06 1.20 y 34:23 - 0.80 14 IS 13C-1,2,3,4,6,7,8-HXCDD 10.00 5.5e+06 1.59 y 30:40 - 0.80 15 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.6e+06 1.59 y 30:40 - 0.62 16 IS 13C-1,2,3,4,7,8-PECDF 100.00 5.6e+06 0.52 y 33:21 - 0.80 16 IS 13C-1,2,3,4,7,8-PECDF 100.00 5.8e+06 0.52 y 33:21 - 0.80 17 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.8e+06 0.59 y 35:05 - 0.63 18 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.8e+06 0.59 y 35:05 - 0.63 18 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.8e+06 0.59 y 35:05 - 0.63 18 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.8e+06 0.59 y 35:05 - 0.63 18 IS 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.43 y 36:57 - 0.73 18 IS 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.43 y 36:57 - 0.73 18 IS 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.43 y 36:57 - 0.73 18 IS 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.88 y 41:43 - 0.62 18 IS 13C-1,2,3,4,7,8-HXCDF 100.00 5.8e+06 0.88 y 41	8	Unk	2,3,7,8-TCDF	0.50	5.25e+04	0.74 v	25:51	_	0.90		
10 Unk	9					-		-			
11 Unk	10	Unk				_		_			
12 Unk 1,2,3,6,7,8-HXCDF 2.50 2.03e+05 1.20 y 33:30 - 1.07 13 Unk 2,3,4,6,7,8-HXCDF 2.50 1.79e+05 1.30 y 34:07 - 1.03 14 Unk 1,2,3,7,8,9-HXCDF 2.50 1.49e+05 1.24 y 35:08 - 1.02 15 Unk 1,2,3,4,6,7,8-HXCDF 2.50 1.51e+05 0.91 y 36:57 - 1.13 16 Unk 1,2,3,4,6,7,8-HXCDF 2.50 1.51e+05 0.91 y 36:57 - 1.13 17 Unk 0CDF 5.00 2.09e+05 0.91 y 41:43 - 0.92 36 IS 13C-2,3,7,8-PCDD 100.00 8.50e+06 0.78 y 26:34 - 1.08 37 IS 13C-1,2,3,7,8-PCDD 100.00 6.74e+06 0.63 y 30:55 - 0.86 38 IS 13C-1,2,3,4,7,8-HXCDD 100.00 6.74e+06 1.38 y 34:16 - 0.60 39 IS 13C-1,2,3,4,7,8-HXCDD 100.00 6.35e+06 1.20 y 34:23 - 0.87 40 IS 13C-1,2,3,7,8-PKCDD 100.00 5.87e+06 1.26 y 34:42 - 0.80 41 IS 13C-1,2,3,7,8-PKCDD 100.00 7.58e+06 1.26 y 34:42 - 0.80 42 IS 13C-2,3,7,8-PECDF 100.00 1.77e+07 0.80 y 25:51 - 1.00 44 IS 13C-2,3,4,7,8-PECDF 100.00 9.60e+06 1.58 y 30:40 - 0.84 45 IS 13C-2,3,4,7,8-PECDF 100.00 9.60e+06 1.58 y 30:40 - 0.84 46 IS 13C-1,2,3,4,7,8-PECDF 100.00 9.60e+06 1.58 y 30:40 - 0.84 47 IS 13C-1,2,3,4,7,8-PECDF 100.00 9.60e+06 1.58 y 30:40 - 0.84 48 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 9.60e+06 1.58 y 30:40 - 0.84 49 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 7.58e+06 0.51 y 33:29 - 1.03 40 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 9.60e+06 0.51 y 33:29 - 0.80 41 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 9.60e+06 0.51 y 33:29 - 0.80 42 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.51 y 33:29 - 0.80 43 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.51 y 33:29 - 0.80 44 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.51 y 33:29 - 0.80 45 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.38e+06 0.43 y 35:08 - 0.80 46 IS 13C-1,2,3,4,7,8-PSCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 50 IS 13C-1,2,3,4,7,8-PSCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-PSCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-PSCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 52 IS 13C-1,2,3,4,7,8-PSCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 53 C/Up 37C1-2,3,7,8-PSCDF 100.00 7.86e+06 0.77 y 26:01 - 1.00 54 RS/RT 13C-1,2,3,4-TCDD 10.00 1.17e+07 0.83 y 24:41 - 1.00	11					-		_			
14 Unk 1,2,3,7,8,9-HxCDF 2.50 1.49e+05 1.24 y 35:08 - 1.02 15 Unk 1,2,3,4,6,7,8-HpCDF 2.50 1.51e+05 0.91 y 36:57 - 1.13 16 Unk 1,2,3,4,7,8,9-HpCDF 2.50 1.52e+05 0.94 y 38:41 - 1.24 17 Unk 0.23,4,7,8,9-HpCDF 2.50 2.09e+05 0.91 y 41:43 - 0.92 36 IS 13C-1,2,3,7,8-PeCDD 100.00 8.50e+06 0.78 y 26:34 - 1.08 37 IS 13C-1,2,3,7,8-PeCDD 100.00 6.74e+06 0.63 y 30:56 - 0.86 38 IS 13C-1,2,3,7,8-PeCDD 100.00 6.35e+06 1.38 y 34:16 - 0.60 39 IS 13C-1,2,3,6,7,8-HxCDD 100.00 6.35e+06 1.26 y 34:23 - 0.87 40 IS 13C-1,2,3,6,7,8-HxCDD 100.00 6.35e+06 1.26 y 34:42 - 0.80 41 IS 13C-1,2,3,7,8-PeCDP 100.00 5.87e+06 1.26 y 34:42 - 0.80 42 IS 13C-1,2,3,7,8-PCDP 100.00 7.58e+06 0.89 y 41:28 - 0.52 43 IS 13C-1,2,3,7,8-PCDP 100.00 9.60e+06 1.59 y 32:48 - 0.82 45 IS 13C-1,2,3,7,8-PCDF 100.00 9.60e+06 1.59 y 29:48 - 0.82 45 IS 13C-1,2,3,7,8-PCDF 100.00 9.80e+06 1.58 y 30:40 - 0.84 46 IS 13C-1,2,3,7,8-PCDF 100.00 9.80e+06 1.58 y 30:40 - 0.84 47 IS 13C-1,2,3,7,8-PCDF 100.00 9.80e+06 1.58 y 30:40 - 0.84 48 IS 13C-1,2,3,7,8-PCDF 100.00 9.80e+06 1.59 y 33:29 - 1.03 49 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.51 y 33:29 - 0.80 49 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.51 y 33:29 - 0.80 49 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.51 y 33:29 - 0.80 49 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.52 y 33:21 - 0.80 50 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.51 y 33:29 - 0.80 51 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.51 y 33:29 - 0.80 51 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.51 y 33:29 - 0.80 52 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 0.51 y 33:08 - 0.80 53 C/Up 37C1-2,3,7,8-PECDF 100.00 9.05e+06 0.88 y 41:43 - 0.62 54 RS/RT 13C-1,2,3,4-TCDF 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00	12	Unk		2.50	2.03e+05	-		-			
15 Unk	13	Unk	2,3,4,6,7,8-HxCDF	2.50	1.79e+05	-		_			
16 Unk 1,2,3,4,7,8,9-HpCDF 2.50 1.23e+05 0.94 y 38:41 - 1.24 17 Unk CCDF 5.00 2.09e+05 0.91 y 41:43 - 0.92 36 IS 13C-2,3,7,8-TCDD 100.00 8.50e+06 0.78 y 26:34 - 1.08 37 IS 13C-1,2,3,7,8-PeCDD 100.00 6.74e+06 0.63 y 30:56 - 0.86 38 IS 13C-1,2,3,4,7,8-HxCDD 100.00 4.41e+06 1.38 y 34:16 - 0.60 39 IS 13C-1,2,3,6,7,8-HxCDD 100.00 6.35e+06 1.20 y 34:23 - 0.87 40 IS 13C-1,2,3,7,8,9-HxCDD 100.00 5.87e+06 1.26 y 34:42 - 0.80 41 IS 13C-1,2,3,4,6,7,8-HpCDD 100.00 7.58e+06 0.89 y 41:28 - 0.52 42 IS 13C-0,2,3,7,8-PCDF 100.00 1.17e+07 0.80 y 25:51 - 1.00 44 IS 13C-1,2,3,7,8-PCDF 100.00 1.17e+07 0.80 y 25:48 - 0.82 45 IS 13C-2,3,4,7,8-HxCDF 100.00 9.60e+06 1.59 y 29:48 - 0.82 46 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.52 y 33:21 - 0.80 47 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.51 y 33:29 - 1.03 48 IS 13C-2,3,4,7,8-HxCDF 100.00 5.84e+06 0.51 y 33:29 - 1.03 48 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.51 y 33:29 - 1.03 48 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.51 y 33:09 - 0.80 49 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.51 y 33:09 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 5.38e+06 0.43 y 38:41 - 0.54 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 5.38e+06 0.43 y 38:41 - 0.54 52 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 5.38e+06 0.43 y 38:41 - 0.54 53 C/Up 37C1-2,3,7,8.7-CDF 100.00 7.86e+06 0.77 y 26:01 - 1.00 54 RS/RT 13C-1,2,3,4,7CDD 0.50 4.55e+04 26:34 - 1.16	14	Unk	1,2,3,7,8,9-HxCDF	2.50	1.49e+05	1.24 y	35:08	_	1.02		
17 Unk OCDF 5.00 2.09e+05 0.91 y 41:43 - 0.92 36 IS 13C-2,3,7,8-TCDD 100.00 8.50e+06 0.78 y 26:34 - 1.08 37 IS 13C-1,2,3,7,8-PeCDD 100.00 6.74e+06 0.63 y 30:56 - 0.86 38 IS 13C-1,2,3,4,7,8-B-KCDD 100.00 4.41e+06 1.38 y 34:16 - 0.60 39 IS 13C-1,2,3,4,7,8-B-KCDD 100.00 6.35e+06 1.20 y 34:23 - 0.87 40 IS 13C-1,2,3,7,8-PECDD 100.00 5.87e+06 1.26 y 34:42 - 0.80 41 IS 13C-1,2,3,7,8-PECDD 100.00 7.58e+06 0.89 y 41:28 - 0.52 42 IS 12C-0CDD 200.00 7.58e+06 0.89 y 41:28 - 0.52 43 IS 13C-1,2,3,7,8-PECDF 100.00 1.17e+07 0.80 y 25:51 - 1.00 44 IS 13C-1,2,3,7,8-PECDF 100.00 9.60e+06 1.59 y 29:48 - 0.82 45 IS 13C-2,3,4,7,8-PECDF 100.00 9.80e+06 1.59 y 30:40 - 0.84 46 IS 13C-1,2,3,6,7,8-HKCDF 100.00 5.84e+06 0.51 y 33:21 - 0.80 47 IS 13C-1,2,3,6,7,8-HKCDF 100.00 5.84e+06 0.51 y 33:29 - 1.03 48 IS 13C-1,2,3,7,8-PECDF 100.00 5.84e+06 0.51 y 33:29 - 1.03 48 IS 13C-1,2,3,4,6,7,8-HKCDF 100.00 5.84e+06 0.51 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HKCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,6,7,8-HKCDF 100.00 5.84e+06 0.43 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HKCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,6,7,8-HKCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HKCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,6,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 52 IS 13C-1,2,3,4,7,8-HCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 53 C/Up 37C1-2,3,7,8-PCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00	15	Unk	1,2,3,4,6,7,8-HpCDF	2.50	1.51e+05	0.91 y	36:57	_	1.13		
36 IS 13C-2,3,7,8-TCDD 100.00 8.50e+06 0.78 y 26:34 - 1.08 37 IS 13C-1,2,3,7,8-PeCDD 100.00 6.74e+06 0.63 y 30:56 - 0.86 38 IS 13C-1,2,3,4,7,8-HXCDD 100.00 4.41e+06 1.38 y 34:16 - 0.60 39 IS 13C-1,2,3,6,7,8-HXCDD 100.00 6.35e+06 1.20 y 34:23 - 0.87 40 IS 13C-1,2,3,4,6,7,8-HXCDD 100.00 5.87e+06 1.26 y 34:42 - 0.80 41 IS 13C-1,2,3,4,6,7,8-HXCDD 100.00 5.87e+06 1.26 y 34:42 - 0.63 42 IS 13C-0,2,3,4,6,7,8-PECDF 100.00 1.17e+07 0.80 y 25:51 - 1.00 44 IS 13C-1,2,3,7,8-PECDF 100.00 1.17e+07 0.80 y 25:51 - 1.00 44 IS 13C-1,2,3,7,8-PECDF 100.00 9.80e+06 1.59 y 29:48 - 0.82 45 IS 13C-2,3,4,7,8-HXCDF 100.00 9.80e+06 1.59 y 33:21 - 0.80 46 IS 13C-1,2,3,4,7,8-HXCDF 100.00 9.80e+06 0.51 y 33:21 - 0.80 47 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 6.92e+06 0.51 y 34:07 - 0.94 48 IS 13C-2,3,4,6,7,8-HXCDF 100.00 6.92e+06 0.51 y 34:07 - 0.94 49 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,4,6,7,8-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 51 IS 13C-1,2,3,4,7,8,9-HXCDF 100.00 5.84e+06 0.49 y 36:08 - 0.80 y 36:09 - 0.80 y 36:09 - 0.80 y 36:09 - 0.80 y 36:09 -	16	Unk	1,2,3,4,7,8,9-HpCDF	2.50	1.23e+05	0.94 y	38:41	-	1.24		
37 IS 13C-1,2,3,7,8-PeCDD 100.00 6.74e+06 0.63 y 30:56 - 0.86 38 IS 13C-1,2,3,4,7,8-HxCDD 100.00 4.41e+06 1.38 y 34:16 - 0.60 39 IS 13C-1,2,3,7,8-PeCDD 100.00 6.35e+06 1.20 y 34:23 - 0.87 40 IS 13C-1,2,3,7,8-PeCDD 100.00 5.87e+06 1.26 y 34:42 - 0.80 41 IS 13C-1,2,3,4,6,7,8-HyCDD 100.00 7.58e+06 1.26 y 34:42 - 0.63 42 IS 13C-0,000 7.58e+06 0.89 y 41:28 - 0.52 43 IS 13C-2,3,7,8-PeCDF 100.00 1.17e+07 0.80 y 25:51 - 1.00 44 IS 13C-1,2,3,7,8-PeCDF 100.00 9.80e+06 1.59 y 29:48 - 0.82 45 IS 13C-2,3,4,7,8-PeCDF 100.00 9.80e+06 1.58 y 30:40 - 0.84 46 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.51 y 33:29 - 1.03 48 IS 13C-2,3,4,6,7,8-HxCDF 100.00 7.58e+06 0.51 y 33:29 - 1.03 49 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.51 y 35:08 - 0.80 49 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 51 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 52 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16	17	Unk	OCDF	5.00	2.09e+05	0.91 y	41:43	-	0.92		
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42 IS						_					
43 IS 13C-2,3,7,8-TCDF 100.00 1.17e+07 0.80 y 25:51 - 1.00 44 IS 13C-1,2,3,7,8-PeCDF 100.00 9.60e+06 1.59 y 29:48 - 0.82 45 IS 13C-2,3,4,7,8-PeCDF 100.00 9.80e+06 1.58 y 30:40 - 0.84 46 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.52 y 33:21 - 0.80 47 IS 13C-1,2,3,6,7,8-HxCDF 100.00 7.58e+06 0.51 y 33:29 - 1.03 48 IS 13C-2,3,4,6,7,8-HxCDF 100.00 6.92e+06 0.51 y 34:07 - 0.94 49 IS 13C-1,2,3,7,8,9-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HxCDF 100.00 5.84e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,6,7,8-HyCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16			-			-					
44 IS						_					
45 IS 13C-2,3,4,7,8-PeCDF 100.00 9.80e+06 1.58 y 30.40 - 0.84 46 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.52 y 33:21 - 0.80 47 IS 13C-1,2,3,6,7,8-HxCDF 100.00 7.58e+06 0.51 y 33:29 - 1.03 48 IS 13C-2,3,4,6,7,8-HxCDF 100.00 6.92e+06 0.51 y 34:07 - 0.94 49 IS 13C-1,2,3,7,8,9-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HpCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00						-					
46 IS 13C-1,2,3,4,7,8-HxCDF 100.00 5.84e+06 0.52 y 33:21 - 0.80 47 IS 13C-1,2,3,6,7,8-HxCDF 100.00 7.58e+06 0.51 y 33:29 - 1.03 48 IS 13C-2,3,4,6,7,8-HxCDF 100.00 6.92e+06 0.51 y 34:07 - 0.94 49 IS 13C-1,2,3,7,8,9-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HpCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00						-					
47 IS 13C-1,2,3,6,7,8-HxCDF 100.00 7.58e+06 0.51 y 33:29 - 1.03 48 IS 13C-2,3,4,6,7,8-HxCDF 100.00 6.92e+06 0.51 y 34:07 - 0.94 49 IS 13C-1,2,3,7,8,9-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HpCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00						_					
48 IS 13C-2,3,4,6,7,8-HxCDF 100.00 6.92e+06 0.51 y 34:07 - 0.94 49 IS 13C-1,2,3,7,8,9-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HpCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00						-					
49 IS 13C-1,2,3,7,8,9-HxCDF 100.00 5.84e+06 0.49 y 35:08 - 0.80 50 IS 13C-1,2,3,4,6,7,8-HpCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00						-					
50 IS 13C-1,2,3,4,6,7,8-HpCDF 100.00 5.38e+06 0.43 y 36:57 - 0.73 51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00						_					
51 IS 13C-1,2,3,4,7,8,9-HpCDF 100.00 3.99e+06 0.43 y 38:41 - 0.54 52 IS 13C-0CDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00						-					
52 IS 13C-OCDF 200.00 9.05e+06 0.88 y 41:43 - 0.62 53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00			-			-					
53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00	52		· · · · · · -			-		_			
53 C/Up 37C1-2,3,7,8-TCDD 0.50 4.55e+04 26:34 - 1.16 54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00 56 RS/RT 13C-1,2,3,4,6,9-HxCDF 100.00 7.33e+06 0.52 y 33:47 - 1.00	_				2 . 2 2 0 . 0 0	2.20 j	32.77				\ \ \ \
54 RS/RT 13C-1,2,3,4-TCDD 100.00 7.86e+06 0.77 y 26:01 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00 56 RS/RT 13C-1,2,3,4,6,9-HxCDF 100.00 7.33e+06 0.52 y 33:47 - 1.00	53	C/Up	37Cl-2,3,7,8-TCDD	0.50	4.55e+04		26:34	-	1.16		1)15
55 RS 13C-1,2,3,4-TCDF 100.00 1.17e+07 0.83 y 24:41 - 1.00 [O 10 1] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	54	RS/RT	13C-1.2.3.4-TCDD	100.00	7.860+06	0.77 v	26:01	_	1.00		1
56 RS/RT 13C-1,2,3,4,6,9-HxCDF 100.00 7.33e+06 0.52 y 33:47 - 1.00						-		_			Inlin)
1.00						_		_			10/10/1
		1.27 1.11	-30 1,2,3,4,0,3 IMCDE	100.00	,.550+00	0.52 Y	JJ. 17	_	1.00		1

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									Page 3 of 6
Fi	lename	: 191009D1 S: 3 Acqui	red: 9-0	CT-19 17:48	. 27				
		1009D1 Analyte:		613VG7-10-9		Resul	ts:		
		text: ST191009D1-3 1613 CS				110001			
	-								
	Тур	Name	Amount	Resp	RA	RT	RF	RRF	
	Unk	2,3,7,8-TCDD	2.00	1.35e+05	0.74 y	26:33	-	0.87	
	Unk	1,2,3,7,8-PeCDD	10.00	5.33e+05	0.64 y	30:56	-	0.88	
	Unk	1,2,3,4,7,8-HxCDD	10.00	3.94e+05	1.22 y	34:16	-	1.03	
	Unk	1,2,3,6,7,8-HxCDD	10.00	5.50e+05	1.25 y	34:23	-	1.01	
	Unk	1,2,3,7,8,9-HxCDD	10.00	4.71e+05	1.36 y	34:43	-	0.93	
	Unk	1,2,3,4,6,7,8-HpCDD	10.00	3.70e+05	1.02 y	38:06	-	0.95	
	Unk	OCDD	20.00	6.41e+05	0.90 y	41:29	_	0.92	
					_				
	Unk	2,3,7,8-TCDF	2.00	1.90e+05	0.83 y	25:49	-	0.89	
	Unk	1,2,3,7,8-PeCDF	10.00	7.88e+05	1.58 y	29:47	-	0.92	
)	Unk	2,3,4,7,8-PeCDF	10.00	8.71e+05	1.56 y	30:40	-	1.00	
	Unk	1,2,3,4,7,8-HxCDF	10.00	6.02e+05	1.14 y	33:22	-	1.15	
2	Unk	1,2,3,6,7,8-HxCDF	10.00	7.20e+05	1.27 y	33:30	_	1.06	
3	Unk	2,3,4,6,7,8-HxCDF	10.00	6.66e+05	1.26 y	34:08	_	1.12	
1	Unk	1,2,3,7,8,9-HxCDF	10.00	5.16e+05	1.16 y	35:08	_	1.02	
,	Unk	1,2,3,4,6,7,8-HpCDF	10.00	5.02e+05	1.05 y	36:57	_	1.06	
	Unk	1,2,3,4,7,8,9-HpCDF	10.00	4.31e+05	1.08 y	38:41	=	1.25	
7	Unk	OCDF	20.00	7.38e+05	0.91 y	41:44	-	0.91	
					•				
6	IS	13C-2,3,7,8-TCDD	100.00	7.73e+06	0.78 y	26:33	_	1.06	
7	IS	13C-1,2,3,7,8-PeCDD	100.00	6.03e+06	0.62 y	30:55	_	0.83	
}	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.81e+06	1.24 y	34:15	~	0.58	
	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.44e+06	1.28 y	34:22	-	0.82	
	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.03e+06	1.21 y	34:42	-	0.76	
	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.89e+06	1.09 y	38:05	-	0.59	
	IS	13C-OCDD	200.00	6.97e+06	0.90 y	41:28	-	0.53	
3	IS	13C-2,3,7,8-TCDF	100.00	1.08e+07	0.82 y	25:49	_	1.03	
1	IS	13C-1,2,3,7,8-PeCDF	100.00	8.55e+06	1.59 y	29:47	-	0.82	
5	IS	13C-2,3,4,7,8-PeCDF	100.00	8.70e+06	1.59 y	30:40	_	0.83	
5	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.22e+06	0.49 y	33:21	-	0.79	
7	IS	13C-1,2,3,6,7,8-HxCDF	100.00	6.80e+06	0.51 y	33:29	-	1.03	
8	IS	13C-2,3,4,6,7,8-HxCDF	100.00	5.93e+06	0.52 y	34:07	-	0.90	
9	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.05e+06	0.51 y	35:08	-	0.77	
0	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.73e+06	0.44 y	36:57	_	0.72	
1	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.46e+06	0.45 y	38:41	-	0.52	
2	IS	13C-OCDF	200.00	8.15e+06	0.92 y	41:44	-	0.62	
					•				
3	C/Up	37C1-2,3,7,8-TCDD	2.00	1.69e+05		26:33	-	1.16	
4	RS/RT	13C-1,2,3,4-TCDD	100.00	7.29e+06	0.77 y	25:59	-	1.00	
5	RS	13C-1,2,3,4-TCDF	100.00	1.04e+07	0.82 y	24:39	-	1.00	
	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	6.60e+06	0.52 y	33:47	_	1.00	

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Unk										
Run: 191009D1 Analyte: Cal: 1613VG7-10-9-19 Results: Typ Name Amount Resp RA RT RF RRF 1 Unk 2,3,7,8-PeCDD 50.00 8.37e-05 0.80 y 26:35 - 0.99 2 Unk 1,2,3,47,8-HECDD 50.00 2.94e+06 0.61 y 30:56 - 0.88 3 Unk 1,2,3,67,8-HECDD 50.00 2.94e+06 1.21 y 34:16 - 1.08 4 Unk 1,2,3,47,8-HECDD 50.00 2.96e+06 1.21 y 34:16 - 1.08 5 Unk 1,2,3,47,8-HECDD 50.00 2.96e+06 1.21 y 34:16 - 1.08 6 Unk 1,2,3,4,67,8-HECDD 50.00 2.74e+06 1.24 y 34:42 - 0.95 6 Unk 1,2,3,4,67,8-HECDD 100.00 3.73e+06 0.91 y 41:28 - 0.94 8 Unk 2,3,7,8-TCDF 10.00 1.05e+06 1.03 y 38:05 - 0.96 9 Unk 1,2,3,47,8-HECDF 50.00 4.65e+06 1.59 y 29:47 - 0.95 9 Unk 1,2,3,47,8-HECDF 50.00 4.65e+06 1.59 y 29:47 - 0.95 10 Unk 2,3,47,8-HECDF 50.00 4.70e+06 1.68 y 30:40 - 1.00 11 Unk 1,2,3,47,8-HECDF 50.00 3.74e+06 1.24 y 33:21 - 1.04 12 Unk 1,2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 33:29 - 1.05 13 Unk 2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 33:29 - 1.05 14 Unk 1,2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 33:29 - 1.05 15 Unk 1,2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 38:07 - 1.16 16 Unk 1,2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 38:07 - 1.16 16 Unk 1,2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 38:11 - 0.98 17 Unk 1,2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 36:57 - 1.06 18 Unk 1,2,3,4,67,8-HECDF 50.00 3.74e+06 1.25 y 34:11 - 0.80 18 Unk 1,2,3,4,7,8-HECDF 50.00 3.74e+06 1.25 y 34:11 - 0.80 19 In 13 LD-1,2,3,4,6,7,8-HECDD 100.00 4.33e+06 0.91 y 41:43 - 0.92 18 IS 13C-1,2,3,4,7,8-HECDD 100.00 6.66e+06 0.62 y 30:55 - 0.66 18 IS 13C-1,2,3,4,7,8-HECDD 100.00 6.56e+06 0.62 y 30:55 - 0.66 18 IS 13C-1,2,3,4,7,8-HECDF 100.00 9.79e+06 1.05 y 34:15 - 0.61 18 IS 13C-1,2,3,4,7,8-HECDF 100.00 9.79e+06 1.05 y 34:15 - 0.61 18 IS 13C-1,2,3,4,7,8-HECDF 100.00 9.79e+06 0.94 y 41:27 - 0.55 18 IS 13C-1,2,3,4,7,8-HECDF 100.00 9.79e+06 0.94 y 41:27 - 0.55 18 IS 13C-1,2,3,4,6,7,8-HECDF 100.00 9.79e+06 0.94 y 41:27 - 0.65 18 IS 13C-1,2,3,4,6,7,8-HECDF 100.00 9.79e+06 0.94 y 41:27 - 0.65 18 IS 13C-1,2,3,4,6,7,8-HECDF 100.00 9.79e+06 0.94 y 41:27 - 0.65 18 IS 13C-1,2,3,4,6,7,8-HECDF 100.00										
Typ Name Amount Resp RA RT RF RRF 1.0 Unk 2.3.7,8-FCDD 10.00 8.37e-05 0.80 y 26:35 - 0.99 1.0 Unk 1.2.3.4,7.8-FECDD 50.00 2.96e-06 1.21 y 36:16 - 1.08 1.0 Unk 1.2.3.4,7.8-FECDD 50.00 2.96e-06 1.21 y 36:26 - 0.88 1.0 Unk 1.2.3.4,7.8-FECDD 50.00 2.96e-06 1.21 y 36:26 - 0.88 1.0 Unk 1.2.3.4,7.8-FECDD 50.00 2.96e-06 1.21 y 36:26 - 0.88 1.0 Unk 1.2.3.4,7.8-FECDD 50.00 2.96e-06 1.21 y 36:26 - 0.99 1.0 Unk 1.2.3.4,6.7.8-HECDD 50.00 2.96e-06 1.21 y 36:23 - 0.92 1.0 Unk 1.2.3.4,6.7.8-HECDD 50.00 2.96e-06 1.31 y 36:23 - 0.92 1.0 Unk 1.2.3.4,6.7.8-HECDD 50.00 2.15e-06 1.03 y 38:05 - 0.96 1.0 Unk 0.0 CDD 100.00 3.73e-06 0.91 y 41:28 - 0.94 1.0 Unk 2.3.7,8-FECDF 50.00 4.65e-06 1.59 y 29:47 - 0.95 1.0 Unk 2.3.4,7.8-FECDF 50.00 4.65e-06 1.59 y 29:47 - 0.95 1.0 Unk 2.3.4,7.8-FECDF 50.00 4.70e-06 1.65 y 30:40 - 1.00 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.52e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.52e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,6.7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,6.7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,6.7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 33:29 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 34:07 - 1.11 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.25 y 34:07 - 1.06 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 3.74e-06 1.05 y 36:41 - 1.05 1.0 Unk 1.2.3.4,7.8-HECDF 50.00 5.00 5.00 1.0 0.00 5.76e-06 5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.										
Typ Name Amount Resp RA RT RF RRF Unk			•		613VG 7 -10-9	-19	Result	s:		
Unk	1	Sample t	text: ST191009D1-4 1613 CS	3 19C2204						
Unk		_								
Unk 1,2,3,4,7,8-PeCDD 50.00 2.94e+06 0.61 y 30:56 0.88					-					
Unk 1,2,3,4,7,8-HXCDD 50.00 2.38e+06 1.21 y 34:16 - 1.08	1					-				
Unk	2					-				
Unk 1,2,3,7,8,9-HXCDD 50.00 2.74e+06 1.24 y 34:42 0.95	3					-				
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Unk	7	Unk	OCDD	100.00	3.73e+06	0.91 y	41:28	-	0.94	
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11 Unk	9					_				
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18						-		-		
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32 IS 13C-OCDF 200.00 9.37e+06 0.89 y 41:43 - 0.65 33 C/Up 37Cl-2,3,7,8-TCDD 10.00 8.56e+05 26:35 - 1.11 34 RS/RT 13C-1,2,3,4-TCDD 100.00 7.70e+06 0.75 y 26:00 - 1.00 35 RS 13C-1,2,3,4-TCDF 100.00 1.13e+07 0.82 y 24:41 - 1.00	50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.40e+06	0.43 y	36:55	-	0.75	
33 C/Up 37Cl-2,3,7,8-TCDD 10.00 8.56e+05 26:35 - 1.11 34 RS/RT 13C-1,2,3,4-TCDD 100.00 7.70e+06 0.75 y 26:00 - 1.00 35 RS 13C-1,2,3,4-TCDF 100.00 1.13e+07 0.82 y 24:41 - 1.00	51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.99e+06	0.44 y	38:40	-	0.55	
34 RS/RT 13C-1,2,3,4-TCDD 100.00 7.70e+06 0.75 y 26:00 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.13e+07 0.82 y 24:41 - 1.00	52	IS	13C-OCDF	200.00	9.37e+06	0.89 y	41:43	-	0.65	
34 RS/RT 13C-1,2,3,4-TCDD 100.00 7.70e+06 0.75 y 26:00 - 1.00 55 RS 13C-1,2,3,4-TCDF 100.00 1.13e+07 0.82 y 24:41 - 1.00										
55 RS 13C-1,2,3,4-TCDF 100.00 1.13e+07 0.82 y 24:41 - 1.00	53	C/Up	37Cl-2,3,7,8-TCDD	10.00	8.56e+05		26:35	-	1.11	
55 RS 13C-1,2,3,4-TCDF 100.00 1.13e+07 0.82 y 24:41 - 1.00										
	54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.70e+06	0.75 y	26:00	-	1.00	
SC DC/DE 120 1 2 2 4 C 0 INCDE 100 00 7 222 0C 0 51 22 22 47	55	RS	13C-1,2,3,4-TCDF	100.00	1.13e+07	0.82 y	24:41	-	1.00	
70 R5/R1 13C-1,2,3,4,6,9-HXCDF 100.00 7.23E+06 0.51 Y 33:47 - 1.00	56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.23e+06	0.51 y	33:47	-	1.00	

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Filename: 191009D1 S: 5 Acquired: 9-OCT-19 19:23:46

Run: 191009D1 Analyte: Cal: 1613VG7-10-9-19 Results:

Sample text: ST191009D1-5 1613 CS4 19C2205

	-							
	Тур	Name	Amount	Resp	RA	RT	RF	RRF
.1	$\mathtt{Un}\mathbf{k}$	2,3,7,8-TCDD	40.00	3.5 3e+0 6	0.81 y	26:35	=	0.92
2	Un ${f k}$	1,2,3,7,8-PeCDD	200.00	1.48e+07	0.63 y	30:55	-	0.96
3	Unk	1,2,3,4,7,8-HxCDD	200.00	1.19e+07	1.19 y	34:15	=	1.09
4	Unk	1,2,3,6,7,8-HxCDD	200.00	1.34e+07	1.20 y	34:22	-	0.98
5	Unk	1,2,3,7,8,9-HxCDD	200.00	1.30e+07	1.18 y	34:41	-	1.00
6	Unk	1,2,3,4,6,7,8-HpCDD	200.00	1.10e+07	1.03 y	38:04	-	1.03
7	Unk	OCDD	400.00	2.03e+07	0.91 y	41:26	-	1.01
8	Unk	2,3,7,8-TCDF	40.00	5.17e+06	0.77 y	25:52	-	0.95
9	Unk	1,2,3,7,8-PeCDF	200.00	2.24e+07	1.58 y	29:47	-	1.00
10	Unk	2,3,4,7,8-PeCDF	200.00	2.29e+07	1.55 y	30:40	=	1.03
11	Unk	1,2,3,4,7,8-HxCDF	200.00	1.69e+07	1.21 y	33:21	-	1.20
12	Unk	1,2,3,6,7,8-HxCDF	200.00	1.85e+07	1.21 y	33:29	-	1.12
13	Unk	2,3,4,6,7,8-HxCDF	200.00	1.83e+07	1.21 y	34:06	-	1.16
14	Unk	1,2,3,7,8,9-HxCDF	200.00	1.53e+07	1.22 y	35:06	-	1.08
15	Unk	1,2,3,4,6,7,8-HpCDF	200.00	1.46e+07	1.04 y	36:56	-	1.17
16	Unk	1,2,3,4,7,8,9-HpCDF	200.00	1.30e+07	1.05 y	38:39	-	1.31
17	Unk	OCDF	400.00	2.42e+07	0.91 y	41:41	-	1.00
36	IS	13C-2,3,7,8-TCDD	100.00	9.63e+06	0.75 y	26:34	-	1.12
37	IS	13C-1,2,3,7,8-PeCDD	100.00	7.72e+06	0.63 y	30:54	-	0.89
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.48e+06	1.31 y	34:14	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.83e+06	1.22 y	34:21	_	0.80
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.48e+06	1.26 y	34:40	-	0.76
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.36e+06	1.08 y	38:03	-	0.63
42	IS	13C-OCDD	200.00	1.01e+07	0.91 y	41:25	-	0.59
43	IS	13C-2,3,7,8-TCDF	100.00	1.36e+07	0.80 y	25:51	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.12e+07	1.57 y	29:46	-	0.86
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.11e+07	1.52 y	30:39	-	0.85
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.05e+06	0.50 y	33:20	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.28e+06	0.49 y	33:28	-	0.98
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.90e+06	0.51 y	34:05	-	0.93
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.08e+06	0.51 y	35:06	-	0.83
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.23e+06	0.46 y	36:55	-	0.73
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.95e+06	0.44 y	38:38	-	0.58
52	IS	13C-OCDF	200.00	1.22e+07	0.90 y	41:40	-	0.72
53	C/Up	37C1-2,3,7,8-TCDD	40.00	3.9 6 e+06		26:35	-	1.15
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.64e+06	0.78 y	26:00	_	1.00
55	RS RS	13C-1,2,3,4-TCDF	100.00	1.30e+07	0.76 y 0.83 y	24:41	_	1.00
56	RS/RT		100.00	8.48e+06	0.63 y 0.51 y	33:46	-	1.00
20	KO/KI	13C-1,2,3,4,6,9-HXCDF	100.00	8.48e+U6	отот А	33:46	-	1.00

)B 10/10/19

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									Page 6 of 6
	. 1	10100001 0 6		Om 40 00 44					
		_		CT-19 20:11:					
		1009D1 Analyte:		513VG 7 -10-9-	- 19	Results:			
	Sample	text: ST191009D1-6 1613 C	S5 19C2206						
	Тур	Name	Amount	Resp	RA	RT	RF	RRF	
1	Unk	2,3,7,8-TCDD	300.00	2.80e+07	0.81 y	26:35	-	0.98	
2	Unk	1,2,3,7,8-PeCDD	1500.00	1.19e+08	0.62 y	30:55	~	0.96	
3	Unk	1,2,3,4,7,8-HxCDD	1500.00	1.04e+08	1.22 y	34:15	-	1.15	
4	Unk	1,2,3,6,7,8-HxCDD	1500.00	1.07e+08	1.21 y	34:22	-	1.00	
5	Unk	1,2,3,7,8,9-HxCDD	1500.00	1.06e+08	1.23 y	34:41	-	1.03	
6	Unk	1,2,3,4,6,7,8-HpCDD	1500.00	9.32e+07	1.05 y	38:03	-	1.06	
7	Unk	OCDD	3000.00	1.64e+08	0.92 y	41:25	-	1.01	
8	Unk	2,3,7,8-TCDF	300.00	3.95e+07	0.79 y	25:52	_	0.99	
9	Unk	1,2,3,7,8-PeCDF	1500.00	1.79e+08	1.58 y	29:47	_	1.01	
10	Unk	2,3,4,7,8-PeCDF	1500.00	1.86e+08	1.57 y	30:39	_	1.07	
11	Unk	1,2,3,4,7,8-HxCDF	1500.00	1.40e+08	1.20 y	33:21	_	1.24	
12	Unk	1,2,3,6,7,8-HxCDF	1500.00	1.48e+08	1.21 y	33:29	-	1.11	
13	Unk	2,3,4,6,7,8-HxCDF	1500.00	1.51e+08	1.22 y	34:06	_	1.20	
14	Unk	1,2,3,7,8,9-HxCDF	1500.00	1.28e+08	1.25 y	35:06	_	1.13	
15	Unk	1,2,3,4,6,7,8-HpCDF	1500.00	1.18e+08	1.03 y	36:55	_	1.18	
16	Unk	1,2,3,4,7,8,9-HpCDF	1500.00	1.04e+08	1.05 y	38:38	-	1.34	
17	Unk	OCDF	3000.00	1.96e+08	0.91 y	41:40	-	0.98	
36	IS	13C-2,3,7,8-TCDD	100.00	9.53e+06	0.73 y	26:33	_	1.11	
37	IS	13C-1,2,3,7,8-PeCDD	100.00	8.28e+06	0.64 y	30:54	_	0.96	
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	6.01e+06	1.21 y	34:14	_	0.77	
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	7.08e+06	1.32 y	34:21	_	0.90	
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.90e+06	1.26 y	34:39	_	0.88	
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.86e+06	1.08 y	38:03	~	0.75	·
42	IS	13C-OCDD	200.00	1.08e+07	0.92 y	41:25	-	0.69	
43	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.80 y	25:51	-	1.04	
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.18e+07	1.59 y	29:46	-	0.92	
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.16e+07	1.60 y	30:38	~	0.91	
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.52e+06	0.51 y	33:20	-	0.96	
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.92e+06	0.50 y	33:28	-	1.14	
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	8.38e+06	0.51 y	34:05	-	1.07	
49	IS	13C-1,2,3,7,8,9~HxCDF	100.00	7.57e+06	0.52 y	35:05	-	0.96	
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.70e+06	0.43 y	36:54	-	0.85	
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.19e+06	0.43 y	38:37	-	0.66	
52	IS	13C-OCDF	200.00	1.33e+07	0.89 y	41:39	-	0.85	
53	C/Up	37Cl-2,3,7,8-TCDD	199.98	2.09e+07		26:35	_	1.21	λ_{Λ}
									DB 10/10/19
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.62e+06	0.76 y	26:01	-	1.00	
55	RS	13C-1,2,3,4-TCDF	100.00	1.27e+07	0.84 y	24:41	-	1.00	10/10/19
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.85e+06	0.49 y	33:45	-	1.00	10/10/17

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Initial Calibration RRE	Summary (I	CAL) \	ista Analy	tical Labo	ratory				Page 1 of
Run: 191009D1	Analyte:		Cal:	1613VG7-10	9.19	Inst. ID.	VG-7		
Data filename: 191009D1	-		Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6	
			0.25	0.50	2.0	10	40	300	
Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	
Total Tetra-Dioxins	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98	
TCDD EMPC	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98	
Total Penta-Dioxins	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96	
PeCDD EMPC	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96	
Total Hexa-Dioxins	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06	
HxCDD EMPC	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06	
Total Hepta-Dioxins	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06	
HpCDD EMPC	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06	
Total Tetra-Furans	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99	
TCDF EMPC	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99	
1st Func. Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04	
1st Func. PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04	
Total Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04	
PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04	
Total Hexa-Furans	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17	
HXCDF EMPC	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17	
Total Hepta-Furans	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25	
HDCDF EMPC	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25	

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Initial Calibration RRF Run: 191009D1	Summary (ICAL) Analyte:	Vista Analy	tical Labo: 1613VG7- 10	-	Inct	ID. VG-7		Page 1 of 1
Run: 191009D1	Anaryce:	Cai:	1013/07-10	- 9-19	msc.	ID. VG-7		
Data filename: 191009D1		Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6	
		0.25	0.50	2.0	10	40	300	
	RRT Limits							
Name	Lower Upper	RRT#1	RRT#2	RRT#3	RRT#4	RRT#5	RRT#6	
2,3,7,8-TCDD	0.999 -1.002	1.000	1.000	1.000	1.001	1.001	1.001	
1,2,3,7,8-PeCDD	0.999 -1.002	0.999	1.000	1.001	1.001	1.001	1.001	
1,2,3,4,7,8-HxCDD	0.999 -1.001	1.000	1.000	1.001	1.000	1.000	1.000	
1,2,3,6,7,8-HxCDD	0.998 -1.004	1.000	1.000	1.000	1.001	1.001	1.000	
1,2,3,7,8,9-HxCDD	0.998 -1.004	1.001	1.000	1.000	1.000	1.001	1.001	
1,2,3,4,6,7,8-HpCDD	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000	
OCDD	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000	
2,3,7,8-TCDF	0.999 -1.003	1.000	1.000	1.000	1.001	1.001	1.001	
1,2,3,7,8-PeCDF	0.999 -1.002	1.000	1.000	1.000	1.000	1.000	1.001	
2,3,4,7,8-PeCDF	0.999 -1.002	1.000	1.000	1.000	1.001	1.001	1.001	
1,2,3,4,7,8-HxCDF	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000	
1,2,3,6,7,8-HxCDF	0.997 -1.005	1.000	1.000	1.001	1.000	1.000	1.000	
2,3,4,6,7,8-HxCDF	0.999 -1.001	1.000	1.000	1.000	1.001	1.001	1.000	
1,2,3,7,8,9-HxCDF	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000	
1,2,3,4,6,7,8-HpCDF	0.999 -1.001	1.000	1.000	1.000	1.001	1.000	1.000	
1,2,3,4,7,8,9-HpCDF	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000	
OCDF	0.999 -1.001	1.000	1.000	1.000	1.000	1.000	1.000	
13C-2,3,7,8-TCDD	0.976 -1.043	1.022	1.022	1.022	1.021	1.021	1.021	
13C-1,2,3,7,8-PeCDD	1.000 -1.567	1.190	1.189	1.190	1.189	1.188	1.188	
13C-1,2,3,4,7,8-HxCDD	1.000 -1.007	1.014	1.014	1.014	1.014	1.014	1.014	
13C-1,2,3,6,7,8-HxCDD	1.007 -1.029	1.017	1.014	1.014	1.014	1.017	1.018	
13C-1,2,3,7,8,9-HxCDD	1.014 -1.038	1.027	1.027	1.027	1.027	1.027	1.027	
13C-1,2,3,4,6,7,8-HpCDD		1.127	1.127	1.128	1.127	1.127	1.127	
13C-OCDD	1.085 -1.365	1.227	1.227	1.228	1.227	1.227	1.227	
13C-2,3,7,8-TCDF	0.923 -1.103	0.994	0.994	0.994	0.994	0.994	0.994	
13C-1,2,3,7,8-PeCDF	1.000 -1.425	1.146	1.146	1.146	1.145	1.145	1.144	
13C-2,3,4,7,8-PeCDF	1.011 -1.526	1.180	1.179	1.180	1.179	1.178	1.178	
13C-1,2,3,4,7,8-HxCDF	0.975 -1.001	0.987	0.987	0.987	0.987	0.987	0.987	
13C-1,2,3,6,7,8-HxCDF	0.979 -1.005	0.991	0.991	0.991	0.991	0.991	0.991	
13C-2,3,4,6,7,8-HxCDF	1.001 -1.020	1.010	1.010	1.010	1.009	1.009	1.010	
13C-1,2,3,7,8,9-HxCDF	1.002 -1.072	1.040	1.040	1.040	1.039	1.039	1.039	
13C-1,2,3,4,6,7,8-HpCDF		1.093	1.093	1.094	1.093	1.093	1.093	
13C-1,2,3,4,7,8,9-HpCDF		1.145	1.145	1.145	1.145	1.144	1.144	
13C-OCDF	1.091 -1.371	1.235	1.234	1.235	1.235	1.234	1.234	
37Cl-2,3,7,8-TCDD	0.989 -1.052	1.022	1.021	1.022	1.022	1.022	1.022	$\lambda \mathcal{A}$
13C-1,2,3,4-TCDD	0.000 -0.000	*	*	*	*	*	*	<i>y.</i>
13C-1,2,3,4-TCDF	0.000 -0.000	*	*	*	*	*	*	10/10/10
	0.000							111110117

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FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.:

SAS No.:

Instrument ID: VG-7

Initial Calibration Date: 10-9-19

RT Window Data Filename: 191009D1 S#4 Analysis Date: 9-OCT-19 Time: 18:36:09

ZB-5MS IS Data Filename: 191009D1 S#4 Analysis Date: 9-OCT-19 Time: 18:36:09

DB 225 IS Data Filename:

Analysis Date:

Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

	ABSOLUTE		ABSOLUTE
ISOMERS	RT	ISOMERS	RT
1,3,6,8-TCDD (F)	23:24	1,3,6,8-TCDF (F)	21:25
1,2,8,9-TCDD (L)	27:24	1,2,8,9-TCDF (L)	27:33
1,2,4,7,9-PeCDD (F)	28:55	1,3,4,6,8-PeCDF (F)	27:28
1,2,3,8,9-PeCDD (L)	31:17	1,2,3,8,9-PeCDF (L)	31:32
1,2,4,6,7,9-HxCDD (F)	32:41	1,2,3,4,6,8-HxCDF (F)	32:08
1,2,3,7,8,9-HxCDD (L)	34:42	1,2,3,7,8,9-HxCDF (L)	35:07
1,2,3,4,6,7,9-HpCDD (F)	37:16	1,2,3,4,6,7,8-HpCDF (F)	36:57
1,2,3,4,6,7,8-HpCDD (L)	38:05	1,2,3,4,7,8,9-HpCDF (L)	38:41

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT BETWEEN

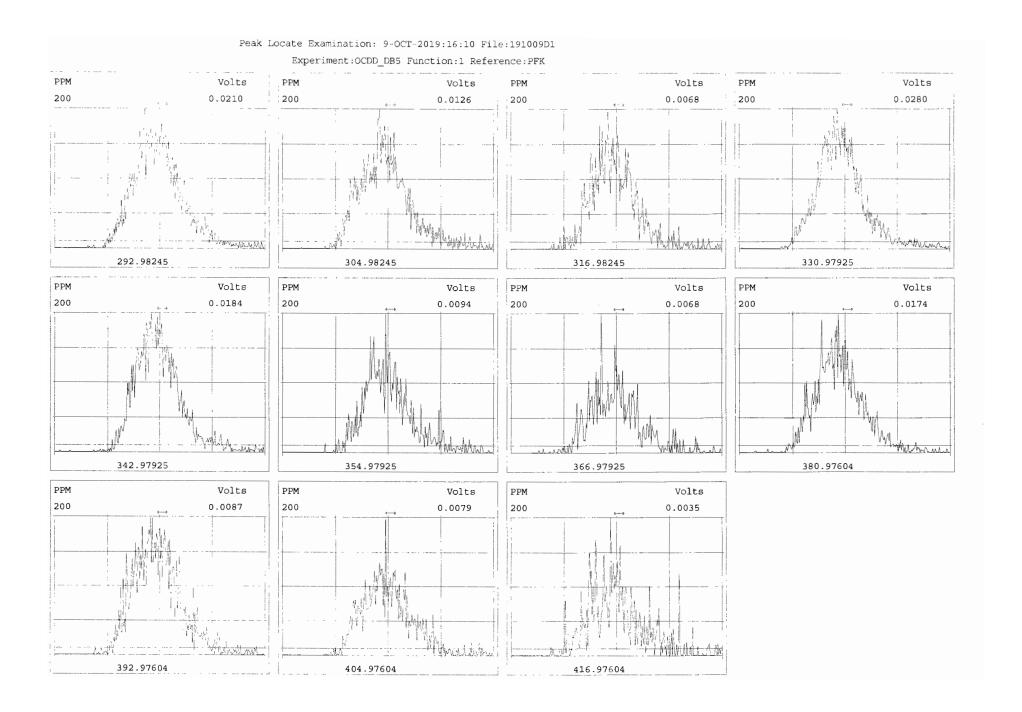
COMPARED PEAKS (1)

<25%

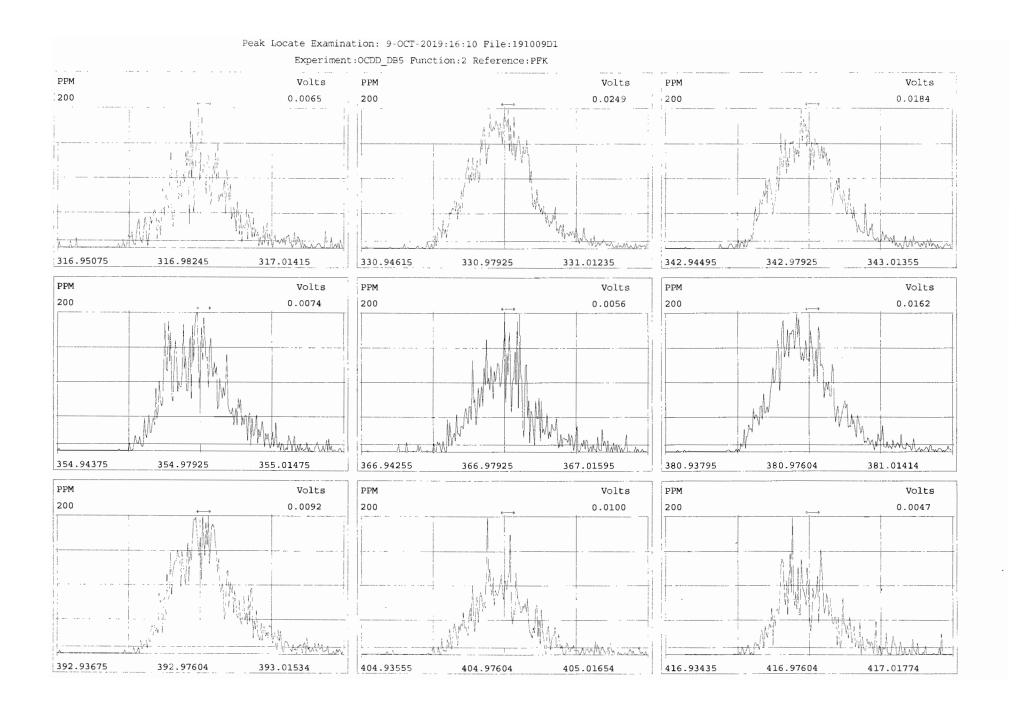
(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: 15

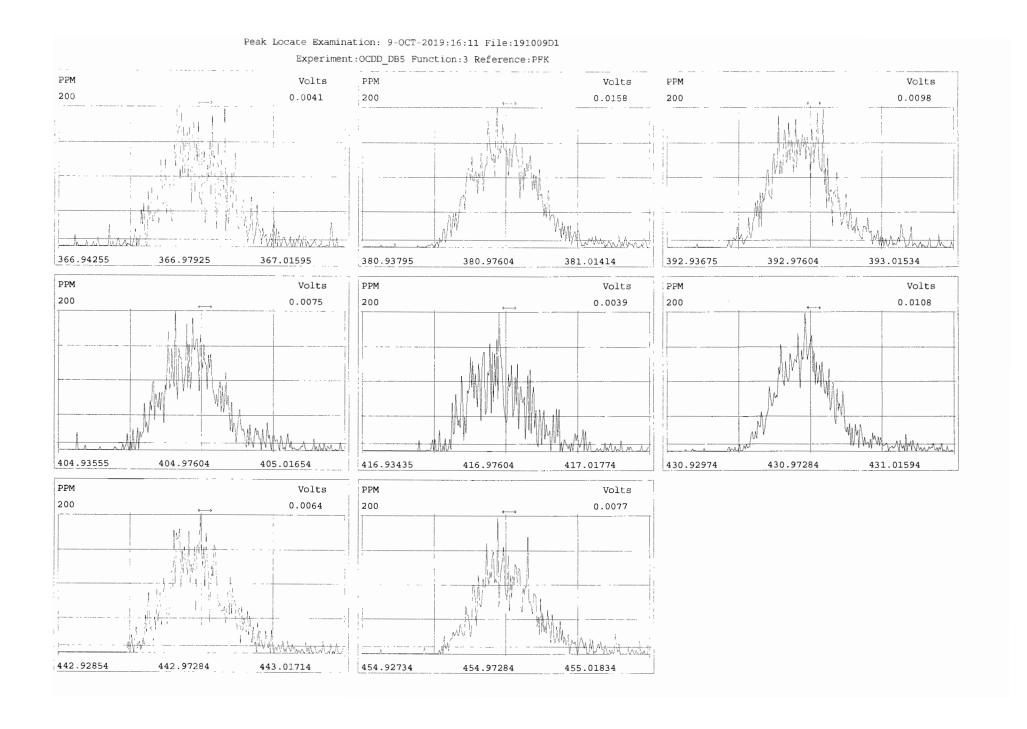
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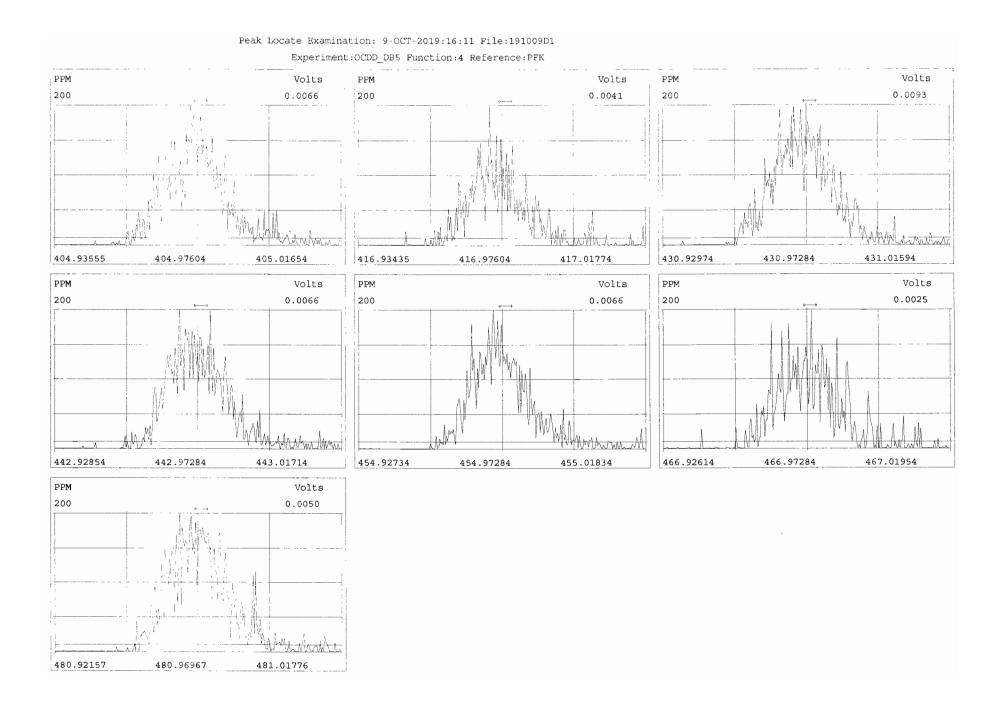
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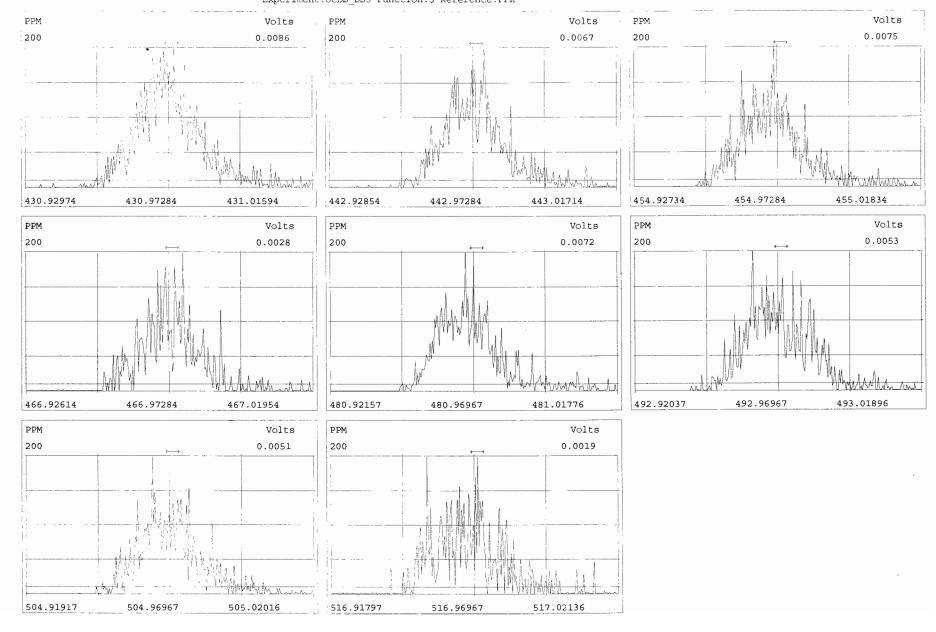


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Peak Locate Examination: 9-OCT-2019:16:12 File:191009D1 Experiment:OCDD DB5 Function:5 Reference:PFK

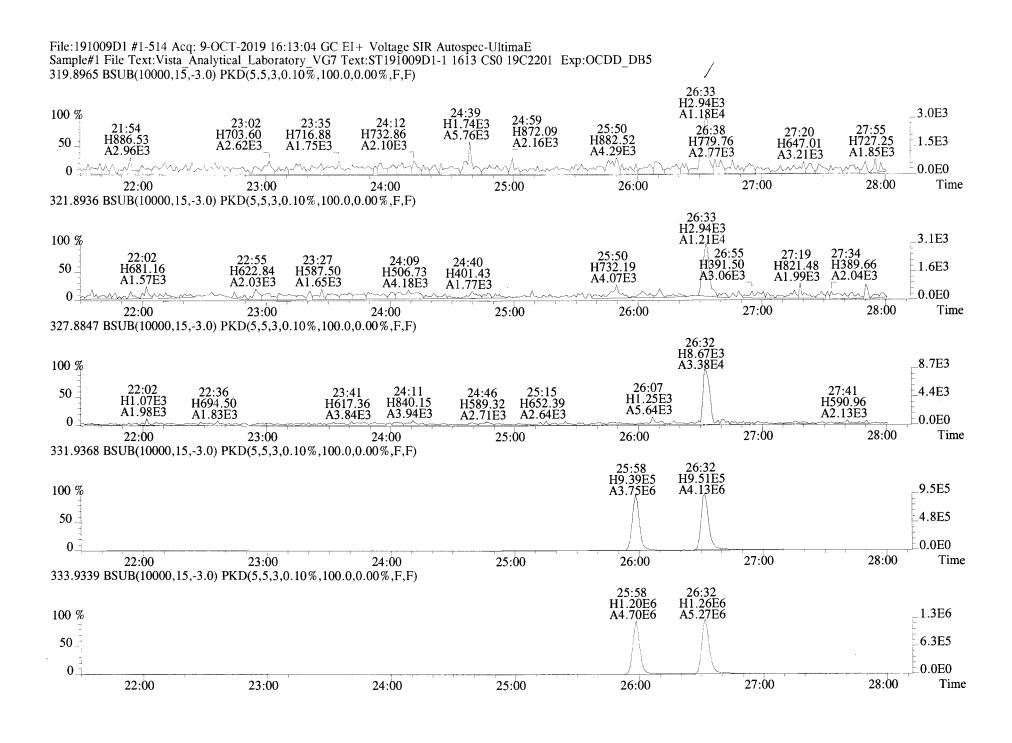


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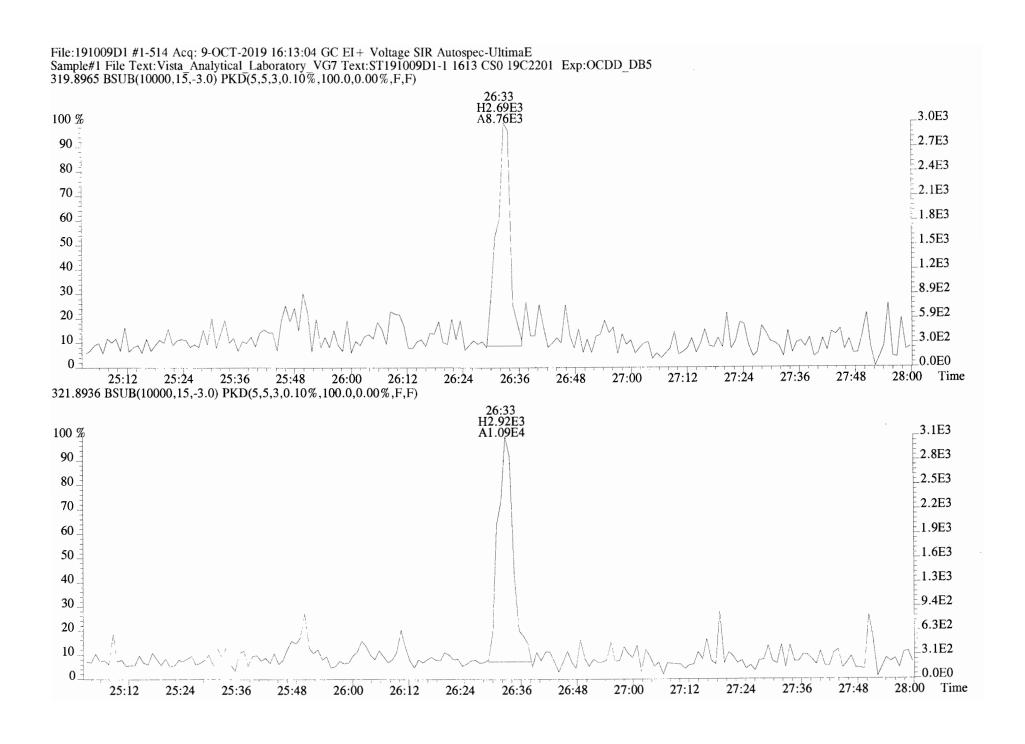
Vista Anal	lytical 1	Laboratory - Injection Log Run file: 191009D1	Instrument ID:	VG-7 GC	Column ID:	ZB-5MS	
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191009D1	1	ST191009D1-1	DB	9-OCT-19	16:13:04	ST191009D1-4	NA
191009D1	2	ST191009D1-2	DB	9-OCT-19	17:00:45	ST191009D1-4	NA
191009D1	3	ST191009D1-3	DB	9-OCT-19	17:48:27	ST191009D1-4	NA
191009D1	4	ST191009D1-4	DB	9-OCT-19	18:36:09	ST191009D1-4	NA
191009D1	5	ST191009D1-5	DB	9-OCT-19	19:23:46	ST191009D1-4	NA
191009D1	6	ST191009D1-6	DB	9-OCT-19	20:11:17	ST191009D1-4	NA
191009D1	7	SOLVENT BLANK	DB	9-OCT-19	20:58:57	ST191009D1-4	NA
191009D1	8	SS191009D1-1	DB	9-OCT-19	21:46:34	ST191009D1-4	NA
191009D1	9	B9J0001-BS1	DB	9-OCT-19	22:34:09	ST191009D1-4	NA
191009D1	10	SOLVENT BLANK	DB	9-OCT-19	23:21:45	ST191009D1-4	NA
191009D1	11	B9J0001-BLK1	DB	10-OCT-19	00:09:30	ST191009D1-4	NA
191009D1	12	QC191007D1-1	DB	10-OCT-19	00:57:00	ST191009D1-4	NA
191009D1	13	1903285-08	DB	10-OCT-19	01:44:36	ST191009D1-4	NA
191009D1	14	1903285-09	DB	10-OCT-19	02:32:11	ST191009D1-4	NA
191009D1	15	1903285-10	DB	10-OCT-19	03:19:47	ST191009D1-4	NA
191009D1	16	1903103-02@5X	DB	10-OCT-19	04:07:23	ST191009D1-4	NA
191009D1	17	1903103-01@5X	DB	10-OCT-19	04:54:54	ST191009D1-4	NA
191009D1	18	B9I0240-DUP1@5X	DB	10-OCT-19	05:42:38	ST191009D1-4	NA

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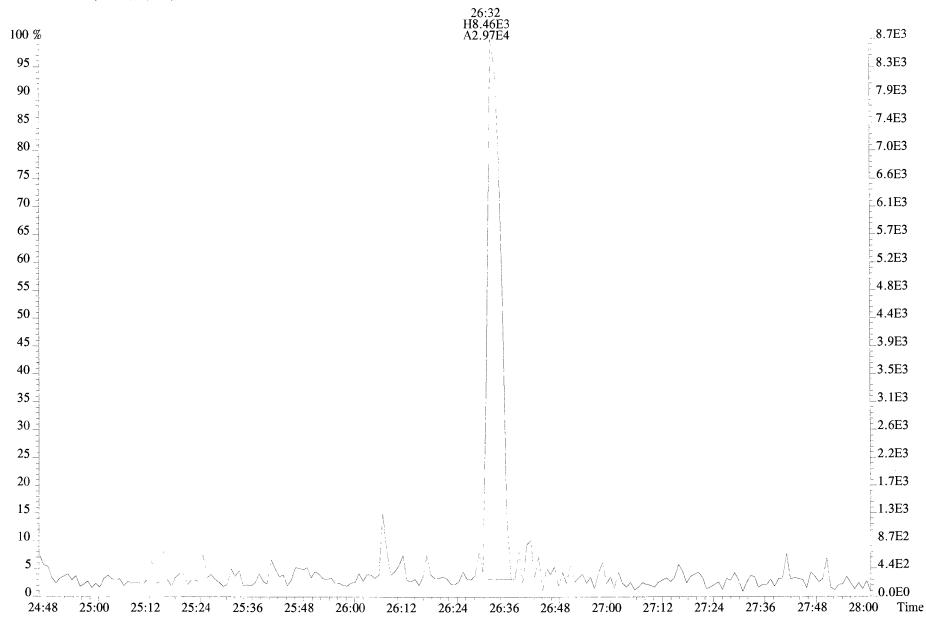


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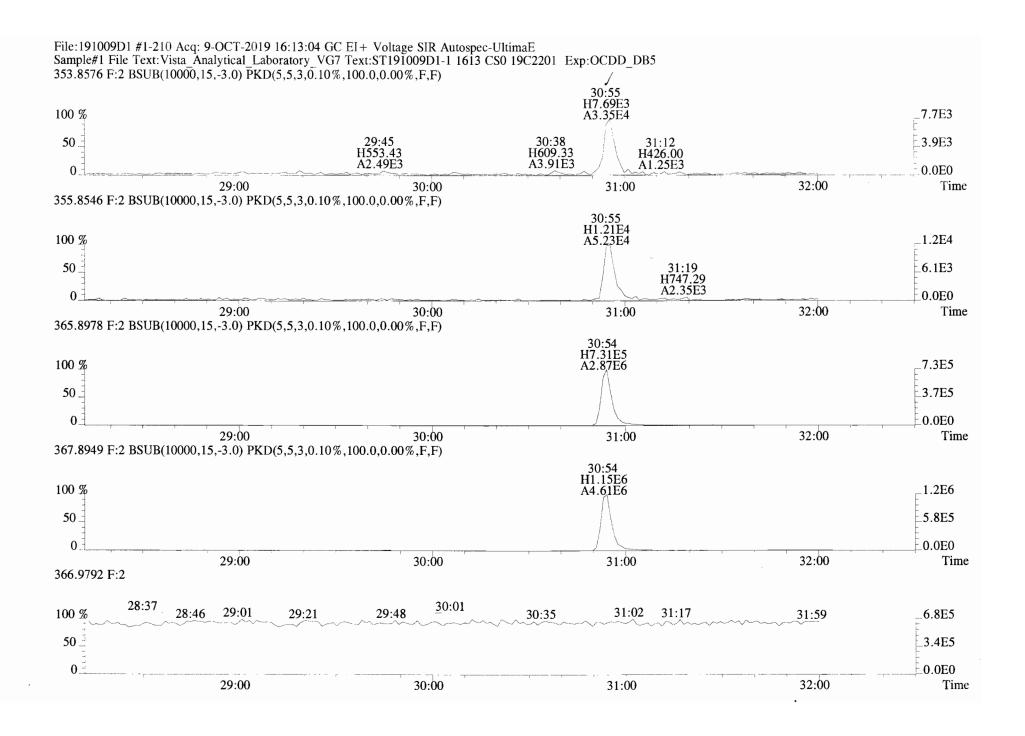


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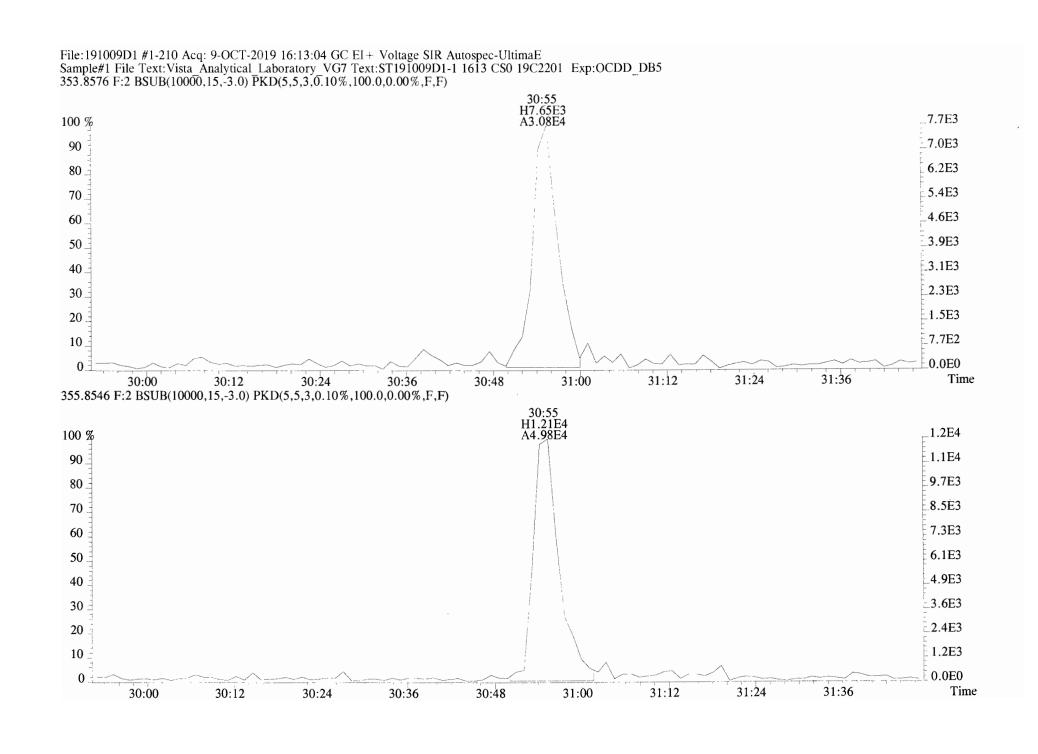
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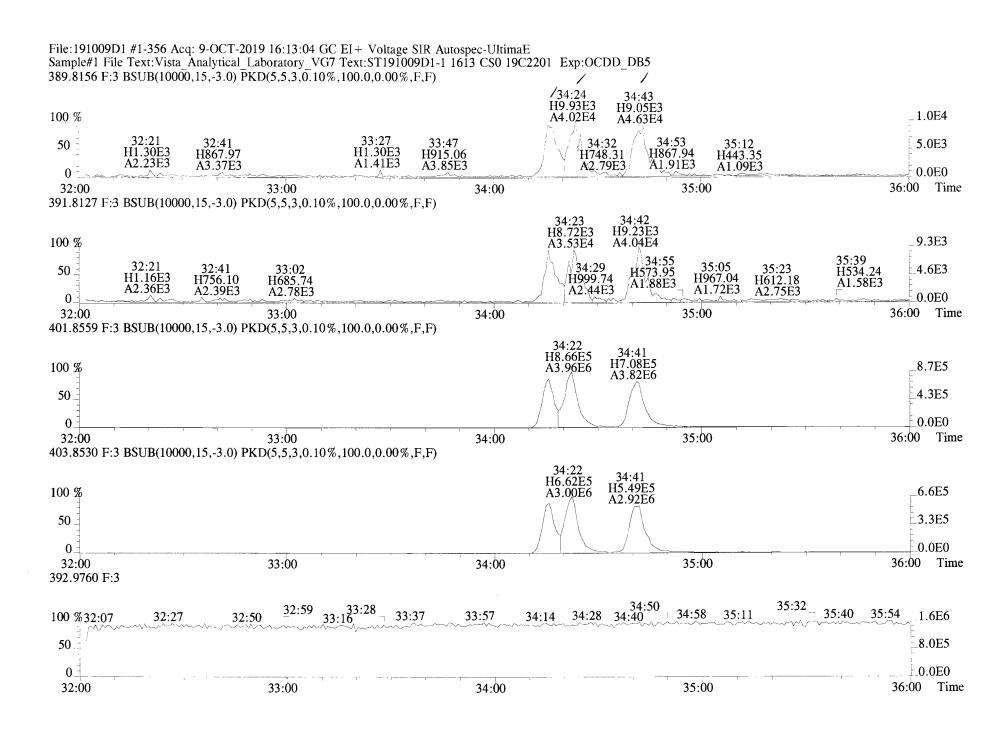
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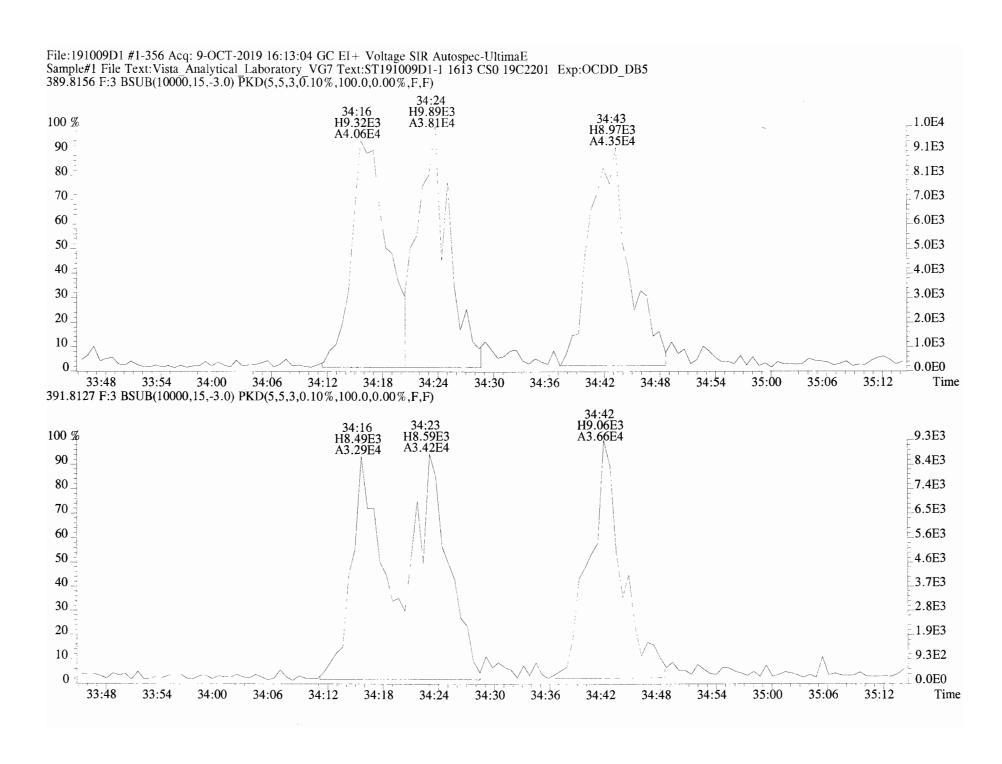
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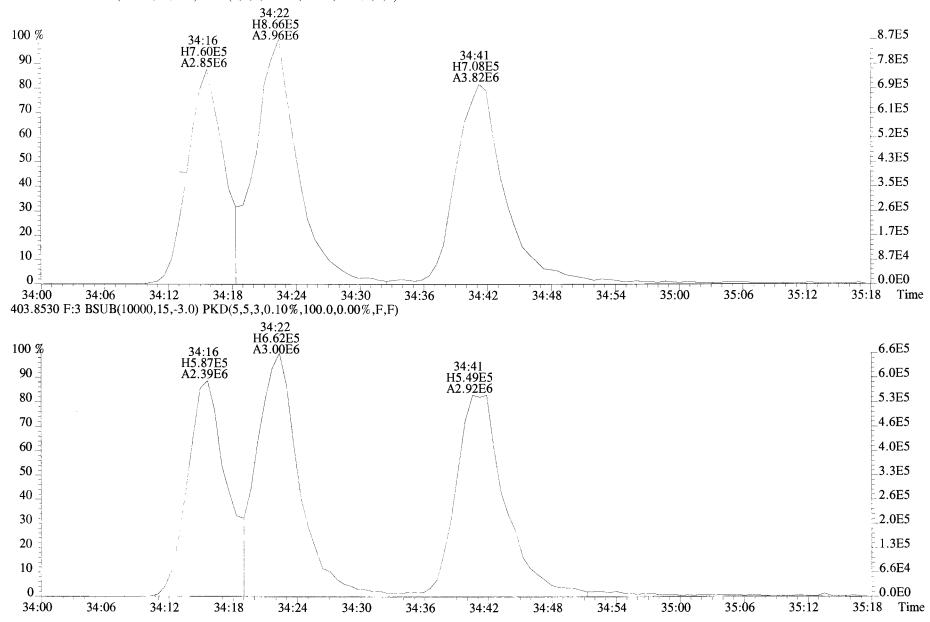


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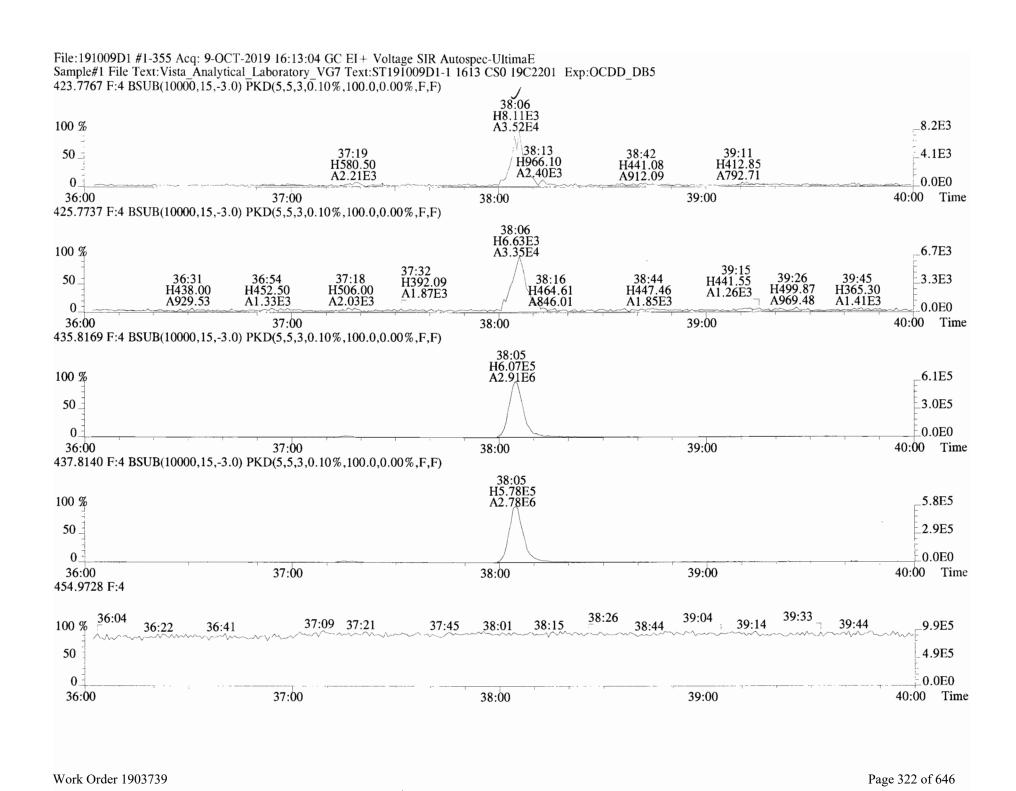


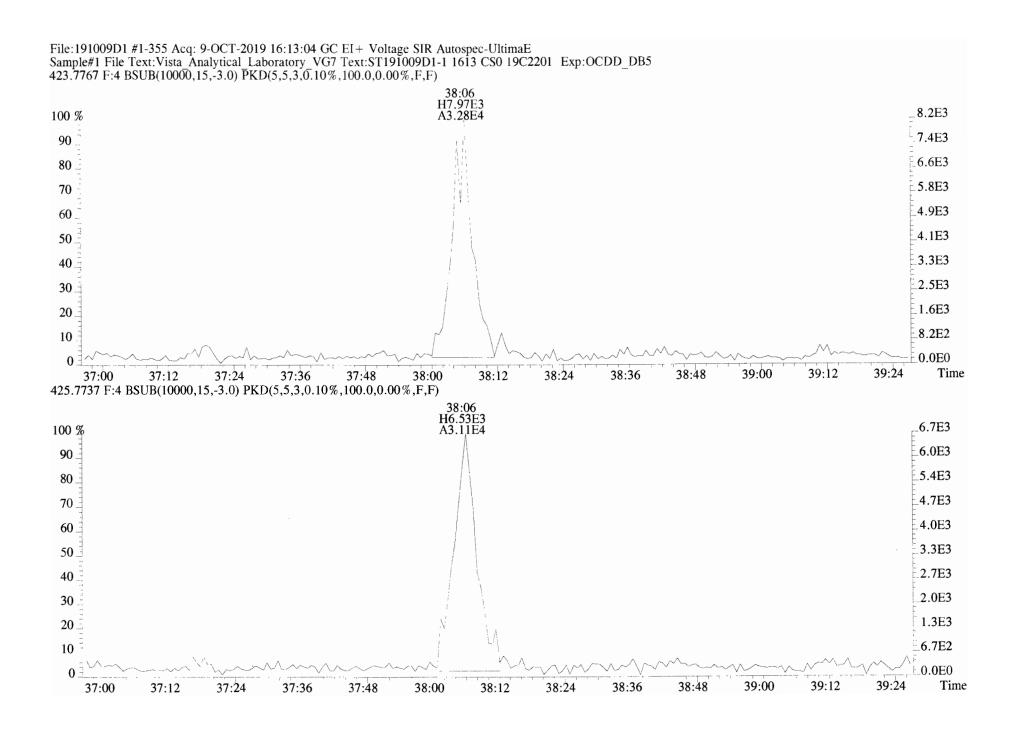
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File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5 401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

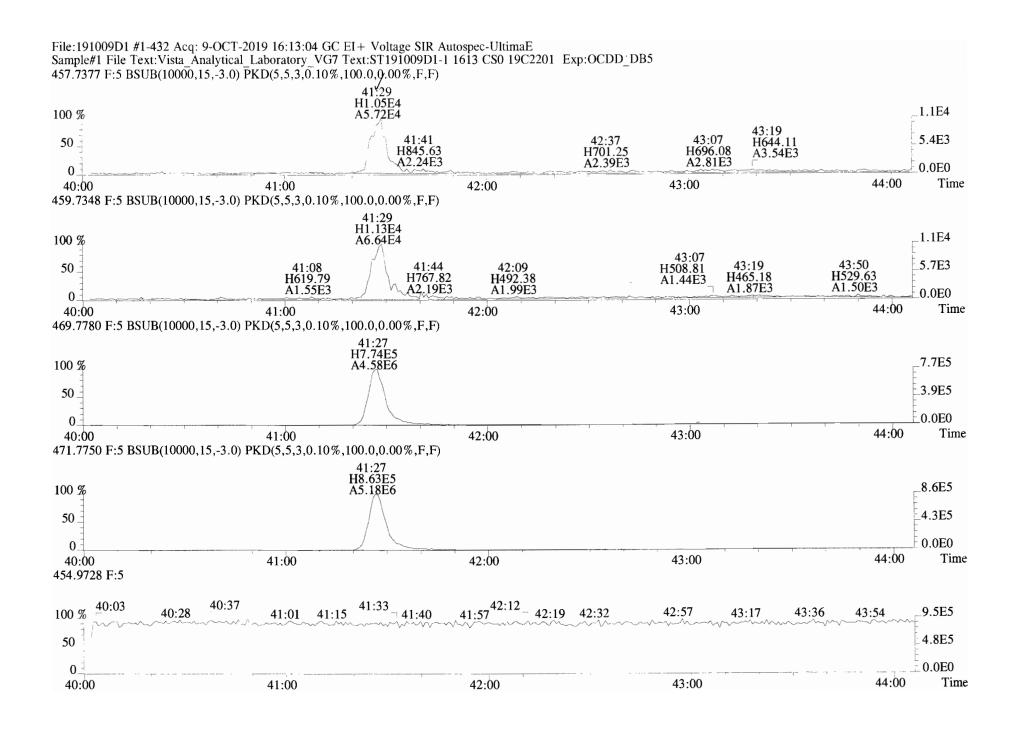


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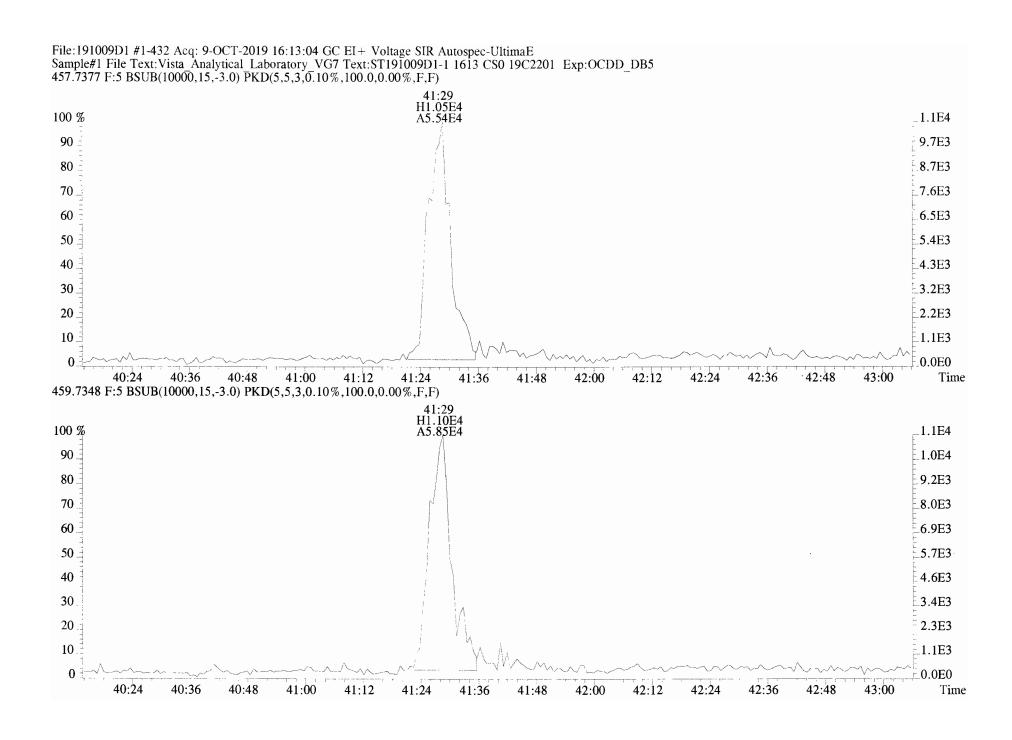




