

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL040425\
 Data File : VL042221.D
 Acq On : 04 Apr 2025 12:46
 Operator : SY/MD
 Sample : Q1691-01
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA2R

Quant Time: Apr 05 02:02:15 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL032725AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Fri Mar 28 02:00:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

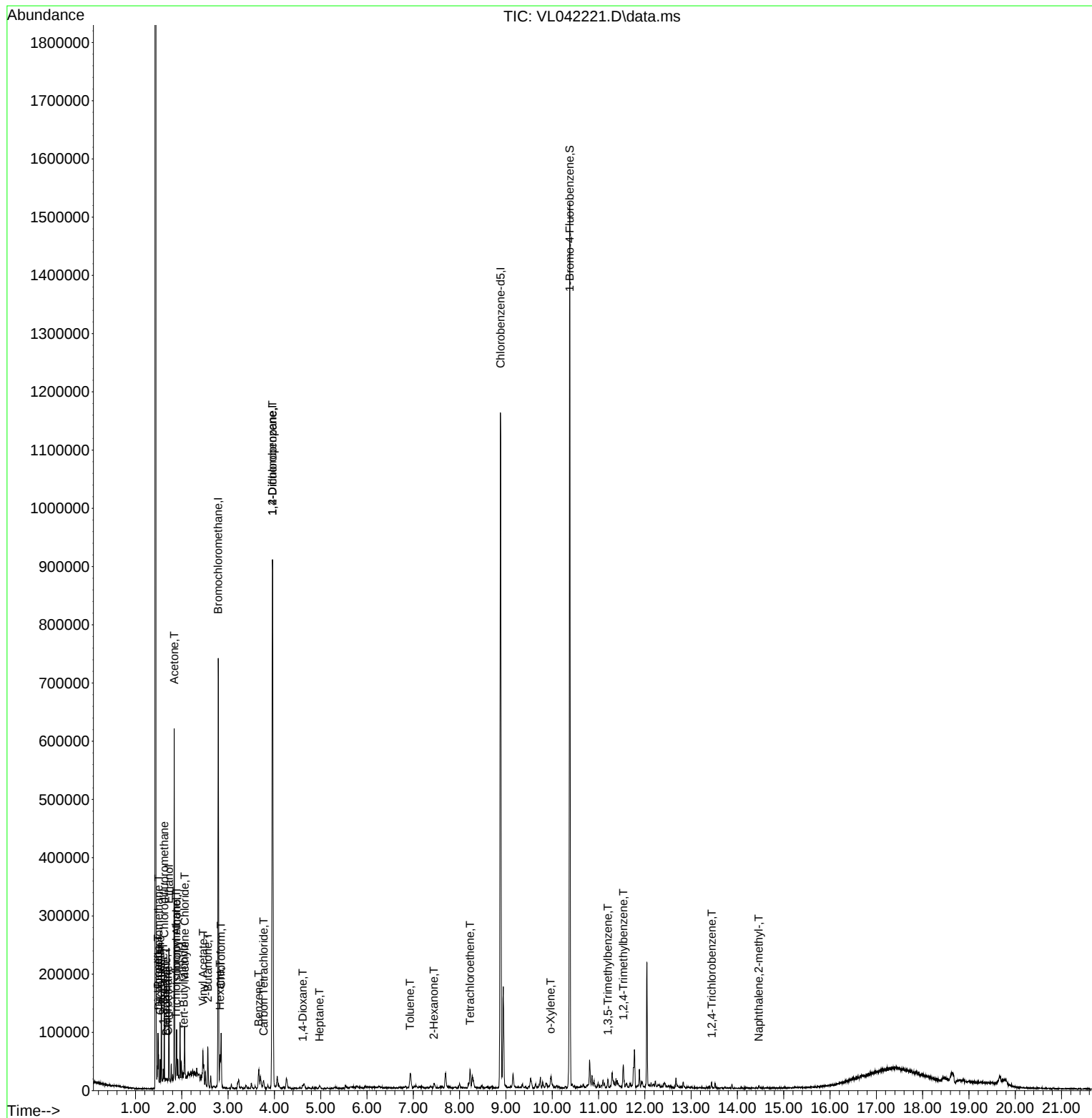
Internal Standards						
1) Bromochloromethane	2.787	49	193944	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.959	114	537035	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.882	117	465935	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.377	95	376164	9.831	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	98.300%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.499	85	11605	0.405	ppbv	98
3) Chlorodifluoromethane	1.619	51	1862	0.064	ppbv	94
4) Chloromethane	1.531	50	10930	0.934	ppbv	93
6) Bromomethane	1.667	94	192	0.036	ppbv #	78
7) Chloroethane	1.703	64	311	0.066	ppbv	94
9) Propene	1.486	41	7450	0.556	ppbv	91
10) Heptane	4.972	43	1204	0.034	ppbv #	28
11) Trichlorofluoromethane	1.878	101	5737	0.206	ppbv	97
13) Ethanol	1.722	45	80750	63.706	ppbv	80
15) Acetone	1.835	43	257627	9.498	ppbv	96
16) 1,3-Butadiene	1.599	39	2613	0.197	ppbv #	67
17) tert-Butyl alcohol	2.043	59	2638	0.078	ppbv #	1
19) Isopropyl Alcohol	1.887	45	34632	2.263	ppbv #	1
20) Methylene Chloride	2.062	84	12311	1.219	ppbv	94
23) Vinyl Acetate	2.457	43	40317	3.434	ppbv #	85
26) Hexane	2.826	57	12176	0.448	ppbv #	44
29) Chloroform	2.849	83	32593	0.819	ppbv	97
34) 2-Butanone	2.560	43	42115	1.081	ppbv	99
35) Carbon Tetrachloride	3.768	117	4336	0.103	ppbv #	71
36) Benzene	3.661	78	9622	0.181	ppbv	98
39) 1,2-Dichloropropane	3.959	63	138044	7.120	ppbv #	24
40) 1,4-Dioxane	4.609	88	1439	0.140	ppbv #	1
51) 2-Hexanone	7.445	43	2105	0.042	ppbv #	28
52) Tetrachloroethene	8.225	164	4611	0.218	ppbv #	85
53) Toluene	6.930	91	17579	0.279	ppbv	99
60) o-Xylene	9.966	91	4524	0.068	ppbv	100
73) 1,3,5-Trimethylbenzene	11.202	105	4034	0.056	ppbv	94
74) 1,2,4-Trimethylbenzene	11.536	105	9762	0.118	ppbv #	69
80) Naphthalene,2-methyl-	14.458	142	1484	0.033	ppbv #	95
81) 1,2,4-Trichlorobenzene	13.445	180	1813	0.043	ppbv	92

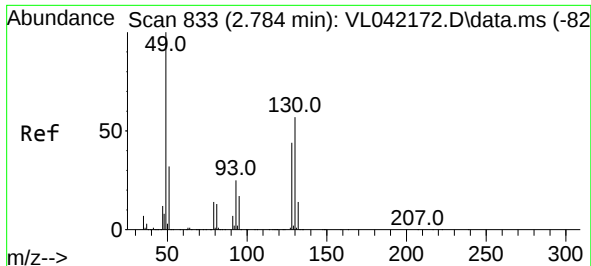
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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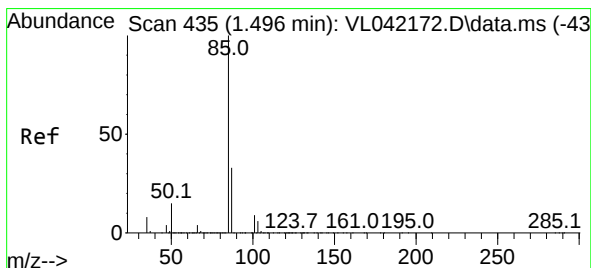
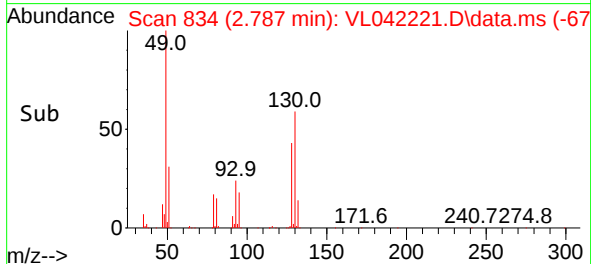
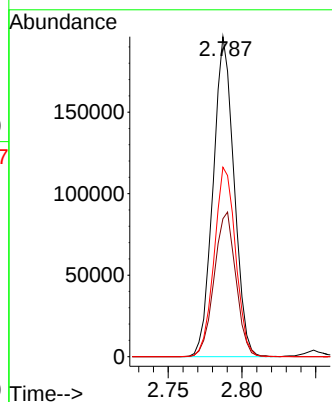
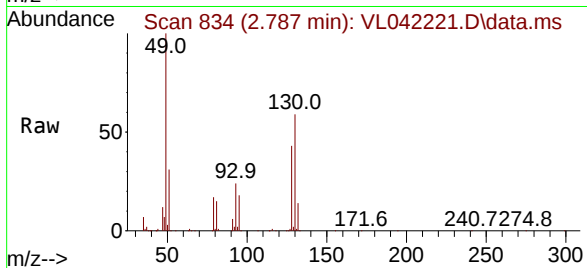




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.787 min Scan# 834
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

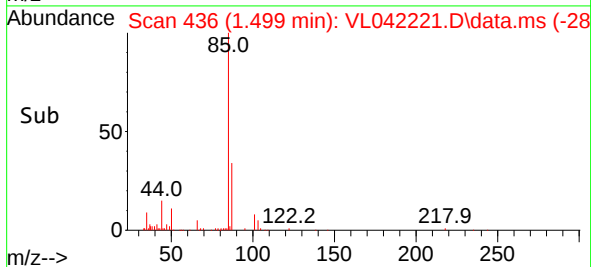
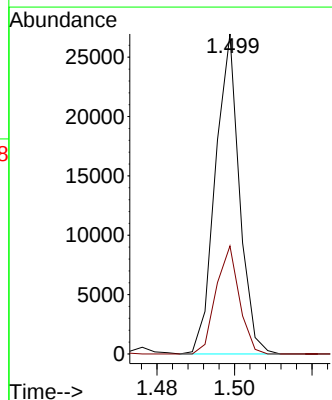
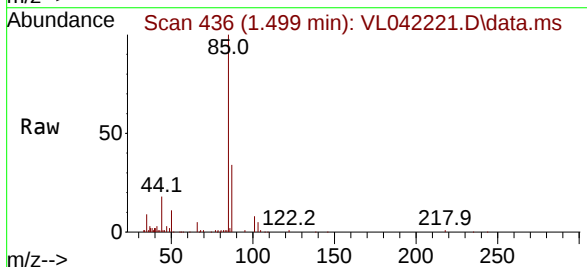
Instrument :
MSVOA_L
ClientSampleId :
IA2R

