

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL100925\
 Data File : VL043088.D
 Acq On : 09 Oct 2025 14:57
 Operator : SY/MD
 Sample : Q3320-06 10X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV3

Quant Time: Oct 09 22:16:21 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL100225AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Fri Oct 03 08:23:34 2025
 Response via : Initial Calibration

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

Internal Standards						
1) Bromochloromethane	2.777	49	210025	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.942	114	570300	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.862	117	536473	10.000	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.361	95	444574	11.504	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	115.000%

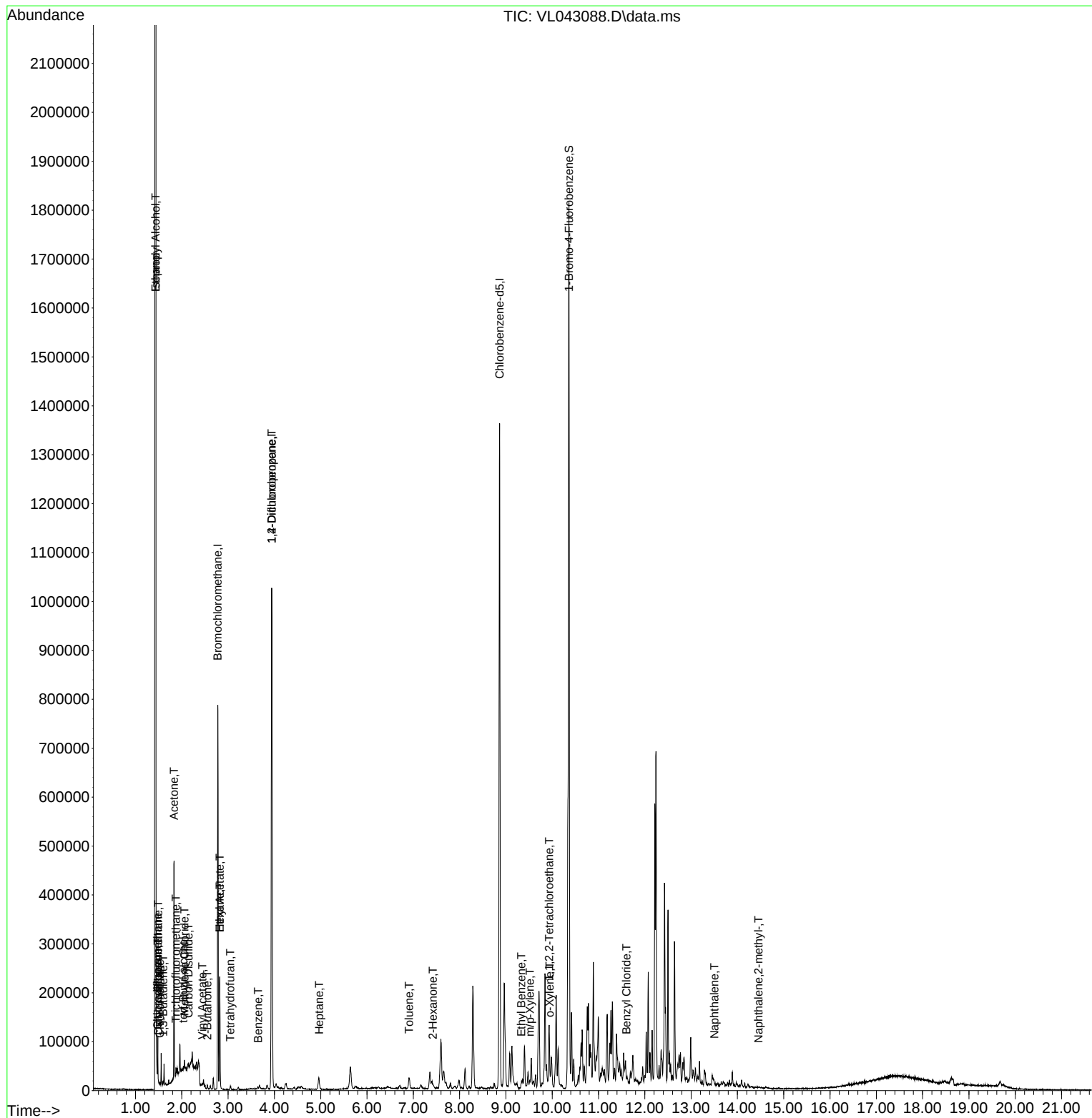
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.492	85	1722	0.049	ppbv #	86
3) Chlorodifluoromethane	1.473	51	1420	0.041	ppbv	95
4) Chloromethane	1.528	50	538	0.042	ppbv	90
9) Propene	1.483	41	6721	0.487	ppbv	85
10) Heptane	4.965	43	4100	0.121	ppbv #	27
11) Trichlorofluoromethane	1.874	101	3637	0.100	ppbv	92
13) Ethanol	1.434	45	159014	316.542	ppbv #	1
15) Acetone	1.829	43	192087	6.532	ppbv	99
16) 1,3-Butadiene	1.599	39	1165	0.096	ppbv #	36
17) tert-Butyl alcohol	2.036	59	1625	0.052	ppbv #	67
19) Isopropyl Alcohol	1.434	45	159014	11.286	ppbv #	25
20) Methylene Chloride	2.059	84	3326	0.259	ppbv	95
23) Vinyl Acetate	2.444	43	2062	0.330	ppbv #	73
25) Ethyl Acetate	2.819	43	32672	0.443	ppbv #	77
26) Hexane	2.819	57	42681	1.504	ppbv #	32
27) Carbon Disulfide	2.143	76	1959	0.058	ppbv #	1
34) 2-Butanone	2.551	43	4900	0.127	ppbv	91
36) Benzene	3.648	78	2196	0.040	ppbv #	89
39) 1,2-Dichloropropane	3.942	63	142524	7.057	ppbv #	23
41) Tetrahydrofuran	3.049	42	1410	0.071	ppbv #	70
51) 2-Hexanone	7.425	43	1211	0.036	ppbv #	96
53) Toluene	6.904	91	16378	0.298	ppbv	97
58) Ethyl Benzene	9.335	91	4956	0.060	ppbv	92
59) m/p-Xylene	9.519	91	5155	0.074	ppbv #	48
60) o-Xylene	9.946	91	7619	0.109	ppbv	87
63) 1,1,2,2-Tetrachloroethane	9.934	83	2427	0.048	ppbv #	89
66) Benzyl Chloride	11.604	91	239	0.066	ppbv #	65
79) Naphthalene	13.504	128	187	0.237	ppbv #	77
80) Naphthalene,2-methyl-	14.455	142	303	0.671	ppbv #	45

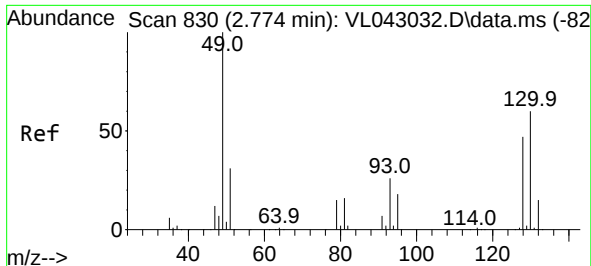
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Fri Oct 03 08:23:34 2025
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 2.777 min Scan# 81

Delta R.T. 0.003 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

SV3

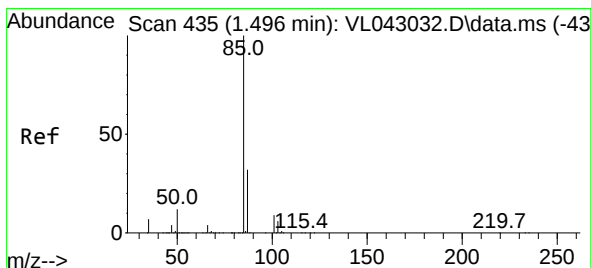
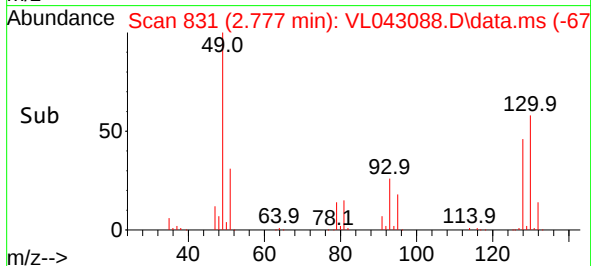
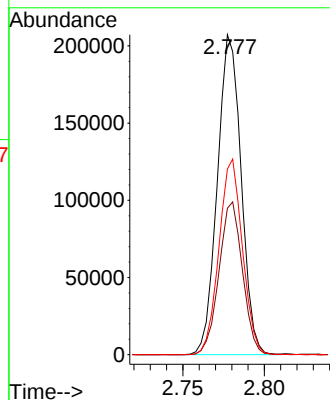
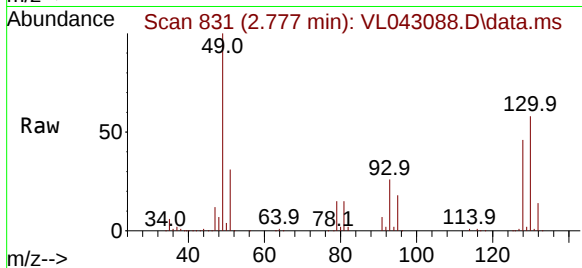
Tgt Ion: 49 Resp: 210025

