

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL091825\
 Data File : VL042945.D
 Acq On : 18 Sep 2025 14:37
 Operator : SY/MD
 Sample : Q3111-02
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

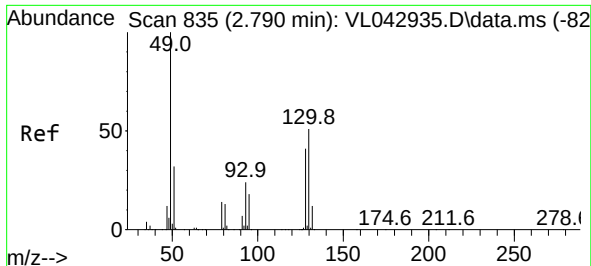
Instrument :
 MSVOA_L
 ClientSampleId :
 IA1

Quant Time: Sep 19 01:25:52 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL091725AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Thu Sep 18 02:57:46 2025
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	2.790	49	171978	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.962	114	434311	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.888	117	375912	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.380	95	294177	10.012	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	= 100.100%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.499	85	11604	0.472	ppbv	93
3) Chlorodifluoromethane	1.476	51	14019m	0.542	ppbv	
4) Chloromethane	1.534	50	5930	0.601	ppbv	92
9) Propene	1.489	41	159929m	16.932	ppbv	
10) Heptane	4.985	43	18926	0.809	ppbv #	28
11) Trichlorofluoromethane	1.881	101	5787m	0.238	ppbv	
13) Ethanol	1.725	45	522414	542.469	ppbv	94
15) Acetone	1.835	43	3201270	151.550	ppbv #	71
17) tert-Butyl alcohol	2.046	59	5120	0.252	ppbv #	1
19) Isopropyl Alcohol	1.890	45	3190461	281.710	ppbv #	1
20) Methylene Chloride	2.065	84	19046	2.071	ppbv #	88
25) Ethyl Acetate	2.839	43	330462	7.326	ppbv #	94
26) Hexane	2.832	57	60432	3.122	ppbv #	1
29) Chloroform	2.852	83	11080	0.350	ppbv	90
30) Cyclohexane	3.861	84	8371m	0.574	ppbv	
34) 2-Butanone	2.560	43	112773	4.006	ppbv	99
35) Carbon Tetrachloride	3.771	117	2651m	0.086	ppbv	
36) Benzene	3.661	78	31276	0.826	ppbv	97
37) 1,2-Dichloroethane	3.224	62	14184	0.625	ppbv	97
41) Tetrahydrofuran	3.062	42	40679	2.920	ppbv	100
43) Methyl Methacrylate	4.894	69	8101m	0.639	ppbv	
44) 2,2,4-Trimethylpentane	4.645	57	333951	5.285	ppbv	97
52) Tetrachloroethene	8.228	164	584m	0.050	ppbv	
53) Toluene	6.939	91	213911	6.055	ppbv	99
58) Ethyl Benzene	9.361	91	21939	0.453	ppbv	92
59) m/p-Xylene	9.535	91	60921m	1.489	ppbv	
60) o-Xylene	9.969	91	19505	0.479	ppbv	100
61) Styrene	9.875	104	14267	1.184	ppbv	97
72) 4-Ethyltoluene	11.131	105	2902	0.407	ppbv #	62
74) 1,2,4-Trimethylbenzene	11.542	105	9091	0.192	ppbv #	58
79) Naphthalene	13.516	128	2794	0.418	ppbv #	88
81) 1,2,4-Trichlorobenzene	13.448	180	1426m	0.482	ppbv	

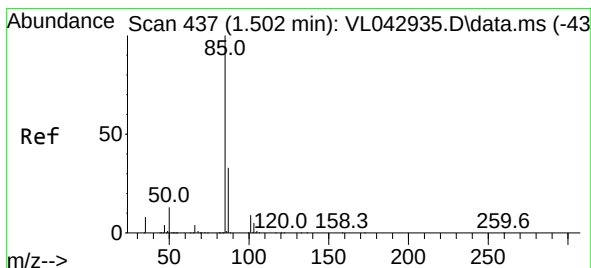
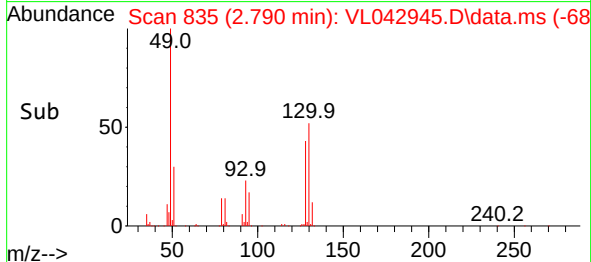
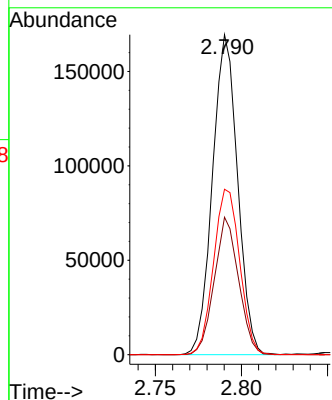
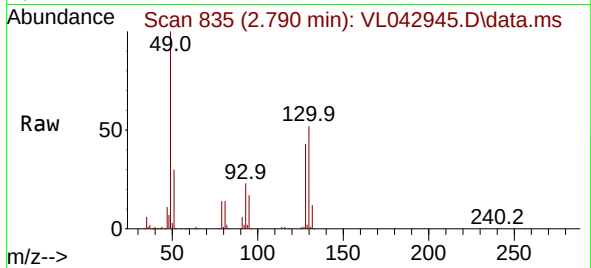
(#) = qualifier out of range (m) = manual integration (+) = signals summed



#1
 Bromochloromethane
 Concen: 10.000 ppbv
 RT: 2.790 min Scan# 835
 Delta R.T. 0.000 min
 Lab File: VL042945.D
 Acq: 18 Sep 2025 14:37

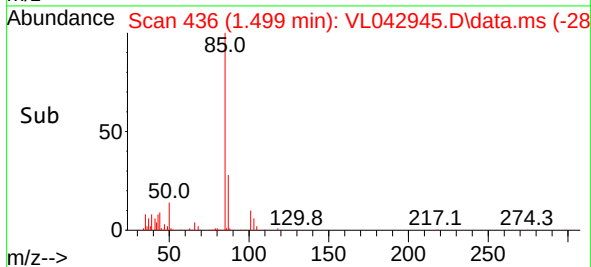
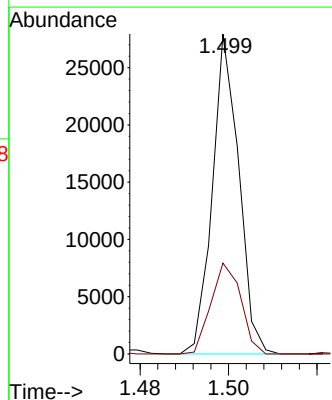
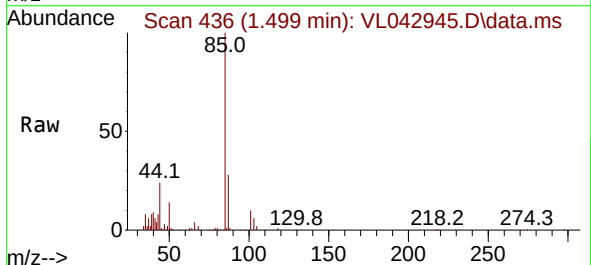
Instrument :
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 ClientSampleId :
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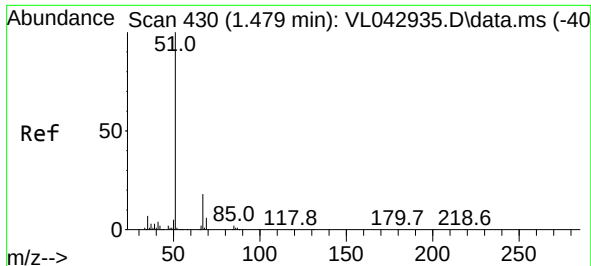
Tgt Ion: 49 Resp: 171978
 Ion Ratio Lower Upper
 49 100
 128 41.7 21.1 63.4
 130 53.9 26.4 79.2



#2
 Dichlorodifluoromethane
 Concen: 0.472 ppbv
 RT: 1.499 min Scan# 436
 Delta R.T. -0.003 min
 Lab File: VL042945.D
 Acq: 18 Sep 2025 14:37

Tgt Ion: 85 Resp: 11604
 Ion Ratio Lower Upper
 85 100
 87 28.4 26.1 39.1

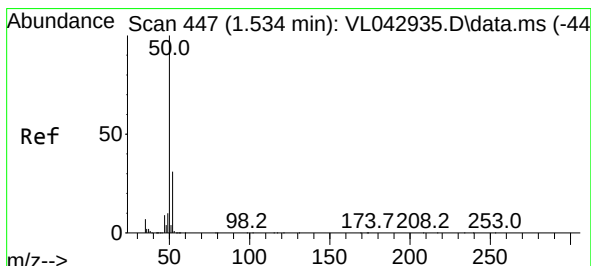
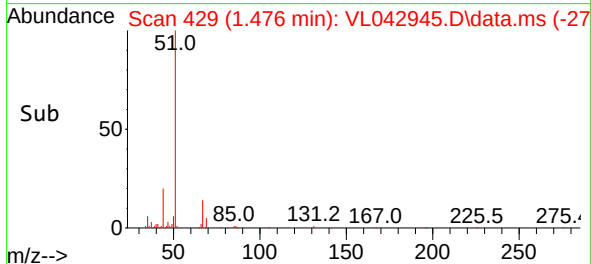
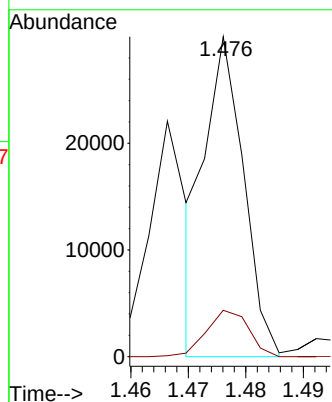
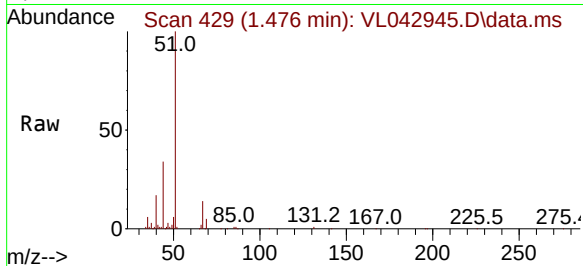




#3
Chlorodifluoromethane
Concen: 0.542 ppbv m
RT: 1.476 min Scan# 430
Delta R.T. -0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