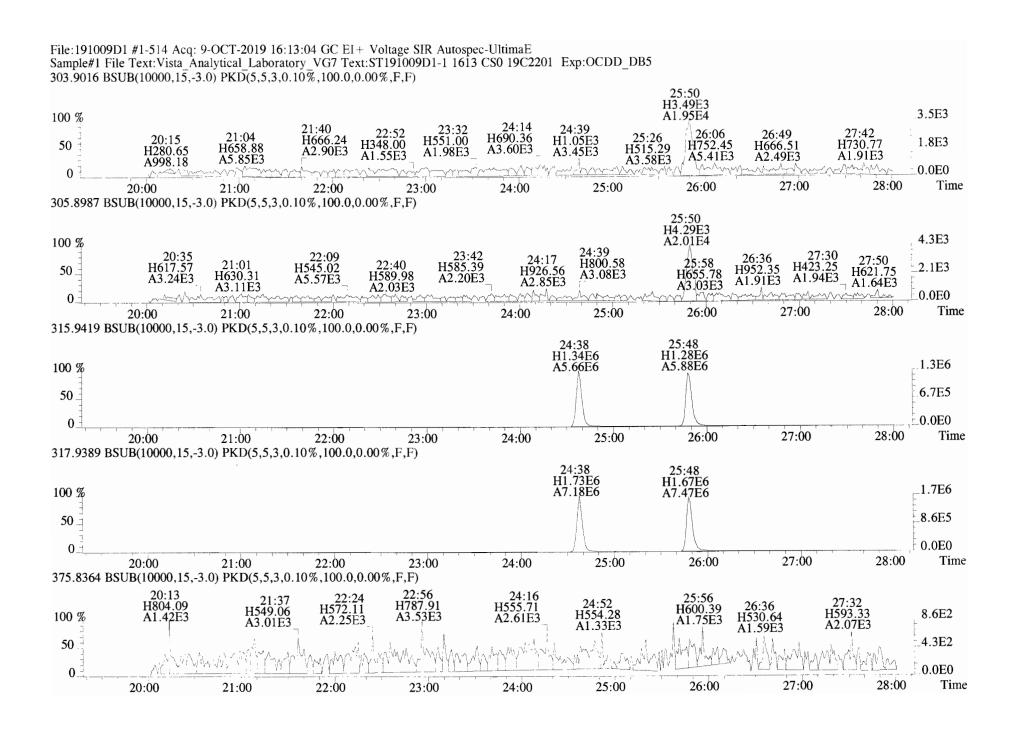
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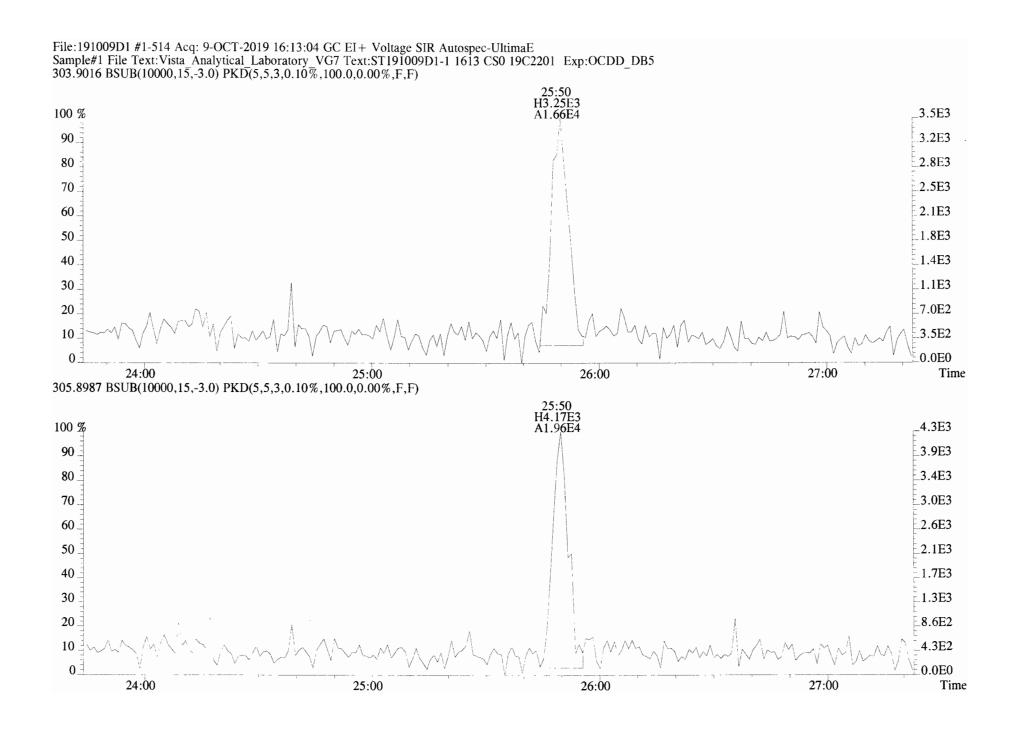
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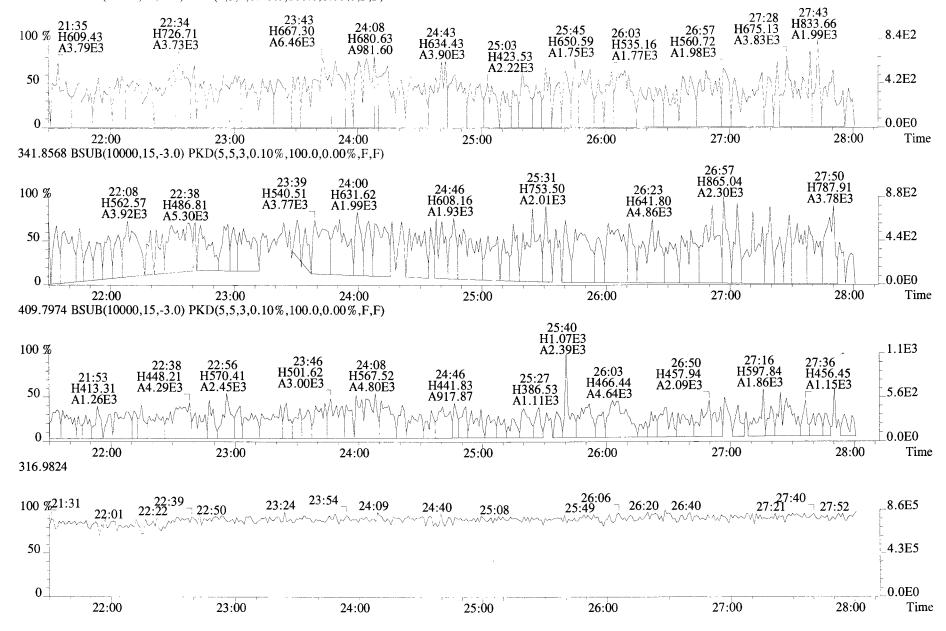


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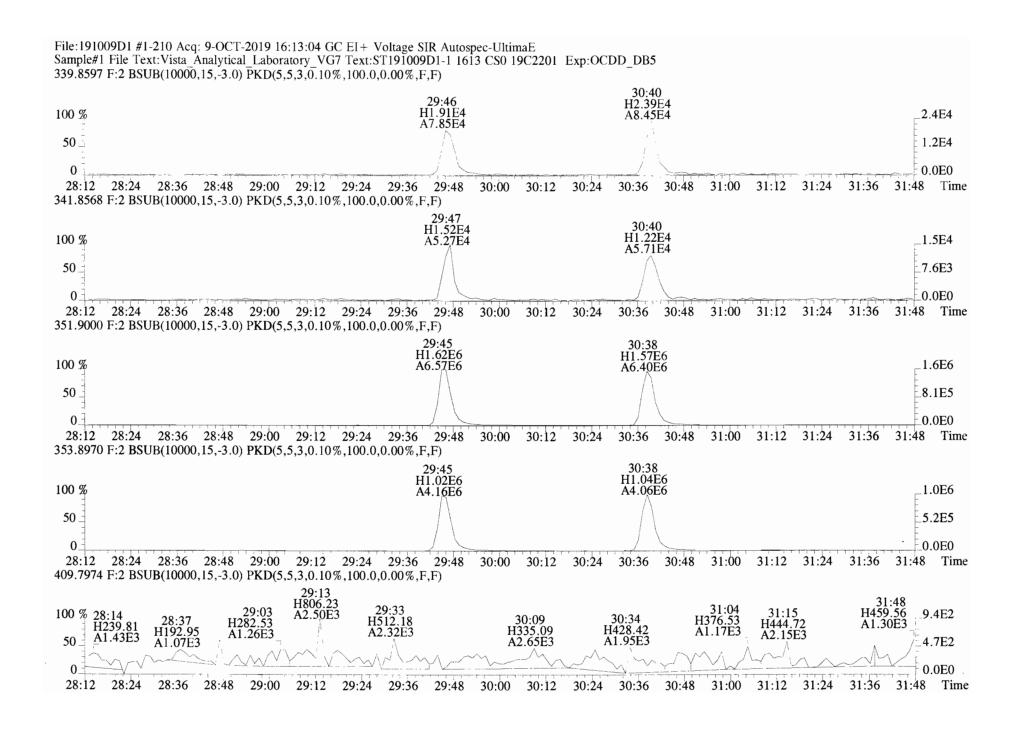


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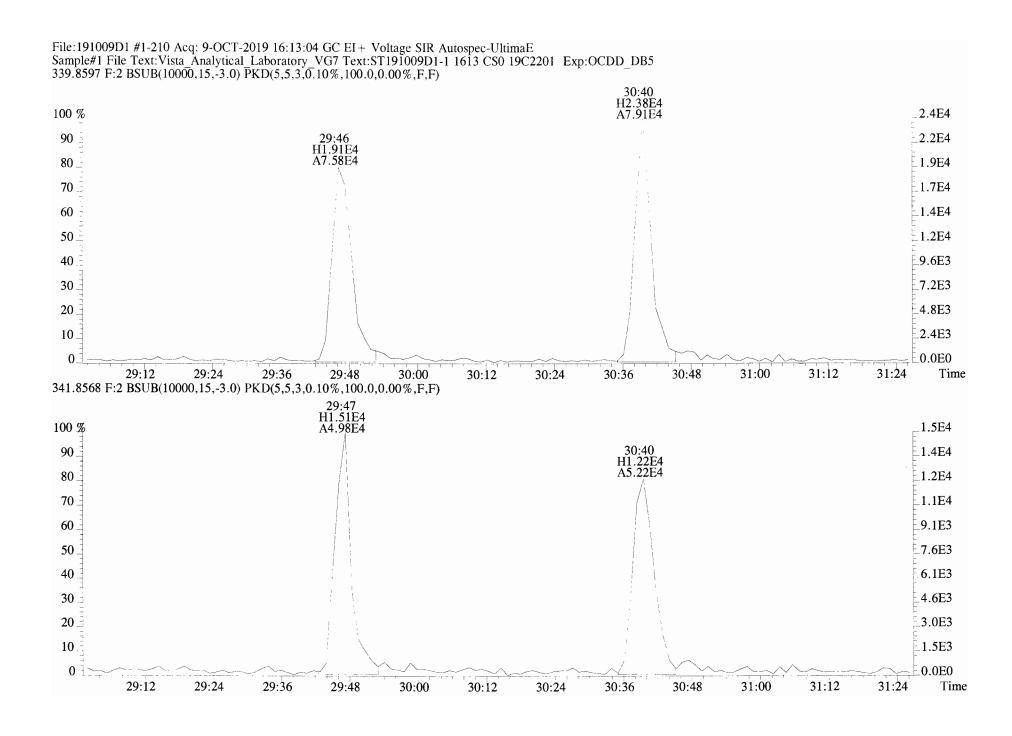
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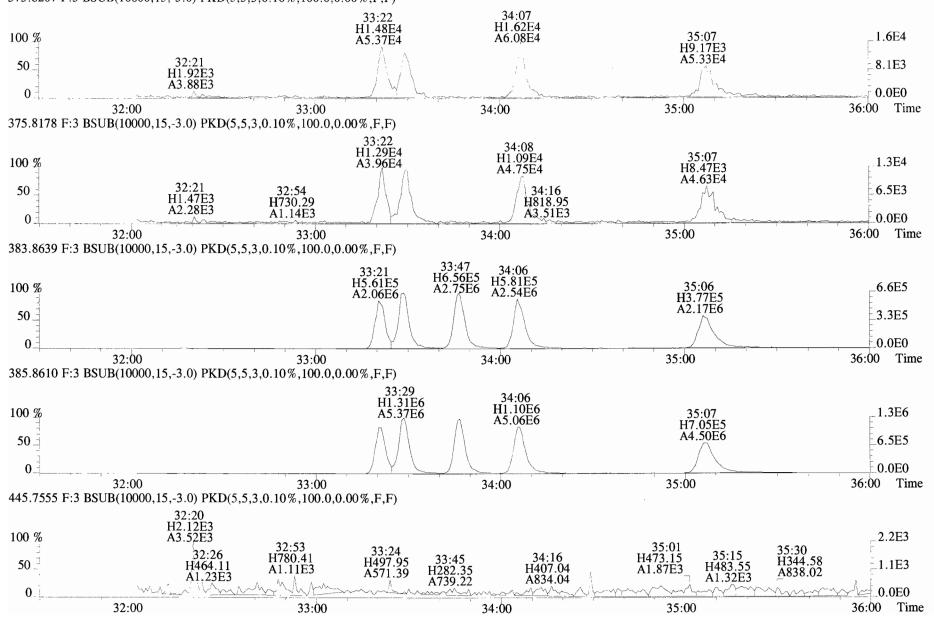


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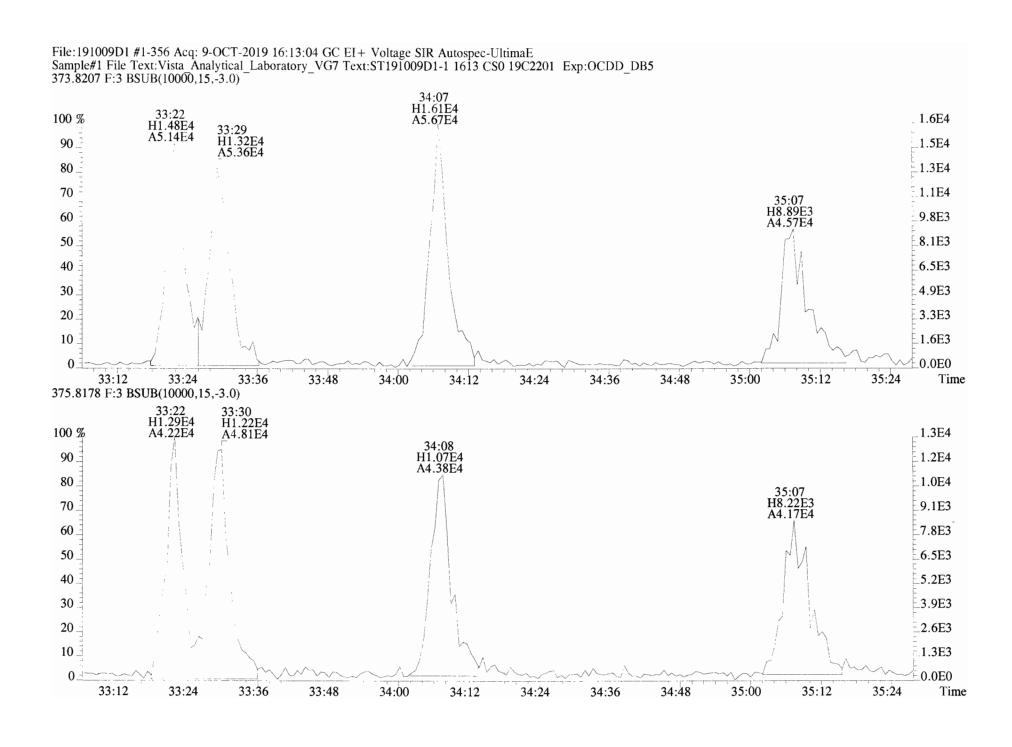


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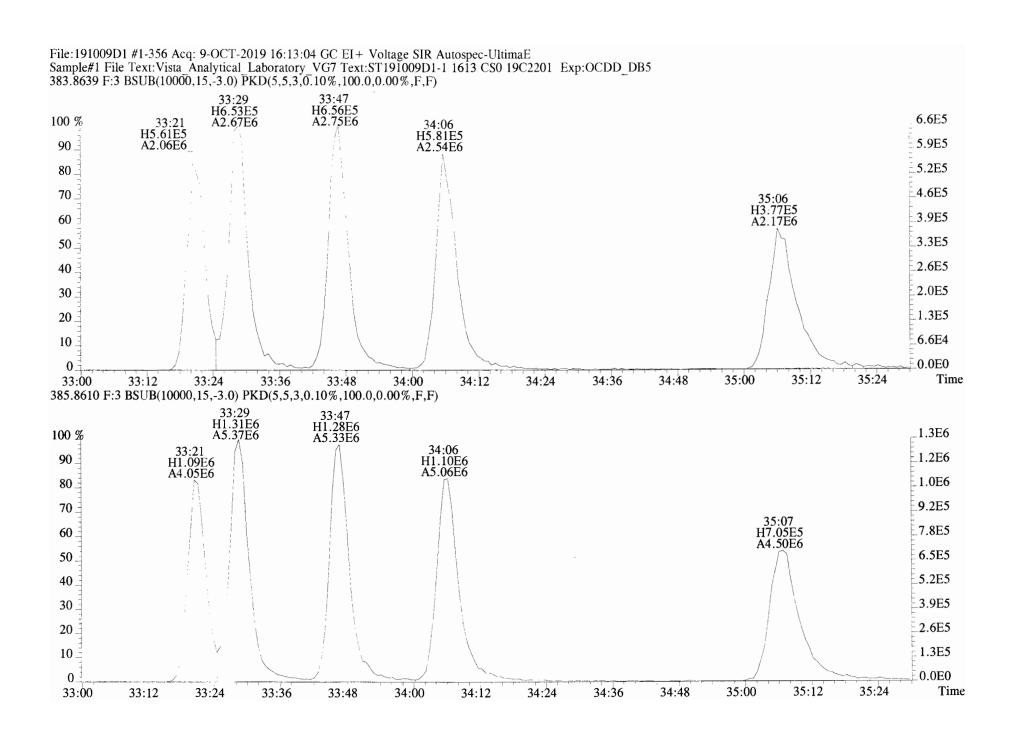
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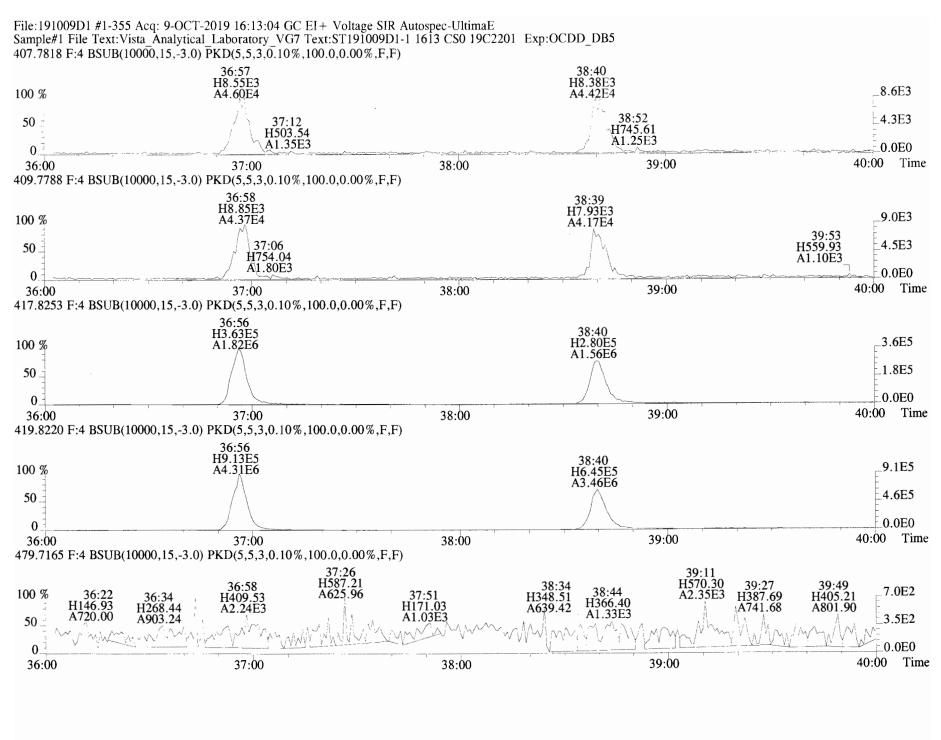
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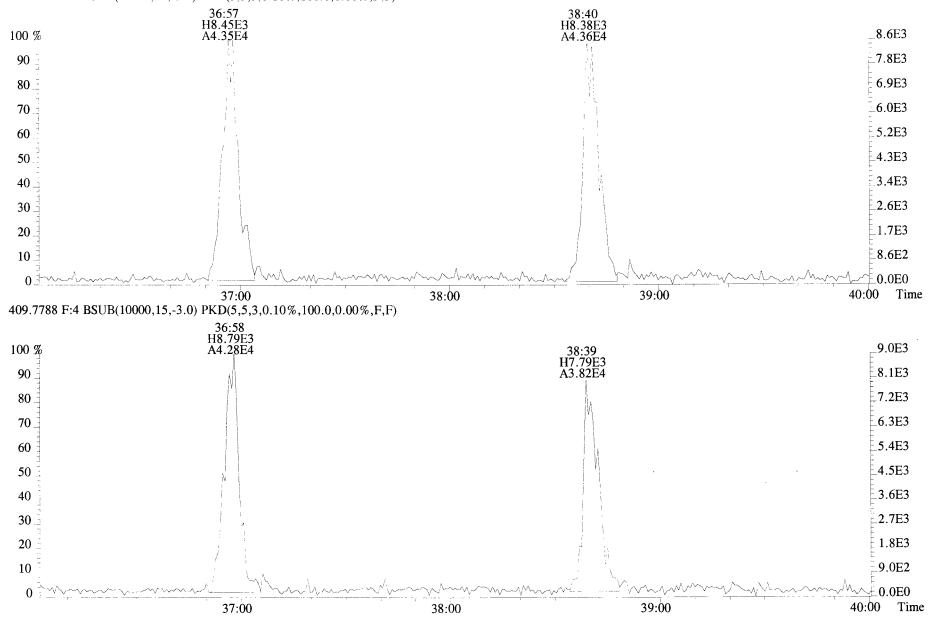
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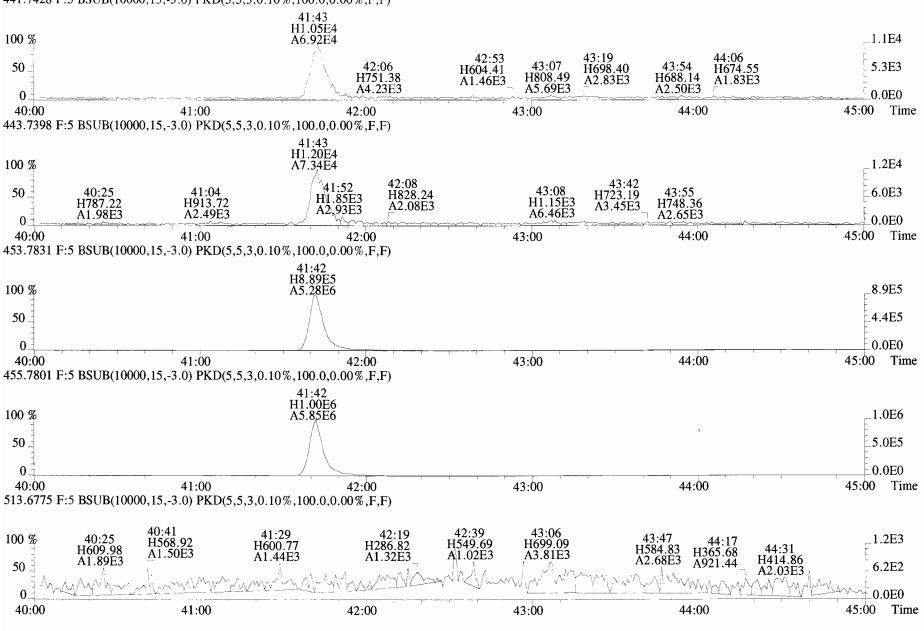
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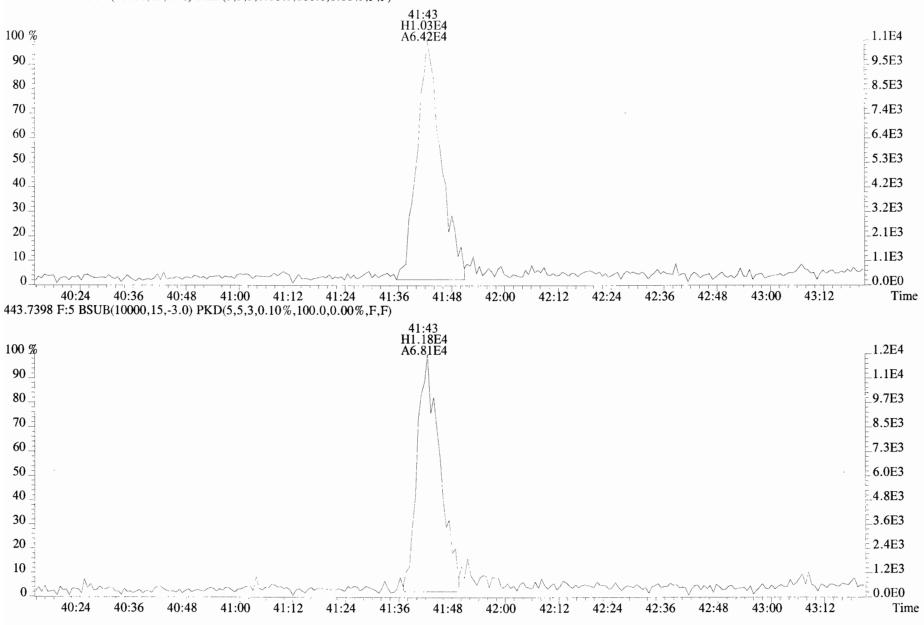
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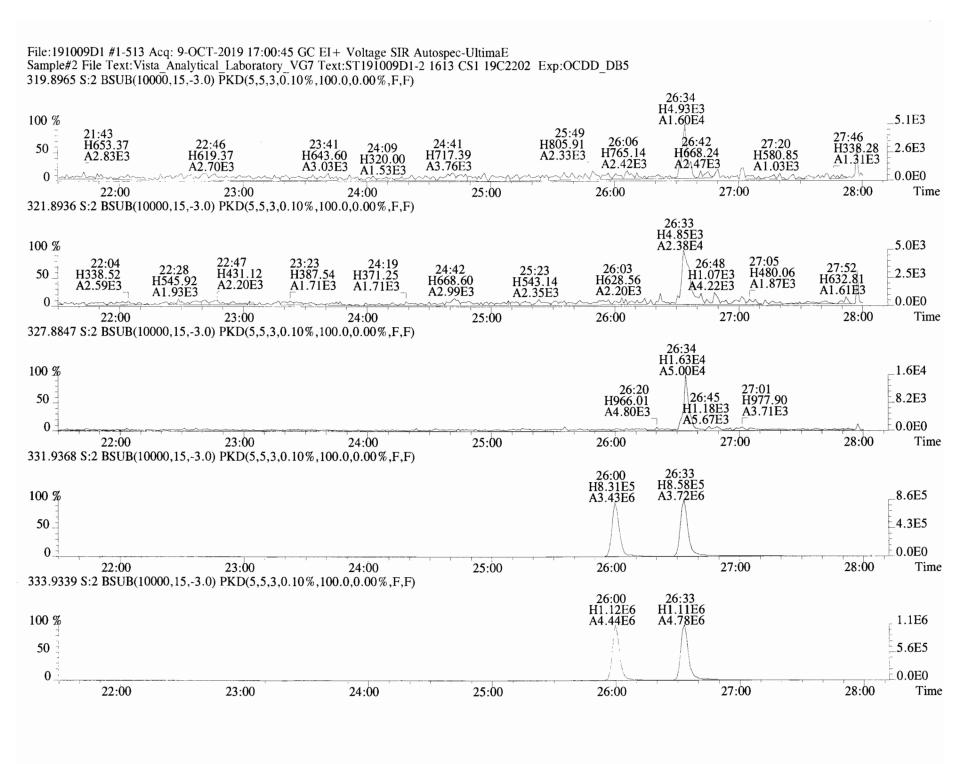


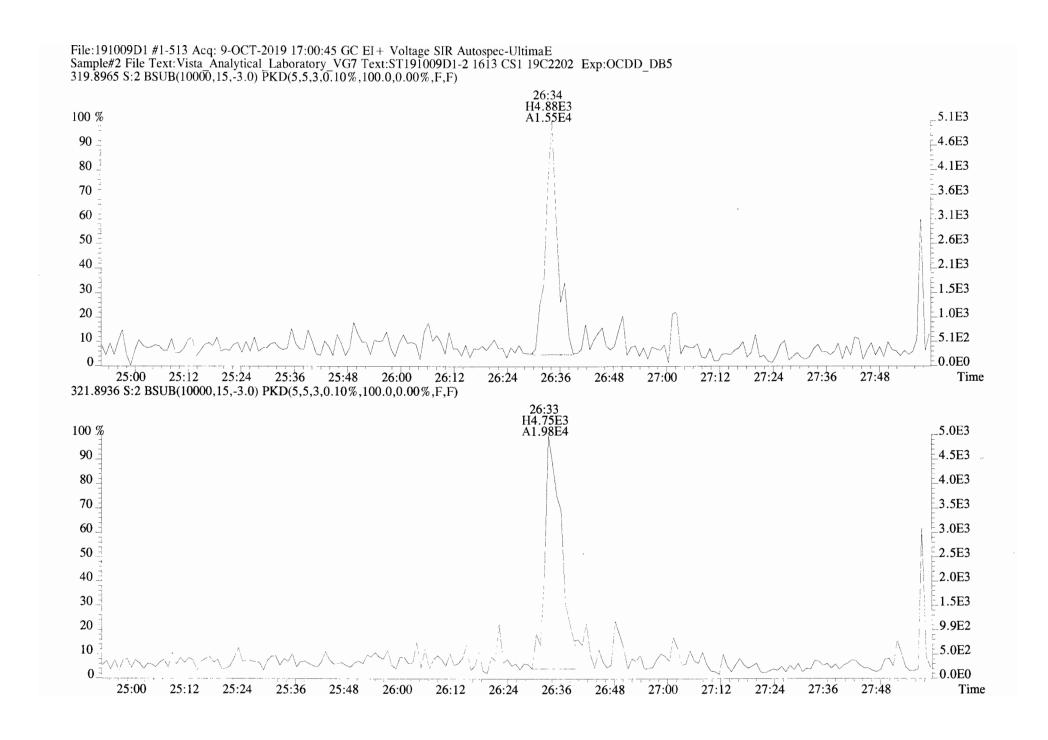
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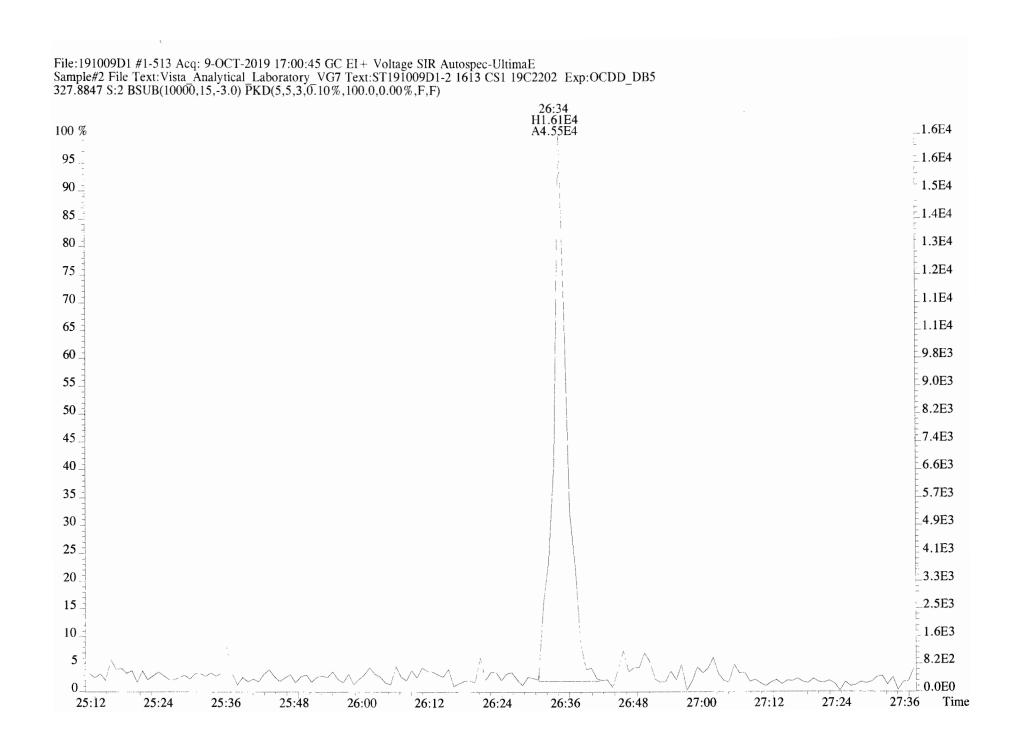
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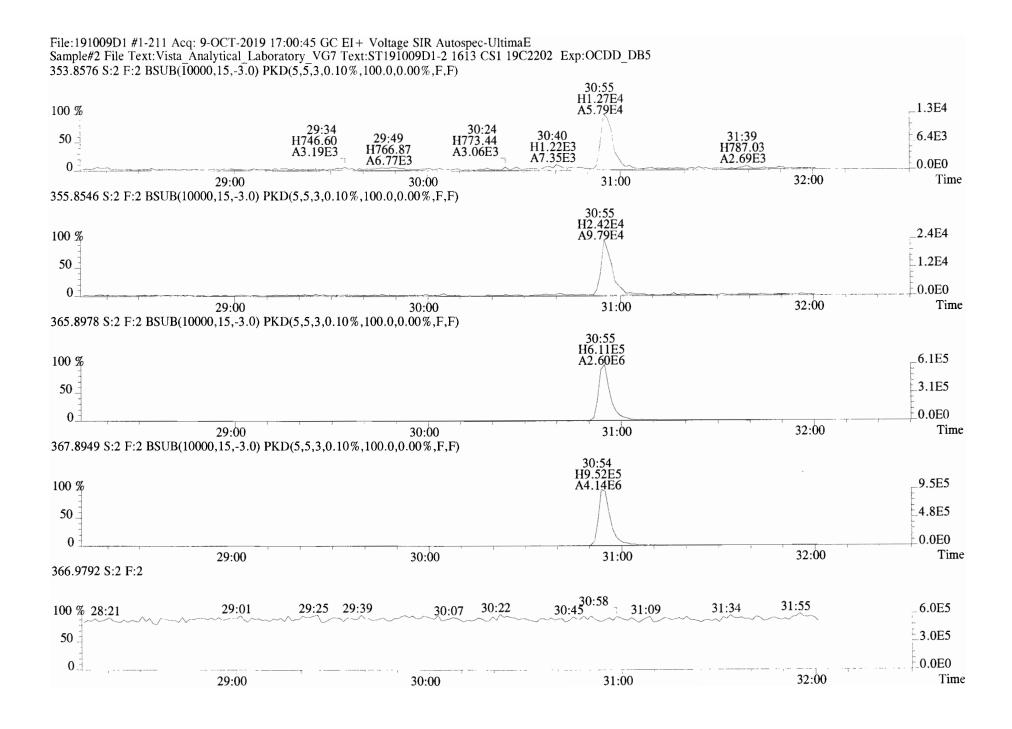




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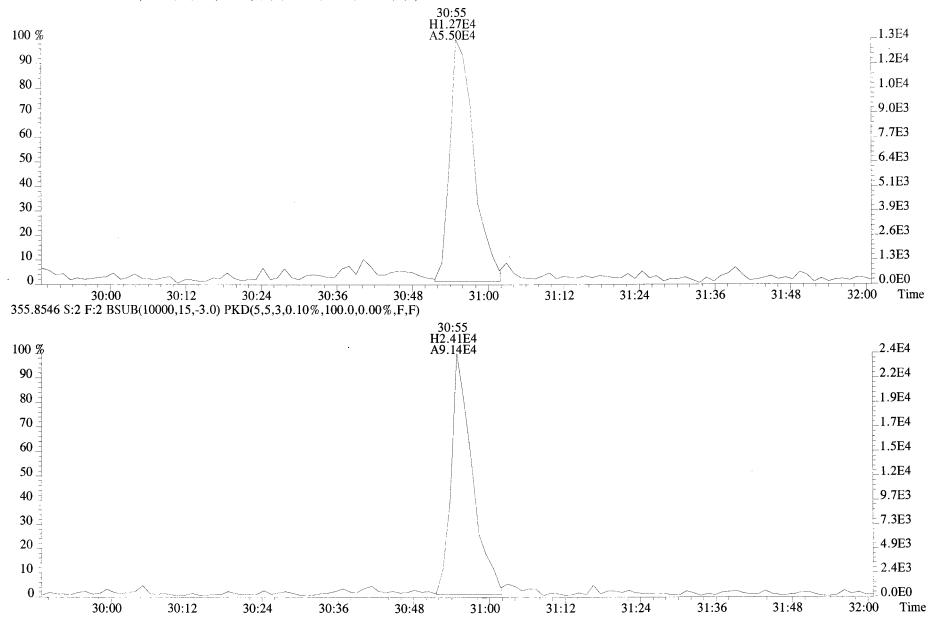


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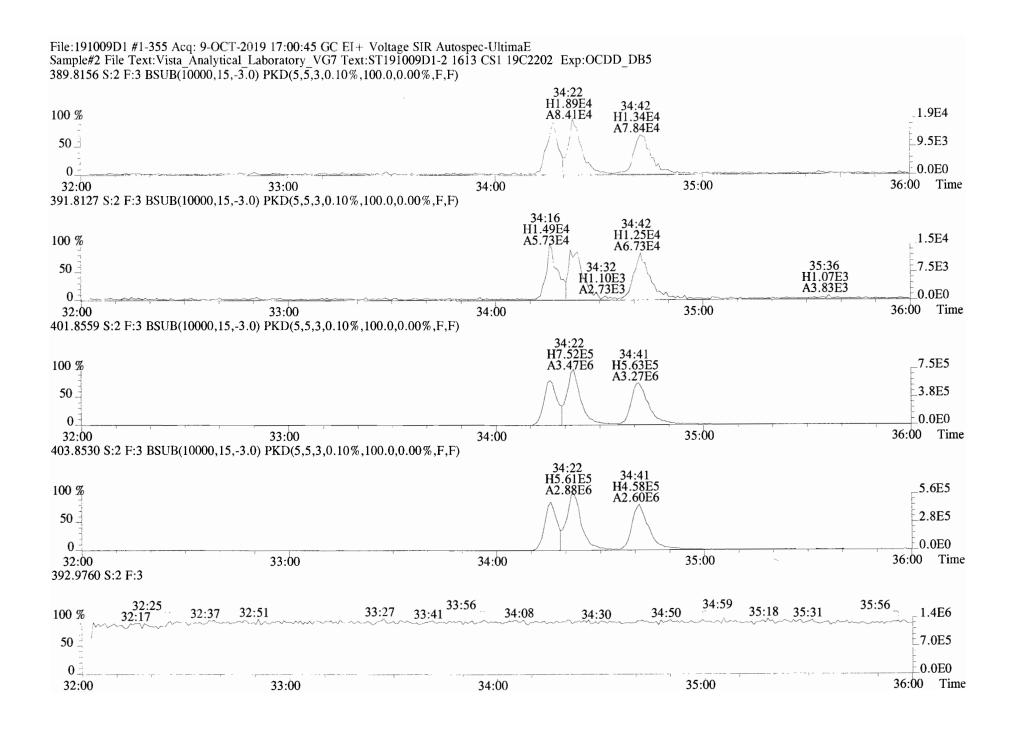


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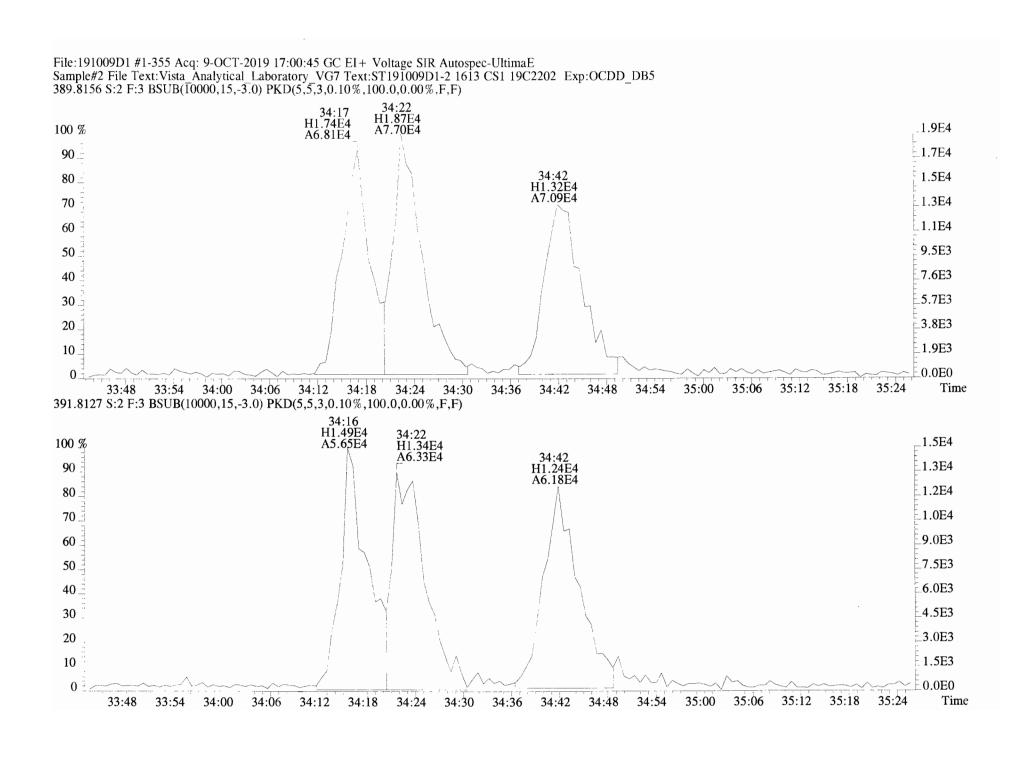
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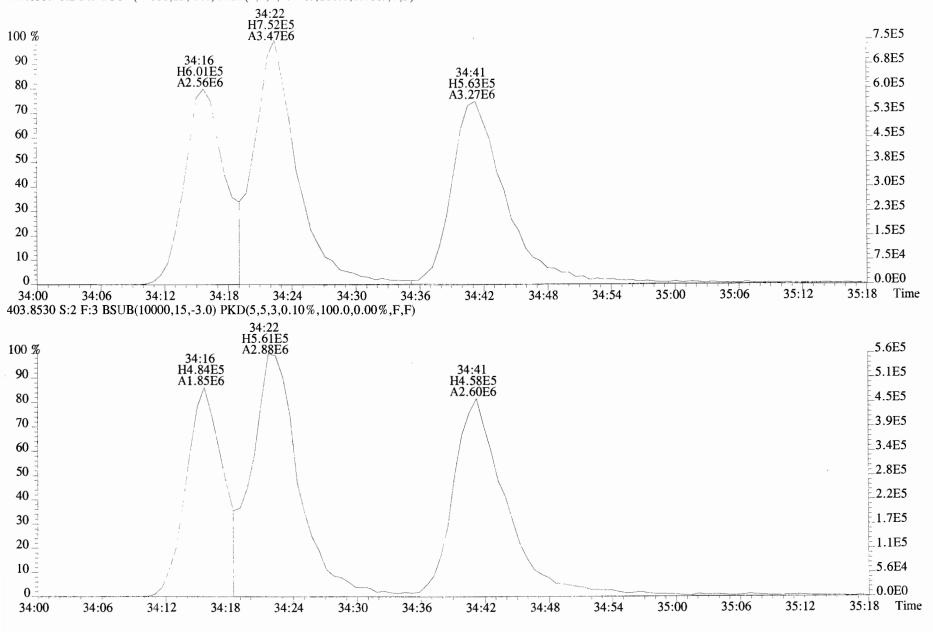


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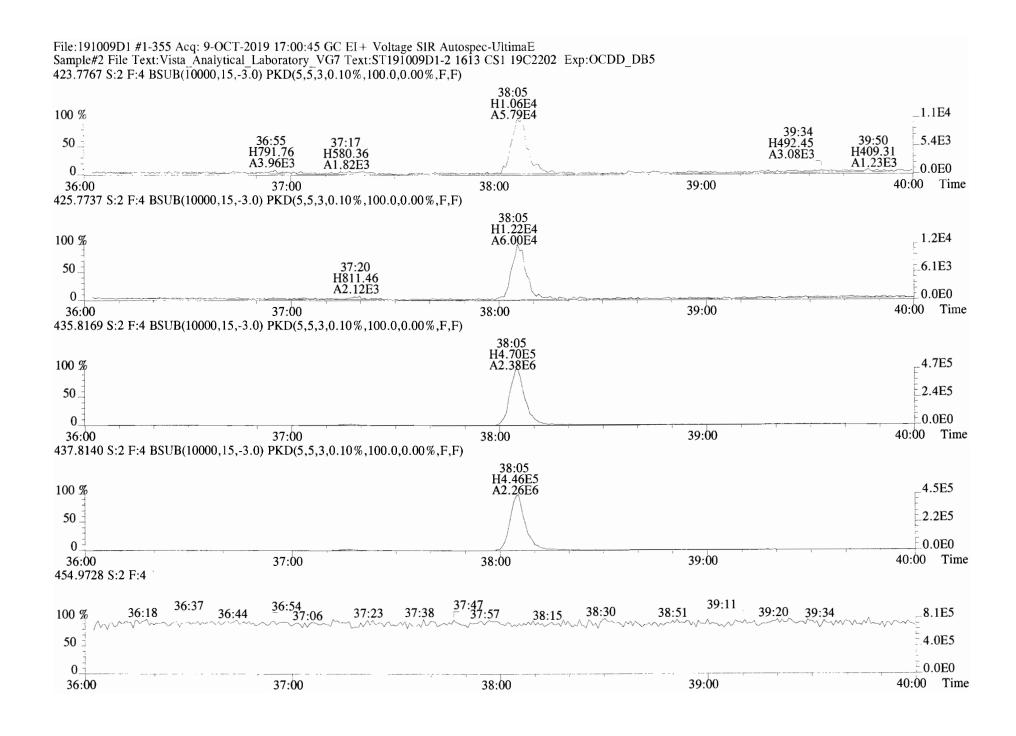


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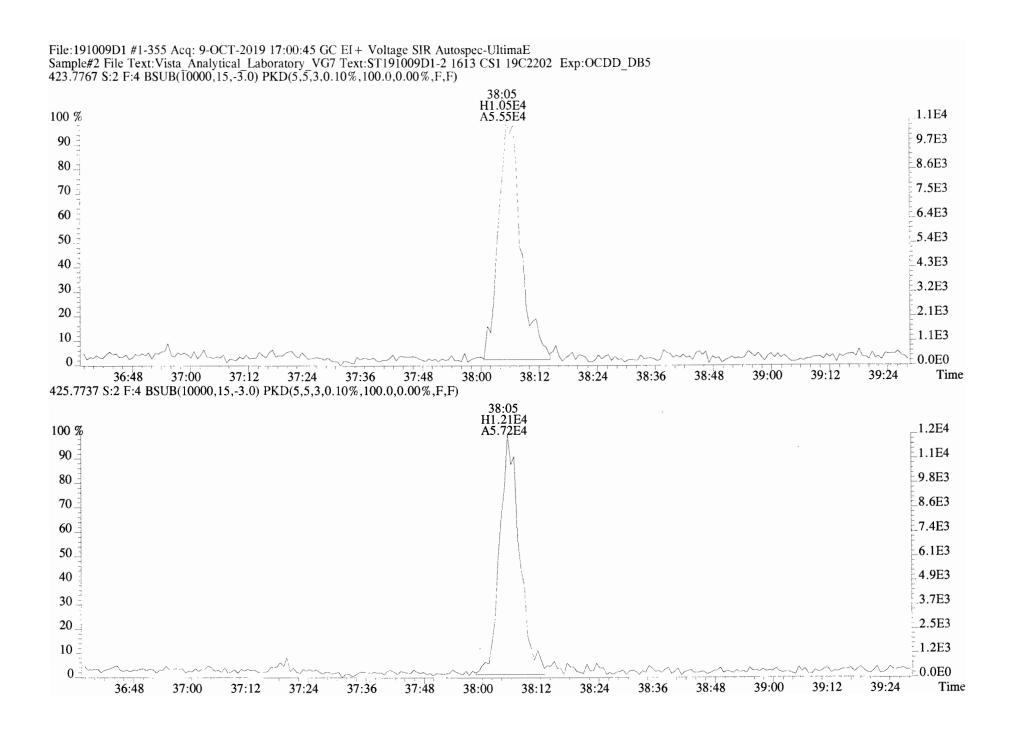
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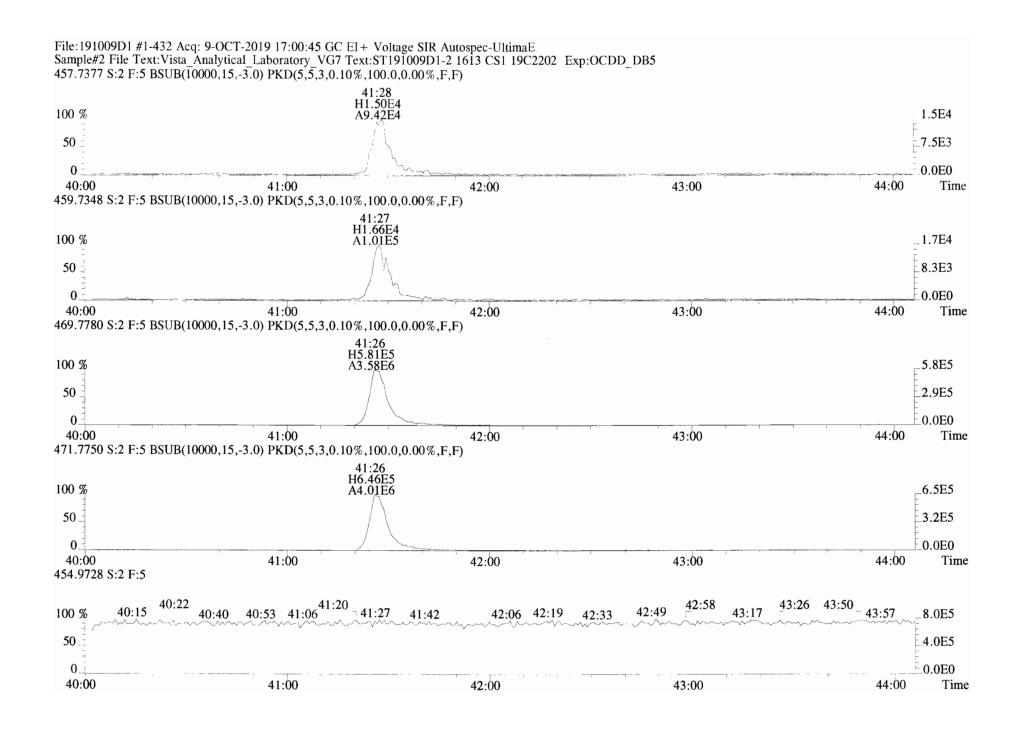
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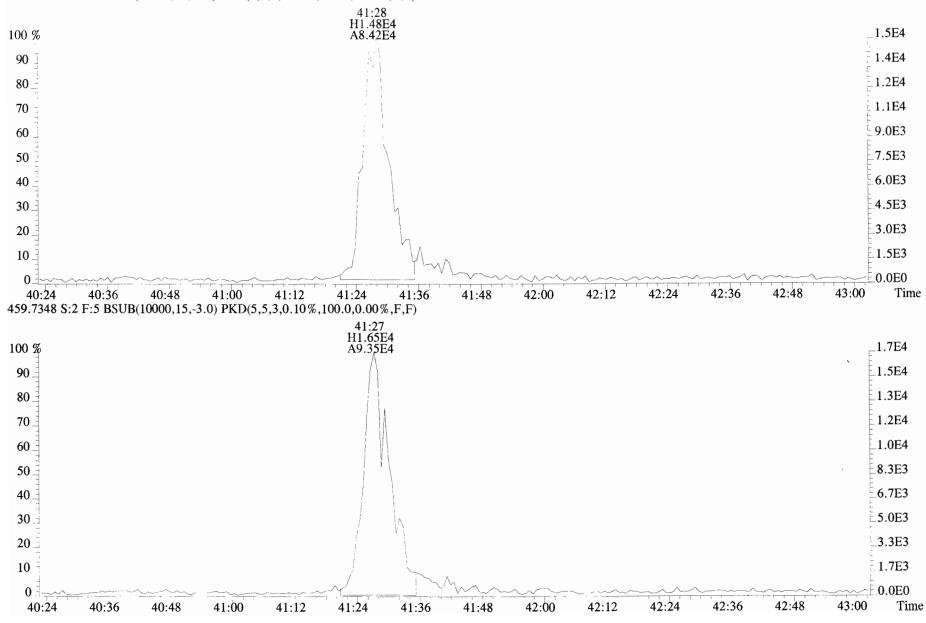


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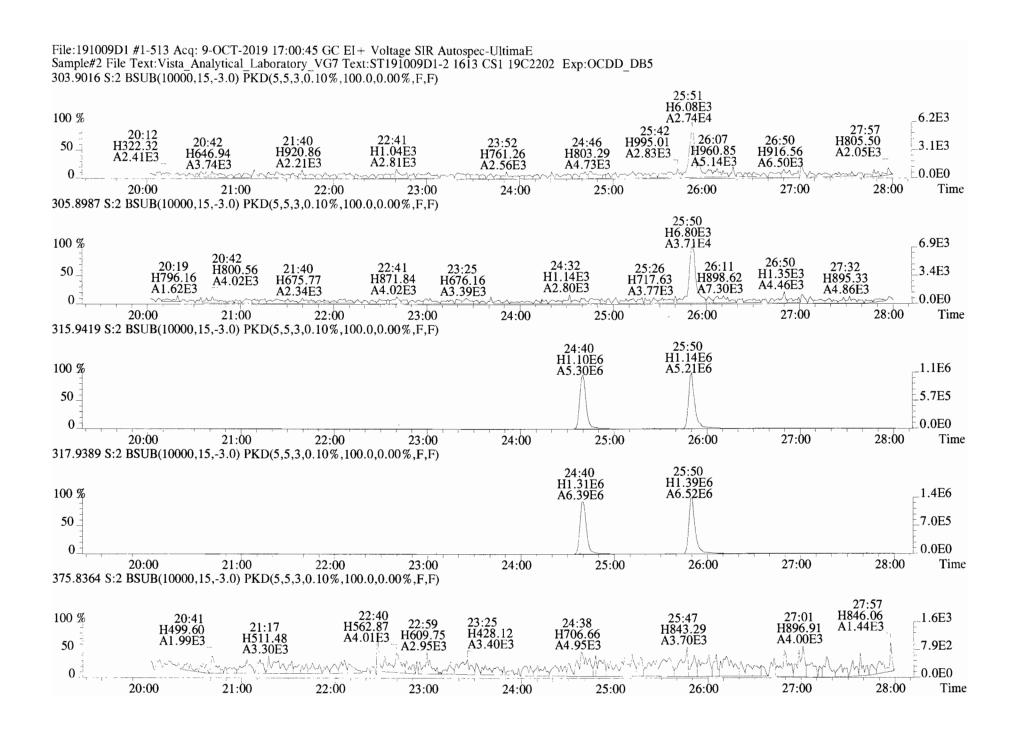


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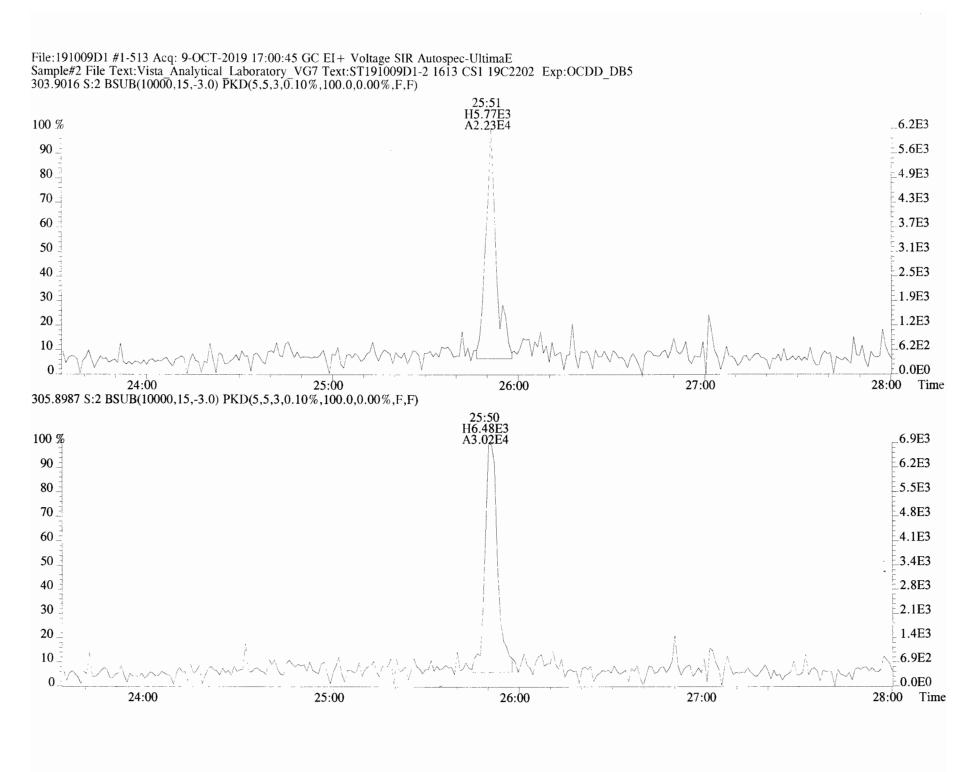
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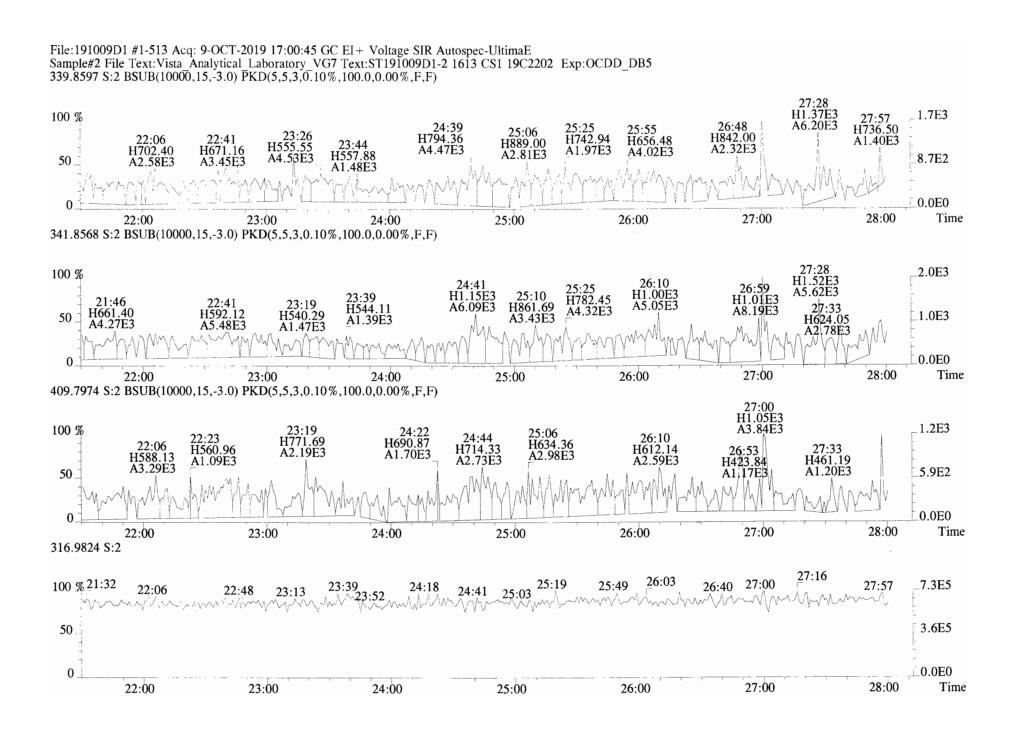


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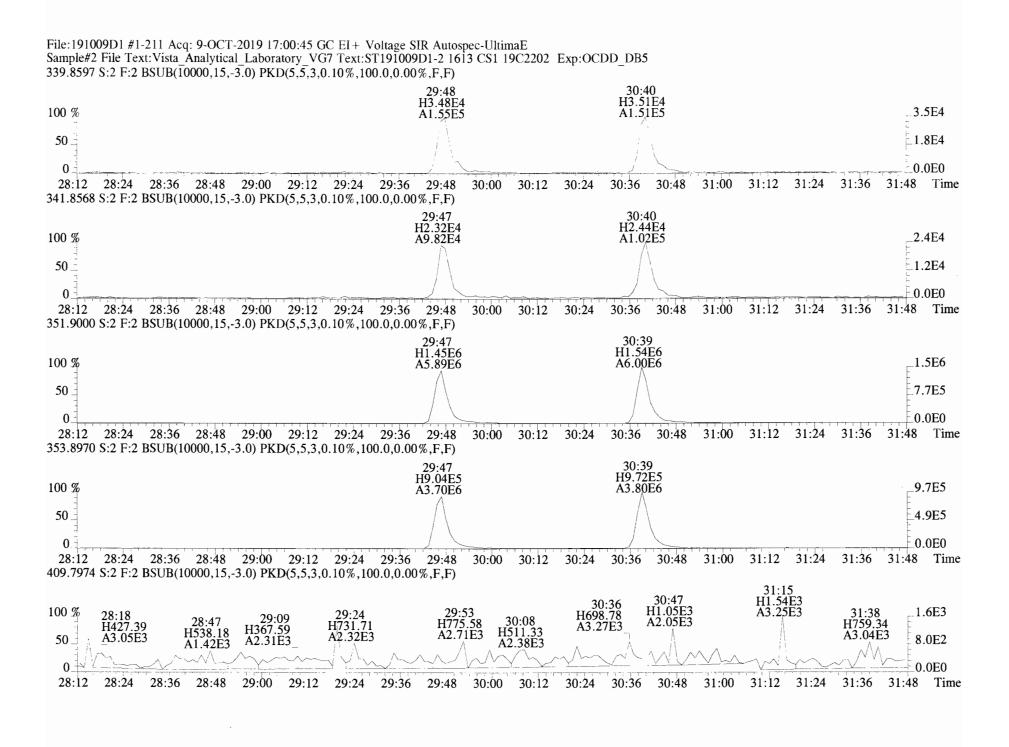


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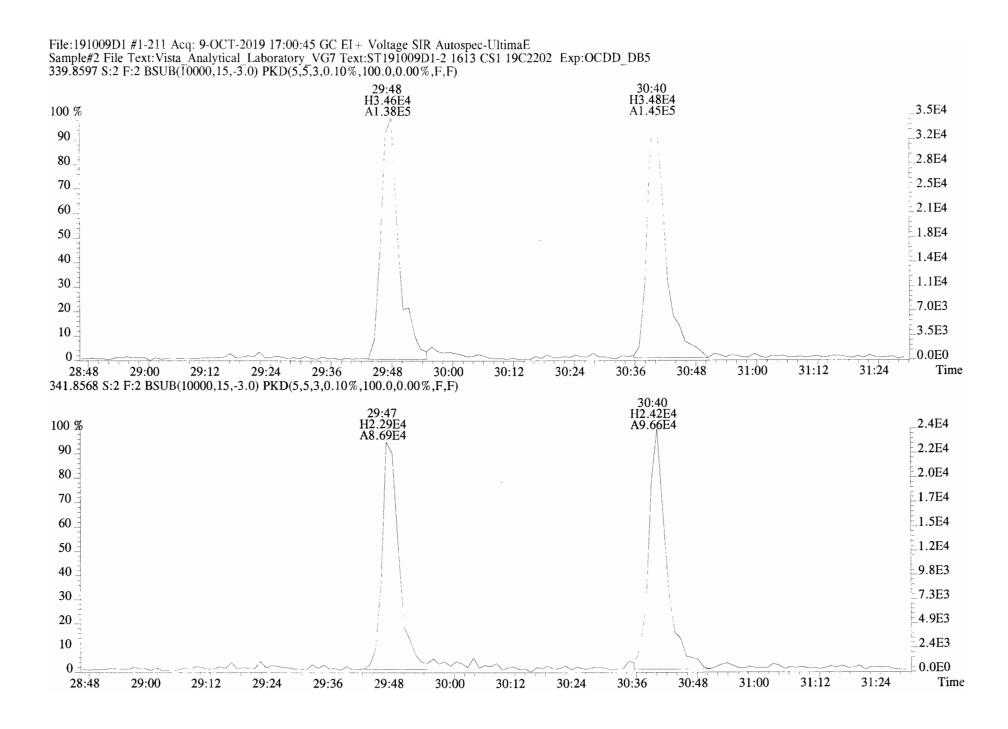




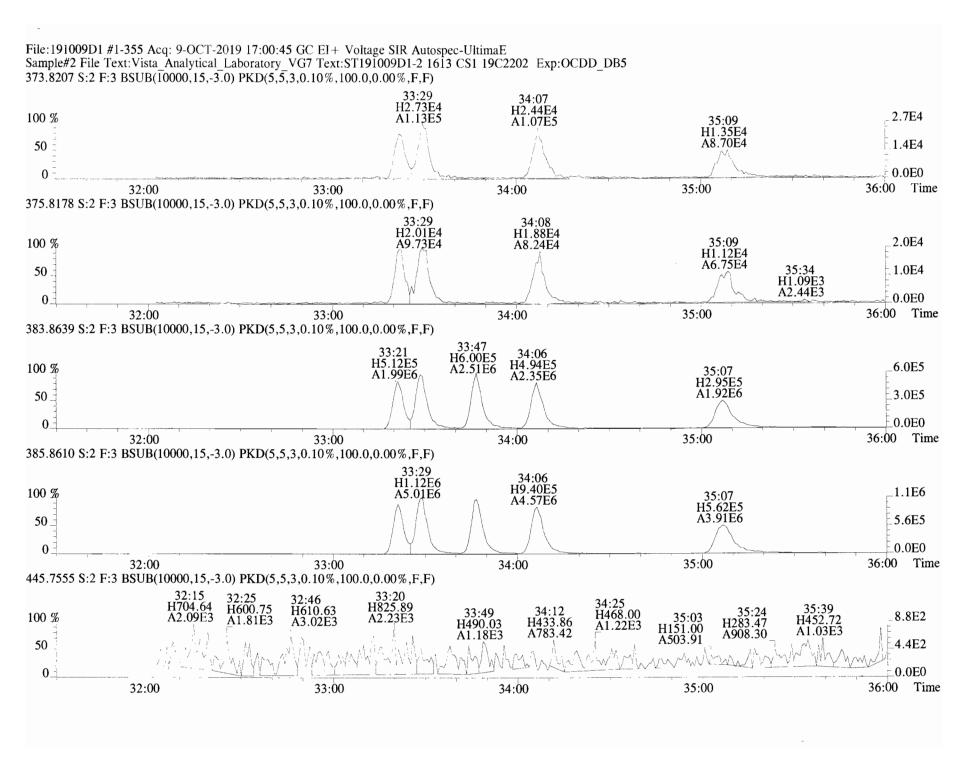
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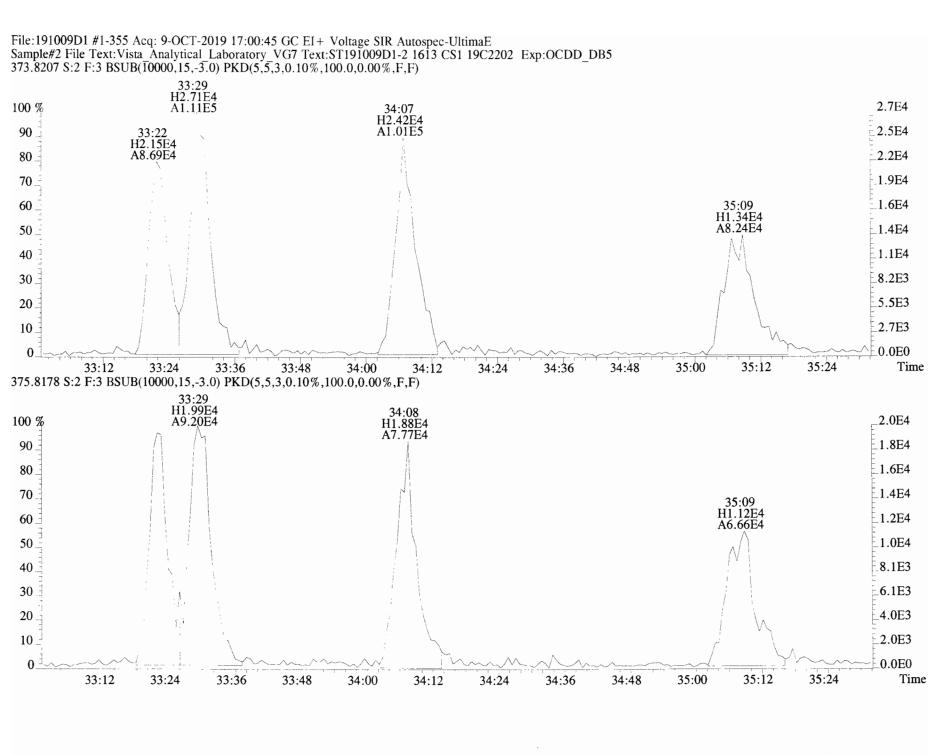
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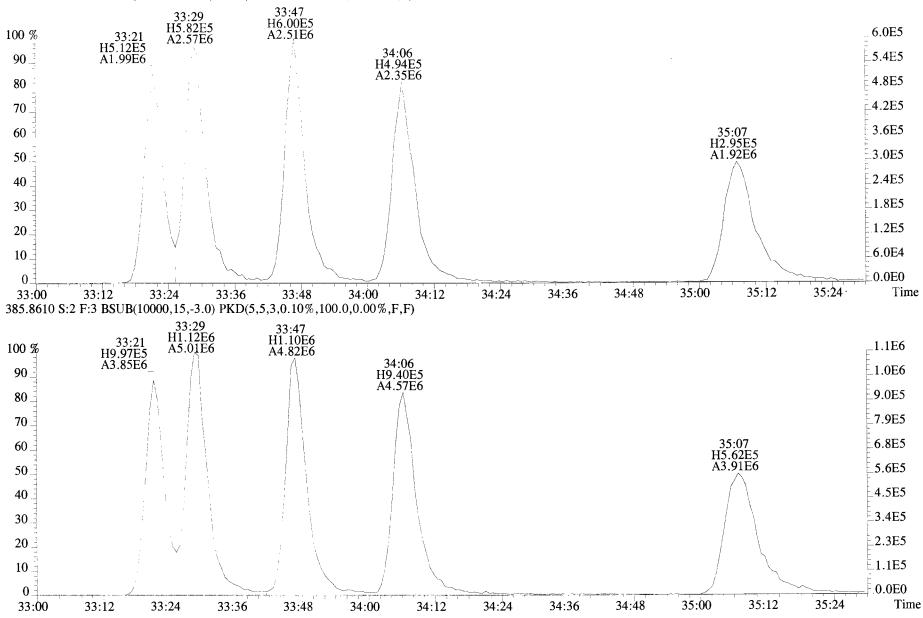
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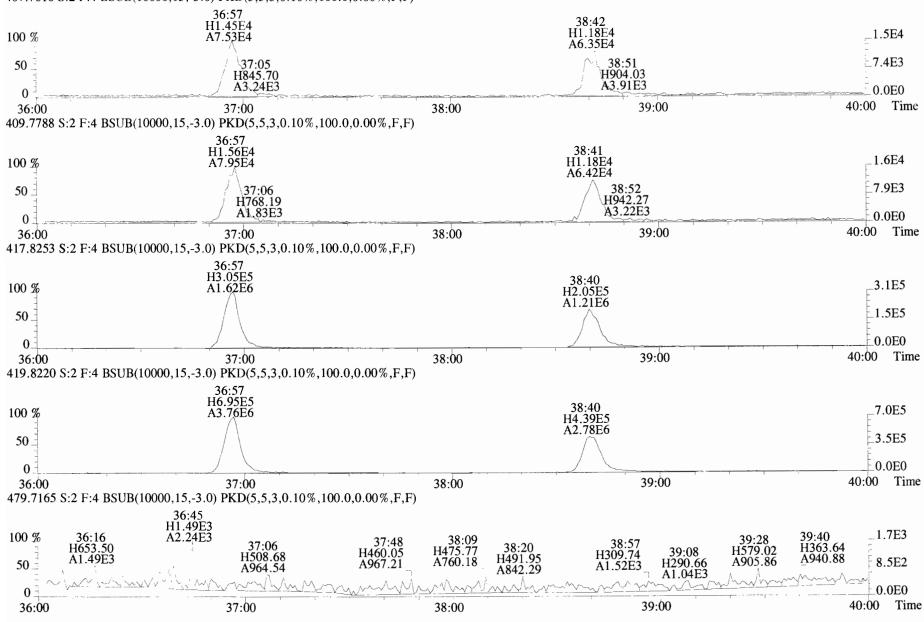


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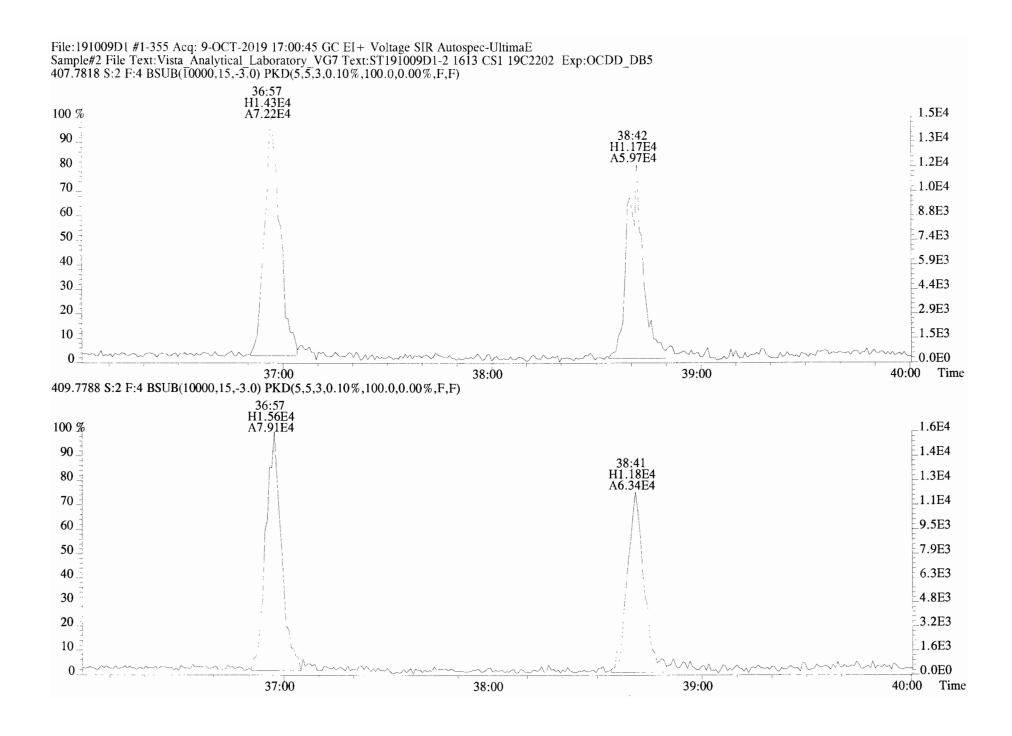


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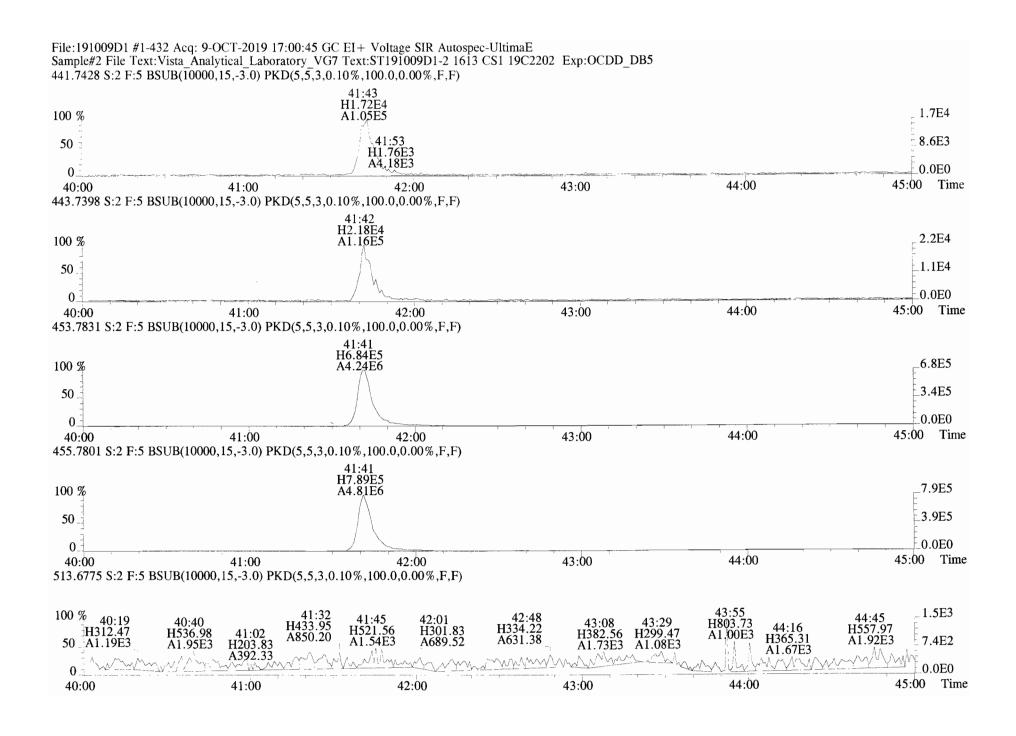
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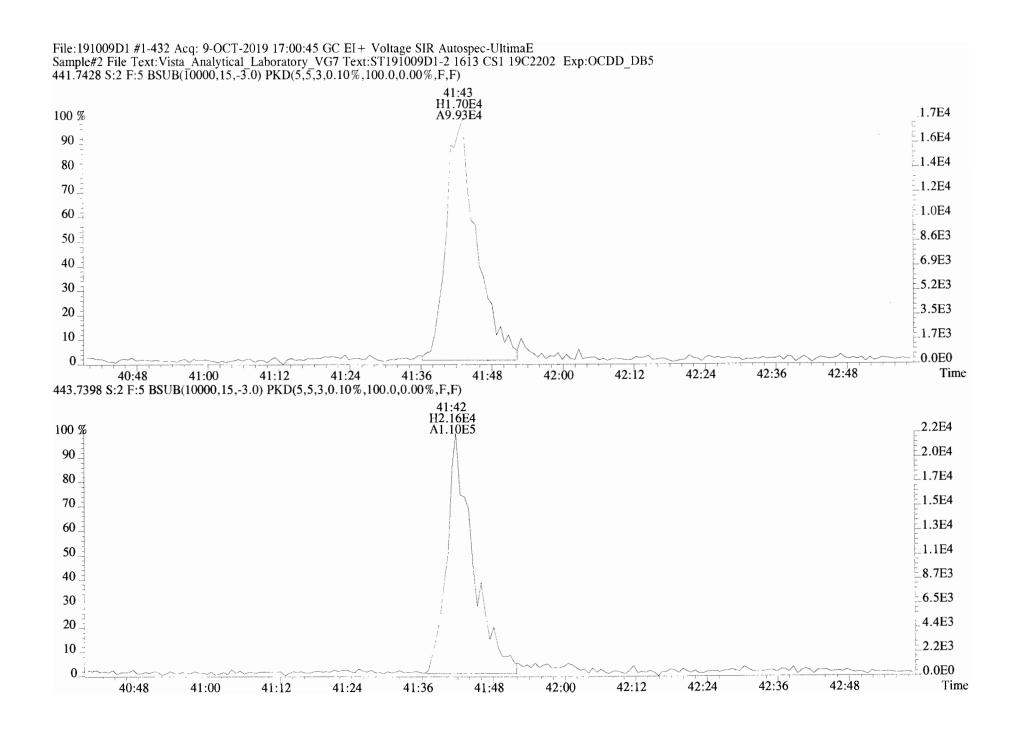
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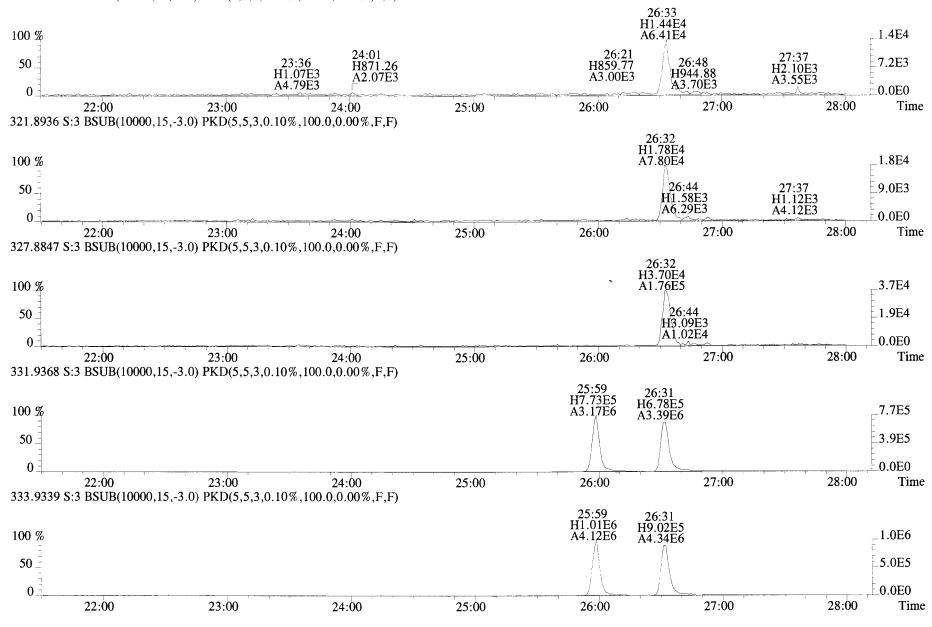


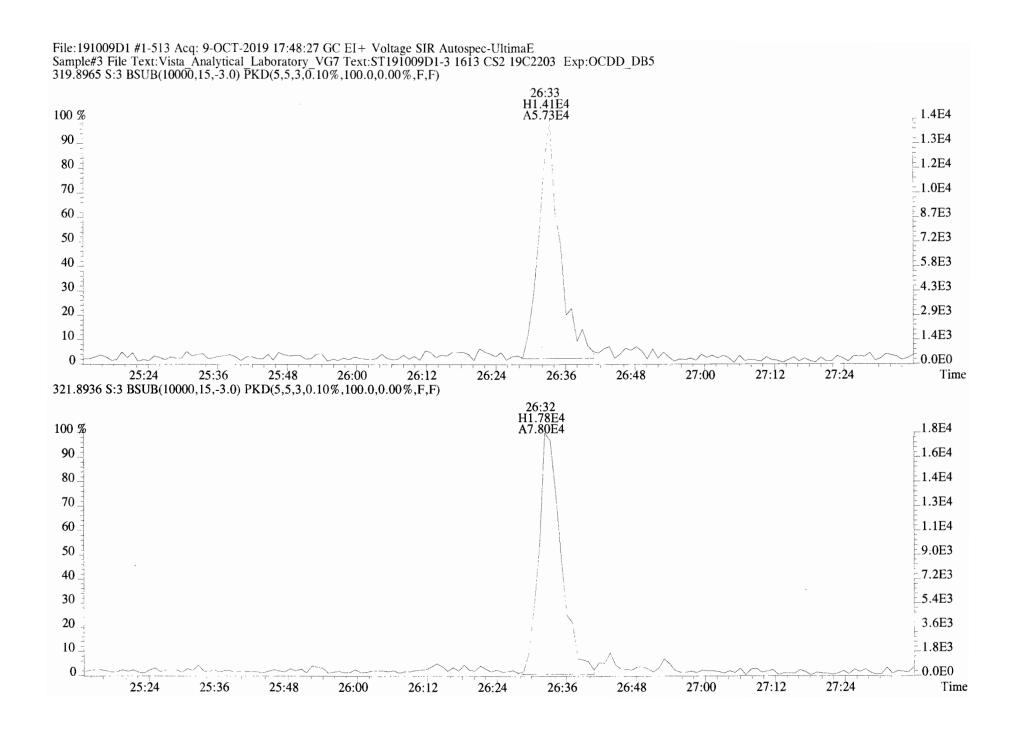
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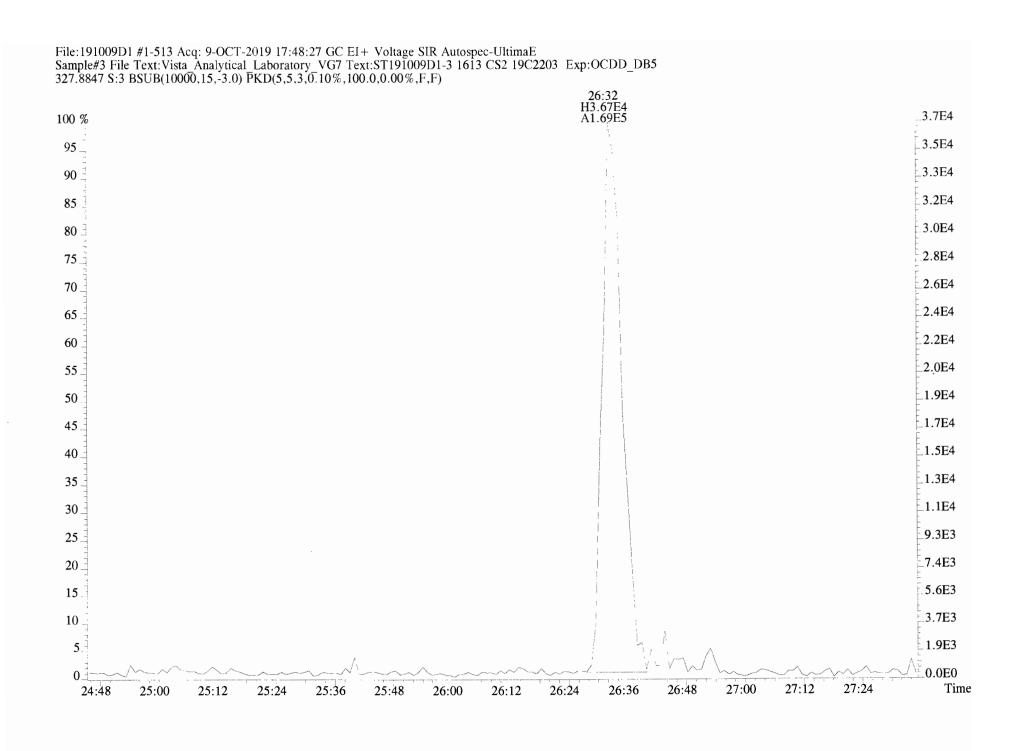
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File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

