



AR226-1776d

Analytical Report

Air Sampling Fluorochemical Report

DuPont Washington Works – Air Sampling Program Round 7

Exygen Research Report No. L0001444

Testing Laboratory

Exygen Research
3058 Research Drive
State College, PA 16801

Requester

Michael D Aucoin
URS Corporation
Barley Mill Plaza
Building 27 Room 1260
Lancaster Pike and Rt 141
Wilmington, DE 19805

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2004 MAY 29 AM 9:00

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

Summary

Seven solid media samples were received by Centre Analytical Laboratories, Inc. (dba Exygen Research) (Exygen) from DuPont Corporation. The media represent samples of air collected on OVS tubes. Please see Table 1 for a completed listing of samples received and field air volumes collected. Sample WWK-A-AMS3-E7 had sampler problems during collection. No results are reported for this sample.

The samples were analyzed for Perfluorooctanoic Acid (C8 Acid) using liquid chromatography / mass spectrometry (LCMS). The method employed is entitled "Method of Analysis for the Determination of Perfluorooctanoic Acid (PFOA) in OVS Airtubes by LCMS" (James Miller Exygen Research, February 17, 2003).

The OVS tubes were separated into three fractions for specific fluorochemical analysis. Fraction A consisted of the filter, backing material and plastic ring. Fraction B contained the first bed of XAD resin and the PUF backing. Fraction C contained the second bed of XAD resin and PUF backing. Fractions A and B were extracted with 1 mL of methanol. Fraction C was not analyzed but saved for possible future analysis. Perfluorodecanoic Acid (C10 Acid) was added as a surrogate spike to each fraction prior to extraction.

Instrument operating conditions can be found at the beginning of each analytical run. Raw instrument data is given in Appendix A. Chain-of-custody information can be found in Appendix B.

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Results Summary

Request #	Air Volume Sampled (L)	C8 Acid (mg/m3)
WWK-A-AMS1-E7 A	1356	0.0003
WWK-A-AMS1-E7 B	1356	< 0.00007
WWK-A-AMS1-E7 C	1356	NA
WWK-A-AMS1-E7 (Total)		0.0003
WWK-A-AMS2-E7 A	1490	0.0003
WWK-A-AMS2-E7 B	1490	< 0.00007
WWK-A-AMS2-E7 C	1490	NA
WWK-A-AMS2-E7 (Total)		0.0003
WWK-A-AMS4-E7 A	1652	< 0.00006
WWK-A-AMS4-E7 B	1652	< 0.00006
WWK-A-AMS4-E7 C	1652	NA
WWK-A-AMS4-E7 (Total)		< 0.00012
WWK-A-AMS5-E7 A	1530	< 0.00007
WWK-A-AMS5-E7 B	1530	< 0.00007
WWK-A-AMS5-E7 C	1530	NA
WWK-A-AMS5-E7 (Total)		< 0.00014
WWK-A-AMS6-E7 A	1539	< 0.00006
WWK-A-AMS6-E7 B	1539	< 0.00006
WWK-A-AMS6-E7 C	1539	NA
WWK-A-AMS6-E7 (Total)		< 0.00012

NA – Not Analyzed. B fraction was below the quantitation limit, therefore the backup fraction does not require analysis.

1. “<” is defined as not detected at or above the reported level.
2. Sample results have not been corrected for blank results or control spike recoveries.
3. Please note the following descriptions of the OVS sample tube fractions:

Fraction	Fraction Description
A	Frit Extract
B	1st set beads extract
C	2nd set beads extract (not analyzed)

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QC Data

LCS

Please note: One control sample was spiked with each perfluorooctanoic acid to give a final concentration of 500 ppb. Air was pulled through the tube at a rate of 1-liter per minute for one hour (60 liters of air). The fractions were separated and analyzed. The acceptable range for control recovery is 75-125%.

Request #	C8 Acid (amount spiked - ppb)	C8 Acid (amount recovered -- ppb)	C8 Acid (percent recovery)
Control 1	500	397	79

Blanks

Request #	Vol. Of Air (L)	C8 Acid (ug/fraction)
WWK-A-AMSFBLK-E7 A	0	< 0.10
WWK-A-AMSFBLK-E7 B	0	< 0.10

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Surrogates

A surrogate spike (C10 Acid) was added to all OVS tubes to give a final concentration of 500 ppb in the extract. Surrogate spike recoveries are given in the following table. There are no set criteria for surrogate spike recoveries. Advisory ranges are 75-125%.

Sample #	Amount Spiked (ppb)	Amount Recovered (ppb)	Percent Recovery (%)
WWK-A-AMSFBLK-E7 A	500	639	128*
WWK-A-AMSFBLK-E7 B	500	353	71*
WWK-A-AMS1-E7 A	500	530	106
WWK-A-AMS1-E7 B	500	374	75
WWK-A-AMS2-E7 A	500	603	121
WWK-A-AMS2-E7 B	500	382	76
WWK-A-AMS4-E7 A	500	511	102
WWK-A-AMS4-E7 B	500	462	92
WWK-A-AMS5-E7 A	500	596	119
WWK-A-AMS5-E7 B	500	417	83
WWK-A-AMS6-E7 A	500	566	113
WWK-A-AMS6-E7 B	500	373	75
Control Spike A	500	453	91
Control Spike B	500	347	69*

* Surrogate recovery outside of advisory range.

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Calculations

Request #	Vol. Of Air (L)	C8 Acid (raw-ppb)	C8 Acid (ug/fraction)	C8 Acid (mg/m3)
WWK-A-AMSFBLK-E7 A	0	< 10	< 0.10	
WWK-A-AMSFBLK-E7 B	0	< 10	< 0.10	
WWK-A-AMS1-E7 A	1356	429	0.43	0.0003
WWK-A-AMS1-E7 B	1356	< 10	< 0.10	< 0.00007
WWK-A-AMS2-E7 A	1490	426	0.43	0.0003
WWK-A-AMS2-E7 B	1490	< 10	< 0.10	< 0.00007
WWK-A-AMS4-E7 A	1652	< 10	< 0.10	< 0.00006
WWK-A-AMS4-E7 B	1652	< 10	< 0.10	< 0.00006
WWK-A-AMS5-E7 A	1530	< 10	< 0.10	< 0.00007
WWK-A-AMS5-E7 B	1530	< 10	< 0.10	< 0.00007
WWK-A-AMS6-E7 A	1539	< 10	< 0.10	< 0.00006
WWK-A-AMS6-E7 B	1539	< 10	< 0.10	< 0.00006
Control Spike A	0	397	0.40	
Control Spike B	0	< 10	< 0.10	

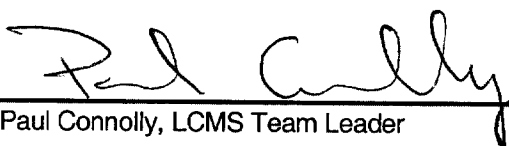
ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

Example Calculation

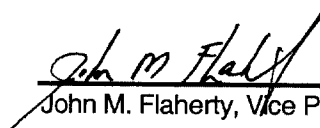
For sample WWK-A-AMS2-E7 A C8 Acid,

$$\begin{aligned} &= [426 \text{ ng/ml of C8 Acid} \times (1\text{ml}) \times (1 \text{ ug} / 1000 \text{ ng}) \times (1 \text{ mg} / 1000 \text{ ug})] / [(1490 \text{ L}) \times (1 \text{ m}^3 / 1000 \text{ L})] \\ &= 0.0003 \text{ mg} / \text{m}^3 \end{aligned}$$

Signatures


Paul Connolly, LCMS Team Leader

2/25/04
Date


John M. Flaherty, Vice President

2/25/04
Date

Other Lab Members Contributing to Data

James Miller

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

Table 1. Login Information / Field Data

Sample ID	Oxygen Lab ID	Date Received	Description	Air Volume Sampled (L)
WWK-A-AMSFBLK-E7 A	L0001444-1	12/12/03	Frit extract	0
WWK-A-AMSFBLK-E7 B	L0001444-2	12/12/03	1st set beads extract	0
WWK-A-AMSFBLK-E7 C	L0001444-3	12/12/03	2nd set beads extract	0
WWK-A-AMS1-E7 A	L0001444-4	12/12/03	Frit extract	1356
WWK-A-AMS1-E7 B	L0001444-5	12/12/03	1st set beads extract	1356
WWK-A-AMS1-E5 C	L0001444-6	12/12/03	2nd set beads extract	1356
WWK-A-AMS2-E7 A	L0001444-7	12/12/03	Frit extract	1490
WWK-A-AMS2-E7B	L0001444-8	12/12/03	1st set beads extract	1490
WWK-A-AMS2-E7 C	L0001444-9	12/12/03	2nd set beads extract	1490
WWK-A-AMS4-E7 A	L0001444-13	12/12/03	Frit extract	1652
WWK-A-AMS4-E7 B	L0001444-14	12/12/03	1st set beads extract	1652
WWK-A-AMS4-E7 C	L0001444-15	12/12/03	2nd set beads extract	1652
WWK-A-AMS5-E7 A	L0001444-16	12/12/03	Frit extract	1530
WWK-A-AMS5-E7 B	L0001444-17	12/12/03	1st set beads extract	1530
WWK-A-AMS5-E7 C	L0001444-18	12/12/03	2nd set beads extract	1530
WWK-A-AMS6-E7 A	L0001444-19	12/12/03	Frit extract	1539
WWK-A-AMS6-E7 B	L0001444-20	12/12/03	1st set beads extract	1539
WWK-A-AMS6-E7 C	L0001444-21	12/12/03	2nd set beads extract	1539
Control Spike A	L0001444-22	12/12/03	Frit extract	0
Control Spike B	L0001444-23	12/12/03	1st set beads extract	0
Control Spike C	L0001444-24	12/12/03	2nd set beads extract	0

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Table 2. Chain of Custody

Sample ID	Date Collected	Date Received at Exygen	Date Extracted by Exygen	Date Analyzed by Exygen
WWK-A-AMSFBLK-E7 A	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMSFBLK-E7 B	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMSFBLK-E7 C	12/11/03	12/12/03	NA	NA
WWK-A-AMS1-E7 A	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS1-E7 B	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS1-E5 C	12/11/03	12/12/03	NA	NA
WWK-A-AMS2-E7 A	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS2-E7B	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS2-E7 C	12/11/03	12/12/03	NA	NA
WWK-A-AMS4-E7 A	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS4-E7 B	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS4-E7 C	12/11/03	12/12/03	NA	NA
WWK-A-AMS5-E7 A	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS5-E7 B	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS5-E7 C	12/11/03	12/12/03	NA	NA
WWK-A-AMS6-E7 A	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS6-E7 B	12/11/03	12/12/03	12/18/03	12/18 -12/19/03
WWK-A-AMS6-E7 C	12/11/03	12/12/03	NA	NA
Control Spike A	NA	12/12/03	12/18/03	12/18 -12/19/03
Control Spike B	NA	12/12/03	12/18/03	12/18 -12/19/03
Control Spike C	NA	12/12/03	NA	NA

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ANALYTICAL DATA REVIEW SHEET

LC/MS

James R. Miller
Analyst

James R. Miller 12/19/03
Signature/Date

John M Flakeety
Reviewed by

John M Flakeety 12/22/03
Signature/Date

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
====	=====	=====	=====	====	=====	=====	=====
1	Vial 1	STD 50 ppb	FC8-10	1	Sample		
2	Vial 1	STD 50 ppb	FC8-10	1	Calib		
3	Vial 2	STD 100 ppb	FC8-10	1	Calib		
4	Vial 3	STD 250 ppb	FC8-10	1	Calib		
5	Vial 4	STD 500 ppb	FC8-10	1	Calib		
6	Vial 5	STD 750 ppb	FC8-10	1	Calib		
7	Vial 6	STD 1000 ppb	FC8-10	1	Calib		
8	Vial 7	STD 1500 ppb	FC8-10	1	Calib		
9	Vial 92	solvent blank	FC8-10	1	Sample		
10	Vial 11	L0001444-22	FC8-10	1	Sample		
11	Vial 12	L0001444-23	FC8-10	1	Sample		
12	Vial 13	L0001444-1	FC8-10	1	Sample		
13	Vial 14	L0001444-2	FC8-10	1	Sample		
14	Vial 15	L0001444-4	FC8-10	1	Sample		
15	Vial 16	L0001444-5	FC8-10	1	Sample		
16	Vial 17	L0001444-7	FC8-10	1	Sample		
17	Vial 18	L0001444-8	FC8-10	1	Sample		
18	Vial 19	L0001444-13	FC8-10	1	Sample		
19	Vial 20	L0001444-14	FC8-10	1	Sample		
20	Vial 4	STD 500 ppb	FC8-10	1	Sample		
21	Vial 92	solvent blank	FC8-10	1	Sample		
22	Vial 21	L0001444-16	FC8-10	1	Sample		
23	Vial 22	L0001444-17	FC8-10	1	Sample		
24	Vial 23	L0001444-19	FC8-10	1	Sample		
25	Vial 24	L0001444-20	FC8-10	1	Sample		
26	Vial 4	STD 500 ppb	FC8-10	1	Sample		
27	Vial 92	solvent blank	FC8-10	1	Sample		
28	Vial 1	STD 50 ppb	FC8-10	1	Calib		
29	Vial 2	STD 100 ppb	FC8-10	1	Calib		
30	Vial 3	STD 250 ppb	FC8-10	1	Calib		
31	Vial 4	STD 500 ppb	FC8-10	1	Calib		
32	Vial 5	STD 750 ppb	FC8-10	1	Calib		
33	Vial 6	STD 1000 ppb	FC8-10	1	Calib		
34	Vial 7	STD 1500 ppb	FC8-10	1	Calib		

Calibration Part:

Line	Location	SampleName	Method	CalLev	Update	RF	Update	RT	Interval
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
2	Vial 1	STD 50 ppb	FC8-10	1	Replace		Average		
3	Vial 2	STD 100 ppb	FC8-10	2	Replace		Average		
4	Vial 3	STD 250 ppb	FC8-10	3	Replace		Average		
5	Vial 4	STD 500 ppb	FC8-10	4	Replace		Average		
6	Vial 5	STD 750 ppb	FC8-10	5	Replace		Average		
7	Vial 6	STD 1000 ppb	FC8-10	6	Replace		Average		
8	Vial 7	STD 1500 ppb	FC8-10	7	Replace		Average		
28	Vial 1	STD 50 ppb	FC8-10	1	Average		Average		
29	Vial 2	STD 100 ppb	FC8-10	2	Average		Average		
30	Vial 3	STD 250 ppb	FC8-10	3	Average		Average		
31	Vial 4	STD 500 ppb	FC8-10	4	Average		Average		
32	Vial 5	STD 750 ppb	FC8-10	5	Average		Average		
33	Vial 6	STD 1000 ppb	FC8-10	6	Average		Average		
34	Vial 7	STD 1500 ppb	FC8-10	7	Average		Average		

LC/MS SYSTEM AND OPERATING CONDITIONS

Client: Dupont

EXYGEN STUDY: L0001444

Instrument: Hewlett-Packard 1100 LC/MSD (LC/MS 5)
API-ES Interface - Negative SIM mode
Nitrogen: 10 L/min at 300°C
Fragmentor: Variable; Vcap: 3500V

Computer: Hewlett-Packard Kayak workstation

Software: Microsoft Windows NT 4.0
Agilent ChemStation Version A.08.03

HPLC Equipment: HP G1322A Solvent Degasser
HP G1311A Quaternary Pump
HP G1313A Autosampler
HP G1316A Column Thermostat
HP G1946A MSD

HPLC Column: Thermo Hypersil-Keystone Betasil C18, 30 x 2.0 mm x 3µm
Column Temp.: 35° C
Mobile Phase (A): 2mM Ammonium acetate in OmniSolv Water
Mobile Phase (B): HPLC grade Methanol

<u>Time</u>	<u>% A</u>	<u>% B</u>
0.0	70	30
6.0	10	90
10.0	10	90
10.0	STOP	STOP

Post Time = 4 min.

Total run time = 14 min.

Flow Rate: 0.3 mL/min

Injected Volume: 5 µL

Ions monitored:

Analyte	Ion (m/z)
C8 Acid (PFOA)	369
C10 Surrogate	469

Extraction Date: December 18, 2003

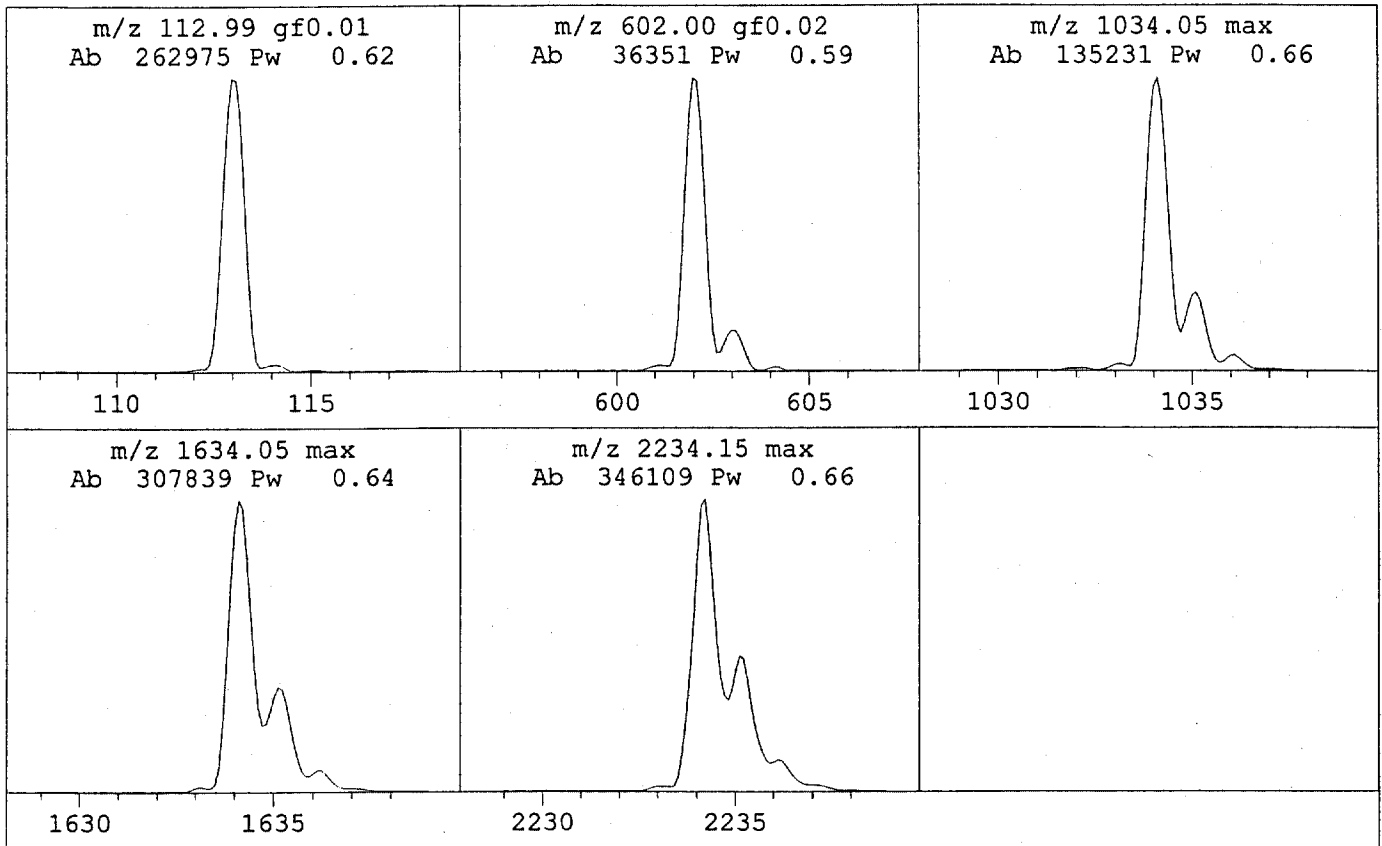
Analyst:

James R. Miller *JRM* 12/18/03
Exygen Research
3058 Research Drive, State College, PA 16801
Phone: (814) 272-1039, FAX: (814) 231-1580

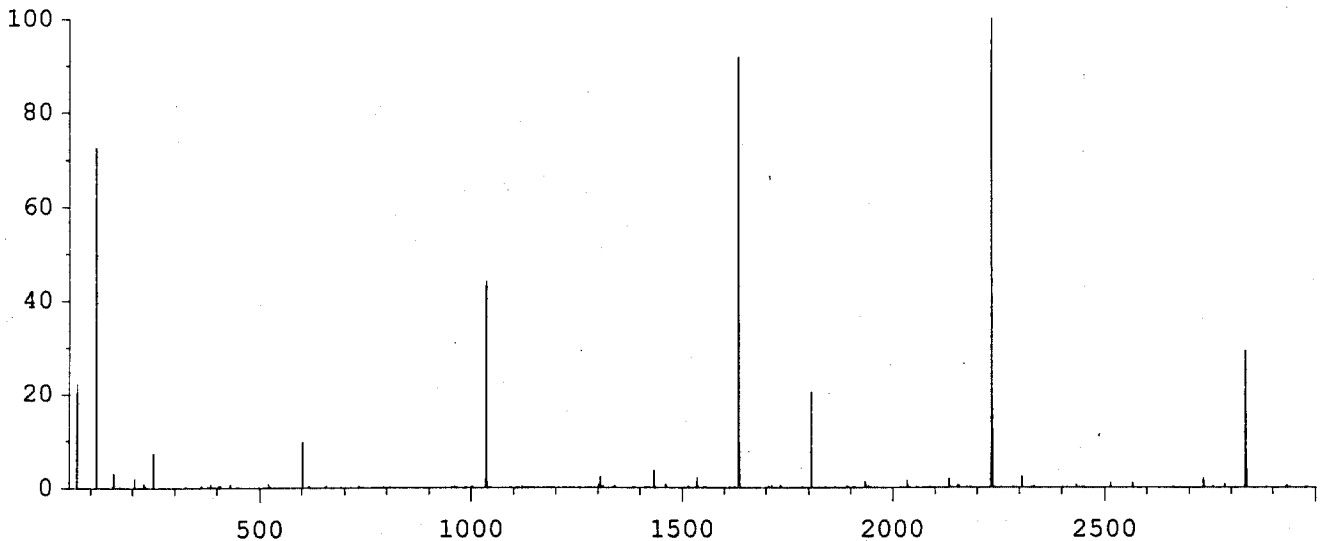
Instrument : LCMS5

Tue Dec 16 12:15:46 2003

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Scan: 50.00 - 3000.00 Samples: 8 Thresh: 0 Step: 0.10
29501 peaks Base: 2234.15 Abundance: 335232 F Raw,Gauss 0.3



m/z	gf	Abund	Rel Abund	Iso m/z	Iso Abund	Iso Ratio
112.96	243712	100.00	113.99	4075	1.67	
601.99	32600	13.38	602.95	2771	8.50	
1034.05	147776	60.64	1035.05	32352	21.89	
1634.05	307520	126.18	1635.05	117312	38.15	
2234.15	335232	137.55	2235.15	156608	46.72	

