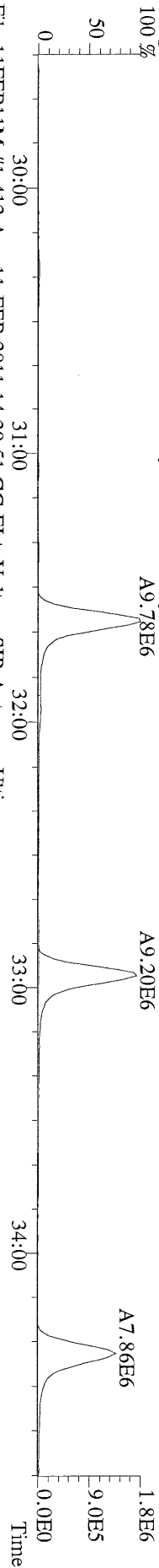
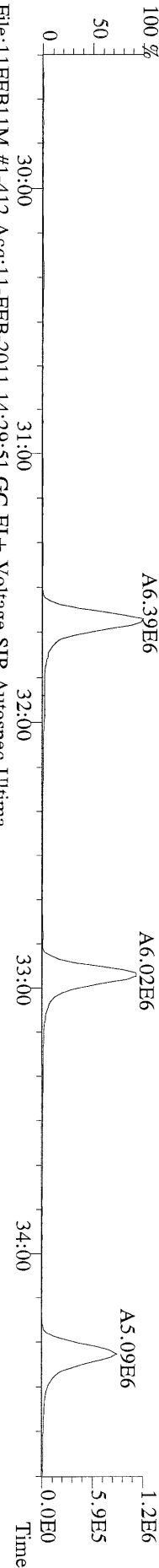


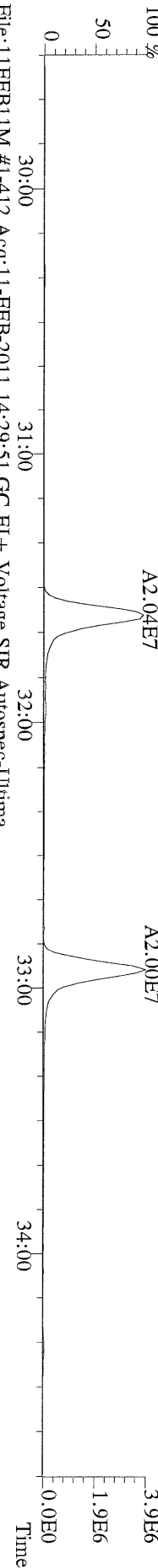
File:11FEB11M #1-412 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



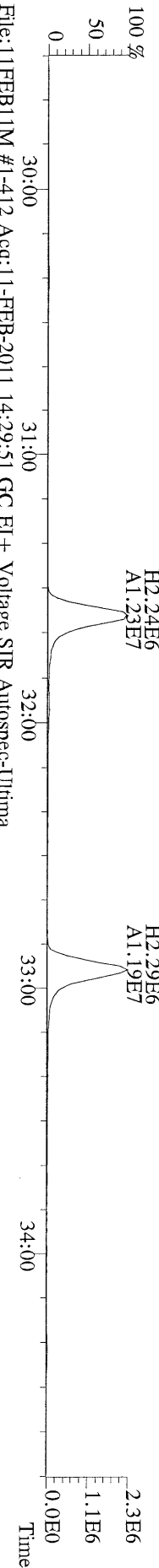
File:11FEB11M #1-412 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



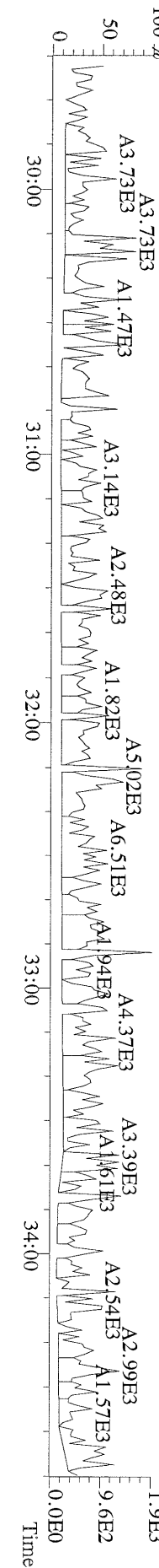
File:11FEB11M #1-412 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 351.9000 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



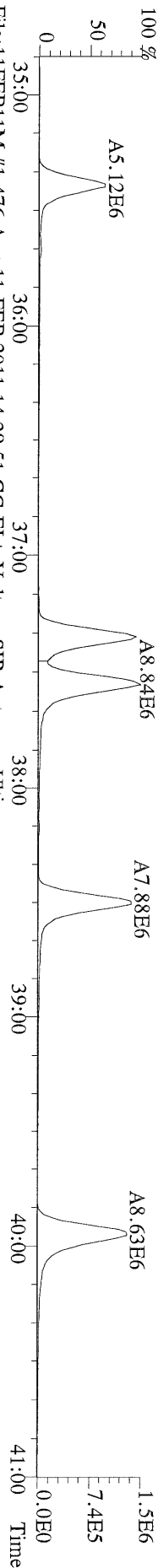
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 353.8970 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



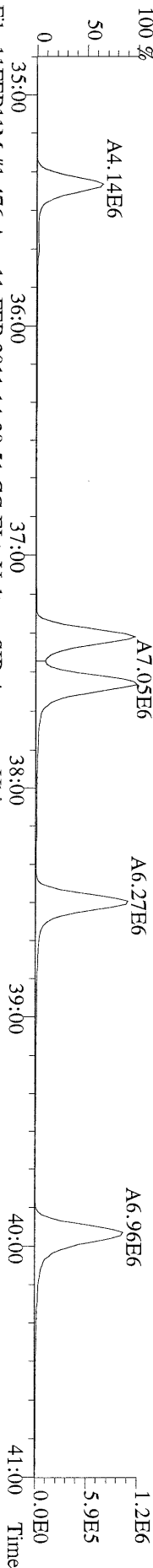
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 409.7974 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



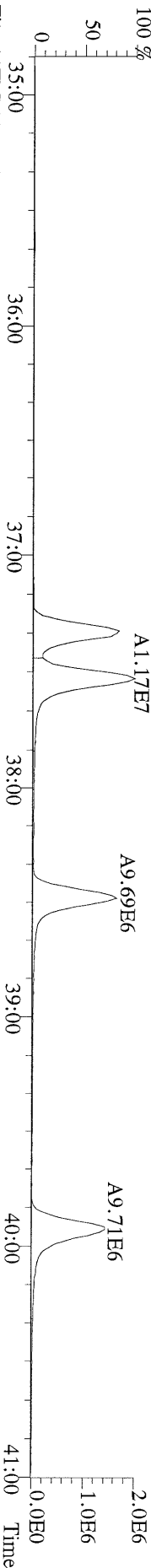
File:1\FEB11M #1-476 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



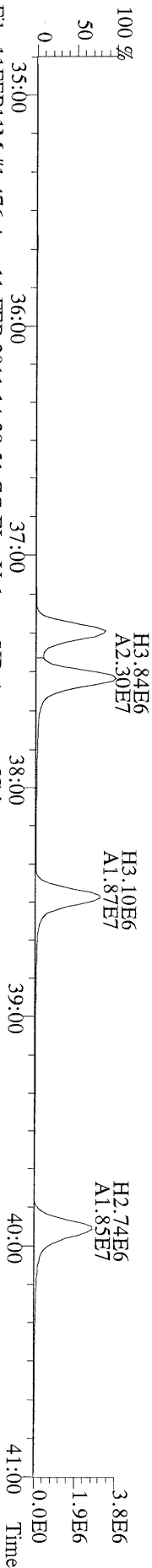
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375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



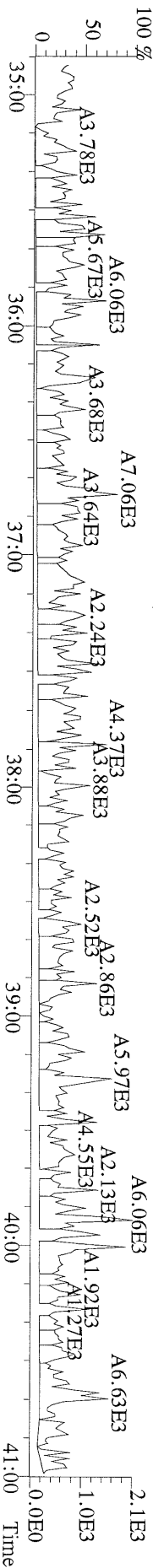
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383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



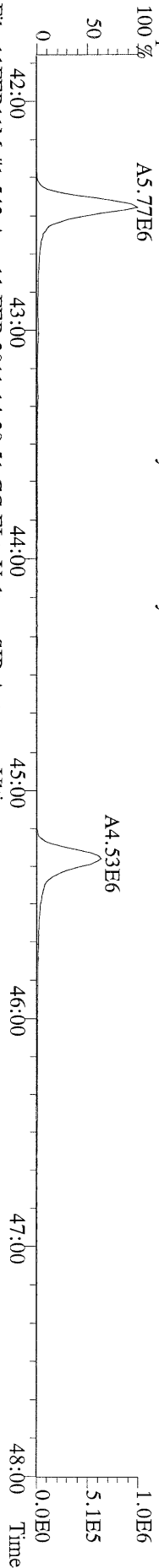
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385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



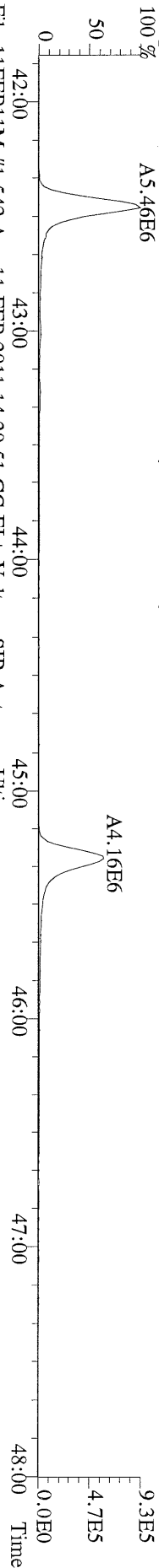
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445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



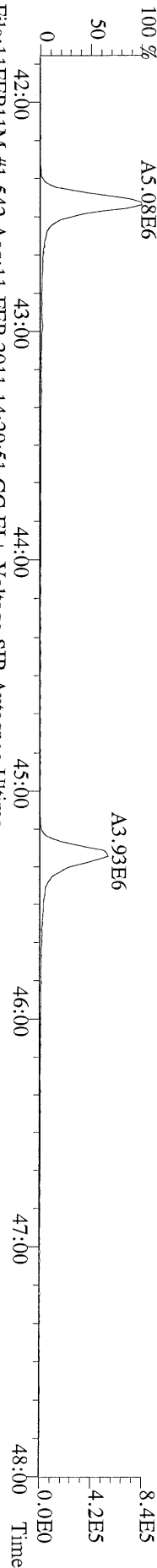
File:11FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 % A5.77E6



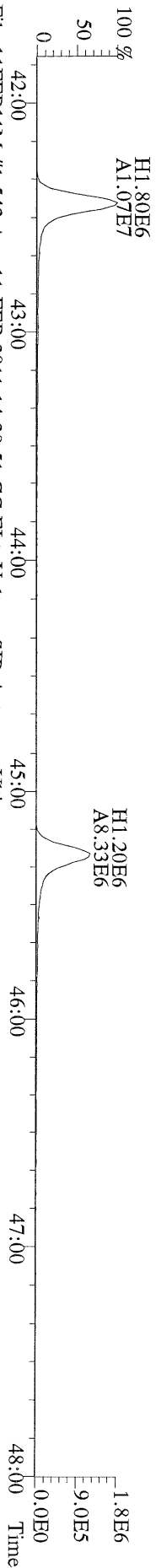
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409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 % A5.46E6



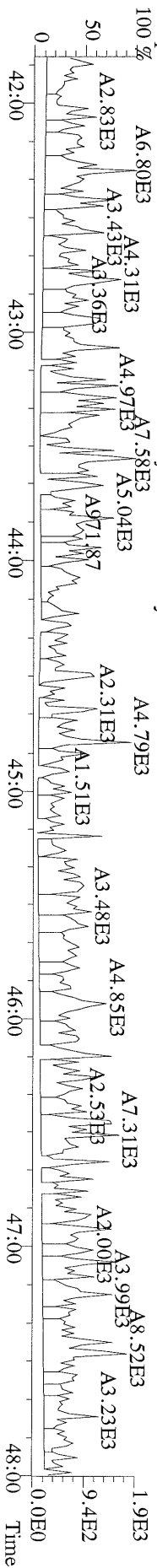
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417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 % A5.08E6



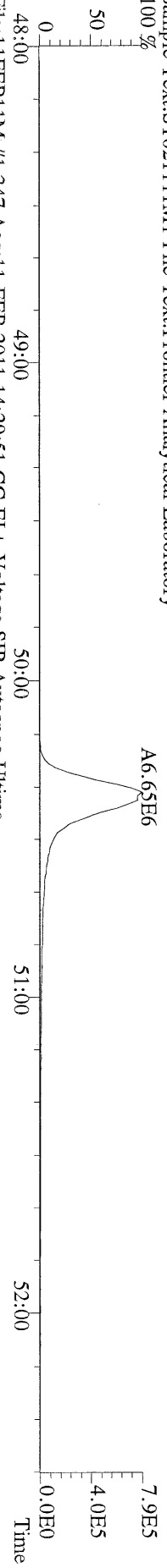
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419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



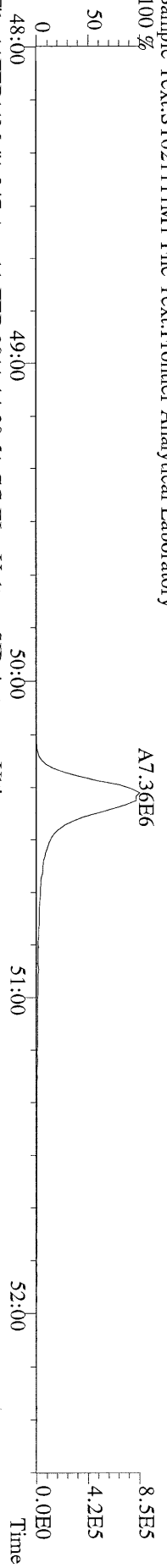
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479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



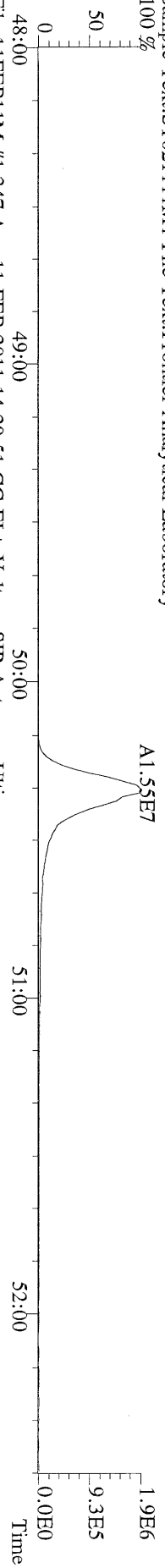
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441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100%



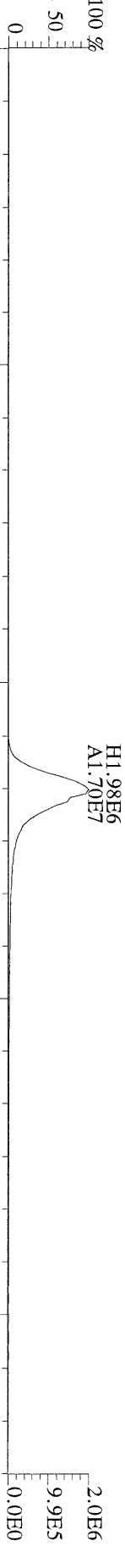
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443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100%



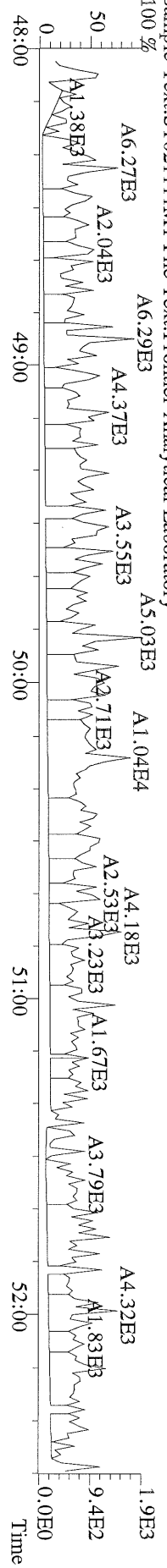
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453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100%

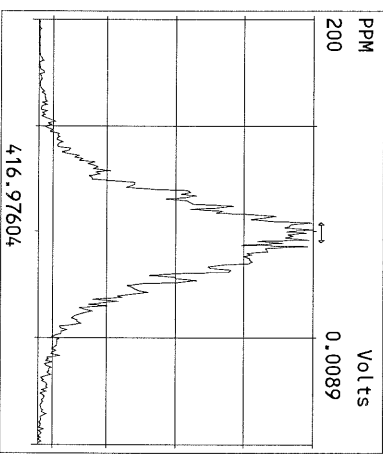
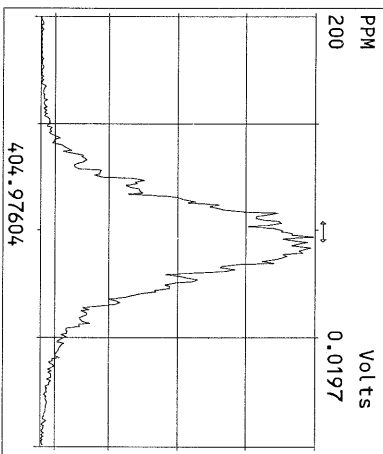
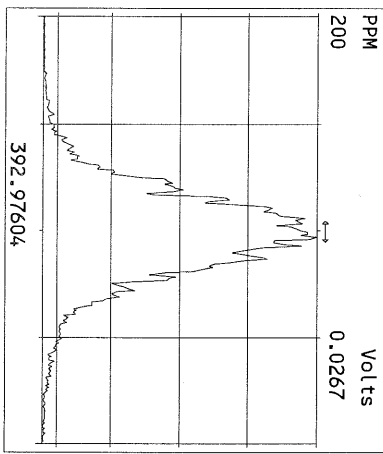
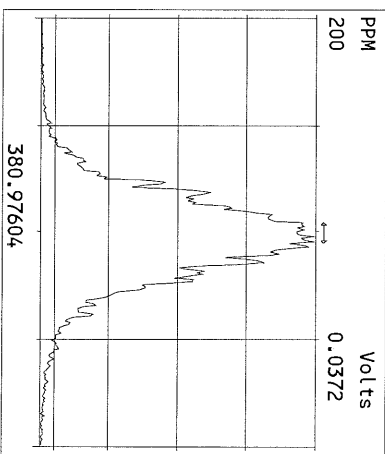
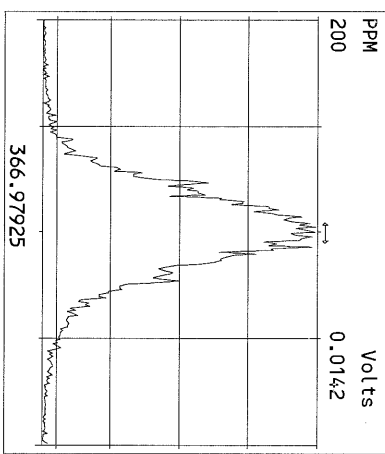
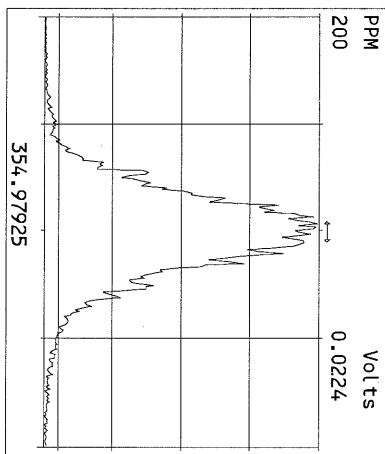
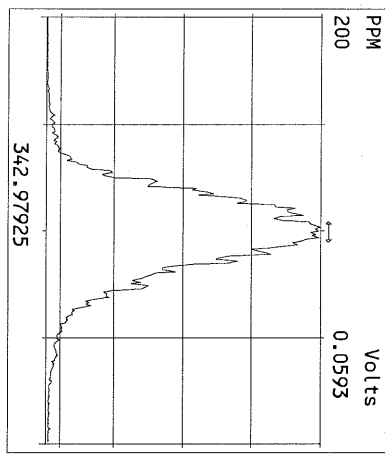
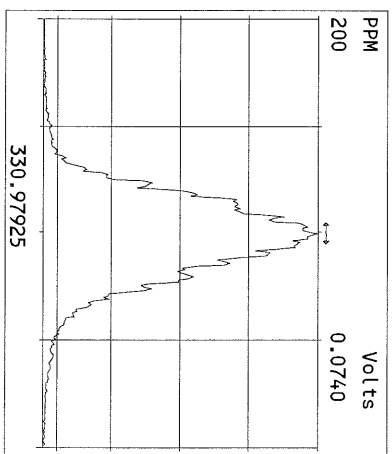
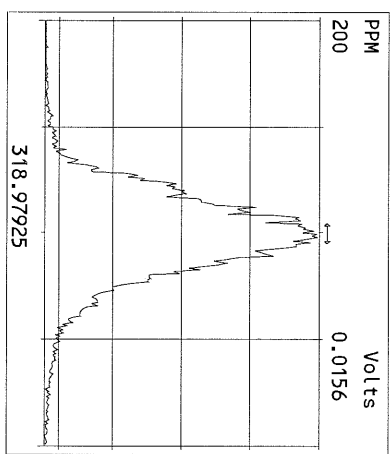
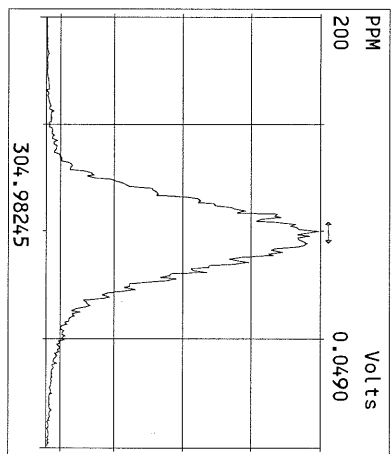
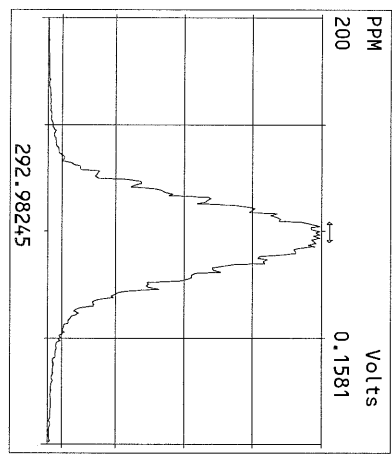


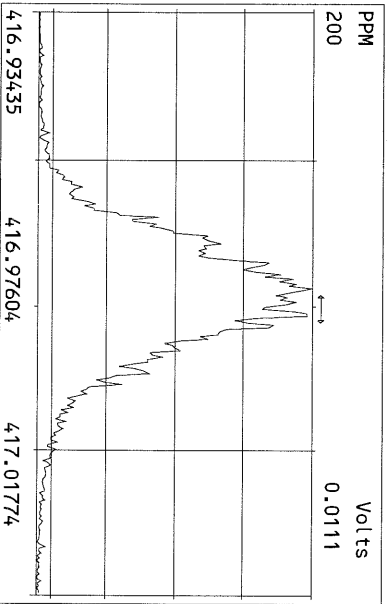
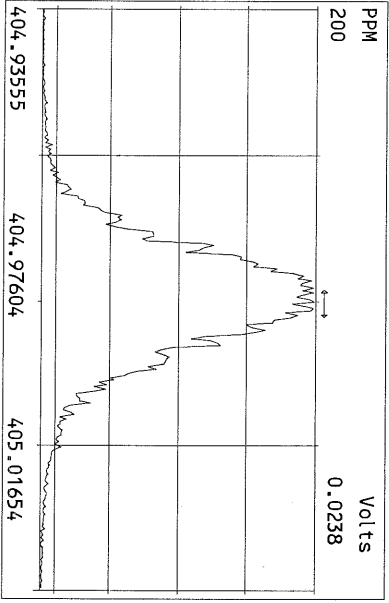
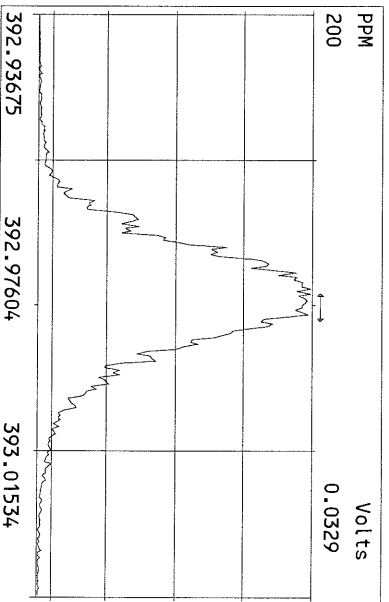
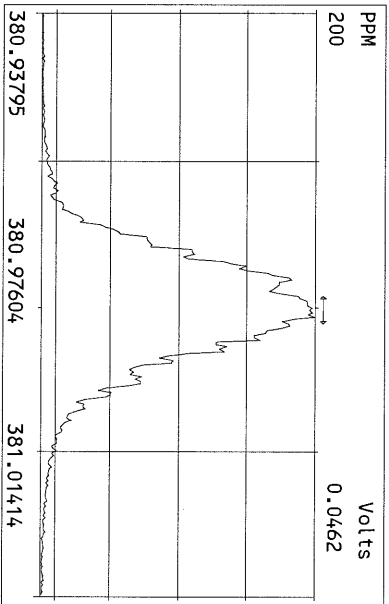
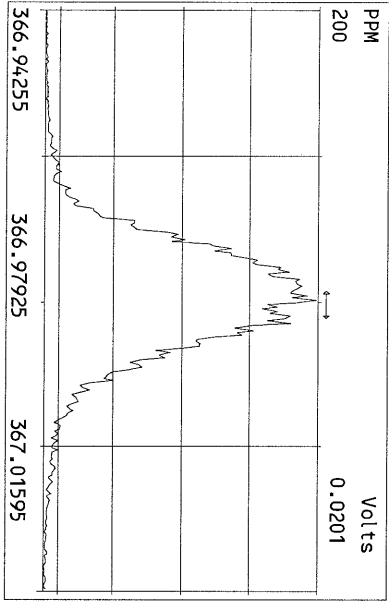
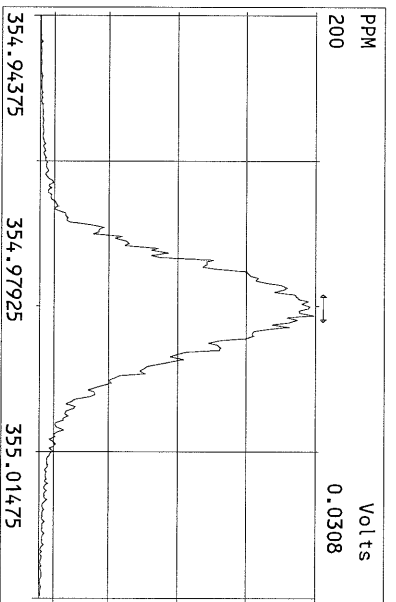
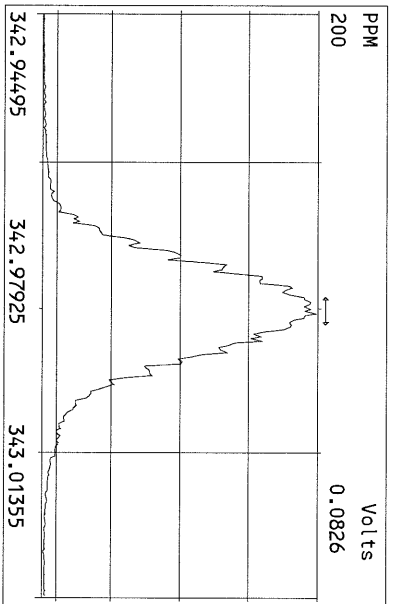
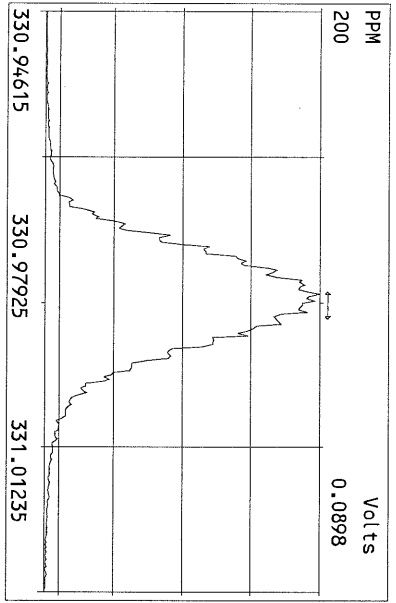
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455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

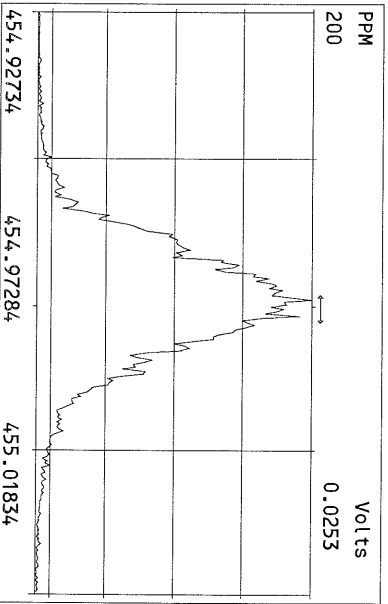
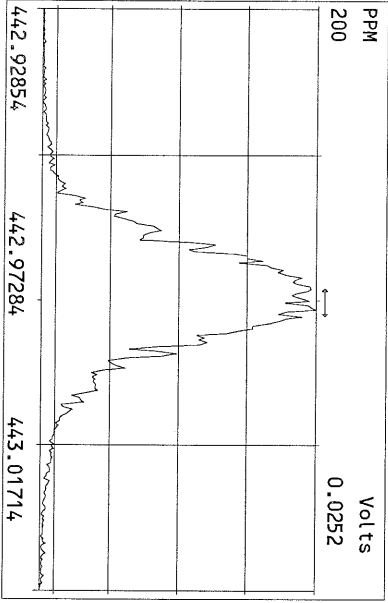
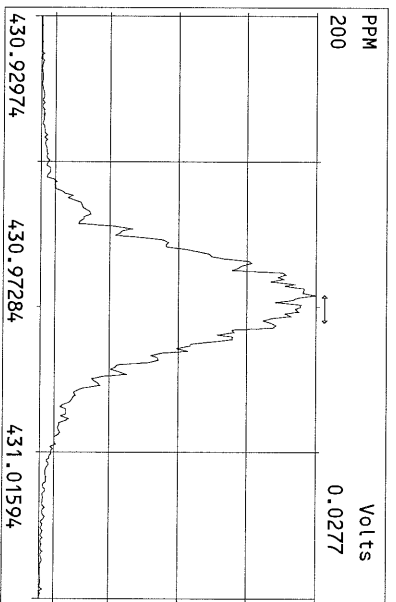
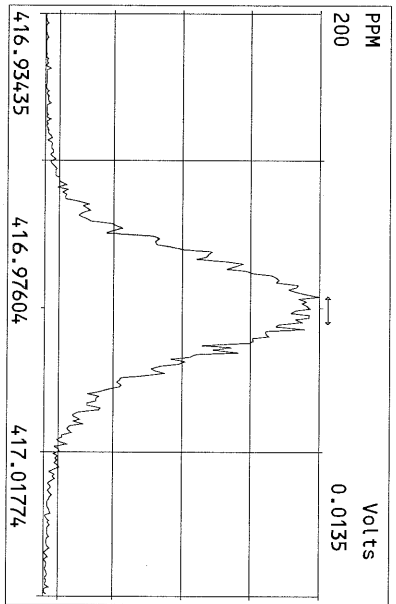
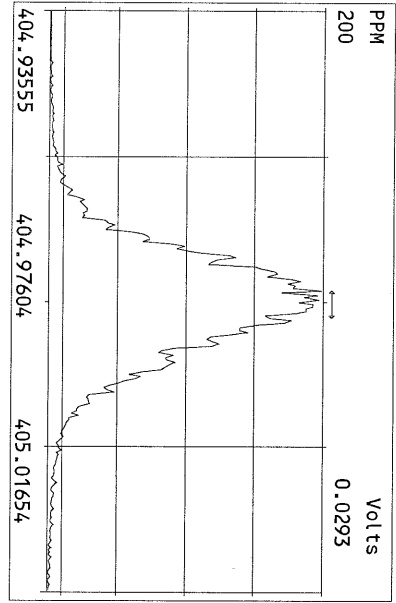
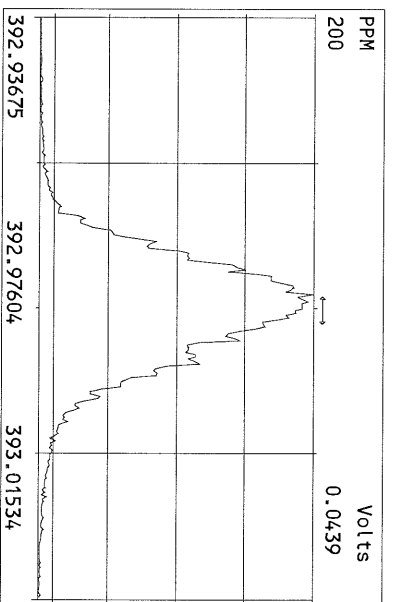
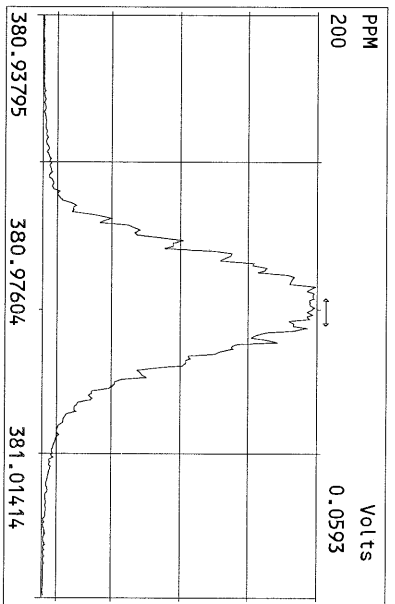
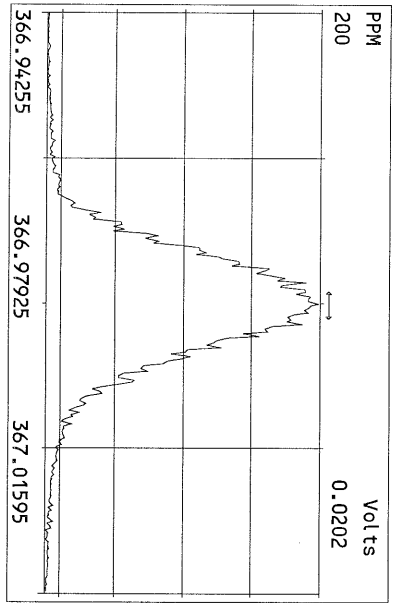


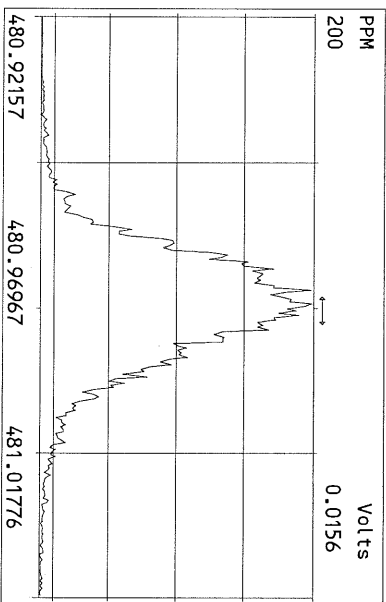
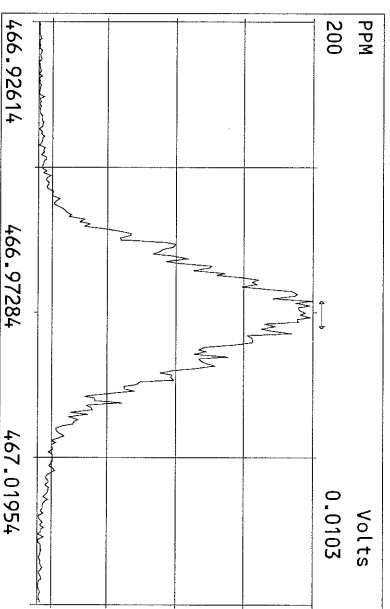
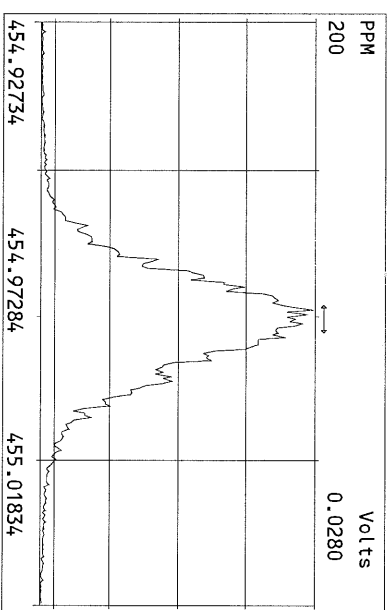
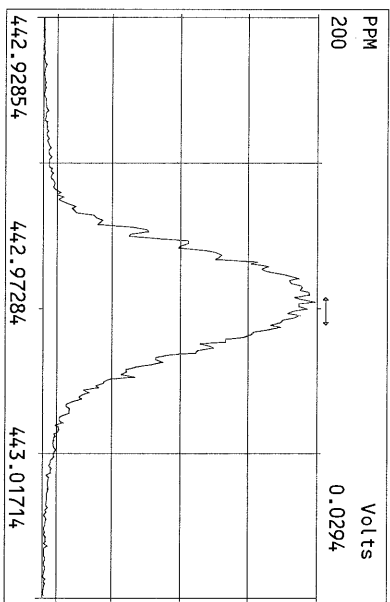
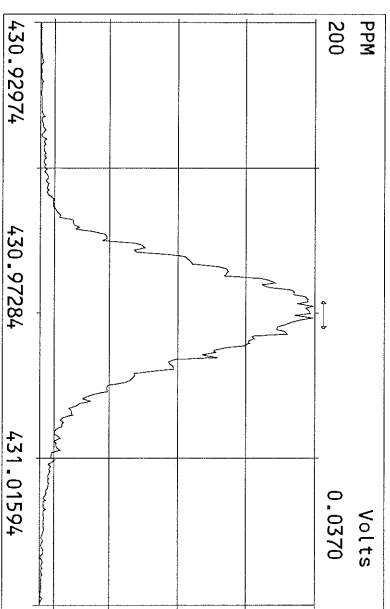
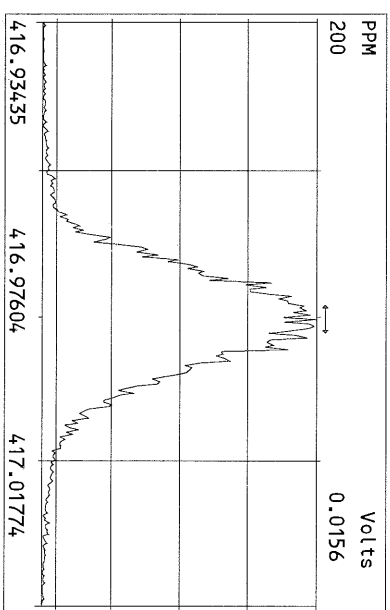
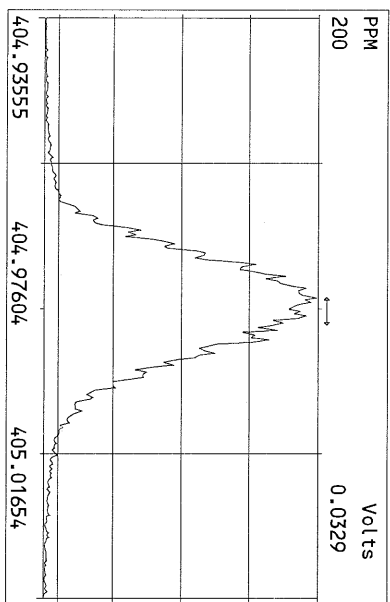
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513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



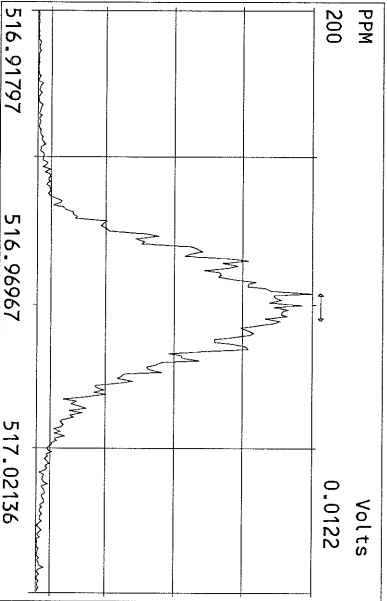
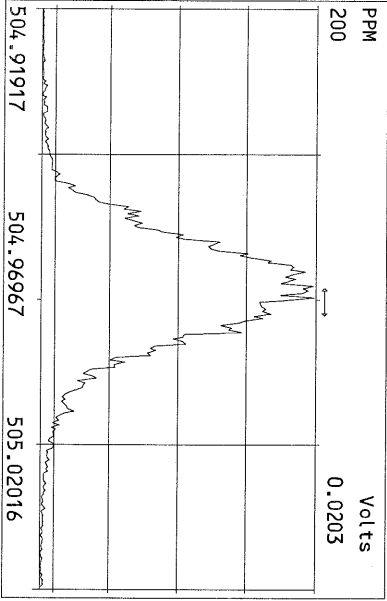
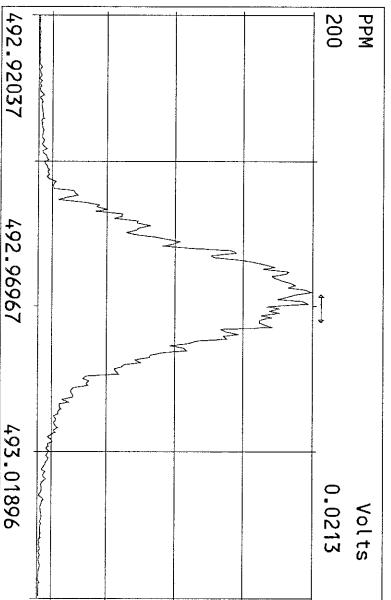
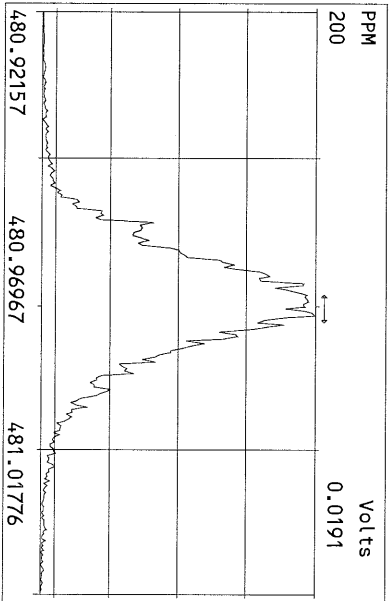
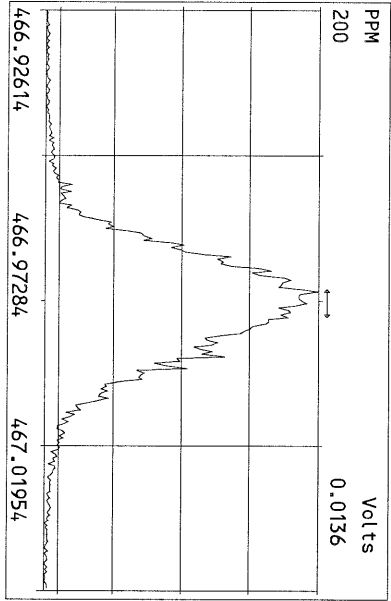
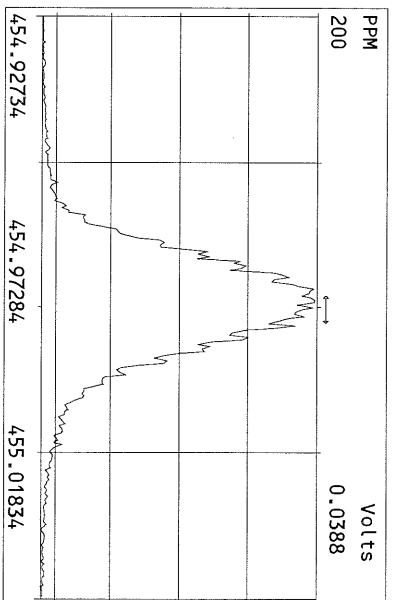
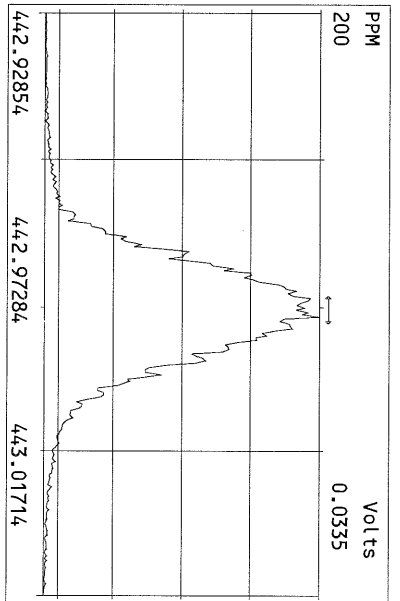
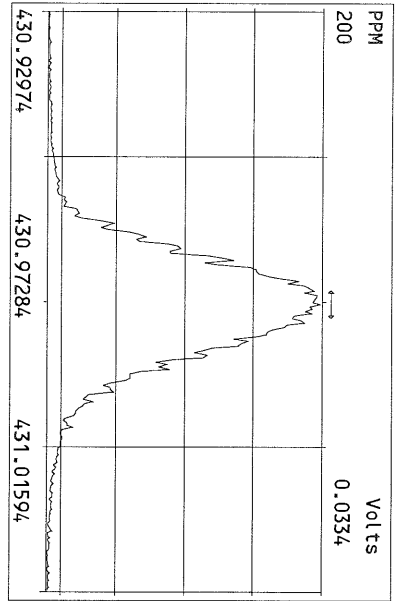












## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:8

Analysis Date: 11-FEB-11 20:58:24

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	y	11.7	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32-1.78	y	52.7	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	y	52.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.33	1.05-1.43	y	52.8	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05-1.43	y	51.0	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.98	0.88-1.20	y	46.1	43.0 - 58.0
OCDD	M+2/M+4	0.92	0.76-1.02	y	101	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.71	0.65-0.89	y	10.5	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	y	52.0	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.49	1.32-1.78	y	48.7	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	55.4	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	54.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	52.8	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	y	54.9	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88-1.20	y	52.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	y	50.6	43.0 - 58.0
OCDF	M+2/M+4	0.92	0.76-1.02	y	116	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: Date: 2/14/11

## USEPA - ITD

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:8

Analysis Date: 11-FEB-11 20:58:24


LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	y	90.7	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.73	1.32-1.78	y	80.2	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	105	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	108	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	95.7	72.0 - 138
13C-OCDD	M+2/M+4	0.94	0.76-1.02	y	192	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.87	0.65-0.89	y	81.7	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.69	1.32-1.78	y	82.6	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	y	86.7	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43-0.59	y	104	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43-0.59	y	103	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43-0.59	y	100	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	y	87.6	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37-0.51	y	94.8	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37-0.51	y	95.5	77.0 - 129
13C-OCDF	M+2/M+4	0.93	0.76-1.02	y	177	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.75	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: Date: 

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory Episode No.:  
Contract No.: SAS No.:  
Instrument ID: FAL3 Initial Calibration Date: 8/23/10  
RT Window Data Filename: 11FEB11M Sam:8 Analysis Date: 11-FEB-11 Time: 20:58:24  
DB-5 IS Data Filename: 11FEB11M Sam:8 Analysis Date: 11-FEB-11 Time: 20:58:24  
DB-225 IS Data Filename: Analysis Date: Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:28	1,3,6,8-TCDF (F)	23:07
1,2,8,9-TCDD (L)	28:28	1,2,8,9-TCDF (L)	28:42
1,2,4,7,9-PeCDD (F)	30:22	1,3,4,6,8-PeCDF (F)	28:32
1,2,3,8,9-PeCDD (L)	33:57	1,2,3,8,9-PeCDF (L)	34:23
1,2,4,6,7,9-HxCDD (F)	36:16	1,2,3,4,6,8-HxCDF (F)	35:24
1,2,3,7,8,9-HxCDD (L)	39:22	1,2,3,7,8,9-HxCDF (L)	39:57
1,2,3,4,6,7,9-HpCDD (F)	42:59	1,2,3,4,6,7,8-HpCDF (F)	42:28
1,2,3,4,6,7,8-HpCDD (L)	44:23	1,2,3,4,7,8,9-HpCDF (L)	45:18

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)  
  
<25%

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

Analyst: 

Date: 2/14/11

## USEPA - ITD

FORM 6A

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

Analysis Date: 11-FEB-11 20:58:24

CS3 or VER Data Filename: 11FEB11M

Sam:8

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	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-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002
LABELED COMPOUNDS			
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052
13C-2,3,7,8-TCDD		1.022	0.976-1.043
13C-2,3,7,8-TCDF		0.994	0.923-1.103
13C-1,2,3,7,8-PeCDD		1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF		1.175	0.923-1.203
13C-2,3,4,7,8-PeCDF		1.224	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5


Analysis Date: 11-FEB-11 20:58:24

CS3 or VER Data Filename: 11FEB11M

Sam:8


NATIVE ANALYTES	RETENTION TIME		RRT	RRT
	REFERENCE			QC LIMITS (1)
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		1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD		1.012	1.000-1.019
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
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD		1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF		1.001	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF		1.000	0.999-1.001
OCDD	13C-OCDD		1.001	0.999-1.001
OCDF	13C-OCDF		1.001	0.999-1.001
LABELED COMPOUNDS				
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD		0.984	0.977-1.000
13C-1,2,3,6,7,8-HxCDD			0.989	0.981-1.003
13C-1,2,3,4,7,8-HxCDF			0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF			0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF			0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF			1.015	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD			1.127	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF			1.079	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF			1.151	1.057-1.154
13C-OCDD			1.270	1.032-1.311
13C-OCDF			1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

Results:      GC Column: DB5      Amount: 1.000      NATO 1989 Tox: 105      WHO 1998 Tox: 131      WHO 2005 Tox: 121

Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	DL	
2,3,7,8-TCDD	1.22e+06	0.77 y	27:31	1.11	11.7		2.50	-	-	*	
1,2,3,7,8-PeCDD	3.98e+06	1.56 y	33:22	1.10	52.7		2.50	-	-	*	
1,2,3,4,7,8-HxCDD	3.83e+06	1.24 y	38:45	1.37	52.9		2.50	-	-	*	
1,2,3,6,7,8-HxCDD	3.69e+06	1.33 y	38:55	1.37	52.8		2.50	-	-	*	
1,2,3,7,8,9-HxCDD	3.60e+06	1.22 y	39:22	1.36	51.0		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	2.57e+06	0.98 y	44:23	1.45	46.1		2.50	-	-	*	
OCDD	3.53e+06	0.92 y	49:59	1.43	101		2.50	-	-	*	
2,3,7,8-TCDF	2.25e+06	0.71 y	26:45	1.50	10.5		2.50	-	-	*	
1,2,3,7,8-PeCDF	5.93e+06	1.52 y	31:38	0.94	52.0		2.50	-	-	*	
2,3,4,7,8-PeCDF	5.62e+06	1.49 y	32:58	0.94	48.7		2.50	-	-	*	
1,2,3,4,7,8-HxCDF	4.64e+06	1.24 y	37:21	0.93	55.4		2.50	-	-	*	
1,2,3,6,7,8-HxCDF	5.47e+06	1.22 y	37:33	0.82	54.3		2.50	-	-	*	
2,3,4,6,7,8-HxCDF	4.58e+06	1.22 y	38:30	0.92	52.8		2.50	-	-	*	
1,2,3,7,8,9-HxCDF	4.55e+06	1.20 y	39:57	1.00	54.9		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDF	3.56e+06	1.07 y	42:28	1.39	52.0		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	2.46e+06	1.05 y	45:18	1.36	50.6		2.50	-	-	*	
OCDF	4.09e+06	0.92 y	50:22	0.79	116		2.50	-	-	*	
										Rec	
13C-2,3,7,8-TCDD	9.42e+06	0.81 y	27:30	1.02	90.7					90.7	
13C-1,2,3,7,8-PeCDD	6.85e+06	1.73 y	33:20	0.84	80.2					80.2	
13C-1,2,3,4,7,8-HxCDD	5.27e+06	1.23 y	38:43	1.07	105					105	
13C-1,2,3,6,7,8-HxCDD	5.10e+06	1.22 y	38:53	1.01	108					108	
13C-1,2,3,4,6,7,8-HpCDD	3.83e+06	1.06 y	44:21	0.86	95.7					95.7	
13C-OCDD	4.90e+06	0.94 y	49:57	0.55	192					95.8	
13C-2,3,7,8-TCDF	1.42e+07	0.87 y	26:44	0.99	81.7					81.7	
13C-1,2,3,7,8-PeCDF	1.21e+07	1.69 y	31:37	0.84	82.6					82.6	
13C-2,3,4,7,8-PeCDF	1.23e+07	1.56 y	32:56	0.81	86.7					86.7	
13C-1,2,3,4,7,8-HxCDF	9.02e+06	0.54 y	37:20	1.85	104					104	
13C-1,2,3,6,7,8-HxCDF	1.23e+07	0.55 y	37:32	2.54	103					103	
13C-2,3,4,6,7,8-HxCDF	9.45e+06	0.54 y	38:29	2.01	100					100	
13C-1,2,3,7,8,9-HxCDF	8.32e+06	0.53 y	39:56	2.03	87.6					87.6	
13C-1,2,3,4,6,7,8-HpCDF	4.92e+06	0.47 y	42:27	1.11	94.8					94.8	
13C-1,2,3,4,7,8,9-HpCDF	3.59e+06	0.47 y	45:18	0.80	95.5					95.5	
13C-OCDF	8.95e+06	0.93 y	50:20	1.08	177					88.3	
37Cl-2,3,7,8-TCDD	6.78e+05		27:31	0.69	9.75					97.5	
13C-1,2,3,4-TCDD	1.01e+07	0.80 y	26:54	-	22.6						
13C-1,2,3,4-TCDF	1.75e+07	0.88 y	25:38	-	24.2						
13C-1,2,3,7,8,9-HxCDD	4.68e+06	1.21 y	39:20	-	17.0						
Total Tetra-Dioxins	6.51e+06		23:02	1.11	62.2		2.50	-	-	*	32
Total Penta-Dioxins	9.54e+06		29:53	1.10	127		2.50	-	-	*	28
Total Hexa-Dioxins	1.35e+07		34:60	1.37	190		2.50	-	-	*	38
Total Hepta-Dioxins	6.36e+06		41:11	1.45	114		2.50	-	-	*	47
Total Tetra-Furans	1.19e+07		23:07	1.50	55.8		2.50	-	-	*	28
1st Fn. Tot Penta-Furans	7.92e+06		28:32	0.94	69.0		2.50	-	-	*	PeCDF 1
Total Penta-Furans	1.65e+07		29:43	0.94	144		2.50	-	-	*	213 25
Total Hexa-Furans	2.34e+07		35:00	0.91	265		2.50	-	-	*	32
Total Hepta-Furans	6.67e+06		41:09	1.38	114		2.50	-	-	*	35

Analyst: 

Date: 2/14/11

Frontier Analytical Laboratory - Acquisition Log

Run Name:11FEB11M

Instrument: FAL3

GC: DB5

Experiment:OCDD

Data File S	FAL ID	Client ID	Acquired	ConCal	EndCal	Analyst
11FEB11M 1	ST021111M1	1613 CS3 100511J	11-FEB-11 14:29:51	ST021111M1	ST021111M2	TC
11FEB11M 2	2216-001-0001-OPR	OPR	11-FEB-11 15:25:09	ST021111M1	ST021111M2	TC
11FEB11M 3	2216-001-0001-MB	Method Blank	11-FEB-11 16:21:50	ST021111M1	ST021111M2	TC
11FEB11M 4	6556-001-0001-SA	PSB05-4-5-072810	11-FEB-11 17:17:09	ST021111M1	ST021111M2	TC
11FEB11M 5	6557-001-0001-SA	PSB12-14-17-072810	11-FEB-11 18:12:28	ST021111M1	ST021111M2	TC
11FEB11M 6	6558-001-0001-SA	PSB2-4-6-072910	11-FEB-11 19:07:47	ST021111M1	ST021111M2	TC
11FEB11M 7	SB021111M1	Solvent Blank	11-FEB-11 20:03:05	ST021111M1	ST021111M2	TC
11FEB11M 8	ST021111M2	1613 CS3 100511J	11-FEB-11 20:58:24	ST021111M1	ST021111M2	TC

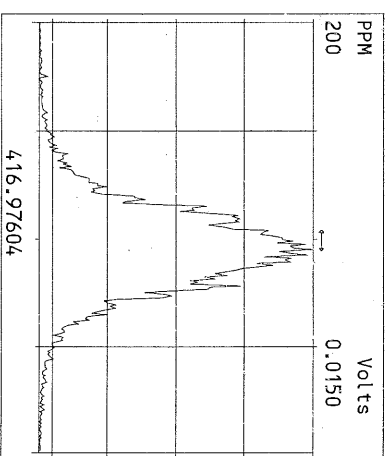
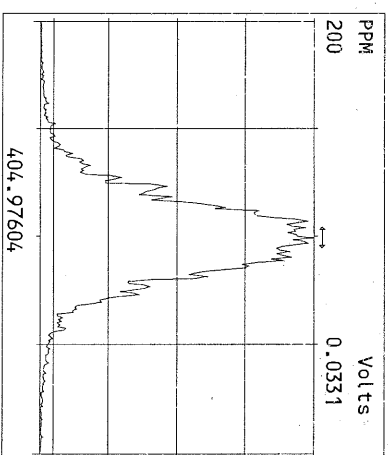
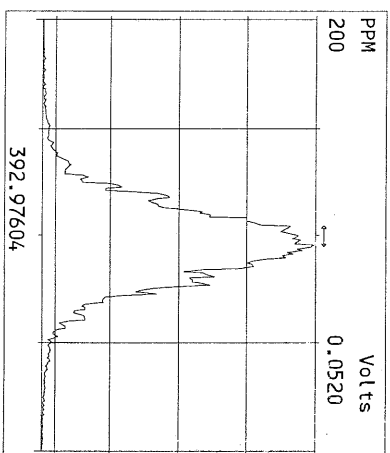
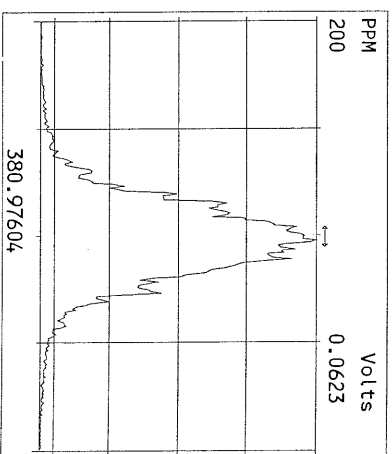
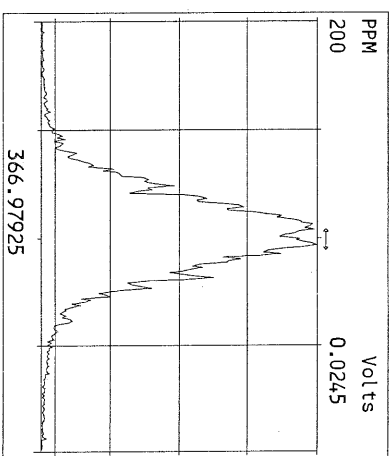
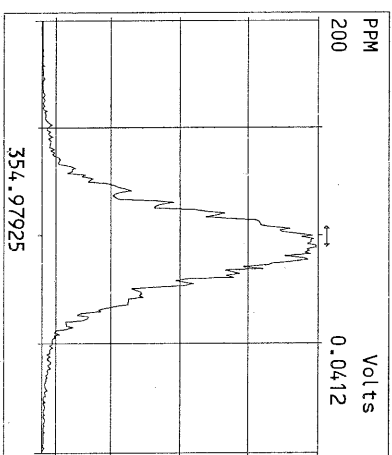
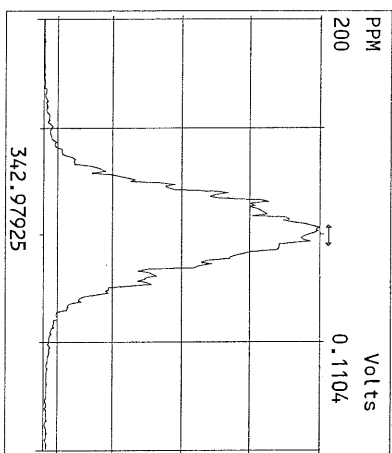
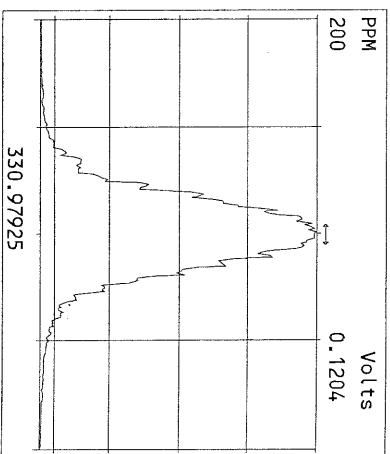
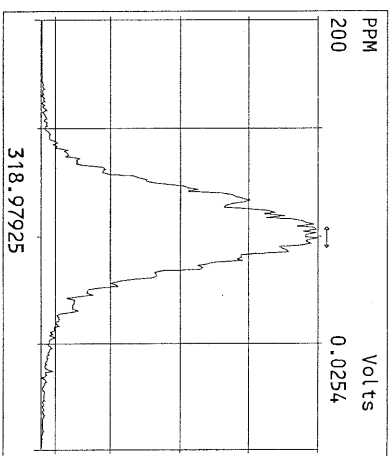
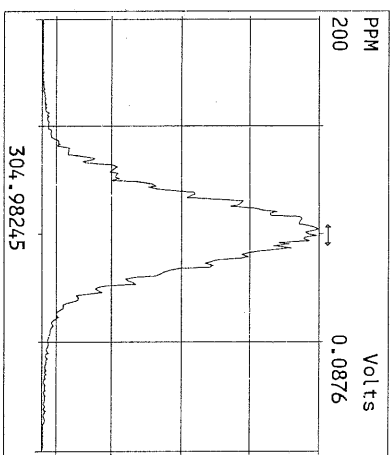
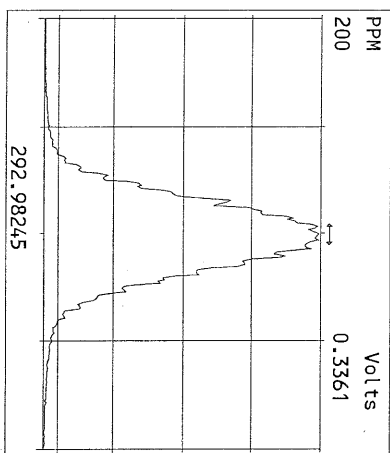


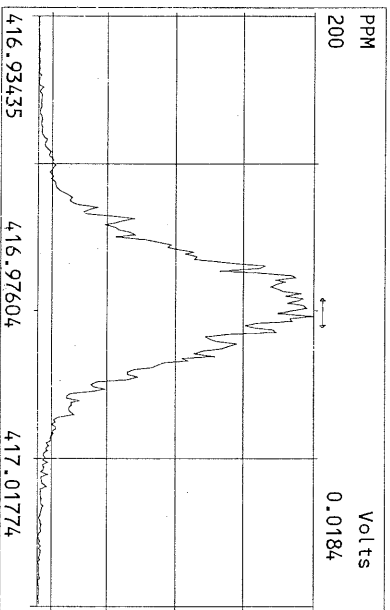
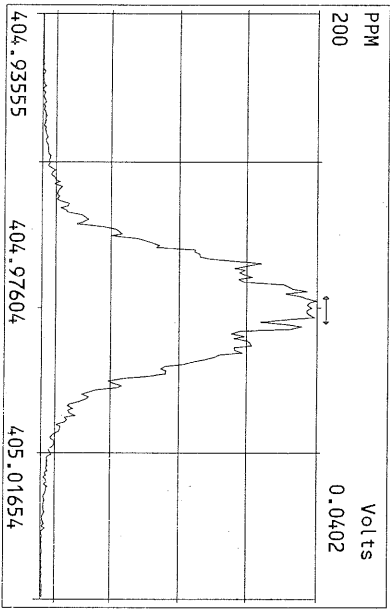
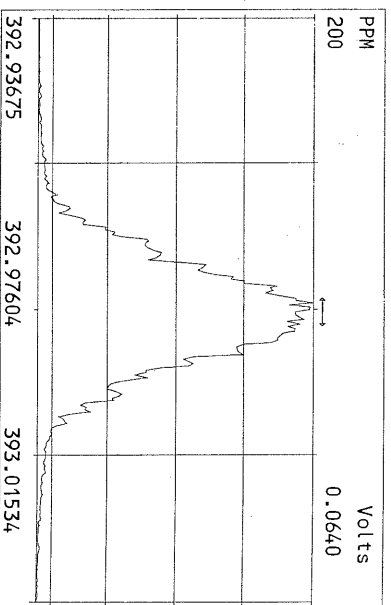
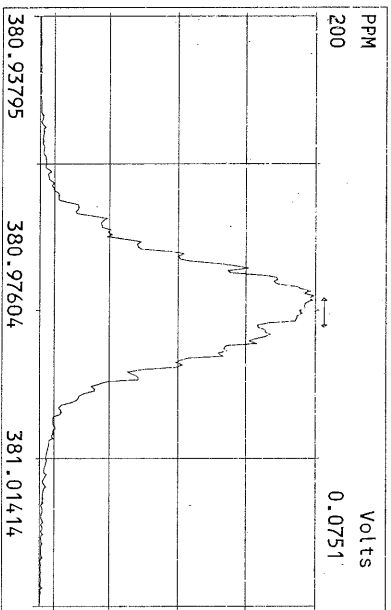
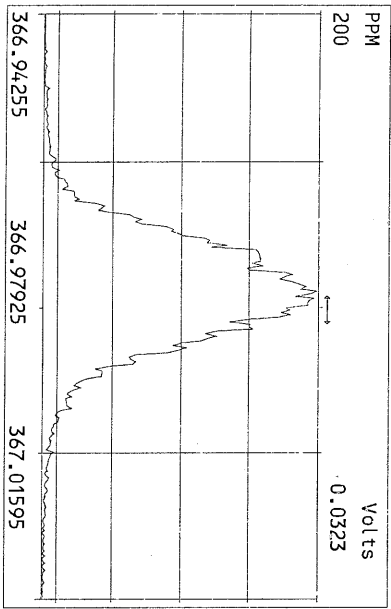
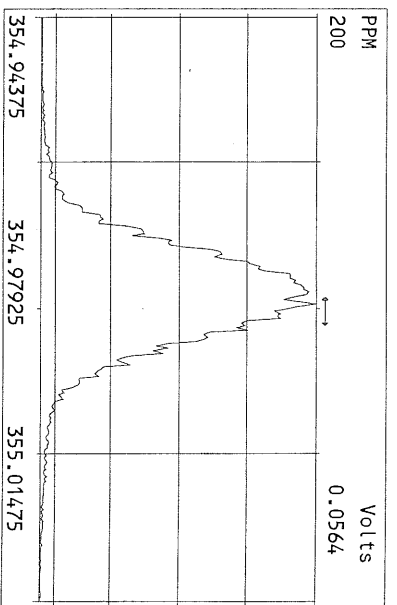
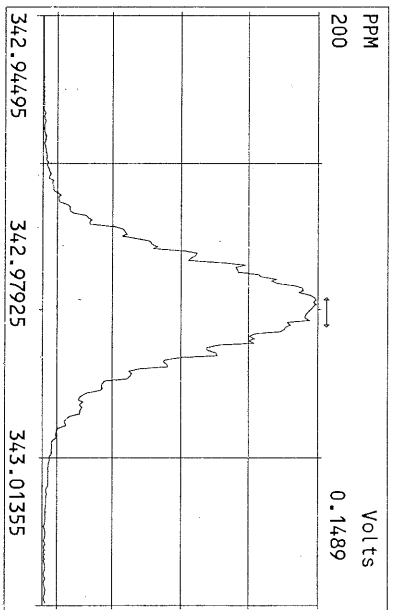
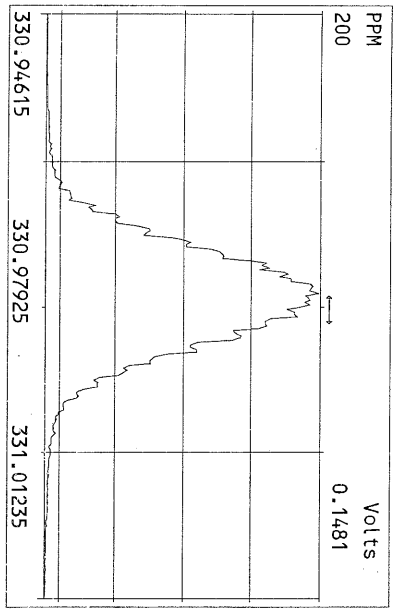
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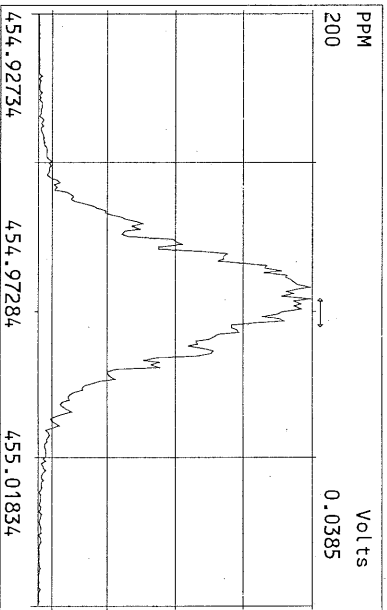
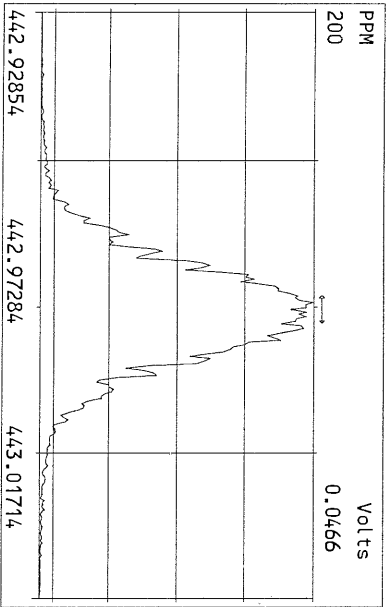
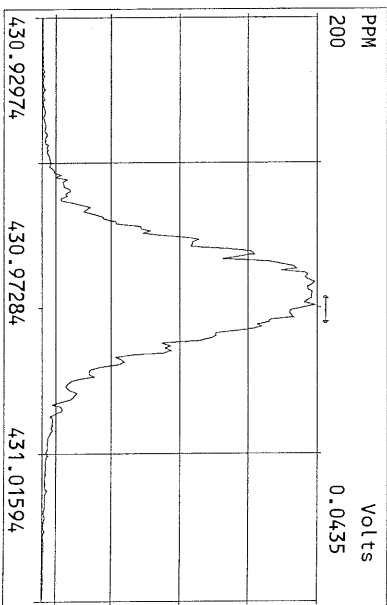
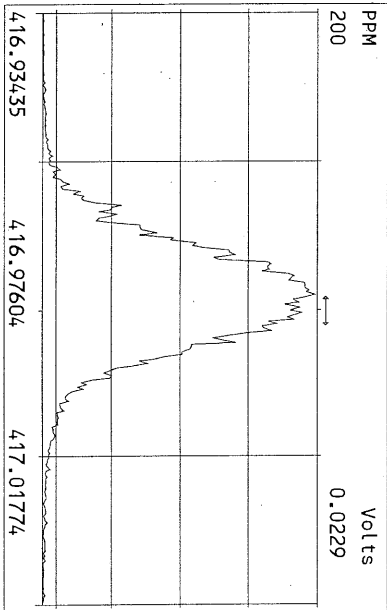
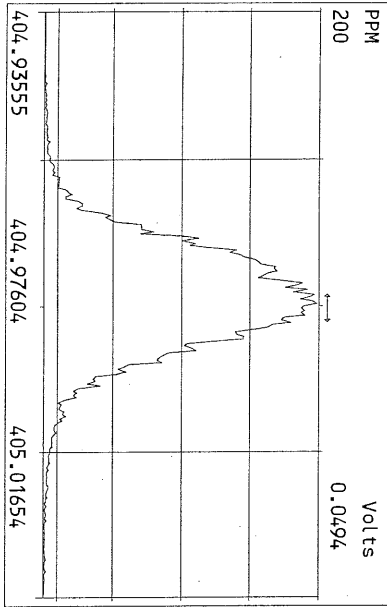
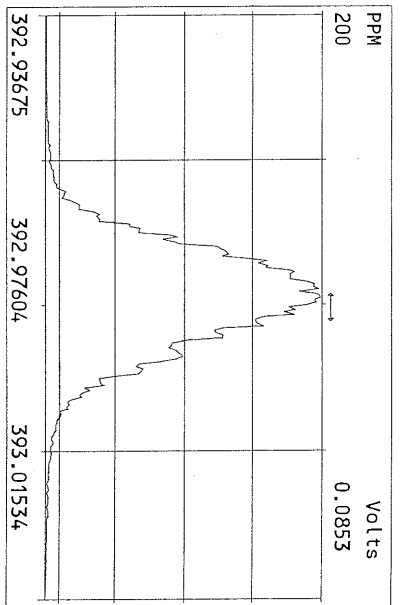
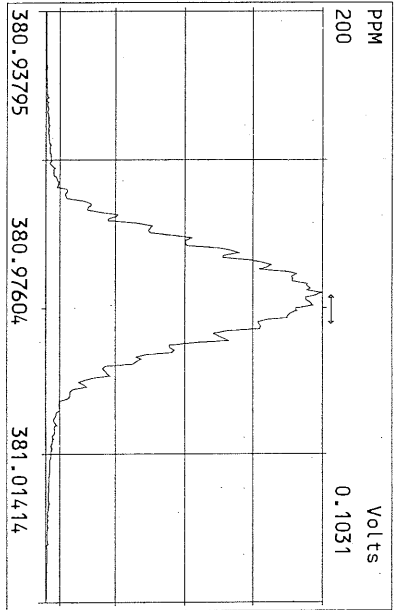
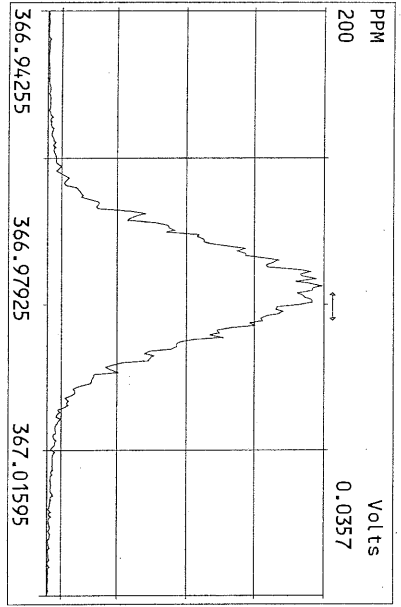
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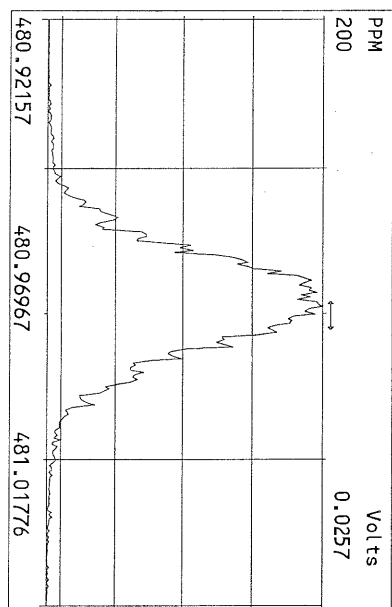
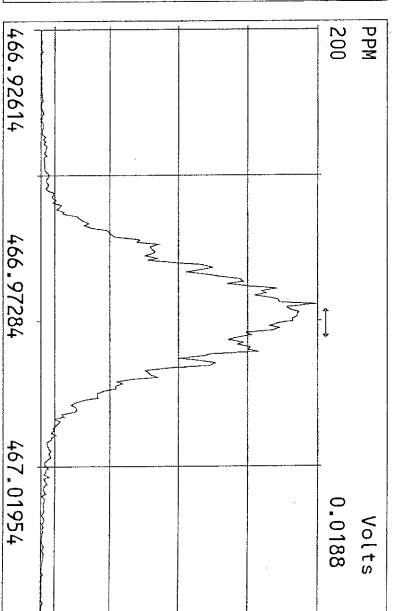
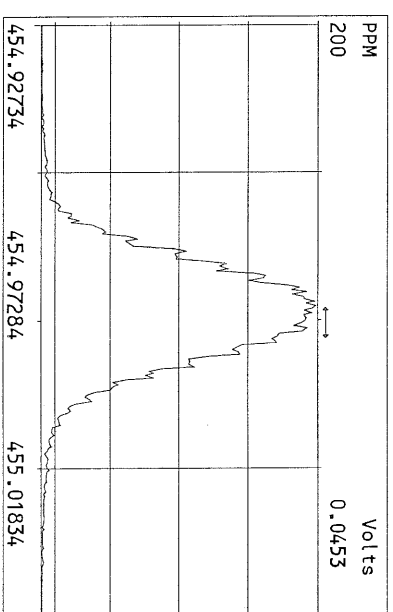
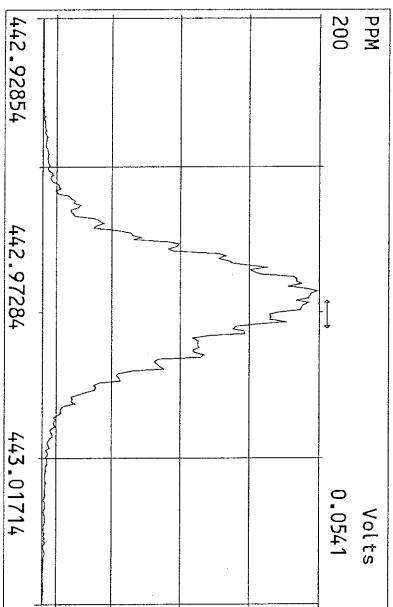
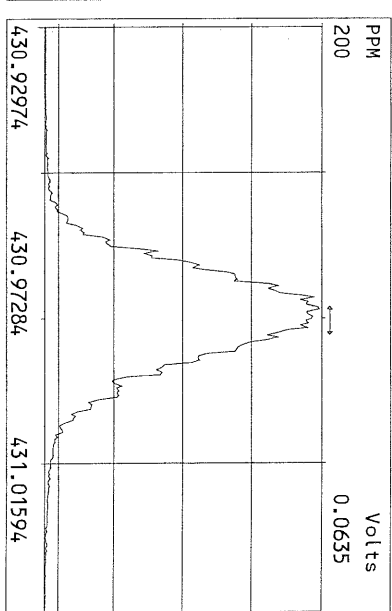
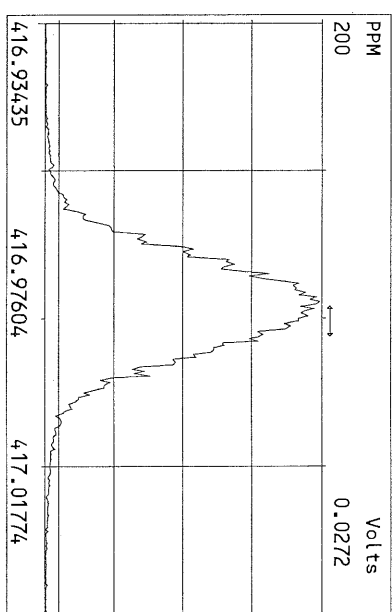
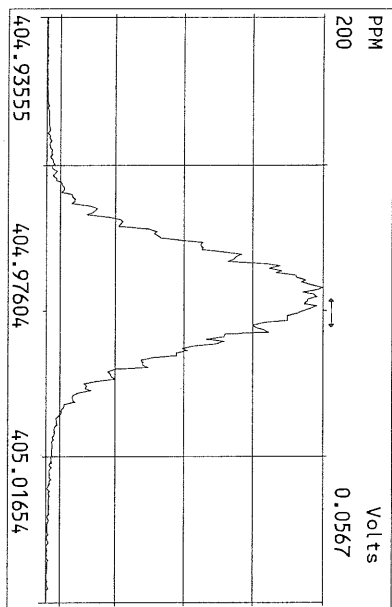
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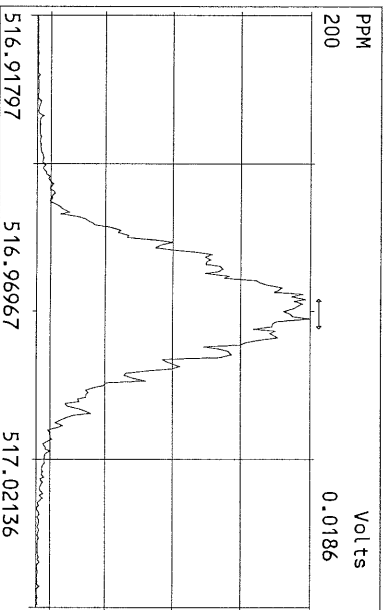
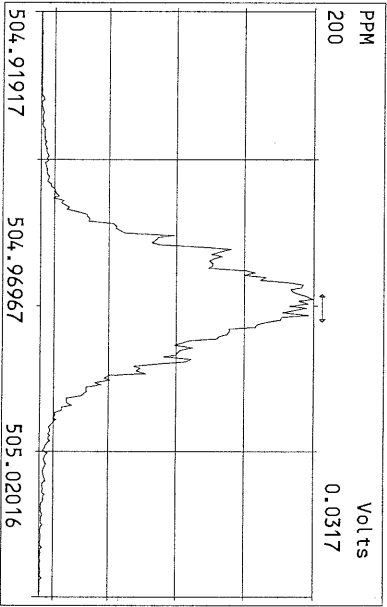
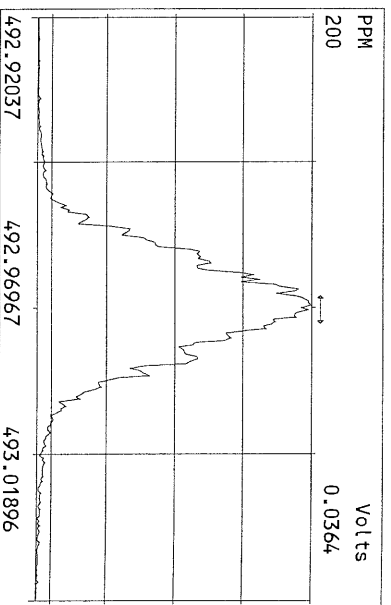
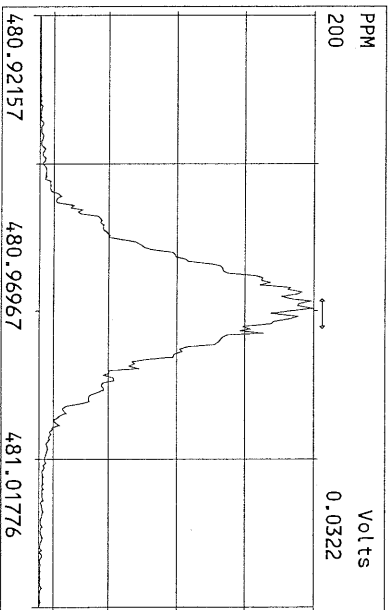
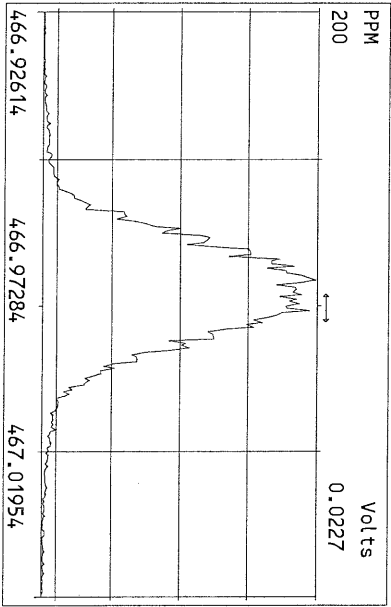
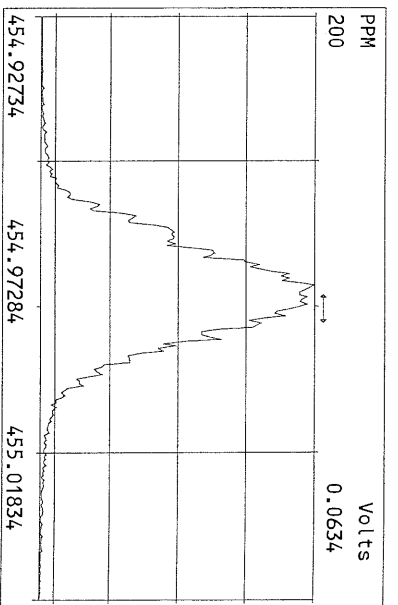
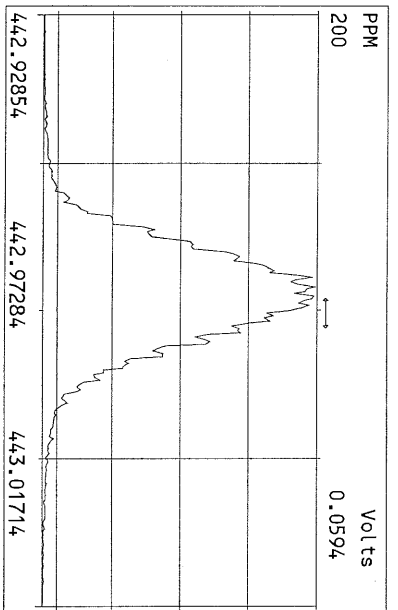
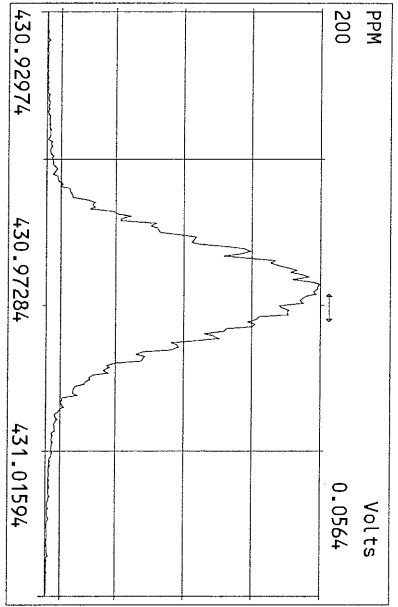




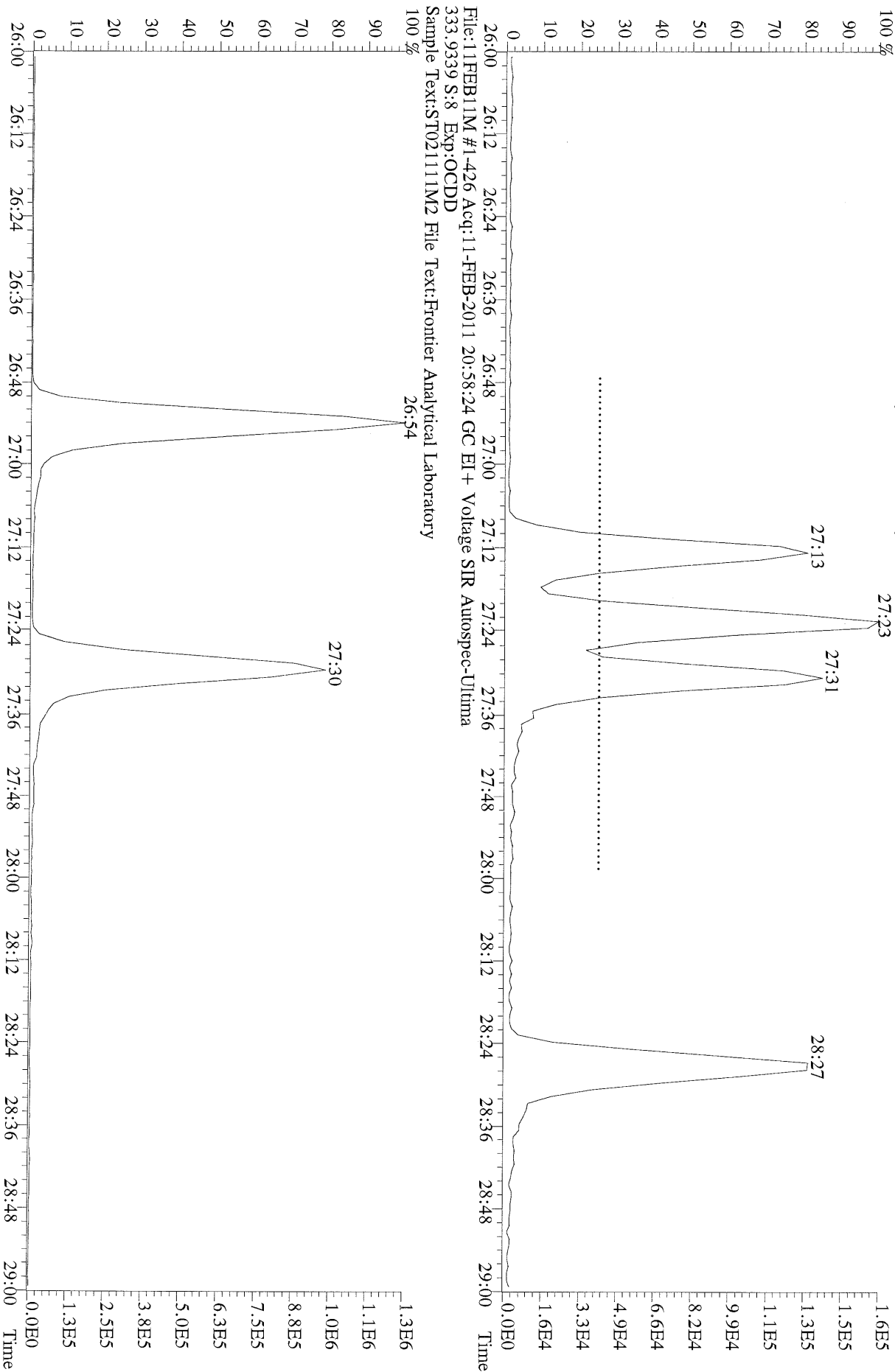




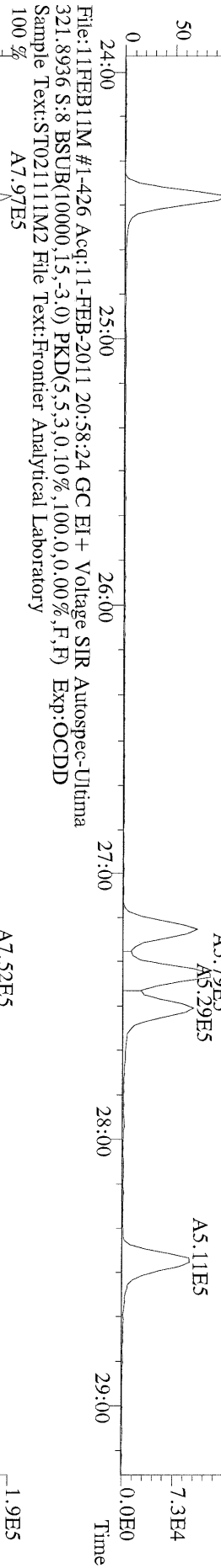




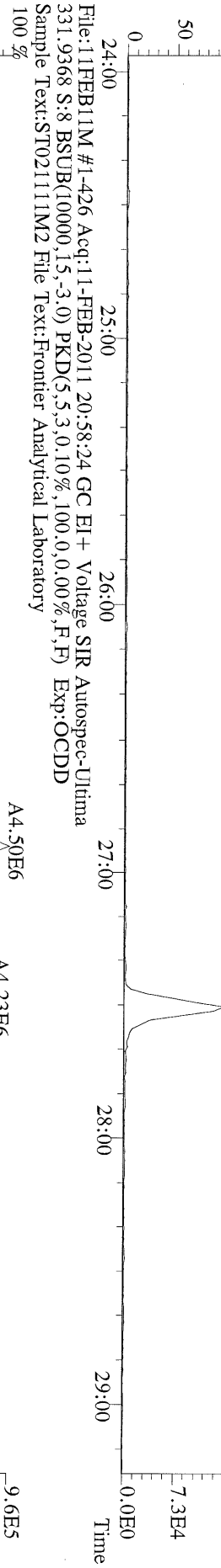
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321.8936 S:8 Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



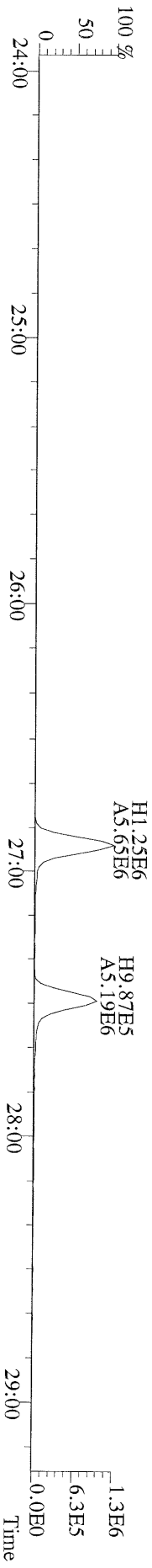
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319.8965 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 % A6.30E5



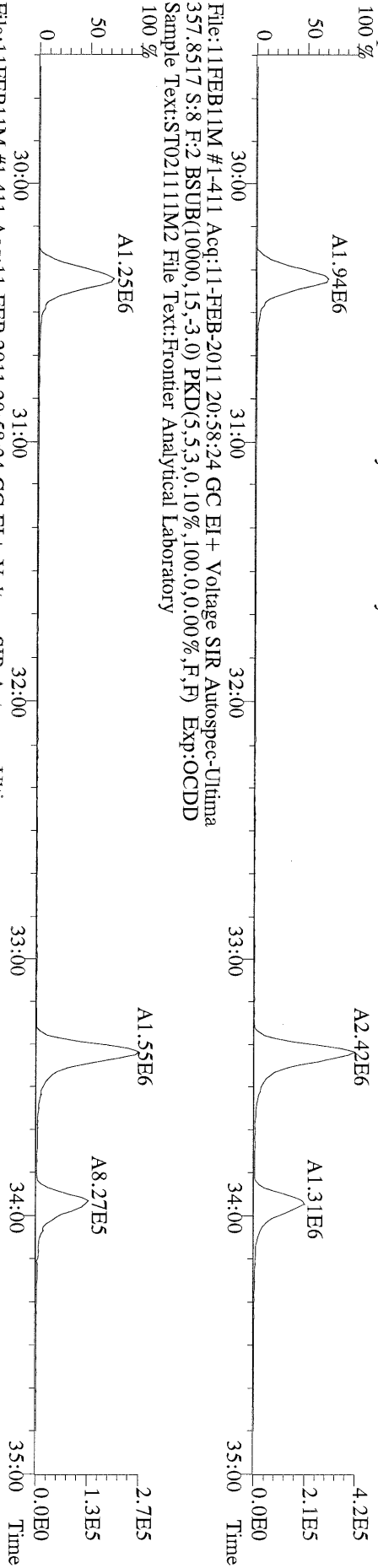
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327.8847 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 % A7.97E5



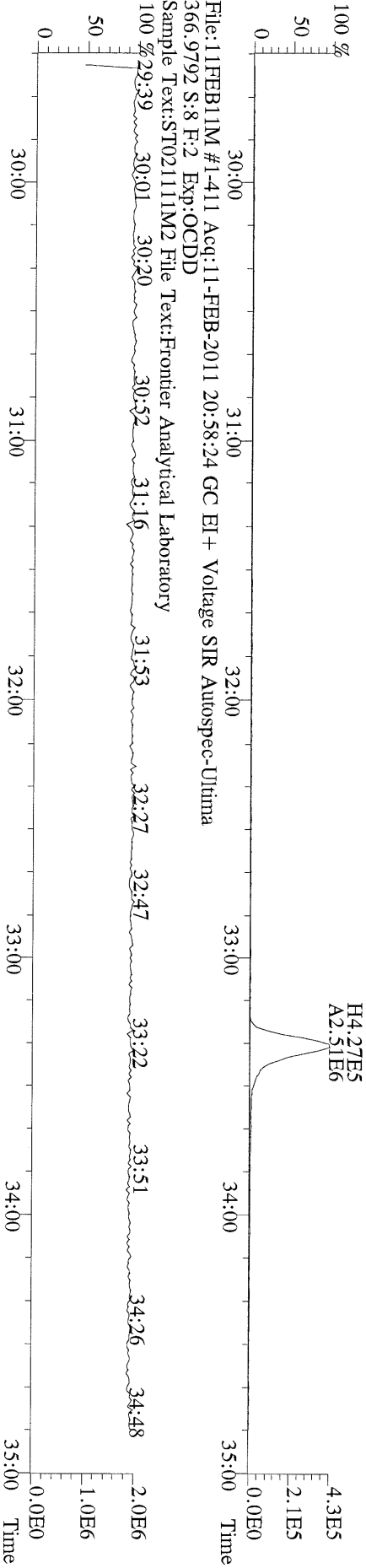
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333.9339 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



File:11FEB11M #1-411 Acq:11-FEB-2011 20:58:24 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 %

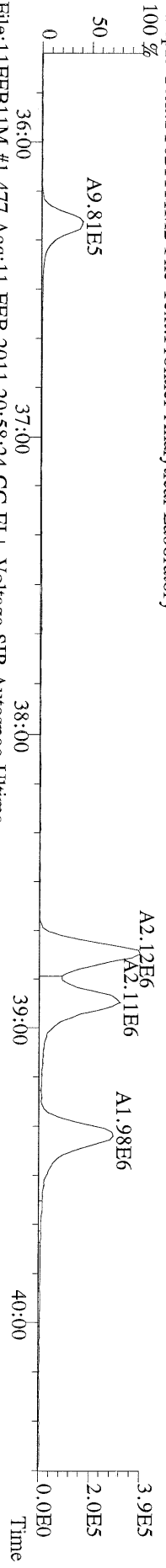


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367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 %

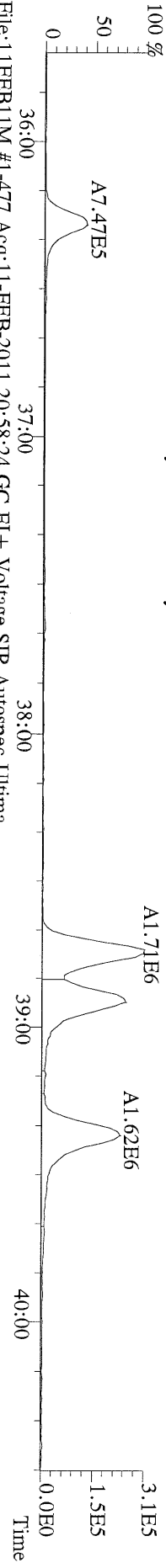




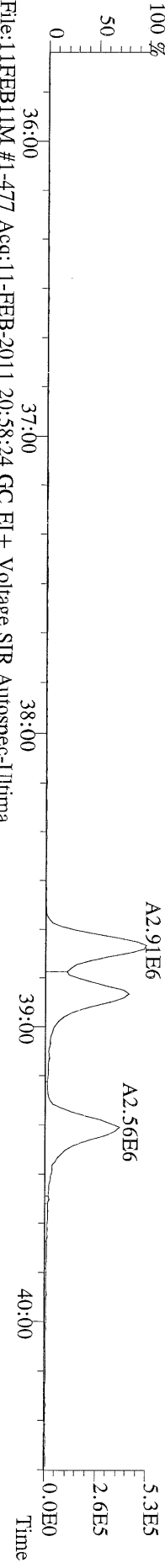
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389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



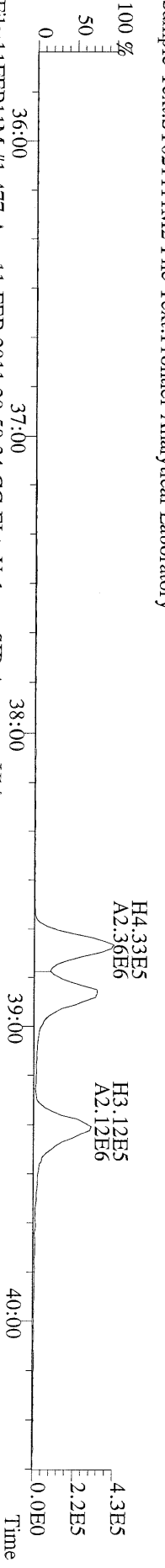
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391.8127 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



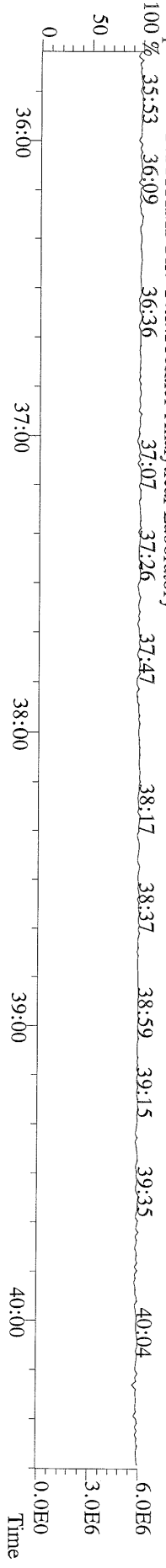
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401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



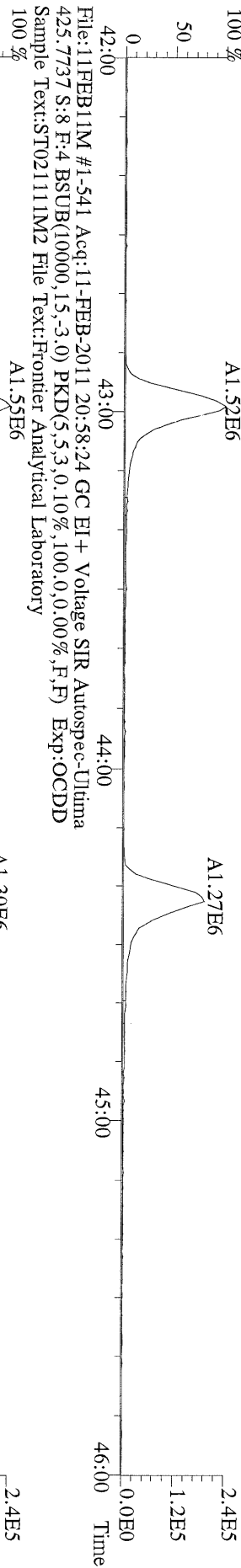
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403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



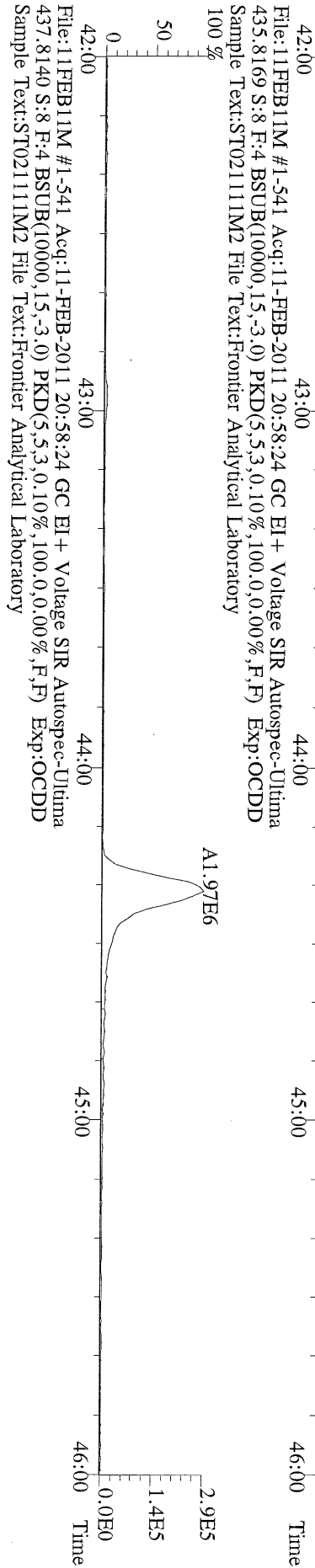
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380.9760 S:8 F:3 Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



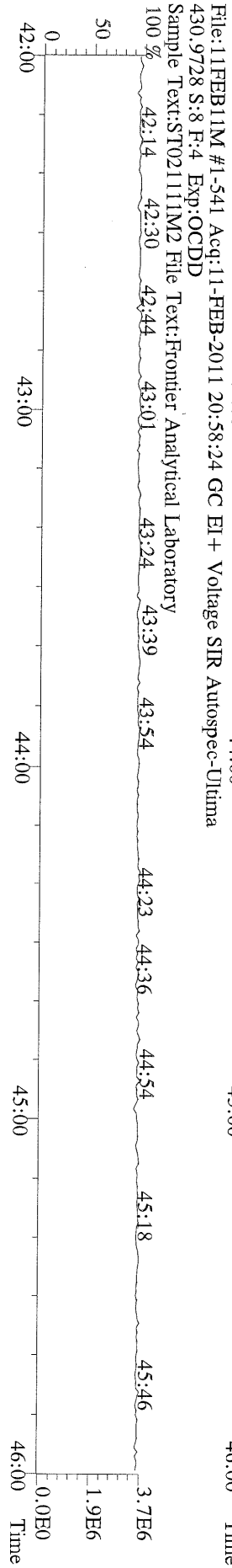
File:11FEB11M #1-541 Acq:11-FEB-2011 20:58:24 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



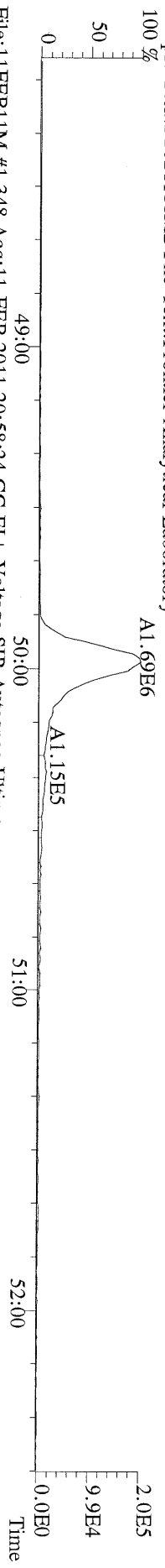
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435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



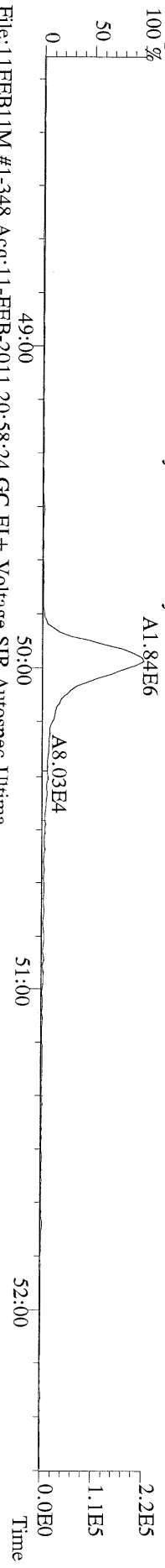
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430.9728 S:8 F:4 Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



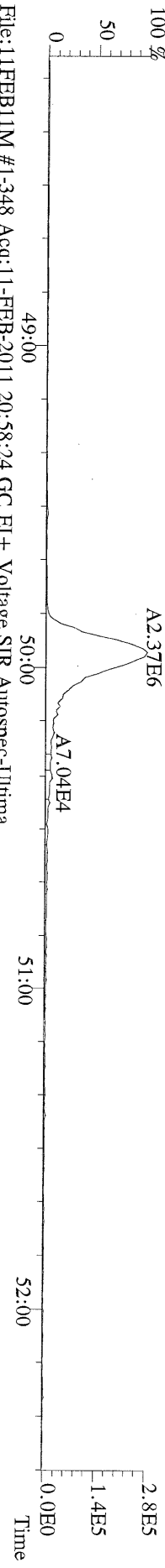
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457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



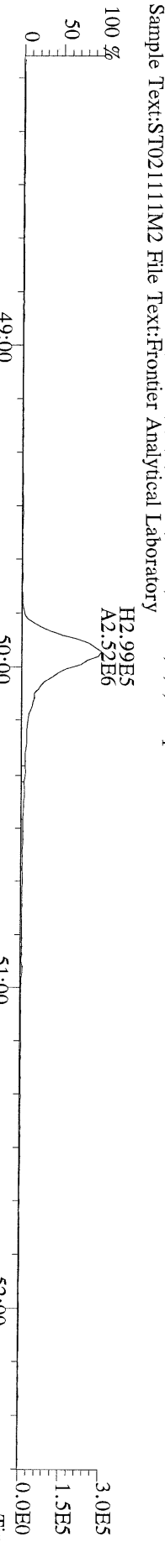
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459.7348 S:8 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



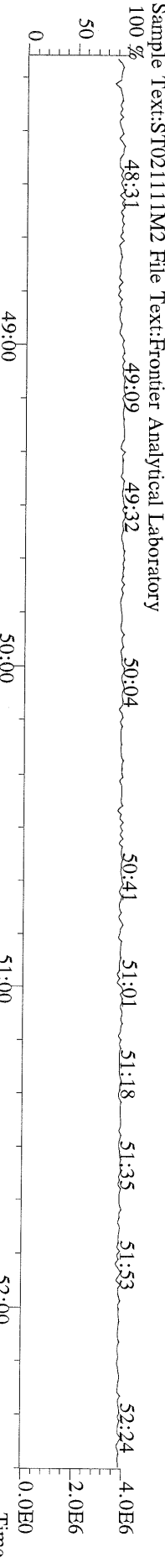
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469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



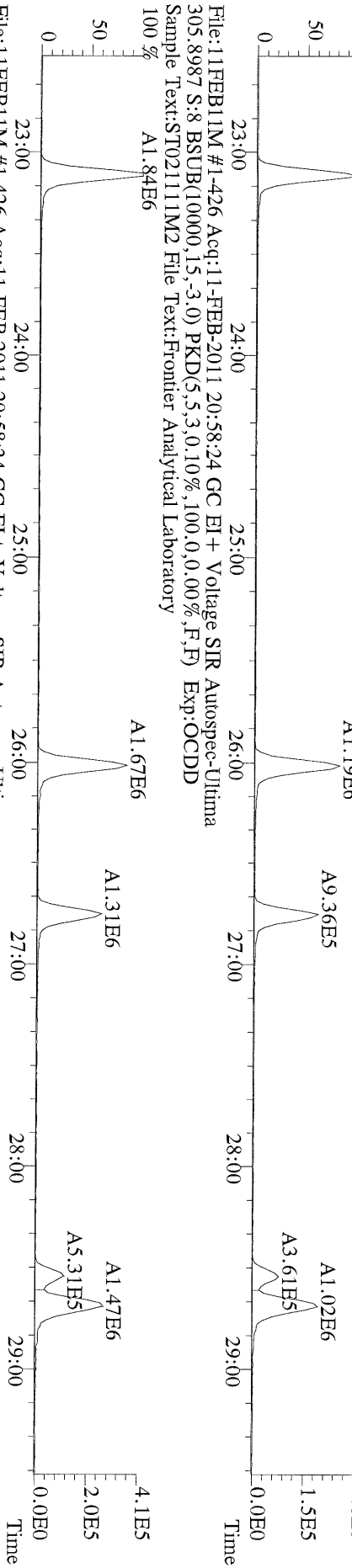
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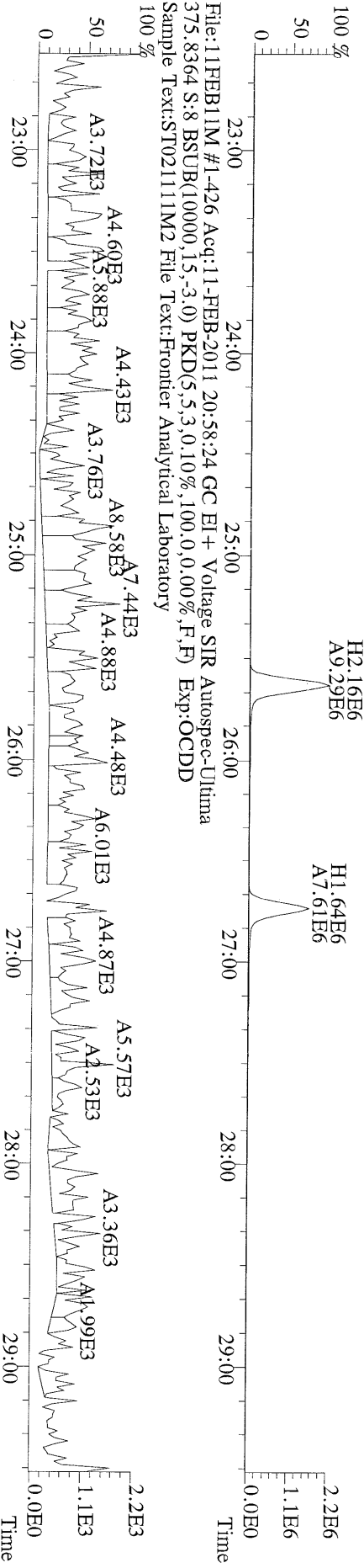
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



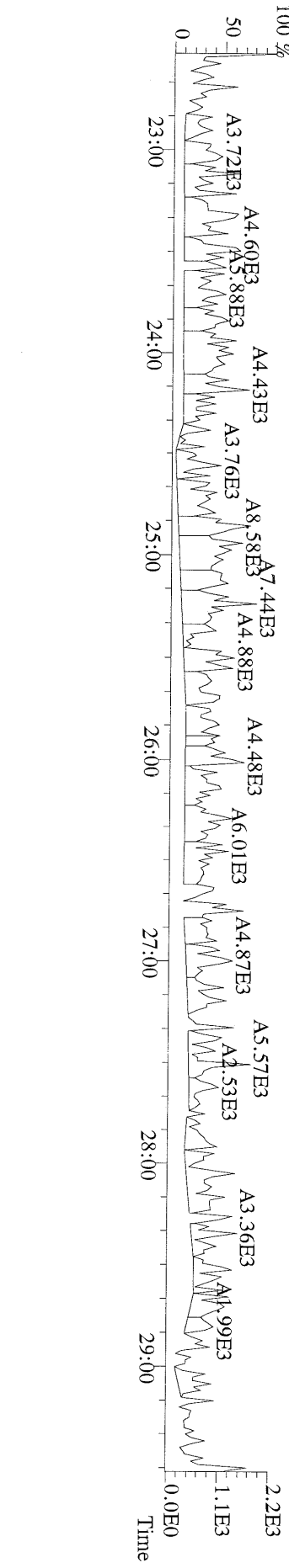
File:11FEB11M #1-426 Acq:11-FEB-2011 20:58:24 GC EI + Voltage SIR Autospec-Ultima  
303.9016 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



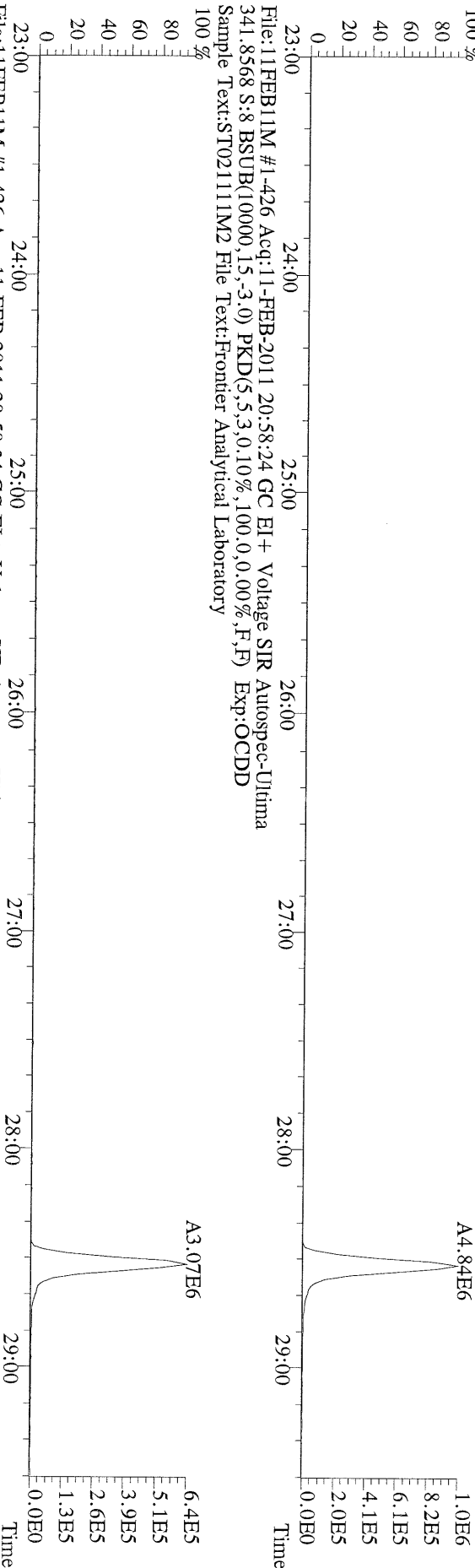
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315.9419 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



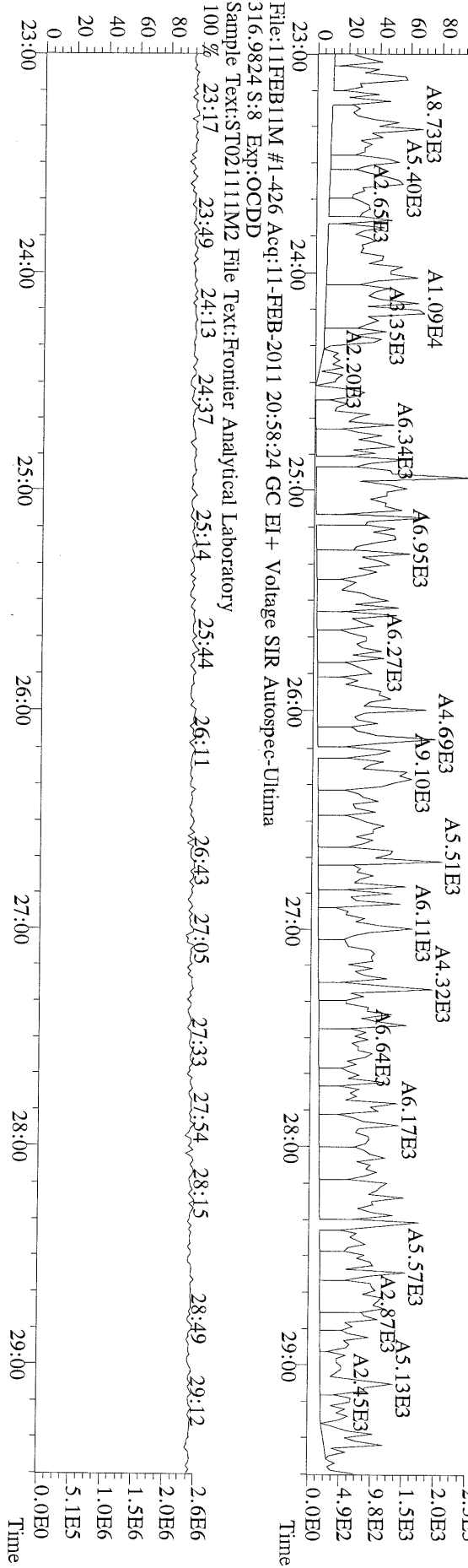
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375.8364 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



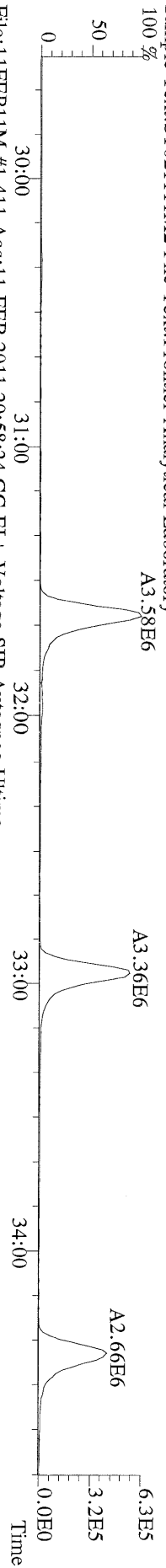
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 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST02111M2 File Text:Frontier Analytical Laboratory



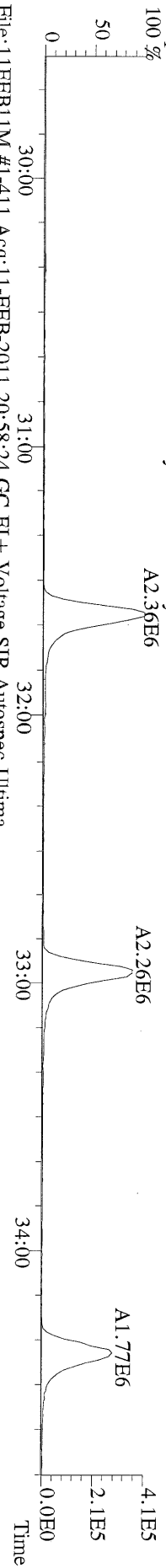
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 409.7974 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST02111M2 File Text:Frontier Analytical Laboratory



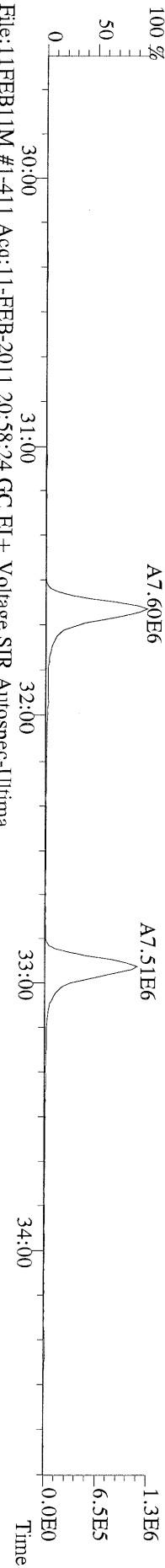
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339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



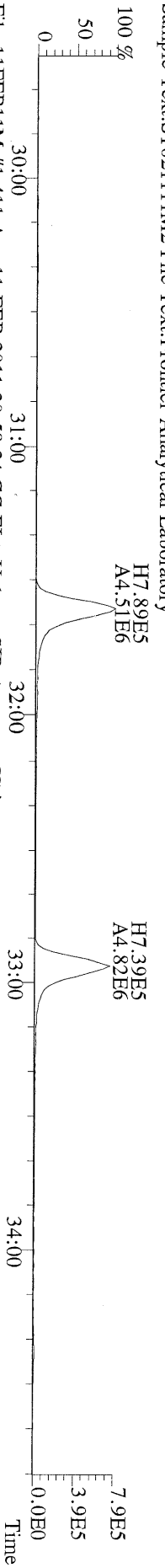
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341.8568 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



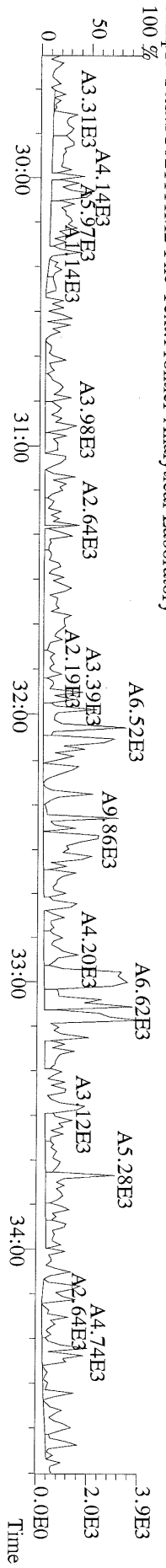
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351.9000 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



File:11FEB11M #1-411 Acq:11-FEB-2011 20:58:24 GC EI+ Voltage SIR Autospec-Ultima  
353.8970 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

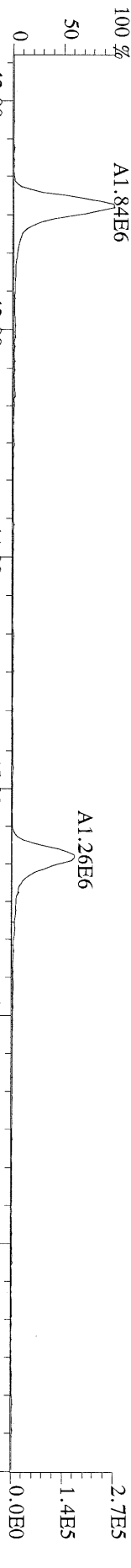


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409.7974 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

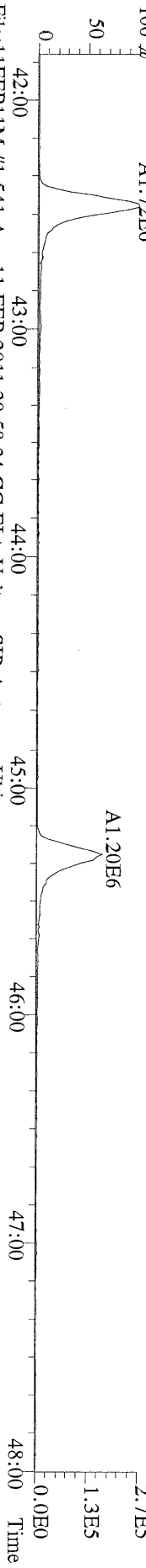




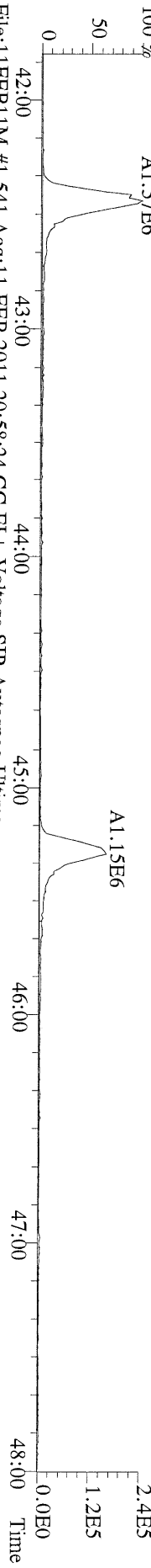
File:11FEB11M #1-541 Acq:11-FEB-2011 20:58:24 GC EI + Voltage SIR Autospec-Ultima  
407.7818 S:8 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



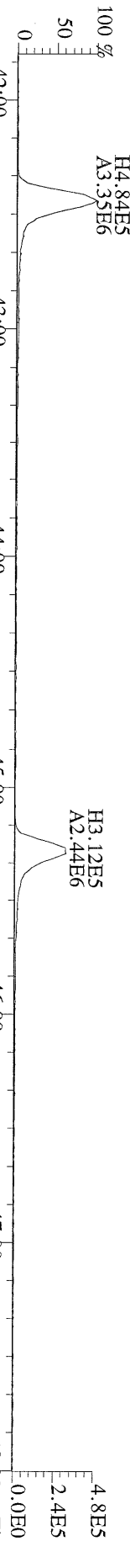
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



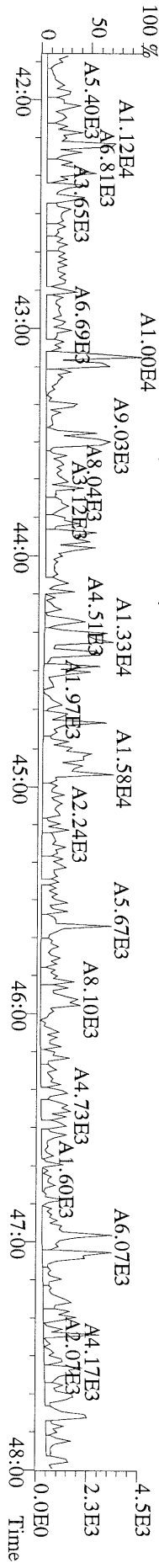
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



File:11FEB11M #1-541 Acq:11-FEB-2011 20:58:24 GC EI + Voltage SIR Autospec-Ultima  
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

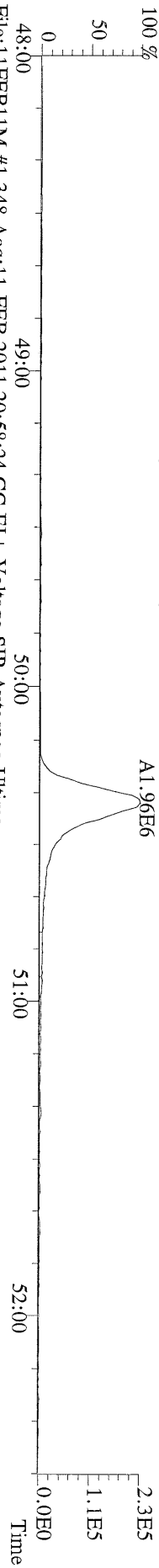


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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

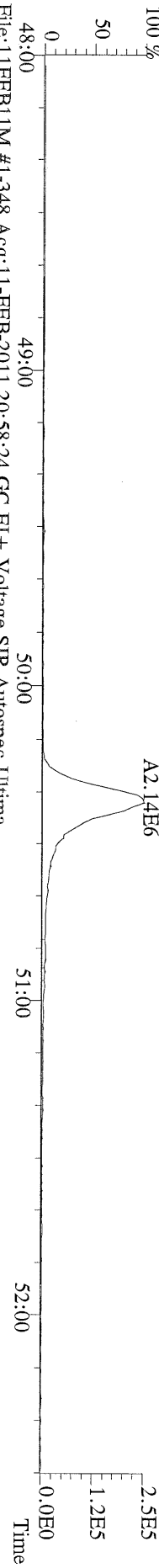




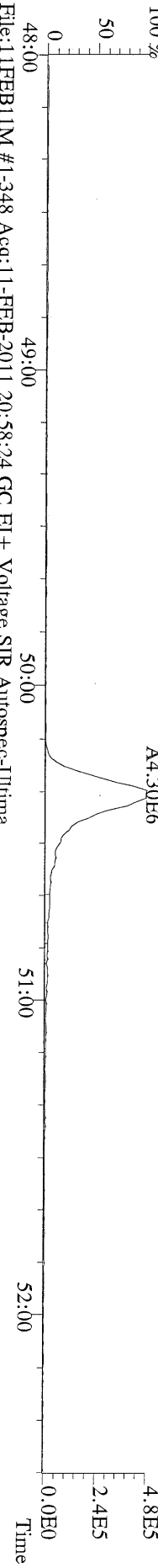
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441.7428 S:8 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



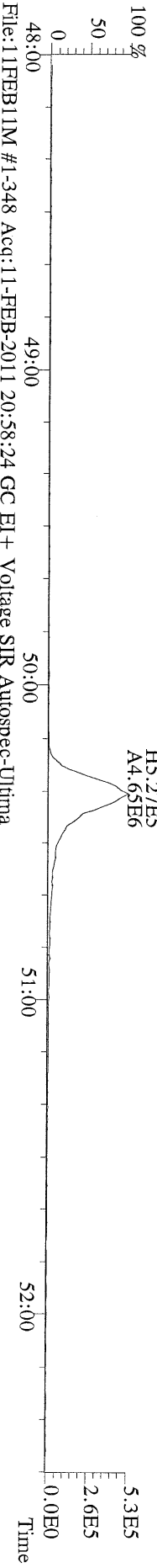
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



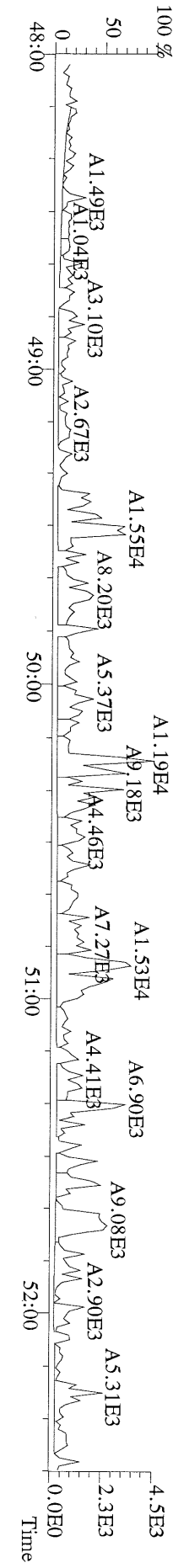
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

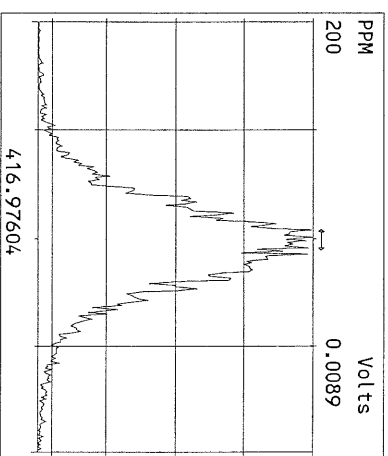
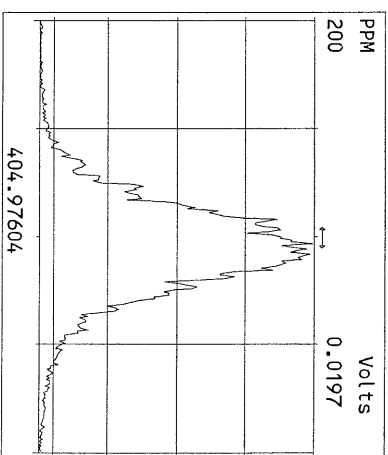
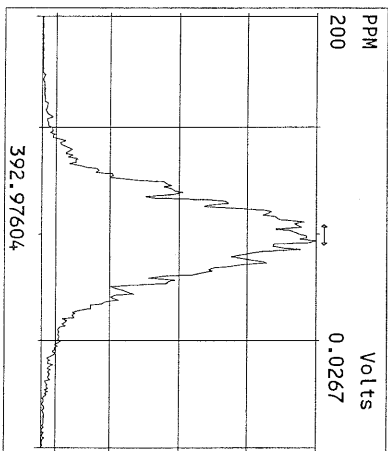
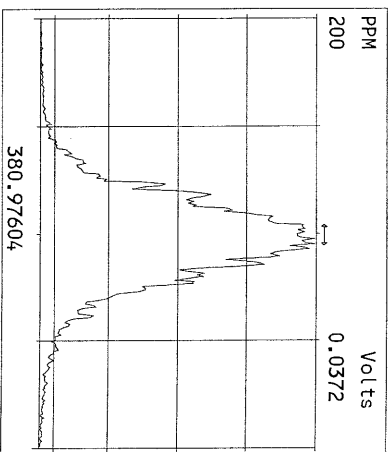
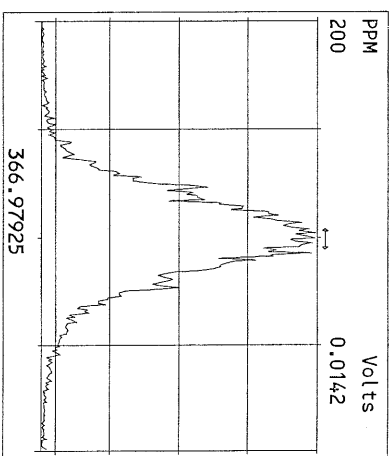
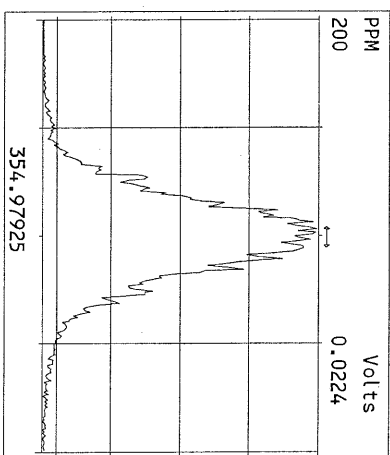
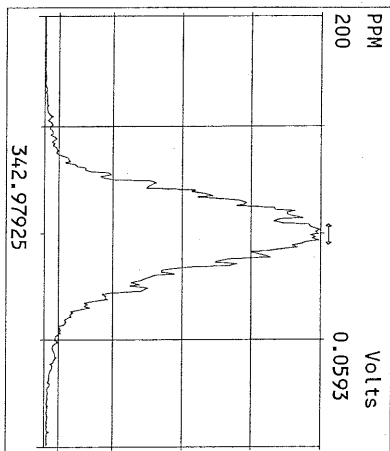
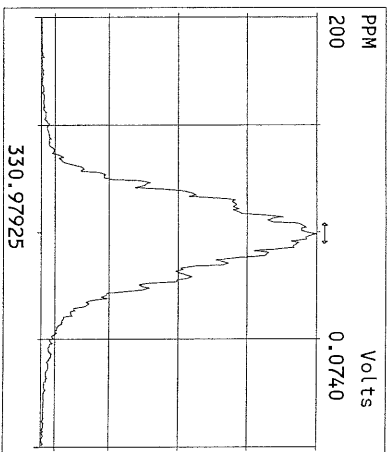
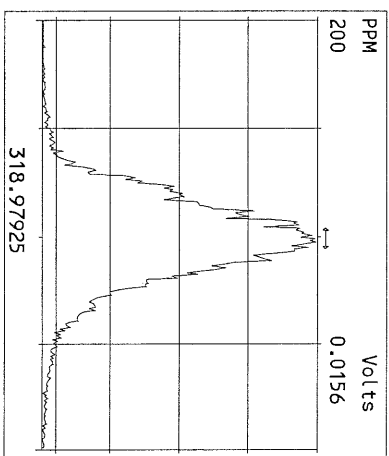
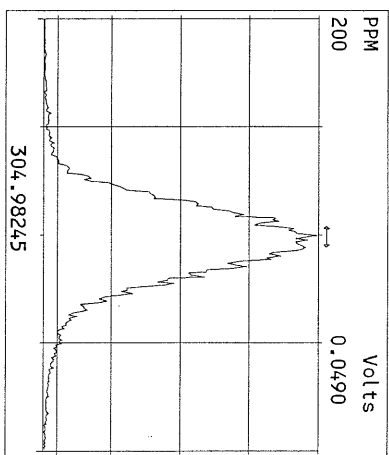
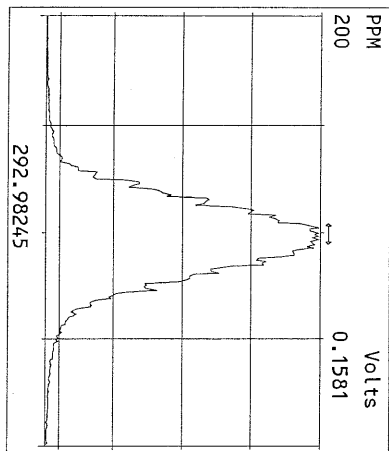


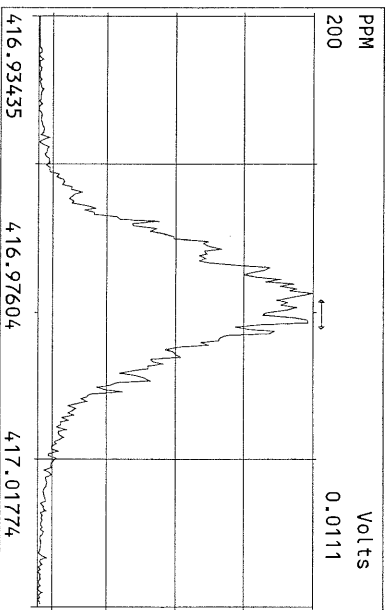
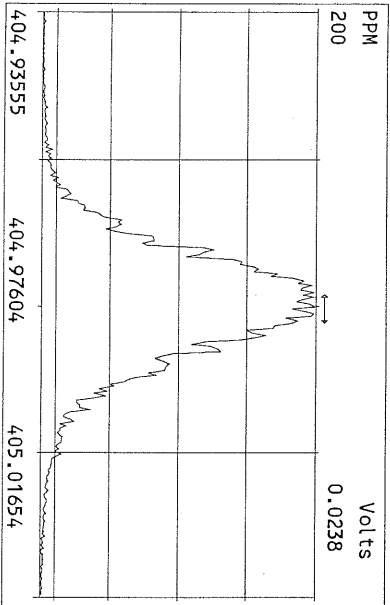
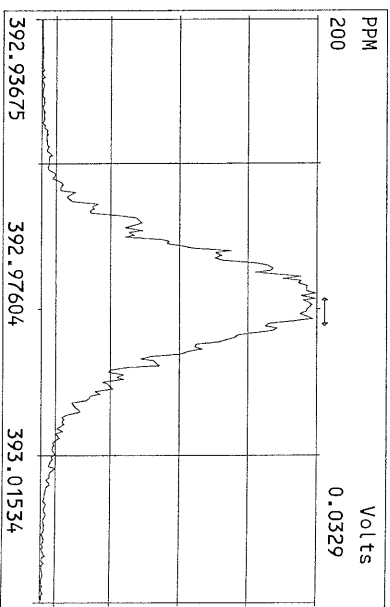
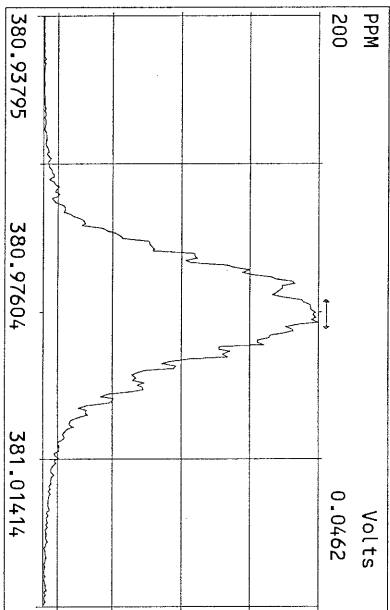
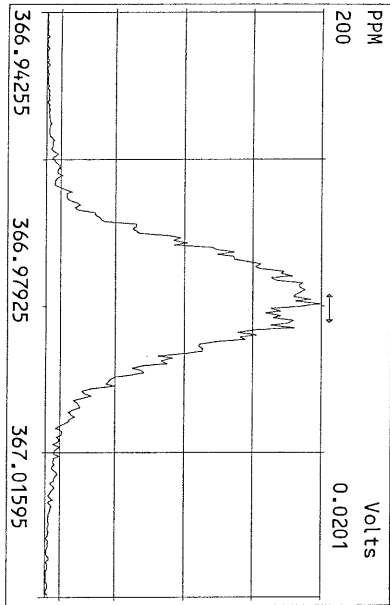
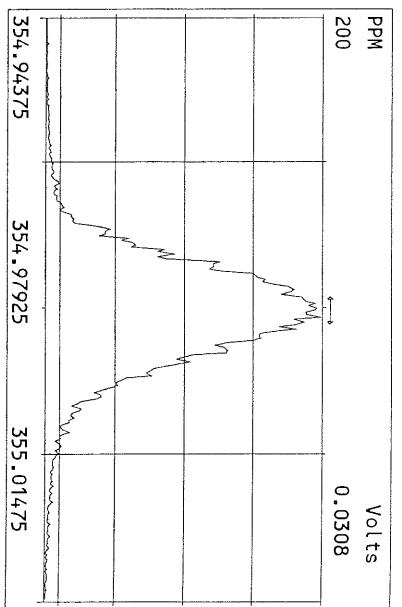
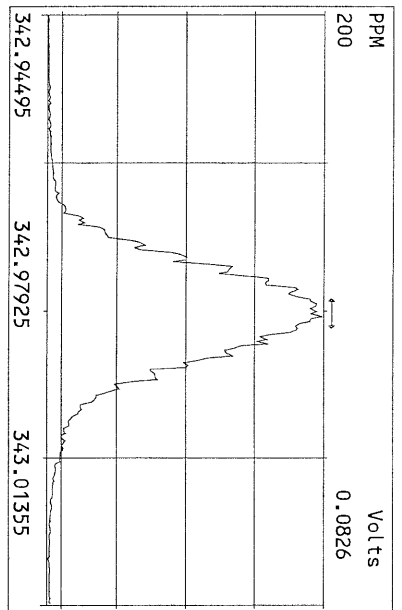
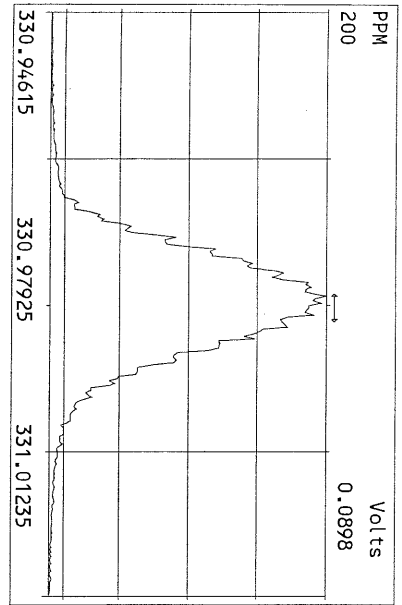
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455.7801 S:8 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

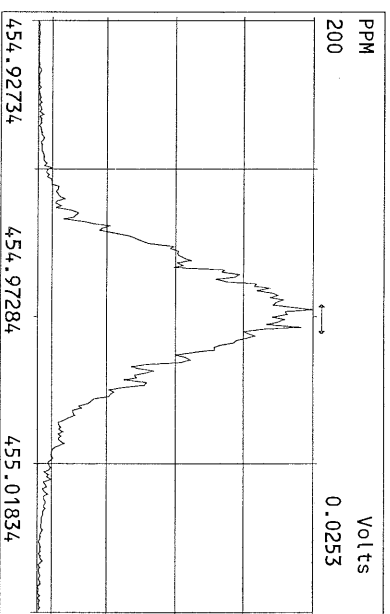
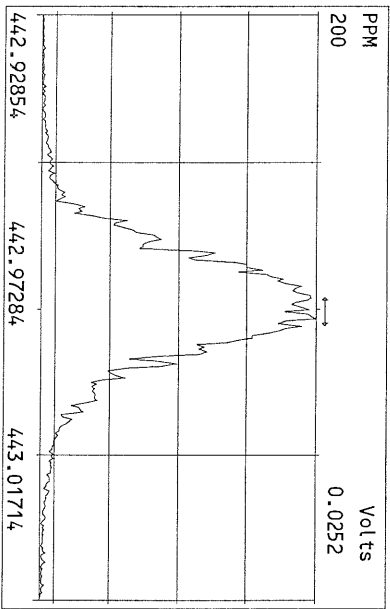
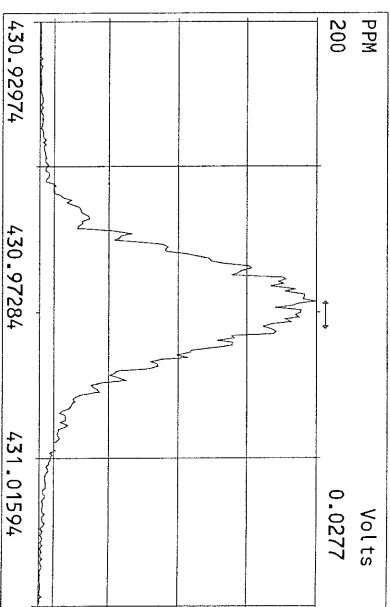
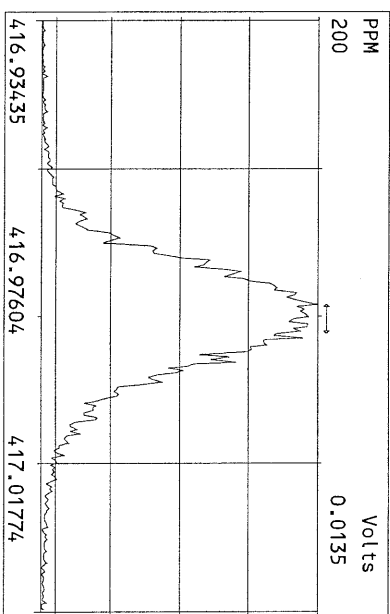
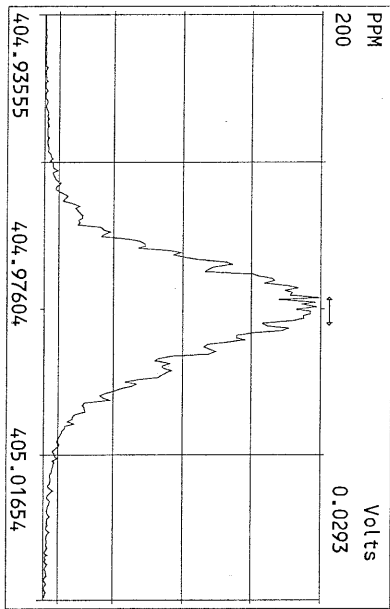
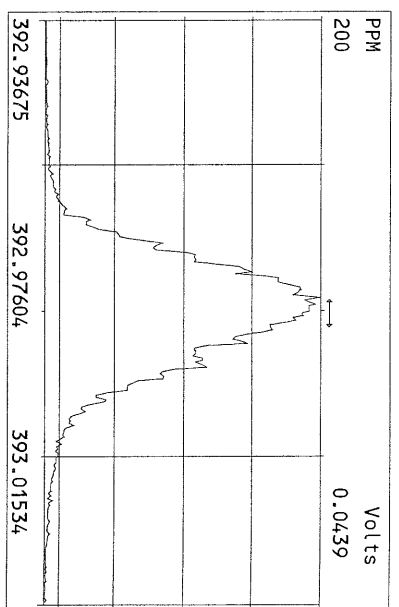
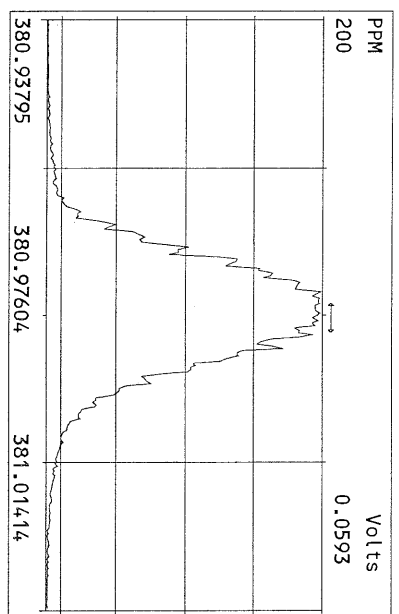
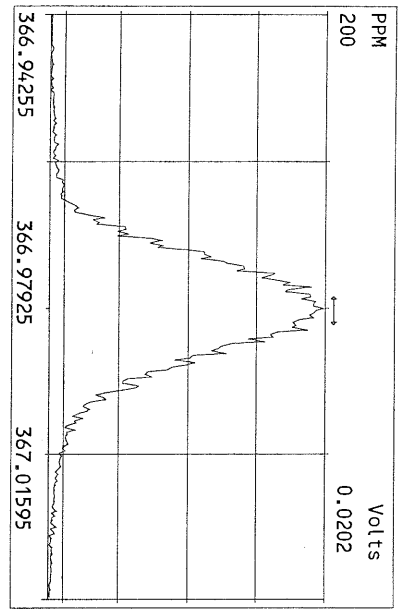


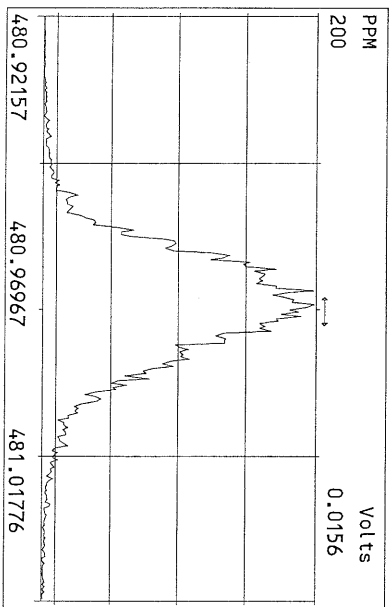
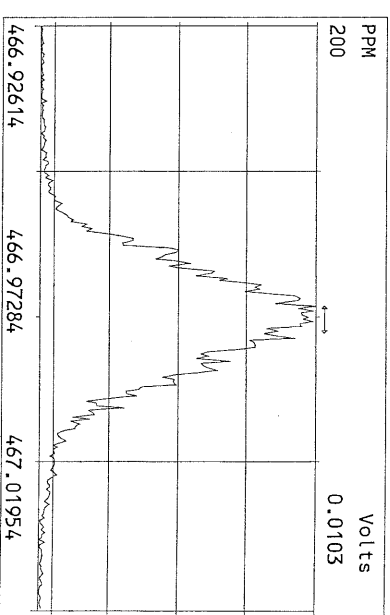
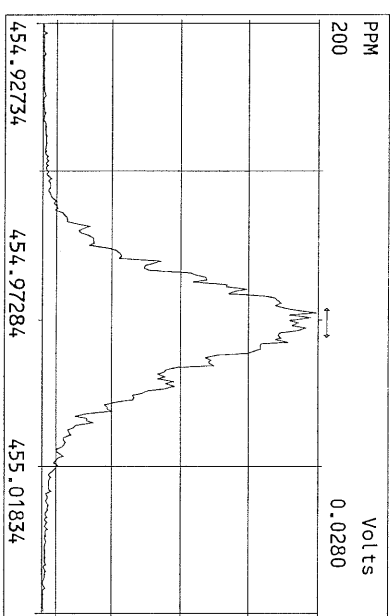
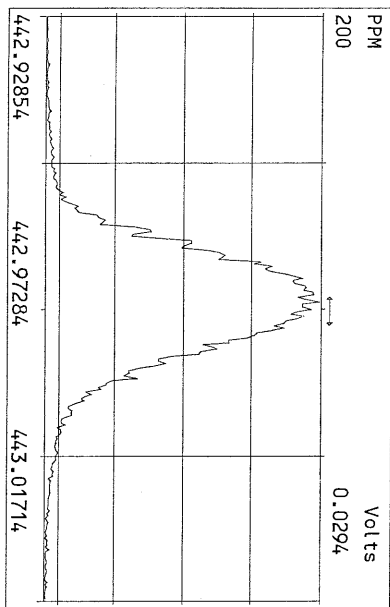
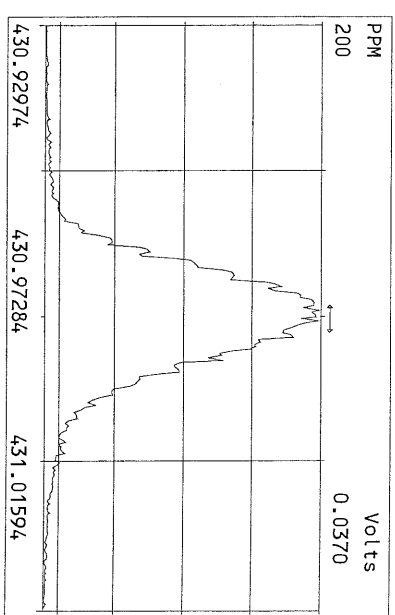
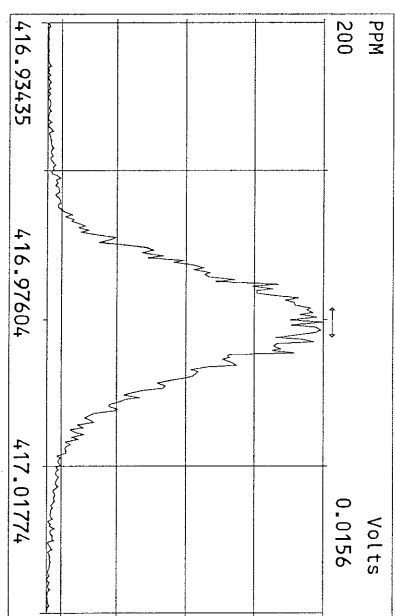
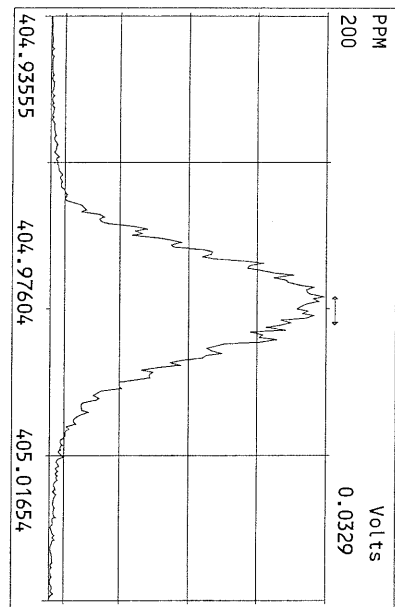
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513.6775 S:8 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

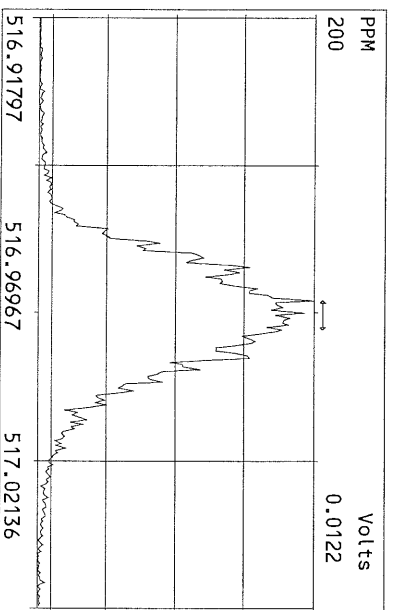
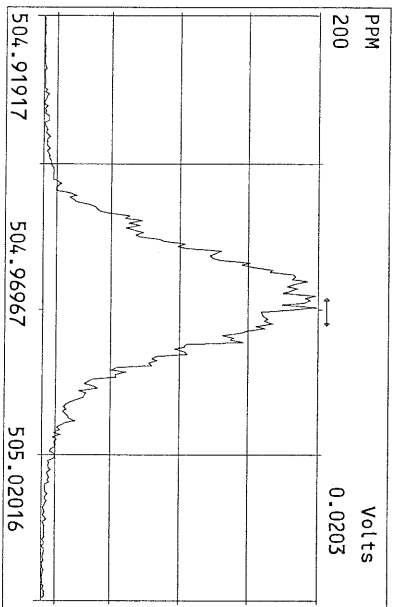
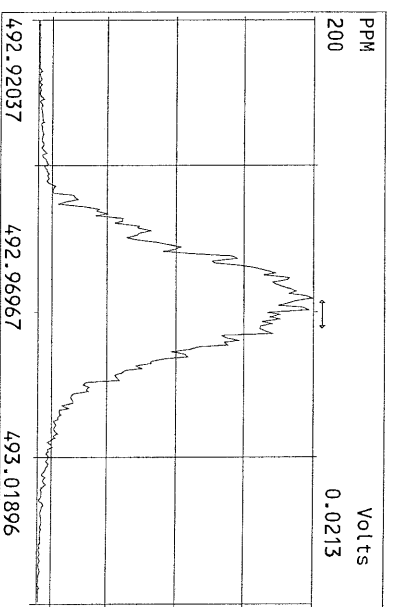
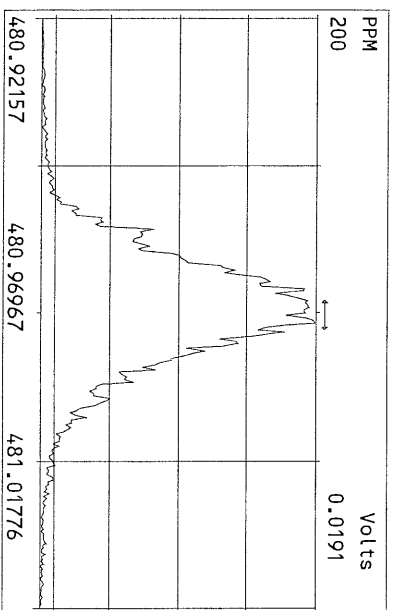
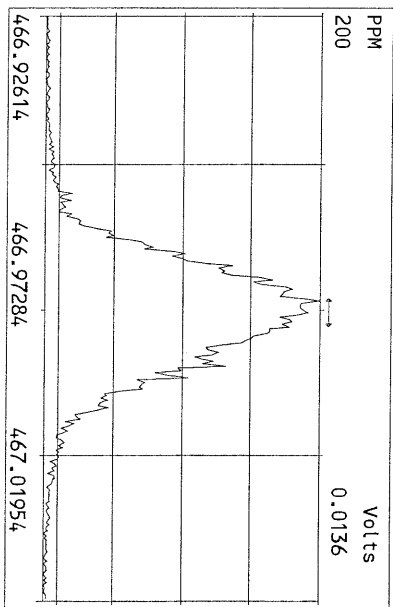
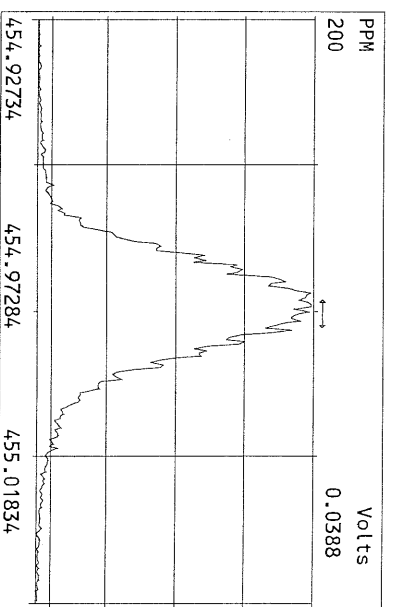
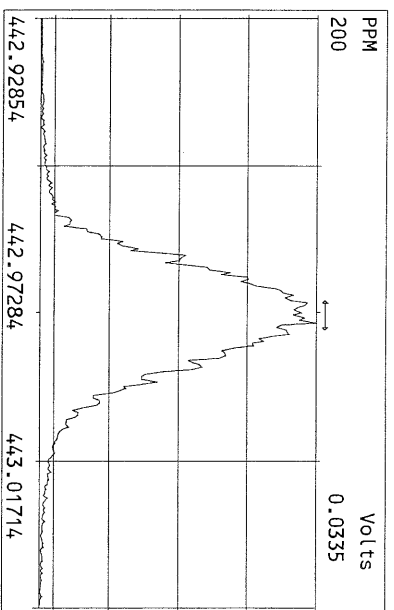
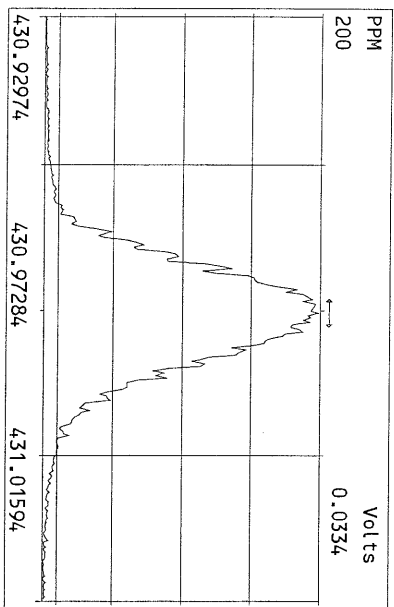












February 17, 2011

Ms. Sue Dunninghoo  
Analytical Resources Incorporated  
4611 South 134<sup>th</sup> Place  
Tukwila, WA 98168-3240


Dear Ms. Dunninghoo,

Enclosed are the results for Frontier Analytical Laboratory project **6557**. This corresponds to your **Lora Lakes RI** project under ARI project number **RG51**. One soil sample was received on 2/3/2011 in good condition. This sample was extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. The 2005 World Health Organizations toxic equivalency factors (TEFs) were used to calculate the toxic equivalents (TEQ) on your report. Analytical Resources Incorporated requested a Level IV data package and a turnaround time of fifteen business days for project **6557**.

The following Level IV report consists of an Analytical Data section, a Sample Receipt section, a Laboratory Raw Data section, and an Instrument Raw Data section. The Analytical Data section contains our project-sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and the sample photo. The Laboratory Raw Data section contains our project request sheet, a percent solids sheet, an extraction bench sheet and the cleanup bench sheet. The instrument raw data section contains three sub-sections; the sample results section, the initial calibration section and the continuing/ending calibration section. The sample results sub-section consists of the quantitation summary forms with chromatograms for all samples and QC. The initial calibration sub-section consists of the individual quantitation summary forms and chromatograms for each point of the initial calibration curve as well as an overall quantitation summary form of the initial calibration curve. The continuing/ending calibration sub-section consists of the quantitation summary forms and chromatograms for all beginning and ending calibration injections associated with the samples and QC. You also requested Electronic Data Deliverables (EDD) for this project. The EDD and Level I summary have been sent to you via email. The Level IV report has been sent to you on compact disk. A hardcopy of the data package will not be forwarded unless specifically requested. The attached results are specifically for the sample referenced in this report only. These results meet all NELAC requirements and shall not be reproduced except in full.

If you have any questions regarding project **6557**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

  
Bradley B. Silverbush  
Director of Operations

## Frontier Analytical Laboratory

### Sample Tracking Log

FAL Project ID: 6557

Received on: 02/03/2011

Project Due: 02/25/2011 Storage: R1

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
6557-001-SA	0	RG51	PSB12-14-17-072810	EPA 1613 D/F	Soil	07/28/2010	04:00 pm	07/28/2011



EPA Method 1613  
PCDD/F



FAL ID: 6557-001-MB  
Client ID: Method Blank  
Matrix: Soil  
Batch No: X2216

Date Extracted: 02-10-2011  
Date Received: NA  
Amount: 5.00 g

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: pg/g

Acquired: 02-11-2011  
2005 WHO TEQ: 0.00

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.274		-	0.0262				
1,2,3,7,8-PeCDD	ND	0.330		-	0.0442				
1,2,3,4,7,8-HxCDD	ND	0.389		-	0.0486				
1,2,3,6,7,8-HxCDD	ND	0.512		-	0.0586	Total TCDD	ND	0.274	
1,2,3,7,8,9-HxCDD	ND	0.449		-	0.0529	Total PeCDD	ND	0.330	
1,2,3,4,6,7,8-HpCDD	ND	0.443		-	0.0954	Total HxCDD	ND	0.512	
OCDD	ND	1.07		-	0.154	Total HpCDD	ND	0.443	
2,3,7,8-TCDF	ND	0.156		-	0.0205				
1,2,3,7,8-PeCDF	ND	0.279		-	0.0298				
2,3,4,7,8-PeCDF	ND	0.307		-	0.0313				
1,2,3,4,7,8-HxCDF	ND	0.290		-	0.0308				
1,2,3,6,7,8-HxCDF	ND	0.294		-	0.0317				
2,3,4,6,7,8-HxCDF	ND	0.345		-	0.0341				
1,2,3,7,8,9-HxCDF	ND	0.336		-	0.0387	Total TCDF	ND	0.156	
1,2,3,4,6,7,8-HpCDF	ND	0.380		-	0.0418	Total PeCDF	ND	0.307	
1,2,3,4,7,8,9-HpCDF	ND	0.414		-	0.0429	Total HxCDF	ND	0.345	
OCDF	ND	1.09		-	0.105	Total HpCDF	ND	0.414	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	95.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	113	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	101	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	89.6	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	93.7	23.0 - 140	
13C-OCDD	75.9	17.0 - 157	
13C-2,3,7,8-TCDF	91.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	101	24.0 - 185	
13C-2,3,4,7,8-PeCDF	96.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	96.4	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	87.6	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	80.6	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	88.0	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	83.5	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	112	26.0 - 138	
13C-OCDF	75.7	17.0 - 157	

Cleanup Surrogate

37CI-2,3,7,8-TCDD	95.9	35.0 - 197
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- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst: [Signature]  
Date: 2/14/11

Reviewed By: [Signature]  
Date: 2/16/11

EPA Method 1613  
PCDD/F



FAL ID: 6557-001-OPR  
Client ID: OPR  
Matrix: Soil  
Batch No: X2216

Date Extracted: 02-10-2011  
Date Received: NA  
Amount: 5.00 g

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: ng/ml

Acquired: 02-11-2011  
2005 WHO TEQ: NA

Compound	Conc	QC Limits	Qual
2,3,7,8-TCDD	10.6	6.70 - 15.8	
1,2,3,7,8-PeCDD	51.0	35.0 - 71.0	
1,2,3,4,7,8-HxCDD	51.2	35.0 - 82.0	
1,2,3,6,7,8-HxCDD	53.7	38.0 - 67.0	
1,2,3,7,8,9-HxCDD	53.6	32.0 - 81.0	
1,2,3,4,6,7,8-HpCDD	46.3	35.0 - 70.0	
OCDD	102	78.0 - 144	
2,3,7,8-TCDF	9.06	7.50 - 15.8	
1,2,3,7,8-PeCDF	50.8	40.0 - 67.0	
2,3,4,7,8-PeCDF	51.2	34.0 - 80.0	
1,2,3,4,7,8-HxCDF	53.6	36.0 - 67.0	
1,2,3,6,7,8-HxCDF	54.0	42.0 - 65.0	
2,3,4,6,7,8-HxCDF	54.4	35.0 - 78.0	
1,2,3,7,8,9-HxCDF	55.1	39.0 - 65.0	
1,2,3,4,6,7,8-HpCDF	51.7	41.0 - 61.0	
1,2,3,4,7,8,9-HpCDF	52.0	39.0 - 69.0	
OCDF	111	63.0 - 170	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	99.3	20.0 - 175	
13C-1,2,3,7,8-PeCDD	112	21.0 - 227	
13C-1,2,3,4,7,8-HxCDD	105	21.0 - 193	
13C-1,2,3,6,7,8-HxCDD	96.4	25.0 - 163	
13C-1,2,3,4,6,7,8-HpCDD	100	26.0 - 166	
13C-OCDD	89.5	13.0 - 198	
13C-2,3,7,8-TCDF	99.2	22.0 - 152	
13C-1,2,3,7,8-PeCDF	105	21.0 - 192	
13C-2,3,4,7,8-PeCDF	102	13.0 - 328	
13C-1,2,3,4,7,8-HxCDF	98.5	19.0 - 202	
13C-1,2,3,6,7,8-HxCDF	89.6	21.0 - 159	
13C-2,3,4,6,7,8-HxCDF	87.9	22.0 - 176	
13C-1,2,3,7,8,9-HxCDF	95.4	17.0 - 205	
13C-1,2,3,4,6,7,8-HpCDF	89.7	21.0 - 158	
13C-1,2,3,4,7,8,9-HpCDF	121	20.0 - 186	
13C-OCDF	87.1	13.0 - 198	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 95.0 31.0 - 191

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst: [Signature]  
Date: 2/14/11

Reviewed By: [Signature]  
Date: 2/14/11

EPA Method 1613  
PCDD/F



FAL ID: 6557-001-SA  
Client ID: PSB12-14-17-072810  
Matrix: Soil  
Batch No: X2216

Date Extracted: 02-10-2011  
Date Received: 02-03-2011  
Amount: 5.13 g  
% Solids: 91.37

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: pg/g

Acquired: 02-11-2011  
2005 WHO TEQ: 74.6

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	2.24	-		2.24	0.0262				
1,2,3,7,8-PeCDD	8.06	-		8.06	0.0442				
1,2,3,4,7,8-HxCDD	8.99	-		0.899	0.0486				
1,2,3,6,7,8-HxCDD	90.2	-		9.02	0.0586	Total TCDD	13.3		-
1,2,3,7,8,9-HxCDD	31.0	-		3.10	0.0529	Total PeCDD	51.2		-
1,2,3,4,6,7,8-HpCDD	2460	-		24.6	0.0954	Total HxCDD	531		-
OCDD	35100	-		10.5	0.154	Total HpCDD	5200		-
2,3,7,8-TCDF	ND	0.284		-	0.0205				
1,2,3,7,8-PeCDF	1.20	-	J	0.0360	0.0298				
2,3,4,7,8-PeCDF	3.02	-	J	0.906	0.0313				
1,2,3,4,7,8-HxCDF	19.5	-		1.95	0.0308				
1,2,3,6,7,8-HxCDF	11.0	-	D,M	1.10	0.0317				
2,3,4,6,7,8-HxCDF	19.9	-		1.99	0.0341				
1,2,3,7,8,9-HxCDF	2.55	-	J	0.255	0.0387	Total TCDF	42.9		- D,M
1,2,3,4,6,7,8-HpCDF	845	-		8.45	0.0418	Total PeCDF	101		- D,M
1,2,3,4,7,8,9-HpCDF	46.4	-		0.464	0.0429	Total HxCDF	682		- D,M
OCDF	3460	-		1.04	0.105	Total HpCDF	3090		-

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	93.1	25.0 - 164	
13C-1,2,3,7,8-PeCDD	106	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	105	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	96.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	109	23.0 - 140	
13C-OCDD	92.8	17.0 - 157	
13C-2,3,7,8-TCDF	95.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	98.8	24.0 - 185	
13C-2,3,4,7,8-PeCDF	96.1	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	102	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	90.9	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	91.2	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	91.7	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	95.2	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	106	26.0 - 138	
13C-OCDF	54.0	17.0 - 157	
Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	97.5	35.0 - 197	

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst: SPV  
Date: 2/16/11

Reviewed By: [Signature]  
Date: 2/16/11

105706

CUSTODY TRANSFER  
 Printed: 02/02/11  
 ARI Job No: RG51

ANALYTICAL RESOURCES INCORPORATED  
 4611 South 134th Place, Suite 100  
 Tukwila WA 98168  
 206-695-6200 206-695-6201 (fax)

ARI Project Manager: Sue Dunnihoo	Client Contact: Jessi Massingale	Sampling Event: POS-LLA	Samples Received: 07/28/10
Client: Floyd/Snyder	Project: Lora Lakes RI	Sample Site: NA	

LOGNUM ARI ID	CLIENT ID	MATRIX	# CONTAINERS	ANALYTICAL REQUEST	ANALYTICAL REQUEST	ANALYTICAL REQUEST	COMMENTS
10-18188 RG51F	PSB12-14-17-072810	Soil	1				7-28-10 16:00
10-18189 RG51G	PSB12-4-6-072810	Soil					

Sue to Kathy: EPA 1613P/F, L4 & EXCEL EDP, 12 2311

12 832 695 01 5116 9034

Comments/Special Instructions:	Relinquished By:	Received By:	Relinquished By:	Received By:
	Printed Name: Mikha Mulumba	Printed Name: Kathy Zupp	Printed Name:	Printed Name:
	Company: ARI	Company: FRONTIER	Company:	Company:
	Date/Time: 12/11/10	Date/Time: 2-3-11 940	Date/Time:	Date/Time:

## Frontier Analytical Laboratory

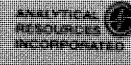
### Sample Login Form

FAL Project ID: 6557

Client:	Analytical Resources Inc. Sue Dunning
Client Project ID:	RG51
Date Received:	02/03/2011
Time Received:	09:40 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	0
Storage Location:	R1

Method of Delivery:	UPS
Tracking Number:	1Z8326950151169039
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	07/28/2011
Adequate Sample Volume	Yes
Anomalies or additional comments:	
L4 DATA PACKAGE & EXCEL EDD	

ARI Job No. RG-1



4611 South 134th Place, Suite 100  
Tukwila WA 98168  
206-695-6200 206-695-6203 (fax)

ARI Project Manager  
Sue Dambrosio

Client Contact:  
Jessi Massingale  
Client:  
Floyd Saider

Sampling Event:  
POS-LLA  
Project:  
Lora Lakes RI

Samples Received:  
07-28-10  
Sample Size:  
NA

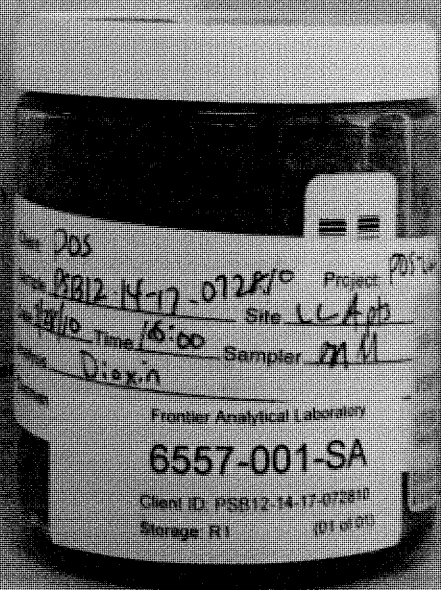
CONSUM	CLIENT ID	MATRIX	# CONTAINERS	ANALYTICAL REQUEST	ANALYTICAL REQUEST	ANALYTICAL REQUEST	COMMENTS
78-15188 RG-110	PSB12-14-17-072810	Soil	1				7-28-10 16:00
78-18138 RG-110	PSB12-14-17-072810	Soil					

Sue to Cathy: EPA

12 (312) 696-0151 6 9034

Customer/Client Information

Submitted By: *MM*  
Company: *MIRACOR PLUMBING*  
*ARI*  
Date: *7/28/10*



21 EDD  
2 W314

*Station 301*  
*Kathy Zick*  
*FRONTIER*  
*7/28/10 9:40*

Frontier Analytical Laboratory  
**PROJECT REQUEST SHEET**

Project #: 6557                      Sample #: 1                      Client Manager: BS  
Client: Analytical Resources Inc. Sue Dunnihoo                      Hold Time: 07/28/2011  
Matrix: Soil                      Extraction Batch: 2216                      Due Date: 02/25/2011  
Method: EPA 1613 D/F                      Storage: R1  
SOP: SOPs: EP2A Rev.8 IP2A Rev.9

**COMMENTS/INSTRUCTIONS:**

L4 i, excel EDD

Results: 6557

Instrument: FAL3  
DB5 \_\_\_\_\_  
DB225 \_\_\_\_\_  
DB1 \_\_\_\_\_  
Other \_\_\_\_\_

Extract/s located in box: "The Pack"

Standards: 6556





Frontier Analytical Laboratory  
EXTRACTION SHEET

Project #: 6557      Extraction Date: 2011-02-10      Extraction Chemist: MP

Method/Analysis:      EPA 1613 D/F

Procedure:      SOX/SDS

Solvent: Toluene

Sample ID	Wet wt. (g/L)	Dry wt. (g/L)	IS	NS	CSS
			Amt: 10.0uL ID: 100511A Vial: 3 Chemist/Witness/Date	Amt: 10.0uL ID: 100511B Vial: 1 Chemist/Witness/Date	Amt: 10.0uL ID: 100511C Vial: 3 Chemist/Witness/Date
2216-001-0001-MB					
2216-001-0001-OPR					
6557-001-0001-SA	5.61 g	5.11 g 5.13 g	MP <u>2-22-11</u> MP <u>2-10-11</u>	NIA	MP <u>2-11-11</u>


2556

AX-21 Charcoal Cleaned	031210	Acetone	105790	Acid Alumina	A0284730	Hexane	106411
Hydrochloric Acid	B08505	Methanol	105561	Methylene Chloride (DCM)	50267	Silica Gel	TA1592834
Sodium Hydroxide	0062836	Sodium Sulfate	1750C277	Sulfuric Acid	106111	Tetradecane	086237
Toluene	104811	Water	50229	C-18 Empore Discs	320552	Cyclohexane	48151

Comments:

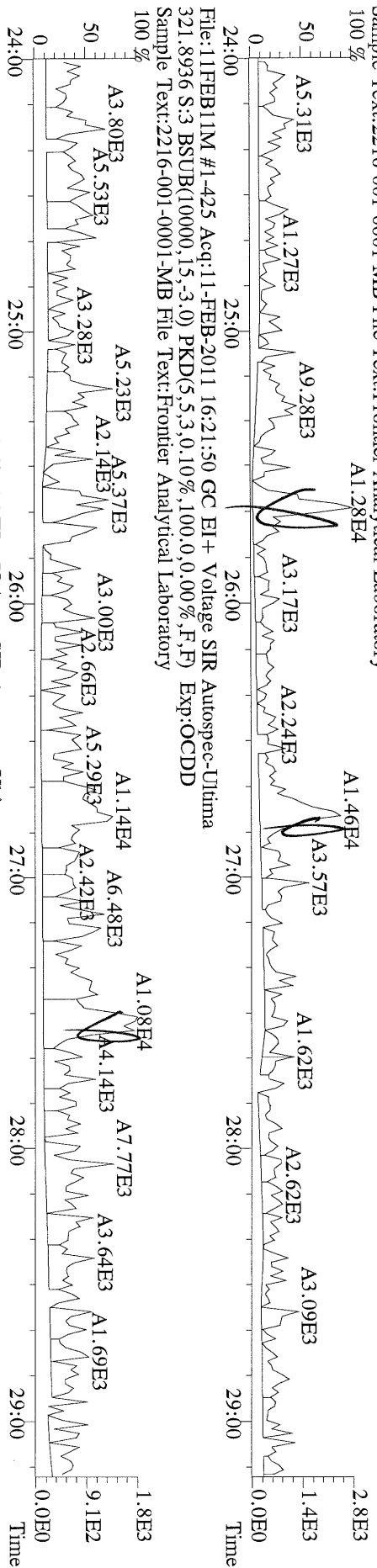


Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	DL	
2,3,7,8-TCDD	*	* n	NotFnd	1.11	*		2.50	736	804	0.274	
1,2,3,7,8-PeCDD	*	* n	NotFnd	1.10	*		2.50	924	688	0.330	
1,2,3,4,7,8-HxCDD	*	* n	NotFnd	1.37	*		2.50	916	988	0.389	
1,2,3,6,7,8-HxCDD	*	* n	NotFnd	1.37	*		2.50	916	988	0.512	
1,2,3,7,8,9-HxCDD	*	* n	NotFnd	1.36	*		2.50	916	988	0.449	
1,2,3,4,6,7,8-HpCDD	*	* n	NotFnd	1.45	*		2.50	784	724	0.443	
OCDD	*	* n	NotFnd	1.43	*		2.50	700	668	1.07	
2,3,7,8-TCDF	*	* n	NotFnd	1.50	*		2.50	928	1150	0.156	
1,2,3,7,8-PeCDF	*	* n	NotFnd	0.94	*		2.50	916	1000	0.279	
2,3,4,7,8-PeCDF	*	* n	NotFnd	0.94	*		2.50	916	1000	0.307	
1,2,3,4,7,8-HxCDF	*	* n	NotFnd	0.93	*		2.50	844	744	0.290	
1,2,3,6,7,8-HxCDF	*	* n	NotFnd	0.82	*		2.50	844	744	0.294	
2,3,4,6,7,8-HxCDF	*	* n	NotFnd	0.92	*		2.50	844	744	0.345	
1,2,3,7,8,9-HxCDF	*	* n	NotFnd	1.00	*		2.50	844	744	0.336	
1,2,3,4,6,7,8-HpCDF	*	* n	NotFnd	1.39	*		2.50	688	708	0.380	
1,2,3,4,7,8,9-HpCDF	*	* n	NotFnd	1.36	*		2.50	688	708	0.414	
OCDF	*	* n	NotFnd	0.79	*		2.50	700	804	1.09	
Rec											
13C-2,3,7,8-TCDD	2.36e+07	0.75 y	27:30	1.02	384					95.9	
13C-1,2,3,7,8-PeCDD	2.28e+07	1.73 y	33:21	0.84	452					113	
13C-1,2,3,4,7,8-HxCDD	1.83e+07	1.25 y	38:44	1.07	403					101	
13C-1,2,3,6,7,8-HxCDD	1.53e+07	1.25 y	38:54	1.01	358					89.6	
13C-1,2,3,4,6,7,8-HpCDD	1.36e+07	1.01 y	44:21	0.86	375					93.7	
13C-OCDD	1.40e+07	0.96 y	49:58	0.55	607					75.9	
13C-2,3,7,8-TCDF	4.01e+07	0.87 y	26:46	0.99	365					91.2	
13C-1,2,3,7,8-PeCDF	3.73e+07	1.70 y	31:37	0.84	402					101	
13C-2,3,4,7,8-PeCDF	3.46e+07	1.66 y	32:57	0.81	385					96.3	
13C-1,2,3,4,7,8-HxCDF	3.02e+07	0.52 y	37:21	1.85	385					96.4	
13C-1,2,3,6,7,8-HxCDF	3.75e+07	0.50 y	37:33	2.54	350					87.6	
13C-2,3,4,6,7,8-HxCDF	2.74e+07	0.51 y	38:30	2.01	322					80.6	
13C-1,2,3,7,8,9-HxCDF	3.03e+07	0.52 y	39:56	2.03	352					88.0	
13C-1,2,3,4,6,7,8-HpCDF	1.57e+07	0.47 y	42:27	1.11	334					83.5	
13C-1,2,3,4,7,8,9-HpCDF	1.52e+07	0.46 y	45:17	0.80	446					112	
13C-OCDF	2.77e+07	0.95 y	50:22	1.08	606					75.7	
37Cl-2,3,7,8-TCDD	6.32e+06		27:32	0.69	153					95.9	
13C-1,2,3,4-TCDD	2.40e+07	0.75 y	26:55	-	10.7						
13C-1,2,3,4-TCDF	4.43e+07	0.87 y	25:39	-	12.2						
13C-1,2,3,7,8,9-HxCDD	1.69e+07	1.26 y	39:21	-	12.3						
Total Tetra-Dioxins	*		NotFnd	1.11	*		2.50	736	804	0.274	0
Total Penta-Dioxins	*		NotFnd	1.10	*		2.50	924	688	0.330	0
Total Hexa-Dioxins	*		NotFnd	1.37	*		2.50	916	988	0.512	0
Total Hepta-Dioxins	*		NotFnd	1.45	*		2.50	784	724	0.443	0
Total Tetra-Furans	*		NotFnd	1.50	*		2.50	928	1150	0.156	0
1st Fn. Tot Penta-Furans	*		NotFnd	0.94	*		2.50	916	1000	0.307	PeCDF 0
Total Penta-Furans	*		NotFnd	0.94	*		2.50	916	1000	0.307	* 0
Total Hexa-Furans	*		NotFnd	0.91	*		2.50	844	744	0.345	0
Total Hepta-Furans	*		NotFnd	1.38	*		2.50	688	708	0.414	0

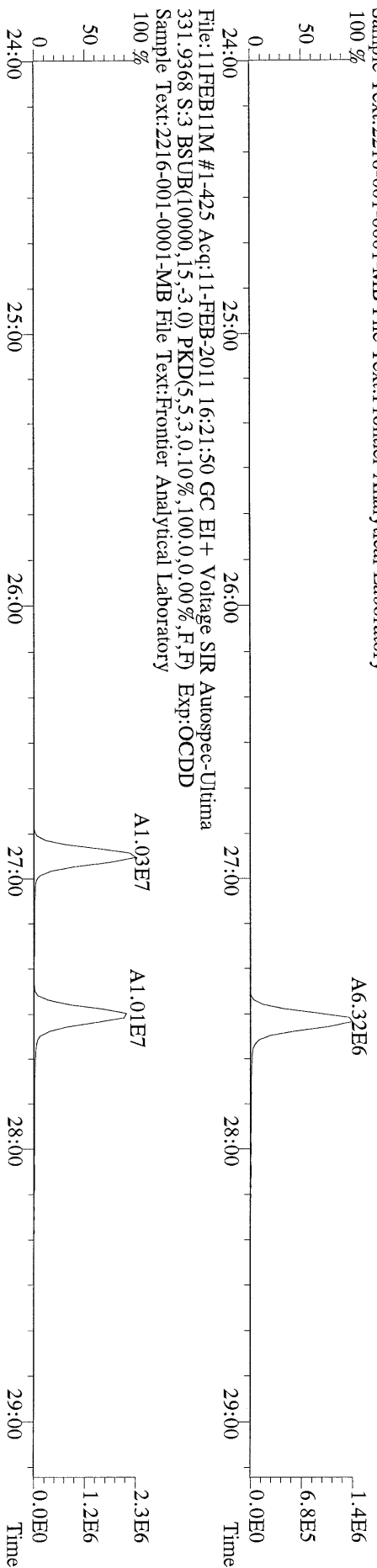
Analyst: 

Date: 2/14/11

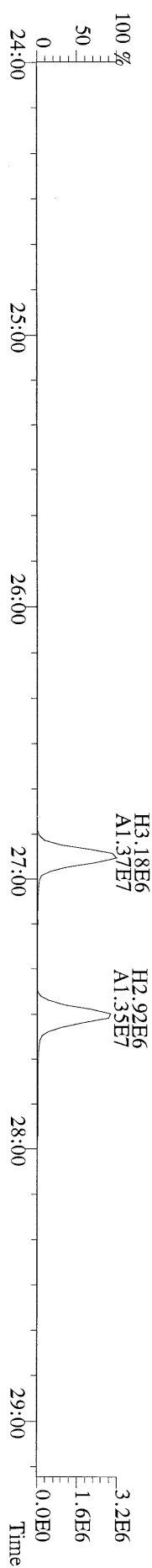
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319.8965 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



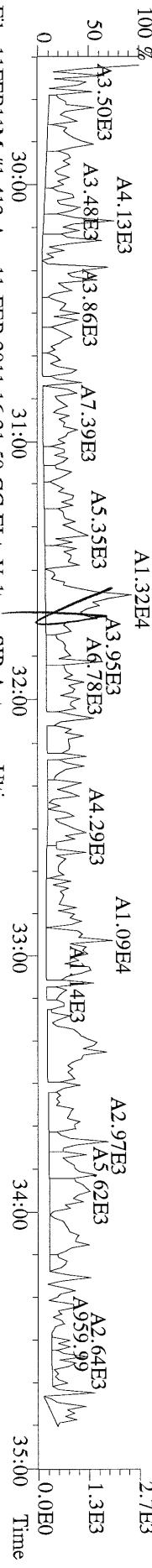
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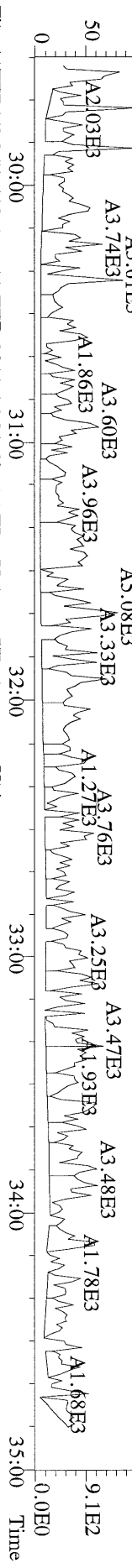
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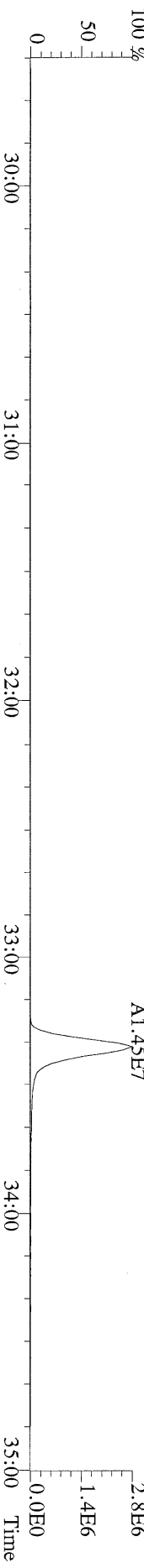
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 355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
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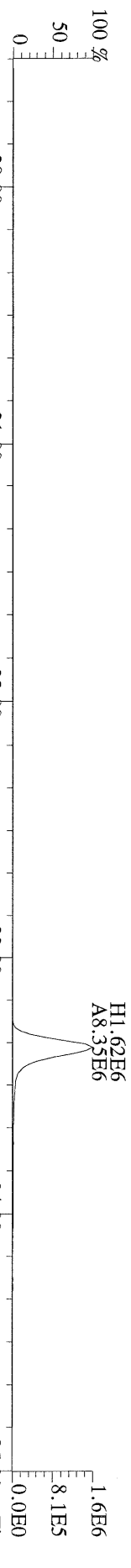
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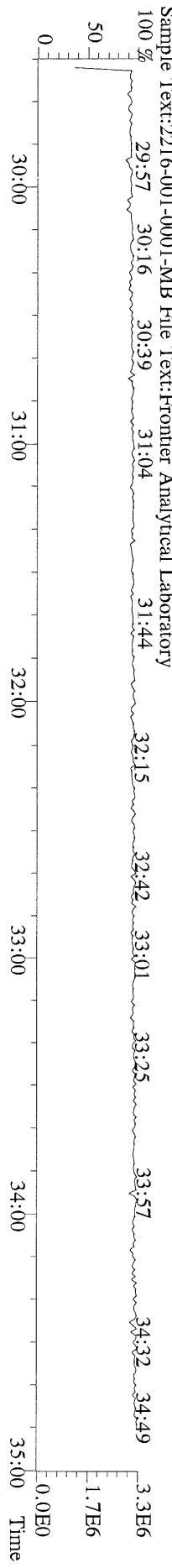
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 367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
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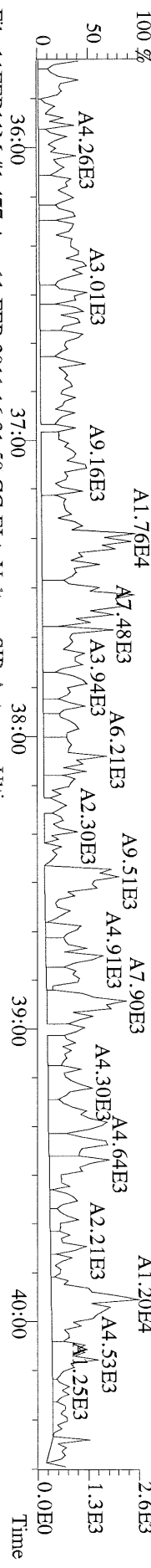
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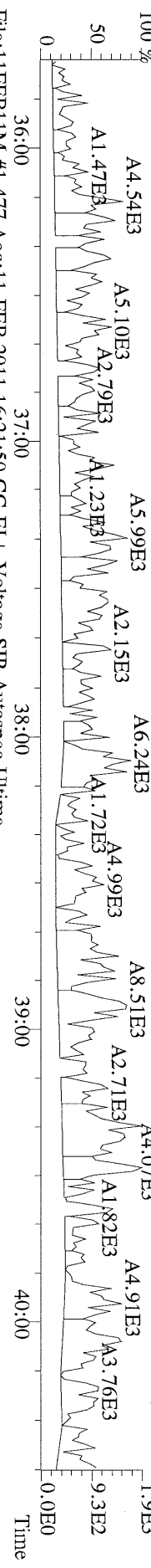
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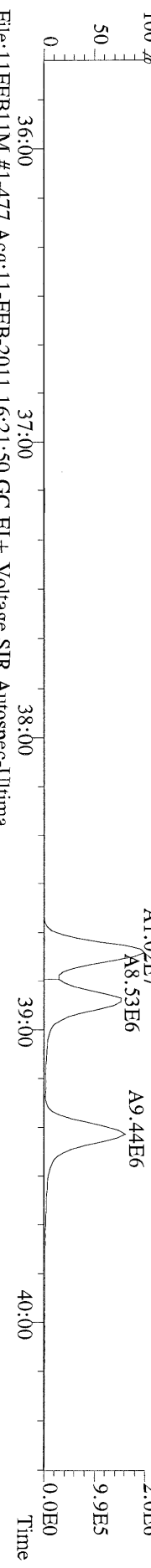
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389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



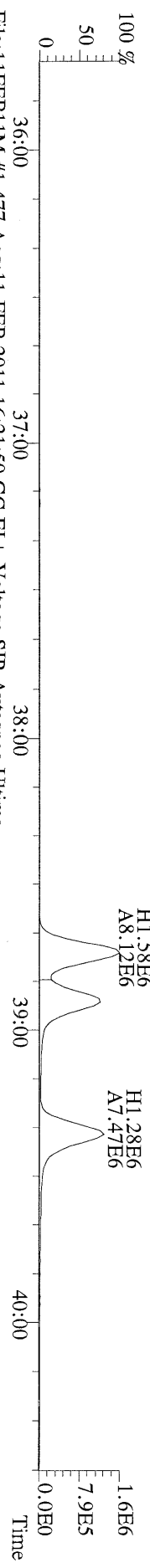
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391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



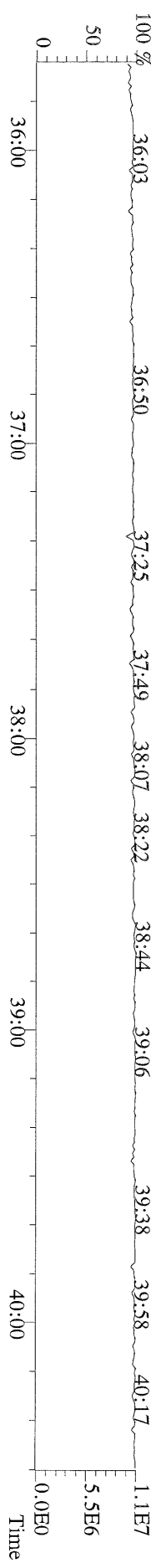
File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



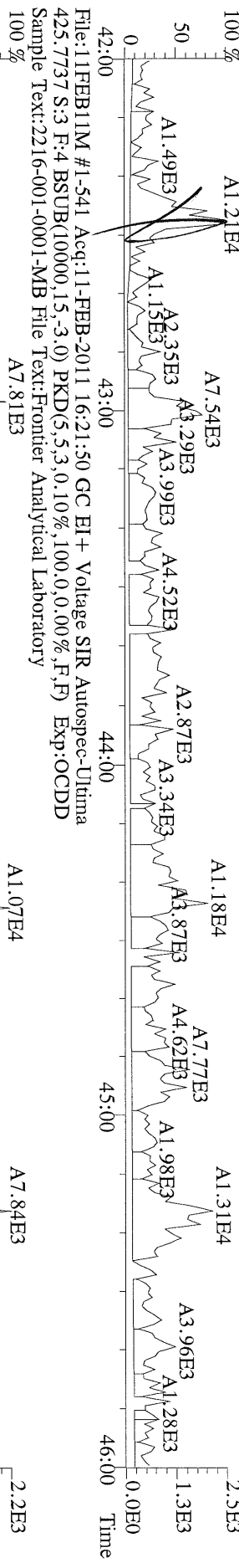
File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



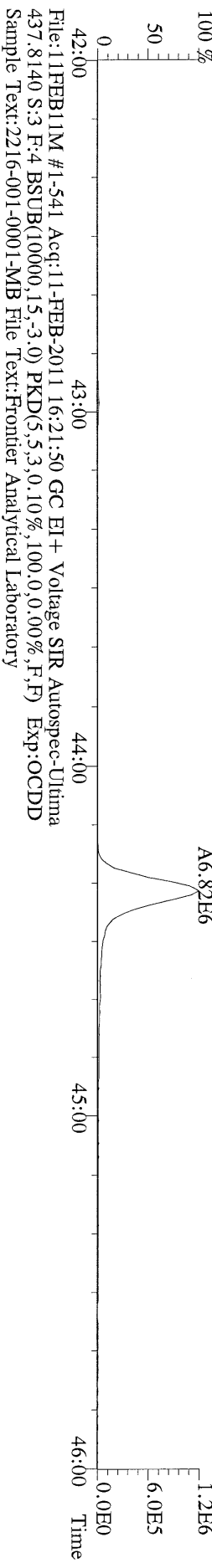
File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
380.9760 S:3 F:3 Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



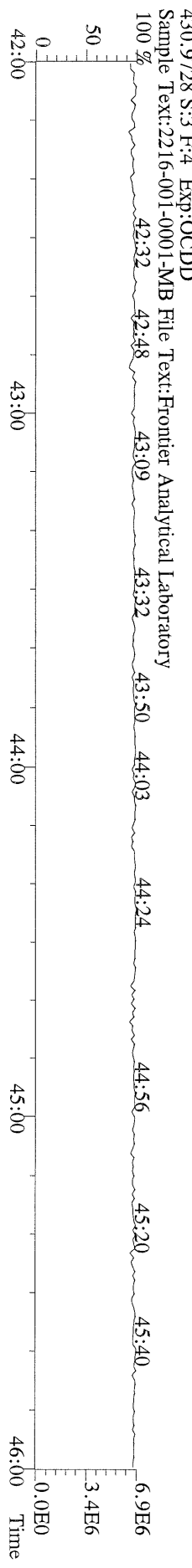
File:11FEB11M #1-541 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Utima  
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



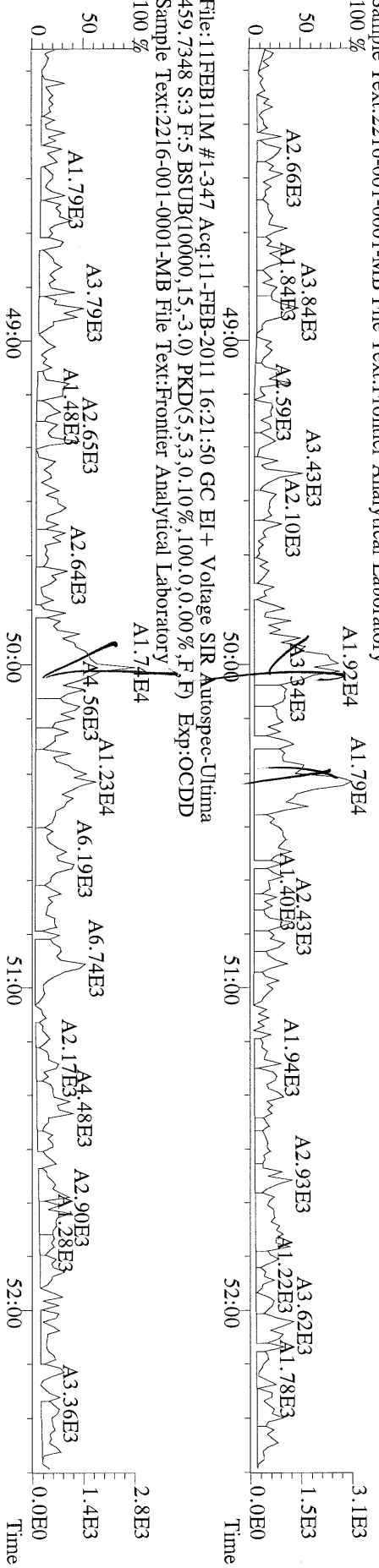
File:11FEB11M #1-541 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Utima  
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



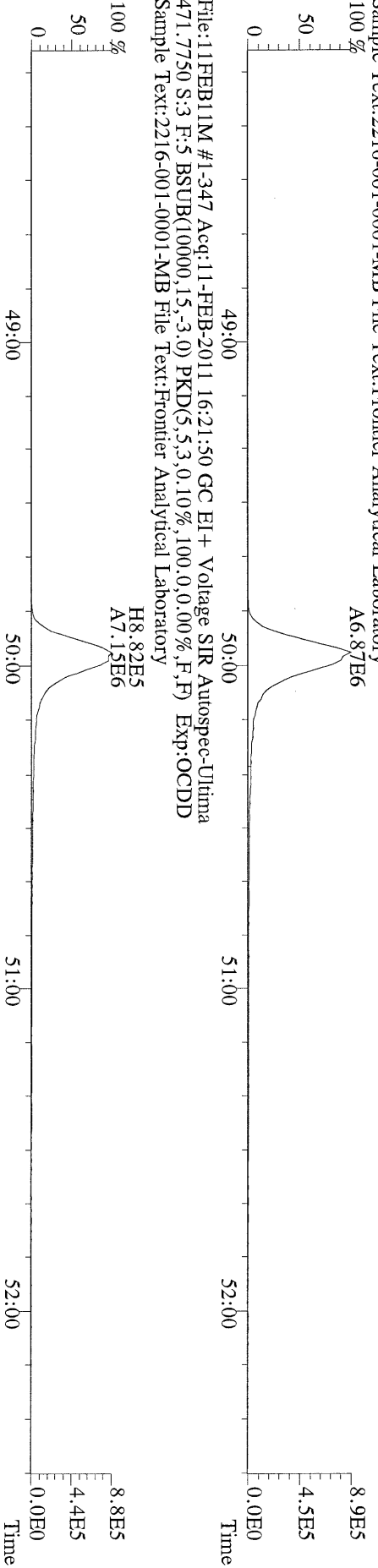
File:11FEB11M #1-541 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Utima  
430.9728 S:3 F:4 Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



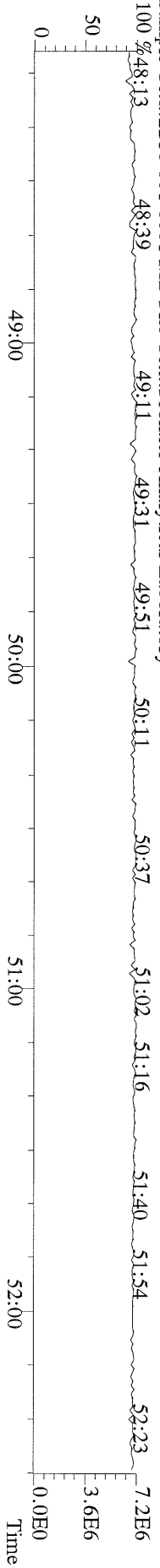
File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory

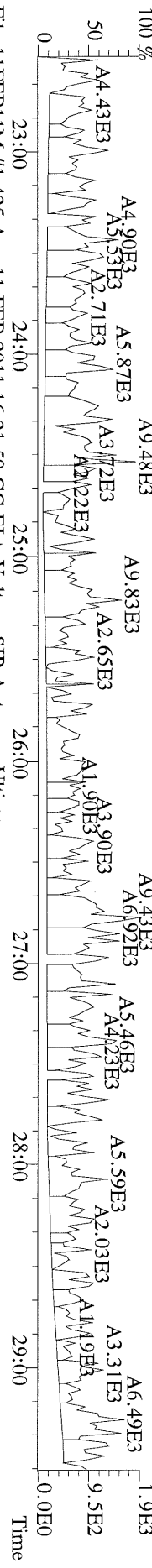


File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
454.9728 S:3 F:5 Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory

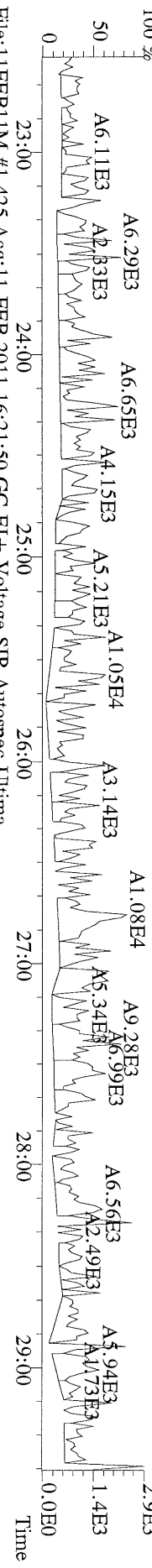




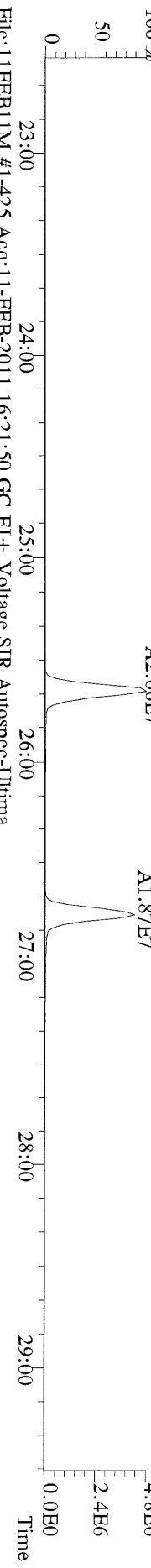
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



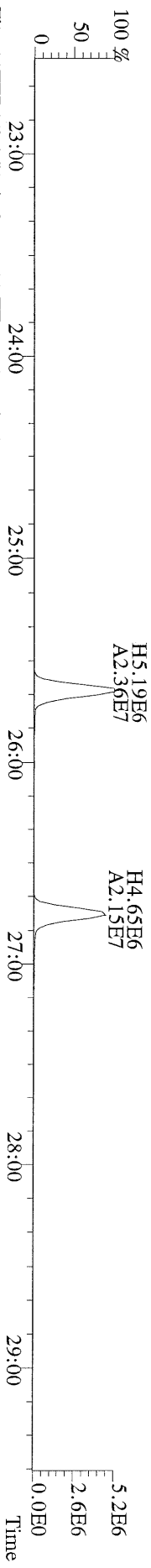
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



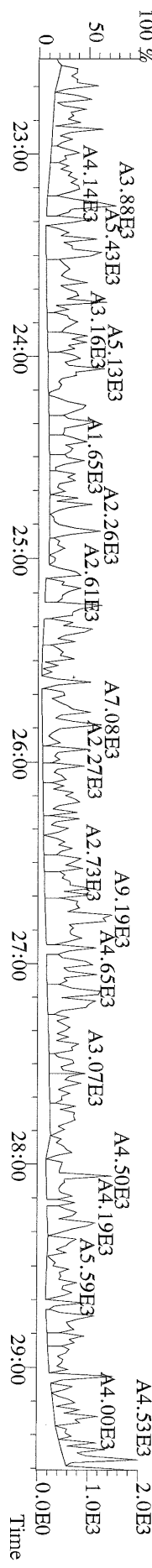
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



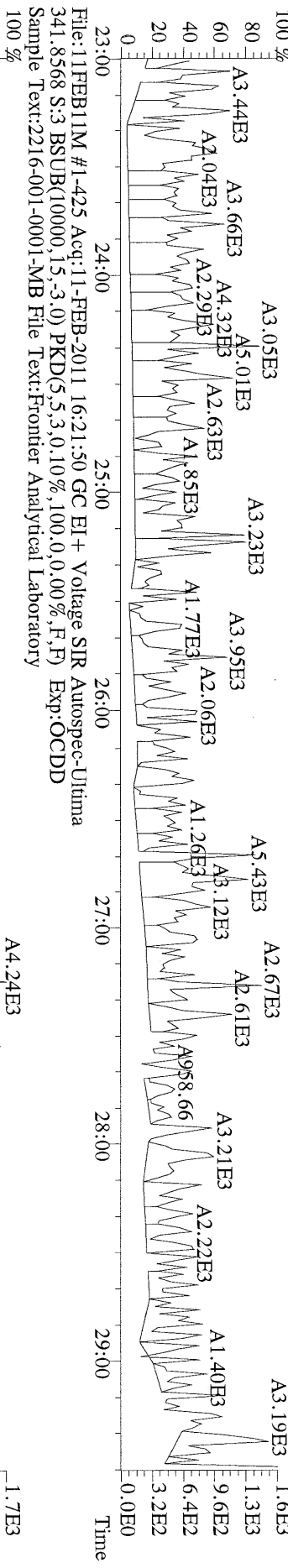
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



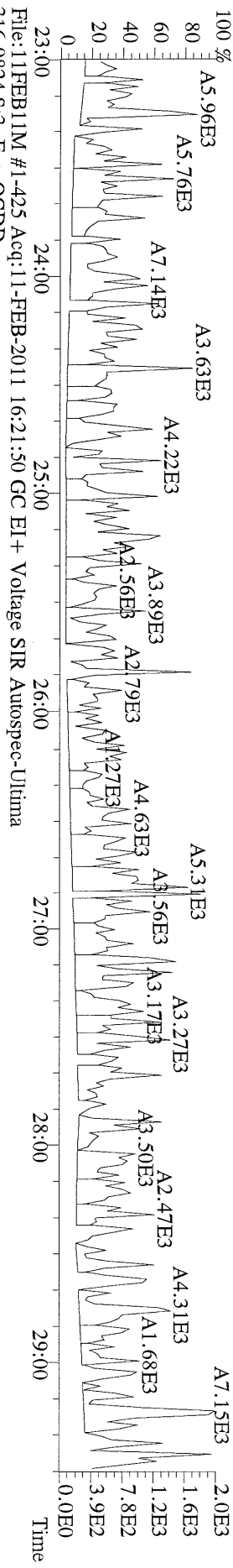
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 339.8597 S:3 BSUBR(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 341.8568 S:3 BSUBR(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory

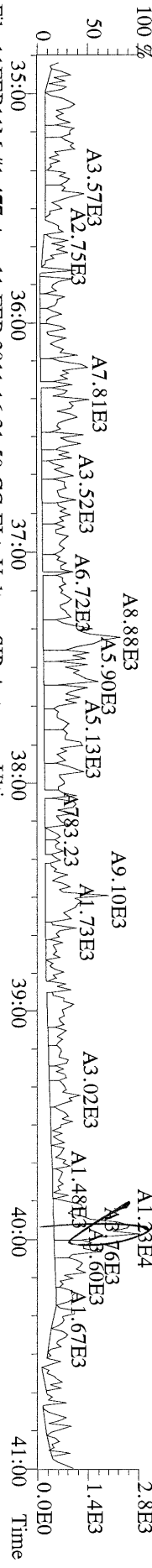


File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 316.9824 S:3 Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory

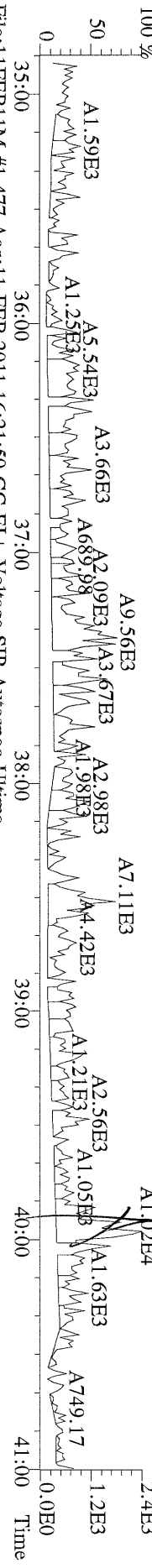




File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



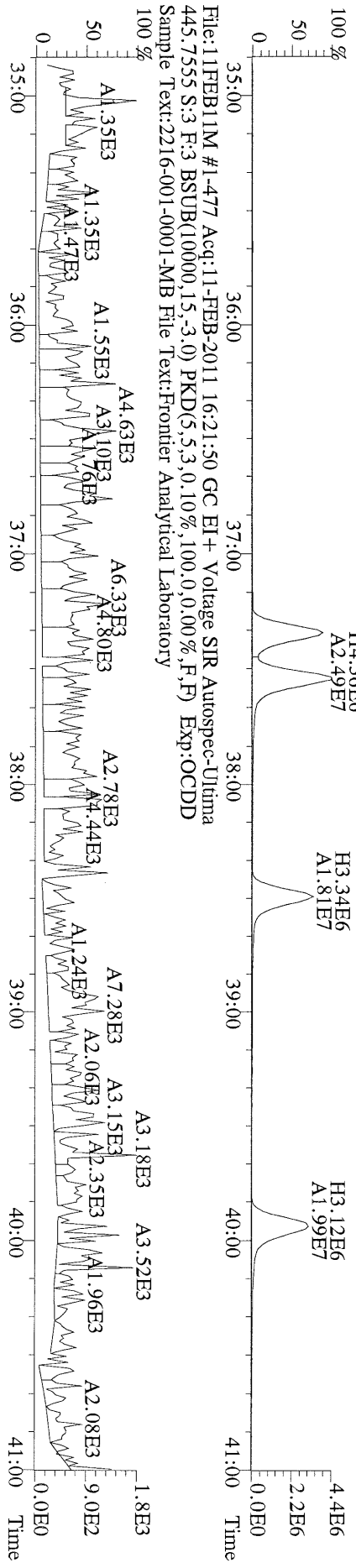
File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
 375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



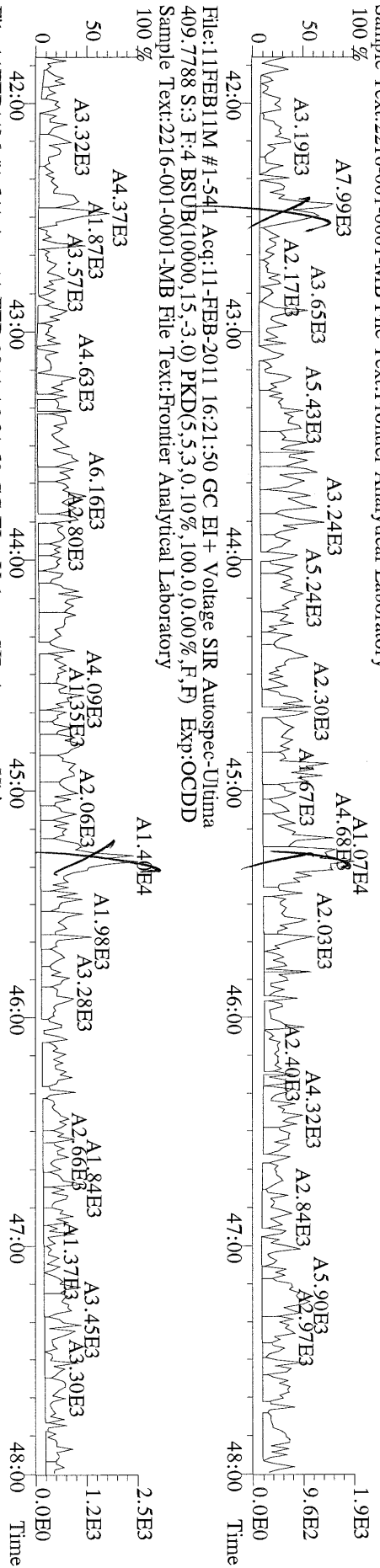
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 385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



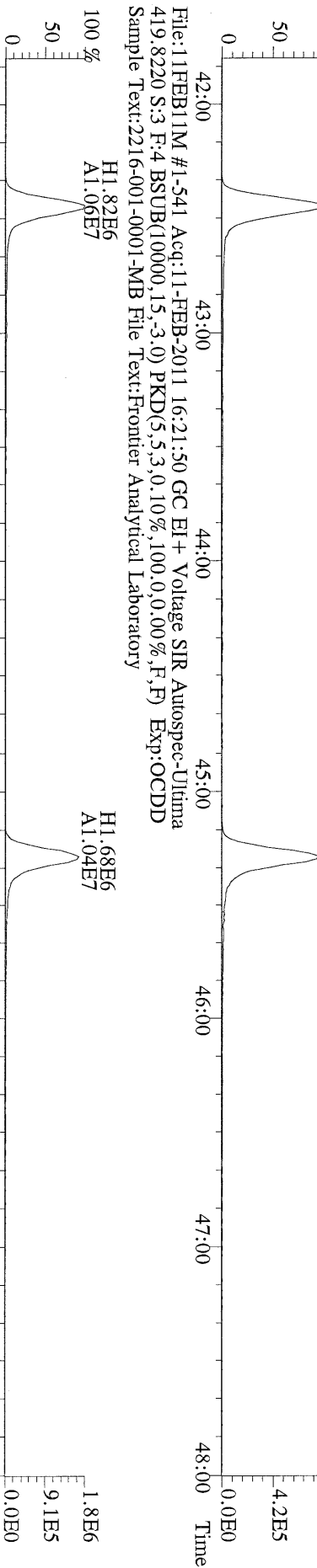
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 445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



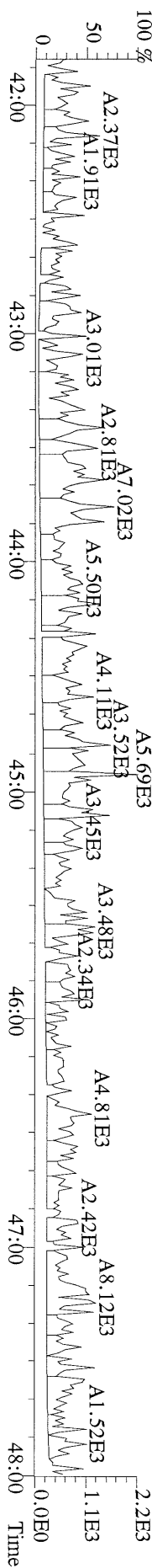
File:11FEB11M #1-541 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



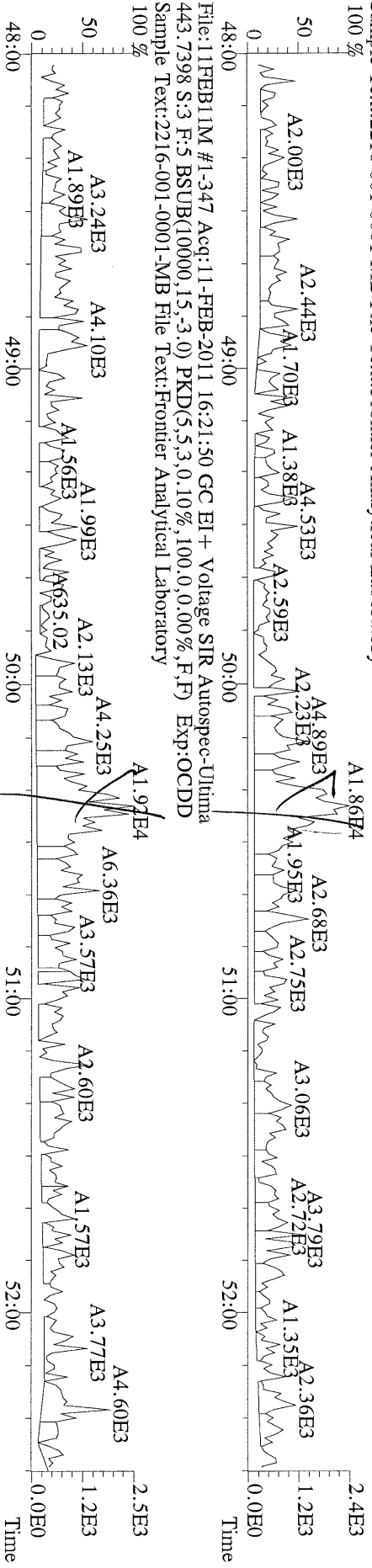
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417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



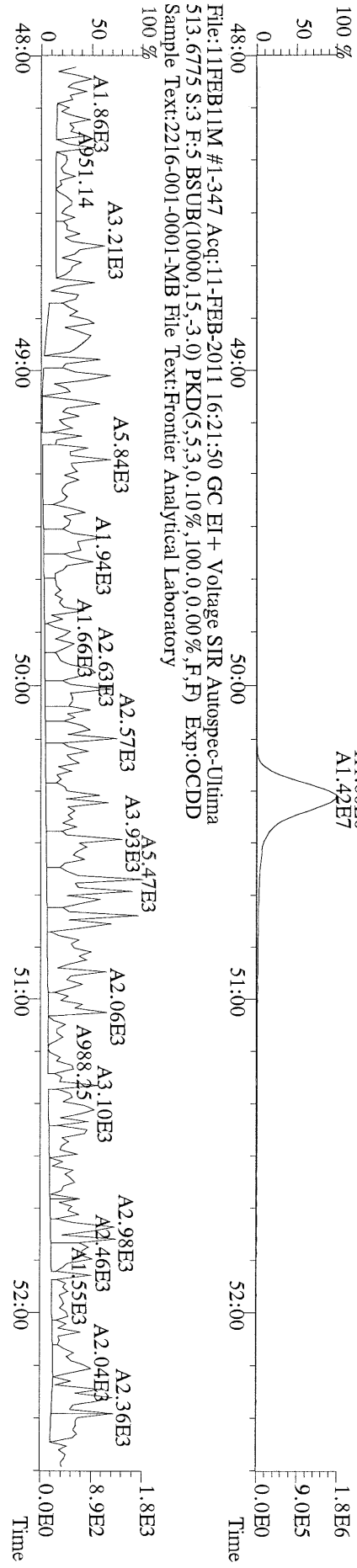
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479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
453.7831 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



USEPA - ITD

FORM 8A  
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory      Episode No.:

Contract No.:      SAS No.:

Matrix (aqueous/solid/leachate): Soil      OPR Data Filename: 11FEB11M    Sam:2

Ext. Date: 2/10/11    Shift: Day      Analysis Date: 11-FEB-11    15:25:09

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
NATIVE ANALYTES			
2,3,7,8-TCDD	10	10.6	6.70 - 15.8
1,2,3,7,8-PeCDD	50	51.0	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	51.2	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	53.7	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	53.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	46.3	35.0 - 70.0
OCDD	100	102	78.0 - 144
2,3,7,8-TCDF	10	9.06	7.50 - 15.8
1,2,3,7,8-PeCDF	50	50.8	40.0 - 67.0
2,3,4,7,8-PeCDF	50	51.2	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	53.6	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	54.0	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	54.4	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	55.1	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	51.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	52.0	39.0 - 69.0
OCDF	100	111	63.0 - 170

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613

Analyst:       Date: 2/14/11

## USEPA - ITD

## FORM 8B

## PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory      Episode No.:

Contract No.:      SAS No.:

Matrix (aqueous/solid/leachate): Soil      OPR Data Filename: 11FEB11M      Sam:2

Ext. Date: 2/10/11      Shift: Day      Analysis Date: 11-FEB-11      15:25:09

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	100	99.3	20.0 - 175
13C-1,2,3,7,8-PeCDD	100	112	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	100	105	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	100	96.4	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	100	100	26.0 - 166
13C-OCDD	200	179	26.0 - 397
13C-2,3,7,8-TCDF	100	99.2	22.0 - 152
13C-1,2,3,7,8-PeCDF	100	105	21.0 - 192
13C-2,3,4,7,8-PeCDF	100	102	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	100	98.5	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	100	89.6	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	100	87.9	22.0 - 176
13C-1,2,3,7,8,9-HxCDF	100	95.4	17.0 - 205
13C-1,2,3,4,6,7,8-HpCDF	100	89.7	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	100	121	20.0 - 186
13C-OCDF	200	174	26.0 - 397
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	38.0	12.4 - 76.4

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613  
Labeled compound concentration limits are based on required percent recovery of 25%-150%.