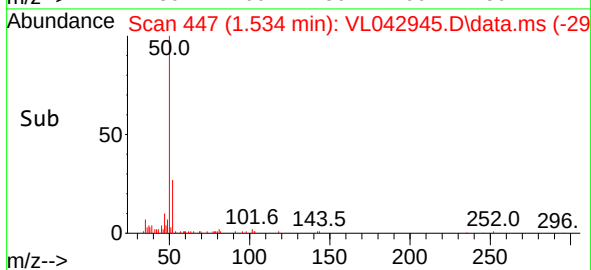
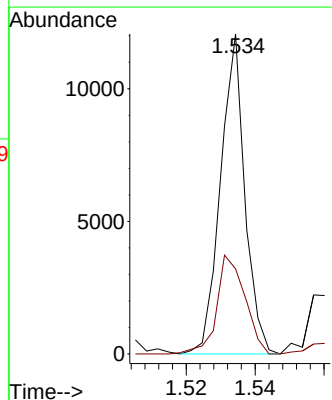
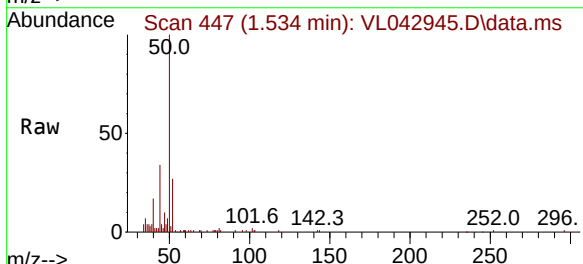
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ClientSampleId :
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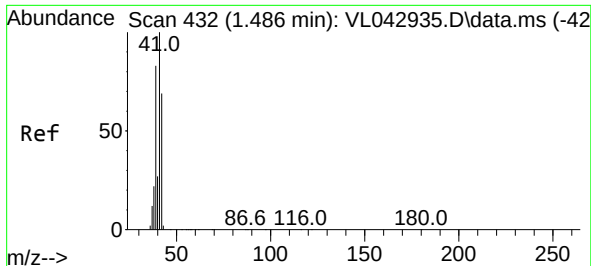
Tgt Ion: 51 Resp: 14019
Ion Ratio Lower Upper
51 100
67 15.9 14.1 21.1



#4
Chloromethane
Concen: 0.601 ppbv
RT: 1.534 min Scan# 447
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 50 Resp: 5930
Ion Ratio Lower Upper
50 100
52 26.6 24.6 36.8

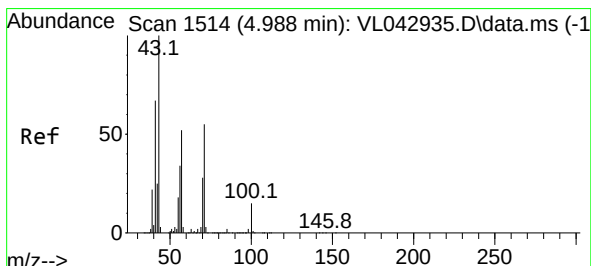
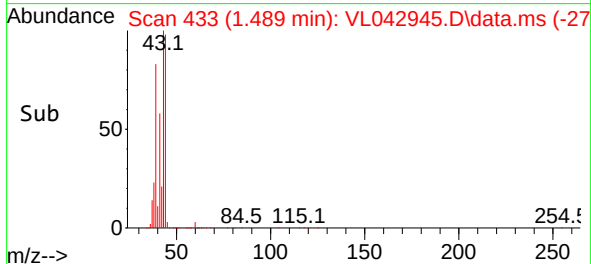
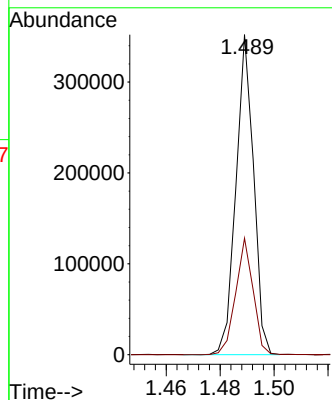
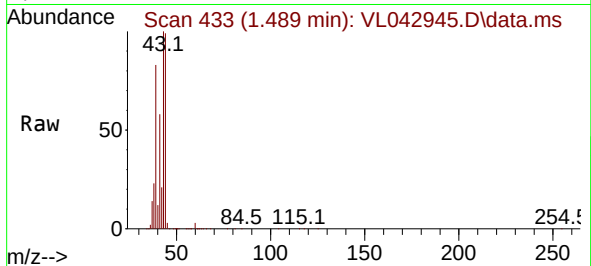




#9
 Propene
 Concen: 16.932 ppbv m
 RT: 1.489 min Scan# 41
 Delta R.T. 0.003 min
 Lab File: VL042945.D
 Acq: 18 Sep 2025 14:37

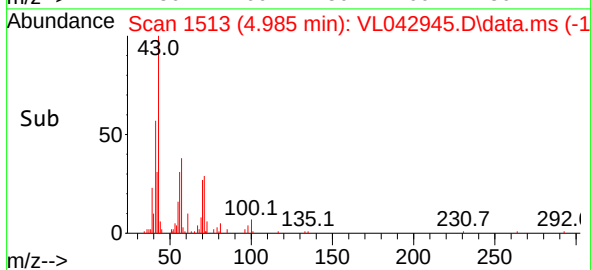
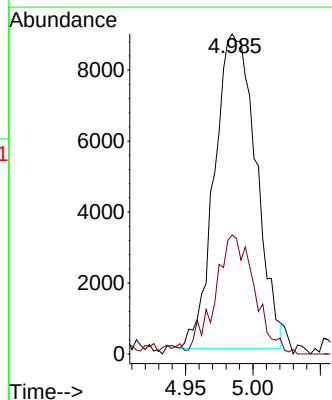
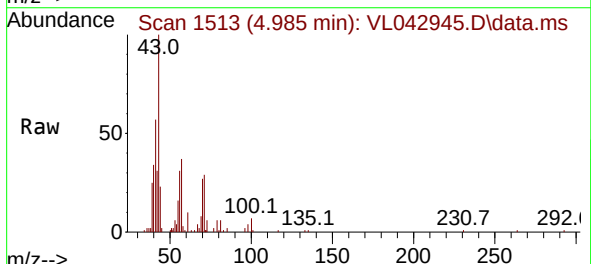
Instrument :
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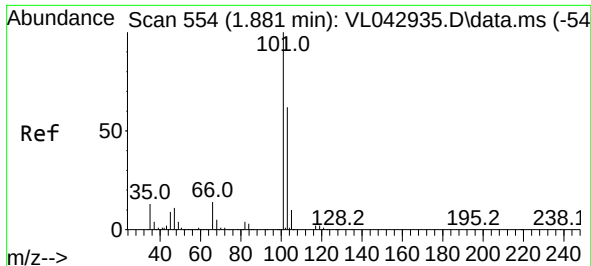
Tgt Ion: 41 Resp: 159929
 Ion Ratio Lower Upper
 41 100
 42 24.3 55.0 82.4#



#10
 Heptane
 Concen: 0.809 ppbv
 RT: 4.985 min Scan# 1513
 Delta R.T. -0.003 min
 Lab File: VL042945.D
 Acq: 18 Sep 2025 14:37

Tgt Ion: 43 Resp: 18926
 Ion Ratio Lower Upper
 43 100
 57 0.0 39.8 59.8#

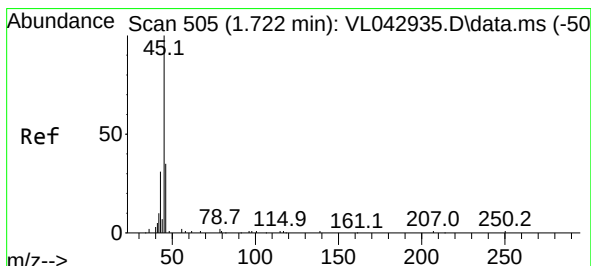
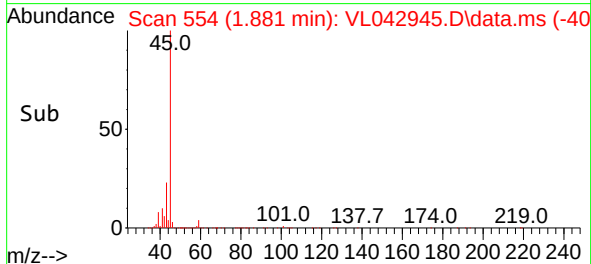
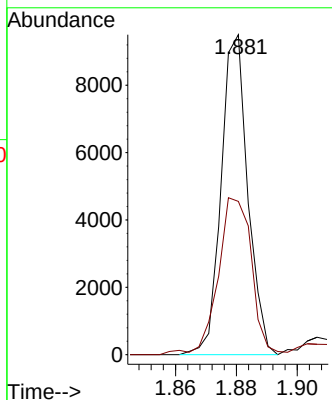
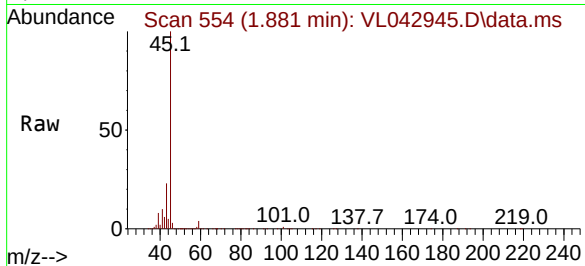




#11
Trichlorofluoromethane
Concen: 0.238 ppbv m
RT: 1.881 min Scan# 51
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

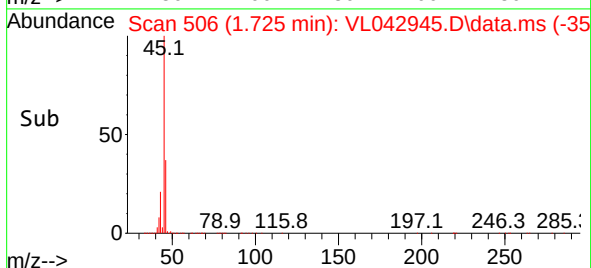
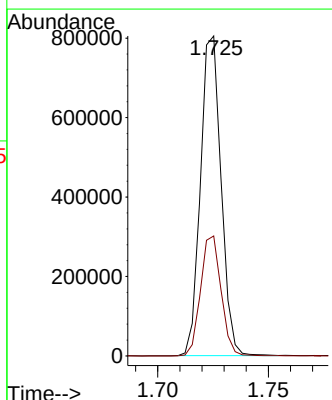
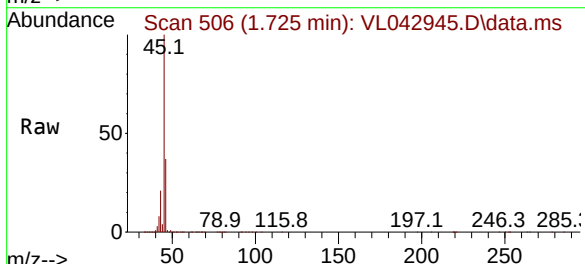
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ClientSampleId :
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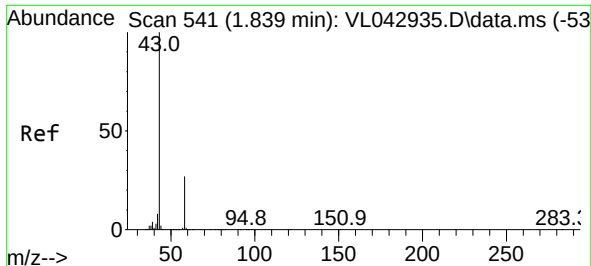
Tgt Ion:101 Resp: 5787
Ion Ratio Lower Upper
101 100
103 47.9 49.6 74.4#