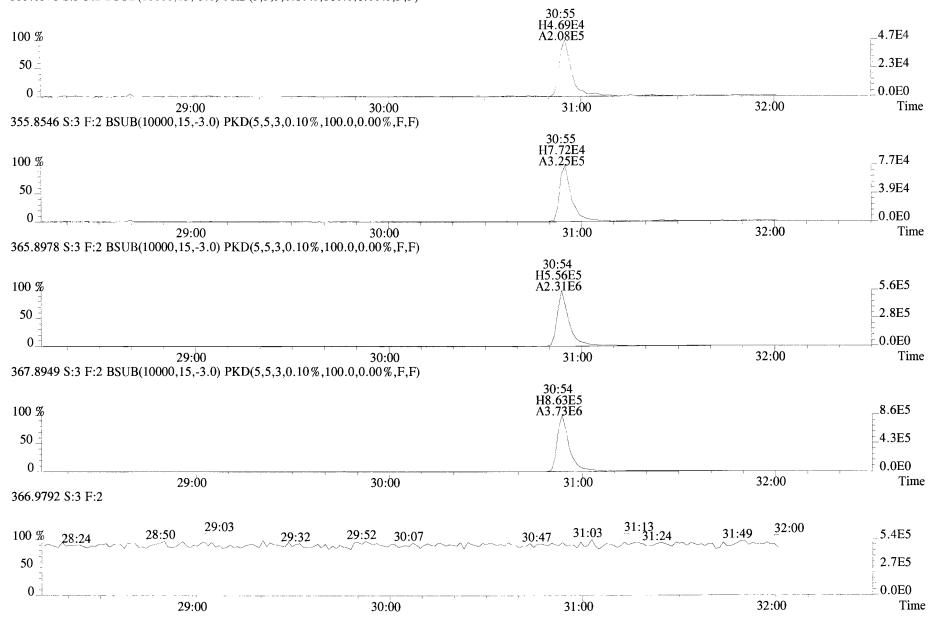


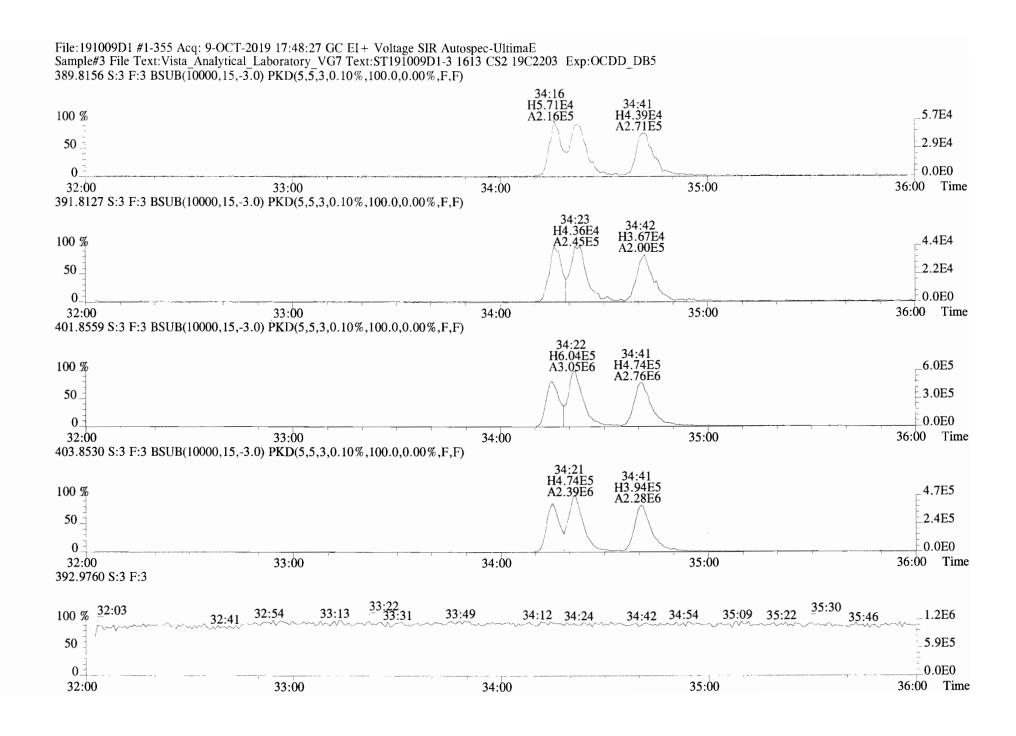


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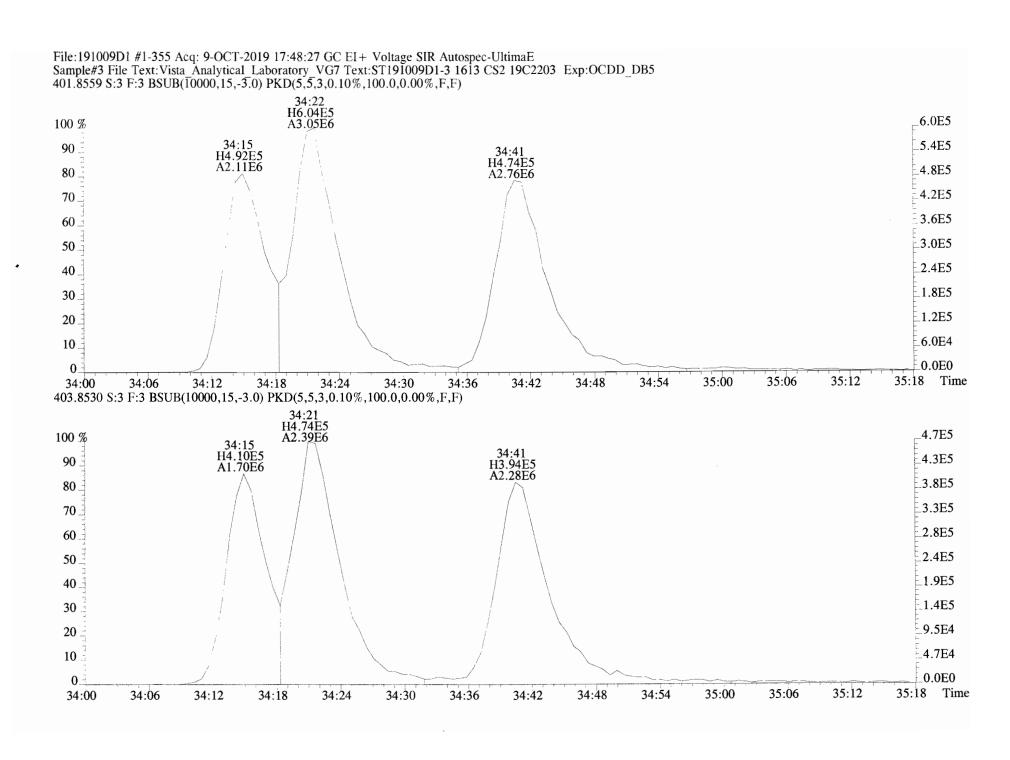


File:191009D1 #1-211 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5 353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



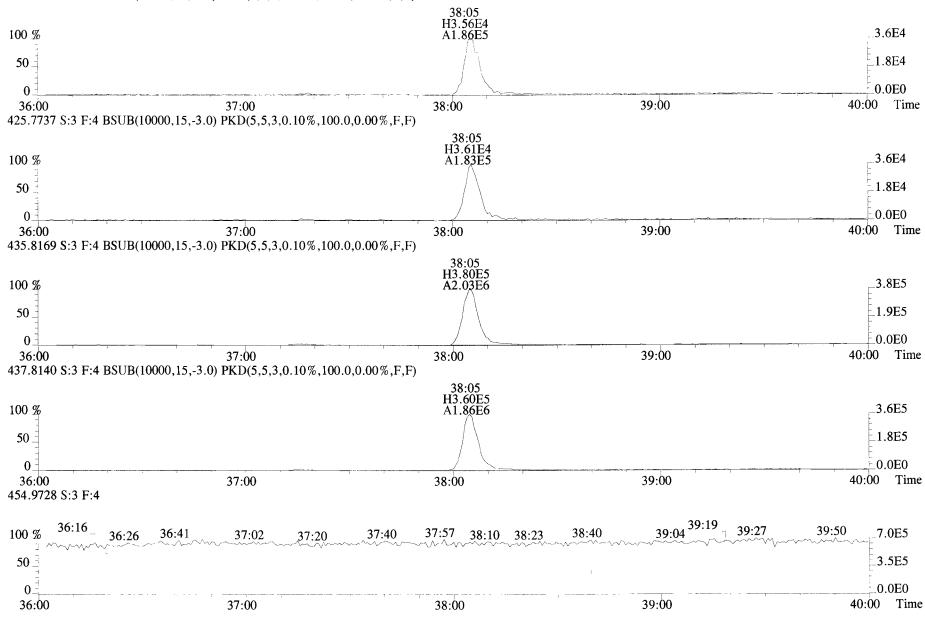


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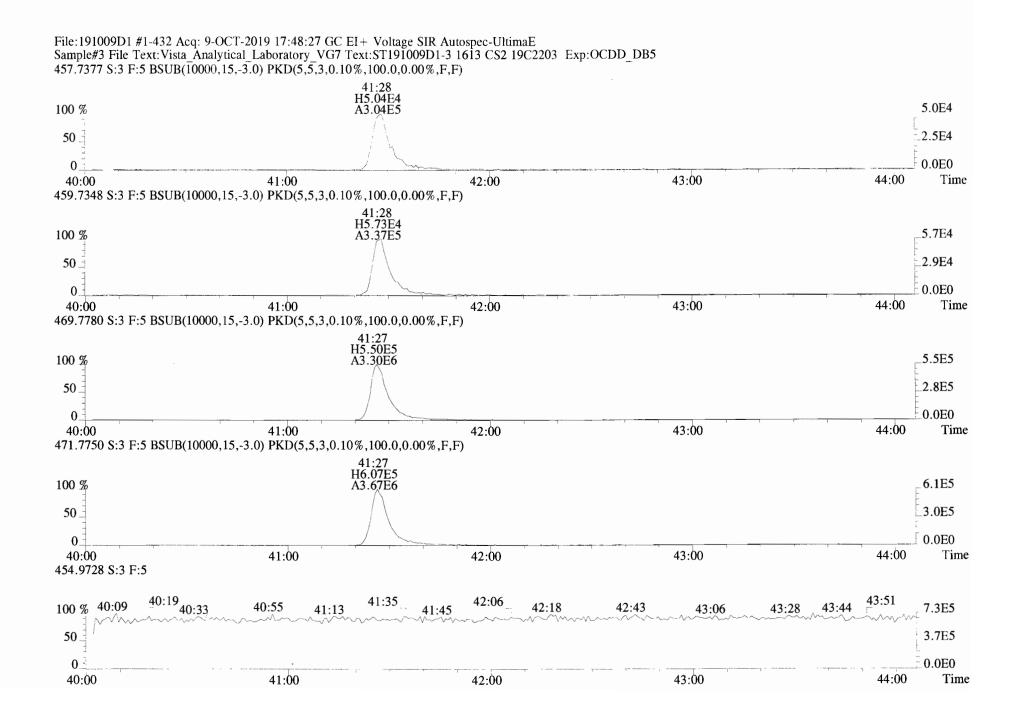


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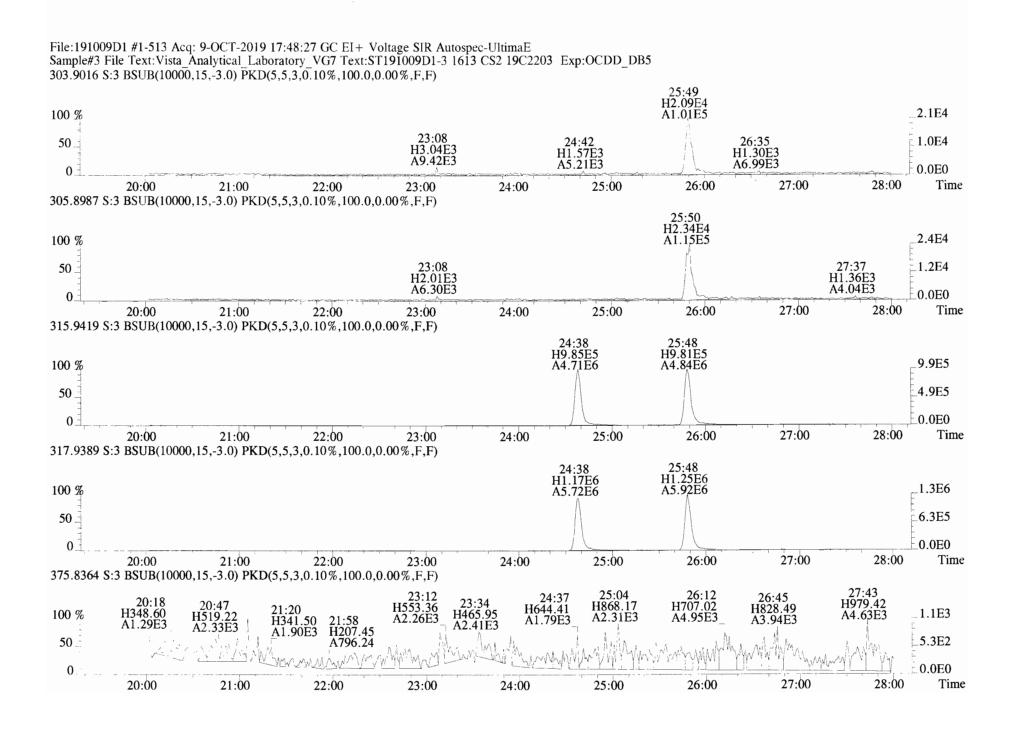
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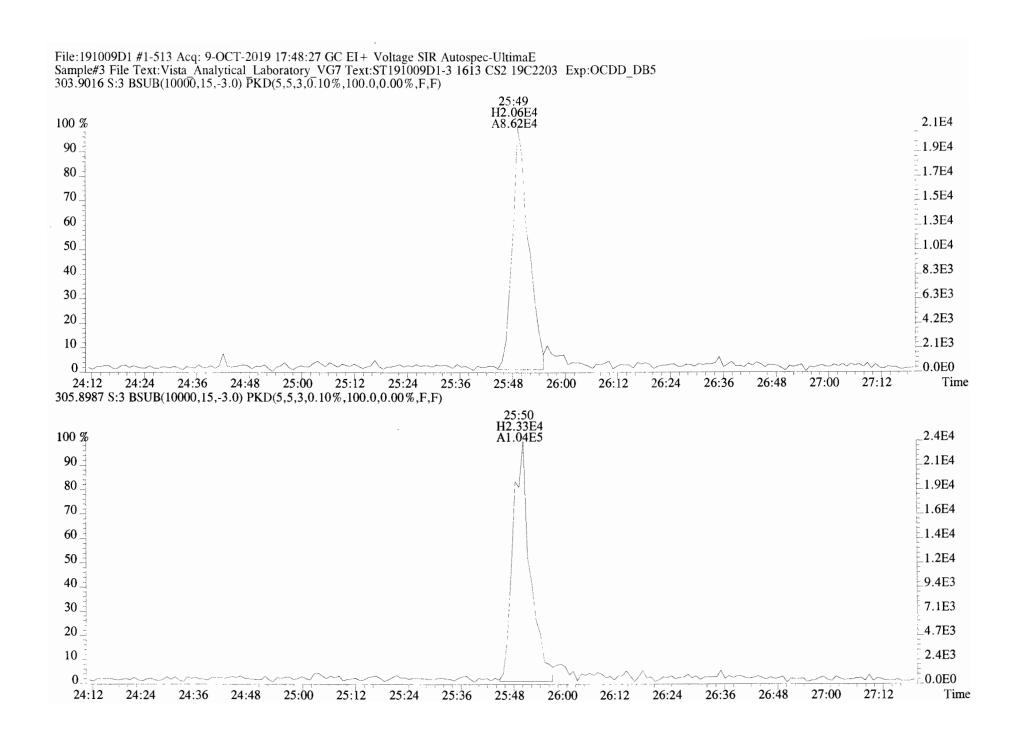
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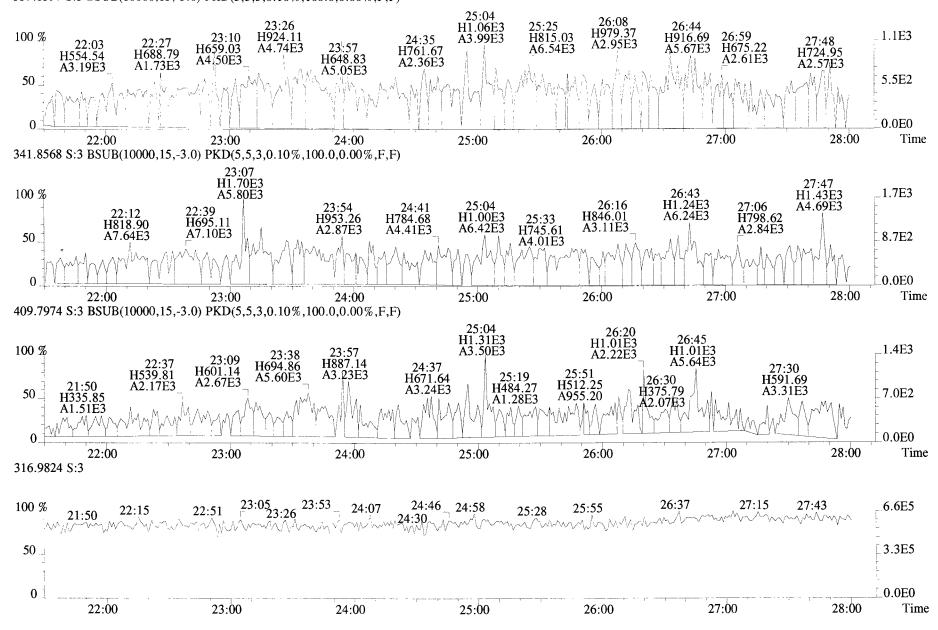


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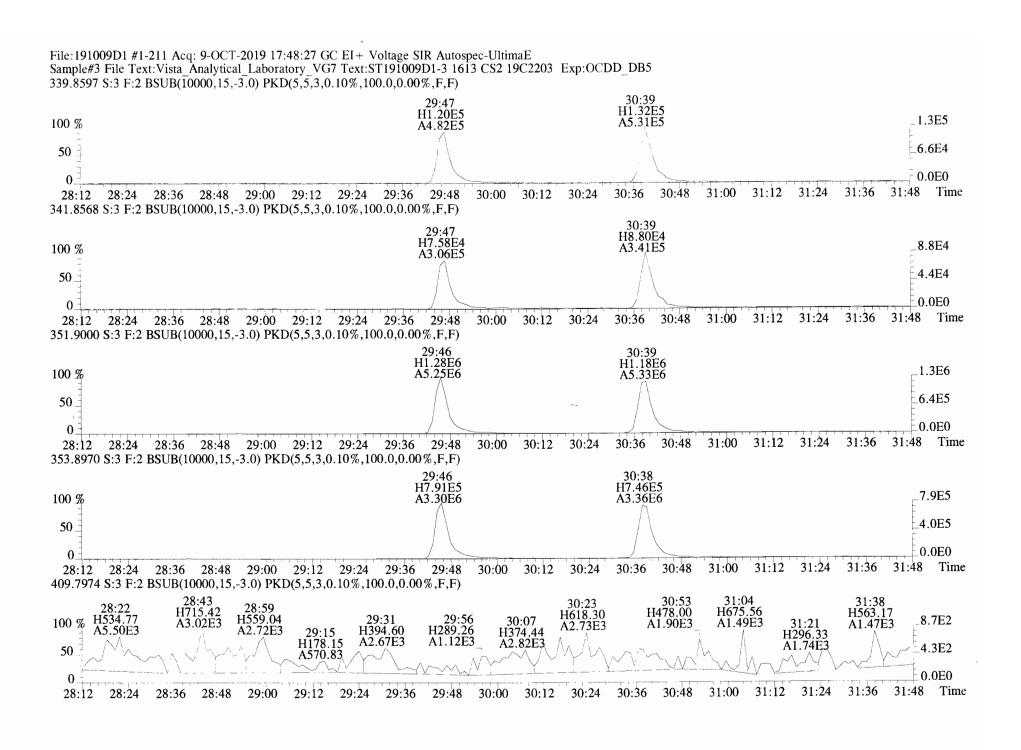


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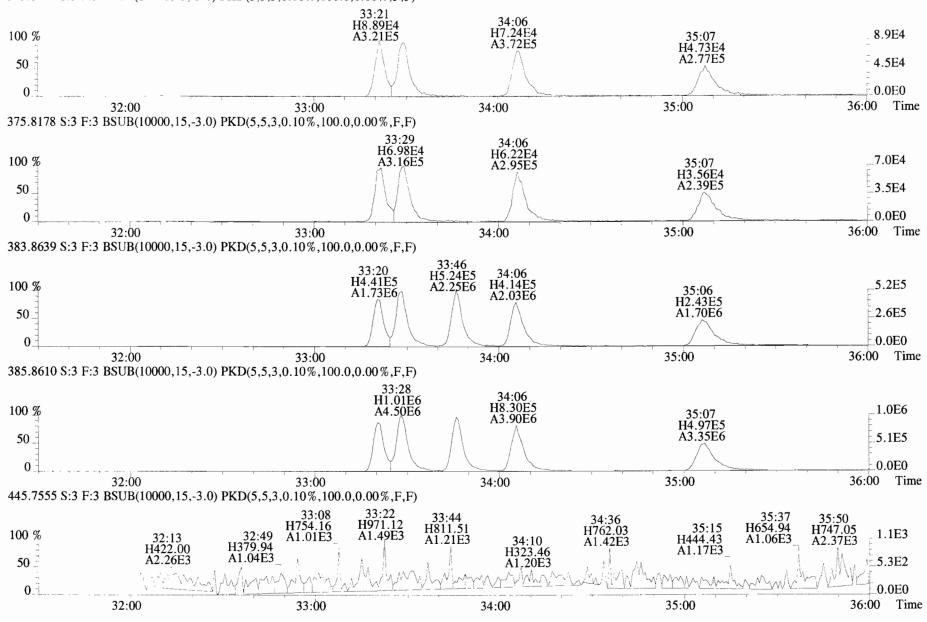
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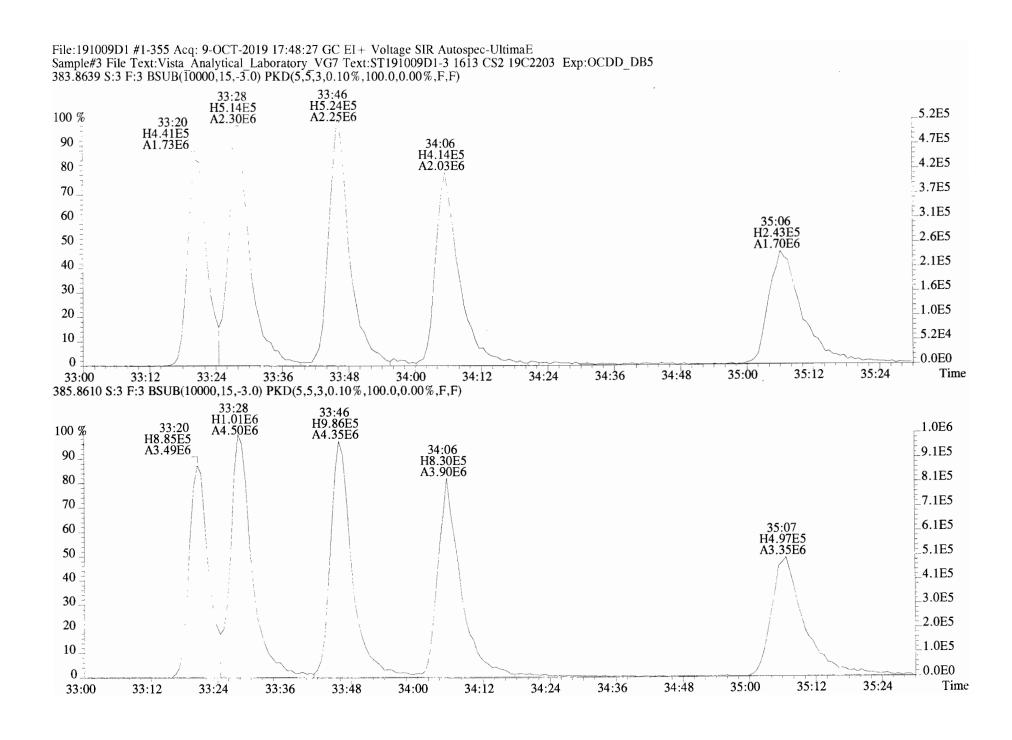
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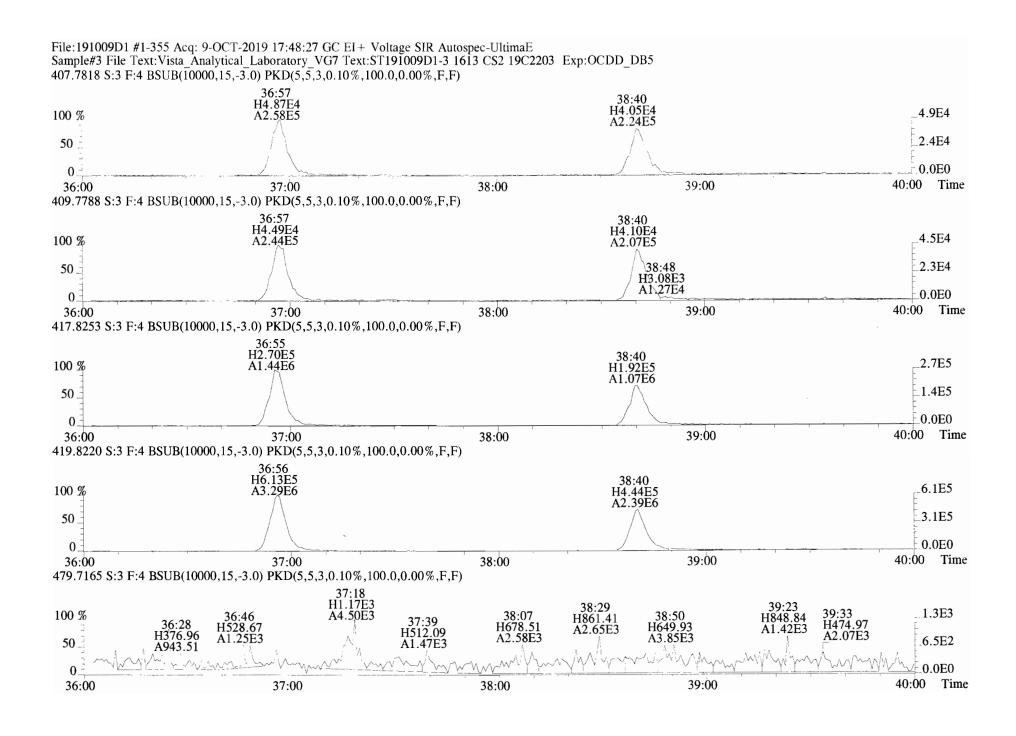
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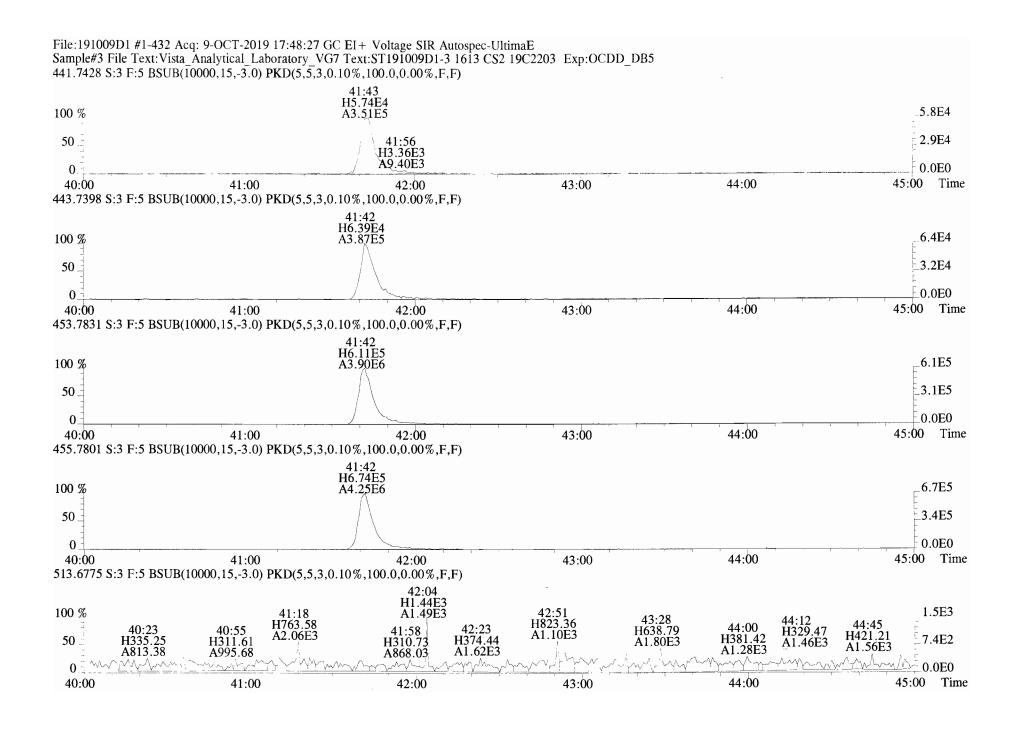
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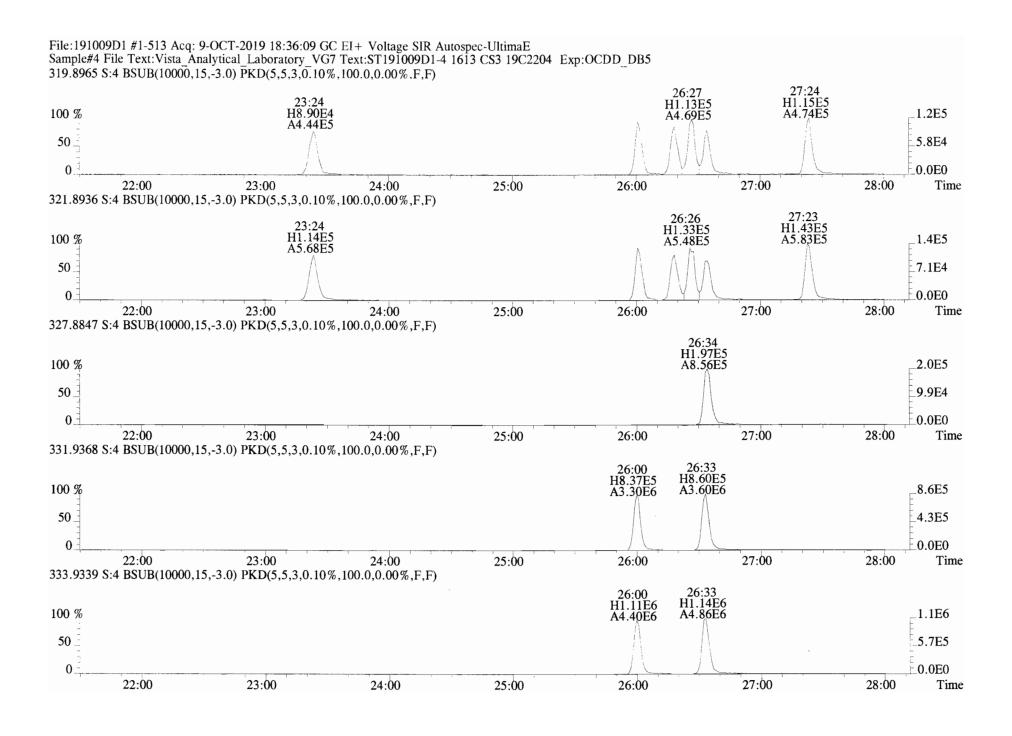
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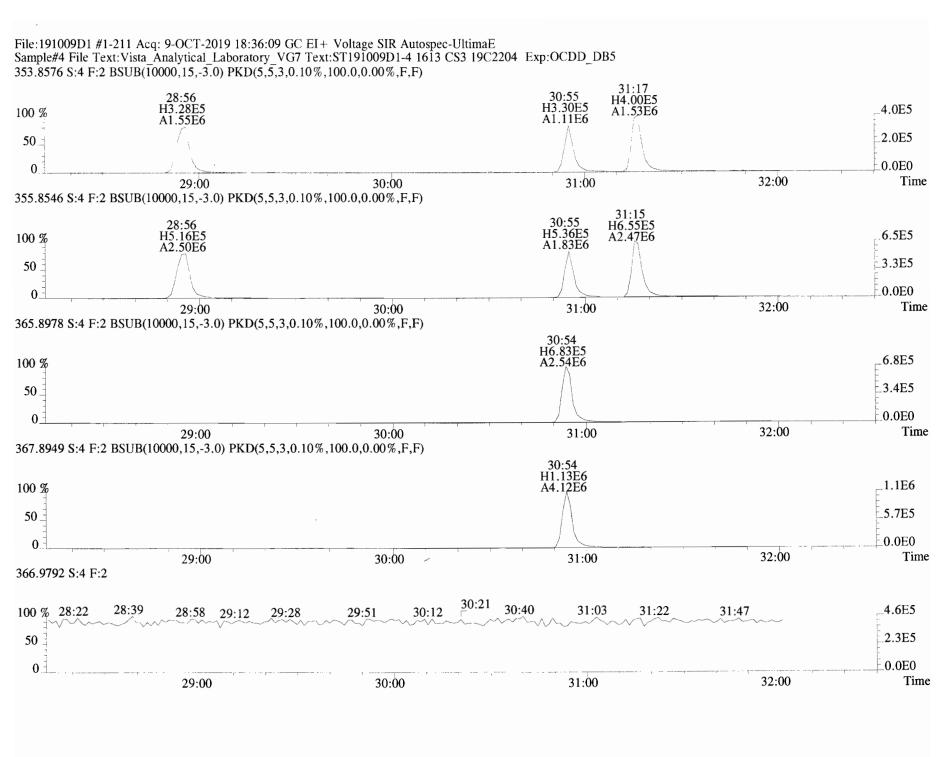
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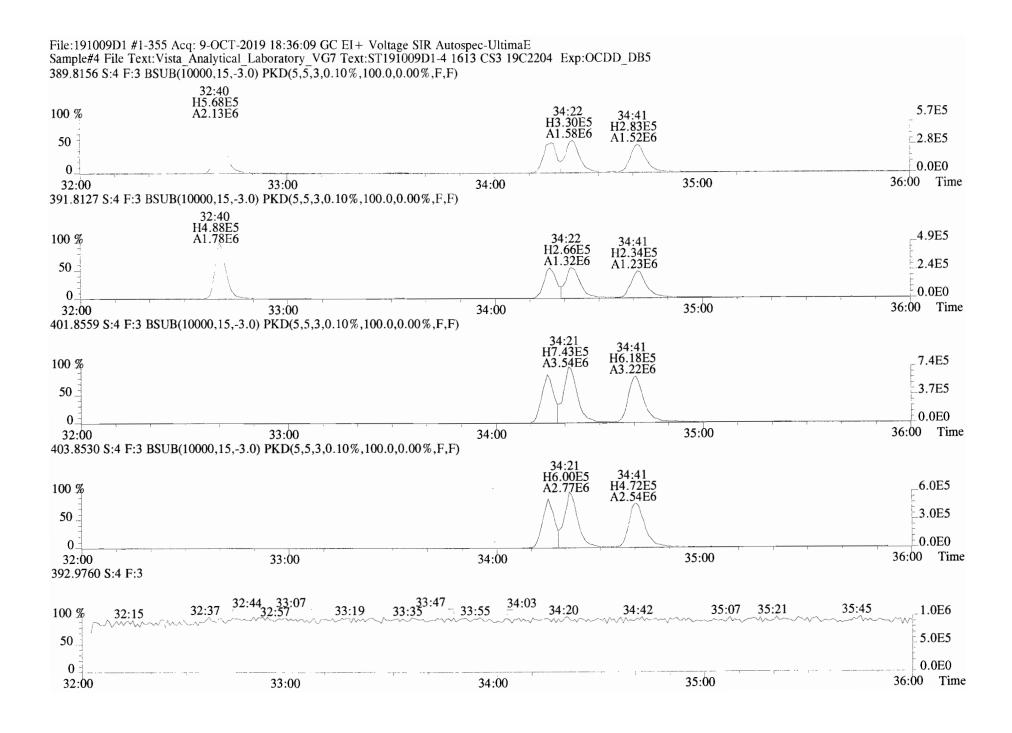


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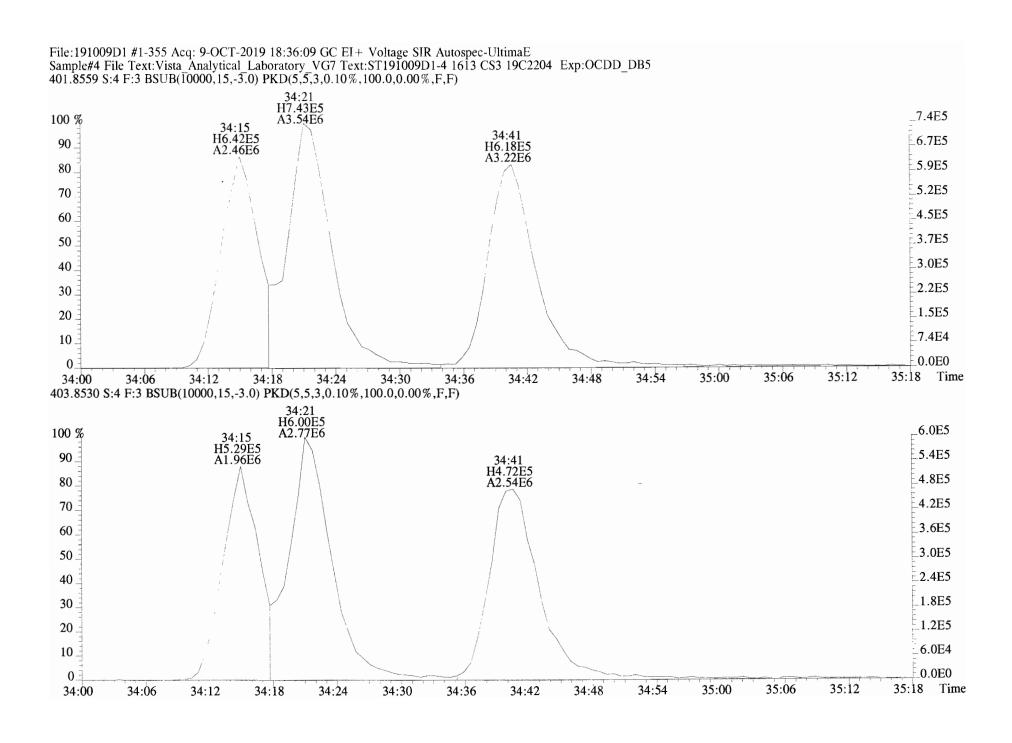


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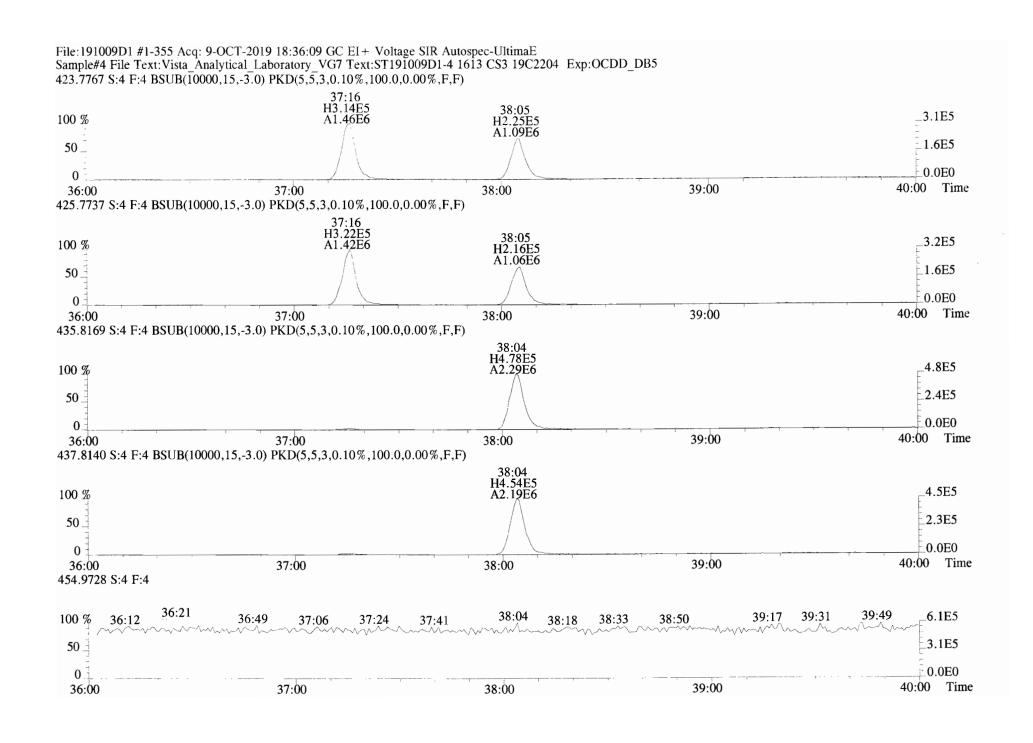




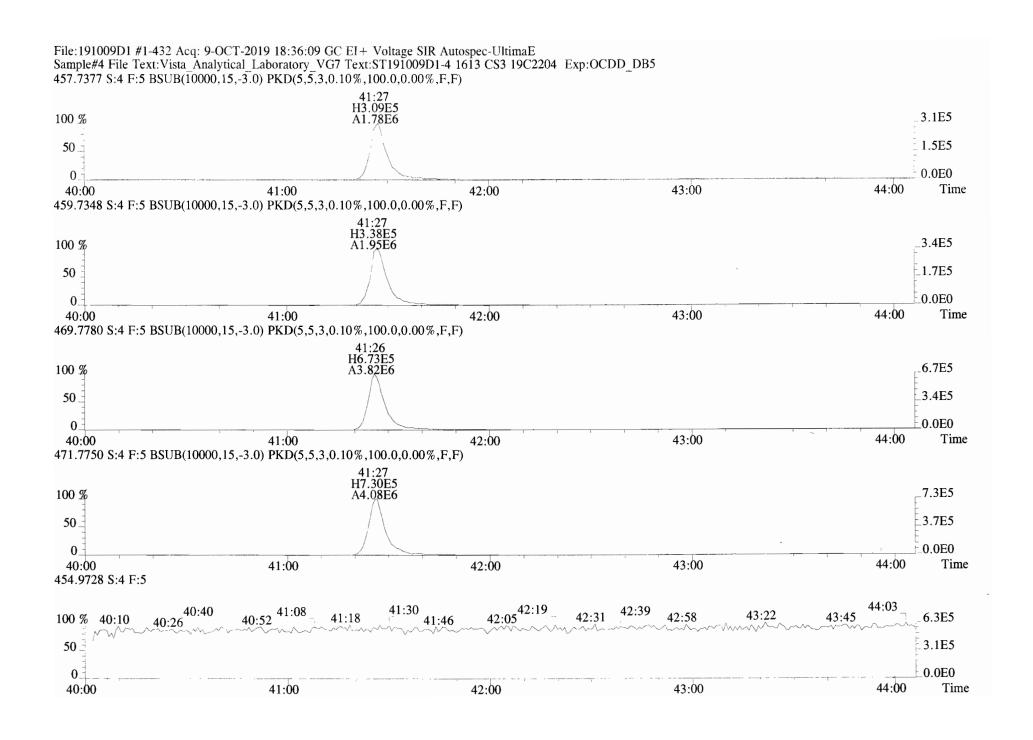
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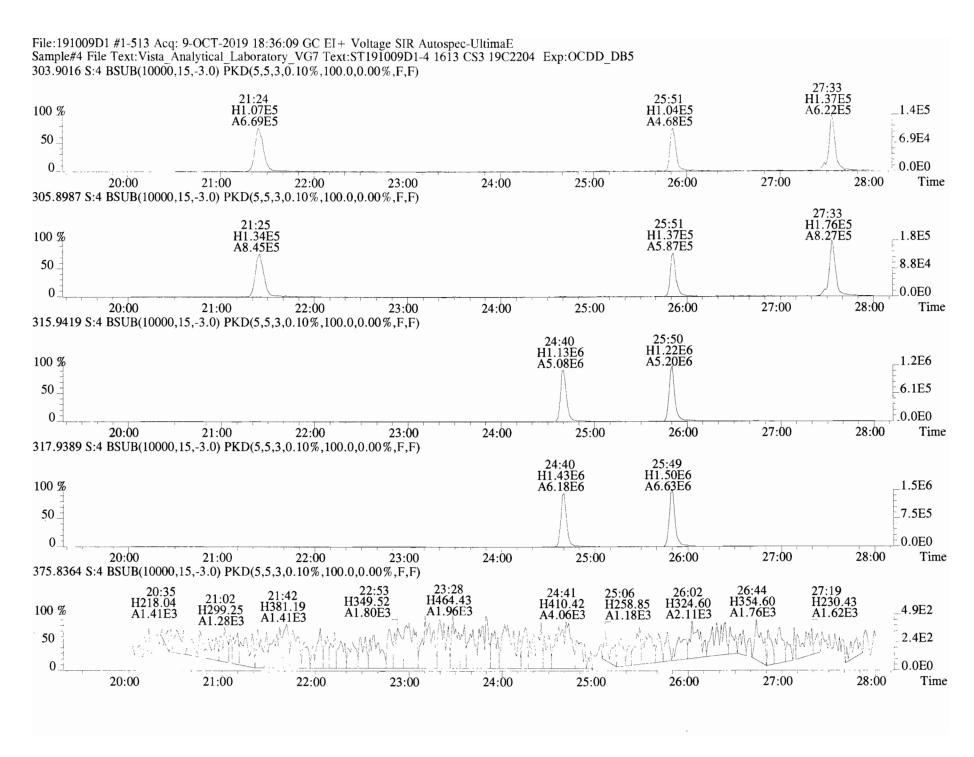
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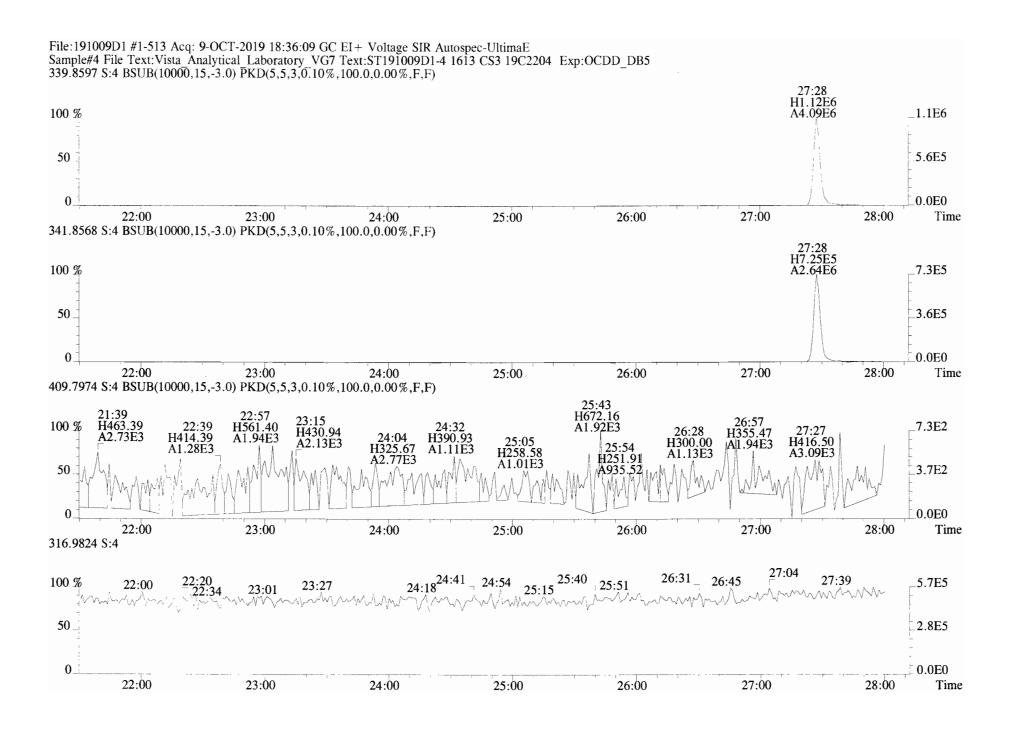
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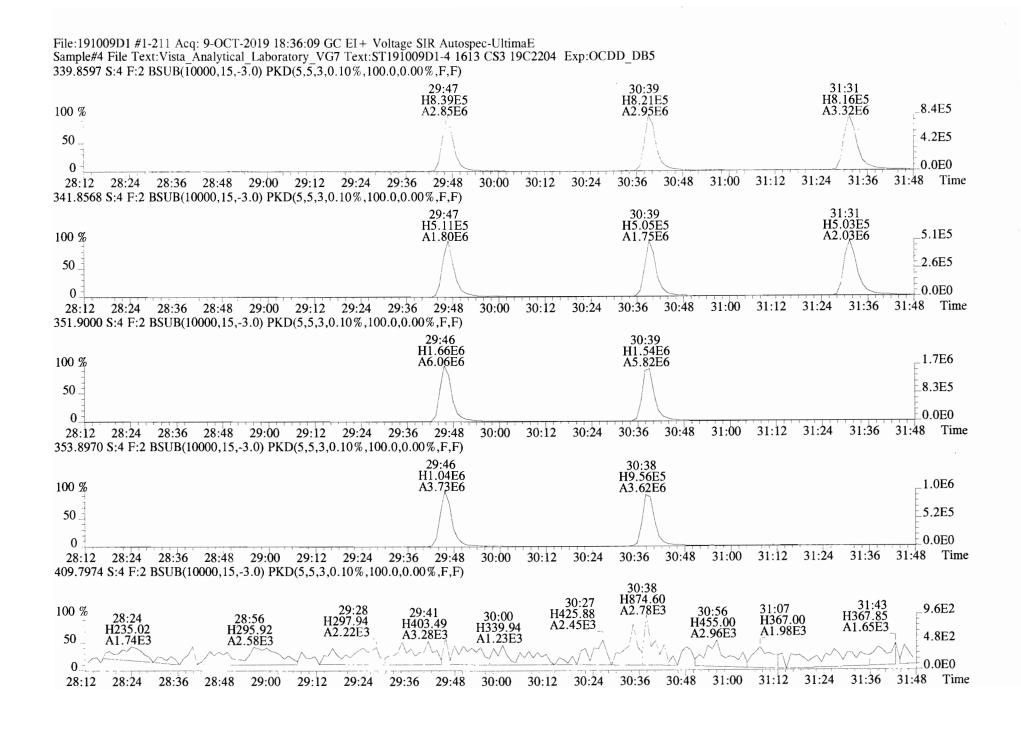
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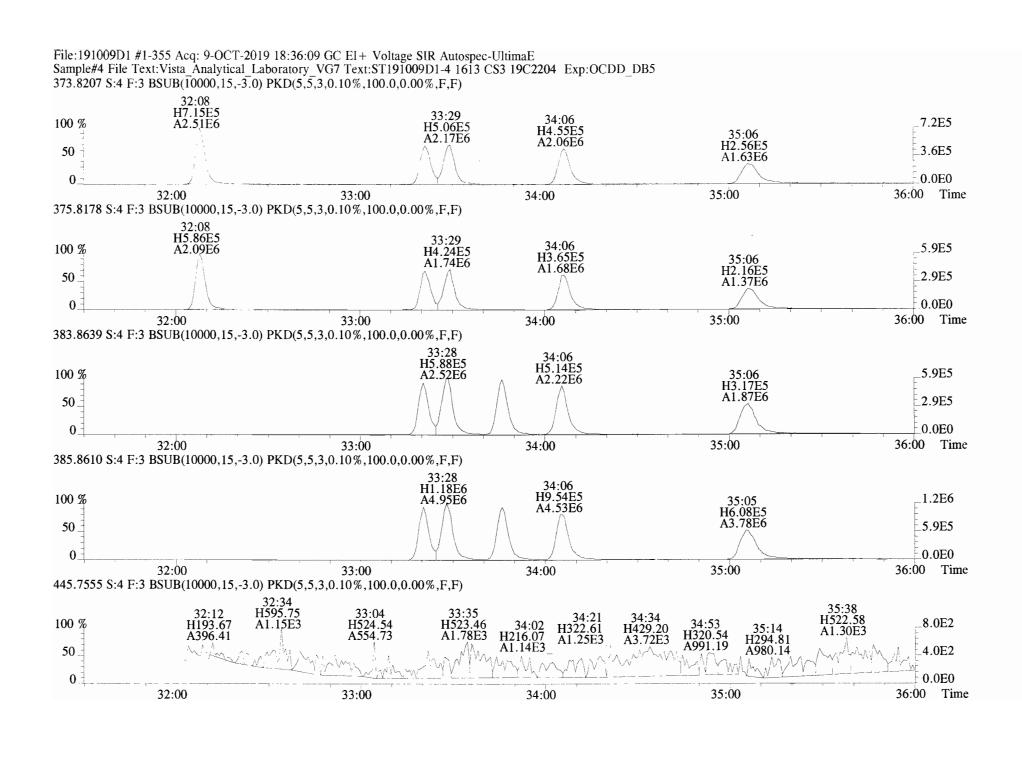
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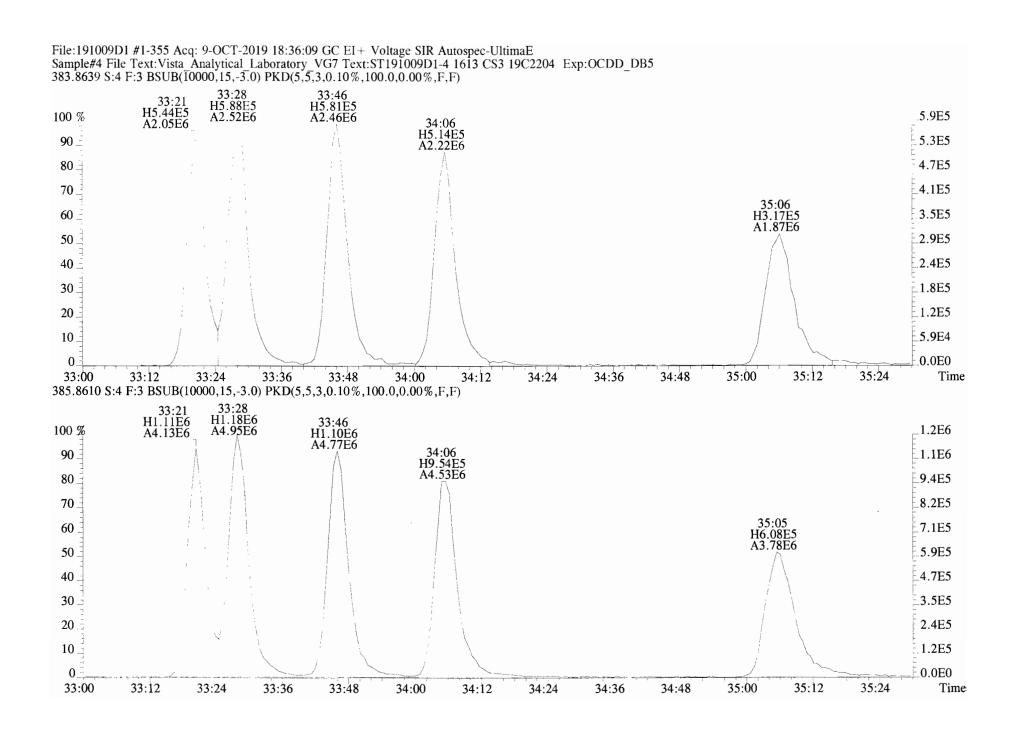


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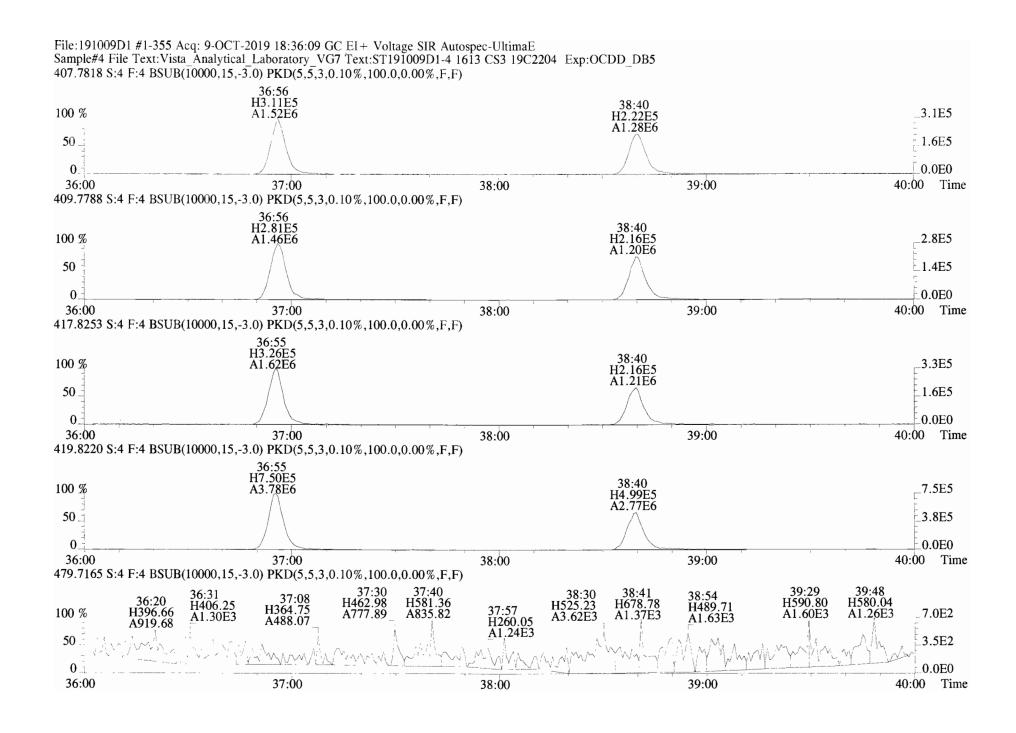


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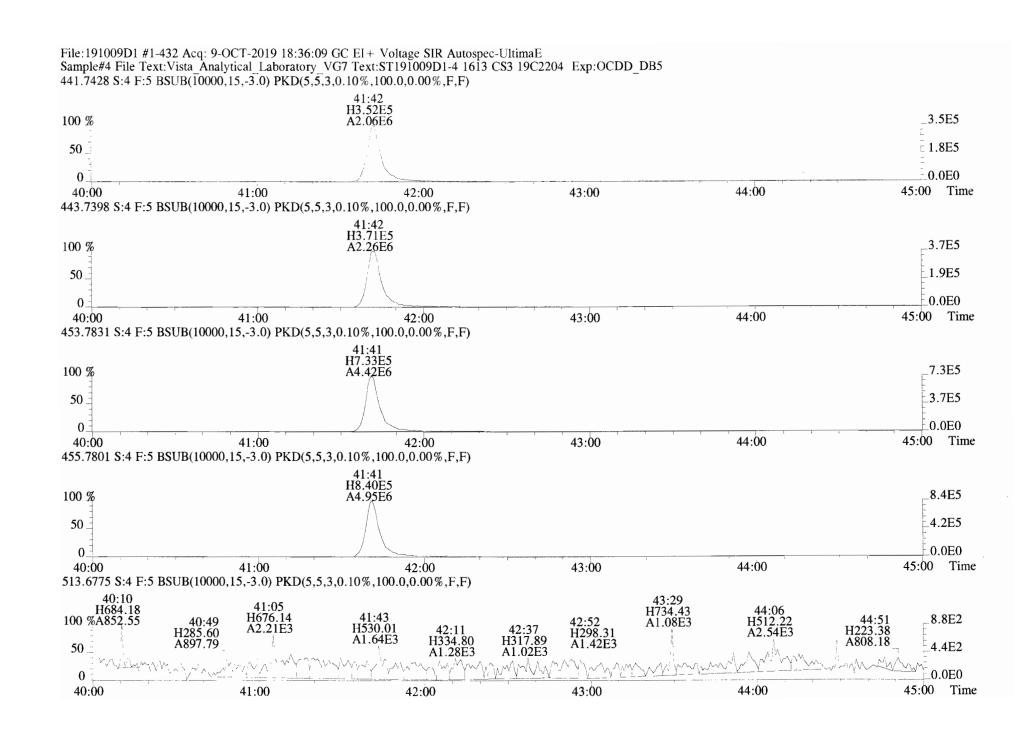




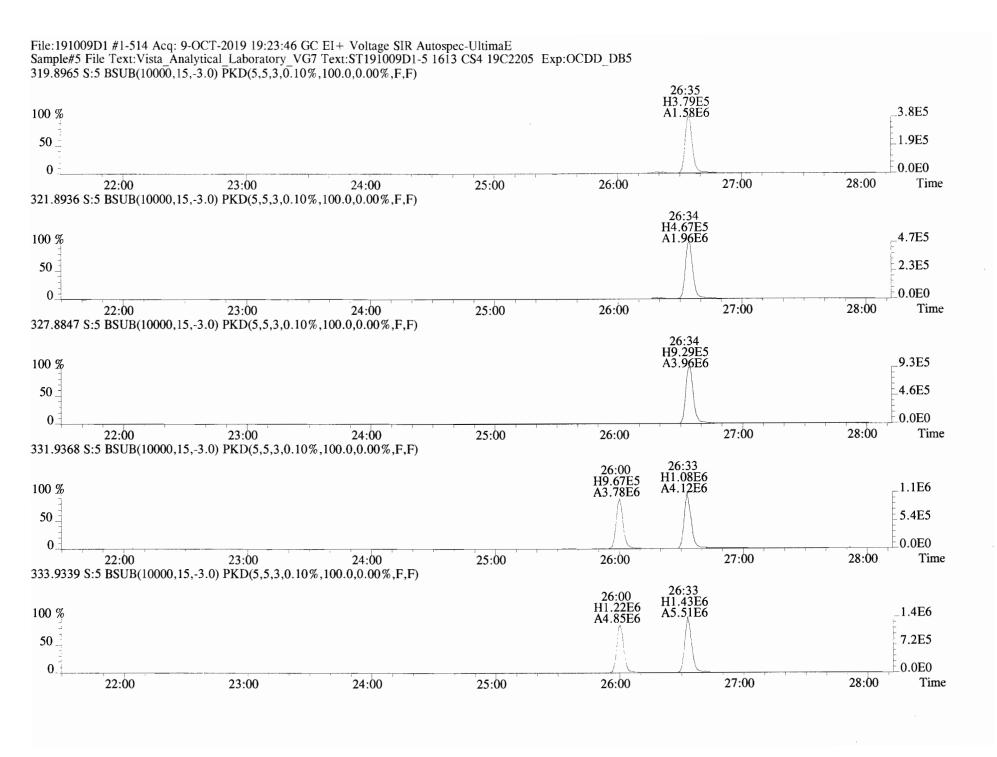
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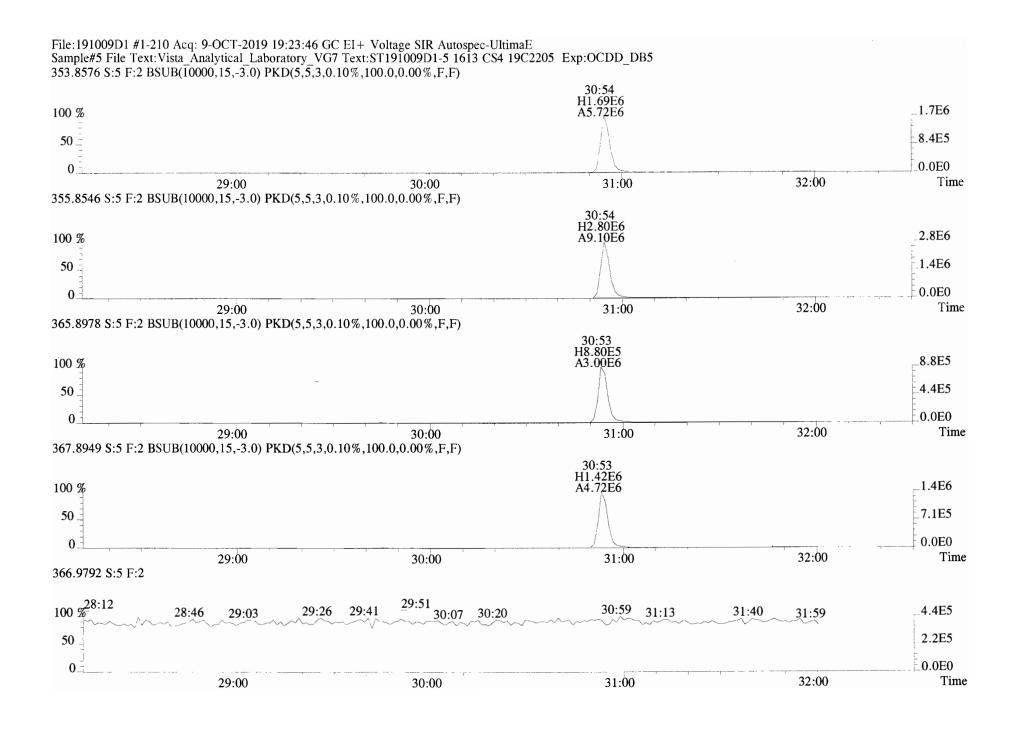


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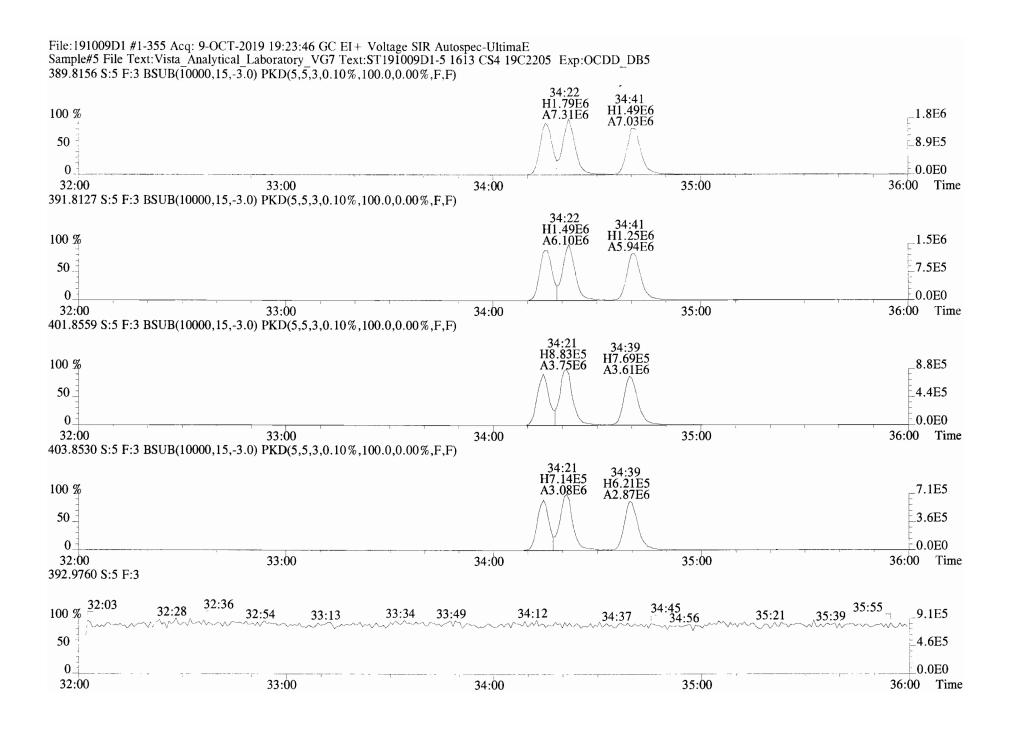


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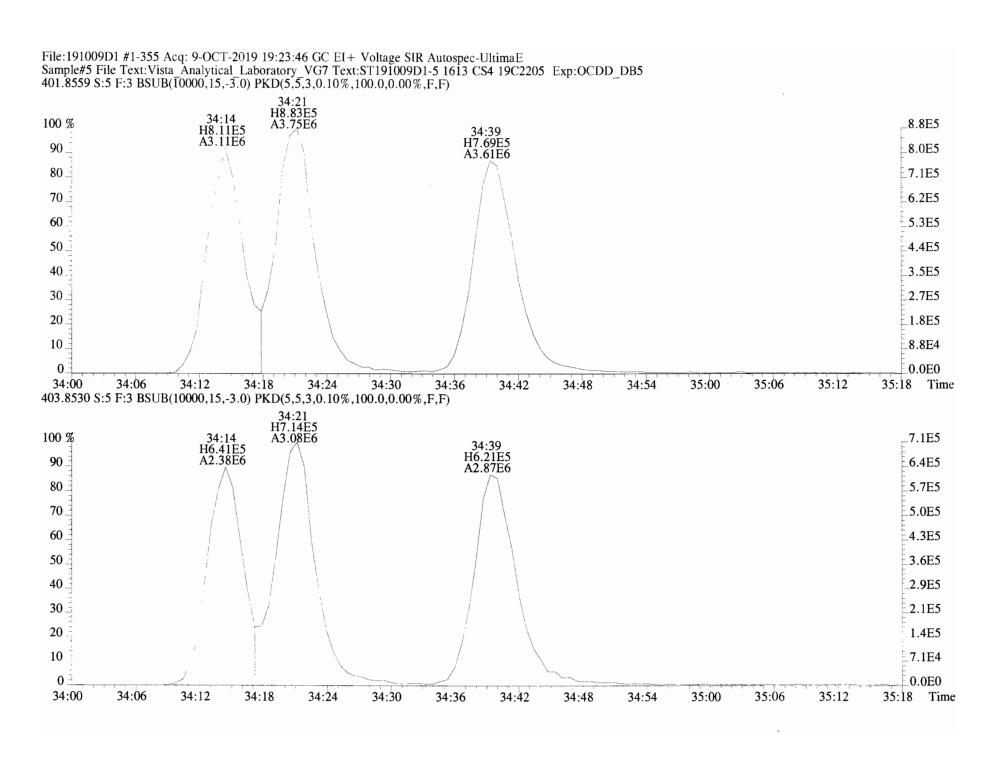




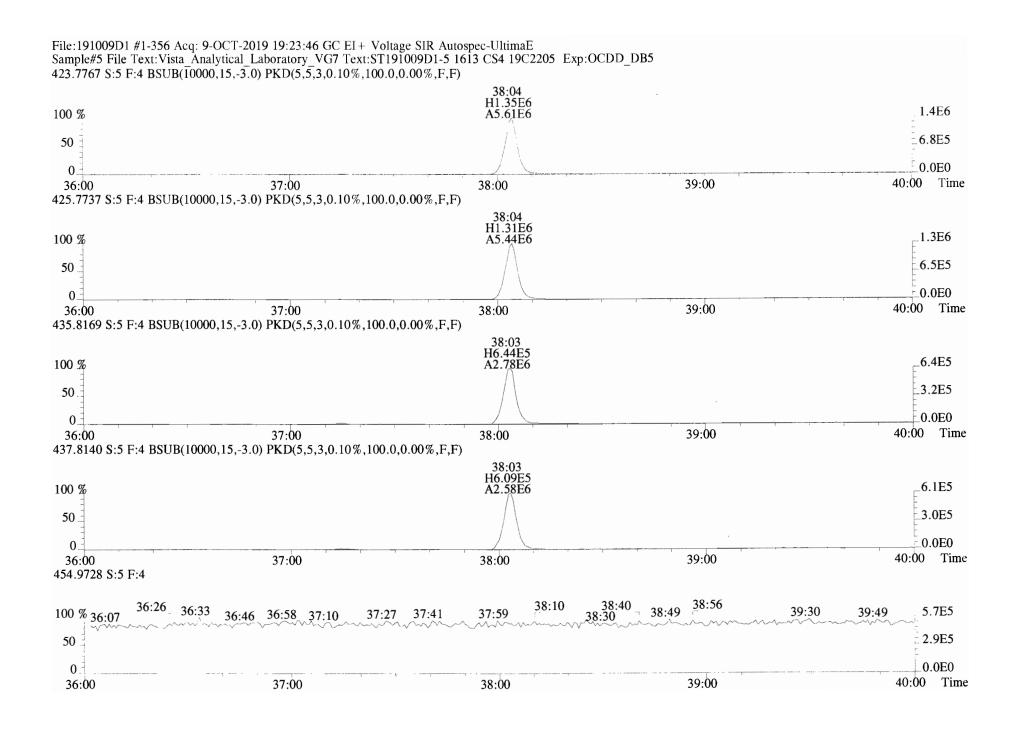
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File:191009D1 #1-431 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD DB5 457.7377 S:5 F:5 BSUB(\overline{1}0000,\overline{1}5,\overline{3}.0) PKD(5,\overline{5},\overline{3},0.10\%,100.0,0.00\%,F,F) 41:26 H1.83E6 1.8E6 100 % A9.67E6 9.2E5 50 0.0E0 0_-41:00 43:00 44:00 Time 40:00 42:00 459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 41:26 H1.96E6 100 % 2.0E6 A1.06E7 _9.8E5 50 .0.0E0 0 44:00 Time 43:00 40:00 41:00 42:00 469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 41:25 H9.60E5 100 % _9.6E5 A4.81E6 _4.8E5 50 0.0E0 0 43:00 44:00 Time 41:00 42:00 471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 41:25 H9.73E5 A5.26E6 100 % 9.7E5 4.9E5 50 0.0E00 44:00 Time 40:00 41:00 43:00 42:00 454.9728 S:5 F:5 41:43 43:11 43:31 100 %40:06 41:54 42:22 5.8E5 40:25 41:07 41:21 50 _2.9E5

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42:00

43:00

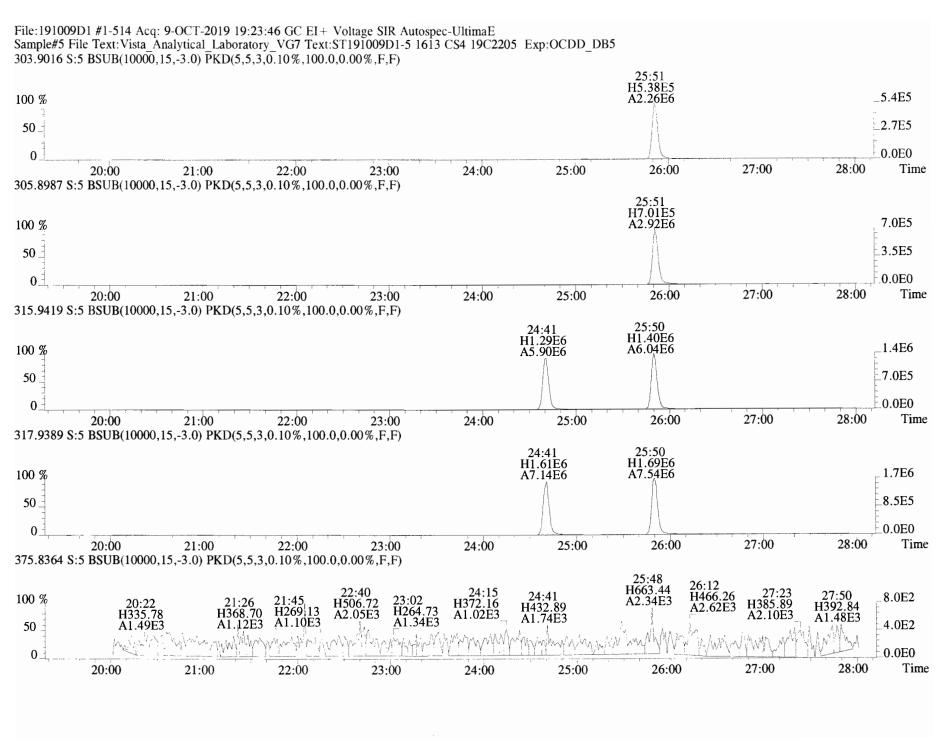
40:00

41:00

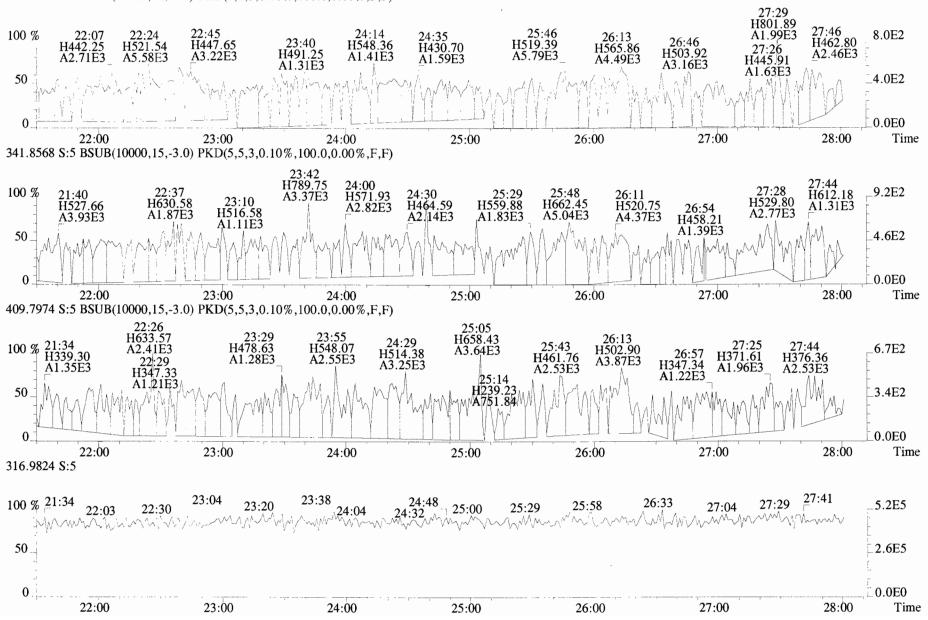
± 0.0E0

Time

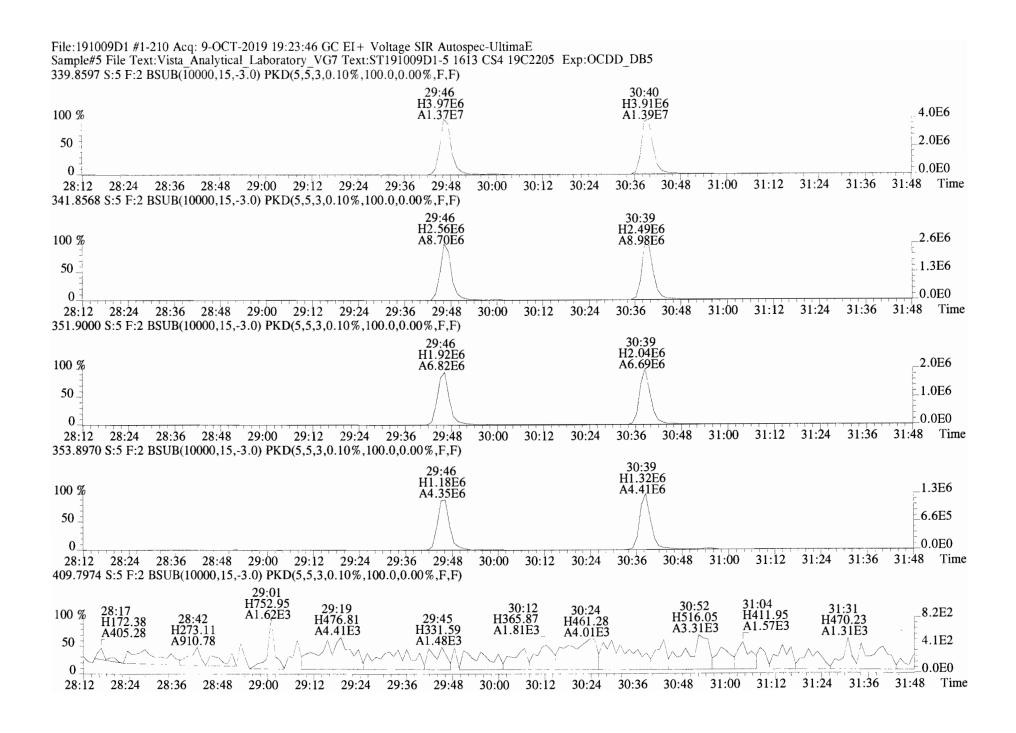
44:00



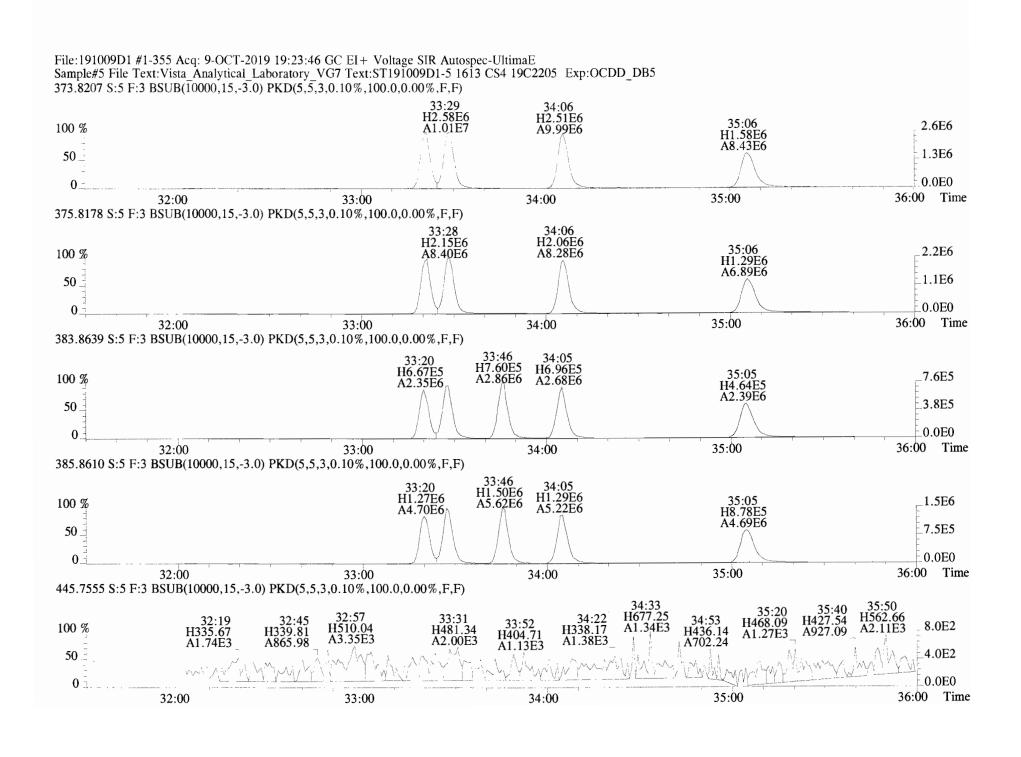
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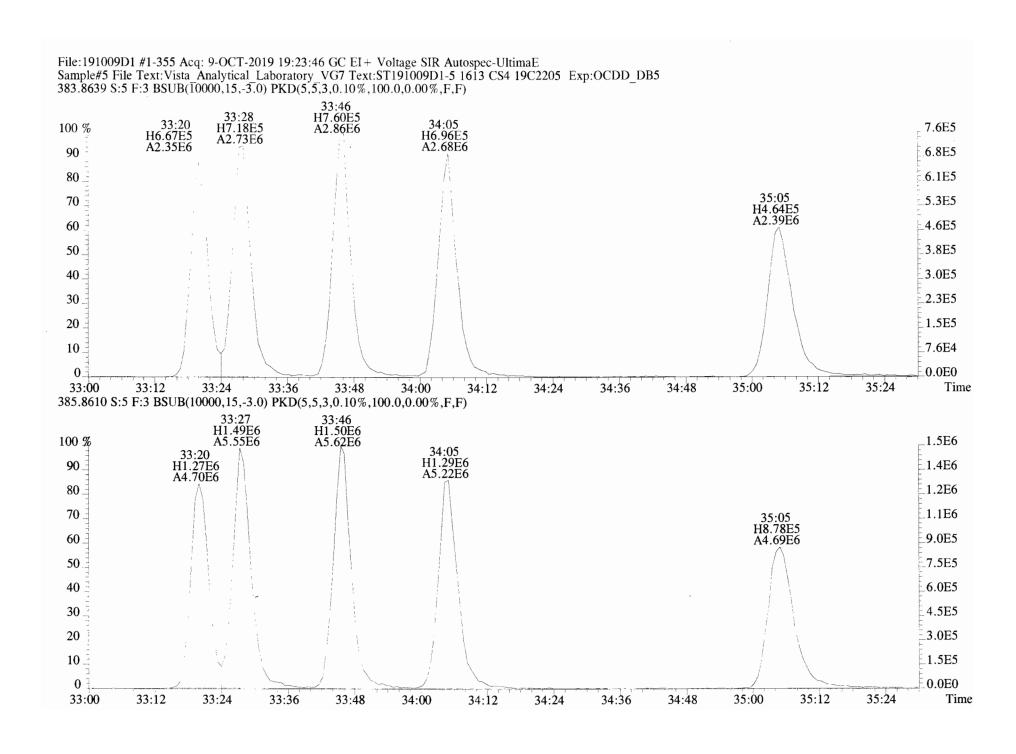
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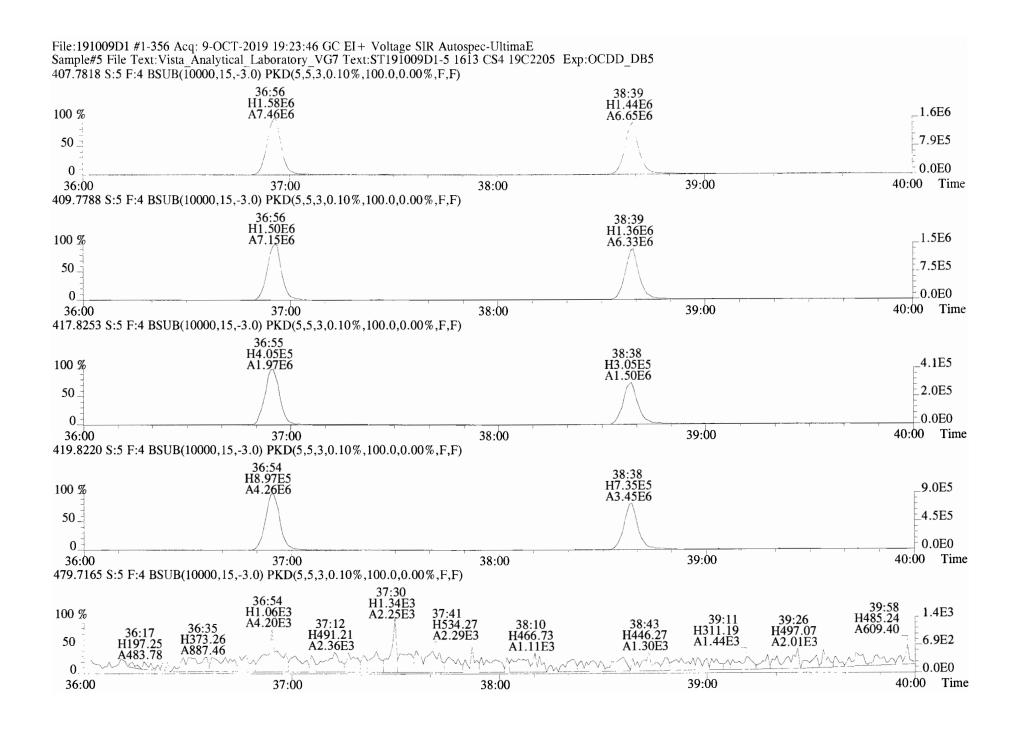
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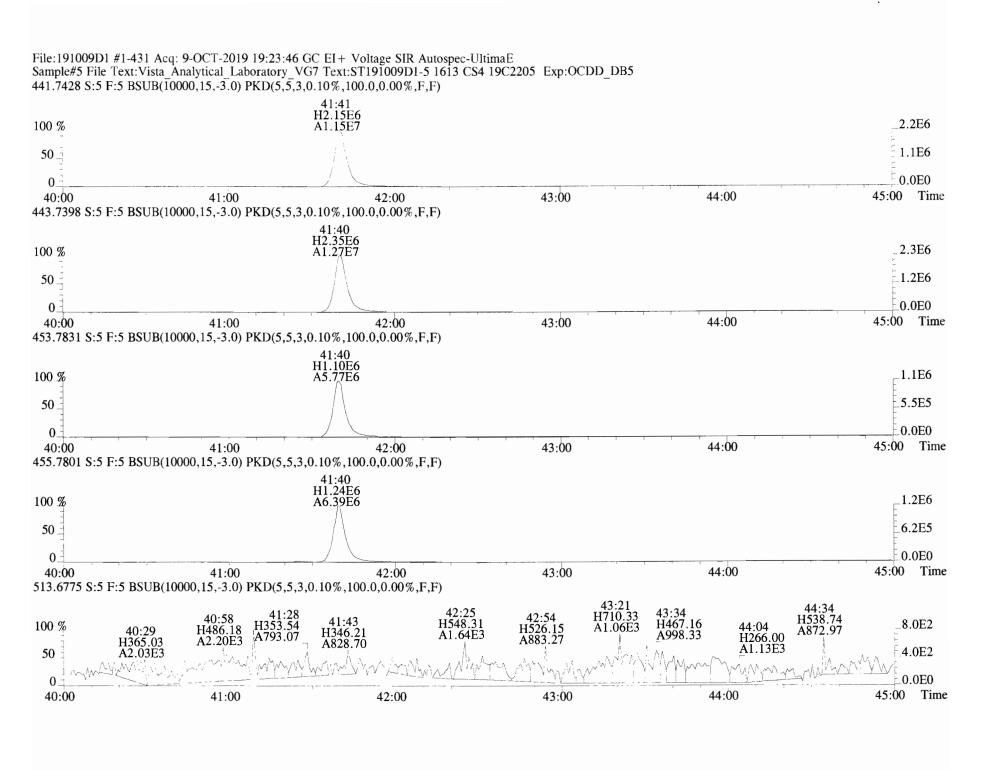
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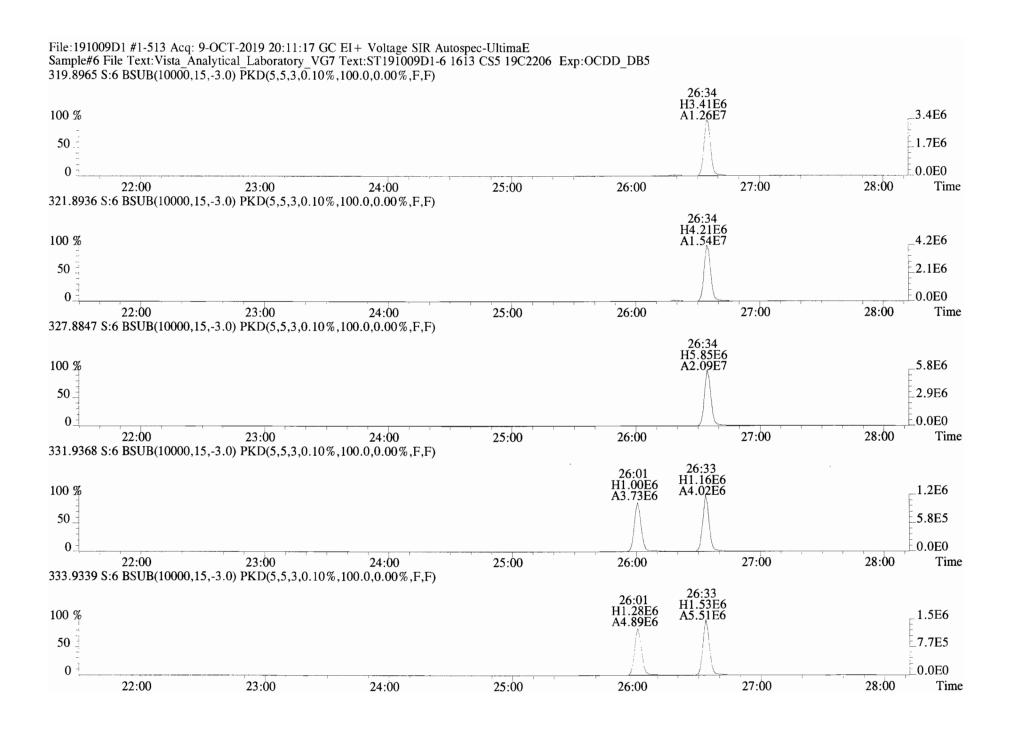


