

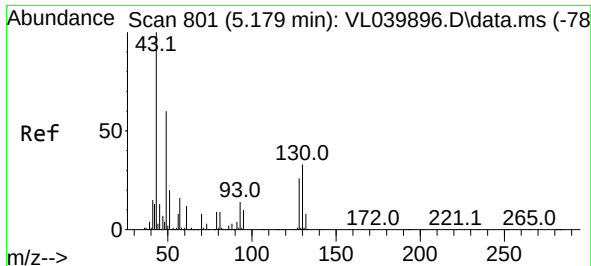
Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL121322\Reviewed data\
 Data File : VL040013.D
 Acq On : 13 Dec 2022 20:14
 Operator : SY/MD
 Sample : N5971-12DUP
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-3

Quant Time: Dec 21 15:06:08 2022
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL111822AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Fri Dec 02 23:21:36 2022
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	5.176	49	1028096	10.000	ppbv	0.02
33) 1,4-Difluorobenzene	6.636	114	2808713	10.000	ppbv	0.02
55) Chlorobenzene-d5	11.452	117	2318797	10.000	ppbv	0.02
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	13.764	95	1725303	9.741	ppbv	0.02
Spiked Amount	10.000	Range	65 - 135	Recovery	=	97.400%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	2.716	85	35827	0.243	ppbv	95
3) Chlorodifluoromethane	2.658	51	67194	0.474	ppbv #	91
4) Chloromethane	2.796	50	33314	0.367	ppbv #	83
9) Propene	2.681	41	87250	1.306	ppbv #	83
10) Heptane	7.568	43	3949	0.024	ppbv #	1
11) Trichlorofluoromethane	3.546	101	36538	0.203	ppbv	96
12) 1,1,2-Trichlorotrifluo...	4.050	101	5677	0.042	ppbv #	50
13) Ethanol	3.221	45	2287579	448.359	ppbv	99
15) Acetone	3.449	43	1222996	8.969	ppbv	98
16) 1,3-Butadiene	2.951	39	7374	0.109	ppbv #	67
19) Isopropyl Alcohol	3.568	45	253755	3.437	ppbv #	1
20) Methylene Chloride	3.915	84	782792	11.849	ppbv	97
21) Allyl Chloride	3.941	41	1895	0.020	ppbv #	16
23) Vinyl Acetate	4.600	43	50578	0.903	ppbv #	80
25) Ethyl Acetate	5.195	43	347698	1.389	ppbv #	78
26) Hexane	5.195	57	471451	4.311	ppbv #	40
30) Cyclohexane	6.578	84	5134	0.048	ppbv #	52
34) 2-Butanone	4.777	43	121242	0.902	ppbv	96
35) Carbon Tetrachloride	6.468	117	3618	0.023	ppbv #	75
36) Benzene	6.349	78	50377	0.211	ppbv	99
37) 1,2-Dichloroethane	5.787	62	8147	0.062	ppbv	97
39) 1,2-Dichloropropane	6.636	63	668253	7.184	ppbv #	26
41) Tetrahydrofuran	5.192	42	167585	1.806	ppbv #	50
44) 2,2,4-Trimethylpentane	7.311	57	48609	0.122	ppbv #	77
50) 4-Methyl-2-Pentanone	8.166	43	6158	0.026	ppbv #	38
51) 2-Hexanone	9.549	43	42749	0.229	ppbv #	27
53) Toluene	9.205	91	170202	0.626	ppbv	98
58) Ethyl Benzene	12.073	91	10401	0.033	ppbv	93
59) m/p-Xylene	12.352	91	11061	0.042	ppbv #	30
60) o-Xylene	13.050	91	9892	0.039	ppbv #	1
74) 1,2,4-Trimethylbenzene	16.101	105	6733	0.025	ppbv #	65
79) Naphthalene	21.381	128	7418	0.045	ppbv #	72

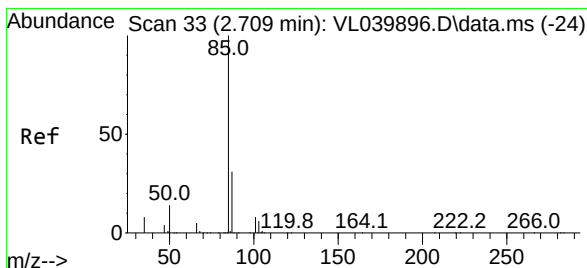
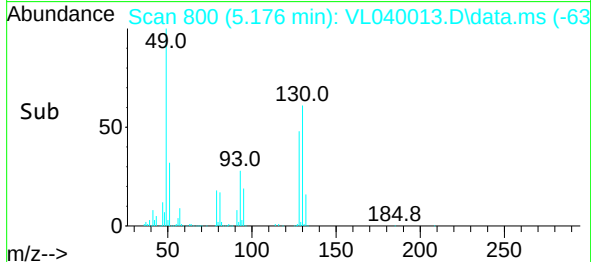
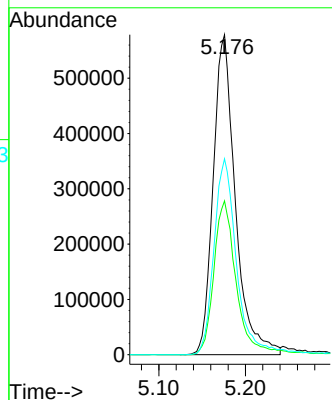
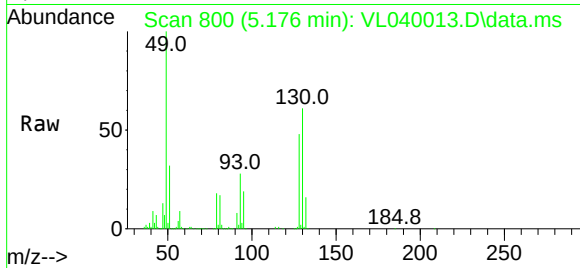
(#) = qualifier out of range (m) = manual integration (+) = signals summed



#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 5.176 min Scan# 80
Delta R.T. 0.020 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

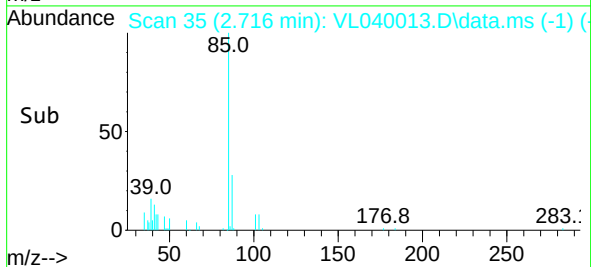
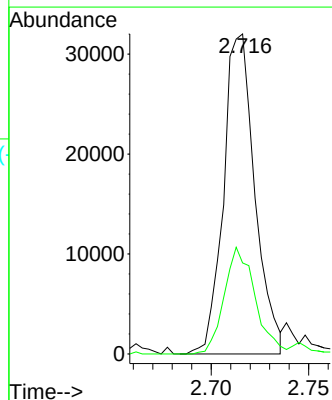
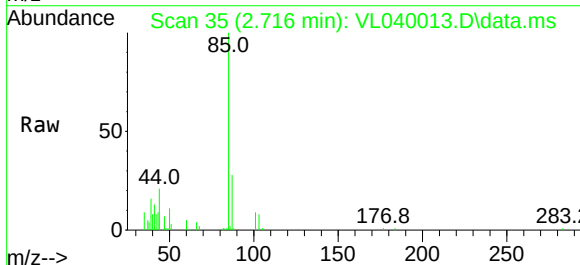
Instrument :
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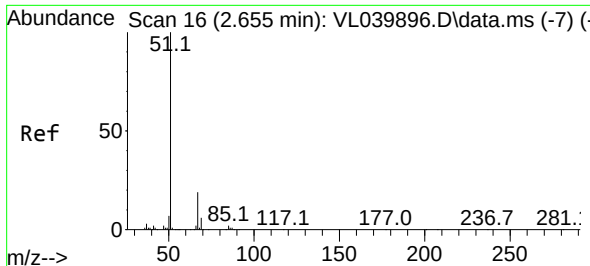
Tgt Ion: 49 Resp: 1028096
Ion Ratio Lower Upper
49 100
128 49.6 22.1 66.3
130 63.3 27.7 83.1



#2
Dichlorodifluoromethane
Concen: 0.243 ppbv
RT: 2.716 min Scan# 35
Delta R.T. 0.020 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 85 Resp: 35827
Ion Ratio Lower Upper
85 100
87 28.5 25.0 37.4

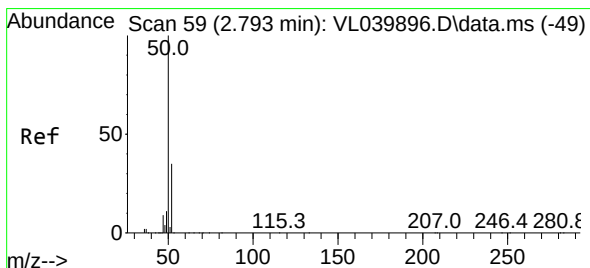
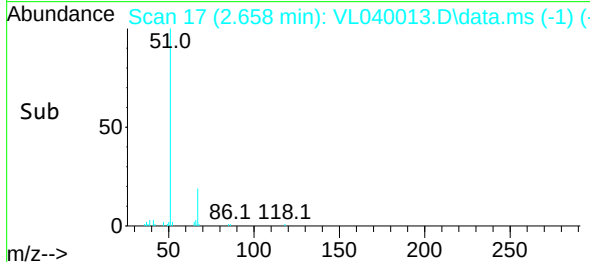
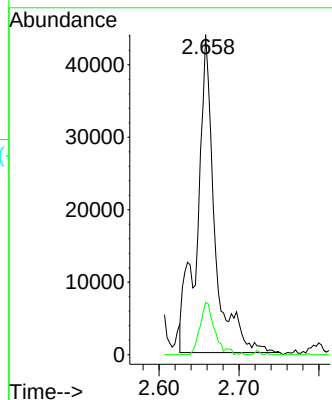
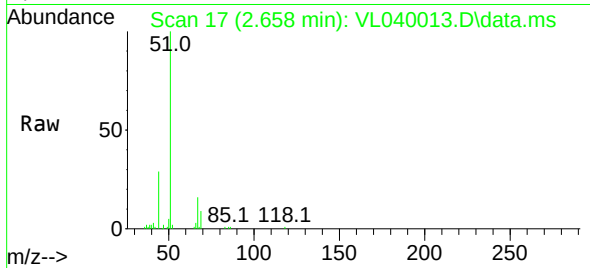




#3
Chlorodifluoromethane
Concen: 0.474 ppbv
RT: 2.658 min Scan# 11
Delta R.T. 0.016 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