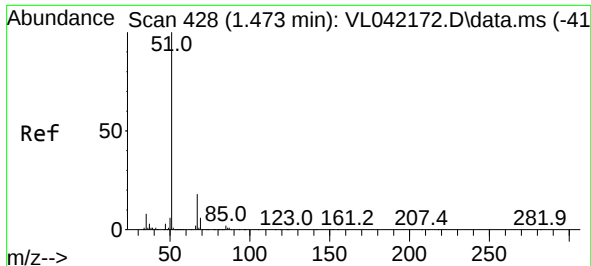
Tgt Ion: 49 Resp: 193944
Ion Ratio Lower Upper
49 100
128 46.8 22.9 68.5
130 60.5 28.8 86.4



#2
Dichlorodifluoromethane
Concen: 0.405 ppbv
RT: 1.499 min Scan# 436
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 85 Resp: 11605
Ion Ratio Lower Upper
85 100
87 33.8 26.1 39.1

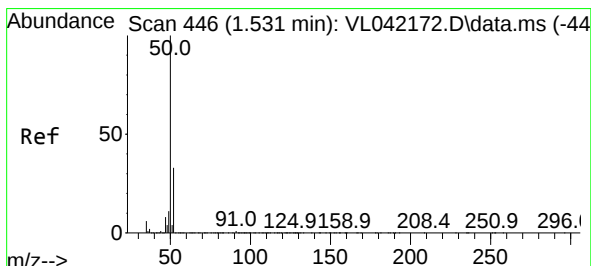
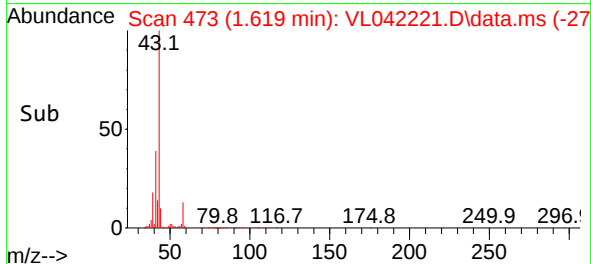
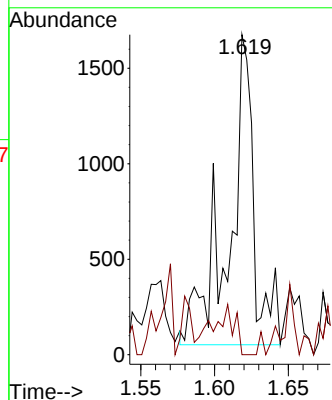
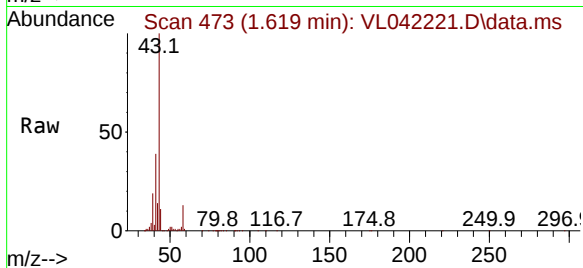




#3
Chlorodifluoromethane
Concen: 0.064 ppbv
RT: 1.619 min Scan# 41
Delta R.T. 0.145 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

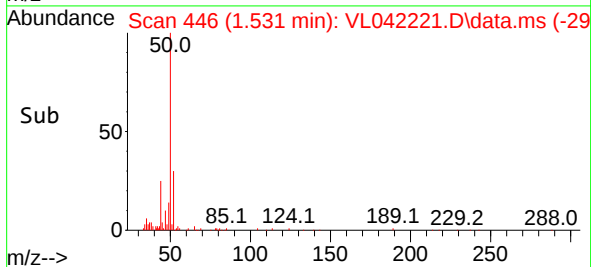
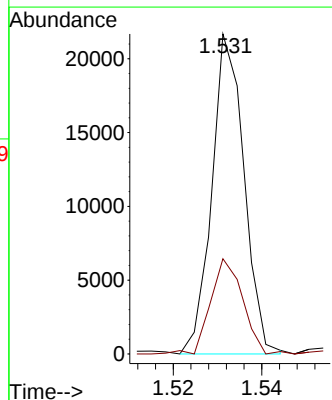
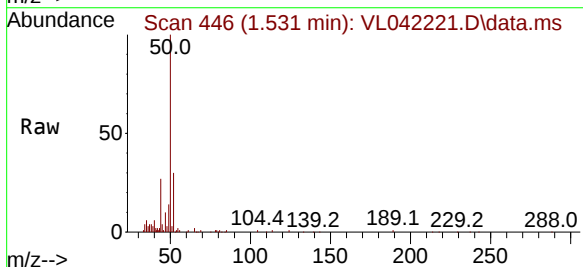
Instrument :
MSVOA_L
ClientSampleId :
IA2R

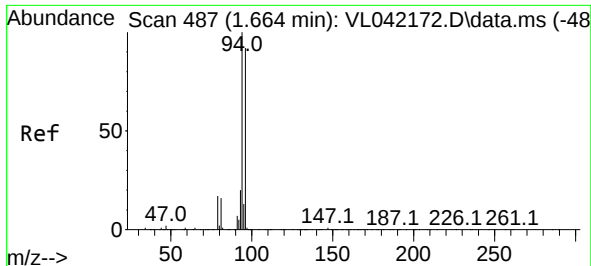
Tgt Ion: 51 Resp: 1862
Ion Ratio Lower Upper
51 100
67 16.2 15.0 22.6



#4
Chloromethane
Concen: 0.934 ppbv
RT: 1.531 min Scan# 446
Delta R.T. -0.000 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 50 Resp: 10930
Ion Ratio Lower Upper
50 100
52 28.7 26.1 39.1

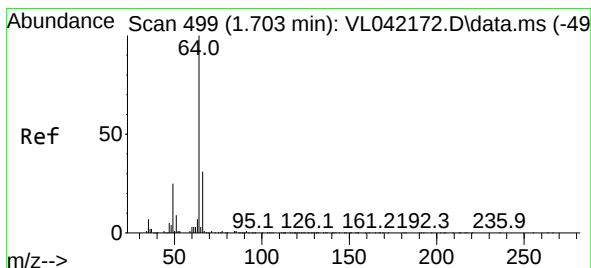
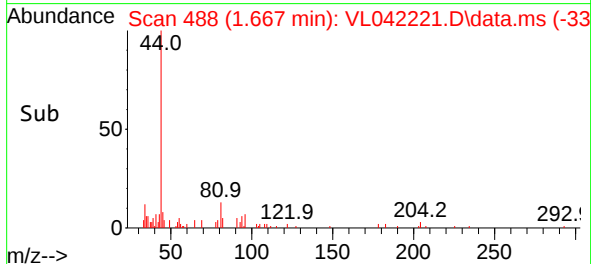
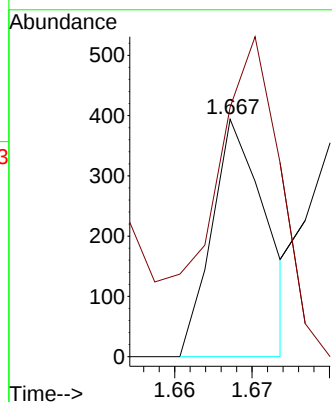
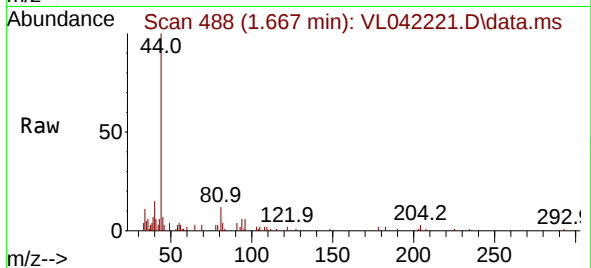




#6
Bromomethane
Concen: 0.036 ppbv
RT: 1.667 min Scan# 488
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

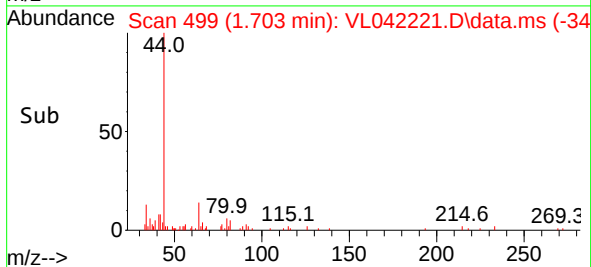
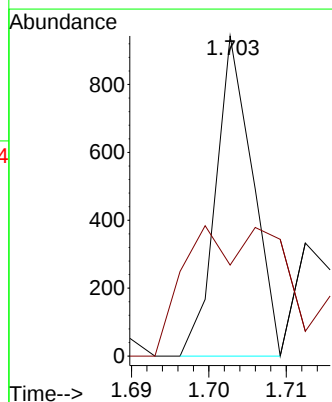
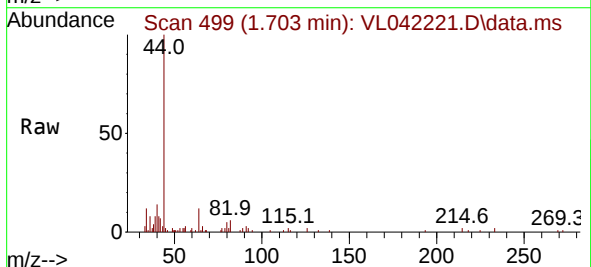
Instrument :
MSVOA_L
ClientSampleId :
IA2R

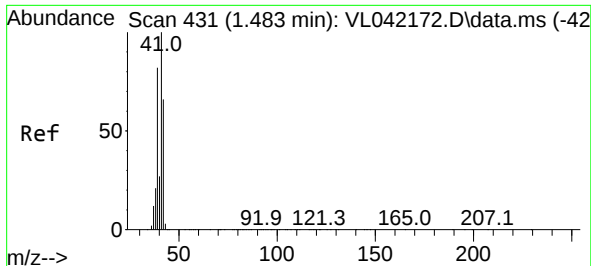
Tgt Ion: 94 Resp: 192
Ion Ratio Lower Upper
94 100
96 70.3 73.1 109.7#



#7
Chloroethane
Concen: 0.066 ppbv
RT: 1.703 min Scan# 499
Delta R.T. -0.000 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 64 Resp: 311
Ion Ratio Lower Upper
64 100
66 28.4 25.2 37.8





#9

Propene

Concen: 0.556 ppbv

RT: 1.486 min Scan# 41

Delta R.T. 0.003 min

Lab File: VL042221.D

Acq: 04 Apr 2025 12:46

Instrument :

MSVOA_L

ClientSampleId :