Ion Ratio Lower Upper

49 100

128 47.2 24.1 72.2

130 60.5 31.4 94.3



#2

Dichlorodifluoromethane

Concen: 0.049 ppbv

RT: 1.492 min Scan# 434

Delta R.T. -0.003 min

Lab File: VL043088.D

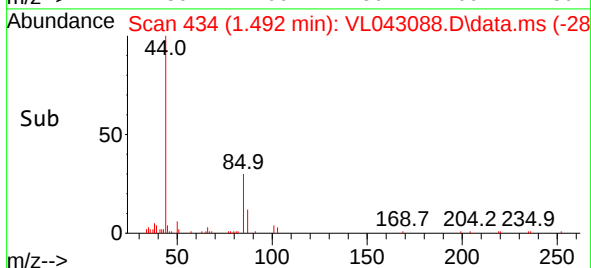
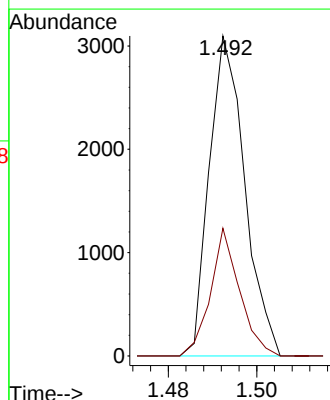
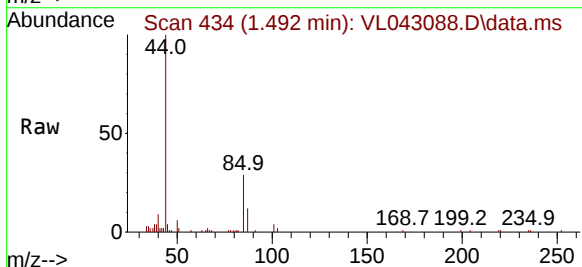
Acq: 09 Oct 2025 14:57

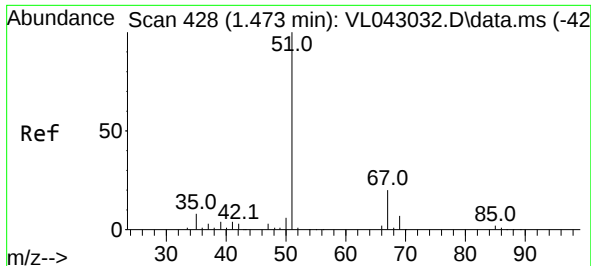
Tgt Ion: 85 Resp: 1722

Ion Ratio Lower Upper

85 100

87 39.9 25.8 38.6#





#3

Chlorodifluoromethane

Concen: 0.041 ppbv

RT: 1.473 min Scan# 41

Delta R.T. 0.000 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

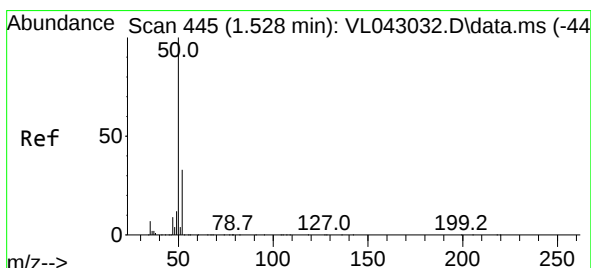
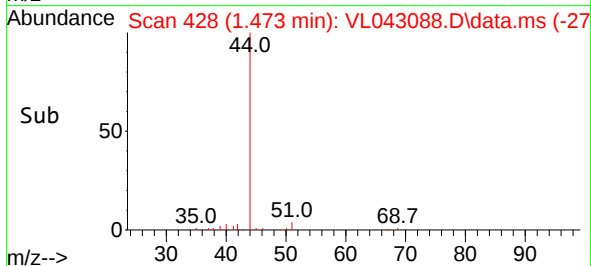
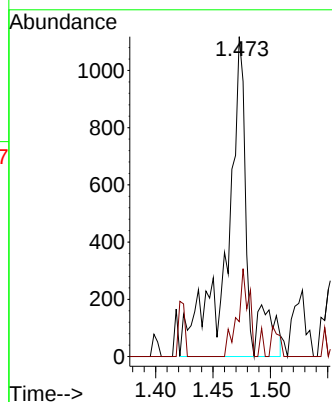
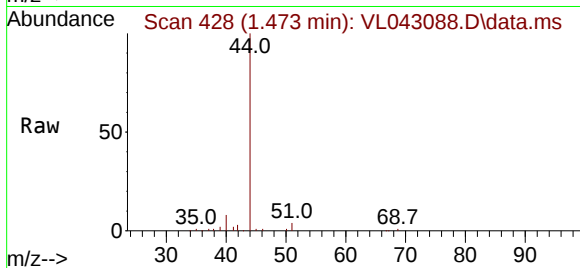
SV3

Tgt Ion: 51 Resp: 1420

Ion Ratio Lower Upper

51 100

67 16.5 15.1 22.7



#4

Chloromethane

Concen: 0.042 ppbv

RT: 1.528 min Scan# 445

Delta R.T. 0.000 min

Lab File: VL043088.D

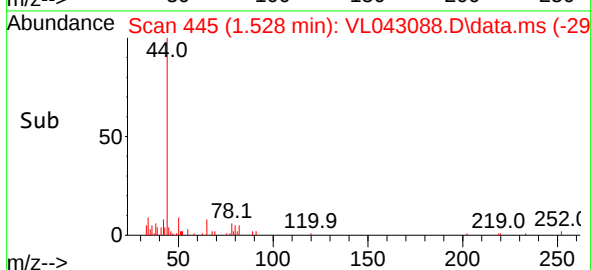
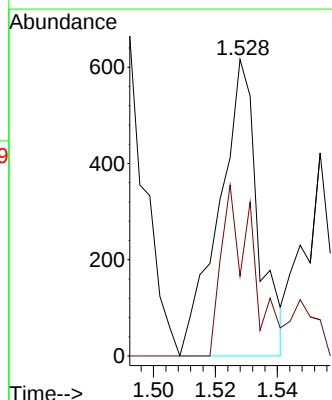
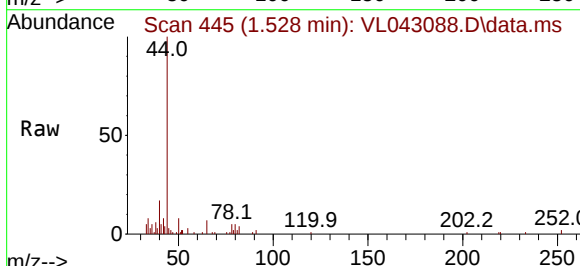
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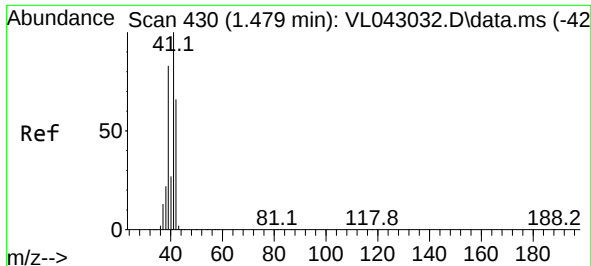
Tgt Ion: 50 Resp: 538

Ion Ratio Lower Upper

50 100

52 26.9 26.2 39.2





#9

Propene

Concen: 0.487 ppbv

RT: 1.483 min Scan# 41

Delta R.T. 0.003 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

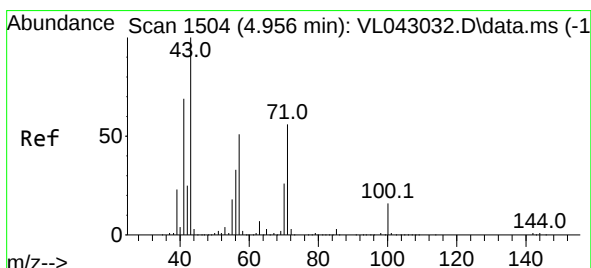
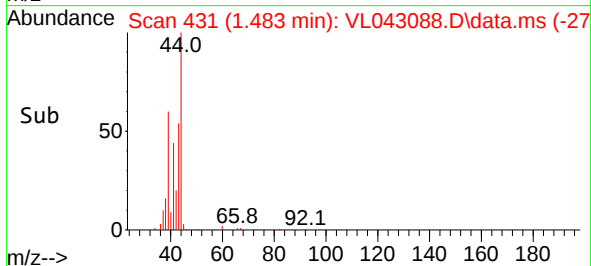
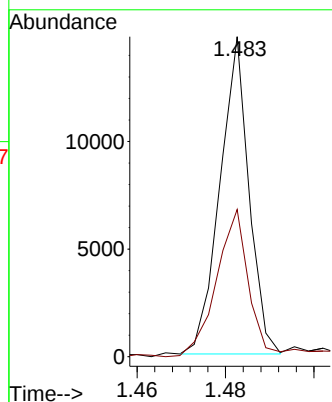
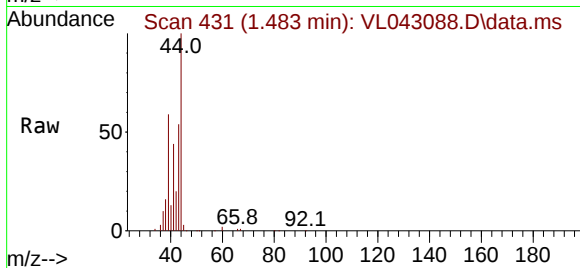
SV3

