

Data File : VL032903.D

Acq On : 5 Dec 2018 9:07

Operator : SY/AP

Sample : VSTDCCC010

Misc : 400ml/MSVOA_L

ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_L
ClientSampleId :
VSTDCCC010EC

Quant Time: Dec 05 09:41:44 2018

Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL111418AIR.M

Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Wed Nov 14 07:00:23 2018

QLast Update : Wed Nov 14 07:00:23 2018

Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.77	49	1377155	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.30	114	3489427	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.25	117	3880899	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.59	95	2670375	9.20	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	92.00%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.08	85	1726872	8.723	ppbv	100
3) Chlorodifluoromethane	3.02	51	1011487	9.264	ppbv	96
4) Chloromethane	3.17	50	585139	9.665	ppbv	96
5) Vinyl Chloride	3.30	62	605689	9.442	ppbv	99
6) Bromomethane	3.52	94	384634	9.801	ppbv	95
7) Chloroethane	3.61	64	223245	9.656	ppbv	97
8) Dichlorotetrafluoroethane	3.22	85	1378474	8.837	ppbv	95
9) Propene	3.04	41	483048	11.056	ppbv	100
10) Heptane	8.25	43	1881667	11.280	ppbv	97
11) Trichlorofluoromethane	4.01	101	1597383	8.562	ppbv	98
12) 1,1,2-Trichlorotrifluoroet	4.56	101	1207923	7.927	ppbv	95
13) Ethanol	3.66	45	124667	8.711	ppbv	100
14) Bromoethene	3.80	108	490597	9.704	ppbv	99
15) Acetone	3.91	43	1077341	8.566	ppbv	99
16) 1,3-Butadiene	3.37	39	534264	10.970	ppbv	96
17) tert-Butyl alcohol	4.36	59	312343	7.919	ppbv	99
18) 1,1-Dichloroethene	4.36	96	525483	7.013	ppbv	98
19) Isopropyl Alcohol	4.03	45	861042	10.277	ppbv	# 99
20) Methylene Chloride	4.42	84	451107	6.929	ppbv	96
21) Allyl Chloride	4.48	41	851142	8.053	ppbv	98
22) trans-1,2-Dichloroethene	4.97	96	712535	9.738	ppbv	97
23) Vinyl Acetate	5.16	43	2390501	10.427	ppbv	99
24) 1,1-Dichloroethane	5.10	63	1692506	9.286	ppbv	99
25) Ethyl Acetate	5.78	43	3207324	10.942	ppbv	100
26) Hexane	5.79	57	1452443	11.131	ppbv	98
27) Carbon Disulfide	4.63	76	1829201	11.056	ppbv	99
28) Methyl tert-Butyl Ether	5.12	73	2166878	10.414	ppbv	98
29) Chloroform	5.86	83	2267509	9.750	ppbv	97
30) Cyclohexane	7.25	84	1270214	11.130	ppbv	98
31) cis-1,2-Dichloroethene	5.65	61	1313586	10.013	ppbv	96
32) 1,1,1-Trichloroethane	6.63	97	2295128	9.004	ppbv	98
34) 2-Butanone	5.34	43	1831121	10.118	ppbv	99
35) Carbon Tetrachloride	7.14	117	2454307	8.749	ppbv	99
36) Benzene	7.01	78	3032976	10.915	ppbv	98
37) 1,2-Dichloroethane	6.42	62	1670376	8.930	ppbv	# 97
38) Trichloroethene	7.97	130	1223738	10.882	ppbv	97
39) 1,2-Dichloropropane	7.74	63	1152882	10.890	ppbv	95
40) 1,4-Dioxane	7.96	88	433638	11.468	ppbv	# 1
41) Tetrahydrofuran	6.16	42	1225120	11.801	ppbv	98
42) Bromodichloromethane	7.93	83	2439853	9.622	ppbv	# 99
43) Methyl Methacrylate	8.15	69	1196274	11.532	ppbv	96

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Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Wed Nov 14 07:00:23 2018

QLast Update : Wed Nov 14 07:00:23 2018

Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 2,2,4-Trimethylpentane	8.00	57	5033134	10.839	ppbv	98
45) t-1,3-Dichloropropene	9.43	75	1662289	11.942	ppbv	97
46) cis-1,3-Dichloropropene	8.84	75	1847907	10.988	ppbv	97
47) 1,1,2-Trichloroethane	9.62	97	1218495	9.733	ppbv	98
48) Dibromochloromethane	10.46	129	2179772	10.245	ppbv	100
49) Bromoform	13.21	173	1876087	10.677	ppbv	100
50) 4-Methyl-2-Pentanone	8.88	43	2878364	10.182	ppbv	100
51) 2-Hexanone	10.28	43	2384120	13.091	ppbv #	99
52) Tetrachloroethene	11.38	164	1163189	12.034	ppbv	97
53) Toluene	9.96	91	3503281	12.085	ppbv	100
54) 1,2-Dibromoethane	10.77	107	1881322	10.631	ppbv	98
56) 1,1,1,2-Tetrachloroethane	12.29	131	1630852	9.010	ppbv	97
57) Chlorobenzene	12.31	112	2821751	9.498	ppbv	97
58) Ethyl Benzene	12.88	91	4961123	10.622	ppbv	97
59) m/p-Xylene	13.13	91	4688198	11.276	ppbv #	44
60) o-Xylene	13.86	91	3864203	9.243	ppbv	97
61) Styrene	13.70	104	3082812	11.328	ppbv	97
62) Isopropylbenzene	14.84	105	5625409	9.955	ppbv	99
63) 1,1,2,2-Tetrachloroethane	13.85	83	2566112	7.874	ppbv	99
64) n-propylbenzene	15.74	120	1384605	9.316	ppbv	93
65) tert-Butylbenzene	16.92	119	4805524	9.487	ppbv	95
66) Benzyl Chloride	17.17	91	2650865	9.466	ppbv	98
67) sec-Butylbenzene	17.47	105	6433373	8.812	ppbv	100
69) p-Isopropyltoluene	17.83	119	5391474	9.288	ppbv	98
70) n-Butylbenzene	18.72	91	5473807	9.287	ppbv	99
71) 2-Chlorotoluene	15.63	91	4019001	9.537	ppbv	97
72) 4-Ethyltoluene	16.01	105	4262238	9.301	ppbv	98
73) 1,3,5-Trimethylbenzene	16.17	105	4020871	8.975	ppbv	97
74) 1,2,4-Trimethylbenzene	16.94	105	4268682	8.904	ppbv	92
75) 1,3-Dichlorobenzene	17.18	146	2397268	8.717	ppbv	99
76) 1,4-Dichlorobenzene	17.32	146	2381344	9.270	ppbv	99
77) 1,2-Dichlorobenzene	18.00	146	2370013	9.315	ppbv	99
78) Hexachloro-1,3-Butadiene	23.56	225	1889581	13.762	ppbv	99
79) Naphthalene	22.43	128	5016015	15.926	ppbv	99
80) Naphthalene,2-methyl-	25.13	142	1261695	15.995	ppbv	96
81) 1,2,4-Trichlorobenzene	22.15	180	2304149	14.568	ppbv	99

(#)=qualifier out of range (m)=manual integration (+)=signals summed

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ClientSampleId :
VSTDCCC010EC