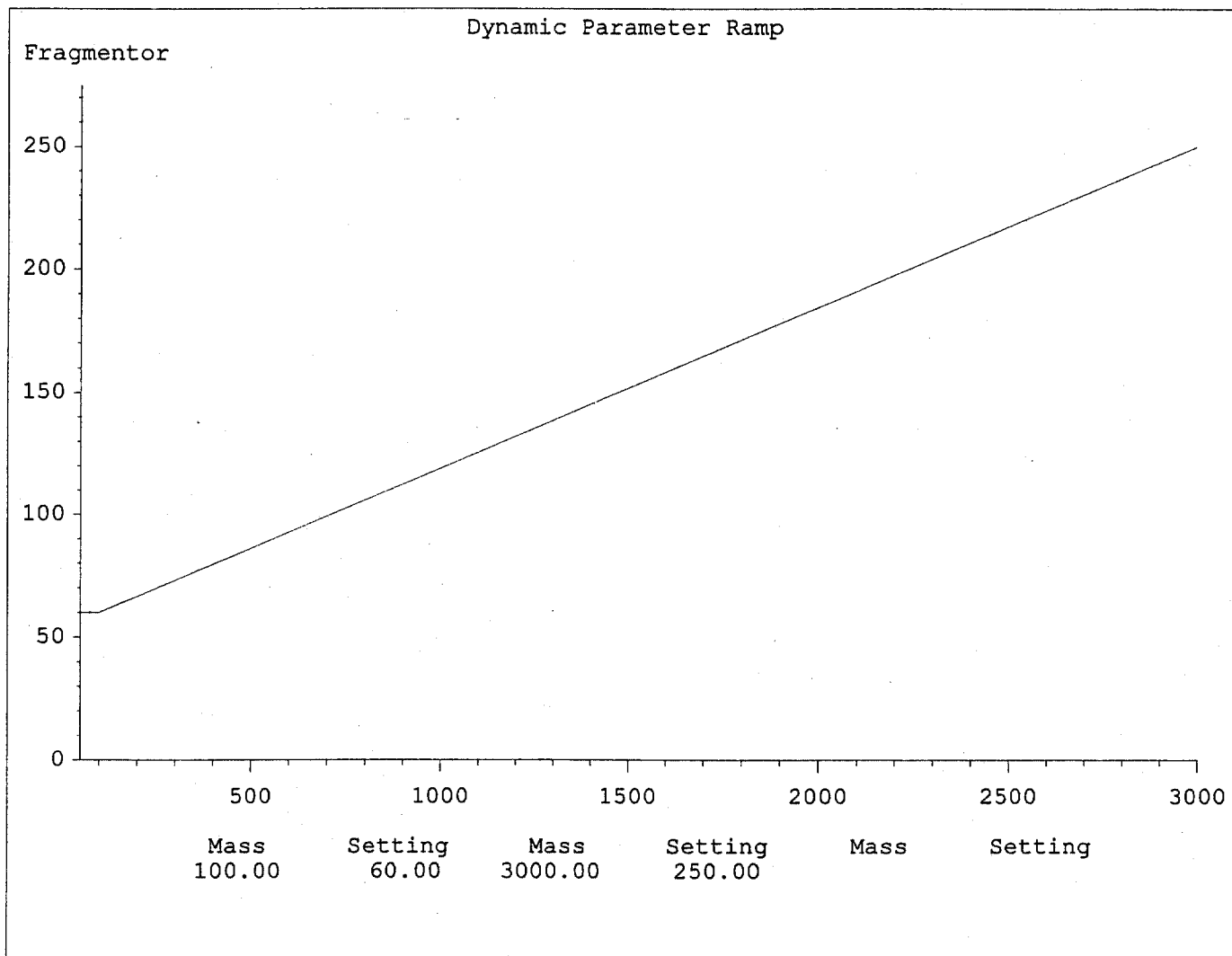
0014

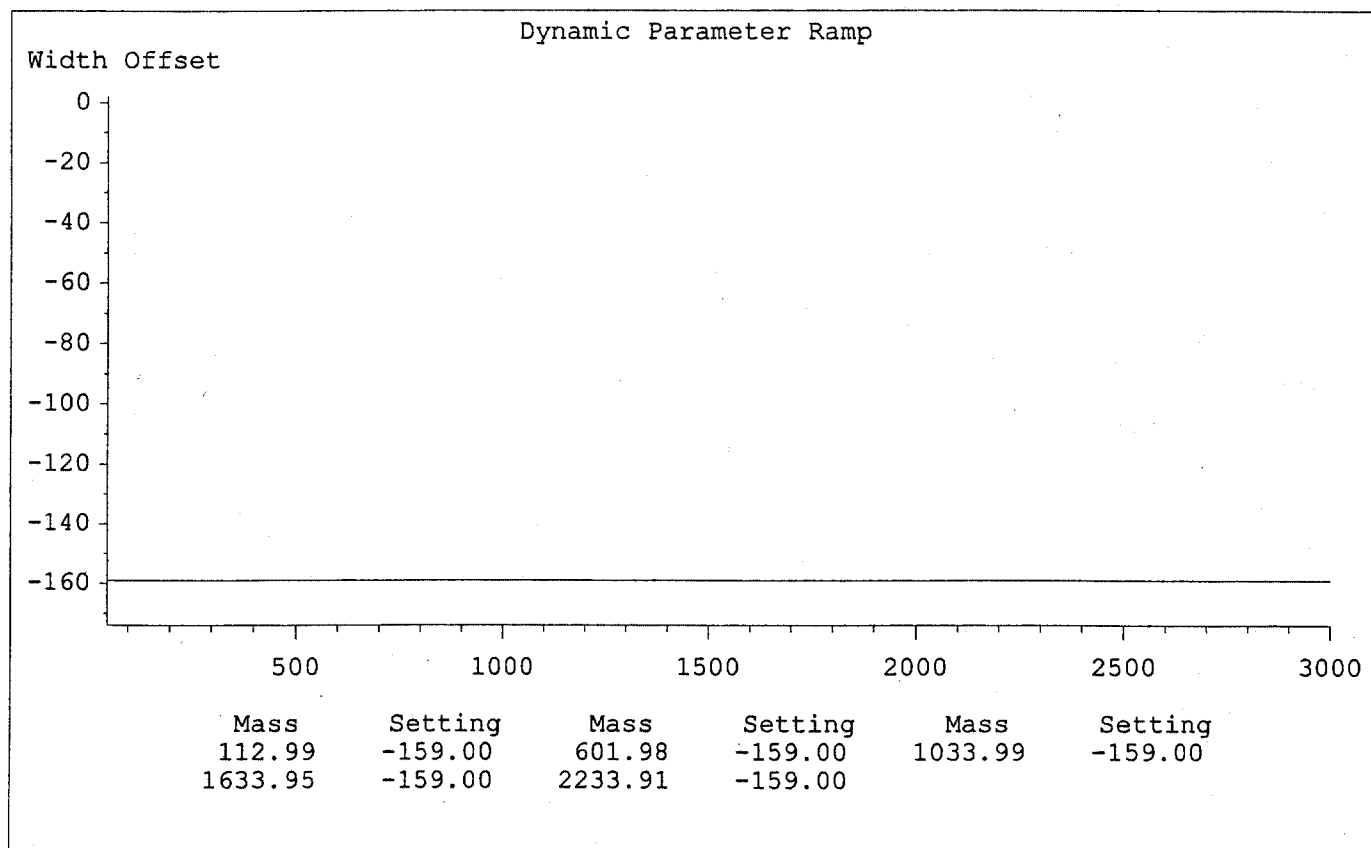
TN 12/16/03

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Mode: API-ES Polarity: NEG

Fragment	VAR	WidthGain	1031
Skim2	6.0	WidthOffs	VAR
Lens1	-3.8	MassGain	93.65
Lens2	14	MassOffs	0.516
Iris	-8		
		Energy	5.0
		OpolPeak	300
		OpolKnee	315
Gain	2.0	QuadDC	0.00
EMV	1788	Samples	8
VCap	4000	Averages	1
		StepSize	0.10
Status:			
CapCur	39	DryingGas	7.0
ChamCur	0.51	Gas Temp	300
Quad Temp	99	Neb Pres	15





TH
12/16/03

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Calibration Table

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Calib. Data Modified : Friday, December 19, 2003 1:56:55 PM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 5.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 5.000 %
Abs. Non-ref. Window : 0.000 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :

Printout of recalibrations within a sequence:

Calibration Table after Recalibration

Normal Report after Recalibration

If the sequence is done with bracketing:

Results of first cycle (ending previous bracket)

Signal 1: MSD1 369, EIC=368.7:369.7

Signal 2: MSD1 469, EIC=468.7:469.7

RetTime [min]	Lvl Sig	Amount [ppb]	Area	Amt/Area	Ref Grp Name
7.339	1 1	50.00000	1.91706e4	2.60816e-3	1 C8 Acid
	2	100.00000	3.74002e4	2.67378e-3	
	3	250.00000	9.89139e4	2.52745e-3	
	4	500.00000	1.89929e5	2.63257e-3	
	5	750.00000	2.73895e5	2.73827e-3	
	6	1000.00000	3.59012e5	2.78542e-3	
	7	1500.00000	5.28202e5	2.83982e-3	
8.187	2 1	50.00000	2.24230e4	2.22985e-3	1 C10 Surrogate
	2	100.00000	4.55873e4	2.19360e-3	
	3	250.00000	1.19659e5	2.08926e-3	
	4	500.00000	2.31083e5	2.16372e-3	
	5	750.00000	3.33034e5	2.25202e-3	
	6	1000.00000	4.39381e5	2.27593e-3	
	7	1500.00000	6.46494e5	2.32021e-3	

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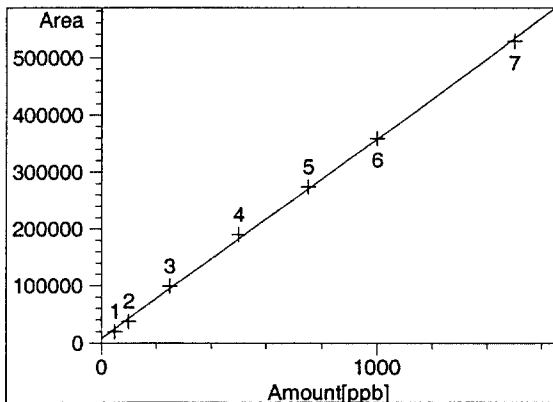
Peak Sum Table

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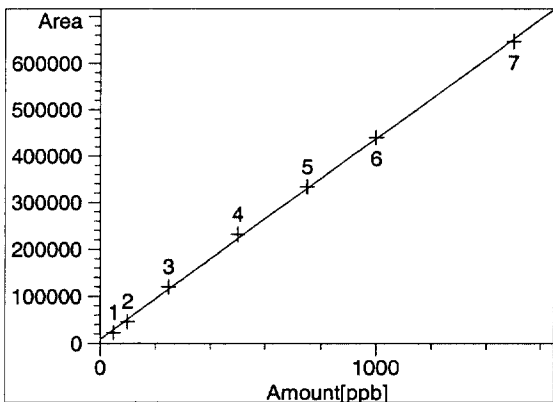
No Entries in table

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Calibration Curves



C8 Acid at exp. RT: 7.339
 MSD1 369, EIC=368.7:369.7
 Correlation: 0.99960
 Residual Std. Dev.: 5753.73977
 Formula: $y = mx + b$
 m: 350.58149
 b: 7372.79770
 x: Amount[ppb]
 y: Area



C10 Surrogate at exp. RT: 8.187
 MSD1 469, EIC=468.7:469.7
 Correlation: 0.99966
 Residual Std. Dev.: 6500.97419
 Formula: $y = mx + b$
 m: 429.63717
 b: 7809.73846
 x: Amount[ppb]
 y: Area

0018

Sample Name:STD 50 ppb
Sample Info:Warm Up

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11665613\A439168\FC000001.D

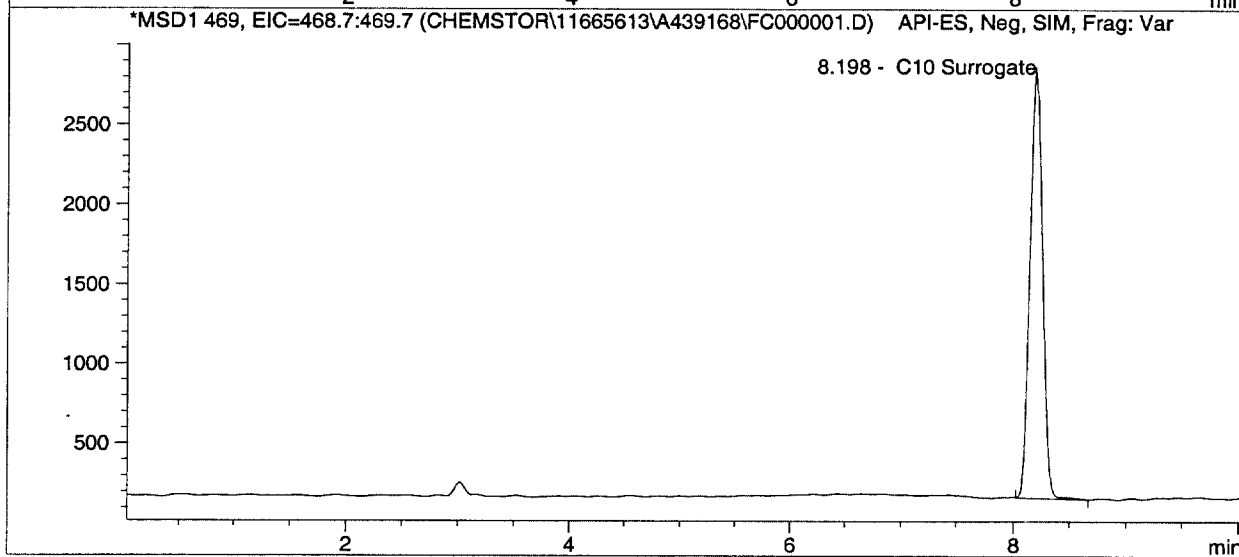
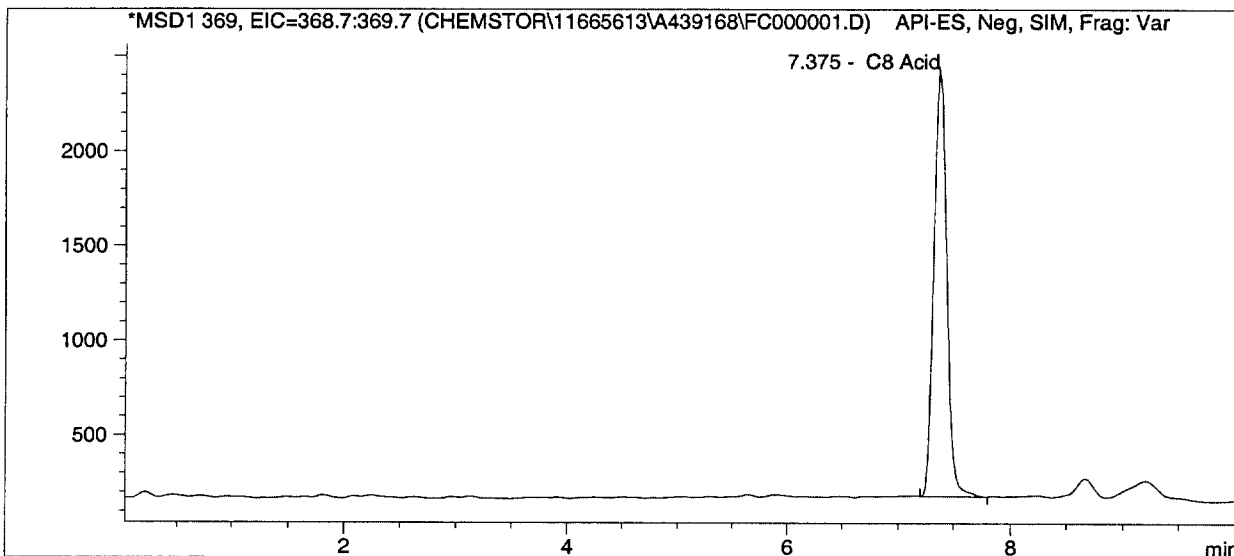
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Injection Date	: 12/18/03	4:46:08 PM	Seq Line	:	1
Acq Operator	: jmillier		Vial No.	:	1
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.

Initials *JM*
Date 12/19/03
Run# FC000001 To FC000034



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	31.12	7.375	18282	MSD1 369, EIC=368.7:369.7
10 Surrogat	31.07	8.198	21159	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0019

Sample Name:STD 50 ppb

Sample Info:

1

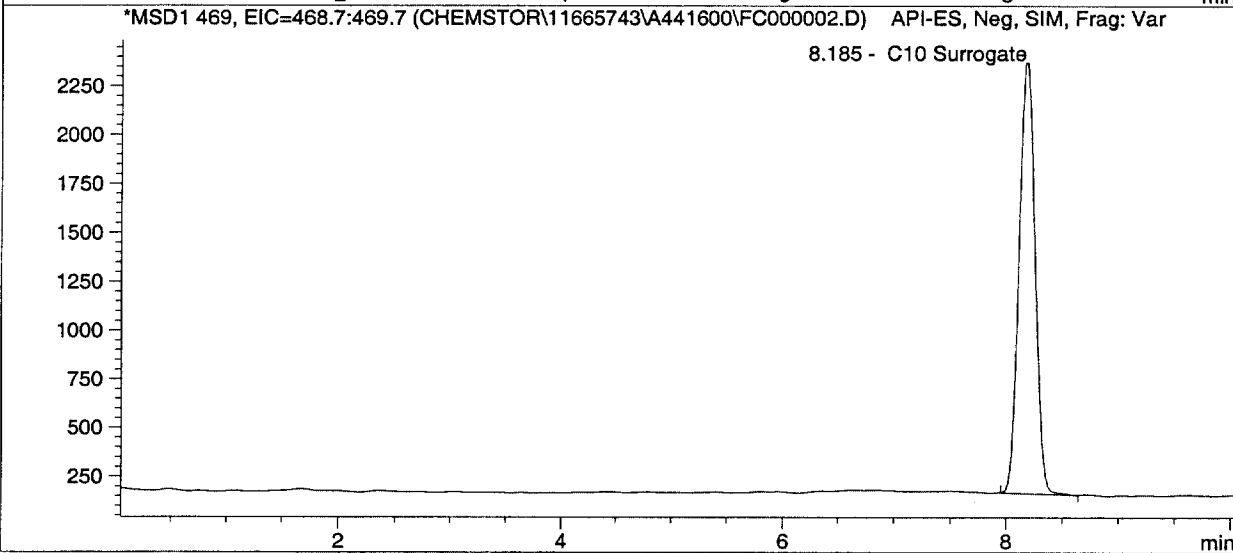
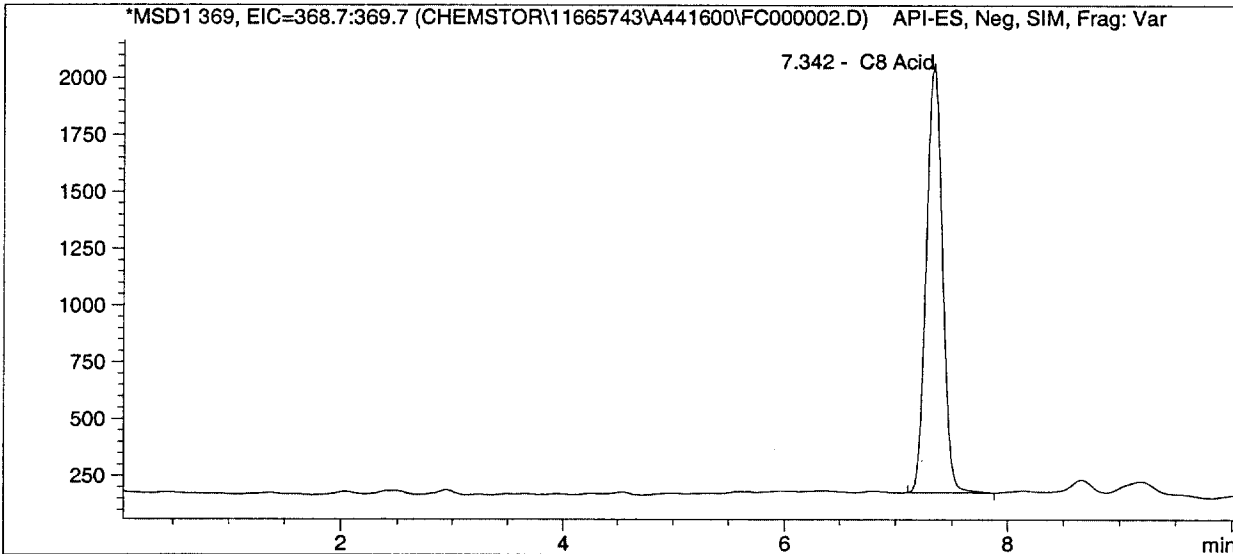
Data file :C:\HPCHEM\1\DATA\Chemstor\11665743\A441600\FC000002.D

=====

Injection Date	: 12/18/03	5:01:15 PM	Seq Line	:	2
Acq Operator	: jmillier		Vial No.	:	1
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	32.67	7.342	18826	MSD1 369, EIC=368.7:369.7
10 Surrogat	32.63	8.185	21827	MSD1 469, EIC=468.7:469.7

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*** End of Report ***

0020

Sample Name:STD 100 ppb

Sample Info:

1

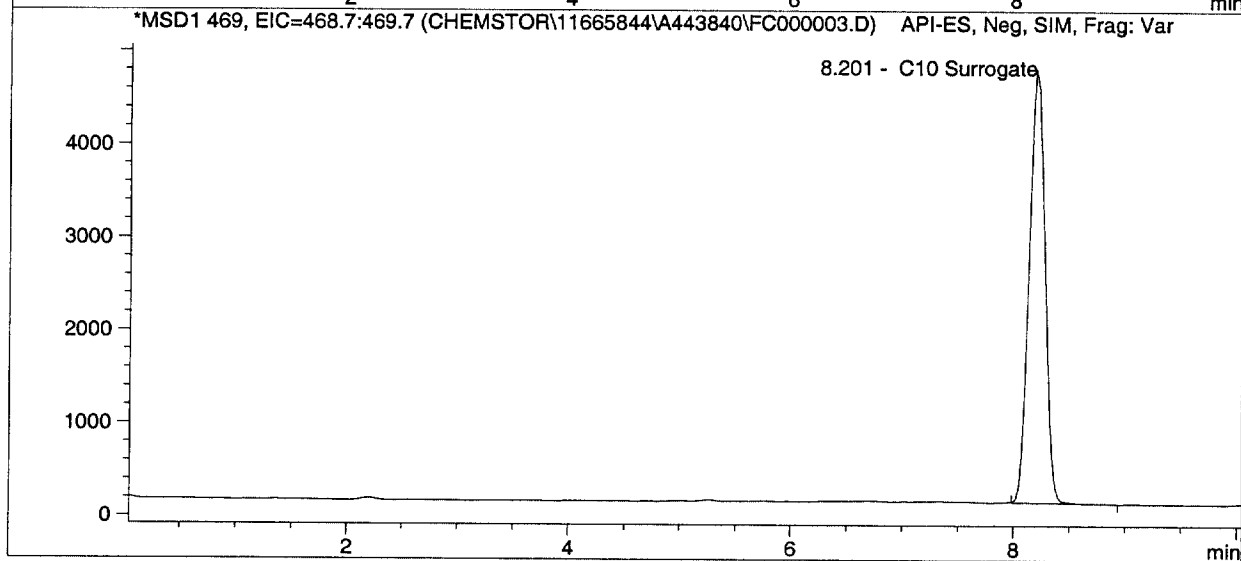
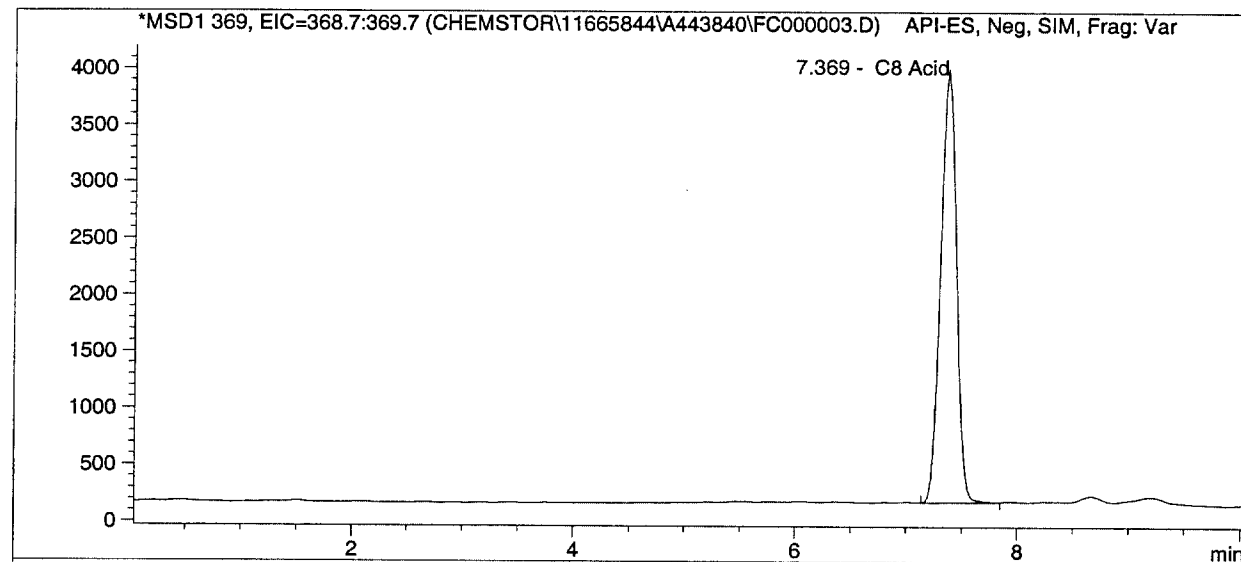
Data file :C:\HPCHEM\1\DATA\Chemstor\11665844\A443840\FC000003.D

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Injection Date	: 12/18/03	5:16:24 PM	Seq Line	:	3
Acq Operator	: jmillier		Vial No.	:	2
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	86.58	7.369	37725	MSD1 369, EIC=368.7:369.7
10 Surrogat	88.74	8.201	45934	MSD1 469, EIC=468.7:469.7

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*** End of Report ***

0021

Sample Name:STD 250 ppb

Sample Info:

1

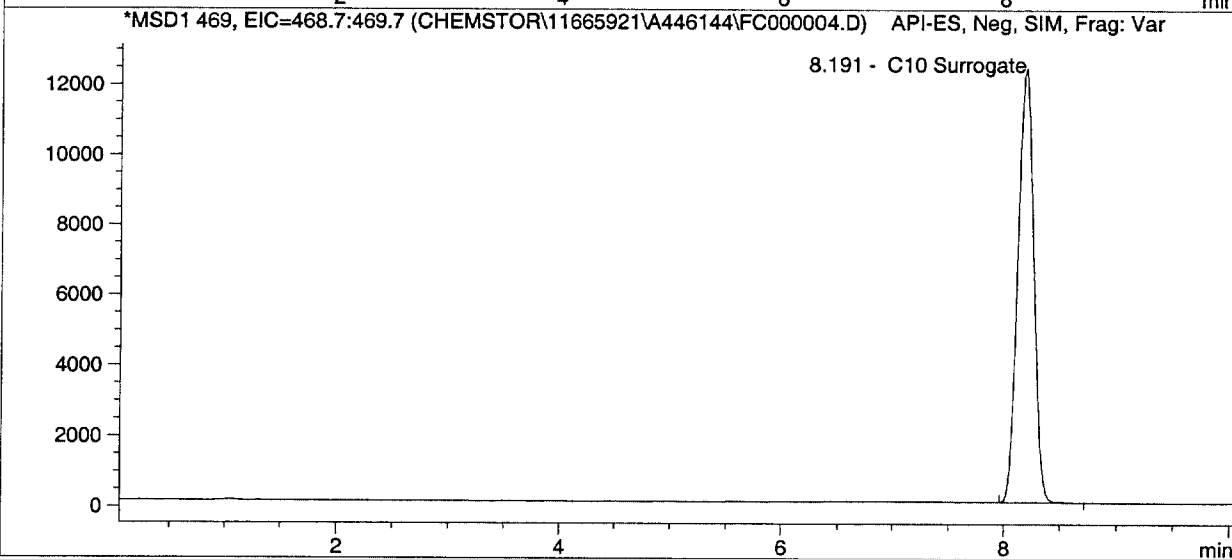
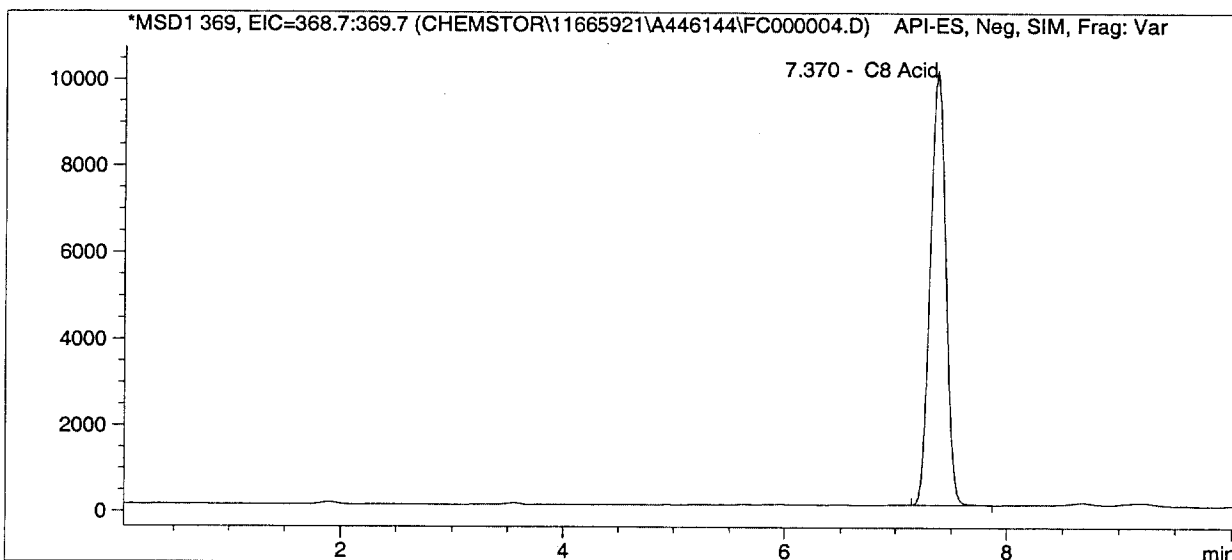
Data file :C:\HPCHEM\1\DATA\Chemstor\11665921\A446144\FC000004.D