Tgt Ion: 41 Resp: 6721

Ion Ratio Lower Upper

41 100

42 54.5 53.3 79.9



#10

Heptane

Concen: 0.121 ppbv

RT: 4.965 min Scan# 1507

Delta R.T. 0.010 min

Lab File: VL043088.D

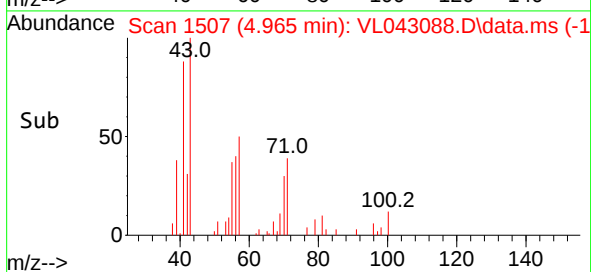
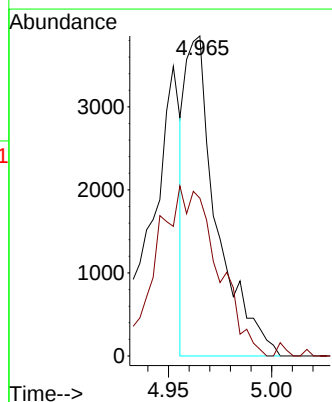
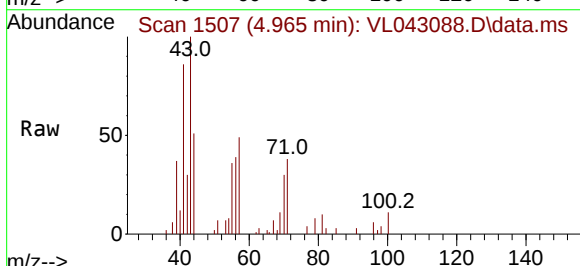
Acq: 09 Oct 2025 14:57

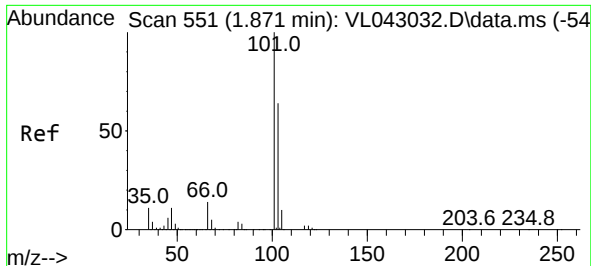
Tgt Ion: 43 Resp: 4100

Ion Ratio Lower Upper

43 100

57 0.0 40.3 60.5#

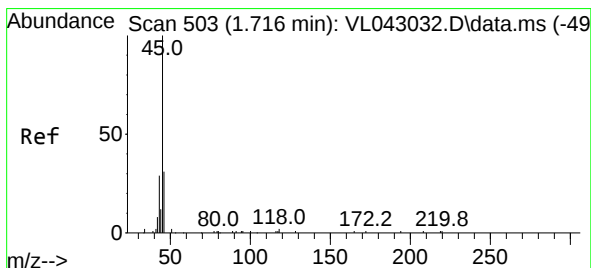
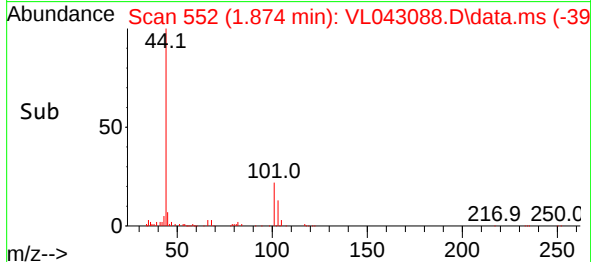
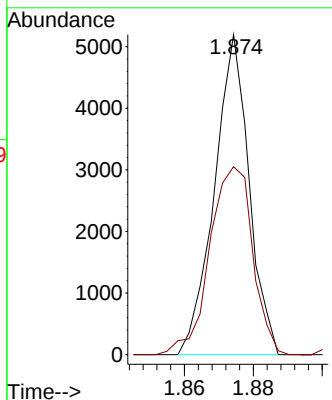
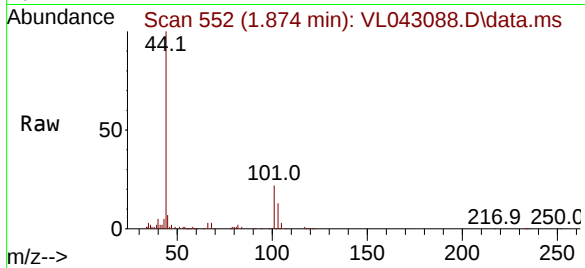




#11
Trichlorofluoromethane
Concen: 0.100 ppbv
RT: 1.874 min Scan# 511
Delta R.T. 0.003 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

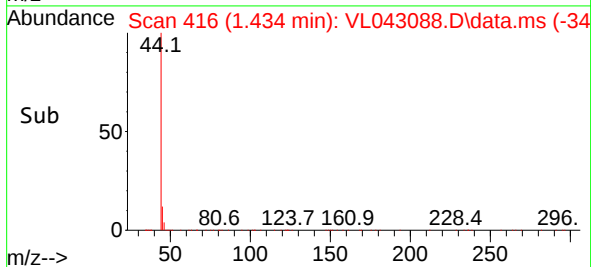
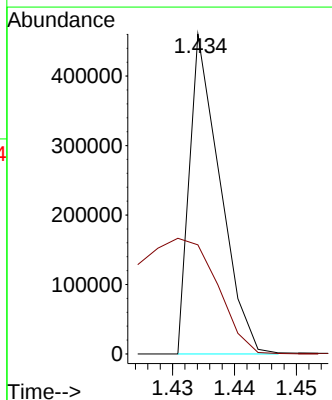
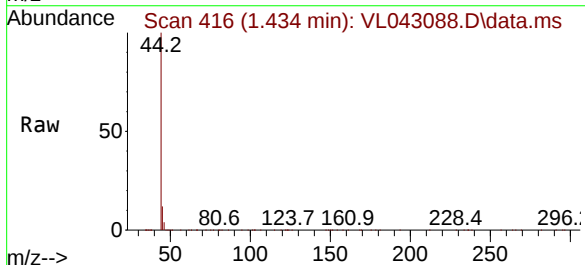
Instrument :
MSVOA_L
ClientSampleId :
SV3

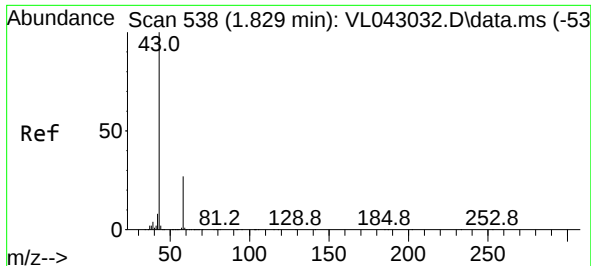
Tgt Ion:101 Resp: 3637
Ion Ratio Lower Upper
101 100
103 57.5 51.1 76.7



#13
Ethanol
Concen: 316.542 ppbv
RT: 1.434 min Scan# 416
Delta R.T. -0.282 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