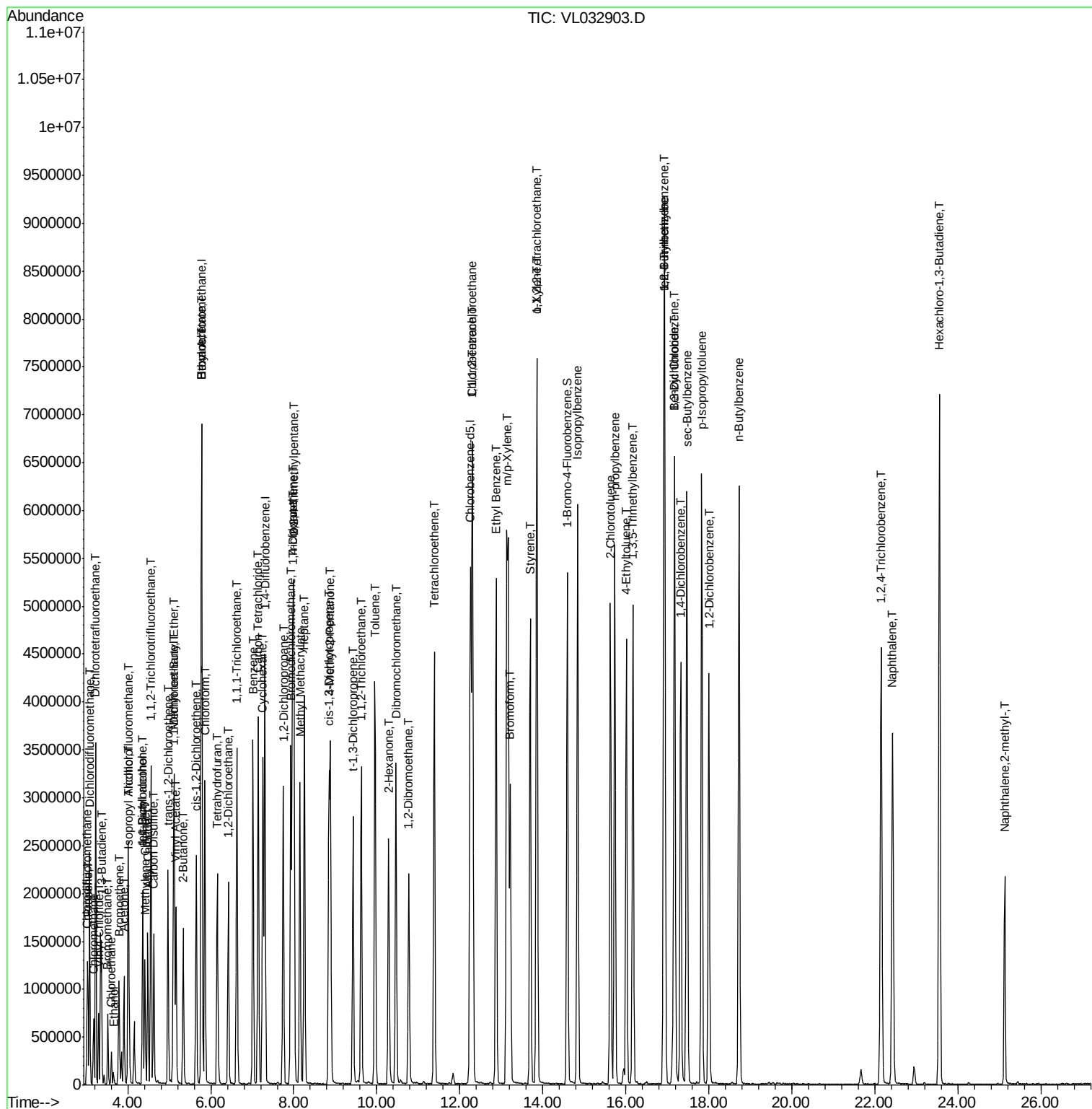
Quant Time: Dec 05 09:41:44 2018

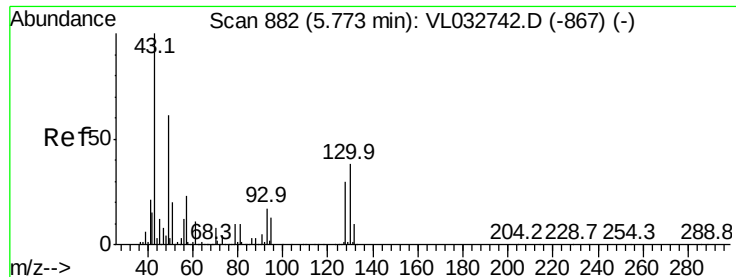
Quant Method : Z:\VOASRV\HPCHEM1\MSV0A_L\METHODS\VL111418AIR.M

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Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.77 min Scan# 882

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :
MSVOA_L
ClientSampleId :
VSTDCCC010EC

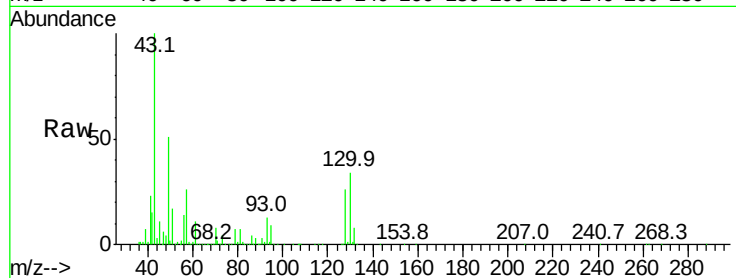
Tgt Ion: 49 Resp: 1377155

Ion Ratio Lower Upper

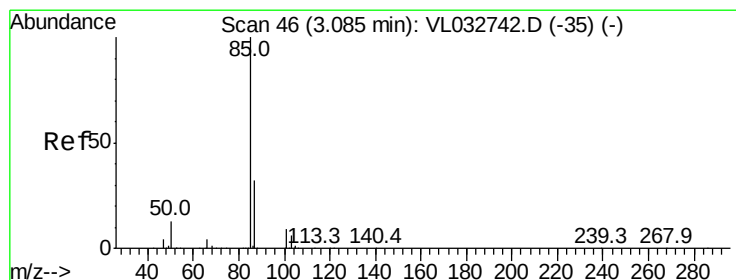
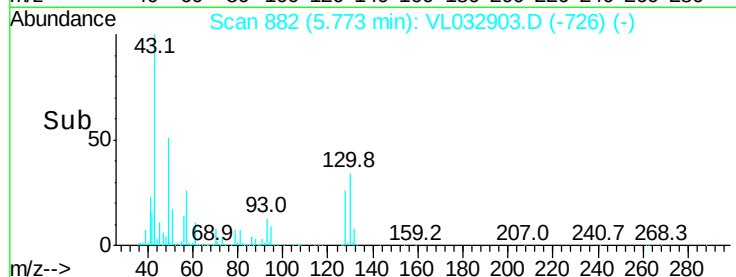
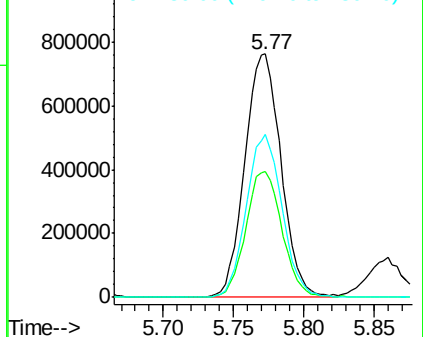
49 100

128 51.9 24.9 74.6

130 66.0 31.4 94.2



Abundance Ion 49.10 (48.80 to 49.80): VL0
Ion 128.00 (127.70 to 128.70): V
Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 8.723 ppbv

RT: 3.08 min Scan# 45

Delta R.T. -0.00 min

Lab File: VL032903.D

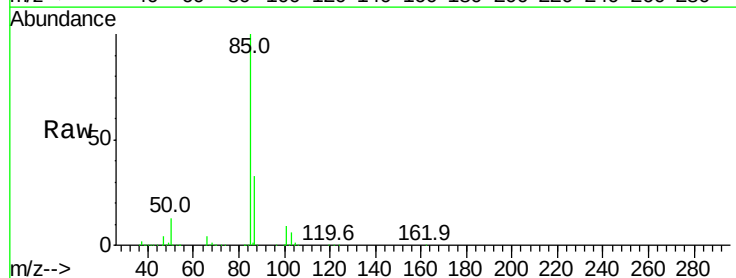
Acq: 5 Dec 2018 9:07

Tgt Ion: 85 Resp: 1726872

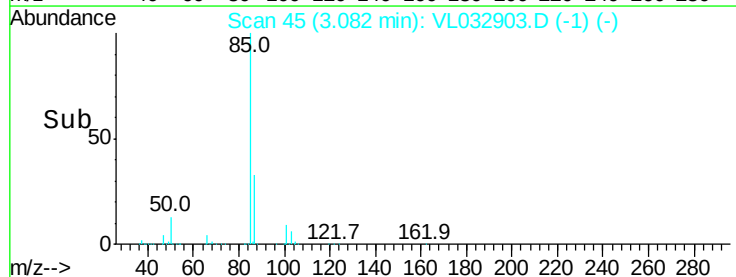
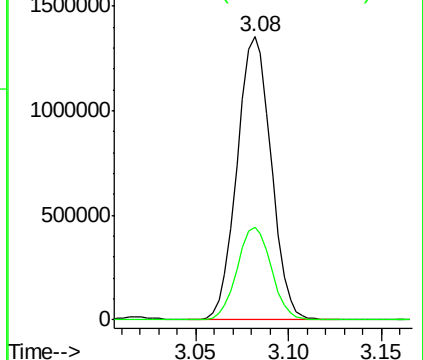
Ion Ratio Lower Upper

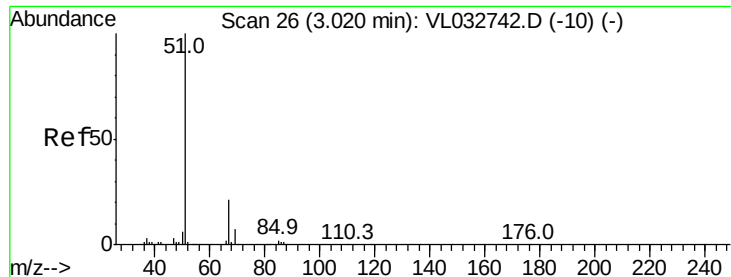
85 100

87 32.7 26.0 39.0



Abundance Ion 85.00 (84.70 to 85.70): VL0
Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 9.264 ppbv

