



AR226-1776a

Analytical Report

Air Sampling Fluorochemical Report

DuPont Washington Works – Air Sampling Program Round 2

Exygen Research Report No. L0001308

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

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.

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.

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

Results Summary

Request #	Air Volume Sampled (L)	C8 Acid (mg/m3)
WWK-A-AMS1-E2 A	1475	< 0.00007
WWK-A-AMS1-E2 B	1475	< 0.00007
WWK-A-AMS1-E2 C	1475	NA
WWK-A-AMS1-E2 (Total)		< 0.00014
WWK-A-AMS2-E2 A	1468	0.0009
WWK-A-AMS2-E2 B	1468	< 0.00007
WWK-A-AMS2-E2 C	1468	NA
WWK-A-AMS2-E2 (Total)		0.0009
WWK-A-AMS3-E2 A	1462	0.0009
WWK-A-AMS3-E2 B	1462	< 0.00007
WWK-A-AMS3-E2 C	1462	NA
WWK-A-AMS3-E2 (Total)		0.0009
WWK-A-AMS4-E2 A	1437	< 0.00007
WWK-A-AMS4-E2 B	1437	< 0.00007
WWK-A-AMS4-E2 C	1437	NA
WWK-A-AMS4-E2 (Total)		< 0.00014
WWK-A-AMS5-E2 A	1456	< 0.00007
WWK-A-AMS5-E2 B	1456	< 0.00007
WWK-A-AMS5-E2 C	1456	NA
WWK-A-AMS5-E2 (Total)		< 0.00014
WWK-A-AMS6-E2 A	1422	< 0.00007
WWK-A-AMS6-E2 B	1422	< 0.00007
WWK-A-AMS6-E2 C	1422	NA
WWK-A-AMS6-E2 (Total)		< 0.00014

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)

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

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	503	101

Blanks

Request #	Vol. Of Air (L)	C8 Acid (ug/fraction)
WWK-A-AMSFBLK-E2 A	0	< 0.10
WWK-A-AMSFBLK-E2 B	0	< 0.10

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

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-E2 A	500	644	129*
WWK-A-AMSFBLK-E2 B	500	329	66*
WWK-A-AMS1-E2 A	500	707	141*
WWK-A-AMS1-E2 B	500	392	78
WWK-A-AMS2-E2 A	500	666	133*
WWK-A-AMS2-E2 B	500	405	81
WWK-A-AMS3-E2 A	500	666	133*
WWK-A-AMS3-E2 B	500	396	79
WWK-A-AMS4-E2 A	500	697	139*
WWK-A-AMS4-E2 B	500	403	81
WWK-A-AMS5-E2 A	500	732	146*
WWK-A-AMS5-E2 B	500	437	87
WWK-A-AMS6-E2 A	500	763	153*
WWK-A-AMS6-E2 B	500	375	75
Control Spike A	500	612	122
Control Spike B	500	392	78

* Surrogate recovery outside of advisory range

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

Calculations

Request #	Vol. Of Air (L)	C8 Acid (raw-ppb)	C8 Acid (ug/fraction)	C8 Acid (mg/m3)
WWK-A-AMSFBLK-E2 A	0	< 10	< 0.10	< 0.00007
WWK-A-AMSFBLK-E2 B	0	< 10	< 0.10	< 0.00007
WWK-A-AMS1-E2 A	1475	< 10	< 0.10	0.0009
WWK-A-AMS1-E2 B	1475	< 10	< 0.10	< 0.00007
WWK-A-AMS2-E2 A	1468	1340	1.3	< 0.00007
WWK-A-AMS2-E2 B	1468	< 10	< 0.10	0.0009
WWK-A-AMS3-E2 A	1462	1266	1.3	< 0.00007
WWK-A-AMS3-E2 B	1462	< 10	< 0.10	< 0.00007
WWK-A-AMS4-E2 A	1437	< 10	< 0.10	< 0.00007
WWK-A-AMS4-E2 B	1437	< 10	< 0.10	< 0.00007
WWK-A-AMS5-E2 A	1456	49	< 0.10	< 0.00007
WWK-A-AMS5-E2 B	1456	< 10	< 0.10	< 0.00007
WWK-A-AMS6-E2 A	1422	< 10	< 0.10	< 0.00007
WWK-A-AMS6-E2 B	1422	< 10	< 0.10	< 0.00007
Control Spike A	0	454	0.45	< 0.00007
Control Spike B	0	49	< 0.10	< 0.00007

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

Example Calculation

For sample WWK-A-AMS2-E2 A C8 Acid,

$$\begin{aligned} &= [1340 \text{ ng/ml of C8 Acid} \times (1 \text{ ml}) \times (1 \text{ ug} / 1000 \text{ ng}) \times (1 \text{ mg} / 1000 \text{ ug})] / [(1468 \text{ L}) \times (1 \text{ m}^3 / 1000 \text{ L})] \\ &= 0.0009 \text{ mg} / \text{m}^3 \end{aligned}$$

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-E2 A	L0001308-1	11/13/03	Frit extract	0
WWK-A-AMSFBLK-E2 B	L0001308-2	11/13/03	1st set beads extract	0
WWK-A-AMSFBLK-E2 C	L0001308-3	11/13/03	2nd set beads extract	0
WWK-A-AMS1-E2 A	L0001308-4	11/13/03	Frit extract	1475
WWK-A-AMS1-E2 B	L0001308-5	11/13/03	1st set beads extract	1475
WWK-A-AMS1-E2 C	L0001308-6	11/13/03	2nd set beads extract	1475
WWK-A-AMS2-E2 A	L0001308-7	11/13/03	Frit extract	1468
WWK-A-AMS2-E2 B	L0001308-8	11/13/03	1st set beads extract	1468
WWK-A-AMS2-E2 C	L0001308-9	11/13/03	2nd set beads extract	1468
WWK-A-AMS3-E2 A	L0001308-10	11/13/03	Frit extract	1462
WWK-A-AMS3-E2 B	L0001308-11	11/13/03	1st set beads extract	1462
WWK-A-AMS3-E2 C	L0001308-12	11/13/03	2nd set beads extract	1462
WWK-A-AMS4-E2 A	L0001308-13	11/13/03	Frit extract	1437
WWK-A-AMS4-E2 B	L0001308-14	11/13/03	1st set beads extract	1437
WWK-A-AMS4-E2 C	L0001308-15	11/13/03	2nd set beads extract	1437
WWK-A-AMS5-E2 A	L0001308-16	11/13/03	Frit extract	1456
WWK-A-AMS5-E2 B	L0001308-17	11/13/03	1st set beads extract	1456
WWK-A-AMS5-E2 C	L0001308-18	11/13/03	2nd set beads extract	1456
WWK-A-AMS6-E2 A	L0001308-19	11/13/03	Frit extract	1422
WWK-A-AMS6-E2 B	L0001308-20	11/13/03	1st set beads extract	1422
WWK-A-AMS6-E2 C	L0001308-21	11/13/03	2nd set beads extract	1422
Control Spike A	L0001308-22	11/13/03	Frit extract	0
Control Spike B	L0001308-23	11/13/03	1st set beads extract	0
Control Spike C	L0001308-24	11/13/03	2nd set beads extract	0

00000

000089

Table 2. Chain of Custody

Sample ID	Date Collected	Date Received at Exygen	Date Extracted by Exygen	Date Analyzed by Exygen
WWK-A-AMSFBLK-E2 A	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMSFBLK-E2 B	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMSFBLK-E2 C	11/12/03	11/13/03	NA	NA
WWK-A-AMS1-E2 A	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS1-E2 B	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS1-E2 C	11/12/03	11/13/03	NA	NA
WWK-A-AMS2-E2 A	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS2-E2 B	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS2-E2 C	11/12/03	11/13/03	NA	NA
WWK-A-AMS3-E2 A	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS3-E2 B	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS3-E2 C	11/12/03	11/13/03	NA	NA
WWK-A-AMS4-E2 A	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS4-E2 B	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS4-E2 C	11/12/03	11/13/03	NA	NA
WWK-A-AMS5-E2 A	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS5-E2 B	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS5-E2 C	11/12/03	11/13/03	NA	NA
WWK-A-AMS6-E2 A	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS6-E2 B	11/12/03	11/13/03	11/20/03	11/20 - 11/21/03
WWK-A-AMS6-E2 C	11/12/03	11/13/03	NA	NA
Control Spike A	NA	11/13/03	11/20/03	11/20 - 11/21/03
Control Spike B	NA	11/13/03	11/20/03	11/20 - 11/21/03
Control Spike C	NA	11/13/03	NA	NA

00009

000090

ANALYTICAL DATA REVIEW SHEET

LC/MS

James R. Miller
Analyst

James R. Miller 1/9/04
Signature/Date

John M. Flaherty
Reviewed by

John M. Flaherty 1/9/04
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	L0001308-22	FC8-10	1	Sample		
11	Vial 12	L0001308-23	FC8-10	1	Sample		
12	Vial 13	L0001308-1	FC8-10	1	Sample		
13	Vial 14	L0001308-2	FC8-10	1	Sample		
14	Vial 15	L0001308-4	FC8-10	1	Sample		
15	Vial 16	L0001308-5	FC8-10	1	Sample		
16	Vial 17	L0001308-7	FC8-10	1	Sample		
17	Vial 18	L0001308-8	FC8-10	1	Sample		
18	Vial 19	L0001308-10	FC8-10	1	Sample		
19	Vial 20	L0001308-11	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	L0001308-13	FC8-10	1	Sample		
23	Vial 22	L0001308-14	FC8-10	1	Sample		
24	Vial 23	L0001308-16	FC8-10	1	Sample		
25	Vial 24	L0001308-17	FC8-10	1	Sample		
26	Vial 25	L0001308-19	FC8-10	1	Sample		
27	Vial 26	L0001308-20	FC8-10	1	Sample		
28	Vial 4	STD 500 ppb	FC8-10	1	Sample		
29	Vial 92	Solvent blank	FC8-10	1	Sample		
30	Vial 1	STD 50 ppb	FC8-10	1	Calib		
31	Vial 2	STD 100 ppb	FC8-10	1	Calib		
32	Vial 3	STD 250 ppb	FC8-10	1	Calib		
33	Vial 4	STD 500 ppb	FC8-10	1	Calib		
34	Vial 5	STD 750 ppb	FC8-10	1	Calib		
35	Vial 6	STD 1000 ppb	FC8-10	1	Calib		
36	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		
30	Vial 1	STD 50 ppb	FC8-10	1	Average		Average		
31	Vial 2	STD 100 ppb	FC8-10	2	Average		Average		
32	Vial 3	STD 250 ppb	FC8-10	3	Average		Average		
33	Vial 4	STD 500 ppb	FC8-10	4	Average		Average		
34	Vial 5	STD 750 ppb	FC8-10	5	Average		Average		
35	Vial 6	STD 1000 ppb	FC8-10	6	Average		Average		
36	Vial 7	STD 1500 ppb	FC8-10	7	Average		Average		

Sequence: C:\HPCHEM\1\SEQUENCE\112003.S

LC/MS SYSTEM AND OPERATING CONDITIONS

Client: Dupont

EXYGEN STUDY: L0001308

Instrument: Hewlett-Packard 1100 LC/MSD (LC/MS 3)
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 G1379A 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: November 20, 2003

Analyst:

James R. Miller *JRM* 11/20/03
Exygen Research
3058 Research Drive, State College, PA 16801
Phone: (814) 272-1039, FAX: (814) 231-1580

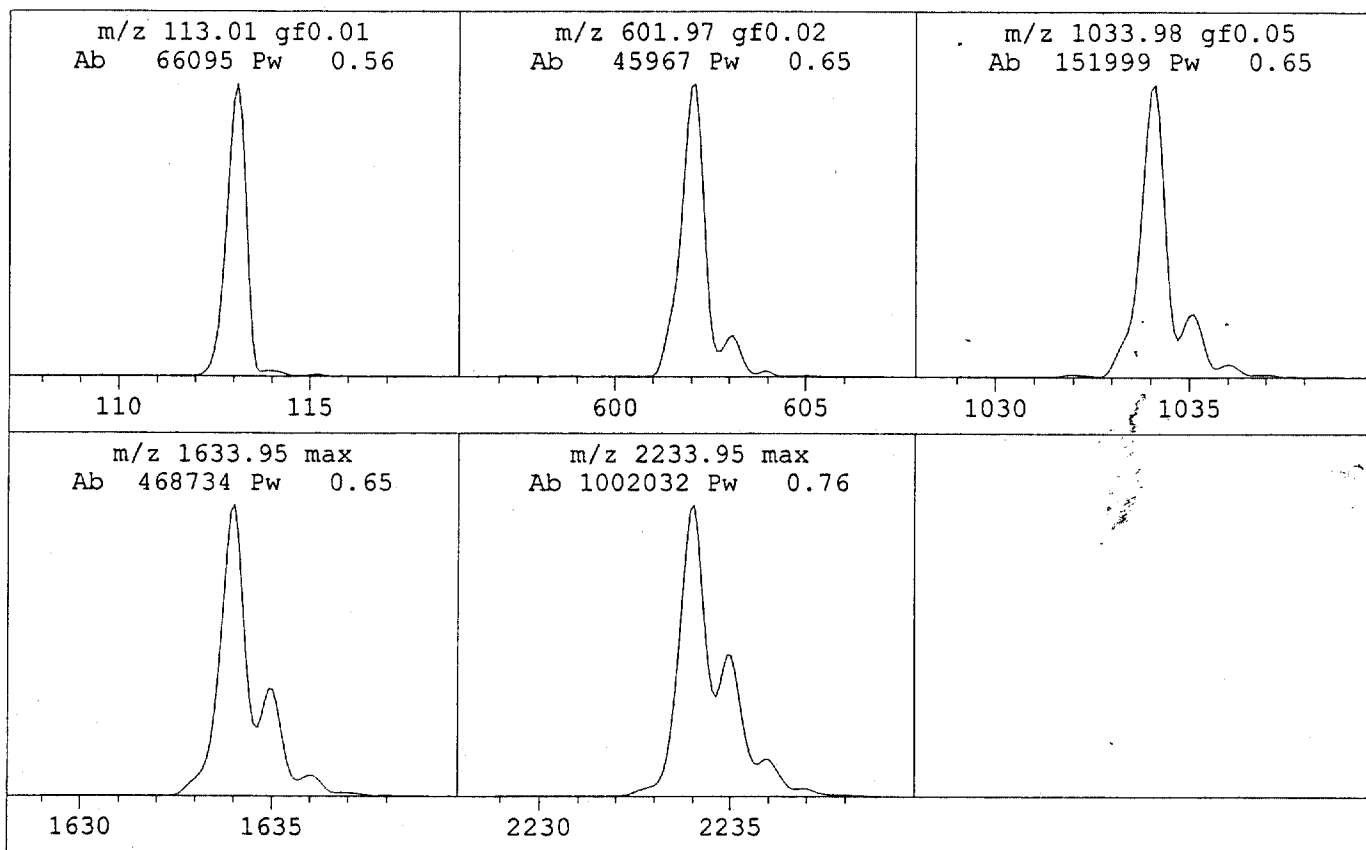
0014

000095

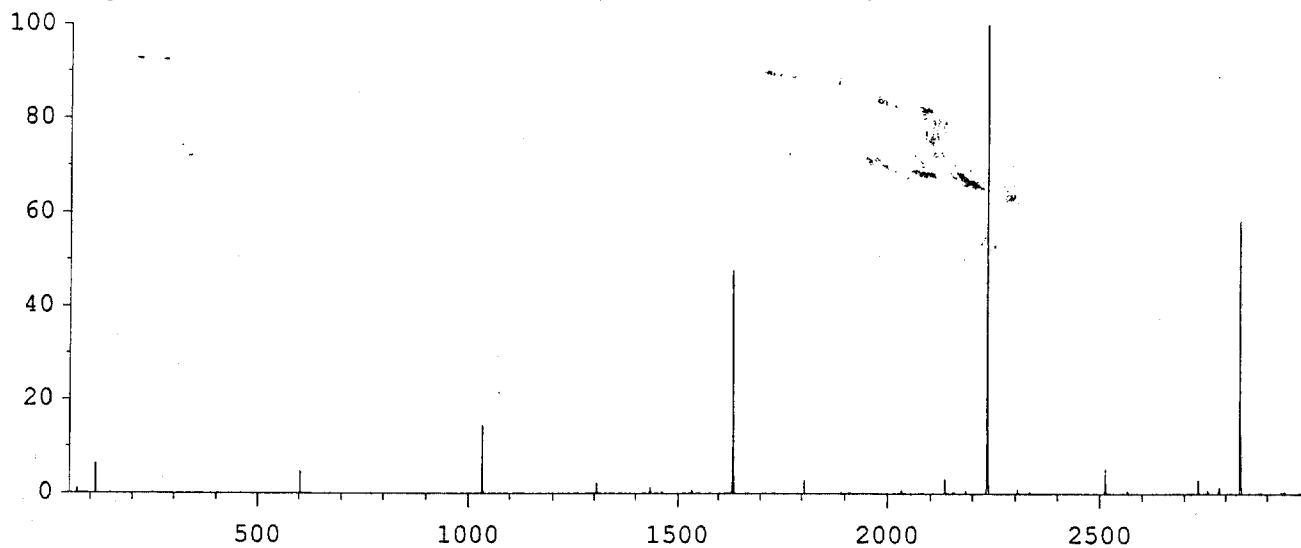
Instrument : LCMS3

Wed Nov 12 08:47:10 2003 *Am 11/2/03*

C:\HPCHEM\1\1946TUNE\ATUNES.TUN



Scan: 50.00 - 3000.00 Samples: 8 Thresh: 0 Step: 0.10
 29501 peaks Base: 2233.95 Abundance: 1021824 F Raw, Gauss 0.3



m/z	gf	Abund	Rel Abund	Iso m/z	Iso Abund	Iso Ratio
113.01		64976	100.00	113.99	1450	2.23
601.98		48816	75.13	602.85	6177	12.65
1034.05		148800	229.01	1035.05	34384	23.11
1633.95		487296	749.96	1634.85	177792	36.49
2233.95		1021824	1572.62	2234.95	506496	49.57

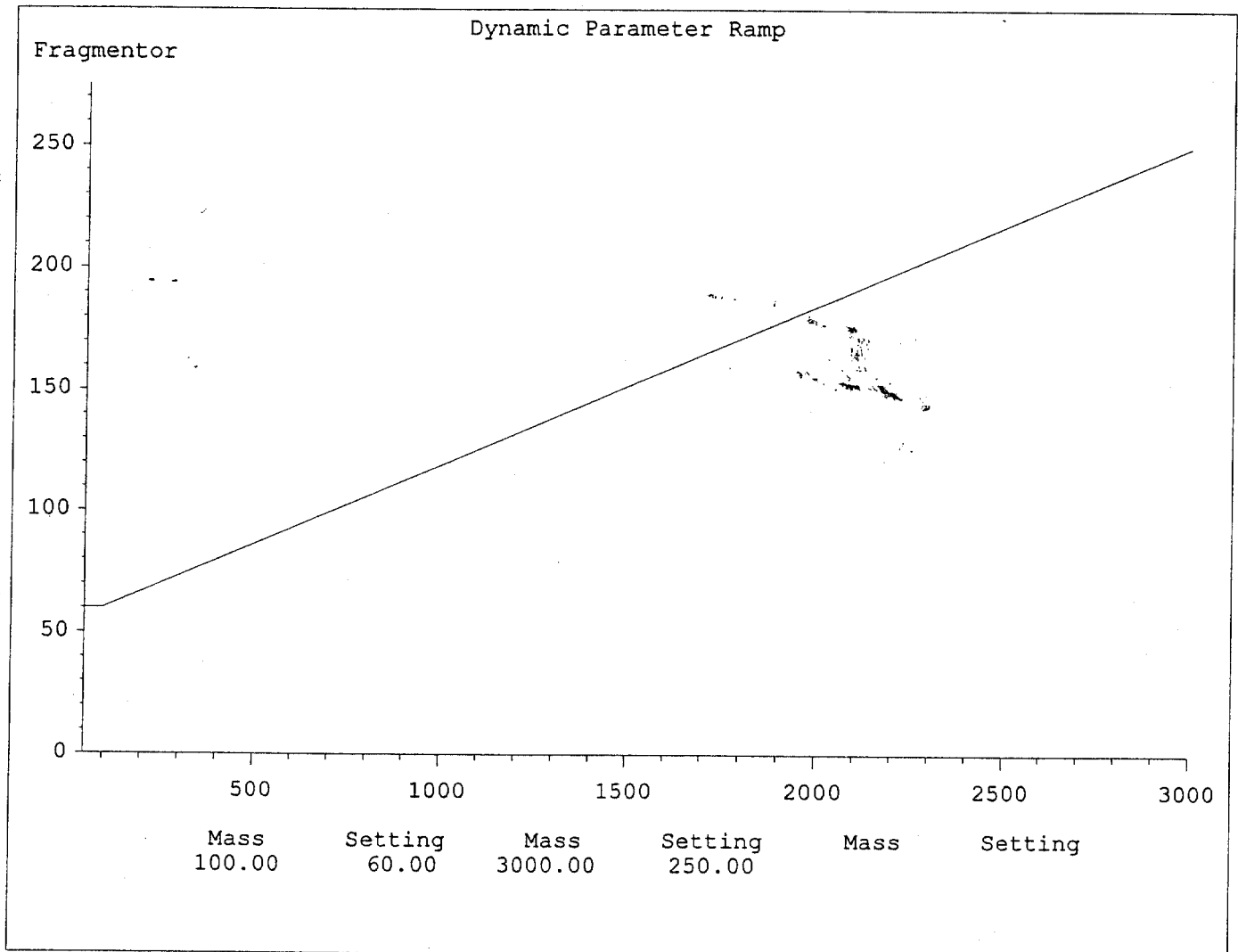
0015

000096

Instrument : LCMS3
Wed Nov 12 08:47:10 2003 *11/2/03*

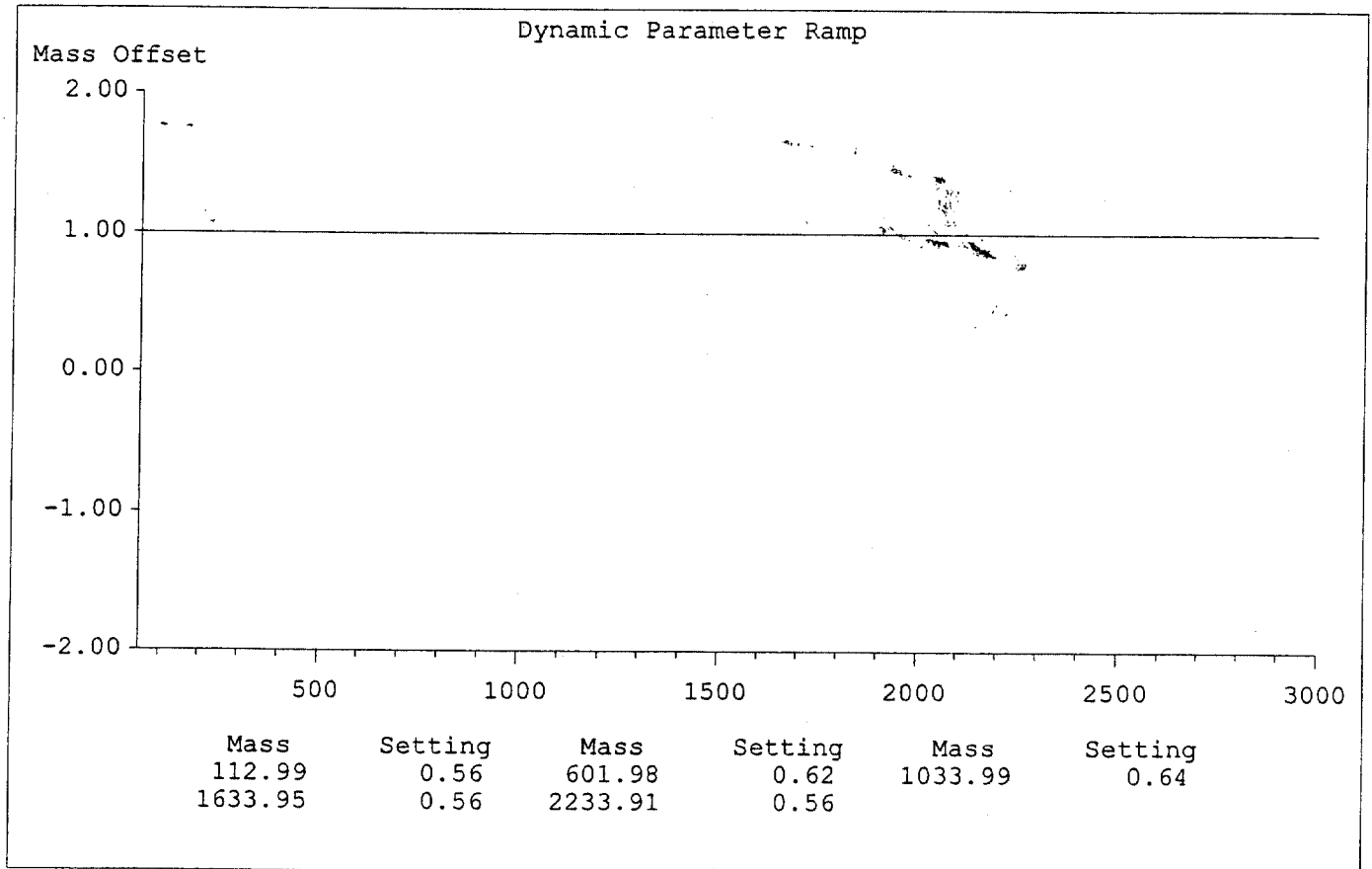
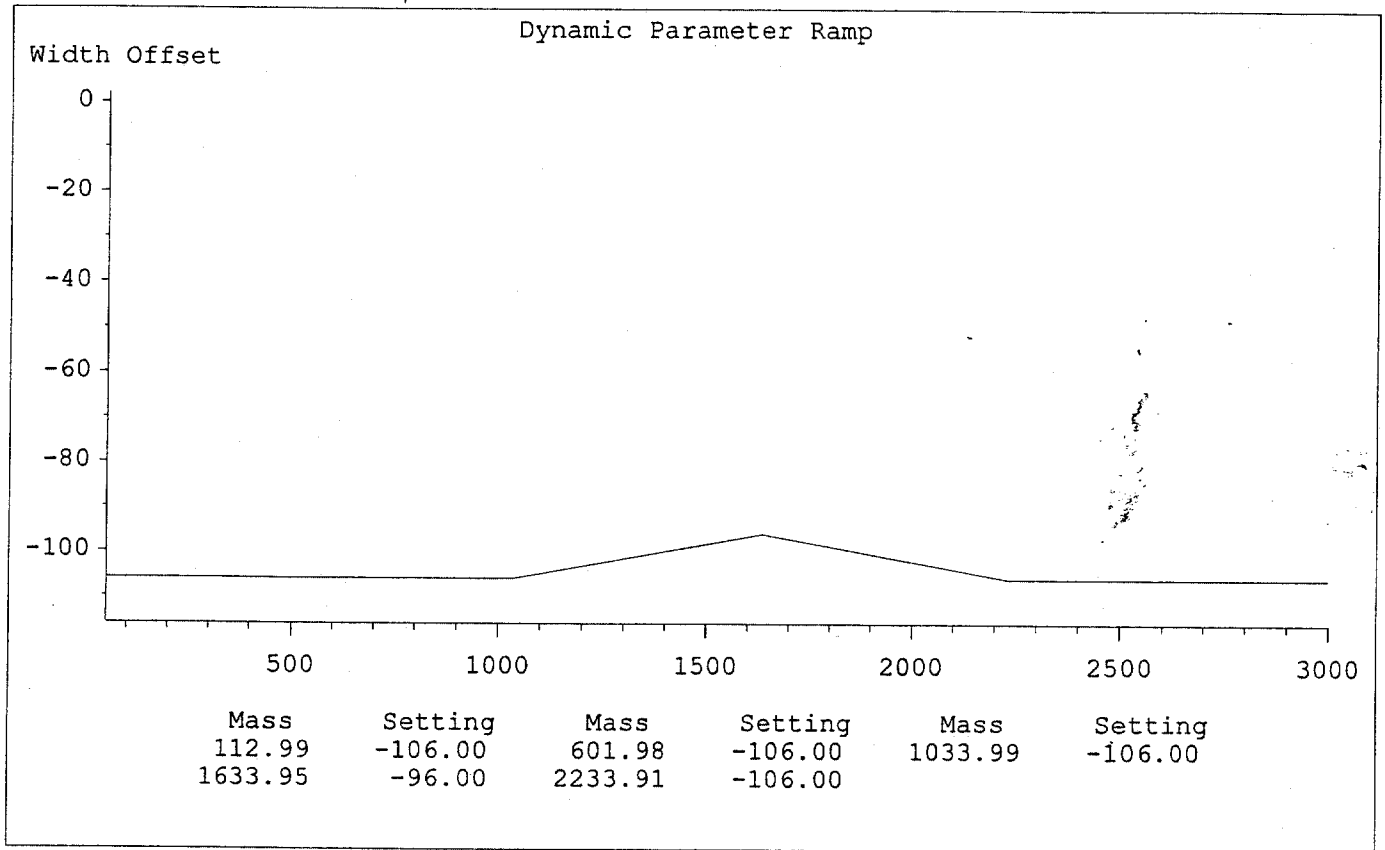
C:\HPCHEM\1\1946TUNE\ATUNES.TUN