Tgt Ion: 45 Resp: 159014
Ion Ratio Lower Upper
45 100
46 120.6 17.8 71.4#

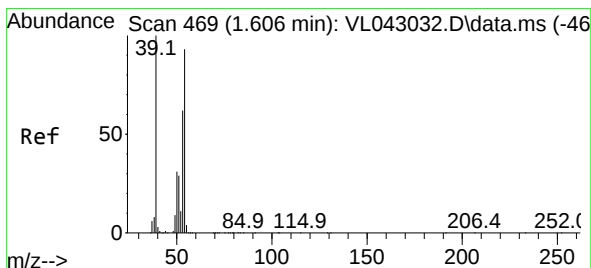
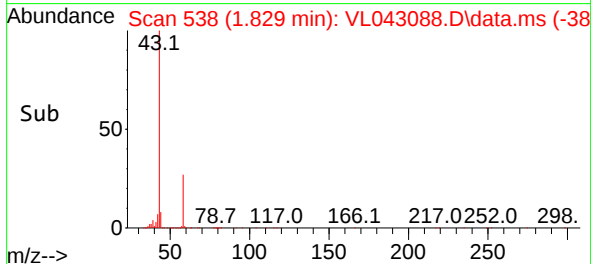
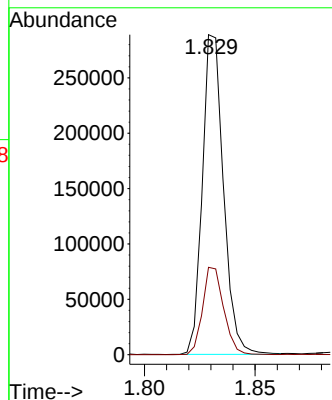
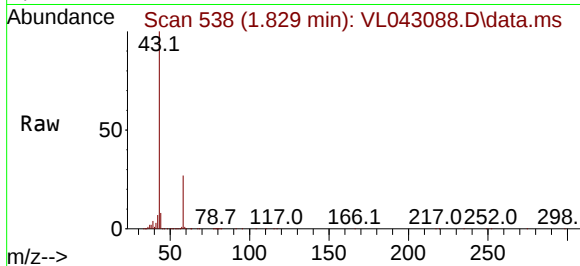




#15
Acetone
Concen: 6.532 ppbv
RT: 1.829 min Scan# 51
Delta R.T. 0.000 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

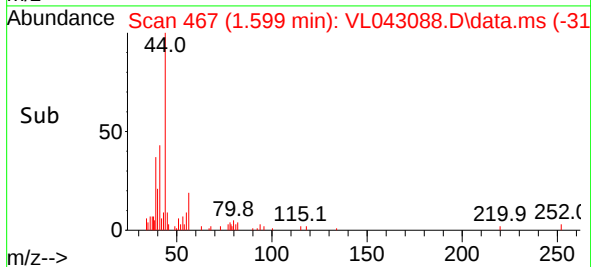
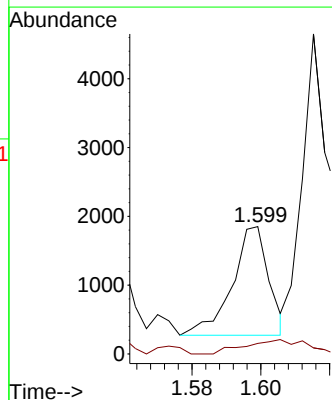
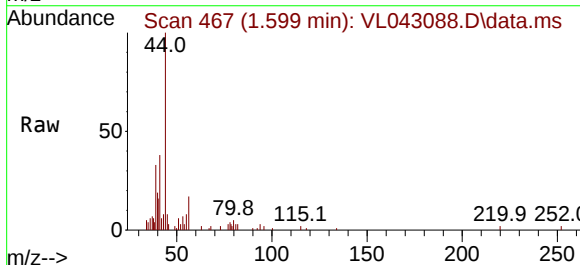
Instrument :
MSVOA_L
ClientSampleId :
SV3

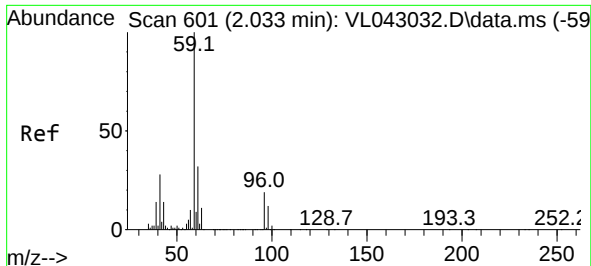
Tgt Ion: 43 Resp: 192087
Ion Ratio Lower Upper
43 100
58 27.5 22.2 33.4



#16
1,3-Butadiene
Concen: 0.096 ppbv
RT: 1.599 min Scan# 467
Delta R.T. -0.006 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

Tgt Ion: 39 Resp: 1165
Ion Ratio Lower Upper
39 100
54 22.0 61.4 92.2#





#17

tert-Butyl alcohol

Concen: 0.052 ppbv

RT: 2.036 min Scan# 601

Delta R.T. 0.003 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

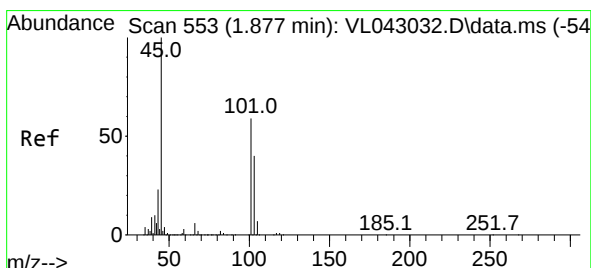
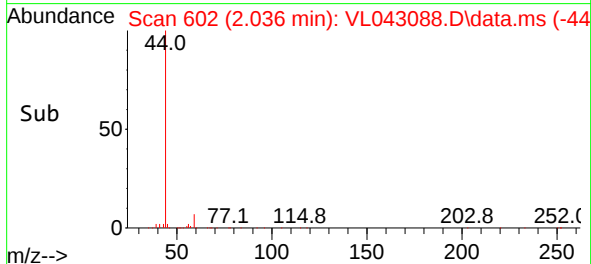
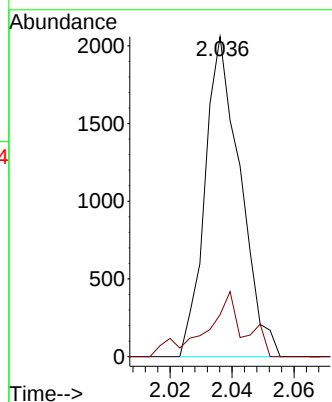
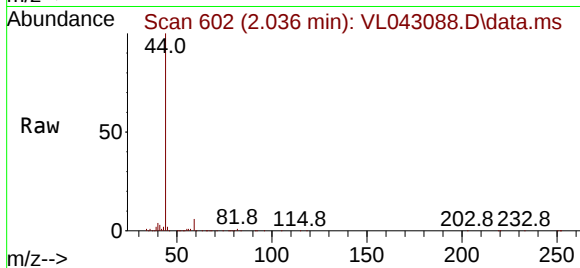
SV3

Tgt Ion: 59 Resp: 1625

Ion Ratio Lower Upper

59 100

57 22.8 8.5 12.7#



#19

Isopropyl Alcohol

Concen: 11.286 ppbv

RT: 1.434 min Scan# 416

Delta R.T. -0.443 min

Lab File: VL043088.D

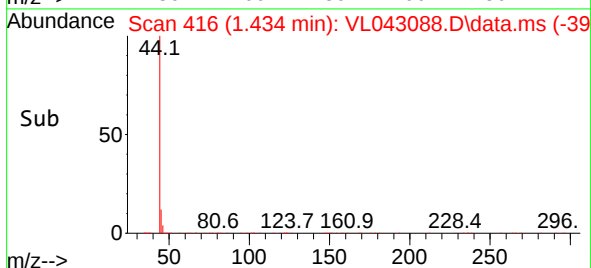
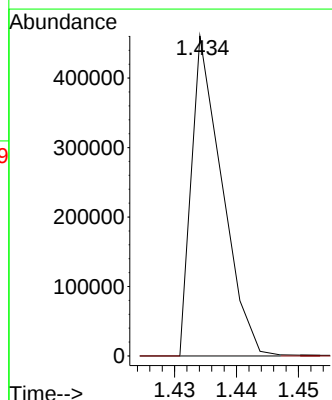
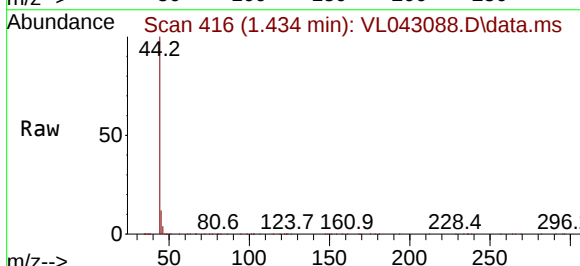
Acq: 09 Oct 2025 14:57