#13
Ethanol
Concen: 542.469 ppbv
RT: 1.725 min Scan# 506
Delta R.T. 0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 45 Resp: 522414
Ion Ratio Lower Upper
45 100
46 37.6 16.5 66.1

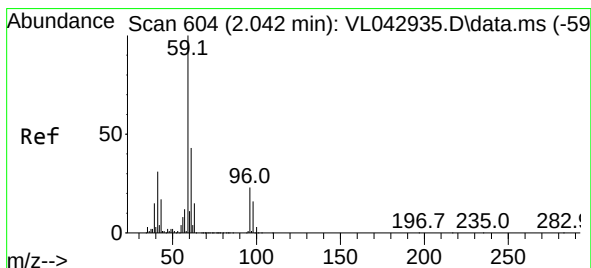
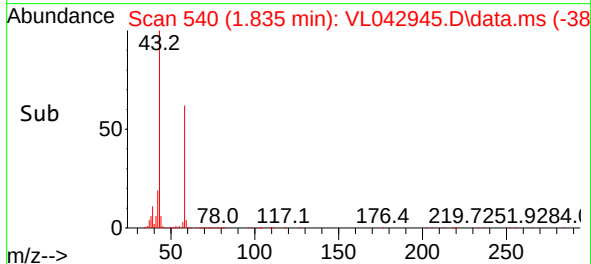
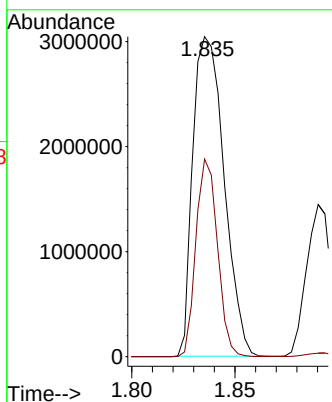
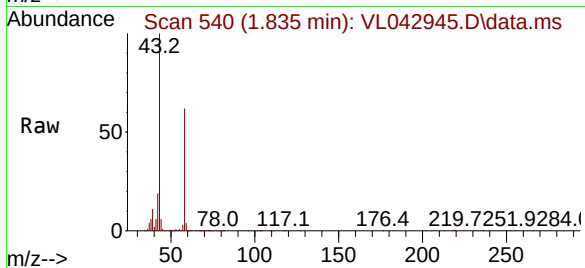




#15
Acetone
Concen: 151.550 ppbv
RT: 1.835 min Scan# 541
Delta R.T. -0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

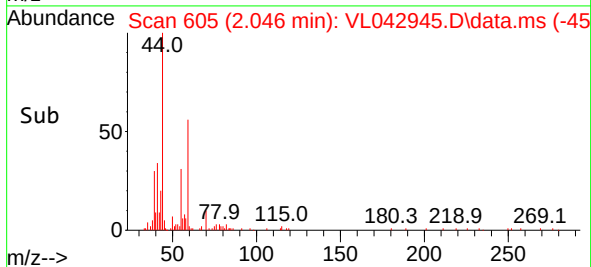
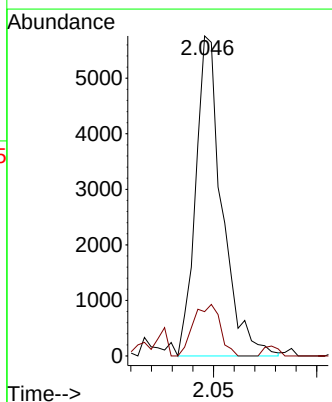
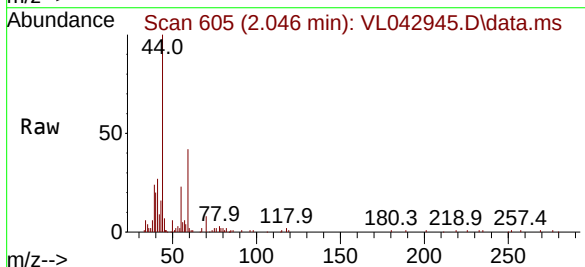
Instrument :
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ClientSampleId :
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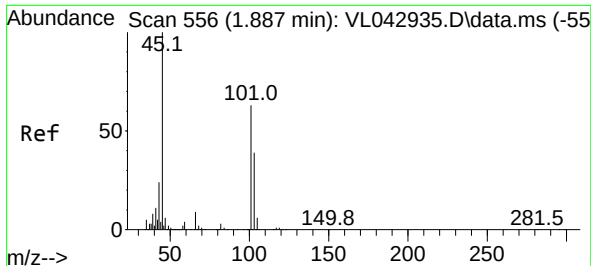
Tgt Ion: 43 Resp: 3201270
Ion Ratio Lower Upper
43 100
58 42.7 22.2 33.2#



#17
tert-Butyl alcohol
Concen: 0.252 ppbv
RT: 2.046 min Scan# 605
Delta R.T. 0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 59 Resp: 5120
Ion Ratio Lower Upper
59 100
57 917.9 9.0 13.6#





#19

Isopropyl Alcohol

Concen: 281.710 ppbv

RT: 1.890 min Scan# 556

Delta R.T. 0.003 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

Instrument :

MSVOA_L

ClientSampleId :

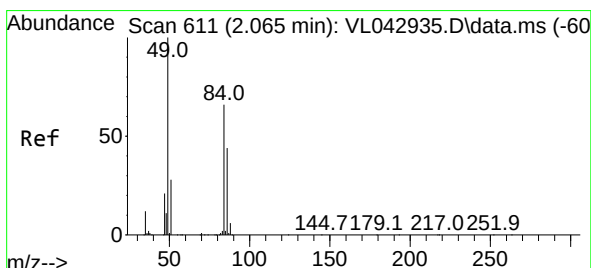
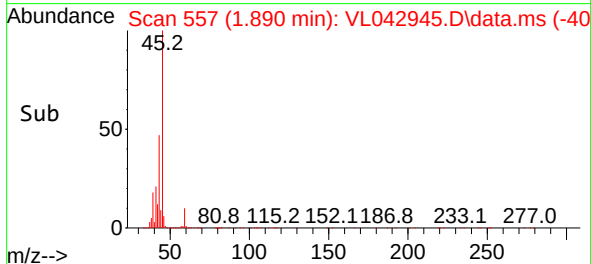
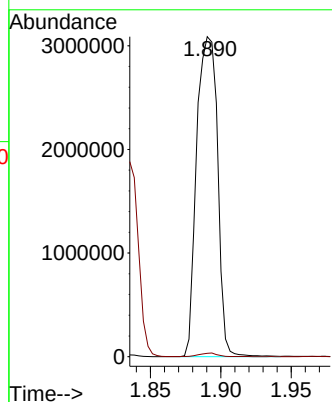
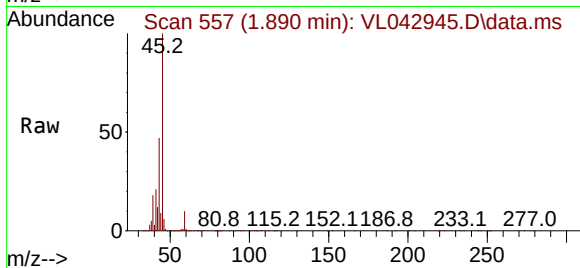
IA1

Tgt Ion: 45 Resp: 3190461

Ion Ratio Lower Upper

45 100

58 42.8 2.0 3.0#



#20

Methylene Chloride

Concen: 2.071 ppbv

RT: 2.065 min Scan# 611

Delta R.T. 0.000 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

Tgt Ion: 84 Resp: 19046

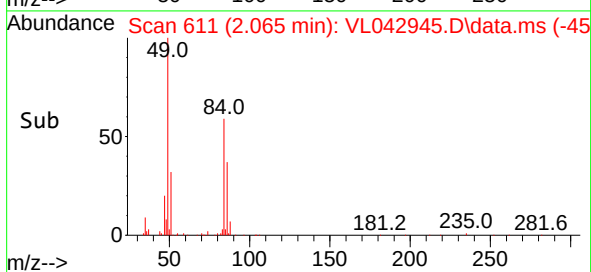
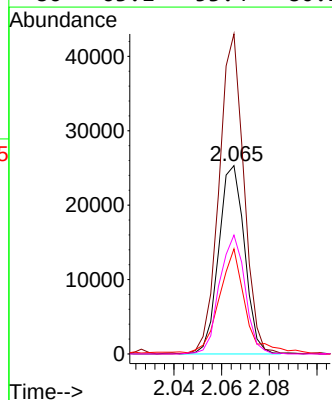
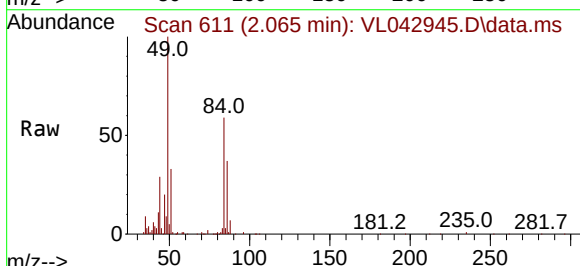
Ion Ratio Lower Upper

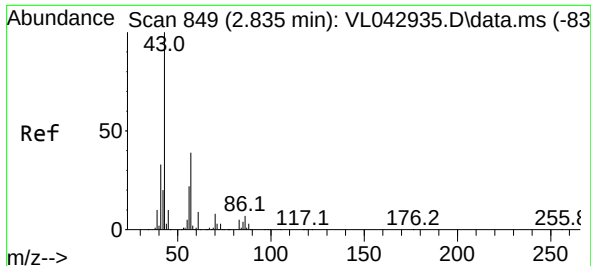
84 100

49 169.7 121.8 182.6

51 54.7 35.6 53.4#

86 63.1 53.4 80.2

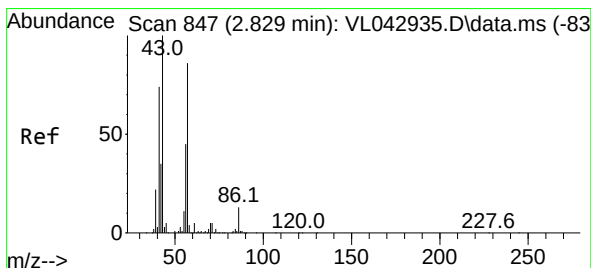
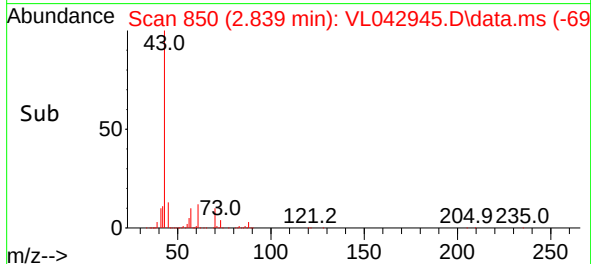
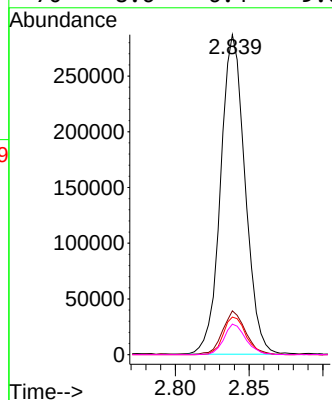
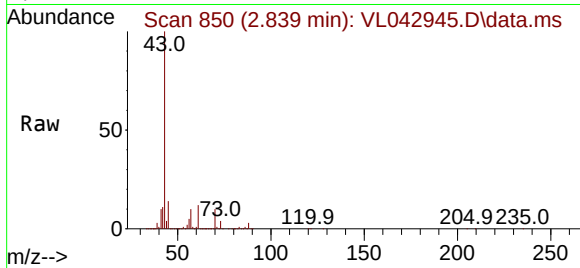