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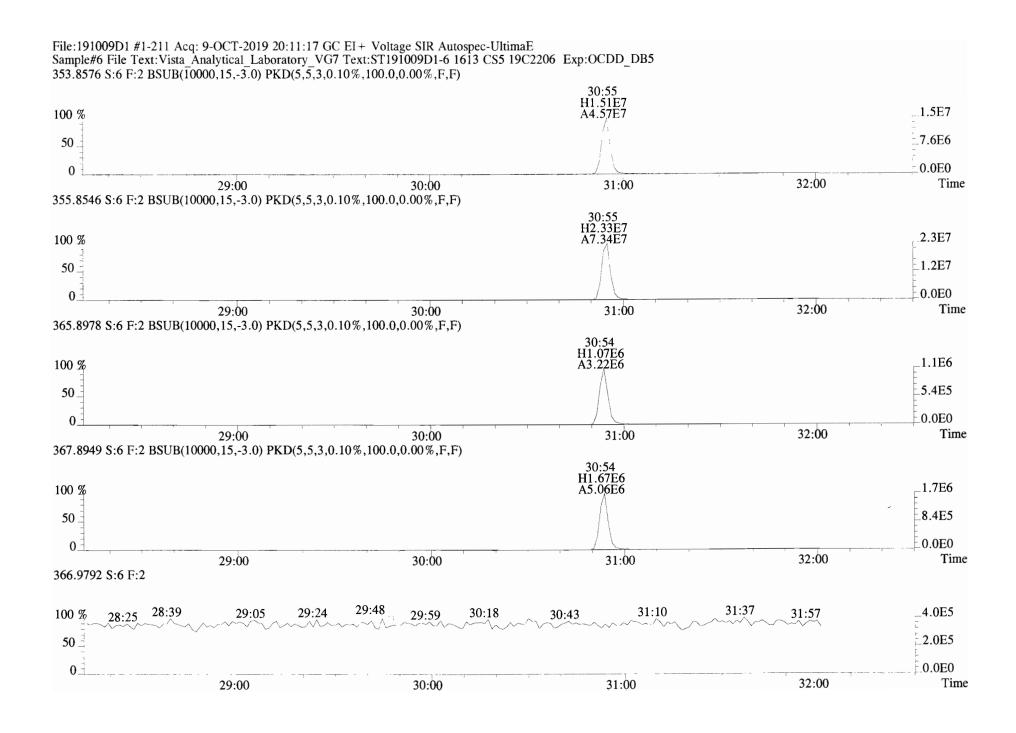


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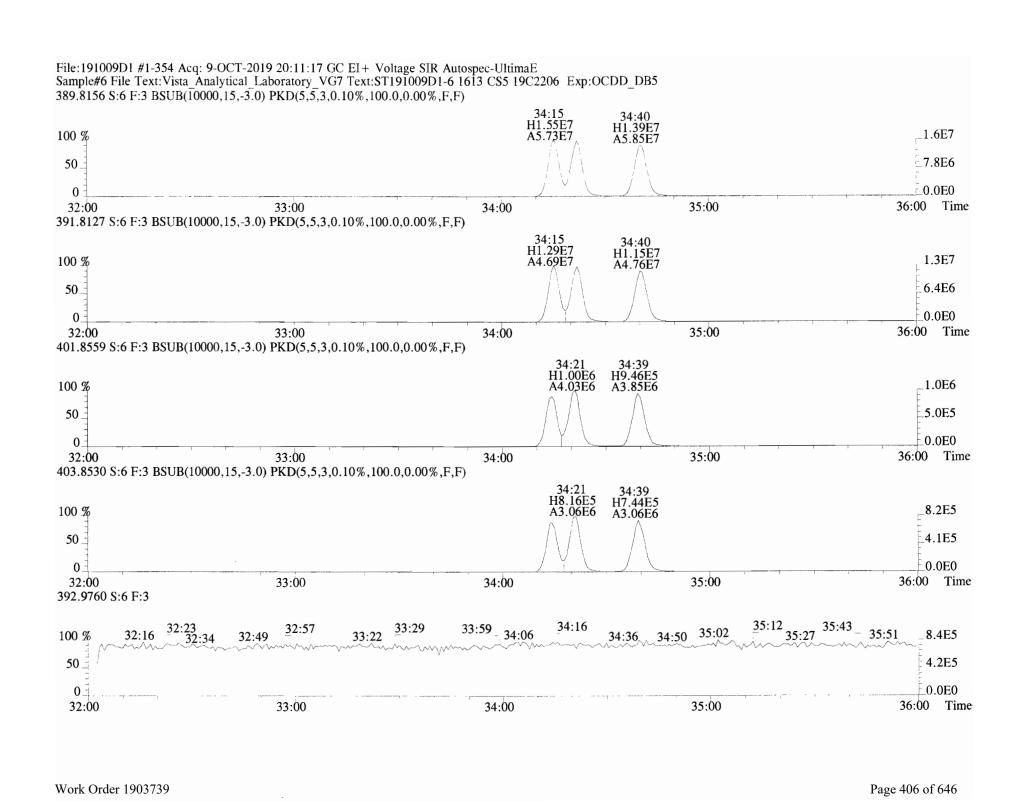




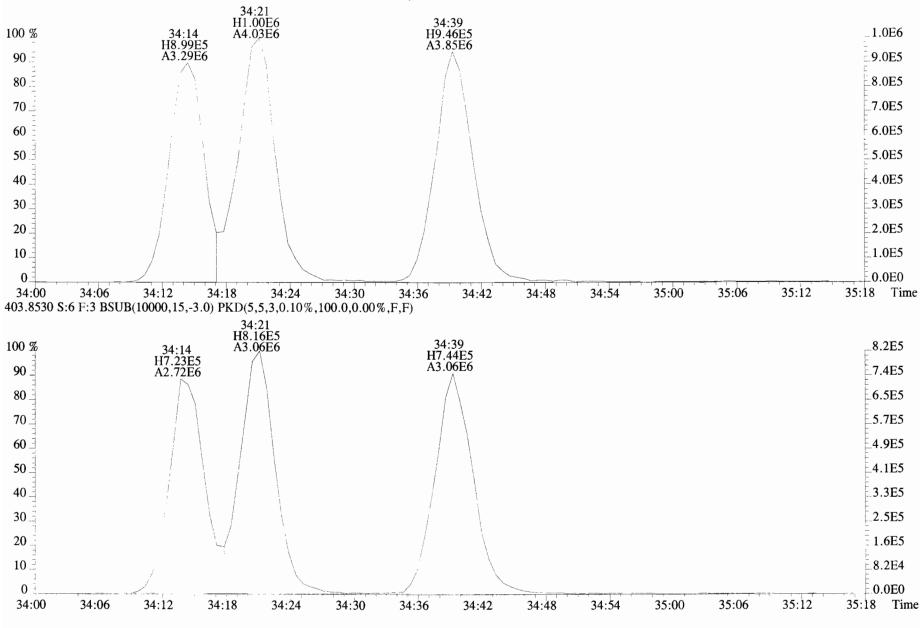
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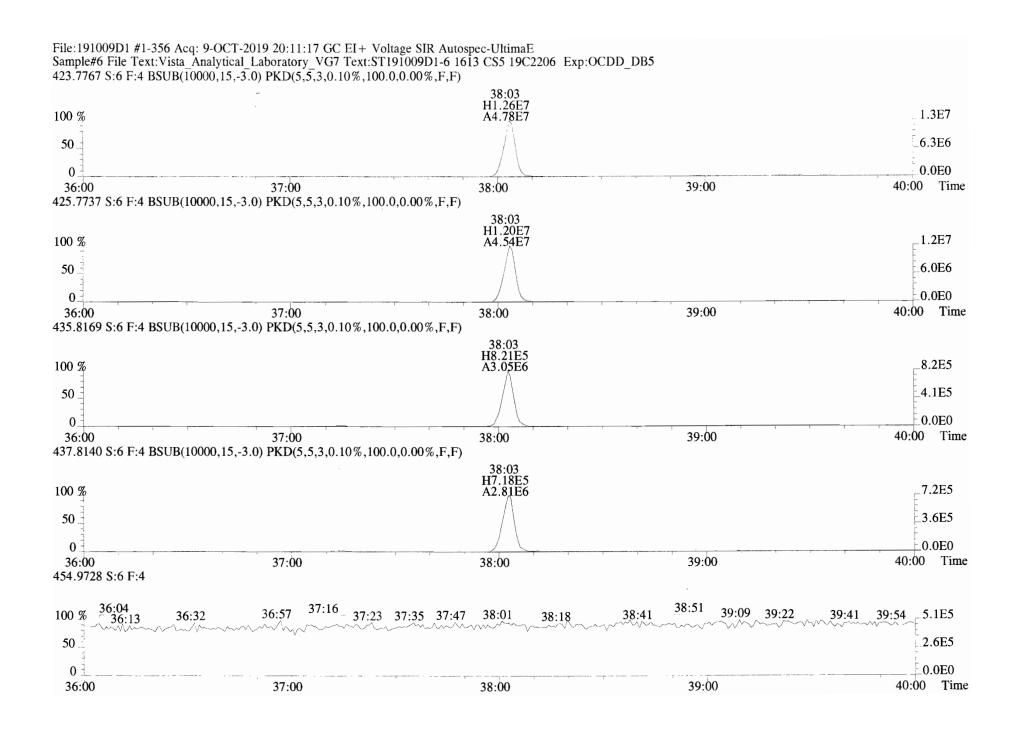
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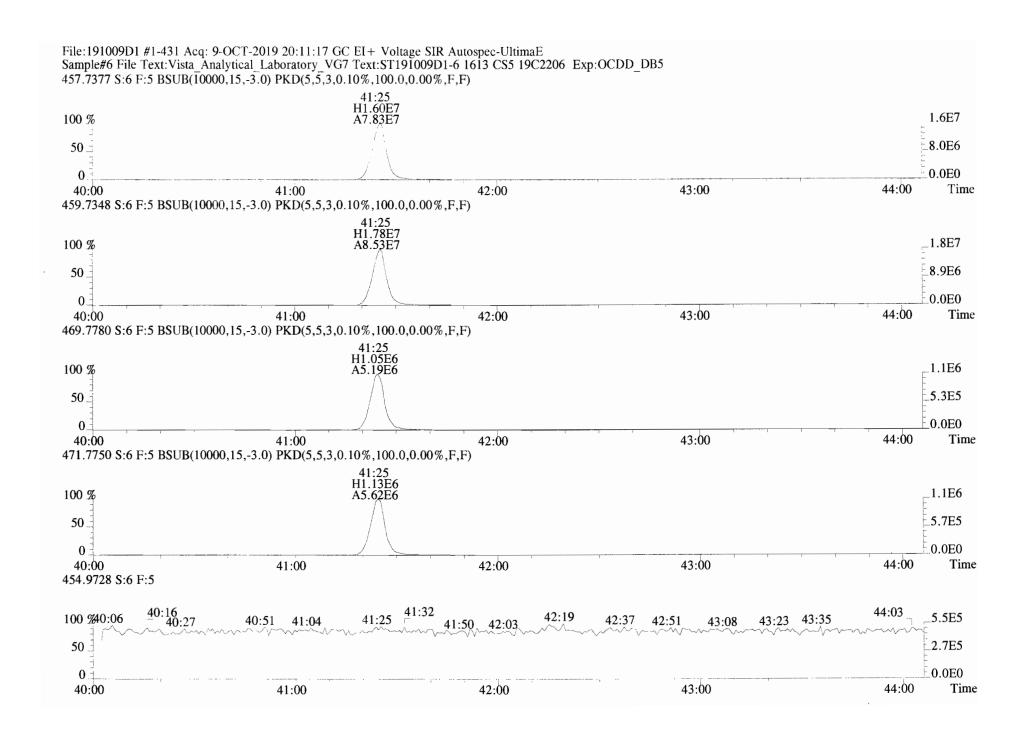
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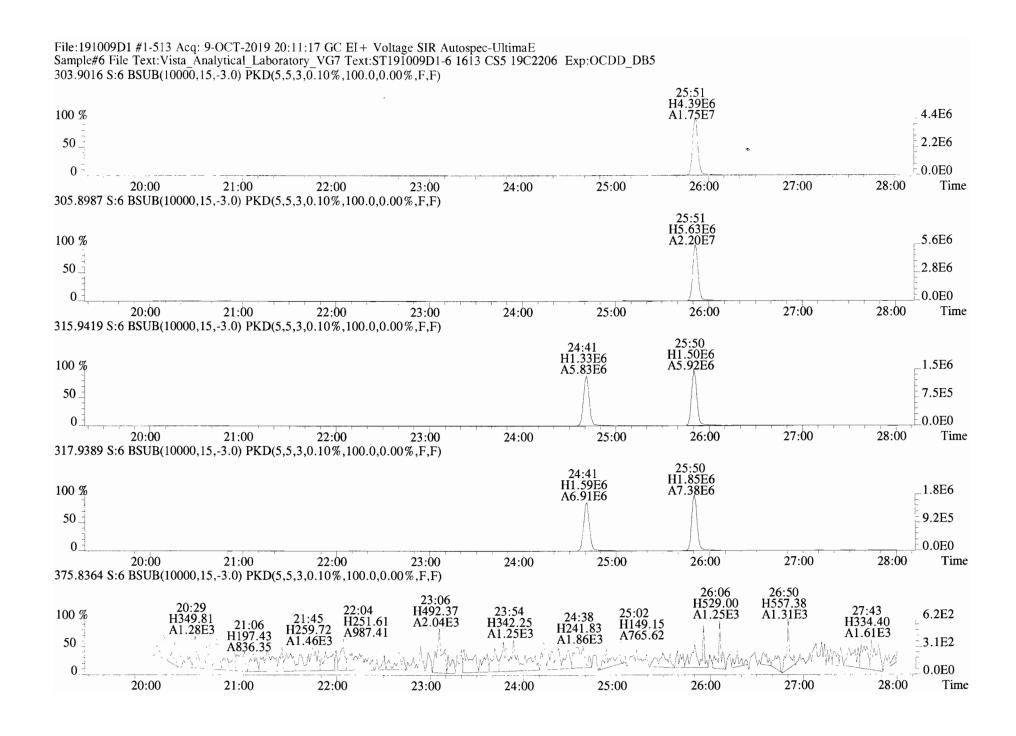
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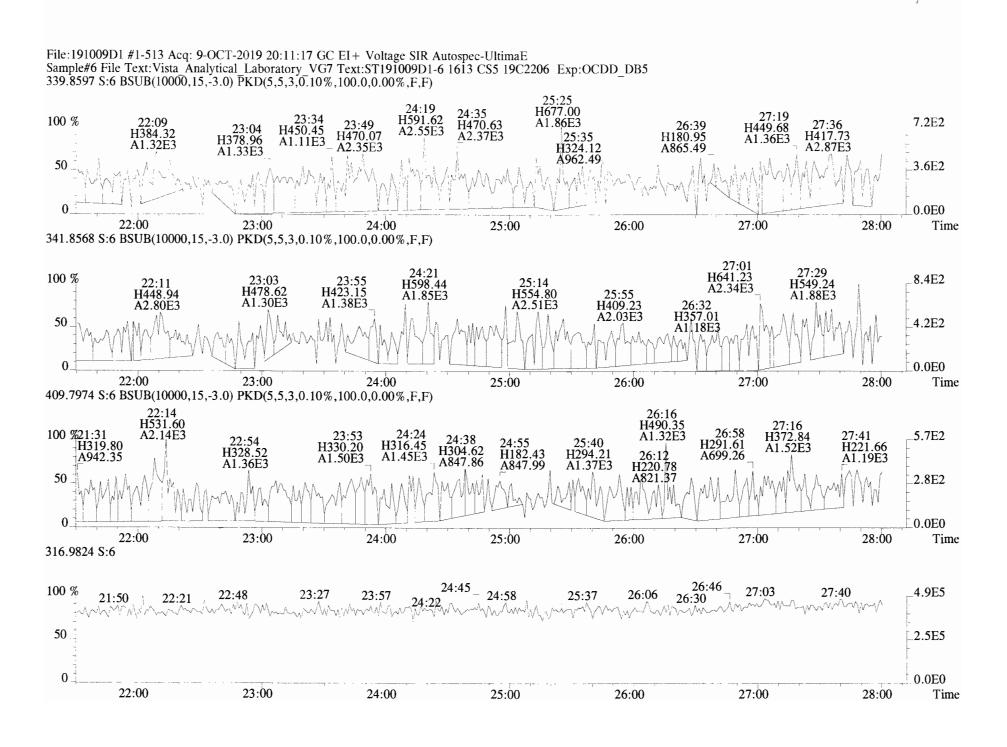
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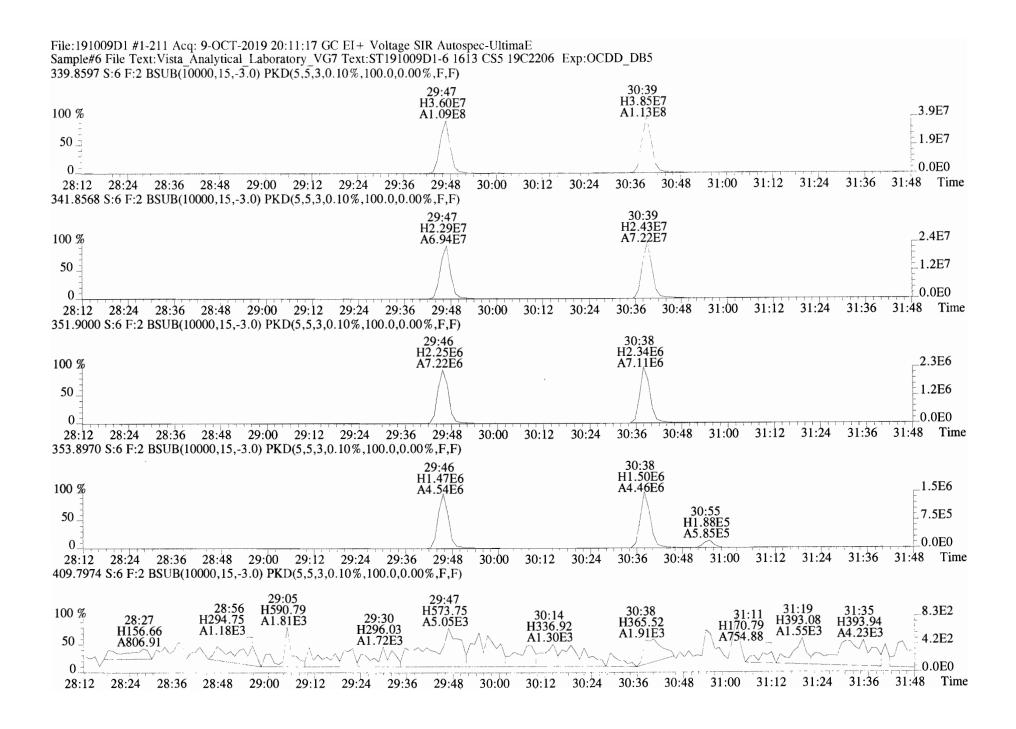
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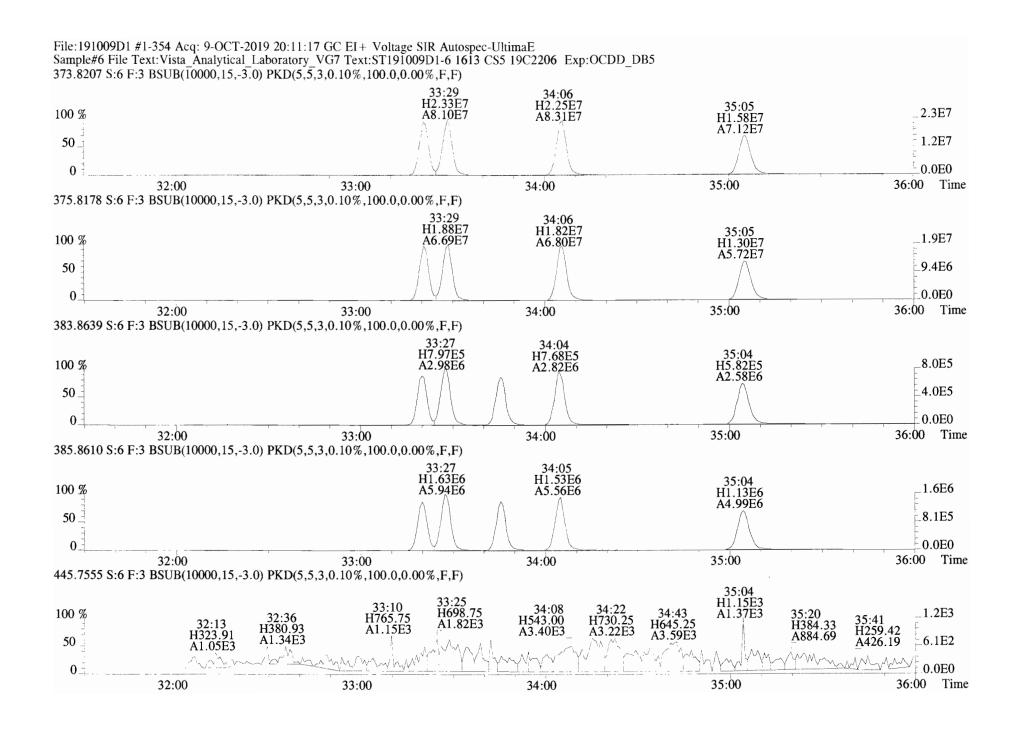
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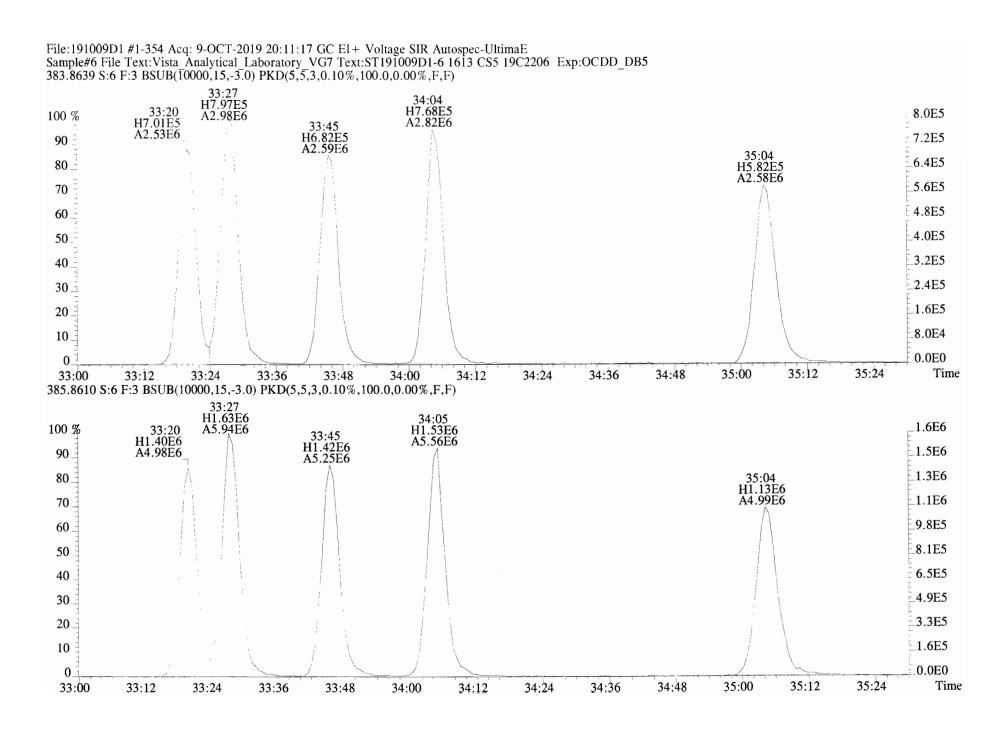
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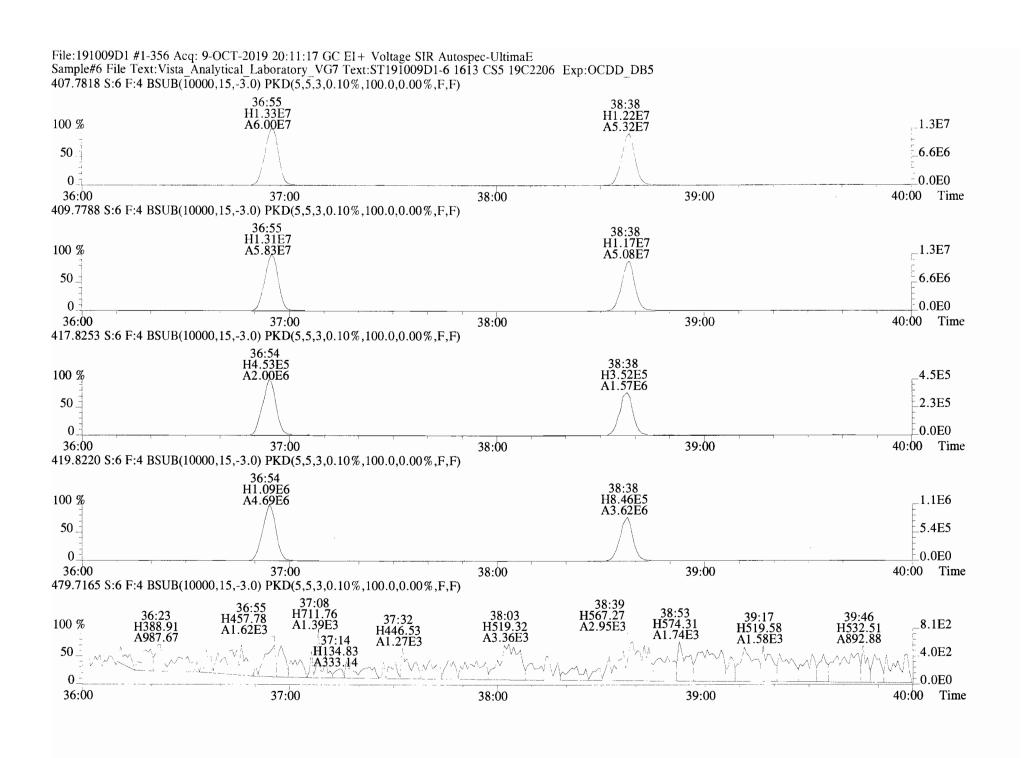
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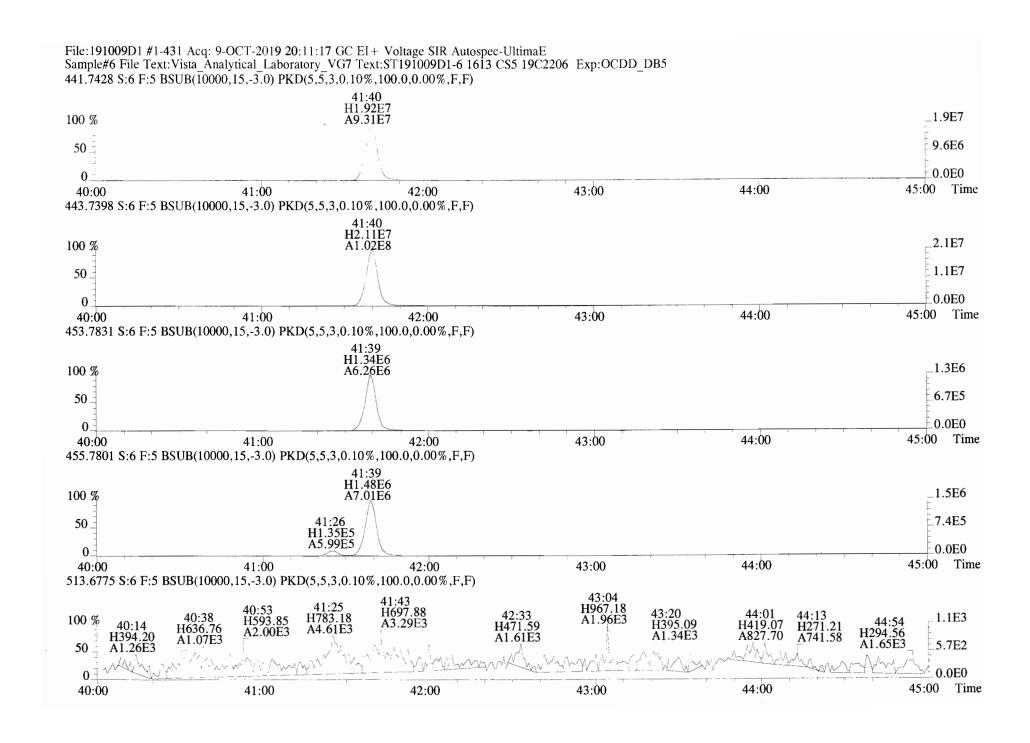


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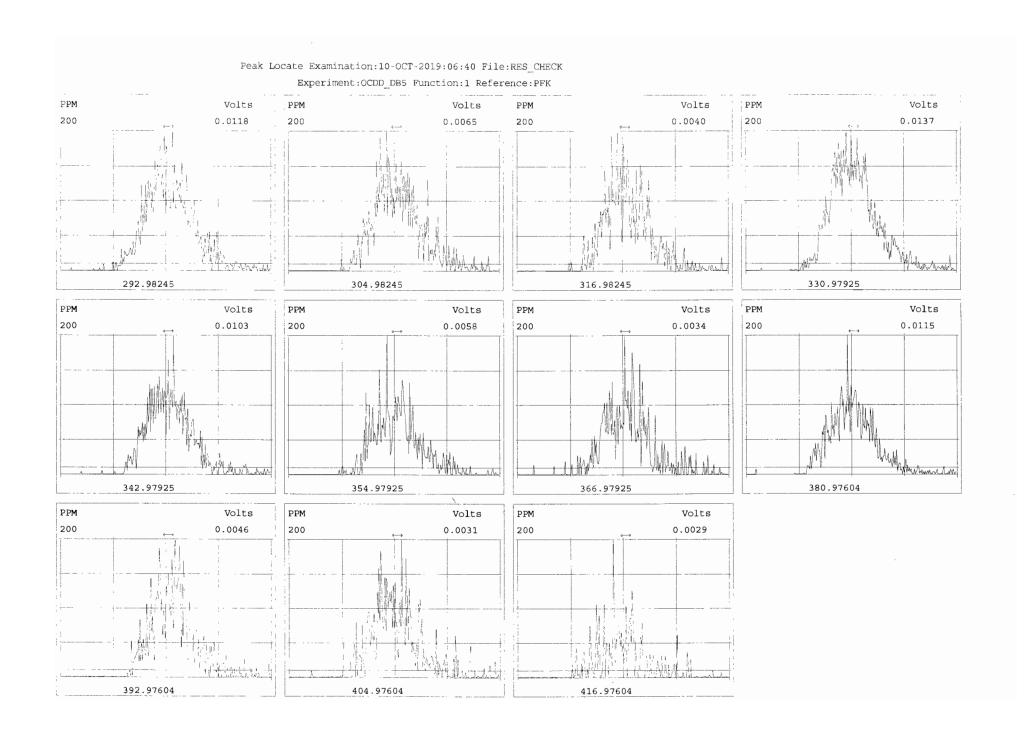


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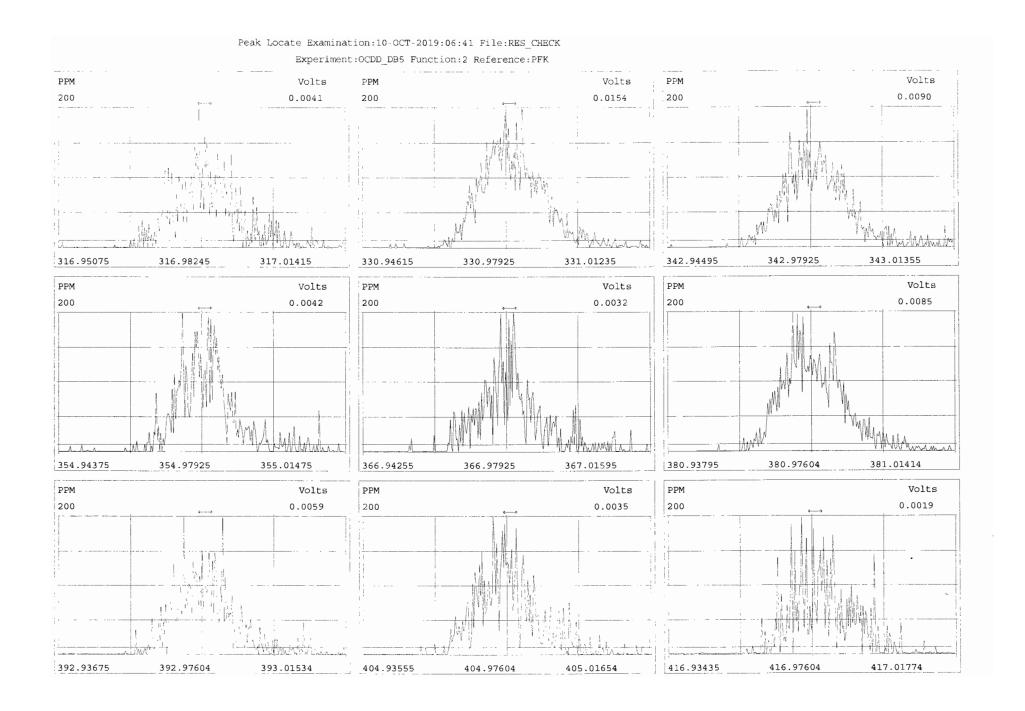




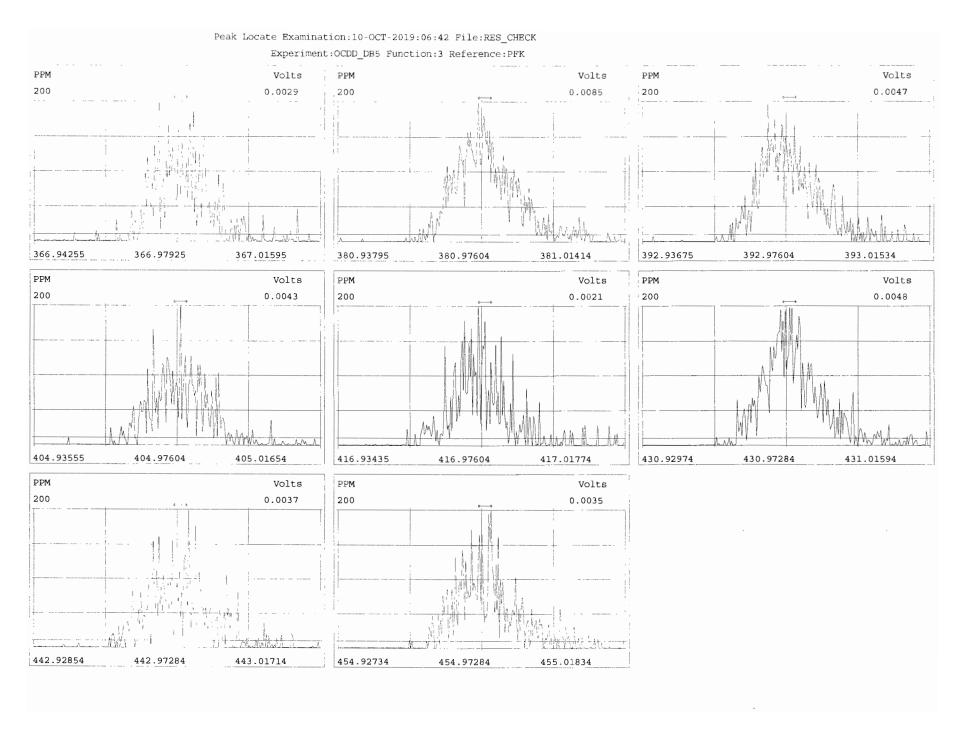
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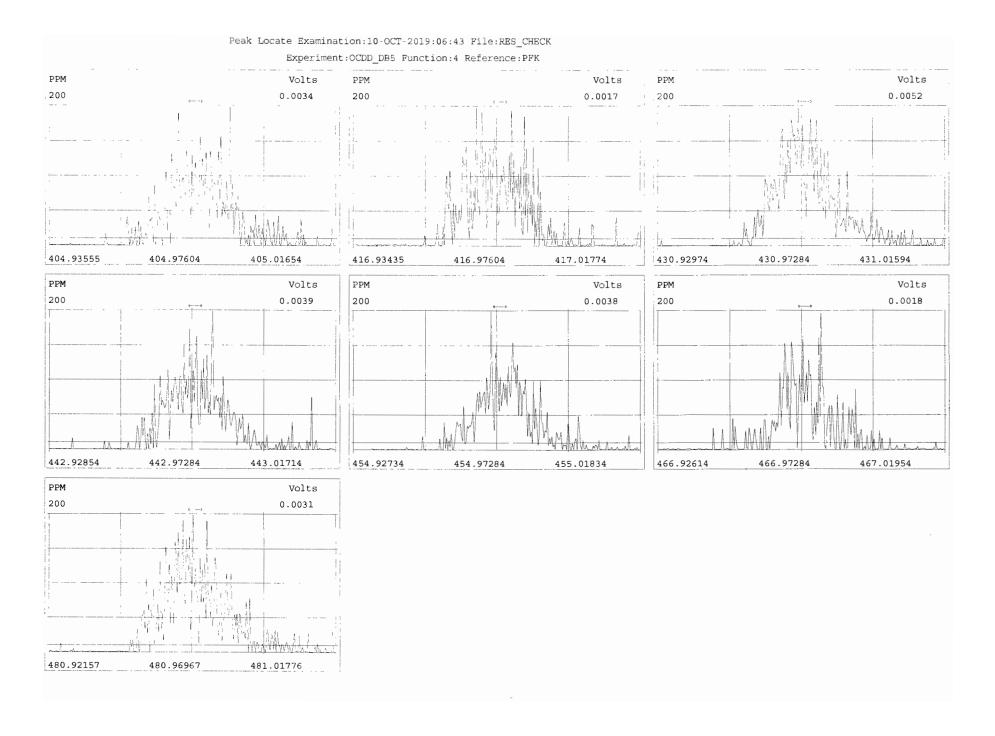
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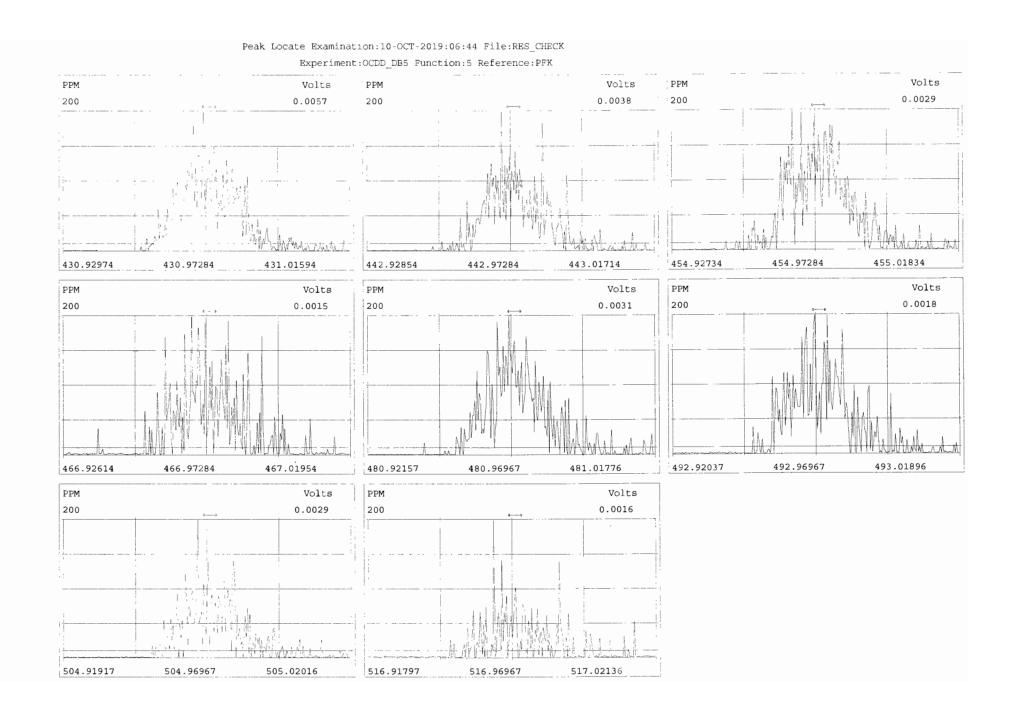
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FORM 4A

PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

	M/Z'S	ION	QC			CONC.	
	FORMING	ABUND.	LIMITS		CONC.	RANGE (3)	
	RATIO (1)	RATIO	(2)	Pass	FOUND	(ng/mL)	
NATIVE ANALYTES							
							(1) See Table 8, Method 1613, for m/z
2,3,7,8-TCDD	M/M+2	0.83	0.65-0.89	У	10.2	7.8 - 12.9	
				-		8.2 - 12.3 (4)	(2) Ion Abundance Ratio Control Limits
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	У	51.3	39.0 - 65.0	in Table 9, Method 1613.
				•			
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05-1.43	У	48.9	39.0 - 64.0	(3) Contract-required concentration ra
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	У	52.4	39.0 - 64.0	in Table 6, Method 1613.
1,2,3,7,8,9-HxCDD	M+2/M+4	1.17	1.05-1.43	-	50.4	41.0 - 61.0	
,,_,	•			1			(4) Contract-required concentration ra
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	v	51.9	43.0 - 58.0	in Table 6a, Method 1613, for tetras of
	,			1			,
OCDD	M+2/M+4	0.92	0.76-1.02	v	105	79.0 - 126.0	
	,			1		2000	
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	v	10.3	8.4 - 12.0	
2,3,7,6 1021	.,,	****	0.00 0.00	1	10.5	8.6 - 11.6 (4)	
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	v	50.2	41.0 - 60.0	
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	-	56.7	41.0 - 61.0	
2,3,4,7,0 10001	11+2/11+4	1.00	1.32-1.70	Y	30.7	41.0 - 01.0	
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	1/	51.1	45.0 - 56.0	
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	-	51.5	44.0 - 57.0	
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	-	51.5	44.0 - 57.0	
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	-	50.9	45.0 - 56.0	
1,2,3,7,6,9-HACDF	M+2/M+4	1.24	1.05-1.43	У	50.9	45.0 - 56.0	_
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	V	53.0	45.0 - 55.0	Analyst: /
1,2,3,4,7,8,9-HpCDF		1.05	0.88-1.20	-	50.2	43.0 - 58.0	maryse
1,2,3,4,1,0,3-npcDr	142/144	1.05	0.00-1.20	У	50.2	43.0 - 30.0	1
OCDF	M+2/M+4	0.92	0.76-1.02		102	63.0 - 159.0	Date: (0//
OCDI	1172/1174	U.JZ	U./U-I.U2	У	102	UJ.U ~ 137.U	Bace. 10/L

specifications.

s as specified

CCAL ID: SS191009D1-1

cange as specified

cange as specified only.

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FORM 4B

PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

	M/Z'S	ION QC				CONC.		
	FORMING	ABUND.	LIMITS		CONC.	RANGE		
LABELED COMPOUNDS	RATIO (1)	RATIO	(2)	Pass	FOUND	(ng/mL)		
	/							
13C-2,3,7,8-TCDD	M/M+2	0.72	0.65-0.89	Y	100	82.0 - 121.0		
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	У	101	62.0 - 160.0		
13C-1,2,3,4,7,8-HxCD	D M+2/M+4	1.23	1.05-1.43	У	95.9	85.0 - 117.0		
13C-1,2,3,6,7,8-HxCD	D M+2/M+4	1.25	1.05-1.43	У	95.6	85.0 - 118.0		
13C-1,2,3,7,8,9-HxCD	D M+2/M+4	1.26	1.05-1.43	У	94.3	85.0 - 118.0		
13C-1,2,3,4,6,7,8-Hp	CDD M+2/M+4	1.06	0.88-1.20	У	91.7	72.0 - 138.0		
/-/-/-/-/	000 1110,1111	2.00	0.00 1.20	1	71.7	72.0 138.0		
13C-OCDD	M/M+2	0.92	0.76-1.02	У	190	96.0 - 415.0		
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0 65 0 00		0.7.0			
13C-2,3,7,6-1CDF	M+2/M+4	0.78	0.65-0.89	У	97.2	71.0 - 140.0		
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	У	97.4	76.0 - 130.0		
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	У	96.6	77.0 - 130.0		
13C-1,2,3,4,7,8-HxCD	F M/M+2	0.51	0 43 0 50		100	76 0 121 0		
13C-1,2,3,4,7,6-HACD	F M/M+2	0.51	0.43-0.59	У	102	76.0 - 131.0		
13C-1,2,3,6,7,8~HxCD	F M/M+2	0.51	0.43-0.59	У	101	70.0 - 143.0		
13C-2,3,4,6,7,8-HxCD	F M/M+2	0.51	0.43-0.59	У	97.1	73.0 - 137.0		
13C-1,2,3,7,8,9-HxCD	F M/M+2	0.51	0.43-0.59	У	99.0	74.0 - 135.0		
13C-1,2,3,4,6,7,8-Hp	CDE M+3/M+4	0.43	0.37-0.51	у	96.6	78.0 - 129.0		
13C-1,2,3,4,7,8,9-Hp				-				
13С-1,2,3,4,7,8,9-нр	CDF M+2/M+4	0.44	0.37-0.51	У	102	77.0 - 129.0		
13C-OCDF	M+2/M+4	0.88	0.76-1.02	У	197	96.0 - 415.0		
CLEANUP STANDARD (3)							
37Cl-2,3,7,8-TCDD					9.08	7.9 - 12.7		

- (1) See Table 8, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified
- (3) No ion abundance ratio; report concentration found.

Analyst: 1)B

Date: 10 10 19

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FORM 6A PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

Compounds Using 13C-1234-TCDD as RT Internal Standard

	RETENTION TIME		RRT				
NATIVE ANALYTES	REFERENCE	RRT	QC LIMITS (1)				
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002				
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	0.999-1.002				
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003				
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002				
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002				
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043				
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.189	1.000-1.567				
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.994	0.923-1.103				
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.145	1.000-1.425				
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.179	1.011-1.526				
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052				

Analyst: 1) 10 10 19

Work Order 1903739 Page 424 of 646

FORM 6B

PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

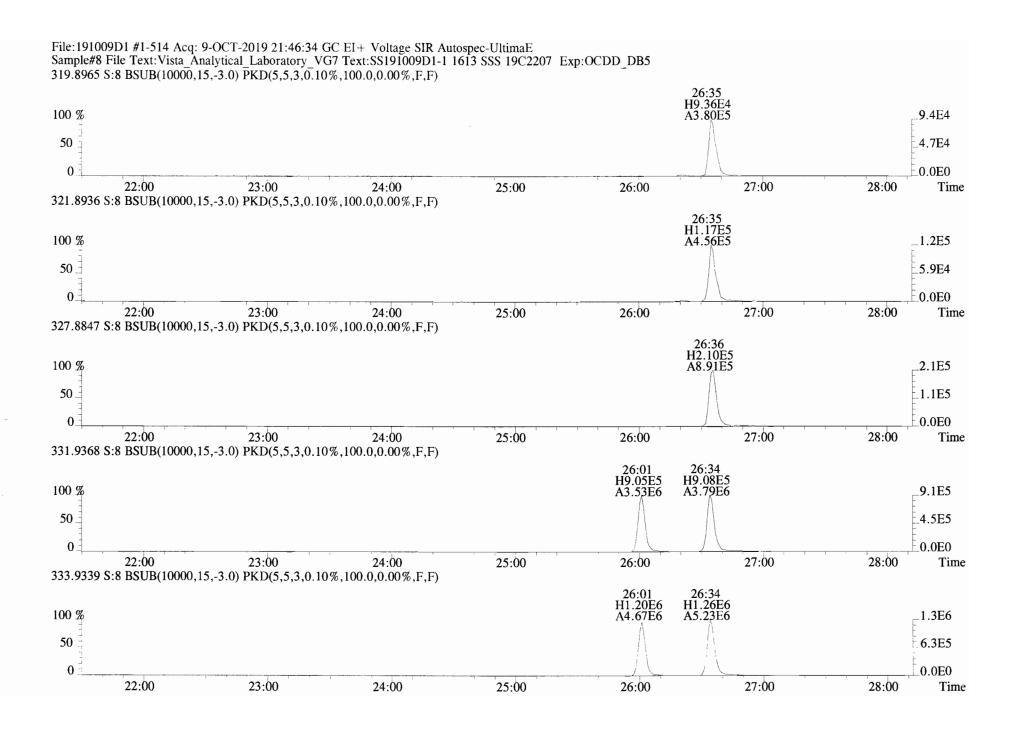
NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT OC LIMITS (1)
			2 0 0211210 (2)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.001	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.987	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.010	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.040	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.018	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9~HxCDF	1.127	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: 10 10 19

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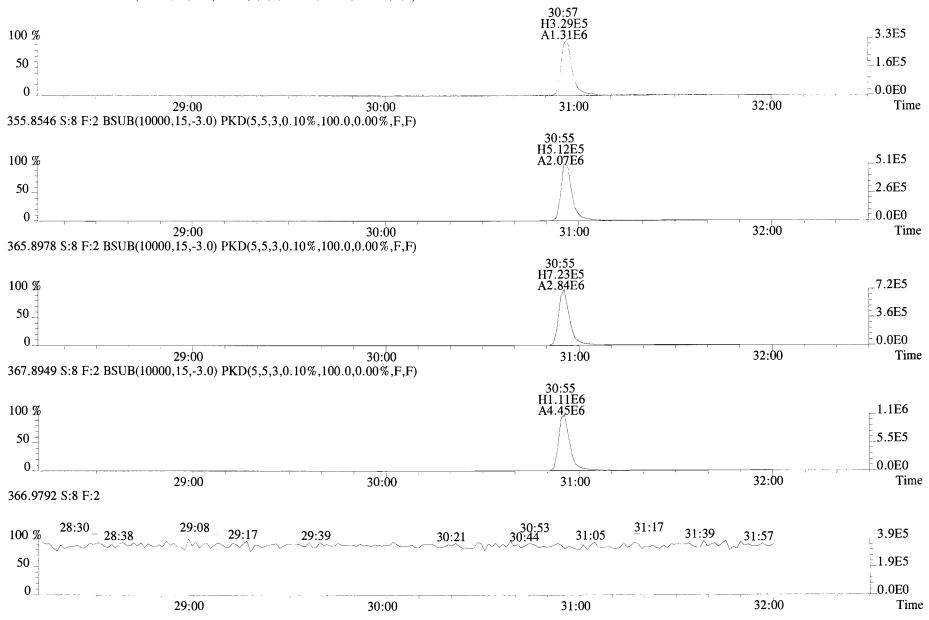
Cl:	lent ID: 1613 SSS 19C2207	Fi	lename: 1	91009D1	S:8	Acq: 9-00	CT-19 2	1:46:34		ConCa	l: ST191009D1-	- 4			Page	1 of 1
Lal	DID: SS191009D1-1					1613VG7-			: 1.000	EndCA	L: NA					
	Name	Resp	RA	RRF	RT	Conc	Qual	noise Fac	DL	Name		Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	8.36e+05	0.83 y	0.91	26:36	10.234		* 2.5	*	Total T	etra-Dioxins	10.4	11.4		*	*
	1,2,3,7,8-PeCDD	3.38e+06	0.63 y	0.90	30:57	51.323		* 2.5	*	Total P	enta-Dioxins	51.4	51.7		*	*
	1,2,3,4,7,8-HxCDD	2.55e+06	1.31 y	1.10	34:18	48.909		* 2.5	*	Total H	exa-Dioxins	153	153		*	*
	1,2,3,6,7,8-HxCDD	3.09e+06	1.18 y	0.94	34:24	52.378		* 2.5	*	Total H	epta-Dioxins	53.5	54.4		*	*
	1,2,3,7,8,9-HxCDD	2.83e+06	1.17 y	0.96	34:44	50.434		* 2.5	*	Total T	etra-Furans	10.7	11.4		*	*
	1,2,3,4,6,7,8-HpCDD		1.02 y	0.98	38:07	51.915		* 2.5	*	Total P	enta-Furans	110.38	111.73		*	*
		4.27e+06	0.92 y	0.96	41:30	105.37		* 2.5	*	Total H	exa-Furans	205	207		*	*
										Total H	epta-Furans	104	106		*	*
	2,3,7,8-TCDF	1.24e+06	0.78 y	0.95	25:53	10.342		* 2.5	*							
	1,2,3,7,8-PeCDF	5.03e+06	1.54 y	0.96	29:48	50.200		* 2.5	*							
	2,3,4,7,8-PeCDF	5.90e+06	1.60 y	1.01	30:42	56.719		* 2.5	*							
	1,2,3,4,7,8-HxCDF	3.94e+06	1.22 y	1.18	33:23	51.086		* 2.5	*							
	1,2,3,6,7,8-HxCDF		1.23 y	1.07	33:31	51.491		* 2.5	*							
	2,3,4,6,7,8-HxCDF		1.20 y	1.11	34:08	51.474		* 2.5	*							
	1,2,3,7,8,9-HxCDF		1.24 y	1.06	35:10	50.903		* 2.5	*							
	1,2,3,4,6,7,8-HpCDF		1.05 y	1.13	36:58	53.010		* 2.5	*							
	1,2,3,4,7,8,9-HpCDF		1.05 y	1.28	38:42	50.216		* 2.5	*							
	-	5.04e+06	0.92 y	0.95	41:45	102.23		* 2.5	*							
			2							Rec	Oual					
IS	13C-2,3,7,8-TCDD	9.02e+06	0.72 y	1.10	26:35	100.49				100	-					
IS	13C-1,2,3,7,8-PeCDD		0.64 y	0.88	30:56	100.87				101						
IS	13C-1,2,3,4,7,8-HxCDD		1.23 y	0.64	34:16	95.948				95.9						
IS	13C-1,2,3,6,7,8-HxCDD		1.25 y	0.86	34:24	95.558				95.6						
IS	13C-1,2,3,7,8,9-HxCDD		1.26 y	0.81	34:43	94.306				94.3						
IS	13C-1,2,3,4,6,7,8-HpCDD		1.06 y	0.65	38:06	91.680				91.7						
IS		8.45e+06	0.92 y	0.58	41:29	189.68				94.8						
IS	13C-2,3,7,8-TCDF		0.78 y	1.03	25:52	97.199				97.2						
IS	13C-1,2,3,7,8-PeCDF		1.62 y	0.85	29:48	97.425				97.4						
IS	13C-2,3,4,7,8-PeCDF		1.59 y	0.85	30:41	96.649				96.6						
IS	13C-1,2,3,4,7,8-HxCDF		0.51 y	0.83	33:22	102.43				102						
IS	13C-1,2,3,6,7,8-HxCDF		0.51 y	1.03	33:30	101.42				101						
IS	13C-2,3,4,6,7,8-HxCDF		0.51 y	0.95	34:08	97.073				97.1						
IS	13C-1,2,3,7,8,9-HxCDF		0.51 y	0.83	35:09	98.999				99.0						
IS	13C-1,2,3,4,6,7,8-HpCDF		0.43 y	0.76	36:57	96.588				96.6						
IS	13C-1,2,3,4,7,8,9-HpCDF		0.44 y	0.58	38:42	102.46				102						
IS		1.04e+07	0.88 y	0.69	41:44	196.65				98.3						
	100 0021		0.00 1	0.05		150.05										
C/Up	37Cl-2,3,7,8-TCDD	8.91e+05		1.20	26:36	9.0817				90.8	Integr	ations	Rev:	lewed		
											by	72	by		_	
RS/R	13C-1,2,3,4-TCDD	8.20e+06	0.76 y	1.00	26:01	100.00					Analyst:	(1/(Ana:	Lyst:_	0.7	
RS	13C-1,2,3,4-TCDF	1.25e+07	0.82 y	1.00	24:42	100.00										
RS/R	13C-1,2,3,4,6,9-HxCDF	7.68e+06	0.50 y	1.00	33:48	100.00					Analyst:	0/10/19	Date	e: <u>/(</u>	10/19	<u>.</u>
												t I			,	

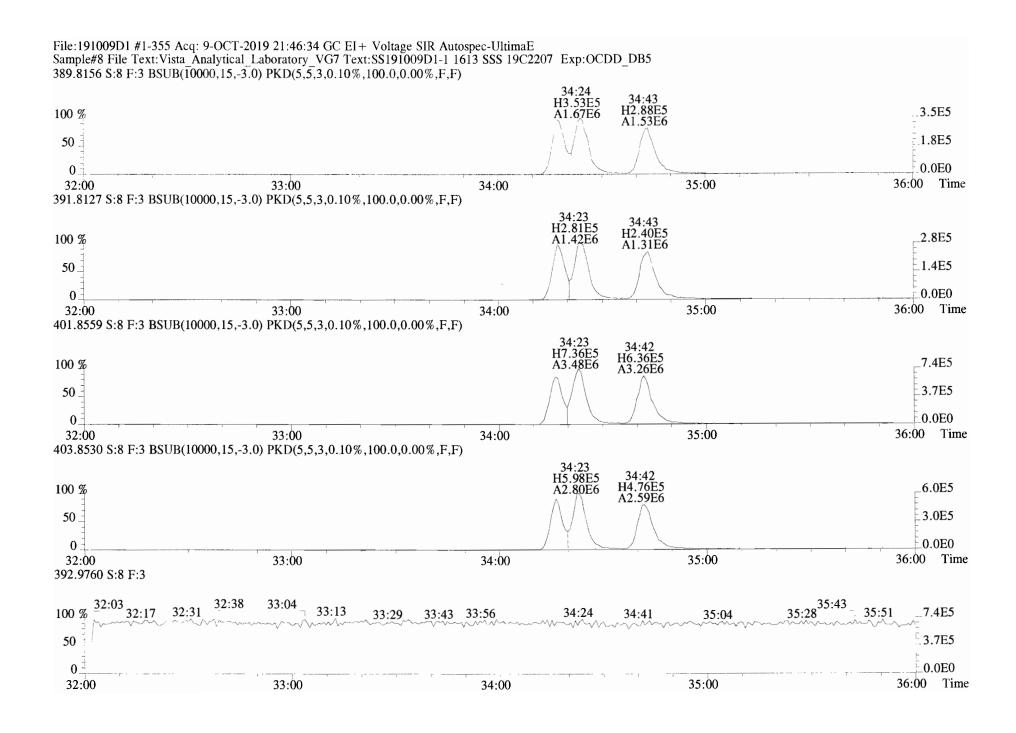
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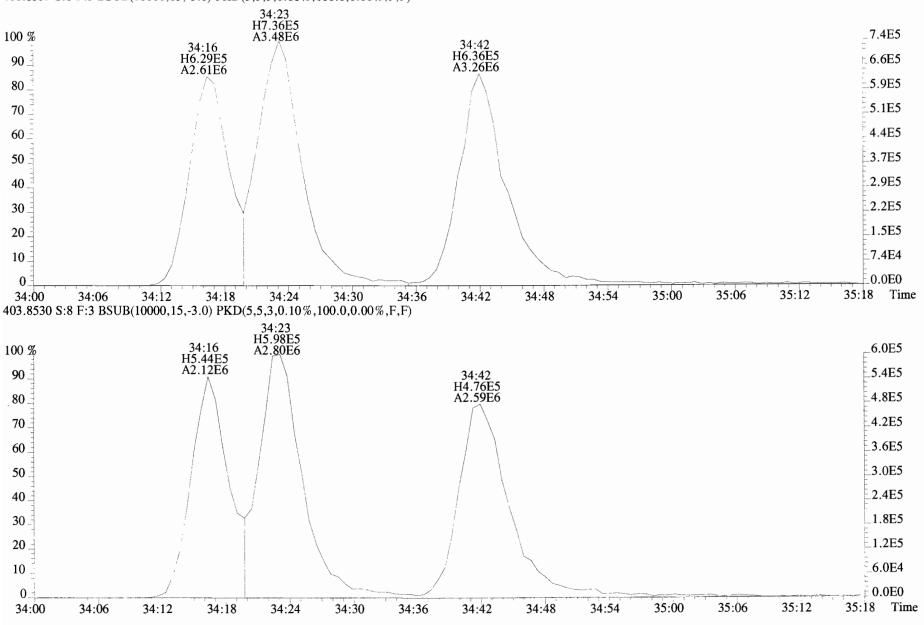
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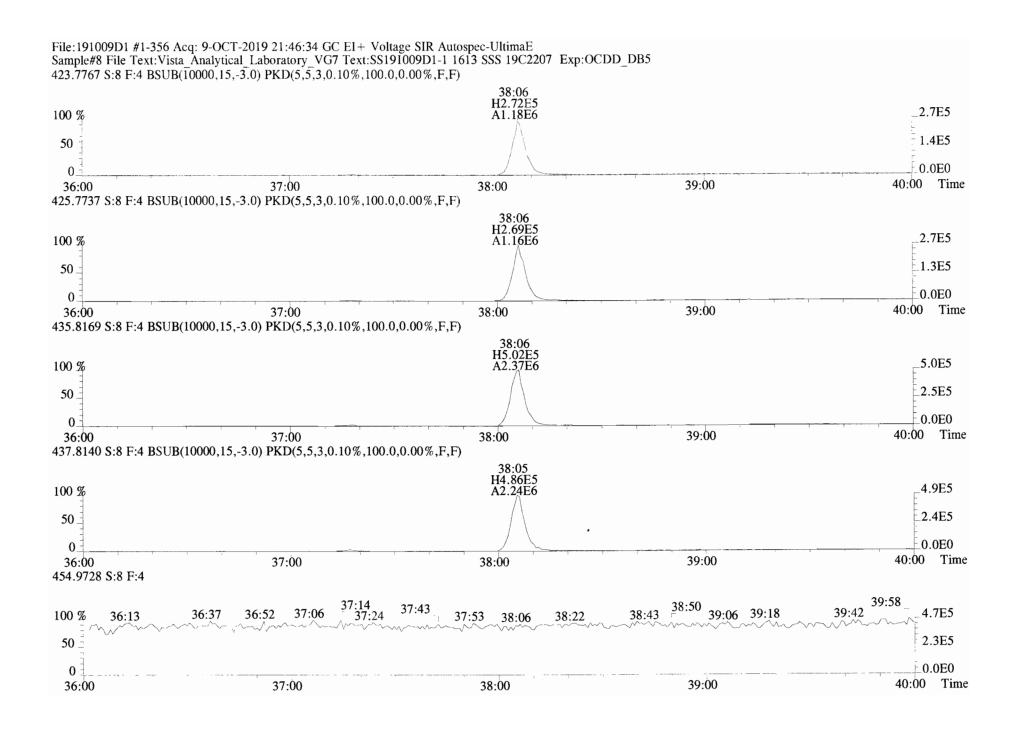




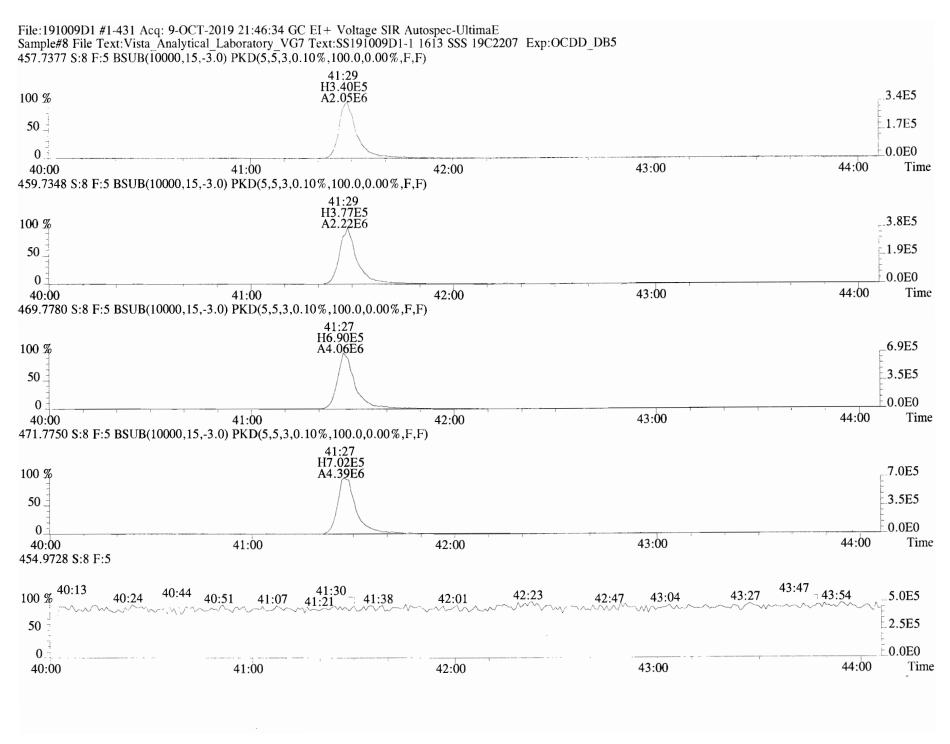
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File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5 401.8559 S:8 F:3 BSUB(\overline{1}0000,15,-\overline{3}.0) PKD(5,\overline{5},3,0.10\%,100.0,0.00\%,F,F)





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File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5 303.9016 S:8 BSUB(10000.15.-3.0) PKD(5.5.3.0.10%.100.0.0.00%.F.F) H1.18E5 _1.2E5 100 % A5.43E5 _5.9E4 50 0.0E0 26:00 27:00 28:00 Time 25:00 20:00 21:00 22:00 23:00 24:00 305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) H1.43E5 A6.95E5 _1.4E5 100 % 50. _7.1E4 _0.0E0 27:00 28:00 25:00 26:00 Time 20:00 21:00 22:00 23:00 24:00 315.9419 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 24:42 H1.27E6 25:51 H1.27E6 A5.52E6 _1.3E6 100 % A5.66E6 50_ 6.4E5 0.0E0 0. 28:00 26:00 27:00 22:00 24:00 25:00 Time 20:00 21:00 23:00 317.9389 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 24:41 H1.60E6 25:51 H1.56E6 1.6E6 100 % A6.87E6 A7.08E6 .8.0E5 50_ 0.0E00 27:00 28:00 20:00 21:00 22:00 26:00 Time 23:00 24:00 25:00 375.8364 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) 23:48 26:20 H554.27 25:45 H372.89 H590.95 24:53 H335.86 A1.52E3 100 % 7.0E2 A1.72E3 27:28 H268.14 20:10 21:20 H113.43 A2.49E3 A1.64E3 H261.51 26:48 H199.61 A665.85 H147.22 50. A788.04 H122.89 3.5E2 A690.93A306.54

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24:00

25:00

0.

20:00

21:00

22:00

23:00

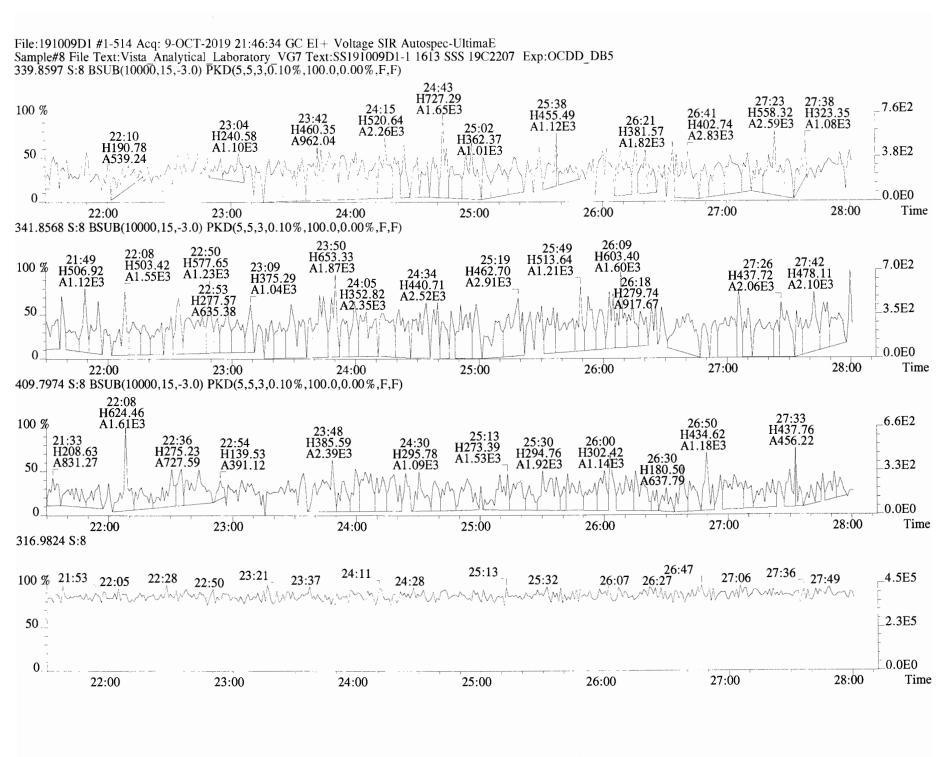
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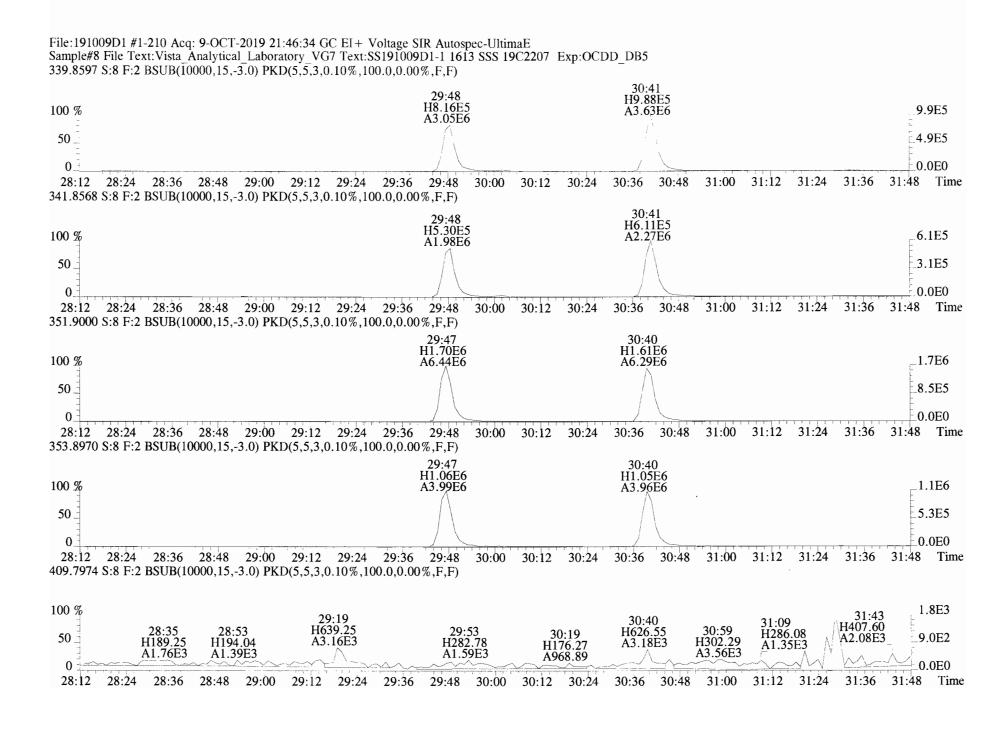
Time

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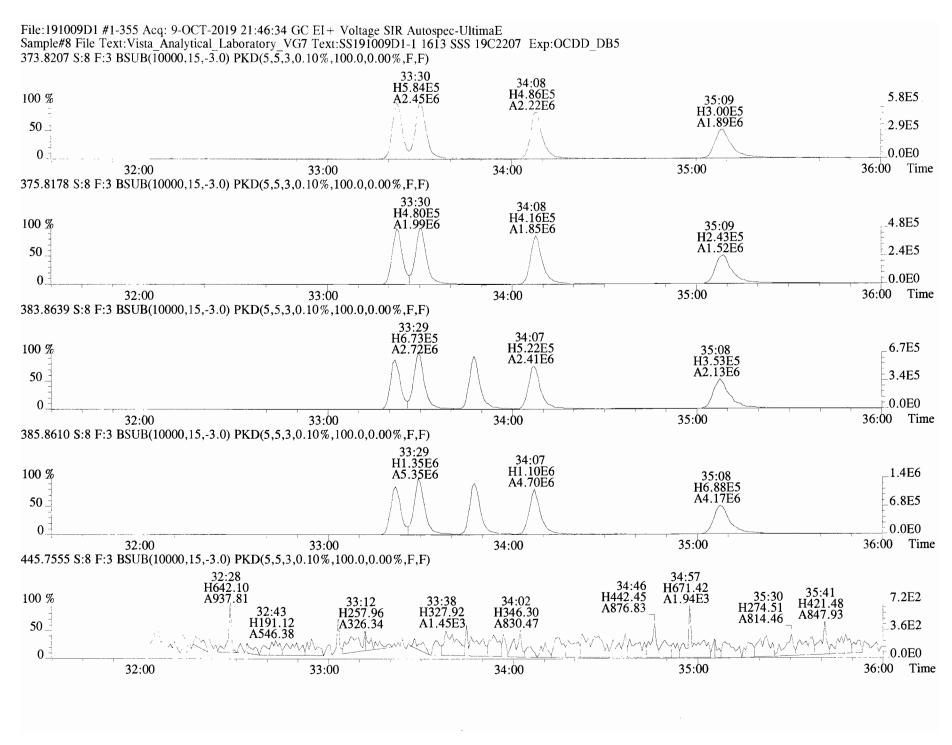
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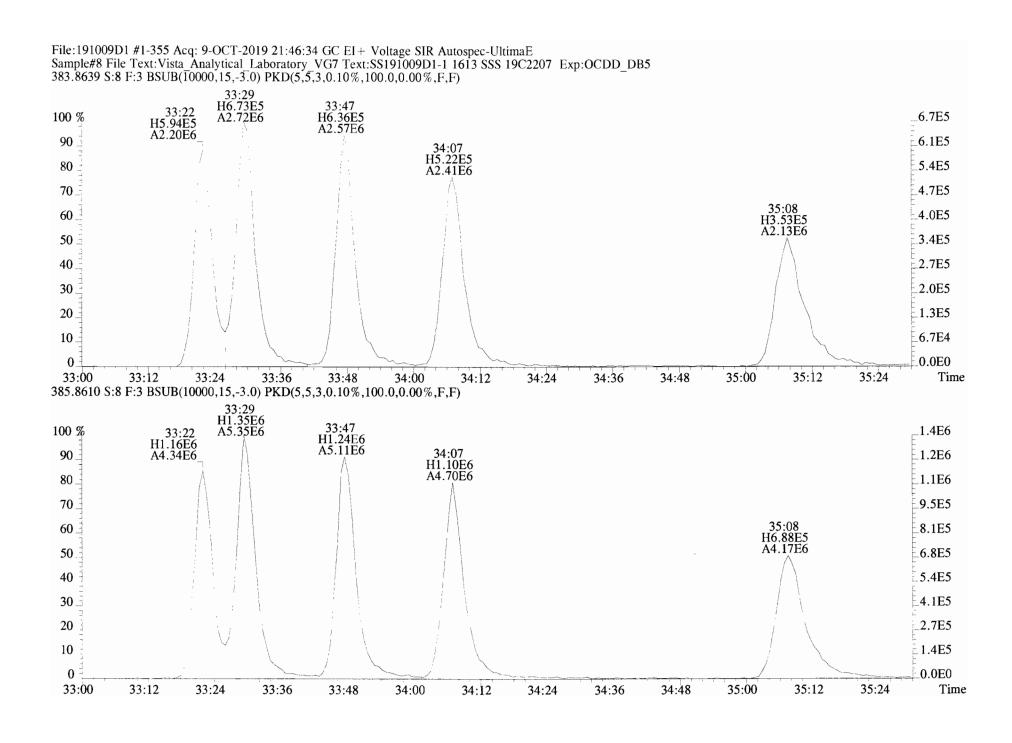
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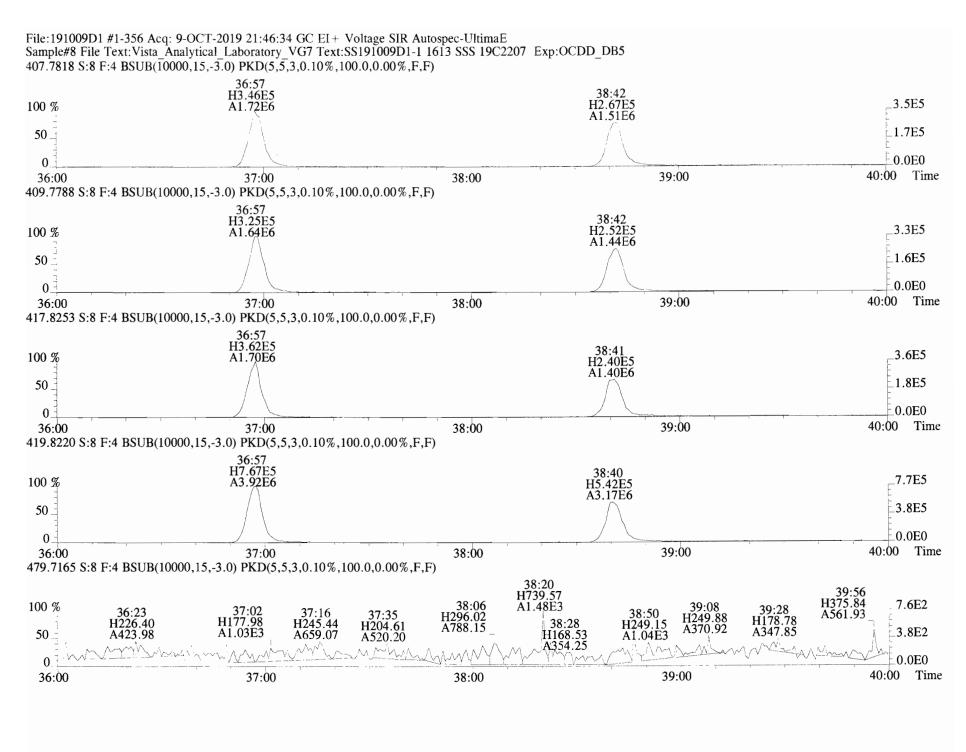


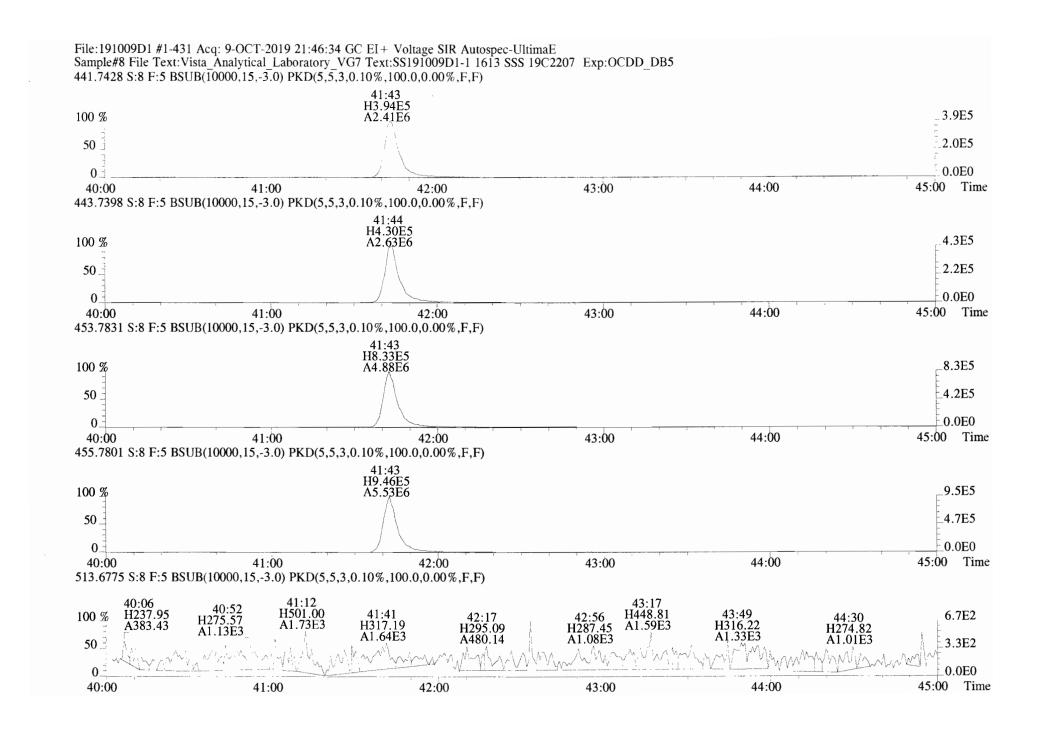
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Quantify Compound Summary Report

MassLynx 4.1 SCN815

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Vista Analytical Laboratory

Dataset:

U:\VG11.PRO\Results\190507K1\190507K1-CRV.qld

Last Altered: Printed:

Wednesday, May 08, 2019 7:55:45 AM Pacific Daylight Time

Wednesday, May 08, 2019 7:57:59 AM Pacific Daylight Time

HC 5.8.19

Method: U:\VG11.PRO\MethDB\1613_rrt-5-7-19.mdb 07 May 2019 12:51:47

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 07:55:45

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

Response Factor: 0.924948

RRF SD: 0.0405637, Relative SD: 4.38551

Response type: Internal Std (Ref 18), 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 190507K1_2	0.250	0.88	NO	26.34	1.000	1.33e3	5.80e5	0.247	-1.2	0.914	MM
2 190507K1_3	10.0	0.78	NO	26.36	1.001	5.65e4	6.19e5	9.87	-1.3	0.913	MM
3 190507K1_4	0.500	0.80	NO	26.36	1.001	3.15e3	6.64e5	0.513	2.7	0.950	MM
4 190507K1_5	2.00	0.79	NO	26.34	1.001	1.19e4	6.91e5	1.85	-7.3	0.857	MM
5 19050 7K1_6	40.0	0.78	NO	26.36	1.001	2.26e5	6.01e5	40.7	1.8	0.941	bb
6 190507K1_7	300	0.78	NO	26.36	1.001	2.60e6	8.87e5	316	5.4	0.975	bb

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

Response Factor: 0.904644

RRF SD: 0.0649505, Relative SD: 7.17968

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 19050 7K1_2	1.25	0.67	NO	31.14	1.001	4.13e3	3.79e5	1.20	-3.7	0.871	MM
2 19050 7K1_3	50.0	0.63	NO	31.14	1.001	1.80e5	4.47e5	44.5	-11.0	0.806	MM
3 19050 7K1_4	2.50	0.57	NO	31.14	1.001	1.07e4	4.65e5	2.54	1.6	0.919	bb
4 19050 7K1_5	10.0	0.66	NO	31.14	1.001	4.19e4	4.73e5	9.78	-2.2	0.885	MM
5 190507K1_6	200	0.61	NO	31.14	1.001	8.32e5	4.25e5	216	8.1	0.978	bb
6 190507K1_7	1500	0.62	NO	31.14	1.001	1.00e7	6.89e5	1610	7.1	0.969	MM

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Vista Analytical Laboratory

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Dataset: U:\VG11.PRO\Results\190507K1\190507K1-CRV.qld

Last Altered: Wednesday, May 08, 2019 7:55:45 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 7:57:59 AM Pacific Daylight Time

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

Response Factor: 1.06909

RRF SD: 0.071776, Relative SD: 6.71372

Response type: Internal Std (Ref 20), 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 19050 7K1_2	1.25	1.38	NO	34.42	1.001	3.85e3	3.03e5	1.19	-4 .8	1.02	bd
2 19050 7K1_3	50.0	1.28	NO	34.42	1.000	1.76e5	3.36e5	49.0	-2.0	1.05	bd
3 19050 7K1_4	2.50	1.25	NO	34.41	1.000	8.65e3	3.49e5	2.32	-7.4	0.990	bd
4 19050 7K1_5	10.0	1.24	NO	34.41	1.000	3.88e4	3.69e5	9.82	-1.8	1.05	MM
5 190507K1_6	200	1.25	NO	34.41	1.000	7.36e5	3.27e5	210	5.2	1.13	bd
6 190507K1_7	1500	1.25	NO	34.42	1.001	9.53e6	5.37e5	1660	10.7	1.18	bd

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

Response Factor: 0.967479

RRF SD: 0.0402916, Relative SD: 4.16459

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

Curve type: RF

Name	Std. Conc	ŔA	n/y :	RT.	RRT.	Resp:	IS Resp	Conc.	%Dev	; RRF;	X = dropped
1 190507K1_2	1.25	1.40	NO	34.53	1.001	4.41e3	3.71e5	1.23	-1.6	0.952	MM
2 190507K1_3	50.0	1.26	NO	34.53	1.000	1.92e5	4.10e5	48.5	-3.0	0.938	db
3 190507K1_4	2.50	1.17	NO	34.53	1.001	9.34e3	4.07e5	2.37	- 5.1	0.918	MM
4 190507K1_5	10.0	1.22	NO	34.52	1.000	4.16e4	4.30e5	9.99	-0.1	0.967	db
5 19050 7K1_6	200	1.25	NO	34.52	1.000	7.88e5	3.86e5	211	5.5	1.02	db
6 19050 7K1_7	1500	1.25	NO	34.52	1.000	1.02e7	6.73e5	1560	4.3	1.01	d b

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

Response Factor: 0.977795

RRF SD: 0.0369, Relative SD: 3.7738

Response type: Internal Std (Ref 22), 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 190507K1_2	1.25	1.09	NO	34.81	1.000	3.66e3	2.90e5	1.29	3.2	1.01	MM
2 190507K1_3	5 0.0	1.35	NO	34.81	1.000	1.63e5	3.44e5	48.4	-3.2	0.947	bb

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

Name	Std. Conc	; RA	n/y	RT.	RRT.	Resp:	IS Resp	Conc.	: %Dev	RRF:	X = dropped
3 190507K1_4	2.50	1.22	NO	34.80	1.000	8.28e3	3.44e5	2.46	-1.4	0.964	MM
4 190507K1_5	10.0	1.22	NO	34.80	1.000	3.65e4	3.93e5	9.51	- 4.9	0.929	bb
5 , 19050 7K1_6	200	1.22	NO	34.80	1.000	6.68e5	3.27e5	209	4.6	1.02	MM
6 190507K1_7	1500	1.20	NO	34.81	1.000	8.68e6	5.82e5	1530	1.8	0.995	MM

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

Response Factor: 1.03751

RRF SD: 0.0369608, Relative SD: 3.56246

Response type: Internal Std (Ref 23), 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 190507K1_2	1.25	0.97	NO	38.32	1.001	3.20e3	2.52e5	1.23	-1.9	1.02	MM
2 190507K1_3	50.0	1.03	NO	38.32	1.000	1.42e5	2.76e5	49.5	-0.9	1.03	bb
3 190507K1_4	2.50	1.16	NO	38.31	1.000	7.08e3	2.70e5	2.53	1.0	1.05	bb
4 190507K1_5	10.0	1.05	NO	38.31	1.000	2.98e4	3.04e5	9.46	-5.4	0.981	MM
5 190507K1_6	200	1.03	NO	38.31	1.000	5.83e5	2.74e5	205	2.5	1.06	MM
6 190507K1_7	1500	1.05	NO	38.31	1.000	7.58e6	4.65e5	1570	4.8	1.09	bb