Analyst: 

Date: 2/14/11

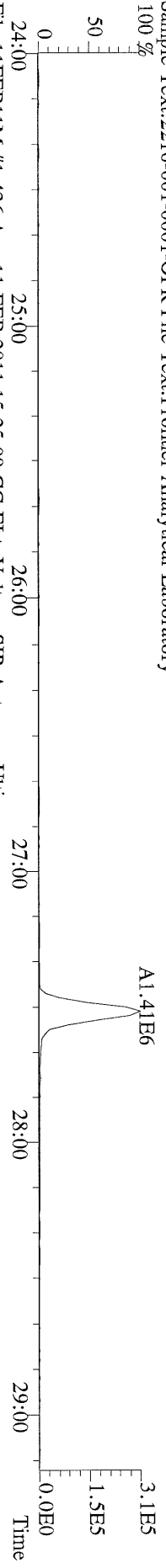


Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	#Hom
2,3,7,8-TCDD	3.22e+06	0.78 y	27:31	1.11	10.6		2.50	-	*	
1,2,3,7,8-PeCDD	1.42e+07	1.52 y	33:22	1.10	51.0		2.50	-	*	
1,2,3,4,7,8-HxCDD	1.42e+07	1.28 y	38:45	1.37	51.2		2.50	-	*	
1,2,3,6,7,8-HxCDD	1.28e+07	1.29 y	38:54	1.37	53.7		2.50	-	*	
1,2,3,7,8,9-HxCDD	1.37e+07	1.27 y	39:22	1.36	53.6		2.50	-	*	
1,2,3,4,6,7,8-HpCDD	1.03e+07	0.99 y	44:22	1.45	46.3		2.50	-	*	
OCDD	1.28e+07	0.90 y	49:58	1.43	102		2.50	-	*	
2,3,7,8-TCDF	6.12e+06	0.69 y	26:46	1.50	9.06		2.50	-	*	
1,2,3,7,8-PeCDF	1.92e+07	1.54 y	31:38	0.94	50.8		2.50	-	*	
2,3,4,7,8-PeCDF	1.81e+07	1.54 y	32:58	0.94	51.2		2.50	-	*	
1,2,3,4,7,8-HxCDF	1.62e+07	1.24 y	37:22	0.93	53.6		2.50	-	*	
1,2,3,6,7,8-HxCDF	1.80e+07	1.25 y	37:33	0.82	54.0		2.50	-	*	
2,3,4,6,7,8-HxCDF	1.58e+07	1.24 y	38:30	0.92	54.4		2.50	-	*	
1,2,3,7,8,9-HxCDF	1.90e+07	1.24 y	39:57	1.00	55.1		2.50	-	*	
1,2,3,4,6,7,8-HpCDF	1.28e+07	1.07 y	42:28	1.39	51.7		2.50	-	*	
1,2,3,4,7,8,9-HpCDF	1.22e+07	1.08 y	45:18	1.36	52.0		2.50	-	*	
OCDF	1.47e+07	0.94 y	50:22	0.79	111		2.50	-	*	
										Rec
13C-2,3,7,8-TCDD	2.72e+07	0.81 y	27:30	1.02	99.3					99.3
13C-1,2,3,7,8-PeCDD	2.53e+07	1.73 y	33:21	0.84	112					112
13C-1,2,3,4,7,8-HxCDD	2.02e+07	1.27 y	38:44	1.07	105					105
13C-1,2,3,6,7,8-HxCDD	1.74e+07	1.25 y	38:54	1.01	96.4					96.4
13C-1,2,3,4,6,7,8-HpCDD	1.53e+07	1.00 y	44:21	0.86	100					100
13C-OCDD	1.75e+07	0.98 y	49:58	0.55	179					89.5
13C-2,3,7,8-TCDF	4.50e+07	0.88 y	26:45	0.99	99.2					99.2
13C-1,2,3,7,8-PeCDF	4.02e+07	1.67 y	31:37	0.84	105					105
13C-2,3,4,7,8-PeCDF	3.78e+07	1.69 y	32:57	0.81	102					102
13C-1,2,3,4,7,8-HxCDF	3.26e+07	0.51 y	37:21	1.85	98.5					98.5
13C-1,2,3,6,7,8-HxCDF	4.05e+07	0.50 y	37:32	2.54	89.6					89.6
13C-2,3,4,6,7,8-HxCDF	3.16e+07	0.51 y	38:29	2.01	87.9					87.9
13C-1,2,3,7,8,9-HxCDF	3.46e+07	0.52 y	39:56	2.03	95.4					95.4
13C-1,2,3,4,6,7,8-HpCDF	1.78e+07	0.47 y	42:27	1.11	89.7					89.7
13C-1,2,3,4,7,8,9-HpCDF	1.73e+07	0.46 y	45:17	0.80	121					121
13C-OCDF	3.37e+07	0.95 y	50:21	1.08	174					87.1
37Cl-2,3,7,8-TCDD	6.98e+06		27:31	0.69	38.0					95.0
13C-1,2,3,4-TCDD	2.68e+07	0.79 y	26:54	-	59.6					
13C-1,2,3,4-TCDF	4.56e+07	0.88 y	25:39	-	63.1					
13C-1,2,3,7,8,9-HxCDD	1.78e+07	1.27 y	39:21	-	64.7					
Total Tetra-Dioxins	3.45e+06		22:52	1.11	11.4		2.50	-	*	32
Total Penta-Dioxins	1.43e+07		31:51	1.10	51.4		2.50	-	*	7
Total Hexa-Dioxins	4.10e+07		38:45	1.37	159		2.50	-	*	9
Total Hepta-Dioxins	1.11e+07		42:59	1.45	49.8		2.50	-	*	31
Total Tetra-Furans	6.40e+06		24:03	1.50	9.47		2.50	-	*	19
1st Fn. Tot Penta-Furans	2.03e+05		22:49	0.94	0.555		2.50	-	*	PeCDF 36
Total Penta-Furans	3.87e+07		30:22	0.94	106		2.50	-	*	106 14
Total Hexa-Furans	6.92e+07		35:25	0.91	218		2.50	-	*	12
Total Hepta-Furans	2.53e+07		42:28	1.38	105		2.50	-	*	10

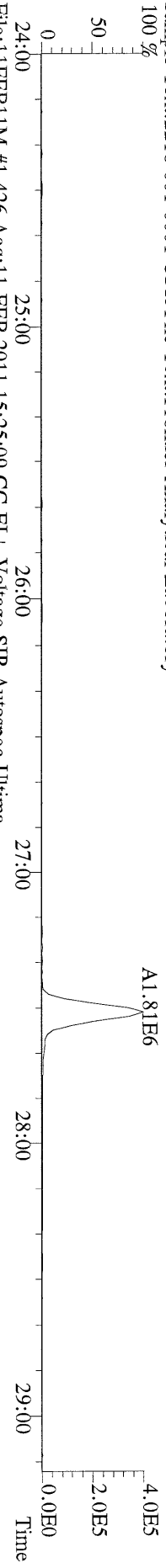
Analyst: 

Date: 

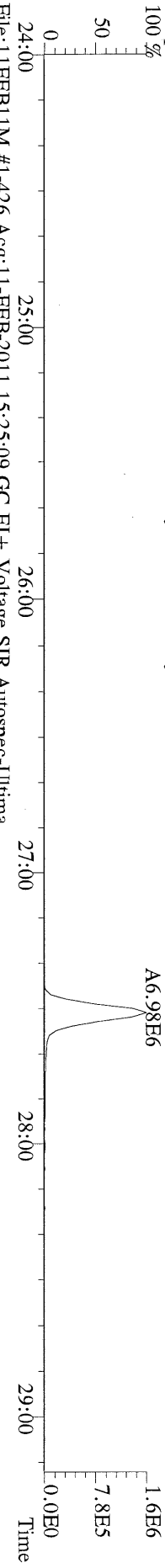
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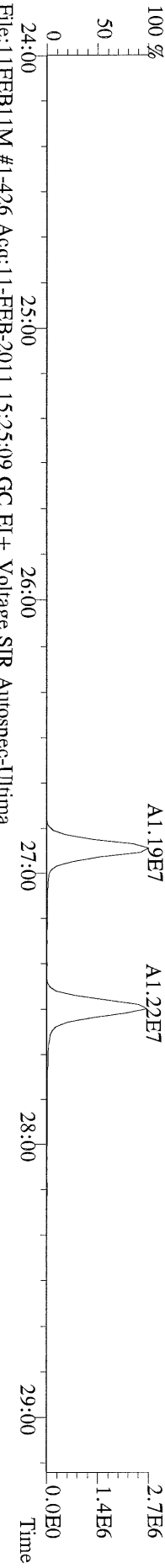
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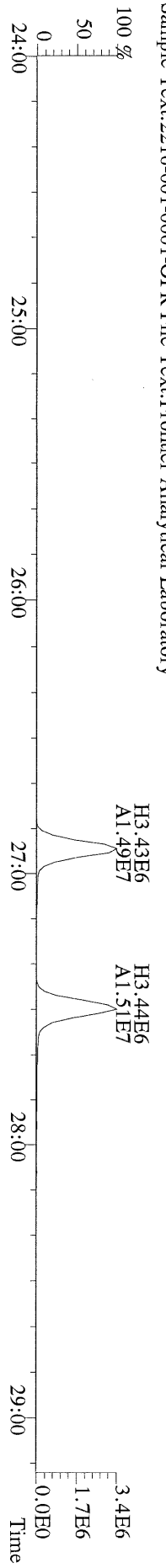
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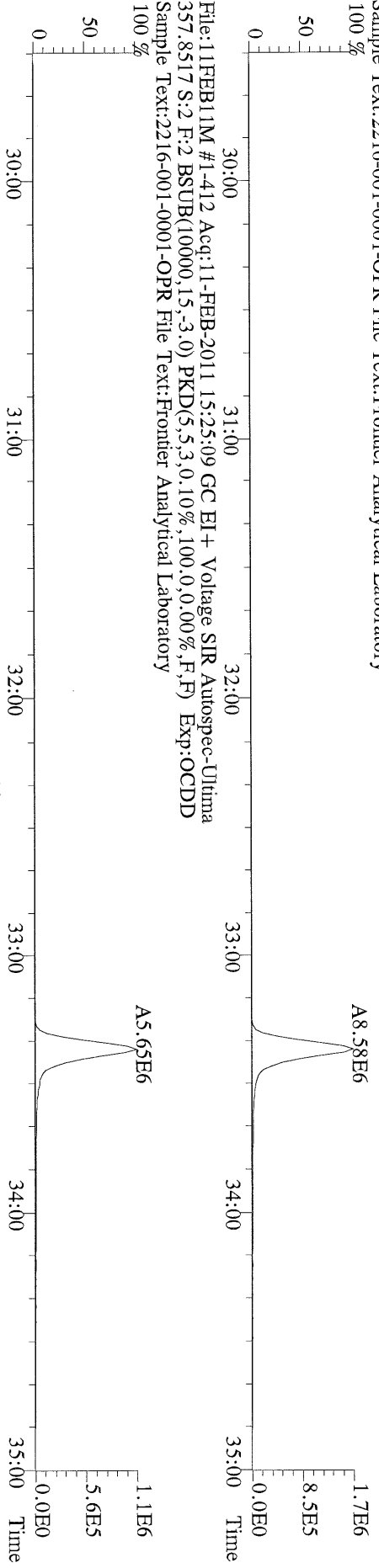
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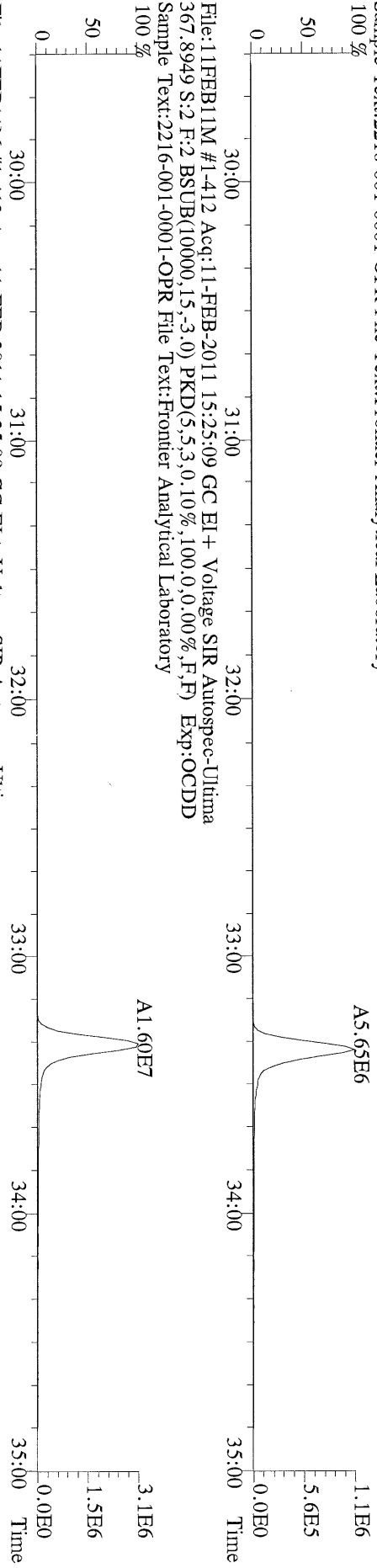
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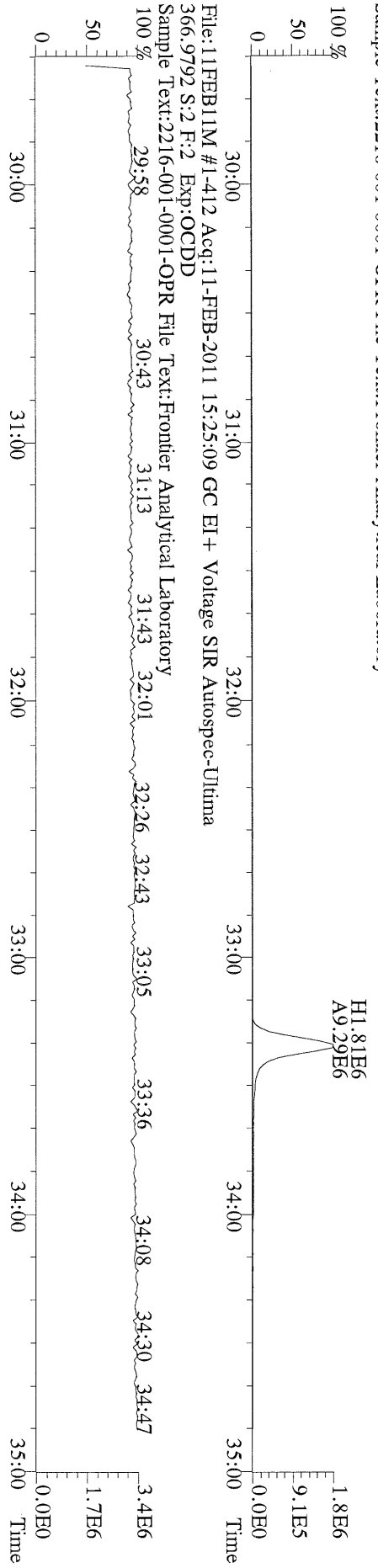
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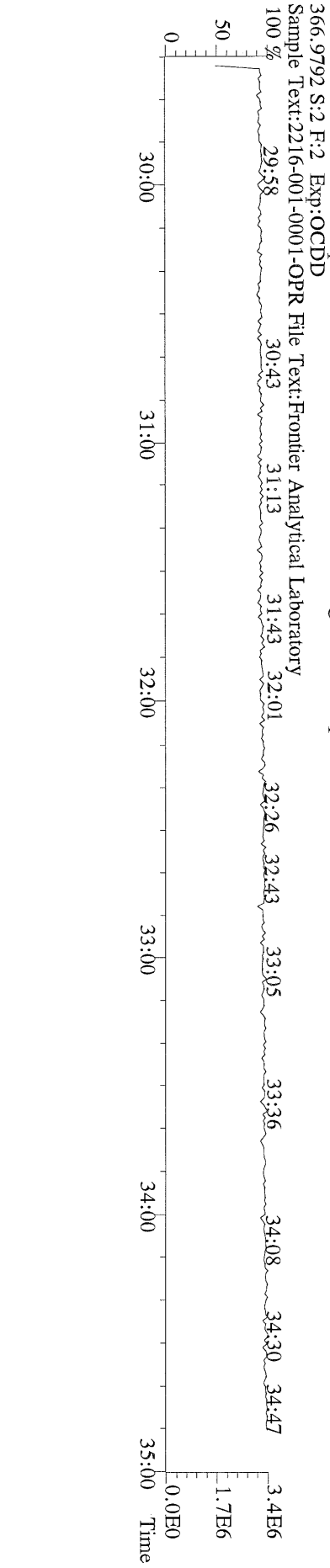
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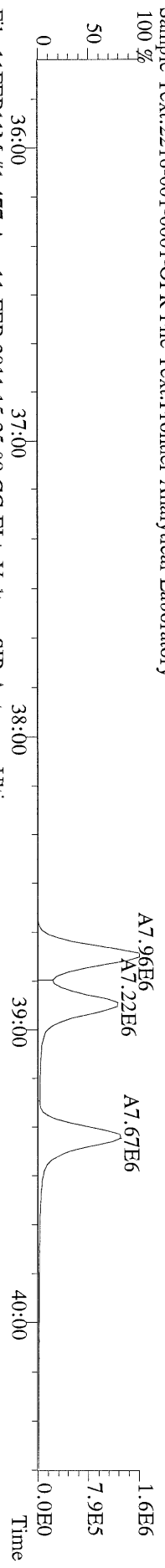
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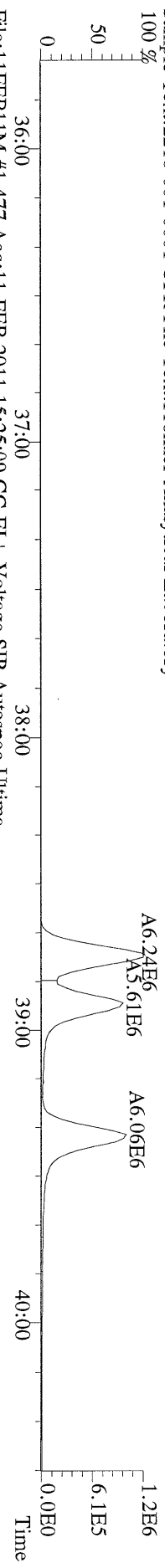
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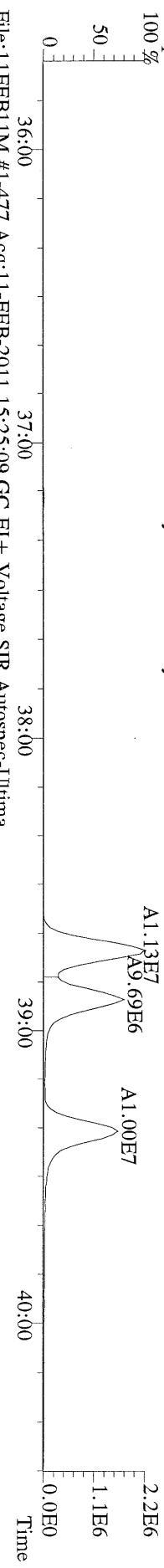
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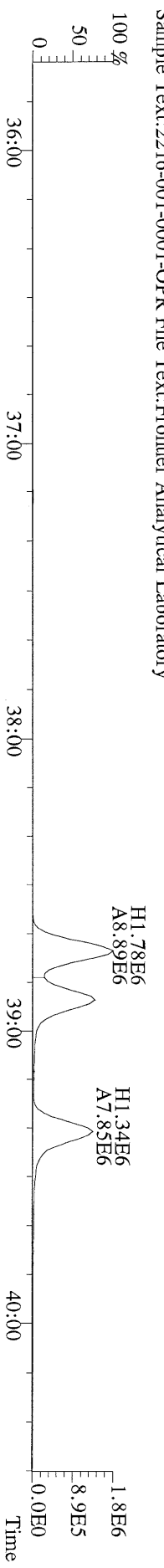
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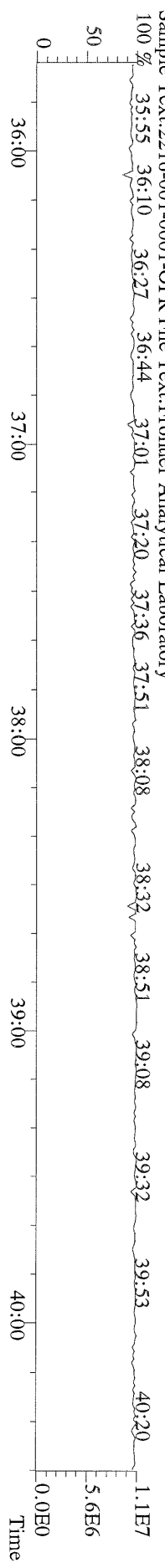
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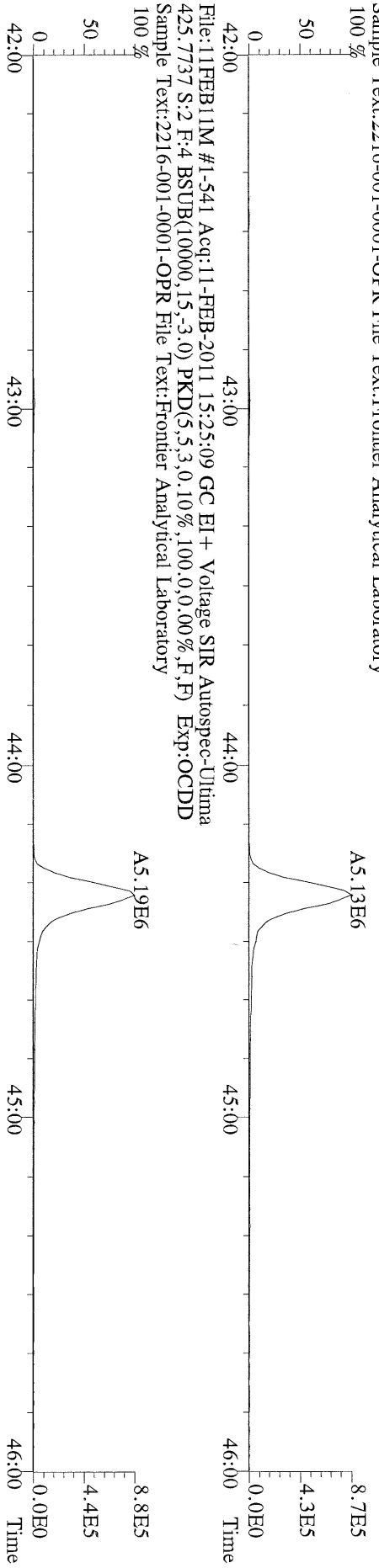
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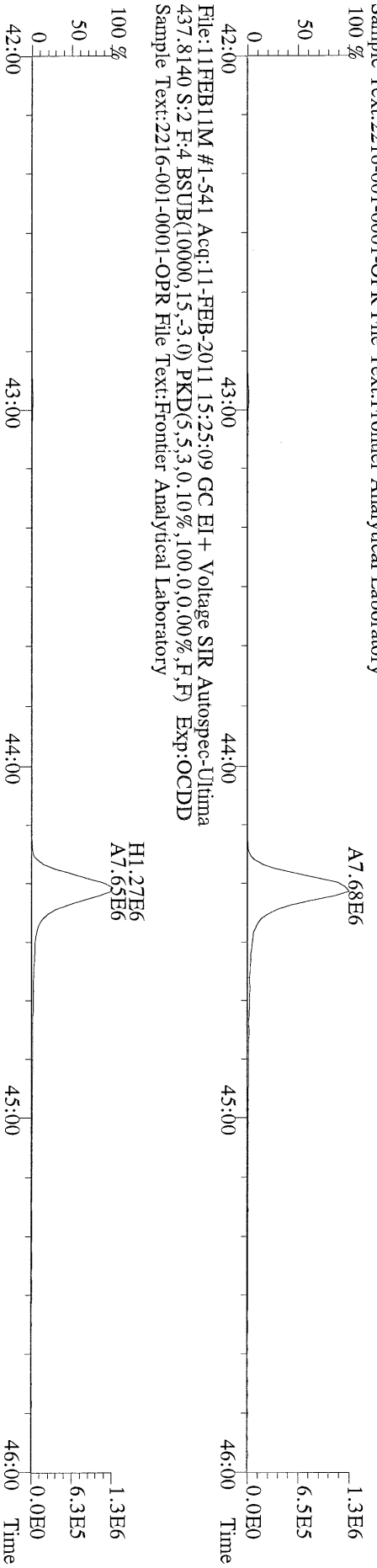
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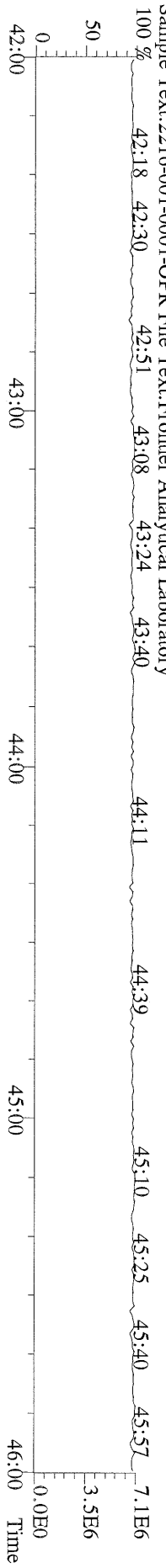
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100 %



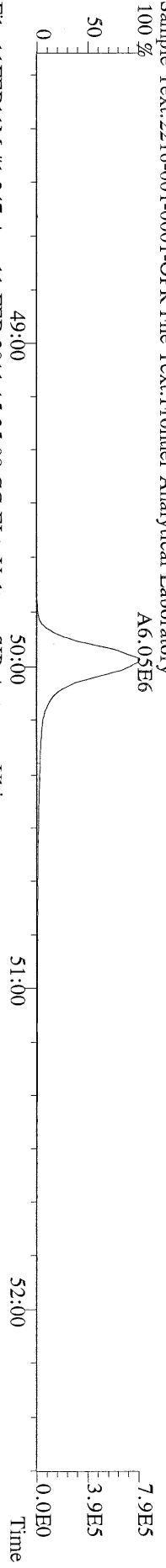
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100 %



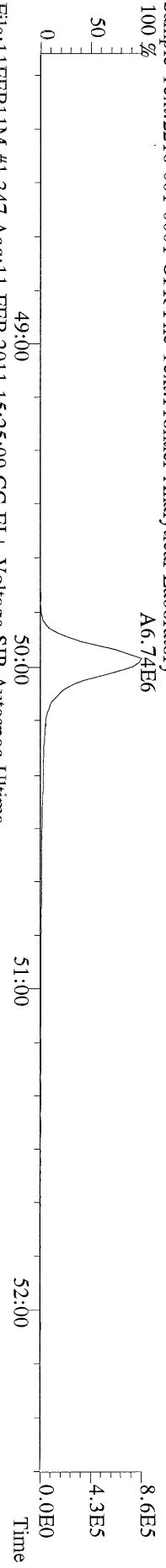
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100 %



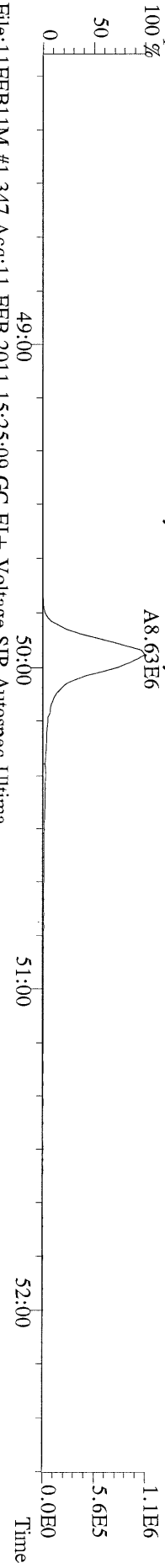
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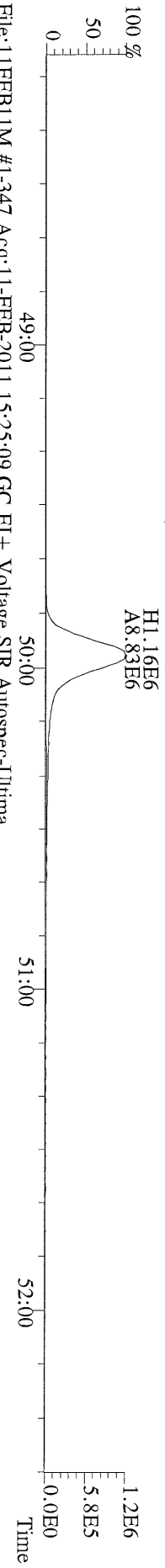
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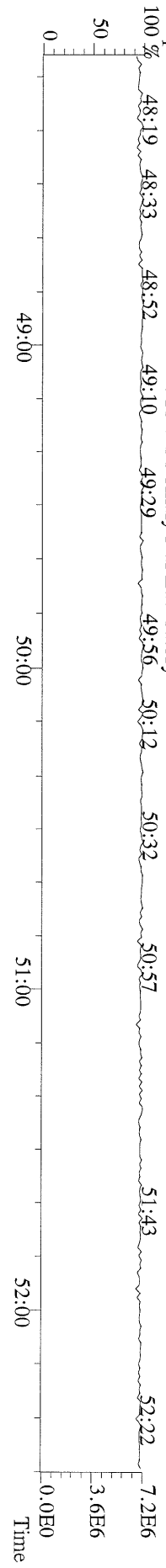
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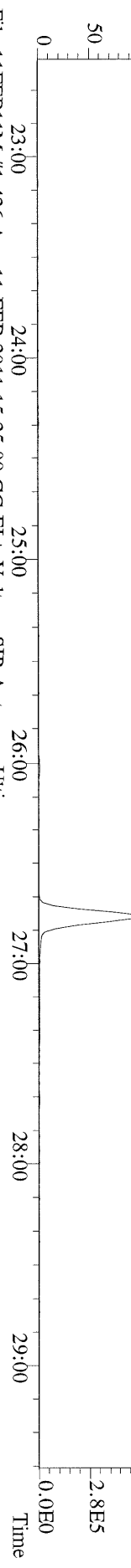
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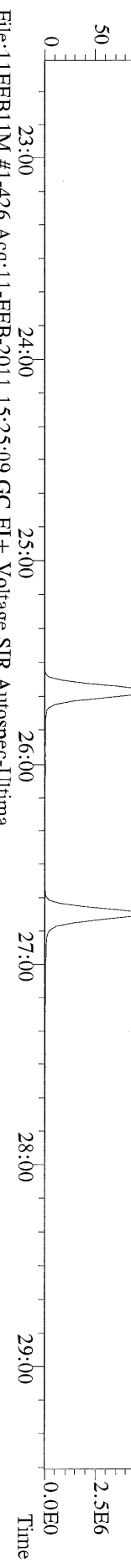
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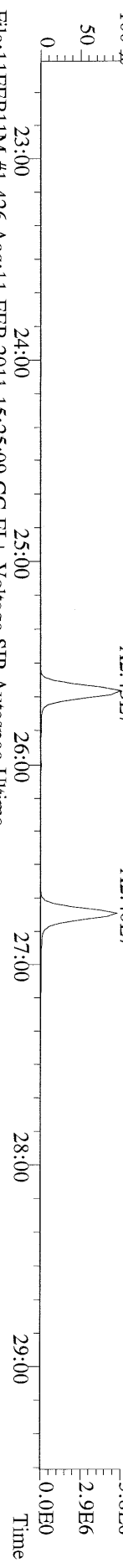
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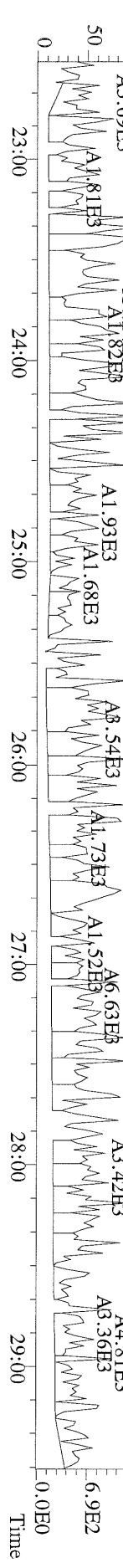
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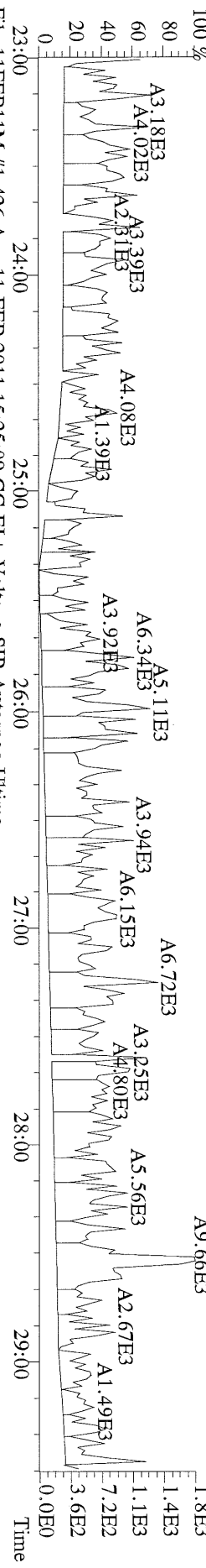
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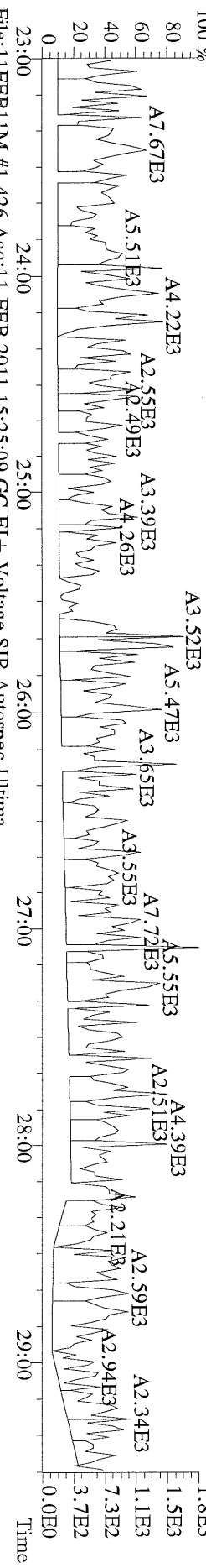
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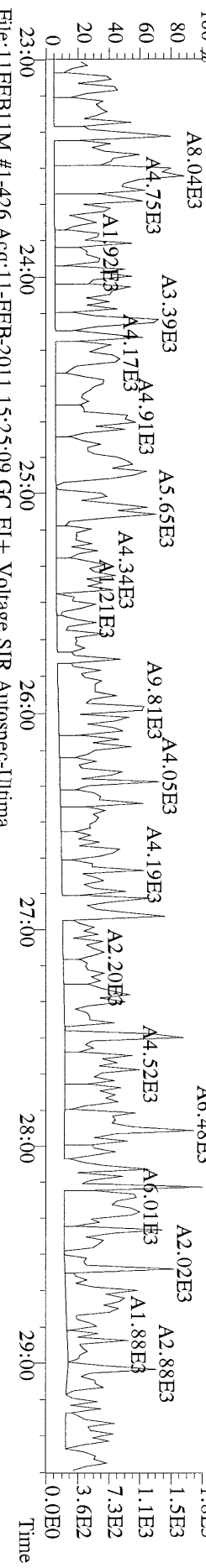
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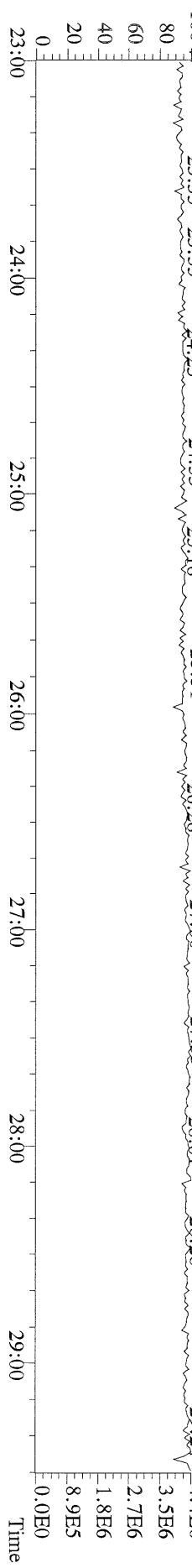
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 409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
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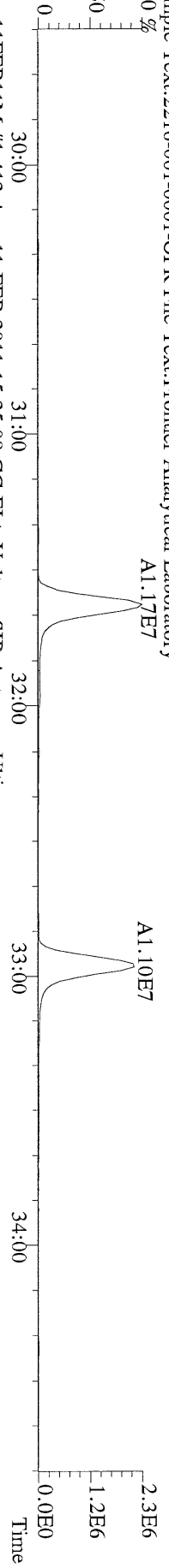


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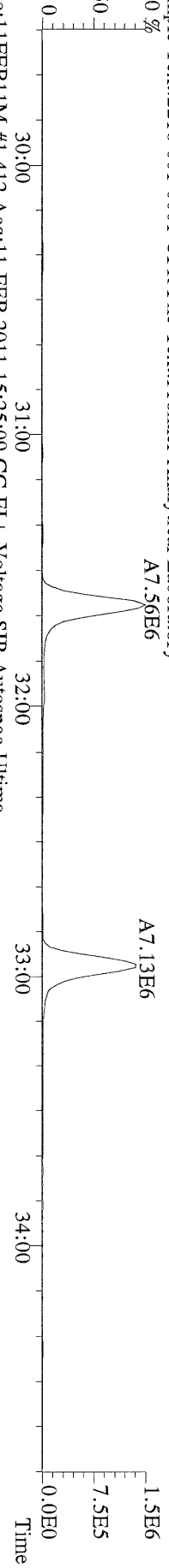




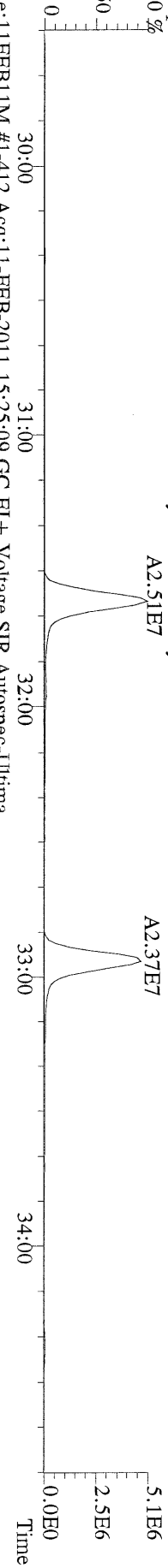
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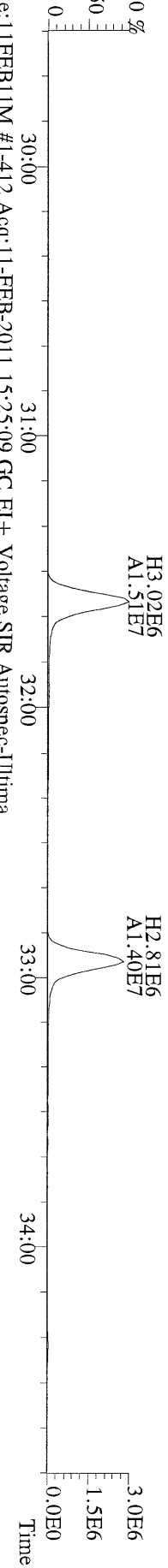
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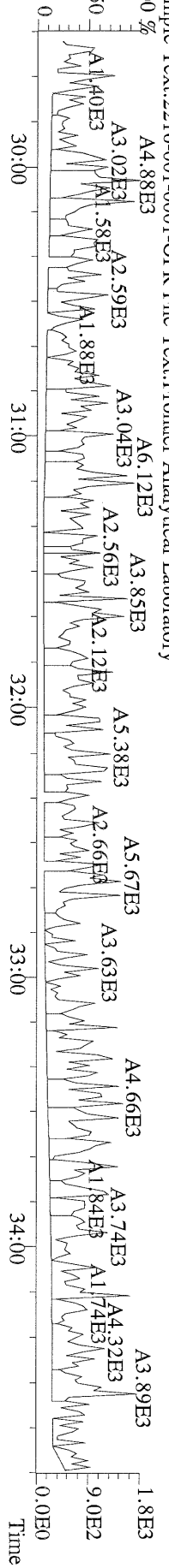
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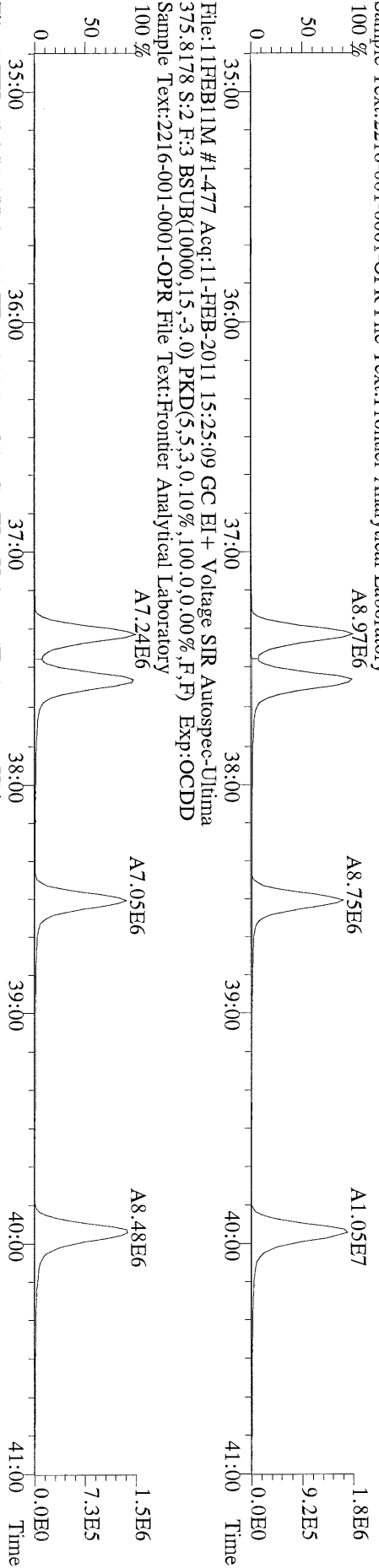
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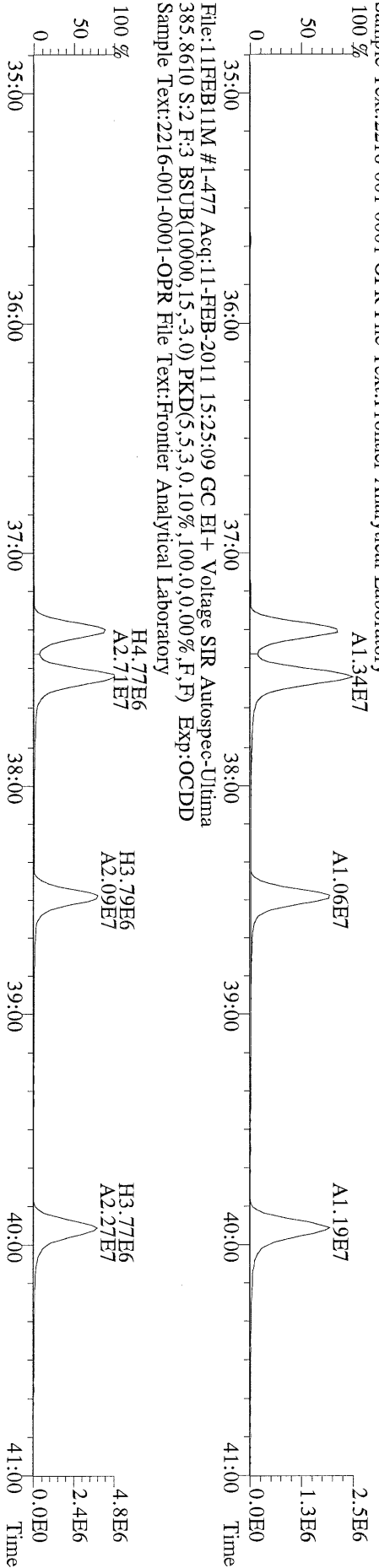
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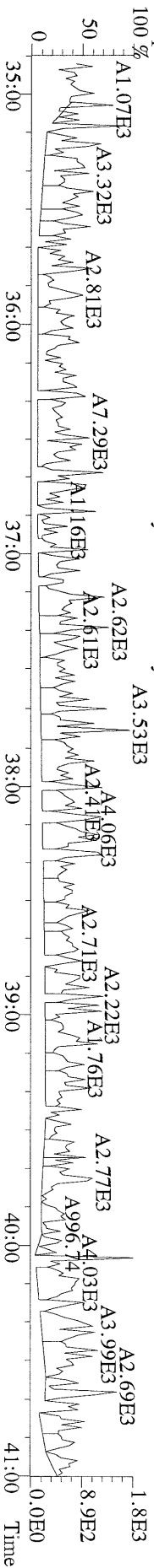
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373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



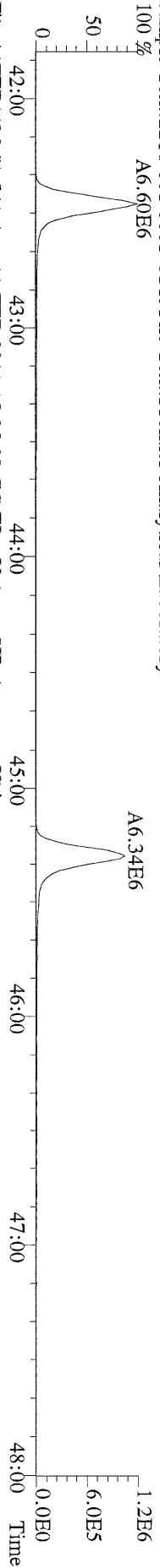
File:11FEB11M #1-477 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



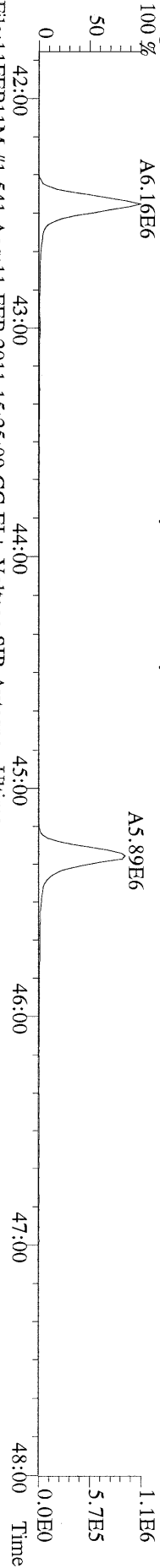
File:11FEB11M #1-477 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



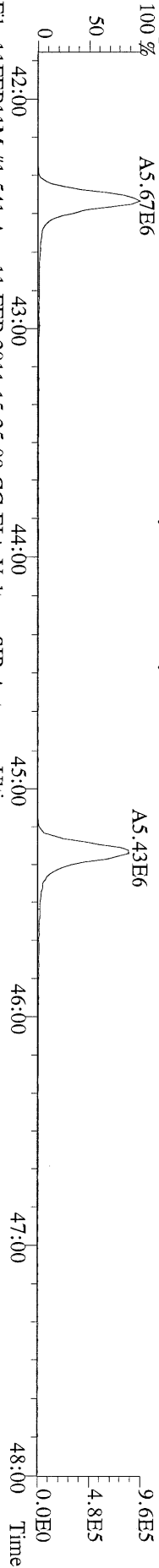
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



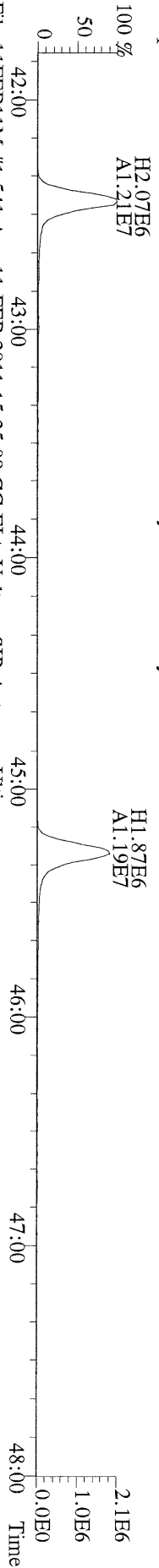
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



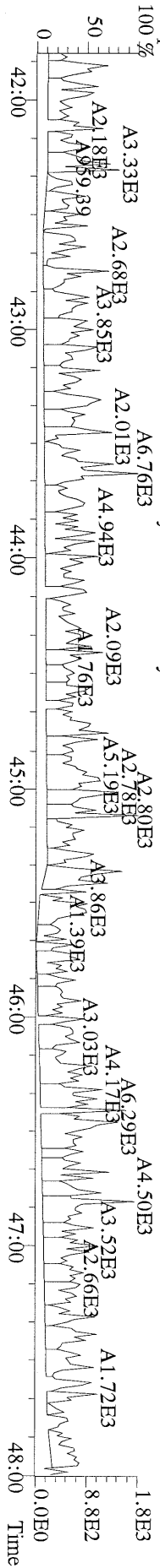
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



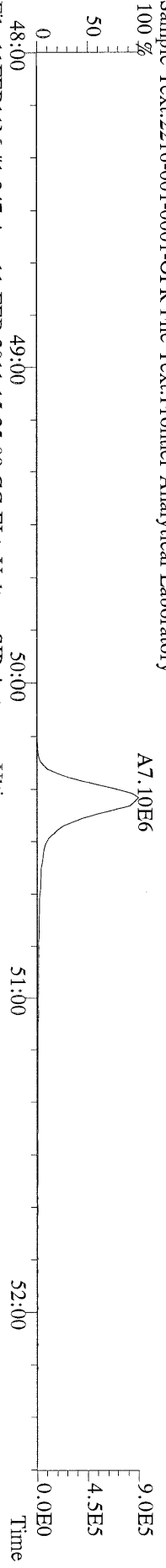
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



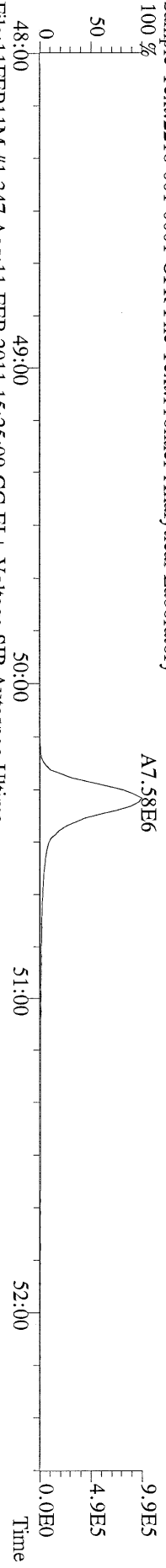
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



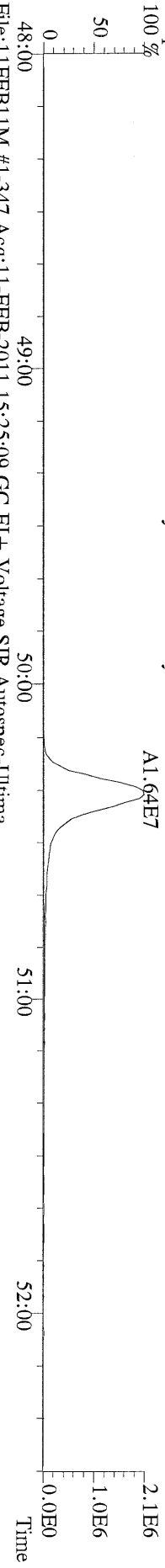
File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



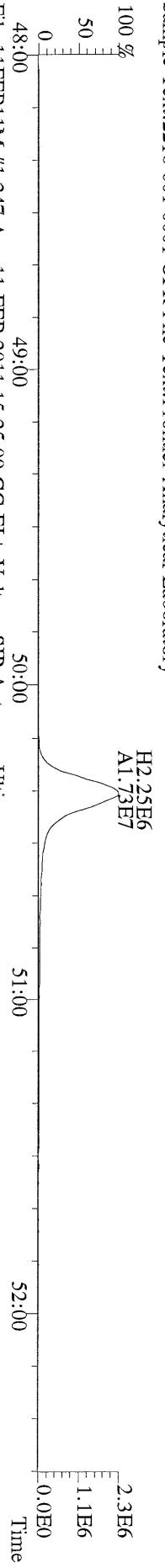
File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



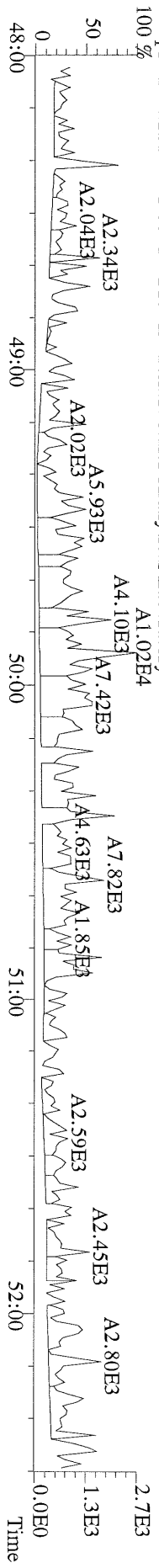
File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	DL	
2,3,7,8-TCDD	1.35e+05	0.70 y	27:30	1.11	2.24		2.50	-	-	*	
1,2,3,7,8-PeCDD	4.51e+05	1.68 y	33:23	1.10	8.06		2.50	-	-	*	
1,2,3,4,7,8-HxCDD	4.82e+05	1.42 y	38:46	1.37	8.99		2.50	-	-	*	
1,2,3,6,7,8-HxCDD	4.16e+06	1.27 y	38:55	1.37	90.2		2.50	-	-	*	
1,2,3,7,8,9-HxCDD	1.53e+06	1.30 y	39:23	1.36	31.0		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	1.14e+08	0.98 y	44:23	1.45	2460		2.50	-	-	*	
OCDD	8.79e+08	0.92 y	50:03	1.43	35100		2.50	-	-	*	
2,3,7,8-TCDF	*	* n	NotFnd	1.50	*		2.50	1580	2070	0.284	
1,2,3,7,8-PeCDF	9.41e+04	1.51 y	31:38	0.94	1.20	J	2.50	-	-	*	
2,3,4,7,8-PeCDF	2.23e+05	1.52 y	32:58	0.94	3.02	J	2.50	-	-	*	
1,2,3,4,7,8-HxCDF	1.18e+06	1.30 y	37:22	0.93	19.5		2.50	-	-	*	
1,2,3,6,7,8-HxCDF	7.15e+05	1.26 y	37:34	0.82	11.0	D,M	2.50	-	-	*	
2,3,4,6,7,8-HxCDF	1.15e+06	1.27 y	38:31	0.92	19.9		2.50	-	-	*	
1,2,3,7,8,9-HxCDF	1.63e+05	1.31 y	40:00	1.00	2.55	J	2.50	-	-	*	
1,2,3,4,6,7,8-HpCDF	4.28e+07	1.06 y	42:28	1.39	845		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	1.85e+06	1.09 y	45:18	1.36	46.4		2.50	-	-	*	
OCDF	5.47e+07	0.90 y	50:23	0.79	3460		2.50	-	-	*	
										Rec	
13C-2,3,7,8-TCDD	2.11e+07	0.76 y	27:30	1.02	363					93.1	
13C-1,2,3,7,8-PeCDD	1.98e+07	1.71 y	33:21	0.84	413					106	
13C-1,2,3,4,7,8-HxCDD	1.52e+07	1.25 y	38:44	1.07	411					105	
13C-1,2,3,6,7,8-HxCDD	1.31e+07	1.25 y	38:54	1.01	376					96.4	
13C-1,2,3,4,6,7,8-HpCDD	1.25e+07	1.04 y	44:22	0.86	424					109	
13C-OCDD	1.36e+07	0.95 y	50:02	0.55	724					92.8	
13C-2,3,7,8-TCDF	3.72e+07	0.86 y	26:45	0.99	370					95.0	
13C-1,2,3,7,8-PeCDF	3.26e+07	1.67 y	31:37	0.84	385					98.8	
13C-2,3,4,7,8-PeCDF	3.07e+07	1.66 y	32:57	0.81	375					96.1	
13C-1,2,3,4,7,8-HxCDF	2.54e+07	0.53 y	37:21	1.85	398					102	
13C-1,2,3,6,7,8-HxCDF	3.09e+07	0.52 y	37:33	2.54	354					90.9	
13C-2,3,4,6,7,8-HxCDF	2.47e+07	0.52 y	38:29	2.01	356					91.2	
13C-1,2,3,7,8,9-HxCDF	2.50e+07	0.53 y	39:57	2.03	358					91.7	
13C-1,2,3,4,6,7,8-HpCDF	1.42e+07	0.48 y	42:27	1.11	371					95.2	
13C-1,2,3,4,7,8,9-HpCDF	1.15e+07	0.47 y	45:17	0.80	414					106	
13C-OCDF	1.57e+07	0.96 y	50:23	1.08	421					54.0	
37Cl-2,3,7,8-TCDD	5.93e+06		27:31	0.69	152					97.5	
13C-1,2,3,4-TCDD	2.22e+07	0.77 y	26:55	-	9.63						
13C-1,2,3,4-TCDF	3.94e+07	0.87 y	25:39	-	10.6						
13C-1,2,3,7,8,9-HxCDD	1.34e+07	1.21 y	39:21	-	9.49						
Total Tetra-Dioxins	8.01e+05		24:30	1.11	13.3		2.50	-	-	*	11
Total Penta-Dioxins	2.86e+06		30:22	1.10	51.2		2.50	-	-	*	10
Total Hexa-Dioxins	2.61e+07		36:17	1.37	531		2.50	-	-	*	7
Total Hepta-Dioxins	2.42e+08		43:00	1.45	5200		2.50	-	-	*	2
Total Tetra-Furans	6.15e+06		23:29	1.50	42.9	D,M	2.50	-	-	*	13
1st Fn. Tot Penta-Furans	2.17e+06		28:34	0.94	28.4	D,M	2.50	-	-	*	PeCDF 1
Total Penta-Furans	5.56e+06		30:12	0.94	73.0	D,M	2.50	-	-	*	101 10
Total Hexa-Furans	4.22e+07		35:24	0.91	682	D,M	2.50	-	-	*	11
Total Hepta-Furans	1.44e+08		42:28	1.38	3090		2.50	-	-	*	4

Analyst: 

Date: 2/14/11

Totals class: Total Tetra-Dioxins

Entry #: 38

Run: 12

File: 11FEB11M

S: 5 I: 1 F: 1

Acquired: 11-FEB-11 18:12:28

Total Concentration: 13.3

Unnamed Concentration: 11.050

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
24:30	3.25e+04	3.85e+04	0.84 y	7.10e+04	1.18	
24:46	2.73e+04	3.14e+04	0.87 y	5.87e+04	0.973	
25:05	1.47e+04	1.75e+04	0.84 y	3.22e+04	0.535	
25:43	7.77e+03	1.04e+04	0.75 y	1.82e+04	0.301	
25:53	1.85e+04	2.43e+04	0.76 y	4.28e+04	0.710	
26:03	7.91e+04	9.54e+04	0.83 y	1.74e+05	2.89	
26:26	1.36e+04	1.66e+04	0.82 y	3.02e+04	0.501	
26:35	1.77e+04	2.31e+04	0.77 y	4.08e+04	0.678	
26:57	6.61e+04	9.12e+04	0.72 y	1.57e+05	2.61	
27:30	5.55e+04	7.96e+04	0.70 y	1.35e+05	2.24	2,3,7,8-TCDD
27:50	1.83e+04	2.20e+04	0.83 y	4.03e+04	0.669	

Totals class: Total Penta-Dioxins

Entry #: 39

Run: 12

File: 11FEB11M

S: 5 I: 1 F: 2

Acquired: 11-FEB-11 18:12:28

Total Concentration: 51.2

Unnamed Concentration: 43.150

RT	mL Resp	m2 Resp	RA	Resp	Concentration	Name
30:22	4.21e+05	2.84e+05	1.48 y	7.06e+05	12.6	
31:00	8.32e+04	5.64e+04	1.47 y	1.40e+05	2.50	
31:36	1.30e+05	8.50e+04	1.53 y	2.15e+05	3.85	
31:50	4.22e+05	2.77e+05	1.52 y	7.00e+05	12.5	
31:59	1.38e+05	8.91e+04	1.55 y	2.27e+05	4.06	
32:17	1.24e+05	8.04e+04	1.54 y	2.04e+05	3.66	
32:45	4.55e+04	2.67e+04	1.71 y	7.22e+04	1.29	
33:23	2.83e+05	1.68e+05	1.68 y	4.51e+05	8.06	1,2,3,7,8-PeCDD
33:29	5.26e+04	3.10e+04	1.70 y	8.36e+04	1.50	
33:57	4.09e+04	2.38e+04	1.72 y	6.47e+04	1.16	

Totals class: Total Hexa-Dioxins

Entry #: 40

Run: 12

File: 11FEB11M

S: 5 I: 1 F: 3

Acquired: 11-FEB-11 18:12:28

Total Concentration: 531

Unnamed Concentration: 400.607

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
36:17	4.07e+06	3.26e+06	1.25 y	7.33e+06	147	
37:13	5.17e+05	4.14e+05	1.25 y	9.32e+05	18.7	
37:40	6.39e+06	5.03e+06	1.27 y	1.14e+07	230	
38:46	2.83e+05	1.99e+05	1.42 y	4.82e+05	8.99	1,2,3,4,7,8-HxCDD
38:55	2.33e+06	1.84e+06	1.27 y	4.16e+06	90.2	1,2,3,6,7,8-HxCDD
39:12	1.36e+05	1.02e+05	1.33 y	2.38e+05	4.80	
39:23	8.66e+05	6.67e+05	1.30 y	1.53e+06	31.0	1,2,3,7,8,9-HxCDD



Totals class: Total Hepta-Dioxins                      Entry #: 41

Run: 12                      File: 11FEB11M                      S: 5 I: 1 F: 4  
Acquired: 11-FEB-11 18:12:28

Total Concentration: 5200                      Unnamed Concentration: 2739.102

RT	ml Resp	m2 Resp RA	Resp	Concentration	Name
43:00	6.31e+07	6.45e+07 0.98 y	1.28e+08	2740	
44:23	5.67e+07	5.77e+07 0.98 y	1.14e+08	2460	1,2,3,4,6,7,8-HpCDD

Totals class: Total Tetra-Furans

Entry #: 42

Run: 12

File: 11FEB11M

S: 5 I: 1 F: 1

Acquired: 11-FEB-11 18:12:28

Total Concentration: 42.9

Unnamed Concentration: 42.936

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
23:29	5.02e+04	7.14e+04	0.70 y	1.22e+05	0.848	
23:53	1.37e+05	1.79e+05	0.77 y	3.16e+05	2.21	
24:13	2.69e+04	3.46e+04	0.78 y	6.15e+04	0.429	
24:18	2.64e+04	3.56e+04	0.74 y	6.20e+04	0.433	
24:32	5.30e+04	6.45e+04	0.82 y	1.18e+05	0.820	
24:50	5.14e+04	7.68e+04	0.67 y	1.28e+05	0.894	
25:33	6.49e+04	9.84e+04	0.66 y	1.63e+05	1.14	
25:40	1.16e+05	1.69e+05	0.68 y	2.85e+05	1.99	
25:53	3.01e+05	4.39e+05	0.68 y	7.40e+05	5.17	
27:28	1.36e+05	1.95e+05	0.70 y	3.32e+05	2.31	
27:58	6.20e+05	9.12e+05	0.68 y	1.53e+06	10.7	
28:11	8.32e+05	1.23e+06	0.68 y	2.06e+06	14.4	
28:34	1.01e+05	1.31e+05	0.77 y	2.31e+05	1.62	

Totals class: 1st Fn. Tot Penta-Furans      Entry #: 43

Run: 12      File: 11FEB11M      S: 5 I: 1 F: 1  
Acquired: 11-FEB-11 18:12:28

Total Concentration: 28.4      Unnamed Concentration: 28.390

RT	ml Resp	m2 Resp RA	Resp	Concentration	Name
28:34	1.29e+06	8.71e+05 1.49 y	2.17e+06	28.4	

Totals class: Total Penta-Furans

Entry #: 44

Run: 12

File: 11FEB11M

S: 5 I: 1 F: 2

Acquired: 11-FEB-11 18:12:28

Total Concentration: 73.0

Unnamed Concentration: 68.740

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
30:12	8.60e+04	5.53e+04	1.55 y	1.41e+05	1.85	
30:23	7.19e+05	4.80e+05	1.50 y	1.20e+06	15.7	
31:05	2.46e+05	1.66e+05	1.48 y	4.12e+05	5.40	
31:38	5.66e+04	3.75e+04	1.51 y	9.41e+04	1.20	1,2,3,7,8-PeCDF
31:52	1.31e+06	8.71e+05	1.51 y	2.18e+06	28.6	
32:10	2.77e+05	1.79e+05	1.54 y	4.56e+05	5.97	
32:58	1.35e+05	8.83e+04	1.52 y	2.23e+05	3.02	2,3,4,7,8-PeCDF
33:01	9.43e+04	7.08e+04	1.33 y	1.65e+05	2.16	
34:03	1.55e+05	9.62e+04	1.61 y	2.51e+05	3.30	
34:14	2.55e+05	1.80e+05	1.42 y	4.36e+05	5.71	

Totals class: Total Hexa-Furans

Entry #: 45

Run: 12

File: 11FEB11M

S: 5 I: 1 F: 3

Acquired: 11-FEB-11 18:12:28

Total Concentration: 682

Unnamed Concentration: 629.356

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
35:24	1.10e+06	8.80e+05	1.25 y	1.98e+06	32.0	
35:40	5.10e+06	4.12e+06	1.24 y	9.23e+06	149	
36:17	2.79e+05	2.55e+05	1.09 y	5.34e+05	8.64	
36:35	1.35e+07	1.10e+07	1.23 y	2.45e+07	396	
37:22	6.67e+05	5.15e+05	1.30 y	1.18e+06	19.5	1,2,3,4,7,8-HxCDF
37:30	3.07e+05	2.67e+05	1.15 y	5.74e+05	9.28	
37:34	3.98e+05	3.16e+05	1.26 y	7.15e+05	11.0	1,2,3,6,7,8-HxCDF
38:14	1.10e+06	9.01e+05	1.22 y	2.00e+06	32.3	
38:31	6.46e+05	5.08e+05	1.27 y	1.15e+06	19.9	2,3,4,6,7,8-HxCDF
38:52	8.07e+04	6.58e+04	1.23 y	1.46e+05	2.37	
40:00	9.25e+04	7.08e+04	1.31 y	1.63e+05	2.55	1,2,3,7,8,9-HxCDF

Totals class: Total Hepta-Furans

Entry #: 46

Run: 12

File: 11FEB11M

S: 5 I: 1 F: 4

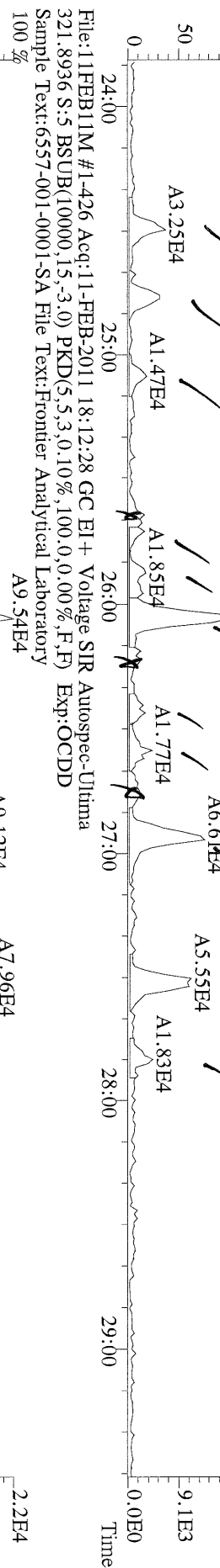
Acquired: 11-FEB-11 18:12:28

Total Concentration: 3090

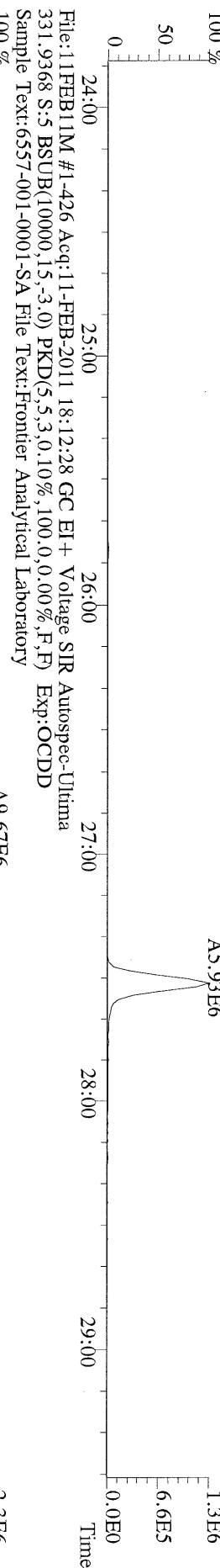
Unnamed Concentration: 2200.957

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
42:28	2.20e+07	2.08e+07	1.06 y	4.28e+07	845	1,2,3,4,6,7,8-HpCDF
43:00	4.68e+05	4.64e+05	1.01 y	9.32e+05	20.6	
43:17	5.10e+07	4.76e+07	1.07 y	9.86e+07	2180	
45:18	9.66e+05	8.83e+05	1.09 y	1.85e+06	46.4	1,2,3,4,7,8,9-HpCDF

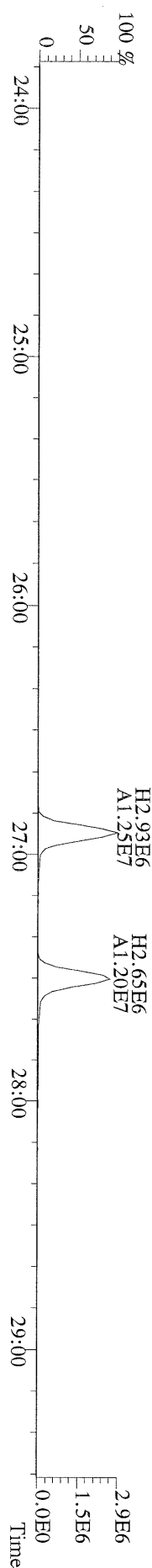
File:11FEB11M #1-426 Acq:11-FEB-2011 18:12:28 GC EI + Voltage SIR Autospec-Ultima  
319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



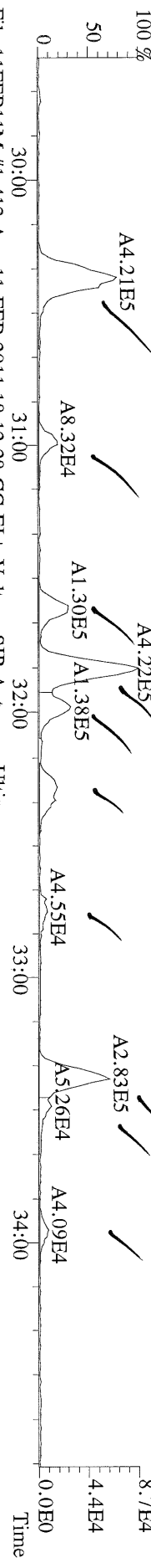
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327.8847 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



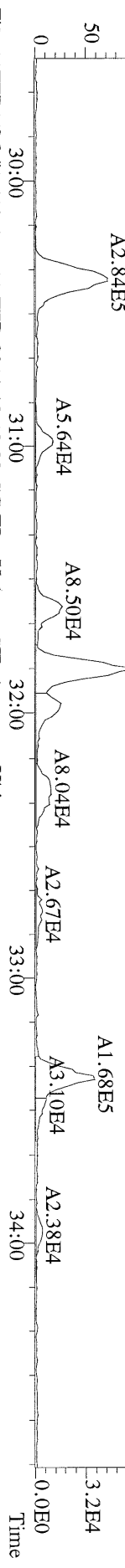
File:11FEB11M #1-426 Acq:11-FEB-2011 18:12:28 GC EI + Voltage SIR Autospec-Ultima  
331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



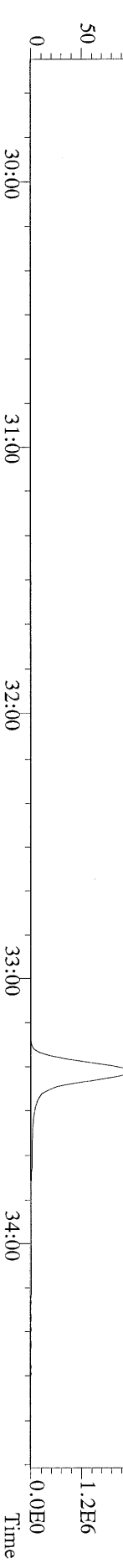
File:11FEB11M #1-412 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
 355.8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



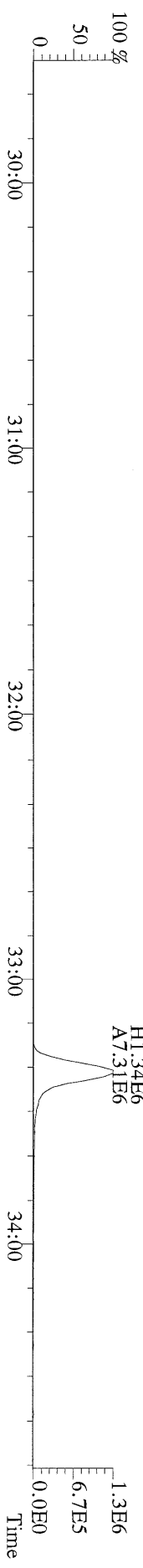
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 357.8517 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



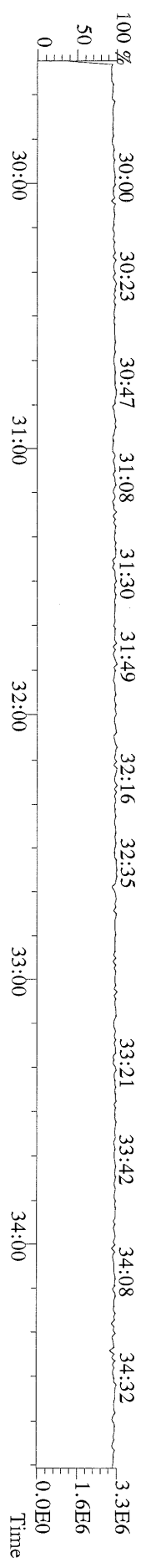
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 367.8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



File:11FEB11M #1-412 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
 369.8919 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

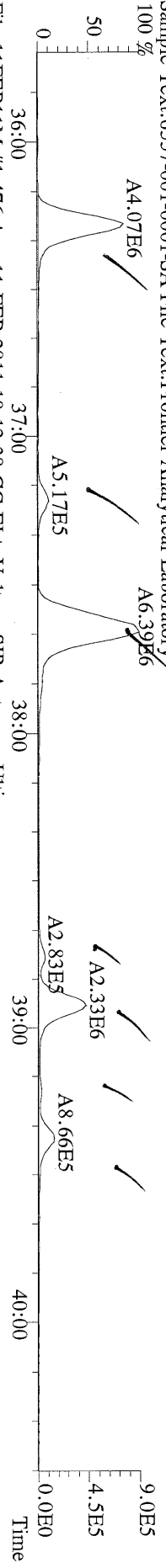


File:11FEB11M #1-412 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
 366.9792 S:5 F:2 Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

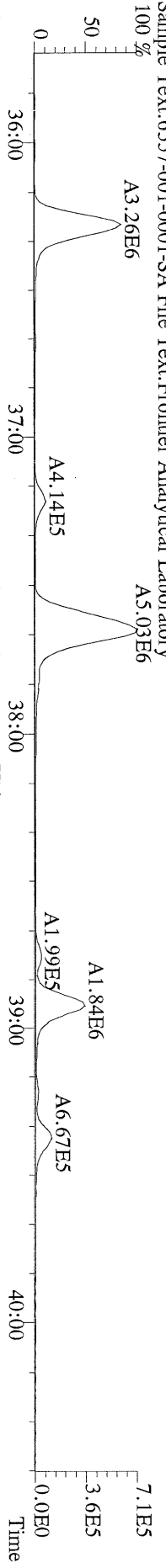




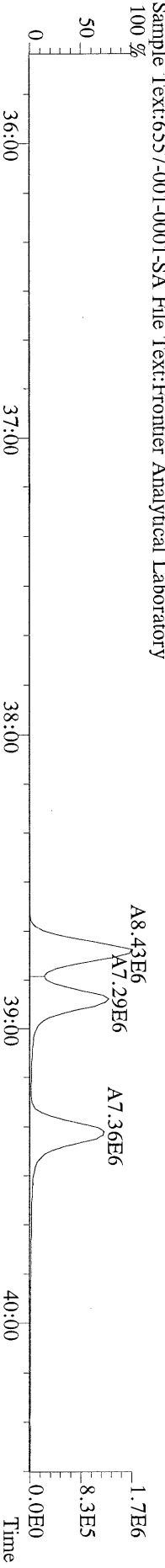
File:11FEB11M #1-476 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
 389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



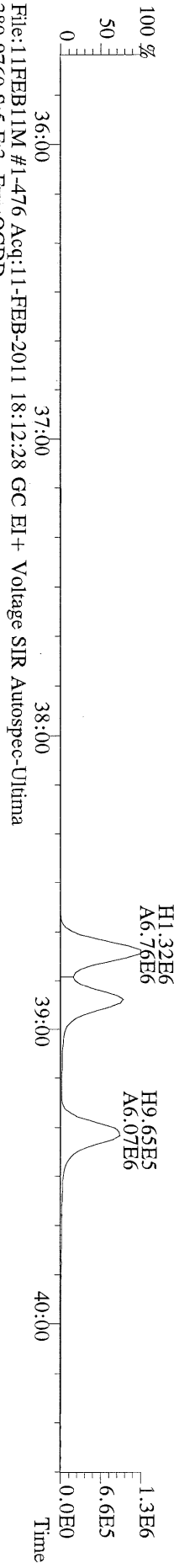
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 391.8127 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



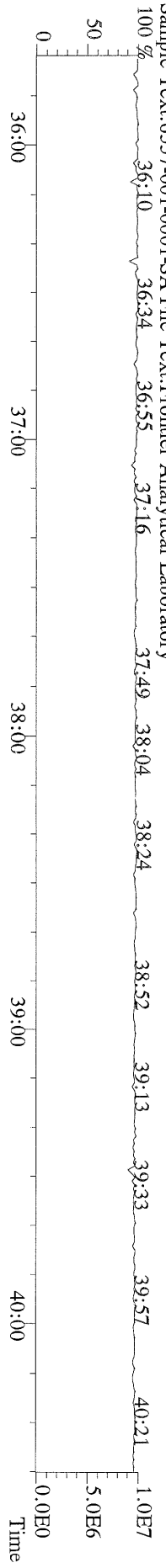
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 401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



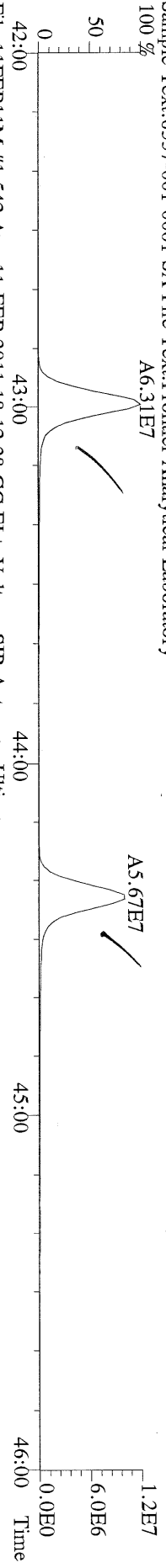
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 403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



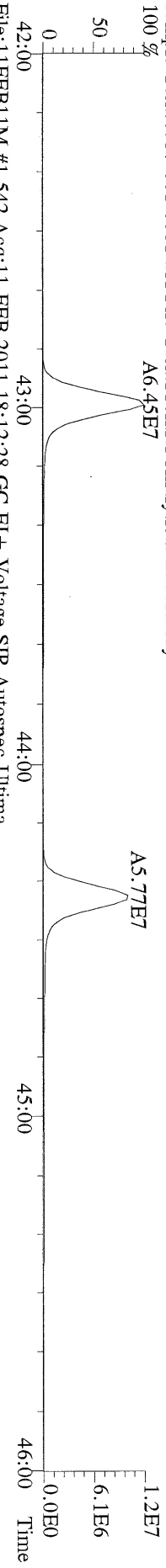
File:11FEB11M #1-476 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
 380.9760 S:5 F:3 Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



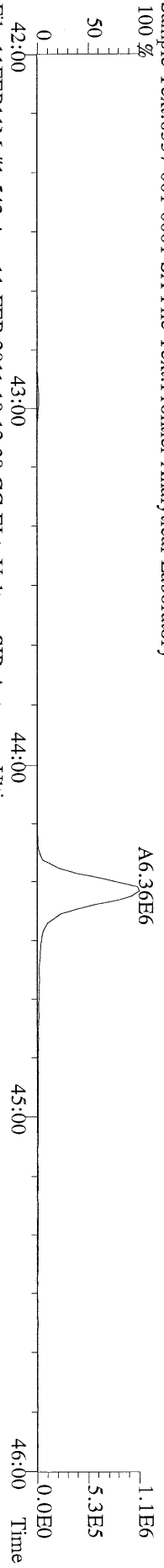
File:11FEB11M #1-542 Acq:11-FEB-2011 18:12:28 GC EI + Voltage SIR Autospec-Ultima  
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



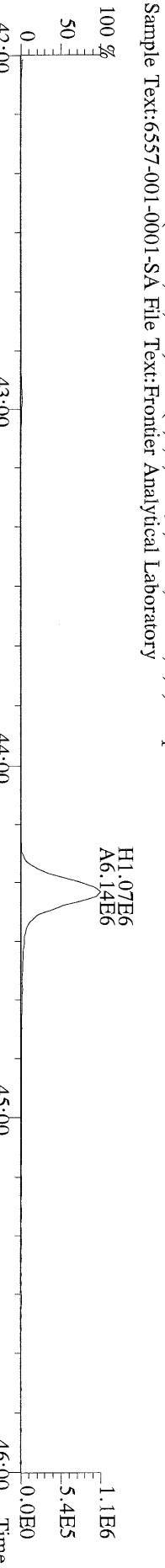
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425.7737 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



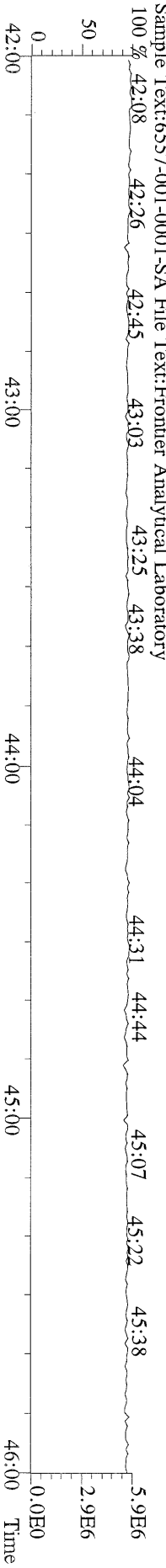
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435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



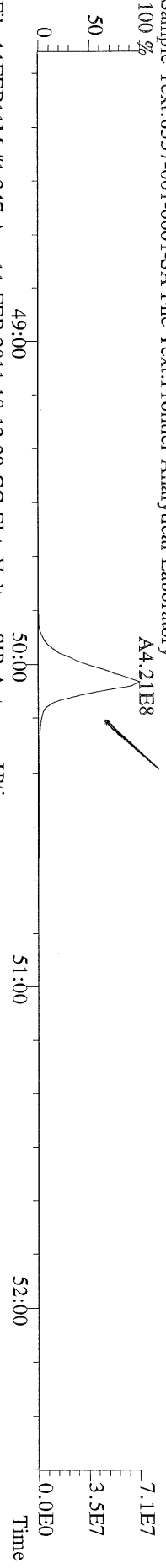
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Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



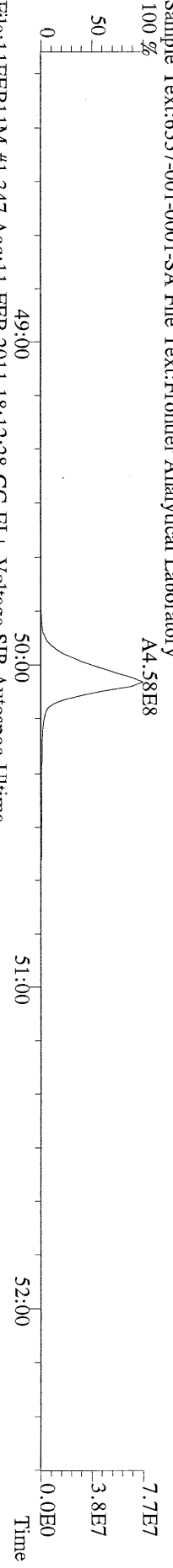
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430.9728 S:5 F:4 Exp:OCDD  
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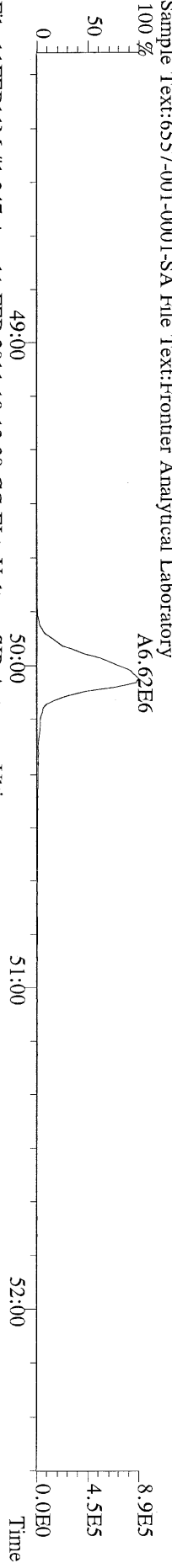
File:11FEB11M #1-347 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
 457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



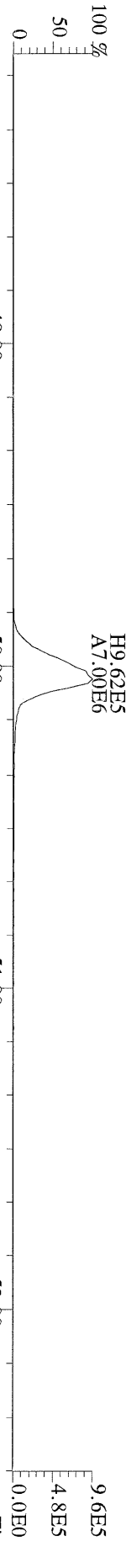
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 459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



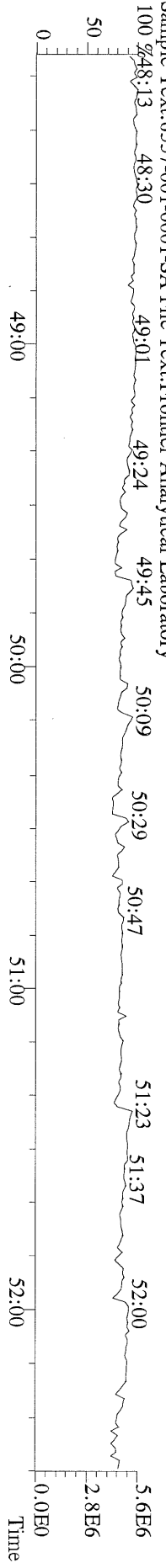
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 469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



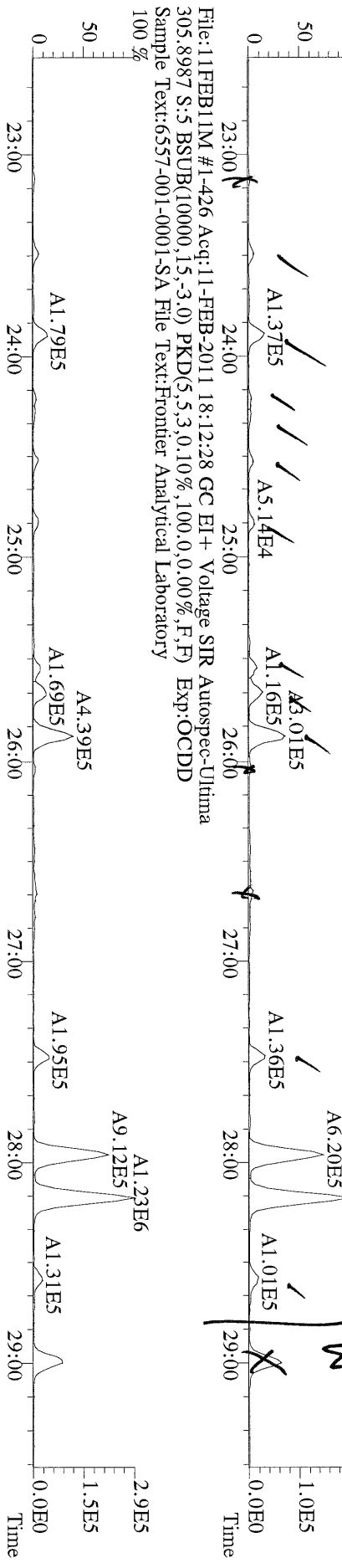
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 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



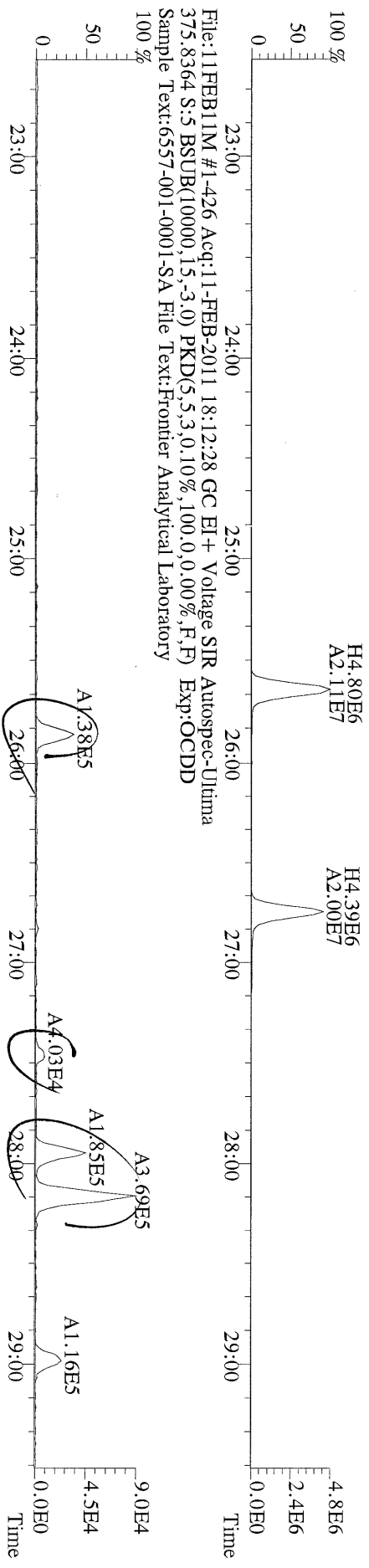
File:11FEB11M #1-347 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
 454.9728 S:5 F:5 Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



File:11FEB11M #1-426 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

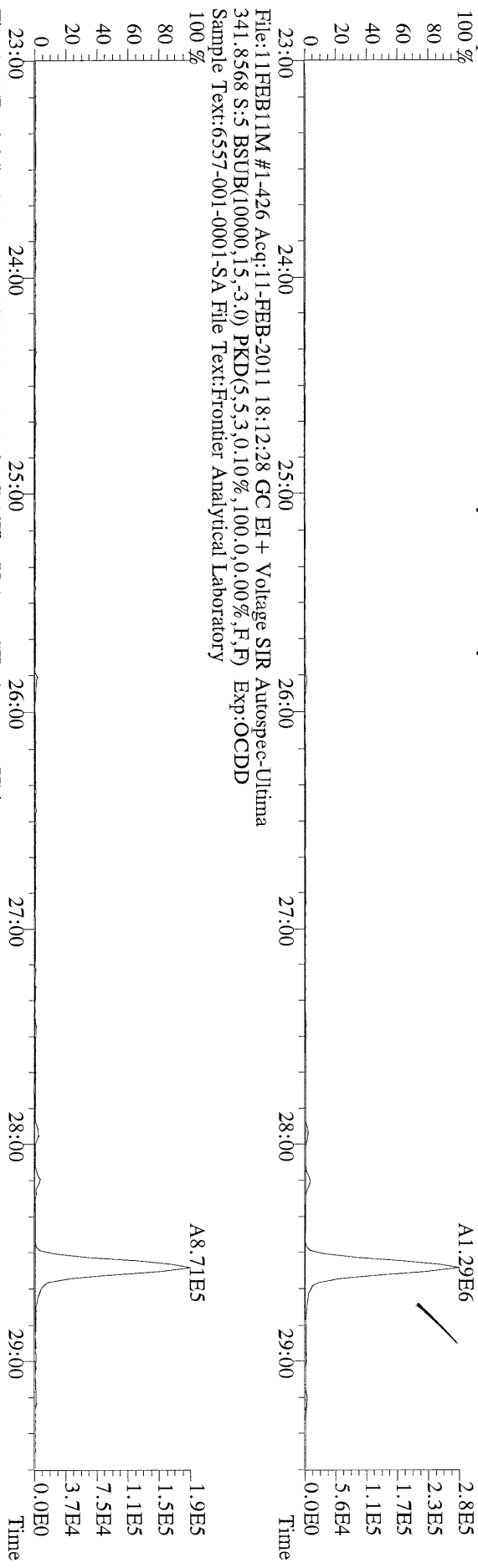


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315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

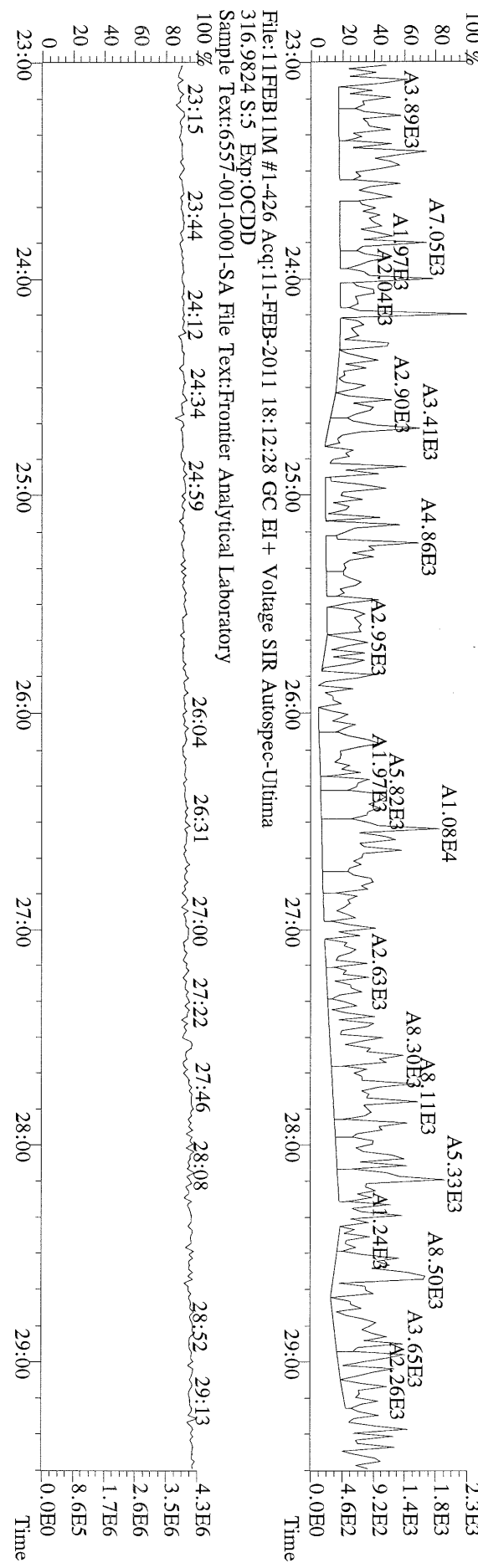


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375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

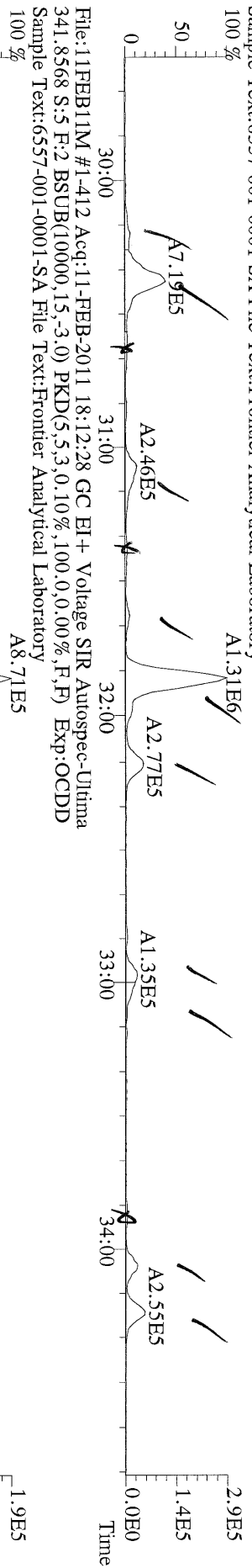
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 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



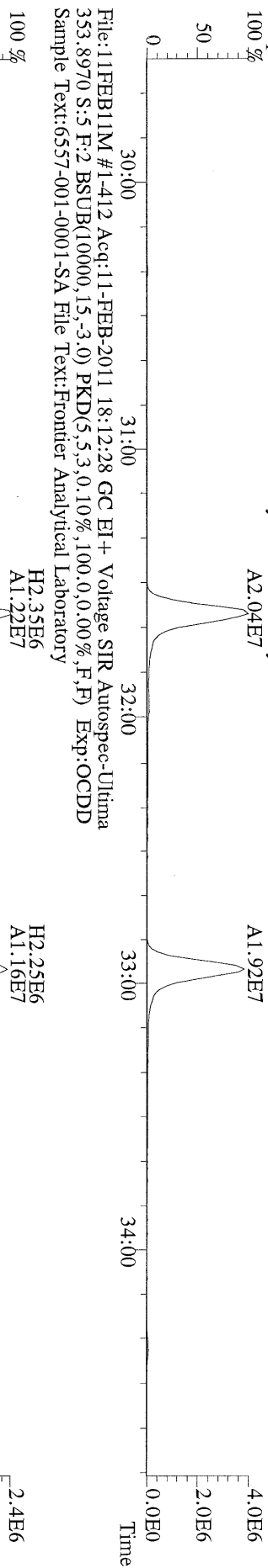
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 409.7974 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



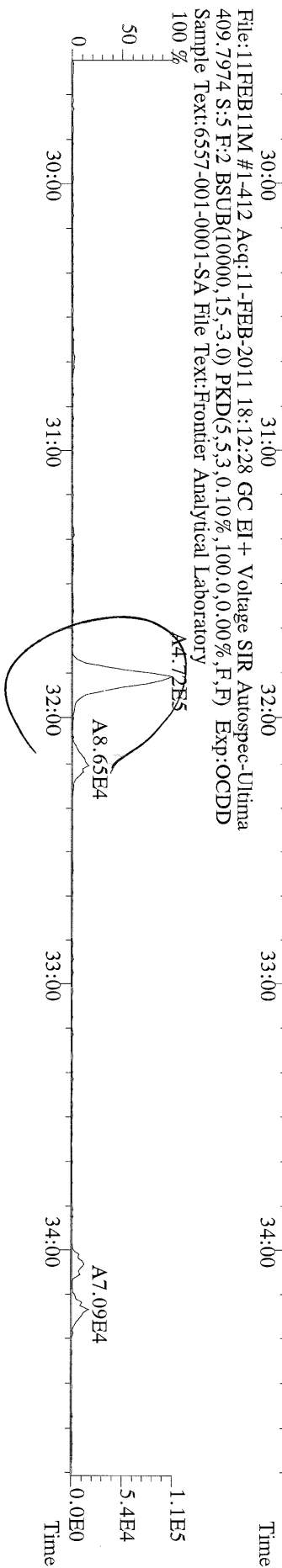
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339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



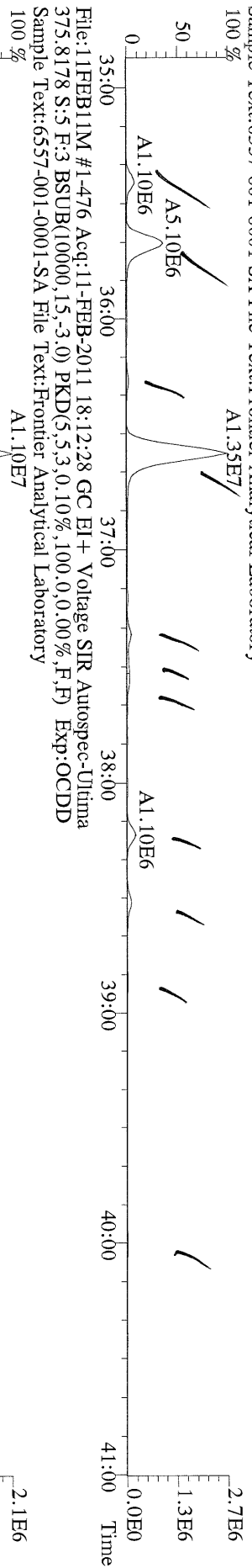
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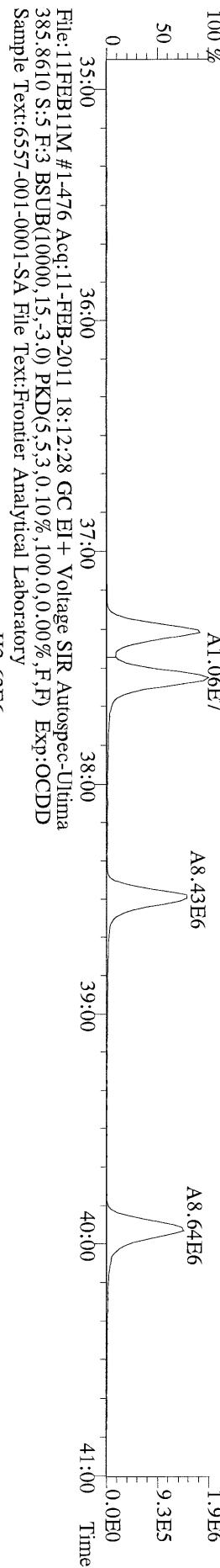
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Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



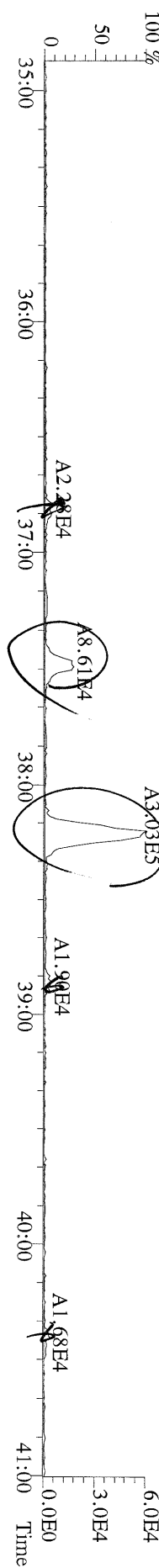
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 373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



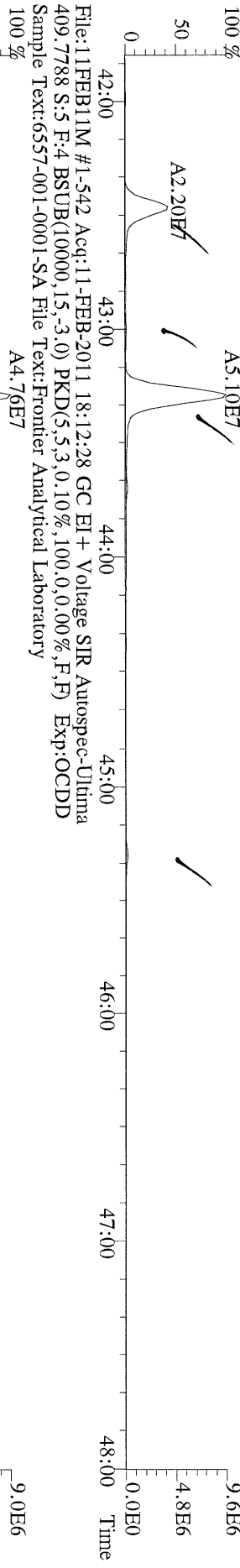
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 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



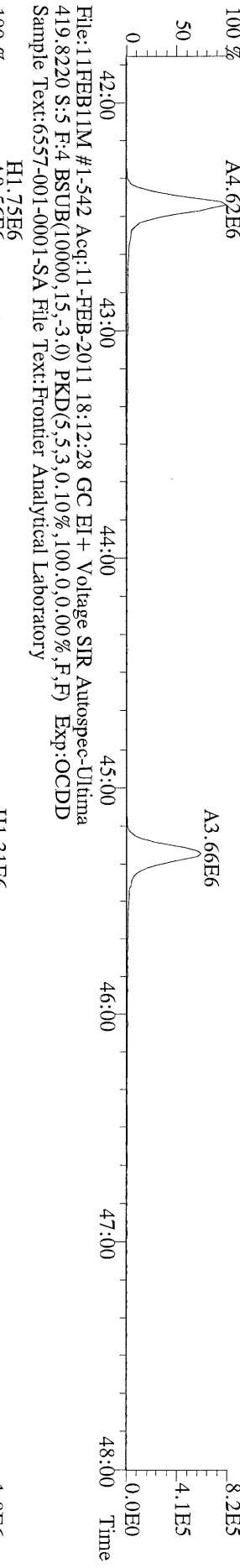
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 445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



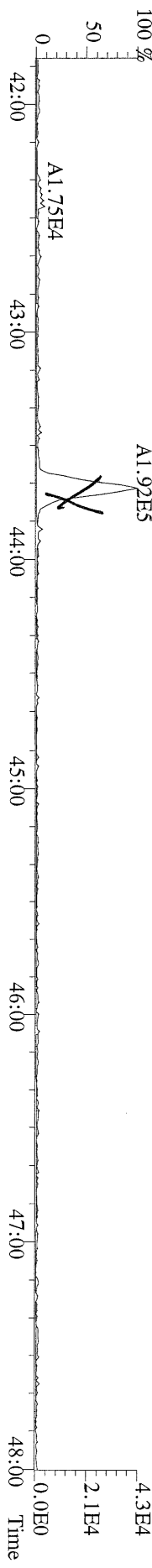
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407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



File:11FEB11M #1-542 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Ultima  
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

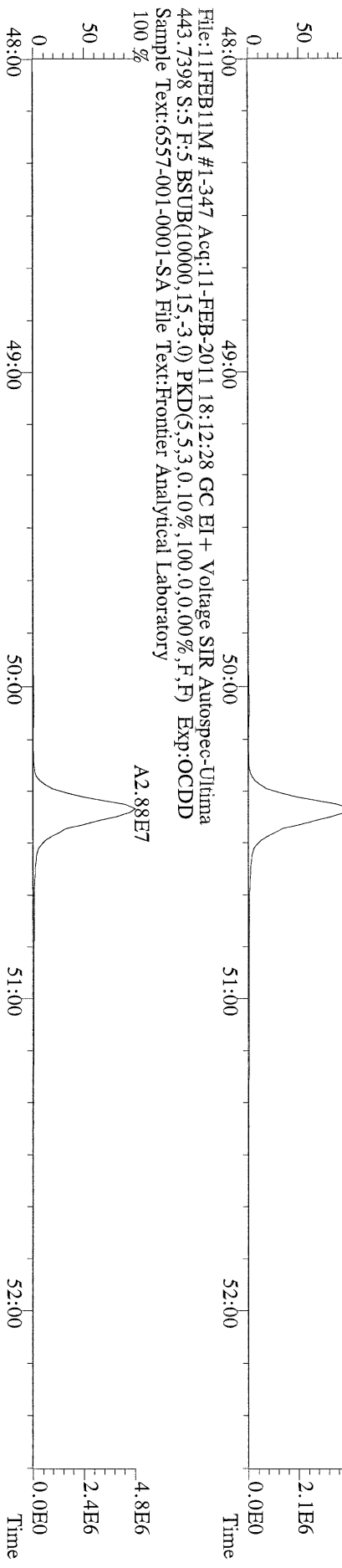


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419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

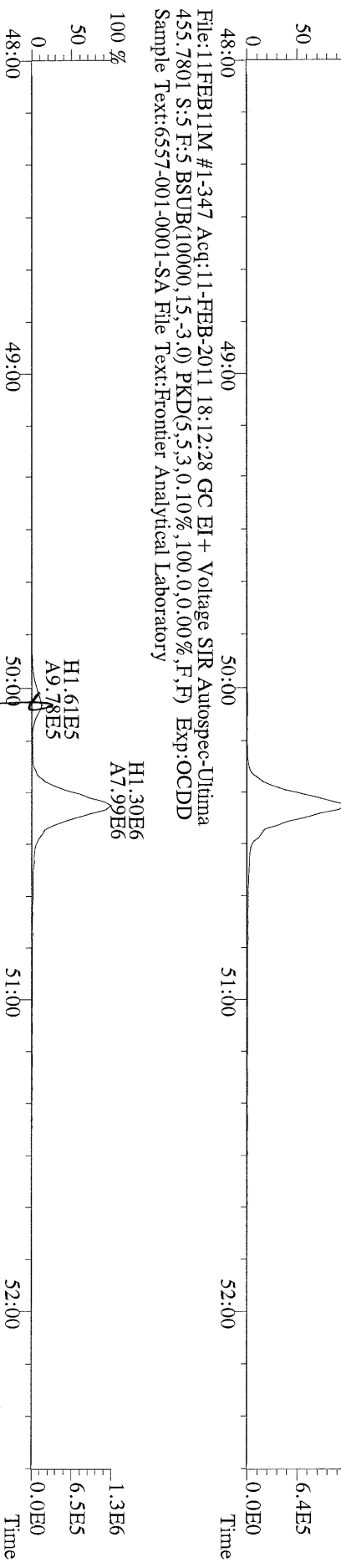




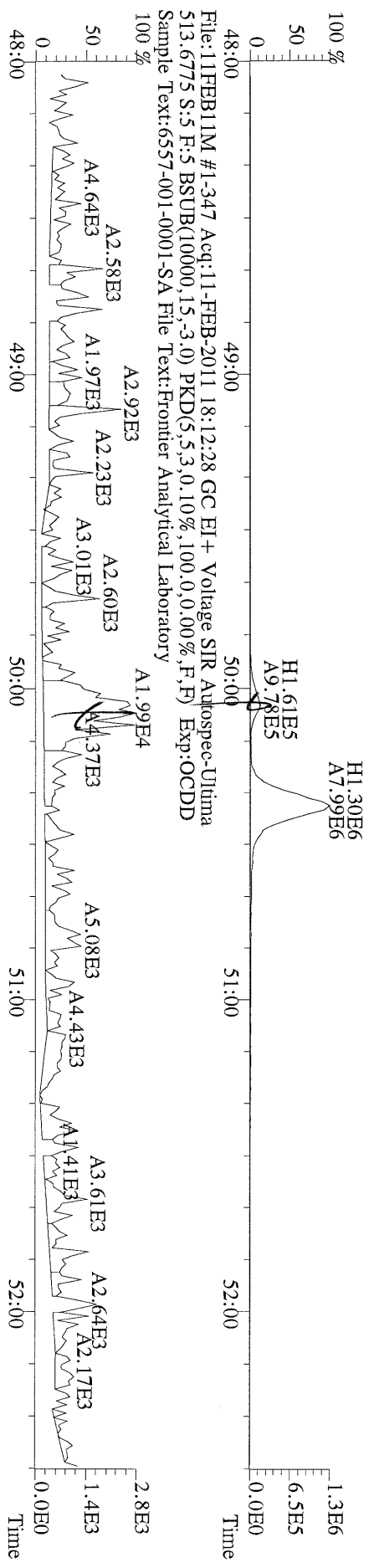
File:11FEB11M #1-347 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Utima  
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Utima  
453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Utima  
455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 18:12:28 GC EI+ Voltage SIR Autospec-Utima  
513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:6557-001-0001-SA File Text:Frontier Analytical Laboratory

## Frontier Analytical Laboratory

Data Filename: 23AUG10M

Analyte:

Cal: PCDDFAL3-8-23-10

Name	RRF	S. D.	%RSD	S3 RRF#1	S4 RRF#2	S5 RRF#3	S1 RRF#4	S6 RRF#5	S7 RRF#6
2,3,7,8-TCDD	1.11	0.0404	3.63 %	1.07	1.09	1.06	1.16	1.13	1.14
1,2,3,7,8-PeCDD	1.10	0.0456	4.14 %	1.03	1.08	1.09	1.11	1.15	1.15
1,2,3,4,7,8-HxCDD	1.37	0.0589	4.29 %	1.40	1.30	1.31	1.36	1.44	1.42
1,2,3,6,7,8-HxCDD	1.37	0.0522	3.80 %	1.30	1.38	1.39	1.32	1.43	1.42
1,2,3,7,8,9-HxCDD	1.36	0.0713	5.24 %	1.29	1.31	1.37	1.30	1.45	1.45
1,2,3,4,6,7,8-HpCDD	1.45	0.0199	1.37 %	1.43	1.47	1.45	1.44	1.45	1.48
OCDD	1.43	0.0834	5.81 %	1.37	1.37	1.42	1.44	1.42	1.59
2,3,7,8-TCDF	1.50	0.0738	4.91 %	1.57	1.60	1.50	1.40	1.47	1.48
1,2,3,7,8-PeCDF	0.94	0.0427	4.53 %	0.92	0.88	0.92	0.96	0.99	0.99
2,3,4,7,8-PeCDF	0.94	0.0501	5.35 %	0.88	0.90	0.91	0.93	0.99	1.00
1,2,3,4,7,8-HxCDF	0.93	0.0529	5.70 %	0.90	0.88	0.90	0.91	0.99	1.00
1,2,3,6,7,8-HxCDF	0.82	0.0486	5.91 %	0.75	0.79	0.82	0.83	0.87	0.88
2,3,4,6,7,8-HxCDF	0.92	0.0553	6.02 %	0.87	0.86	0.92	0.89	0.98	0.99
1,2,3,7,8,9-HxCDF	1.00	0.0728	7.30 %	0.90	0.94	0.99	1.00	1.08	1.08
1,2,3,4,6,7,8-HpCDF	1.39	0.0804	5.78 %	1.28	1.33	1.37	1.39	1.49	1.47
1,2,3,4,7,8,9-HpCDF	1.36	0.108	7.94 %	1.30	1.20	1.33	1.35	1.45	1.50
OCDF	0.79	0.0651	8.29 %	0.73	0.72	0.75	0.79	0.86	0.87
13C-2,3,7,8-TCDD	1.02	0.0764	7.46 %	0.98	0.98	0.97	0.98	1.15	1.08
13C-1,2,3,7,8-PeCDD	0.84	0.0798	9.48 %	0.79	0.79	0.79	0.79	0.95	0.93
13C-1,2,3,4,7,8-HxCDD	1.07	0.0580	5.40 %	1.06	1.03	1.06	1.01	1.12	1.16
13C-1,2,3,6,7,8-HxCDD	1.01	0.0164	1.62 %	1.00	1.00	1.00	1.02	1.03	1.03
13C-1,2,3,4,6,7,8-HpCDD	0.86	0.0467	5.45 %	0.82	0.82	0.84	0.83	0.90	0.93
13C-OCDD	0.55	0.0456	8.36 %	0.52	0.51	0.52	0.52	0.58	0.63
13C-2,3,7,8-TCDF	0.99	0.0775	7.79 %	0.97	0.92	0.93	0.96	1.12	1.05
13C-1,2,3,7,8-PeCDF	0.84	0.0816	9.74 %	0.78	0.78	0.79	0.79	0.95	0.93
13C-2,3,4,7,8-PeCDF	0.81	0.0728	8.97 %	0.77	0.75	0.76	0.78	0.91	0.90
13C-1,2,3,4,7,8-HxCDF	1.85	0.0371	2.00 %	1.82	1.85	1.85	1.81	1.91	1.88
13C-1,2,3,6,7,8-HxCDF	2.54	0.0434	1.71 %	2.55	2.51	2.52	2.51	2.62	2.51
13C-2,3,4,6,7,8-HxCDF	2.01	0.0361	1.79 %	2.00	2.00	1.98	2.00	2.08	2.03
13C-1,2,3,7,8,9-HxCDF	2.03	0.110	5.42 %	1.97	1.94	1.96	1.98	2.14	2.20
13C-1,2,3,4,6,7,8-HpCDF	1.11	0.0532	4.80 %	1.08	1.05	1.12	1.07	1.16	1.18
13C-1,2,3,4,7,8,9-HpCDF	0.80	0.0576	7.16 %	0.78	0.76	0.78	0.77	0.83	0.91
13C-OCDF	1.08	0.0934	8.63 %	1.00	1.00	1.05	1.05	1.16	1.23
37Cl-2,3,7,8-TCDD	0.69	0.0526	7.67 %	0.67	0.70	0.63	0.63	0.76	0.73
13C-1,2,3,4-TCDD	-	-	- %	-	-	-	-	-	-
13C-1,2,3,4-TCDF	-	-	- %	-	-	-	-	-	-
13C-1,2,3,7,8,9-HxCDD	-	-	- %	-	-	-	-	-	-
Total Tetra-Dioxins	1.11	0.0404	3.63 %	1.07	1.09	1.06	1.16	1.13	1.14
Total Penta-Dioxins	1.10	0.0456	4.14 %	1.03	1.08	1.09	1.11	1.15	1.15
Total Hexa-Dioxins	1.37	0.0513	3.75 %	1.33	1.33	1.36	1.33	1.44	1.43
Total Hepta-Dioxins	1.45	0.0199	1.37 %	1.43	1.47	1.45	1.44	1.45	1.48
Total Tetra-Furans	1.50	0.0738	4.91 %	1.57	1.60	1.50	1.40	1.47	1.48
1st Fn. Tot Penta-Furans	0.94	0.0454	4.83 %	0.90	0.89	0.91	0.95	0.99	0.99
Total Penta-Furans	0.94	0.0454	4.83 %	0.90	0.89	0.91	0.95	0.99	0.99
Total Hexa-Furans	0.91	0.0562	6.18 %	0.84	0.86	0.90	0.90	0.97	0.98
Total Hepta-Furans	1.38	0.0885	6.43 %	1.29	1.28	1.36	1.37	1.47	1.48

Analyst: 

Date: 8/24/10

Run #1      Filename 23AUG10M  
Client ID: ST082310M0

S: 3      Acquired: 23-AUG-10 16:16:35      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS0 100511G

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.25	1.20e+05	0.73 y	27:27	-	1.07 y
2	Unk      1,2,3,7,8-PeCDD	1.25	4.64e+05	1.70 y	33:15	-	1.03 y
3	Unk      1,2,3,4,7,8-HxCDD	1.25	4.89e+05	1.42 y	38:38	-	1.40 y
4	Unk      1,2,3,6,7,8-HxCDD	1.25	4.28e+05	1.40 y	38:48	-	1.30 y
5	Unk      1,2,3,7,8,9-HxCDD	1.25	4.38e+05	1.41 y	39:14	-	1.29 y
6	Unk      1,2,3,4,6,7,8-HpCDD	1.25	3.88e+05	1.02 y	44:13	-	1.43 y
7	Unk      OCDD	2.50	4.72e+05	1.00 y	49:47	-	1.37 y
8	Unk      2,3,7,8-TCDF	0.25	2.81e+05	0.67 y	26:41	-	1.57 y
9	Unk      1,2,3,7,8-PeCDF	1.25	6.57e+05	1.49 y	31:31	-	0.916 y
10	Unk      2,3,4,7,8-PeCDF	1.25	6.24e+05	1.48 y	32:50	-	0.883 y
11	Unk      1,2,3,4,7,8-HxCDF	1.25	5.37e+05	1.22 y	37:14	-	0.897 y
12	Unk      1,2,3,6,7,8-HxCDF	1.25	6.28e+05	1.31 y	37:25	-	0.747 y
13	Unk      2,3,4,6,7,8-HxCDF	1.25	5.72e+05	1.25 y	38:22	-	0.870 y
14	Unk      1,2,3,7,8,9-HxCDF	1.25	5.81e+05	1.15 y	39:48	-	0.897 y
15	Unk      1,2,3,4,6,7,8-HpCDF	1.25	4.57e+05	1.04 y	42:19	-	1.28 y
16	Unk      1,2,3,4,7,8,9-HpCDF	1.25	3.34e+05	0.99 y	45:09	-	1.30 y
17	Unk      OCDF	2.50	4.80e+05	0.93 y	50:10	-	0.727 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.47e+07	0.85 y	27:24	-	0.976 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.60e+07	1.77 y	33:14	-	0.786 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.78e+07	1.26 y	38:36	-	1.06 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.63e+07	1.26 y	38:46	-	0.998 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.17e+07	1.00 y	44:13	-	0.825 y
23	IS      13C-OCDD	200.00	2.76e+07	1.00 y	49:46	-	0.523 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.17e+07	0.88 y	26:40	-	0.975 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.74e+07	1.74 y	31:30	-	0.780 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.65e+07	1.74 y	32:49	-	0.769 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.79e+07	0.55 y	37:12	-	1.82 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.72e+07	0.56 y	37:24	-	2.55 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.26e+07	0.58 y	38:20	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.54 y	39:47	-	1.97 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.84e+07	0.42 y	42:18	-	1.08 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.05e+07	0.43 y	45:08	-	0.778 y
33	IS      13C-OCDF	200.00	5.28e+07	0.95 y	50:09	-	1.00 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.25	7.69e+04		27:26	-	0.671 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.58e+07	0.85 y	26:50	4.58e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.35e+07	0.87 y	25:35	7.35e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.64e+07	1.27 y	39:12	2.64e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.07 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.03 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.43 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.57 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.899 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.899 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.845 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.29 y

Analyst: 

Date: 8/24/10

Run #2      Filename 23AUG10M  
Client ID: ST082310M1

S: 4      Acquired: 23-AUG-10 17:12:02      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS1 100511H

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.50	2.50e+05	0.74 y	27:27	-	1.09 y
2	Unk      1,2,3,7,8-PeCDD	2.50	9.93e+05	1.61 y	33:16	-	1.08 y
3	Unk      1,2,3,4,7,8-HxCDD	2.50	8.89e+05	1.42 y	38:37	-	1.30 y
4	Unk      1,2,3,6,7,8-HxCDD	2.50	9.16e+05	1.42 y	38:48	-	1.38 y
5	Unk      1,2,3,7,8,9-HxCDD	2.50	8.82e+05	1.39 y	39:14	-	1.31 y
6	Unk      1,2,3,4,6,7,8-HpCDD	2.50	8.00e+05	1.07 y	44:14	-	1.47 y
7	Unk      OCDD	5.00	9.24e+05	0.99 y	49:48	-	1.37 y
8	Unk      2,3,7,8-TCDF	0.50	5.65e+05	0.69 y	26:41	-	1.60 y
9	Unk      1,2,3,7,8-PeCDF	2.50	1.31e+06	1.45 y	31:32	-	0.885 y
10	Unk      2,3,4,7,8-PeCDF	2.50	1.29e+06	1.43 y	32:51	-	0.896 y
11	Unk      1,2,3,4,7,8-HxCDF	2.50	1.08e+06	1.27 y	37:14	-	0.877 y
12	Unk      1,2,3,6,7,8-HxCDF	2.50	1.32e+06	1.22 y	37:26	-	0.790 y
13	Unk      2,3,4,6,7,8-HxCDF	2.50	1.14e+06	1.31 y	38:23	-	0.858 y
14	Unk      1,2,3,7,8,9-HxCDF	2.50	1.21e+06	1.23 y	39:48	-	0.938 y
15	Unk      1,2,3,4,6,7,8-HpCDF	2.50	9.30e+05	1.05 y	42:20	-	1.33 y
16	Unk      1,2,3,4,7,8,9-HpCDF	2.50	6.04e+05	1.06 y	45:09	-	1.20 y
17	Unk      OCDF	5.00	9.66e+05	0.89 y	50:10	-	0.721 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.56e+07	0.84 y	27:25	-	0.980 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.68e+07	1.77 y	33:14	-	0.790 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.74e+07	1.32 y	38:36	-	1.03 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.22 y	38:46	-	0.996 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.18e+07	1.02 y	44:13	-	0.818 y
23	IS      13C-OCDD	200.00	2.71e+07	0.99 y	49:47	-	0.507 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.06e+07	0.86 y	26:40	-	0.923 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.94e+07	1.73 y	31:30	-	0.777 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.75e+07	1.68 y	32:49	-	0.752 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.93e+07	0.55 y	37:13	-	1.85 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.70e+07	0.55 y	37:24	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.33e+07	0.57 y	38:21	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.55 y	39:48	-	1.94 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.79e+07	0.44 y	42:18	-	1.05 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.02e+07	0.42 y	45:09	-	0.756 y
33	IS      13C-OCDF	200.00	5.36e+07	0.96 y	50:09	-	1.00 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.50	1.62e+05		27:26	-	0.696 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.66e+07	0.83 y	26:51	4.66e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.65e+07	0.88 y	25:34	7.65e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.67e+07	1.27 y	39:13	2.67e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.09 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.08 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.47 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.60 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.890 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.890 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.860 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.28 y

Analyst: 

Date: 8/24/10

Run #3      Filename 23AUG10M  
Client ID: ST082310M2

S: 5      Acquired: 23-AUG-10 18:07:23      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS2 100511I

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	2.00	9.56e+05	0.76 y	27:26	-	1.06 y
2	Unk      1,2,3,7,8-PeCDD	10.00	3.99e+06	1.62 y	33:15	-	1.09 y
3	Unk      1,2,3,4,7,8-HxCDD	10.00	3.69e+06	1.40 y	38:38	-	1.31 y
4	Unk      1,2,3,6,7,8-HxCDD	10.00	3.71e+06	1.40 y	38:47	-	1.39 y
5	Unk      1,2,3,7,8,9-HxCDD	10.00	3.75e+06	1.40 y	39:14	-	1.37 y
6	Unk      1,2,3,4,6,7,8-HpCDD	10.00	3.22e+06	1.04 y	44:14	-	1.45 y
7	Unk      OCDD	20.00	3.97e+06	0.89 y	49:47	-	1.42 y
8	Unk      2,3,7,8-TCDF	2.00	2.12e+06	0.69 y	26:41	-	1.50 y
9	Unk      1,2,3,7,8-PeCDF	10.00	5.47e+06	1.50 y	31:32	-	0.916 y
10	Unk      2,3,4,7,8-PeCDF	10.00	5.23e+06	1.51 y	32:51	-	0.913 y
11	Unk      1,2,3,4,7,8-HxCDF	10.00	4.43e+06	1.30 y	37:14	-	0.900 y
12	Unk      1,2,3,6,7,8-HxCDF	10.00	5.48e+06	1.24 y	37:26	-	0.819 y
13	Unk      2,3,4,6,7,8-HxCDF	10.00	4.88e+06	1.33 y	38:22	-	0.924 y
14	Unk      1,2,3,7,8,9-HxCDF	10.00	5.17e+06	1.28 y	39:49	-	0.990 y
15	Unk      1,2,3,4,6,7,8-HpCDF	10.00	4.10e+06	1.03 y	42:19	-	1.37 y
16	Unk      1,2,3,4,7,8,9-HpCDF	10.00	2.76e+06	1.01 y	45:09	-	1.33 y
17	Unk      OCDF	20.00	4.20e+06	0.92 y	50:11	-	0.753 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.51e+07	0.83 y	27:25	-	0.970 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.68e+07	1.77 y	33:14	-	0.792 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.81e+07	1.27 y	38:36	-	1.06 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.28 y	38:46	-	1.00 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.22e+07	1.02 y	44:13	-	0.835 y
23	IS      13C-OCDD	200.00	2.79e+07	0.95 y	49:47	-	0.524 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.06e+07	0.88 y	26:40	-	0.935 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.98e+07	1.74 y	31:30	-	0.791 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.73e+07	1.71 y	32:50	-	0.759 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.92e+07	0.55 y	37:13	-	1.85 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.70e+07	0.55 y	37:25	-	2.52 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.28e+07	0.56 y	38:21	-	1.98 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.23e+07	0.56 y	39:47	-	1.96 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.98e+07	0.43 y	42:18	-	1.12 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.07e+07	0.41 y	45:08	-	0.777 y
33	IS      13C-OCDF	200.00	5.58e+07	1.00 y	50:09	-	1.05 y
34	C/Up      37Cl-2,3,7,8-TCDD	2.00	5.87e+05		27:27	-	0.632 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.65e+07	0.85 y	26:50	4.65e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.56e+07	0.87 y	25:35	7.56e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.66e+07	1.26 y	39:13	2.66e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.06 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.09 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.36 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.45 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.50 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.914 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.914 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.902 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.36 y

Analyst: 

Date: 8/24/10

Run #4      Filename 23AUG10M  
Client ID: ST082310M3

S: 1      Acquired: 23-AUG-10 14:25:46      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS3 100511J

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	10.00	5.04e+06	0.73 y	27:24	-	1.16 y
2	Unk      1,2,3,7,8-PeCDD	50.00	1.95e+07	1.64 y	33:14	-	1.11 y
3	Unk      1,2,3,4,7,8-HxCDD	50.00	1.81e+07	1.41 y	38:36	-	1.36 y
4	Unk      1,2,3,6,7,8-HxCDD	50.00	1.75e+07	1.39 y	38:46	-	1.32 y
5	Unk      1,2,3,7,8,9-HxCDD	50.00	1.74e+07	1.41 y	39:13	-	1.30 y
6	Unk      1,2,3,4,6,7,8-HpCDD	50.00	1.56e+07	1.04 y	44:13	-	1.44 y
7	Unk      OCDD	100.00	1.96e+07	0.95 y	49:47	-	1.44 y
8	Unk      2,3,7,8-TCDF	10.00	9.40e+06	0.67 y	26:39	-	1.40 y
9	Unk      1,2,3,7,8-PeCDF	50.00	2.67e+07	1.53 y	31:30	-	0.959 y
10	Unk      2,3,4,7,8-PeCDF	50.00	2.56e+07	1.52 y	32:49	-	0.933 y
11	Unk      1,2,3,4,7,8-HxCDF	50.00	2.15e+07	1.29 y	37:12	-	0.905 y
12	Unk      1,2,3,6,7,8-HxCDF	50.00	2.72e+07	1.26 y	37:24	-	0.826 y
13	Unk      2,3,4,6,7,8-HxCDF	50.00	2.34e+07	1.24 y	38:21	-	0.892 y
14	Unk      1,2,3,7,8,9-HxCDF	50.00	2.60e+07	1.28 y	39:47	-	1.00 y
15	Unk      1,2,3,4,6,7,8-HpCDF	50.00	1.95e+07	1.04 y	42:18	-	1.39 y
16	Unk      1,2,3,4,7,8,9-HpCDF	50.00	1.37e+07	1.04 y	45:08	-	1.35 y
17	Unk      OCDF	100.00	2.16e+07	0.93 y	50:09	-	0.785 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.35e+07	0.86 y	27:23	-	0.982 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.51e+07	1.77 y	33:13	-	0.793 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.66e+07	1.26 y	38:35	-	1.01 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.27 y	38:45	-	1.02 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.18e+07	1.04 y	44:11	-	0.830 y
23	IS      13C-OCDD	200.00	2.73e+07	0.93 y	49:45	-	0.521 y
24	IS      13C-2,3,7,8-TCDF	100.00	6.73e+07	0.86 y	26:38	-	0.959 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.57e+07	1.78 y	31:28	-	0.794 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.49e+07	1.74 y	32:48	-	0.783 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.74e+07	0.56 y	37:11	-	1.81 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.58e+07	0.55 y	37:23	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.25e+07	0.54 y	38:19	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.55 y	39:45	-	1.98 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.80e+07	0.42 y	42:17	-	1.07 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.02e+07	0.42 y	45:06	-	0.772 y
33	IS      13C-OCDF	200.00	5.49e+07	0.98 y	50:08	-	1.05 y
34	C/Up      37Cl-2,3,7,8-TCDD	10.00	2.77e+06		27:24	-	0.626 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.42e+07	0.84 y	26:49	4.42e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.01e+07	0.87 y	25:33	7.01e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.62e+07	1.28 y	39:11	2.62e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.16 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.11 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.44 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.40 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.946 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.946 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.902 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.37 y

Analyst: 

Date: 8/29/10

Run #5      Filename 23AUG10M  
Client ID: ST082310M4

S: 6      Acquired: 23-AUG-10 19:02:46      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS4 100511K

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	40.00	2.29e+07	0.76 y	27:27	-	1.13 y
2	Unk      1,2,3,7,8-PeCDD	200.00	9.61e+07	1.62 y	33:16	-	1.15 y
3	Unk      1,2,3,4,7,8-HxCDD	200.00	9.66e+07	1.40 y	38:37	-	1.44 y
4	Unk      1,2,3,6,7,8-HxCDD	200.00	8.79e+07	1.41 y	38:47	-	1.43 y
5	Unk      1,2,3,7,8,9-HxCDD	200.00	9.29e+07	1.41 y	39:15	-	1.45 y
6	Unk      1,2,3,4,6,7,8-HpCDD	200.00	7.75e+07	1.03 y	44:14	-	1.45 y
7	Unk      OCDD	400.00	9.77e+07	1.00 y	49:48	-	1.42 y
8	Unk      2,3,7,8-TCDF	40.00	4.55e+07	0.67 y	26:42	-	1.47 y
9	Unk      1,2,3,7,8-PeCDF	200.00	1.31e+08	1.55 y	31:31	-	0.991 y
10	Unk      2,3,4,7,8-PeCDF	200.00	1.25e+08	1.52 y	32:50	-	0.991 y
11	Unk      1,2,3,4,7,8-HxCDF	200.00	1.13e+08	1.27 y	37:14	-	0.995 y
12	Unk      1,2,3,6,7,8-HxCDF	200.00	1.35e+08	1.28 y	37:26	-	0.869 y
13	Unk      2,3,4,6,7,8-HxCDF	200.00	1.21e+08	1.26 y	38:23	-	0.979 y
14	Unk      1,2,3,7,8,9-HxCDF	200.00	1.38e+08	1.30 y	39:49	-	1.08 y
15	Unk      1,2,3,4,6,7,8-HpCDF	200.00	1.03e+08	1.03 y	42:19	-	1.49 y
16	Unk      1,2,3,4,7,8,9-HpCDF	200.00	7.19e+07	1.05 y	45:09	-	1.45 y
17	Unk      OCDF	400.00	1.19e+08	0.92 y	50:11	-	0.860 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	5.05e+07	0.85 y	27:25	-	1.15 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	4.17e+07	1.76 y	33:14	-	0.955 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	3.35e+07	1.27 y	38:37	-	1.12 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	3.08e+07	1.28 y	38:46	-	1.03 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.67e+07	1.01 y	44:13	-	0.896 y
23	IS      13C-OCDD	200.00	3.44e+07	0.94 y	49:47	-	0.578 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.76e+07	0.88 y	26:41	-	1.12 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	6.59e+07	1.75 y	31:30	-	0.954 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	6.31e+07	1.73 y	32:49	-	0.913 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	5.67e+07	0.55 y	37:13	-	1.91 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	7.79e+07	0.55 y	37:25	-	2.62 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	6.19e+07	0.54 y	38:21	-	2.08 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	6.38e+07	0.54 y	39:48	-	2.14 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	3.44e+07	0.43 y	42:18	-	1.16 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.48e+07	0.43 y	45:08	-	0.832 y
33	IS      13C-OCDF	200.00	6.90e+07	0.99 y	50:09	-	1.16 y
34	C/Up      37Cl-2,3,7,8-TCDD	40.00	1.32e+07		27:27	-	0.757 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.37e+07	0.85 y	26:50	4.37e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	6.91e+07	0.87 y	25:35	6.91e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.98e+07	1.25 y	39:13	2.98e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.13 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.15 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.44 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.45 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.47 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.991 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.991 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.974 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.47 y


Analyst: 

Date: 8/24/10

Run #6      Filename 23AUG10M  
Client ID: ST082310M5

S: 7      Acquired: 23-AUG-10 19:58:08      Cal: PCDDFAL3-8-23-10  
Analyte: PCDDFAL3-8-23-10      FAL ID: 1613 CS5 100511L

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	200.00	1.06e+08	0.76 y	27:26	-	1.14 y
2	Unk      1,2,3,7,8-PeCDD	1000.00	4.58e+08	1.63 y	33:15	-	1.15 y
3	Unk      1,2,3,4,7,8-HxCDD	1000.00	4.92e+08	1.39 y	38:38	-	1.42 y
4	Unk      1,2,3,6,7,8-HxCDD	1000.00	4.34e+08	1.40 y	38:48	-	1.42 y
5	Unk      1,2,3,7,8,9-HxCDD	1000.00	4.72e+08	1.38 y	39:14	-	1.45 y
6	Unk      1,2,3,4,6,7,8-HpCDD	1000.00	4.12e+08	1.03 y	44:14	-	1.48 y
7	Unk      OCDD	2000.00	5.93e+08	0.92 y	49:50	-	1.59 y
8	Unk      2,3,7,8-TCDF	200.00	2.14e+08	0.66 y	26:41	-	1.48 y
9	Unk      1,2,3,7,8-PeCDF	1000.00	6.33e+08	1.52 y	31:32	-	0.985 y
10	Unk      2,3,4,7,8-PeCDF	1000.00	6.21e+08	1.52 y	32:51	-	1.00 y
11	Unk      1,2,3,4,7,8-HxCDF	1000.00	5.58e+08	1.28 y	37:14	-	0.996 y
12	Unk      1,2,3,6,7,8-HxCDF	1000.00	6.54e+08	1.27 y	37:26	-	0.876 y
13	Unk      2,3,4,6,7,8-HxCDF	1000.00	5.98e+08	1.27 y	38:22	-	0.989 y
14	Unk      1,2,3,7,8,9-HxCDF	1000.00	7.04e+08	1.28 y	39:49	-	1.08 y
15	Unk      1,2,3,4,6,7,8-HpCDF	1000.00	5.19e+08	1.05 y	42:20	-	1.47 y
16	Unk      1,2,3,4,7,8,9-HpCDF	1000.00	4.06e+08	1.08 y	45:09	-	1.50 y
17	Unk      OCDF	2000.00	6.38e+08	0.93 y	50:12	-	0.869 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.62e+07	0.84 y	27:25	-	1.08 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	4.00e+07	1.76 y	33:15	-	0.933 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	3.46e+07	1.27 y	38:37	-	1.16 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	3.07e+07	1.25 y	38:46	-	1.03 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.78e+07	1.04 y	44:13	-	0.932 y
23	IS      13C-OCDD	200.00	3.72e+07	0.93 y	49:49	-	0.625 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.26e+07	0.87 y	26:40	-	1.05 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	6.43e+07	1.73 y	31:30	-	0.931 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	6.19e+07	1.73 y	32:49	-	0.896 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	5.60e+07	0.55 y	37:13	-	1.88 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	7.47e+07	0.56 y	37:25	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	6.05e+07	0.56 y	38:21	-	2.03 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	6.55e+07	0.54 y	39:47	-	2.20 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	3.52e+07	0.44 y	42:18	-	1.18 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.71e+07	0.42 y	45:08	-	0.909 y
33	IS      13C-OCDF	200.00	7.35e+07	0.99 y	50:11	-	1.23 y
34	C/Up      37Cl-2,3,7,8-TCDD	200.00	6.26e+07		27:26	-	0.731 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.28e+07	0.84 y	26:50	4.28e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	6.91e+07	0.87 y	25:34	6.91e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.98e+07	1.25 y	39:13	2.98e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.14 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.15 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.43 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.48 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.48 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.994 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.994 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.980 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.48 y

Analyst: 

Date: 8/24/10



## USEPA - ITD

## FORM 3A

## PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

	RELATIVE RESPONSE (RR)						MEAN RR	Cv (%RSD)
	CS1	CS2	CS3	CS4	CS5	CS6		
NATIVE ANALYTES								
2,3,7,8-TCDD	1.07	1.09	1.06	1.16	1.13	1.14	1.11	3.63
1,2,3,7,8-PeCDD	1.03	1.08	1.09	1.11	1.15	1.15	1.10	4.14
1,2,3,4,7,8-HxCDD	1.40	1.30	1.31	1.36	1.44	1.42	1.37	4.29
1,2,3,6,7,8-HxCDD	1.30	1.38	1.39	1.32	1.43	1.42	1.37	3.80
1,2,3,7,8,9-HxCDD	1.29	1.31	1.37	1.30	1.45	1.45	1.36	5.24
1,2,3,4,6,7,8-HpCDD	1.43	1.47	1.45	1.44	1.45	1.48	1.45	1.37
OCDD	1.37	1.37	1.42	1.44	1.42	1.59	1.43	5.81
2,3,7,8-TCDF	1.57	1.60	1.50	1.40	1.47	1.48	1.50	4.91
1,2,3,7,8-PeCDF	0.92	0.88	0.92	0.96	0.99	0.99	0.94	4.53
2,3,4,7,8-PeCDF	0.88	0.90	0.91	0.93	0.99	1.00	0.94	5.35
1,2,3,4,7,8-HxCDF	0.90	0.88	0.90	0.91	0.99	1.00	0.93	5.70
1,2,3,6,7,8-HxCDF	0.75	0.79	0.82	0.83	0.87	0.88	0.82	5.91
2,3,4,6,7,8-HxCDF	0.87	0.86	0.92	0.89	0.98	0.99	0.92	6.02
1,2,3,7,8,9-HxCDF	0.90	0.94	0.99	1.00	1.08	1.08	1.00	7.30
1,2,3,4,6,7,8-HpCDF	1.28	1.33	1.37	1.39	1.49	1.47	1.39	5.78
1,2,3,4,7,8,9-HpCDF	1.30	1.20	1.33	1.35	1.45	1.50	1.36	7.94
OCDF	0.73	0.72	0.75	0.79	0.86	0.87	0.79	8.29

Analyst: Date: 8/24/10

## USEPA - ITD

## FORM 3B

## PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS4 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

## RELATIVE RESPONSE (RR)

MEAN  
RR Cv  
(%RSD)

LABELED COMPOUNDS	RELATIVE RESPONSE (RR)						MEAN RR	Cv (%RSD)
	CS1	CS2	CS3	CS4	CS5	CS6		
13C-2,3,7,8-TCDD	0.98	0.98	0.97	0.98	1.15	1.08	1.02	7.46
13C-1,2,3,7,8-PeCDD	0.79	0.79	0.79	0.79	0.95	0.93	0.84	9.48
13C-1,2,3,4,7,8-HxCDD	1.06	1.03	1.06	1.01	1.12	1.16	1.07	5.40
13C-1,2,3,6,7,8-HxCDD	1.00	1.00	1.00	1.02	1.03	1.03	1.01	1.62
13C-1,2,3,4,6,7,8-HpCDD	0.82	0.82	0.84	0.83	0.90	0.93	0.86	5.45
13C-OCDD	0.52	0.51	0.52	0.52	0.58	0.63	0.55	8.36
13C-2,3,7,8-TCDF	0.97	0.92	0.93	0.96	1.12	1.05	0.99	7.79
13C-1,2,3,7,8-PeCDF	0.78	0.78	0.79	0.79	0.95	0.93	0.84	9.74
13C-2,3,4,7,8-PeCDF	0.77	0.75	0.76	0.78	0.91	0.90	0.81	8.97
13C-1,2,3,4,7,8-HxCDF	1.82	1.85	1.85	1.81	1.91	1.88	1.85	2.00
13C-1,2,3,6,7,8-HxCDF	2.55	2.51	2.52	2.51	2.62	2.51	2.54	1.71
13C-2,3,4,6,7,8-HxCDF	2.00	2.00	1.98	2.00	2.08	2.03	2.01	1.79
13C-1,2,3,7,8,9-HxCDF	1.97	1.94	1.96	1.98	2.14	2.20	2.03	5.42
13C-1,2,3,4,6,7,8-HpCDF	1.08	1.05	1.12	1.07	1.16	1.18	1.11	4.80
13C-1,2,3,4,7,8,9-HpCDF	0.78	0.76	0.78	0.77	0.83	0.91	0.80	7.16
13C-OCDF	1.00	1.00	1.05	1.05	1.16	1.23	1.08	8.63
CLEANUP STANDARD								
37Cl-2,3,7,8-TCDD	0.67	0.70	0.63	0.63	0.76	0.73	0.69	7.67

Analyst: Date: 8/24/10

## USEPA - ITD

## FORM 3C

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

NATIVE ANALYTES	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
2,3,7,8-TCDD	M/M+2	0.73	0.74	0.76	0.73	0.76	0.76	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.70	1.61	1.62	1.64	1.62	1.63	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.42	1.42	1.40	1.41	1.40	1.39	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.40	1.42	1.40	1.39	1.41	1.40	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.41	1.39	1.40	1.41	1.41	1.38	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	1.07	1.04	1.04	1.03	1.03	0.88-1.20
OCDD	M+2/M+4	1.00	0.99	0.89	0.95	1.00	0.92	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.67	0.69	0.69	0.67	0.67	0.66	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.49	1.45	1.50	1.53	1.55	1.52	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.48	1.43	1.51	1.52	1.52	1.52	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.27	1.30	1.29	1.27	1.28	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.31	1.22	1.24	1.26	1.28	1.27	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.31	1.33	1.24	1.26	1.27	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.15	1.23	1.28	1.28	1.30	1.28	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	1.05	1.03	1.04	1.03	1.05	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	1.06	1.01	1.04	1.05	1.08	0.88-1.20
OCDF	M+2/M+4	0.93	0.89	0.92	0.93	0.92	0.93	0.76-1.02

Analyst: Date: 8/24/10

## USEPA - ITD

FORM 3D

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

Labeled Compounds	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
13C-2,3,7,8-TCDD	M/M+2	0.85	0.84	0.83	0.86	0.85	0.84	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.77	1.77	1.77	1.77	1.76	1.76	1.32-1.78
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.32	1.27	1.26	1.27	1.27	1.05-1.43
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.22	1.28	1.27	1.28	1.25	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.00	1.02	1.02	1.04	1.01	1.04	0.88-1.20
13C-OCDD	M+2/M+4	1.00	0.99	0.95	0.93	0.94	0.93	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.88	0.86	0.88	0.86	0.88	0.87	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.74	1.73	1.74	1.78	1.75	1.73	1.32-1.78
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.74	1.68	1.71	1.74	1.73	1.73	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.55	0.55	0.55	0.56	0.55	0.55	0.43-0.59
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.56	0.55	0.55	0.55	0.55	0.56	0.43-0.59
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.58	0.57	0.56	0.54	0.54	0.56	0.43-0.59
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.55	0.56	0.55	0.54	0.54	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.44	0.43	0.42	0.43	0.44	0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.42	0.41	0.42	0.43	0.42	0.37-0.51
13C-OCDF	M+2/M+4	0.95	0.96	1.00	0.98	0.99	0.99	0.76-1.02

Analyst: Date: 8/24/10

USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3 GC Column ID: db5

VER Data Filename: 23AUG10M Sam:1 Analysis Date: 23-AUG-10 14:25:46

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.73	0.65-0.89	y	10.4	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32-1.78	y	50.6	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.41	1.05-1.43	y	49.6	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.39	1.05-1.43	y	48.0	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.41	1.05-1.43	y	47.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	49.5	43.0 - 58.0
OCDD	M+2/M+4	0.95	0.76-1.02	y	100	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.67	0.65-0.89	y	9.30	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	50.9	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	y	49.8	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	y	48.8	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	y	50.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	48.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.05-1.43	y	50.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	y	49.9	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	y	49.8	43.0 - 58.0
OCDF	M+2/M+4	0.93	0.76-1.02	y	99.9	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst:         

Date: 8/24/10

## USEPA - ITD

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

VER Data Filename: 23AUG10M Sam:1

Analysis Date: 23-AUG-10 14:25:46

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.86	0.65-0.89	y	95.9	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.77	1.32-1.78	y	94.2	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	94.5	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	100	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	97.0	72.0 - 138
13C-OCDD	M+2/M+4	0.93	0.76-1.02	y	191	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.86	0.65-0.89	y	96.5	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.78	1.32-1.78	y	94.8	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.74	1.32-1.78	y	96.5	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.56	0.43-0.59	y	97.7	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43-0.59	y	99.0	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43-0.59	y	99.4	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43-0.59	y	97.2	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.37-0.51	y	96.4	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37-0.51	y	96.0	77.0 - 129
13C-OCDF	M+2/M+4	0.98	0.76-1.02	y	194	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.14	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: Date: 8/24/10

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory    Episode No.:  
Contract No.:                                    SAS No.:  
Instrument ID: FAL3                            Initial Calibration Date: 8/23/10  
RT Window Data Filename: 23AUG10M Sam:1    Analysis Date: 23-AUG-10 Time: 14:25:46  
DB-5 IS Data Filename: 23AUG10M    Sam:1    Analysis Date: 23-AUG-10 Time: 14:25:46  
DB-225 IS Data Filename:                    Analysis Date:                    Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:24	1,3,6,8-TCDF (F)	23:04
1,2,8,9-TCDD (L)	28:21	1,2,8,9-TCDF (L)	28:34
1,2,4,7,9-PeCDD (F)	30:15	1,3,4,6,8-PeCDF (F)	28:25
1,2,3,8,9-PeCDD (L)	33:48	1,2,3,8,9-PeCDF (L)	34:14
1,2,4,6,7,9-HxCDD (F)	36:08	1,2,3,4,6,8-HxCDF (F)	35:15
1,2,3,7,8,9-HxCDD (L)	39:13	1,2,3,7,8,9-HxCDF (L)	39:47
1,2,3,4,6,7,9-HpCDD (F)	42:49	1,2,3,4,6,7,8-HpCDF (F)	42:18
1,2,3,4,6,7,8-HpCDD (L)	44:13	1,2,3,4,7,8,9-HpCDF (L)	45:08

(F) = First eluting iosmer (DB-5);    (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

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

Analyst: 

Date: 8/24/10

## USEPA - ITD

## FORM 6A

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

Analysis Date: 23-AUG-10 14:25:46

CS3 or VER Data Filename: 23AUG10M

Sam:1

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	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-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002
LABELED COMPOUNDS			
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052
13C-2,3,7,8-TCDD		1.021	0.976-1.043
13C-2,3,7,8-TCDF		0.993	0.923-1.103
13C-1,2,3,7,8-PeCDD		1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF		1.174	0.923-1.203
13C-2,3,4,7,8-PeCDF		1.223	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 



## USEPA - ITD

FORM 6B

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

Analysis Date: 23-AUG-10 14:25:46

CS3 or VER Data Filename: 23AUG10M

Sam:1

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
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-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
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	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	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
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.001	0.999-1.001
OCDD	13C-OCDD	1.001	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.985	0.977-1.000
13C-1,2,3,6,7,8-HxCDD		0.989	0.981-1.003
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF		1.014	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD		1.128	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF		1.079	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF		1.151	1.057-1.154
13C-OCDD		1.270	1.032-1.311
13C-OCDF		1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 8/24/10

FAL ID: ST082310M3      Filename: 23AUG10M      Sam:1      Acquired: 23-AUG-10 14:25:46      ICal: PCDDFAL3-8-23-10  
 Client ID: 1613 CS3 100511J      ConCal: ST082310M3      EndCal: ST082310M6  
 Results:      GC Column: db5      Amount: 1.000      NATO 1989 Tox: 100

Name	Resp	RA	RT	RRF	WHO 1998 Tox:		WHO 2005 Tox:		DL	114	
					Conc	Qual	Fac Noise-1	Noise-2			
2,3,7,8-TCDD	5.04e+06	0.73 y	27:24	1.11	10.4		2.50	-	-	*	
1,2,3,7,8-PeCDD	1.95e+07	1.64 y	33:14	1.10	50.6		2.50	-	-	*	
1,2,3,4,7,8-HxCDD	1.81e+07	1.41 y	38:36	1.37	49.6		2.50	-	-	*	
1,2,3,6,7,8-HxCDD	1.75e+07	1.39 y	38:46	1.37	48.0		2.50	-	-	*	
1,2,3,7,8,9-HxCDD	1.74e+07	1.41 y	39:13	1.36	47.9		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	1.56e+07	1.04 y	44:13	1.45	49.5		2.50	-	-	*	
OCDD	1.96e+07	0.95 y	49:47	1.43	100		2.50	-	-	*	
2,3,7,8-TCDF	9.40e+06	0.67 y	26:39	1.50	9.30		2.50	-	-	*	
1,2,3,7,8-PeCDF	2.67e+07	1.53 y	31:30	0.94	50.9		2.50	-	-	*	
2,3,4,7,8-PeCDF	2.56e+07	1.52 y	32:49	0.94	49.8		2.50	-	-	*	
1,2,3,4,7,8-HxCDF	2.15e+07	1.29 y	37:12	0.93	48.8		2.50	-	-	*	
1,2,3,6,7,8-HxCDF	2.72e+07	1.26 y	37:24	0.82	50.3		2.50	-	-	*	
2,3,4,6,7,8-HxCDF	2.34e+07	1.24 y	38:21	0.92	48.5		2.50	-	-	*	
1,2,3,7,8,9-HxCDF	2.60e+07	1.28 y	39:47	1.00	50.3		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDF	1.95e+07	1.04 y	42:18	1.39	49.9		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	1.37e+07	1.04 y	45:08	1.36	49.8		2.50	-	-	*	
OCDF	2.16e+07	0.93 y	50:09	0.79	99.9		2.50	-	-	*	
										Rec	
13C-2,3,7,8-TCDD	4.35e+07	0.86 y	27:23	1.02	95.9					95.9	
13C-1,2,3,7,8-PeCDD	3.51e+07	1.77 y	33:13	0.84	94.2					94.2	
13C-1,2,3,4,7,8-HxCDD	2.66e+07	1.26 y	38:35	1.07	94.5					94.5	
13C-1,2,3,6,7,8-HxCDD	2.66e+07	1.27 y	38:45	1.01	100					100	
13C-1,2,3,4,6,7,8-HpCDD	2.18e+07	1.04 y	44:11	0.86	97.0					97.0	
13C-OCDD	2.73e+07	0.93 y	49:45	0.55	191					95.3	
13C-2,3,7,8-TCDF	6.73e+07	0.86 y	26:38	0.99	96.5					96.5	
13C-1,2,3,7,8-PeCDF	5.57e+07	1.78 y	31:28	0.84	94.8					94.8	
13C-2,3,4,7,8-PeCDF	5.49e+07	1.74 y	32:48	0.81	96.5					96.5	
13C-1,2,3,4,7,8-HxCDF	4.74e+07	0.56 y	37:11	1.85	97.7					97.7	
13C-1,2,3,6,7,8-HxCDF	6.58e+07	0.55 y	37:23	2.54	99.0					99.0	
13C-2,3,4,6,7,8-HxCDF	5.25e+07	0.54 y	38:19	2.01	99.4					99.4	
13C-1,2,3,7,8,9-HxCDF	5.18e+07	0.55 y	39:45	2.03	97.2					97.2	
13C-1,2,3,4,6,7,8-HpCDF	2.80e+07	0.42 y	42:17	1.11	96.4					96.4	
13C-1,2,3,4,7,8,9-HpCDF	2.02e+07	0.42 y	45:06	0.80	96.0					96.0	
13C-OCDF	5.49e+07	0.98 y	50:08	1.08	194					96.8	
37Cl-2,3,7,8-TCDD	2.77e+06		27:24	0.69	9.14					91.4	
13C-1,2,3,4-TCDD	4.42e+07	0.84 y	26:49	-	98.4						
13C-1,2,3,4-TCDF	7.01e+07	0.87 y	25:33	-	97.0						
13C-1,2,3,7,8,9-HxCDD	2.62e+07	1.28 y	39:11	-	95.1						
Total Tetra-Dioxins	2.58e+07		24:24	1.11	53.5		2.50	-	-	*	19
Total Penta-Dioxins	4.23e+07		30:15	1.10	109		2.50	-	-	*	7
Total Hexa-Dioxins	6.03e+07		36:08	1.37	165		2.50	-	-	*	11
Total Hepta-Dioxins	3.51e+07		42:49	1.45	111		2.50	-	-	*	20
Total Tetra-Furans	4.14e+07		23:04	1.50	41.0		2.50	-	-	*	9
1st Fn. Tot Penta-Furans	3.21e+07		28:25	0.94	61.7		2.50	-	-	*	PeCDF 1
Total Penta-Furans	7.50e+07		30:12	0.94	144		2.50	-	-	*	206 15
Total Hexa-Furans	1.14e+08		35:15	0.91	230		2.50	-	-	*	8
Total Hepta-Furans	3.43e+07		42:18	1.38	103		2.50	-	-	*	14

Analyst: 

Date: 8/24/10

Frontier Analytical Laboratory - Acquisition Log


Run Name:23AUG10M

Instrument: FAL3

GC: DB5

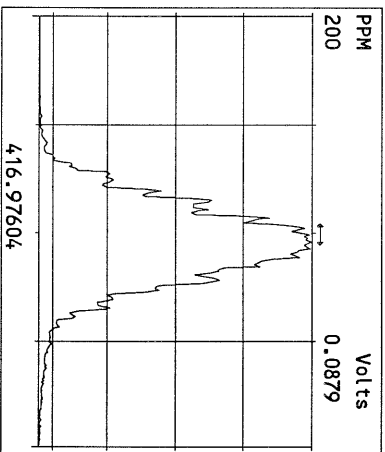
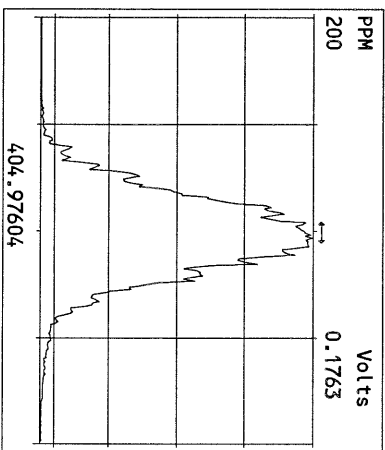
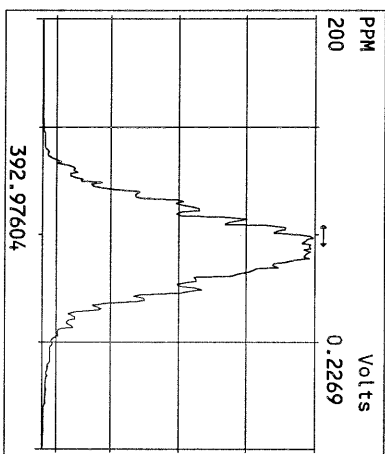
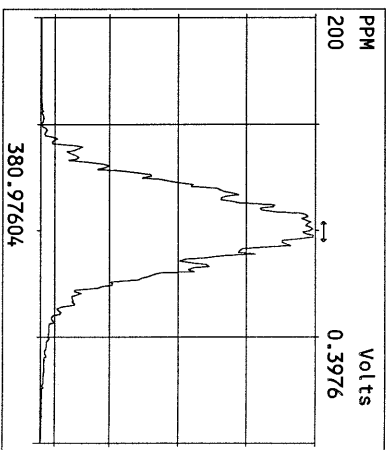
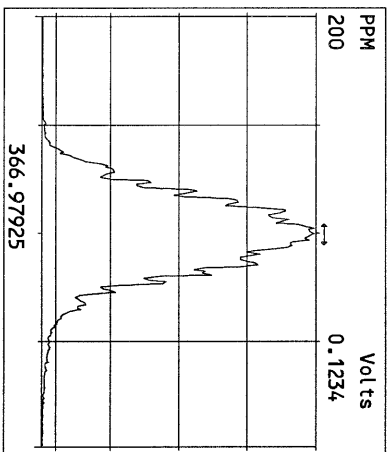
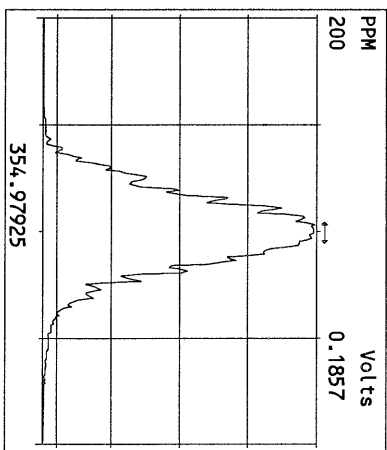
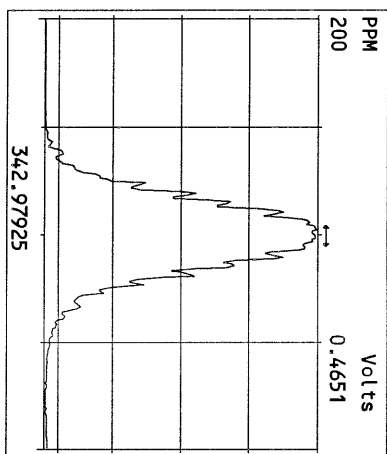
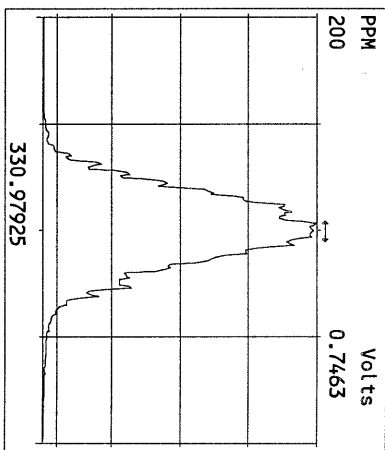
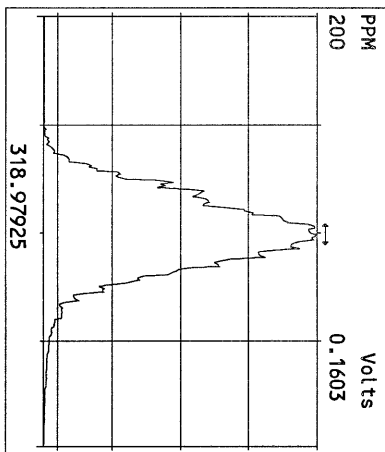
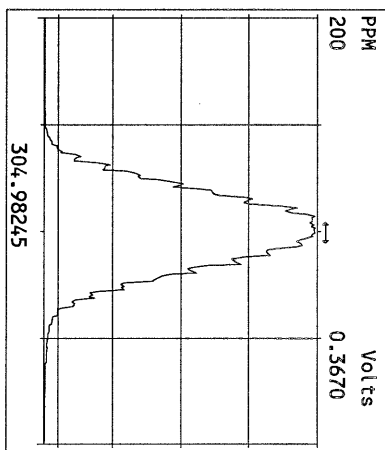
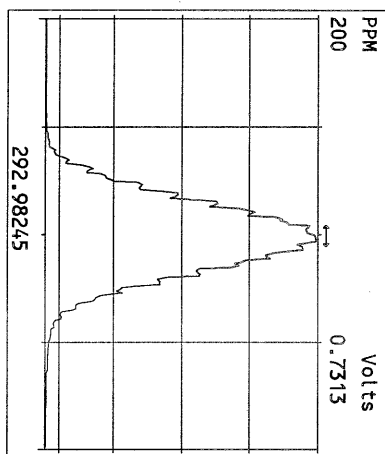
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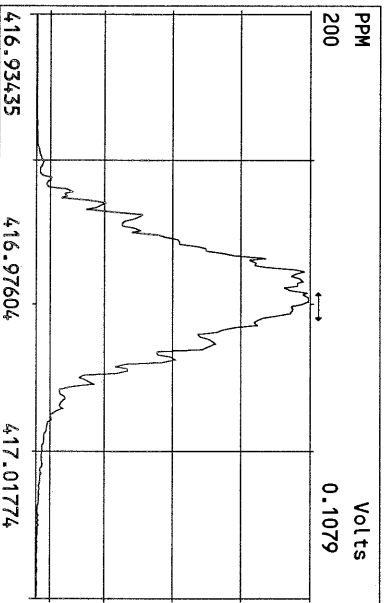
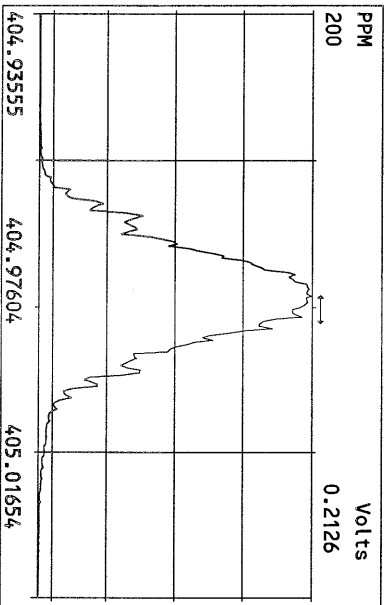
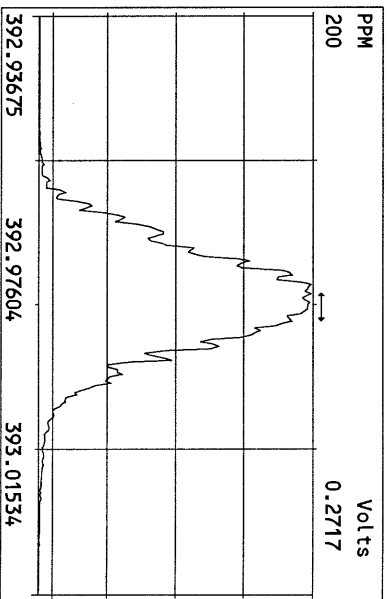
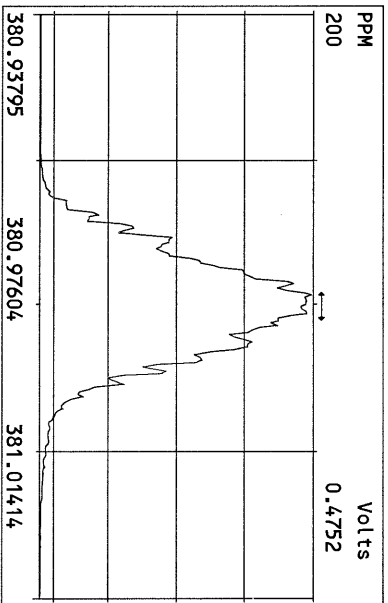
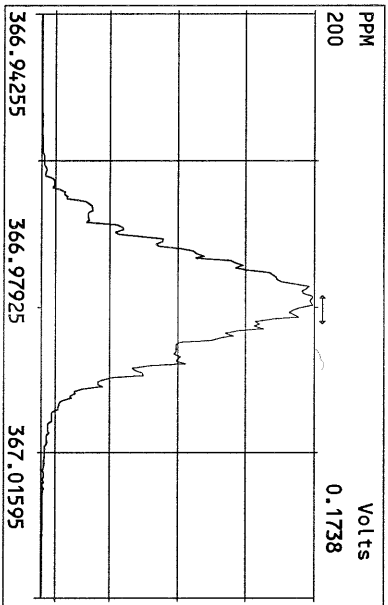
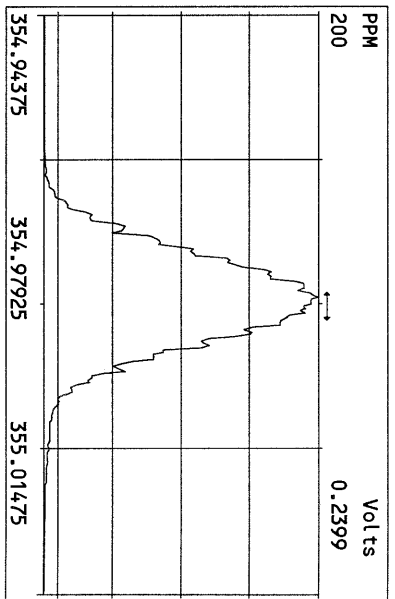
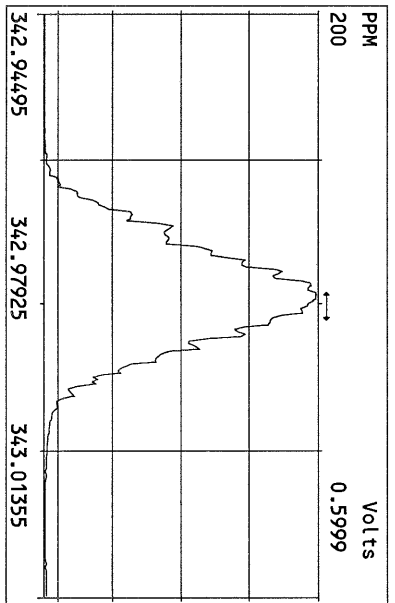
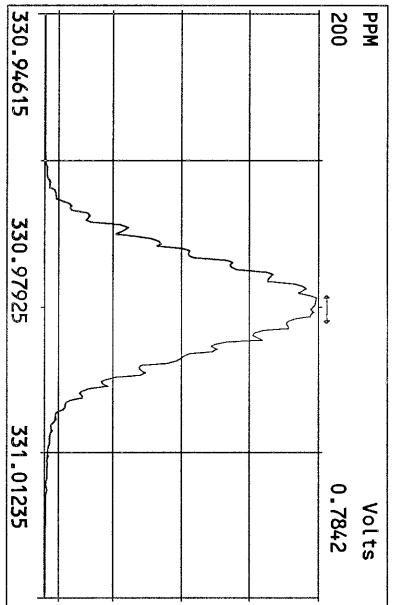
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23AUG10M 4	ST082310M1	1613 CS1 100511H	23-AUG-10 17:12:02	NA	NA	BS
23AUG10M 5	ST082310M2	1613 CS2 100511I	23-AUG-10 18:07:23	NA	NA	BS
23AUG10M 6	ST082310M4	1613 CS4 100511K	23-AUG-10 19:02:46	NA	NA	BS
23AUG10M 7	ST082310M5	1613 CS5 100511L	23-AUG-10 19:58:08	NA	NA	BS
23AUG10M 8	SB082310M1	Solvent Blank	23-AUG-10 20:53:27	NA	NA	BS
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23AUG10M 10	ST082310M6	1613 CS3 100511J	23-AUG-10 22:44:05	ST082310M3	ST082310M6	BS
23AUG10M 11	ST082310M7	8280 CS3 071227J	23-AUG-10 23:39:28	ST082310M7	ST082310M8	BS
23AUG10M 12	SB082310M2	Solvent Blank	24-AUG-10 00:34:46	ST082310M7	ST082310M8	BS
23AUG10M 13	2088-001-0001-MB	Method Blank	24-AUG-10 01:30:01	ST082310M7	ST082310M8	BS
23AUG10M 14	6263-001-0001-SA	MDL 1	24-AUG-10 02:25:23	ST082310M7	ST082310M8	BS
23AUG10M 15	6263-002-0001-SA	MDL 2	24-AUG-10 03:20:43	ST082310M7	ST082310M8	BS
23AUG10M 16	6263-003-0001-SA	MDL 3	24-AUG-10 04:16:04	ST082310M7	ST082310M8	BS
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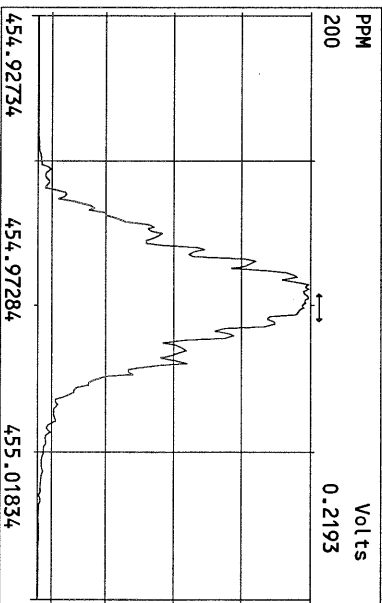
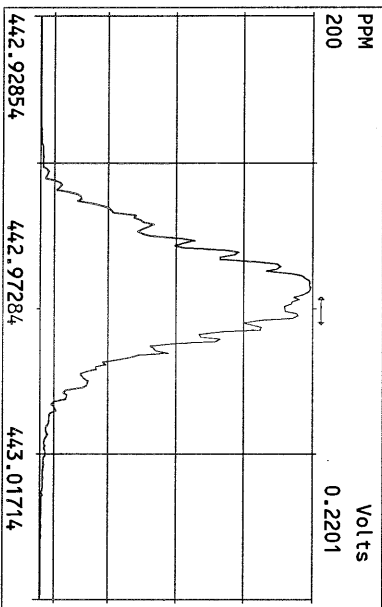
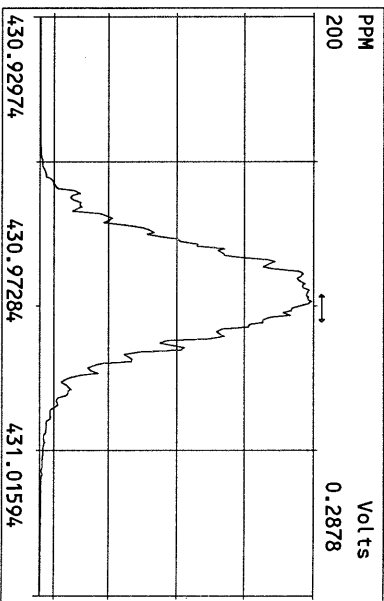
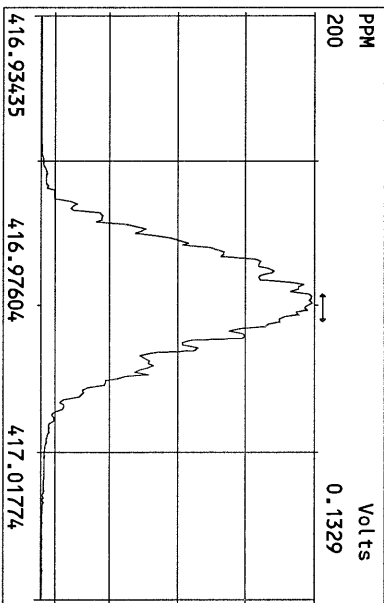
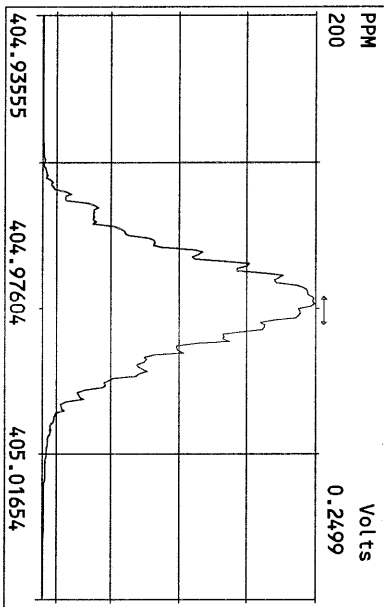
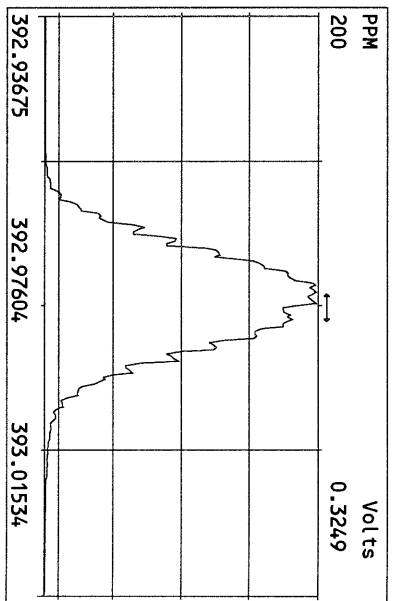
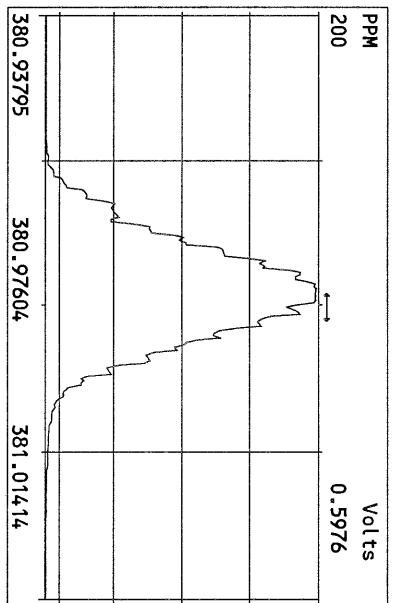
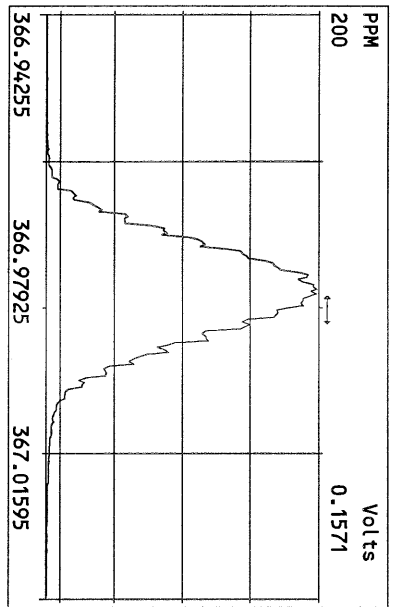
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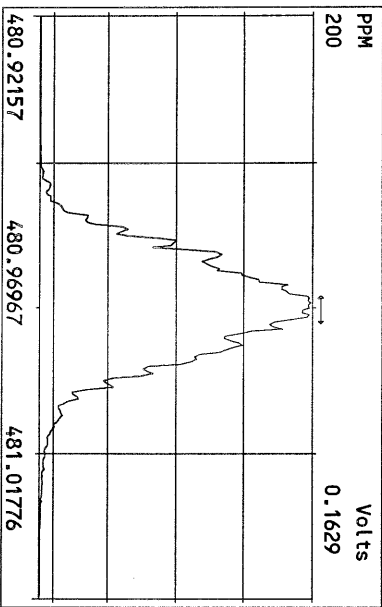
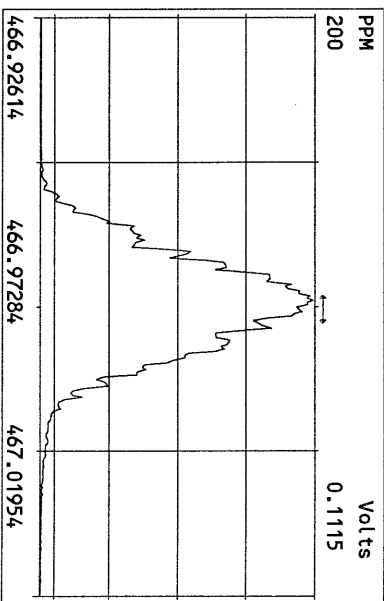
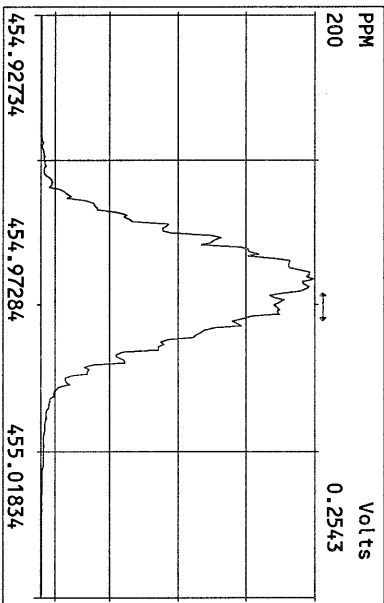
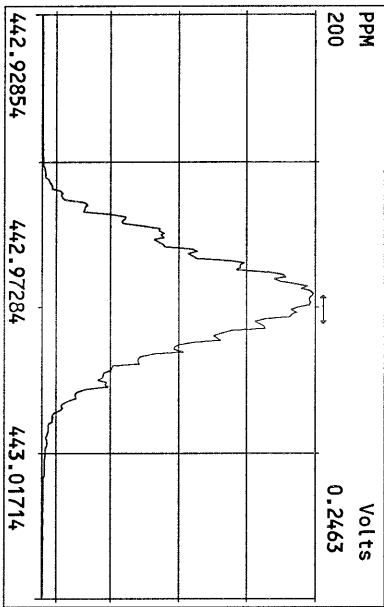
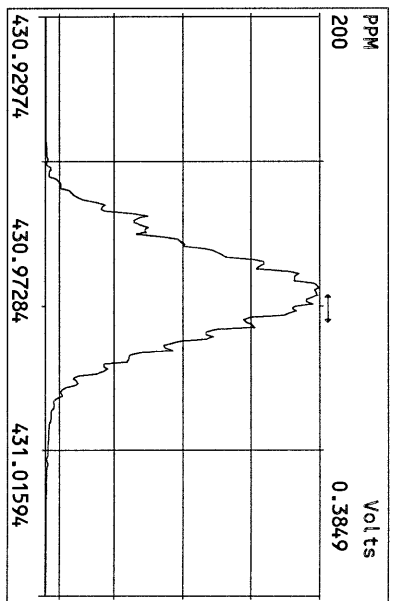
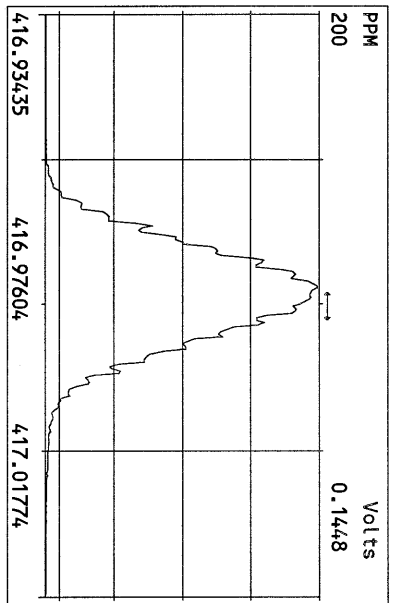
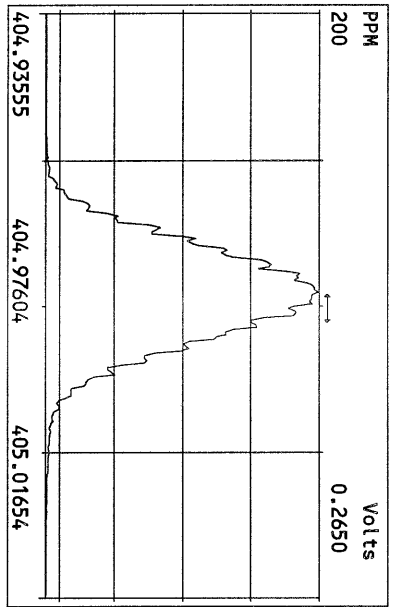
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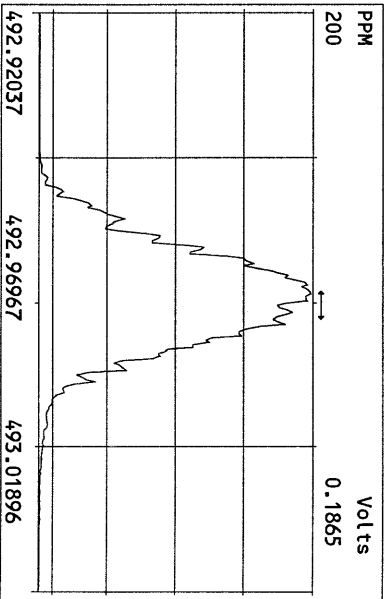
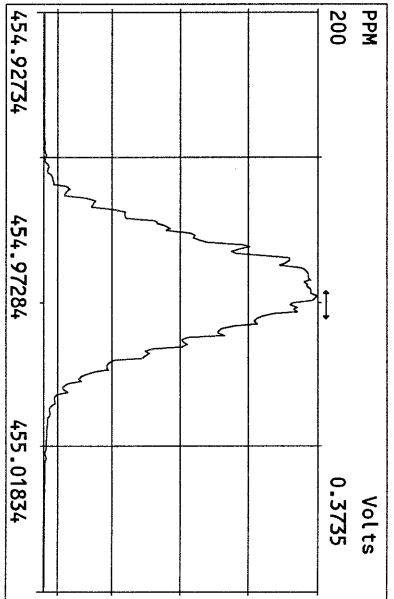
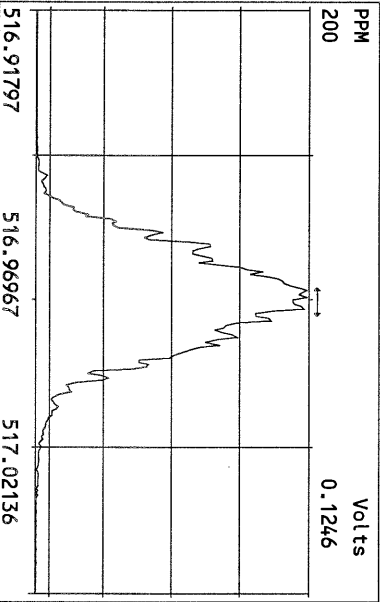
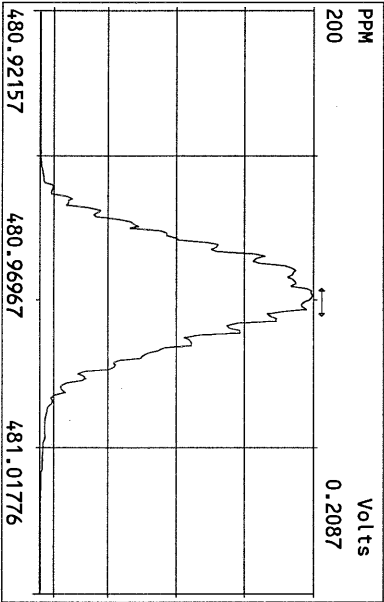
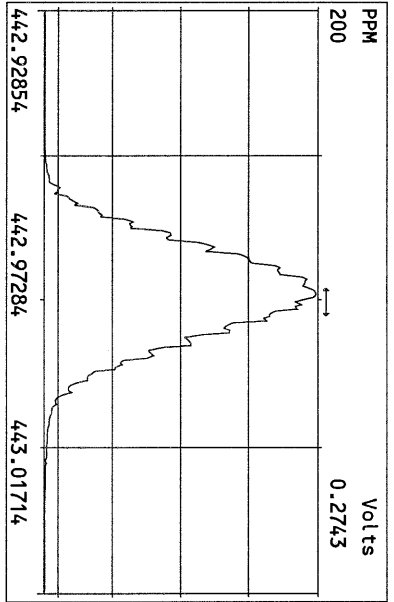
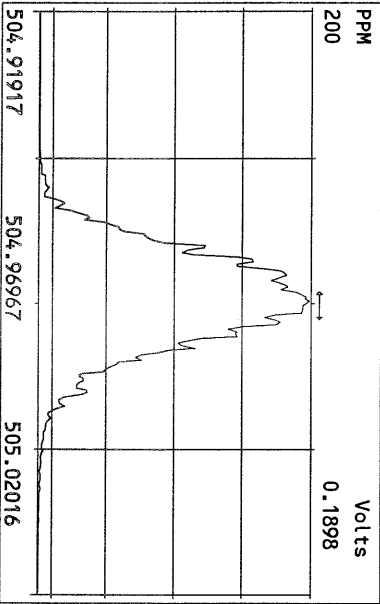
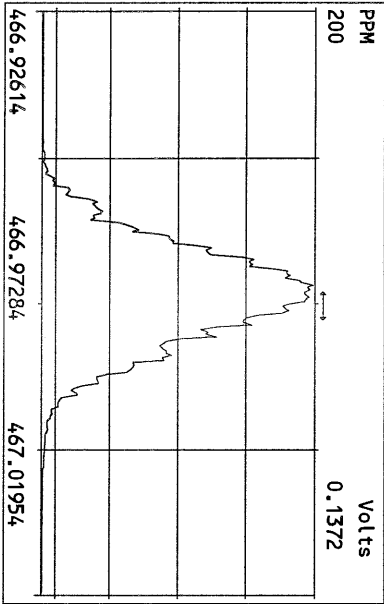
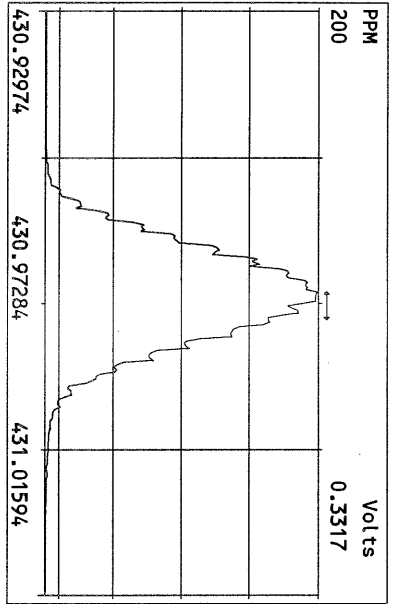
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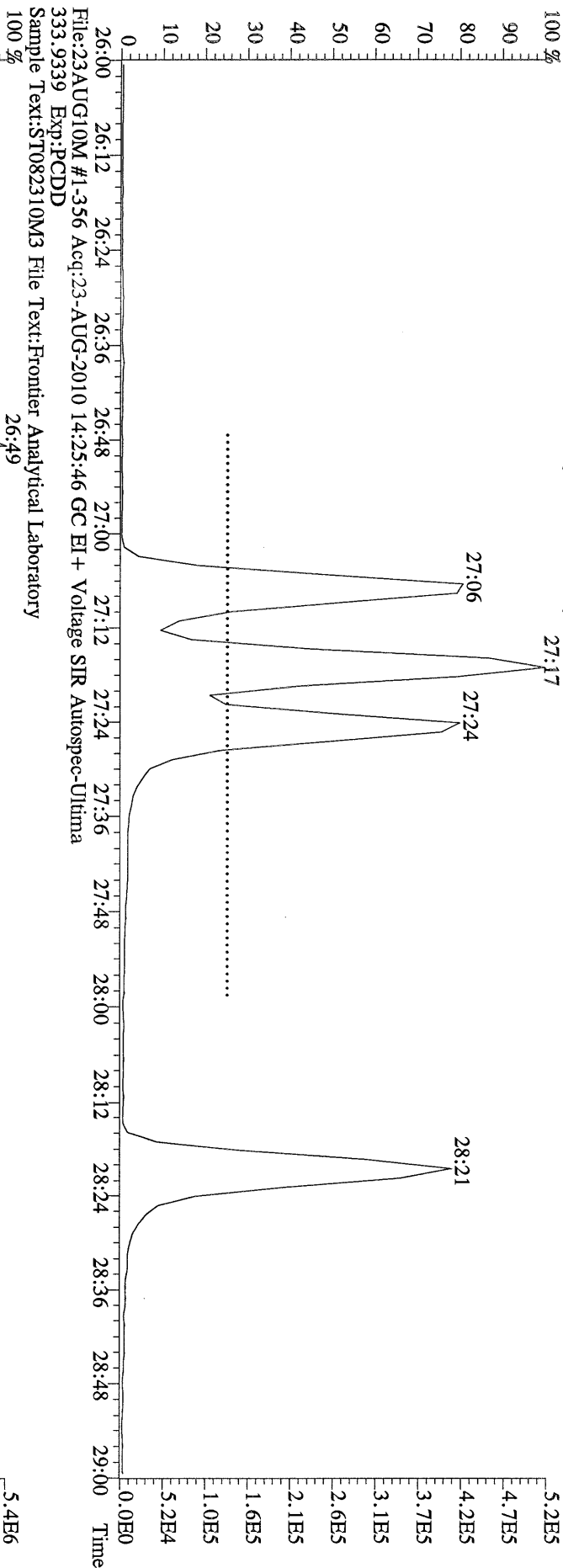




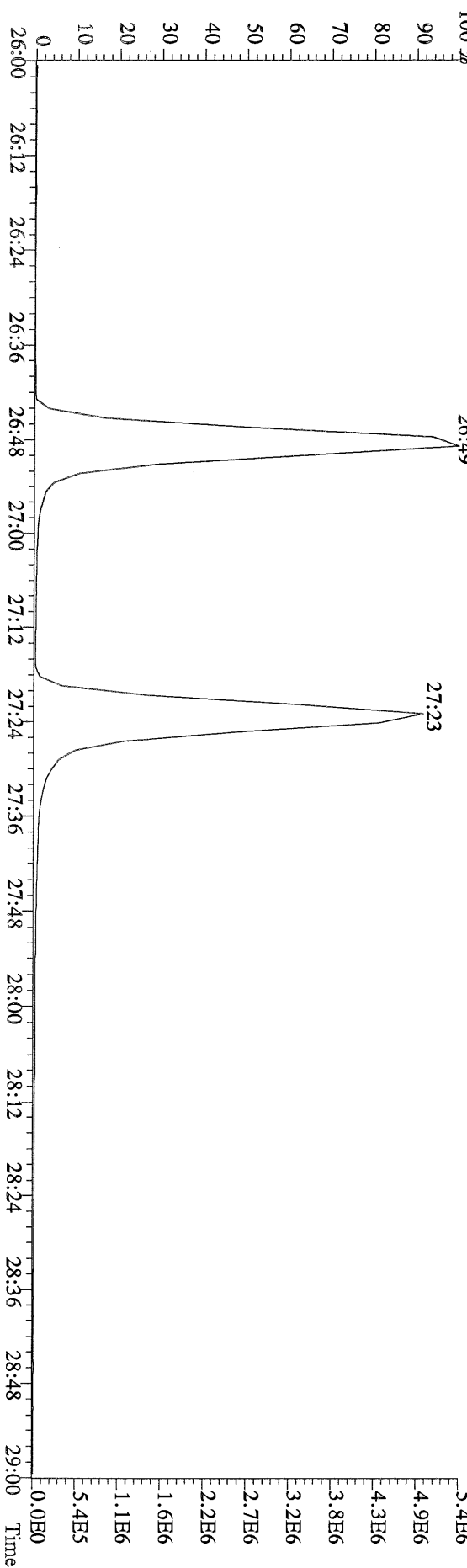




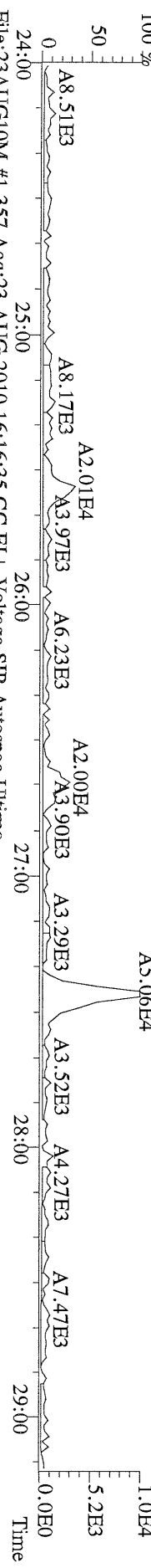
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319,8965 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



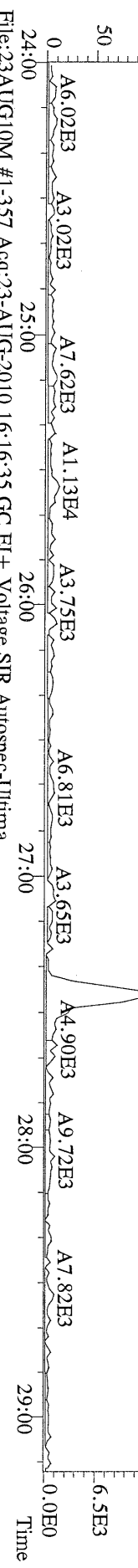
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
333,9339 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



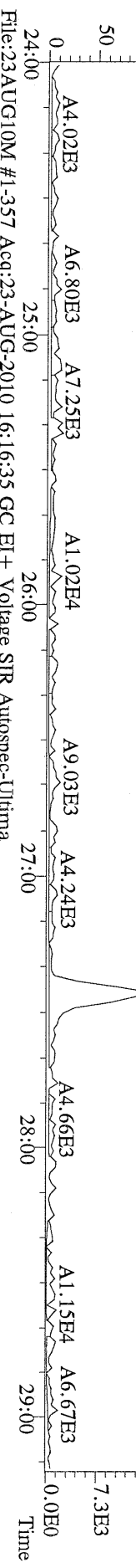
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319.8965 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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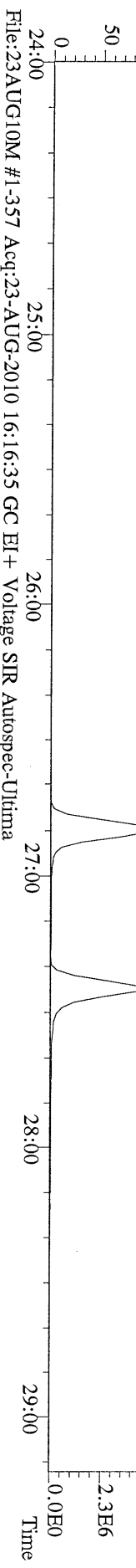
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321.8936 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



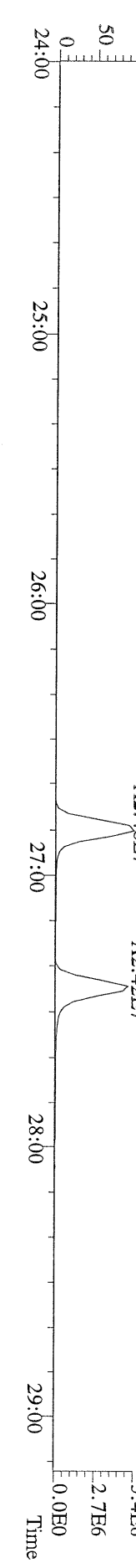
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327.8847 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



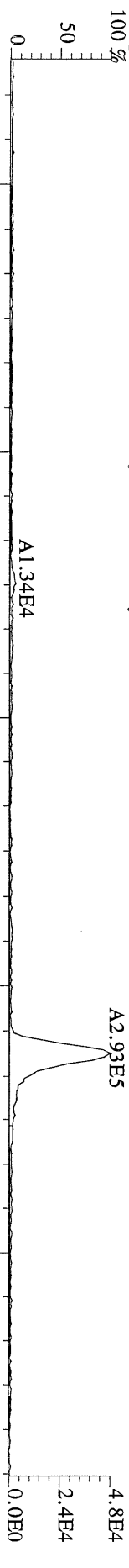
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331.9368 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



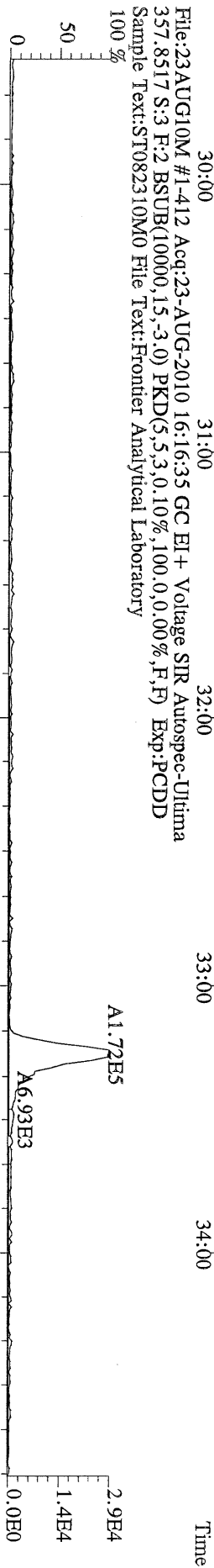
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333.9339 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



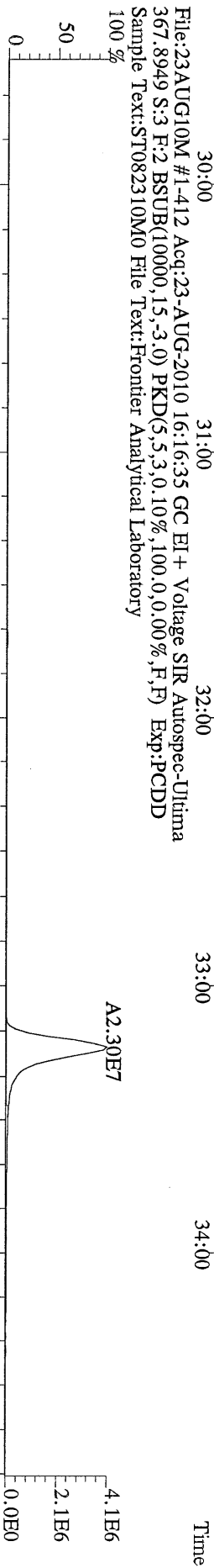
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
355,8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
357,8517 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %



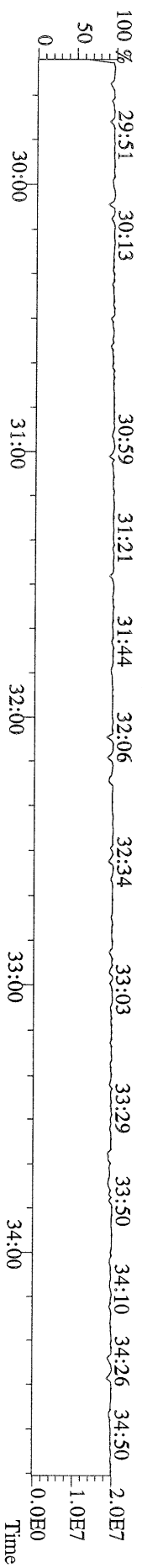
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367,8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %



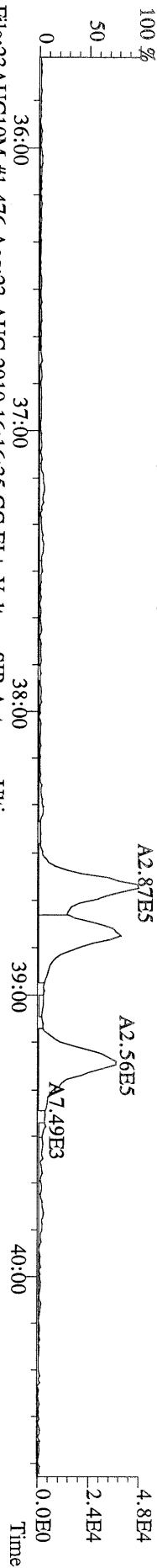
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369,8919 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



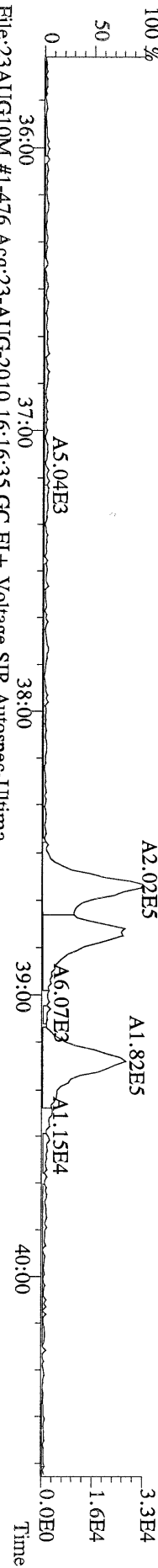
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366,9792 S:3 F:2 Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



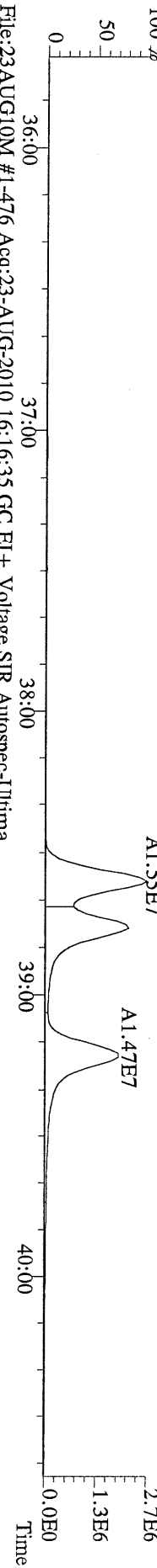
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



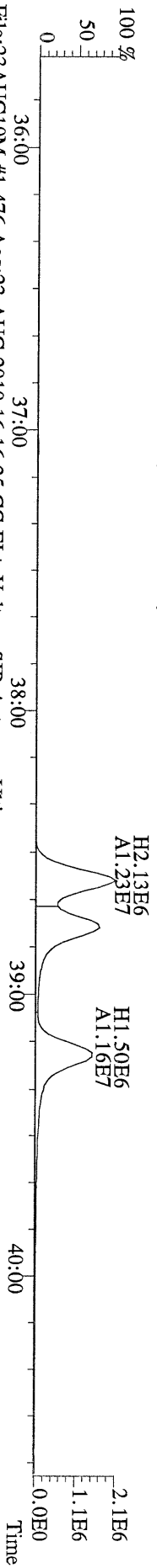
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



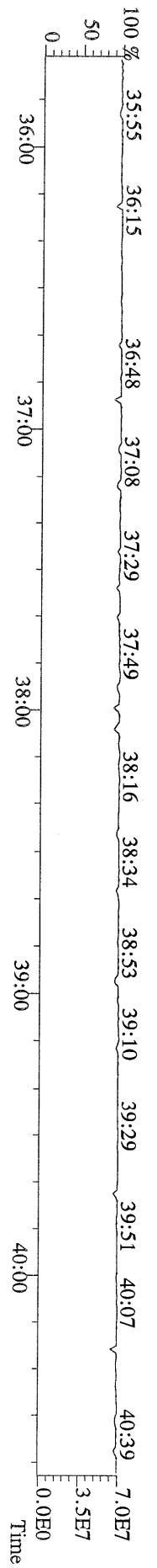
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401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



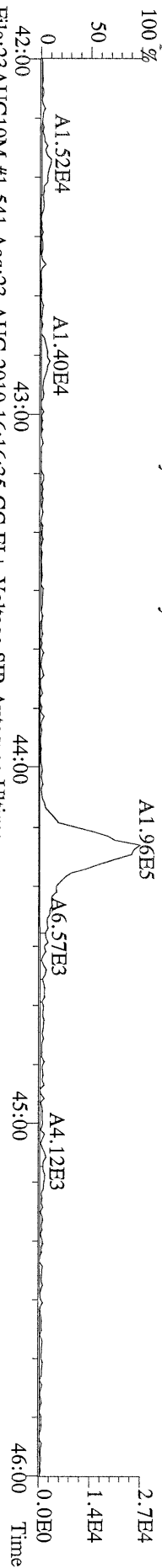
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403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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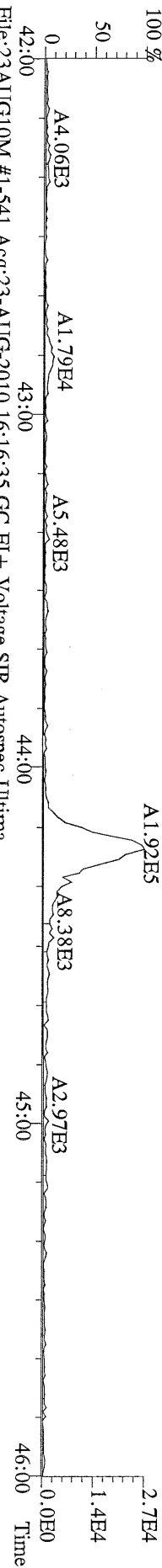
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380.9760 S:3 F:3 Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



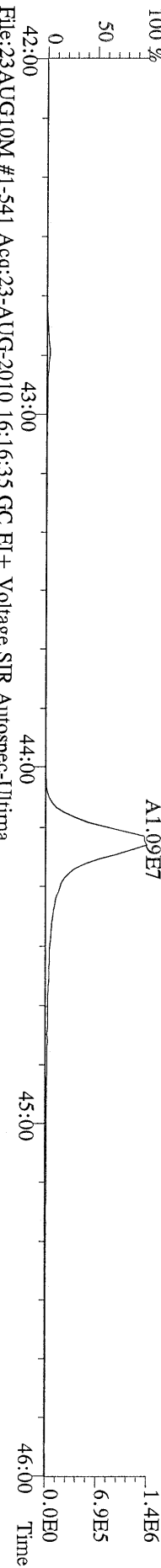
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



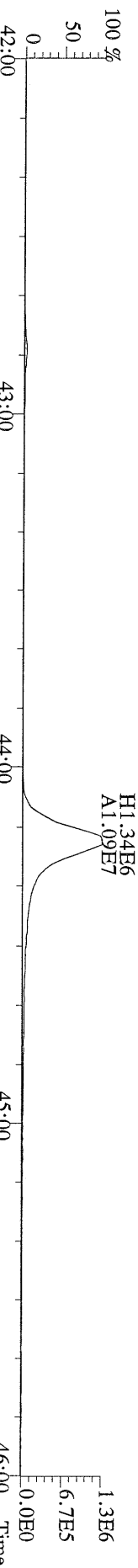
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425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



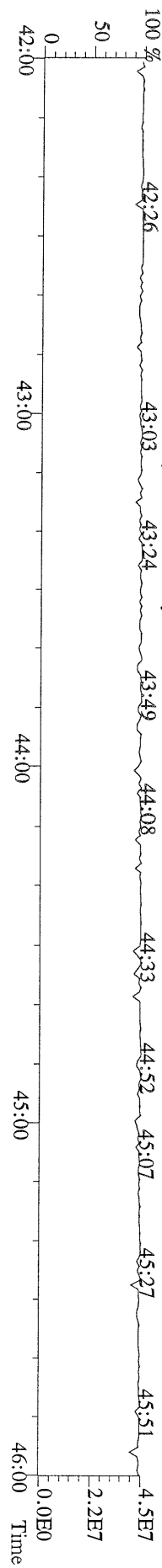
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435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



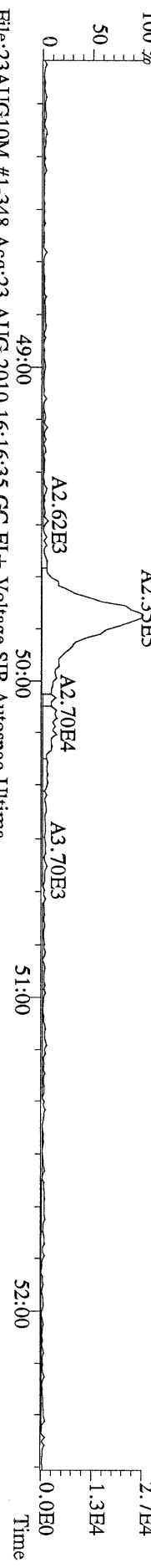
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437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



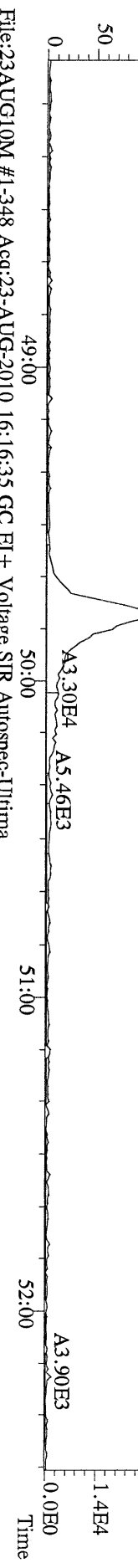
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430.9728 S:3 F:4 Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



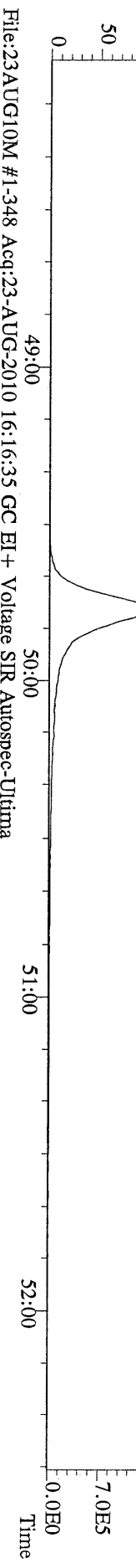
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



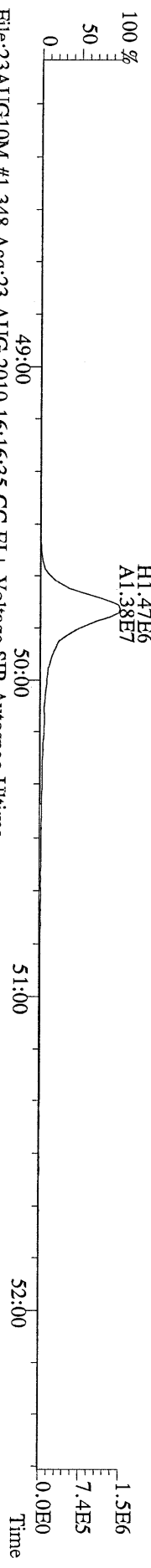
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



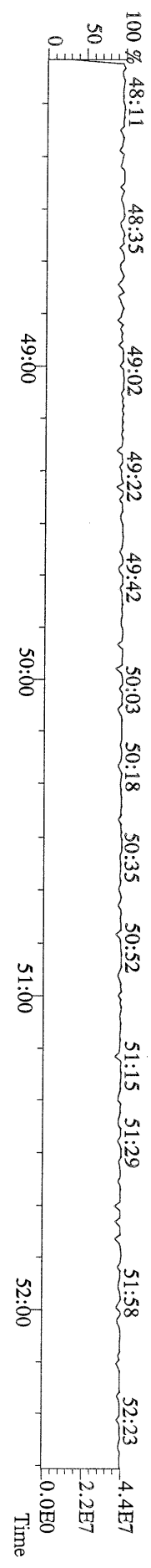
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469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



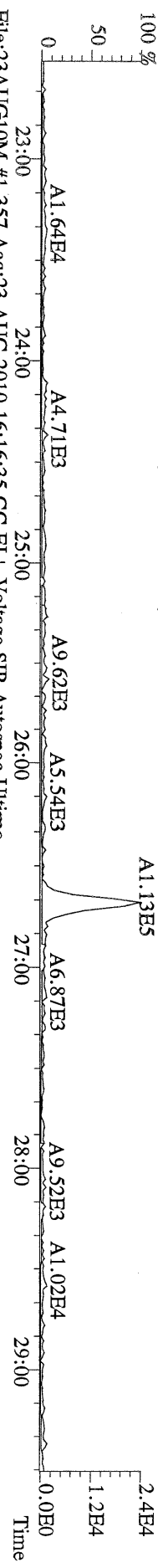
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471.7750 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



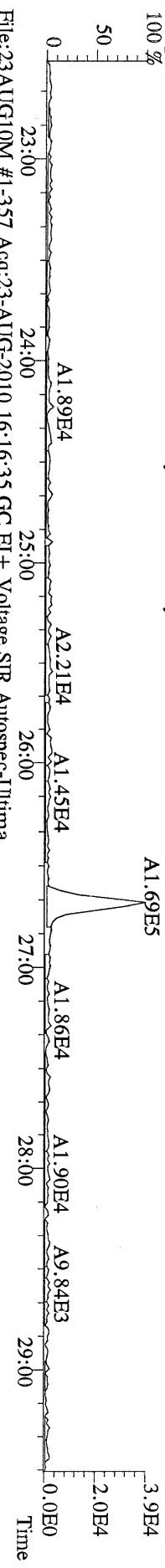
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Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



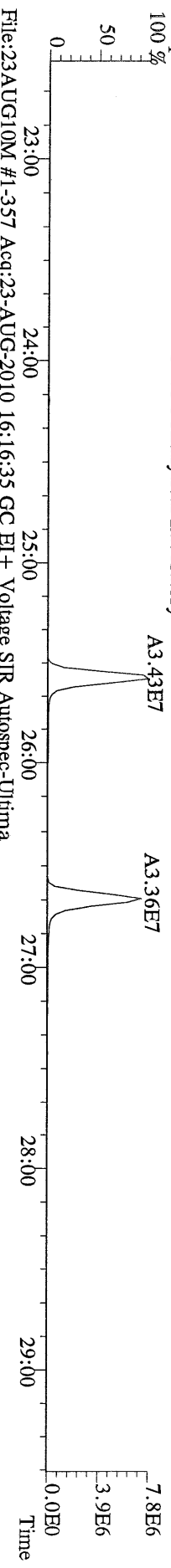
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



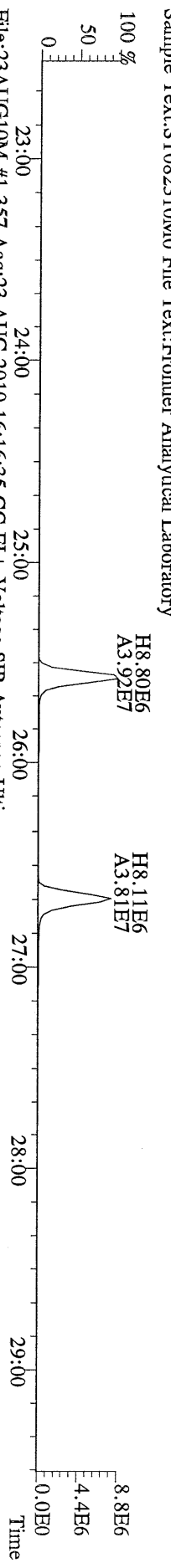
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 305.8987 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



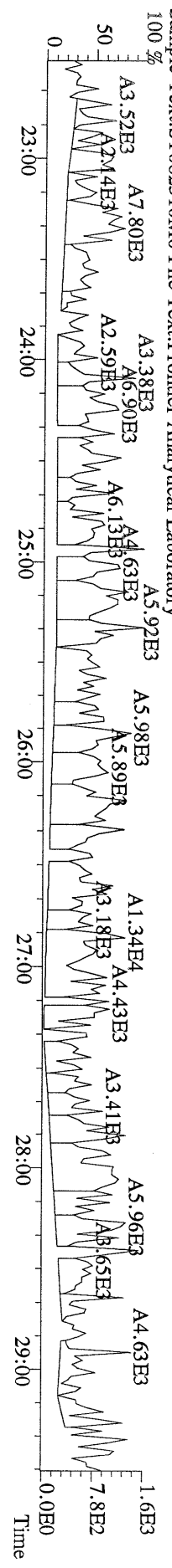
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



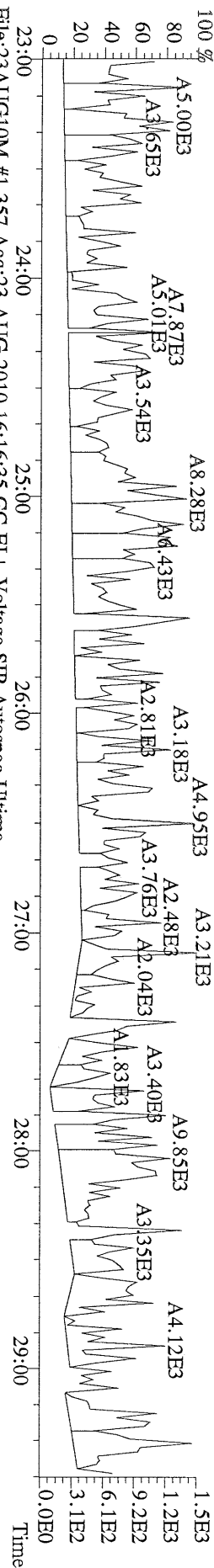
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 317.9389 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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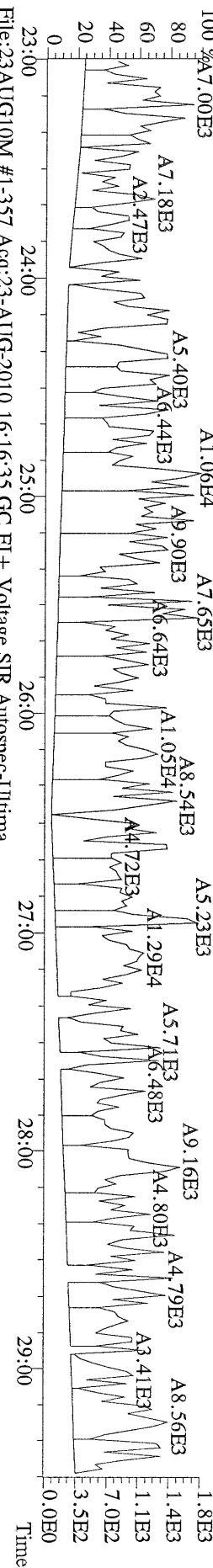
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 375.8364 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



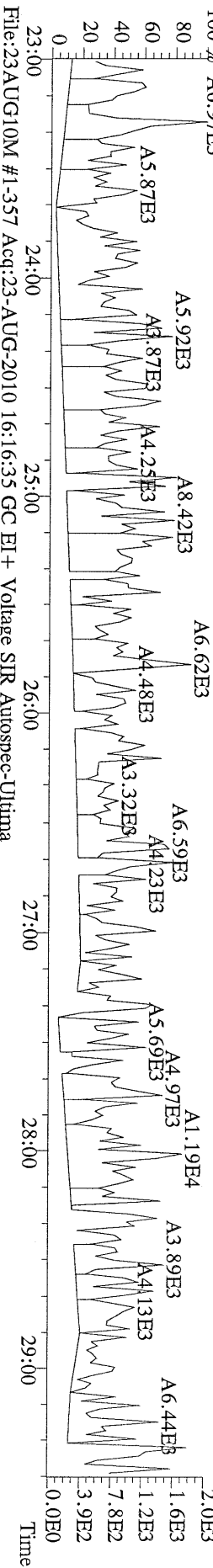
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



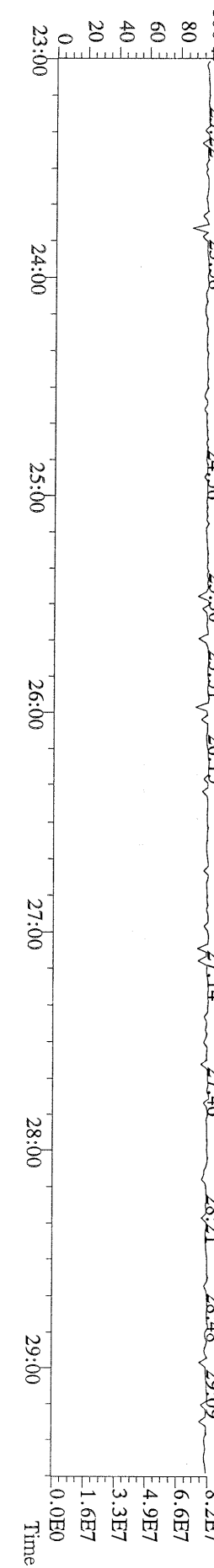
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 341.8568 S:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory

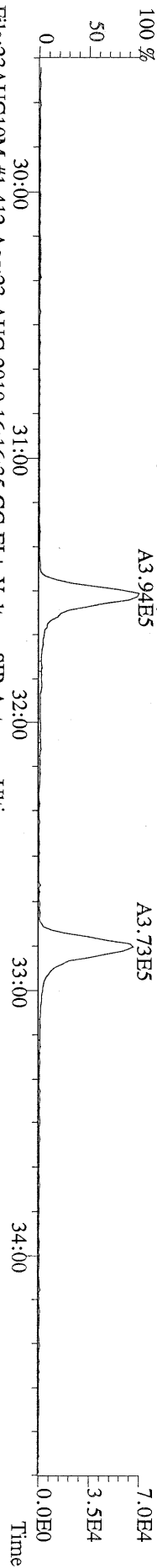


File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory

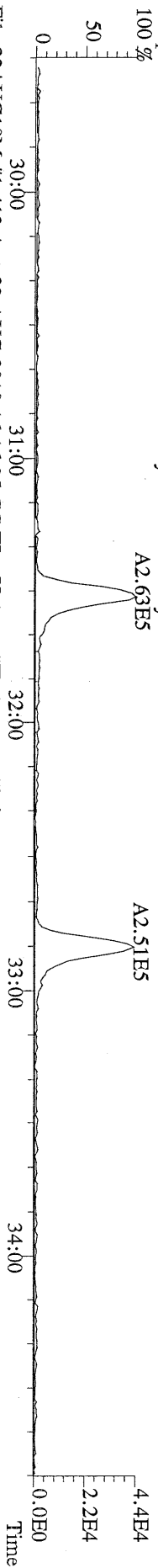




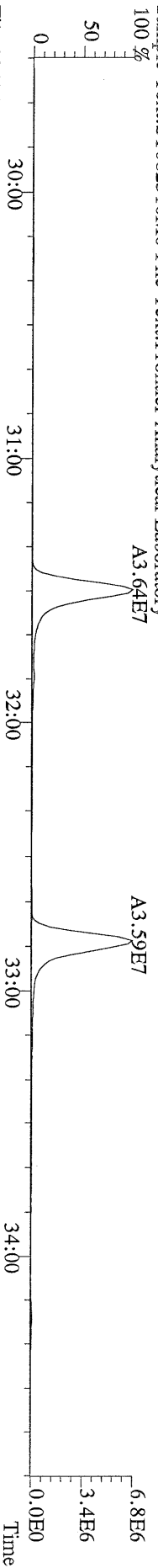
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



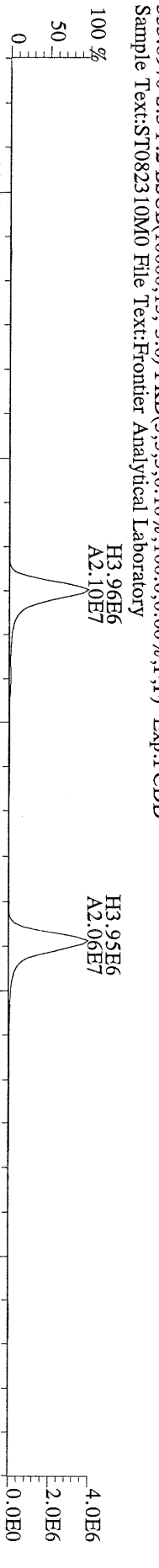
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



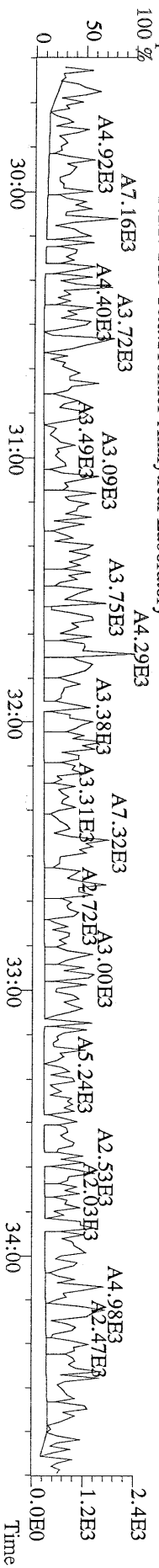
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351.9000 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



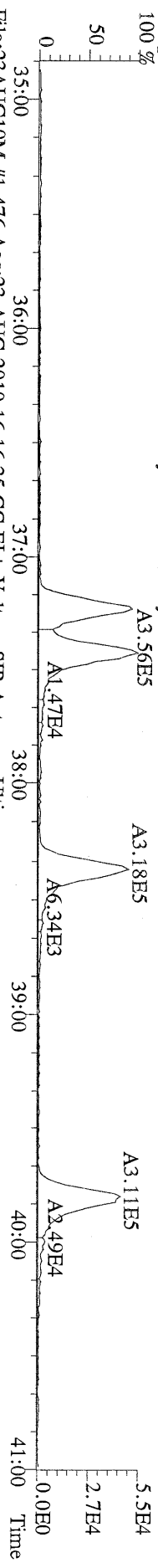
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353.8970 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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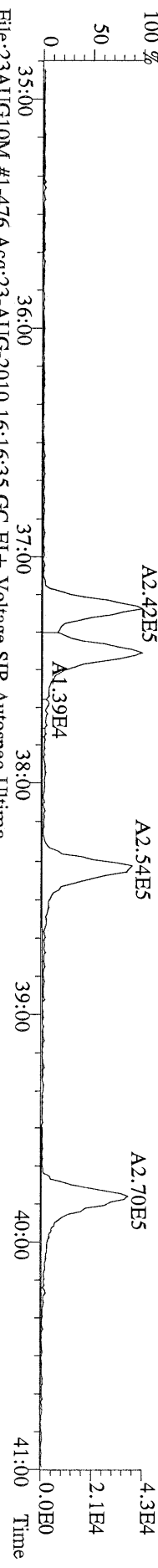
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
409.7974 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



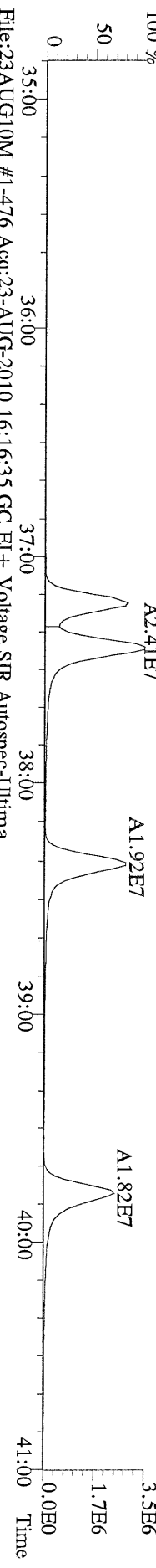
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



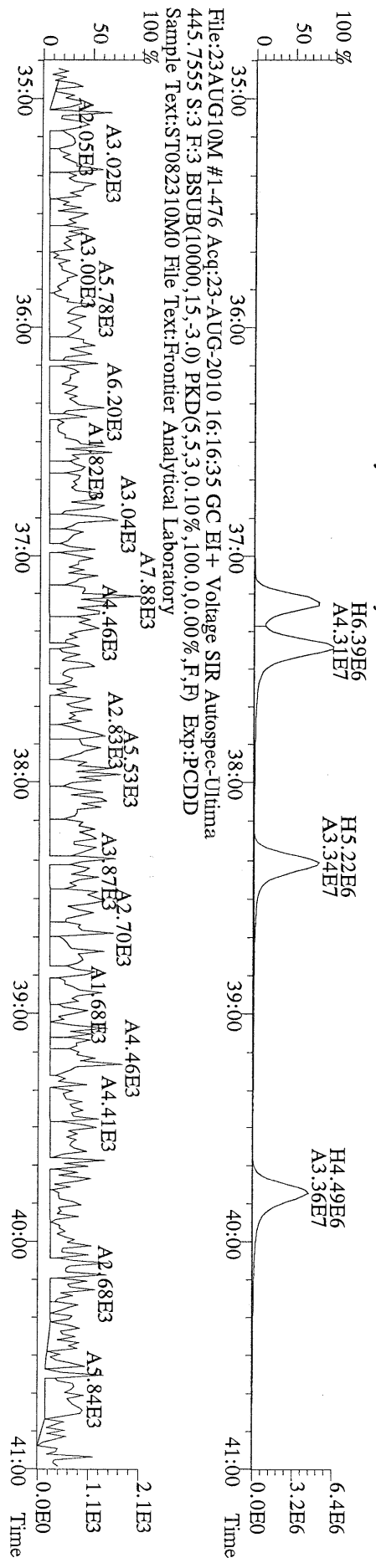
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375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



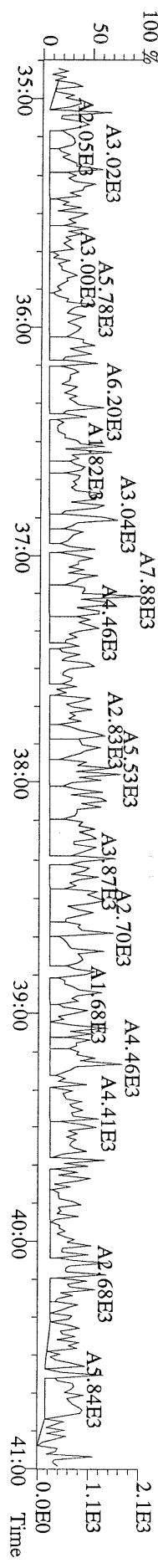
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



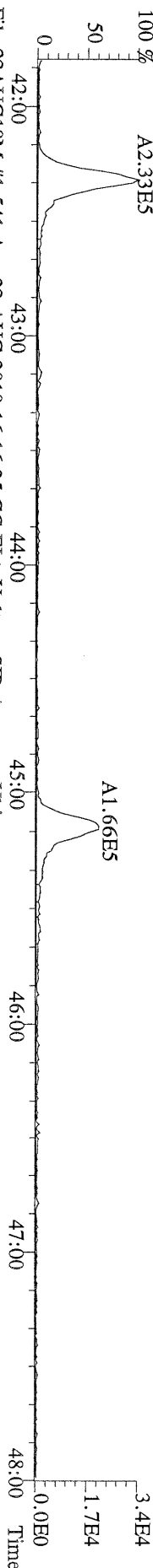
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385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



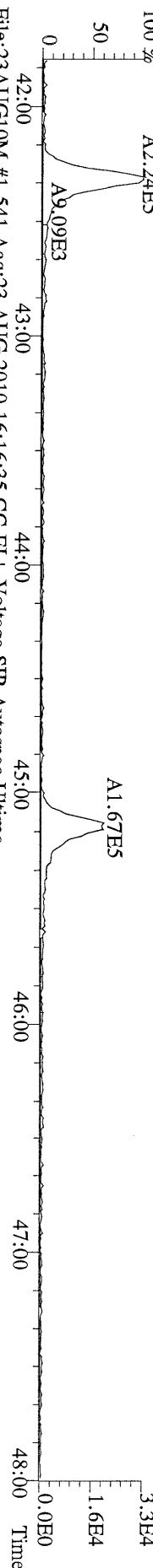
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



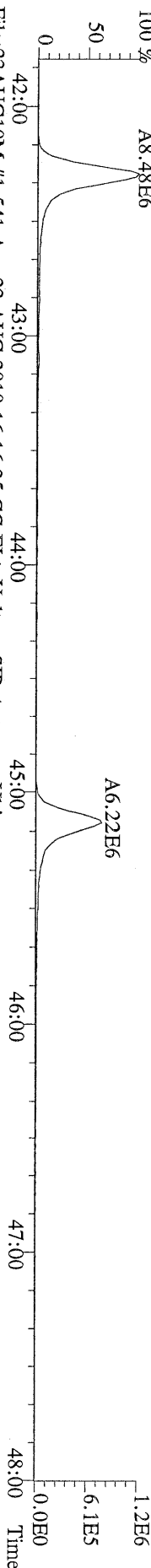
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
407.7818 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 % A2.33E5



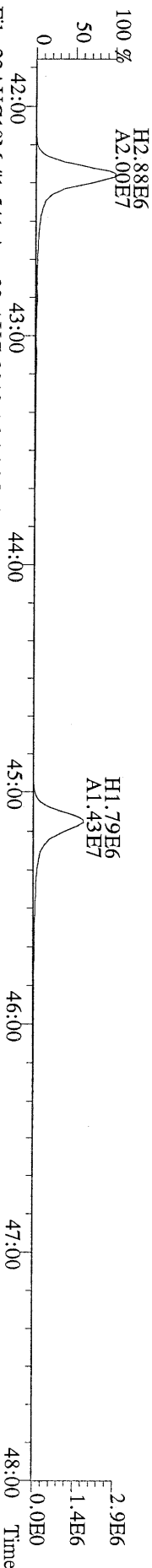
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
409.7788 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 % A2.24E5



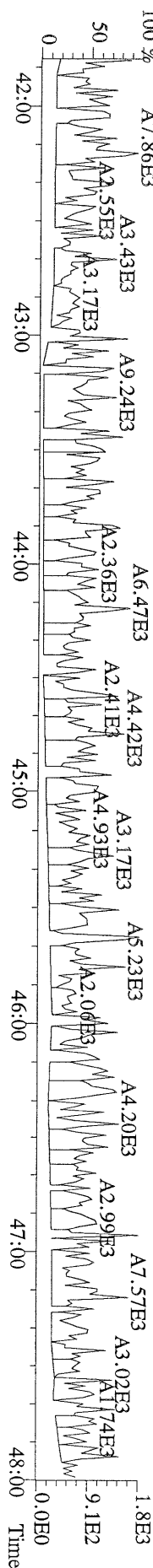
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
417.8253 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 % A8.48E6



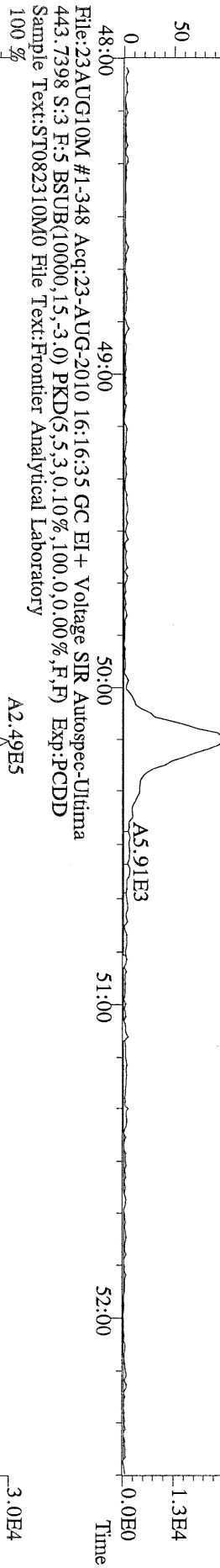
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
419.8220 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



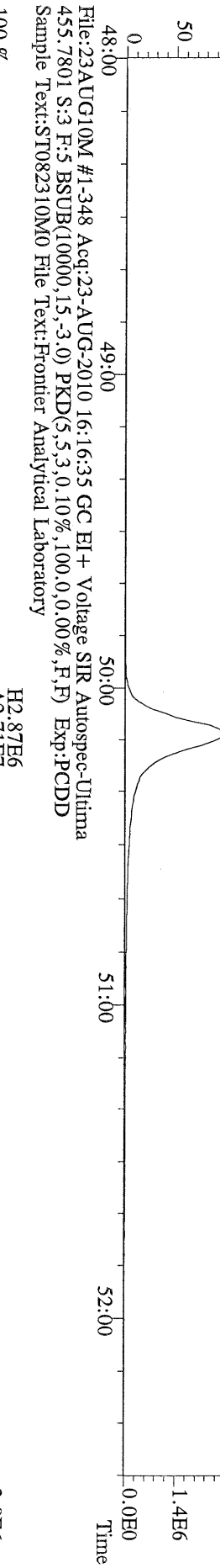
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
479.7165 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



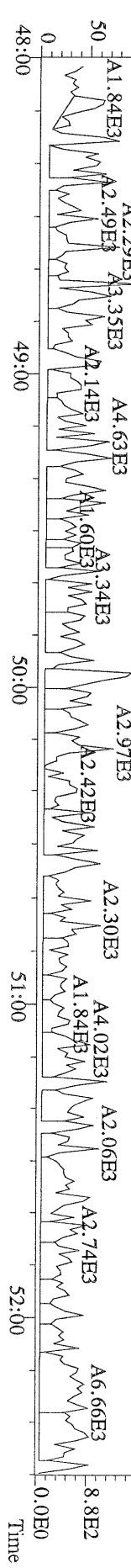
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
441.7428 S:3 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



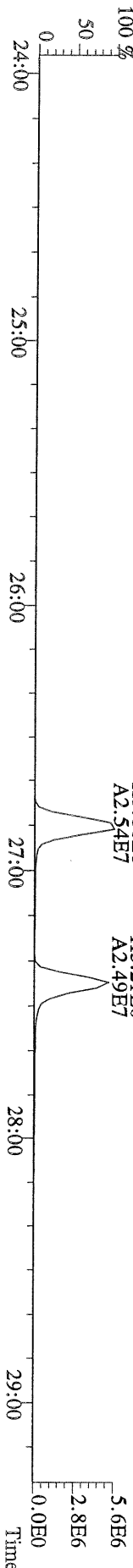
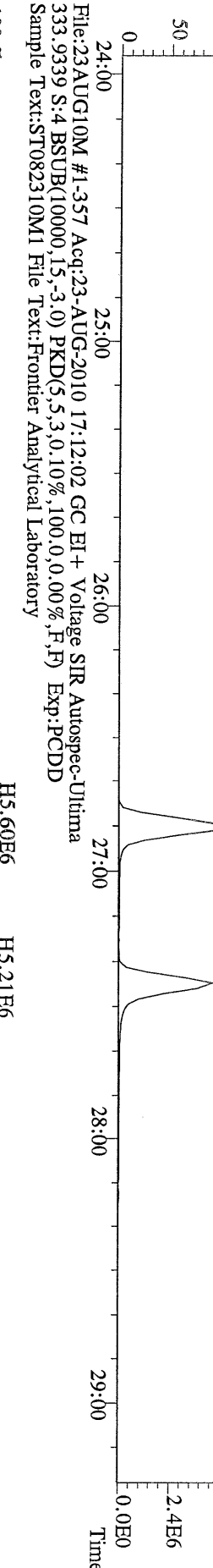
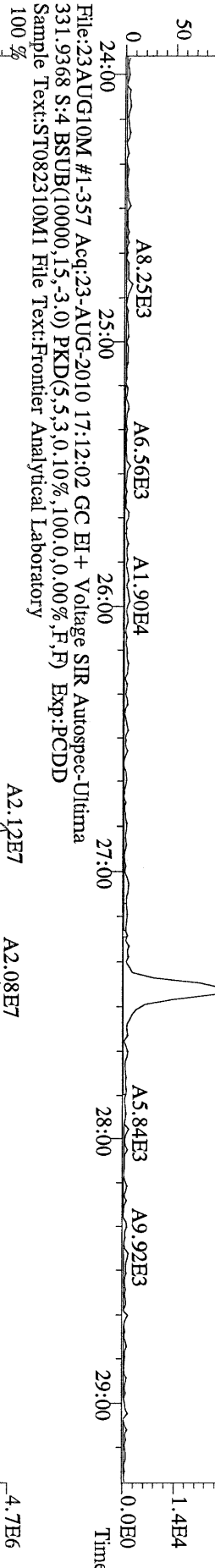
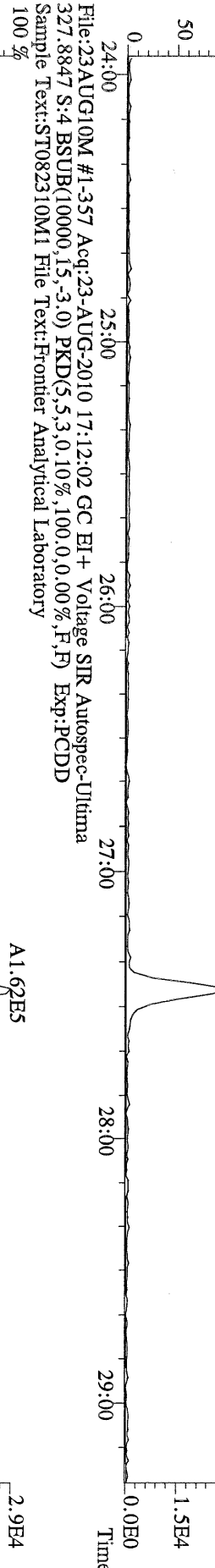
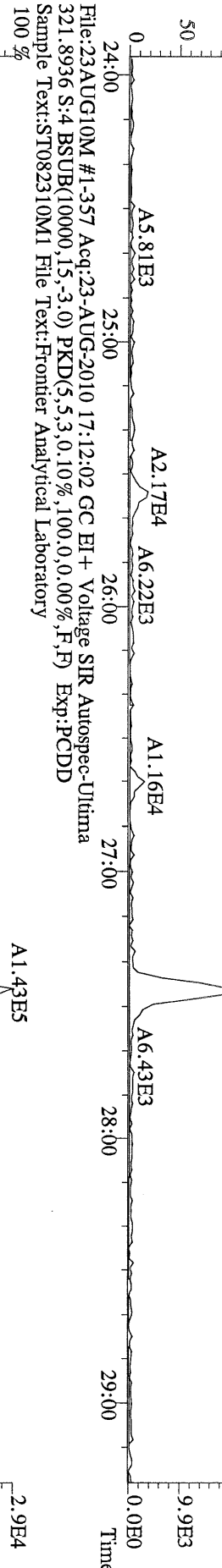
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
453.7831 S:3 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



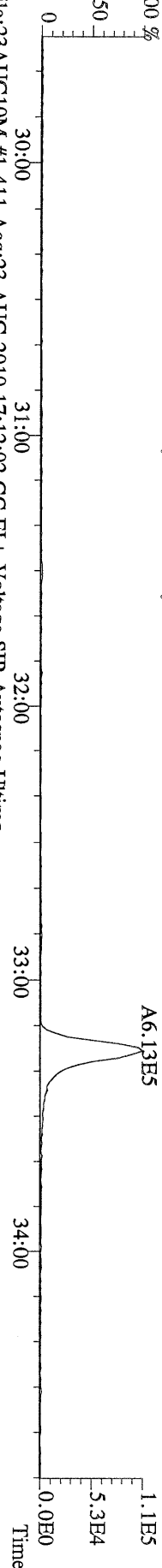
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
513.6775 S:3 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



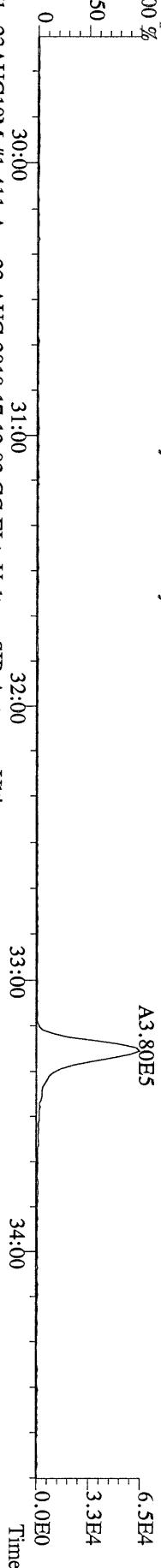
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC BI + Voltage SIR Autospec-Utlima  
 319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
 100 %



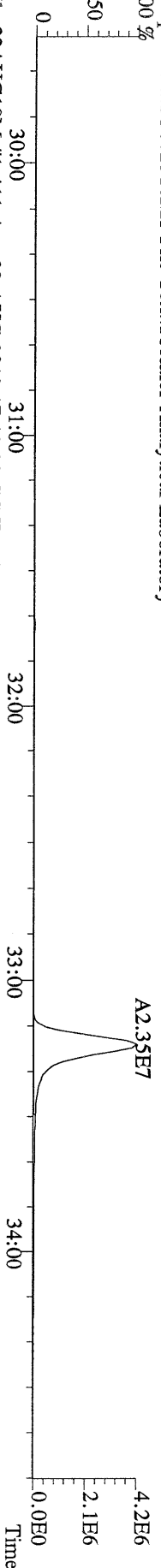
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



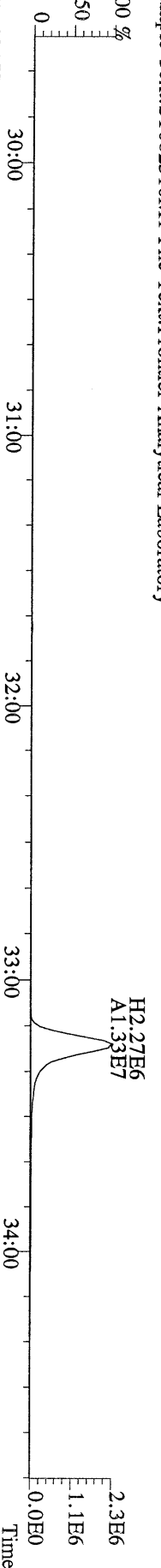
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
357.8517 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



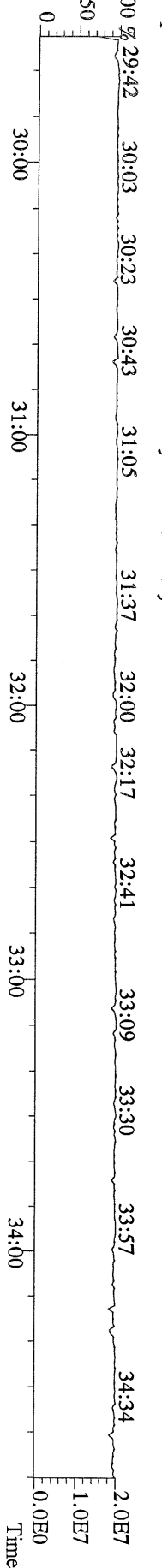
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367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



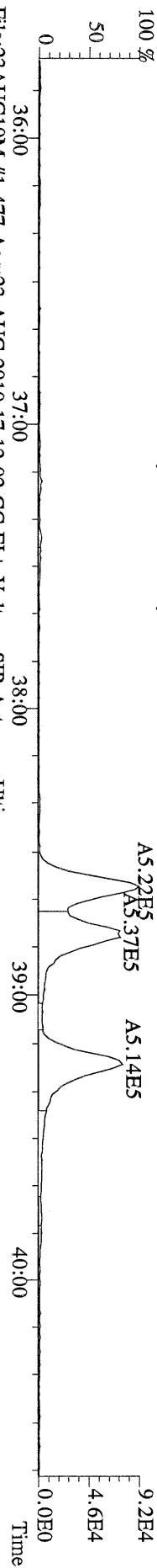
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
369.8919 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



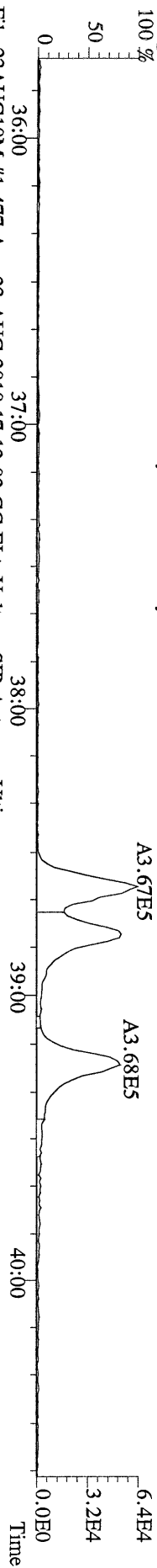
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366.9792 S:4 F:2 Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



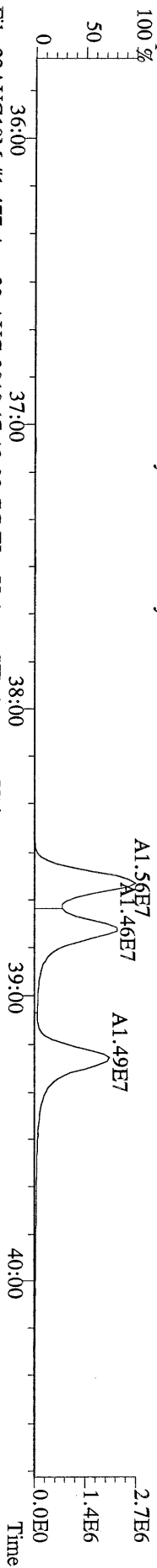
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



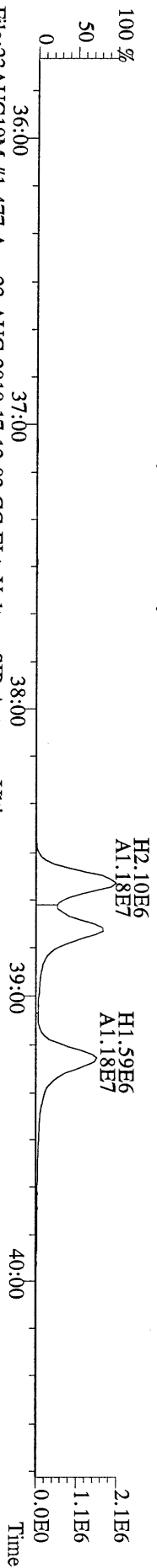
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391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



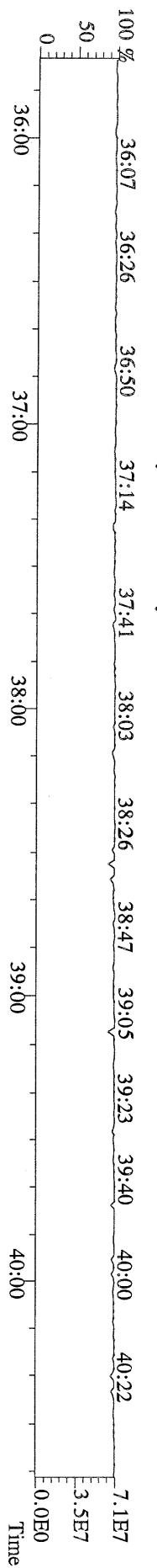
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



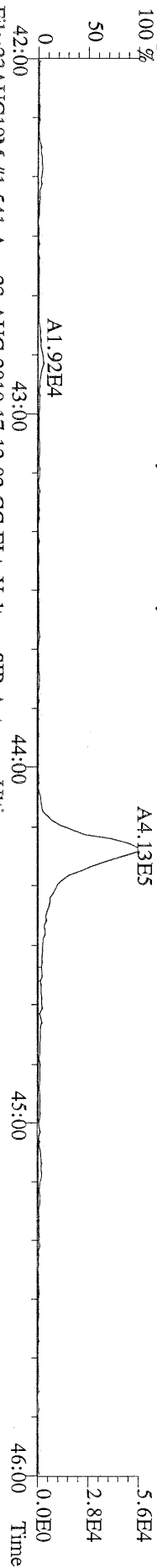
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403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



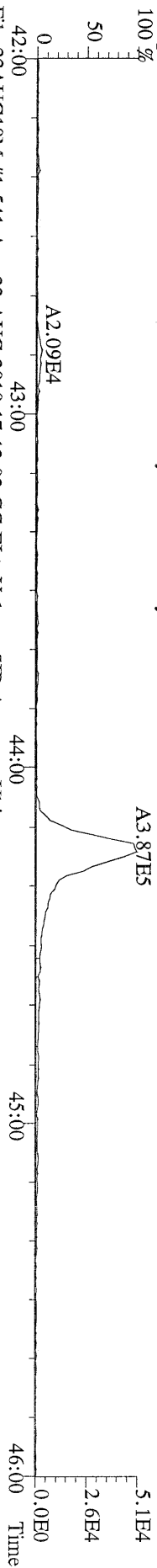
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
380.9760 S:4 F:3 Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



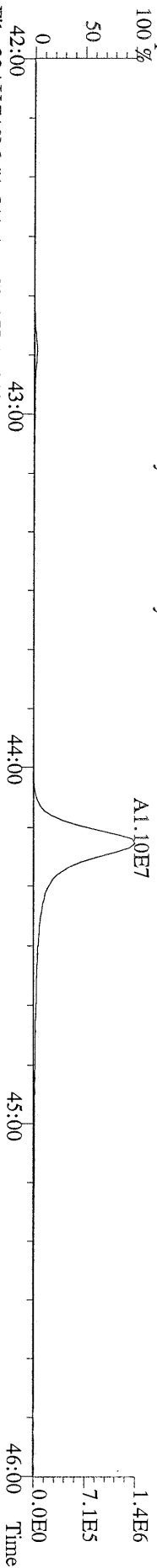
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:4 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



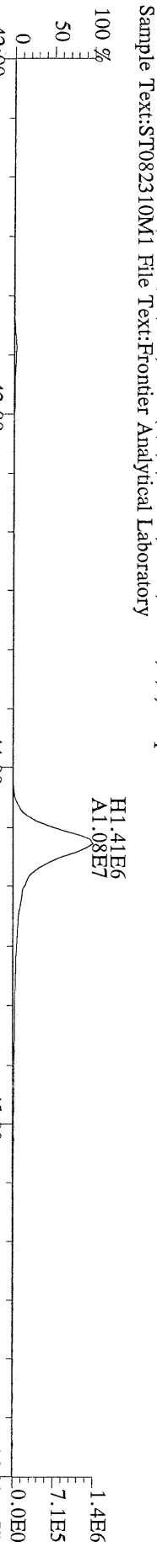
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425.7737 S:4 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



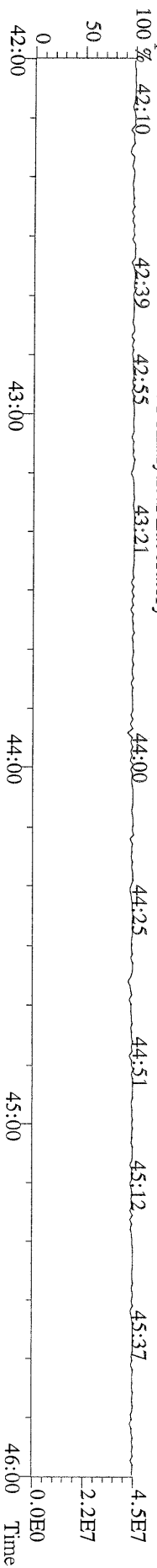
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435.8169 S:4 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
437.8140 S:4 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory

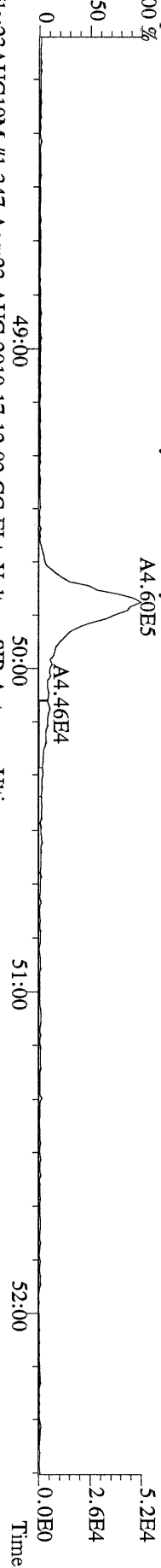


File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 S:4 F:4 Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory

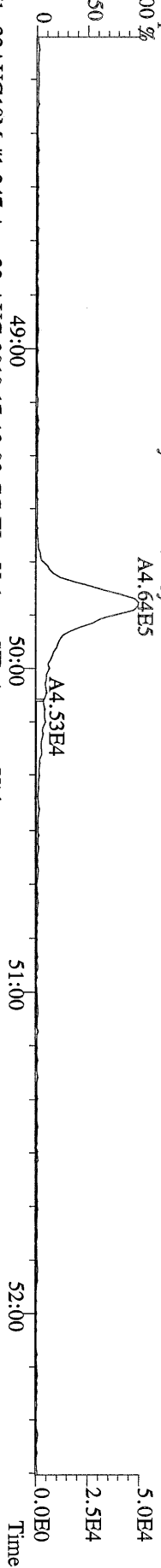




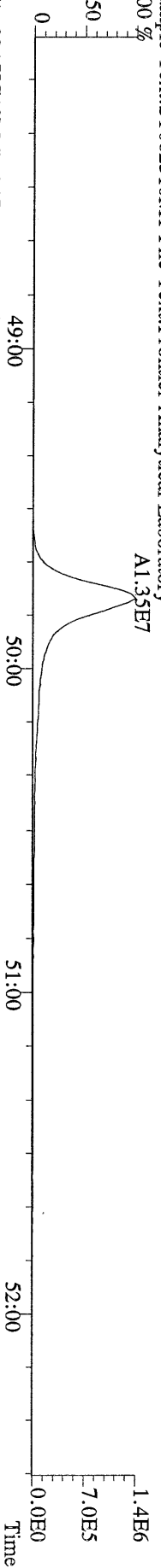
File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



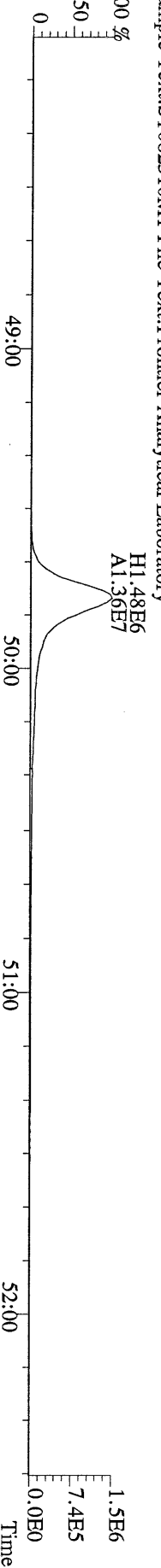
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459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



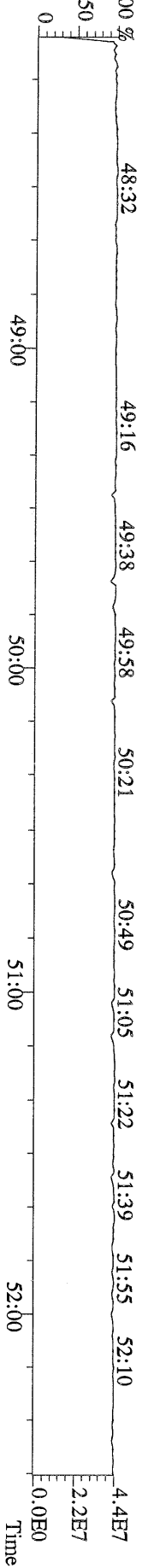
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469.7780 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
471.7750 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



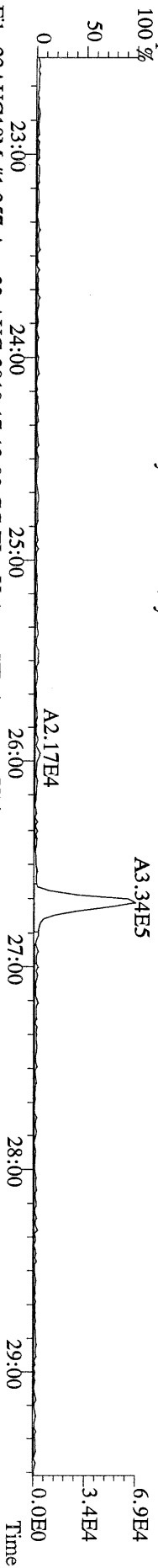
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Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



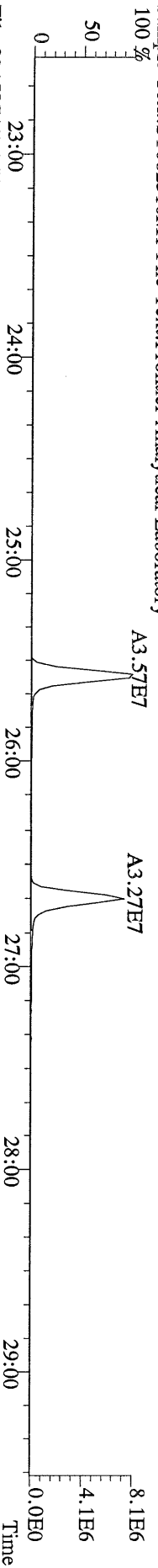
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



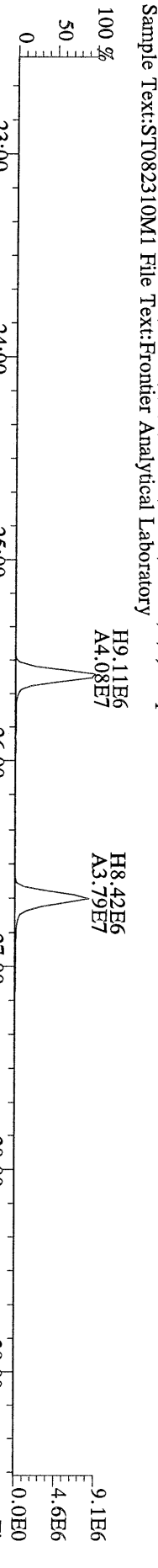
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



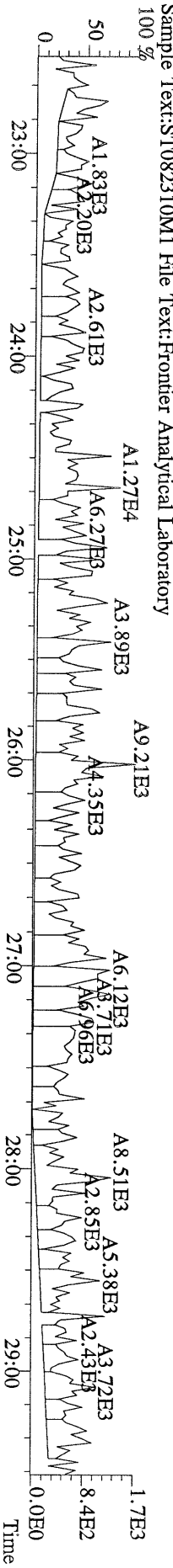
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



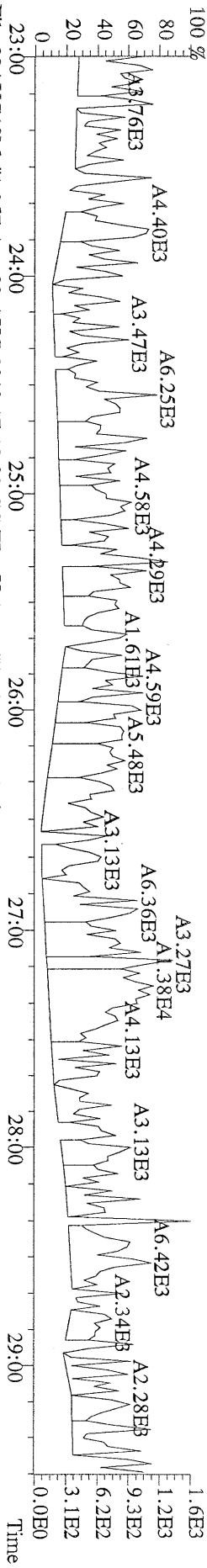
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 317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



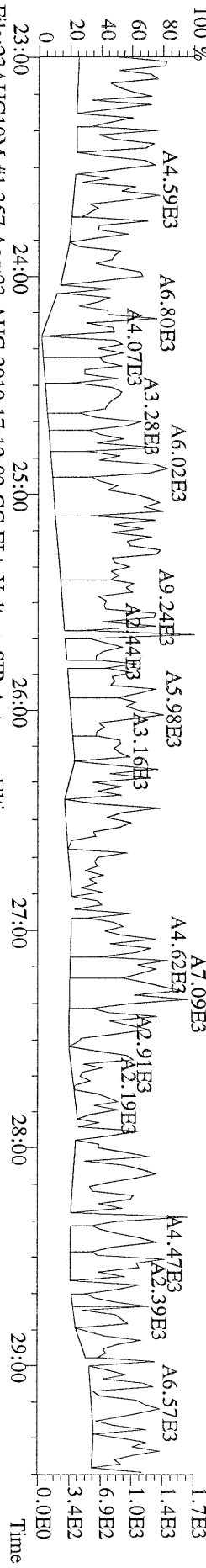
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 375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



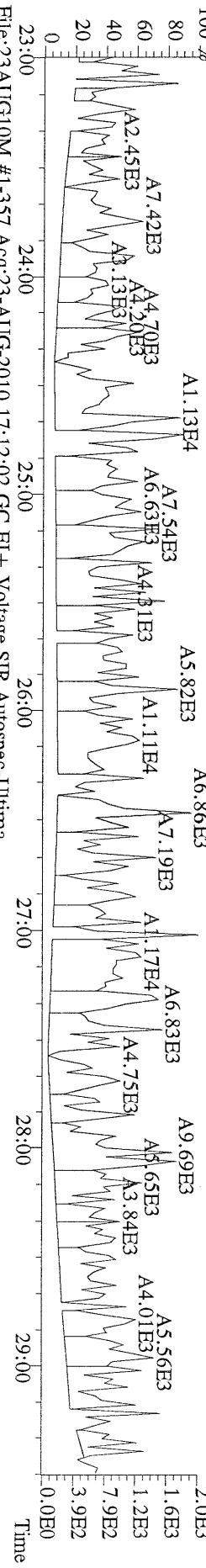
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



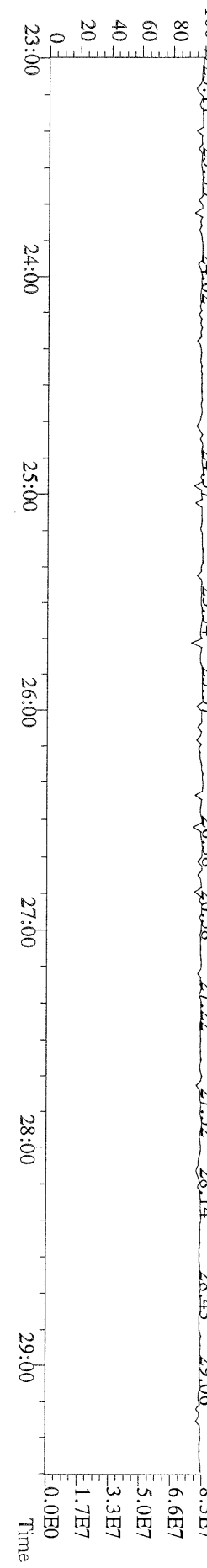
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
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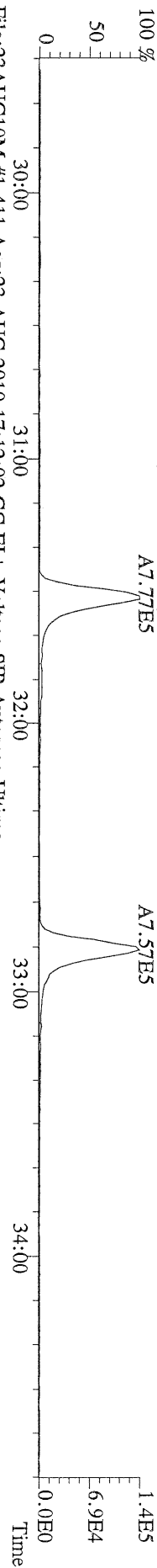
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



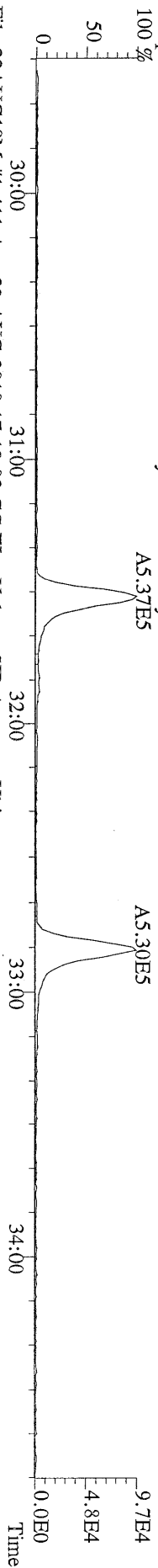
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 330.9792 S:4 Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



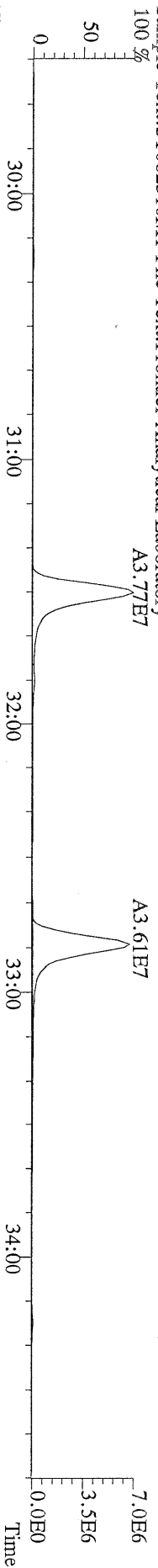
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 339,8597 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



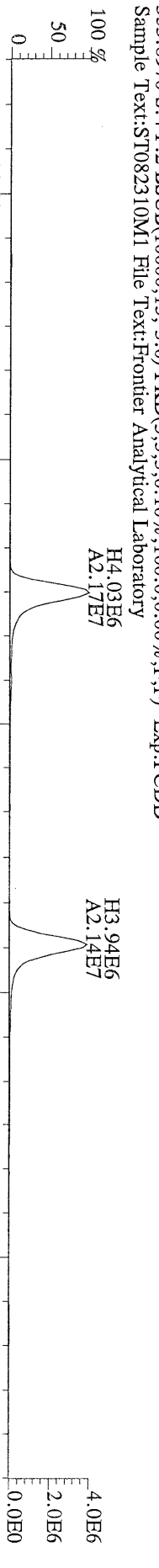
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 341,8568 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



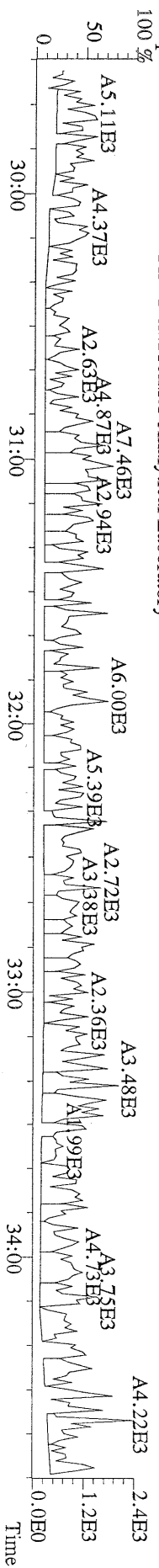
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 351,9000 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



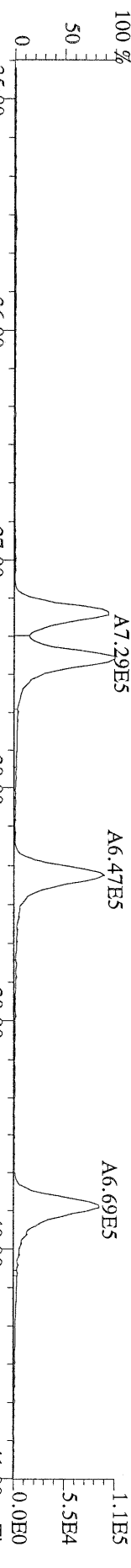
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 353,8970 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



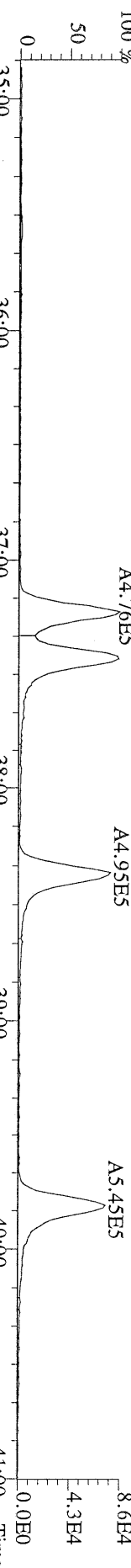
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 409,7974 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



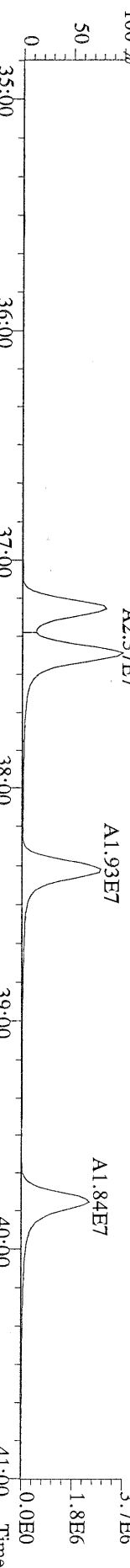
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory