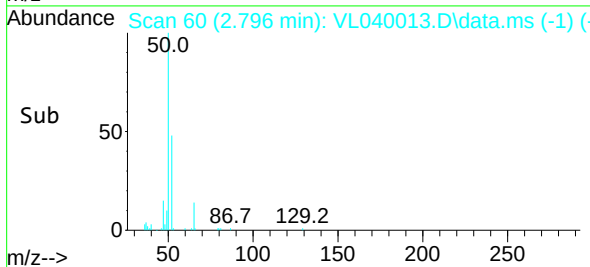
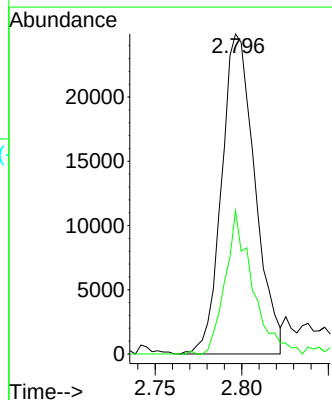
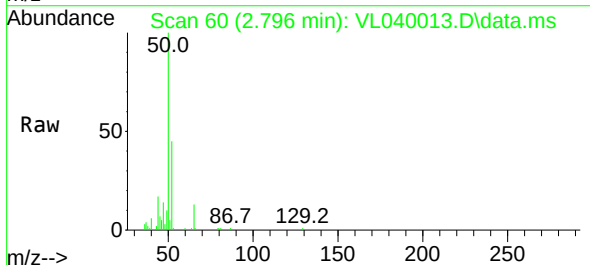
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ClientSampleId :
IA-3

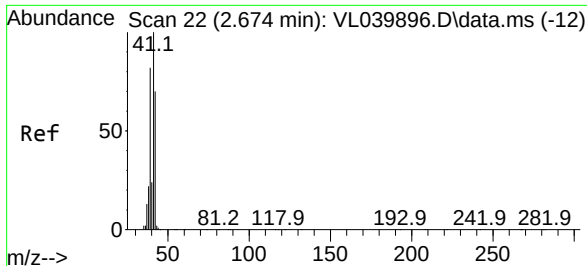
Tgt Ion: 51 Resp: 67194
Ion Ratio Lower Upper
51 100
67 13.8 14.2 21.4#



#4
Chloromethane
Concen: 0.367 ppbv
RT: 2.796 min Scan# 60
Delta R.T. 0.016 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 50 Resp: 33314
Ion Ratio Lower Upper
50 100
52 44.8 27.8 41.8#





#9

Propene

Concen: 1.306 ppbv

RT: 2.681 min Scan# 24

Delta R.T. 0.019 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

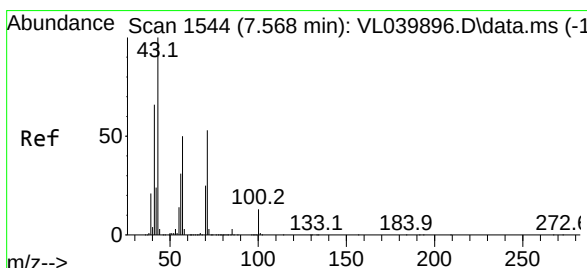
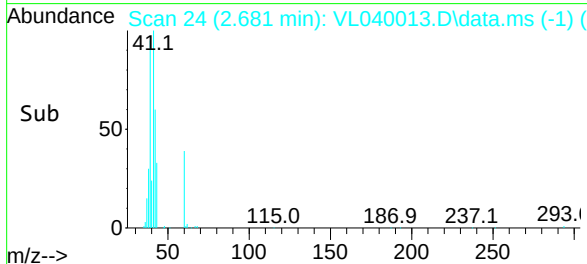
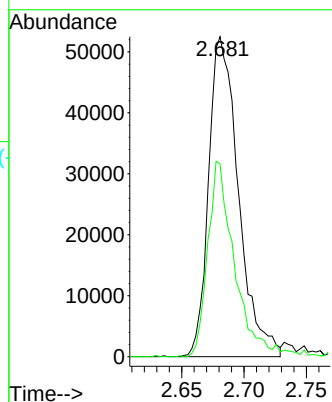
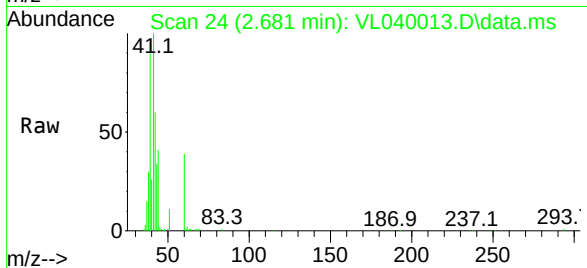
IA-3

Tgt Ion: 41 Resp: 87250

Ion Ratio Lower Upper

41 100

42 55.5 55.8 83.6#



#10

Heptane

Concen: 0.024 ppbv

RT: 7.568 min Scan# 1544

Delta R.T. 0.023 min

Lab File: VL040013.D

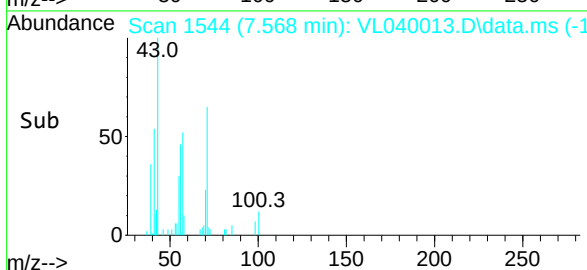
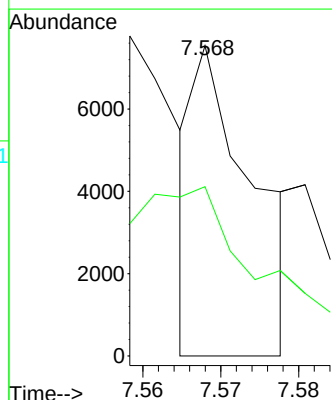
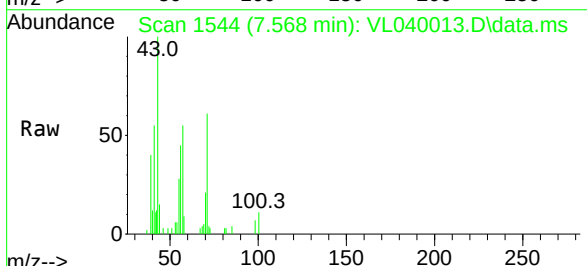
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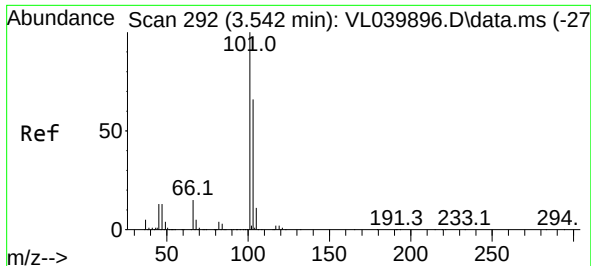
Tgt Ion: 43 Resp: 3949

Ion Ratio Lower Upper

43 100

57 199.5 40.7 61.1#

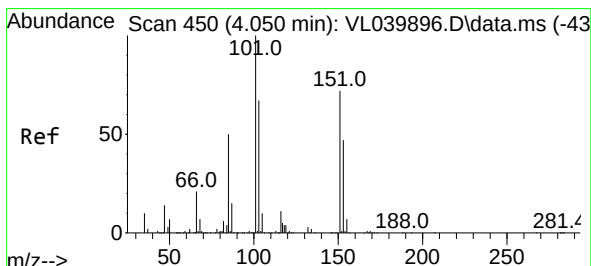
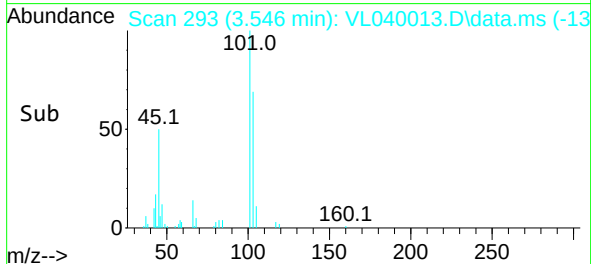
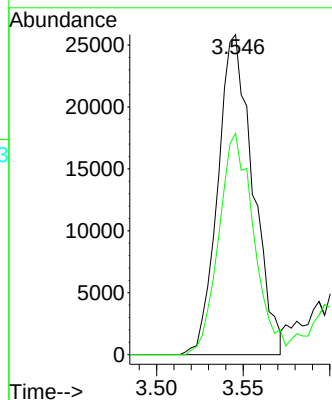
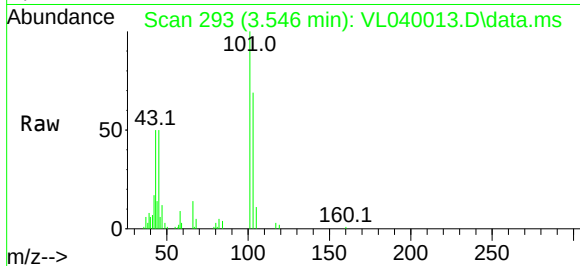




#11
 Trichlorofluoromethane
 Concen: 0.203 ppbv
 RT: 3.546 min Scan# 292
 Delta R.T. 0.016 min
 Lab File: VL040013.D
 Acq: 13 Dec 2022 20:14

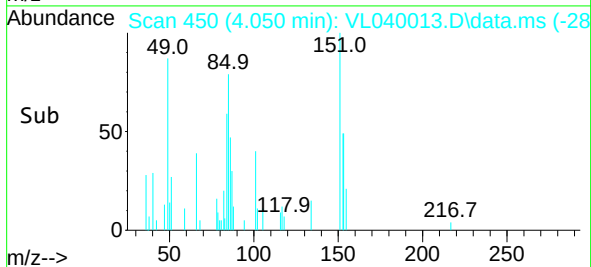
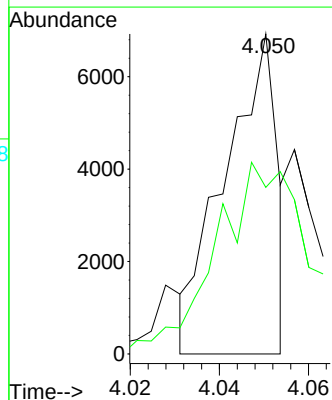
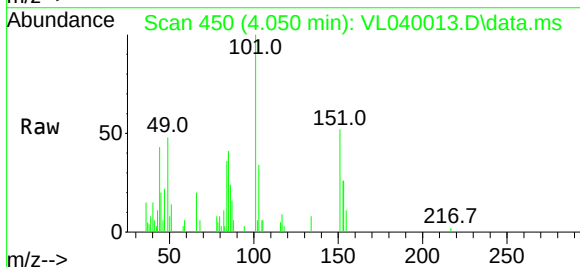
Instrument :
 MSVOA_L
 ClientSampleId :
 IA-3