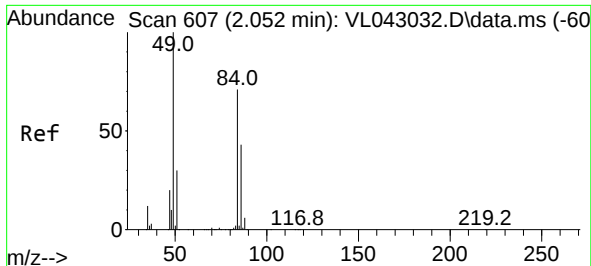
Tgt Ion: 45 Resp: 159014

Ion Ratio Lower Upper

45 100

58 0.0 42.3 63.5#





#20

Methylene Chloride

Concen: 0.259 ppbv

RT: 2.059 min Scan# 607

Delta R.T. 0.006 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

SV3

Tgt Ion: 84 Resp: 3326

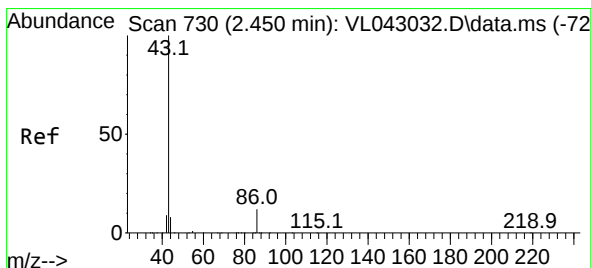
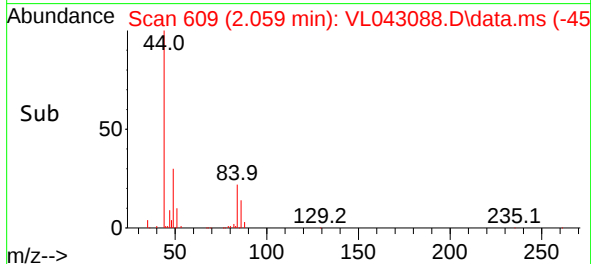
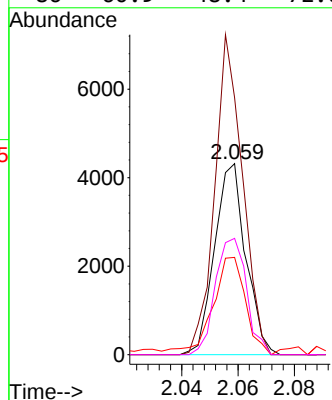
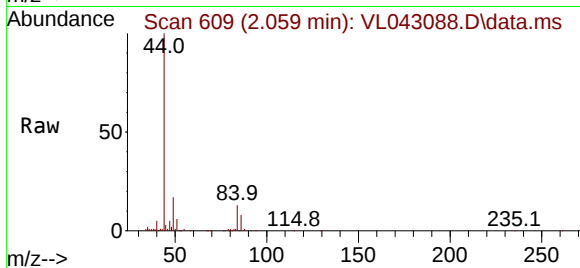
Ion Ratio Lower Upper

84 100

49 134.5 112.5 168.7

51 48.2 34.2 51.2

86 60.9 48.4 72.6



#23

Vinyl Acetate

Concen: 0.330 ppbv

RT: 2.444 min Scan# 728

Delta R.T. -0.006 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Tgt Ion: 43 Resp: 2062

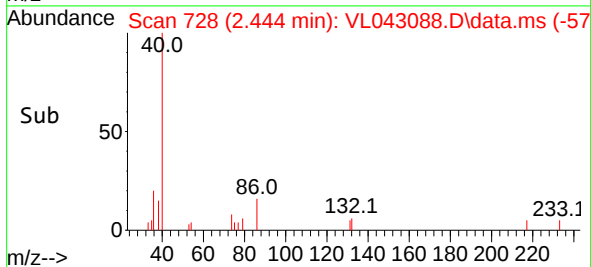
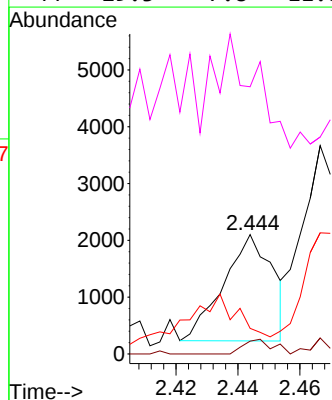
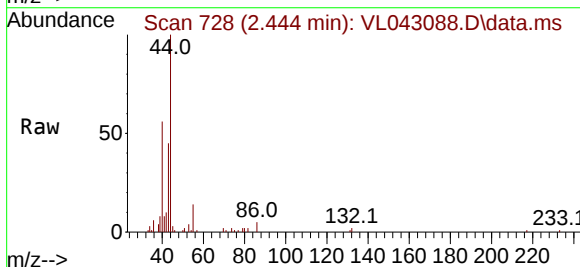
Ion Ratio Lower Upper

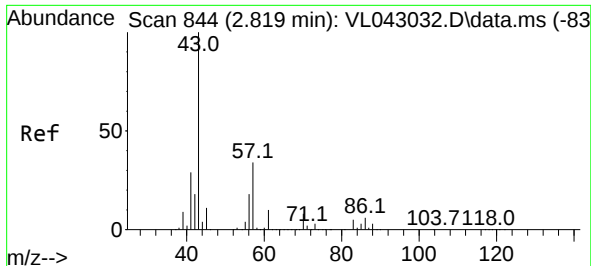
43 100

86 12.1 7.5 11.3#

42 2.7 8.4 12.6#

44 29.3 7.8 11.8#

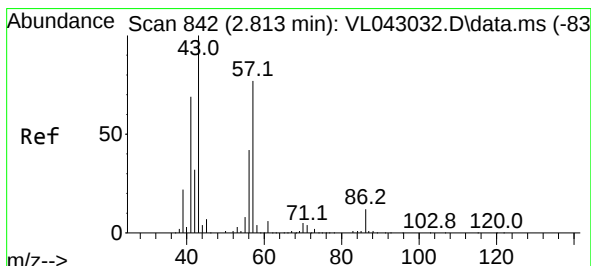
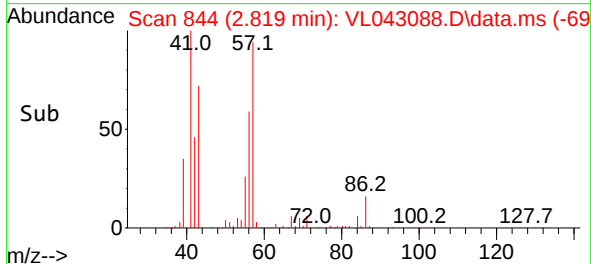
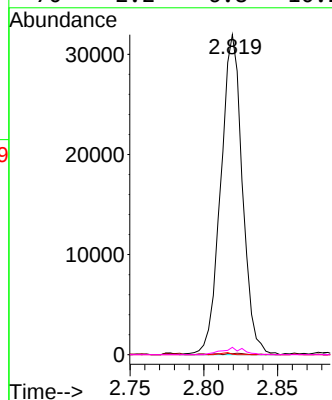
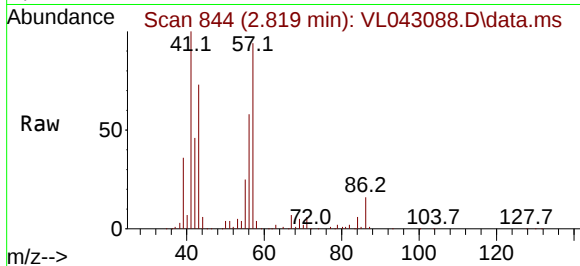




#25
Ethyl Acetate
Concen: 0.443 ppbv
RT: 2.819 min Scan# 844
Delta R.T. 0.000 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

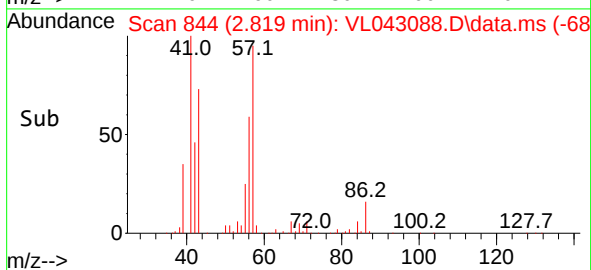
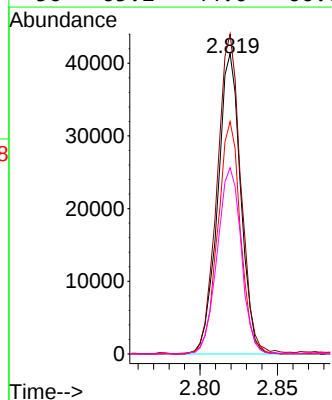
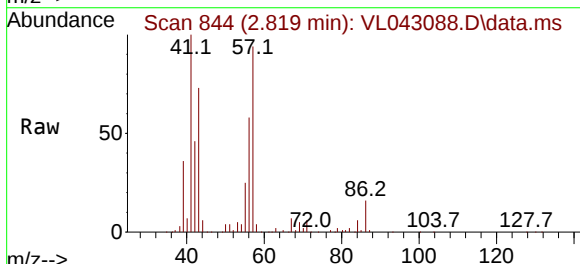
Instrument :
MSVOA_L
ClientSampleId :
SV3

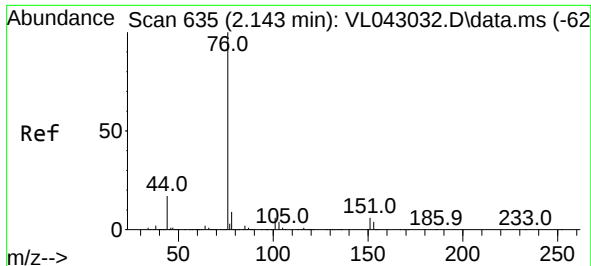
Tgt Ion: 43	Resp: 32672
Ion Ratio	Lower Upper
43 100	
45 0.7	8.3 12.5#
61 0.3	7.5 11.3#
70 2.2	6.8 10.2#