RT: 3.02 min Scan# 25

Delta R.T. -0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

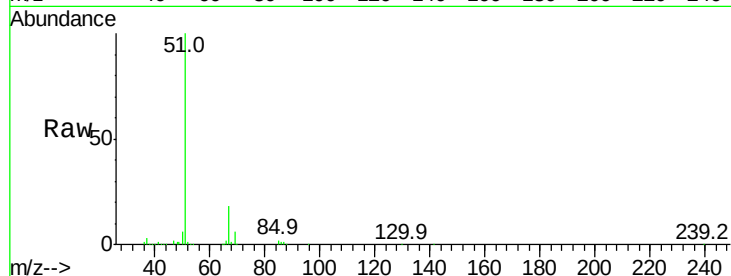
VSTDCCC010EC

Tgt Ion: 51 Resp: 1011487

Ion Ratio Lower Upper

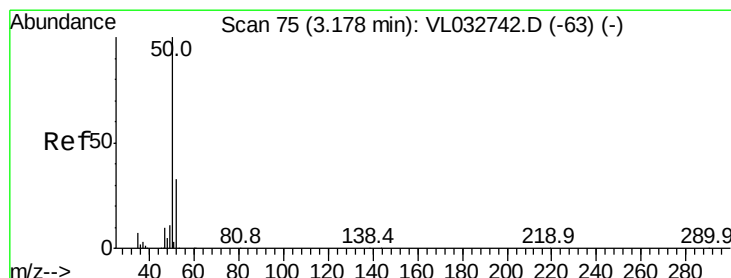
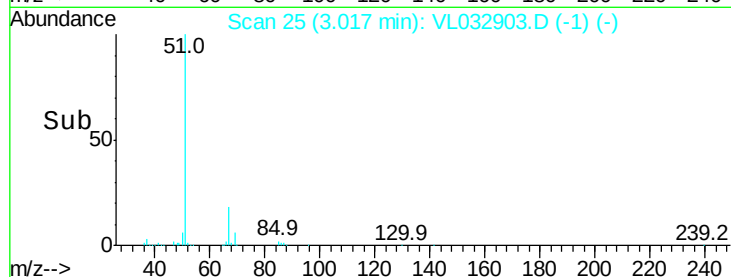
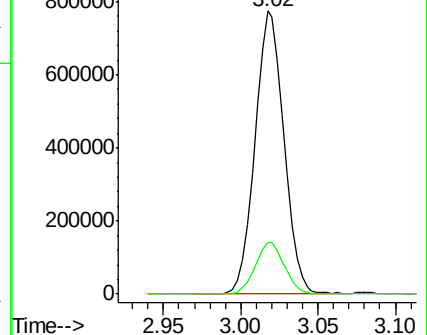
51 100

67 18.4 16.1 24.1



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 9.665 ppbv

RT: 3.17 min Scan# 74

Delta R.T. -0.00 min

Lab File: VL032903.D

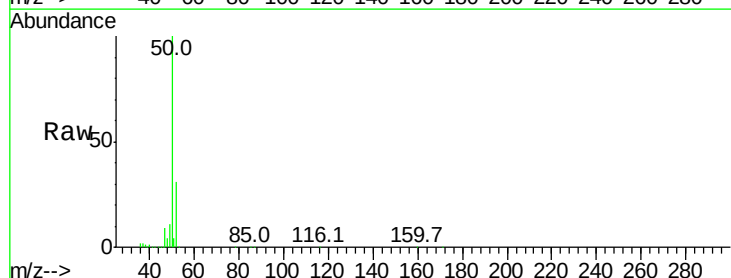
Acq: 5 Dec 2018 9:07

Tgt Ion: 50 Resp: 585139

Ion Ratio Lower Upper

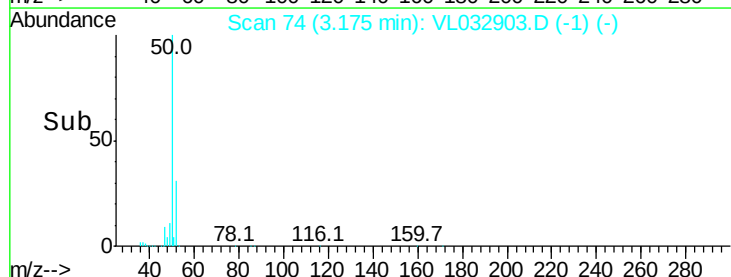
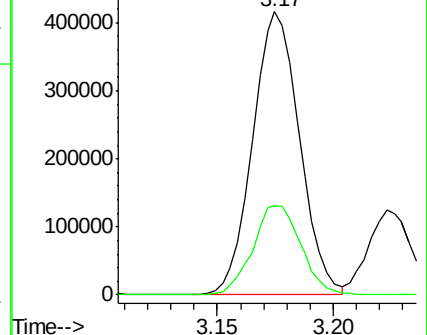
50 100

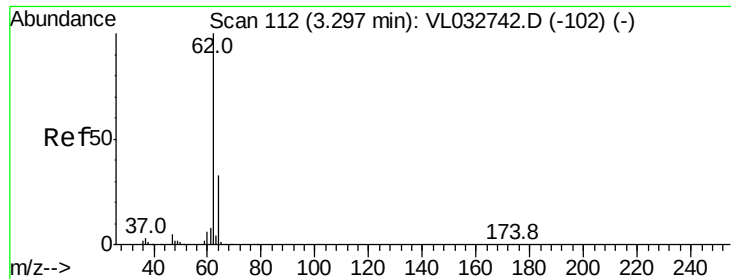
52 31.2 26.6 40.0



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#5

Vinyl Chloride

Concen: 9.442 ppbv

RT: 3.30 min Scan# 112

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

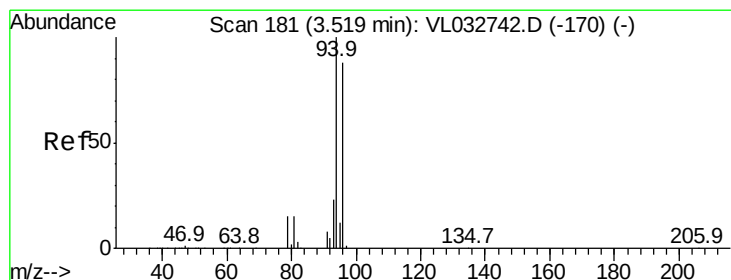
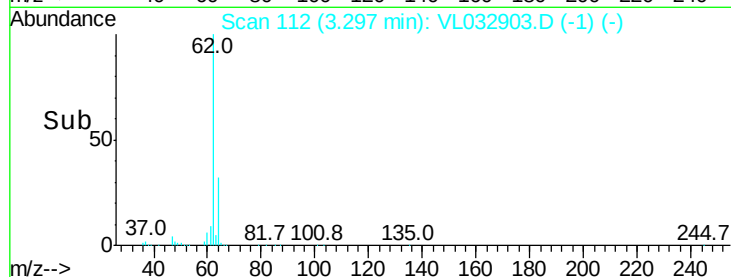
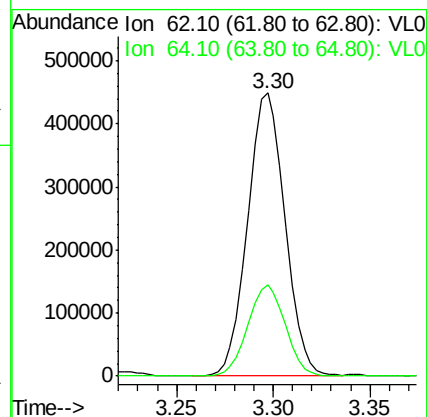
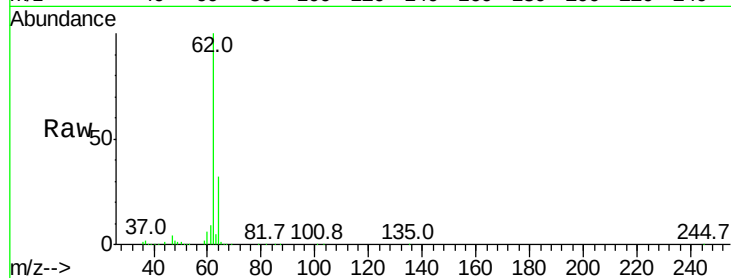
VSTDCCC010EC