#25
Ethyl Acetate
Concen: 7.326 ppbv
RT: 2.839 min Scan# 849
Delta R.T. 0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

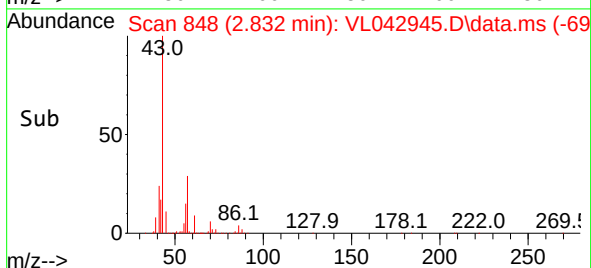
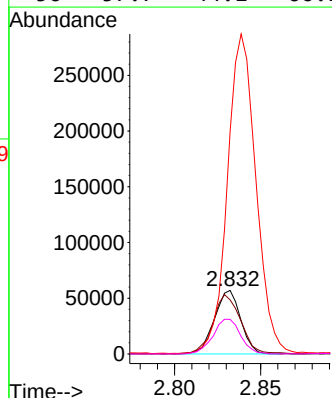
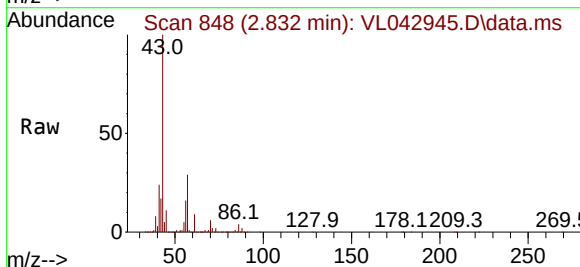
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MSVOA_1
ClientSampleId :
IA1

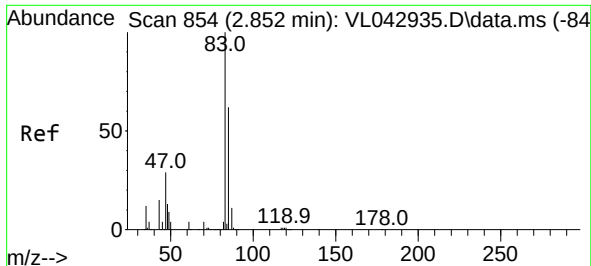
Tgt Ion: 43 Resp: 330462
Ion Ratio Lower Upper
43 100
45 13.3 7.8 11.8#
61 11.1 7.2 10.8#
70 8.6 6.4 9.6



#26
Hexane
Concen: 3.122 ppbv
RT: 2.832 min Scan# 848
Delta R.T. 0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 57 Resp: 60432
Ion Ratio Lower Upper
57 100
41 97.9 71.3 106.9
43 555.5 183.9 275.9#
56 57.7 44.1 66.1





#29

Chloroform

Concen: 0.350 ppbv

RT: 2.852 min Scan# 854

Delta R.T. 0.000 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

Instrument :

MSVOA_L

ClientSampleId :

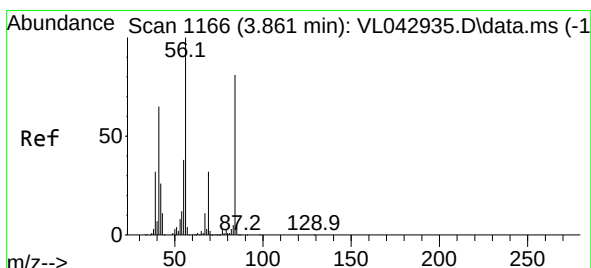
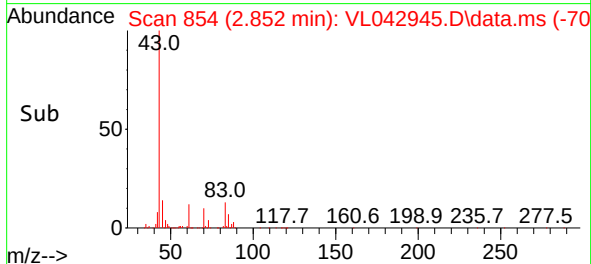
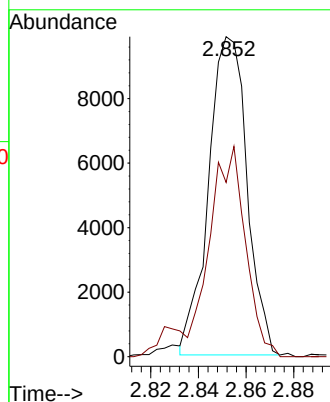
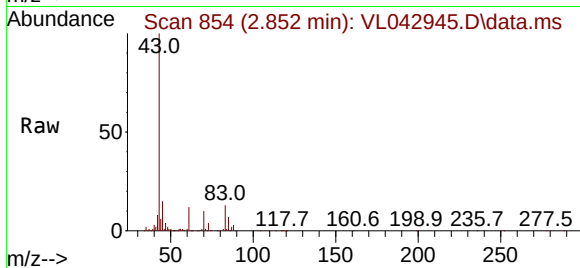
IA1

Tgt Ion: 83 Resp: 11080

Ion Ratio Lower Upper

83 100

85 54.7 49.7 74.5



#30

Cyclohexane

Concen: 0.574 ppbv m

RT: 3.861 min Scan# 1166

Delta R.T. 0.000 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

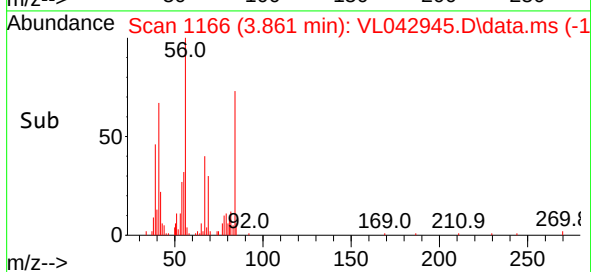
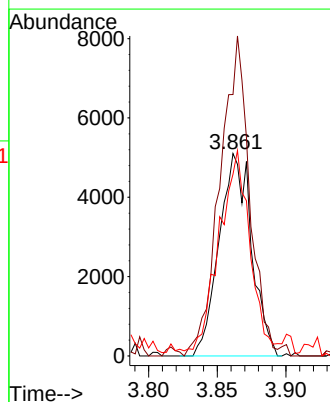
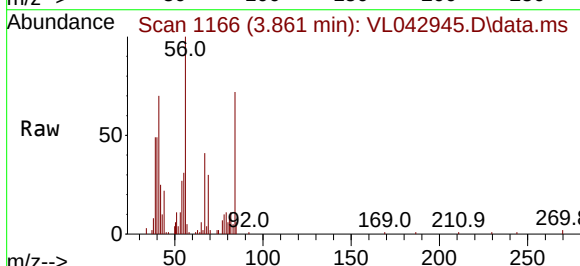
Tgt Ion: 84 Resp: 8371

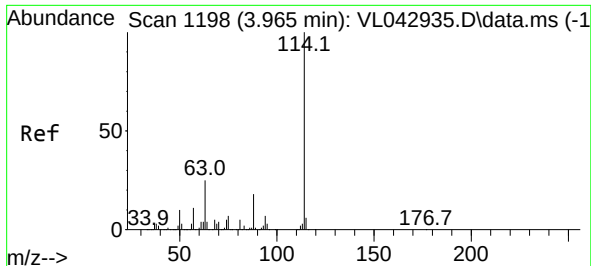
Ion Ratio Lower Upper

84 100

56 147.5 100.6 150.8

41 107.0 65.4 98.0#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.962 min Scan# 1197

Delta R.T. -0.003 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

Instrument :

MSVOA_L

ClientSampleId :

IA1

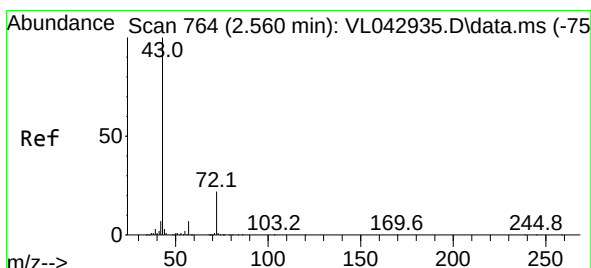
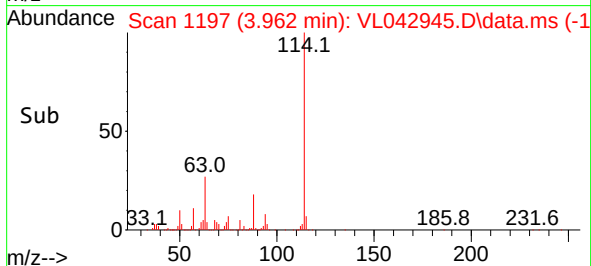
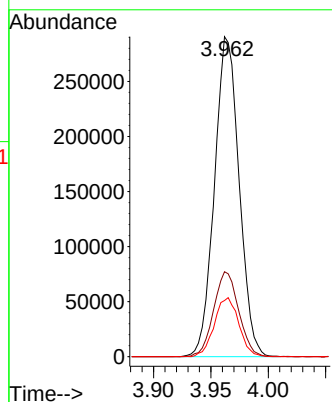
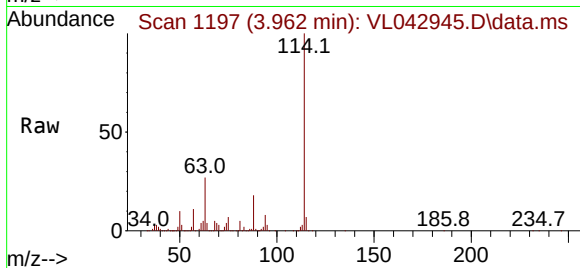
Tgt Ion:114 Resp: 434311