=====

Injection Date	: 12/18/03	5:31:42 PM	Seq Line	:	4
Acq Operator	: jmillier		Vial No.	:	3
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	262.43	7.370	99378	MSD1 369, EIC=368.7:369.7
10 Surrogat	264.26	8.191	121344	MSD1 469, EIC=468.7:469.7

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*** End of Report ***

0022

Sample Name:STD 500 ppb

Sample Info:

1

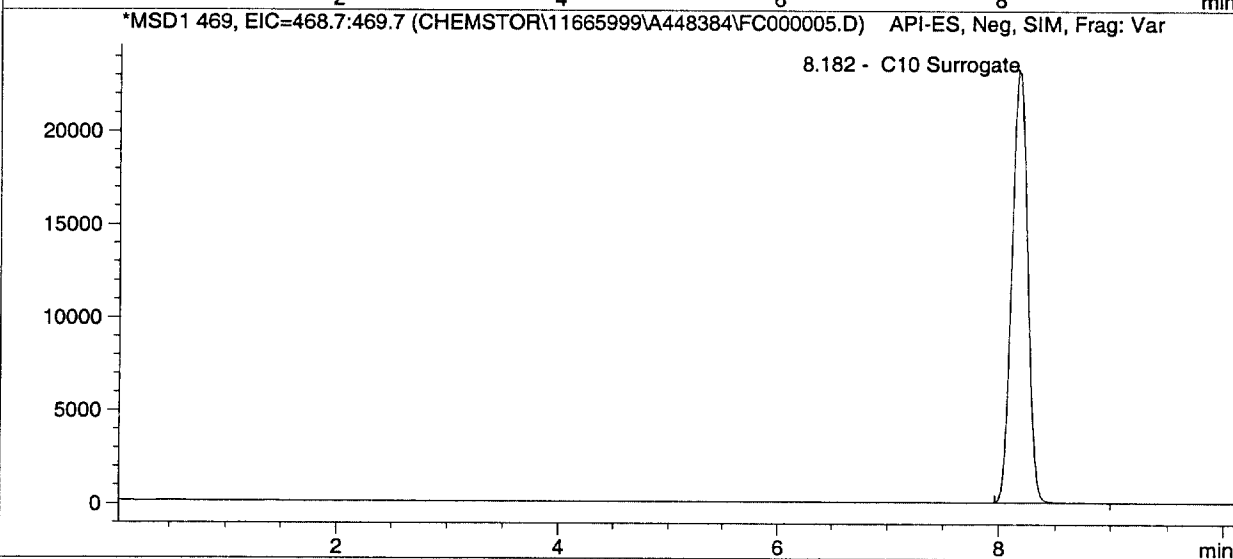
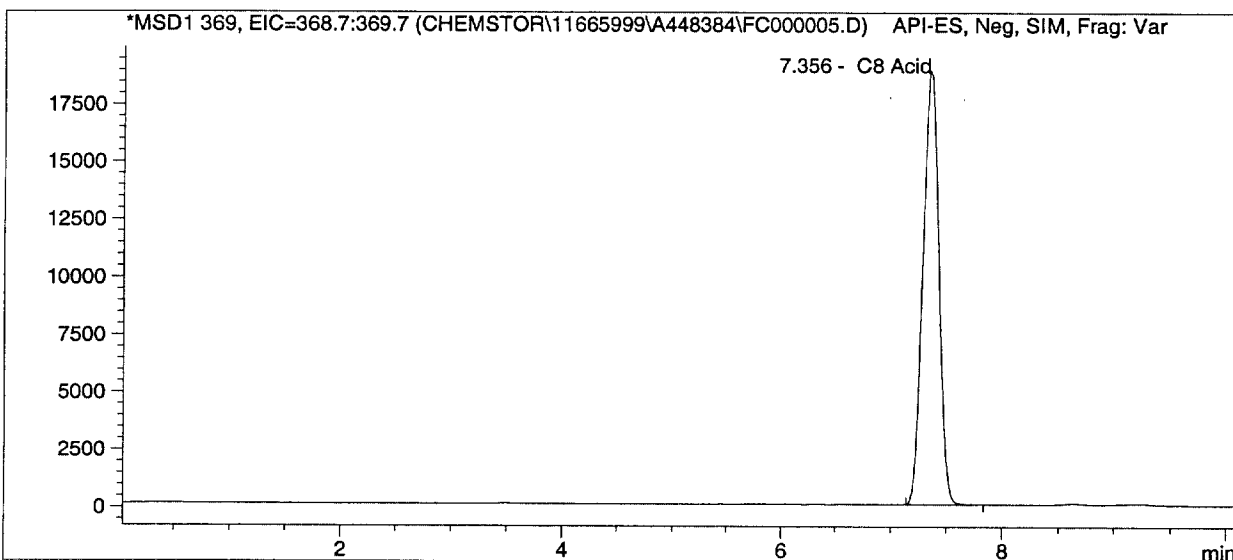
Data file :C:\HPCHEM\1\DATA\Chemstor\11665999\A448384\FC000005.D

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Injection Date	: 12/18/03	5:46:50 PM	Seq Line	:	5
Acq Operator	: jmillier		Vial No.	:	4
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	512.44	7.356	187025	MSD1 369, EIC=368.7:369.7
10 Surrogat	513.11	8.182	228261	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0023

Sample Name:STD 750 ppb

Sample Info:

1

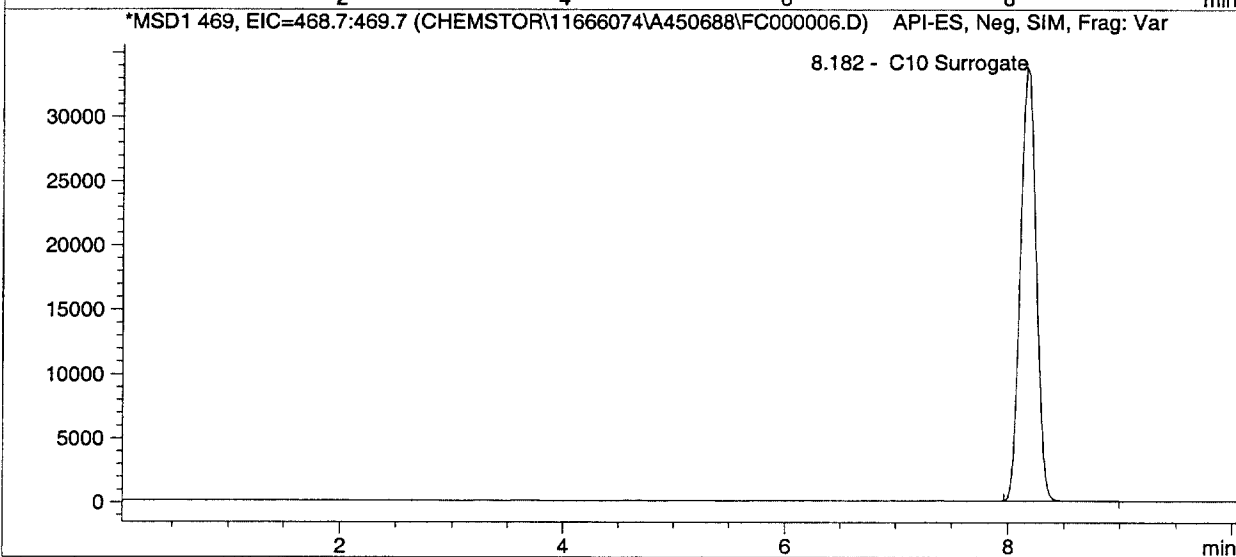
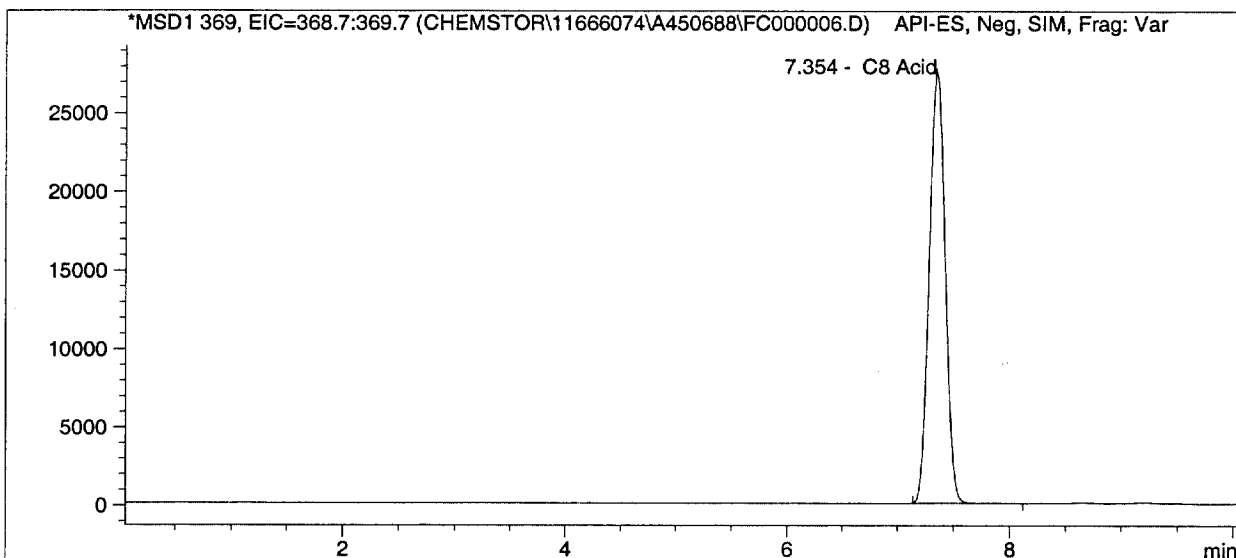
Data file :C:\HPCHEM\1\DATA\Chemstor\11666074\A450688\FC000006.D

=====

Injection Date	: 12/18/03	6:01:59 PM	Seq Line	:	6
Acq Operator	: jmillier		Vial No.	:	5
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	760.75	7.354	274076	MSD1 369, EIC=368.7:369.7
10 Surrogat	755.15	8.182	332250	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0024

Sample Name:STD 1000 ppb

Sample Info:

1

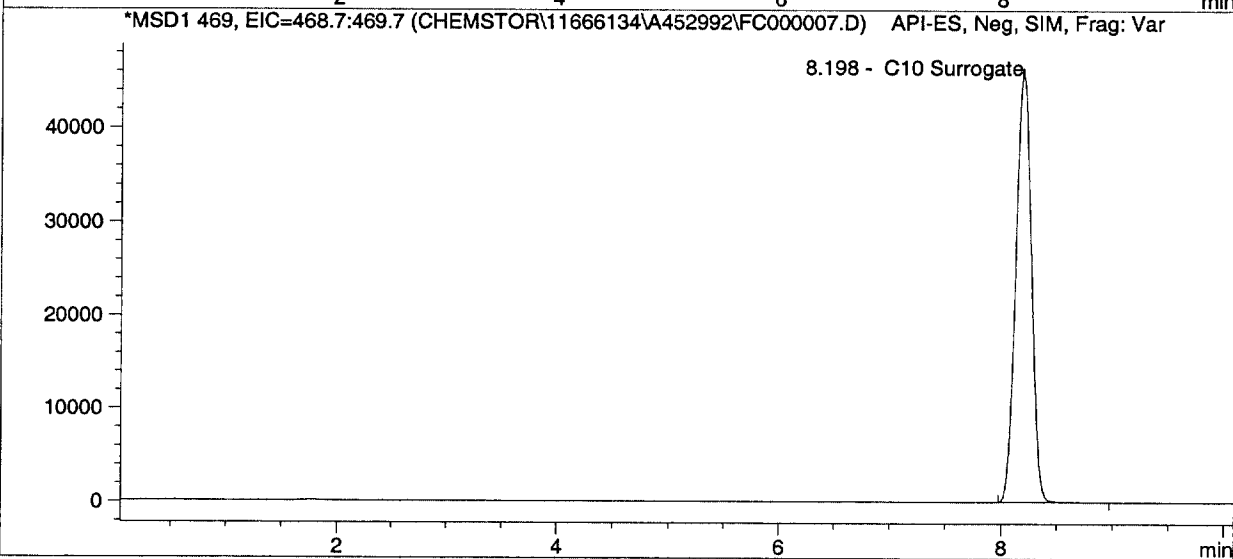
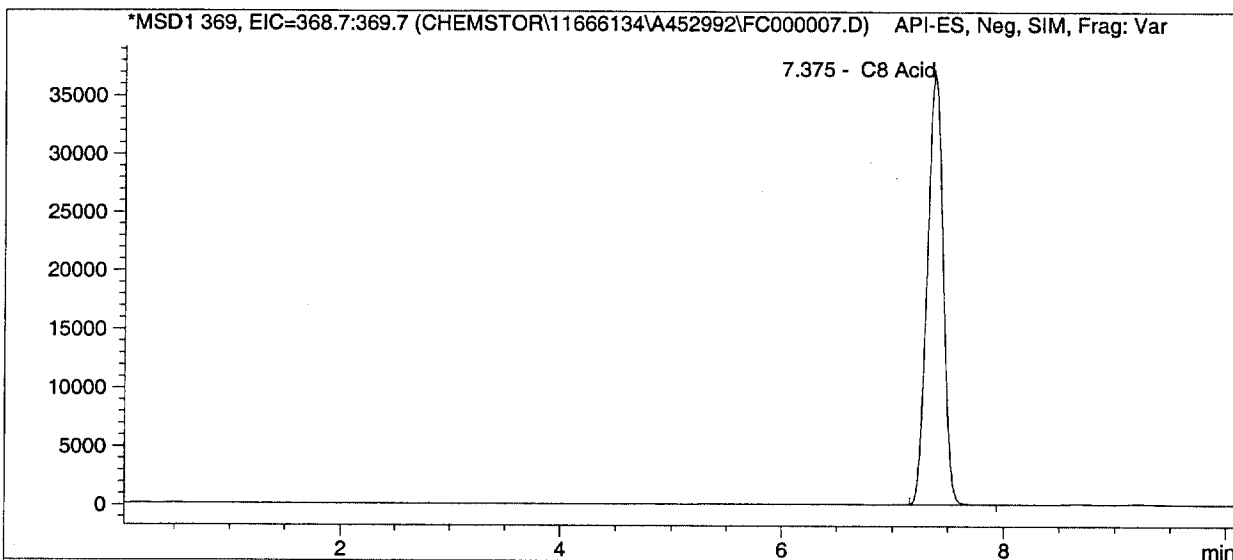
Data file :C:\HPCHEM\1\DATA\Chemstor\11666134\A452992\FC000007.D

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Injection Date	: 12/18/03	6:17:10 PM	Seq Line	:	7
Acq Operator	: jmillar		Vial No.	:	6
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1032.33	7.375	369290	MSD1 369, EIC=368.7:369.7
C10 Surrogat	1037.58	8.198	453592	MSD1 469, EIC=468.7:469.7

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*** End of Report ***

0025

Sample Name:STD 1500 ppb

Sample Info:

1

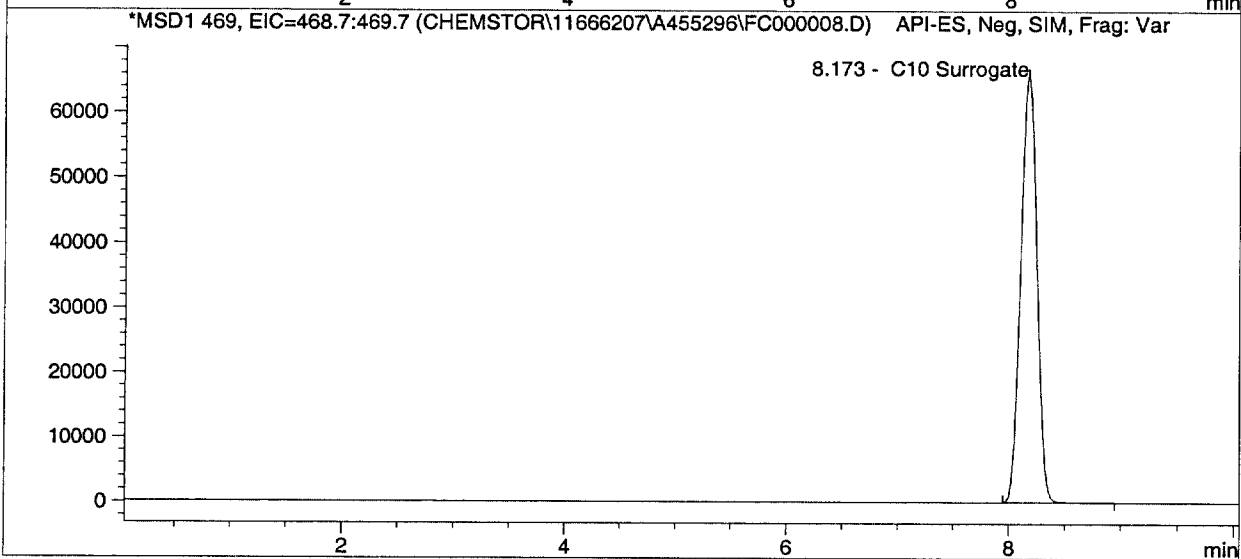
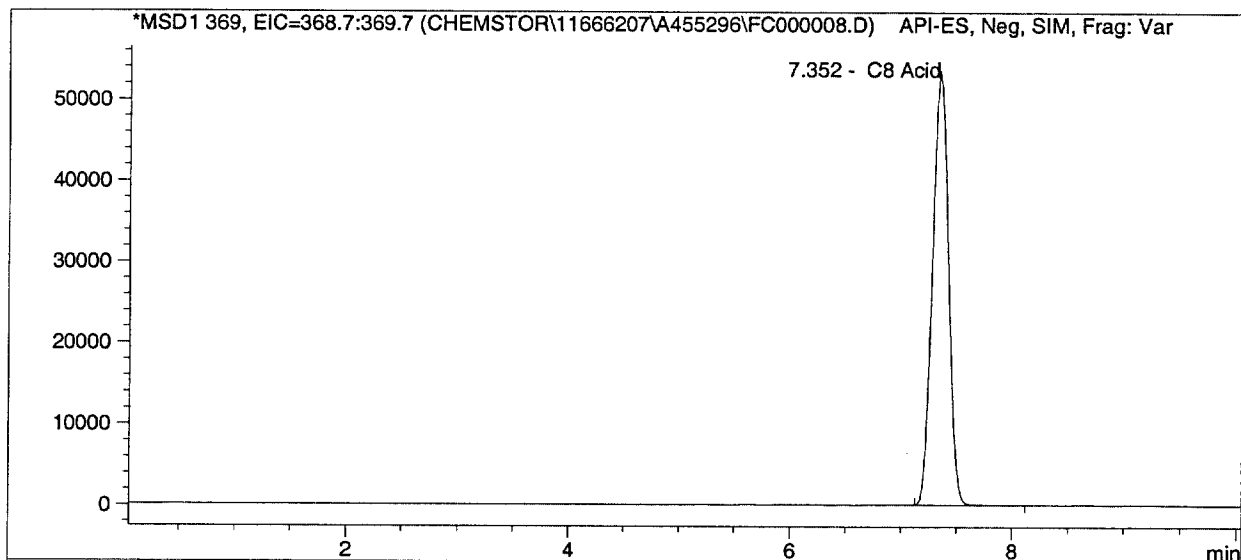
Data file :C:\HPCHEM\1\DATA\Chemstor\11666207\A455296\FC000008.D

=====

Injection Date	: 12/18/03	6:32:20 PM	Seq Line	:	8
Acq Operator	: jmillier		Vial No.	:	7
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1496.55	7.352	532034	MSD1 369, EIC=368.7:369.7
10 Surrogat	1507.26	8.173	655385	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0026

Sample Name:solvent blank

Sample Info:

1

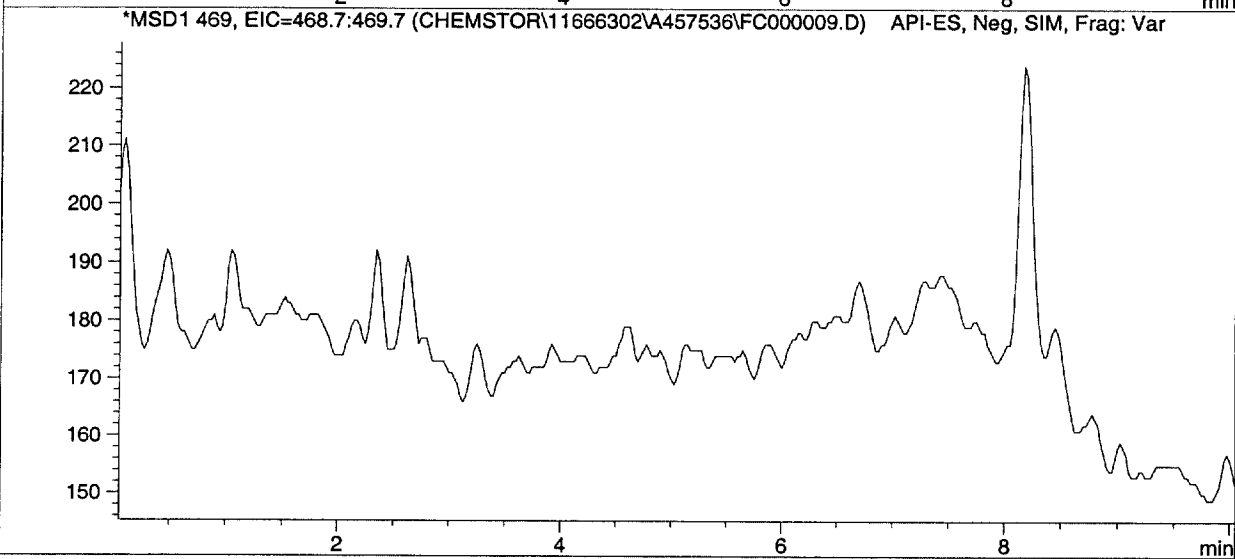
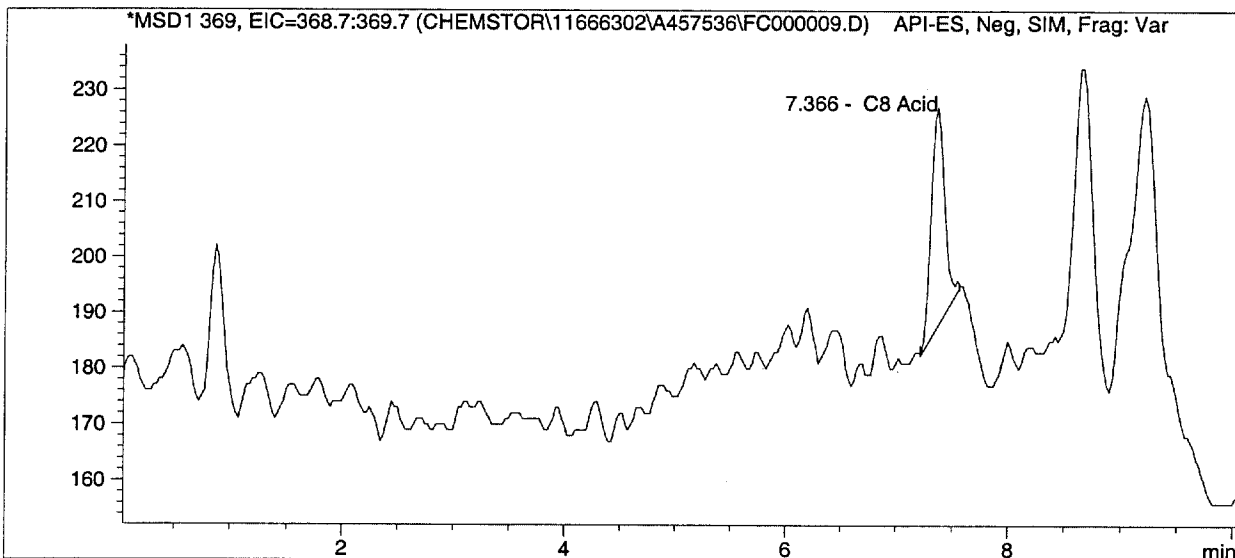
Data file :C:\HPCHEM\1\DATA\Chemstor\11666302\A457536\FC000009.D