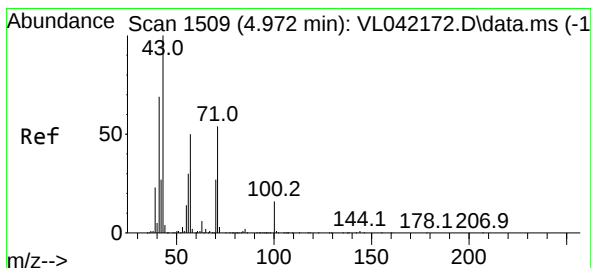
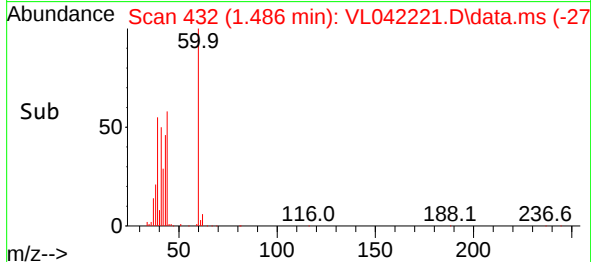
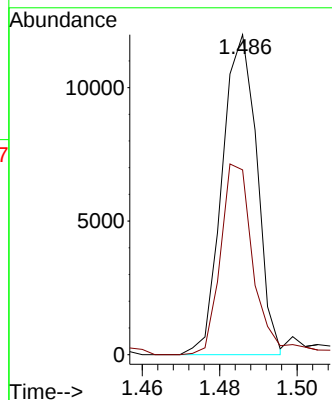
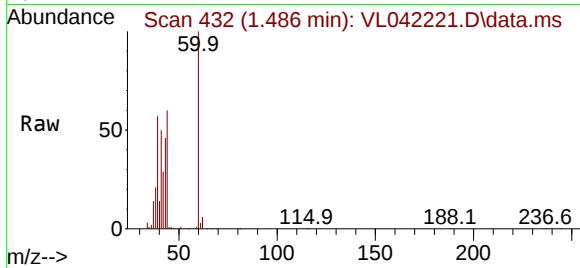
IA2R

Tgt Ion: 41 Resp: 7450

Ion Ratio Lower Upper

41 100

42 61.9 55.4 83.2



#10

Heptane

Concen: 0.034 ppbv

RT: 4.972 min Scan# 1509

Delta R.T. -0.000 min

Lab File: VL042221.D

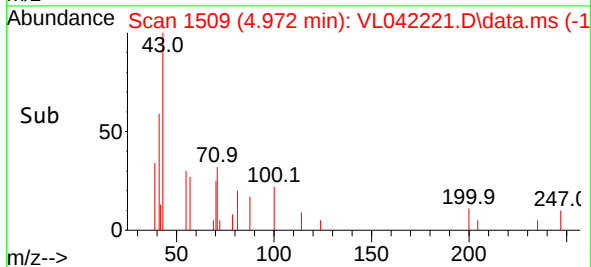
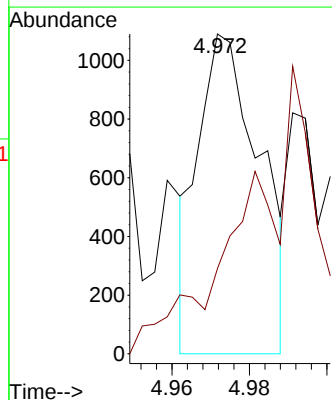
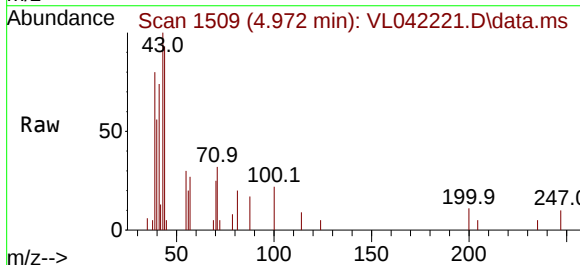
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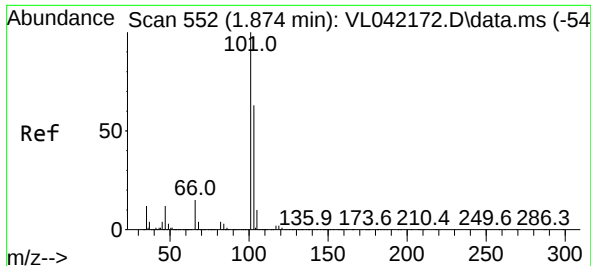
Tgt Ion: 43 Resp: 1204

Ion Ratio Lower Upper

43 100

57 0.0 39.4 59.2#

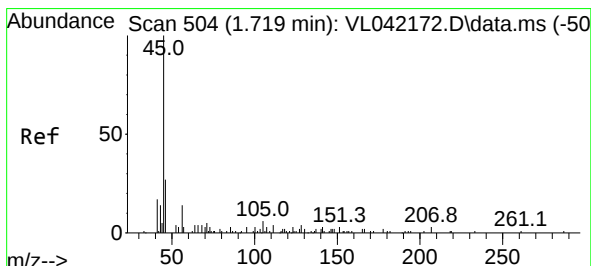
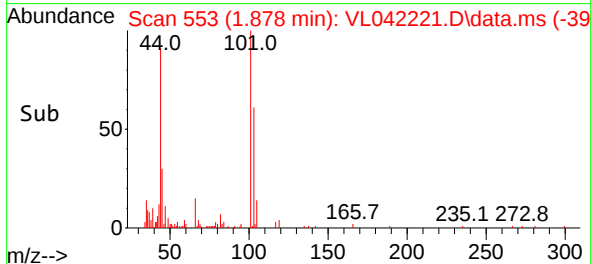
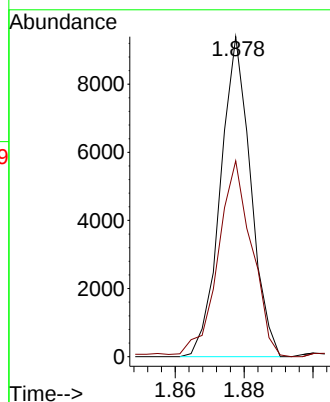
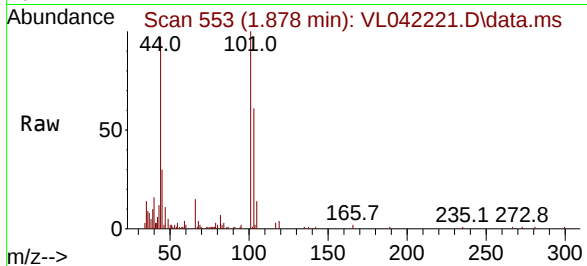




#11
Trichlorofluoromethane
Concen: 0.206 ppbv
RT: 1.878 min Scan# 51
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

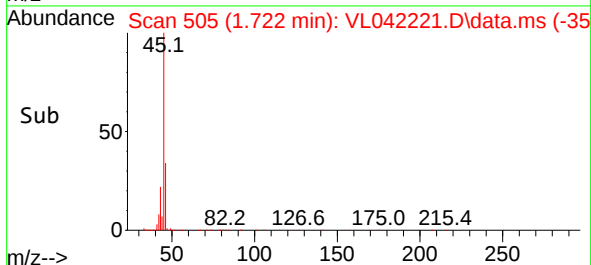
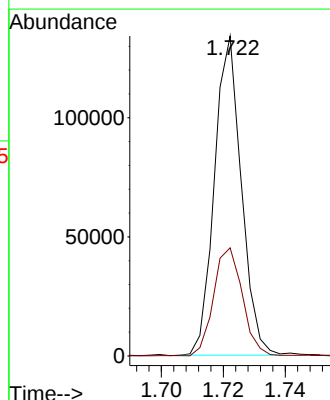
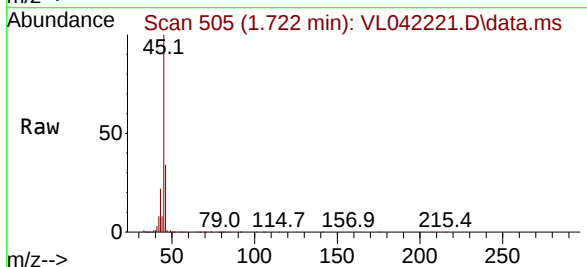
Instrument :
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ClientSampleId :
IA2R

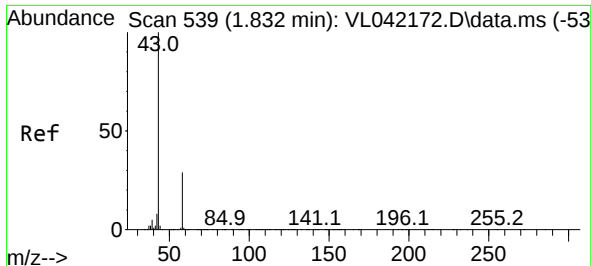
Tgt Ion:101 Resp: 5737
Ion Ratio Lower Upper
101 100
103 60.7 50.2 75.2



#13
Ethanol
Concen: 63.706 ppbv
RT: 1.722 min Scan# 505
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 45 Resp: 80750
Ion Ratio Lower Upper
45 100
46 36.5 20.2 80.8

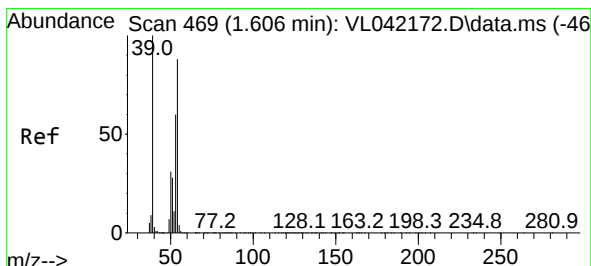
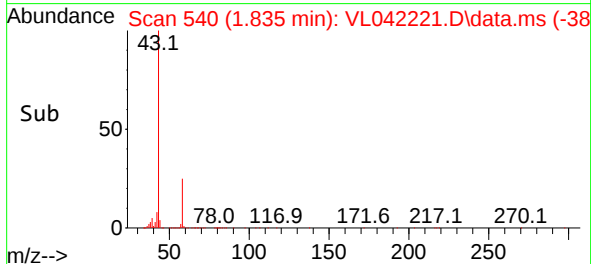
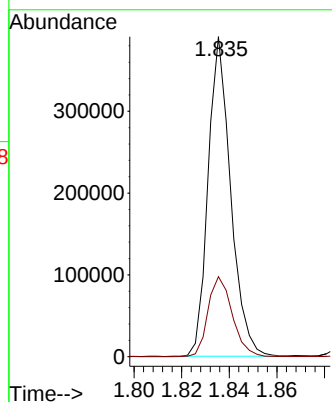
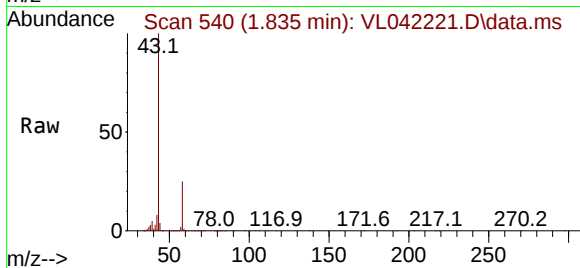