Mode: API-ES		Polarity: NEG	
Fragment	VAR	WidthGain	-128
Skim2	6.0	WidthOffs	VAR
Lens1	-4.0	MassGain	-36.15
Lens2	21	MassOffs	VAR
Iris	176		
		Energy	5.0
		OpolPeak	300
		OpolKnee	316
Gain	2.0	QuadDC	0.00
EMV	2068	Samples	8
VCap	4000	Averages	1
		StepSize	0.10
Status:			
CapCur	71	DryingGas	6.0
ChamCur	1.06	Gas Temp	300
Quad Temp	99	Neb Pres	20



0016

000097



J017

000098

=====

Calibration Table

=====

Calib. Data Modified : Thursday, January 08, 2004 2:45:39 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	
7.237	1	1	50.00000	2.06063e4	2.42644e-3	1 C8 Acid
		2	100.00000	4.03552e4	2.47800e-3	
		3	250.00000	1.05844e5	2.36198e-3	
		4	500.00000	2.01381e5	2.48286e-3	
		5	750.00000	2.83374e5	2.64668e-3	
		6	1000.00000	3.74570e5	2.66973e-3	
		7	1500.00000	5.30698e5	2.82646e-3	
8.005	2	1	50.00000	3.00000e4	1.66666e-3	1 C10 Surrogate
		2	100.00000	5.87547e4	1.70199e-3	
		3	250.00000	1.53014e5	1.63384e-3	
		4	500.00000	2.90758e5	1.71964e-3	
		5	750.00000	4.07335e5	1.84124e-3	
		6	1000.00000	5.37103e5	1.86184e-3	
		7	1500.00000	7.56846e5	1.98191e-3	

More compound-specific settings:

Compound: C8 Acid

Time Window : From 7.064 min To 8.065 min

Compound: C10 Surrogate

Time Window : From 7.808 min To 8.614 min

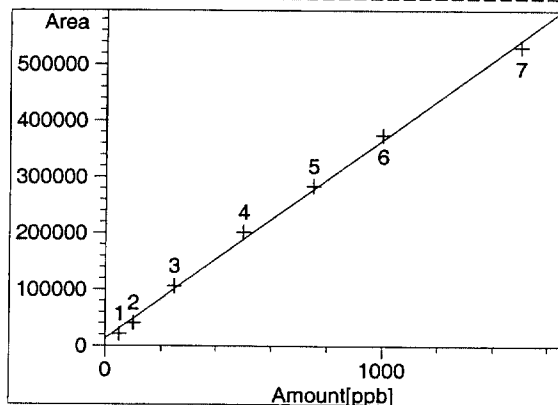
=====

Peak Sum Table

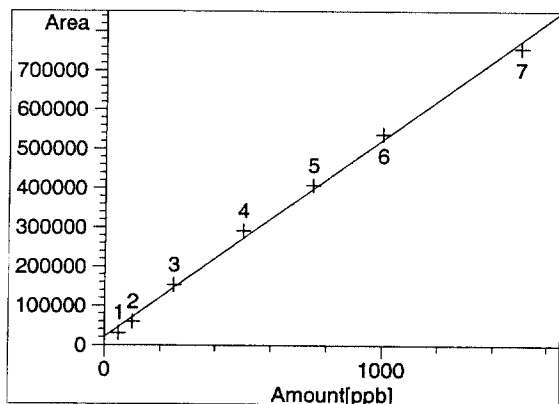
=====

No Entries in table

Calibration Curves



C8 Acid at exp. RT: 7.237
 MSD1 369, EIC=368.7:369.7
 Correlation: 0.99864
 Residual Std. Dev.: 10680.87214
 Formula: $y = mx + b$
 m: 353.21288
 b: 12999.22280
 x: Amount [ppb]
 y: Area



C10 Surrogate at exp. RT: 8.005
 MSD1 469, EIC=468.7:469.7
 Correlation: 0.99837
 Residual Std. Dev.: 16687.58942
 Formula: $y = mx + b$
 m: 503.56527
 b: 20573.54985
 x: Amount [ppb]
 y: Area

0019

Sample Name:STD 50 ppb
Sample Info:Warm up

1

Data file :C:\HPCHEM\1\DATA\FC000001.D

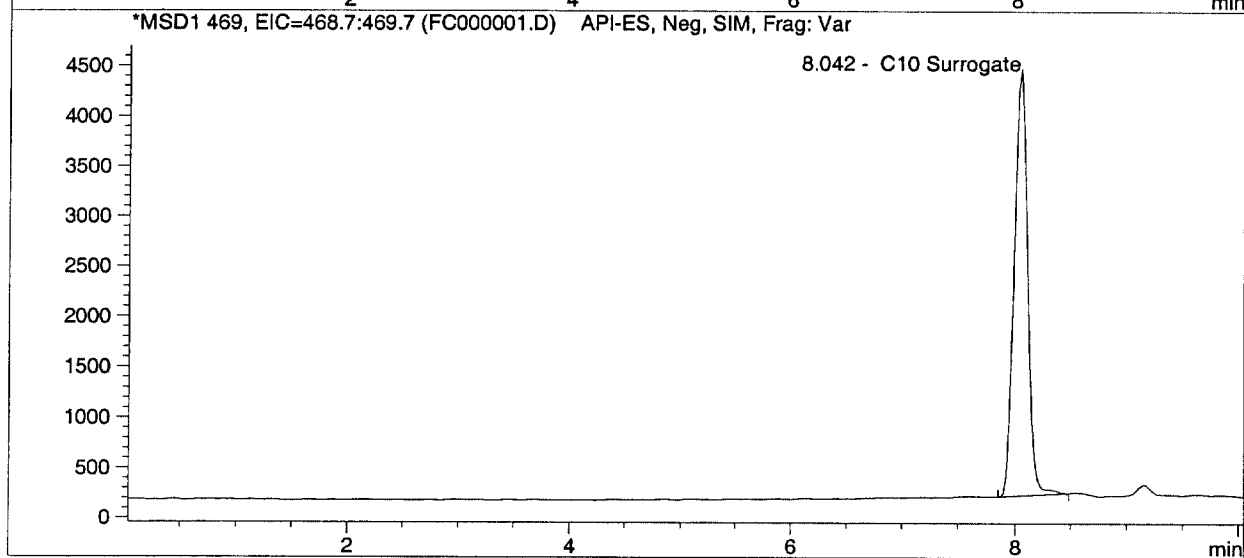
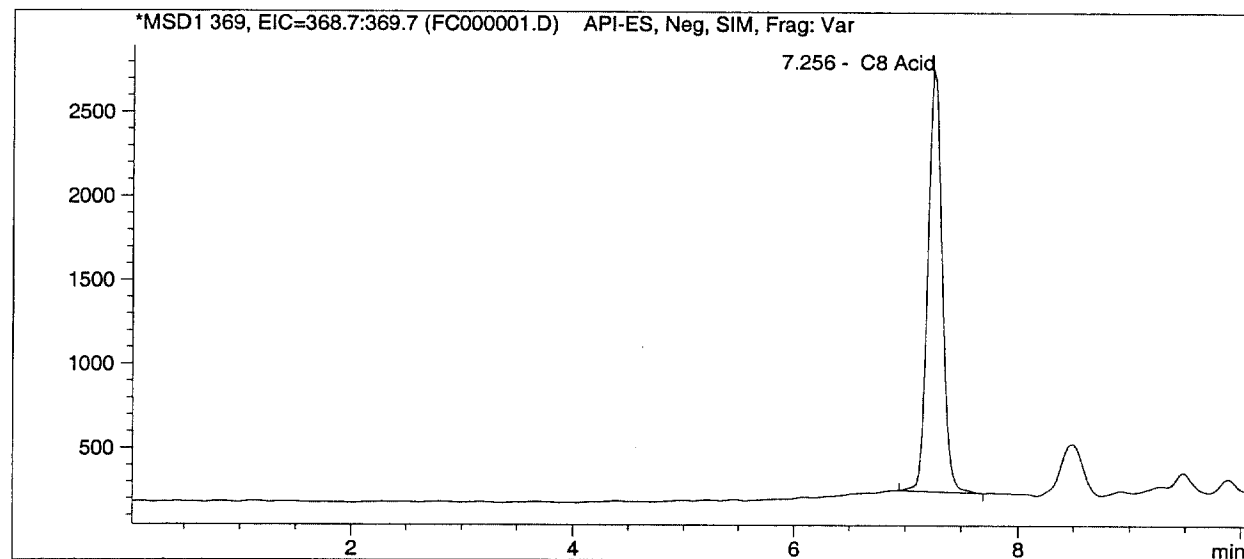
=====

Injection Date	: 11/20/03	4:41:30 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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.

Initials Jan
Date 1/8/04
Run# FC000001 To FC000036



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	26.66	7.256	22415	MSD1 369, EIC=368.7:369.7
C10 Surrogat	28.77	8.042	35062	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0020

Sample Name:STD 50 ppb
Sample Info:

1

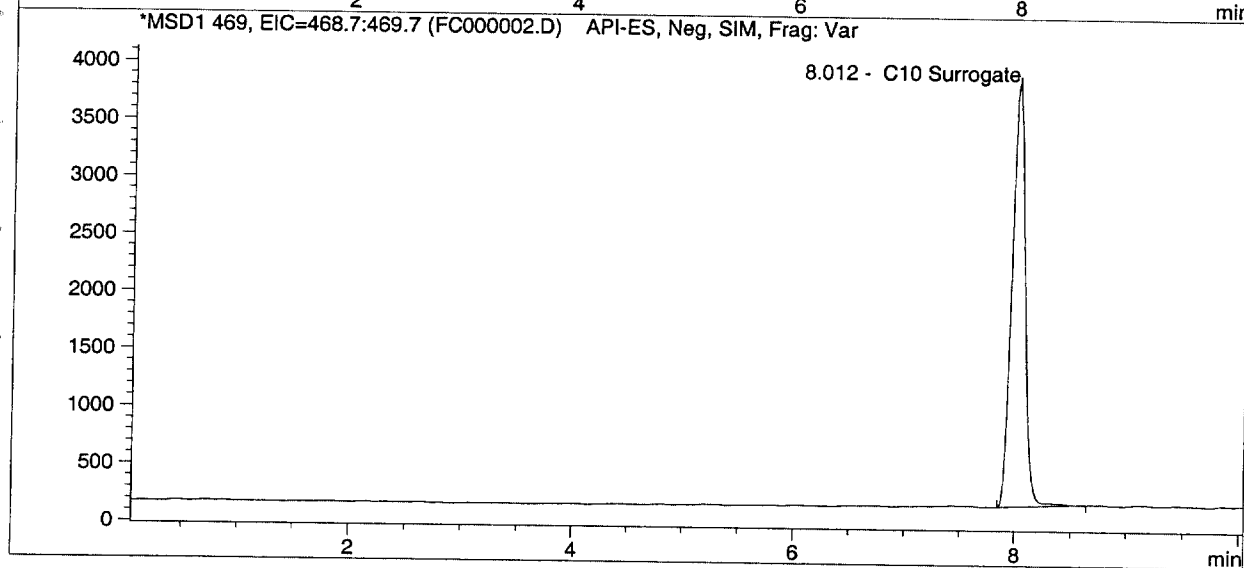
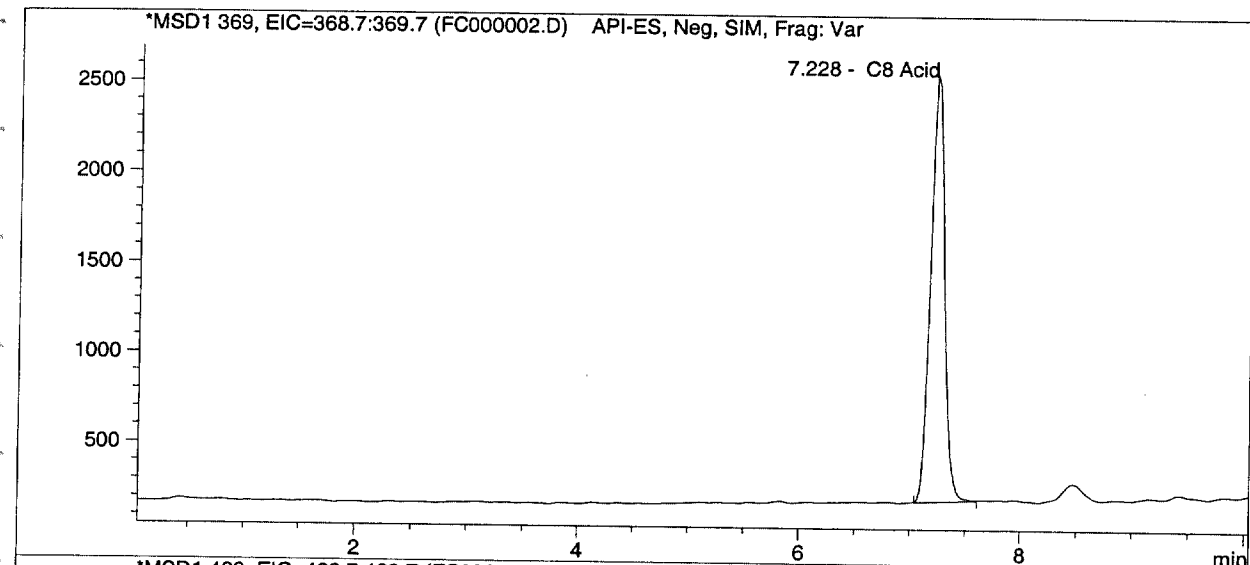
Data file :C:\HPCHEM\1\DATA\FC000002.D

=====

Injection Date	: 11/20/03	4:57:02 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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	22.42	7.228	20919	MSD1 369, EIC=368.7:369.7
C10 Surrogat	19.93	8.012	30608	MSD1 469, EIC=468.7:469.7

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

0021

Sample Name:STD 100 ppb
Sample Info:

1

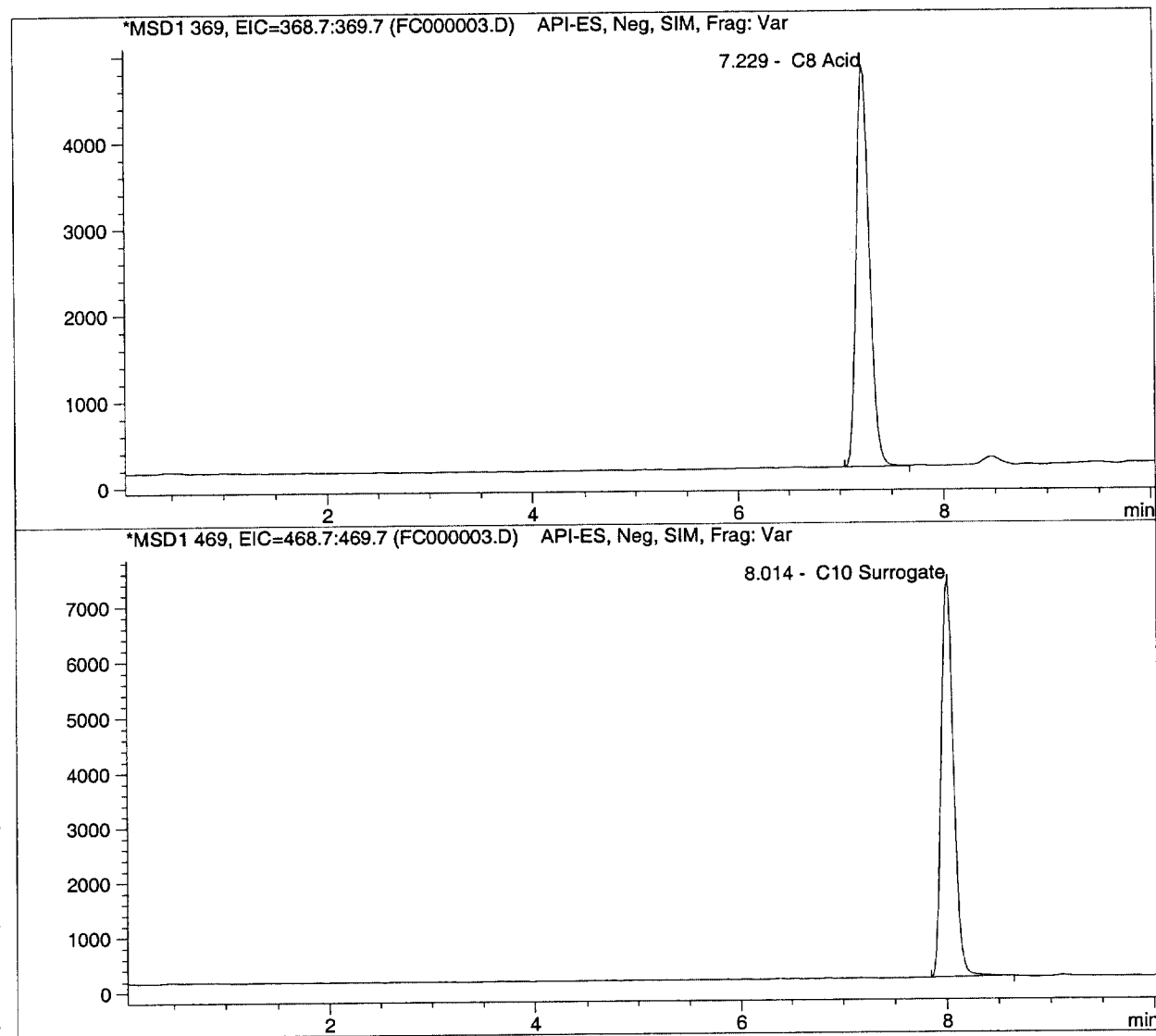
Data file :C:\HPCHEM\1\DATA\FC000003.D

=====

Injection Date	: 11/20/03	5:12:37 PM	Seq Line	:	3
Acq Operator	: jmillar		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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	78.98	7.229	40896	MSD1 369, EIC=368.7:369.7
10 Surrogat	77.98	8.014	59840	MSD1 469, EIC=468.7:469.7

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

0022

Sample Name:STD 250 ppb
Sample Info:

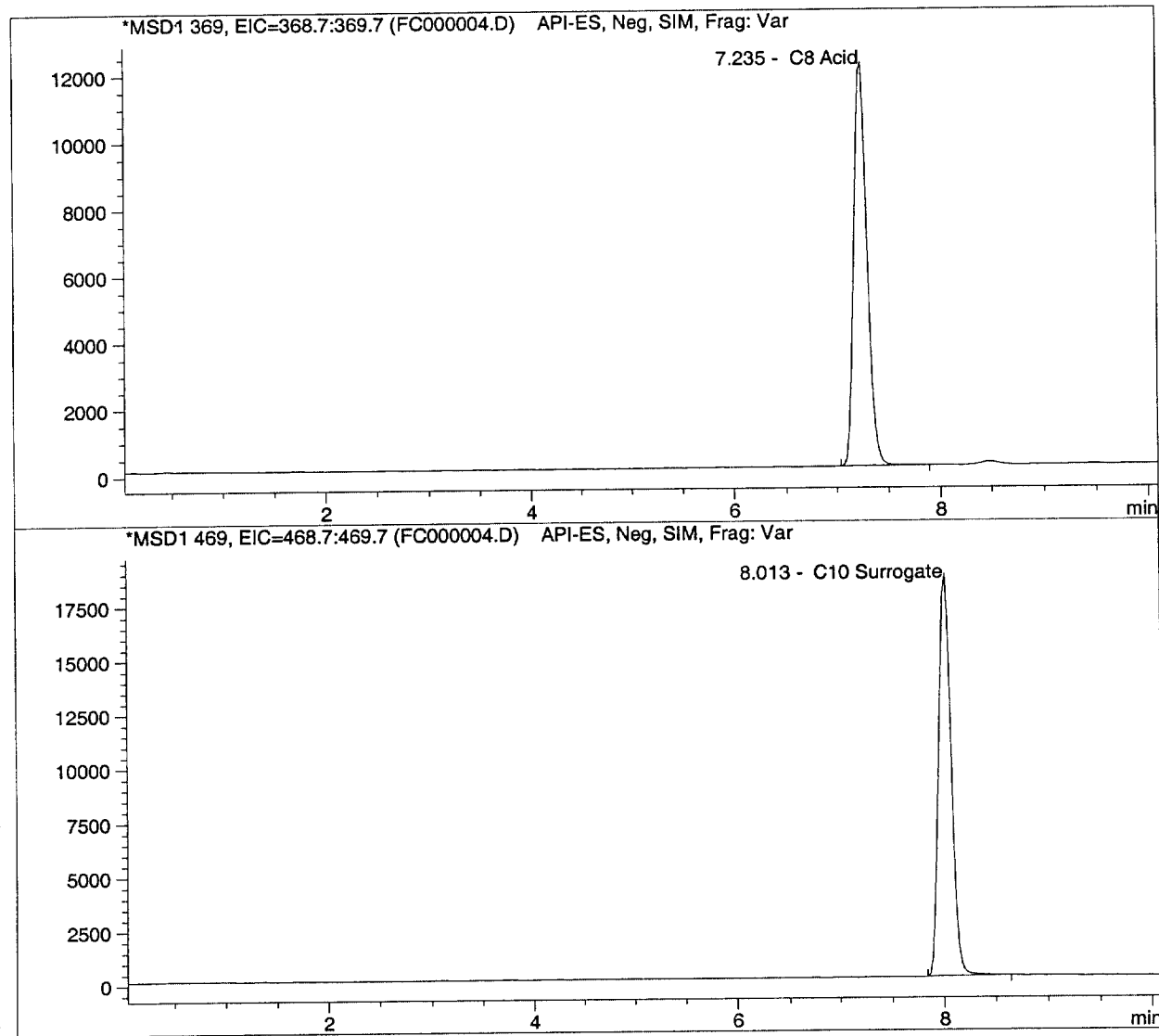
1

Data file :C:\HPCHEM\1\DATA\FC000004.D

=====
Injection Date : 11/20/03 5:28:08 PM Seq Line : 4
Acq Operator : jmillers 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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	263.53	7.235	106083	MSD1 369, EIC=368.7:369.7
10 Surrogat	262.83	8.013	152925	MSD1 469, EIC=468.7:469.7

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

0023

Sample Name:STD 500 ppb

Sample Info:

1

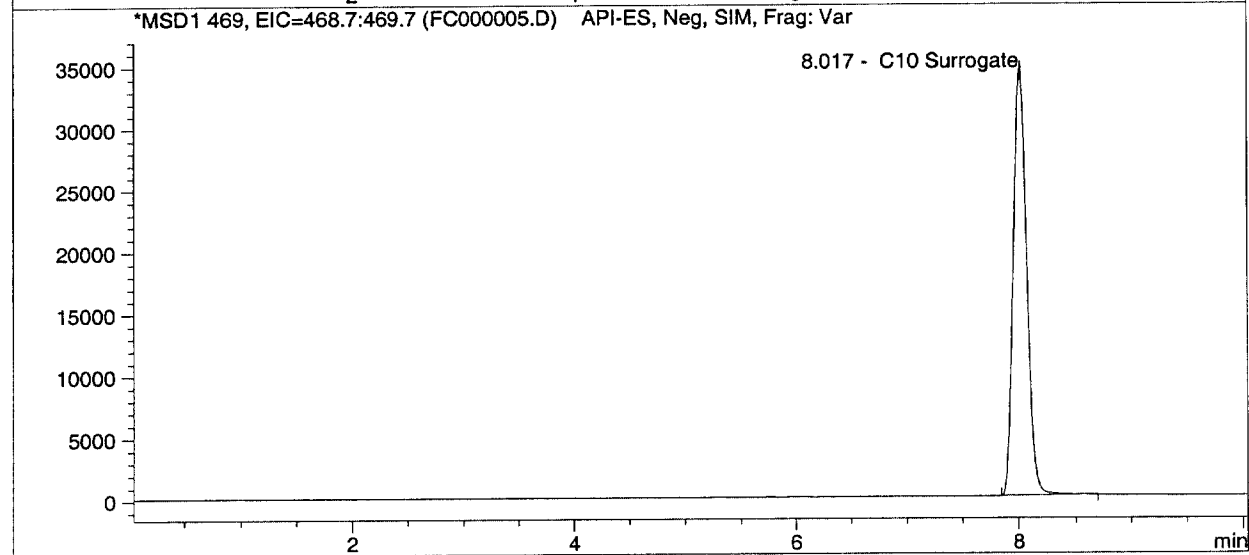
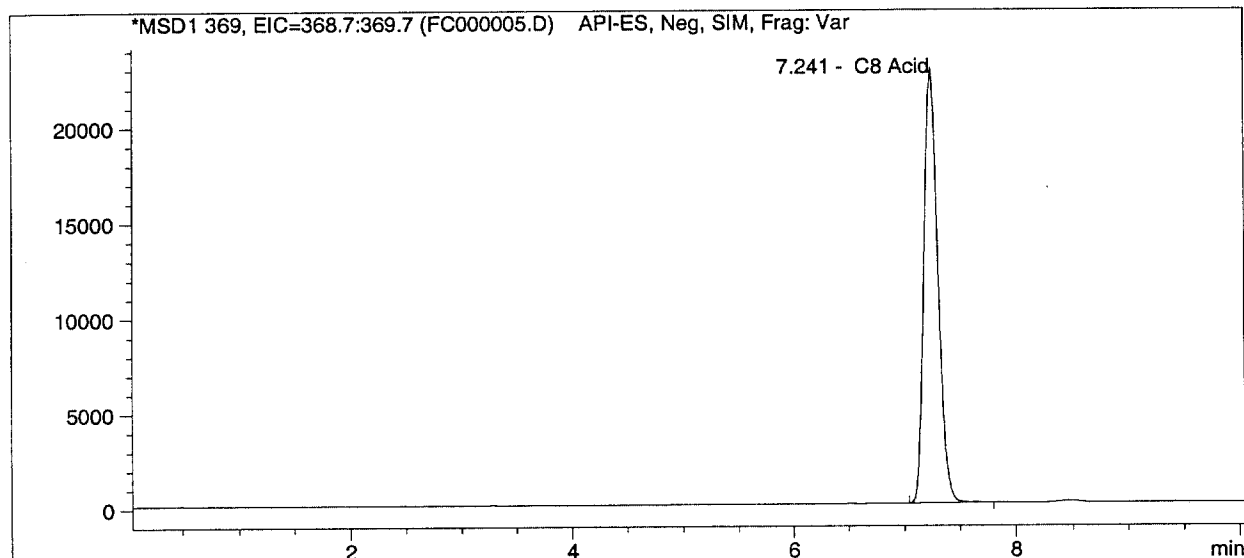
Data file :C:\HPCHEM\1\DATA\FC000005.D

=====

Injection Date	: 11/20/03 5:43:40 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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	527.92	7.241	199467	MSD1 369, EIC=368.7:369.7
10 Surrogat	532.32	8.017	288630	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0024

Sample Name:STD 750 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\FC000006.D

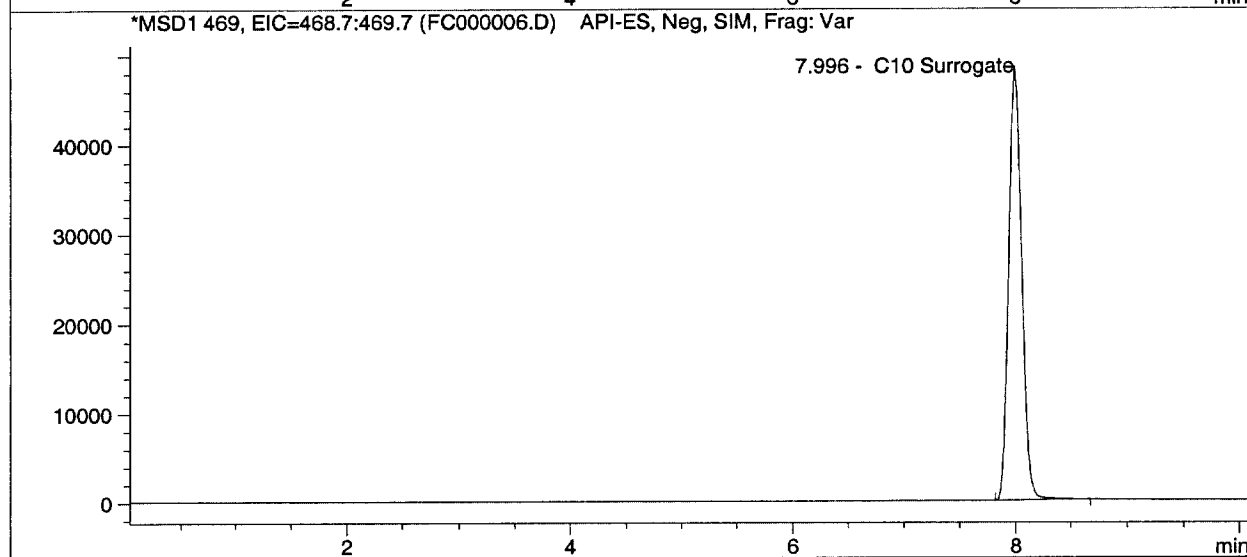
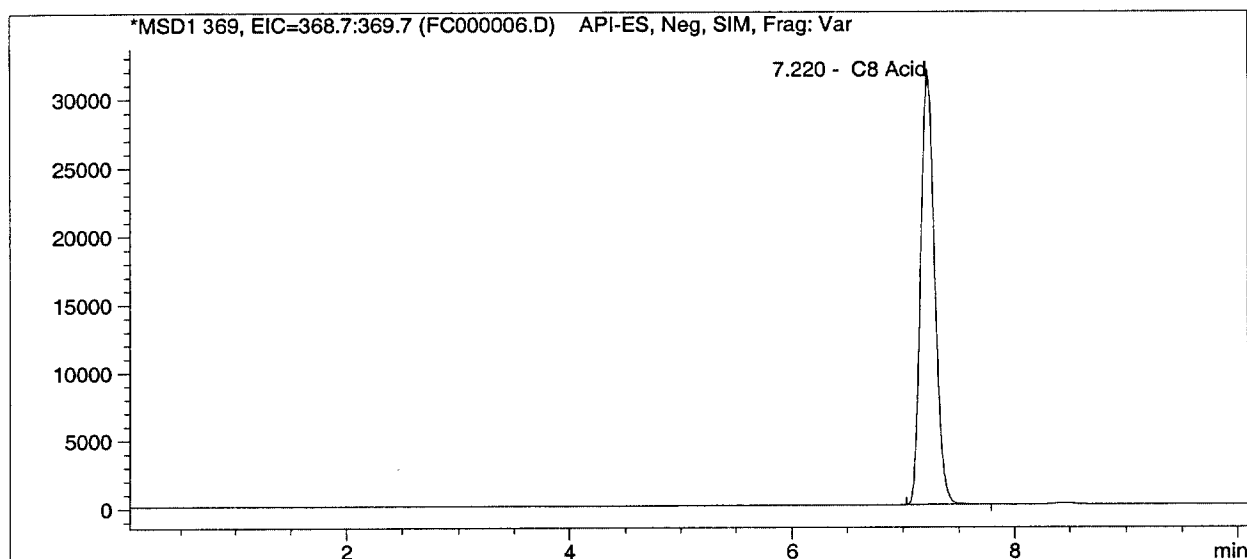
```
=====
Injection Date   : 11/20/03   5:59:20 PM   Seq Line   :        6
Acq Operator    : jmillers              Vial No.    :        5
Instrument      : PC00414                Inj. No.    :        1
Dilution       : 1                    Inj. Vol.   :       5 µl
=====
```

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	750.22	7.220	277987	MSD1 369, EIC=368.7:369.7
10 Surrogat	752.85	7.996	399682	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0025

Sample Name:STD 1500 ppb

Sample Info:

1

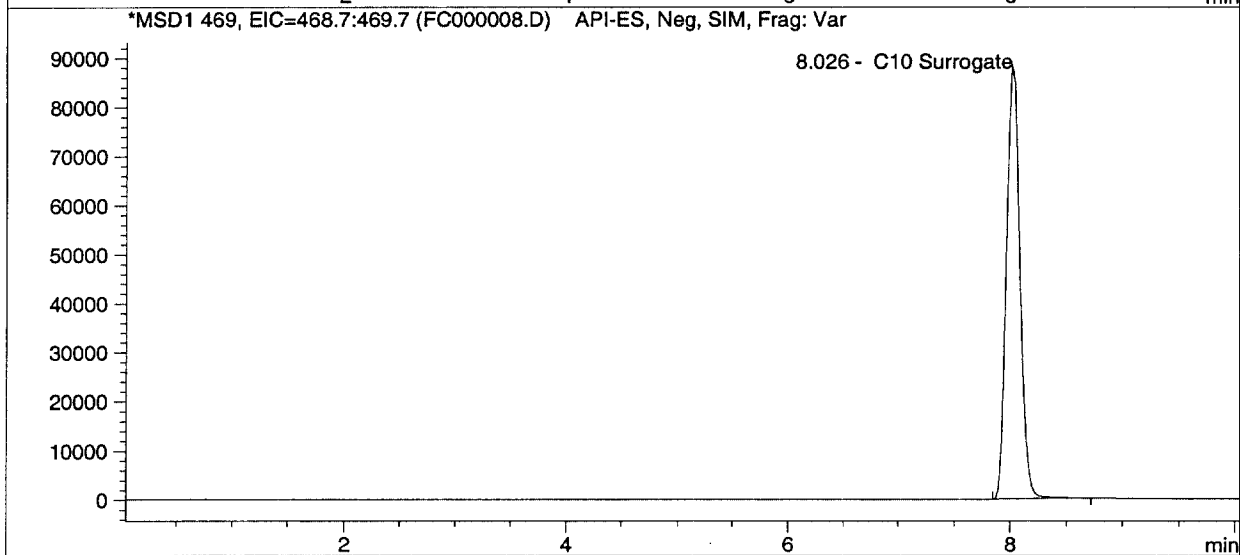
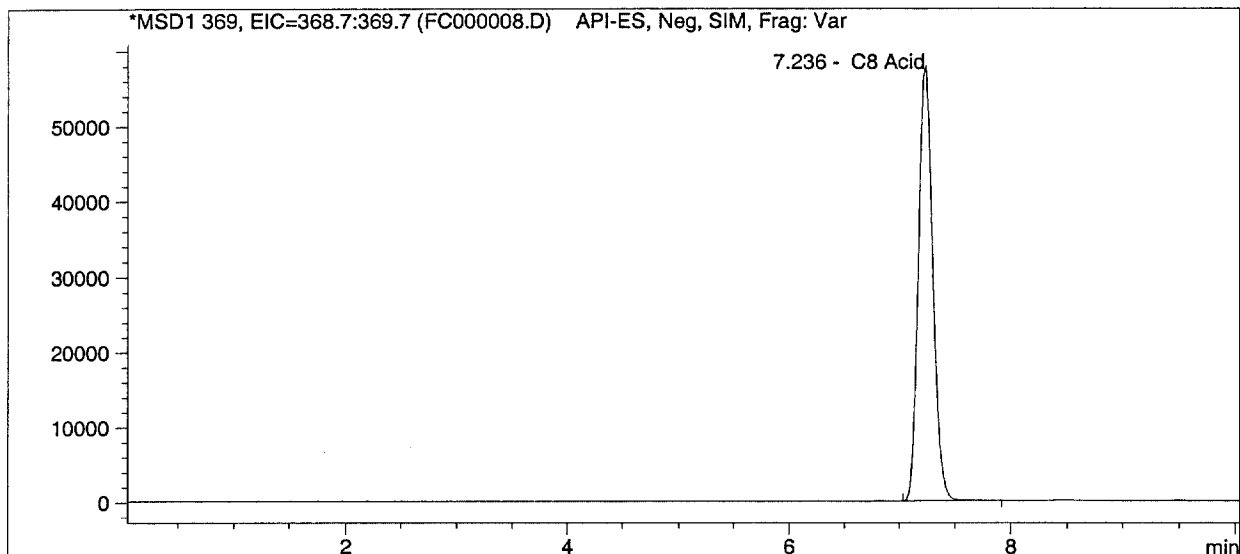
Data file :C:\HPCHEM\1\DATA\FC000008.D

=====

Injection Date	: 11/20/03	6:30:33 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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1445.01	7.236	523394	MSD1 369, EIC=368.7:369.7
C10 Surrogat	1444.38	8.026	747916	MSD1 469, EIC=468.7:469.7

=====

*** End of Report ***

0027

Sample Name: Solvent blank
Sample Info:

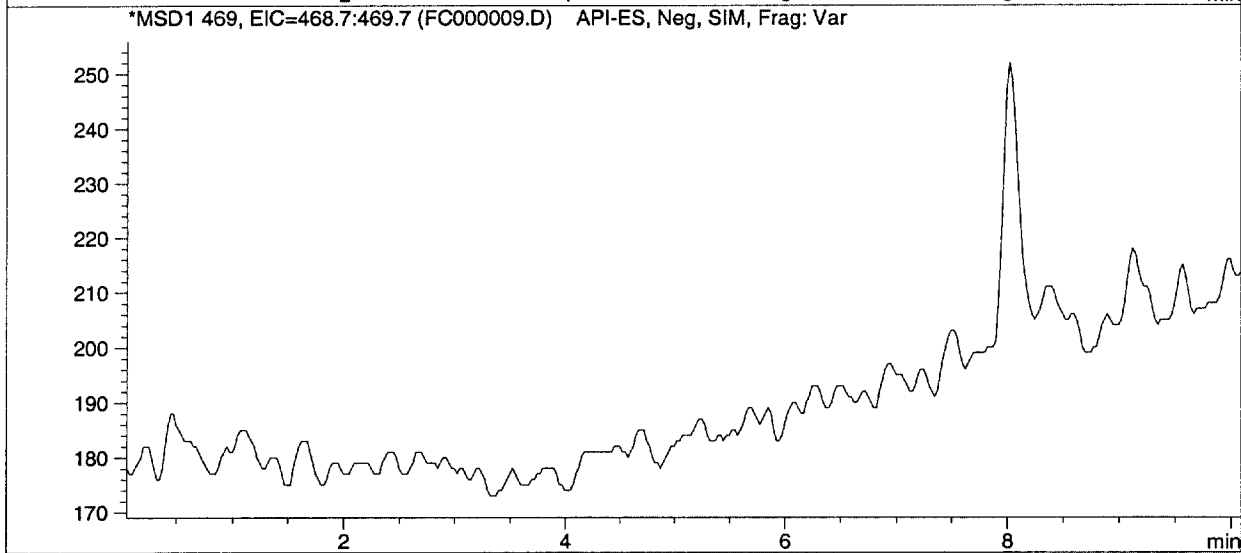
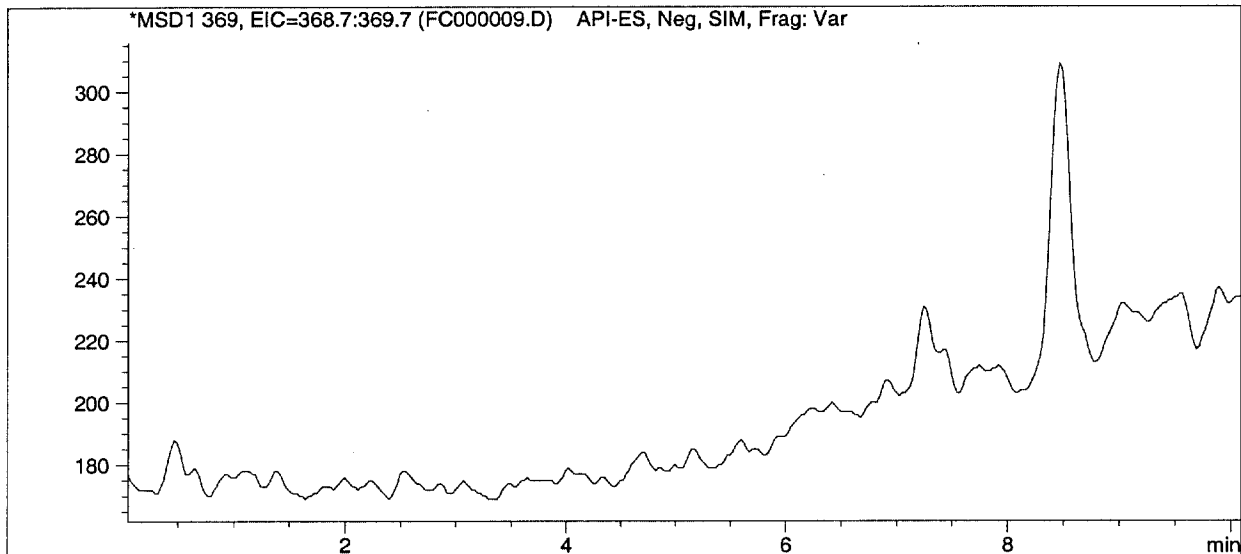
1