Tgt Ion: 62 Resp: 605689

Ion Ratio Lower Upper

62 100

64 32.5 26.2 39.4



#6

Bromomethane

Concen: 9.801 ppbv

RT: 3.52 min Scan# 181

Delta R.T. 0.00 min

Lab File: VL032903.D

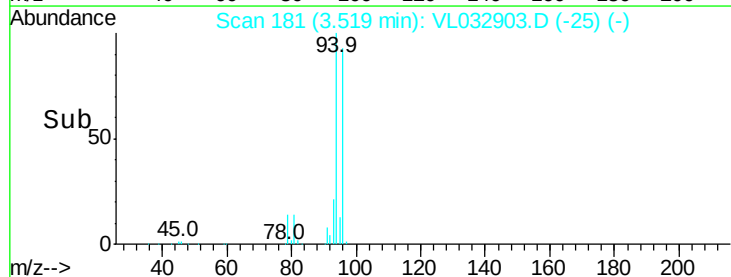
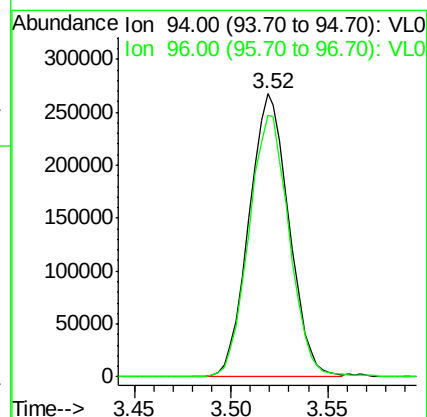
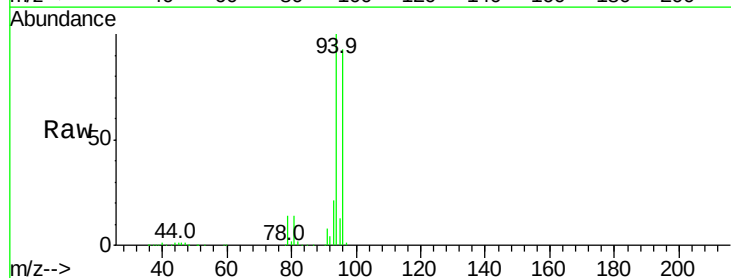
Acq: 5 Dec 2018 9:07

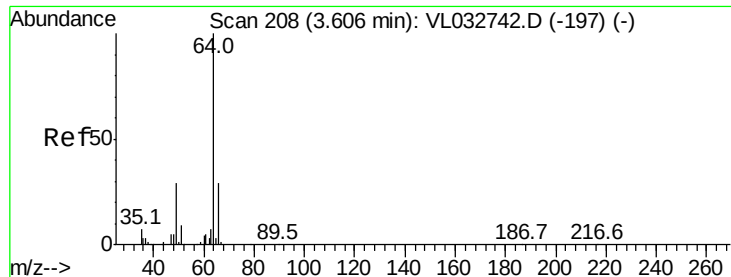
Tgt Ion: 94 Resp: 384634

Ion Ratio Lower Upper

94 100

96 92.7 70.2 105.2





#7

Chloroethane

Concen: 9.656 ppbv

RT: 3.61 min Scan# 208

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

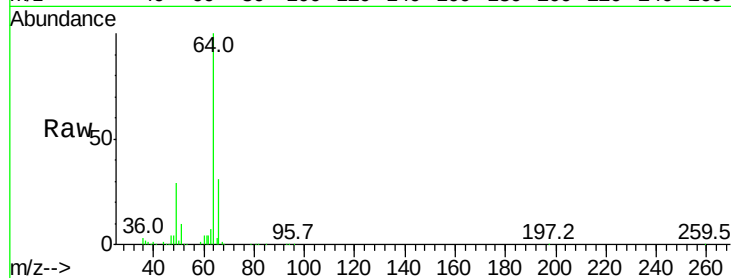
VSTDCCC010EC

Tgt Ion: 64 Resp: 223245

Ion Ratio Lower Upper

64 100

66 30.9 23.2 34.8



Abundance Ion 64.10 (63.80 to 64.80): VL0

Ion 66.10 (65.80 to 66.80): VL0

3.61

150000

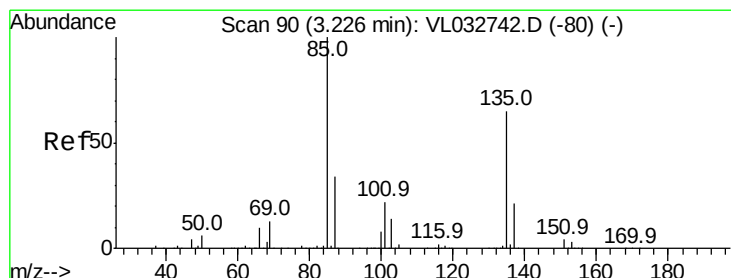
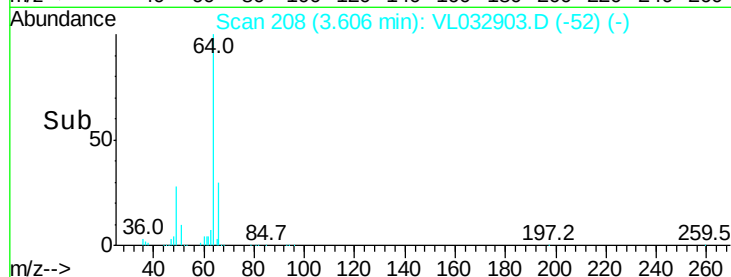
100000

50000

0

Time-->

3.55 3.60 3.65



#8

Dichlorotetrafluoroethane

Concen: 8.837 ppbv

RT: 3.22 min Scan# 89

Delta R.T. -0.00 min

Lab File: VL032903.D

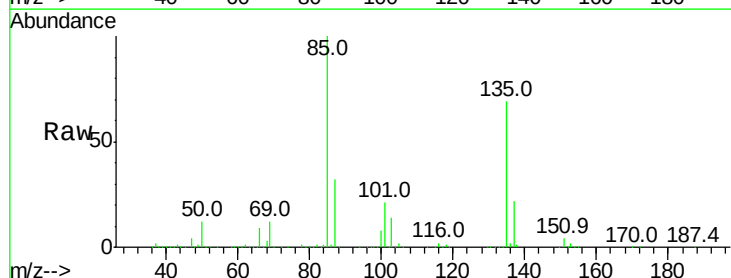
Acq: 5 Dec 2018 9:07

Tgt Ion: 85 Resp: 1378474

Ion Ratio Lower Upper

85 100

135 71.5 53.8 80.8



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 135.00 (134.70 to 135.70): V

3.22

1200000

1000000

800000

600000

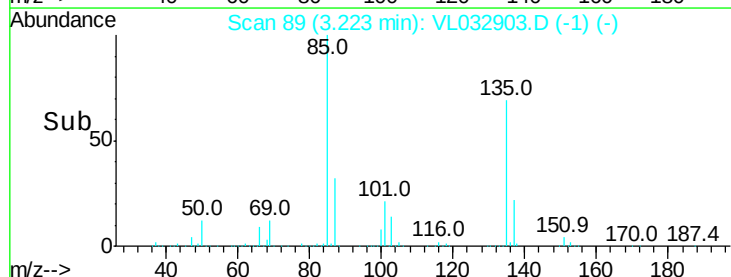
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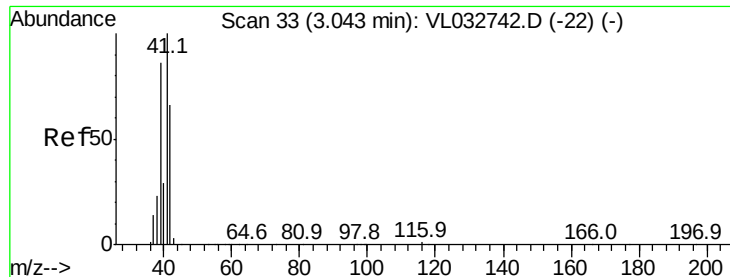
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0

Time-->

3.20 3.25





#9

Propene

Concen: 11.056 ppbv

RT: 3.04 min Scan# 32

Delta R.T. -0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

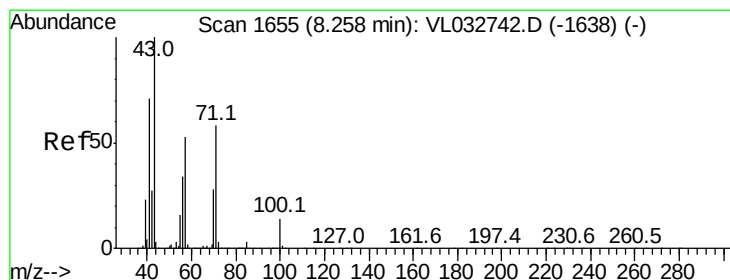
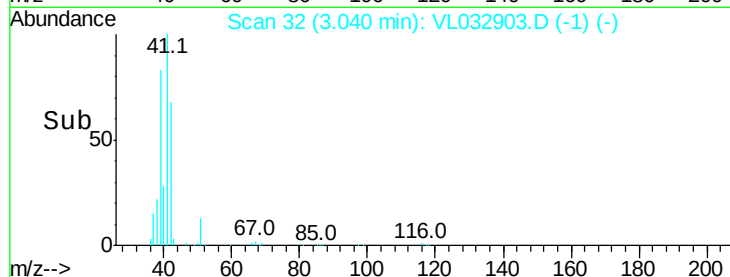
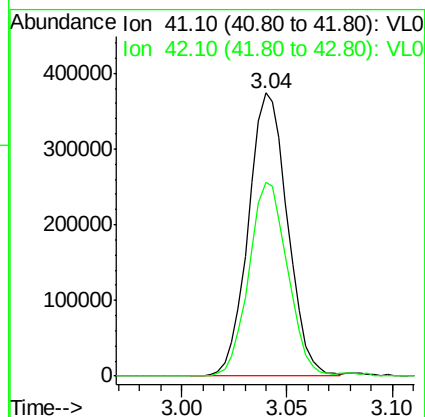
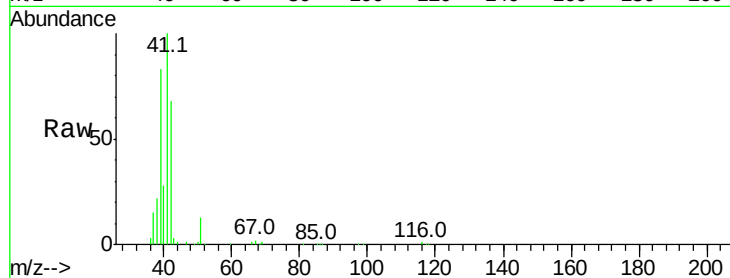
VSTDCCC010EC