#15
Acetone
Concen: 9.498 ppbv
RT: 1.835 min Scan# 54
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

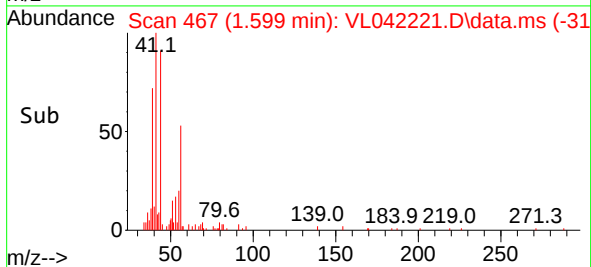
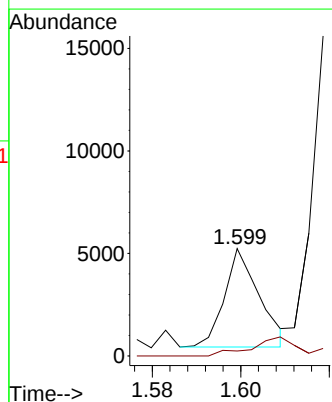
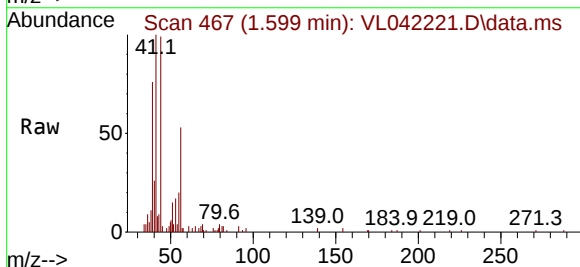
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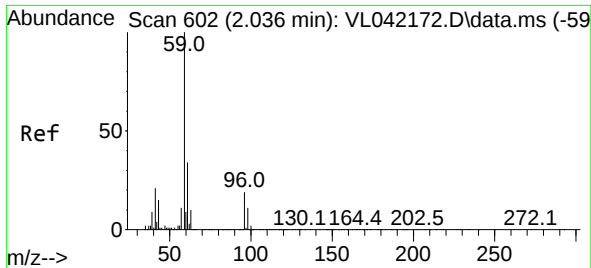
Tgt Ion: 43 Resp: 257627
Ion Ratio Lower Upper
43 100
58 27.0 23.2 34.8



#16
1,3-Butadiene
Concen: 0.197 ppbv
RT: 1.599 min Scan# 467
Delta R.T. -0.007 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 39 Resp: 2613
Ion Ratio Lower Upper
39 100
54 47.2 60.7 91.1#

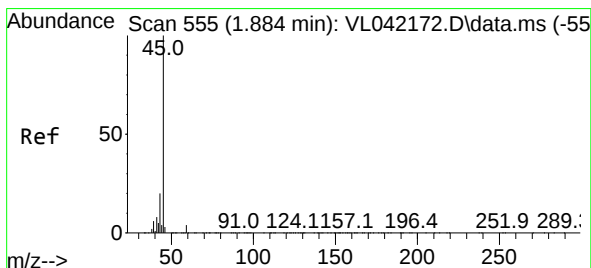
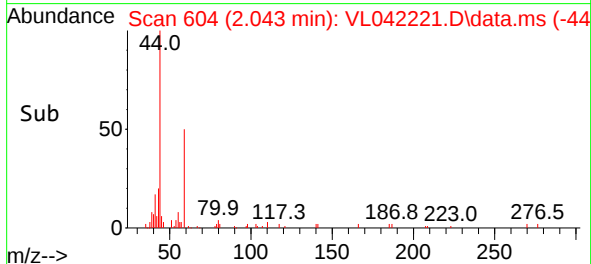
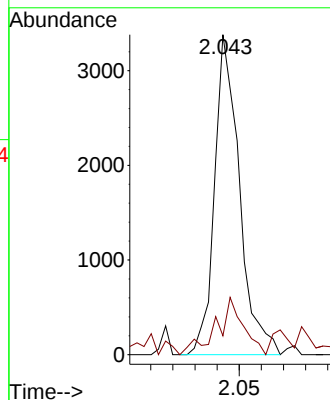
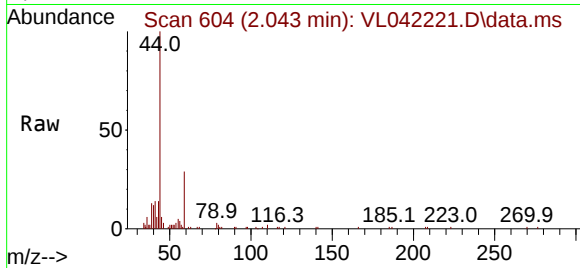




#17
tert-Butyl alcohol
Concen: 0.078 ppbv
RT: 2.043 min Scan# 602
Delta R.T. 0.006 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

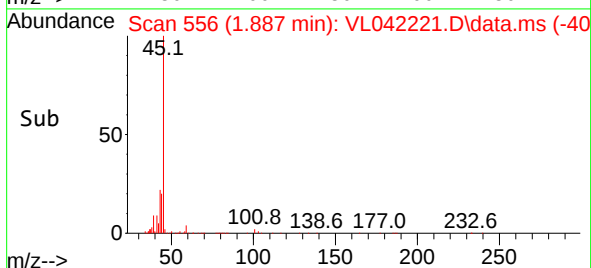
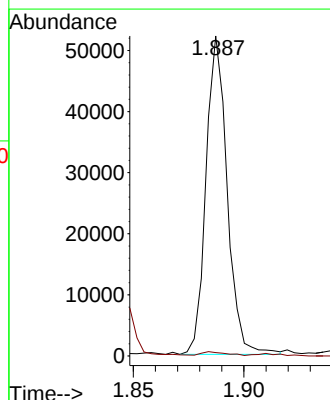
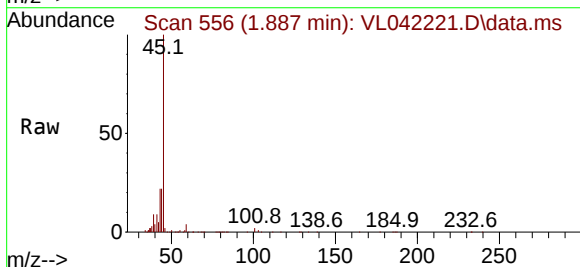
Instrument :
MSVOA_L
ClientSampleId :
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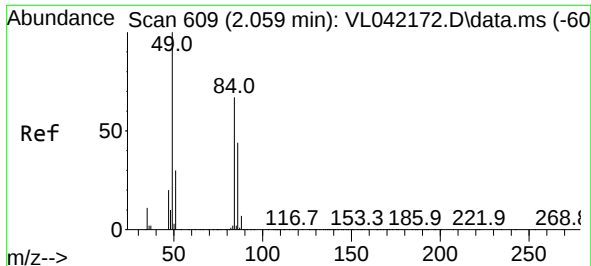
Tgt Ion: 59 Resp: 2638
Ion Ratio Lower Upper
59 100
57 74.5 8.9 13.3#



#19
Isopropyl Alcohol
Concen: 2.263 ppbv
RT: 1.887 min Scan# 556
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 45 Resp: 34632
Ion Ratio Lower Upper
45 100
58 200.7 36.9 55.3#



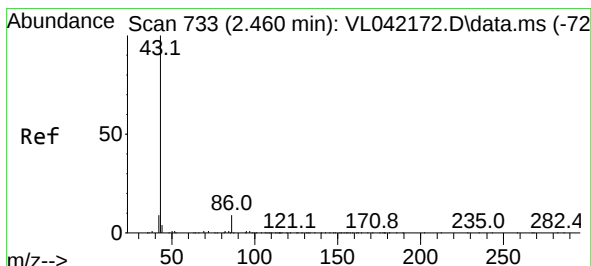
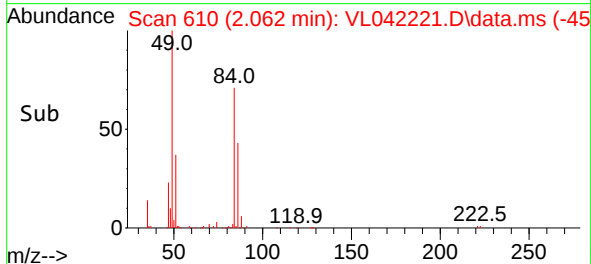
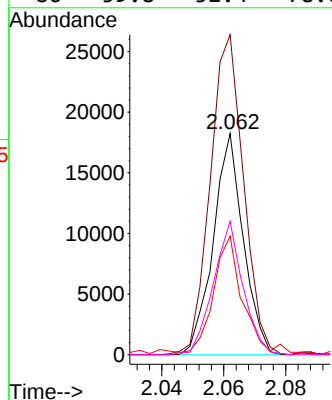
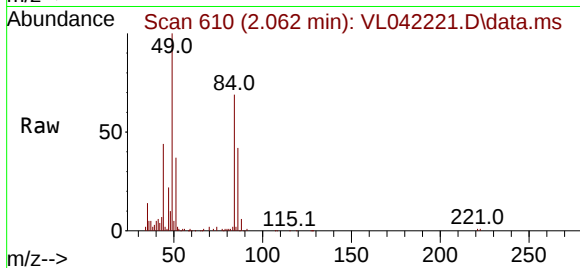


#20
Methylene Chloride
Concen: 1.219 ppbv
RT: 2.062 min Scan# 610
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Instrument :
MSVOA_L
ClientSampleId :
IA2R

Tgt Ion: 84 Resp: 12311

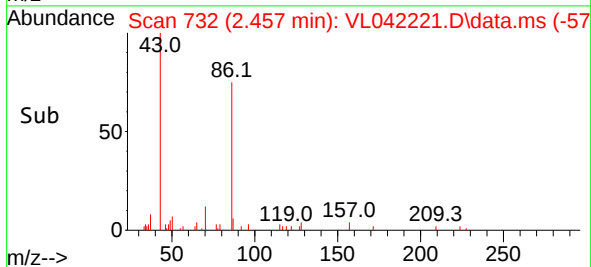
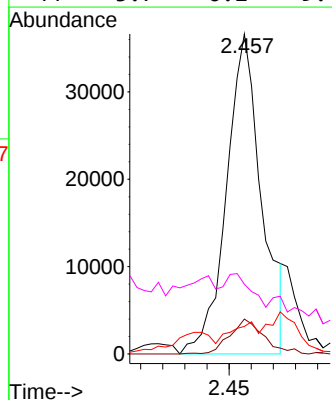
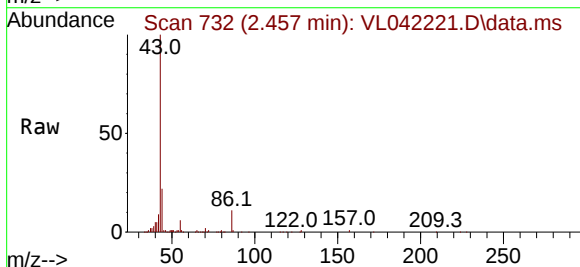
Ion	Ratio	Lower	Upper
84	100		
49	144.2	120.2	180.4
51	52.6	37.4	56.0
86	59.8	52.4	78.6