Ion Ratio Lower Upper

114 100

63 27.0 21.1 31.7

88 18.3 14.6 22.0



#34

2-Butanone

Concen: 4.006 ppbv

RT: 2.560 min Scan# 764

Delta R.T. 0.000 min

Lab File: VL042945.D

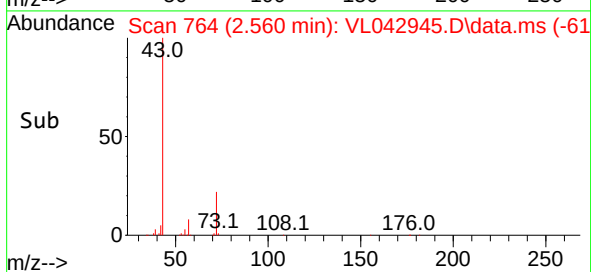
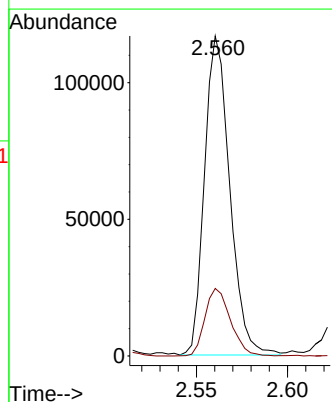
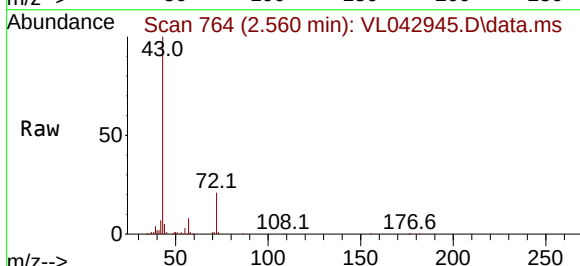
Acq: 18 Sep 2025 14:37

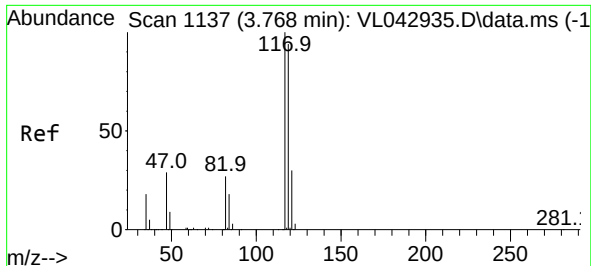
Tgt Ion: 43 Resp: 112773

Ion Ratio Lower Upper

43 100

72 21.8 17.2 25.8

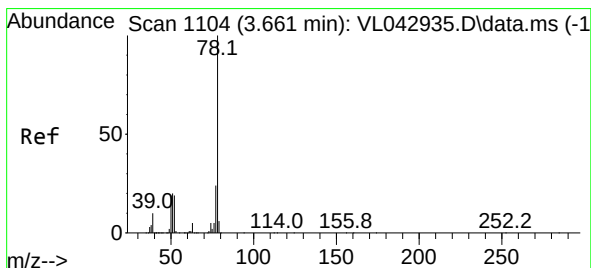
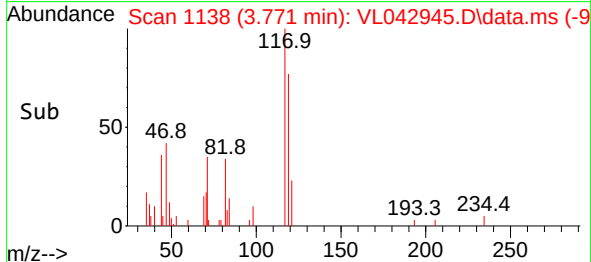
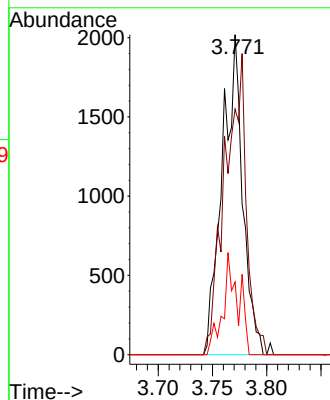
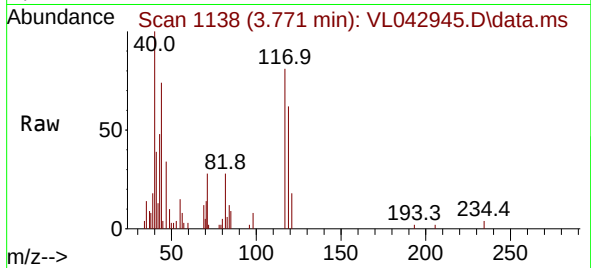




#35
Carbon Tetrachloride
Concen: 0.086 ppbv m
RT: 3.771 min Scan# 1137
Delta R.T. 0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

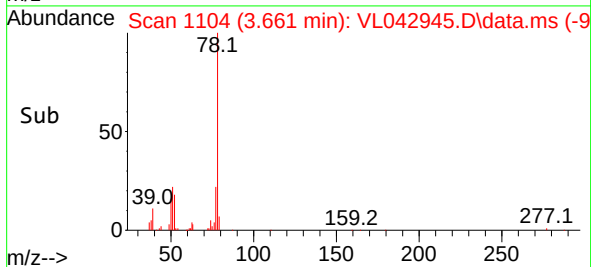
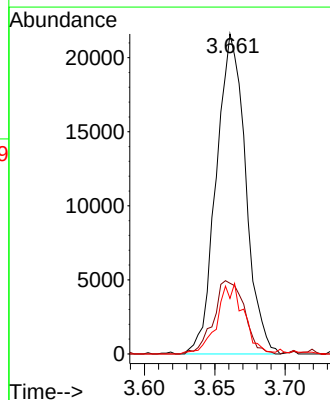
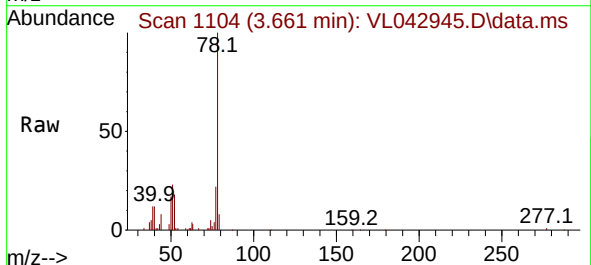
Instrument :
MSVOA_L
ClientSampleId :
IA1

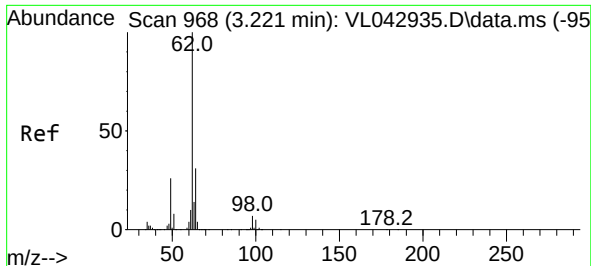
Tgt Ion:117 Resp: 2651
Ion Ratio Lower Upper
117 100
119 76.7 74.9 112.3
121 22.7 24.0 36.0#



#36
Benzene
Concen: 0.826 ppbv
RT: 3.661 min Scan# 1104
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 78 Resp: 31276
Ion Ratio Lower Upper
78 100
77 22.1 19.2 28.8
50 17.4 14.8 22.2





#37

1,2-Dichloroethane

Concen: 0.625 ppbv

RT: 3.224 min Scan# 919

Delta R.T. 0.003 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

Instrument :

MSVOA_L

ClientSampleId :

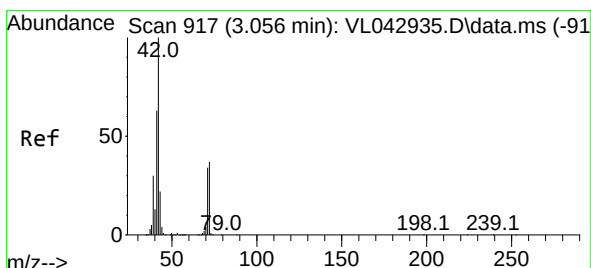
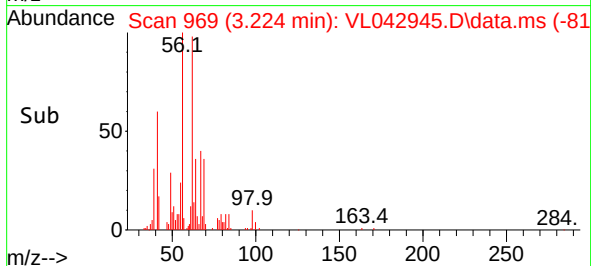
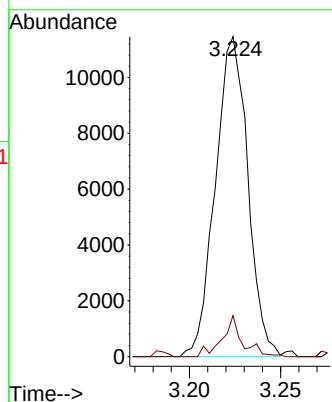
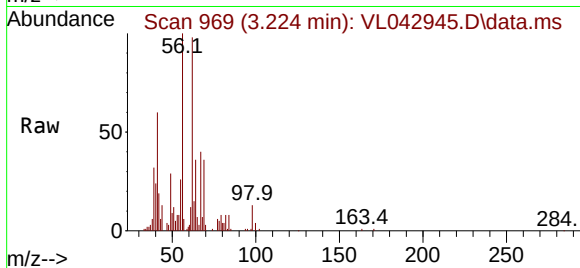
IA1

Tgt Ion: 62 Resp: 14184

Ion Ratio Lower Upper

62 100

98 8.0 5.5 8.3



#41

Tetrahydrofuran

Concen: 2.920 ppbv

RT: 3.062 min Scan# 919

Delta R.T. 0.006 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

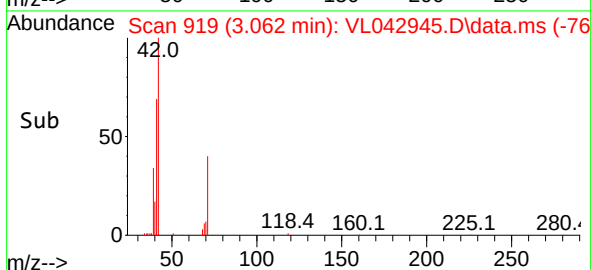
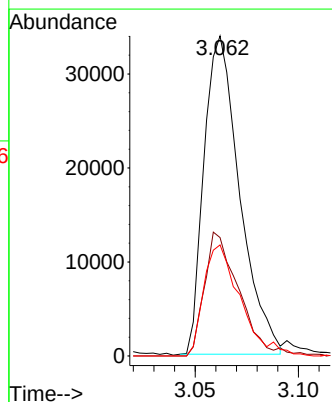
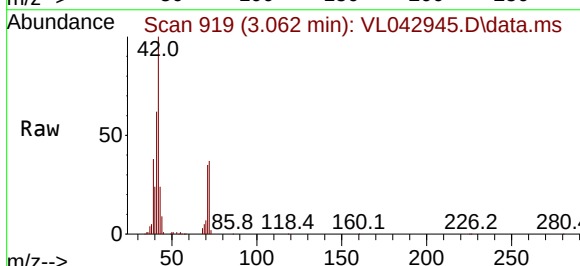
Tgt Ion: 42 Resp: 40679