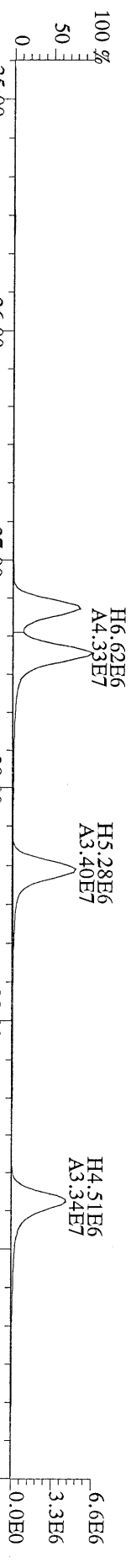
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory



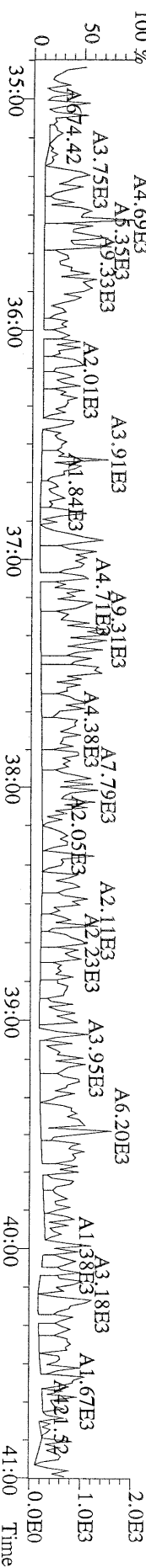
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 383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory



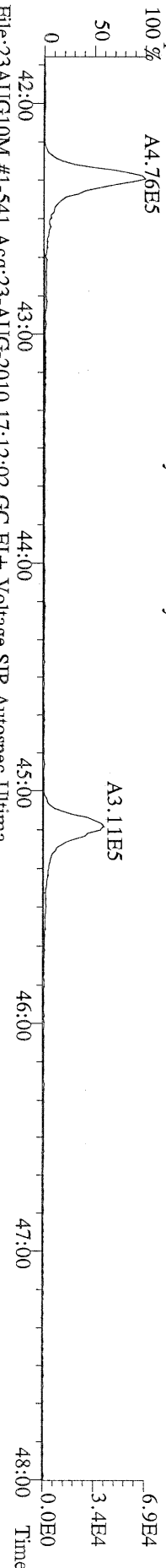
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 385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory



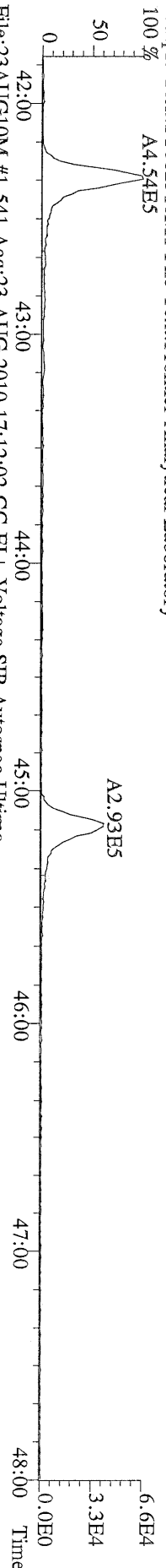
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory



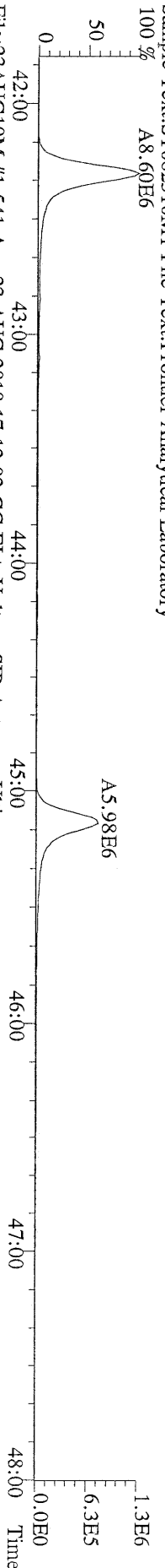
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
407.7818 S:4 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 % A4.76E5



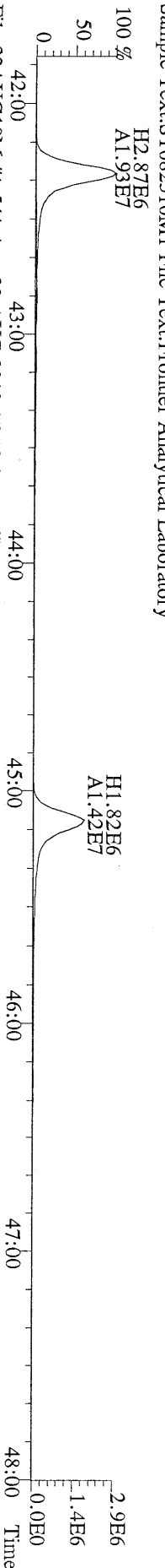
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
409.7788 S:4 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 % A4.54E5



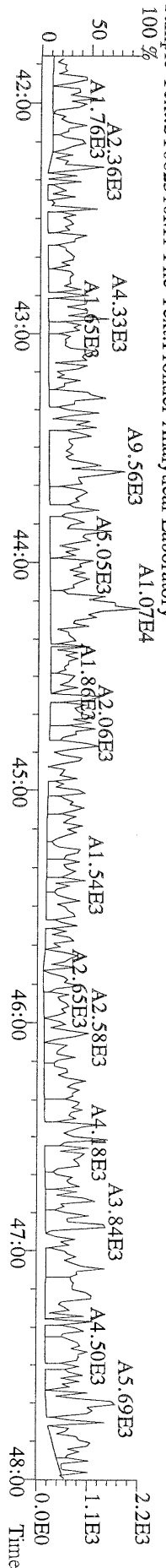
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
417.8253 S:4 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 % A8.60E6



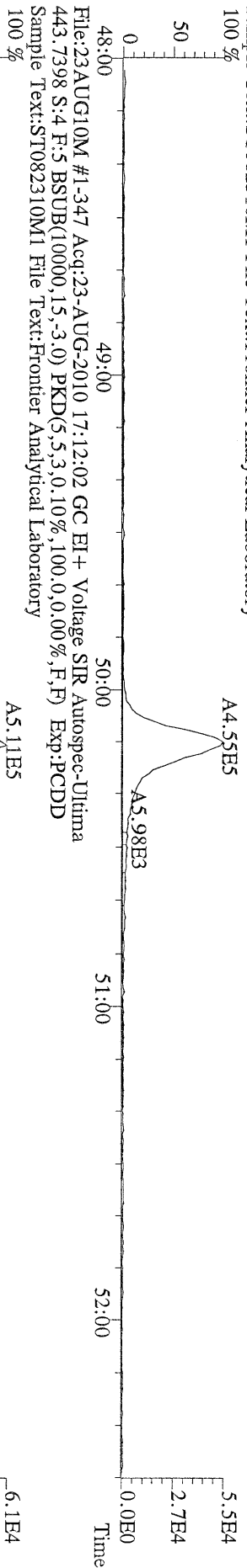
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
419.8220 S:4 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



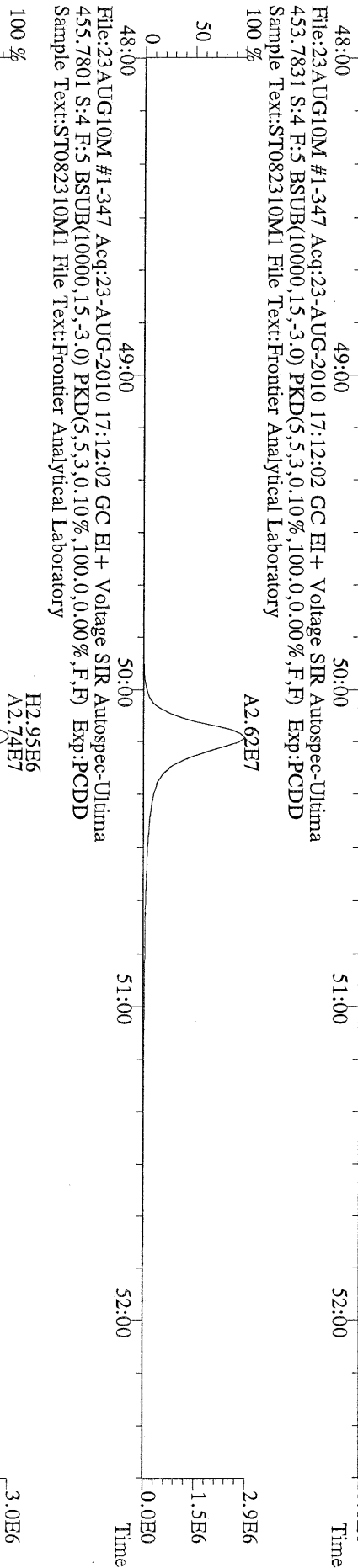
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
479.7165 S:4 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



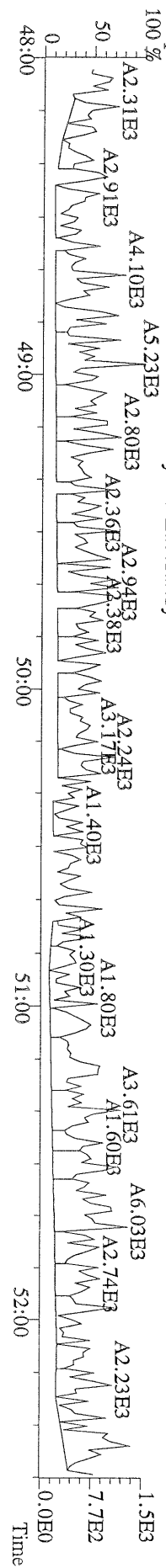
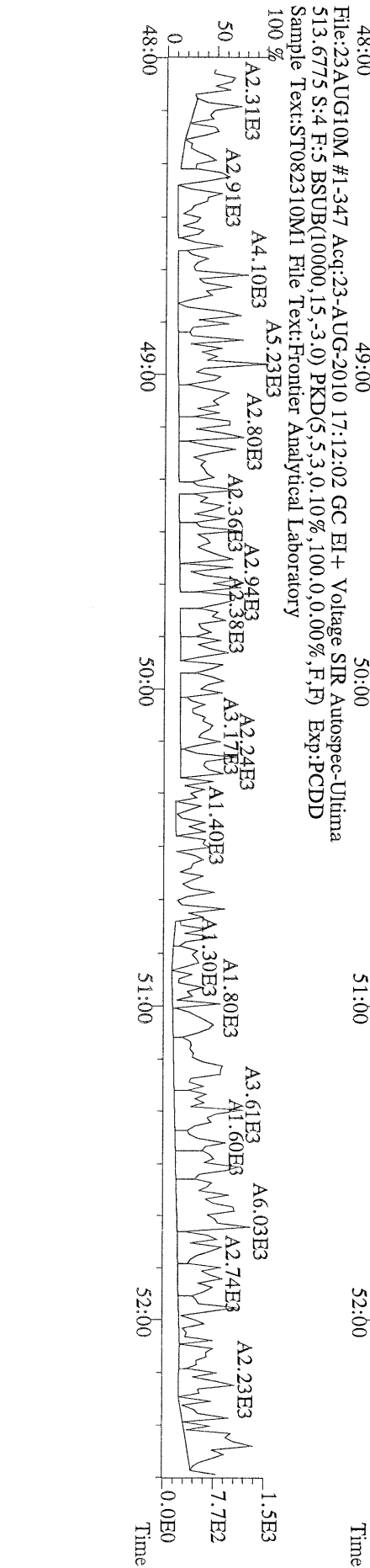
File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



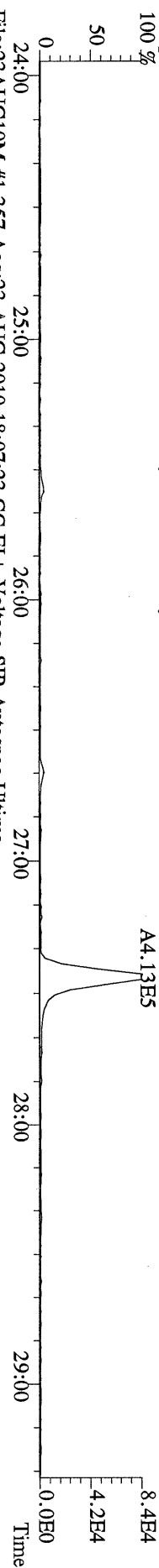
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443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



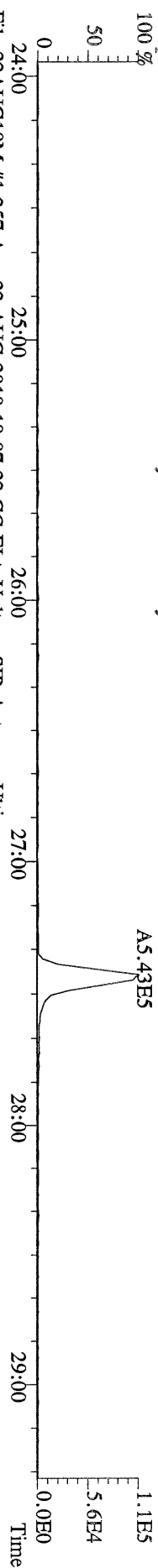
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455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



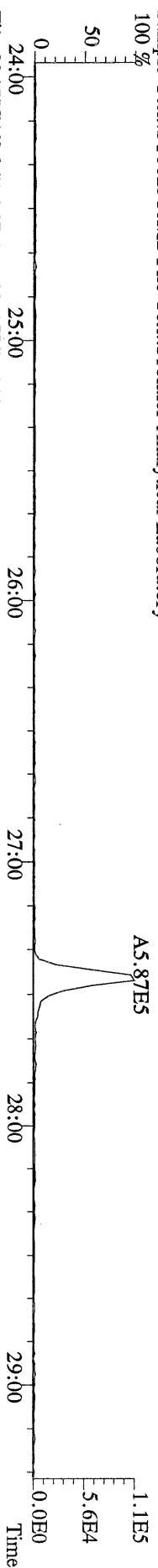
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
319.8965 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



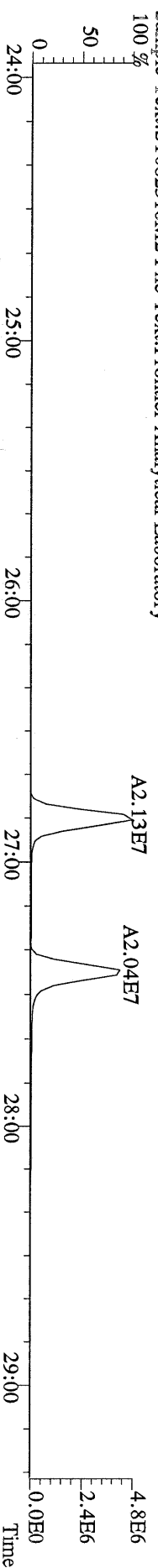
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
321.8936 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



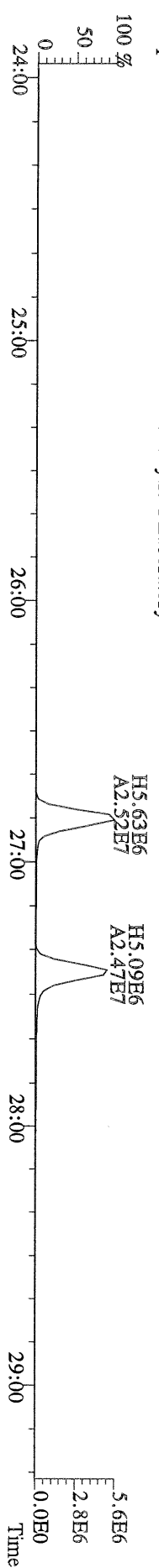
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327.8847 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
331.9368 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

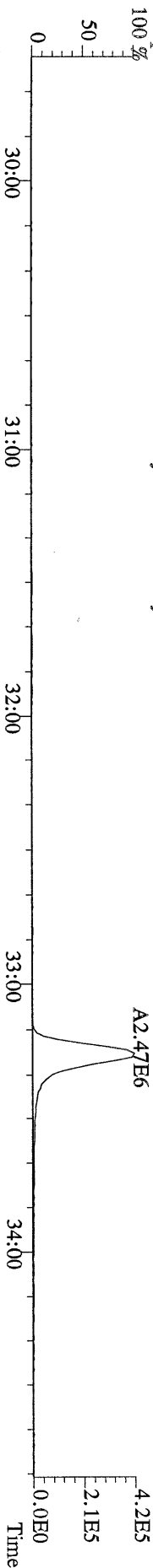


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333.9339 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

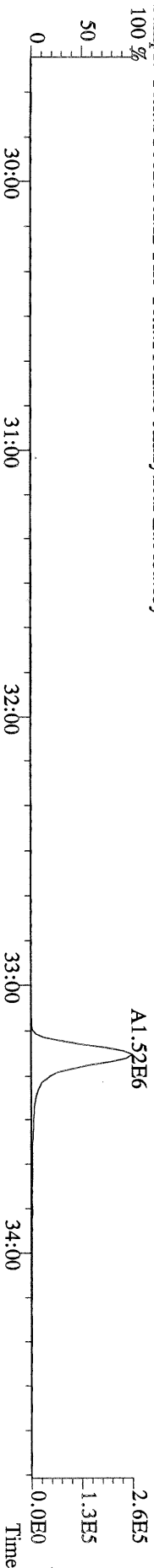




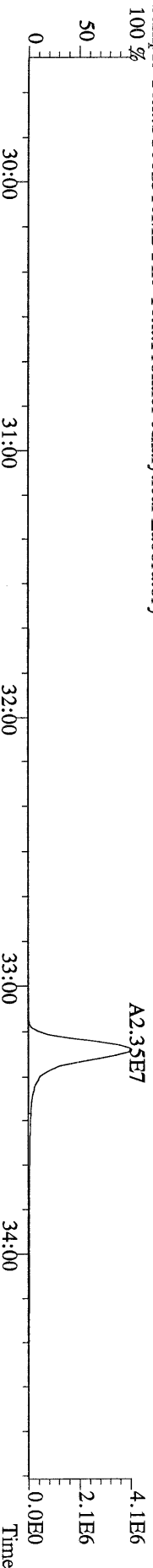
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
355,8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



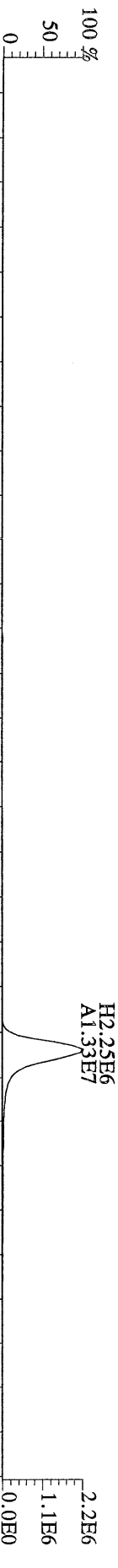
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357,8517 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



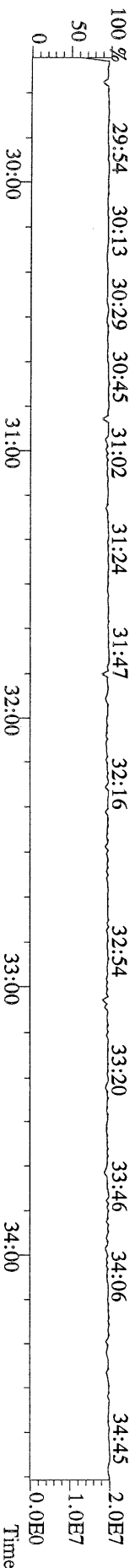
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
367,8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



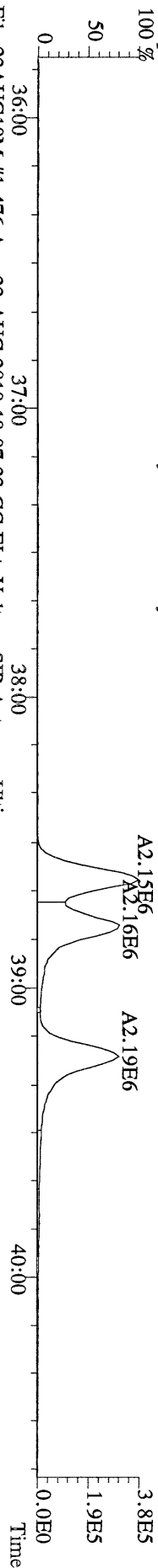
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369,8919 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



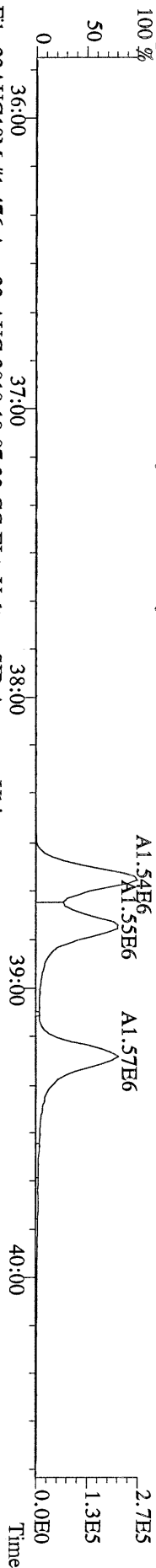
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
366,9792 S:5 F:2 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



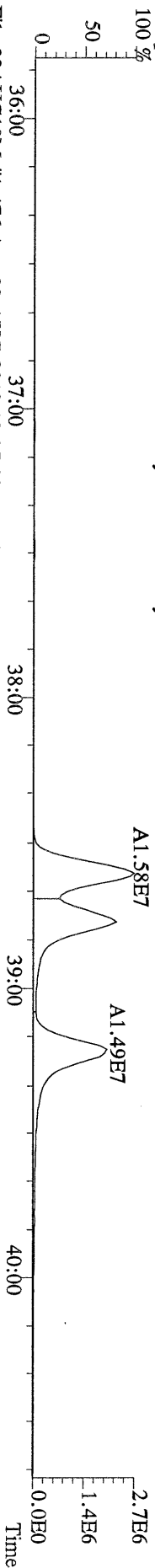
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ulima  
389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



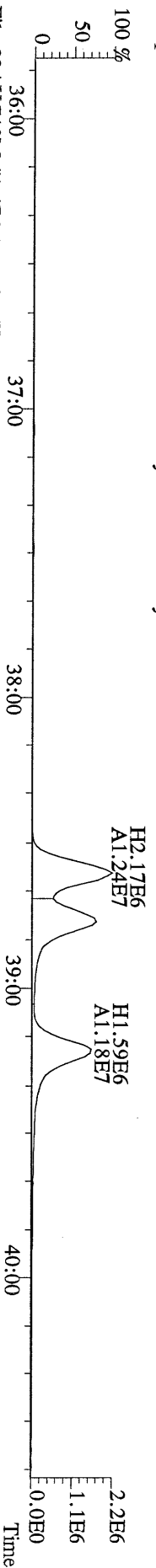
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ulima  
391.8127 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



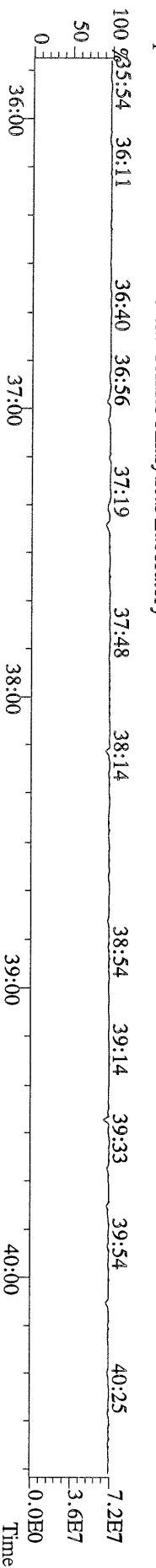
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ulima  
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



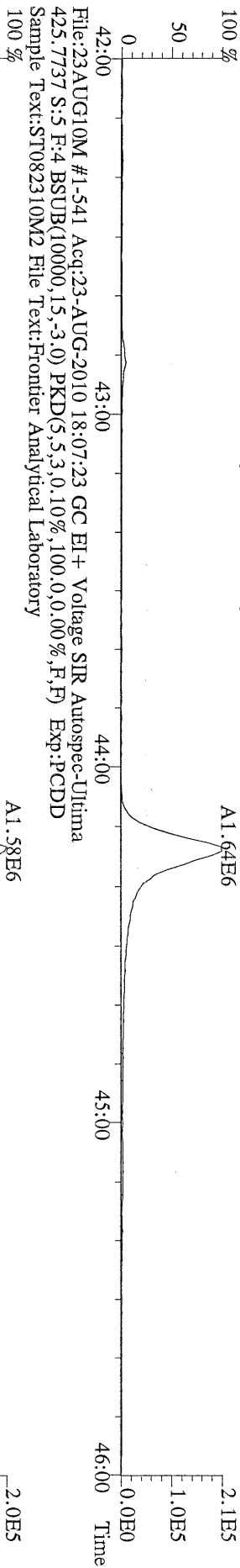
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403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



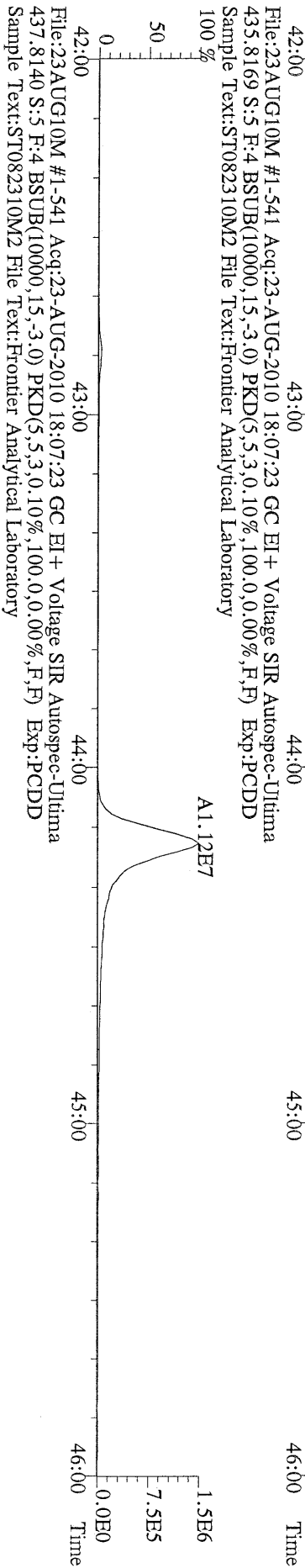
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ulima  
380.9760 S:5 F:3 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



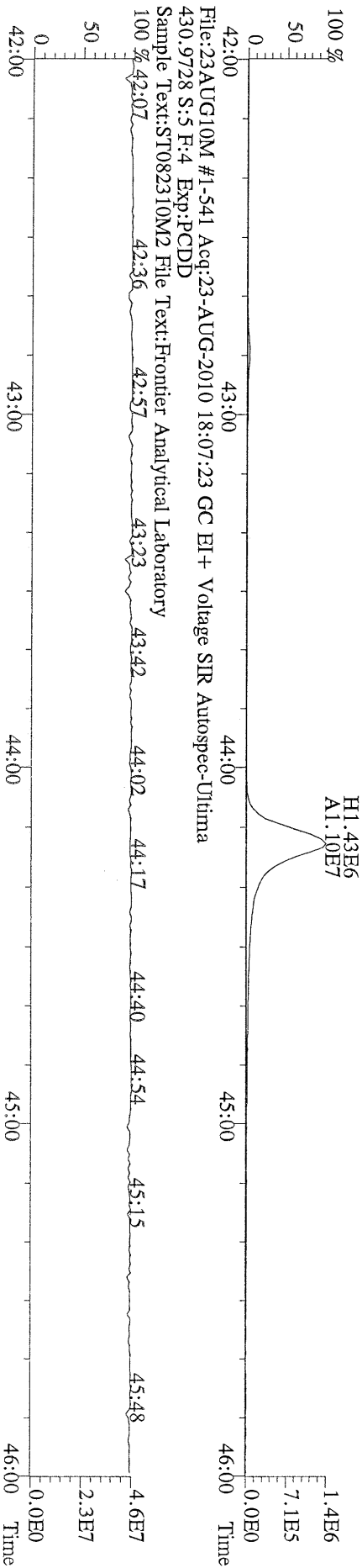
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utlima  
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



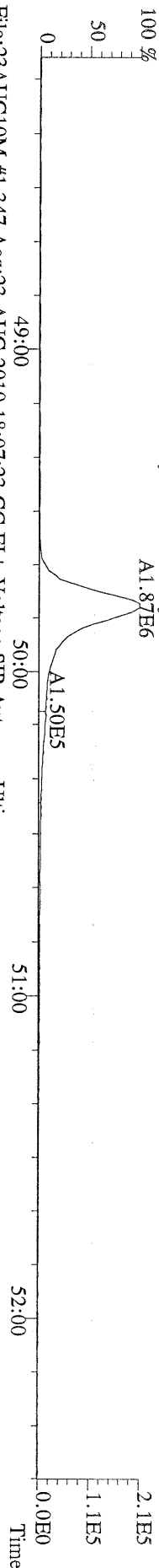
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435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



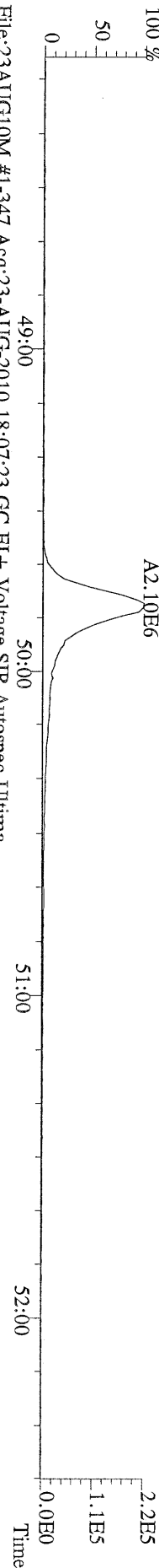
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utlima  
437.8140 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



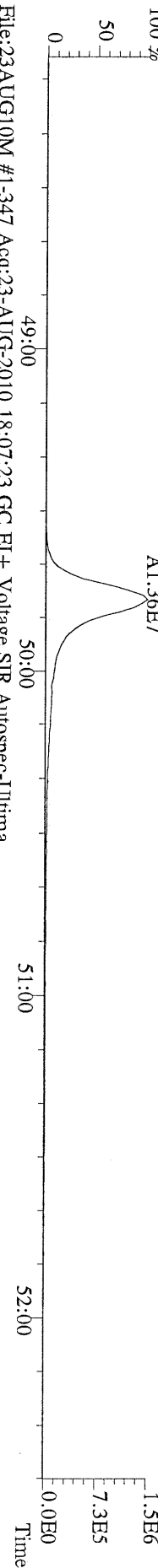
File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



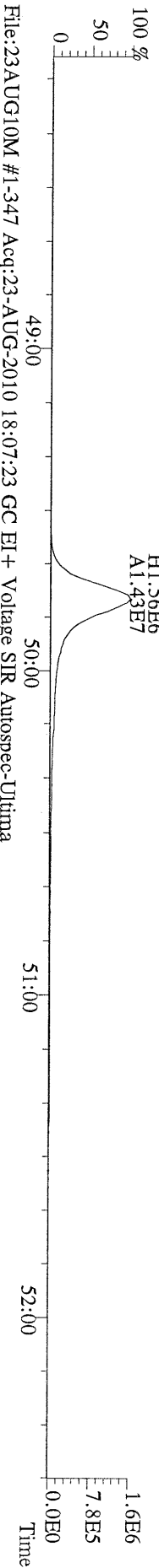
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459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



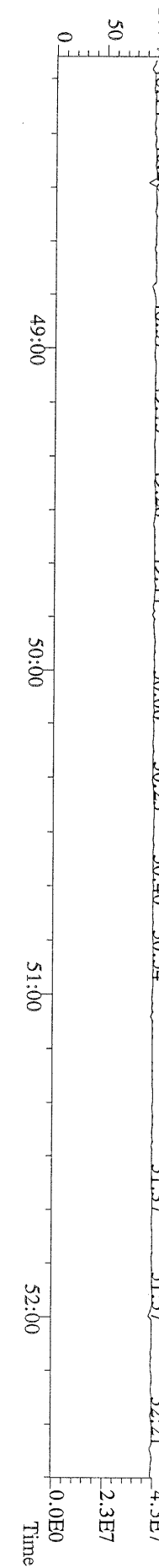
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469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



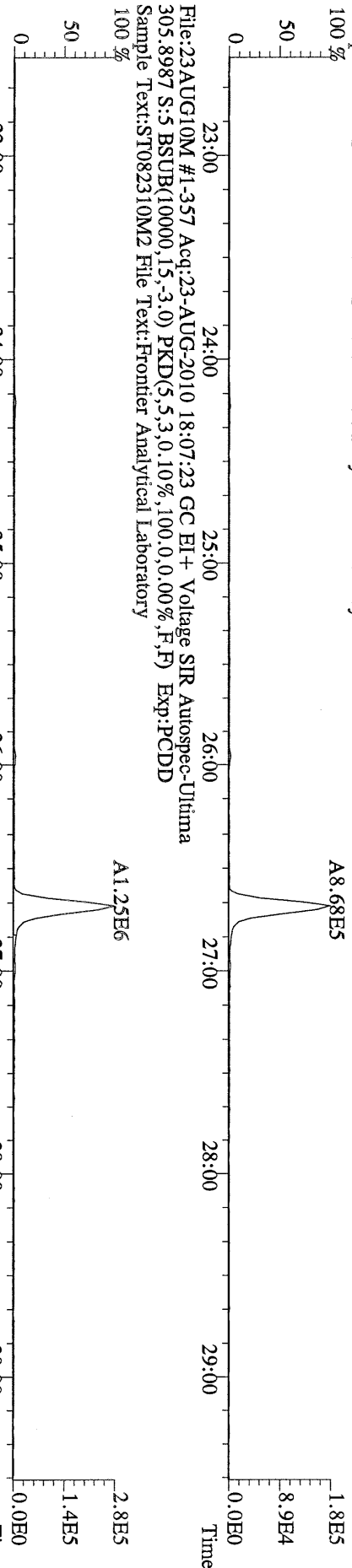
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Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



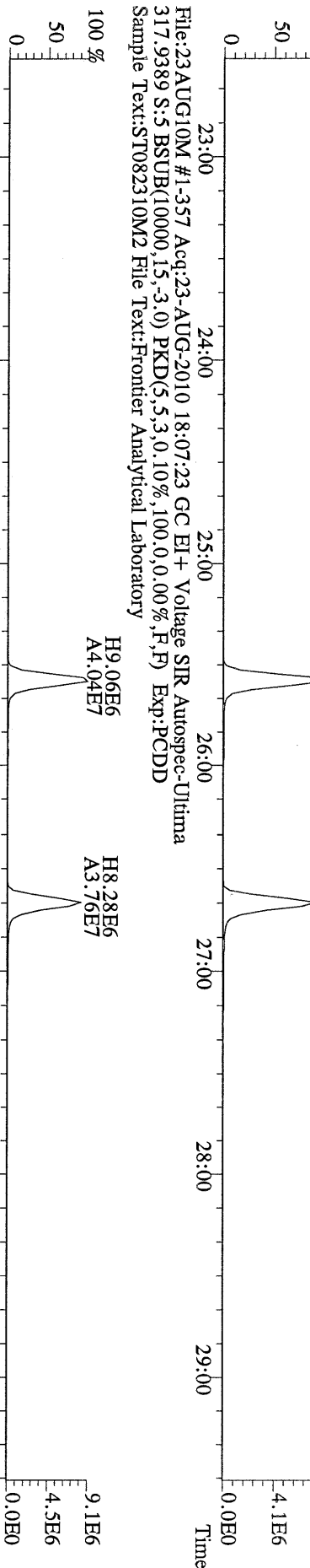
File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
454.9728 S:5 F:5 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



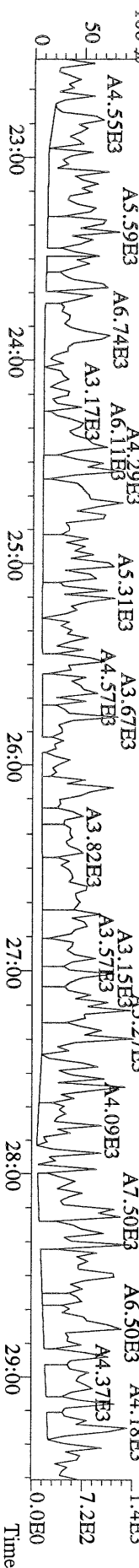
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303.9016 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
315.9419 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



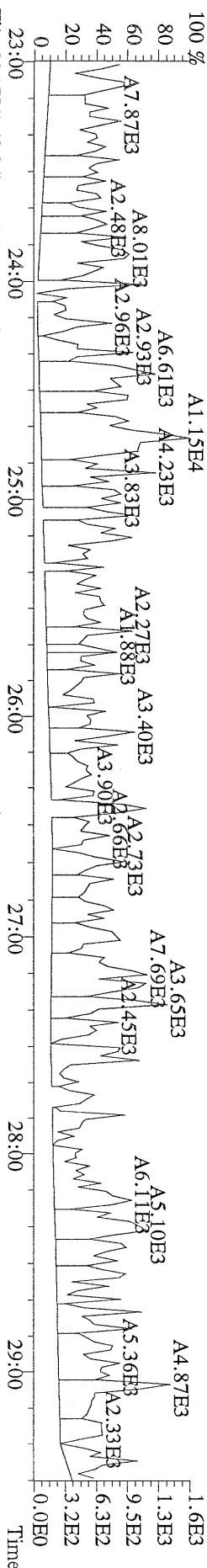
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317.9389 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



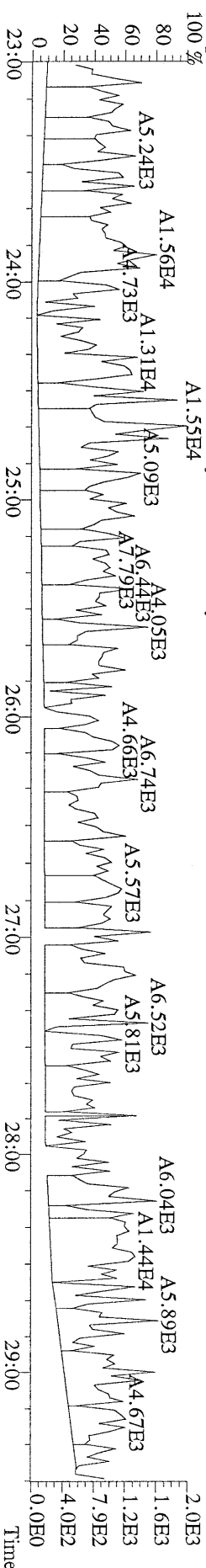
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375.8364 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



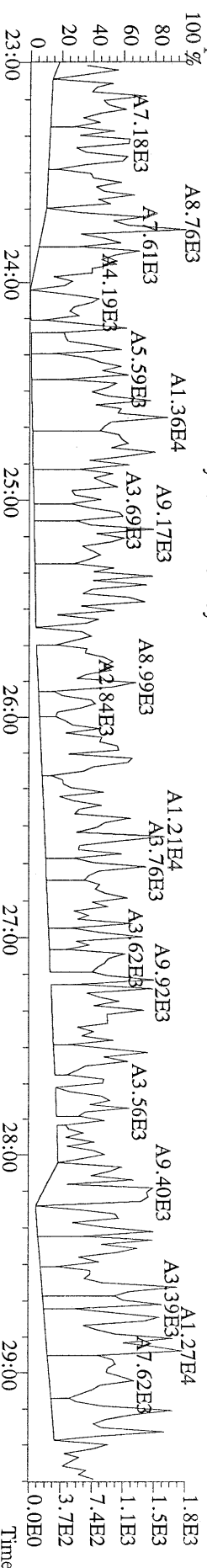
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



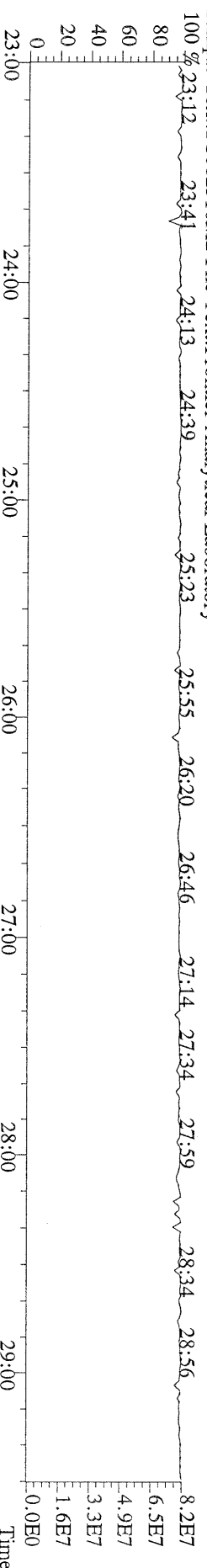
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
 341.8568 S:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



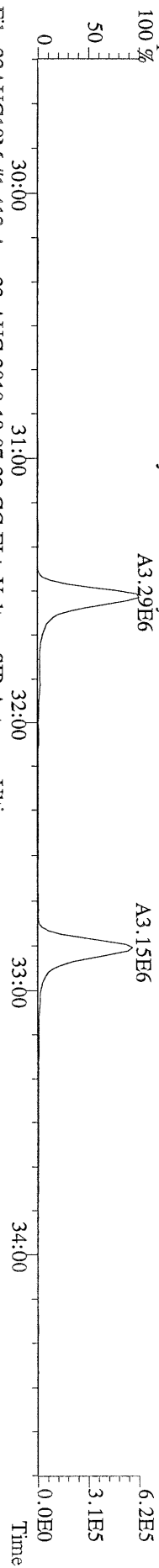
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
 409.7974 S:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



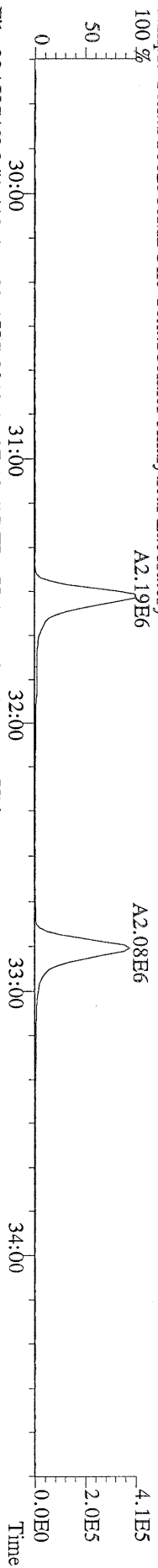
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
 330.9792 S:5 Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



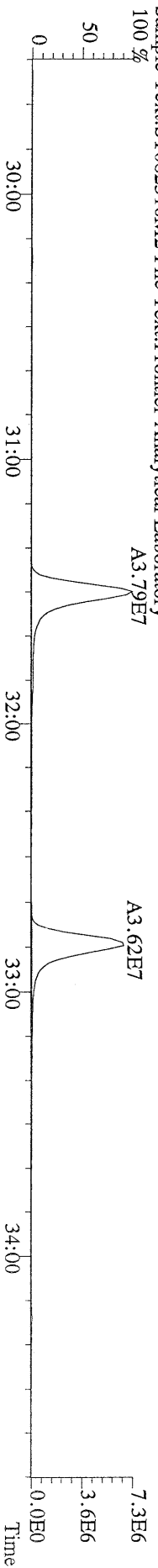
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339,8597 S:5 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



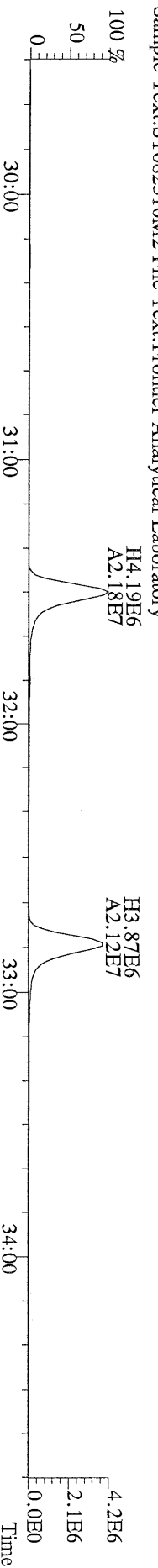
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
341,8568 S:5 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



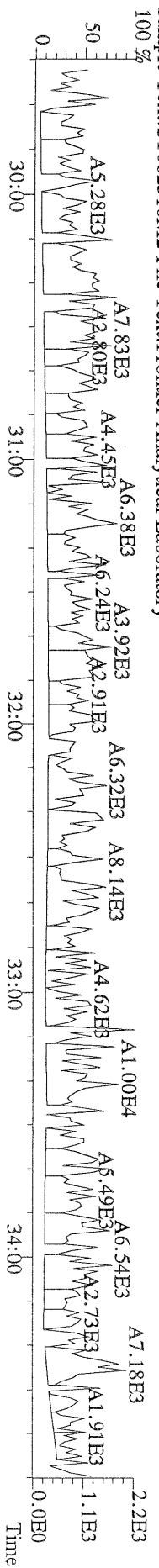
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351,9000 S:5 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



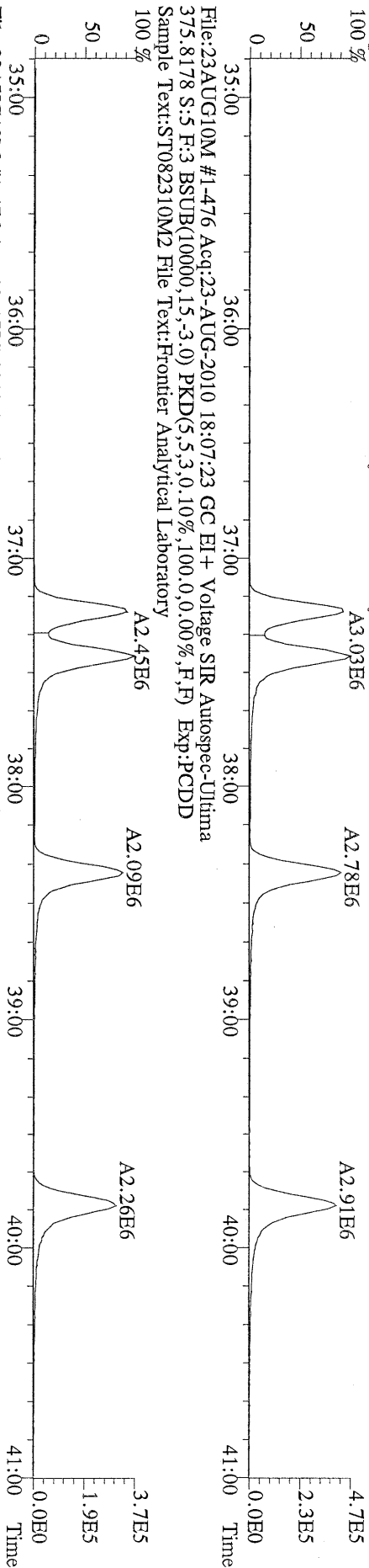
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353,8970 S:5 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



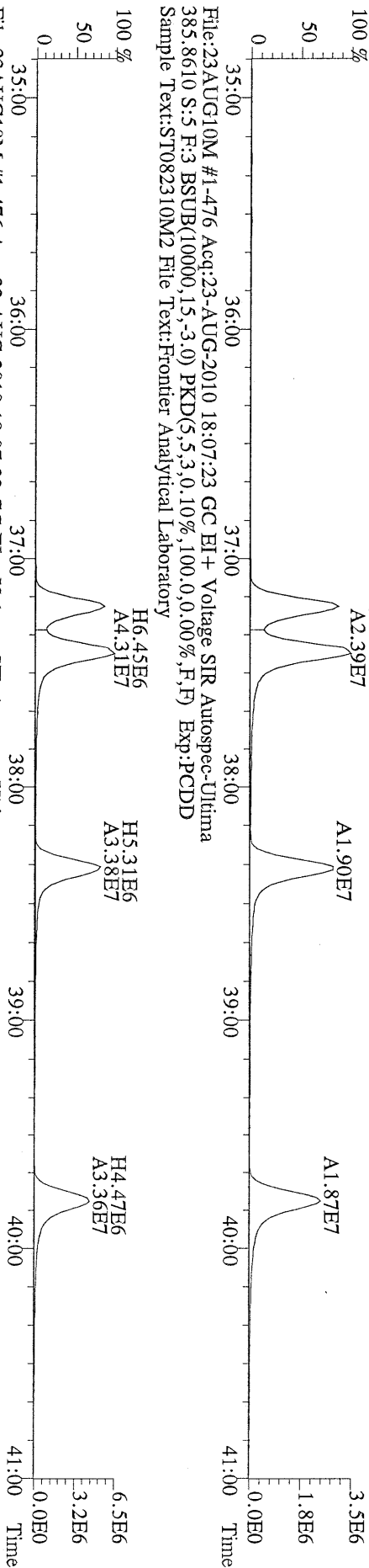
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409,7974 S:5 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



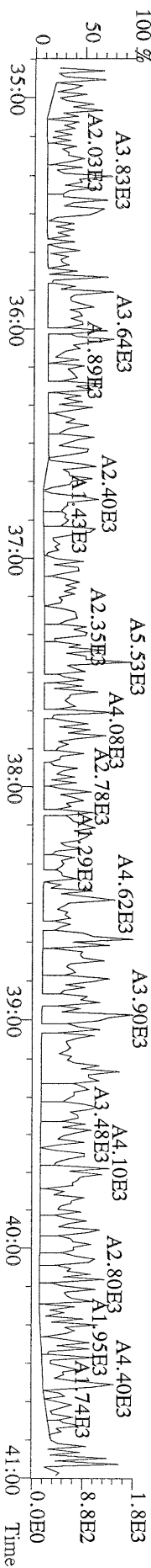
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373.8207 S:5 F:3 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
383.8639 S:5 F:3 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

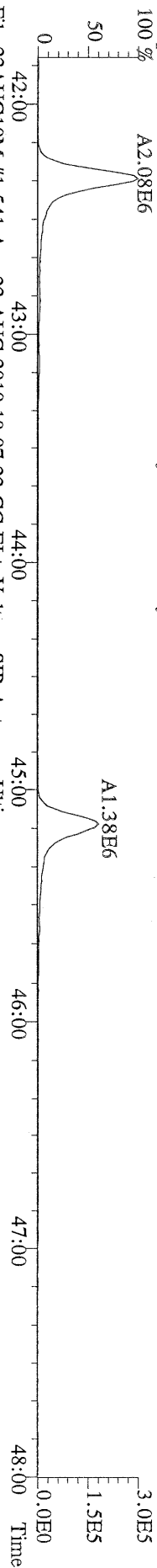


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445.7555 S:5 F:3 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

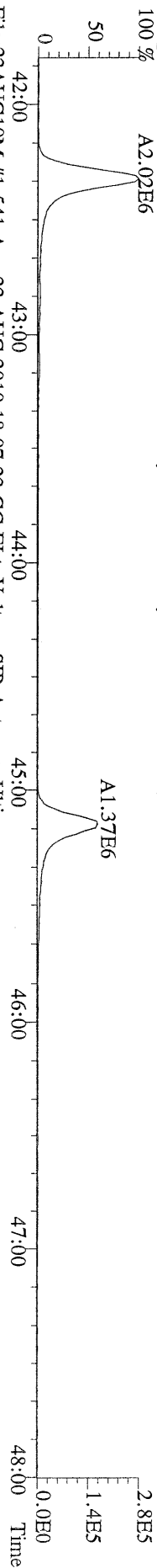




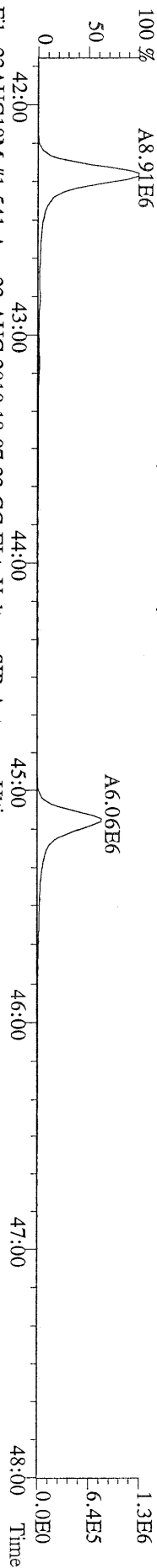
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



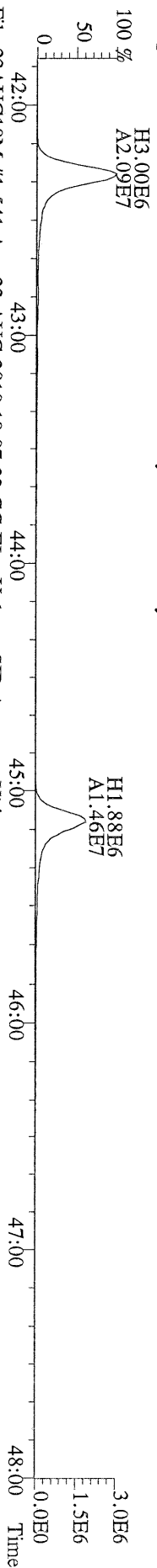
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409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



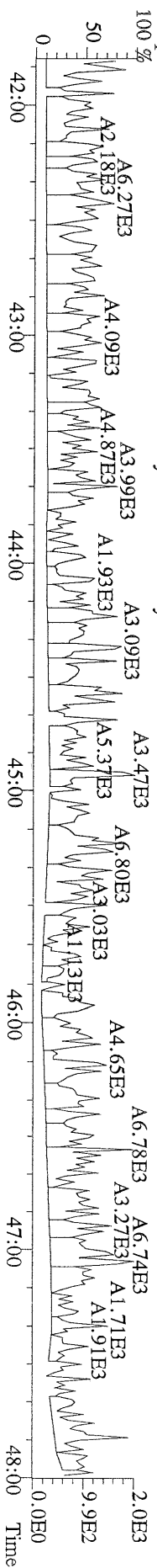
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417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



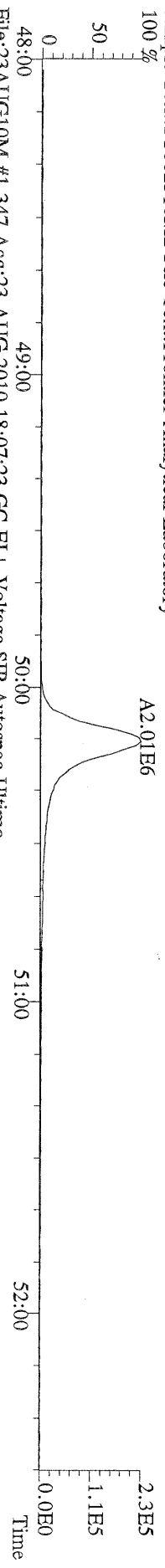
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419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



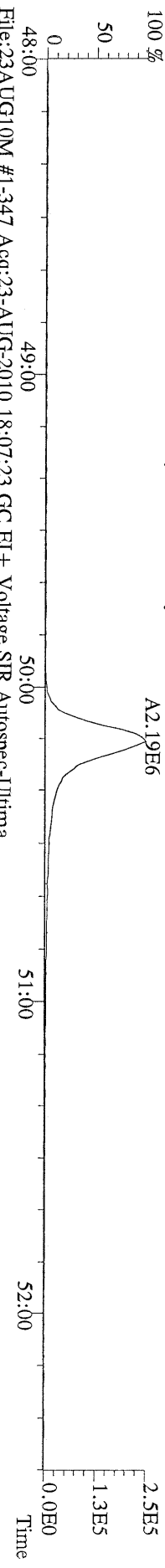
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479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



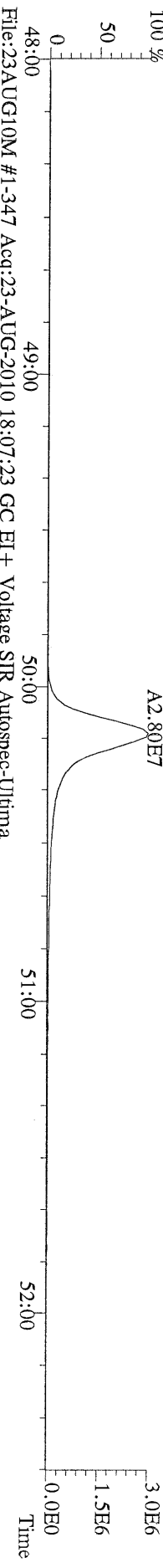
File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC BI+ Voltage SIR Autospec-Ultima  
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



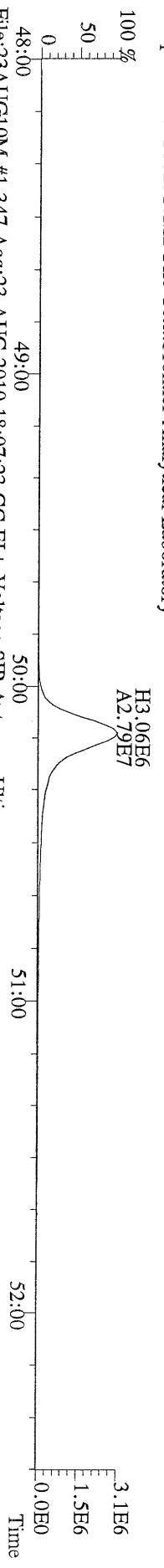
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443.7398 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



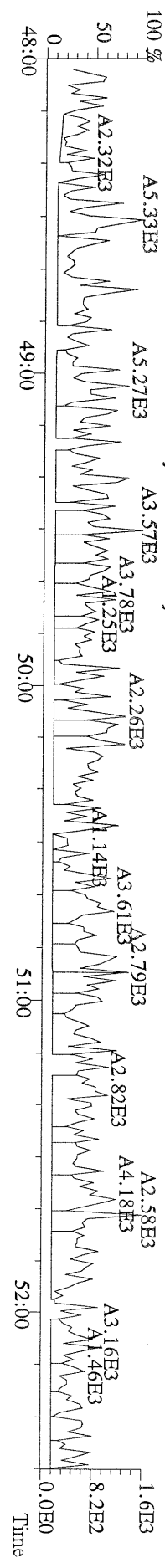
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453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



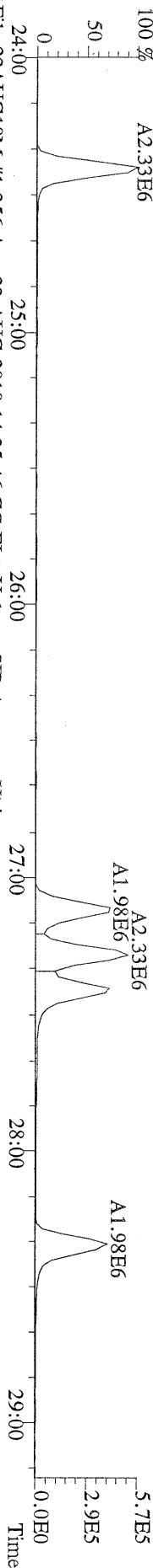
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455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



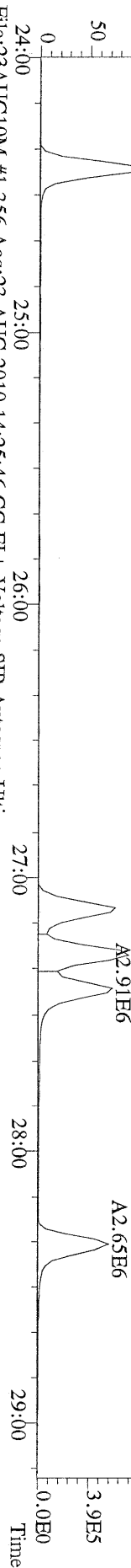
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513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



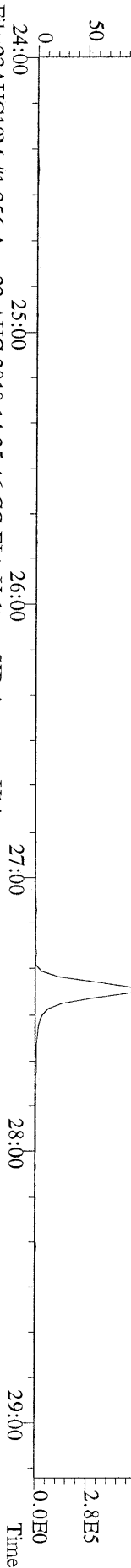
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



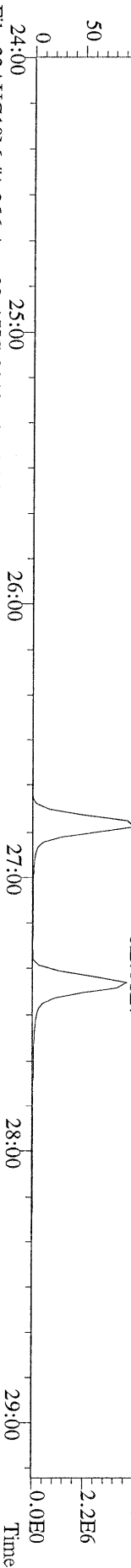
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321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



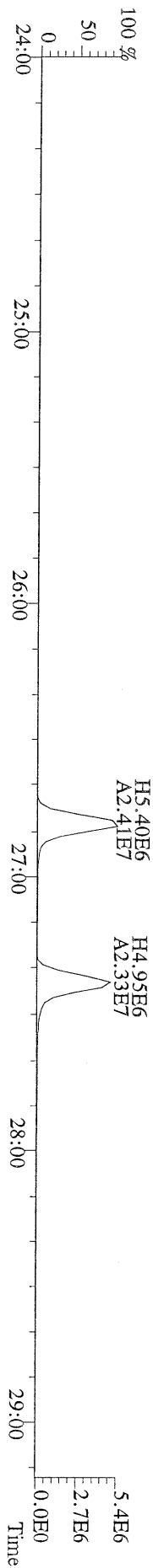
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327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



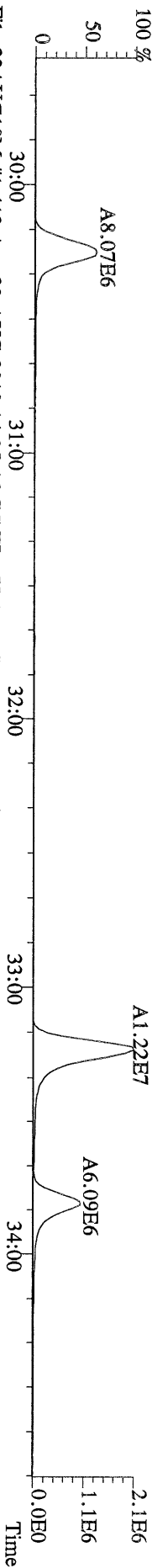
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331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



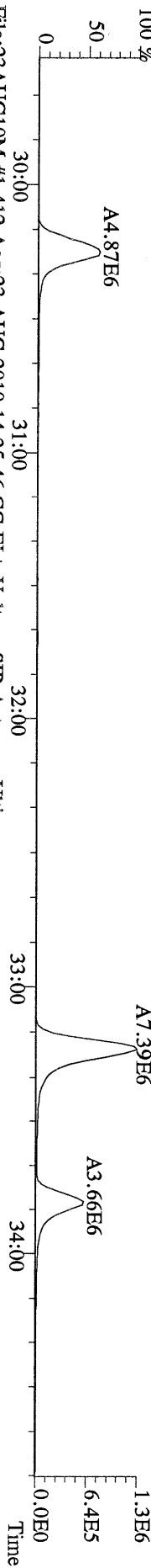
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333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



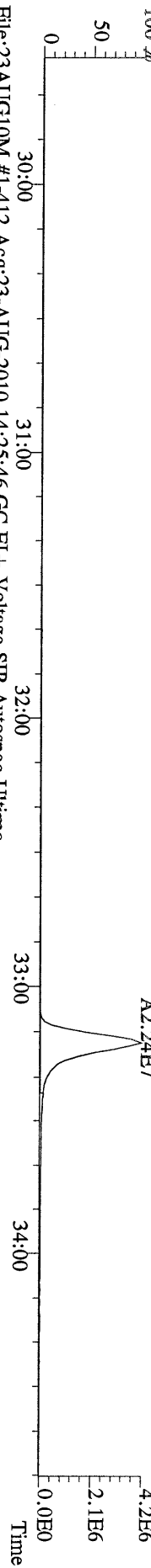
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



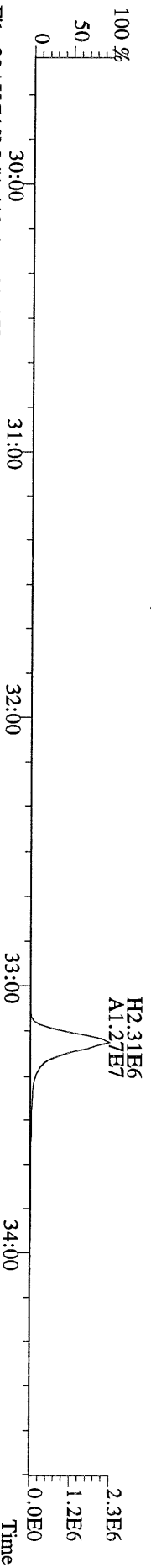
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357.8517 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



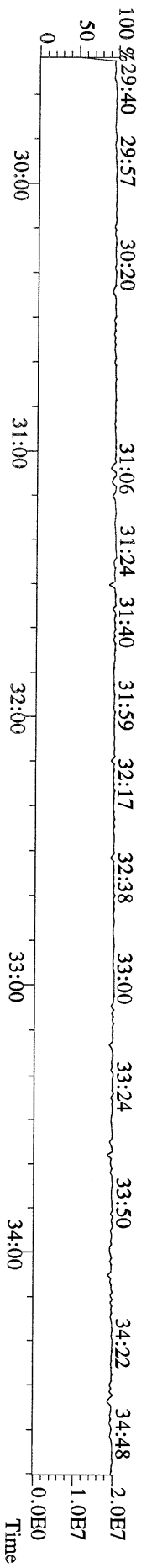
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



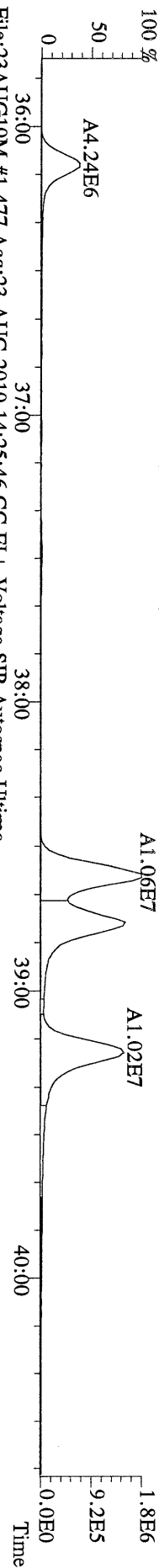
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369.8919 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



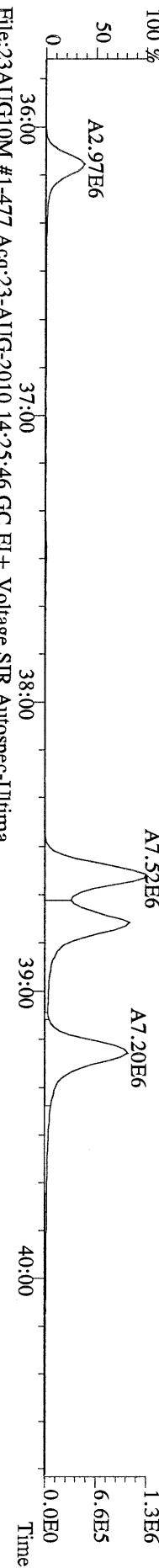
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366.9792 F:2 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



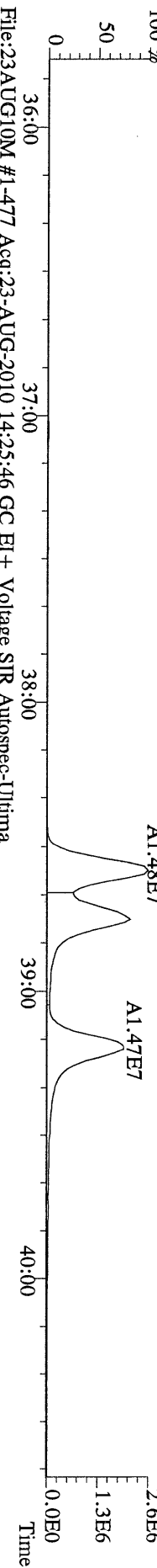
File:23AUG10M #1-477 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



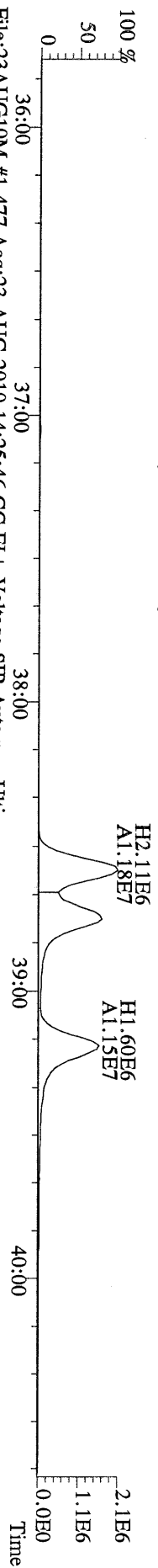
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391.8127 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



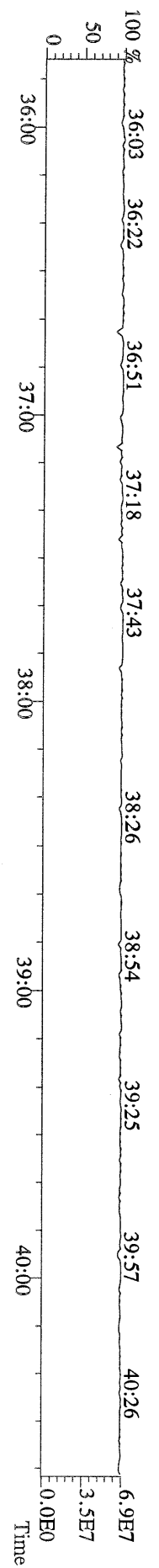
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401.8559 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



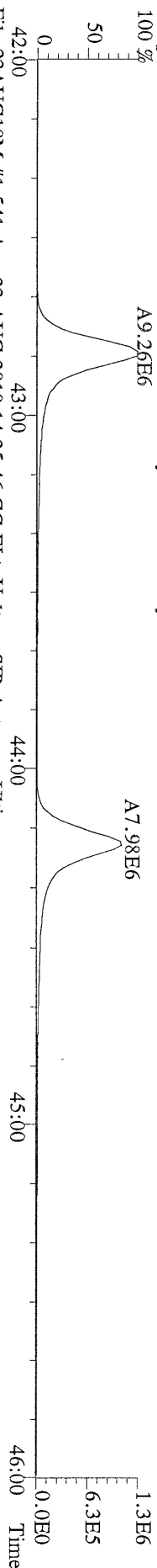
File:23AUG10M #1-477 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



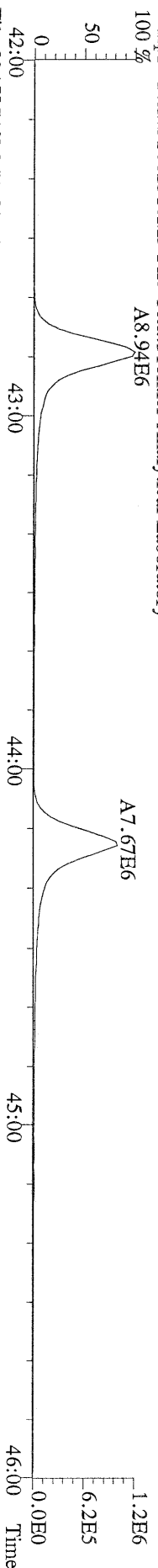
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380.9760 F:3 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



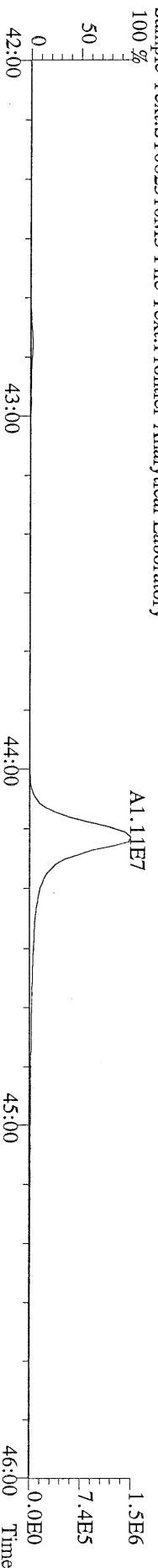
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utlima  
423.7767 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



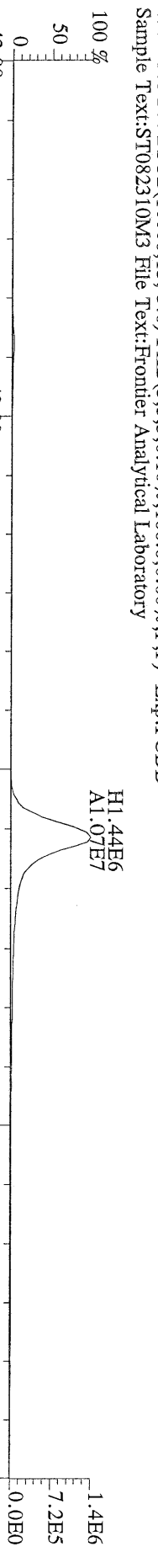
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utlima  
425.7737 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



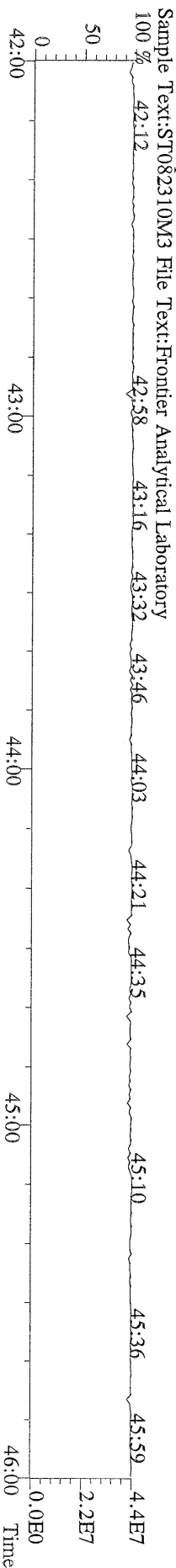
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utlima  
435.8169 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



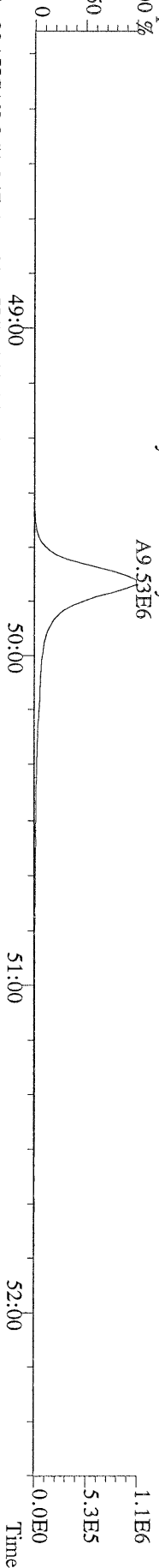
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utlima  
437.8140 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



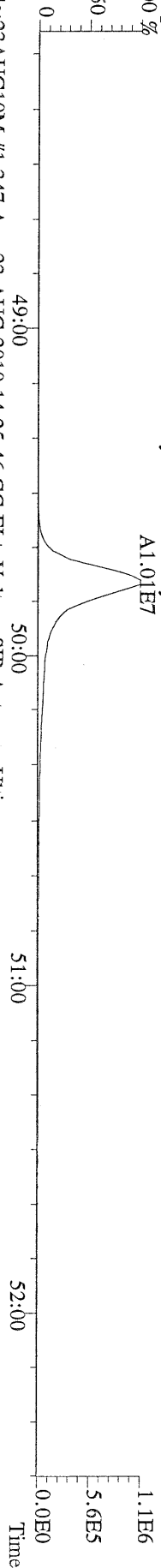
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utlima  
430.9728 F:4 Exp:PCDD



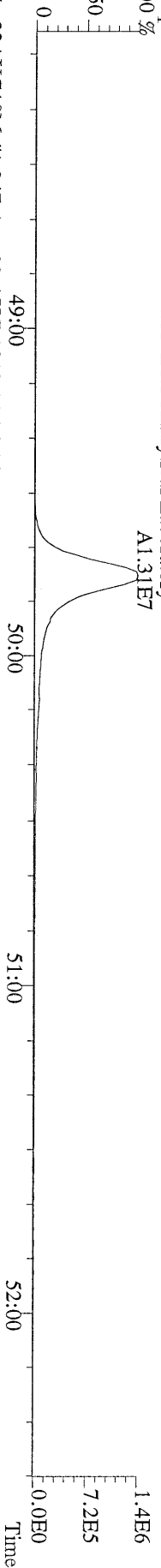
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC BI + Voltage SIR Autospec-Ultima  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory  
100 %  
A9.53E6



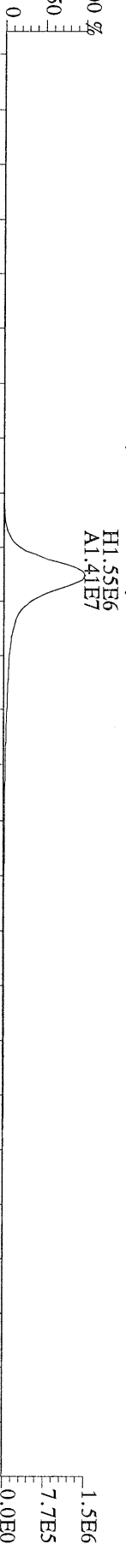
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459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory  
100 %  
A1.01E7



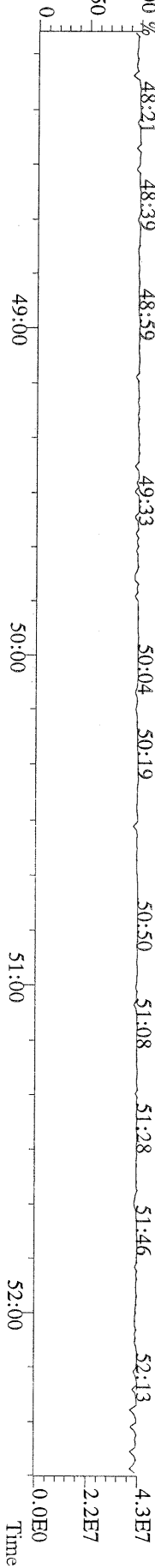
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469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory  
100 %  
A1.31E7



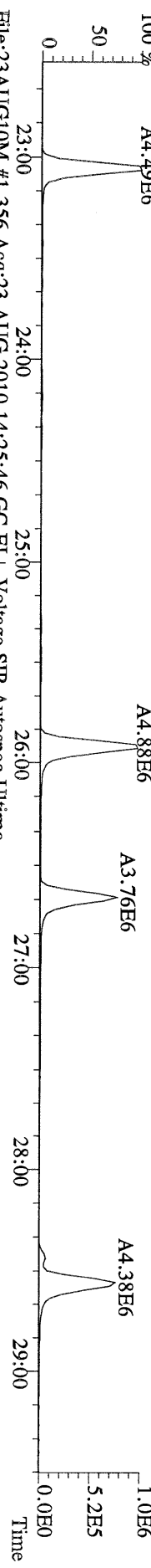
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471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



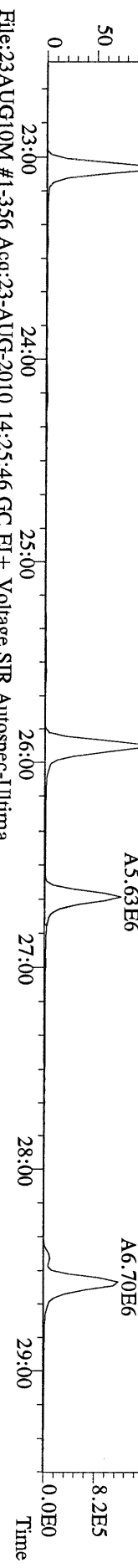
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC BI + Voltage SIR Autospec-Ultima  
454.9728 F:5 Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



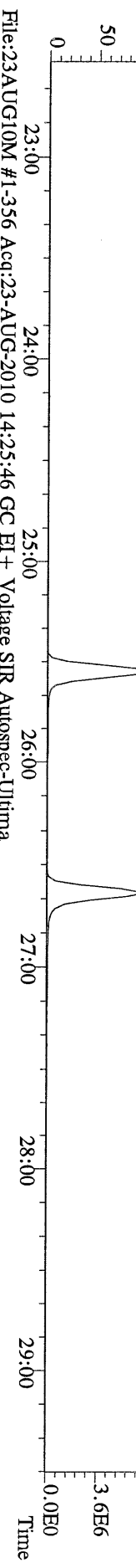
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:P:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



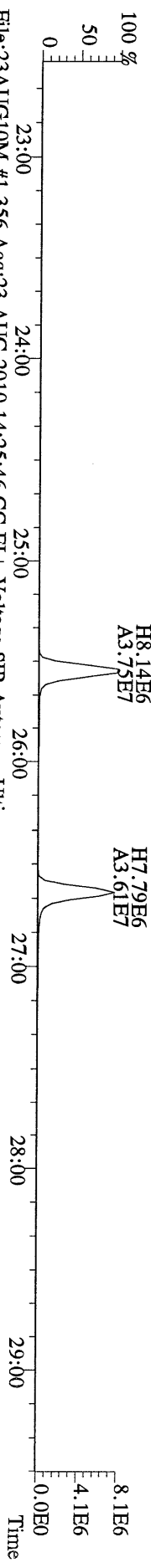
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:P:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



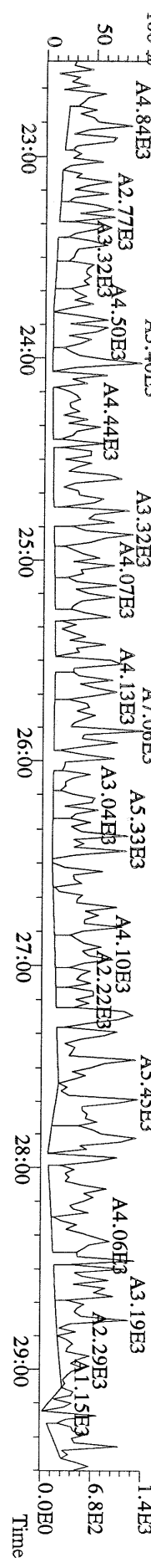
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:P:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:P:PCDD  
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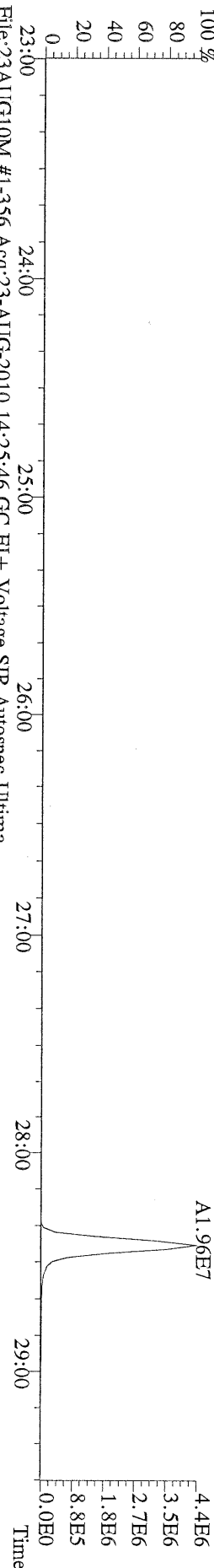


File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:P:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory

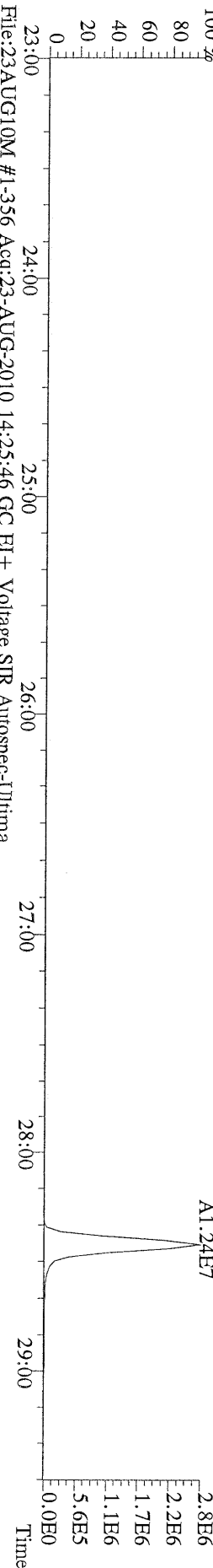




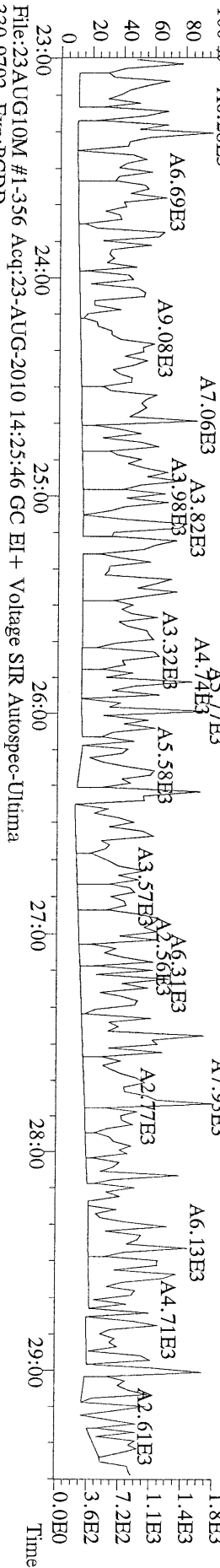
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



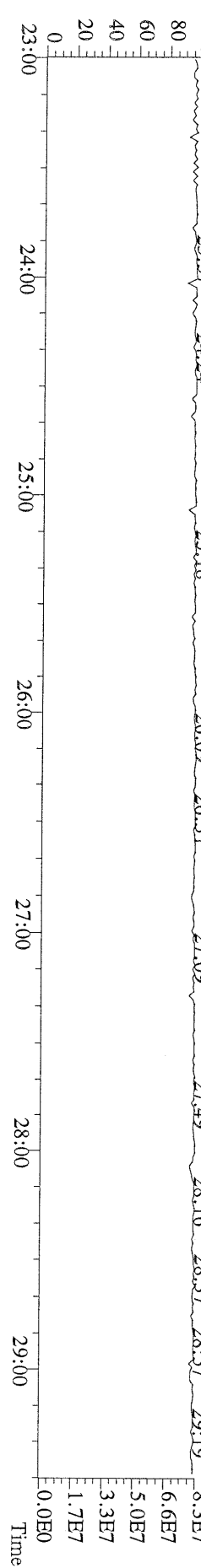
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



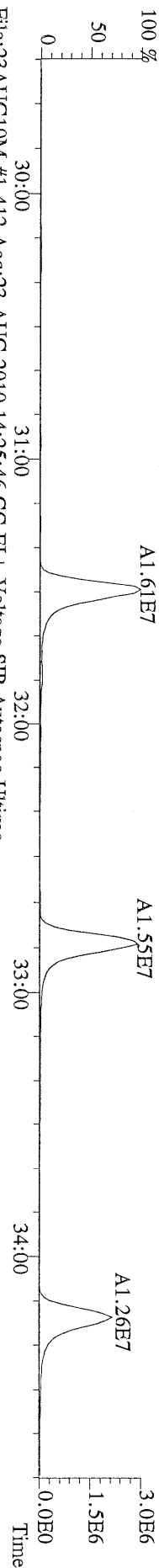
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



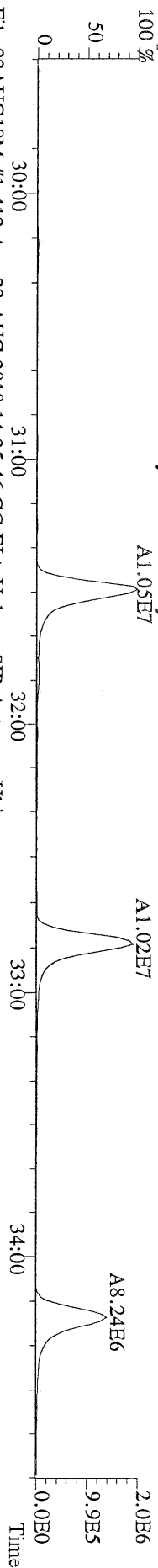
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 330.9792 Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



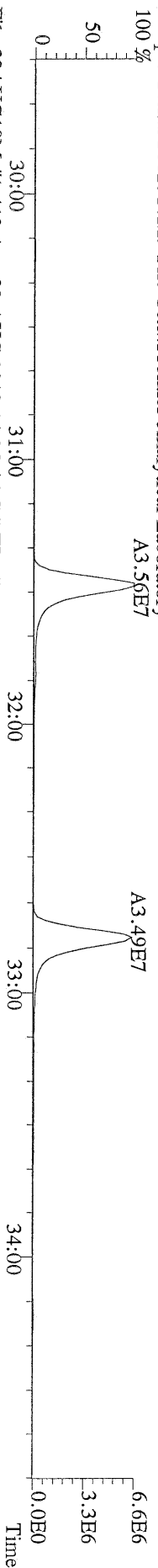
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



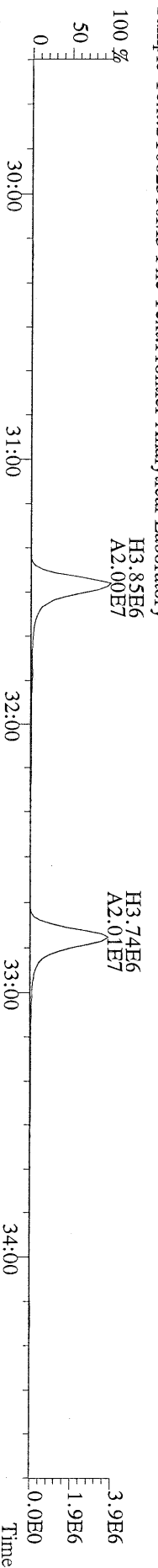
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
 341.8568 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



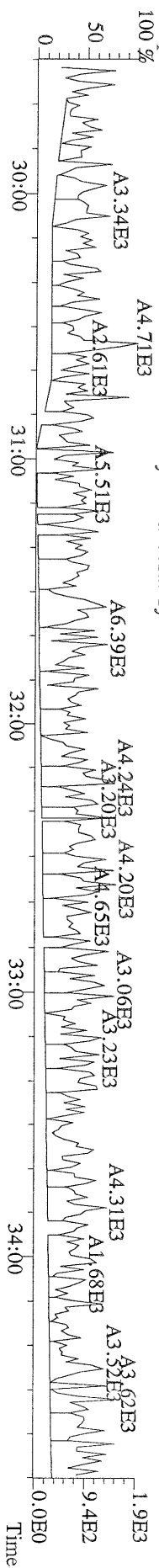
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
 351.9000 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



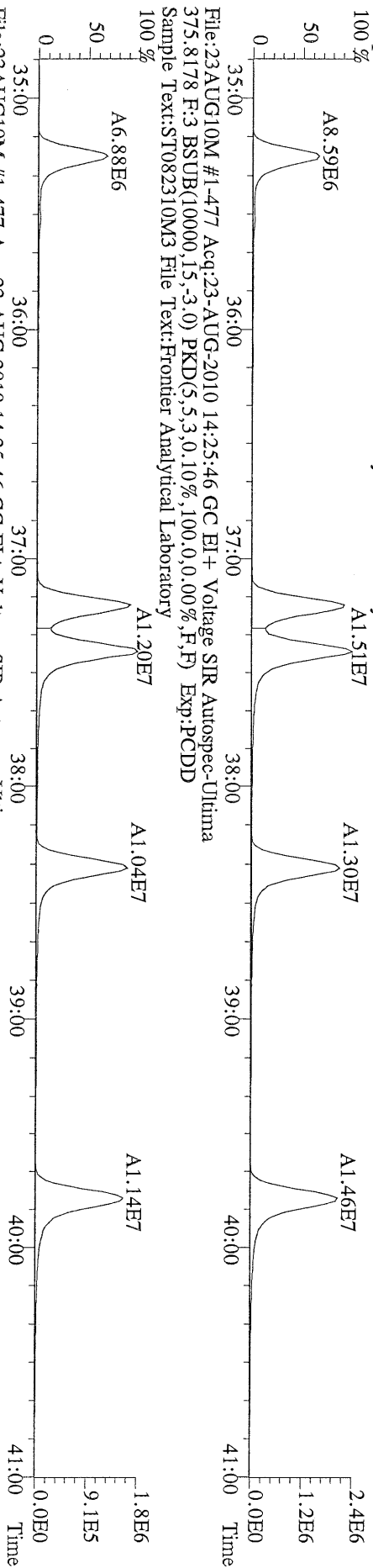
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
 353.8970 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



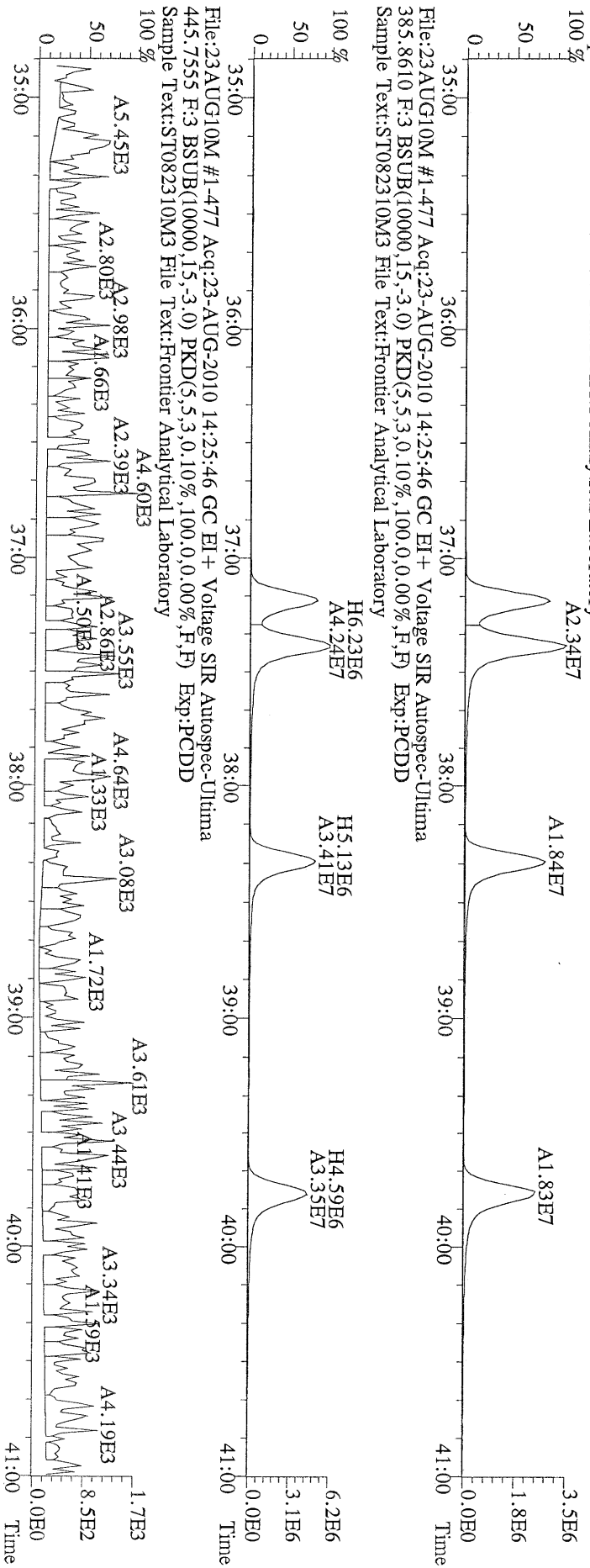
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
 409.7974 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



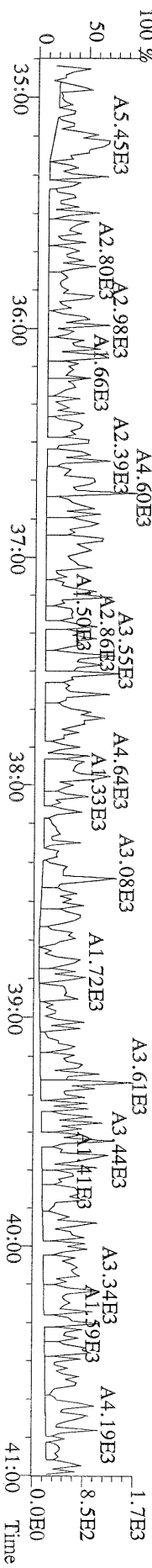
File:23AUG10M #1-477 Acq:23-AUG-2010 14:25:46 GC EI + Voltage SIR Autospec-Ultima  
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



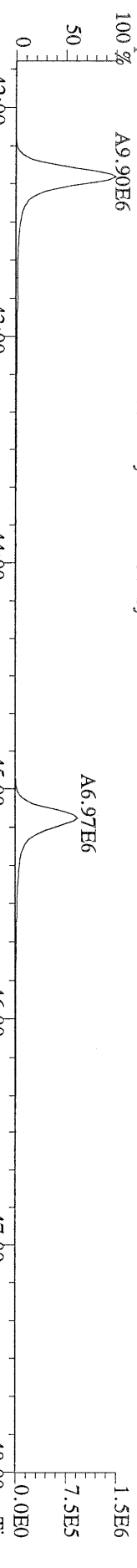
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383.8639 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



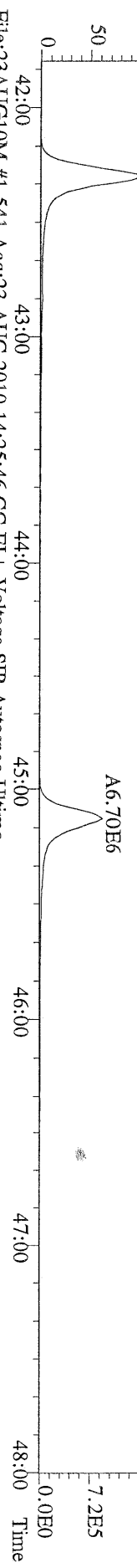
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445.7555 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



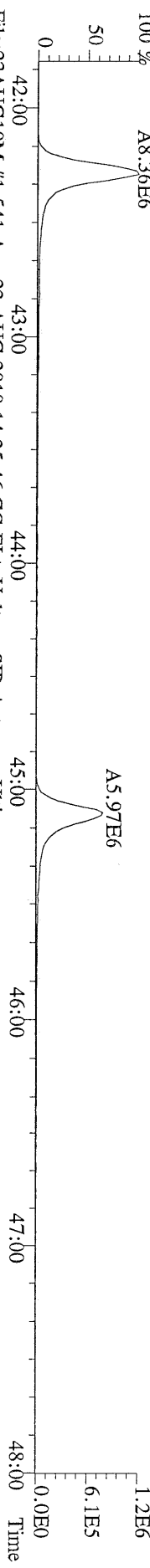
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



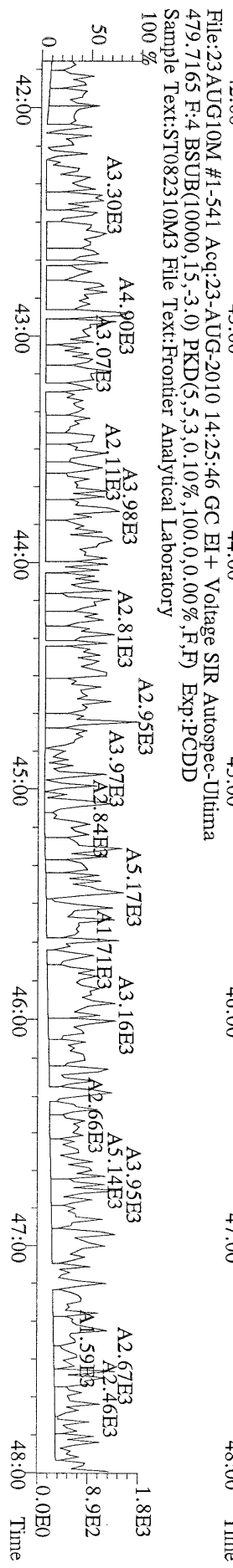
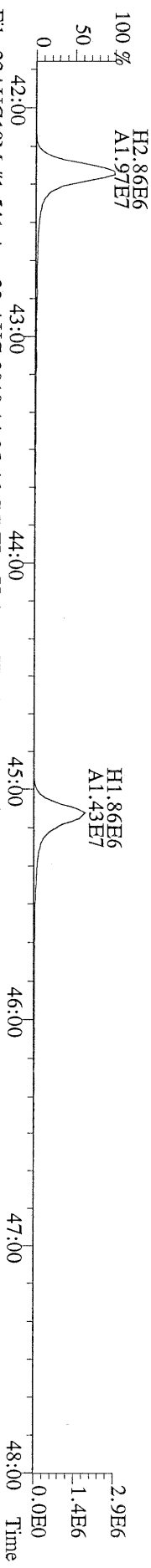
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409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



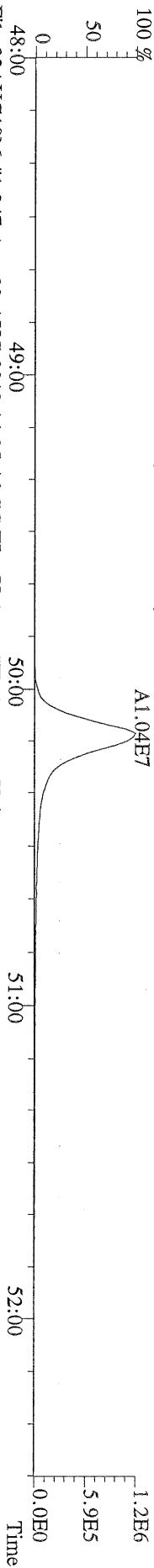
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417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



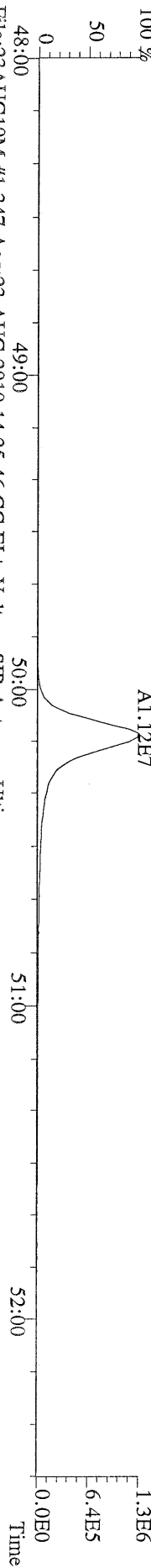
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419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



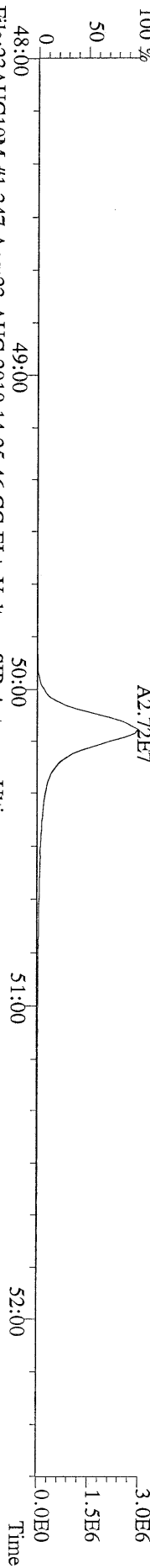
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC HI+ Voltage SIR Autospec-Ultima  
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



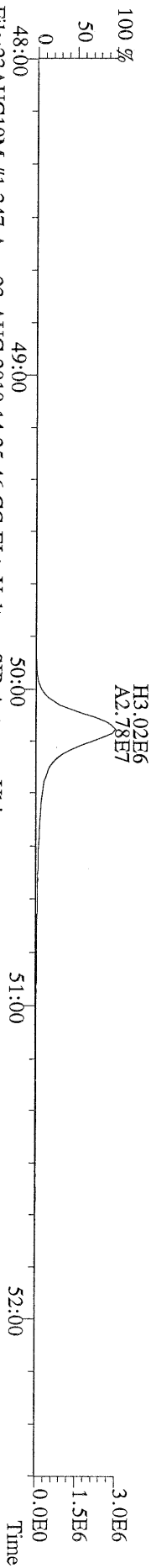
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443.7398 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



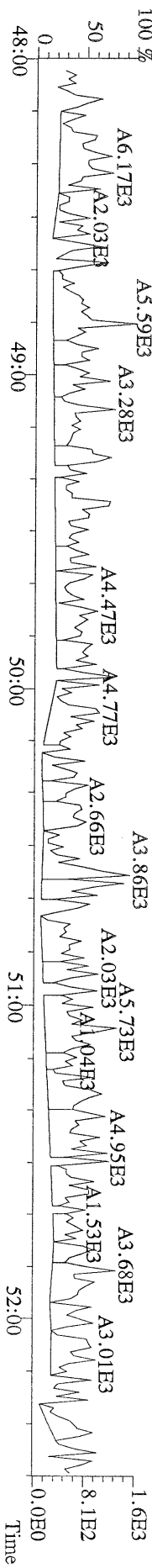
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453.7831 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



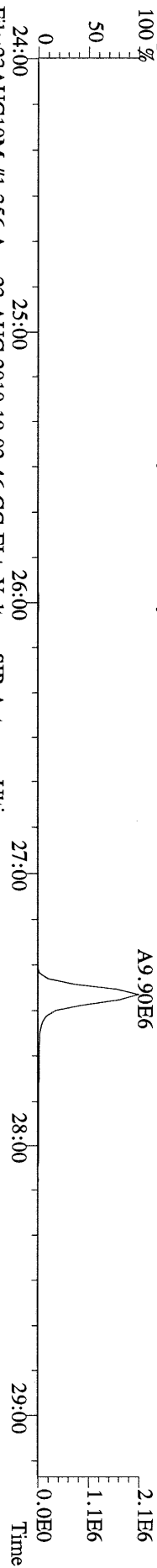
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455.7801 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



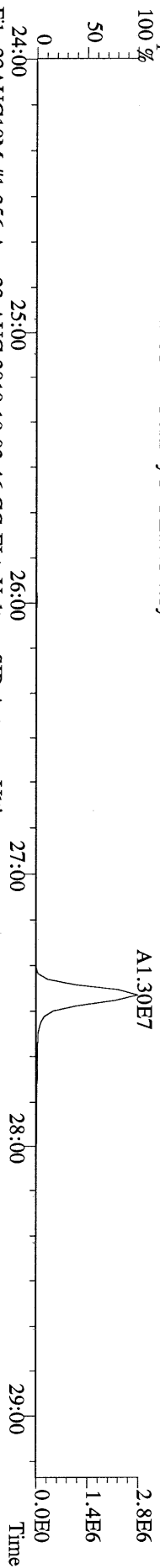
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC HI+ Voltage SIR Autospec-Ultima  
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



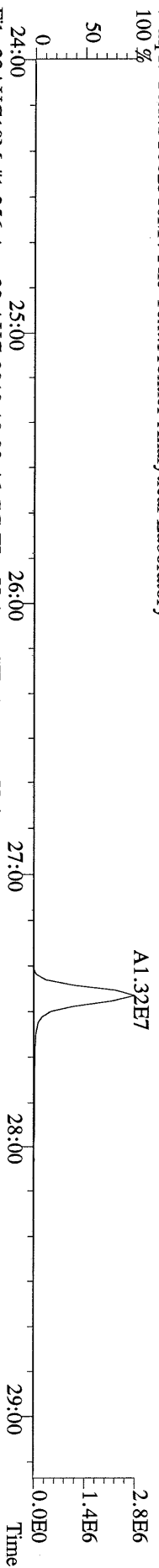
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Utima  
319,8965 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



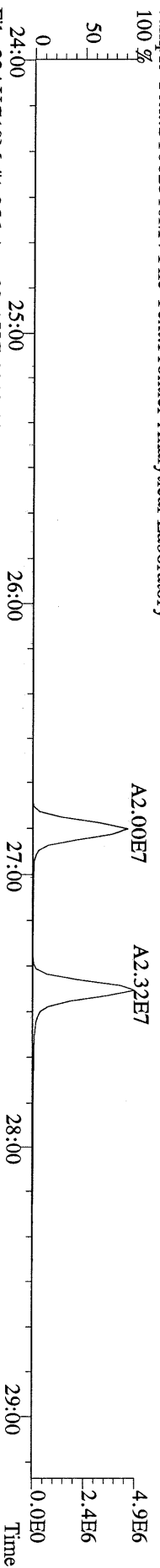
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321,8936 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



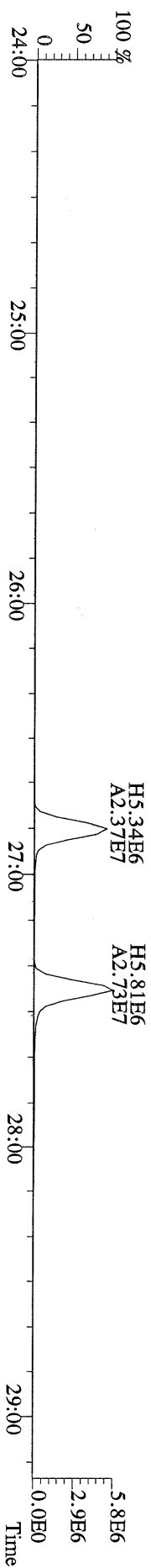
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327,8847 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



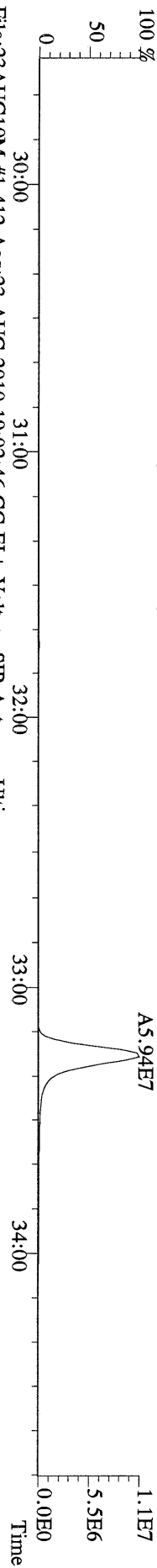
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331,9368 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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100 %



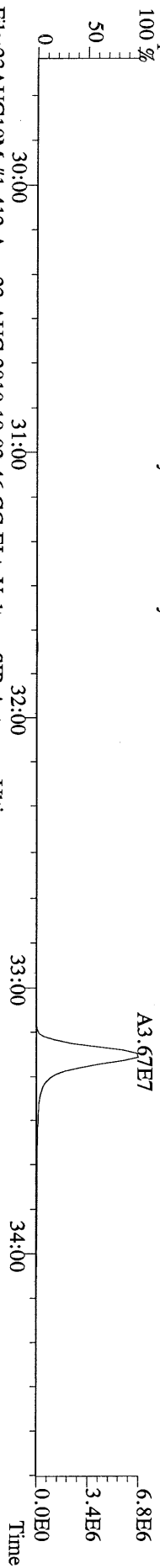
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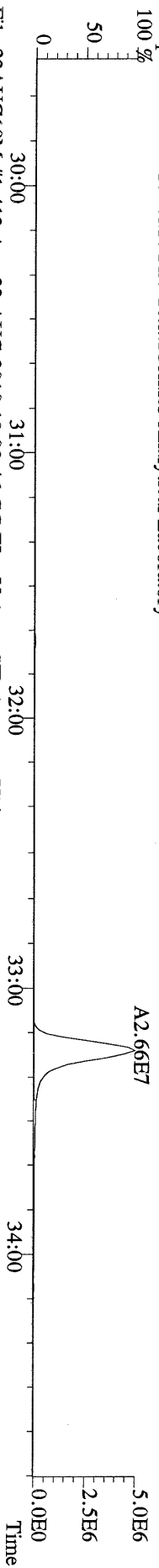
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355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



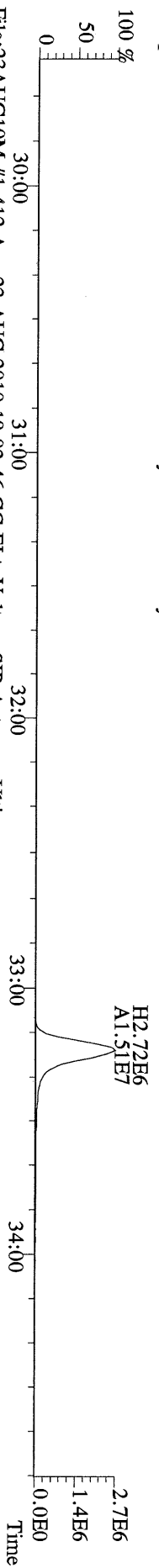
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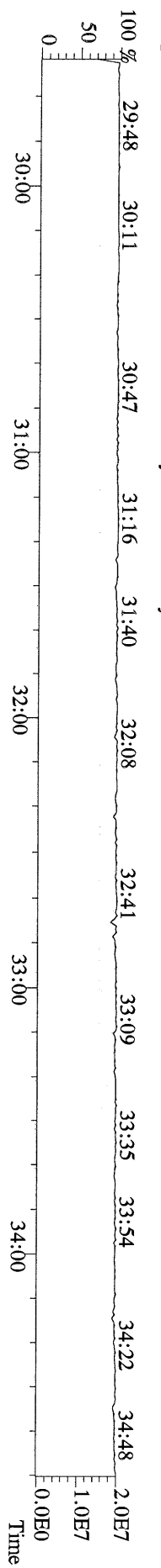
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100 %



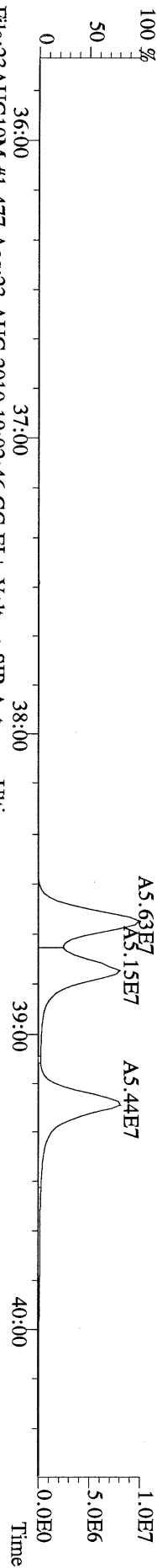
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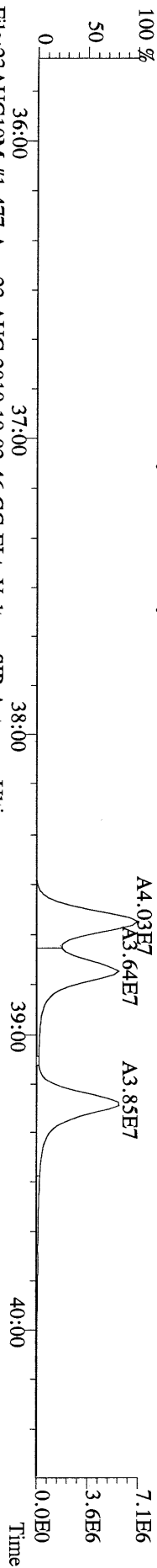
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Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



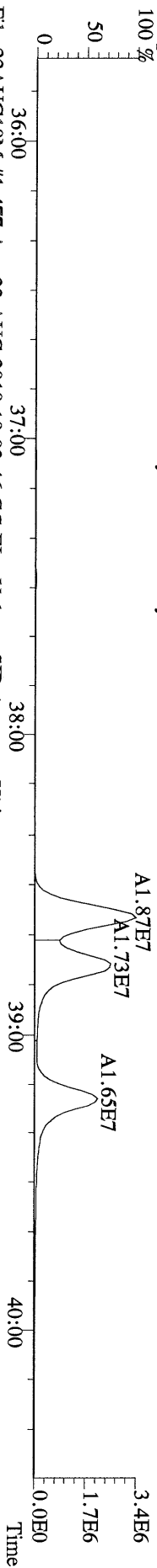
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389.8156 S:6 F:3 BSUB(10000,15,-3.0) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



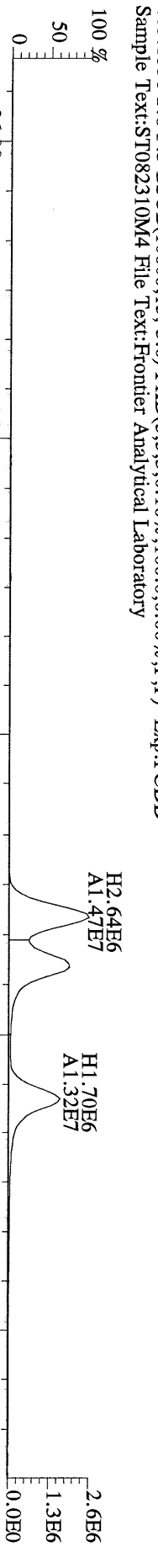
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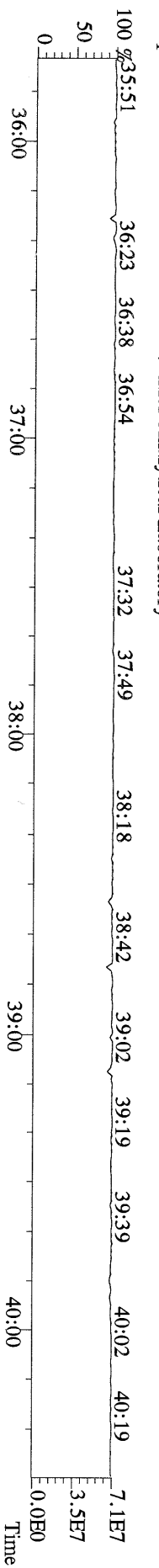
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401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-477 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

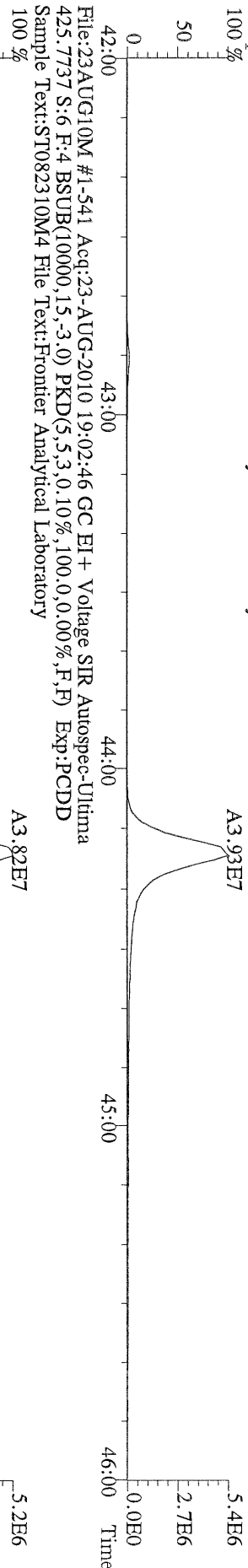


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380.9760 S:6 F:3 Exp:PCDD  
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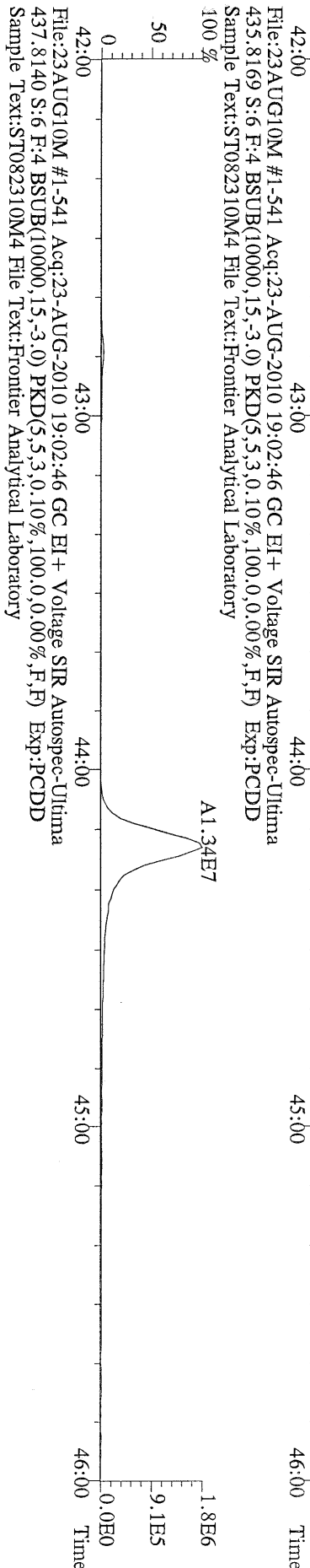




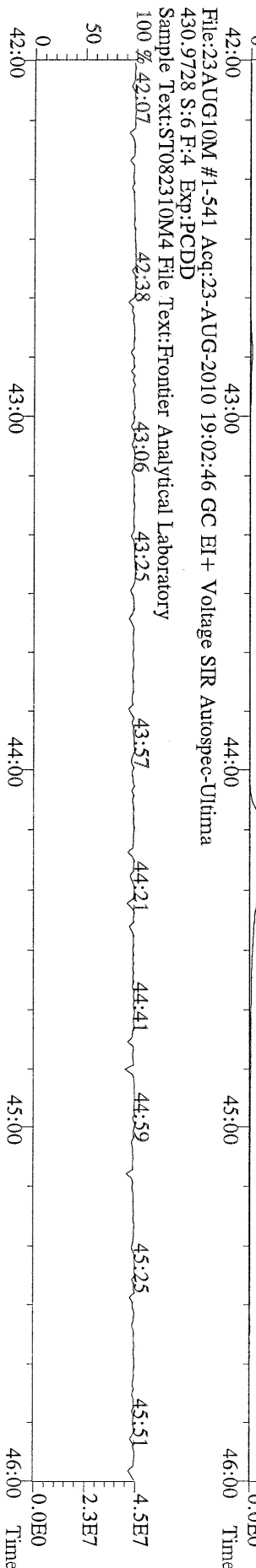
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423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



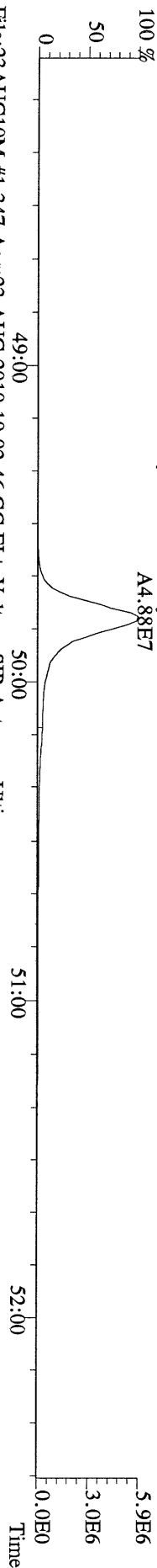
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435.8169 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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100 %



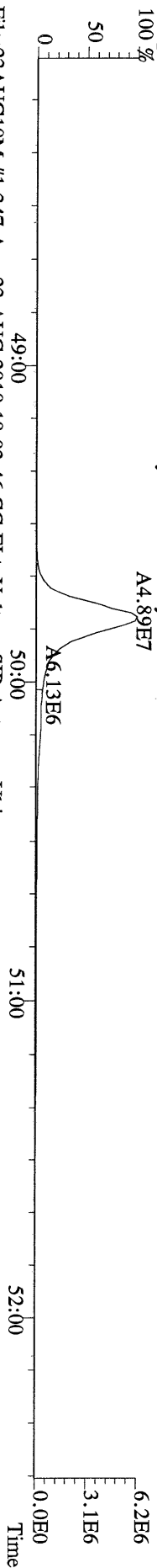
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430.9728 S:6 F:4 Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



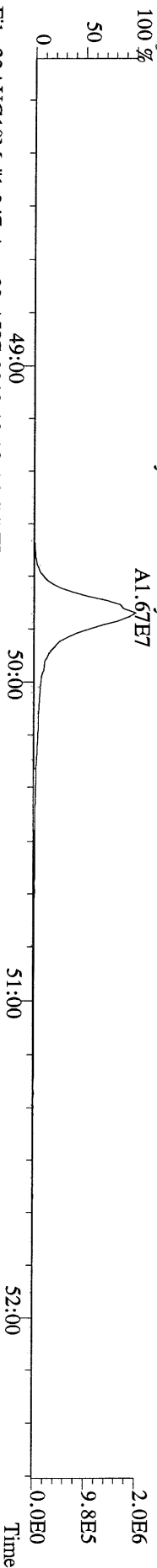
File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Utlima  
457.7377 S:6 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
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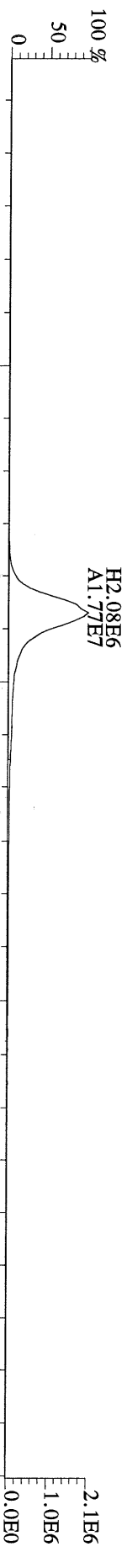
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459.7348 S:6 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



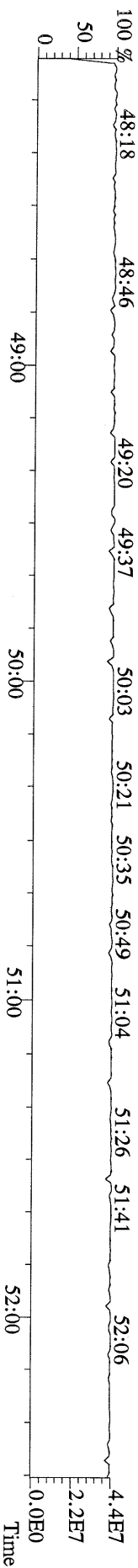
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469.7780 S:6 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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100 %



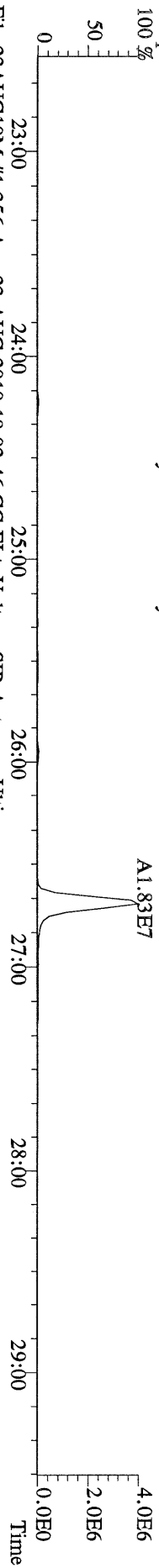
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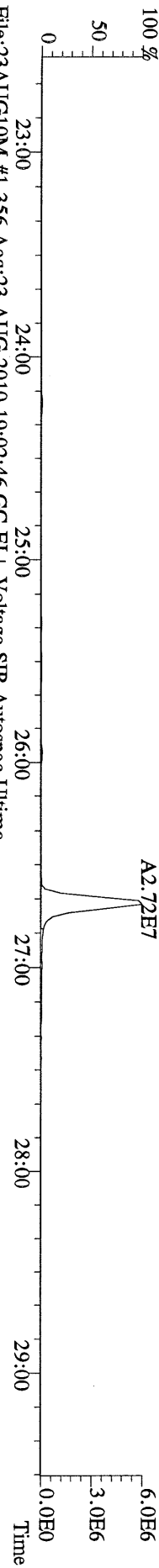
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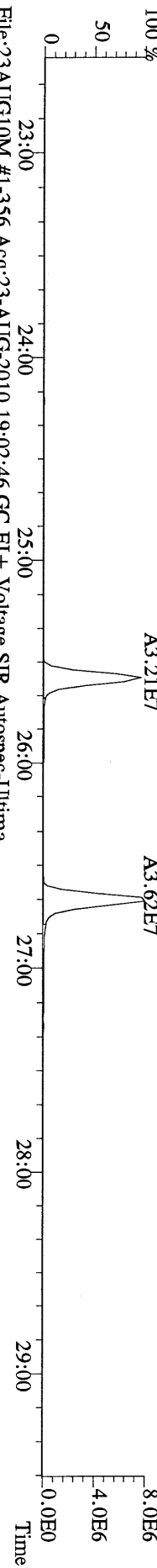
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303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



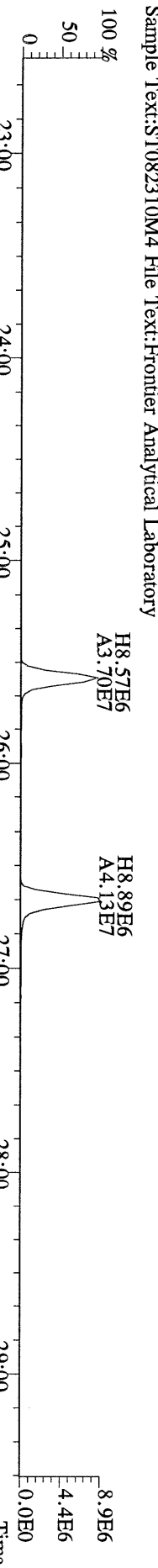
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305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



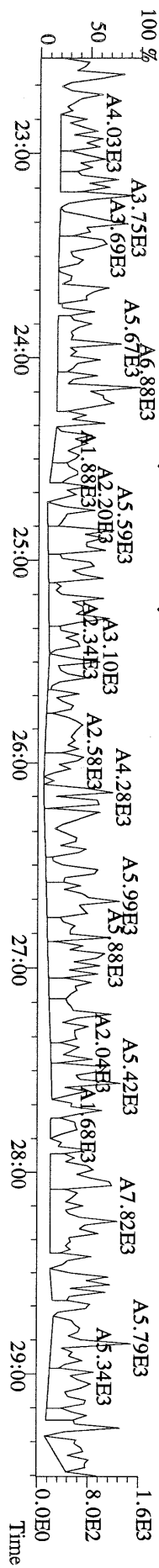
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315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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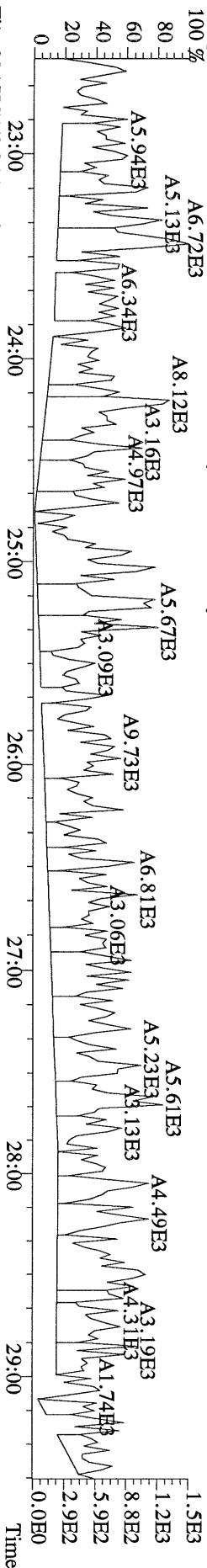
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317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



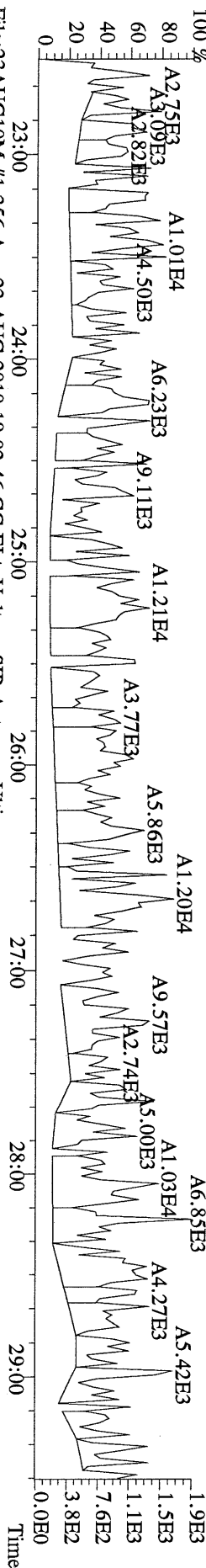
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375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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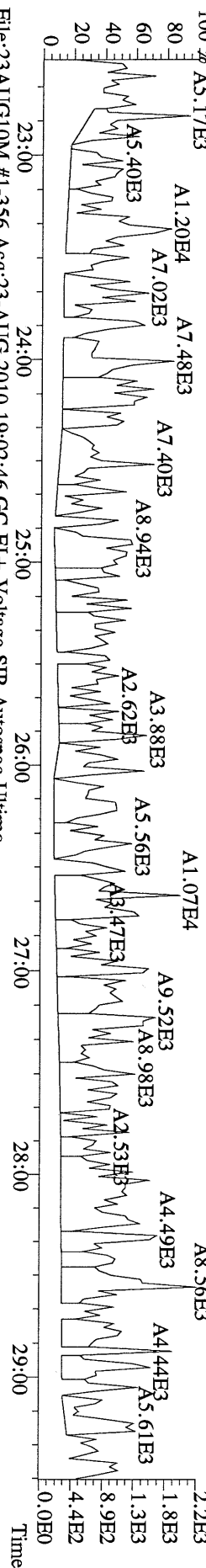
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 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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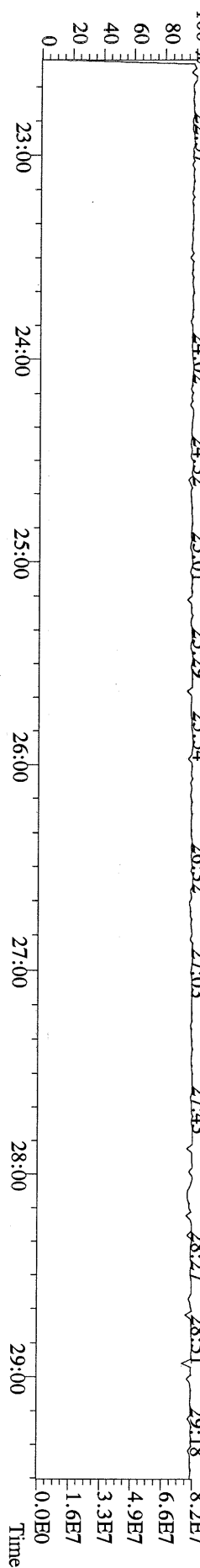
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 341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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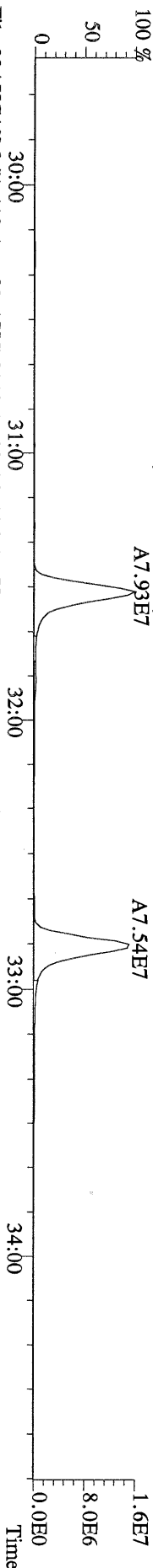
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 409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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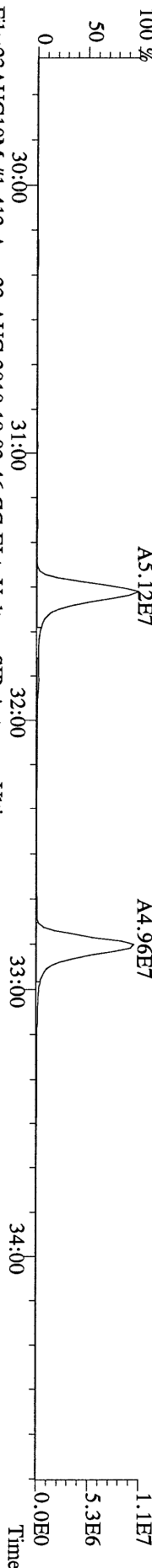
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 LOCK MASS CHECK S:6 Exp:PCDD  
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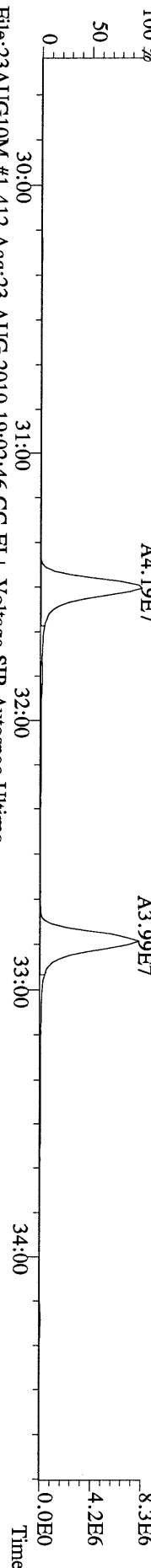
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 339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
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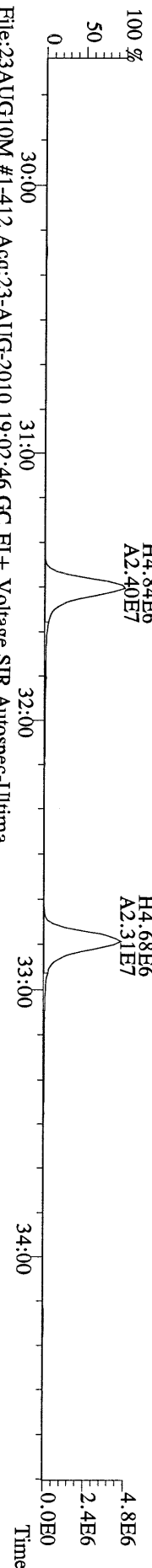
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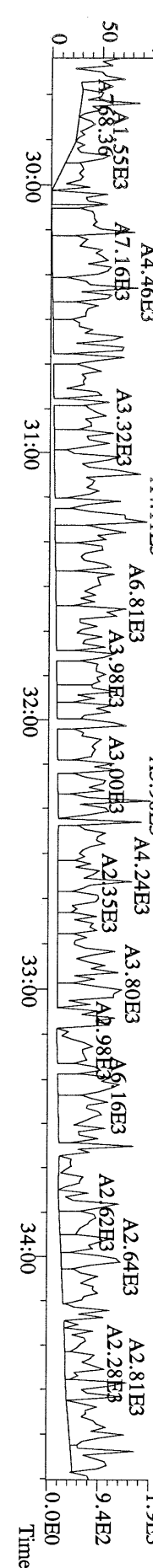
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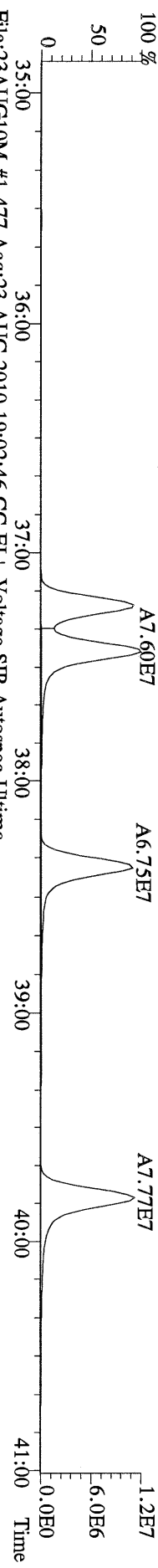
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 353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
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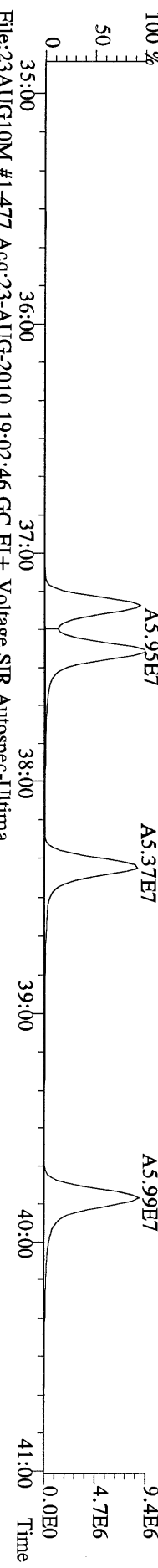
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 409.7974 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



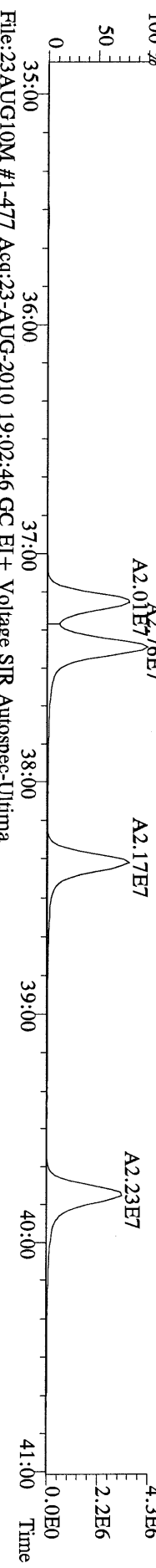
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373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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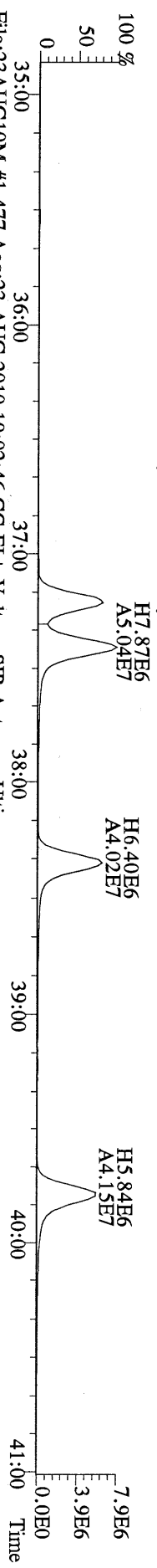
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375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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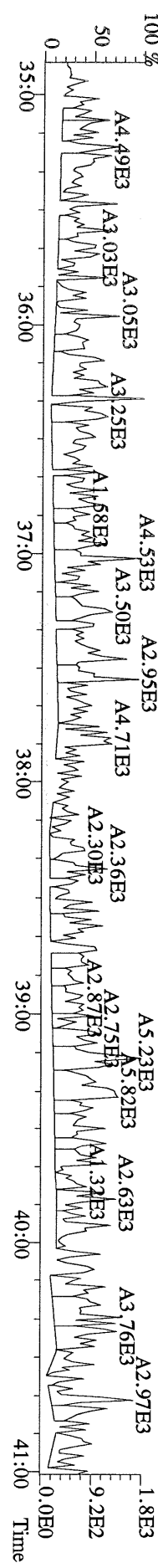
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383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Fronier Analytical Laboratory



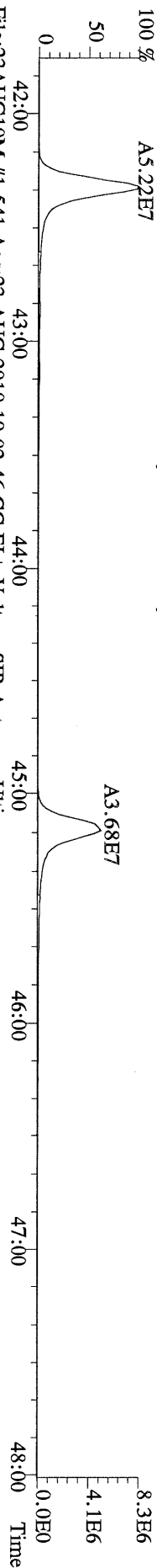
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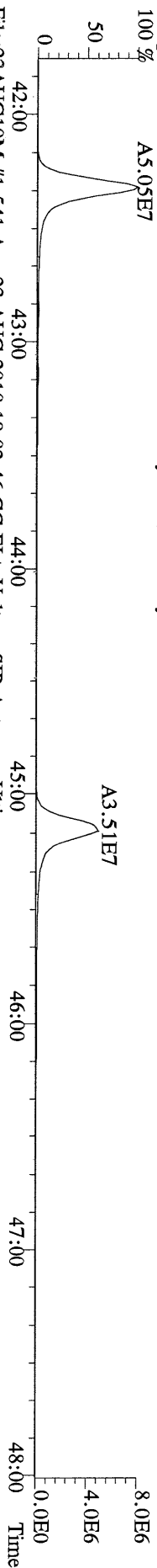
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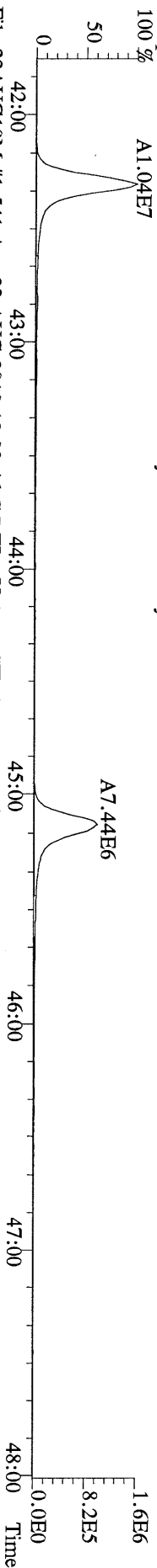
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407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-541 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Utima  
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
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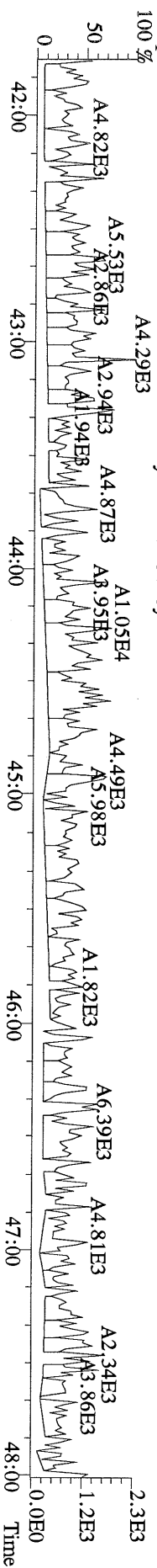
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417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



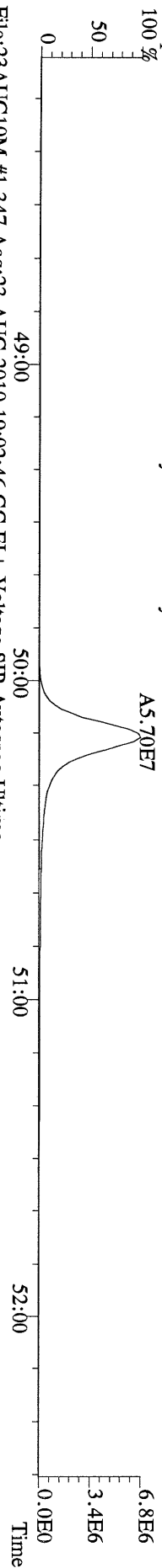
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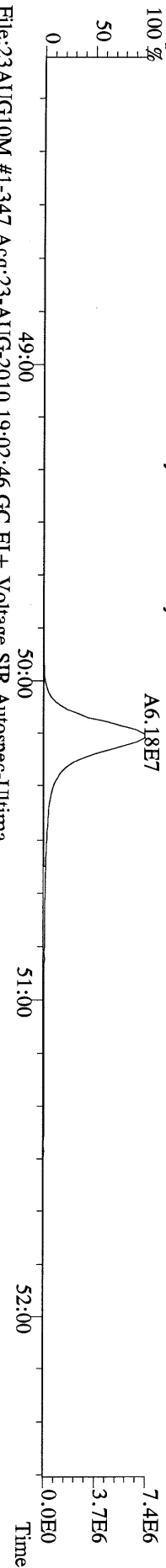
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479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
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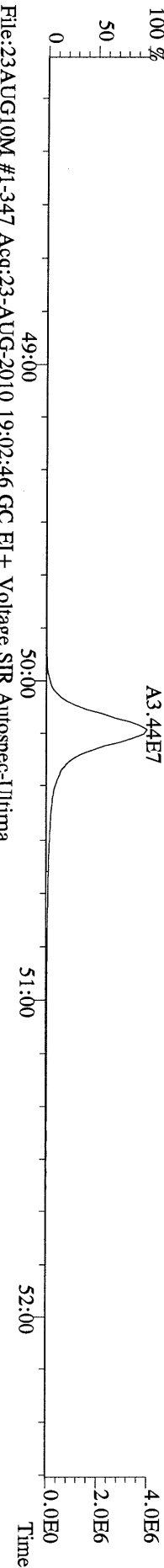
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441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



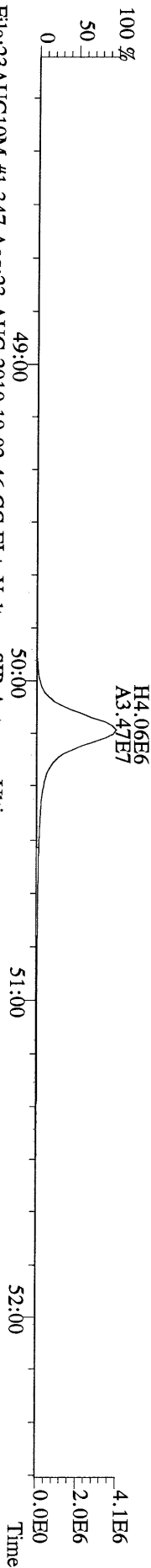
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443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



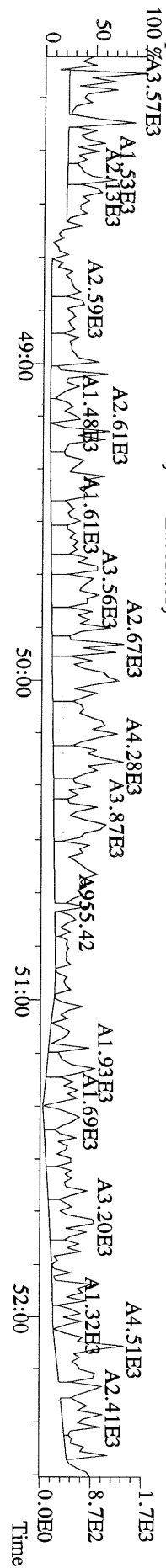
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Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SHR Autospec-Ultima  
455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

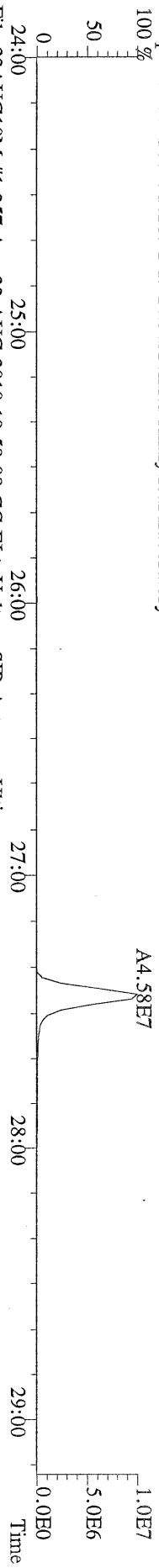


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Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

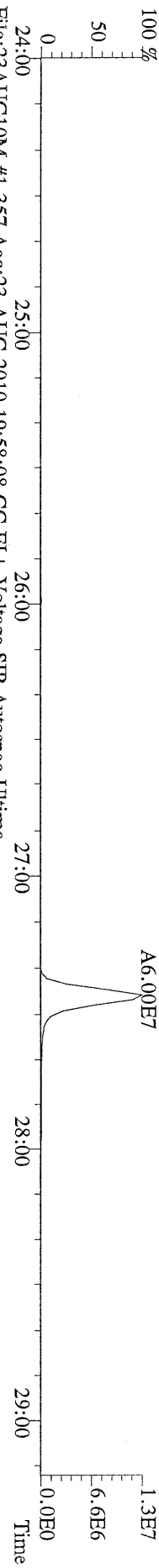




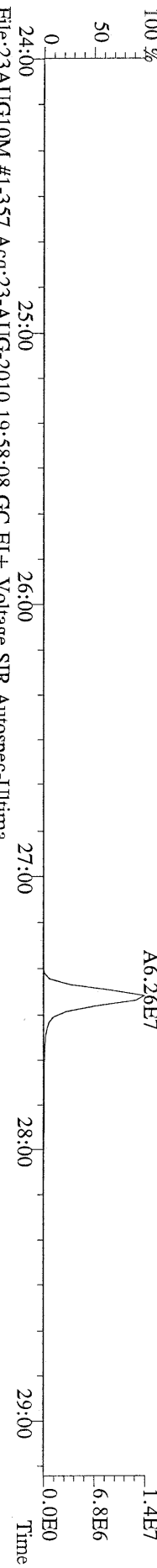
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319.8965 S:7 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



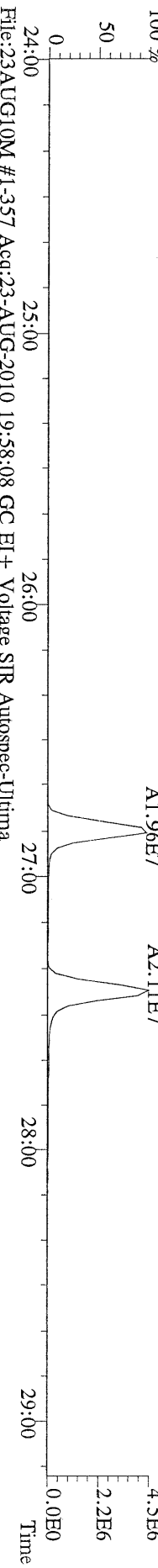
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
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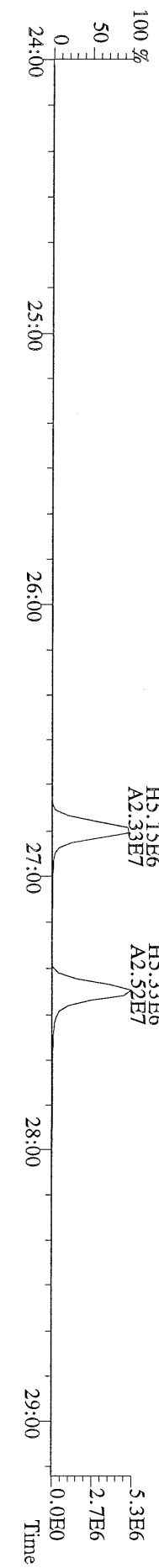
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327.8847 S:7 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



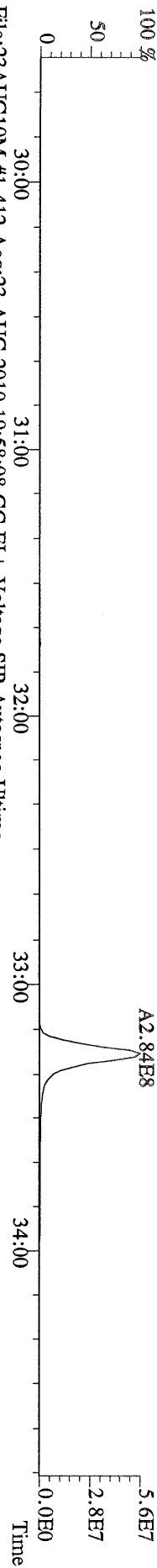
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



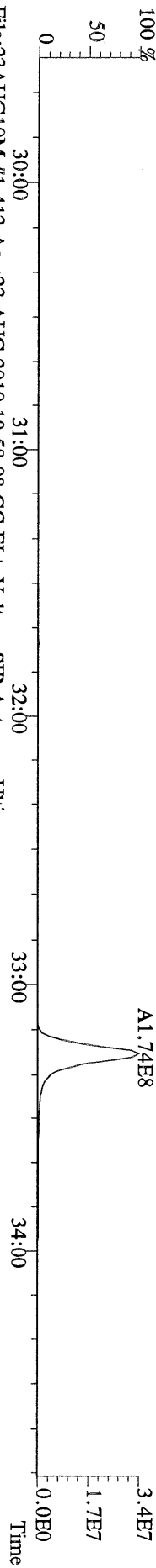
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



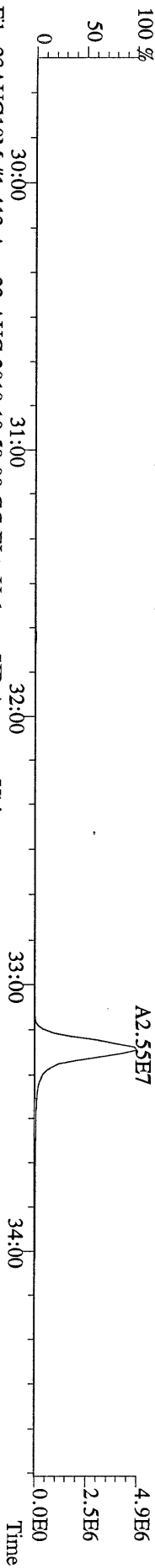
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355.8546 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



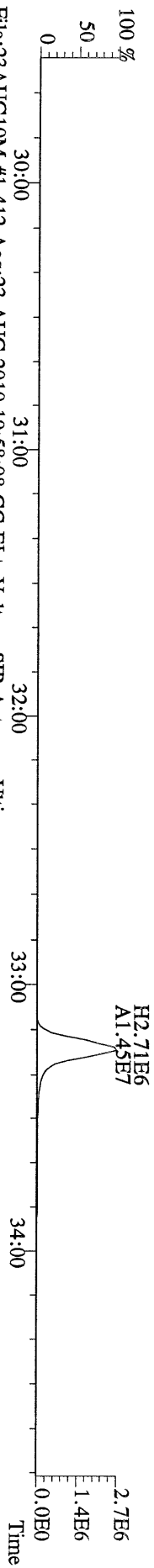
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357.8517 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,00%,F,F) Exp:PCDD  
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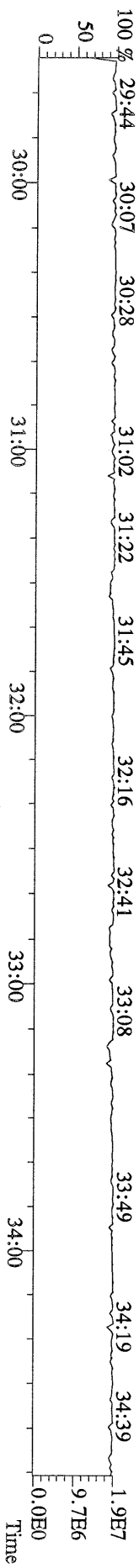
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367.8949 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,00%,F,F) Exp:PCDD  
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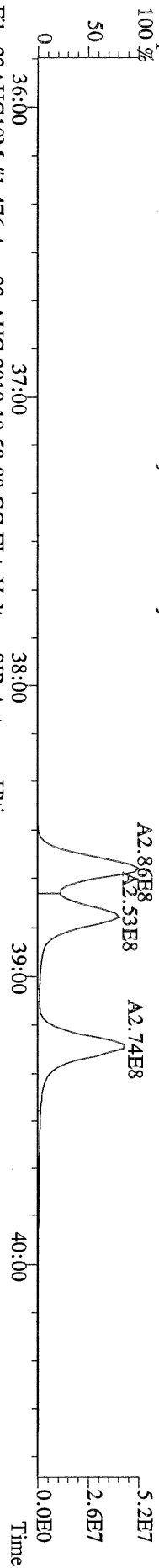
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



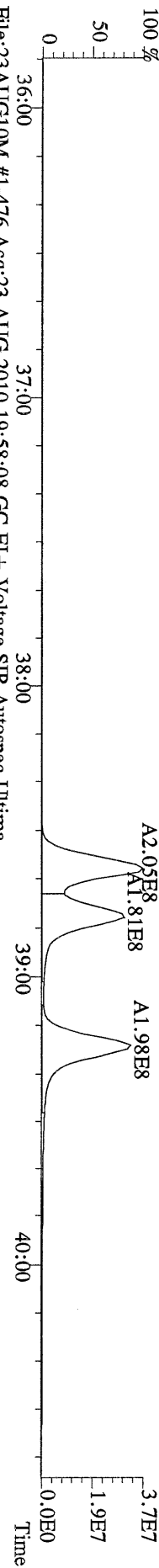
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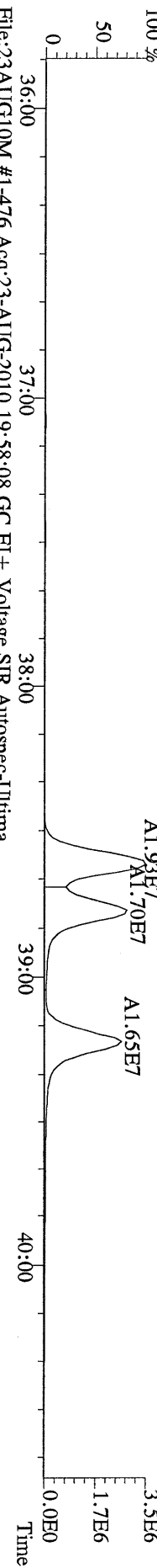
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
389.8156 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



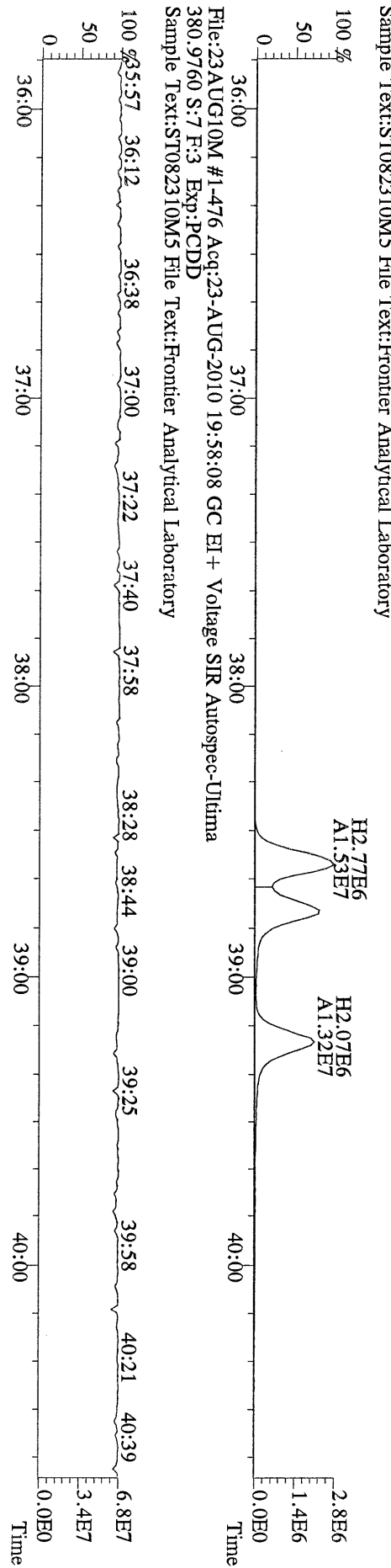
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391.8127 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
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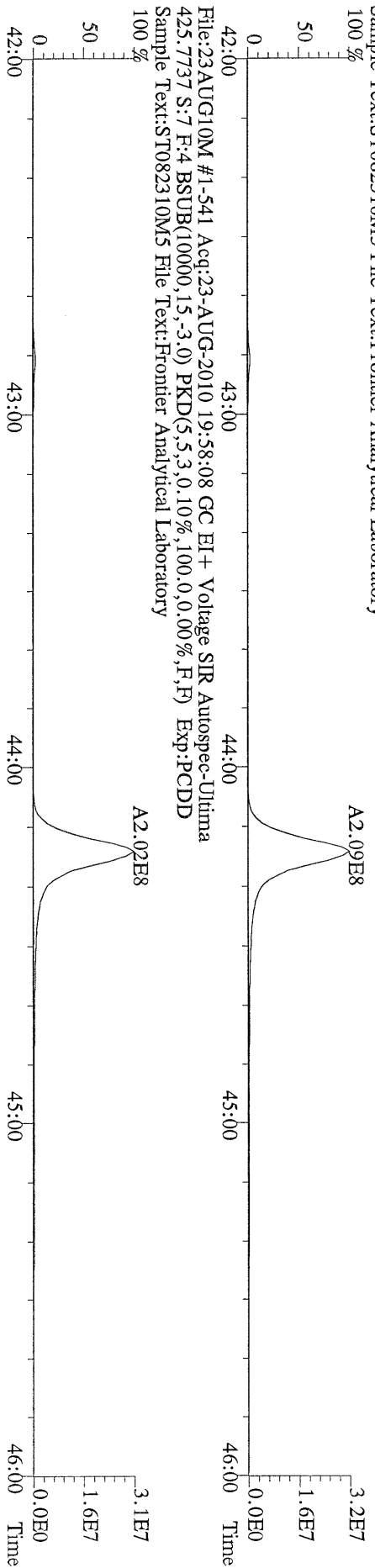
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401.8559 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
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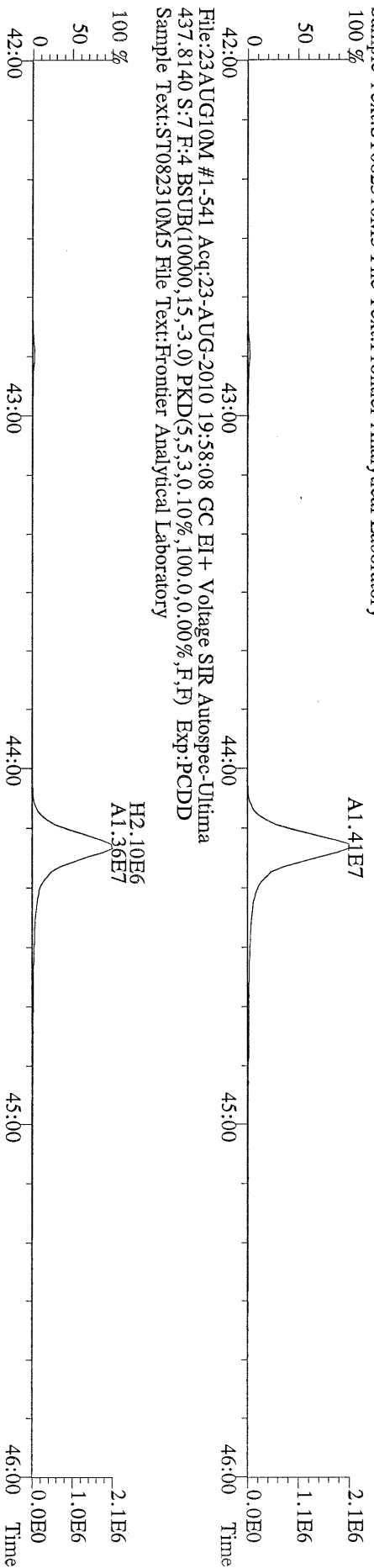
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403.8530 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
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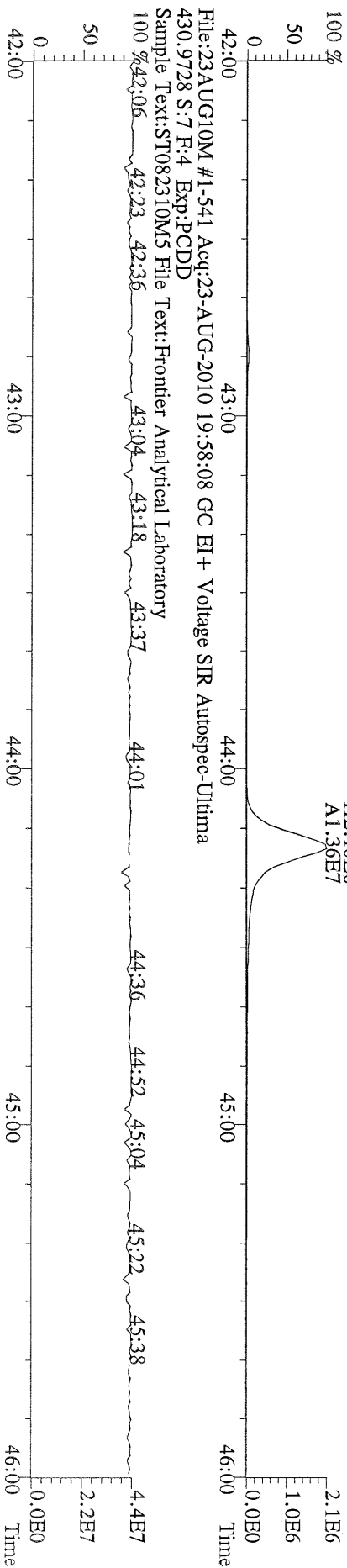
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423.7767 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
435.8169 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
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100 %

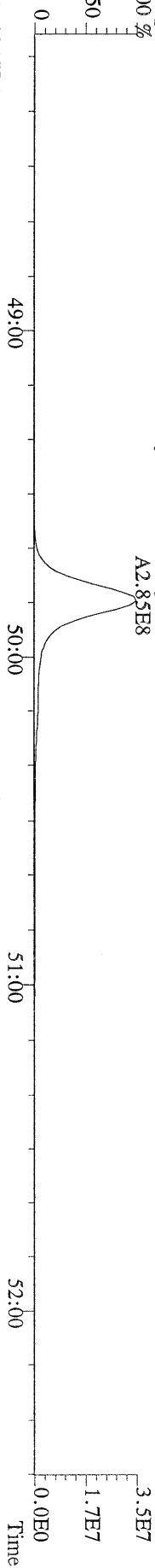


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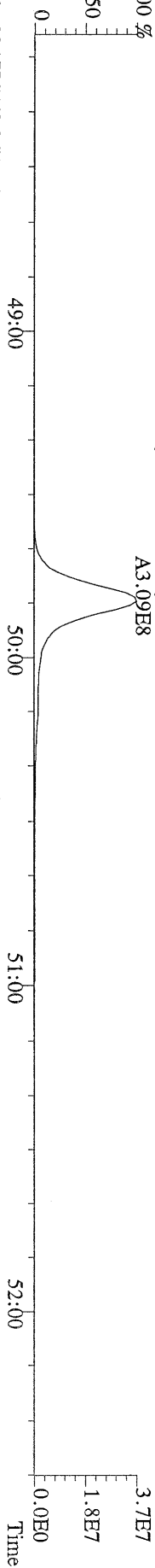


File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 S:7 F:4 Exp:PCDD  
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100 %

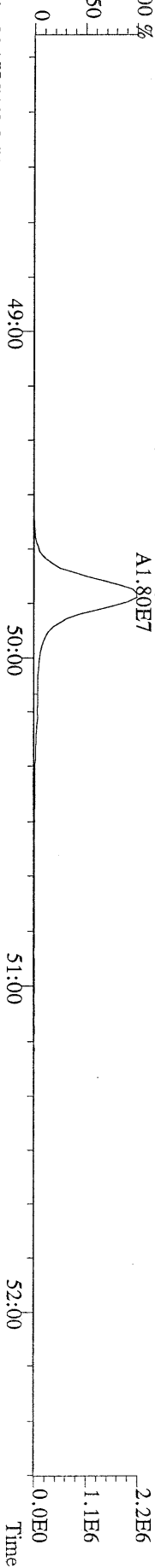
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457.7377 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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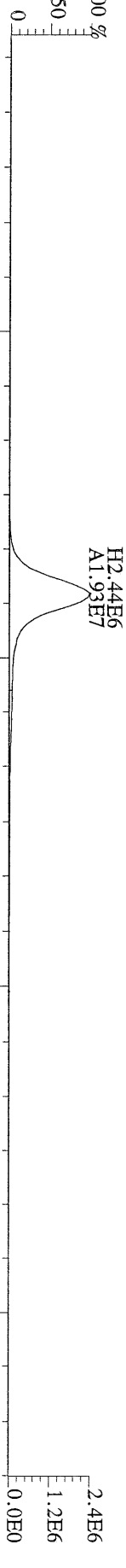
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459.7348 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
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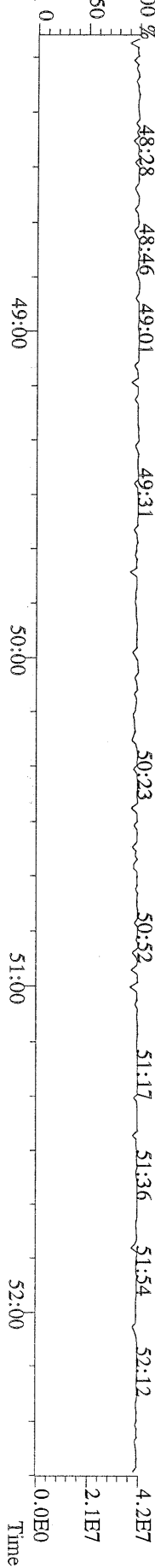
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469.7780 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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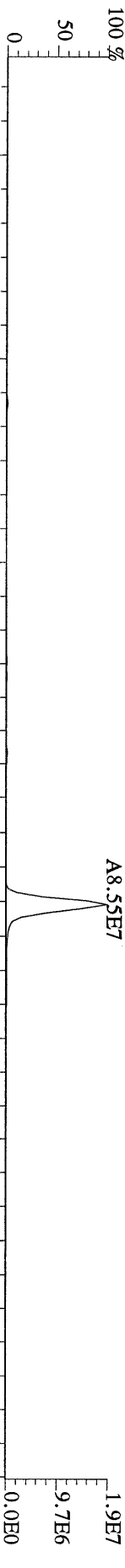
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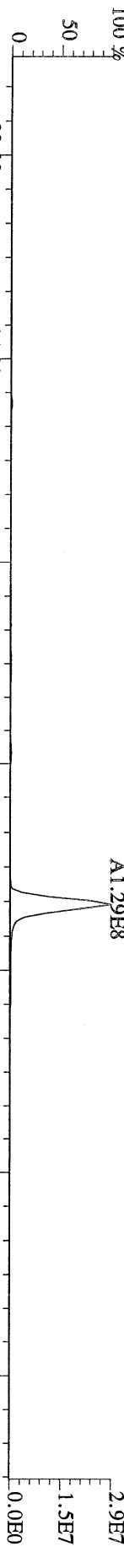
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100 %



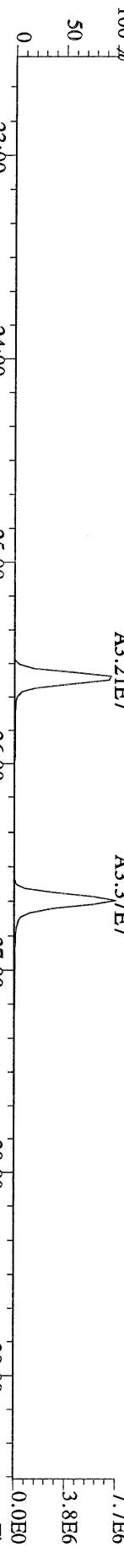
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303.9016 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



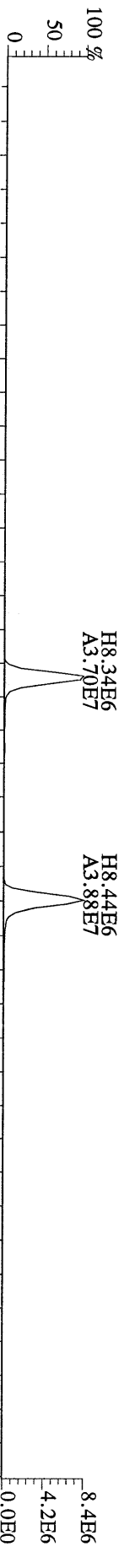
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305.8987 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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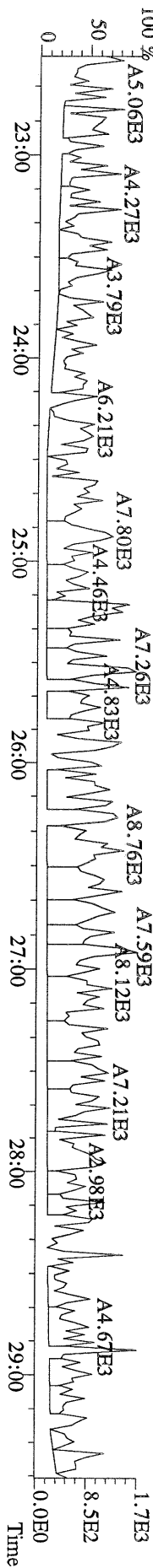
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315.9419 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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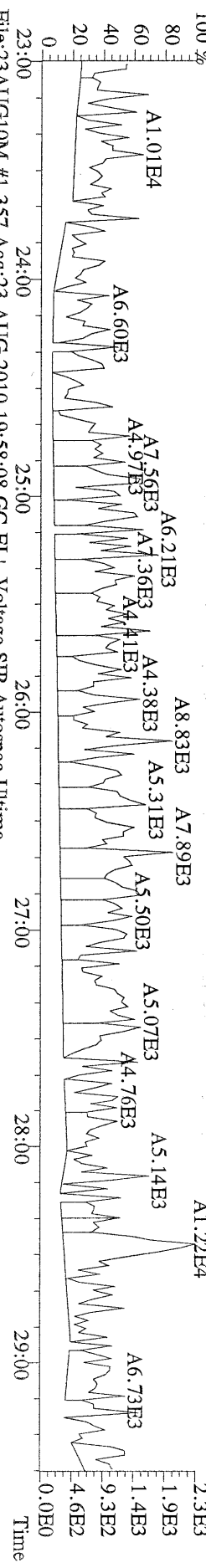
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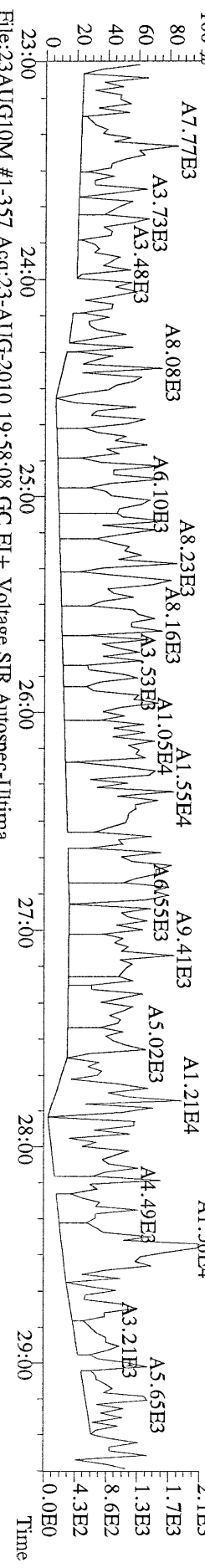
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375.8364 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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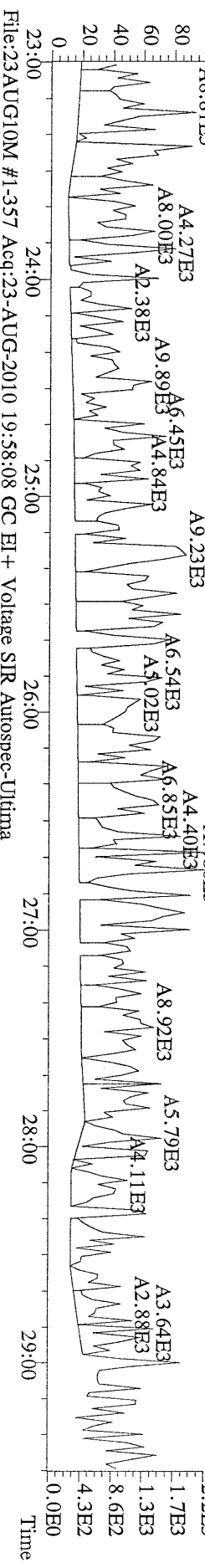
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 339.8597 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



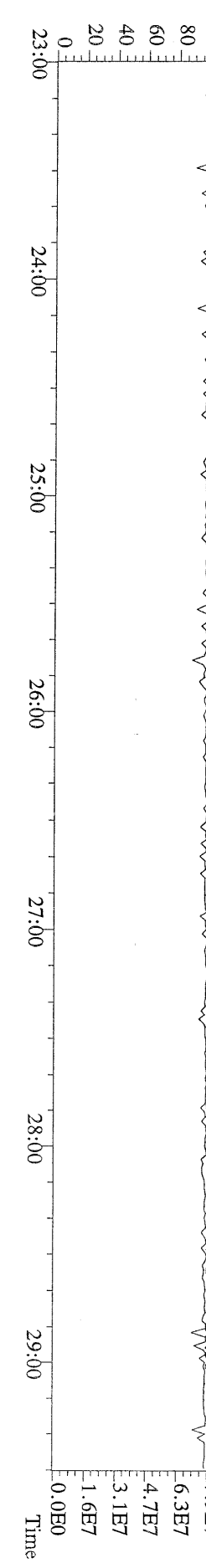
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 341.8568 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



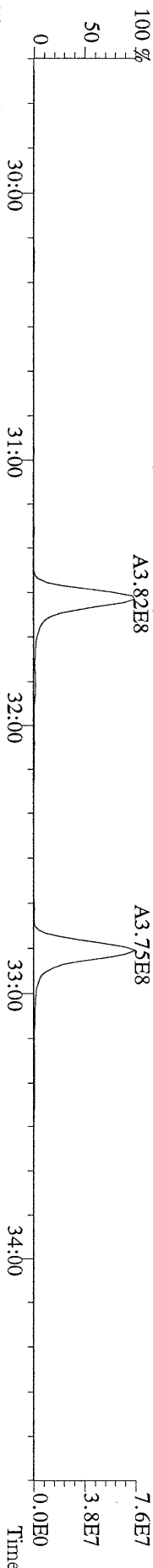
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 409.7974 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
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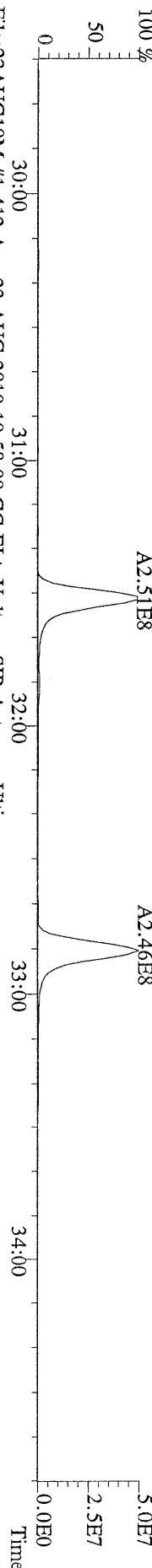
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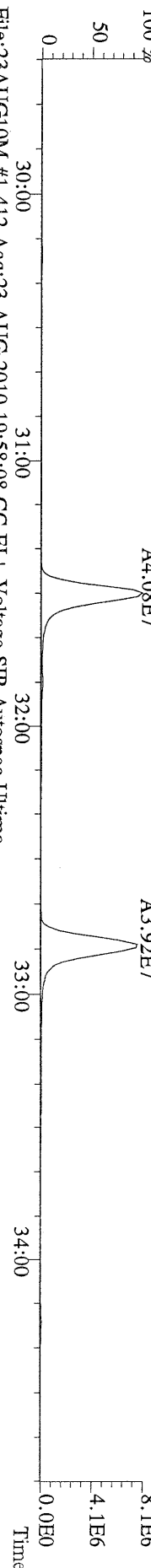
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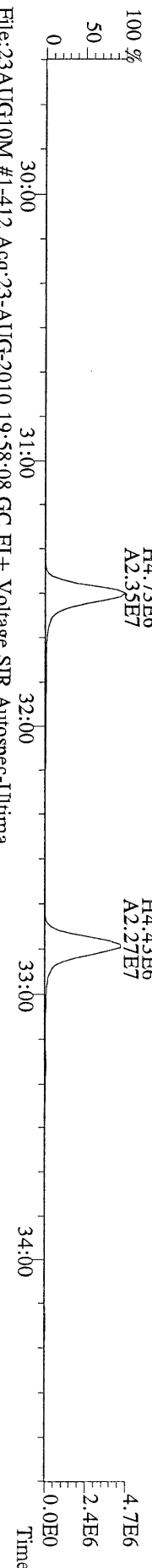
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 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory



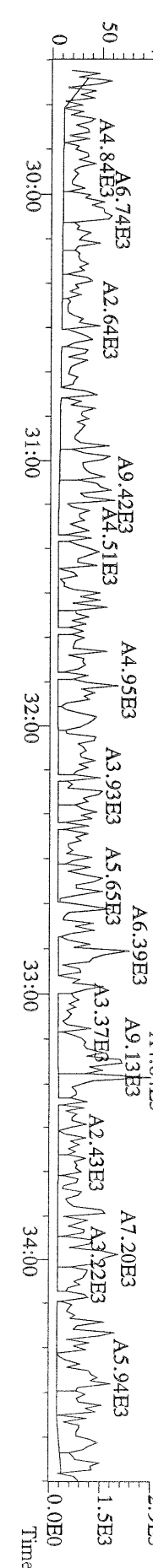
File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC HI+ Voltage SIR Autospec-Ultima  
 351.9000 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory



File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC HI+ Voltage SIR Autospec-Ultima  
 353.8970 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory

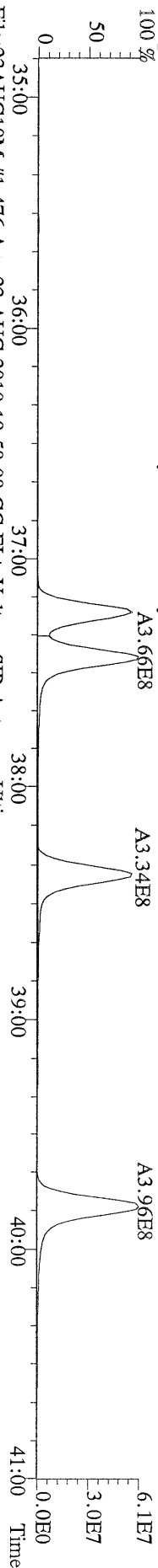


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 409.7974 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory

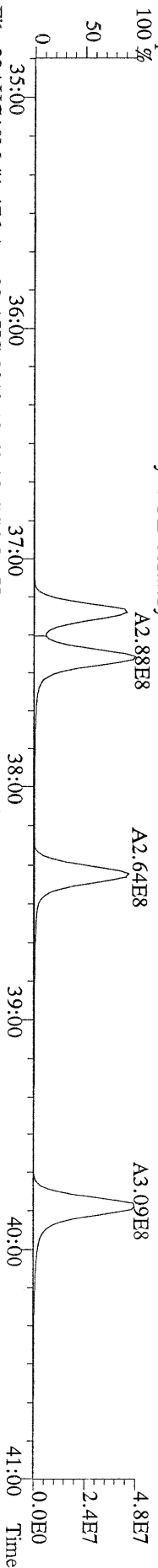




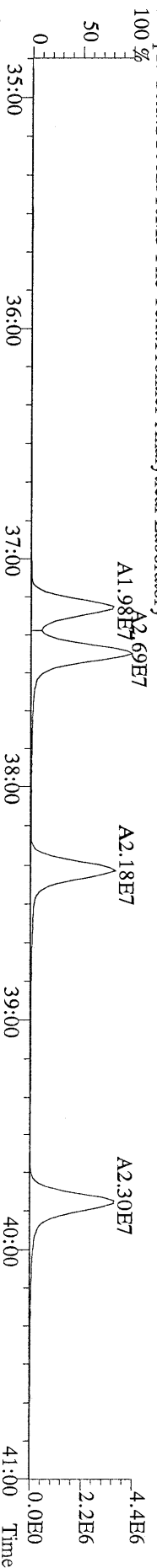
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
373.8207 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



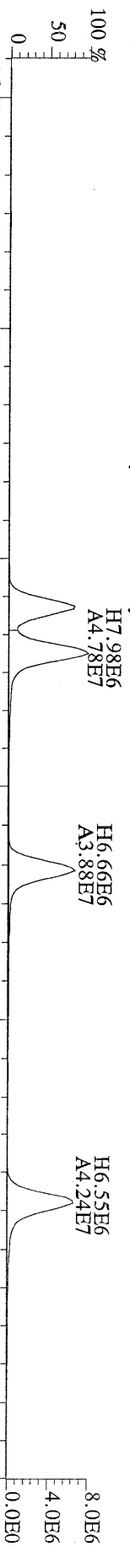
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375.8178 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



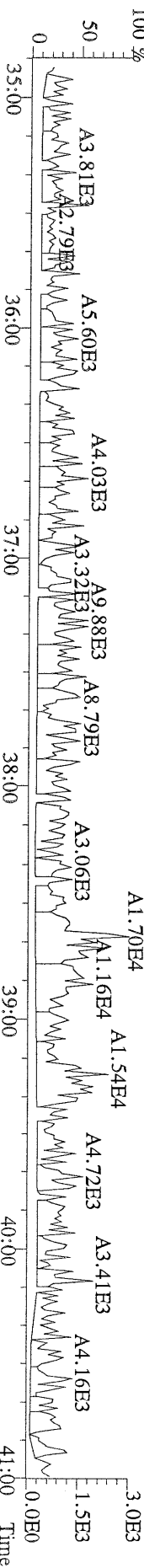
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383.8639 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



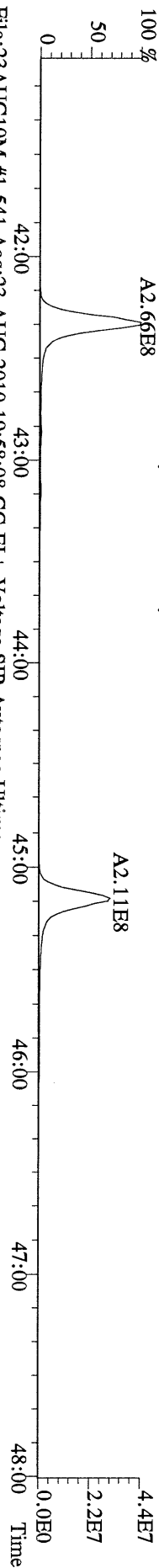
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385.8610 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



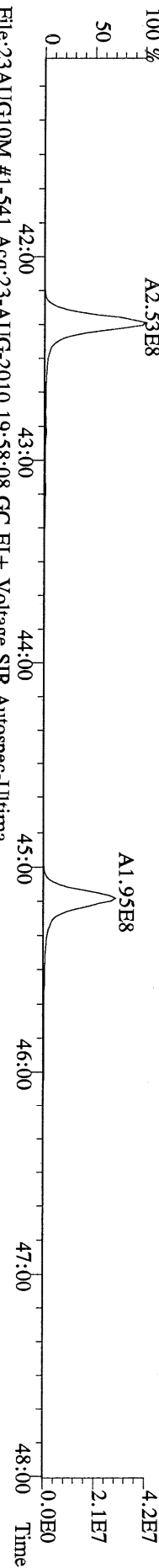
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445.7555 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



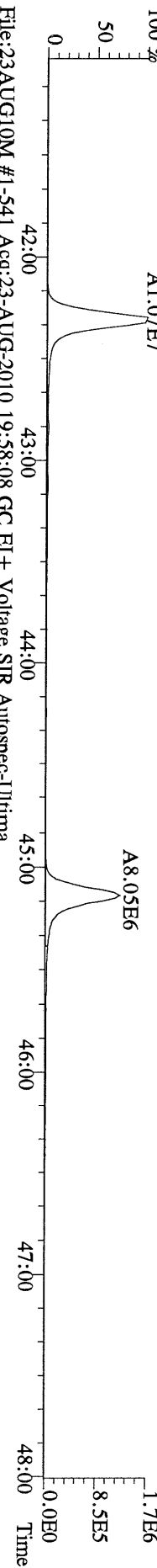
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407.7818 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



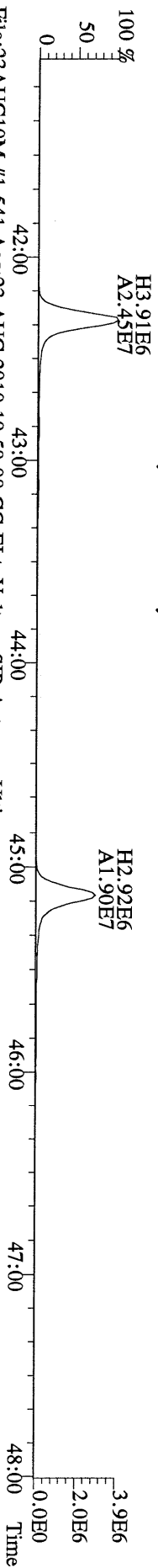
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409.7788 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



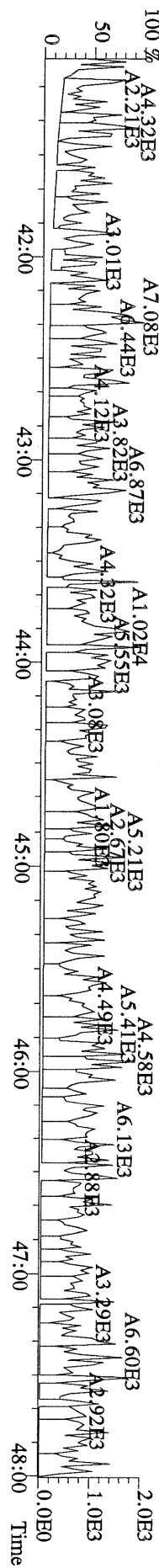
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417.8253 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



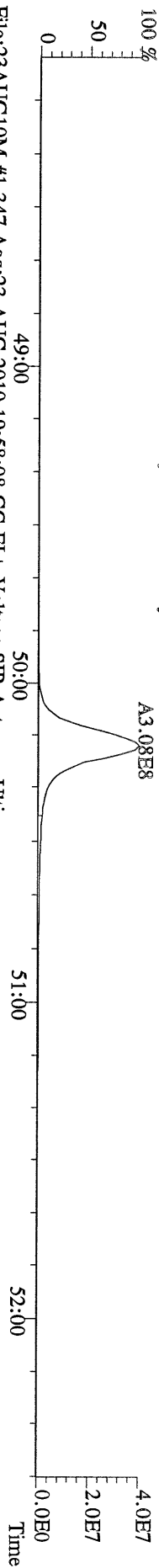
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419.8220 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



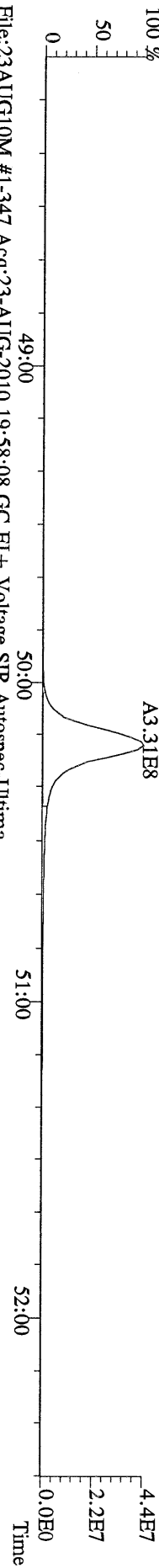
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479.7165 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



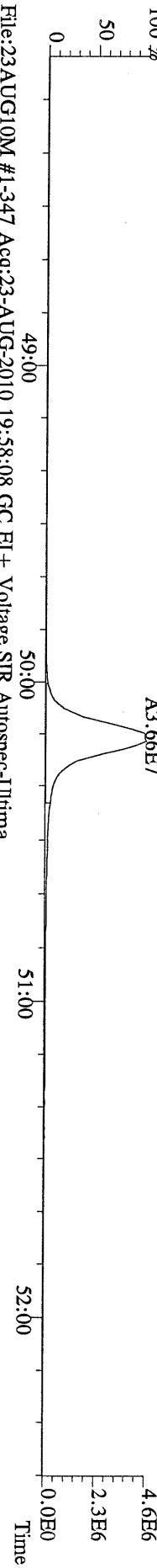
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441.7428 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



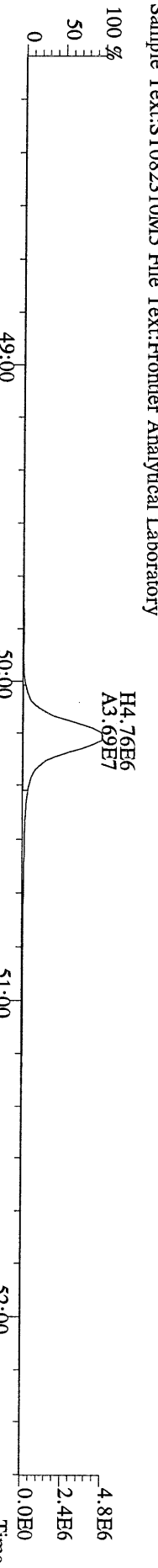
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100 %



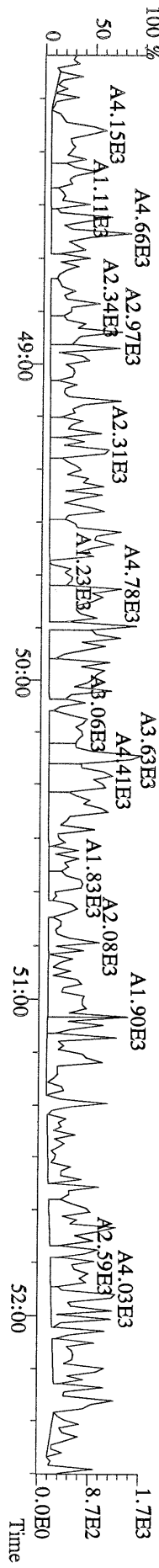
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453.7831 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %

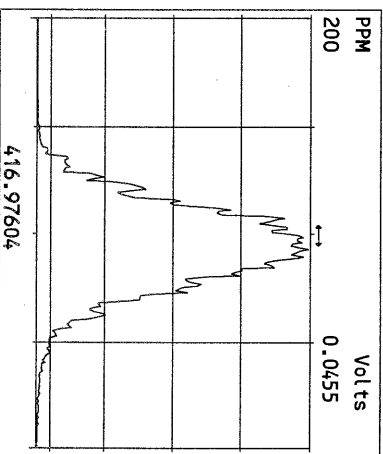
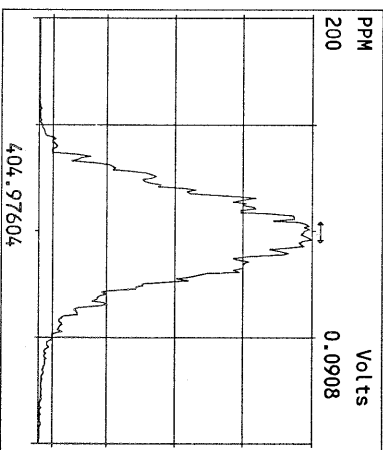
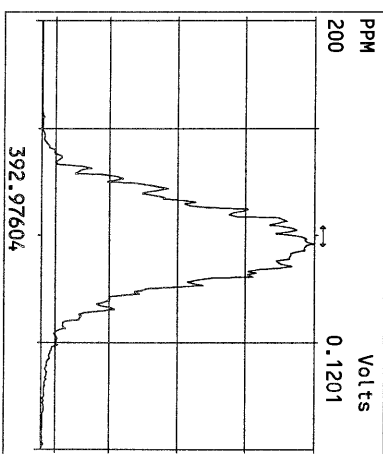
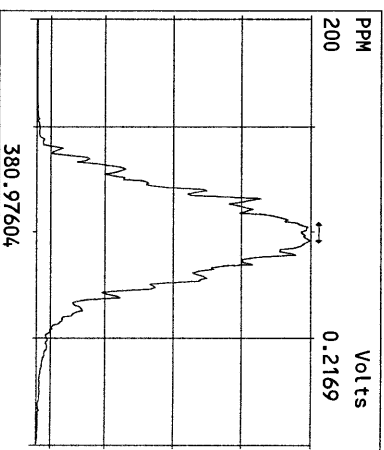
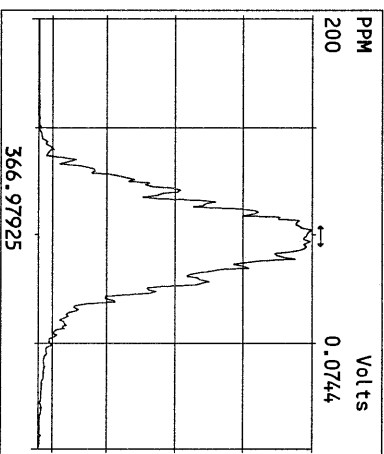
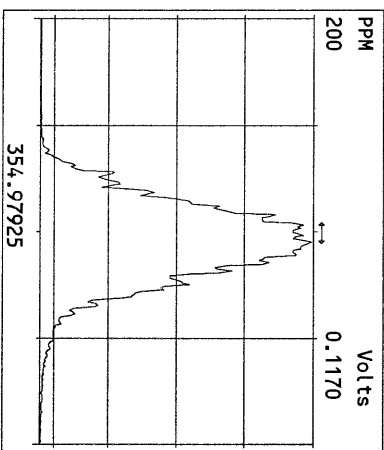
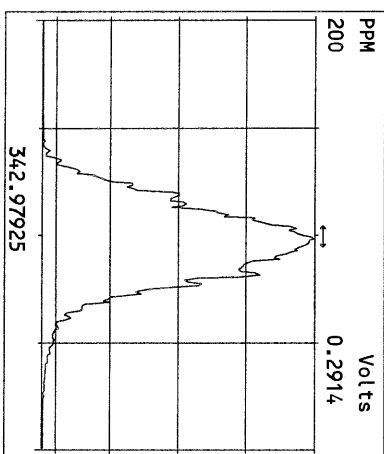
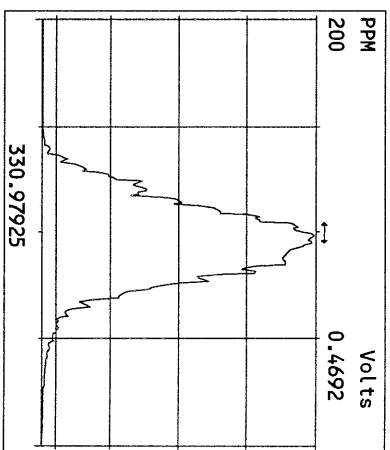
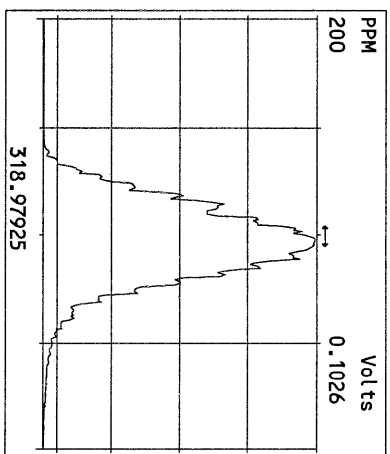
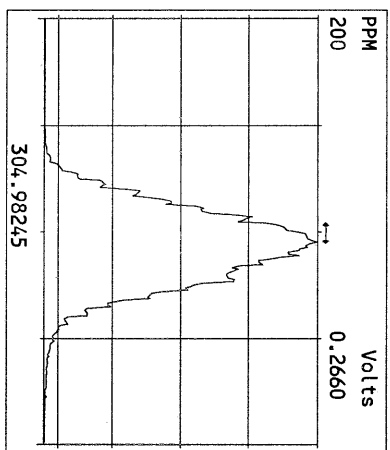
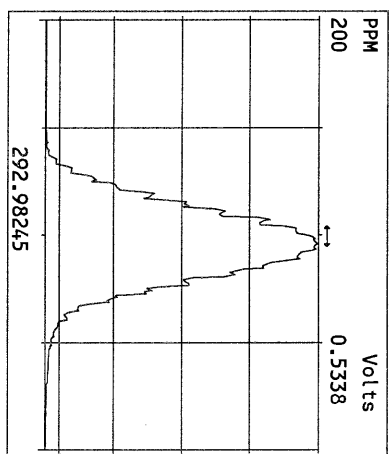


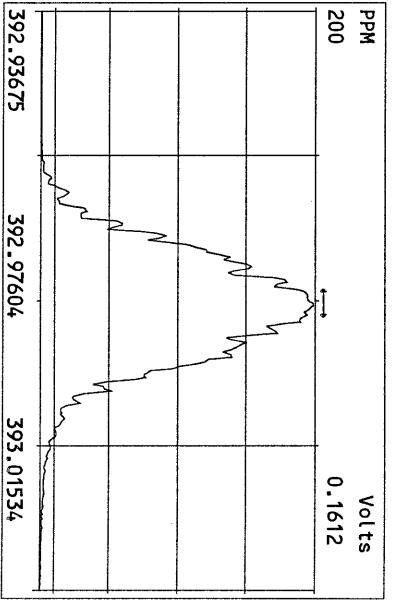
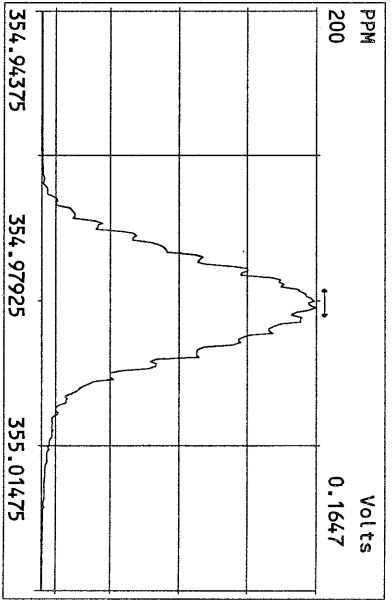
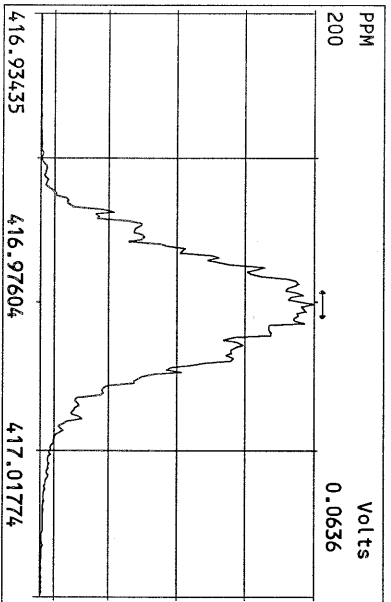
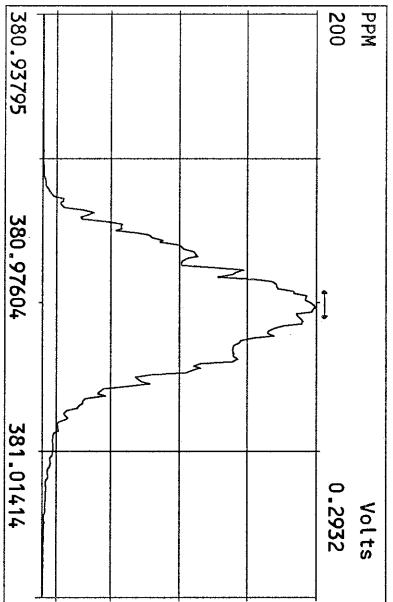
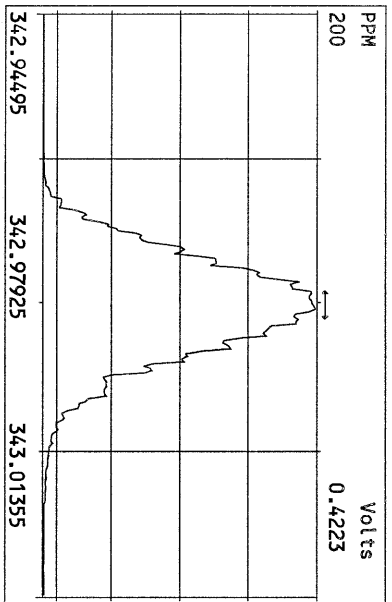
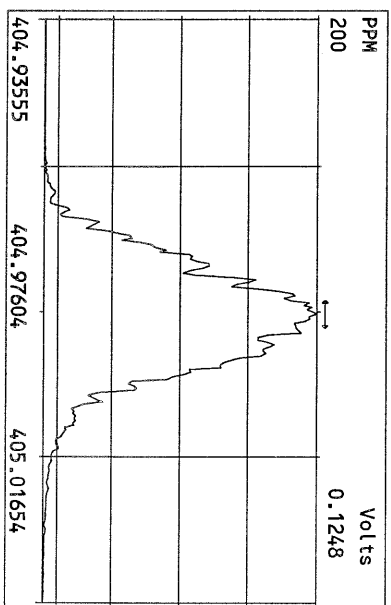
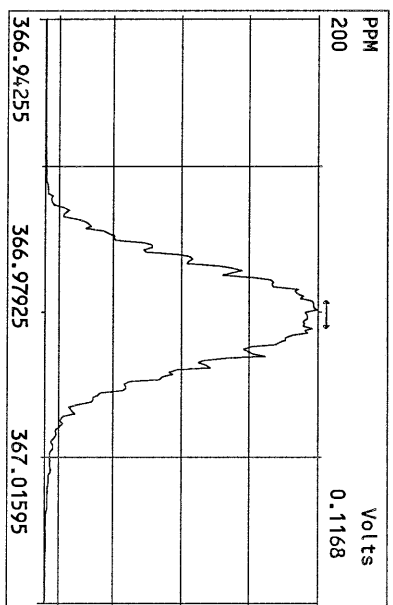
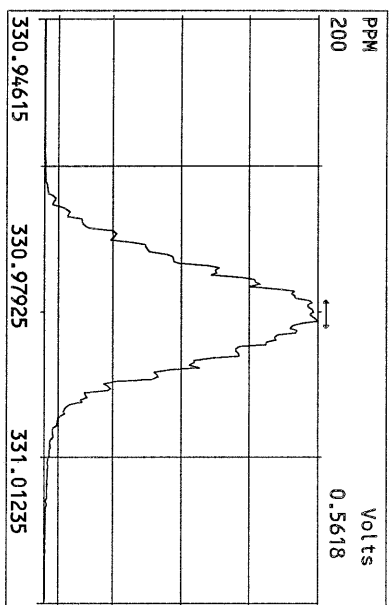
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

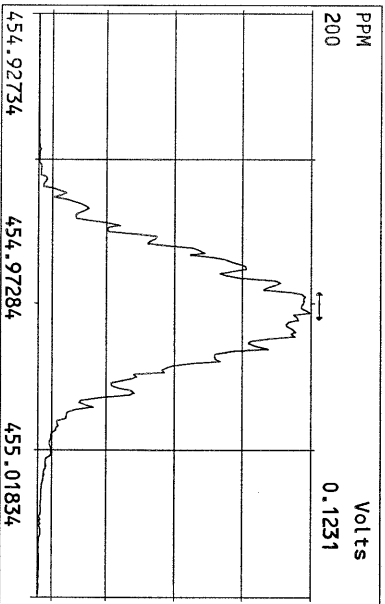
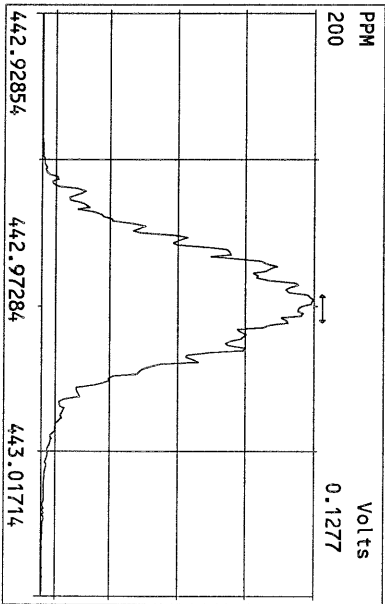
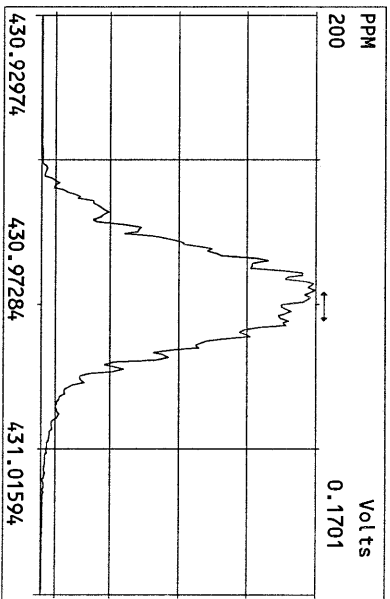
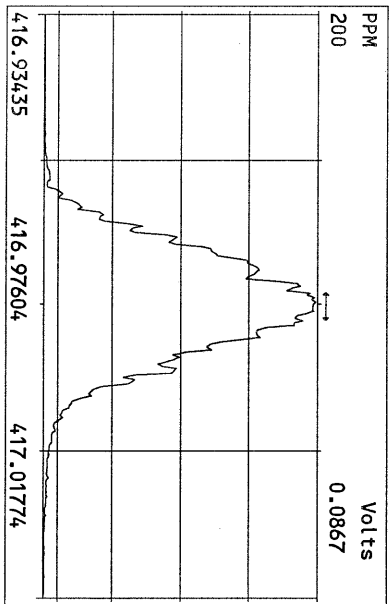
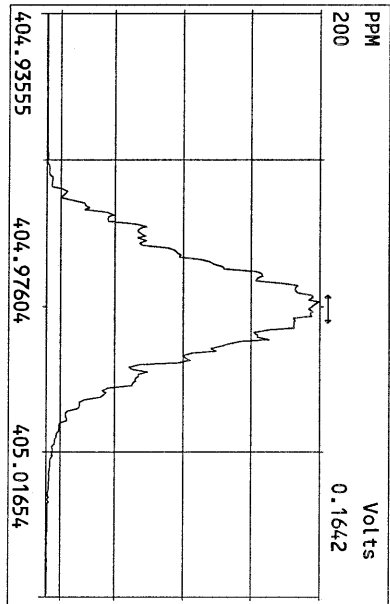
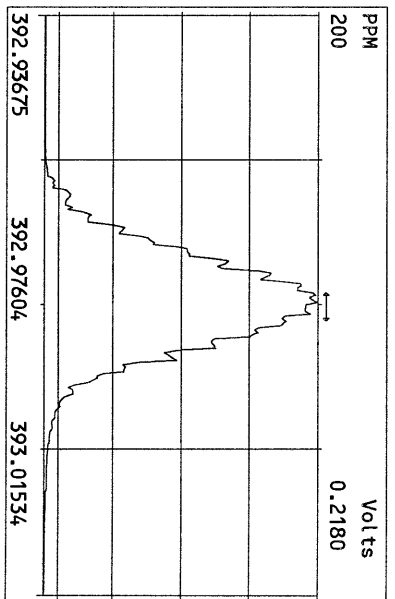
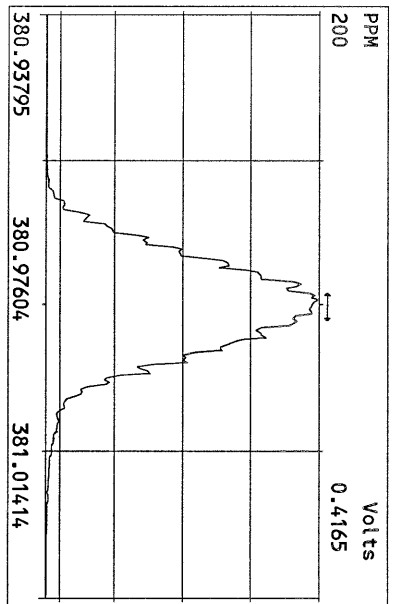
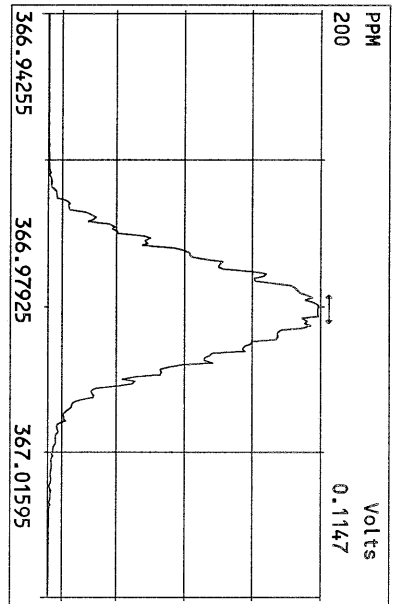


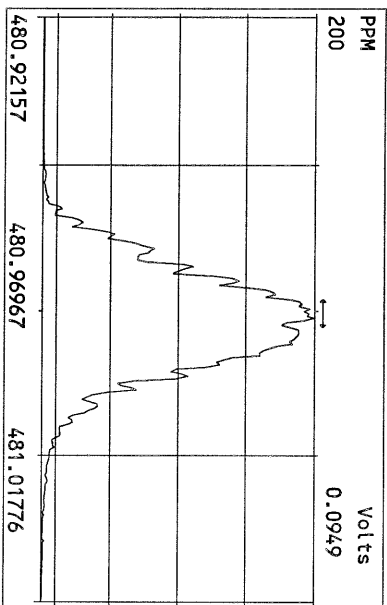
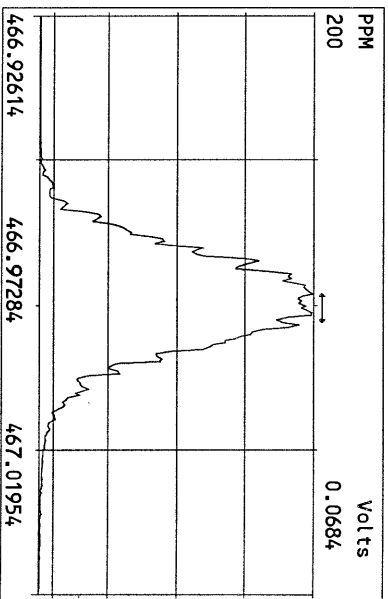
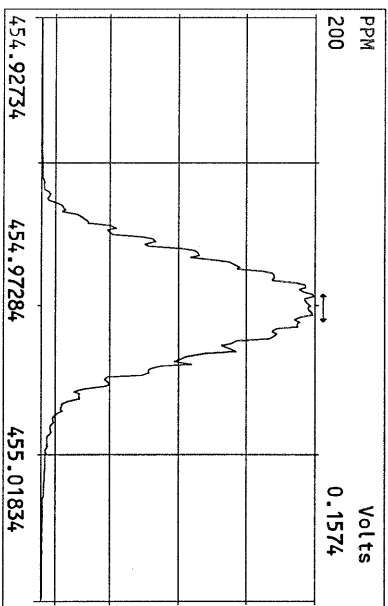
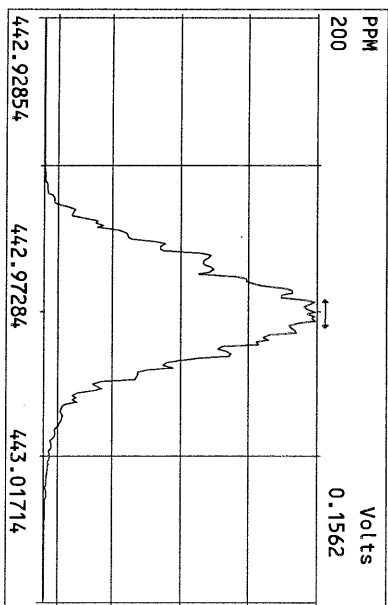
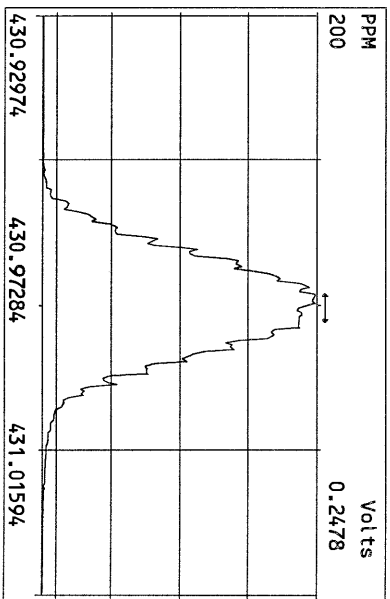
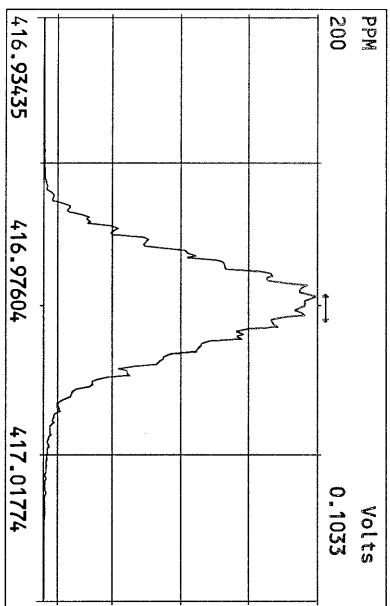
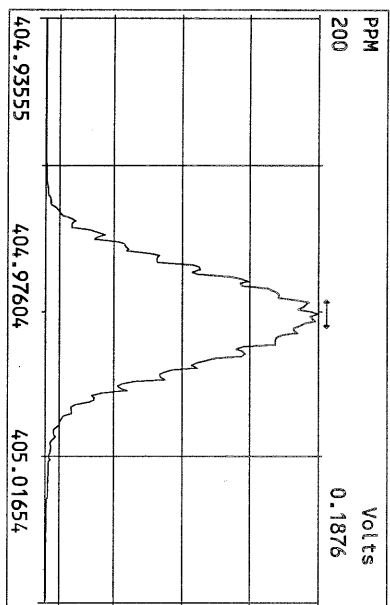
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
513.6775 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

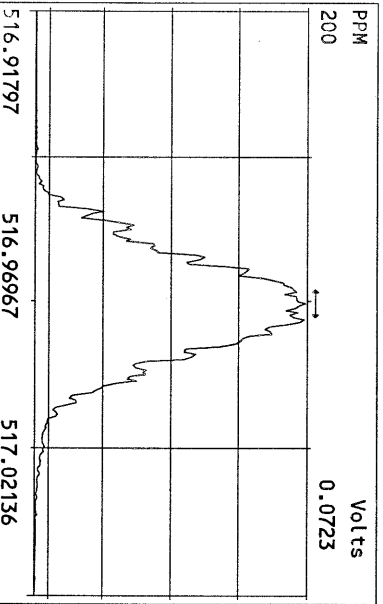
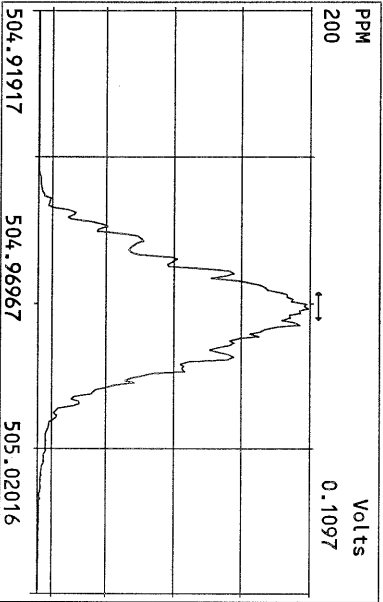
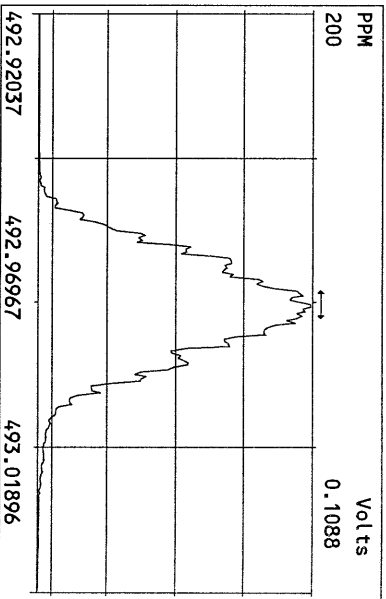
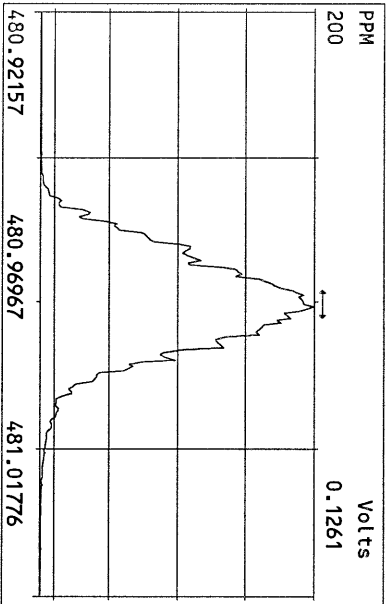
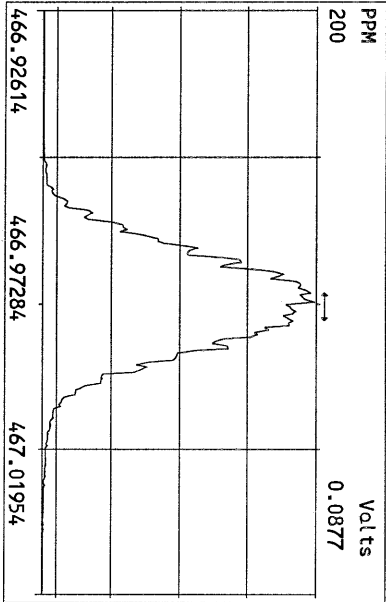
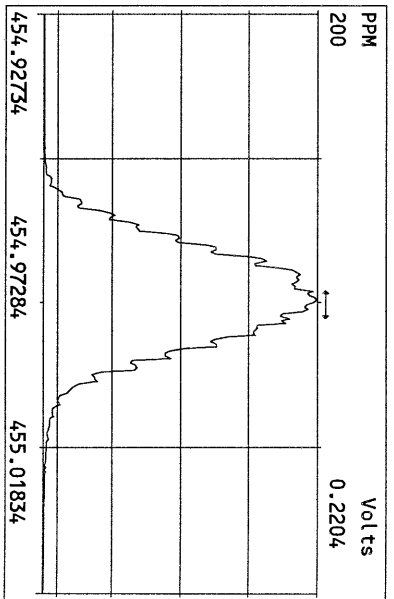
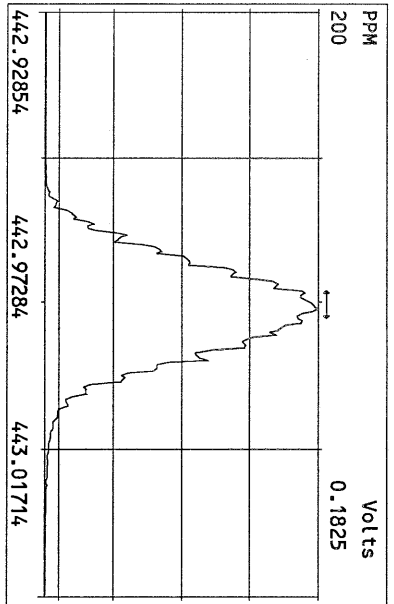
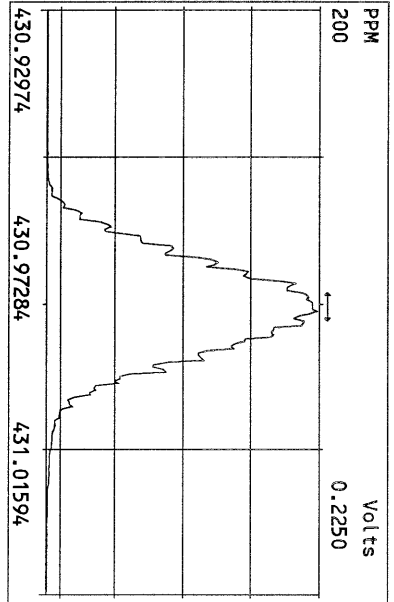














FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:1

Analysis Date: 11-FEB-11 14:29:51

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	y	12.0	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32-1.78	y	52.0	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	53.3	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	52.5	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	55.1	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.98	0.88-1.20	y	47.6	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	98.3	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.70	0.65-0.89	y	9.71	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	52.4	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	51.0	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	53.5	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	55.7	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	y	54.4	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	y	55.4	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88-1.20	y	51.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.09	0.88-1.20	y	52.3	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	110	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: Date: 2/11/11

FORM 4B  
 PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:1

Analysis Date: 11-FEB-11 14:29:51

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	91.9	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.72	1.32-1.78	y	109	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	97.8	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	95.3	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	99.3	72.0 - 138
13C-OCDD	M+2/M+4	1.00	0.76-1.02	y	215	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.88	0.65-0.89	y	94.2	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.66	1.32-1.78	y	105	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.68	1.32-1.78	y	105	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	94.1	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	88.4	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	90.8	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	89.6	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37-0.51	y	91.9	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37-0.51	y	98.4	77.0 - 129
13C-OCDF	M+2/M+4	0.91	0.76-1.02	y	193	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					10.1	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: 

Date: 2/14/11

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory Episode No.:  
Contract No.: SAS No.:  
Instrument ID: FAL3 Initial Calibration Date: 8/23/10  
RT Window Data Filename: 11FEB11M Sam:1 Analysis Date: 11-FEB-11 Time: 14:29:51  
DB-5 IS Data Filename: 11FEB11M Sam:1 Analysis Date: 11-FEB-11 Time: 14:29:51  
DB-225 IS Data Filename: Analysis Date: Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:28	1,3,6,8-TCDF (F)	23:06
1,2,8,9-TCDD (L)	28:27	1,2,8,9-TCDF (L)	28:41
1,2,4,7,9-PeCDD (F)	30:22	1,3,4,6,8-PeCDF (F)	28:31
1,2,3,8,9-PeCDD (L)	33:57	1,2,3,8,9-PeCDF (L)	34:23
1,2,4,6,7,9-HxCDD (F)	36:16	1,2,3,4,6,8-HxCDF (F)	35:23
1,2,3,7,8,9-HxCDD (L)	39:22	1,2,3,7,8,9-HxCDF (L)	39:57
1,2,3,4,6,7,9-HpCDD (F)	42:59	1,2,3,4,6,7,8-HpCDF (F)	42:28
1,2,3,4,6,7,8-HpCDD (L)	44:22	1,2,3,4,7,8,9-HpCDF (L)	45:18

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

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

Analyst: 

Date: 2/14/11

## USEPA - ITD

## FORM 6A

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5


Analysis Date: 11-FEB-11 14:29:51

CS3 or VER Data Filename: 11FEB11M

Sam:1

NATIVE ANALYTES	RETENTION TIME		RRT	RRT
	REFERENCE			QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD		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-PeCDD	13C-1,2,3,7,8-PeCDD		1.001	0.999-1.002
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF		1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF		1.001	0.999-1.002
LABELED COMPOUNDS				
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD		1.023	0.989-1.052
13C-2,3,7,8-TCDD			1.022	0.976-1.043
13C-2,3,7,8-TCDF			0.994	0.923-1.103
13C-1,2,3,7,8-PeCDD			1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF			1.175	0.923-1.203
13C-2,3,4,7,8-PeCDF			1.225	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

## USEPA - ITD

FORM 6B

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

Analysis Date: 11-FEB-11 14:29:51

CS3 or VER Data Filename: 11FEB11M

Sam:1


NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
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	1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	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
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.001	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.984	0.977-1.000
13C-1,2,3,6,7,8-HxCDD		0.988	0.981-1.003
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF		1.014	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD		1.127	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF		1.079	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF		1.151	1.057-1.154
13C-OCDD		1.269	1.032-1.311
13C-OCDF		1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

Results:		GC Column: DB5	Amount: 1.000	NATO 1989 Tox:	107	WHO 1998 Tox:	133	WHO 2005 Tox:	121	
Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	
2,3,7,8-TCDD	2.79e+06	0.80 y	27:30	1.11	12.0		2.50	-	*	
1,2,3,7,8-PeCDD	1.17e+07	1.53 y	33:21	1.10	52.0		2.50	-	*	
1,2,3,4,7,8-HxCDD	1.19e+07	1.27 y	38:45	1.37	53.3		2.50	-	*	
1,2,3,6,7,8-HxCDD	1.08e+07	1.29 y	38:55	1.37	52.5		2.50	-	*	
1,2,3,7,8,9-HxCDD	1.17e+07	1.26 y	39:22	1.36	55.1		2.50	-	*	
1,2,3,4,6,7,8-HpCDD	9.12e+06	0.98 y	44:22	1.45	47.6		2.50	-	*	
OCDD	1.29e+07	0.89 y	49:59	1.43	98.3		2.50	-	*	
2,3,7,8-TCDF	5.11e+06	0.70 y	26:45	1.50	9.71		2.50	-	*	
1,2,3,7,8-PeCDF	1.62e+07	1.53 y	31:38	0.94	52.4		2.50	-	*	
2,3,4,7,8-PeCDF	1.52e+07	1.53 y	32:57	0.94	51.0		2.50	-	*	
1,2,3,4,7,8-HxCDF	1.34e+07	1.24 y	37:21	0.93	53.5		2.50	-	*	
1,2,3,6,7,8-HxCDF	1.59e+07	1.25 y	37:33	0.82	55.7		2.50	-	*	
2,3,4,6,7,8-HxCDF	1.42e+07	1.26 y	38:31	0.92	54.4		2.50	-	*	
1,2,3,7,8,9-HxCDF	1.56e+07	1.24 y	39:57	1.00	55.4		2.50	-	*	
1,2,3,4,6,7,8-HpCDF	1.12e+07	1.06 y	42:28	1.39	51.1		2.50	-	*	
1,2,3,4,7,8,9-HpCDF	8.69e+06	1.09 y	45:18	1.36	52.3		2.50	-	*	
OCDF	1.40e+07	0.90 y	50:21	0.79	110		2.50	-	*	
									Rec	
13C-2,3,7,8-TCDD	2.09e+07	0.79 y	27:29	1.02	91.9				91.9	
13C-1,2,3,7,8-PeCDD	2.05e+07	1.72 y	33:20	0.84	109				109	
13C-1,2,3,4,7,8-HxCDD	1.63e+07	1.26 y	38:43	1.07	97.8				97.8	
13C-1,2,3,6,7,8-HxCDD	1.50e+07	1.26 y	38:53	1.01	95.3				95.3	
13C-1,2,3,4,6,7,8-HpCDD	1.32e+07	1.05 y	44:21	0.86	99.3				99.3	
13C-OCDD	1.82e+07	1.00 y	49:57	0.55	215				108	
13C-2,3,7,8-TCDF	3.50e+07	0.88 y	26:44	0.99	94.2				94.2	
13C-1,2,3,7,8-PeCDF	3.27e+07	1.66 y	31:36	0.84	105				105	
13C-2,3,4,7,8-PeCDF	3.19e+07	1.68 y	32:56	0.81	105				105	
13C-1,2,3,4,7,8-HxCDF	2.70e+07	0.51 y	37:19	1.85	94.1				94.1	
13C-1,2,3,6,7,8-HxCDF	3.47e+07	0.51 y	37:32	2.54	88.4				88.4	
13C-2,3,4,6,7,8-HxCDF	2.83e+07	0.52 y	38:29	2.01	90.8				90.8	
13C-1,2,3,7,8,9-HxCDF	2.82e+07	0.52 y	39:55	2.03	89.6				89.6	
13C-1,2,3,4,6,7,8-HpCDF	1.58e+07	0.47 y	42:27	1.11	91.9				91.9	
13C-1,2,3,4,7,8,9-HpCDF	1.23e+07	0.47 y	45:17	0.80	98.4				98.4	
13C-OCDF	3.25e+07	0.91 y	50:20	1.08	193				96.7	
37Cl-2,3,7,8-TCDD	1.53e+06		27:30	0.69	10.1				101	
13C-1,2,3,4-TCDD	2.22e+07	0.80 y	26:54	-	49.5					
13C-1,2,3,4-TCDF	3.74e+07	0.88 y	25:38	-	51.7					
13C-1,2,3,7,8,9-HxCDD	1.55e+07	1.32 y	39:21	-	56.2					
Total Tetra-Dioxins	1.46e+07		22:54	1.11	63.0		2.50	-	*	32
Total Penta-Dioxins	2.61e+07		30:22	1.10	116		2.50	-	*	9
Total Hexa-Dioxins	3.98e+07		36:16	1.37	186		2.50	-	*	21
Total Hepta-Dioxins	1.97e+07		42:59	1.45	103		2.50	-	*	26
Total Tetra-Furans	2.47e+07		23:06	1.50	47.0		2.50	-	*	29
1st Fn. Tot Penta-Furans	1.69e+07		28:31	0.94	55.8		2.50	-	*	PeCDF 5
Total Penta-Furans	4.58e+07		30:09	0.94	151		2.50	-	*	207 15
Total Hexa-Furans	6.98e+07		35:23	0.91	259		2.50	-	*	28
Total Hepta-Furans	2.11e+07		42:28	1.38	110		2.50	-	*	34

Analyst: 

Date: 

Frontier Analytical Laboratory - Acquisition Log

Run Name:11FEB11M

Instrument: FAL3

GC: DB5

Experiment:OCDD

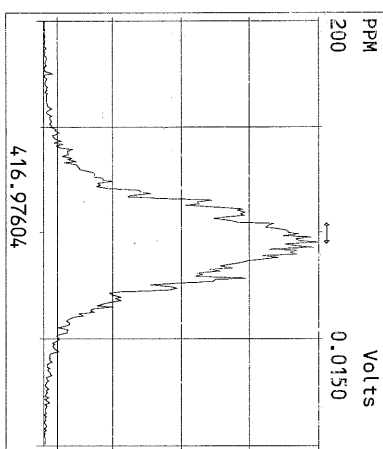
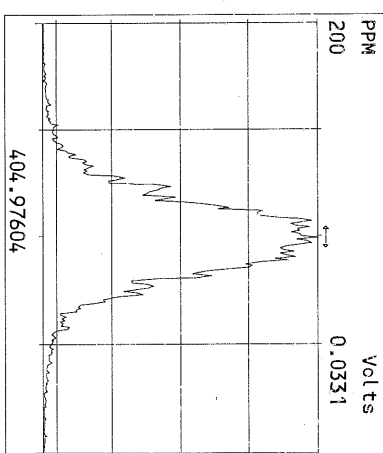
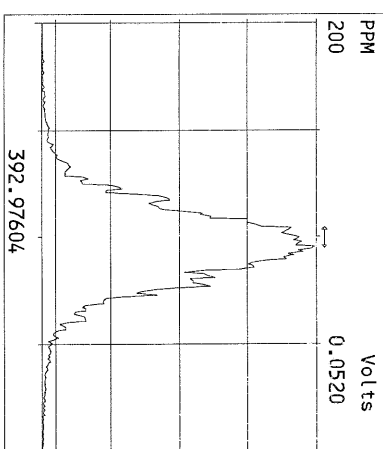
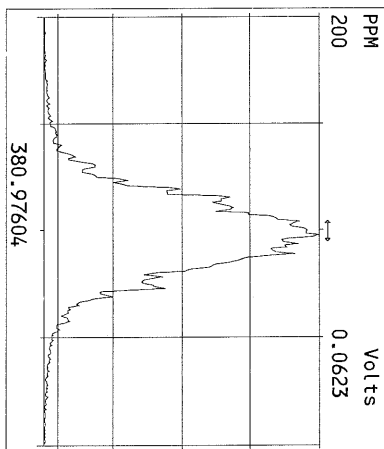
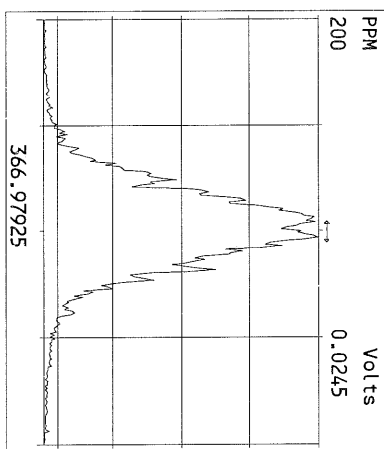
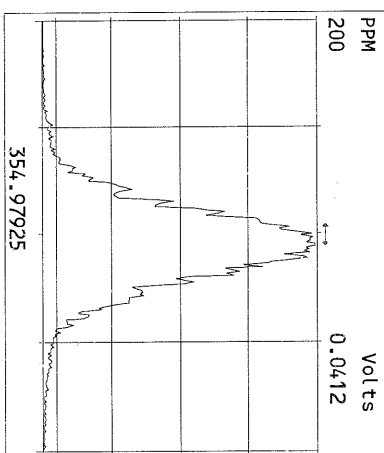
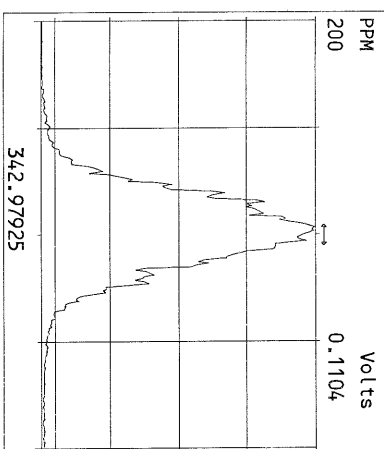
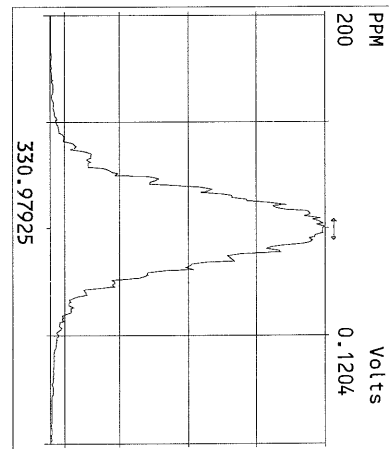
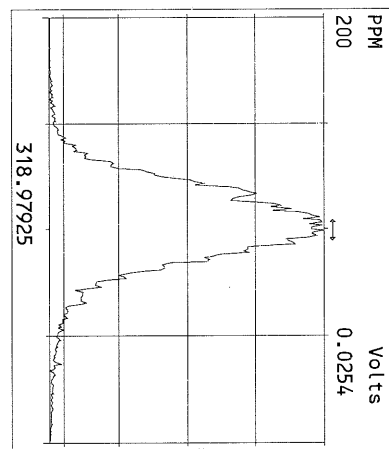
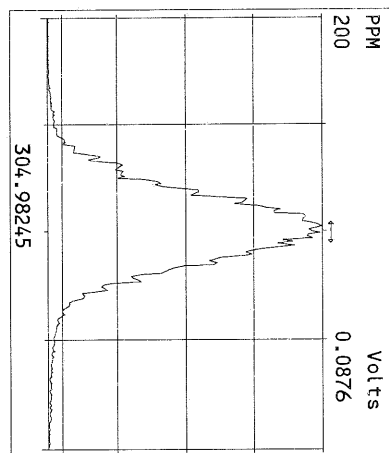
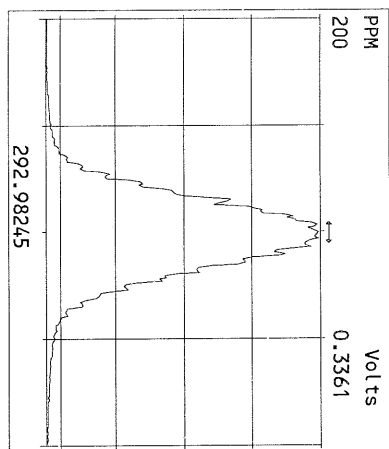
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 2/14/11

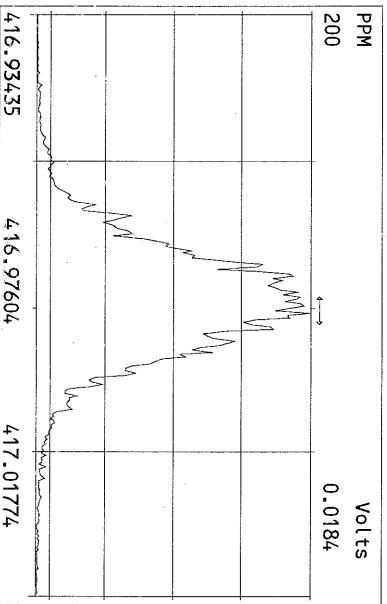
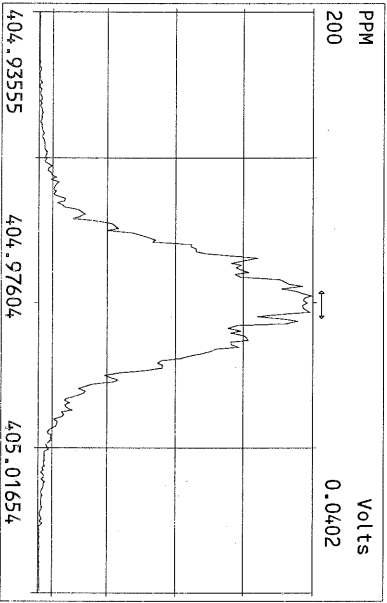
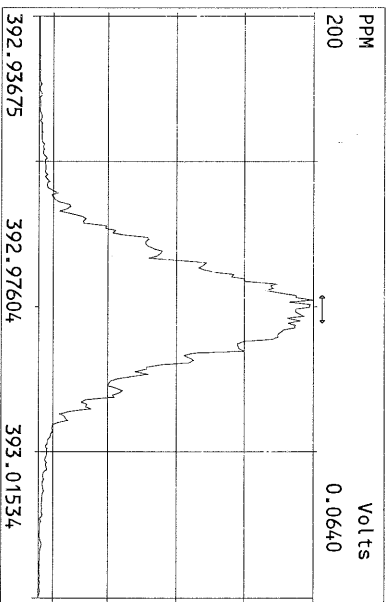
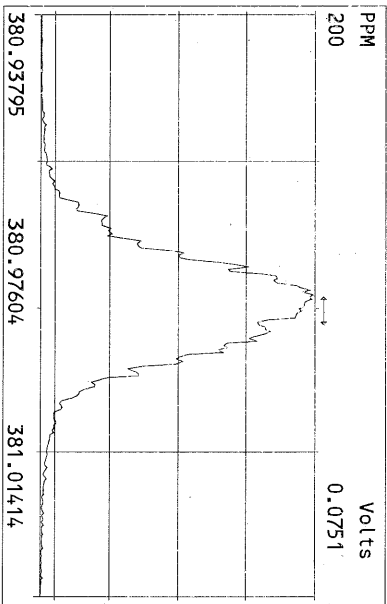
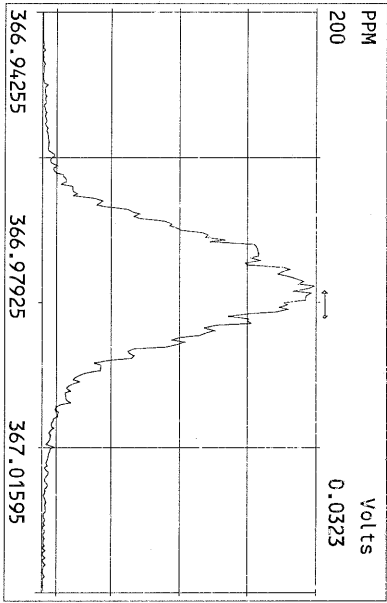
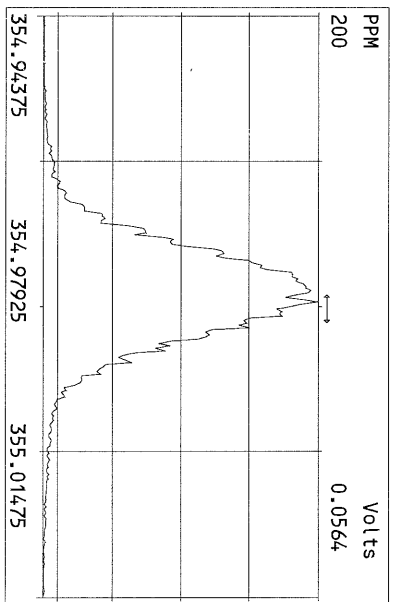
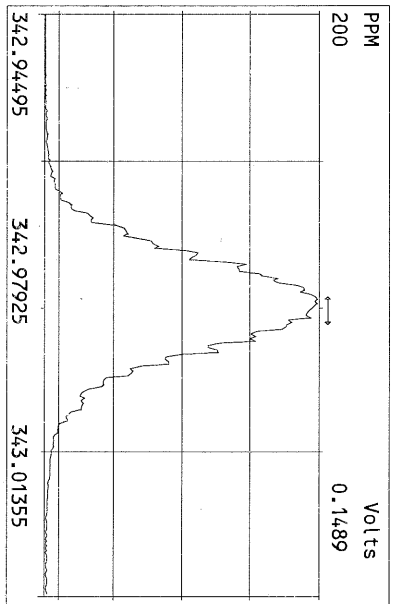
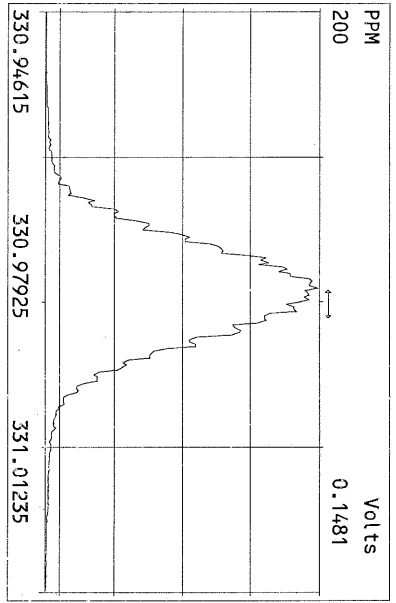
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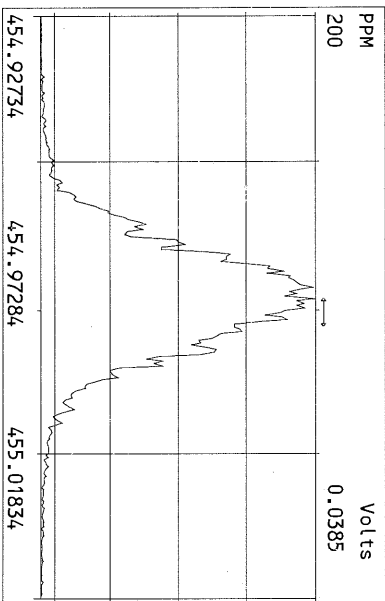
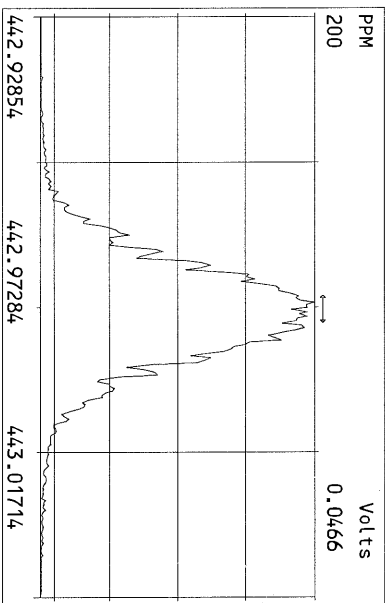
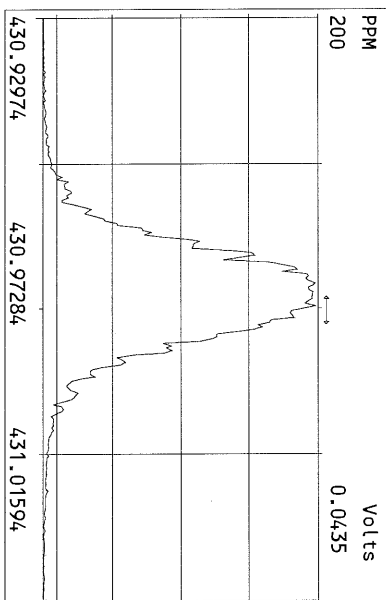
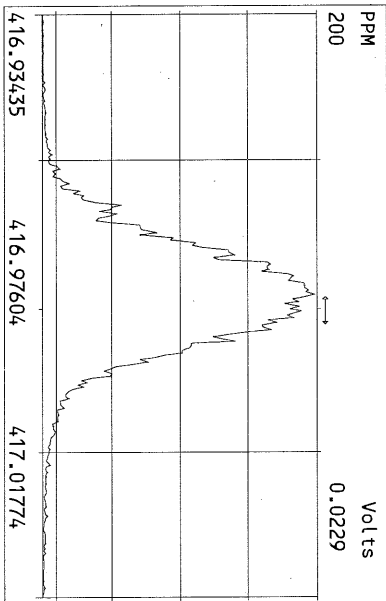
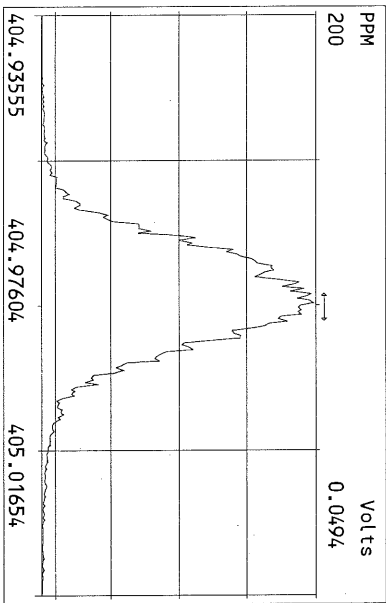
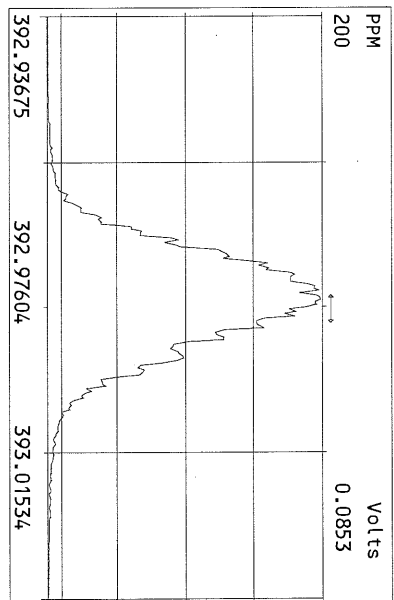
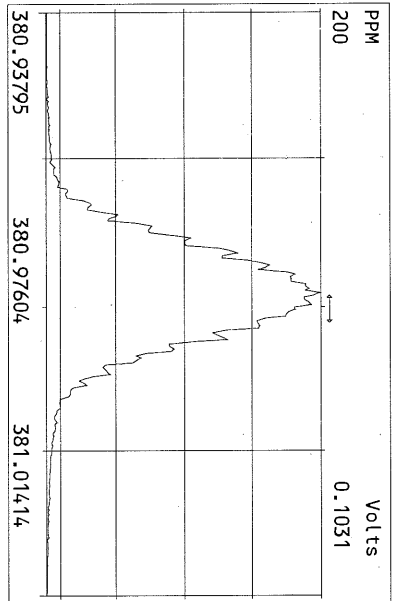
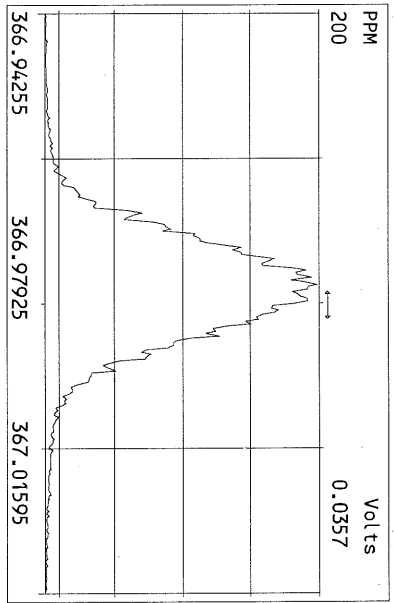
Date: \_\_\_\_\_