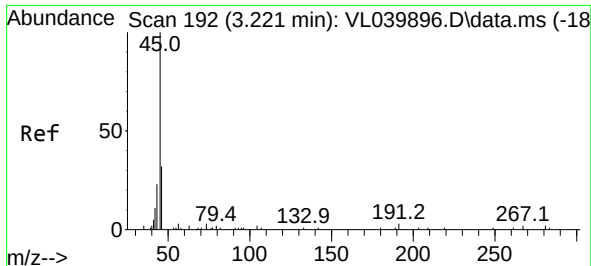
Tgt Ion:101 Resp: 36538
 Ion Ratio Lower Upper
 101 100
 103 69.2 52.6 78.8



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.042 ppbv
 RT: 4.050 min Scan# 450
 Delta R.T. 0.020 min
 Lab File: VL040013.D
 Acq: 13 Dec 2022 20:14

Tgt Ion:101 Resp: 5677
 Ion Ratio Lower Upper
 101 100
 151 117.0 59.6 89.4#

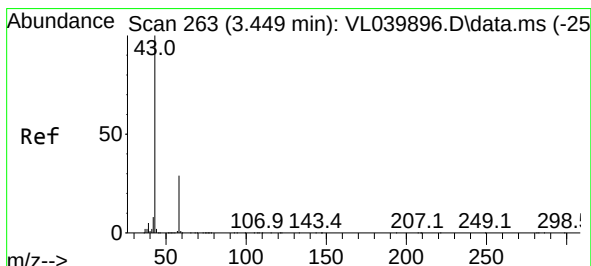
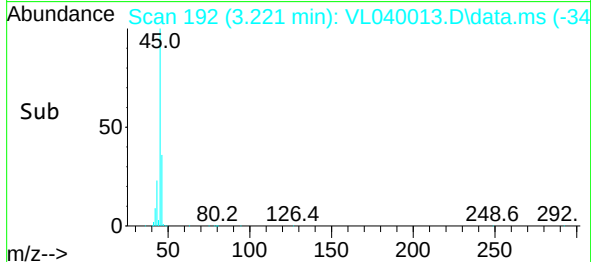
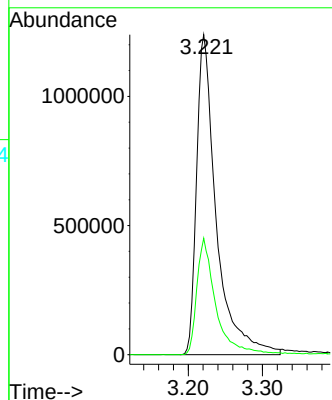
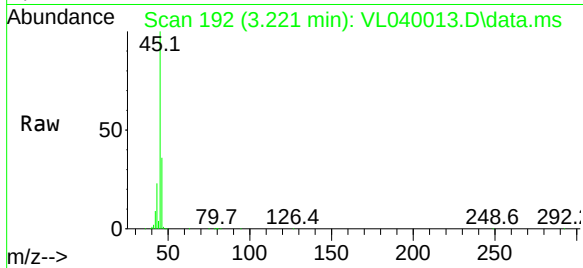




#13
Ethanol
Concen: 448.359 ppbv
RT: 3.221 min Scan# 192
Delta R.T. 0.007 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

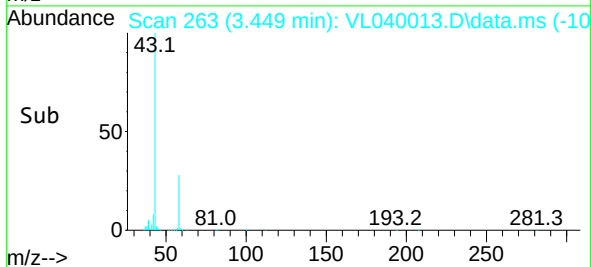
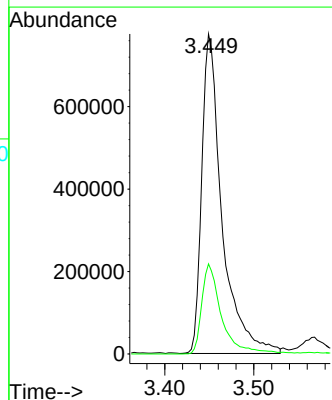
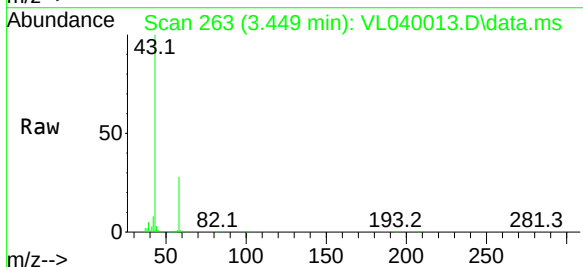
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ClientSampleId :
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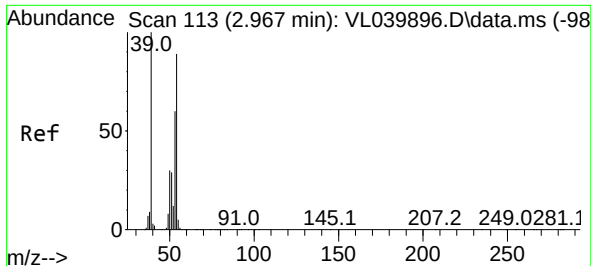
Tgt Ion: 45 Resp: 2287579
Ion Ratio Lower Upper
45 100
46 35.6 14.6 58.2



#15
Acetone
Concen: 8.969 ppbv
RT: 3.449 min Scan# 263
Delta R.T. 0.016 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 43 Resp: 1222996
Ion Ratio Lower Upper
43 100
58 27.7 22.9 34.3

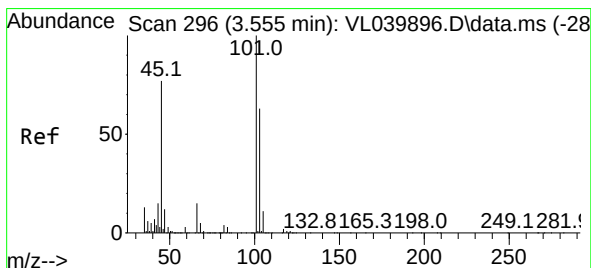
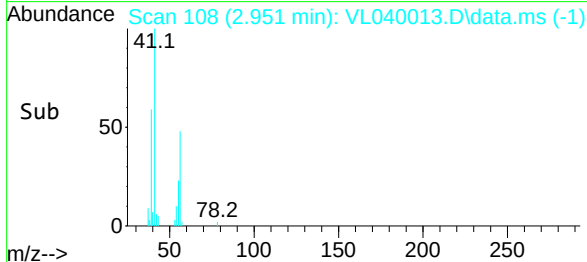
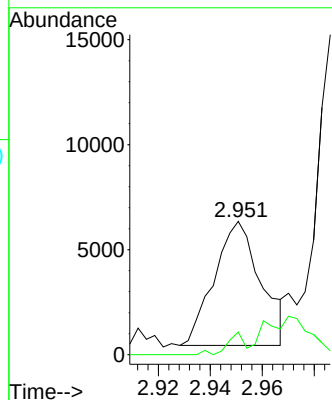
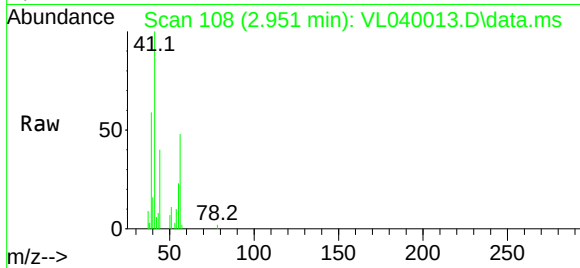




#16
1,3-Butadiene
Concen: 0.109 ppbv
RT: 2.951 min Scan# 108
Delta R.T. 0.000 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

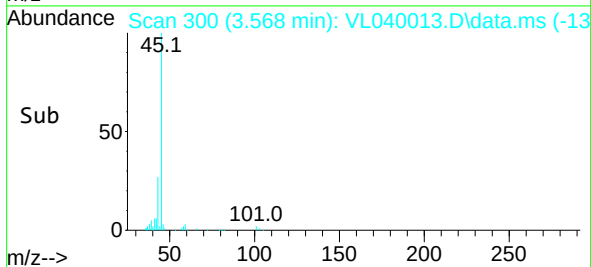
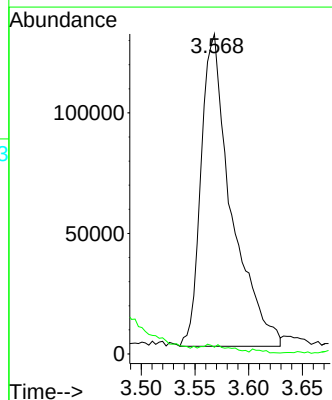
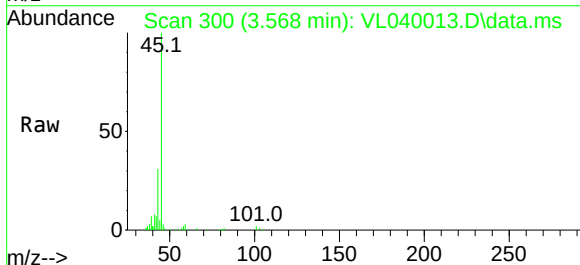
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IA-3

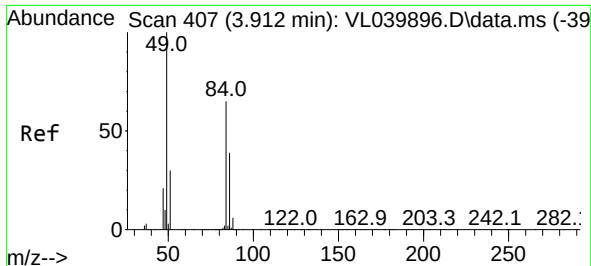
Tgt Ion: 39 Resp: 7374
Ion Ratio Lower Upper
39 100
54 53.1 66.6 99.8#



#19
Isopropyl Alcohol
Concen: 3.437 ppbv
RT: 3.568 min Scan# 300
Delta R.T. 0.026 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 45 Resp: 253755
Ion Ratio Lower Upper
45 100
58 133.1 38.7 58.1#