=====

Injection Date	: 12/18/03	6:47:26 PM	Seq Line	:	9
Acq Operator	: jmillier		Vial No.	:	92
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol..	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.366	327	MSD1 369, EIC=368.7:369.7
10 Surrogat	0.00	0.000	0	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0027

Sample Name:L0001444-22

Sample Info:

1

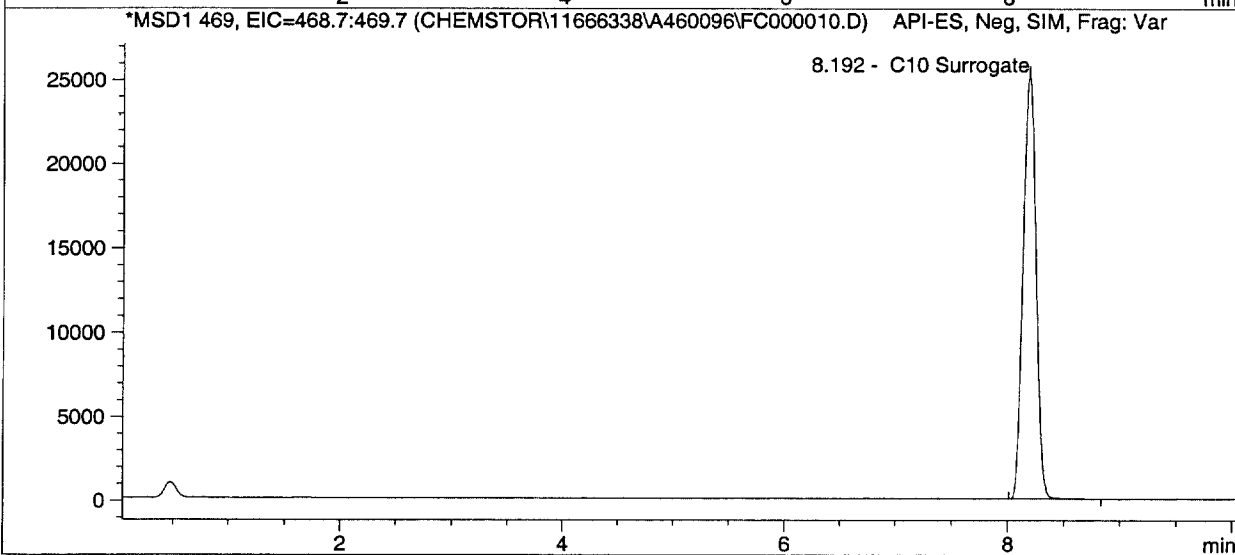
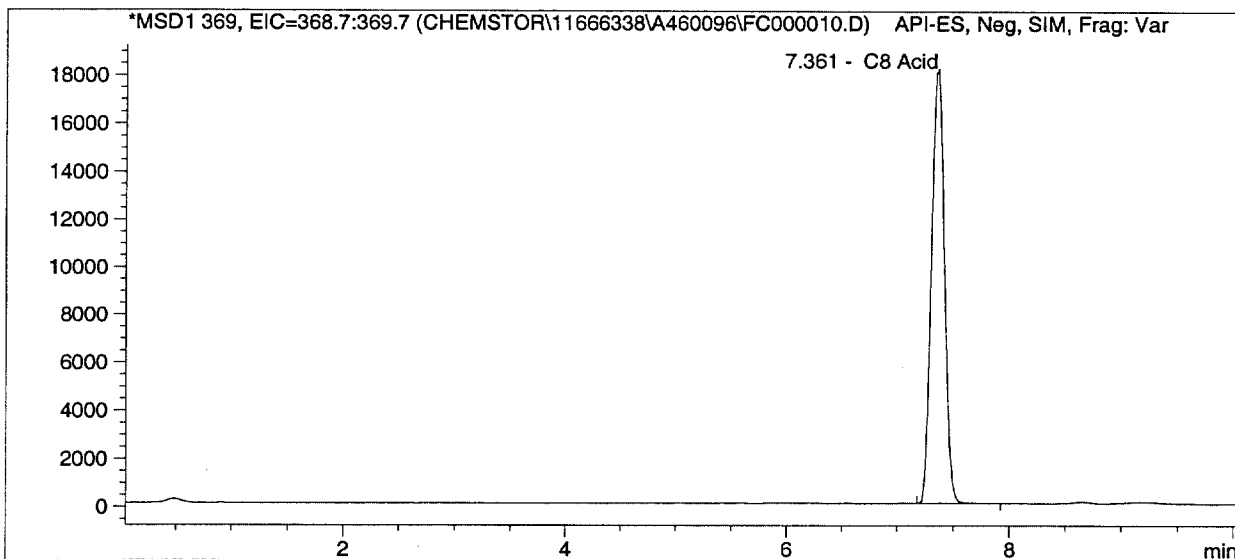
Data file :C:\HPCHEM\1\DATA\Chemstor\11666338\A460096\FC000010.D

=====

Injection Date	: 12/18/03	7:02:35 PM	Seq Line	:	10
Acq Operator	: jmillier		Vial No.	:	11
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	397.35	7.361	146677	MSD1 369, EIC=368.7:369.7
C10 Surrogat	453.57	8.192	202682	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0028

Sample Name:L0001444-23

Sample Info:

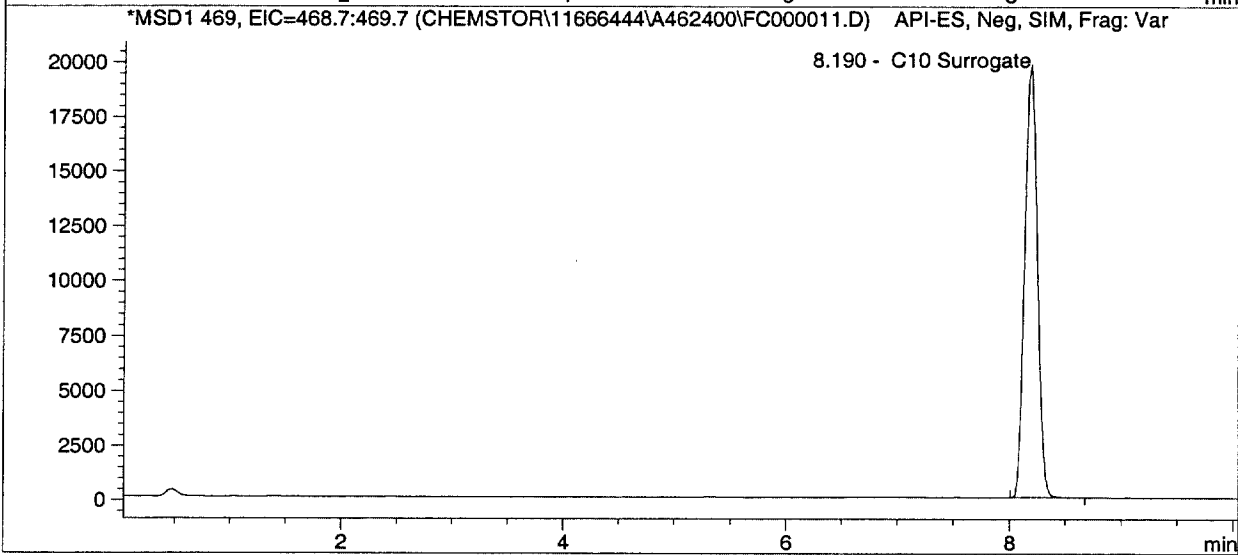
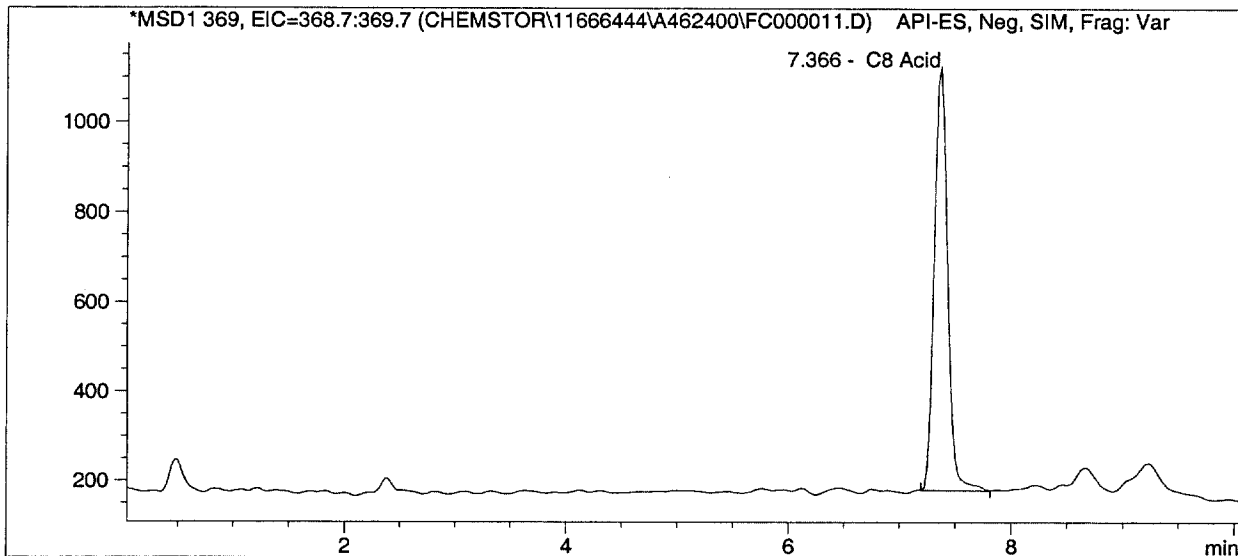
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Data file :C:\HPCHEM\1\DATA\Chemstor\11666444\A462400\FC000011.D

Injection Date : 12/18/03 7:17:45 PM Seq Line : 11
Acq Operator : jmillers Vial No. : 12
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1.66	7.366	7954	MSD1 369, EIC=368.7:369.7
C10 Surrogat	347.26	8.190	157006	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0029

Sample Name:L0001444-1

Sample Info:

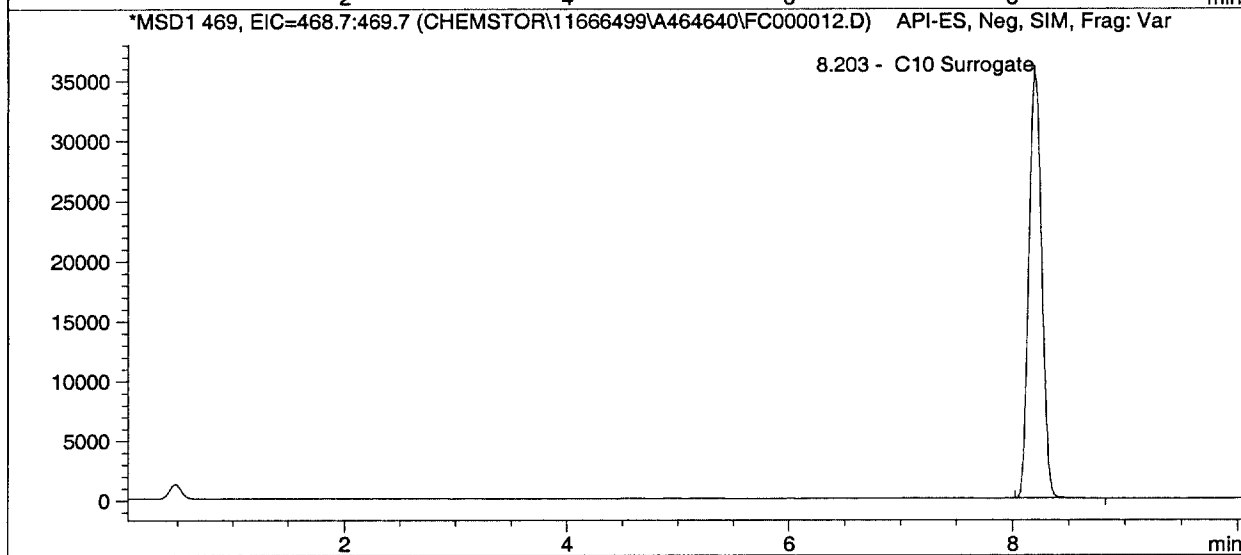
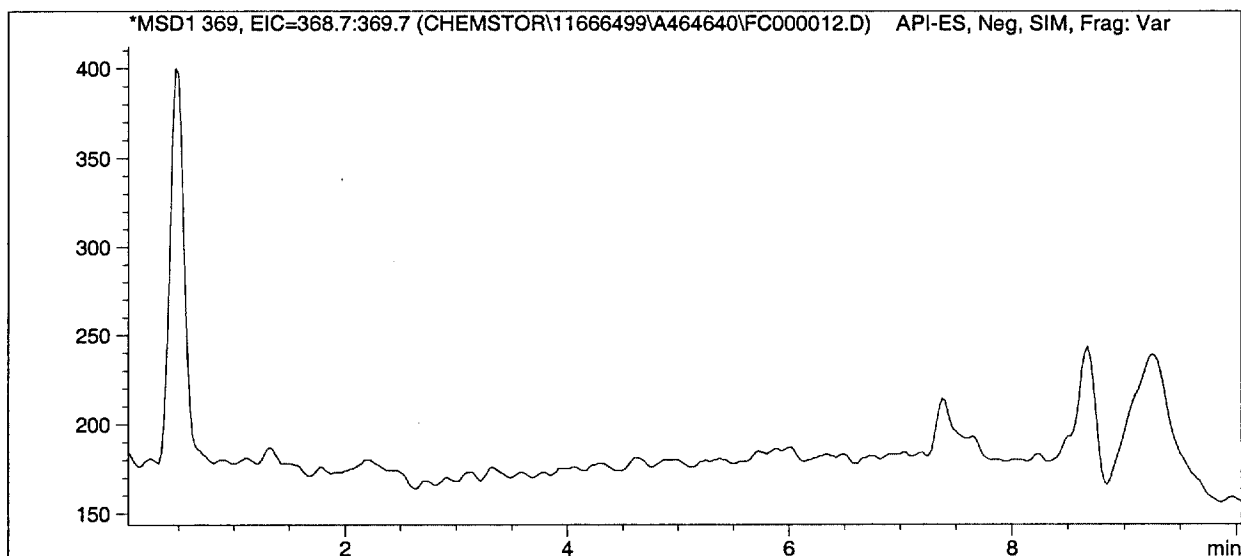
1

Data file :C:\HPCHEM\1\DATA\Chemstor\11666499\A464640\FC000012.D

Injection Date : 12/18/03 7:32:54 PM Seq Line : 12
Acq Operator : jmillier Vial No. : 13
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	638.73	8.203	282232	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0030

Sample Name:L0001444-2

Sample Info:

1

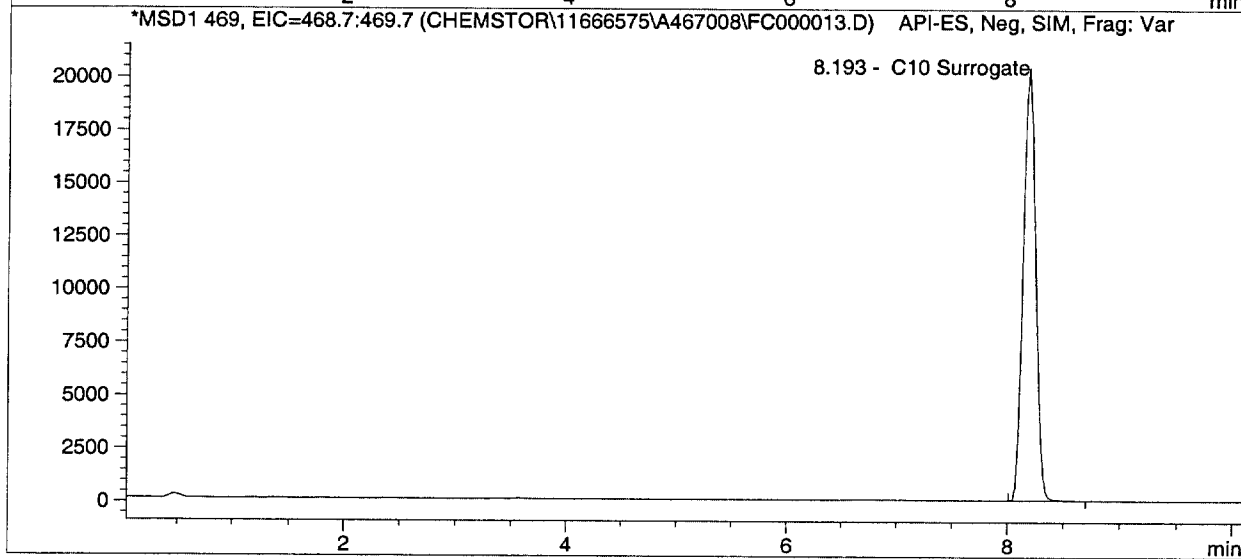
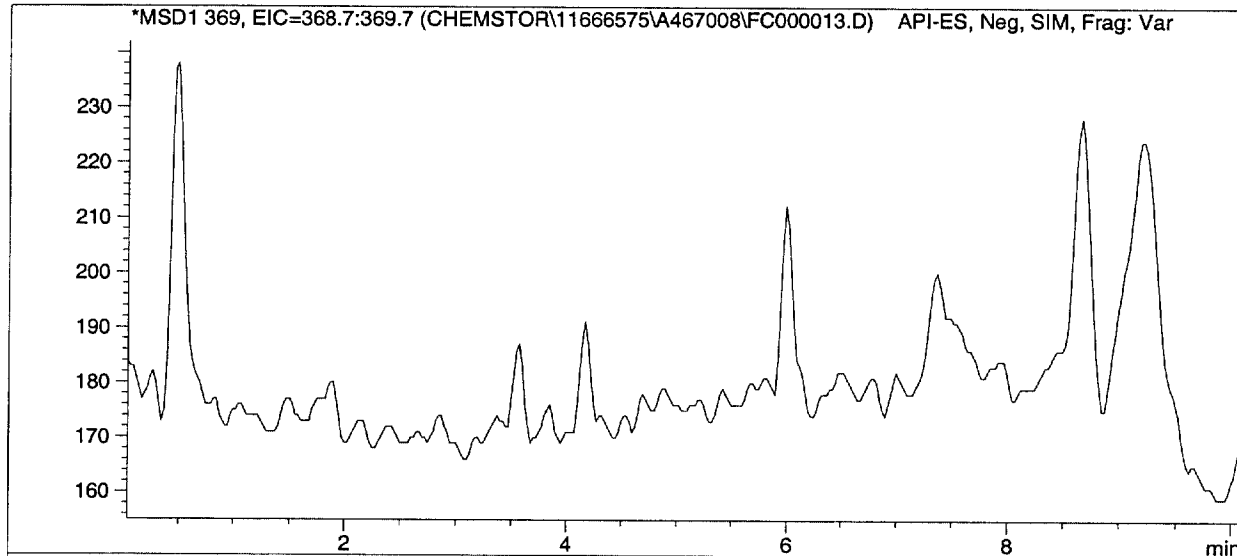
Data file :C:\HPCHEM\1\DATA\Chemstor\11666575\A467008\FC000013.D

=====

Injection Date	: 12/18/03	7:48:03 PM	Seq Line	:	13
Acq Operator	: jmillier		Vial No.	:	14
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	352.59	8.193	159294	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0031

Sample Name:L0001444-4

Sample Info:

1

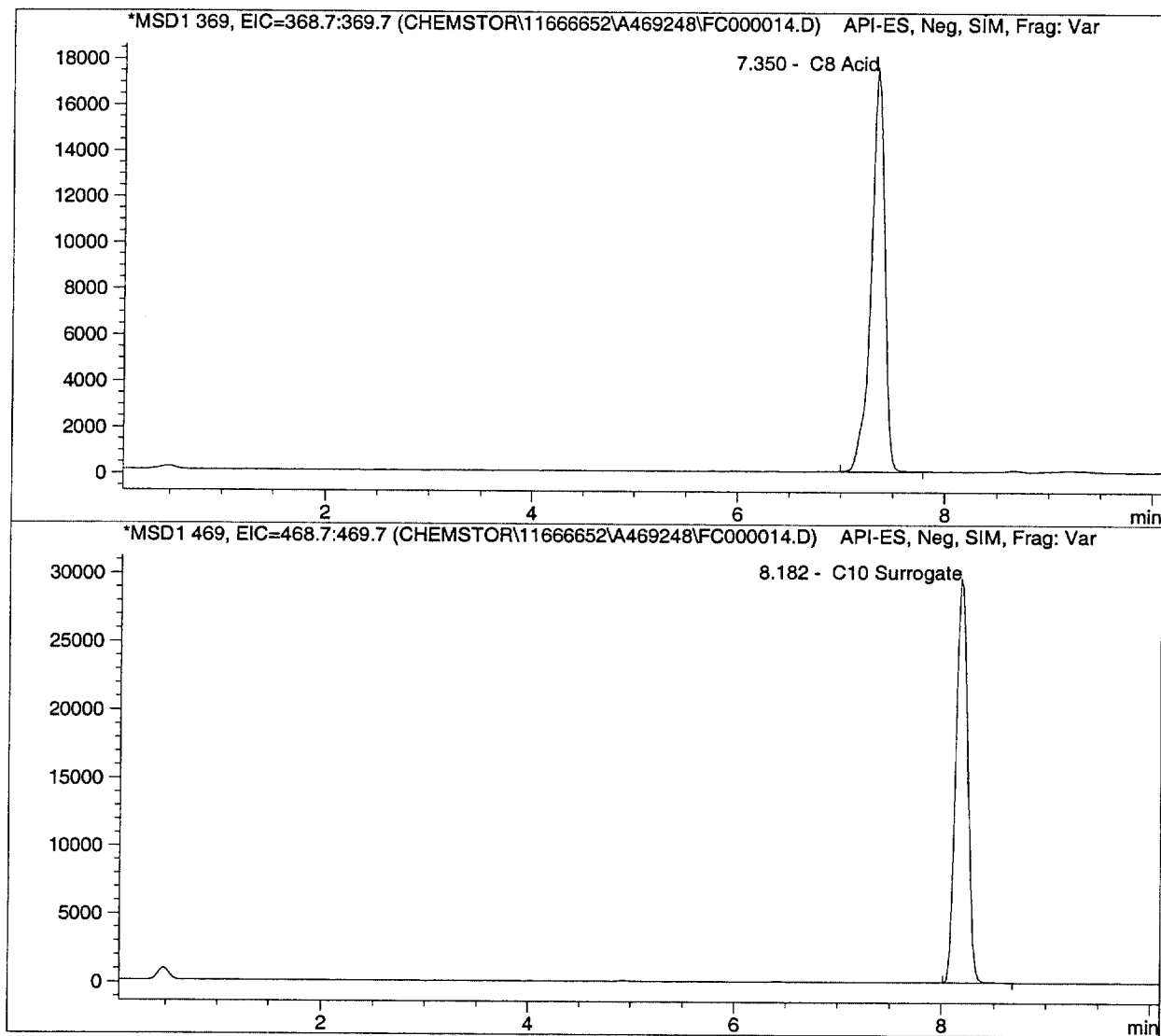
Data file :C:\HPCHEM\1\DATA\Chemstor\11666652\A469248\FC000014.D

=====

Injection Date	: 12/18/03	8:03:13 PM	Seq Line	:	14
Acq Operator	: jmillier		Vial No.	:	15
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	429.25	7.350	157861	MSD1 369, EIC=368.7:369.7
10 Surrogat	530.18	8.182	235597	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0032

Sample Name:L0001444-5

Sample Info:

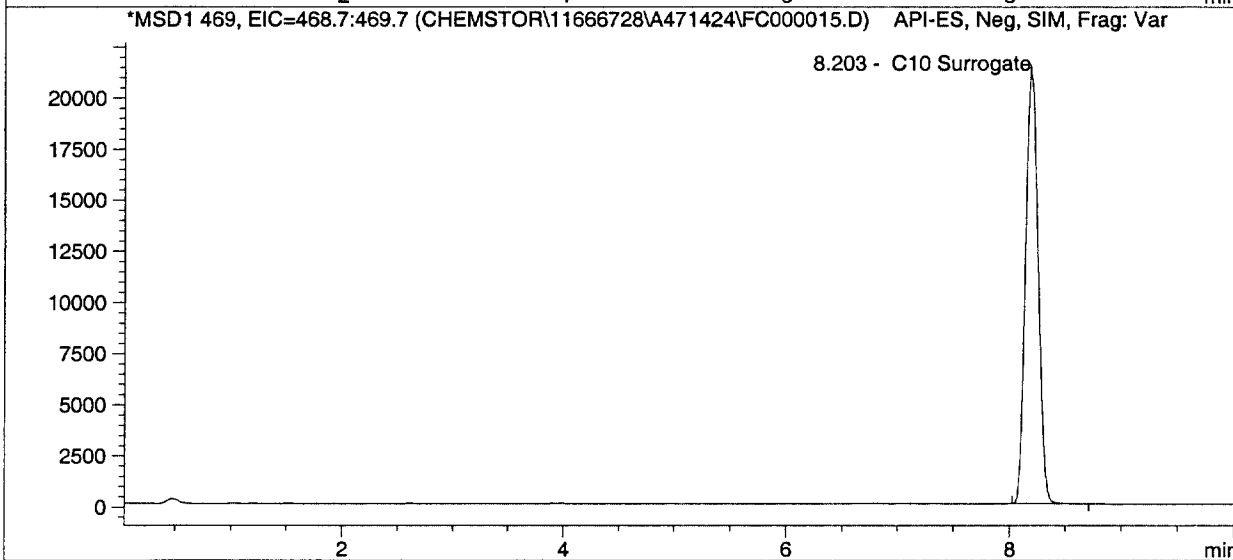
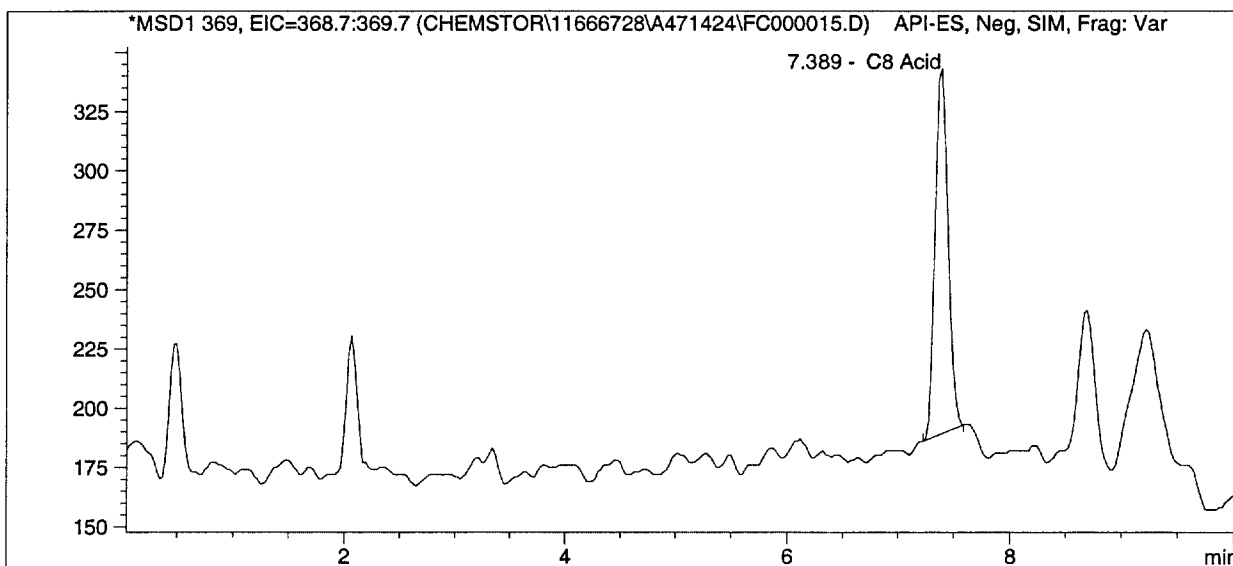
1