Tgt Ion: 41 Resp: 483048

Ion Ratio Lower Upper

41 100

42 68.6 55.0 82.6



#10

Heptane

Concen: 11.280 ppbv

RT: 8.25 min Scan# 1654

Delta R.T. -0.00 min

Lab File: VL032903.D

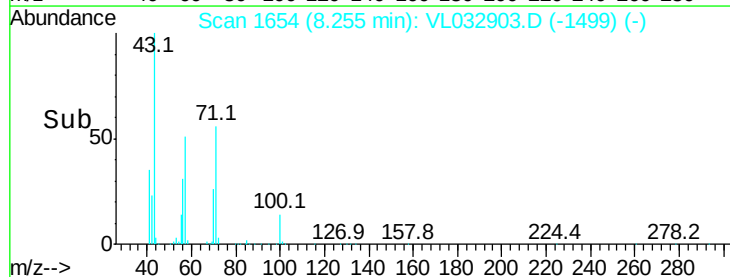
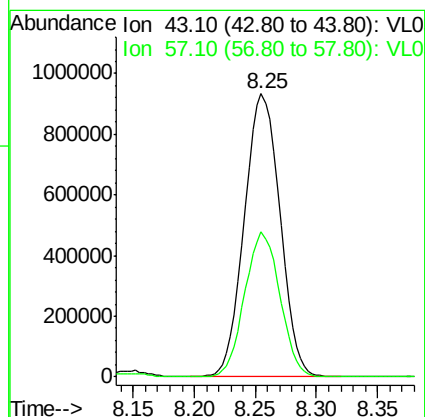
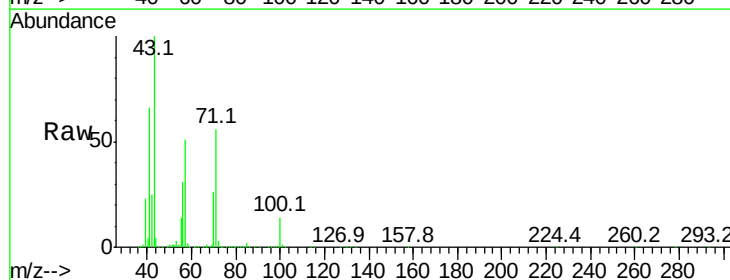
Acq: 5 Dec 2018 9:07

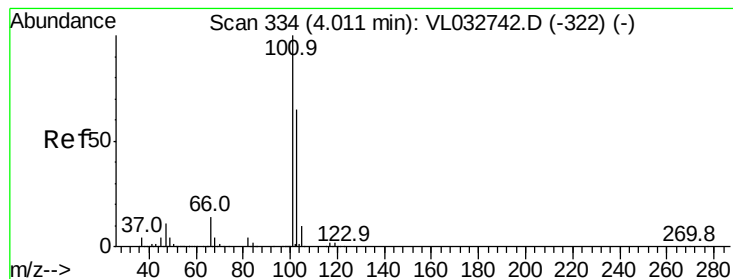
Tgt Ion: 43 Resp: 1881667

Ion Ratio Lower Upper

43 100

57 50.5 41.8 62.8





#11

Trichlorofluoromethane

Concen: 8.562 ppbv

RT: 4.01 min Scan# 334

Delta R.T. 0.00 min

Lab File: VL032903.D

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ClientSampleId :

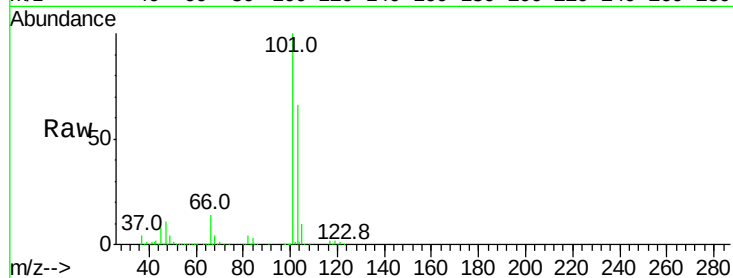
VSTDCCC010EC

Tgt Ion:101 Resp: 1597383

Ion Ratio Lower Upper

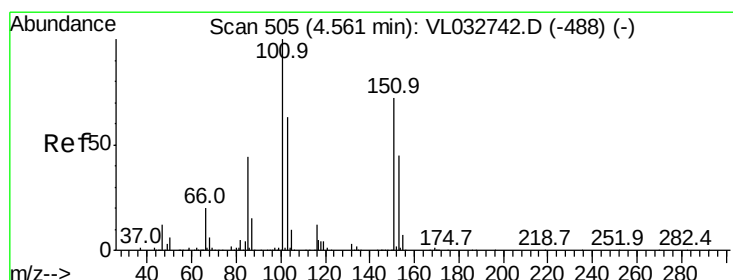
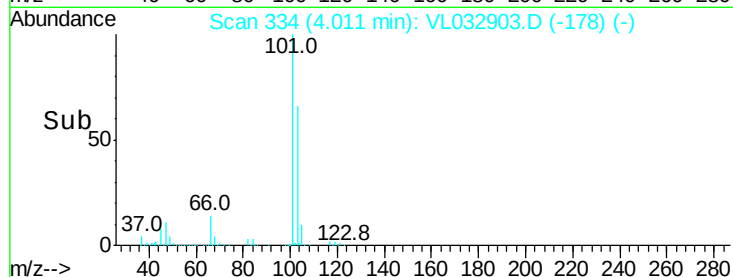
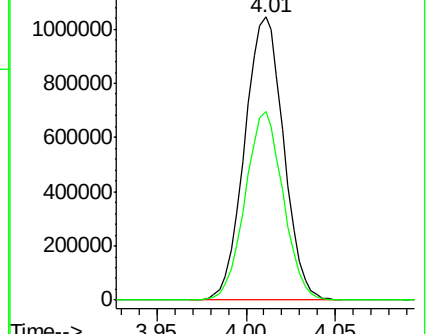
101 100

103 66.4 51.6 77.4



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V



#12

1,1,2-Trichlorotrifluoroethane

Concen: 7.927 ppbv

RT: 4.56 min Scan# 504

Delta R.T. -0.00 min

Lab File: VL032903.D

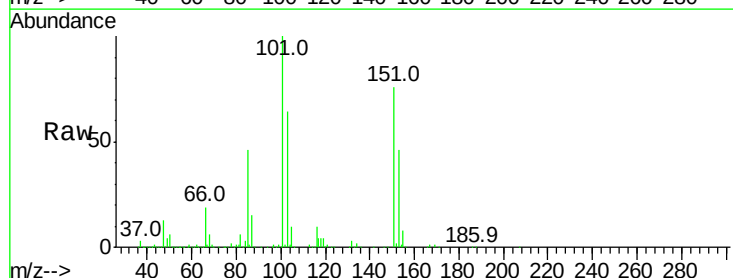
Acq: 5 Dec 2018 9:07

Tgt Ion:101 Resp: 1207923

Ion Ratio Lower Upper

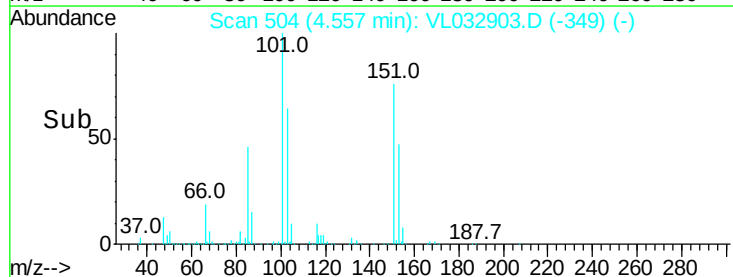
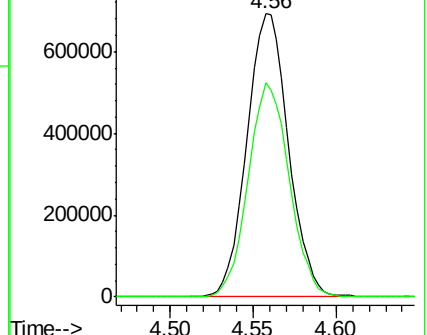
101 100