#20

Methylene Chloride

Concen: 11.849 ppbv

RT: 3.915 min Scan# 407

Delta R.T. 0.019 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

IA-3

Tgt Ion: 84 Resp: 782792

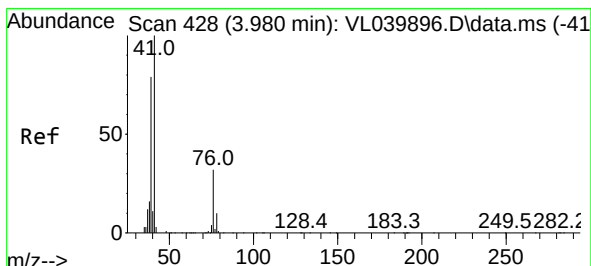
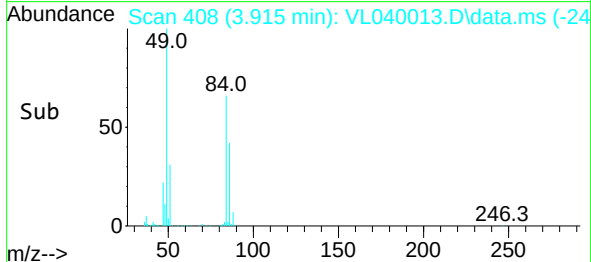
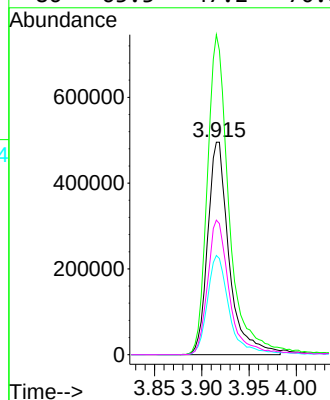
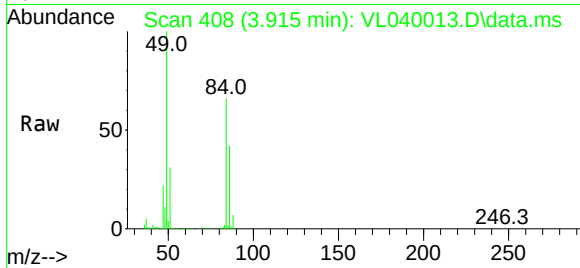
Ion Ratio Lower Upper

84 100

49 150.6 122.2 183.4

51 46.6 36.3 54.5

86 63.3 47.2 70.8



#21

Allyl Chloride

Concen: 0.020 ppbv

RT: 3.941 min Scan# 416

Delta R.T. -0.019 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

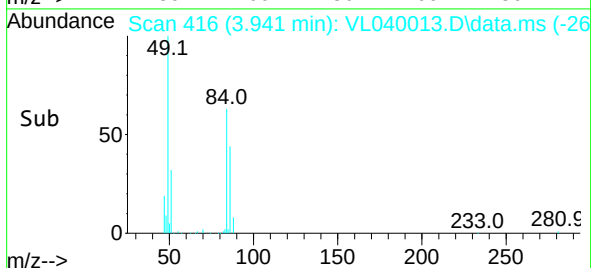
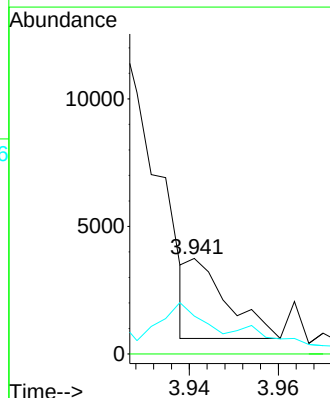
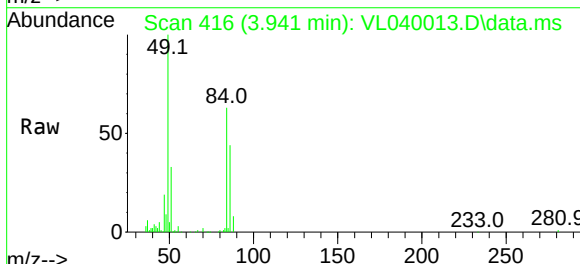
Tgt Ion: 41 Resp: 1895

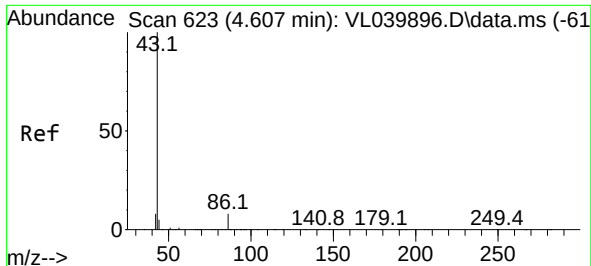
Ion Ratio Lower Upper

41 100

76 0.0 25.6 38.4#

39 166.1 65.2 97.8#

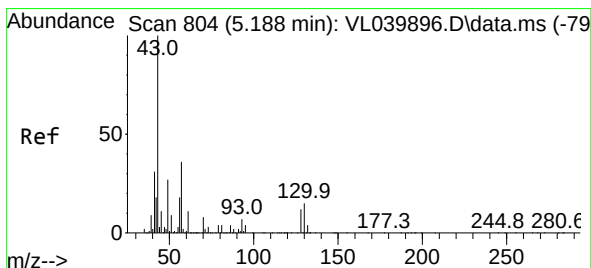
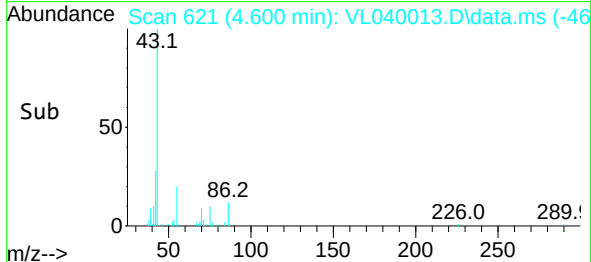
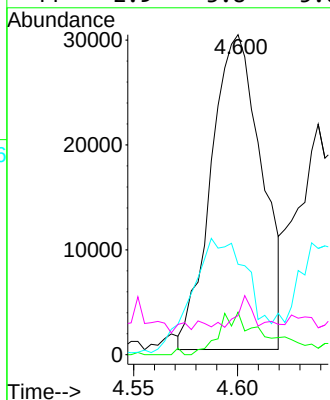
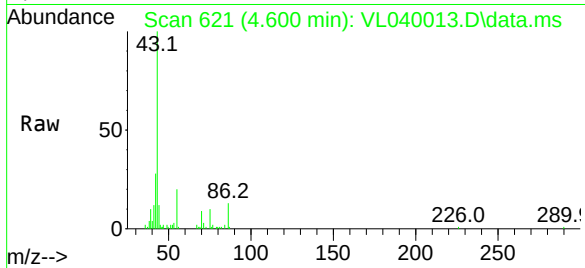




#23
 Vinyl Acetate
 Concen: 0.903 ppbv
 RT: 4.600 min Scan# 61
 Delta R.T. 0.007 min
 Lab File: VL040013.D
 Acq: 13 Dec 2022 20:14

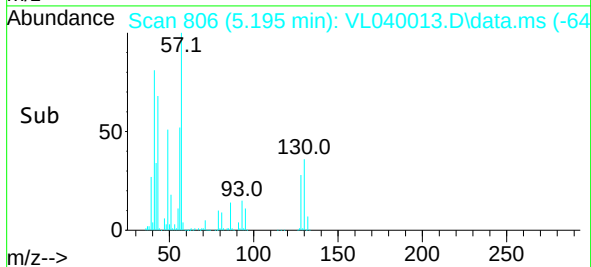
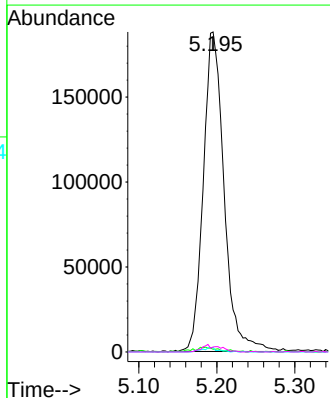
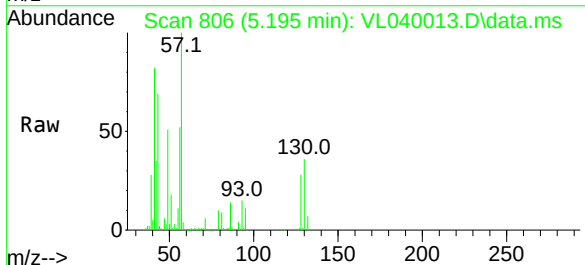
Instrument :
 MSVOA_L
 ClientSampleId :
 IA-3

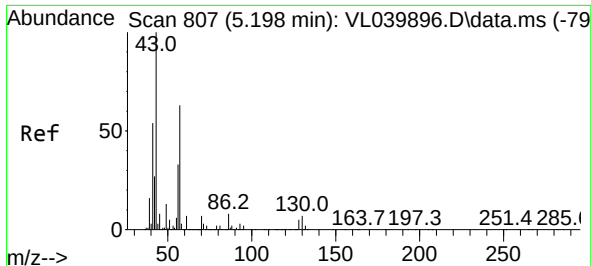
Tgt Ion: 43	Resp: 50578
Ion Ratio	Lower Upper
43 100	
86 11.9	5.0 7.4#
42 20.0	7.6 11.4#
44 2.9	3.8 5.6#



#25
 Ethyl Acetate
 Concen: 1.389 ppbv
 RT: 5.195 min Scan# 806
 Delta R.T. 0.026 min
 Lab File: VL040013.D
 Acq: 13 Dec 2022 20:14

Tgt	Ion: 43	Resp:	347698
Ion	Ratio	Lower	Upper
43	100		
45	2.0	8.4	12.6#
61	1.1	8.5	12.7#
70	2.0	5.9	8.9#

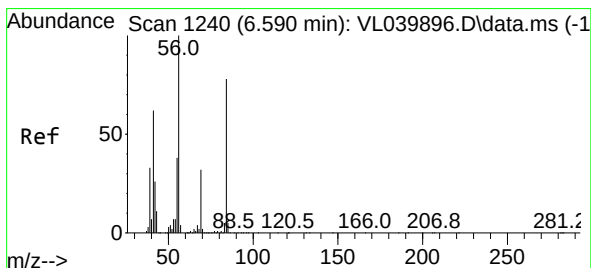
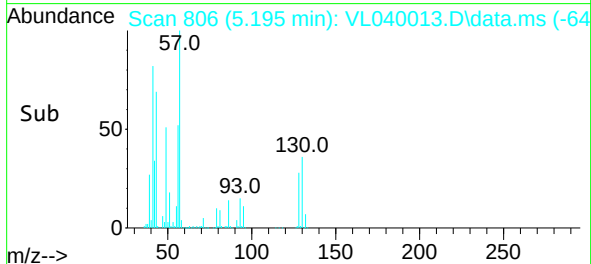
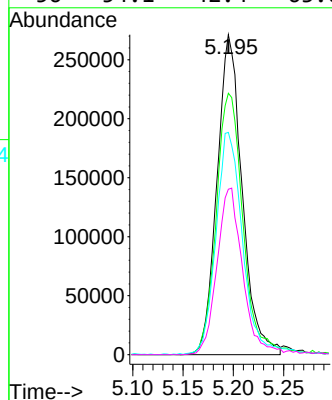
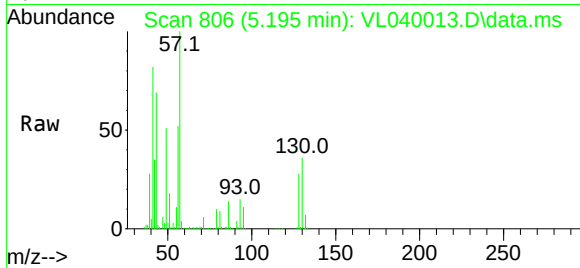