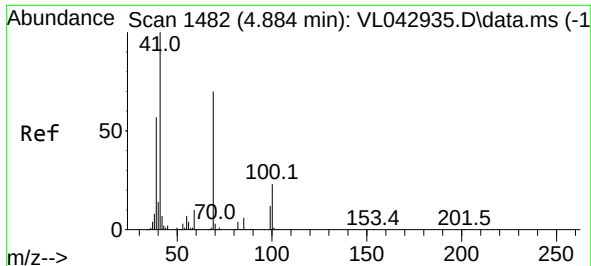
Ion Ratio Lower Upper

42 100

72 37.8 30.4 45.6

71 35.7 28.3 42.5

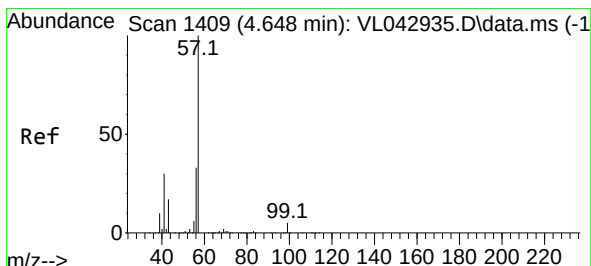
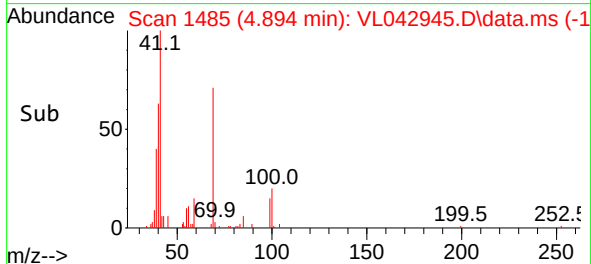
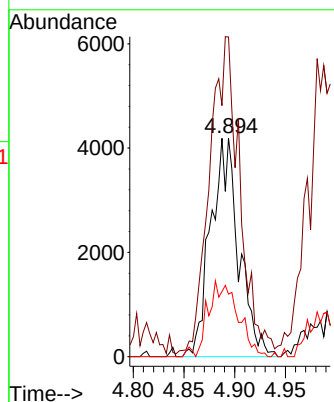
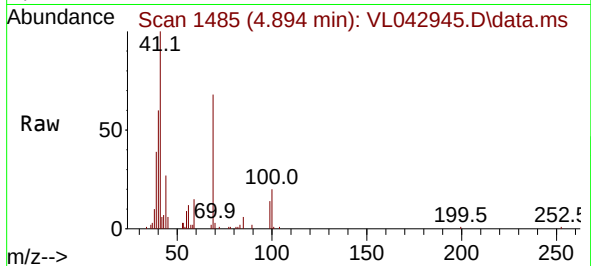




#43
Methyl Methacrylate
Concen: 0.639 ppbv m
RT: 4.894 min Scan# 1485
Delta R.T. 0.010 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

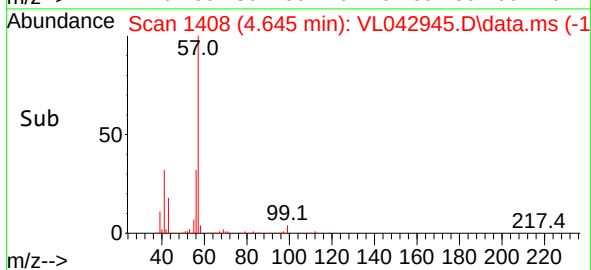
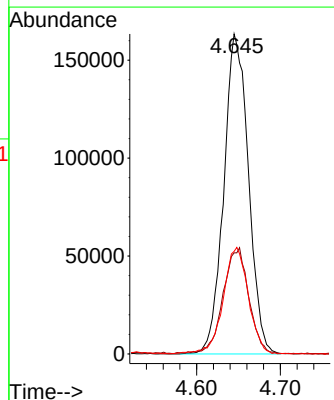
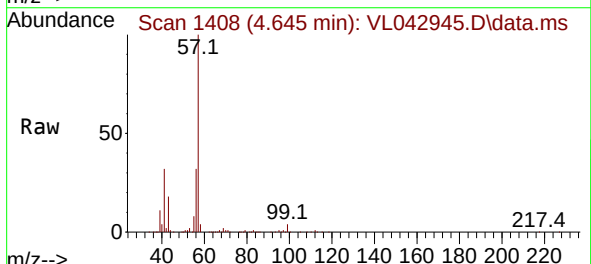
Instrument :
MSVOA_L
ClientSampleId :
IA1

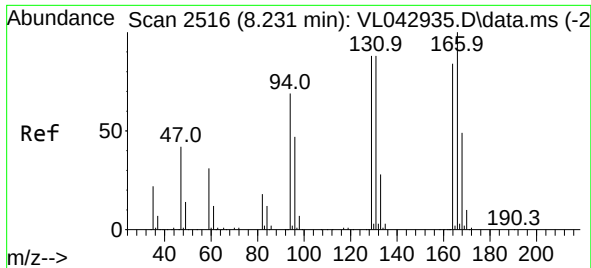
Tgt Ion: 69 Resp: 8101
Ion Ratio Lower Upper
69 100
41 0.0 118.6 178.0#
100 36.7 26.2 39.4



#44
2,2,4-Trimethylpentane
Concen: 5.285 ppbv
RT: 4.645 min Scan# 1408
Delta R.T. -0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 57 Resp: 333951
Ion Ratio Lower Upper
57 100
41 34.4 25.8 38.6
56 34.4 26.2 39.4

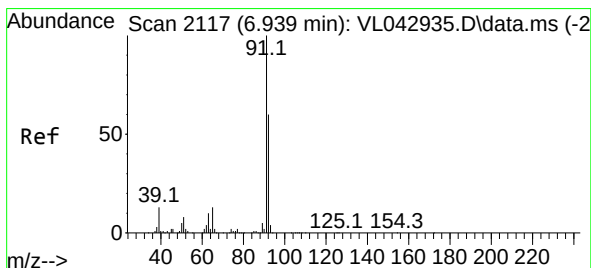
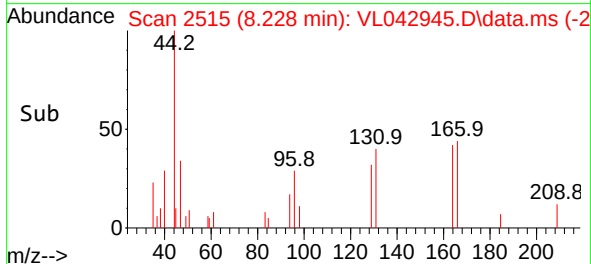
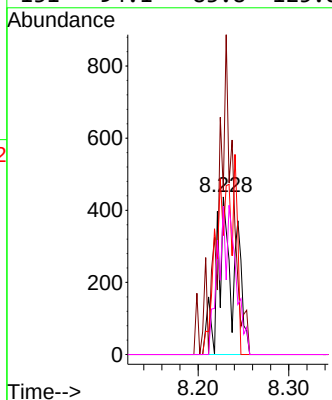
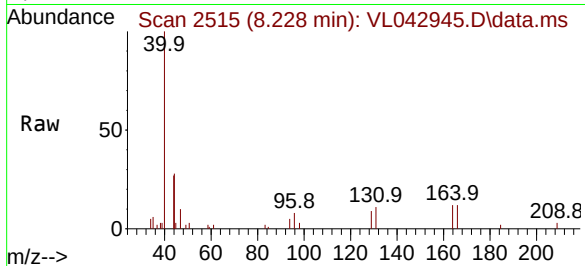




#52
Tetrachloroethene
Concen: 0.050 ppbv m
RT: 8.228 min Scan# 2117
Delta R.T. -0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

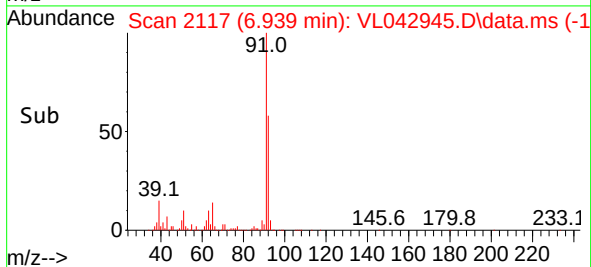
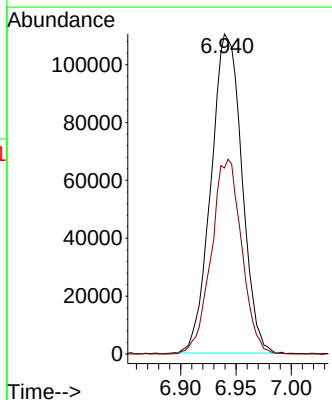
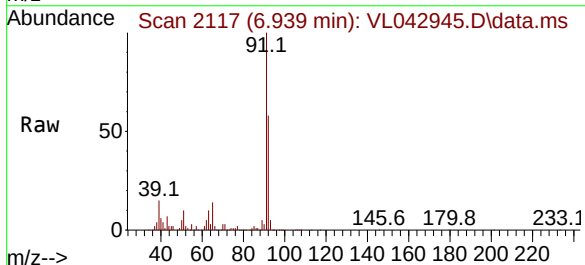
Instrument :
MSVOA_L
ClientSampleId :
IA1

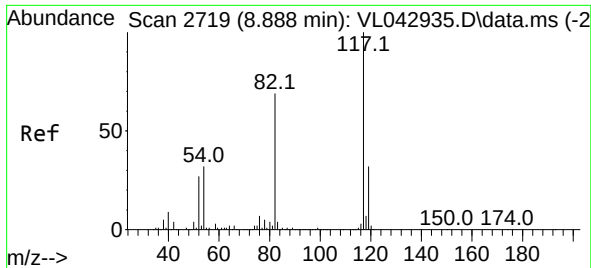
Tgt Ion:164 Resp: 584
Ion Ratio Lower Upper
164 100
166 103.9 95.4 143.0
129 75.5 84.0 126.0#
131 94.1 83.8 125.8



#53
Toluene
Concen: 6.055 ppbv
RT: 6.939 min Scan# 2117
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 91 Resp: 213911
Ion Ratio Lower Upper
91 100
92 60.0 47.4 71.2