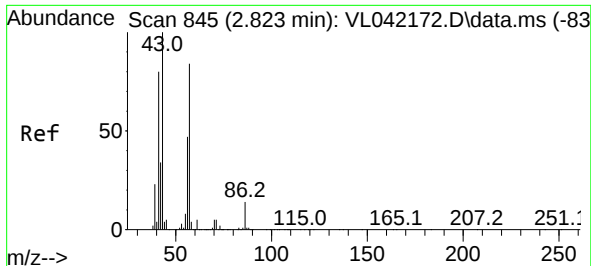


#23
Vinyl Acetate
Concen: 3.434 ppbv
RT: 2.457 min Scan# 732
Delta R.T. -0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 43 Resp: 40317

Ion	Ratio	Lower	Upper
43	100		
86	10.9	5.5	8.3#
42	3.5	8.6	13.0#
44	3.7	6.2	9.4#

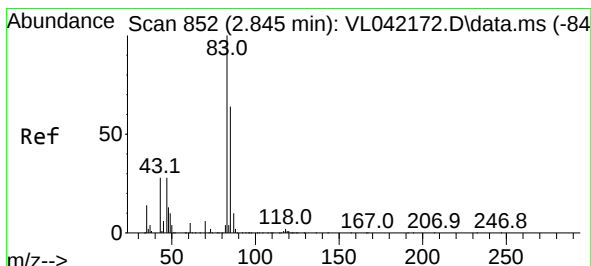
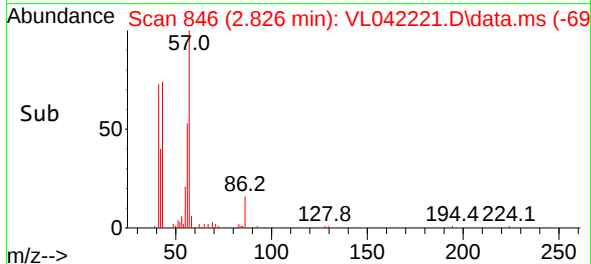
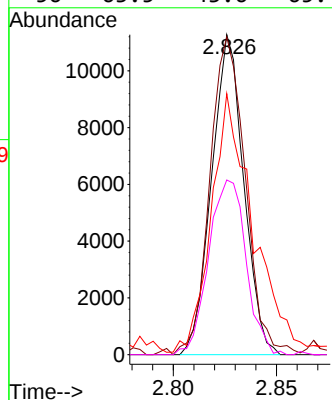
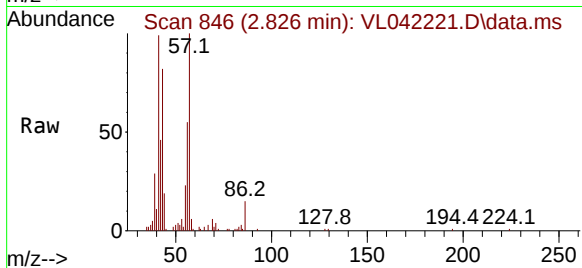




#26
Hexane
Concen: 0.448 ppbv
RT: 2.826 min Scan# 845
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

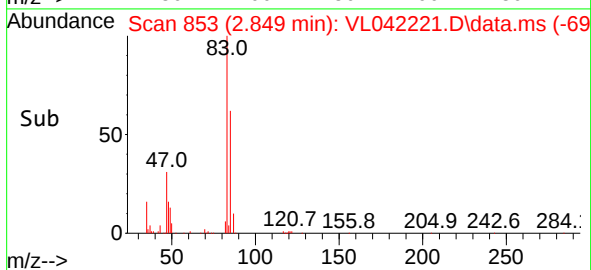
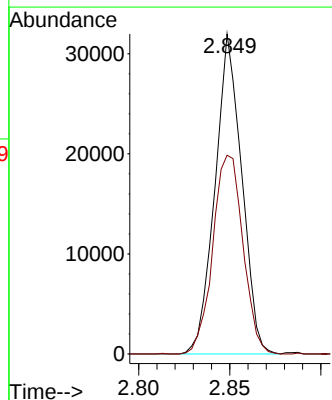
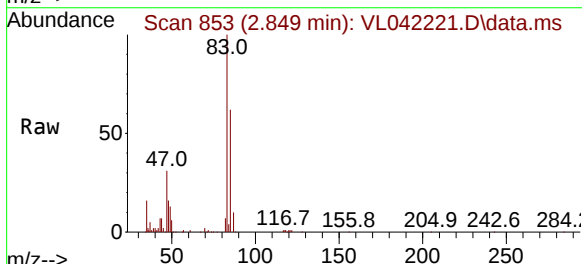
Instrument :
MSVOA_L
ClientSampleId :
IA2R

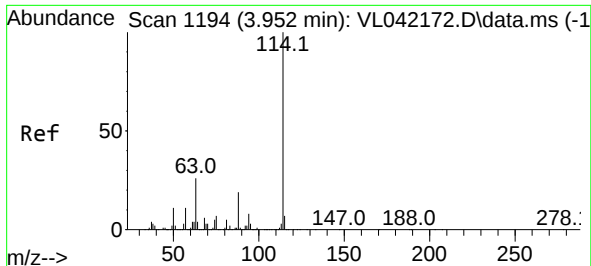
Tgt Ion: 57 Resp: 12176
Ion Ratio Lower Upper
57 100
41 109.2 76.6 114.8
43 115.9 207.8 311.8#
56 63.5 43.6 65.4



#29
Chloroform
Concen: 0.819 ppbv
RT: 2.849 min Scan# 853
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 83 Resp: 32593
Ion Ratio Lower Upper
83 100
85 62.1 51.4 77.2





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.959 min Scan# 1196

Delta R.T. 0.006 min

Lab File: VL042221.D

Acq: 04 Apr 2025 12:46

Instrument :

MSVOA_L

ClientSampleId :

IA2R

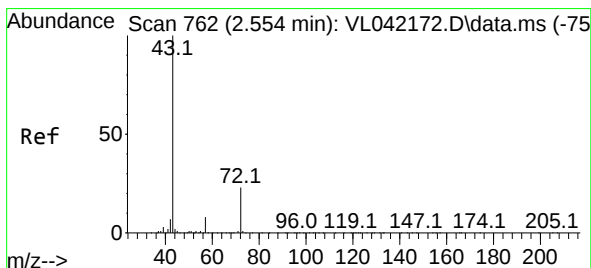
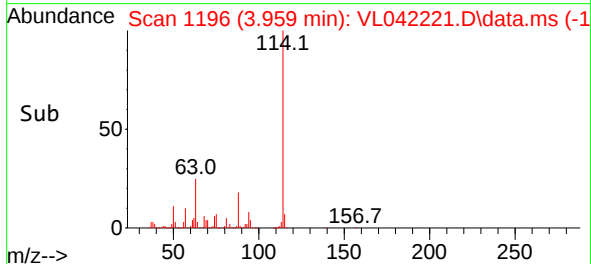
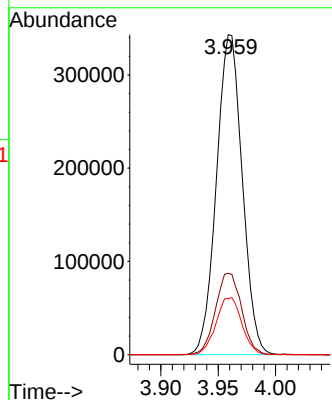
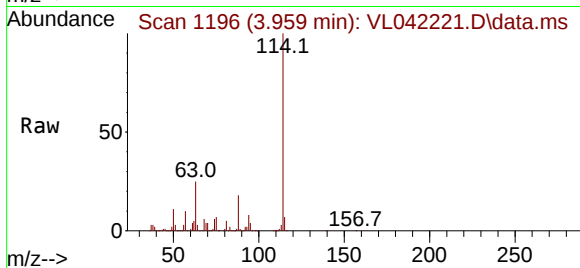
Tgt Ion:114 Resp: 537035

Ion Ratio Lower Upper

114 100

63 25.7 20.7 31.1

88 17.9 15.0 22.4



#34

2-Butanone

Concen: 1.081 ppbv

RT: 2.560 min Scan# 764

Delta R.T. 0.006 min

Lab File: VL042221.D

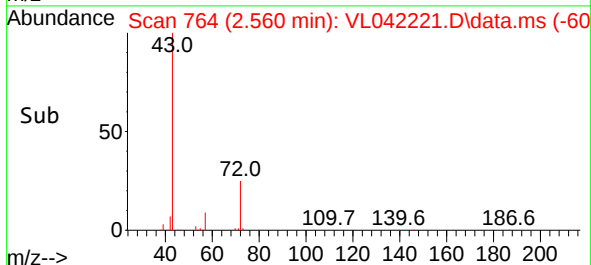
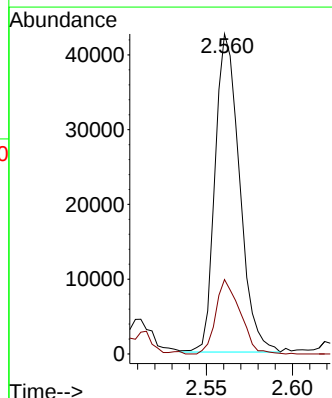
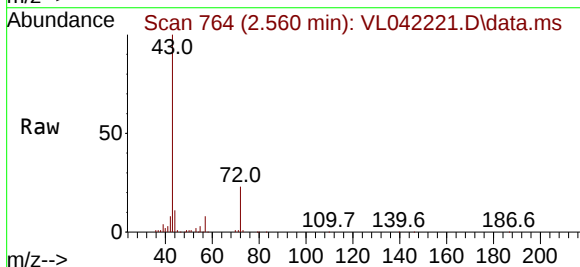
Acq: 04 Apr 2025 12:46