#26
Hexane
Concen: 4.311 ppbv
RT: 5.195 min Scan# 807
Delta R.T. 0.019 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

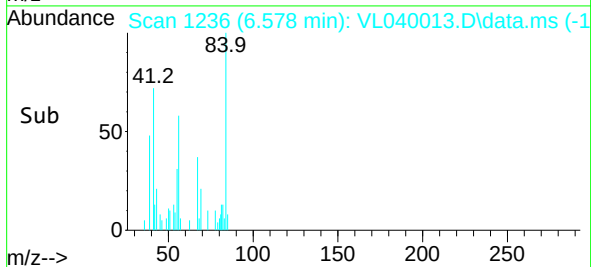
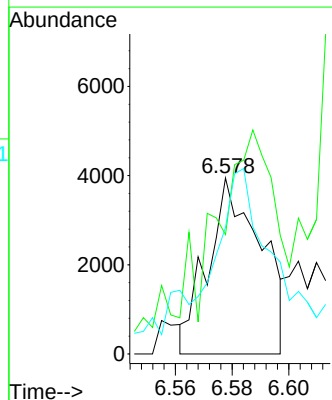
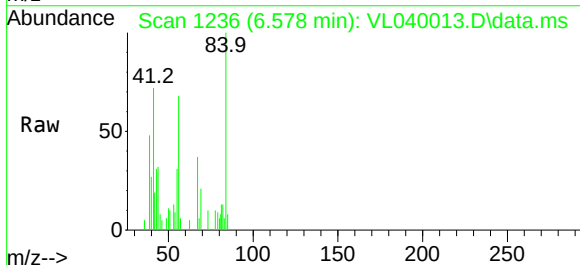
Instrument :
MSVOA_L
ClientSampleId :
IA-3

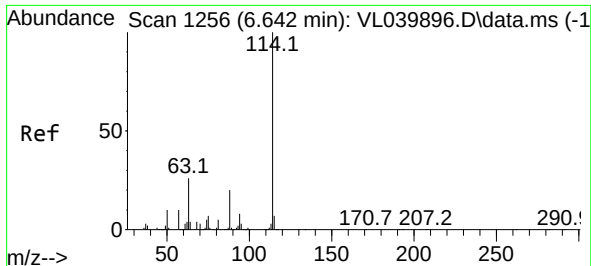
Tgt Ion: 57 Resp: 471451
Ion Ratio Lower Upper
57 100
41 88.6 72.3 108.5
43 74.9 188.7 283.1#
56 54.1 42.4 63.6



#30
Cyclohexane
Concen: 0.048 ppbv
RT: 6.578 min Scan# 1236
Delta R.T. 0.013 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 84 Resp: 5134
Ion Ratio Lower Upper
84 100
56 165.8 112.5 168.7
41 169.6 67.8 101.8#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 6.636 min Scan# 11

Delta R.T. 0.016 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

IA-3

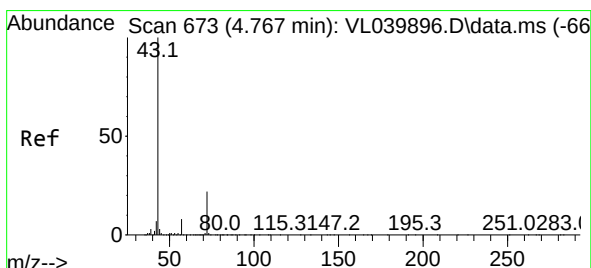
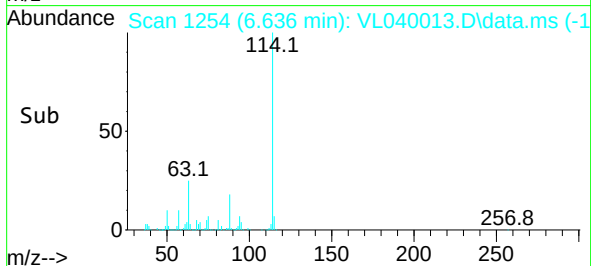
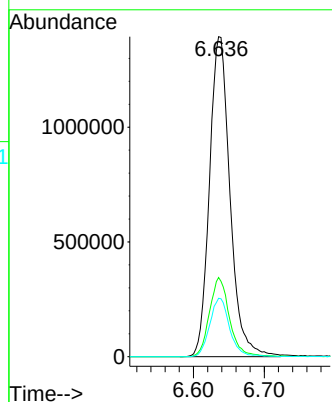
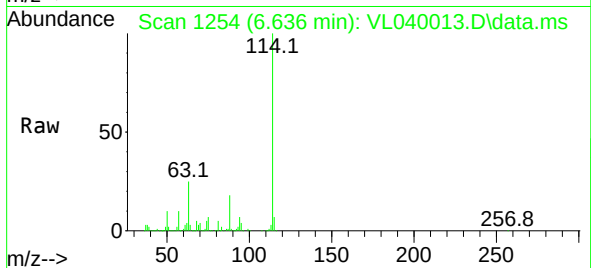
Tgt Ion:114 Resp: 2808713

Ion Ratio Lower Upper

114 100

63 24.3 21.4 32.0

88 17.8 15.3 22.9



#34

2-Butanone

Concen: 0.902 ppbv

RT: 4.777 min Scan# 676

Delta R.T. 0.026 min

Lab File: VL040013.D

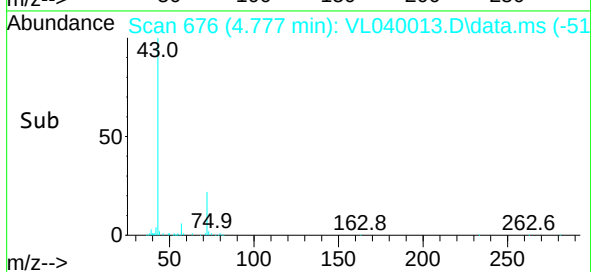
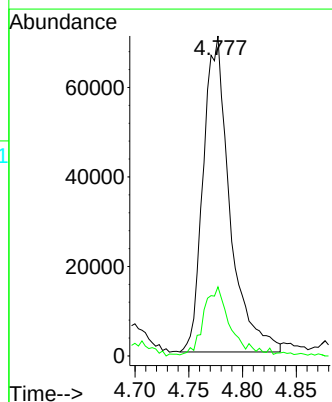
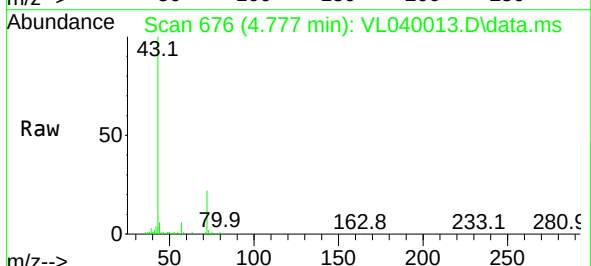
Acq: 13 Dec 2022 20:14

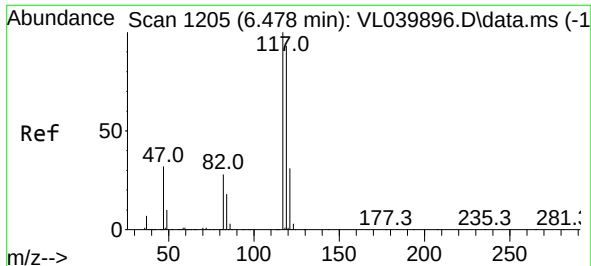
Tgt Ion: 43 Resp: 121242

Ion Ratio Lower Upper

43 100

72 23.7 17.4 26.2

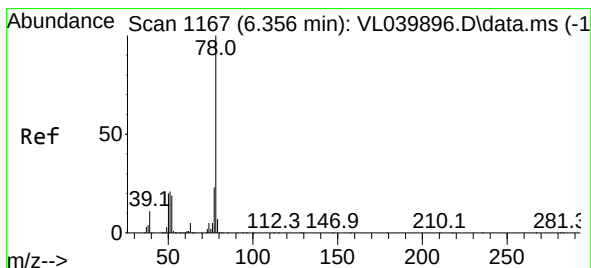
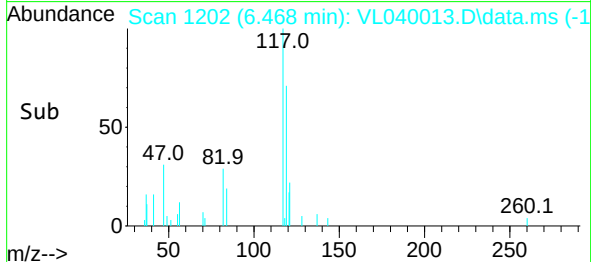
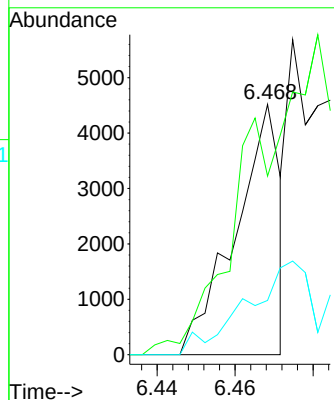
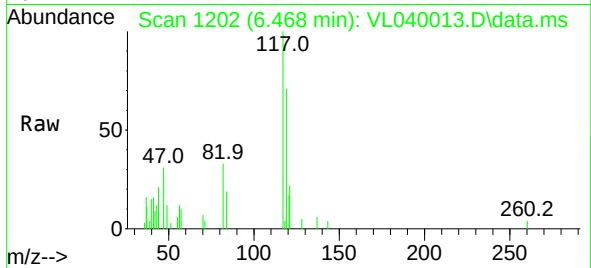




#35
Carbon Tetrachloride
Concen: 0.023 ppbv
RT: 6.468 min Scan# 1165
Delta R.T. 0.013 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

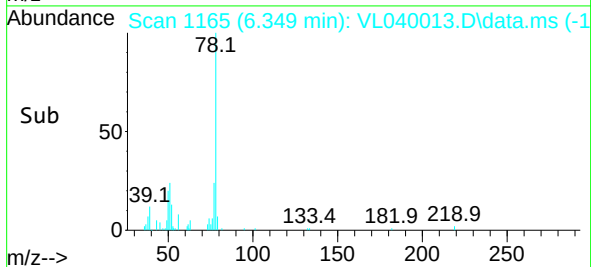
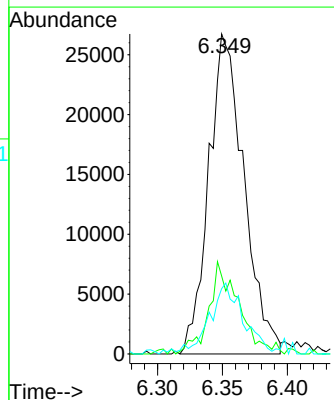
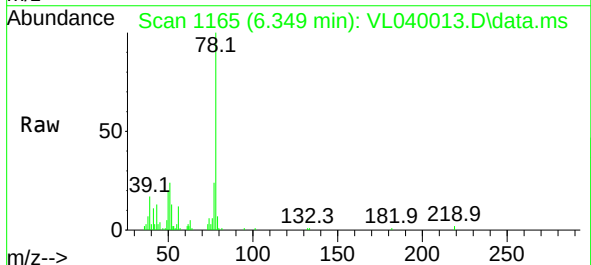
Instrument :
MSVOA_L
ClientSampleId :
IA-3