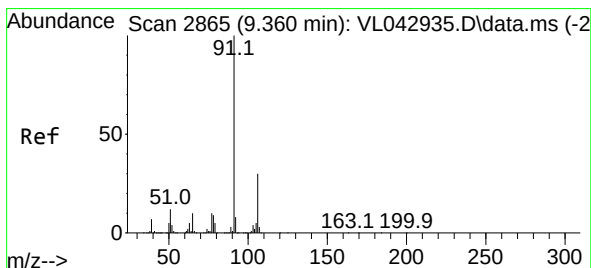
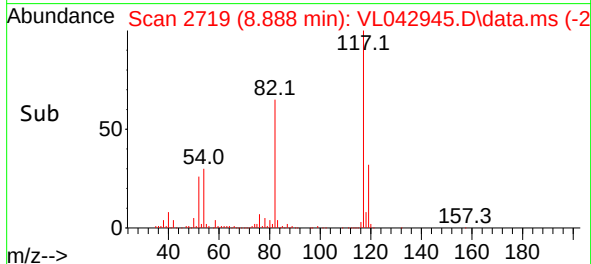
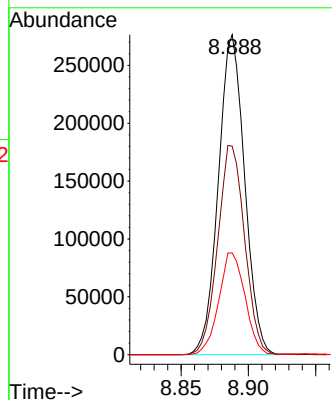
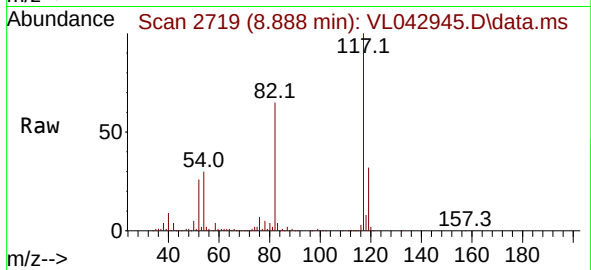




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.888 min Scan# 21
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

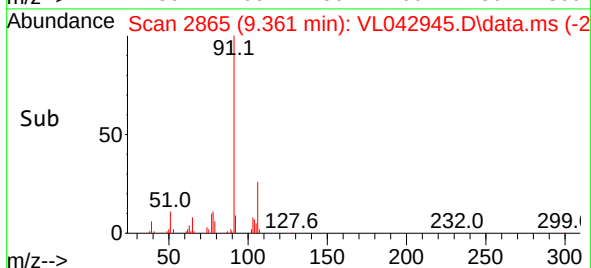
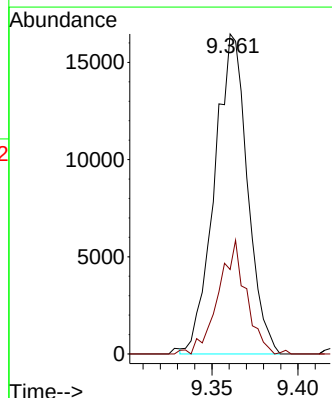
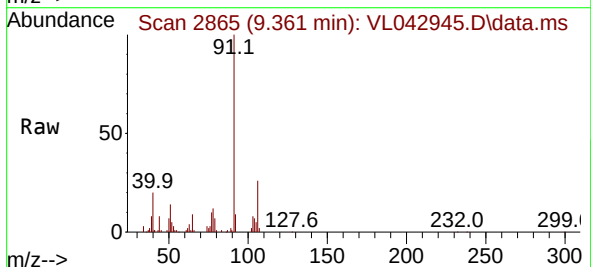
Instrument :
MSVOA_L
ClientSampleId :
IA1

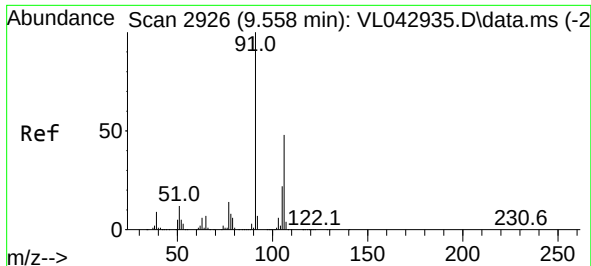
Tgt Ion:117 Resp: 375912
Ion Ratio Lower Upper
117 100
82 66.9 56.1 84.1
119 31.9 25.8 38.8



#58
Ethyl Benzene
Concen: 0.453 ppbv
RT: 9.361 min Scan# 2865
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 91 Resp: 21939
Ion Ratio Lower Upper
91 100
106 26.0 24.2 36.4





#59

m/p-Xylene

Concen: 1.489 ppbv

RT: 9.535 min Scan# 2919

Delta R.T. -0.023 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

Instrument :

MSVOA_L

ClientSampleId :

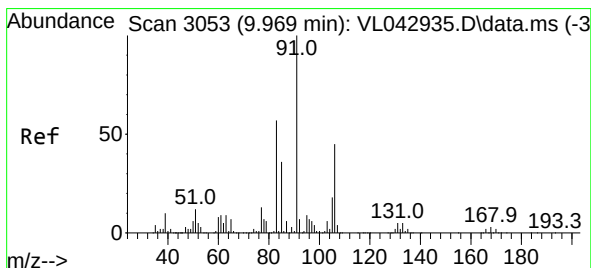
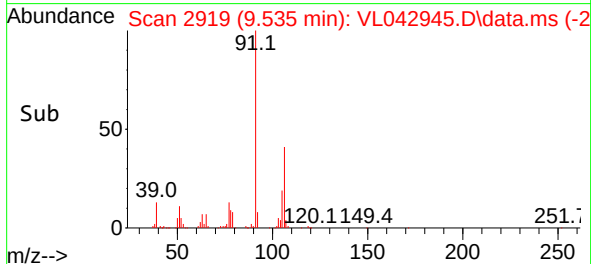
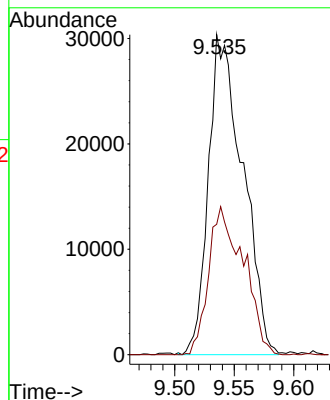
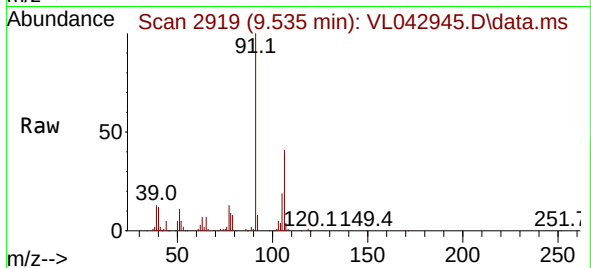
IA1

Tgt Ion: 91 Resp: 60921

Ion Ratio Lower Upper

91 100

106 47.0 37.4 56.0



#60

o-Xylene

Concen: 0.479 ppbv

RT: 9.969 min Scan# 3053

Delta R.T. 0.000 min

Lab File: VL042945.D

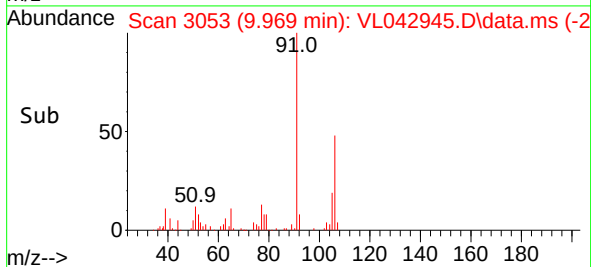
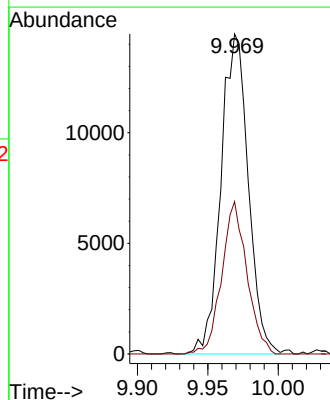
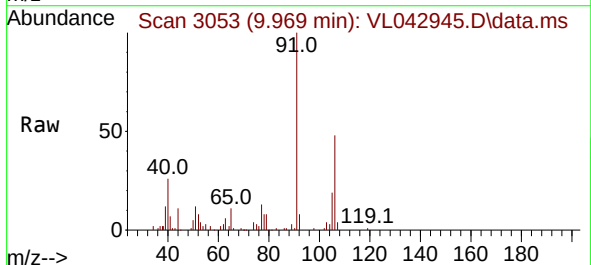
Acq: 18 Sep 2025 14:37

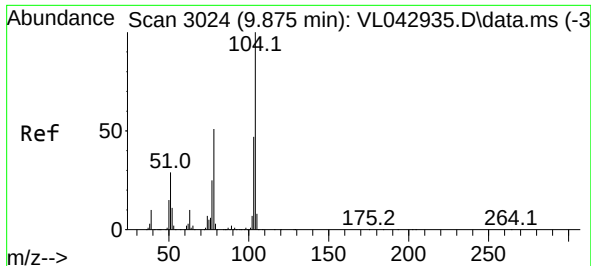
Tgt Ion: 91 Resp: 19505

Ion Ratio Lower Upper

91 100

106 44.0 22.1 66.5

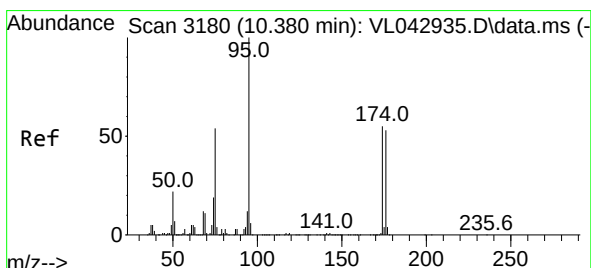
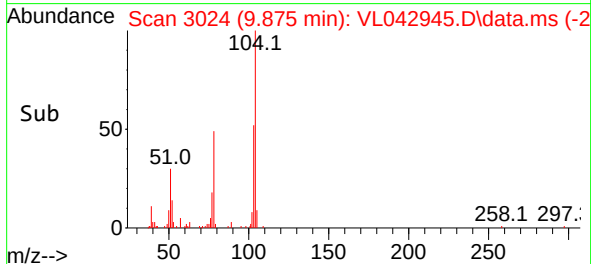
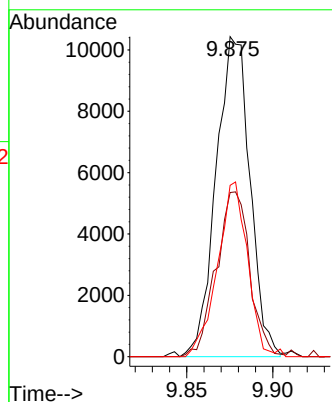
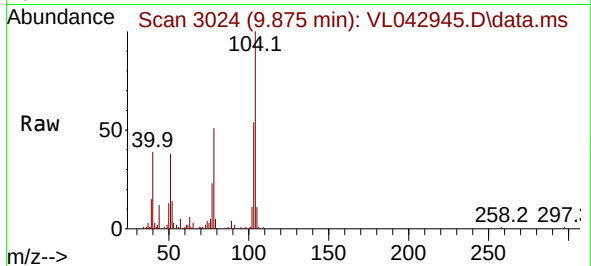