Data file : C:\HPCHEM\1\DATA\FC000009.D

```
=====
Injection Date   : 11/20/03   6:46:01 PM   Seq Line   :           9
Acq Operator    : jmillers      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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 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 ***

0028

Sample Name:L0001308-22

Sample Info:

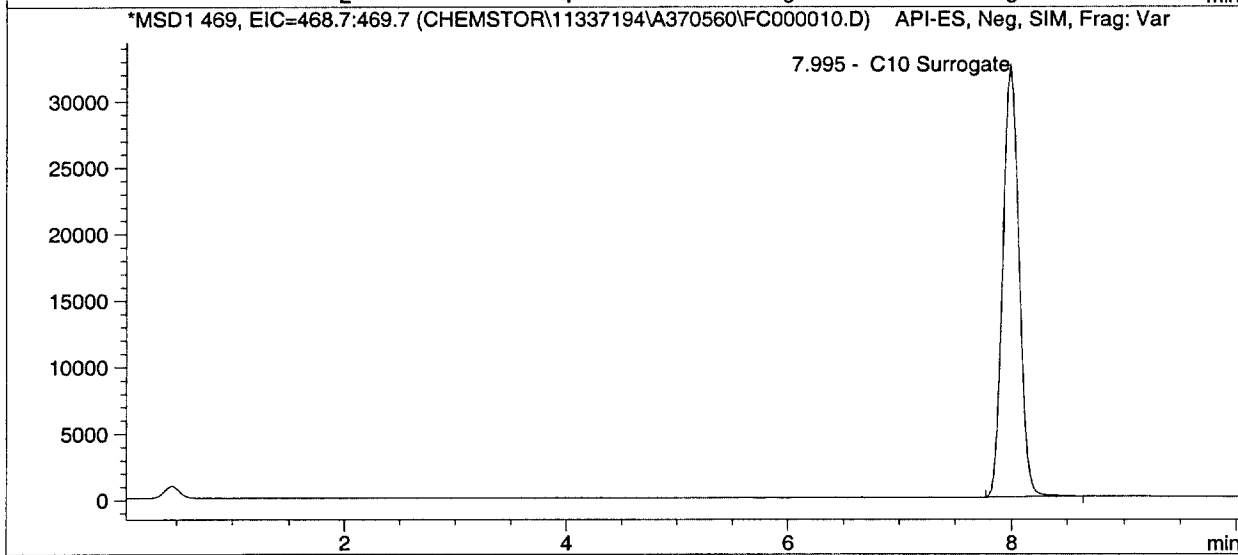
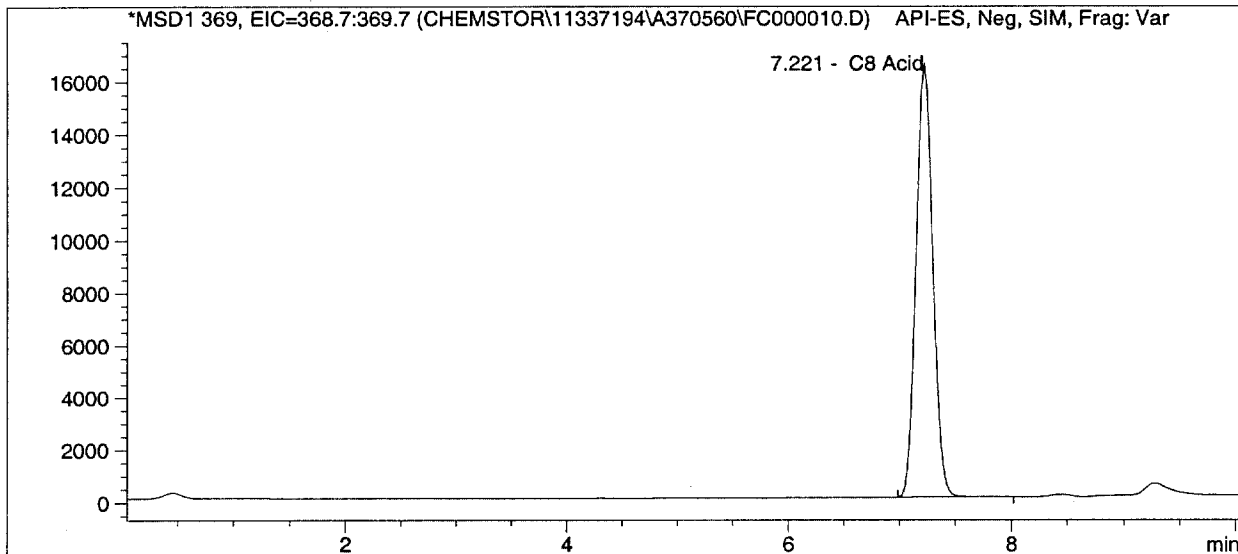
1

Data file :C:\HPCHEM\1\DATA\Chemstor\11337194\A370560\FC000010.D

Injection Date : 11/20/03 7:01:33 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	453.59	7.221	173212	MSD1 369, EIC=368.7:369.7
10 Surrogat	612.12	7.995	328815	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0029

000109

Sample Name:L0001308-23

Sample Info:

1

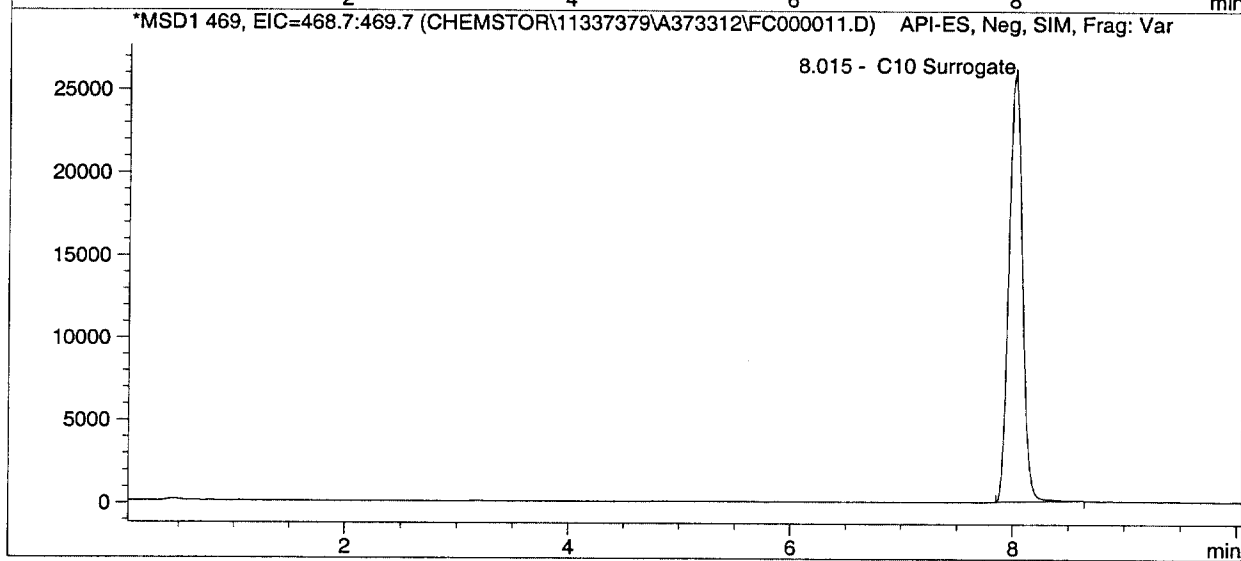
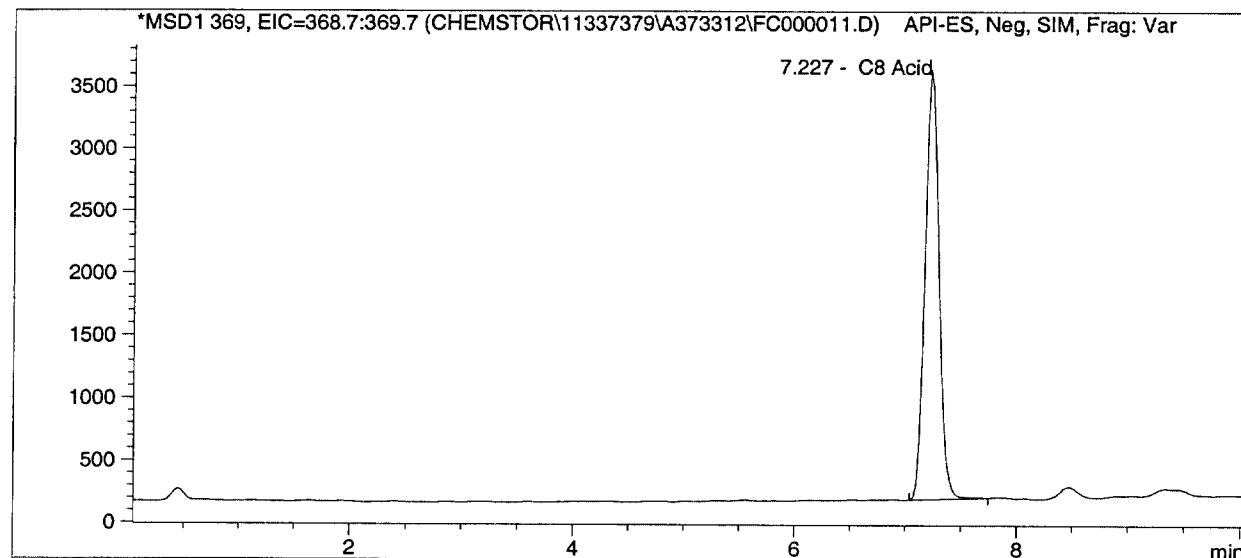
Data file :C:\HPCHEM\1\DATA\Chemstor\11337379\A373312\FC000011.D

=====

Injection Date	: 11/20/03	7:17:05 PM	Seq Line	:	11
Acq Operator	: jmillier		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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	48.98	7.227	30300	MSD1 369, EIC=368.7:369.7
10 Surrogat	391.61	8.015	217774	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0030

Sample Name:L0001308-1

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11337644\A376064\FC000012.D

=====

Injection Date	: 11/20/03	7:32:42 PM	Seq Line	:	12
Acq Operator	: jmillier		Vial No.	:	13
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

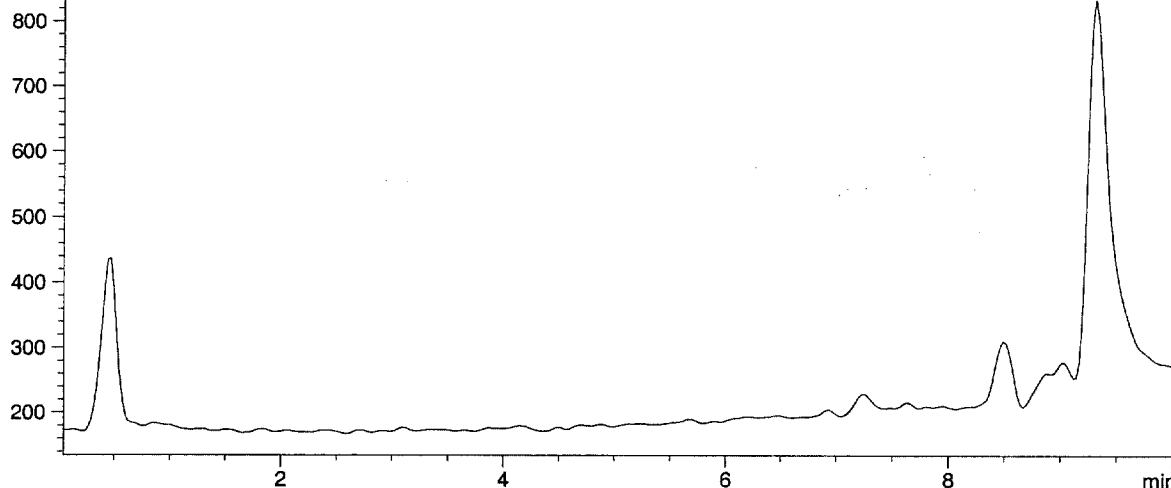
Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

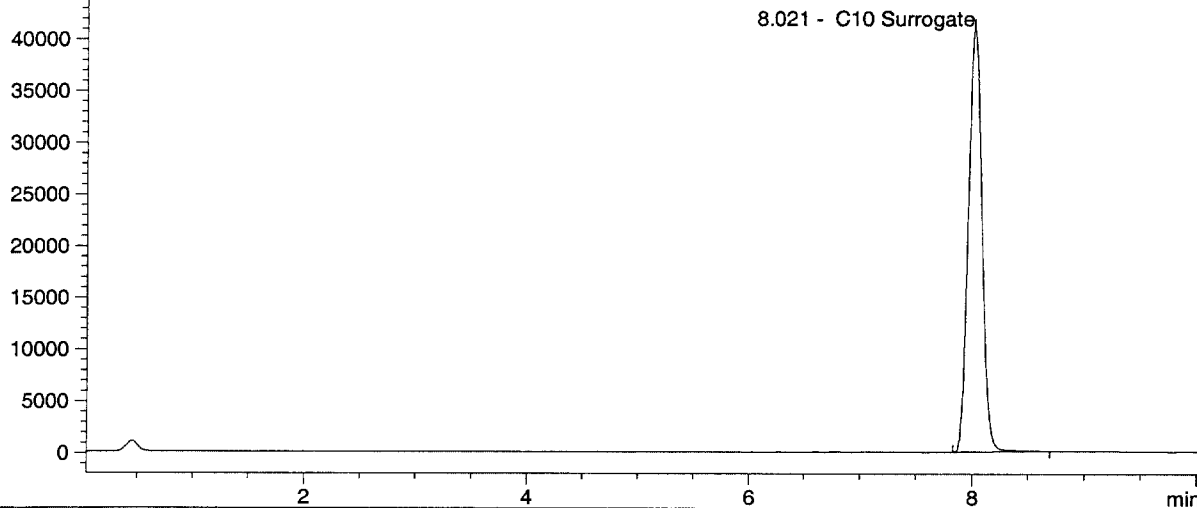
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\11337644\A376064\FC000012.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\11337644\A376064\FC000012.D) API-ES, Neg, SIM, Frag: Var



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	644.03	8.021	344887	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0031

Sample Name:L0001308-2

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11337804\A378880\FC000013.D

=====

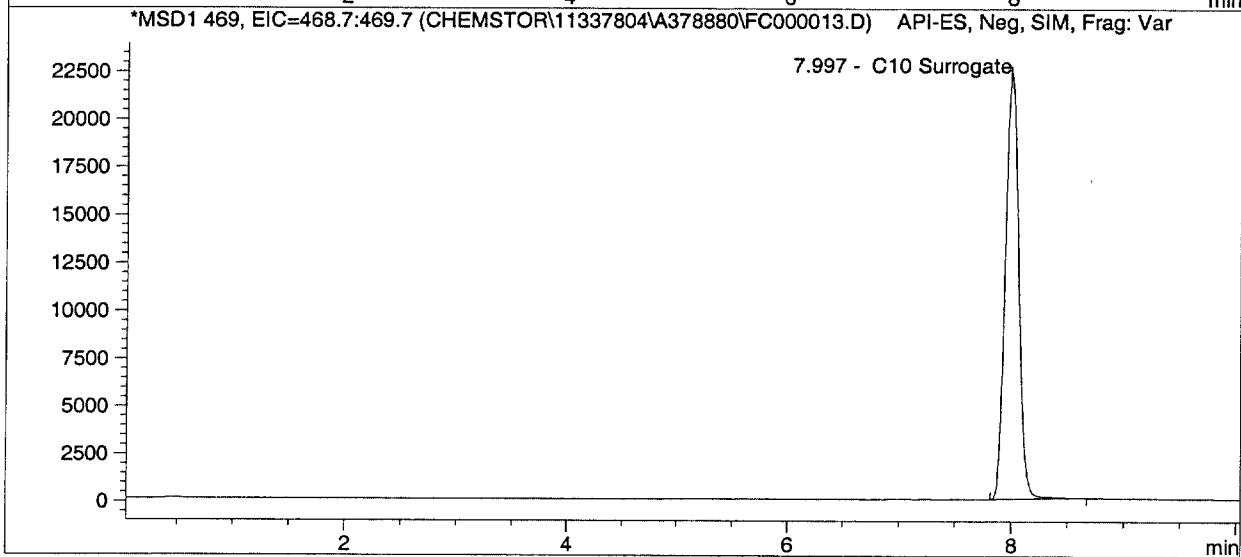
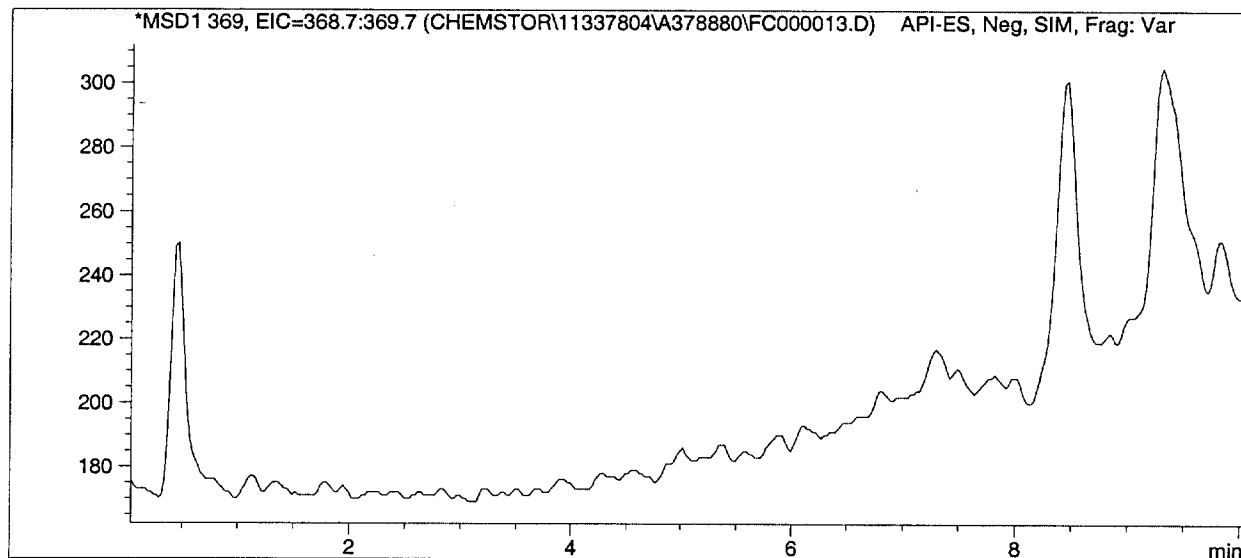
Injection Date	: 11/20/03	7:48:16 PM	Seq Line	:	13
Acq Operator	: jmillier		Vial No.	:	14
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	328.79	7.997	186139	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0032

Sample Name:L0001308-4

Sample Info:

1

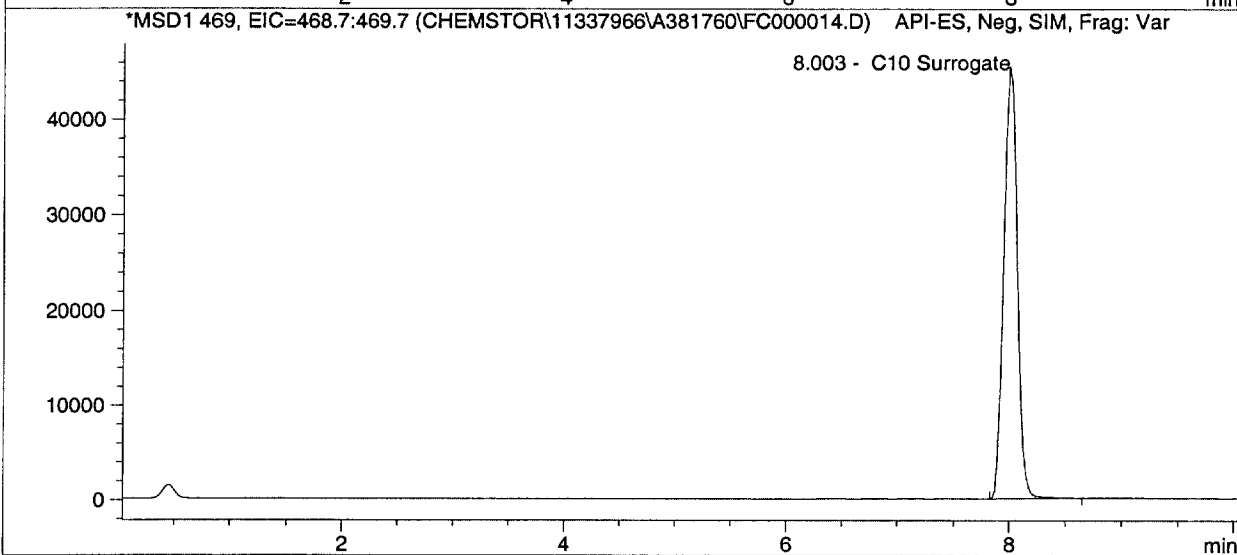
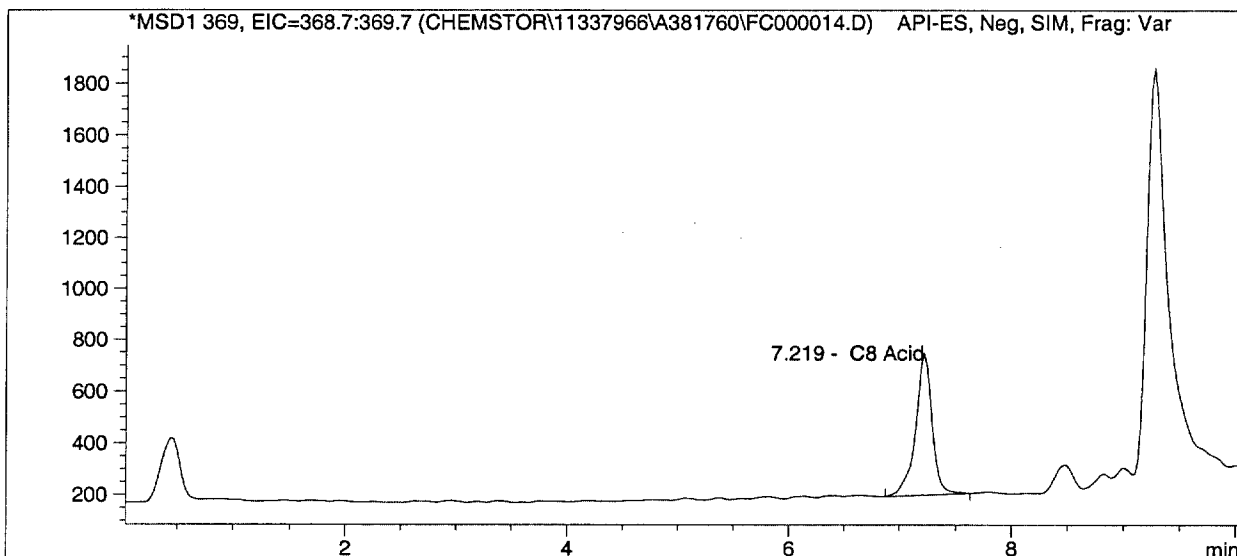
Data file :C:\HPCHEM\1\DATA\Chemstor\11337966\A381760\FC000014.D

=====

Injection Date	: 11/20/03	8:03:50 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	0.00	7.219	5564	MSD1 369, EIC=368.7:369.7
10 Surrogat	707.26	8.003	376727	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0033

Sample Name:L0001308-5

Sample Info:

1

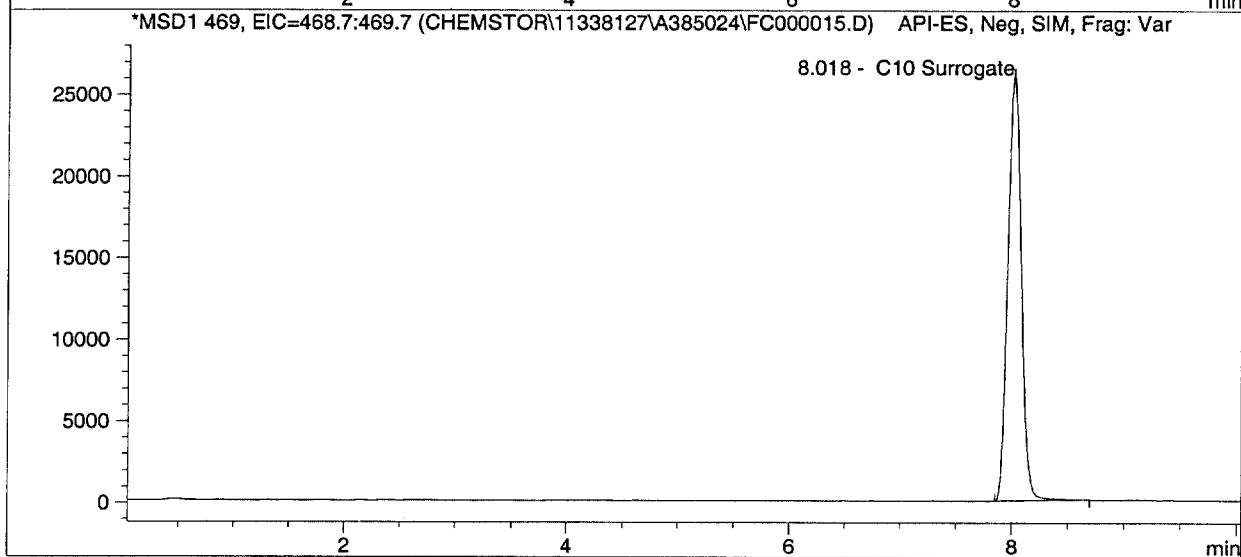
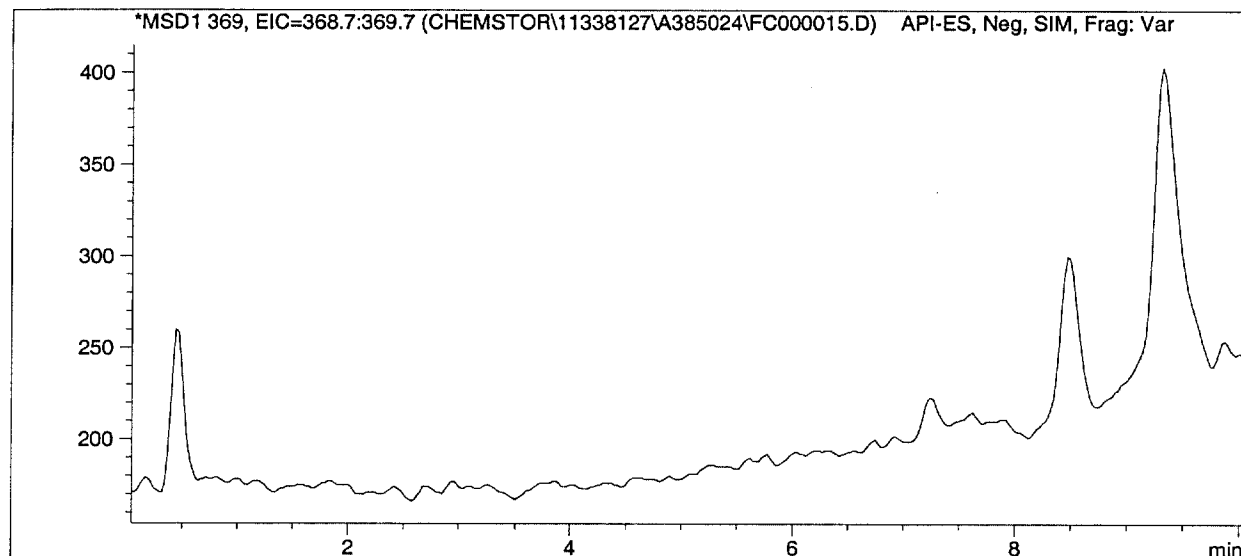
Data file :C:\HPCHEM\1\DATA\Chemstor\11338127\A385024\FC000015.D

=====

Injection Date	: 11/20/03	8:19:26 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	392.49	8.018	218217	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0034

Sample Name:L0001308-7

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11338314\A387648\FC000016.D

=====

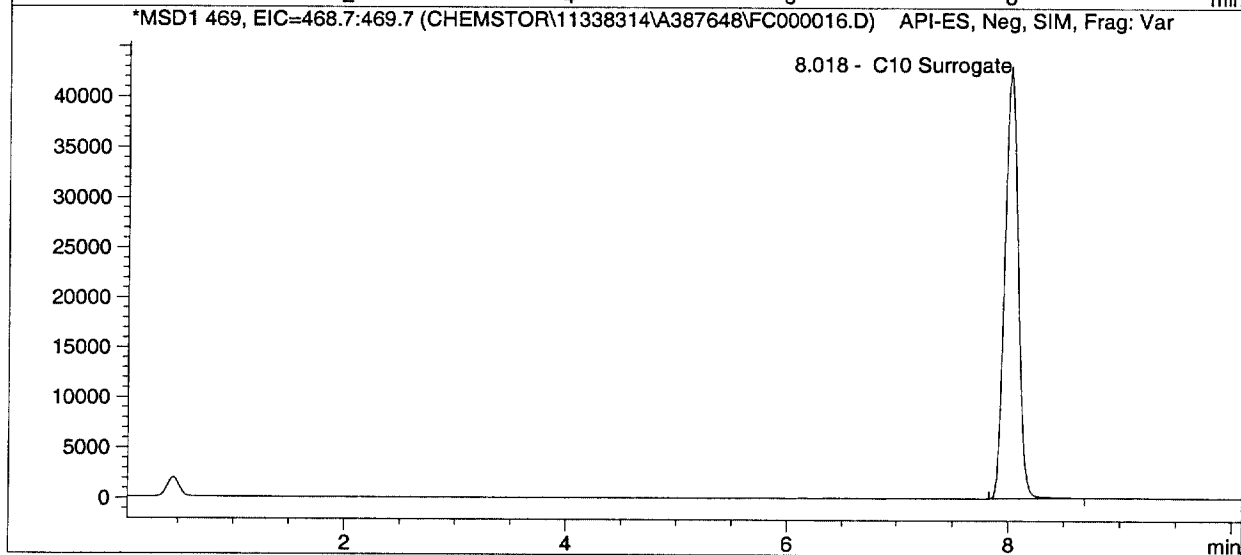
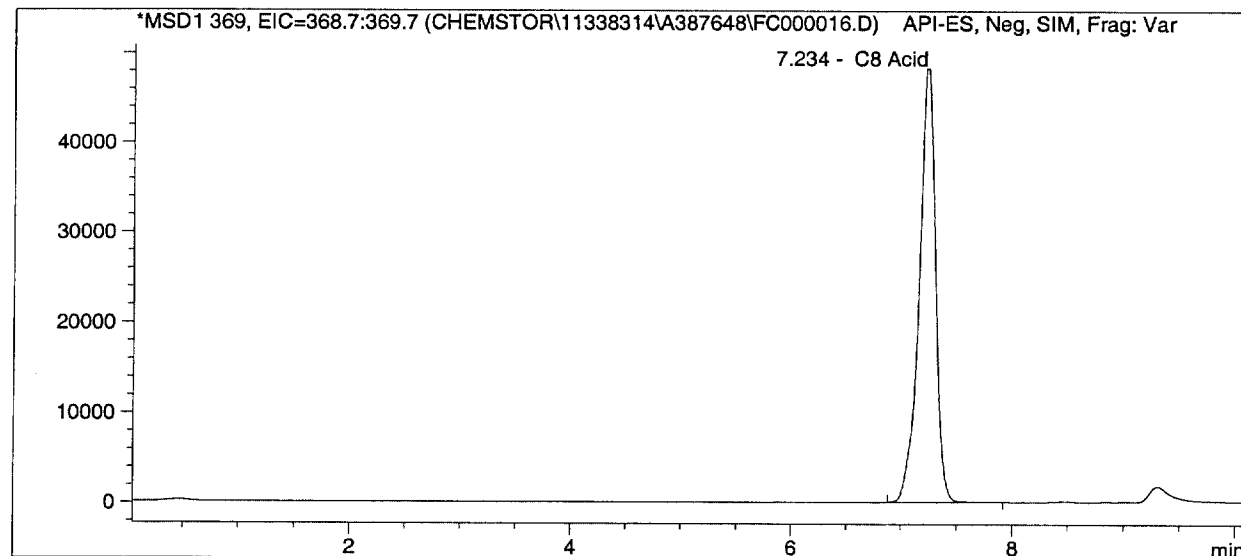
Injection Date	: 11/20/03	8:35:04 PM	Seq Line	:	16
Acq Operator	: jmillier		Vial No.	:	17
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1339.98	7.234	486298	MSD1 369, EIC=368.7:369.7
10 Surrogat	666.04	8.018	355969	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0035

Sample Name:L0001308-8

Sample Info:

1

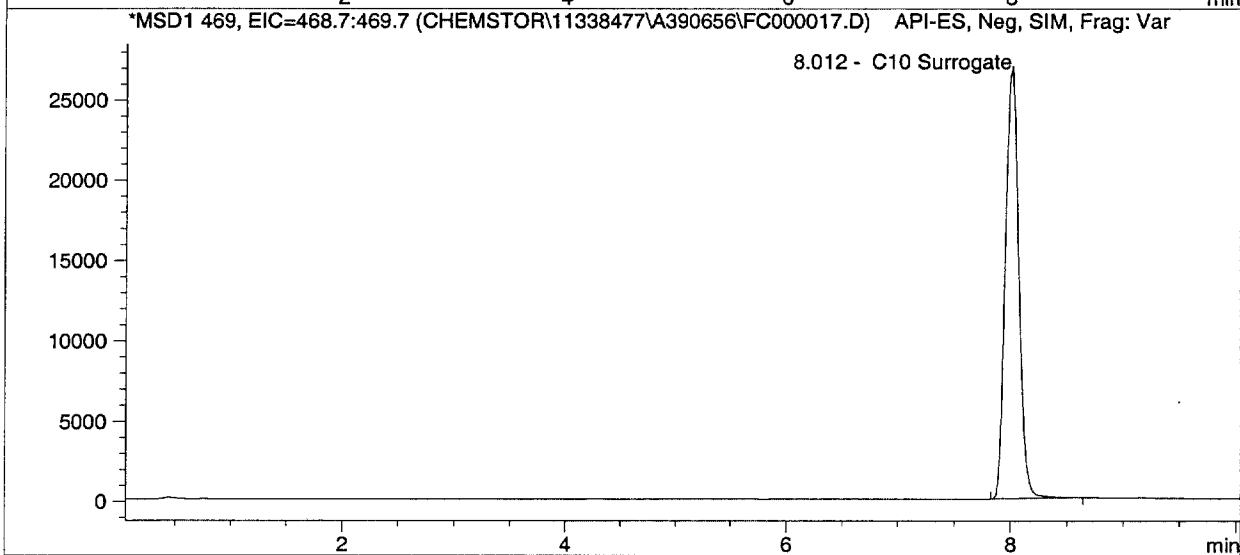
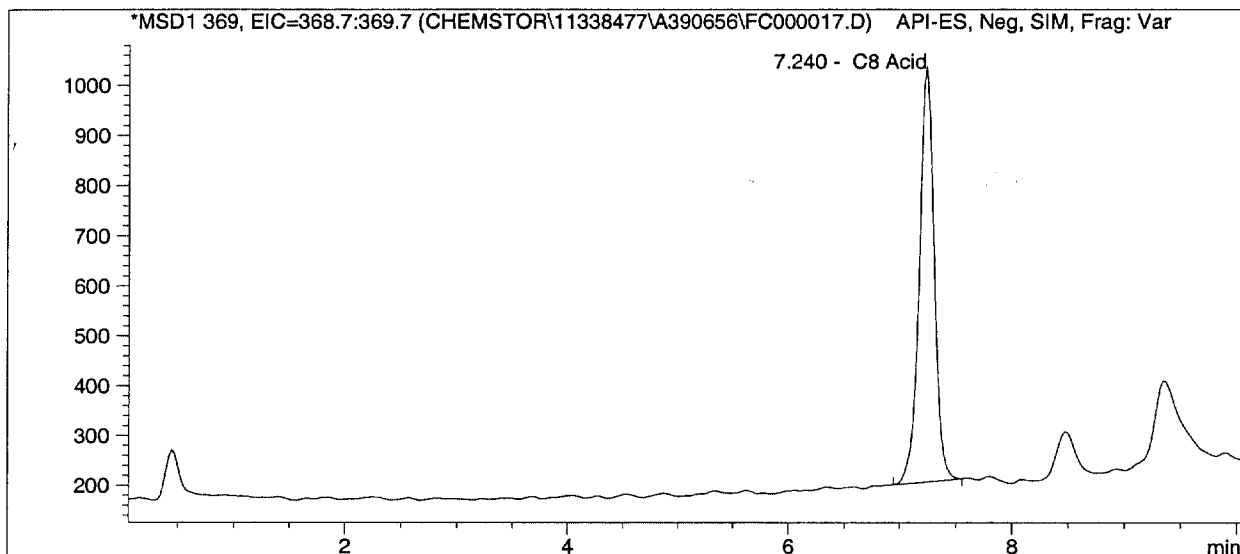
Data file :C:\HPCHEM\1\DATA\Chemstor\11338477\A390656\FC000017.D

=====

Injection Date	: 11/20/03	8:50:40 PM	Seq Line	:	17
Acq Operator	: jmiller		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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.240	7681	MSD1 369, EIC=368.7:369.7
C10 Surrogat	405.08	8.012	224557	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0036

Sample Name:L0001308-10

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11338658\A393600\FC000018.D

=====

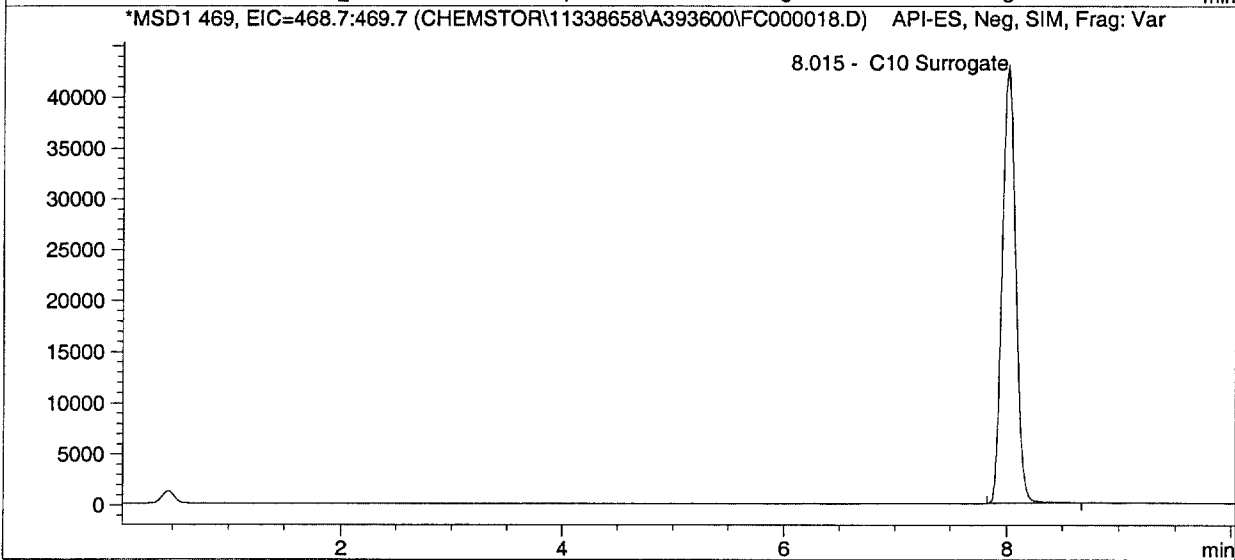
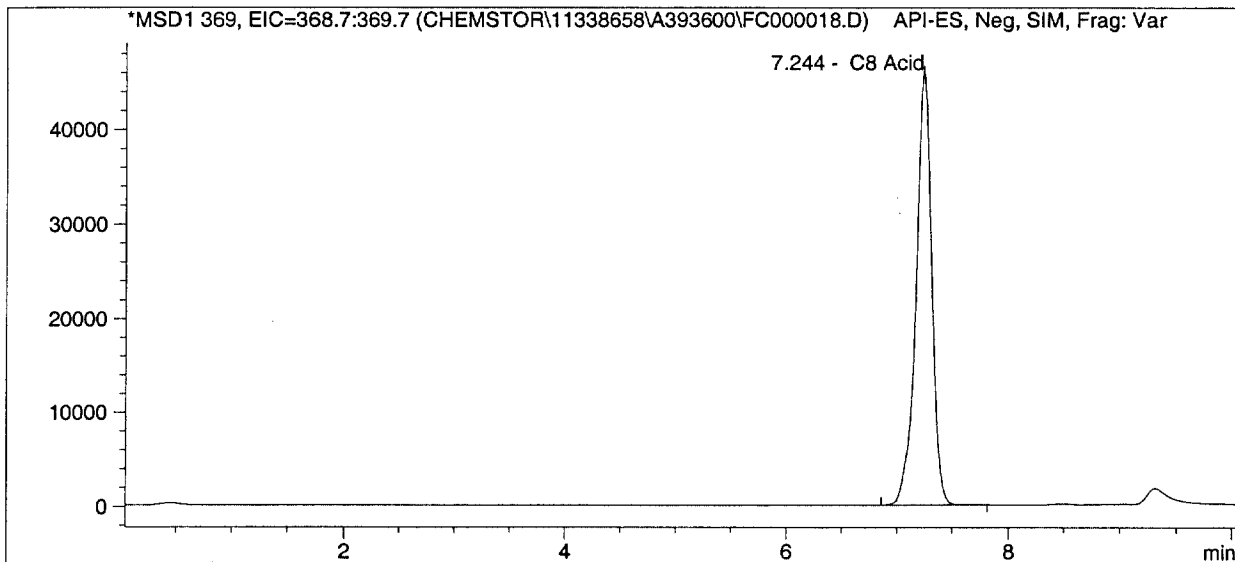
Injection Date	: 11/20/03	9:06:20 PM	Seq Line	:	18
Acq Operator	: jmillar		Vial No.	:	19
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1266.20	7.244	460236	MSD1 369, EIC=368.7:369.7