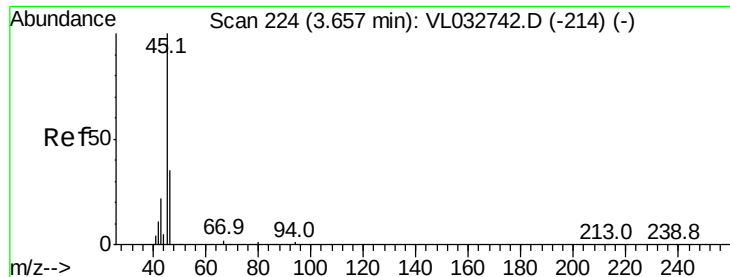
151 75.2 56.7 85.1



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 151.00 (150.70 to 151.70): V





#13

Ethanol

Concen: 8.711 ppbv

RT: 3.66 min Scan# 224

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

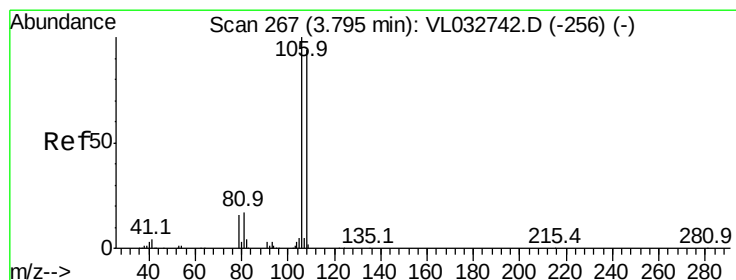
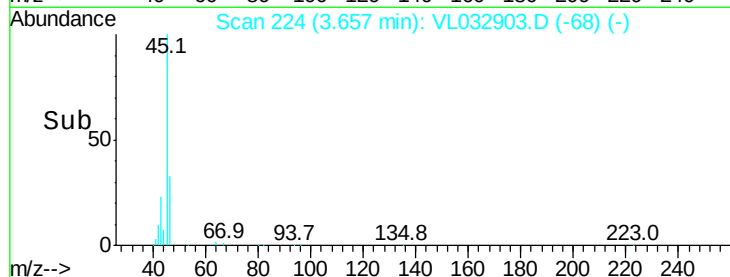
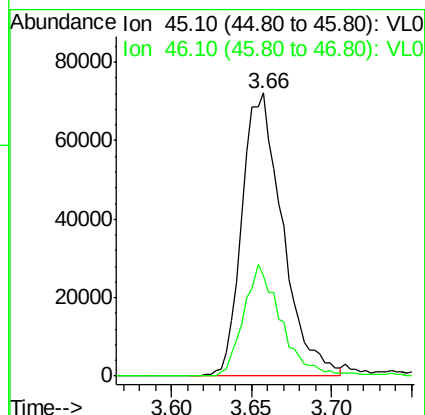
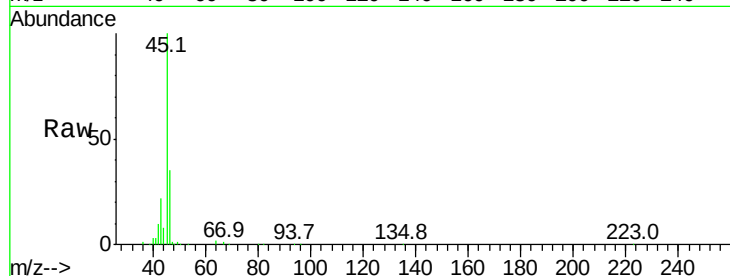
VSTDCCC010EC

Tgt Ion: 45 Resp: 124667

Ion Ratio Lower Upper

45 100

46 36.3 14.5 57.9



#14

Bromoethene

Concen: 9.704 ppbv

RT: 3.80 min Scan# 267

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

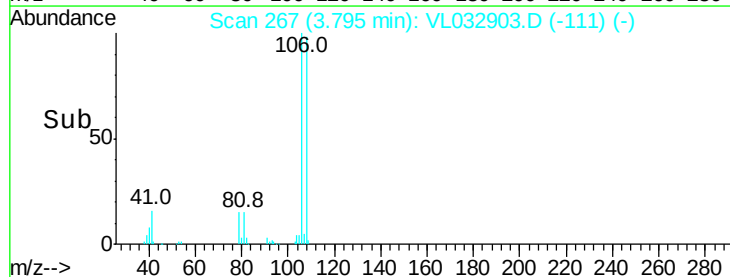
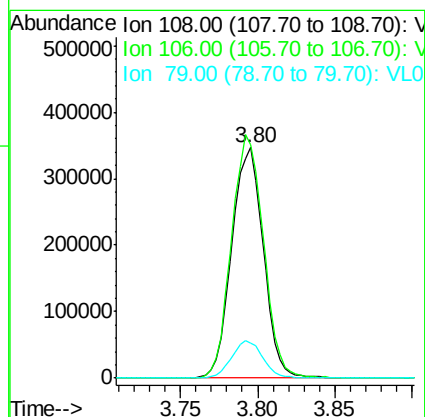
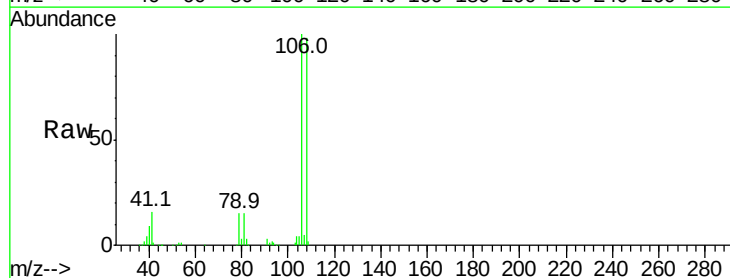
Tgt Ion: 108 Resp: 490597

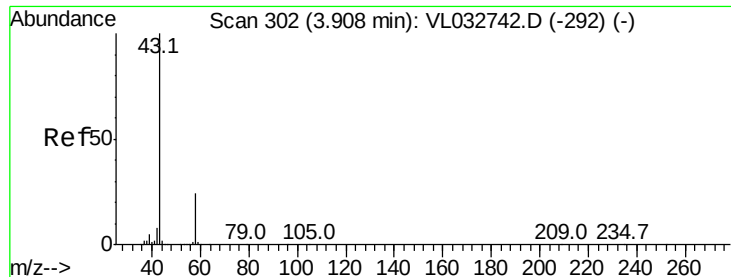
Ion Ratio Lower Upper

108 100

106 107.2 84.9 127.3

79 16.2 14.2 21.4





#15

Acetone

Concen: 8.566 ppbv

RT: 3.91 min Scan# 302

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

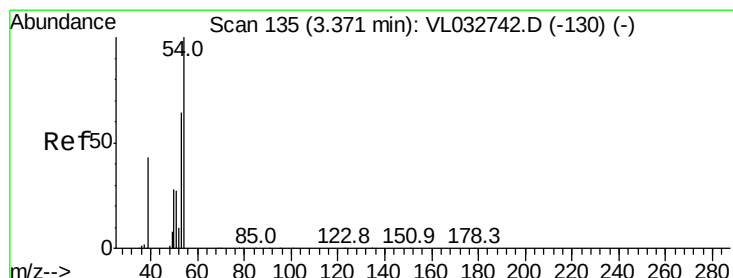
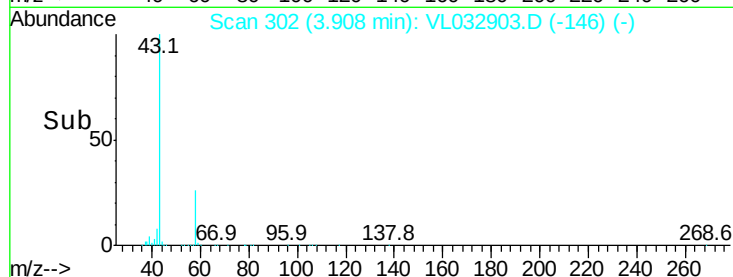
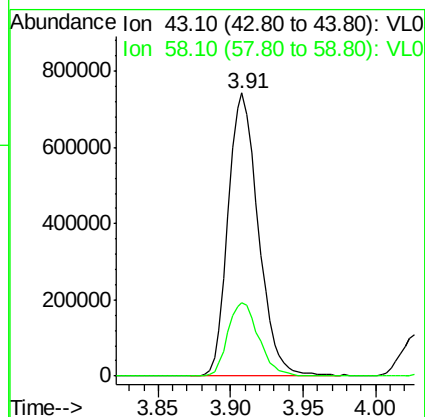
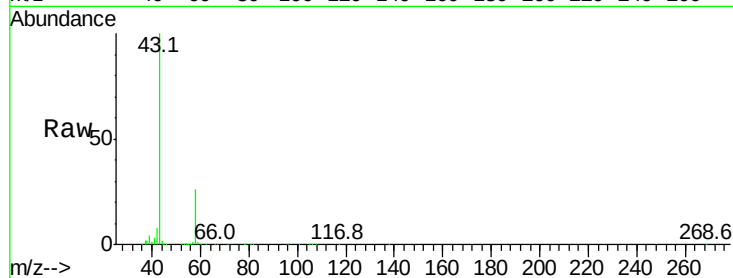
VSTDCCC010EC