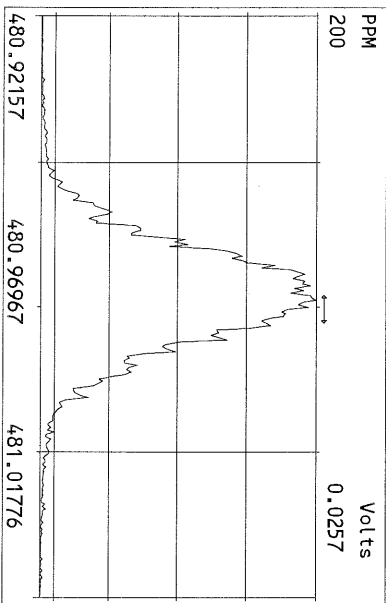
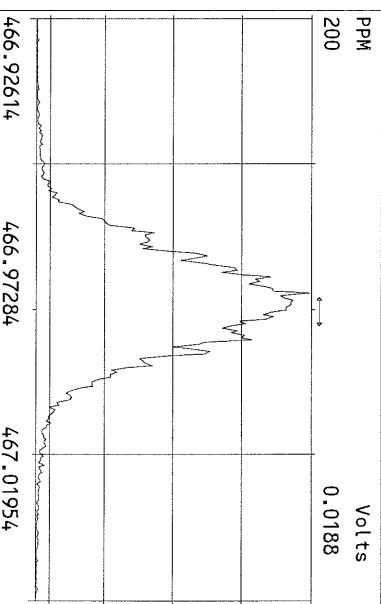
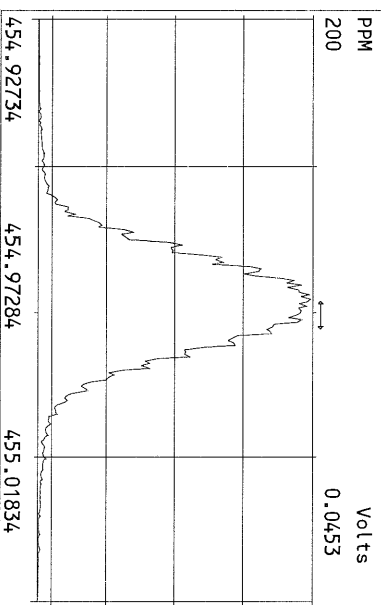
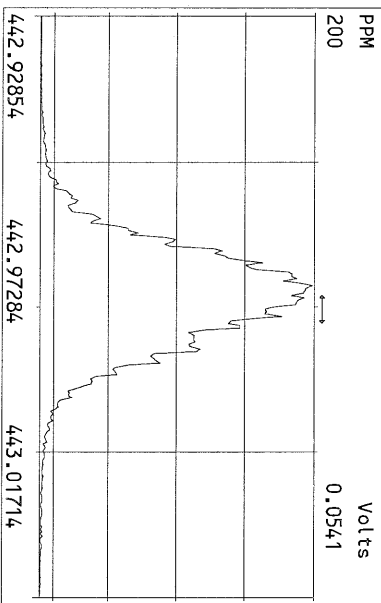
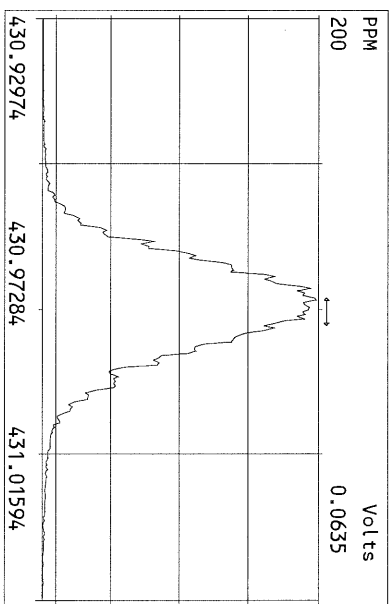
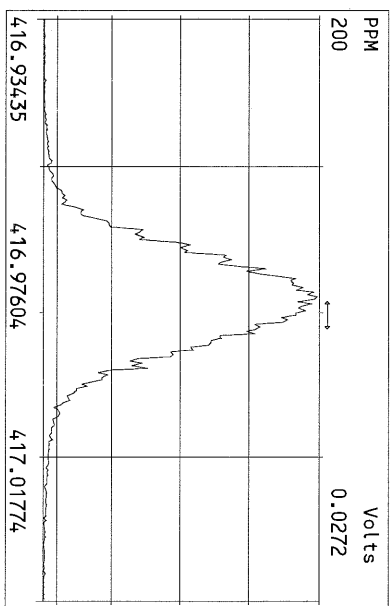
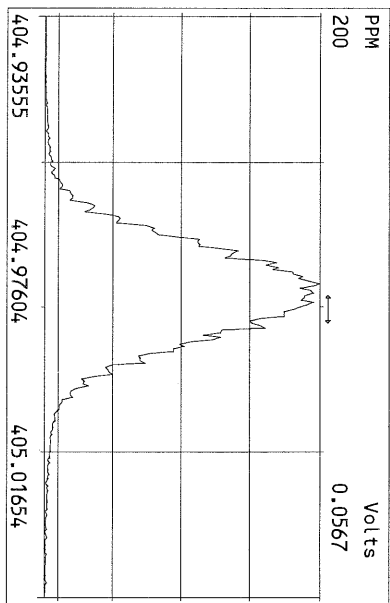
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Experiment:OCDD Function:1 Reference:PFK

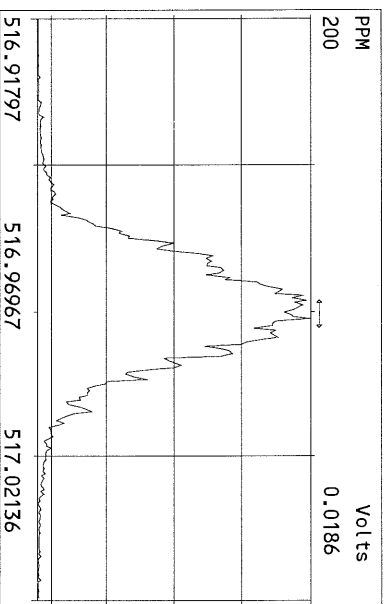
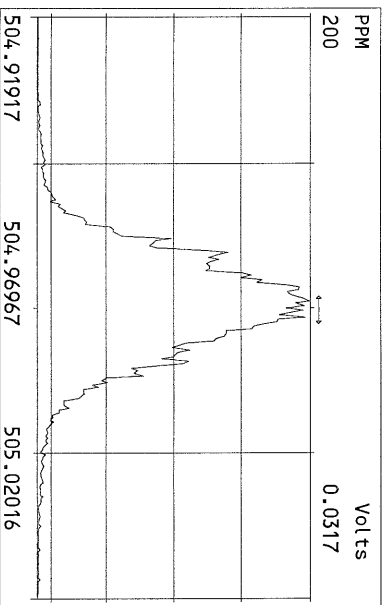
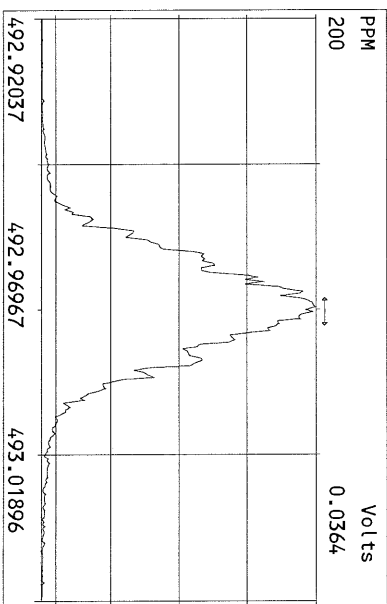
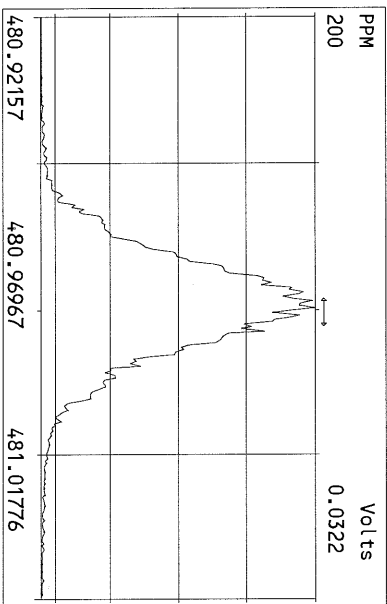
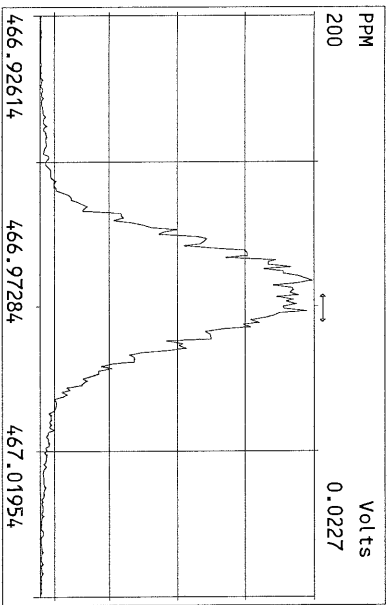
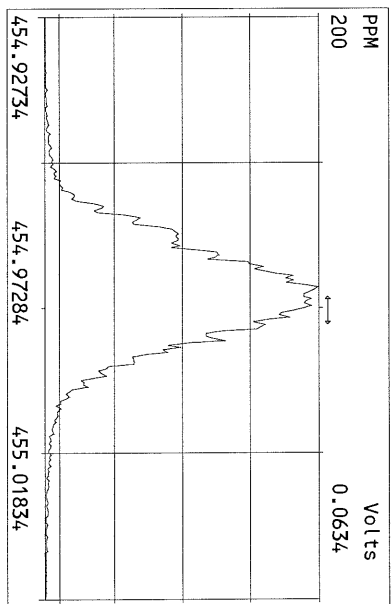
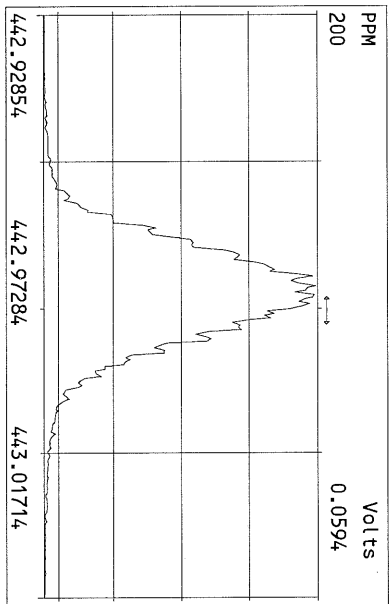
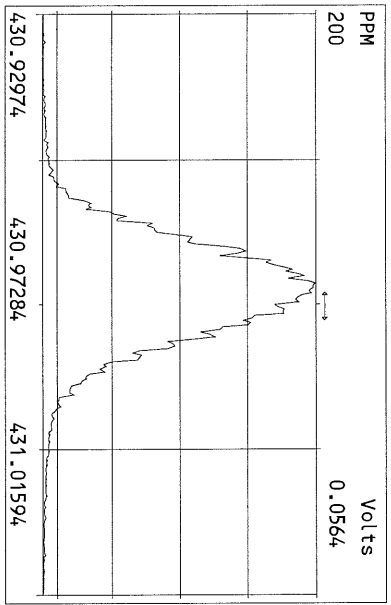




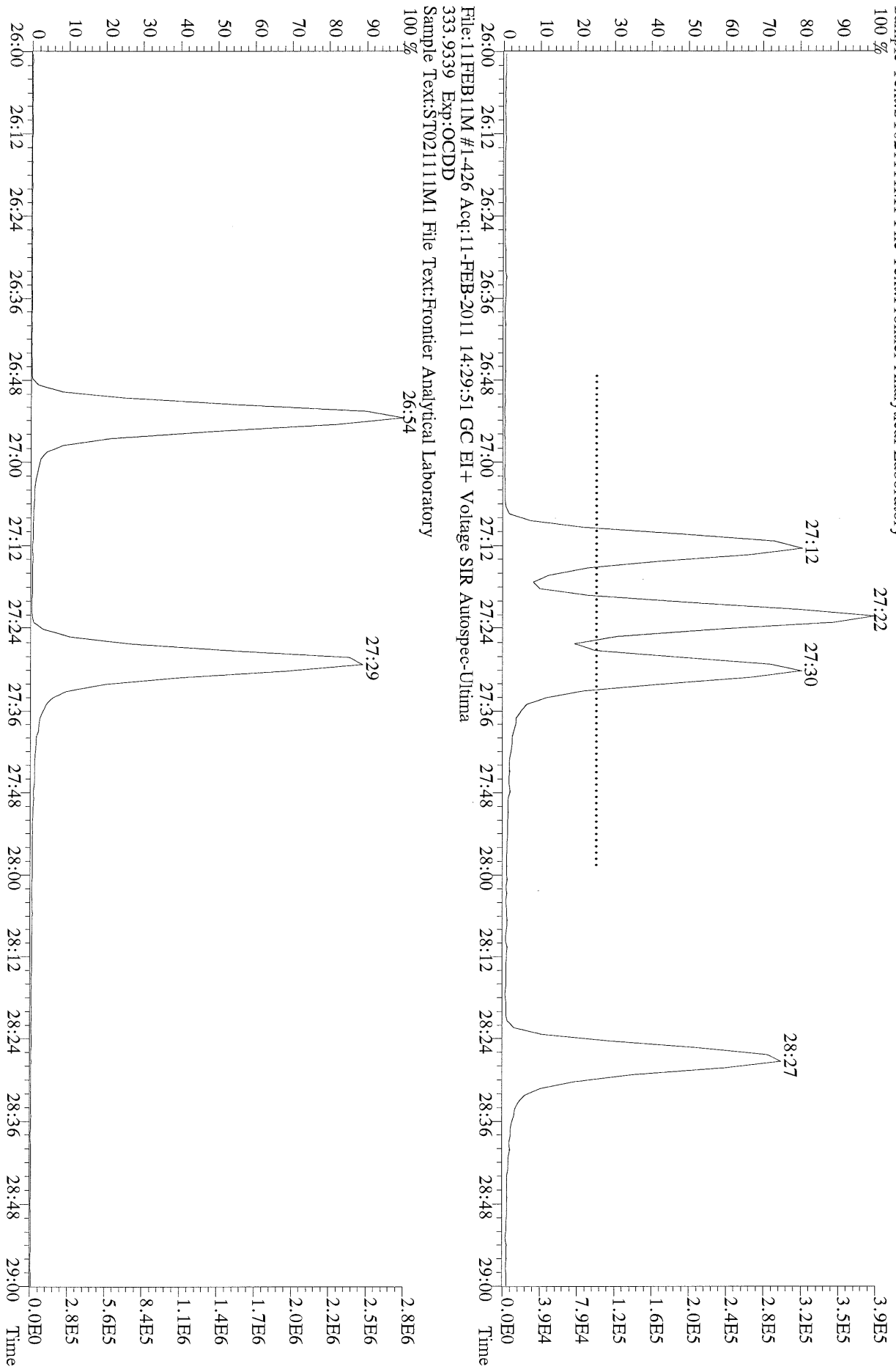






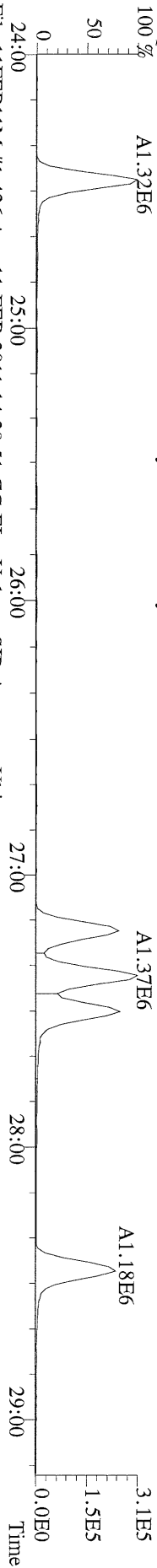


File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
321.8936 Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

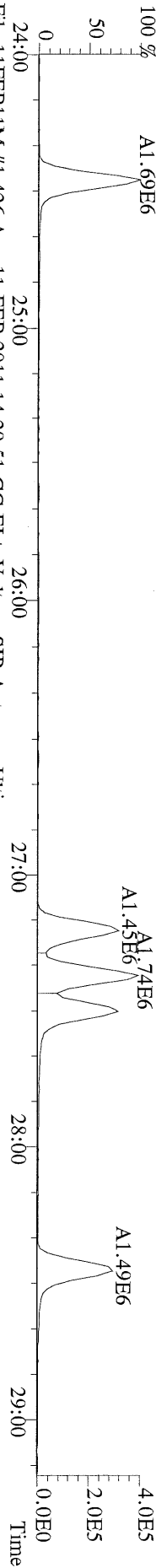


File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
333.9339 Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

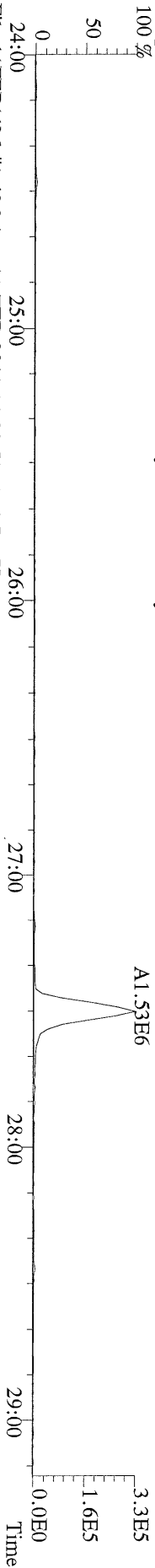
File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
319.8965 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



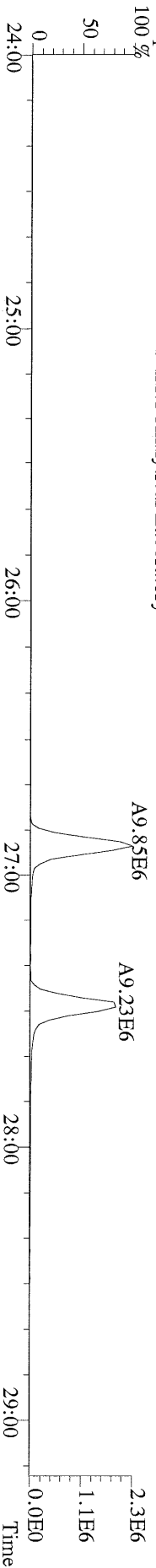
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Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



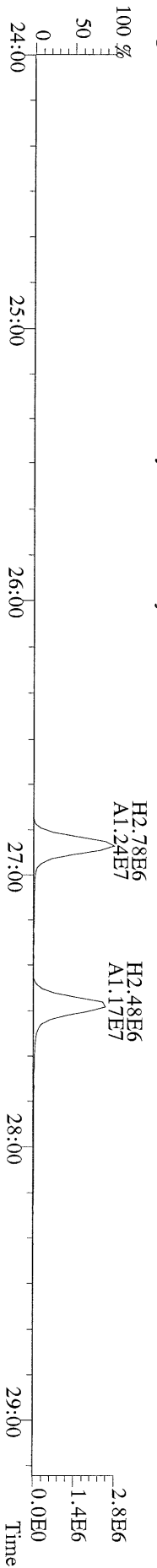
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327.8847 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



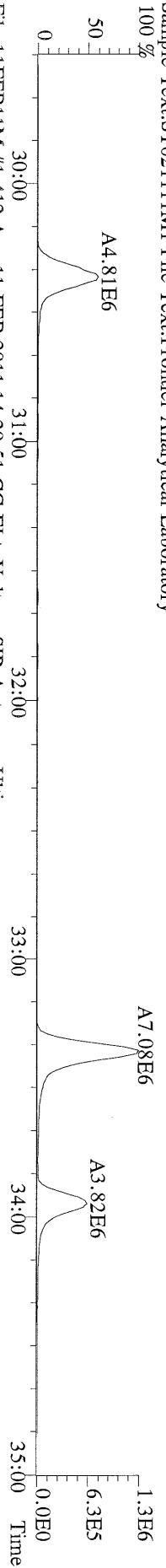
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331.9368 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



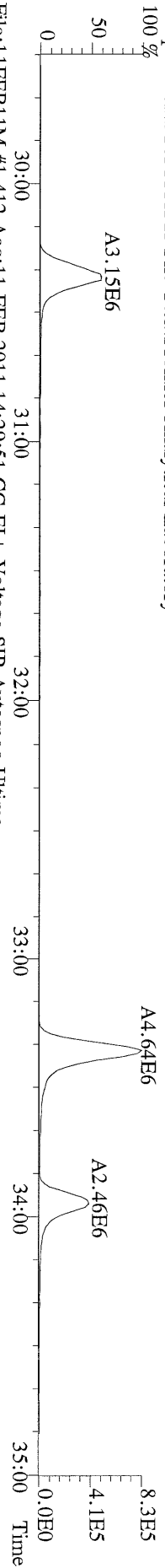
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333.9339 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



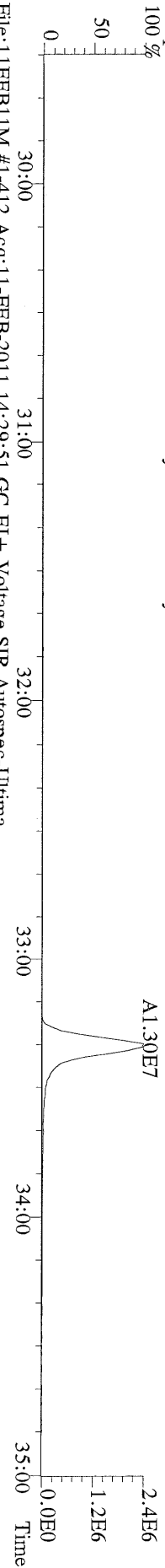
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355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



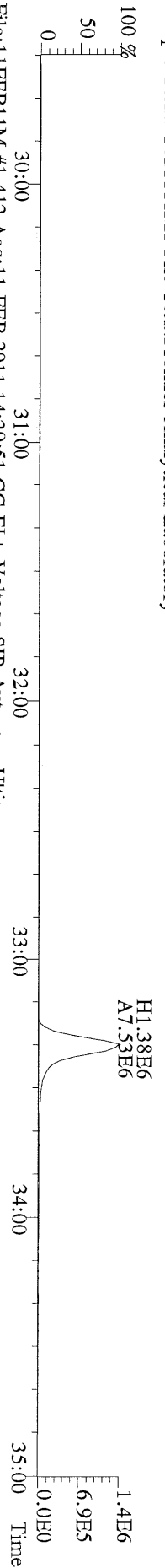
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357.8517 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



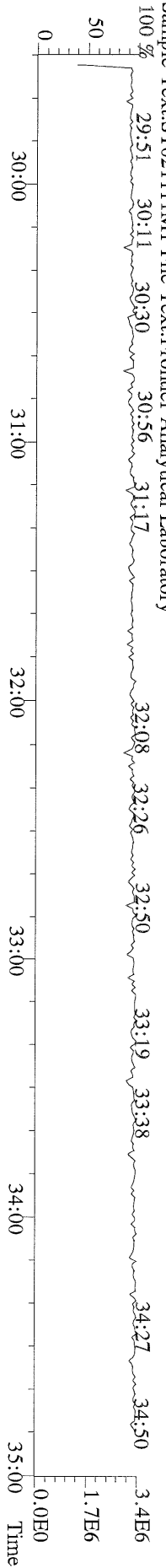
File: 11FEB11M #1-412 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



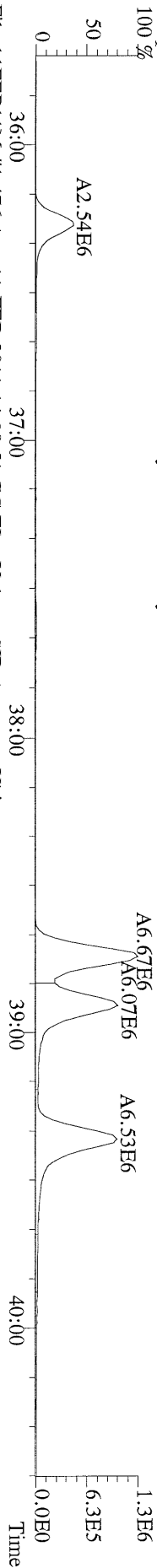
File: 11FEB11M #1-412 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
369.8919 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



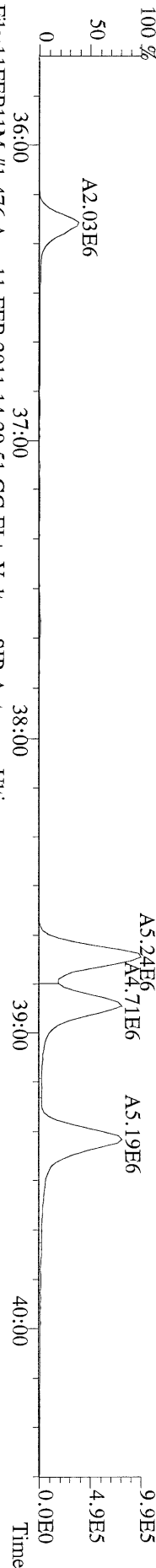
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366.9792 F:2 Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



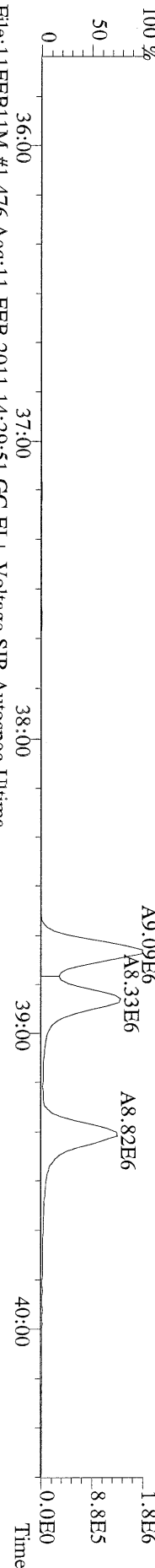
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389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



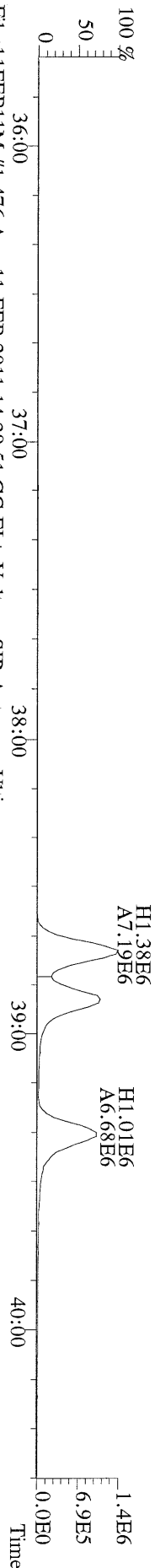
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391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



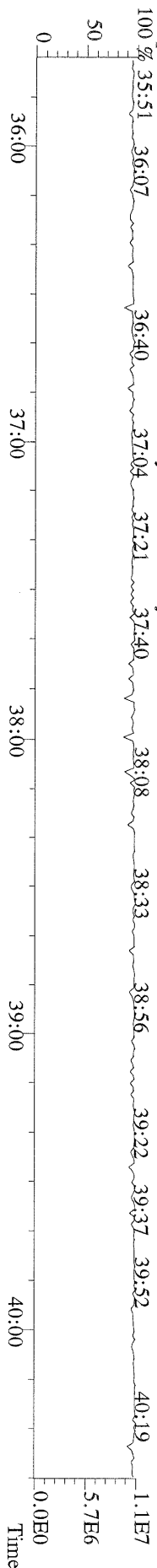
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401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



File:11FEB11M #1-476 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

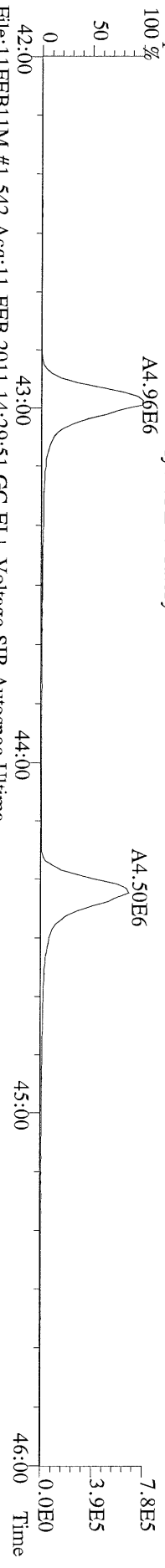


File:11FEB11M #1-476 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
380.9760 F:3 Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

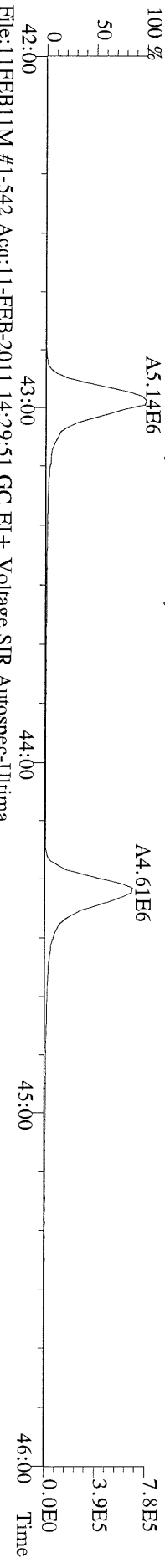




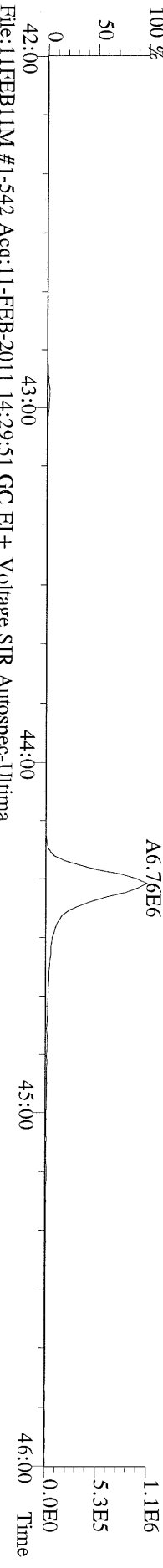
File:1\FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 %



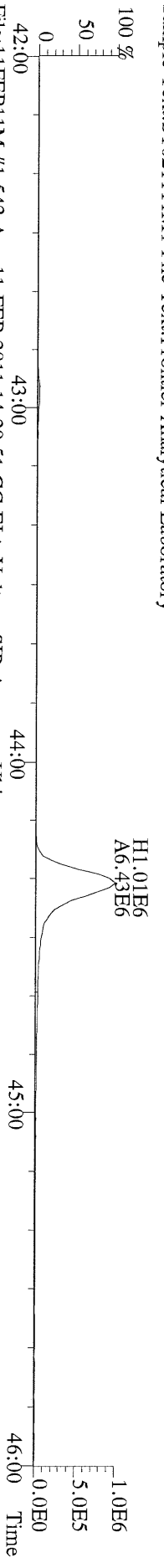
File:1\FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 %



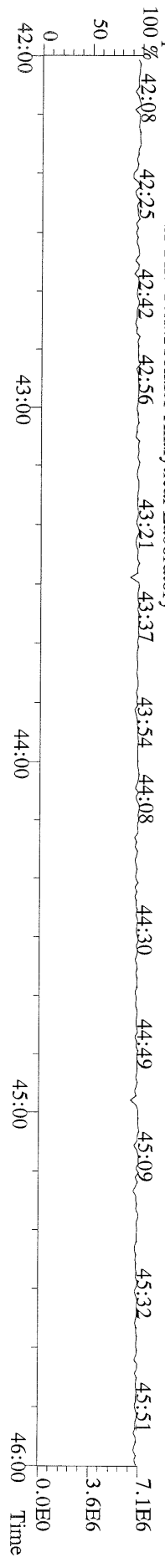
File:1\FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 %



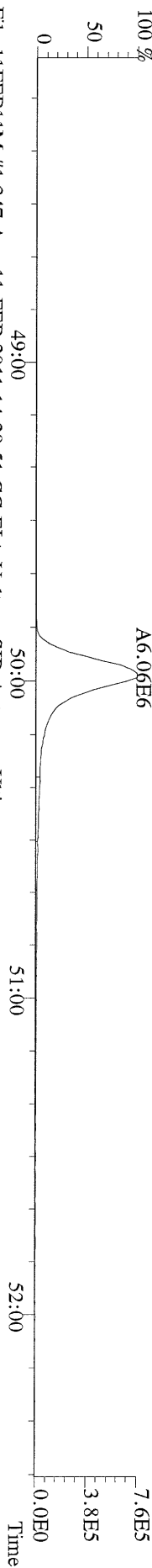
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437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



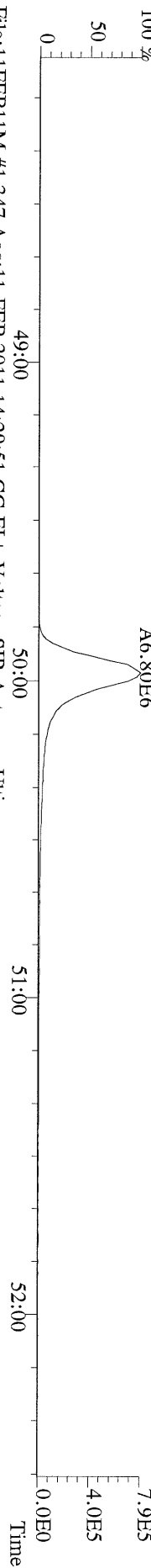
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430.9728 F:4 Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 %



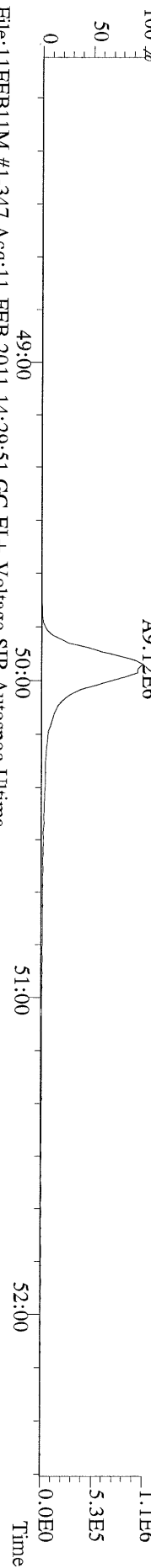
File:11FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



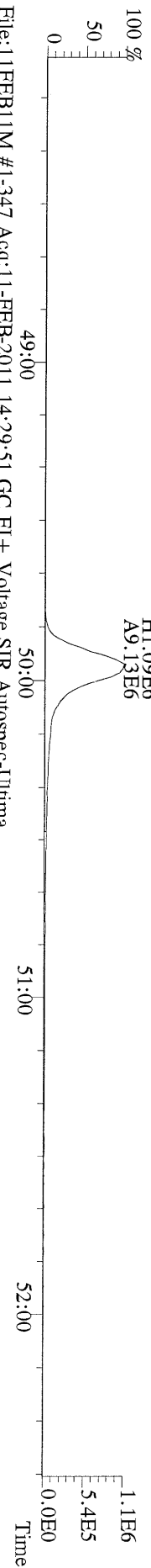
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459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



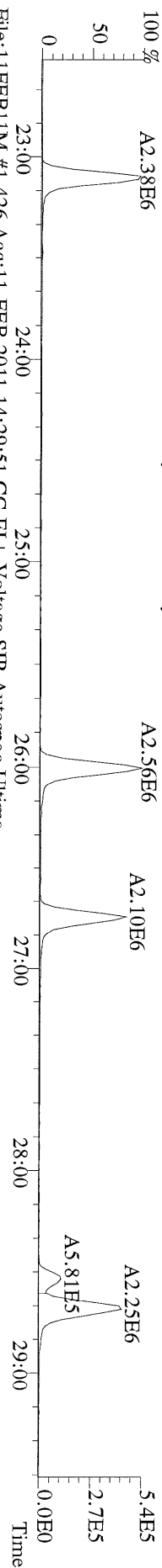
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471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



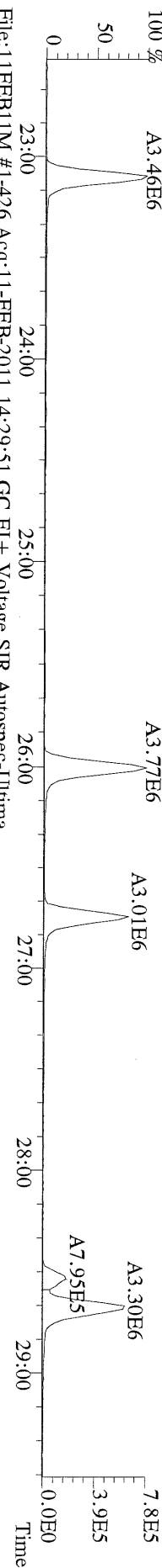
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454.9728 F:5 Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



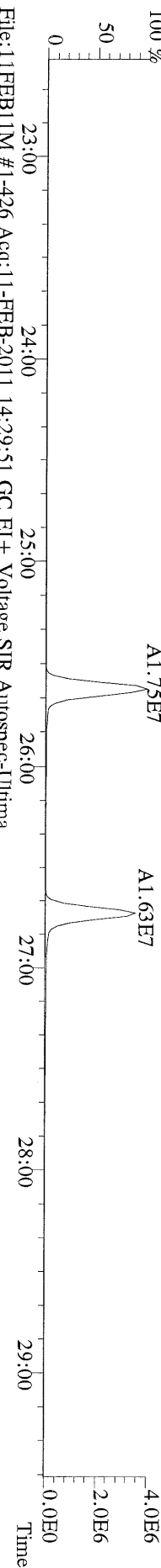
File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
303.9016 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



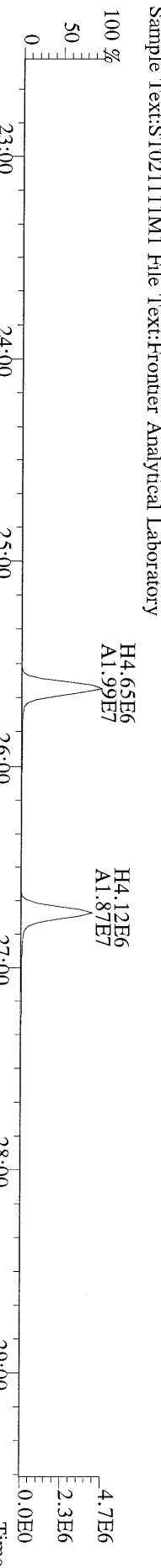
File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
305.8987 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



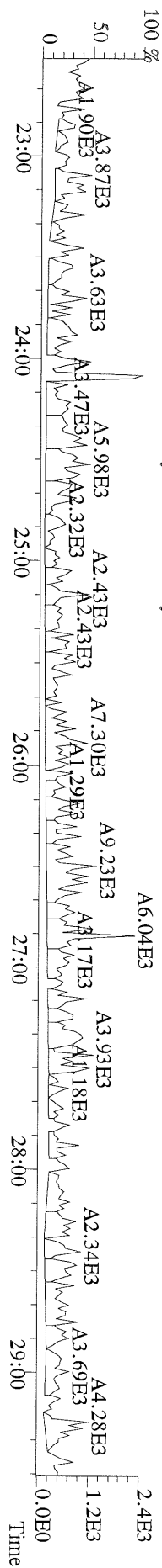
File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
315.9419 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



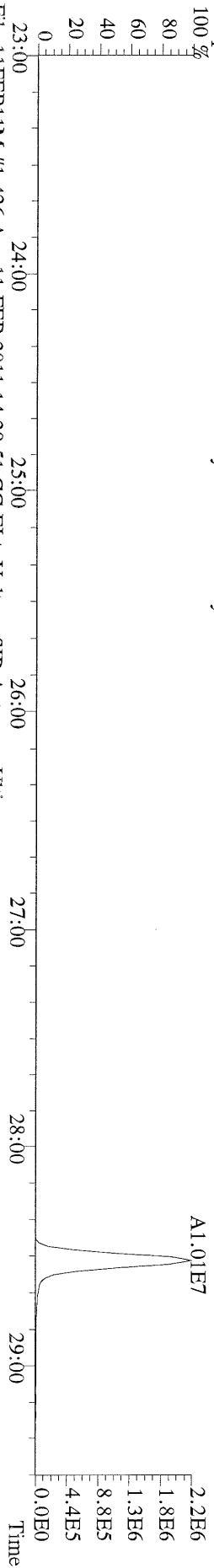
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317.9389 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



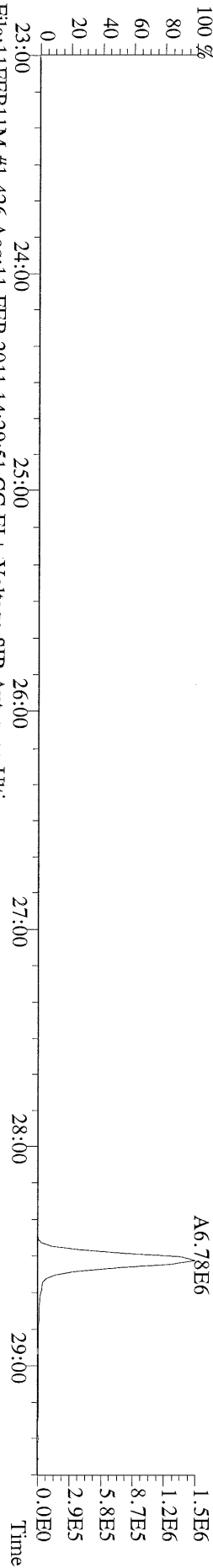
File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
375.8364 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



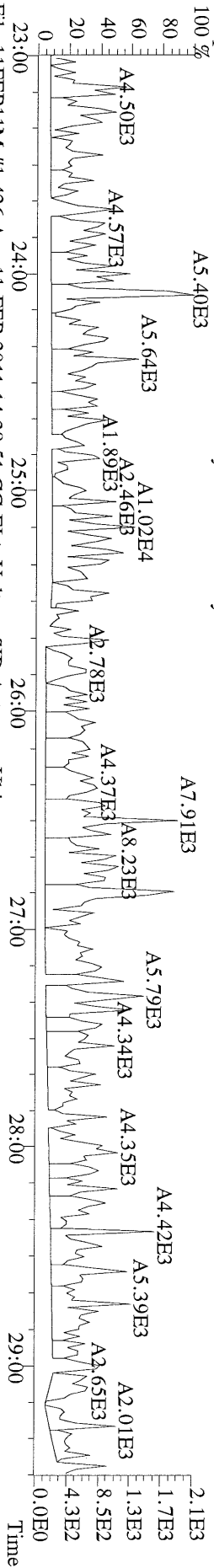
File: 1\FEB11M #1-426 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
 339.8597 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp: OCDD  
 Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



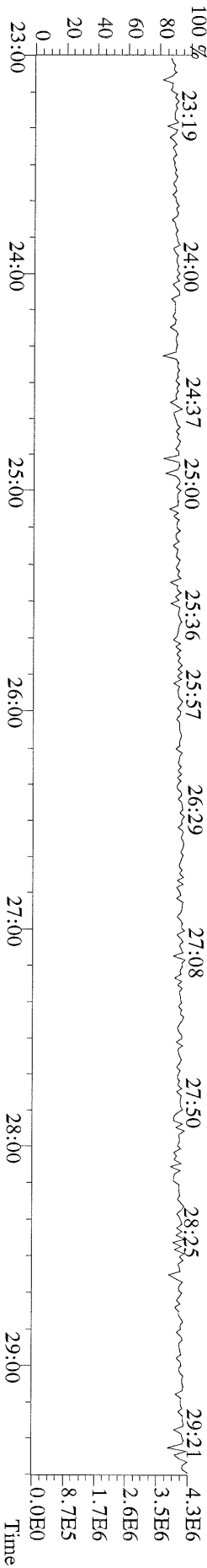
File: 1\FEB11M #1-426 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
 341.8568 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp: OCDD  
 Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



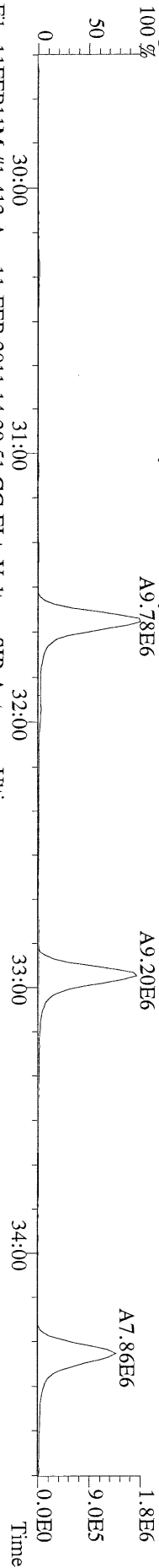
File: 1\FEB11M #1-426 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp: OCDD  
 Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



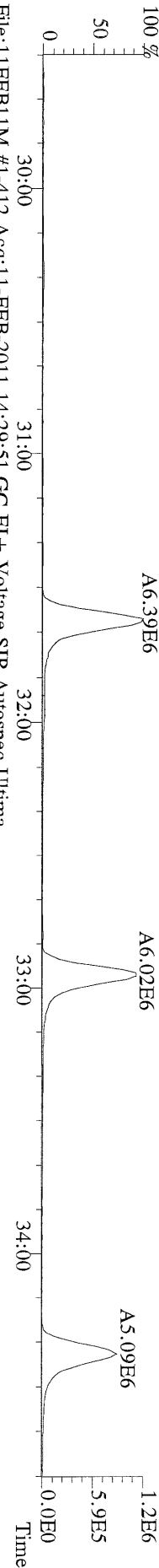
File: 1\FEB11M #1-426 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
 316.9824 Exp: OCDD  
 Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



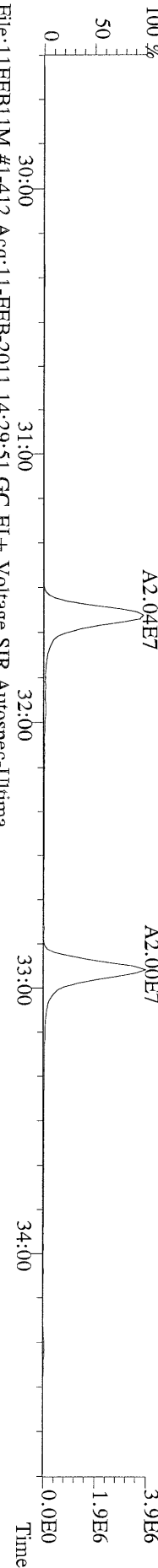
File:11FEB11M #1-412 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



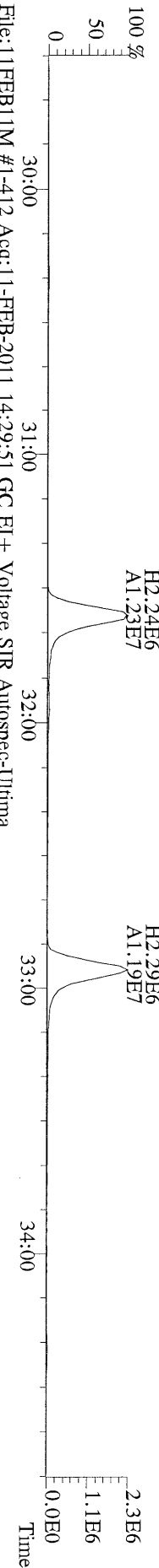
File:11FEB11M #1-412 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



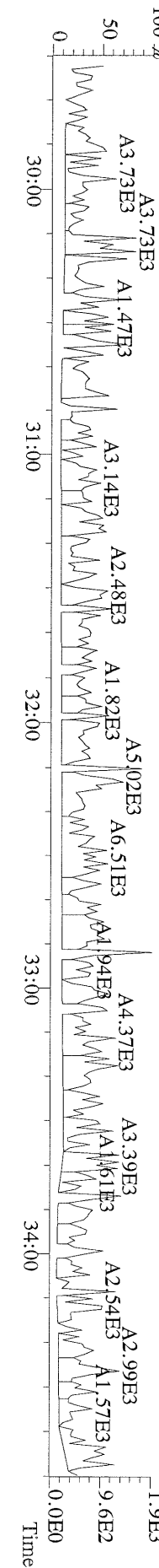
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 351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



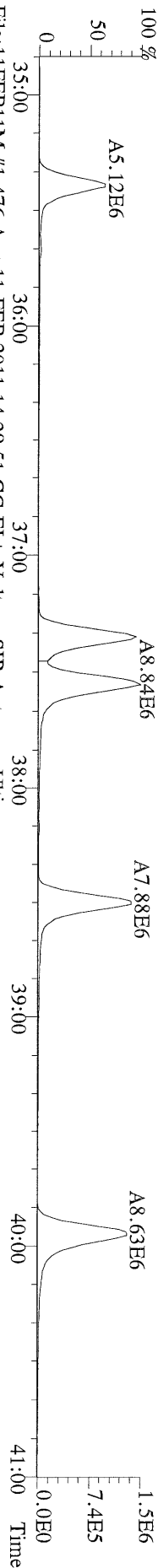
File:11FEB11M #1-412 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



File:11FEB11M #1-412 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Fronter Analytical Laboratory



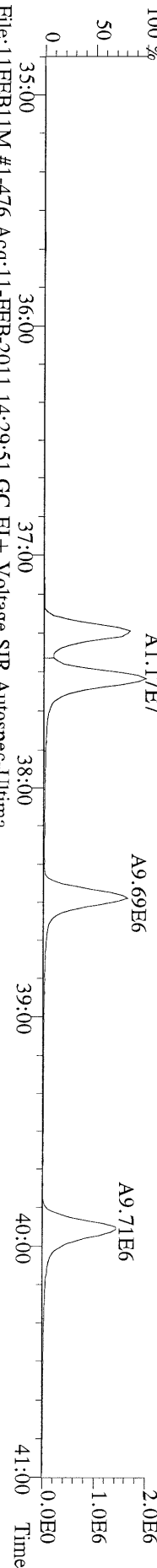
File:1\FEB11M #1-476 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



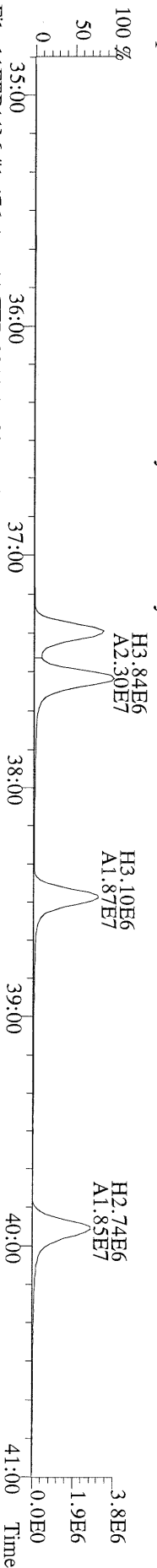
File:1\FEB11M #1-476 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



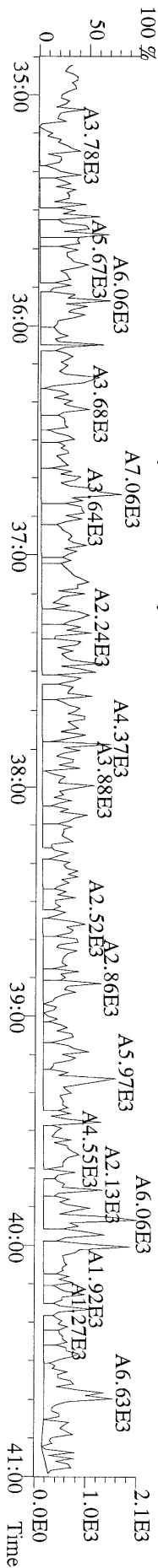
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 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



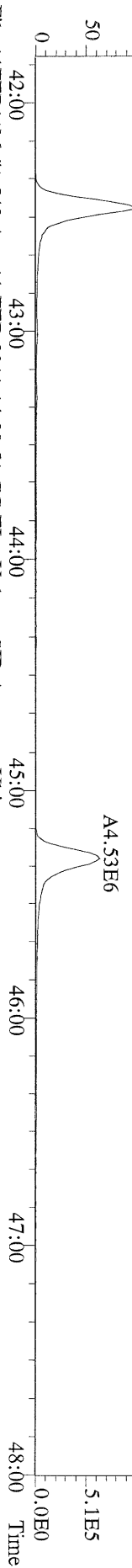
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 385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



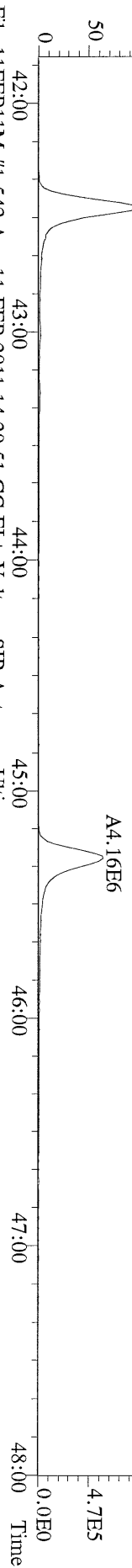
File:1\FEB11M #1-476 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
 445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



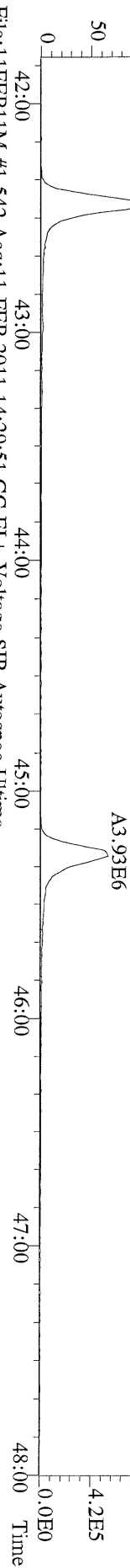
File:11FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 % A5.77E6



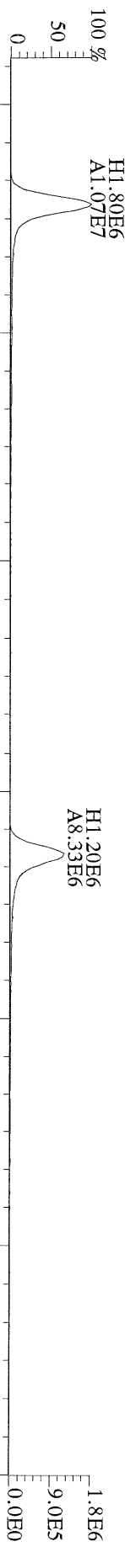
File:11FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 % A5.46E6



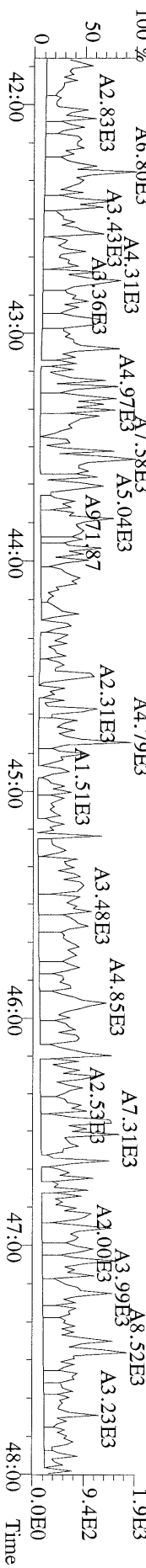
File:11FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory  
100 % A5.08E6



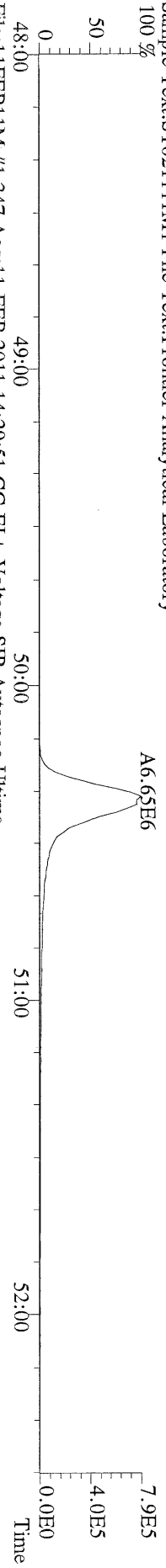
File:11FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



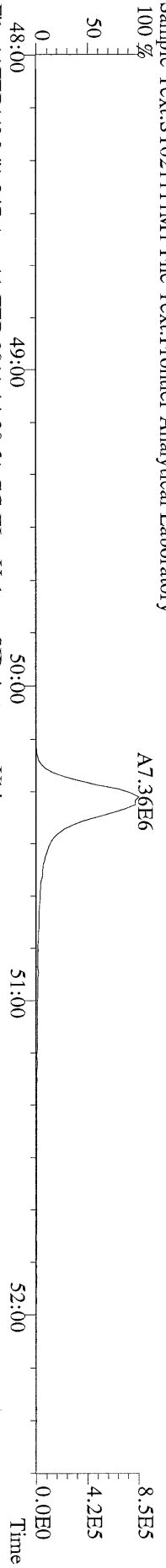
File:11FEB11M #1-542 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



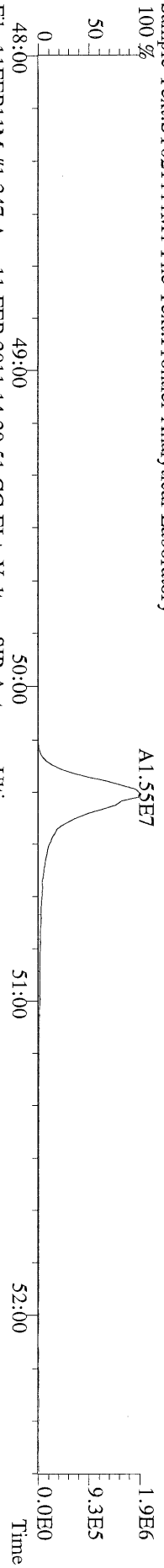
File:1\FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



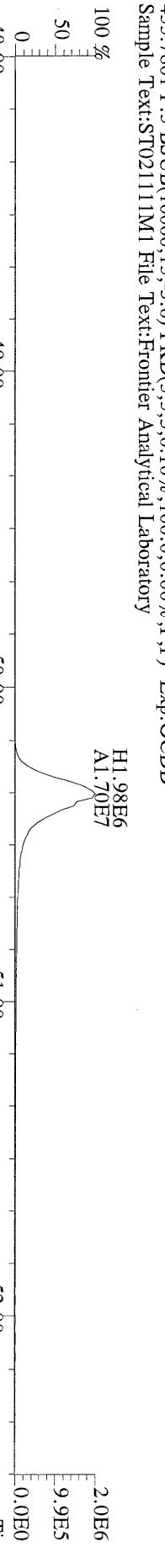
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443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



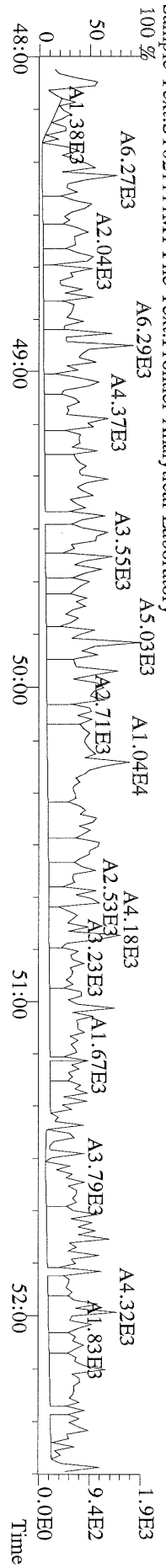
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453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



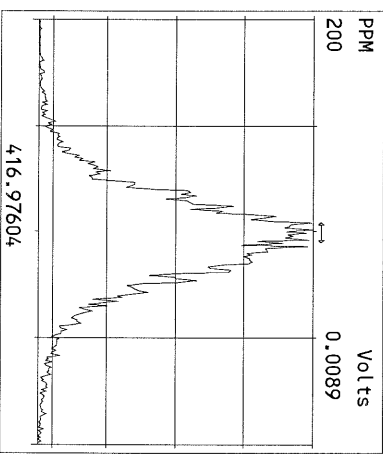
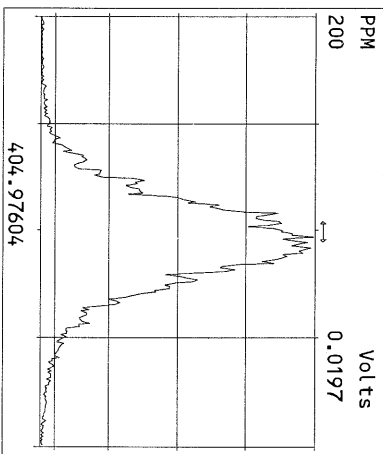
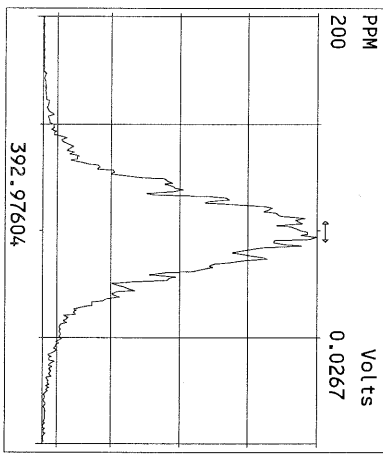
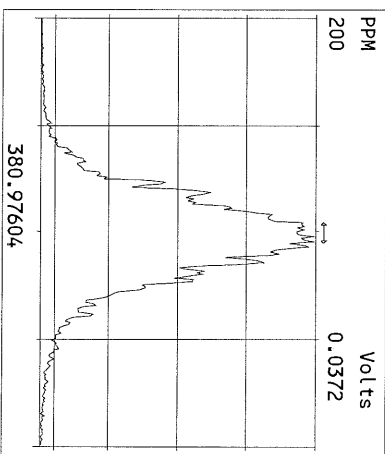
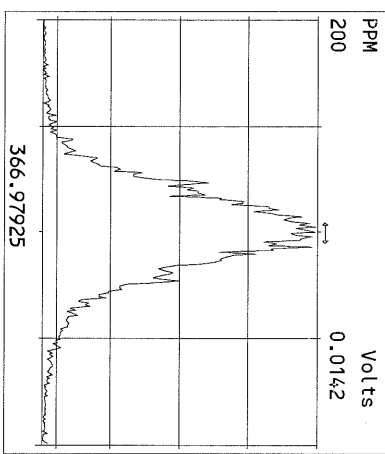
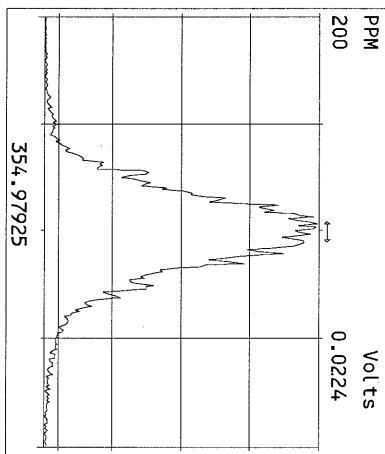
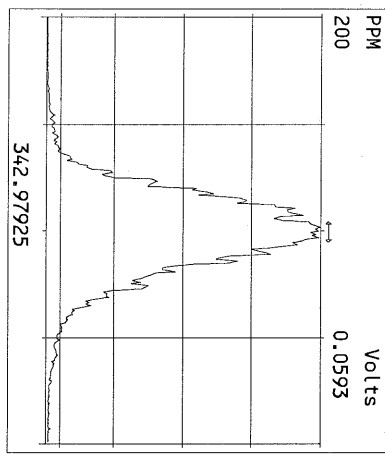
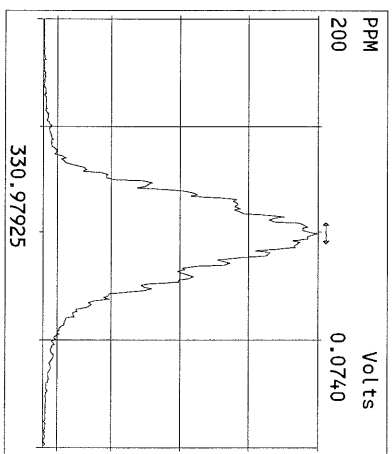
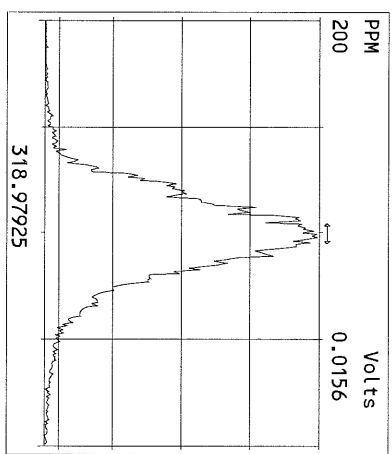
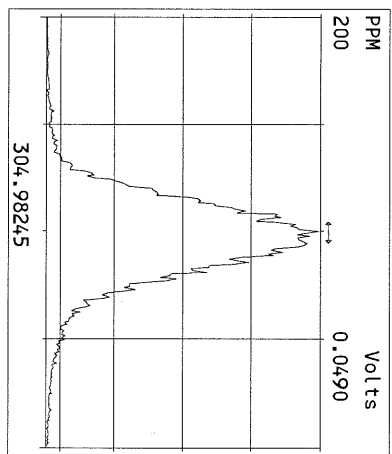
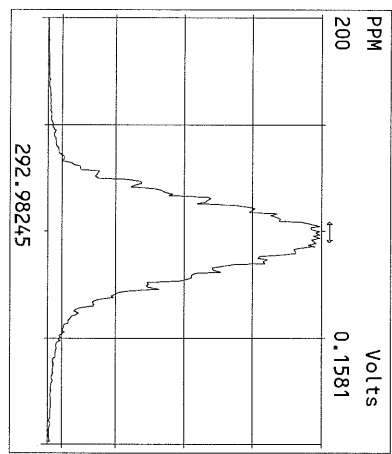
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455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

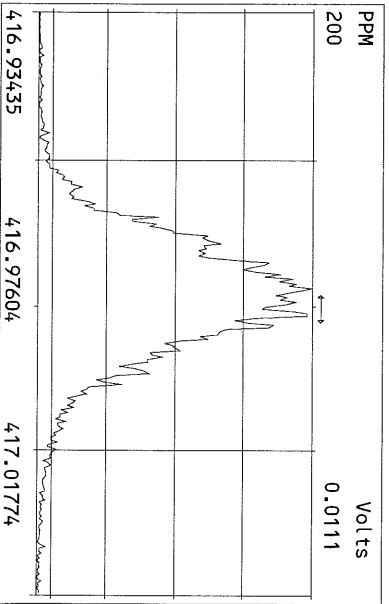
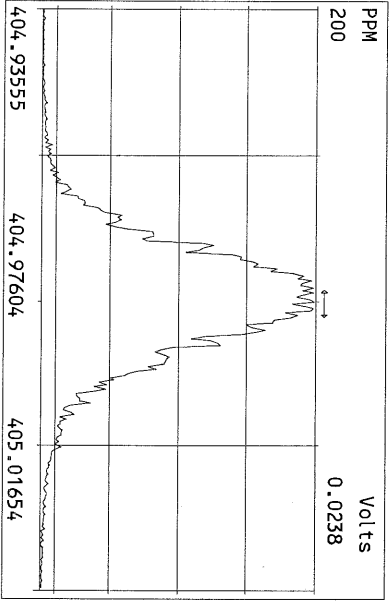
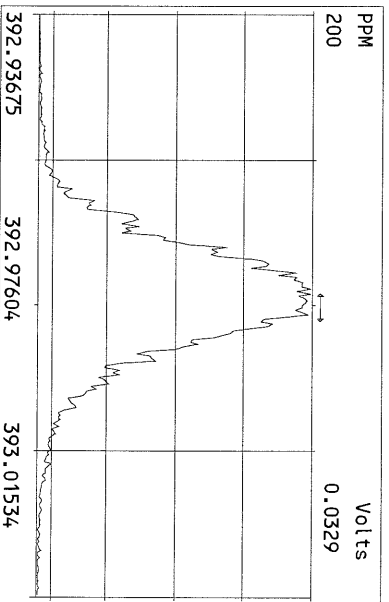
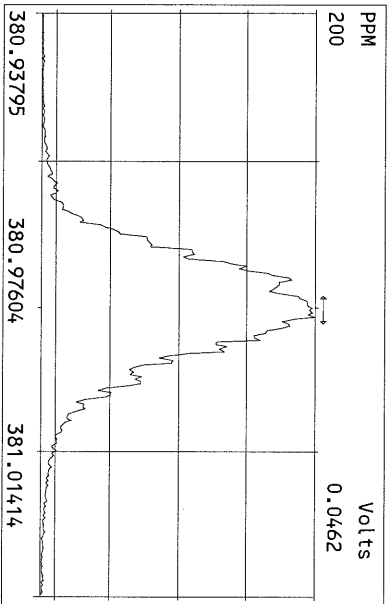
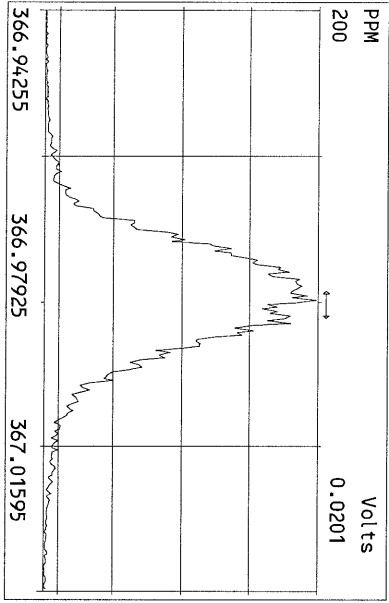
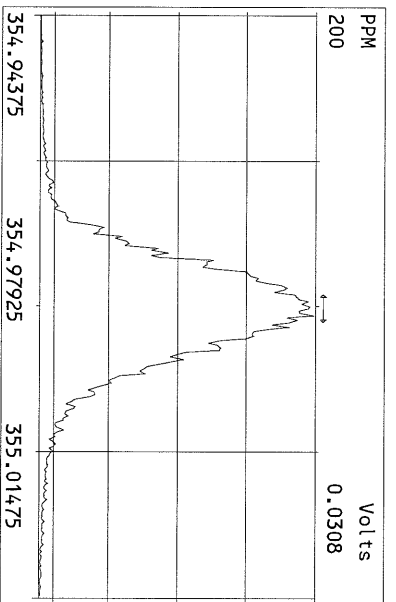
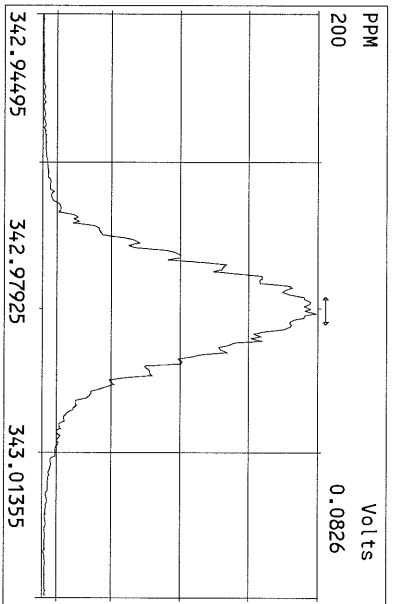
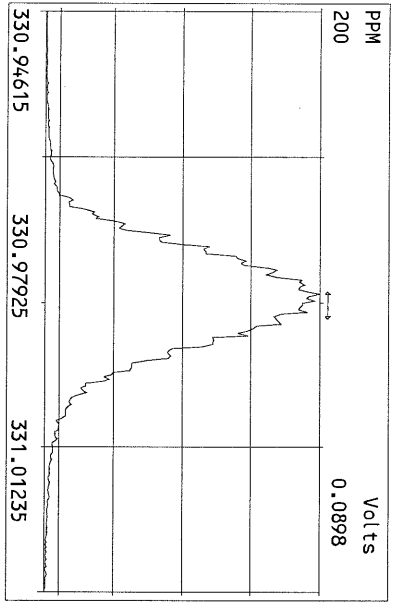


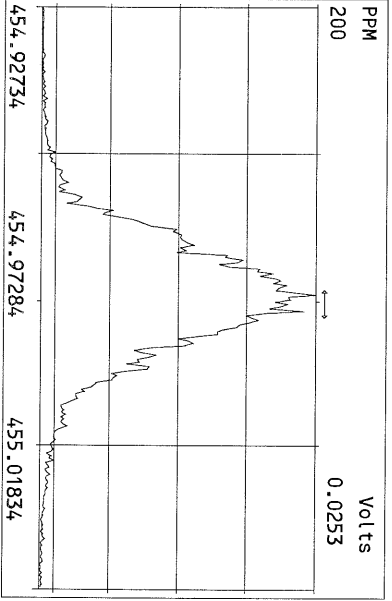
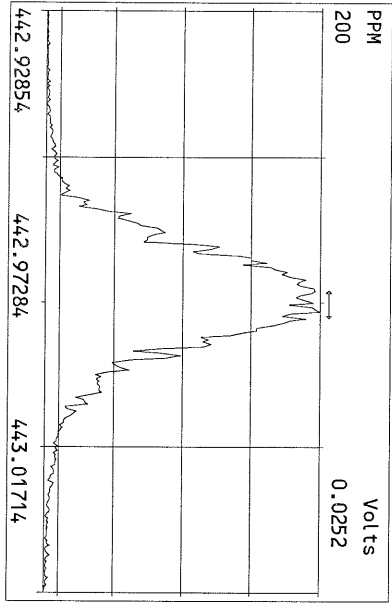
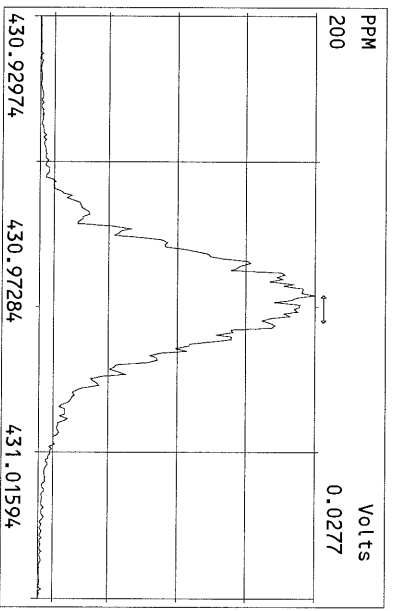
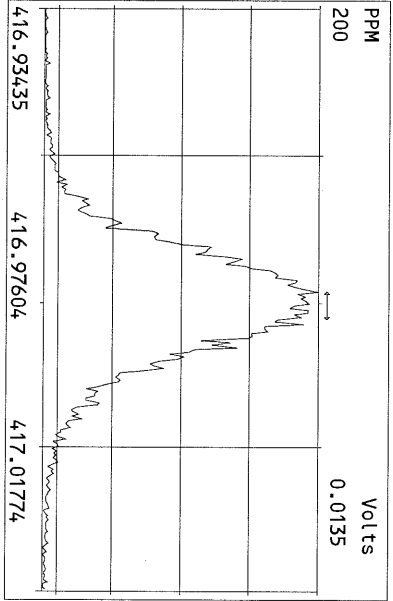
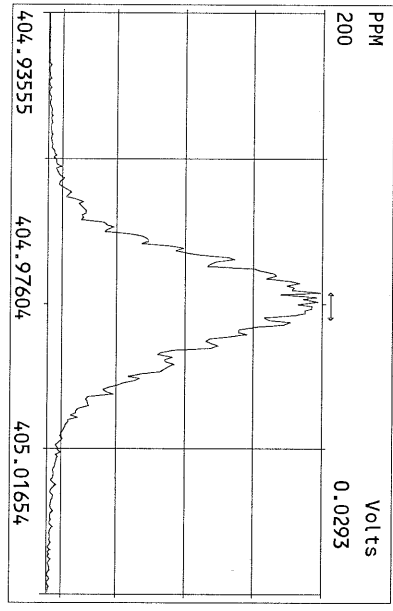
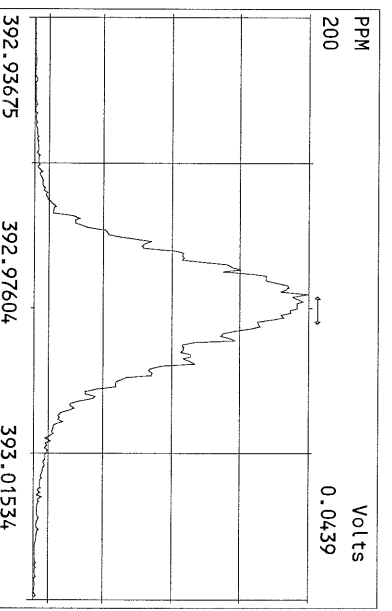
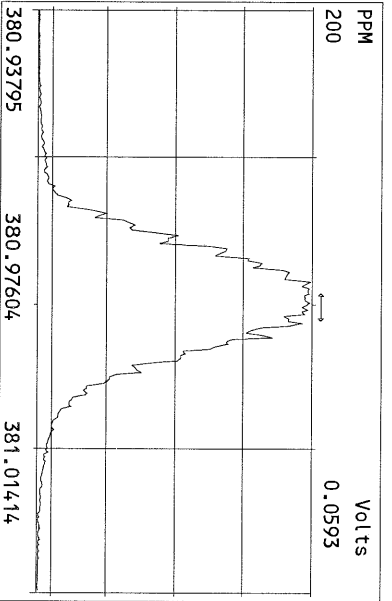
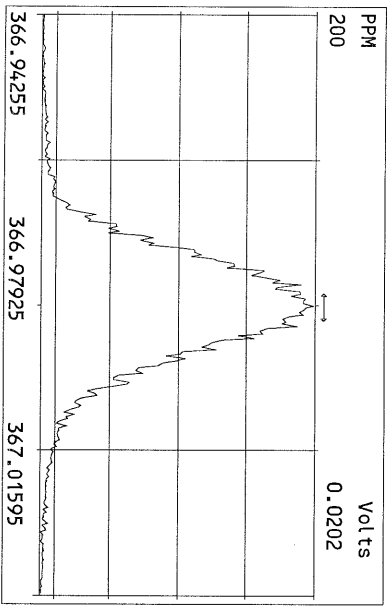
File:1\FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

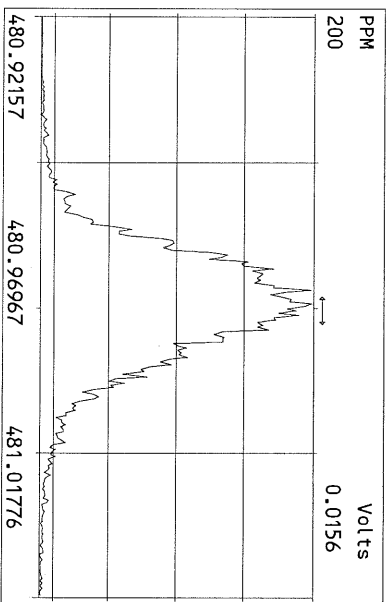
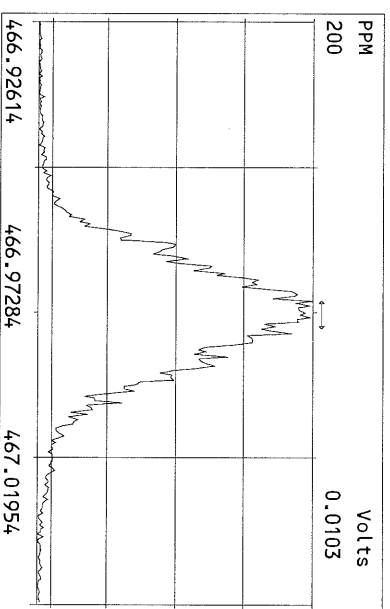
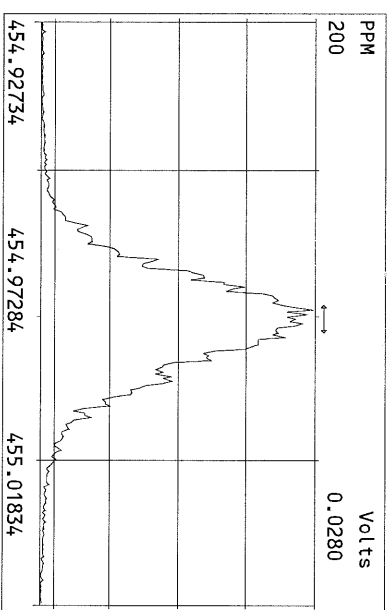
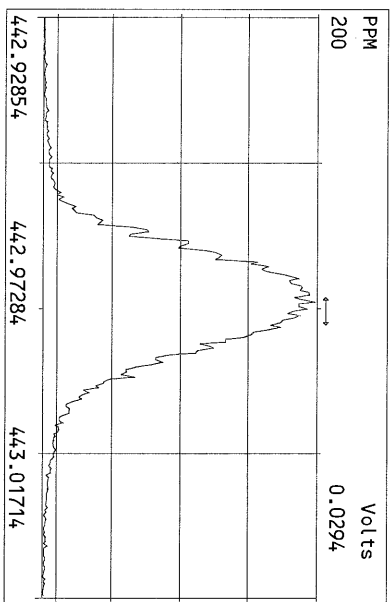
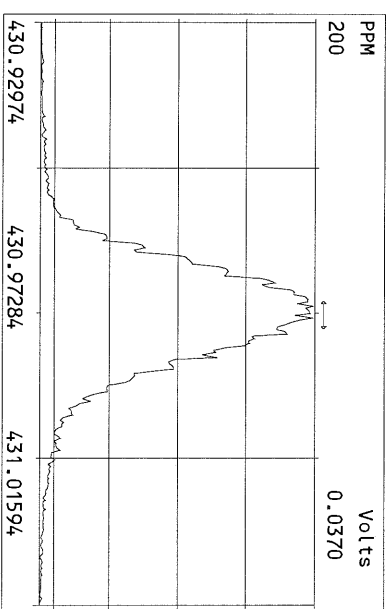
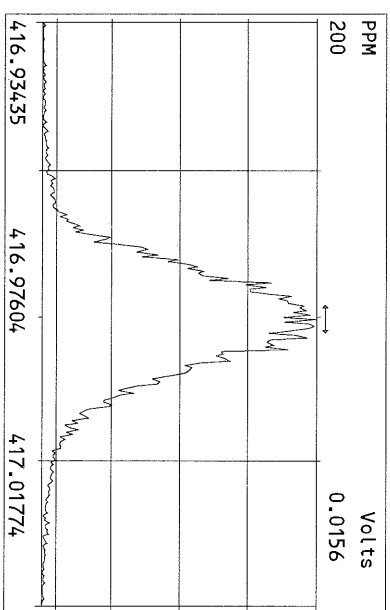
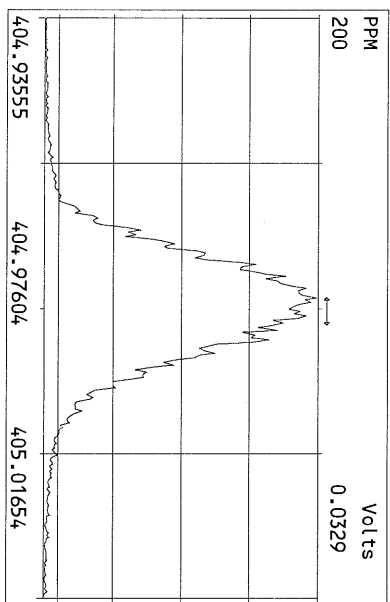


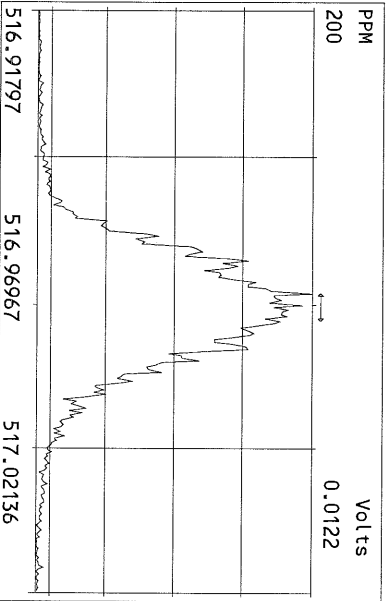
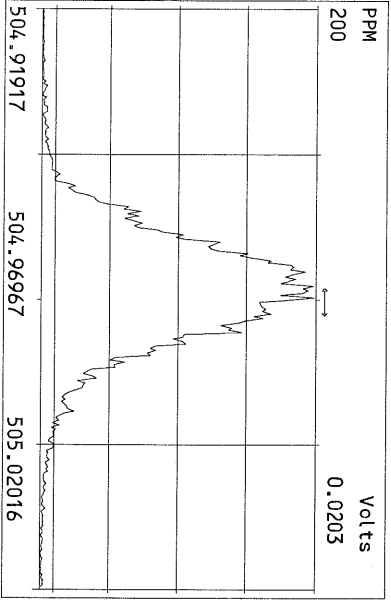
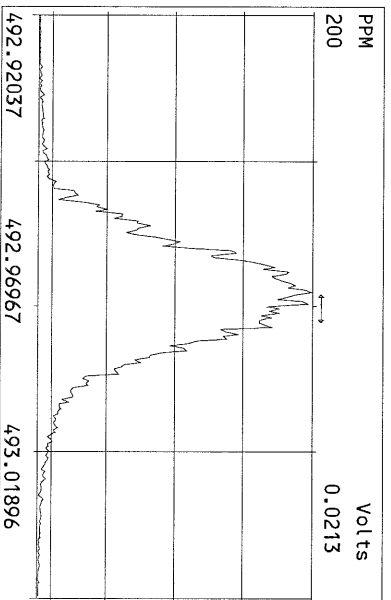
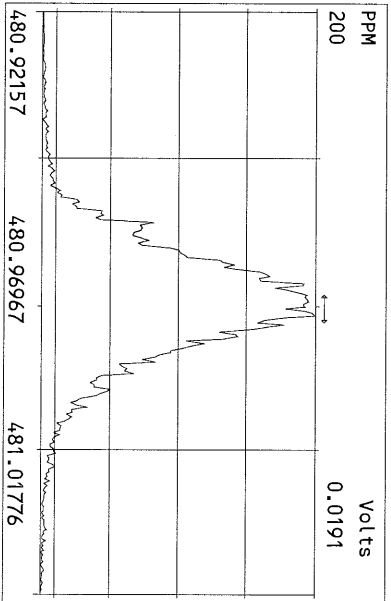
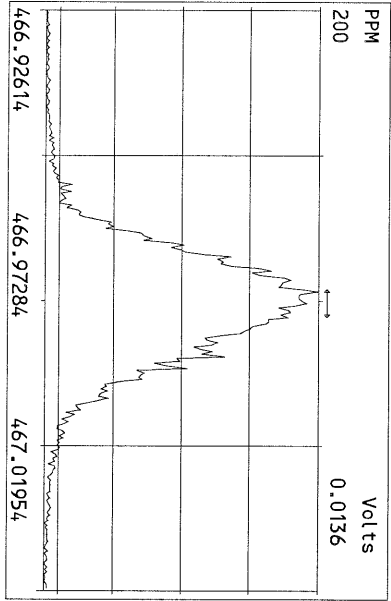
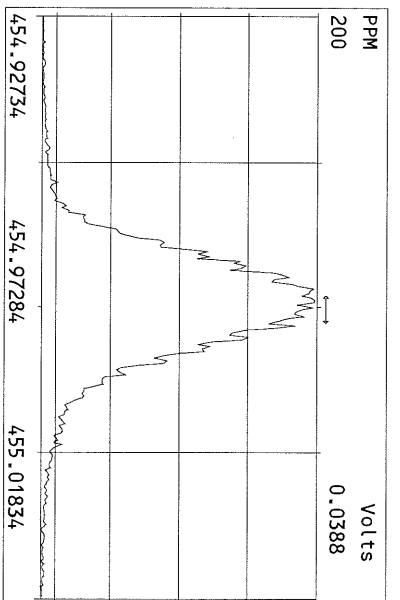
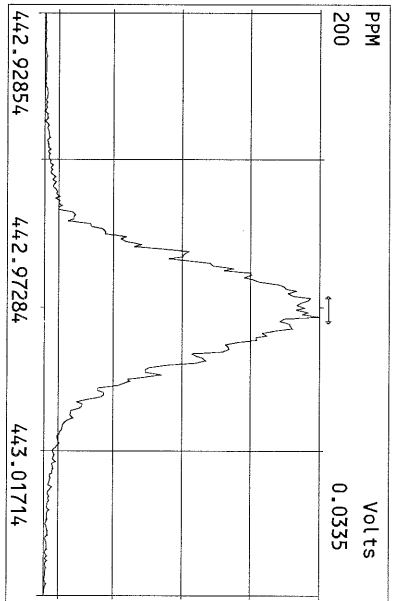
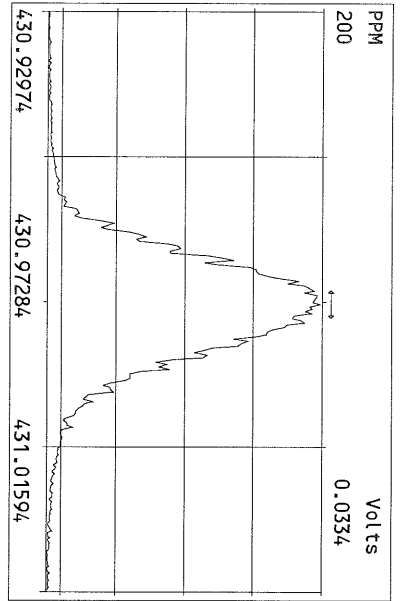












## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3 GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:8 Analysis Date: 11-FEB-11 20:58:24

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	y	11.7	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32-1.78	y	52.7	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	y	52.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.33	1.05-1.43	y	52.8	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05-1.43	y	51.0	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.98	0.88-1.20	y	46.1	43.0 - 58.0
OCDD	M+2/M+4	0.92	0.76-1.02	y	101	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.71	0.65-0.89	y	10.5	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	y	52.0	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.49	1.32-1.78	y	48.7	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	55.4	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	54.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	52.8	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	y	54.9	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.07	0.88-1.20	y	52.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	y	50.6	43.0 - 58.0
OCDF	M+2/M+4	0.92	0.76-1.02	y	116	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: 

Date: 2/14/11

## USEPA - ITD

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:8

Analysis Date: 11-FEB-11 20:58:24

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.81	0.65-0.89	y	90.7	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.73	1.32-1.78	y	80.2	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	105	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	108	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	95.7	72.0 - 138
13C-OCDD	M+2/M+4	0.94	0.76-1.02	y	192	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.87	0.65-0.89	y	81.7	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.69	1.32-1.78	y	82.6	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	y	86.7	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43-0.59	y	104	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43-0.59	y	103	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43-0.59	y	100	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	y	87.6	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37-0.51	y	94.8	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37-0.51	y	95.5	77.0 - 129
13C-OCDF	M+2/M+4	0.93	0.76-1.02	y	177	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.75	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: Date: 

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory Episode No.:  
Contract No.: SAS No.:  
Instrument ID: FAL3 Initial Calibration Date: 8/23/10  
RT Window Data Filename: 11FEB11M Sam:8 Analysis Date: 11-FEB-11 Time: 20:58:24  
DB-5 IS Data Filename: 11FEB11M Sam:8 Analysis Date: 11-FEB-11 Time: 20:58:24  
DB-225 IS Data Filename: Analysis Date: Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:28	1,3,6,8-TCDF (F)	23:07
1,2,8,9-TCDD (L)	28:28	1,2,8,9-TCDF (L)	28:42
1,2,4,7,9-PeCDD (F)	30:22	1,3,4,6,8-PeCDF (F)	28:32
1,2,3,8,9-PeCDD (L)	33:57	1,2,3,8,9-PeCDF (L)	34:23
1,2,4,6,7,9-HxCDD (F)	36:16	1,2,3,4,6,8-HxCDF (F)	35:24
1,2,3,7,8,9-HxCDD (L)	39:22	1,2,3,7,8,9-HxCDF (L)	39:57
1,2,3,4,6,7,9-HpCDD (F)	42:59	1,2,3,4,6,7,8-HpCDF (F)	42:28
1,2,3,4,6,7,8-HpCDD (L)	44:23	1,2,3,4,7,8,9-HpCDF (L)	45:18

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)  
  
<25%

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

Analyst: 

Date: 2/14/11



## USEPA - ITD

FORM 6A

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

Analysis Date: 11-FEB-11 20:58:24

CS3 or VER Data Filename: 11FEB11M

Sam:8

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	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-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002
LABELED COMPOUNDS			
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052
13C-2,3,7,8-TCDD		1.022	0.976-1.043
13C-2,3,7,8-TCDF		0.994	0.923-1.103
13C-1,2,3,7,8-PeCDD		1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF		1.175	0.923-1.203
13C-2,3,4,7,8-PeCDF		1.224	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5


Analysis Date: 11-FEB-11 20:58:24

CS3 or VER Data Filename: 11FEB11M


Sam:8

NATIVE ANALYTES	RETENTION TIME		RRT	RRT
	REFERENCE			QC LIMITS (1)
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		1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD		1.012	1.000-1.019
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
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD		1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF		1.001	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF		1.000	0.999-1.001
OCDD	13C-OCDD		1.001	0.999-1.001
OCDF	13C-OCDF		1.001	0.999-1.001
LABELED COMPOUNDS				
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD		0.984	0.977-1.000
13C-1,2,3,6,7,8-HxCDD			0.989	0.981-1.003
13C-1,2,3,4,7,8-HxCDF			0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF			0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF			0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF			1.015	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD			1.127	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF			1.079	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF			1.151	1.057-1.154
13C-OCDD			1.270	1.032-1.311
13C-OCDF			1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

Results:		GC Column: DB5	Amount: 1.000	NATO 1989 Tox: 105		WHO 1998 Tox: 131		WHO 2005 Tox:		121	
Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL		
2,3,7,8-TCDD	1.22e+06	0.77 y	27:31	1.11	11.7		2.50	-	-	*	
1,2,3,7,8-PeCDD	3.98e+06	1.56 y	33:22	1.10	52.7		2.50	-	-	*	
1,2,3,4,7,8-HxCDD	3.83e+06	1.24 y	38:45	1.37	52.9		2.50	-	-	*	
1,2,3,6,7,8-HxCDD	3.69e+06	1.33 y	38:55	1.37	52.8		2.50	-	-	*	
1,2,3,7,8,9-HxCDD	3.60e+06	1.22 y	39:22	1.36	51.0		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	2.57e+06	0.98 y	44:23	1.45	46.1		2.50	-	-	*	
OCDD	3.53e+06	0.92 y	49:59	1.43	101		2.50	-	-	*	
2,3,7,8-TCDF	2.25e+06	0.71 y	26:45	1.50	10.5		2.50	-	-	*	
1,2,3,7,8-PeCDF	5.93e+06	1.52 y	31:38	0.94	52.0		2.50	-	-	*	
2,3,4,7,8-PeCDF	5.62e+06	1.49 y	32:58	0.94	48.7		2.50	-	-	*	
1,2,3,4,7,8-HxCDF	4.64e+06	1.24 y	37:21	0.93	55.4		2.50	-	-	*	
1,2,3,6,7,8-HxCDF	5.47e+06	1.22 y	37:33	0.82	54.3		2.50	-	-	*	
2,3,4,6,7,8-HxCDF	4.58e+06	1.22 y	38:30	0.92	52.8		2.50	-	-	*	
1,2,3,7,8,9-HxCDF	4.55e+06	1.20 y	39:57	1.00	54.9		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDF	3.56e+06	1.07 y	42:28	1.39	52.0		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	2.46e+06	1.05 y	45:18	1.36	50.6		2.50	-	-	*	
OCDF	4.09e+06	0.92 y	50:22	0.79	116		2.50	-	-	*	
										Rec	
13C-2,3,7,8-TCDD	9.42e+06	0.81 y	27:30	1.02	90.7					90.7	
13C-1,2,3,7,8-PeCDD	6.85e+06	1.73 y	33:20	0.84	80.2					80.2	
13C-1,2,3,4,7,8-HxCDD	5.27e+06	1.23 y	38:43	1.07	105					105	
13C-1,2,3,6,7,8-HxCDD	5.10e+06	1.22 y	38:53	1.01	108					108	
13C-1,2,3,4,6,7,8-HpCDD	3.83e+06	1.06 y	44:21	0.86	95.7					95.7	
13C-OCDD	4.90e+06	0.94 y	49:57	0.55	192					95.8	
13C-2,3,7,8-TCDF	1.42e+07	0.87 y	26:44	0.99	81.7					81.7	
13C-1,2,3,7,8-PeCDF	1.21e+07	1.69 y	31:37	0.84	82.6					82.6	
13C-2,3,4,7,8-PeCDF	1.23e+07	1.56 y	32:56	0.81	86.7					86.7	
13C-1,2,3,4,7,8-HxCDF	9.02e+06	0.54 y	37:20	1.85	104					104	
13C-1,2,3,6,7,8-HxCDF	1.23e+07	0.55 y	37:32	2.54	103					103	
13C-2,3,4,6,7,8-HxCDF	9.45e+06	0.54 y	38:29	2.01	100					100	
13C-1,2,3,7,8,9-HxCDF	8.32e+06	0.53 y	39:56	2.03	87.6					87.6	
13C-1,2,3,4,6,7,8-HpCDF	4.92e+06	0.47 y	42:27	1.11	94.8					94.8	
13C-1,2,3,4,7,8,9-HpCDF	3.59e+06	0.47 y	45:18	0.80	95.5					95.5	
13C-OCDF	8.95e+06	0.93 y	50:20	1.08	177					88.3	
37Cl-2,3,7,8-TCDD	6.78e+05		27:31	0.69	9.75					97.5	
13C-1,2,3,4-TCDD	1.01e+07	0.80 y	26:54	-	22.6						
13C-1,2,3,4-TCDF	1.75e+07	0.88 y	25:38	-	24.2						
13C-1,2,3,7,8,9-HxCDD	4.68e+06	1.21 y	39:20	-	17.0						
Total Tetra-Dioxins	6.51e+06		23:02	1.11	62.2		2.50	-	-	*	32
Total Penta-Dioxins	9.54e+06		29:53	1.10	127		2.50	-	-	*	28
Total Hexa-Dioxins	1.35e+07		34:60	1.37	190		2.50	-	-	*	38
Total Hepta-Dioxins	6.36e+06		41:11	1.45	114		2.50	-	-	*	47
Total Tetra-Furans	1.19e+07		23:07	1.50	55.8		2.50	-	-	*	28
1st Fn. Tot Penta-Furans	7.92e+06		28:32	0.94	69.0		2.50	-	-	*	PeCDF 1
Total Penta-Furans	1.65e+07		29:43	0.94	144		2.50	-	-	*	213 25
Total Hexa-Furans	2.34e+07		35:00	0.91	265		2.50	-	-	*	32
Total Hepta-Furans	6.67e+06		41:09	1.38	114		2.50	-	-	*	35

Analyst: 

Date: 2/14/11

Frontier Analytical Laboratory - Acquisition Log

Run Name:11FEB11M

Instrument: FAL3

GC: DB5

Experiment:OCDD

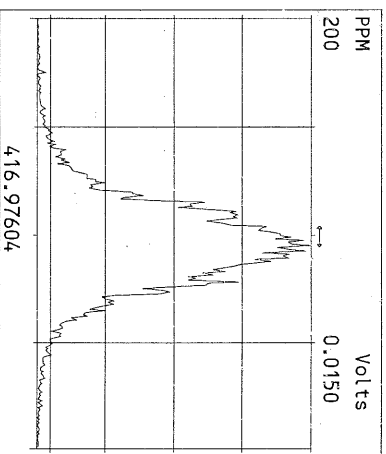
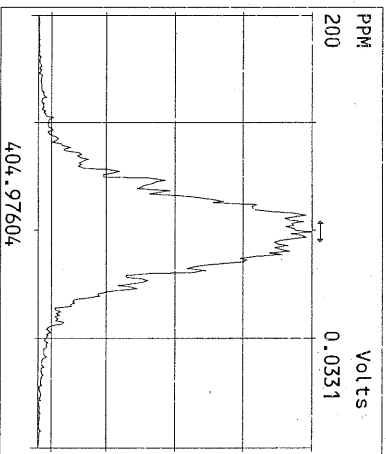
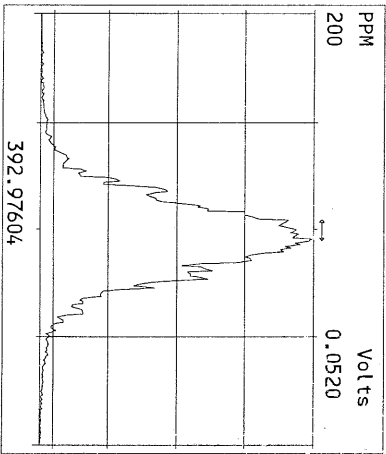
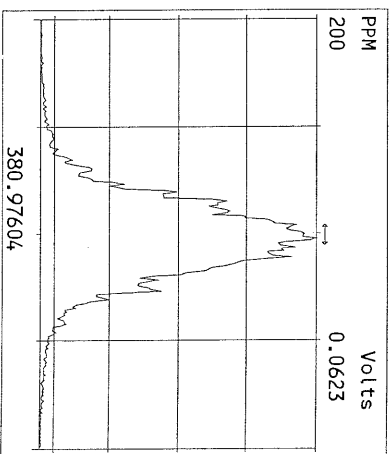
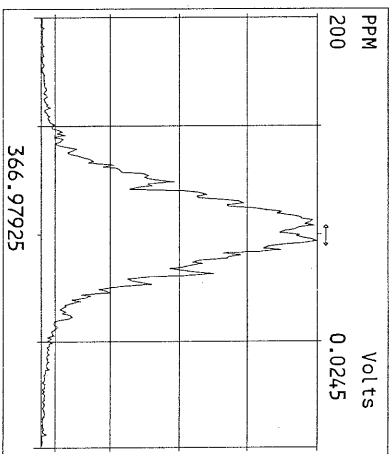
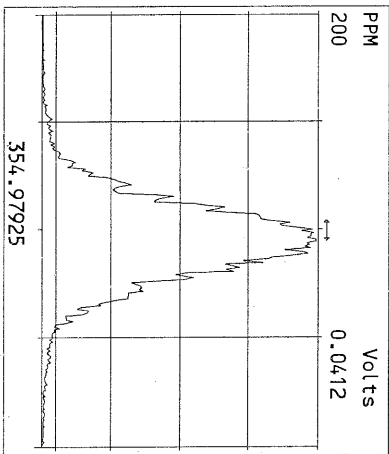
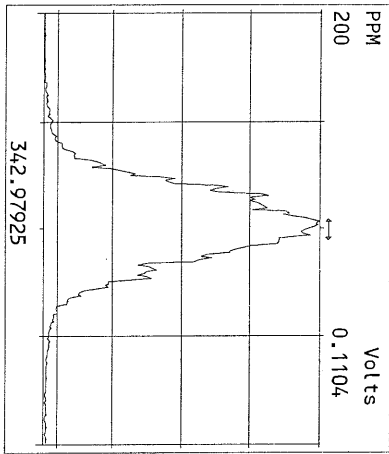
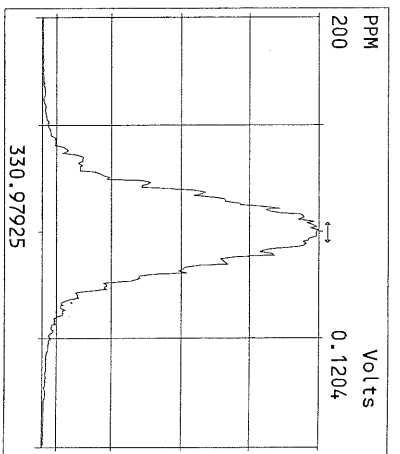
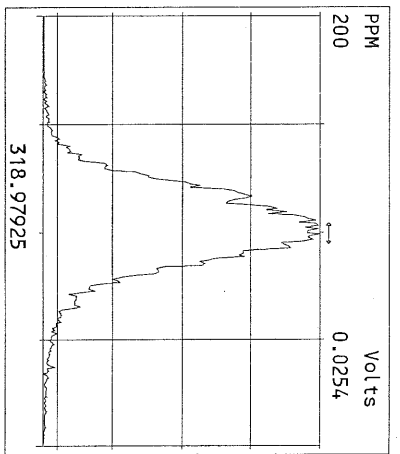
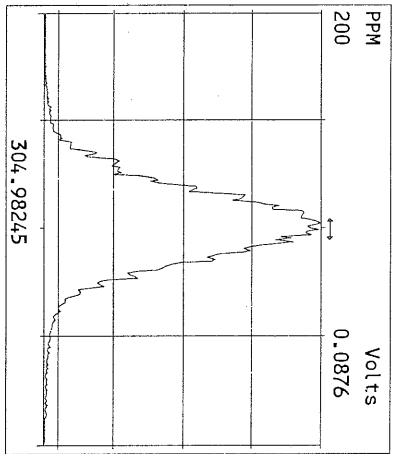
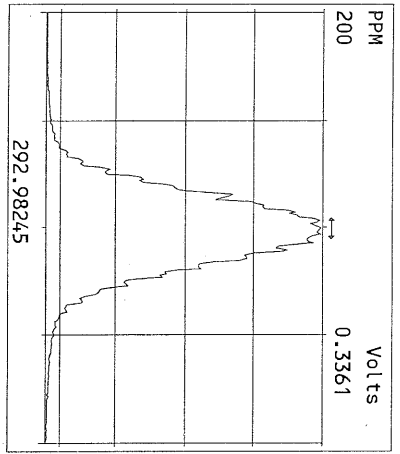
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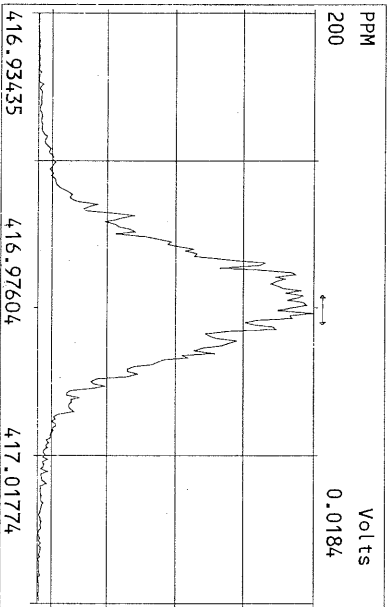
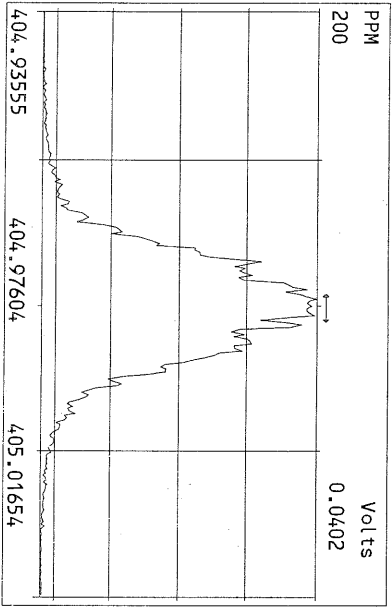
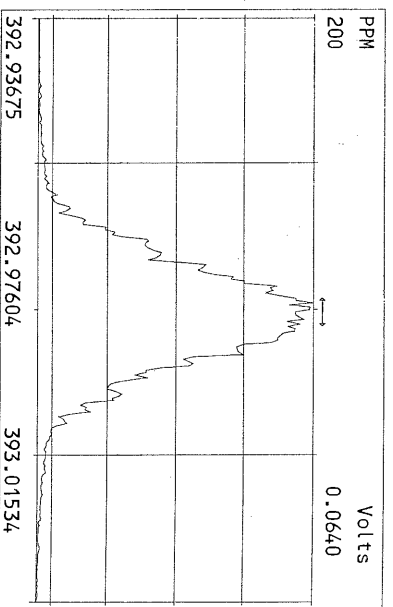
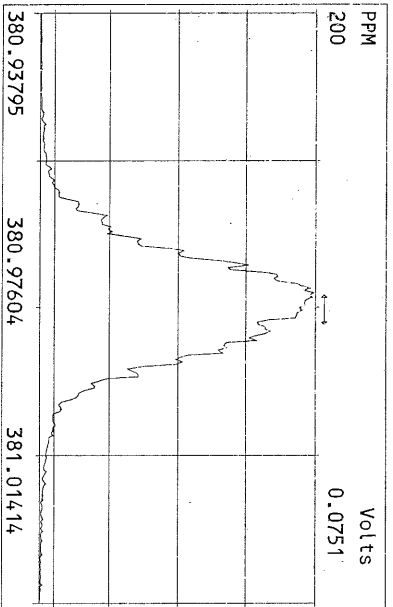
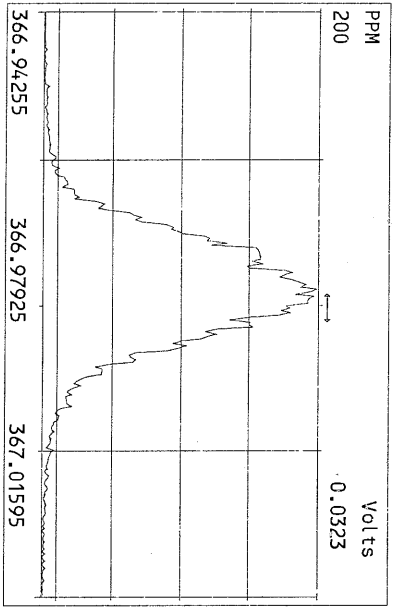
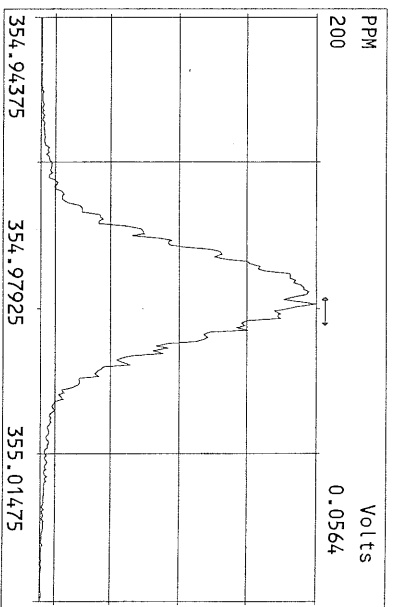
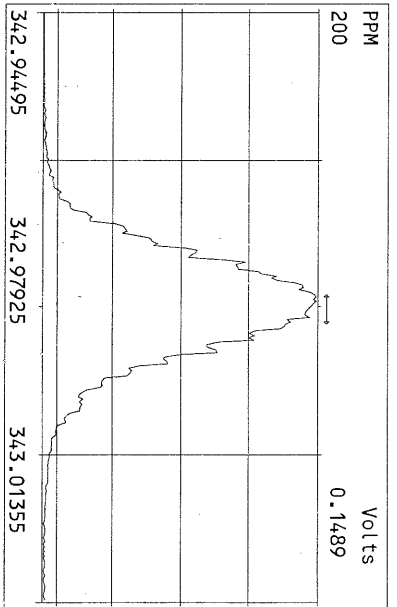
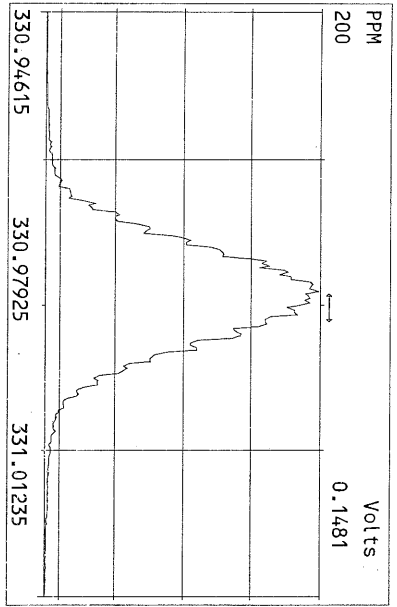


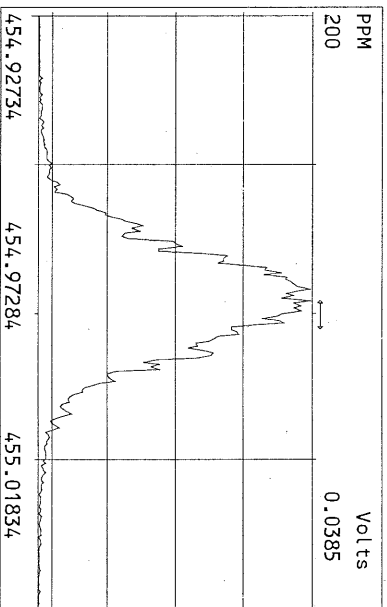
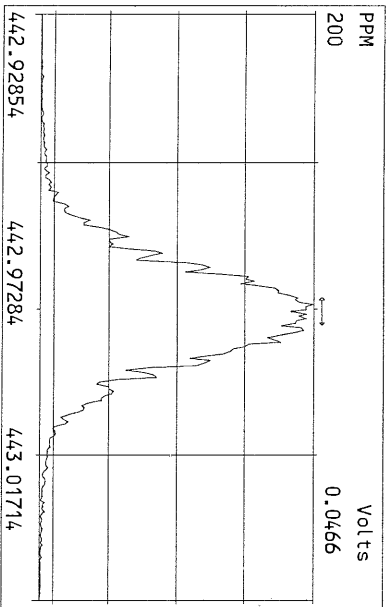
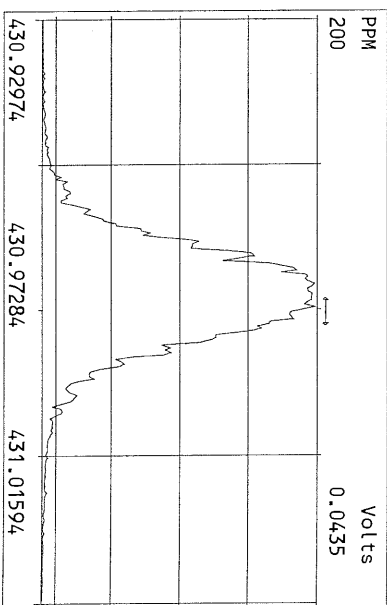
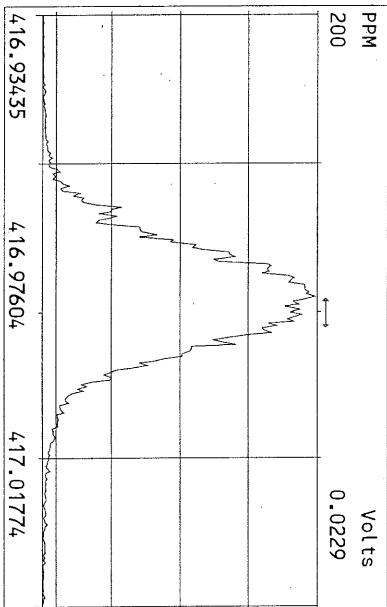
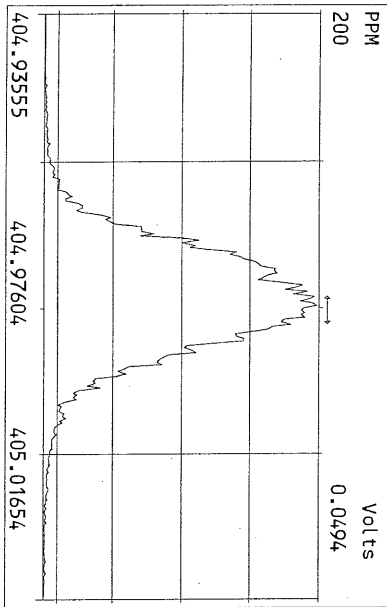
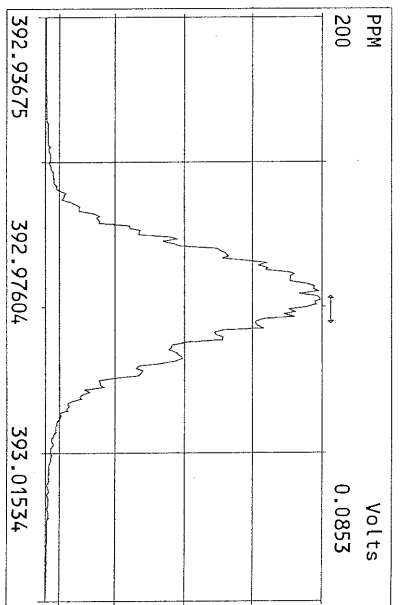
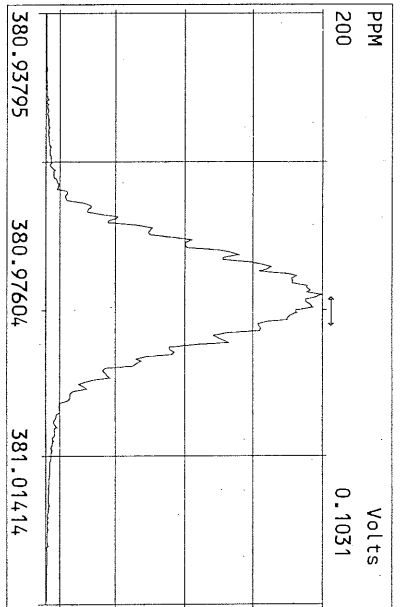
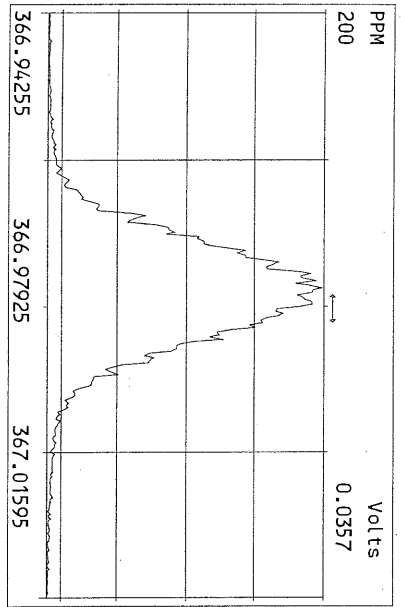
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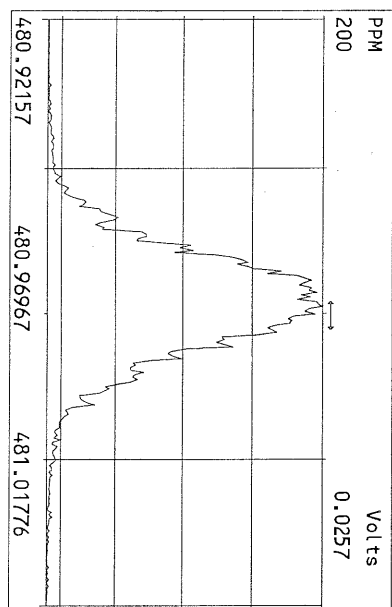
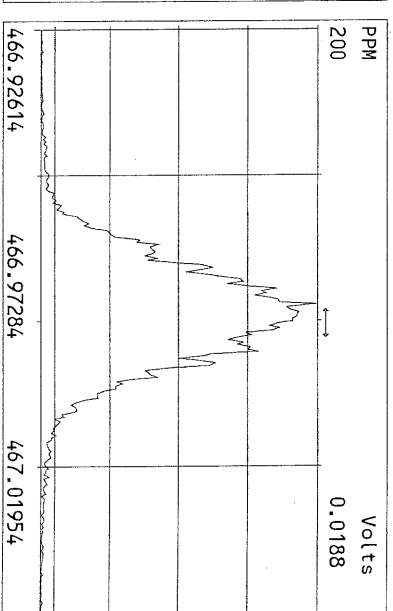
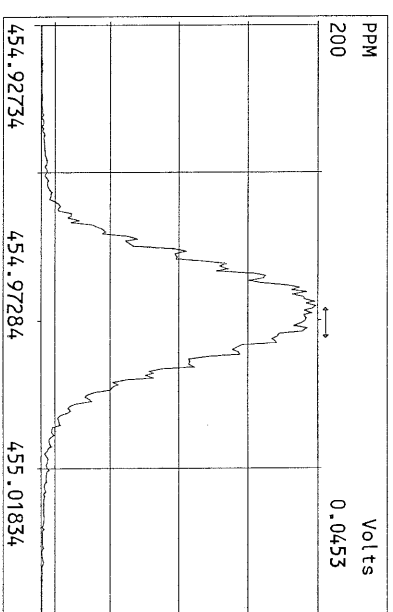
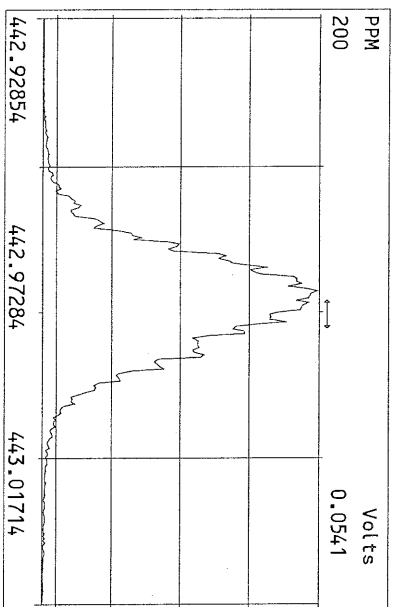
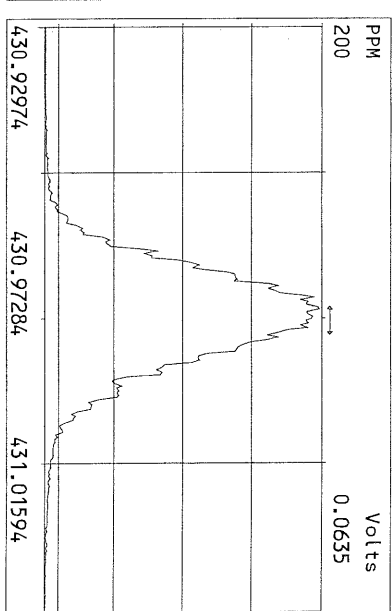
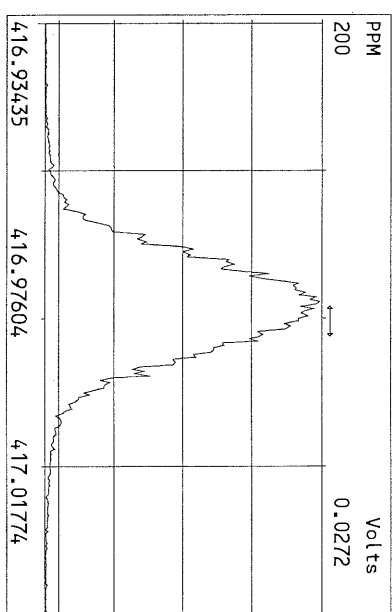
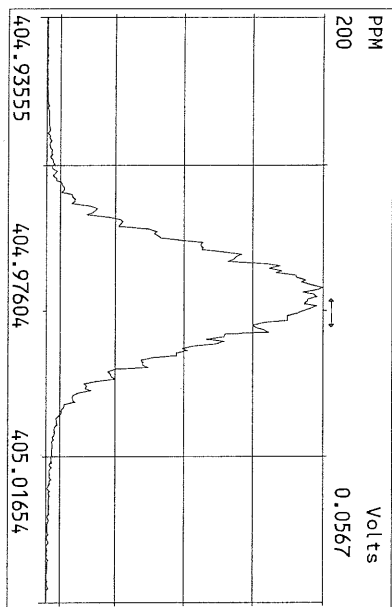
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Date: \_\_\_\_\_

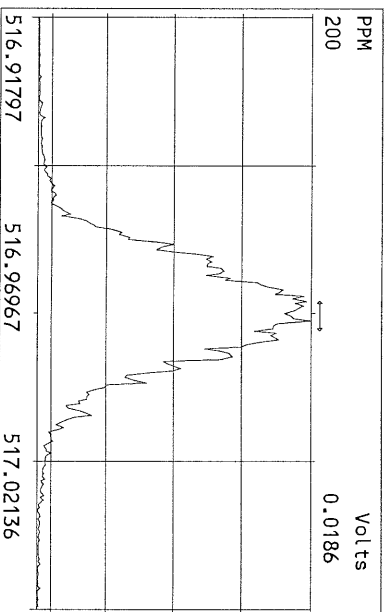
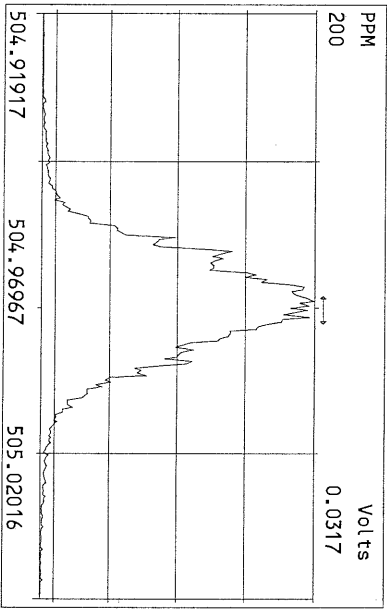
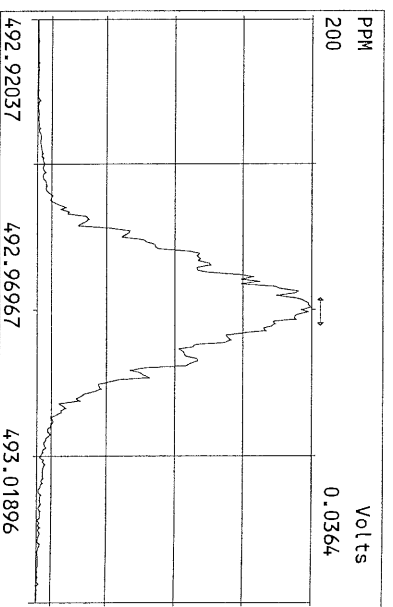
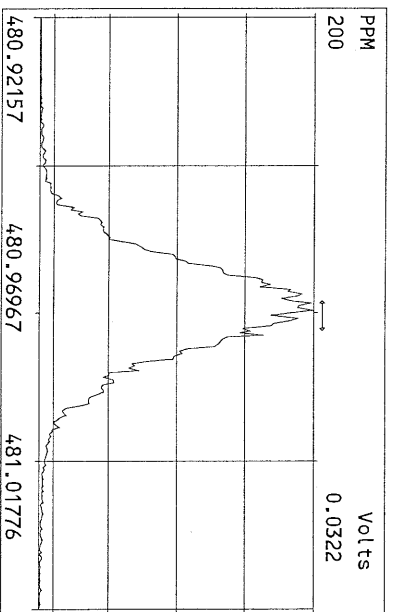
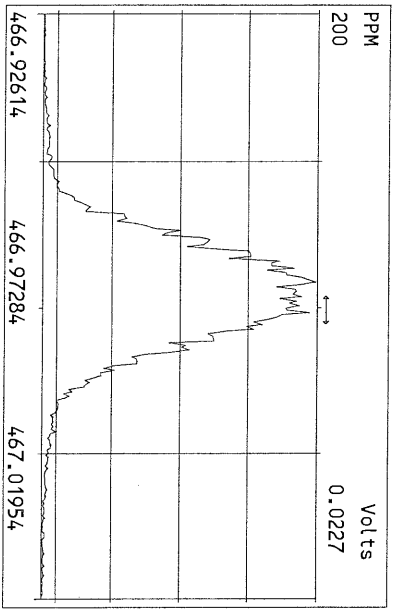
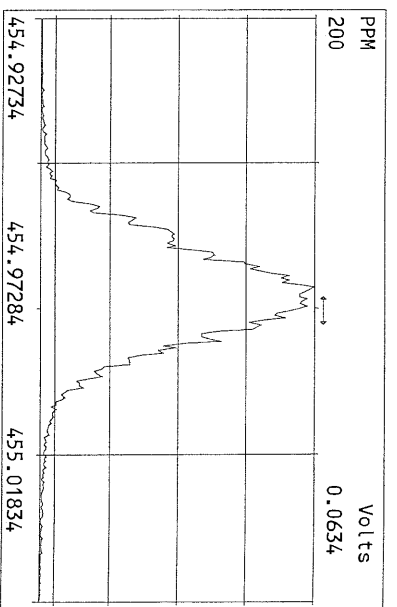
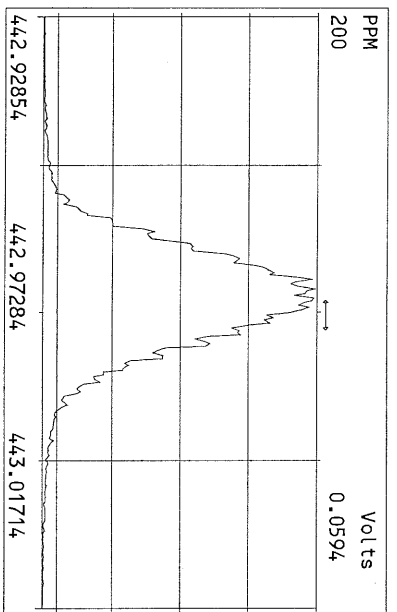
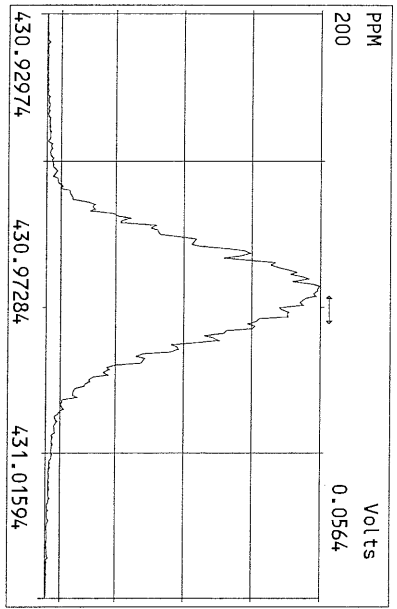




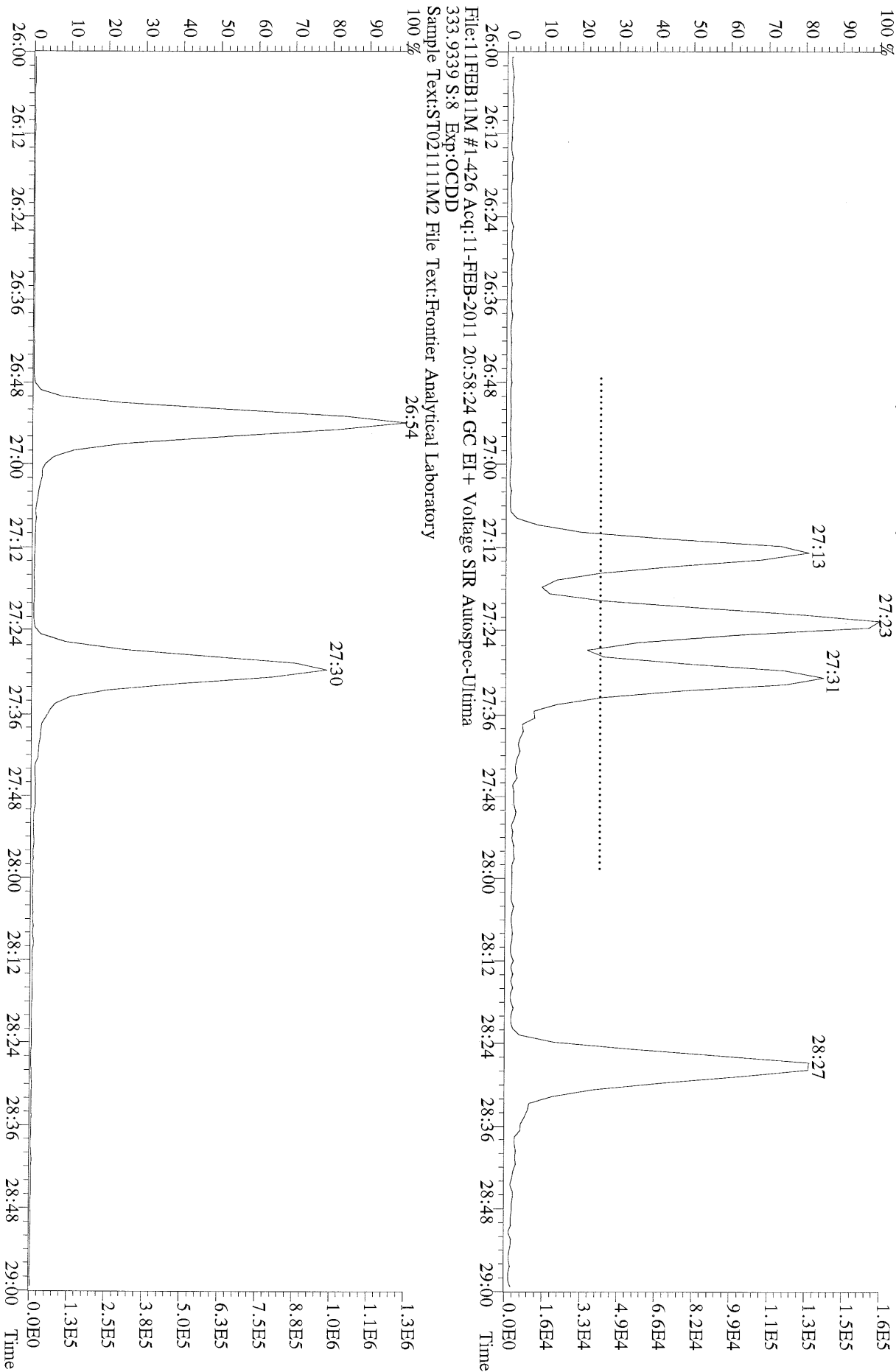




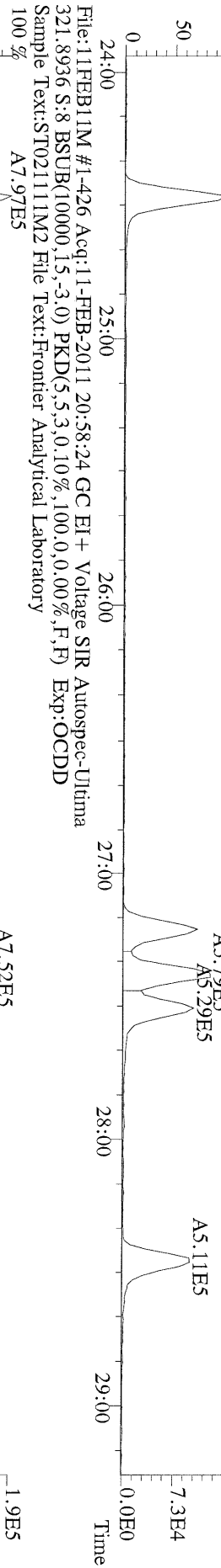




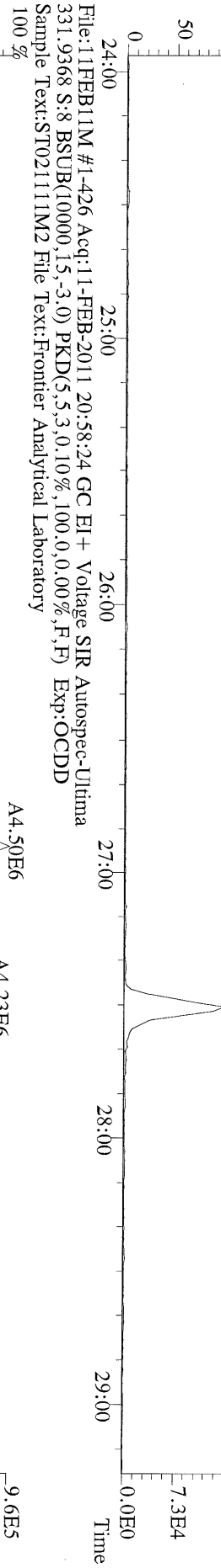
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321.8936 S:8 Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100%



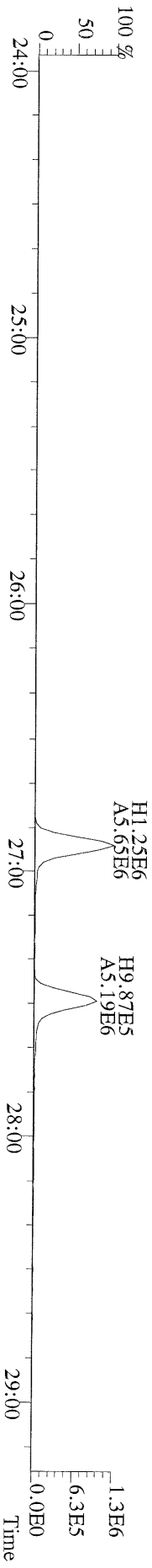
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319.8965 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 %  
A6.30E5



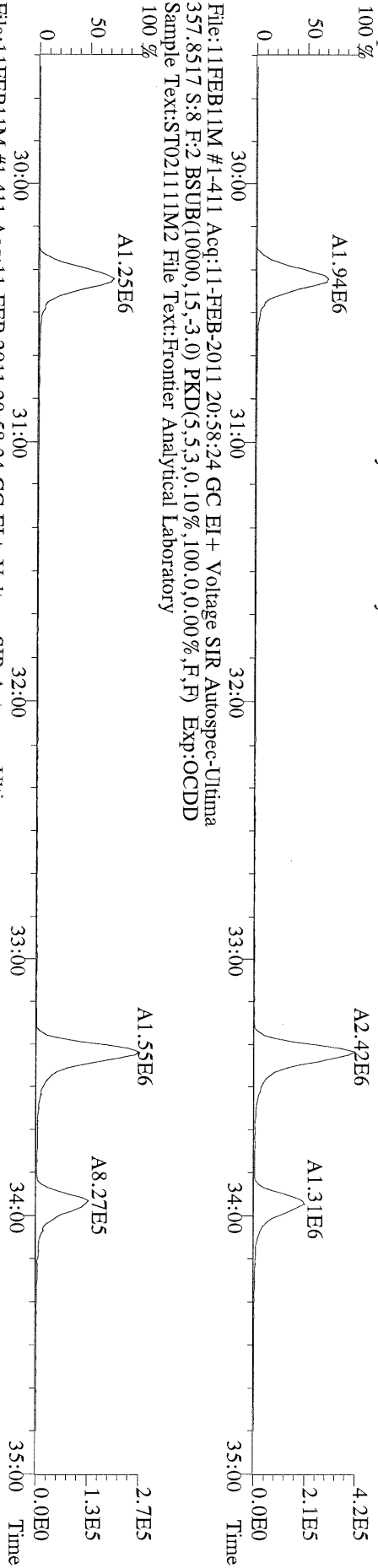
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Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 %  
A7.97E5



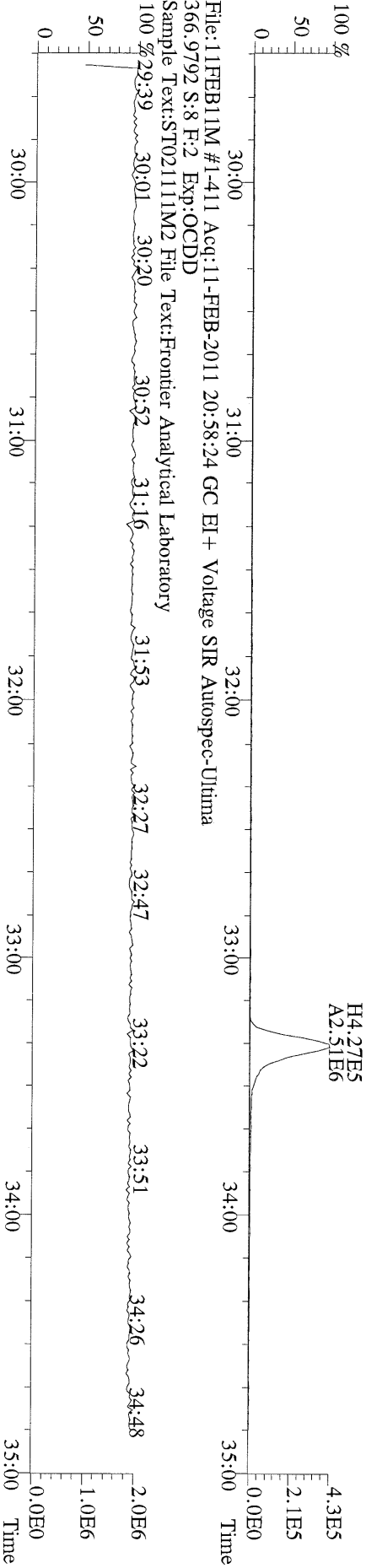
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333.9339 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



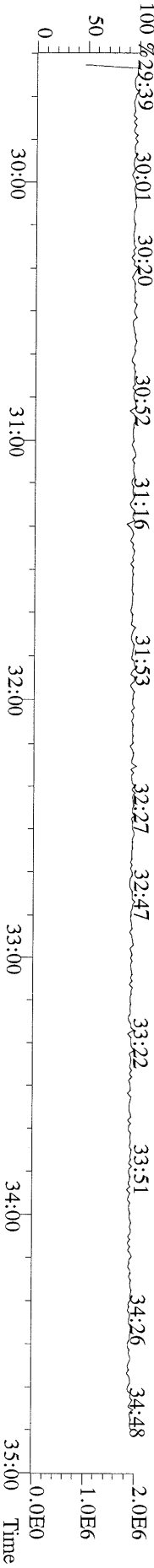
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355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 %



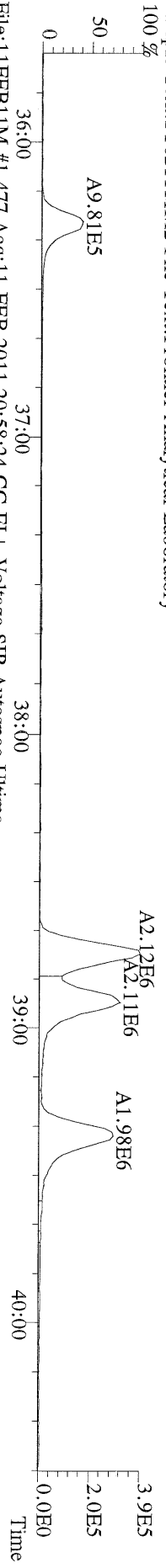
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367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 %



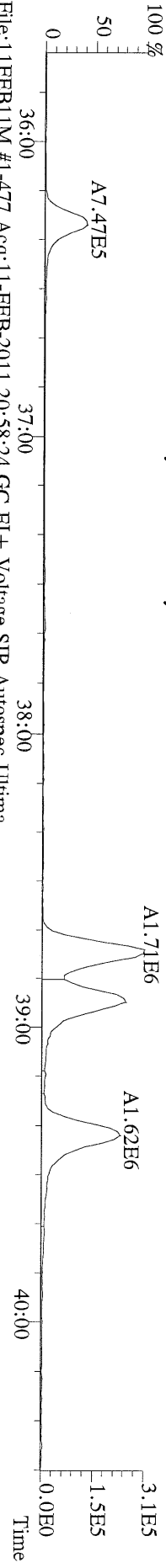
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366.9792 S:8 F:2 Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory  
100 %



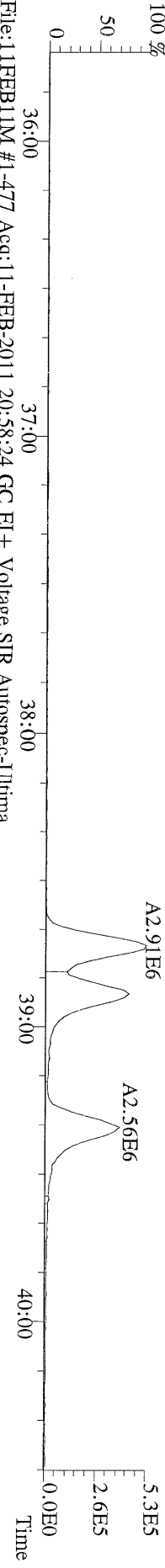
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389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



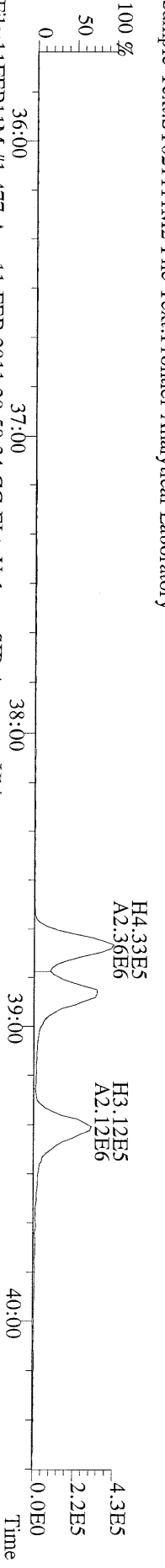
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



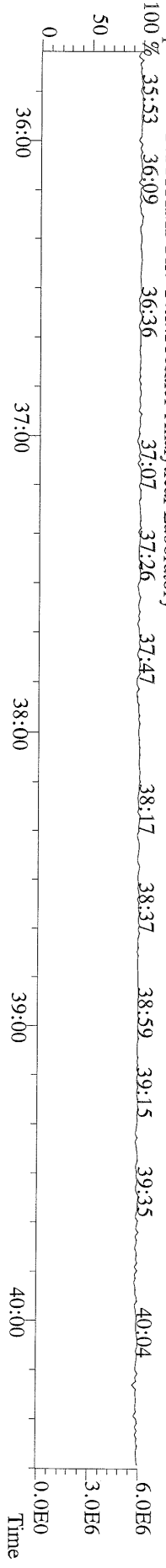
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401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



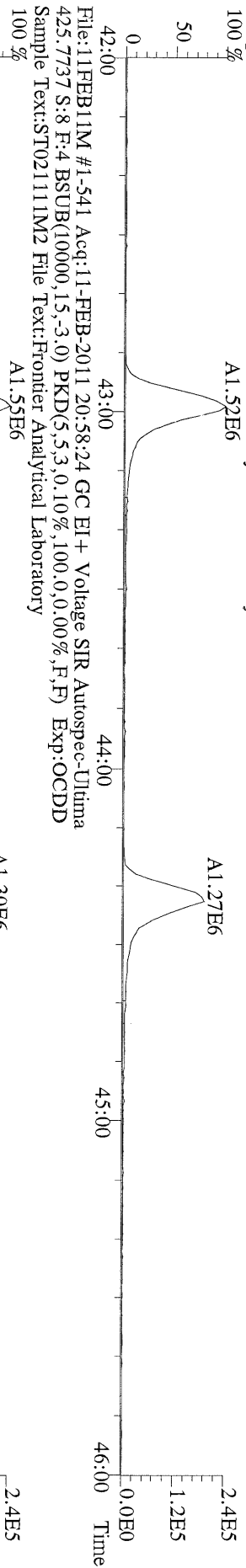
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403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



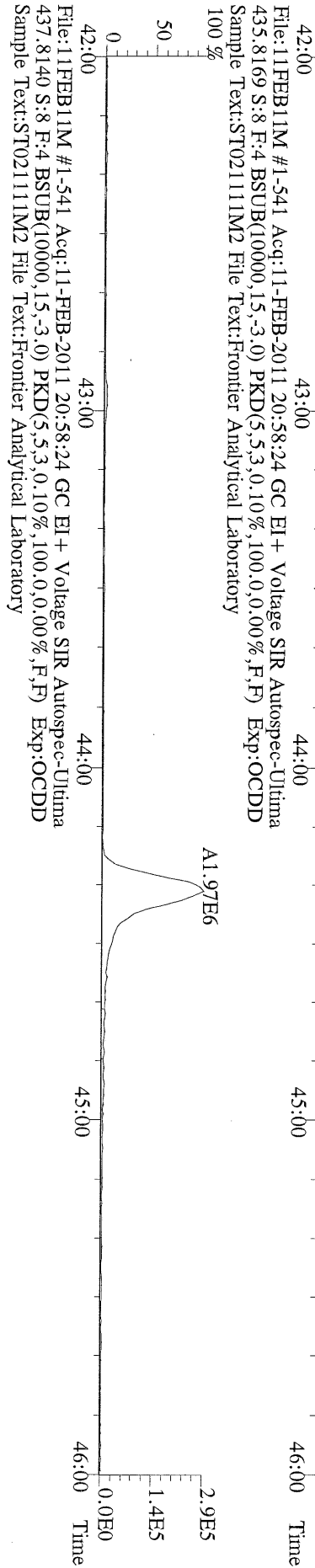
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380.9760 S:8 F:3 Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory  
100 %



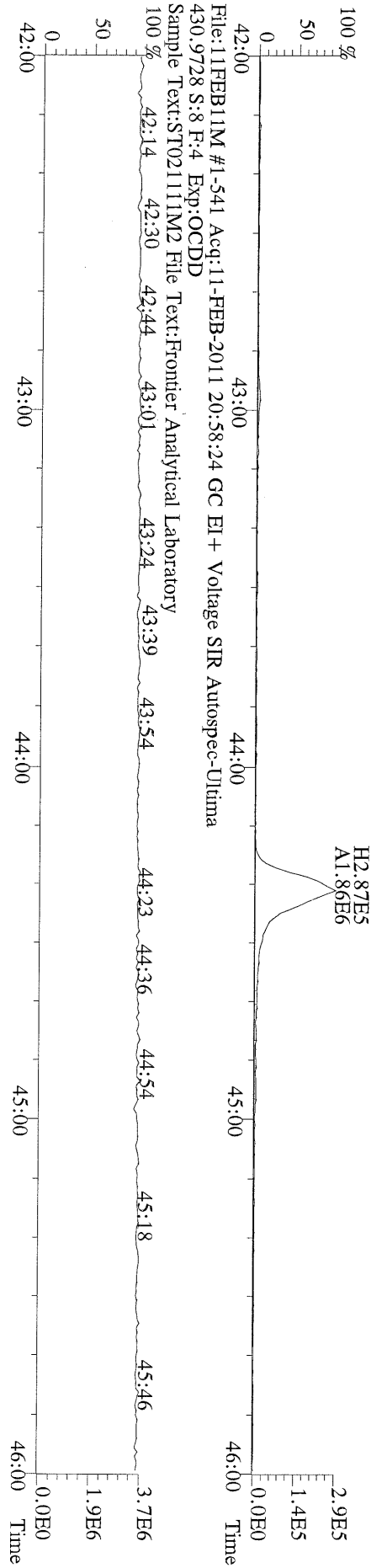
File:11FEB11M #1-541 Acq:11-FEB-2011 20:58:24 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



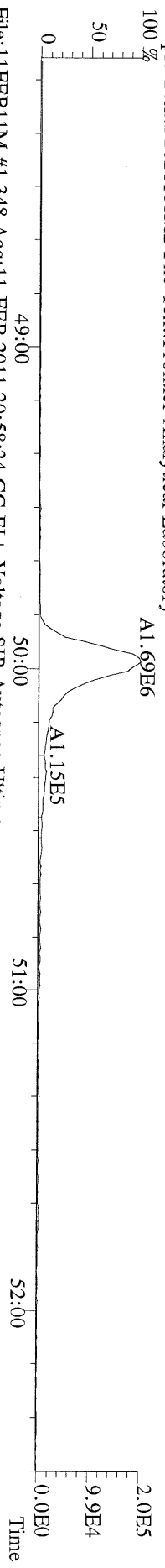
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



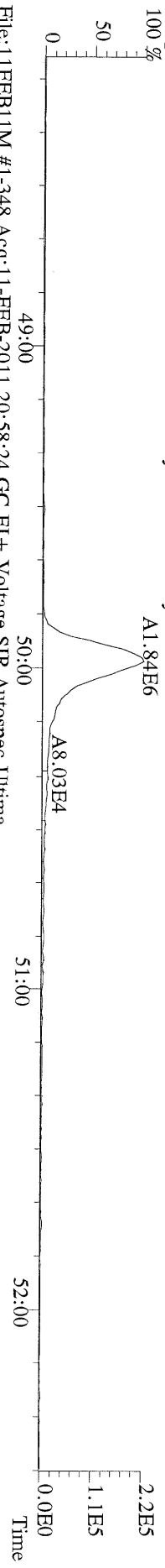
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430.9728 S:8 F:4 Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



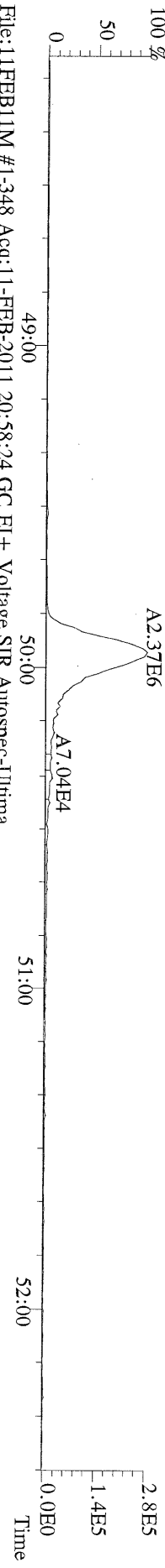
File:11FEB11M #1-348 Acq:11-FEB-2011 20:58:24 GC EI + Voltage SIR Autospec-Ultima  
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



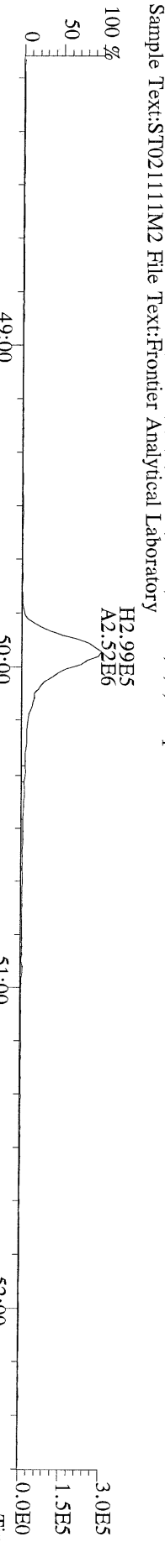
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459.7348 S:8 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



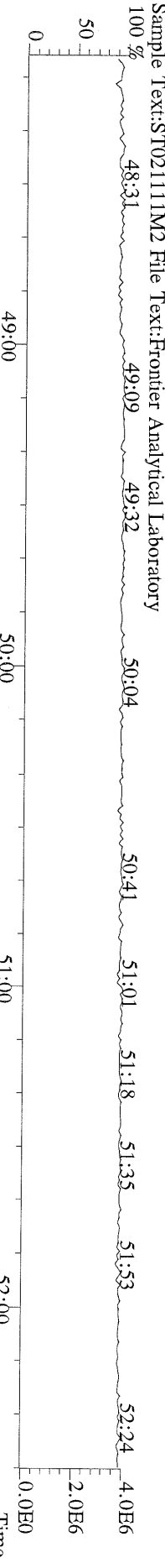
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469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



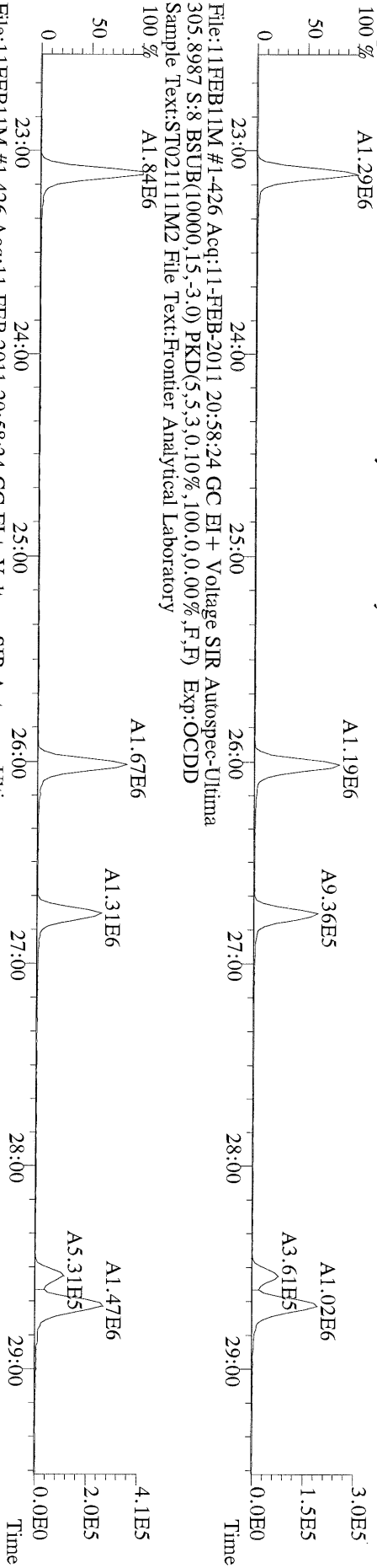
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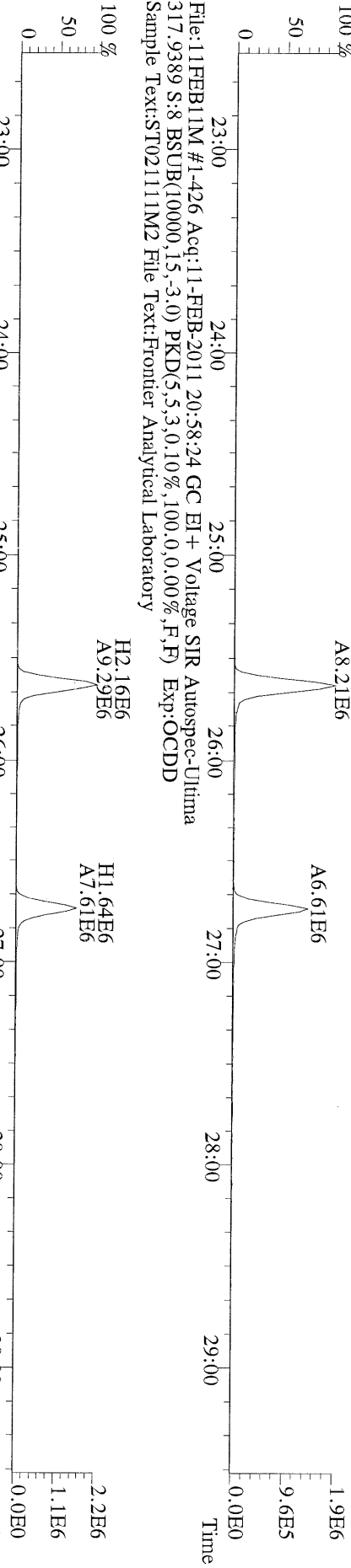
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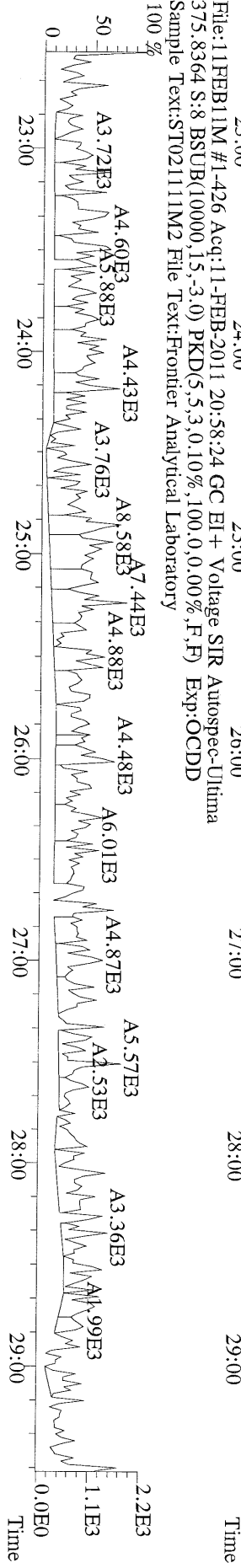
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303.9016 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



File:11FEB11M #1-426 Acq:11-FEB-2011 20:58:24 GC EI + Voltage SIR Autospec-Ultima  
315.9419 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



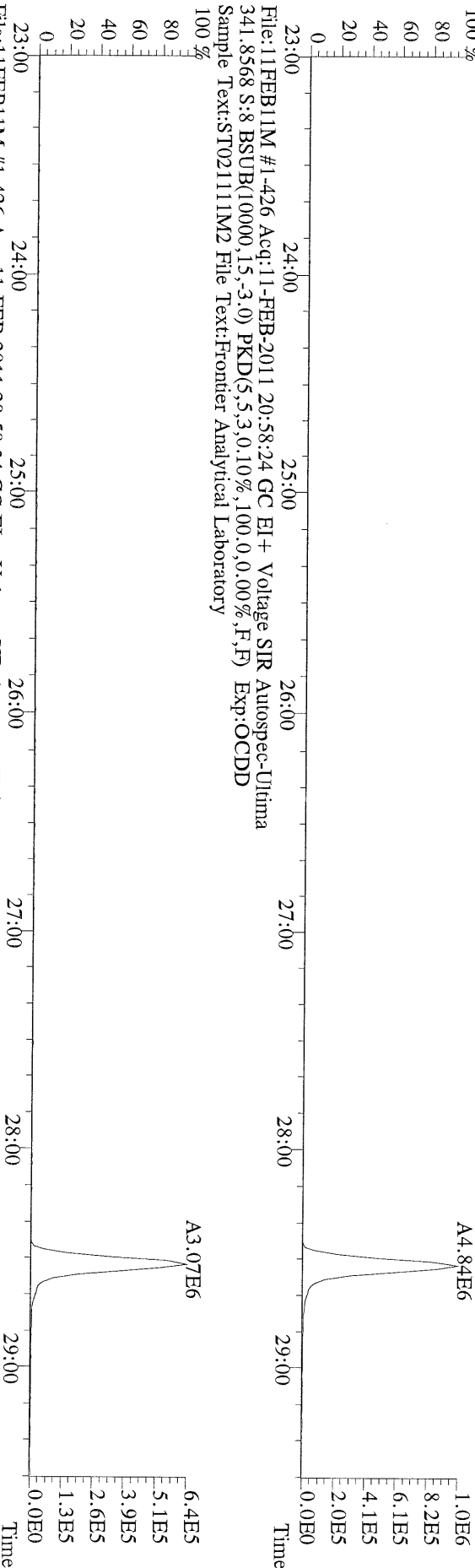
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317.9389 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
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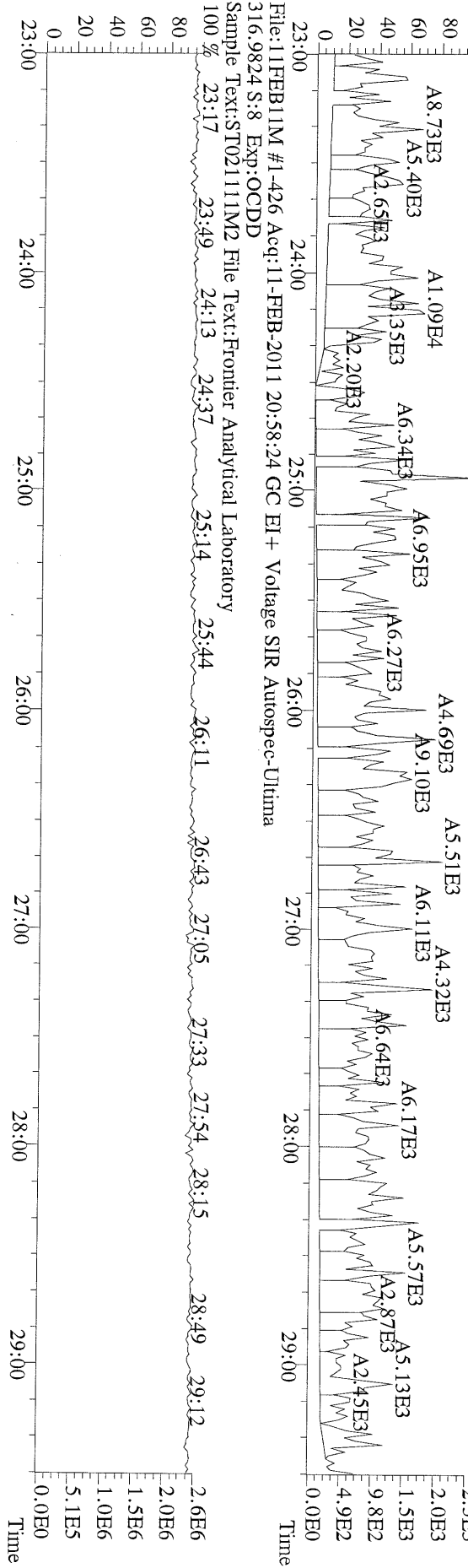
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375.8364 S:8 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Fronter Analytical Laboratory



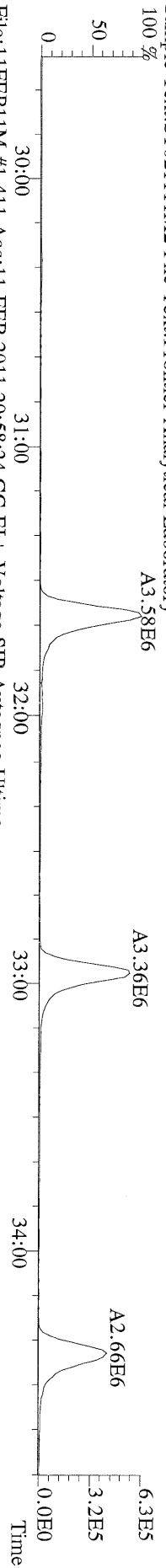
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 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST02111M2 File Text:Frontier Analytical Laboratory



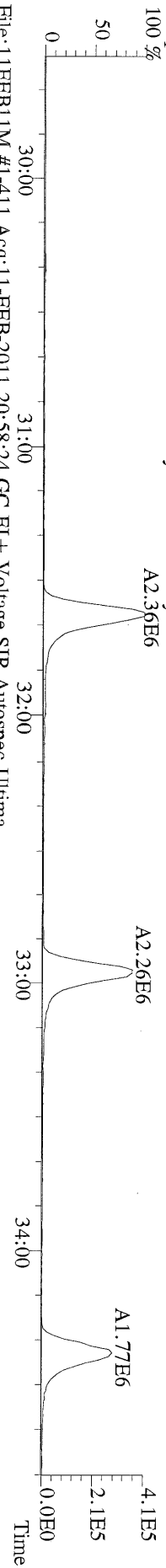
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 409.7974 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST02111M2 File Text:Frontier Analytical Laboratory



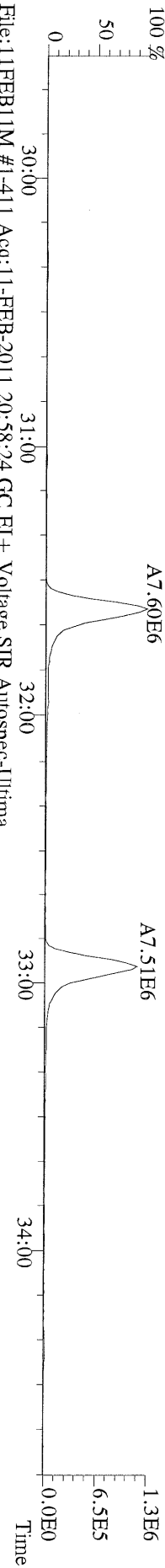
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339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
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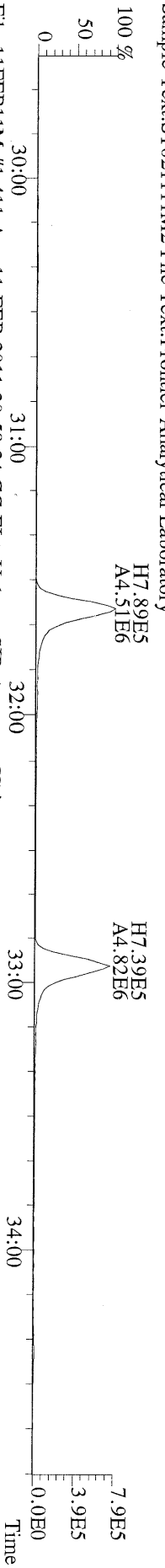
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341.8568 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



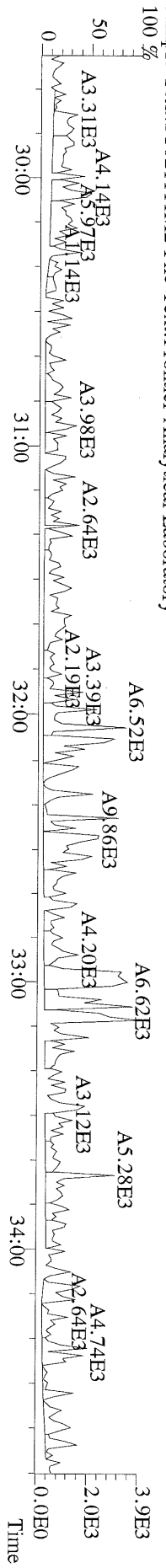
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351.9000 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
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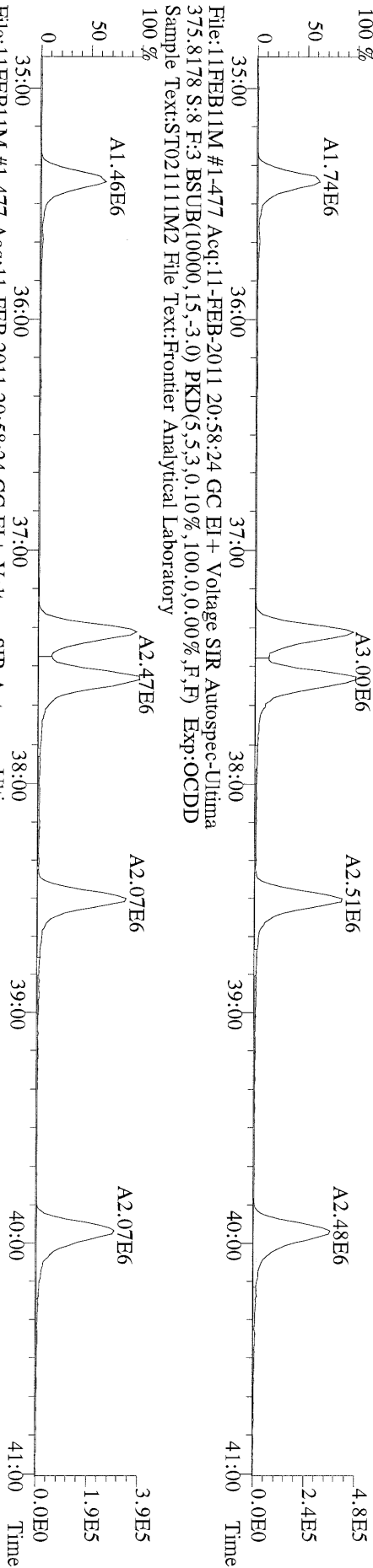
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



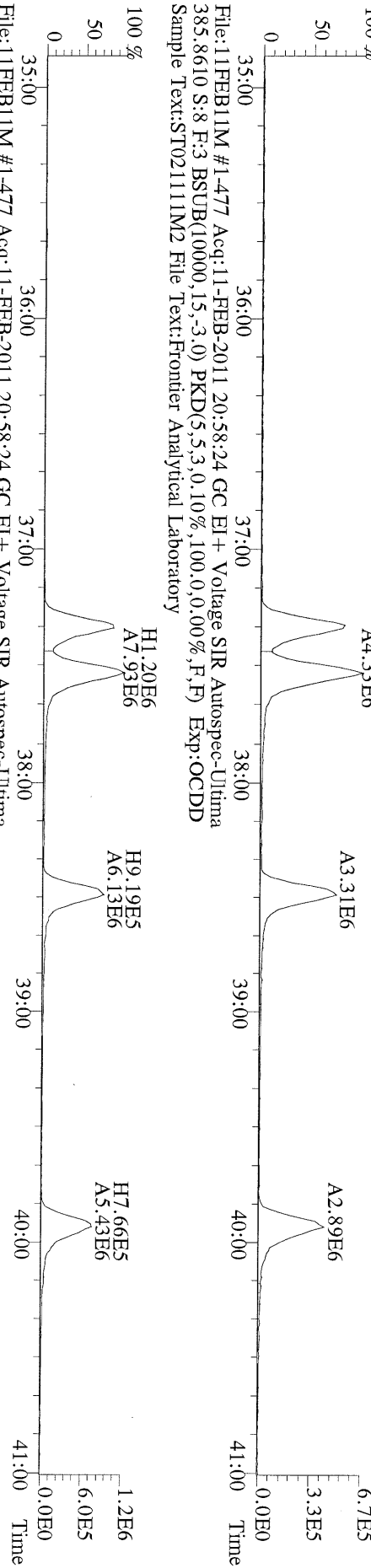
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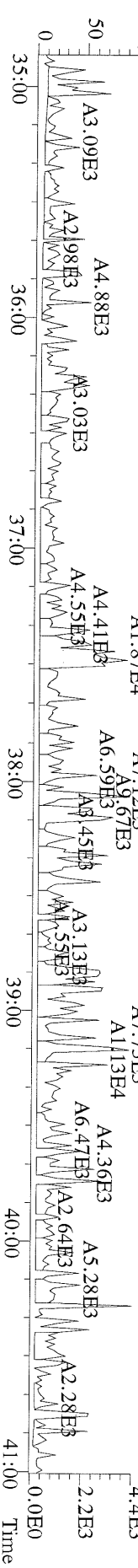
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 373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



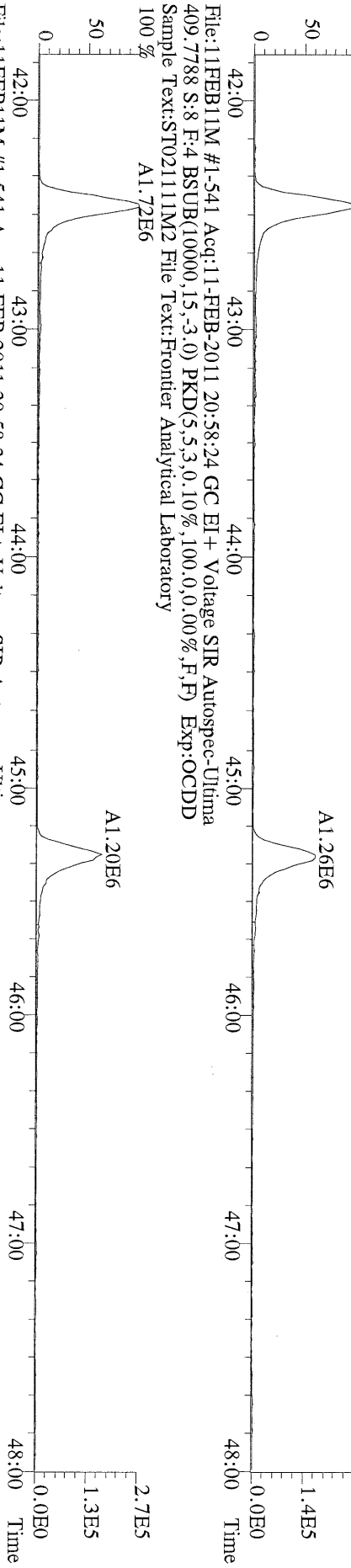
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 Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



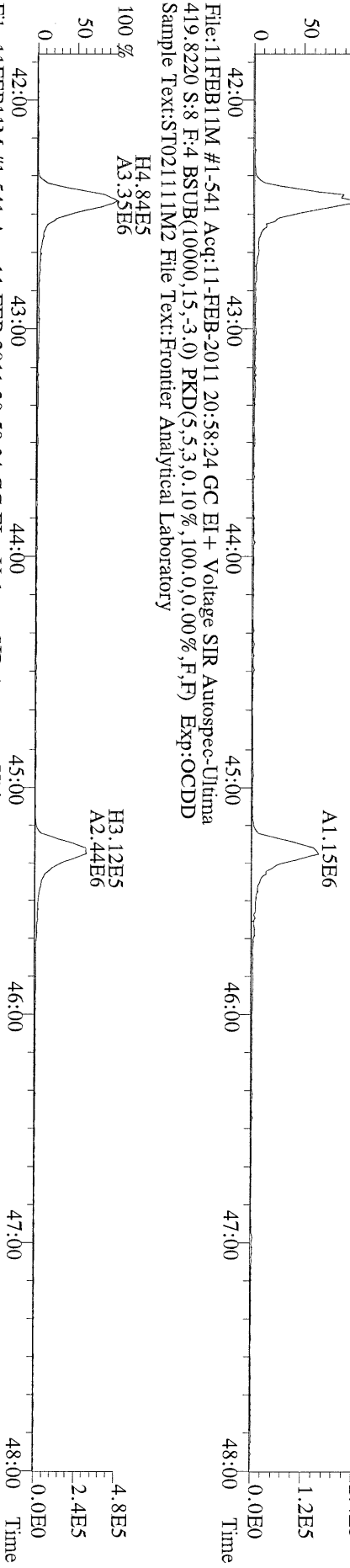
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 445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



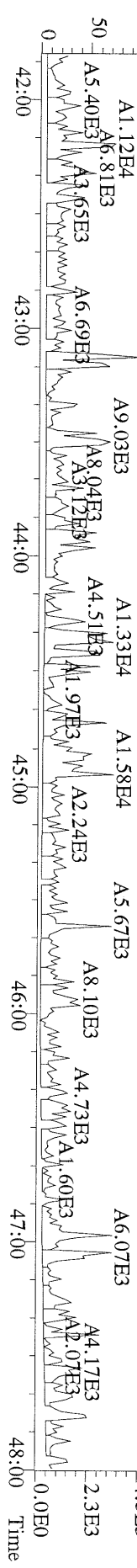
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



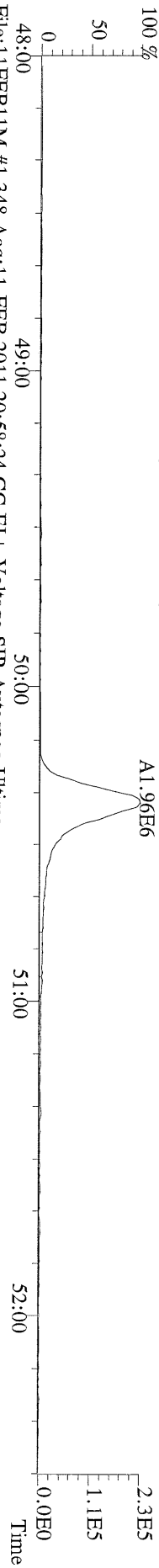
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



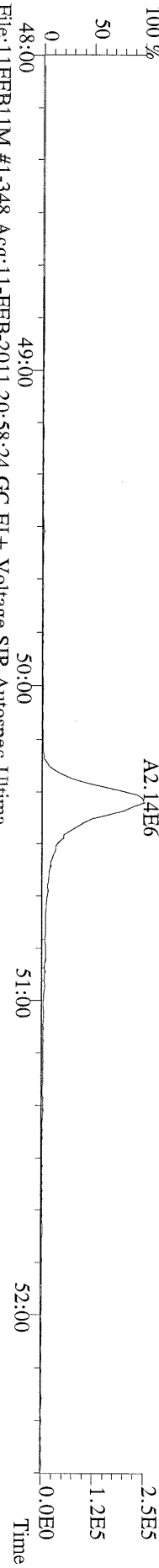
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



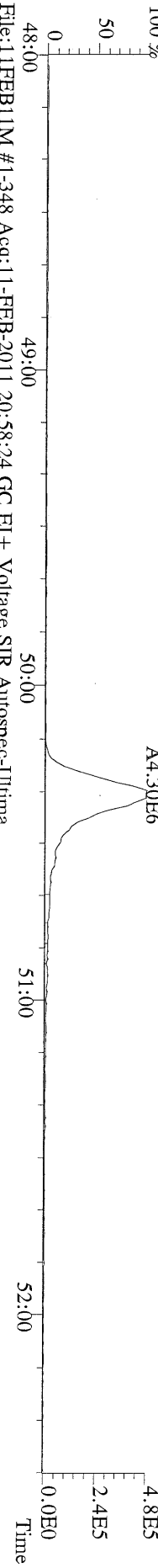
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



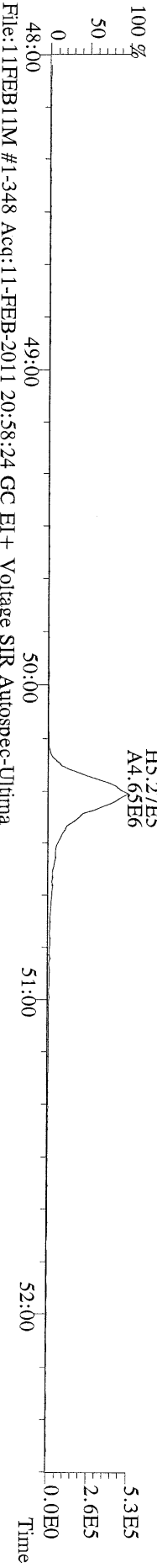
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory



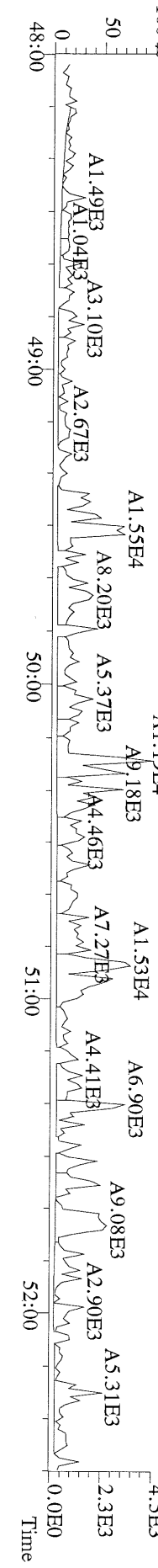
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

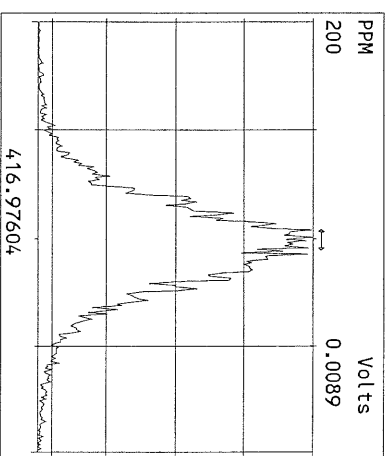
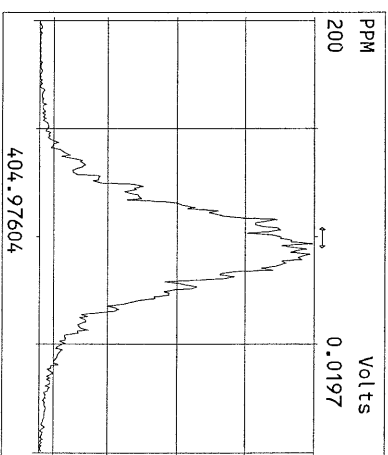
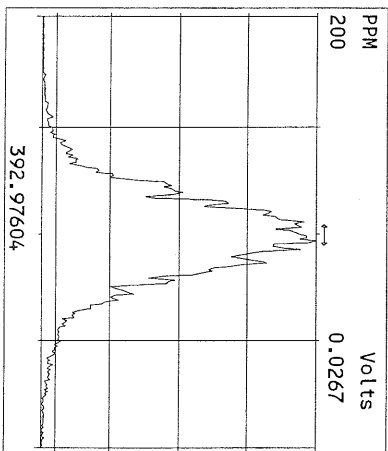
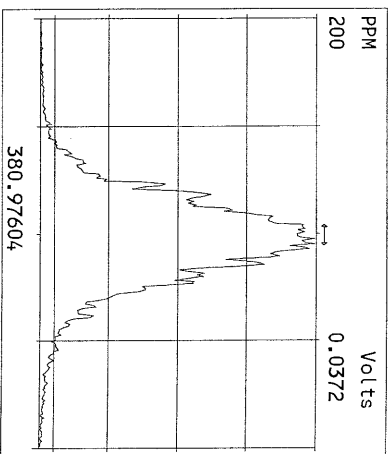
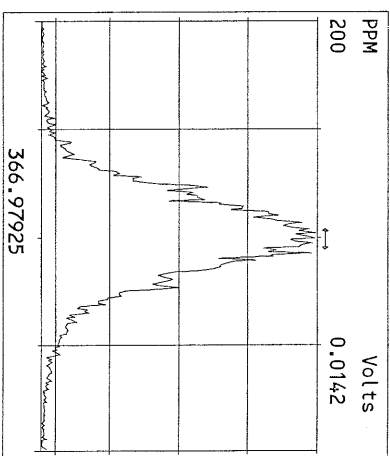
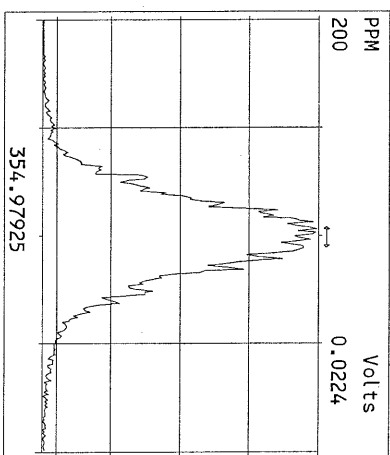
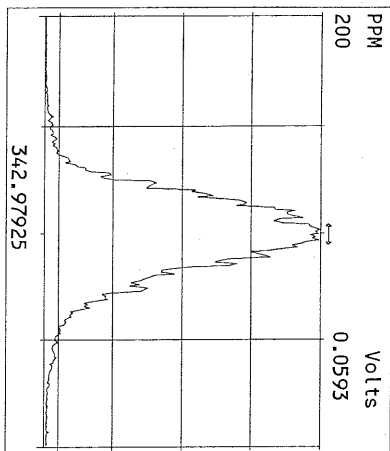
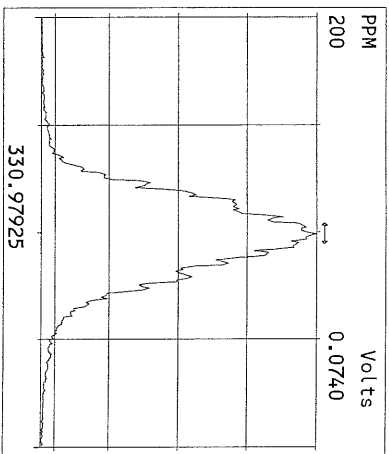
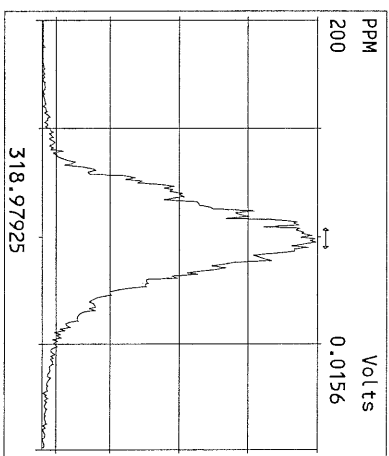
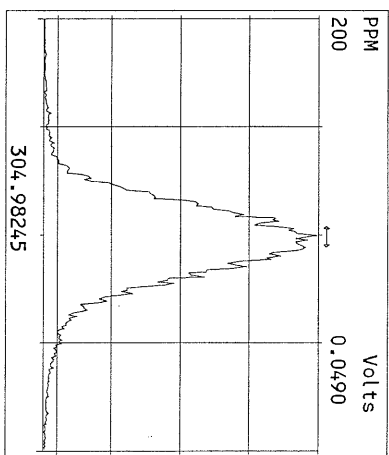
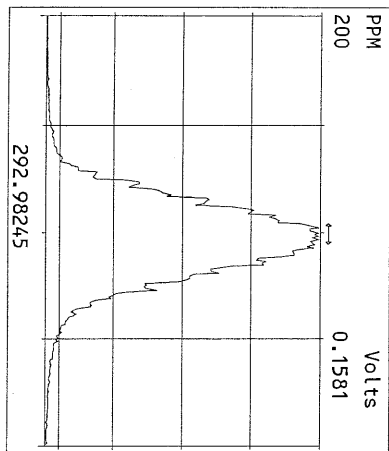


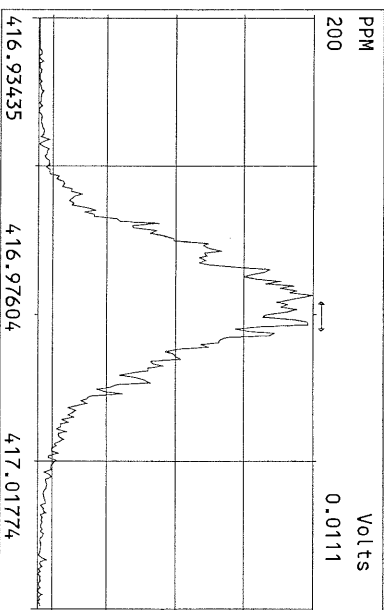
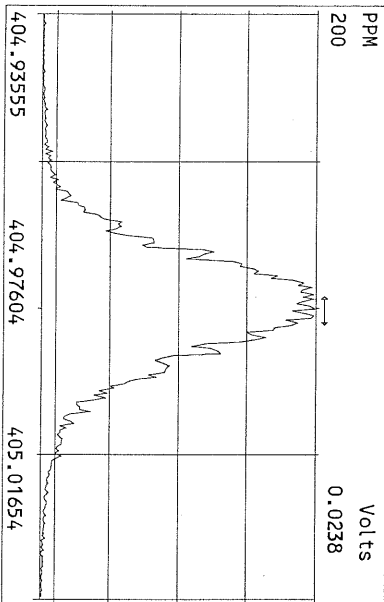
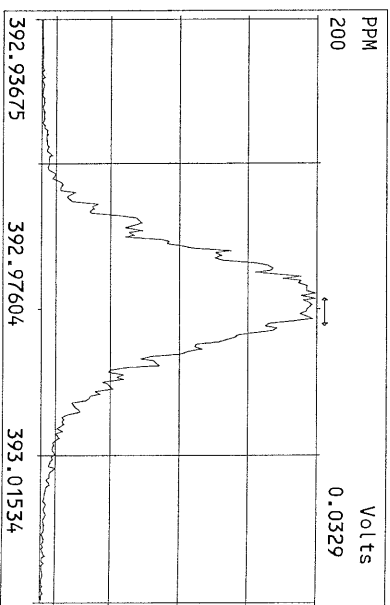
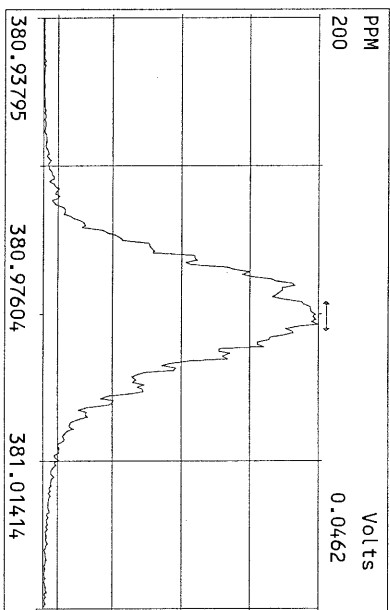
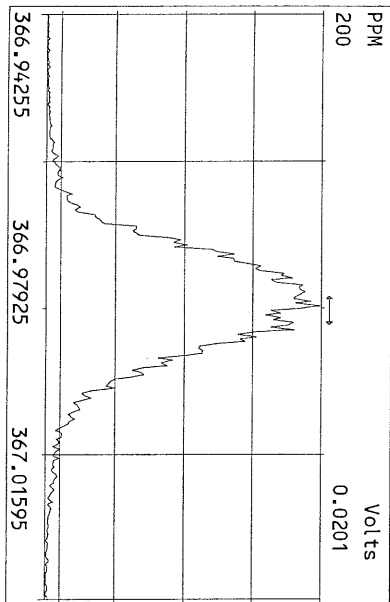
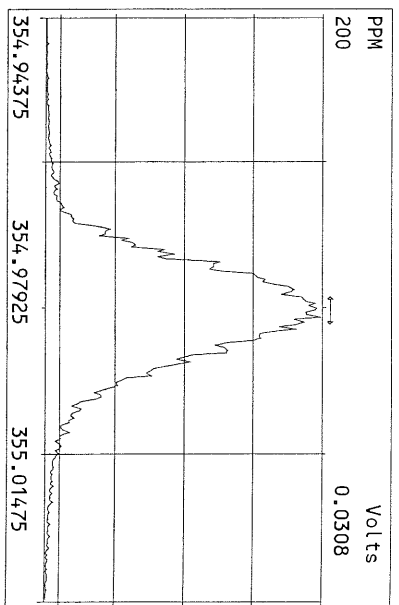
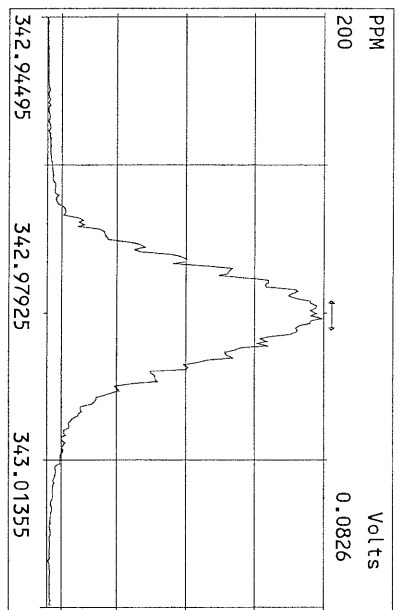
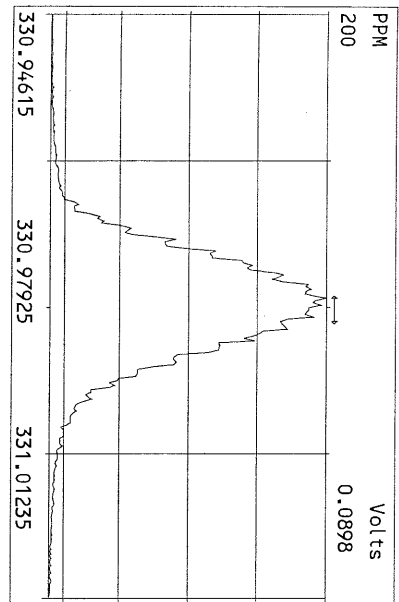
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Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

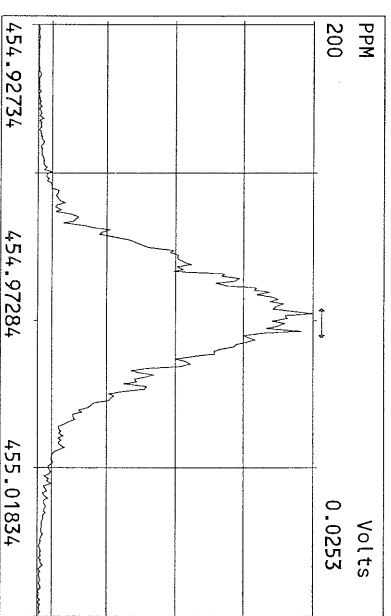
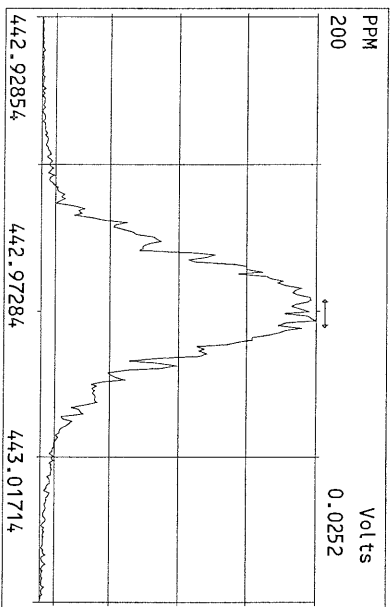
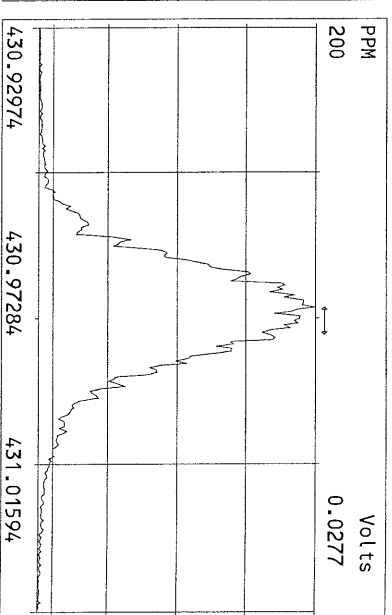
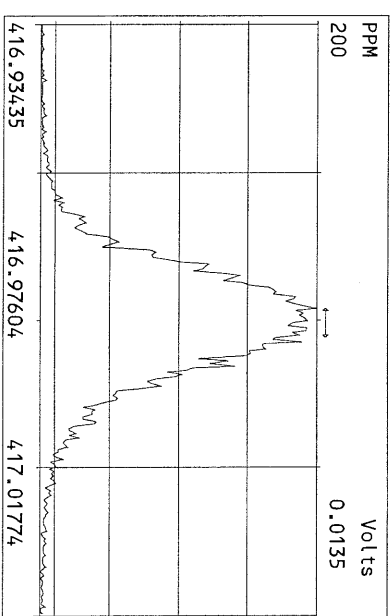
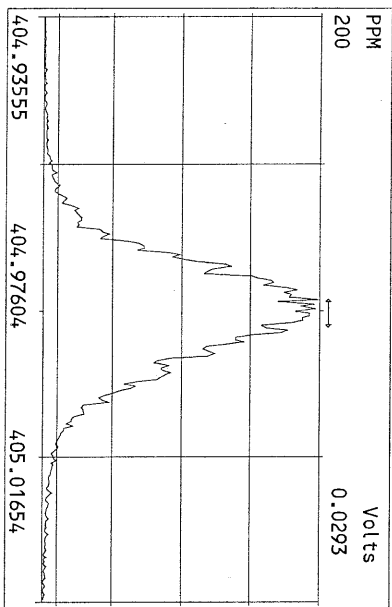
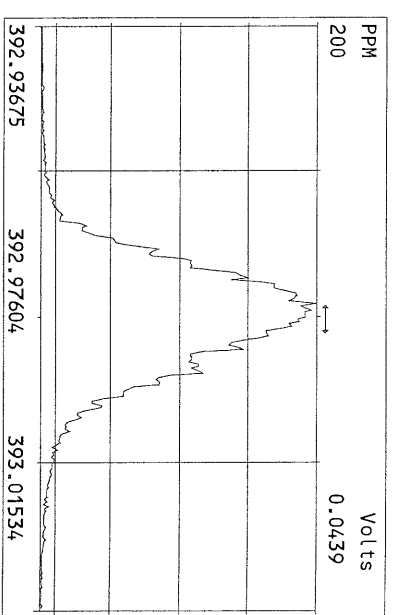
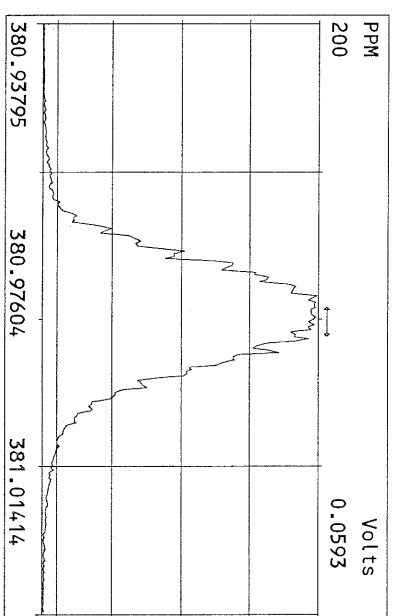
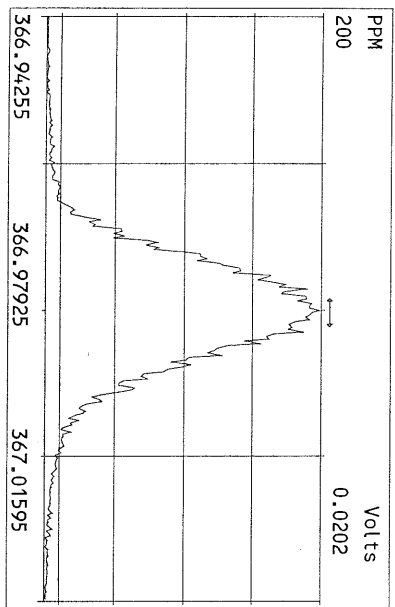


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513.6775 S:8 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M2 File Text:Frontier Analytical Laboratory

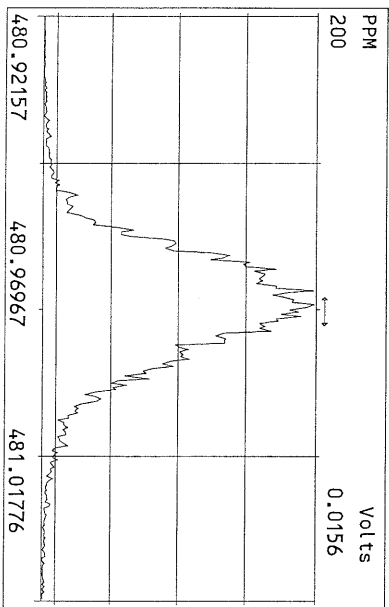
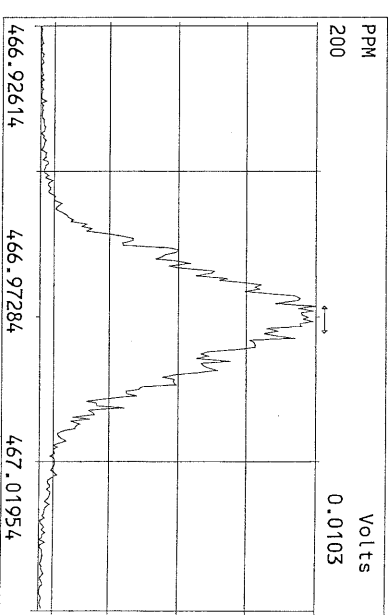
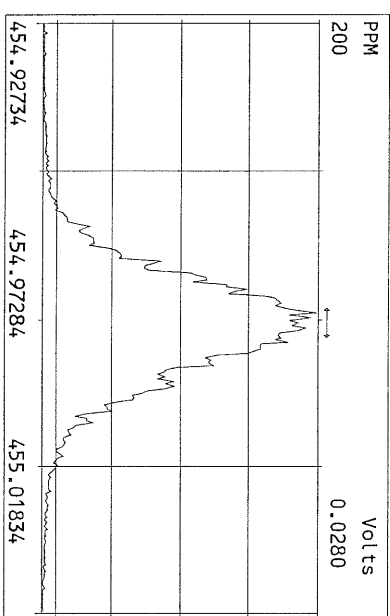
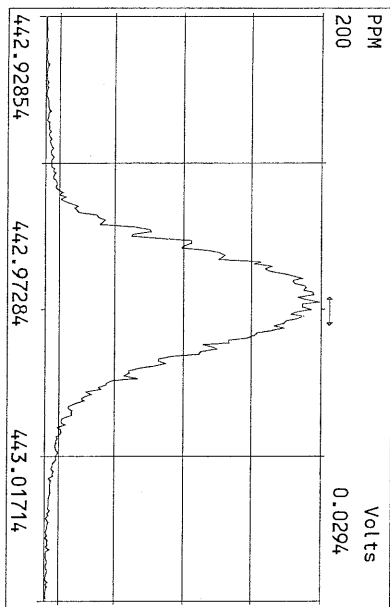
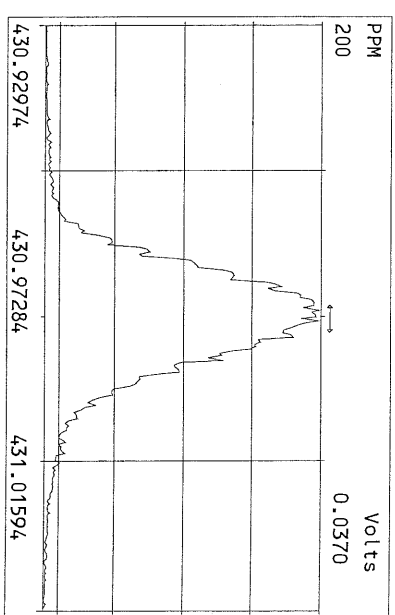
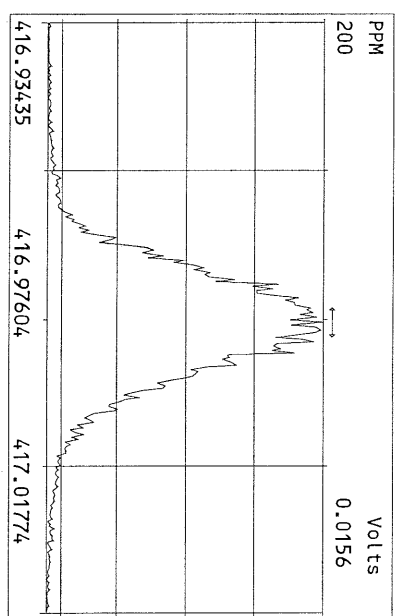
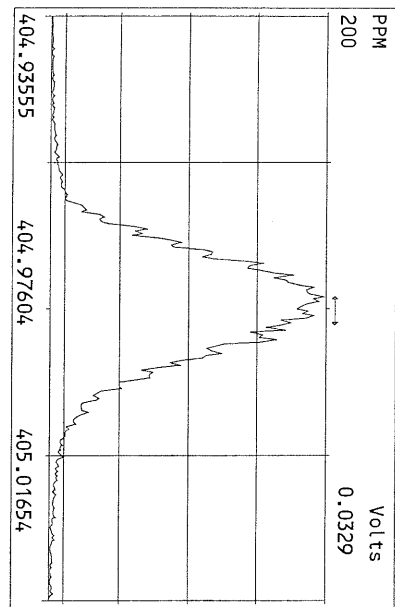


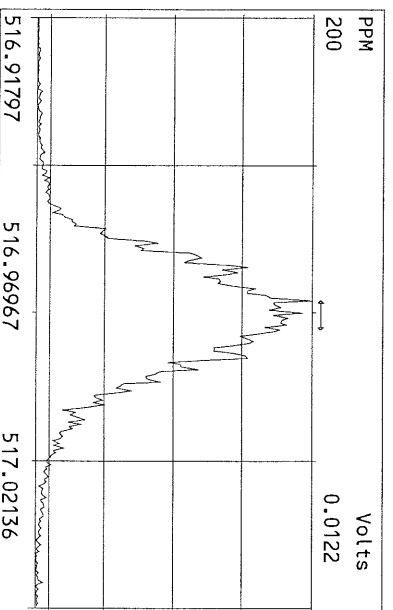
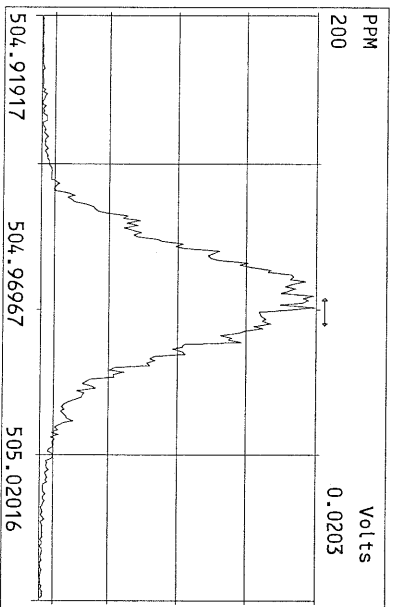
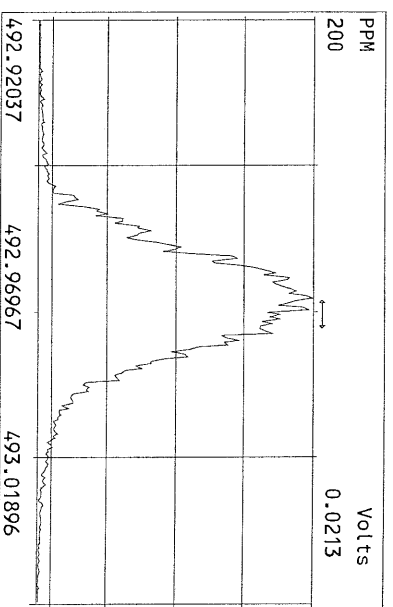
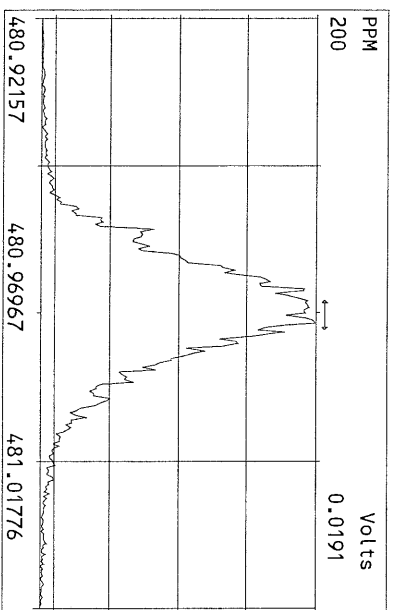
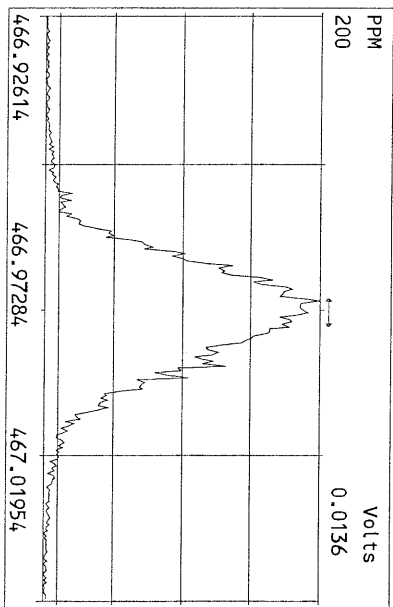
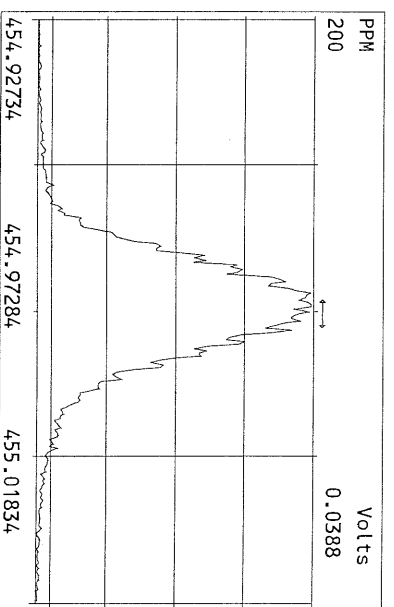
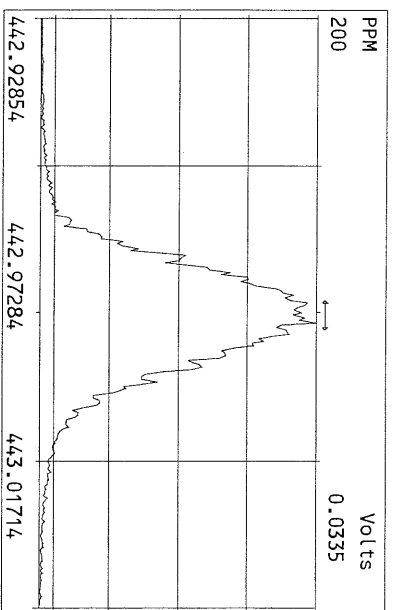
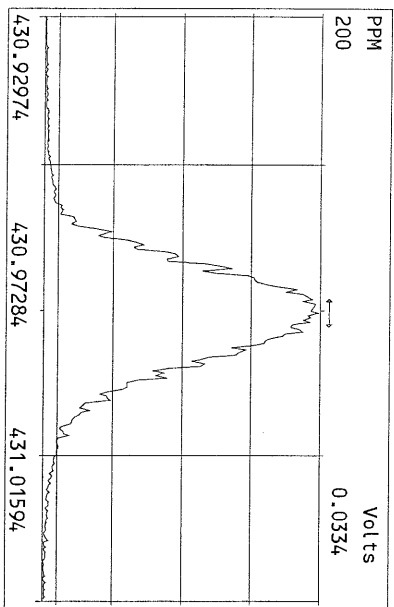












February 21, 2011

Ms. Sue Dunninghoo  
Analytical Resources Incorporated  
4611 South 134<sup>th</sup> Place  
Tukwila, WA 98168-3240

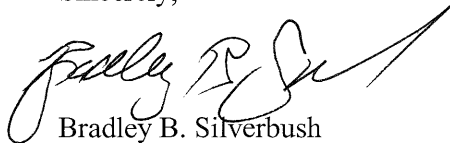
Dear Ms. Dunninghoo,

Enclosed are the results for Frontier Analytical Laboratory project **6558**. This corresponds to your **Lora Lake RI** project under ARI project number **RG61**. One soil sample was received on 2/3/2011 in good condition. This sample was extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. The 2005 World Health Organizations toxic equivalency factors (TEFs) were used to calculate the toxic equivalents (TEQ) on your report. Analytical Resources Incorporated requested a Level IV data package and a turnaround time of fifteen business days for project **6558**.

The following Level IV report consists of an Analytical Data section, a Sample Receipt section, a Laboratory Raw Data section, and an Instrument Raw Data section. The Analytical Data section contains our project-sample tracking log and the analytical results. The Sample Receipt section contains your chain of custody, our sample login form and the sample photo. The Laboratory Raw Data section contains our project request sheet, a percent solids sheet, an extraction bench sheet and the cleanup bench sheet. The instrument raw data section contains three sub-sections; the sample results section, the initial calibration section and the continuing/ending calibration section. The sample results sub-section consists of the quantitation summary forms with chromatograms for all samples and QC. The initial calibration sub-section consists of the individual quantitation summary forms and chromatograms for each point of the initial calibration curve as well as an overall quantitation summary form of the initial calibration curve. The continuing/ending calibration sub-section consists of the quantitation summary forms and chromatograms for all beginning and ending calibration injections associated with the samples and QC. You also requested Electronic Data Deliverables (EDD) for this project. The EDD and Level I summary have been sent to you via email. The Level IV report has been sent to you on compact disk. A hardcopy of the data package will not be forwarded unless specifically requested. The attached results are specifically for the sample referenced in this report only. These results meet all NELAC requirements and shall not be reproduced except in full.

If you have any questions regarding project **6558**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,



Bradley B. Silverbush  
Director of Operations

## Frontier Analytical Laboratory

### Sample Tracking Log

FAL Project ID: 6558

Received on: 02/03/2011

Project Due: 02/25/2011 Storage: R1

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
6558-001-SA	0	RG61	PSB2-4-6-072910	EPA 1613 D/F	Soil	07/29/2010	03:30 pm	07/29/2011

EPA Method 1613  
PCDD/F



FAL ID: 6558-001-MB  
Client ID: Method Blank  
Matrix: Soil  
Batch No: X2216

Date Extracted: 02-10-2011  
Date Received: NA  
Amount: 5.00 g

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: pg/g

Acquired: 02-11-2011  
2005 WHO TEQ: 0.00

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.274		-	0.0262				
1,2,3,7,8-PeCDD	ND	0.330		-	0.0442				
1,2,3,4,7,8-HxCDD	ND	0.389		-	0.0486				
1,2,3,6,7,8-HxCDD	ND	0.512		-	0.0586	Total TCDD	ND	0.274	
1,2,3,7,8,9-HxCDD	ND	0.449		-	0.0529	Total PeCDD	ND	0.330	
1,2,3,4,6,7,8-HpCDD	ND	0.443		-	0.0954	Total HxCDD	ND	0.512	
OCDD	ND	1.07		-	0.154	Total HpCDD	ND	0.443	
2,3,7,8-TCDF	ND	0.156		-	0.0205				
1,2,3,7,8-PeCDF	ND	0.279		-	0.0298				
2,3,4,7,8-PeCDF	ND	0.307		-	0.0313				
1,2,3,4,7,8-HxCDF	ND	0.290		-	0.0308				
1,2,3,6,7,8-HxCDF	ND	0.294		-	0.0317				
2,3,4,6,7,8-HxCDF	ND	0.345		-	0.0341				
1,2,3,7,8,9-HxCDF	ND	0.336		-	0.0387	Total TCDF	ND	0.156	
1,2,3,4,6,7,8-HpCDF	ND	0.380		-	0.0418	Total PeCDF	ND	0.307	
1,2,3,4,7,8,9-HpCDF	ND	0.414		-	0.0429	Total HxCDF	ND	0.345	
OCDF	ND	1.09		-	0.105	Total HpCDF	ND	0.414	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	95.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	113	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	101	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	89.6	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	93.7	23.0 - 140	
13C-OCDD	75.9	17.0 - 157	
13C-2,3,7,8-TCDF	91.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	101	24.0 - 185	
13C-2,3,4,7,8-PeCDF	96.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	96.4	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	87.6	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	80.6	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	88.0	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	83.5	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	112	26.0 - 138	
13C-OCDF	75.7	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 95.9 35.0 - 197

- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst: [Signature]  
Date: 2/21/11

Reviewed By: [Signature]  
Date: 2/21/11

EPA Method 1613  
PCDD/F



FAL ID: 6558-001-OPR  
Client ID: OPR  
Matrix: Soil  
Batch No: X2216

Date Extracted: 02-10-2011  
Date Received: NA  
Amount: 5.00 g

ICal: PCDDFAL3-8-23-10  
GC Column: DB5  
Units: ng/ml

Acquired: 02-11-2011  
2005 WHO TEQ: NA

Compound	Conc	QC Limits	Qual
2,3,7,8-TCDD	10.6	6.70 - 15.8	
1,2,3,7,8-PeCDD	51.0	35.0 - 71.0	
1,2,3,4,7,8-HxCDD	51.2	35.0 - 82.0	
1,2,3,6,7,8-HxCDD	53.7	38.0 - 67.0	
1,2,3,7,8,9-HxCDD	53.6	32.0 - 81.0	
1,2,3,4,6,7,8-HpCDD	46.3	35.0 - 70.0	
OCDD	102	78.0 - 144	
2,3,7,8-TCDF	9.06	7.50 - 15.8	
1,2,3,7,8-PeCDF	50.8	40.0 - 67.0	
2,3,4,7,8-PeCDF	51.2	34.0 - 80.0	
1,2,3,4,7,8-HxCDF	53.6	36.0 - 67.0	
1,2,3,6,7,8-HxCDF	54.0	42.0 - 65.0	
2,3,4,6,7,8-HxCDF	54.4	35.0 - 78.0	
1,2,3,7,8,9-HxCDF	55.1	39.0 - 65.0	
1,2,3,4,6,7,8-HpCDF	51.7	41.0 - 61.0	
1,2,3,4,7,8,9-HpCDF	52.0	39.0 - 69.0	
OCDF	111	63.0 - 170	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	99.3	20.0 - 175	
13C-1,2,3,7,8-PeCDD	112	21.0 - 227	
13C-1,2,3,4,7,8-HxCDD	105	21.0 - 193	
13C-1,2,3,6,7,8-HxCDD	96.4	25.0 - 163	
13C-1,2,3,4,6,7,8-HpCDD	100	26.0 - 166	
13C-OCDD	89.5	13.0 - 198	
13C-2,3,7,8-TCDF	99.2	22.0 - 152	
13C-1,2,3,7,8-PeCDF	105	21.0 - 192	
13C-2,3,4,7,8-PeCDF	102	13.0 - 328	
13C-1,2,3,4,7,8-HxCDF	98.5	19.0 - 202	
13C-1,2,3,6,7,8-HxCDF	89.6	21.0 - 159	
13C-2,3,4,6,7,8-HxCDF	87.9	22.0 - 176	
13C-1,2,3,7,8,9-HxCDF	95.4	17.0 - 205	
13C-1,2,3,4,6,7,8-HpCDF	89.7	21.0 - 158	
13C-1,2,3,4,7,8,9-HpCDF	121	20.0 - 186	
13C-OCDF	87.1	13.0 - 198	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	95.0	31.0 - 191	
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- A Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
- B Analyte is present in Method Blank
- C Chemical Interference
- D Presence of Diphenyl Ethers
- E Analyte concentration is above calibration range
- F Analyte confirmation on secondary column
- J Analyte concentration is below calibration range
- M Maximum possible concentration
- ND Analyte Not Detected
- NP Not Provided
- P Pre-filtered through a Whatman 0.7um GF/F filter
- S Sample acceptance criteria not met
- X Matrix interferences
- \* Result taken from dilution or reinjection

Analyst: 6  
Date: 2/21/11

Reviewed By: DN  
Date: 2/21/11

# EPA Method 1613 PCDD/F



FAL ID: 6558-001-SA  
 Client ID: PSB2-4-6-072910  
 Matrix: Soil  
 Batch No: X2216

Date Extracted: 02-10-2011  
 Date Received: 02-03-2011  
 Amount: 5.02 g  
 % Solids: 92.71

ICal: PCDDFAL3-2-16-11  
 GC Column: DB5  
 Units: pg/g

Acquired: 02-19-2011  
 2005 WHO TEQ: 0.0397

Compound	Conc	DL	Qual	2005		Compound	Conc	DL	Qual
				WHO Tox	MDL				
2,3,7,8-TCDD	ND	0.113		-	0.0262				
1,2,3,7,8-PeCDD	ND	0.178		-	0.0442				
1,2,3,4,7,8-HxCDD	ND	0.232		-	0.0486				
1,2,3,6,7,8-HxCDD	ND	0.292		-	0.0586	Total TCDD	ND	0.113	
1,2,3,7,8,9-HxCDD	ND	0.254		-	0.0529	Total PeCDD	ND	0.178	
1,2,3,4,6,7,8-HpCDD	2.35	-	J	0.0235	0.0954	Total HxCDD	ND	0.292	
OCDD	20.3	-		0.00609	0.154	Total HpCDD	4.91	-	J
2,3,7,8-TCDF	ND	0.0823		-	0.0205				
1,2,3,7,8-PeCDF	ND	0.236		-	0.0298				
2,3,4,7,8-PeCDF	ND	0.259		-	0.0313				
1,2,3,4,7,8-HxCDF	ND	0.137		-	0.0308				
1,2,3,6,7,8-HxCDF	ND	0.130		-	0.0317				
2,3,4,6,7,8-HxCDF	ND	0.141		-	0.0341	Total TCDF	ND	0.0823	
1,2,3,7,8,9-HxCDF	ND	0.134		-	0.0387	Total PeCDF	ND	0.259	
1,2,3,4,6,7,8-HpCDF	0.957	-	J	0.00957	0.0418	Total HxCDF	0.420	-	J
1,2,3,4,7,8,9-HpCDF	ND	0.179		-	0.0429	Total HpCDF	2.30	-	J
OCDF	1.84	-	J	0.000552	0.105				

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	96.5	25.0 - 164	
13C-1,2,3,7,8-PeCDD	105	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	104	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	97.2	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	109	23.0 - 140	
13C-OCDD	105	17.0 - 157	
13C-2,3,7,8-TCDF	97.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	102	24.0 - 185	
13C-2,3,4,7,8-PeCDF	102	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	102	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	96.1	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	95.2	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	99.1	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	101	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	124	26.0 - 138	
13C-OCDF	97.6	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD	88.7	35.0 - 197
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A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: *[Signature]*  
 Date: 2/21/11

Reviewed By: *SAJ*  
 Date: 2/21/11

CUSTODY TRANSFER  
 Printed: 02/02/11  
 ARI Job No: RG61

ANALYTICAL RESOURCES INCORPORATED  
 4611 South 134th Place, Suite 100  
 Tukwila WA 98168  
 206-695-6200 206-695-6201 (fax)

5580

ARI Project Manager: Sue Dunninghoo	Client Contact: Jessi Massingale	Sampling Event: POS-LLA	Samples Received: 07/29/10
Client: Floyd/Snyder	Project: Lora Lake RI	Sample Site: NA	

LOGNUM ARLID	CLIENT ID	MATRIX	# CONTAINERS	ANALYTICAL REQUEST	ANALYTICAL REQUEST	ANALYTICAL REQUEST	COMMENTS
10-18497 RG61G	PSB1-2-4-072910	Soil					7/29/10 15:30
10-18501 RG61K	PSB2-4-6-072910	Soil	1				

Sue to Kathy: EPA 1613 D/F, L4 + Excel EDD, RZ 2-3-11

17832 695 01 9116 9039

Comments/Special Instructions:	Relinquished By:	Received by (Signature):	Relinquished By:	Received by (Signature):
	Printed Name: ARIKA PALUMBA	Printed Name:	Printed Name:	Printed Name: Kathy Sep
	Company: ARI	Company:	Company:	Company: Frontier
	Date/Time: 2/2/11 1515	Date/Time:	Date/Time:	Date/Time: 2/3/11 940



## Frontier Analytical Laboratory

### Sample Login Form

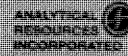
FAL Project ID: 6558

Client:	Analytical Resources Inc. Sue Dunninghoo
Client Project ID:	RG61
Date Received:	02/03/2011
Time Received:	09:40 am
Received By:	KZ
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	0
Storage Location:	R1

Method of Delivery:	UPS
Tracking Number:	1Z8326950151169039
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	07/29/2011
Adequate Sample Volume	Yes
Anomalies or additional comments:	
L4 DATA PACKAGE & EXCEL EDD	

CUSTODY TRANSFER  
 Printed: 02/02/11  
 ARI Job No: RG61

*65000*



4611 South 134th Place, Suite 100  
 Tukwila WA 98168  
 206-695-6200 206-695-6201 (fax)

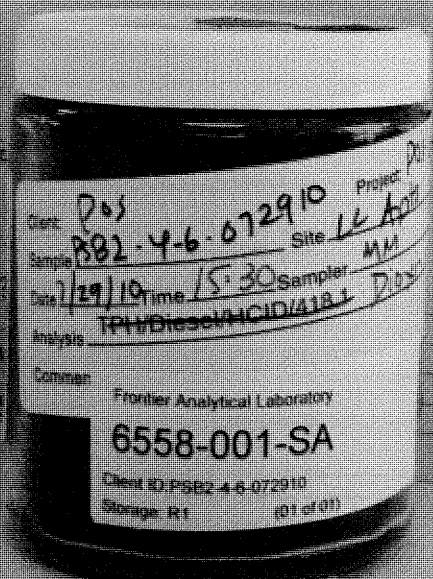
ARI Project Manager: Sue Dunshee	Client Contact: Jessi Massingale	Sampling Event: POS-LLA	Samples Received: 07/29/10
	Client: Floyd Snider	Project: Lora Lake RI	Sample Site: NA

CONTAINER	CLIENT ID	MATRIX	# CONTAINERS	ANALYTICAL REQUEST	ANALYTICAL REQUEST	ANALYTICAL REQUEST	COMMENTS
10-11497							7/21/10 15:30
10-12501	PSB2-4-6-072910	Soil	1				

*Sue to Kathy:*

*Excel EDD  
R2 2-3-11*

*12 832 695 01 416 90?*  
 Submitted by *MM*  
 Prepped by *Melka Nall*  
 Client *ARI*  
 Date *2/2/11*



*Kathy Japp  
Kathy Zipp  
Frontier  
2/3/11 940*

Frontier Analytical Laboratory  
**PROJECT REQUEST SHEET**

Project #: 6558                      Sample #: 1                      Client Manager: BS  
Client: Analytical Resources Inc. Sue Dunning                      Hold Time: 07/29/2011  
Matrix: Soil                      Extraction Batch: 2216                      Due Date: 02/25/2011  
Method: EPA 1613 D/F                      Storage: R1  
SOP: SOPs: EP2A Rev.8 IP2A Rev.9

**COMMENTS/INSTRUCTIONS:**

*LU i, Excel EDD*

Results: 6558

Instrument: Fab3  
DB5 \_\_\_\_\_  
DB225 \_\_\_\_\_  
DB1 \_\_\_\_\_  
Other \_\_\_\_\_

Extract/s located in box: "The Pack"

Standards: 6556/6554

*stds: 18Feb11M-1  
          ↓ -15  
          -20  
          11Feb11M-1  
          ↓ -8*

Frontier Analytical Laboratory  
Percent Solids

FAL Project: 6558

	Sample ID	Chemist	Date	Wet Sample Weight (g)	Dry Sample Weight (g)	% Solids	10g Equiv
1.32	6558-001-0001-SA	MP	2.4.11	7.96	7.38	92.71	10.79

% Solids Summary:

Non-Filtered Determination

1. Place an aliquot of sample into a pre-weighed aluminum weighing boat. Use approximately two to ten grams for solid samples, approximately 10 mL for aqueous samples.
2. Record the weight.
3. Dry sample overnight at approximately 110 C.

Filtered Determination

1. Pre-weigh a glass fiber filter of appropriate pore size and pressure filter a sample aliquot (200-1000mL) through it.
2. Air dry the filter and record the dry weight.

% Solids calculation

$$\% \text{ solids} = \frac{\text{aliquot after drying}}{\text{aliquot before drying}} \times 100$$

- Samples containing one percent solids or less are prepared as aqueous samples.
- Samples containing greater than one percent solids prepared as solid samples.