10 Surrogat	666.34	8.015	356121	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0037

Sample Name:L0001308-11

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11338818\A395840\FC000019.D

=====

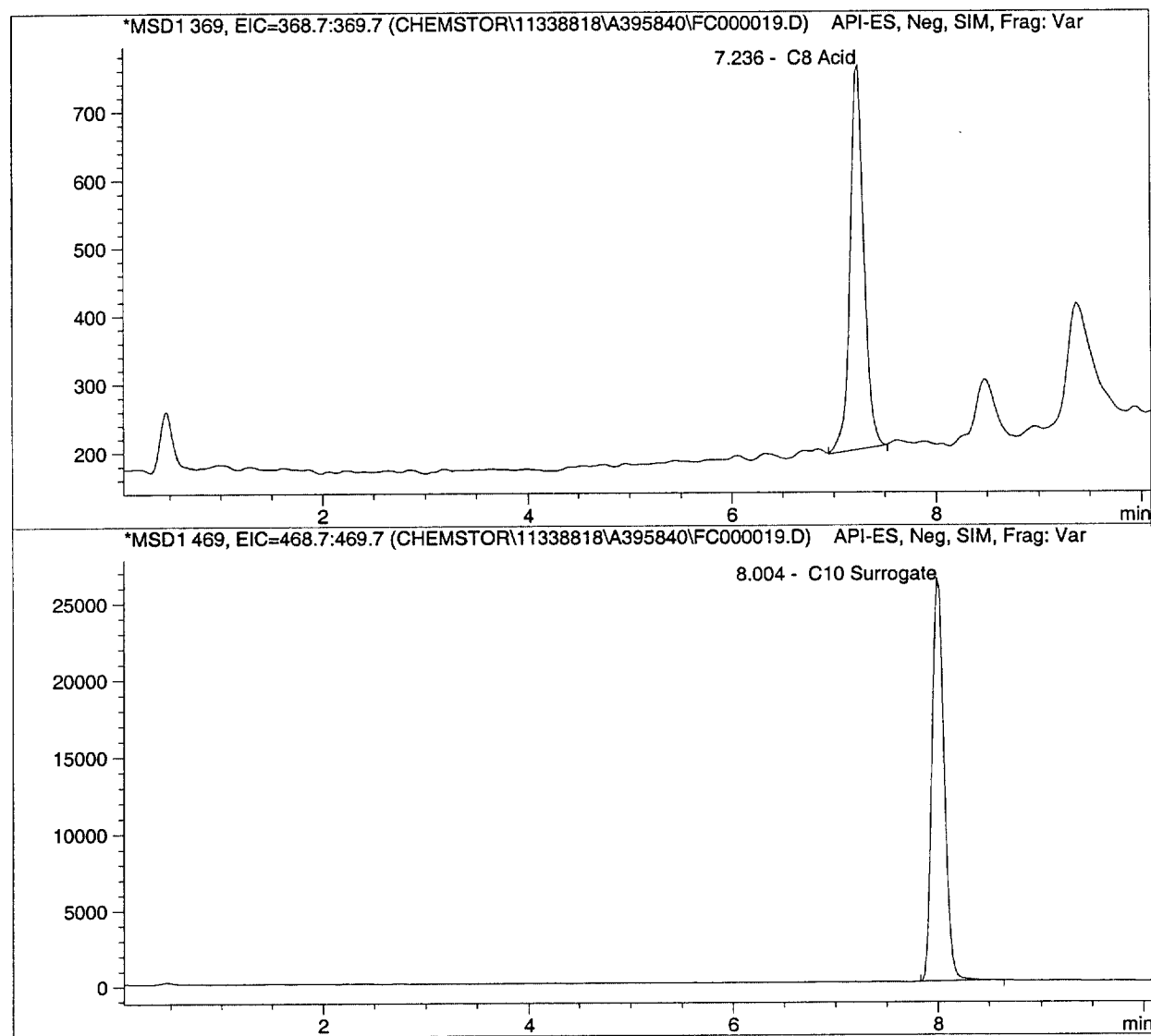
Injection Date	: 11/20/03	9:21:59 PM	Seq Line	:	19
Acq Operator	: jmillier		Vial No.	:	20
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.236	5278	MSD1 369, EIC=368.7:369.7
10 Surrogat	396.07	8.004	220023	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0038

Sample Name:STD 500 ppb

Sample Info:

1

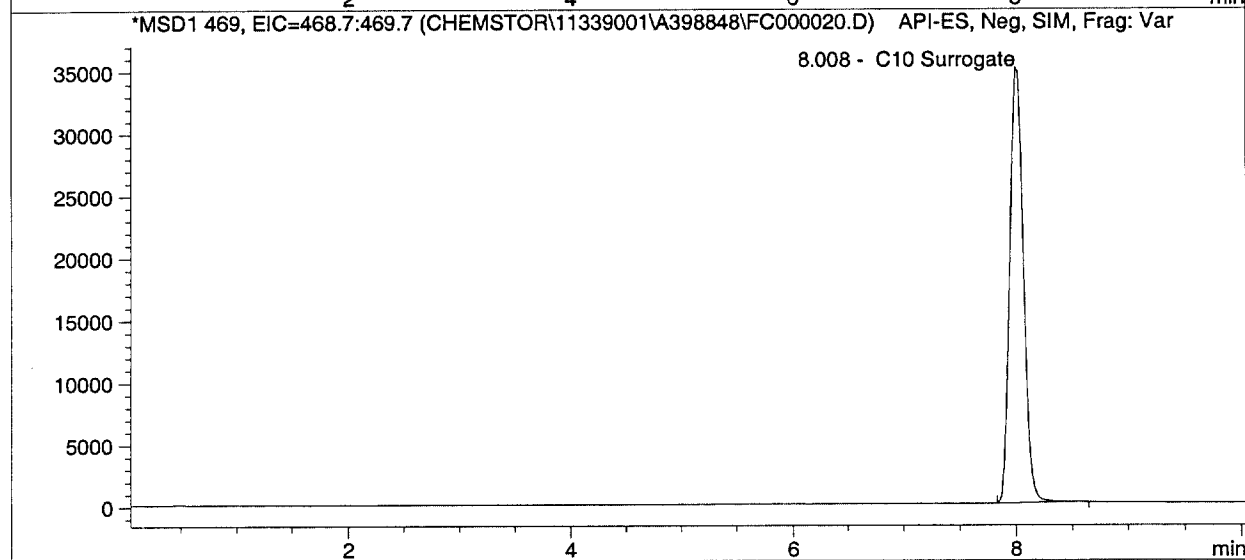
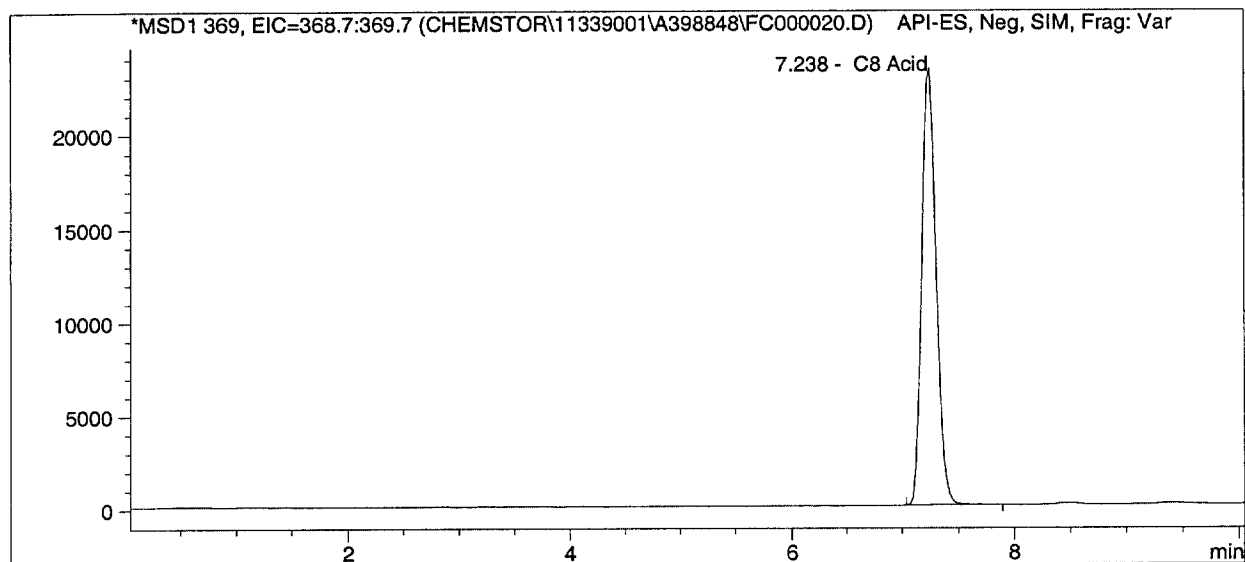
Data file :C:\HPCHEM\1\DATA\Chemstor\11339001\A398848\FC000020.D

=====

Injection Date	: 11/20/03	9:37:33 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	542.63	7.238	204664	MSD1 369, EIC=368.7:369.7
10 Surrogat	546.18	8.008	295610	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0039

Sample Name: Solvent blank

Sample Info:

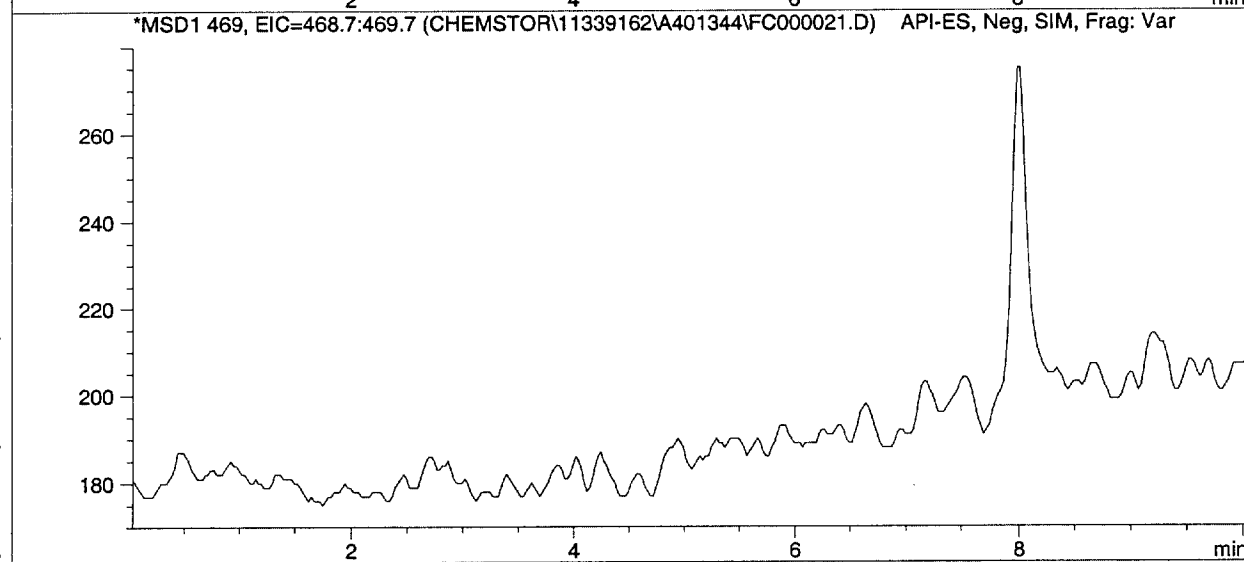
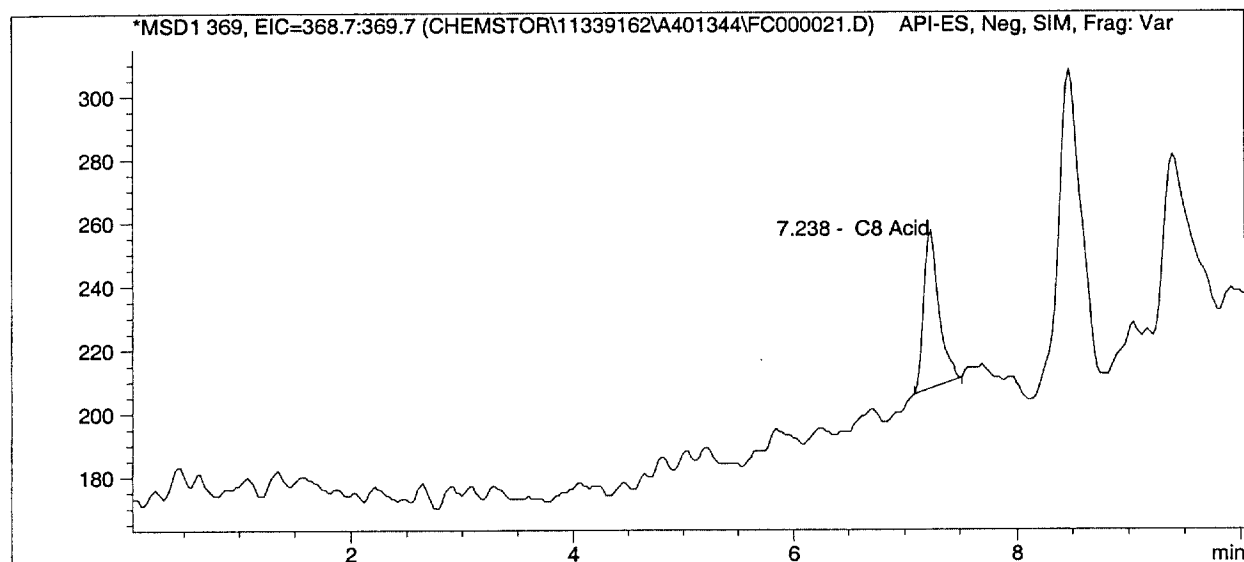
1

Data file : C:\HPCHEM\1\DATA\Chemstor\11339162\A401344\FC000021.D

=====
Injection Date : 11/20/03 9:53:02 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.238	477	MSD1 369, EIC=368.7:369.7
10 Surrogat	0.00	0.000	0	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0040

Sample Name:L0001308-13

Sample Info:

1

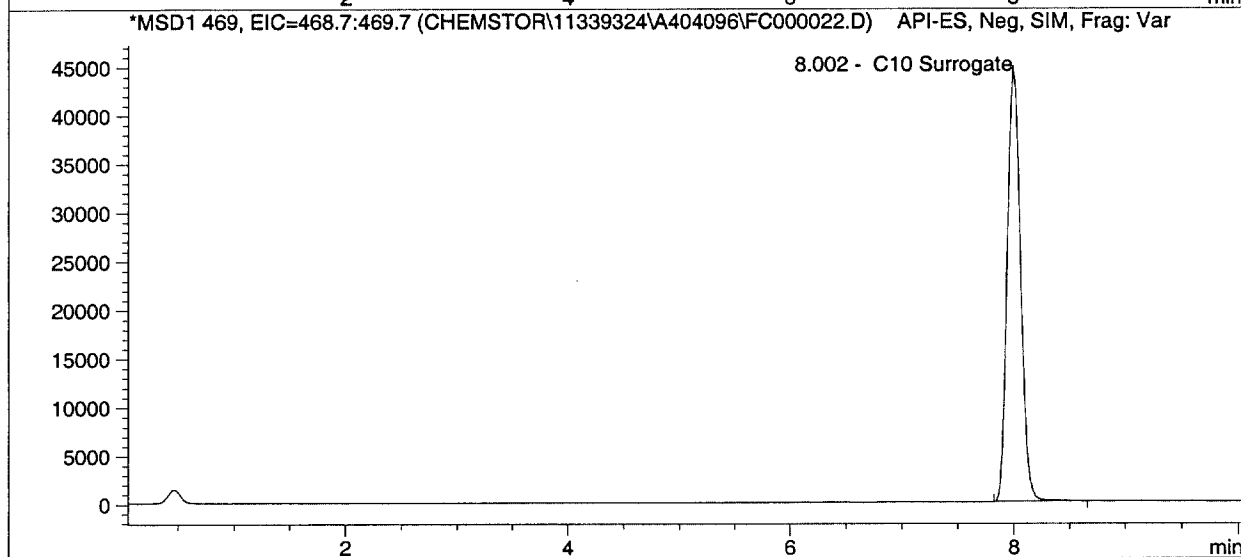
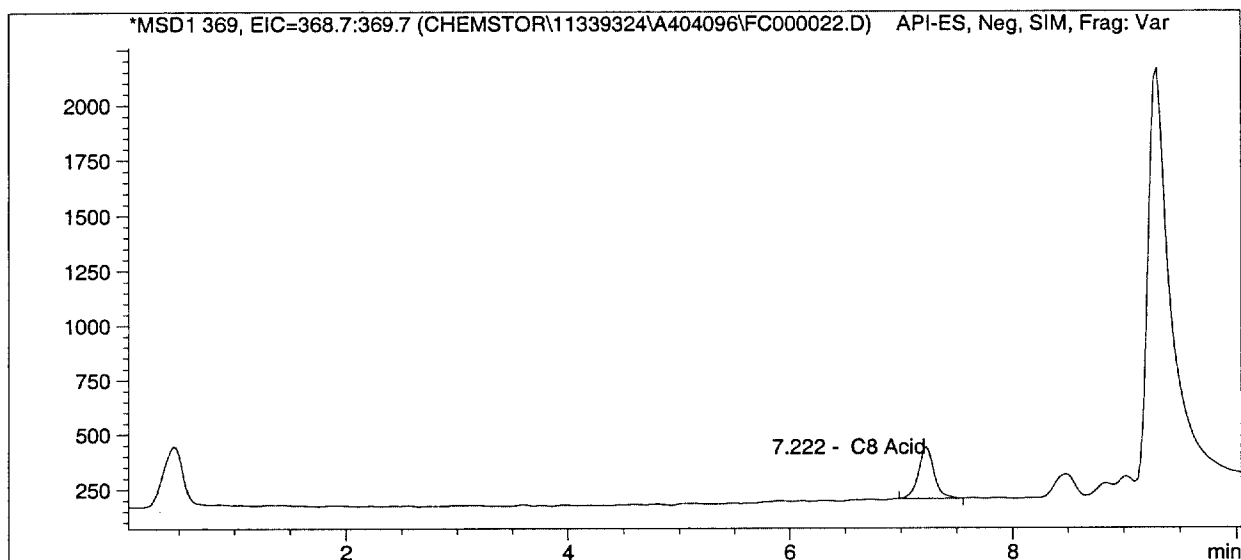
Data file :C:\HPCHEM\1\DATA\Chemstor\11339324\A404096\FC000022.D

=====

Injection Date	: 11/20/03	10:08:34 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.222	2273	MSD1 369, EIC=368.7:369.7
10 Surrogat	696.93	8.002	371523	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0041

Sample Name:L0001308-14

Sample Info:

1

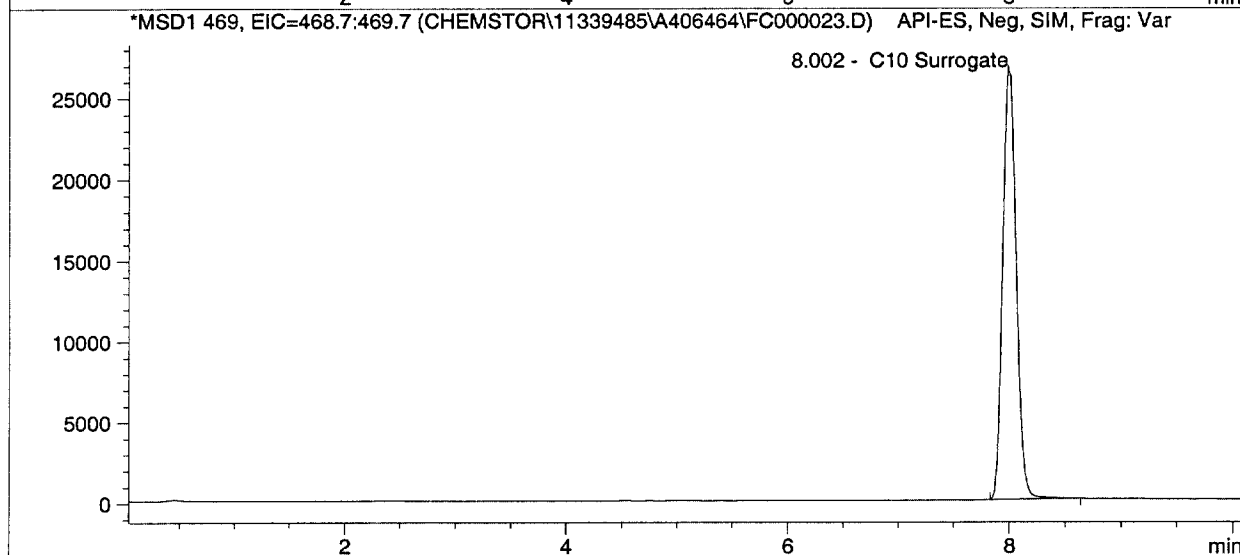
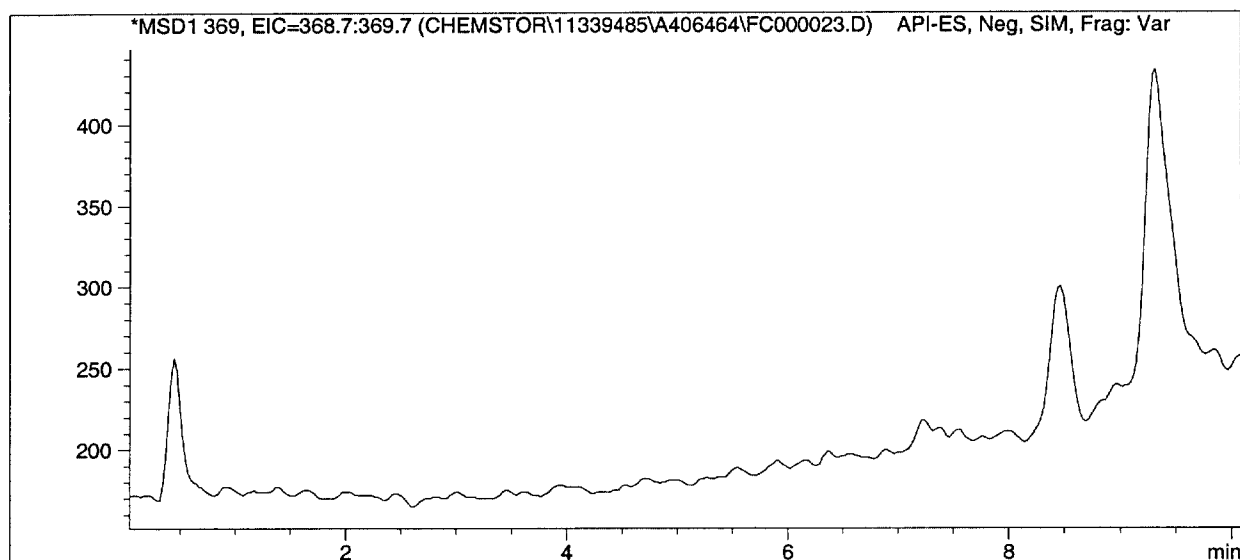
Data file :C:\HPCHEM\1\DATA\Chemstor\11339485\A406464\FC000023.D

=====

Injection Date	: 11/20/03	10:24:08 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	403.03	8.002	223526	MSD1 469, EIC=468.7:469.7

=====

*** End of Report ***

0042

Sample Name:L0001308-16

Sample Info:

1

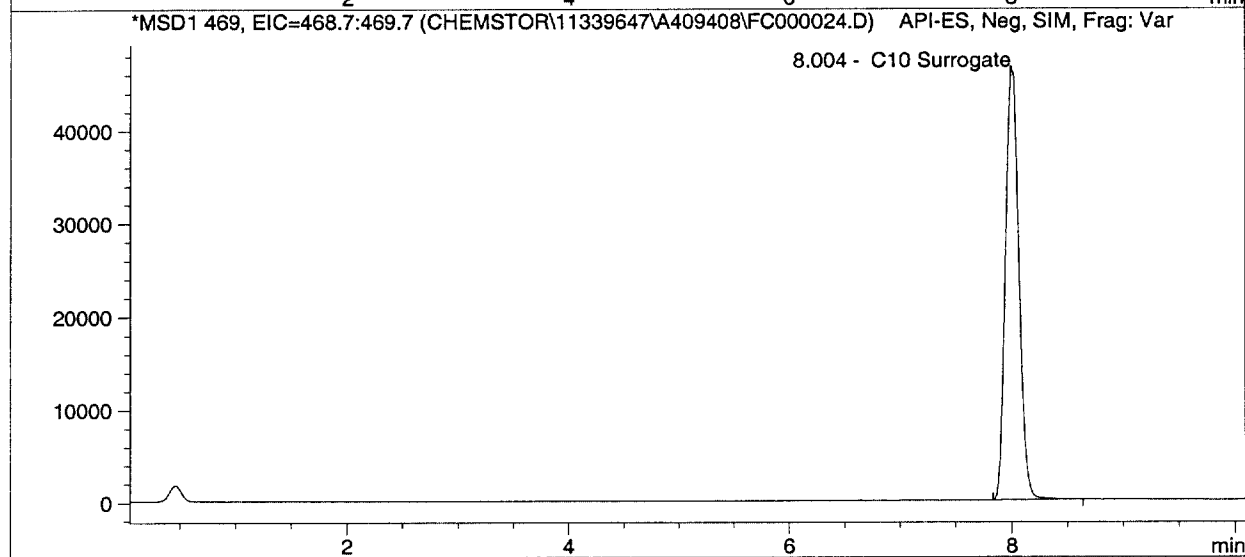
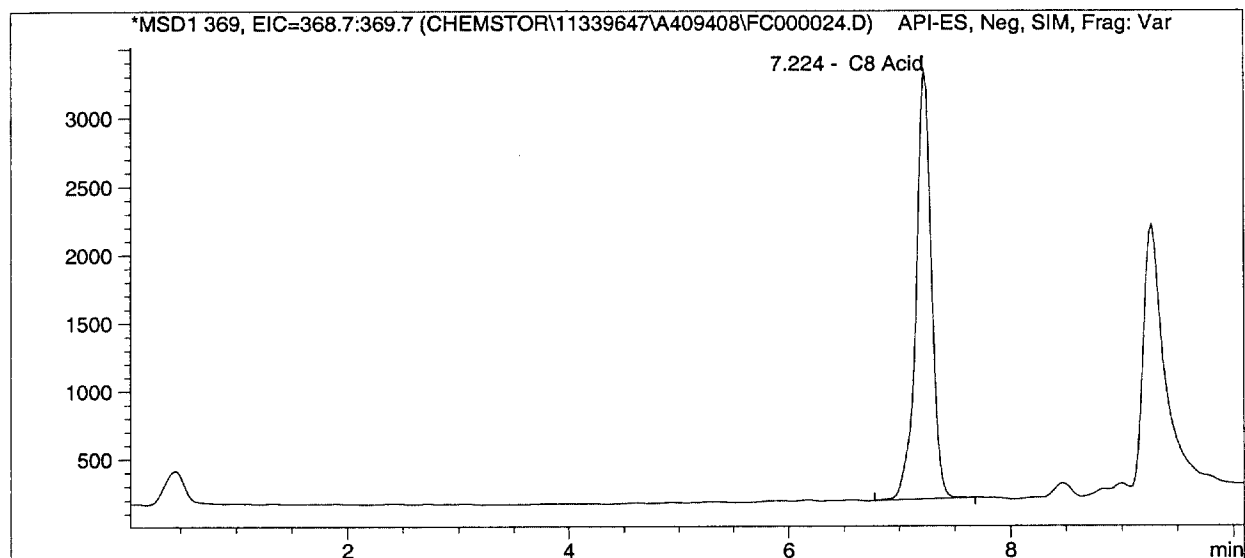
Data file :C:\HPCHEM\1\DATA\Chemstor\11339647\A409408\FC000024.D

=====

Injection Date	: 11/20/03	10:39:44 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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	49.31	7.224	30418	MSD1 369, EIC=368.7:369.7
10 Surrogat	732.49	8.004	389428	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0043

Sample Name:L0001308-17

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11339761\A411904\FC000025.D

=====

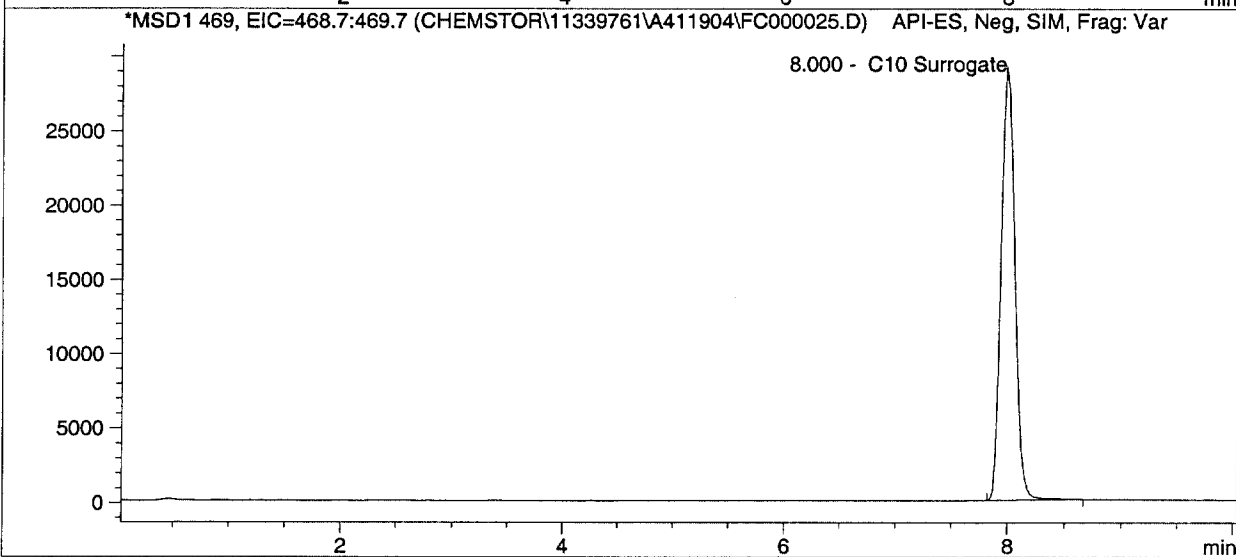
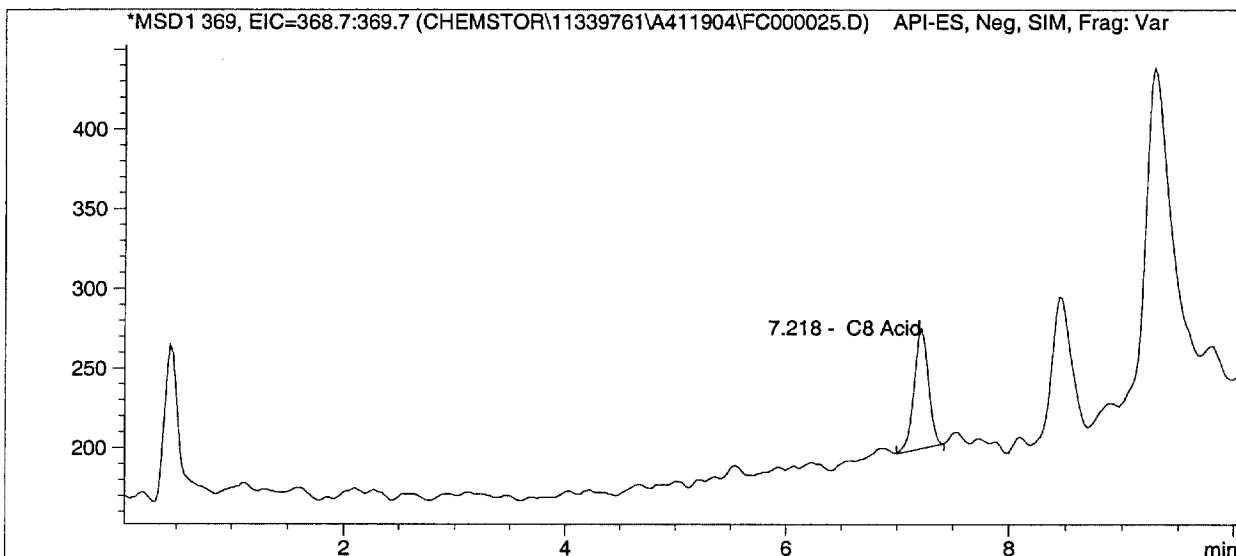
Injection Date	: 11/20/03	10:55:20 PM	Seq Line	:	25
Acq Operator	: jmillier		Vial No.	:	24
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.218	670	MSD1 369, EIC=368.7:369.7
10 Surrogat	436.81	8.000	240538	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0044

Sample Name:L0001308-19

Sample Info:

1

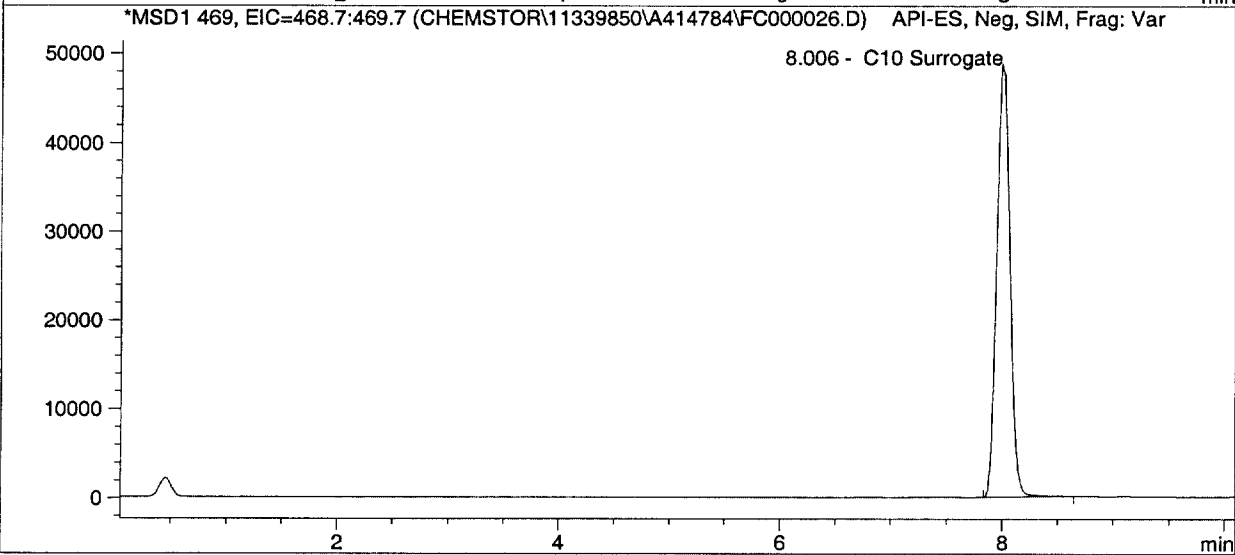
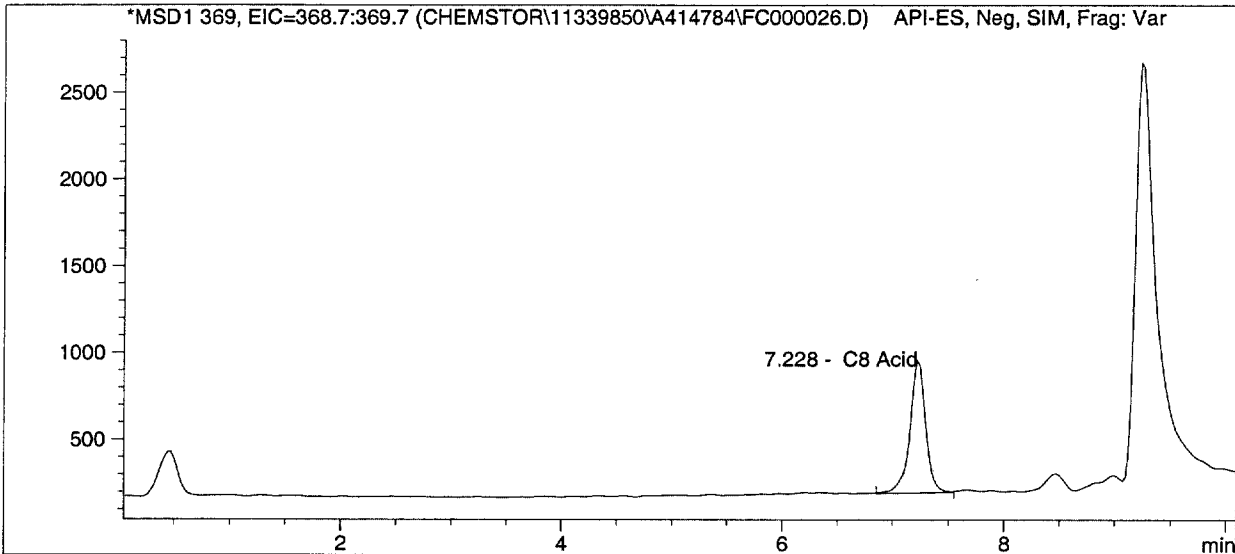
Data file :C:\HPCHEM\1\DATA\Chemstor\11339850\A414784\FC000026.D

=====

Injection Date	: 11/20/03	11:10:54 PM	Seq Line	:	26
Acq Operator	: jmillier		Vial No.	:	25
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.228	7461	MSD1 369, EIC=368.7:369.7
10 Surrogat	763.22	8.006	404905	MSD1 469, EIC=468.7:469.7

*** End of Report ***

U045

Sample Name:L0001308-20

Sample Info:

1

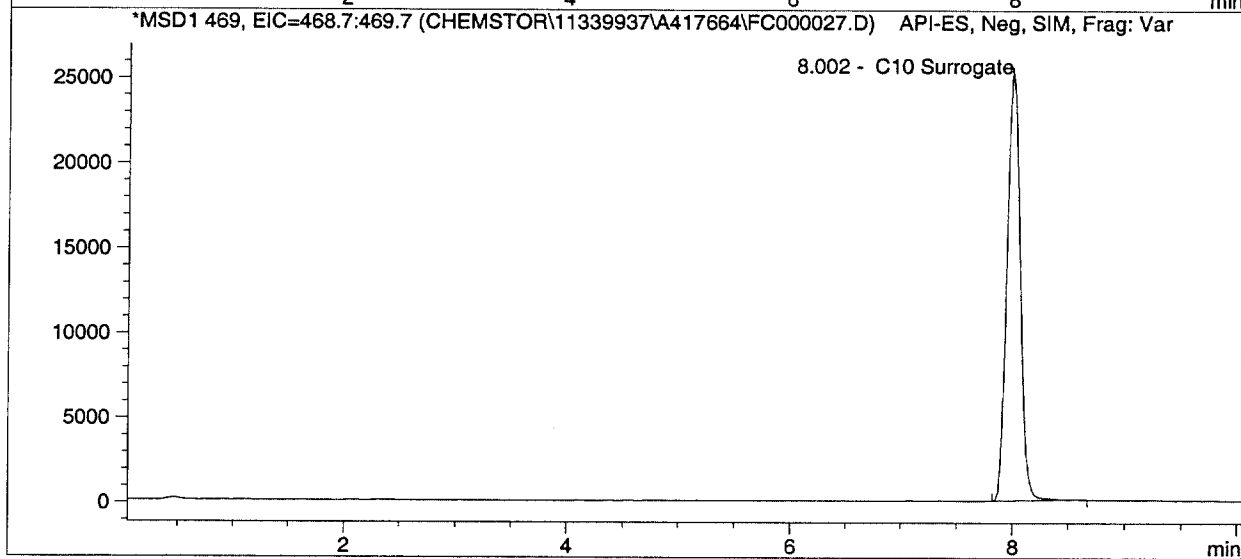
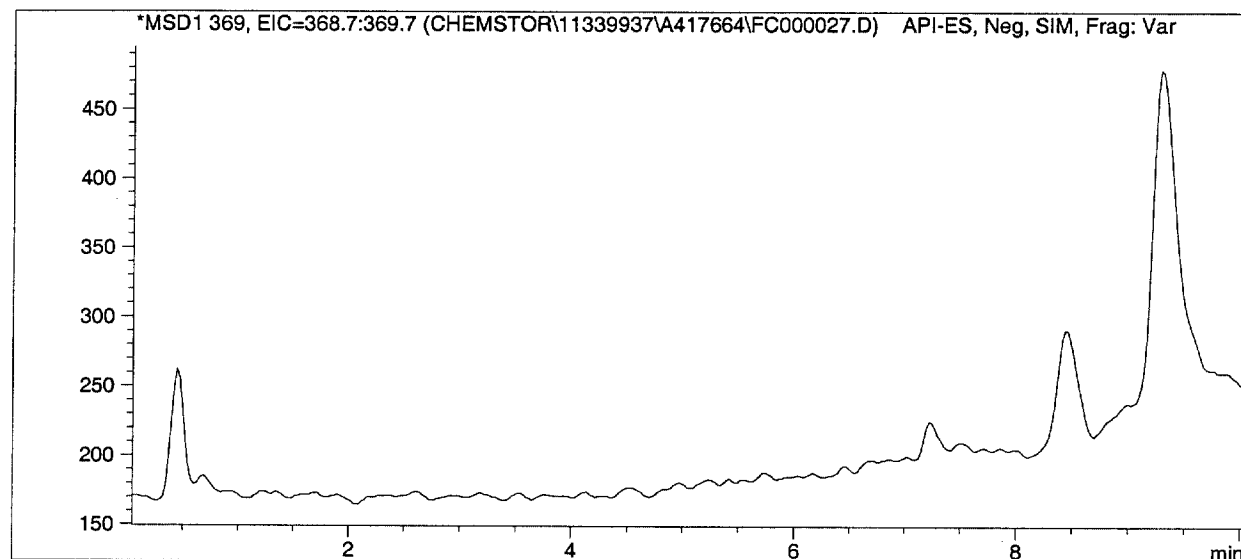
Data file :C:\HPCHEM\1\DATA\Chemstor\11339937\A417664\FC000027.D

=====

Injection Date	: 11/20/03	11:26:30 PM	Seq Line	:	27
Acq Operator	: jmillier		Vial No.	:	26
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	0.000	0	MSD1 369, EIC=368.7:369.7
10 Surrogat	374.67	8.002	209243	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0046

Sample Name:STD 500 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11340049\A420608\FC000028.D

=====

Injection Date	: 11/20/03	11:42:04 PM	Seq Line	:	28
Acq Operator	: jmillier		Vial No.	:	4
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

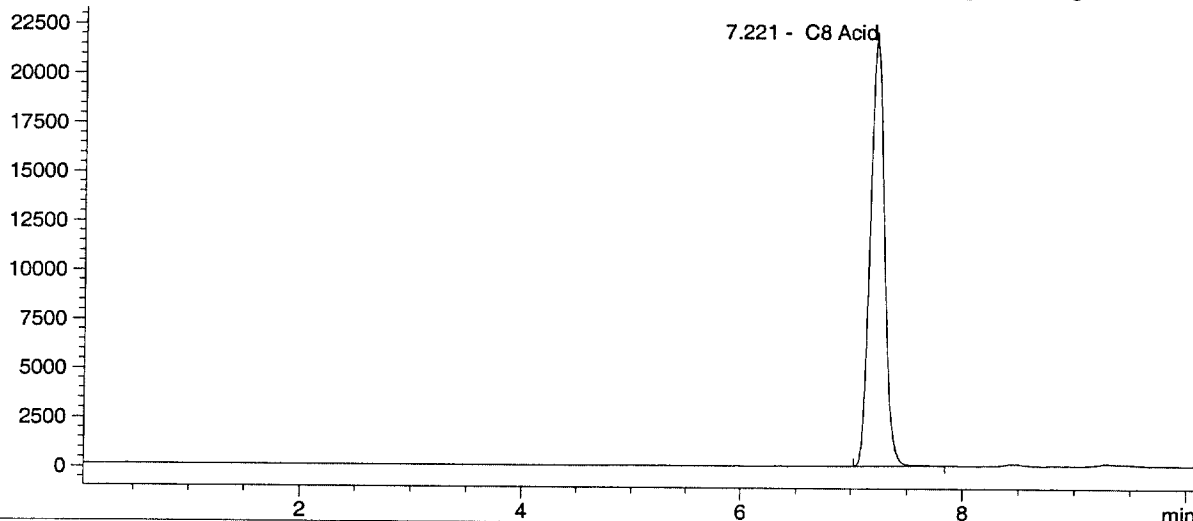
Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

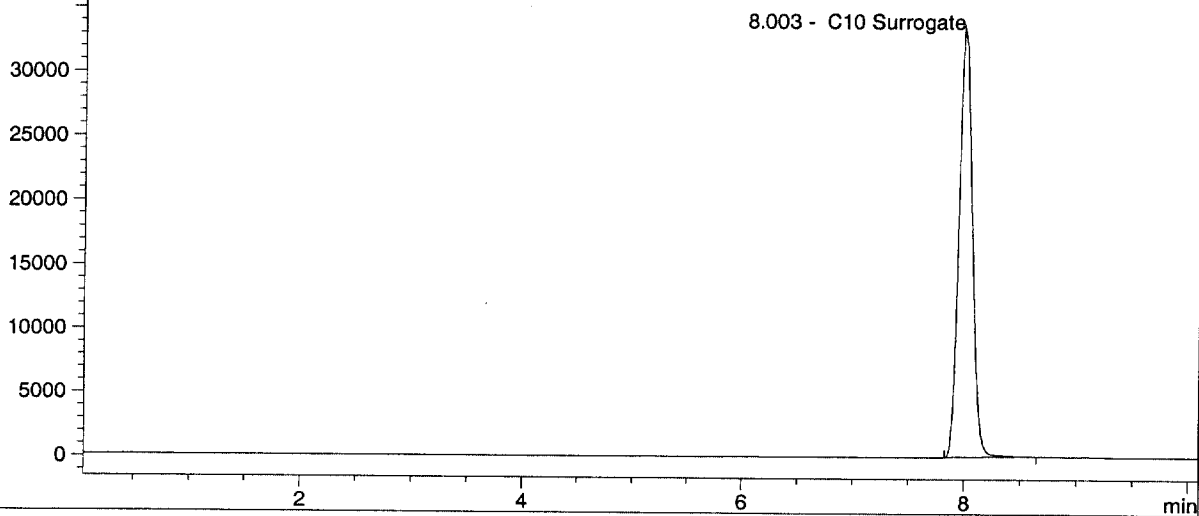
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\11340049\A420608\FC000028.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\11340049\A420608\FC000028.D) API-ES, Neg, SIM, Frag: Var