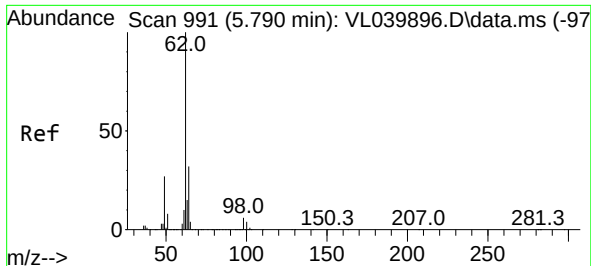
Tgt Ion:117 Resp: 3618
Ion Ratio Lower Upper
117 100
119 66.9 74.7 112.1#
121 21.7 24.5 36.7#



#36
Benzene
Concen: 0.211 ppbv
RT: 6.349 min Scan# 1165
Delta R.T. 0.016 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 78 Resp: 50377
Ion Ratio Lower Upper
78 100
77 23.6 18.2 27.2
50 19.3 15.8 23.8





#37

1,2-Dichloroethane

Concen: 0.062 ppbv

RT: 5.787 min Scan# 991

Delta R.T. 0.019 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

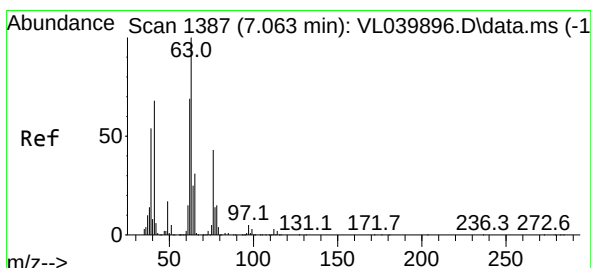
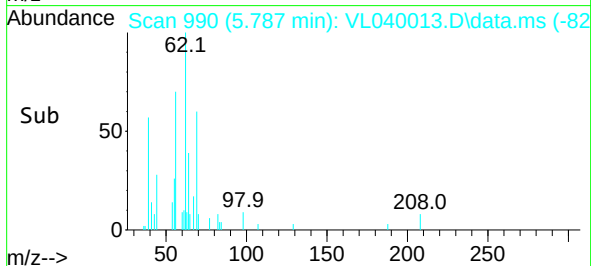
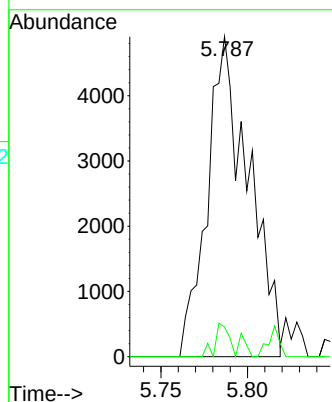
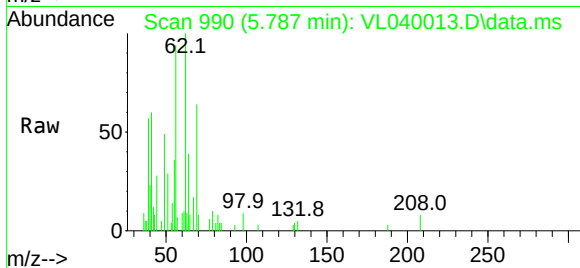
IA-3

Tgt Ion: 62 Resp: 8147

Ion Ratio Lower Upper

62 100

98 7.2 5.0 7.6



#39

1,2-Dichloropropane

Concen: 7.184 ppbv

RT: 6.636 min Scan# 1254

Delta R.T. -0.398 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

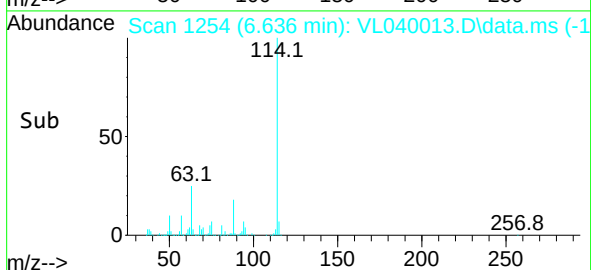
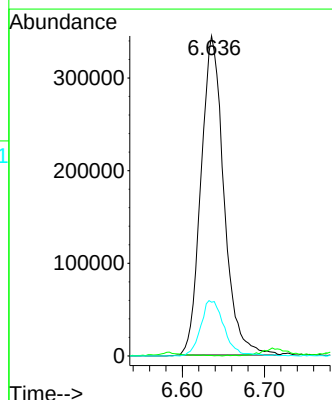
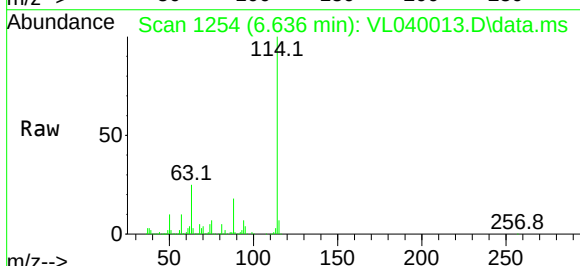
Tgt Ion: 63 Resp: 668253

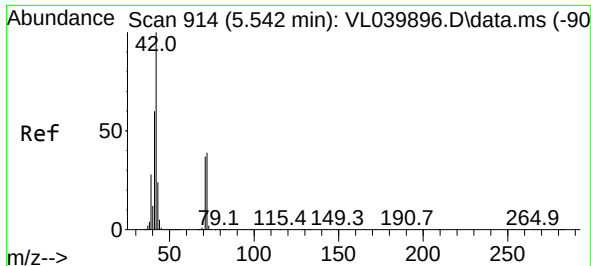
Ion Ratio Lower Upper

63 100

41 0.0 54.7 82.1#

62 16.9 55.0 82.6#

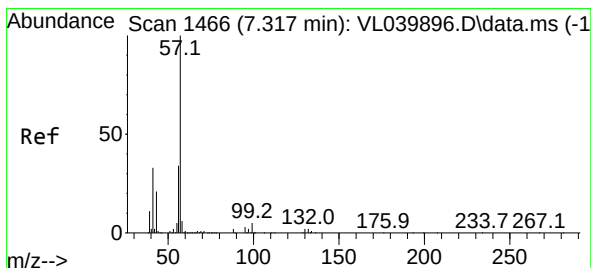
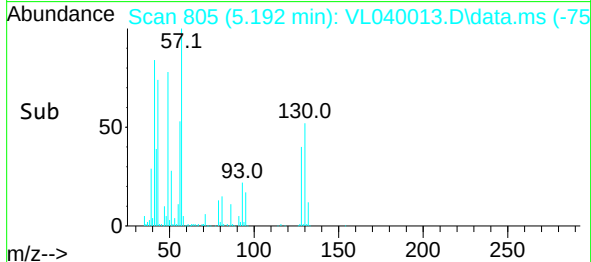
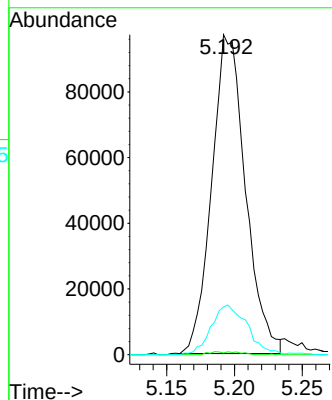
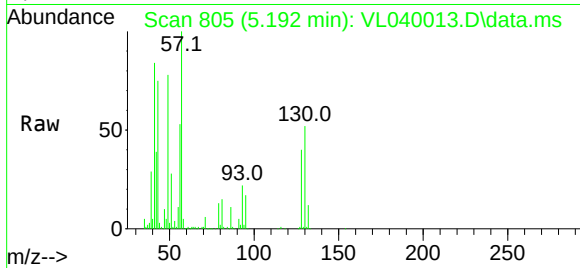




#41
Tetrahydrofuran
Concen: 1.806 ppbv
RT: 5.192 min Scan# 80
Delta R.T. -0.328 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

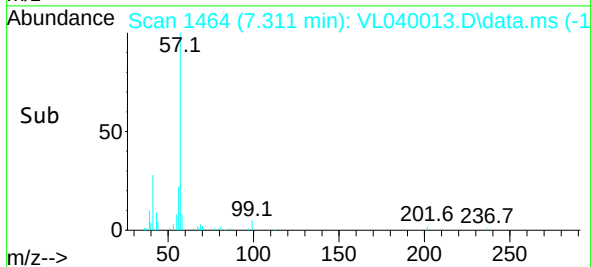
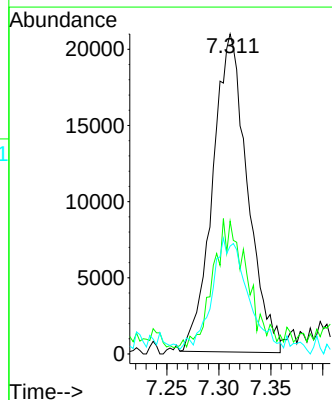
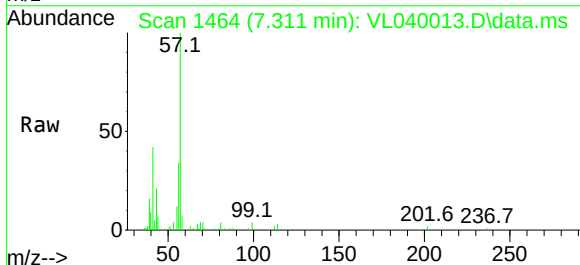
Instrument :
MSVOA_L
ClientSampleId :
IA-3

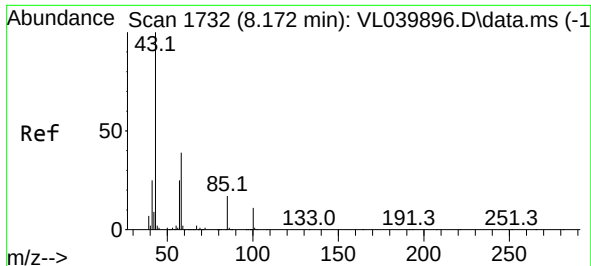
Tgt Ion: 42 Resp: 167585
Ion Ratio Lower Upper
42 100
72 0.8 31.6 47.4#
71 17.0 31.2 46.8#



#44
2,2,4-Trimethylpentane
Concen: 0.122 ppbv
RT: 7.311 min Scan# 1464
Delta R.T. 0.020 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 57 Resp: 48609
Ion Ratio Lower Upper
57 100
41 49.1 26.2 39.2#
56 40.8 25.5 38.3#