# Frontier Analytical Laboratory

## EXTRACTION SHEET

Project #: 6558      Extraction Date: 2011-02-10      Extraction Chemist: MP

Method/Analysis: EPA 1613 D/F

Procedure: SOX/SDS      Solvent: Toluene

Sample ID	Wet wt. (g/L)	Dry wt. (g/L)	IS	NS	CSS
			Amt: 10.0uL ID: 100511A Vial: 3 Chemist/Witness/Date	Amt: 10.0uL ID: 100511B Vial: 1 Chemist/Witness/Date	Amt: 10.0uL ID: 100511C Vial: 3 Chemist/Witness/Date
2216-001-0001-MB					
2216-001-0001-OPR					
6558-001-0001-SA	5.41g	5.02g	MP 2-10-11	N/A	MP 2-11-11

0556

AX-21 Charcoal Cleaned	031210	Acetone	105790	Acid Alumina	A0284730	Hexane	106411
Hydrochloric Acid	B08505	Methanol	105561	Methylene Chloride (DCM)	50267	Silica Gel	TA1592834
Sodium Hydroxide	0062836	Sodium Sulfate	1750C277	Sulfuric Acid	106111	Tetradecane	086237
Toluene	104811	Water	50229	C-18 Empore Discs	320552	Cyclohexane	48151

Comments:

# Frontier Analytical Laboratory CLEANUP SHEET

Project #: 6558

Method/Analysis: EPA 1613 D/F


Splits: 0      Split Date: N/A      Final Volume: 20.0uL

Sample ID	Cleanup 1	Cleanup 2	Cleanup 3	RS
	Chemist/Date	Chemist/Date	Chemist/Date	Chemist/Witness/Date
	MSG/AA	CC	N/A	Amt: 10.0uL ID: 100511D Vial: 5
2216-001-0001-MB				
2216-001-0001-OPR				
6558-001-0001-SA	MP/2-11-11	MP/2-11-11	N/A	MP SC 2-11-11

6558 ←

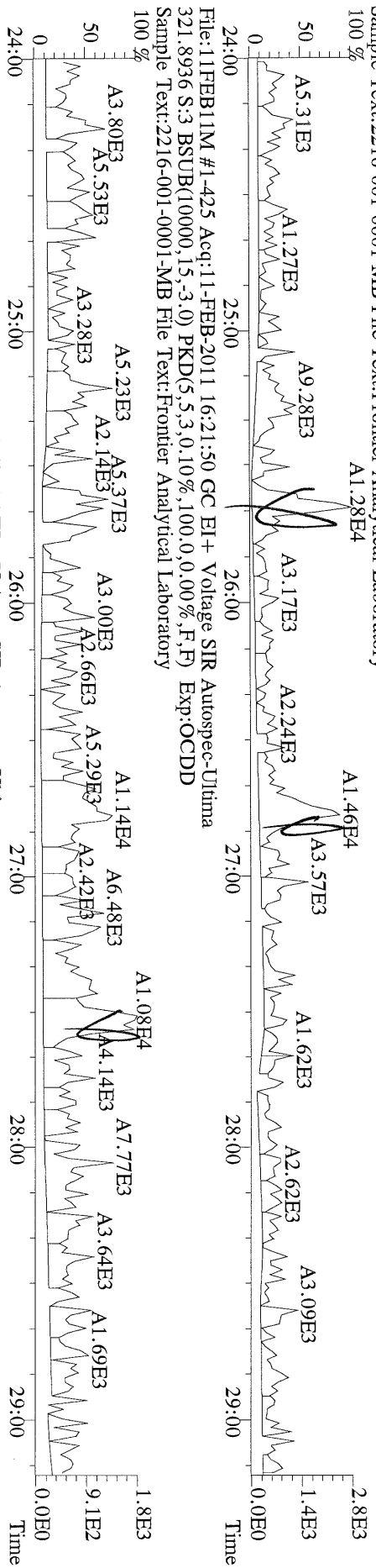
Comments:

Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	DL	
2,3,7,8-TCDD	*	* n	NotFnd	1.11	*		2.50	736	804	0.274	
1,2,3,7,8-PeCDD	*	* n	NotFnd	1.10	*		2.50	924	688	0.330	
1,2,3,4,7,8-HxCDD	*	* n	NotFnd	1.37	*		2.50	916	988	0.389	
1,2,3,6,7,8-HxCDD	*	* n	NotFnd	1.37	*		2.50	916	988	0.512	
1,2,3,7,8,9-HxCDD	*	* n	NotFnd	1.36	*		2.50	916	988	0.449	
1,2,3,4,6,7,8-HpCDD	*	* n	NotFnd	1.45	*		2.50	784	724	0.443	
OCDD	*	* n	NotFnd	1.43	*		2.50	700	668	1.07	
2,3,7,8-TCDF	*	* n	NotFnd	1.50	*		2.50	928	1150	0.156	
1,2,3,7,8-PeCDF	*	* n	NotFnd	0.94	*		2.50	916	1000	0.279	
2,3,4,7,8-PeCDF	*	* n	NotFnd	0.94	*		2.50	916	1000	0.307	
1,2,3,4,7,8-HxCDF	*	* n	NotFnd	0.93	*		2.50	844	744	0.290	
1,2,3,6,7,8-HxCDF	*	* n	NotFnd	0.82	*		2.50	844	744	0.294	
2,3,4,6,7,8-HxCDF	*	* n	NotFnd	0.92	*		2.50	844	744	0.345	
1,2,3,7,8,9-HxCDF	*	* n	NotFnd	1.00	*		2.50	844	744	0.336	
1,2,3,4,6,7,8-HpCDF	*	* n	NotFnd	1.39	*		2.50	688	708	0.380	
1,2,3,4,7,8,9-HpCDF	*	* n	NotFnd	1.36	*		2.50	688	708	0.414	
OCDF	*	* n	NotFnd	0.79	*		2.50	700	804	1.09	
Rec											
13C-2,3,7,8-TCDD	2.36e+07	0.75 y	27:30	1.02	384					95.9	
13C-1,2,3,7,8-PeCDD	2.28e+07	1.73 y	33:21	0.84	452					113	
13C-1,2,3,4,7,8-HxCDD	1.83e+07	1.25 y	38:44	1.07	403					101	
13C-1,2,3,6,7,8-HxCDD	1.53e+07	1.25 y	38:54	1.01	358					89.6	
13C-1,2,3,4,6,7,8-HpCDD	1.36e+07	1.01 y	44:21	0.86	375					93.7	
13C-OCDD	1.40e+07	0.96 y	49:58	0.55	607					75.9	
13C-2,3,7,8-TCDF	4.01e+07	0.87 y	26:46	0.99	365					91.2	
13C-1,2,3,7,8-PeCDF	3.73e+07	1.70 y	31:37	0.84	402					101	
13C-2,3,4,7,8-PeCDF	3.46e+07	1.66 y	32:57	0.81	385					96.3	
13C-1,2,3,4,7,8-HxCDF	3.02e+07	0.52 y	37:21	1.85	385					96.4	
13C-1,2,3,6,7,8-HxCDF	3.75e+07	0.50 y	37:33	2.54	350					87.6	
13C-2,3,4,6,7,8-HxCDF	2.74e+07	0.51 y	38:30	2.01	322					80.6	
13C-1,2,3,7,8,9-HxCDF	3.03e+07	0.52 y	39:56	2.03	352					88.0	
13C-1,2,3,4,6,7,8-HpCDF	1.57e+07	0.47 y	42:27	1.11	334					83.5	
13C-1,2,3,4,7,8,9-HpCDF	1.52e+07	0.46 y	45:17	0.80	446					112	
13C-OCDF	2.77e+07	0.95 y	50:22	1.08	606					75.7	
37Cl-2,3,7,8-TCDD	6.32e+06		27:32	0.69	153					95.9	
13C-1,2,3,4-TCDD	2.40e+07	0.75 y	26:55	-	10.7						
13C-1,2,3,4-TCDF	4.43e+07	0.87 y	25:39	-	12.2						
13C-1,2,3,7,8,9-HxCDD	1.69e+07	1.26 y	39:21	-	12.3						
Fac Noise-1    Noise-2    DL    #Hom											
Total Tetra-Dioxins	*		NotFnd	1.11	*		2.50	736	804	0.274	0
Total Penta-Dioxins	*		NotFnd	1.10	*		2.50	924	688	0.330	0
Total Hexa-Dioxins	*		NotFnd	1.37	*		2.50	916	988	0.512	0
Total Hepta-Dioxins	*		NotFnd	1.45	*		2.50	784	724	0.443	0
Total Tetra-Furans	*		NotFnd	1.50	*		2.50	928	1150	0.156	0
1st Fn. Tot Penta-Furans	*		NotFnd	0.94	*		2.50	916	1000	0.307	PeCDF 0
Total Penta-Furans	*		NotFnd	0.94	*		2.50	916	1000	0.307	* 0
Total Hexa-Furans	*		NotFnd	0.91	*		2.50	844	744	0.345	0
Total Hepta-Furans	*		NotFnd	1.38	*		2.50	688	708	0.414	0

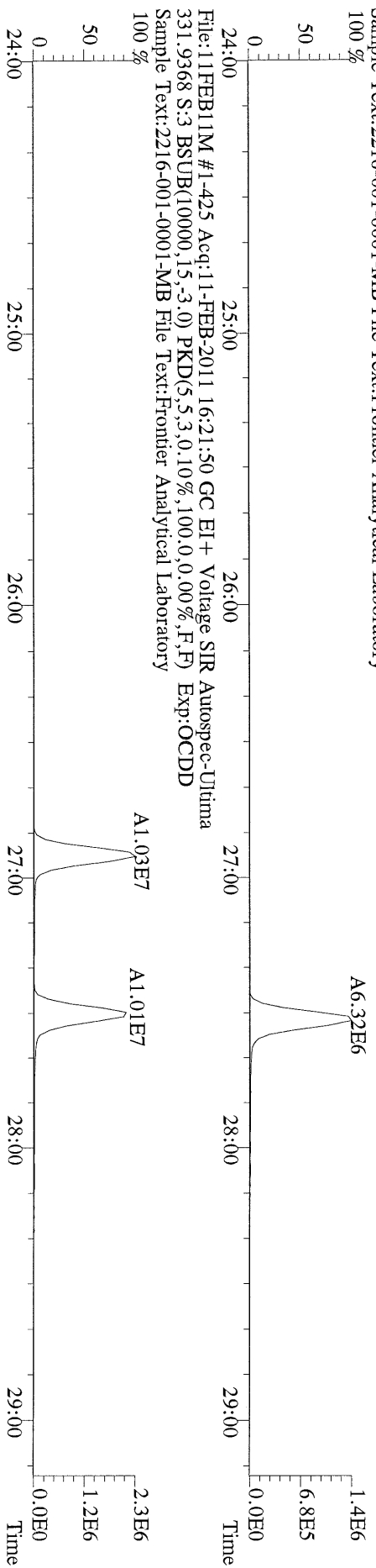
Analyst: 

Date: 2/14/11

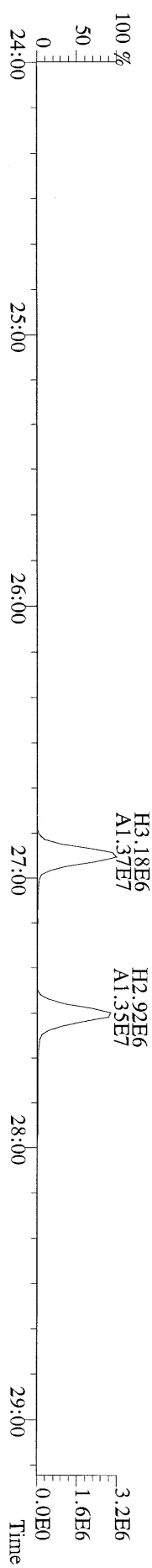
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319.8965 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
327.8847 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory

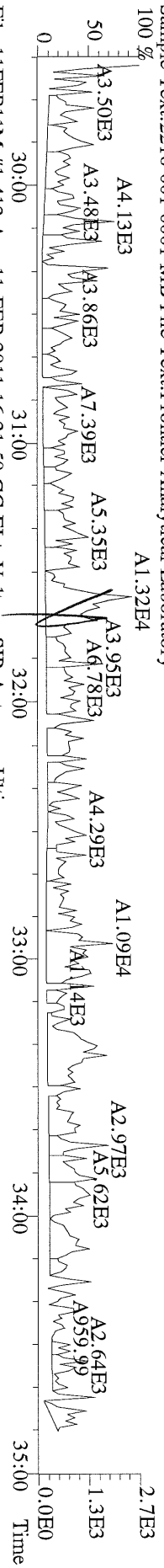


File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
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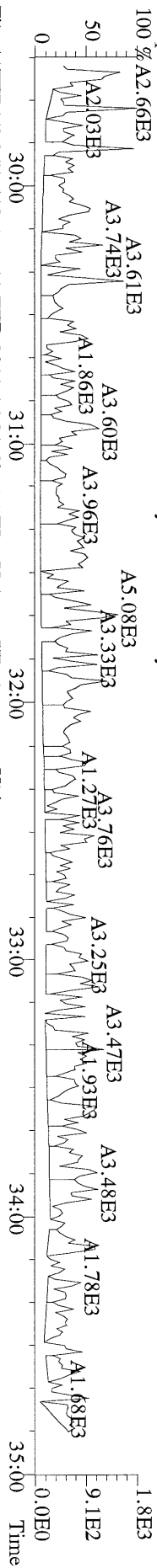




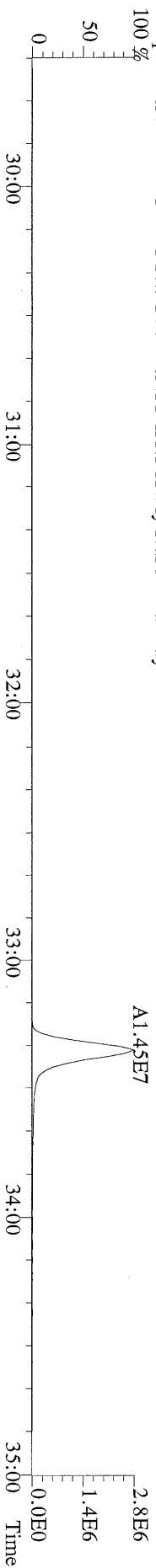
File:11FEB11M #1-412 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



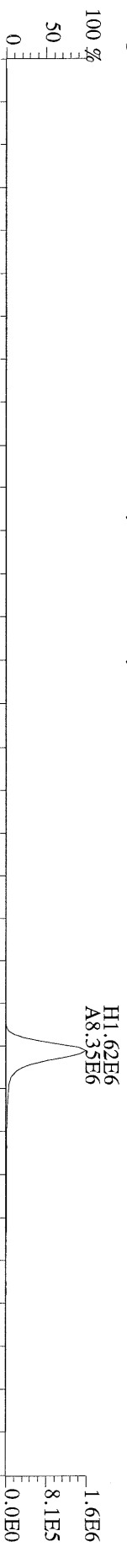
File:11FEB11M #1-412 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 357.8517 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



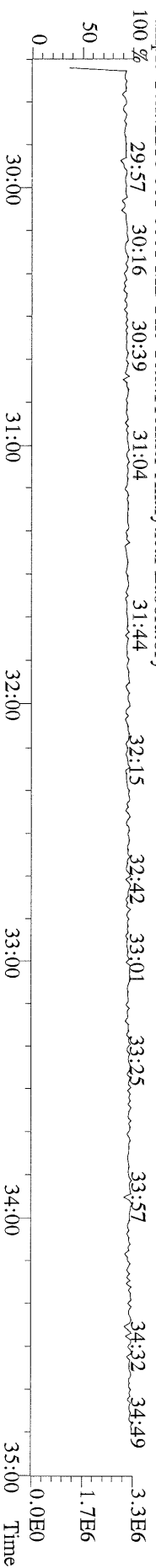
File:11FEB11M #1-412 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



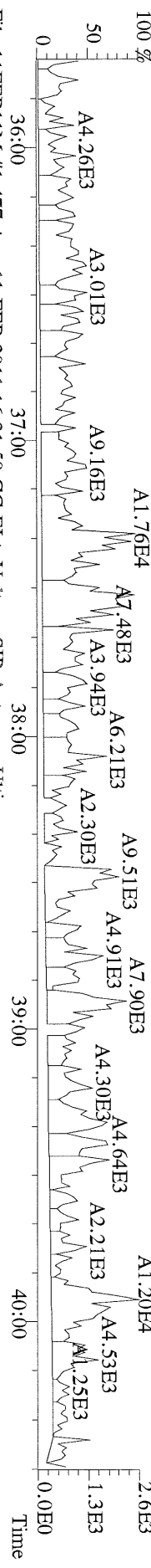
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 369.8919 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



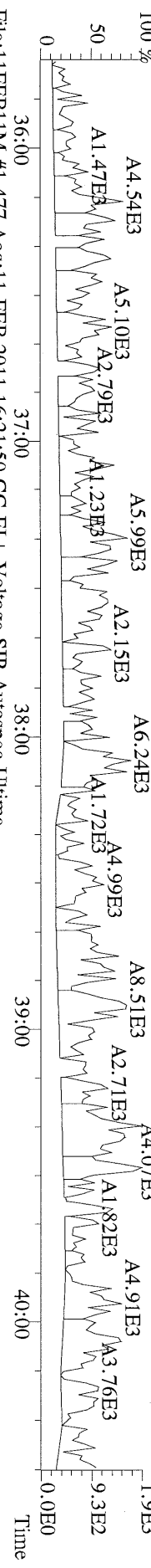
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 366.9792 S:3 F:2 Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



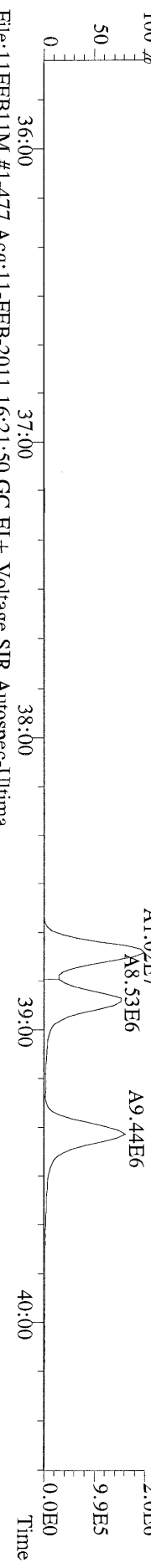
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389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



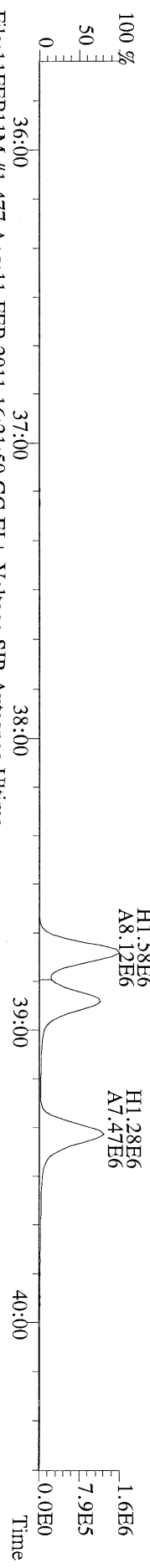
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391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



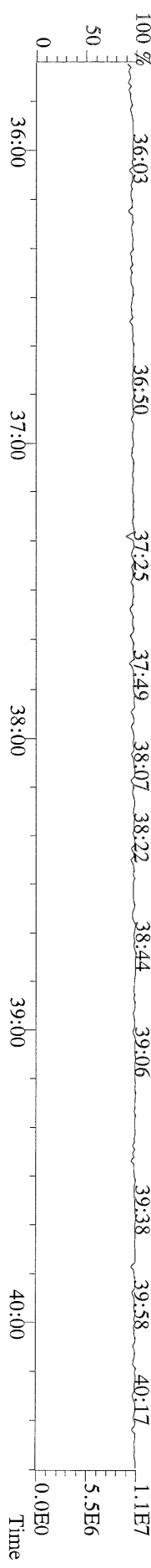
File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



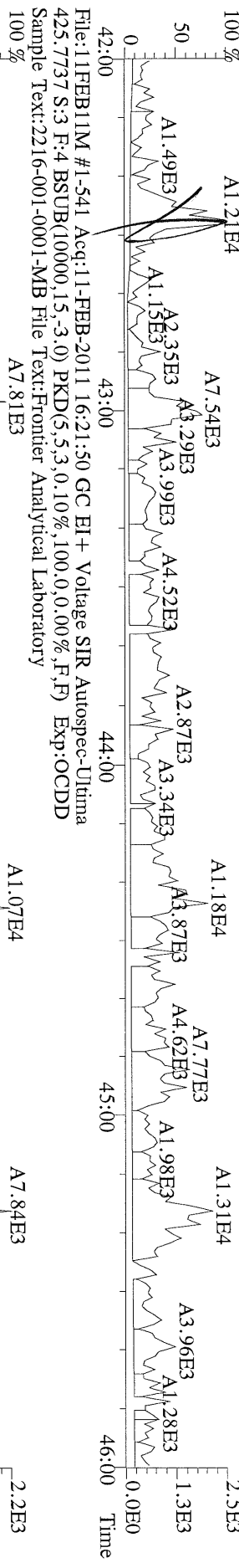
File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



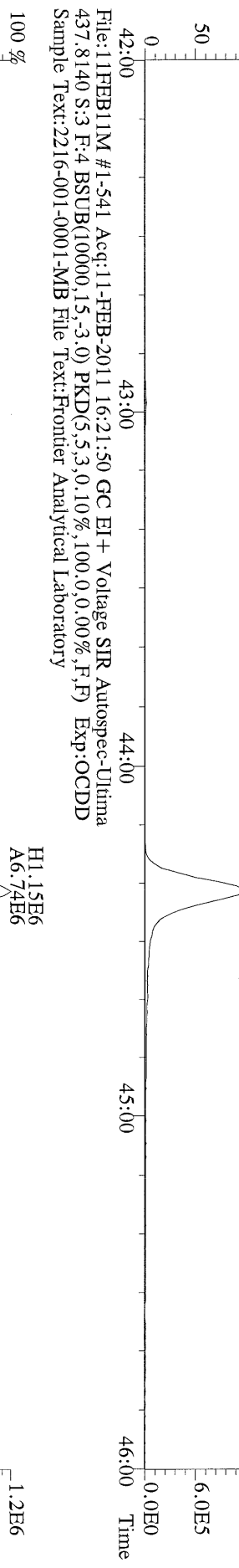
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380.9760 S:3 F:3 Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



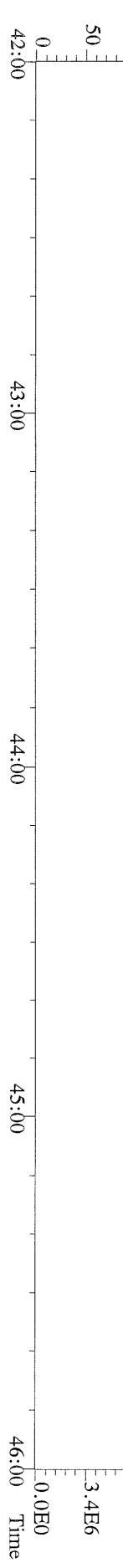
File:11FEB11M #1-541 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Utima  
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



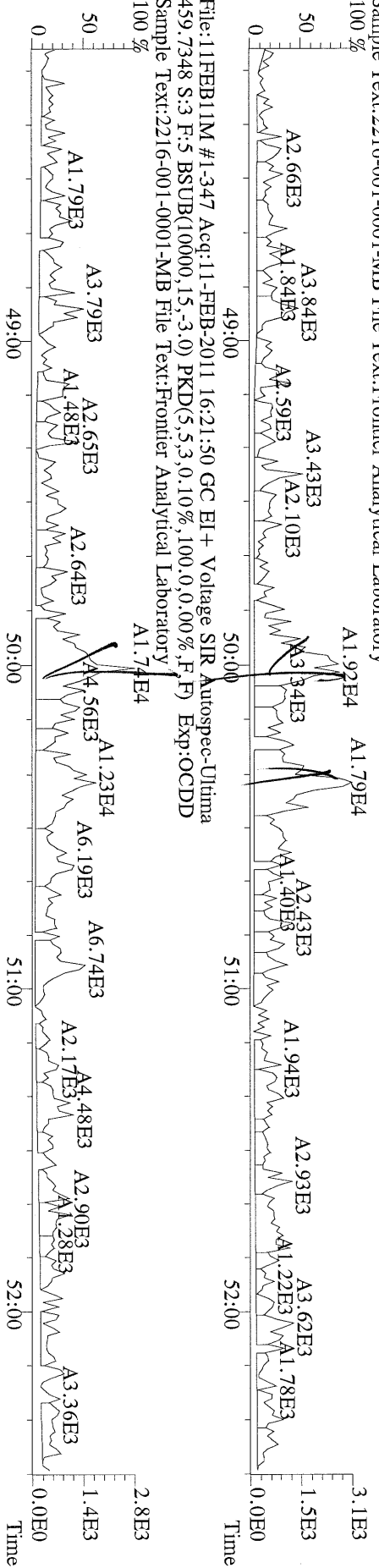
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435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



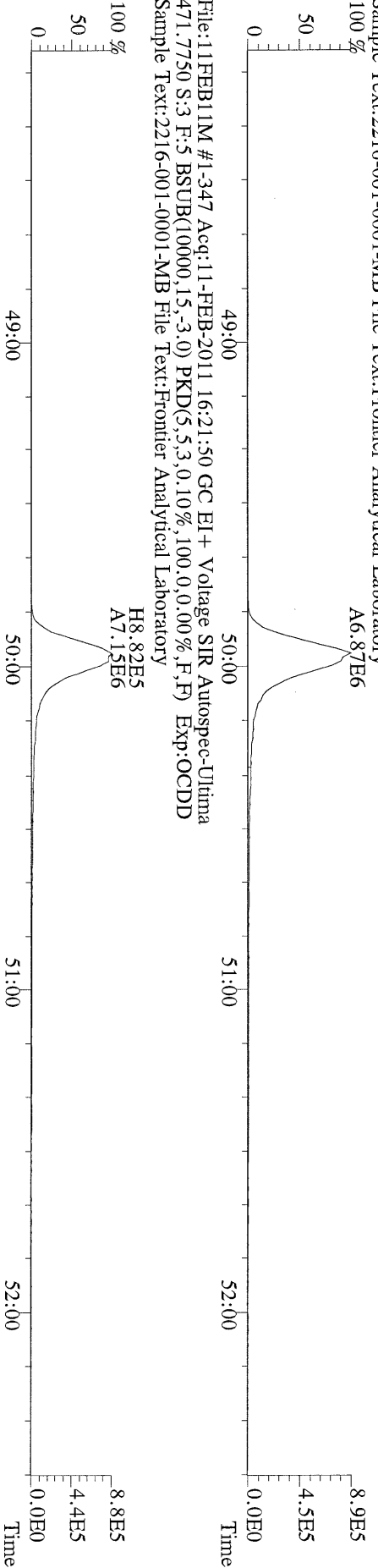
File:11FEB11M #1-541 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Utima  
430.9728 S:3 F:4 Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



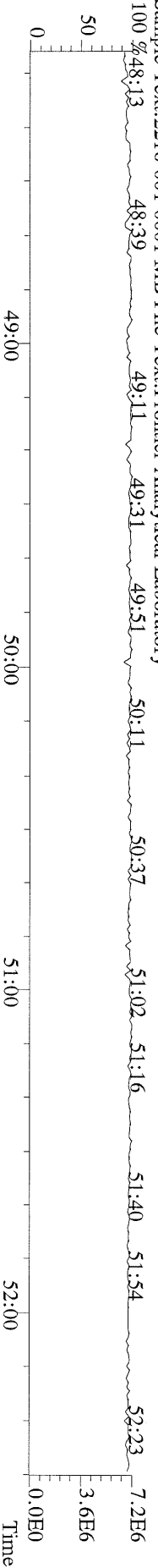
File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



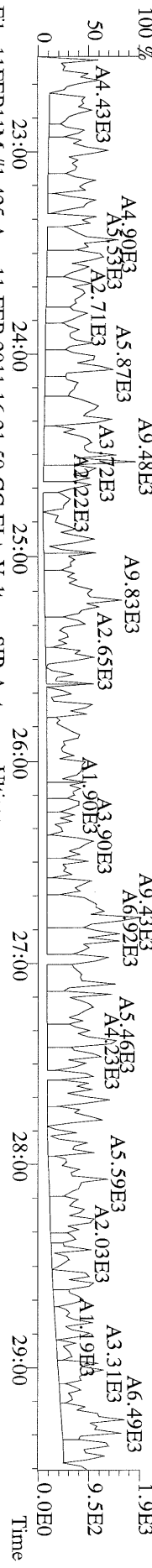
File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



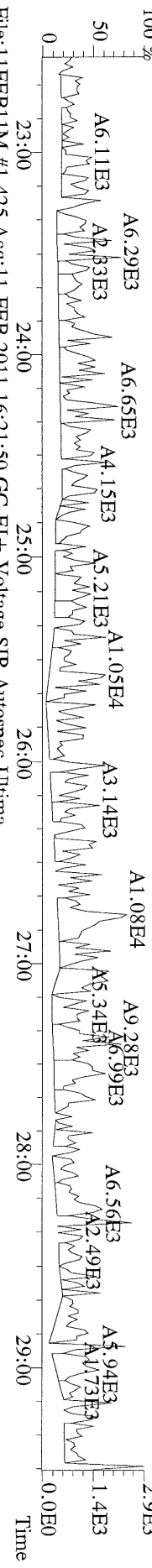
File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
454.9728 S:3 F:5 Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



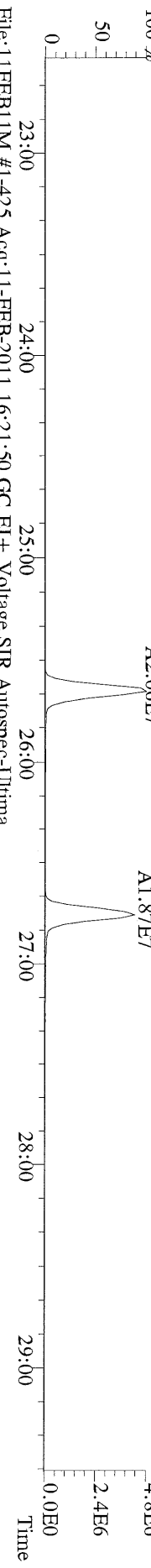
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



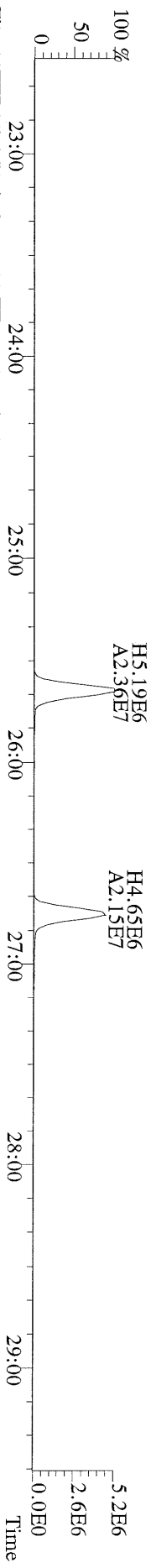
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



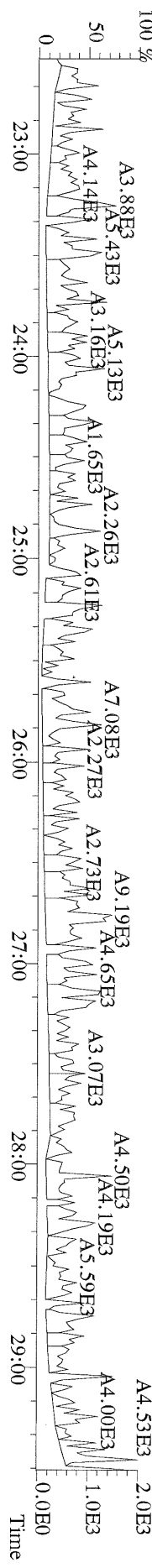
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



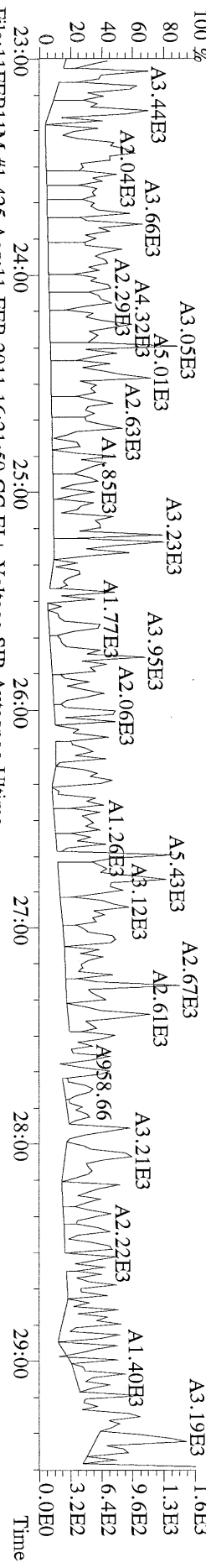
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



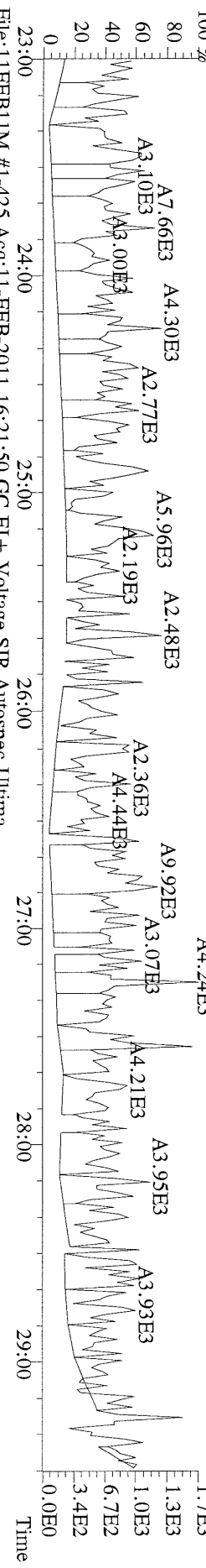
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 375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



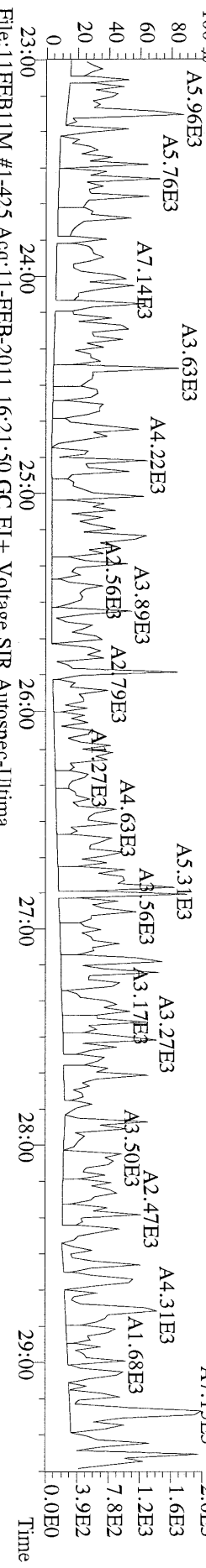
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 339.8597 S:3 BSUBR(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



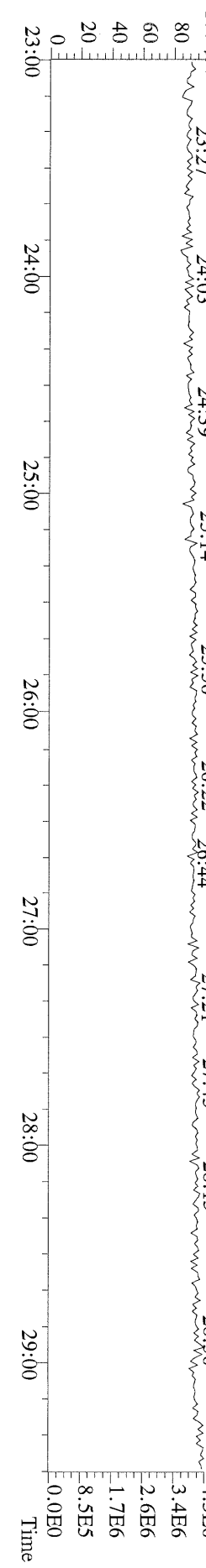
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 341.8568 S:3 BSUBR(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



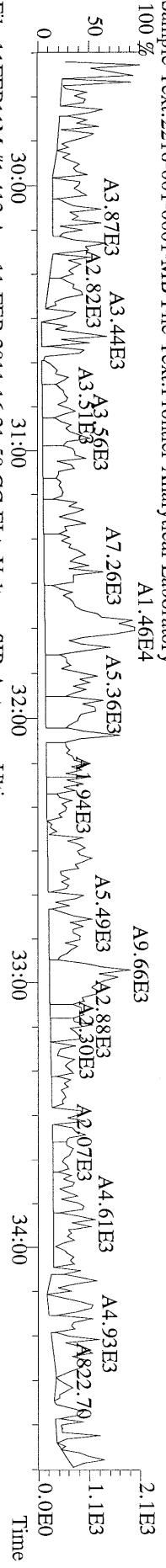
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 S:3 BSUBR(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



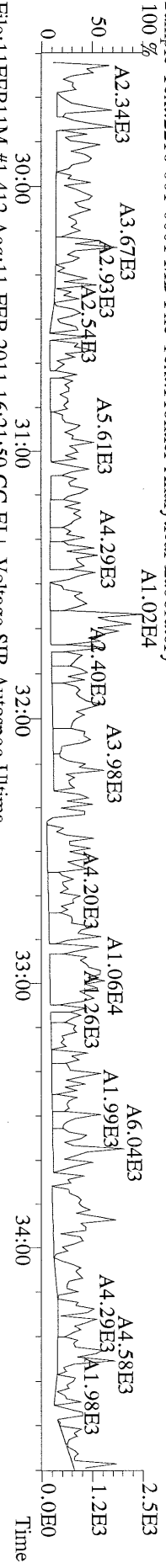
File:11FEB11M #1-425 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
 316.9824 S:3 Exp:OCDD  
 Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



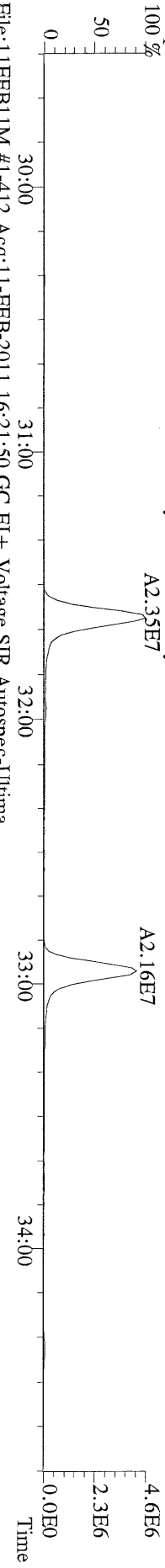
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339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-412 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



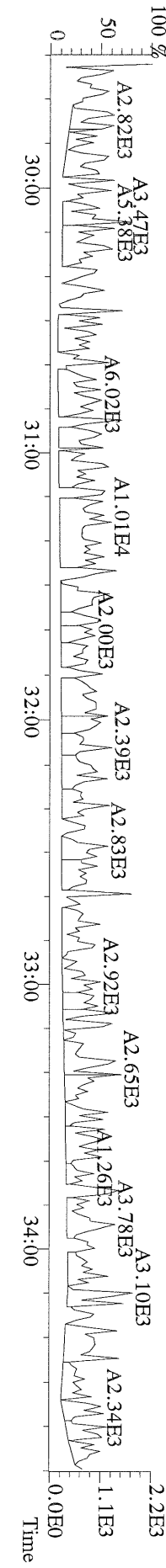
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351.9000 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



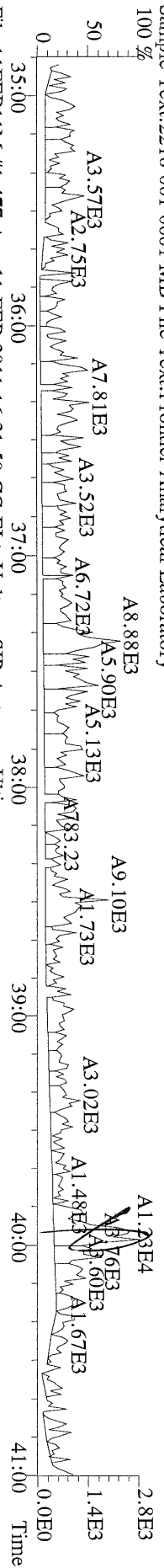
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Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



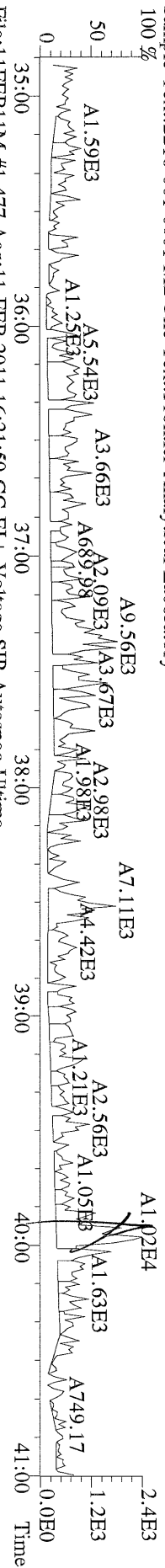
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Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



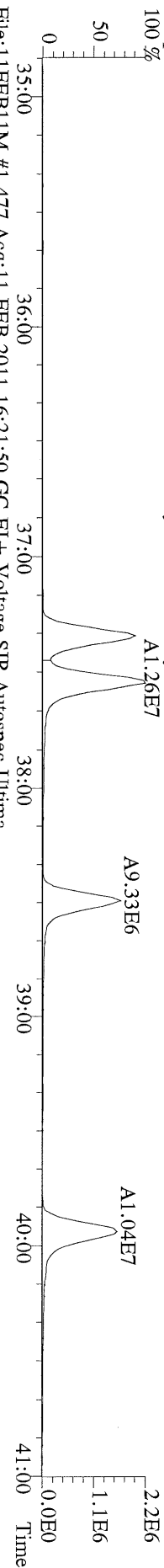
File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



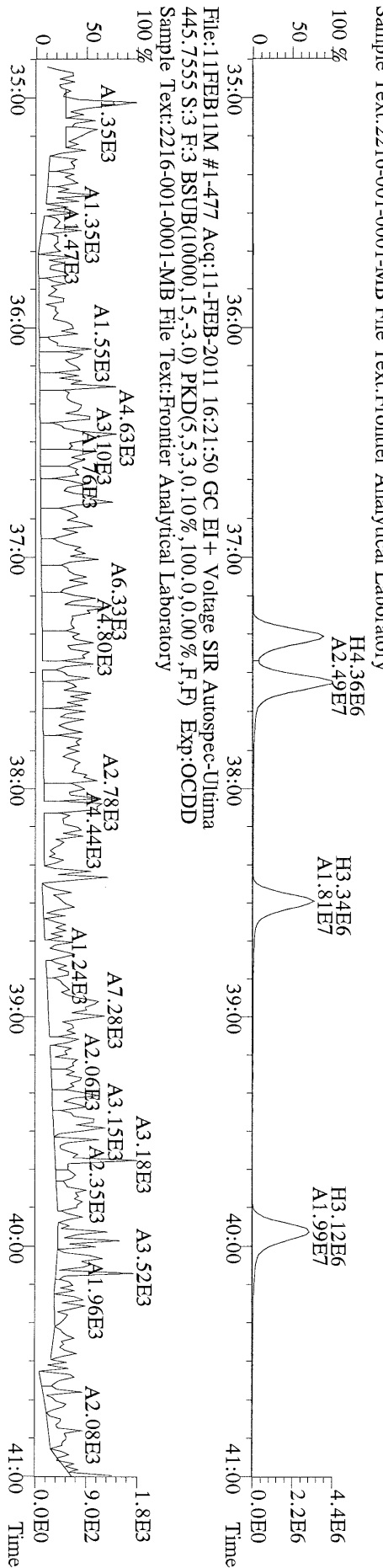
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375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory

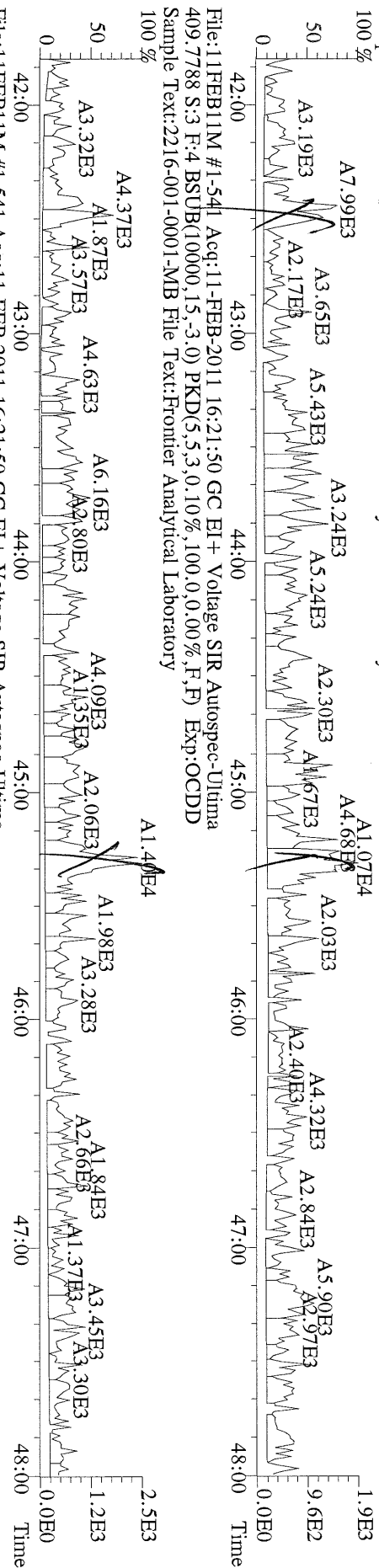


File:11FEB11M #1-477 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory

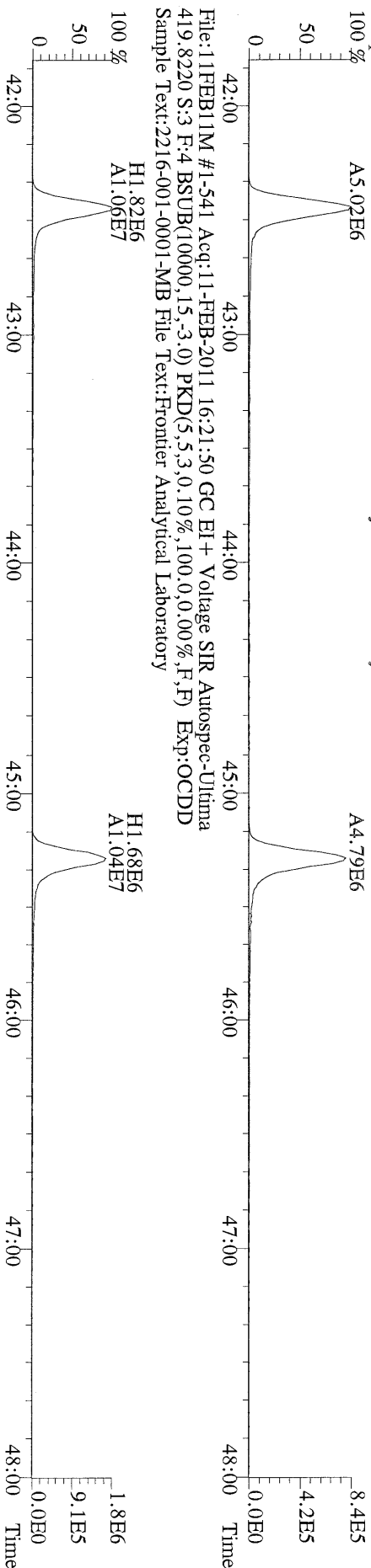




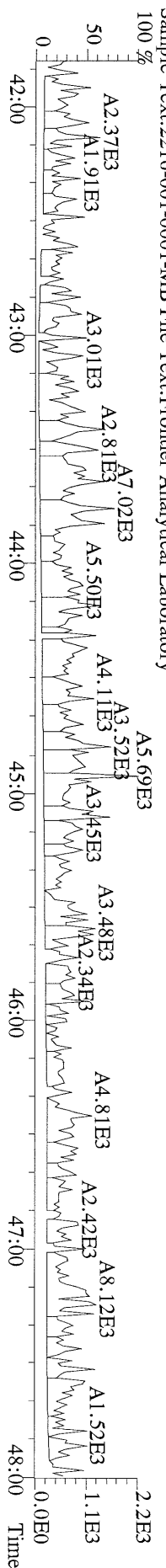
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407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



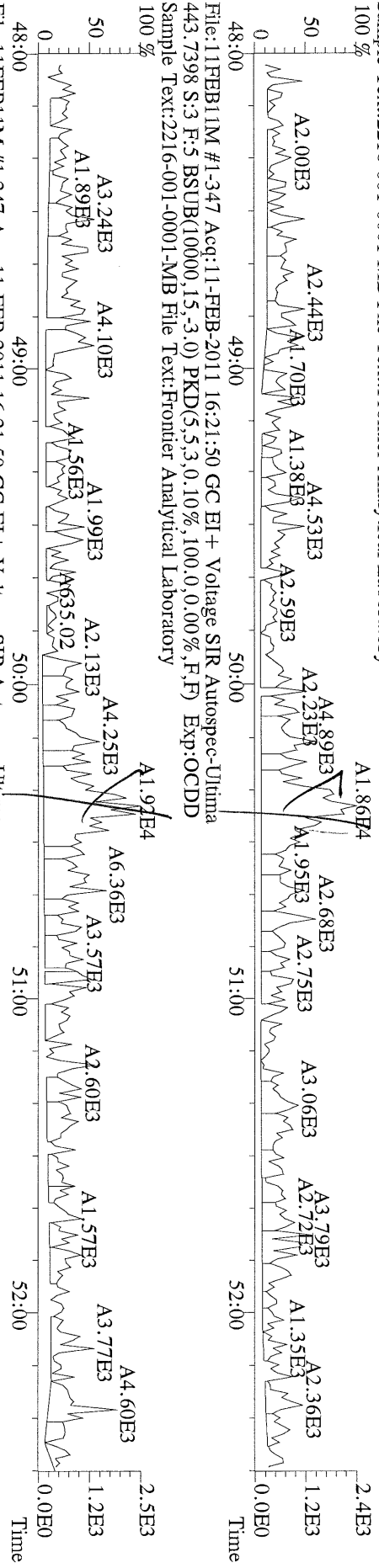
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417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



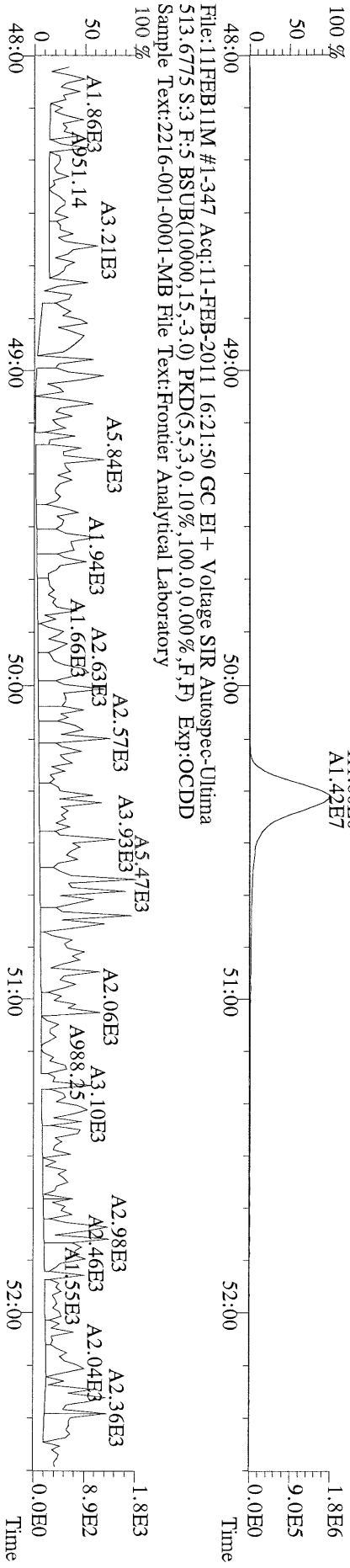
File:11FEB11M #1-541 Acq:11-FEB-2011 16:21:50 GC EI+ Voltage SIR Autospec-Ultima  
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 16:21:50 GC EI + Voltage SIR Autospec-Ultima  
453.7831 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-MB File Text:Frontier Analytical Laboratory



USEPA - ITD

FORM 8A  
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory      Episode No.:

Contract No.:


Matrix (aqueous/solid/leachate): Soil      OPR Data Filename: 11FEB11M      Sam:2

Ext. Date: 2/10/11      Shift: Day      Analysis Date: 11-FEB-11      15:25:09

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
NATIVE ANALYTES			
2,3,7,8-TCDD	10	10.6	6.70 - 15.8
1,2,3,7,8-PeCDD	50	51.0	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	51.2	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	53.7	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	53.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	46.3	35.0 - 70.0
OCDD	100	102	78.0 - 144
2,3,7,8-TCDF	10	9.06	7.50 - 15.8
1,2,3,7,8-PeCDF	50	50.8	40.0 - 67.0
2,3,4,7,8-PeCDF	50	51.2	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	53.6	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	54.0	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	54.4	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	55.1	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	51.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	52.0	39.0 - 69.0
OCDF	100	111	63.0 - 170

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613

Analyst:       Date: 2/14/11

## USEPA - ITD

## FORM 8B

## PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory      Episode No.:

Contract No.:      SAS No.:

Matrix (aqueous/solid/leachate): Soil      OPR Data Filename: 11FEB11M      Sam:2

Ext. Date: 2/10/11      Shift: Day      Analysis Date: 11-FEB-11      15:25:09

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	100	99.3	20.0 - 175
13C-1,2,3,7,8-PeCDD	100	112	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	100	105	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	100	96.4	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	100	100	26.0 - 166
13C-OCDD	200	179	26.0 - 397
13C-2,3,7,8-TCDF	100	99.2	22.0 - 152
13C-1,2,3,7,8-PeCDF	100	105	21.0 - 192
13C-2,3,4,7,8-PeCDF	100	102	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	100	98.5	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	100	89.6	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	100	87.9	22.0 - 176
13C-1,2,3,7,8,9-HxCDF	100	95.4	17.0 - 205
13C-1,2,3,4,6,7,8-HpCDF	100	89.7	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	100	121	20.0 - 186
13C-OCDF	200	174	26.0 - 397
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	38.0	12.4 - 76.4

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613  
Labeled compound concentration limits are based on required percent recovery of 25%-150%.

Analyst: 

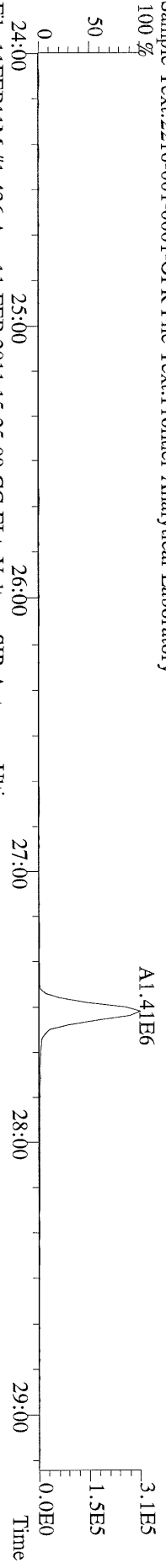
Date: 2/14/11

Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	#Hom
2,3,7,8-TCDD	3.22e+06	0.78 y	27:31	1.11	10.6		2.50	-	*	
1,2,3,7,8-PeCDD	1.42e+07	1.52 y	33:22	1.10	51.0		2.50	-	*	
1,2,3,4,7,8-HxCDD	1.42e+07	1.28 y	38:45	1.37	51.2		2.50	-	*	
1,2,3,6,7,8-HxCDD	1.28e+07	1.29 y	38:54	1.37	53.7		2.50	-	*	
1,2,3,7,8,9-HxCDD	1.37e+07	1.27 y	39:22	1.36	53.6		2.50	-	*	
1,2,3,4,6,7,8-HpCDD	1.03e+07	0.99 y	44:22	1.45	46.3		2.50	-	*	
OCDD	1.28e+07	0.90 y	49:58	1.43	102		2.50	-	*	
2,3,7,8-TCDF	6.12e+06	0.69 y	26:46	1.50	9.06		2.50	-	*	
1,2,3,7,8-PeCDF	1.92e+07	1.54 y	31:38	0.94	50.8		2.50	-	*	
2,3,4,7,8-PeCDF	1.81e+07	1.54 y	32:58	0.94	51.2		2.50	-	*	
1,2,3,4,7,8-HxCDF	1.62e+07	1.24 y	37:22	0.93	53.6		2.50	-	*	
1,2,3,6,7,8-HxCDF	1.80e+07	1.25 y	37:33	0.82	54.0		2.50	-	*	
2,3,4,6,7,8-HxCDF	1.58e+07	1.24 y	38:30	0.92	54.4		2.50	-	*	
1,2,3,7,8,9-HxCDF	1.90e+07	1.24 y	39:57	1.00	55.1		2.50	-	*	
1,2,3,4,6,7,8-HpCDF	1.28e+07	1.07 y	42:28	1.39	51.7		2.50	-	*	
1,2,3,4,7,8,9-HpCDF	1.22e+07	1.08 y	45:18	1.36	52.0		2.50	-	*	
OCDF	1.47e+07	0.94 y	50:22	0.79	111		2.50	-	*	
Rec										
13C-2,3,7,8-TCDD	2.72e+07	0.81 y	27:30	1.02	99.3				99.3	
13C-1,2,3,7,8-PeCDD	2.53e+07	1.73 y	33:21	0.84	112				112	
13C-1,2,3,4,7,8-HxCDD	2.02e+07	1.27 y	38:44	1.07	105				105	
13C-1,2,3,6,7,8-HxCDD	1.74e+07	1.25 y	38:54	1.01	96.4				96.4	
13C-1,2,3,4,6,7,8-HpCDD	1.53e+07	1.00 y	44:21	0.86	100				100	
13C-OCDD	1.75e+07	0.98 y	49:58	0.55	179				89.5	
13C-2,3,7,8-TCDF	4.50e+07	0.88 y	26:45	0.99	99.2				99.2	
13C-1,2,3,7,8-PeCDF	4.02e+07	1.67 y	31:37	0.84	105				105	
13C-2,3,4,7,8-PeCDF	3.78e+07	1.69 y	32:57	0.81	102				102	
13C-1,2,3,4,7,8-HxCDF	3.26e+07	0.51 y	37:21	1.85	98.5				98.5	
13C-1,2,3,6,7,8-HxCDF	4.05e+07	0.50 y	37:32	2.54	89.6				89.6	
13C-2,3,4,6,7,8-HxCDF	3.16e+07	0.51 y	38:29	2.01	87.9				87.9	
13C-1,2,3,7,8,9-HxCDF	3.46e+07	0.52 y	39:56	2.03	95.4				95.4	
13C-1,2,3,4,6,7,8-HpCDF	1.78e+07	0.47 y	42:27	1.11	89.7				89.7	
13C-1,2,3,4,7,8,9-HpCDF	1.73e+07	0.46 y	45:17	0.80	121				121	
13C-OCDF	3.37e+07	0.95 y	50:21	1.08	174				87.1	
37Cl-2,3,7,8-TCDD	6.98e+06		27:31	0.69	38.0				95.0	
13C-1,2,3,4-TCDD	2.68e+07	0.79 y	26:54	-	59.6					
13C-1,2,3,4-TCDF	4.56e+07	0.88 y	25:39	-	63.1					
13C-1,2,3,7,8,9-HxCDD	1.78e+07	1.27 y	39:21	-	64.7					
Total Tetra-Dioxins	3.45e+06		22:52	1.11	11.4		2.50	-	*	32
Total Penta-Dioxins	1.43e+07		31:51	1.10	51.4		2.50	-	*	7
Total Hexa-Dioxins	4.10e+07		38:45	1.37	159		2.50	-	*	9
Total Hepta-Dioxins	1.11e+07		42:59	1.45	49.8		2.50	-	*	31
Total Tetra-Furans	6.40e+06		24:03	1.50	9.47		2.50	-	*	19
1st Fn. Tot Penta-Furans	2.03e+05		22:49	0.94	0.555		2.50	-	*	PeCDF 36
Total Penta-Furans	3.87e+07		30:22	0.94	106		2.50	-	*	106 14
Total Hexa-Furans	6.92e+07		35:25	0.91	218		2.50	-	*	12
Total Hepta-Furans	2.53e+07		42:28	1.38	105		2.50	-	*	10

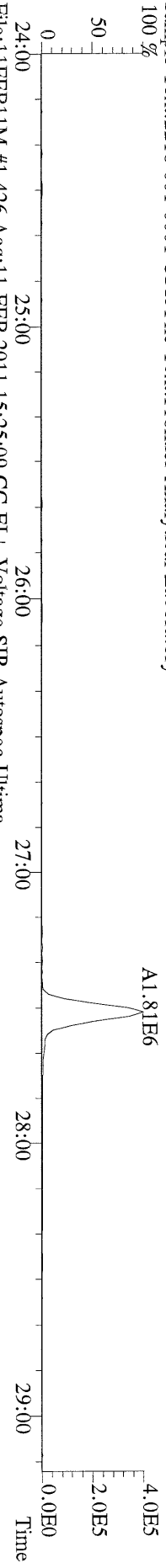
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Date: 

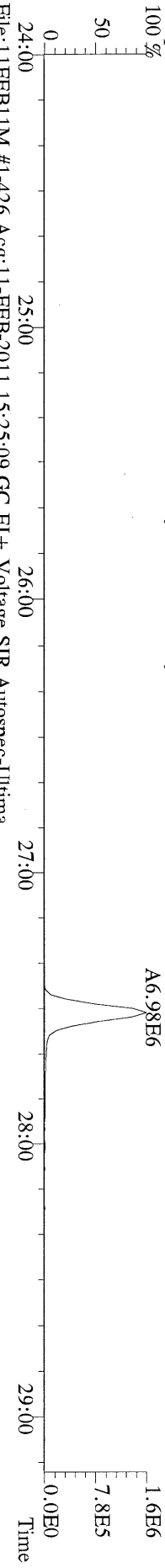
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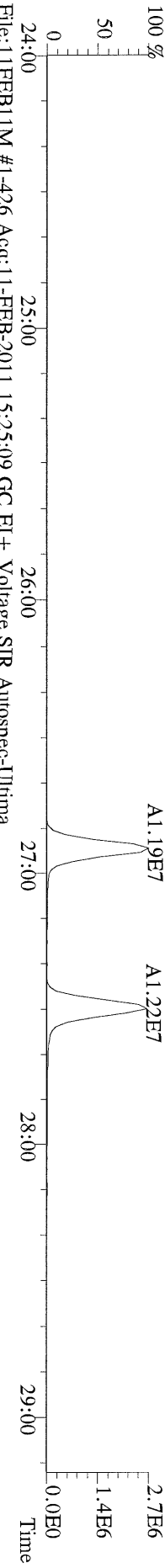
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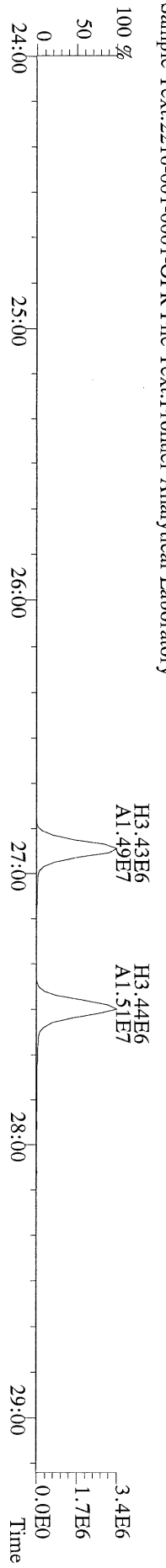
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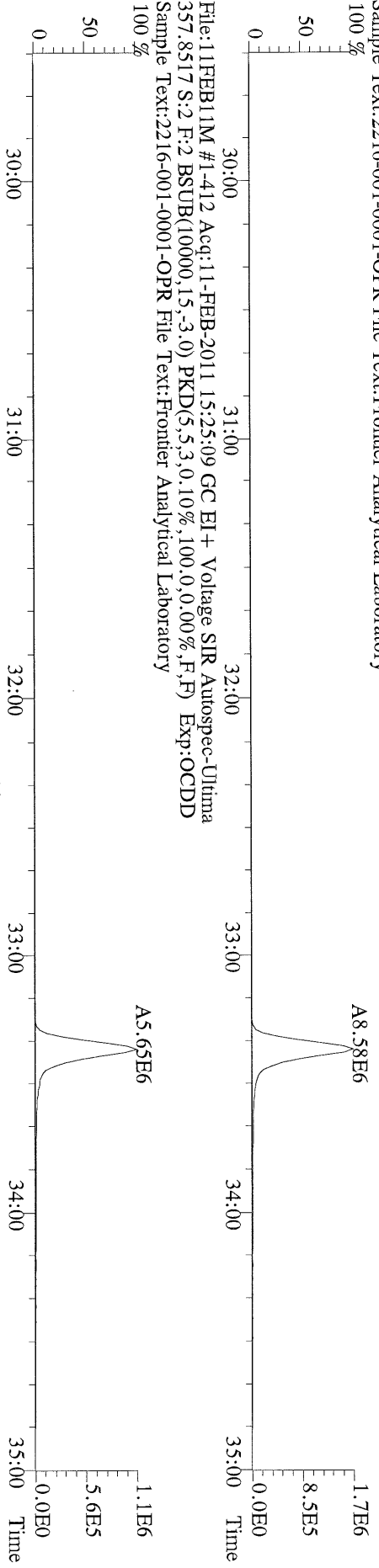
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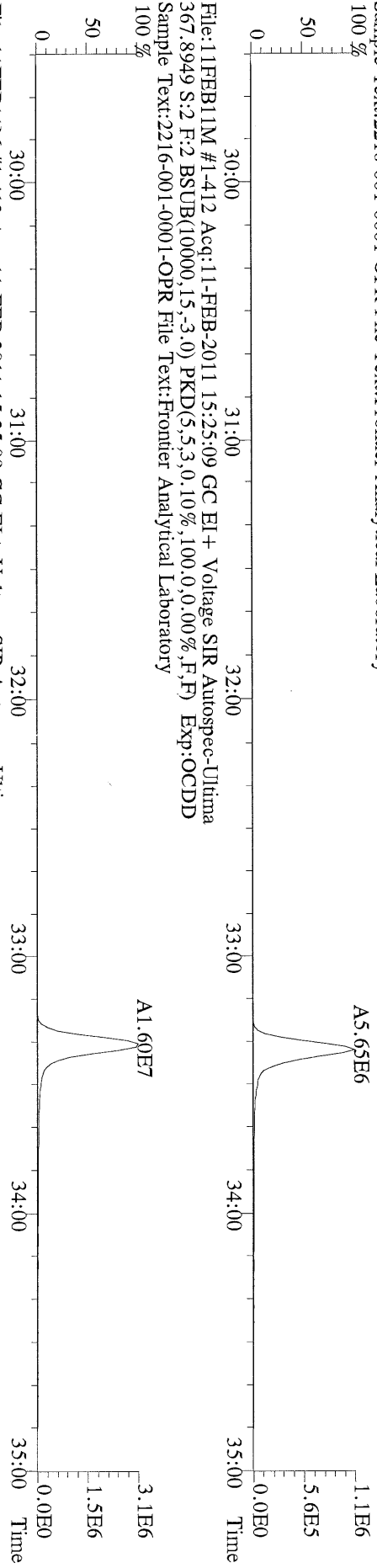
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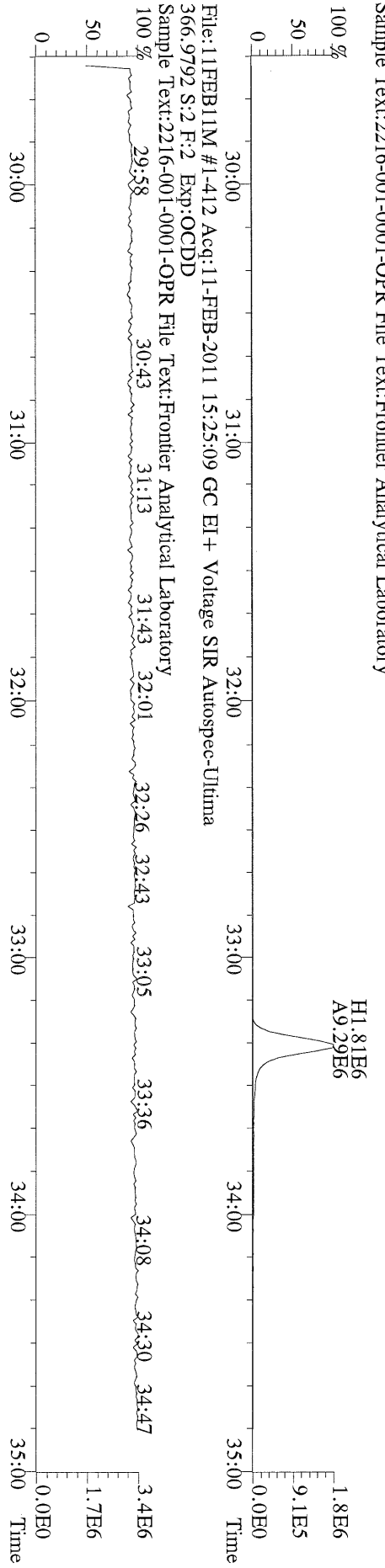
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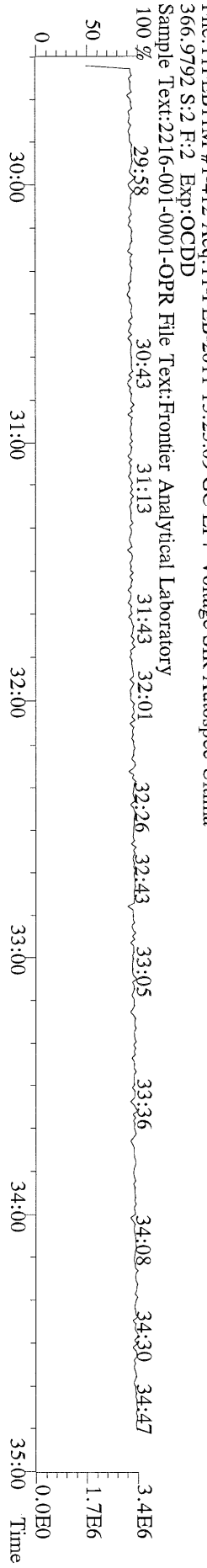
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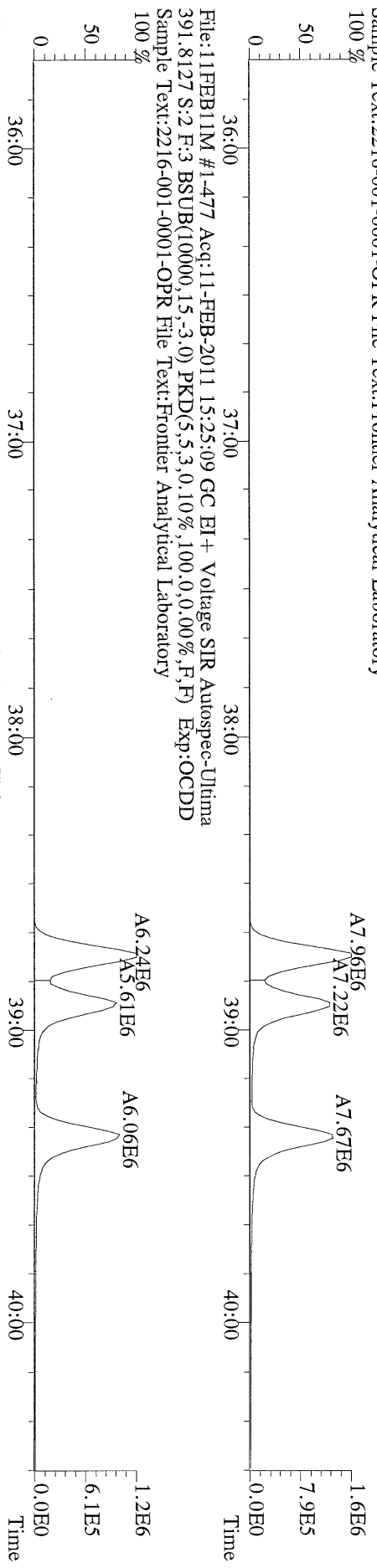
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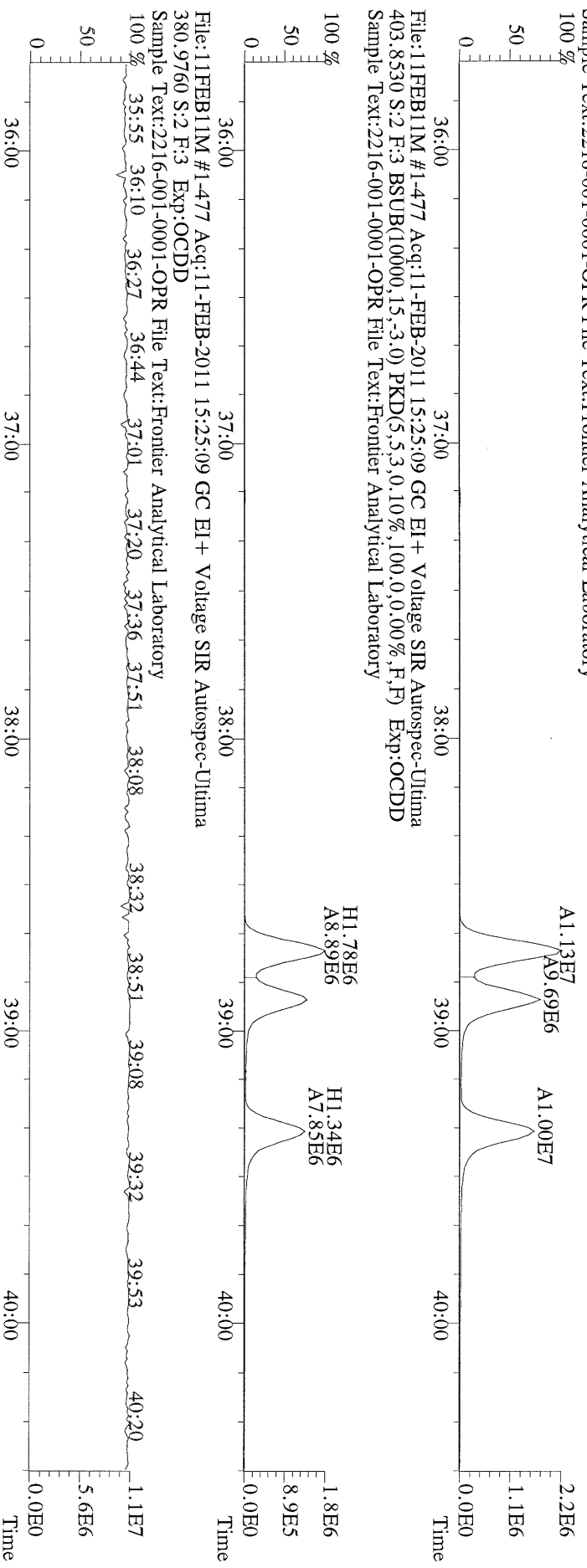
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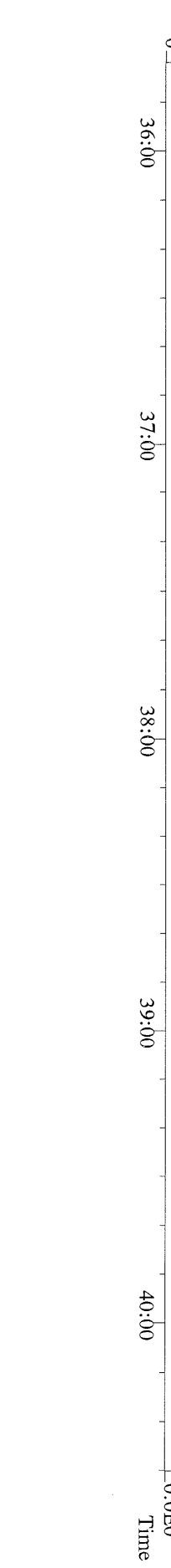
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 389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



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 401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
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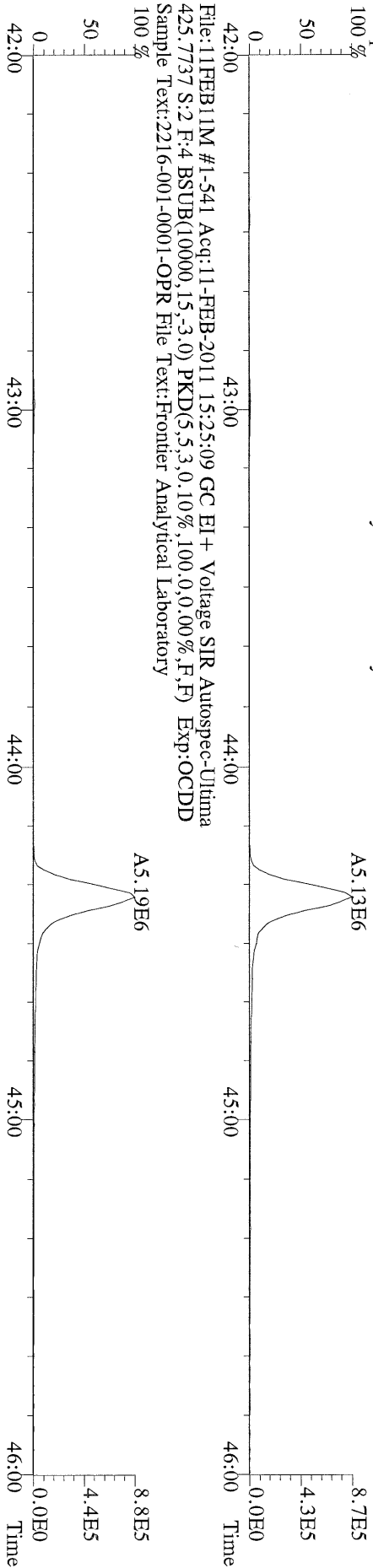


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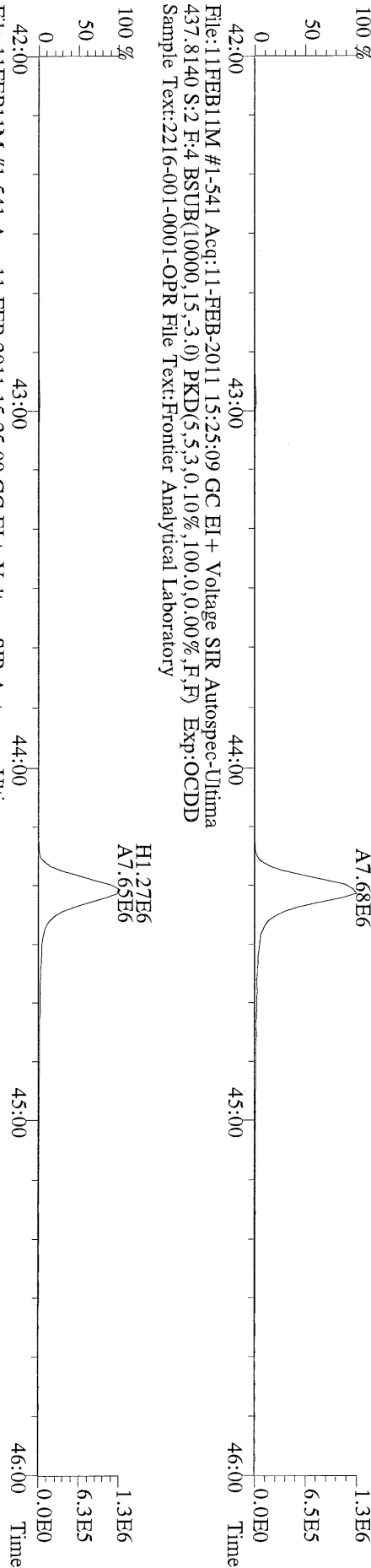




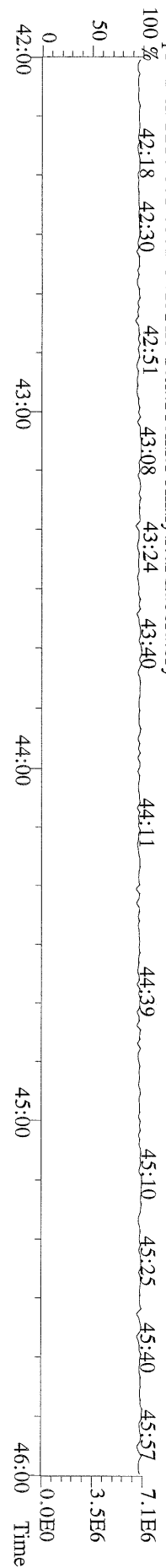
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423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



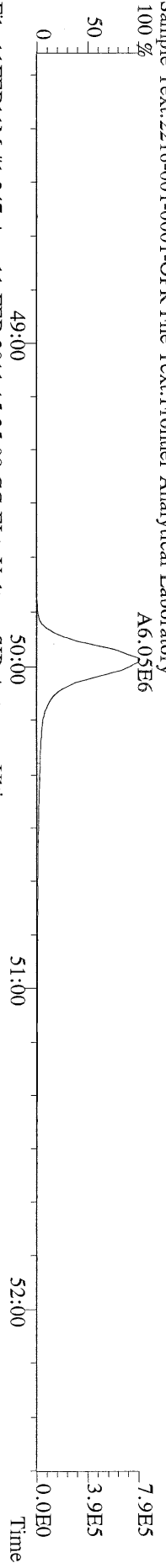
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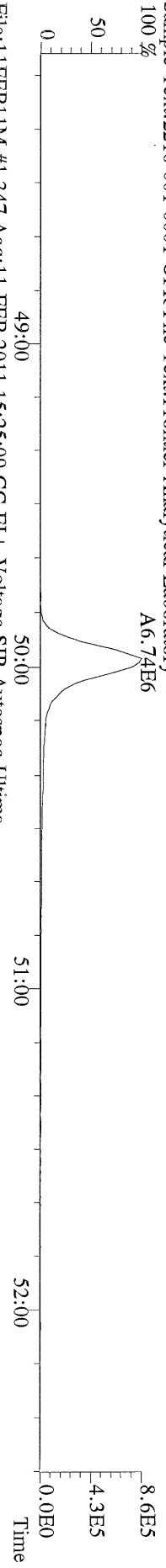
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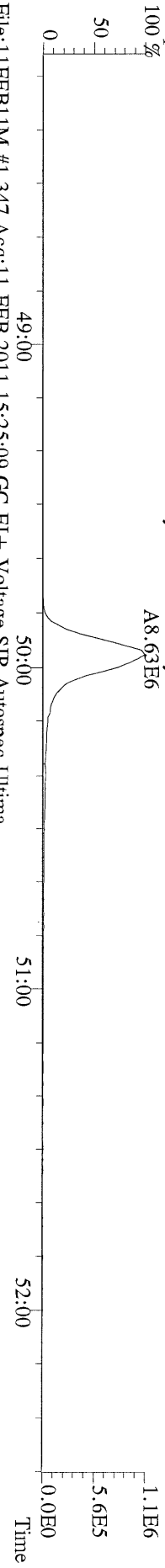
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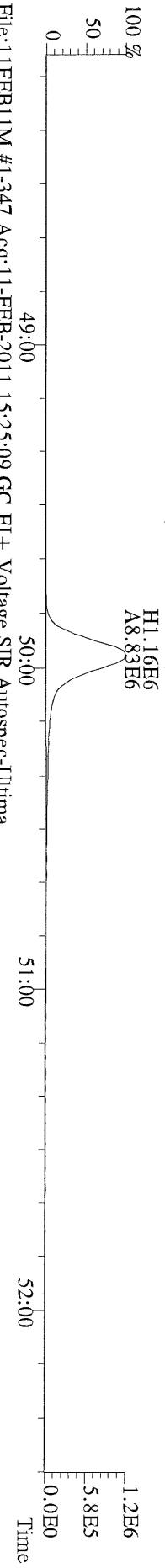
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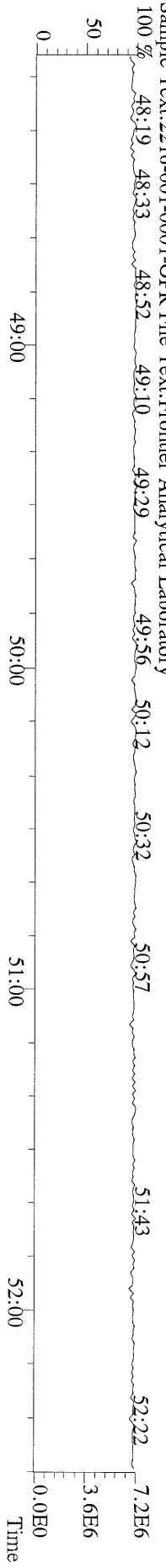
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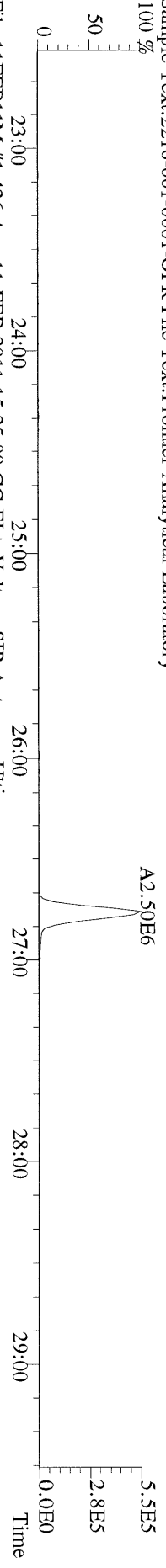
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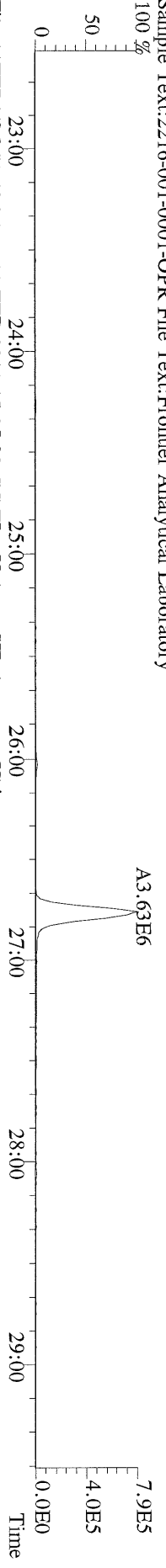
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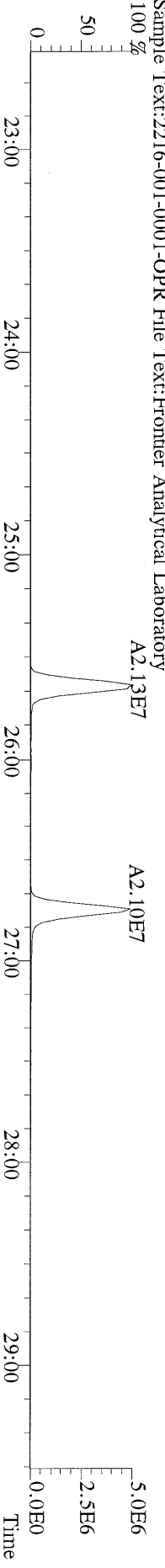
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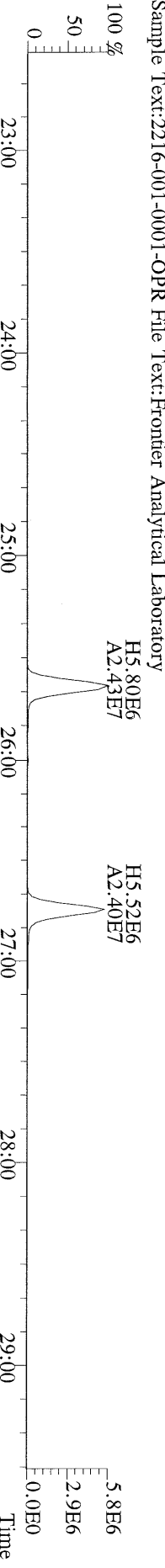
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 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



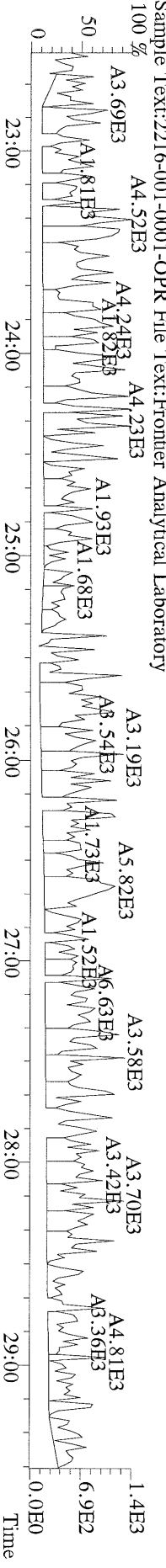
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 315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
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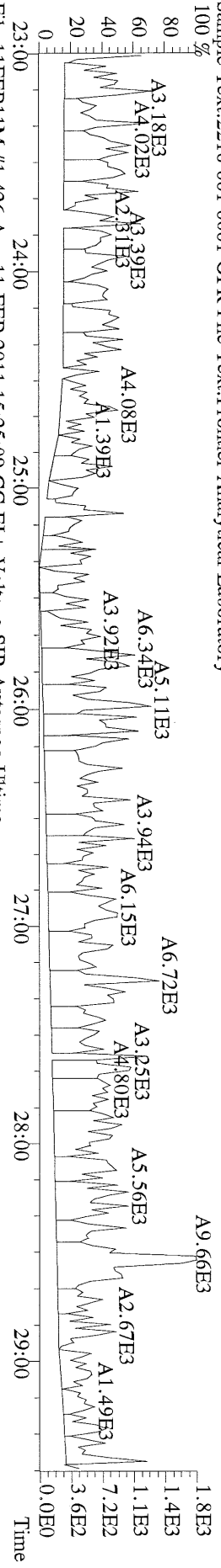
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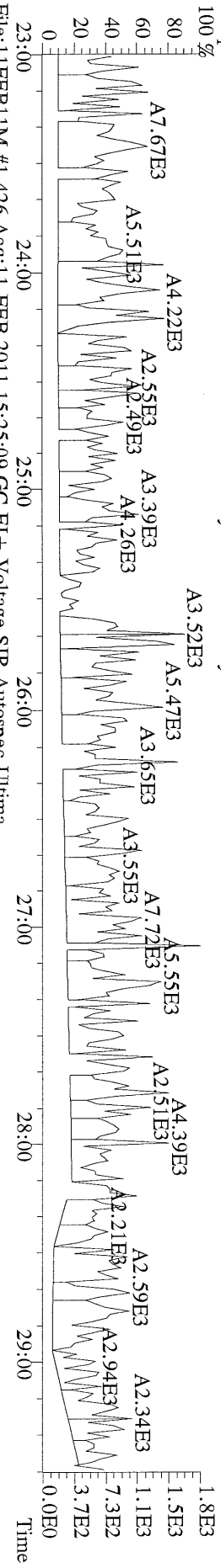
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 375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



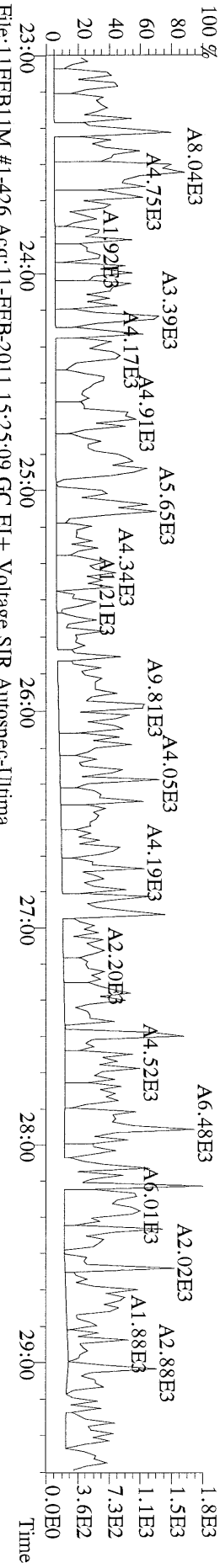
File:11FEB11M #1-426 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
 339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



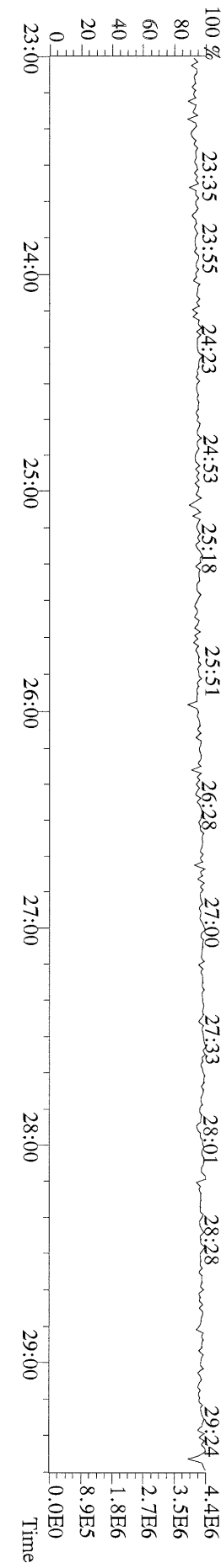
File:11FEB11M #1-426 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
 341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



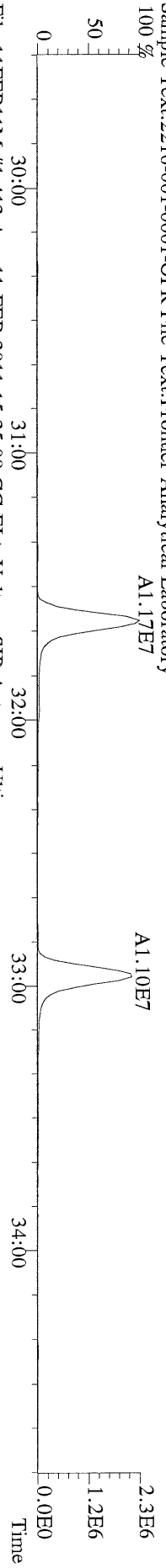
File:11FEB11M #1-426 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



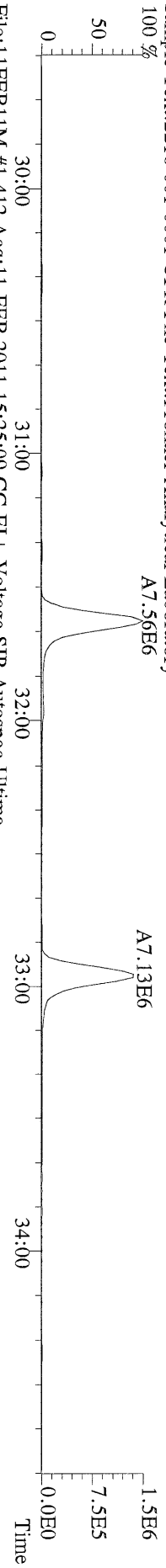
File:11FEB11M #1-426 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
 316.9824 S:2 Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



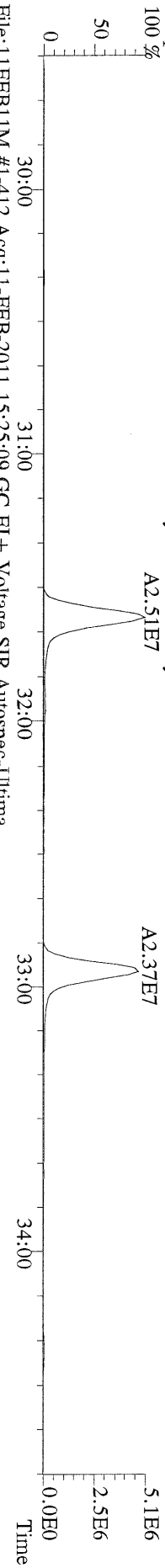
File:11FEB11M #1-412 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



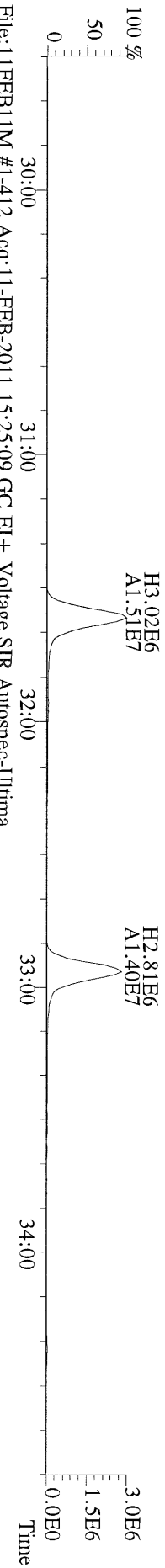
File:11FEB11M #1-412 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



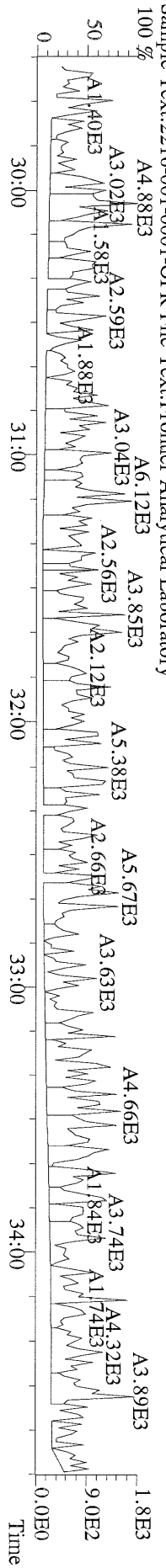
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 351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



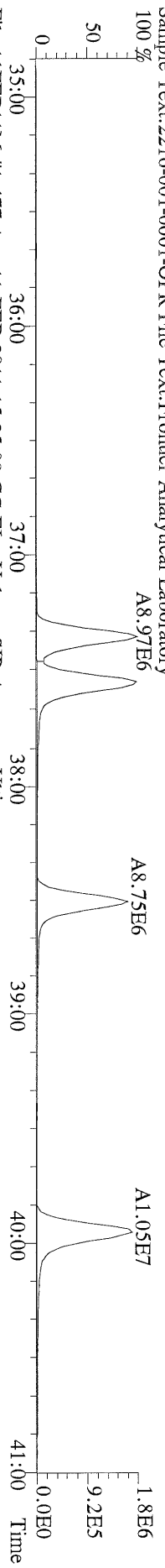
File:11FEB11M #1-412 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



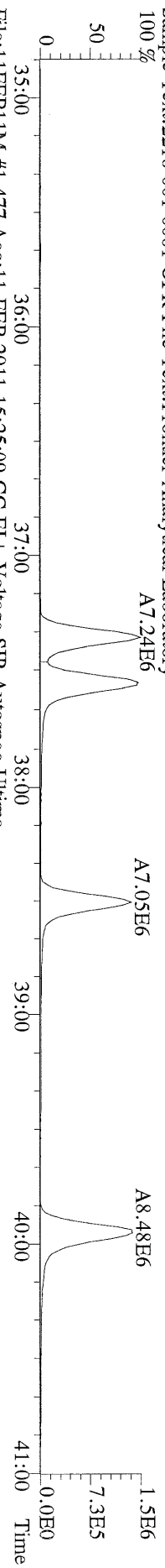
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 409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



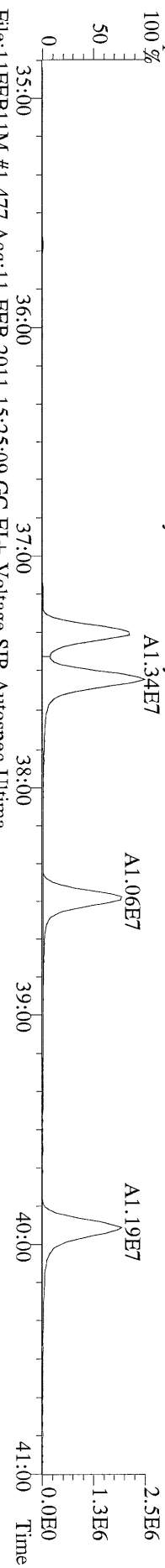
File:11FEB11M #1-477 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



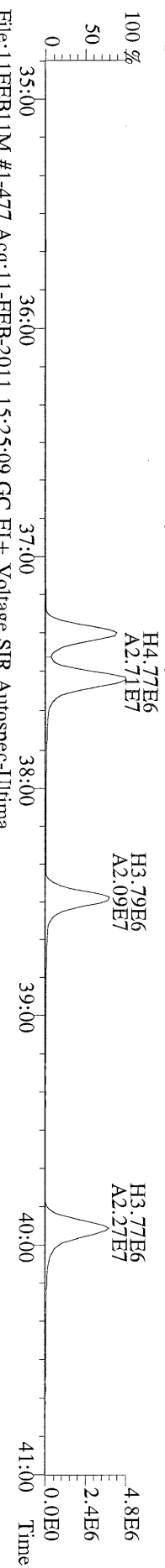
File:11FEB11M #1-477 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



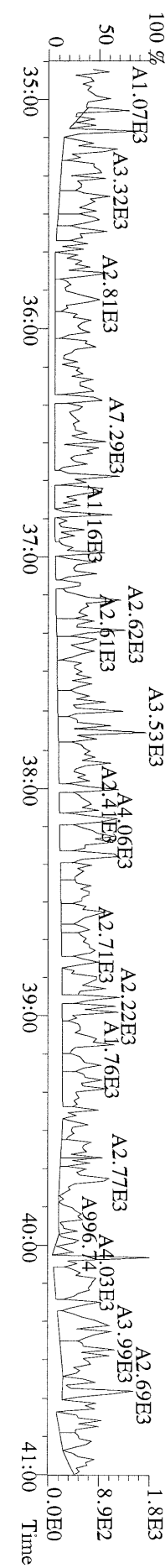
File:11FEB11M #1-477 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



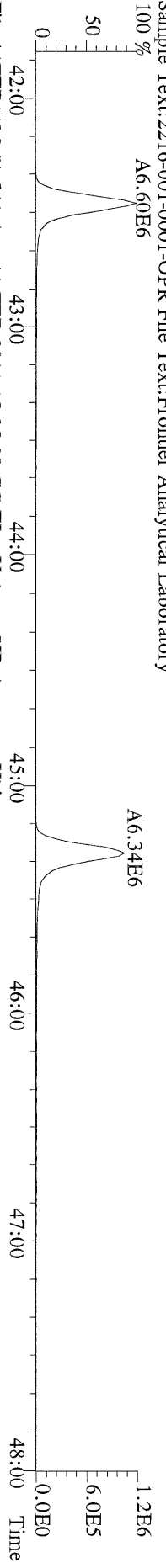
File:11FEB11M #1-477 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



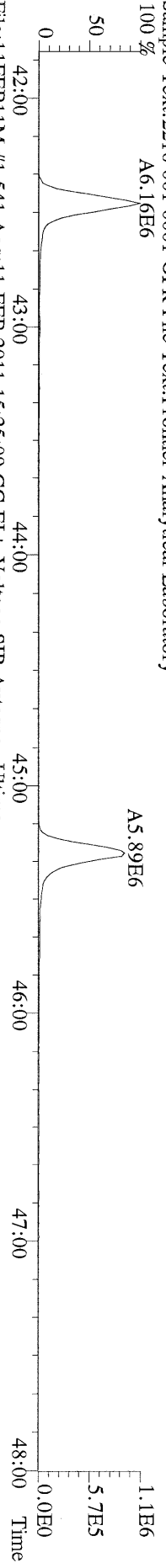
File:11FEB11M #1-477 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
 445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
 Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



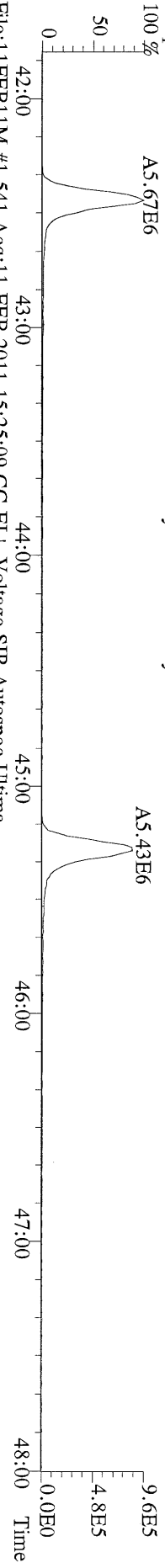
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



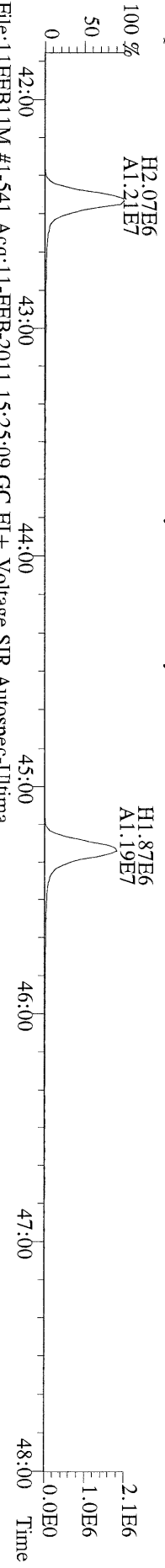
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



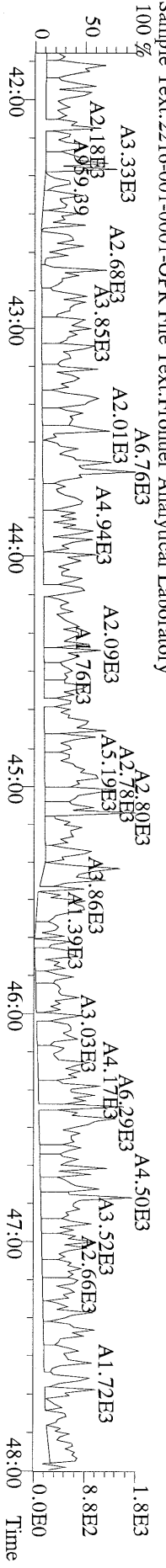
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



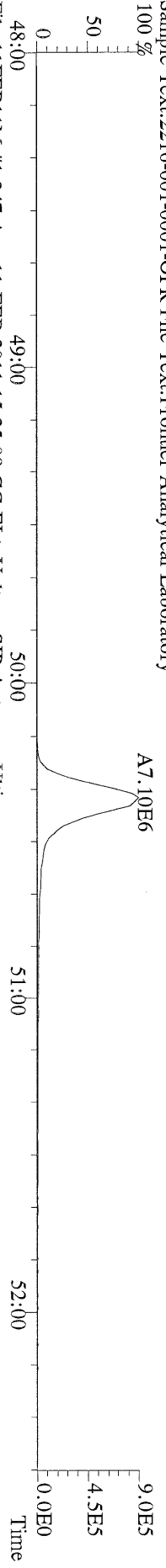
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



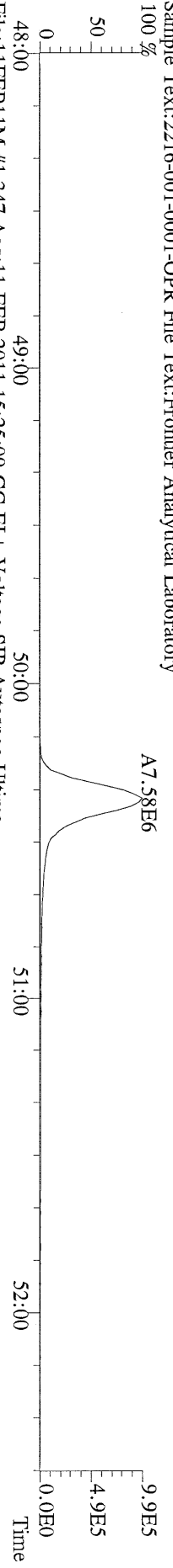
File:11FEB11M #1-541 Acq:11-FEB-2011 15:25:09 GC EI+ Voltage SIR Autospec-Ultima  
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



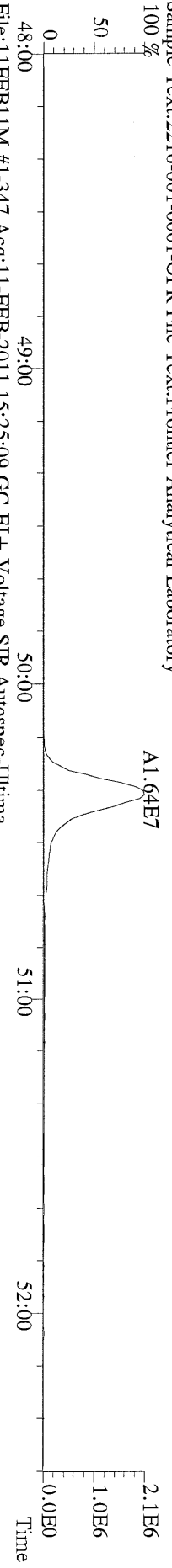
File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



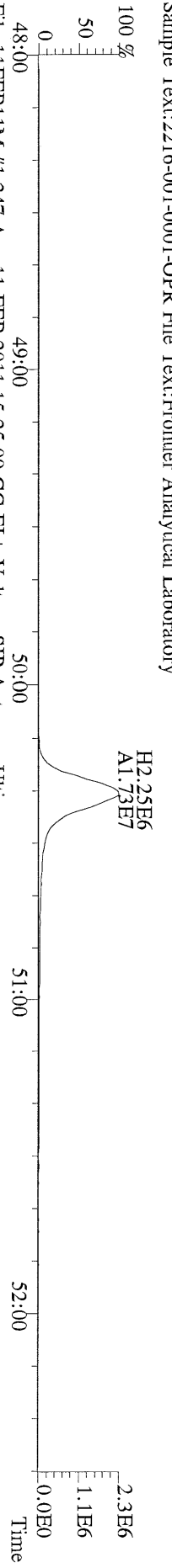
File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



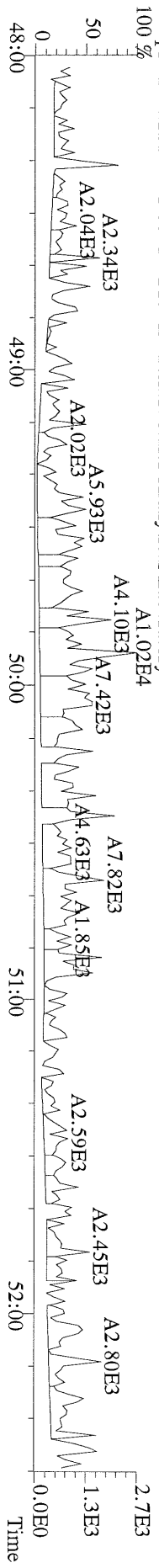
File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory



File:11FEB11M #1-347 Acq:11-FEB-2011 15:25:09 GC EI + Voltage SIR Autospec-Ultima  
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:OCDD  
Sample Text:2216-001-0001-OPR File Text:Frontier Analytical Laboratory





Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	#Hom	
2,3,7,8-TCDD	*	* n	NotFnd	1.18	*		2.50	379	396	0.113	
1,2,3,7,8-PeCDD	*	* n	NotFnd	1.13	*		2.50	572	352	0.178	
1,2,3,4,7,8-HxCDD	*	* n	NotFnd	1.46	*		2.50	790	450	0.232	
1,2,3,6,7,8-HxCDD	*	* n	NotFnd	1.50	*		2.50	790	450	0.292	
1,2,3,7,8,9-HxCDD	*	* n	NotFnd	1.52	*		2.50	790	450	0.254	
1,2,3,4,6,7,8-HpCDD	1.39e+05	0.96 y	44:22	1.36	2.35	J	2.50	-	-	*	
OCDD	8.24e+05	0.89 y	49:58	1.58	20.3		2.50	-	-	*	
2,3,7,8-TCDF	*	* n	NotFnd	1.50	*		2.50	404	794	0.0823	
1,2,3,7,8-PeCDF	*	* n	NotFnd	0.98	*		2.50	935	978	0.236	
2,3,4,7,8-PeCDF	*	* n	NotFnd	0.98	*		2.50	935	978	0.259	
1,2,3,4,7,8-HxCDF	*	* n	NotFnd	1.02	*		2.50	344	444	0.137	
1,2,3,6,7,8-HxCDF	*	* n	NotFnd	0.89	*		2.50	344	444	0.130	
2,3,4,6,7,8-HxCDF	*	* n	NotFnd	0.99	*		2.50	344	444	0.141	
1,2,3,7,8,9-HxCDF	*	* n	NotFnd	1.08	*		2.50	344	444	0.134	
1,2,3,4,6,7,8-HpCDF	6.60e+04	1.06 y	42:28	1.35	0.957	J	2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	*	* n	NotFnd	1.30	*		2.50	290	349	0.179	
OCDF	8.18e+04	0.81 y	50:22	0.89	1.84	J	2.50	-	-	*	
Rec											
13C-2,3,7,8-TCDD	2.38e+07	0.76 y	27:31	1.06	385					96.5	
13C-1,2,3,7,8-PeCDD	2.33e+07	1.77 y	33:23	0.95	420					105	
13C-1,2,3,4,7,8-HxCDD	2.01e+07	1.30 y	38:45	1.10	413					104	
13C-1,2,3,6,7,8-HxCDD	1.70e+07	1.20 y	38:55	0.99	387					97.2	
13C-1,2,3,4,6,7,8-HpCDD	1.72e+07	1.05 y	44:21	0.90	436					109	
13C-OCDD	2.05e+07	0.97 y	49:58	0.55	840					105	
13C-2,3,7,8-TCDF	3.90e+07	0.88 y	26:46	1.02	386					97.0	
13C-1,2,3,7,8-PeCDF	3.81e+07	1.68 y	31:38	0.95	407					102	
13C-2,3,4,7,8-PeCDF	3.66e+07	1.69 y	32:58	0.91	407					102	
13C-1,2,3,4,7,8-HxCDF	3.12e+07	0.52 y	37:21	1.75	405					102	
13C-1,2,3,6,7,8-HxCDF	3.98e+07	0.53 y	37:33	2.36	383					96.1	
13C-2,3,4,6,7,8-HxCDF	3.16e+07	0.53 y	38:29	1.89	379					95.2	
13C-1,2,3,7,8,9-HxCDF	3.55e+07	0.52 y	39:56	2.04	395					99.1	
13C-1,2,3,4,6,7,8-HpCDF	2.03e+07	0.43 y	42:27	1.15	402					101	
13C-1,2,3,4,7,8,9-HpCDF	1.99e+07	0.43 y	45:16	0.91	496					124	
13C-OCDF	4.00e+07	0.94 y	50:20	1.17	778					97.6	
37Cl-2,3,7,8-TCDD	5.98e+06		27:33	0.72	141					88.7	
13C-1,2,3,4-TCDD	2.33e+07	0.76 y	26:57	-	11.4						
13C-1,2,3,4-TCDF	3.93e+07	0.88 y	25:41	-	11.7						
13C-1,2,3,7,8,9-HxCDD	1.75e+07	1.23 y	39:21	-	12.1						
Total Tetra-Dioxins	*		NotFnd	1.18	*		2.50	379	396	0.113	0
Total Penta-Dioxins	*		NotFnd	1.13	*		2.50	572	352	0.178	0
Total Hexa-Dioxins	*		NotFnd	1.49	*		2.50	790	450	0.292	0
Total Hepta-Dioxins	2.90e+05		42:59	1.36	4.91	J	2.50	-	-	*	2
Total Tetra-Furans	*		NotFnd	1.50	*		2.50	404	794	0.0823	0
1st Fn. Tot Penta-Furans	*		NotFnd	0.98	*		2.50	935	978	0.259 ✓	PeCDF 0
Total Penta-Furans	*		NotFnd	0.98	*		2.50	935	978	0.259 ✓	0.00 0
Total Hexa-Furans	3.61e+04		35:41	0.99	0.420	J	2.50	-	-	*	1
Total Hepta-Furans	1.57e+05		42:28	1.33	2.30	J	2.50	-	-	*	2

Analyst:         b        

Date:         2/21/11

Totals class: Total Hepta-Dioxins

Entry #: 41

Run: 22

File: 18FEB11M

S: 18 I: 1 F: 4

Acquired: 19-FEB-11 00:42:25

Total Concentration: 4.91

Unnamed Concentration: 2.558

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
42:59	7.62e+04	7.48e+04	1.02 y	1.51e+05	2.56	
44:22	6.79e+04	7.09e+04	0.96 y	1.39e+05	2.35	1,2,3,4,6,7,8-HpCDD

Totals class: Total Hexa-Furans

Entry #: 45

Run: 22

File: 18FEB11M

S: 18 I: 1 F: 3

Acquired: 19-FEB-11 00:42:25

Total Concentration: 0.420

Unnamed Concentration: 0.420

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
35:41	2.07e+04	1.54e+04	1.34 y	3.61e+04	0.420	

Totals class: Total Hepta-Furans

Entry #: 46

Run: 22

File: 18FEB11M

S: 18 I: 1 F: 4

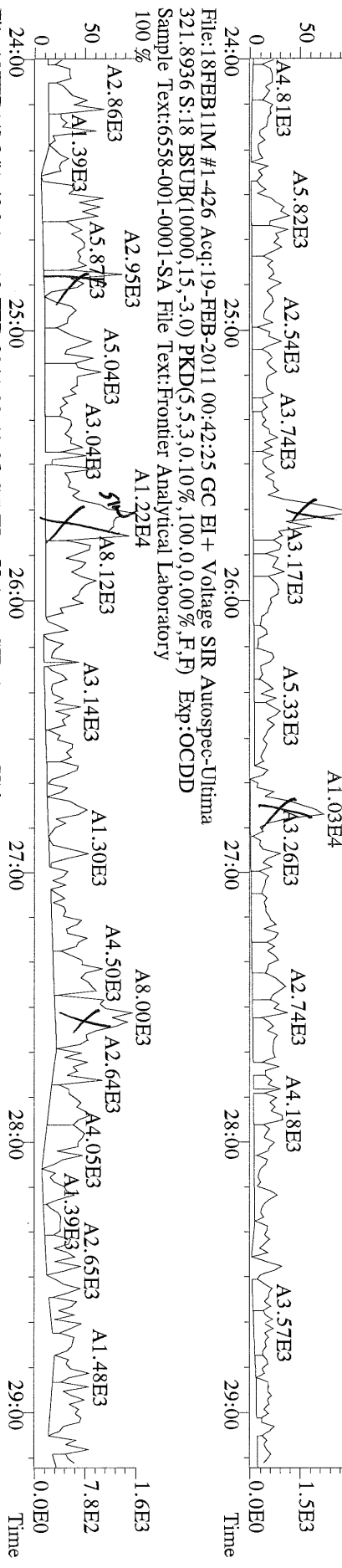
Acquired: 19-FEB-11 00:42:25

Total Concentration: 2.30

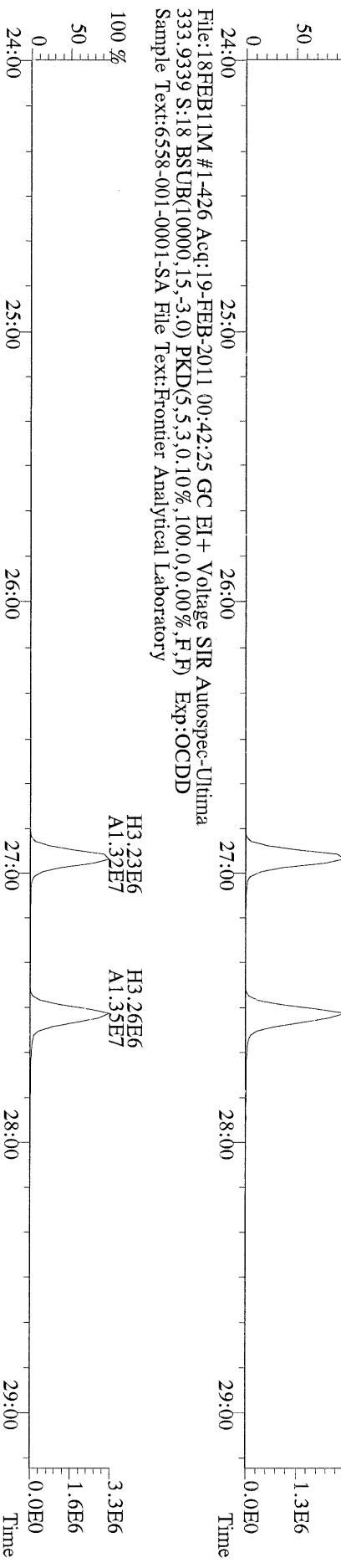
Unnamed Concentration: 1.347

RT	ml Resp	m2 Resp	RA	Resp	Concentration	Name
42:28	3.39e+04	3.21e+04	1.06 y	6.60e+04	0.957	1,2,3,4,6,7,8-HpCDF
43:17	4.47e+04	4.58e+04	0.98 y	9.05e+04	1.35	

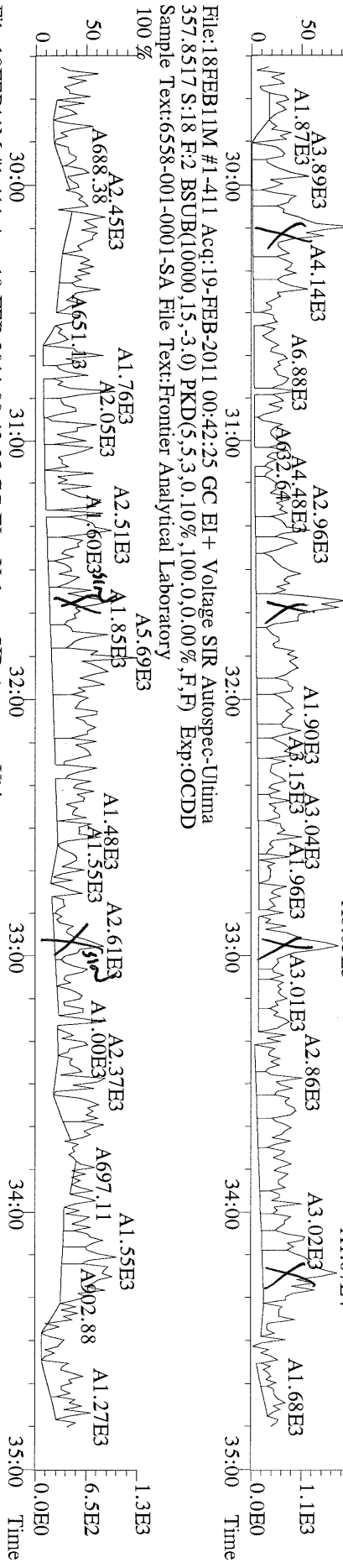
File:18FEBB11M #1-426 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
 319.8965 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory  
 100 % A1.93E4



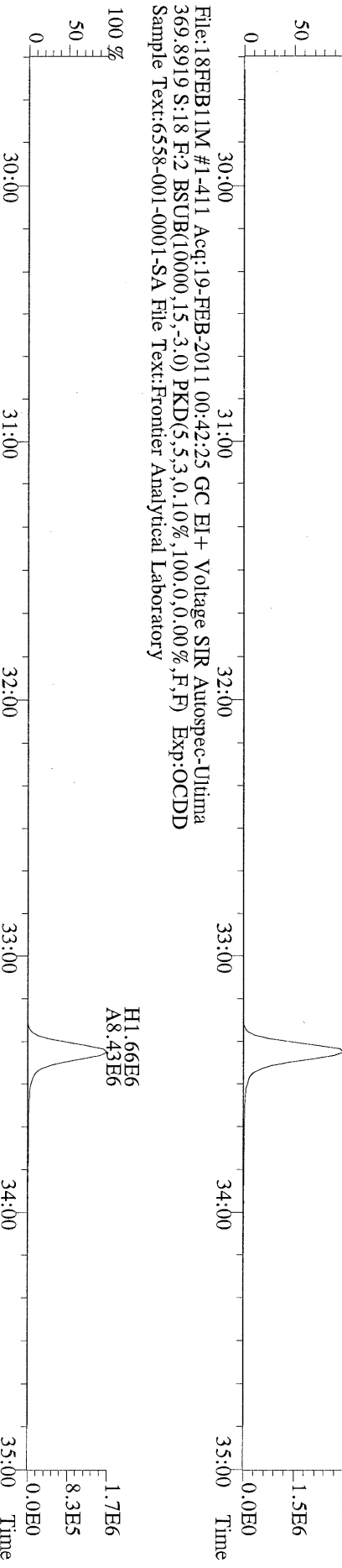
File:18FEBB11M #1-426 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
 327.8847 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory  
 100 % A1.01E7 A1.03E7



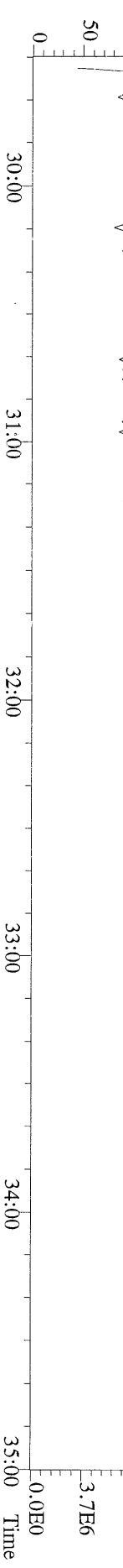
File:18FEB11M #1-411 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 355.8546 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



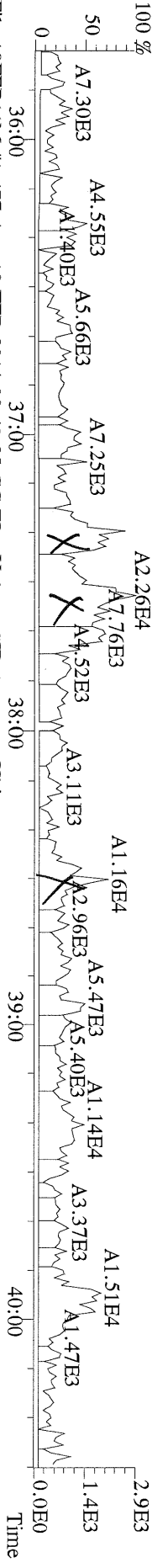
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 367.8949 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



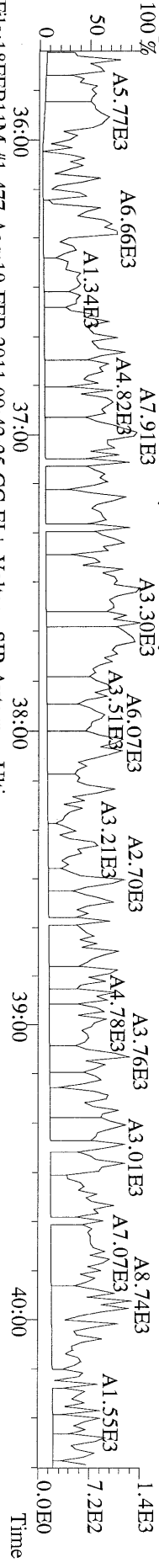
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 366.9792 S:18 F:2 Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



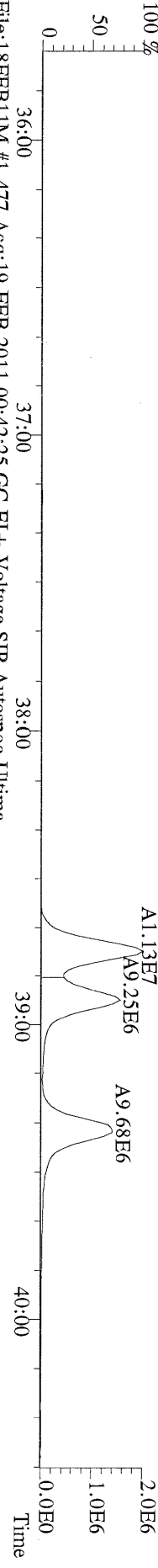
File:18FEB11M #1-477 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 389.8156 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



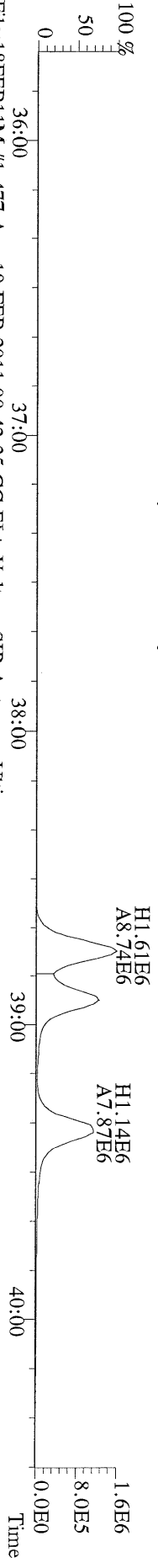
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 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



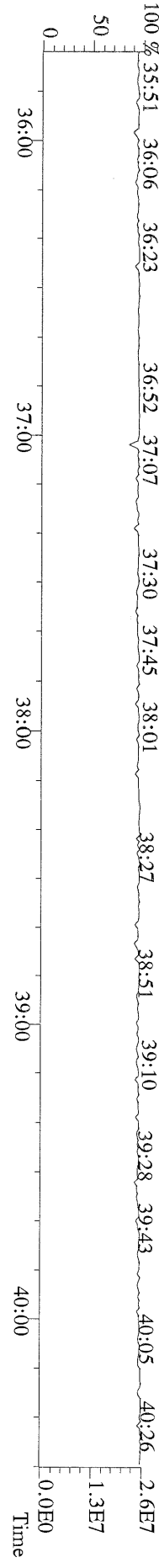
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 401.8559 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



File:18FEB11M #1-477 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 403.8530 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



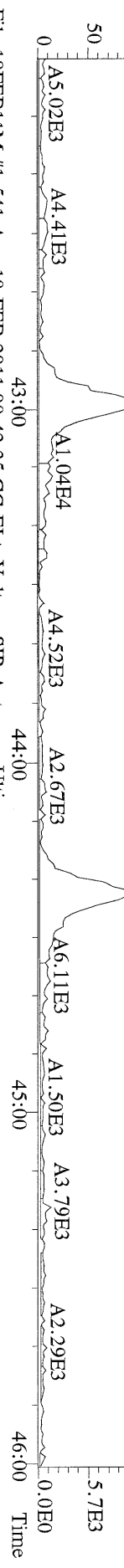
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 380.9760 S:18 F:3 Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



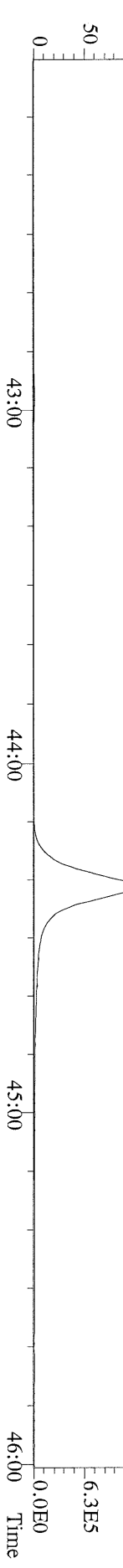
File:18FEB11M #1-541 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
423.7767 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0%,F,F) Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



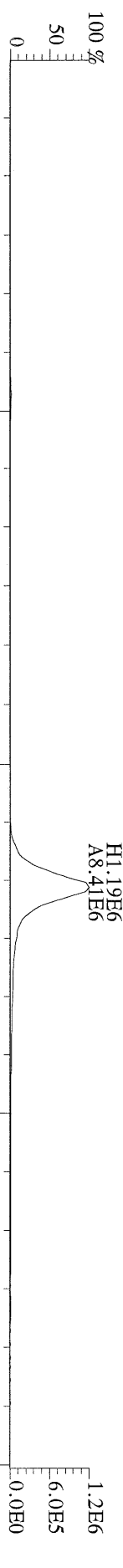
File:18FEB11M #1-541 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
425.7737 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0%,F,F) Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



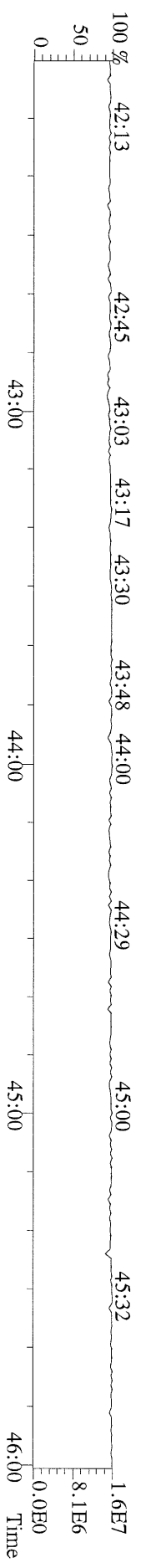
File:18FEB11M #1-541 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
435.8169 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0%,F,F) Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



File:18FEB11M #1-541 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
437.8140 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0%,F,F) Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory

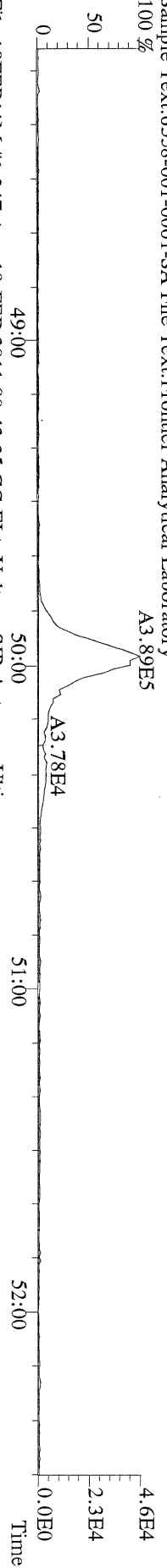


File:18FEB11M #1-541 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
430.9728 S:18 F:4 Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory

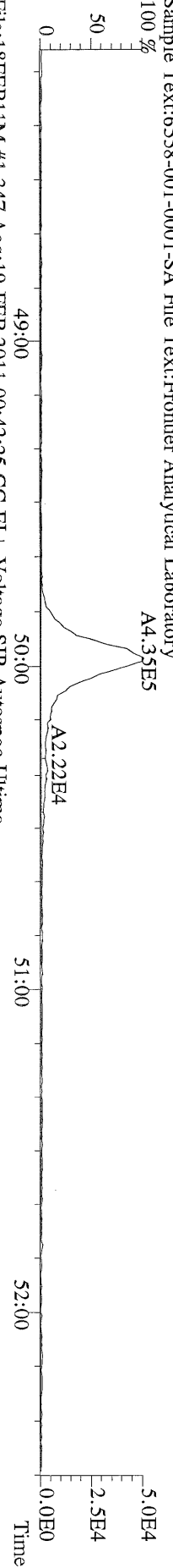




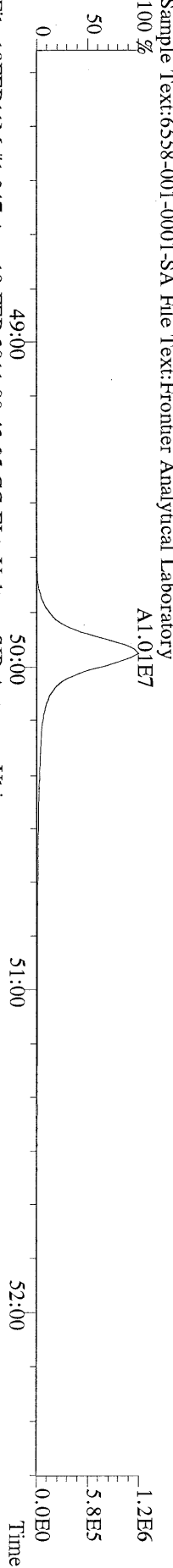
File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



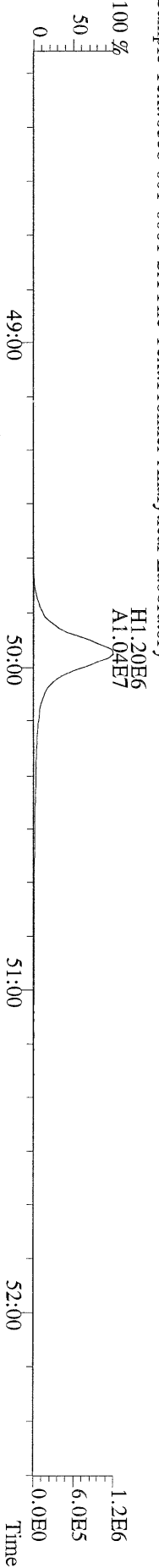
File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
459.7348 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



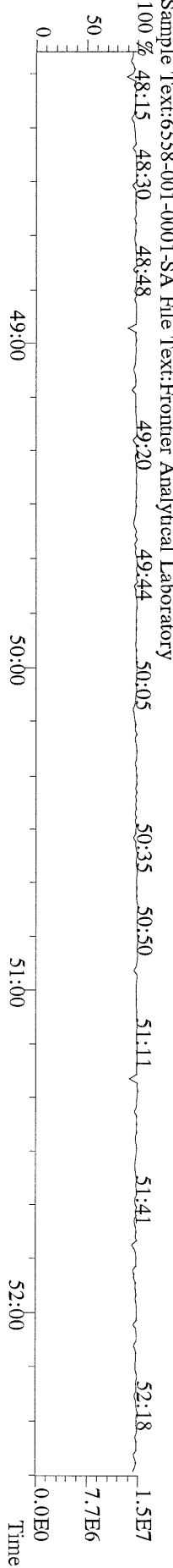
File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
469.7780 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



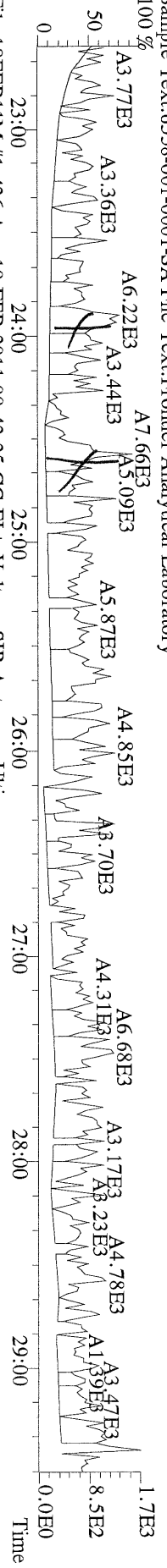
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471.7750 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
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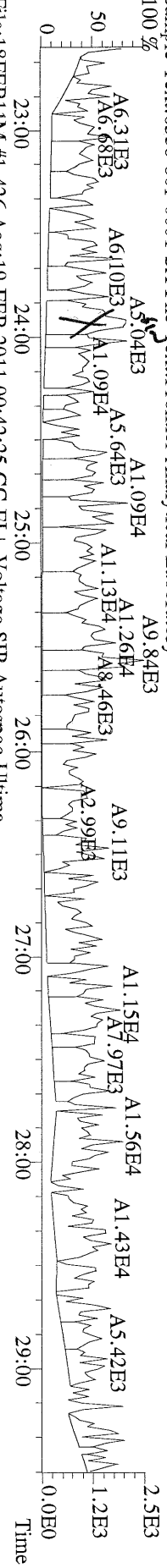
File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
454.9728 S:18 F:5 Exp:OCDD  
Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



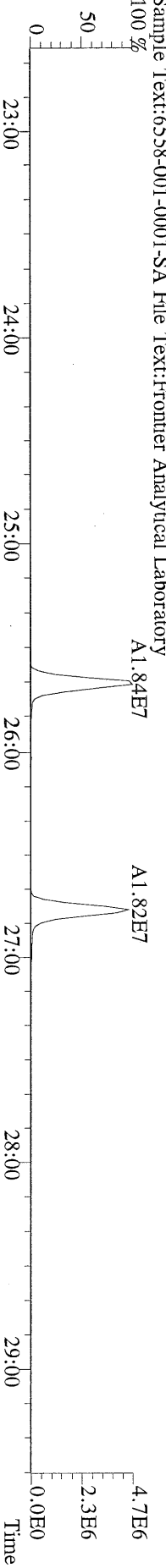
File:18FEB11M #1-426 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



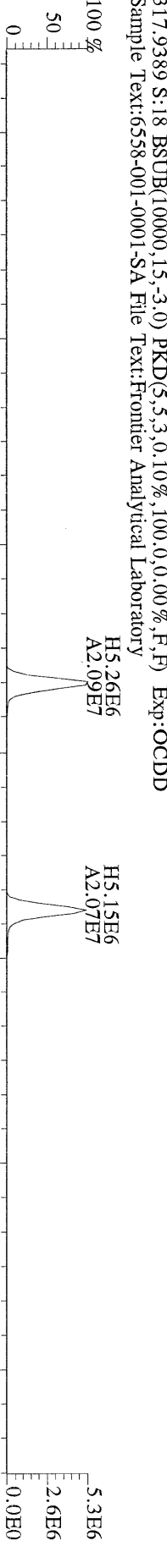
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 305.8987 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



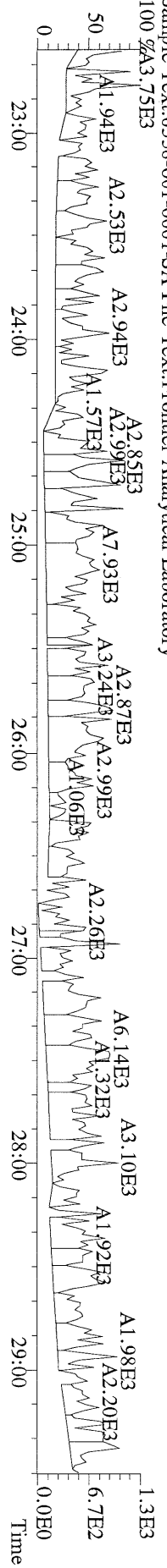
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 315.9419 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



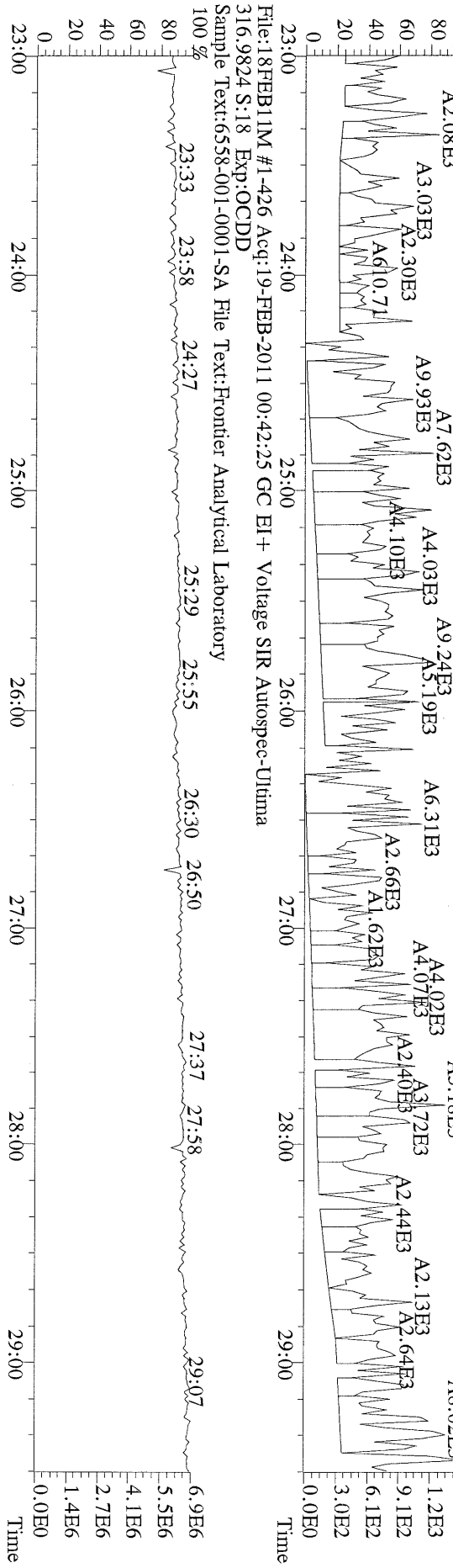
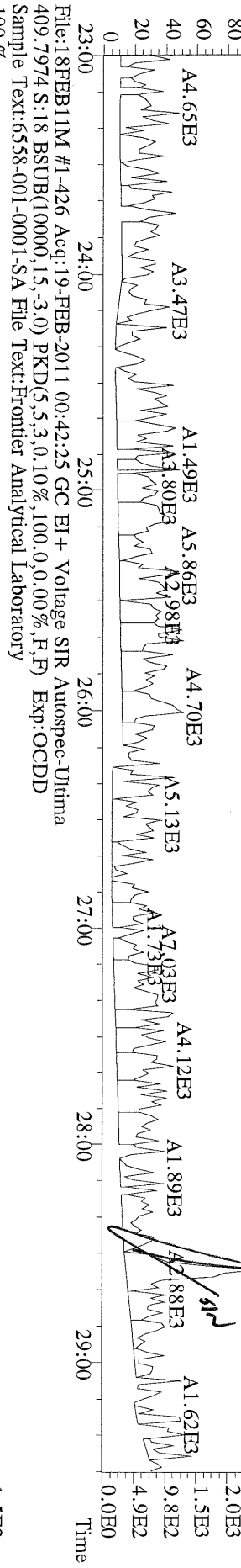
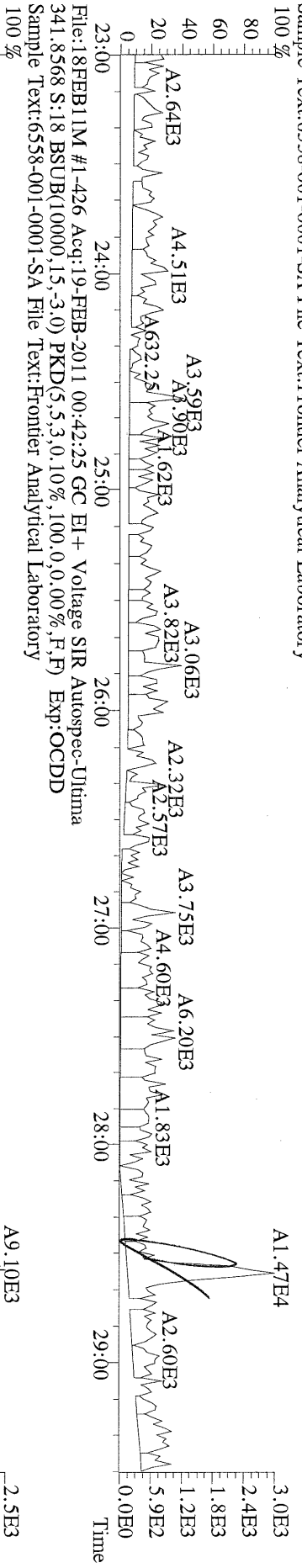
File:18FEB11M #1-426 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 317.9389 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



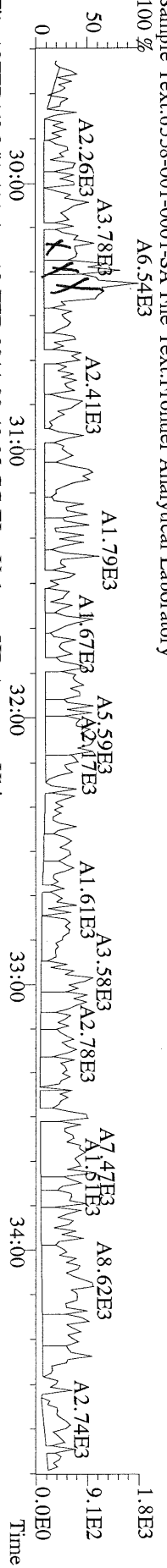
File:18FEB11M #1-426 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 375.8364 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



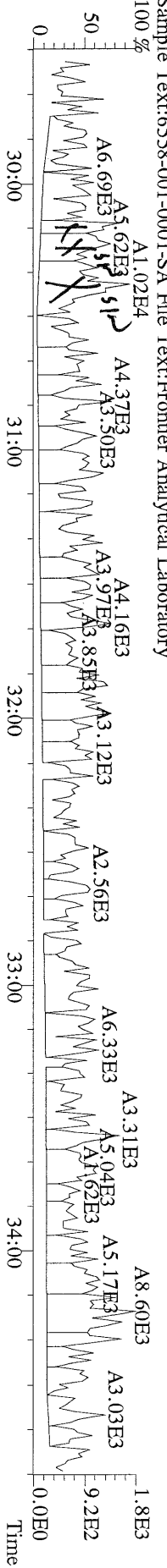
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 339.8568 S:18 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:65558-001-0001-SA File Text:Frontier Analytical Laboratory



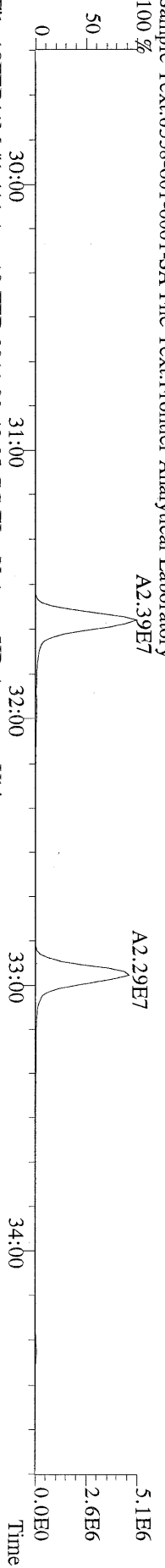
File:18FEB11M #1-411 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:18 F:2 BSTUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



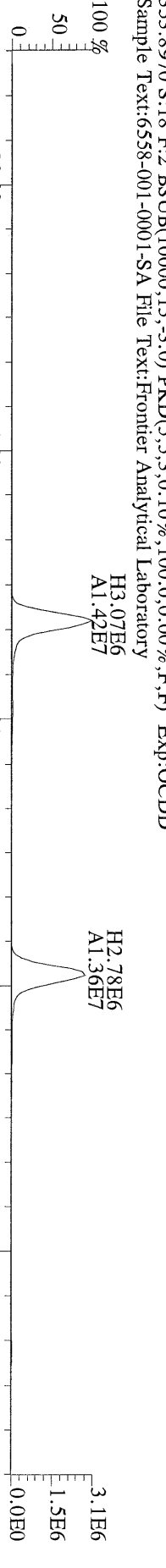
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 341.8568 S:18 F:2 BSTUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



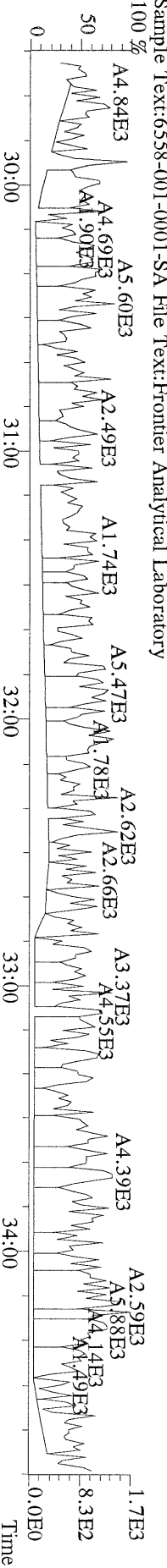
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 351.9000 S:18 F:2 BSTUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



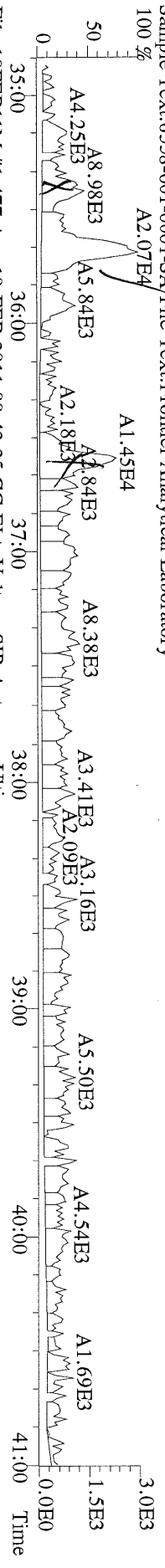
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 353.8970 S:18 F:2 BSTUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



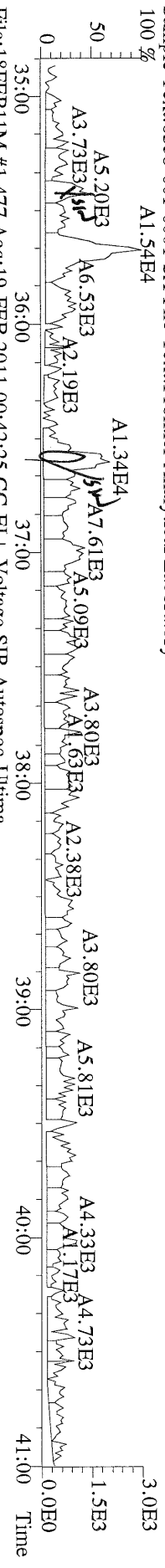
File:18FEB11M #1-411 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:18 F:2 BSTUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



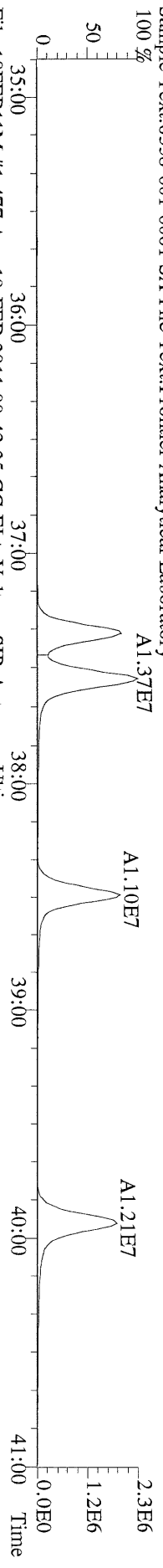
File:18FEB11M #1-477 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Utima  
 373.8207 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



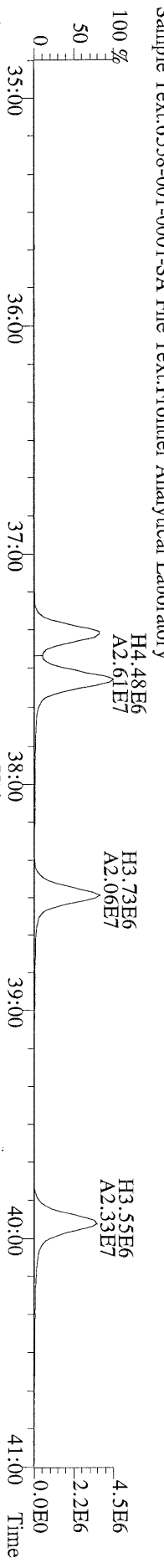
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 375.8178 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



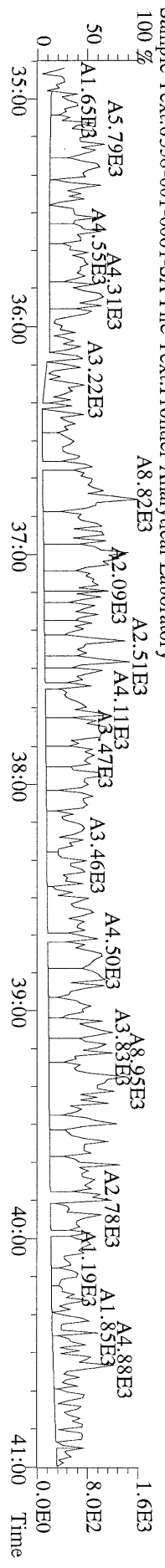
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 383.8639 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



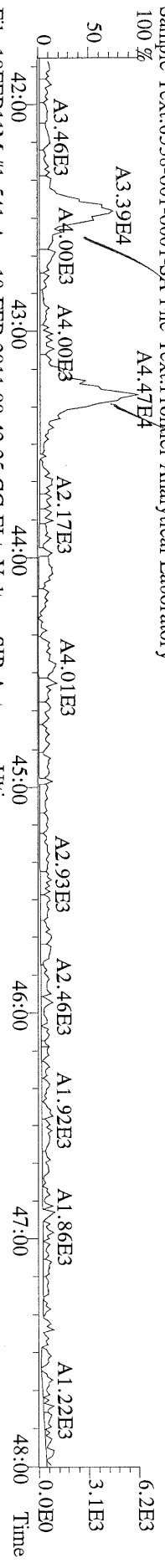
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 385.8610 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



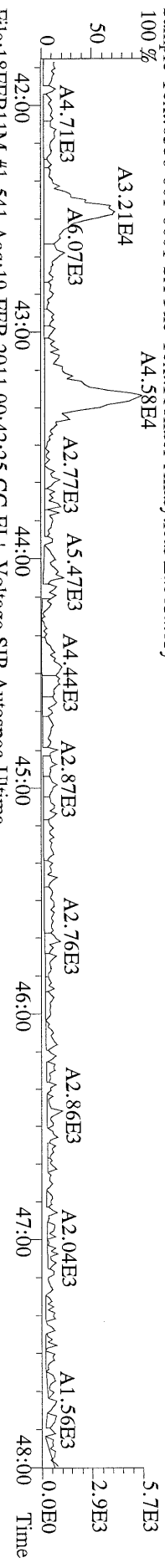
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 445.7555 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



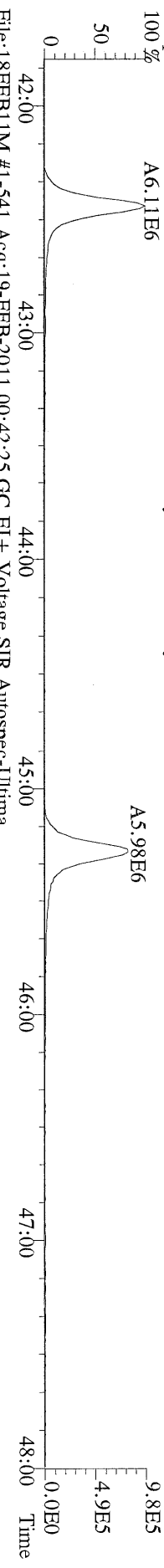
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 407.7818 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



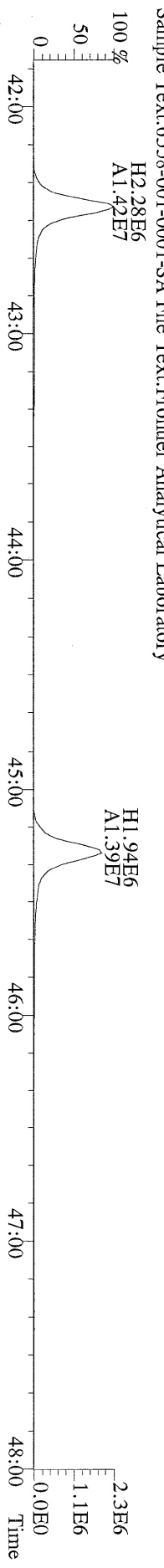
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 409.7788 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



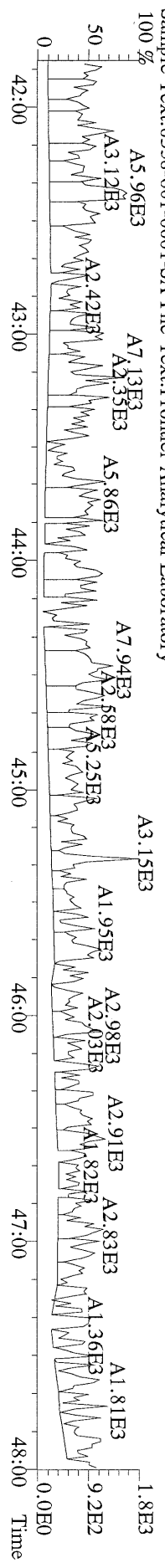
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 417.8253 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



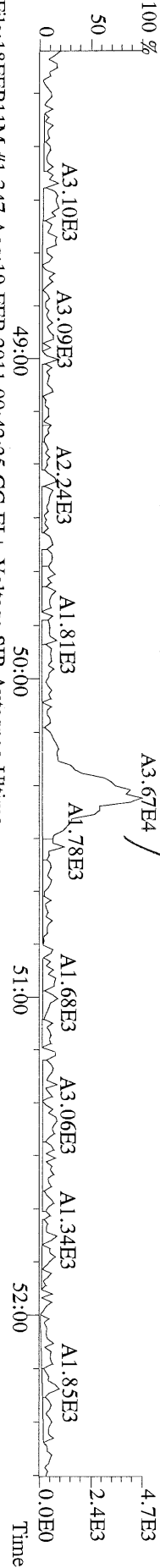
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 419.8220 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



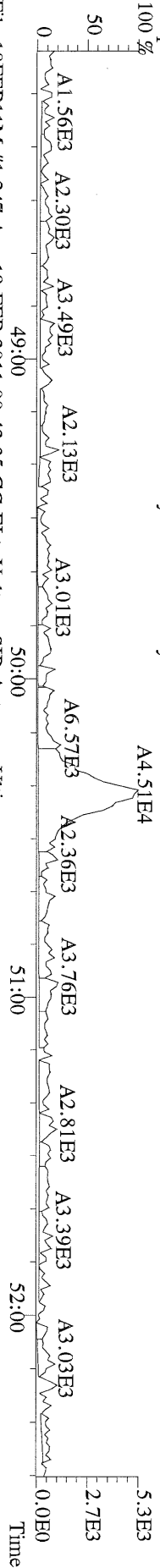
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 479.7165 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



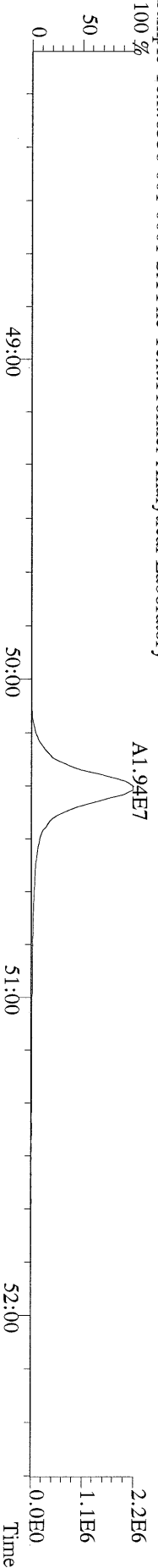
File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 441.7428 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



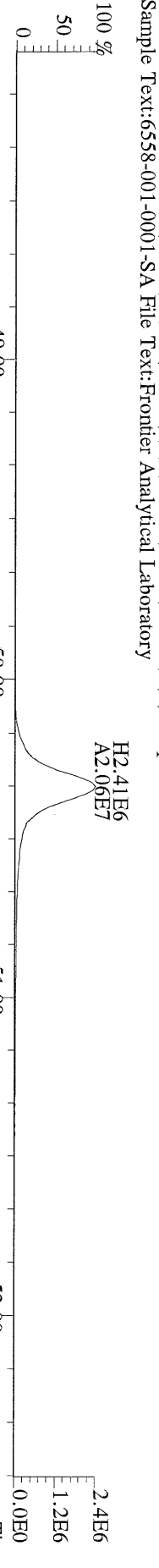
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 443.7398 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
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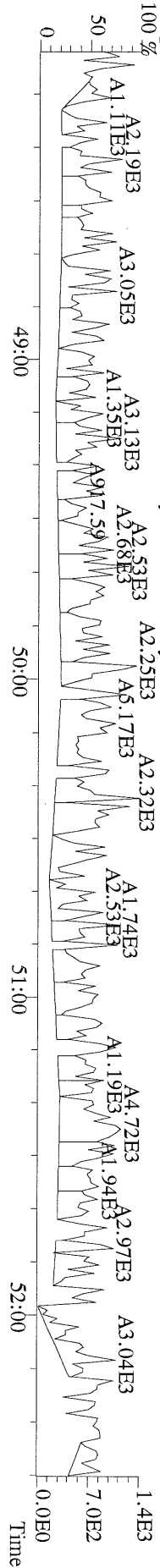
File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 453.7831 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 455.7801 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



File:18FEB11M #1-347 Acq:19-FEB-2011 00:42:25 GC EI+ Voltage SIR Autospec-Ultima  
 513.6775 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:6558-001-0001-SA File Text:Frontier Analytical Laboratory



## Frontier Analytical Laboratory

Data Filename: 23AUG10M

Analyte:

Cal: PCDDFAL3-8-23-10

Name	RRF	S. D.	%RSD	S3 RRF#1	S4 RRF#2	S5 RRF#3	S1 RRF#4	S6 RRF#5	S7 RRF#6
2,3,7,8-TCDD	1.11	0.0404	3.63 %	1.07	1.09	1.06	1.16	1.13	1.14
1,2,3,7,8-PeCDD	1.10	0.0456	4.14 %	1.03	1.08	1.09	1.11	1.15	1.15
1,2,3,4,7,8-HxCDD	1.37	0.0589	4.29 %	1.40	1.30	1.31	1.36	1.44	1.42
1,2,3,6,7,8-HxCDD	1.37	0.0522	3.80 %	1.30	1.38	1.39	1.32	1.43	1.42
1,2,3,7,8,9-HxCDD	1.36	0.0713	5.24 %	1.29	1.31	1.37	1.30	1.45	1.45
1,2,3,4,6,7,8-HpCDD	1.45	0.0199	1.37 %	1.43	1.47	1.45	1.44	1.45	1.48
OCDD	1.43	0.0834	5.81 %	1.37	1.37	1.42	1.44	1.42	1.59
2,3,7,8-TCDF	1.50	0.0738	4.91 %	1.57	1.60	1.50	1.40	1.47	1.48
1,2,3,7,8-PeCDF	0.94	0.0427	4.53 %	0.92	0.88	0.92	0.96	0.99	0.99
2,3,4,7,8-PeCDF	0.94	0.0501	5.35 %	0.88	0.90	0.91	0.93	0.99	1.00
1,2,3,4,7,8-HxCDF	0.93	0.0529	5.70 %	0.90	0.88	0.90	0.91	0.99	1.00
1,2,3,6,7,8-HxCDF	0.82	0.0486	5.91 %	0.75	0.79	0.82	0.83	0.87	0.88
2,3,4,6,7,8-HxCDF	0.92	0.0553	6.02 %	0.87	0.86	0.92	0.89	0.98	0.99
1,2,3,7,8,9-HxCDF	1.00	0.0728	7.30 %	0.90	0.94	0.99	1.00	1.08	1.08
1,2,3,4,6,7,8-HpCDF	1.39	0.0804	5.78 %	1.28	1.33	1.37	1.39	1.49	1.47
1,2,3,4,7,8,9-HpCDF	1.36	0.108	7.94 %	1.30	1.20	1.33	1.35	1.45	1.50
OCDF	0.79	0.0651	8.29 %	0.73	0.72	0.75	0.79	0.86	0.87
13C-2,3,7,8-TCDD	1.02	0.0764	7.46 %	0.98	0.98	0.97	0.98	1.15	1.08
13C-1,2,3,7,8-PeCDD	0.84	0.0798	9.48 %	0.79	0.79	0.79	0.79	0.95	0.93
13C-1,2,3,4,7,8-HxCDD	1.07	0.0580	5.40 %	1.06	1.03	1.06	1.01	1.12	1.16
13C-1,2,3,6,7,8-HxCDD	1.01	0.0164	1.62 %	1.00	1.00	1.00	1.02	1.03	1.03
13C-1,2,3,4,6,7,8-HpCDD	0.86	0.0467	5.45 %	0.82	0.82	0.84	0.83	0.90	0.93
13C-OCDD	0.55	0.0456	8.36 %	0.52	0.51	0.52	0.52	0.58	0.63
13C-2,3,7,8-TCDF	0.99	0.0775	7.79 %	0.97	0.92	0.93	0.96	1.12	1.05
13C-1,2,3,7,8-PeCDF	0.84	0.0816	9.74 %	0.78	0.78	0.79	0.79	0.95	0.93
13C-2,3,4,7,8-PeCDF	0.81	0.0728	8.97 %	0.77	0.75	0.76	0.78	0.91	0.90
13C-1,2,3,4,7,8-HxCDF	1.85	0.0371	2.00 %	1.82	1.85	1.85	1.81	1.91	1.88
13C-1,2,3,6,7,8-HxCDF	2.54	0.0434	1.71 %	2.55	2.51	2.52	2.51	2.62	2.51
13C-2,3,4,6,7,8-HxCDF	2.01	0.0361	1.79 %	2.00	2.00	1.98	2.00	2.08	2.03
13C-1,2,3,7,8,9-HxCDF	2.03	0.110	5.42 %	1.97	1.94	1.96	1.98	2.14	2.20
13C-1,2,3,4,6,7,8,9-HpCDF	1.11	0.0532	4.80 %	1.08	1.05	1.12	1.07	1.16	1.18
13C-1,2,3,4,7,8,9-HpCDF	0.80	0.0576	7.16 %	0.78	0.76	0.78	0.77	0.83	0.91
13C-OCDF	1.08	0.0934	8.63 %	1.00	1.00	1.05	1.05	1.16	1.23
37Cl-2,3,7,8-TCDD	0.69	0.0526	7.67 %	0.67	0.70	0.63	0.63	0.76	0.73
13C-1,2,3,4-TCDD	-	-	- %	-	-	-	-	-	-
13C-1,2,3,4-TCDF	-	-	- %	-	-	-	-	-	-
13C-1,2,3,7,8,9-HxCDD	-	-	- %	-	-	-	-	-	-
Total Tetra-Dioxins	1.11	0.0404	3.63 %	1.07	1.09	1.06	1.16	1.13	1.14
Total Penta-Dioxins	1.10	0.0456	4.14 %	1.03	1.08	1.09	1.11	1.15	1.15
Total Hexa-Dioxins	1.37	0.0513	3.75 %	1.33	1.33	1.36	1.33	1.44	1.43
Total Hepta-Dioxins	1.45	0.0199	1.37 %	1.43	1.47	1.45	1.44	1.45	1.48
Total Tetra-Furans	1.50	0.0738	4.91 %	1.57	1.60	1.50	1.40	1.47	1.48
1st Fn. Tot Penta-Furans	0.94	0.0454	4.83 %	0.90	0.89	0.91	0.95	0.99	0.99
Total Penta-Furans	0.94	0.0454	4.83 %	0.90	0.89	0.91	0.95	0.99	0.99
Total Hexa-Furans	0.91	0.0562	6.18 %	0.84	0.86	0.90	0.90	0.97	0.98
Total Hepta-Furans	1.38	0.0885	6.43 %	1.29	1.28	1.36	1.37	1.47	1.48

Analyst: Date: 8/24/10



Run #1      Filename 23AUG10M  
Client ID: ST082310M0

S: 3      Acquired: 23-AUG-10 16:16:35      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS0 100511G

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.25	1.20e+05	0.73 y	27:27	-	1.07 y
2	Unk      1,2,3,7,8-PeCDD	1.25	4.64e+05	1.70 y	33:15	-	1.03 y
3	Unk      1,2,3,4,7,8-HxCDD	1.25	4.89e+05	1.42 y	38:38	-	1.40 y
4	Unk      1,2,3,6,7,8-HxCDD	1.25	4.28e+05	1.40 y	38:48	-	1.30 y
5	Unk      1,2,3,7,8,9-HxCDD	1.25	4.38e+05	1.41 y	39:14	-	1.29 y
6	Unk      1,2,3,4,6,7,8-HpCDD	1.25	3.88e+05	1.02 y	44:13	-	1.43 y
7	Unk      OCDD	2.50	4.72e+05	1.00 y	49:47	-	1.37 y
8	Unk      2,3,7,8-TCDF	0.25	2.81e+05	0.67 y	26:41	-	1.57 y
9	Unk      1,2,3,7,8-PeCDF	1.25	6.57e+05	1.49 y	31:31	-	0.916 y
10	Unk      2,3,4,7,8-PeCDF	1.25	6.24e+05	1.48 y	32:50	-	0.883 y
11	Unk      1,2,3,4,7,8-HxCDF	1.25	5.37e+05	1.22 y	37:14	-	0.897 y
12	Unk      1,2,3,6,7,8-HxCDF	1.25	6.28e+05	1.31 y	37:25	-	0.747 y
13	Unk      2,3,4,6,7,8-HxCDF	1.25	5.72e+05	1.25 y	38:22	-	0.870 y
14	Unk      1,2,3,7,8,9-HxCDF	1.25	5.81e+05	1.15 y	39:48	-	0.897 y
15	Unk      1,2,3,4,6,7,8-HpCDF	1.25	4.57e+05	1.04 y	42:19	-	1.28 y
16	Unk      1,2,3,4,7,8,9-HpCDF	1.25	3.34e+05	0.99 y	45:09	-	1.30 y
17	Unk      OCDF	2.50	4.80e+05	0.93 y	50:10	-	0.727 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.47e+07	0.85 y	27:24	-	0.976 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.60e+07	1.77 y	33:14	-	0.786 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.78e+07	1.26 y	38:36	-	1.06 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.63e+07	1.26 y	38:46	-	0.998 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.17e+07	1.00 y	44:13	-	0.825 y
23	IS      13C-OCDD	200.00	2.76e+07	1.00 y	49:46	-	0.523 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.17e+07	0.88 y	26:40	-	0.975 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.74e+07	1.74 y	31:30	-	0.780 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.65e+07	1.74 y	32:49	-	0.769 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.79e+07	0.55 y	37:12	-	1.82 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.72e+07	0.56 y	37:24	-	2.55 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.26e+07	0.58 y	38:20	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.54 y	39:47	-	1.97 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.84e+07	0.42 y	42:18	-	1.08 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.05e+07	0.43 y	45:08	-	0.778 y
33	IS      13C-OCDF	200.00	5.28e+07	0.95 y	50:09	-	1.00 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.25	7.69e+04		27:26	-	0.671 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.58e+07	0.85 y	26:50	4.58e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.35e+07	0.87 y	25:35	7.35e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.64e+07	1.27 y	39:12	2.64e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.07 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.03 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.43 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.57 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.899 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.899 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.845 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.29 y

Analyst: 

Date: 8/24/10

Run #2      Filename 23AUG10M  
Client ID: ST082310M1

S: 4      Acquired: 23-AUG-10 17:12:02      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS1 100511H

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.50	2.50e+05	0.74 y	27:27	-	1.09 y
2	Unk      1,2,3,7,8-PeCDD	2.50	9.93e+05	1.61 y	33:16	-	1.08 y
3	Unk      1,2,3,4,7,8-HxCDD	2.50	8.89e+05	1.42 y	38:37	-	1.30 y
4	Unk      1,2,3,6,7,8-HxCDD	2.50	9.16e+05	1.42 y	38:48	-	1.38 y
5	Unk      1,2,3,7,8,9-HxCDD	2.50	8.82e+05	1.39 y	39:14	-	1.31 y
6	Unk      1,2,3,4,6,7,8-HpCDD	2.50	8.00e+05	1.07 y	44:14	-	1.47 y
7	Unk      OCDD	5.00	9.24e+05	0.99 y	49:48	-	1.37 y
8	Unk      2,3,7,8-TCDF	0.50	5.65e+05	0.69 y	26:41	-	1.60 y
9	Unk      1,2,3,7,8-PeCDF	2.50	1.31e+06	1.45 y	31:32	-	0.885 y
10	Unk      2,3,4,7,8-PeCDF	2.50	1.29e+06	1.43 y	32:51	-	0.896 y
11	Unk      1,2,3,4,7,8-HxCDF	2.50	1.08e+06	1.27 y	37:14	-	0.877 y
12	Unk      1,2,3,6,7,8-HxCDF	2.50	1.32e+06	1.22 y	37:26	-	0.790 y
13	Unk      2,3,4,6,7,8-HxCDF	2.50	1.14e+06	1.31 y	38:23	-	0.858 y
14	Unk      1,2,3,7,8,9-HxCDF	2.50	1.21e+06	1.23 y	39:48	-	0.938 y
15	Unk      1,2,3,4,6,7,8-HpCDF	2.50	9.30e+05	1.05 y	42:20	-	1.33 y
16	Unk      1,2,3,4,7,8,9-HpCDF	2.50	6.04e+05	1.06 y	45:09	-	1.20 y
17	Unk      OCDF	5.00	9.66e+05	0.89 y	50:10	-	0.721 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.56e+07	0.84 y	27:25	-	0.980 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.68e+07	1.77 y	33:14	-	0.790 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.74e+07	1.32 y	38:36	-	1.03 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.22 y	38:46	-	0.996 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.18e+07	1.02 y	44:13	-	0.818 y
23	IS      13C-OCDD	200.00	2.71e+07	0.99 y	49:47	-	0.507 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.06e+07	0.86 y	26:40	-	0.923 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.94e+07	1.73 y	31:30	-	0.777 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.75e+07	1.68 y	32:49	-	0.752 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.93e+07	0.55 y	37:13	-	1.85 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.70e+07	0.55 y	37:24	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.33e+07	0.57 y	38:21	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.55 y	39:48	-	1.94 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.79e+07	0.44 y	42:18	-	1.05 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.02e+07	0.42 y	45:09	-	0.756 y
33	IS      13C-OCDF	200.00	5.36e+07	0.96 y	50:09	-	1.00 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.50	1.62e+05		27:26	-	0.696 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.66e+07	0.83 y	26:51	4.66e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.65e+07	0.88 y	25:34	7.65e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.67e+07	1.27 y	39:13	2.67e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.09 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.08 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.47 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.60 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.890 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.890 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.860 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.28 y

Analyst: 

Date: 8/24/10

Run #3      Filename 23AUG10M  
Client ID: ST082310M2

S: 5      Acquired: 23-AUG-10 18:07:23      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS2 100511I

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	2.00	9.56e+05	0.76 y	27:26	-	1.06 y
2	Unk      1,2,3,7,8-PeCDD	10.00	3.99e+06	1.62 y	33:15	-	1.09 y
3	Unk      1,2,3,4,7,8-HxCDD	10.00	3.69e+06	1.40 y	38:38	-	1.31 y
4	Unk      1,2,3,6,7,8-HxCDD	10.00	3.71e+06	1.40 y	38:47	-	1.39 y
5	Unk      1,2,3,7,8,9-HxCDD	10.00	3.75e+06	1.40 y	39:14	-	1.37 y
6	Unk      1,2,3,4,6,7,8-HpCDD	10.00	3.22e+06	1.04 y	44:14	-	1.45 y
7	Unk      OCDD	20.00	3.97e+06	0.89 y	49:47	-	1.42 y
8	Unk      2,3,7,8-TCDF	2.00	2.12e+06	0.69 y	26:41	-	1.50 y
9	Unk      1,2,3,7,8-PeCDF	10.00	5.47e+06	1.50 y	31:32	-	0.916 y
10	Unk      2,3,4,7,8-PeCDF	10.00	5.23e+06	1.51 y	32:51	-	0.913 y
11	Unk      1,2,3,4,7,8-HxCDF	10.00	4.43e+06	1.30 y	37:14	-	0.900 y
12	Unk      1,2,3,6,7,8-HxCDF	10.00	5.48e+06	1.24 y	37:26	-	0.819 y
13	Unk      2,3,4,6,7,8-HxCDF	10.00	4.88e+06	1.33 y	38:22	-	0.924 y
14	Unk      1,2,3,7,8,9-HxCDF	10.00	5.17e+06	1.28 y	39:49	-	0.990 y
15	Unk      1,2,3,4,6,7,8-HpCDF	10.00	4.10e+06	1.03 y	42:19	-	1.37 y
16	Unk      1,2,3,4,7,8,9-HpCDF	10.00	2.76e+06	1.01 y	45:09	-	1.33 y
17	Unk      OCDF	20.00	4.20e+06	0.92 y	50:11	-	0.753 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.51e+07	0.83 y	27:25	-	0.970 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.68e+07	1.77 y	33:14	-	0.792 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.81e+07	1.27 y	38:36	-	1.06 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.28 y	38:46	-	1.00 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.22e+07	1.02 y	44:13	-	0.835 y
23	IS      13C-OCDD	200.00	2.79e+07	0.95 y	49:47	-	0.524 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.06e+07	0.88 y	26:40	-	0.935 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.98e+07	1.74 y	31:30	-	0.791 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.73e+07	1.71 y	32:50	-	0.759 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.92e+07	0.55 y	37:13	-	1.85 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.70e+07	0.55 y	37:25	-	2.52 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.28e+07	0.56 y	38:21	-	1.98 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.23e+07	0.56 y	39:47	-	1.96 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.98e+07	0.43 y	42:18	-	1.12 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.07e+07	0.41 y	45:08	-	0.777 y
33	IS      13C-OCDF	200.00	5.58e+07	1.00 y	50:09	-	1.05 y
34	C/Up      37Cl-2,3,7,8-TCDD	2.00	5.87e+05		27:27	-	0.632 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.65e+07	0.85 y	26:50	4.65e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.56e+07	0.87 y	25:35	7.56e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.66e+07	1.26 y	39:13	2.66e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.06 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.09 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.36 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.45 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.50 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.914 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.914 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.902 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.36 y

Analyst: 

Date: 8/24/10

Run #4      Filename 23AUG10M  
Client ID: ST082310M3

S: 1      Acquired: 23-AUG-10 14:25:46      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS3 100511J

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	10.00	5.04e+06	0.73 y	27:24	-	1.16 y
2	Unk      1,2,3,7,8-PeCDD	50.00	1.95e+07	1.64 y	33:14	-	1.11 y
3	Unk      1,2,3,4,7,8-HxCDD	50.00	1.81e+07	1.41 y	38:36	-	1.36 y
4	Unk      1,2,3,6,7,8-HxCDD	50.00	1.75e+07	1.39 y	38:46	-	1.32 y
5	Unk      1,2,3,7,8,9-HxCDD	50.00	1.74e+07	1.41 y	39:13	-	1.30 y
6	Unk      1,2,3,4,6,7,8-HpCDD	50.00	1.56e+07	1.04 y	44:13	-	1.44 y
7	Unk      OCDD	100.00	1.96e+07	0.95 y	49:47	-	1.44 y
8	Unk      2,3,7,8-TCDF	10.00	9.40e+06	0.67 y	26:39	-	1.40 y
9	Unk      1,2,3,7,8-PeCDF	50.00	2.67e+07	1.53 y	31:30	-	0.959 y
10	Unk      2,3,4,7,8-PeCDF	50.00	2.56e+07	1.52 y	32:49	-	0.933 y
11	Unk      1,2,3,4,7,8-HxCDF	50.00	2.15e+07	1.29 y	37:12	-	0.905 y
12	Unk      1,2,3,6,7,8-HxCDF	50.00	2.72e+07	1.26 y	37:24	-	0.826 y
13	Unk      2,3,4,6,7,8-HxCDF	50.00	2.34e+07	1.24 y	38:21	-	0.892 y
14	Unk      1,2,3,7,8,9-HxCDF	50.00	2.60e+07	1.28 y	39:47	-	1.00 y
15	Unk      1,2,3,4,6,7,8-HpCDF	50.00	1.95e+07	1.04 y	42:18	-	1.39 y
16	Unk      1,2,3,4,7,8,9-HpCDF	50.00	1.37e+07	1.04 y	45:08	-	1.35 y
17	Unk      OCDF	100.00	2.16e+07	0.93 y	50:09	-	0.785 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.35e+07	0.86 y	27:23	-	0.982 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.51e+07	1.77 y	33:13	-	0.793 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.66e+07	1.26 y	38:35	-	1.01 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.66e+07	1.27 y	38:45	-	1.02 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.18e+07	1.04 y	44:11	-	0.830 y
23	IS      13C-OCDD	200.00	2.73e+07	0.93 y	49:45	-	0.521 y
24	IS      13C-2,3,7,8-TCDF	100.00	6.73e+07	0.86 y	26:38	-	0.959 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.57e+07	1.78 y	31:28	-	0.794 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.49e+07	1.74 y	32:48	-	0.783 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.74e+07	0.56 y	37:11	-	1.81 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.58e+07	0.55 y	37:23	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.25e+07	0.54 y	38:19	-	2.00 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.18e+07	0.55 y	39:45	-	1.98 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	2.80e+07	0.42 y	42:17	-	1.07 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.02e+07	0.42 y	45:06	-	0.772 y
33	IS      13C-OCDF	200.00	5.49e+07	0.98 y	50:08	-	1.05 y
34	C/Up      37Cl-2,3,7,8-TCDD	10.00	2.77e+06		27:24	-	0.626 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.42e+07	0.84 y	26:49	4.42e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	7.01e+07	0.87 y	25:33	7.01e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.62e+07	1.28 y	39:11	2.62e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.16 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.11 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.33 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.44 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.40 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.946 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.946 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.902 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.37 y

Analyst: 

Date: 8/29/10

Run #5      Filename 23AUG10M  
Client ID: ST082310M4

S: 6      Acquired: 23-AUG-10 19:02:46      Cal: PCDDFAL3-8-23-10  
Analyte:      FAL ID: 1613 CS4 100511K

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	40.00	2.29e+07	0.76 y	27:27	-	1.13 y
2	Unk      1,2,3,7,8-PeCDD	200.00	9.61e+07	1.62 y	33:16	-	1.15 y
3	Unk      1,2,3,4,7,8-HxCDD	200.00	9.66e+07	1.40 y	38:37	-	1.44 y
4	Unk      1,2,3,6,7,8-HxCDD	200.00	8.79e+07	1.41 y	38:47	-	1.43 y
5	Unk      1,2,3,7,8,9-HxCDD	200.00	9.29e+07	1.41 y	39:15	-	1.45 y
6	Unk      1,2,3,4,6,7,8-HpCDD	200.00	7.75e+07	1.03 y	44:14	-	1.45 y
7	Unk      OCDD	400.00	9.77e+07	1.00 y	49:48	-	1.42 y
8	Unk      2,3,7,8-TCDF	40.00	4.55e+07	0.67 y	26:42	-	1.47 y
9	Unk      1,2,3,7,8-PeCDF	200.00	1.31e+08	1.55 y	31:31	-	0.991 y
10	Unk      2,3,4,7,8-PeCDF	200.00	1.25e+08	1.52 y	32:50	-	0.991 y
11	Unk      1,2,3,4,7,8-HxCDF	200.00	1.13e+08	1.27 y	37:14	-	0.995 y
12	Unk      1,2,3,6,7,8-HxCDF	200.00	1.35e+08	1.28 y	37:26	-	0.869 y
13	Unk      2,3,4,6,7,8-HxCDF	200.00	1.21e+08	1.26 y	38:23	-	0.979 y
14	Unk      1,2,3,7,8,9-HxCDF	200.00	1.38e+08	1.30 y	39:49	-	1.08 y
15	Unk      1,2,3,4,6,7,8-HpCDF	200.00	1.03e+08	1.03 y	42:19	-	1.49 y
16	Unk      1,2,3,4,7,8,9-HpCDF	200.00	7.19e+07	1.05 y	45:09	-	1.45 y
17	Unk      OCDF	400.00	1.19e+08	0.92 y	50:11	-	0.860 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	5.05e+07	0.85 y	27:25	-	1.15 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	4.17e+07	1.76 y	33:14	-	0.955 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	3.35e+07	1.27 y	38:37	-	1.12 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	3.08e+07	1.28 y	38:46	-	1.03 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.67e+07	1.01 y	44:13	-	0.896 y
23	IS      13C-OCDD	200.00	3.44e+07	0.94 y	49:47	-	0.578 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.76e+07	0.88 y	26:41	-	1.12 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	6.59e+07	1.75 y	31:30	-	0.954 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	6.31e+07	1.73 y	32:49	-	0.913 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	5.67e+07	0.55 y	37:13	-	1.91 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	7.79e+07	0.55 y	37:25	-	2.62 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	6.19e+07	0.54 y	38:21	-	2.08 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	6.38e+07	0.54 y	39:48	-	2.14 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	3.44e+07	0.43 y	42:18	-	1.16 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.48e+07	0.43 y	45:08	-	0.832 y
33	IS      13C-OCDF	200.00	6.90e+07	0.99 y	50:09	-	1.16 y
34	C/Up      37Cl-2,3,7,8-TCDD	40.00	1.32e+07		27:27	-	0.757 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.37e+07	0.85 y	26:50	4.37e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	6.91e+07	0.87 y	25:35	6.91e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.98e+07	1.25 y	39:13	2.98e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.13 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.15 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.44 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.45 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.47 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.991 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.991 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.974 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.47 y


Analyst: 

Date: 8/24/10

Run #6      Filename 23AUG10M  
Client ID: ST082310M5

S: 7      Acquired: 23-AUG-10 19:58:08      Cal: PCDDFAL3-8-23-10  
Analyte: PCDDFAL3-8-23-10      FAL ID: 1613 CS5 100511L

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	200.00	1.06e+08	0.76 y	27:26	-	1.14 y
2	Unk      1,2,3,7,8-PeCDD	1000.00	4.58e+08	1.63 y	33:15	-	1.15 y
3	Unk      1,2,3,4,7,8-HxCDD	1000.00	4.92e+08	1.39 y	38:38	-	1.42 y
4	Unk      1,2,3,6,7,8-HxCDD	1000.00	4.34e+08	1.40 y	38:48	-	1.42 y
5	Unk      1,2,3,7,8,9-HxCDD	1000.00	4.72e+08	1.38 y	39:14	-	1.45 y
6	Unk      1,2,3,4,6,7,8-HpCDD	1000.00	4.12e+08	1.03 y	44:14	-	1.48 y
7	Unk      OCDD	2000.00	5.93e+08	0.92 y	49:50	-	1.59 y
8	Unk      2,3,7,8-TCDF	200.00	2.14e+08	0.66 y	26:41	-	1.48 y
9	Unk      1,2,3,7,8-PeCDF	1000.00	6.33e+08	1.52 y	31:32	-	0.985 y
10	Unk      2,3,4,7,8-PeCDF	1000.00	6.21e+08	1.52 y	32:51	-	1.00 y
11	Unk      1,2,3,4,7,8-HxCDF	1000.00	5.58e+08	1.28 y	37:14	-	0.996 y
12	Unk      1,2,3,6,7,8-HxCDF	1000.00	6.54e+08	1.27 y	37:26	-	0.876 y
13	Unk      2,3,4,6,7,8-HxCDF	1000.00	5.98e+08	1.27 y	38:22	-	0.989 y
14	Unk      1,2,3,7,8,9-HxCDF	1000.00	7.04e+08	1.28 y	39:49	-	1.08 y
15	Unk      1,2,3,4,6,7,8-HpCDF	1000.00	5.19e+08	1.05 y	42:20	-	1.47 y
16	Unk      1,2,3,4,7,8,9-HpCDF	1000.00	4.06e+08	1.08 y	45:09	-	1.50 y
17	Unk      OCDF	2000.00	6.38e+08	0.93 y	50:12	-	0.869 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.62e+07	0.84 y	27:25	-	1.08 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	4.00e+07	1.76 y	33:15	-	0.933 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	3.46e+07	1.27 y	38:37	-	1.16 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	3.07e+07	1.25 y	38:46	-	1.03 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.78e+07	1.04 y	44:13	-	0.932 y
23	IS      13C-OCDD	200.00	3.72e+07	0.93 y	49:49	-	0.625 y
24	IS      13C-2,3,7,8-TCDF	100.00	7.26e+07	0.87 y	26:40	-	1.05 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	6.43e+07	1.73 y	31:30	-	0.931 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	6.19e+07	1.73 y	32:49	-	0.896 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	5.60e+07	0.55 y	37:13	-	1.88 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	7.47e+07	0.56 y	37:25	-	2.51 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	6.05e+07	0.56 y	38:21	-	2.03 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	6.55e+07	0.54 y	39:47	-	2.20 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	3.52e+07	0.44 y	42:18	-	1.18 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.71e+07	0.42 y	45:08	-	0.909 y
33	IS      13C-OCDF	200.00	7.35e+07	0.99 y	50:11	-	1.23 y
34	C/Up      37Cl-2,3,7,8-TCDD	200.00	6.26e+07		27:26	-	0.731 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.28e+07	0.84 y	26:50	4.28e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	6.91e+07	0.87 y	25:34	6.91e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.98e+07	1.25 y	39:13	2.98e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.14 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.15 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.43 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.48 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.48 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.994 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.994 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	0.980 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.48 y

Analyst: 

Date: 8/24/10

## USEPA - ITD

## FORM 3A

## PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3 GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

NATIVE ANALYTES	RELATIVE RESPONSE (RR)						MEAN RR	Cv (%RSD)
	CS1	CS2	CS3	CS4	CS5	CS6		
2,3,7,8-TCDD	1.07	1.09	1.06	1.16	1.13	1.14	1.11	3.63
1,2,3,7,8-PeCDD	1.03	1.08	1.09	1.11	1.15	1.15	1.10	4.14
1,2,3,4,7,8-HxCDD	1.40	1.30	1.31	1.36	1.44	1.42	1.37	4.29
1,2,3,6,7,8-HxCDD	1.30	1.38	1.39	1.32	1.43	1.42	1.37	3.80
1,2,3,7,8,9-HxCDD	1.29	1.31	1.37	1.30	1.45	1.45	1.36	5.24
1,2,3,4,6,7,8-HpCDD	1.43	1.47	1.45	1.44	1.45	1.48	1.45	1.37
OCDD	1.37	1.37	1.42	1.44	1.42	1.59	1.43	5.81
2,3,7,8-TCDF	1.57	1.60	1.50	1.40	1.47	1.48	1.50	4.91
1,2,3,7,8-PeCDF	0.92	0.88	0.92	0.96	0.99	0.99	0.94	4.53
2,3,4,7,8-PeCDF	0.88	0.90	0.91	0.93	0.99	1.00	0.94	5.35
1,2,3,4,7,8-HxCDF	0.90	0.88	0.90	0.91	0.99	1.00	0.93	5.70
1,2,3,6,7,8-HxCDF	0.75	0.79	0.82	0.83	0.87	0.88	0.82	5.91
2,3,4,6,7,8-HxCDF	0.87	0.86	0.92	0.89	0.98	0.99	0.92	6.02
1,2,3,7,8,9-HxCDF	0.90	0.94	0.99	1.00	1.08	1.08	1.00	7.30
1,2,3,4,6,7,8-HpCDF	1.28	1.33	1.37	1.39	1.49	1.47	1.39	5.78
1,2,3,4,7,8,9-HpCDF	1.30	1.20	1.33	1.35	1.45	1.50	1.36	7.94
OCDF	0.73	0.72	0.75	0.79	0.86	0.87	0.79	8.29

Analyst: 

Date: 8/24/10

## USEPA - ITD

## FORM 3B

## PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS4 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

## RELATIVE RESPONSE (RR)

MEAN  
RR Cv  
(%RSD)

LABELED COMPOUNDS	RELATIVE RESPONSE (RR)						MEAN RR	Cv (%RSD)
	CS1	CS2	CS3	CS4	CS5	CS6		
13C-2,3,7,8-TCDD	0.98	0.98	0.97	0.98	1.15	1.08	1.02	7.46
13C-1,2,3,7,8-PeCDD	0.79	0.79	0.79	0.79	0.95	0.93	0.84	9.48
13C-1,2,3,4,7,8-HxCDD	1.06	1.03	1.06	1.01	1.12	1.16	1.07	5.40
13C-1,2,3,6,7,8-HxCDD	1.00	1.00	1.00	1.02	1.03	1.03	1.01	1.62
13C-1,2,3,4,6,7,8-HpCDD	0.82	0.82	0.84	0.83	0.90	0.93	0.86	5.45
13C-OCDD	0.52	0.51	0.52	0.52	0.58	0.63	0.55	8.36
13C-2,3,7,8-TCDF	0.97	0.92	0.93	0.96	1.12	1.05	0.99	7.79
13C-1,2,3,7,8-PeCDF	0.78	0.78	0.79	0.79	0.95	0.93	0.84	9.74
13C-2,3,4,7,8-PeCDF	0.77	0.75	0.76	0.78	0.91	0.90	0.81	8.97
13C-1,2,3,4,7,8-HxCDF	1.82	1.85	1.85	1.81	1.91	1.88	1.85	2.00
13C-1,2,3,6,7,8-HxCDF	2.55	2.51	2.52	2.51	2.62	2.51	2.54	1.71
13C-2,3,4,6,7,8-HxCDF	2.00	2.00	1.98	2.00	2.08	2.03	2.01	1.79
13C-1,2,3,7,8,9-HxCDF	1.97	1.94	1.96	1.98	2.14	2.20	2.03	5.42
13C-1,2,3,4,6,7,8-HpCDF	1.08	1.05	1.12	1.07	1.16	1.18	1.11	4.80
13C-1,2,3,4,7,8,9-HpCDF	0.78	0.76	0.78	0.77	0.83	0.91	0.80	7.16
13C-OCDF	1.00	1.00	1.05	1.05	1.16	1.23	1.08	8.63
CLEANUP STANDARD								
37Cl-2,3,7,8-TCDD	0.67	0.70	0.63	0.63	0.76	0.73	0.69	7.67

Analyst: Date: 8/24/10



## USEPA - ITD

## FORM 3C

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

NATIVE ANALYTES	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
2,3,7,8-TCDD	M/M+2	0.73	0.74	0.76	0.73	0.76	0.76	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.70	1.61	1.62	1.64	1.62	1.63	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.42	1.42	1.40	1.41	1.40	1.39	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.40	1.42	1.40	1.39	1.41	1.40	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.41	1.39	1.40	1.41	1.41	1.38	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	1.07	1.04	1.04	1.03	1.03	0.88-1.20
OCDD	M+2/M+4	1.00	0.99	0.89	0.95	1.00	0.92	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.67	0.69	0.69	0.67	0.67	0.66	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.49	1.45	1.50	1.53	1.55	1.52	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.48	1.43	1.51	1.52	1.52	1.52	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.27	1.30	1.29	1.27	1.28	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.31	1.22	1.24	1.26	1.28	1.27	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.31	1.33	1.24	1.26	1.27	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.15	1.23	1.28	1.28	1.30	1.28	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	1.05	1.03	1.04	1.03	1.05	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	1.06	1.01	1.04	1.05	1.08	0.88-1.20
OCDF	M+2/M+4	0.93	0.89	0.92	0.93	0.92	0.93	0.76-1.02

Analyst: Date: 8/24/10

## USEPA - ITD

FORM 3D

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

CS0 Data Filename: 23AUG10M S3 CS3 Data Filename: 23AUG10M S1

CS1 Data Filename: 23AUG10M S4 CS4 Data Filename: 23AUG10M S6

CS2 Data Filename: 23AUG10M S5 CS5 Data Filename: 23AUG10M S7

Labeled Compounds	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
13C-2,3,7,8-TCDD	M/M+2	0.85	0.84	0.83	0.86	0.85	0.84	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.77	1.77	1.77	1.77	1.76	1.76	1.32-1.78
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.32	1.27	1.26	1.27	1.27	1.05-1.43
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.22	1.28	1.27	1.28	1.25	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.00	1.02	1.02	1.04	1.01	1.04	0.88-1.20
13C-OCDD	M+2/M+4	1.00	0.99	0.95	0.93	0.94	0.93	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.88	0.86	0.88	0.86	0.88	0.87	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.74	1.73	1.74	1.78	1.75	1.73	1.32-1.78
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.74	1.68	1.71	1.74	1.73	1.73	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.55	0.55	0.55	0.56	0.55	0.55	0.43-0.59
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.56	0.55	0.55	0.55	0.55	0.56	0.43-0.59
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.58	0.57	0.56	0.54	0.54	0.56	0.43-0.59
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.55	0.56	0.55	0.54	0.54	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.44	0.43	0.42	0.43	0.44	0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.42	0.41	0.42	0.43	0.42	0.37-0.51
13C-OCDF	M+2/M+4	0.95	0.96	1.00	0.98	0.99	0.99	0.76-1.02

Analyst: Date: 8/24/10

USEPA - ITD  
FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory      Episode No.:

Contract No.:      SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3      GC Column ID: db5

VER Data Filename: 23AUG10M Sam:1      Analysis Date: 23-AUG-10 14:25:46

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
2,3,7,8-TCDD	M/M+2	0.73	0.65-0.89	y	10.4	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32-1.78	y	50.6	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.41	1.05-1.43	y	49.6	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.39	1.05-1.43	y	48.0	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.41	1.05-1.43	y	47.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	49.5	43.0 - 58.0
OCDD	M+2/M+4	0.95	0.76-1.02	y	100	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.67	0.65-0.89	y	9.30	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	50.9	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	y	49.8	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	y	48.8	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	y	50.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	48.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.05-1.43	y	50.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	y	49.9	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	y	49.8	43.0 - 58.0
OCDF	M+2/M+4	0.93	0.76-1.02	y	99.9	63.0 - 159

- (1) See Table 8, Method 1613, for m/z specifications.
- (2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
- (3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst:       Date: 8/24/10

## USEPA - ITD

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

VER Data Filename: 23AUG10M Sam:1

Analysis Date: 23-AUG-10 14:25:46


LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.86	0.65-0.89	y	95.9	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.77	1.32-1.78	y	94.2	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	94.5	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	100	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	97.0	72.0 - 138
13C-OCDD	M+2/M+4	0.93	0.76-1.02	y	191	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.86	0.65-0.89	y	96.5	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.78	1.32-1.78	y	94.8	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.74	1.32-1.78	y	96.5	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.56	0.43-0.59	y	97.7	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.55	0.43-0.59	y	99.0	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43-0.59	y	99.4	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.55	0.43-0.59	y	97.2	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.37-0.51	y	96.4	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37-0.51	y	96.0	77.0 - 129
13C-OCDF	M+2/M+4	0.98	0.76-1.02	y	194	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.14	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: Date: 

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory    Episode No.:  
Contract No.:                                    SAS No.:  
Instrument ID: FAL3                            Initial Calibration Date: 8/23/10  
RT Window Data Filename: 23AUG10M Sam:1    Analysis Date: 23-AUG-10 Time: 14:25:46  
DB-5 IS Data Filename: 23AUG10M    Sam:1    Analysis Date: 23-AUG-10 Time: 14:25:46  
DB-225 IS Data Filename:                    Analysis Date:                    Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:24	1,3,6,8-TCDF (F)	23:04
1,2,8,9-TCDD (L)	28:21	1,2,8,9-TCDF (L)	28:34
1,2,4,7,9-PeCDD (F)	30:15	1,3,4,6,8-PeCDF (F)	28:25
1,2,3,8,9-PeCDD (L)	33:48	1,2,3,8,9-PeCDF (L)	34:14
1,2,4,6,7,9-HxCDD (F)	36:08	1,2,3,4,6,8-HxCDF (F)	35:15
1,2,3,7,8,9-HxCDD (L)	39:13	1,2,3,7,8,9-HxCDF (L)	39:47
1,2,3,4,6,7,9-HpCDD (F)	42:49	1,2,3,4,6,7,8-HpCDF (F)	42:18
1,2,3,4,6,7,8-HpCDD (L)	44:13	1,2,3,4,7,8,9-HpCDF (L)	45:08

(F) = First eluting isomer (DB-5);    (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

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

Analyst: 

Date: 8/24/10

## USEPA - ITD

## FORM 6A

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

Analysis Date: 23-AUG-10 14:25:46

CS3 or VER Data Filename: 23AUG10M

Sam:1

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	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-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002
LABELED COMPOUNDS			
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052
13C-2,3,7,8-TCDD		1.021	0.976-1.043
13C-2,3,7,8-TCDF		0.993	0.923-1.103
13C-1,2,3,7,8-PeCDD		1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF		1.174	0.923-1.203
13C-2,3,4,7,8-PeCDF		1.223	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified  
in Table 2, Method 1613.

Analyst: Date: 

## USEPA - ITD

FORM 6B

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: db5

Analysis Date: 23-AUG-10 14:25:46

CS3 or VER Data Filename: 23AUG10M

Sam:1

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
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-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
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	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	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
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.001	0.999-1.001
OCDD	13C-OCDD	1.001	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.985	0.977-1.000
13C-1,2,3,6,7,8-HxCDD		0.989	0.981-1.003
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF		1.014	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD		1.128	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF		1.079	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF		1.151	1.057-1.154
13C-OCDD		1.270	1.032-1.311
13C-OCDF		1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 8/24/10

FAL ID: ST082310M3      Filename: 23AUG10M      Sam:1      Acquired: 23-AUG-10 14:25:46      ICal: PCDDFAL3-8-23-10  
 Client ID: 1613 CS3 100511J      ConCal: ST082310M3      EndCal: ST082310M6  
 Results:      GC Column: db5      Amount: 1.000      NATO 1989 Tox: 100

Name	Resp	RA	RT	RRF	WHO 1998 Tox:		WHO 2005 Tox:		DL	114	
					Conc	Qual	Fac Noise-1	Noise-2			
2,3,7,8-TCDD	5.04e+06	0.73 y	27:24	1.11	10.4		2.50	-	-	*	
1,2,3,7,8-PeCDD	1.95e+07	1.64 y	33:14	1.10	50.6		2.50	-	-	*	
1,2,3,4,7,8-HxCDD	1.81e+07	1.41 y	38:36	1.37	49.6		2.50	-	-	*	
1,2,3,6,7,8-HxCDD	1.75e+07	1.39 y	38:46	1.37	48.0		2.50	-	-	*	
1,2,3,7,8,9-HxCDD	1.74e+07	1.41 y	39:13	1.36	47.9		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	1.56e+07	1.04 y	44:13	1.45	49.5		2.50	-	-	*	
OCDD	1.96e+07	0.95 y	49:47	1.43	100		2.50	-	-	*	
2,3,7,8-TCDF	9.40e+06	0.67 y	26:39	1.50	9.30		2.50	-	-	*	
1,2,3,7,8-PeCDF	2.67e+07	1.53 y	31:30	0.94	50.9		2.50	-	-	*	
2,3,4,7,8-PeCDF	2.56e+07	1.52 y	32:49	0.94	49.8		2.50	-	-	*	
1,2,3,4,7,8-HxCDF	2.15e+07	1.29 y	37:12	0.93	48.8		2.50	-	-	*	
1,2,3,6,7,8-HxCDF	2.72e+07	1.26 y	37:24	0.82	50.3		2.50	-	-	*	
2,3,4,6,7,8-HxCDF	2.34e+07	1.24 y	38:21	0.92	48.5		2.50	-	-	*	
1,2,3,7,8,9-HxCDF	2.60e+07	1.28 y	39:47	1.00	50.3		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDF	1.95e+07	1.04 y	42:18	1.39	49.9		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	1.37e+07	1.04 y	45:08	1.36	49.8		2.50	-	-	*	
OCDF	2.16e+07	0.93 y	50:09	0.79	99.9		2.50	-	-	*	
										Rec	
13C-2,3,7,8-TCDD	4.35e+07	0.86 y	27:23	1.02	95.9					95.9	
13C-1,2,3,7,8-PeCDD	3.51e+07	1.77 y	33:13	0.84	94.2					94.2	
13C-1,2,3,4,7,8-HxCDD	2.66e+07	1.26 y	38:35	1.07	94.5					94.5	
13C-1,2,3,6,7,8-HxCDD	2.66e+07	1.27 y	38:45	1.01	100					100	
13C-1,2,3,4,6,7,8-HpCDD	2.18e+07	1.04 y	44:11	0.86	97.0					97.0	
13C-OCDD	2.73e+07	0.93 y	49:45	0.55	191					95.3	
13C-2,3,7,8-TCDF	6.73e+07	0.86 y	26:38	0.99	96.5					96.5	
13C-1,2,3,7,8-PeCDF	5.57e+07	1.78 y	31:28	0.84	94.8					94.8	
13C-2,3,4,7,8-PeCDF	5.49e+07	1.74 y	32:48	0.81	96.5					96.5	
13C-1,2,3,4,7,8-HxCDF	4.74e+07	0.56 y	37:11	1.85	97.7					97.7	
13C-1,2,3,6,7,8-HxCDF	6.58e+07	0.55 y	37:23	2.54	99.0					99.0	
13C-2,3,4,6,7,8-HxCDF	5.25e+07	0.54 y	38:19	2.01	99.4					99.4	
13C-1,2,3,7,8,9-HxCDF	5.18e+07	0.55 y	39:45	2.03	97.2					97.2	
13C-1,2,3,4,6,7,8-HpCDF	2.80e+07	0.42 y	42:17	1.11	96.4					96.4	
13C-1,2,3,4,7,8,9-HpCDF	2.02e+07	0.42 y	45:06	0.80	96.0					96.0	
13C-OCDF	5.49e+07	0.98 y	50:08	1.08	194					96.8	
37Cl-2,3,7,8-TCDD	2.77e+06		27:24	0.69	9.14					91.4	
13C-1,2,3,4-TCDD	4.42e+07	0.84 y	26:49	-	98.4						
13C-1,2,3,4-TCDF	7.01e+07	0.87 y	25:33	-	97.0						
13C-1,2,3,7,8,9-HxCDD	2.62e+07	1.28 y	39:11	-	95.1						
Total Tetra-Dioxins	2.58e+07		24:24	1.11	53.5		2.50	-	-	*	19
Total Penta-Dioxins	4.23e+07		30:15	1.10	109		2.50	-	-	*	7
Total Hexa-Dioxins	6.03e+07		36:08	1.37	165		2.50	-	-	*	11
Total Hepta-Dioxins	3.51e+07		42:49	1.45	111		2.50	-	-	*	20
Total Tetra-Furans	4.14e+07		23:04	1.50	41.0		2.50	-	-	*	9
1st Fn. Tot Penta-Furans	3.21e+07		28:25	0.94	61.7		2.50	-	-	*	PeCDF 1
Total Penta-Furans	7.50e+07		30:12	0.94	144		2.50	-	-	*	206 15
Total Hexa-Furans	1.14e+08		35:15	0.91	230		2.50	-	-	*	8
Total Hepta-Furans	3.43e+07		42:18	1.38	103		2.50	-	-	*	14

Analyst: 

Date: 8/24/10



Frontier Analytical Laboratory - Acquisition Log


Run Name:23AUG10M

Instrument: FAL3

GC: DB5

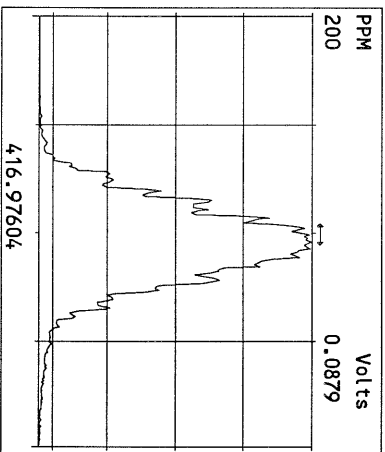
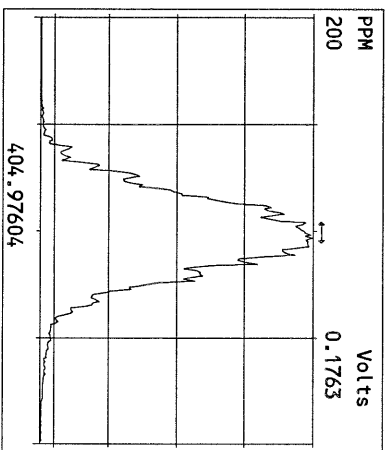
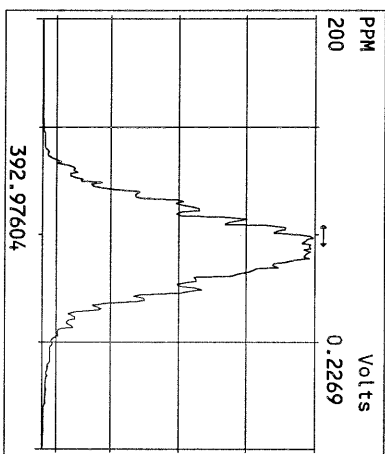
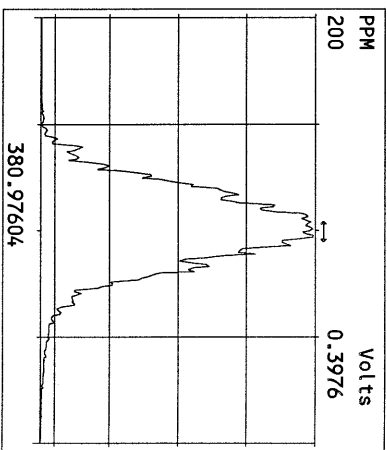
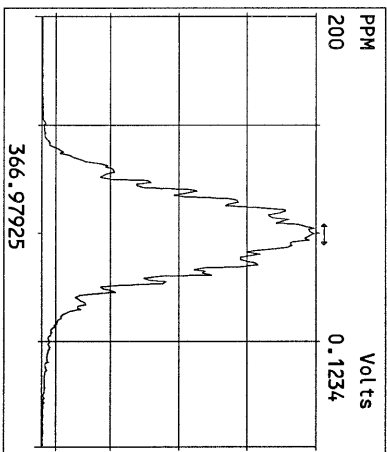
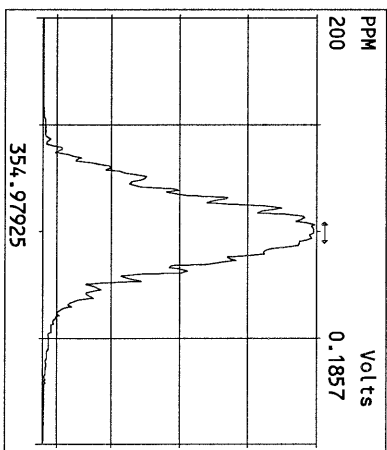
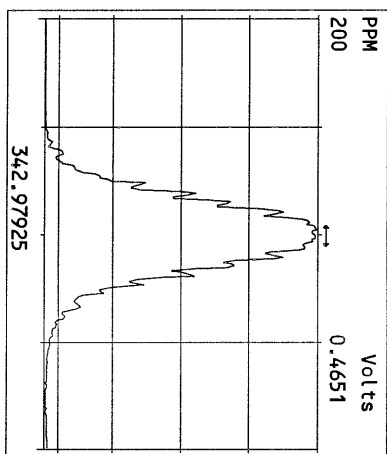
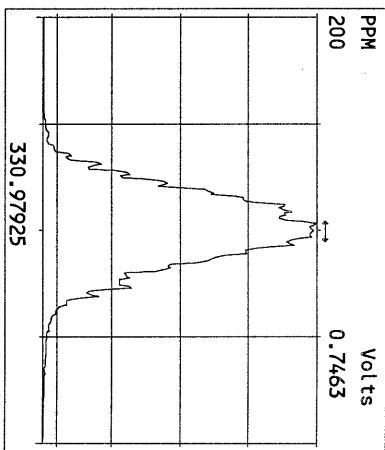
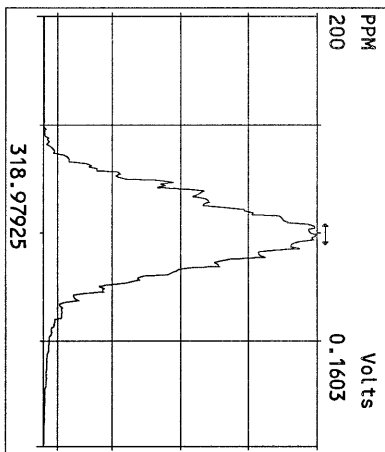
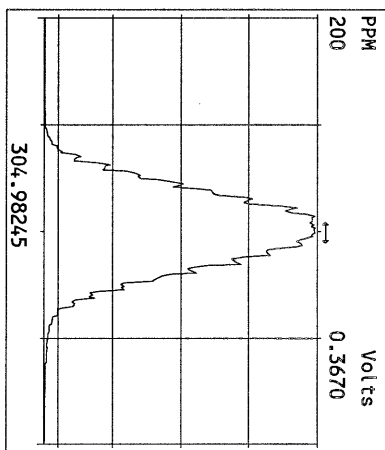
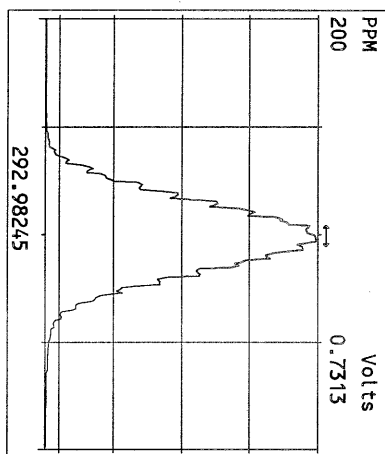
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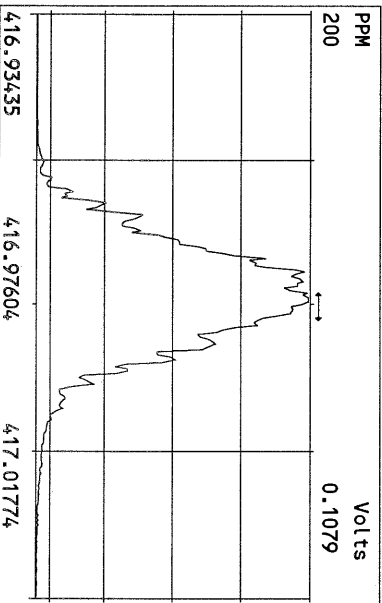
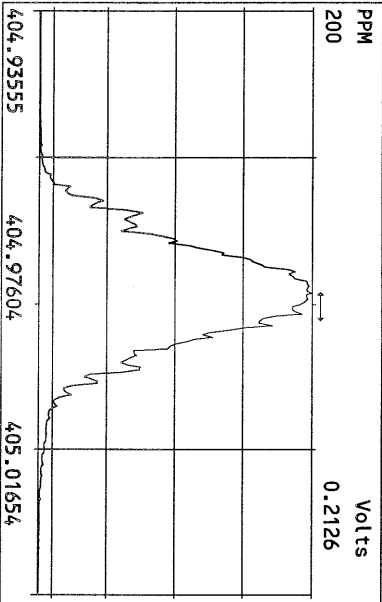
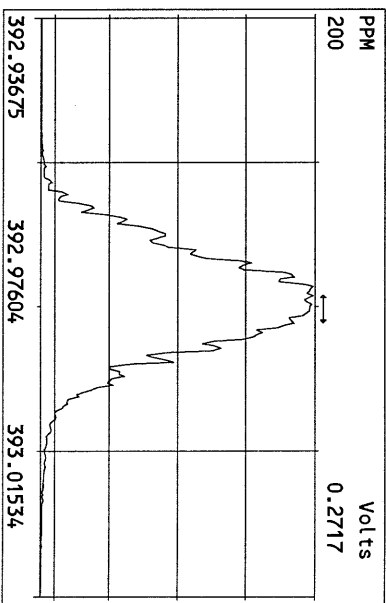
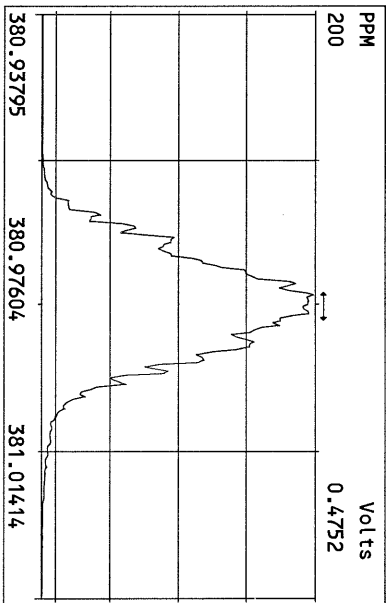
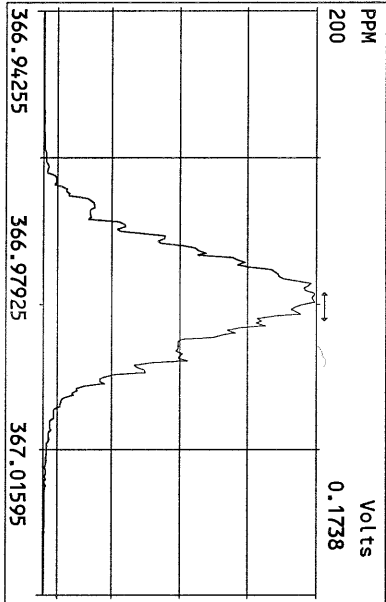
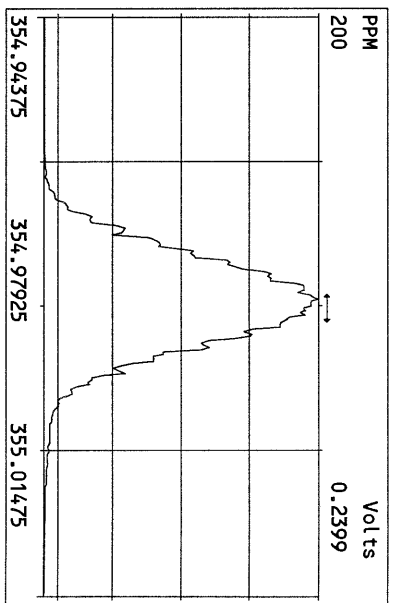
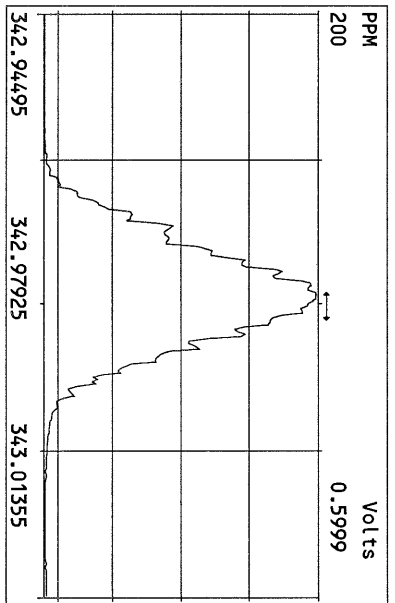
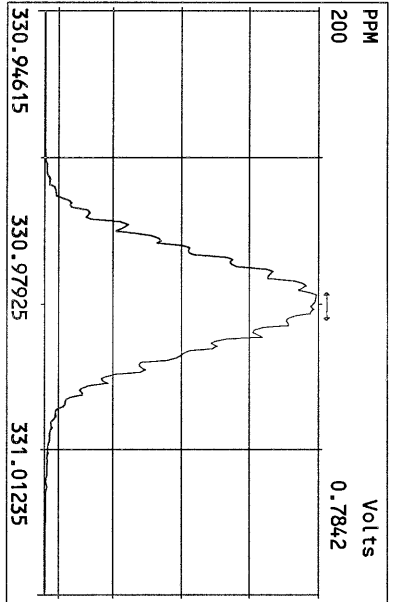
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23AUG10M 4	ST082310M1	1613 CS1 100511H	23-AUG-10 17:12:02	NA	NA	BS
23AUG10M 5	ST082310M2	1613 CS2 100511I	23-AUG-10 18:07:23	NA	NA	BS
23AUG10M 6	ST082310M4	1613 CS4 100511K	23-AUG-10 19:02:46	NA	NA	BS
23AUG10M 7	ST082310M5	1613 CS5 100511L	23-AUG-10 19:58:08	NA	NA	BS
23AUG10M 8	SB082310M1	Solvent Blank	23-AUG-10 20:53:27	NA	NA	BS
23AUG10M 9	6114-001-0001-SA	LPTP10-S2	23-AUG-10 21:48:46	ST082310M3	ST082310M6	BS
23AUG10M 10	ST082310M6	1613 CS3 100511J	23-AUG-10 22:44:05	ST082310M3	ST082310M6	BS
23AUG10M 11	ST082310M7	8280 CS3 071227J	23-AUG-10 23:39:28	ST082310M7	ST082310M8	BS
23AUG10M 12	SB082310M2	Solvent Blank	24-AUG-10 00:34:46	ST082310M7	ST082310M8	BS
23AUG10M 13	2088-001-0001-MB	Method Blank	24-AUG-10 01:30:01	ST082310M7	ST082310M8	BS
23AUG10M 14	6263-001-0001-SA	MDL 1	24-AUG-10 02:25:23	ST082310M7	ST082310M8	BS
23AUG10M 15	6263-002-0001-SA	MDL 2	24-AUG-10 03:20:43	ST082310M7	ST082310M8	BS
23AUG10M 16	6263-003-0001-SA	MDL 3	24-AUG-10 04:16:04	ST082310M7	ST082310M8	BS
23AUG10M 17	6263-004-0001-SA	MDL 4	24-AUG-10 05:11:22	ST082310M7	ST082310M8	BS
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23AUG10M 19	6263-006-0001-SA	MDL 6	24-AUG-10 07:02:01	ST082310M7	ST082310M8	BS
23AUG10M 20	6263-007-0001-SA	MDL 7	24-AUG-10 07:57:23	ST082310M7	ST082310M8	BS
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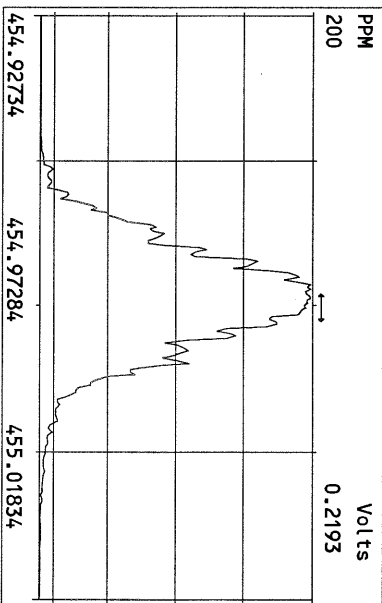
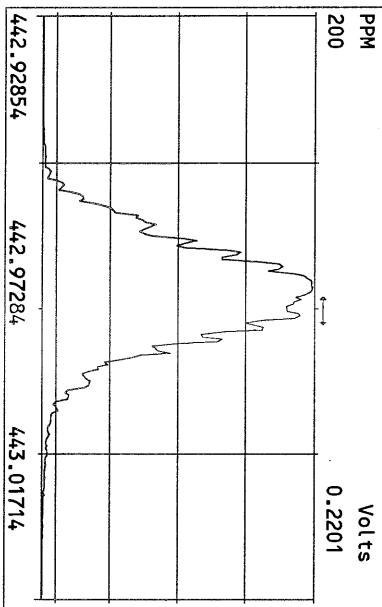
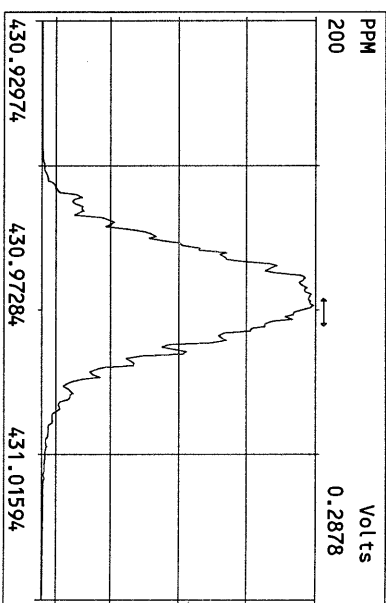
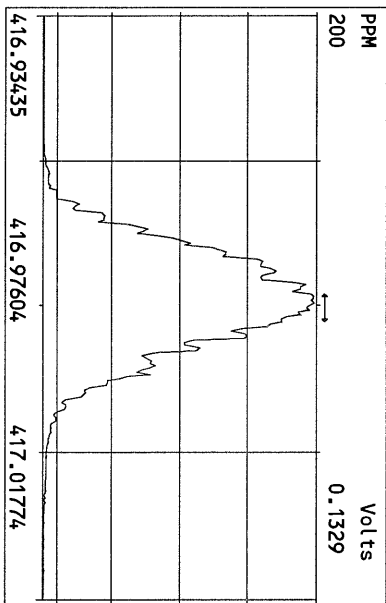
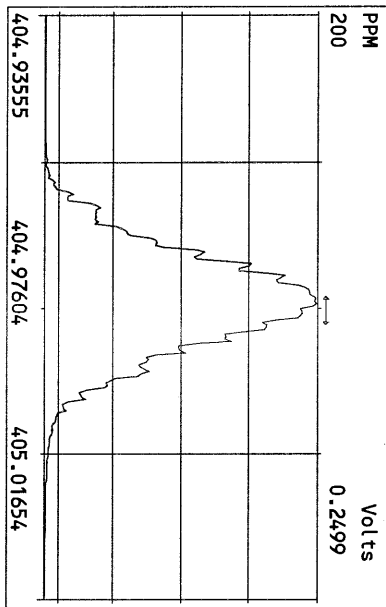
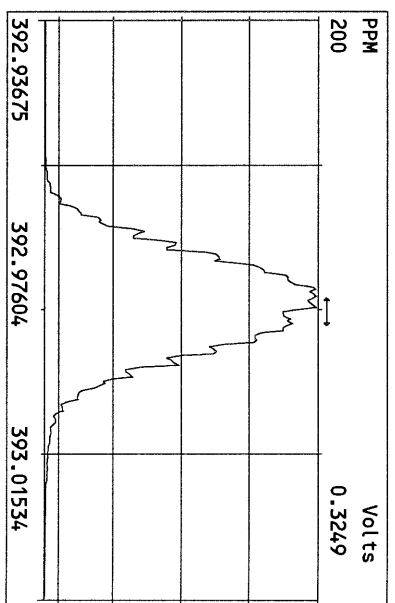
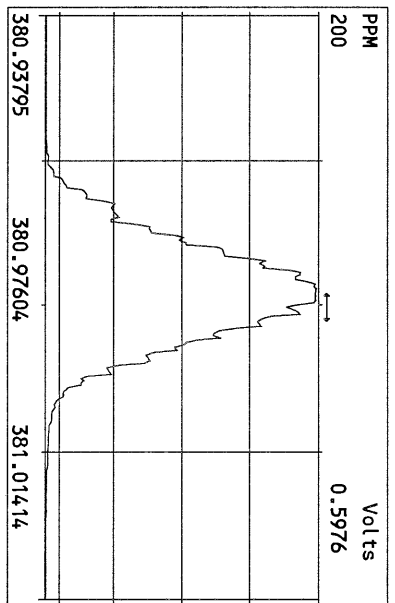
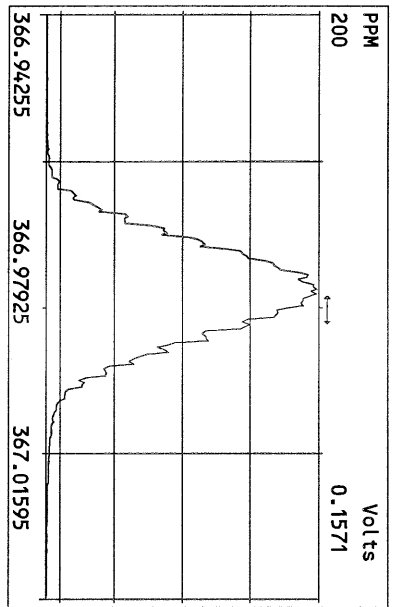
 8/24/10

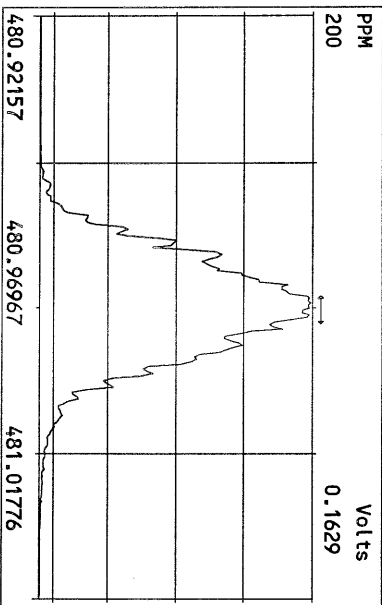
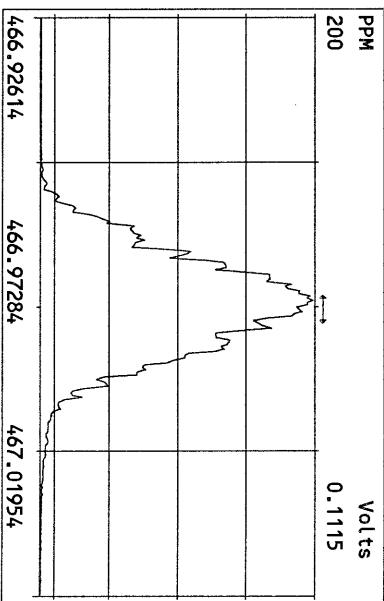
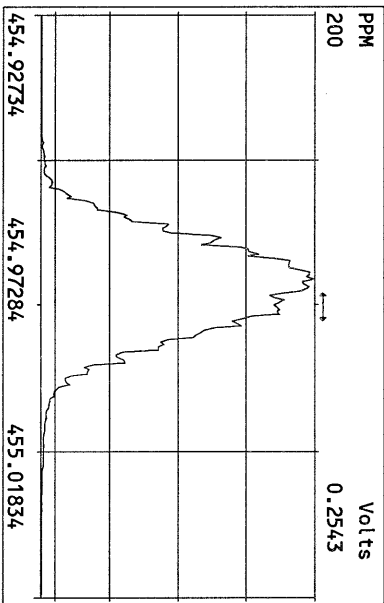
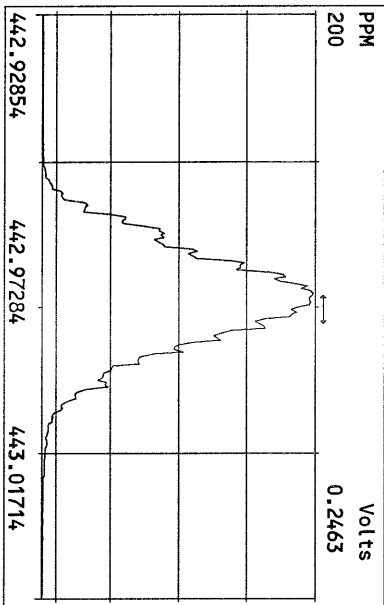
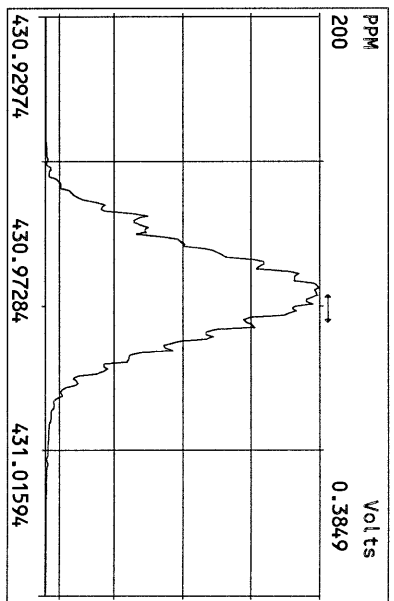
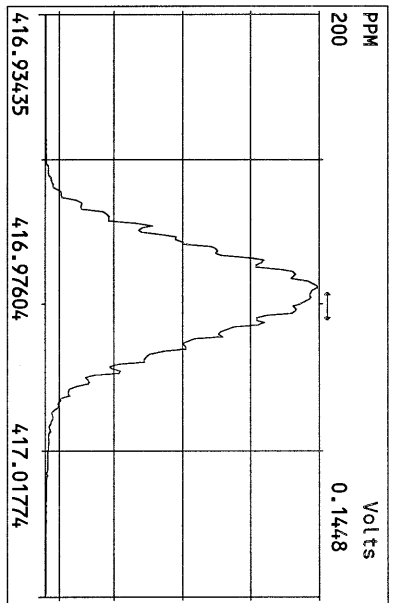
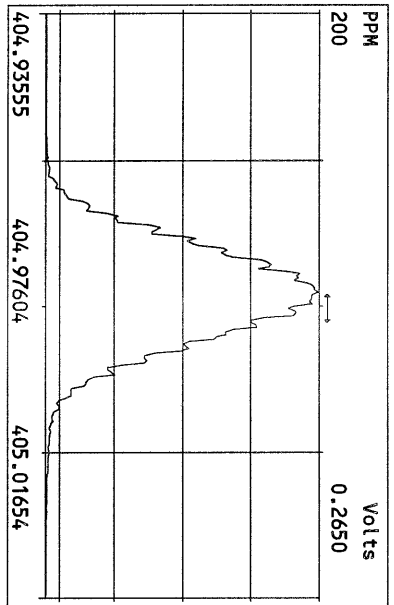
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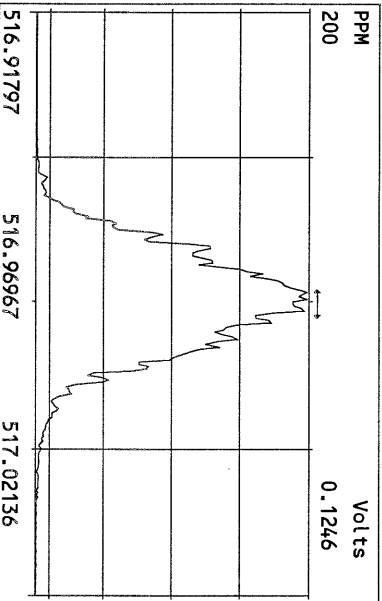
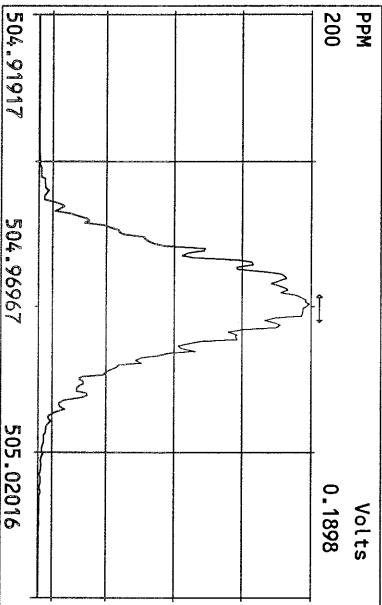
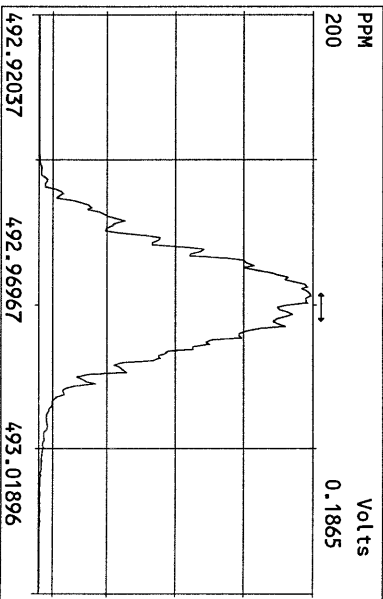
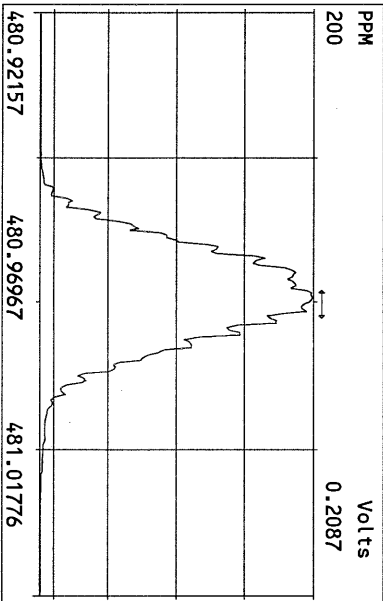
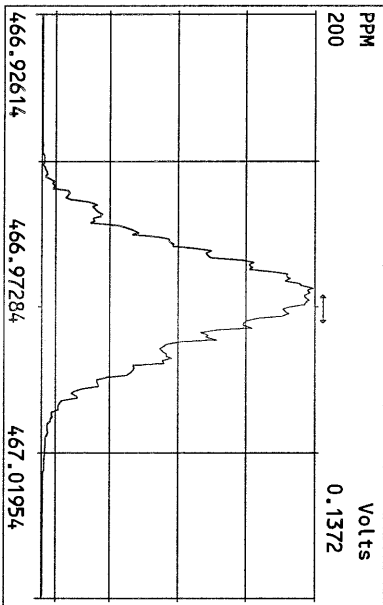
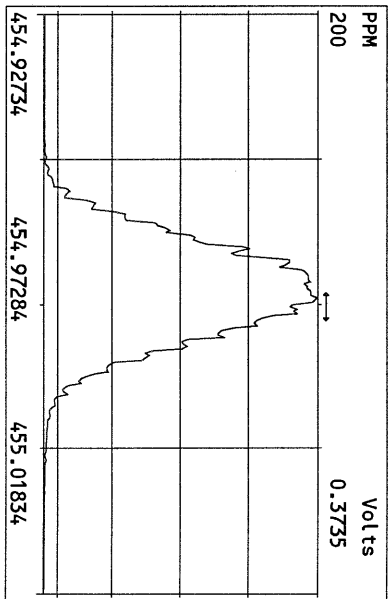
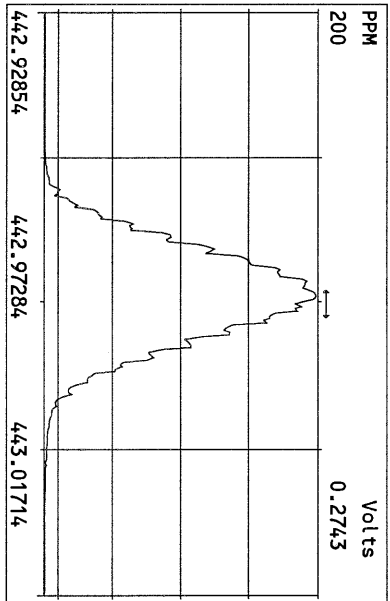
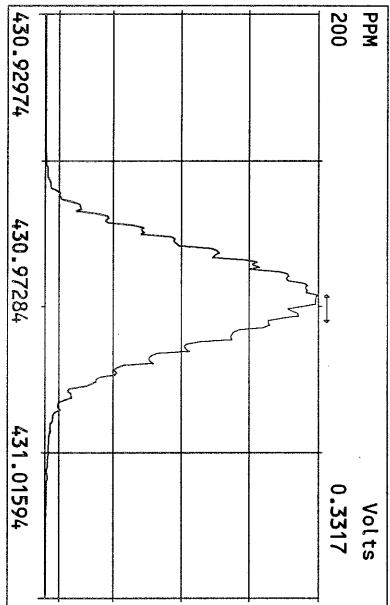
Date: \_\_\_\_\_



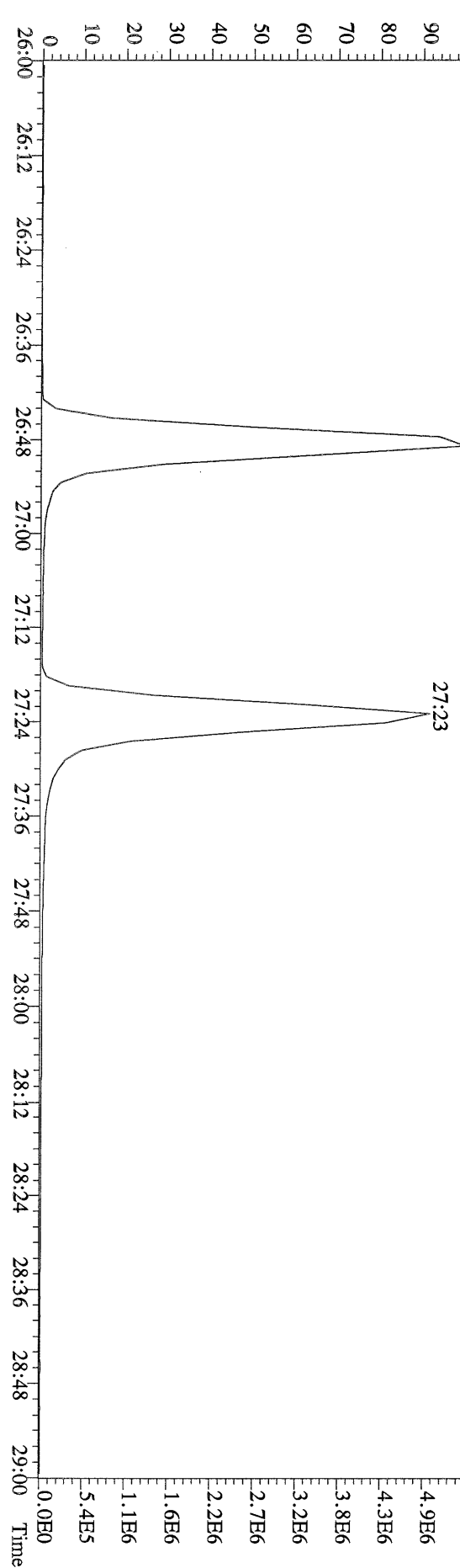
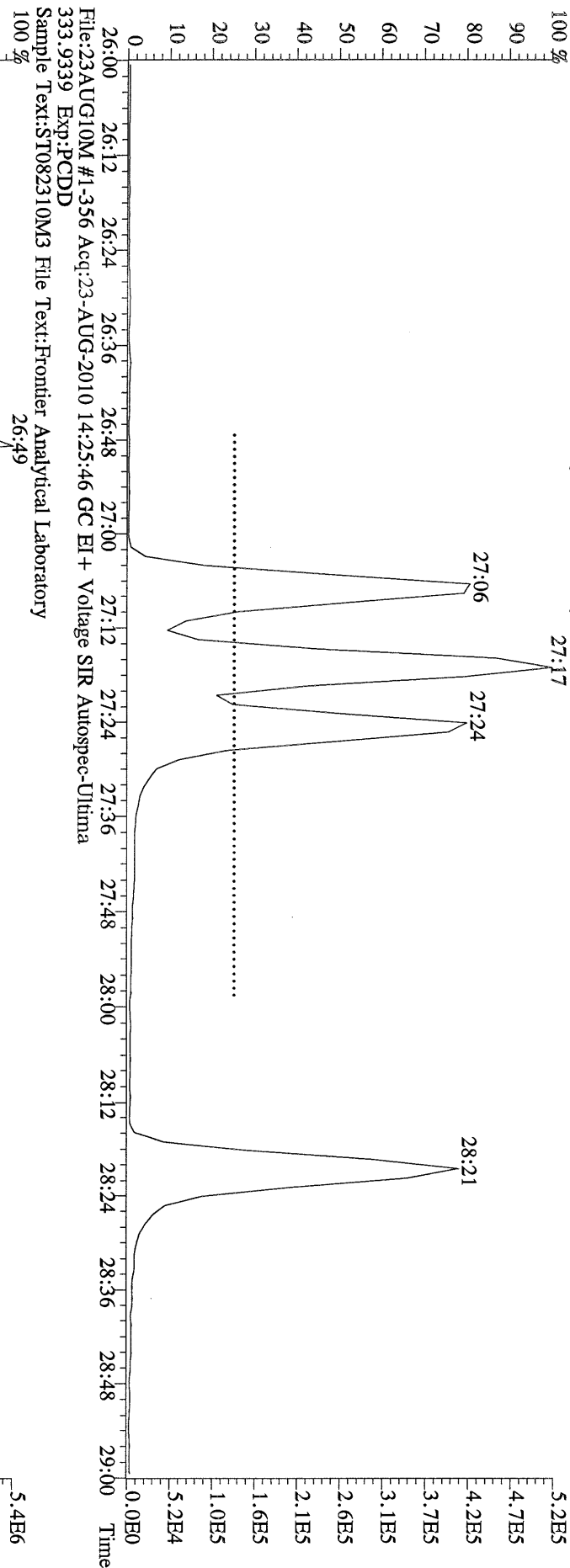




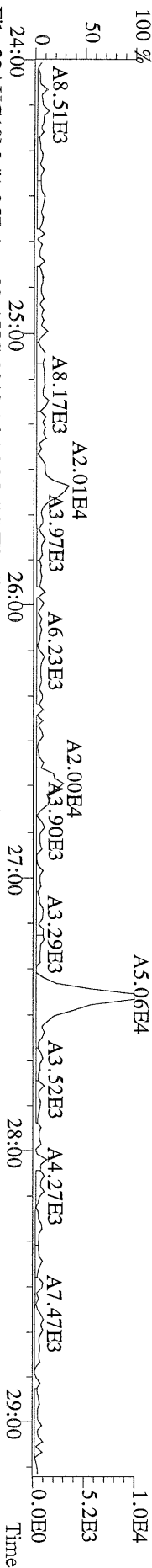




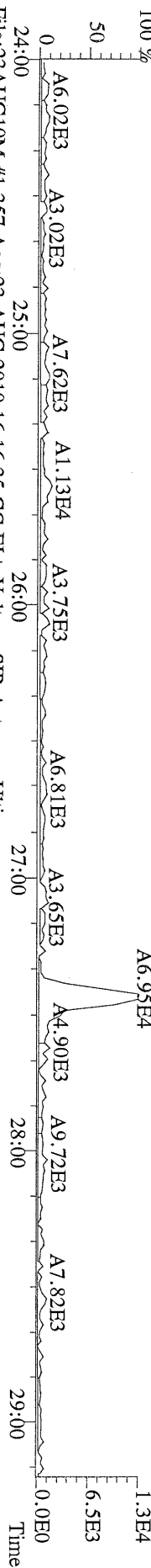
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
319,8965 Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



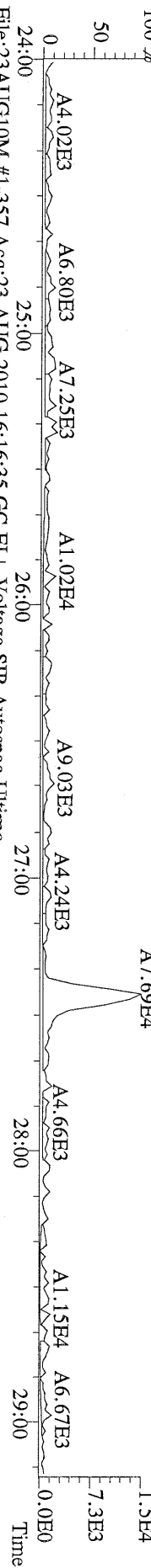
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



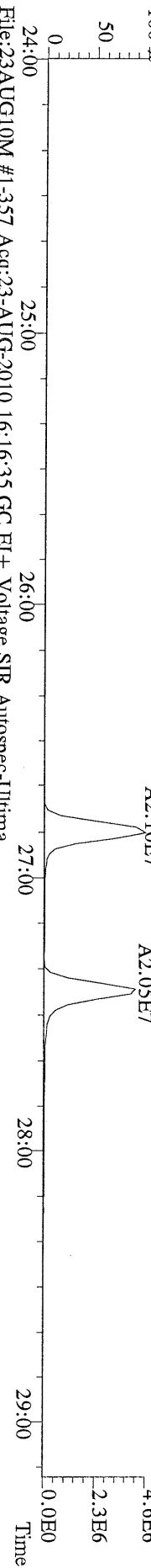
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321.8936 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



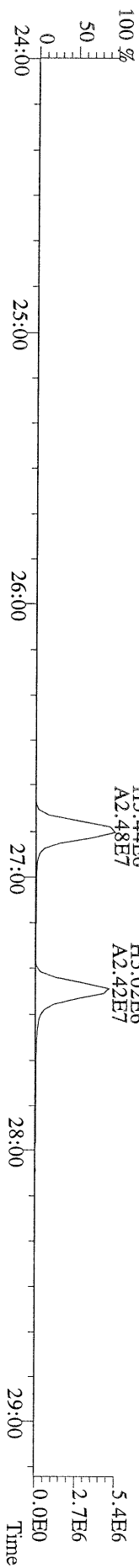
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
327.8847 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory

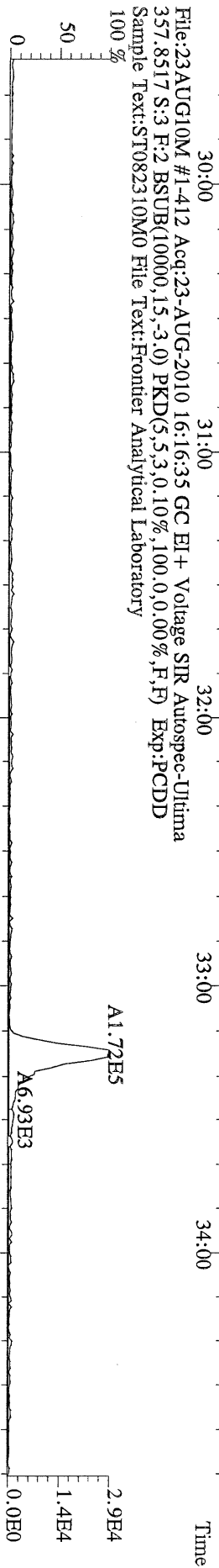




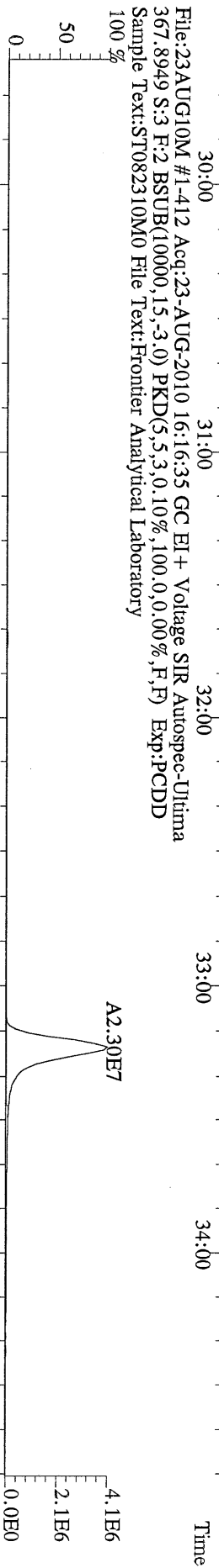
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
355,8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
357,8517 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %



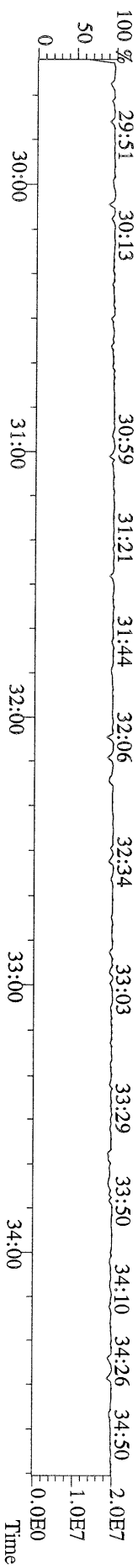
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
367,8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 %



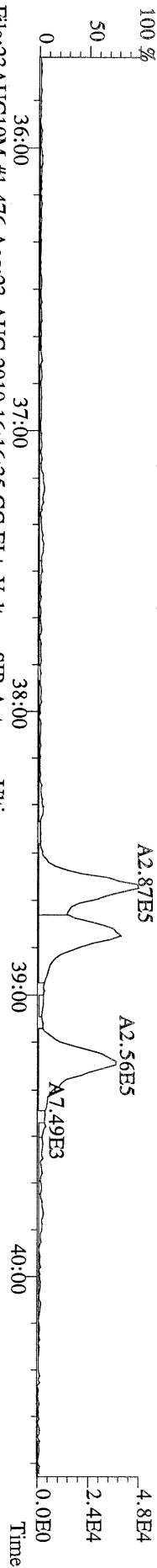
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369,8919 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



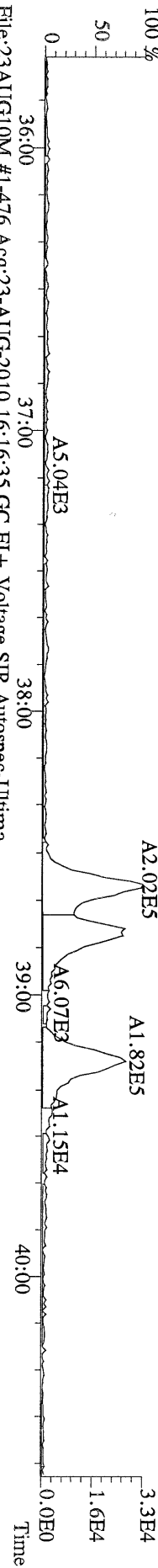
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Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



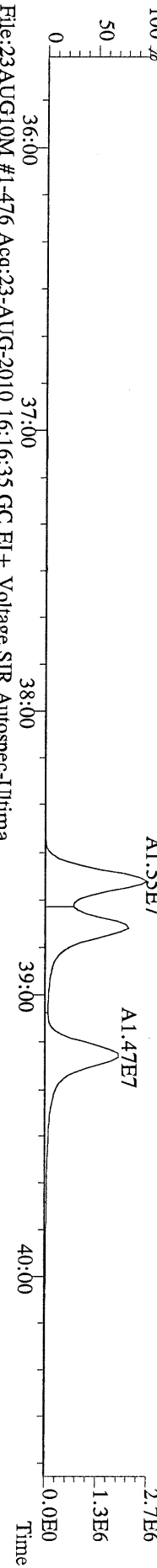
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



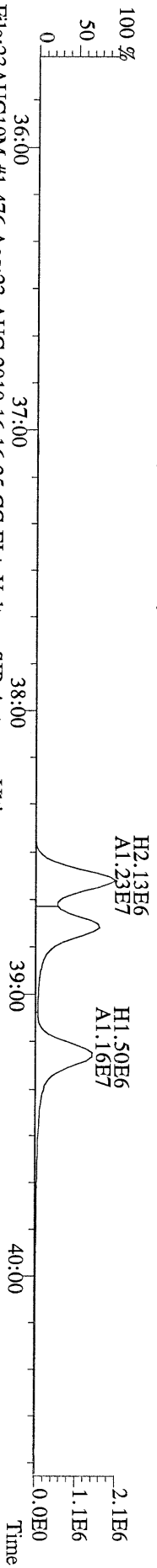
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



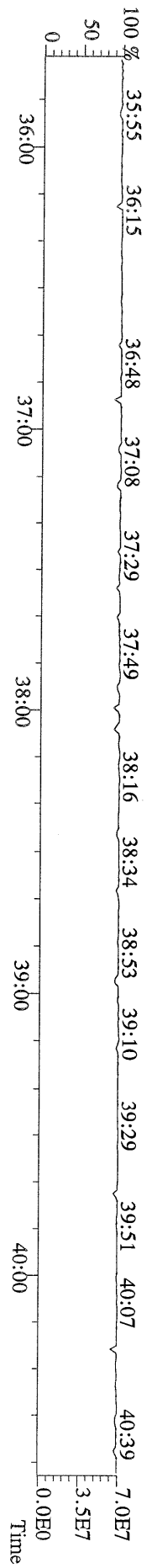
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401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



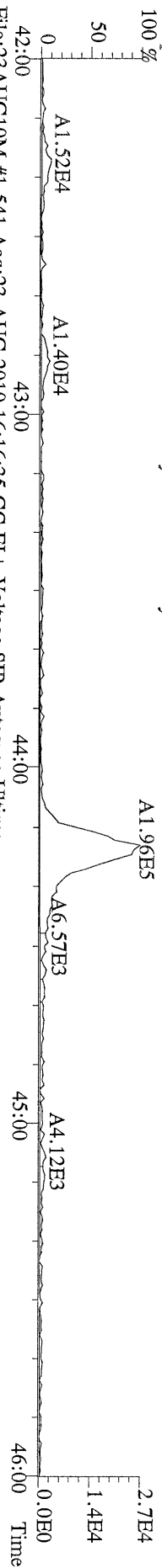
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403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



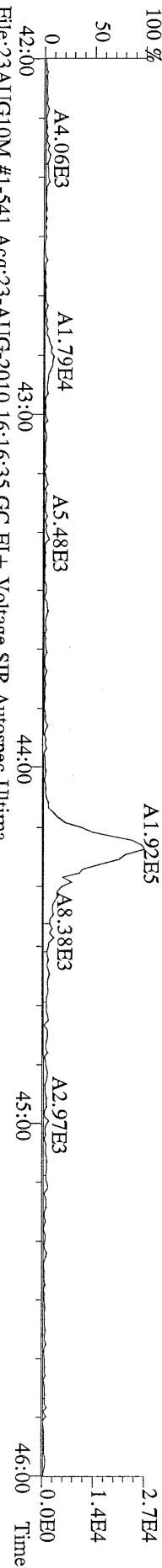
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380.9760 S:3 F:3 Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



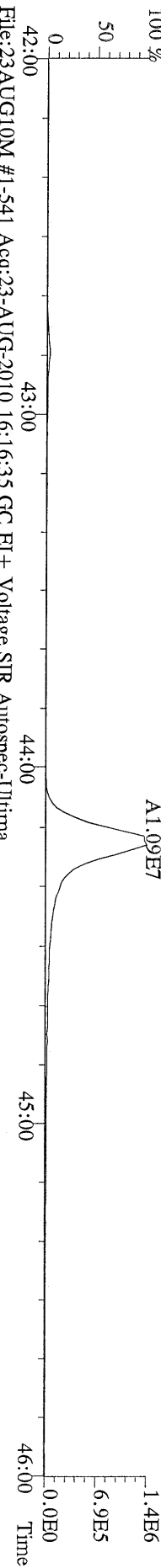
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



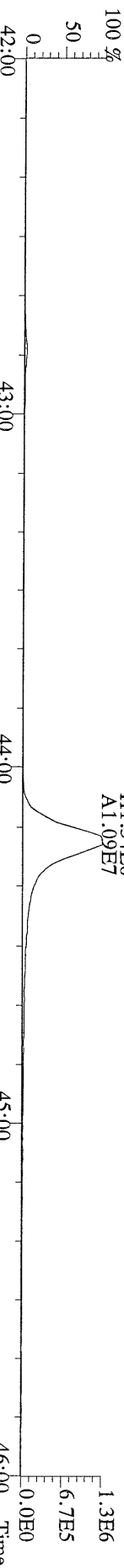
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



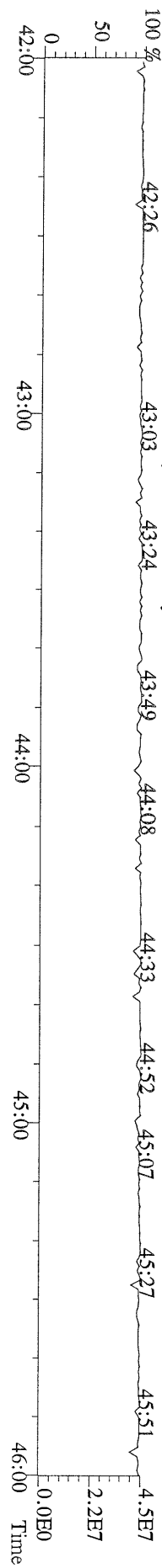
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



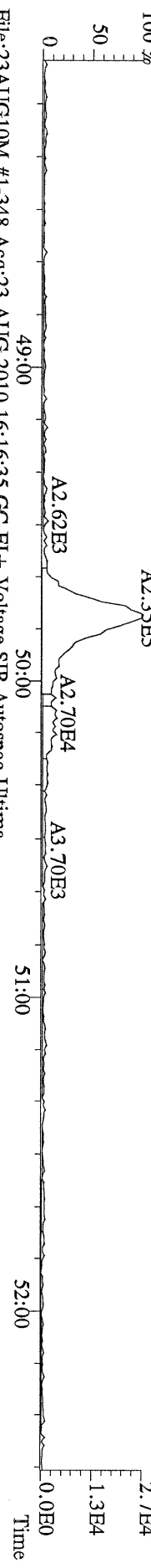
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437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



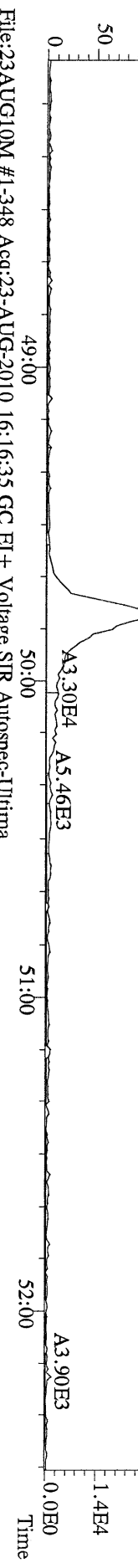
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 S:3 F:4 Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



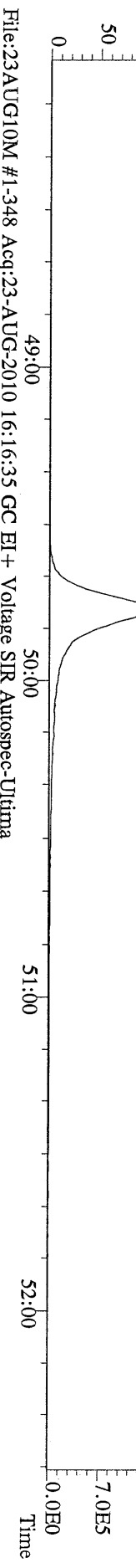
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



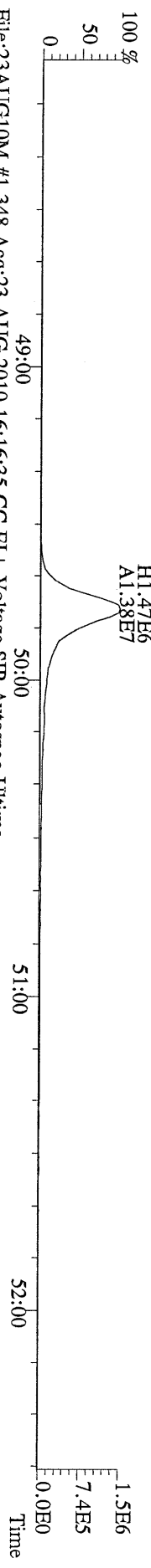
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459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



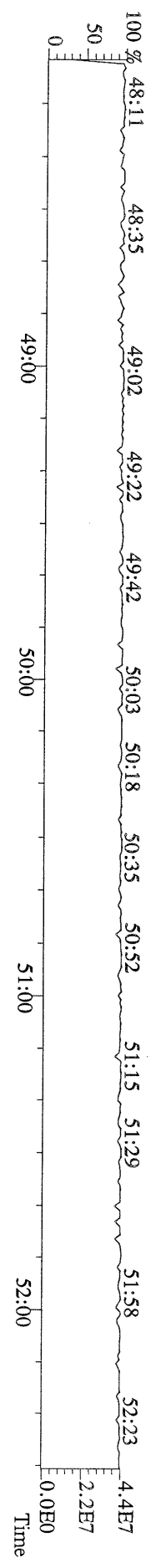
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469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



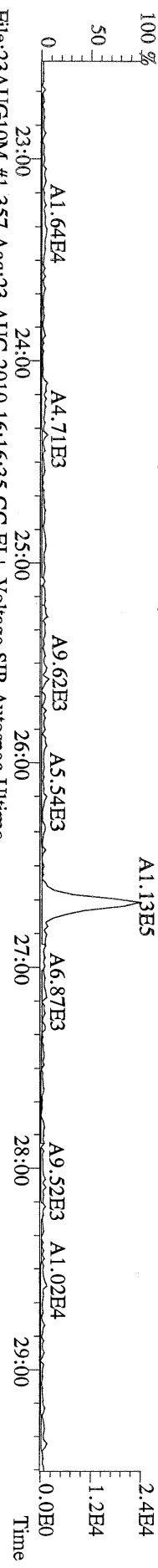
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471.7750 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



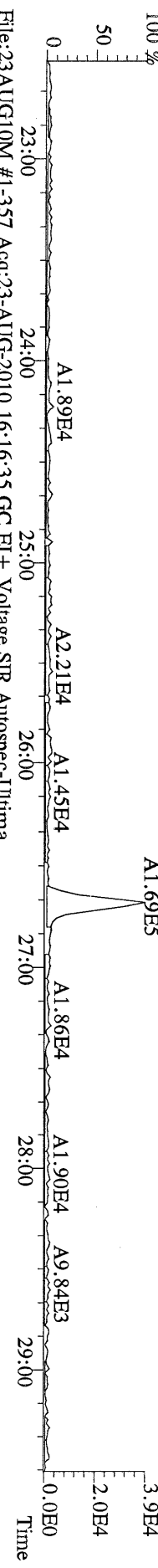
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454.9728 S:3 F:5 Exp:PCDD  
Sample Text:ST082310M0 File Text:Fronier Analytical Laboratory