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	504.95	7.221	191355	MSD1 369, EIC=368.7:369.7
C10 Surrogat	511.66	8.003	278229	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0047

Sample Name: Solvent blank
Sample Info:

1

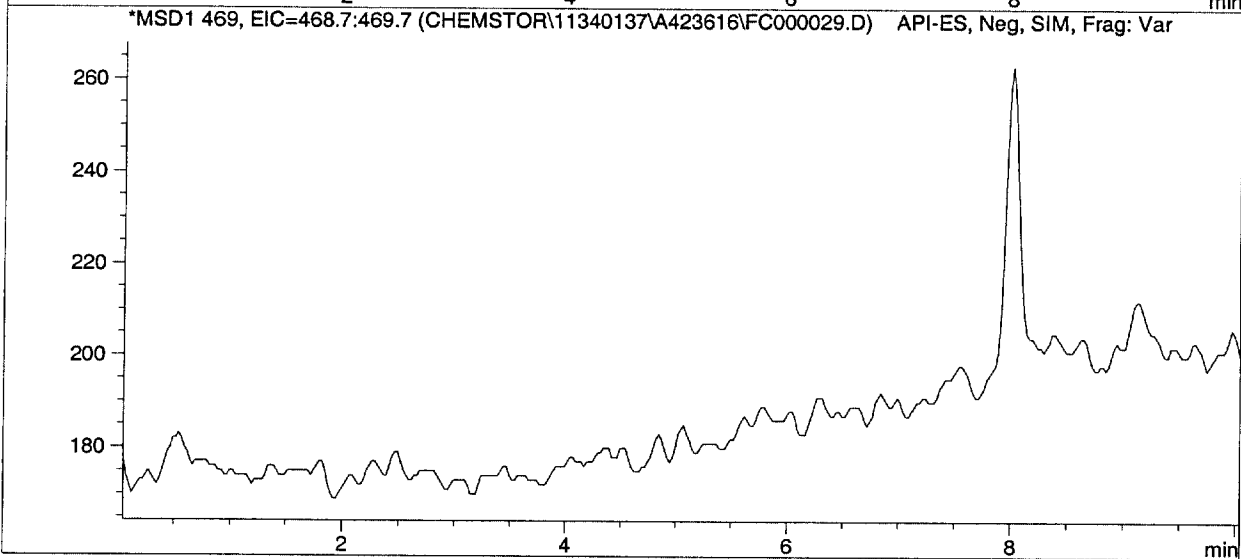
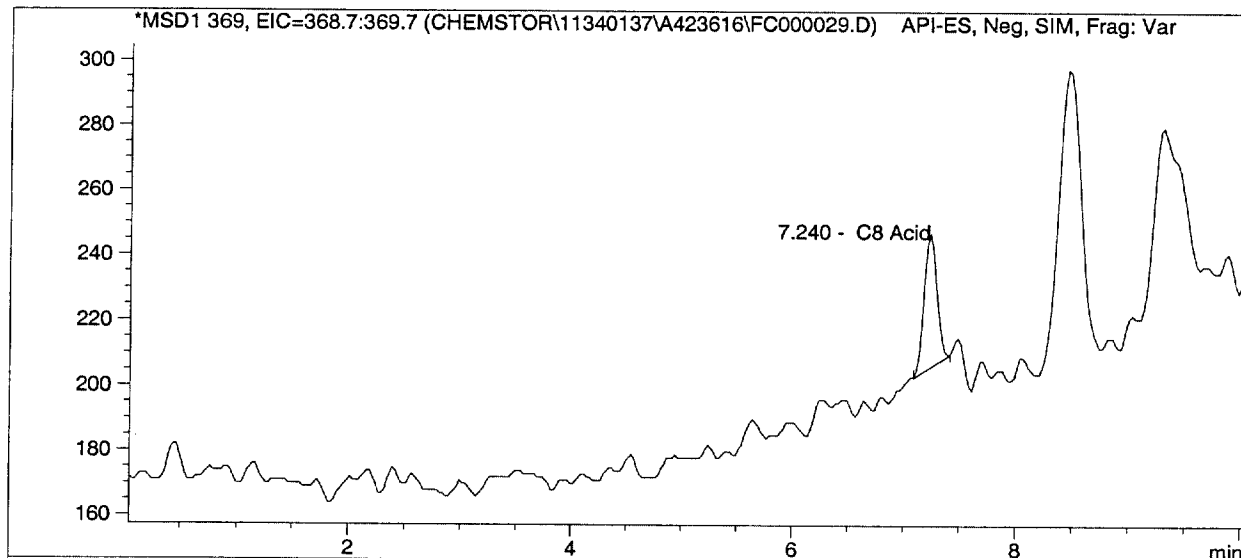
Data file : C:\HPCHEM\1\DATA\Chemstor\11340137\A423616\FC000029.D

=====

Injection Date	: 11/20/03	11:57:31 PM	Seq Line	:	29
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\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	0.00	7.240	325	MSD1 369, EIC=368.7:369.7
10 Surrogat	0.00	0.000	0	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0048

Sample Name:STD 50 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\FC000030.D

=====

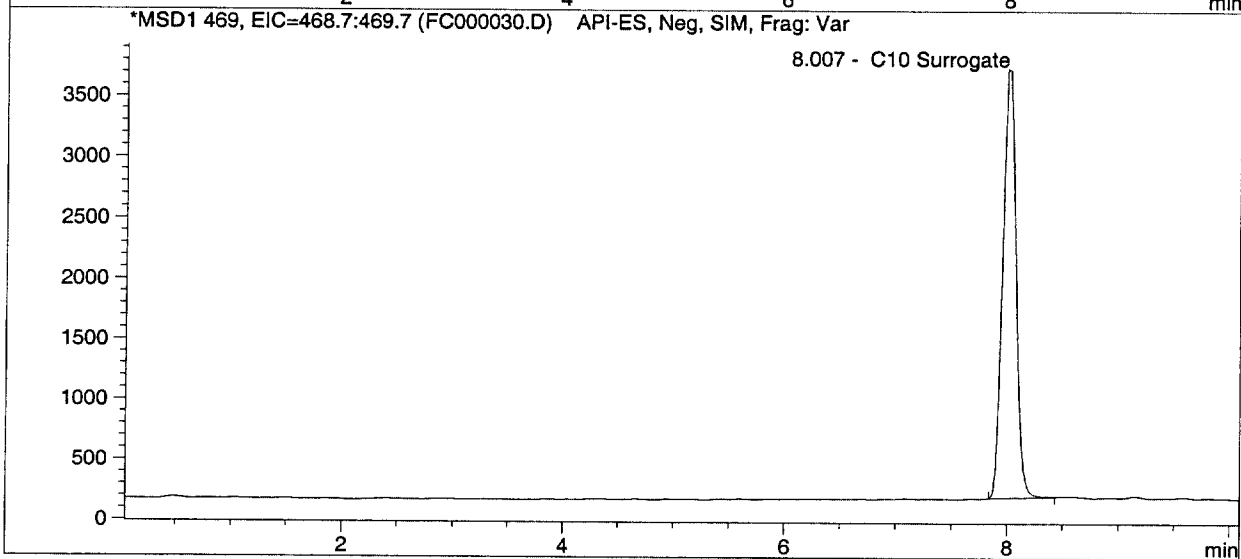
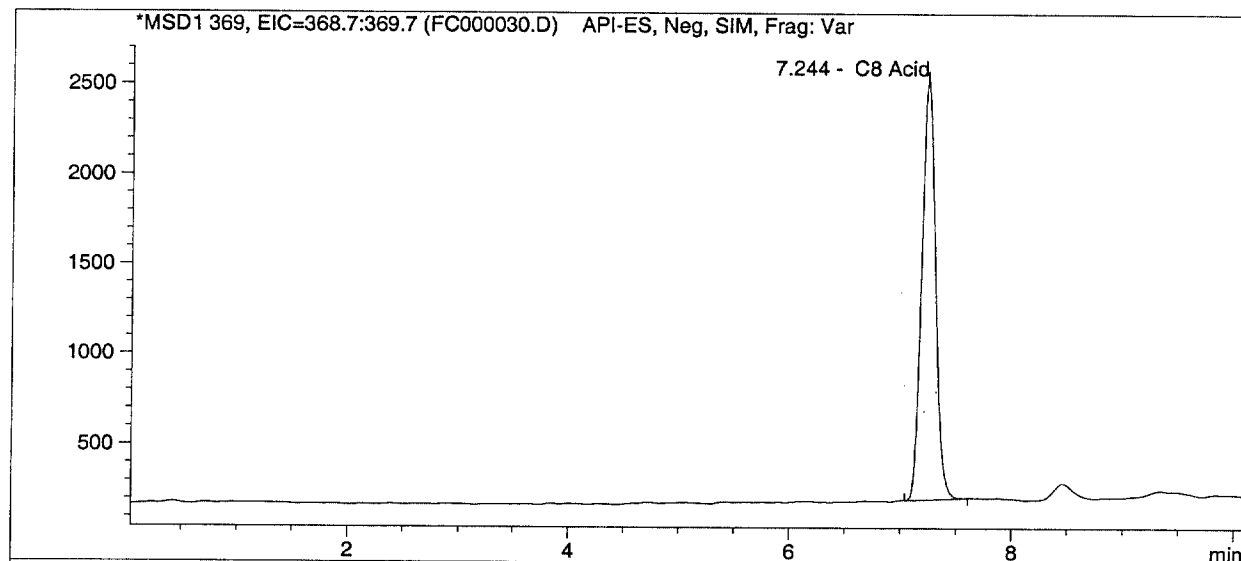
Injection Date	: 11/21/03	12:13:02 AM	Seq Line	:	30
Acq Operator	: jmillier		Vial No.	:	1
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	20.75	7.244	20329	MSD1 369, EIC=368.7:369.7
l0 Surrogat	17.57	8.007	29419	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0049

Sample Name:STD 100 ppb
Sample Info:

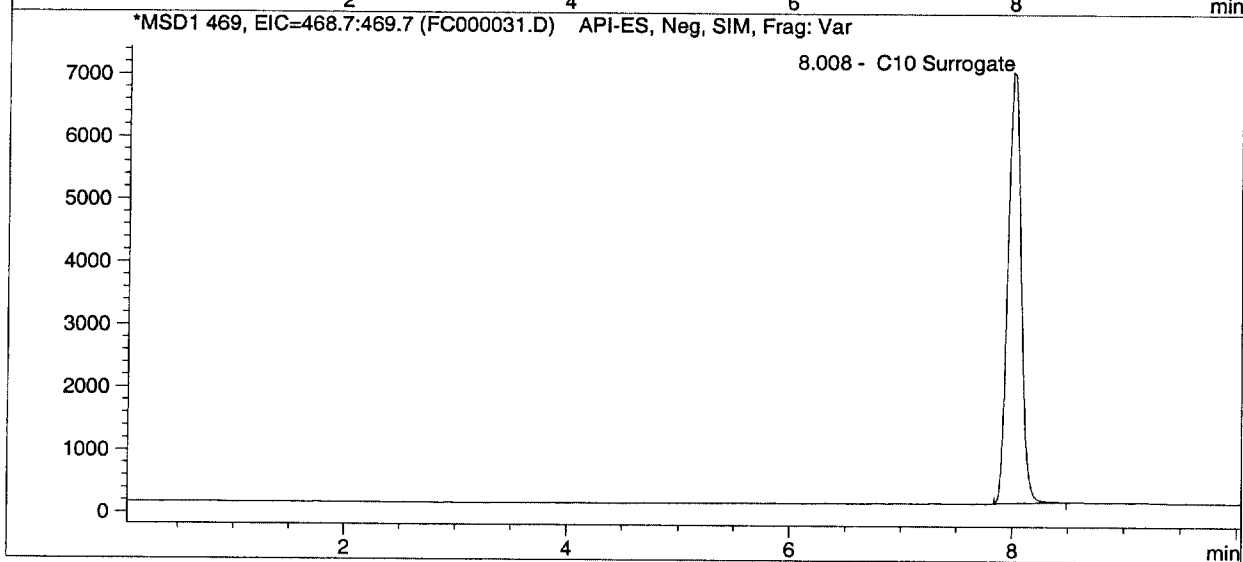
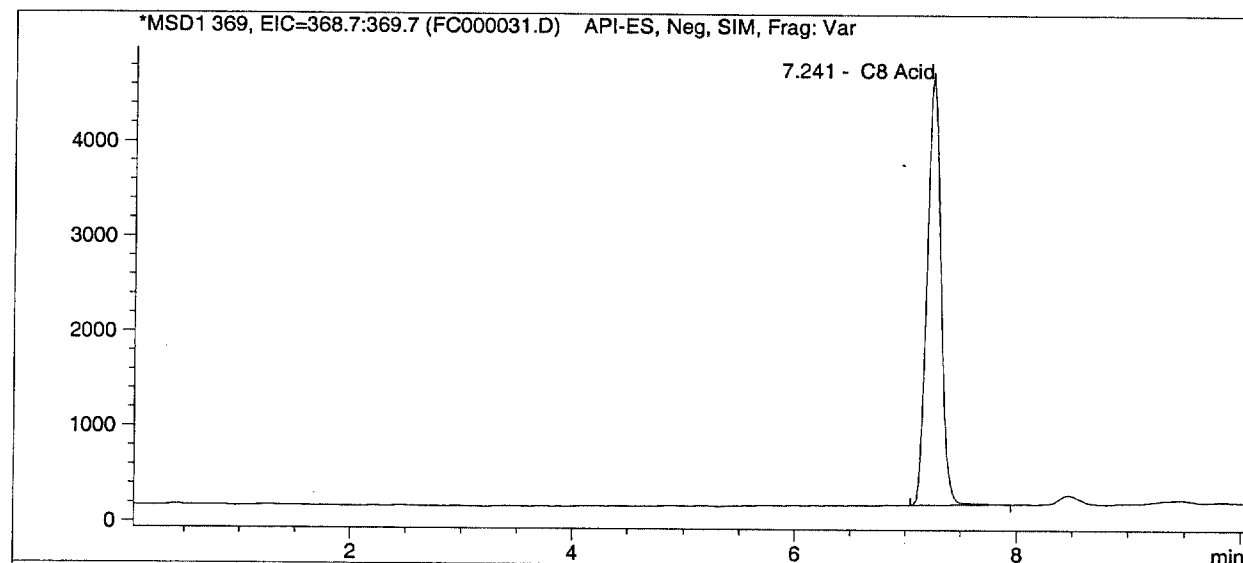
1

Data file :C:\HPCHEM\1\DATA\FC000031.D

=====
Injection Date : 11/21/03 12:28:34 AM Seq Line : 31
Acq Operator : jmillers 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\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	75.92	7.241	39814	MSD1 369, EIC=368.7:369.7
10 Surrogat	73.67	8.008	57670	MSD1 469, EIC=468.7:469.7

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

0050

Sample Name:STD 250 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\FC000032.D

=====

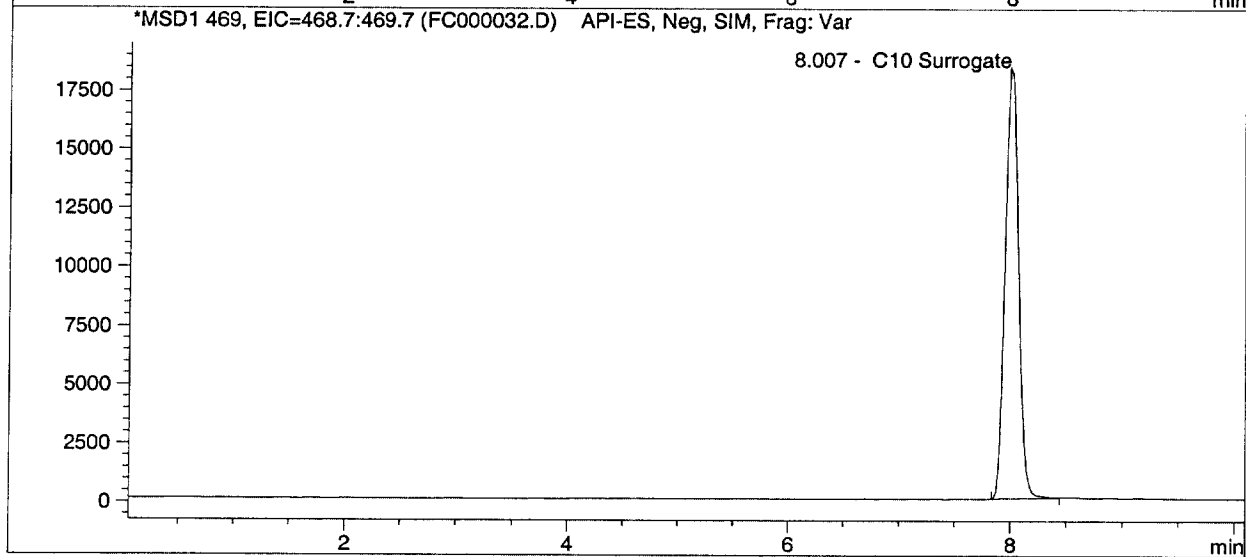
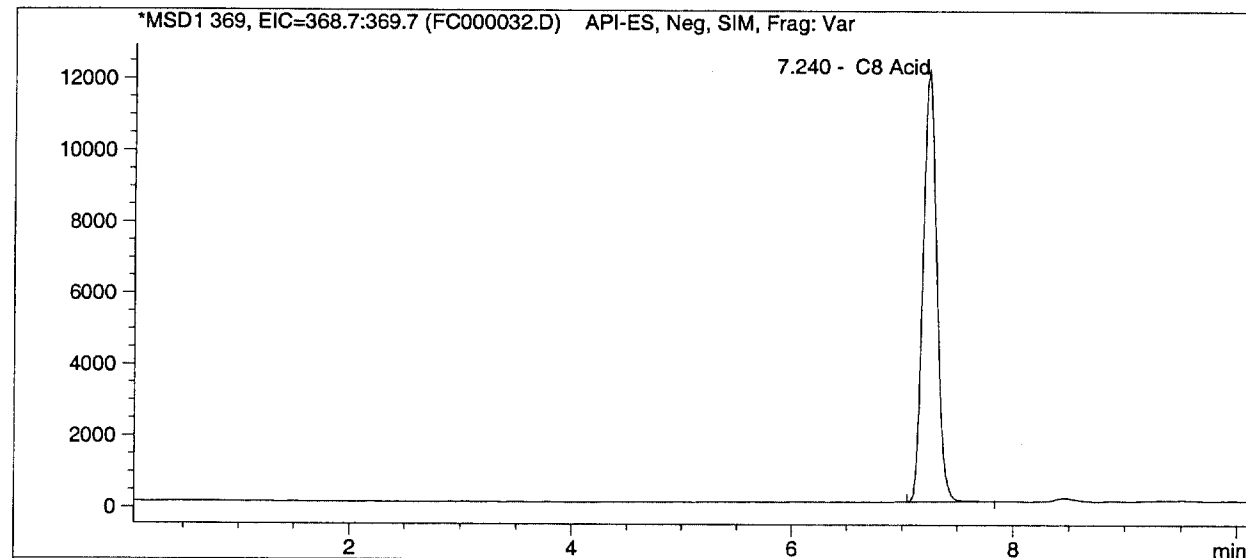
Injection Date	: 11/21/03	12:44:06 AM	Seq Line	:	32
Acq Operator	: jmillier		Vial No.	:	3
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	262.18	7.240	105604	MSD1 369, EIC=368.7:369.7
10 Surrogat	263.18	8.007	153103	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0051

Sample Name:STD 500 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\FC000033.D

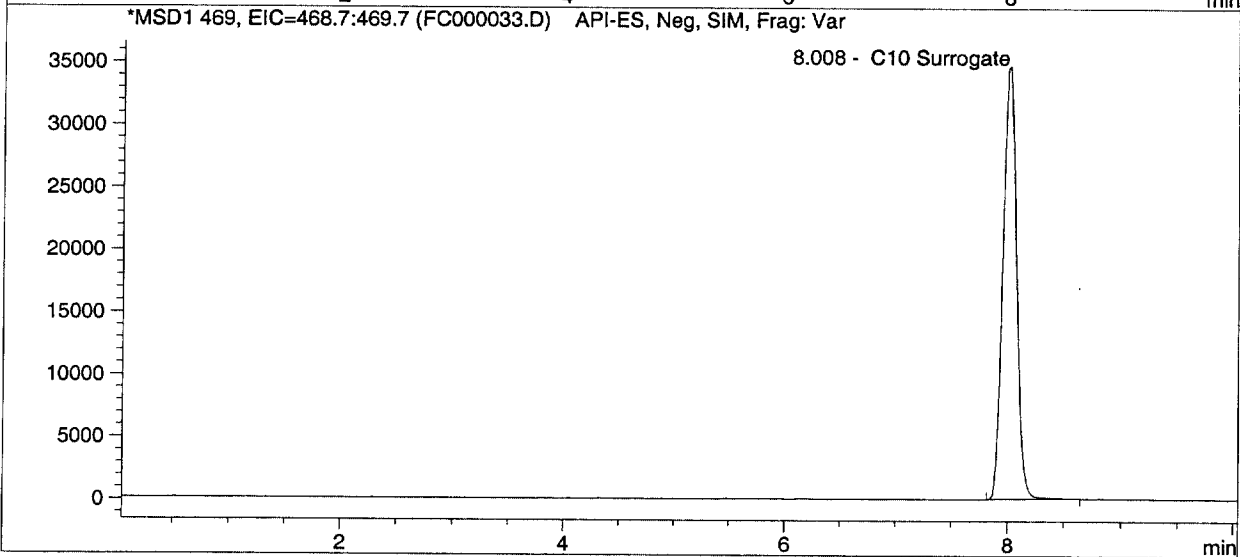
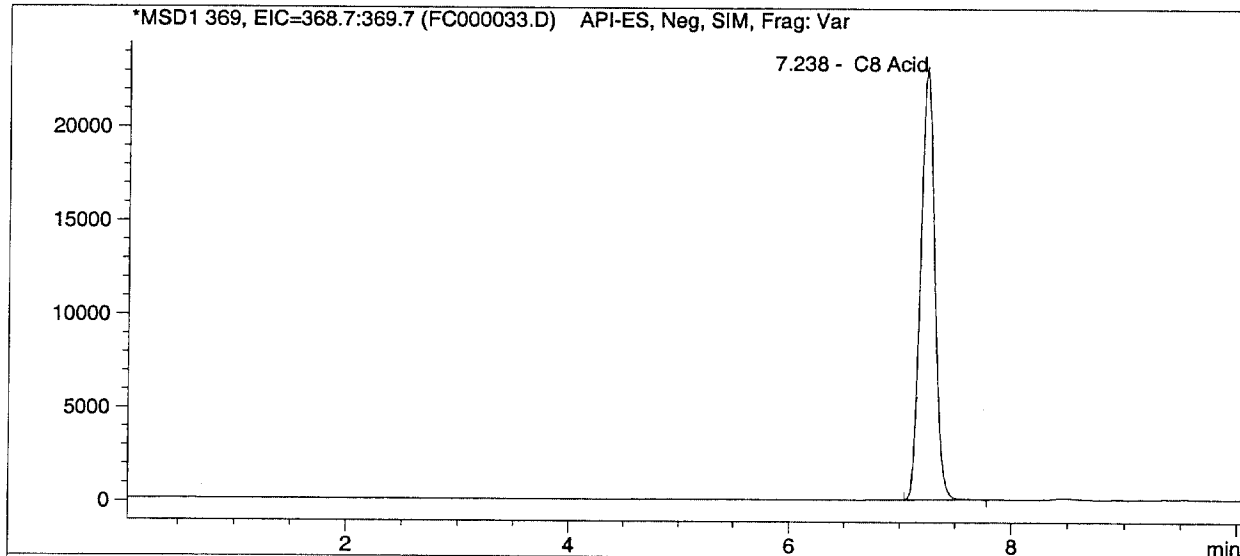
=====
Injection Date : 11/21/03 12:59:38 AM Seq Line : 33
Acq Operator : jmillers Vial No. : 4
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl
=====

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	538.75	7.238	203294	MSD1 369, EIC=368.7:369.7
C10 Surrogat	540.77	8.008	292886	MSD1 469, EIC=468.7:469.7

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

0052

Sample Name:STD 750 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\FC000034.D

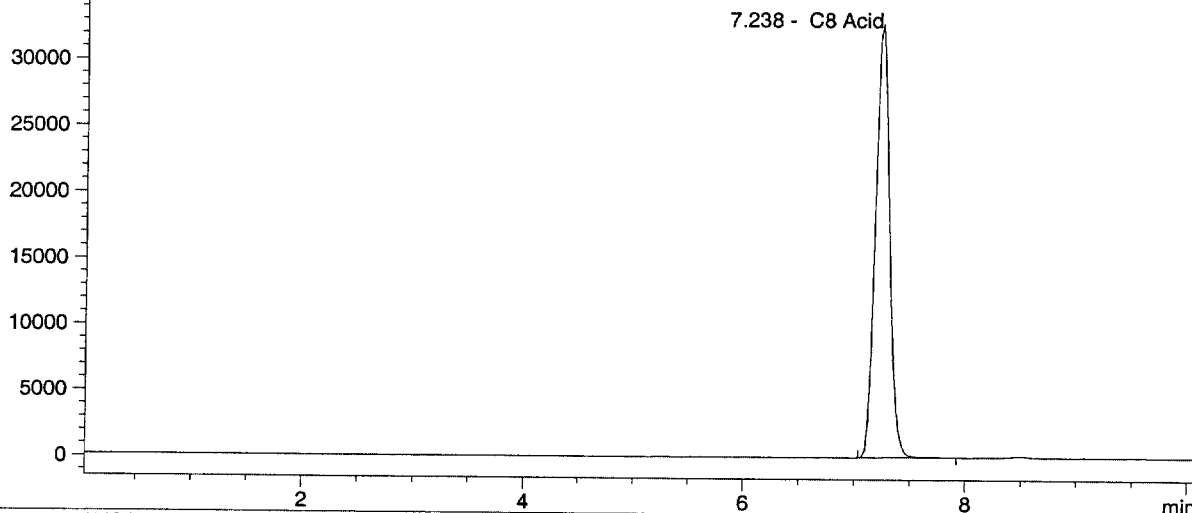
=====

Injection Date	: 11/21/03	1:15:13 AM	Seq Line	:	34
Acq Operator	: jmillier		Vial No.	:	5
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

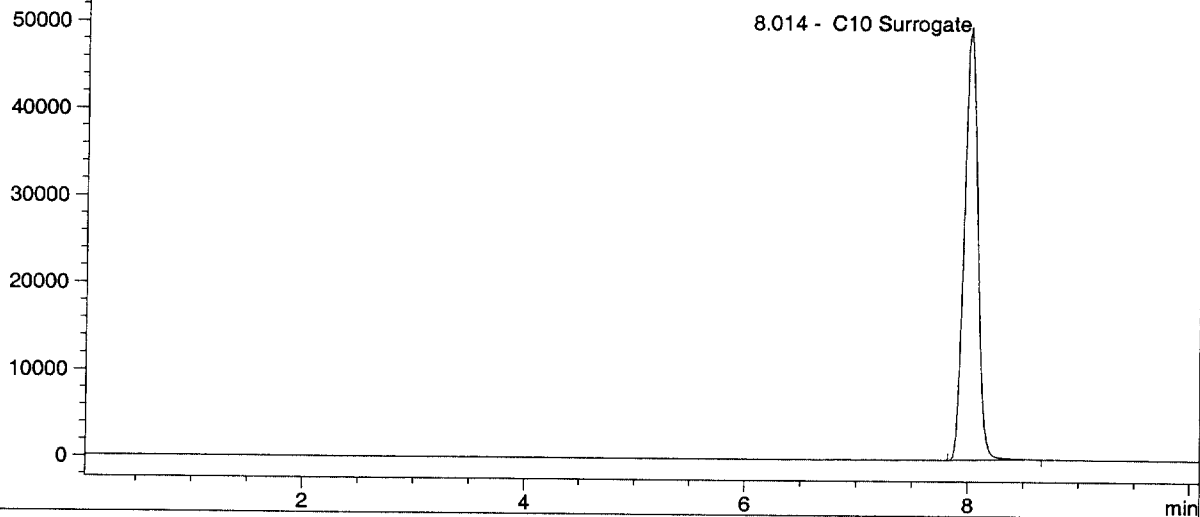
Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\112003.M
Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.

*MSD1 369, EIC=368.7:369.7 (FC000034.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (FC000034.D) API-ES, Neg, SIM, Frag: Var



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	780.73	7.238	288762	MSD1 369, EIC=368.7:369.7
10 Surrogat	783.24	8.014	414987	MSD1 469, EIC=468.7:469.7

*** End of Report ***

U053

Sample Name:STD 1000 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\FC000035.D

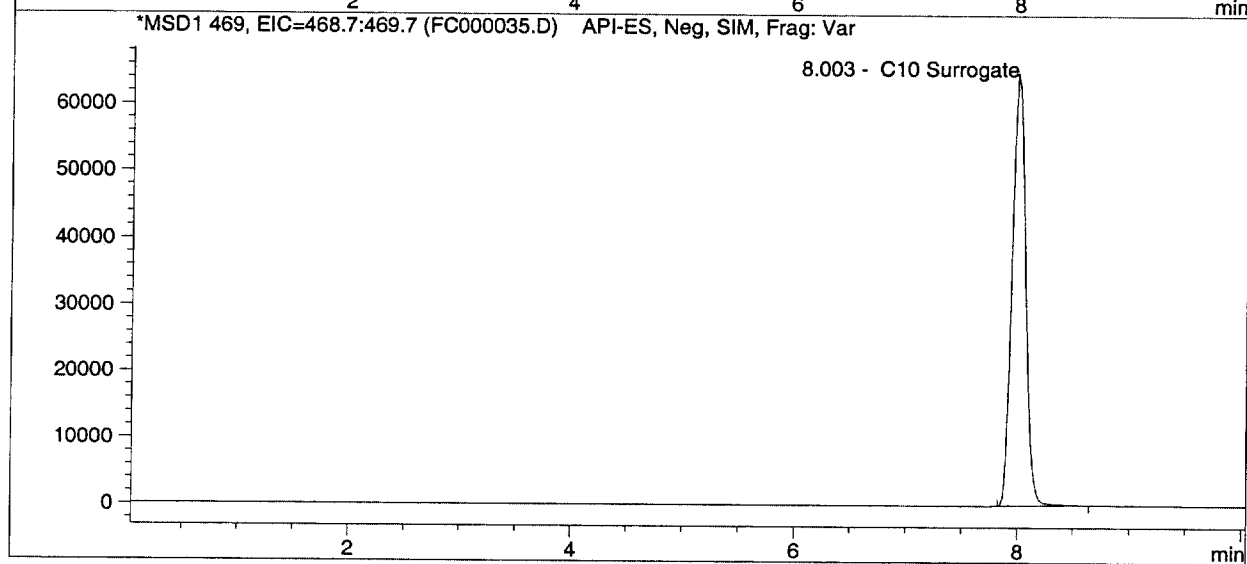
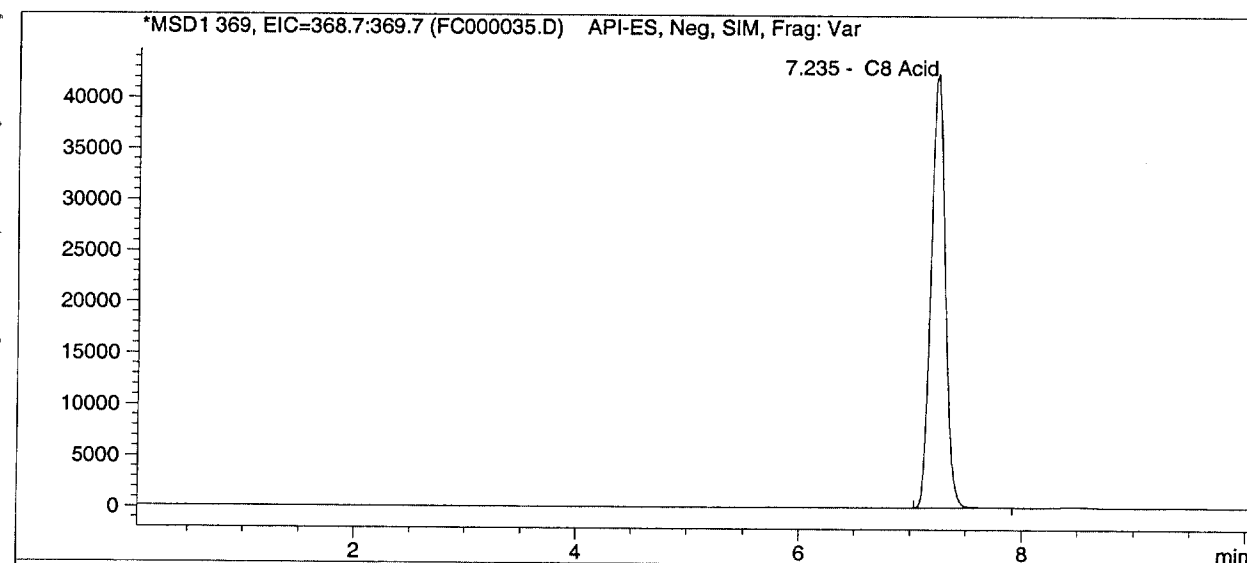
```
=====
Injection Date   : 11/21/03   1:30:48 AM   Seq Line   :       35
Acq Operator    : jmillers          Vial No.    :       6
Instrument      : PC00414          Inj. No.    :       1
Dilution       : 1                Inj. Vol.   :      5 µl
=====
```

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\112003.M

Last Changed : 1/8/04 02:46:06 pm

LC/MS analysis of perfluorooctanoic acid.



Compound	Amount (ng/mL)	R.T.	Area	Signal
8 Acid	1034.12	7.235	378265	MSD1 369, EIC=368.7:369.7
10 Surrogat	1039.70	8.003	544129	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0054

Sample Name:STD 1500 ppb

Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\11336955\A367936\FC000036.D

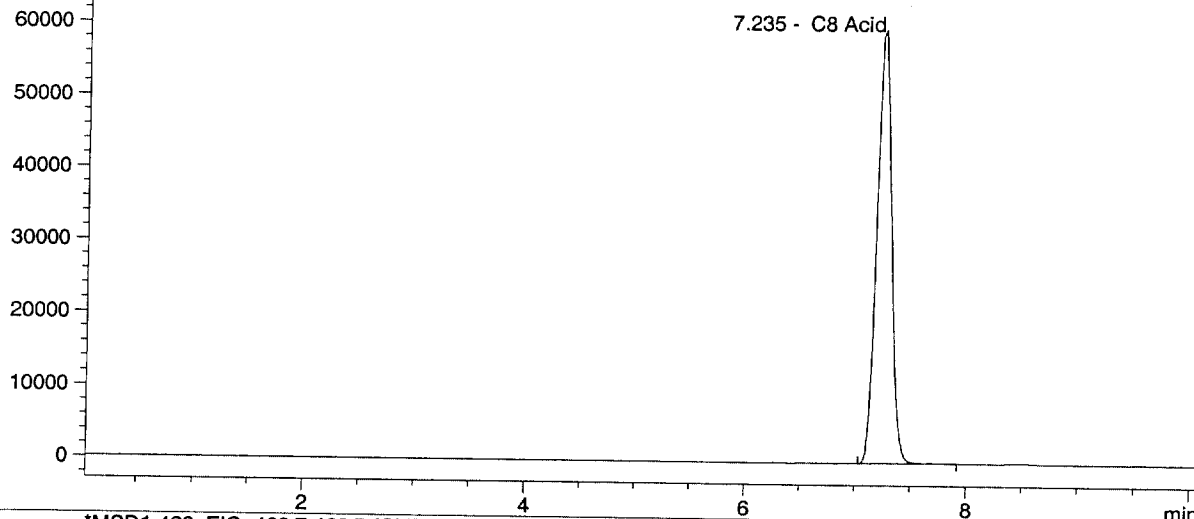
=====

Injection Date	: 11/21/03	1:46:24 AM	Seq Line	:	36
Acq Operator	: jmillier		Vial No.	:	7
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

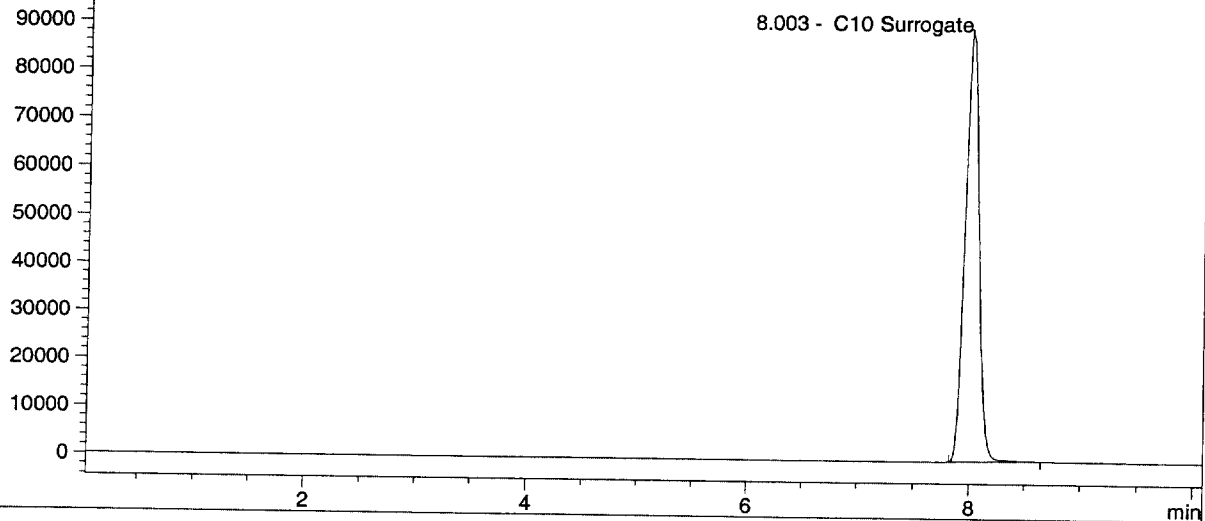
Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\112003.M
Last Changed : 1/8/04 02:45:39 pm