Tgt Ion: 43 Resp: 1077341

Ion Ratio Lower Upper

43 100

58 26.7 21.1 31.7



#16

1,3-Butadiene

Concen: 10.970 ppbv

RT: 3.37 min Scan# 134

Delta R.T. -0.00 min

Lab File: VL032903.D

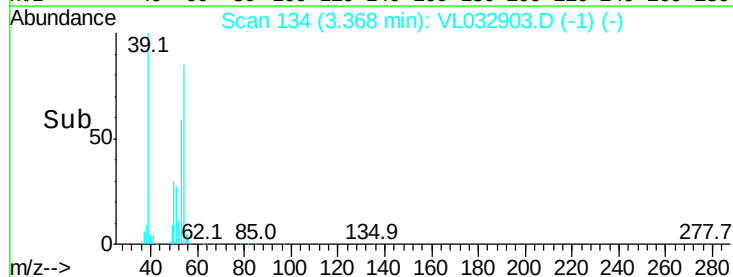
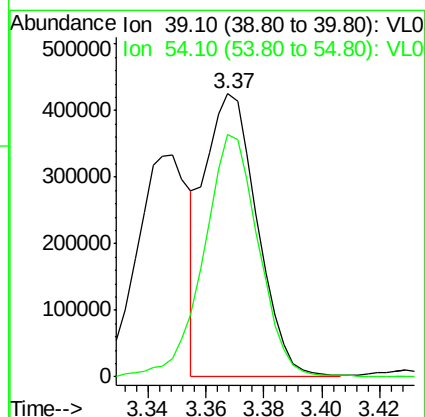
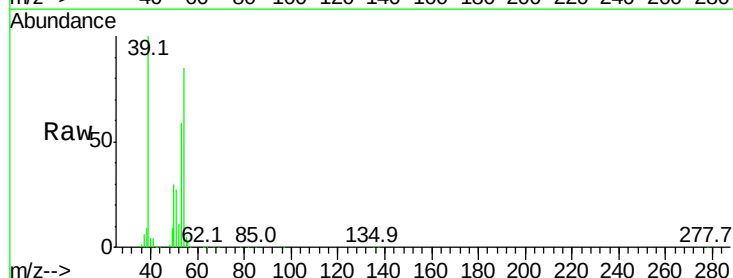
Acq: 5 Dec 2018 9:07

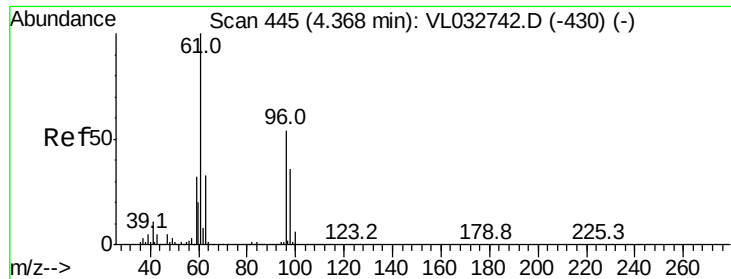
Tgt Ion: 39 Resp: 534264

Ion Ratio Lower Upper

39 100

54 89.6 68.9 103.3





#17

tert-Butyl alcohol

Concen: 7.919 ppbv

RT: 4.36 min Scan# 444

Delta R.T. -0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

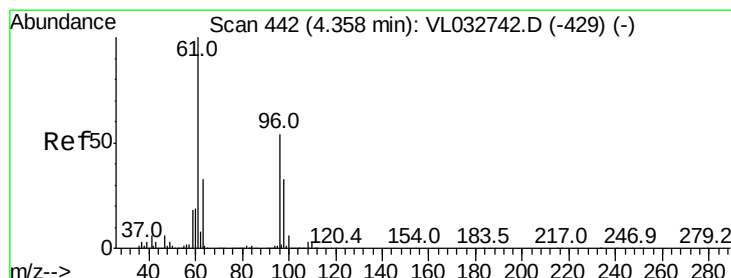
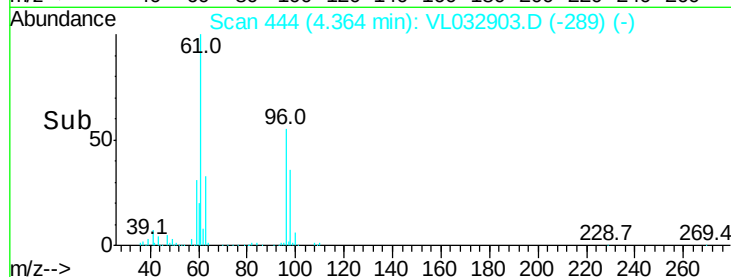
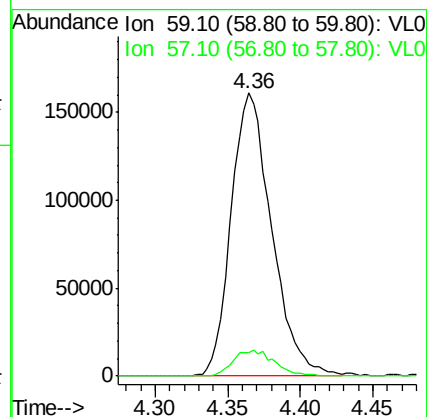
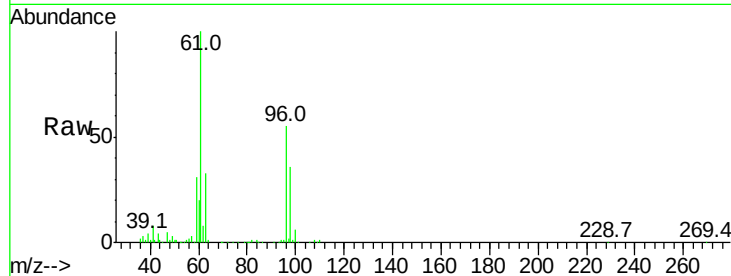
VSTDCCC010EC

Tgt Ion: 59 Resp: 312343

Ion Ratio Lower Upper

59 100

57 9.4 7.8 11.8



#18

1,1-Dichloroethene

Concen: 7.013 ppbv

RT: 4.36 min Scan# 442

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

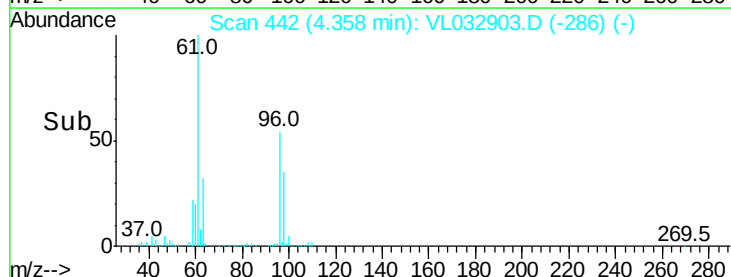
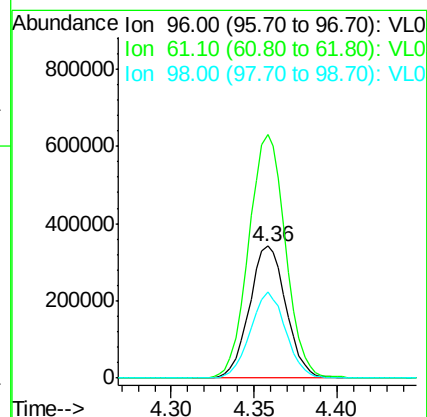
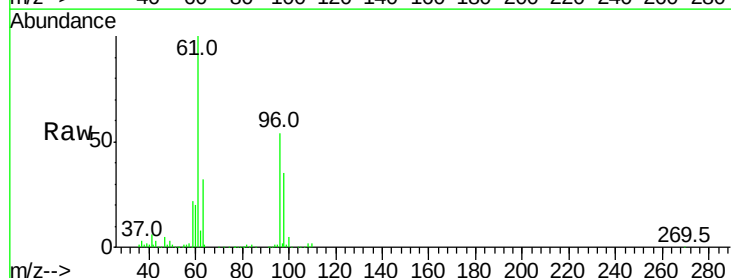
Tgt Ion: 96 Resp: 525483