Data file :C:\HPCHEM\1\DATA\Chemstor\11666728\A471424\FC000015.D

=====
Injection Date : 12/18/03 8:18:29 PM Seq Line : 15
Acq Operator : jmillier Vial No. : 16
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.389	1267	MSD1 369, EIC=368.7:369.7
10 Surrogat	374.36	8.203	168649	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0033

Sample Name:L0001444-7

Sample Info:

1

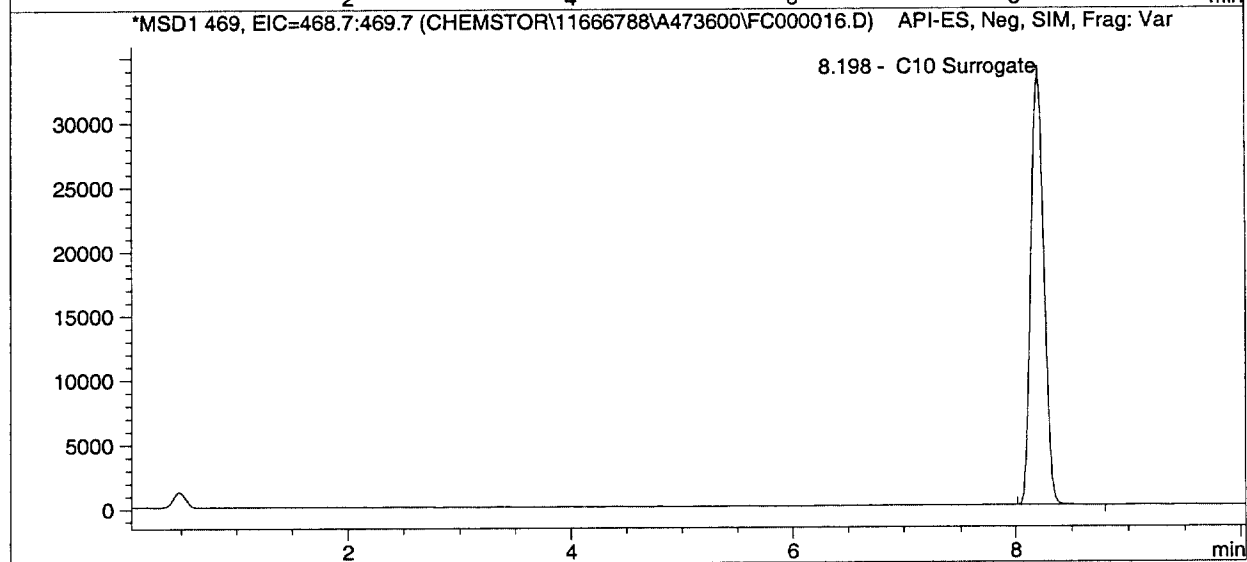
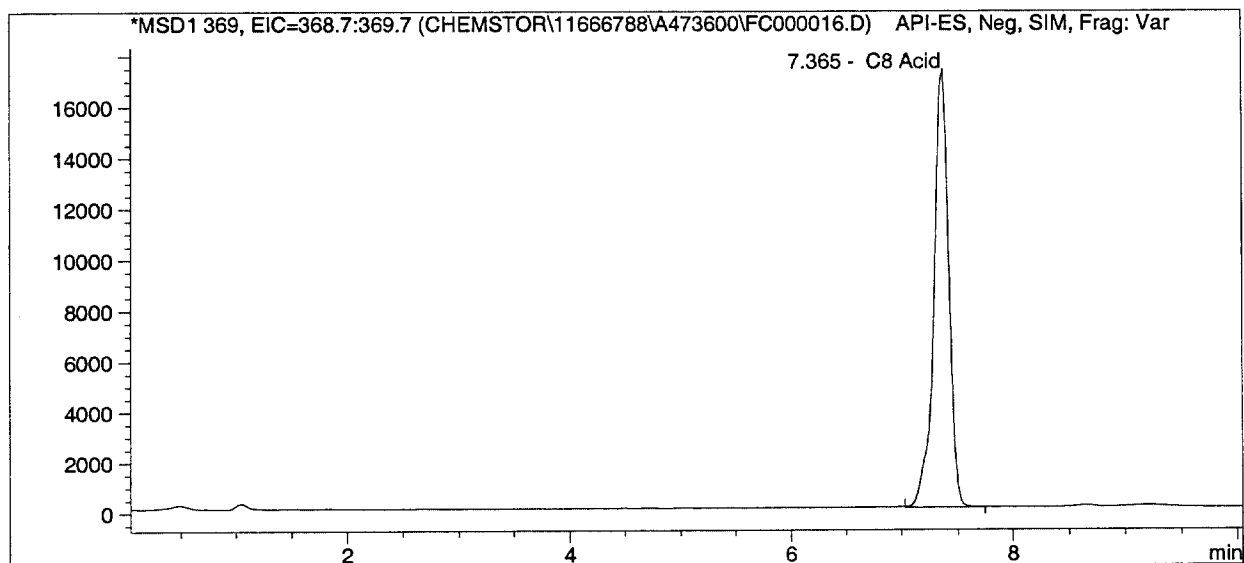
Data file :C:\HPCHEM\1\DATA\Chemstor\11666788\A473600\FC000016.D

=====

Injection Date	: 12/18/03	8:33:39 PM	Seq Line	:	16
Acq Operator	: jmillier		Vial No.	:	17
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	425.78	7.365	156643	MSD1 369, EIC=368.7:369.7
C10 Surrogat	603.05	8.198	266904	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0034

Sample Name:L0001444-8

Sample Info:

1

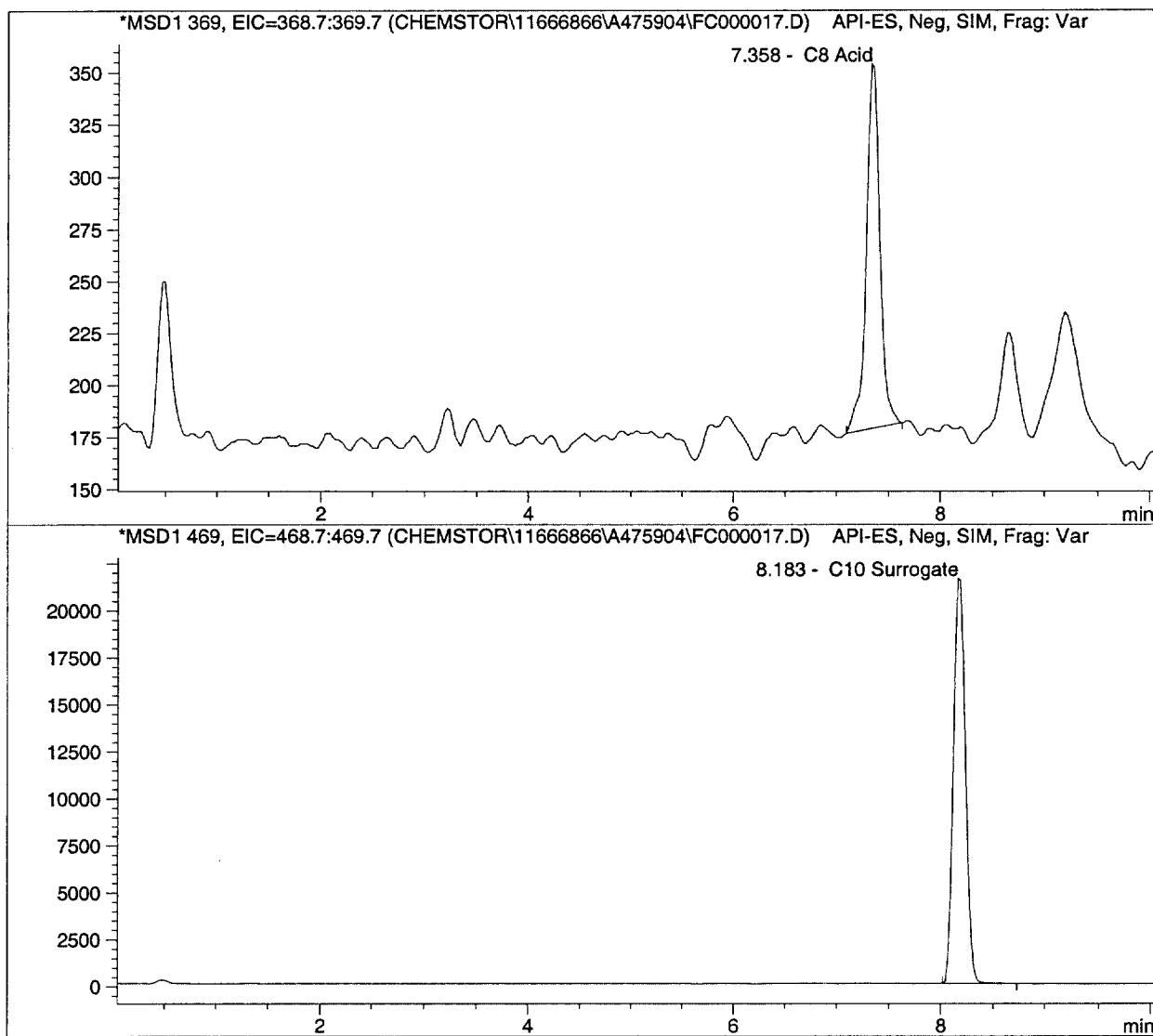
Data file :C:\HPCHEM\1\DATA\Chemstor\11666866\A475904\FC000017.D

=====

Injection Date	: 12/18/03	8:48:49 PM	Seq Line	:	17
Acq Operator	: jmillier		Vial No.	:	18
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.358	1583	MSD1 369, EIC=368.7:369.7
10 Surrogat	382.30	8.183	172062	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0035

Sample Name:L0001444-13

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11666921\A478080\FC000018.D

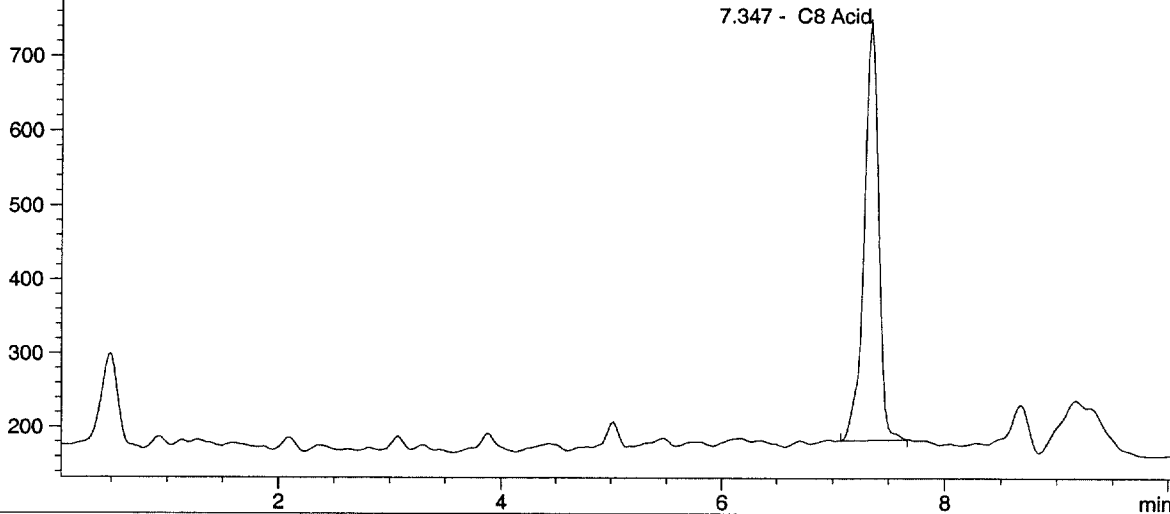
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Injection Date	: 12/18/03	9:04:00 PM	Seq Line	:	18
Acq Operator	: jmillier		Vial No.	:	19
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

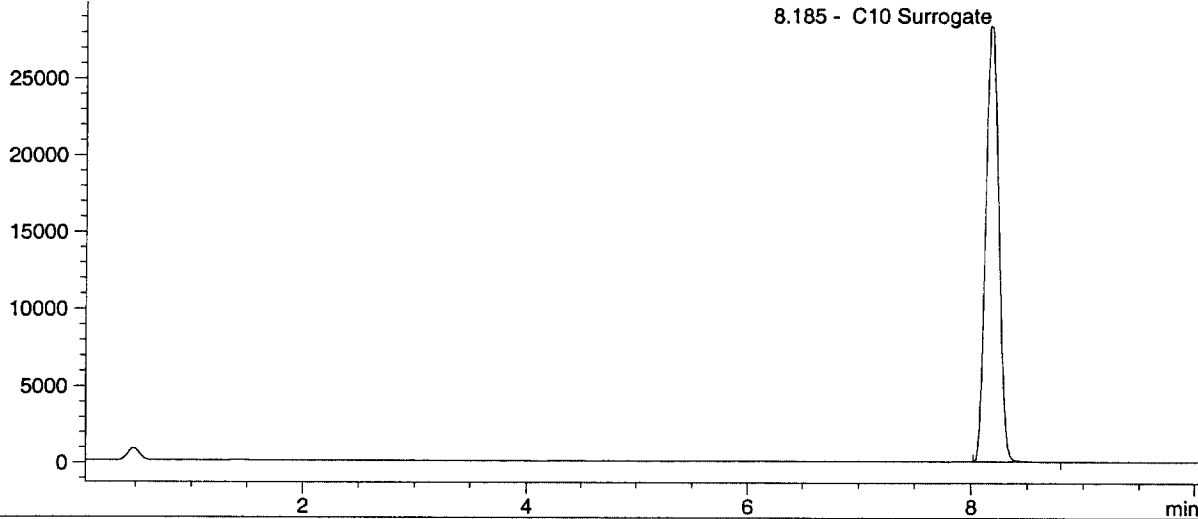
Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\11666921\A478080\FC000018.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\11666921\A478080\FC000018.D) API-ES, Neg, SIM, Frag: Var



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.347	5021	MSD1 369, EIC=368.7:369.7
10 Surrogat	510.68	8.185	227217	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0036

Sample Name:L0001444-14

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11666976\A480128\FC000019.D

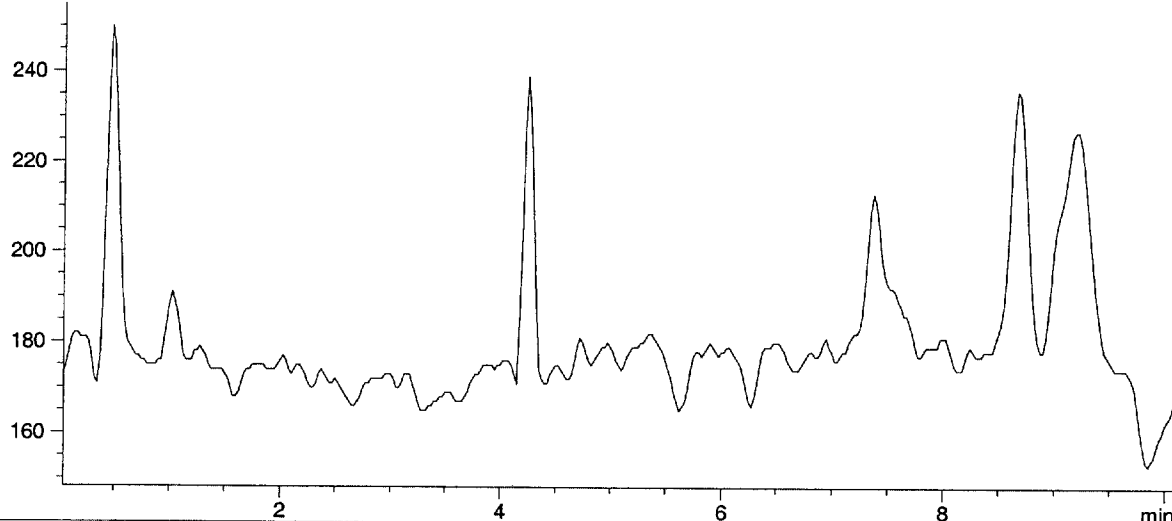
=====

Injection Date	: 12/18/03	9:19:12 PM	Seq Line	:	19
Acq Operator	: jmillier		Vial No.	:	20
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

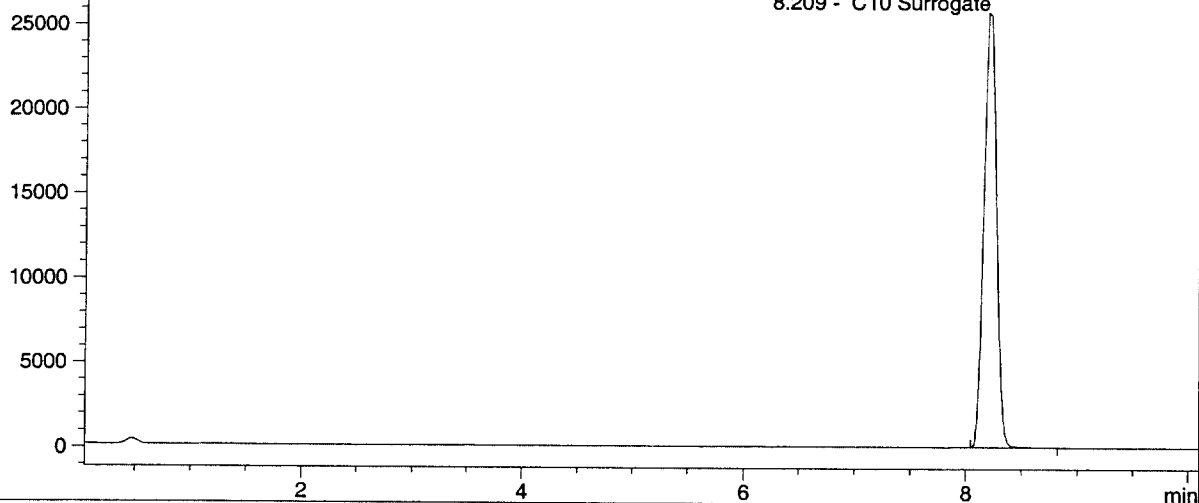
LC/MS analysis of perfluoro carboxylic acids.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\11666976\A480128\FC000019.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\11666976\A480128\FC000019.D) API-ES, Neg, SIM, Frag: Var

8.209 - C10 Surrogate



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	462.39	8.209	206471	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0037

Sample Name:STD 500 ppb

Sample Info:

1

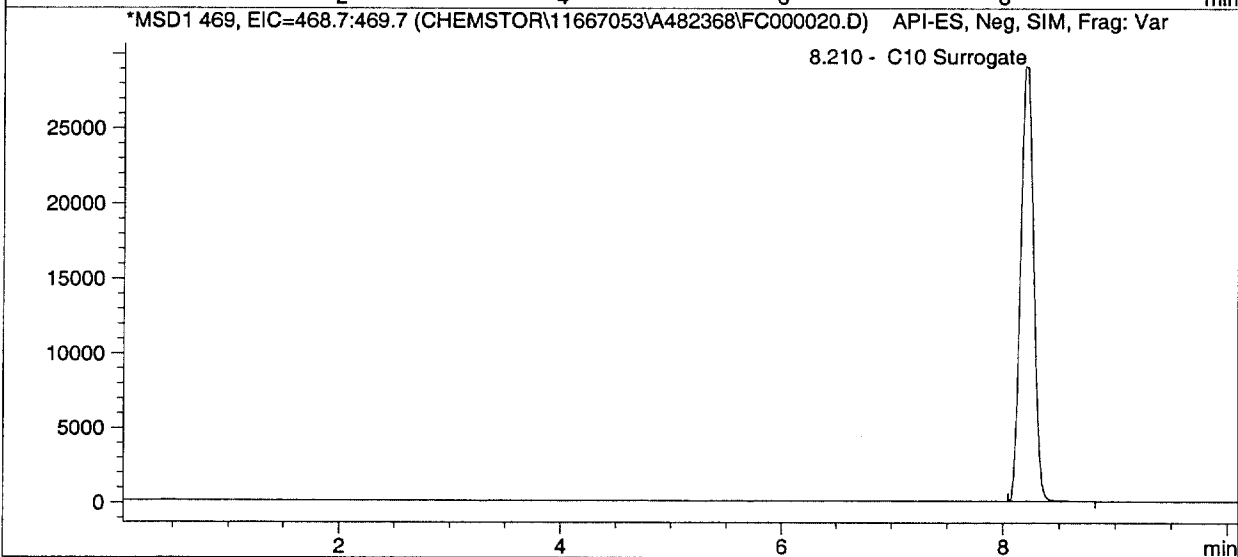
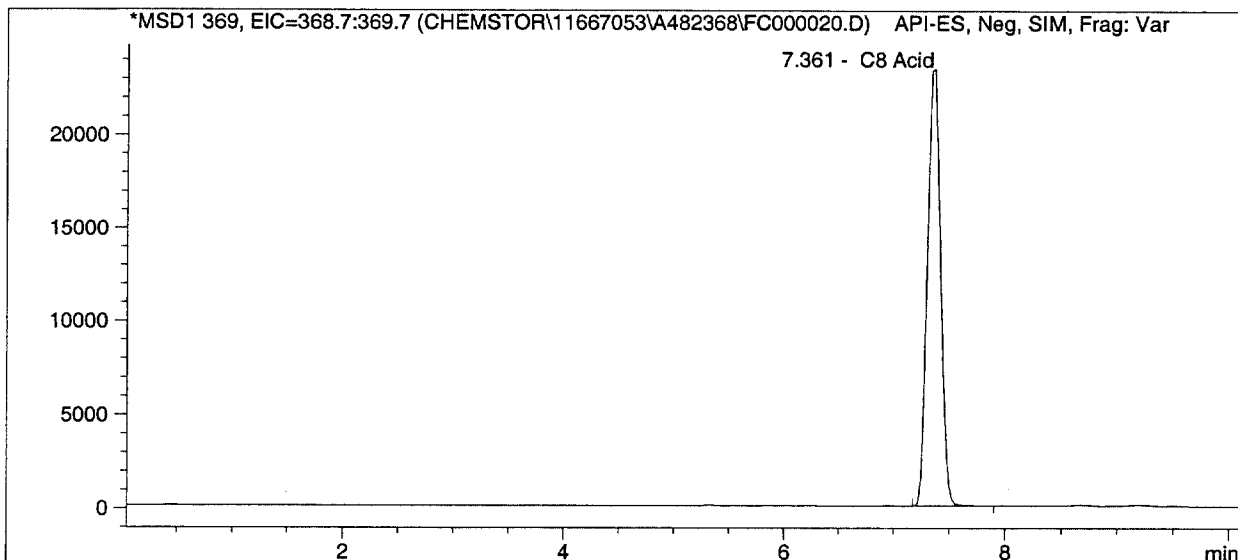
Data file :C:\HPCHEM\1\DATA\Chemstor\11667053\A482368\FC000020.D

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Injection Date	: 12/18/03	9:34:19 PM	Seq Line	:	20
Acq Operator	: jmillier		Vial No.	:	4
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	523.38	7.361	190860	MSD1 369, EIC=368.7:369.7
10 Surrogat	526.00	8.210	233800	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0008

Sample Name:solvent blank
Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11667132\A484608\FC000021.D

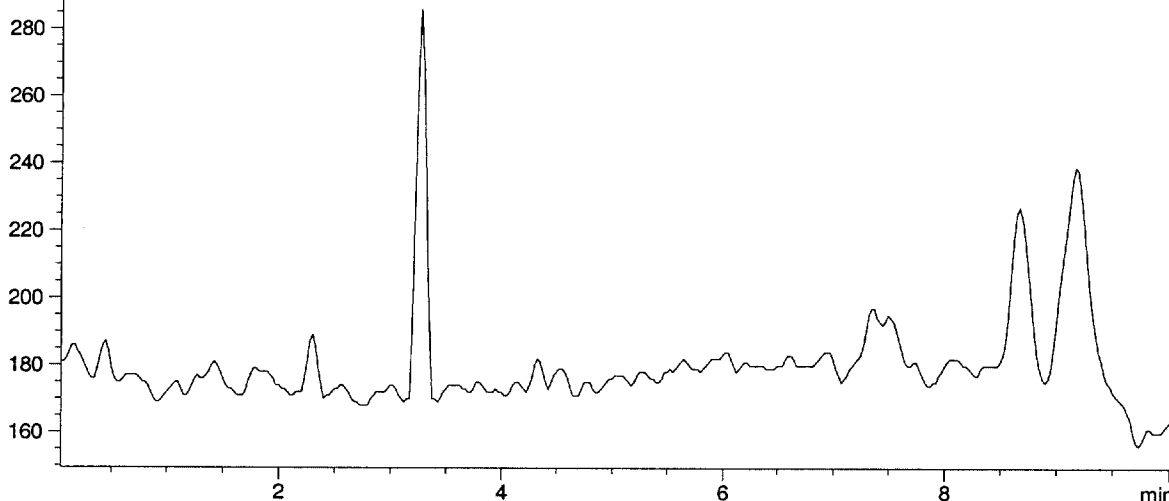
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Injection Date	: 12/18/03	9:49:32 PM	Seq Line	:	21
Acq Operator	: jmillier		Vial No.	:	92
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