Compound name: OCDD Response Factor: 0.971773

RRF SD: 0.0504127, Relative SD: 5.1877

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

Curve type: RF

Name	Std. Conc	RA .	n/y :	RT-	RRT.	Resp:	IS Resp	Conc.	: %Dev :	RRF:	K = dropped
190507K1_2	2.50	0.90	NO	41.48	1.001	5.20e3	4.62e5	2.32	-7.4	0.900	ММ
2 190507K1_3	100	0.90	NO	41.48	1.000	2.35e5	4.72e5	103	2.6	0.997	ММ
3 , 190507K1_4	5.00	0.95	NO	41.46	1.000	1.13e4	4.66e5	4.97	-0.5	0.966	ММ
4 190507K1_5	¹ 20.0	0.89	NO	41.47	1.000	4.71e4	5.06e5	19.2	-4.2	0.931	мм
5 190507K1_6	400	0.90	NO	41.47	1.000	9.61e5	4.83e5	410	2.4	0.995	мм
6 190507K1_7	3000	0.90	NO	41.48	1.000	1.35e7	8.65e5	3210	7.0	1.04	мм

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Compound name: 2,3,7,8-TCDF Response Factor: 0.937613

RRF SD: 0.0427885, Relative SD: 4.56356

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 190507K1_2	0.250	0.81	NO	25.50	1.001	1.85e3	8.07e5	0.245	-2.1	0.918	ММ
2 190507K1_3	10.0	0.78	NO	25.51	1.001	7.75e4	8.61e5	9.59	-4.1	0.899	bb
3 , 190507K1_4	0.500	0.80	NO	25.50	1.001	4.06e3	8.97e5	0.482	-3.6	0.904	MM
4 190507K1_5	2.00	0.77	NO	25.50	1.001	1.71e4	9.28e5	1.97	-1.7	0.922	bb
5 190507K1_6	40.0	0.77	NO	25.50	1.001	3.18e5	8.09e5	42.0	5.0	0.984	bb
6 190507K1_7	300	0.78	NO	25.51	1.001	3.44e6	1.15e6	320	6.5	0.999	bb

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

Response Factor: 0.976196

RRF SD: 0.0578773, Relative SD: 5.92886

Response type: Internal Std (Ref 26), 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 190507K1_2	1.25	1.71	NO	29.89	1.000	6.85e3	6.20e5	1.13	-9.3	0.885	ММ
2 , 190507K1_3	50.0	1.58	NO	29.91	1.001	3.23e5	6.71e5	49.3	-1.4	0.962	bb
3 190507K1_4	2.50	1.55	NO	29.89	1.000	1.67e4	6.91e5	2.48	8.0-	0.968	MM
4 190507K1_5	10.0	1.65	NO	29.89	1.000	6.93e4	7.19e5	9.86	-1.4	0.963	bd
5 190507K1_6	200	1.63	NO	29.89	1.000	1.34e6	6.45e5	213	6.7	1.04	bd
6 190507K1_7	1500	1.57	NO	29.91	1.001	1.58e7	1.02e6	1590	6.3	1.04	bb

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

Response Factor: 1.00488

RRF SD: 0.0625517, Relative SD: 6.22482

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

Curve type: RF

: Name	Std. Conc	RA .	n/y	: RT.	RRT.	Resp:	IS Resp	Conc.	: %Dev	RRF:)	C = dropped
1 190507K1_2	1.25	1.69	NO	30.86	1.001	6.68e3	5.77e5	1.15	-7 .8	0.926	MM
2 190507K1_3	50.0	1.58	NO	30.86	1.001	3.17e5	6.3 5 e5	49.7	-0.5	1.00	bb

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

Name	Std. Conc	RA .	n/y	RT.	RRT-	Resp*	IS Resp	Conc.	: %Dev :	RRF: X	= dropped
3 19050 7K1_4	2.50	1.59	NO	30.86	1.001	1.67e4	6.65e5	2.50	0.0	1.00	bb
4 19050 7K1_5	10.0	1.58	NO	30.86	1.001	6.82e4	7.20e5	9.42	- 5.8	0.947	bb
5 19050 7K1_6	200	1.58	NO	30.86	1.001	1.34e6	6.22e5	214	6.9	1.07	bb
6 19050 7K1_7	1500	1.58	NO	30.86	1.001	1.61e7	9.94e5	1610	7.2	1.08	bb

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

Response Factor: 1.24344

RRF SD: 0.0556273, Relative SD: 4.47366

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 190507K1_2	1.25	1.34	NO	33.54	1.000	6.00e3	4.01e5	1.20	-3.7	1.20	bd
2 [190507K1_3	50.0	1.25	NO	33.56	1.001	2.69e5	4.41e5	49.1	-1.8	1.22	bd
3 .190507K1_4	2.50	1.24	NO	33.54	1.001	1.35e4	4.57e5	2.38	-4.9	1.18	bd
4 19050 7K1_5	10.0	1.26	NO	33.54	1.001	5.97e4	4.82e5	9.96	-0.4	1.24	bd
5 19050 7K1_6	200	1.24	NO	33.54	1.000	1.10e6	4.20e5	211	5.5	1.31	bd
6 19050 7K1_7	1500	1.24	NO	33.54	1.000	1.38e7	7.03e5	1580	5.4	1.31	bd

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

Response Factor: 1.09501

RRF SD: 0.0731388, Relative SD: 6.67929

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

Curve type: RF

Name	Std. Conc	: RA	n/y	: RT.	RRT-	Resp;	IS Resp	Conc.	: %Dev :	RRF;)	(= dropped
1 190507K1_2	1.25	1.35	NO	33.67	1.000	6.12e3	4.90e5	1.14	-8.8	0.999	MM
2 190507K1_3	50.0	1.26	NO	33.68	1.000	3.02e5	5.46e5	50.5	1.0	1.11	MM
3 190507K1_4	2.50	1.14	NO	33.68	1.001	1.42e4	5.55e5	2.33	-6.7	1.02	ММ
4 190507K1_5	10.0	1.22	, NO	33.67	1.000	6.32e4	5.73e5	10.1	` 0.7	1.10	MM
5 190507K1_6	200	1.23	NO	33.67	1.000	1.18e6	5.09e5	211	5.5	1 .16	db
6 190507K1_7	1500	1.24	NO	33.68	1.000	1.52e7	8.53e5	1620	8.3	1.19	db

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

Response Factor: 1.1806

RRF SD: 0.0976101, Relative SD: 8.26786

Response type: Internal Std (Ref 30), 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 190507K1_2	1.25	1.22	NO	34.26	1.000	5.74e3	4.48e5	1.09	-13.1	1.03	MM
2 190507K1_3	50.0	1.26	NO	34.27	1.001	2.75e5	4.57e5	51.0	2.0	1.20	bb
3 190507K1_4	2.50	1.27	NO	34.26	1.000	1.40e4	4.86e5	2.43	-2.7	1.15	bd
4 190507K1_5	10.0	1.22	NO	34.26	1.001	5.76e4	5.05e5	9.67	-3.3	1.14	MM
5 190507K1_6	200	1.25	NO	34.26	1.001	1.12e6	4.40e5	216	8.1	1.28	bb
6 190507K1_7	1500	1.24	NO	34.26	1.000	1.40e7	7.27e5	1640	9.1	1.29	MM

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

Response Factor: 1.07281

RRF SD: 0.121558, Relative SD: 11.3308

Response type: Internal Std (Ref 31), 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 190507K1_2	1.25	1.19	NO	35.17	1.000	3.73e3	3.43e5	1.01	-19.1	0.868	MM
2 190507K1_3	50.0	1.25	NO	35.19	1.000	2.00e5	3.80e5	49.1	-1.8	1.05	MM
3 190507K1_4	2.50	1.26	NO	35.18	1.000	1.02e4	3.91e5	2.42	-3.1	1.04	MM
4 190507K1_5	10.0	1.25	NO	35.18	1.000	4.51e4	4.16e5	10.1	1.1	1.08	MM
5 19050 7K1_6	200	1.25	NO	35.18	1.001	8.63e5	3.64e5	221	10.4	1.18	MM
6 190507K1_7	1500	1.24	NO	35.19	1.001	1.15e7	6.37e5	1690	12.5	1.21	bb

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

Response Factor: 1.12998

RRF SD: 0.056055, Relative SD: 4.96072

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

Curve type: RF

Name	Std. Conc	; RA	n/y	: RT-	RRT.	Resp:	IS Resp	: Conc.	%Dev	: RRF:	X = dropped
190507K1_2	1.25	1.19	NO	36.92	1.001	4.83e3	3.64e5	1.18	-5.9	1.06	мм
2 190507K1_3	50.0	1.05	NO	36.94	1.001	2.21e5	3.98e5	49.3	-1.5	1.11	bb

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

Name	Std. Conc	RA -	n/y	RT.	RRT-	Resp:	IS Resp	Conc.	%Dev	RRF; X	= dropped
3 190507K1_4	2.50	1.03	NO	36.91	1.000	1.12e4	4.08e5	2.44	-2.4	1.10	MM
4 190507K1_5	10.0	1.01	NO	36.91	1.000	4.63e4	4.18e5	9.80	-2.0	1.11	bb
5 190507K1_6	200	1.03	NO	36.91	1.000	8.93e5	3.80e5	208	4.0	1.18	MM
6 190507K1_7	1500	1.04	NO	36.92	1.000	1.14e7	6.22e5	1620	7.7	1.22	bb

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

Response Factor: 1.26094

RRF SD: 0.121952, Relative SD: 9.67152

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
190507K1_2	1.25	1.07	NO	38.86	1.000	4.31e3	2.51e5	1.36	9.0	1.37	MM
2 [19050 7K1_3	50.0	1.10	NO	38.87	1.000	1.69e5	2.88e5	46.4	-7.1	1.17	MM
3 190507K1_4	2.50	1.04	NO	38.86	1.000	8.36e3	2.91e5	2.28	- 9.0	1.15	MM
4 190507K1_5	10.0	1.04	NO	38.86	1.000	3.47e4	3.06e5	8.99	-10.1	1.13	MM
5 190507K1_6	200	1.06	NO	38.86	1.000	7.19e5	2.58e5	221	10.3	1.39	bb
6 190507K1_7	1500	1.03	NO	3 8.8 7	1.000	9.34e6	4.62e5	1600	6.9	1.35	bb

Compound name: OCDF Response Factor: 1.10253

RRF SD: 0.218115, Relative SD: 19.7831

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

Curve type: RF

Name: The state of	Std. Conc :	RA -	n/y	: RT	RRT.	Resp:	IS Resp	Conc.	; %Dev ;	RRF:	X = dropped
1 190507K1_2	2.50	0.91	NO	41.69	1.000	1.12e4	5.83e5	3.49	39.5	1.54	MM
2 190507K1_3	100	0.90	NO	41.71	1.000	3.03e5	6.08e5	90.4	-9.6	0.997	MM
3 , 190507K1_4	5.00	0.89	NO	41.70	1.000	1.58e4	6.30e5	4.54	-9.2	1.00	MM
4 190507K1_5	20.0 '	0.93	NO	41.69	1.000	6.07e4	6.40e5	17.2	-13.9	0.950	, WW
5 190507K1_6	400	0.90	NO	41.70	1.000	1.21e6	5.80e5	378	-5.5	1.04	ММ
6 19050 7K1_7	3000	0.91	NO	41.71	1.000	1.71e7	1.05e6	2960	-1.3	1.09	ММ

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

Response Factor: 1.04889

RRF SD: 0.0285302, Relative SD: 2.72003

Response type: Internal Std (Ref 36), 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 190507K1_2	100	0.78	NO	26.34	1.026	5.80e5	5.62e5	98.5	-1.5	1.03	bb
2 19050 7K1_3	100	0.80	NO	26.34	1.026	6.19e5	6.00e5	98.4	-1.6	1.03	bb
3 190507K1_4	100	0.78	NO	26.33	1.026	6.64e5	6.32e5	100	0.1	1.05	bb
4 190507K1_5	100	0.78	NO	26.33	1.025	6.91e5	6.60e5	99.9	-0.1	1.05	bb
5 190507K1_6	100	0.79	NO	26.34	1.026	6.01e5	5.86e5	97.8	-2.2	1.03	bb
6 190507K1_7	100	0.78	NO	26.34	1.026	8.87e5	8.04e5	105	5.3	1.10	bb

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

Response Factor: 0.7429

RRF SD: 0.0610463, Relative SD: 8.21729

Response type: Internal Std (Ref 36), 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 19050 7K1_2	100	0.63	NO	31.12	1.212	3.79e5	5.62e5	90.9	- 9.1	0.675	MM
2 ,190507K1_3	100	0.61	NO	31.12	1.212	4.47e5	6.00e5	100	0.4	0.746	bb
3 190507K1_4	100	0.64	NO	31.12	1.212	4.65e5	6.32e5	99.1	-0.9	0.736	bb
4 1190507K1_5	100	0.59	NO	31.12	1.212	4.73e5	6.60e5	96.5	-3.5	0.717	MM
5 10 1 19050 7K1_6	100	0.60	NO	31.12	1.212	4.25e5	5.86e5	97.8	-2.2	0.726	MM
6 1 190507K1_7	100	0.63	NO	31.12	1.212	6.89e5	8.04e5	115	15.4	0.857	MM

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

Response Factor: 0.646258

RRF SD: 0.0314471, Relative SD: 4.86603

Response type: Internal Std (Ref 38), 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 19050 7K1_2	100	1.34	NO	34.40	1.014	3.03e5	4.98e5	94.1	-5.9	0.608	bd
2 190507K1_3	100	1.24	NO	34.41	1.014	3.36e5	5.10e5	102	1.8	0.658	bd

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Dataset: U:\VG11.PRO\Results\190507K1\190507K1-CRV.qld

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

Name Mane	Std. Conc	; RA .	n/y :	RT-	RRT.	Resp;	IS Resp	Conc.	; %Dev ;	RRF;)	(= dropped
3 190507K1_4	100	1.31	NO	34.40	1.014	3.49e5	5.59e5	96.7	-3.3	0.625	bd
4 , 19050 7K1_5	100	1.32	NO	34.40	1.014	3.69e5	5.73e5	99.7	-0.3	0.644	MM
5 19050 7K1_6	100	1.26	NO	34.40	1.014	3.27e5	5.09e5	99.5	-0.5	0.643	bd
6 190507K1_7	100	1.27	NO	34.40	1.014	5.37e5	7.67e5	108	8.3	0.700	bd

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

Response Factor: 0.776669

RRF SD: 0.0552613, Relative SD: 7.11516

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

Curve type: RF

:1	Name :	Std. Conc	; RA :	n/y	: RT.	RRT.	Resp;	IS Resp	; Conc.	: %Dev	RRF:	X = dropped
1 :1	190507K1_2	100	1.28	NO	34.51	1.017	3.71e5	4.98e5	95.9	-4.1	0.745	MM
2	190507K1_3	100	1.25	NO	34.52	1.017	4.10e5	5.10e5	103	3.3	0.802	db
3	190507K1_4	100	1.28	NO	34.51	1.017	4.07e5	5.59e5	93.6	-6.4	0.727	MM
4	190507K1_5	100	1.26	NO	34.51	1.017	4.30e5	5.73e5	96.7	-3.3	0.751	db
5 -1	190507K1_6	100	1.28	NO	34.51	1.017	3.86e5	5.09e5	97.5	-2.5	0.758	db
6 -1	190507K1_7	100	1.27	NO	34.51	1.017	6.73e5	7.67e5	113	12.9	0.877	db

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

Response Factor: 0.659499

RRF SD: 0.0613845, Relative SD: 9.30774

Response type: Internal Std (Ref 38), 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 190507K1_2	100	1.25	NO	34.80	1.025	2.90e5	4.98e5	88.4	-11.6	0.583	MM
2 19050 7K1_3	100	1.18	NO	34.80	1.025	3.44e5	5.10e5	102	2.2	0.674	MM
3 190507K1_4	100	1.26	NO	34.78	1.025	3.44e5	5.59e5	93.2	-6.8	0.615	MM
190507K1_5	100	1.25	NO '	34.78	1.025	3.93e5	5.73e5	104	3.9	0.685	bb
5 19050 7K1_6	100	1.32	NO	34.78	1.025	3.27e5	5.09e5	97.3	-2.7	0.642	MM
6 190507K1_7	100	1.25	NO	34.80	1.026	5.82e5	7.67e5	115	15.0	0.758	bb

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

Response Factor: 0.534168

RRF SD: 0.0414632, Relative SD: 7.76221

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

Curve type: RF

Dataset:

Name	Std. Conc	RA -	n/y	RT-	RRT-	Resp:	IS Resp	Conc.	; %Dev ;	RRF;)	(= dropped
1 19050 7K1_2	100	1.01	NO	38.30	1.128	2.52e5	4.98e5	94.6	- 5.4	0.506	MM
2 190507K1_3	100	1.05	NO	38.31	1.129	2.76e5	5.10e5	101	1.3	0.541	MM
3 190507K1_4	100	1.06	NO	38.30	1.129	2.70e5	5.59e5	90.5	- 9.5	0.484	MM
4 190507K1_5	100	1.09	NO	38.30	1.129	3.04e5	5.73e5	99.3	-0.7	0.530	MM
5 190507K1_6	100	1.06	NO	38.30	1.129	2.74e5	5.09e5	101	8.0	0.539	MM
6 190507K1_7	100	1.07	NO	38.31	1.129	4.65e5	7.67e5	113	13.4	0.606	bb

Compound name: 13C-OCDD Response Factor: 0.470365

RRF SD: 0.0499896, Relative SD: 10.6278

Response type: Internal Std (Ref 38), 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 190507K1_2	200	0.91	NO	41.46	1.221	4.62e5	4.98e5	198	-1.2	0.465	MM
2 190507K1_3	200	0.89	NO	41.47	1.222	4.72e5	5.10e5	196	-1.8	0.462	MM
3 - 190507K1_4	200	0.89	NO	41.46	1.222	4.66e5	5.59e5	177	-11.4	0.417	MM
4 190507K1_5	200	0.89	NO	41.46	1.222	5.06e5	5.73e5	188	-6.2	0.441	MM
5 19050 7K1_6	200	0.91	NO	41.46	1.222	4.83e5	5.09e5	202	8.0	0.474	MM
6 19050 7K1_7	200	0.90	NO	41.47	1.222	8.65e5	7.67e5	240	19.8	0.563	MM

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

Response Factor: 0.9775

RRF SD: 0.00806645, Relative SD: 0.825212

Response type: Internal Std (Ref 37), 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 19050 7K1_2	100	0.79	NO	25.48	0.992	8.07e5	8.33e5	99.2	-0.8	0.970	bb
2 190507K1_3	100	0.76	NO	25.48	0.992	8.61e5	8.73e5	101	0.9	0.987	bb

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Dataset:

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Last Altered: Printed: Wednesday, May 08, 2019 7:55:45 AM Pacific Daylight Time Wednesday, May 08, 2019 7:57:59 AM Pacific Daylight Time

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

Name	Std. Conc	RA .	n/y [RT.	RRT.	Resp:	IS Resp	Conc.	%Dev	RRF; >	< = dropped
3 190507K1_4	100	0.78	NO	25.48	0.993	8.97e5	9.16e5	100	0.2	0.979	bb
4 190507K1_5	100	0.78	NO	25.48	0.992	9.28e5	9.50e5	99.9	-0.1	0.977	bb
5 190507K1_6	100	0.77	NO	25.48	0.992	8.09e5	8.36e5	98.9	-1.1	0.967	bb
6 190507K1_7	100	0.79	NO	25.48	0.992	1.15e6	1.17e6	101	8.0	0.986	bb

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

Response Factor: 0.777829

RRF SD: 0.0468157, Relative SD: 6.01876

Response type: Internal Std (Ref 37), 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 190507K1_2	100	1.64	NO	29.89	1.164	6.20e5	8.33e5	95.7	-4.3	0.744	bd
2 190507K1_3	100	1.52	NO	29.89	1.164	6.71e5	8.73e5	98.8	-1.2	0.769	bb
3 190507K1_4	100	1.58	NO	29.89	1.165	6.91e5	9.16e5	97.0	-3.0	0.754	bb
4 190507K1_5	100	1.58	NO	29.89	1.164	7.19e5	9.50e5	97.4	-2.6	0.758	bb
5 19050 7K1_6	100	1.57	NO	29.89	1.164	6.45e5	8.36e5	99.1	-0.9	0.771	bb
6 190507K1_7	100	1.58	NO	29.89	1.164	1.02e6	1.17e6	112	12.0	0.871	bb

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

Response Factor: 0.749922

RRF SD: 0.0548586, Relative SD: 7.31524

Response type: Internal Std (Ref 37), 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 19050 7K1_2	100	1.56	NO	30.84	1.201	5.77e5	8.33e5	92.4	-7.6	0.693	bb
2 190507K1_3	100	1.60	NO	30.84	1.201	6.35e5	8.73e5	97.0	-3.0	0.727	bb
3 190507K1_4	100	1.61	NO	30.84	1.201	6.65e5	9.16e5	96.8	-3.2	0.726	bb
4 190507K1_5	100	1.58	NO	30.84	1.201	7.20e5	9.50e5	101	1.1	0.758	bb '
5 190507K1_6	100	1.58	NO	30.84	1.201	6.22e5	8.36e5	99.1	-0.9	0.743	bb
6 190507K1_7	100	1.59	NO	30.84	1.201	9.94e5	1.17e6	114	13.7	0.853	bb

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

Response Factor: 0.845154

RRF SD: 0.04026, Relative SD: 4.76363

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

Curve type: RF

Dataset:

	Name	Std. Conc	. RA	n/y	RT.	RRT-	Resp;	IS Resp	Conc.	: %Dev :	RRF:	X = dropped
1	190507K1_2	100	0.52	NO	33.53	0.988	4.01e5	4.98e5	95.3	-4.7	0.806	bd
2	190507K1_3	100	0.52	NO	33.53	0.988	4.41e5	5.10e5	102	2.3	0.864	bd
3	190507K1_4	100	0.51	NO	33.52	0.988	4.57e5	5.59e5	96.8	-3.2	0.818	bd
4	190507K1_5	100	0.52	NO	33.52	0.988	4.82e5	5.73e5	99.5	-0.5	0.841	bd
5	190507K1_6	100	0.52	NO	33.53	0.988	4.20e5	5.09e5	97.7	-2.3	0.826	bd
6	190507K1_7	100	0.53	NO	33.53	0.988	7.03e5	7.67e5	108	8.4	0.916	bd

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

Response Factor: 1.02668

RRF SD: 0.0516295, Relative SD: 5.02879

Response type: Internal Std (Ref 38), 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 19050 7K1_2	100	0.53	NO	33.65	0.992	4.90e5	4.98e5	96.0	-4.0	0.986	db
2 190507K1_3	100	0.53	NO	33.67	0.992	5.46e5	5.10e5	104	4.2	1.07	db
3 190507K1_4	100	0.53	NO	33.65	0.992	5.55e5	5.59e5	96.7	-3.3	0.993	db
4 19050 7K1_5	100	0.54	NO	33.65	0.992	5.73e5	5.73e5	97.4	-2 .6	1.00	MM
5 190507K1_6	100	0.52	NO	33.65	0.992	5.09e5	5.09e5	97.4	-2.6	1.00	db
6 · 190507K1_7	100	0.52	NO	33.67	0.992	8.53e5	7.67e5	108	8.3	1.11	db

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

Response Factor: 0.89286

RRF SD: 0.0303616, Relative SD: 3.40049

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

Curve type: RF

Name	: Std. Conc	; RA	- n/y	RT.	RRT.	Resp;	IS Resp	: Conc.	: %Dev	RRF	X = dropped
190507K1_2	100	0.50	NO	34.25	1.009	4.48e5	4.98e5	101	8.0	0.900	bb
2 19050 7K1_3	100	0.52	NO	34.25	1.009	4.57e5	5.10e5	100	0.2	0.895	bb

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

Mame Haller	Std. Conc	: RA	n/y	RT.	RRT-	Resp:	IS Resp	Conc.	: %Dev :	RRF;)	K = dropped
3 11 19050 7K1_4	100	0.53	NO	34.25	1.009	4.86e5	5.59e5	97.2	-2.8	0.868	bb
4 19050 7K1_5	100	0.53	NO	34.24	1.009	5.05e5	5.73e5	98.7	-1.3	0.881	MM
5 19050 7K1_6	100	0.52	NO	34.24	1.009	4.40e5	5.09e5	96.9	-3.1	0.865	MM
6 19050 7K1_7	100	0.52	NO	34.25	1.009	7.27e5	7.67e5	106	6.2	0.948	bb

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

Response Factor: 0.734263

RRF SD: 0.05054, Relative SD: 6.88309

Response type: Internal Std (Ref 38), 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 19050 7K1_2	100	0.53	NO	35.17	1.036	3.43e5	4.98e5	94.0	-6.0	0.690	MM
2 190507K1_3	100	0.51	NO	35.18	1.036	3.80e5	5.10e5	101	1.5	0.745	bb
3 190507K1_4	100	0.52	NO	35.17	1.036	3.91e5	5.59e5	95.3	-4.7	0.700	MM
4 190507K1_5	100	0.53	NO	35.17	1.037	4.16e5	5.73e5	98.8	-1.2	0.725	MM
5 190507K1_6	100	0.54	NO	35.16	1.036	3.64e5	5.09e5	97.5	-2.5	0.716	MM
6 190507K1_7	100	0.52	NO	35.17	1.036	6.37e5	7.67e5	113	13.0	0.830	MM

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

Response Factor: 0.75417

RRF SD: 0.0338797, Relative SD: 4.49232

Response type: Internal Std (Ref 38), 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 190507K1_2	100	0.47	NO	36.90	1.087	3.64e5	4.98e5	96.9	-3.1	0.731	bb
2 190507K1_3	100	0.45	NO	36.91	1.088	3.98e5	5.10e5	103	3.3	0.779	bd
3 190507K1_4	100	0.43	NO	36.90	1.088	4.08e5	5.59e5	96.7	-3.3	0.729	bb
4 190507K1_5	100	0.47	NO	36.90	1.088	4.18e5	5.73e5	96.7	-3.3	0.729	' bd
5 190507K1_6	100	0.45	NO	36.90	1.088	3.80e5	5.09e5	98.9	-1 .1	0.746	bď
6 190507K1_7	100	0.45	NO	36.91	1.088	6.22e5	7.67e5	108	7.6	0.811	рр

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

Response Factor: 0.53899

RRF SD: 0.0380601, Relative SD: 7.06137

Response type: Internal Std (Ref 38), 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 190507K1_2	100	0.45	NO	38.85	1.145	2.51e5	4.98e5	93.5	- 6.5	0.504	MM
2 , 190507K1_3	100	0.44	NO	38.86	1.145	2.88e5	5.10e5	105	4.8	0.565	bd
3 190507K1_4	100	0.42	NO	38.85	1.145	2.91e5	5.59e5	96.6	-3.4	0.521	bb
4 190507K1_5	100	0.43	NO	38.85	1.145	3.06e5	5.73e5	99.2	-0.8	0.535	bb
5 190507K1_6	100	0.43	NO	38.85	1.145	2.58e5	5.09e5	94.1	-5.9	0.507	MM
6 19050 7K1_7	100	0.46	NO	38.86	1.145	4.62e5	7.67e5	112	11.7	0.602	bd

Compound name: 13C-OCDF Response Factor: 0.592524

RRF SD: 0.046422, Relative SD: 7.83462

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

Curve type: RF

: Name	: Std. Conc	: RA	n/y	RT.	RRT.	Resp:	IS Resp	; Conc.	; %Dev ;	RRF;	X = dropped
190507K1_2	200	0.89	NO	41.69	1.228	5.83e5	4.98e5	198	-1.2	0.586	MM
2 19050 7K1_3	200	0.88	NO	41.70	1.229	6.08e5	5.10e5	201	0.6	0.596	MM
3	200	0.90	NO	41.69	1.229	6.30e5	5.59e5	190	-5.0	0.563	MM
4 19050 7K1_5	200	0.88	NO	41.68	1.228	6.40e5	5.73e5	188	-5.8	0.558	MM
5 19050 7K1_6	200	0.90	NO	41.69	1.229	5.80e5	5.09e5	192	-3.8	0.570	MM
6 19050 7K1_7	200	0.89	NO	41.70	1.229	1.05e6	7.67e5	230	15.2	0.683	MM

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

Response Factor: 1.06948

RRF SD: 0.0767834, Relative SD: 7.17951

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

Curve type: RF

Name	Std. Conc	n/y RT	RRT-	Resp:	IS Resp	Conc	: %Dev	RRF:	X = dropped
1 79050 7K1_2	0.250	26.34	1.026	1.45e3	5.62e5	0.241	-3.6	1.03	bb
2 190507K1_3	10.0	26.36	1.026	6.16e4	6.00e5	9.60	-4.0	1.03	bb

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

Name Name	Std. Conc : RA	n/y RT	RRT.	Resp:	IS Resp	Conc.	%Dev	RRF:	X = dropped
3 190507K1_4	0.500	26.36	1.027	3.13e3	6.32e5	0.463	-7.4	0.990	bb
4 190507K1_5	2.00	26.36	1.026	1.45e4	6.60e5	2.06	2.8	1.10	bd
5 190507K1_6	40.0	26.36	1.026	2.49e5	5.86e5	39.7	-0.6	1.06	bb
6 190507K1_7	200	26.36	1.026	1.94e6	8.04e5	226	12.9	1.21	bb

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

Response Factor: 1

RRF SD: 4.96507e-017, Relative SD: 4.96507e-015

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

Curve type: RF

Name	Std. Conc	RA	n/y	: RT.	RRT.	Resp:	IS Resp ;	Conc.	; %Dev ;	RRF;)	(= dropped
1 19050 7K1_2	100	0.79	NO	25.68	1.000	5.62e5	5.62e5	100	0.0	1.00	bb
2 , 19050 7K1_3	100	0.79	NO	25.68	1.000	6.00e5	6.00e5	100	0.0	1.00	bb
3	100	0.80	NO	25.67	1.000	6.32e5	6.32e5	100	0.0	1.00	bb
4 190507K1_5	100	0.80	NO	25.68	1.000	6.60e5	6.60e5	100	0.0	1.00	bb
5 190507K1_6	100	0.80	NO	25.68	1.000	5.86e5	5.86e5	100	-0.0	1.00	bb
6 19050 7K1_7	100	0.77	NO	25.68	1.000	8.04e5	8.04e5	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

Name	Std. Conc	RA -	n/y	: RT-	RRT-	Resp'	IS Resp	Conc.	: %Dev :	RRF:	X = dropped
1 190507K1_2	100	0.81	NO	24.05	1.000	8.33e5	8.33e5	100	0.0	1.00	bb
2 , 190507K1_3	100	0.80	NO	24.05	1.000	8.73e5	8.73e5	100	0.0	1.00	bb
3 190507K1_4	100	0.79	NO	24.05	1.000	9.16e5	9.16e5	100	0.0	1.00	bb
4 190507K1_5	100	0.78	NO	24.03	1.000	9.50e5	'9.50e5	100	0.0	1.00	bb
5 190507K1_6	100	0.78	NO	24.05	1.000	8.36e5	8.36e5	100	0.0	1.00	bb
6 190507K1_7	100	0.79	NO	24.05	1.000	1.17e6	1.17e6	100	0.0	1.00	bb

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Vista Analytical Laboratory

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Dataset: U:\VG11.PRO\Results\190507K1\190507K1-CRV.qld

Last Altered: Wednesday, May 08, 2019 7:55:45 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 7:57:59 AM 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

Name	Std. Conc	RA :	n/y	; RT-	RRT.	Resp;	IS Resp	Conc.	; %Dev ;	RRF;	K = dropped
1 19050 7K1_2	100	0.53	NO	33.94	1.000	4.98e5	4.98e5	100	0.0	1.00	bd
2 19050 7K1_3	100	0.51	NO	33.94	1.000	5.10e5	5.10e5	100	0.0	1.00	MM
3 19050 7K1_4	100	0.52	NO	33.93	1.000	5.59e5	5.59e5	100	0.0	1.00	bb
4 19050 7K1_5	100	0.52	NO	33.93	1.000	5.73e5	5.73e5	100	0.0	1.00	bb
5 19050 7K1_6	100	0.52	NO	33.93	1.000	5.09e5	5.09e5	100	0.0	1.00	bb
6 190507K1_7	100	0.52	NO	33.93	1.000	7.67e5	7.67e5	100	0.0	1.00	bb

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MassLynx 4.1 SCN815

Page 1 of 1

Dataset:

Untitled

Last Altered: Printed:

Wednesday, May 08, 2019 8:06:43 AM Pacific Daylight Time Wednesday, May 08, 2019 8:06:44 AM Pacific Daylight Time

Method: U:\VG11.PRO\MethDB\CPSM-5-7-19.mdb 07 May 2019 13:29:19

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 07:55:45

Name: 190507K1_3, Date: 07-May-2019, Time: 12:16:36, ID: ST190507K1_3 1613 CS3 19C2204, Description: 1613 CS3 19C2204

	#	Name	RT
1 2 2 2 2 2 3	1	1,3,6,8-TCDD (First)	22.43
2 4 20 (2	1,2,8,9-TCDD (Last)	27.29
3	3	1,2,4,7,9-PeCDD (First)	29.01
4	4	1,2,3,8,9-PeCDD (Last)	31.50
5	5	1,2,4,6,7,9-HxCDD (First)	32.92
6	6	1,2,3,7,8,9-HxCDD (Last)	34.81
7	7	1,2,3,4,6,7,9-HpCDD (First)	37.32
8	8	1,2,3,4,6,7,8-HpCDD (Last)	38.32
9	9	1,3,6,8-TCDF (First)	20.23
10	10	1,2,8,9-TCDF (Last)	27.46
11 ;	11	1,3,4,6,8-PeCDF (First)	27.36
12 :	12	1,2,3,8,9-PeCDF (Last)	31.76
13	13	1,2,3,4,6,8-HxCDF (First)	32.39
14	14	1,2,3,7,8,9-HxCDF (Last)	35.19
15	15	1,2,3,4,6,7,8-HpCDF (First)	36.94
16	16	1,2,3,4,7,8,9-HpCDF (Last)	38.87

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Quantify Compound Summary Report Vista Analytical Laboratory VG-11 MassLynx 4.1 SCN815

Page 1 of 1

Dataset:

Untitled

Last Altered: Printed:

Wednesday, May 08, 2019 8:00:20 AM Pacific Daylight Time Wednesday, May 08, 2019 8:00:34 AM Pacific Daylight Time

Method: U:\VG11.PRO\MethDB\1613_rrt-5-7-19.mdb 07 May 2019 12:51:47 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 07:55:45

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

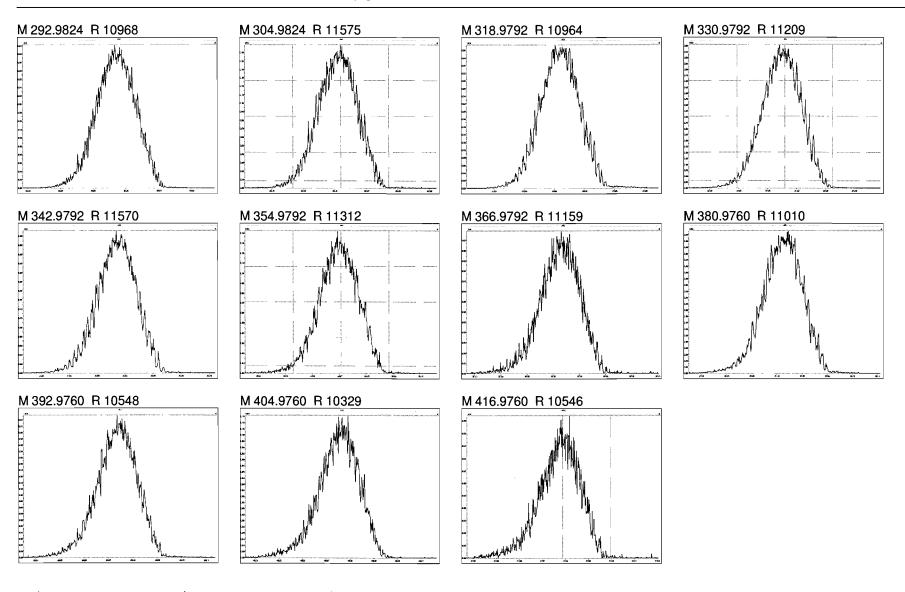
;	Name ()	ID	;Acq:Date	-Acq.Time
1	190507K1_1(1)	ST190507K1_1 1613 CS3 18J1008	07-May-19	10:05:54
2 ;	190507K1_2	ST190507K1_2 1613 CS0 19C2201	07-May-19	11:18:22
3	190507K1_3	ST190507K1_3 1613 CS3 19C2204	07-May-19	12:16:36
4	190507K1_4	ST190507K1_4 1613 CS1 19C2202	07-May-19	13:04:59
5	190507K1_5	ST190507K1_5 1613 CS2 19C2203	07-May-19	13:51:47
6	190507K1_6	ST190507K1_6 1613 CS4 19C2205	07-May-19	14:39:24
7	190507K1_7	ST190507K1_7 1613 CS5 19C2206	07-May-19	15:27:02
8	190507K1_8	SS190507K1_1 1613 SSS 19C2207	07-May-19	16:16:59
9	190507K1_9	SOLVENT BLANK	07-May-19	17:12:35
10	190507K1_10	QC190507K1-1 1613 Method Blank 1	07-May-19	18:00:01
11 :	190507K2_1	ST190507K2_1 1613 CS3 18J1008	07-May-19	18:48:10

R) not used, used do get windows in new column 1/2 5-8-19

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File: Experiment: ocdd_db5.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, May 07, 2019 11:13:04 Pacific Daylight Time



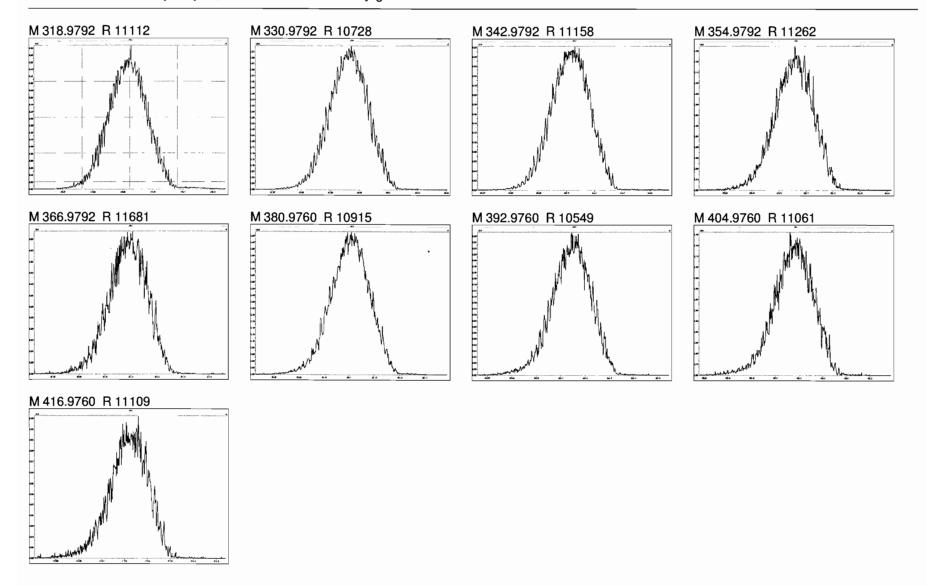
Work Order 1903739 Page 458 of 646

File:

Experiment: ocdd_db5.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed:

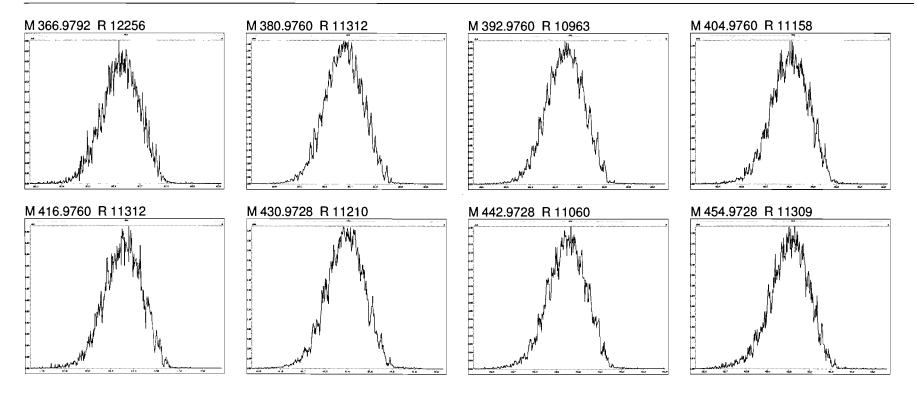
Tuesday, May 07, 2019 11:13:43 Pacific Daylight Time



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File: Experiment: ocdd_db5.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, May 07, 2019 11:14:13 Pacific Daylight Time



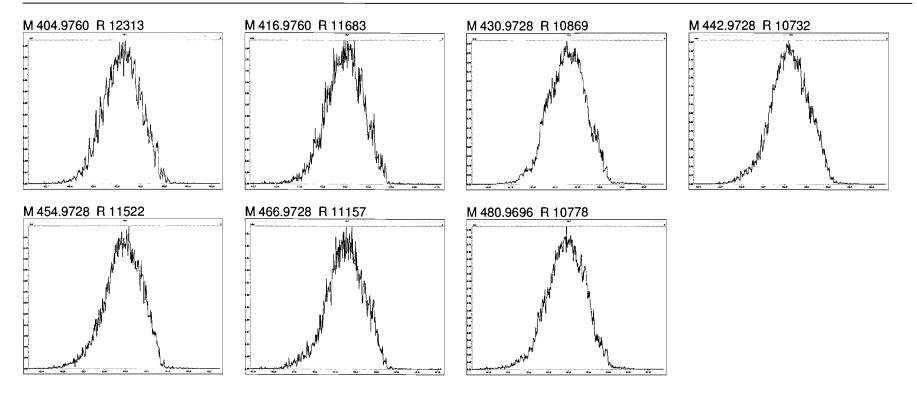
Work Order 1903739 Page 460 of 646

File:

Experiment: ocdd_db5.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed:

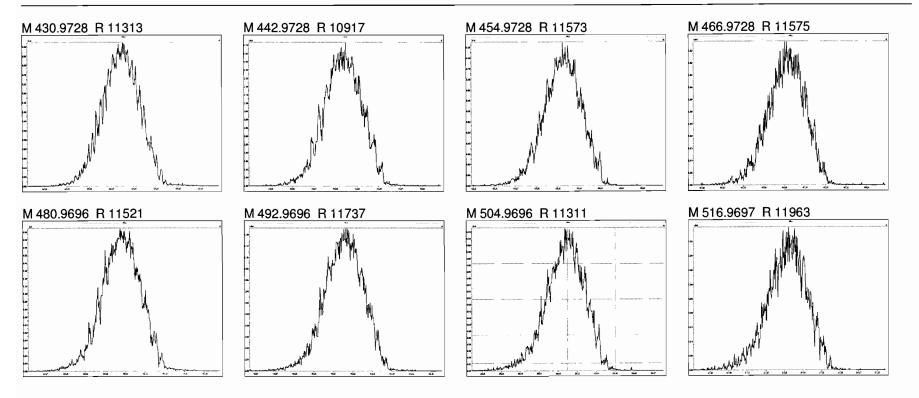
Tuesday, May 07, 2019 11:14:57 Pacific Daylight Time



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File: Experiment: ocdd_db5.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, May 07, 2019 11:15:30 Pacific Daylight Time



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Quantify Sample Report

MassLynx 4.1 SCN815

Page 1 of 1

Vista Analytical Laboratory VG-11

Dataset:

Untitled

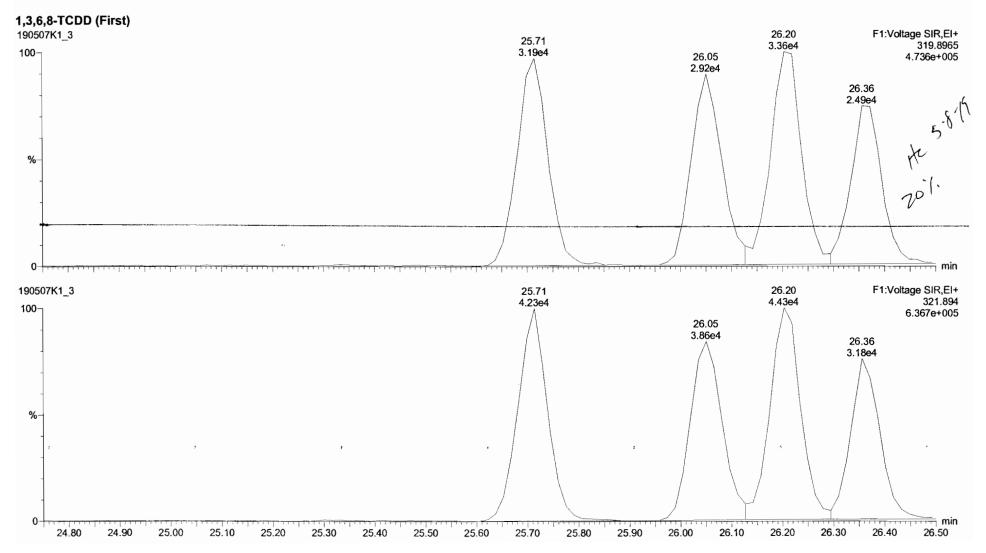
Last Altered: Printed:

Wednesday, May 08, 2019 8:06:43 AM Pacific Daylight Time Wednesday, May 08, 2019 8:06:44 AM Pacific Daylight Time

Method: U:\VG11.PRO\MethDB\CPSM-5-7-19.mdb 07 May 2019 13:29:19

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 07:55:45

Name: 190507K1_3, Date: 07-May-2019, Time: 12:16:36, ID: ST190507K1_3 1613 CS3 19C2204, Description: 1613 CS3 19C2204



Work Order 1903739

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Dataset:

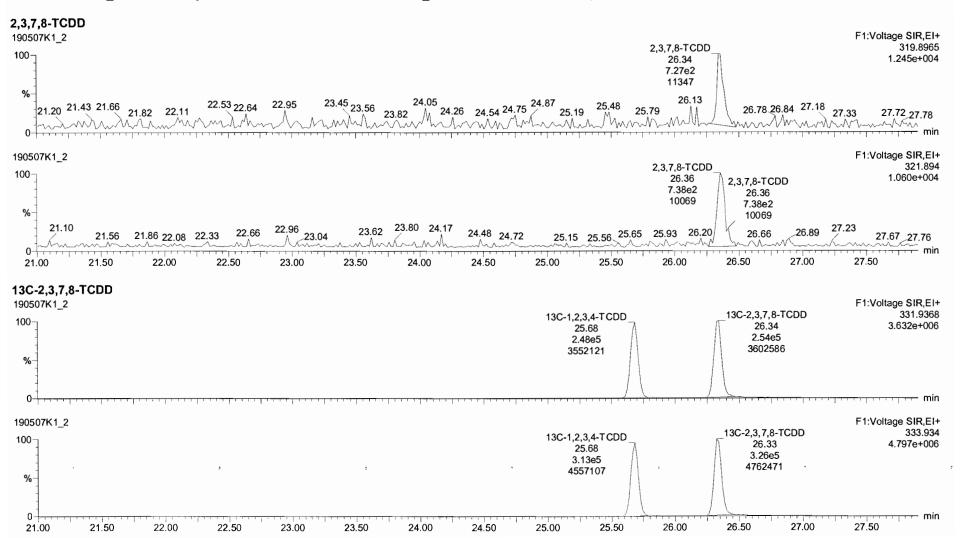
Untitled

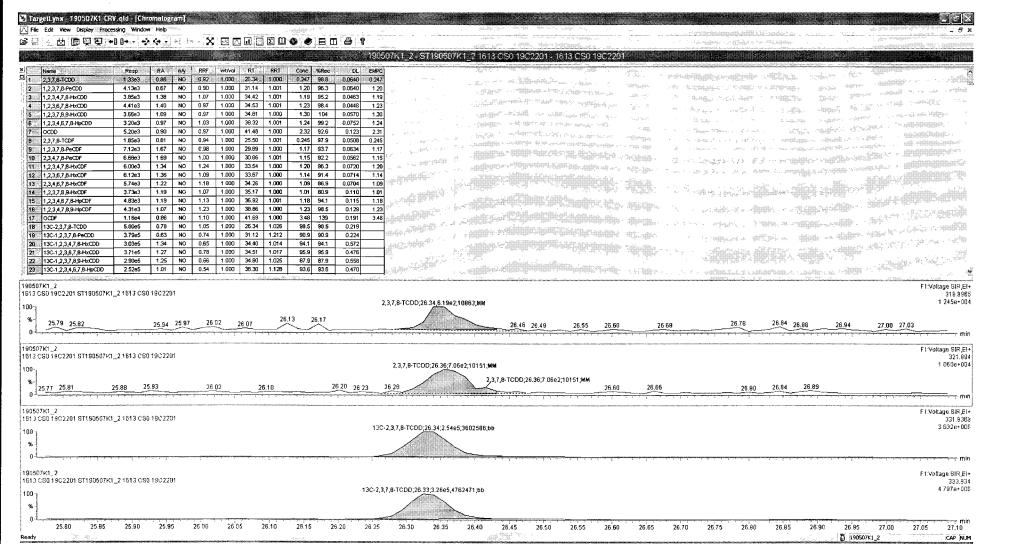
Last Altered: Printed:

Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Method: U:\VG11.PRO\MethDB\1613_rrt-5-7-19.mdb 07 May 2019 12:51:47 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 07 May 2019 16:51:46

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201





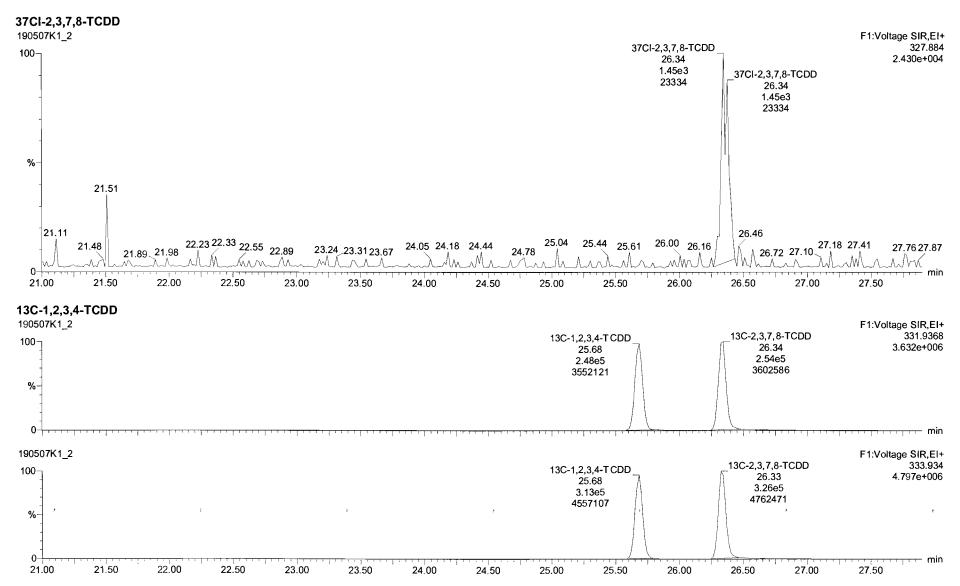
Work Order 1903739 Page 465 of 646

Dataset:

Untitled

Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201

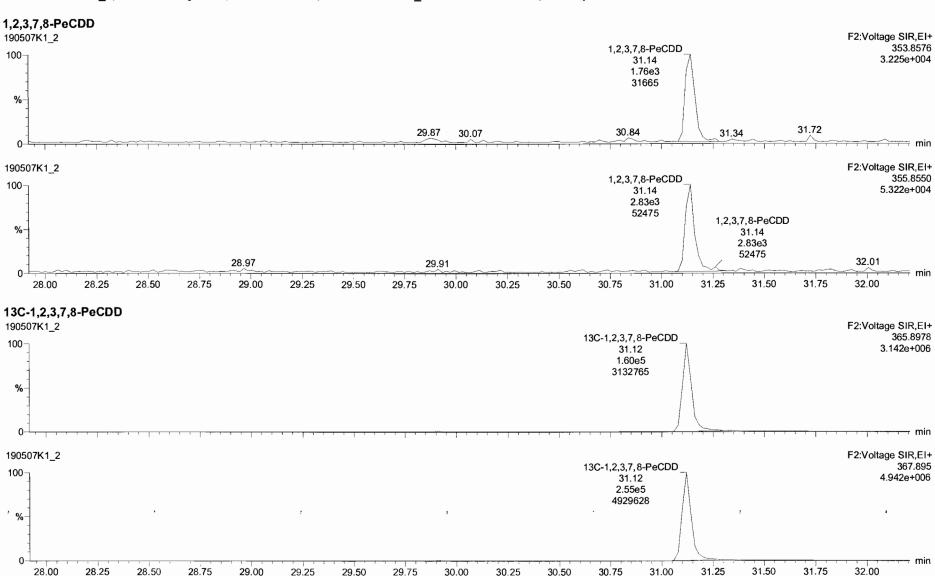


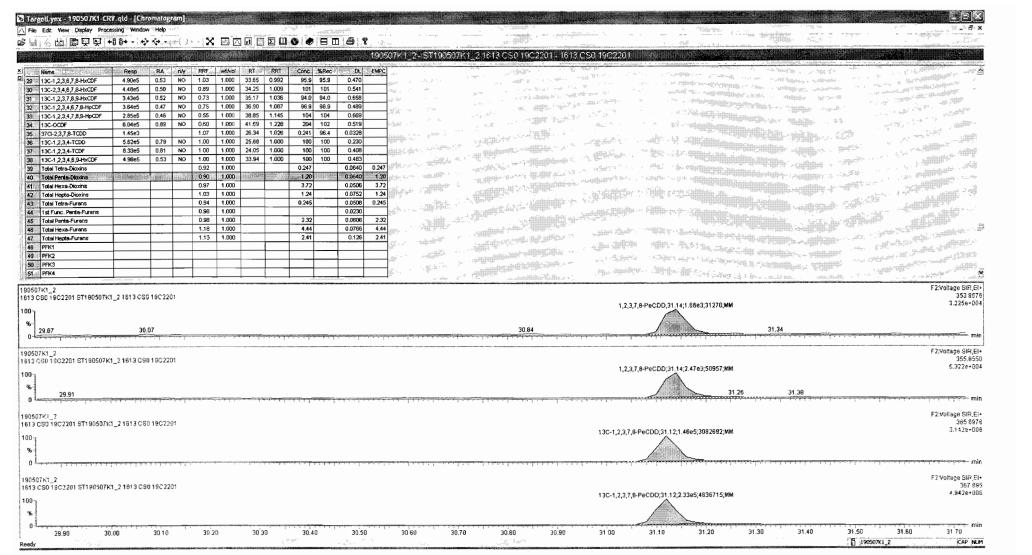
Dataset:

Untitled

Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201





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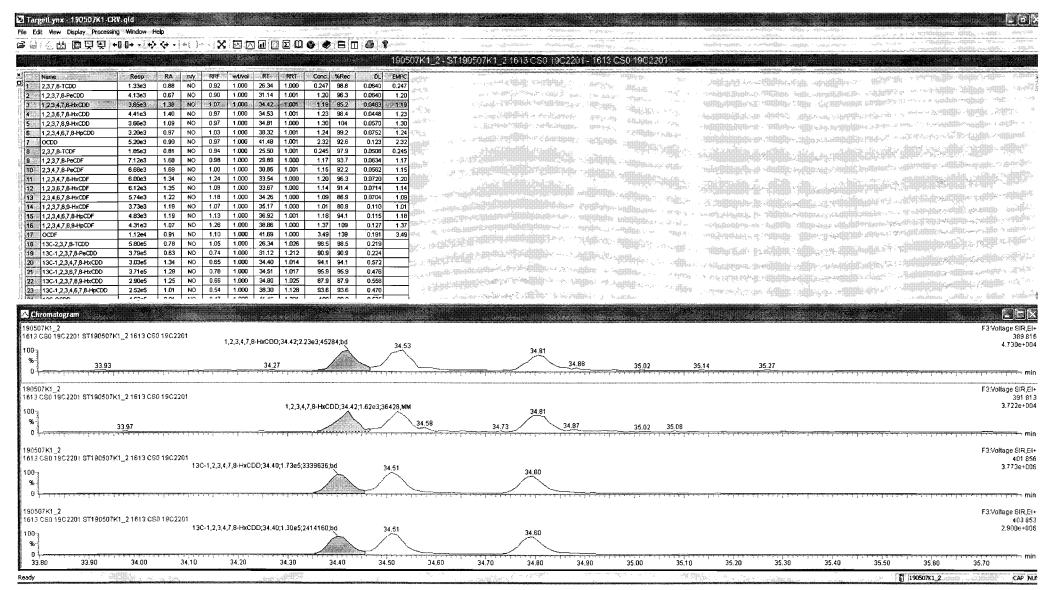
34.20

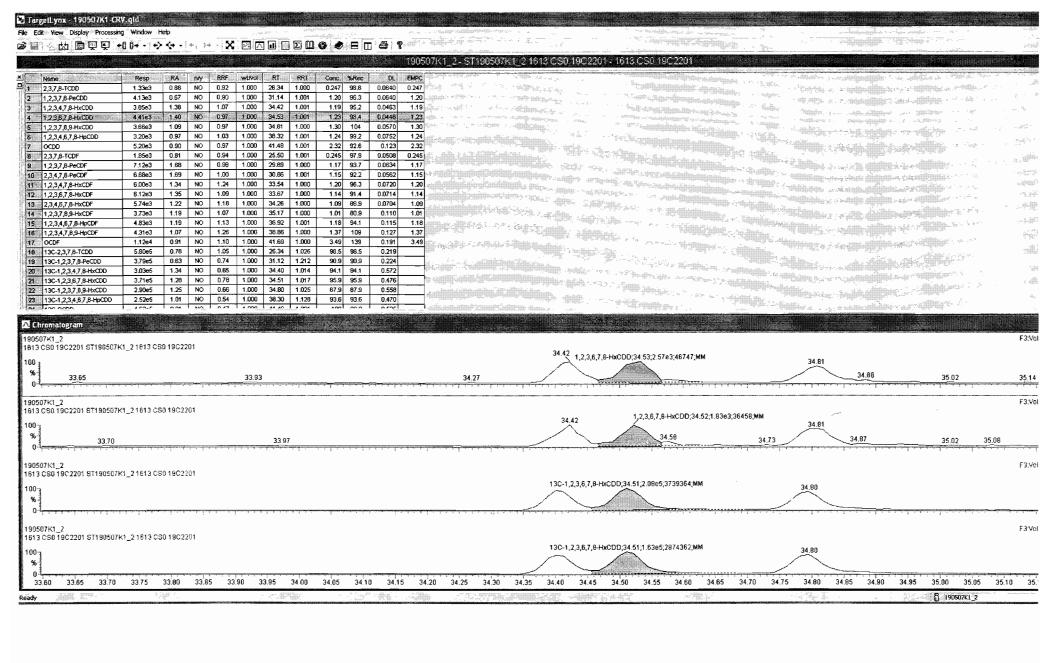
34.40

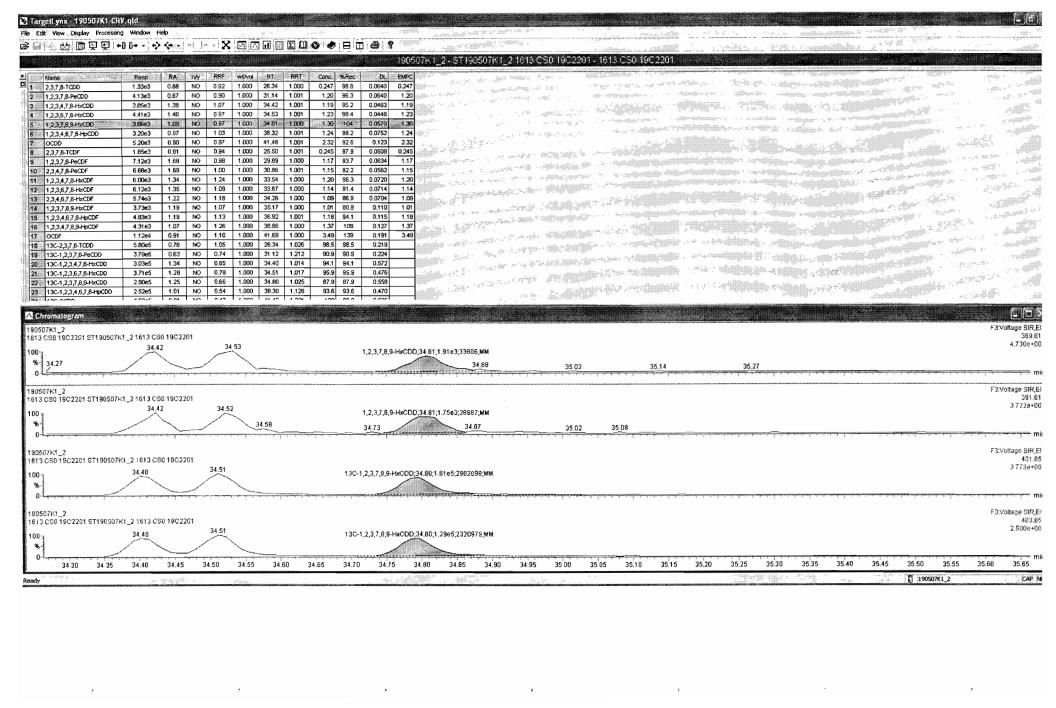
34.60

35.60

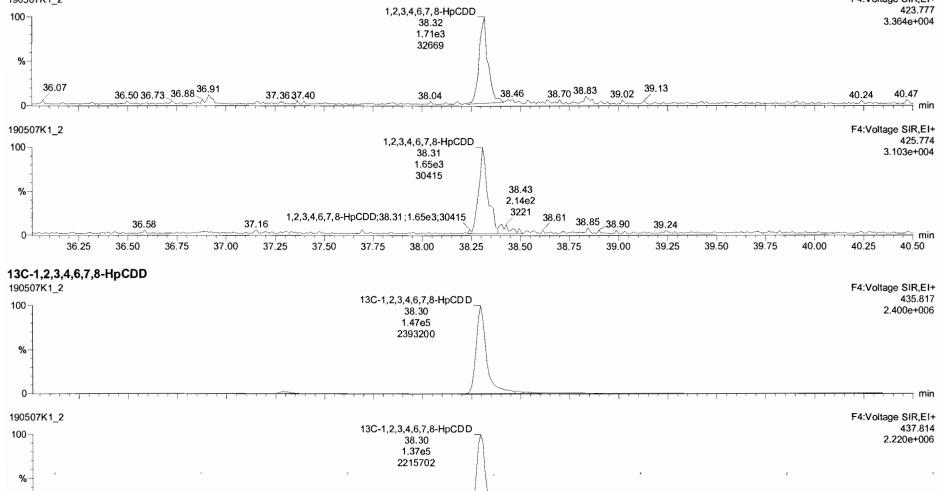
35.80







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38.25

38.50

38.75

39.00

39.25

39.50

36.25

36.50

36.75

37.00

37.25

37.50

37.75

38.00

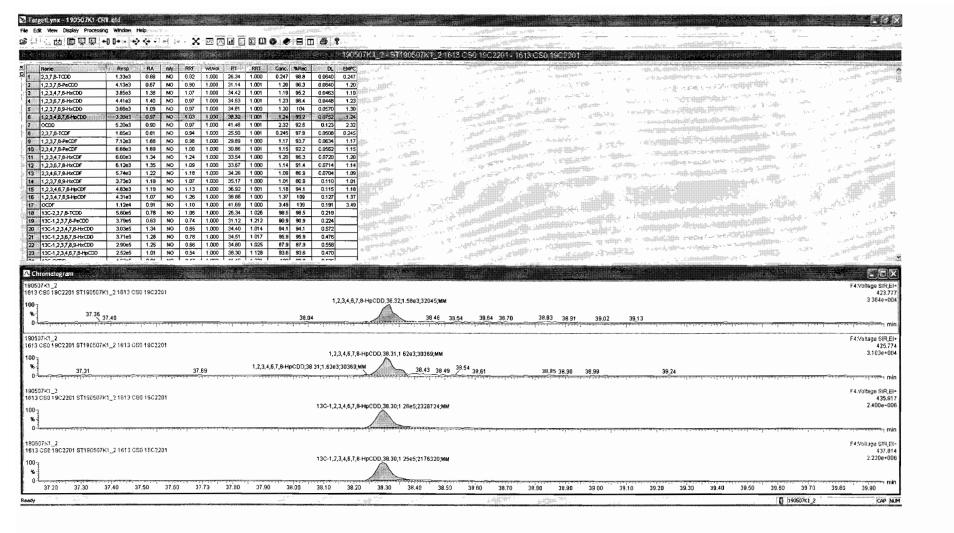
min

40.50

39.75

40.00

40.25



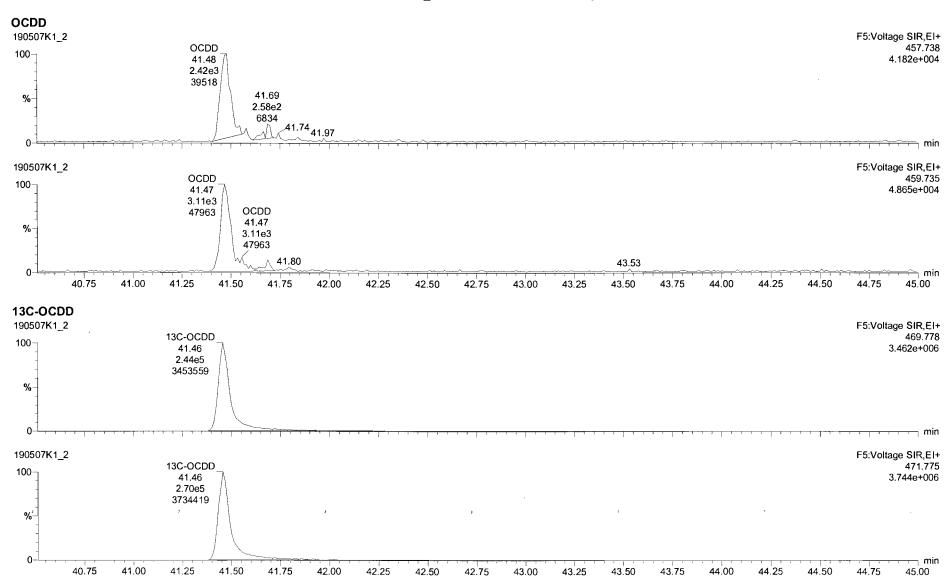
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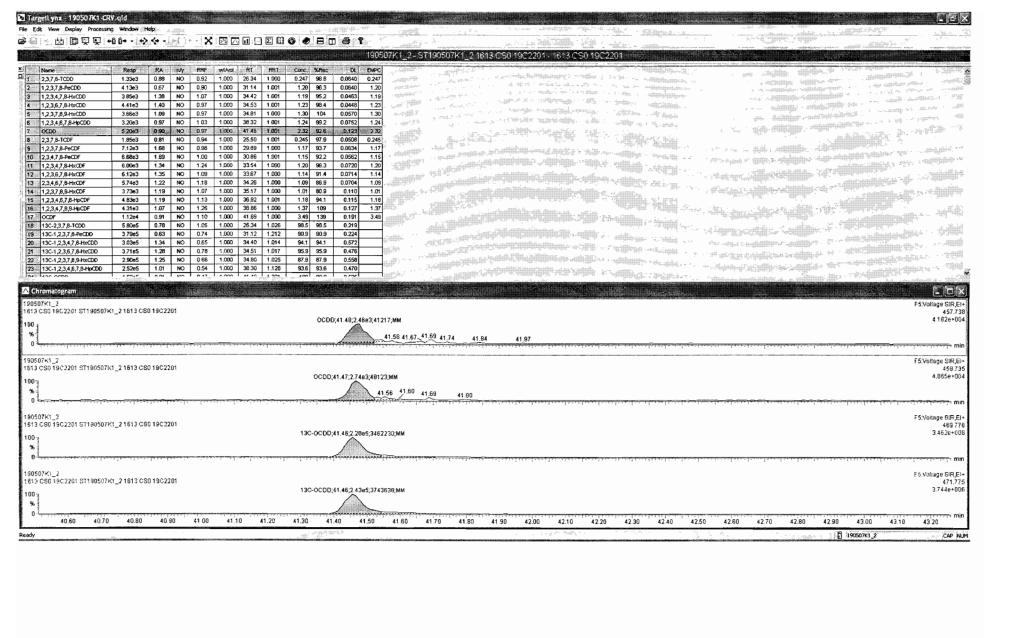
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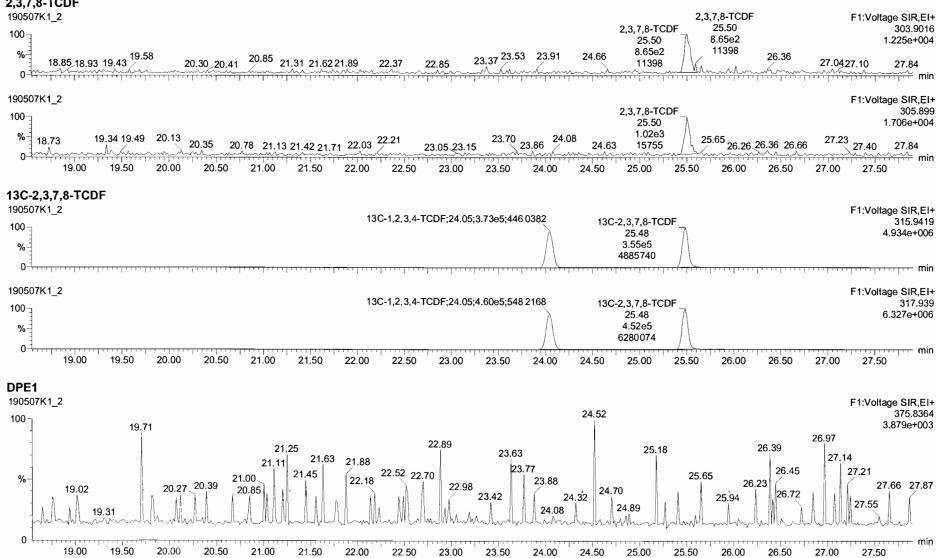
Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201

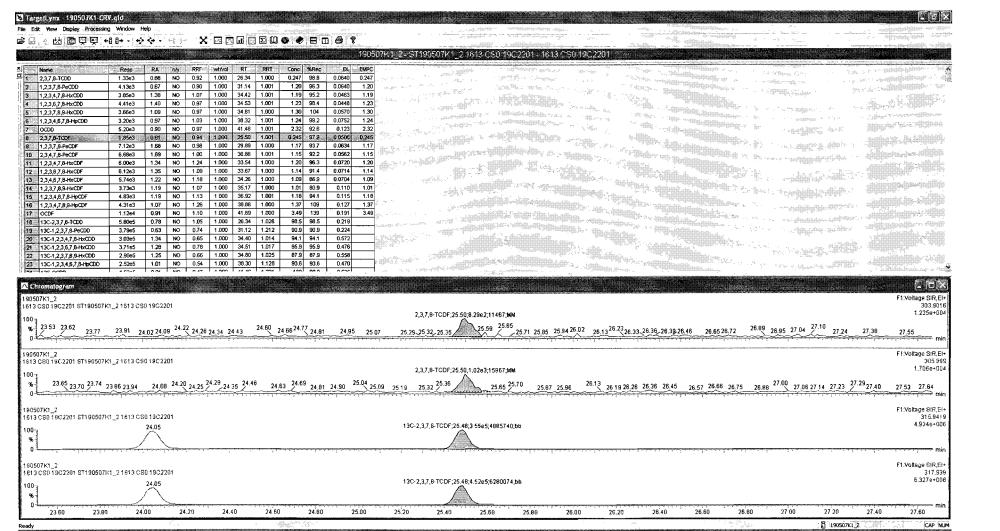




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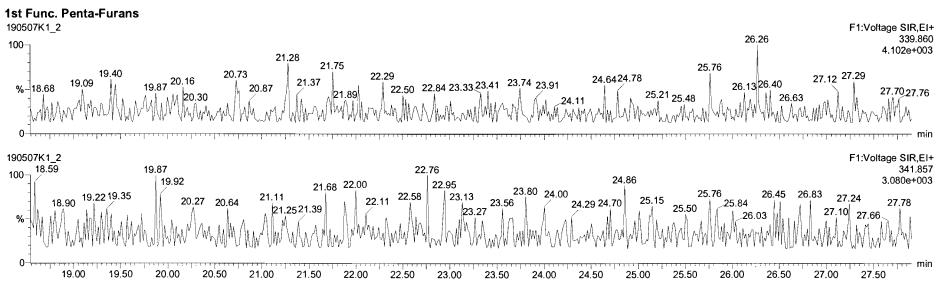
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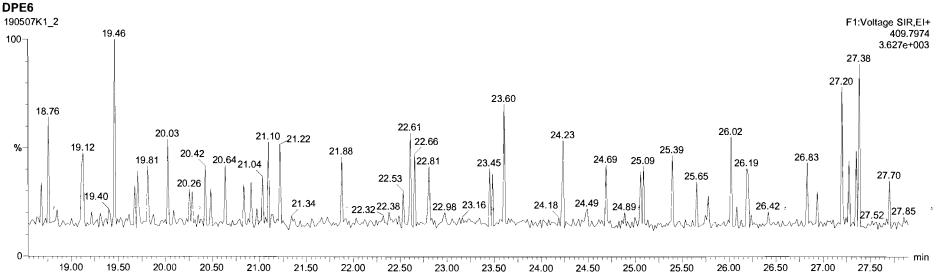
Untitled

Last Altered: Printed:

Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201





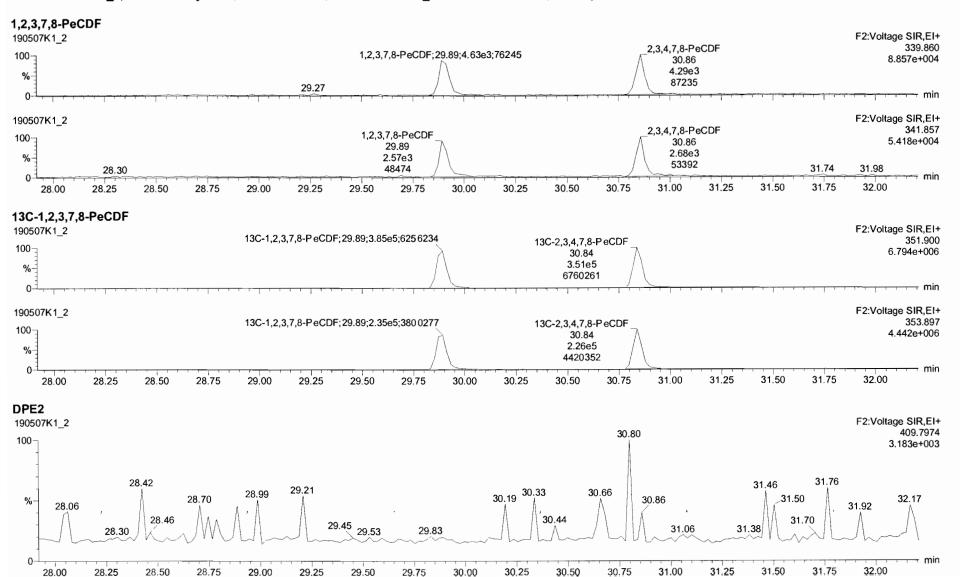
Quantify Sample Report Vista Analytical Laboratory

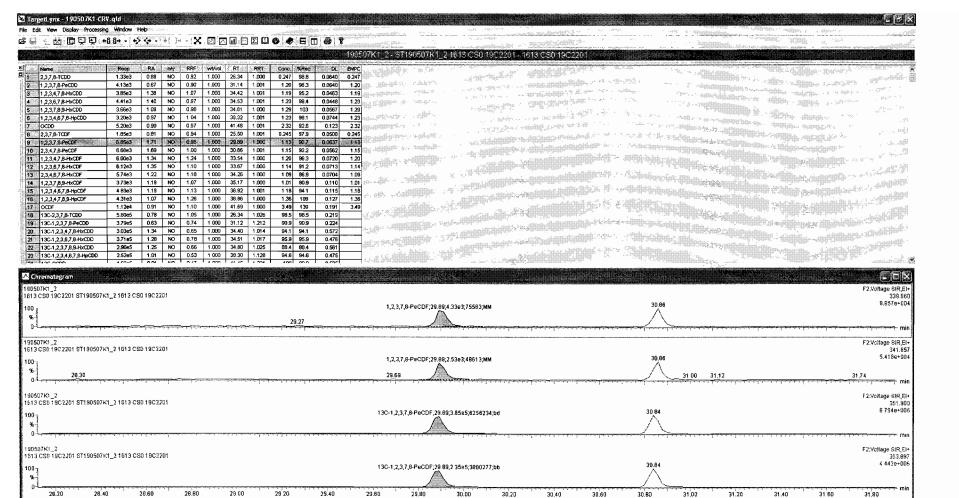
Dataset:

Untitled

Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1 2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201

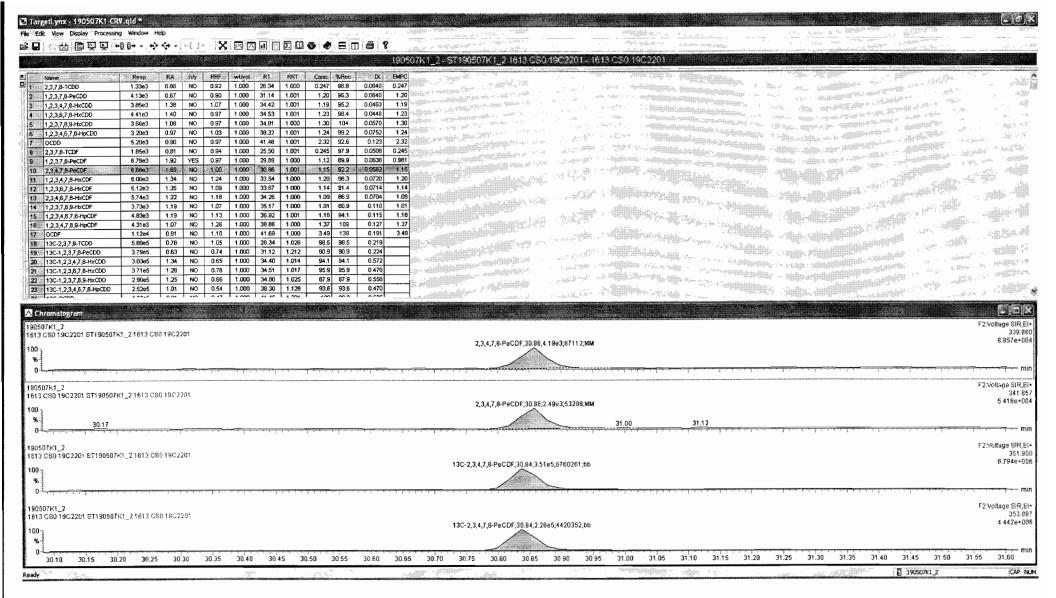




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190507K1_2

CAP NUM



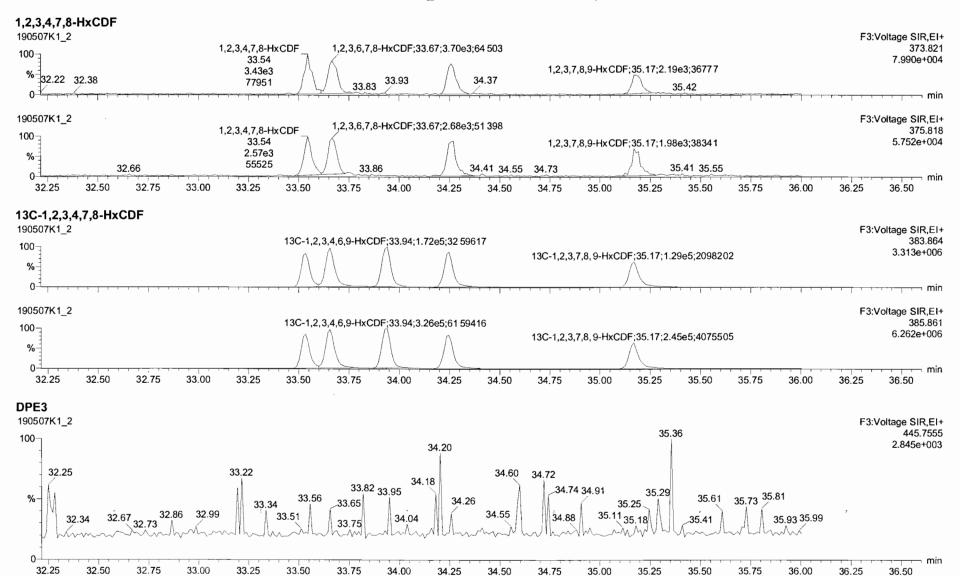
Quantify Sample Report Vista Analytical Laboratory

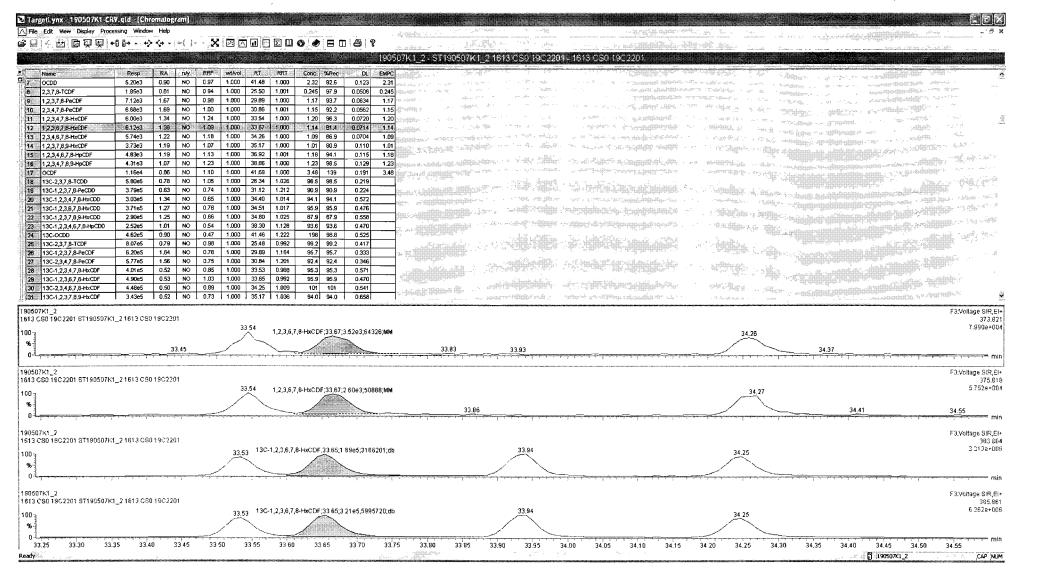
Dataset:

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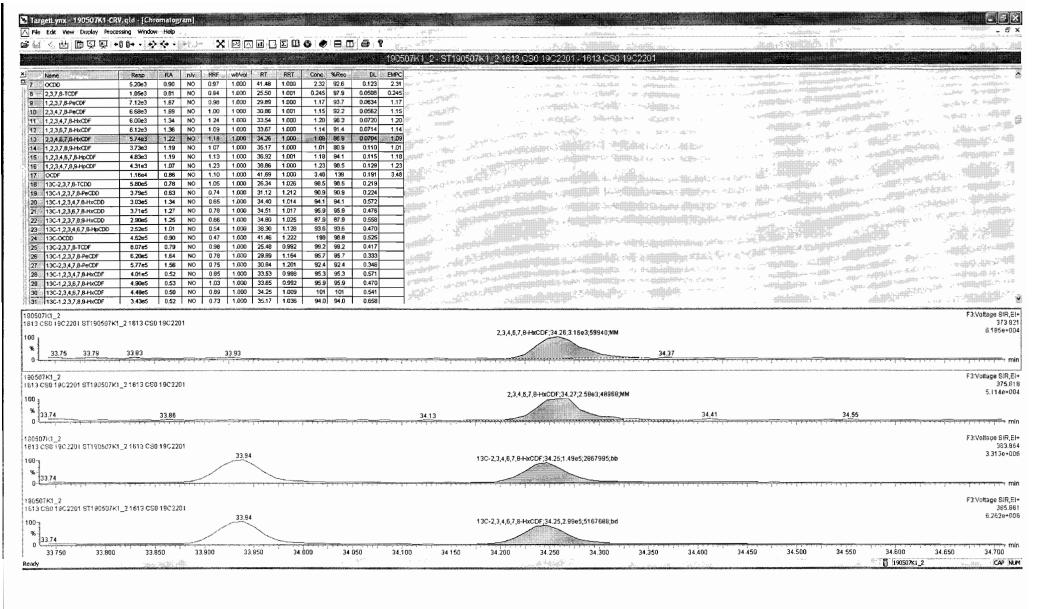
Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201