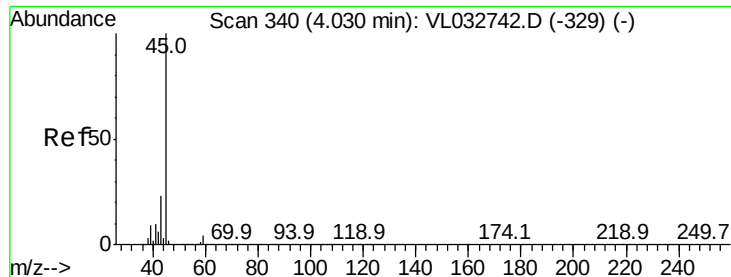
Ion Ratio Lower Upper

96 100

61 184.5 148.5 222.7

98 65.5 48.6 72.8





#19

Isopropyl Alcohol

Concen: 10.277 ppbv

RT: 4.03 min Scan# 340

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Instrument :

MSVOA_L

ClientSampleId :

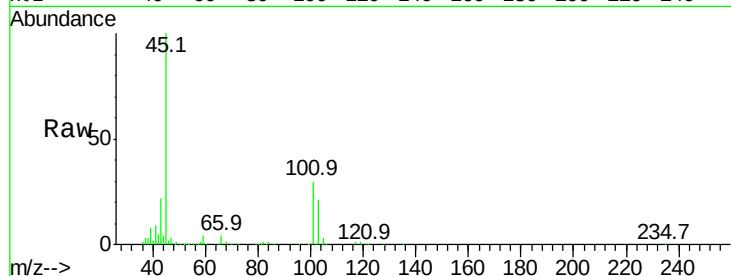
VSTDCCC010EC

Tgt Ion: 45 Resp: 861042

Ion Ratio Lower Upper

45 100

58 1.3 1.4 2.0#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

4.03

500000

400000

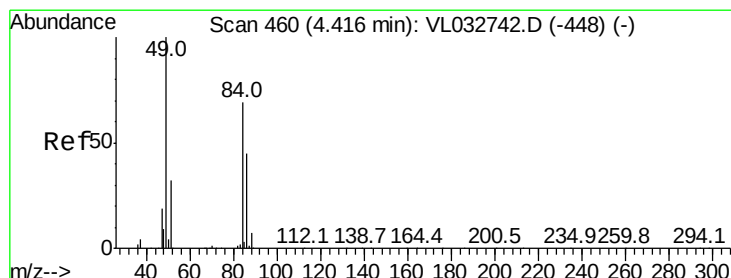
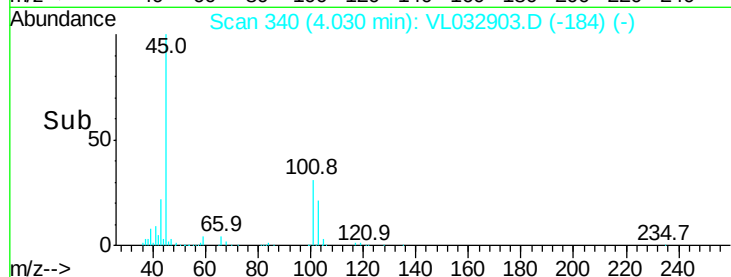
300000

200000

100000

0

Time--> 3.95 4.00 4.05 4.10



#20

Methylene Chloride

Concen: 6.929 ppbv

RT: 4.42 min Scan# 460

Delta R.T. 0.00 min

Lab File: VL032903.D

Acq: 5 Dec 2018 9:07

Tgt Ion: 84 Resp: 451107

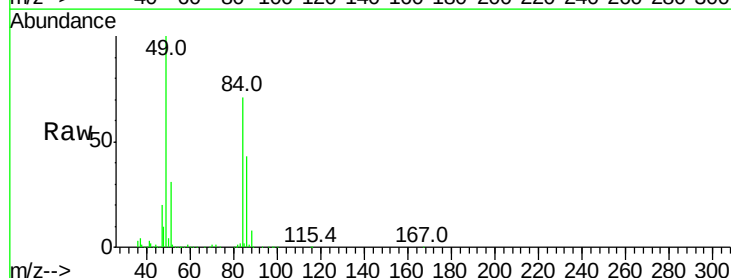
Ion Ratio Lower Upper

84 100

49 140.4 115.8 173.6

51 43.9 36.9 55.3

86 60.4 52.4 78.6



Abundance Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

Ion 51.10 (50.80 to 51.80): VL0

Ion 86.00 (85.70 to 86.70): VL0

600000

500000

400000

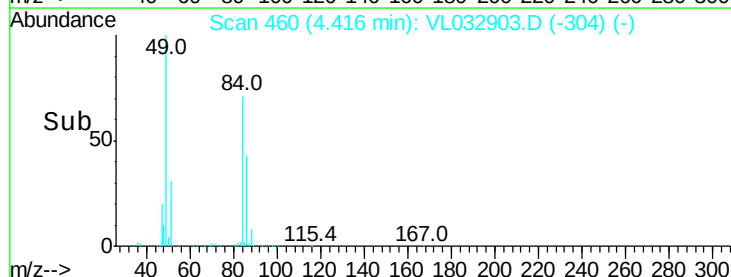
300000

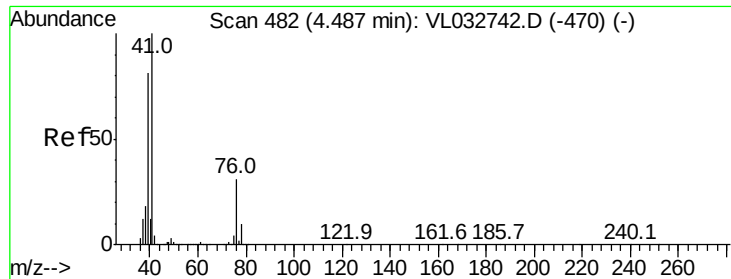
200000

100000

0

Time--> 4.35 4.40 4.45

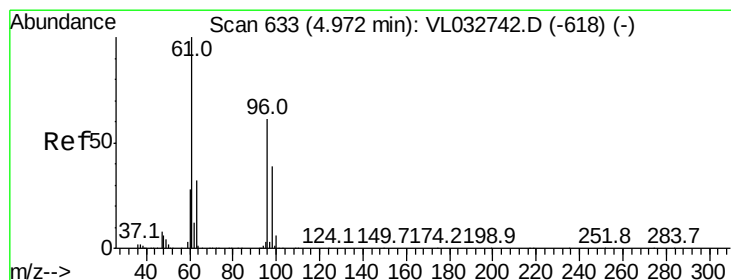
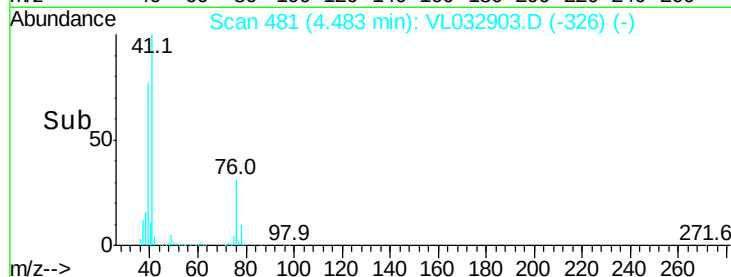
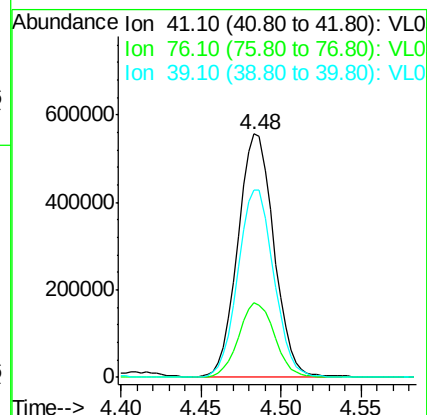
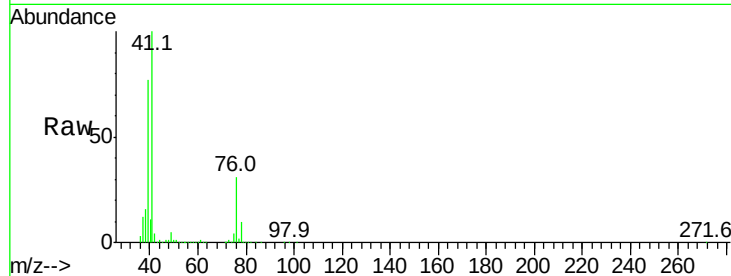




#21
 Allyl Chloride
 Concen: 8.053 ppbv
 RT: 4.48 min Scan# 481
 Delta R.T. -0.00 min
 Lab File: VL032903.D
 Acq: 5 Dec 2018 9:07

Instrument :
 MSVOA_L
 ClientSampleId :
 VSTDCCC010EC

Tgt Ion: 41 Resp: 851142
 Ion Ratio Lower Upper
 41 100
 76 30.7 24.4 36.6
 39 76.7 63.5 95.3



#22
 trans-1,2-Dichloroethene
 Concen: 9.738 ppbv
 RT: 4.97 min Scan# 633
 Delta R.T. 0.00 min
 Lab File: VL032903.D
 Acq: 5 Dec 2018 9:07

Tgt Ion: 96 Resp: 712535
 Ion Ratio Lower Upper
 96 100
 61 157.8 130.2 195.2
 98 62.7 50.2 75.2