LC/MS analysis of perfluorooctanoic acid.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\11336955\A367936\FC000036.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\11336955\A367936\FC000036.D) API-ES, Neg, SIM, Frag: Var



Compound	Amount (ng/mL)	R.T.	Area	Signal
C8 Acid	1486.37	7.235	538003	MSD1 369, EIC=368.7:369.7
C10 Surrogat	1479.86	8.003	765777	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0055



3058 Research Drive
State College, PA 16801

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

Login

Login Group: L0001308

Login #: L0001308 > 1,418
Project: P0000419
Project Storage:
Submitted By: Michael D. Aucoin
Status: Unreceived
Login Type: Immediate Receipt of Samples
Started: T
Date Start: 11/14/2003 8:43:13AM
Due Date: 11/28/2003
Received Date: 11/14/2003
Received By: AMMERMAN, MARK
Spread Sample:
Label:
Project Title/Type: Analysis of PEQA in QVS Tubes ROUTINE

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

Login Notes:
Conform Notes:

Packages / Containers

Package	Carton	Mail Date / Condition	Shipper / ID	Temp. Control / Temperat	Direction / Handled By
PK0001882		11/13/2003 2:00:14PM Package & Contents Uncompromised	FEDEX 8363913020070200	RT 0.00	RECEIVED AMMERMAN, MARK

Container #	Gross Weight	pH	Container Type	Preservative	Mfg. Lot	Mfg. ID
C0019829	7.2 g		Other	NONE		
C0019830	7.2 g		Other	NONE		
C0019831	7.2 g		Other	NONE		
C0019832	7.2 g		Other	NONE		
C0019833	7.2 g		Other	NONE		
C0019834	7.2 g		Other	NONE		
C0019835	7.2 g		Other	NONE		
C0019836	7.2 g		Other	NONE		
C0019837	7.2 g		Other	NONE		
C0019838	7.2 g		Other	NONE		
C0019839	7.2 g		Other	NONE		
C0019840	7.2 g		Other	NONE		
C0019841	7.2 g		Other	NONE		
C0019842	7.2 g		Other	NONE		
C0019843	7.2 g		Other	NONE		
C0019844	7.2 g		Other	NONE		
C0019845	7.2 g		Other	NONE		
C0019846	7.2 g		Other	NONE		
C0019847	7.2 g		Other	NONE		
C0019848	7.2 g		Other	NONE		
C0019849	7.2 g		Other	NONE		
C0019850	7.2 g		Other	NONE		
C0019851	7.2 g		Other	NONE		
C0019852	7.2 g		Other	NONE		

ICOC

Miscellaneous
Item Key
None

Description

0056

11/14/2003
Login.rpt

Report Version: Nov 13 2003 4:51PM
Page 1 of 5

Instance:

0001308

R0072755



Samples

Sample ID	Matrix	Fraction	Sample	Date Sampled	Date Received	Date Due
L0001308-0001	GAS	OVS Tubes	WWK-A-AMSFBLK-E2 A	No C section Extract A + B only.	11/13/2003	11/28/2003
L0001308-0002	GAS	OVS Tubes	WWK-A-AMSFBLK-E2 B		11/13/2003	11/28/2003
L0001308-0003	GAS	OVS Tubes	WWK-A-AMSFBLK-E2 C		11/13/2003	11/28/2003
L0001308-0004	GAS	OVS Tubes	WWK-A-AMS1-E2 A		11/13/2003	11/28/2003
L0001308-0005	GAS	OVS Tubes	WWK-A-AMS1-E2 B		11/13/2003	11/28/2003
L0001308-0006	GAS	OVS Tubes	WWK-A-AMS1-E2 C		11/13/2003	11/28/2003
L0001308-0007	GAS	OVS Tubes	WWK-A-AMS2-E2 A		11/13/2003	11/28/2003
L0001308-0008	GAS	OVS Tubes	WWK-A-AMS2-E2 B		11/13/2003	11/28/2003
L0001308-0009	GAS	OVS Tubes	WWK-A-AMS2-E2 C		11/13/2003	11/28/2003
L0001308-0010	GAS	OVS Tubes	WWK-A-AMS3-E2 A		11/13/2003	11/28/2003
L0001308-0011	GAS	OVS Tubes	WWK-A-AMS3-E2 B		11/13/2003	11/28/2003
L0001308-0012	GAS	OVS Tubes	WWK-A-AMS3-E2 C		11/13/2003	11/28/2003
L0001308-0013	GAS	OVS Tubes	WWK-A-AMS4-E2 A		11/13/2003	11/28/2003
L0001308-0014	GAS	OVS Tubes	WWK-A-AMS4-E2 B		11/13/2003	11/28/2003
L0001308-0015	GAS	OVS Tubes	WWK-A-AMS4-E2 C		11/13/2003	11/28/2003
L0001308-0016	GAS	OVS Tubes	WWK-A-AMS5-E2 A		11/13/2003	11/28/2003
L0001308-0017	GAS	OVS Tubes	WWK-A-AMS5-E2 B		11/13/2003	11/28/2003
L0001308-0018	GAS	OVS Tubes	WWK-A-AMS5-E2 C		11/13/2003	11/28/2003
L0001308-0019	GAS	OVS Tubes	WWK-A-AMS6-E2 A		11/13/2003	11/28/2003
L0001308-0020	GAS	OVS Tubes	WWK-A-AMS6-E2 B		11/13/2003	11/28/2003
L0001308-0021	GAS	OVS Tubes	WWK-A-AMS6-E2 C		11/13/2003	11/28/2003
L0001308-0022	GAS	OVS Tubes	Control 1 A		11/13/2003	11/28/2003
L0001308-0023	GAS	OVS Tubes	Control 1 B		11/13/2003	11/28/2003
L0001308-0024	GAS	OVS Tubes	Control 1 C		11/13/2003	11/28/2003

0057



Bottles

L0001308-0001

Container
C0019829 / Other / NONE

Method

L0001308-0002

Container
C0019830 / Other / NONE

Method

L0001308-0003

Container
C0019831 / Other / NONE

Method

L0001308-0004

Container
C0019832 / Other / NONE

Method

L0001308-0005

Container
C0019833 / Other / NONE

Method

L0001308-0006

Container
C0019834 / Other / NONE

Method

L0001308-0007

Container
C0019835 / Other / NONE

Method

L0001308-0008

Container
C0019836 / Other / NONE

Method

L0001308-0009

Container
C0019837 / Other / NONE

Method

L0001308-0010

Container
C0019838 / Other / NONE

Method

L0001308-0011

Container
C0019839 / Other / NONE

Method

L0001308-0012

Container