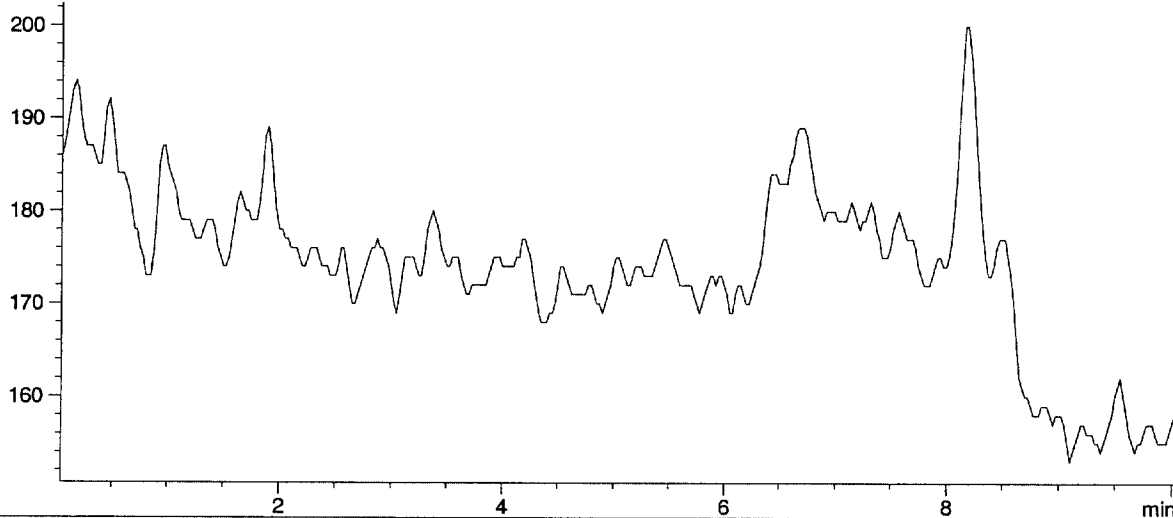
Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\11667132\A484608\FC000021.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\11667132\A484608\FC000021.D) API-ES, Neg, SIM, Frag: Var



Compound	Amount (ng/mL)	R.T.	Area	Signal
FC8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	0.00	0.000	0	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0039

Sample Name:L0001444-16

Sample Info:

1

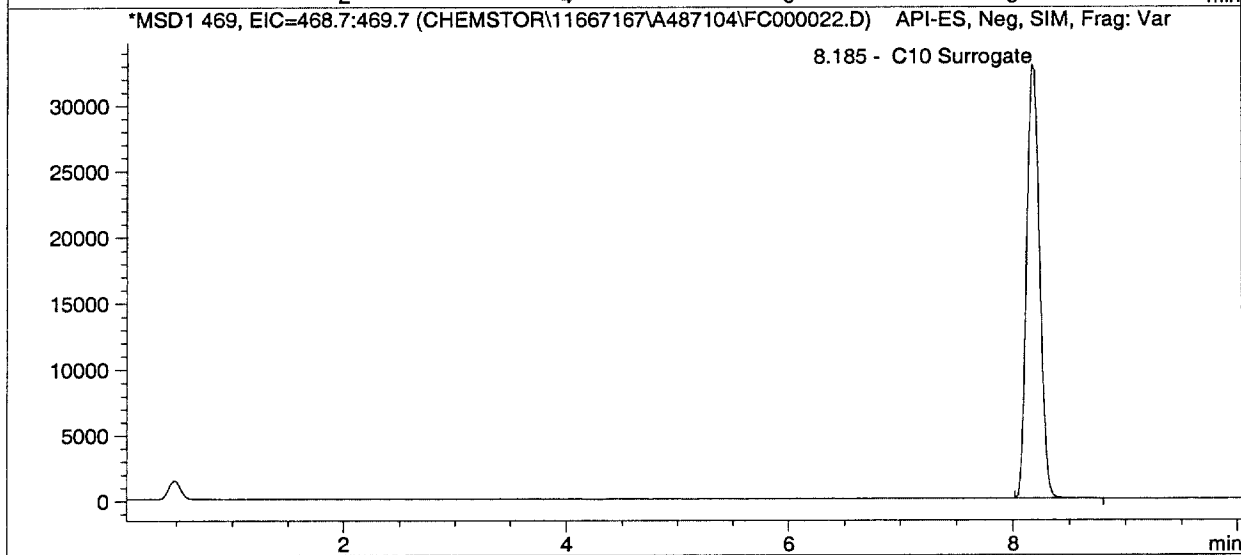
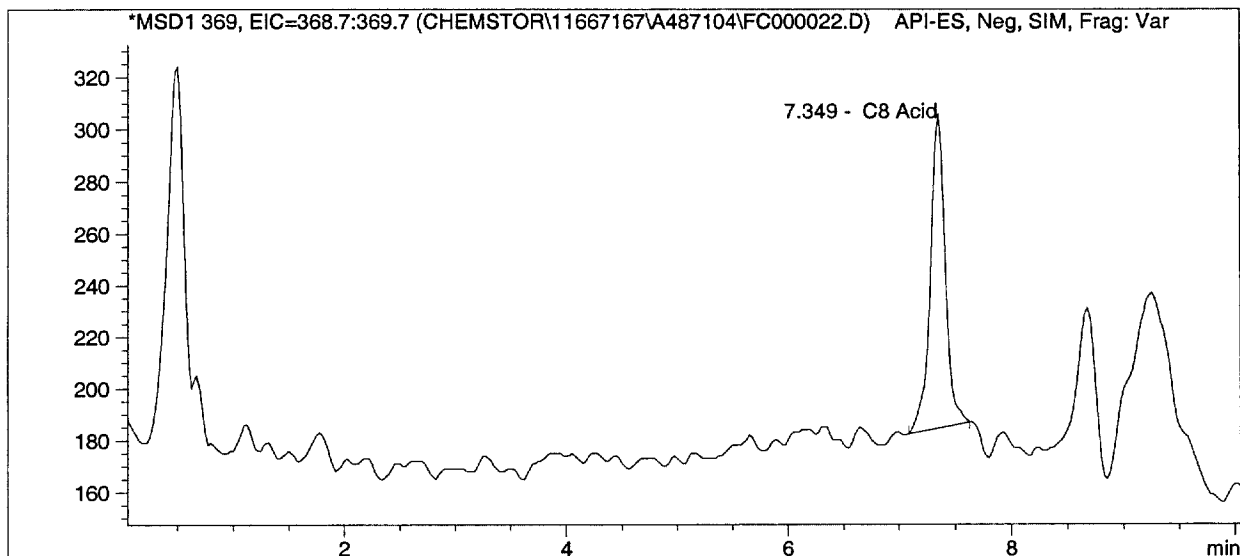
Data file :C:\HPCHEM\1\DATA\Chemstor\11667167\A487104\FC000022.D

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Injection Date	: 12/18/03	10:04:40 PM	Seq Line	:	22
Acq Operator	: jmillier		Vial No.	:	21
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.349	1127	MSD1 369, EIC=368.7:369.7
C10 Surrogat	596.44	8.185	264063	MSD1 469, EIC=468.7:469.7

*** End of Report ***

Sample Name:L0001444-17

Sample Info:

1

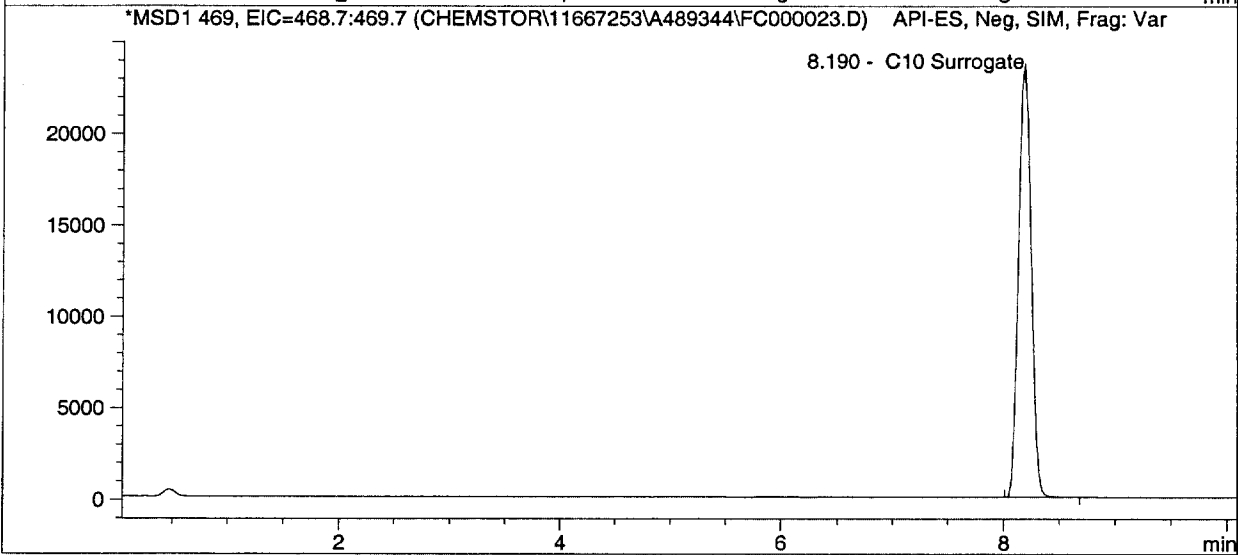
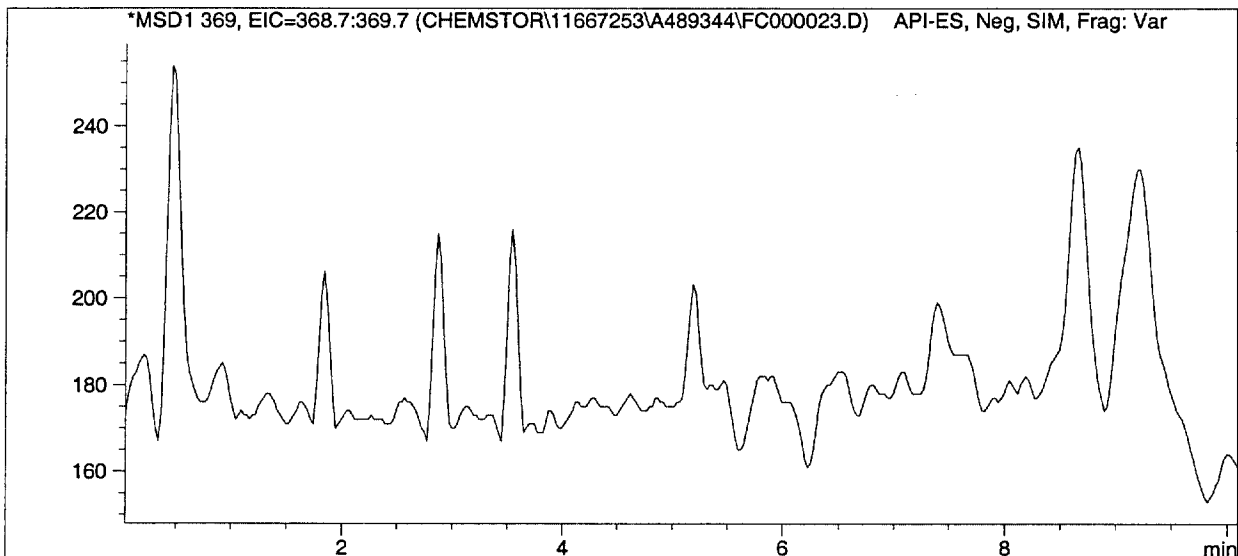
Data file :C:\HPCHEM\1\DATA\Chemstor\11667253\A489344\FC000023.D

=====

Injection Date	: 12/18/03	10:19:50 PM	Seq Line	:	23
Acq Operator	: jmillier		Vial No.	:	22
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	416.90	8.190	186925	MSD1 469, EIC=468.7:469.7

=====

*** End of Report ***

Sample Name:L0001444-19

Sample Info:

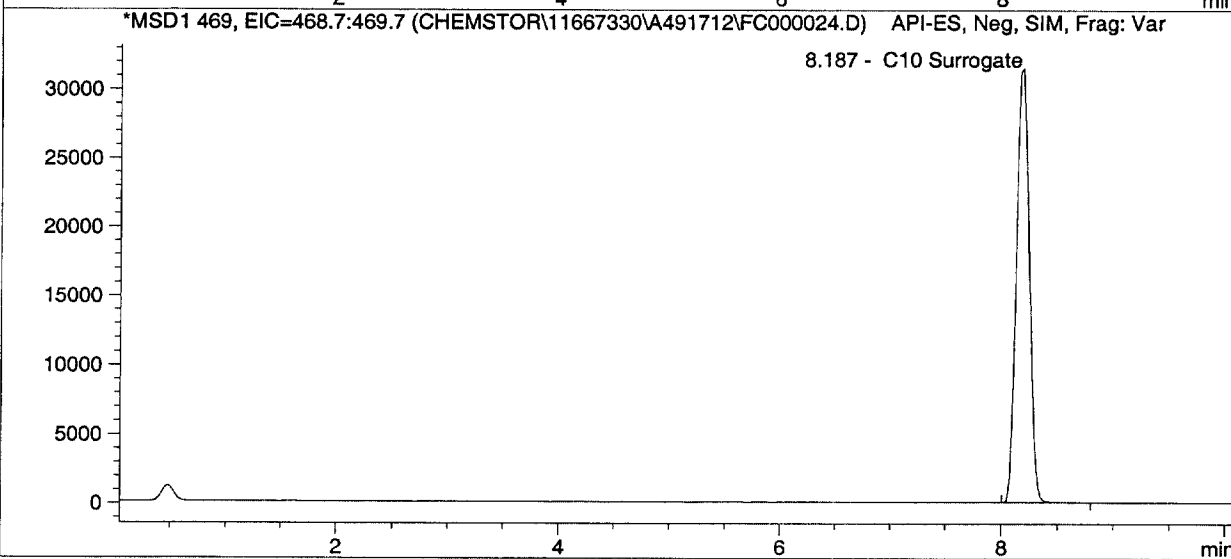
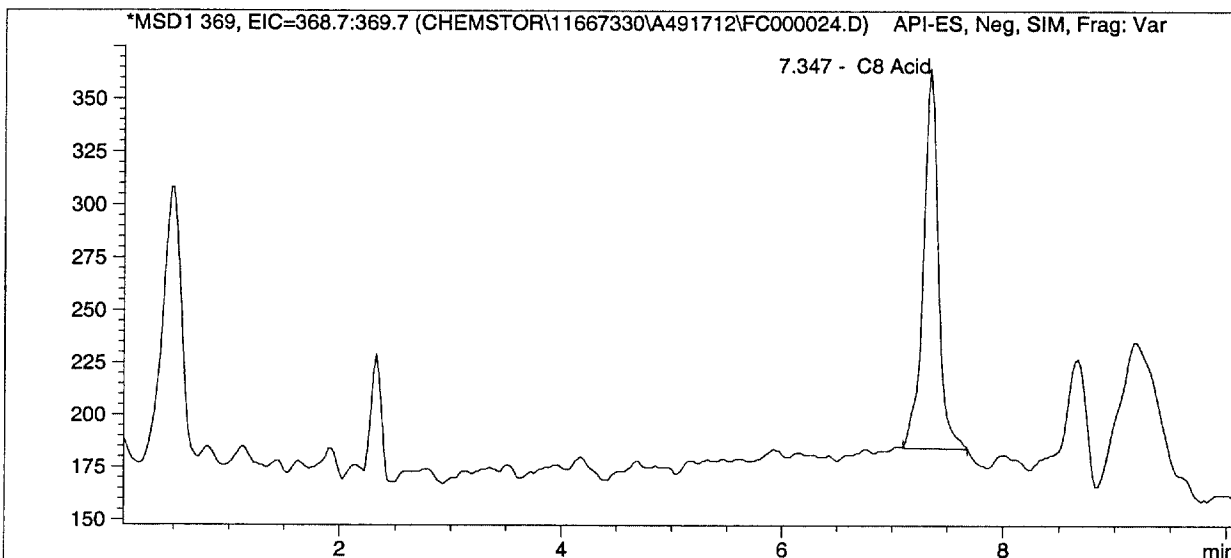
1

Data file :C:\HPCHEM\1\DATA\Chemstor\11667330\A491712\FC000024.D

Injection Date : 12/18/03 10:34:57 PM Seq Line : 24
Acq Operator : jmillier Vial No. : 23
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.347	1692	MSD1 369, EIC=368.7:369.7
10 Surrogat	565.53	8.187	250781	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0042

Sample Name:L0001444-20

Sample Info:

1

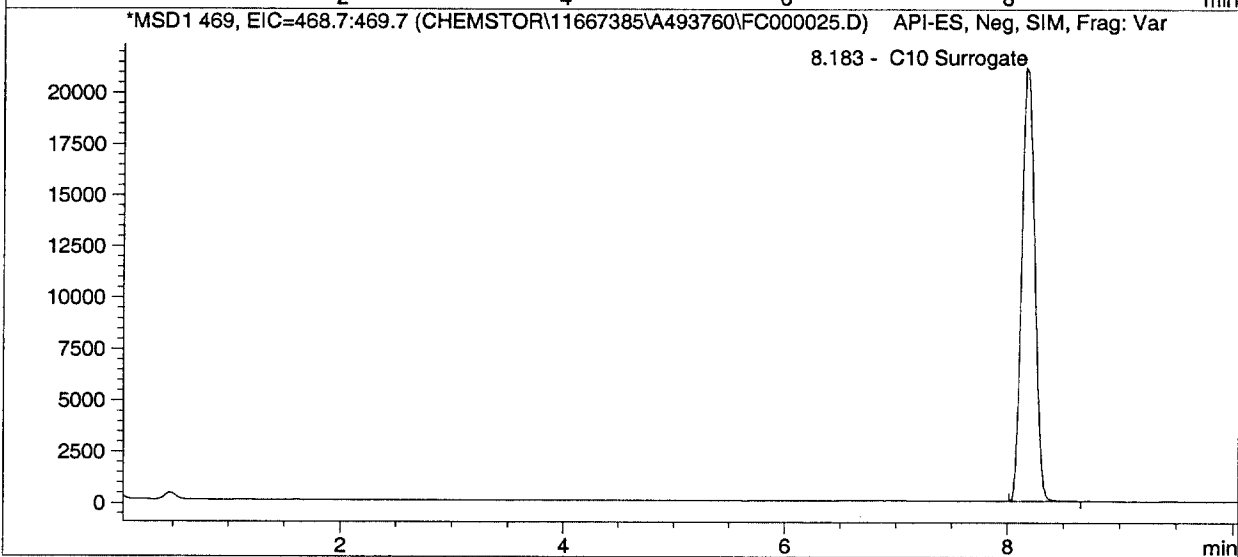
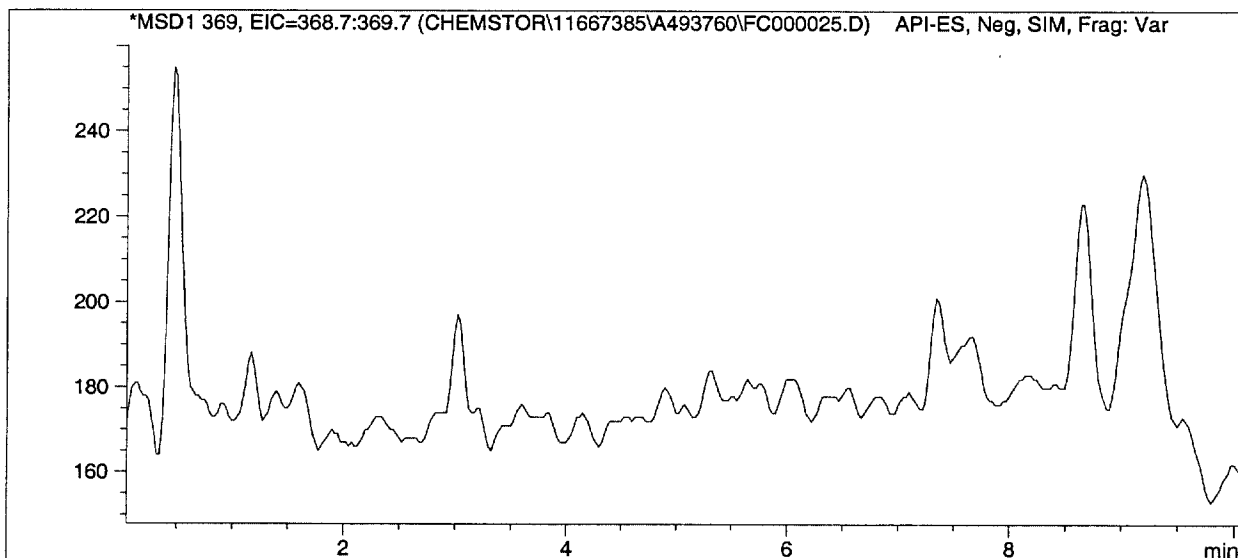
Data file :C:\HPCHEM\1\DATA\Chemstor\11667385\A493760\FC000025.D

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Injection Date	: 12/18/03	10:50:07 PM	Seq Line	:	25
Acq Operator	: jmillier		Vial No.	:	24
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	372.65	8.183	167914	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0043

Sample Name:STD 500 ppb

Sample Info:

1

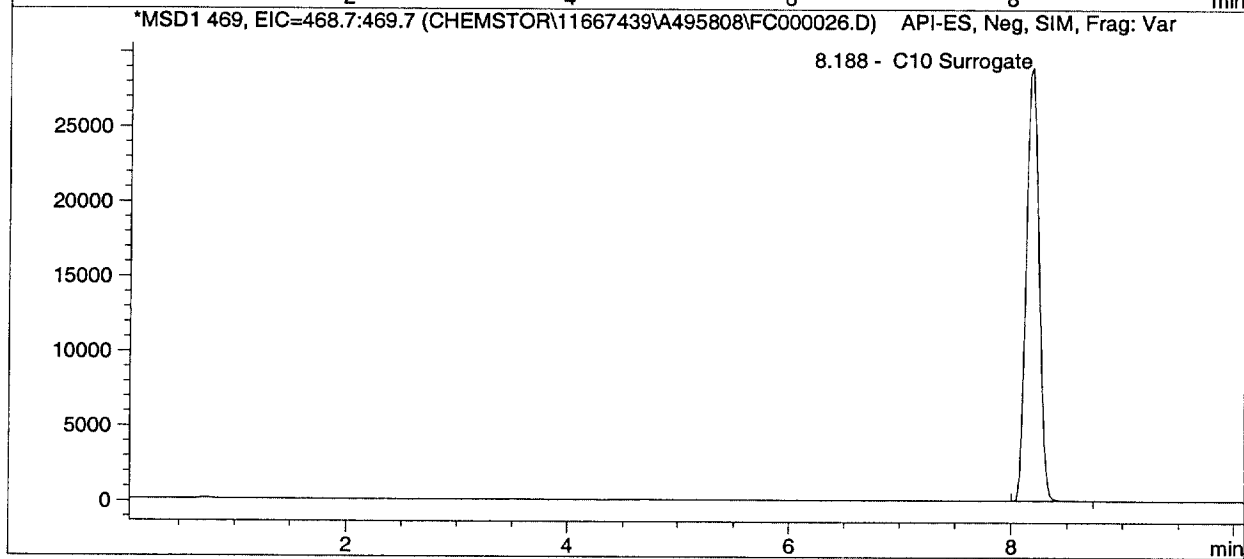
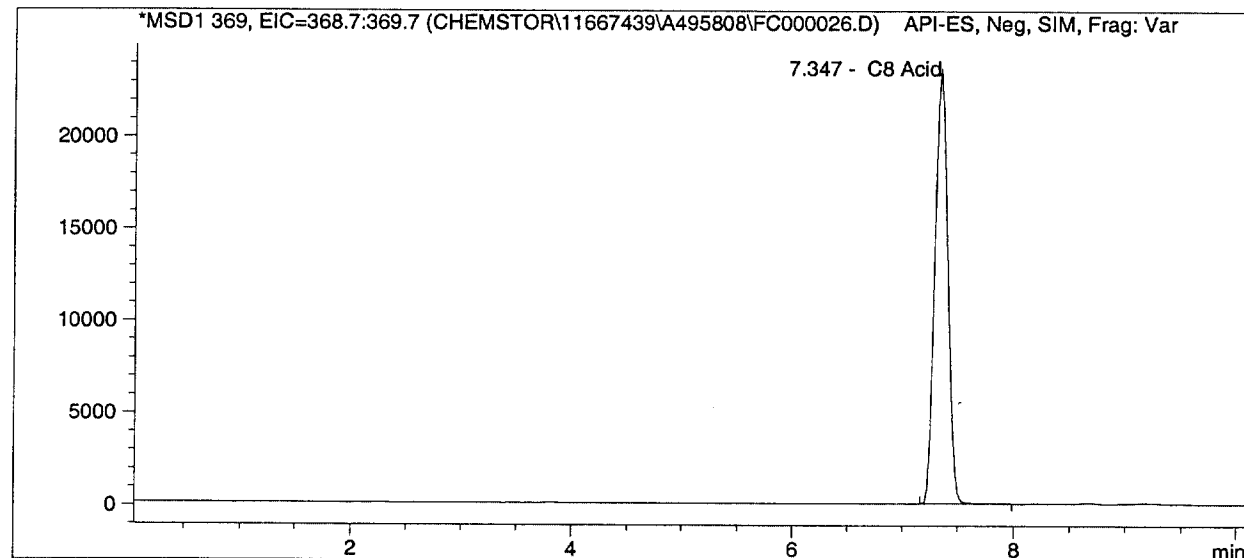
Data file :C:\HPCHEM\1\DATA\Chemstor\11667439\A495808\FC000026.D