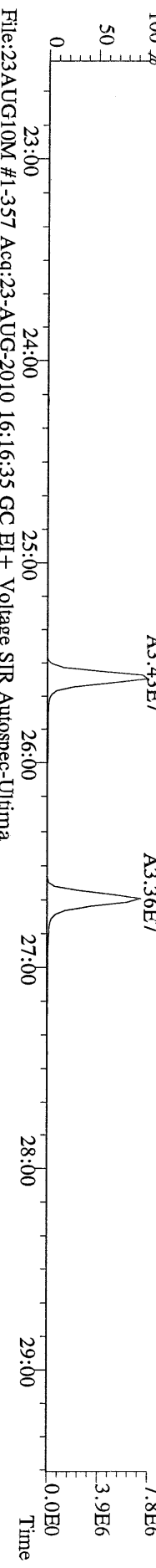
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



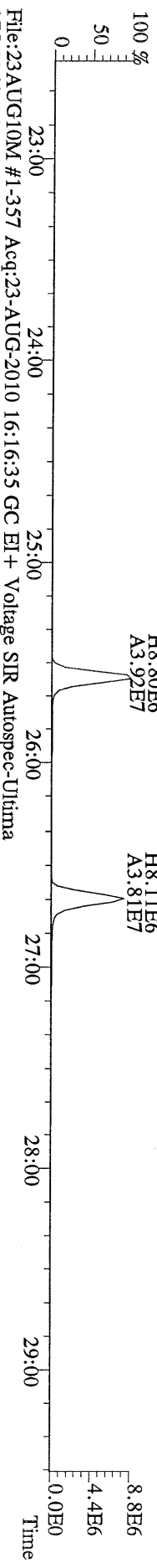
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 305.8987 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



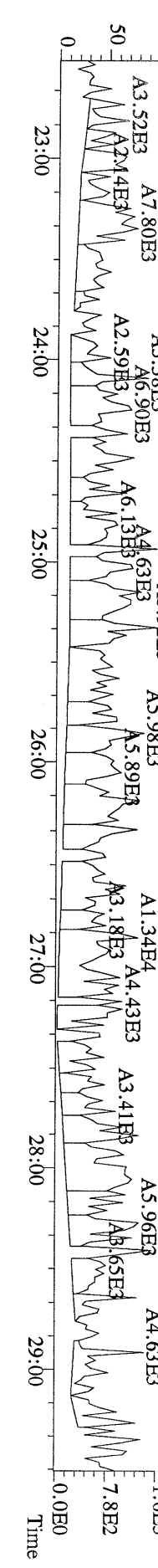
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 315.9419 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



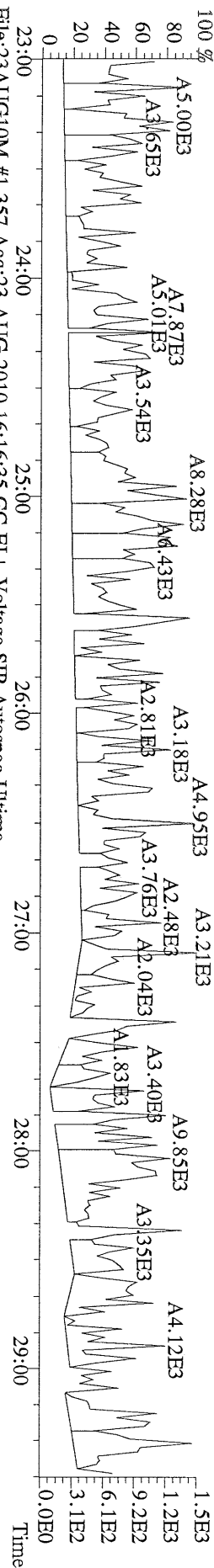
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 317.9389 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



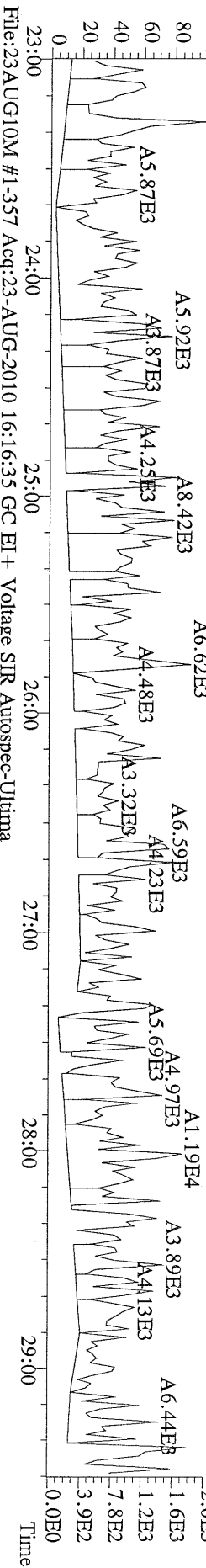
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 375.8364 S:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



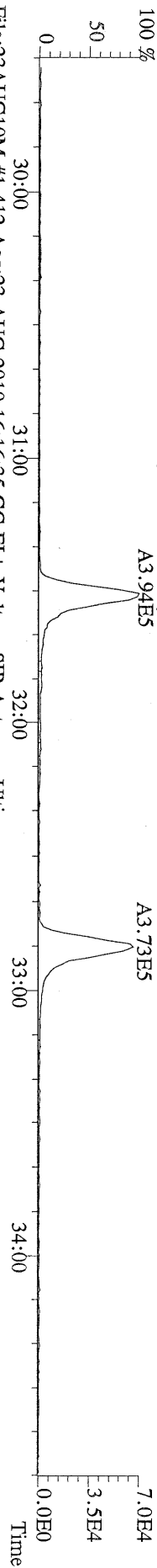
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 S:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



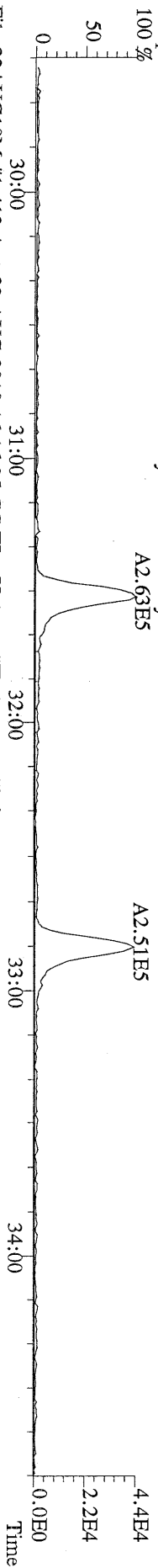
File:23AUG10M #1-357 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
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 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



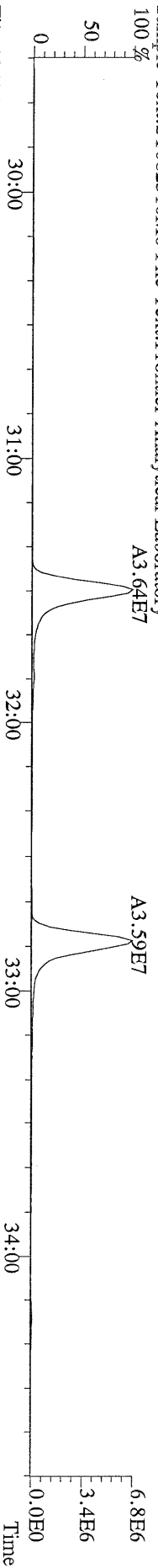
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
339,8597 S:3 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



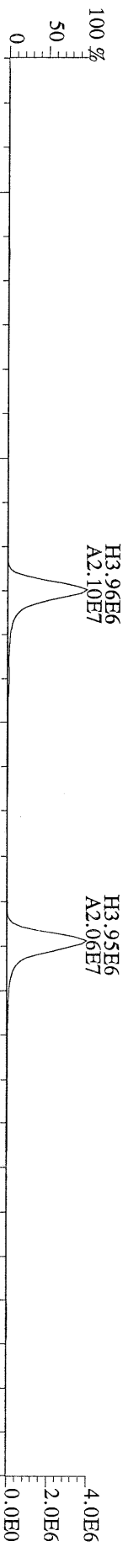
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341,8568 S:3 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



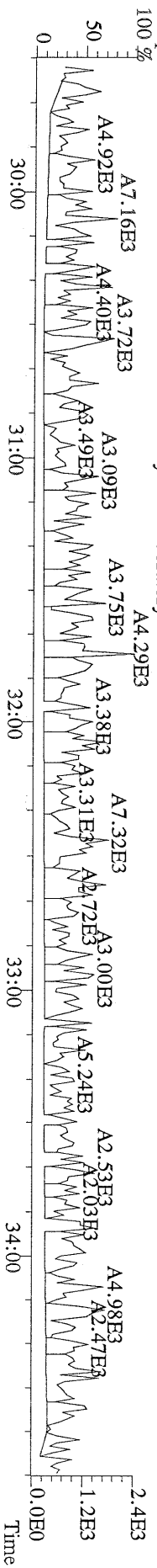
File:23AUG10M #1-412 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
351,9000 S:3 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



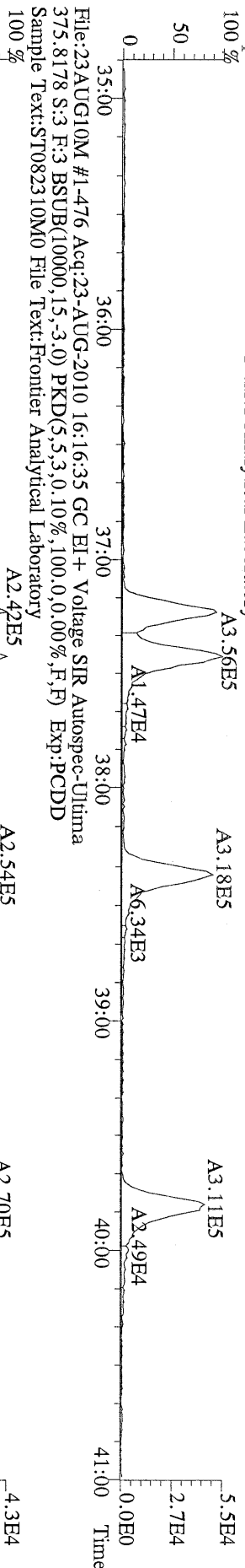
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353,8970 S:3 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



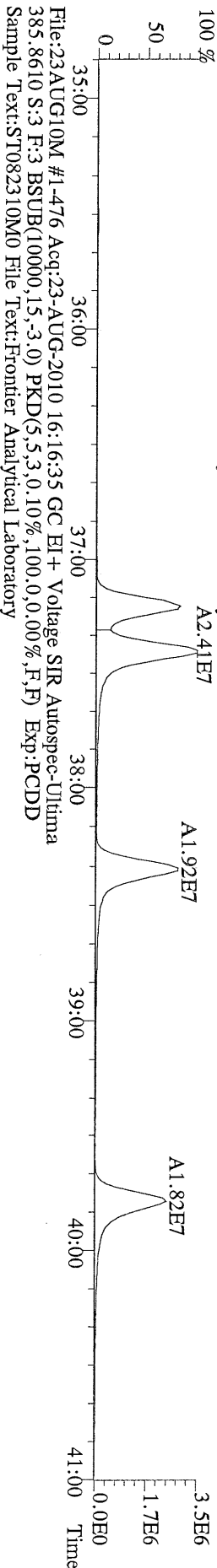
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409,7974 S:3 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



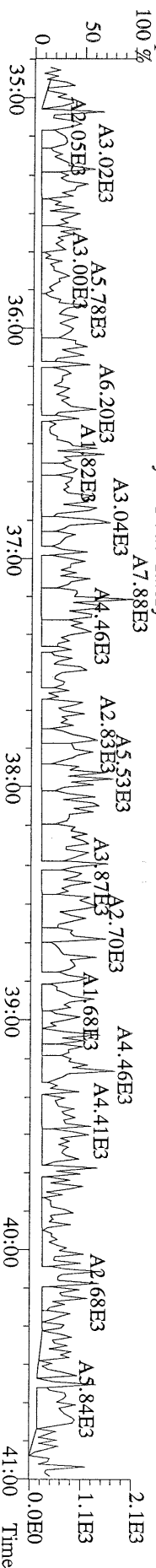
File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory

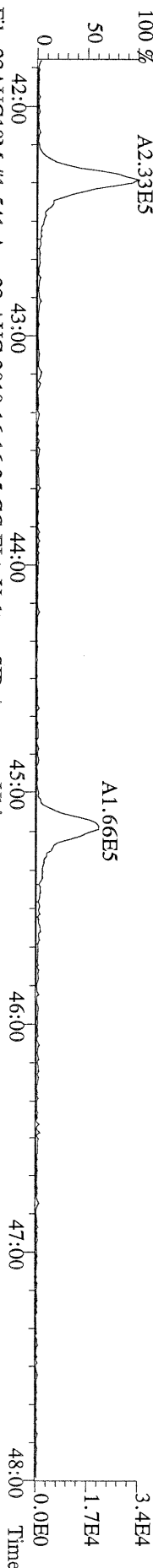


File:23AUG10M #1-476 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
 445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%) Exp:PCDD  
 Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory

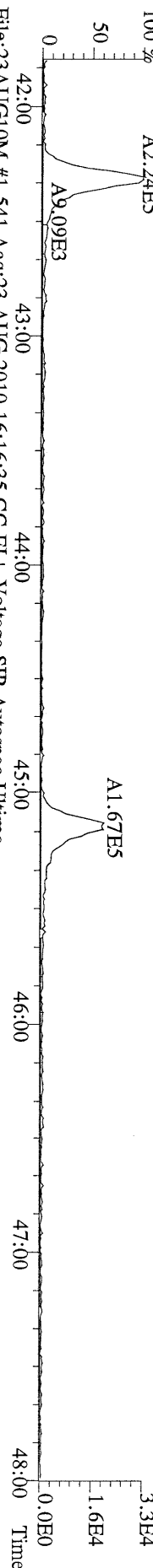




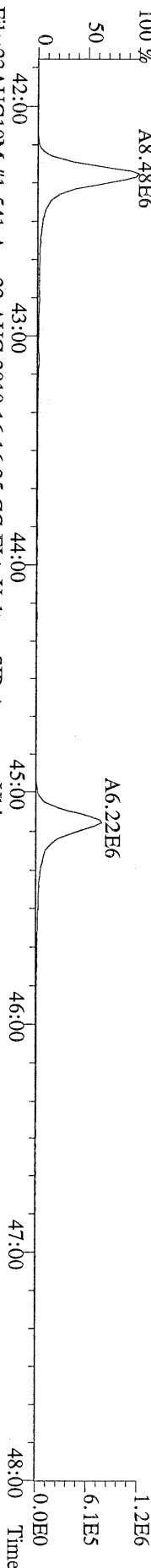
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
407.7818 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 % A2.33E5



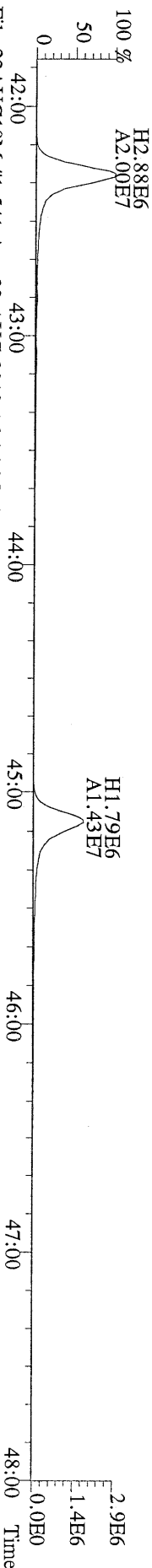
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
409.7788 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 % A2.24E5



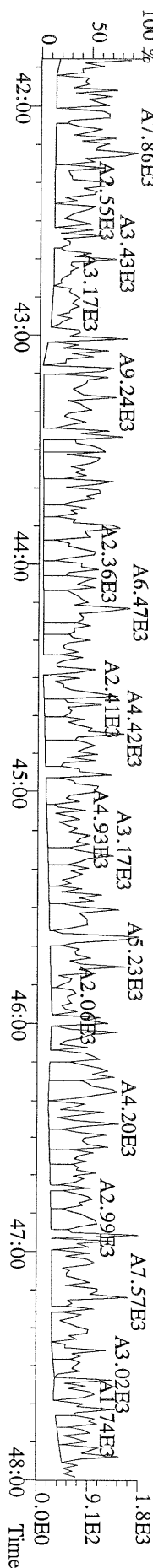
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
417.8253 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory  
100 % A8.48E6



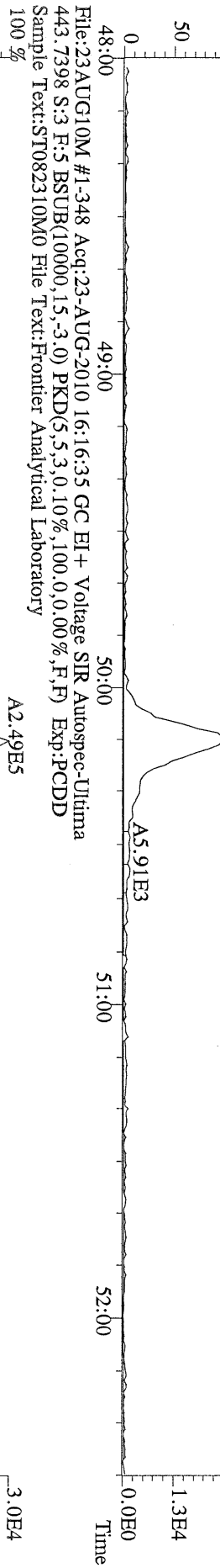
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
419.8220 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



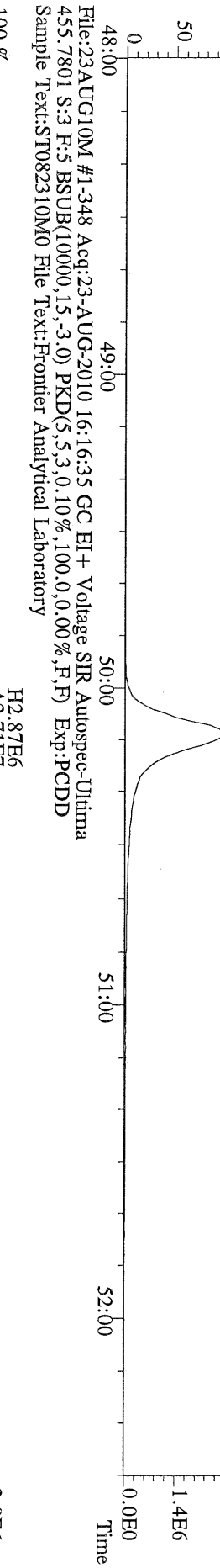
File:23AUG10M #1-541 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Utima  
479.7165 S:3 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



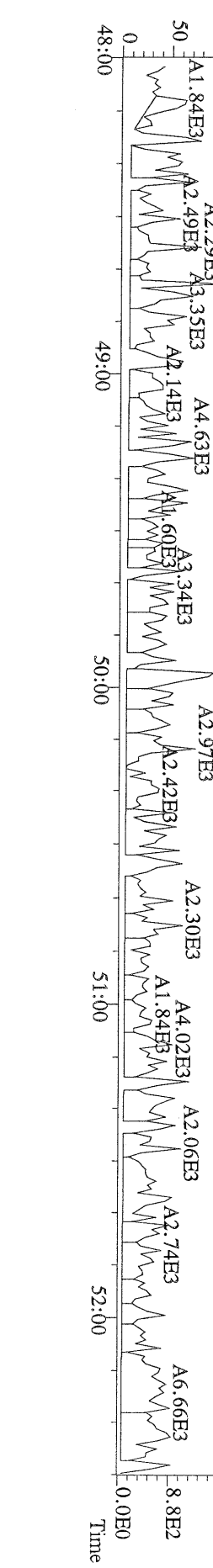
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
441.7428 S:3 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



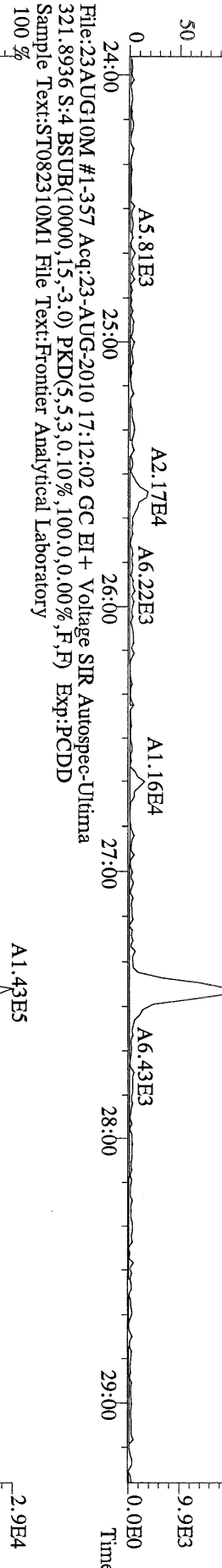
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
443.7398 S:3 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



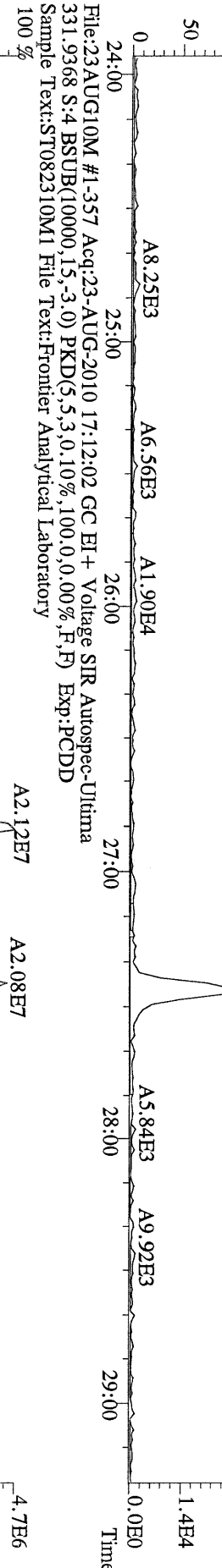
File:23AUG10M #1-348 Acq:23-AUG-2010 16:16:35 GC EI+ Voltage SIR Autospec-Ultima  
445.7801 S:3 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M0 File Text:Frontier Analytical Laboratory



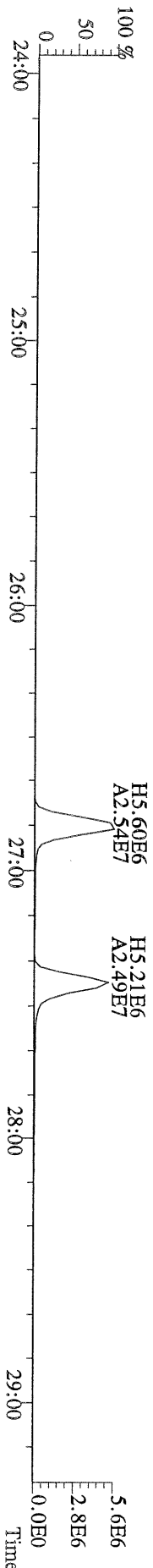
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC BI + Voltage SIR Autospec-Utlima  
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



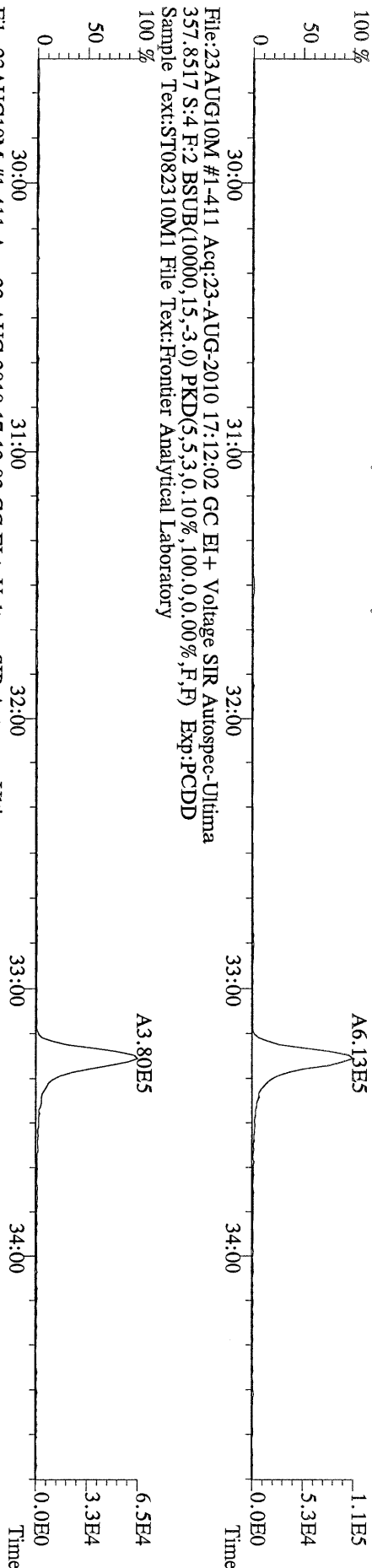
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC BI + Voltage SIR Autospec-Utlima  
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



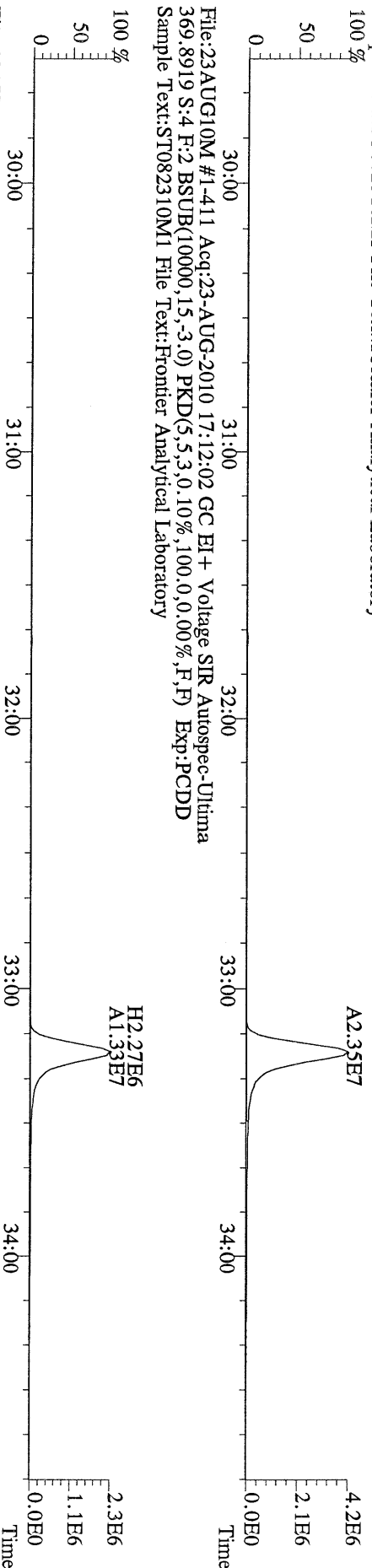
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC BI + Voltage SIR Autospec-Utlima  
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



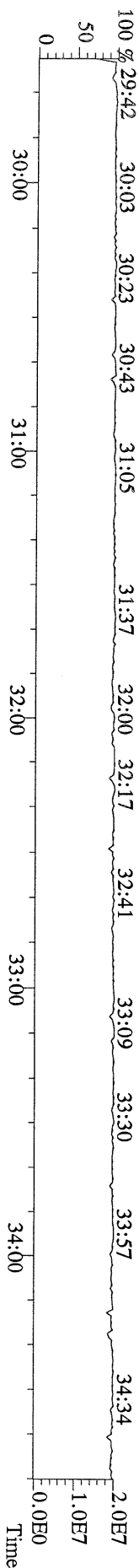
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory  
100 %



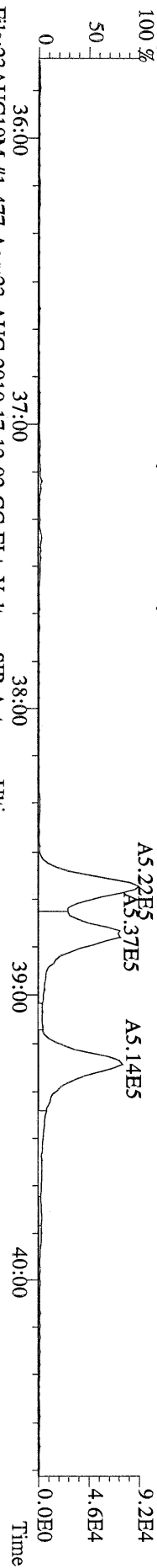
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367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory  
100 %



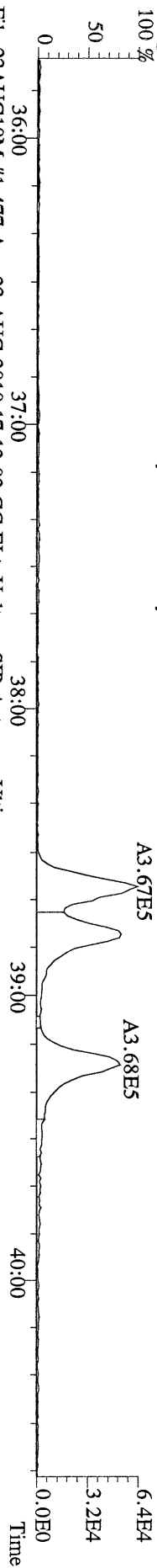
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Utima  
366.9792 S:4 F:2 Exp:PCDD  
Sample Text:ST082310M1 File Text:Fronier Analytical Laboratory



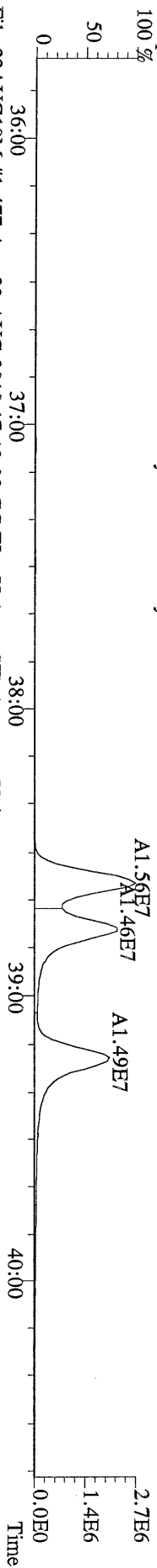
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



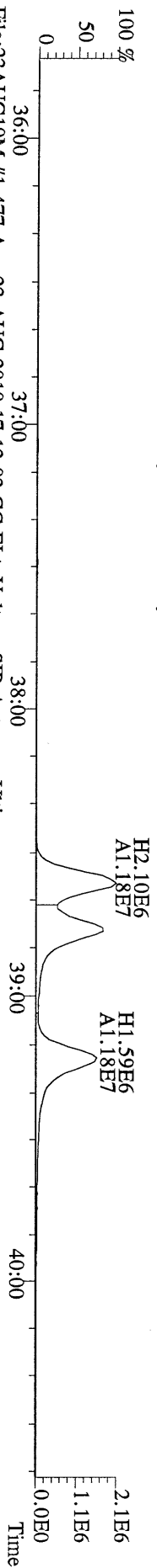
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391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



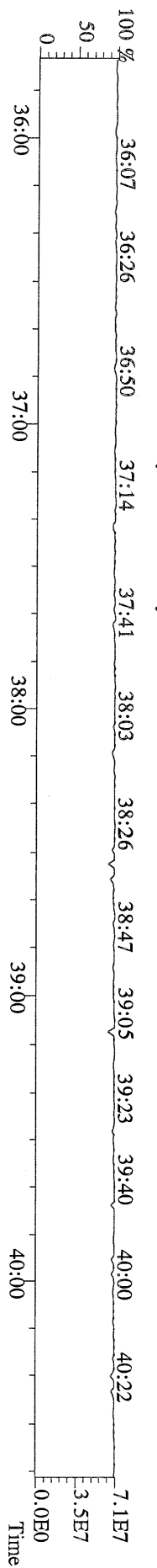
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



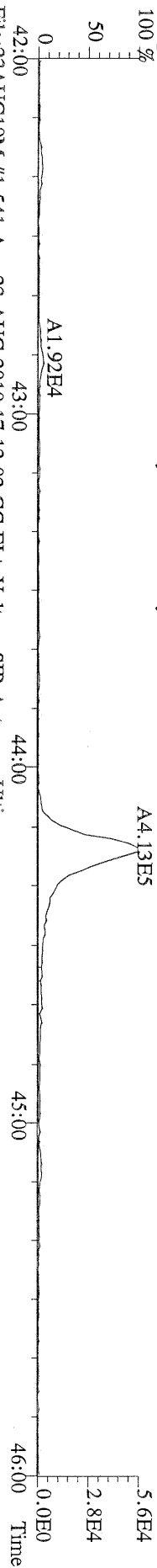
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403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



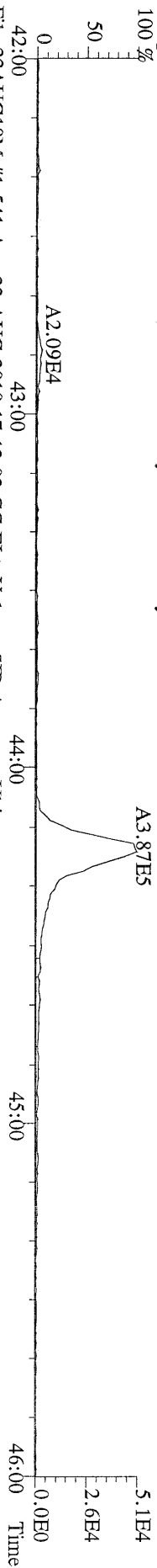
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
380.9760 S:4 F:3 Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



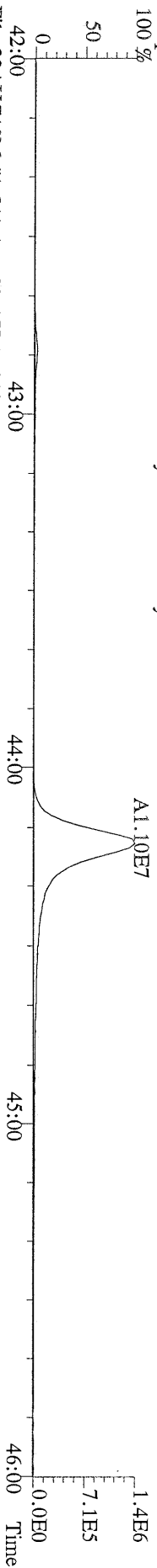
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



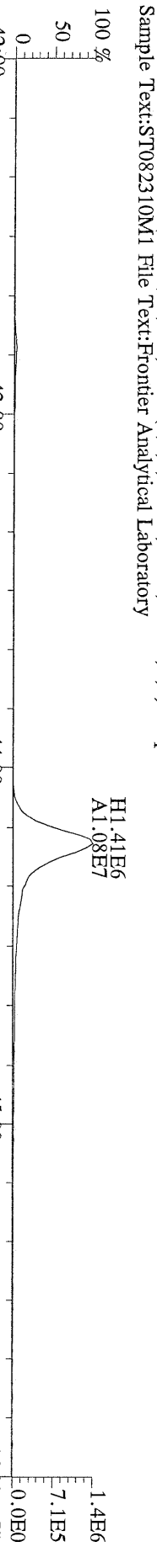
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



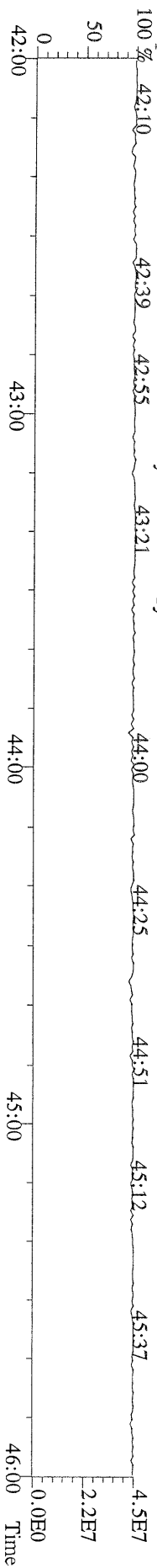
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



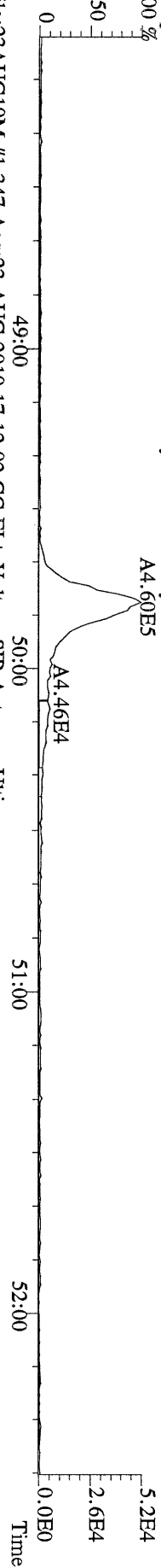
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



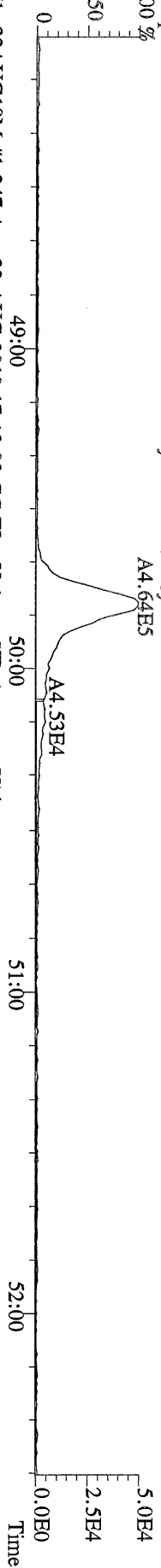
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 S:4 F:4 Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
100 %



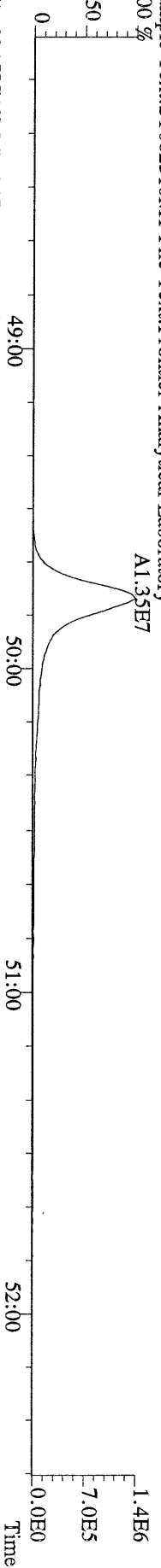
File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



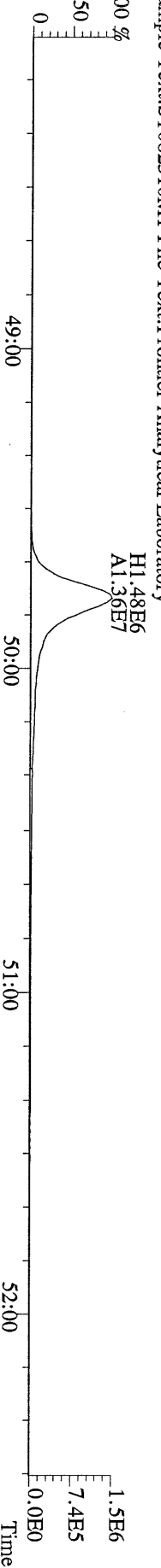
File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



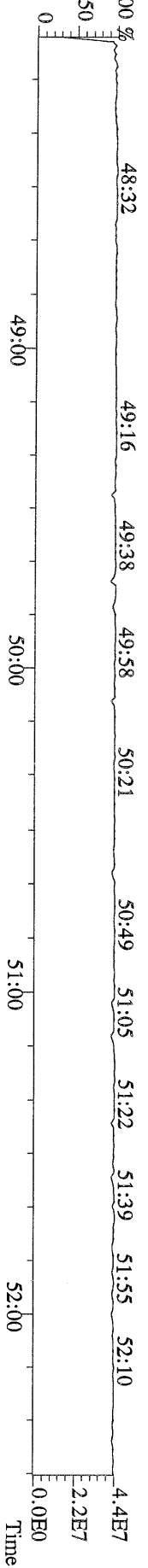
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469.7780 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
471.7750 S:4 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



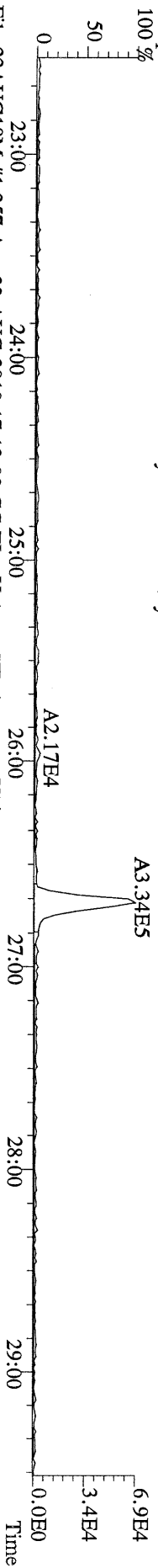
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454.9728 S:4 F:5 Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



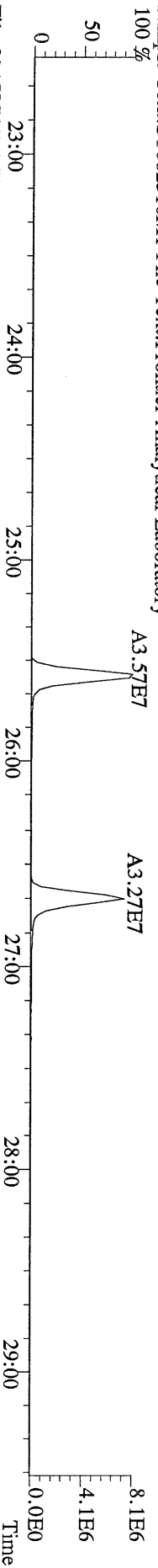
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



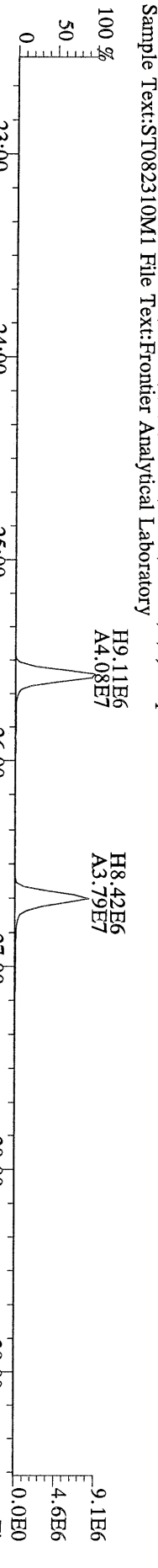
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



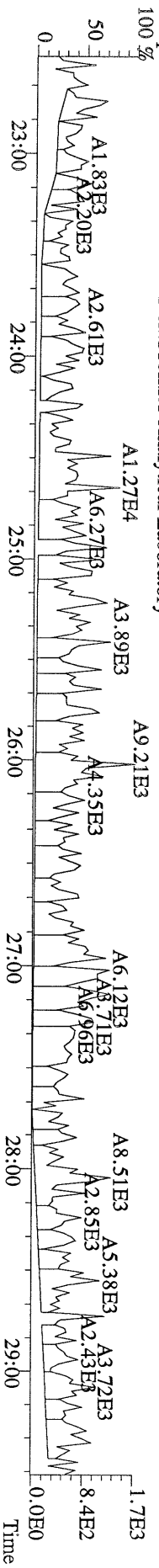
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315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory

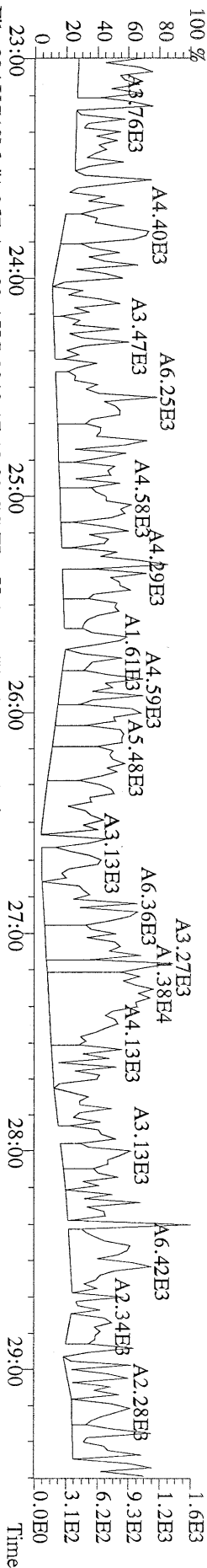


File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory

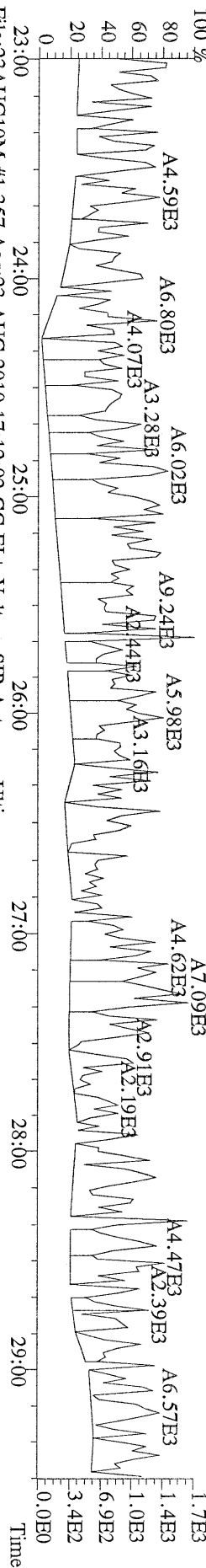




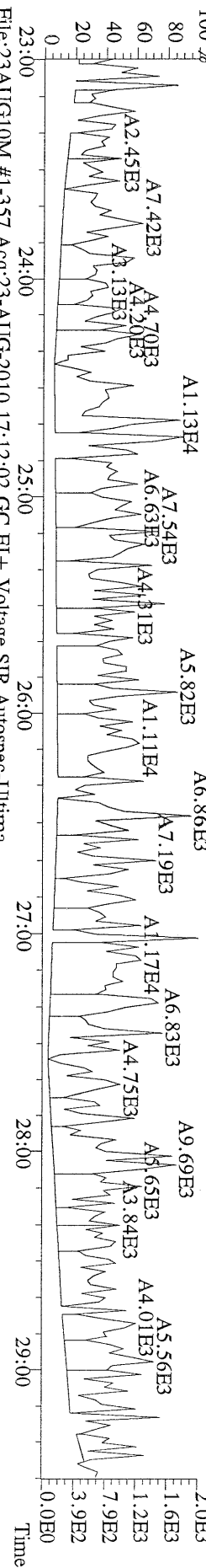
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



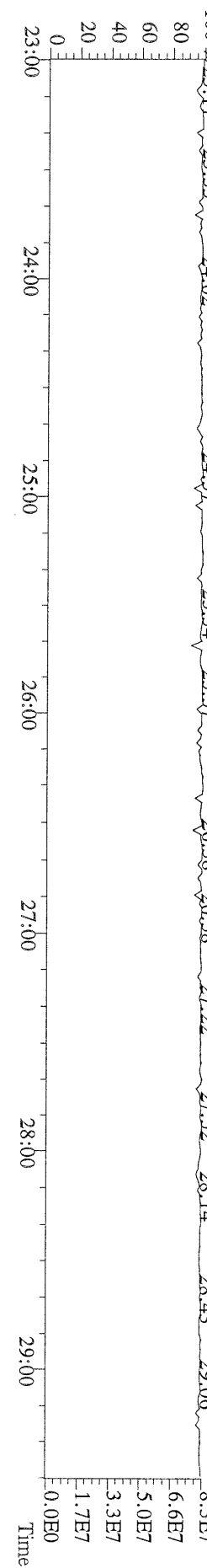
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 341.8568 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



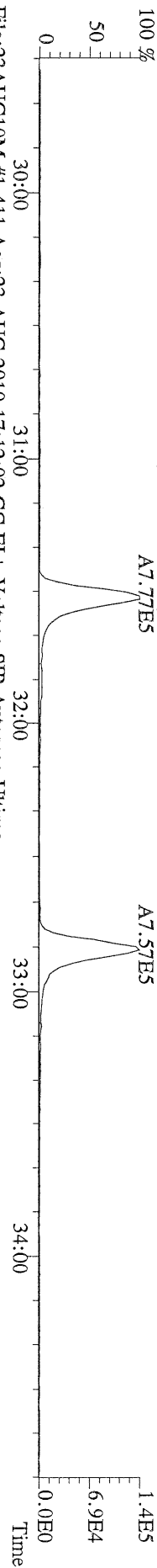
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 409.7974 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



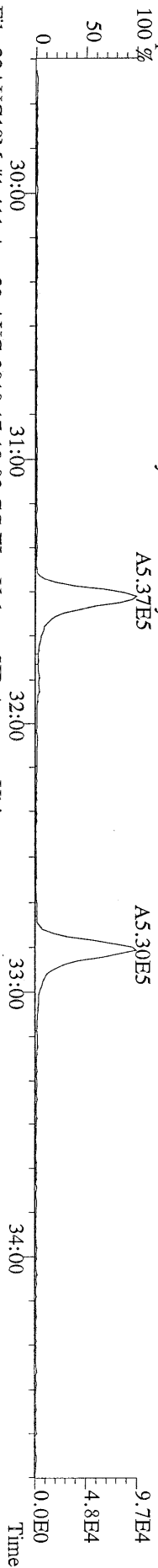
File:23AUG10M #1-357 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 330.9792 S:4 Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



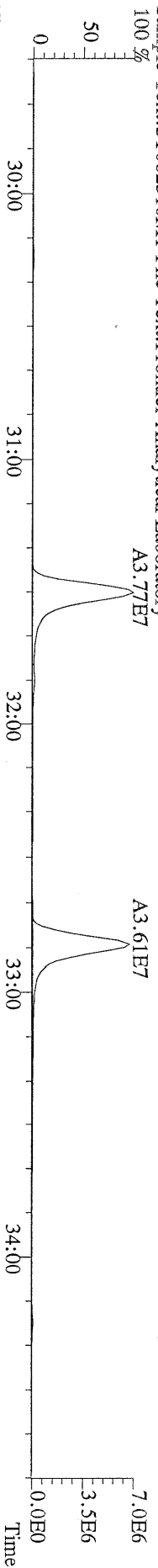
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 339,8597 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



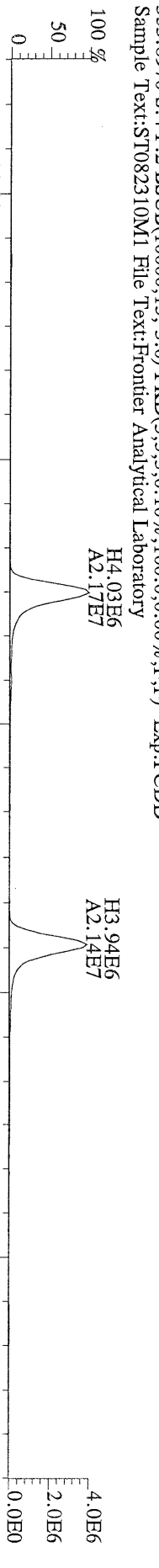
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 341,8568 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



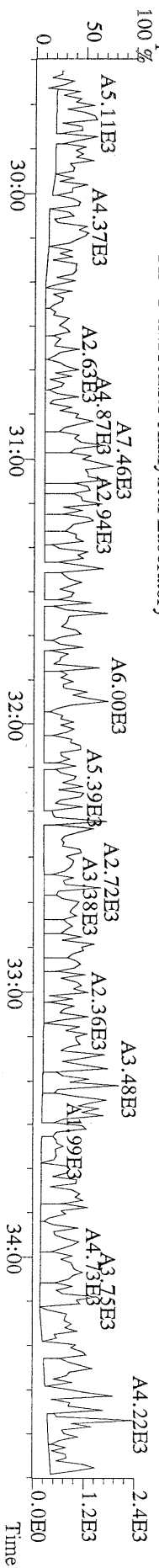
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 351,9000 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



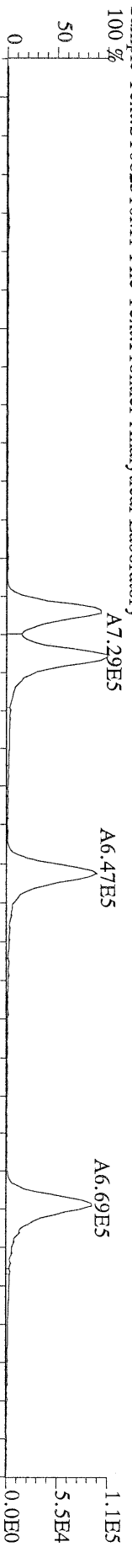
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 353,8970 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



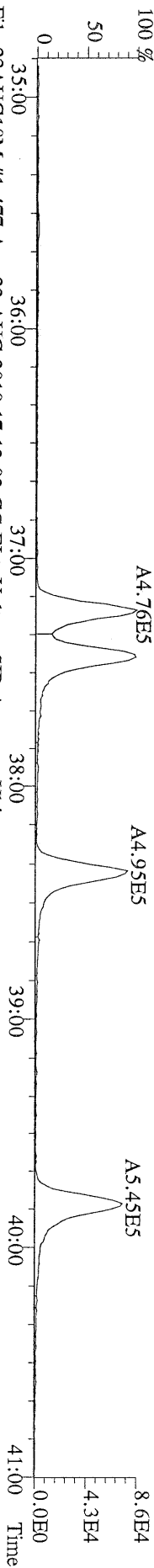
File:23AUG10M #1-411 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
 409,7974 S:4 F:2 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



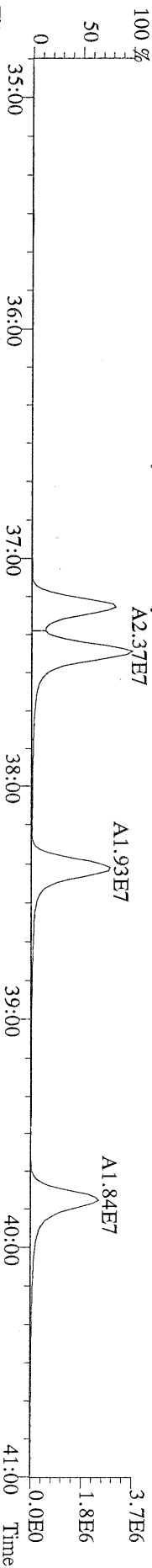
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



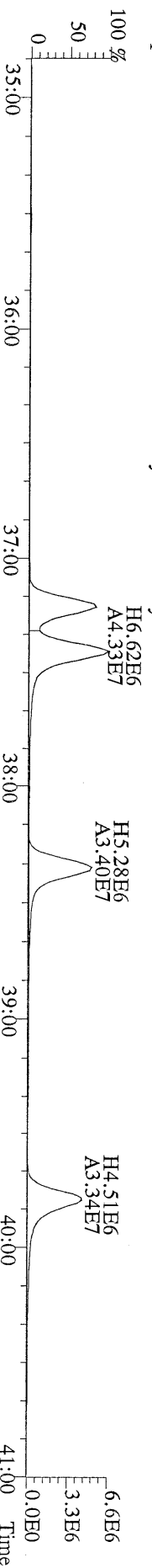
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



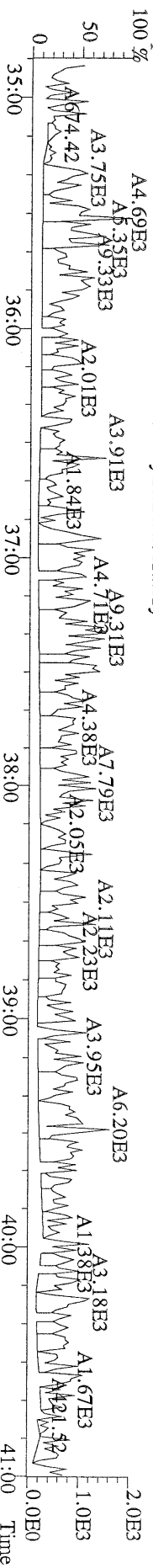
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383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



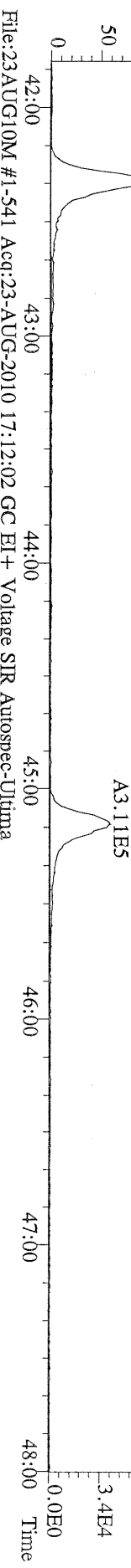
File:23AUG10M #1-477 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



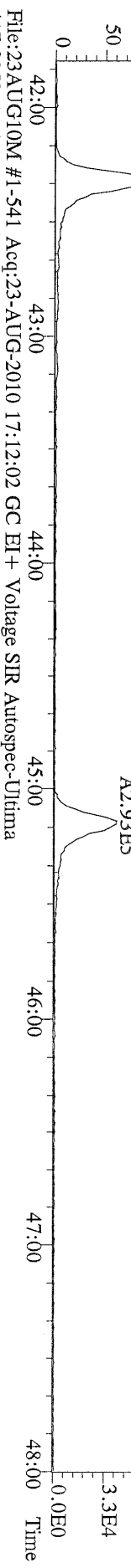
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445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



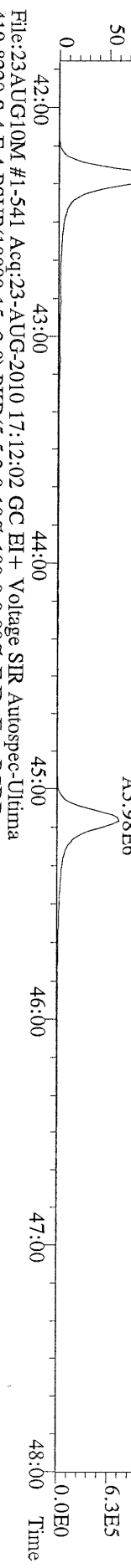
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SR Autospic-Utima  
 407.7818 S:4 F:4 B SUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
 100 % A4.76E5



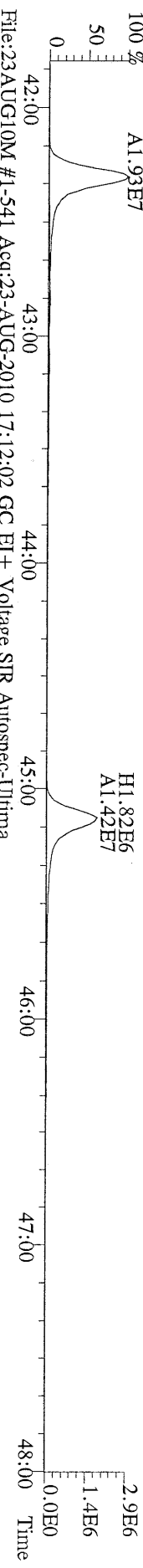
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SR Autospic-Utima  
 409.7788 S:4 F:4 B SUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
 100 % A4.54E5



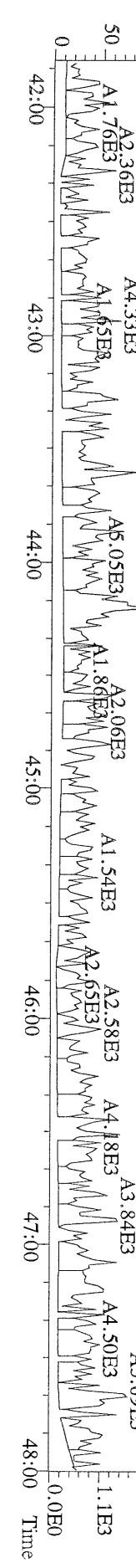
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SR Autospic-Utima  
 417.8253 S:4 F:4 B SUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory  
 100 % A8.60E6



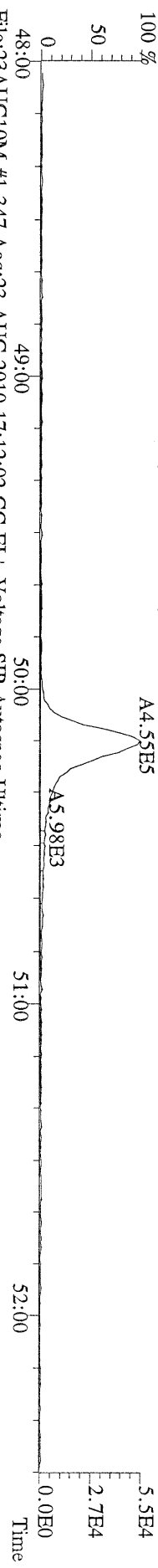
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SR Autospic-Utima  
 419.8220 S:4 F:4 B SUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



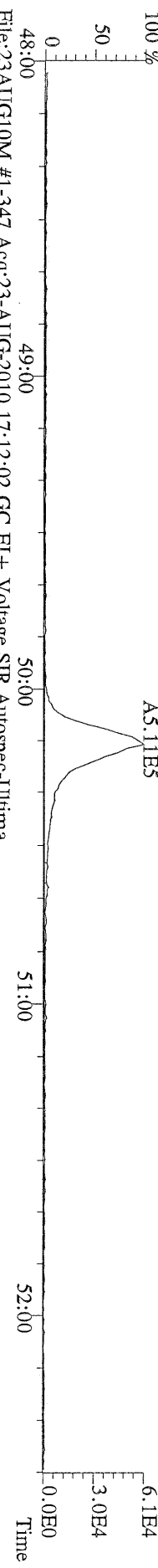
File:23AUG10M #1-541 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SR Autospic-Utima  
 479.7165 S:4 F:4 B SUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
 Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



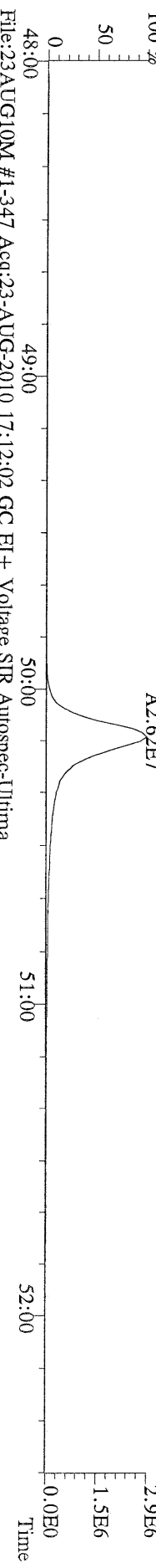
File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



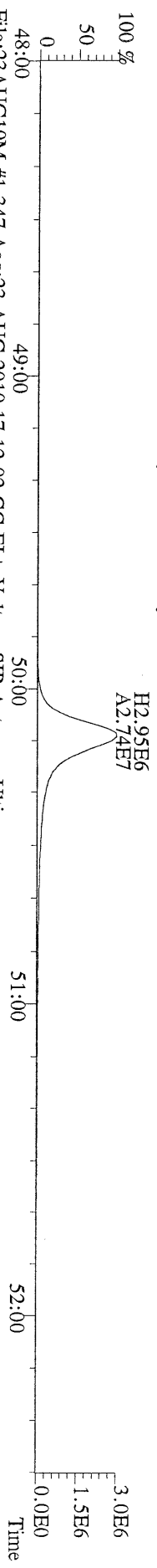
File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



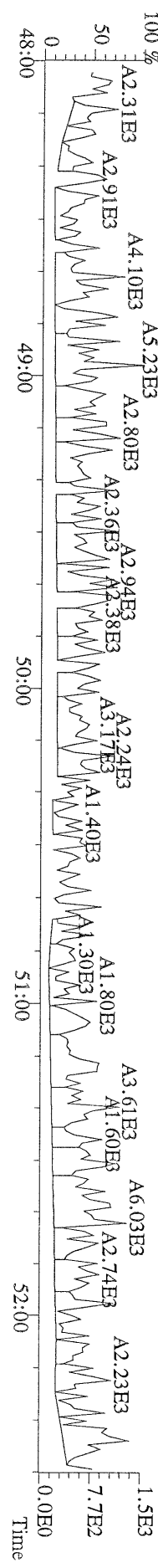
File:23AUG10M #1-347 Acq:23-AUG-2010 17:12:02 GC EI+ Voltage SIR Autospec-Ultima  
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



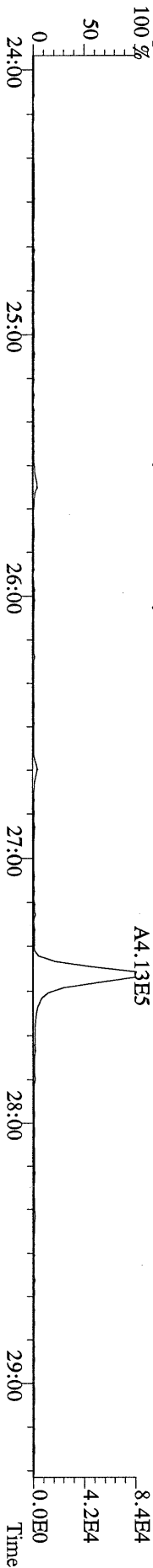
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455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



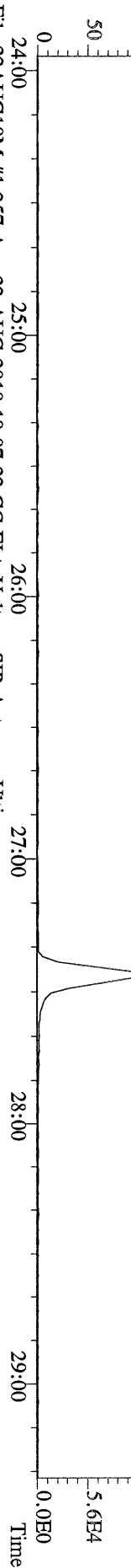
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513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M1 File Text:Frontier Analytical Laboratory



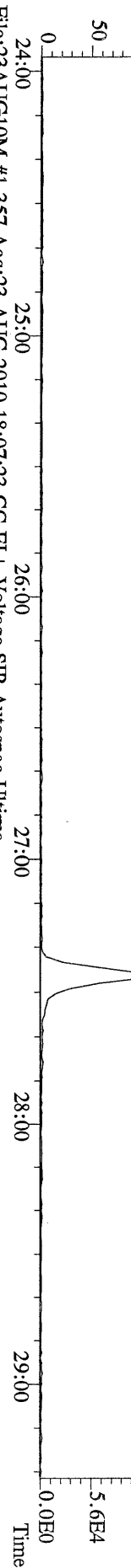
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
319.8965 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



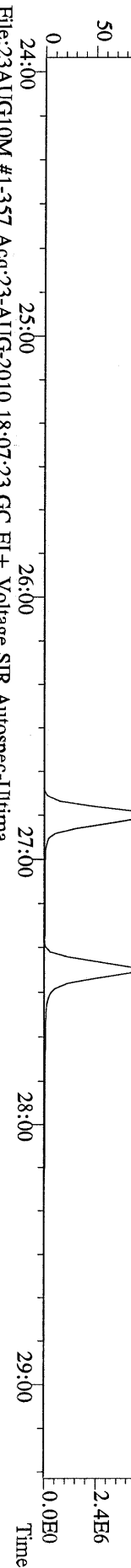
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
321.8936 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



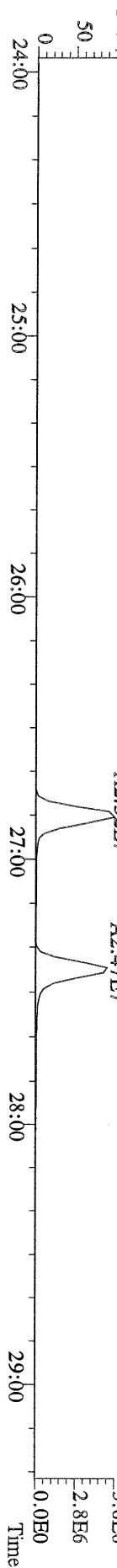
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
327.8847 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



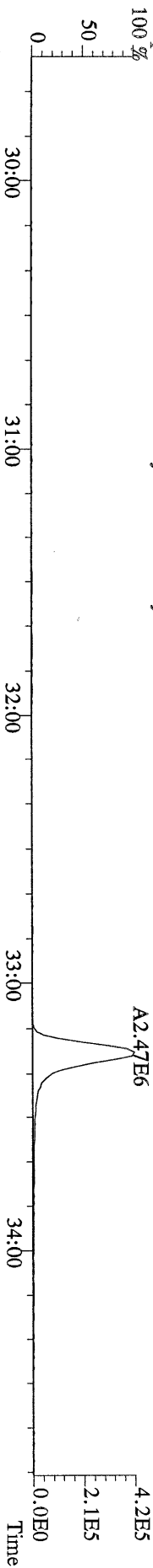
File:23AUG10M #1-357 Acq:23-AUG-2010 18:07:23 GC EI + Voltage SIR Autospec-Ultima  
331.9368 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



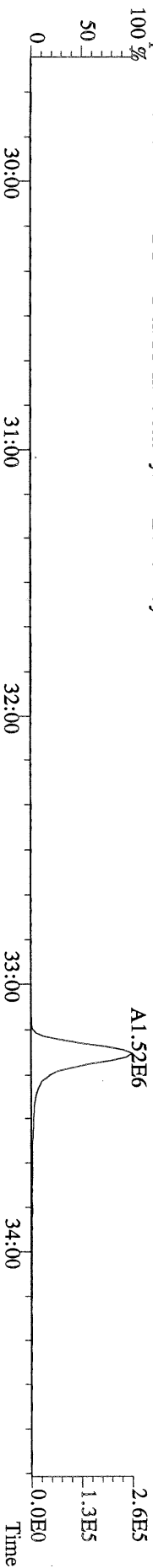
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333.9339 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



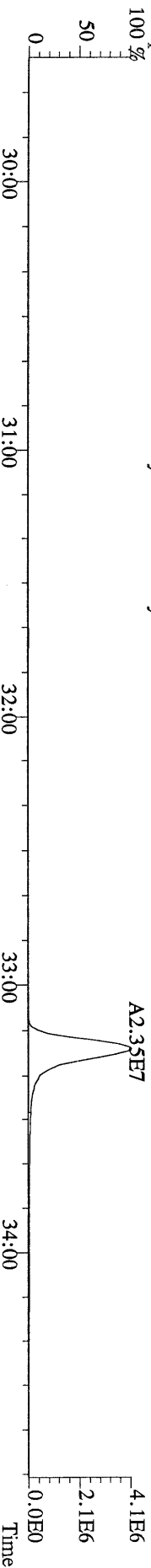
File:23AUG10M #1-412 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
355,8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



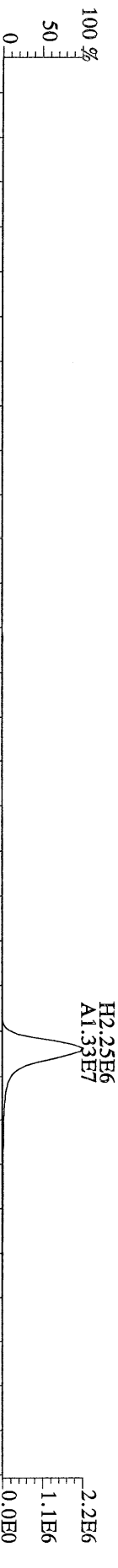
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357,8517 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



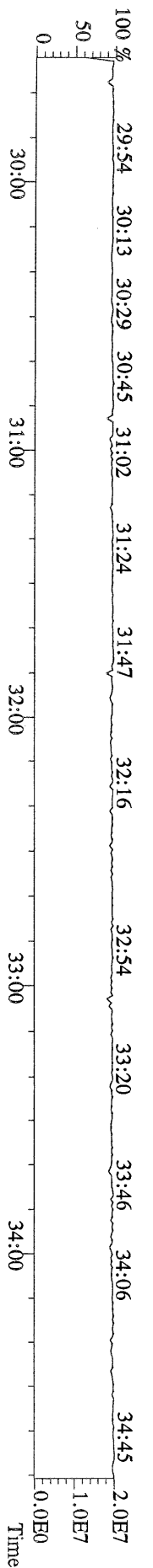
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367,8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



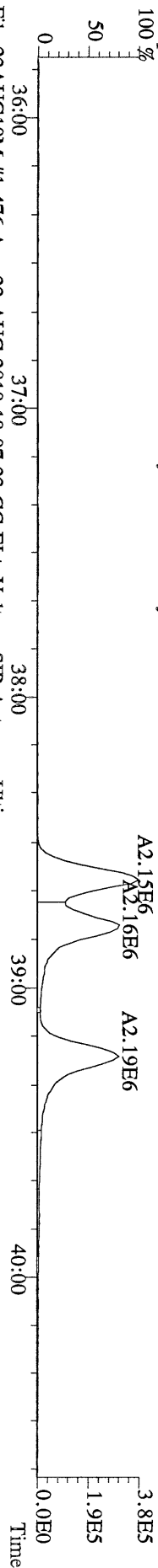
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369,8919 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



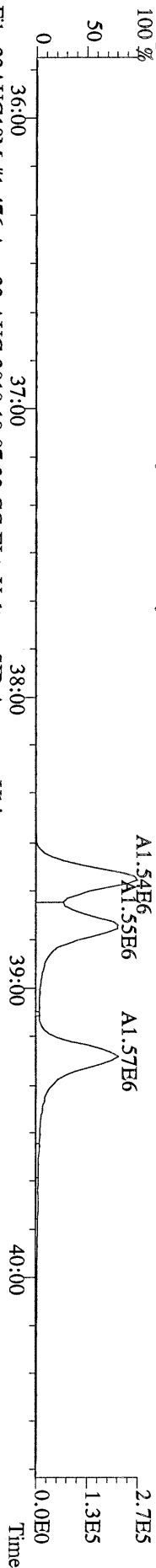
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366,9792 S:5 F:2 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



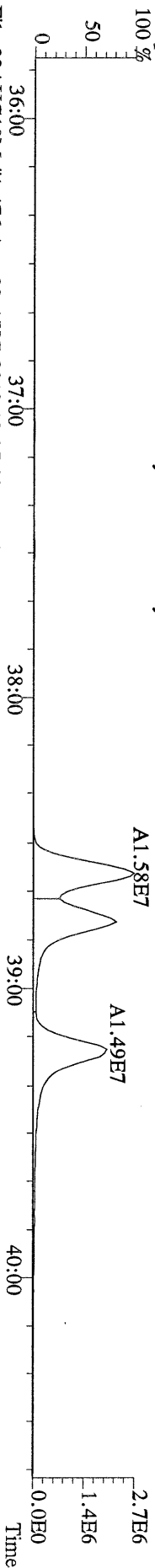
File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
389.8156 S:5 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



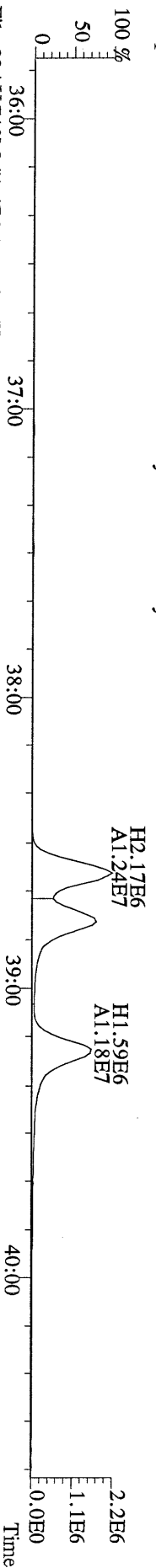
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391.8127 S:5 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



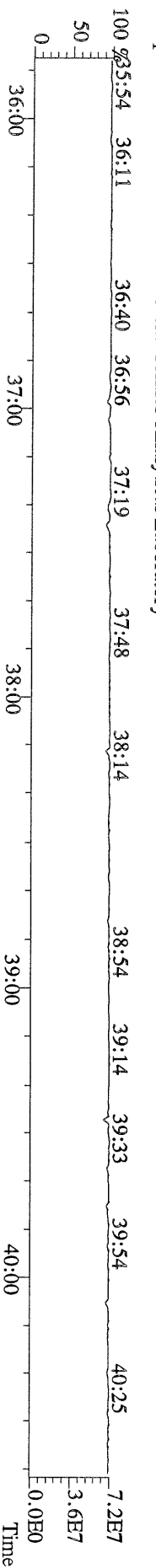
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401.8559 S:5 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
403.8530 S:5 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

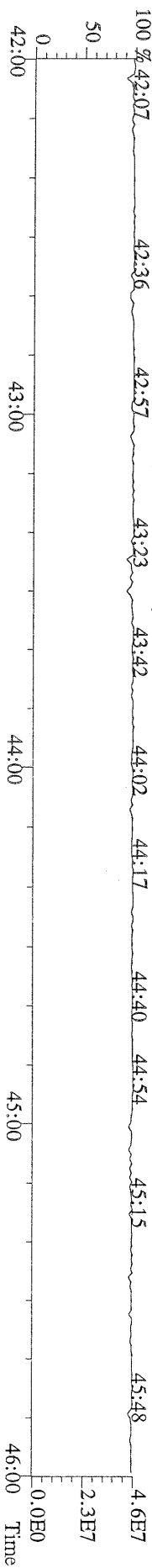
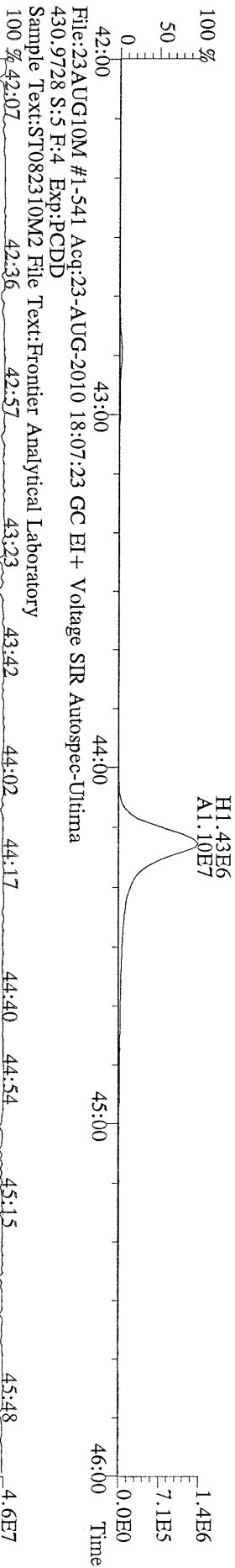
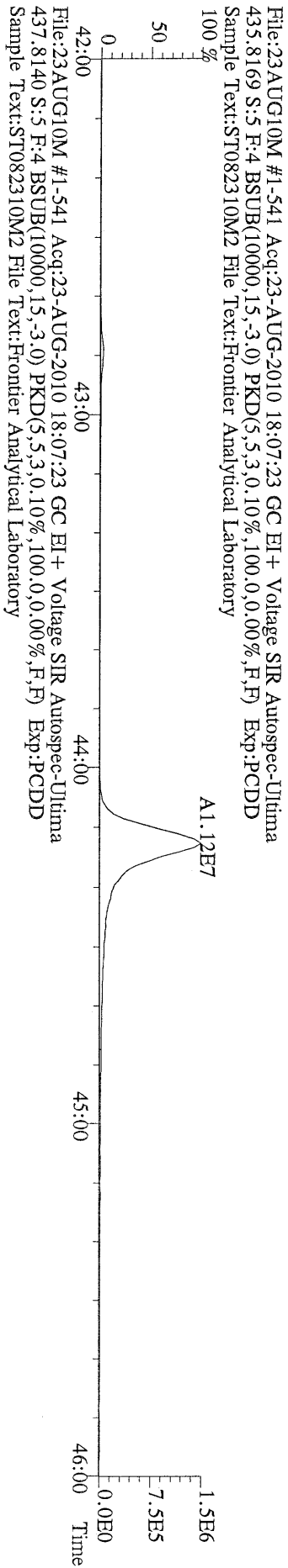
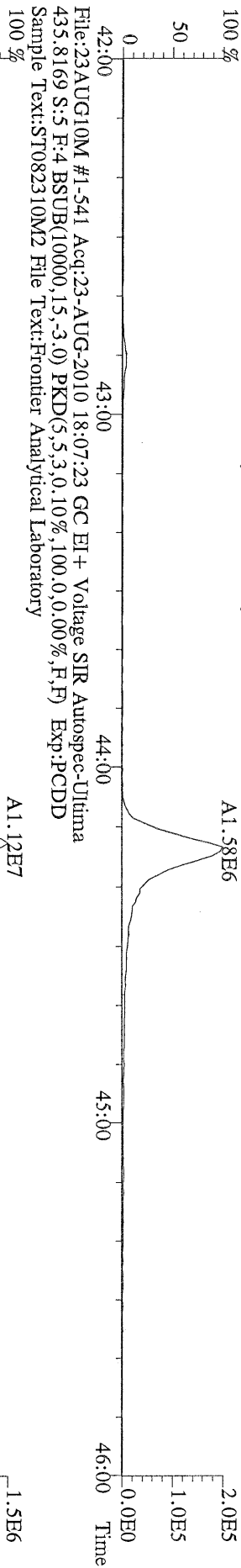
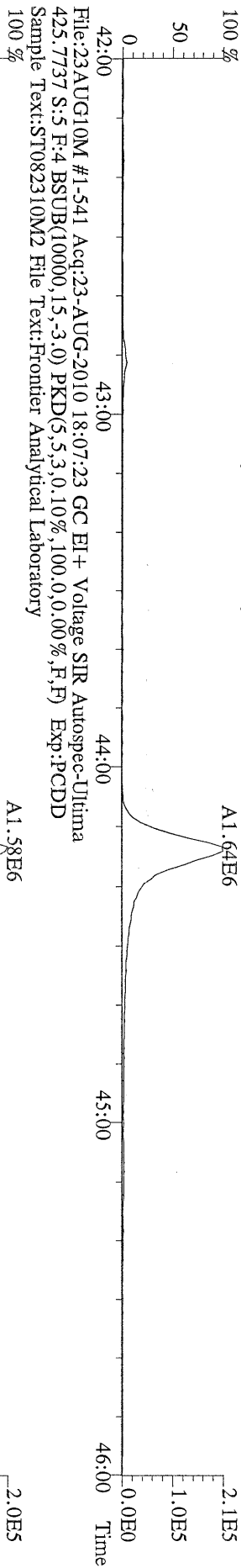


File:23AUG10M #1-476 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utima  
380.9760 S:5 F:3 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

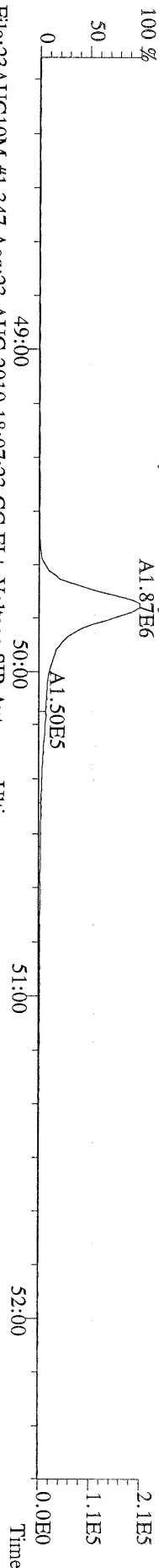




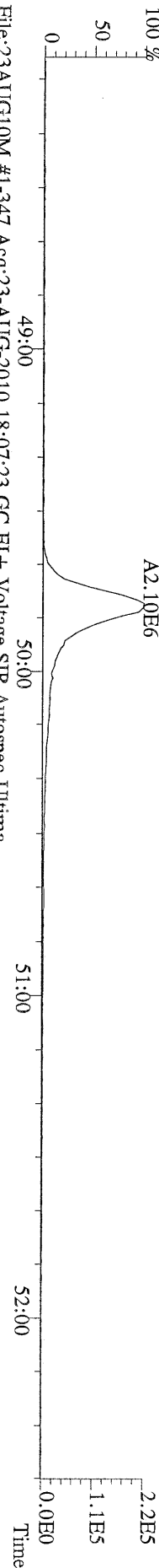
File:23AUG10M #1-541 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Utlima  
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



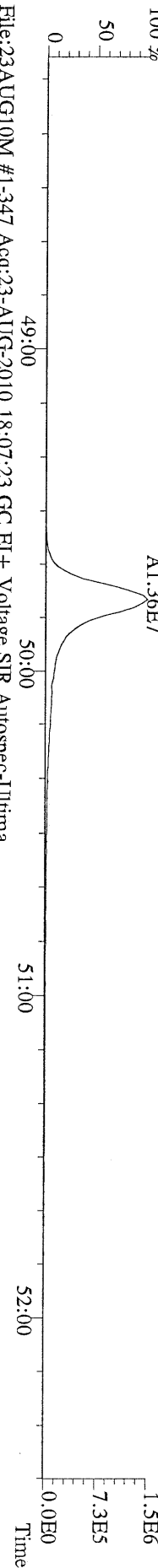
File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



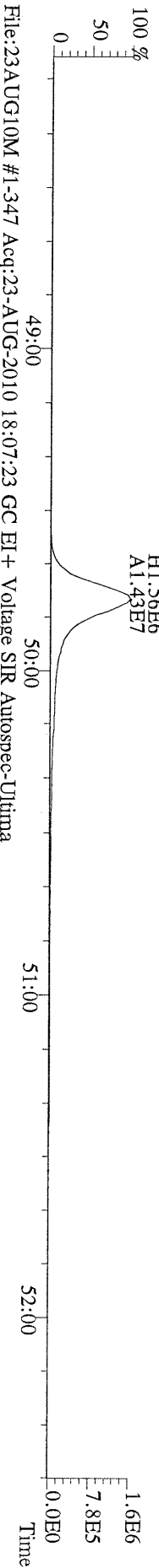
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459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



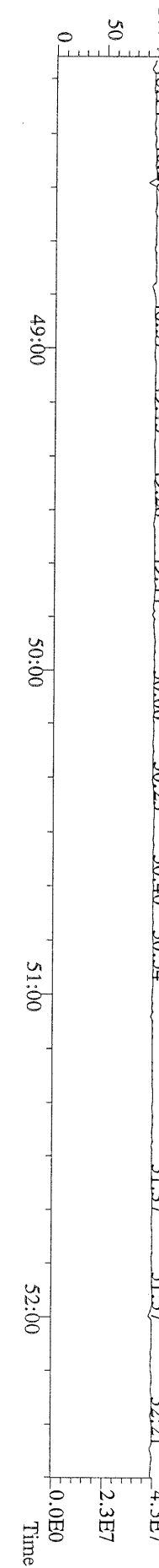
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469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



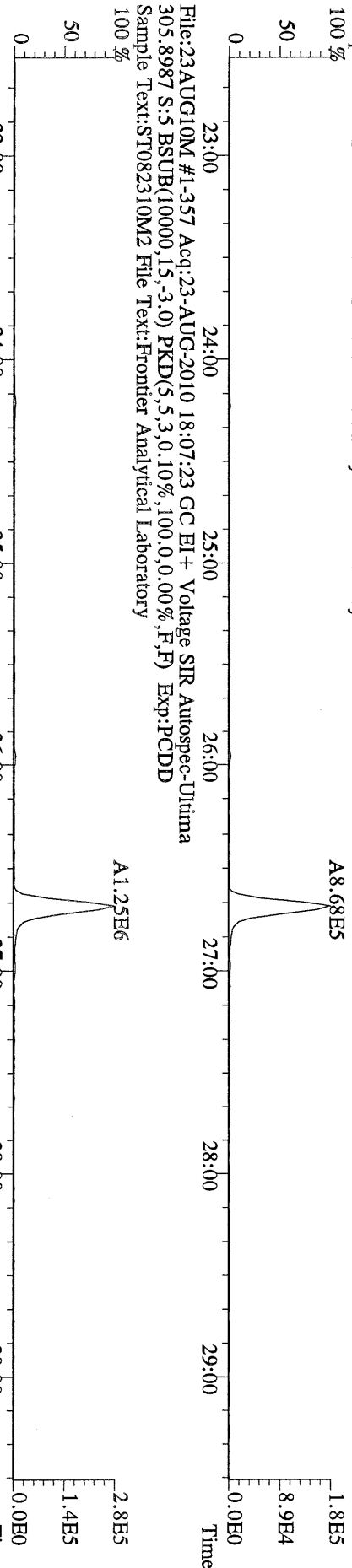
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471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



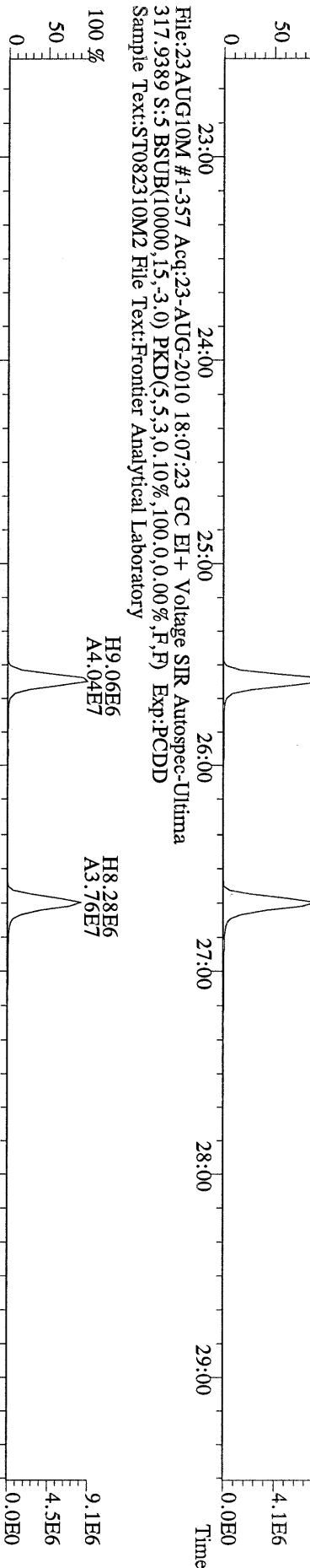
File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC EI+ Voltage SIR Autospec-Ultima  
454.9728 S:5 F:5 Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



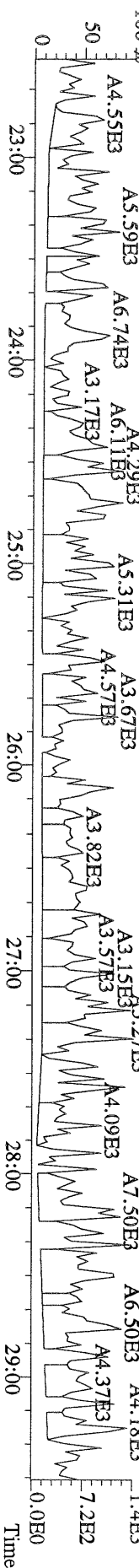
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303.9016 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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100 %



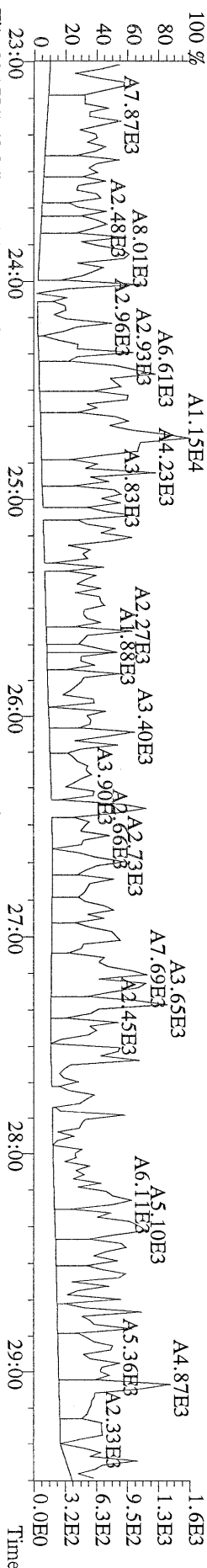
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315.9419 S:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory  
100 %



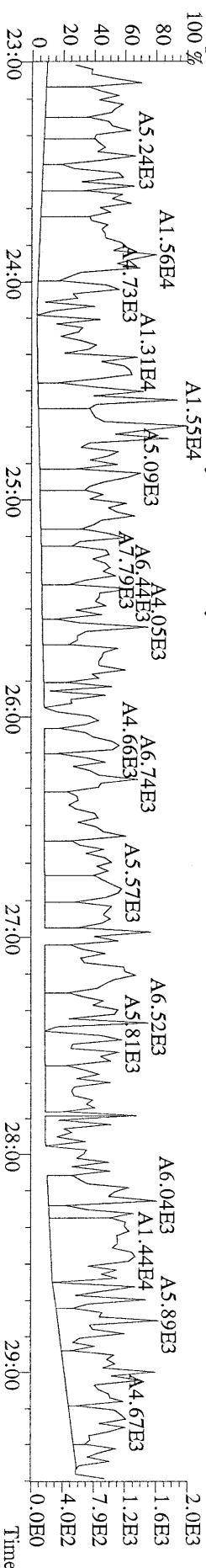
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100 %



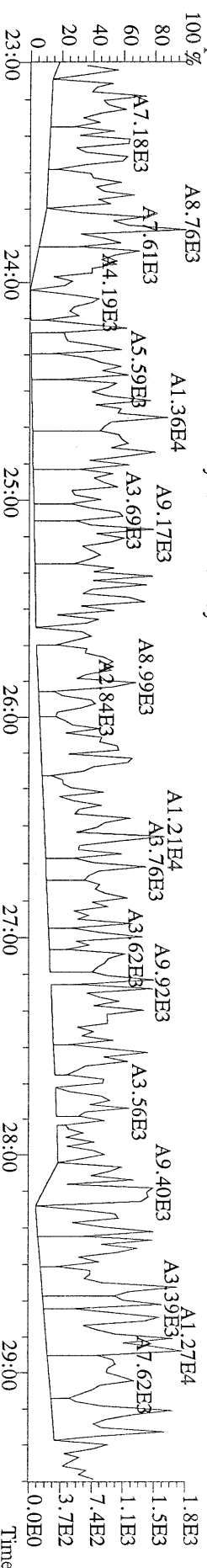
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 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
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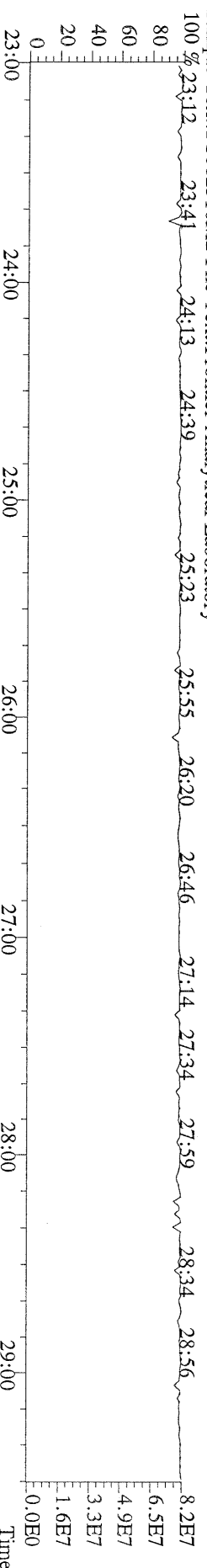
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 341.8568 S:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



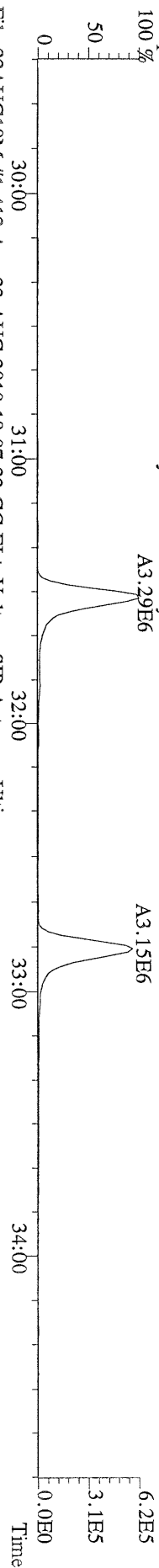
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 409.7974 S:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



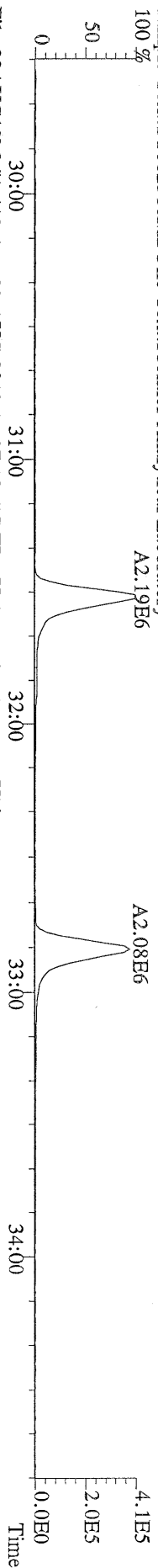
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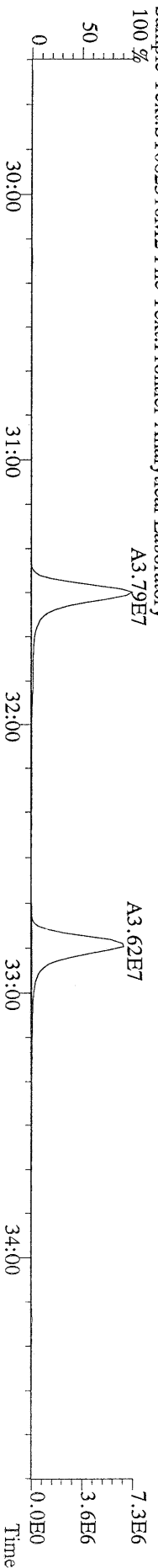
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Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



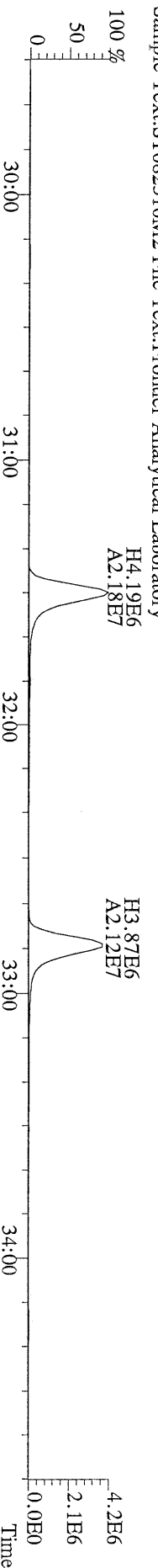
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Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



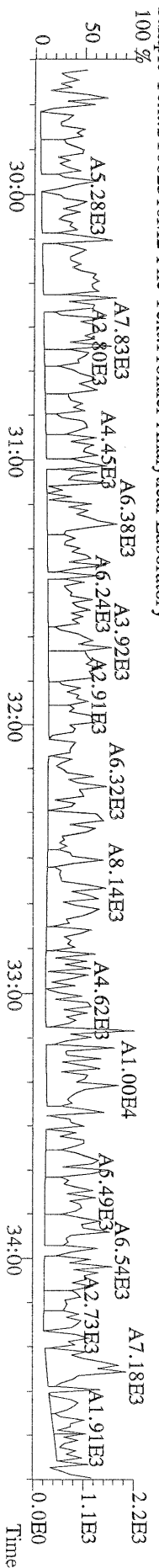
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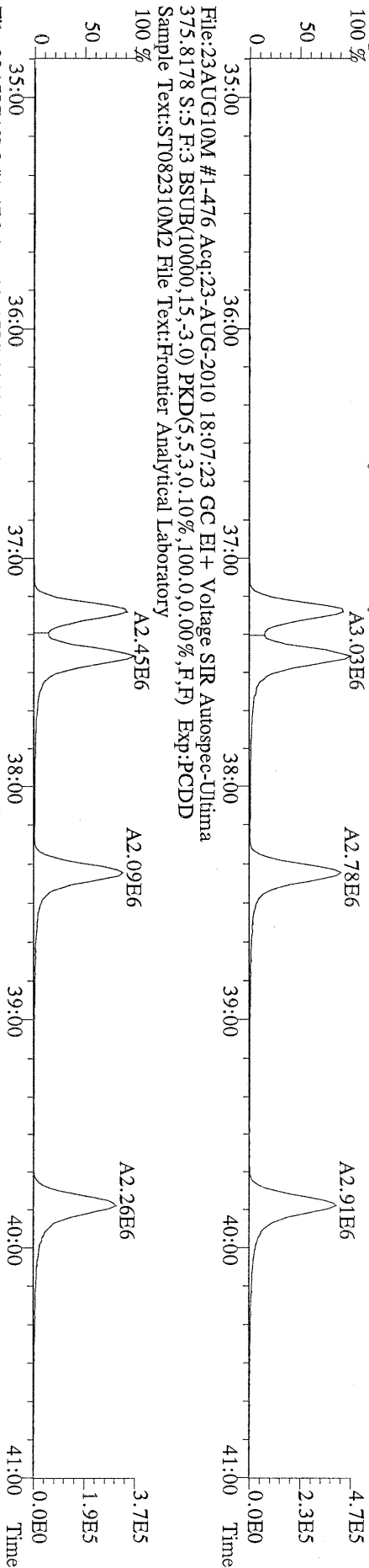
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Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



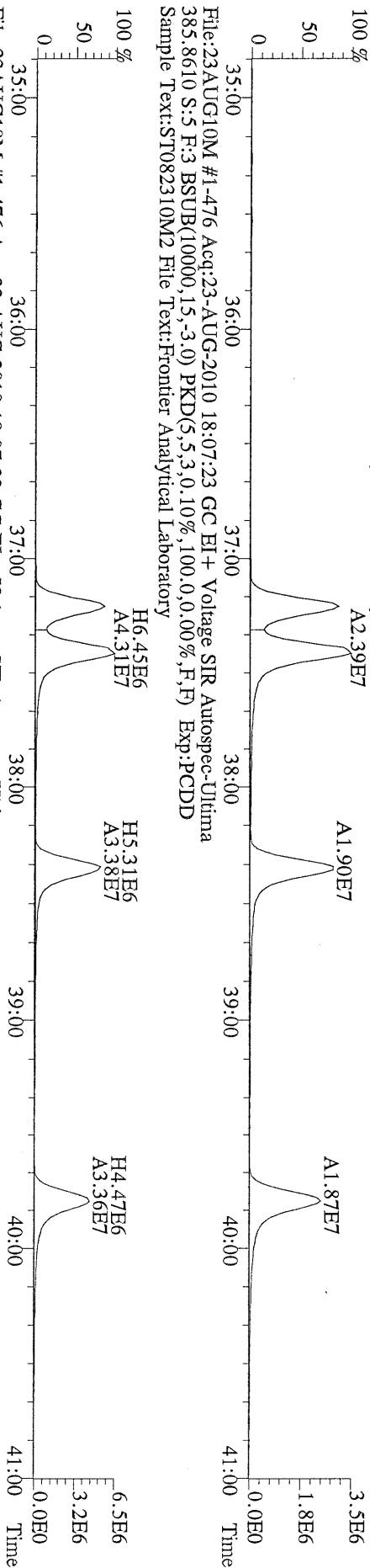
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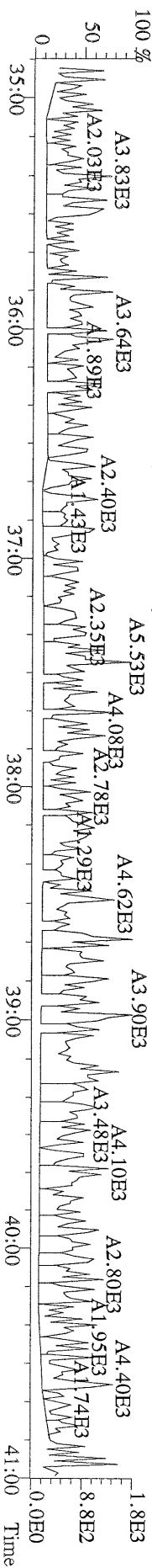
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373.8207 S:5 F:3 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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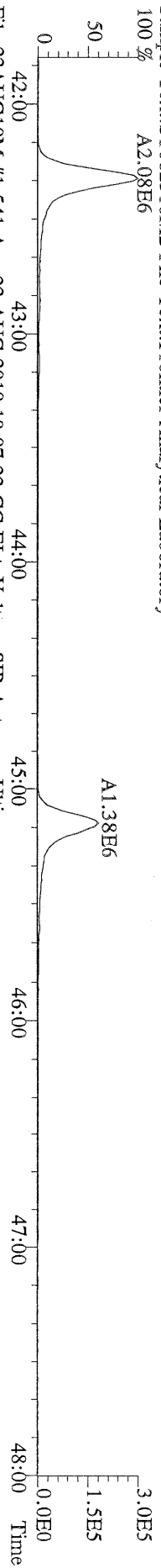
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Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



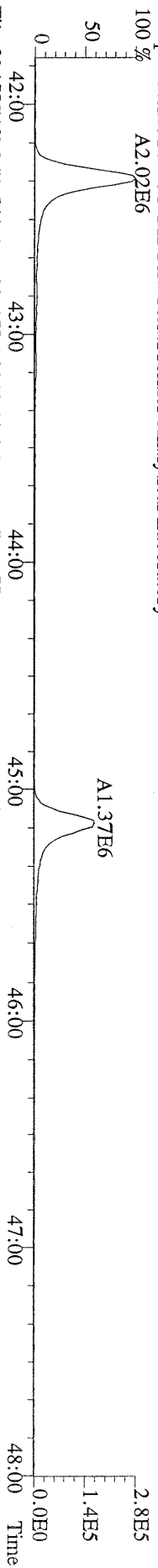
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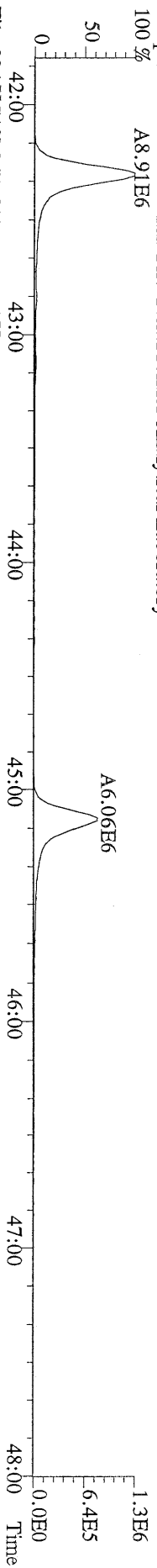
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 407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:PCDD  
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 100 % A2.08E6



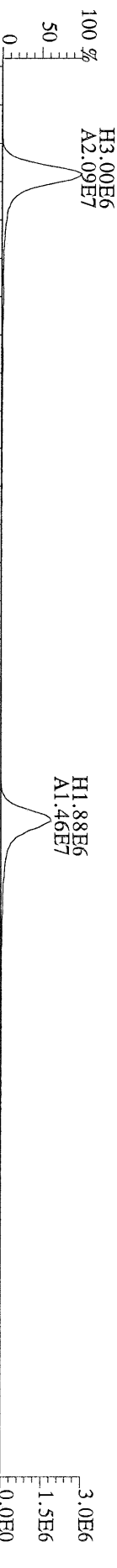
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 100 % A2.02E6



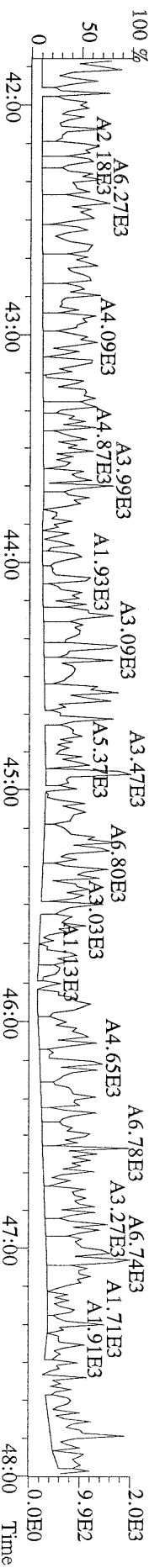
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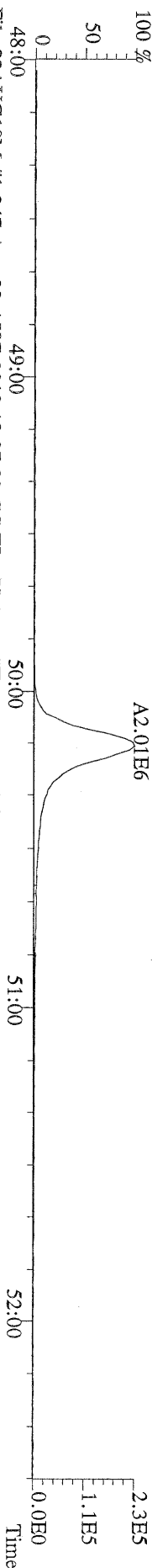
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 419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



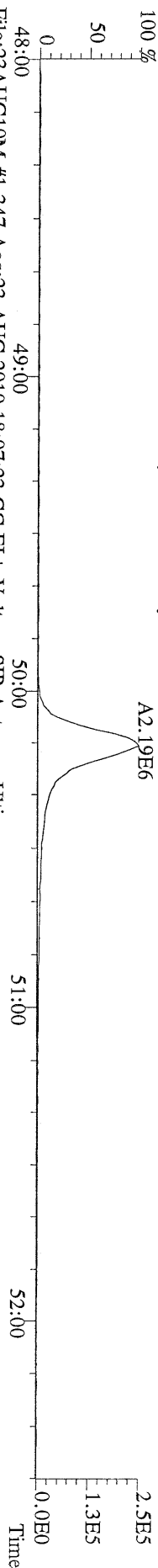
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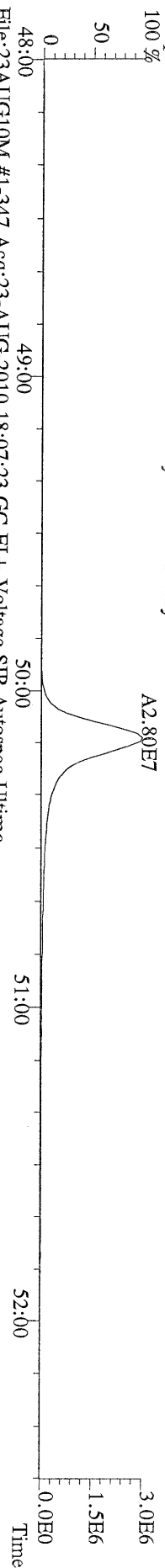
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441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
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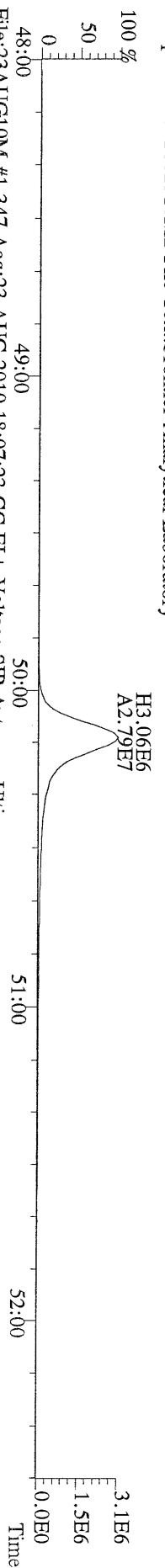
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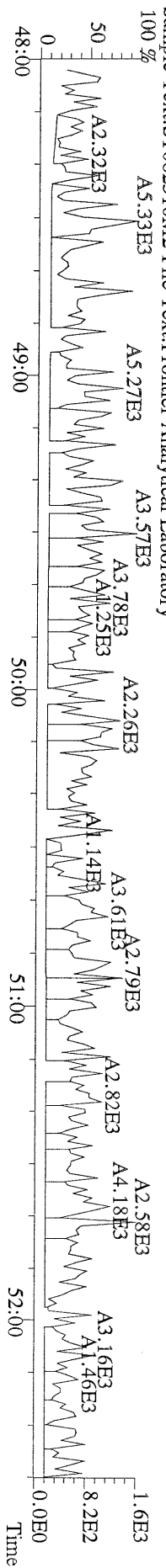
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Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-347 Acq:23-AUG-2010 18:07:23 GC BI+ Voltage SIR Autospec-Ultima  
455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,00%,F,F) Exp:PCDD  
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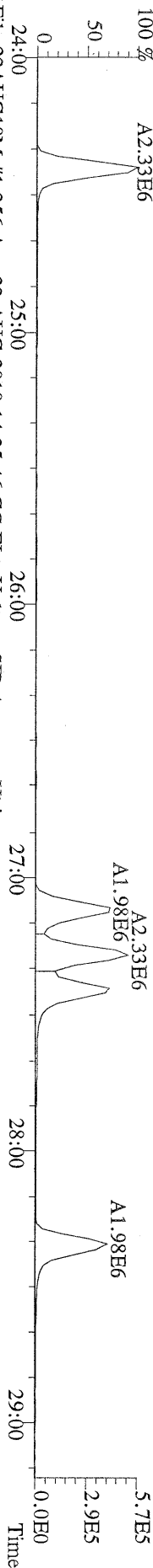


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Sample Text:ST082310M2 File Text:Frontier Analytical Laboratory

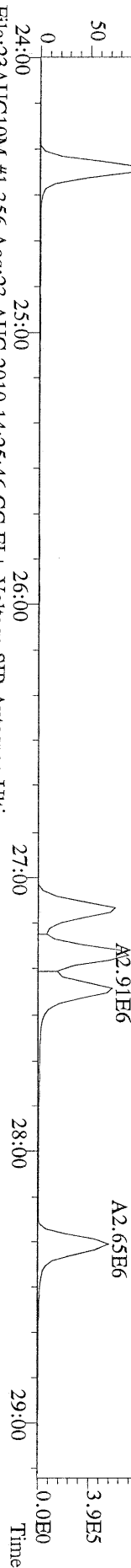




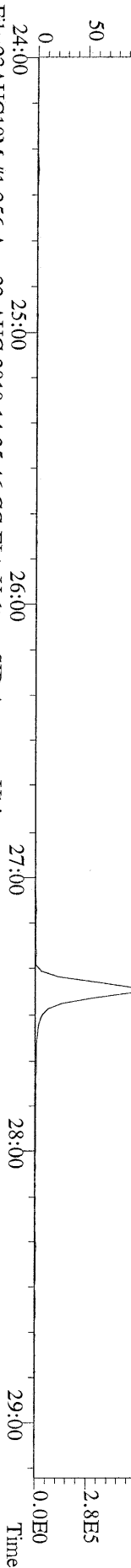
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319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



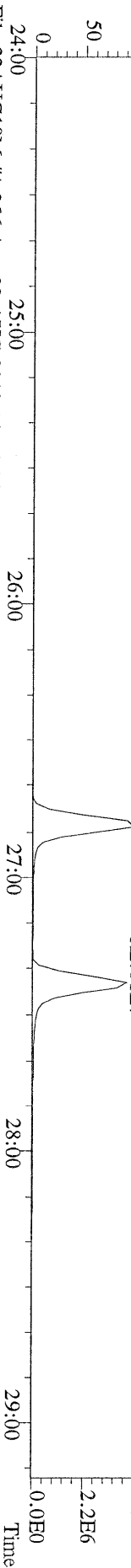
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Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



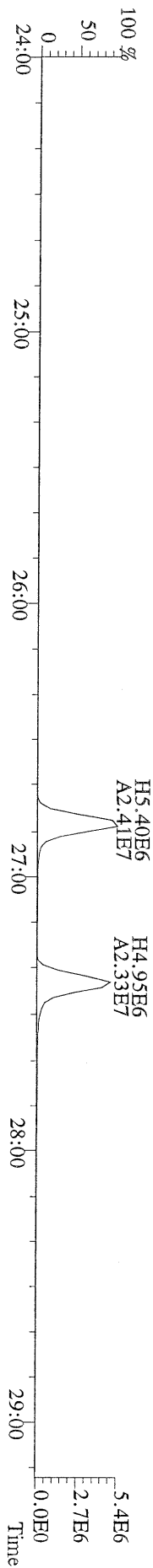
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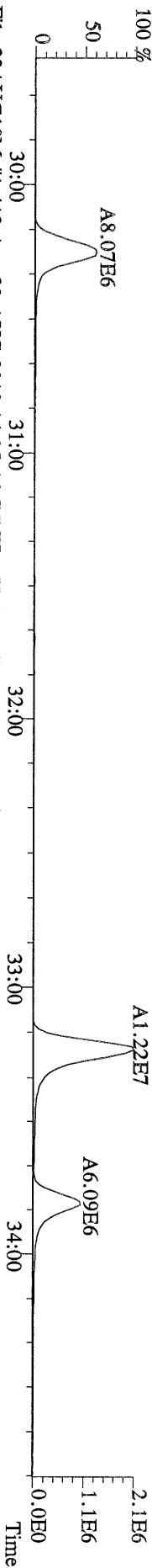
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Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



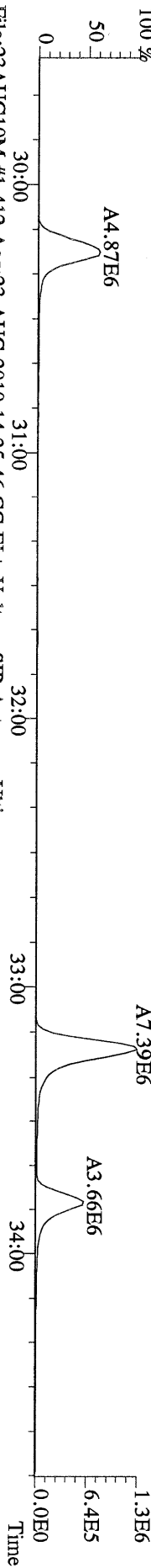
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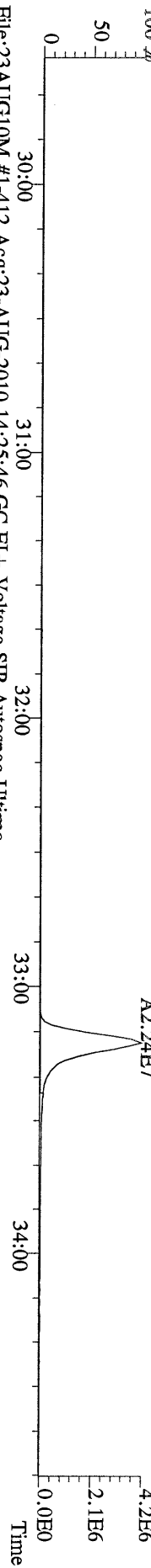
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355.8546 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



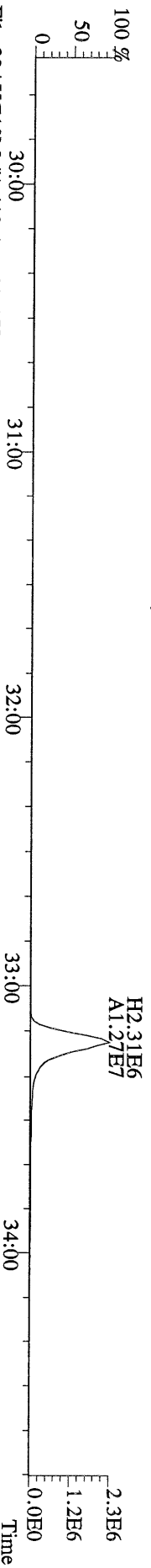
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357.8517 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



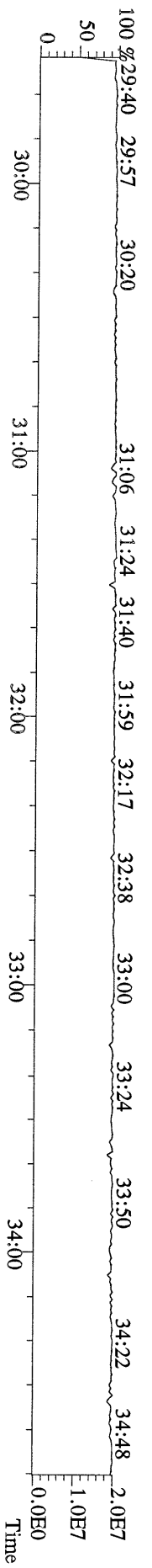
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Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



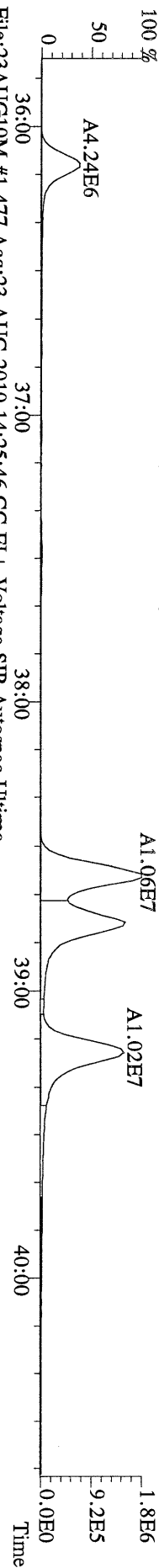
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Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



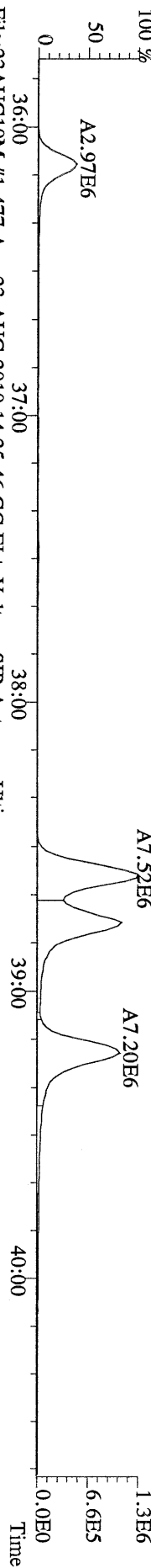
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Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



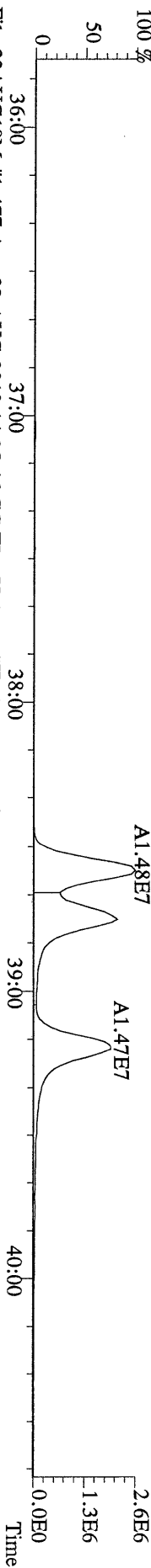
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389.8156 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



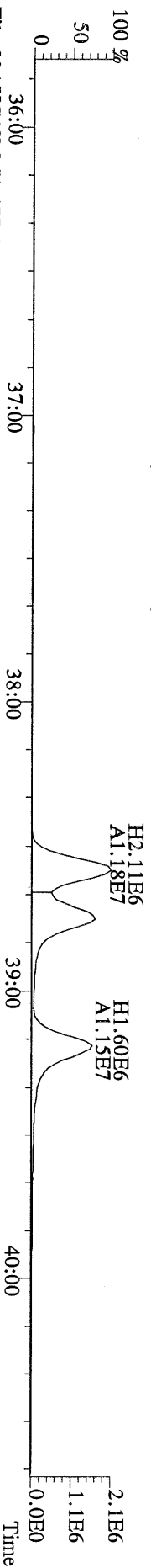
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391.8127 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



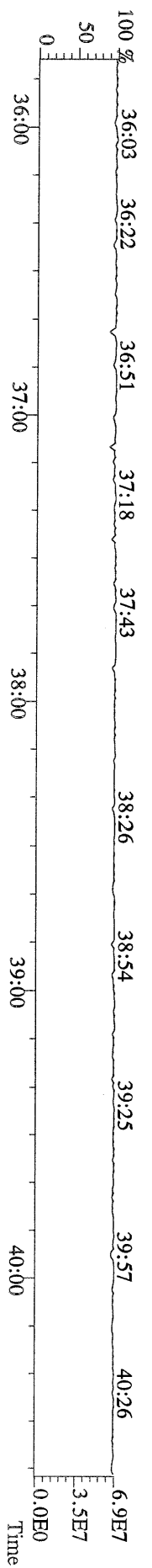
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401.8559 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



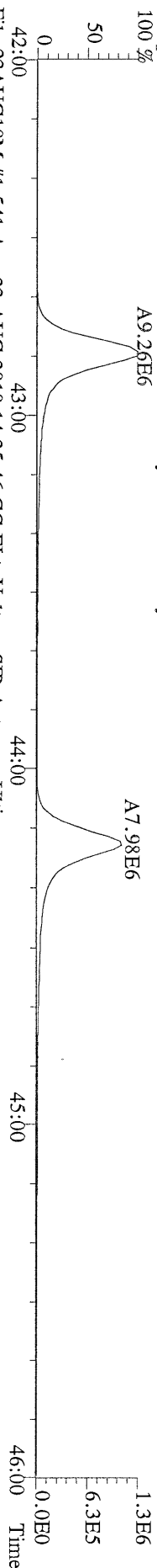
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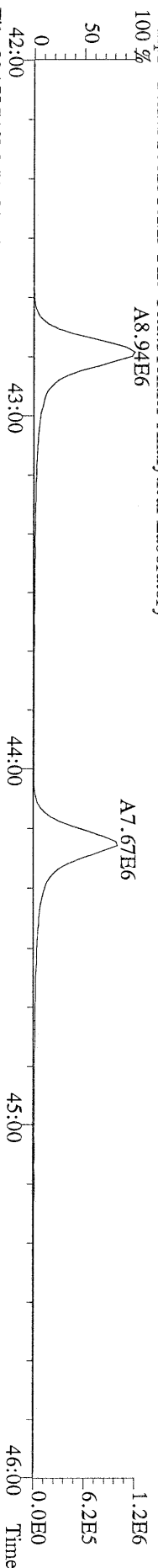
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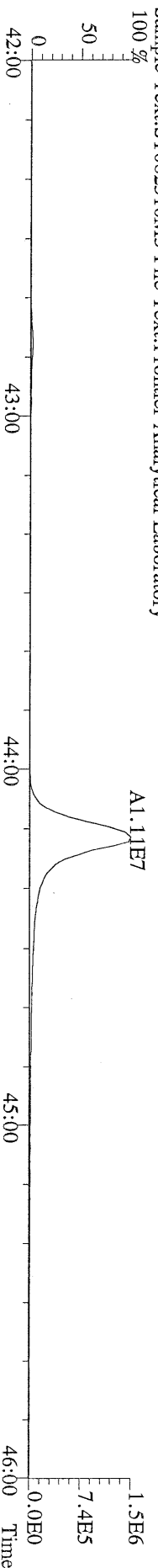
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423.7767 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



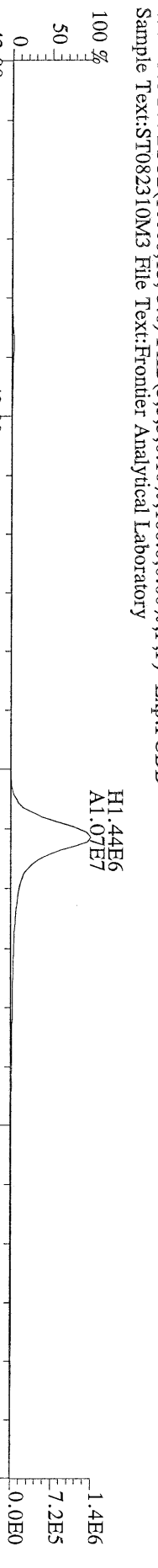
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utima  
425.7737 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



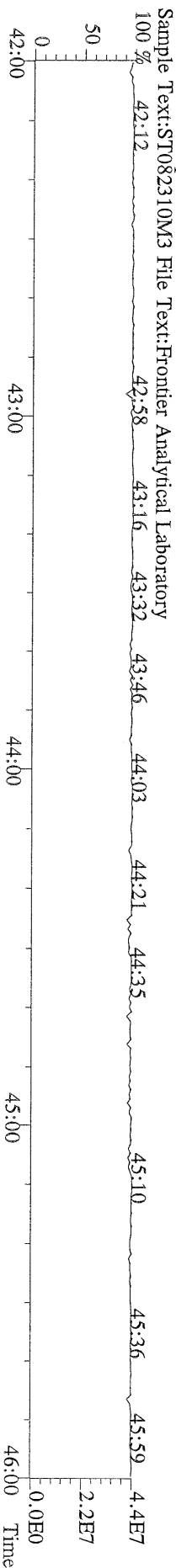
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utima  
435.8169 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



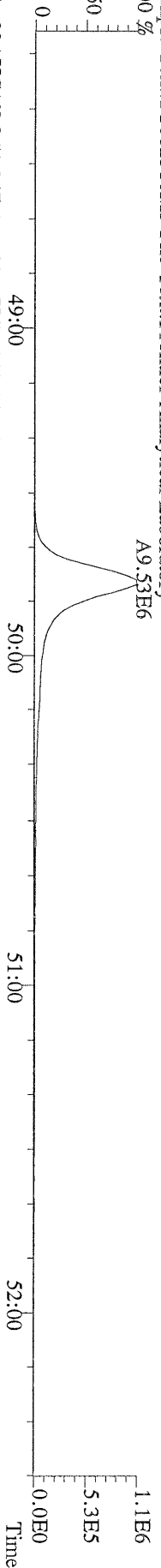
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utima  
437.8140 F:4 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



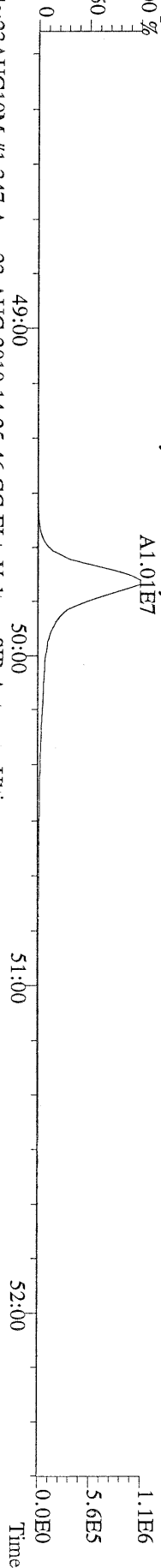
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Utima  
430.9728 F:4 Exp:PCDD



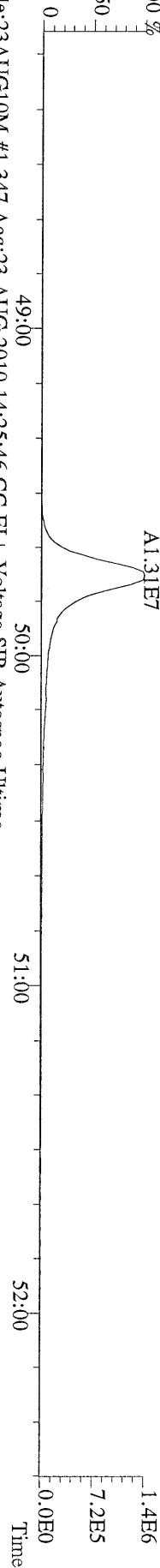
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC BI + Voltage SIR Autospec-Ultima  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



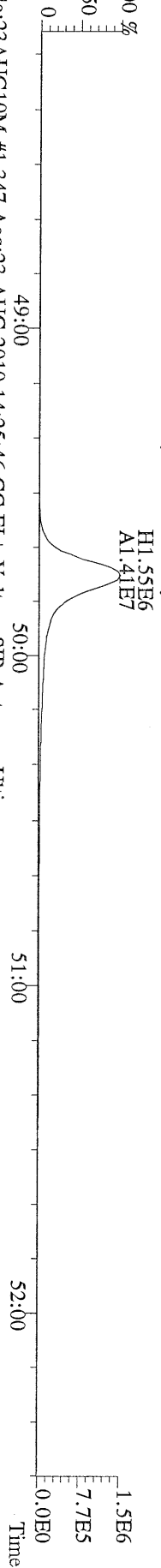
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459.7348 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



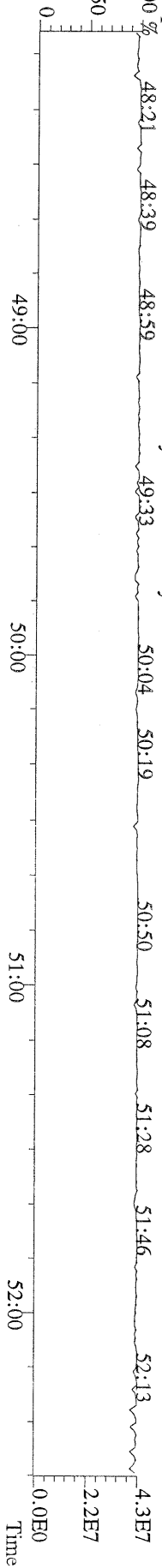
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469.7780 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



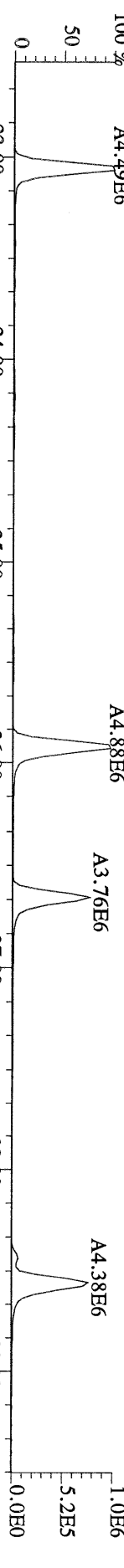
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471.7750 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,100.0,0.00%,F,F) Exp:PCDD  
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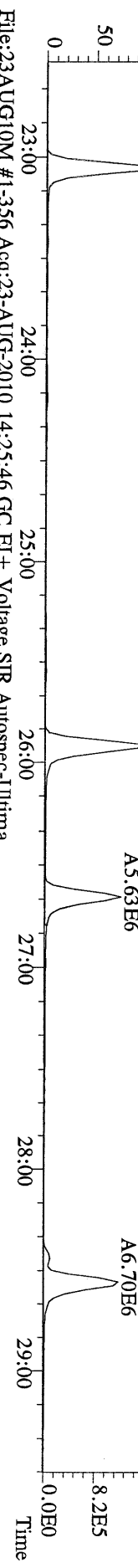
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC BI + Voltage SIR Autospec-Ultima  
454.9728 F:5 Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



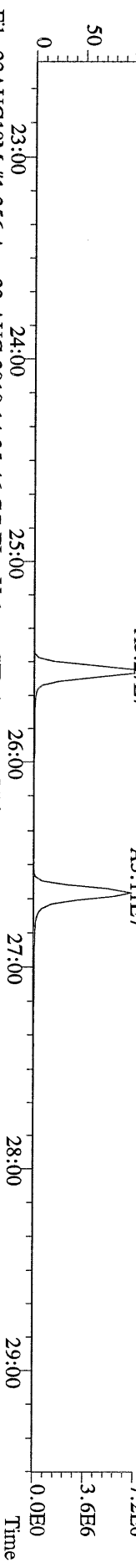
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:P:PCDD  
Sample Text::ST082310M3 File Text:Frontier Analytical Laboratory



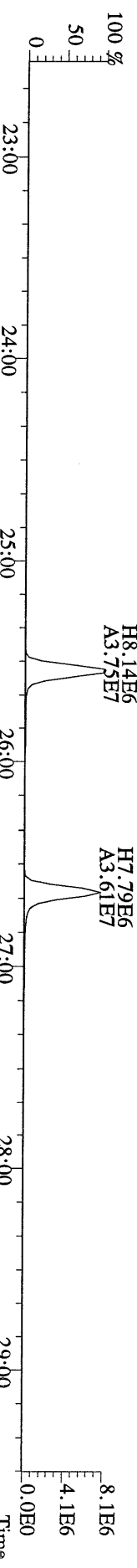
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:P:PCDD  
Sample Text::ST082310M3 File Text:Frontier Analytical Laboratory



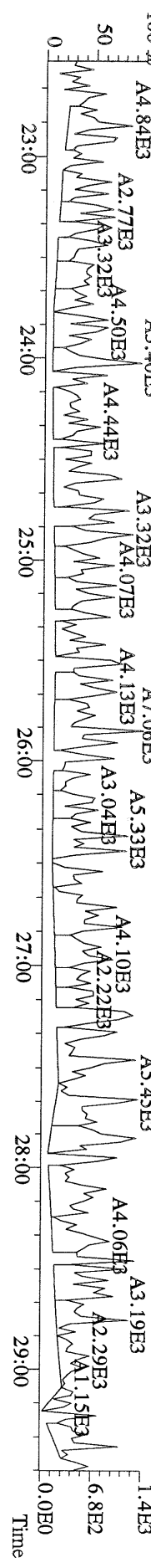
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:P:PCDD  
Sample Text::ST082310M3 File Text:Frontier Analytical Laboratory



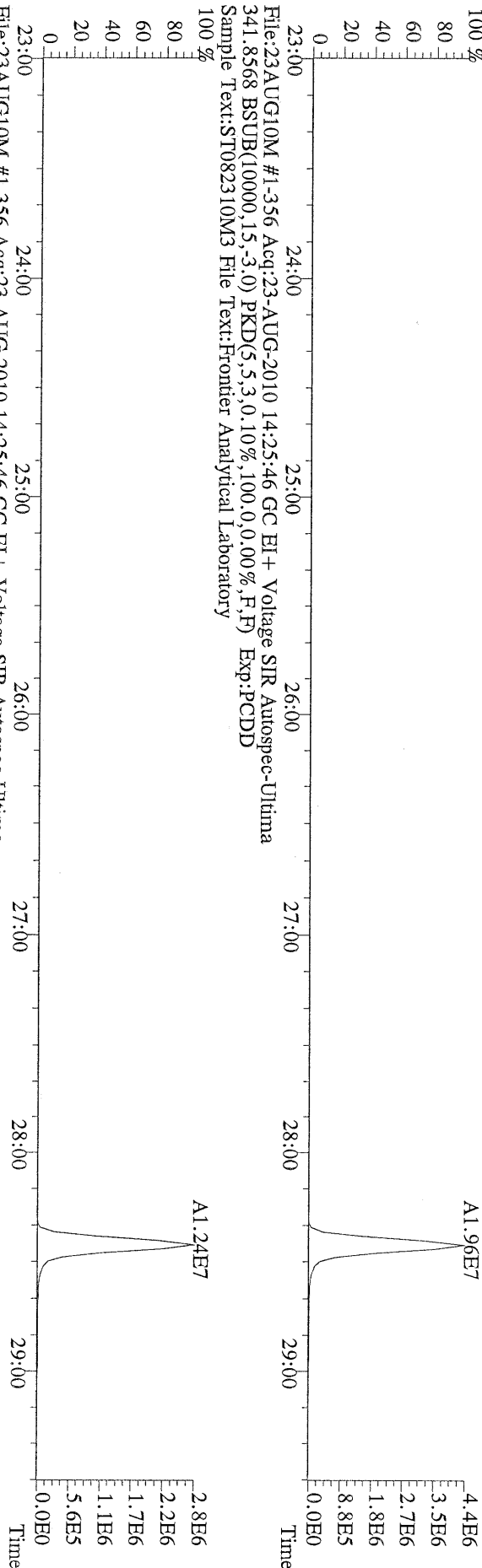
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:P:PCDD  
Sample Text::ST082310M3 File Text:Frontier Analytical Laboratory



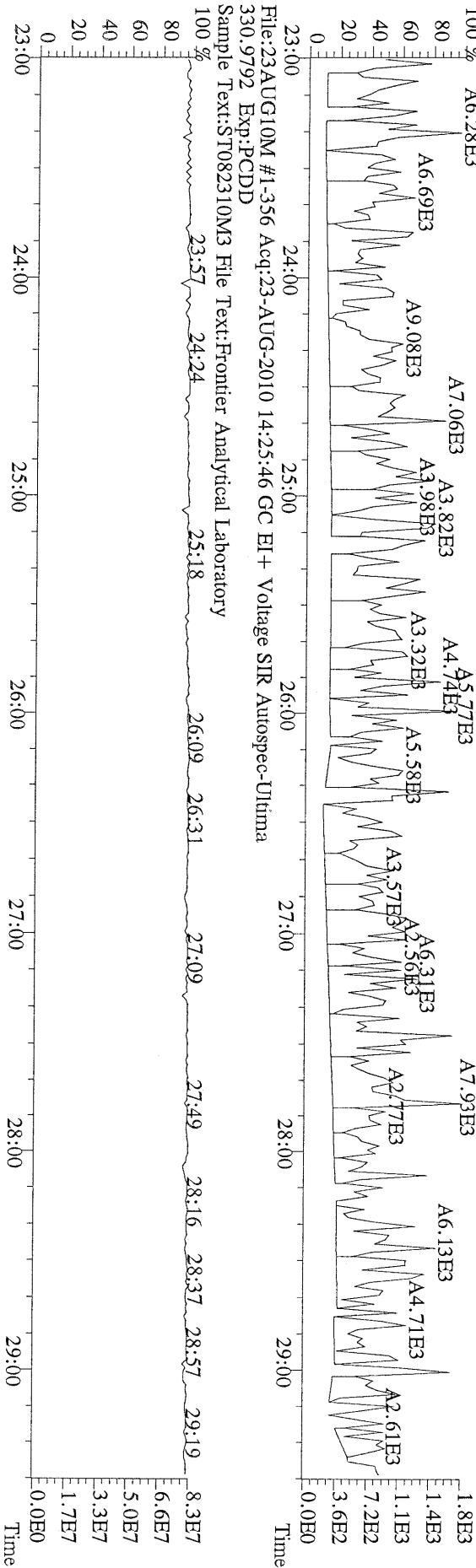
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:P:PCDD  
Sample Text::ST082310M3 File Text:Frontier Analytical Laboratory



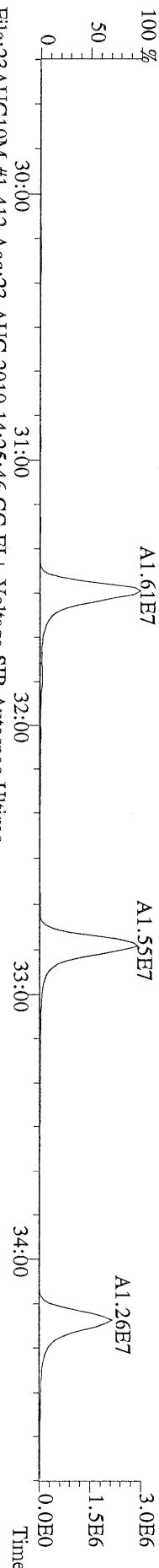
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



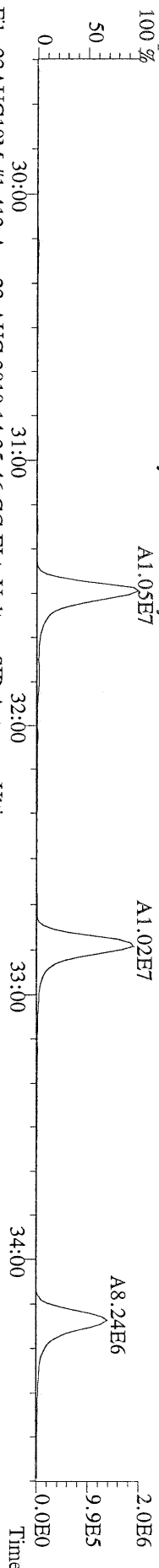
File:23AUG10M #1-356 Acq:23-AUG-2010 14:25:46 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



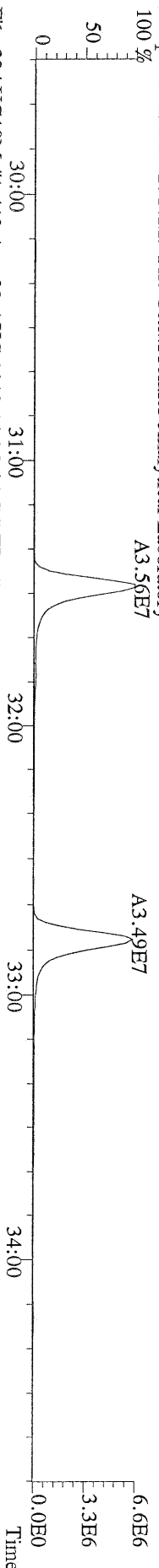
File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



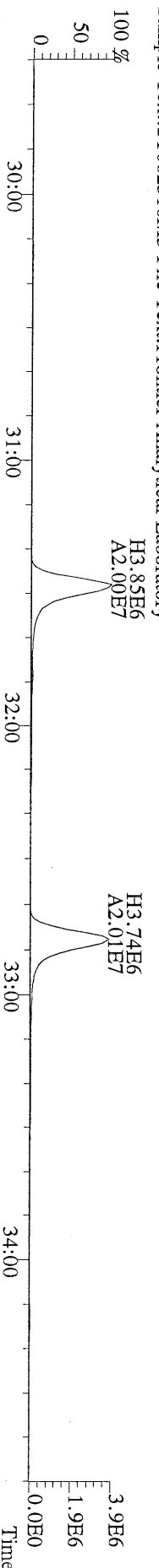
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341.8568 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



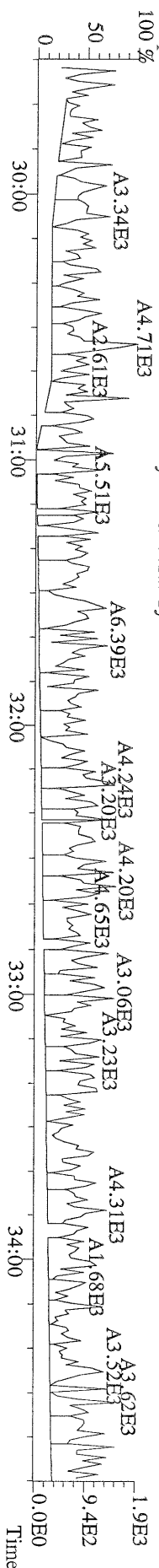
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351.9000 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
353.8970 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory

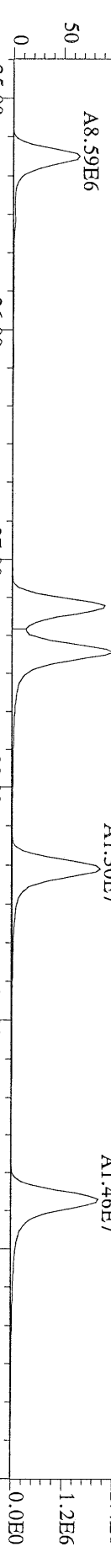


File:23AUG10M #1-412 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
409.7974 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory

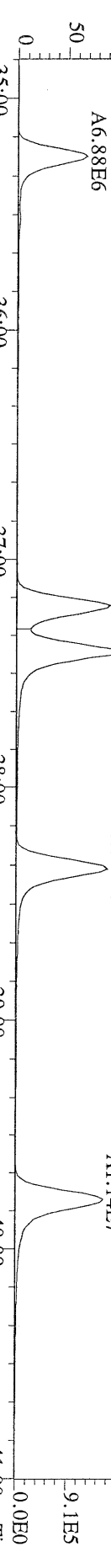




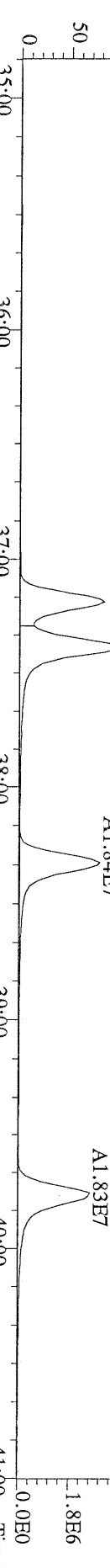
File:23AUG10M #1-477 Acq:23-AUG-2010 14:25:46 GC EI + Voltage SIR Autospec-Ultima  
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



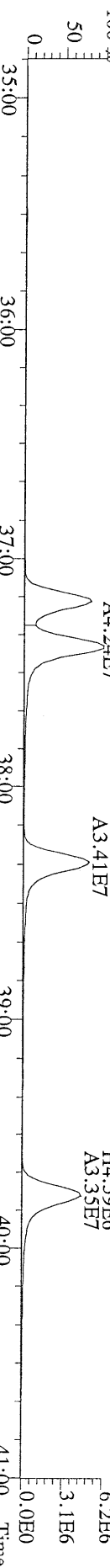
File:23AUG10M #1-477 Acq:23-AUG-2010 14:25:46 GC EI + Voltage SIR Autospec-Ultima  
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



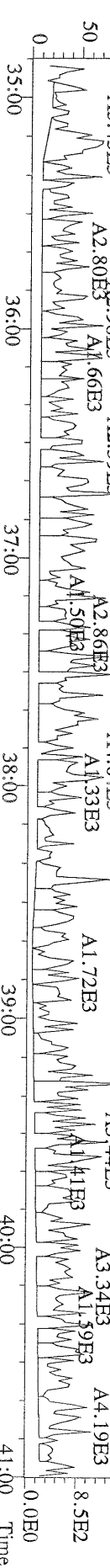
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383.8639 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



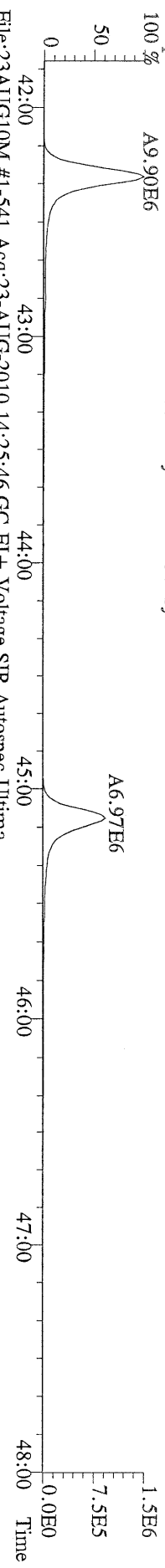
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385.8610 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



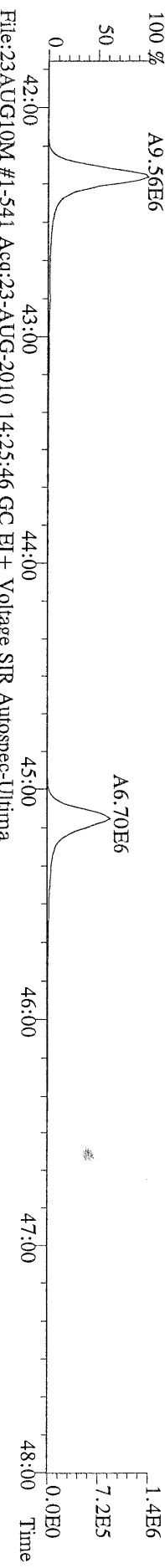
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445.7555 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,100,0.0,0.00% F,F) Exp:PCDD  
Sample Text:ST082310M3 File Text:Fronier Analytical Laboratory



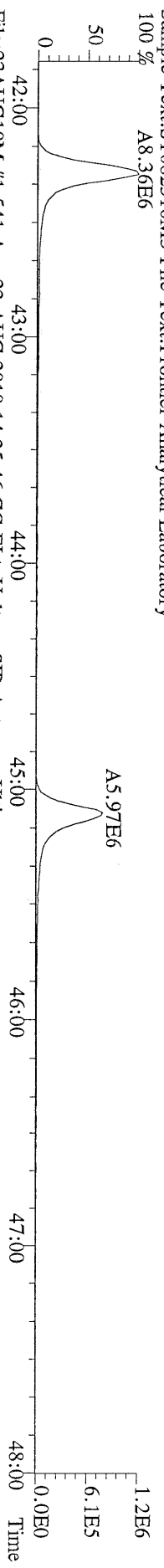
File:23AUG10M #1-541 Acq:23-AUG-2010 14:25:46 GC BI+ Voltage SIR Autospec-Ultima  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



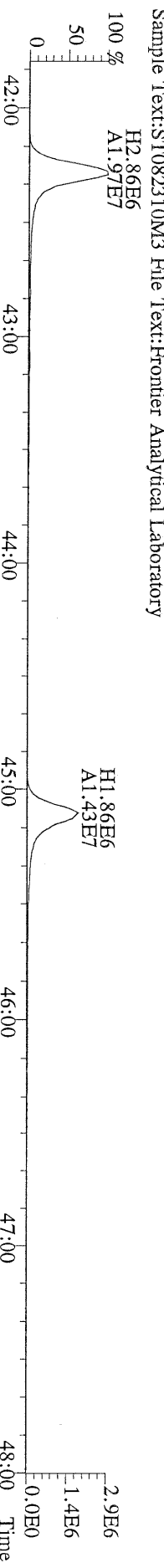
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409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



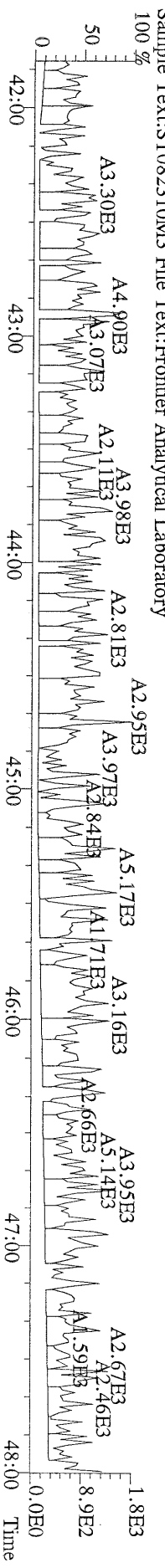
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417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



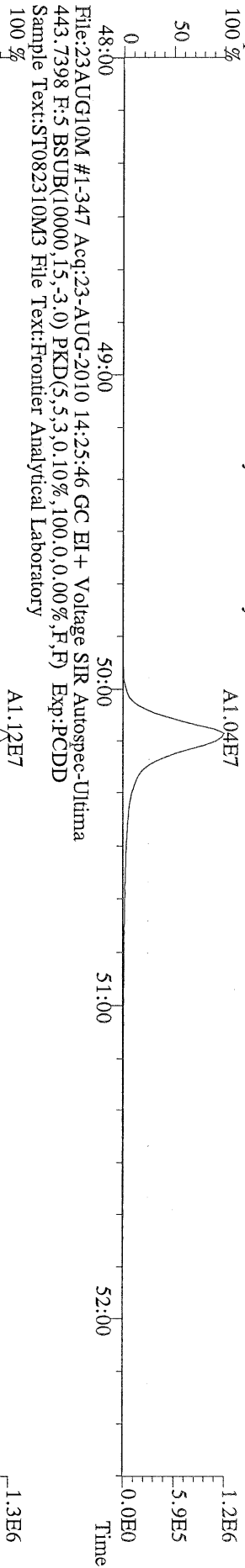
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419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



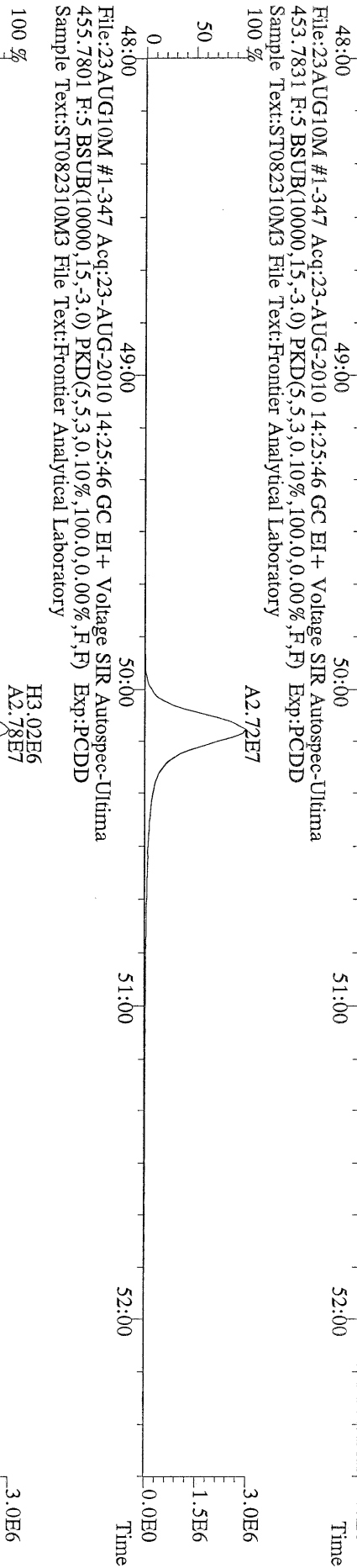
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479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M3 File Text:Pronier Analytical Laboratory



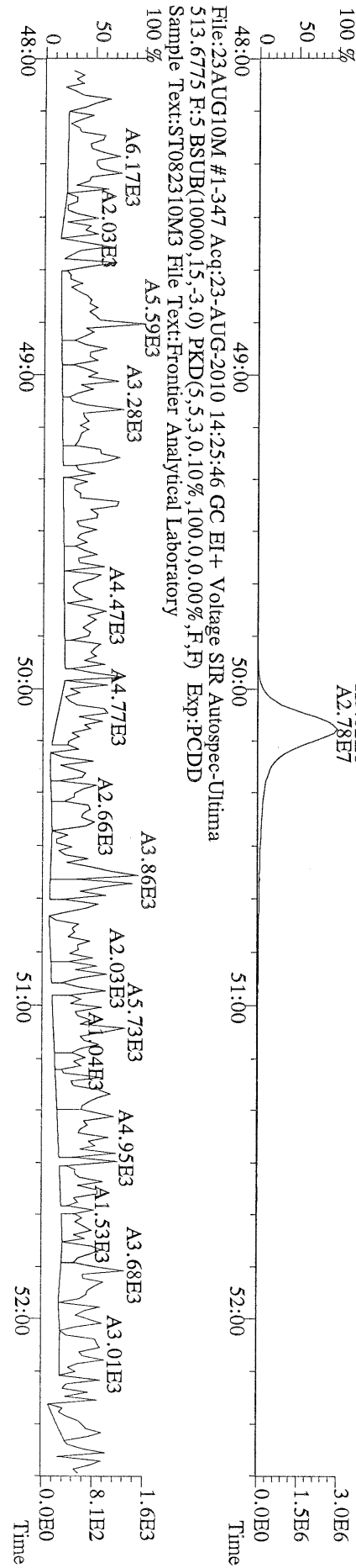
File:23AUG10M #1-347 Acq:23-AUG-2010 14:25:46 GC HI+ Voltage SIR Autospec-Ultima  
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



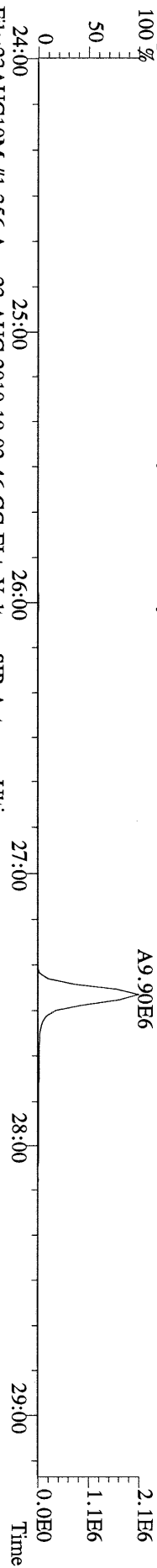
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453.7831 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
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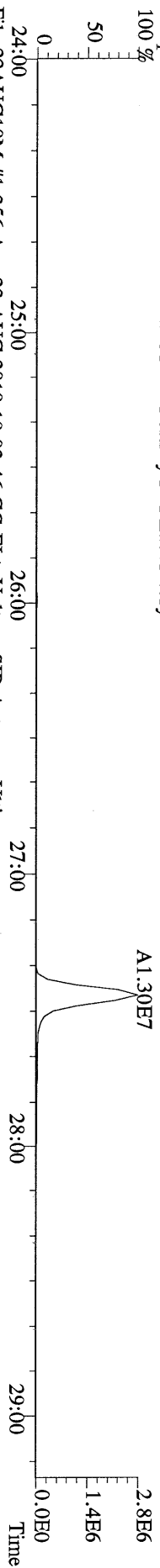
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513.6775 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00% ,F,R) Exp:PCDD  
Sample Text:ST082310M3 File Text:Frontier Analytical Laboratory



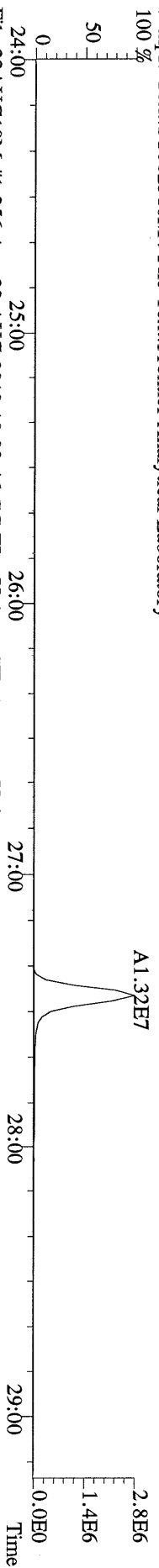
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Utima  
319.8965 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



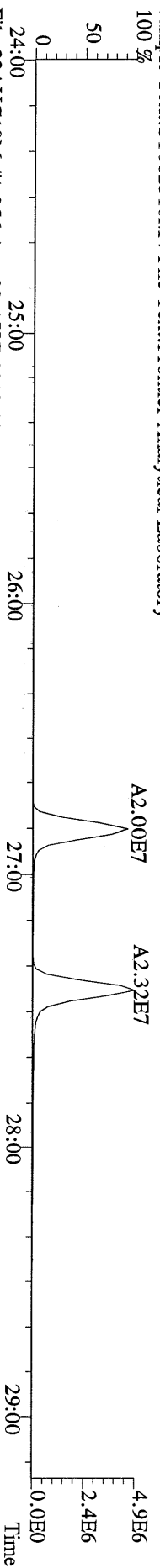
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321.8936 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



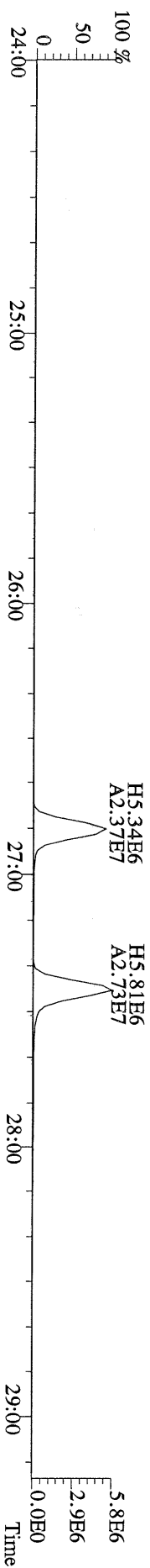
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327.8847 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



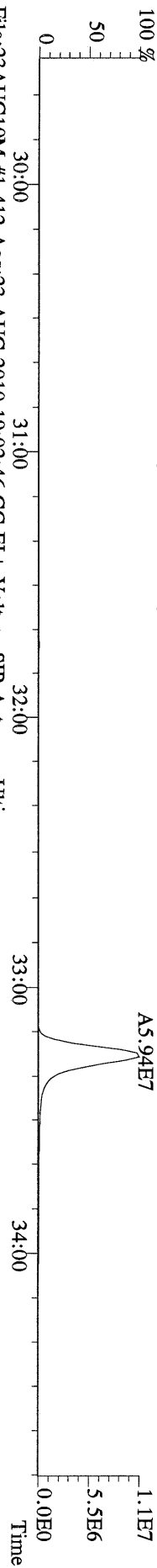
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331.9368 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



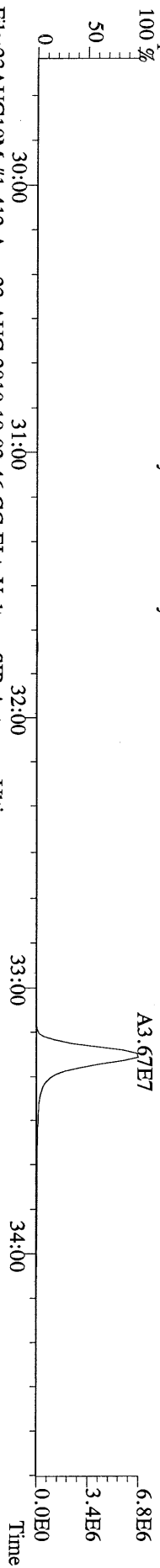
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Utima  
333.9339 S:6 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



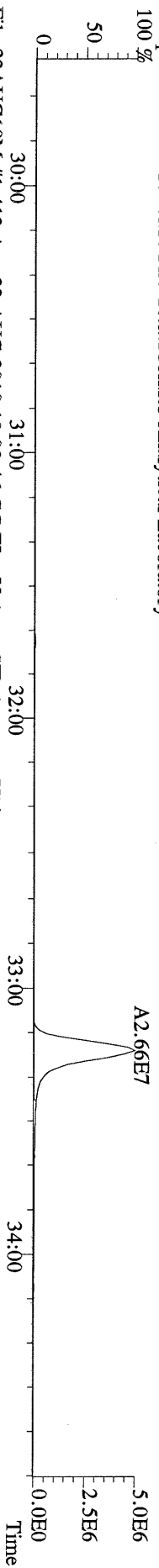
File:23AUG10M #1-412 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



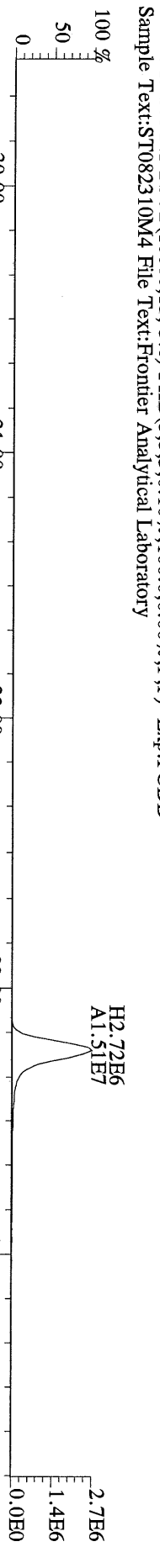
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Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



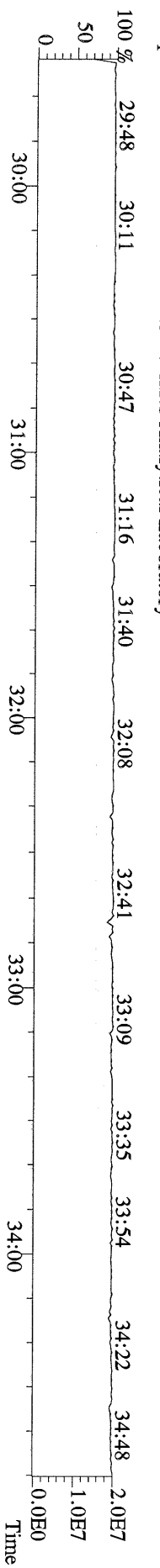
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367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



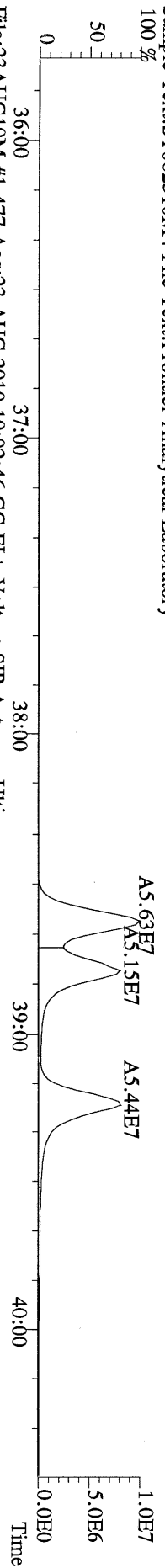
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369.8919 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



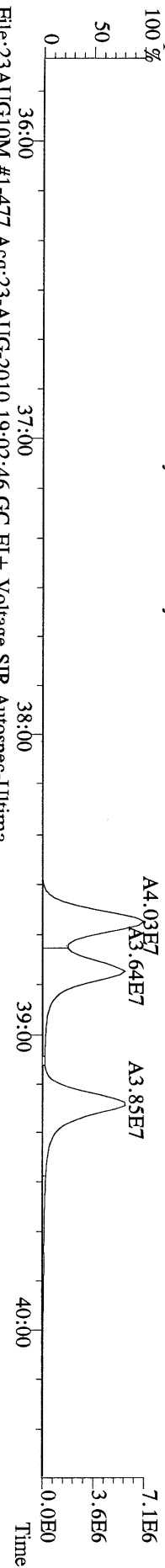
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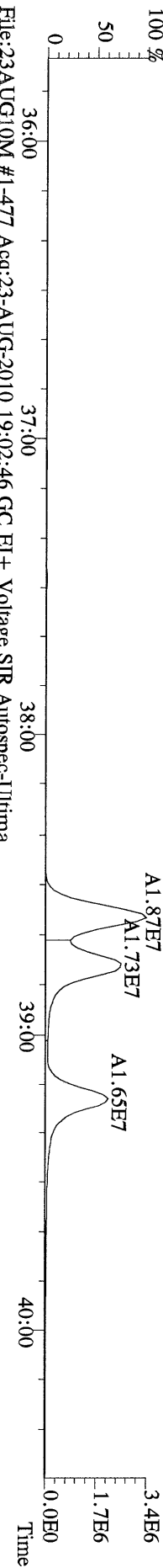
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 389.8156 S:6 F:3 BSUB(10000,15,-3.0) Exp:PCDD  
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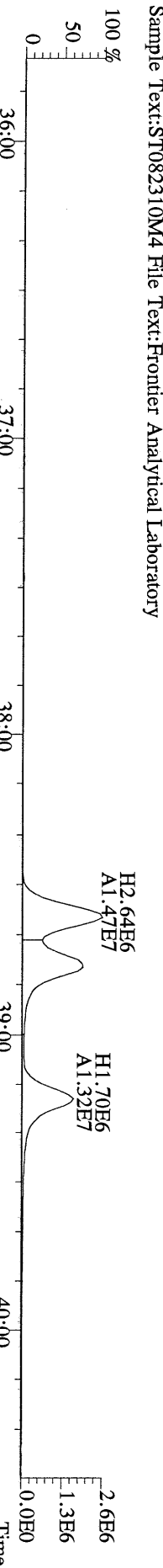
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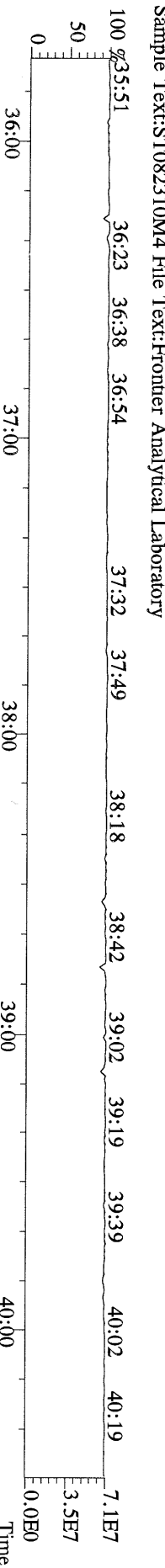
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 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



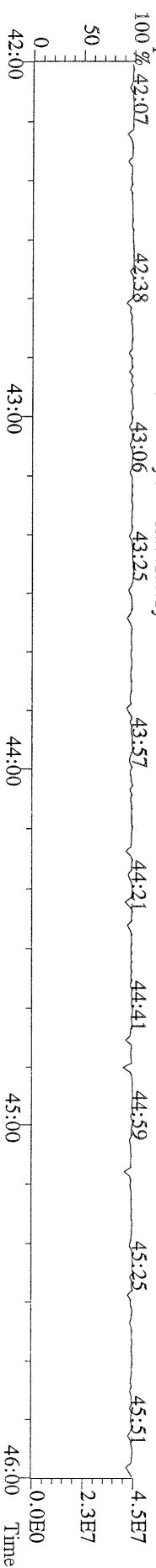
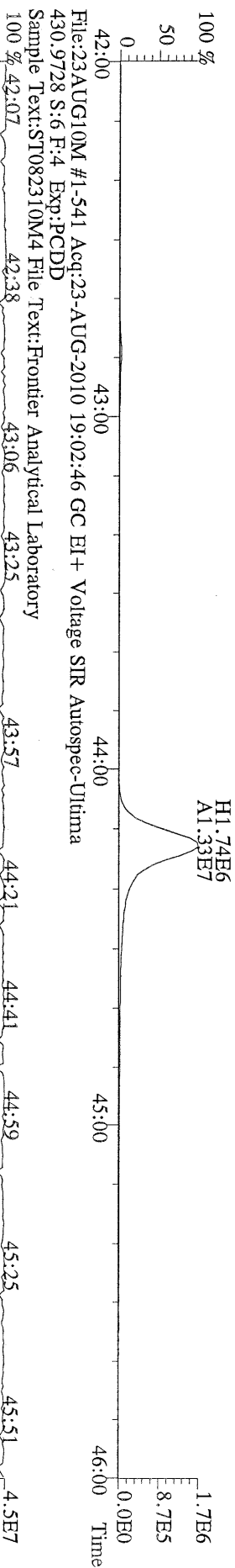
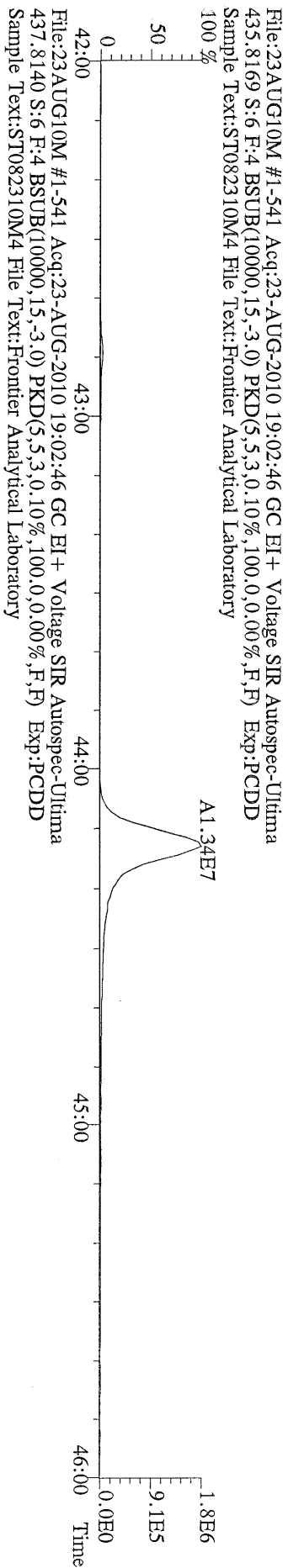
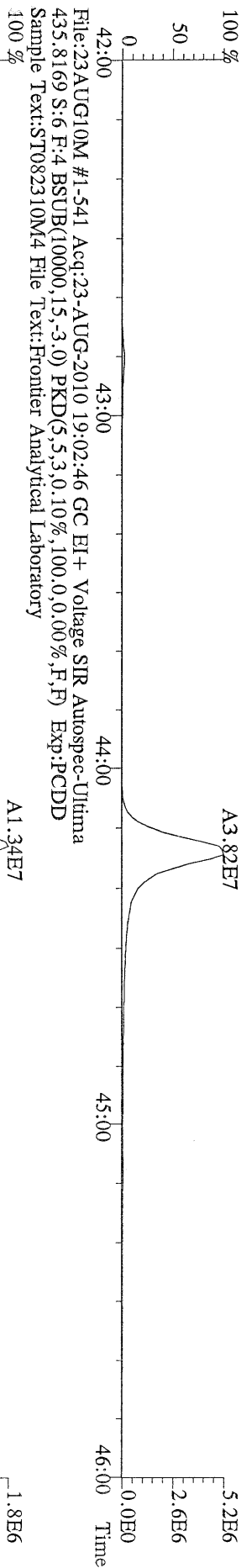
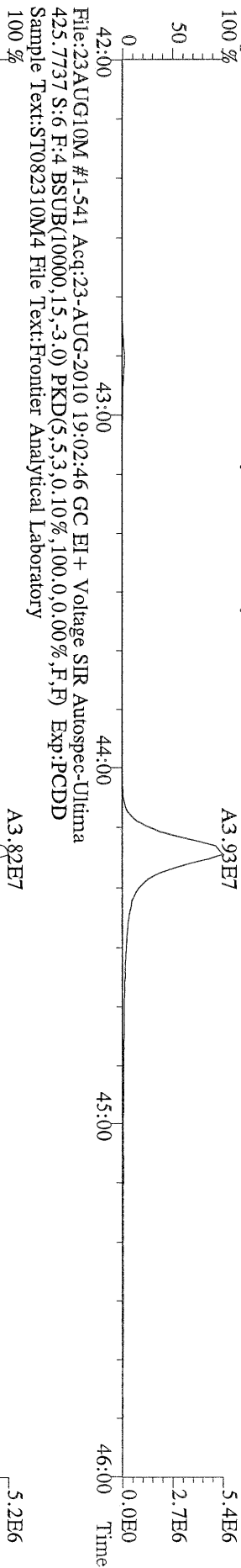
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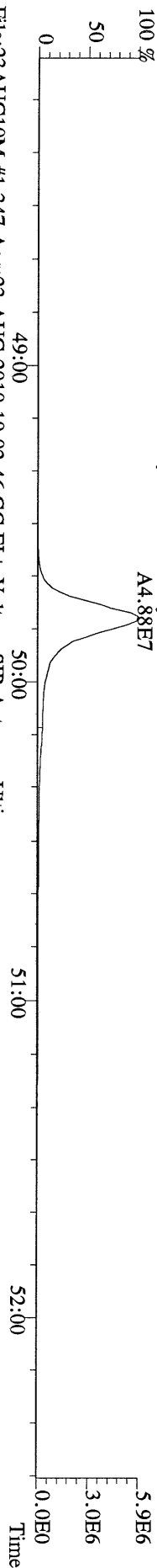
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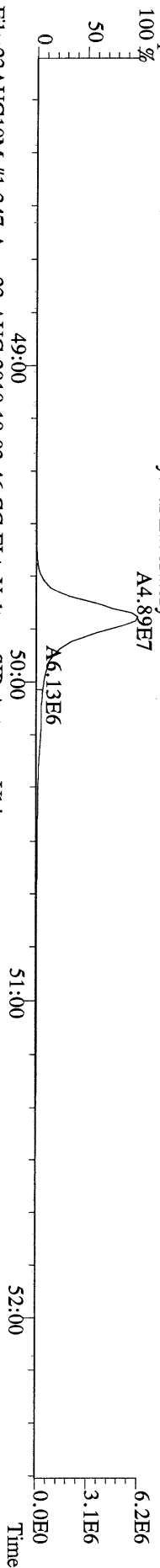
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423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



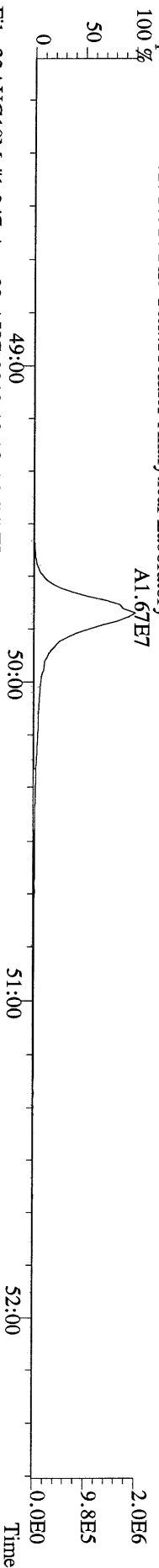
File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Utlima  
457.7377 S:6 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



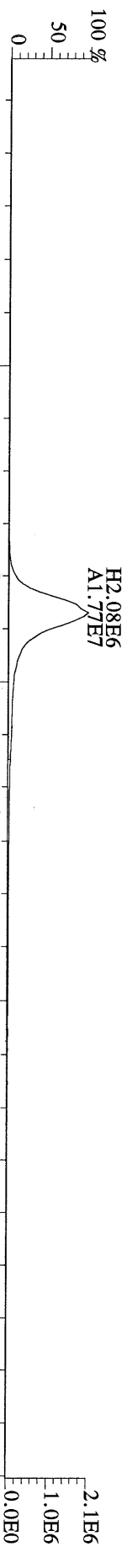
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459.7348 S:6 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



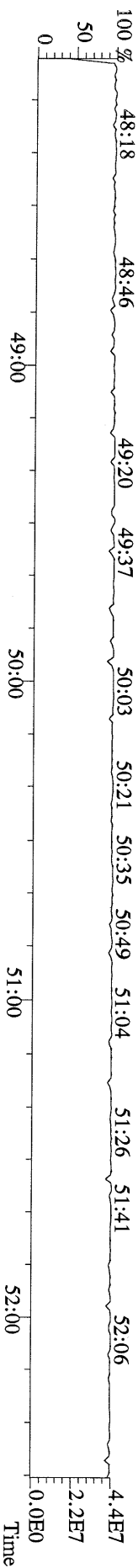
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469.7780 S:6 F:5 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



File:23AUG10M #1-347 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Utlima  
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Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory

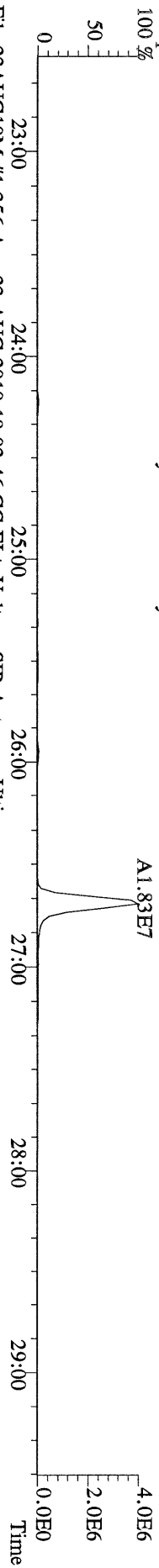


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454.9728 S:6 F:5 Exp:PCDD  
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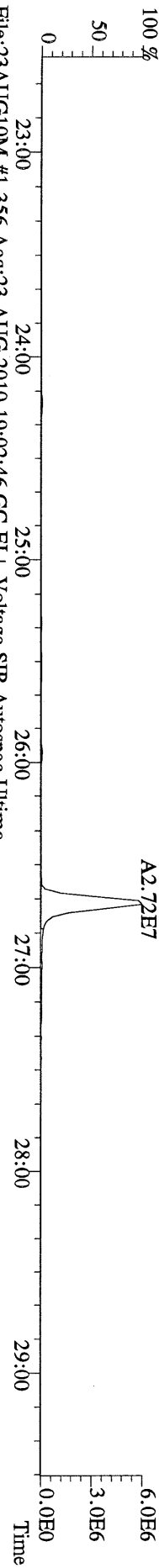




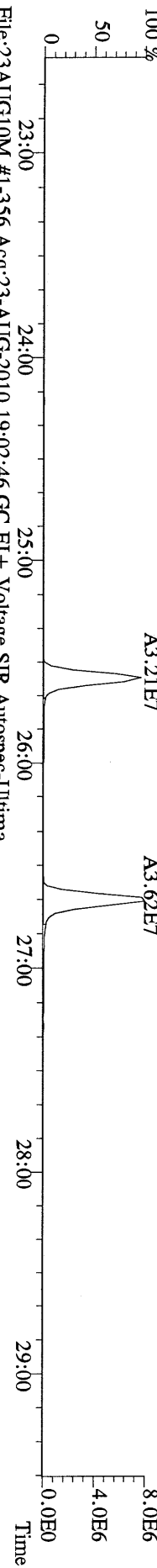
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303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



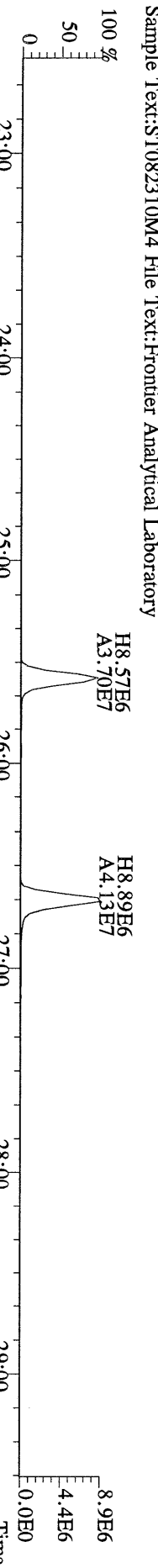
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305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
100 %



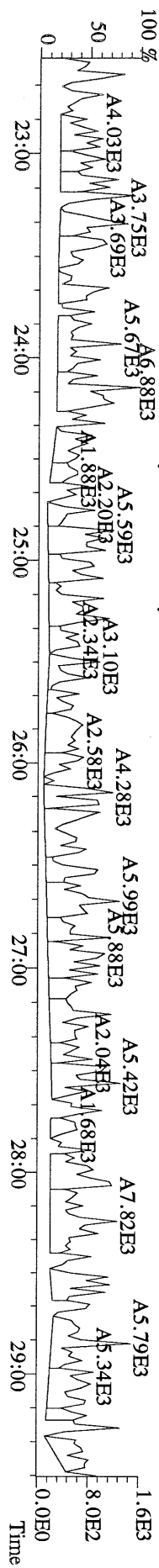
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315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory  
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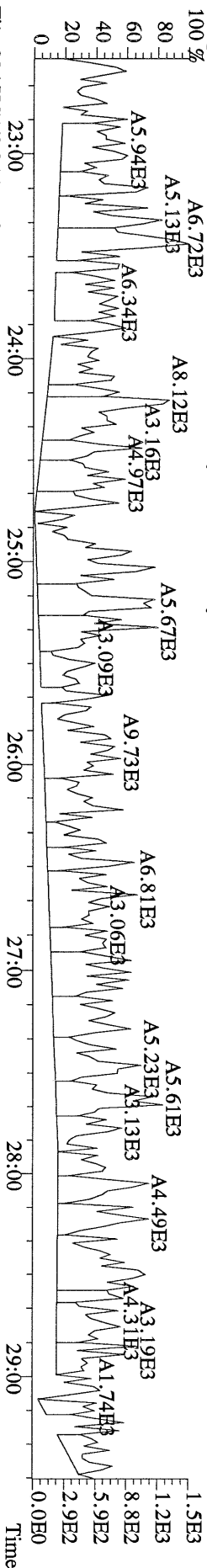
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317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



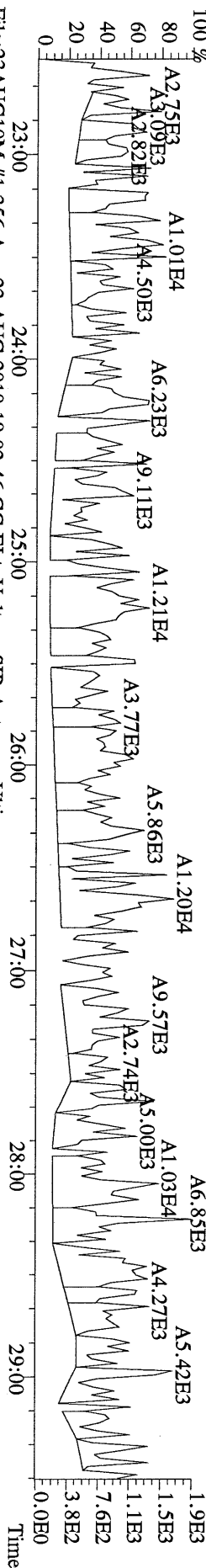
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375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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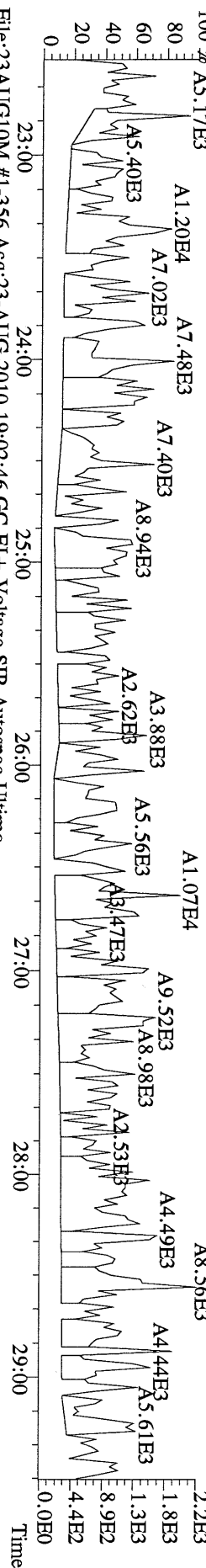
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 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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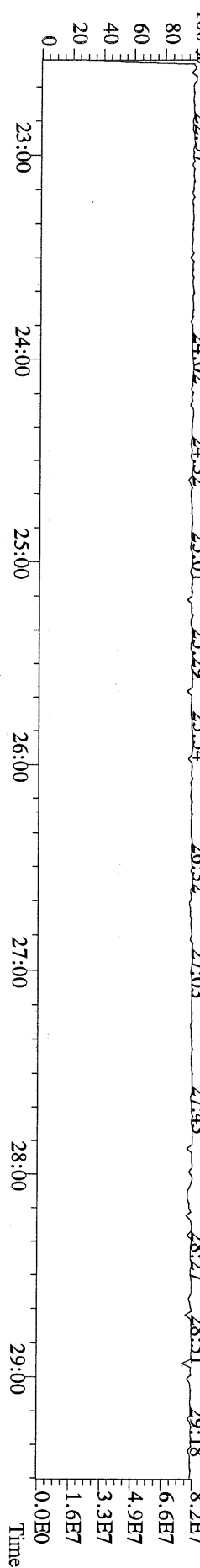
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 341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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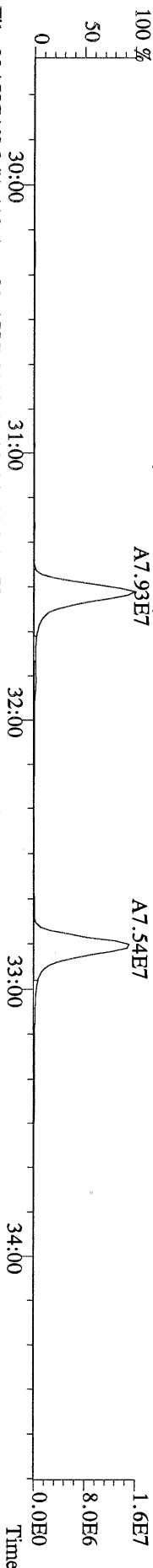
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 409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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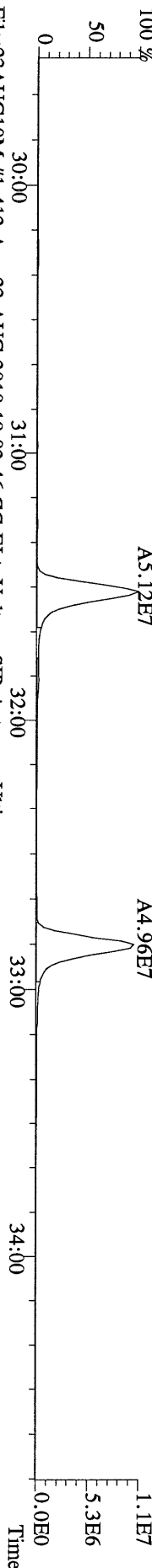
File:23AUG10M #1-356 Acq:23-AUG-2010 19:02:46 GC EI+ Voltage SIR Autospec-Ultima  
 LOCK MASS CHECK S:6 Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



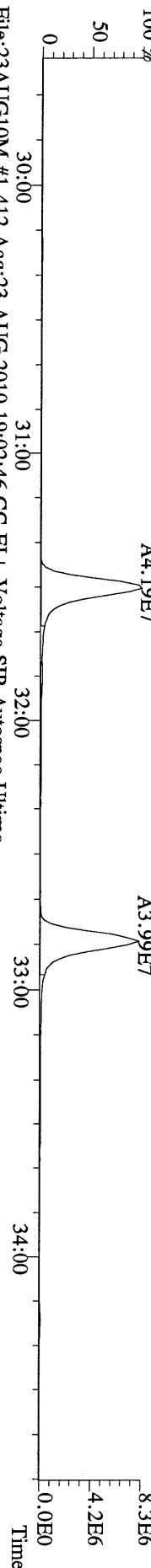
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 339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



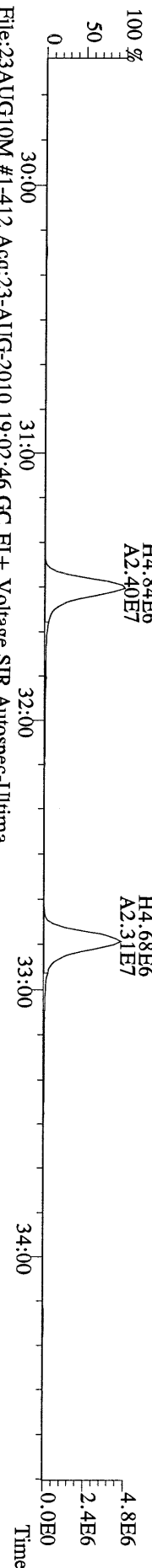
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 341.8568 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
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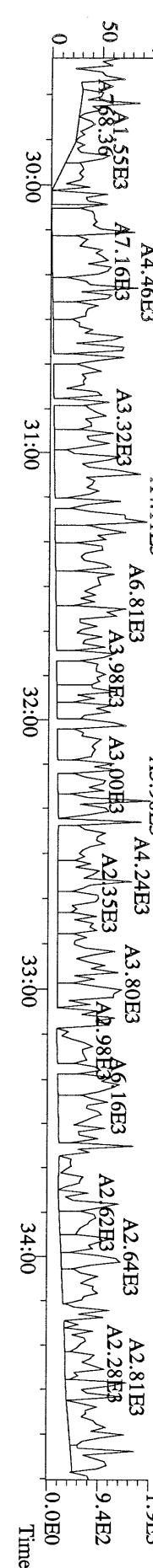
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 351.9000 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3.0,100,0,0.00%,F,F) Exp:PCDD  
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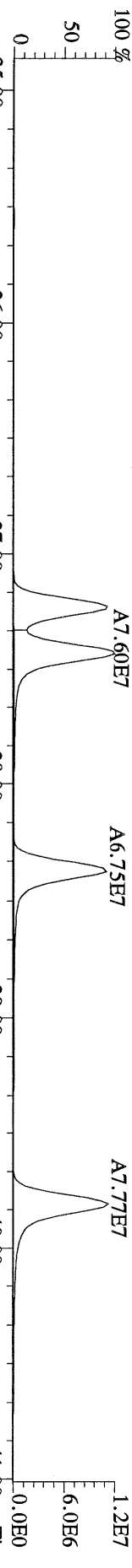
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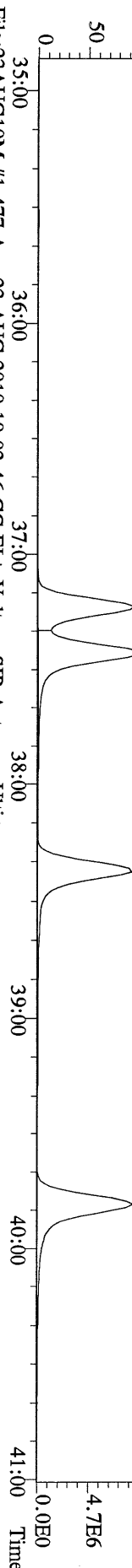
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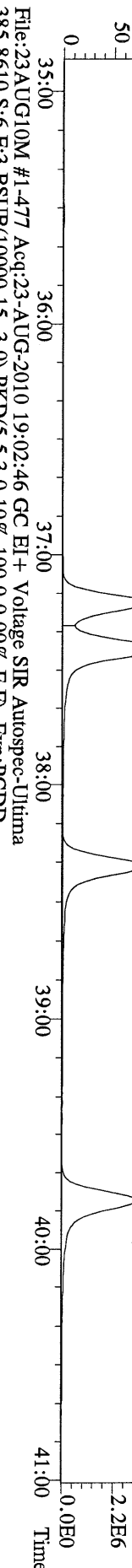
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 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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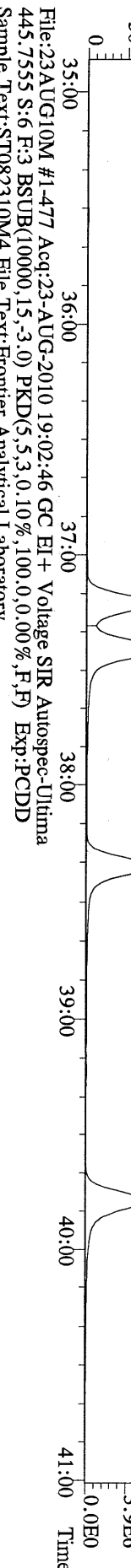
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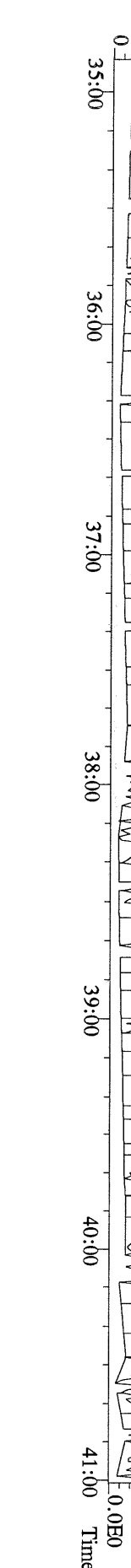
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 383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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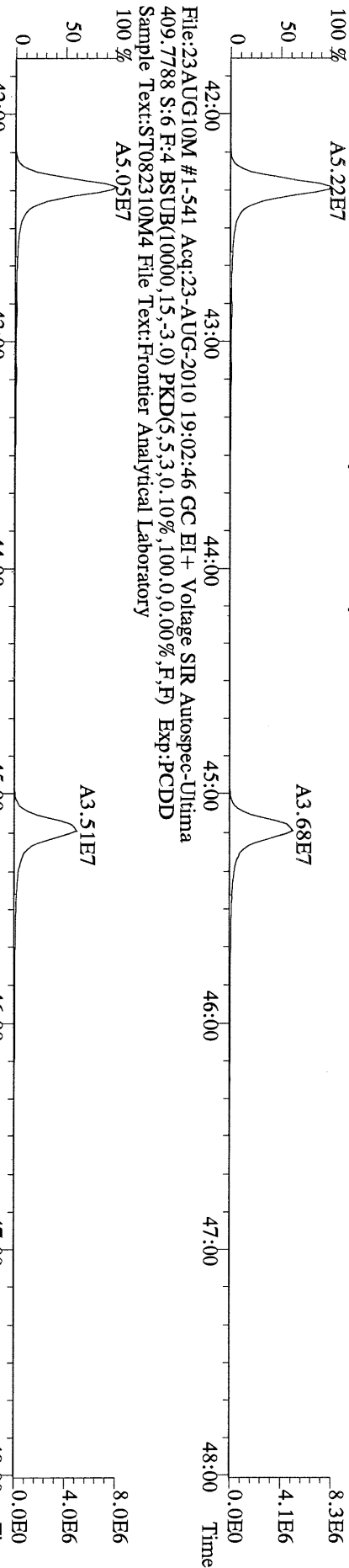
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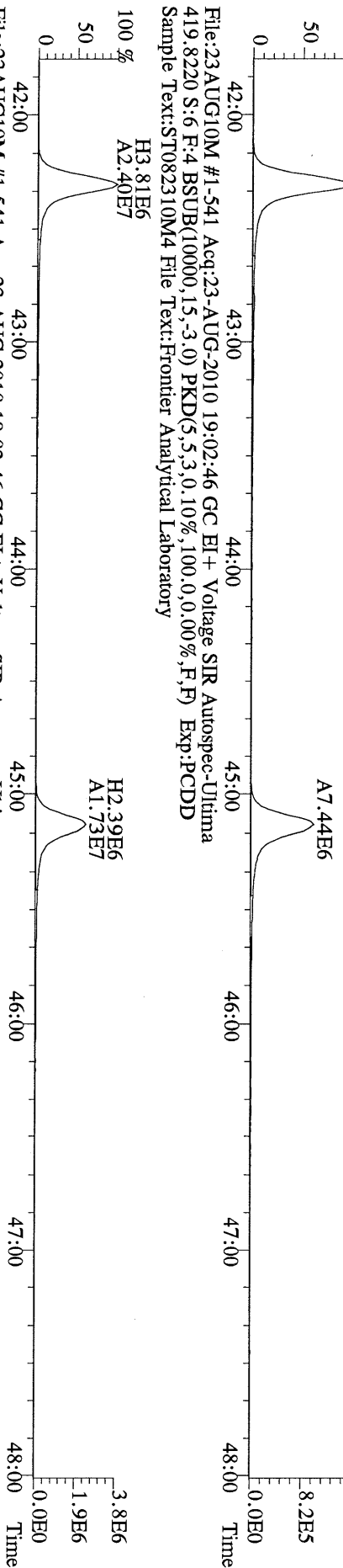
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 445.7555 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
 Sample Text:ST082310M4 File Text:Fronier Analytical Laboratory



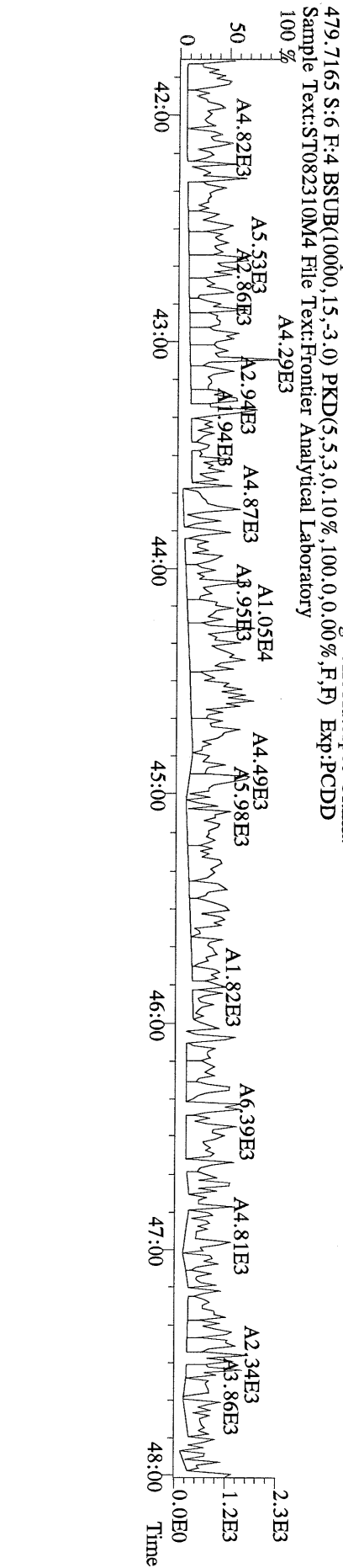
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407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



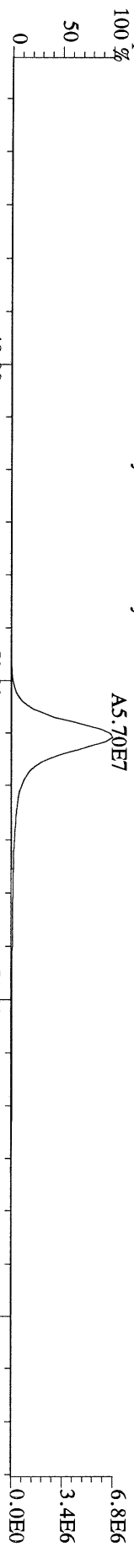
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417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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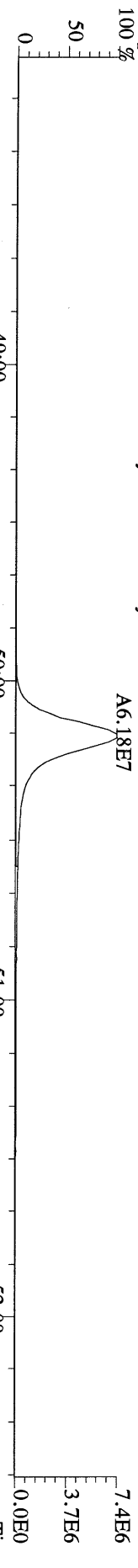
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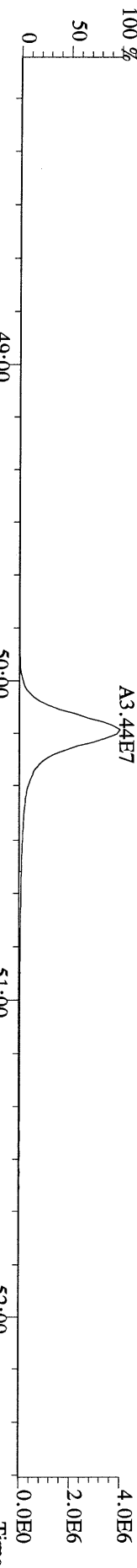
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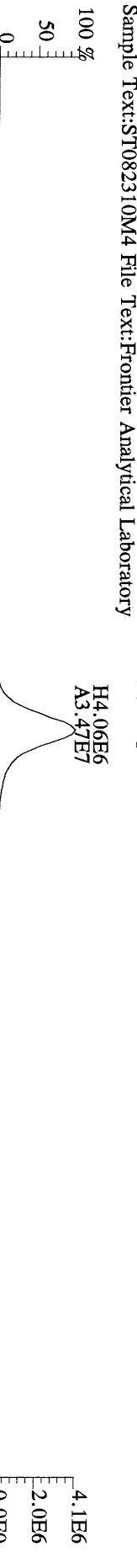
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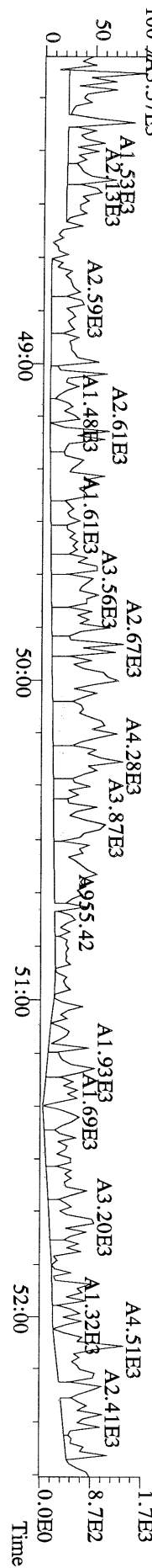
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453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



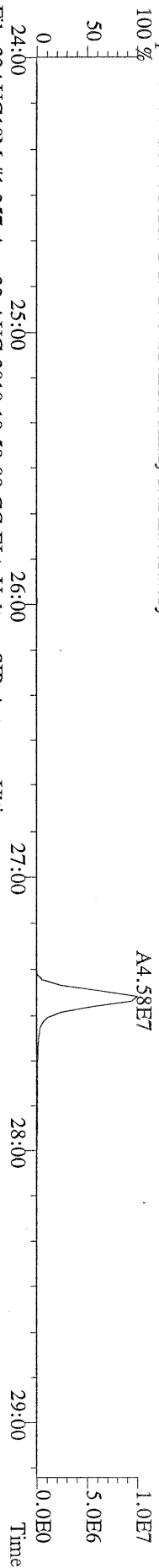
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455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



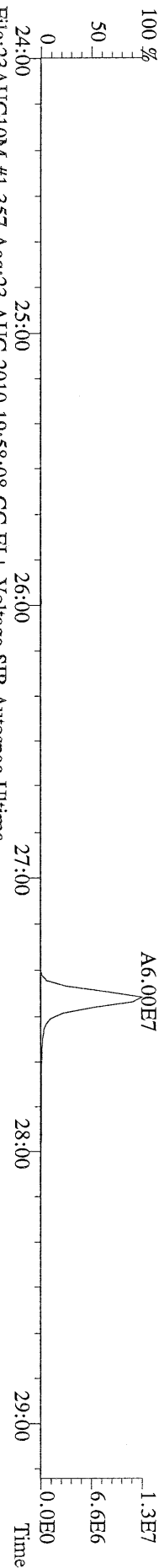
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513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M4 File Text:Frontier Analytical Laboratory



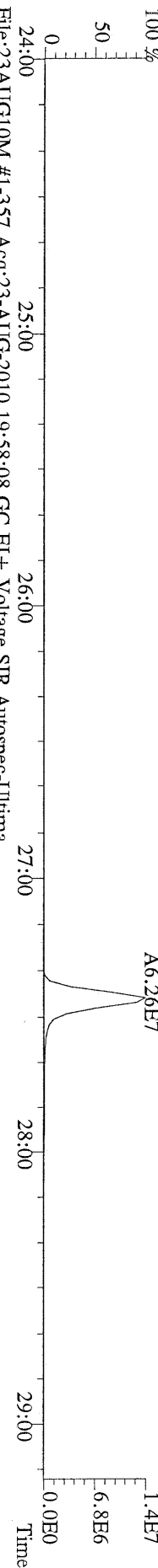
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



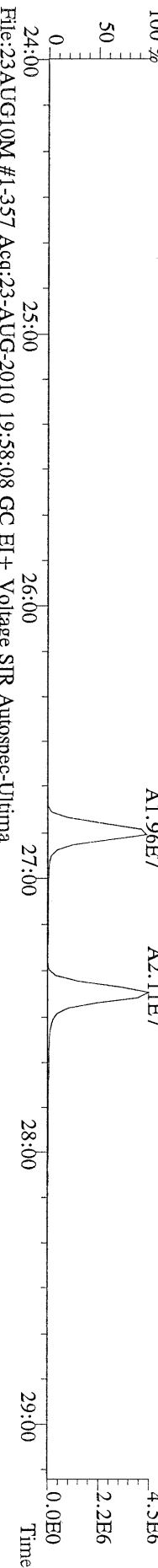
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
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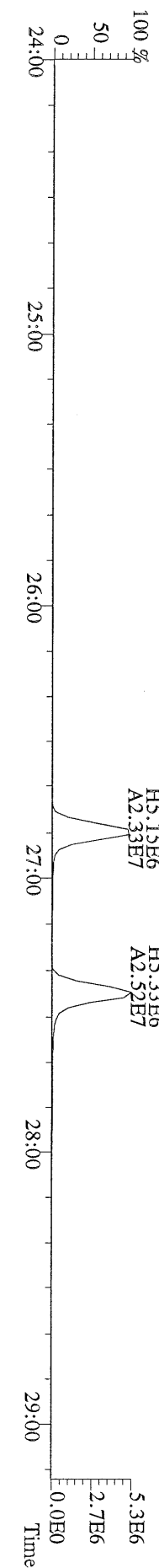
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327.8847 S:7 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



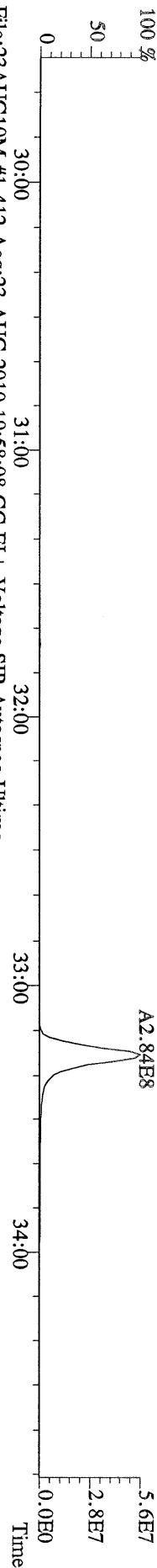
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331.9368 S:7 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



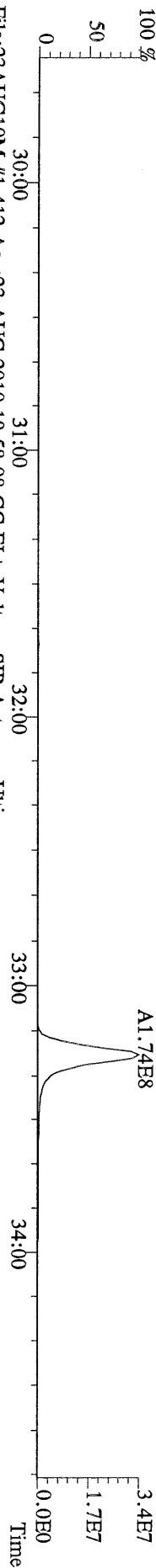
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333.9339 S:7 BSUB(10000,15,-3,0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



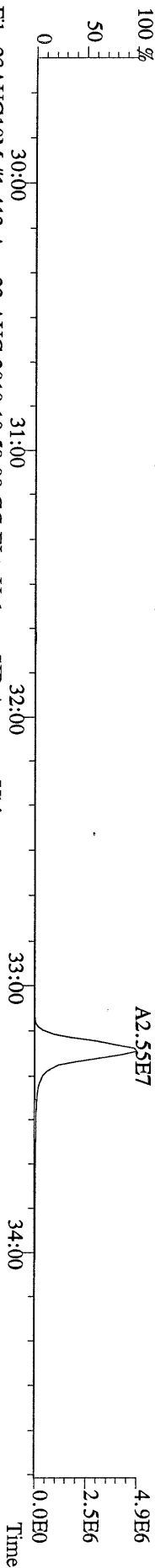
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355.8546 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



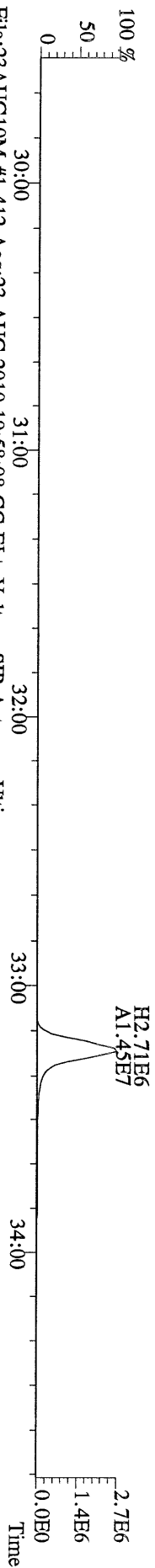
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357.8517 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



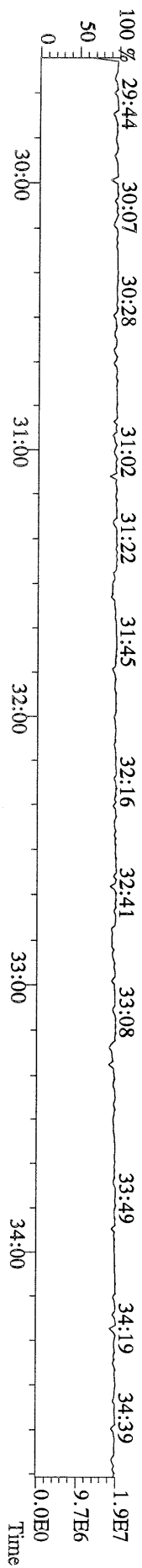
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367.8949 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
369.8919 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

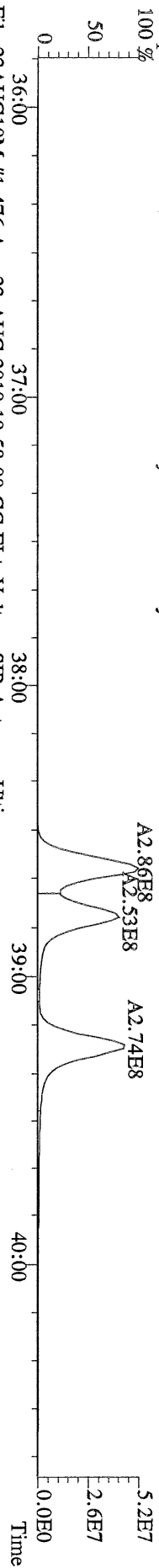


File:23AUG10M #1-412 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
366.9792 S:7 F:2 Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

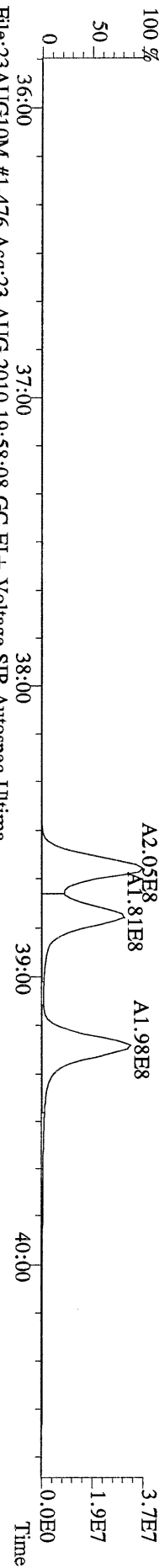




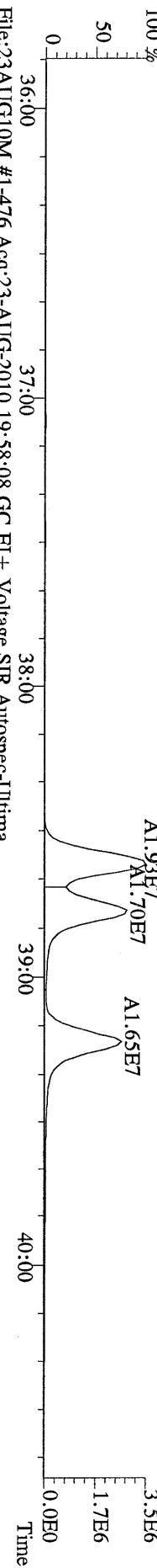
File:23AUG10M #1-476 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
389.8156 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



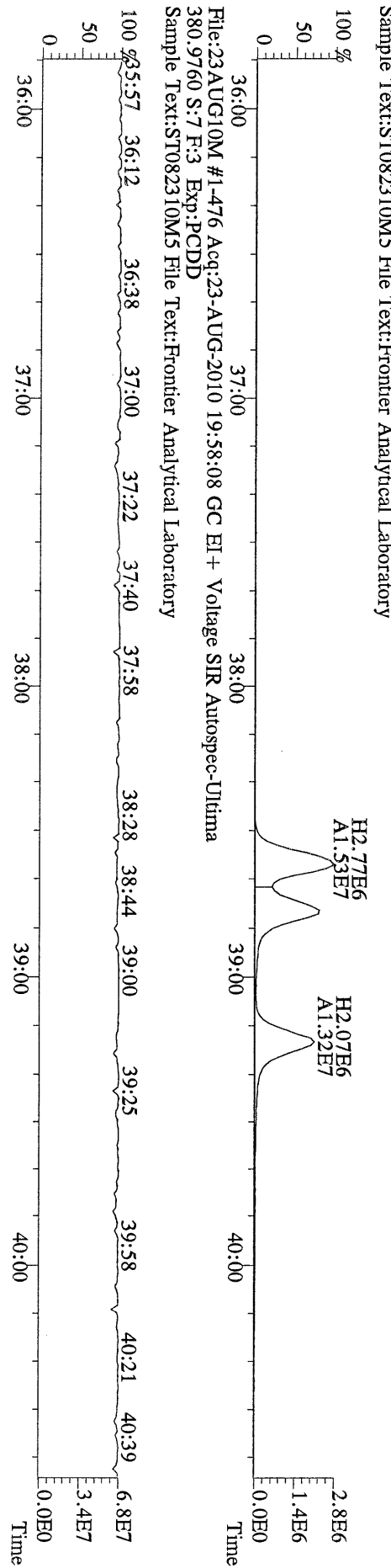
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391.8127 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



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401.8559 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

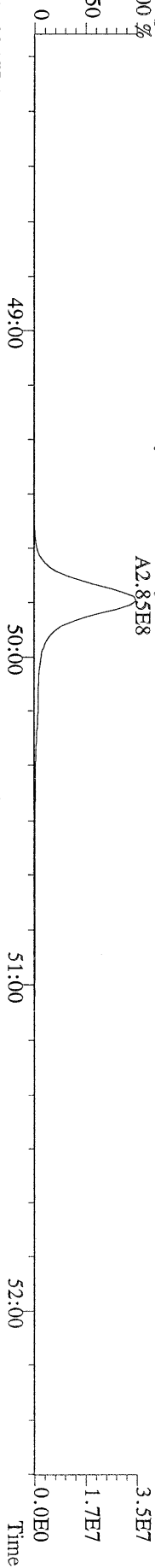


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403.8530 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

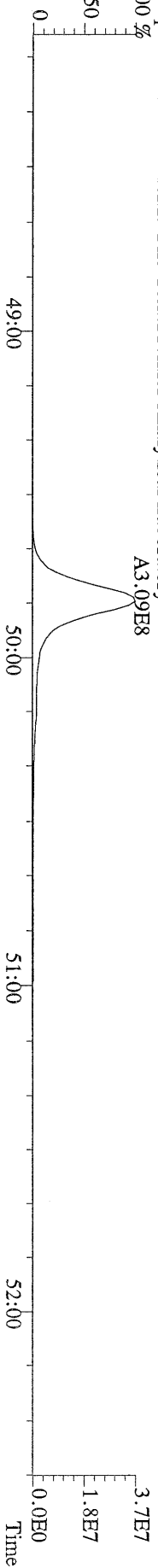




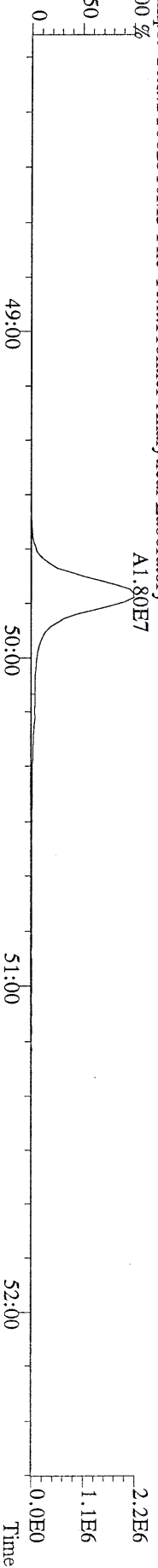
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457.7377 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



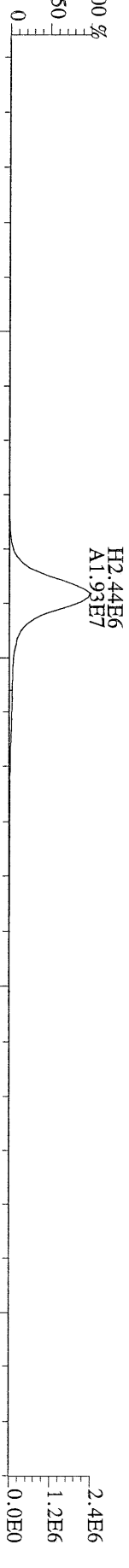
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459.7348 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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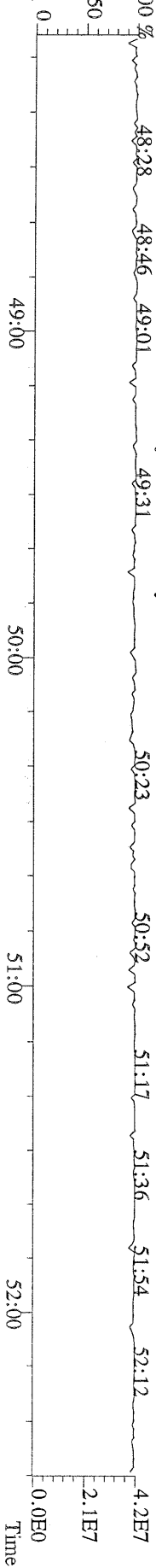
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469.7780 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:PCDD  
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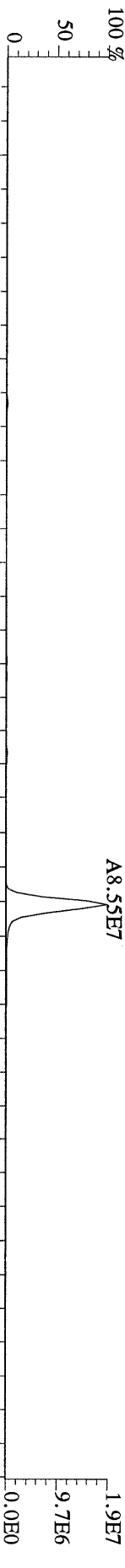
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Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



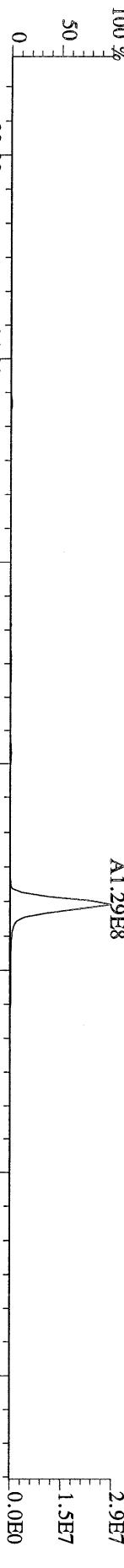
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454.9728 S:7 F:5 Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-357 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



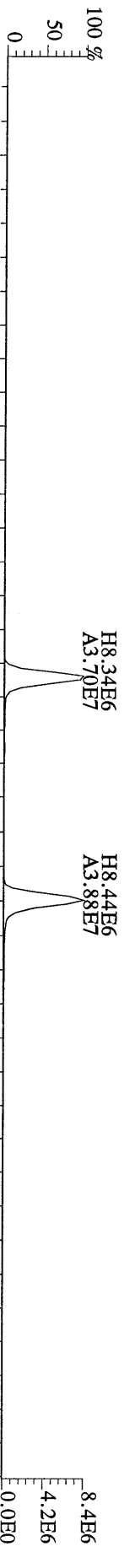
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305.8987 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



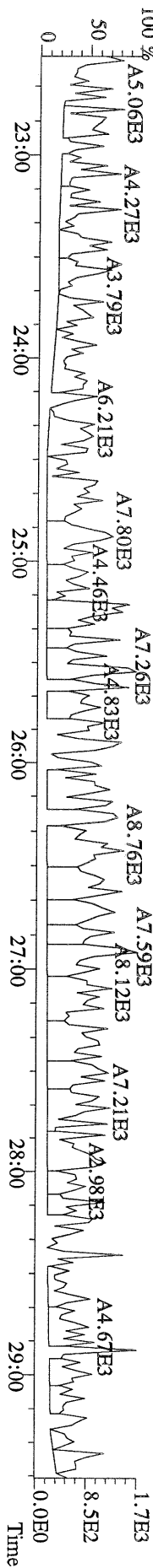
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315.9419 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



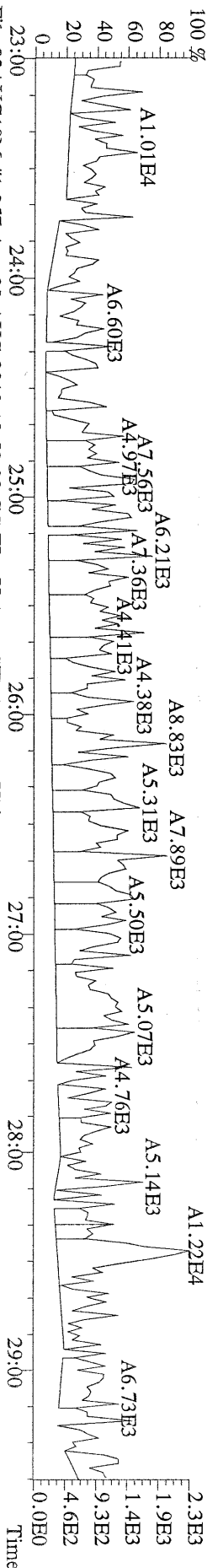
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317.9389 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
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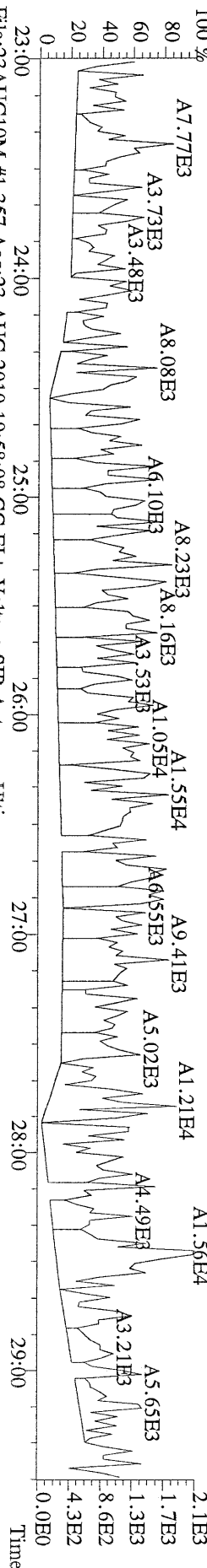
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375.8364 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



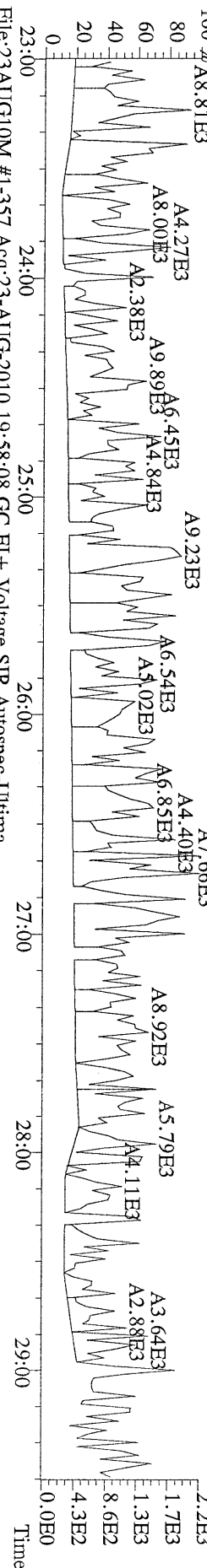
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 339.8597 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



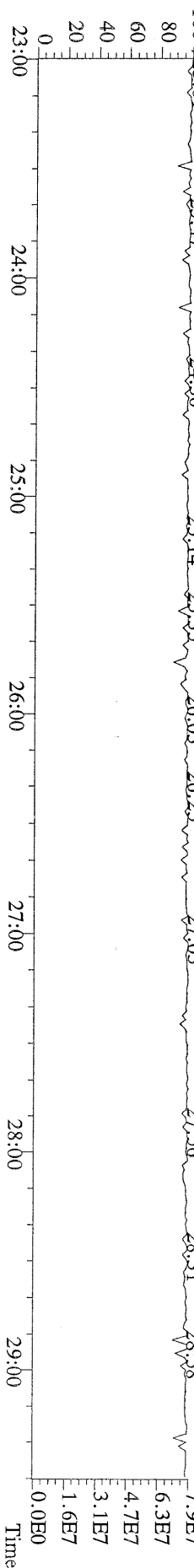
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 341.8568 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



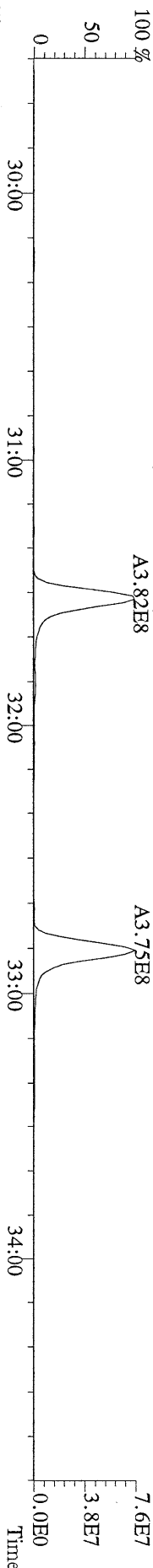
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 409.7974 S:7 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



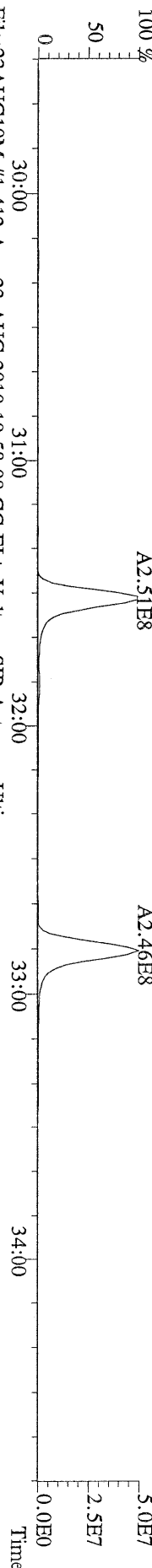
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 330.9792 S:7 Exp:PCDD  
 Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



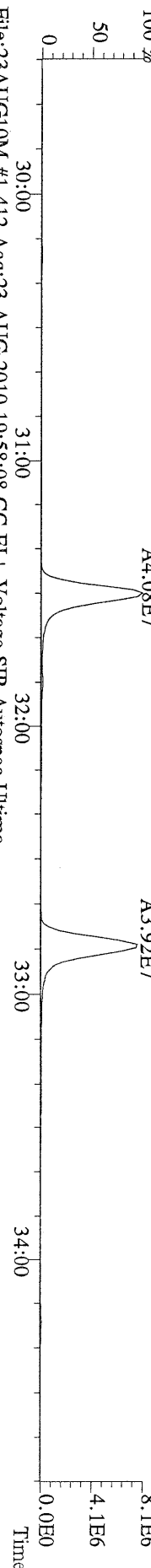
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 339.8597 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory



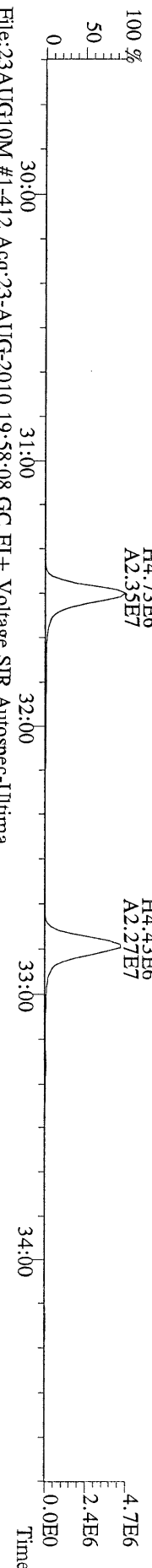
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 341.8568 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:PCDD  
 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory



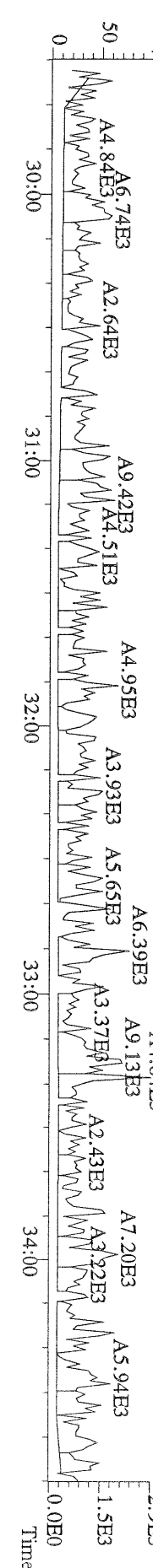
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 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory



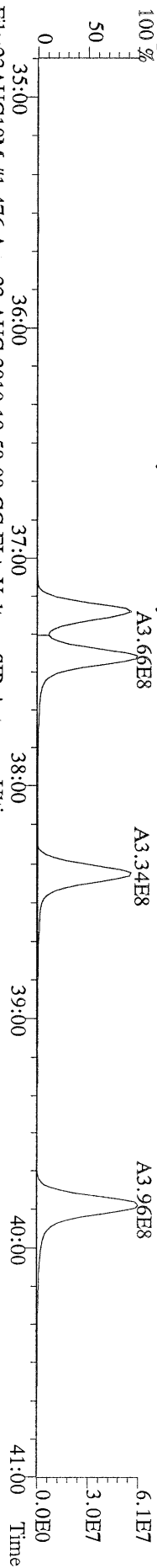
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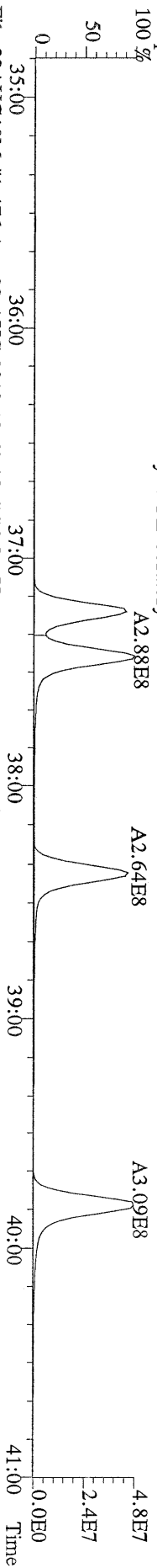
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 Sample Text:ST082310M5 File Text:Fronier Analytical Laboratory



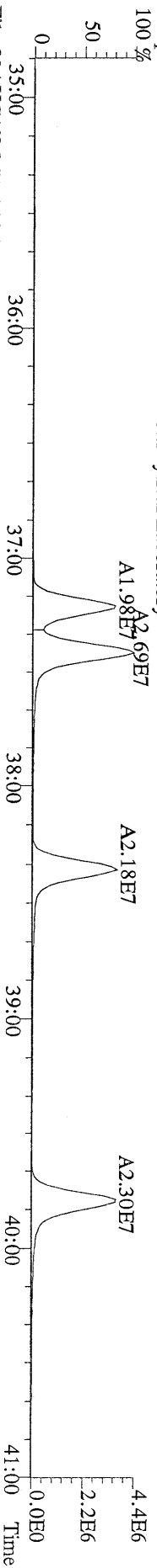
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373.8207 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



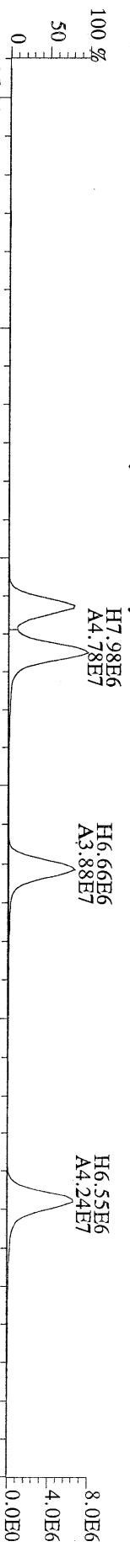
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375.8178 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
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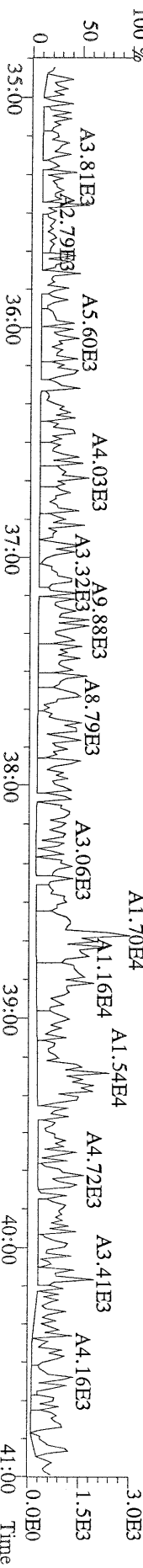
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383.8639 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
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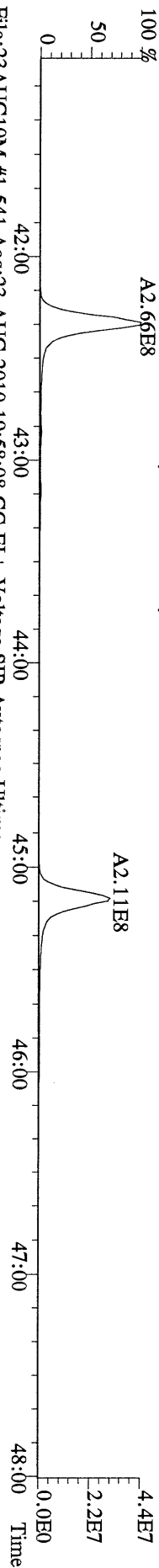
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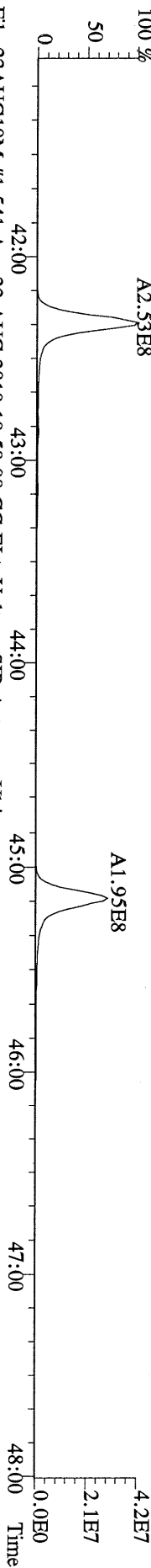
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445.7555 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



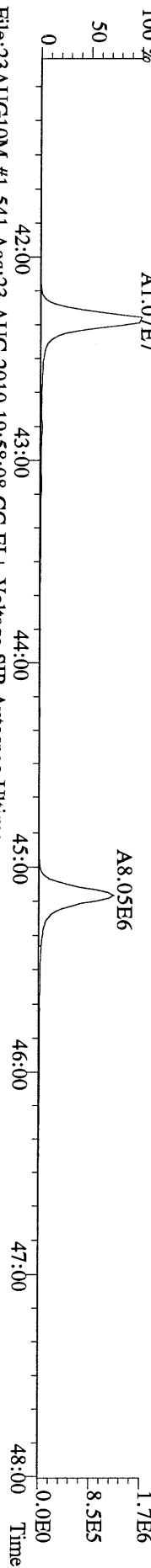
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407.7818 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



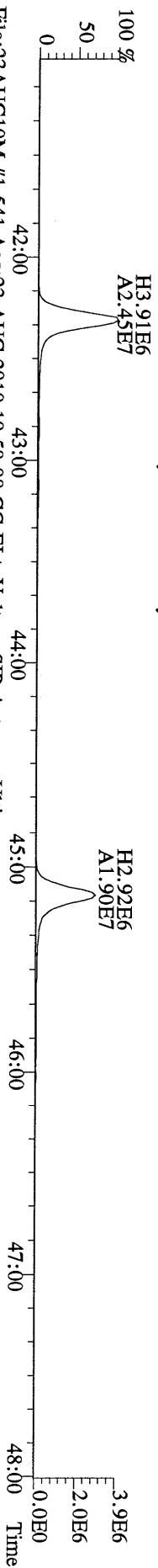
File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
409.7788 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



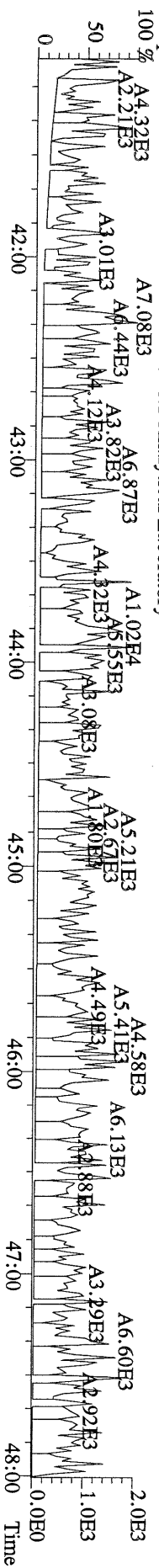
File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
417.8253 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory



File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
419.8220 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

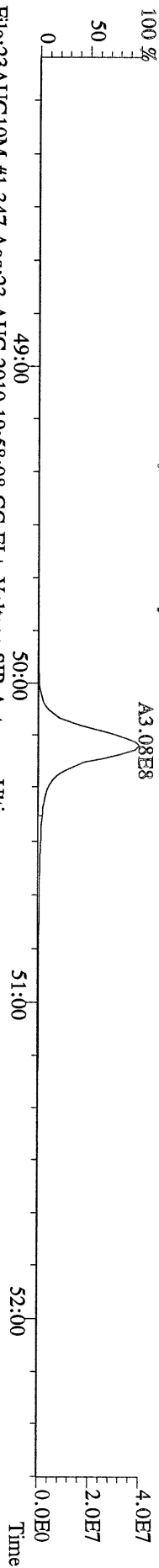


File:23AUG10M #1-541 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Utima  
479.7165 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

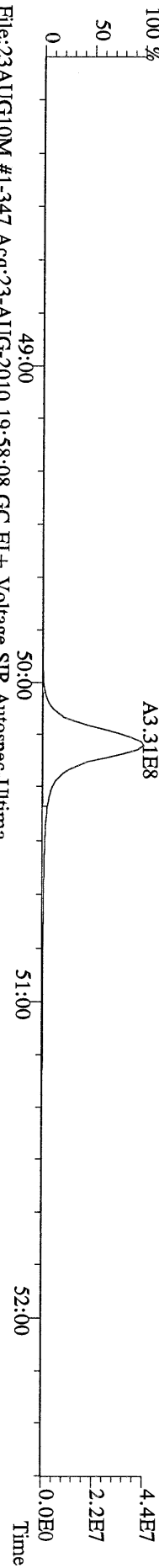




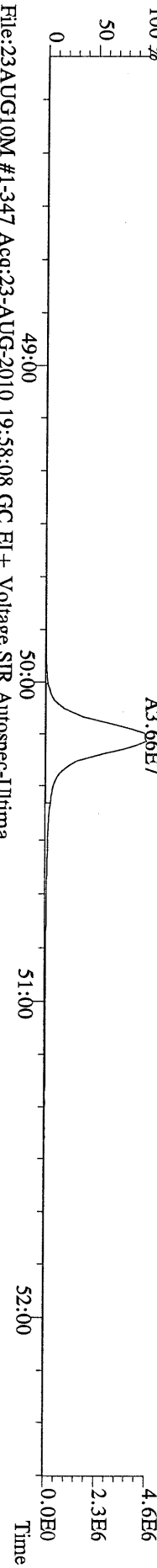
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
441.7428 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



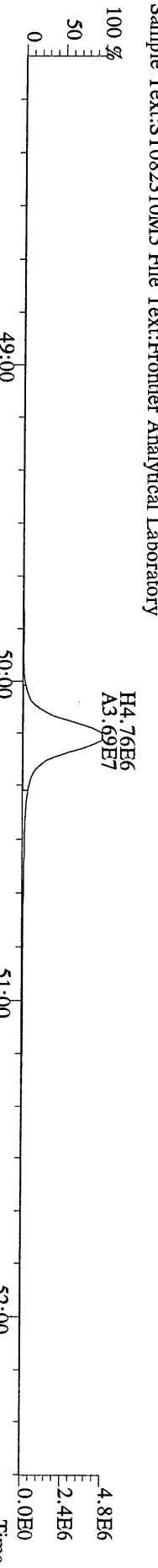
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443.7398 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %



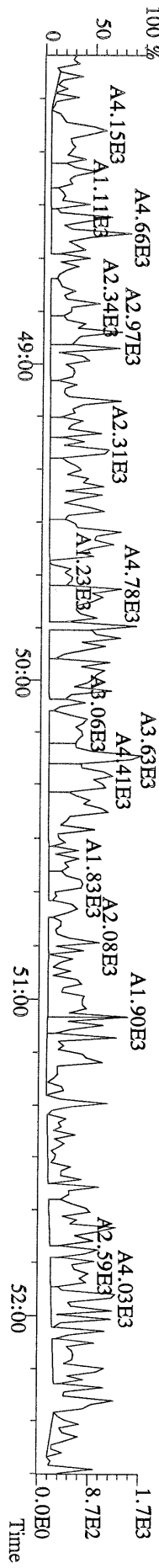
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
453.7831 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory  
100 %

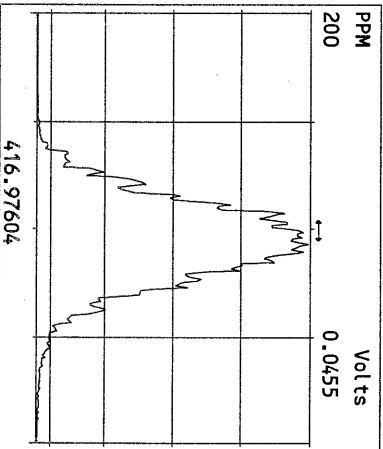
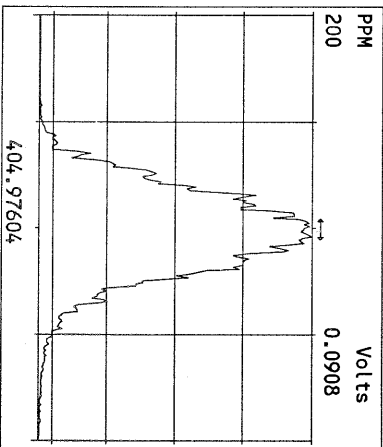
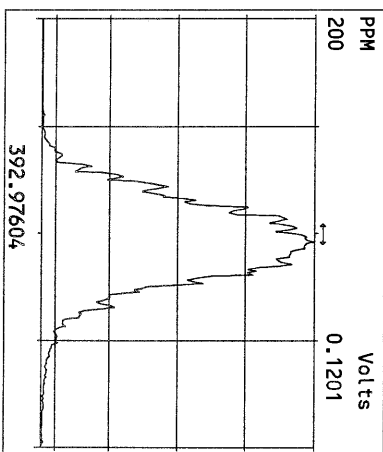
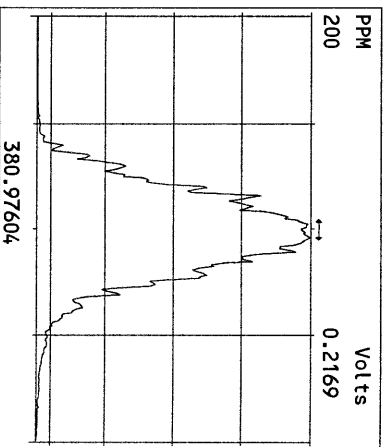
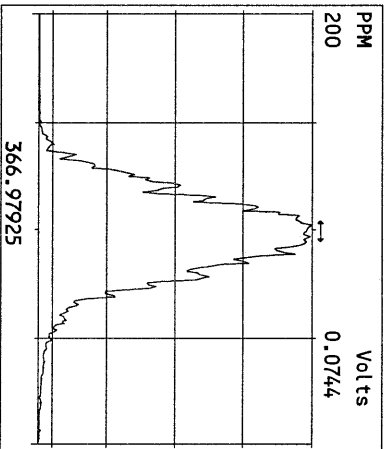
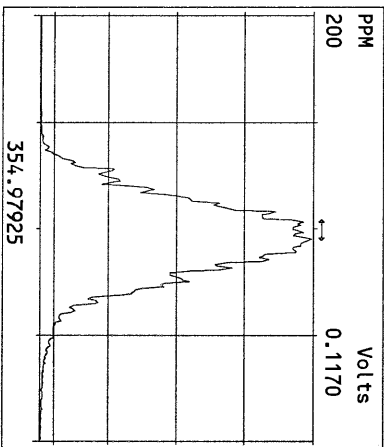
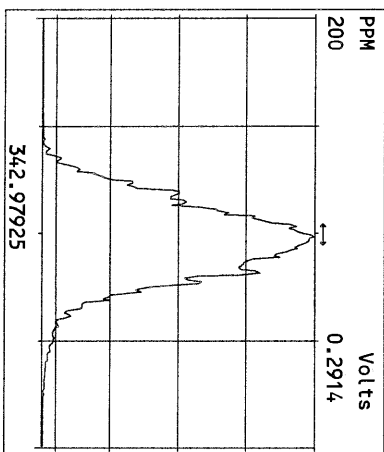
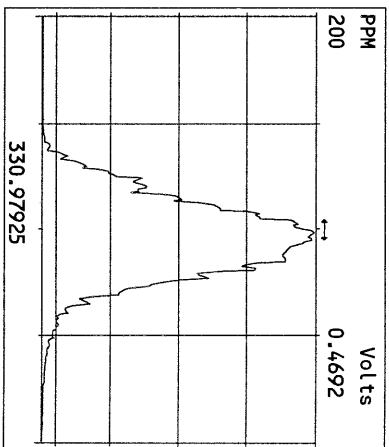
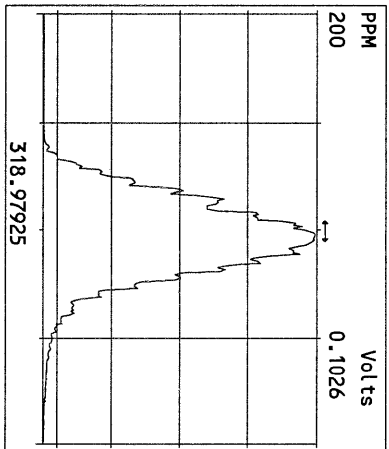
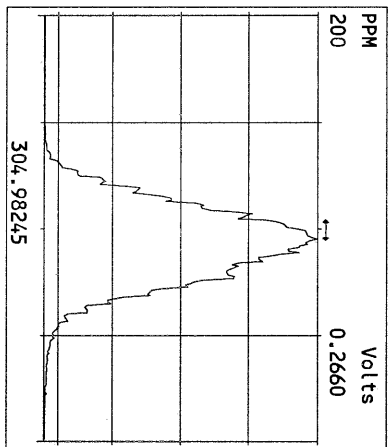
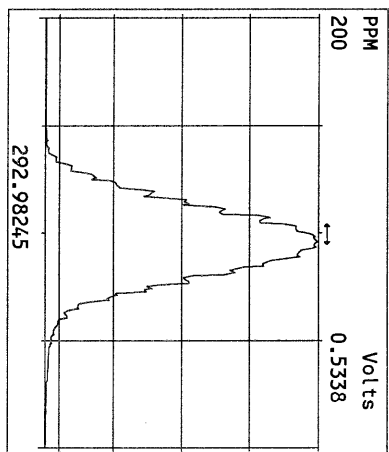