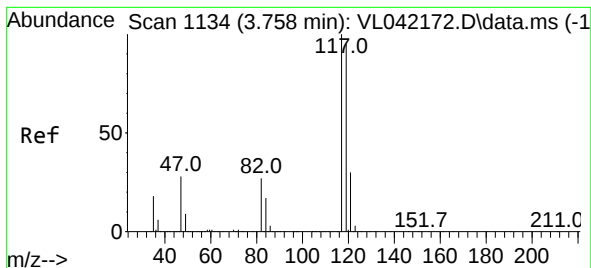
Tgt Ion: 43 Resp: 42115

Ion Ratio Lower Upper

43 100

72 23.3 18.2 27.2





#35

Carbon Tetrachloride

Concen: 0.103 ppbv

RT: 3.768 min Scan# 1134

Delta R.T. 0.010 min

Lab File: VL042221.D

Acq: 04 Apr 2025 12:46

Instrument :

MSVOA_L

ClientSampleId :

IA2R

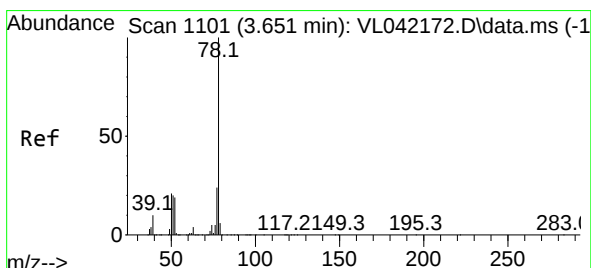
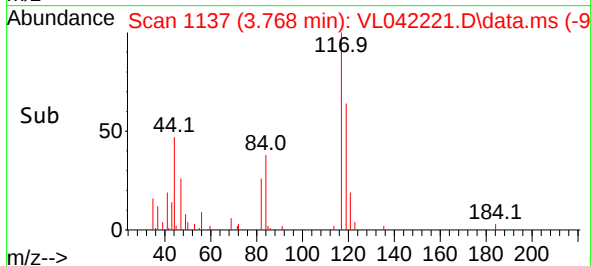
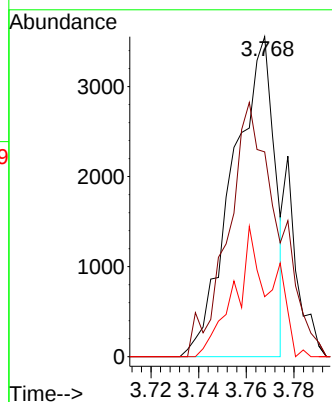
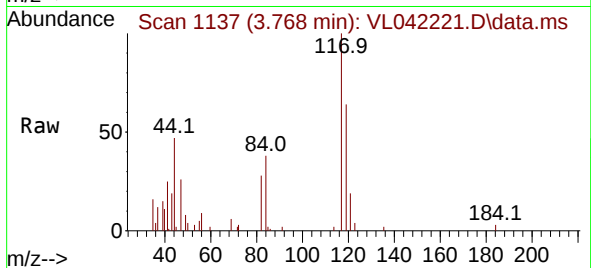
Tgt Ion:117 Resp: 4336

Ion Ratio Lower Upper

117 100

119 64.0 76.2 114.2#

121 18.8 24.2 36.4#



#36

Benzene

Concen: 0.181 ppbv

RT: 3.661 min Scan# 1104

Delta R.T. 0.010 min

Lab File: VL042221.D

Acq: 04 Apr 2025 12:46

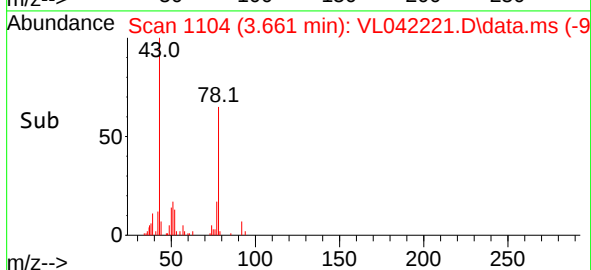
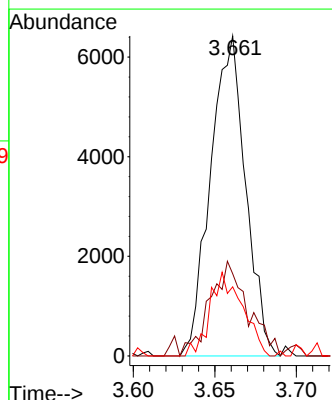
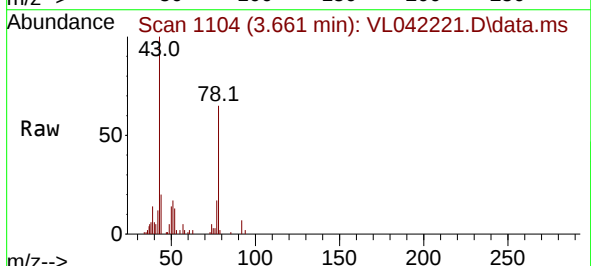
Tgt Ion: 78 Resp: 9622

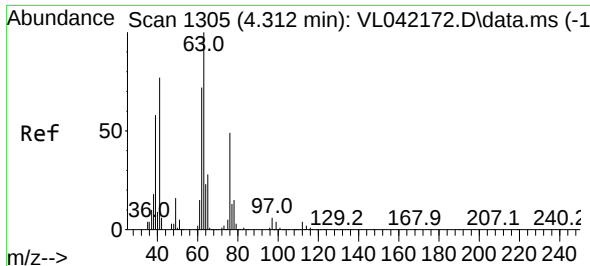
Ion Ratio Lower Upper

78 100

77 25.7 19.1 28.7

50 20.7 16.6 24.8





#39

1,2-Dichloropropane

Concen: 7.120 ppbv

RT: 3.959 min Scan# 1196

Delta R.T. -0.353 min

Lab File: VL042221.D

Acq: 04 Apr 2025 12:46

Instrument :

MSVOA_L

ClientSampleId :

IA2R

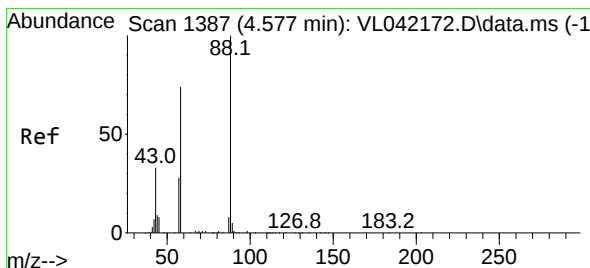
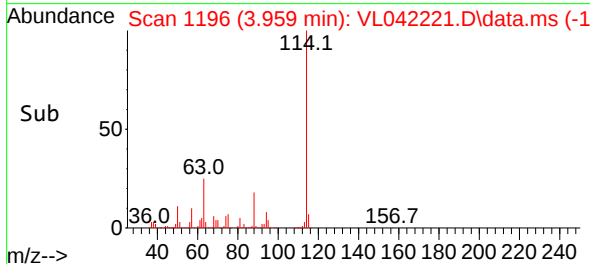
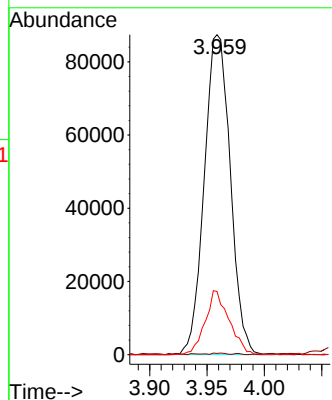
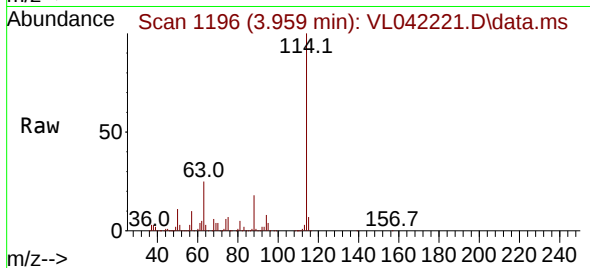
Tgt Ion: 63 Resp: 138044

Ion Ratio Lower Upper

63 100

41 0.2 61.7 92.5#

62 19.8 57.6 86.4#



#40

1,4-Dioxane

Concen: 0.140 ppbv

RT: 4.609 min Scan# 1397

Delta R.T. 0.032 min

Lab File: VL042221.D

Acq: 04 Apr 2025 12:46

Tgt Ion: 88 Resp: 1439

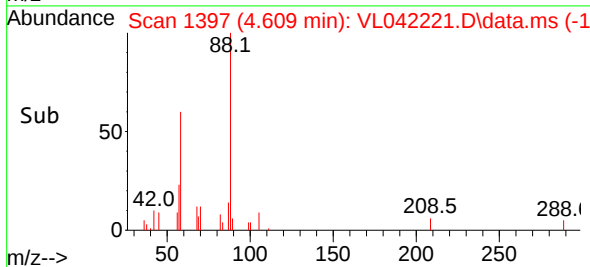
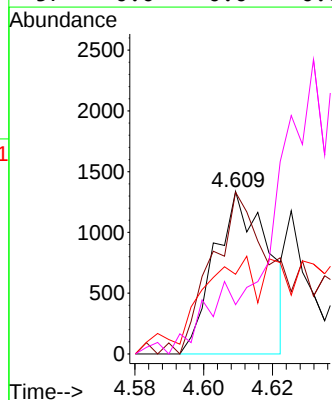
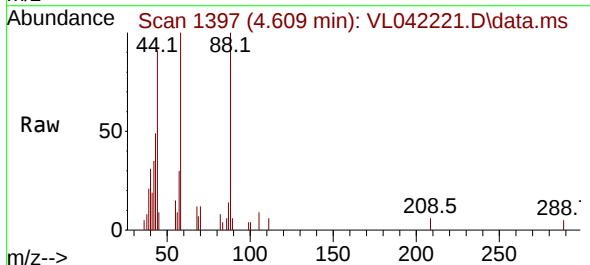
Ion Ratio Lower Upper