#26
Hexane
Concen: 1.504 ppbv
RT: 2.819 min Scan# 844
Delta R.T. 0.006 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

Tgt	Ion: 57	Resp:	42681
Ion	Ratio	Lower	Upper
57	100		
41	111.0	76.1	114.1
43	76.9	201.4	302.0#
56	65.2	44.0	66.0





#27

Carbon Disulfide

Concen: 0.058 ppbv

RT: 2.143 min Scan# 61

Delta R.T. 0.000 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

SV3

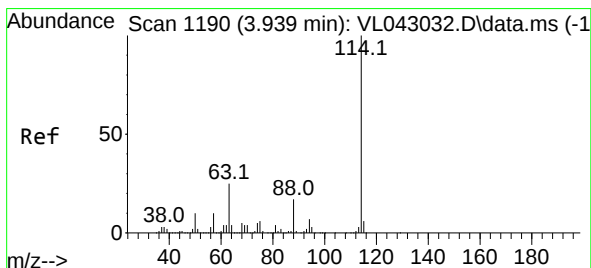
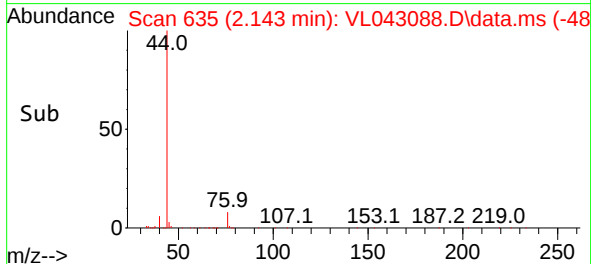
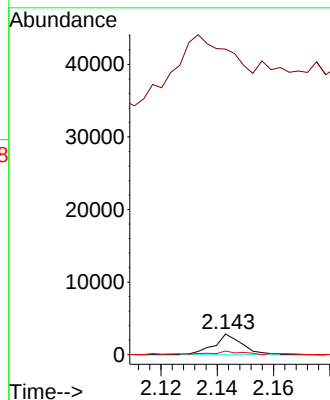
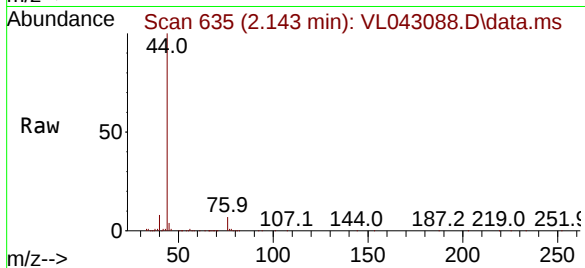
Tgt Ion: 76 Resp: 1959

Ion Ratio Lower Upper

76 100

44 6531.9 14.0 21.0#

78 28.3 9.4 14.0#



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.942 min Scan# 1191

Delta R.T. 0.003 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

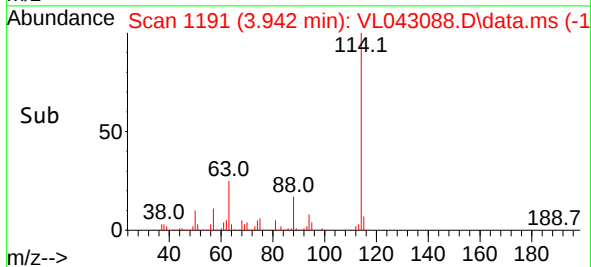
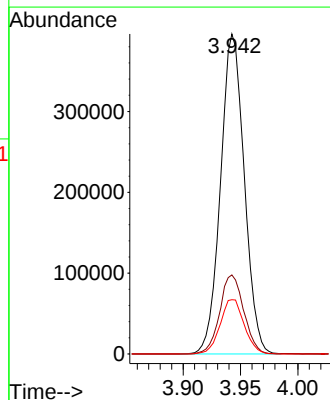
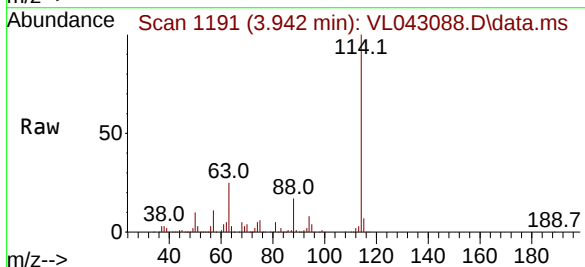
Tgt Ion: 114 Resp: 570300

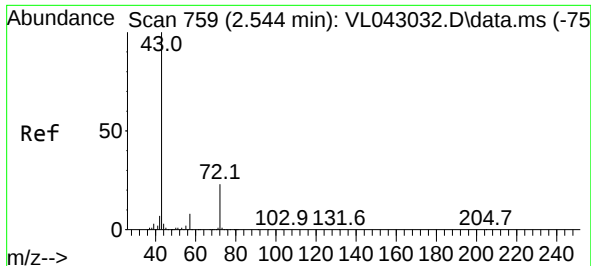
Ion Ratio Lower Upper

114 100

63 25.0 19.4 29.2

88 17.2 13.9 20.9

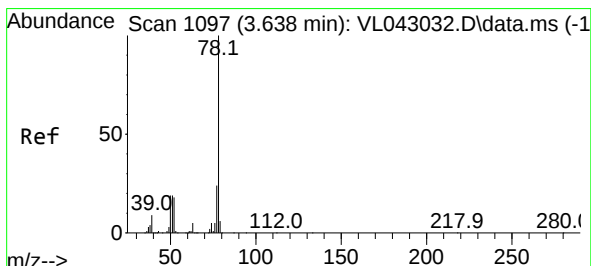
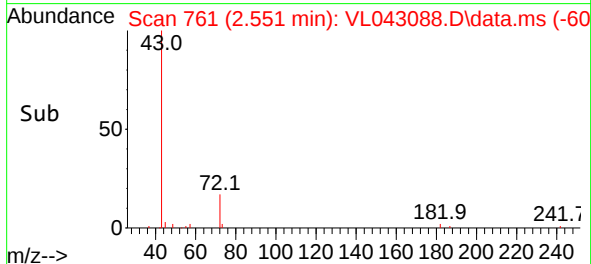
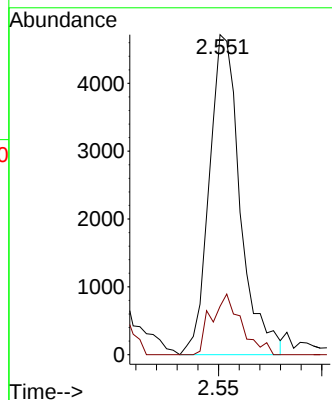
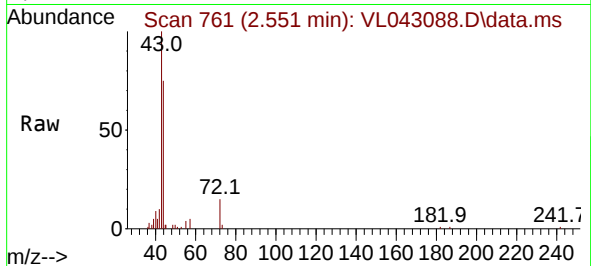




#34
2-Butanone
Concen: 0.127 ppbv
RT: 2.551 min Scan# 71
Delta R.T. 0.006 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

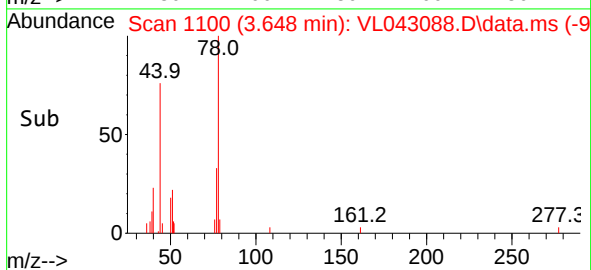
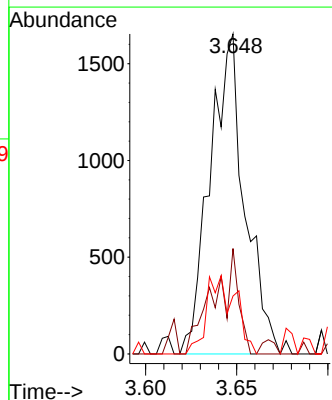
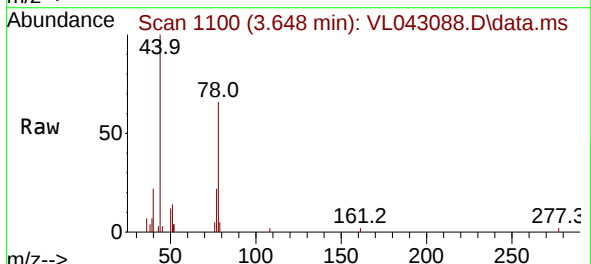
Instrument :
MSVOA_L
ClientSampleId :
SV3