#61
Styrene
Concen: 1.184 ppbv
RT: 9.875 min Scan# 3024
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

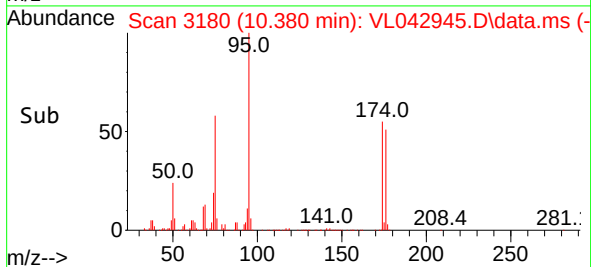
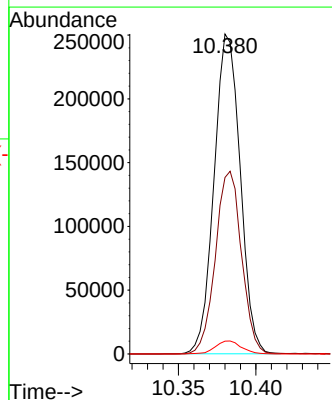
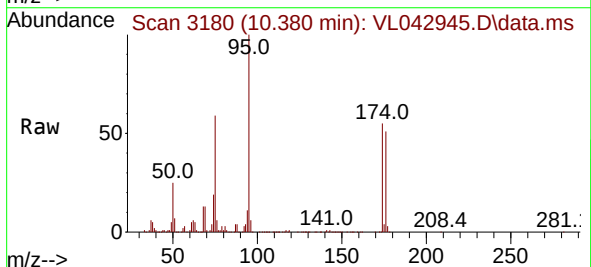
Instrument :
MSVOA_L
ClientSampleId :
IA1

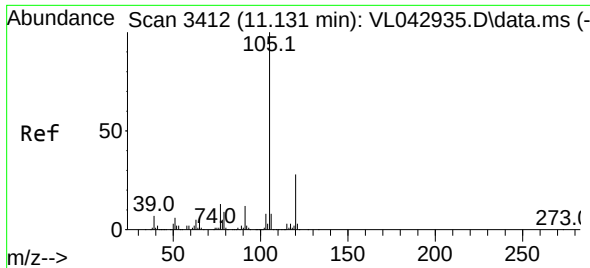
Tgt Ion:104 Resp: 14267
Ion Ratio Lower Upper
104 100
78 51.8 40.2 60.2
103 48.7 36.8 55.2



#68
1-Bromo-4-Fluorobenzene
Concen: 10.012 ppbv
RT: 10.380 min Scan# 3180
Delta R.T. 0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion: 95 Resp: 294177
Ion Ratio Lower Upper
95 100
174 57.2 44.9 67.3
175 4.1 3.3 4.9

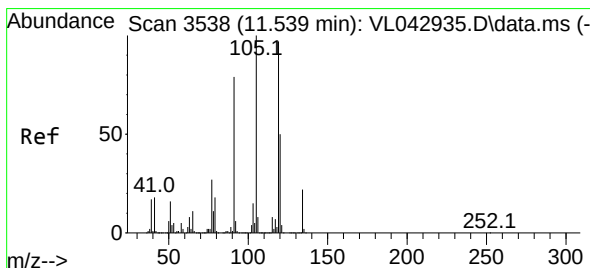
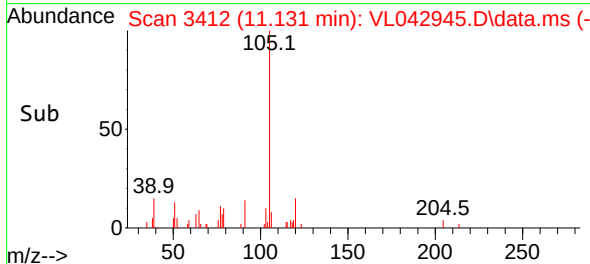
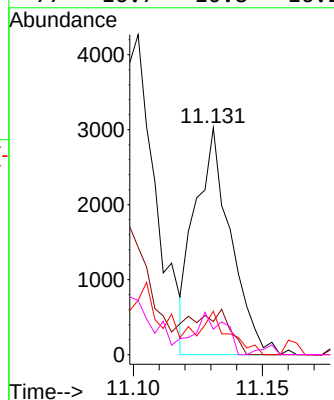
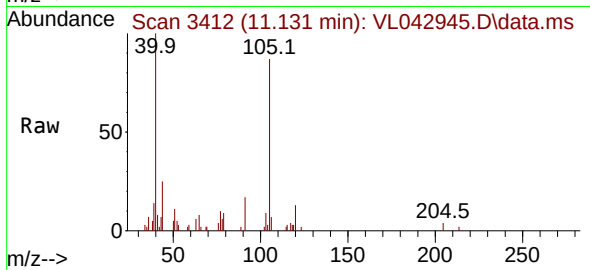




#72
4-Ethyltoluene
Concen: 0.407 ppbv
RT: 11.131 min Scan# 3412
Delta R.T. -0.000 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

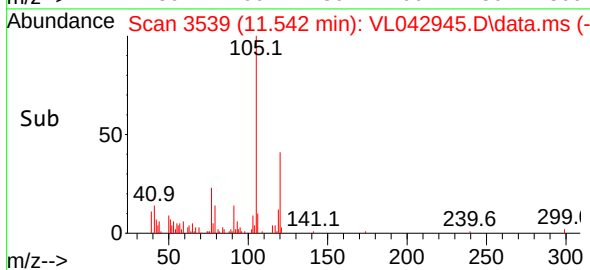
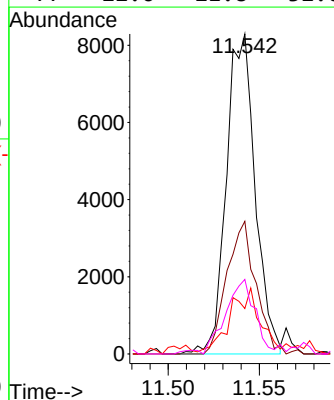
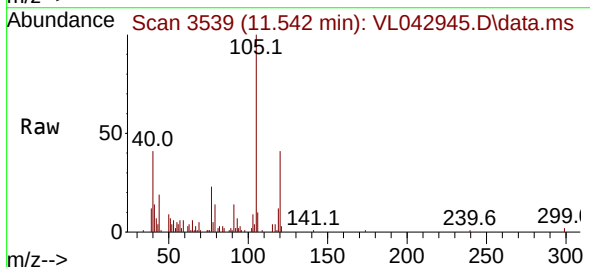
Instrument :
MSVOA_1
ClientSampleId :
IA1

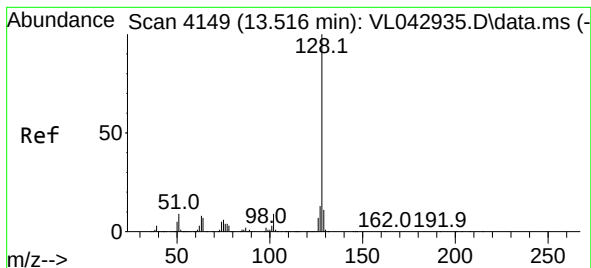
Tgt Ion:	105	Resp:	2902
Ion	Ratio	Lower	Upper
105	100		
120	0.0	23.1	34.7#
91	0.0	10.4	15.6#
77	16.7	10.8	16.2#



#74
1,2,4-Trimethylbenzene
Concen: 0.192 ppbv
RT: 11.542 min Scan# 3539
Delta R.T. 0.003 min
Lab File: VL042945.D
Acq: 18 Sep 2025 14:37

Tgt Ion:	105	Resp:	9091
Ion	Ratio	Lower	Upper
105	100		
120	44.7	39.8	59.6
91	12.6	63.1	94.7#
77	22.6	21.8	32.6





#79

Naphthalene

Concen: 0.418 ppbv

RT: 13.516 min Scan# 4149

Delta R.T. 0.000 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

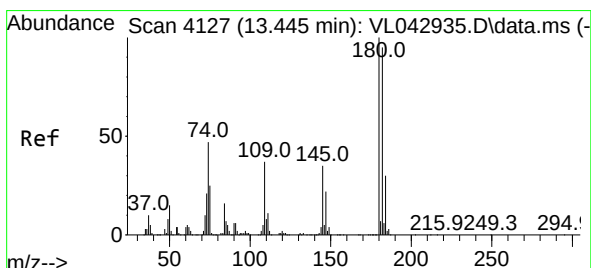
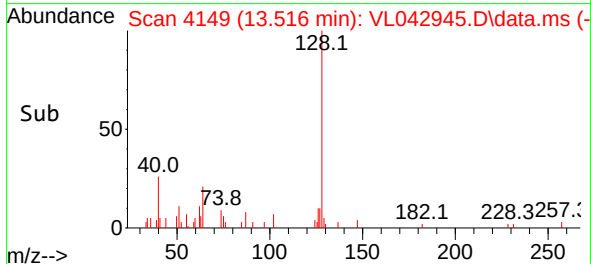
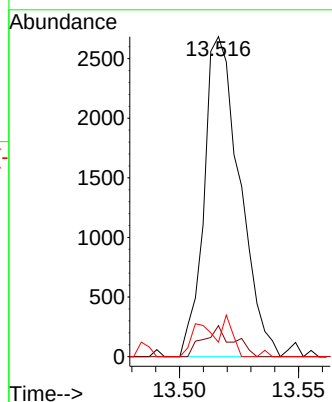
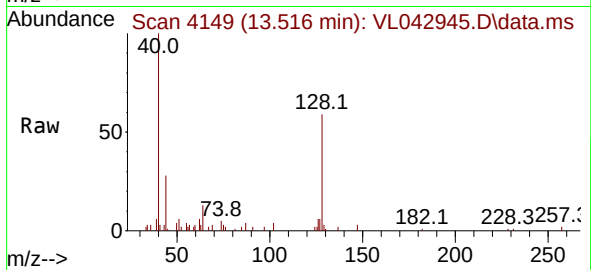
Instrument :

MSVOA_1

ClientSampleId :

IA1

Tgt Ion:	128	Resp:	2794
Ion Ratio	Lower	Upper	
128	100		
127	9.7	10.3	15.5#
129	4.5	8.7	13.1#



#81

1,2,4-Trichlorobenzene

Concen: 0.482 ppbv m

RT: 13.448 min Scan# 4128

Delta R.T. 0.003 min

Lab File: VL042945.D

Acq: 18 Sep 2025 14:37

Tgt Ion:	180	Resp:	1426
Ion Ratio	Lower	Upper	
180	100		
182	80.5	75.5	113.3
184	30.9	24.6	37.0