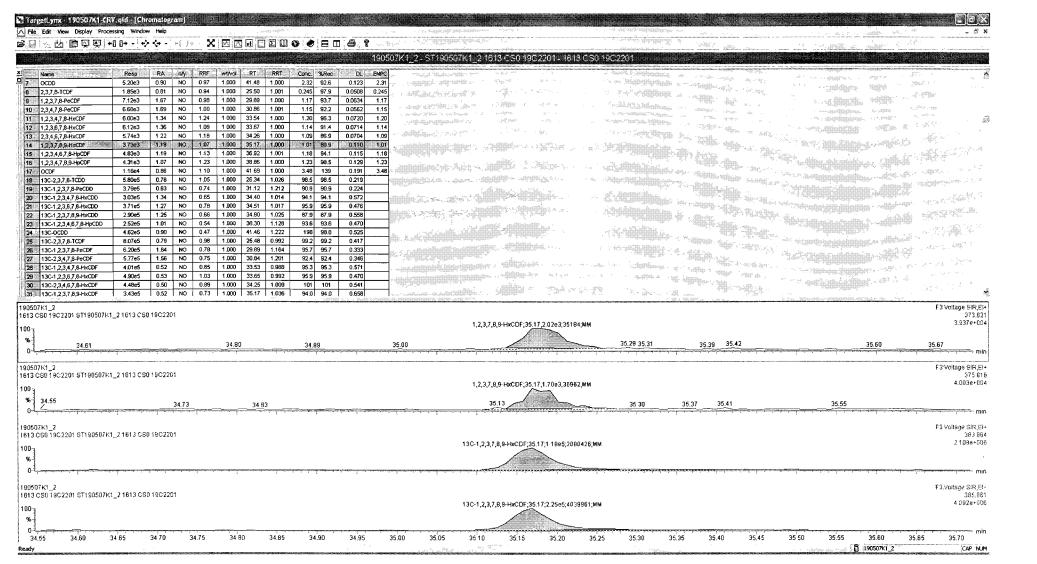




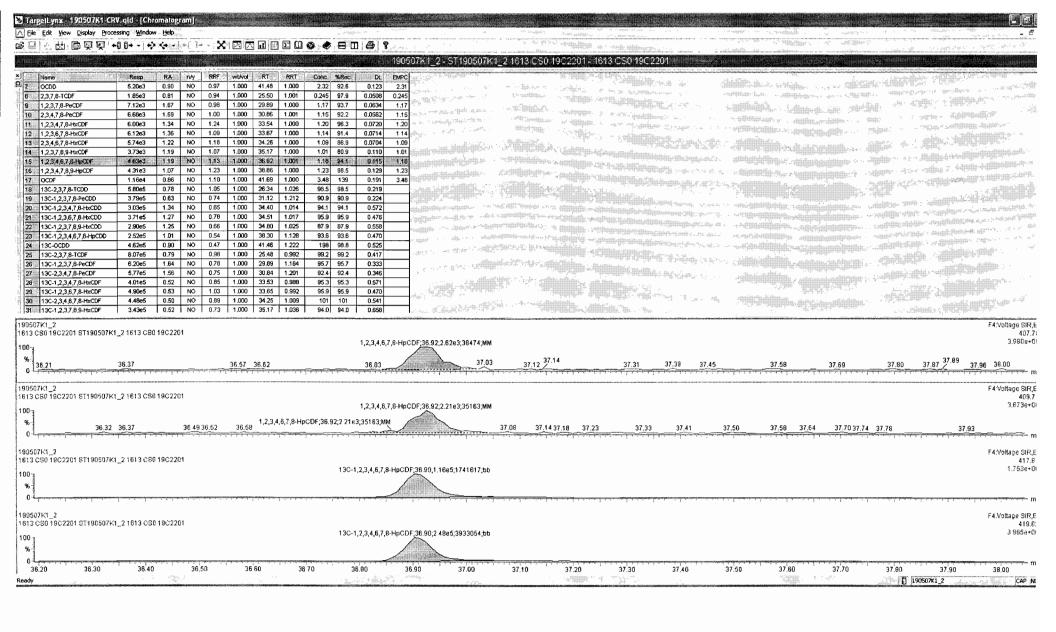
Work Order 1903739 Page 484 of 646



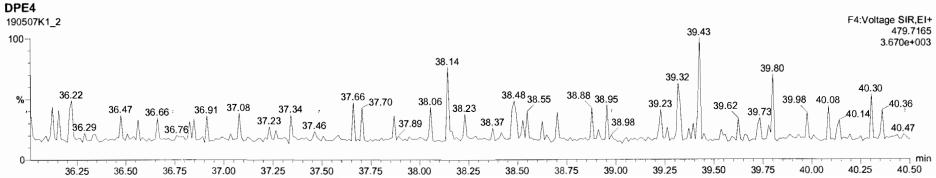
Work Order 1903739 Page 485 of 646

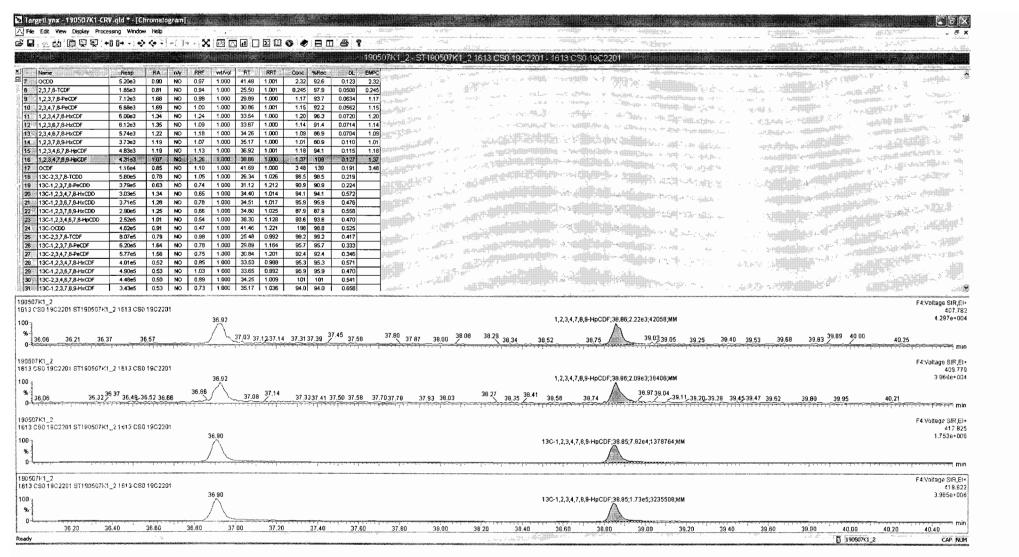


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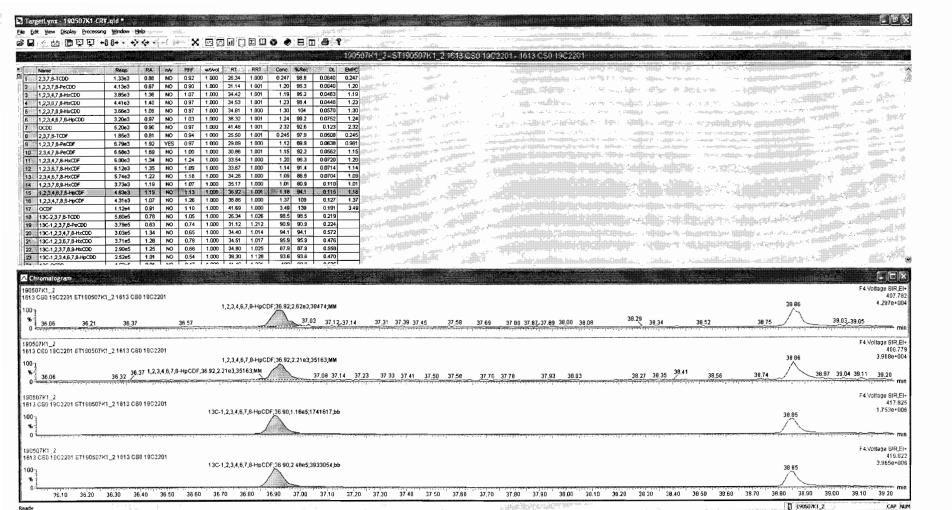


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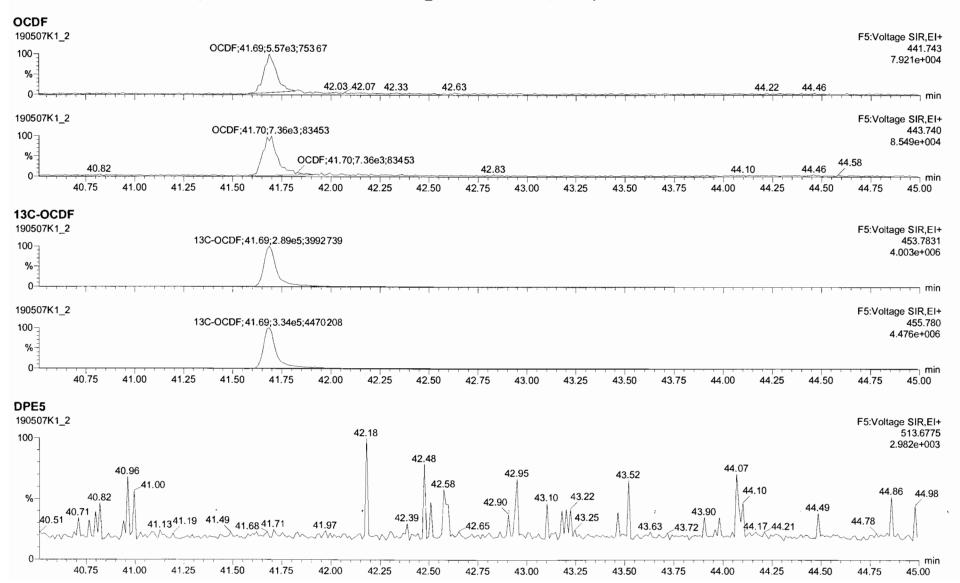
Work Order 1903739 Page 490 of 646

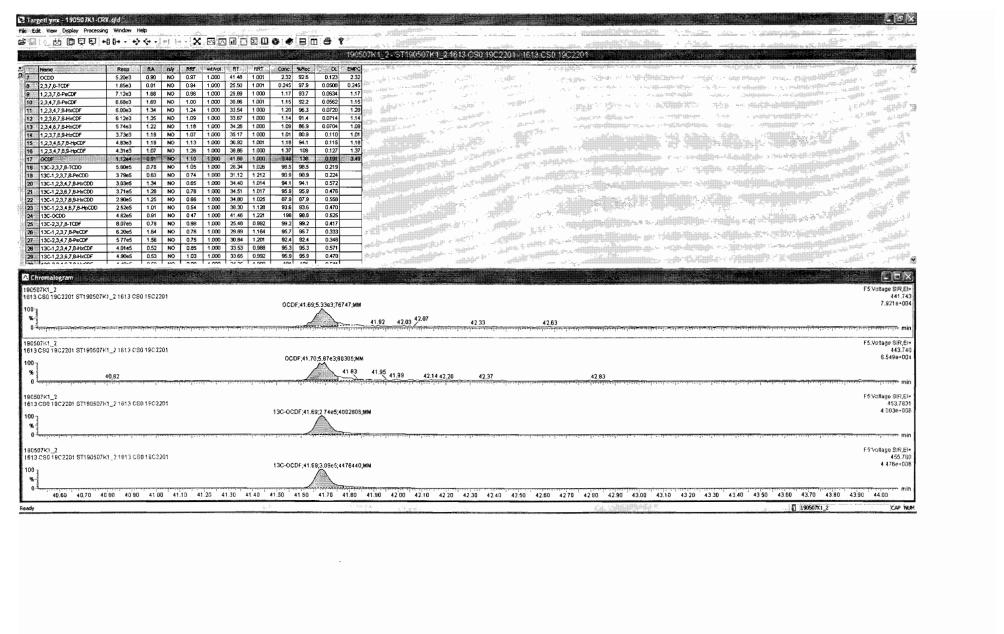
Dataset:

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Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201





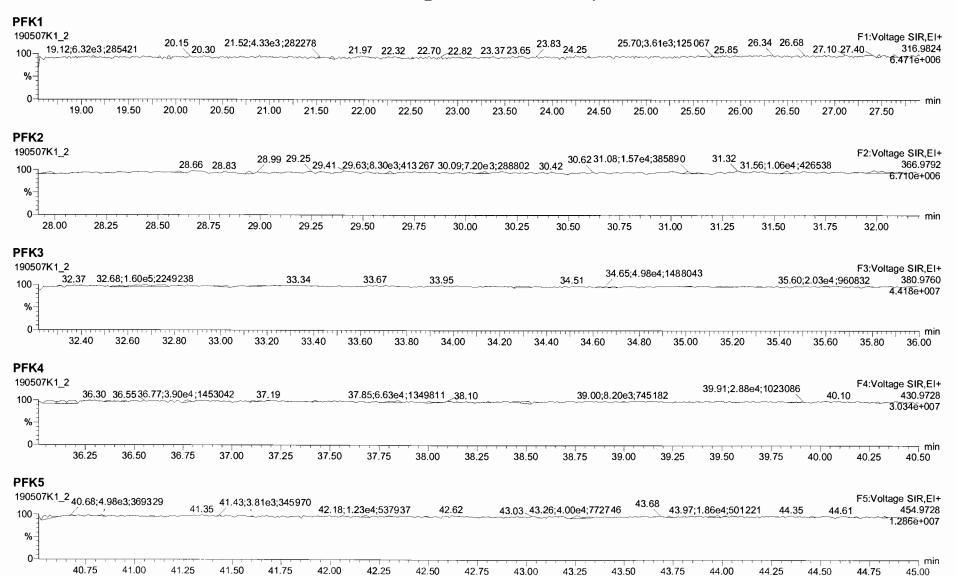
Work Order 1903739 Page 492 of 646

Dataset:

Untitled

Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_2, Date: 07-May-2019, Time: 11:18:22, ID: ST190507K1_2 1613 CS0 19C2201, Description: 1613 CS0 19C2201



24.20

24 00

24.40

24 60

24 80

25.00

25.40

25.60

25.80

26.00

26.20

26.80

26 68

27.00

27.20

27.40

[្ជី 190507K1_4

27.00

CAP NUM

25.20

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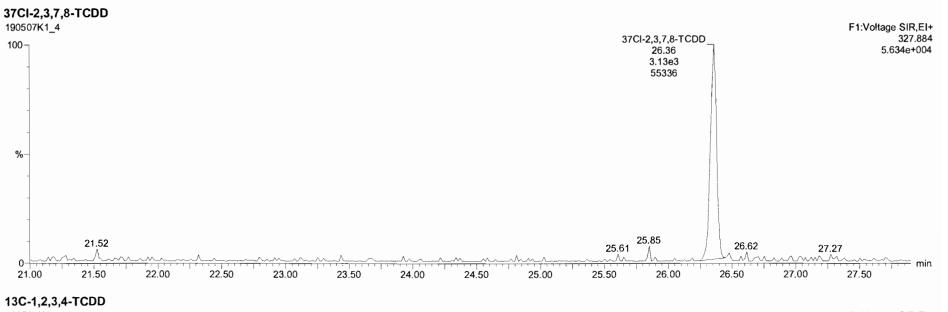
Dataset:

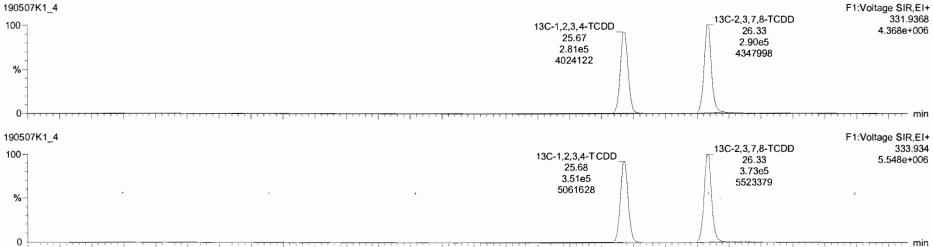
Untitled

Last Altered: Wedi

Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_4, Date: 07-May-2019, Time: 13:04:59, ID: ST190507K1_4 1613 CS1 19C2202, Description: 1613 CS1 19C2202





24.50

25.00

25.50

26.00

26.50

27.00

21.50

21.00

22.00

22.50

23.00

23.50

24.00

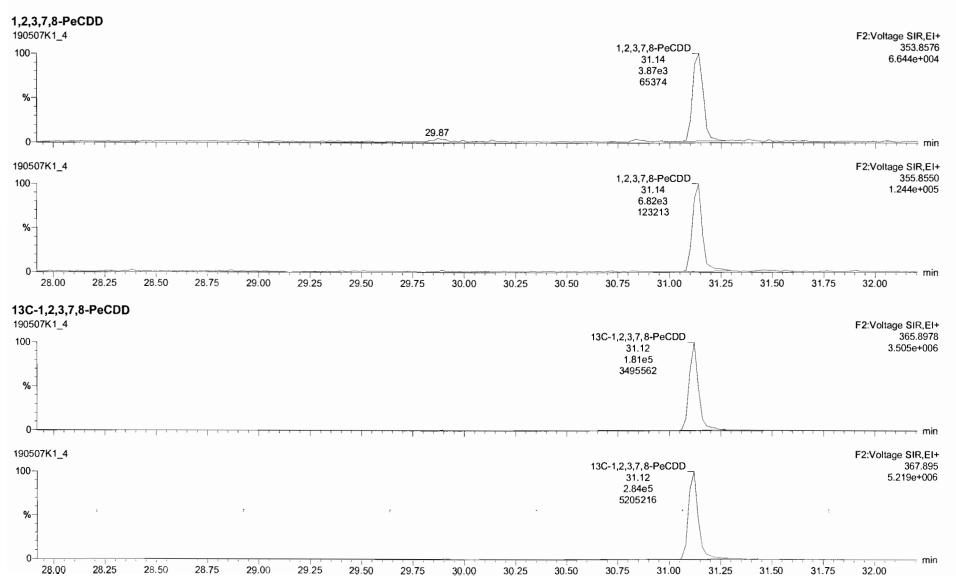
27.50

Dataset:

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Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_4, Date: 07-May-2019, Time: 13:04:59, ID: ST190507K1_4 1613 CS1 19C2202, Description: 1613 CS1 19C2202



34.20

34.40

34.60

34.80

35.00

35.20

35.40

35.60

35.80

32.60

32.80

33.00

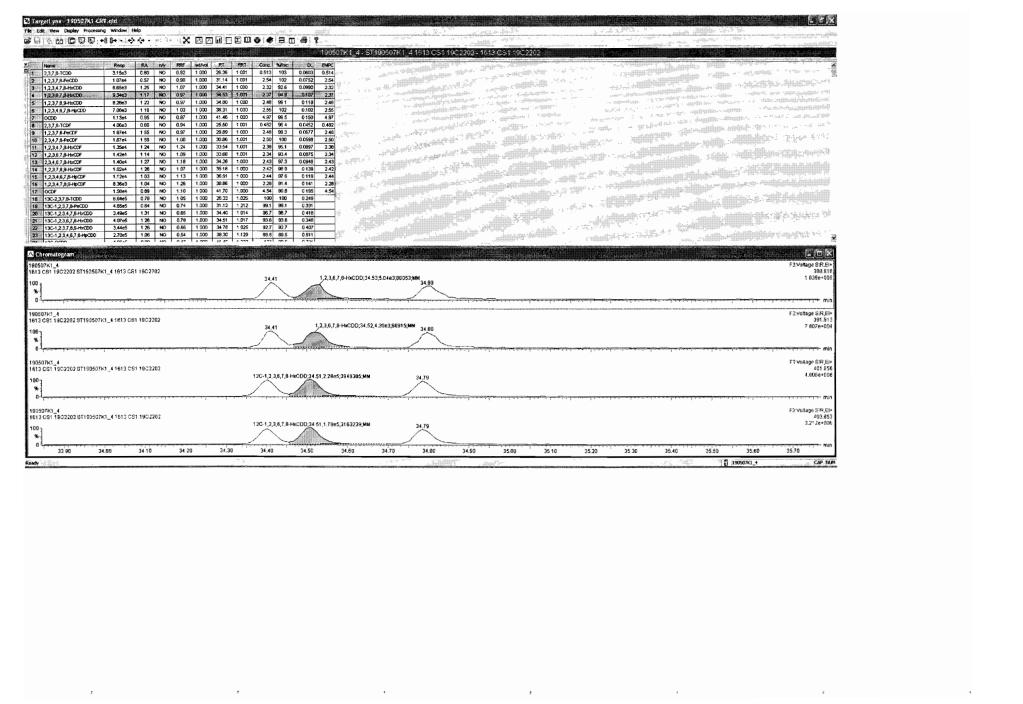
33.20

33.40

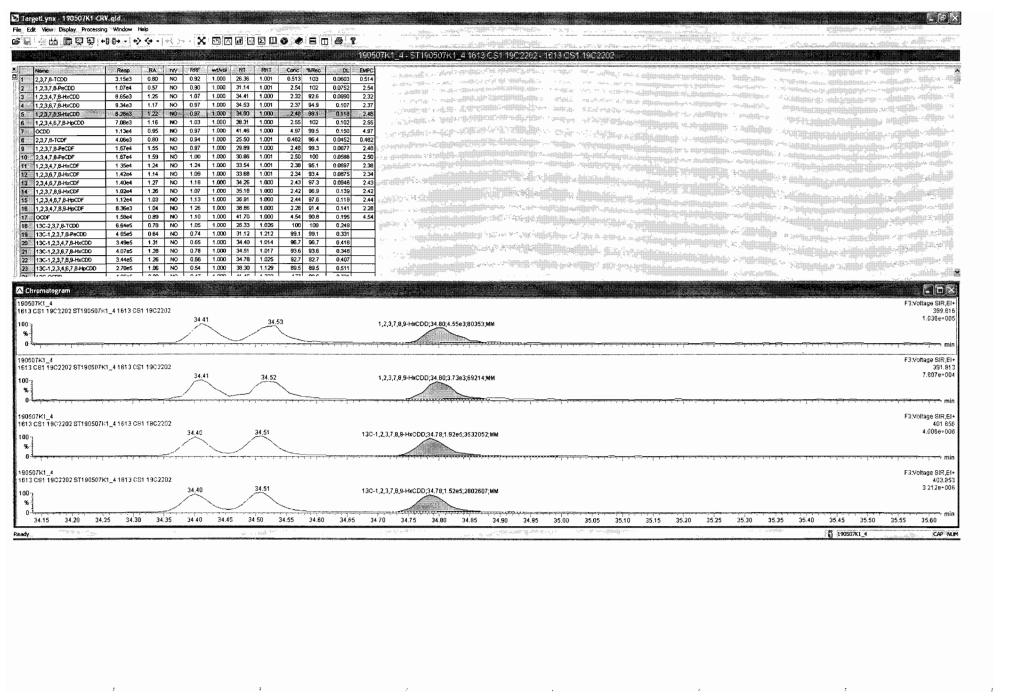
33.60

33.80

34.00



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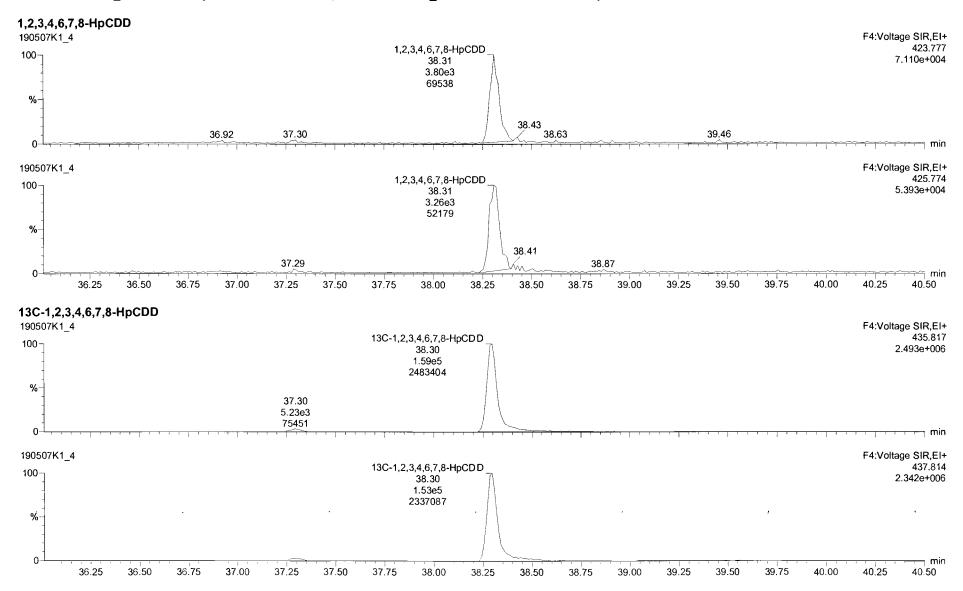


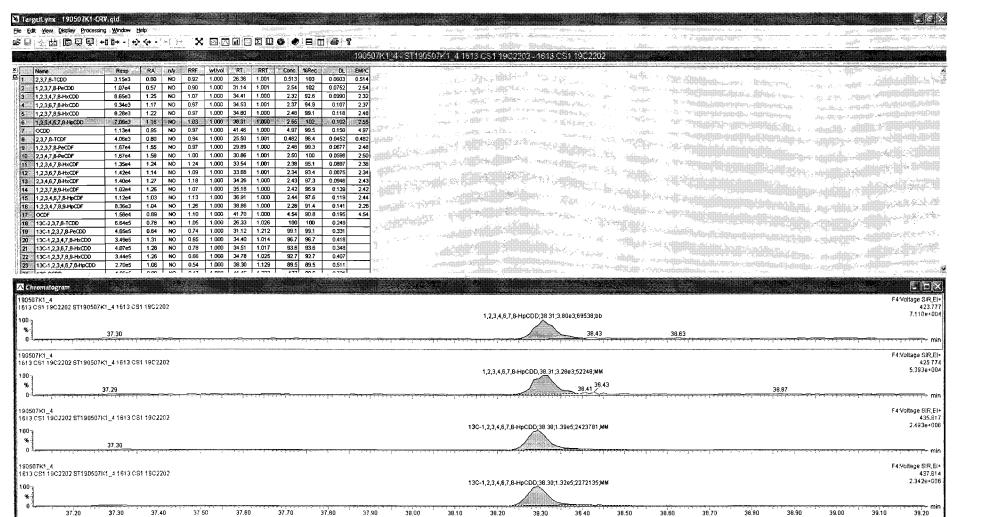
Work Order 1903739 Page 500 of 646

Dataset: Untitled

Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_4, Date: 07-May-2019, Time: 13:04:59, ID: ST190507K1_4 1613 CS1 19C2202, Description: 1613 CS1 19C2202

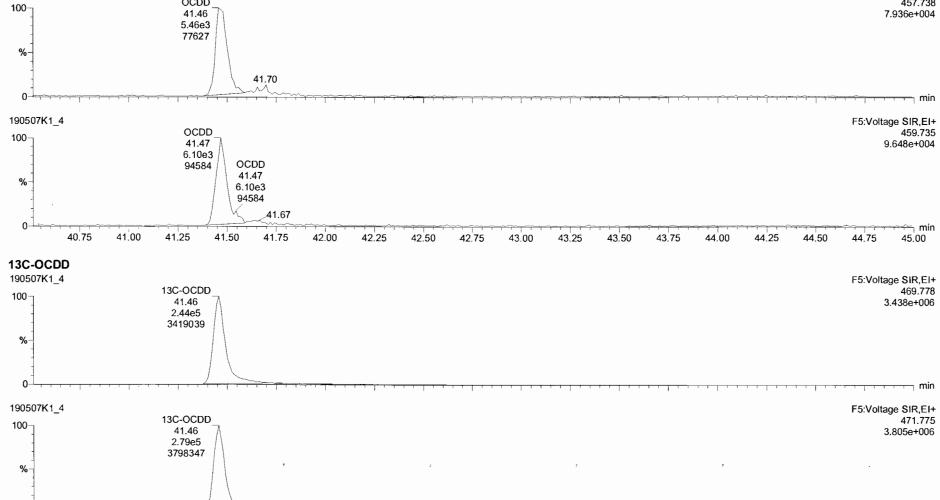




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190507K1 4

CAP NUM



42.75

43.00

43.25

43.50

43.75

44.00

44.25

44.50

44.75

40.75

41.00

41.25

41.50

41.75

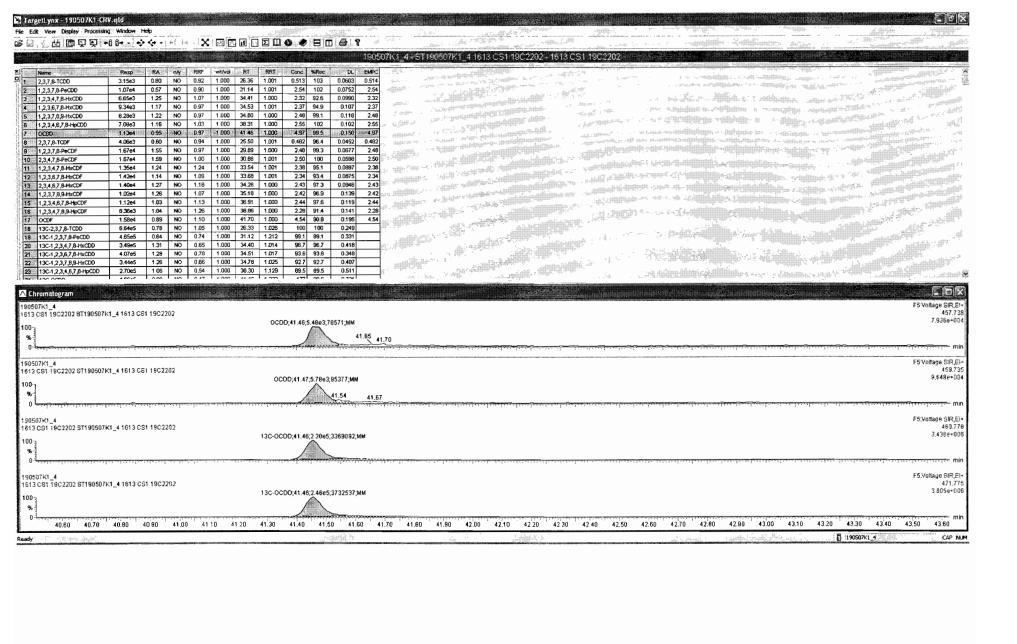
42.00

42.25

42.50

min

45.00

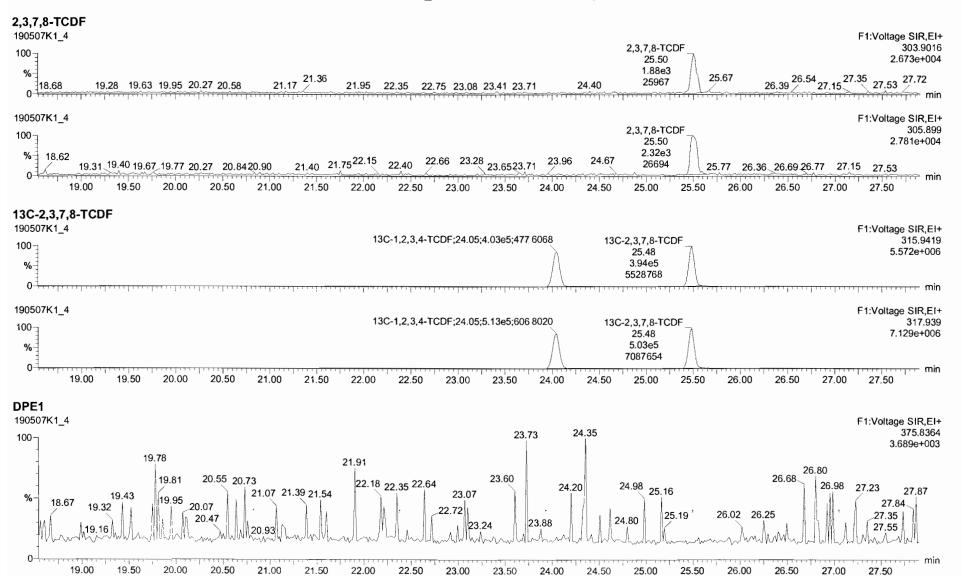


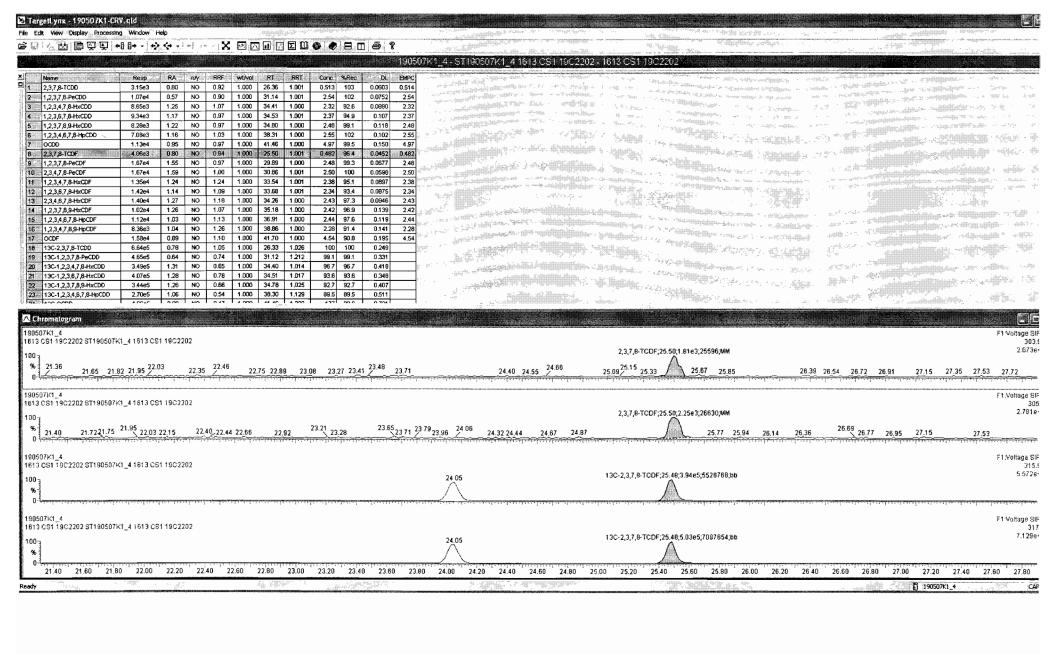
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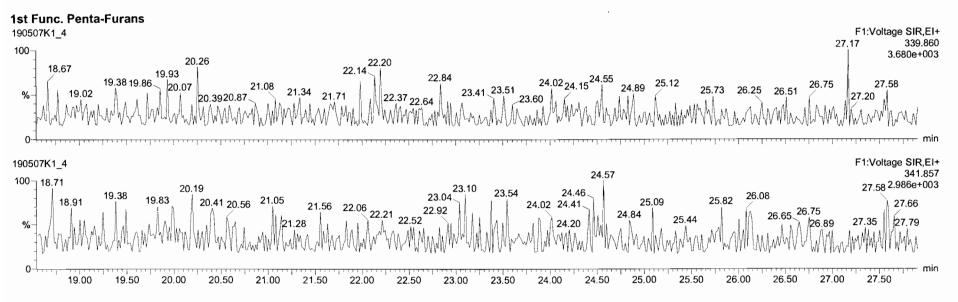


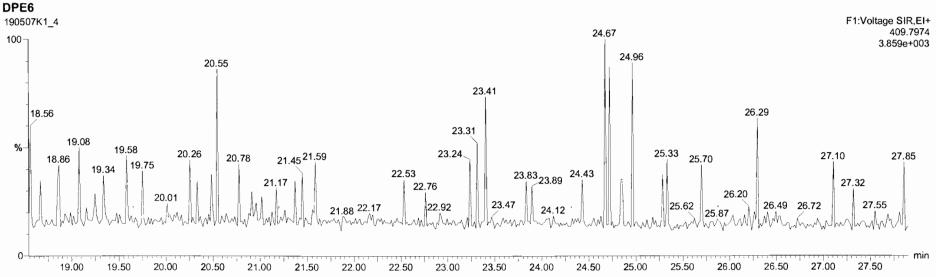


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29.00

29.25

29.49

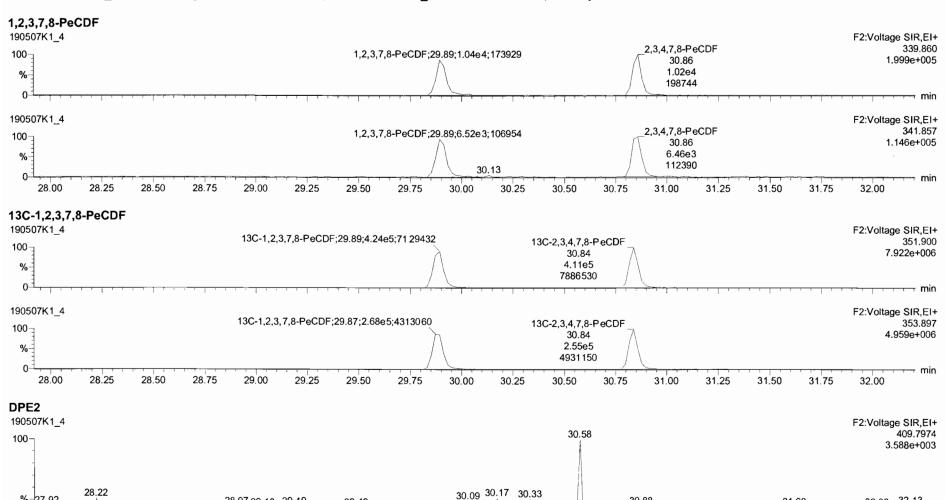
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29.53 29.69

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30.00

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30.88

31.00

30.84

30.75

30.44

30.50

30.25

31.14 31.36 31.44

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31.48

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28.52

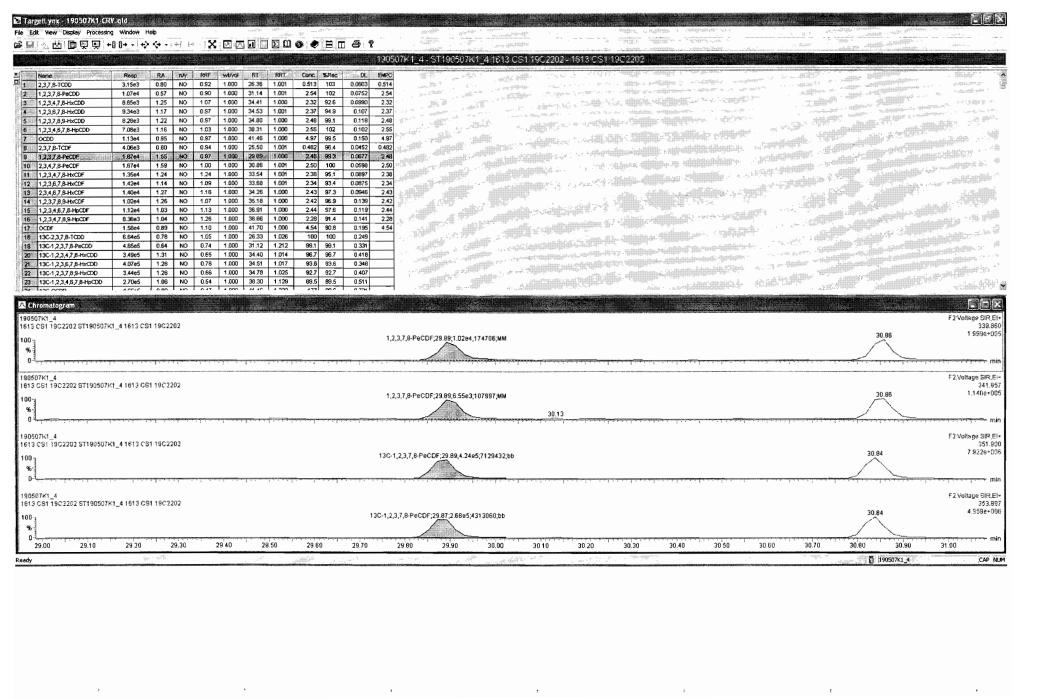
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32.00

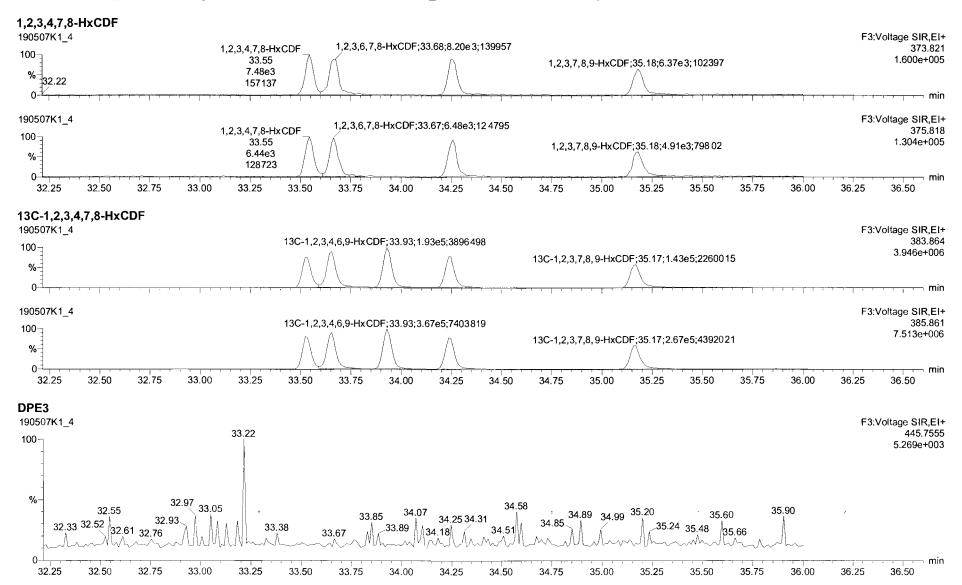
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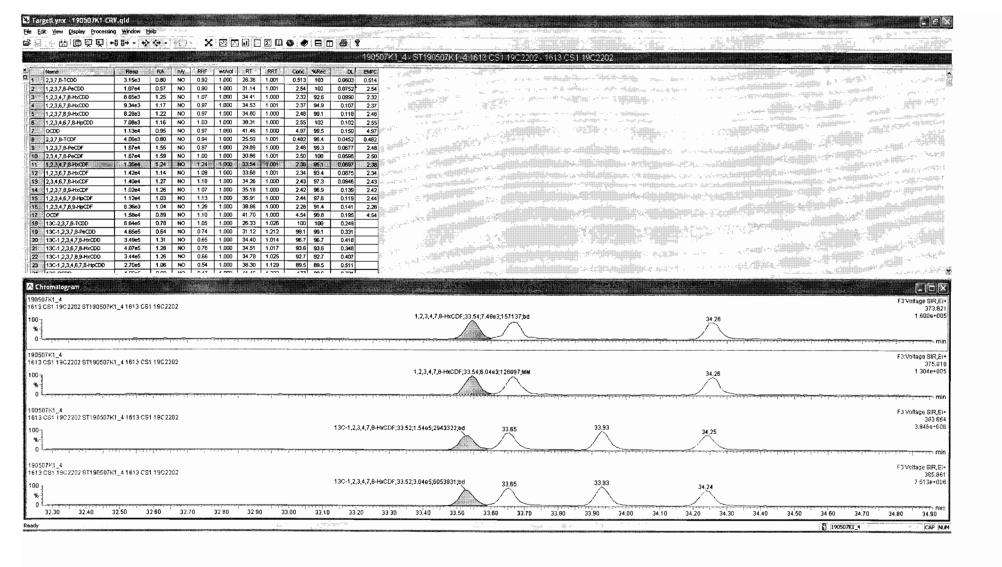


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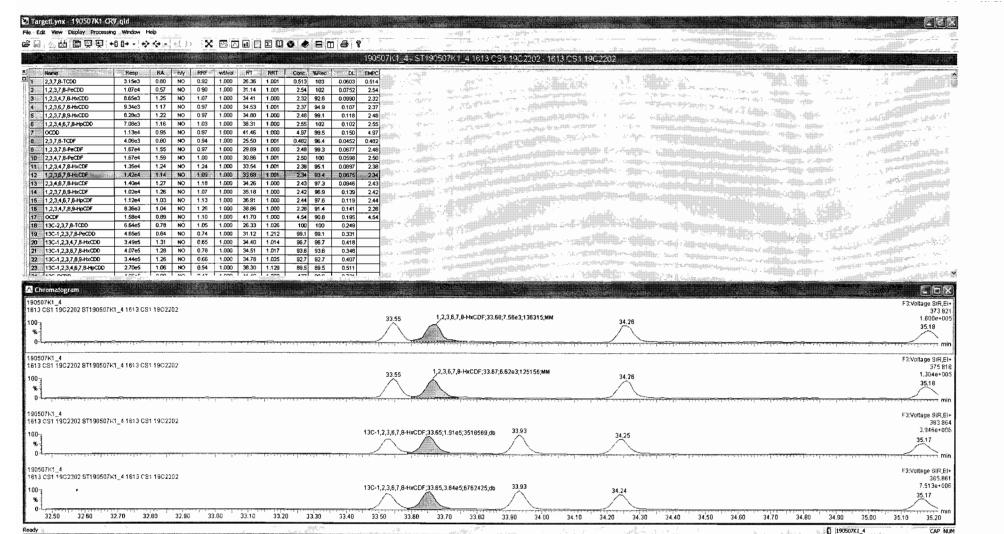
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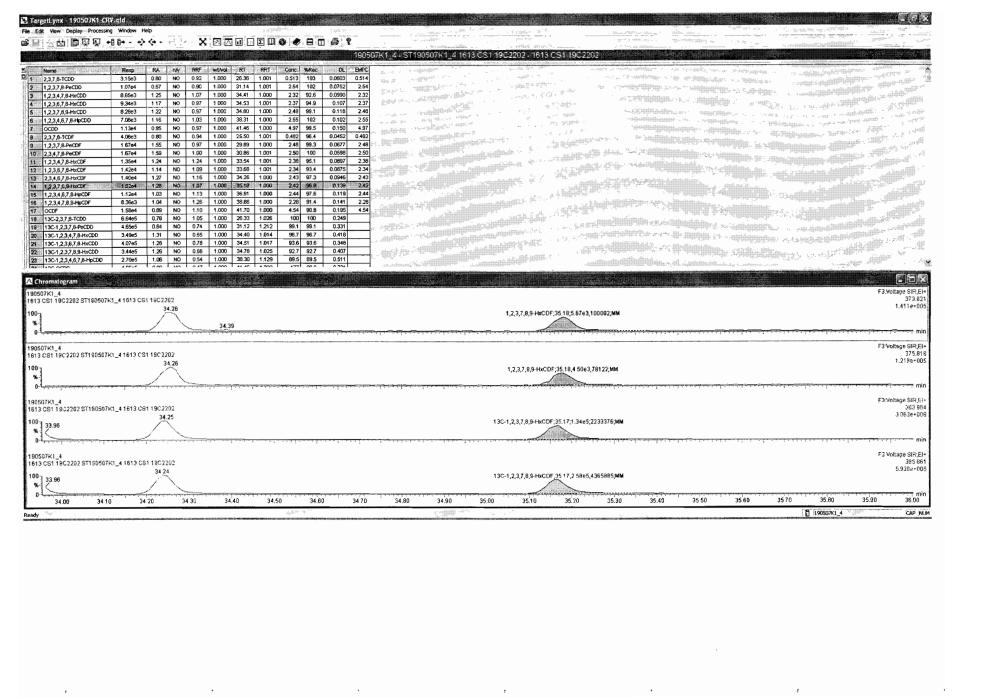




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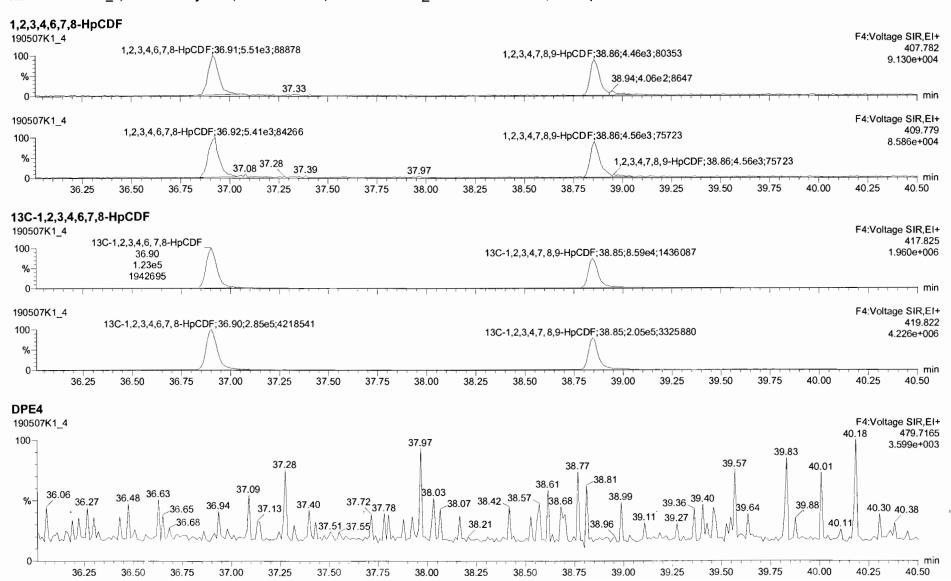


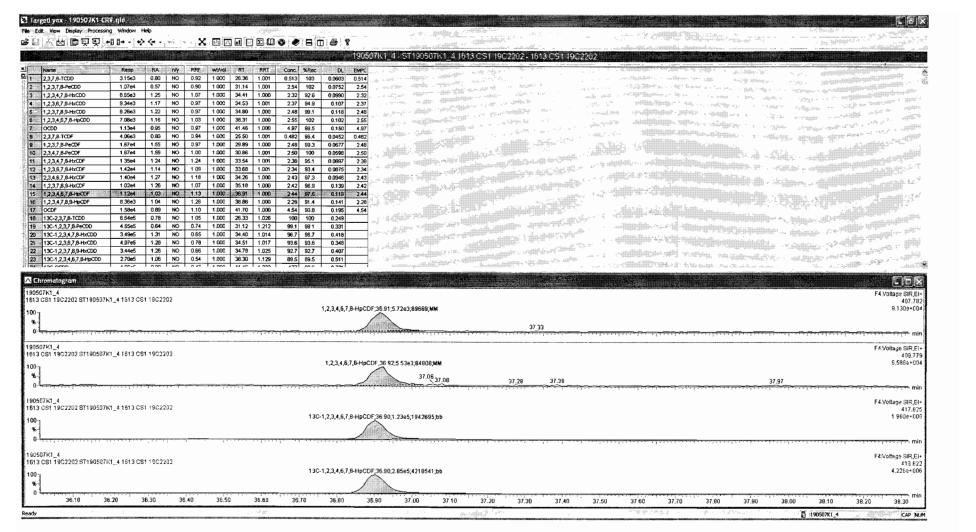
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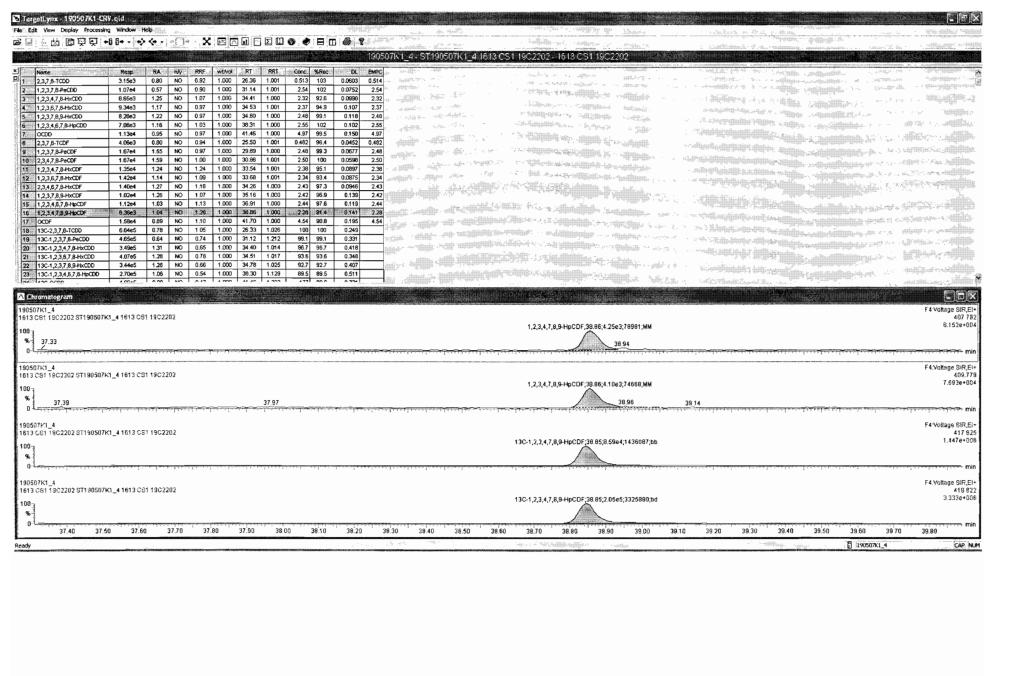
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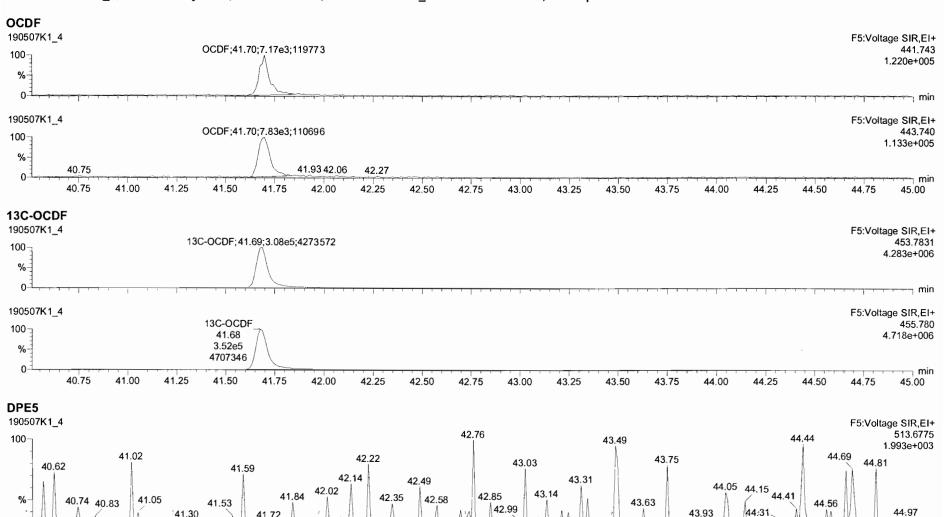
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41.00

41.25

41.50

41.75

42.00

42.25

42.50

42.75

43.00

43.25

43.50

40.75

44.75

43.75

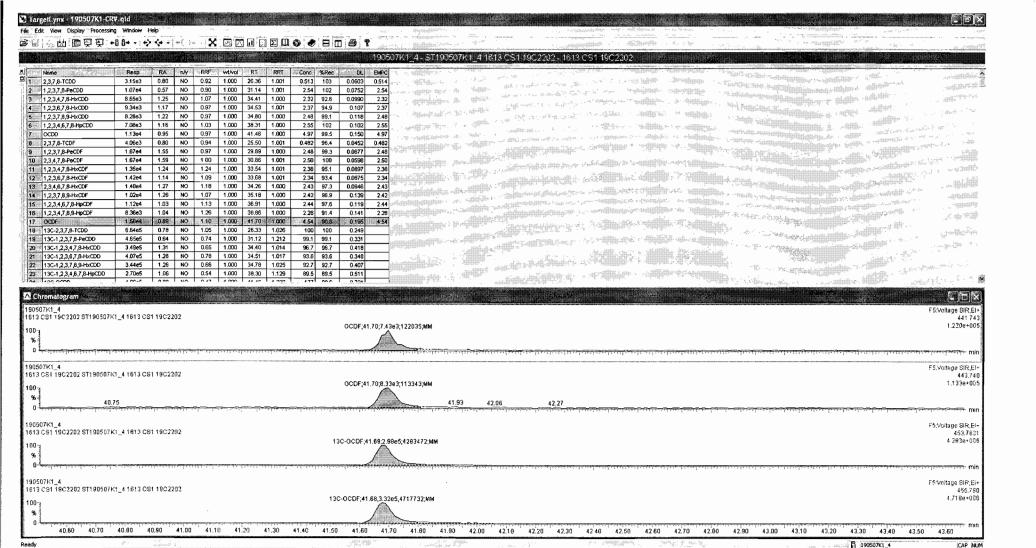
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min

45.00

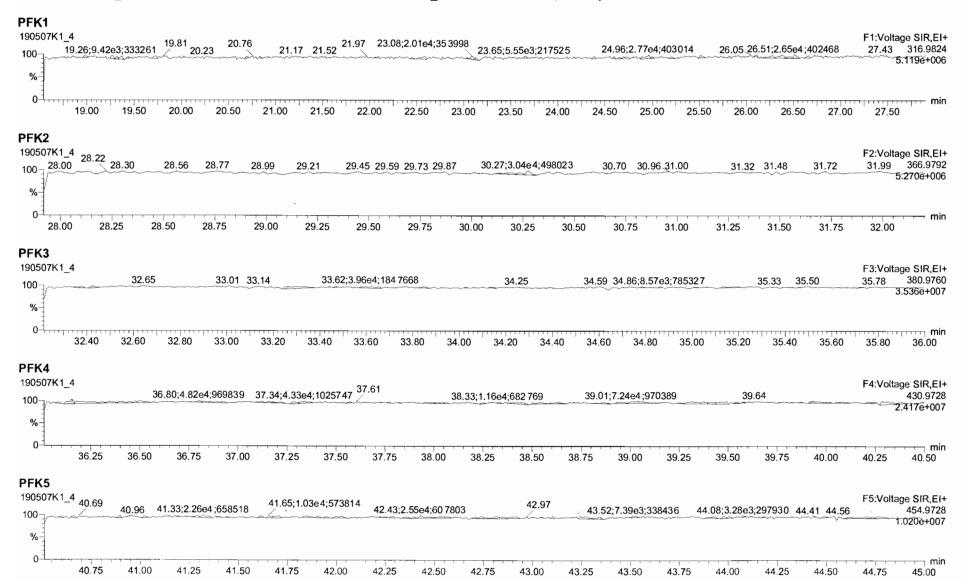


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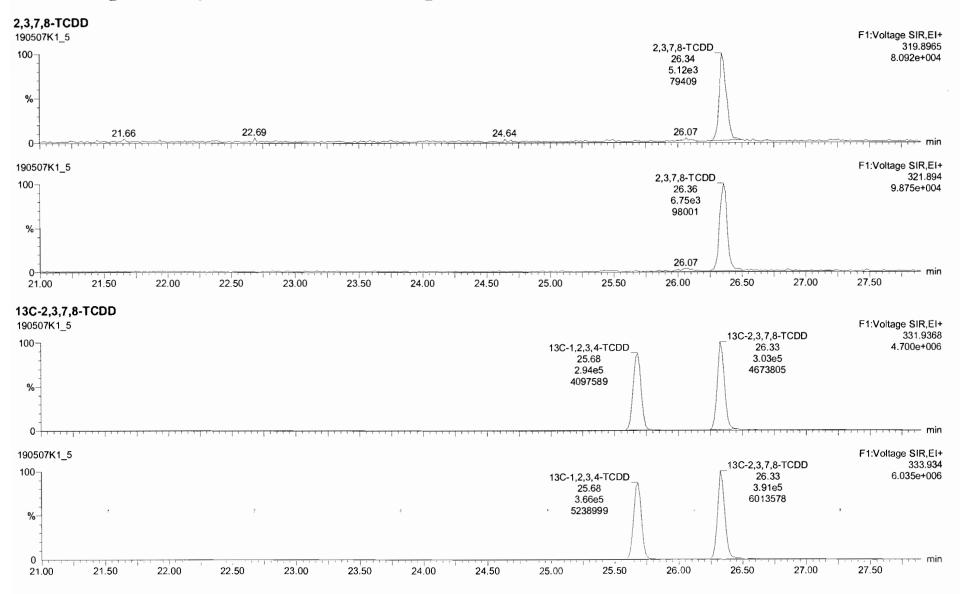
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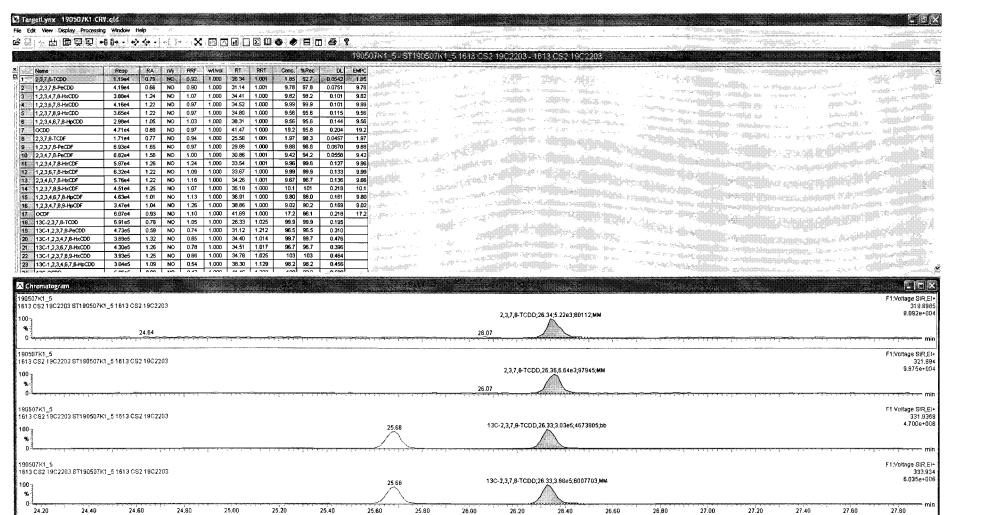


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CAP NUM

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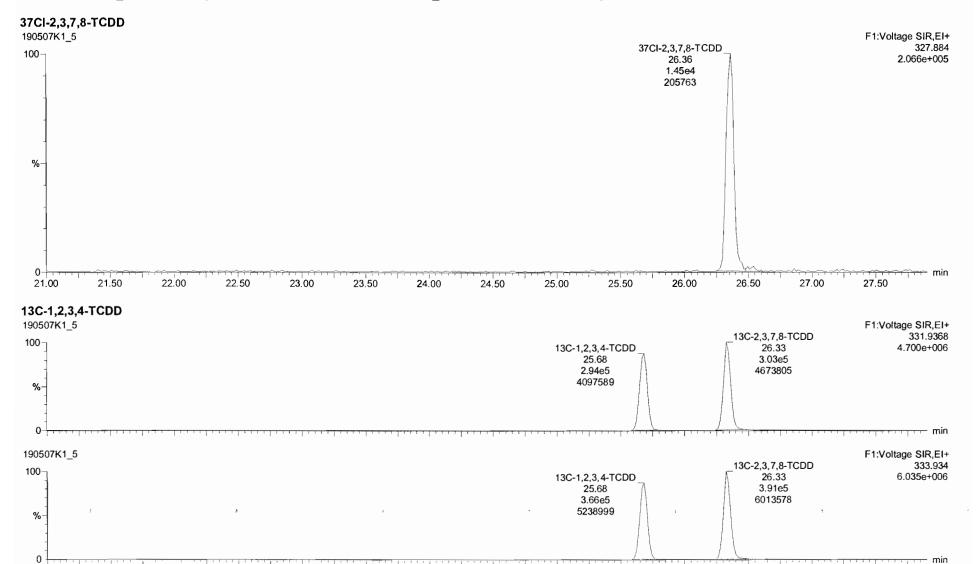
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25.00

25.**5**0

26.00

26.50

27.00

21.50

21.00

22.00

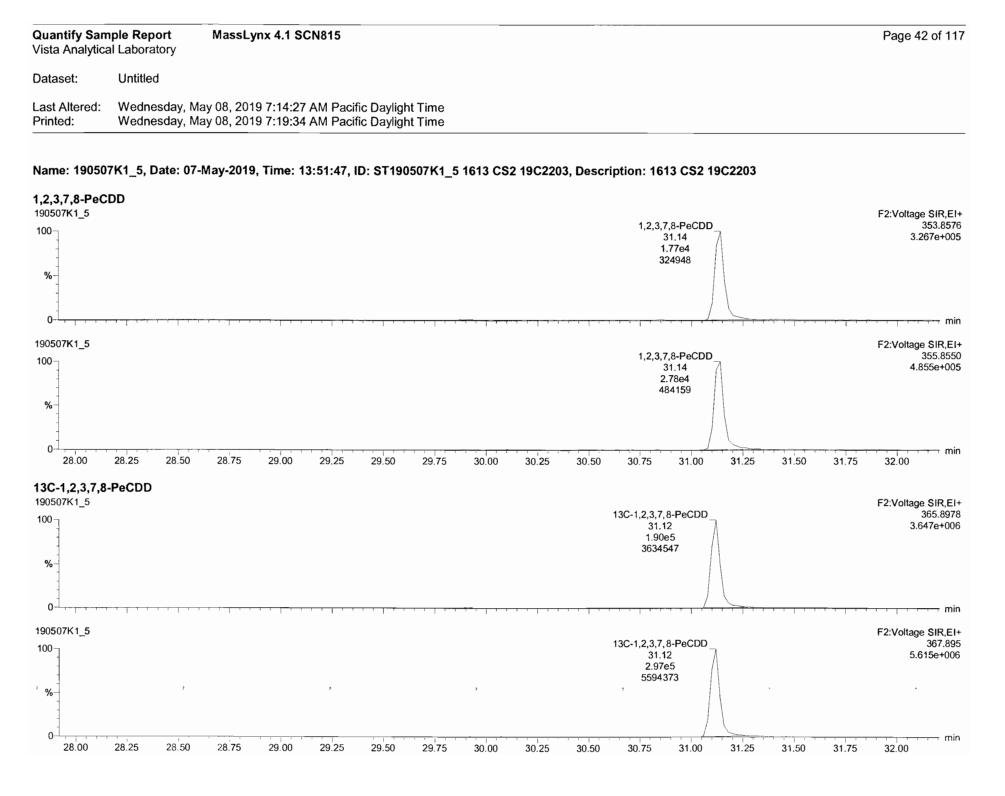
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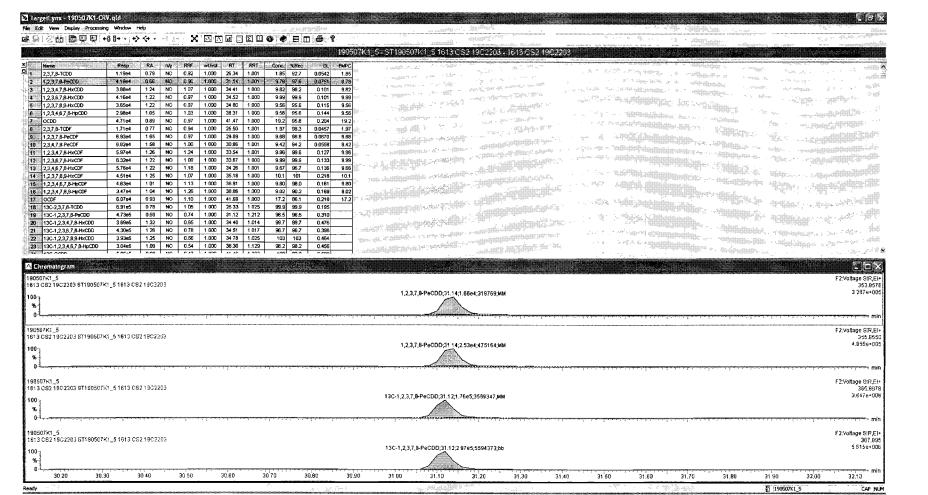
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24.00

27.50



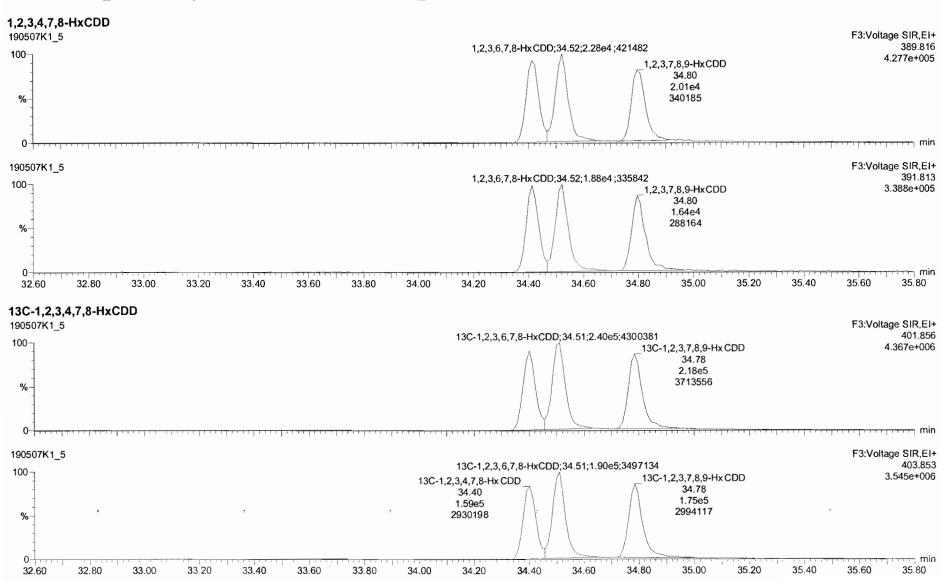
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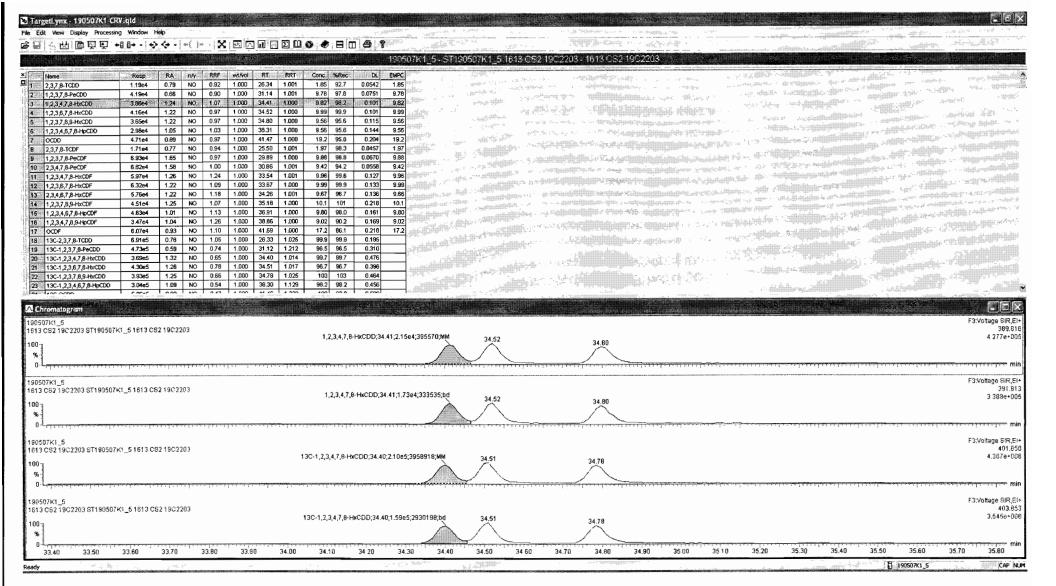


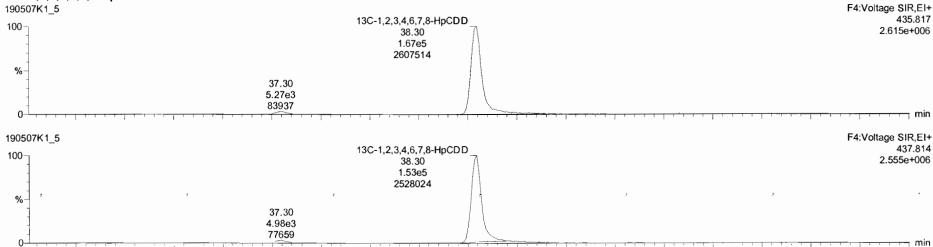
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38.25

38.50

38.75

39.00

39.25

39.50

39.75

40.00

40.25

40.50

36.25

36.50

36.75

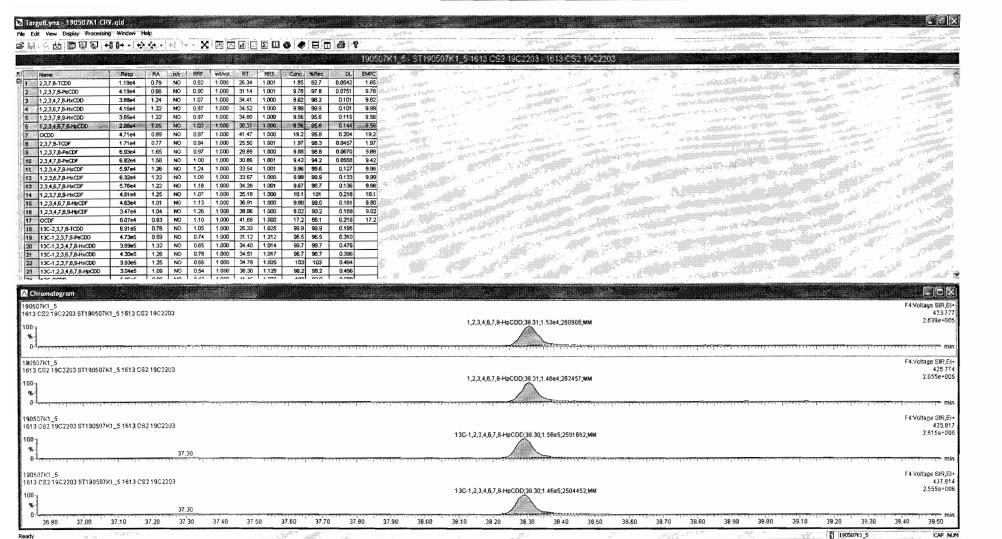
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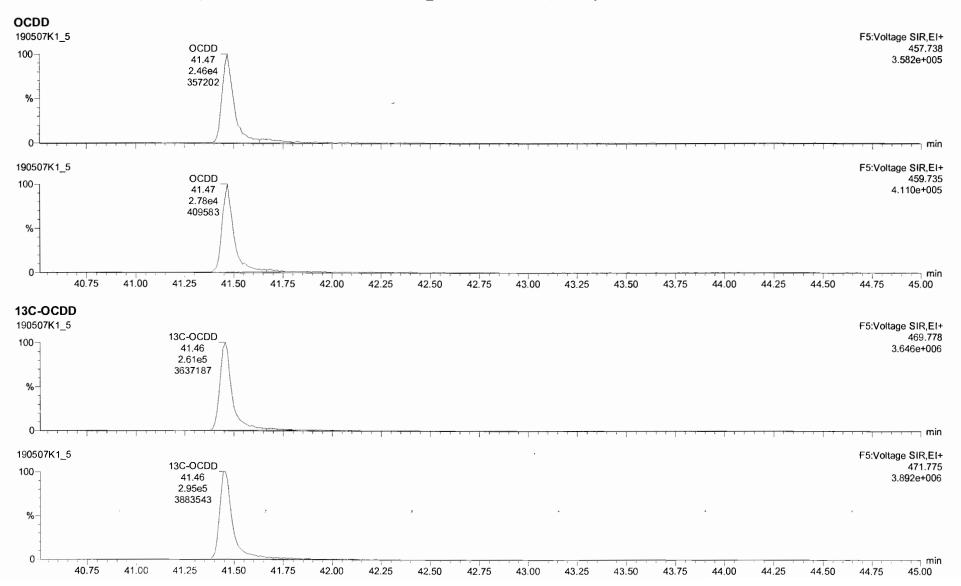
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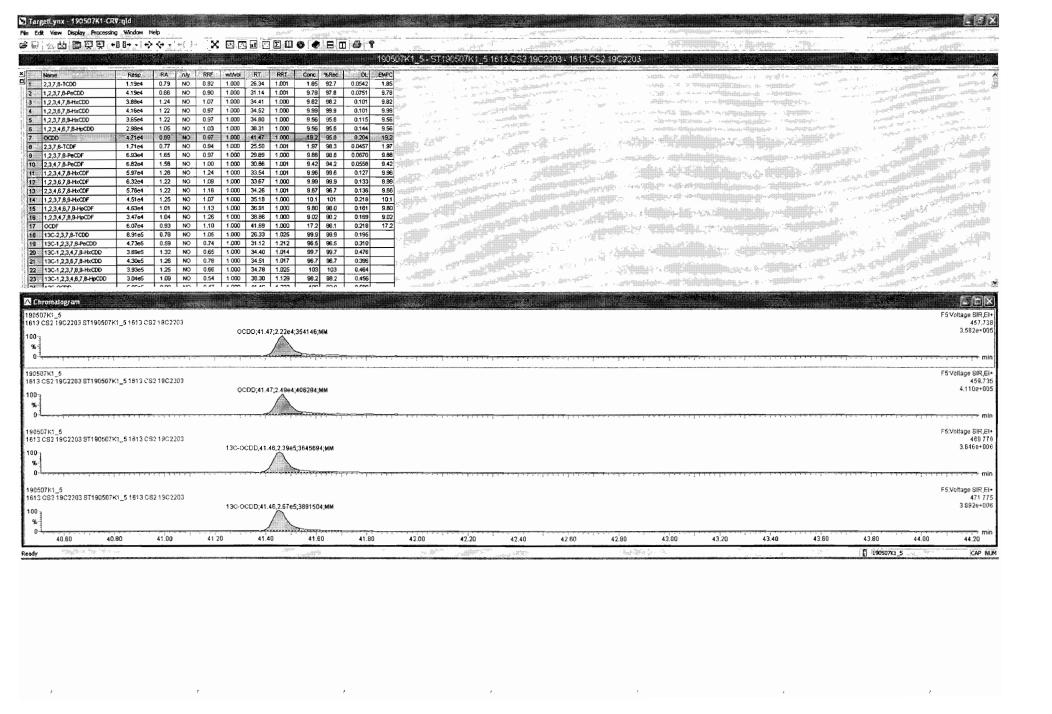
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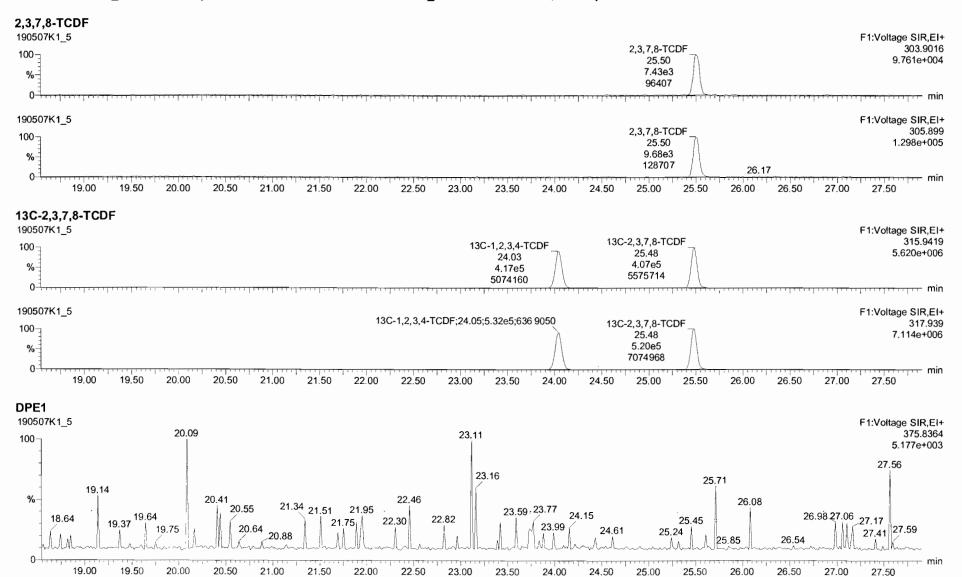
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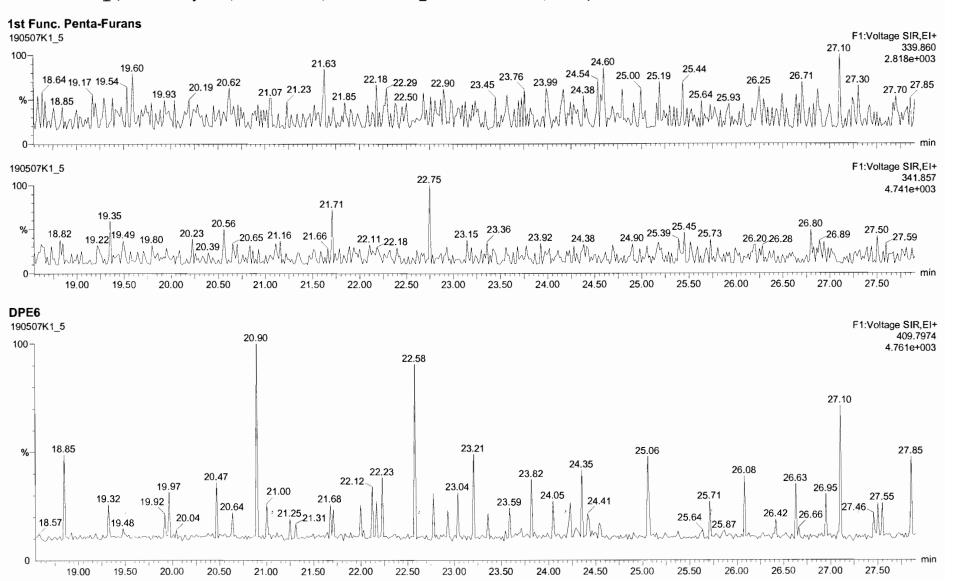
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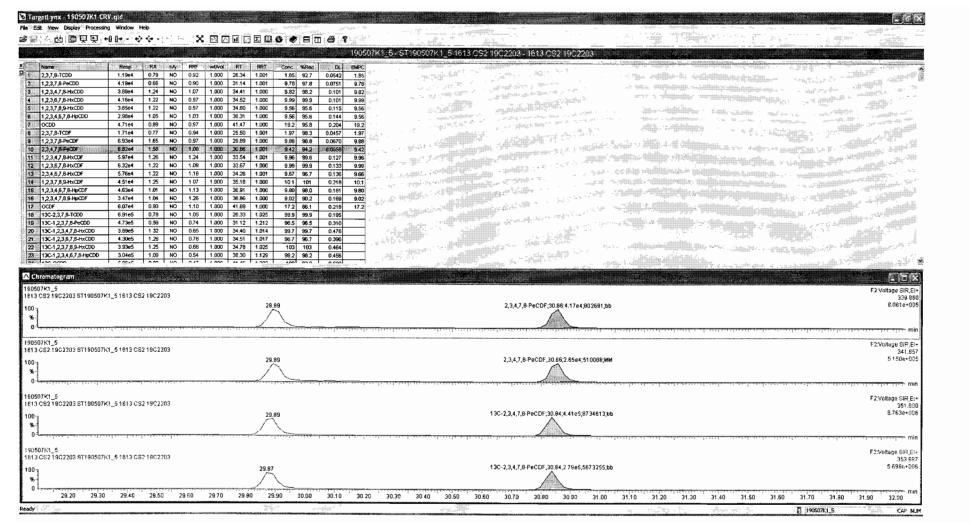
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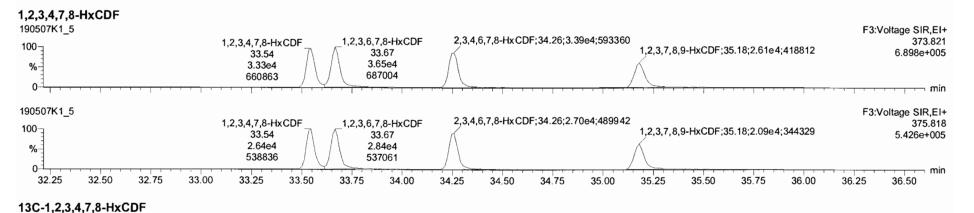


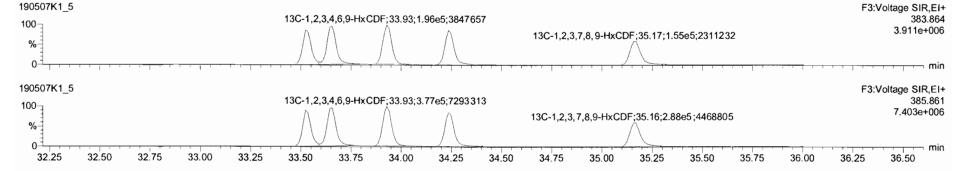


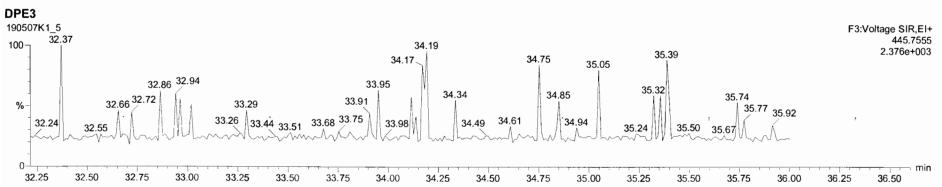
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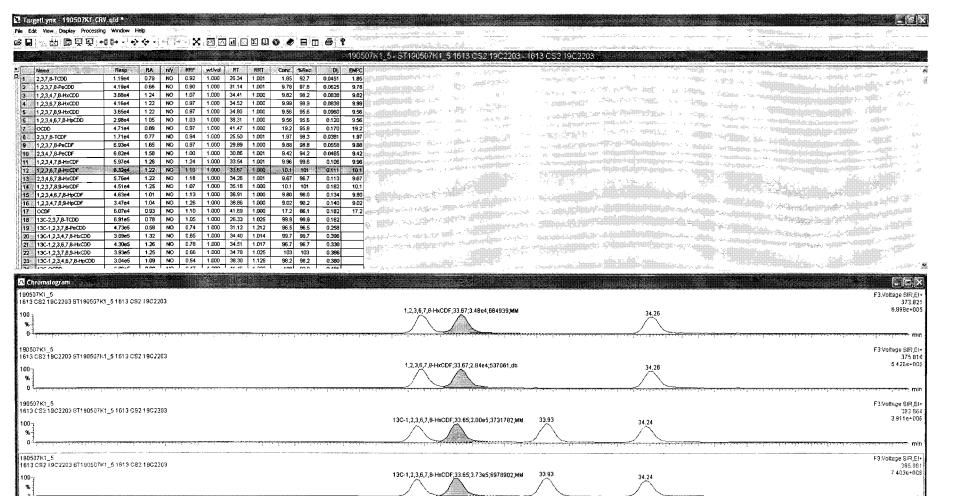
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32.40

32 50

32.60

32.70

32.80

32 90

33 00

33.10

33.30

33.40

33.50

33.60 33.70

33.80

33 90

34 00

34.10

34.20

34.30

34 40

34.50

34 60

34.70

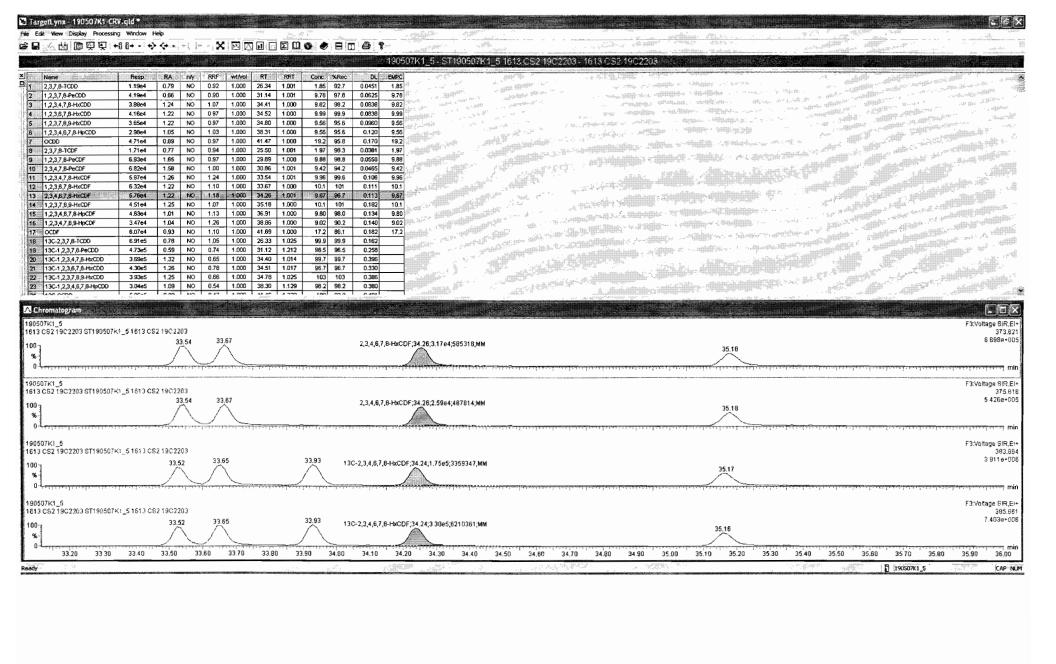
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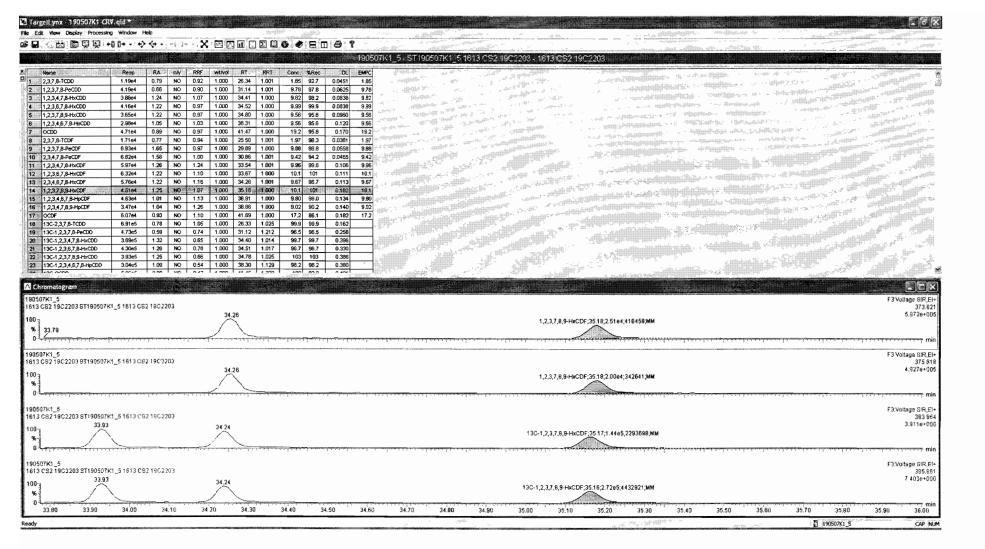
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35.00

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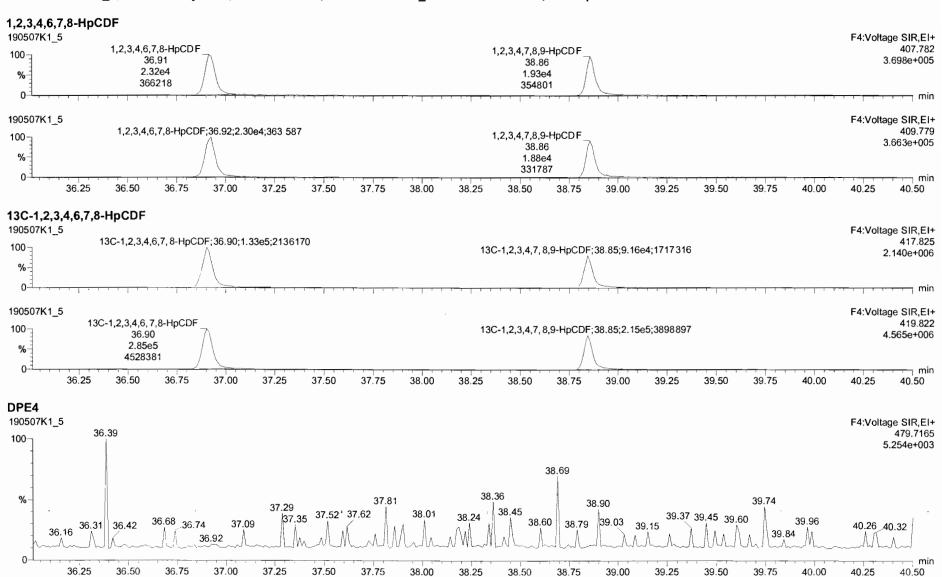