Method

0058



Login

C0019840 / Other / NONE

L0001308-0013

Container

C0019841 / Other / NONE

Method

L0001308-0014

Container

C0019842 / Other / NONE

Method

L0001308-0015

Container

C0019843 / Other / NONE

Method

L0001308-0016

Container

C0019844 / Other / NONE

Method

L0001308-0017

Container

C0019845 / Other / NONE

Method

L0001308-0018

Container

C0019846 / Other / NONE

Method

L0001308-0019

Container

C0019847 / Other / NONE

Method

L0001308-0020

Container

C0019848 / Other / NONE

Method

L0001308-0021

Container

C0019849 / Other / NONE

Method

L0001308-0022

Container

C0019850 / Other / NONE

Method

L0001308-0023

Container

C0019851 / Other / NONE

Method

L0001308-0024

Container

C0019852 / Other / NONE

Method

0059



Login

0060

000140



CHAIN OF CUSTODY/ANALYSIS REQUEST FORM

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

SAMPLE ANALYSIS

SAMPLE ANALYSIS						
ExLIMS#	Client Sample Identification	Collection Date	Collection Time	Grab	Composite	Number of Containers
				Specify Matrix	Comments	
	WVK-A-AMS5-BK-E2	11/1/08	0709	X		1
	WVK-A-AMS1-E2		0617	X	Field Blank	
	WVK-A-AMS2-E2		0633	X		1
	WVK-A-AMS3-E2		0635	X		1
	WVK-A-AMS4-E2		0638	X		1
	WVK-A-AMS5-E2		0602	X		1
	WVK-A-AMS6-E2		0650	X		1

CHAIN OF CUSTODY

Relinquished by	Date	Time
	11/12/03	0717

Received by	Date	Time
<i>[Signature]</i>	10/08/03	0830
<i>[Signature]</i>	11/12/03	0714
<i>[Signature]</i>	11/13/03	1400

COOLING CURVE

COOLER ID # nocebe COOLER TEMP. (°C) 21

LAB USE ONLY

☐ Sample results only

☐ Add case narrative

☐ Add quality control summary

☐ Add calibration summary

☐ Add raw data

☐ Other

OTHER INFORMATION

Event 2

Sample "Condition Upon Receipt" Form

Protocol # 00018 0000419 *Met 11/17/03*

Exygen Study # 0001308

Date & Time Received Met 11/17/03 1400

Condition of Samples ambient

Temporary Storage Location DO002K3

Initials & Date Met 11/17/03

Waybill # 8363 9130 2007

Comments: - waiting for study number. 11/13/03

May 24, 2002/3

FedEx® USA Airbill
Express

FedEx Tracking Number
836391302007

1 From **11/12/03**

Sender's Name **Steve Orr** Phone **304 813-4476**

Company **DuPont CRC**

Address **St Rt 892, DuPont, WV**

City **Washington** State **WV** ZIP **24601**

2 Your Internal Billing Reference **187K3137-00001**

3 To Recipient's Name **Sample Receiving** Phone **814 231-3032**

Company **Exxon Labtech Inc**

Address **2117 Research Drive**

City **St. College** State **PA** ZIP **16801**

8363 9130 2007



Recipient's Copy

4a Express Package Service
☒ FedEx Priority Overnight
Next business morning
☐ FedEx Standard Overnight
Next business afternoon
☐ FedEx First Overnight
First business morning
Delivery commitment may be later in some areas.
Delivery to remote locations.

4b Express Freight Service
FedEx Envelope rate not available. Minimum charge: One-pound rate.
☐ FedEx 2Day
Second business day
☐ FedEx Express Saver
Third business day

4c Express Freight Service
Delivery commitment may be later in some areas.
☐ FedEx 1Day Freight*
Next business day
☐ FedEx 2Day Freight
Second business day
☐ FedEx 3Day Freight
Third business day

5 Packaging
☐ FedEx Envelope*
Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
☒ FedEx Pak*
Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
Declared value: \$1000

6 Special Handling
☐ SATURDAY/Delivery
Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes.
☐ HOLD Weekday
at FedEx Location
FedEx First Overnight
FedEx Priority Overnight
FedEx 2Day to select locations.
☐ HOLD Saturday
at FedEx Location
FedEx Priority Overnight
FedEx 2Day to select locations.
Include FedEx address in Section 3.
One box must be checked.
☒ No
☐ Yes
As per attached Shipper's Declaration not required.
Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.
☐ Dry Ice
Dry Ice 6 UN 1845
☐ Cargo Aircraft Only
Ocean Recept. No. ☐ Act No. ☐ Cash/Check

7 Payment Bill to: ☐ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
Enter FedEx Acct. No. or Credit Card No. below.
Sender's Fax No. (if different from above) will be billed.

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 800.463.3339
Rev. Date 10/01 • Form #7612 • ©1994-2003 FedEx • PRINTED IN U.S.A. • WSL 02

Total Packages **1** Total Weight **1** Total Declared Value* **\$.00**
Total Charges **\$.00**
Credit Card Auth. **444**

Your liability is limited to \$100 unless you declare a higher value. See back for details.

8 Release 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 800.463.3339
Rev. Date 10/01 • Form #7612 • ©1994-2003 FedEx • PRINTED IN U.S.A. • WSL 02