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Injection Date	: 12/18/03	11:05:14 PM	Seq Line	:	26
Acq Operator	: jmillier		Vial No.	:	4
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	517.81	7.347	188908	MSD1 369, EIC=368.7:369.7
10 Surrogat	519.29	8.188	230918	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0044

Sample Name:solvent blank

Sample Info:

1

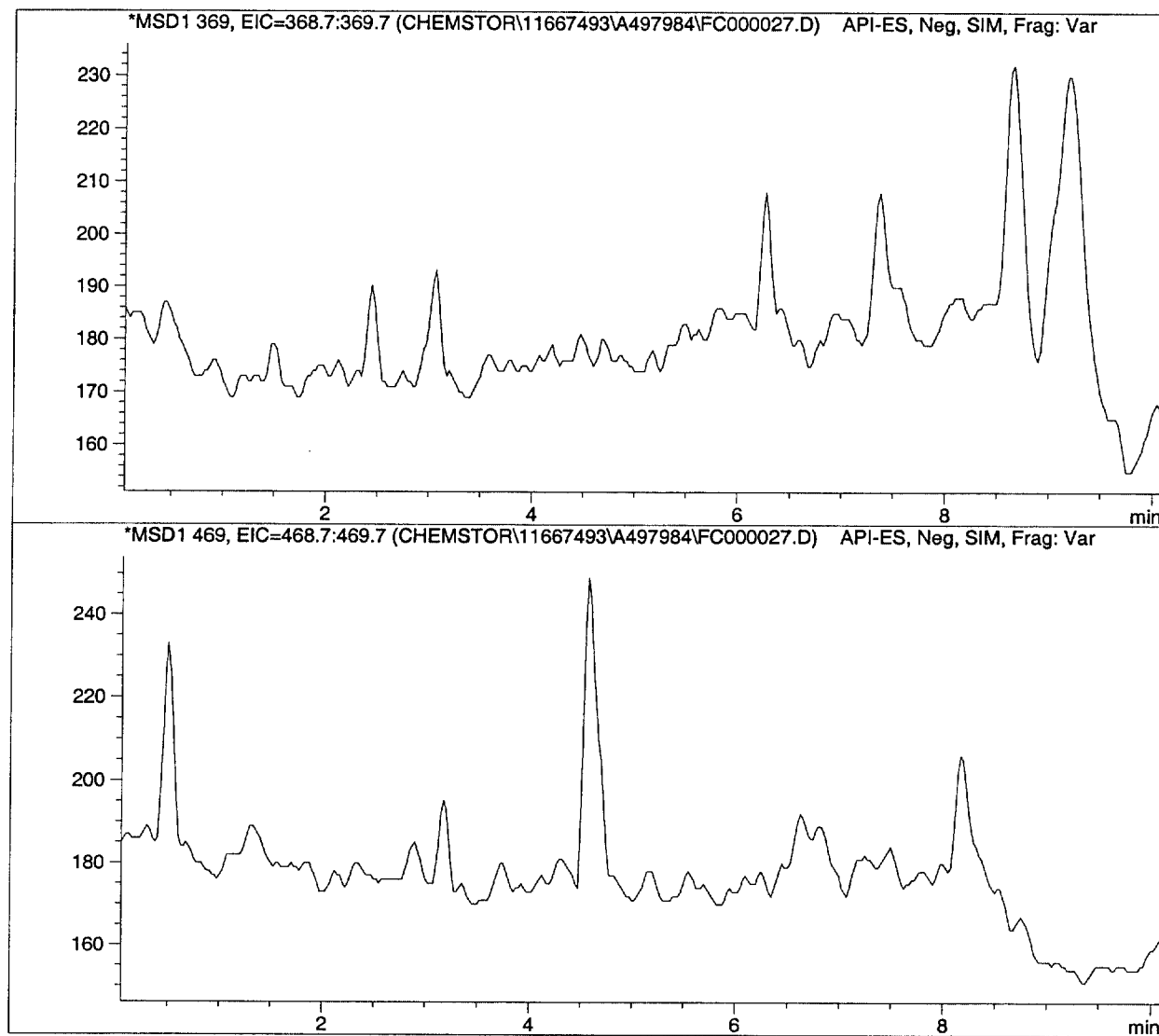
Data file :C:\HPCHEM\1\DATA\Chemstor\11667493\A497984\FC000027.D

=====

Injection Date	: 12/18/03	11:20:23 PM	Seq Line	:	27
Acq Operator	: jmillier		Vial No.	:	92
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	0.00	0.000	0	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0045

Sample Name:STD 50 ppb

Sample Info:

1

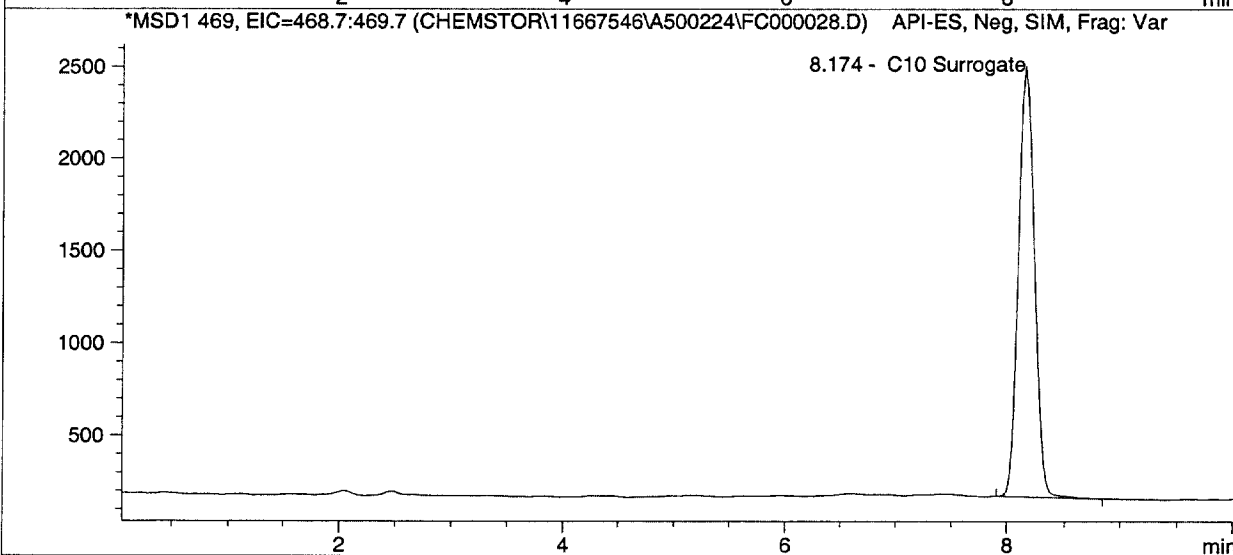
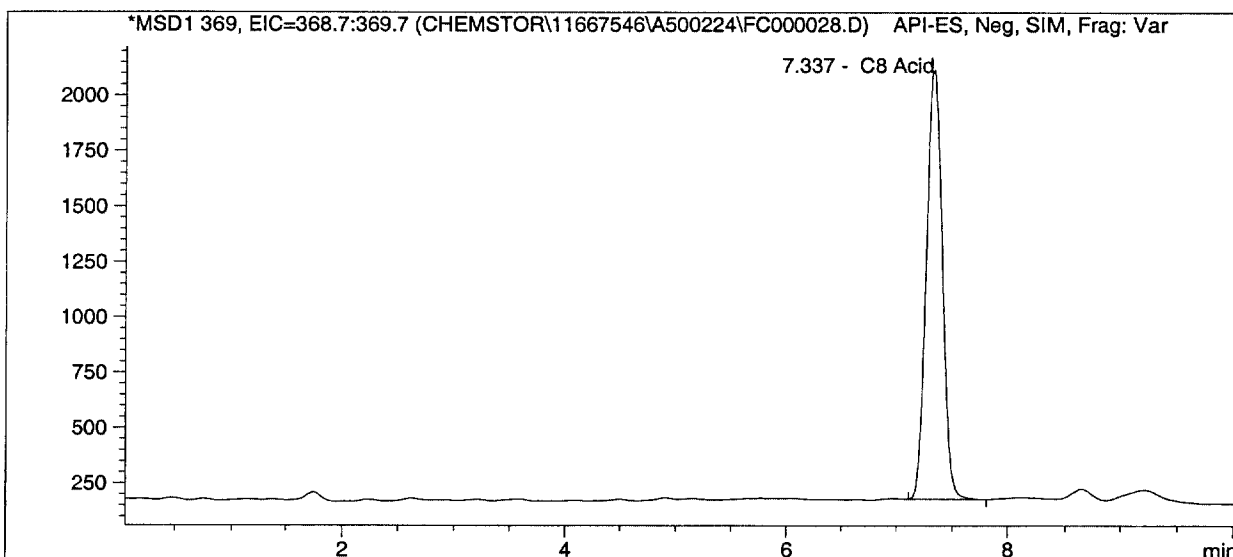
Data file :C:\HPCHEM\1\DATA\Chemstor\11667546\A500224\FC000028.D

=====

Injection Date	: 12/18/03	11:35:37 PM	Seq Line	:	28
Acq Operator	: jmillier		Vial No.	:	1
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	34.20	7.337	19364	MSD1 369, EIC=368.7:369.7
10 Surrogat	34.97	8.174	22836	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0046

Sample Name:STD 100 ppb

Sample Info:

1

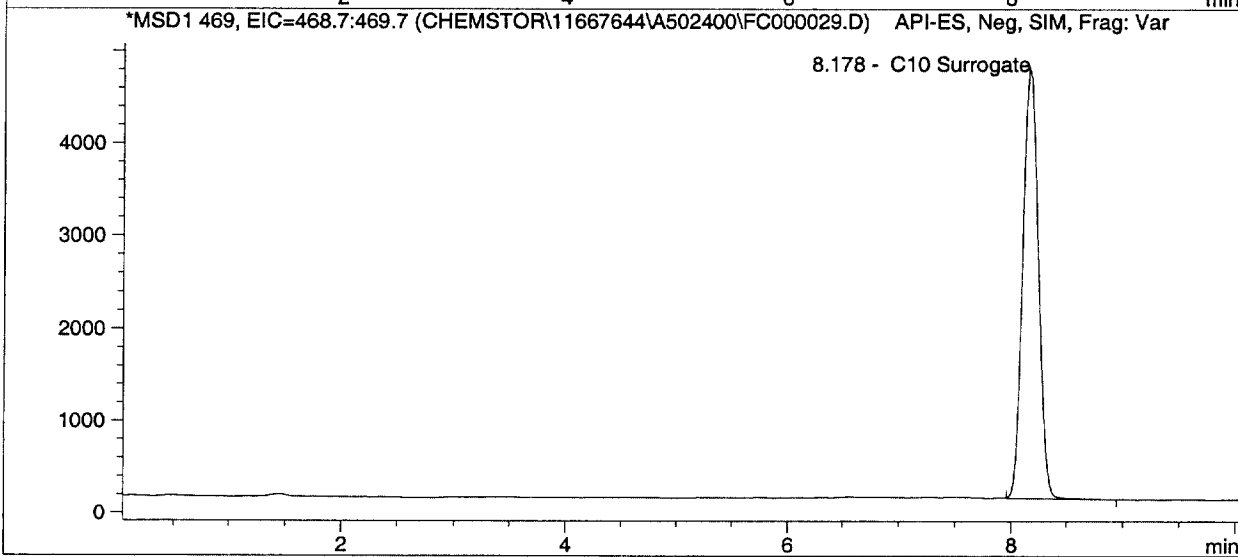
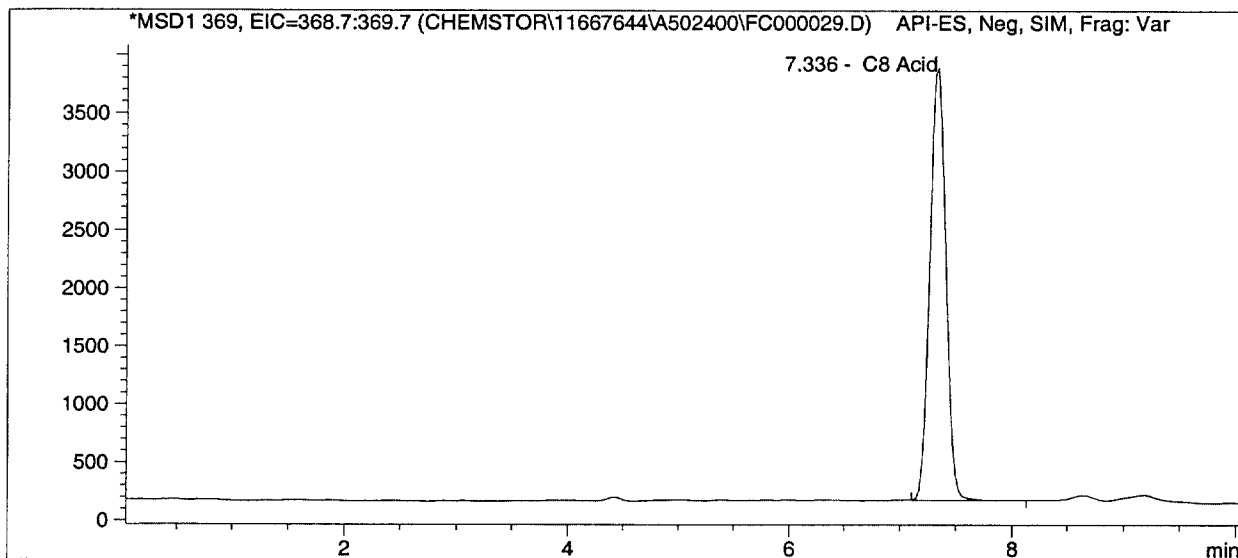
Data file :C:\HPCHEM\1\DATA\Chemstor\11667644\A502400\FC000029.D

=====

Injection Date	: 12/18/03	11:50:47 PM	Seq Line	:	29
Acq Operator	: jmillier		Vial No.	:	2
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	84.49	7.336	36993	MSD1 369, EIC=368.7:369.7
10 Surrogat	88.11	8.178	45665	MSD1 469, EIC=468.7:469.7

=====

*** End of Report ***

0047

Sample Name:STD 250 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11667681\A504576\FC000030.D

=====

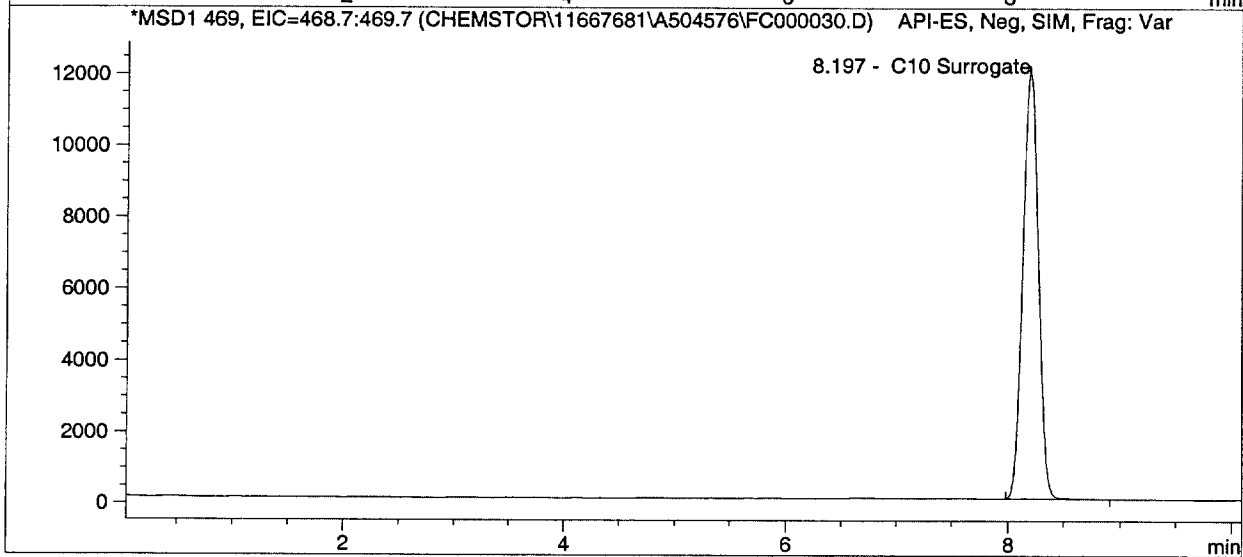
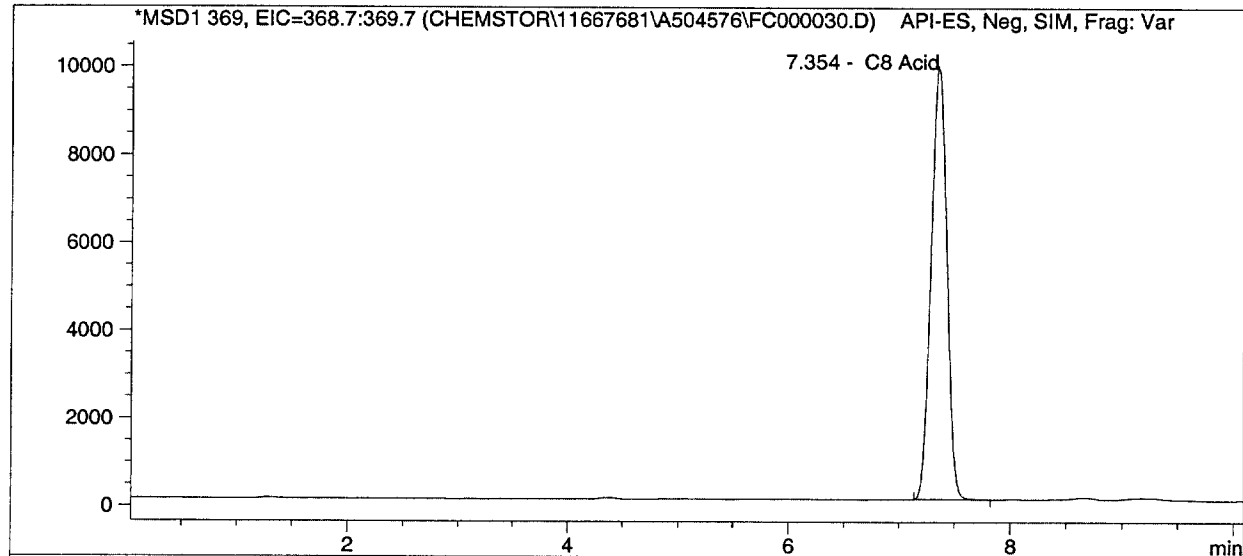
Injection Date	: 12/19/03	12:05:55 AM	Seq Line	:	30
Acq Operator	: jmillier		Vial No.	:	3
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\121803.M

Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	259.73	7.354	98428	MSD1 369, EIC=368.7:369.7
10 Surrogat	257.49	8.197	118436	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0048

Sample Name:STD 500 ppb

Sample Info:

1

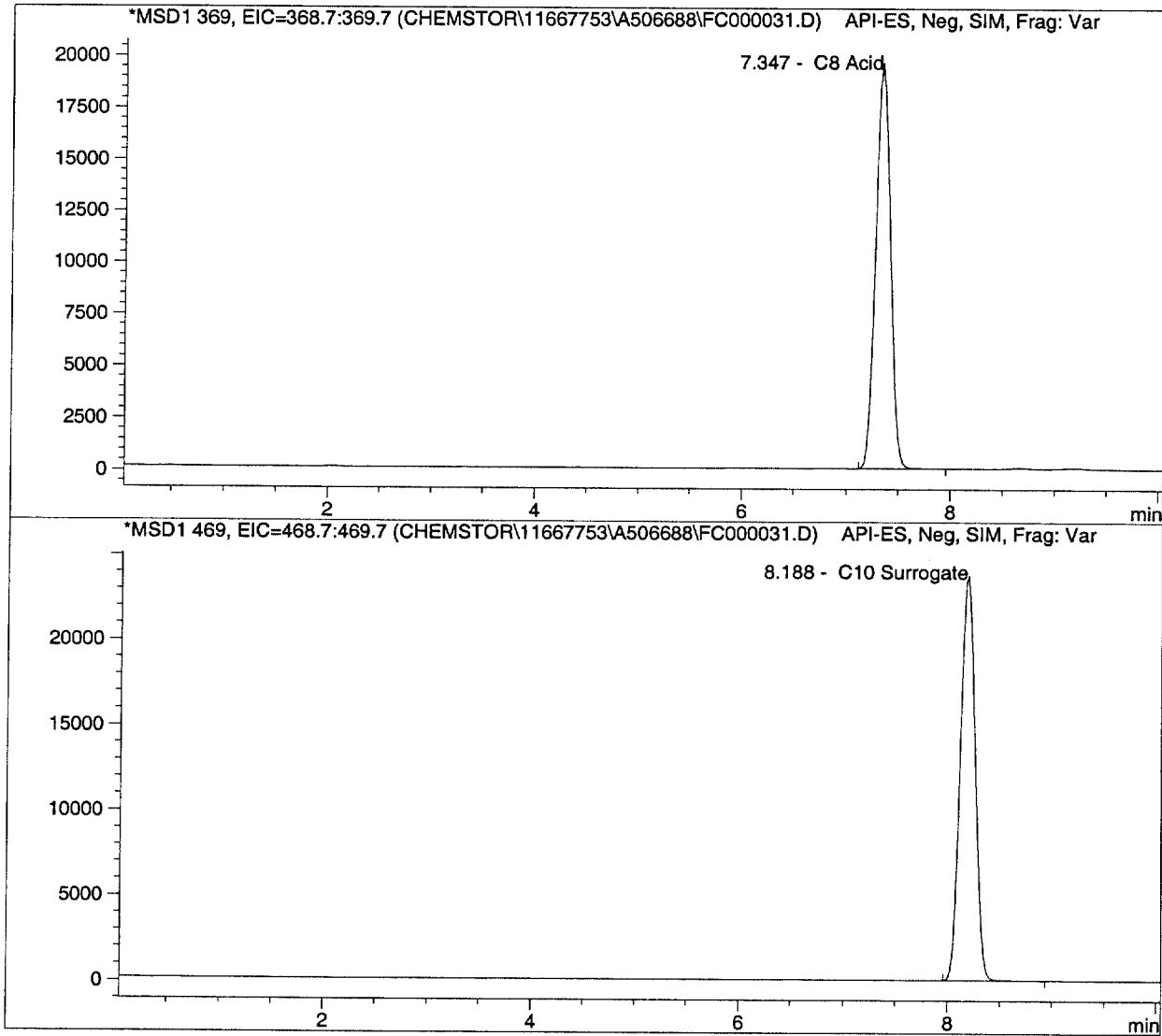
Data file :C:\HPCHEM\1\DATA\Chemstor\11667753\A506688\FC000031.D

=====

Injection Date	: 12/19/03	12:21:11 AM	Seq Line	:	31
Acq Operator	: jmillier		Vial No.	:	4
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	528.35	7.347	192604	MSD1 369, EIC=368.7:369.7
10 Surrogat	527.34	8.188	234376	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0049

Sample Name:STD 750 ppb

Sample Info:

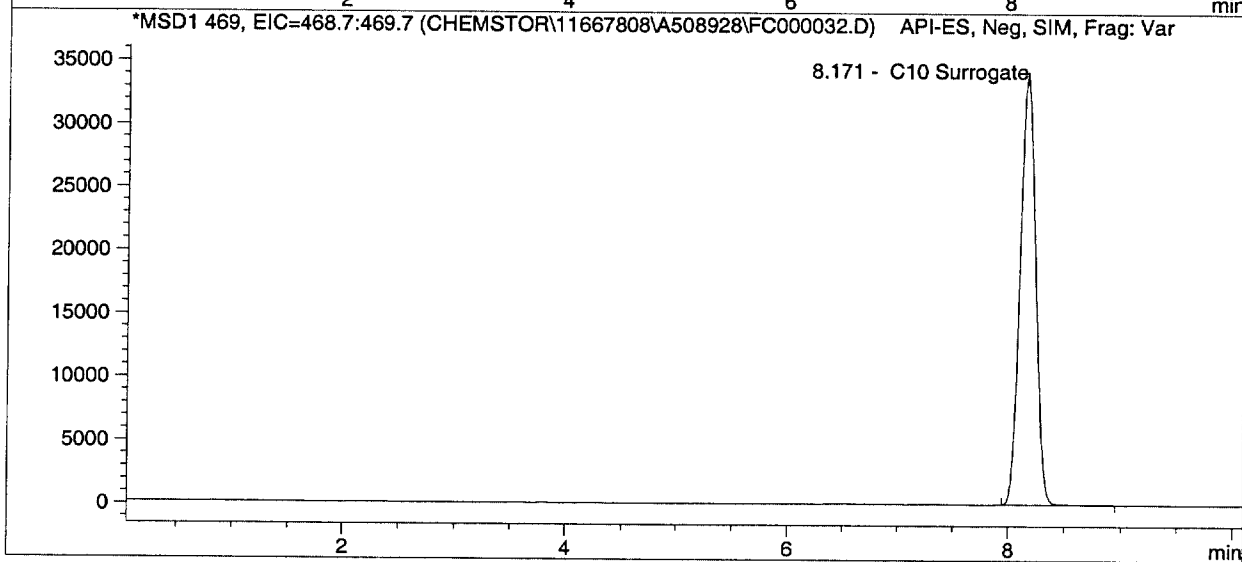
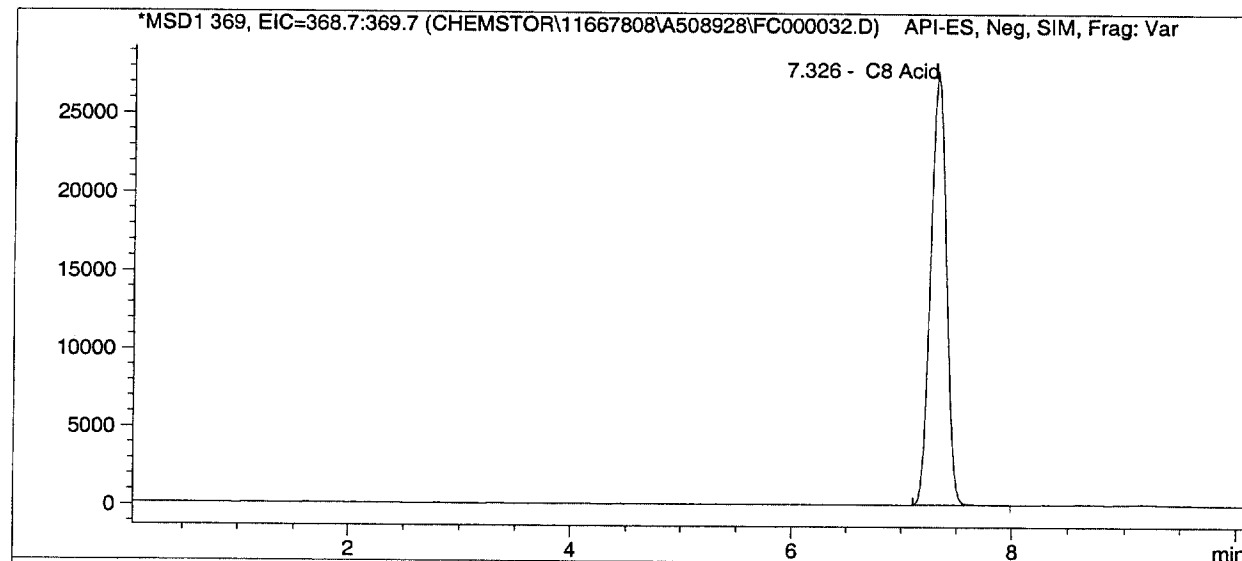
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Data file :C:\HPCHEM\1\DATA\Chemstor\11667808\A508928\FC000032.D