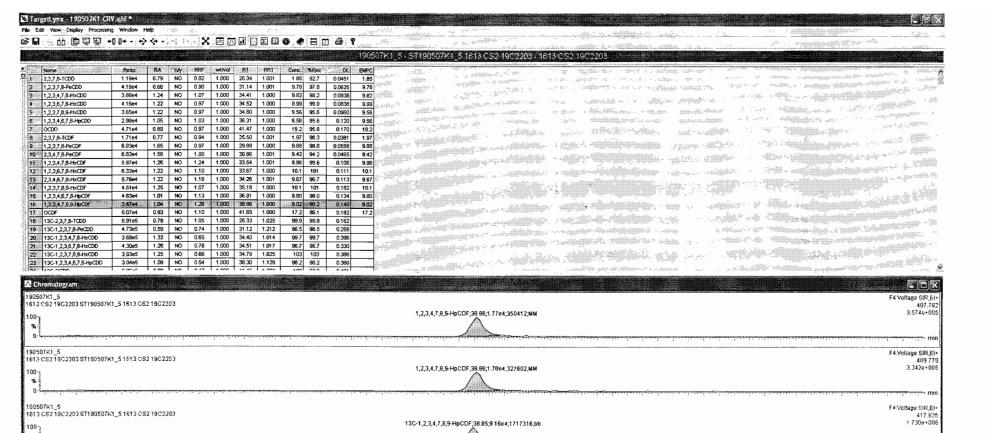
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38 90

39 00

39.10

39.20

39.30

39.40

39.70

39.80

40.00

190507K1_5

38.80

190507K1 5

37.50

1613 C82 19C2203 ST190507K1_51613 CS2 19C2203

37.70

37 80

37.90

38,00

38.10

38 20

38.30

38 40

38.50

38.60

38.70

37.60

Work Order 1903739 Page 540 of 646

F4 Voltage SIR,EI

3 91 26+006

40.30

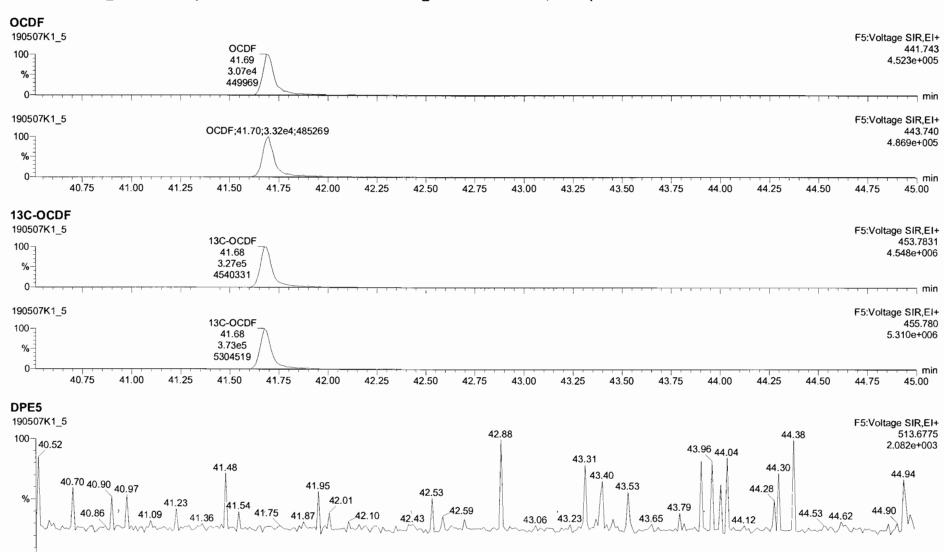
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40.75

41.00

41.25

41.50

41.75

42.00

42.25

42.50

42.75

43.00

43.25

43.50

43.75

44.00

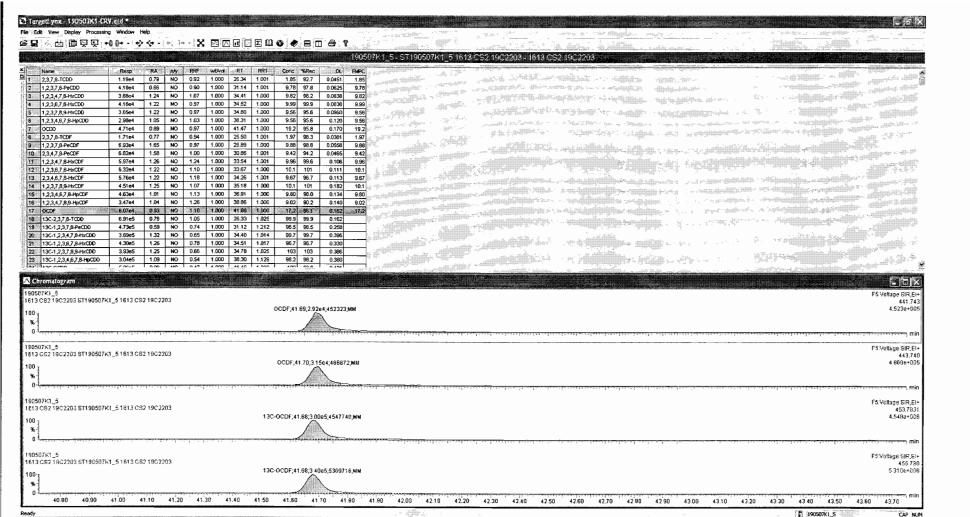
44.25

44.75

44.50

¬ min

45.00



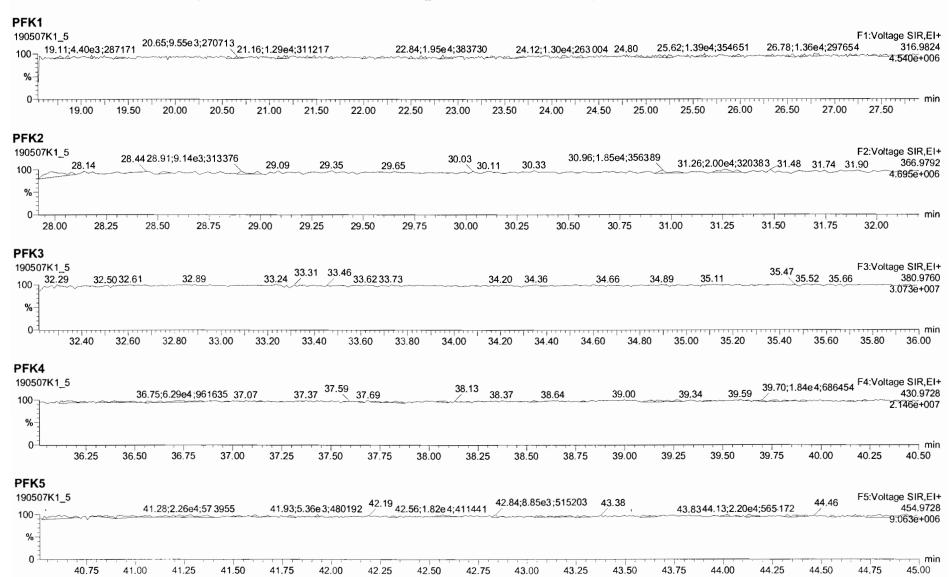
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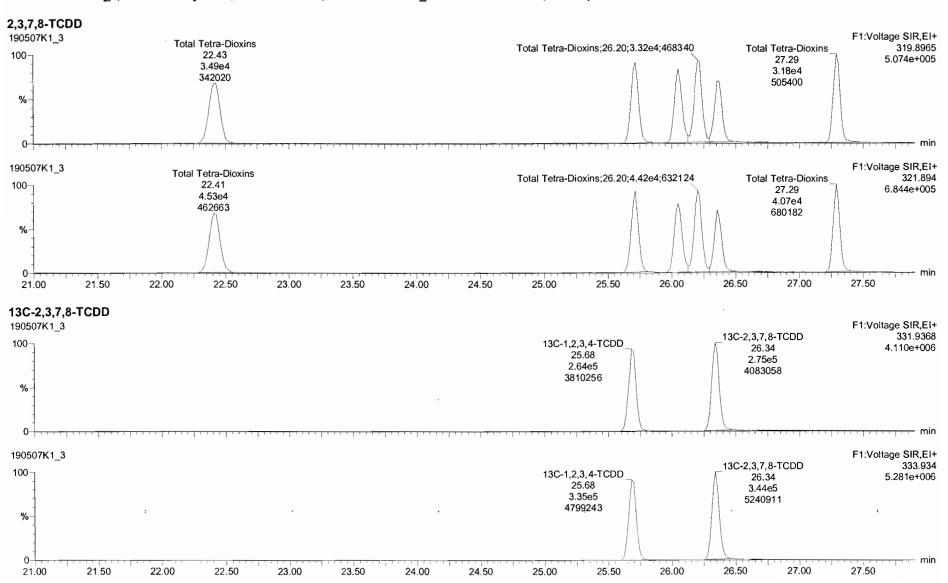
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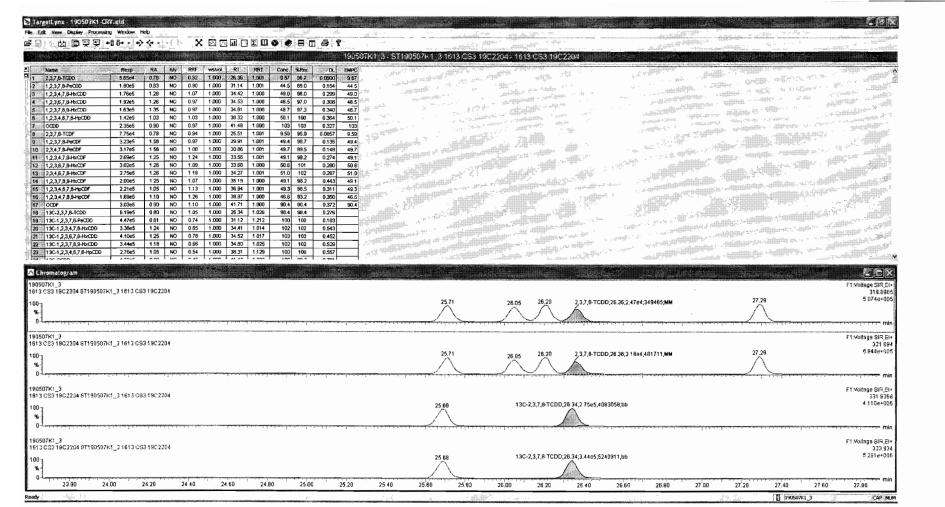


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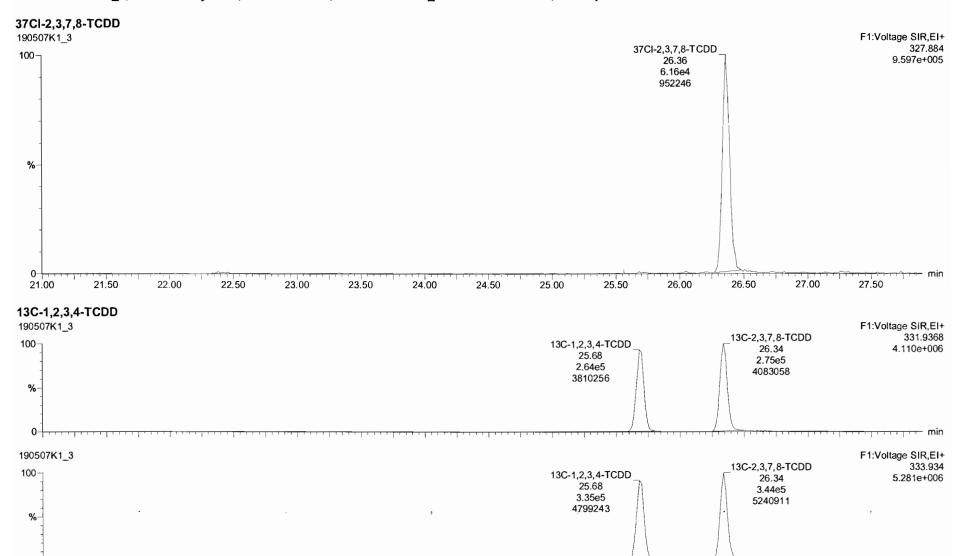
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21.50

22.00

22.50

23.00

23.50

24.00

24.50

25.00

25.50

26.00

26.50

27.00

21.00

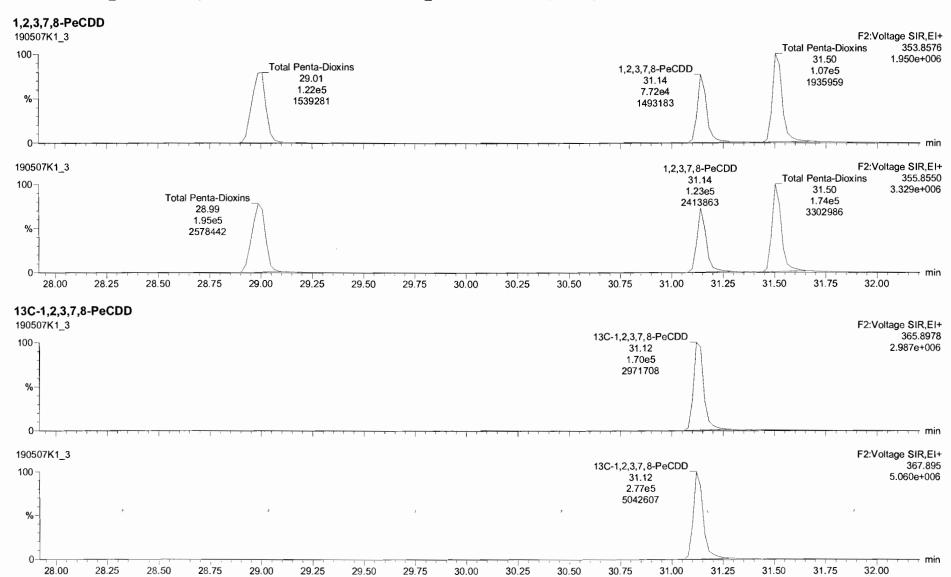
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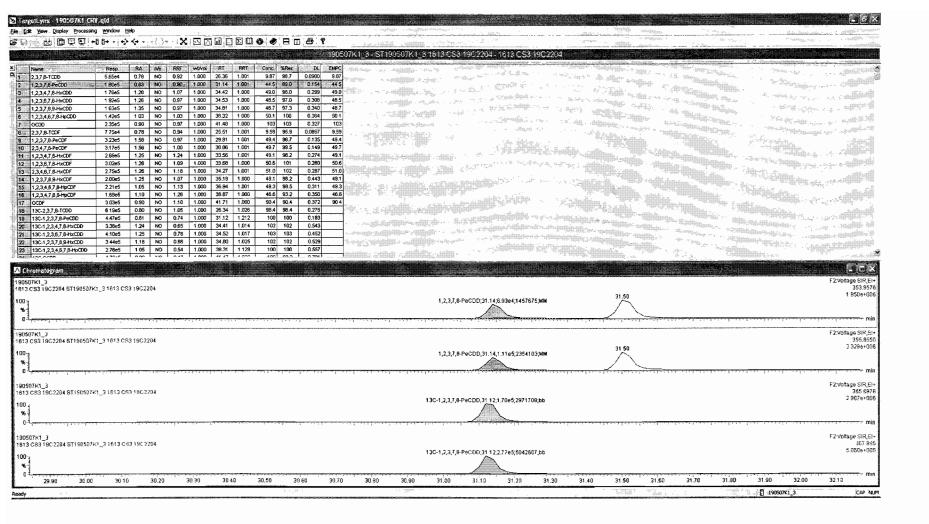
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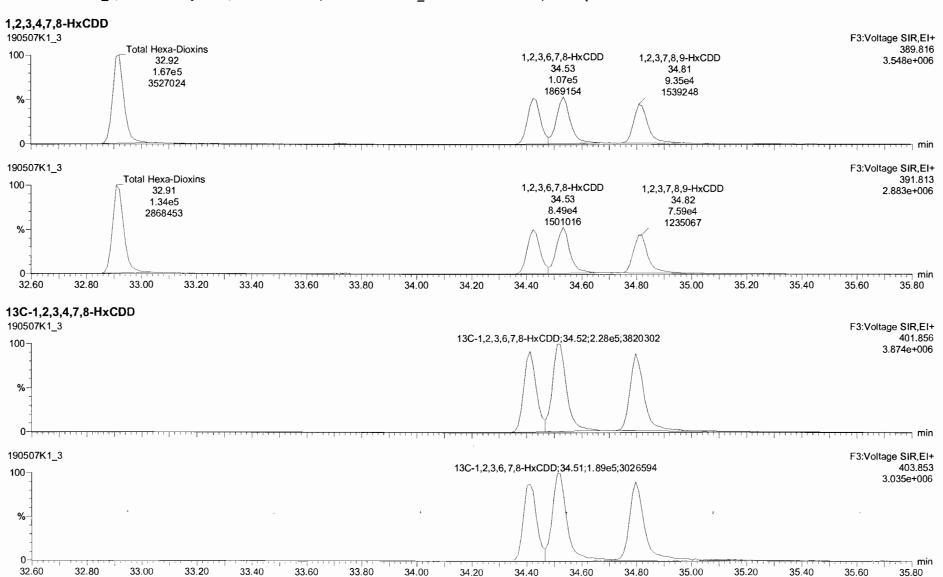


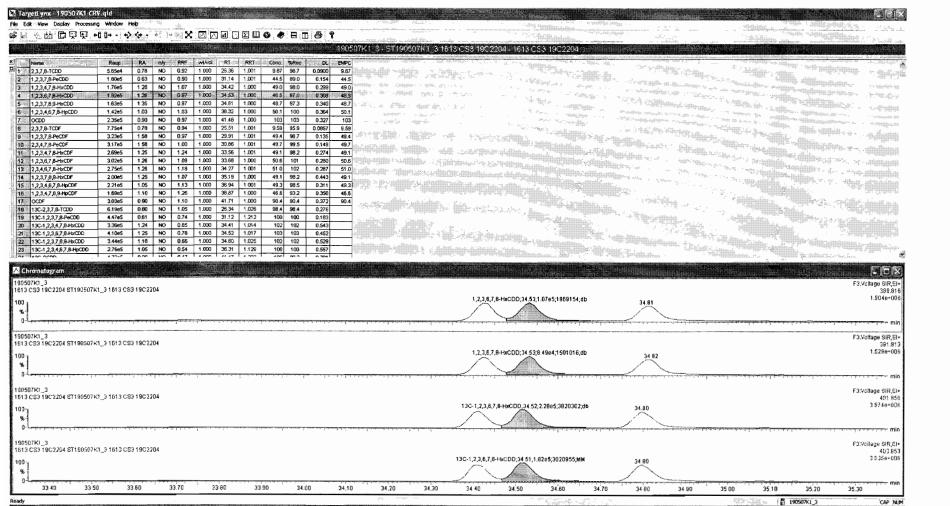


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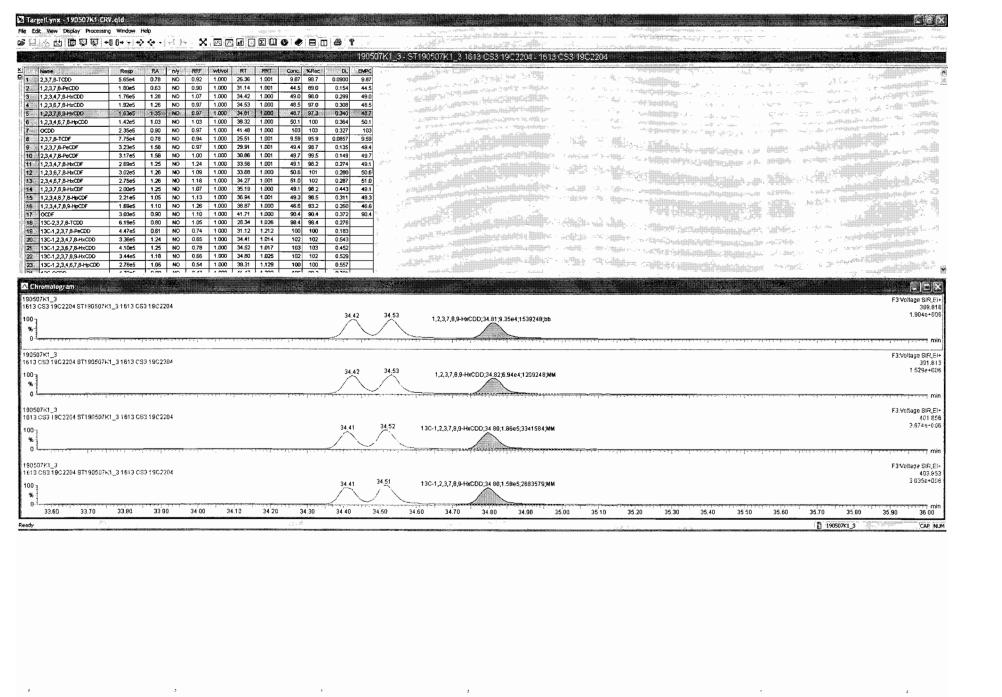
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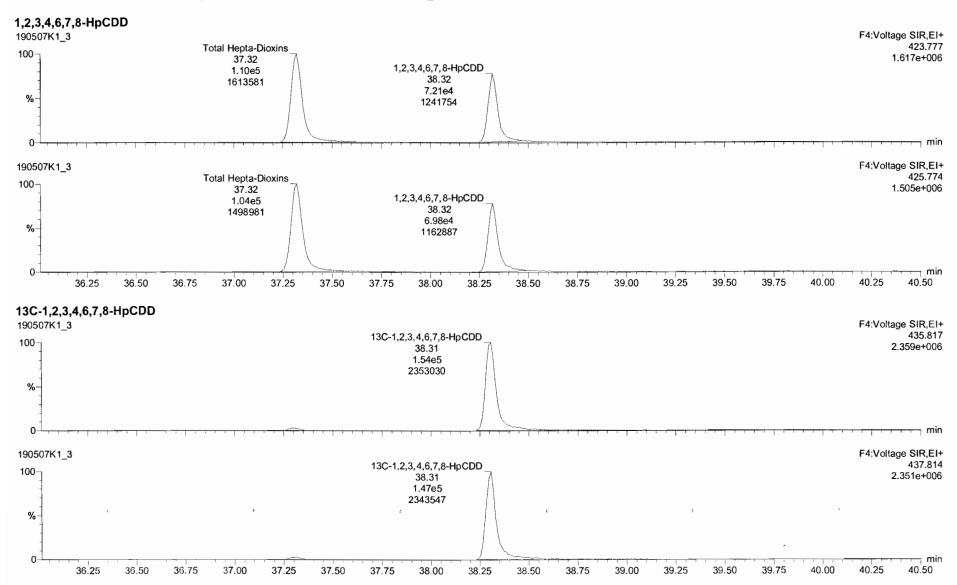
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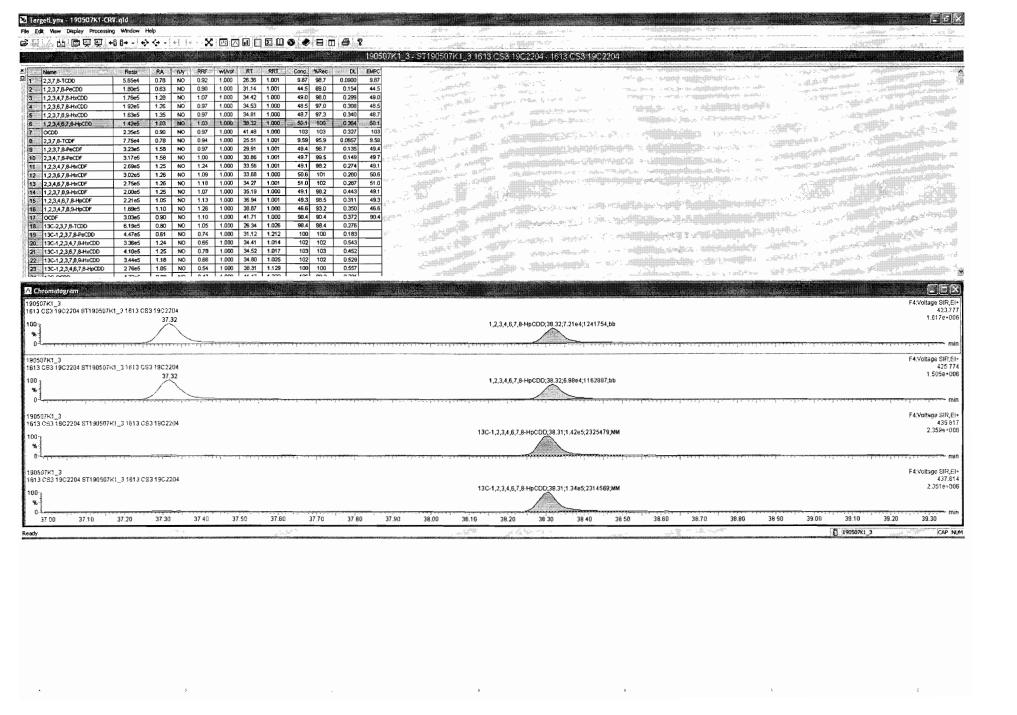


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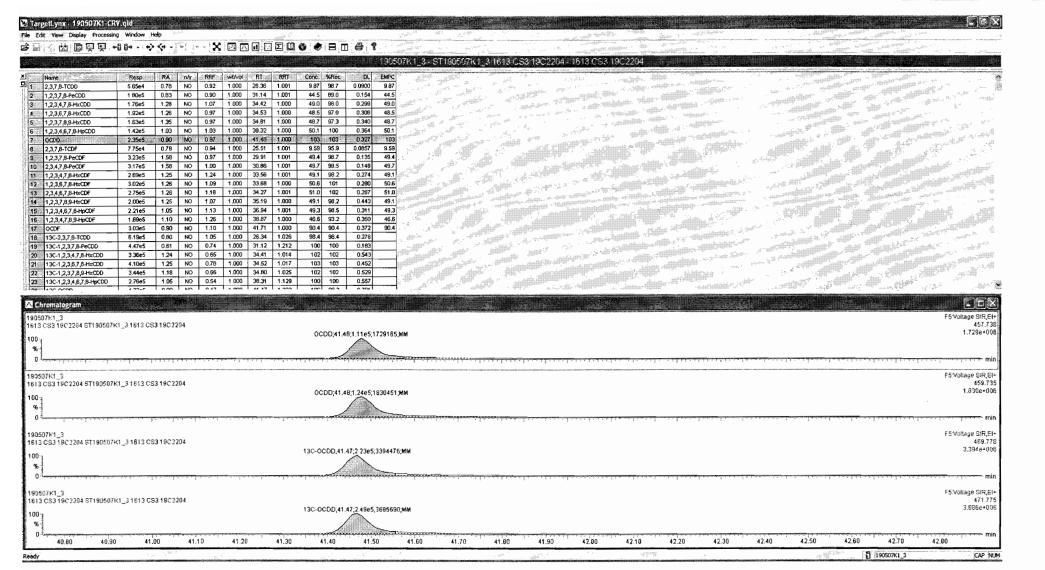
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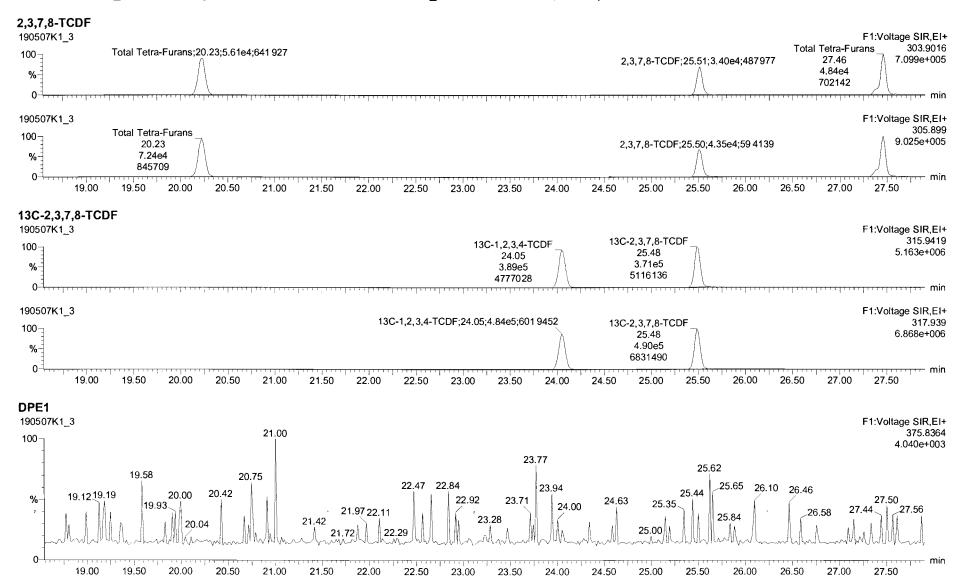
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Quantify Sample Report Vista Analytical Laboratory

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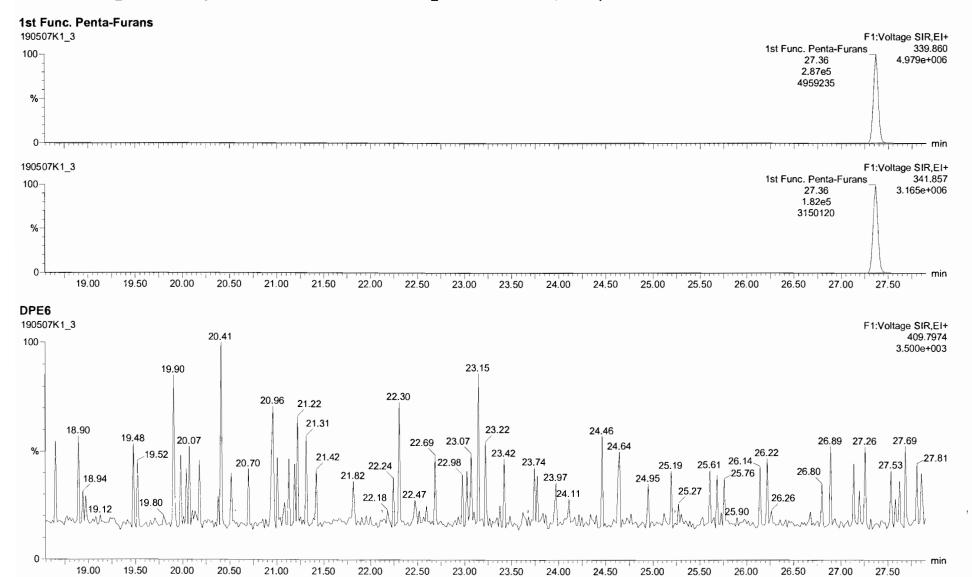
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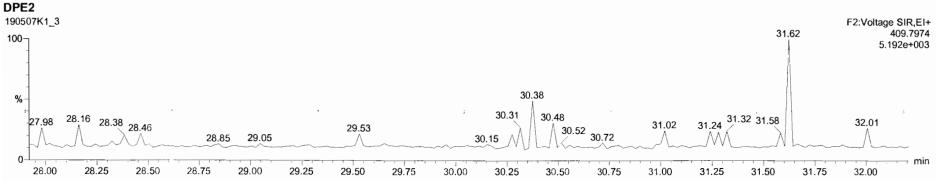
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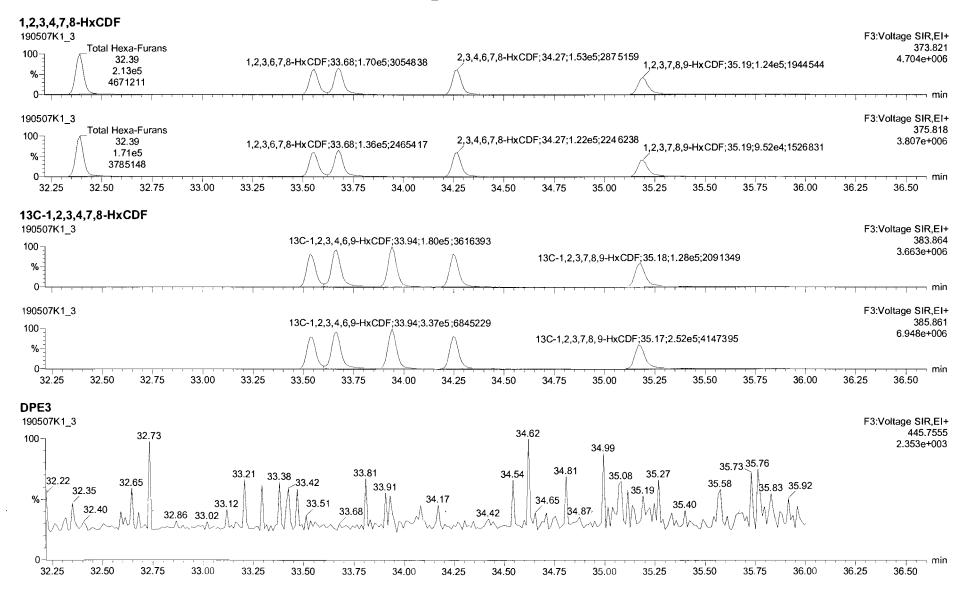


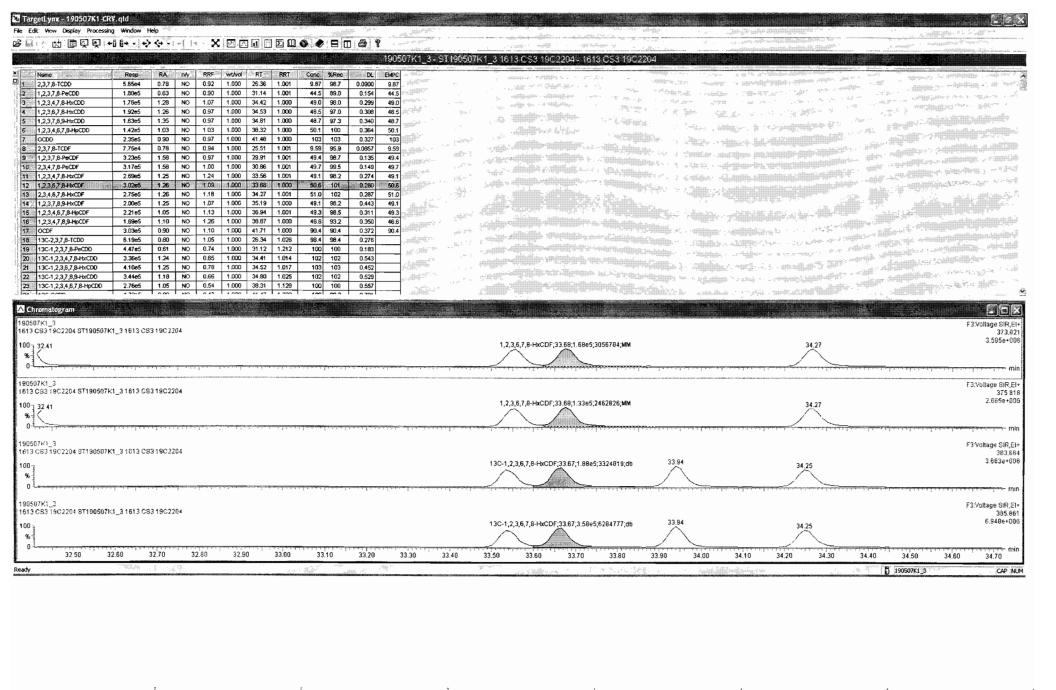


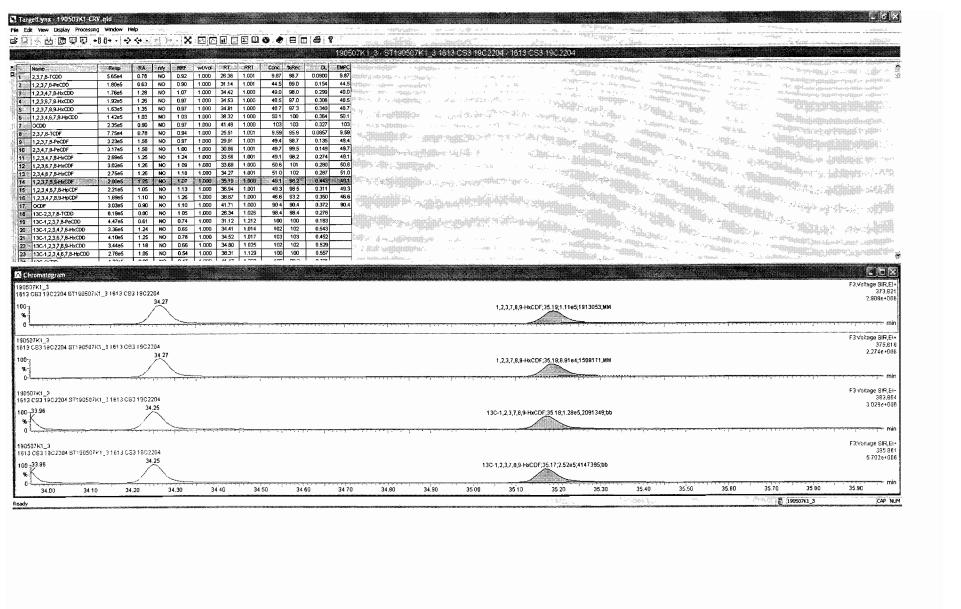
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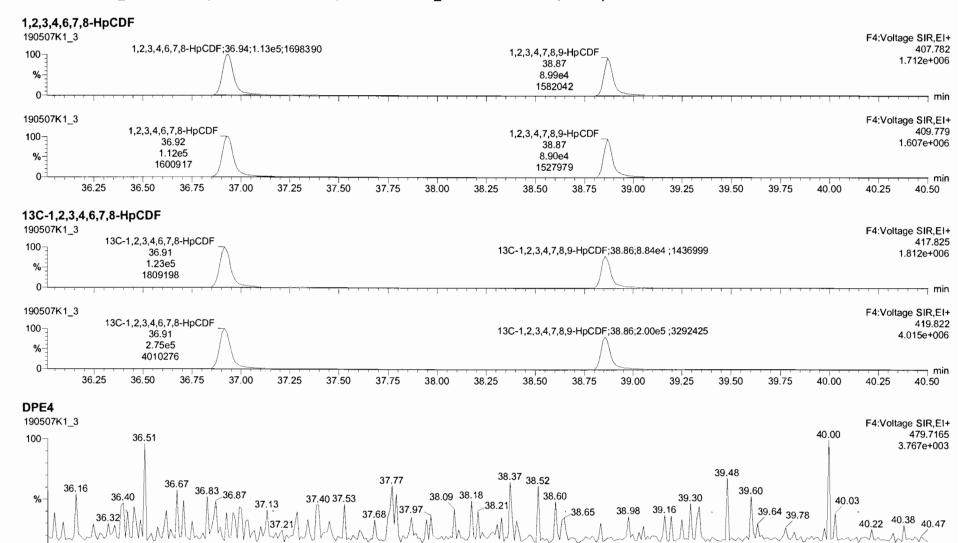
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36.25

36.50

36.75

37.00

37.25

37.50

37.75

38.00

38.25

38.50

38.75

39.00

39.25

39.50

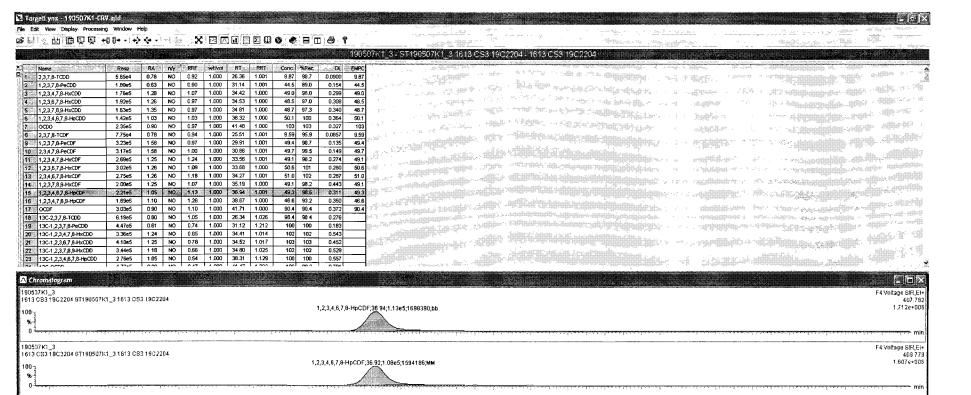
39.75

40.00

40.25

min

40.50



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36.90

37.10

37 20

37 30

37.40

37.50

37.60

37.70

37.60

37.90

38.00

38.10

[] 190507K1_3

38.20

190507K1 3

190507k1 3

1613 CB3 19C2204 ST190507k1_3 1013 CB3 19C2204

1613 CS3 19C2204 ST190507K1_3 1613 CS3 19C2204

36.20

36.30

36.40

36 50

36.60

36 70

36 80

36.10

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F4 Voltage SIR,EI+

F4 Voltage SIR,EI+

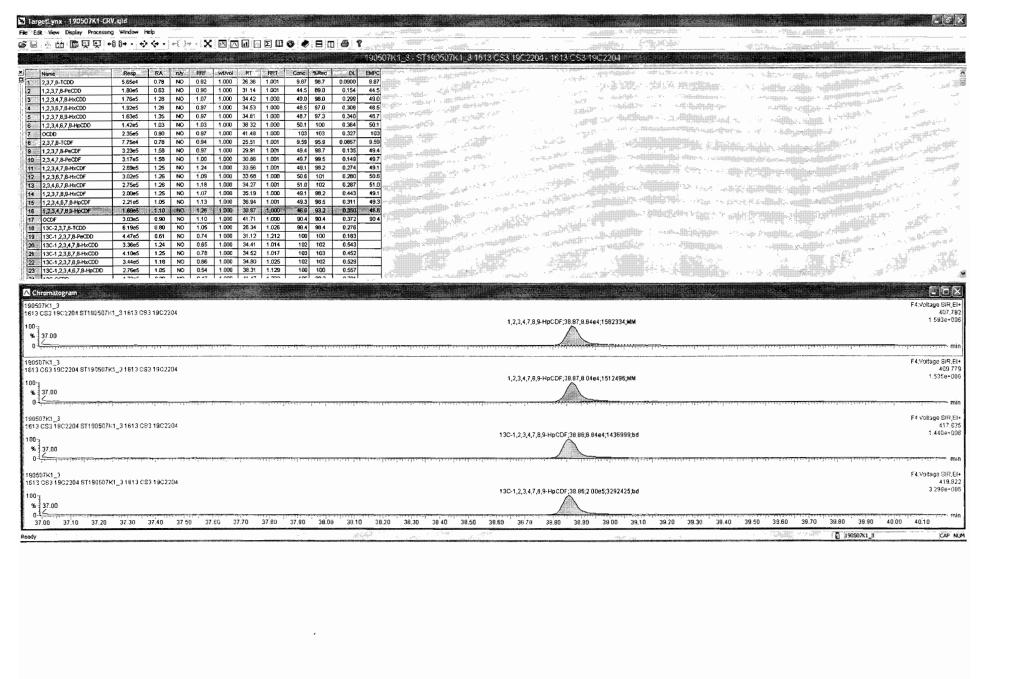
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419 822

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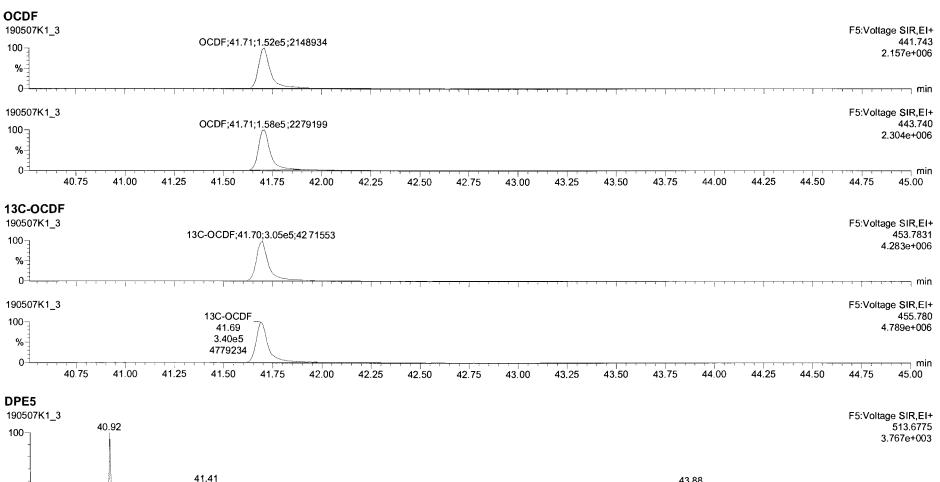
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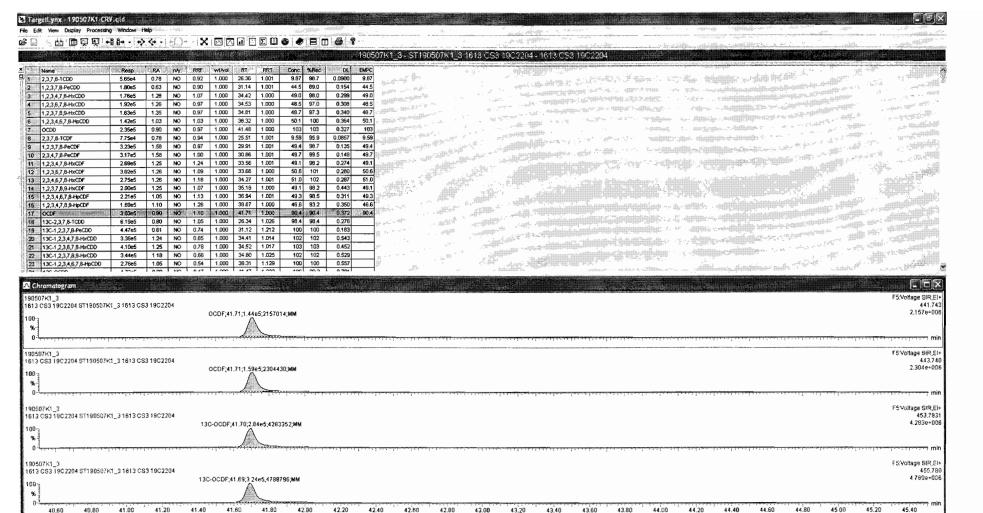


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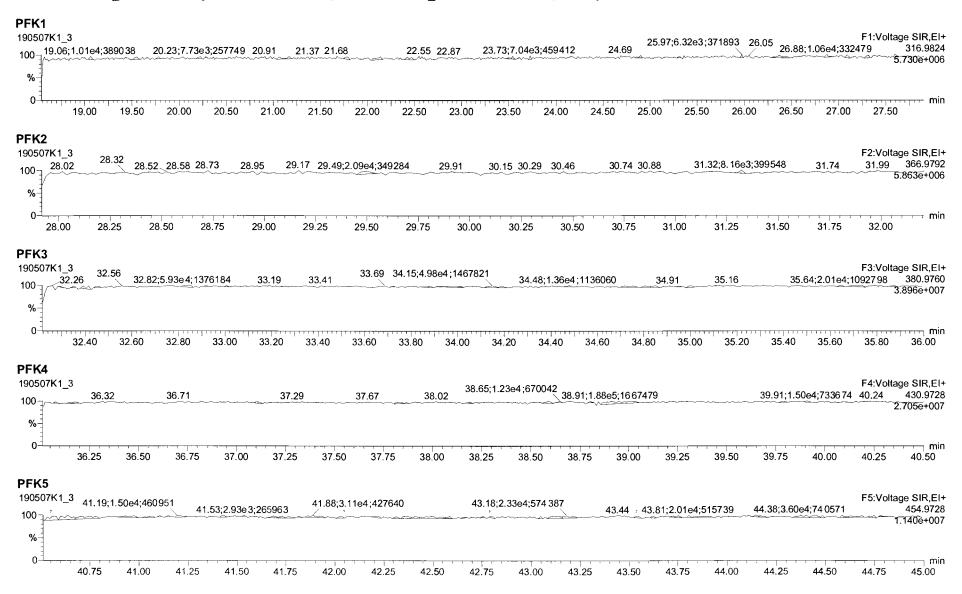


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24.50

25.00

25.50

26.00

21.50

21.00

22.00

22.50

23.00

23.50

24.00

min

26.50

27.00

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24.00

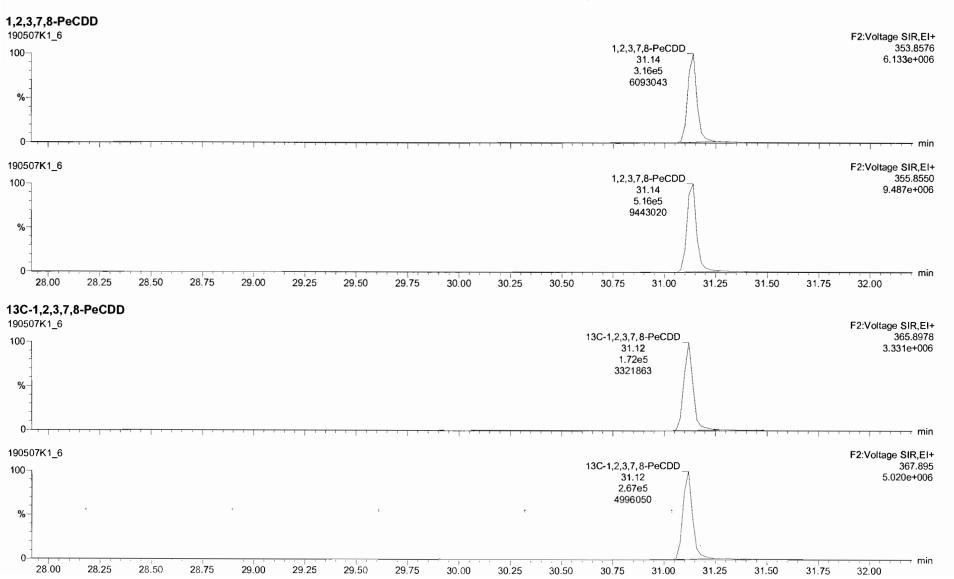
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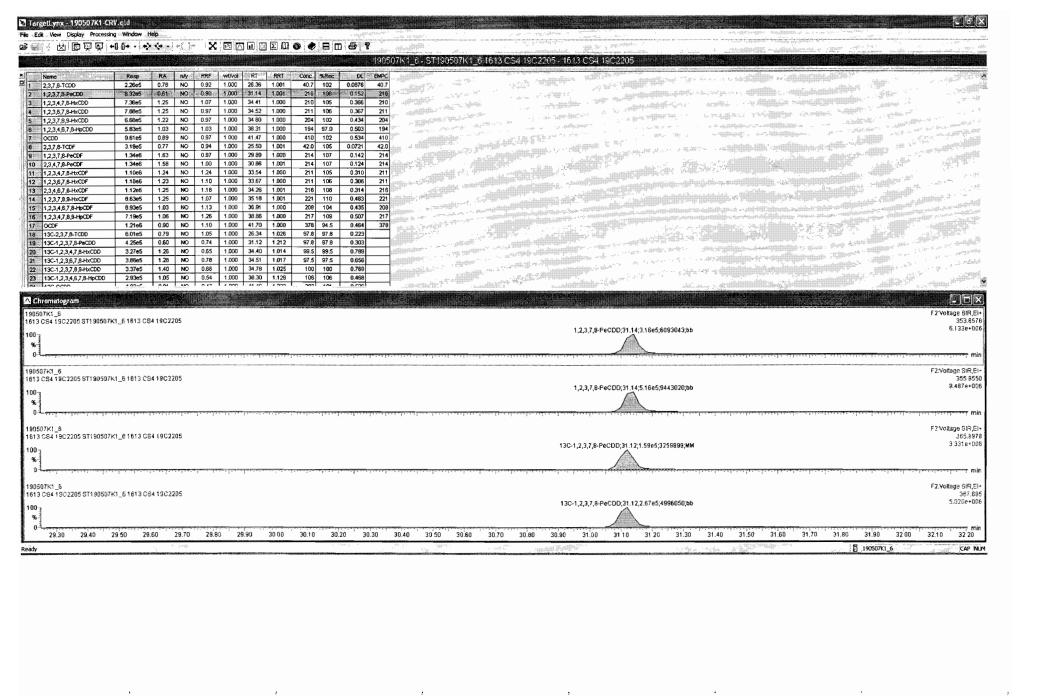
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Quantify Sample Report Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time



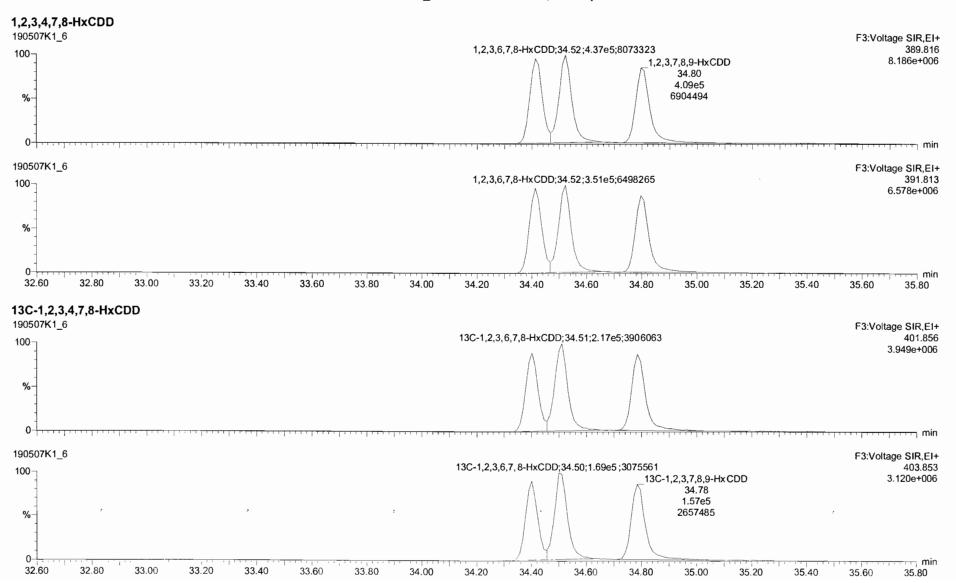


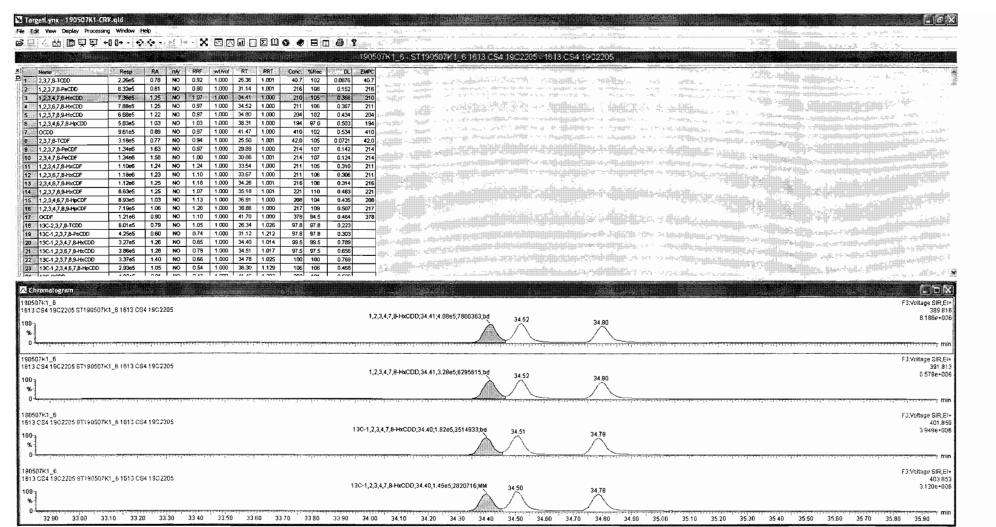
Work Order 1903739 Page 571 of 646

Untitled

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Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

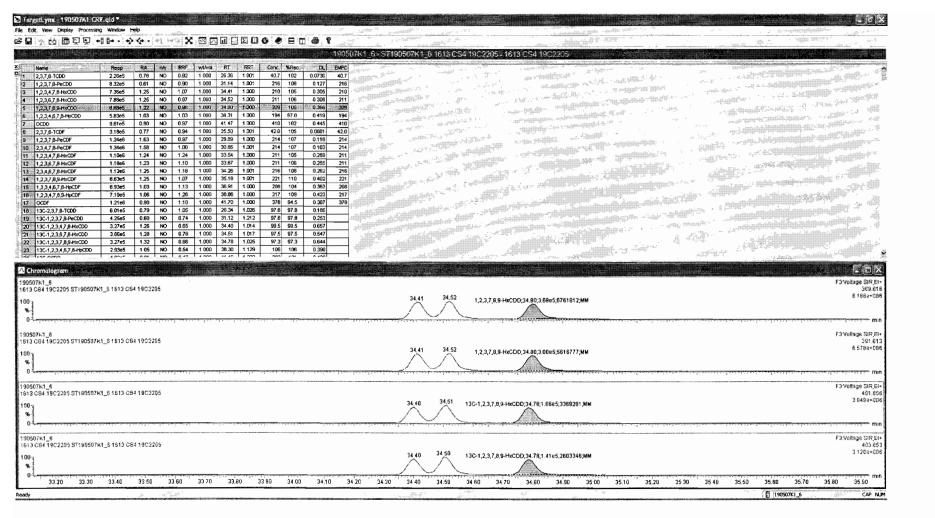




Work Order 1903739 Page 573 of 646

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CAP NUM

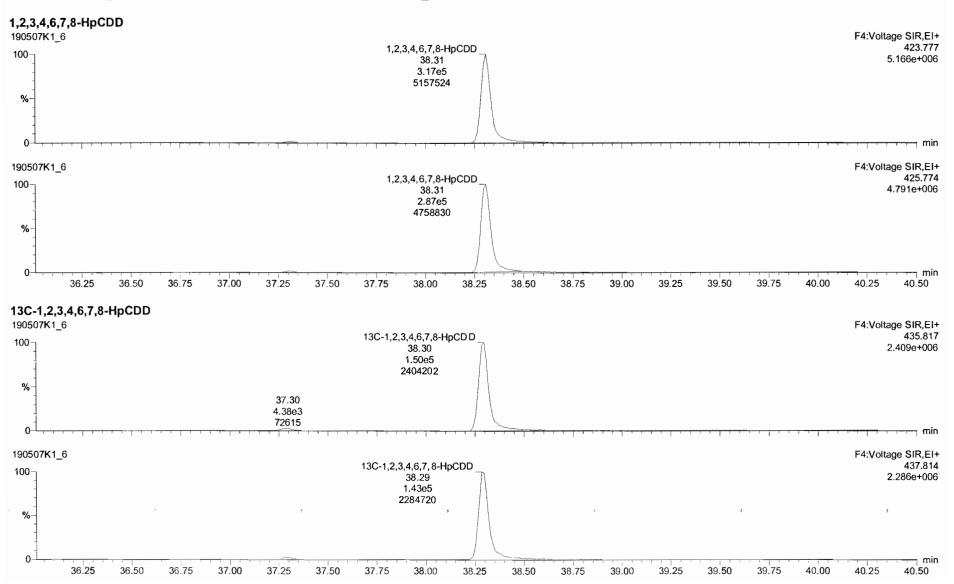


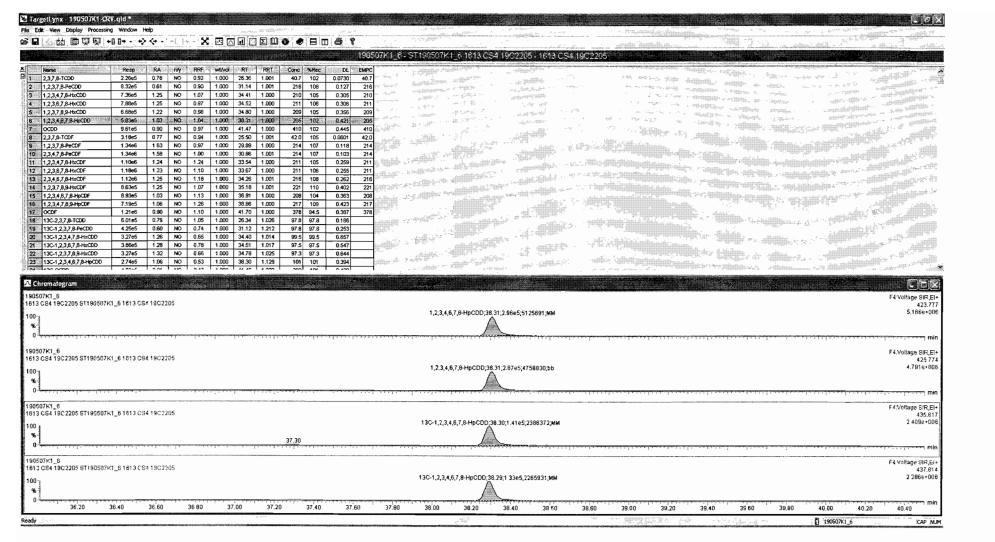
Work Order 1903739 Page 574 of 646

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Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time



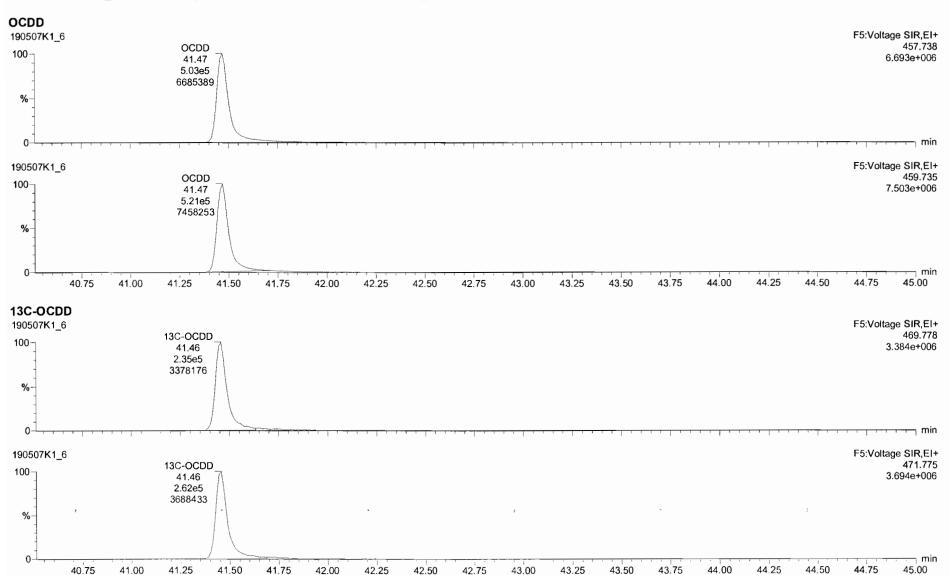


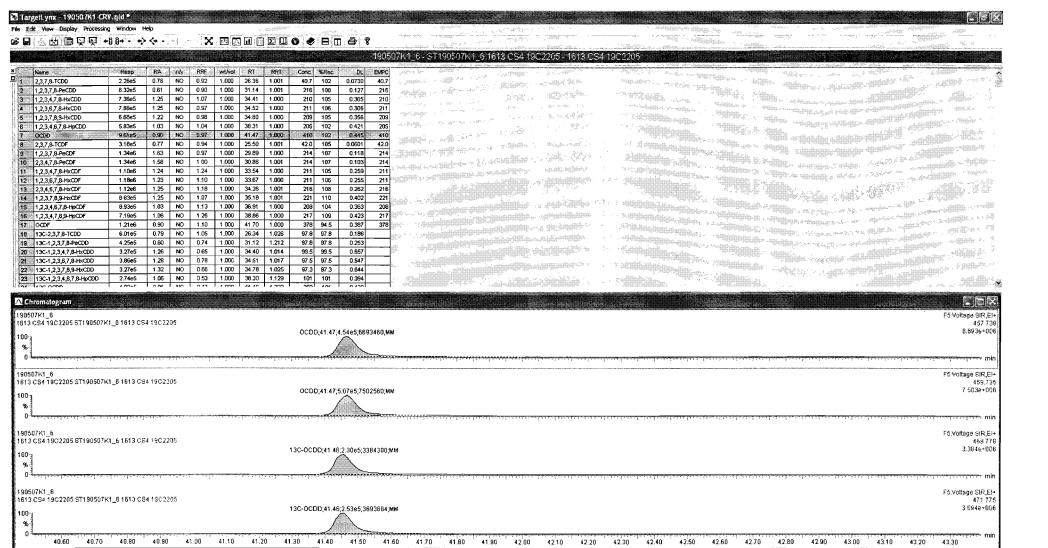
Work Order 1903739 Page 576 of 646

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Last Altered: Printed:

Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time





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190507K1_6

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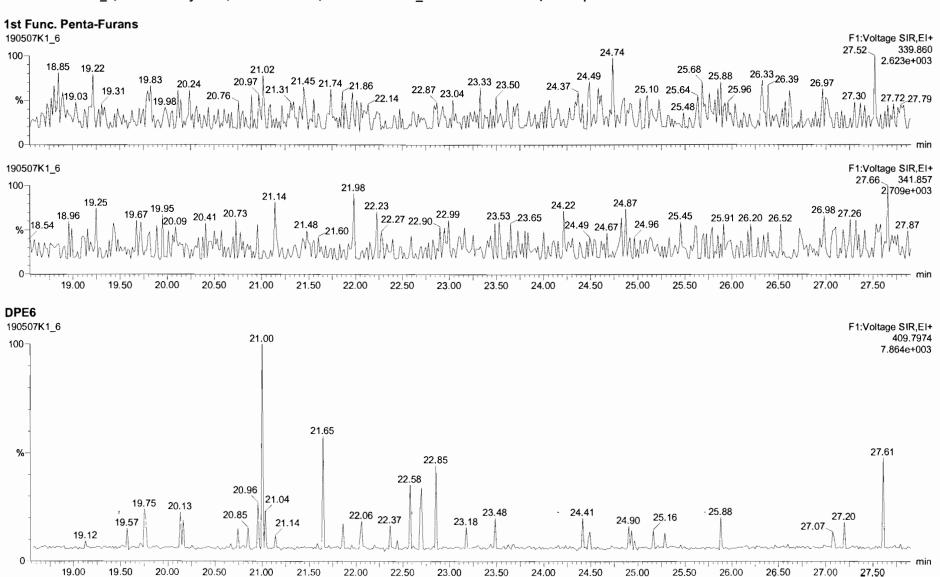
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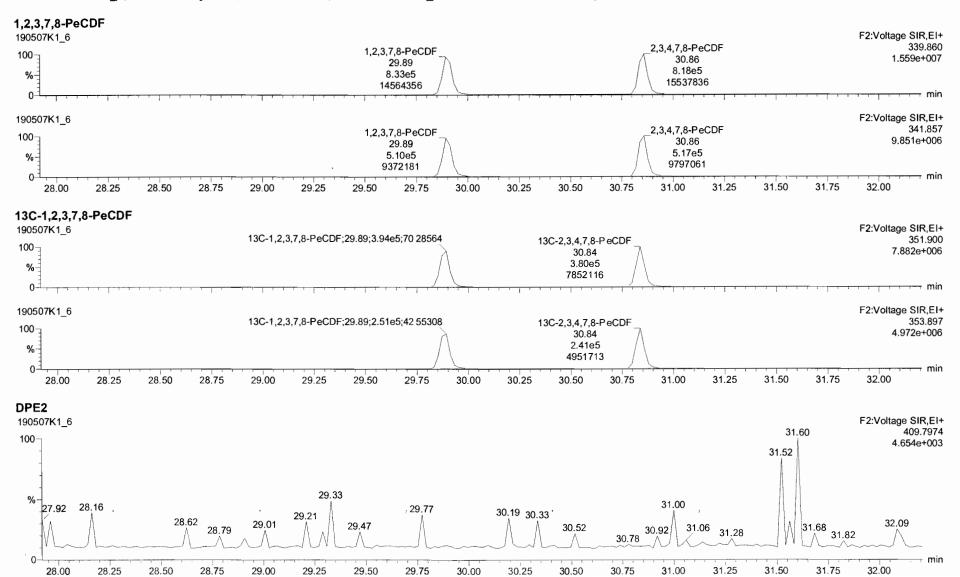
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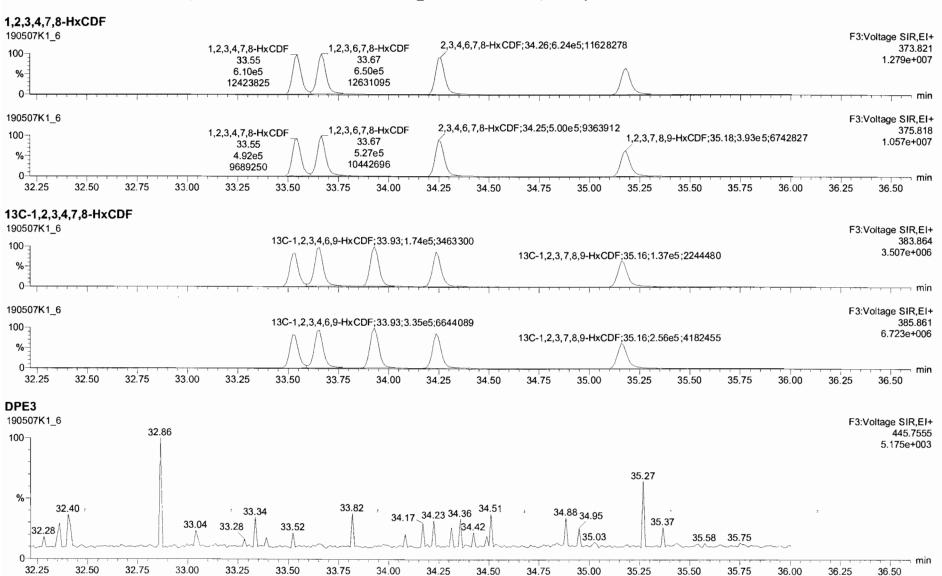
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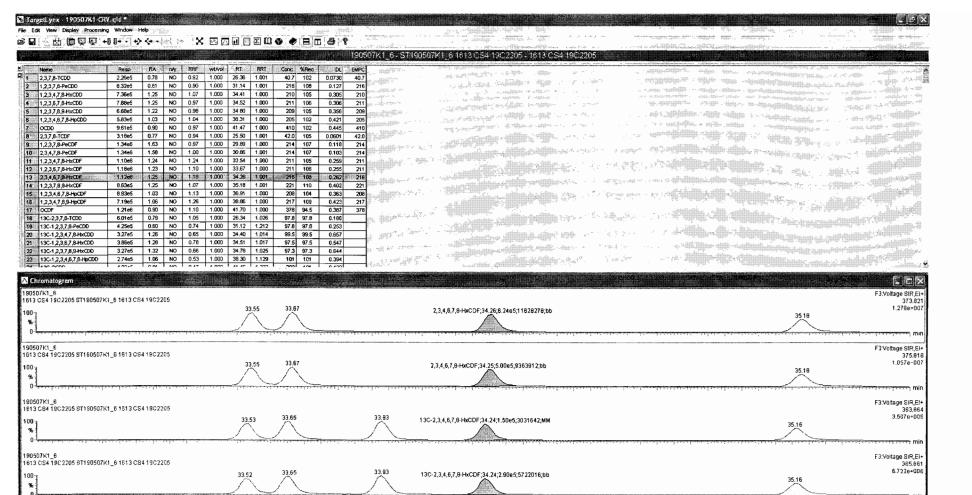


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Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time





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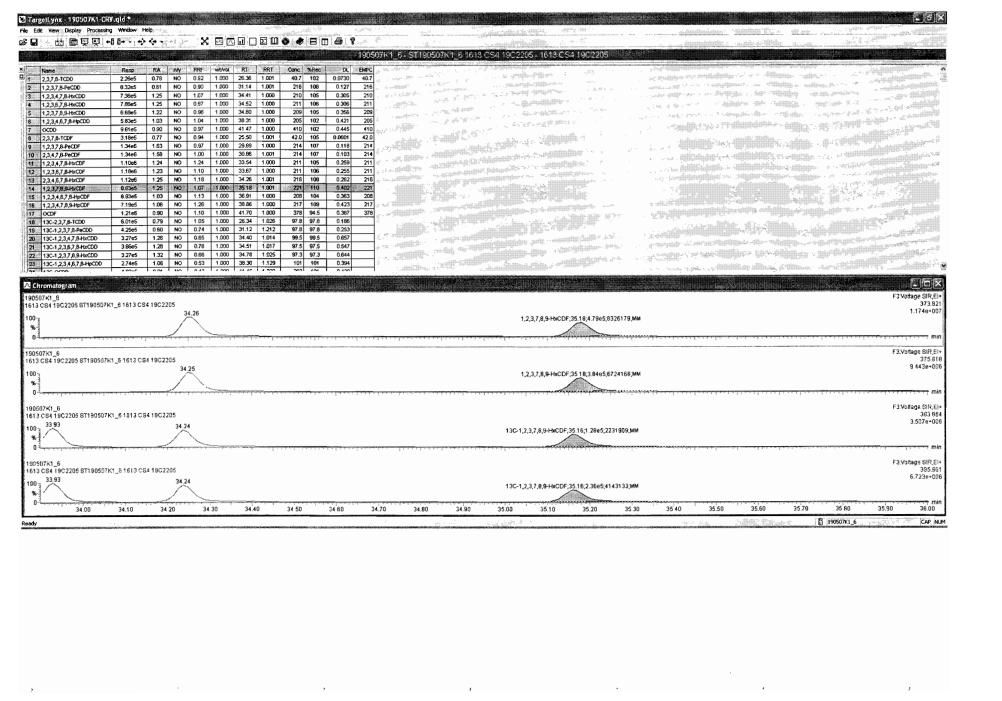
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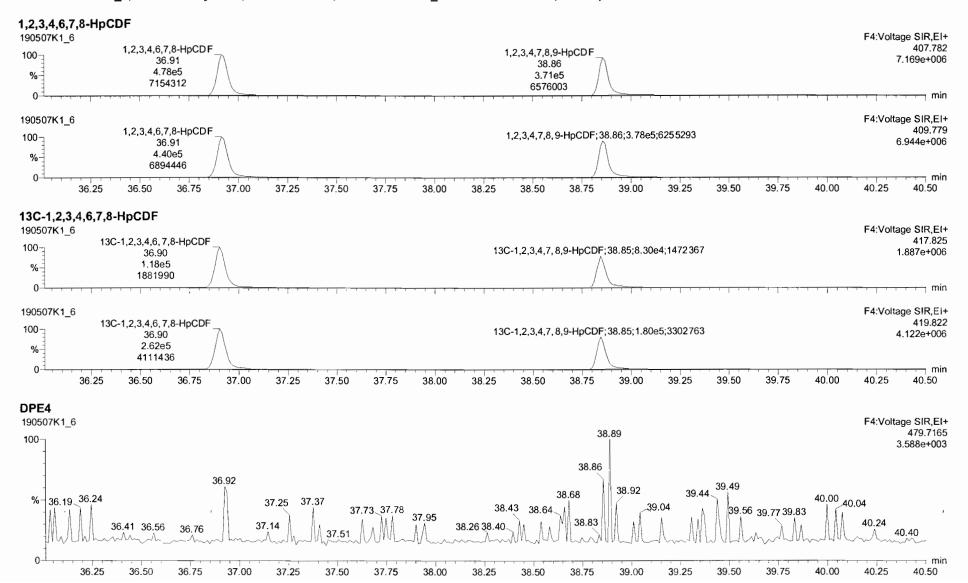
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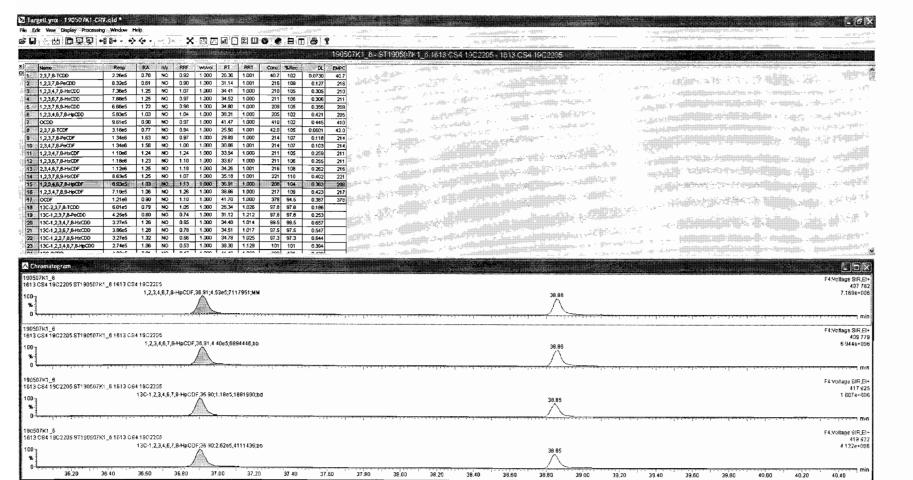


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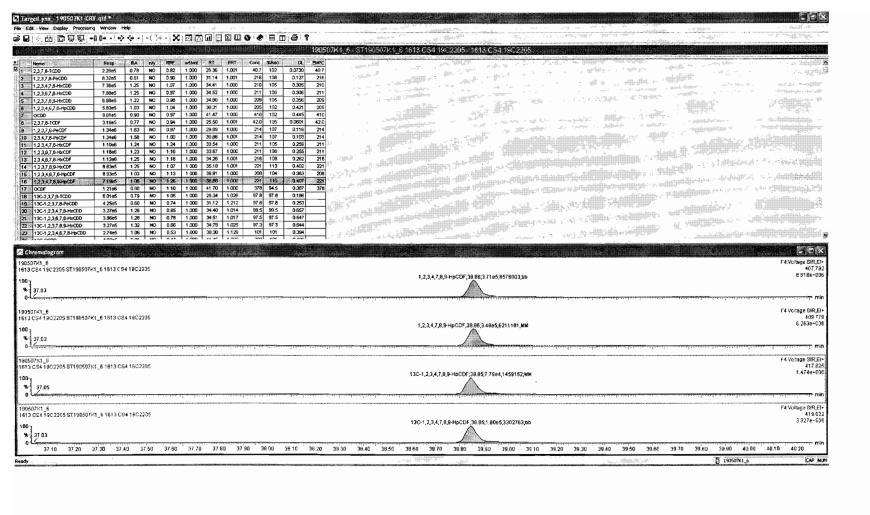




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190507K1_6

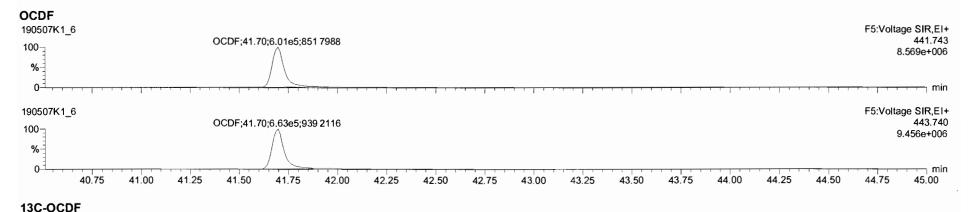
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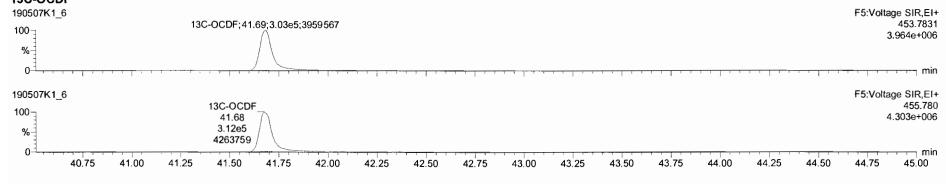


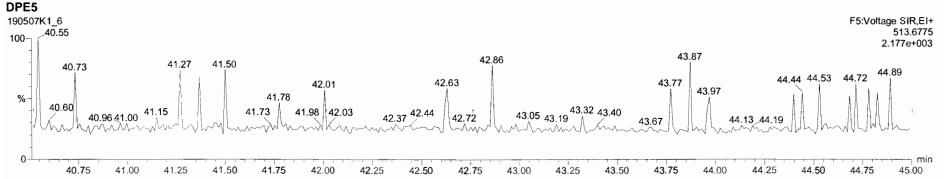
Work Order 1903739 Page 587 of 646

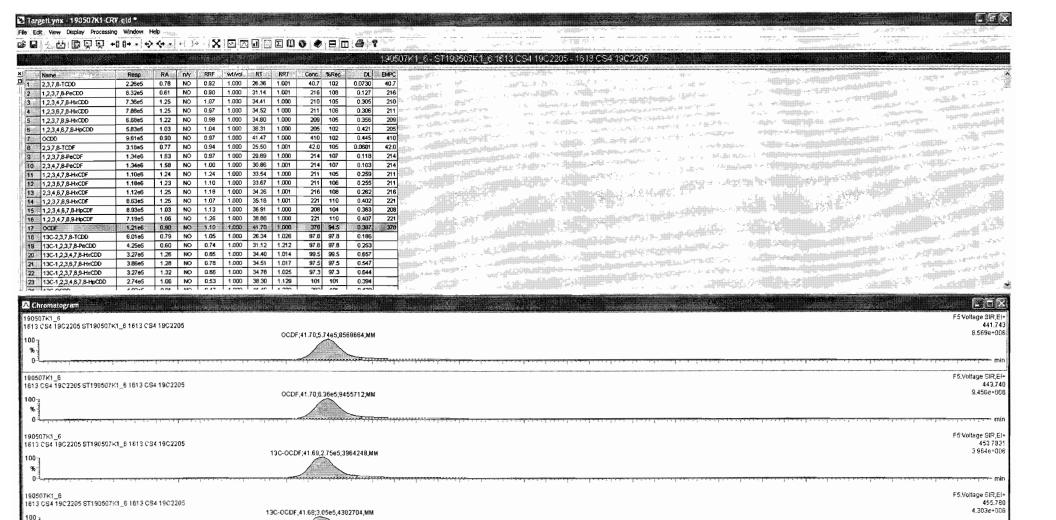
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Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time









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CAP NUM

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Ready

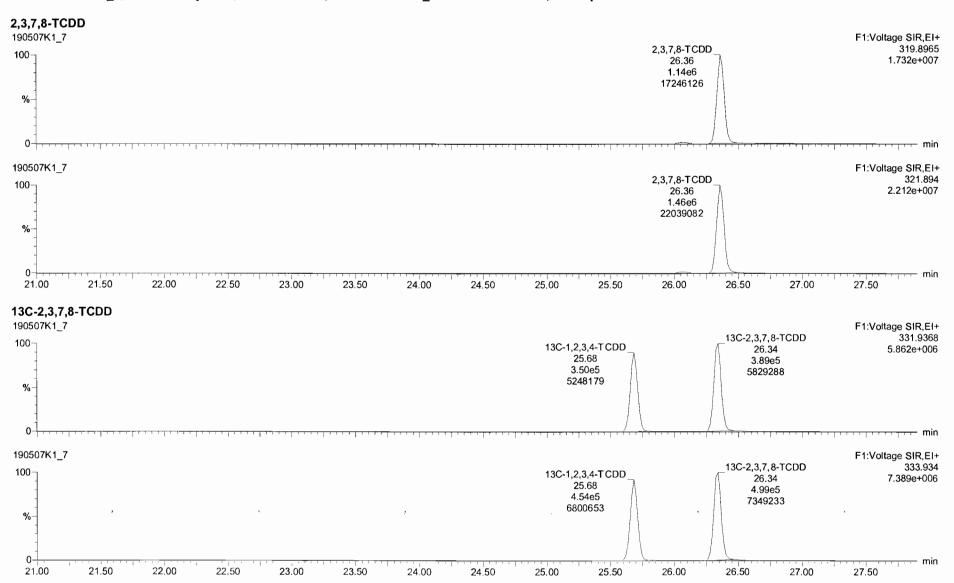
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Untitled

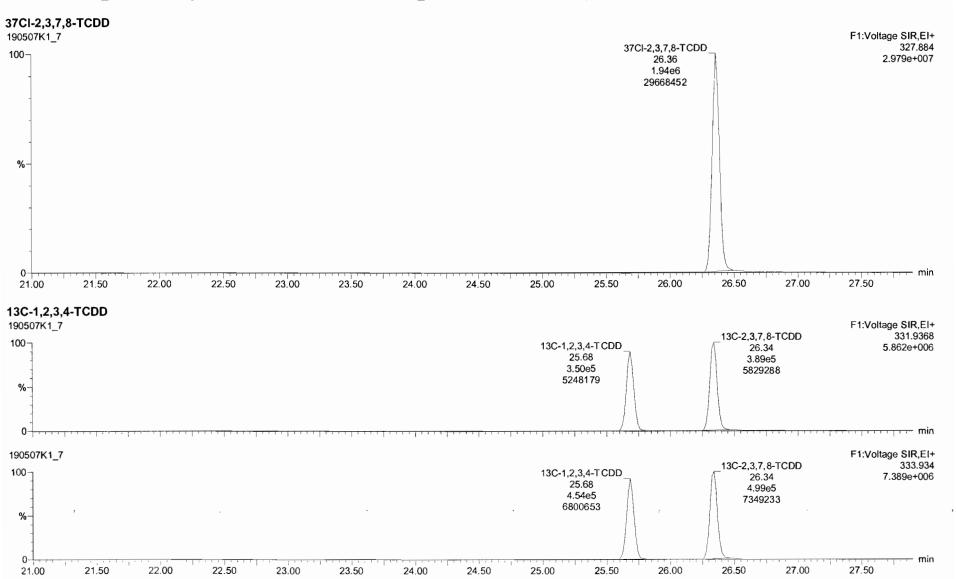
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Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time



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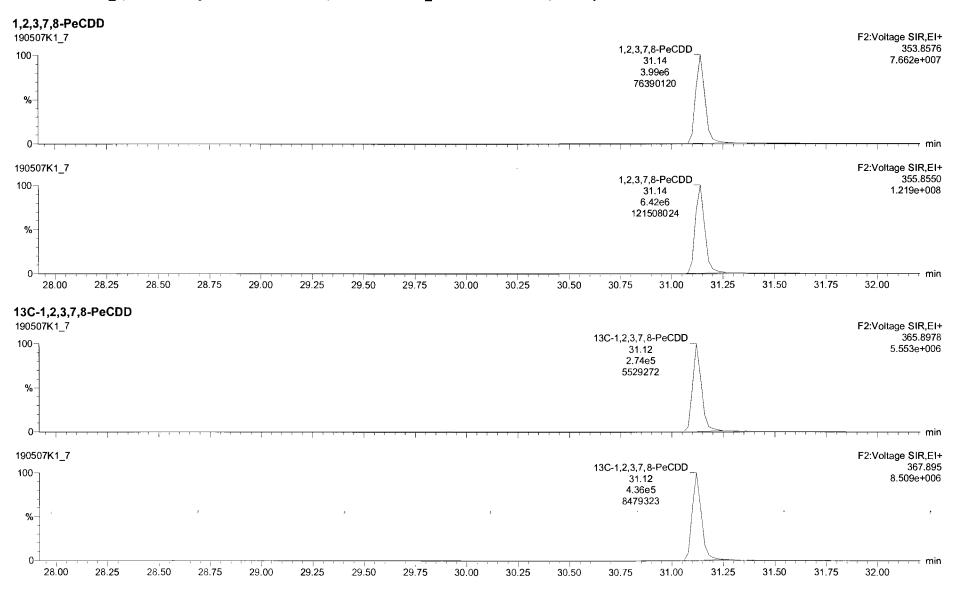


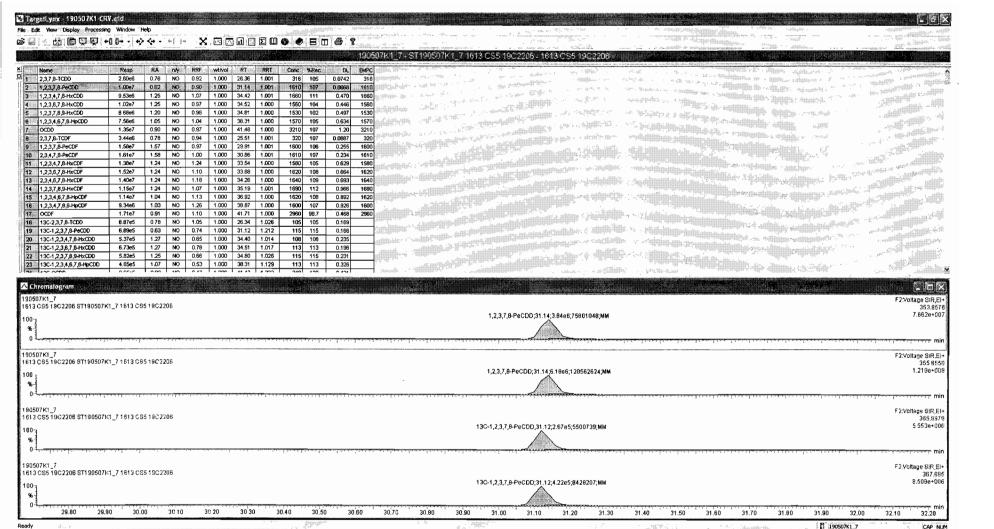
Quantify Sample Report Vista Analytical Laboratory