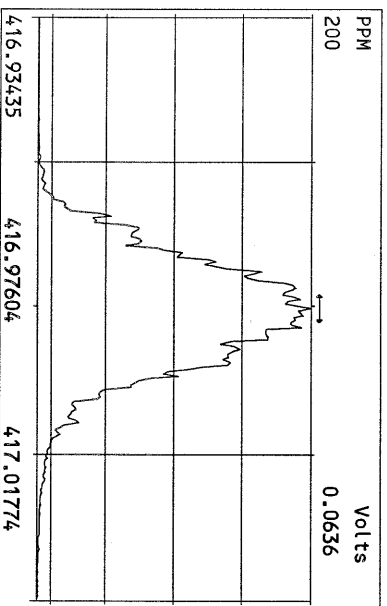
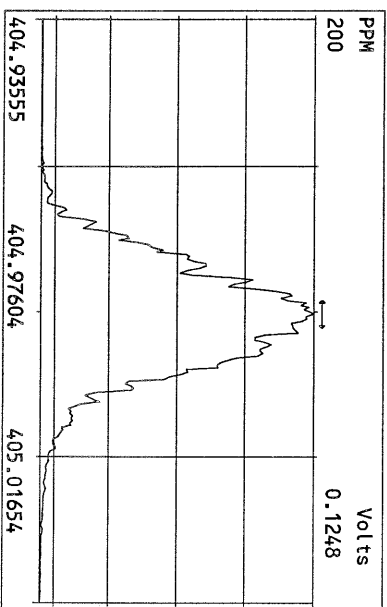
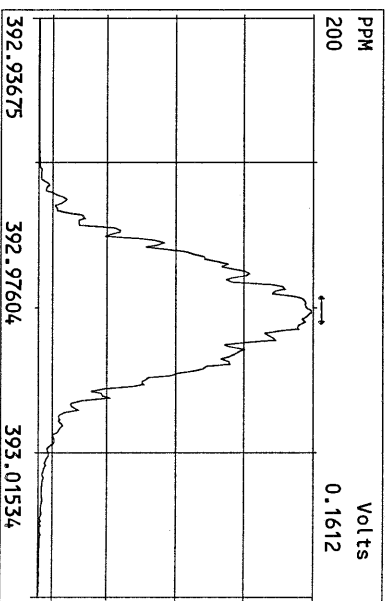
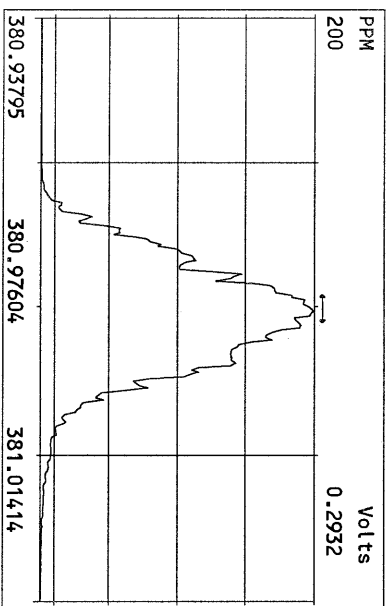
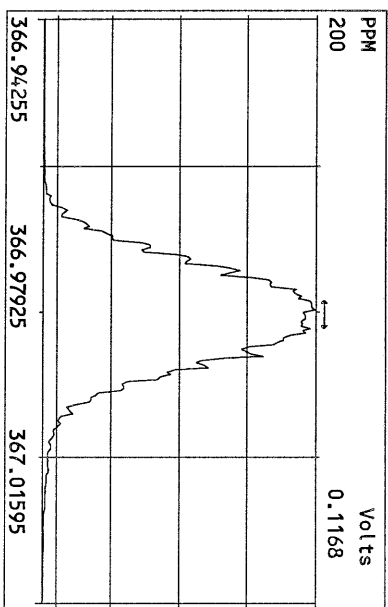
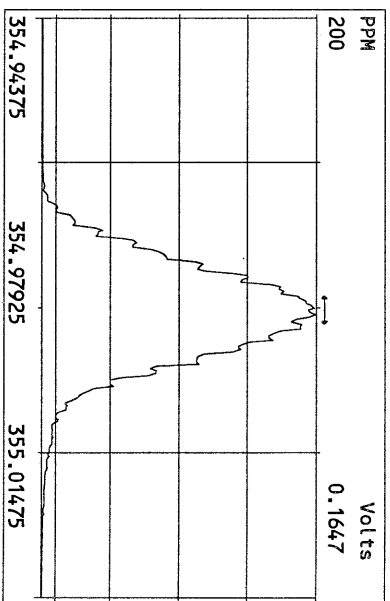
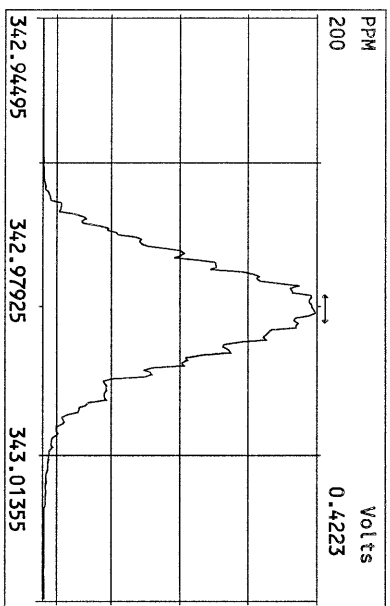
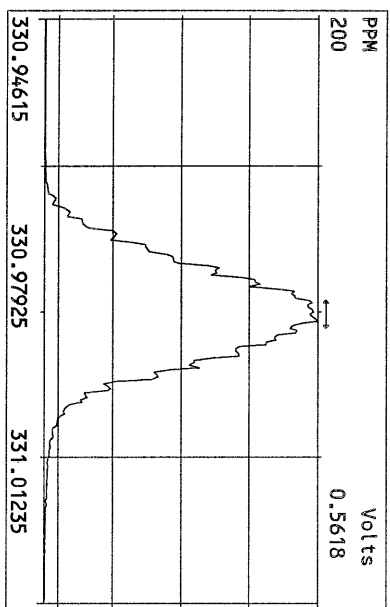
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
455.7801 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

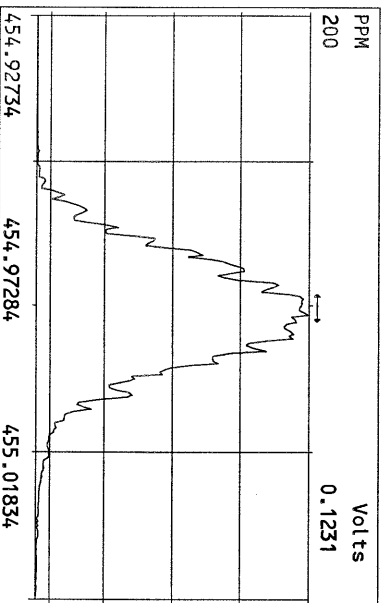
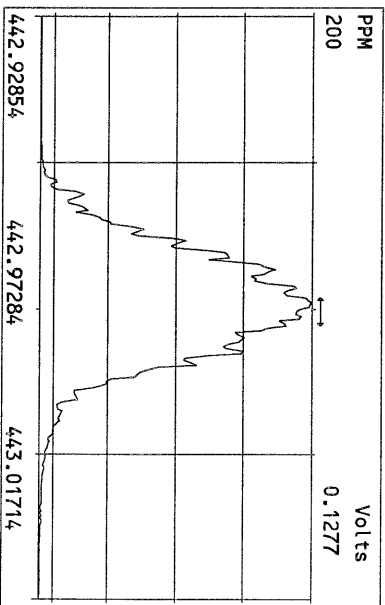
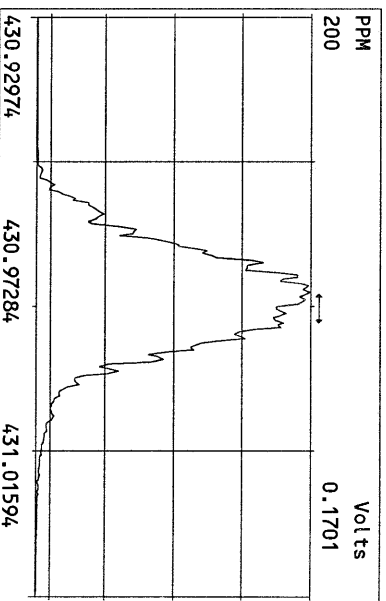
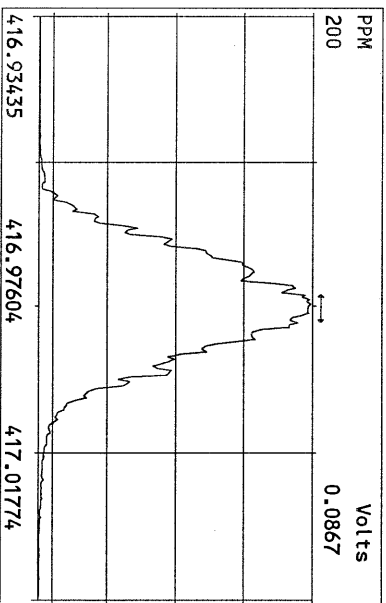
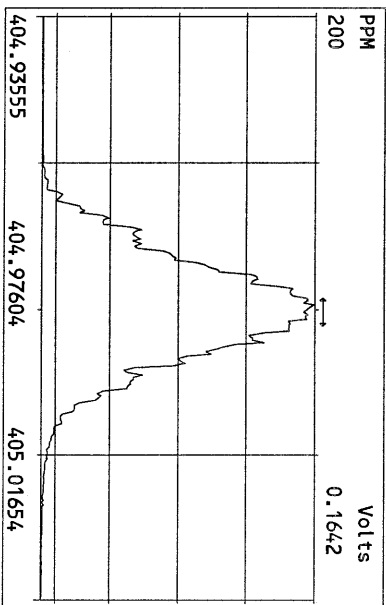
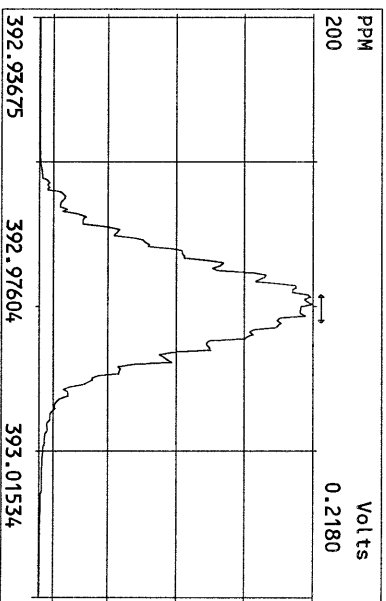
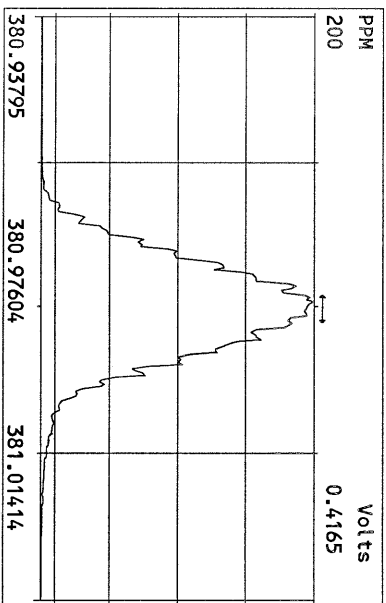
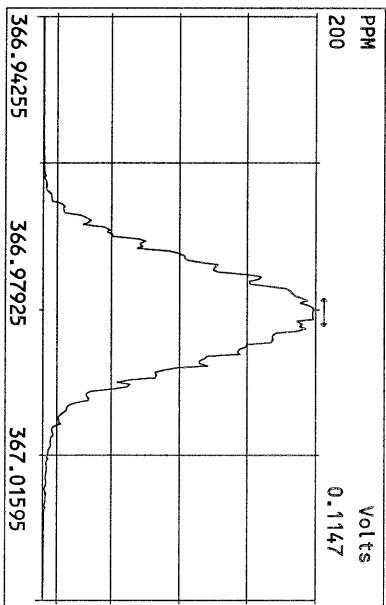


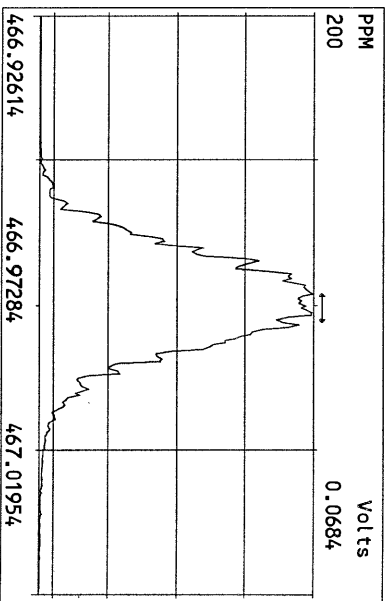
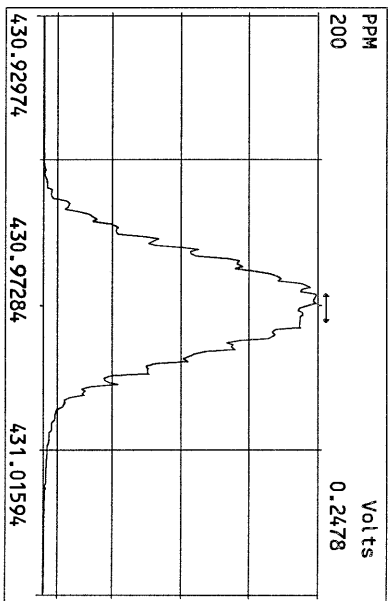
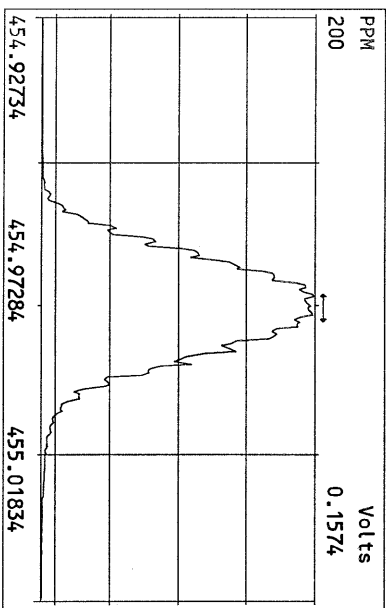
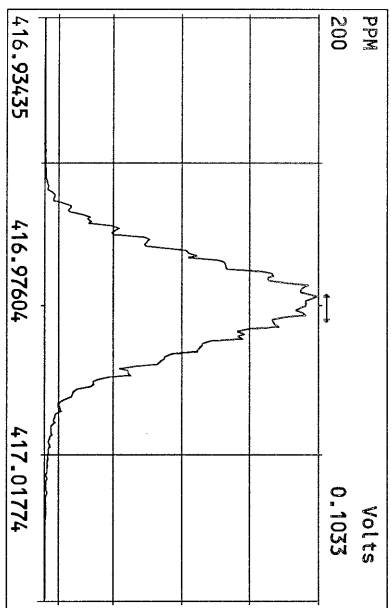
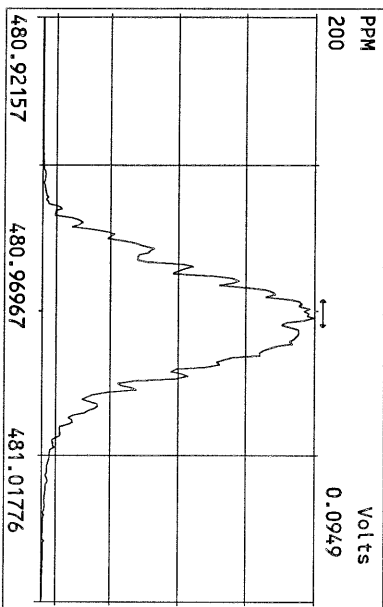
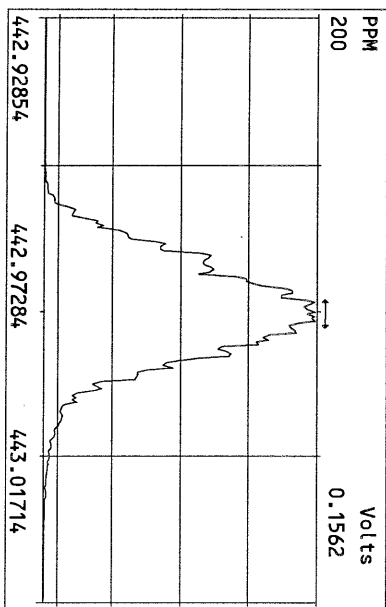
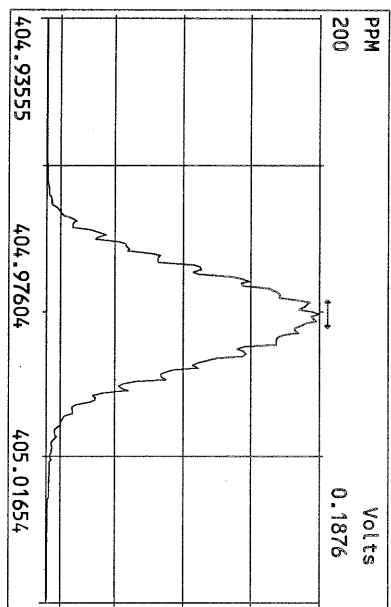
File:23AUG10M #1-347 Acq:23-AUG-2010 19:58:08 GC EI+ Voltage SIR Autospec-Ultima  
513.6775 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:PCDD  
Sample Text:ST082310M5 File Text:Frontier Analytical Laboratory

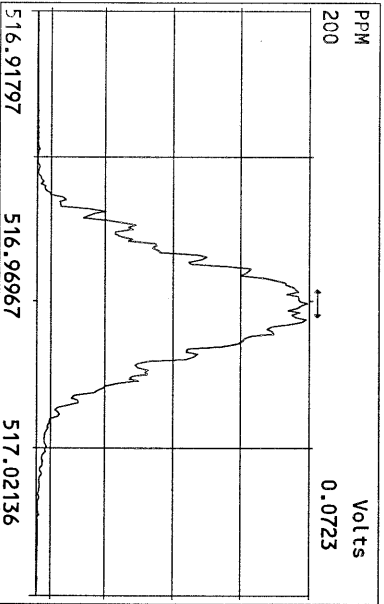
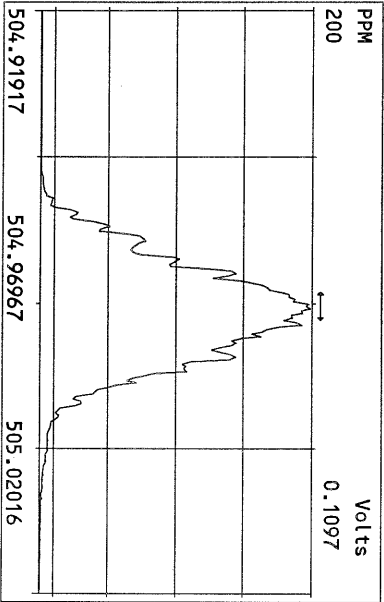
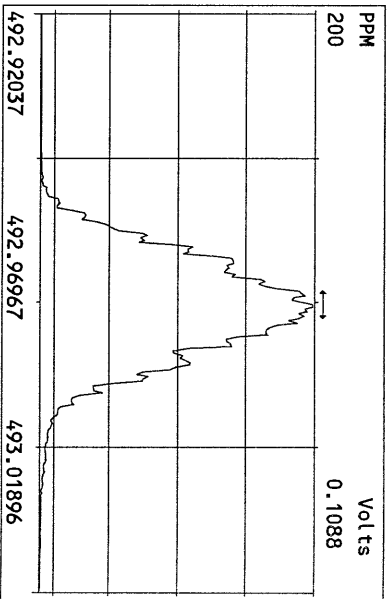
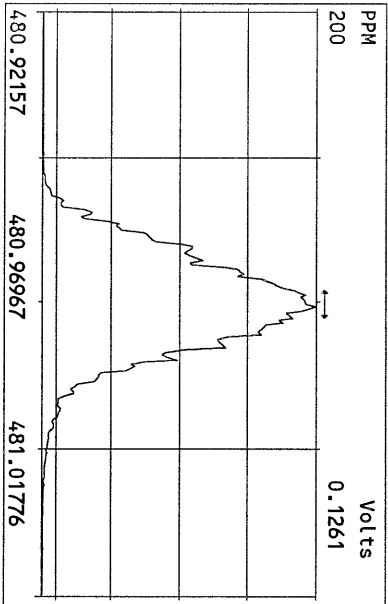
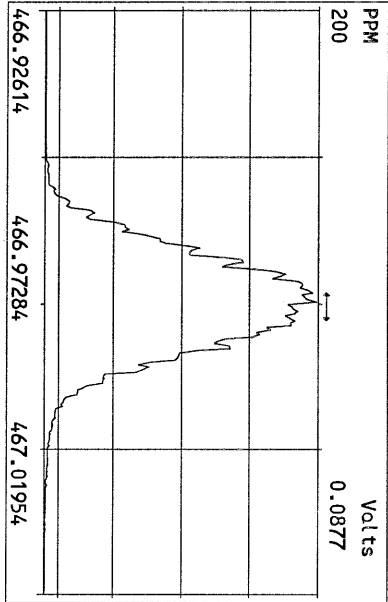
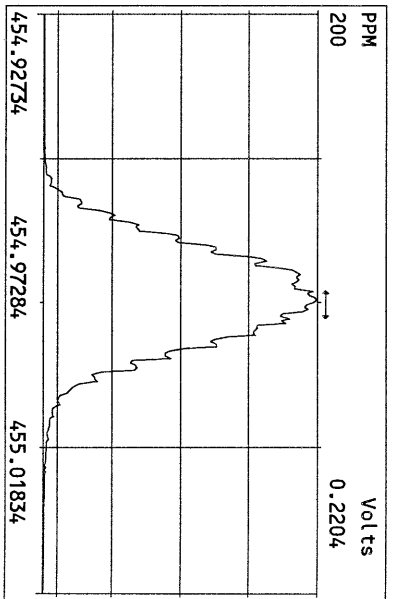
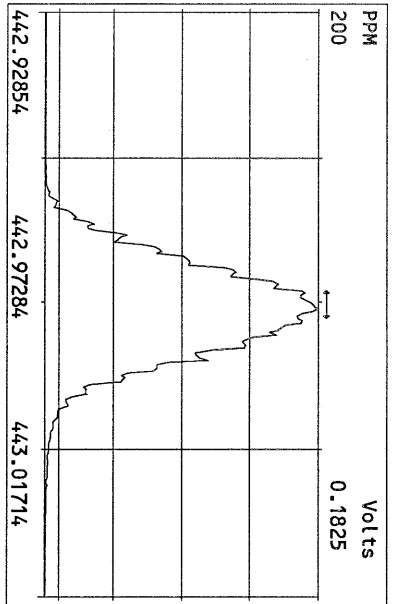
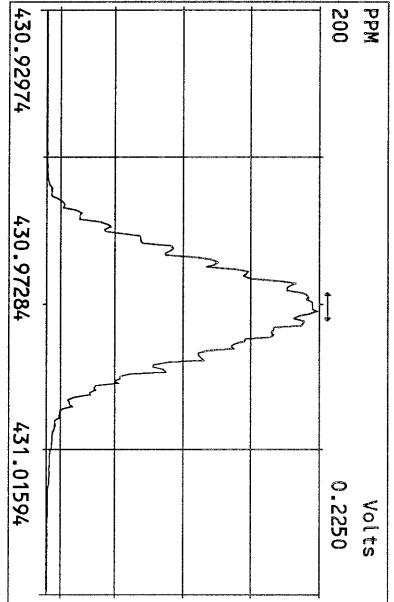













Frontier Analytical Laboratory

Data Filename: 16FEB11M

Analyte: PCDDFAL3-2-16-11

Cal: PCDDFAL3-2-16-11

Name	RRF	S. D.	%RSD	S3 RRF#1	S4 RRF#2	S5 RRF#3	S1 RRF#4	S6 RRF#5	S7 RRF#6
2,3,7,8-TCDD	1.18	0.0613	5.19 %	1.30	1.15	1.18	1.16	1.14	1.16
1,2,3,7,8-PeCDD	1.13	0.0420	3.71 %	1.17	1.17	1.10	1.08	1.15	1.10
1,2,3,4,7,8-HxCDD	1.46	0.0540	3.70 %	1.52	1.53	1.44	1.41	1.42	1.43
1,2,3,6,7,8-HxCDD	1.50	0.0804	5.36 %	1.56	1.63	1.49	1.42	1.46	1.44
1,2,3,7,8,9-HxCDD	1.52	0.0802	5.29 %	1.64	1.55	1.55	1.48	1.42	1.45
1,2,3,4,6,7,8-HpCDD	1.36	0.0698	5.11 %	1.41	1.46	1.40	1.30	1.31	1.30
OCDD	1.58	0.0961	6.09 %	1.54	1.45	1.59	1.52	1.73	1.64
2,3,7,8-TCDF	1.50	0.139	9.24 %	1.66	1.66	1.54	1.36	1.41	1.38
1,2,3,7,8-PeCDF	0.98	0.0322	3.27 %	0.99	1.01	0.98	0.92	1.02	0.99
2,3,4,7,8-PeCDF	0.98	0.0384	3.90 %	1.00	1.02	0.97	0.92	1.02	0.97
1,2,3,4,7,8-HxCDF	1.02	0.0383	3.77 %	1.07	1.05	1.00	0.97	1.02	0.99
1,2,3,6,7,8-HxCDF	0.89	0.0287	3.23 %	0.93	0.90	0.87	0.85	0.89	0.90
2,3,4,6,7,8-HxCDF	0.99	0.0261	2.63 %	1.01	1.01	0.98	0.94	1.01	1.01
1,2,3,7,8,9-HxCDF	1.08	0.0189	1.74 %	1.09	1.10	1.08	1.06	1.11	1.07
1,2,3,4,6,7,8-HpCDF	1.35	0.0318	2.35 %	1.36	1.40	1.34	1.31	1.33	1.37
1,2,3,4,7,8,9-HpCDF	1.30	0.0299	2.29 %	1.26	1.35	1.32	1.30	1.32	1.28
OCDF	0.89	0.0260	2.93 %	0.88	0.88	0.89	0.85	0.92	0.91
13C-2,3,7,8-TCDD	1.06	0.0864	8.17 %	1.00	1.01	1.01	1.01	1.21	1.11
13C-1,2,3,7,8-PeCDD	0.95	0.0918	9.66 %	0.90	0.90	0.89	0.87	1.07	1.07
13C-1,2,3,4,7,8-HxCDD	1.10	0.0819	7.41 %	1.04	1.04	1.07	1.08	1.25	1.15
13C-1,2,3,6,7,8-HxCDD	0.99	0.0479	4.82 %	0.99	0.96	0.98	0.99	1.09	0.97
13C-1,2,3,4,6,7,8-HpCDD	0.90	0.0665	7.41 %	0.86	0.84	0.88	0.86	1.00	0.95
13C-OCDD	0.55	0.0413	7.46 %	0.53	0.53	0.53	0.52	0.60	0.62
13C-2,3,7,8-TCDF	1.02	0.0807	7.89 %	0.98	0.97	0.96	0.97	1.15	1.10
13C-1,2,3,7,8-PeCDF	0.95	0.0897	9.46 %	0.91	0.88	0.89	0.88	1.07	1.06
13C-2,3,4,7,8-PeCDF	0.91	0.0727	7.99 %	0.88	0.87	0.85	0.85	0.99	1.01
13C-1,2,3,4,7,8-HxCDF	1.75	0.0774	4.42 %	1.72	1.69	1.70	1.78	1.89	1.72
13C-1,2,3,6,7,8-HxCDF	2.36	0.106	4.49 %	2.34	2.34	2.36	2.38	2.54	2.21
13C-2,3,4,6,7,8-HxCDF	1.89	0.0799	4.22 %	1.85	1.85	1.87	1.90	2.05	1.84
13C-1,2,3,7,8,9-HxCDF	2.04	0.127	6.25 %	1.97	1.90	2.00	2.00	2.25	2.12
13C-1,2,3,4,6,7,8-HpCDF	1.15	0.0683	5.94 %	1.10	1.10	1.15	1.11	1.28	1.15
13C-1,2,3,4,7,8,9-HpCDF	0.91	0.0694	7.61 %	0.88	0.84	0.91	0.86	1.01	0.98
13C-OCDF	1.17	0.0974	8.35 %	1.10	1.09	1.15	1.09	1.29	1.28
37Cl-2,3,7,8-TCDD	0.72	0.0555	7.69 %	0.70	0.74	0.66	0.67	0.79	0.77
13C-1,2,3,4-TCDD	-	-	- %	-	-	-	-	-	-
13C-1,2,3,4-TCDF	-	-	- %	-	-	-	-	-	-
13C-1,2,3,7,8,9-HxCDD	-	-	- %	-	-	-	-	-	-
Total Tetra-Dioxins	1.18	0.0613	5.19 %	1.30	1.15	1.18	1.16	1.14	1.16
Total Penta-Dioxins	1.13	0.0420	3.71 %	1.17	1.17	1.10	1.08	1.15	1.10
Total Hexa-Dioxins	1.49	0.0662	4.44 %	1.57	1.57	1.49	1.44	1.43	1.44
Total Hepta-Dioxins	1.36	0.0698	5.11 %	1.41	1.46	1.40	1.30	1.31	1.30
Total Tetra-Furans	1.50	0.139	9.24 %	1.66	1.66	1.54	1.36	1.41	1.38
1st Fn. Tot Penta-Furans	0.98	0.0348	3.54 %	1.00	1.01	0.97	0.92	1.02	0.98
Total Penta-Furans	0.98	0.0348	3.54 %	1.00	1.01	0.97	0.92	1.02	0.98
Total Hexa-Furans	0.99	0.0254	2.56 %	1.02	1.01	0.98	0.95	1.00	0.99
Total Hepta-Furans	1.33	0.0243	1.83 %	1.32	1.37	1.33	1.30	1.33	1.33

Analyst: 

Date: 2/17/11

Run #1      Filename 16FEB11M  
Client ID: ST021611M0

S: 3      Acquired: 16-FEB-11 16:19:09      Cal: PCDDFAL3-2-16-11  
Analyte: PCDD      FAL ID: 1613 CSO 100511G

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.25	1.30e+05	0.71 y	27:32	-	1.30 y
2	Unk      1,2,3,7,8-PeCDD	1.25	5.30e+05	1.47 y	33:23	-	1.17 y
3	Unk      1,2,3,4,7,8-HxCDD	1.25	5.40e+05	1.31 y	38:45	-	1.52 y
4	Unk      1,2,3,6,7,8-HxCDD	1.25	5.25e+05	1.26 y	38:55	-	1.56 y
5	Unk      1,2,3,7,8,9-HxCDD	1.25	5.68e+05	1.20 y	39:22	-	1.64 y
6	Unk      1,2,3,4,6,7,8-HpCDD	1.25	4.12e+05	1.09 y	44:22	-	1.41 y
7	Unk      OCDD	2.50	5.54e+05	1.01 y	49:57	-	1.54 y
8	Unk      2,3,7,8-TCDF	0.25	2.68e+05	0.80 y	26:47	-	1.66 y
9	Unk      1,2,3,7,8-PeCDF	1.25	7.43e+05	1.43 y	31:38	-	0.988 y
10	Unk      2,3,4,7,8-PeCDF	1.25	7.30e+05	1.45 y	32:58	-	1.00 y
11	Unk      1,2,3,4,7,8-HxCDF	1.25	6.32e+05	1.24 y	37:22	-	1.07 y
12	Unk      1,2,3,6,7,8-HxCDF	1.25	7.48e+05	1.23 y	37:34	-	0.933 y
13	Unk      2,3,4,6,7,8-HxCDF	1.25	6.40e+05	1.24 y	38:30	-	1.01 y
14	Unk      1,2,3,7,8,9-HxCDF	1.25	7.34e+05	1.28 y	39:56	-	1.09 y
15	Unk      1,2,3,4,6,7,8-HpCDF	1.25	5.12e+05	1.06 y	42:27	-	1.36 y
16	Unk      1,2,3,4,7,8,9-HpCDF	1.25	3.79e+05	1.02 y	45:17	-	1.26 y
17	Unk      OCDF	2.50	6.58e+05	0.86 y	50:20	-	0.879 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.00e+07	0.83 y	27:31	-	1.00 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.61e+07	1.74 y	33:21	-	0.903 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.84e+07	1.23 y	38:44	-	1.04 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.70e+07	1.24 y	38:54	-	0.987 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.34e+07	1.06 y	44:20	-	0.855 y
23	IS      13C-OCDD	200.00	2.88e+07	1.01 y	49:56	-	0.527 y
24	IS      13C-2,3,7,8-TCDF	100.00	6.46e+07	0.88 y	26:46	-	0.981 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	6.02e+07	1.60 y	31:38	-	0.914 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.82e+07	1.58 y	32:57	-	0.884 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.72e+07	0.53 y	37:20	-	1.72 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.41e+07	0.53 y	37:32	-	2.34 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.07e+07	0.55 y	38:28	-	1.85 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.40e+07	0.53 y	39:55	-	1.97 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	3.01e+07	0.44 y	42:25	-	1.10 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.40e+07	0.43 y	45:16	-	0.877 y
33	IS      13C-OCDF	200.00	6.00e+07	0.96 y	50:19	-	1.10 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.25	7.04e+04		27:32	-	0.703 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.00e+07	0.83 y	26:55	4.00e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	6.58e+07	0.87 y	25:39	6.58e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.73e+07	1.23 y	39:21	2.73e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.30 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.17 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.57 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.41 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.66 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	0.995 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	0.995 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	1.02 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.32 y

Analyst: 

Date: 2/17/11



Run #2      Filename 16FEB11M  
Client ID: ST021611M1

S: 4


Acquired: 16-FEB-11 17:14:32

Cal: PCDDFAL3-2-16-11

Analyte: PCDD

FAL ID: 1613 CS1 100511H

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk      2,3,7,8-TCDD	0.50	2.42e+05	0.76 y	27:32	-	1.15 y
2	Unk      1,2,3,7,8-PeCDD	2.50	1.10e+06	1.53 y	33:23	-	1.17 y
3	Unk      1,2,3,4,7,8-HxCDD	2.50	1.14e+06	1.26 y	38:46	-	1.53 y
4	Unk      1,2,3,6,7,8-HxCDD	2.50	1.11e+06	1.25 y	38:55	-	1.63 y
5	Unk      1,2,3,7,8,9-HxCDD	2.50	1.10e+06	1.26 y	39:22	-	1.55 y
6	Unk      1,2,3,4,6,7,8-HpCDD	2.50	8.73e+05	1.01 y	44:22	-	1.46 y
7	Unk      OCDD	5.00	1.10e+06	0.91 y	49:58	-	1.45 y
8	Unk      2,3,7,8-TCDF	0.50	5.48e+05	0.71 y	26:46	-	1.66 y
9	Unk      1,2,3,7,8-PeCDF	2.50	1.50e+06	1.36 y	31:38	-	1.01 y
10	Unk      2,3,4,7,8-PeCDF	2.50	1.51e+06	1.39 y	32:58	-	1.02 y
11	Unk      1,2,3,4,7,8-HxCDF	2.50	1.26e+06	1.23 y	37:21	-	1.05 y
12	Unk      1,2,3,6,7,8-HxCDF	2.50	1.50e+06	1.19 y	37:34	-	0.901 y
13	Unk      2,3,4,6,7,8-HxCDF	2.50	1.33e+06	1.23 y	38:30	-	1.01 y
14	Unk      1,2,3,7,8,9-HxCDF	2.50	1.49e+06	1.24 y	39:57	-	1.10 y
15	Unk      1,2,3,4,6,7,8-HpCDF	2.50	1.10e+06	1.08 y	42:27	-	1.40 y
16	Unk      1,2,3,4,7,8,9-HpCDF	2.50	8.04e+05	1.04 y	45:17	-	1.35 y
17	Unk      OCDF	5.00	1.36e+06	0.85 y	50:20	-	0.876 y
18	IS/RT      13C-2,3,7,8-TCDD	100.00	4.21e+07	0.82 y	27:30	-	1.01 y
19	IS      13C-1,2,3,7,8-PeCDD	100.00	3.76e+07	1.76 y	33:22	-	0.899 y
20	IS      13C-1,2,3,4,7,8-HxCDD	100.00	2.96e+07	1.22 y	38:44	-	1.04 y
21	IS      13C-1,2,3,6,7,8-HxCDD	100.00	2.73e+07	1.22 y	38:54	-	0.955 y
22	IS      13C-1,2,3,4,6,7,8-HpCDD	100.00	2.38e+07	1.03 y	44:20	-	0.835 y
23	IS      13C-OCDD	200.00	3.04e+07	0.98 y	49:57	-	0.533 y
24	IS      13C-2,3,7,8-TCDF	100.00	6.61e+07	0.88 y	26:45	-	0.969 y
25	IS      13C-1,2,3,7,8-PeCDF	100.00	5.98e+07	1.60 y	31:37	-	0.877 y
26	IS      13C-2,3,4,7,8-PeCDF	100.00	5.94e+07	1.61 y	32:56	-	0.872 y
27	IS      13C-1,2,3,4,7,8-HxCDF	100.00	4.82e+07	0.53 y	37:21	-	1.69 y
28	IS      13C-1,2,3,6,7,8-HxCDF	100.00	6.67e+07	0.53 y	37:32	-	2.34 y
29	IS      13C-2,3,4,6,7,8-HxCDF	100.00	5.28e+07	0.53 y	38:29	-	1.85 y
30	IS      13C-1,2,3,7,8,9-HxCDF	100.00	5.41e+07	0.52 y	39:55	-	1.90 y
31	IS      13C-1,2,3,4,6,7,8-HpCDF	100.00	3.14e+07	0.45 y	42:26	-	1.10 y
32	IS      13C-1,2,3,4,7,8,9-HpCDF	100.00	2.39e+07	0.46 y	45:15	-	0.837 y
33	IS      13C-OCDF	200.00	6.20e+07	0.95 y	50:19	-	1.09 y
34	C/Up      37Cl-2,3,7,8-TCDD	0.50	1.54e+05		27:31	-	0.736 y
35	RS      13C-1,2,3,4-TCDD	100.00	4.19e+07	0.83 y	26:56	4.19e+05	- n
36	RS      13C-1,2,3,4-TCDF	100.00	6.81e+07	0.87 y	25:40	6.81e+05	- n
37	RS/RT      13C-1,2,3,7,8,9-HxCDD	100.00	2.85e+07	1.20 y	39:21	2.85e+05	- n
38	Tot      Total Tetra-Dioxins	0.00	-	- n	-	-	1.15 y
39	Tot      Total Penta-Dioxins	0.00	-	- n	-	-	1.17 y
40	Tot      Total Hexa-Dioxins	0.00	-	- n	-	-	1.57 y
41	Tot      Total Hepta-Dioxins	0.00	-	- n	-	-	1.46 y
42	Tot      Total Tetra-Furans	0.00	-	- n	-	-	1.66 y
43	Tot      1st Fn. Tot Penta-Furans	0.00	-	- n	-	-	1.01 y
44	Tot      Total Penta-Furans	0.00	-	- n	-	-	1.01 y
45	Tot      Total Hexa-Furans	0.00	-	- n	-	-	1.01 y
46	Tot      Total Hepta-Furans	0.00	-	- n	-	-	1.37 y

Analyst: 

Date: 2/17/11






Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	40.00	2.14e+07	0.77 y	27:31	- 1.14 y
2	Unk	1,2,3,7,8-PeCDD	200.00	9.58e+07	1.54 y	33:22	- 1.15 y
3	Unk	1,2,3,4,7,8-HxCDD	200.00	1.07e+08	1.28 y	38:45	- 1.42 y
4	Unk	1,2,3,6,7,8-HxCDD	200.00	9.55e+07	1.29 y	38:55	- 1.46 y
5	Unk	1,2,3,7,8,9-HxCDD	200.00	9.99e+07	1.28 y	39:22	- 1.42 y
6	Unk	1,2,3,4,6,7,8-HpCDD	200.00	7.91e+07	1.04 y	44:21	- 1.31 y
7	Unk	OCDD	400.00	1.24e+08	0.94 y	49:57	- 1.73 y
8	Unk	2,3,7,8-TCDF	40.00	4.16e+07	0.74 y	26:46	- 1.41 y
9	Unk	1,2,3,7,8-PeCDF	200.00	1.40e+08	1.45 y	31:38	- 1.02 y
10	Unk	2,3,4,7,8-PeCDF	200.00	1.30e+08	1.44 y	32:57	- 1.02 y
11	Unk	1,2,3,4,7,8-HxCDF	200.00	1.16e+08	1.23 y	37:21	- 1.02 y
12	Unk	1,2,3,6,7,8-HxCDF	200.00	1.36e+08	1.23 y	37:33	- 0.890 y
13	Unk	2,3,4,6,7,8-HxCDF	200.00	1.24e+08	1.24 y	38:30	- 1.01 y
14	Unk	1,2,3,7,8,9-HxCDF	200.00	1.50e+08	1.23 y	39:56	- 1.11 y
15	Unk	1,2,3,4,6,7,8-HpCDF	200.00	1.03e+08	1.08 y	42:26	- 1.33 y
16	Unk	1,2,3,4,7,8,9-HpCDF	200.00	8.01e+07	1.11 y	45:16	- 1.32 y
17	Unk	OCDF	400.00	1.43e+08	0.90 y	50:21	- 0.919 y
18	IS/RT	13C-2,3,7,8-TCDD	100.00	4.71e+07	0.82 y	27:30	- 1.21 y
19	IS	13C-1,2,3,7,8-PeCDD	100.00	4.16e+07	1.78 y	33:21	- 1.07 y
20	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.76e+07	1.23 y	38:44	- 1.25 y
21	IS	13C-1,2,3,6,7,8-HxCDD	100.00	3.28e+07	1.22 y	38:54	- 1.09 y
22	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.02e+07	1.04 y	44:20	- 1.00 y
23	IS	13C-OCDD	200.00	3.59e+07	0.98 y	49:57	- 0.596 y
24	IS	13C-2,3,7,8-TCDF	100.00	7.39e+07	0.87 y	26:45	- 1.15 y
25	IS	13C-1,2,3,7,8-PeCDF	100.00	6.88e+07	1.62 y	31:37	- 1.07 y
26	IS	13C-2,3,4,7,8-PeCDF	100.00	6.40e+07	1.60 y	32:56	- 0.991 y
27	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.69e+07	0.53 y	37:20	- 1.89 y
28	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.65e+07	0.54 y	37:32	- 2.54 y
29	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.16e+07	0.53 y	38:28	- 2.05 y
30	IS	13C-1,2,3,7,8,9-HxCDF	100.00	6.78e+07	0.52 y	39:55	- 2.25 y
31	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	3.85e+07	0.44 y	42:26	- 1.28 y
32	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.04e+07	0.44 y	45:15	- 1.01 y
33	IS	13C-OCDF	200.00	7.79e+07	0.94 y	50:19	- 1.29 y
34	C/Up	37Cl-2,3,7,8-TCDD	40.00	1.24e+07		27:31	- 0.794 y
35	RS	13C-1,2,3,4-TCDD	100.00	3.89e+07	0.84 y	26:55	3.89e+05 - n
36	RS	13C-1,2,3,4-TCDF	100.00	6.45e+07	0.88 y	25:39	6.45e+05 - n
37	RS/RT	13C-1,2,3,7,8,9-HxCDD	100.00	3.01e+07	1.21 y	39:20	3.01e+05 - n
38	Tot	Total Tetra-Dioxins	0.00	-	- n	-	- 1.14 y
39	Tot	Total Penta-Dioxins	0.00	-	- n	-	- 1.15 y
40	Tot	Total Hexa-Dioxins	0.00	-	- n	-	- 1.43 y
41	Tot	Total Hepta-Dioxins	0.00	-	- n	-	- 1.31 y
42	Tot	Total Tetra-Furans	0.00	-	- n	-	- 1.41 y
43	Tot	1st Fn. Tot Penta-Furans	0.00	-	- n	-	- 1.02 y
44	Tot	Total Penta-Furans	0.00	-	- n	-	- 1.02 y
45	Tot	Total Hexa-Furans	0.00	-	- n	-	- 1.00 y
46	Tot	Total Hepta-Furans	0.00	-	- n	-	- 1.33 y

Analyst:  Date: 2/17/11

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	200.00	1.03e+08	0.77 y	27:31	- 1.16 y
2	Unk	1,2,3,7,8-PeCDD	1000.00	4.69e+08	1.54 y	33:22	- 1.10 y
3	Unk	1,2,3,4,7,8-HxCDD	1000.00	5.48e+08	1.27 y	38:45	- 1.43 y
4	Unk	1,2,3,6,7,8-HxCDD	1000.00	4.66e+08	1.26 y	38:55	- 1.44 y
5	Unk	1,2,3,7,8,9-HxCDD	1000.00	5.13e+08	1.22 y	39:22	- 1.45 y
6	Unk	1,2,3,4,6,7,8-HpCDD	1000.00	4.13e+08	1.04 y	44:22	- 1.30 y
7	Unk	OCDD	2000.00	6.71e+08	0.92 y	49:59	- 1.64 y
8	Unk	2,3,7,8-TCDF	200.00	1.94e+08	0.75 y	26:46	- 1.38 y
9	Unk	1,2,3,7,8-PeCDF	1000.00	6.66e+08	1.45 y	31:38	- 0.986 y
10	Unk	2,3,4,7,8-PeCDF	1000.00	6.28e+08	1.43 y	32:57	- 0.972 y
11	Unk	1,2,3,4,7,8-HxCDF	1000.00	5.65e+08	1.23 y	37:21	- 0.990 y
12	Unk	1,2,3,6,7,8-HxCDF	1000.00	6.60e+08	1.23 y	37:33	- 0.896 y
13	Unk	2,3,4,6,7,8-HxCDF	1000.00	6.15e+08	1.23 y	38:30	- 1.01 y
14	Unk	1,2,3,7,8,9-HxCDF	1000.00	7.56e+08	1.24 y	39:57	- 1.07 y
15	Unk	1,2,3,4,6,7,8-HpCDF	1000.00	5.23e+08	1.08 y	42:27	- 1.37 y
16	Unk	1,2,3,4,7,8,9-HpCDF	1000.00	4.19e+08	1.09 y	45:17	- 1.28 y
17	Unk	OCDF	2000.00	7.81e+08	0.90 y	50:21	- 0.913 y
18	IS/RT	13C-2,3,7,8-TCDD	100.00	4.45e+07	0.82 y	27:30	- 1.11 y
19	IS	13C-1,2,3,7,8-PeCDD	100.00	4.26e+07	1.74 y	33:22	- 1.07 y
20	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.83e+07	1.25 y	38:44	- 1.15 y
21	IS	13C-1,2,3,6,7,8-HxCDD	100.00	3.23e+07	1.17 y	38:54	- 0.969 y
22	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.17e+07	1.08 y	44:20	- 0.951 y
23	IS	13C-OCDD	200.00	4.10e+07	1.00 y	49:57	- 0.615 y
24	IS	13C-2,3,7,8-TCDF	100.00	7.05e+07	0.88 y	26:45	- 1.10 y
25	IS	13C-1,2,3,7,8-PeCDF	100.00	6.76e+07	1.61 y	31:36	- 1.06 y
26	IS	13C-2,3,4,7,8-PeCDF	100.00	6.46e+07	1.60 y	32:56	- 1.01 y
27	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.71e+07	0.53 y	37:20	- 1.72 y
28	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.36e+07	0.54 y	37:32	- 2.21 y
29	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.11e+07	0.54 y	38:28	- 1.84 y
30	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.05e+07	0.53 y	39:55	- 2.12 y
31	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	3.81e+07	0.45 y	42:26	- 1.15 y
32	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.27e+07	0.44 y	45:15	- 0.983 y
33	IS	13C-OCDF	200.00	8.55e+07	0.94 y	50:21	- 1.28 y
34	C/Up	37Cl-2,3,7,8-TCDD	200.00	6.18e+07		27:31	- 0.774 y
35	RS	13C-1,2,3,4-TCDD	100.00	3.99e+07	0.83 y	26:55	3.99e+05 - n
36	RS	13C-1,2,3,4-TCDF	100.00	6.39e+07	0.88 y	25:39	6.39e+05 - n
37	RS/RT	13C-1,2,3,7,8,9-HxCDD	100.00	3.33e+07	1.21 y	39:21	3.33e+05 - n
38	Tot	Total Tetra-Dioxins	0.00	-	- n	-	- 1.16 y
39	Tot	Total Penta-Dioxins	0.00	-	- n	-	- 1.10 y
40	Tot	Total Hexa-Dioxins	0.00	-	- n	-	- 1.44 y
41	Tot	Total Hepta-Dioxins	0.00	-	- n	-	- 1.30 y
42	Tot	Total Tetra-Furans	0.00	-	- n	-	- 1.38 y
43	Tot	1st Fn. Tot Penta-Furans	0.00	-	- n	-	- 0.979 y
44	Tot	Total Penta-Furans	0.00	-	- n	-	- 0.979 y
45	Tot	Total Hexa-Furans	0.00	-	- n	-	- 0.989 y
46	Tot	Total Hepta-Furans	0.00	-	- n	-	- 1.33 y

Analyst:  Date: 2/17/11

## USEPA - ITD

## FORM 3A

## PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 2/16/11

Instrument ID: FAL3 GC Column ID: DB5

CS0 Data Filename: 16FEB11M S3 CS3 Data Filename: 16FEB11M S1

CS1 Data Filename: 16FEB11M S4 CS4 Data Filename: 16FEB11M S6

CS2 Data Filename: 16FEB11M S5 CS5 Data Filename: 16FEB11M S7

	RELATIVE RESPONSE (RR)						MEAN	Cv
	CS1	CS2	CS3	CS4	CS5	CS6	RR	(%RSD)
NATIVE ANALYTES								
2,3,7,8-TCDD	1.30	1.15	1.18	1.16	1.14	1.16	1.18	5.19
1,2,3,7,8-PeCDD	1.17	1.17	1.10	1.08	1.15	1.10	1.13	3.71
1,2,3,4,7,8-HxCDD	1.52	1.53	1.44	1.41	1.42	1.43	1.46	3.70
1,2,3,6,7,8-HxCDD	1.56	1.63	1.49	1.42	1.46	1.44	1.50	5.36
1,2,3,7,8,9-HxCDD	1.64	1.55	1.55	1.48	1.42	1.45	1.52	5.29
1,2,3,4,6,7,8-HpCDD	1.41	1.46	1.40	1.30	1.31	1.30	1.36	5.11
OCDD	1.54	1.45	1.59	1.52	1.73	1.64	1.58	6.09
2,3,7,8-TCDF	1.66	1.66	1.54	1.36	1.41	1.38	1.50	9.24
1,2,3,7,8-PeCDF	0.99	1.01	0.98	0.92	1.02	0.99	0.98	3.27
2,3,4,7,8-PeCDF	1.00	1.02	0.97	0.92	1.02	0.97	0.98	3.90
1,2,3,4,7,8-HxCDF	1.07	1.05	1.00	0.97	1.02	0.99	1.02	3.77
1,2,3,6,7,8-HxCDF	0.93	0.90	0.87	0.85	0.89	0.90	0.89	3.23
2,3,4,6,7,8-HxCDF	1.01	1.01	0.98	0.94	1.01	1.01	0.99	2.63
1,2,3,7,8,9-HxCDF	1.09	1.10	1.08	1.06	1.11	1.07	1.08	1.74
1,2,3,4,6,7,8-HpCDF	1.36	1.40	1.34	1.31	1.33	1.37	1.35	2.35
1,2,3,4,7,8,9-HpCDF	1.26	1.35	1.32	1.30	1.32	1.28	1.30	2.29
OCDF	0.88	0.88	0.89	0.85	0.92	0.91	0.89	2.93

Analyst: 

Date: 2/17/11

## USEPA - ITD

## FORM 3B

## PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 2/16/11

Instrument ID: FAL3

GC Column ID: DB5

CS0 Data Filename: 16FEB11M S3 CS4 Data Filename: 16FEB11M S1

CS1 Data Filename: 16FEB11M S4 CS4 Data Filename: 16FEB11M S6

CS2 Data Filename: 16FEB11M S5 CS5 Data Filename: 16FEB11M S7

Labeled Compounds	RELATIVE RESPONSE (RR)						MEAN RR	Cv (%RSD)
	CS1	CS2	CS3	CS4	CS5	CS6		
13C-2,3,7,8-TCDD	1.00	1.01	1.01	1.01	1.21	1.11	1.06	8.17
13C-1,2,3,7,8-PeCDD	0.90	0.90	0.89	0.87	1.07	1.07	0.95	9.66
13C-1,2,3,4,7,8-HxCDD	1.04	1.04	1.07	1.08	1.25	1.15	1.10	7.41
13C-1,2,3,6,7,8-HxCDD	0.99	0.96	0.98	0.99	1.09	0.97	0.99	4.82
13C-1,2,3,4,6,7,8-HpCDD	0.86	0.84	0.88	0.86	1.00	0.95	0.90	7.41
13C-OCDD	0.53	0.53	0.53	0.52	0.60	0.62	0.55	7.46
13C-2,3,7,8-TCDF	0.98	0.97	0.96	0.97	1.15	1.10	1.02	7.89
13C-1,2,3,7,8-PeCDF	0.91	0.88	0.89	0.88	1.07	1.06	0.95	9.46
13C-2,3,4,7,8-PeCDF	0.88	0.87	0.85	0.85	0.99	1.01	0.91	7.99
13C-1,2,3,4,7,8-HxCDF	1.72	1.69	1.70	1.78	1.89	1.72	1.75	4.42
13C-1,2,3,6,7,8-HxCDF	2.34	2.34	2.36	2.38	2.54	2.21	2.36	4.49
13C-2,3,4,6,7,8-HxCDF	1.85	1.85	1.87	1.90	2.05	1.84	1.89	4.22
13C-1,2,3,7,8,9-HxCDF	1.97	1.90	2.00	2.00	2.25	2.12	2.04	6.25
13C-1,2,3,4,6,7,8-HpCDF	1.10	1.10	1.15	1.11	1.28	1.15	1.15	5.94
13C-1,2,3,4,7,8,9-HpCDF	0.88	0.84	0.91	0.86	1.01	0.98	0.91	7.61
13C-OCDF	1.10	1.09	1.15	1.09	1.29	1.28	1.17	8.35
CLEANUP STANDARD								
37Cl-2,3,7,8-TCDD	0.70	0.74	0.66	0.67	0.79	0.77	0.72	7.69

Analyst: 

Date: 2/17/11

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 2/16/11

Instrument ID: FAL3

GC Column ID: DB5

CS0 Data Filename: 16FEB11M S3 CS3 Data Filename: 16FEB11M S1

CS1 Data Filename: 16FEB11M S4 CS4 Data Filename: 16FEB11M S6

CS2 Data Filename: 16FEB11M S5 CS5 Data Filename: 16FEB11M S7

NATIVE ANALYTES	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
2,3,7,8-TCDD	M/M+2	0.71	0.76	0.77	0.77	0.77	0.77	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.47	1.53	1.52	1.57	1.54	1.54	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.26	1.23	1.27	1.28	1.27	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.25	1.31	1.28	1.29	1.26	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.26	1.29	1.26	1.28	1.22	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	1.01	1.00	1.02	1.04	1.04	0.88-1.20
OCDD	M+2/M+4	1.01	0.91	0.88	0.95	0.94	0.92	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.80	0.71	0.76	0.75	0.74	0.75	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.43	1.36	1.40	1.45	1.45	1.45	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.45	1.39	1.41	1.45	1.44	1.43	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.23	1.23	1.22	1.23	1.23	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.19	1.21	1.20	1.23	1.23	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.23	1.23	1.22	1.24	1.23	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.24	1.24	1.22	1.23	1.24	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	1.08	1.05	1.08	1.08	1.08	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	1.04	1.08	1.07	1.11	1.09	0.88-1.20
OCDF	M+2/M+4	0.86	0.85	0.88	0.90	0.90	0.90	0.76-1.02

Analyst: Date: 2/17/11



## USEPA - ITD

## FORM 3D

## PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 2/16/11

Instrument ID: FAL3

GC Column ID: DB5

CS0 Data Filename: 16FEB11M S3 CS3 Data Filename: 16FEB11M S1

CS1 Data Filename: 16FEB11M S4 CS4 Data Filename: 16FEB11M S6

CS2 Data Filename: 16FEB11M S5 CS5 Data Filename: 16FEB11M S7

Labeled Compounds	M/Z'S FORMING RATIO	ION ABUNDANCE RATIOS						QC LIMITS
		CS1	CS2	CS3	CS4	CS5	CS6	
13C-2,3,7,8-TCDD	M/M+2	0.83	0.82	0.83	0.82	0.82	0.82	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.74	1.76	1.76	1.75	1.78	1.74	1.32-1.78
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.22	1.22	1.25	1.23	1.25	1.05-1.43
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.22	1.22	1.18	1.22	1.17	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	1.03	1.07	1.05	1.04	1.08	0.88-1.20
13C-OCDD	M+2/M+4	1.01	0.98	1.00	1.00	0.98	1.00	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.88	0.88	0.88	0.88	0.87	0.88	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.60	1.63	1.58	1.62	1.61	1.32-1.78
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.61	1.61	1.60	1.60	1.60	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.53	0.53	0.53	0.53	0.53	0.43-0.59
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.53	0.53	0.53	0.54	0.54	0.43-0.59
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.55	0.53	0.54	0.53	0.53	0.54	0.43-0.59
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.52	0.54	0.53	0.52	0.53	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.45	0.45	0.44	0.44	0.45	0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.46	0.44	0.44	0.44	0.44	0.37-0.51
13C-OCDF	M+2/M+4	0.96	0.95	0.93	0.96	0.94	0.94	0.76-1.02

Analyst: Date: 2/17/11

## USEPA - ITD

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 2/16/11

Instrument ID: FAL3 GC Column ID: DB5

VER Data Filename: 16FEB11M Sam:1 Analysis Date: 16-FEB-11 14:28:28

NATIVE ANALYTES	M/Z'S	ION	QC	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)			
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	y	9.81	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	y	48.7	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	48.3	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	47.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	48.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	y	47.7	43.0 - 58.0
OCDD	M+2/M+4	0.95	0.76-1.02	y	96.5	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	y	9.07	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.45	1.32-1.78	y	49.7	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.45	1.32-1.78	y	48.4	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	47.6	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	47.6	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	47.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	48.7	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.08	0.88-1.20	y	48.3	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.07	0.88-1.20	y	49.8	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	95.6	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: Date: 2/17/11

## USEPA - ITD

FORM 4B

## PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 2/16/11

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 16FEB11M Sam:1

Analysis Date: 16-FEB-11 14:28:28

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.82	0.65-0.89	y	95.3	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.74	1.32-1.78	y	90.2	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	97.7	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	y	99.3	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	95.4	72.0 - 138
13C-OCDD	M+2/M+4	1.00	0.76-1.02	y	186	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.88	0.65-0.89	y	95.2	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	87.8	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	89.7	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	y	102	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	y	101	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	y	100	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	y	97.8	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	y	97.0	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	y	94.2	77.0 - 129
13C-OCDF	M+2/M+4	0.96	0.76-1.02	y	187	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					9.26	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: Date: 2/17/11

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory Episode No.:  
Contract No.: SAS No.:  
Instrument ID: FAL3 Initial Calibration Date: 2/16/11  
RT Window Data Filename: 16FEB11M Sam:1 Analysis Date: 16-FEB-11 Time: 14:28:28  
DB-5 IS Data Filename: 16FEB11M Sam:1 Analysis Date: 16-FEB-11 Time: 14:28:28  
DB-225 IS Date Filename: Analysis Date: Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:30	1,3,6,8-TCDF (F)	23:08
1,2,8,9-TCDD (L)	28:28	1,2,8,9-TCDF (L)	28:41
1,2,4,7,9-PeCDD (F)	30:23	1,3,4,6,8-PeCDF (F)	28:33
1,2,3,8,9-PeCDD (L)	33:58	1,2,3,8,9-PeCDF (L)	34:23
1,2,4,6,7,9-HxCDD (F)	36:17	1,2,3,4,6,8-HxCDF (F)	35:24
1,2,3,7,8,9-HxCDD (L)	39:22	1,2,3,7,8,9-HxCDF (L)	39:56
1,2,3,4,6,7,9-HpCDD (F)	42:59	1,2,3,4,6,7,8-HpCDF (F)	42:28
1,2,3,4,6,7,8-HpCDD (L)	44:22	1,2,3,4,7,8,9-HpCDF (L)	45:17

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

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

Analyst: 

Date: 2/17/11

## USEPA - ITD

## FORM 6A

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 2/16/11

Instrument ID: FAL3

GC Column ID: DB5


Analysis Date: 16-FEB-11 14:28:28

CS3 or VER Data Filename: 16FEB11M

Sam:1

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	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-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	0.999-1.002
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	1.001	0.999-1.002
LABELED COMPOUNDS			
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052
13C-2,3,7,8-TCDD		1.022	0.976-1.043
13C-2,3,7,8-TCDF		0.994	0.923-1.103
13C-1,2,3,7,8-PeCDD		1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF		1.175	0.923-1.203
13C-2,3,4,7,8-PeCDF		1.224	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 2/16/11

Instrument ID: FAL3

GC Column ID: DB5


Analysis Date: 16-FEB-11 14:28:28

CS3 or VER Data Filename: 16FEB11M


Sam:1

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
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-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
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	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	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
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.001	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.001	0.999-1.001
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.984	0.977-1.000
13C-1,2,3,6,7,8-HxCDD		0.989	0.981-1.003
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF		1.014	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD		1.127	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF		1.078	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF		1.150	1.057-1.154
13C-OCDD		1.269	1.032-1.311
13C-OCDF		1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified  
in Table 2, Method 1613.

Analyst: Date: 

Name	Resp	RA	RT	RRF	WHO 1998 Tox:		121		WHO 2005 Tox:		DL	110
					Conc	Qual	Fac	Noise-1	Noise-2	DL		
2,3,7,8-TCDD	4.70e+06	0.77 y	27:32	1.18	9.81		2.50	-	-		*	
1,2,3,7,8-PeCDD	1.89e+07	1.57 y	33:23	1.13	48.7		2.50	-	-		*	
1,2,3,4,7,8-HxCDD	1.85e+07	1.27 y	38:46	1.46	48.3		2.50	-	-		*	
1,2,3,6,7,8-HxCDD	1.71e+07	1.28 y	38:55	1.50	47.4		2.50	-	-		*	
1,2,3,7,8,9-HxCDD	1.86e+07	1.26 y	39:22	1.52	48.9		2.50	-	-		*	
1,2,3,4,6,7,8-HpCDD	1.35e+07	1.02 y	44:22	1.36	47.7		2.50	-	-		*	
OCDD	1.91e+07	0.95 y	49:58	1.58	96.5		2.50	-	-		*	
2,3,7,8-TCDF	8.81e+06	0.75 y	26:46	1.50	9.07		2.50	-	-		*	
1,2,3,7,8-PeCDF	2.71e+07	1.45 y	31:38	0.98	49.7		2.50	-	-		*	
2,3,4,7,8-PeCDF	2.58e+07	1.45 y	32:58	0.98	48.4		2.50	-	-		*	
1,2,3,4,7,8-HxCDF	2.10e+07	1.22 y	37:22	1.02	47.6		2.50	-	-		*	
1,2,3,6,7,8-HxCDF	2.45e+07	1.20 y	37:34	0.89	47.6		2.50	-	-		*	
2,3,4,6,7,8-HxCDF	2.18e+07	1.22 y	38:30	0.99	47.5		2.50	-	-		*	
1,2,3,7,8,9-HxCDF	2.56e+07	1.22 y	39:56	1.08	48.7		2.50	-	-		*	
1,2,3,4,6,7,8-HpCDF	1.77e+07	1.08 y	42:28	1.35	48.3		2.50	-	-		*	
1,2,3,4,7,8,9-HpCDF	1.36e+07	1.07 y	45:17	1.30	49.8		2.50	-	-		*	
OCDF	2.25e+07	0.90 y	50:21	0.89	95.6		2.50	-	-		*	
Rec												
13C-2,3,7,8-TCDD	4.06e+07	0.82 y	27:31	1.06	95.3						95.3	
13C-1,2,3,7,8-PeCDD	3.45e+07	1.74 y	33:22	0.95	90.2						90.2	
13C-1,2,3,4,7,8-HxCDD	2.62e+07	1.25 y	38:44	1.10	97.7						97.7	
13C-1,2,3,6,7,8-HxCDD	2.40e+07	1.18 y	38:54	0.99	99.3						99.3	
13C-1,2,3,4,6,7,8-HpCDD	2.08e+07	1.05 y	44:21	0.90	95.4						95.4	
13C-OCDD	2.51e+07	1.00 y	49:57	0.55	186						93.2	
13C-2,3,7,8-TCDF	6.48e+07	0.88 y	26:45	1.02	95.2						95.2	
13C-1,2,3,7,8-PeCDF	5.54e+07	1.59 y	31:37	0.95	87.8						87.8	
13C-2,3,4,7,8-PeCDF	5.43e+07	1.61 y	32:56	0.91	89.7						89.7	
13C-1,2,3,4,7,8-HxCDF	4.33e+07	0.53 y	37:21	1.75	102						102	
13C-1,2,3,6,7,8-HxCDF	5.78e+07	0.53 y	37:32	2.36	101						101	
13C-2,3,4,6,7,8-HxCDF	4.62e+07	0.53 y	38:29	1.89	100						100	
13C-1,2,3,7,8,9-HxCDF	4.85e+07	0.53 y	39:56	2.04	97.8						97.8	
13C-1,2,3,4,6,7,8-HpCDF	2.71e+07	0.44 y	42:26	1.15	97.0						97.0	
13C-1,2,3,4,7,8,9-HpCDF	2.09e+07	0.44 y	45:16	0.91	94.2						94.2	
13C-OCDF	5.31e+07	0.96 y	50:20	1.17	187						93.6	
37Cl-2,3,7,8-TCDD	2.69e+06		27:32	0.72	9.26						92.6	
13C-1,2,3,4-TCDD	4.02e+07	0.83 y	26:55	-	98.4							
13C-1,2,3,4-TCDF	6.66e+07	0.88 y	25:39	-	99.5							
13C-1,2,3,7,8,9-HxCDD	2.43e+07	1.20 y	39:22	-	84.2							
Total Tetra-Dioxins	2.47e+07		24:30	1.18	51.7		2.50	-	-	*	16	
Total Penta-Dioxins	4.14e+07		30:23	1.13	106		2.50	-	-	*	9	
Total Hexa-Dioxins	6.22e+07		36:17	1.49	166		2.50	-	-	*	10	
Total Hepta-Dioxins	2.96e+07		42:59	1.36	104		2.50	-	-	*	21	
Total Tetra-Furans	4.18e+07		23:08	1.50	43.0		2.50	-	-	*	18	
1st Fn. Tot Penta-Furans	3.07e+07		28:33	0.98	57.0		2.50	-	-	*	PeCDF 1	
Total Penta-Furans	7.78e+07		30:18	0.98	144		2.50	-	-	*	201 12	
Total Hexa-Furans	1.08e+08		35:24	0.99	223		2.50	-	-	*	8	
Total Hepta-Furans	3.18e+07		42:28	1.33	99.8		2.50	-	-	*	12	

Analyst: 

Date: 2/17/11

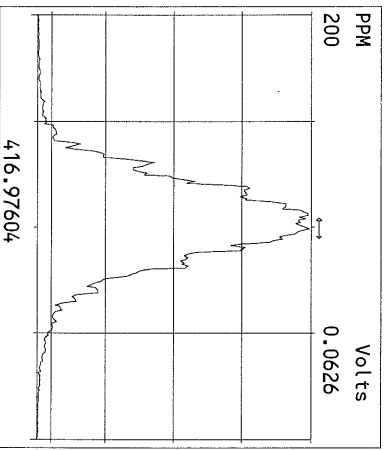
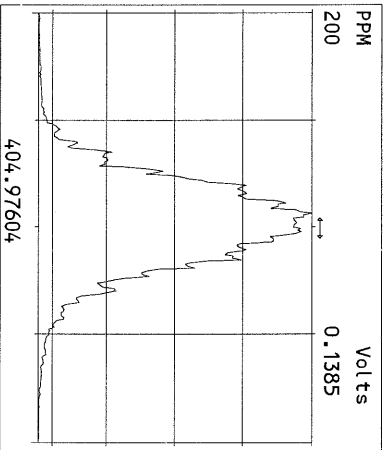
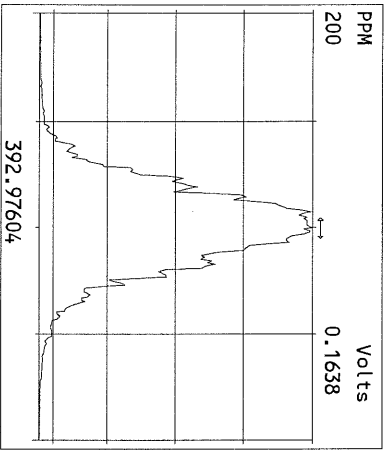
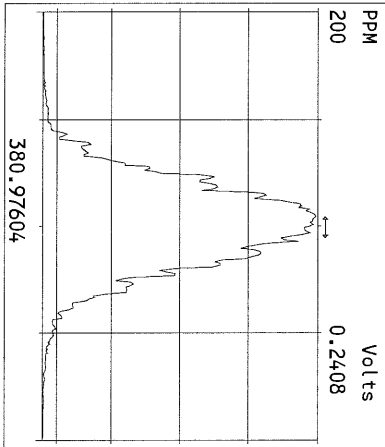
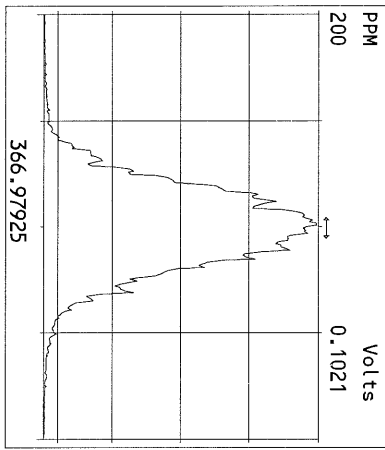
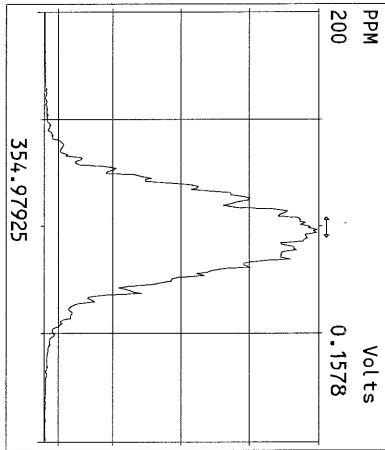
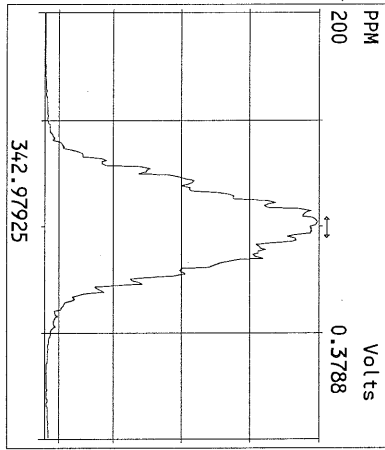
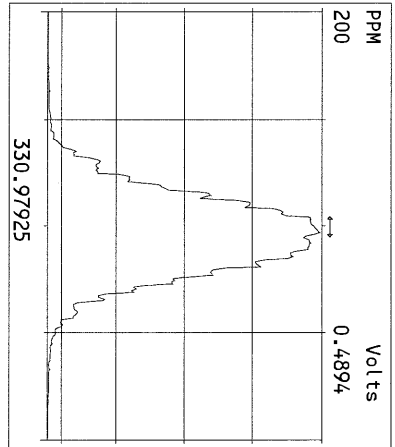
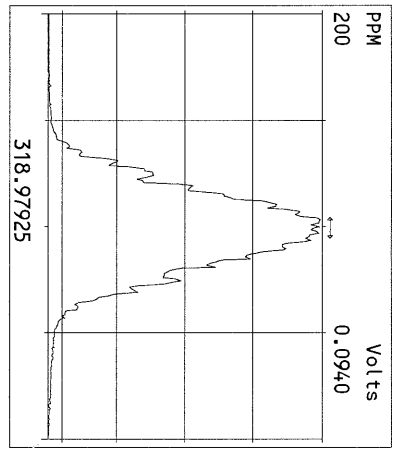
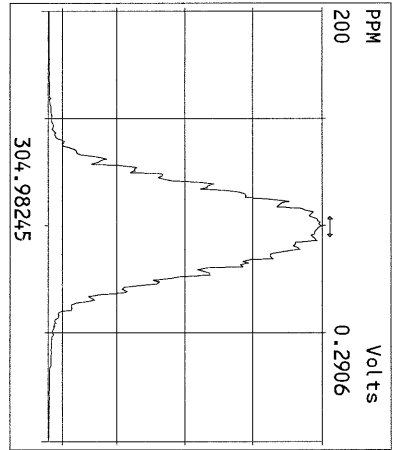
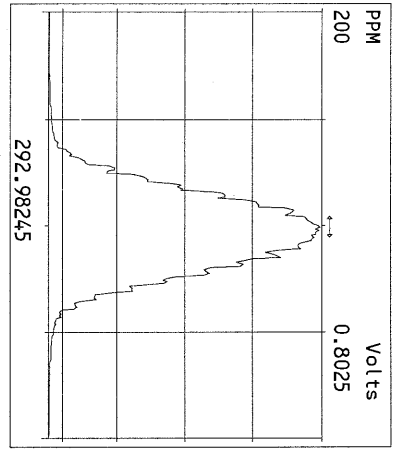
Frontier Analytical Laboratory - Acquisition Log

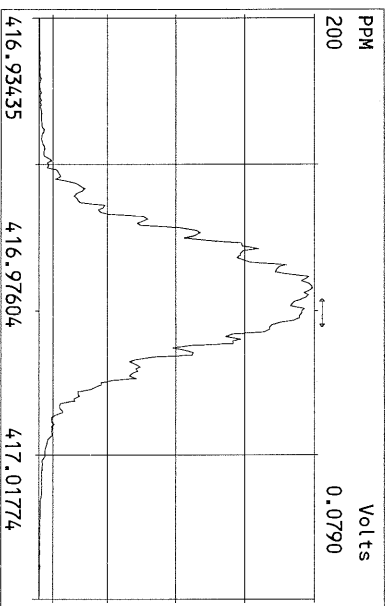
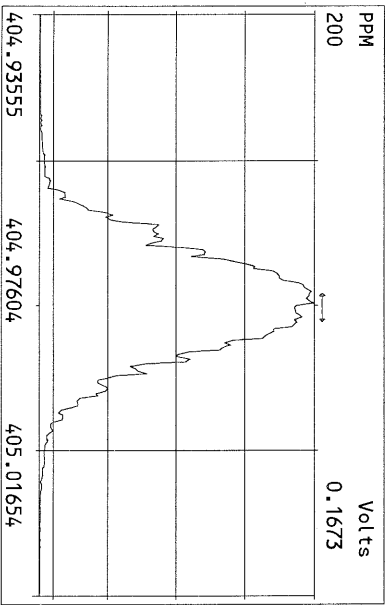
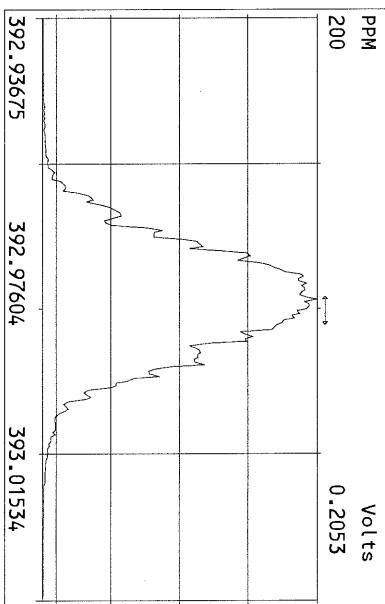
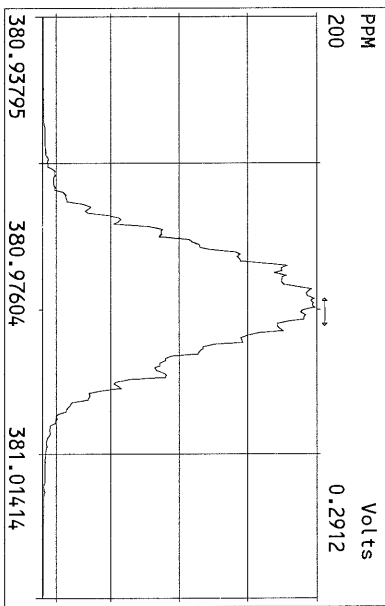
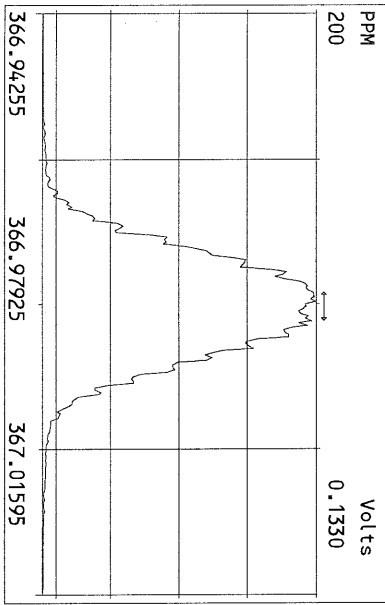
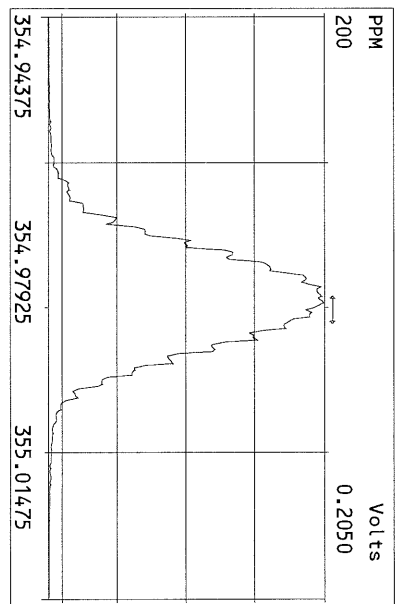
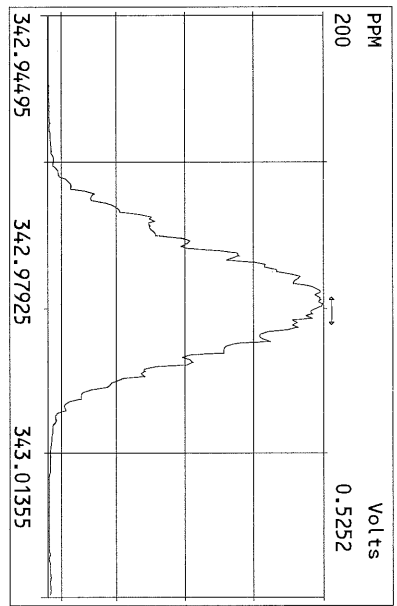
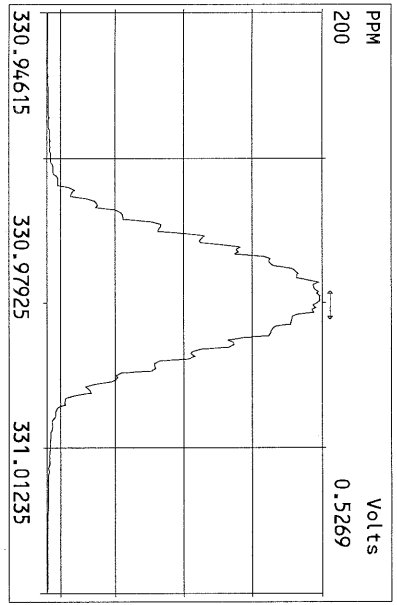
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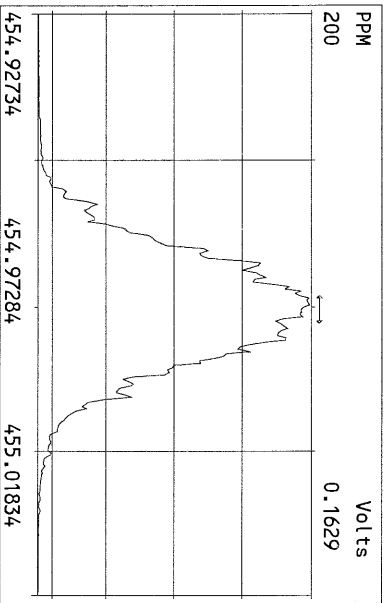
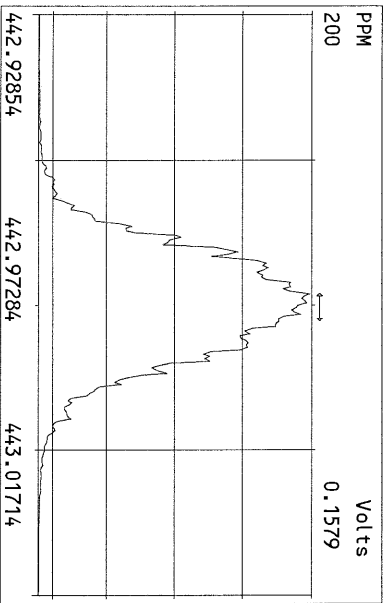
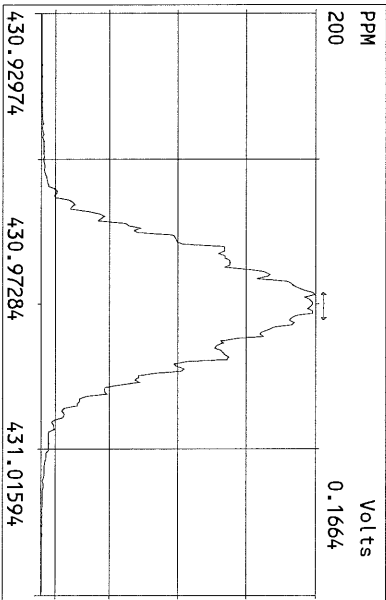
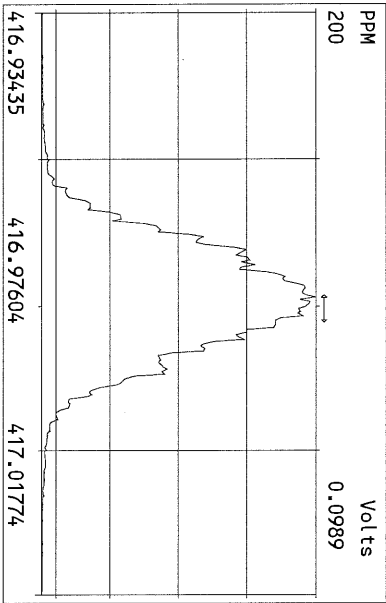
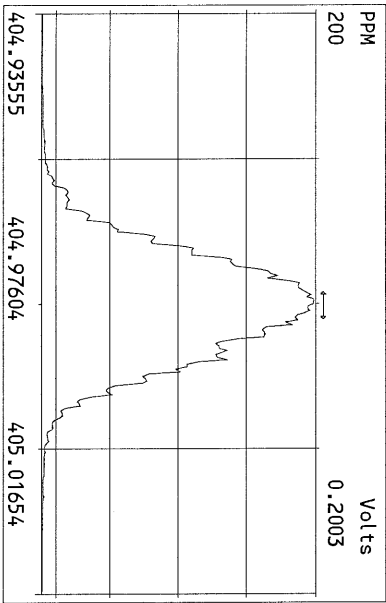
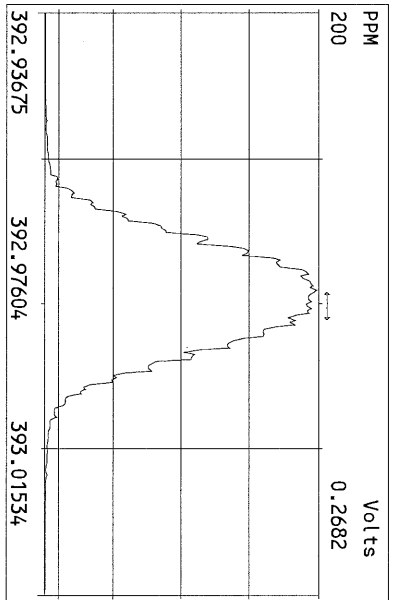
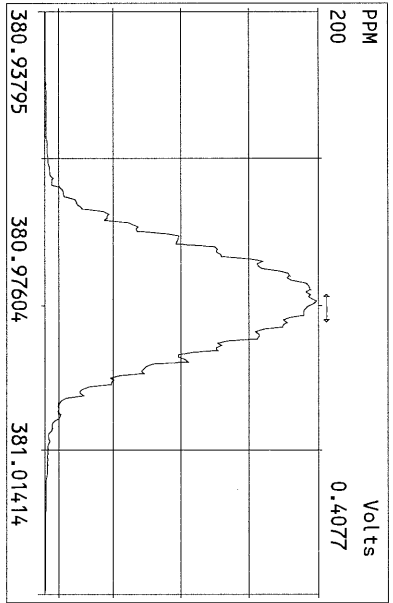
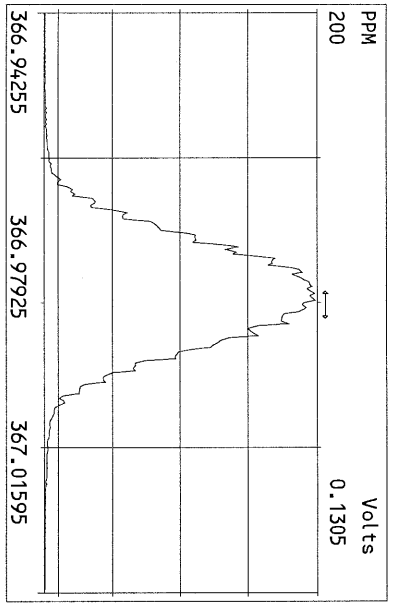
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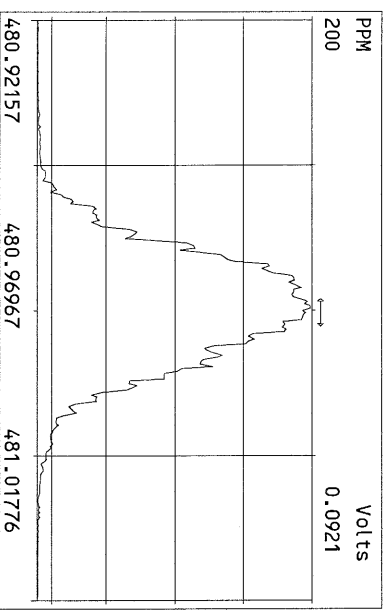
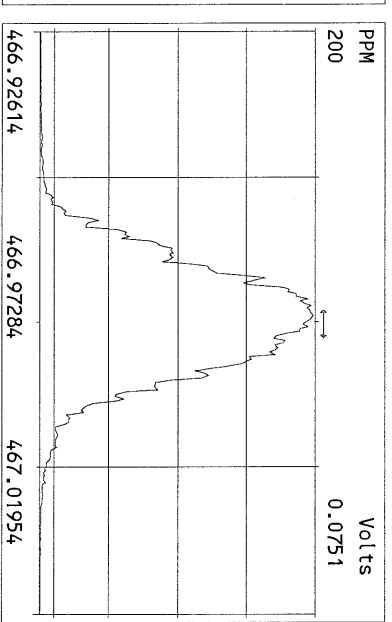
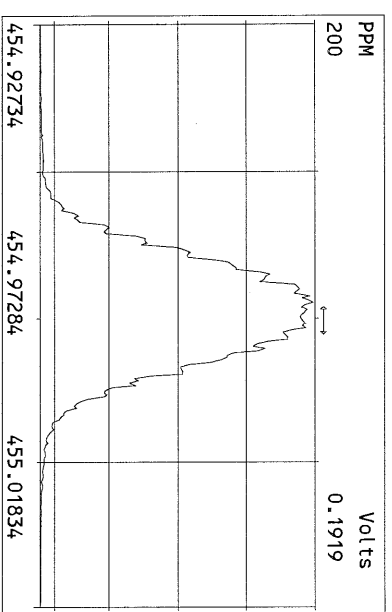
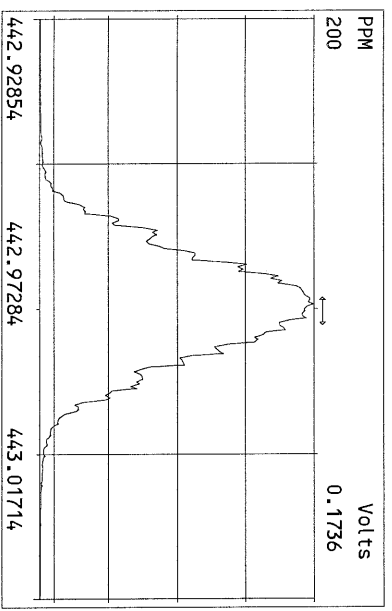
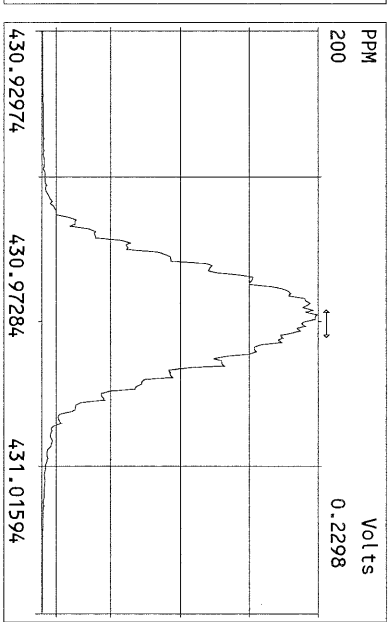
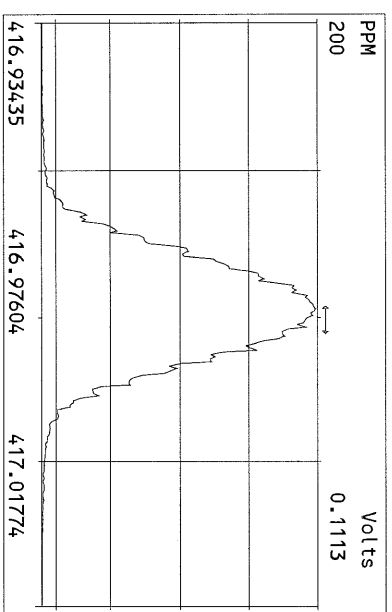
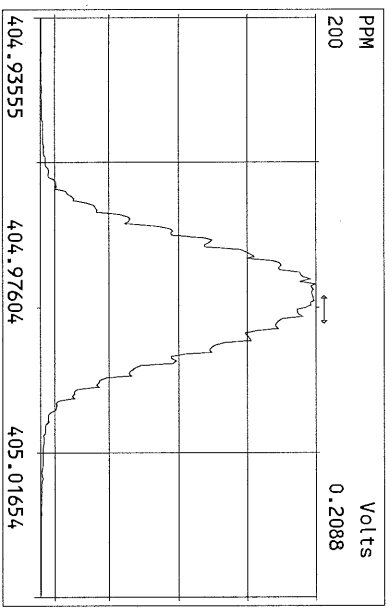
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 Date: 2/17/11

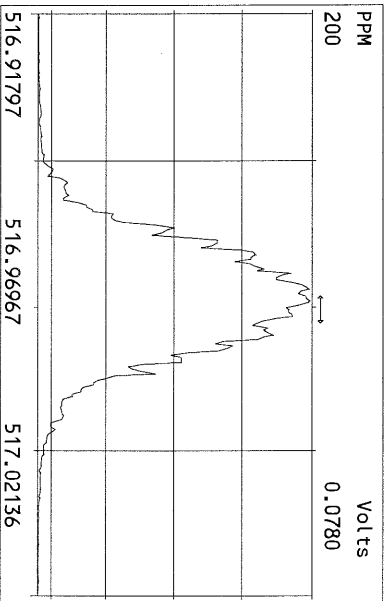
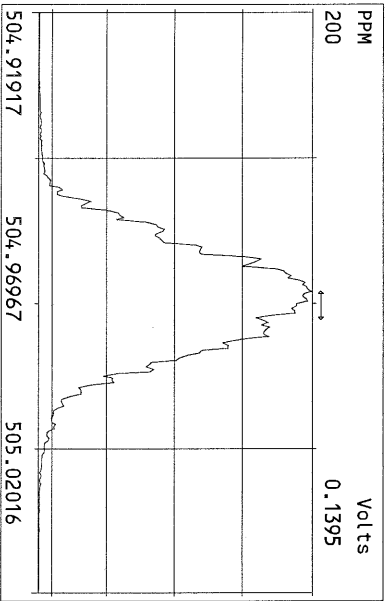
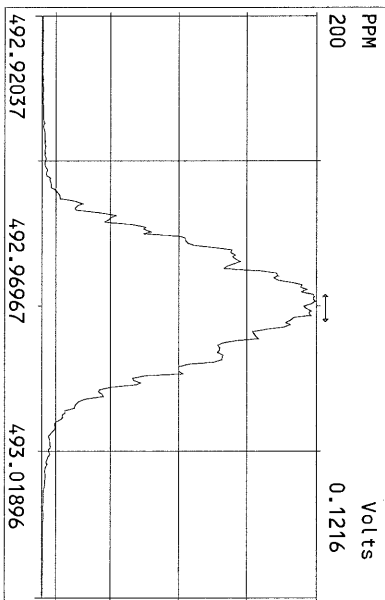
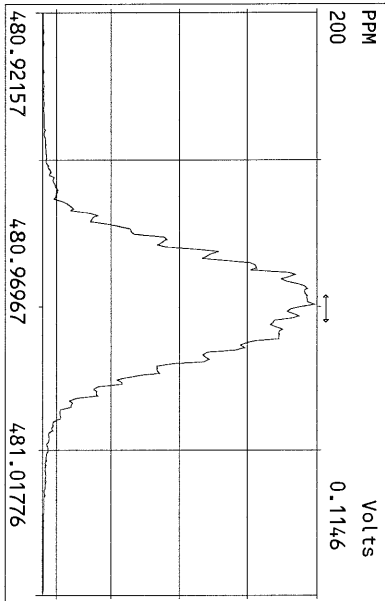
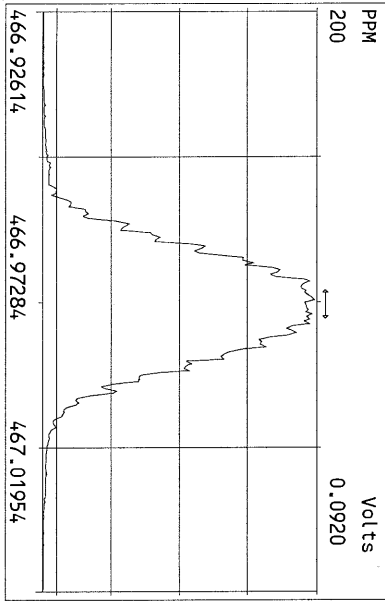
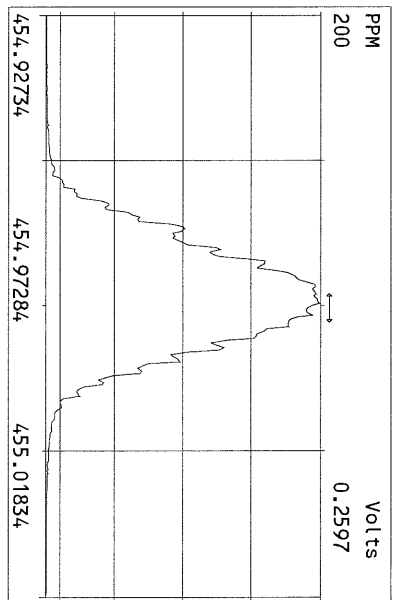
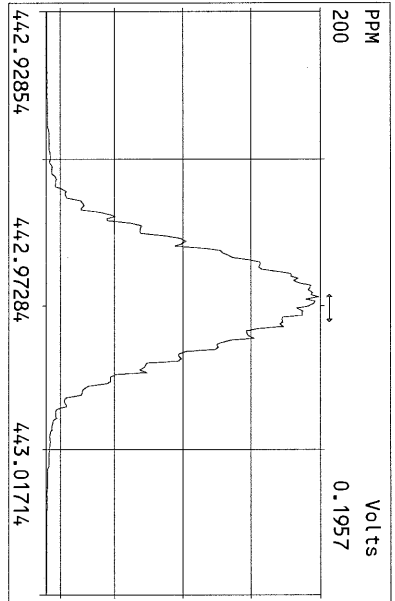
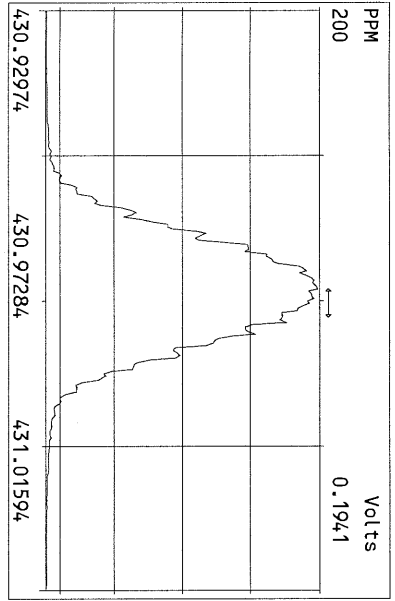




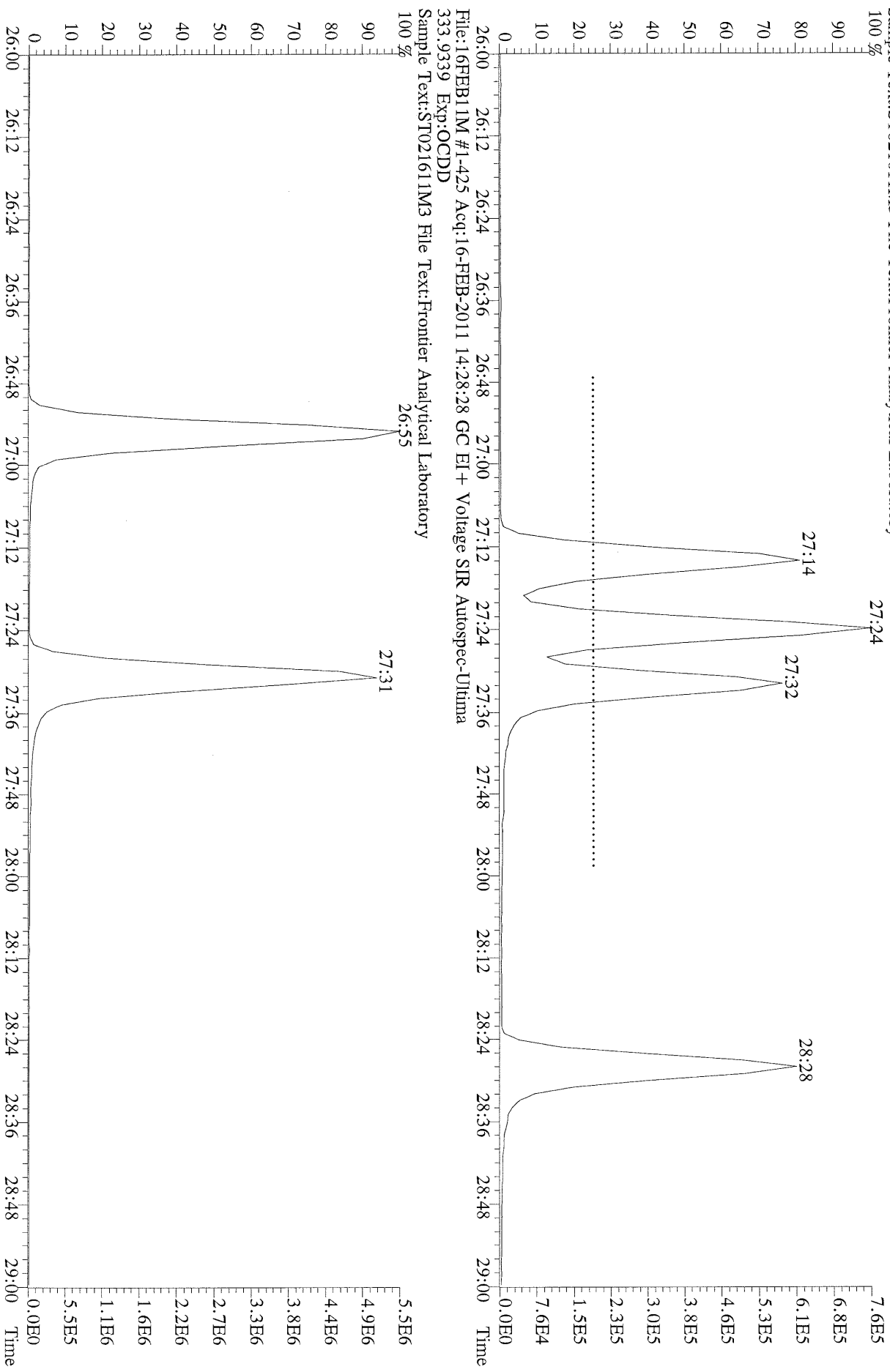






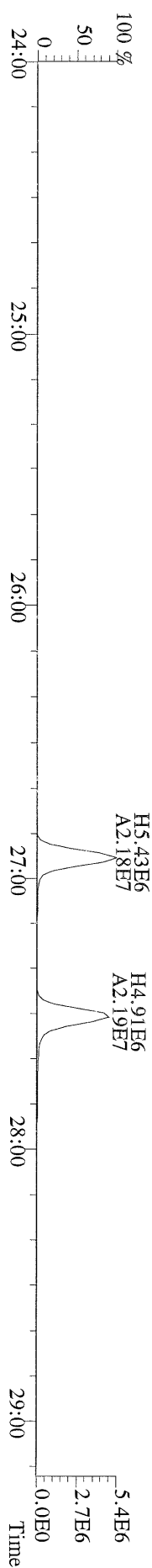
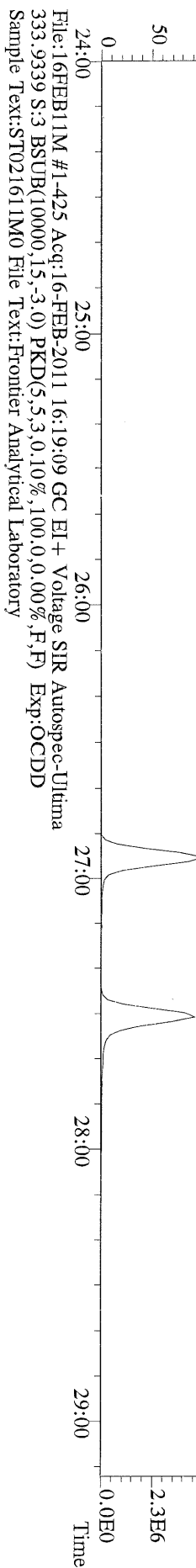
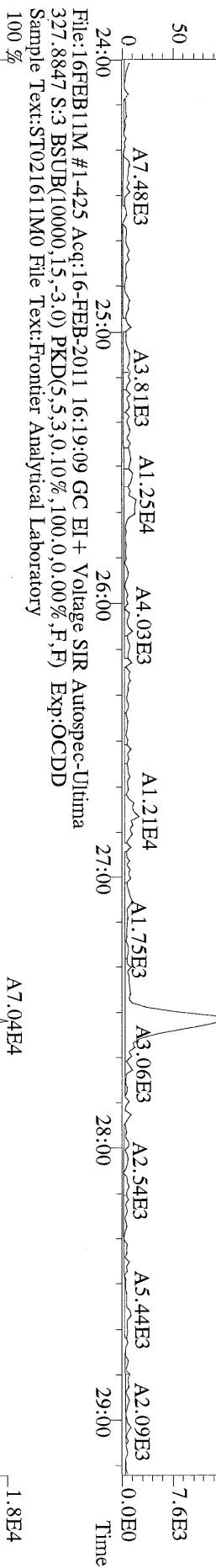
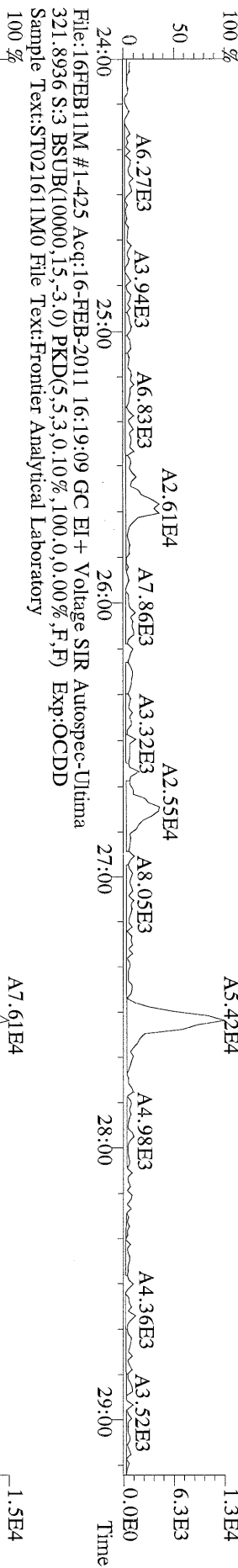


File:16FEBB11M #1-425 Acq:16-FEBB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Utima  
321.8936 Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory  
100%

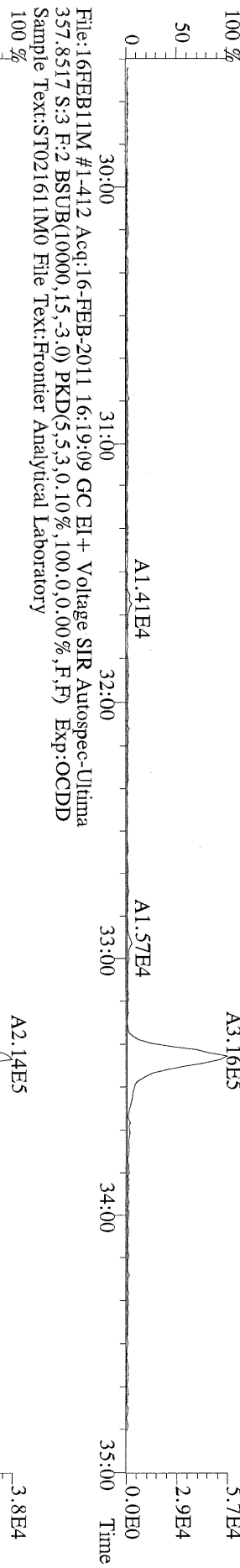


File:16FEBB11M #1-425 Acq:16-FEBB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Utima  
333.9339 Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory

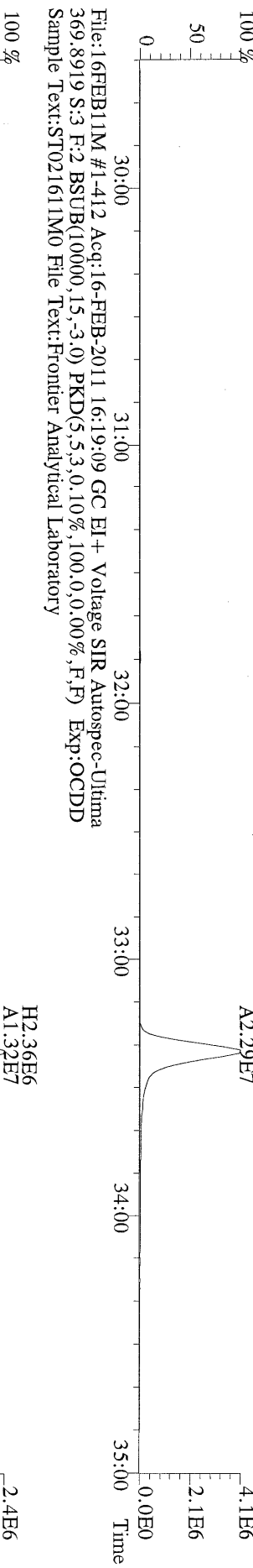
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



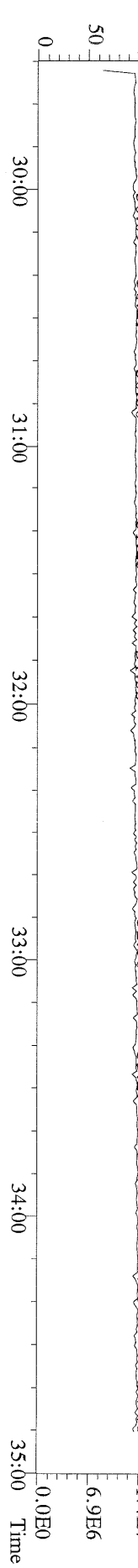
File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory

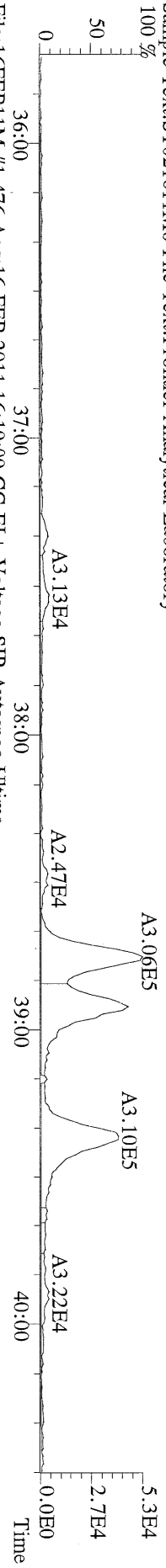


File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
366.9792 S:3 F:2 Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory

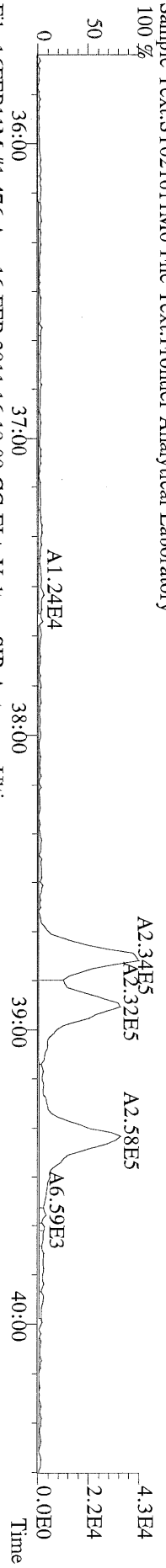




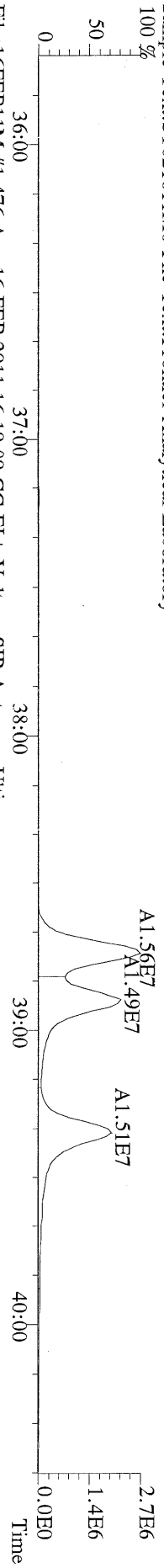
File: 16FEB11M #1-476 Acq: 16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



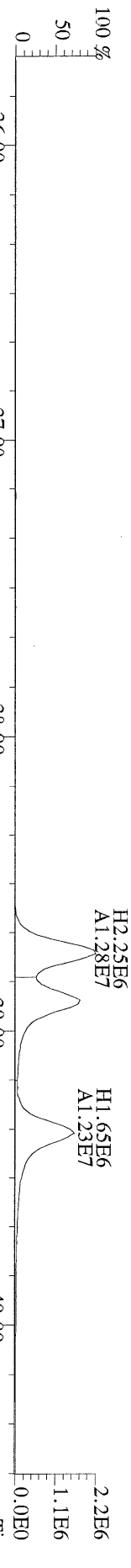
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 391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



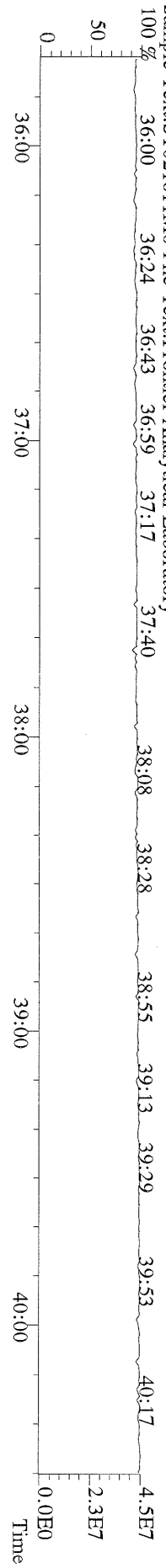
File: 16FEB11M #1-476 Acq: 16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



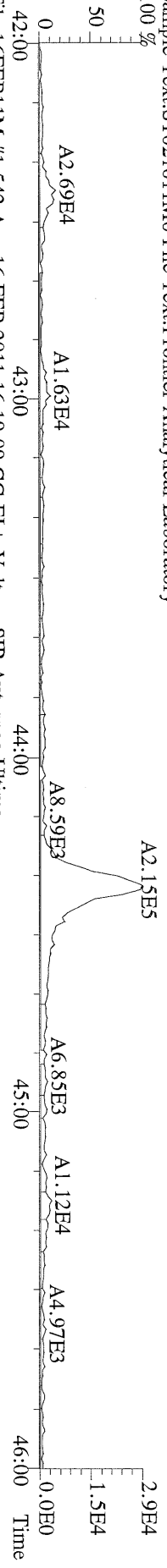
File: 16FEB11M #1-476 Acq: 16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



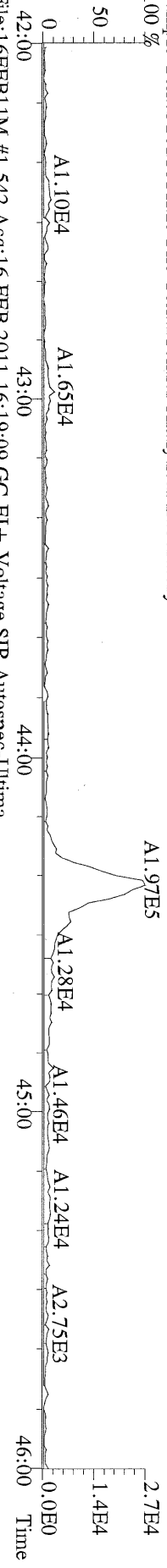
File: 16FEB11M #1-476 Acq: 16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 380.9760 S:3 F:3 Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



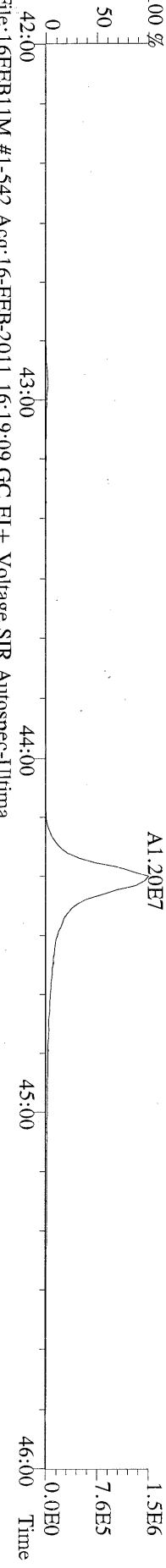
File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



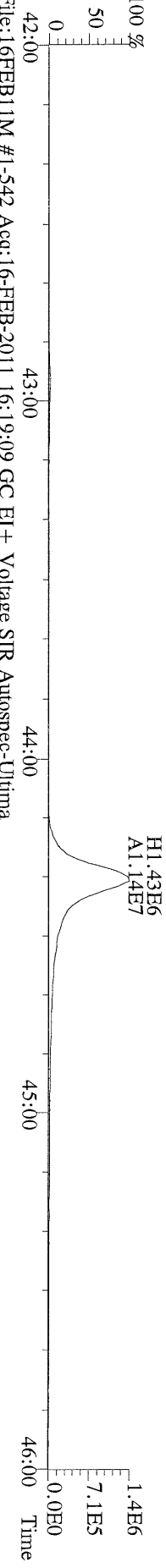
File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



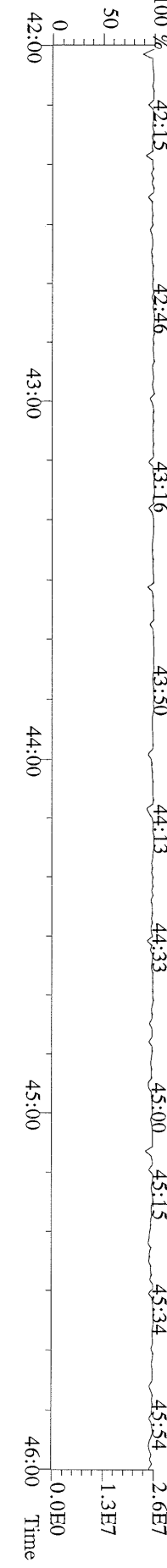
File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



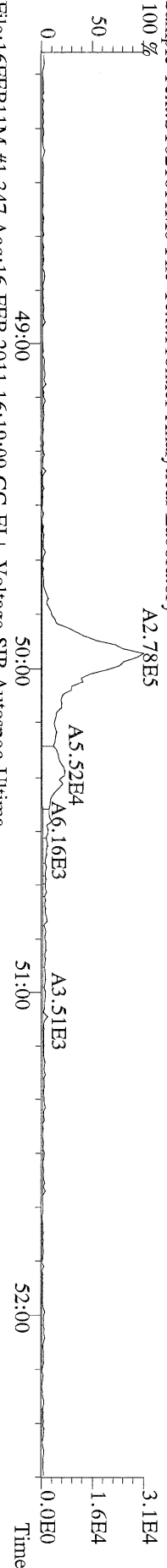
File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



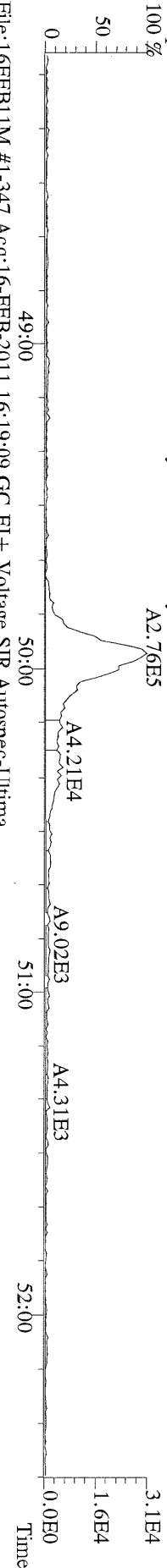
File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
430.9728 S:3 F:4 Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



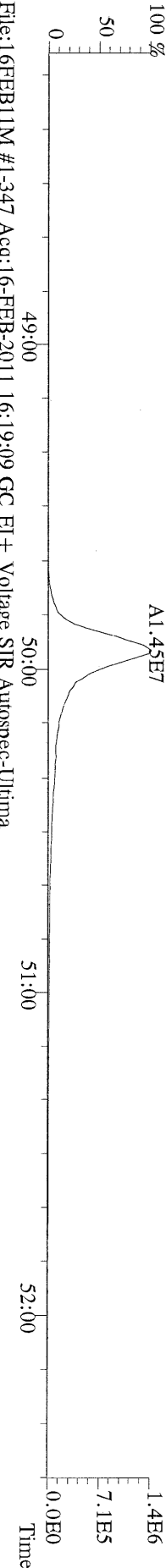
File:16FEBB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



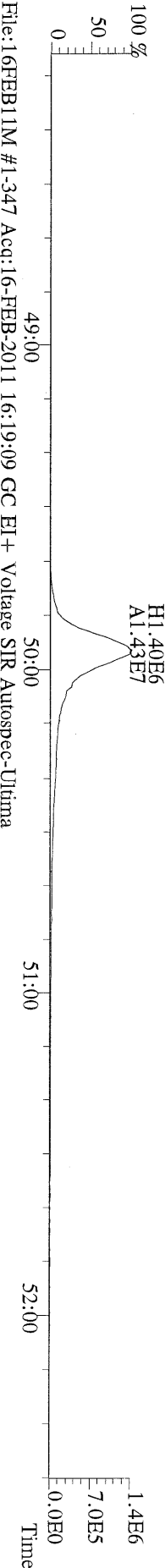
File:16FEBB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



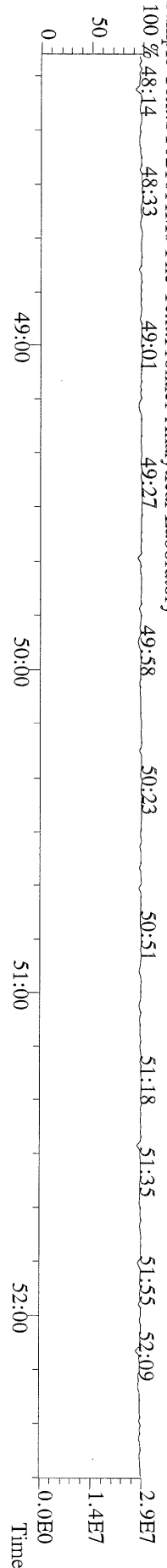
File:16FEBB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 471.7750 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



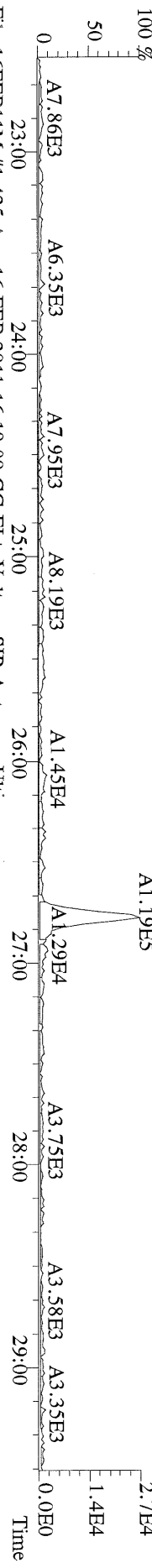
File:16FEBB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 484.9728 S:3 F:5 Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



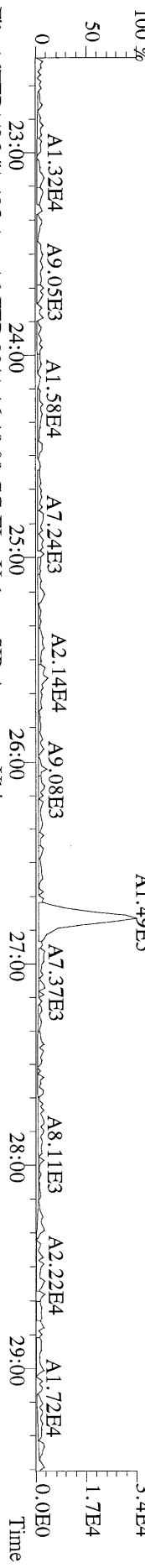
File:16FEBB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 488.148 S:3 F:5 Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



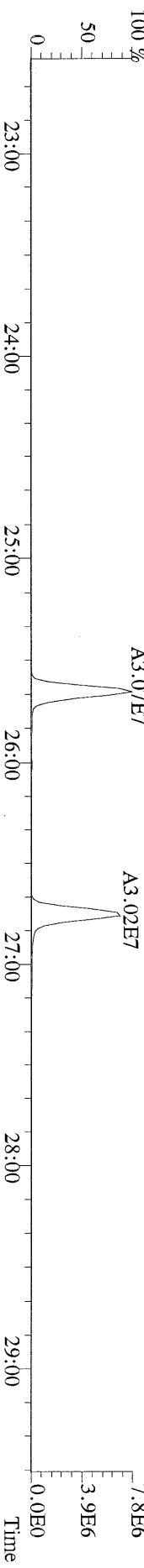
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



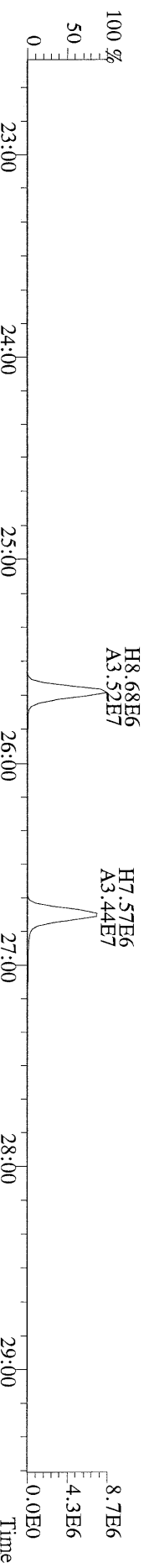
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



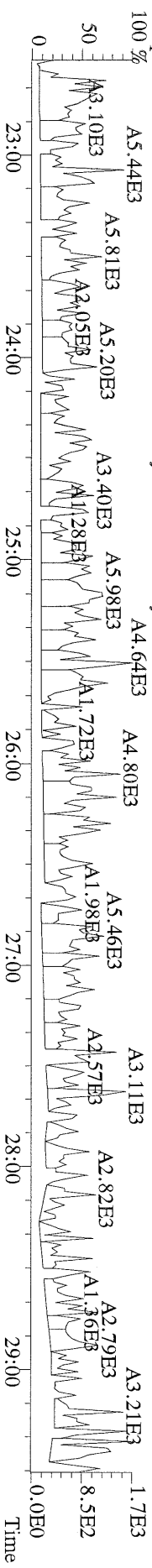
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



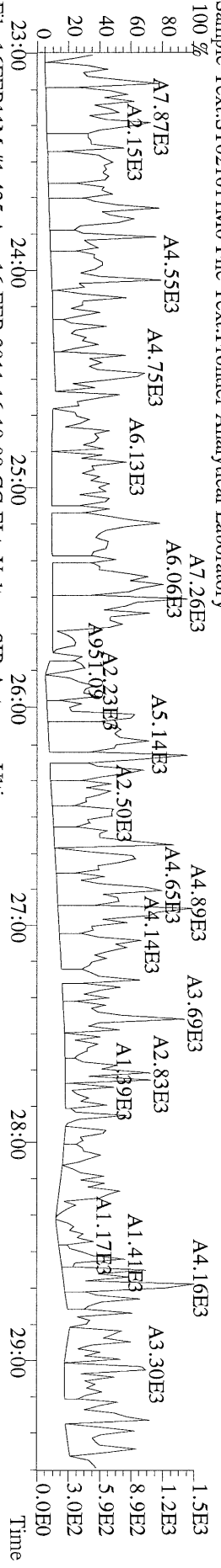
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



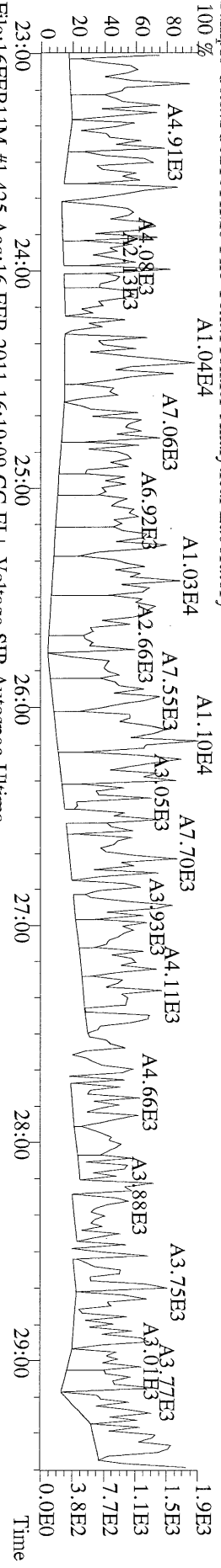
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



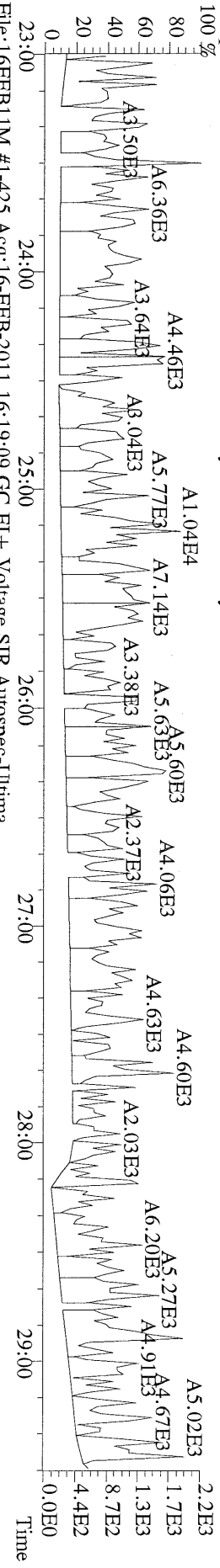
File:16FEB11M0 #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



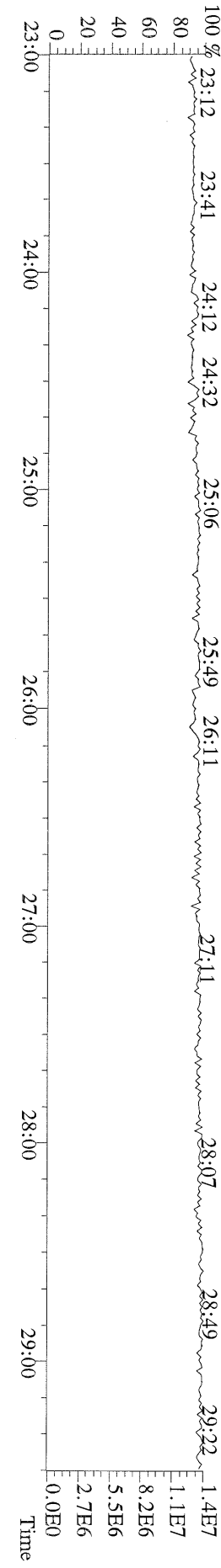
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



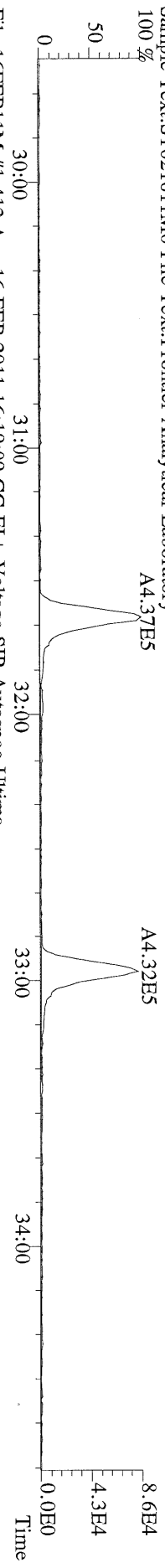
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



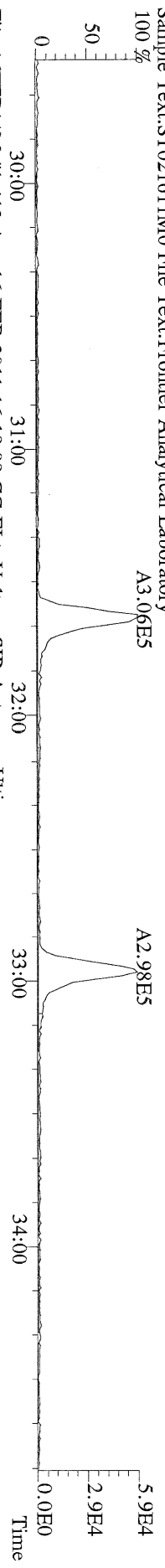
File:16FEB11M #1-425 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
 316.9824 S:3 Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



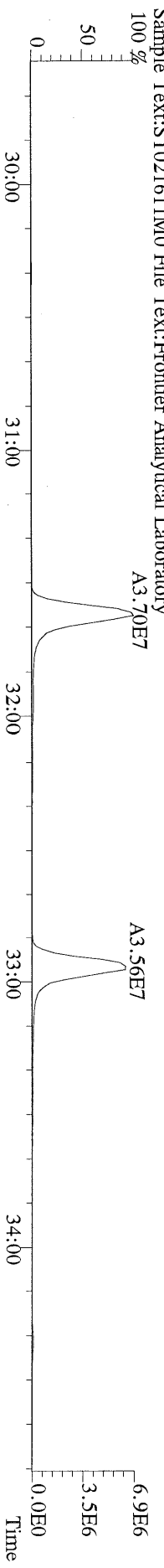
File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



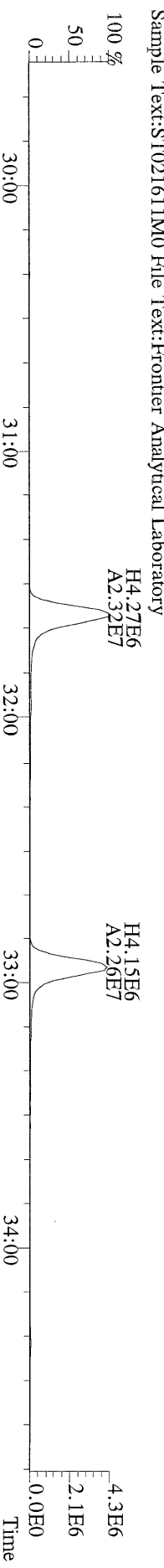
File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



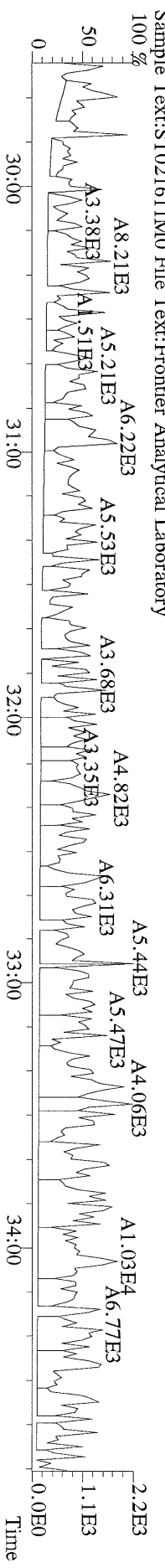
File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
351.9000 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



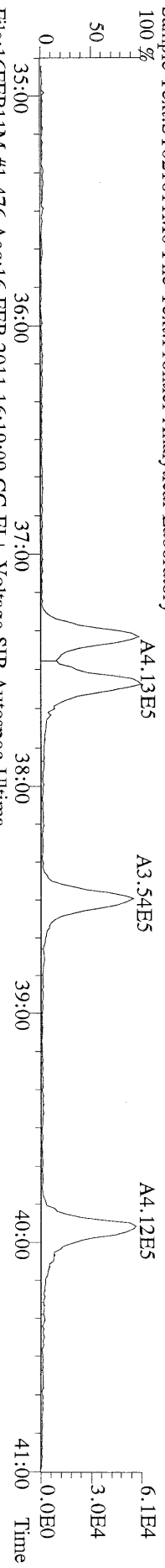
File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
353.8970 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



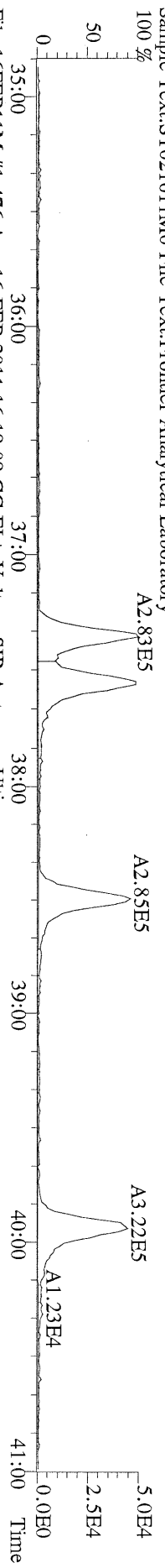
File:16FEB11M #1-412 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
409.7974 S:3 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



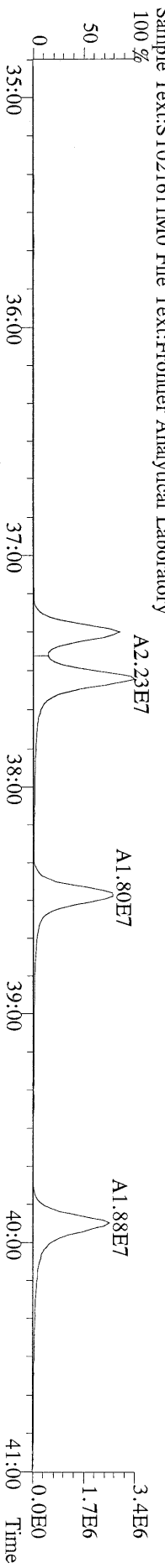
File:16FEB11M #1-476 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



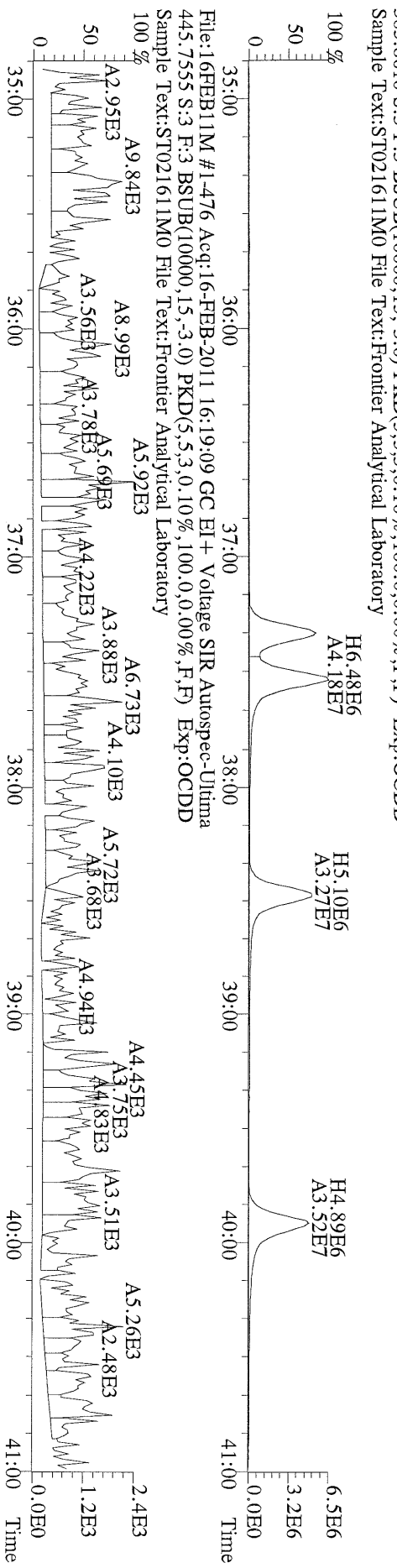
File:16FEB11M #1-476 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



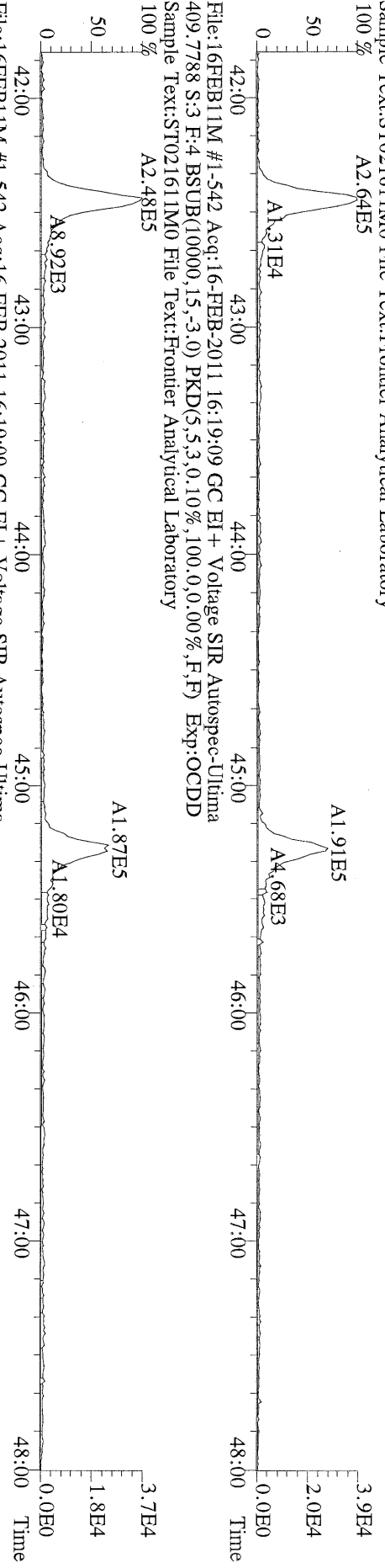
File:16FEB11M #1-476 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



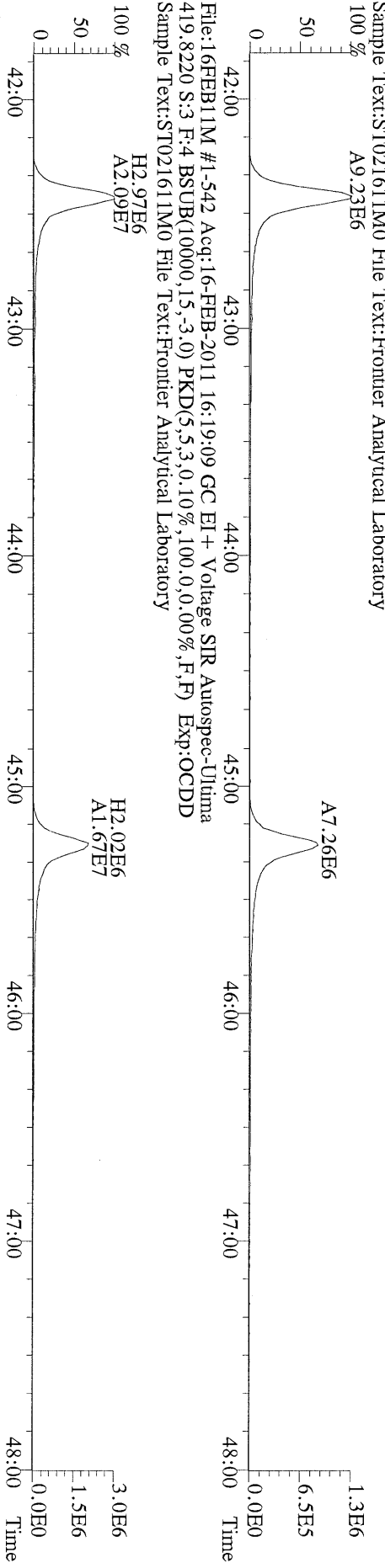
File:16FEB11M #1-476 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
 445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



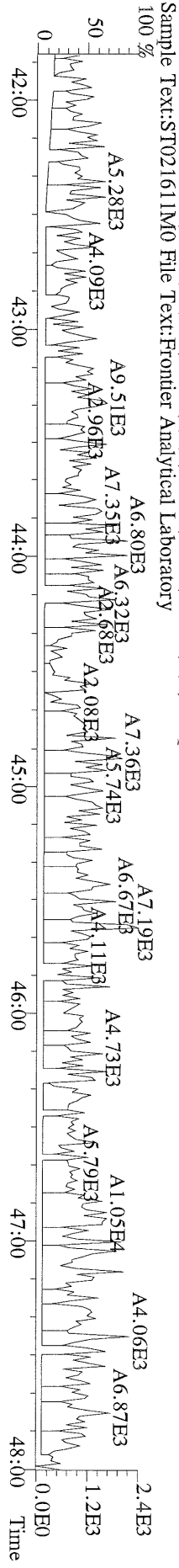
File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Fronier Analytical Laboratory



File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Fronier Analytical Laboratory

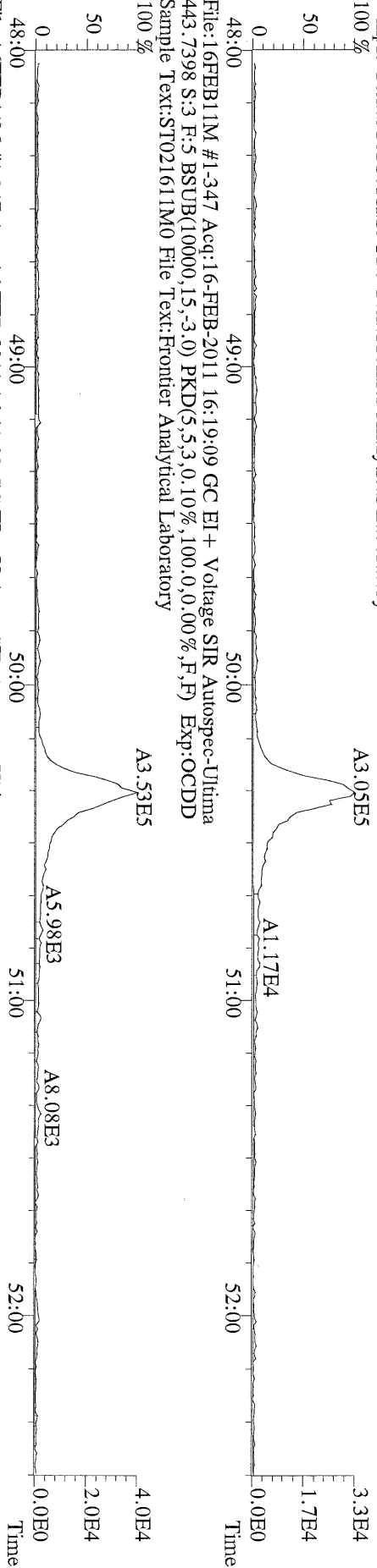


File:16FEB11M #1-542 Acq:16-FEB-2011 16:19:09 GC EI+ Voltage SIR Autospec-Ultima  
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Fronier Analytical Laboratory

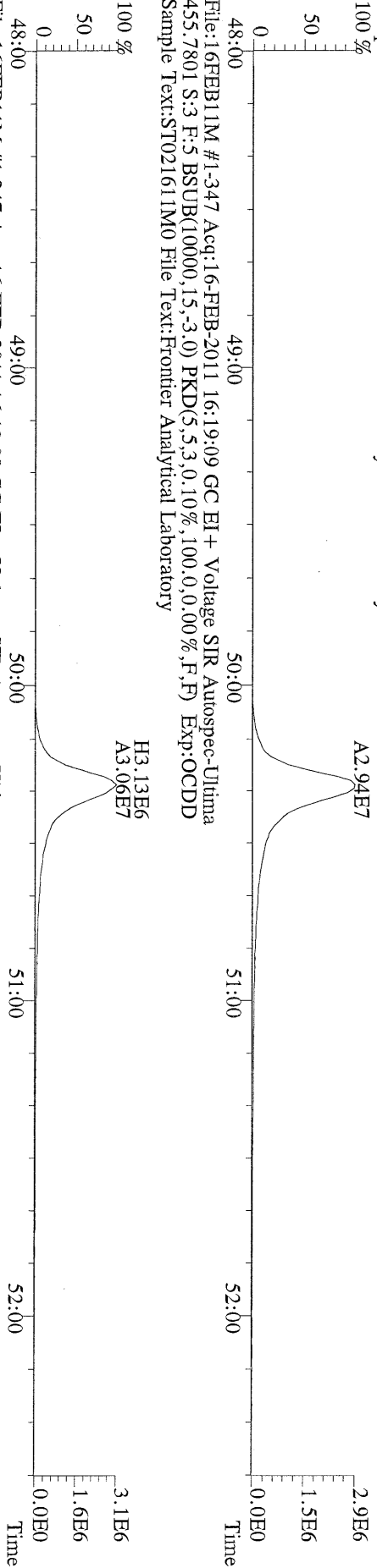




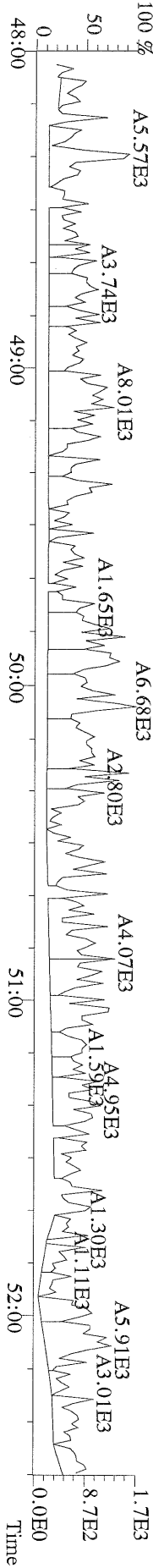
File:16FEB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



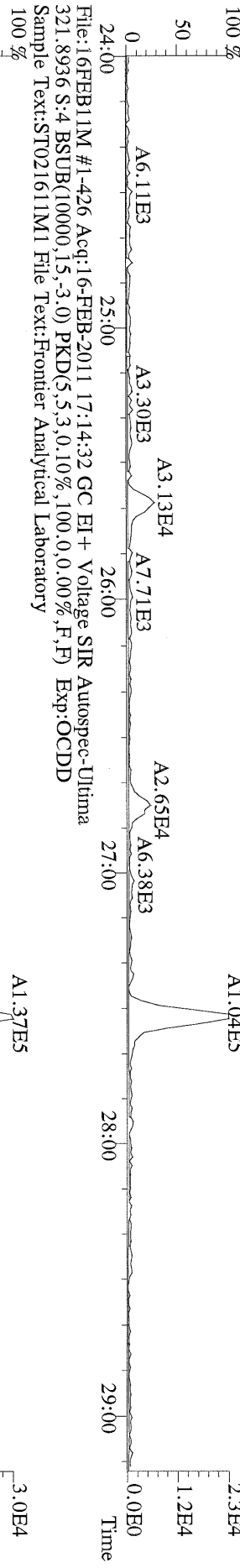
File:16FEB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
453.7831 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



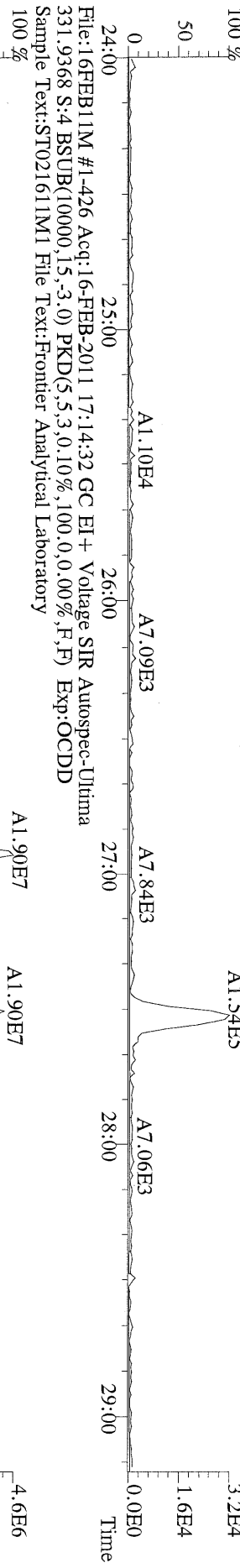
File:16FEB11M #1-347 Acq:16-FEB-2011 16:19:09 GC EI + Voltage SIR Autospec-Ultima  
513.6775 S:3 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
Sample Text:ST021611M0 File Text:Frontier Analytical Laboratory



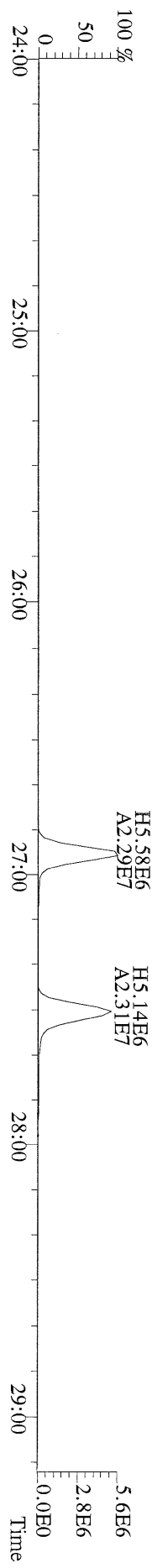
File:16FEB11M1 #1-426 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



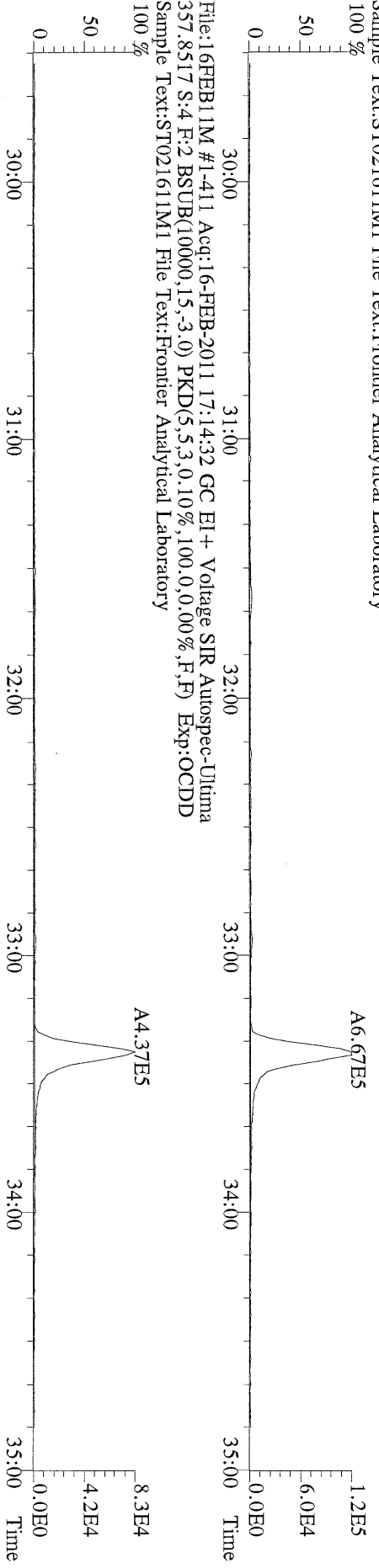
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327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



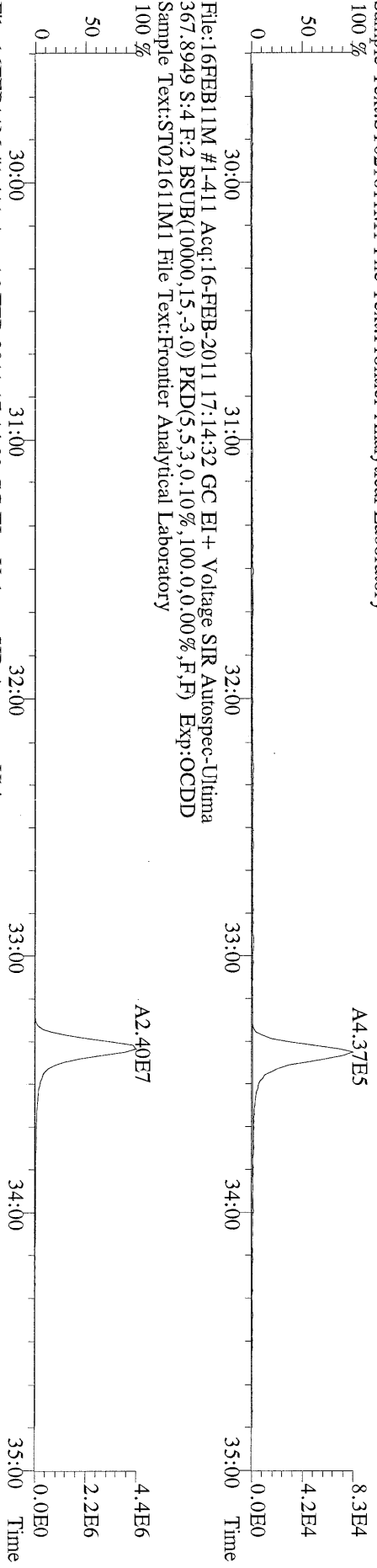
File:16FEB11M1 #1-426 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



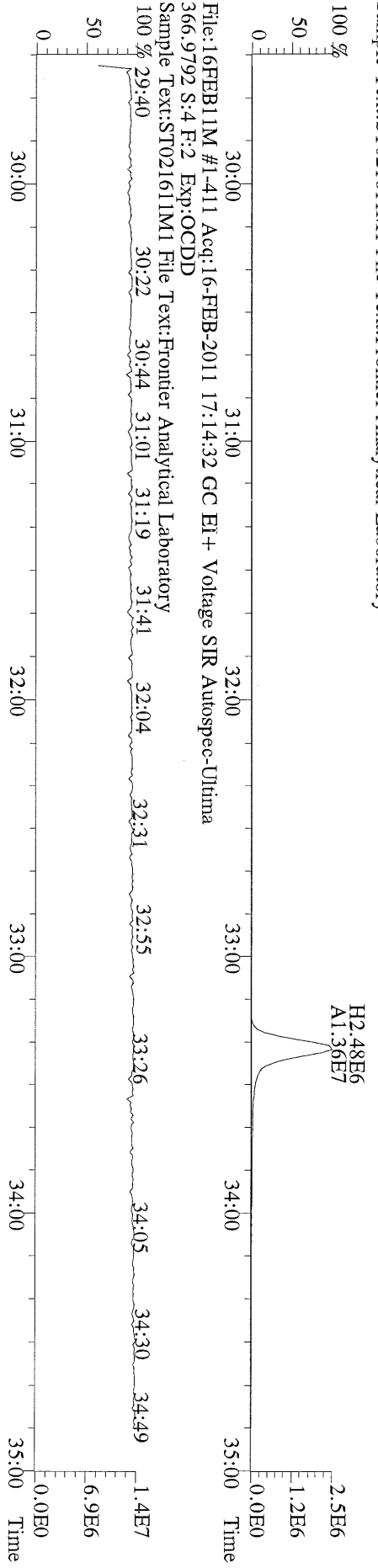
File:16FEB11M #1-411 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-411 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
357.8517 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



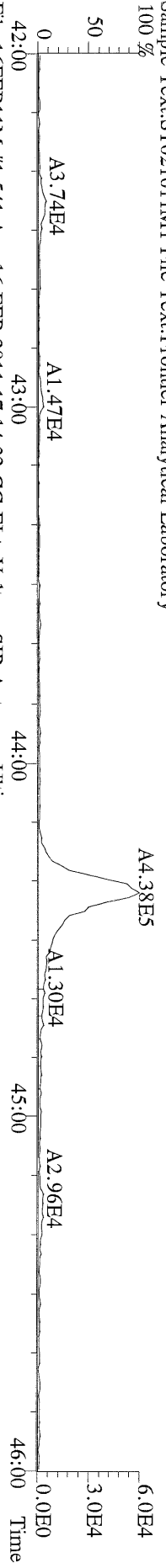
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367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-411 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
366.9792 S:4 F:2 Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



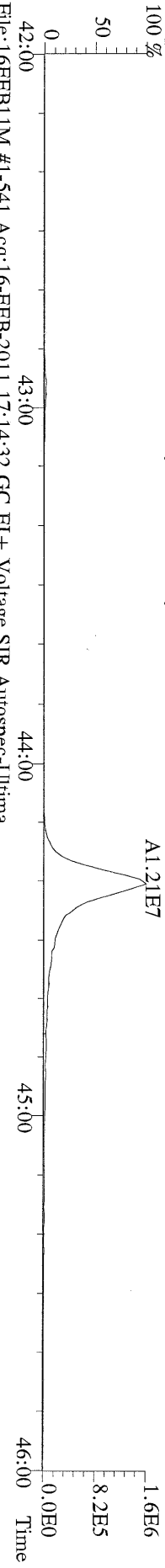
File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



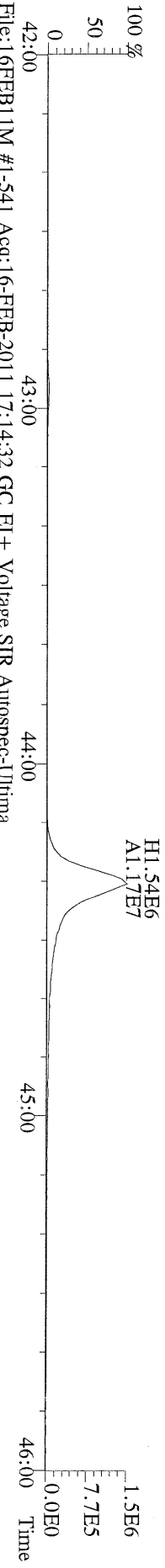
File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



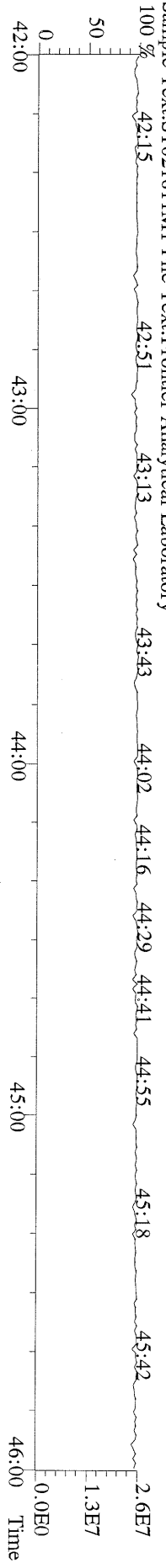
File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory

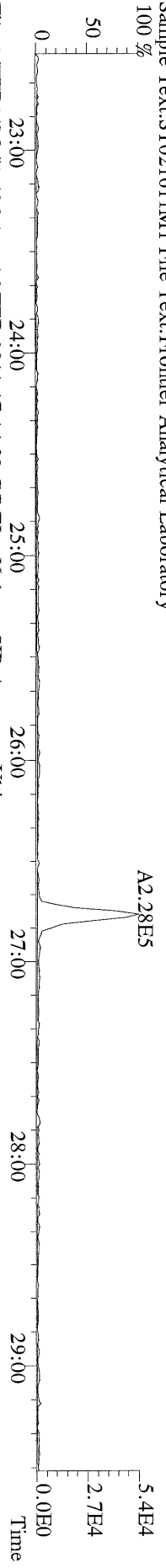


File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
430.9728 S:4 F:4 Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory

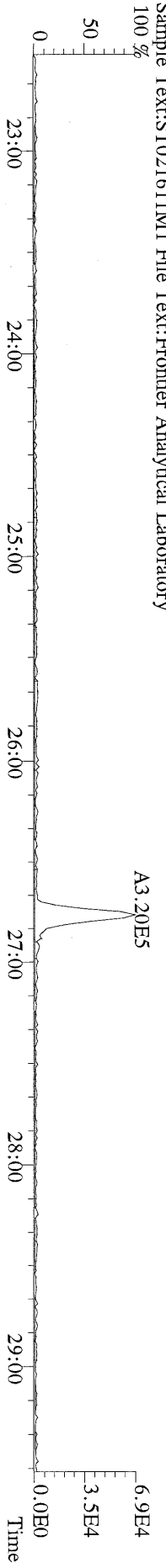




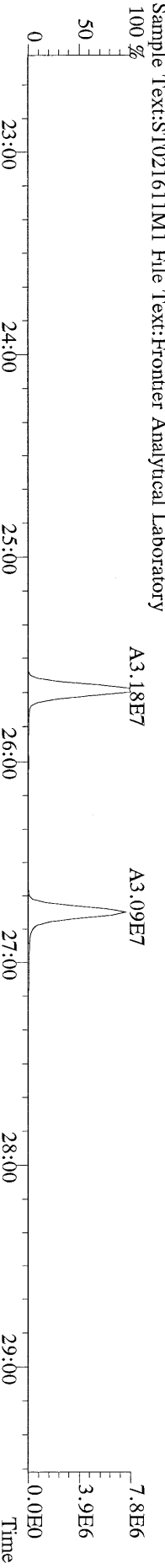
File:16FEBB11M #1-426 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
 303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



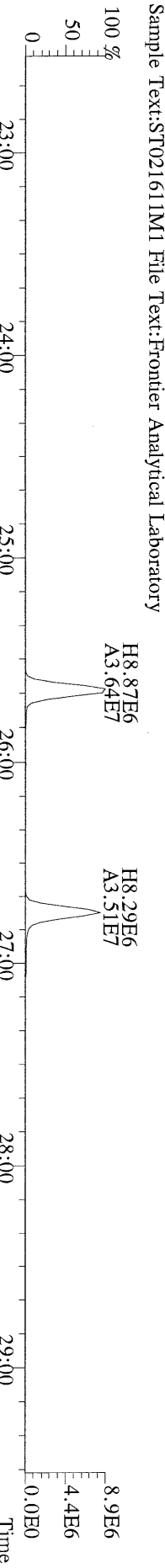
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 305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



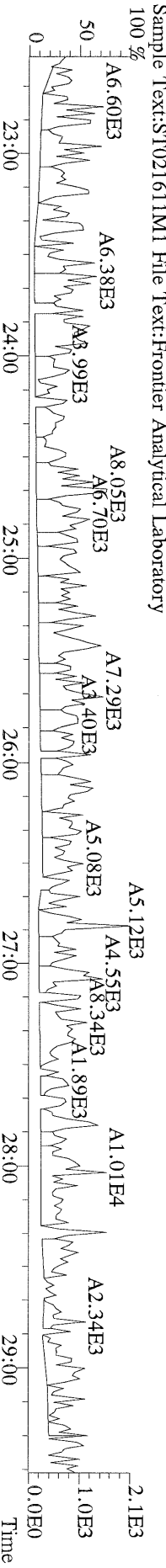
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 315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



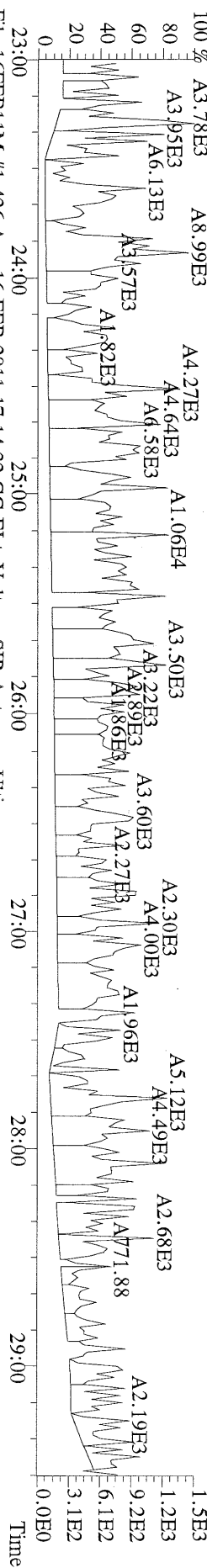
File:16FEBB11M #1-426 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
 317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



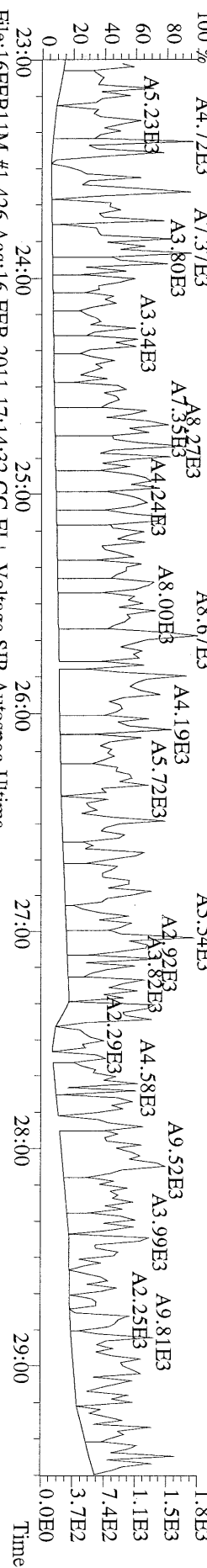
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 375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



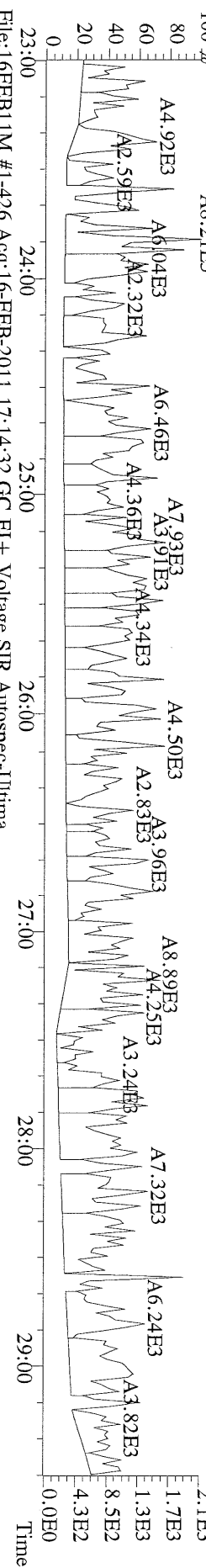
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 339.8597 S:4 BSUB(10000,15,3.0) PKD(5,5,3.0,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



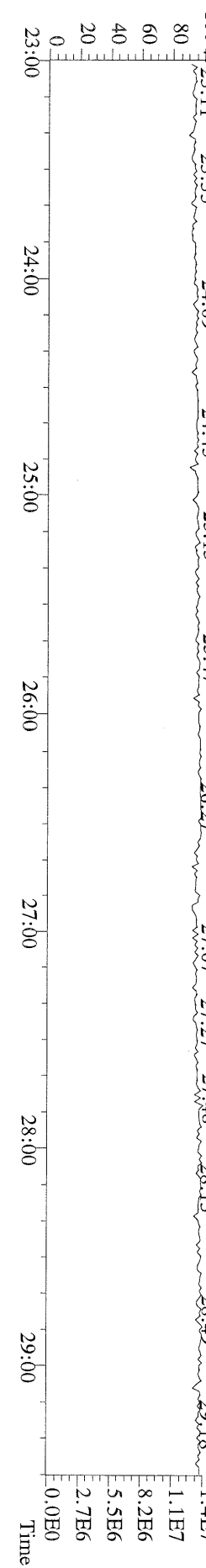
File:16FEB11M #1-426 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
 341.8568 S:4 BSUB(10000,15,3.0) PKD(5,5,3.0,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-426 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 S:4 BSUB(10000,15,3.0) PKD(5,5,3.0,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory

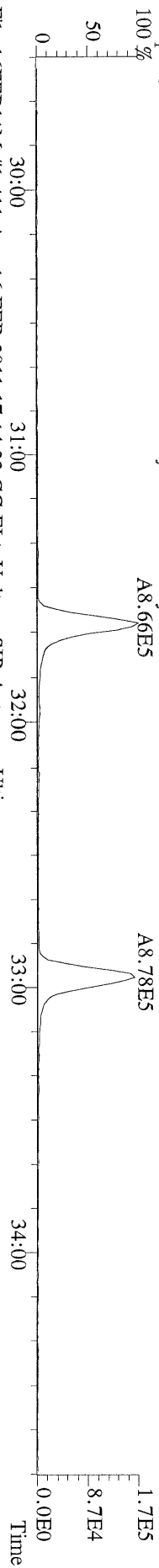


File:16FEB11M #1-426 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
 316.9824 S:4 Exp:OCDD  
 Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory

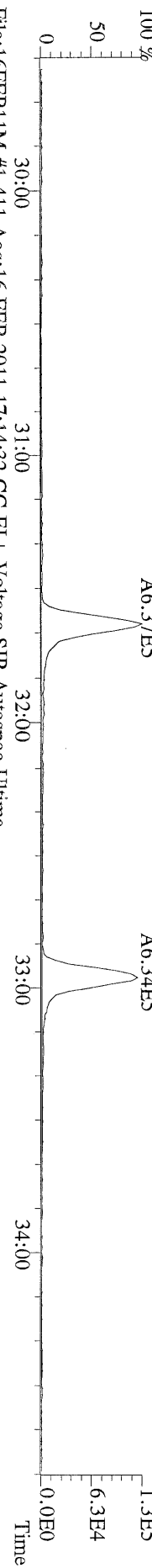




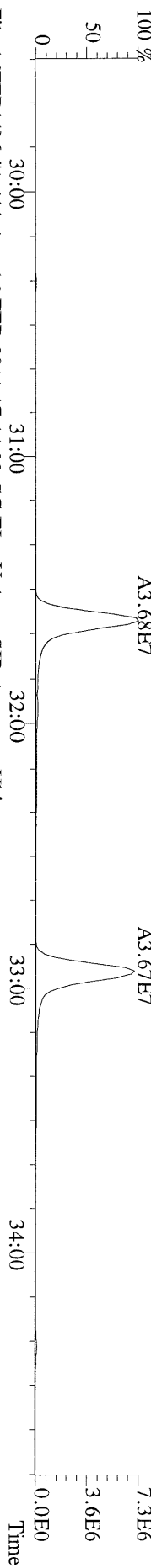
File:16FEB11M #1-411 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



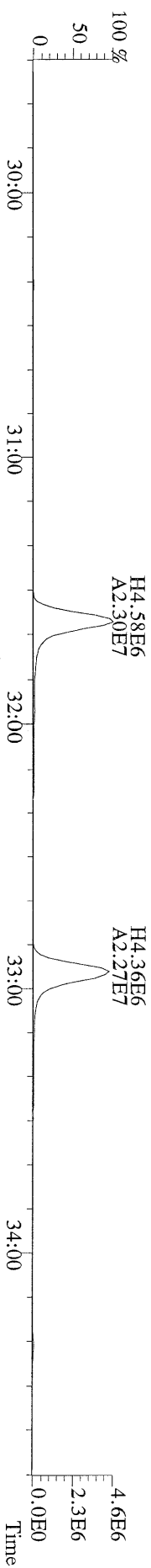
File:16FEB11M #1-411 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
341.8568 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



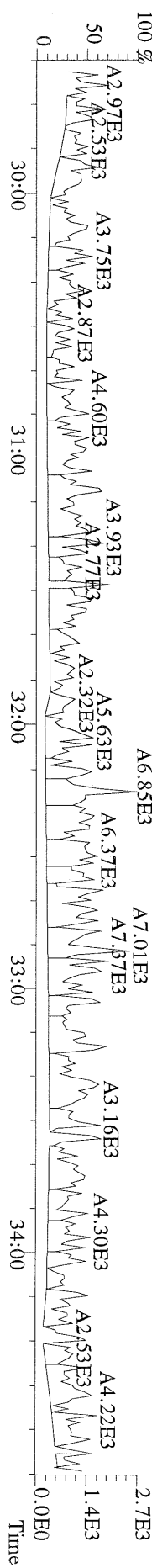
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351.9000 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



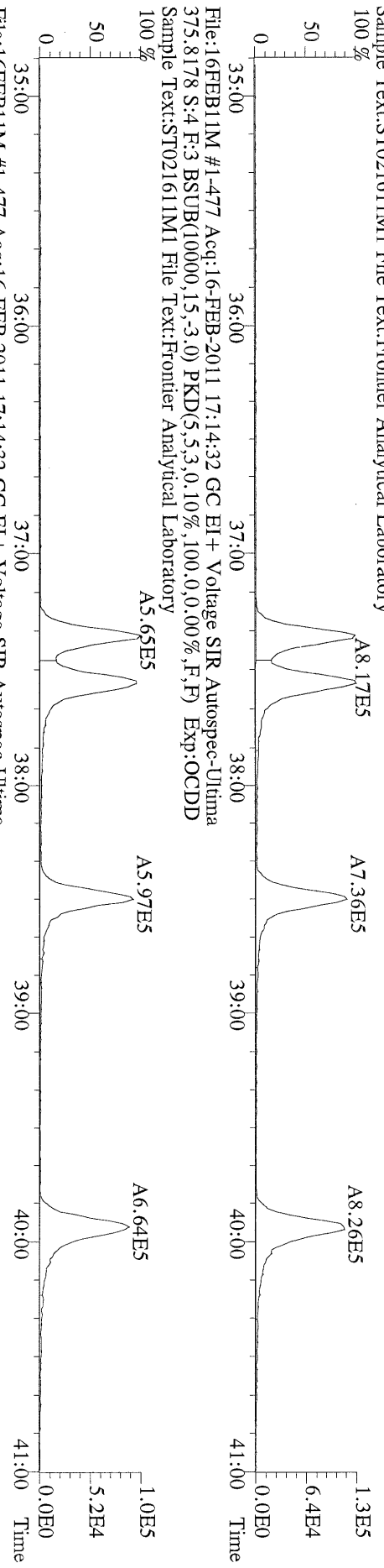
File:16FEB11M #1-411 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
353.8970 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



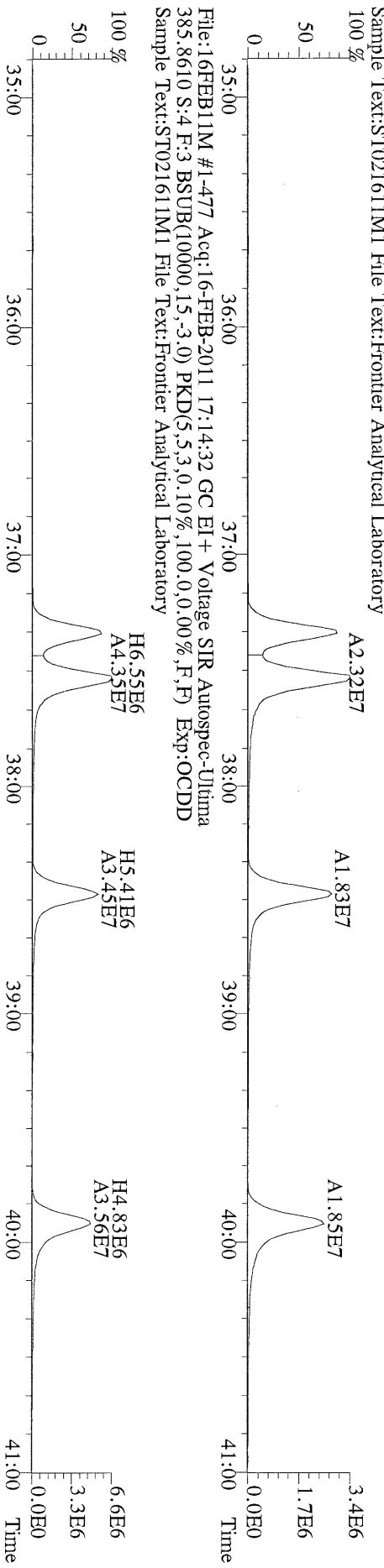
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409.7974 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0,0%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



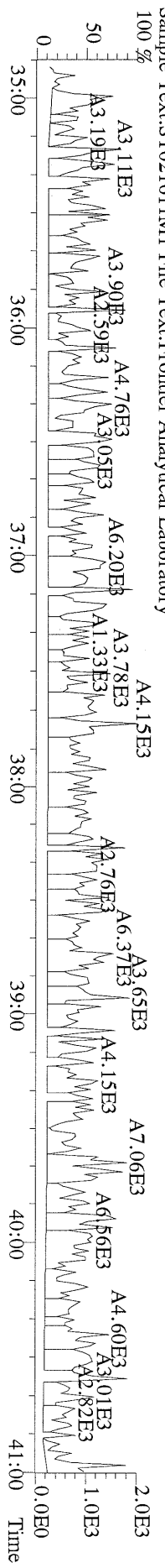
File:16FEB11M #1-477 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,0,0) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



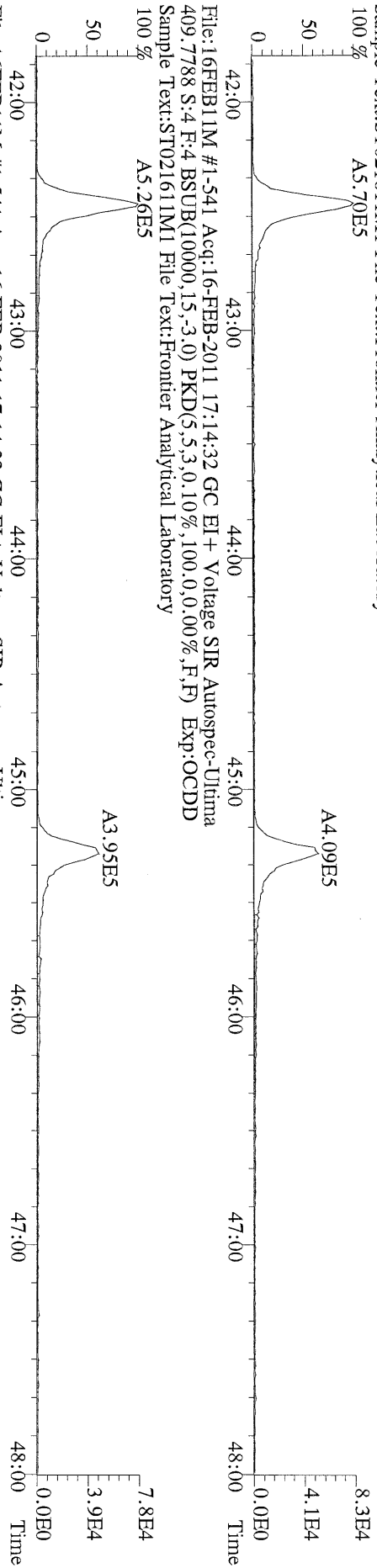
File:16FEB11M #1-477 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,0,0) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



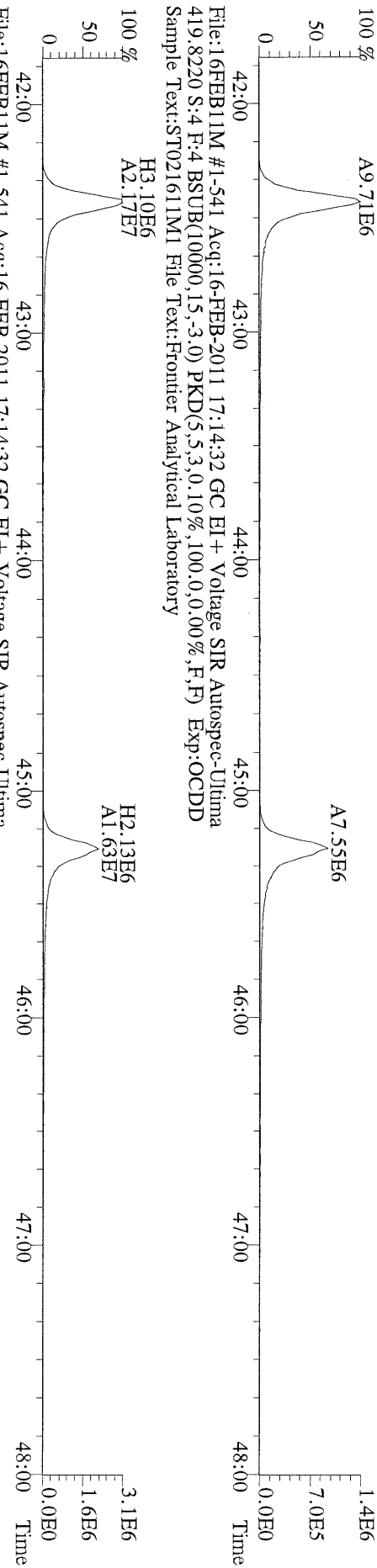
File:16FEB11M #1-477 Acq:16-FEB-2011 17:14:32 GC EI + Voltage SIR Autospec-Ultima  
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100,0,0,0,0) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



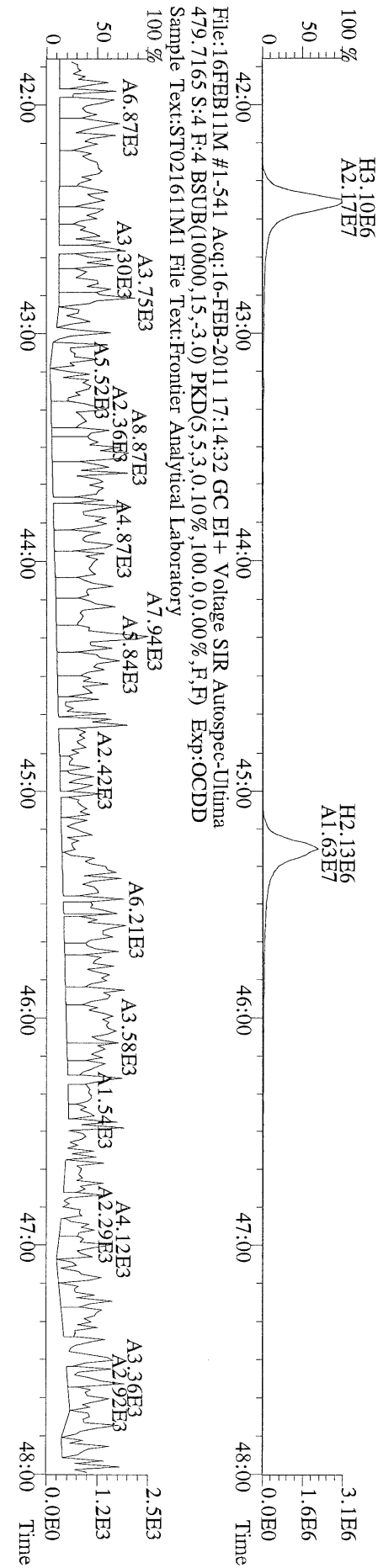
File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory

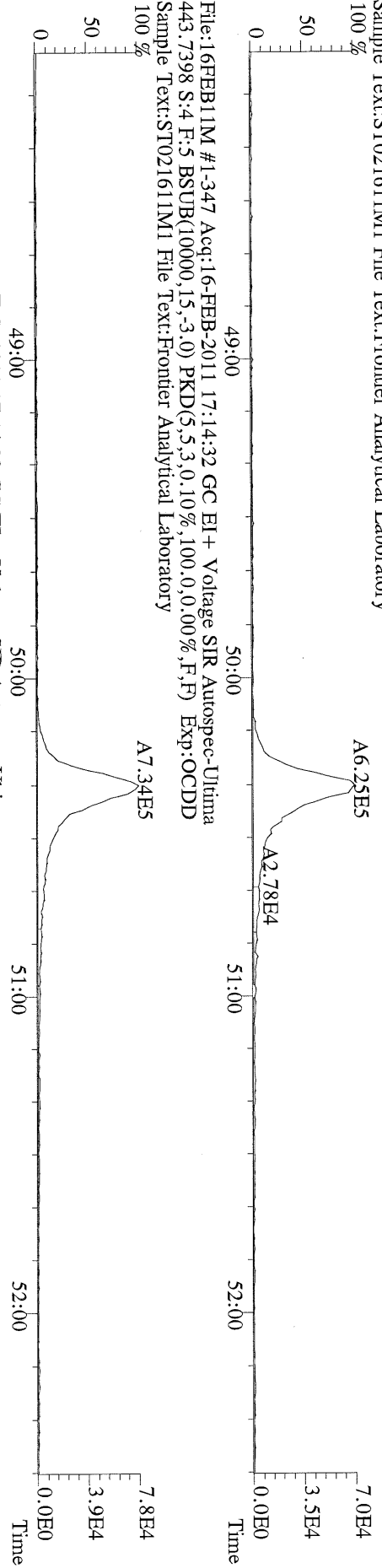


File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory

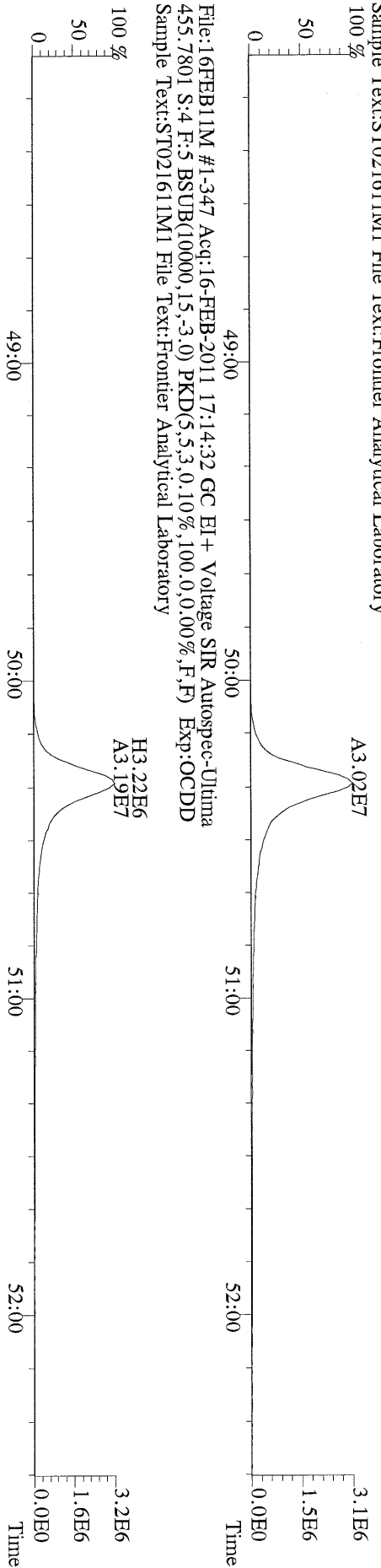


File:16FEB11M #1-541 Acq:16-FEB-2011 17:14:32 GC EI+ Voltage SIR Autospec-Ultima  
479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory

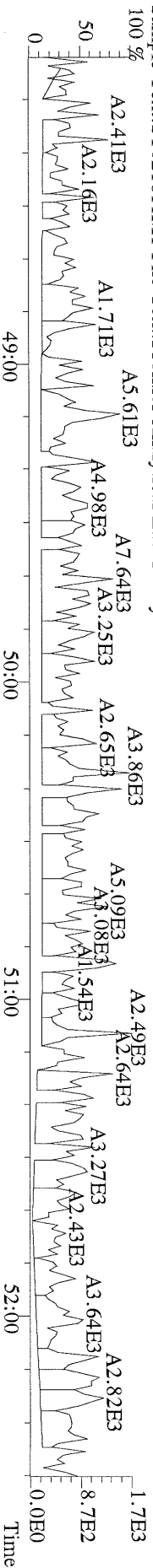
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441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



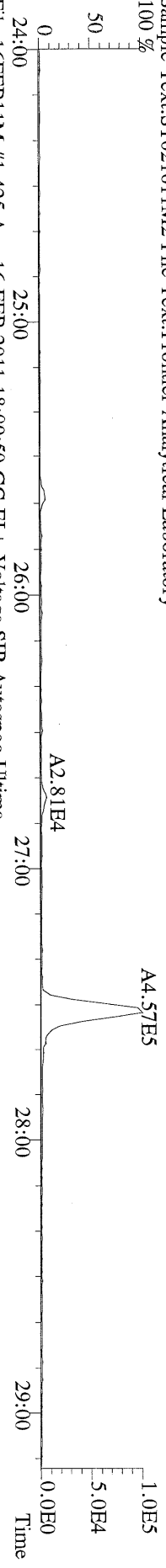
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453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



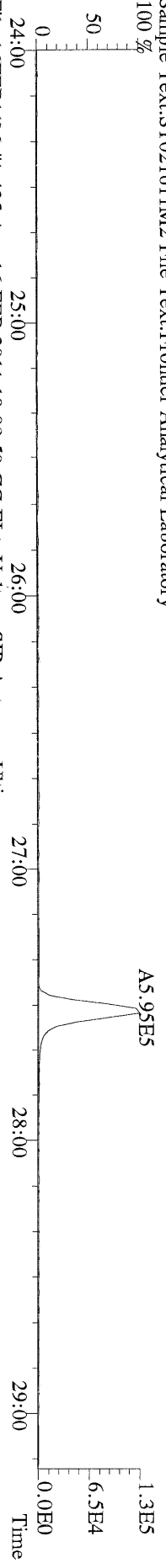
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513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M1 File Text:Frontier Analytical Laboratory



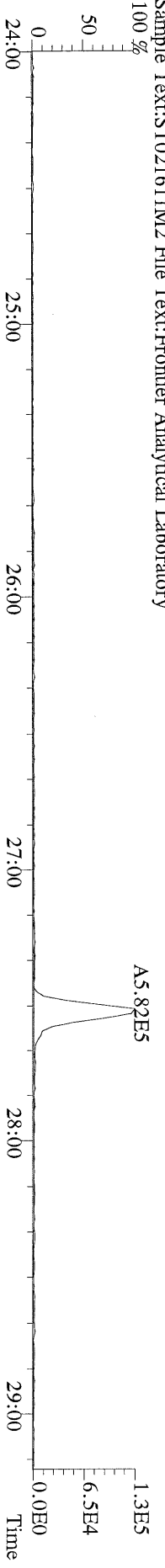
File:16FEB11M #1-425 Acq:16-FEB-2011 18:09:50 GC EI+ Voltage SIR Autospec-Utima  
319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



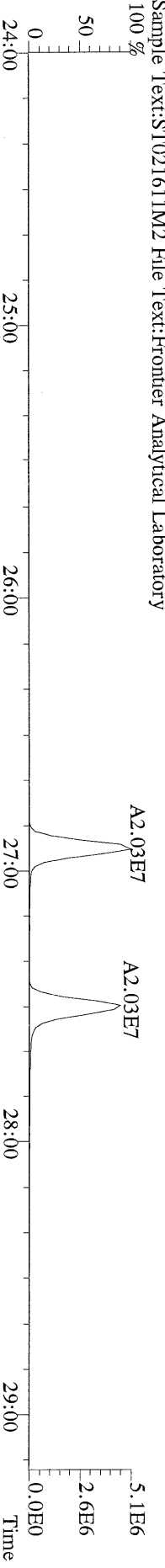
File:16FEB11M #1-425 Acq:16-FEB-2011 18:09:50 GC EI+ Voltage SIR Autospec-Utima  
321.8936 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



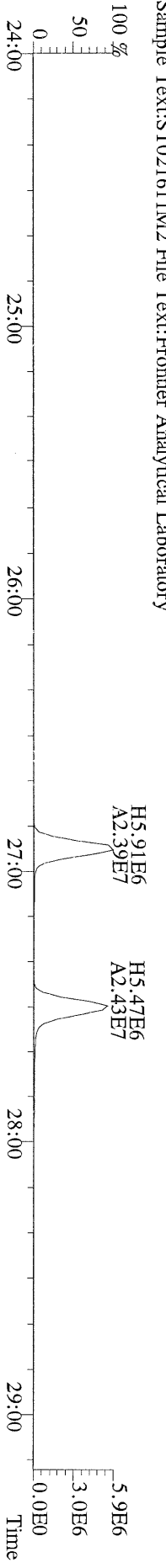
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327.8847 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



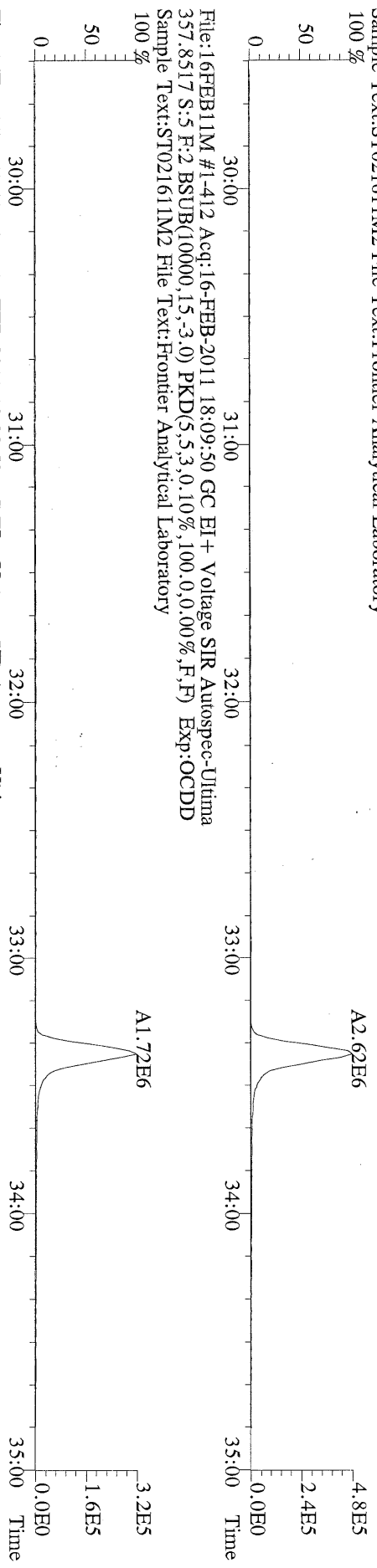
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331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



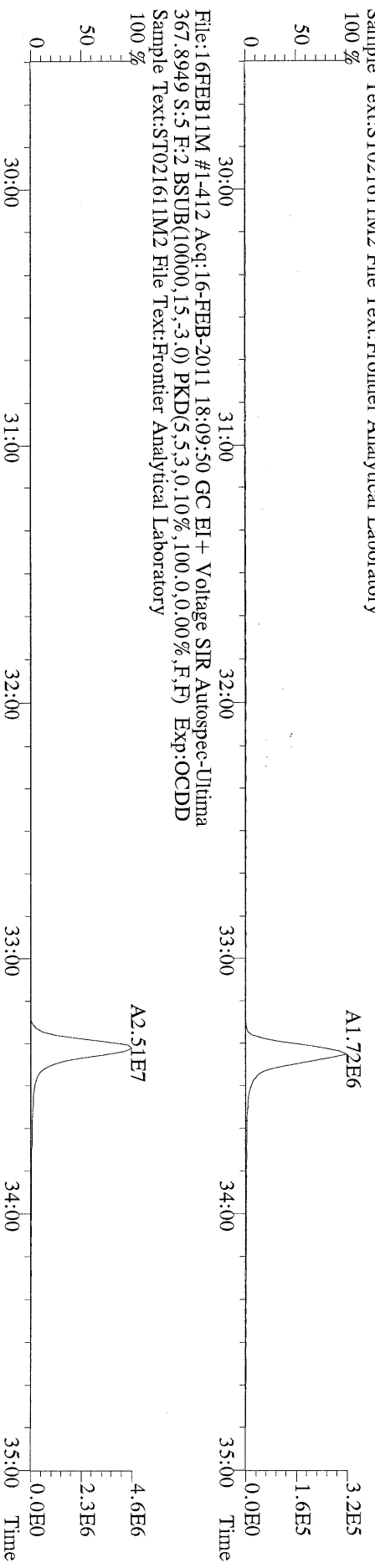
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333.9339 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



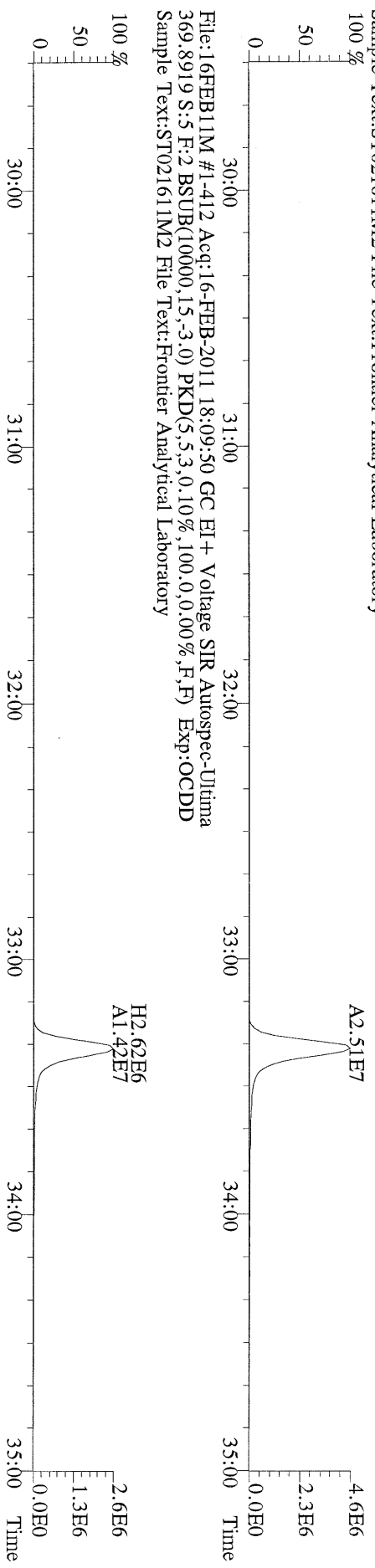
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355.8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



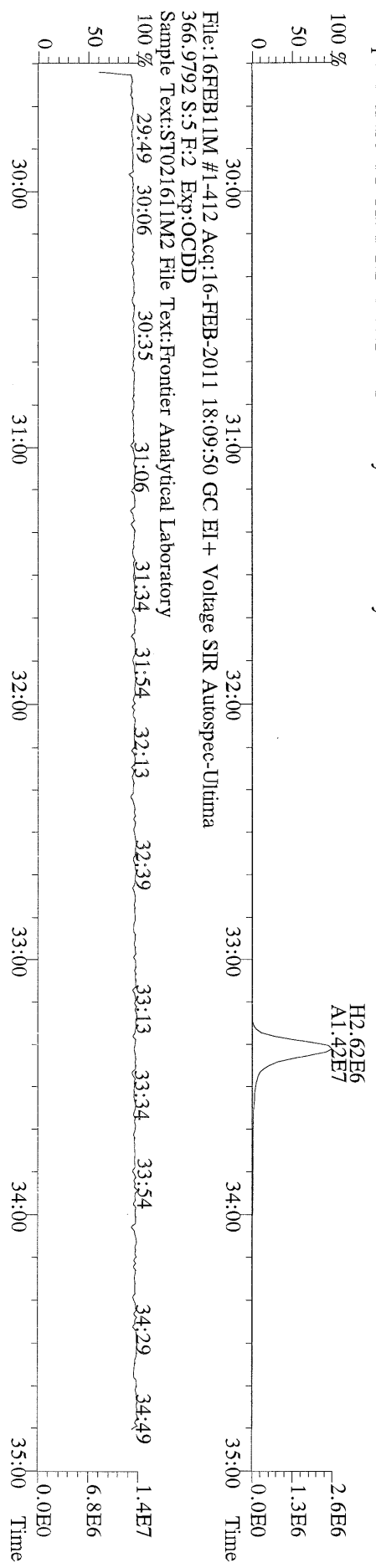
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357.8517 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



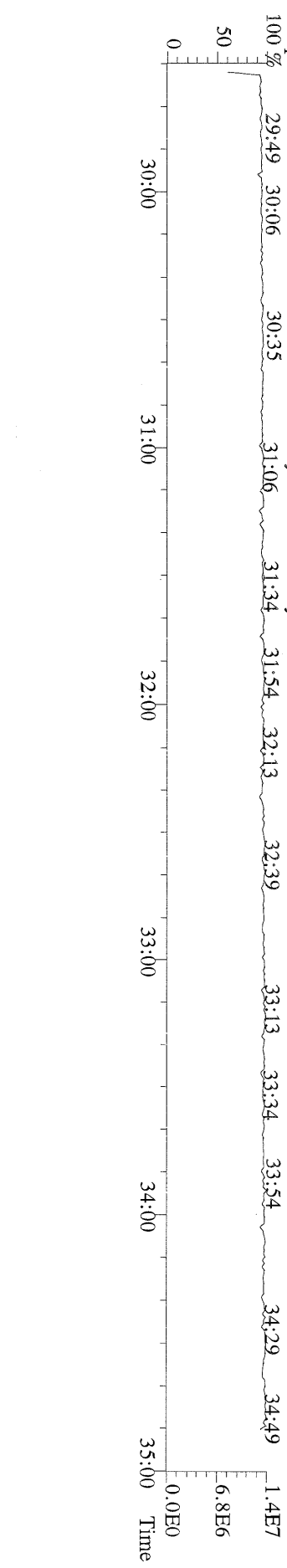
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367.8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



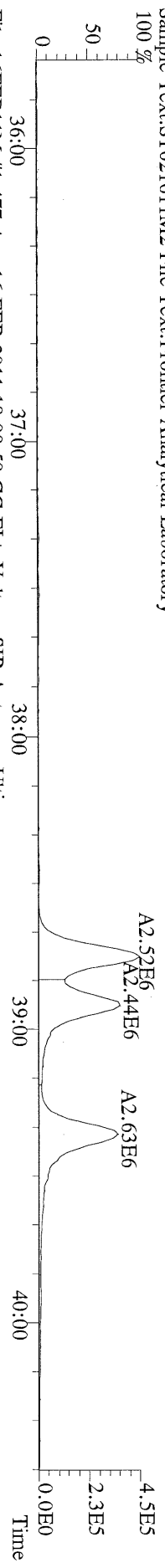
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369.8919 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



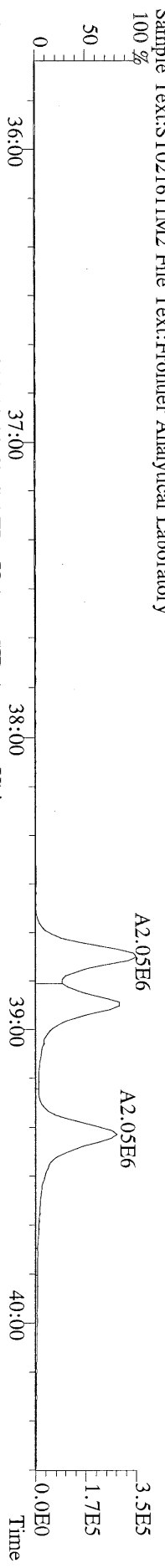
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366.9792 S:5 F:2 Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



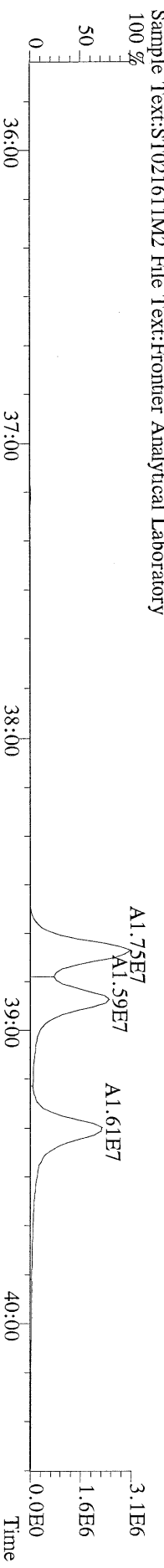
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 389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



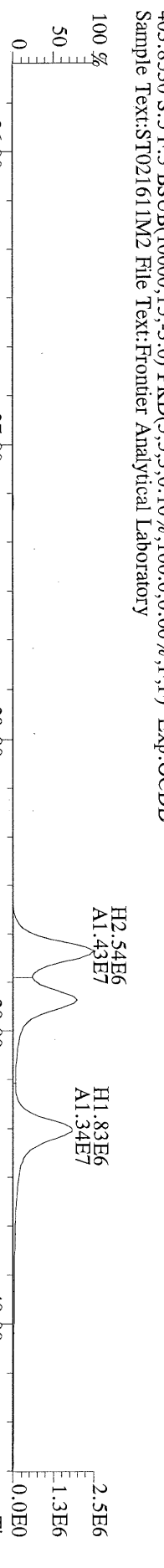
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 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



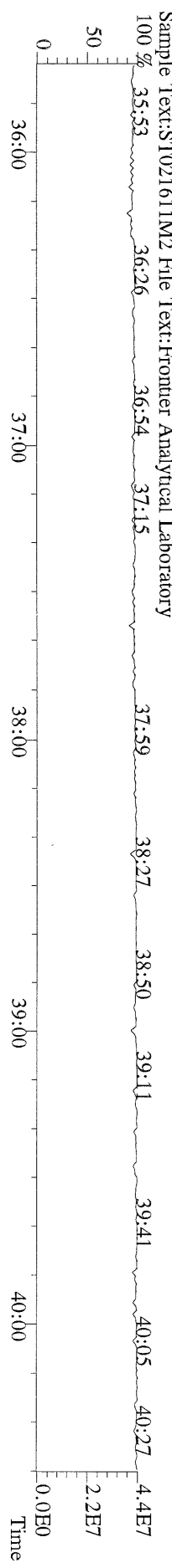
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 401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



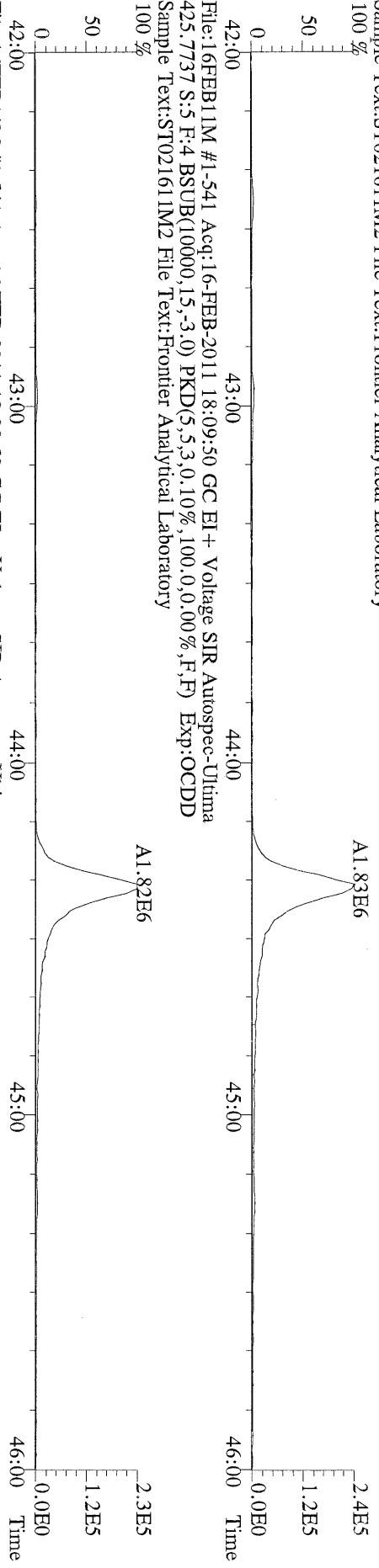
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 403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



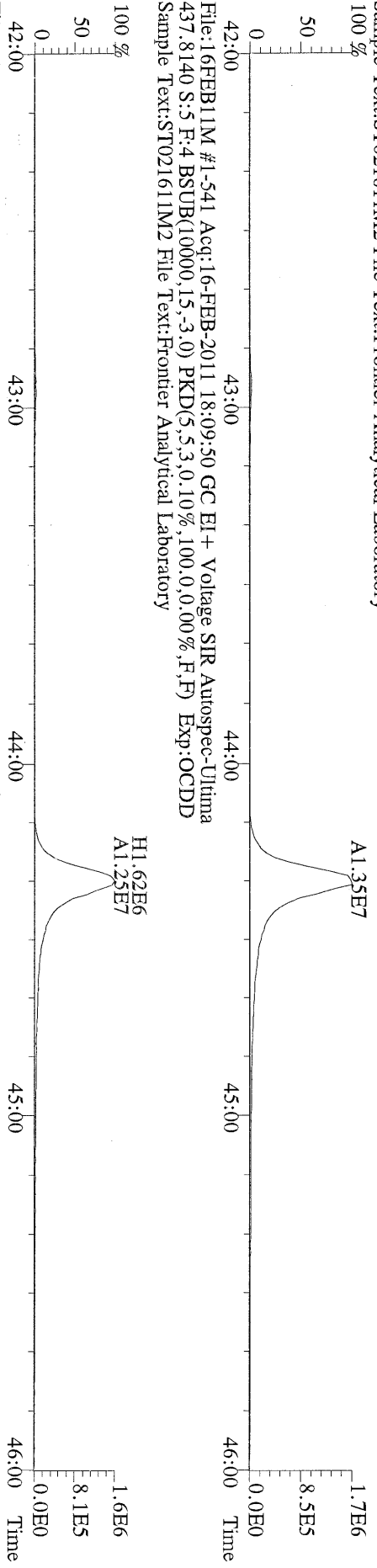
File:16FEBB11M #1-477 Acq:16-FEB-2011 18:09:50 GC EI+ Voltage SIR Autospec-Ultima  
 380.9760 S:5 F:3 Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



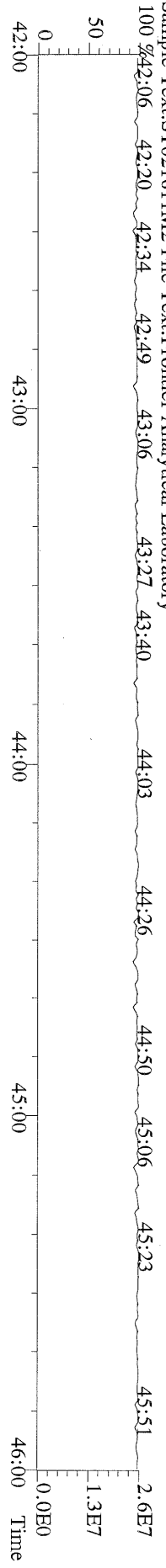
File:16FEB11M #1-541 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-541 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory

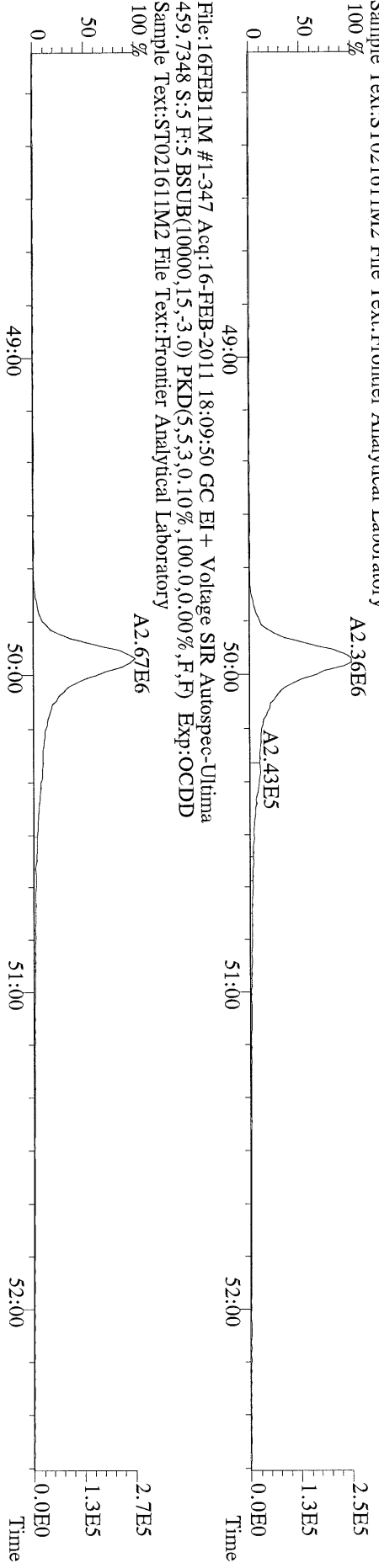


File:16FEB11M #1-541 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
430.9728 S:5 F:4 Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory

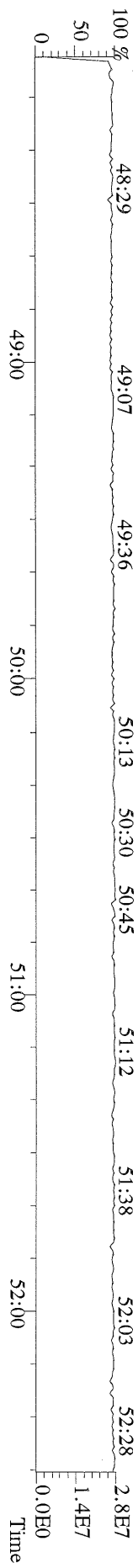




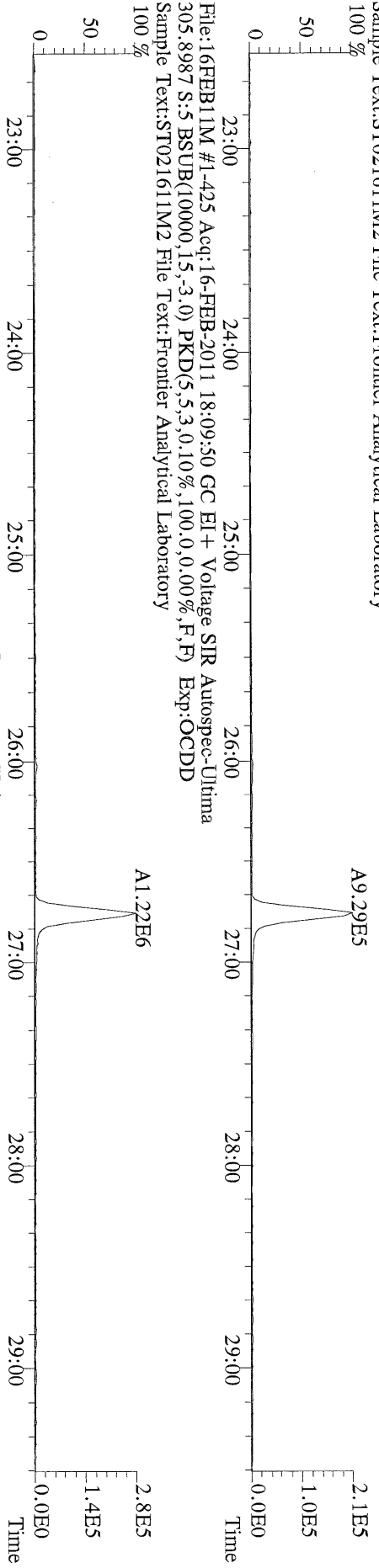
File:16FEB11M #1-347 Acq:16-FEB-2011 18:09:50 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Fronier Analytical Laboratory



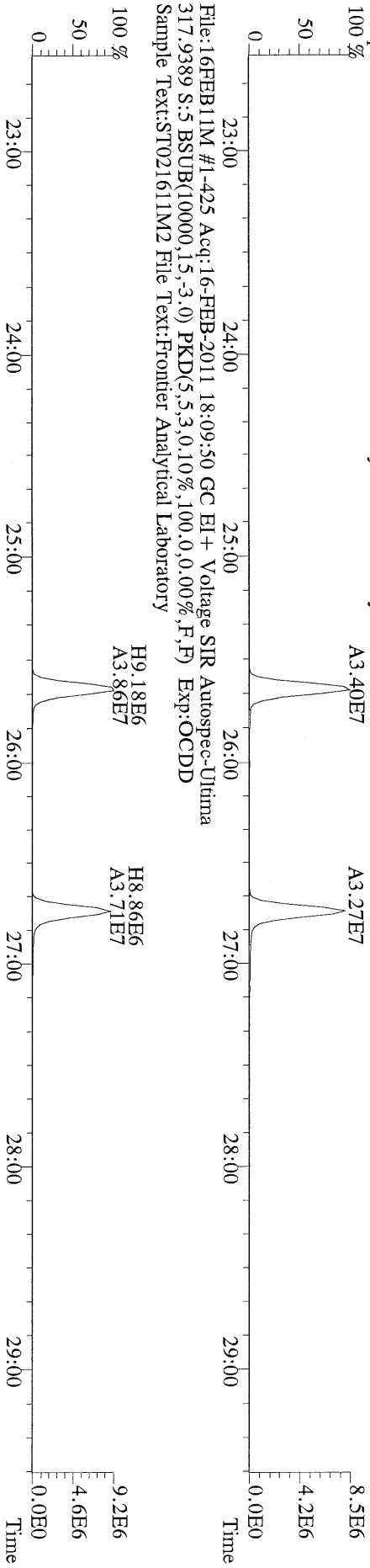
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454.9728 S:5 F:5 Exp:OCDD  
Sample Text:ST021611M2 File Text:Fronier Analytical Laboratory



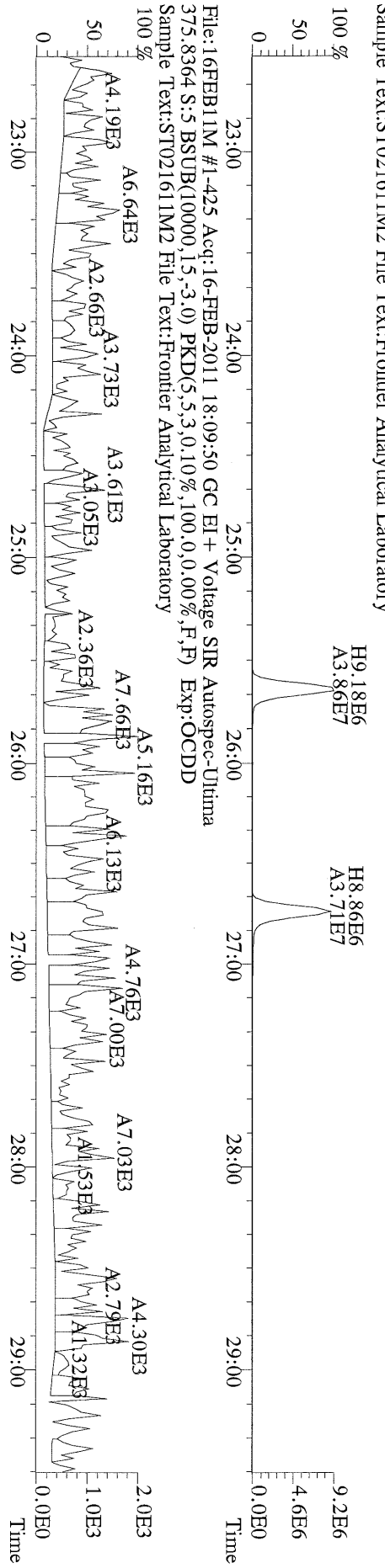
File:16FEB11M #1-425 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-425 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory

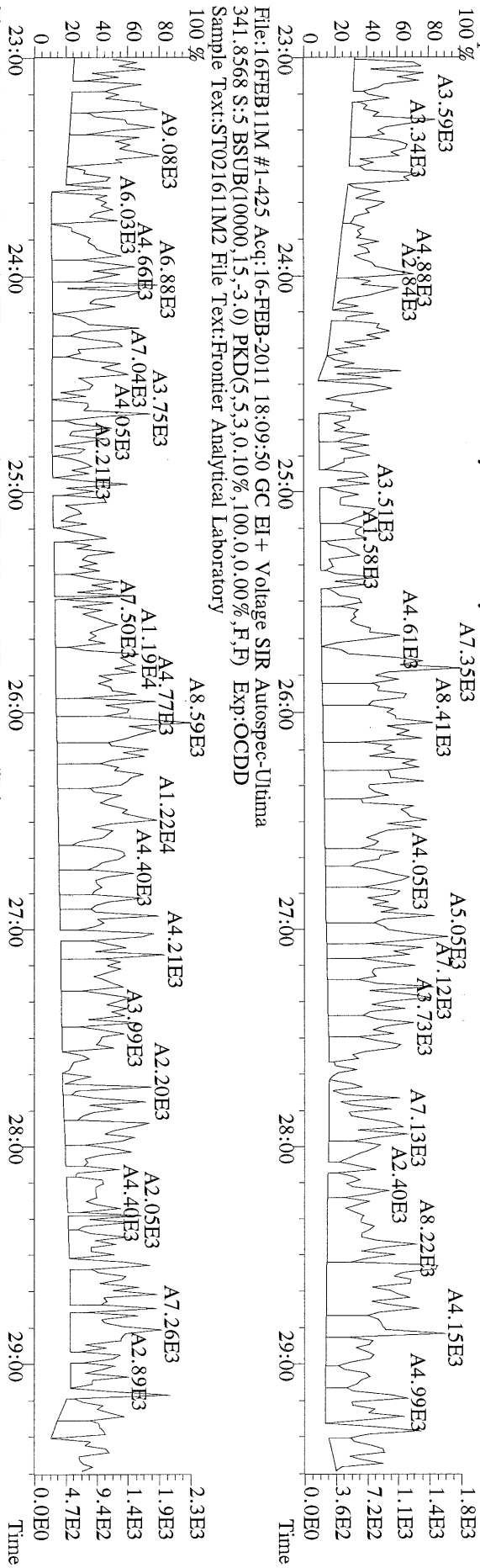


File:16FEB11M #1-425 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory

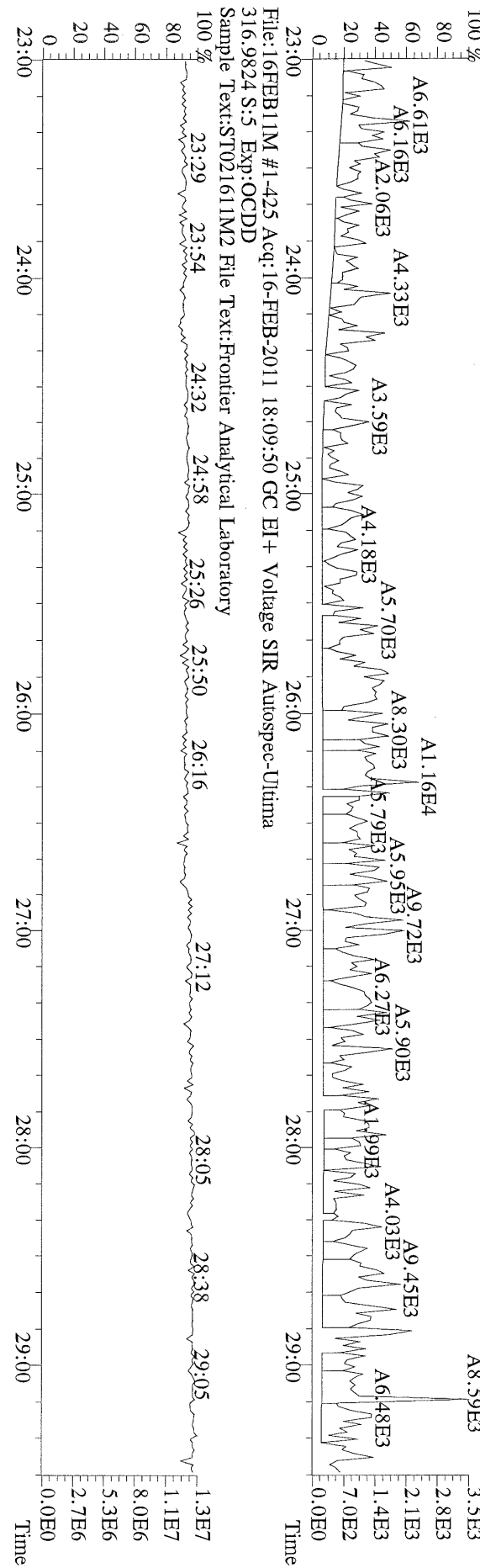


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 375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory

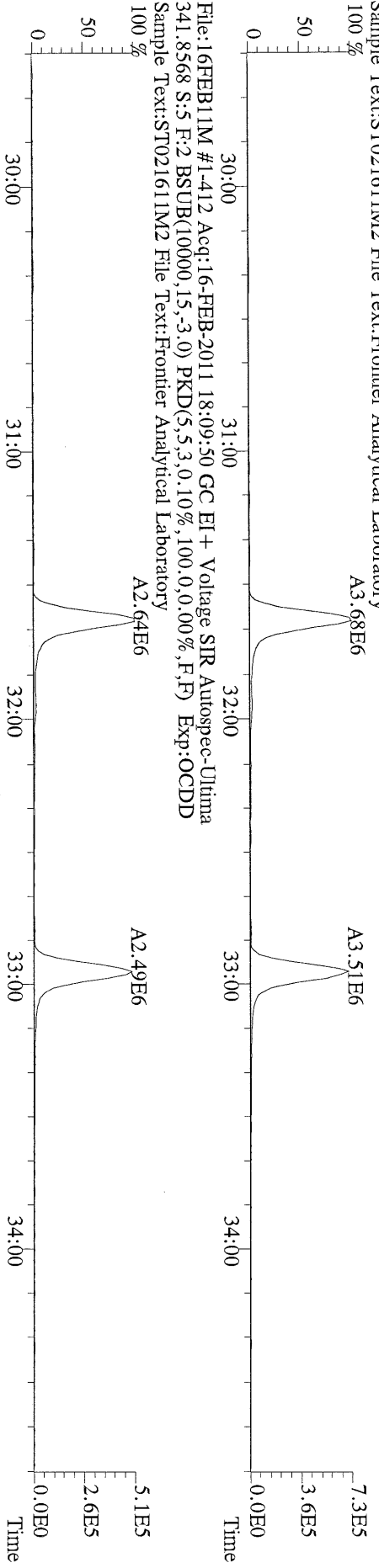
File:16FEB11M #1-425 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



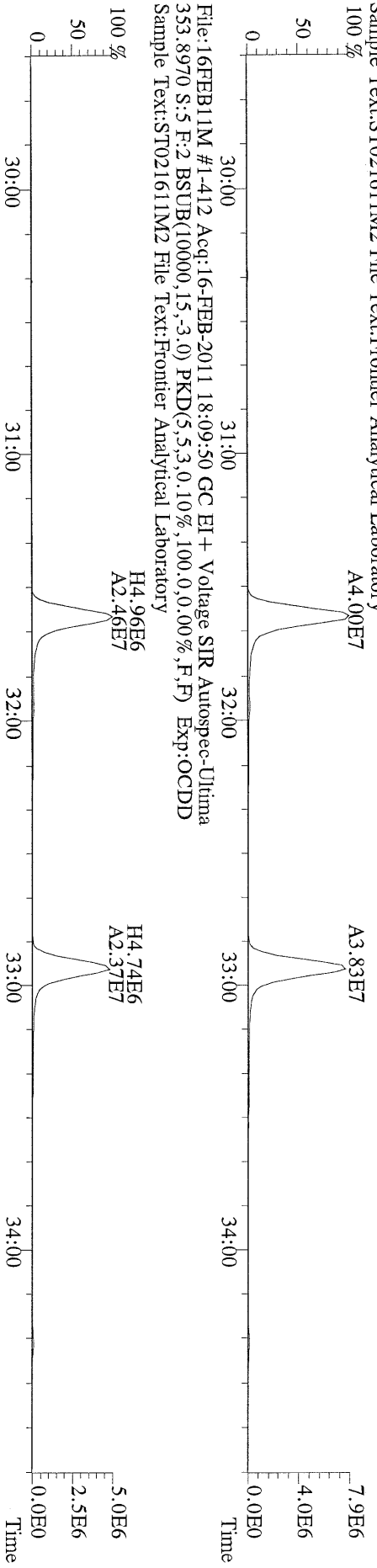
File:16FEB11M #1-425 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 S:5 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



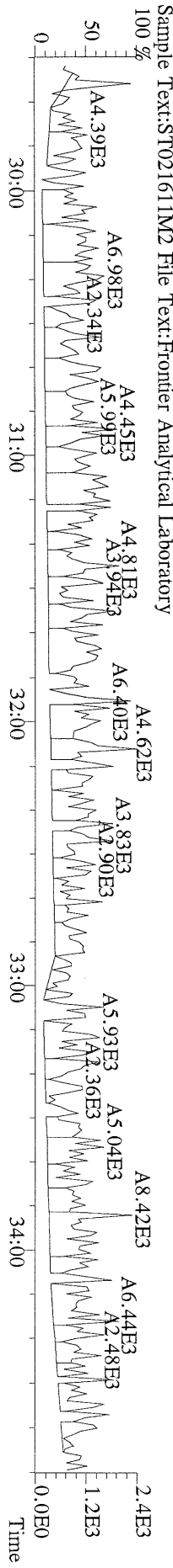
File:16FEB11M #1-412 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



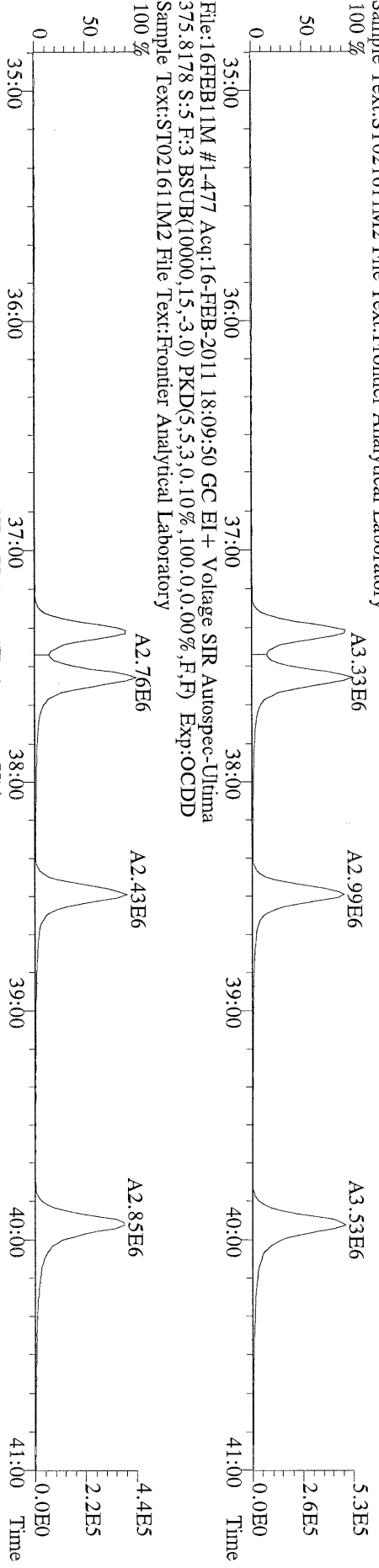
File:16FEB11M #1-412 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
351.9000 S:5 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



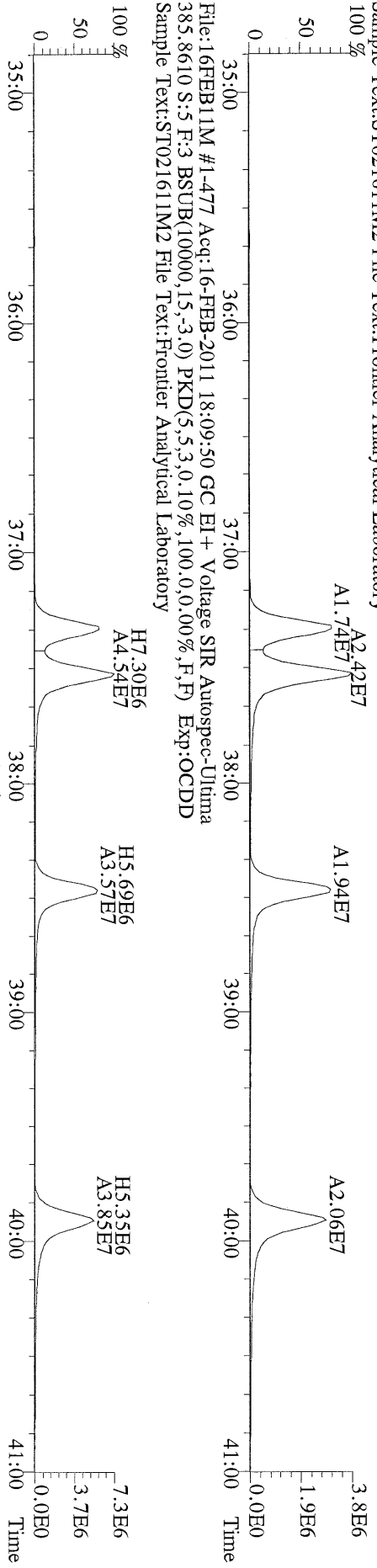
File:16FEB11M #1-412 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
409.7974 S:5 F:2 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



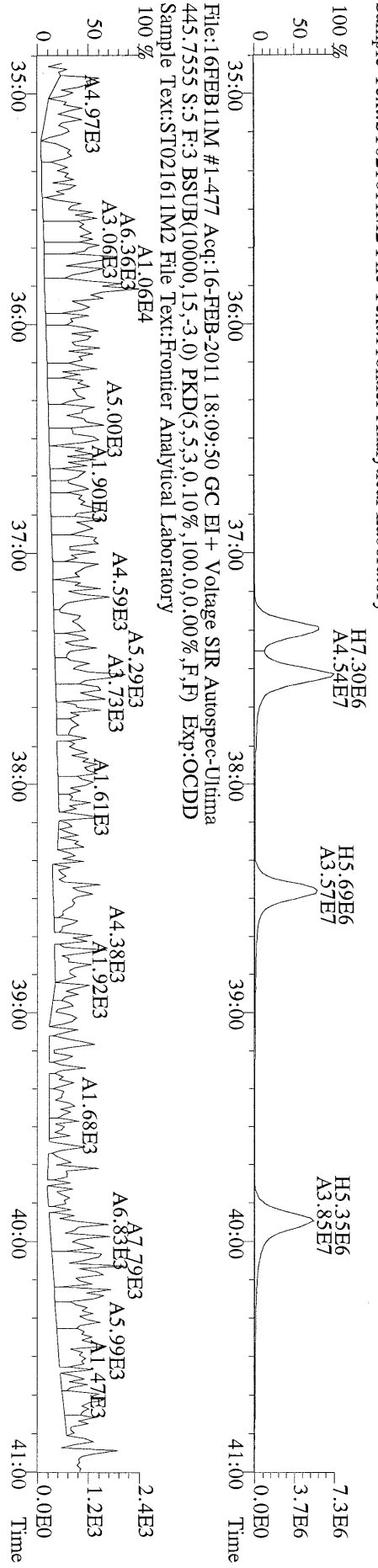
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 373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



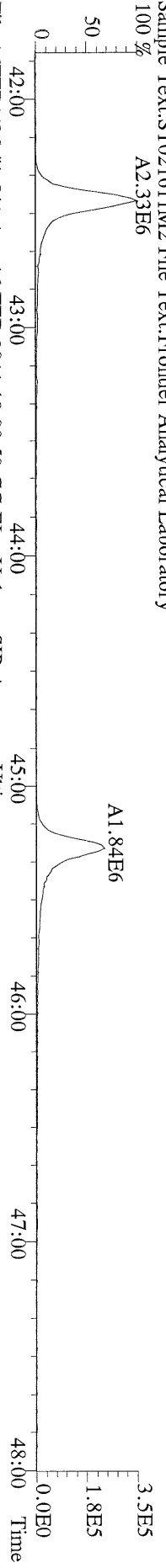
File:16FEB11M #1-477 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



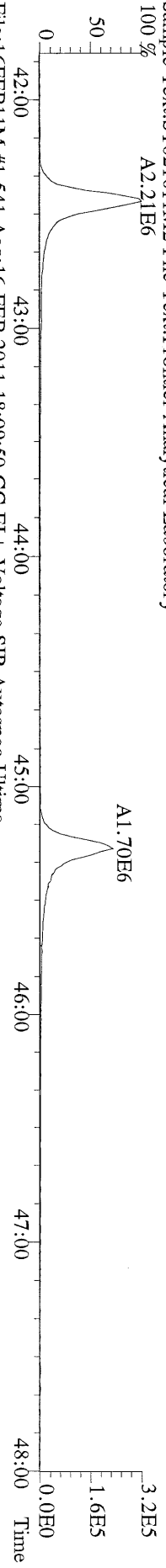
File:16FEB11M #1-477 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



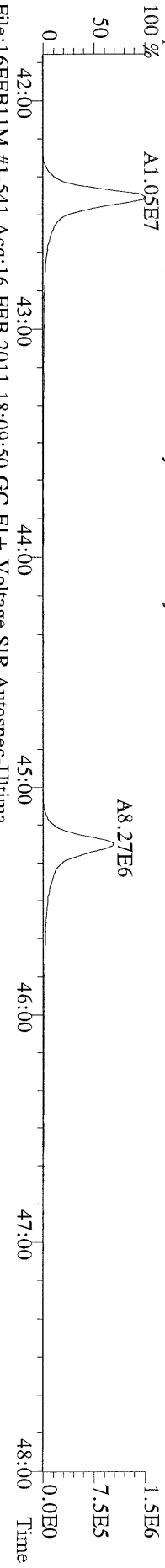
File:16FEB11M #1-541 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



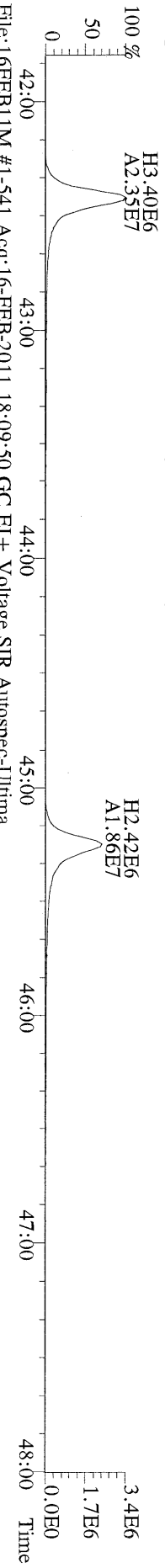
File:16FEB11M #1-541 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



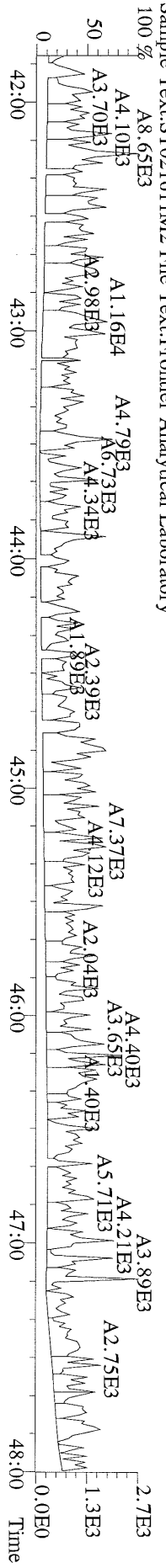
File:16FEB11M #1-541 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



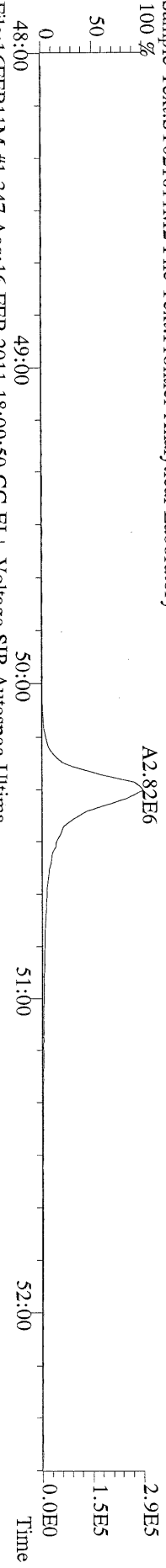
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419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



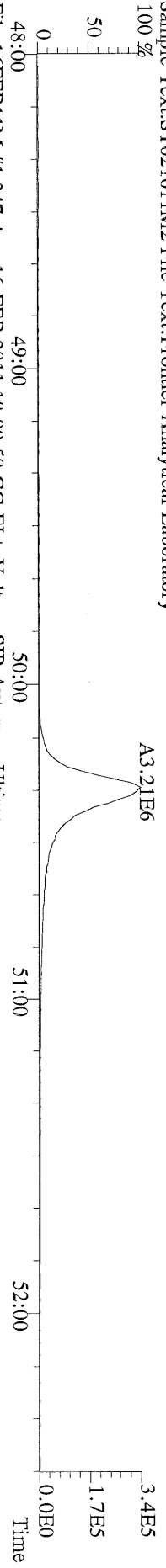
File:16FEB11M #1-541 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



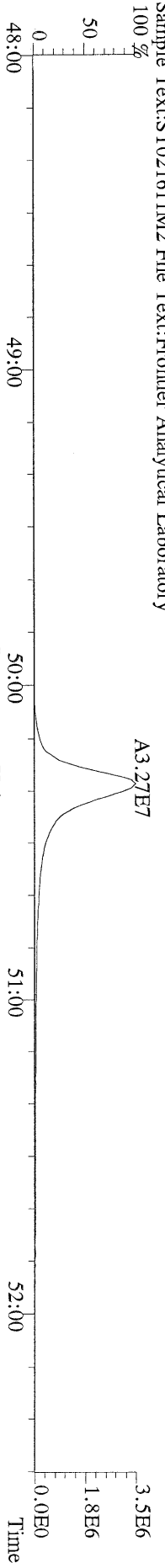
File:16FEB11M #1-347 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



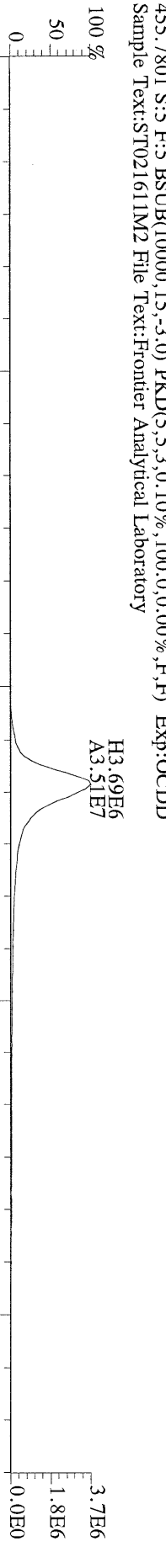
File:16FEB11M #1-347 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 443.7398 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



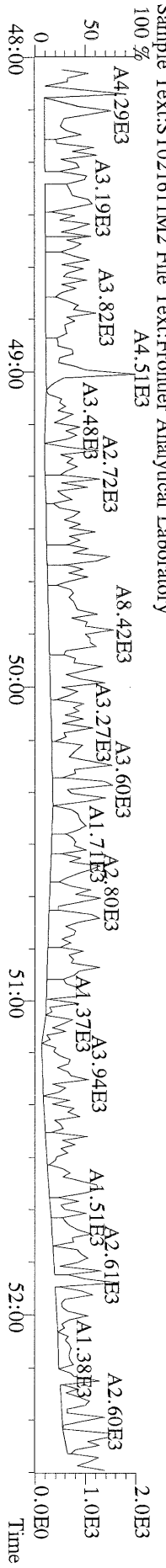
File:16FEB11M #1-347 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



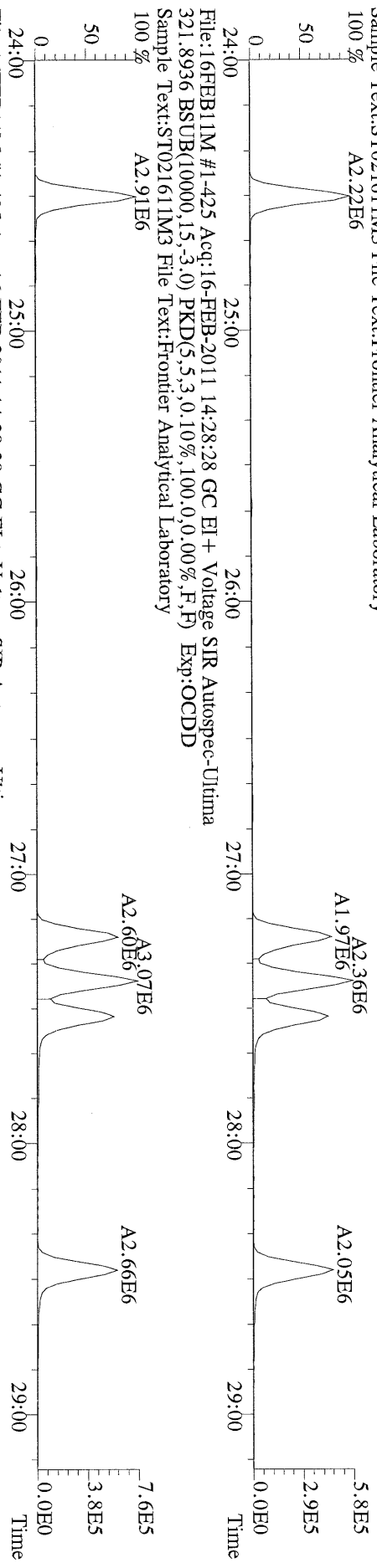
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 455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