=====
Injection Date : 12/19/03 12:36:22 AM Seq Line : 32
Acq Operator : jmillers Vial No. : 5
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	760.03	7.326	273825	MSD1 369, EIC=368.7:369.7
10 Surrogat	760.01	8.171	334338	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0050

Sample Name:STD 1000 ppb

Sample Info:

1

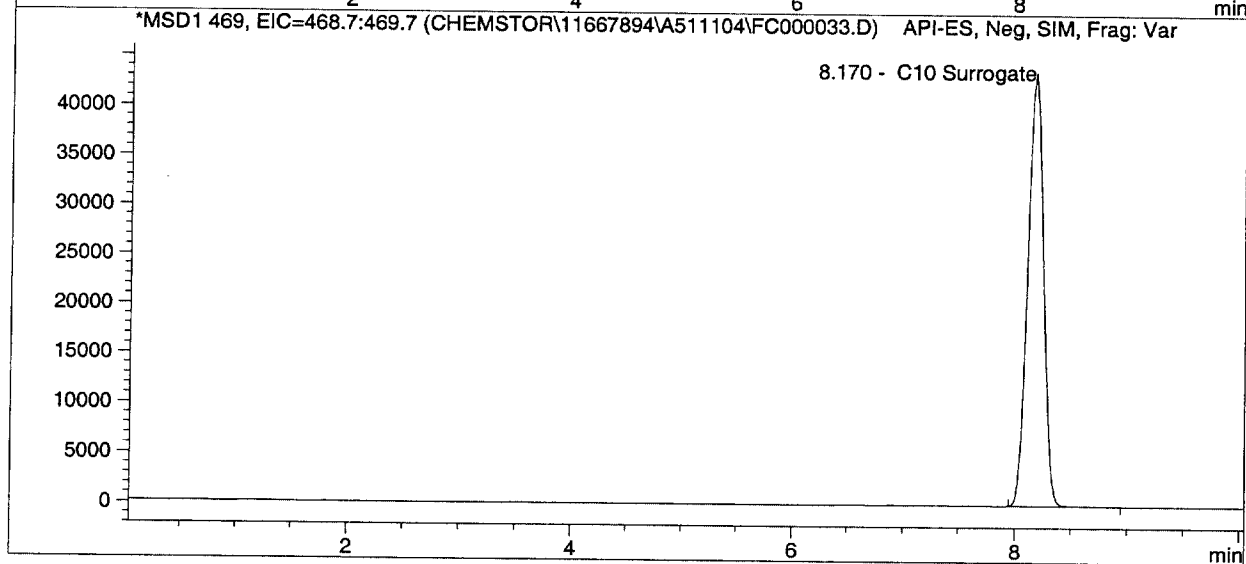
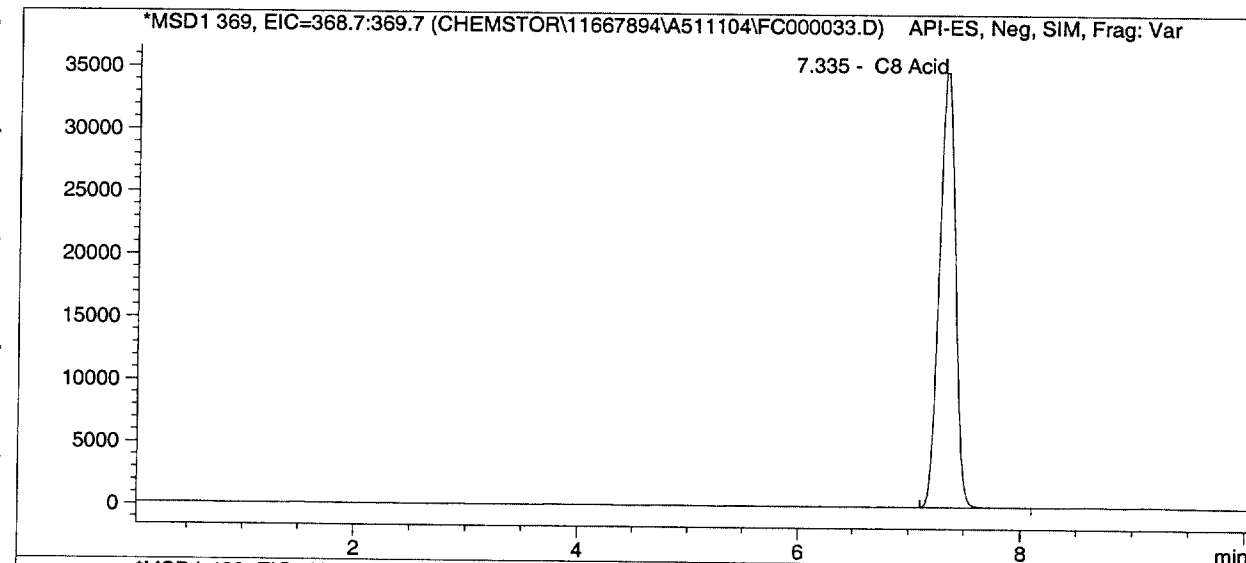
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Injection Date	: 12/19/03	12:51:29 AM	Seq Line	:	33
Acq Operator	: jmillier		Vial No.	:	6
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	976.71	7.335	349789	MSD1 369, EIC=368.7:369.7
l0 Surrogat	972.50	8.170	425633	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0051

PC00414

Fri, 19. Dec. 2003

02:34:55 pm

Page 1 of 1

000318

Sample Name:STD 1500 ppb

Sample Info:

1

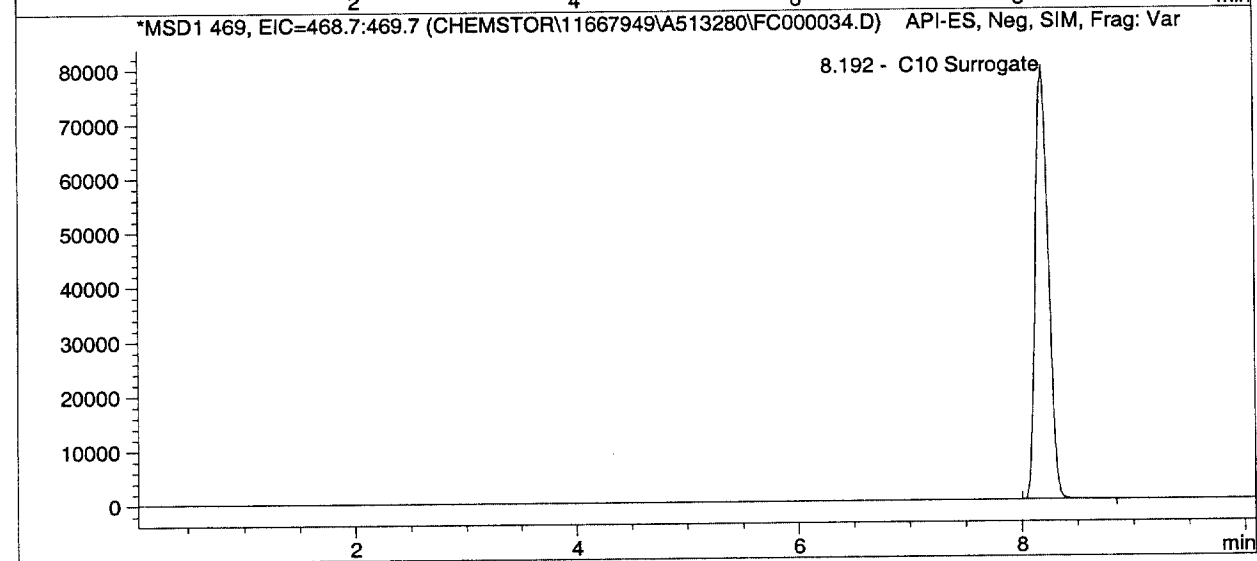
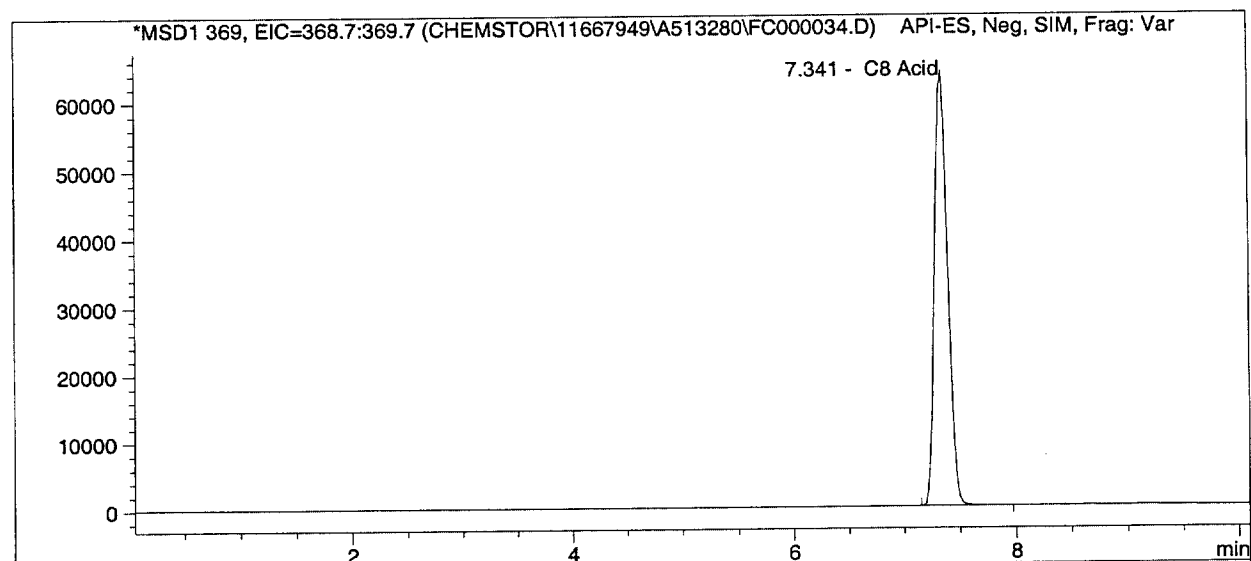
Data file :C:\HPCHEM\1\DATA\Chemstor\11667949\A513280\FC000034.D

=====

Injection Date	: 12/19/03	1:06:39 AM	Seq Line	:	34
Acq Operator	: jmillier		Vial No.	:	7
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\121803.M
Last Changed : 12/19/03 01:56:57 pm

LC/MS analysis of perfluoro carboxylic acids.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1475.40	7.341	524621	MSD1 369, EIC=368.7:369.7
10 Surrogat	1466.39	8.192	637826	MSD1 469, EIC=468.7:469.7

=====
*** End of Report ***

0052



3058 Research Drive
State College, PA 16801

Phone: 814-272-1039
Fax: 814-231-1580

Login

Login Group: L0001414

Login #: 1554
Project: P0000419
Project Storage:
Company Name: DuPont de Nemours & Co, Inc.
Submitted By: Michael D. Aucoin
Login Type: Immediate Receipt of Samples
Started: T
Date Start: 12/12/2003
Due Date: 12/26/2003
Received Date: 12/12/2003
Received By: AMMERMAN, MARK
Spread Sample:
Label:
Project Title/Type: Analysis of PFOA in OVS Tubes / ROUTINE
Exygen SD/PI: MILLER, JAMES
Login Notes:
Conform Notes:

Conform COC Sample: True
Conform COC: True
Conform Sample: True
Conform Request: True

Packages / Containers

Package	Carton	Mail Date / Condition	Shipper / ID	Temp. Control/Temp.	Direction / Handled By
K0002035		12/12/2003 10:46:19PM Package & Contents Uncompromised	FEDEX 8363913019600200	None 23.3	RECEIVED AMMERMAN, MARK

Container #	Gross Weight	pH	Container Type	Preservative	Mfg. Lot	Mfg. ID
C0021109	7.2 g		Other	NONE		
C0021110	7.2 g		Other	NONE		
C0021111	7.2 g		Other	NONE		
C0021112	7.0 g		Other	NONE		
C0021113	7.0 g		Other	NONE		
C0021114	7.0 g		Other	NONE		
C0021115	7.2 g		Other	NONE		
C0021116	7.2 g		Other	NONE		
C0021117	7.2 g		Other	NONE		
C0021118	7.1 g		Other	NONE		
C0021119	7.1 g		Other	NONE		
C0021120	7.1 g		Other	NONE		
C0021121	7.2 g		Other	NONE		
C0021122	7.2 g		Other	NONE		
C0021123	7.2 g		Other	NONE		
C0021124	7.2 g		Other	NONE		
C0021125	7.2 g		Other	NONE		
C0021126	7.2 g		Other	NONE		
C0021127	7.0 g		Other	NONE		
C0021128	7.0 g		Other	NONE		
C0021129	7.0 g		Other	NONE		
C0021130	7.0 g		Other	NONE		
C0021131	7.0 g		Other	NONE		
C0021132	7.0 g		Other	NONE		

ICOC

Miscellaneous

Item Key

None

Description

12/23/2003
login.rpt

Report Version:

0053

Instance:

Page 1 of 4

000320

Login

Samples

<u>Sample ID</u>	<u>Matrix</u>	<u>Fraction</u>	<u>Sample</u>	<u>Date Sampled</u>	<u>Date Received</u>	<u>Date Due</u>
L0001444-0001	GAS	OVS Tubes	WWK-A-AMSFBLK-E7 A	12/11/2003	12/12/2003	12/26/2003
L0001444-0002	GAS	OVS Tubes	WWK-A-AMSFBLK-E7 B	12/11/2003	12/12/2003	12/26/2003
L0001444-0003	GAS	OVS Tubes	WWK-A-AMSFBLK-E7 C	12/11/2003	12/12/2003	12/26/2003
L0001444-0004	GAS	OVS Tubes	WWK-A-AMS1-E7 A	12/11/2003	12/12/2003	12/26/2003
L0001444-0005	GAS	OVS Tubes	WWK-A-AMS1-E7 B	12/11/2003	12/12/2003	12/26/2003
L0001444-0006	GAS	OVS Tubes	WWK-A-AMS1-E7 C	12/11/2003	12/12/2003	12/26/2003
L0001444-0007	GAS	OVS Tubes	WWK-A-AMS2-E7 A	12/11/2003	12/12/2003	12/26/2003
L0001444-0008	GAS	OVS Tubes	WWK-A-AMS2-E7 B	12/11/2003	12/12/2003	12/26/2003
L0001444-0009	GAS	OVS Tubes	WWK-A-AMS2-E7 C	12/11/2003	12/12/2003	12/26/2003
L0001444-0010	GAS	OVS Tubes	WWK-A-AMS3-E7 A	12/11/2003	12/12/2003	12/26/2003
L0001444-0011	GAS	OVS Tubes	WWK-A-AMS3-E7 B	12/11/2003	12/12/2003	12/26/2003
L0001444-0012	GAS	OVS Tubes	WWK-A-AMS3-E7 C	12/11/2003	12/12/2003	12/26/2003
L0001444-0013	GAS	OVS Tubes	WWK-A-AMS4-E7 A	12/11/2003	12/12/2003	12/26/2003
L0001444-0014	GAS	OVS Tubes	WWK-A-AMS4-E7 B	12/11/2003	12/12/2003	12/26/2003
L0001444-0015	GAS	OVS Tubes	WWK-A-AMS4-E7 C	12/11/2003	12/12/2003	12/26/2003
L0001444-0016	GAS	OVS Tubes	WWK-A-AMS5-E7 A	12/11/2003	12/12/2003	12/26/2003
L0001444-0017	GAS	OVS Tubes	WWK-A-AMS5-E7 B	12/11/2003	12/12/2003	12/26/2003
L0001444-0018	GAS	OVS Tubes	WWK-A-AMS5-E7 C	12/11/2003	12/12/2003	12/26/2003
L0001444-0019	GAS	OVS Tubes	WWK-A-AMS6-E7 A	12/11/2003	12/12/2003	12/26/2003
L0001444-0020	GAS	OVS Tubes	WWK-A-AMS6-E7 B	12/11/2003	12/12/2003	12/26/2003
L0001444-0021	GAS	OVS Tubes	WWK-A-AMS6-E7 C	12/11/2003	12/12/2003	12/26/2003
L0001444-0022	GAS	OVS Tubes	Control 1 A	12/12/2003	12/12/2003	12/26/2003
L0001444-0023	GAS	OVS Tubes	Control 1 B	12/12/2003	12/12/2003	12/26/2003
L0001444-0024	GAS	OVS Tubes	Control 1 C	12/12/2003	12/12/2003	12/26/2003

Login

Bottles

0001444-0001

Container

C0021109 / Other / NONE

Method

L0001444-0002

Container

C0021110 / Other / NONE

Method

L0001444-0003

Container

C0021111 / Other / NONE

Method

0001444-0004

Container

C0021112 / Other / NONE

Method

L0001444-0005

Container

C0021113 / Other / NONE

Method

L0001444-0006

Container

C0021114 / Other / NONE

Method

0001444-0007

Container

C0021115 / Other / NONE

Method

L0001444-0008

Container

C0021116 / Other / NONE

Method

0001444-0009

Container

C0021117 / Other / NONE

Method

L0001444-0010

Container

C0021118 / Other / NONE

Method

L0001444-0011

Container

C0021119 / Other / NONE

Method

0001444-0012

Container

C0021120 / Other / NONE

Method

Login

L0001444-0013

Container
C0021121 / Other / NONE

Method

I0001444-0014

Container
C0021122 / Other / NONE

Method

0001444-0015

Container
C0021123 / Other / NONE

Method

L0001444-0016

Container
C0021124 / Other / NONE

Method

I0001444-0017

Container
C0021125 / Other / NONE

Method

0001444-0018

Container
C0021126 / Other / NONE

Method

L0001444-0019

Container
C0021127 / Other / NONE

Method

0001444-0020

Container
C0021128 / Other / NONE

Method

_0001444-0021

Container
C0021129 / Other / NONE

Method

L0001444-0022

Container
C0021130 / Other / NONE

Method

0001444-0023

Container
C0021131 / Other / NONE

Method

L0001444-0024

Container
C0021132 / Other / NONE

Method

PROJECT INFORMATION

Client (name & address):

ADRM
DuPont Washington for Metals

Project Manager (Name & E-mail Address):

Mike Freear

Project Name:

Air Sampling Program

Phone: (302) 892-1109

Fax:

Sampler: SOPP/A. Crane

P.O. #:

Quotation #:

Please fill out this form *completely* to ensure correct analysis and proper handling of your samples.

ANALYSES REQUESTED

SAMPLE ANALYSIS

Ex/LIMS #	Client Sample Identification	Collection Date	Collection Time	Grab	Composite	Number of Containers	Specify Matrix	Comments	PG-143
	W00K-A-AMS-ETX-ET	12/11/03	0615	X		1	Air	Field Blank	X
	W00K-A-AMS-1-ET	12/11/03	0616	X		1	Air		X
	W00K-A-AMS-2-ET	12/11/03	0625	X		1	Air		X
	W00K-A-AMS-3-ET	12/11/03	0638	X		1	Air	Control	X
	W00K-A-AMS-4-ET	12/11/03	0646	X		1	Air		X
	W00K-A-AMS-5-ET	12/11/03	0700	X		1	Air		X
	W00K-A-AMS-6-ET	12/11/03	0715	X		1	Air		X
	Control 1								

LAB USE ONLY

CHAIN OF CUSTODY

Relinquished by	Date	Time
<u>Michael Freear</u>	<u>12/11/03</u>	<u>0915</u>

Cooler ID # 162626 Cooler Temp. (°C) 21

Received by	Date	Time
<u>John D. M.</u>	<u>12/11/03</u>	<u>0830</u>
<u>WJF</u>	<u>12/11/03</u>	<u>1046</u>

LAB USE ONLY

OTHER INFORMATION

Event 7

PROJECT REQUIREMENTS

Results Deadline:

Laboratory Report Options:

- ☐ Sample results only
- ☐ Add case narrative
- ☐ Add quality control summary
- ☐ Add calibration summary
- ☐ Add raw data
- ☐ Other

FedEx® USA Airbill

Express Tracking Number **836391301960**

1 From

Date

Sender's Name

Phone

Company

Address

City

State

ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name

Phone

Company

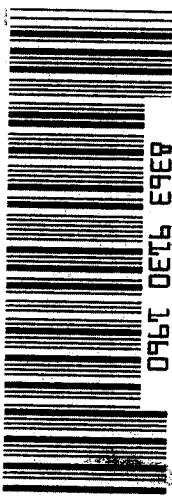
To "HOLD" at FedEx location, print FedEx address.

Address

City

State

Dept./Room/Suite/Room



8363 9130 1960

Recipient's Copy

4a Express Package Service

☒ Next business morning

☐ Next business afternoon

☐ Next business day
Delivery commitment may be later in some areas.
Excludes next business morning delivery to select locations

4b Express Freight Service

☐ Next business day

☐ Second business day

☐ Third business day

5 Packaging

☐ FedEx Envelope*

☐ FedEx Pak*

☒ Other

6 Special Handling

☐ Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes

☐ HOLD Saturday at FedEx Location

☐ HOLD Saturday at FedEx Location

Does this shipment contain dangerous goods?
One box must be checked.

☒ No

☐ Yes

As per attached Shipper's Declaration

☐ Yes

Shipper's Declaration not required

☐ Dry Ice

☐ Dry Ice S.U.N. 185

☐ Cargo Aircraft Only

☐ Obtain Recip. Acct. No.

☐ Cash/Check

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

7 Payment Bill to:

Sender Section

☐ Recipient

☐ Third Party

☐ Credit Card

☐ Cash/Check

Enter FedEx Acct. No. or Credit Card No. below

☐ Obtain Recip. Acct. No.

☐ Cash/Check

Total Packages

Total Weight

Total Declared Value¹

\$

.00

Total Charges

Credit Card Auth.

8 Release Signature

Sign to authorize delivery without obtaining signature.

By signing you authorize us to deliver this shipment without obtaining a signature, and agree to indemnify and hold us harmless from any resulting claims.
Questions? Visit our Web site at fedex.com
or call 1.800.Go.FedEx® 800.463.3333
Rev. Date 10/01 *Part #151817 ©1994-2001 FedEx® PRINTED IN U.S.A. WCSI 02



0058

000325

**DuPont Washington Works
Air Sampling Program**

Sampler(s): SO, AC

FedEx Airbill #: 836391301960

Event Number

Event 7

Pump #	Station #	Exygen ID	Calibration (pre)	Date	Start Time	Date	Stop Time	Calibration (post)	Total Minutes	Total Volume
669842	AMS-1	WWK-A-AMS1-E7	1.006	10-Dec	0630	11-Dec	0616	0.8967	1428	1356 liters
669908	AMS-2	WWK-A-AMS2-E7	1.005	10-Dec	0635	11-Dec	0625	1.08	1434	1490 liters
669878	AMS-3	WWK-A-AMS3-E7	1.003	10-Dec	0636	11-Dec	0628	pump stopped	987	990* liters
669809	AMS-4	WWK-A-AMS4-E7	1.011	10-Dec	0643	11-Dec	0646	1.279	1444	1652 liters
669769	AMS-5	WWK-A-AMS5-E7	1.007	10-Dec	0650	11-Dec	0700	1.104	1448	1530 liters
669848	AMS-6	WWK-A-AMS6-E7	1.015	10-Dec	0701	11-Dec	0715	1.102	1451	1539 liters

Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
0	0	5	300	10	600	15	900
1	60	6	360	11	660	16	960
2	120	7	420	12	720	17	1020
3	180	8	480	13	780	18	1080
4	240	9	540	14	840	19	1140

Field Blank: yes WWK-K-AMSFBLK-E7
yes or no

Weather: 12/10 = Cloudy, mid 40's, rain expected.

12/11 = Overcast 37 degrees, possible snow flurries.

SAFER operational: yes
yes or no

Comments: Total minutes column is the reading from the monitor counter.