Dataset:

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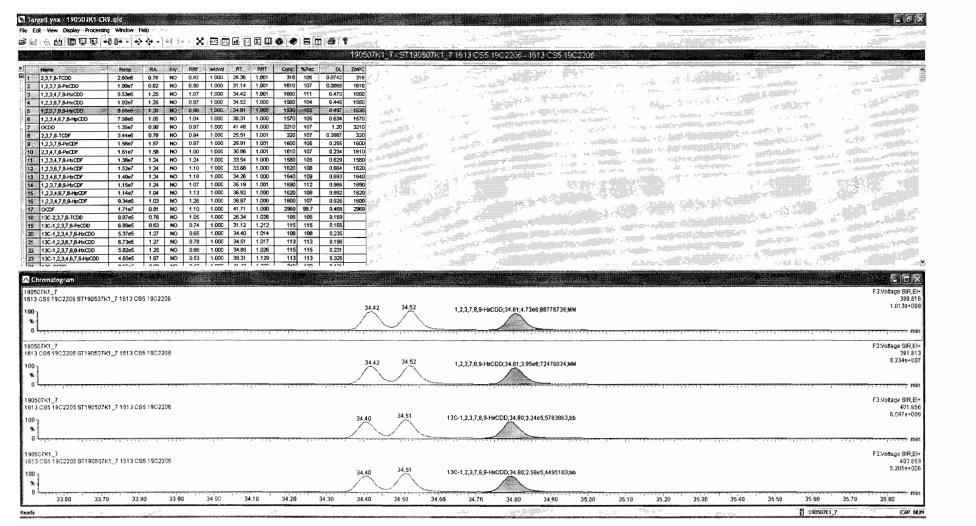
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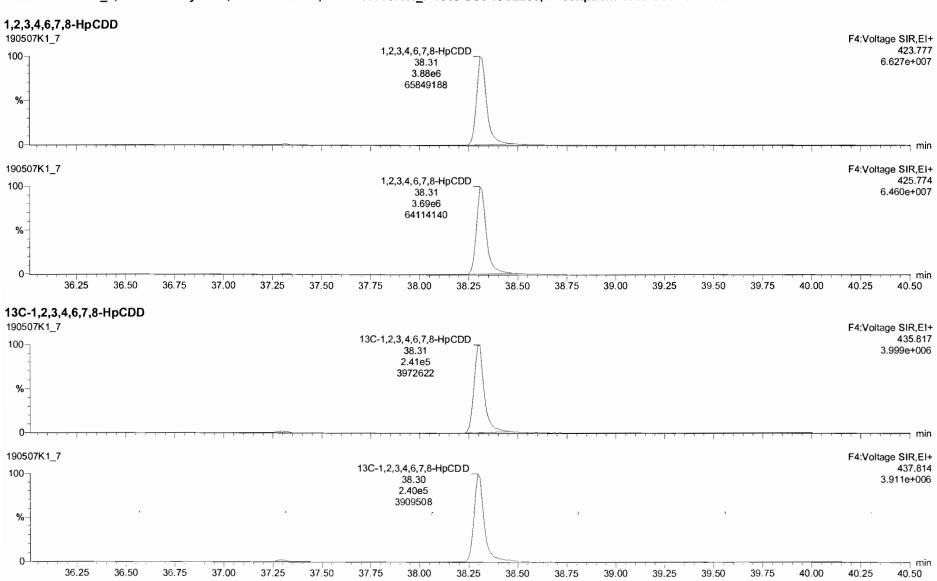
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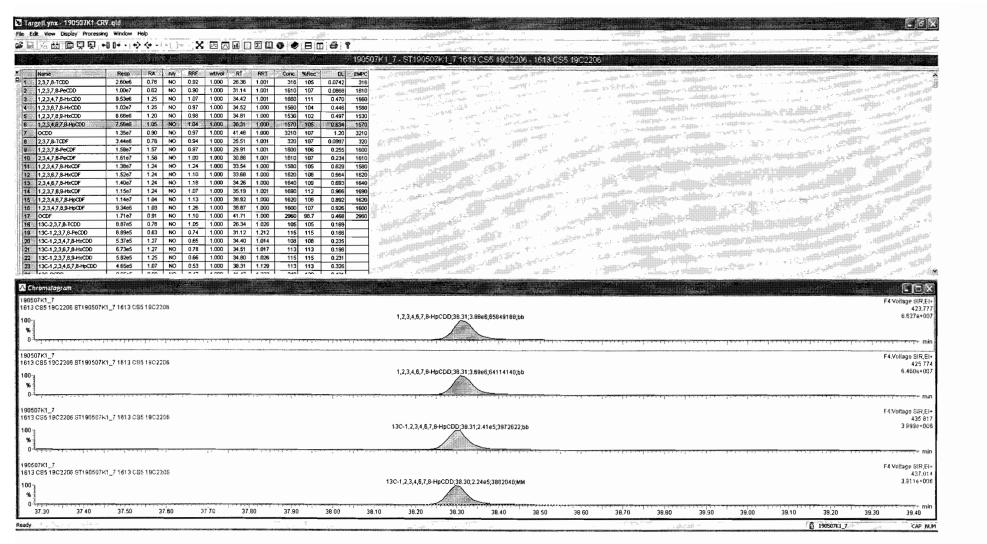


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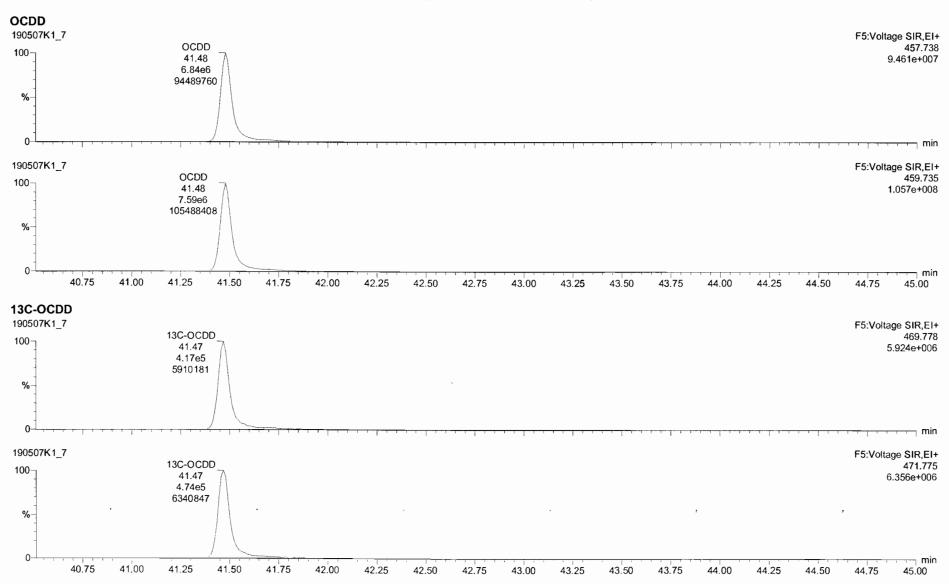


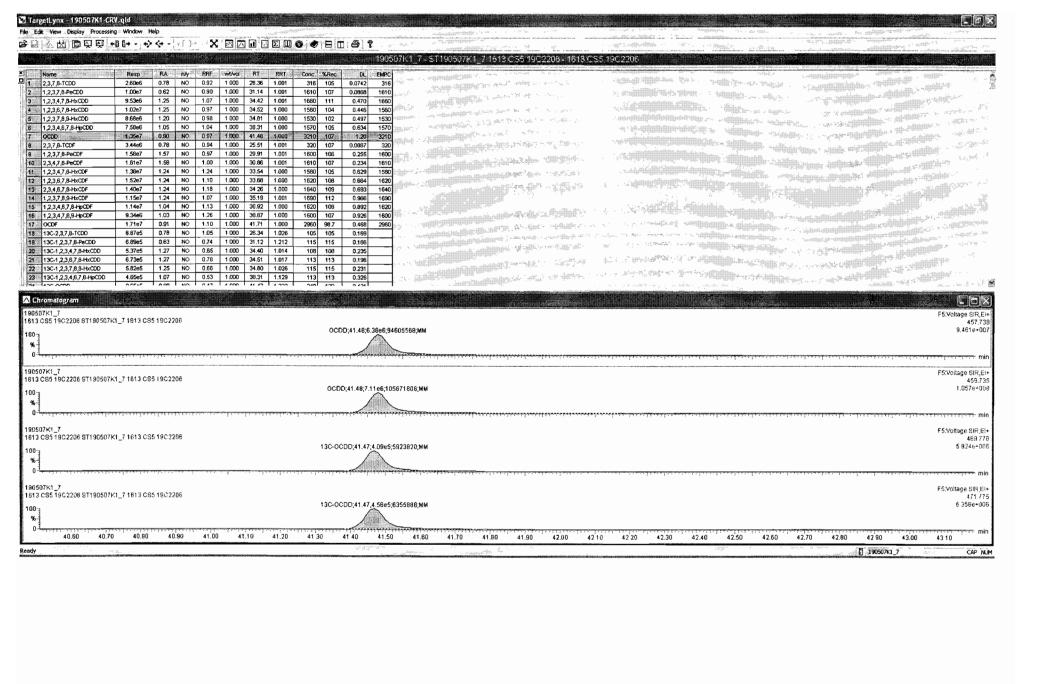


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Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time



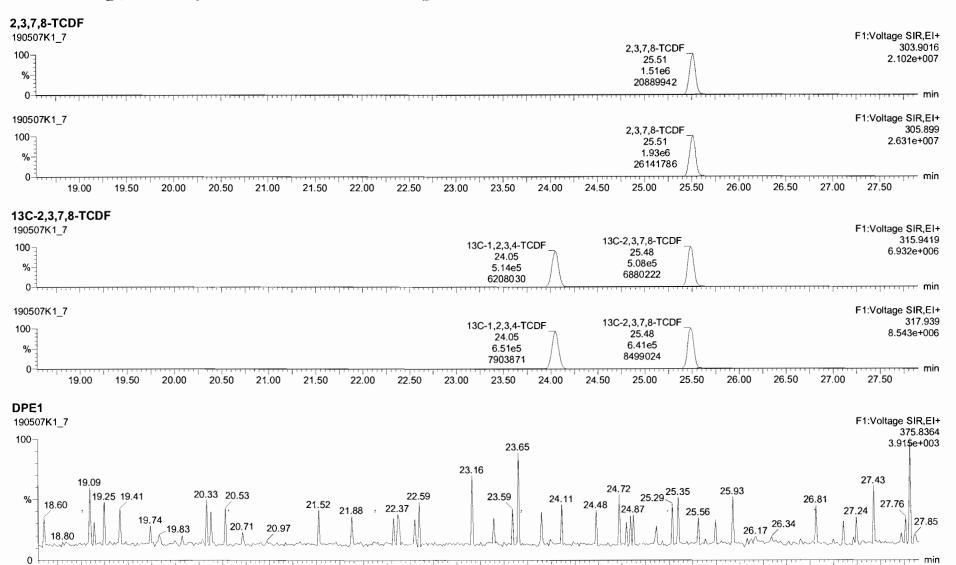


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Untitled

Last Altered: Printed: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

Name: 190507K1_7, Date: 07-May-2019, Time: 15:27:02, ID: ST190507K1_7 1613 CS5 19C2206, Description: 1613 CS5 19C2206



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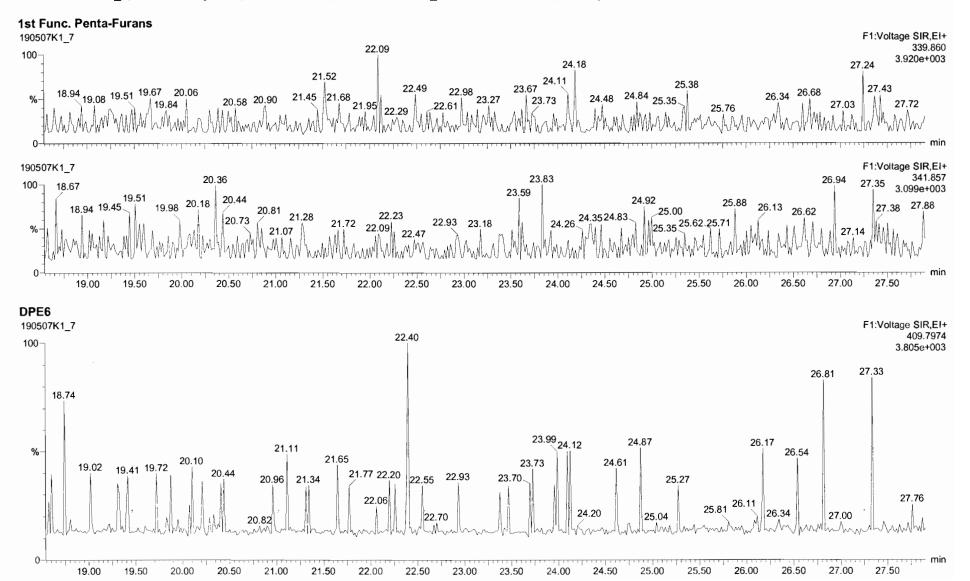
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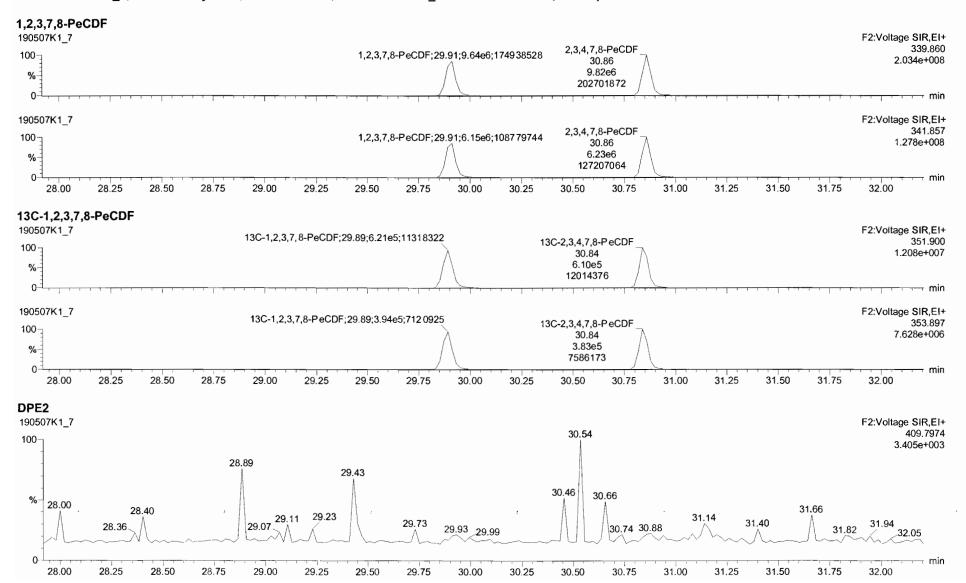
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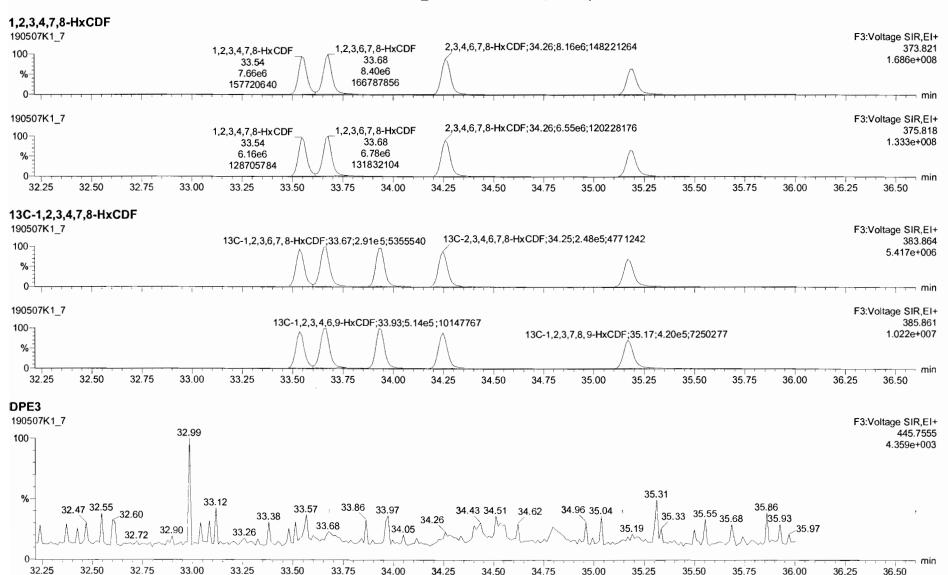
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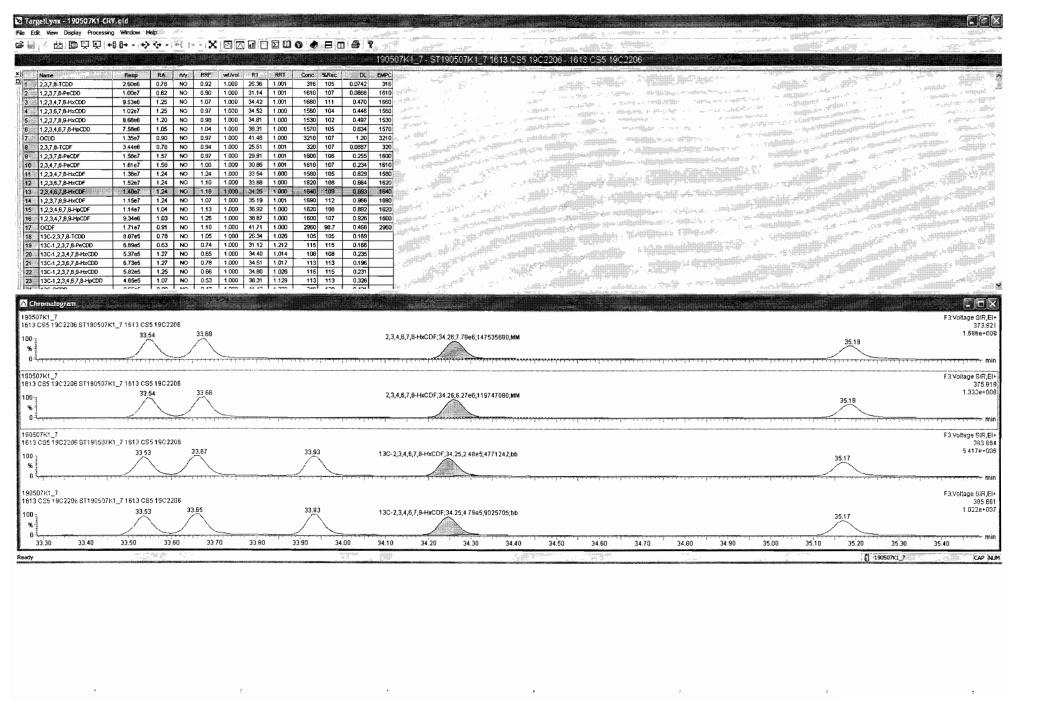


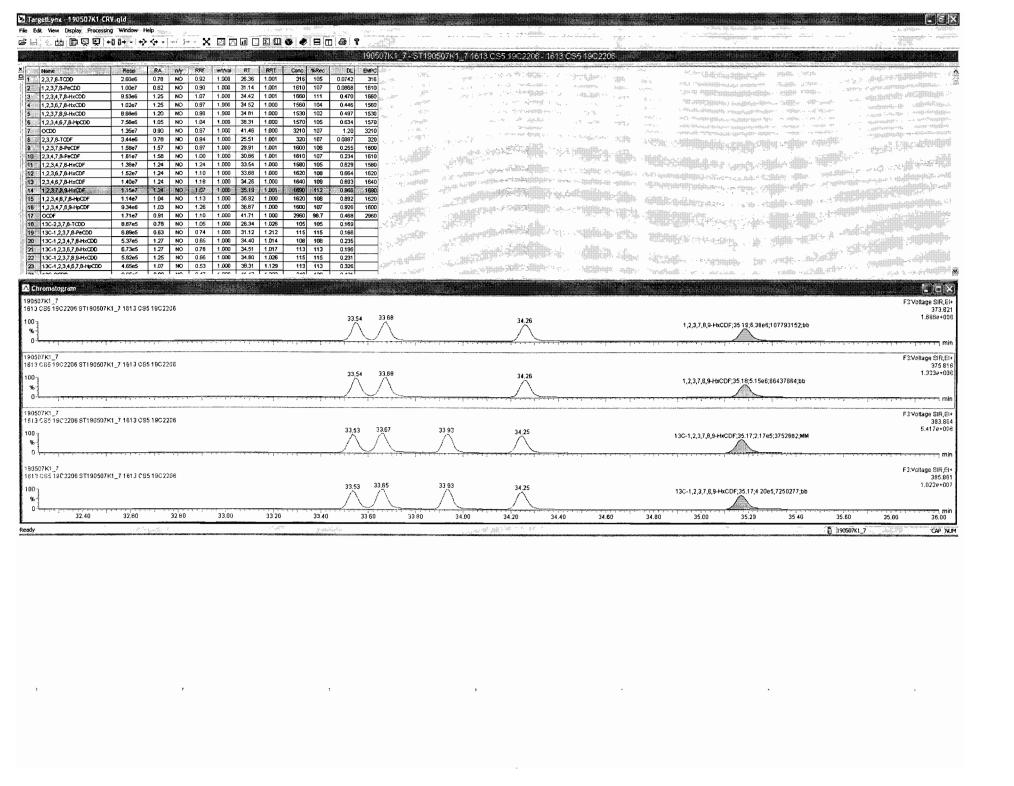
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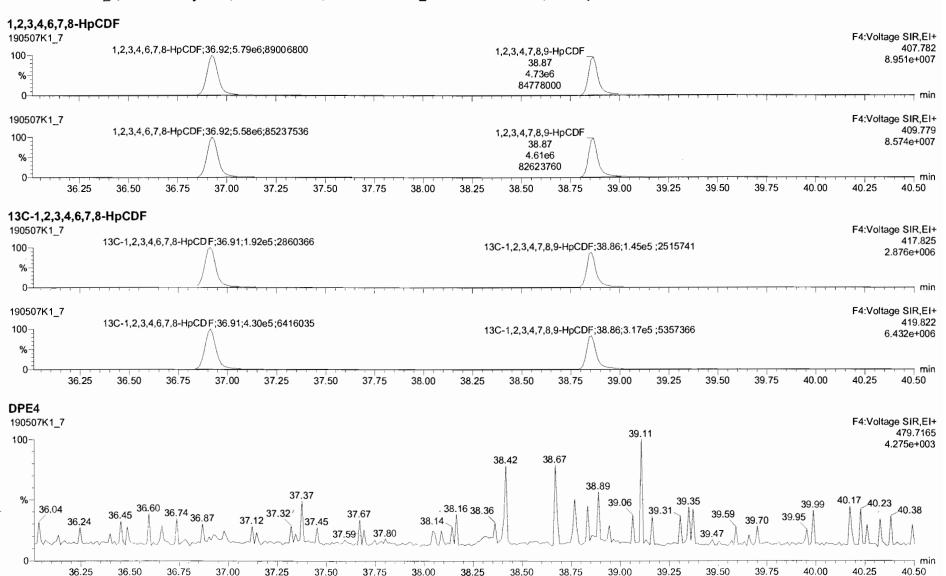


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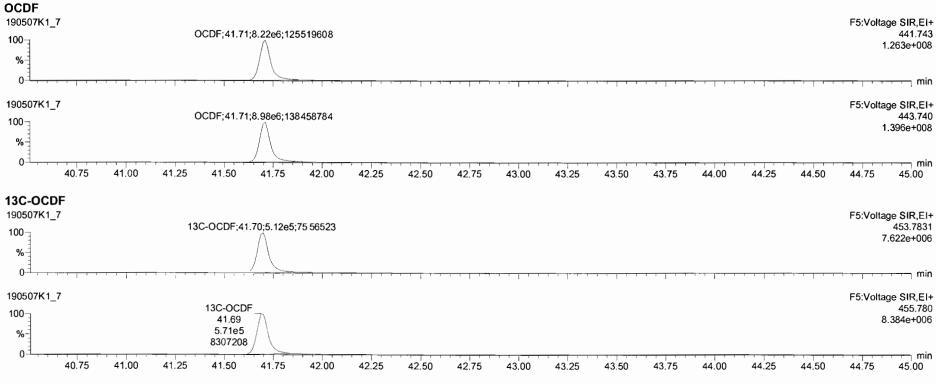
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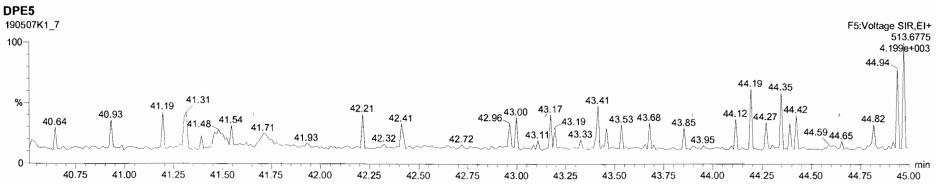


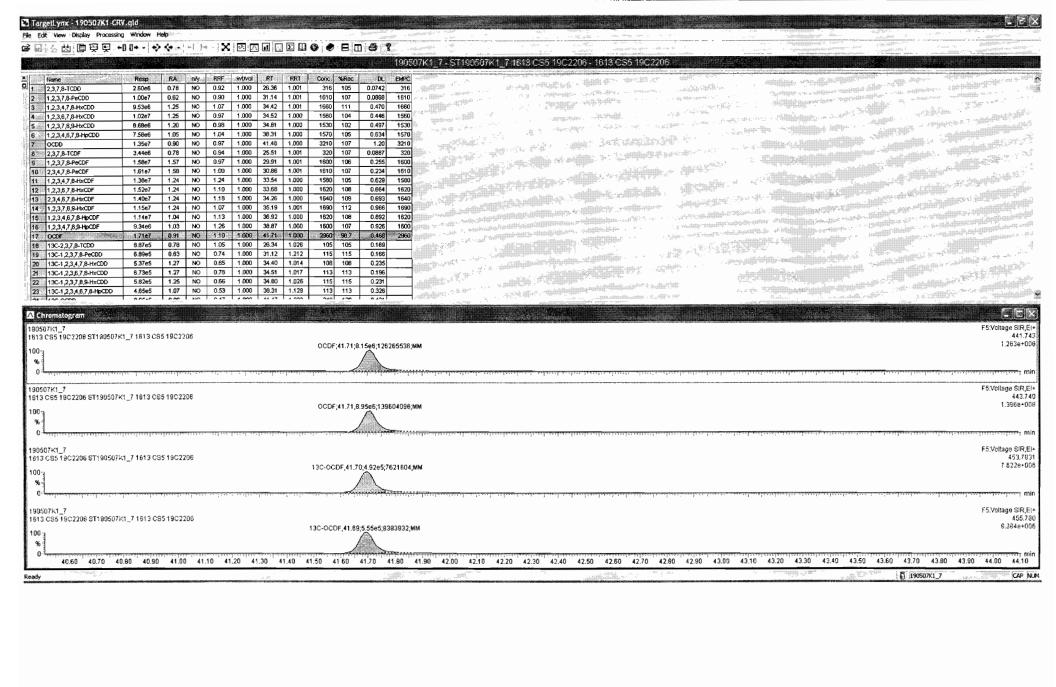
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Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time

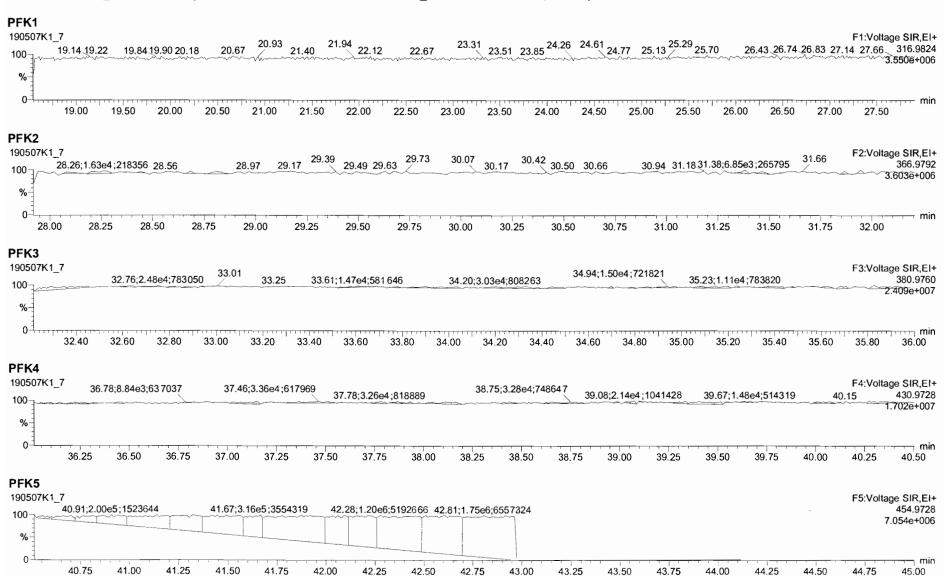






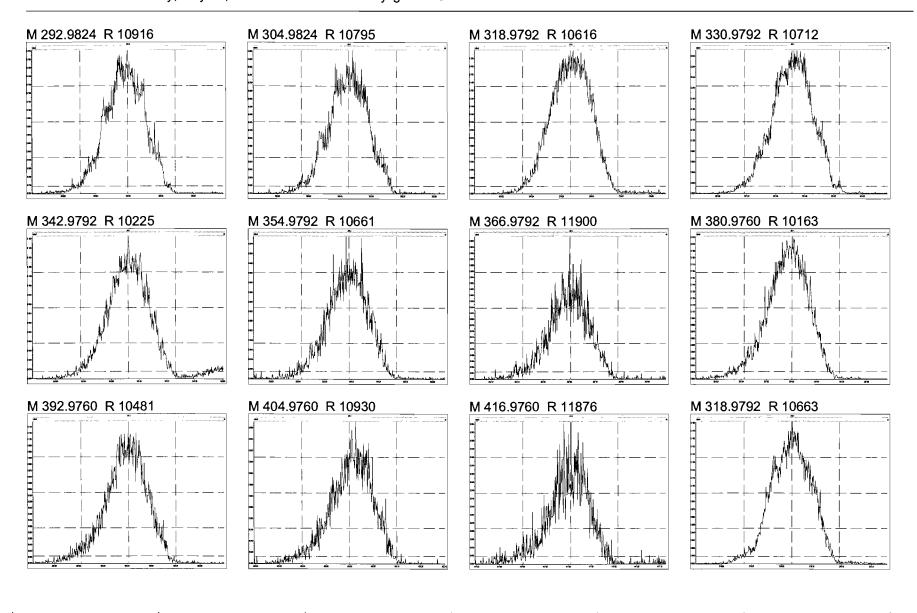
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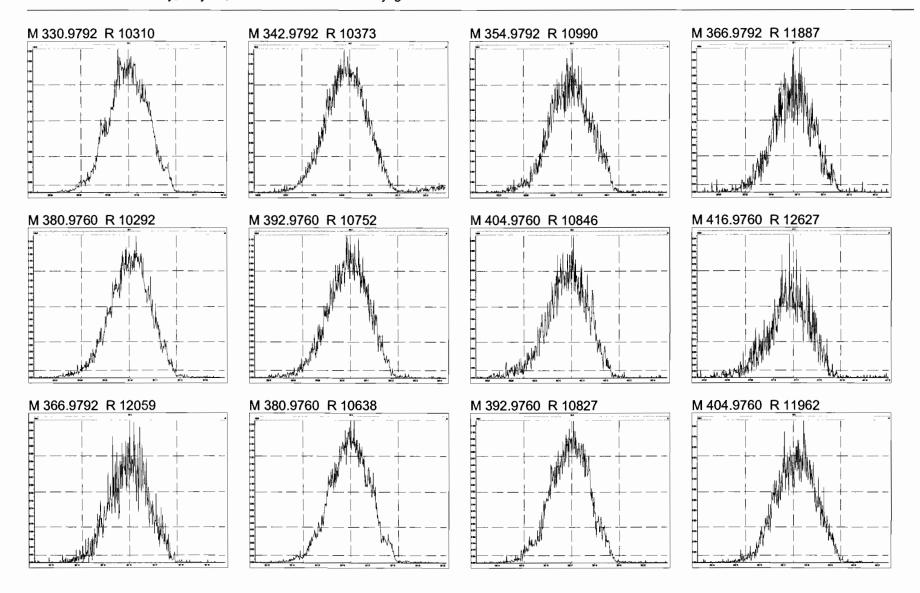
Tuesday, May 07, 2019 17:12:33 Pacific Daylight Time



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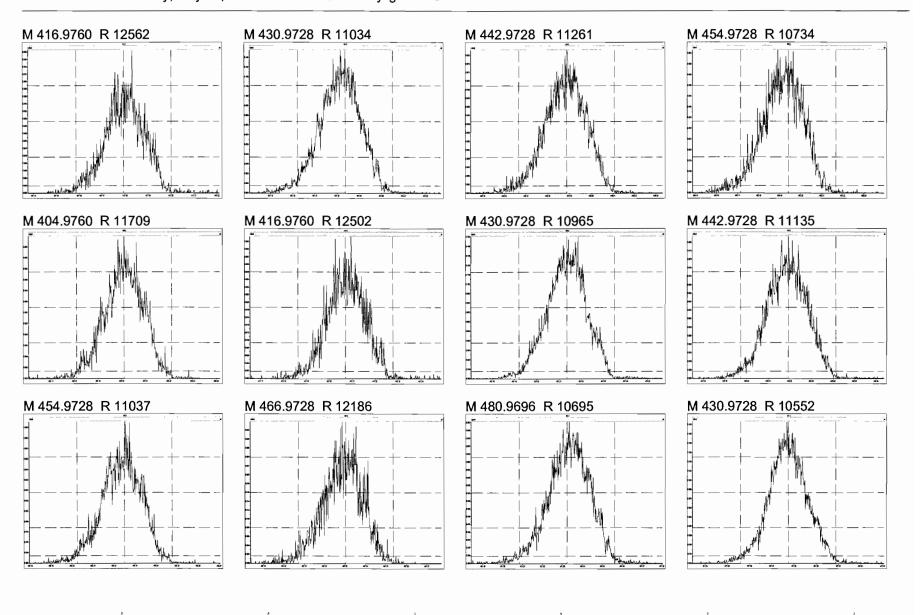
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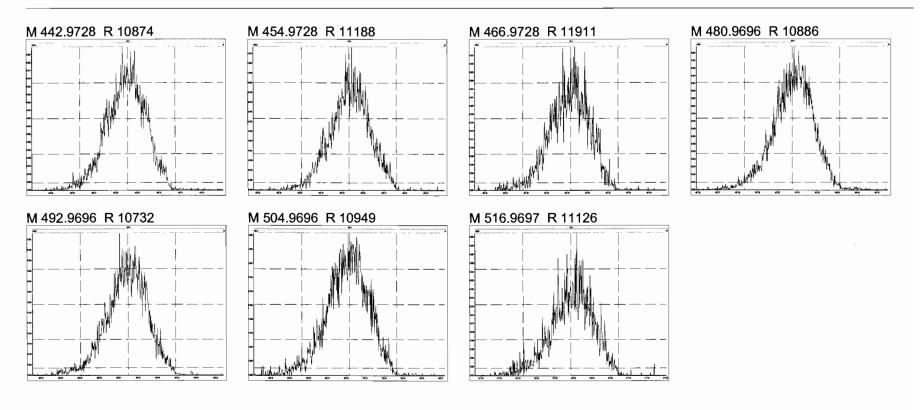
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Tuesday, May 07, 2019 17:12:33 Pacific Daylight Time



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Tuesday, May 07, 2019 17:12:33 Pacific Daylight Time



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Dataset:

U:\VG11.PRO\Results\190507K1\190507K1-8.qld

Last Altered: Printed:

Wednesday, May 08, 2019 8:00:45 AM Pacific Daylight Time

Wednesday, May 08, 2019 8:07:46 AM Pacific Daylight Time

th 5.8.19

DB 5/20/19

Method: U:\VG11.PRO\MethDB\1613_rrt-5-7-19.mdb 07 May 2019 12:51:47 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 07:55:45

Name: 190507K1_8, Date: 07-May-2019, Time: 16:16:59, ID: SS190507K1_1 1613 SSS 19C2207, Description: 1613 SSS 19C2207

#-Name	Resp	' RA	n/y	RRF	wt/vol-	Pred.RT	ŔŤ	Pred.RRT	RRT	Conc.	- %Rec -	DL-	EMPC
1 2,3,7,8-TCDD	7.60e4	0.76	NO	0.925	1.000	26.372	26.36	1.001	1.001	9.9167	99.2 5	0.0527	9.92
2 1,2,3,7,8-PeCDD	2.83e5	0.63	NO	0.905	1.000	31.141	31.14	1.001	1.001	52.411	105	0.0779	52.4
3 1,2,3,4,7,8-HxCDD	2.56e5	1.24	NO	1.07	1.000	34.422	34.42	1.000	1.000	51.689	103	0.157	51.7
4 1,2,3,6,7,8-HxCDD	2.85e5	1.28	NO	0.967	1.000	34.511	34.53	1.000	1.001	54.377	109	0.161	54.4
5 1,2,3,7,8,9-HxCDD	2.46e5	1.25	NO	0.978	1.000	34.831	34.81	1.001	1.000	50.269	101	0.173	50.3
6 1,2,3,4,6,7,8-HpCDD	1.96e5	1.05	NO	1.04	1.000	38.308	38.32	1.000	1.001	47.654	95.3	0.186	47.7
7 OCDD	3.61e5	0.90	NO	0.972	1.000	41.457	41.47	1.000	1.000	105.18	105	0.228	105
8 2,3,7,8-TCDF	1.06e5	0.77	NO	0.938	1.000	25.510	25.51	1.001	1.001	10.161	102	0.0528	10.2
9 1,2,3,7,8-PeCDF	4.45e5	1.56	NO	0.976	1.000	29.913	29.91	1.001	1.001	51.910	104	0.0756	51.9
10 2,3,4,7,8-PeCDF	4.90e5	1.55	NO	1.00	1.000	30.869	30.86	1.001	1.001	56.296	113	0.0742	56.3
11 ,2,3,4,7,8-HxCDF	3.98e5	1.24	NO	1.24	1.000	33.534	33.56	1.000	1.001	53.288	107	0.159	53.3
12 1,2,3,6,7,8-HxCDF	4.37e5	1.15	NO	1.10	1.000	33.665	33.68	1.000	1.001	54.868	110	0.164	54.9
13 2,3,4,6,7,8-HxCDF	3.80e5	1.25	NO	1.18	1.000	34.282	34.27	1.001	1.001	51.927	104	0.183	51.9
14 1,2,3,7,8,9-HxCDF	3.02e5	1.22	NO	1.07	1.000	35.169	35.19	1.000	1.001	53.429	107	0.261	53.4
15 1,2,3,4,6,7,8-HpCDF	3.31e5	1.04	NO	1.13	1.000	36.951	36.92	1.001	1.000	56.517	113	0.264	56.5
16 1,2,3,4,7,8,9-HpCDF	2.56e5	0.99	NO	1.26	1.000	38.856	38.87	1.000	1.000	53.867	108	0.275	53.9
17 CDF	4.34e5	0.87	NO	1.10	1.000	41.687	41.70	1.000	1.000	93.430	93.4	√ 0.200	93.4
18 13C-2,3,7,8-TCDD	8.29e5	0.78	NO	1.05	1.000	26.343	26.34	1.026	1.026	102.10	102	0.130	
19 13C-1,2,3,7,8-PeCDD	5.96e5	0.63	NO	0.743	1.000	31.123	31.12	1.212	1.212	103.75	104	0.218	
20 13C-1,2,3,4,7,8-HxCDD	4.63e5	1.29	NO	0.646	1.000	34.402	34.41	1.014	1.014	102.33	102	0.354	
21 13C-1,2,3,6,7,8-HxCDD	5.41e5	1.25	NO	0.777	1.000	34.510	34.51	1.017	1.017	99.464	99.5	0.295	
22 13C-1,2,3,7,8,9-HxCDD	5.00e5	1.25	NO	0.659	1.000	34.799	34.80	1.025	1.025	108.25	108	0.347	
23 13C-1,2,3,4,6,7,8-HpCDD	3.97e5	1.11	NO	0.534	1.000	38.301	38.30	1.128	1.128	106.06	106	0.355	
24 24 13C-OCDD	7.05e5	0.93	NO	0.470	1.000	41.461	41.46	1.222	1.222	214.10	107	0.519	
25 25 13C-2,3,7,8-TCDF	1.11e6	0.77	NO	0.977	1.000	25.483	25.48	0.992	0.992	101.03	101	0.194	
26 13C-1,2,3,7,8-PeCDF	8.78e5	1.59	NO	0.778	1.000	29.892	29.89	1.164	1.164	100.03	100	0.293	
27 13C-2,3,4,7,8-PeCDF	8.67e5	1.59	NO	0.750	1.000	30.843	30.84	1.201	1.201	102.41	102	0.304	
28 13C-1,2,3,4,7,8-HxCDF	6.01e5	0.51	NO	0.845	1.000	33.529	33.53	. 0.988	0.988	101.56 .	102	0.419	,
29 13C-1,2,3,6,7,8-HxCDF	7.27e5	0.52	NO	1.03	1.000	33.652	33.65	0.992	0.992	101.03	101	0.345	
30 13C-2,3,4,6,7,8-HxCDF	6.20e5	0.53	NO	0.893	1.000	34.249	34.25	1.009	1.009	99.164	99.2	0.397	
31 13C-1,2,3,7,8,9-HxCDF	5.26e5	0.53	NO	0.734	1.000	35.169	35.17	1.036	1.036	102.34	102	0.483	

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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\190507K1\190507K1-8.qld

Last Altered: Wednesday, May 08, 2019 8:00:45 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 8:07:46 AM Pacific Daylight Time

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32 13C-1,2,3,4,6,7,8-HpCDF 33 3 13C-1,2,3,4,7,8,9-HpCDF	5.19e5	0.45	NO	0.754	1.000	36.900	36.91	1.087	1.088	98.155	98.2	0.323
33 13C-1,2,3,4,7,8,9-HpCDF	3.76e5	0.44	NO	0.539	1.000	38.851	38.86	1.145	1.145	99.700	99.7	0.452
34 34 13C-OCDF	8.43e5	0.90	NO	0.593	1.000	41.689	41.69	1.228	1.228	202.98	101	0.322
35 37Cl-2,3,7,8-TCDD	8.22e4			1.07	1.000	26.343	26.36	1.026	1.026	9.9341	99.3	0.0341
36 13C-1,2,3,4-TCDD	7.74e5	0.80	NO	1.00	1.000	25.680	25.68	1.000	1.000	100.00	100	0.137
37 13C-1,2,3,4-TCDF	1.13e6	0.79	NO	1.00	1.000	24.050	24.05	1.000	1.000	100.00	100	0.190
38 13C-1,2,3,4,6,9-HxCDF	7.01e5	0.53	NO	1.00	1.000	33.940	33.94	1.000	1.000	100.00	100	0.354

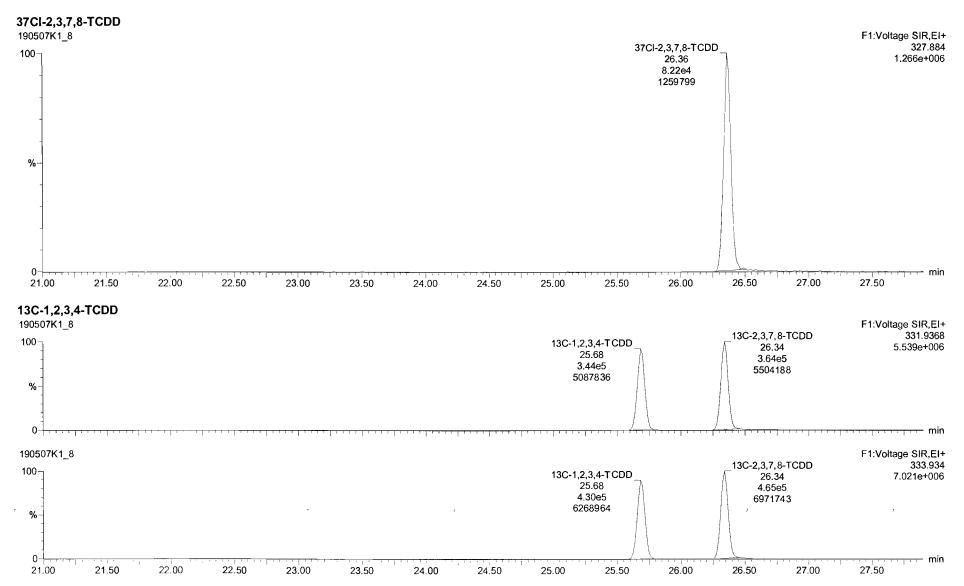
Work Order 1903739 Page 616 of 646

Quantify Sample Report Vista Analytical Laboratory

Dataset:

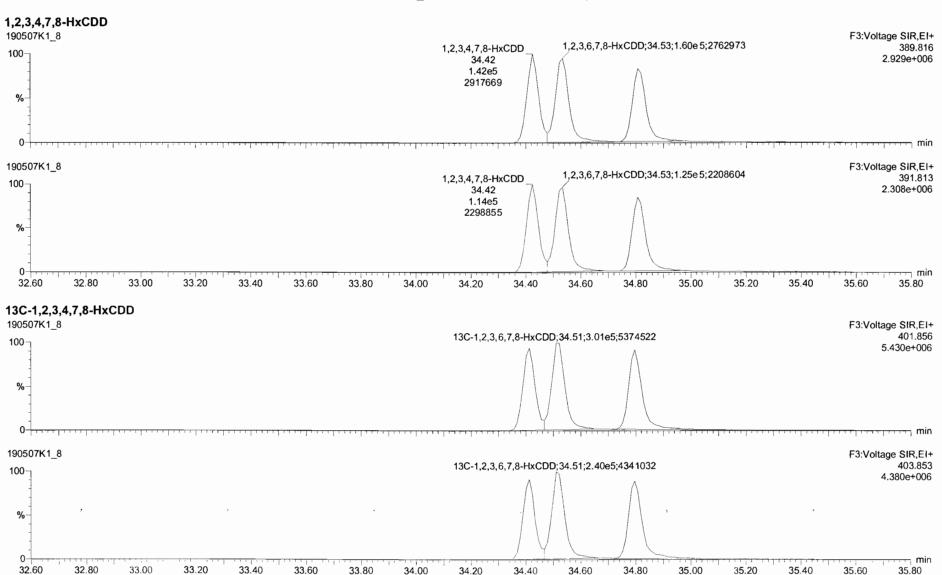
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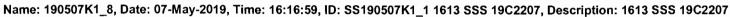
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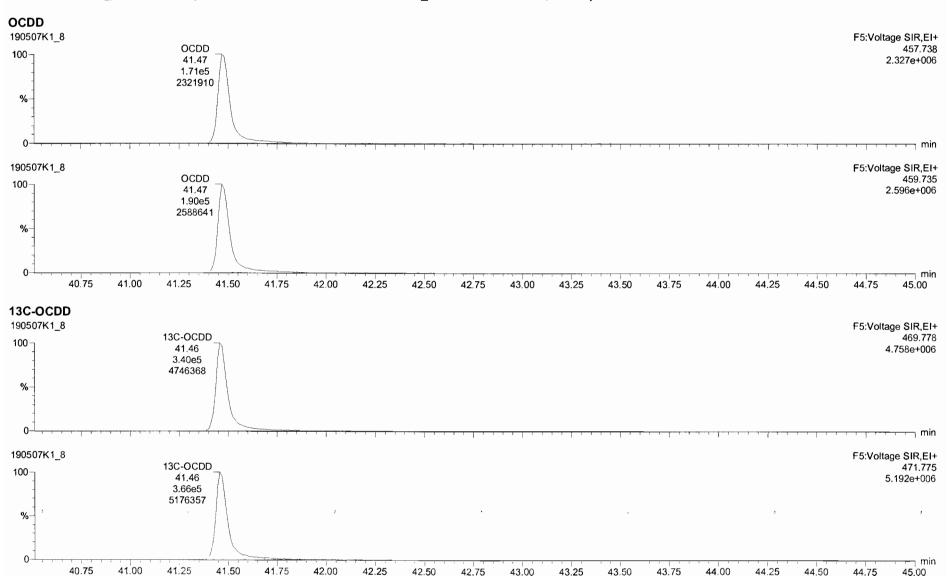


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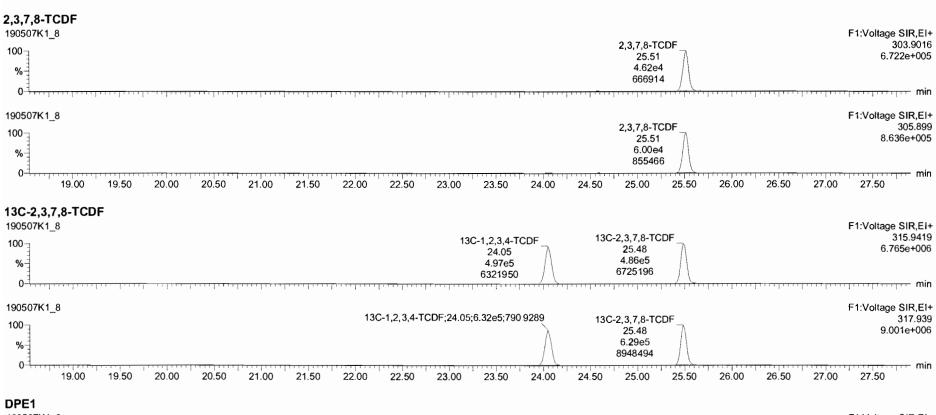


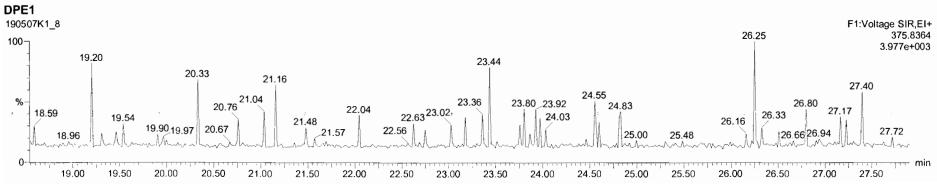




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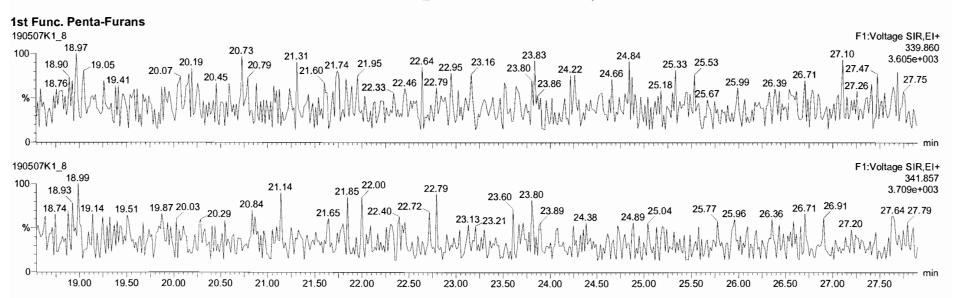
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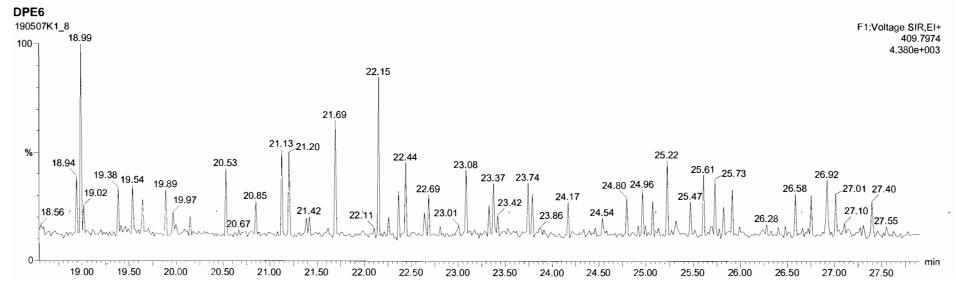




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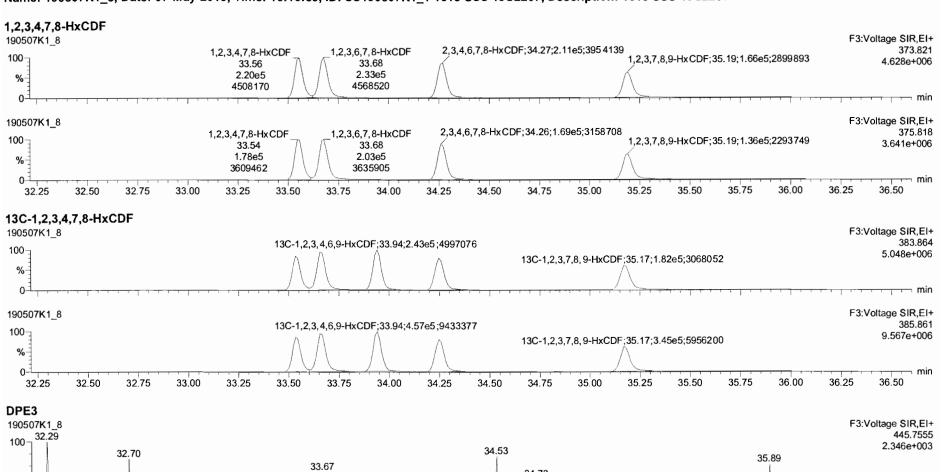
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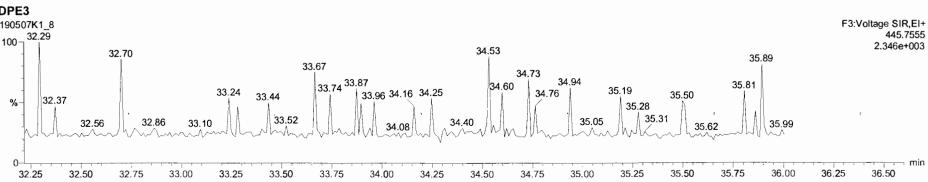




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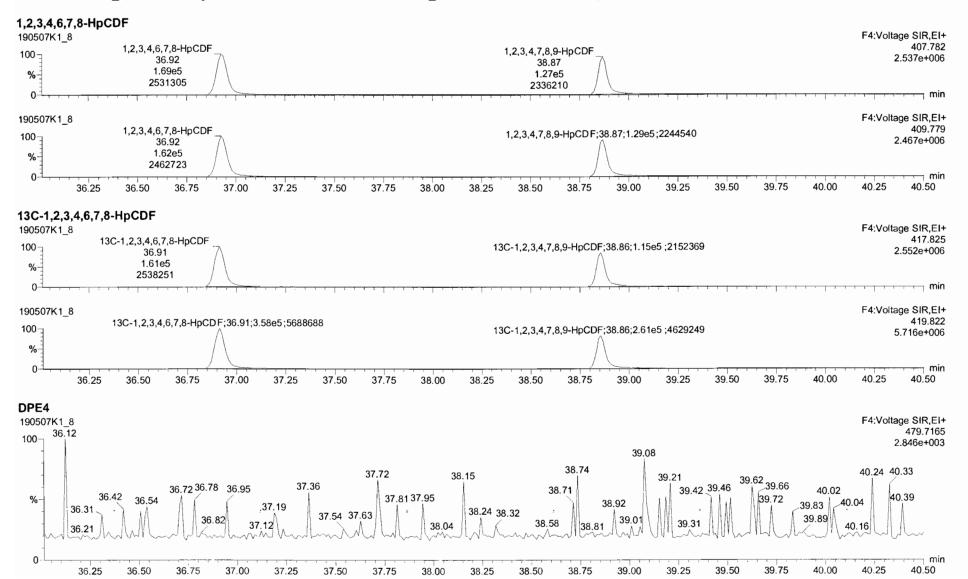




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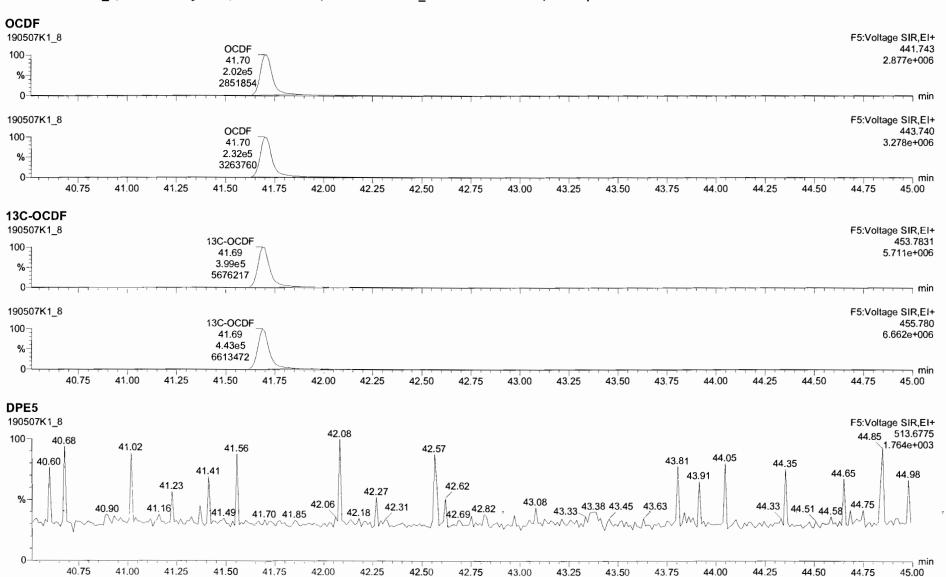
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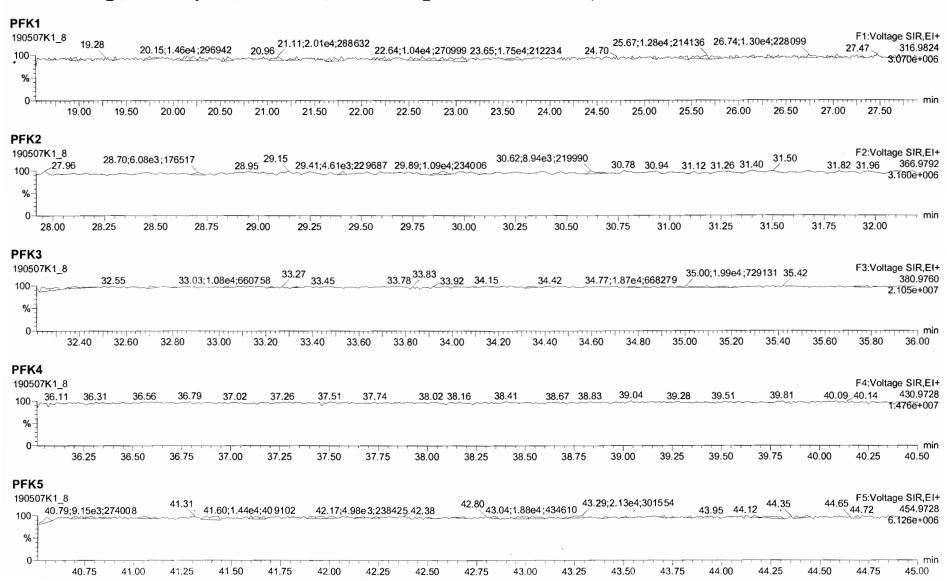
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Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\190507K1\190507K2-1.qld

Last Altered: Wednesday, May 08, 2019 8:10:45 AM Pacific Daylight Time Printed: Wednesday, May 08, 2019 8:11:52 AM Pacific Daylight Time

Jr 5-8-19

DB 5/20/19

Method: U:\VG11.PRO\MethDB\1613_rrt-5-7-19.mdb 07 May 2019 12:51:47 Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 07:55:45

Name: 190507K2_1, Date: 07-May-2019, Time: 18:48:10, ID: ST190507K2_1 1613 CS3 18J1008, Description: 1613 CS3 18J1008

7.20°	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
12.49	1 2,3,7,8-TCDD	4.96e4	0.78	NO	0.925	1.000	26.372	26.36	1.001	1.001	9.7504	97.5	0.0601	9.75
2	2 1,2,3,7,8-PeCDD	1.92e5	0.60	NO	0.905	1.000	31.141	31.14	1.001	1.001	52.019	104	0.135	52.0
3	3 1,2,3,4,7,8-HxCDD	1.65e5	1.26	NO	1.07	1.000	34.422	34.42	1.000	1.000	40.468	80.9	0.208	40.5
4 Hage	4 1,2,3,6,7,8-HxCDD	1.70e5	1.27	NO	0.967	1.000	34.522	34.53	1.000	1.000	52.044	104	0.299	52.0
5	5 1,2,3,7,8,9-HxCDD	1.57e5	1.21	NO	0.978	1.000	34.831	34.81	1.001	1.000	49.488	99.0	0.295	49.5
6 (6 1,2,3,4,6,7,8-HpCDD	1.25e5	1.09	NO	1.04	1.000	38.308	38.32	1.000	1.001	46.558	93.1	0.278	46.6
7	7 OCDD	2.20e5	0.89	NO	0.972	1.000	41.468	41.48	1.000	1.000	116.21	116	0.310	116
8	8 2,3,7,8-TCDF	6.88e4	0.78	NO	0.938	1.000	25.510	25.51	1.001	1.001	9.8653	98.7	0.0599	9.87
9	9 1,2,3,7,8-PeCDF	2.98e5	1.59	NO	0.976	1.000	29.913	29.91	1.001	1.001	48.808	97.6	0.107	48.8
10	10 2,3,4,7,8-PeCDF	3.02e5	1.60	NO	1.00	1.000	30.869	30.86	1.001	1.001	50.503	101	0.112	50.5
11	11 1,2,3,4,7,8-HxCDF	2.51e5	1.28	NO	1.24	1.000	33.534	33.56	1.000	1.001	42.310	84.6	0.183	42.3
12	12 1,2,3,6,7,8-HxCDF	2.65e5	1.25	NO	1.10	1.000	33.676	33.68	1.000	1.000	49.107	98.2	0.216	49.1
13	13 2,3,4,6,7,8-HxCDF	2.52e5	1.24	NO	1.18	1.000	34.282	34.27	1.001	1.001	47.589	95.2	0.219	47.6
14	14 1,2,3,7,8,9-HxCDF	1.94e5	1.26	NO	1.07	1.000	35.169	35.19	1.000	1.001	48.711	97.4	0.322	48.7
15	15 1,2,3,4,6,7,8-HpCDF	1.91e5	1.04	NO	1.13	1.000	36.951	36.92	1.001	1.000	50.687	101	0.231	50.7
16	16 1,2,3,4,7,8,9-HpCDF	1.57e5	0.99	NO	1.26	1.000	38.856	38.87	1.000	1.000	51.308	103	0.248	51.3
17	17 OCDF	2.63e5	0.85	NO	1.10	1.000	41.687	41.70	1.000	1.000	92.671	92.7	0.237	92.7
18	18 13C-2,3,7,8-TCDD	5.49e5	0.79	NO	1.05	1.000	26.343	26.34	1.026	1.026	101.33	101	0.176	
19	19 13C-1,2,3,7,8-PeCDD	4.08e5	0.63	NO	0.743	1.000	31.123	31.12	1.212	1.212	106.23	106	0.222	
20	20 13C-1,2,3,4,7,8-HxCDD	3.81e5	1.26	NO	0.646	1.000	34.402	34.41	1.014	1.014	127.08	127	0.322	
21	21 13C-1,2,3,6,7,8-HxCDD	3.37e5	1.28	NO	0.777	1.000	34.510	34.52	1.017	1.017	93.509	93.5	0.268	
22	22 13C-1,2,3,7,8,9-HxCDD	3.24e5	1.27	NO	0.659	1.000	34.799	34.80	1.025	1.025	105.79	106	0.315	
23 24	23 13C-1,2,3,4,6,7,8-HpCDD	2.59e5	1.05	NO	0.534	1.000	38.301	38.30	1.128	1.128	104.55	105	0.389	
24	24 13C-OCDD	3.90e5	88.0	NO	0.470	1.000	41.461	41.47	1.222	1.222	178.53	89.3	0.468	
25	25 13C-2,3,7,8-TCDF	7.44e5	0.79	NO	0.977	1.000	25.483	25.48	0.992	0.992	101.65	102	0.294	
26	26 13C-1,2,3,7,8-PeCDF	6.25e5	1.56	NO	0.778	1.000	29.893	29.89	1.164	1.164	107.38	107	0.390	
27	27 13C-2,3,4,7,8-PeCDF	5.95e5	1.57	NO	0.750	1.000	30.843	30.84	1.201	1.201	106.00	106	0.405	
28	28 13C-1,2,3,4,7,8-HxCDF	4.78e5	0.51	NO	0.845	1.000	33.529	33.53	0.988	0.988	121.85	122	0.545	
29	29 13C-1,2,3,6,7,8-HxCDF	4.92e5	0.52	NO	1.03	1.000	33.652	33.67	0.992	0.992	103.24	103	0.448	}
30 '	30 13C-2,3,4,6,7,8-HxCDF	4.49e5	0.52	NO	0.893	1.000	34.249	34.25	1.009	1.009	108.34	108	0.515	
31	31 13C-1,2,3,7,8,9-HxCDF	3.71e5	0.54	NO	0.734	1.000	35.169	35.17	1.036	1.036	108.96	109	0.627	
32	32_13C-1,2,3,4,6,7,8-HpCDF	3.34e5	0.43	NO	0.754	1.000	36.900	36.91	1.087	1.088	95.313	95.3	0.389	

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Quantify Sample Summary Report MassLynx 4.1 SCN815 Page 2 of 2

Vista Analytical Laboratory

Dataset: U:\VG11.PRO\Results\190507K1\190507K2-1.qld

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Name: 190507K2_1, Date: 07-May-2019, Time: 18:48:10, ID: ST190507K2_1 1613 CS3 18J1008, Description: 1613 CS3 18J1008

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
33	33 13C-1,2,3,4,7,8,9-HpCDF	2.42e5	0.47	NO	0.539	1.000	38.851	38.86	1.145	1.145	96.836	96.8	0.545	
34	34 13C-OCDF	5.14e5	0.89	NO	0.593	1.000	41.689	41.69	1.228	1.228	186.97	93.5	0.402	
35	35 37Cl-2,3,7,8-TCDD	5.28e4			1.07	1.000	26.343	26.36	1.026	1.026	9.5583	95.6	0.0488	
36	36 13C-1,2,3,4-TCDD	5.17e5	0.77	NO	1.00	1.000	25.680	25.68	1.000	1.000	100.00	100	0.184	
37	37 13C-1,2,3,4-TCDF	7.49e5	0.80	NO	1.00	1.000	24.050	24.06	1.000	1.000	100.00	100	0.288	
38	38 13C-1,2,3,4,6,9-HxCDF	4.64e5	0.51	NO	1.00	1.000	33.940	33.94	1.000	1.000	100.00	100	0.460	

Work Order 1903739 Page 631 of 646

Untitled

Last Altered: Printed:

Wednesday, May 08, 2019 8:05:38 AM Pacific Daylight Time Wednesday, May 08, 2019 8:05:41 AM Pacific Daylight Time

Method: U:\VG11.PRO\MethDB\CPSM-5-7-19.mdb 07 May 2019 13:29:19

Calibration: U:\VG11.PRO\CurveDB\db5_1613vg11-5-7-19.cdb 08 May 2019 07:55:45

Name: 190507K2_1, Date: 07-May-2019, Time: 18:48:10, ID: ST190507K2_1 1613 CS3 18J1008, Description: 1613 CS3 18J1008

	#-Name -	RT
1	1 1,3,6,8-TCDD (First)	22.41
2 ;	2 1,2,8,9-TCDD (Last)	27.29
3 .	3 1,2,4,7,9-PeCDD (First)	28.99
4 .	4 1,2,3,8,9-PeCDD (Last)	31.50
5	5 1,2,4,6,7,9-HxCDD (First)	32.91
6 .	6 1,2,3,7,8,9-HxCDD (Last)	34.81
7	7 1,2,3,4,6,7,9-HpCDD (First)	37.31
8	8 1,2,3,4,6,7,8-HpCDD (Last)	38.32
9	9 1,3,6,8-TCDF (First)	20.23
10 ;	10 1,2,8,9-TCDF (Last)	27.46
11 :	11 1,3,4,6,8-PeCDF (First)	27.36
12	12 1,2,3,8,9-PeCDF (Last)	31.76
13	13 1,2,3,4,6,8-HxCDF (First)	32.38
14	14 1,2,3,7,8,9-HxCDF (Last)	35.19
15	15 1,2,3,4,6,7,8-HpCDF (First)	36.92
16	16 1,2,3,4,7,8,9-HpCDF (Last)	38.87

Work Order 1903739 Page 632 of 646

Quantify Sample Report

MassLynx 4.1 SCN815

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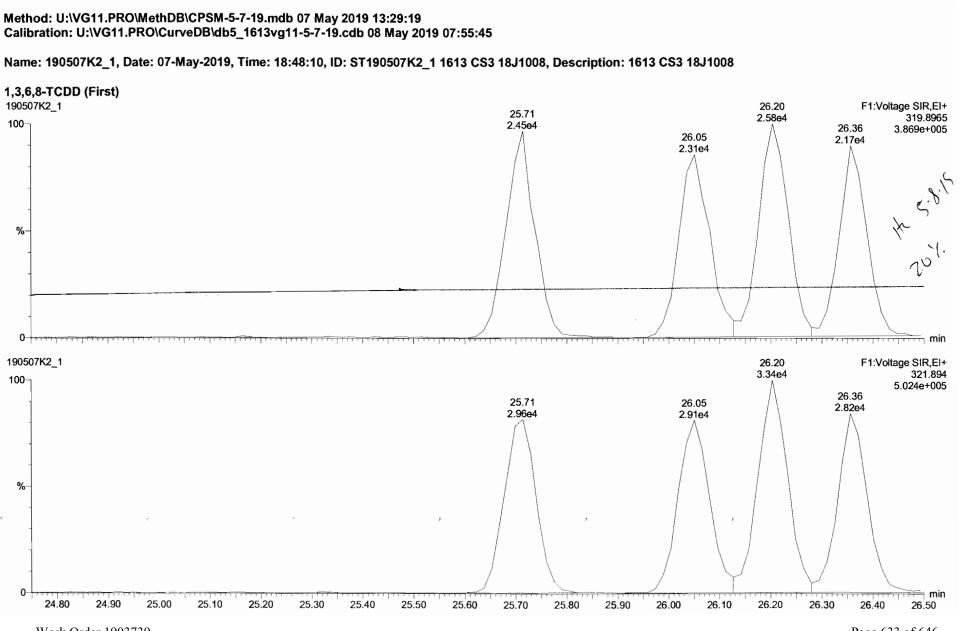
Vista Analytical Laboratory VG-11

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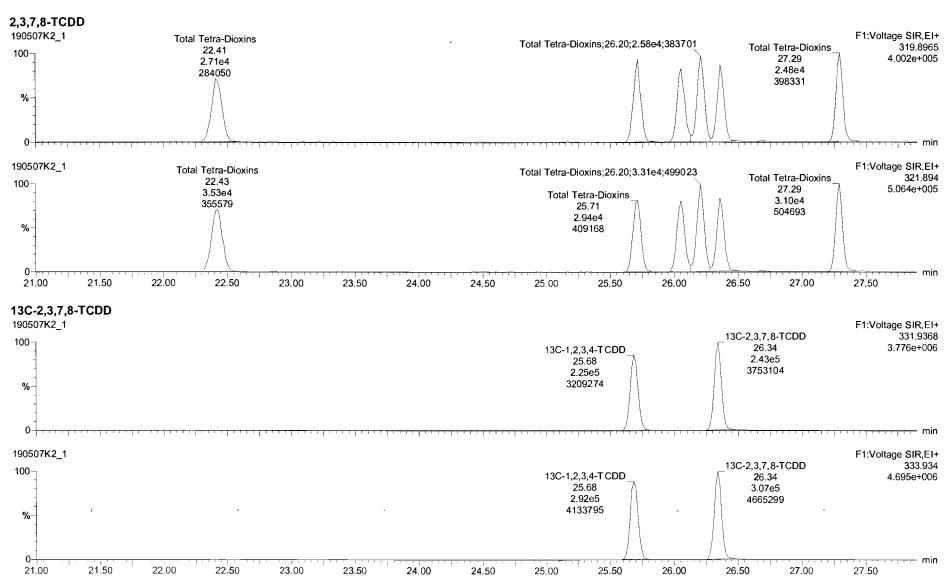
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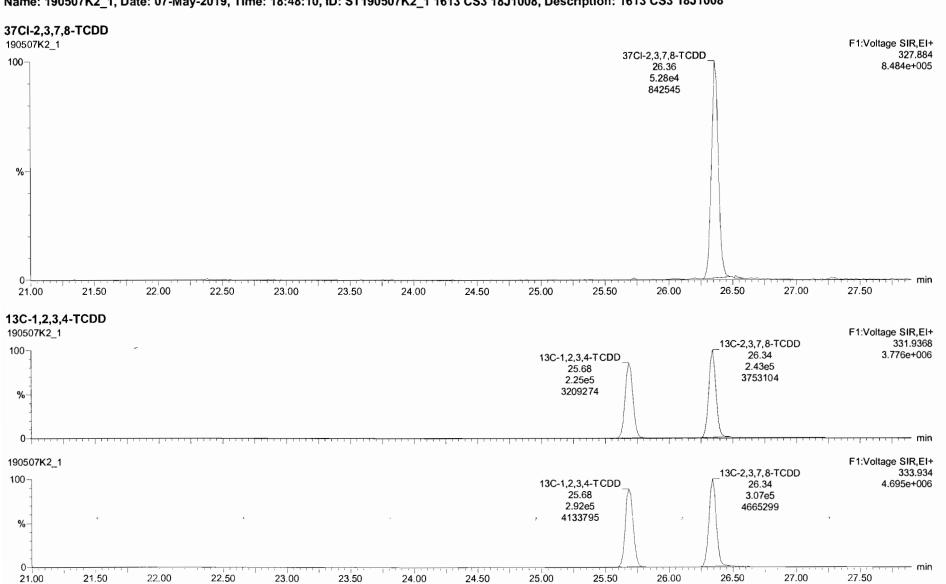
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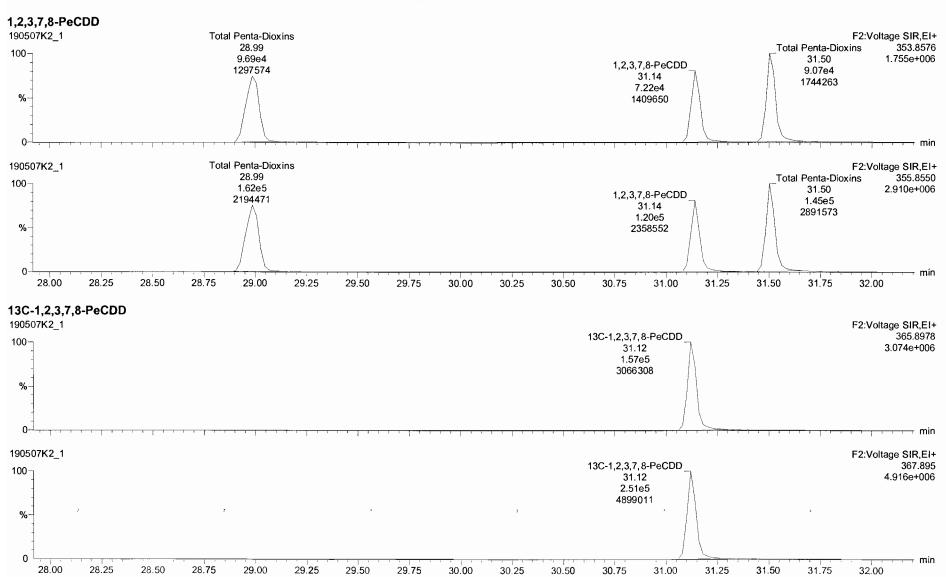


Quantify Sample Report Vista Analytical Laboratory

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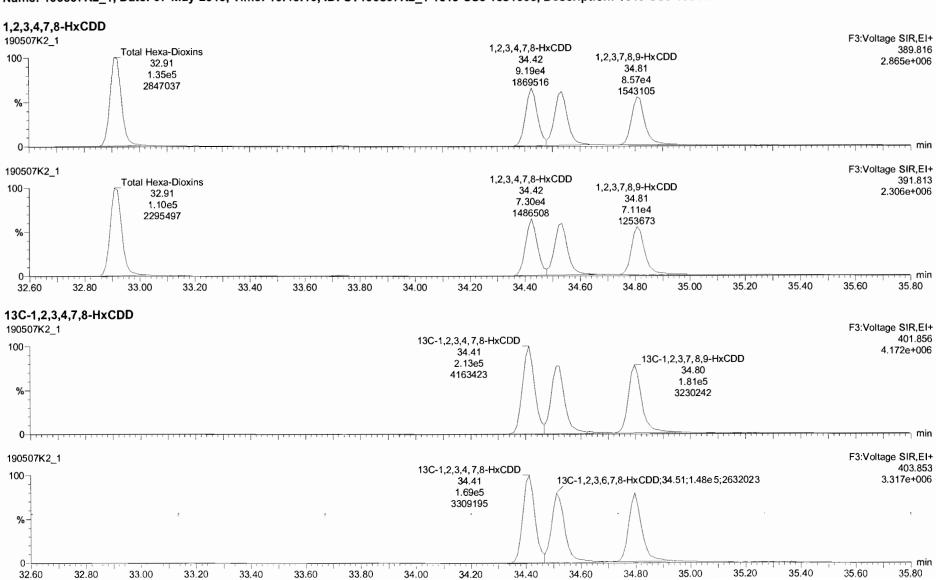
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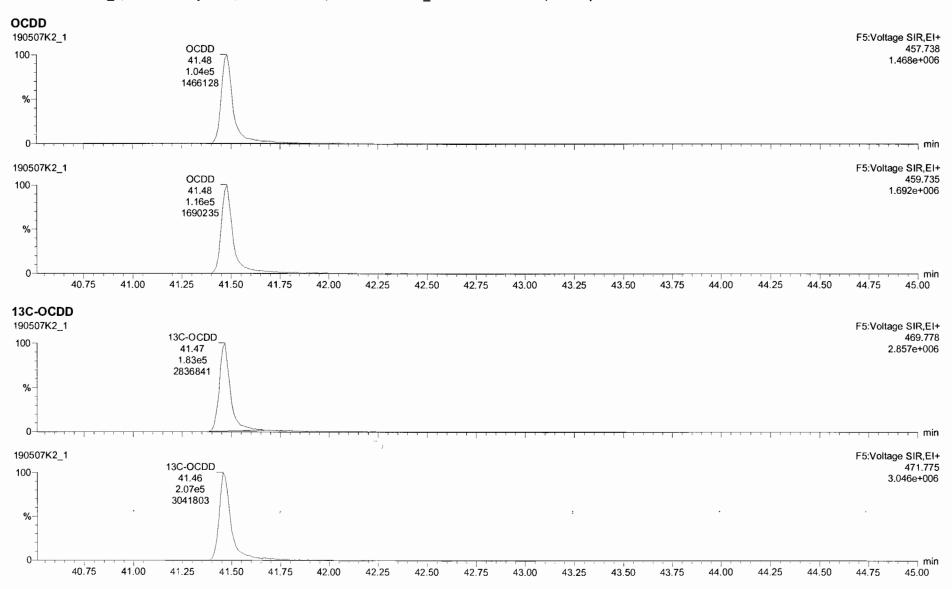
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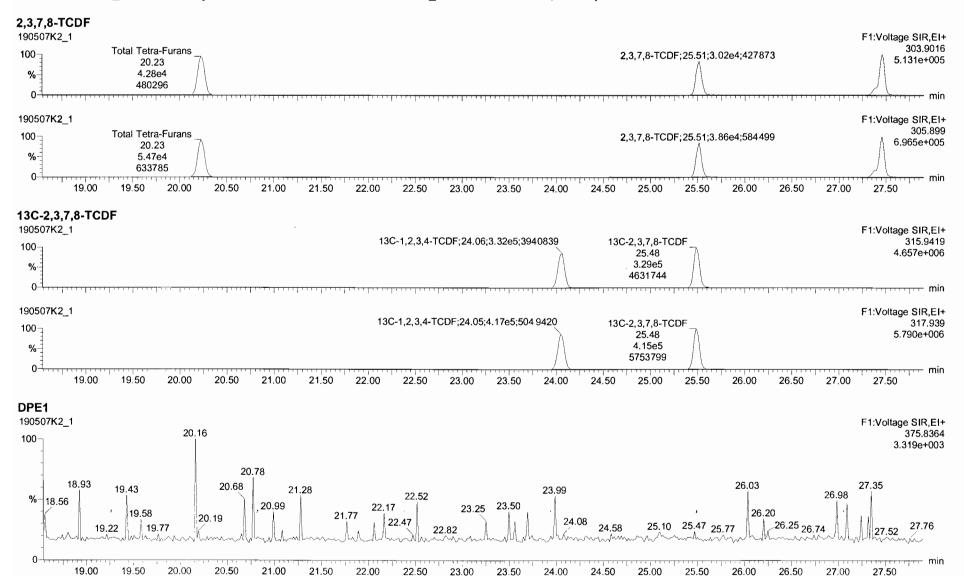


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Vista Analytical Laboratory

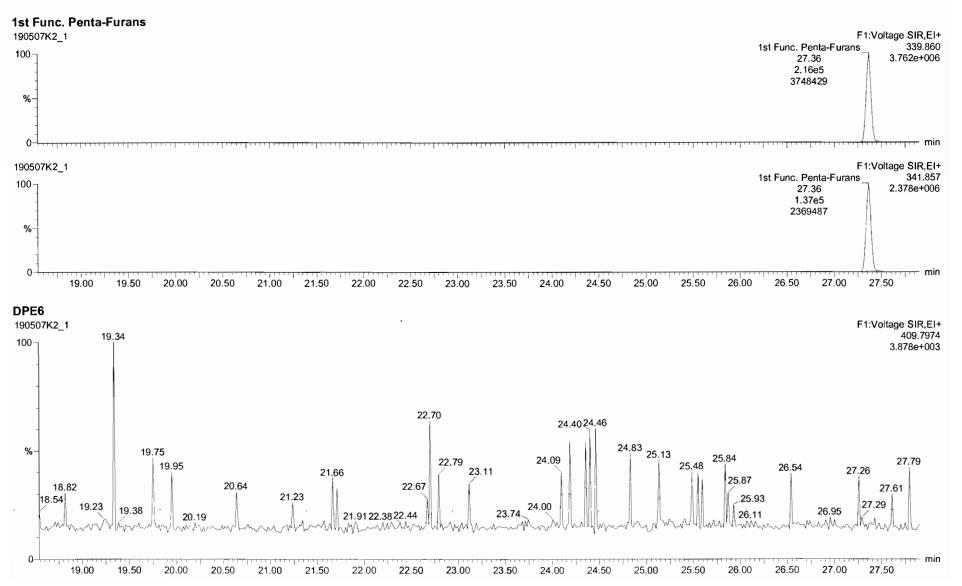
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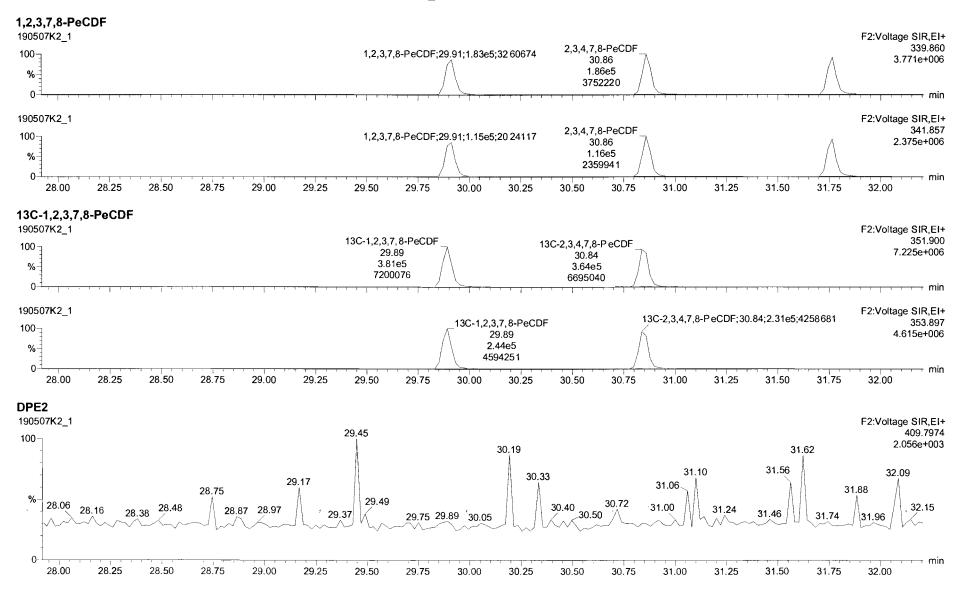
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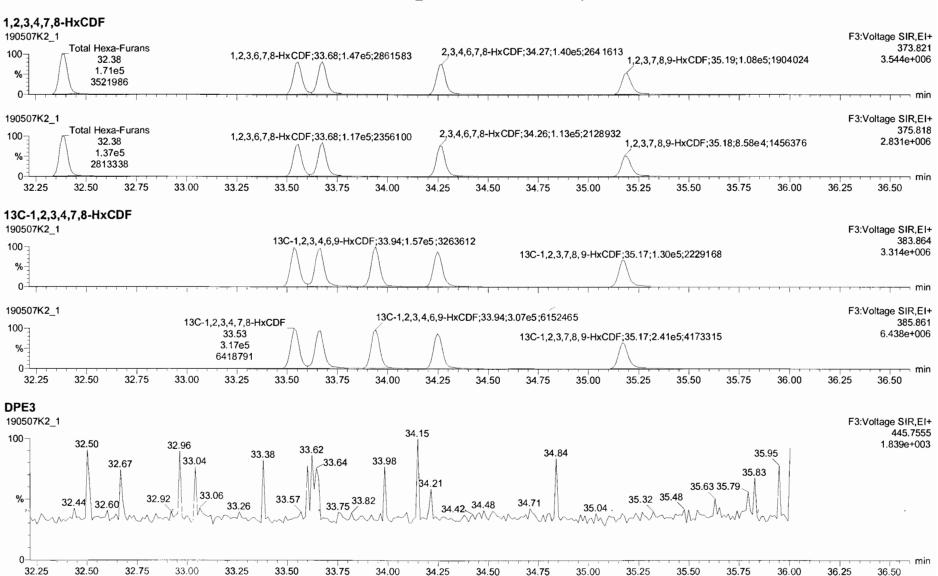


Vista Analytical Laboratory

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Dataset:

Last Altered: Wednesday, May 08, 2019 7:14:27 AM Pacific Daylight Time Wednesday, May 08, 2019 7:19:34 AM Pacific Daylight Time



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38.75

39.00

36.25

36.50

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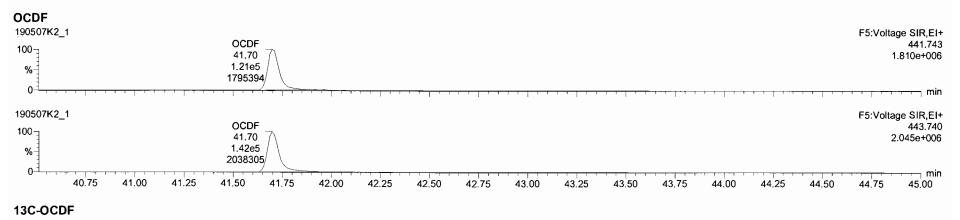
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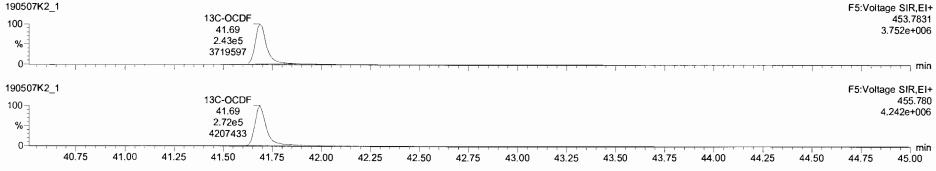
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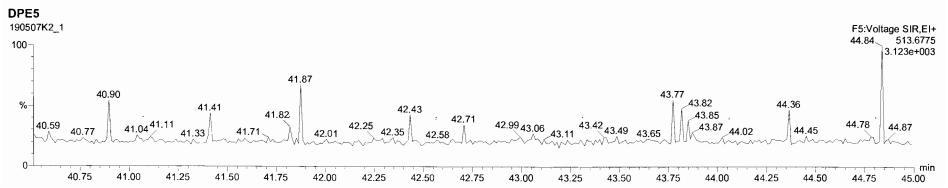
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Vista Analytical Laboratory

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