#50

4-Methyl-2-Pentanone

Concen: 0.026 ppbv

RT: 8.166 min Scan# 1

Delta R.T. 0.019 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

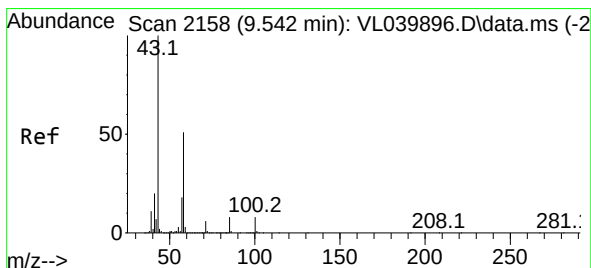
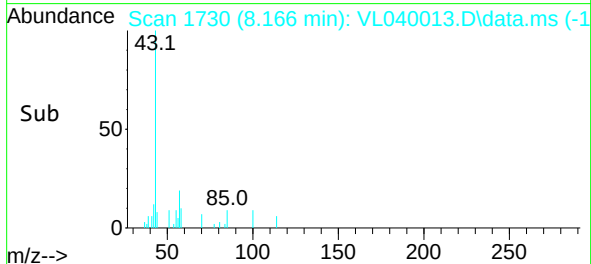
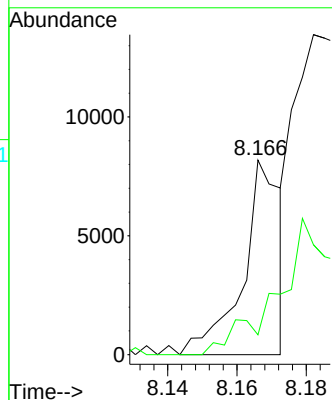
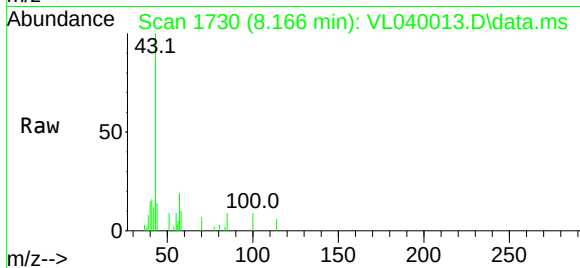
IA-3

Tgt Ion: 43 Resp: 6158

Ion Ratio Lower Upper

43 100

58 0.0 29.8 44.6#



#51

2-Hexanone

Concen: 0.229 ppbv

RT: 9.549 min Scan# 2160

Delta R.T. 0.032 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

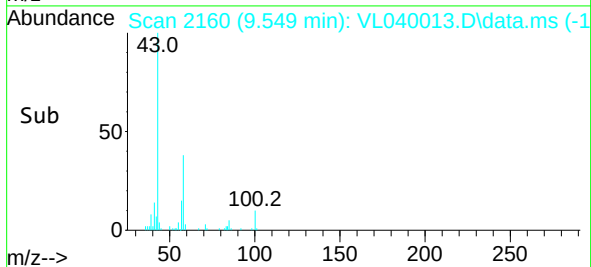
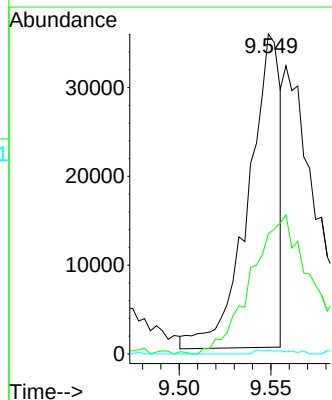
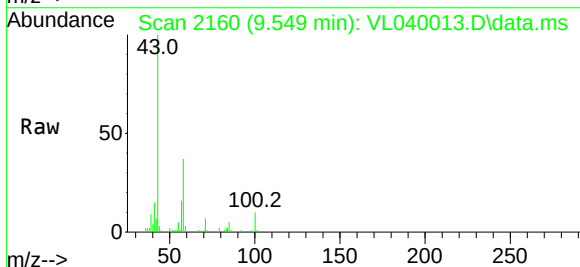
Tgt Ion: 43 Resp: 42749

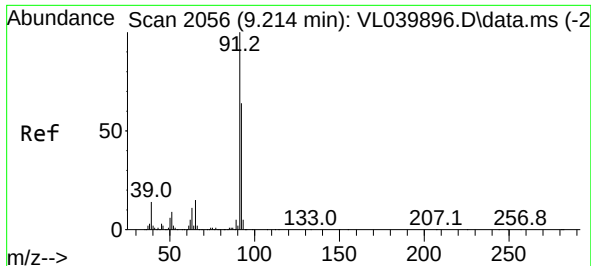
Ion Ratio Lower Upper

43 100

58 0.0 40.2 60.4#

98 1.6 0.1 0.1#





#53

Toluene

Concen: 0.626 ppbv

RT: 9.205 min Scan# 2053

Delta R.T. 0.019 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

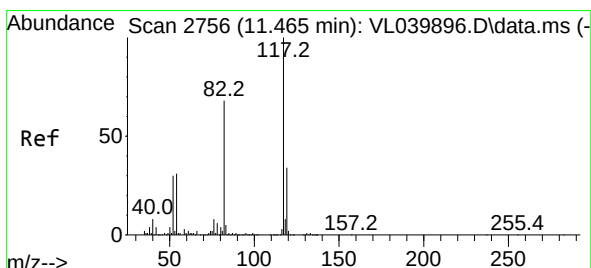
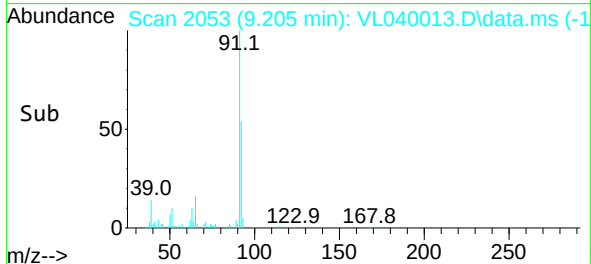
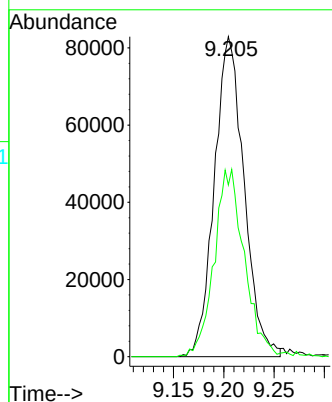
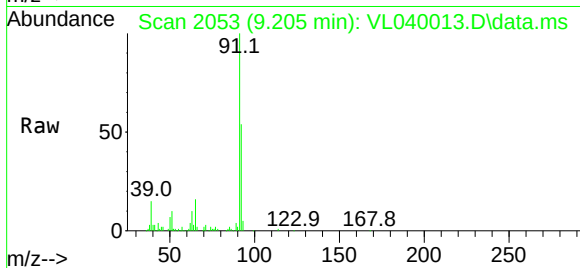
IA-3

Tgt Ion: 91 Resp: 170202

Ion Ratio Lower Upper

91 100

92 60.4 49.8 74.6



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 11.452 min Scan# 2752

Delta R.T. 0.019 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

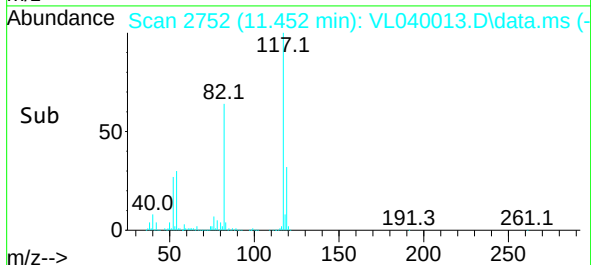
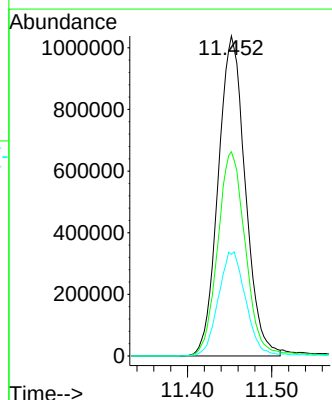
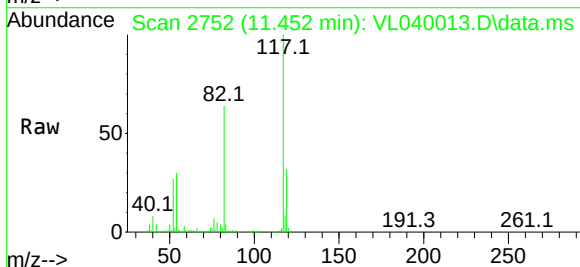
Tgt Ion: 117 Resp: 2318797

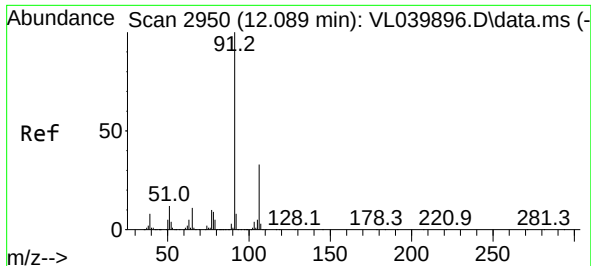
Ion Ratio Lower Upper

117 100

82 65.8 52.3 78.5

119 33.5 25.7 38.5





#58

Ethyl Benzene

Concen: 0.033 ppbv

RT: 12.073 min Scan# 2945

Delta R.T. 0.016 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

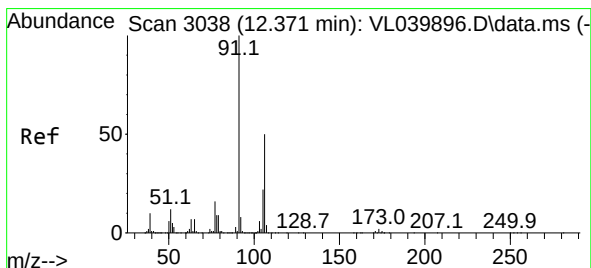
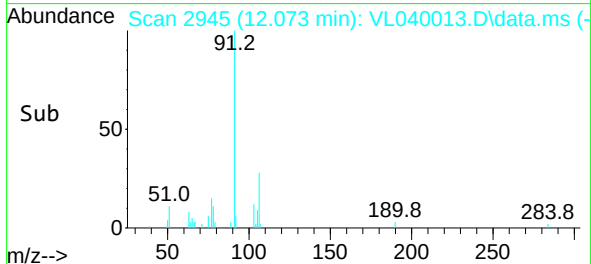
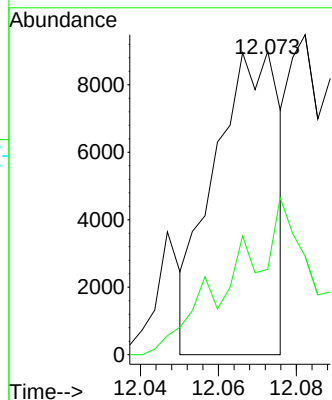
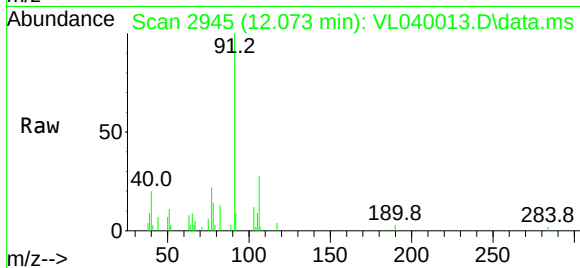
IA-3