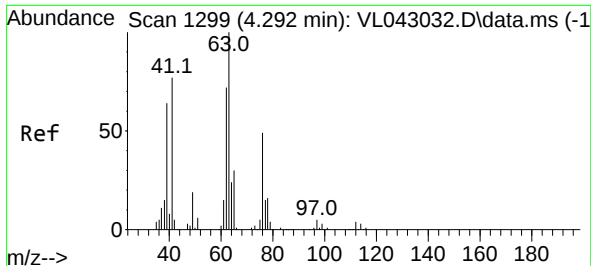
Tgt Ion: 43 Resp: 4900
Ion Ratio Lower Upper
43 100
72 18.6 18.4 27.6



#36
Benzene
Concen: 0.040 ppbv
RT: 3.648 min Scan# 1100
Delta R.T. 0.010 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

Tgt Ion: 78 Resp: 2196
Ion Ratio Lower Upper
78 100
77 33.0 19.2 28.8#
50 18.1 14.9 22.3





#39

1,2-Dichloropropane

Concen: 7.057 ppbv

RT: 3.942 min Scan# 1191

Delta R.T. -0.350 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

SV3

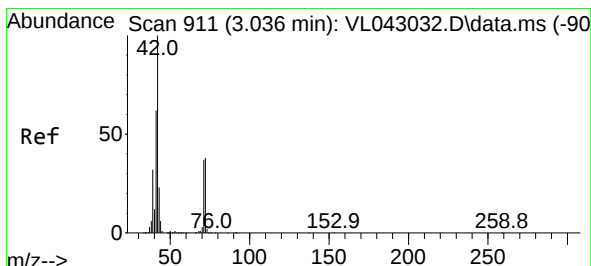
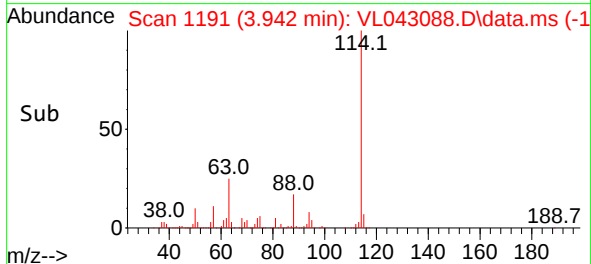
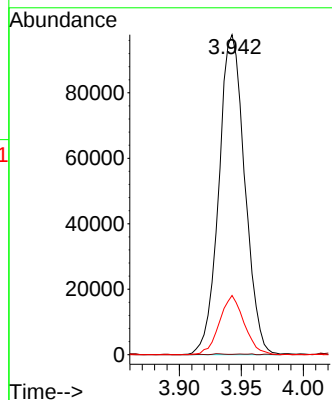
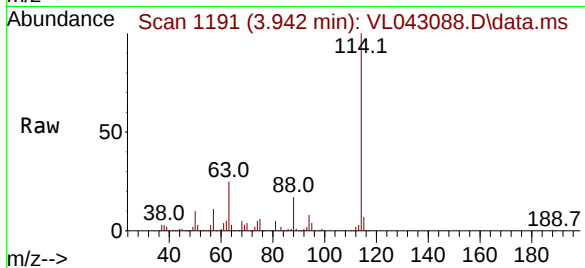
Tgt Ion: 63 Resp: 142524

Ion Ratio Lower Upper

63 100

41 0.1 61.6 92.4#

62 18.5 58.1 87.1#



#41

Tetrahydrofuran

Concen: 0.071 ppbv

RT: 3.049 min Scan# 915

Delta R.T. 0.013 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

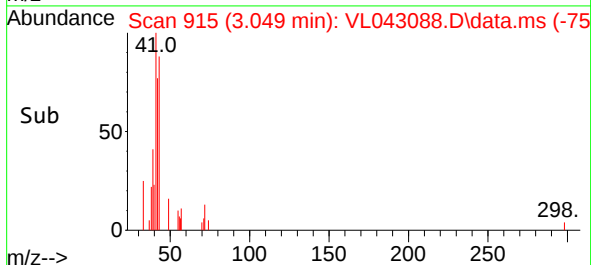
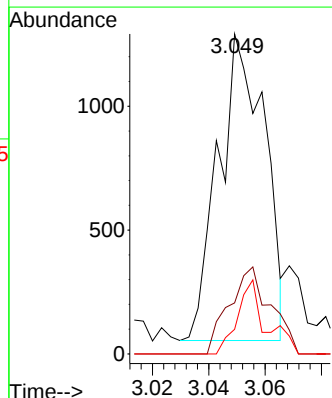
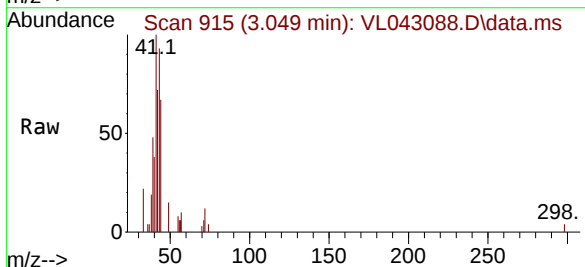
Tgt Ion: 42 Resp: 1410

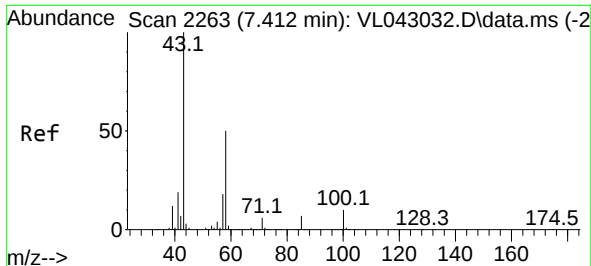
Ion Ratio Lower Upper

42 100

72 25.4 31.0 46.6#

71 14.6 29.8 44.6#

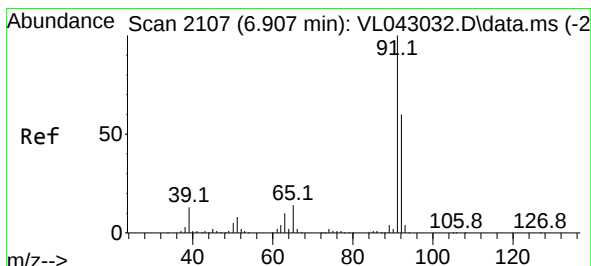
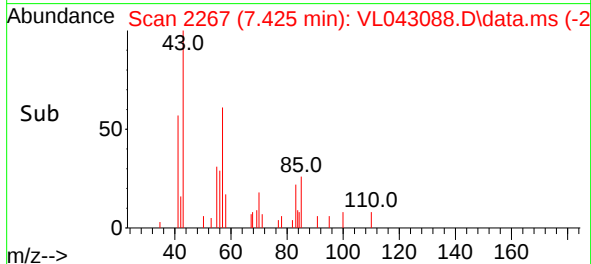
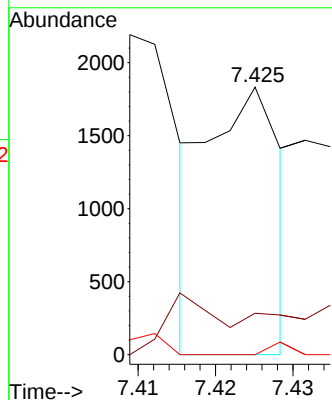
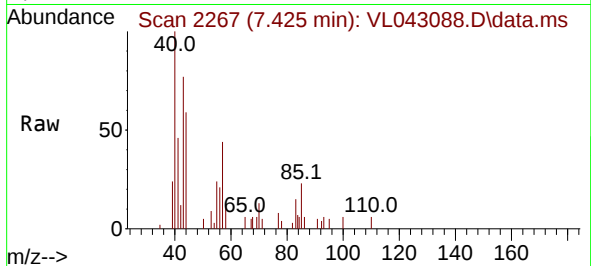




#51
2-Hexanone
Concen: 0.036 ppbv
RT: 7.425 min Scan# 2106
Delta R.T. 0.013 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

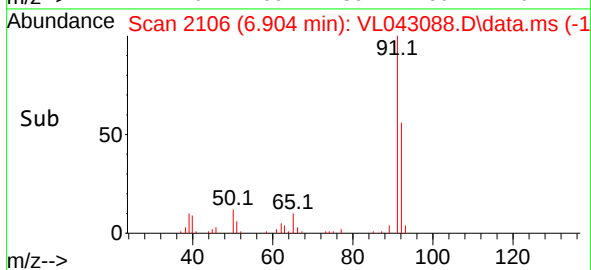
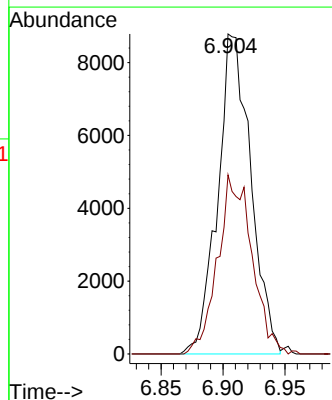
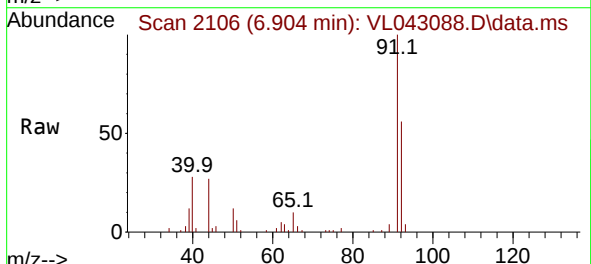
Instrument :
MSVOA_L
ClientSampleId :
SV3