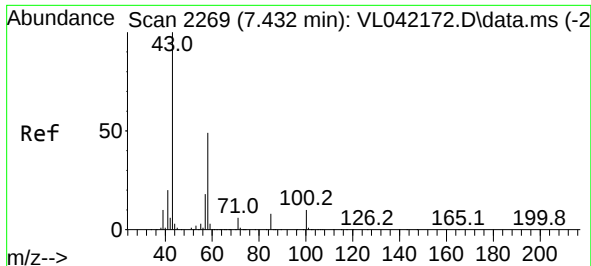
88 100

58 167.3 62.7 94.1#

43 214.4 23.0 34.4#

57 0.0 0.0 0.0

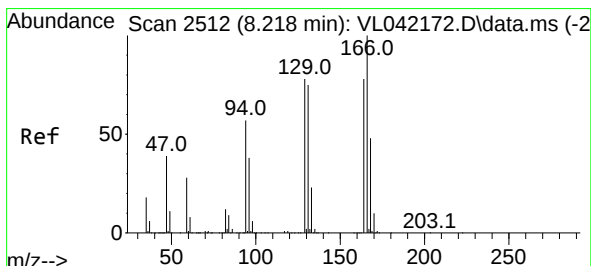
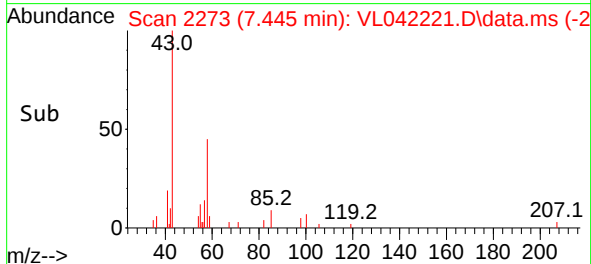
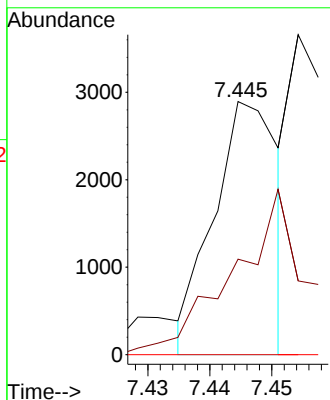
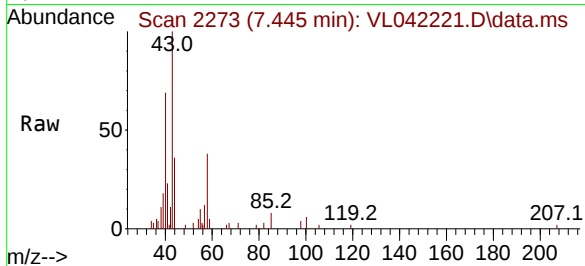




#51
2-Hexanone
Concen: 0.042 ppbv
RT: 7.445 min Scan# 2105
Delta R.T. 0.013 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

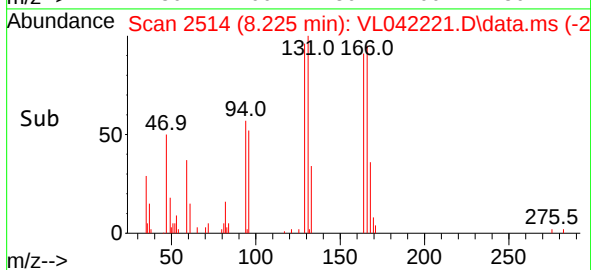
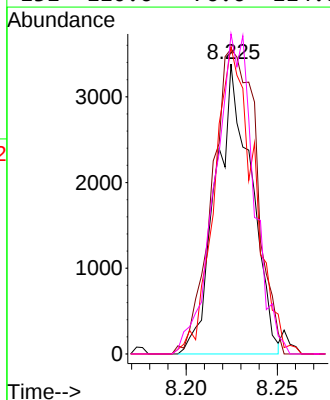
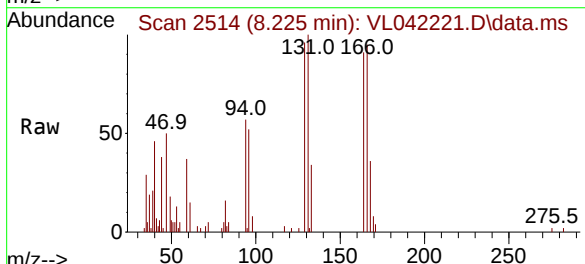
Instrument :
MSVOA_L
ClientSampleId :
IA2R

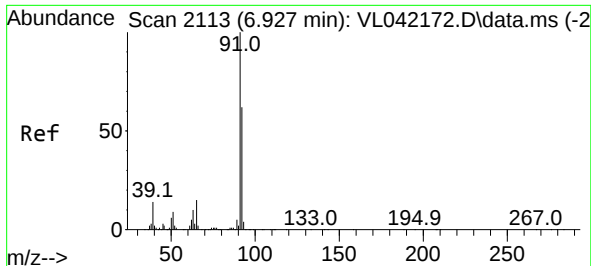
Tgt Ion: 43 Resp: 2105
Ion Ratio Lower Upper
43 100
58 0.0 39.7 59.5#
98 0.0 0.1 0.1#



#52
Tetrachloroethene
Concen: 0.218 ppbv
RT: 8.225 min Scan# 2514
Delta R.T. 0.006 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 164 Resp: 4611
Ion Ratio Lower Upper
164 100
166 102.4 102.5 153.7#
129 104.3 79.8 119.8
131 110.6 76.6 114.8

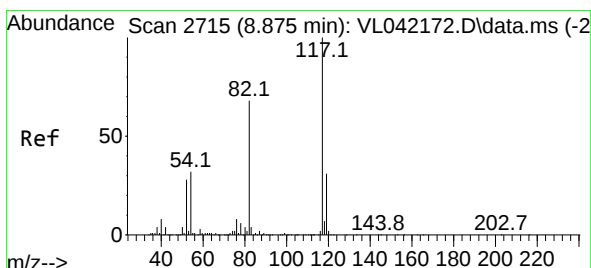
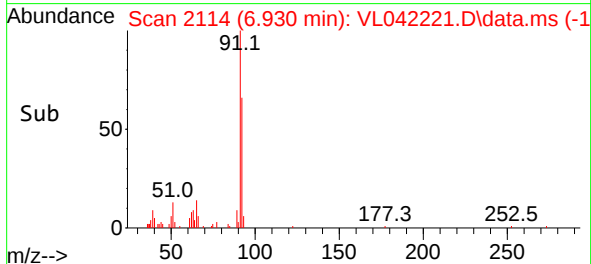
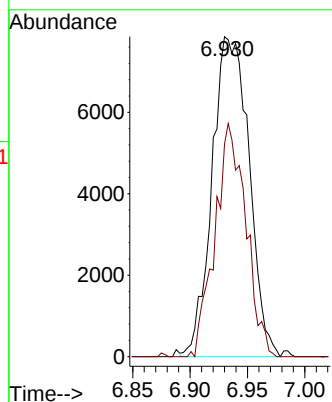
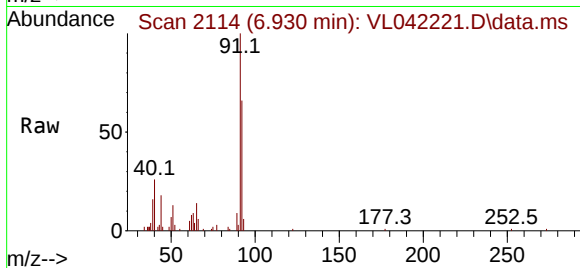




#53
Toluene
Concen: 0.279 ppbv
RT: 6.930 min Scan# 2114
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

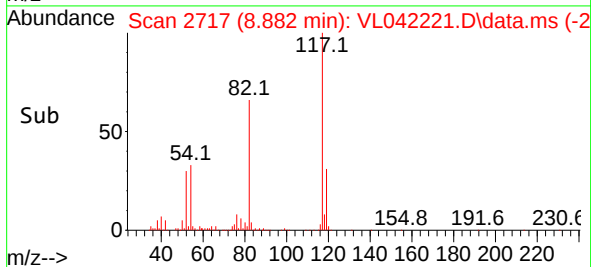
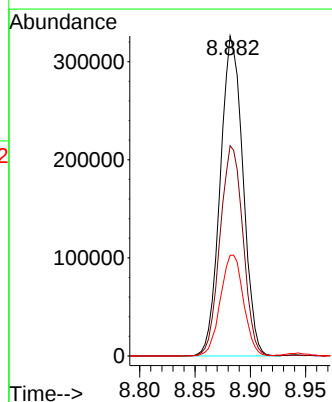
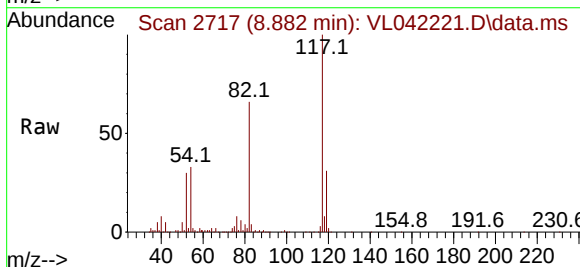
Instrument :
MSVOA_L
ClientSampleId :
IA2R

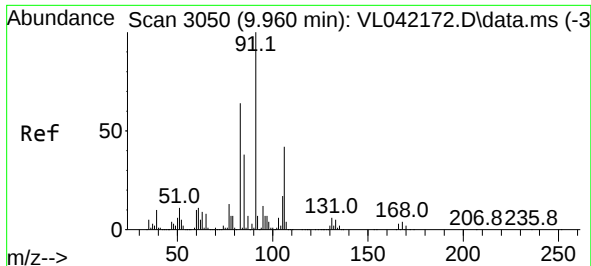
Tgt Ion: 91 Resp: 17579
Ion Ratio Lower Upper
91 100
92 61.0 48.4 72.6



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.882 min Scan# 2717
Delta R.T. 0.006 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 117 Resp: 465935
Ion Ratio Lower Upper
117 100
82 66.5 55.8 83.6
119 32.2 25.5 38.3

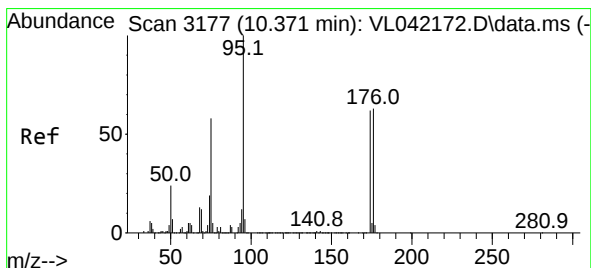
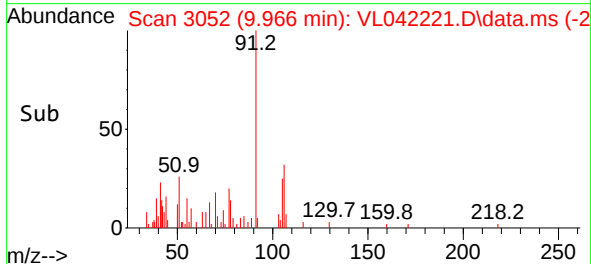
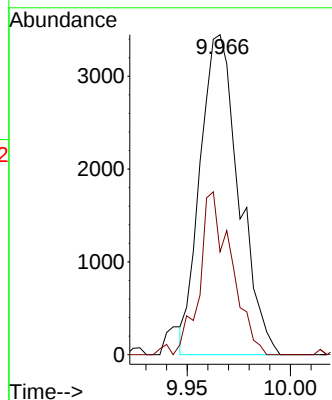
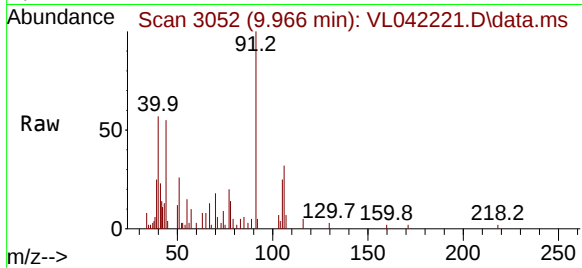