Tgt Ion: 91 Resp: 10401

Ion Ratio Lower Upper

91 100

106 28.9 26.1 39.1



#59

m/p-Xylene

Concen: 0.042 ppbv

RT: 12.352 min Scan# 3032

Delta R.T. 0.013 min

Lab File: VL040013.D

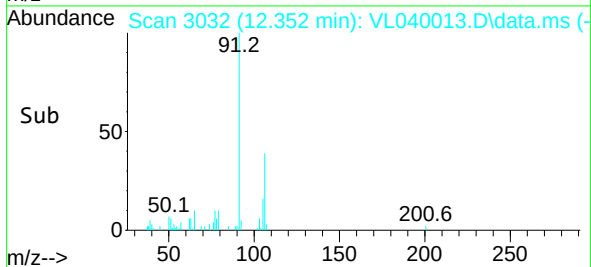
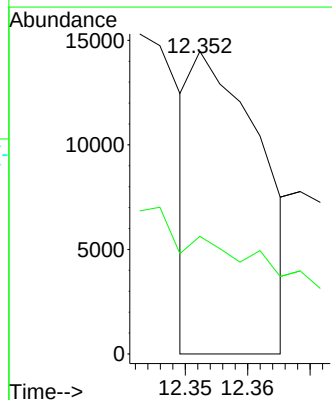
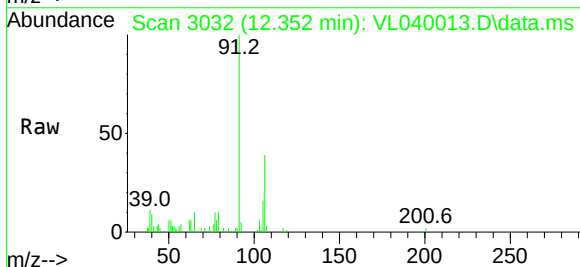
Acq: 13 Dec 2022 20:14

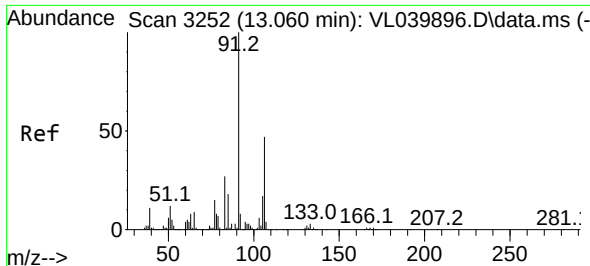
Tgt Ion: 91 Resp: 11061

Ion Ratio Lower Upper

91 100

106 0.0 37.0 55.6#

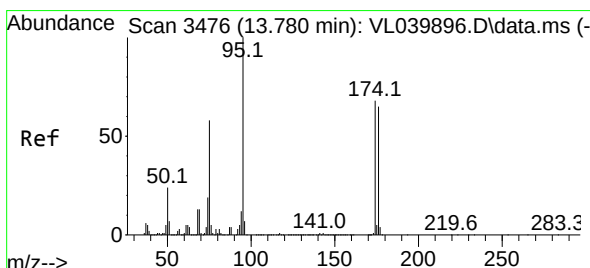
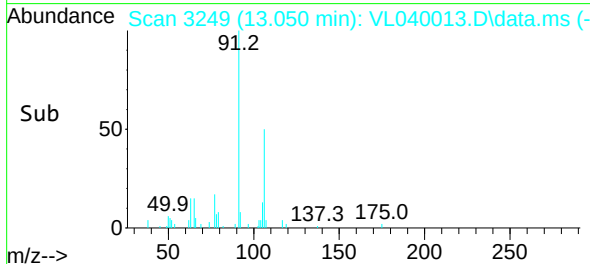
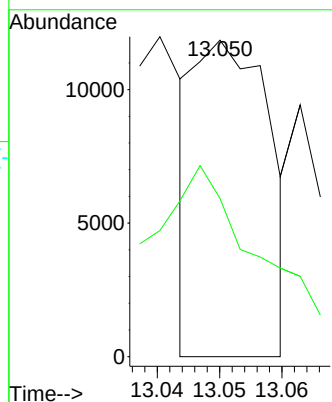
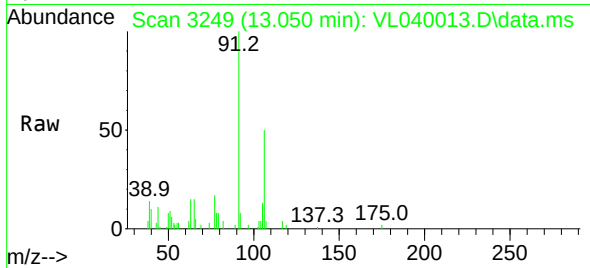




#60
o-Xylene
Concen: 0.039 ppbv
RT: 13.050 min Scan# 31
Delta R.T. 0.023 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

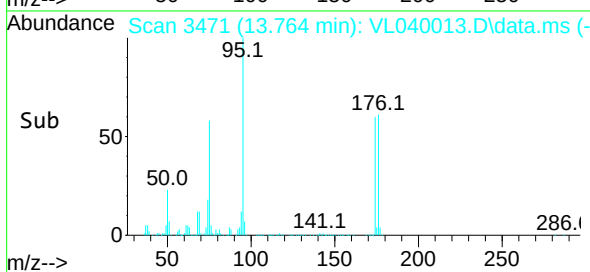
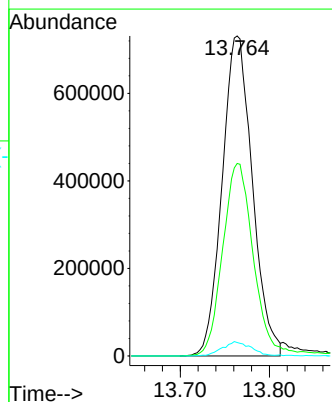
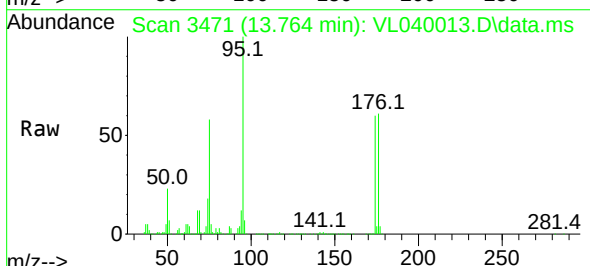
Instrument :
MSVOA_L
ClientSampleId :
IA-3

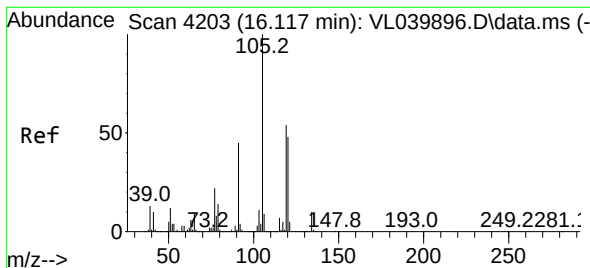
Tgt Ion: 91 Resp: 9892
Ion Ratio Lower Upper
91 100
106 136.9 23.2 69.6#



#68
1-Bromo-4-Fluorobenzene
Concen: 9.741 ppbv
RT: 13.764 min Scan# 3471
Delta R.T. 0.023 min
Lab File: VL040013.D
Acq: 13 Dec 2022 20:14

Tgt Ion: 95 Resp: 1725303
Ion Ratio Lower Upper
95 100
174 62.5 53.7 80.5
175 4.5 4.0 6.0





#74

1,2,4-Trimethylbenzene

Concen: 0.025 ppbv

RT: 16.101 min Scan# 41

Delta R.T. 0.026 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Instrument :

MSVOA_L

ClientSampleId :

IA-3

Tgt Ion:105 Resp: 6733

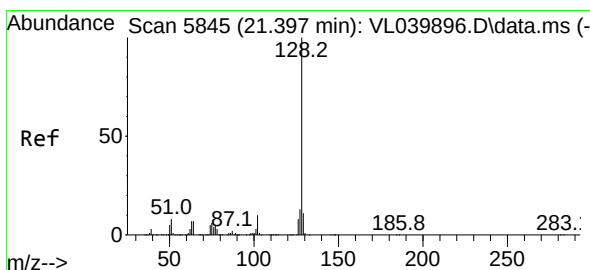
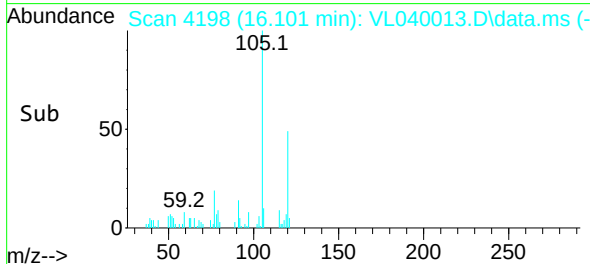
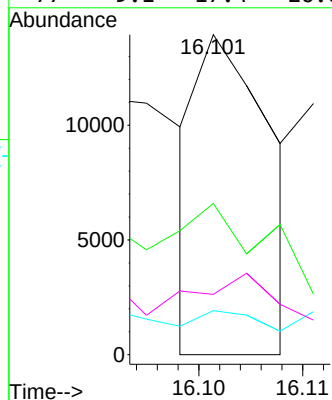
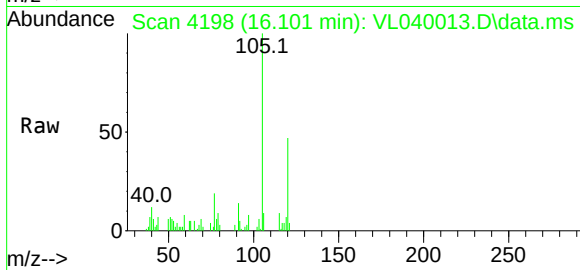
Ion Ratio Lower Upper

105 100

120 24.9 38.7 58.1#

91 18.8 36.4 54.6#

77 9.1 17.4 26.0#



#79

Naphthalene

Concen: 0.045 ppbv

RT: 21.381 min Scan# 5840

Delta R.T. 0.032 min

Lab File: VL040013.D

Acq: 13 Dec 2022 20:14

Tgt Ion:128 Resp: 7418

Ion Ratio Lower Upper

128 100

127 0.0 10.0 15.0#

129 1.9 8.8 13.2#