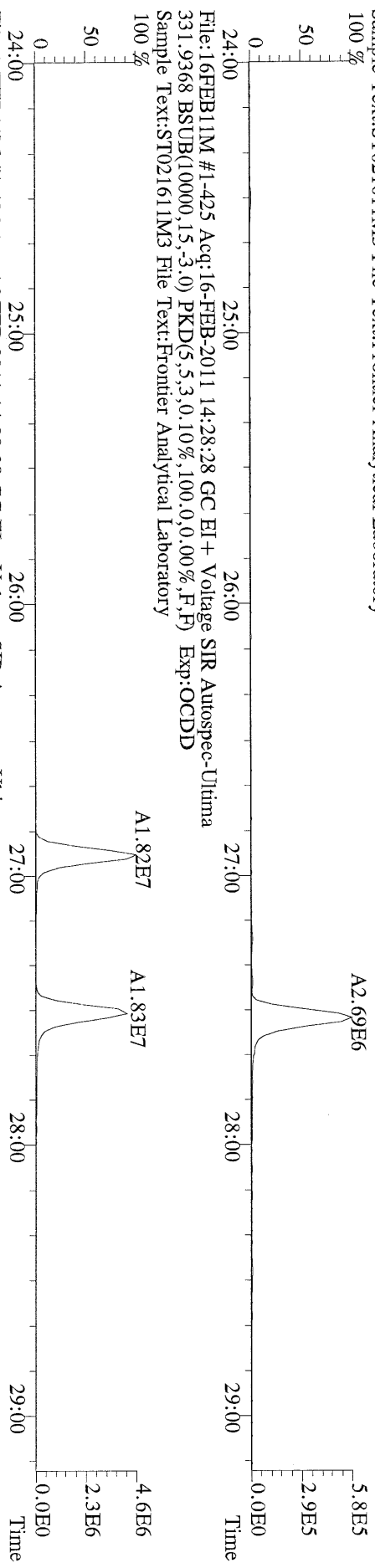
File:16FEB11M #1-347 Acq:16-FEB-2011 18:09:50 GC EI + Voltage SIR Autospec-Ultima  
 513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M2 File Text:Frontier Analytical Laboratory



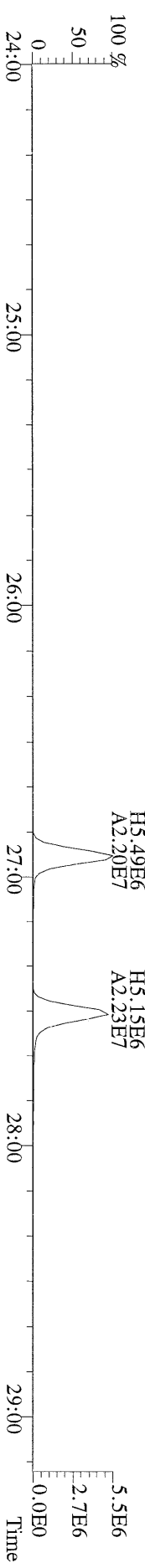
File:16FEB11M #1-425 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Utima  
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory  
100 % A2.22E6



File:16FEB11M #1-425 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Utima  
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory  
100 % A2.91E6

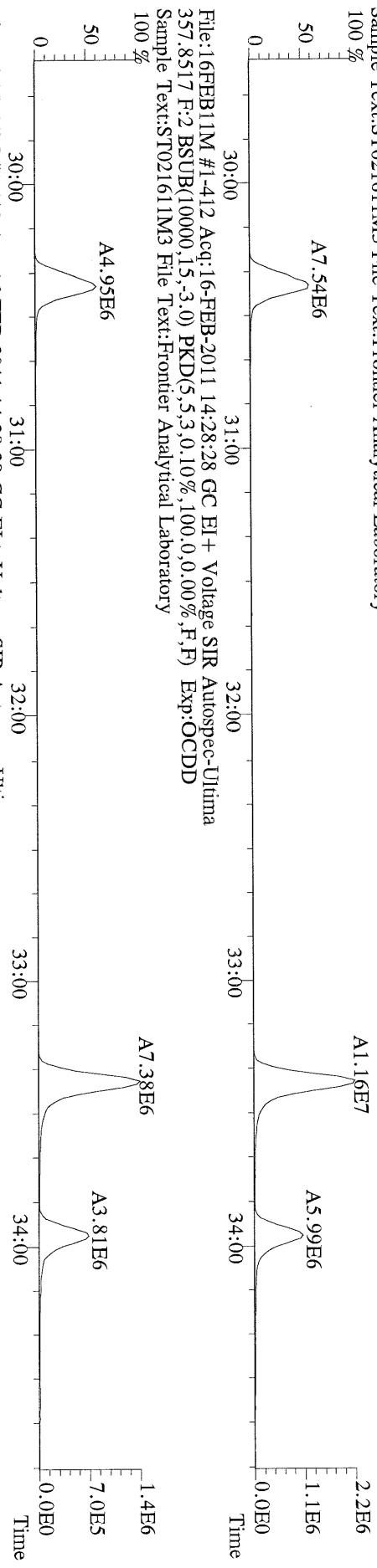


File:16FEB11M #1-425 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Utima  
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory

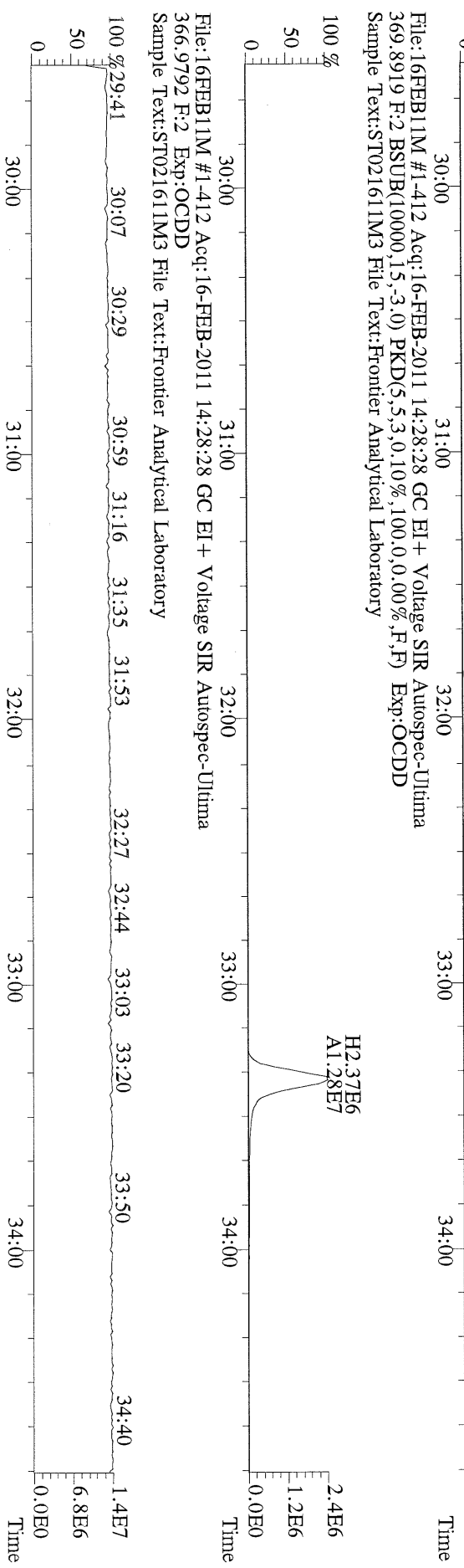




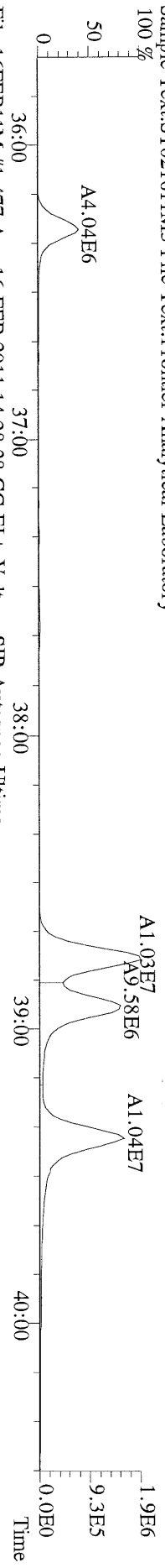
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355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



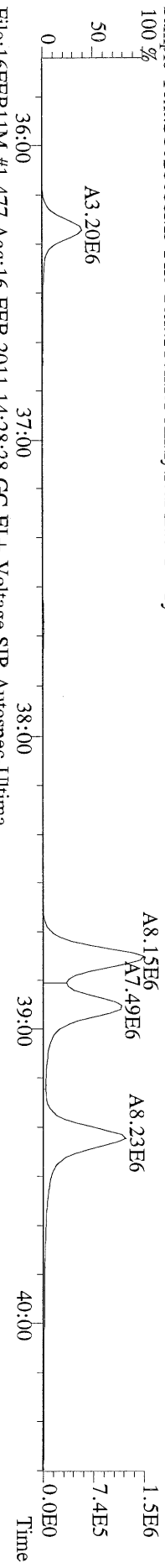
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367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



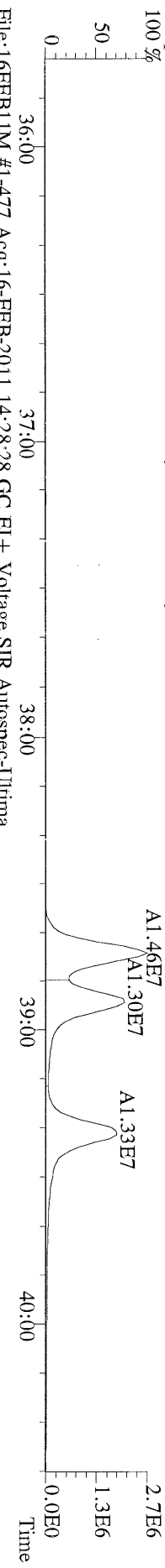
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389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



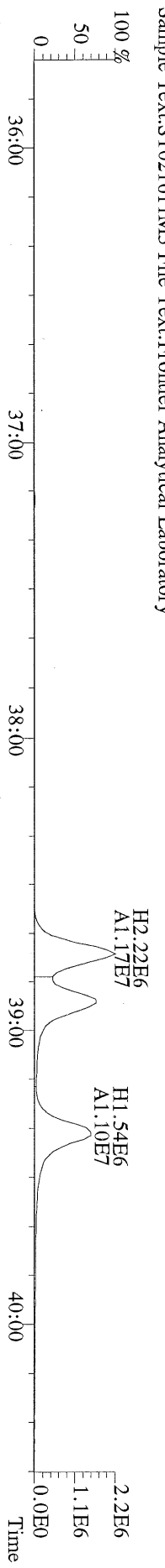
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391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



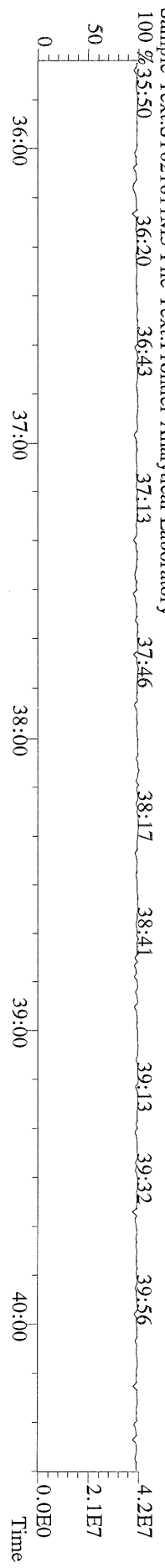
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401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



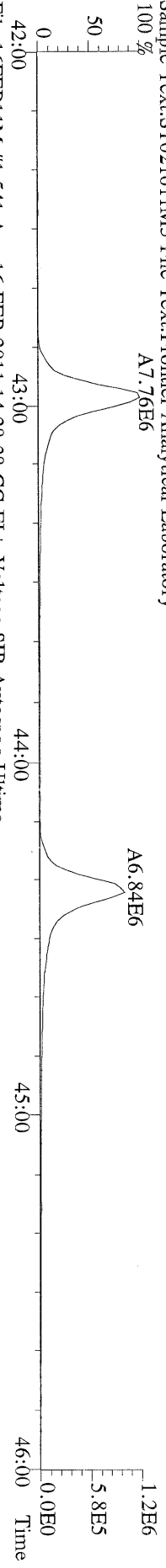
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403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



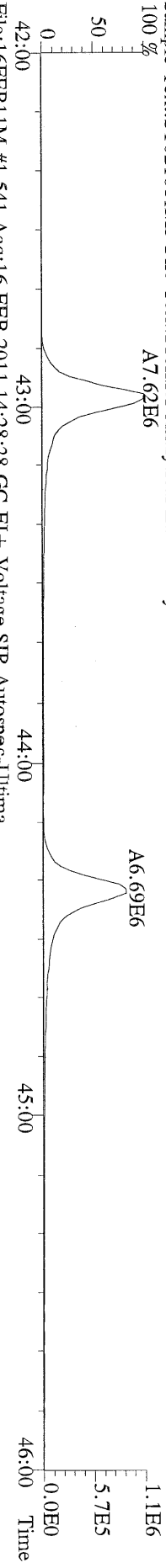
File:16FEB11M #1-477 Acq:16-FEB-2011 14:28:28 GC EI + Voltage SIR Autospec-Ultima  
380.9760 F:3 Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



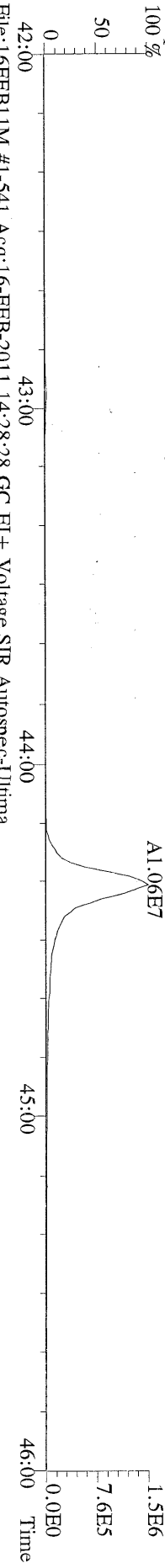
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423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



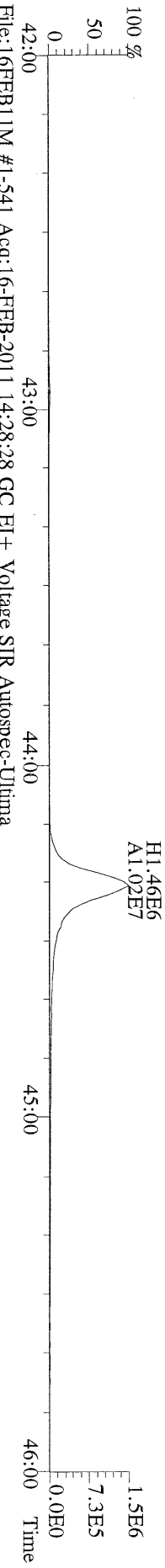
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425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



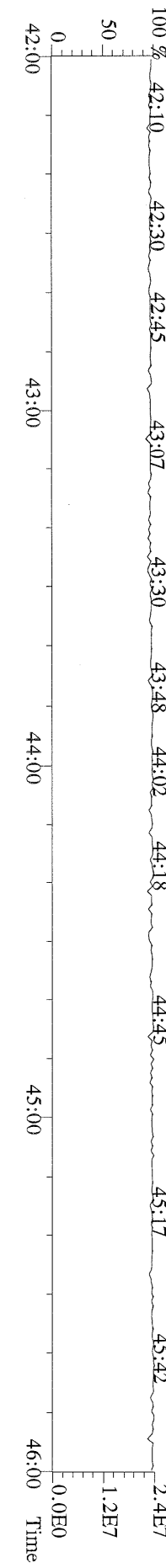
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435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



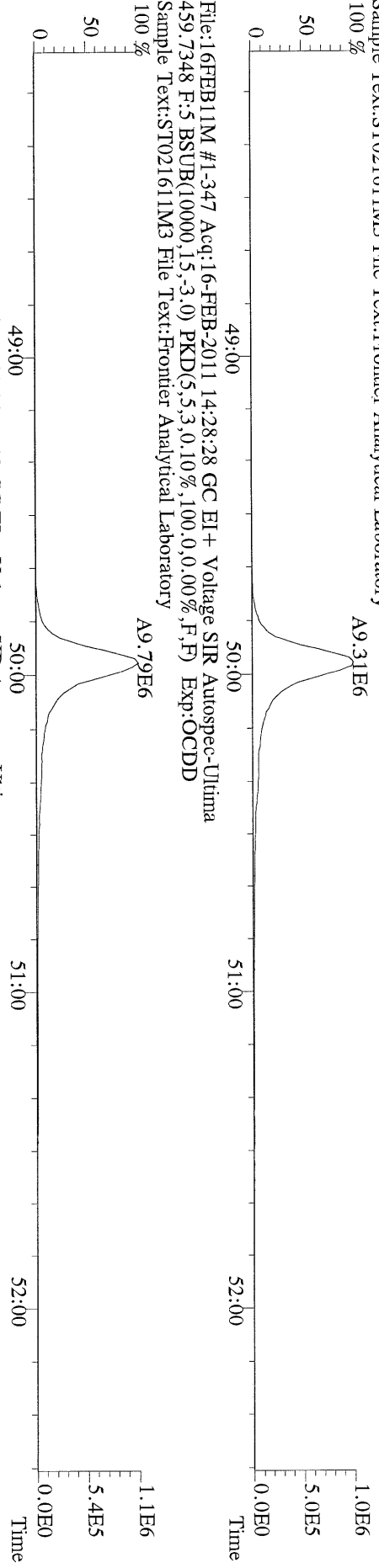
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437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



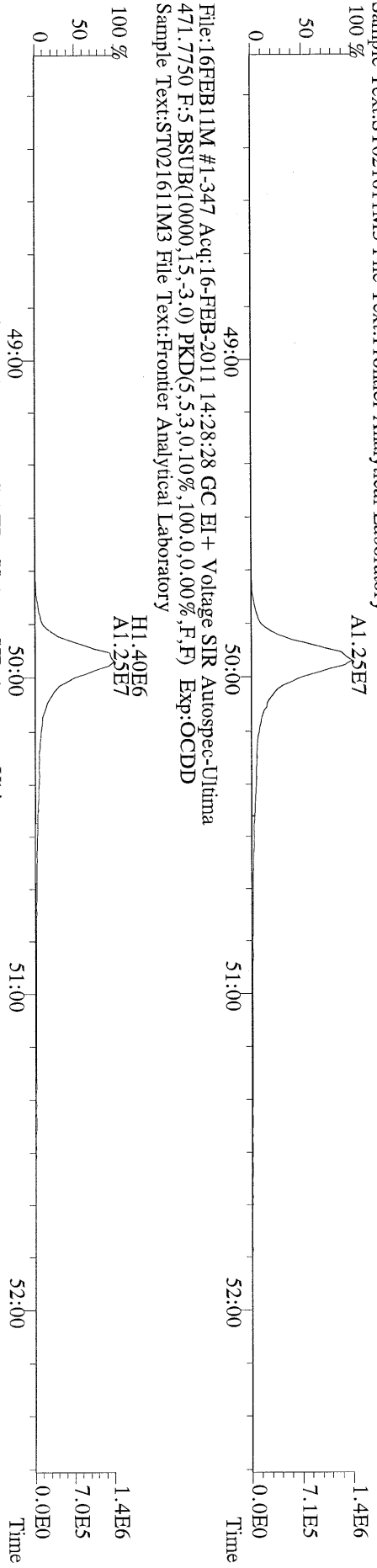
File:16FEB11M #1-541 Acq:16-FEB-2011 14:28:28 GC EI + Voltage SIR Autospec-Ultima  
430.9728 F:4 Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



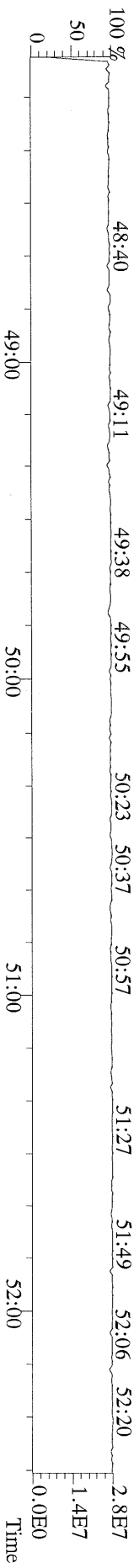
File:16FEB11M #1-347 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Ultima  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



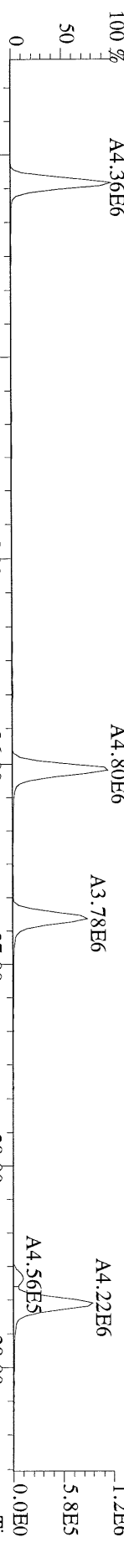
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469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



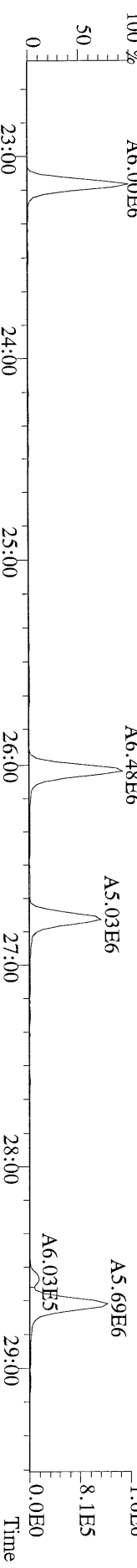
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454.9728 F:5 Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



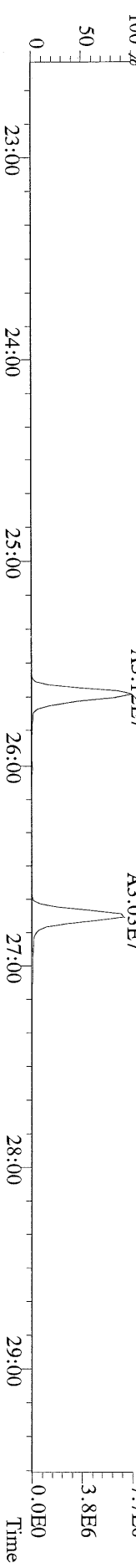
File:16FEB11M #1-425 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Ultima  
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



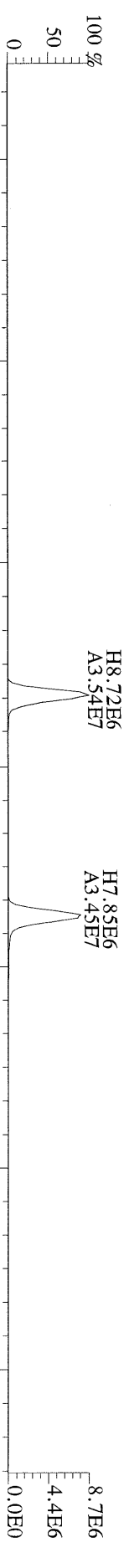
File:16FEB11M #1-425 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Ultima  
 305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



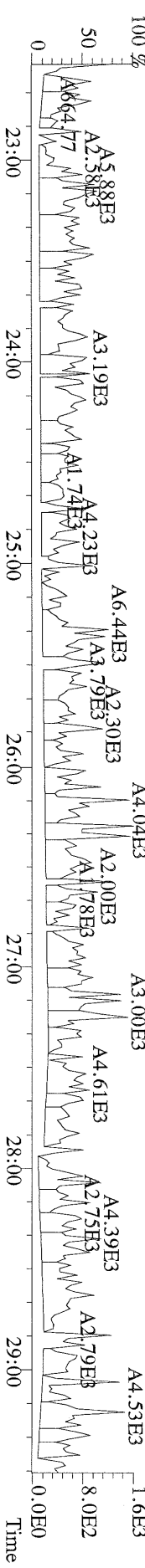
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 315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



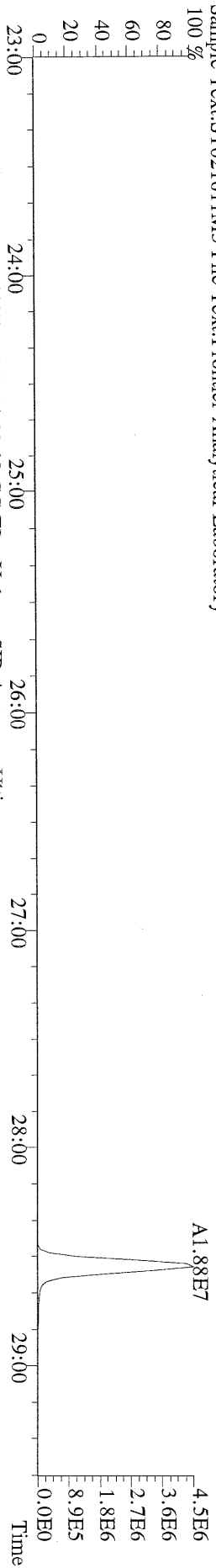
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 317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



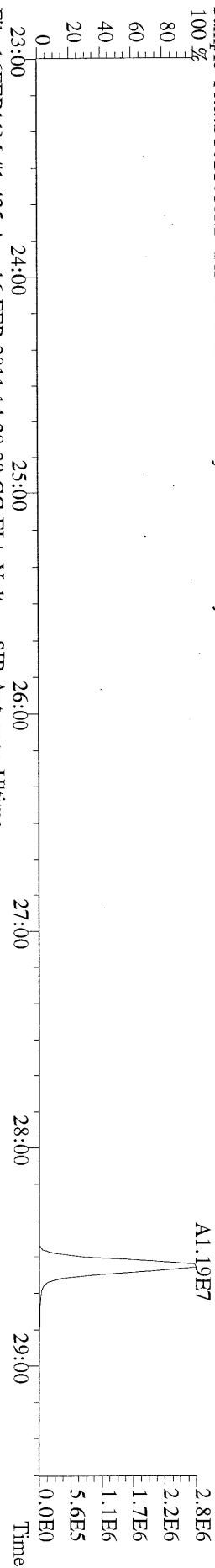
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 375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



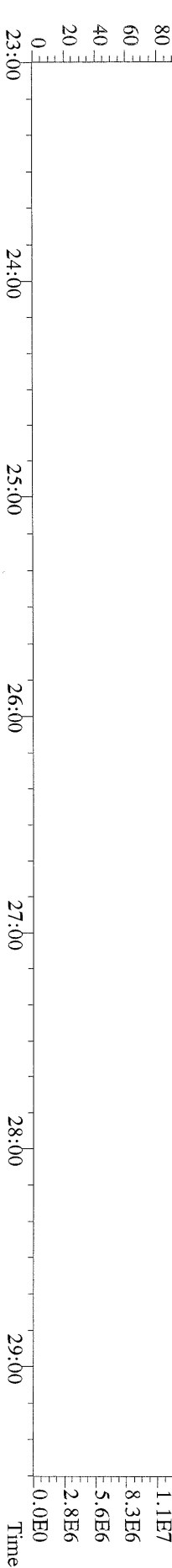
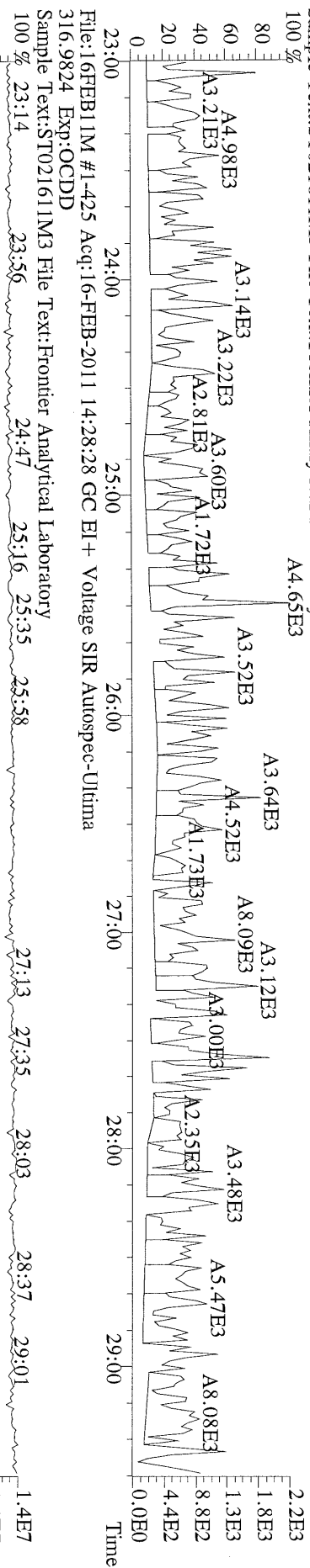
File:16FEB11M #1-425 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



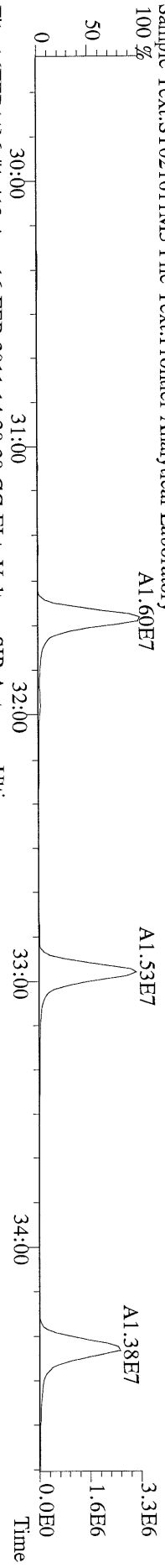
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 341.8568 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



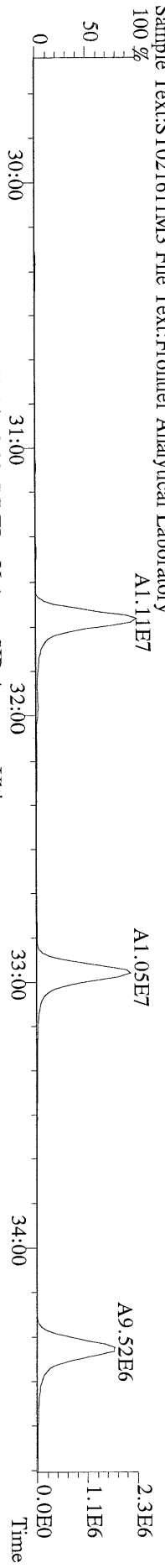
File:16FEB11M #1-425 Acq:16-FEB-2011 14:28:28 GC EI+ Voltage SIR Autospec-Ultima  
 409.7974 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



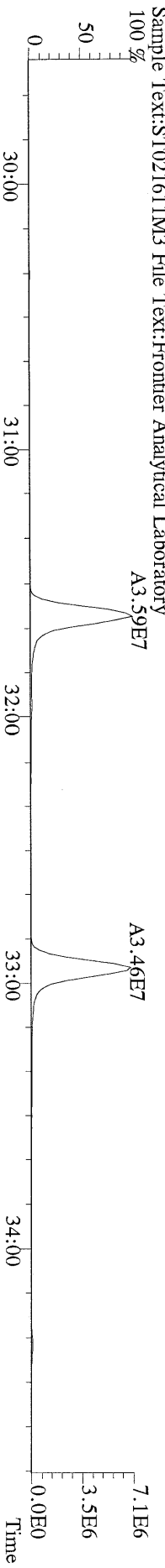
File:16FEB11M #1-412 Acq:16-FEB-2011 14:28:28 GC EI + Voltage SIR Autospec-Ultima  
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



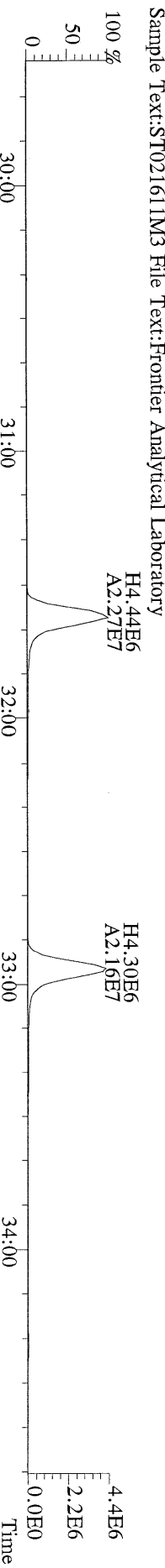
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 341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



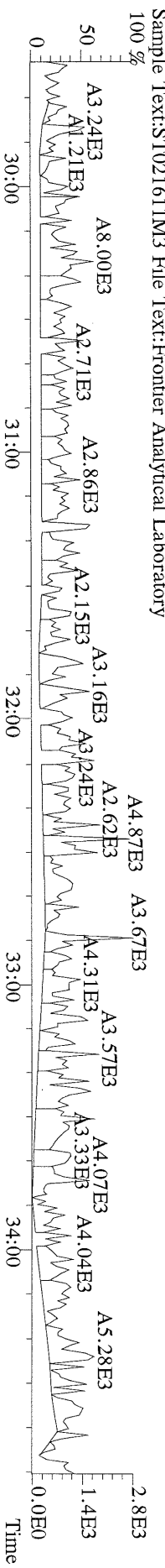
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 351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



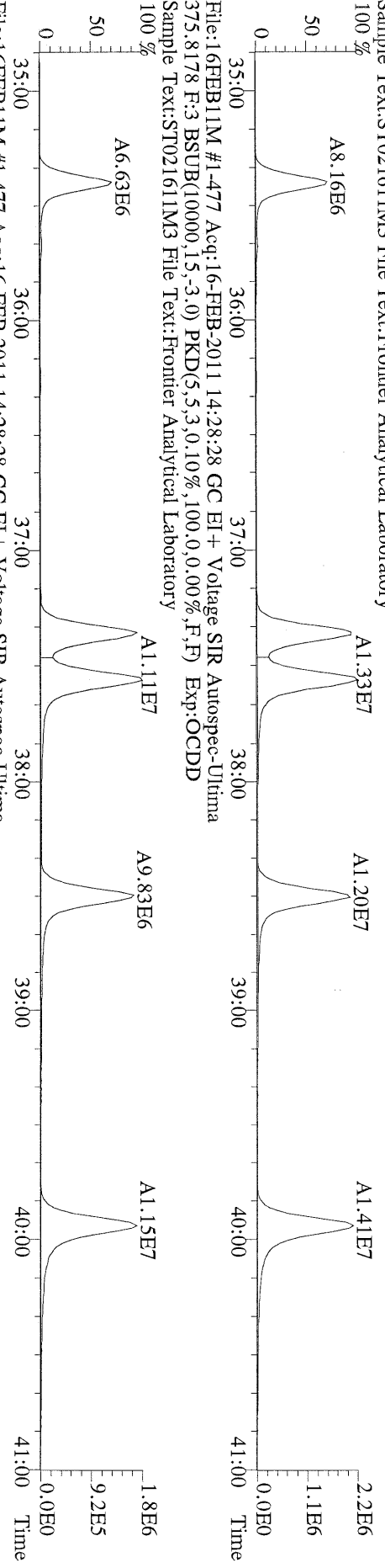
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 353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



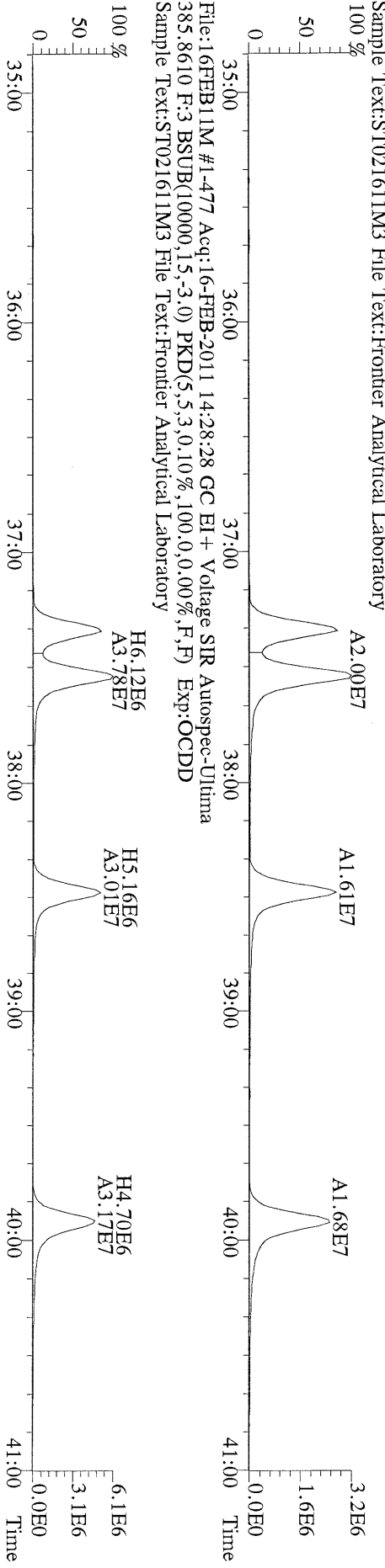
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 409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



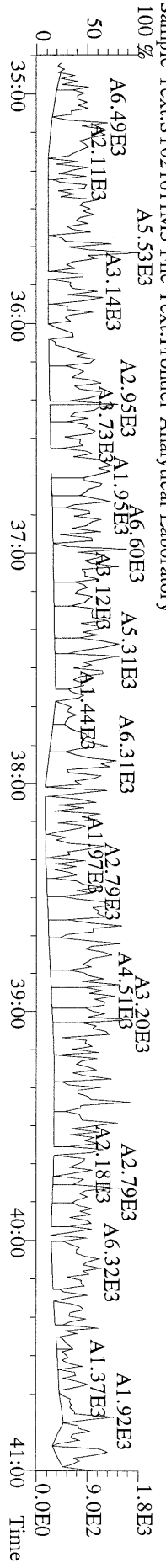
File:16FEB11M #1-477 Acq:16-FEB-2011 14:28:28 GC EI + Voltage SIR Autospec-Ultima  
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-477 Acq:16-FEB-2011 14:28:28 GC EI + Voltage SIR Autospec-Ultima  
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory

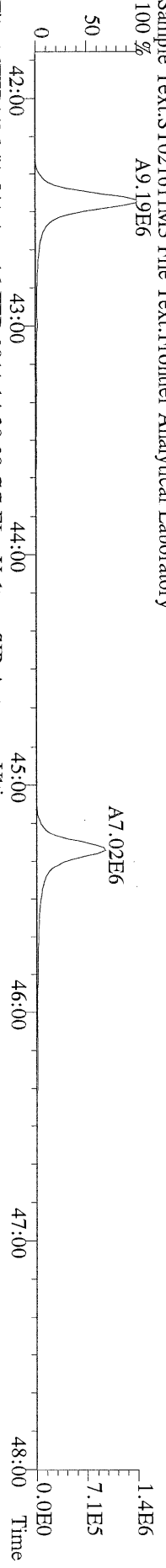


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445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory

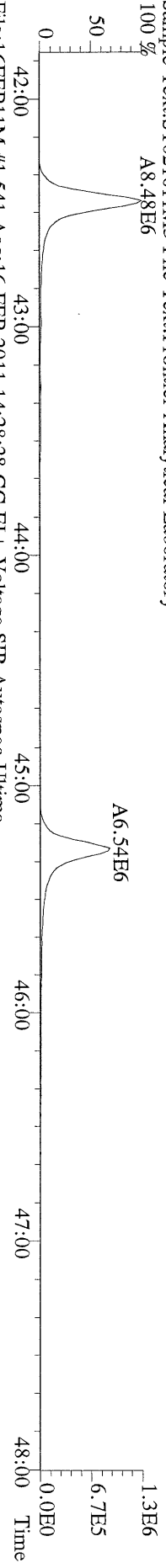




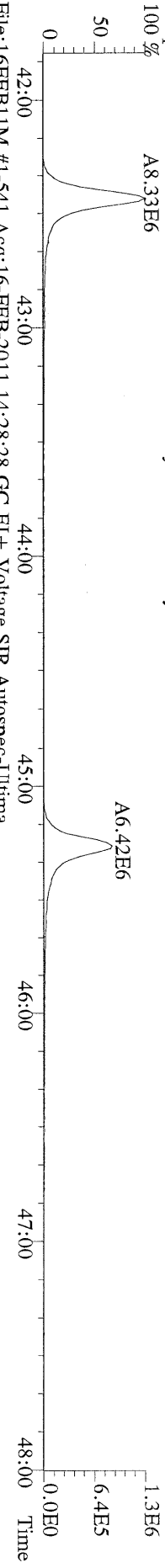
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407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



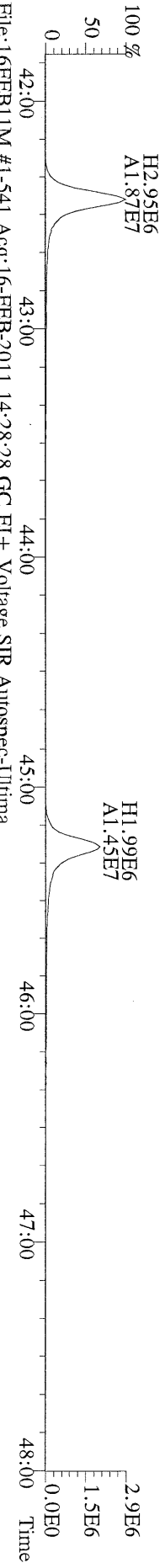
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409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



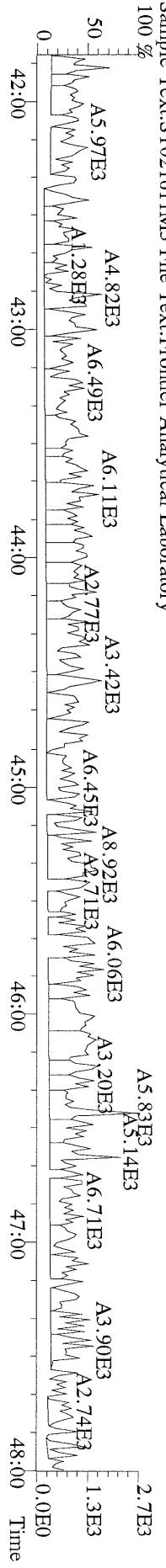
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417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



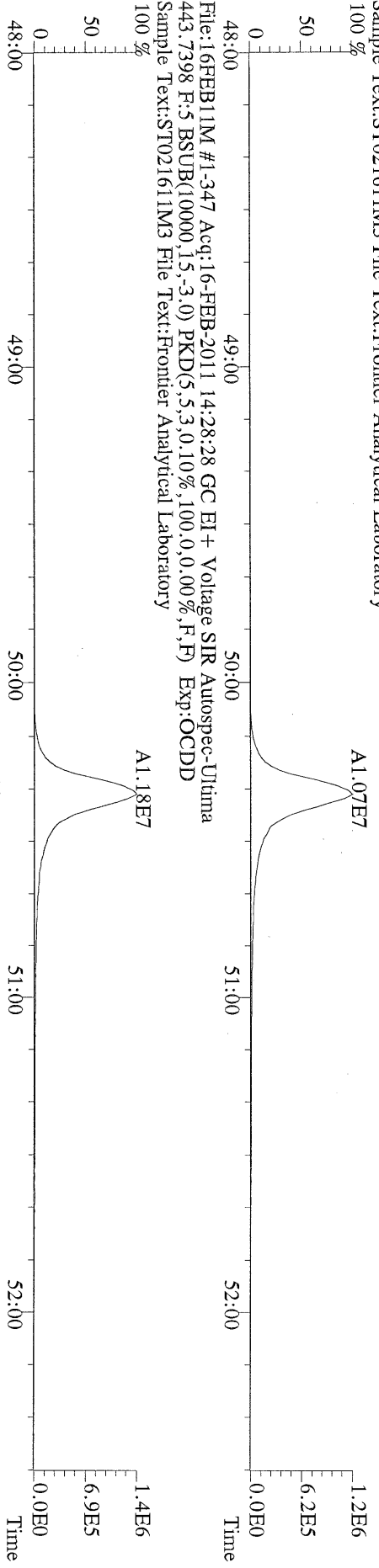
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419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



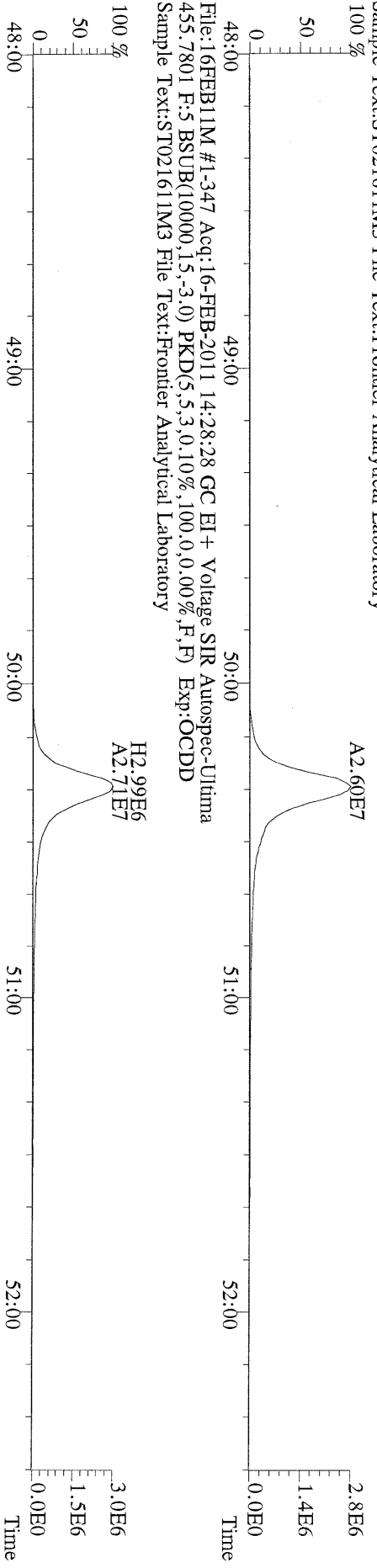
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479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



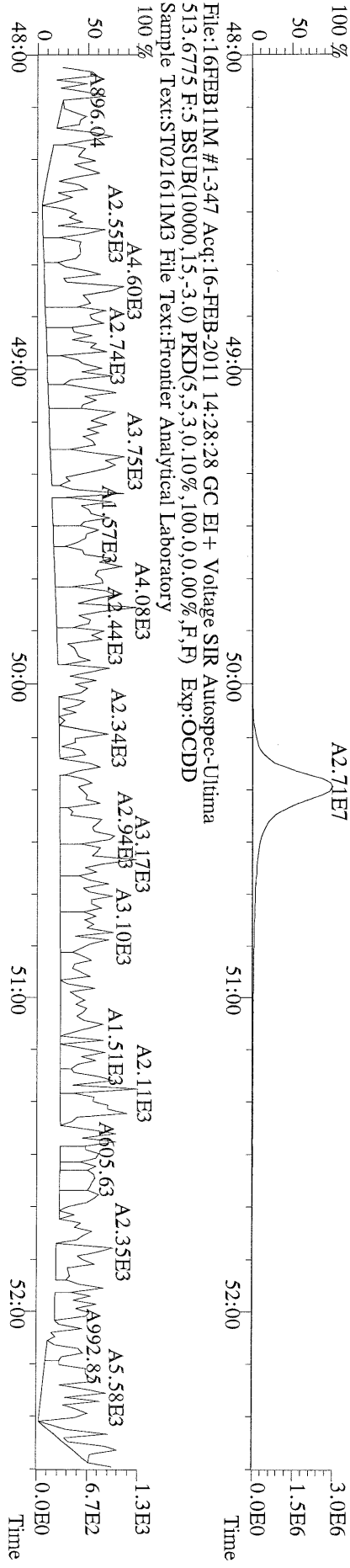
File:16FEB11M #1-347 Acq:16-FEB-2011 14:28:28 GC EI + Voltage SIR Autospec-Ultima  
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



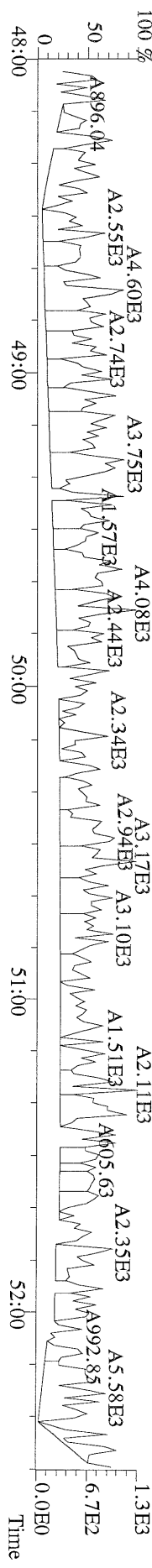
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453.7831 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



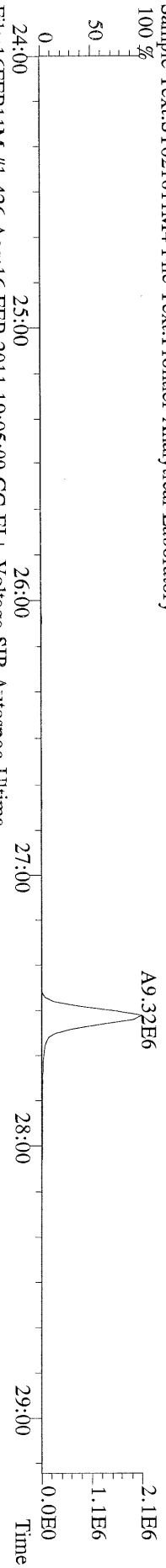
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455.7801 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



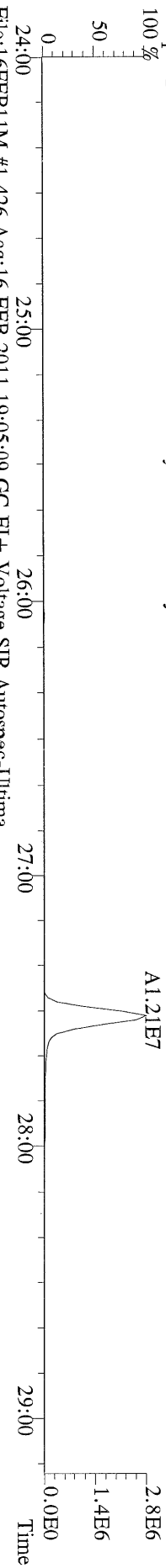
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513.6775 F:5 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M3 File Text:Frontier Analytical Laboratory



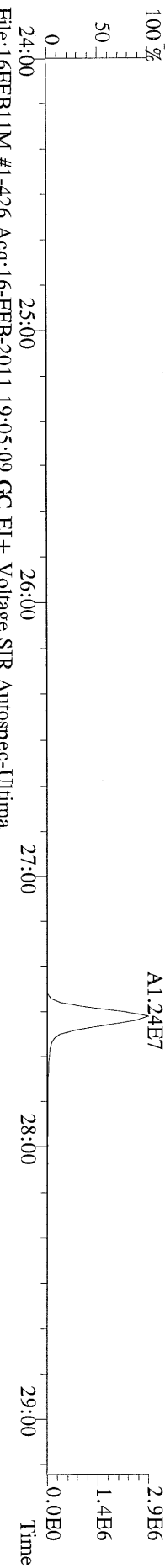
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319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



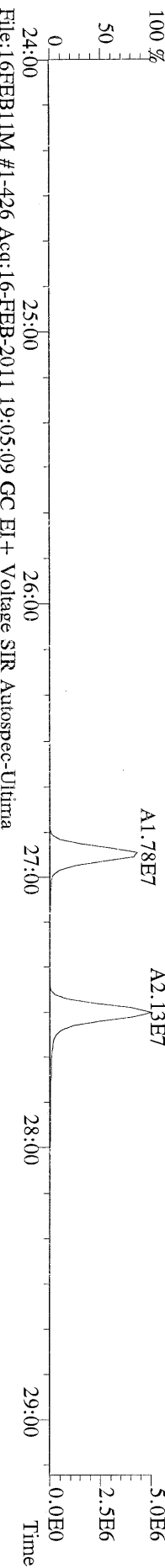
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Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



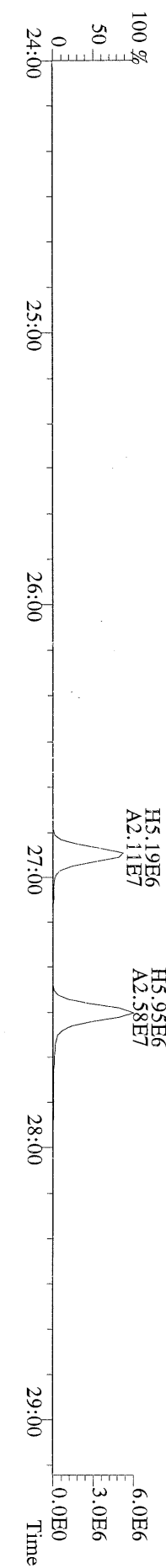
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327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



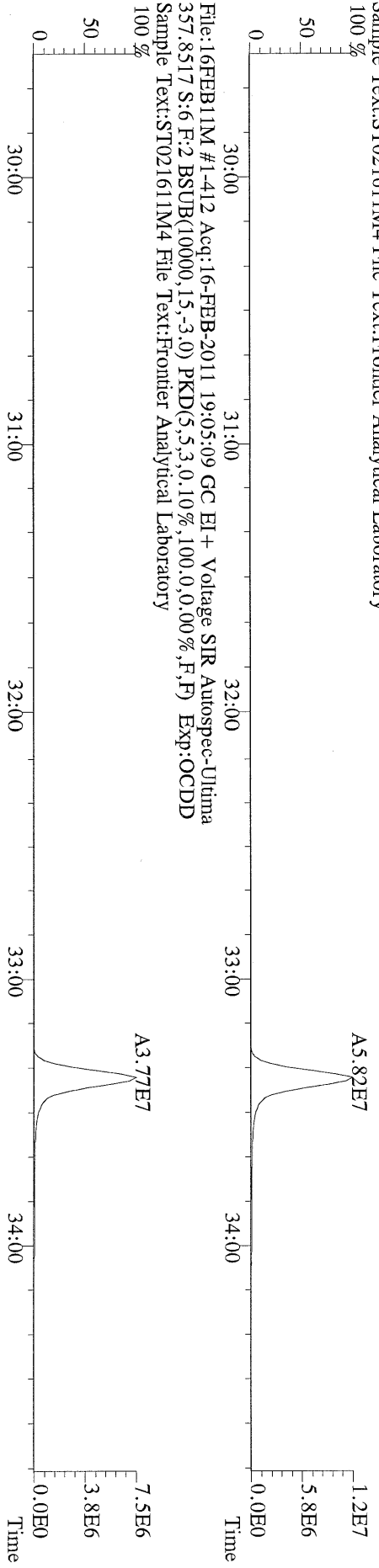
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331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



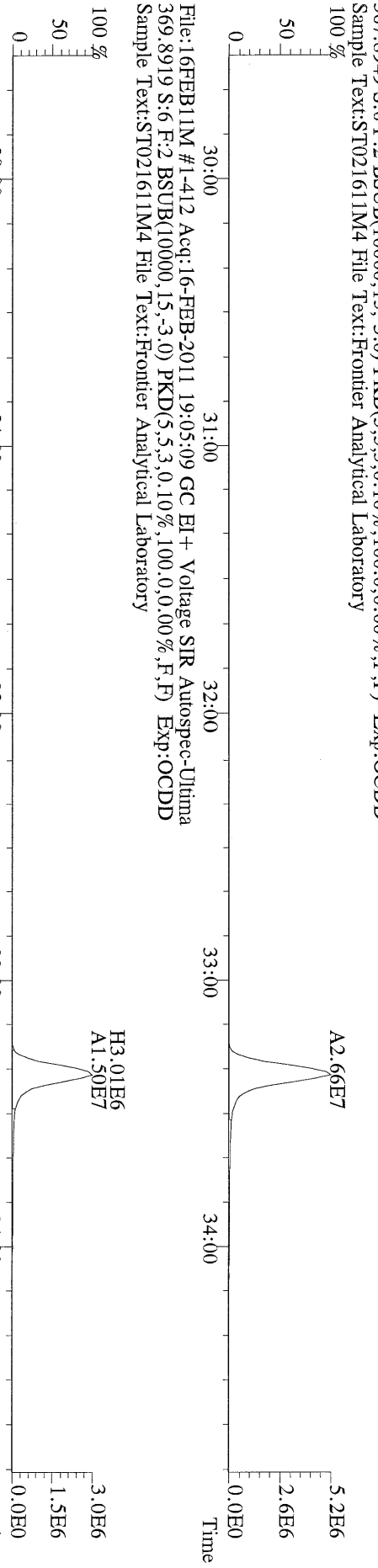
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Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



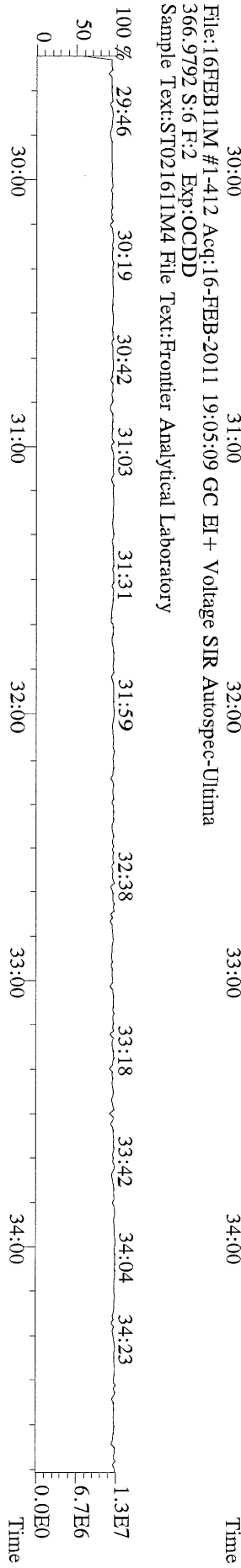
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355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-412 Acq:16-FEB-2011 19:05:09 GC EI + Voltage SIR Autospec-Ultima  
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory

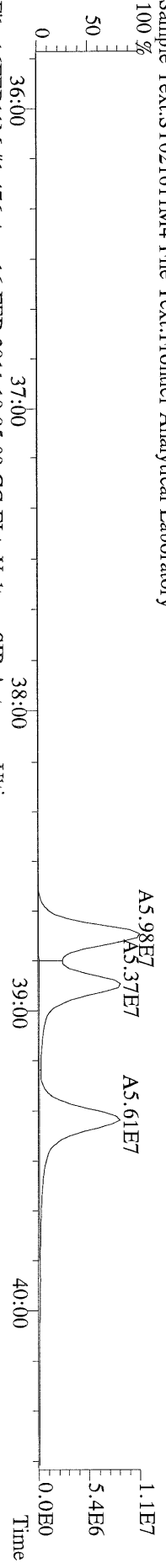


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369.8919 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory

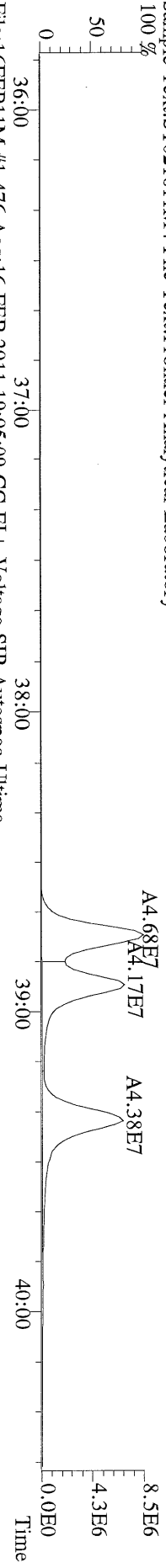


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366.9792 S:6 F:2 Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory

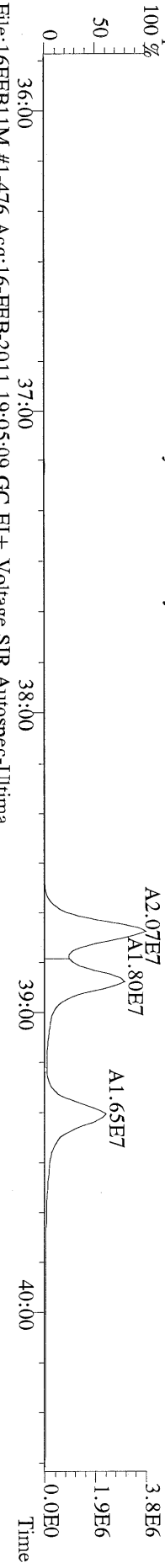
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389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



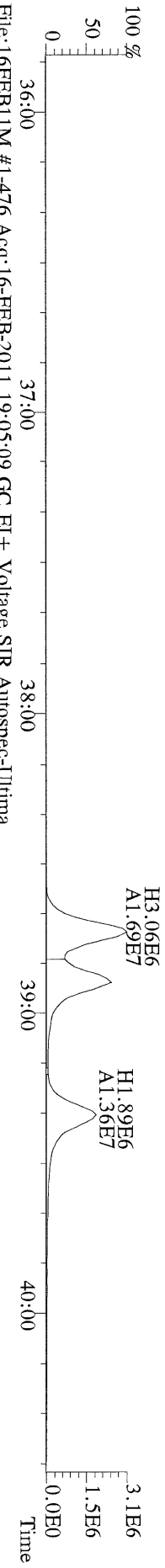
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391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



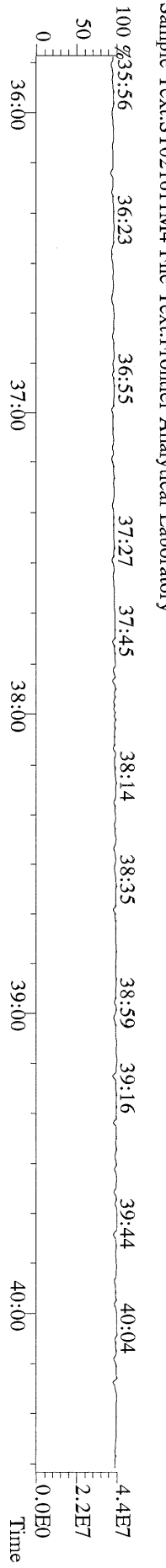
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401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



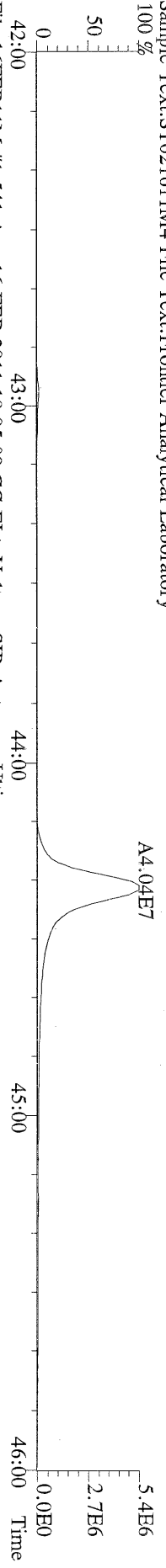
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403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



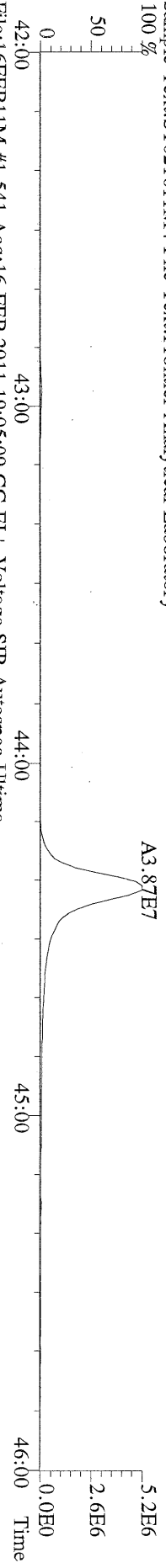
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380.9760 S:6 F:3 Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



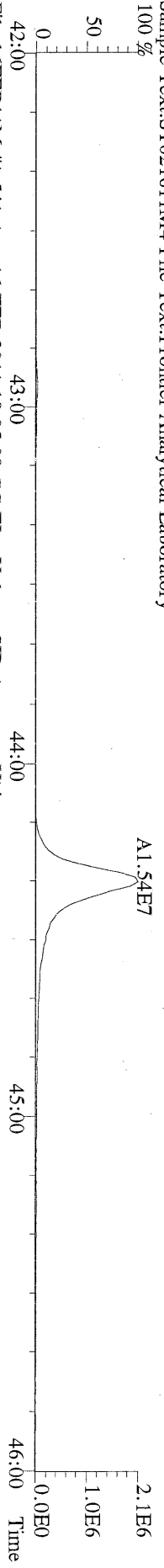
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423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



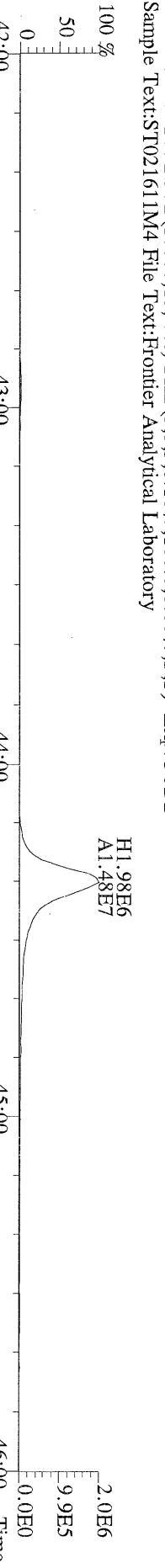
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425.7737 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



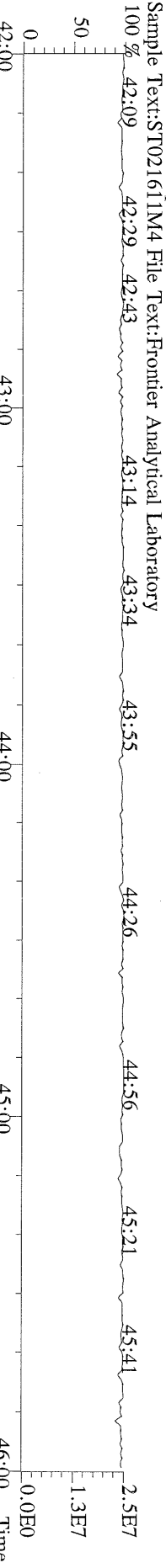
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435.8169 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



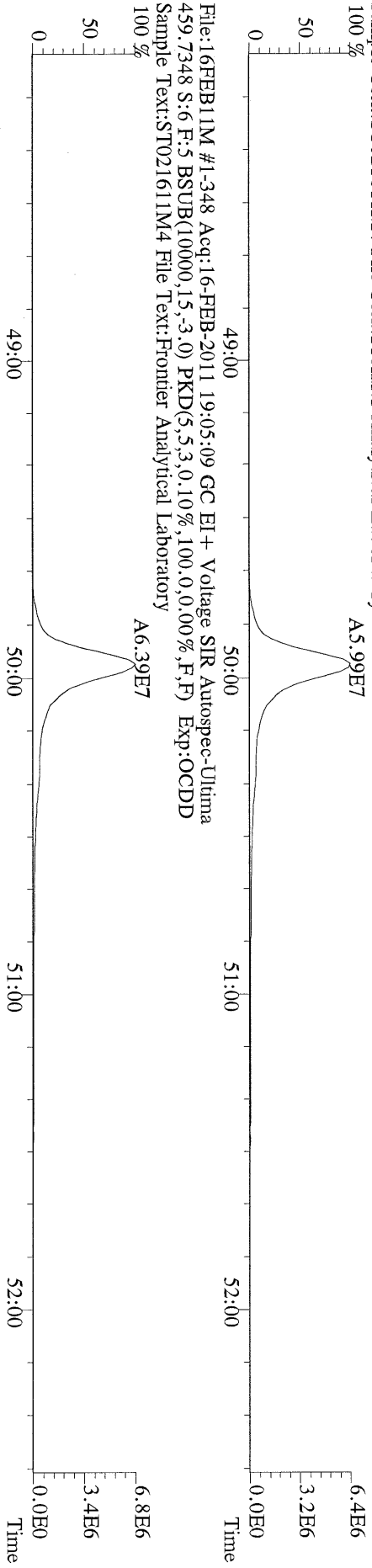
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437.8140 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



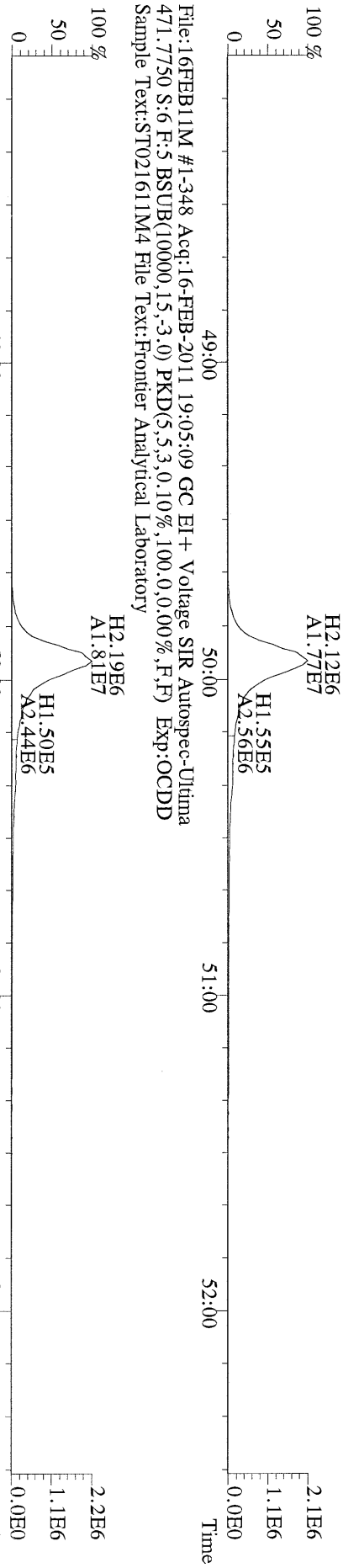
File:16FEB11M #1-541 Acq:16-FEB-2011 19:05:09 GC EI+ Voltage SIR Autospec-Ultima  
430.9728 S:6 F:4 Exp:OCDD  
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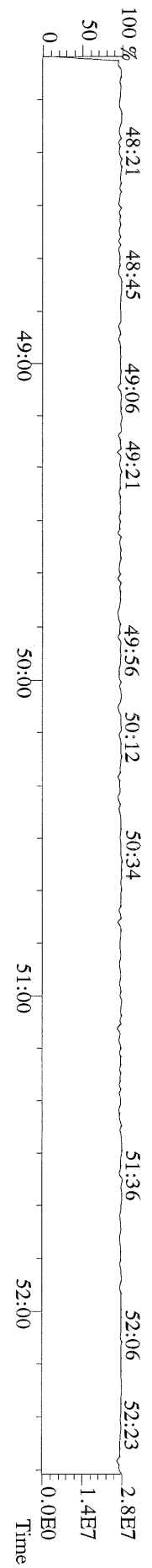
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 457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
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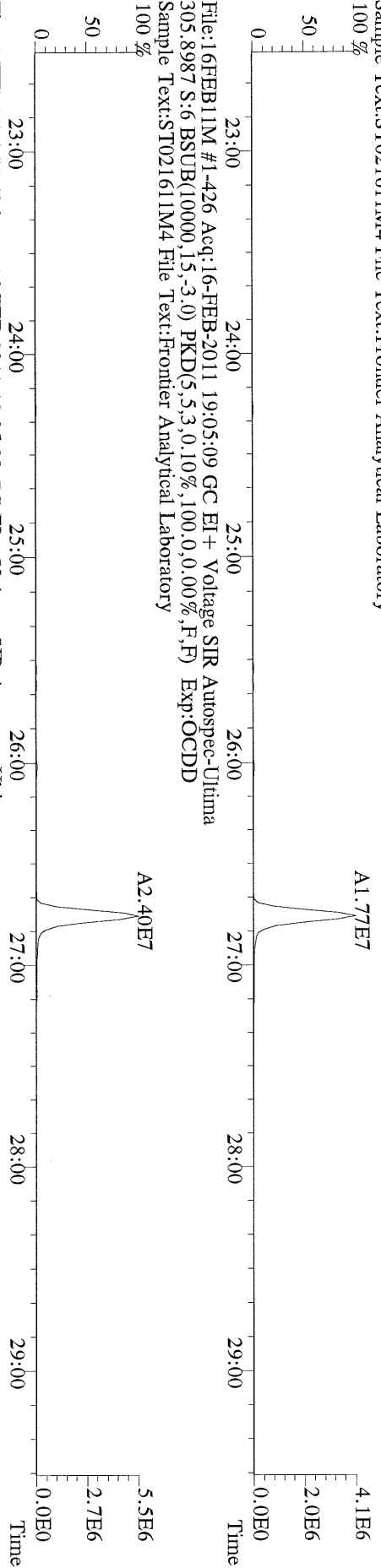
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 469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
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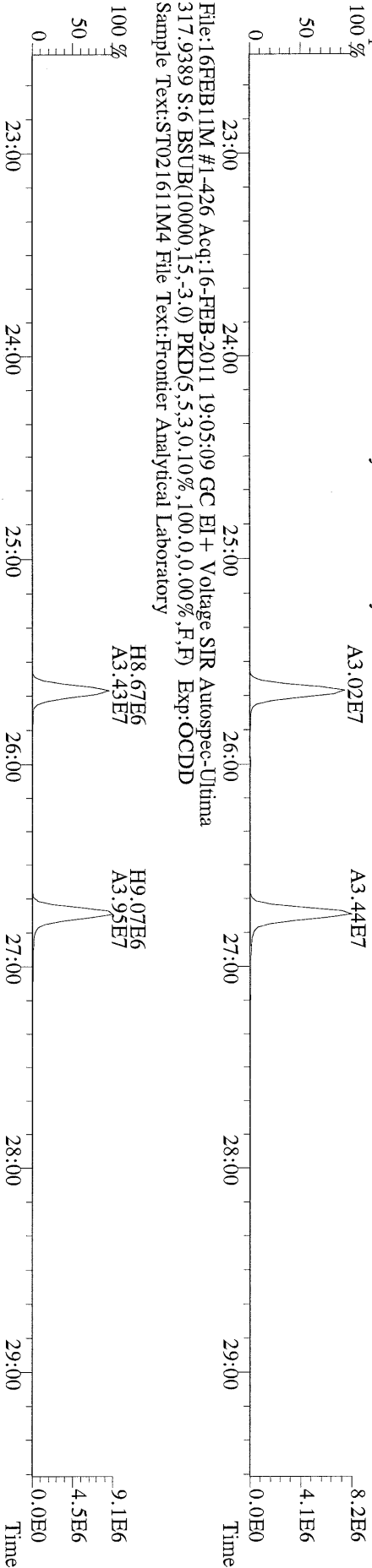
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 LOCK MASS CHECK S:6 F:5 Exp:OCDD  
 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



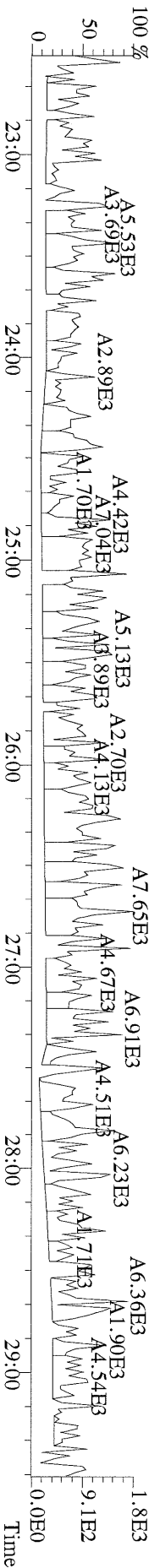
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303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



File:16FEBB11M #1-426 Acq:16-FEB-2011 19:05:09 GC EI + Voltage SIR Autospec-Ultima  
315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory

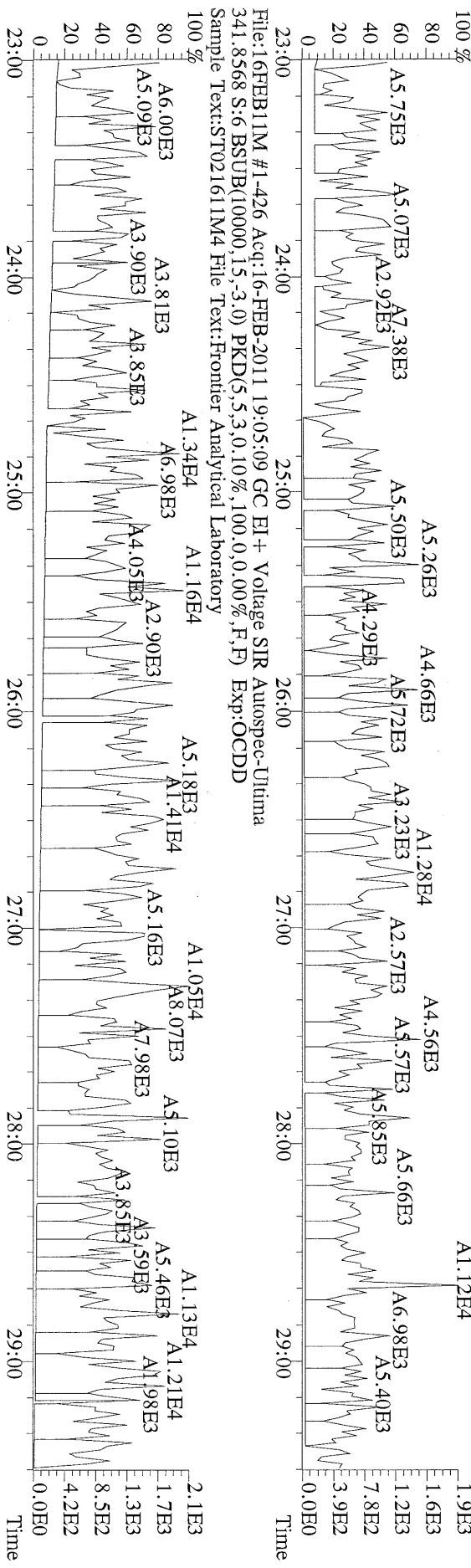


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375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory

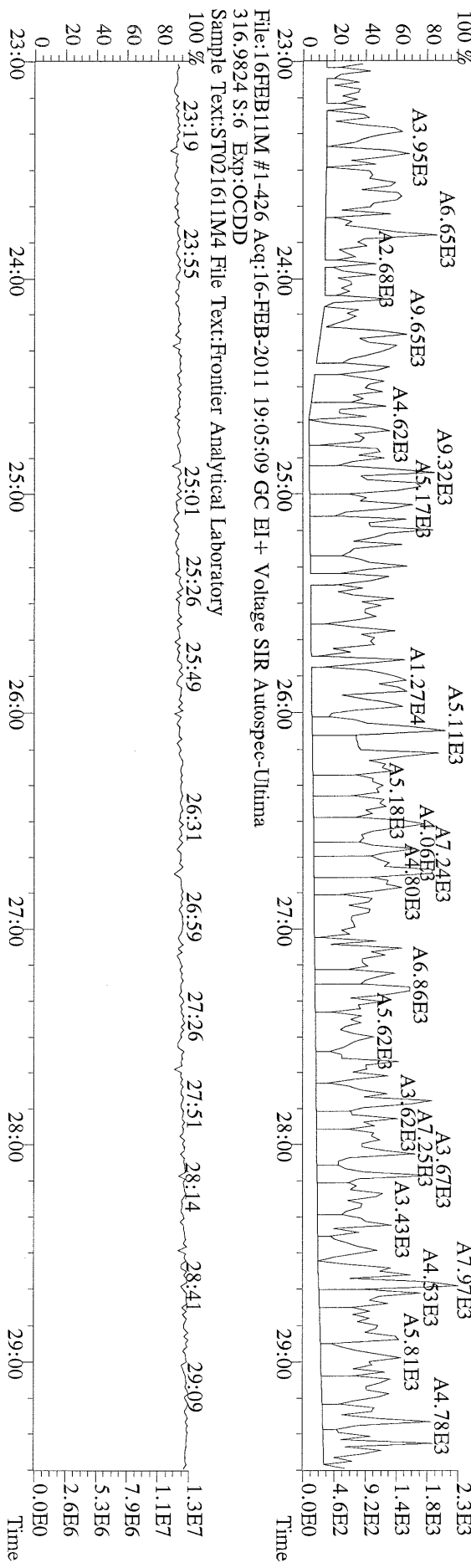




File:16FEB11M #1-426 Acq:16-FEB-2011 19:05:09 GC EI+ Voltage SIR Autospec-Ultima  
 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
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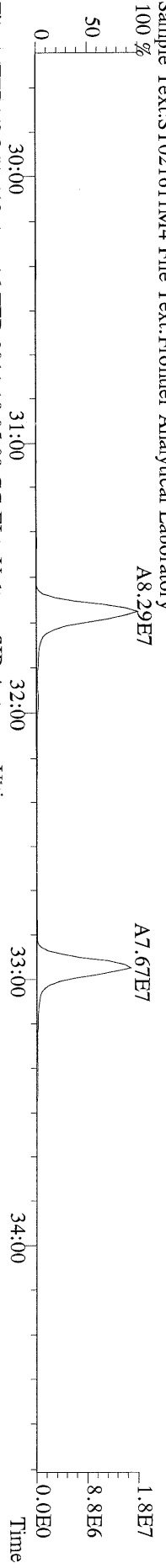
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 409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,00%,F,F) Exp:OCDD  
 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



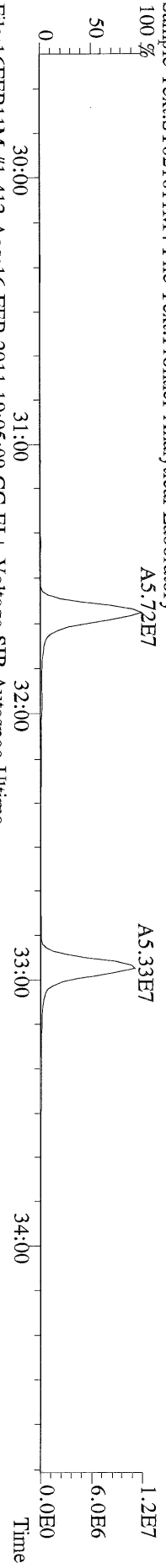
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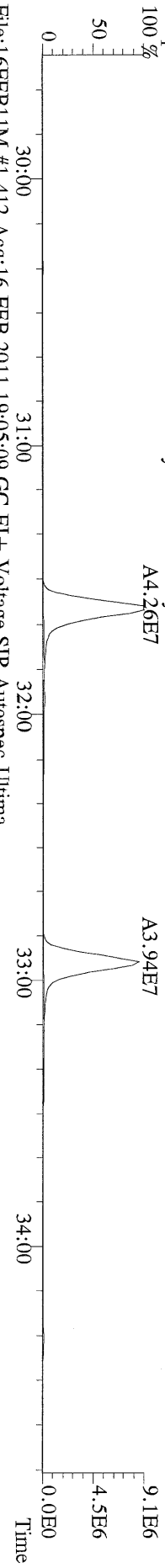
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 339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
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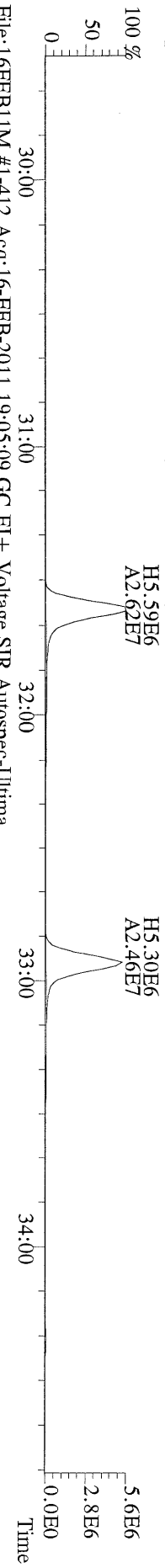
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 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



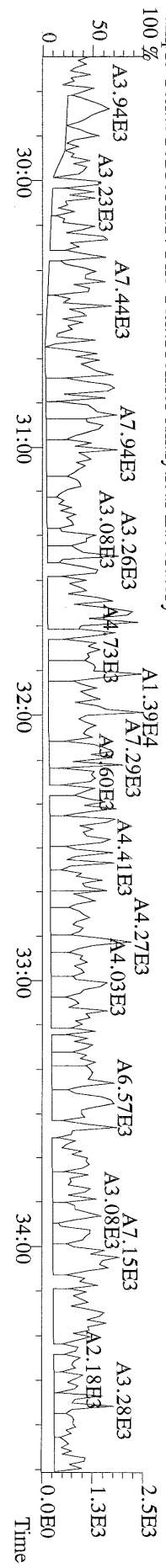
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 351.9000 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



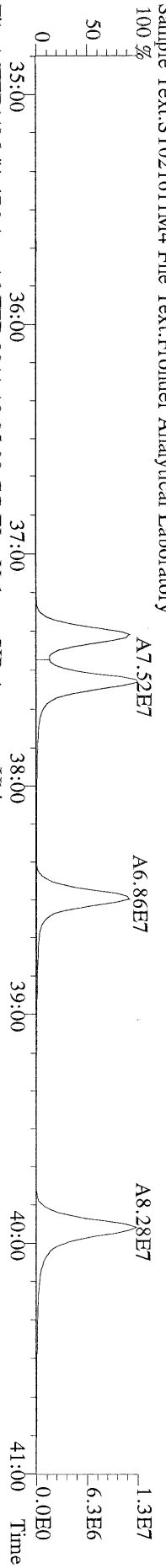
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 353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



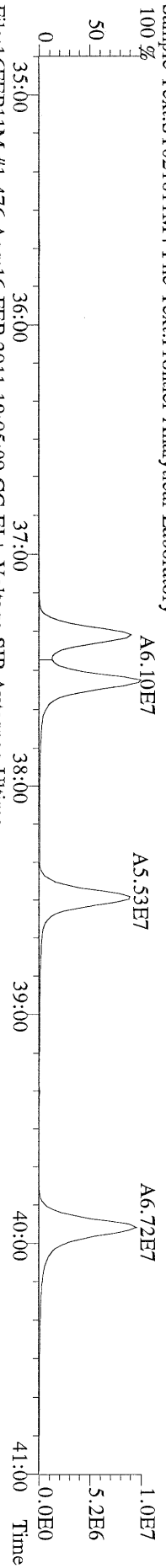
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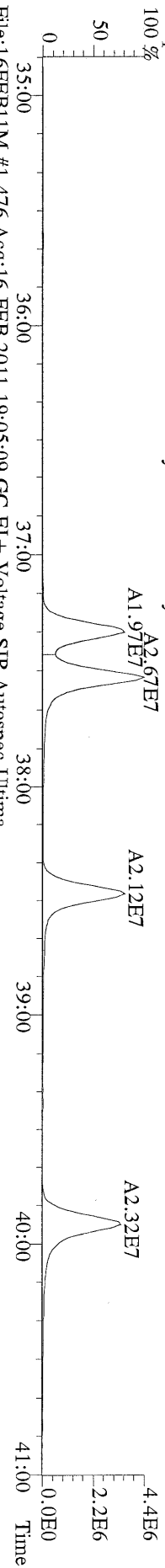
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 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



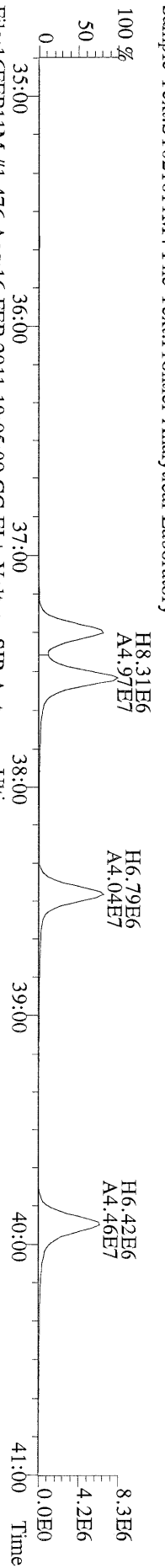
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 375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



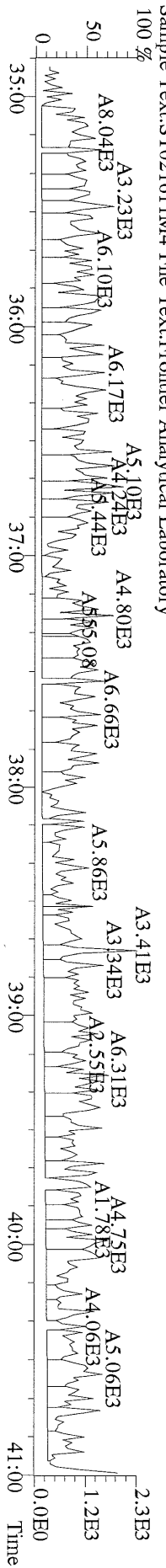
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 383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



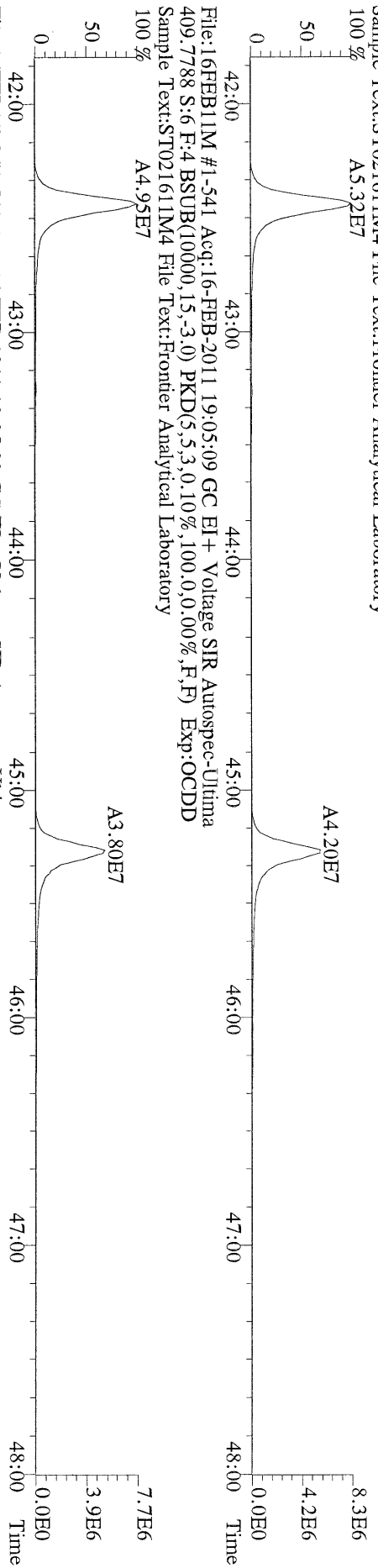
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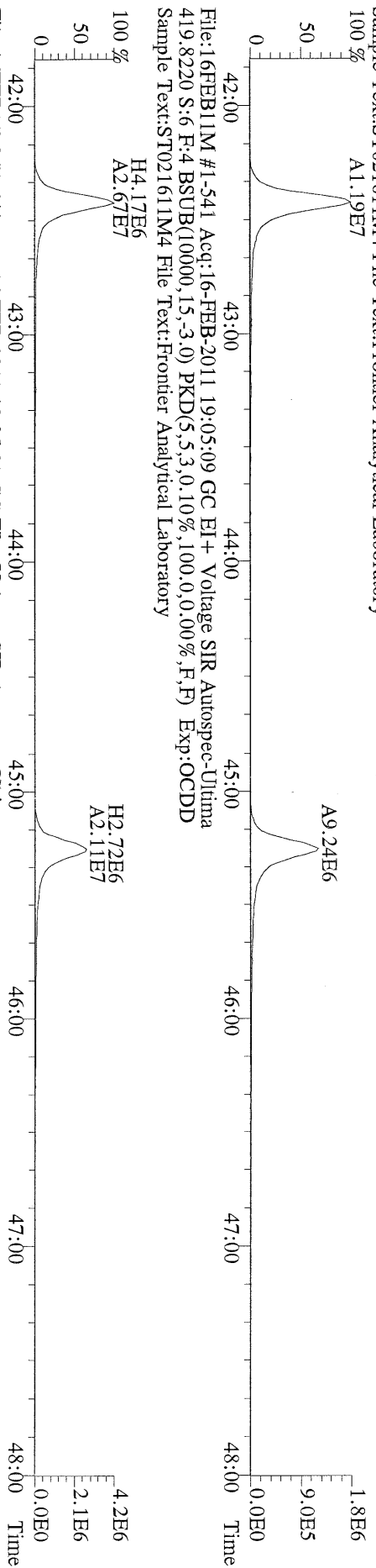
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 Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



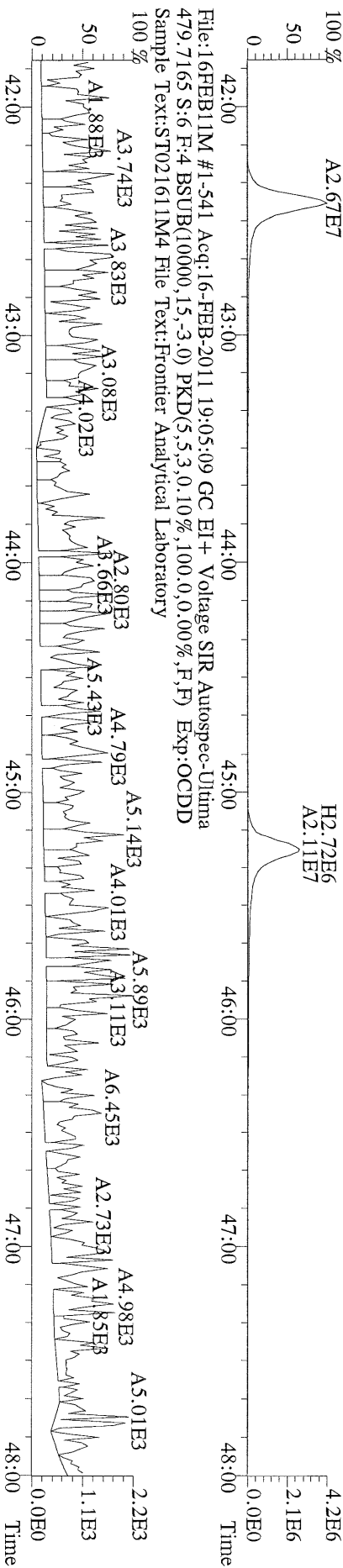
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407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



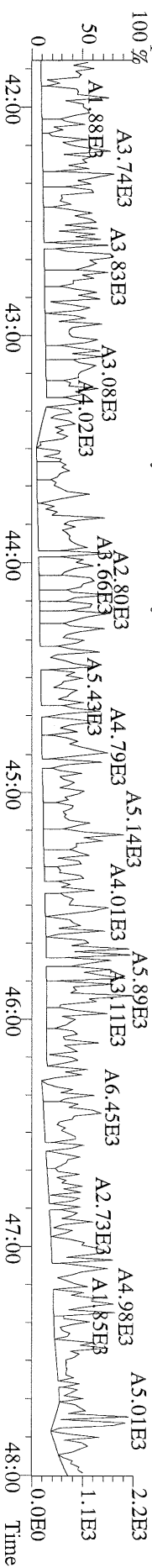
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417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



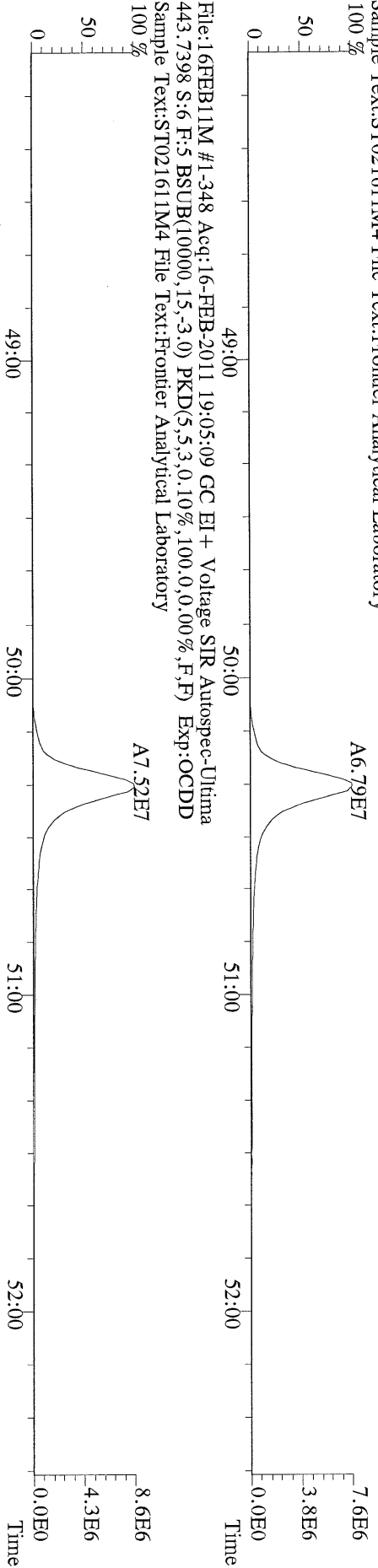
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419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



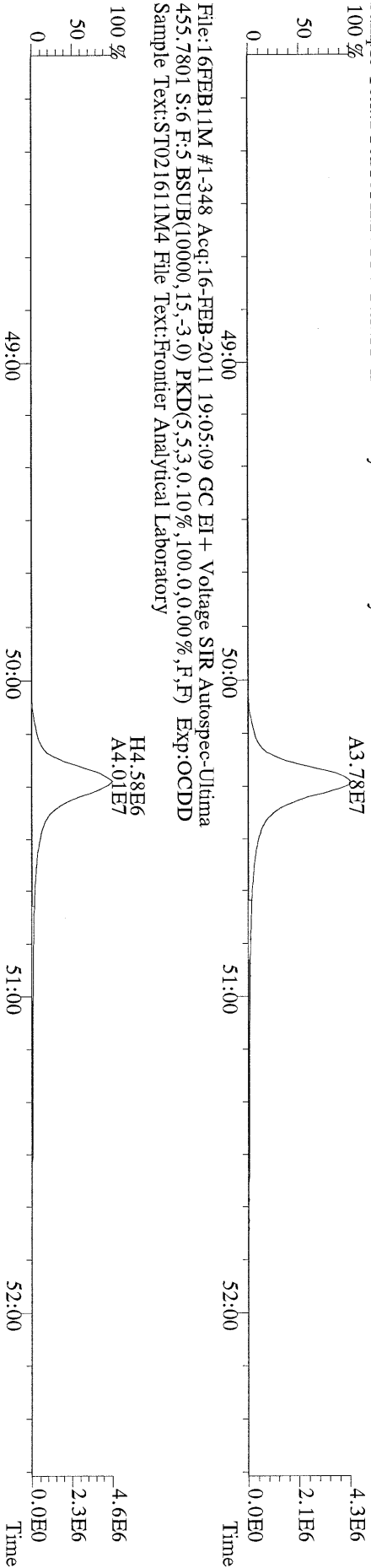
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479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
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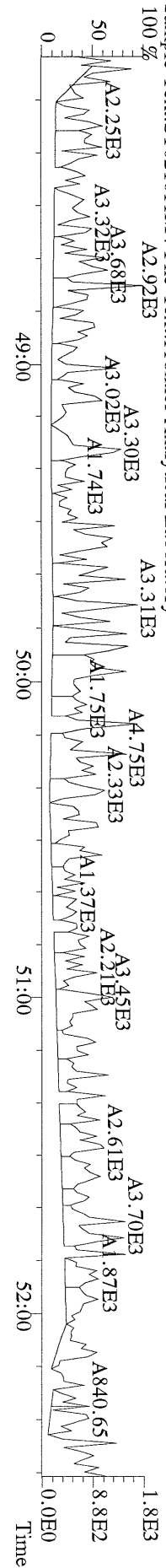
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441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



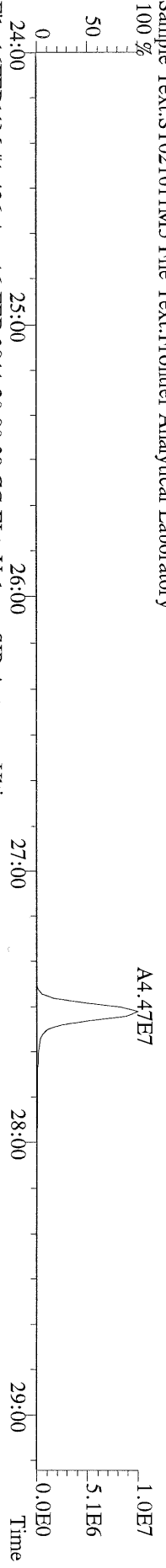
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453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



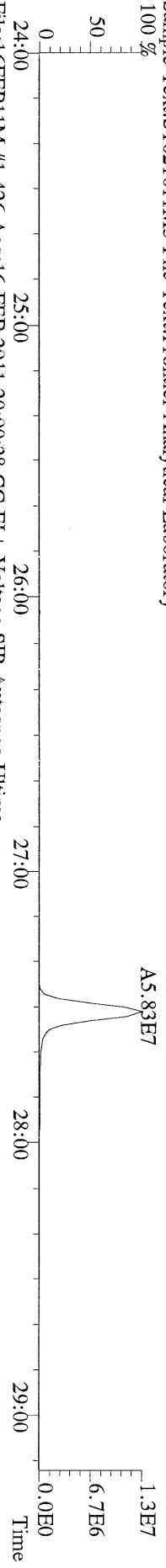
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513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M4 File Text:Frontier Analytical Laboratory



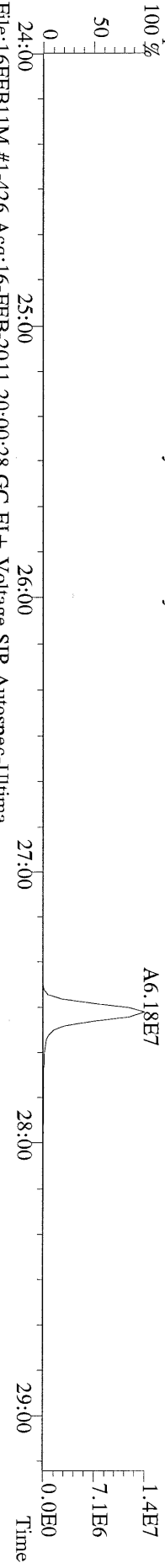
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319.8965 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronter Analytical Laboratory  
100 %



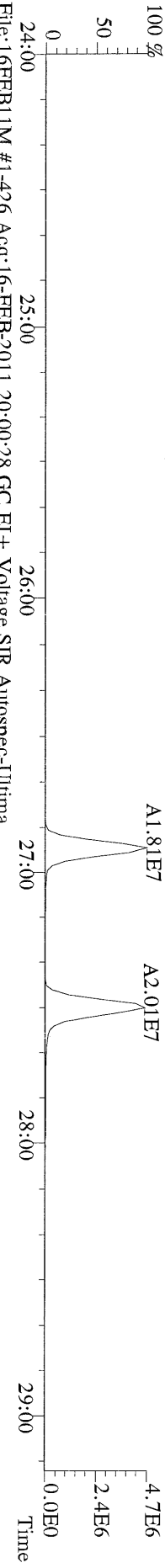
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321.8936 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronter Analytical Laboratory  
100 %



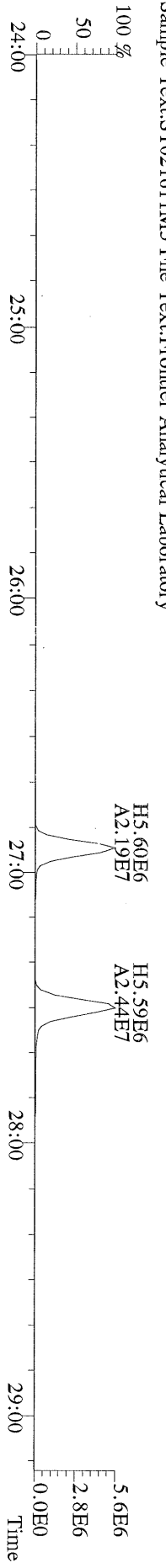
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327.8847 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronter Analytical Laboratory  
100 %



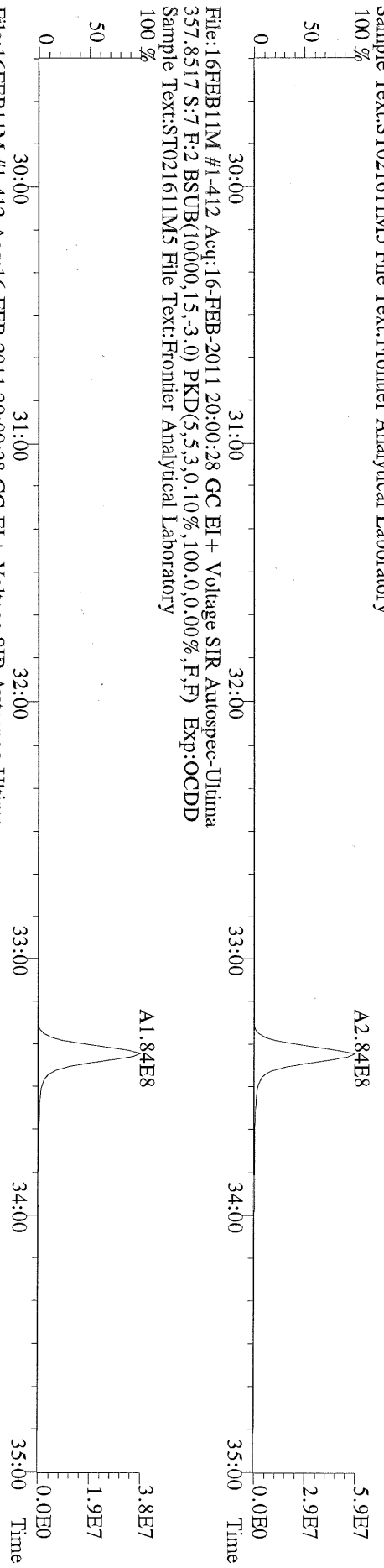
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331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronter Analytical Laboratory  
100 %



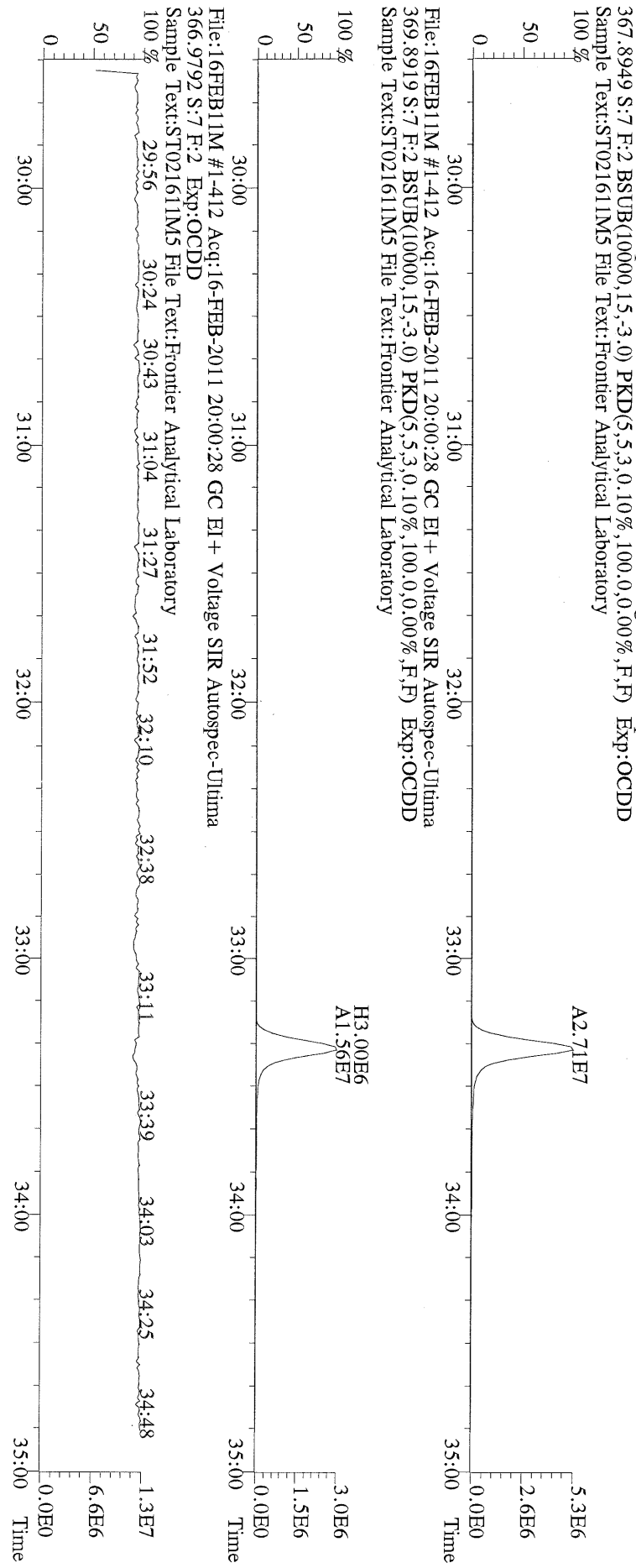
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333.9339 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronter Analytical Laboratory



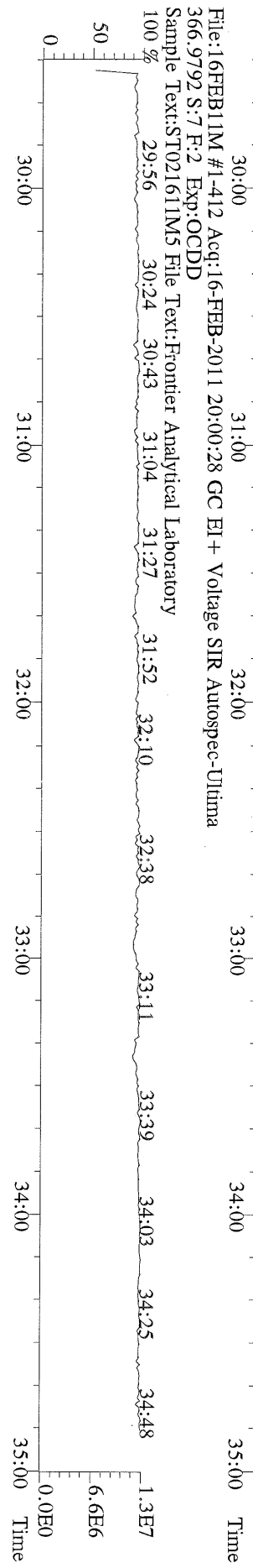
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355.8546 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



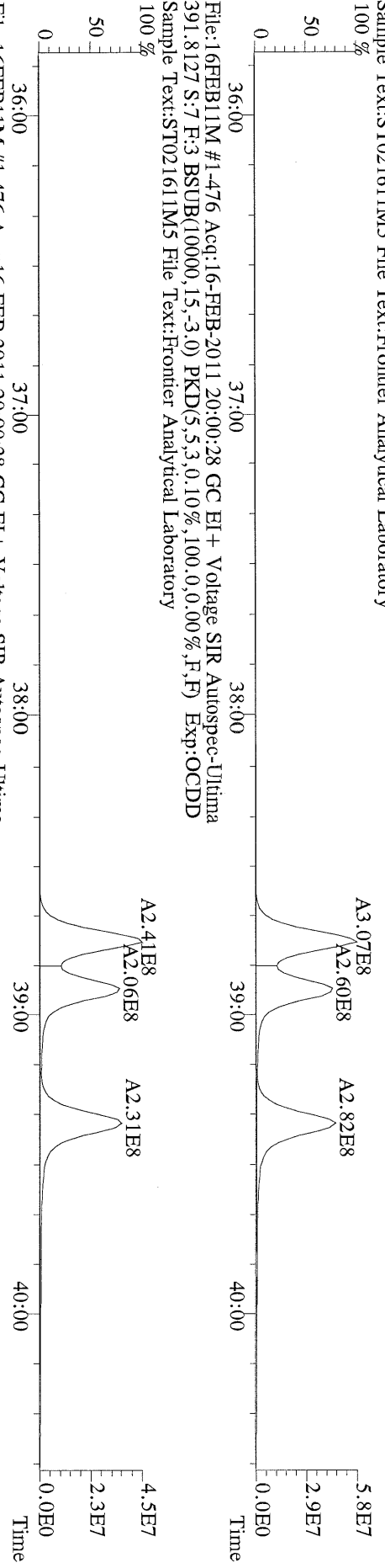
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367.8949 S:7 F:2 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



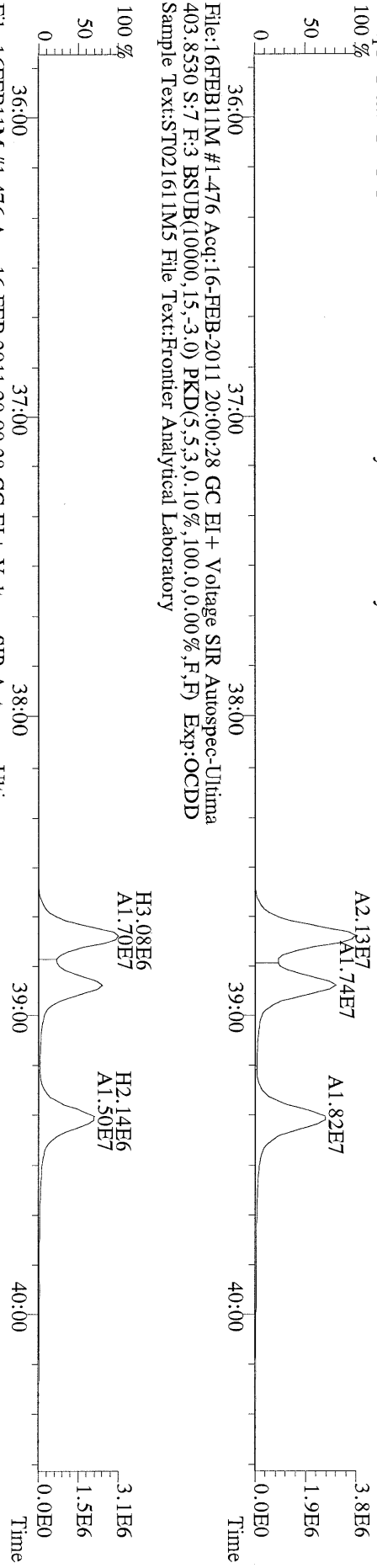
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366.9792 S:7 F:2 Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



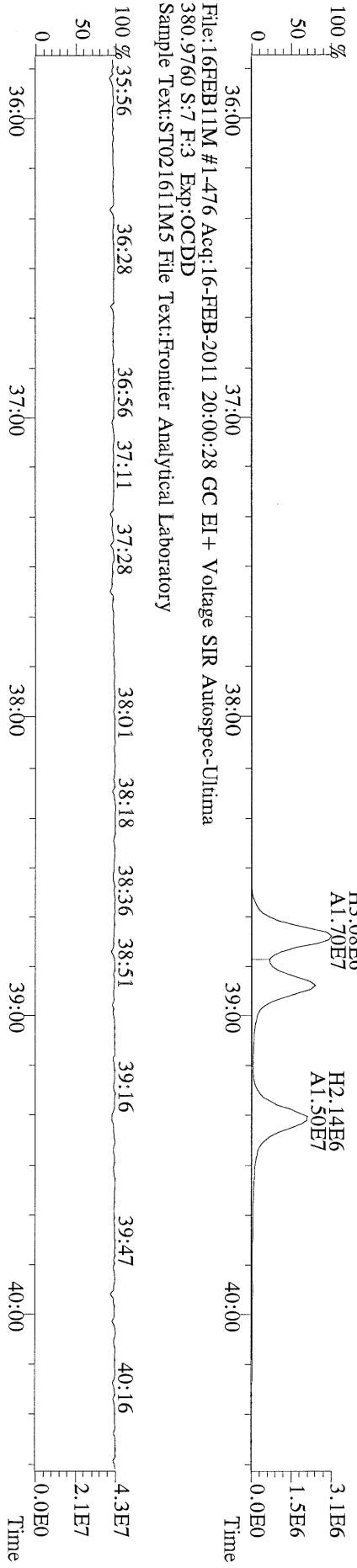
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389.8156 S:7 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-476 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
401.8559 S:7 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



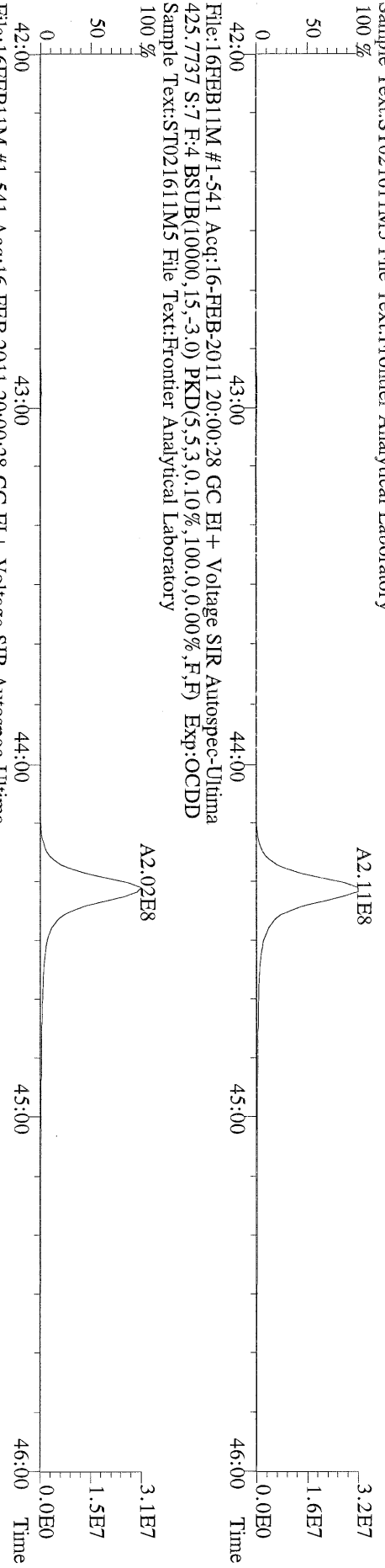
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403.8530 S:7 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



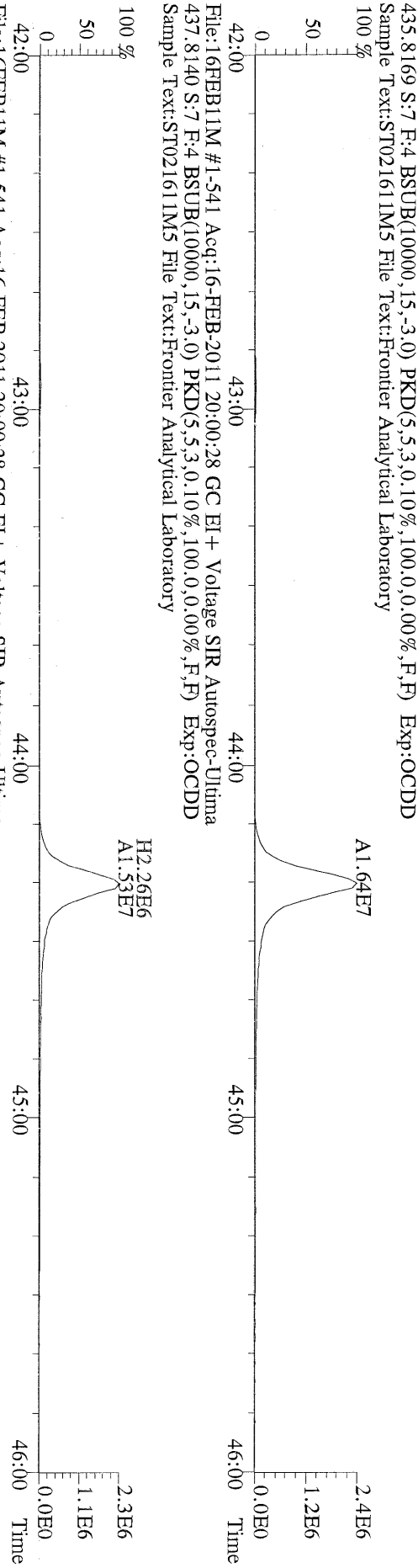
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380.9760 S:7 F:3 Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



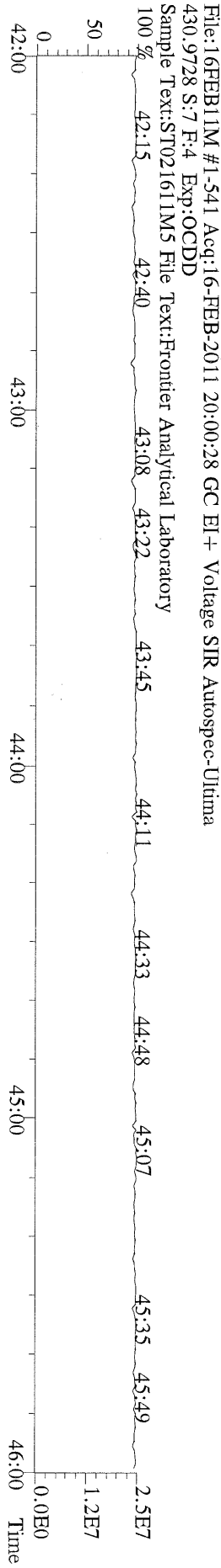
File:16FEB11M #1-541 Acq:16-FEB-2011 20:00:28 GC EI + Voltage SIR Autospec-Ultima  
423.7767 S:7 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



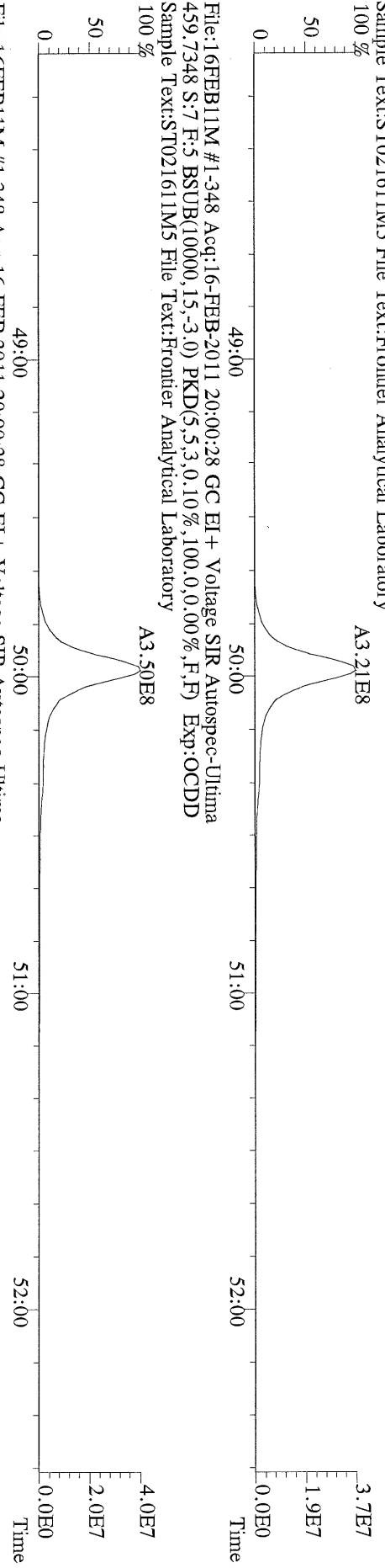
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435.8169 S:7 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



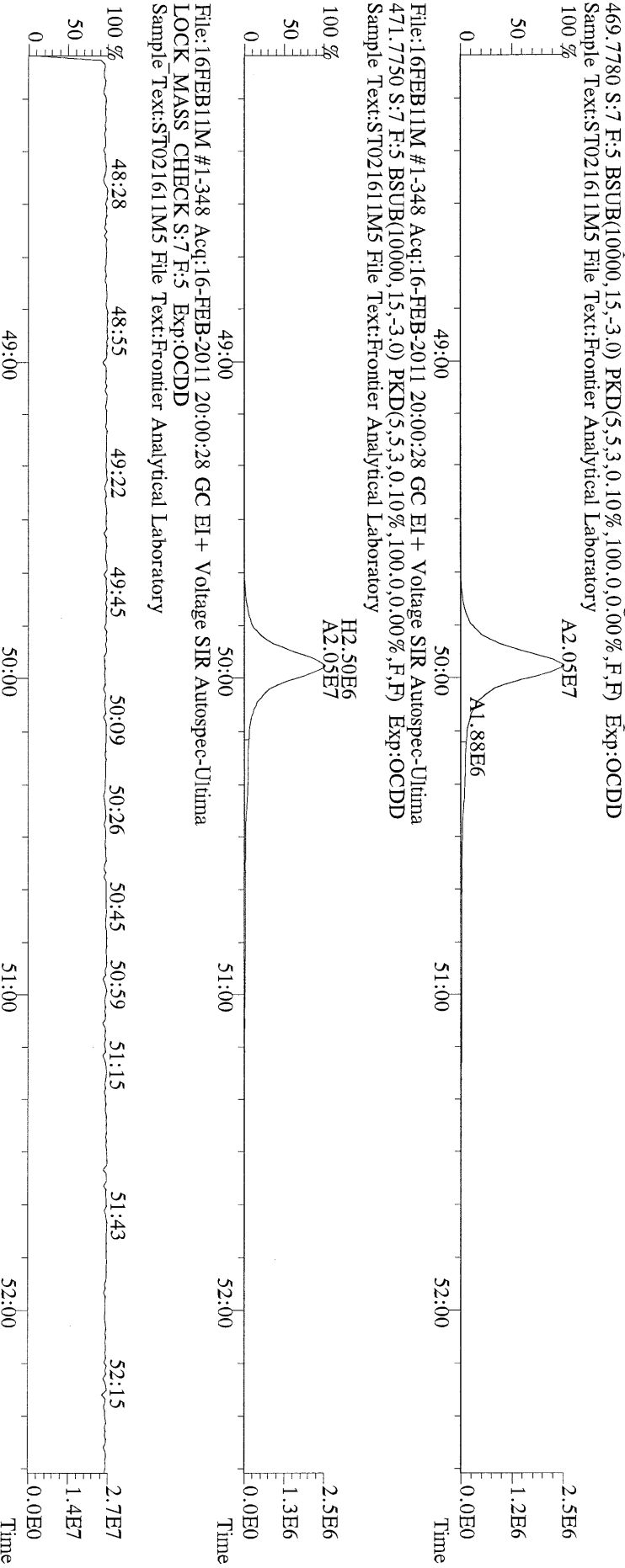
File:16FEB11M #1-541 Acq:16-FEB-2011 20:00:28 GC EI + Voltage SIR Autospec-Ultima  
430.9728 S:7 F:4 Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



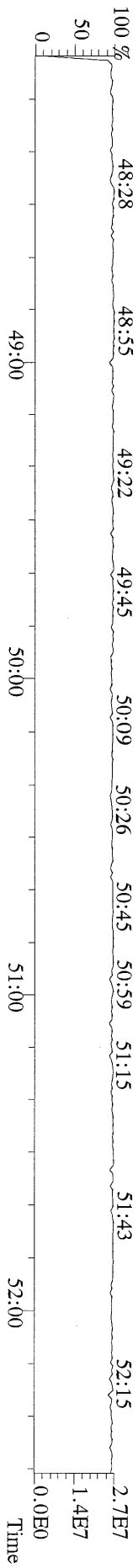
File:16FEB11M #1-348 Acq:16-FEB-2011 20:00:28 GC EI + Voltage SIR Autospec-Ultima  
457.7377 S:7 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronier Analytical Laboratory



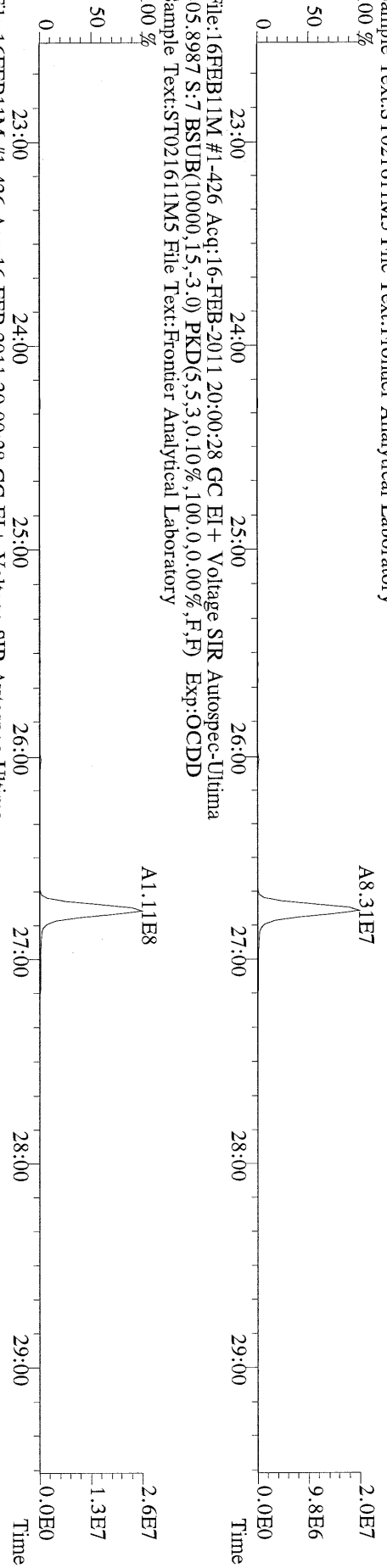
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469.7780 S:7 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronier Analytical Laboratory



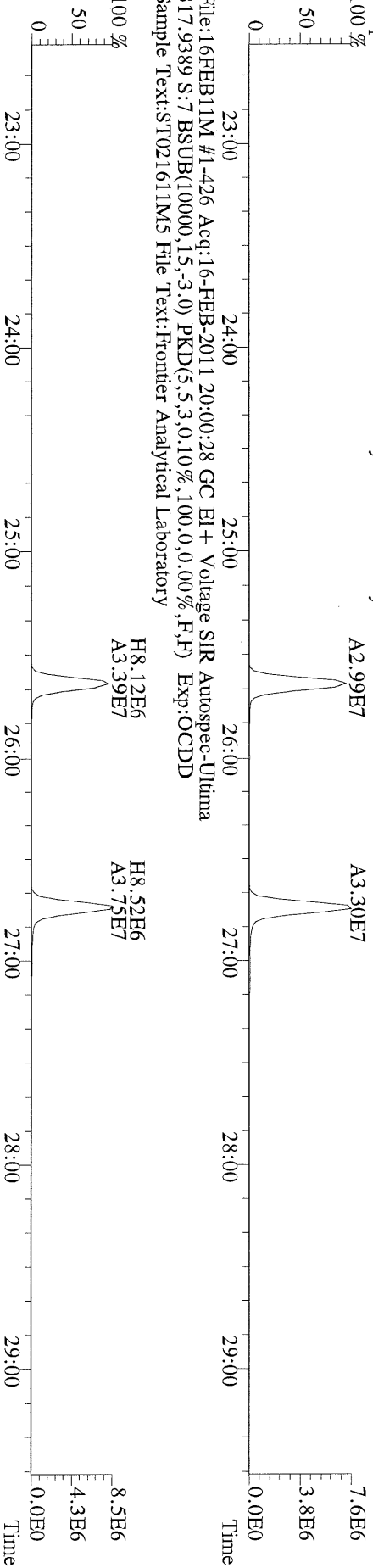
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LOCK MASS CHECK S:7 F:5 Exp:OCDD  
Sample Text:ST021611M5 File Text:Fronier Analytical Laboratory



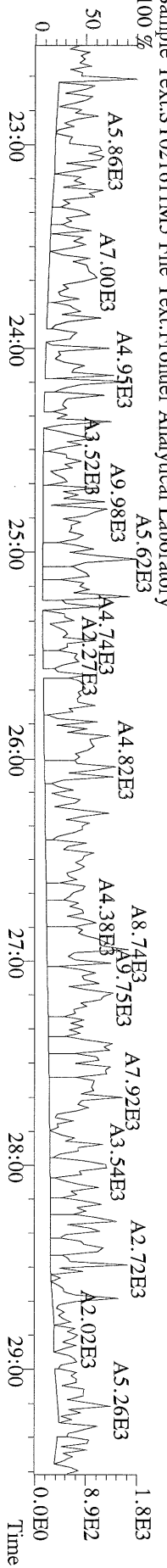
File:16FEBB11M #1-426 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



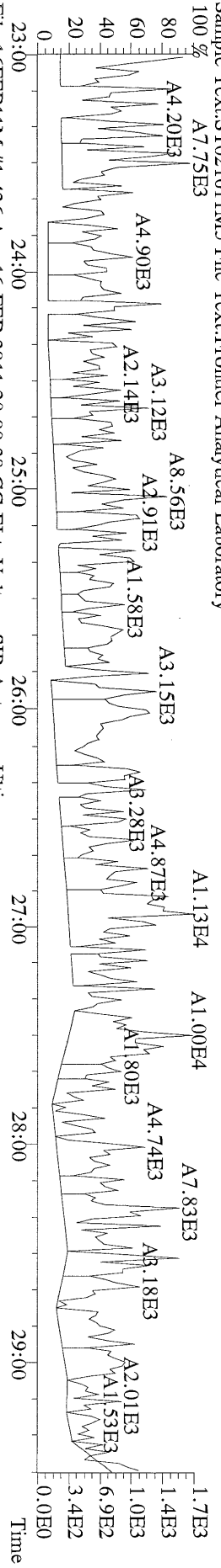
File:16FEBB11M #1-426 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
315.9419 S:7 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



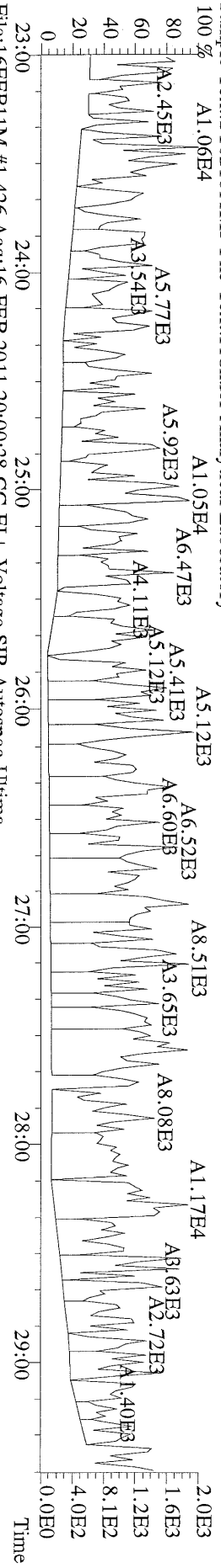
File:16FEBB11M #1-426 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
375.8364 S:7 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



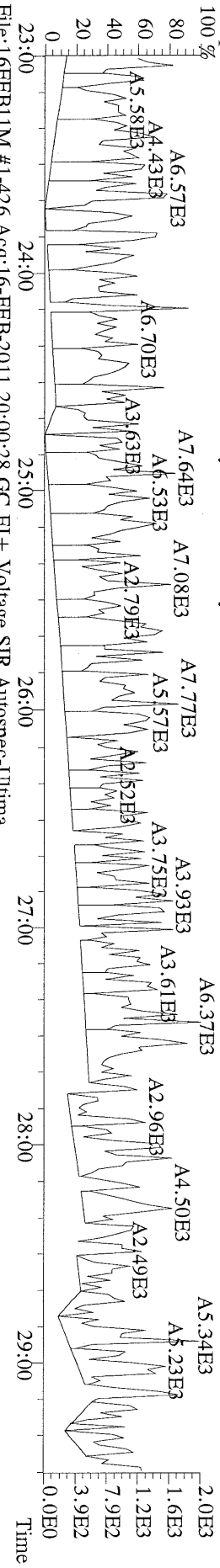
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 339.857 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



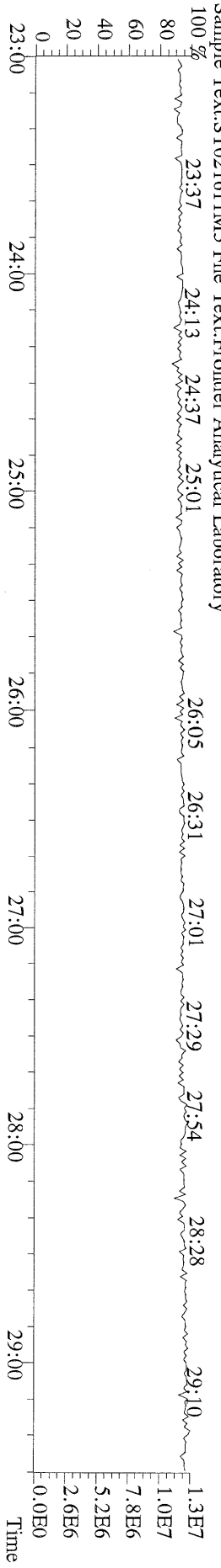
File:16FEB11M #1-426 Acq:16-FEB-2011 20:00:28 GC EI + Voltage SIR Autospec-Ultima  
 341.8568 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



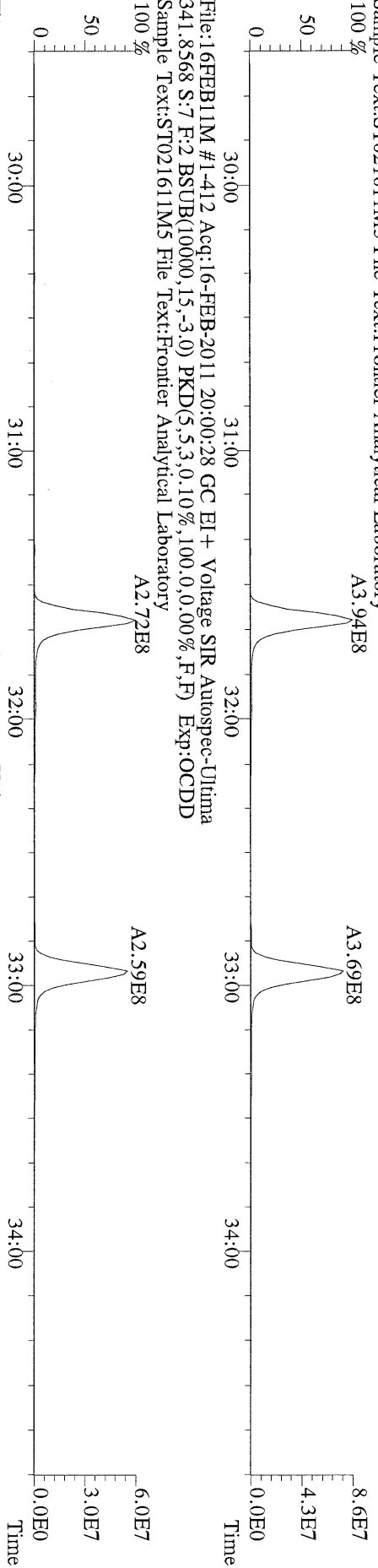
File:16FEB11M #1-426 Acq:16-FEB-2011 20:00:28 GC EI + Voltage SIR Autospec-Ultima  
 409.7974 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100,0.0,0.00%,F,F) Exp:OCDD  
 Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



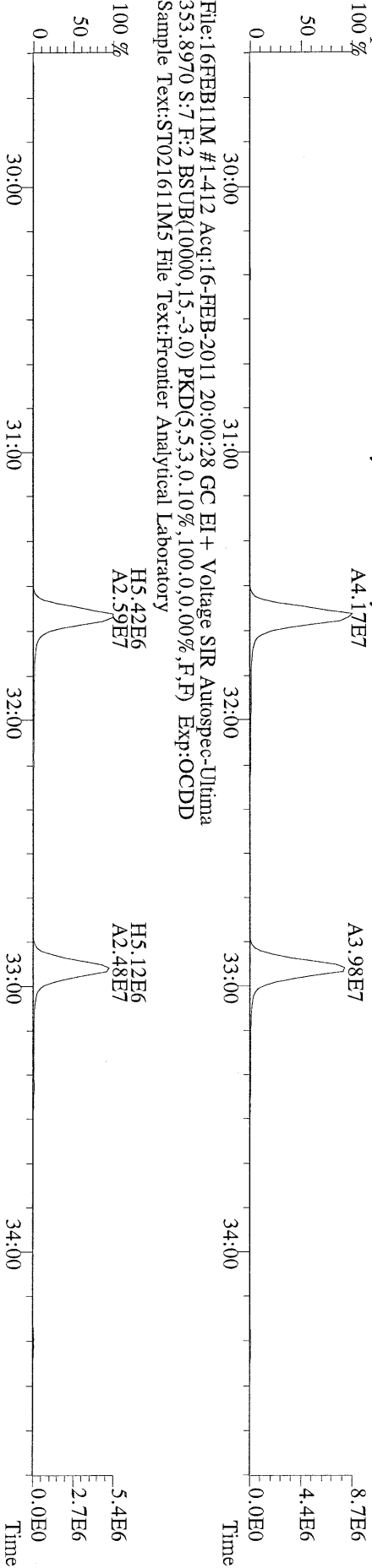
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 316.9824 S:7 Exp:OCDD  
 Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



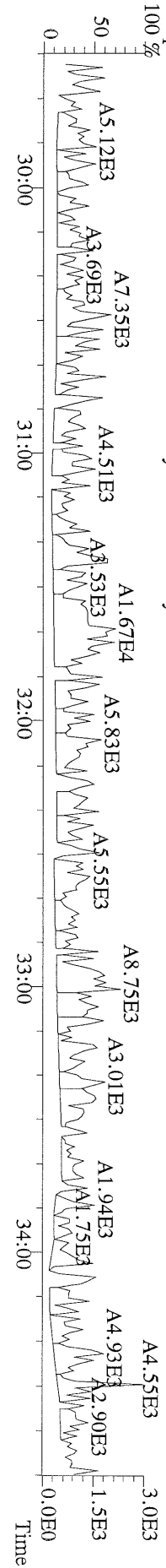
File:16FEB11M #1-412 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
339.8597 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



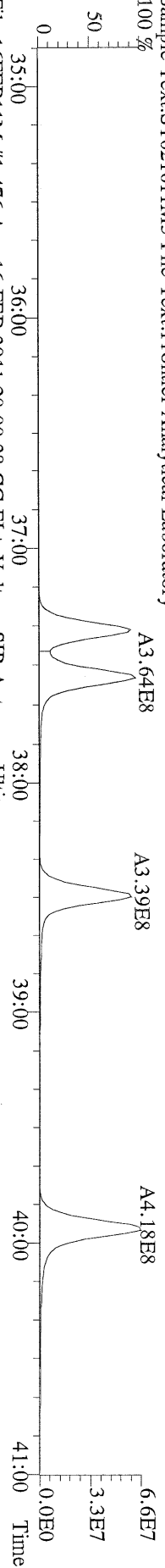
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351.9000 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



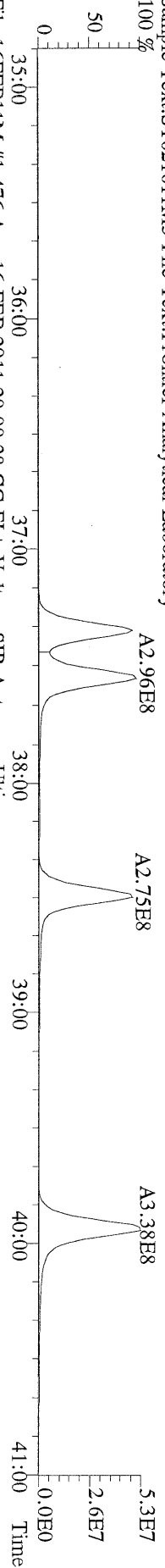
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409.7974 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



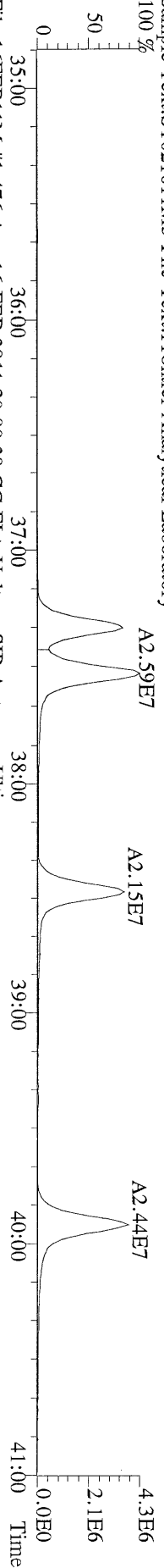
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373.8207 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



File:16FEB11M #1-476 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
375.8178 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



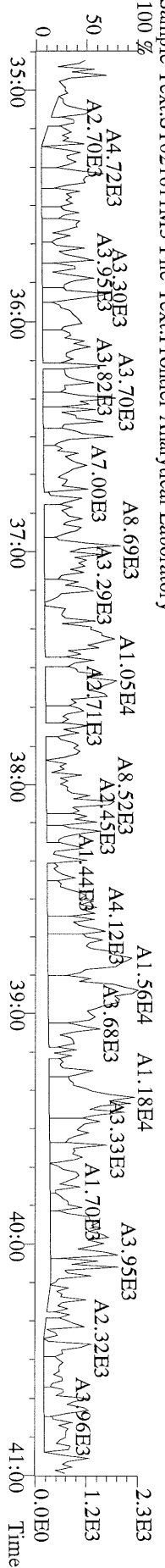
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383.8639 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



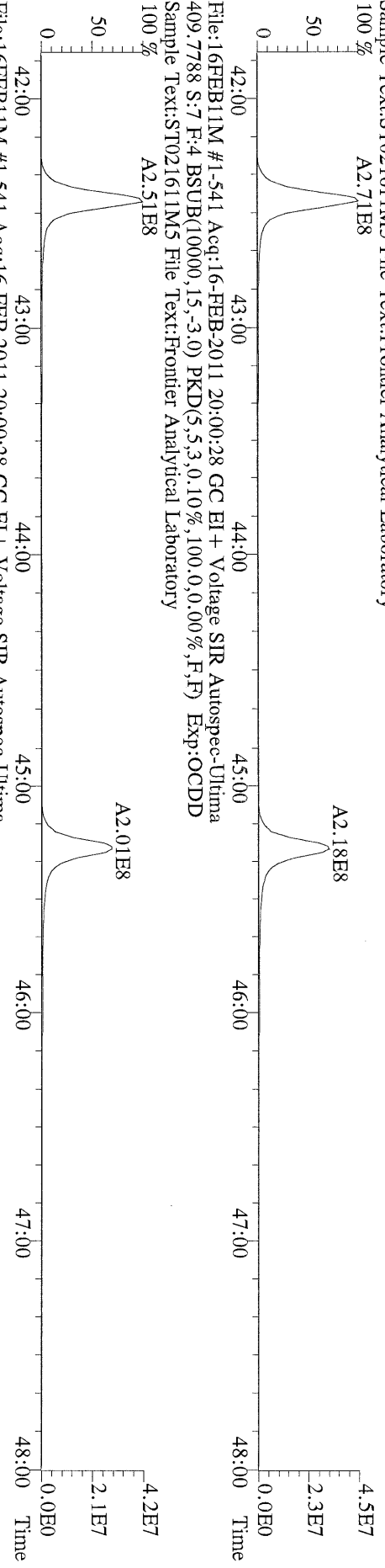
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385.8610 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



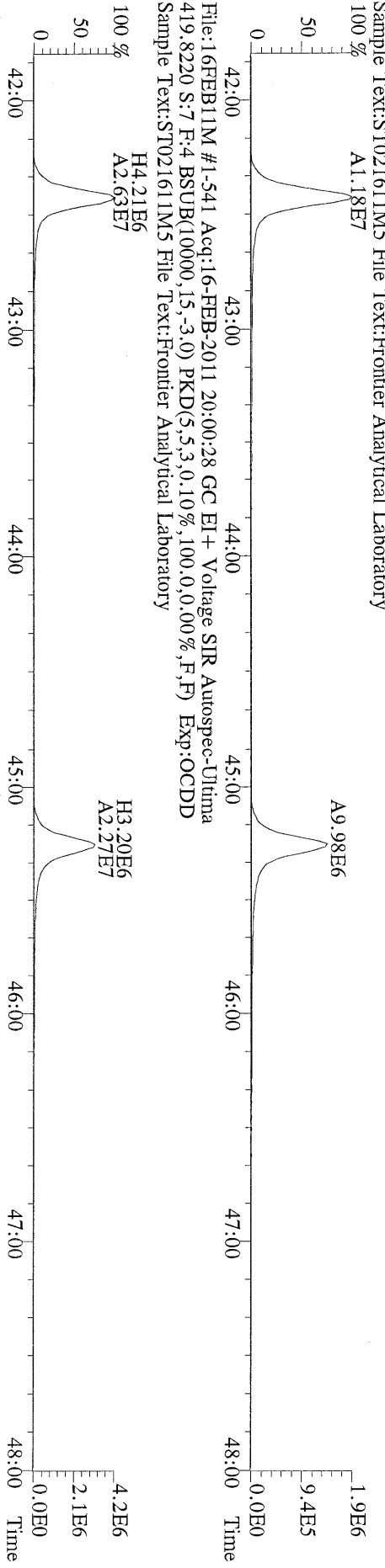
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445.7555 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



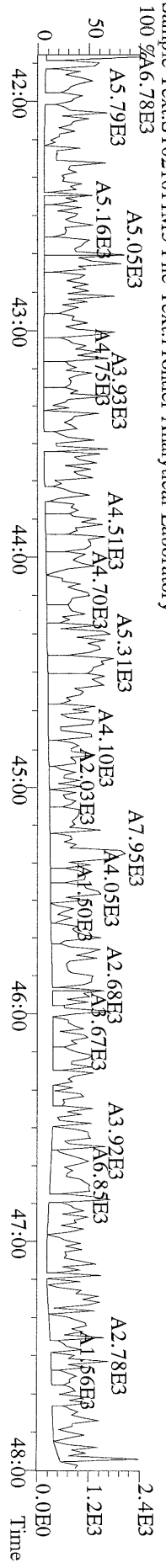
File:16FEB11M #1-541 Acq:16-FEB-2011 20:00:28 GC EI + Voltage SIR Autospec-Ultima  
407.7818 S:7 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



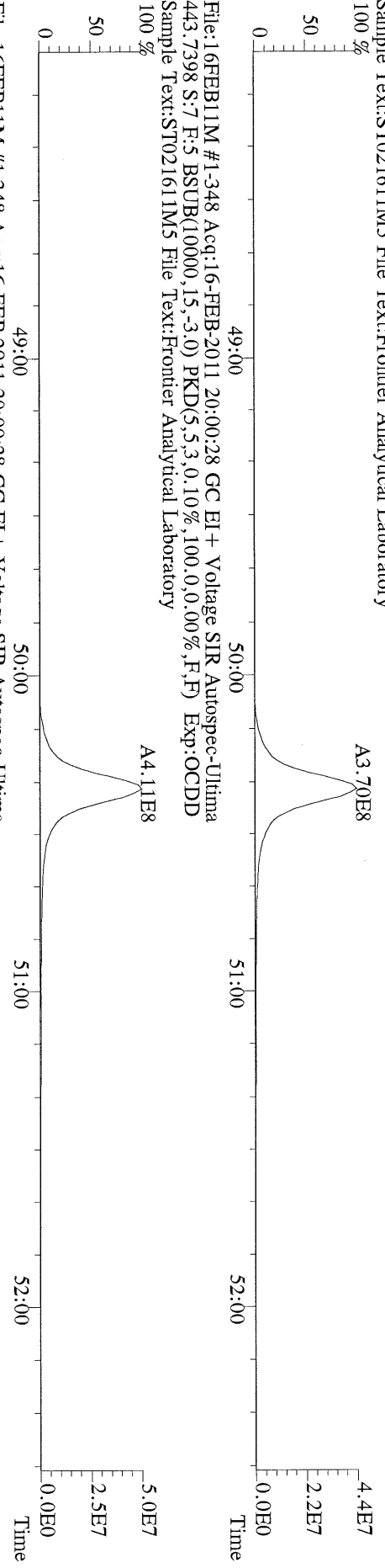
File:16FEB11M #1-541 Acq:16-FEB-2011 20:00:28 GC EI + Voltage SIR Autospec-Ultima  
417.8253 S:7 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



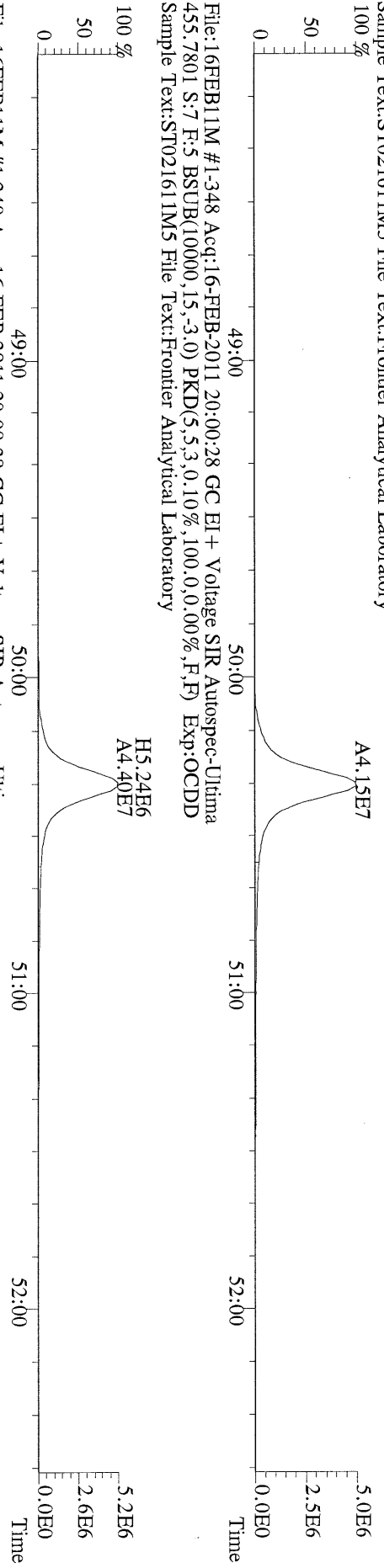
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419.8220 S:7 F:4 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory



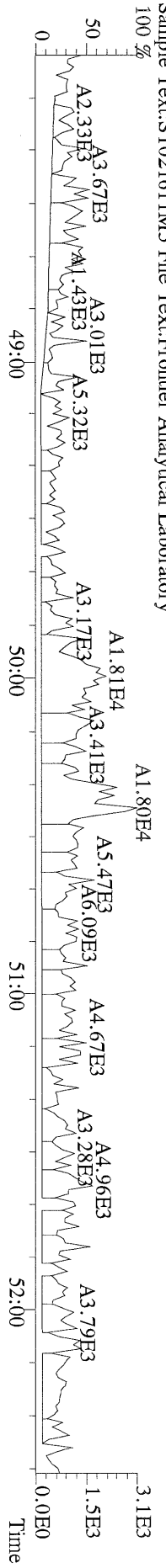
File:16FEB11M #1-348 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
441.7428 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory  
100 %



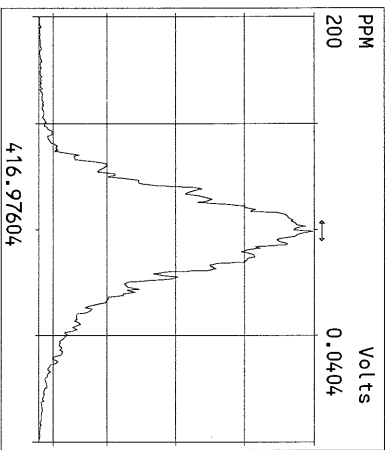
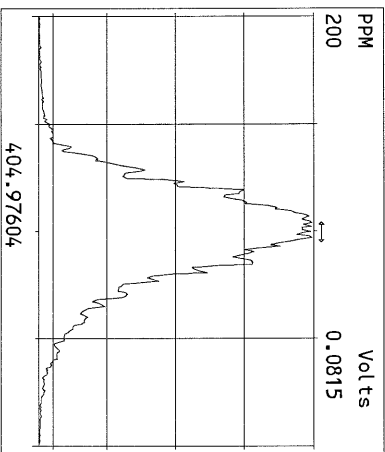
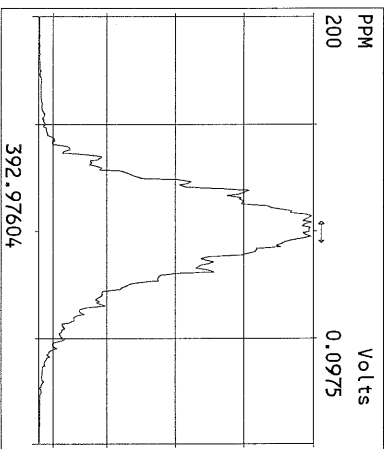
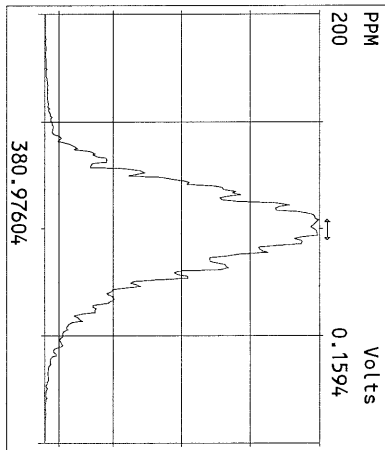
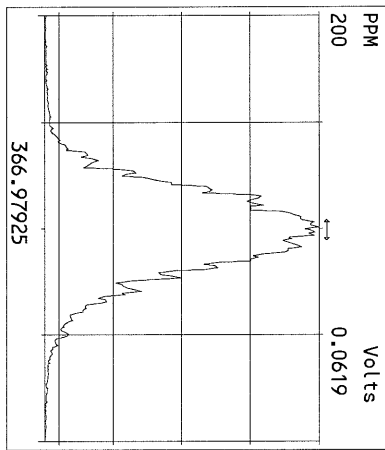
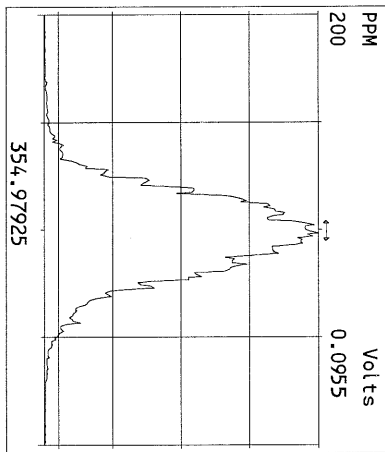
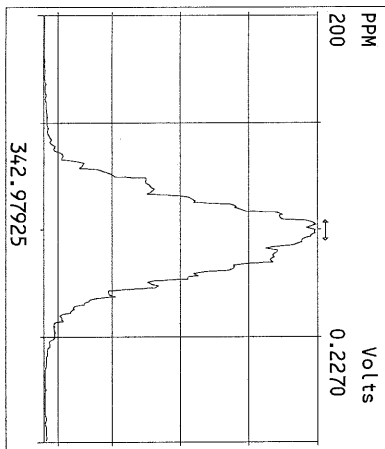
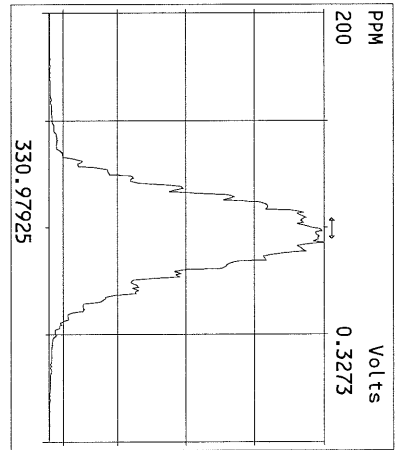
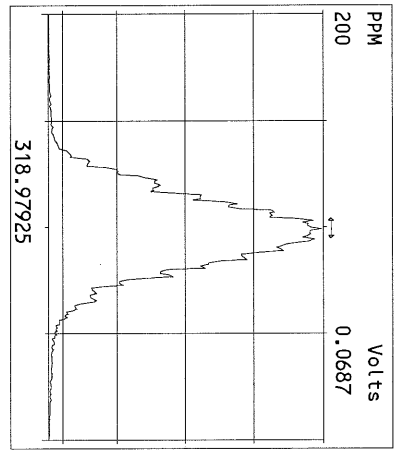
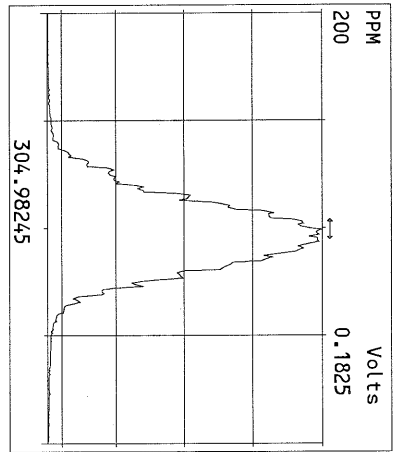
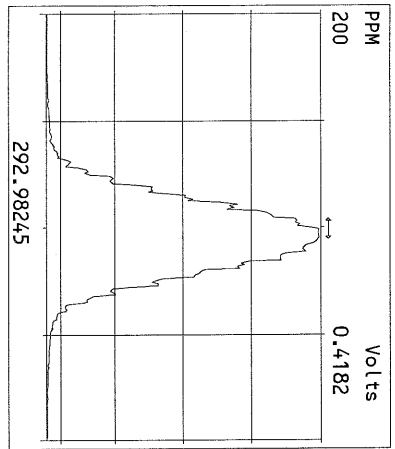
File:16FEB11M #1-348 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
453.7831 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory  
100 %

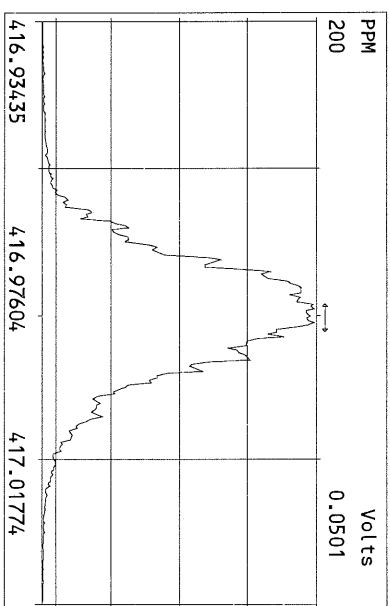
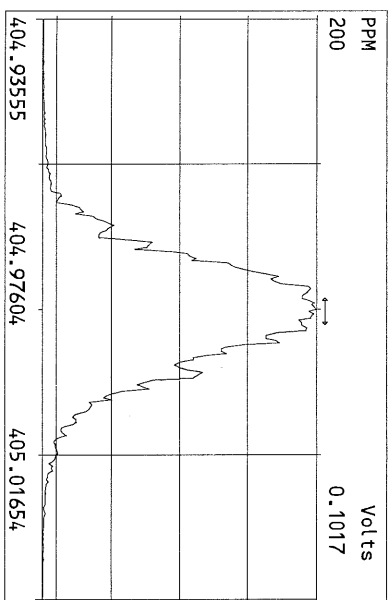
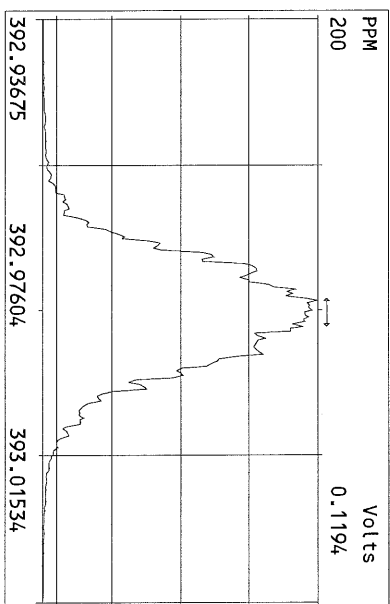
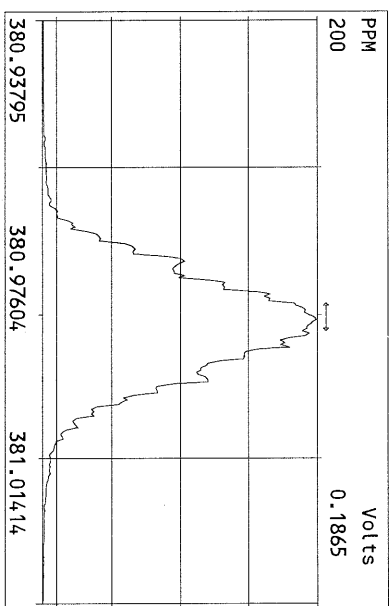
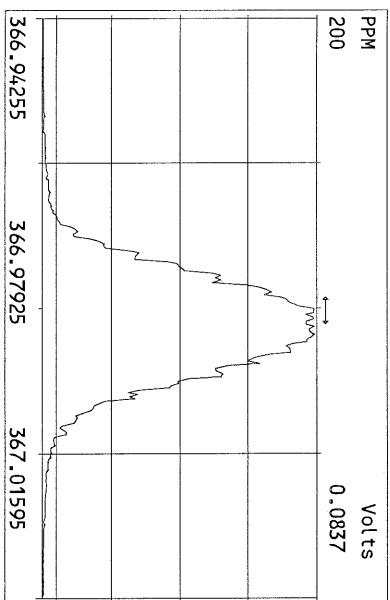
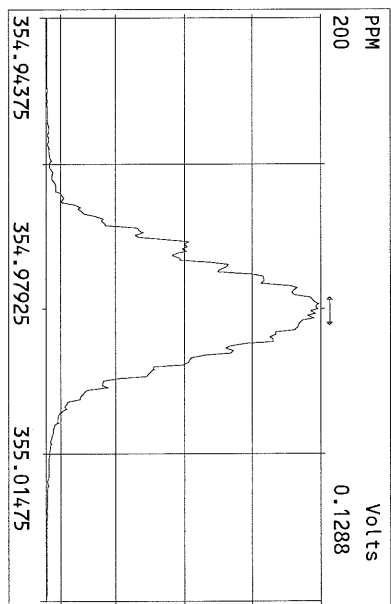
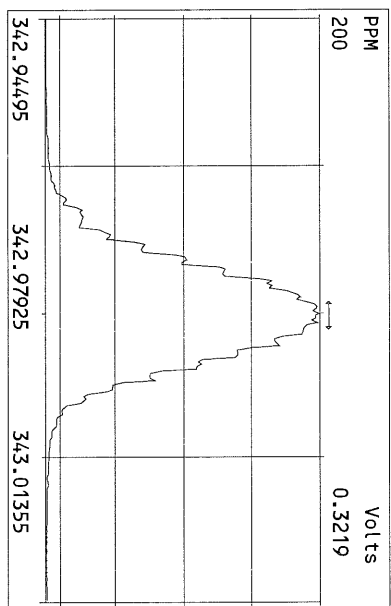
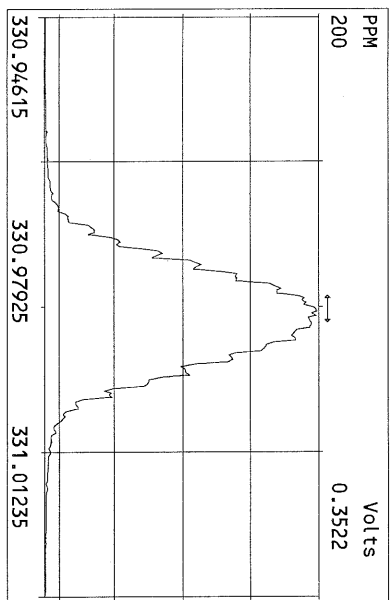


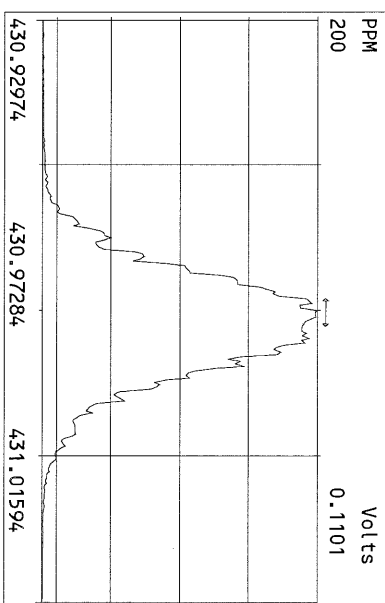
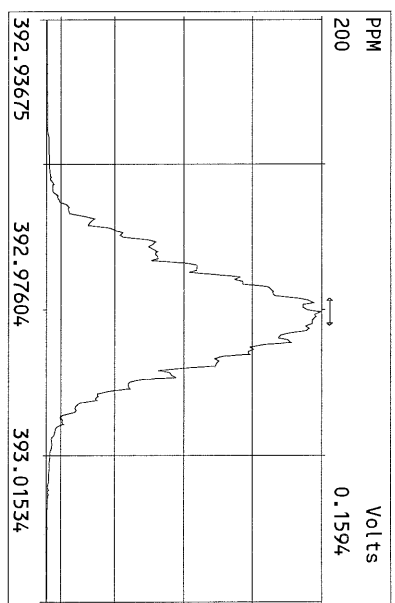
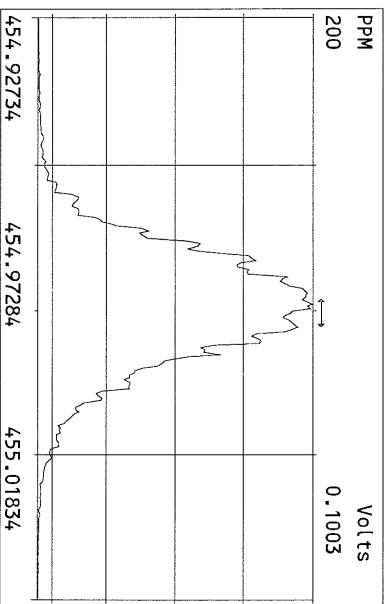
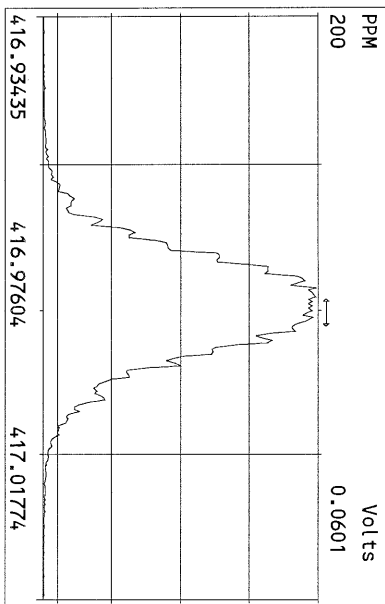
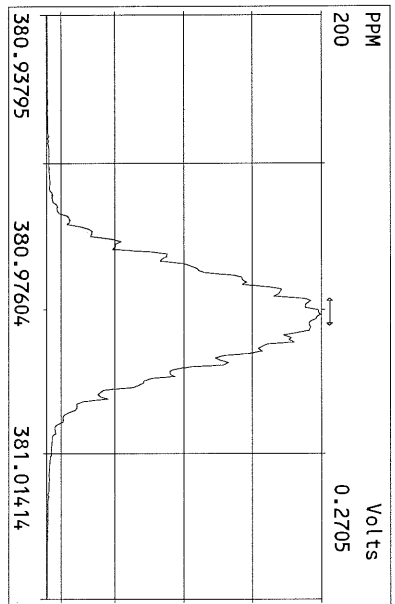
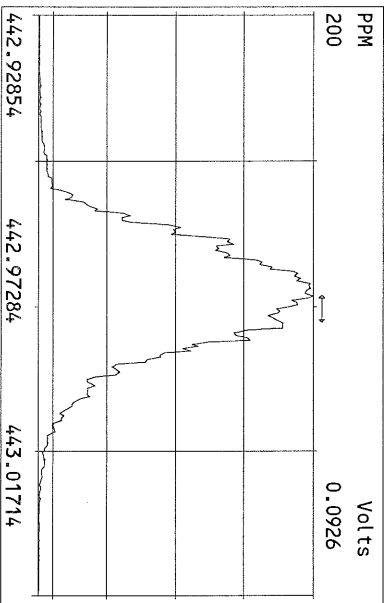
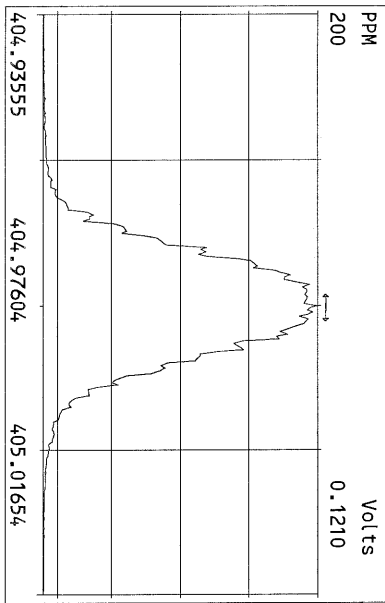
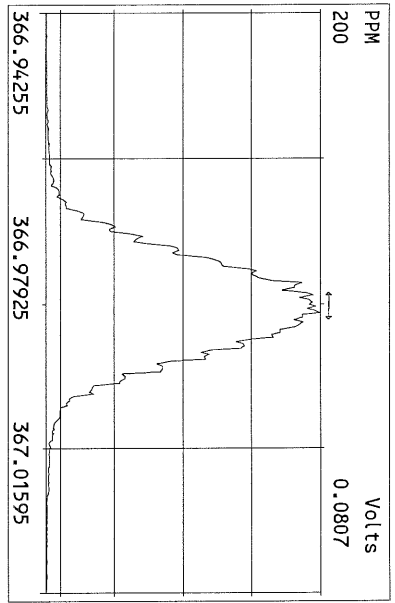
File:16FEB11M #1-348 Acq:16-FEB-2011 20:00:28 GC EI+ Voltage SIR Autospec-Ultima  
513.6775 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0,10%,100,0,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021611M5 File Text:Frontier Analytical Laboratory  
100 %

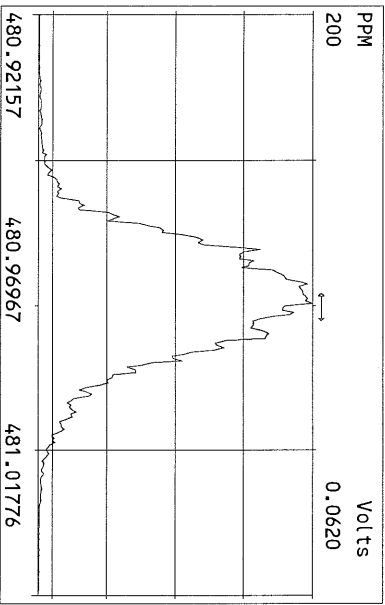
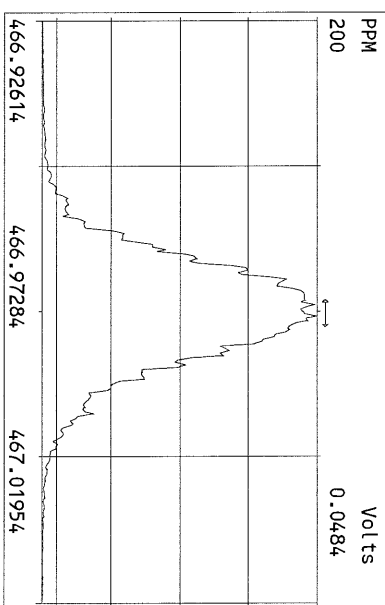
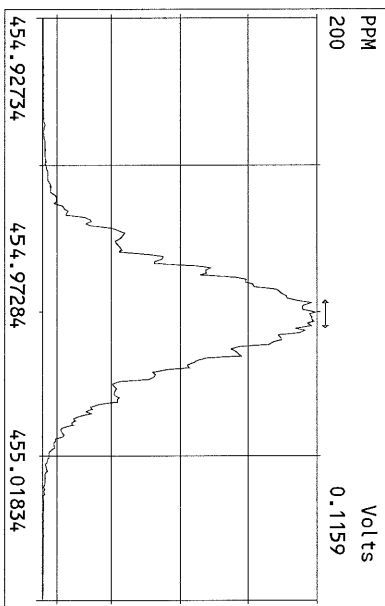
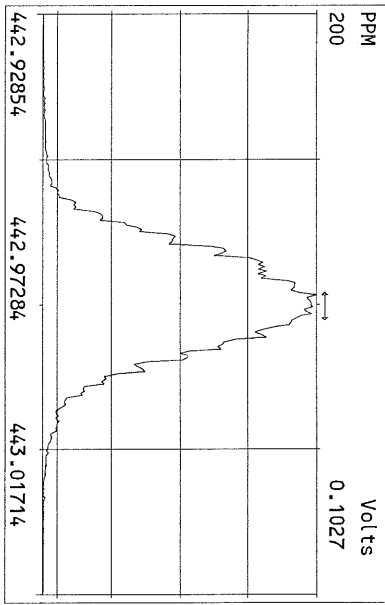
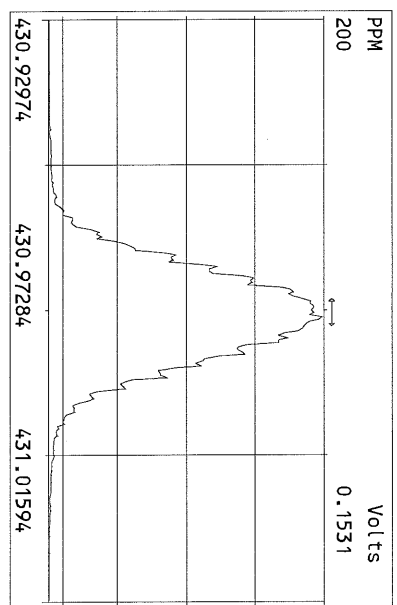
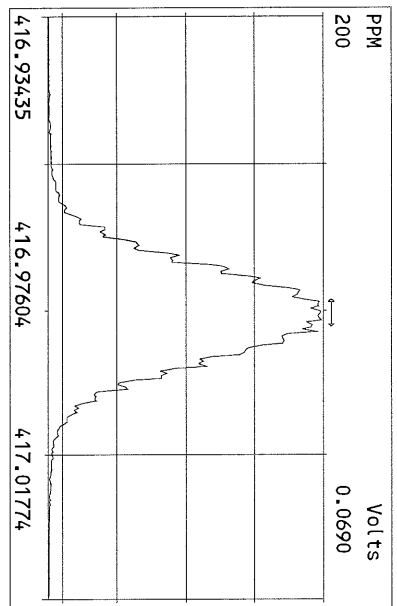
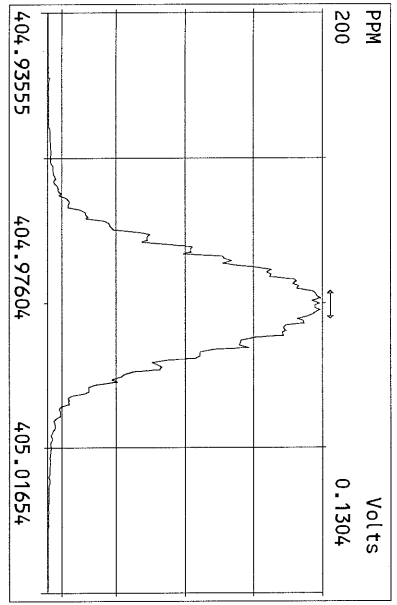


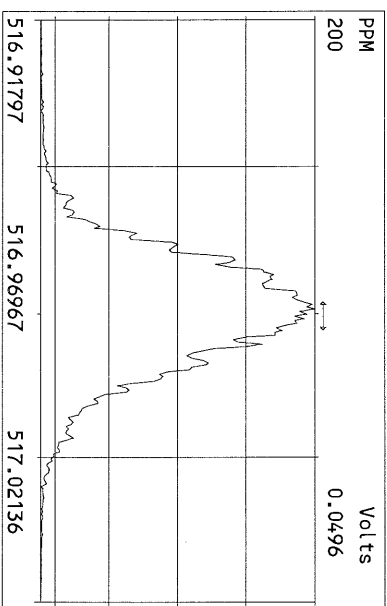
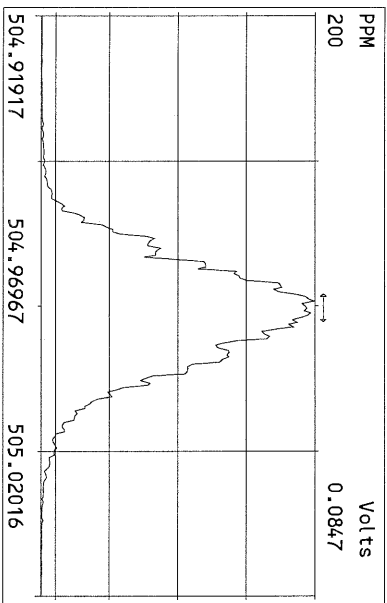
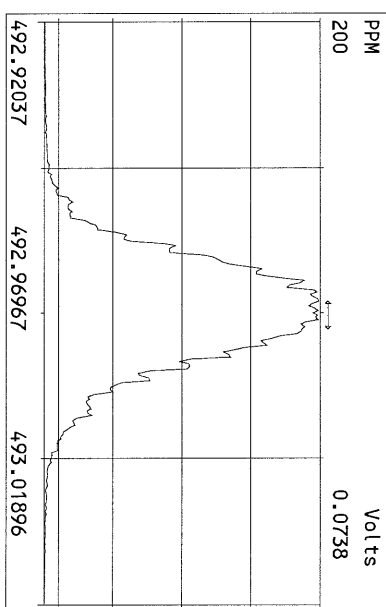
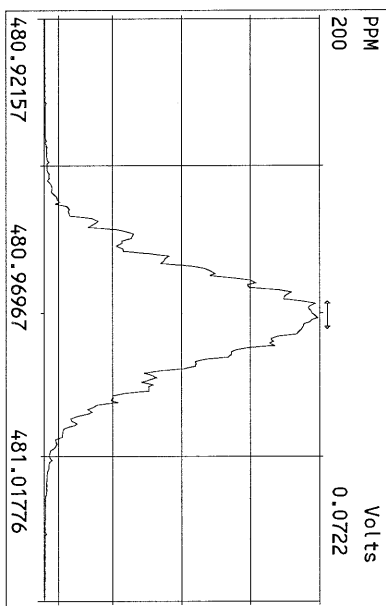
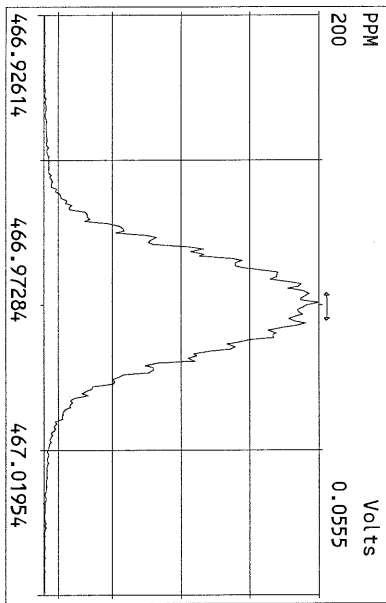
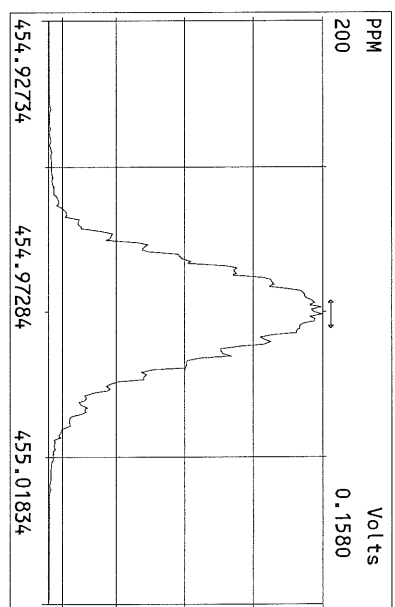
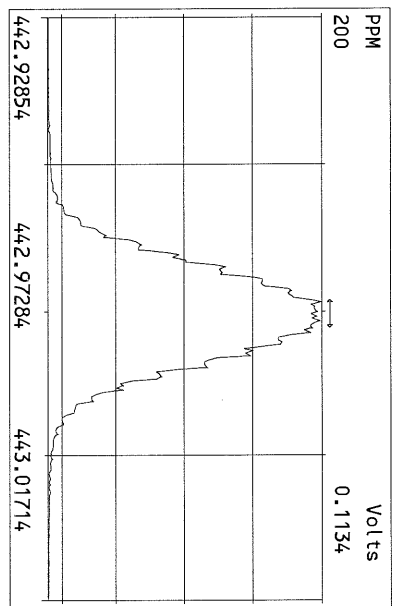
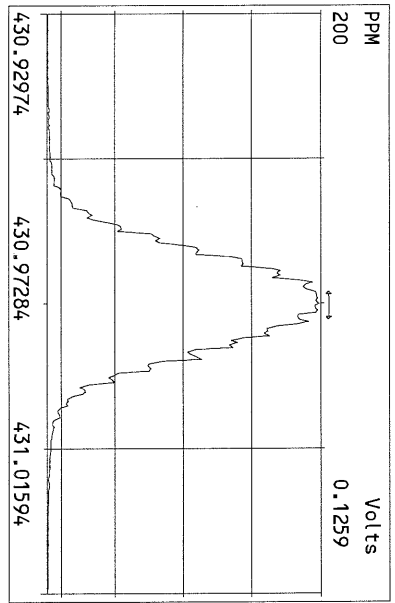












FORM 4A  
 PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:1

Analysis Date: 11-FEB-11 14:29:51

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	y	12.0	7.80 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32-1.78	y	52.0	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	53.3	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	52.5	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	55.1	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.98	0.88-1.20	y	47.6	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	98.3	79.0 - 126
2,3,7,8-TCDF	M/M+2	0.70	0.65-0.89	y	9.71	8.40 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	52.4	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	51.0	41.0 - 60.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	53.5	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	55.7	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	y	54.4	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	y	55.4	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88-1.20	y	51.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.09	0.88-1.20	y	52.3	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	110	63.0 - 159

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

Analyst: Date: 2/11/11

FORM 4B  
 PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Initial Calibration Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

VER Data Filename: 11FEB11M Sam:1

Analysis Date: 11-FEB-11 14:29:51

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	ACCEPT	CONC. FOUND	CONC. RANGE (ng/mL) (3)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	91.9	82.0 - 121
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.72	1.32-1.78	y	109	62.0 - 160
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	97.8	85.0 - 117
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	95.3	85.0 - 118
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	99.3	72.0 - 138
13C-OCDD	M+2/M+4	1.00	0.76-1.02	y	215	96.0 - 415
13C-2,3,7,8-TCDF	M/M+2	0.88	0.65-0.89	y	94.2	71.0 - 140
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.66	1.32-1.78	y	105	76.0 - 130
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.68	1.32-1.78	y	105	77.0 - 130
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	94.1	76.0 - 131
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	88.4	70.0 - 143
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	90.8	73.0 - 137
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	89.6	74.0 - 135
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.47	0.37-0.51	y	91.9	78.0 - 129
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.47	0.37-0.51	y	98.4	77.0 - 129
13C-OCDF	M+2/M+4	0.91	0.76-1.02	y	193	96.0 - 415
CLEANUP STANDARD (4)						
37Cl-2,3,7,8-TCDD					10.1	7.80 - 12.8

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) No ion abundance ratio; report concentration found.

Analyst: 

Date: 2/14/11

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Frontier Analytical Laboratory Episode No.:  
Contract No.: SAS No.:  
Instrument ID: FAL3 Initial Calibration Date: 8/23/10  
RT Window Data Filename: 11FEB11M Sam:1 Analysis Date: 11-FEB-11 Time: 14:29:51  
DB-5 IS Data Filename: 11FEB11M Sam:1 Analysis Date: 11-FEB-11 Time: 14:29:51  
DB-225 IS Data Filename: Analysis Date: Time:

DB-5 RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	24:28	1,3,6,8-TCDF (F)	23:06
1,2,8,9-TCDD (L)	28:27	1,2,8,9-TCDF (L)	28:41
1,2,4,7,9-PeCDD (F)	30:22	1,3,4,6,8-PeCDF (F)	28:31
1,2,3,8,9-PeCDD (L)	33:57	1,2,3,8,9-PeCDF (L)	34:23
1,2,4,6,7,9-HxCDD (F)	36:16	1,2,3,4,6,8-HxCDF (F)	35:23
1,2,3,7,8,9-HxCDD (L)	39:22	1,2,3,7,8,9-HxCDF (L)	39:57
1,2,3,4,6,7,9-HpCDD (F)	42:59	1,2,3,4,6,7,8-HpCDF (F)	42:28
1,2,3,4,6,7,8-HpCDD (L)	44:22	1,2,3,4,7,8,9-HpCDF (L)	45:18

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

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

Analyst: 

Date: 2/14/11



## USEPA - ITD

## FORM 6A

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5


Analysis Date: 11-FEB-11 14:29:51

CS3 or VER Data Filename: 11FEB11M

Sam:1

NATIVE ANALYTES	RETENTION TIME		RRT	RRT
	REFERENCE			QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD		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-PeCDD	13C-1,2,3,7,8-PeCDD		1.001	0.999-1.002
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF		1.001	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF		1.001	0.999-1.002
LABELED COMPOUNDS				
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD		1.023	0.989-1.052
13C-2,3,7,8-TCDD			1.022	0.976-1.043
13C-2,3,7,8-TCDF			0.994	0.923-1.103
13C-1,2,3,7,8-PeCDD			1.239	1.000-1.567
13C-1,2,3,7,8-PeCDF			1.175	0.923-1.203
13C-2,3,4,7,8-PeCDF			1.225	0.923-1.303

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

## USEPA - ITD

FORM 6B

## PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Frontier Analytical Laboratory

Episode No.:

Contract No.:

SAS No.:

Init. Cal. Date: 8/23/10

Instrument ID: FAL3

GC Column ID: DB5

Analysis Date: 11-FEB-11 14:29:51

CS3 or VER Data Filename: 11FEB11M

Sam:1


NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
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	1.001	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.012	1.000-1.019
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	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
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.001	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001
LABELED COMPOUNDS			
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,7,8,9-HxCDD	0.984	0.977-1.000
13C-1,2,3,6,7,8-HxCDD		0.988	0.981-1.003
13C-1,2,3,4,7,8-HxCDF		0.949	0.944-0.970
13C-1,2,3,6,7,8-HxCDF		0.954	0.949-0.975
13C-2,3,4,6,7,8-HxCDF		0.978	0.959-1.021
13C-1,2,3,7,8,9-HxCDF		1.014	0.977-1.047
13C-1,2,3,4,6,7,8-HpCDD		1.127	1.086-1.130
13C-1,2,3,4,6,7,8-HpCDF		1.079	1.043-1.085
13C-1,2,3,4,7,8,9-HpCDF		1.151	1.057-1.154
13C-OCDD		1.269	1.032-1.311
13C-OCDF		1.279	1.000-1.311

(1) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

Analyst: Date: 

Name	Resp	RA	RT	RRF	Conc	Qual	Fac Noise-1	Noise-2	DL	Rec	#Hom
2,3,7,8-TCDD	2.79e+06	0.80 y	27:30	1.11	12.0		2.50	-	-	*	
1,2,3,7,8-PeCDD	1.17e+07	1.53 y	33:21	1.10	52.0		2.50	-	-	*	
1,2,3,4,7,8-HxCDD	1.19e+07	1.27 y	38:45	1.37	53.3		2.50	-	-	*	
1,2,3,6,7,8-HxCDD	1.08e+07	1.29 y	38:55	1.37	52.5		2.50	-	-	*	
1,2,3,7,8,9-HxCDD	1.17e+07	1.26 y	39:22	1.36	55.1		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDD	9.12e+06	0.98 y	44:22	1.45	47.6		2.50	-	-	*	
OCDD	1.29e+07	0.89 y	49:59	1.43	98.3		2.50	-	-	*	
2,3,7,8-TCDF	5.11e+06	0.70 y	26:45	1.50	9.71		2.50	-	-	*	
1,2,3,7,8-PeCDF	1.62e+07	1.53 y	31:38	0.94	52.4		2.50	-	-	*	
2,3,4,7,8-PeCDF	1.52e+07	1.53 y	32:57	0.94	51.0		2.50	-	-	*	
1,2,3,4,7,8-HxCDF	1.34e+07	1.24 y	37:21	0.93	53.5		2.50	-	-	*	
1,2,3,6,7,8-HxCDF	1.59e+07	1.25 y	37:33	0.82	55.7		2.50	-	-	*	
2,3,4,6,7,8-HxCDF	1.42e+07	1.26 y	38:31	0.92	54.4		2.50	-	-	*	
1,2,3,7,8,9-HxCDF	1.56e+07	1.24 y	39:57	1.00	55.4		2.50	-	-	*	
1,2,3,4,6,7,8-HpCDF	1.12e+07	1.06 y	42:28	1.39	51.1		2.50	-	-	*	
1,2,3,4,7,8,9-HpCDF	8.69e+06	1.09 y	45:18	1.36	52.3		2.50	-	-	*	
OCDF	1.40e+07	0.90 y	50:21	0.79	110		2.50	-	-	*	
13C-2,3,7,8-TCDD	2.09e+07	0.79 y	27:29	1.02	91.9					91.9	
13C-1,2,3,7,8-PeCDD	2.05e+07	1.72 y	33:20	0.84	109					109	
13C-1,2,3,4,7,8-HxCDD	1.63e+07	1.26 y	38:43	1.07	97.8					97.8	
13C-1,2,3,6,7,8-HxCDD	1.50e+07	1.26 y	38:53	1.01	95.3					95.3	
13C-1,2,3,4,6,7,8-HpCDD	1.32e+07	1.05 y	44:21	0.86	99.3					99.3	
13C-OCDD	1.82e+07	1.00 y	49:57	0.55	215					108	
13C-2,3,7,8-TCDF	3.50e+07	0.88 y	26:44	0.99	94.2					94.2	
13C-1,2,3,7,8-PeCDF	3.27e+07	1.66 y	31:36	0.84	105					105	
13C-2,3,4,7,8-PeCDF	3.19e+07	1.68 y	32:56	0.81	105					105	
13C-1,2,3,4,7,8-HxCDF	2.70e+07	0.51 y	37:19	1.85	94.1					94.1	
13C-1,2,3,6,7,8-HxCDF	3.47e+07	0.51 y	37:32	2.54	88.4					88.4	
13C-2,3,4,6,7,8-HxCDF	2.83e+07	0.52 y	38:29	2.01	90.8					90.8	
13C-1,2,3,7,8,9-HxCDF	2.82e+07	0.52 y	39:55	2.03	89.6					89.6	
13C-1,2,3,4,6,7,8-HpCDF	1.58e+07	0.47 y	42:27	1.11	91.9					91.9	
13C-1,2,3,4,7,8,9-HpCDF	1.23e+07	0.47 y	45:17	0.80	98.4					98.4	
13C-OCDF	3.25e+07	0.91 y	50:20	1.08	193					96.7	
37Cl-2,3,7,8-TCDD	1.53e+06		27:30	0.69	10.1						101
13C-1,2,3,4-TCDD	2.22e+07	0.80 y	26:54	-	49.5						
13C-1,2,3,4-TCDF	3.74e+07	0.88 y	25:38	-	51.7						
13C-1,2,3,7,8,9-HxCDD	1.55e+07	1.32 y	39:21	-	56.2						
Total Tetra-Dioxins	1.46e+07		22:54	1.11	63.0		2.50	-	-	*	32
Total Penta-Dioxins	2.61e+07		30:22	1.10	116		2.50	-	-	*	9
Total Hexa-Dioxins	3.98e+07		36:16	1.37	186		2.50	-	-	*	21
Total Hepta-Dioxins	1.97e+07		42:59	1.45	103		2.50	-	-	*	26
Total Tetra-Furans	2.47e+07		23:06	1.50	47.0		2.50	-	-	*	29
1st Fn. Tot Penta-Furans	1.69e+07		28:31	0.94	55.8		2.50	-	-	*	PeCDF 5
Total Penta-Furans	4.58e+07		30:09	0.94	151		2.50	-	-	*	207 15
Total Hexa-Furans	6.98e+07		35:23	0.91	259		2.50	-	-	*	28
Total Hepta-Furans	2.11e+07		42:28	1.38	110		2.50	-	-	*	34

Analyst: 

Date: 

Frontier Analytical Laboratory - Acquisition Log

Run Name:11FEB11M

Instrument: FAL3

GC: DB5

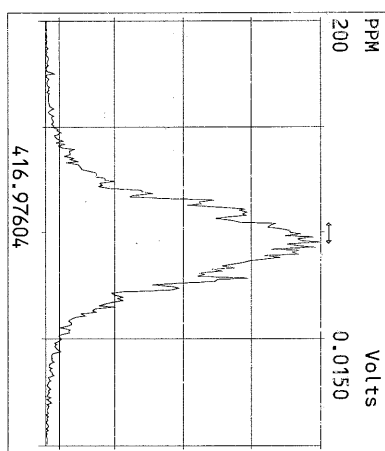
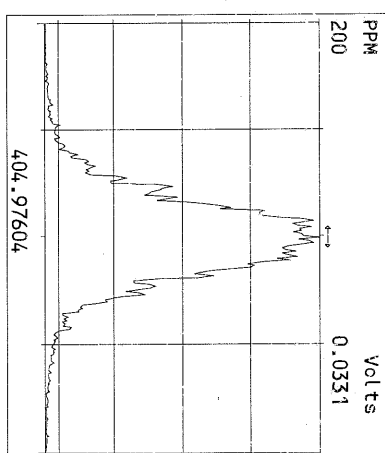
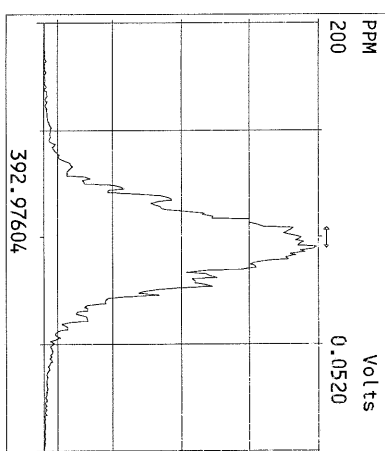
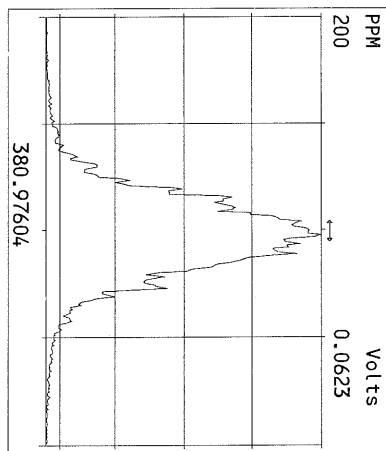
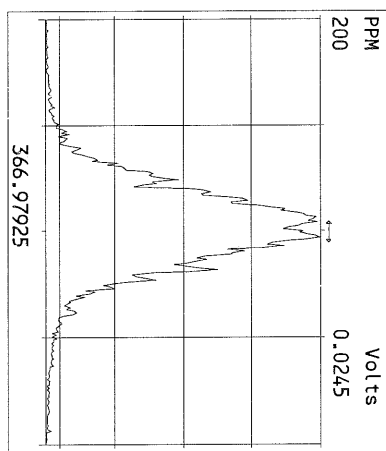
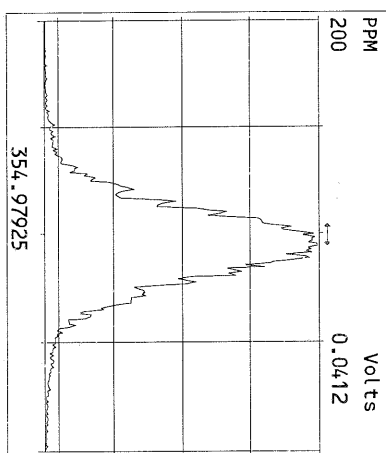
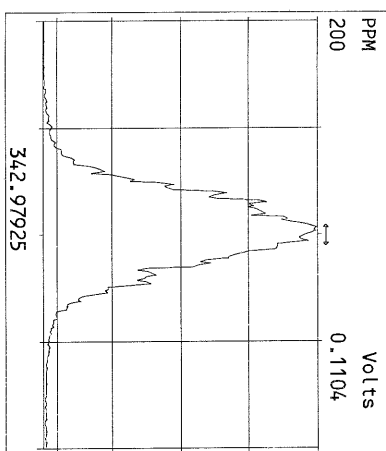
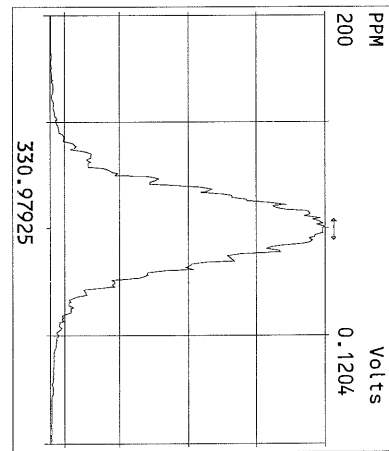
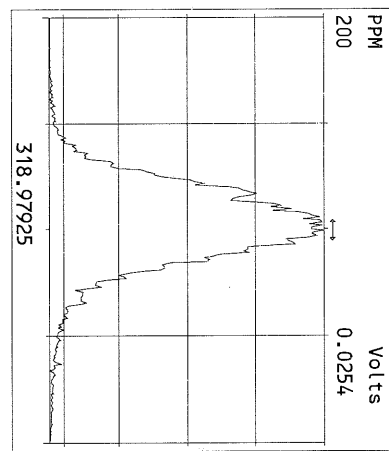
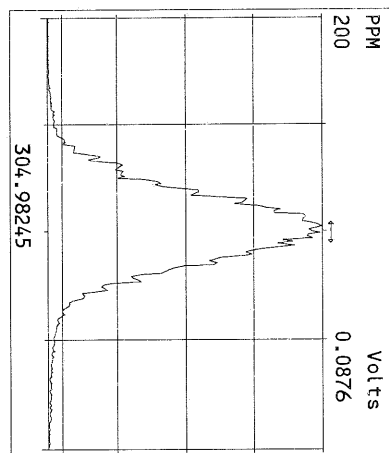
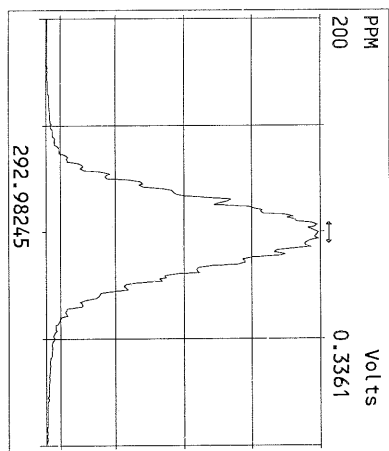
Experiment:OCDD

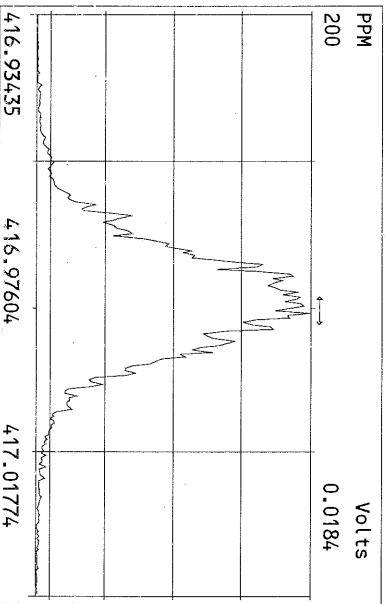
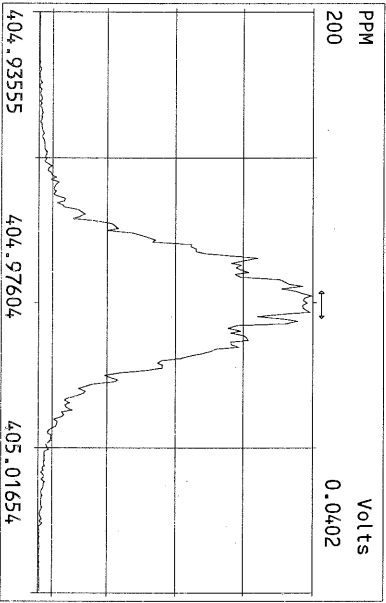
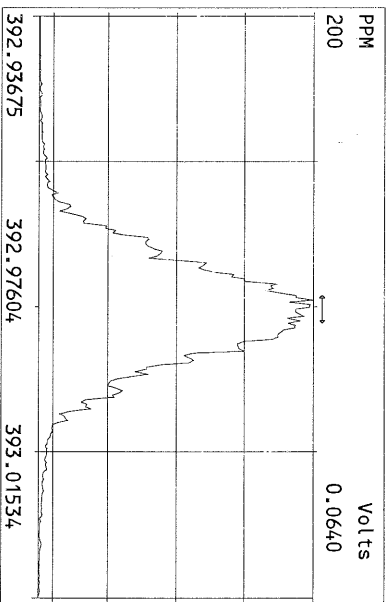
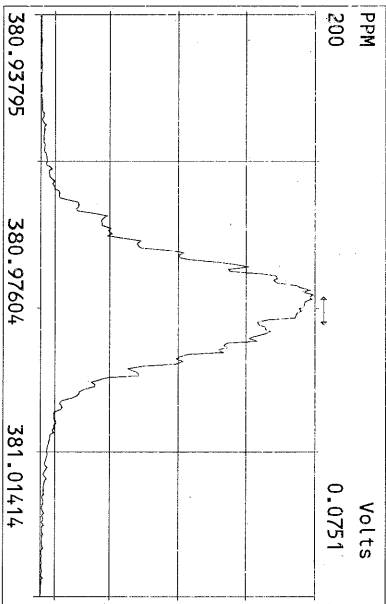
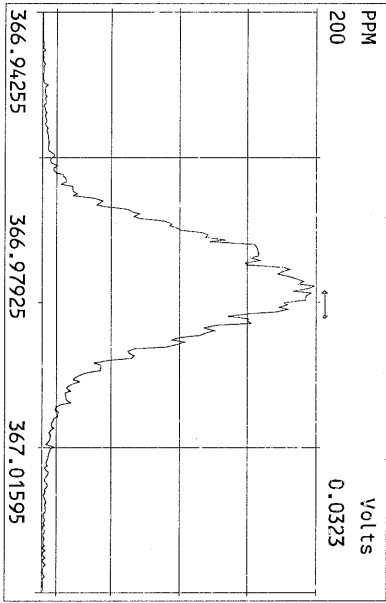
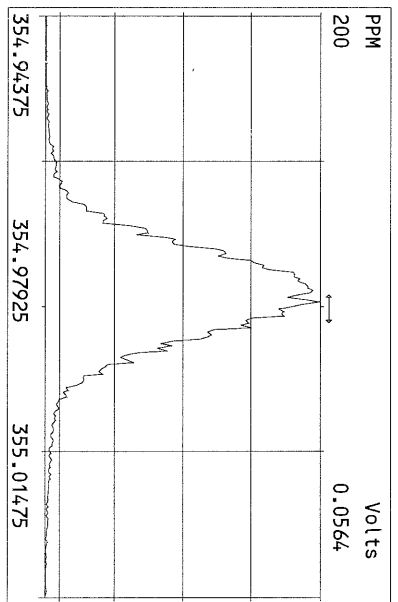
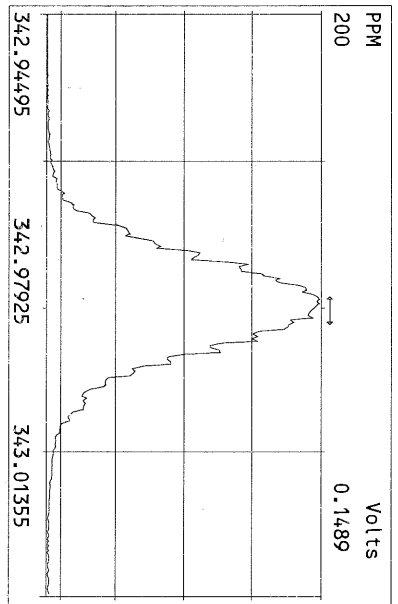
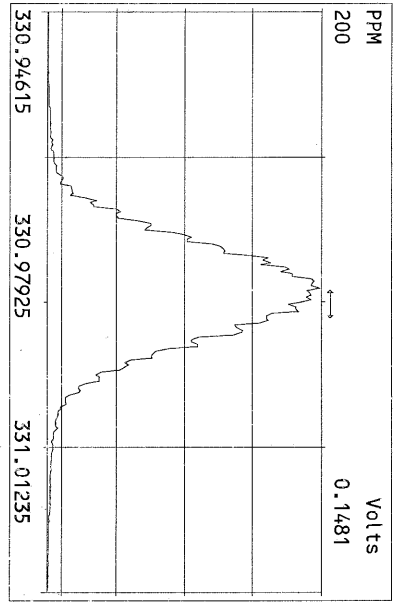
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11FEB11M	7	SB021111M1	Solvent Blank	11-FEB-11 20:03:05	ST021111M1	ST021111M2	TC
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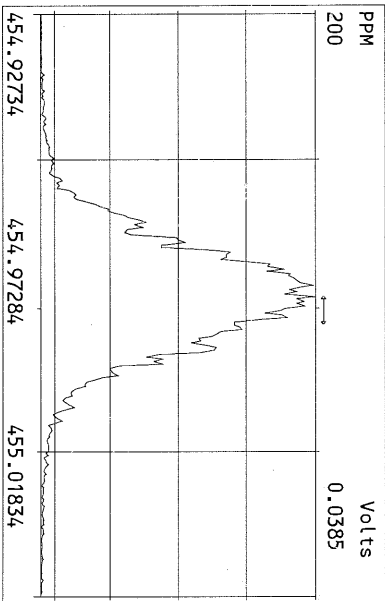
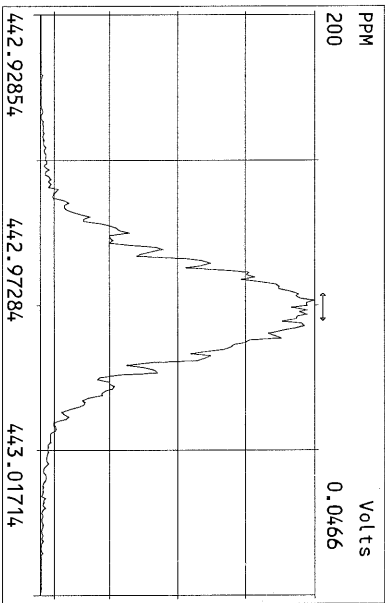
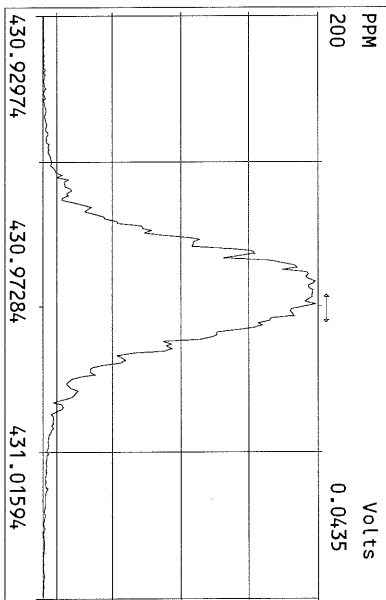
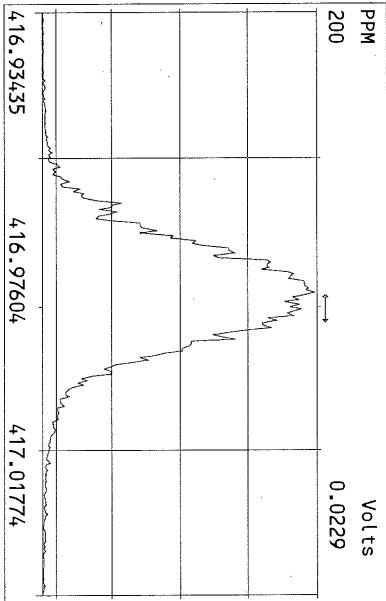
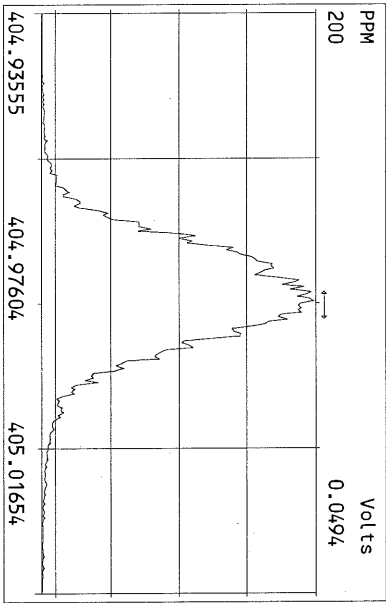
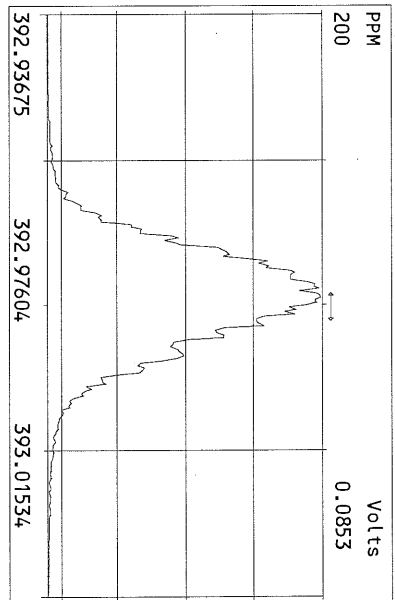
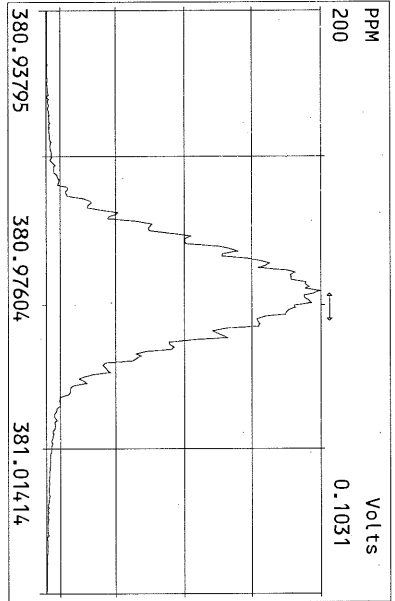
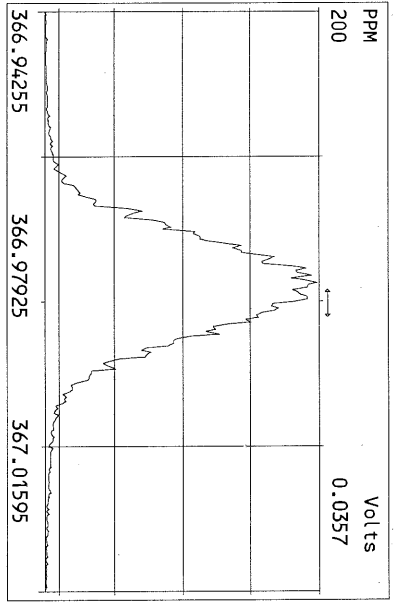
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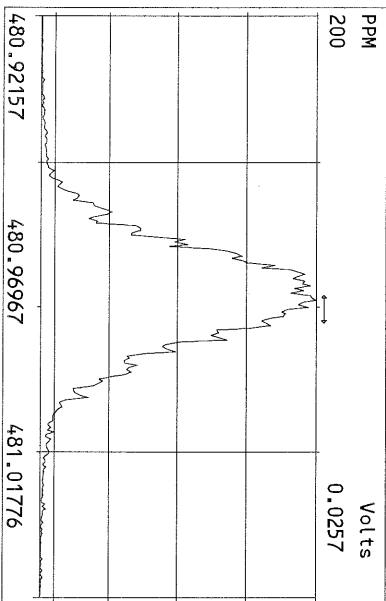
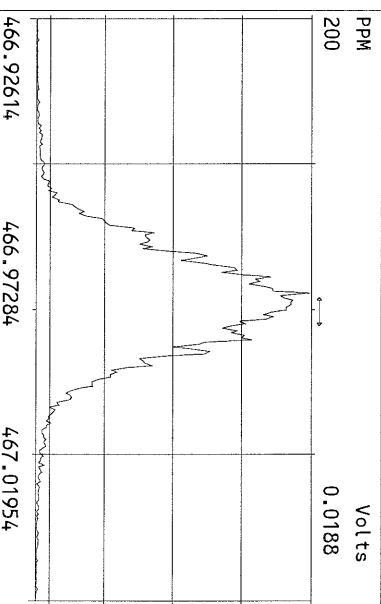
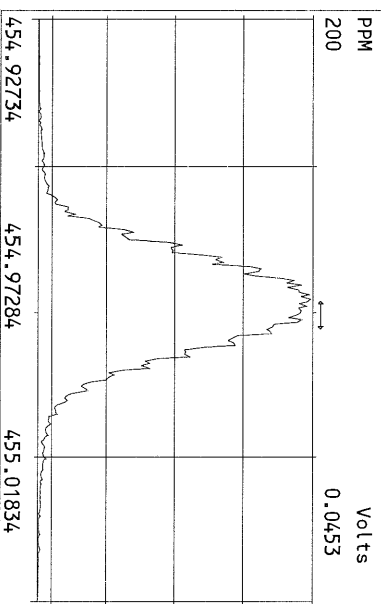
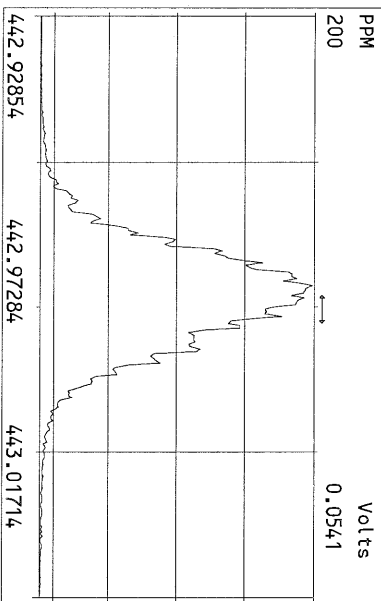
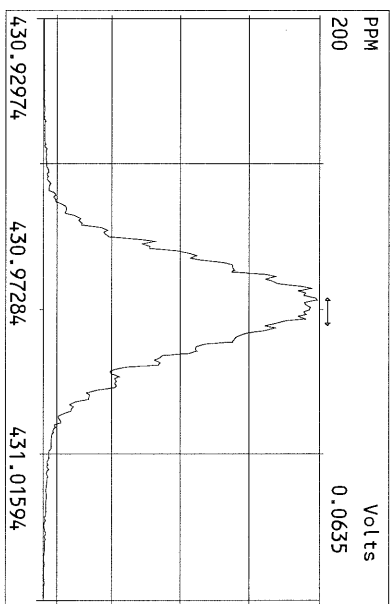
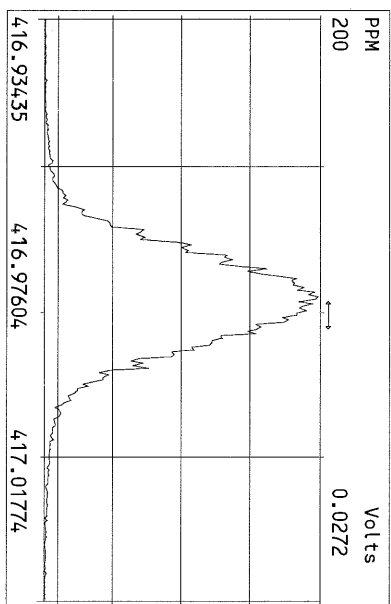
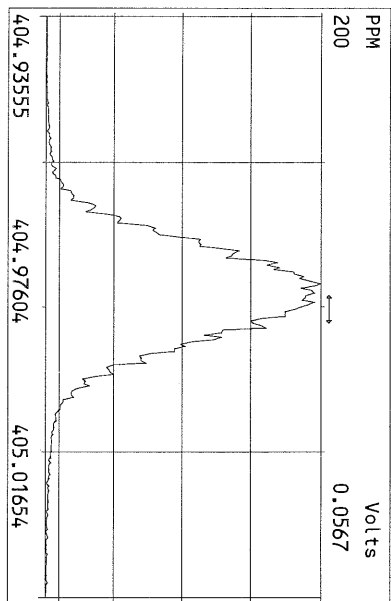
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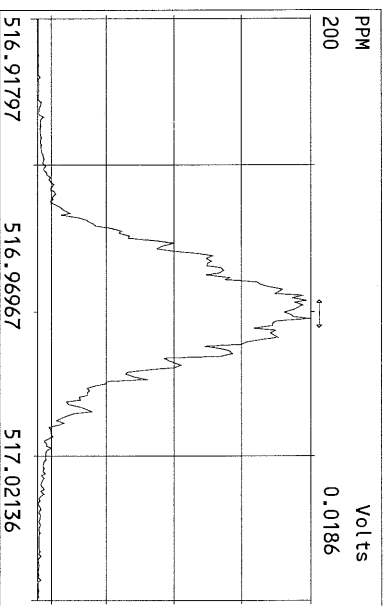
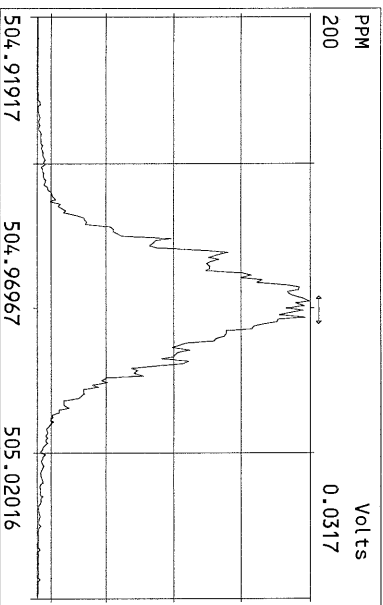
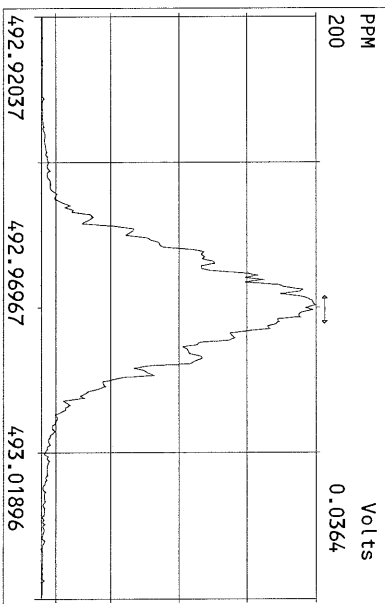
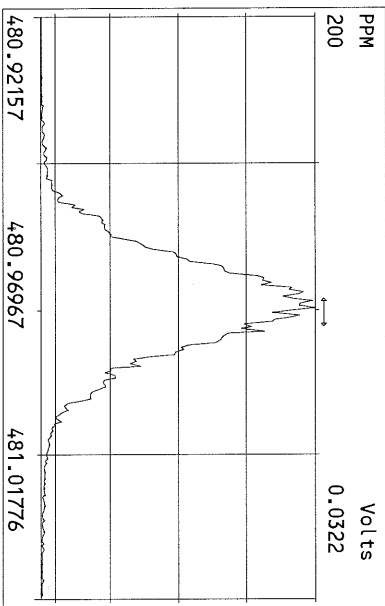
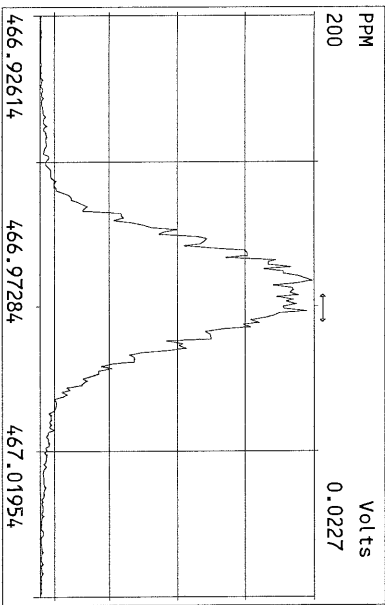
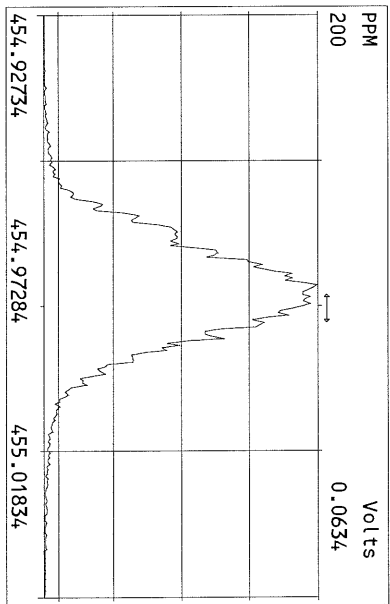
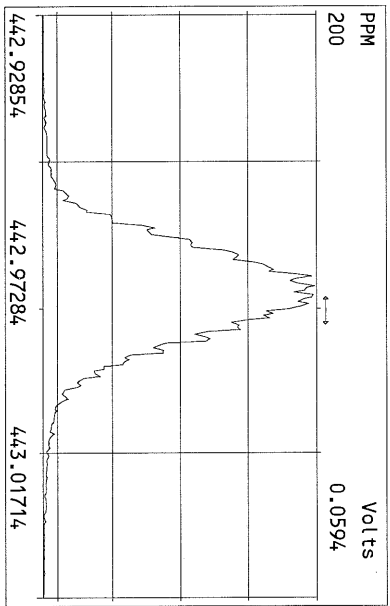
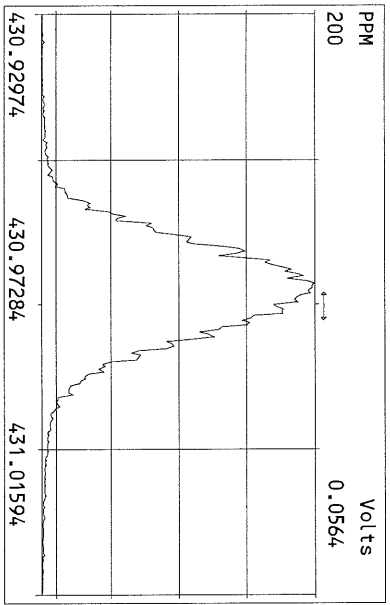




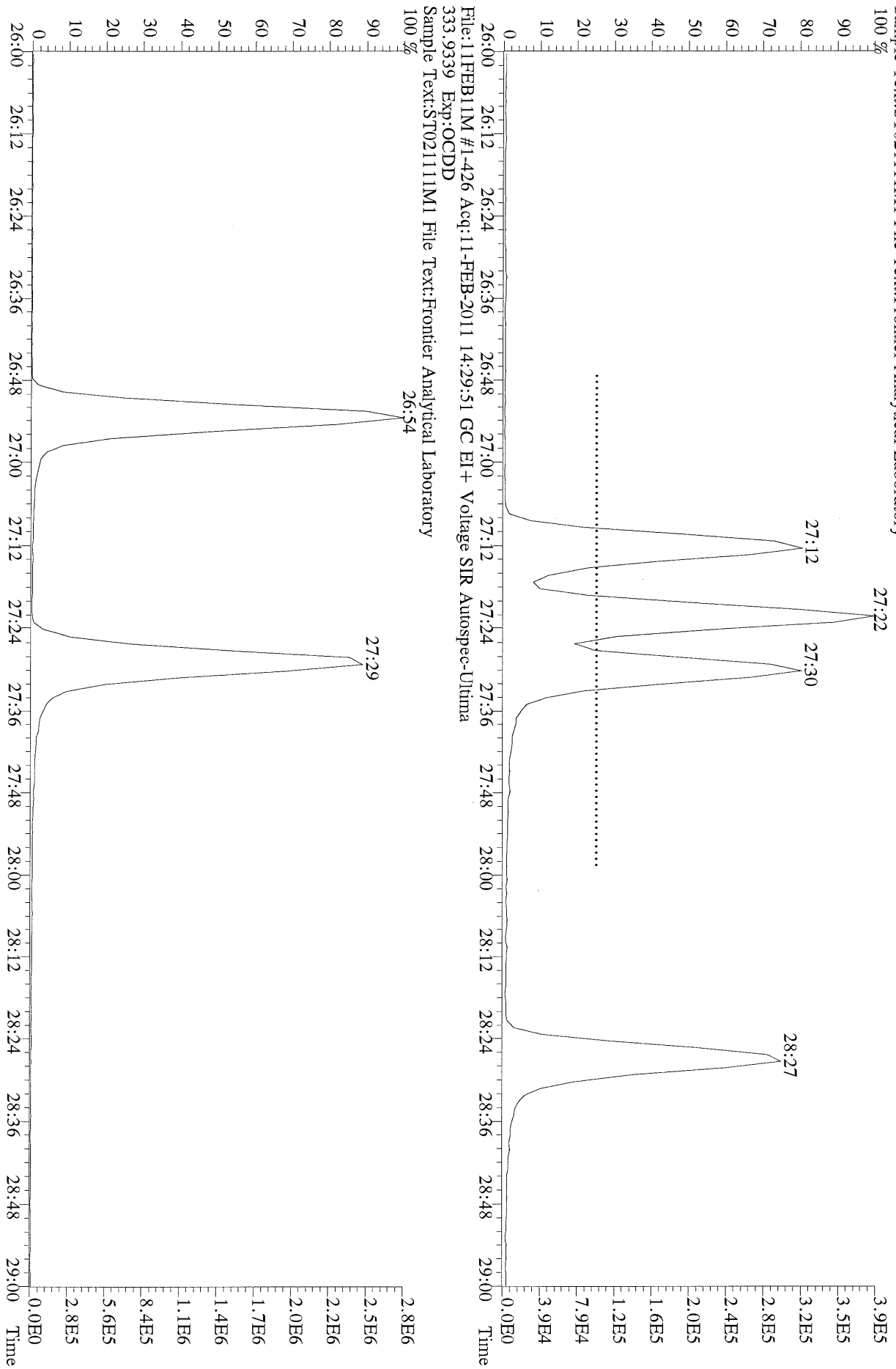
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Experiment:OCD Function:4 Reference:PFK



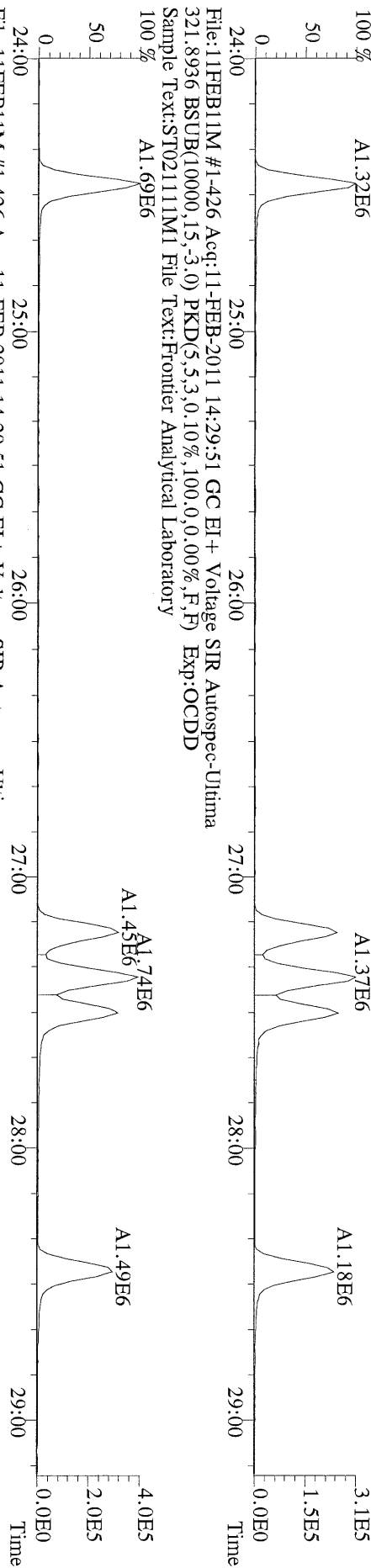




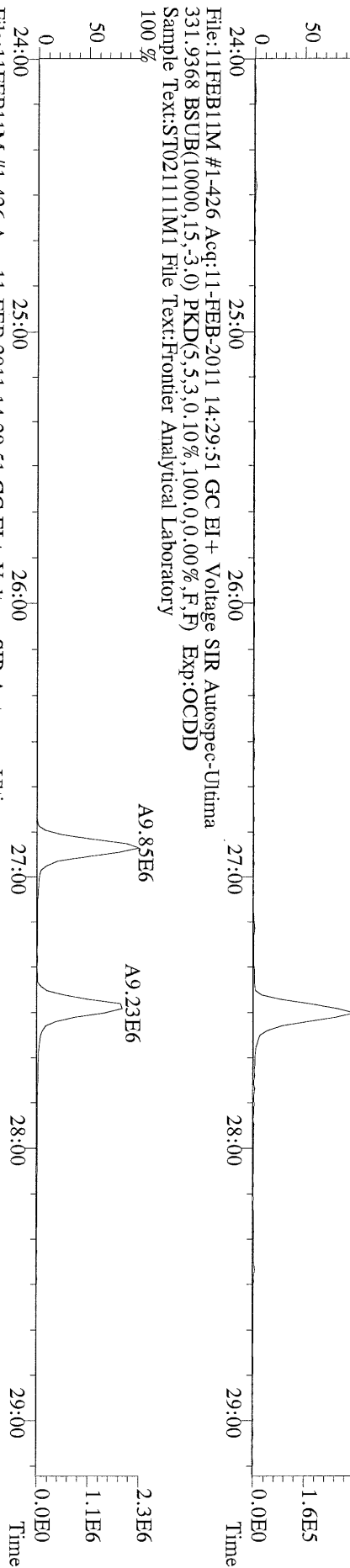
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321.8936 Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



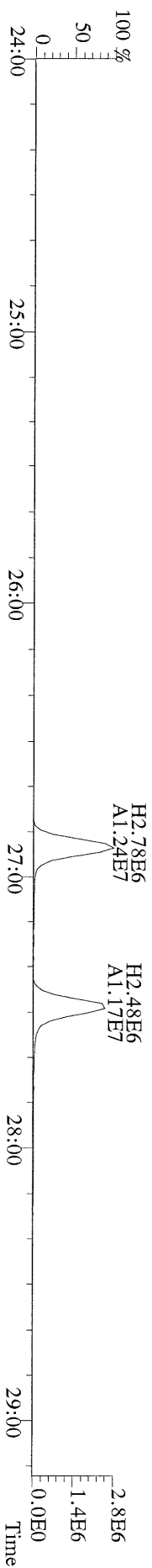
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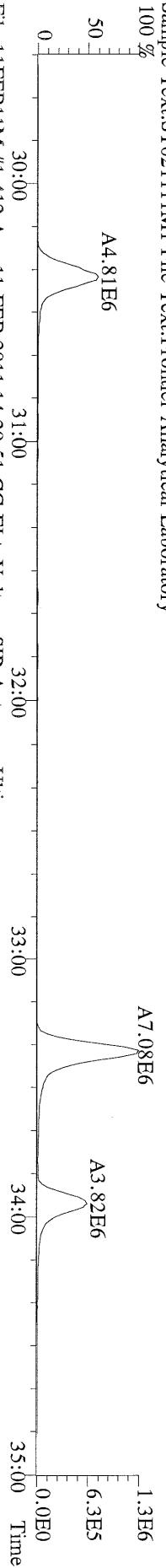
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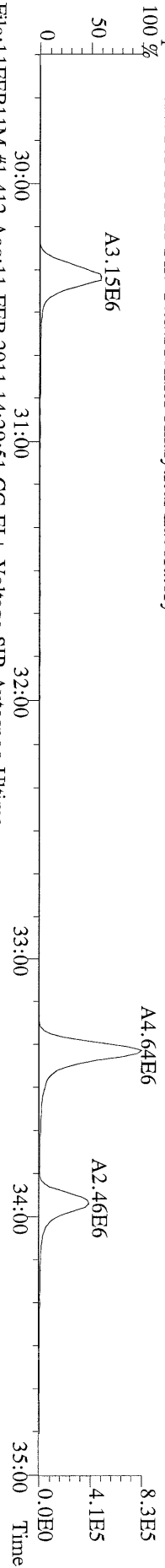
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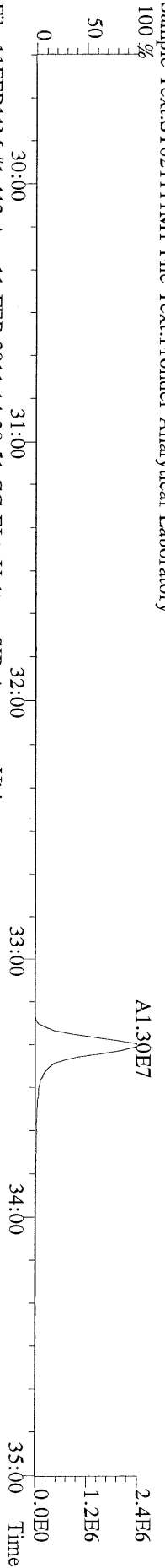
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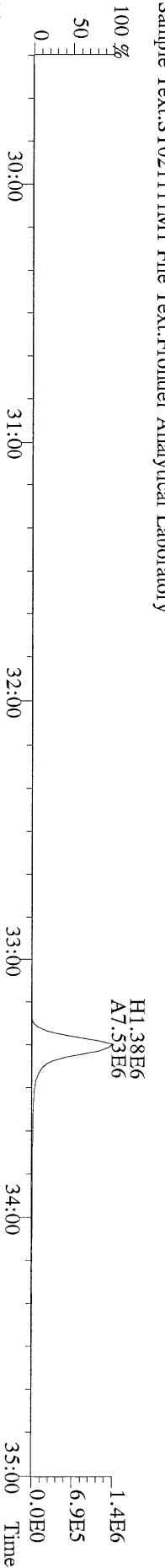
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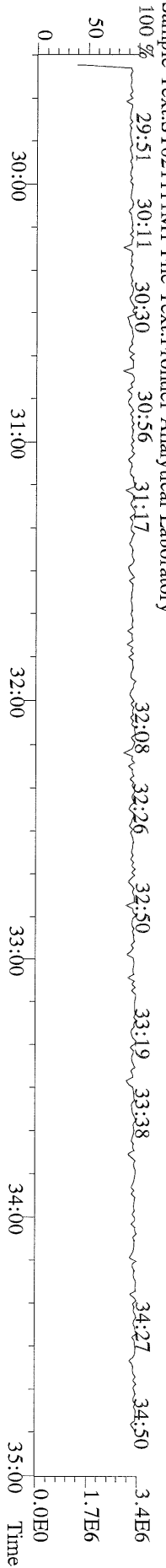
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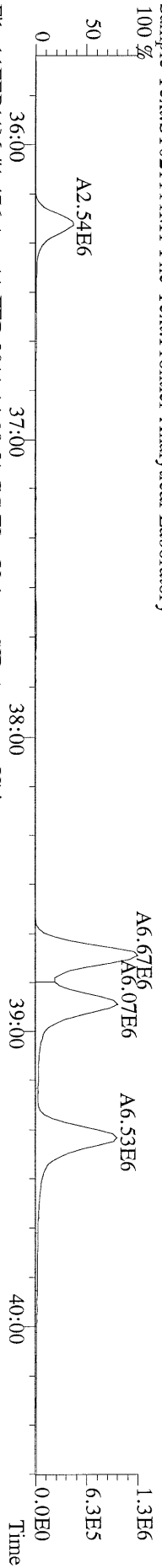
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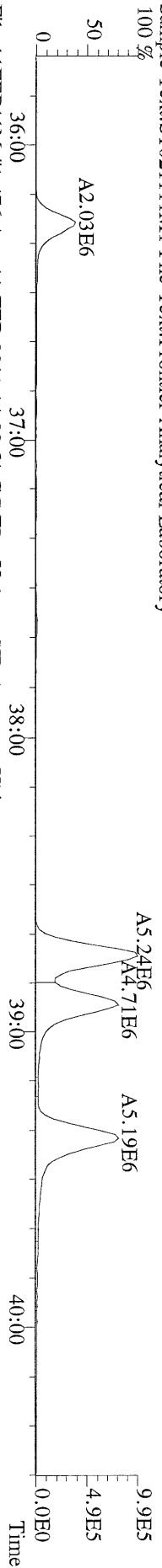
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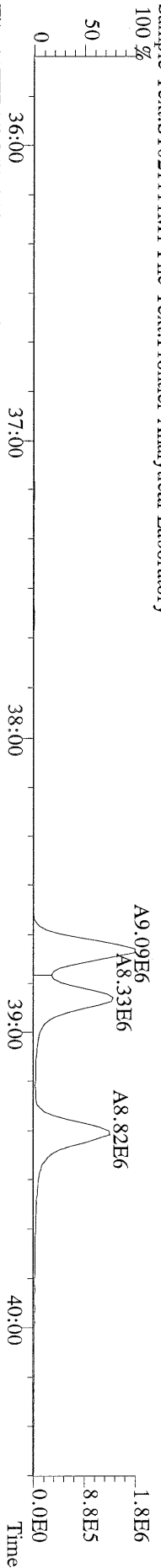
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389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



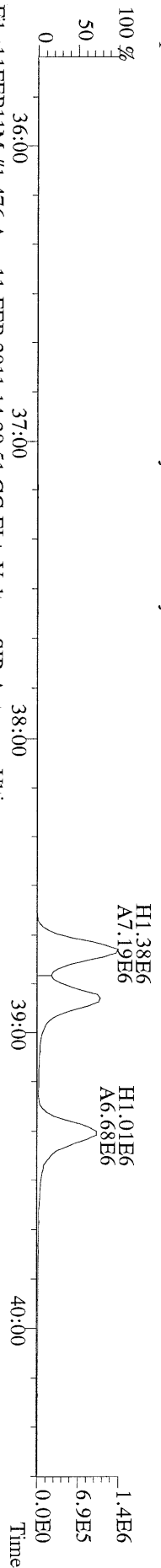
File: 11FEB11M #1-476 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



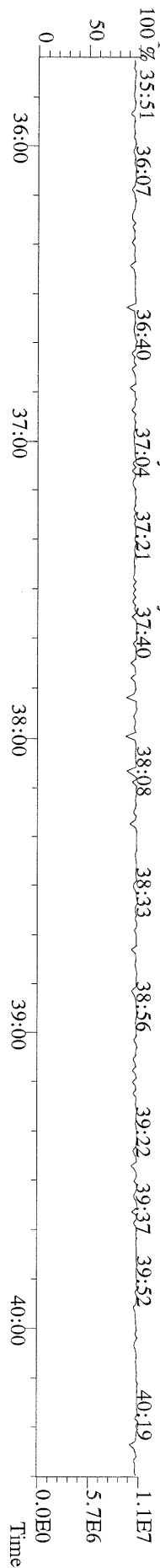
File: 11FEB11M #1-476 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory



File: 11FEB11M #1-476 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0,0.00%,F,F) Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory

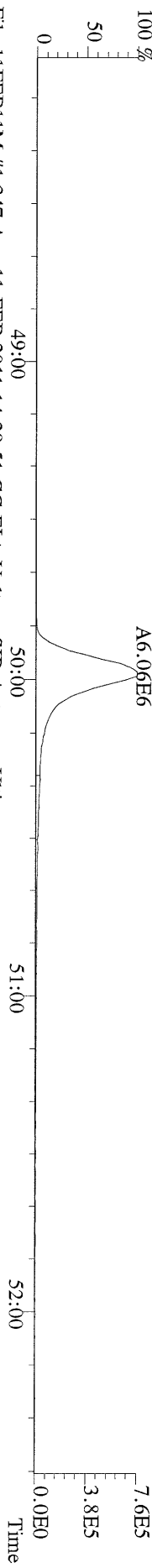


File: 11FEB11M #1-476 Acq: 11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
380.9760 F:3 Exp: OCDD  
Sample Text: ST021111M1 File Text: Frontier Analytical Laboratory

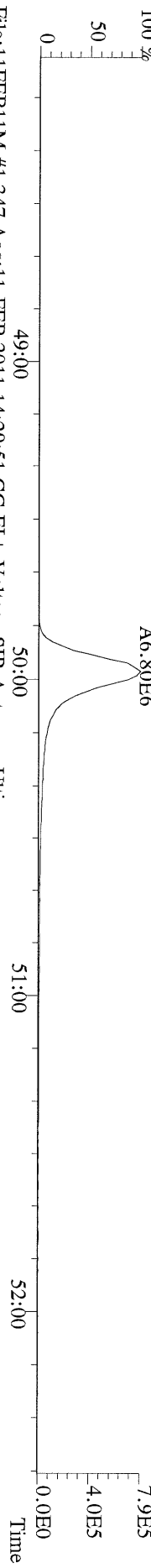




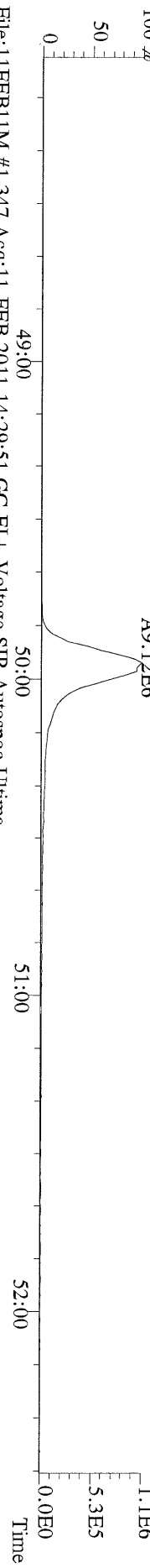
File:11FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



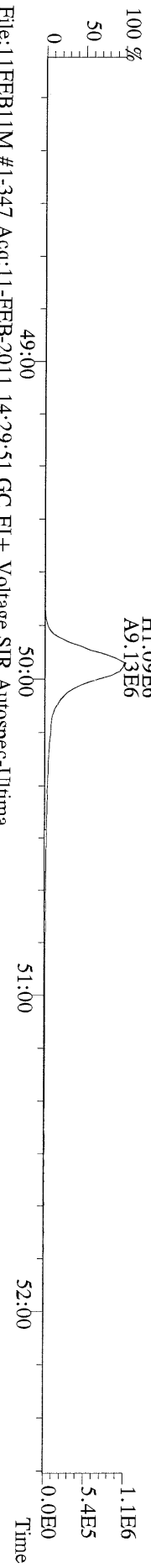
File:11FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



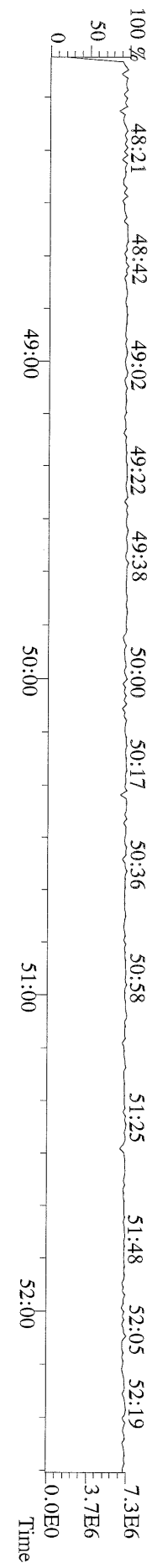
File:11FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



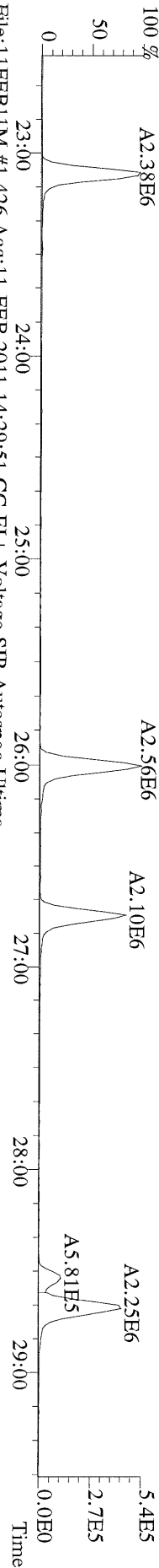
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471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3.0,10%,100,0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



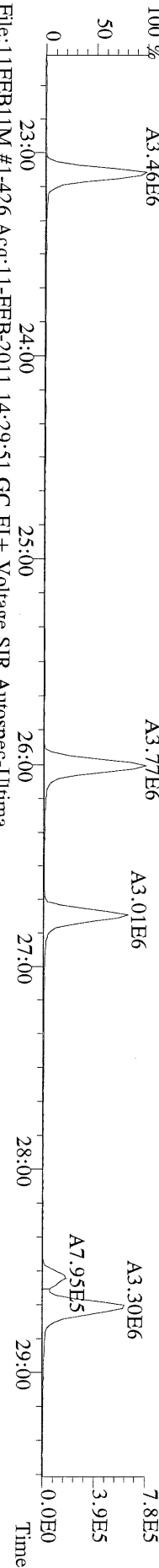
File:11FEB11M #1-347 Acq:11-FEB-2011 14:29:51 GC EI + Voltage SIR Autospec-Ultima  
454.9728 F:5 Exp:OCDD  
Sample Text:ST021111M1 File Text:Fronier Analytical Laboratory



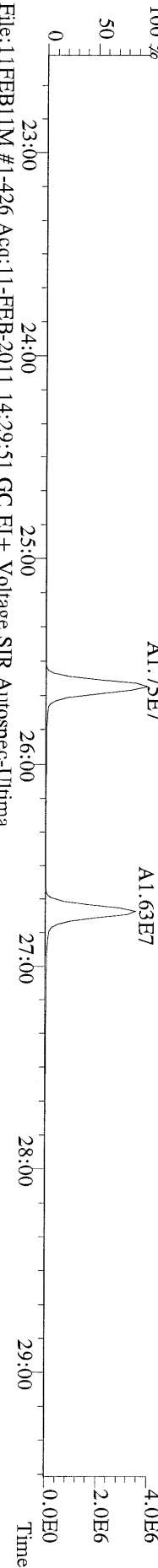
File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
303.9016 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



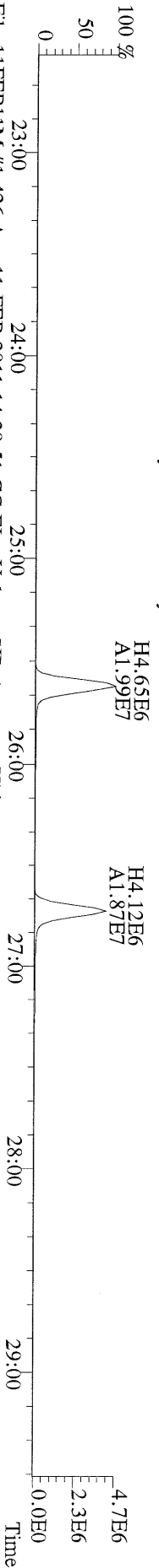
File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
305.8987 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
315.9419 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
317.9389 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory



File:11FEB11M #1-426 Acq:11-FEB-2011 14:29:51 GC EI+ Voltage SIR Autospec-Ultima  
375.8364 BSUB(10000,15,-3.0) PKD(5,5.3,0.10%,100.0,0.00%,F,F) Exp:OCDD  
Sample Text:ST021111M1 File Text:Frontier Analytical Laboratory