#60
o-Xylene
Concen: 0.068 ppbv
RT: 9.966 min Scan# 3050
Delta R.T. 0.006 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

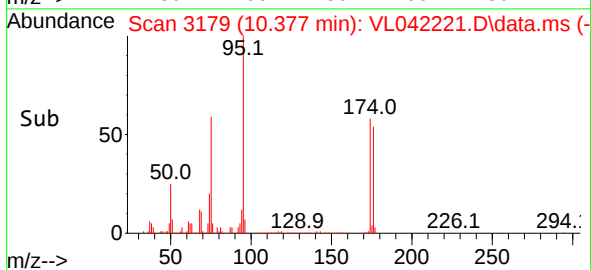
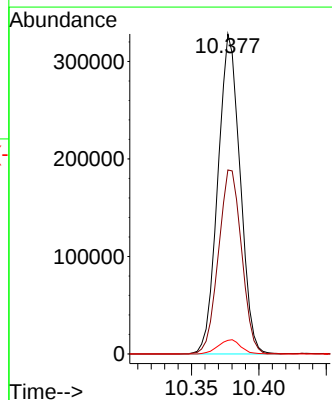
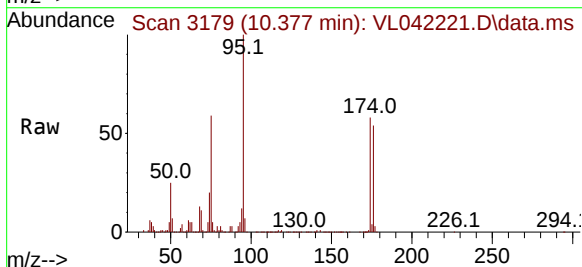
Instrument :
MSVOA_L
ClientSampleId :
IA2R

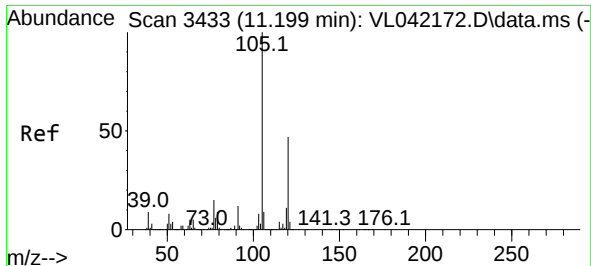
Tgt Ion: 91 Resp: 4524
Ion Ratio Lower Upper
91 100
106 42.0 20.8 62.5



#68
1-Bromo-4-Fluorobenzene
Concen: 9.831 ppbv
RT: 10.377 min Scan# 3179
Delta R.T. 0.006 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion: 95 Resp: 376164
Ion Ratio Lower Upper
95 100
174 60.0 50.6 76.0
175 4.5 3.8 5.6

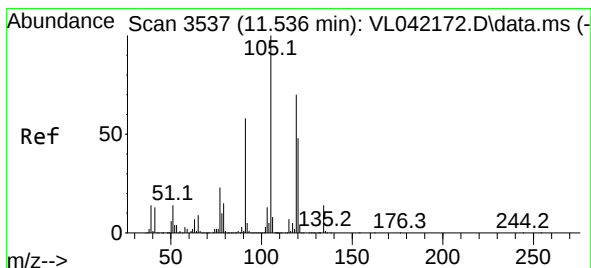
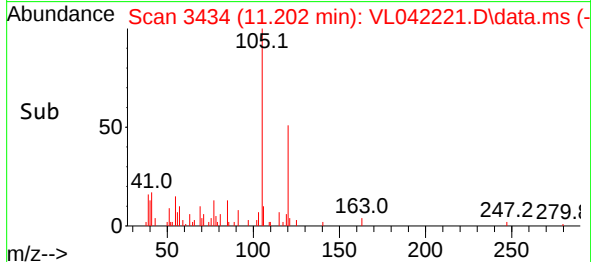
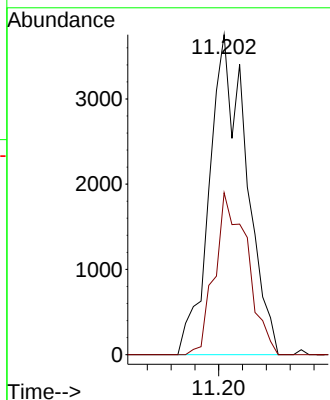
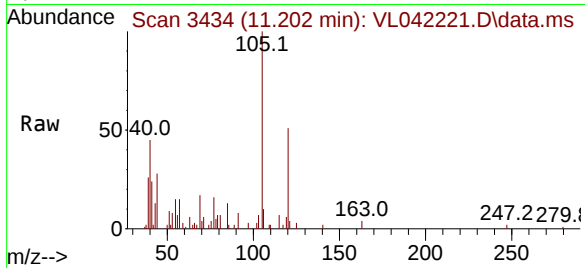




#73
1,3,5-Trimethylbenzene
Concen: 0.056 ppbv
RT: 11.202 min Scan# 3434
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

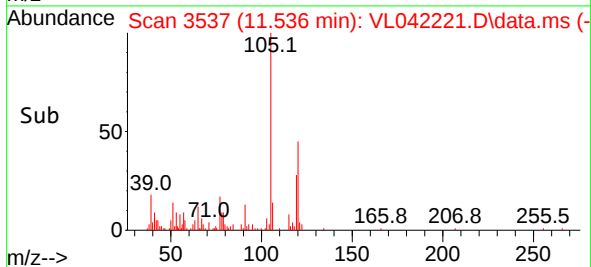
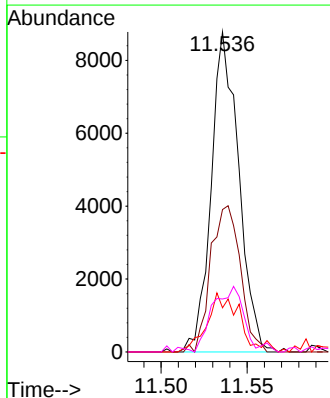
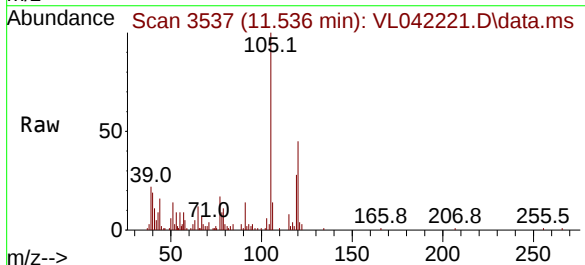
Instrument :
MSVOA_L
ClientSampleId :
IA2R

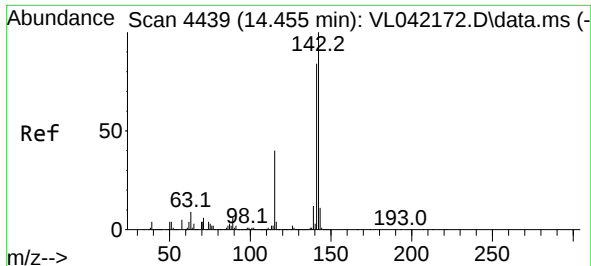
Tgt Ion:105 Resp: 4034
Ion Ratio Lower Upper
105 100
120 50.6 37.4 56.0



#74
1,2,4-Trimethylbenzene
Concen: 0.118 ppbv
RT: 11.536 min Scan# 3537
Delta R.T. -0.000 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion:105 Resp: 9762
Ion Ratio Lower Upper
105 100
120 44.5 38.6 58.0
91 13.8 46.2 69.2#
77 16.6 18.6 27.8#

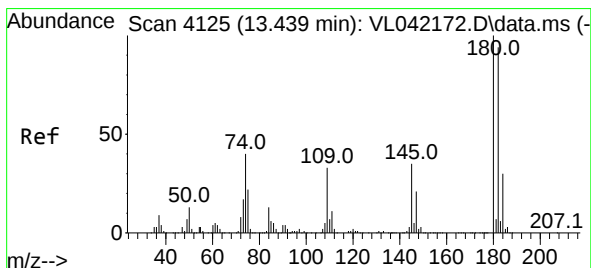
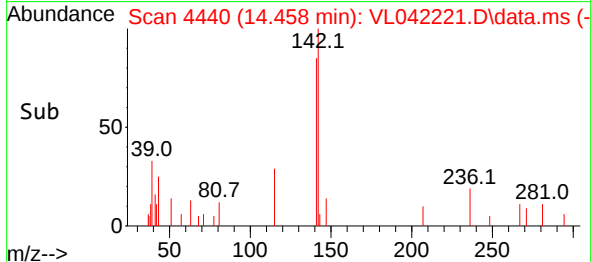
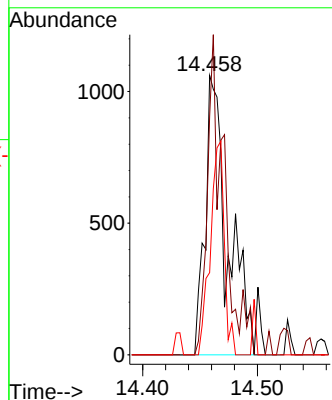
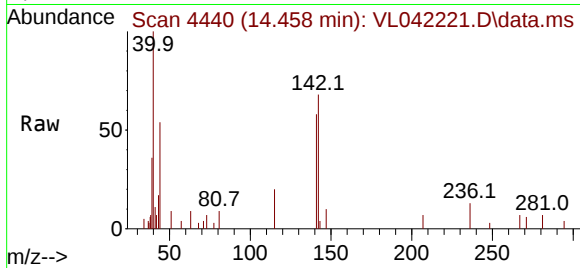




#80
Naphthalene, 2-methyl-
Concen: 0.033 ppbv
RT: 14.458 min Scan# 4440
Delta R.T. 0.003 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Instrument :
MSVOA_L
ClientSampleId :
IA2R

Tgt Ion:142 Resp: 1484
Ion Ratio Lower Upper
142 100
141 83.2 66.3 99.5
115 48.5 31.6 47.4#



#81
1,2,4-Trichlorobenzene
Concen: 0.043 ppbv
RT: 13.445 min Scan# 4127
Delta R.T. 0.006 min
Lab File: VL042221.D
Acq: 04 Apr 2025 12:46

Tgt Ion:180 Resp: 1813
Ion Ratio Lower Upper
180 100
182 85.0 75.1 112.7
184 29.2 24.4 36.6