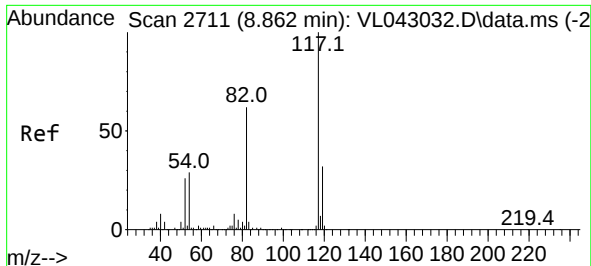
Tgt Ion: 43 Resp: 1211
Ion Ratio Lower Upper
43 100
58 45.9 39.1 58.7
98 0.0 0.5 0.7#



#53
Toluene
Concen: 0.298 ppbv
RT: 6.904 min Scan# 2106
Delta R.T. -0.003 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

Tgt Ion: 91 Resp: 16378
Ion Ratio Lower Upper
91 100
92 57.7 47.8 71.6

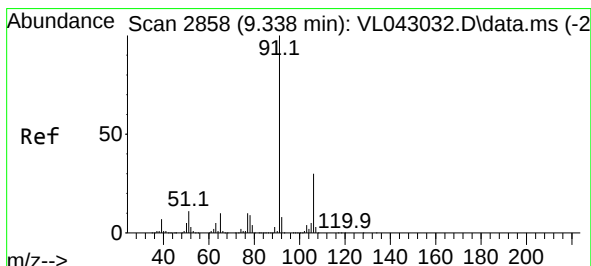
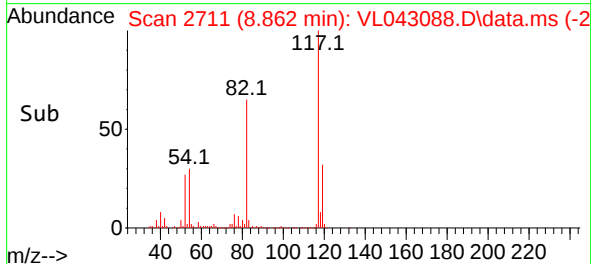
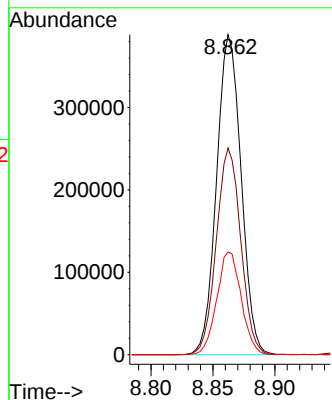
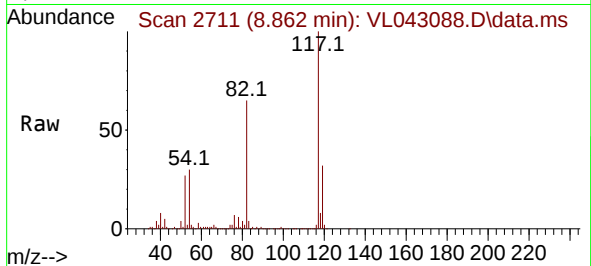




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.862 min Scan# 21
Delta R.T. 0.000 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

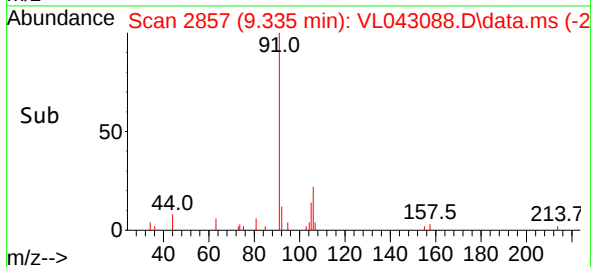
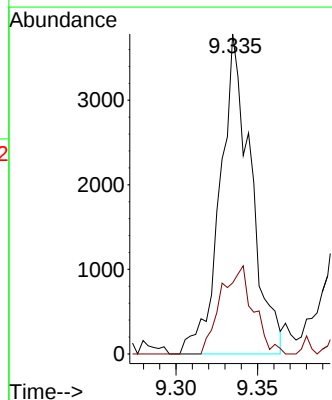
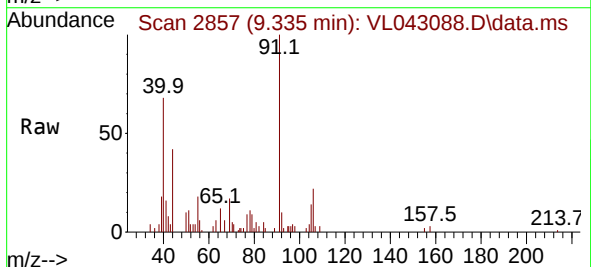
Instrument :
MSVOA_L
ClientSampleId :
SV3

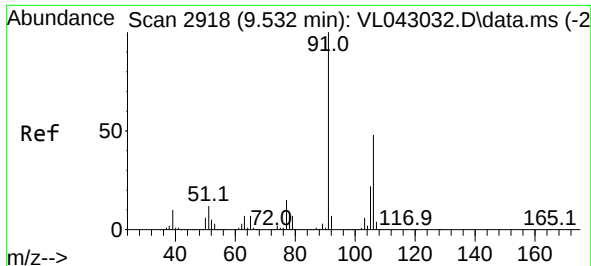
Tgt Ion:117 Resp: 536473
Ion Ratio Lower Upper
117 100
82 64.3 53.0 79.6
119 31.9 25.4 38.2



#58
Ethyl Benzene
Concen: 0.060 ppbv
RT: 9.335 min Scan# 2857
Delta R.T. -0.003 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

Tgt Ion: 91 Resp: 4956
Ion Ratio Lower Upper
91 100
106 25.6 24.1 36.1





#59

m/p-Xylene

Concen: 0.074 ppbv

RT: 9.519 min Scan# 2918

Delta R.T. -0.013 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

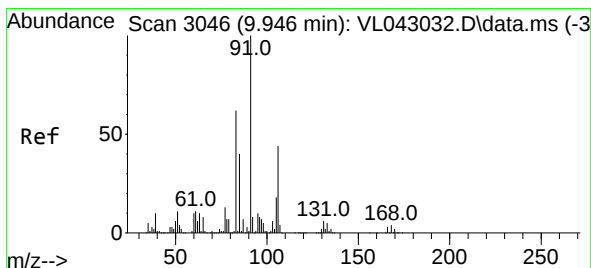
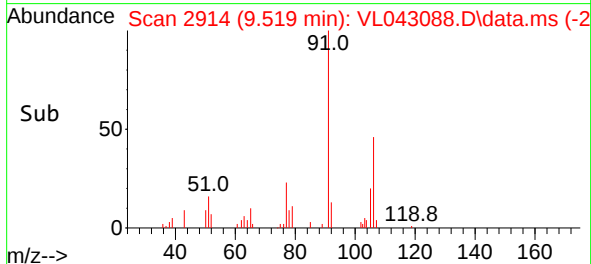
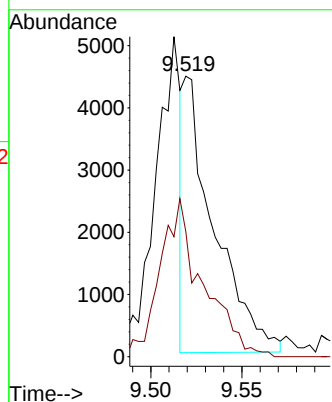
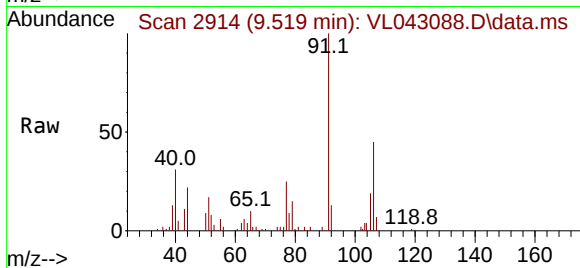
SV3

Tgt Ion: 91 Resp: 5155

Ion Ratio Lower Upper

91 100

106 81.8 37.5 56.3#



#60

o-Xylene

Concen: 0.109 ppbv

RT: 9.946 min Scan# 3046

Delta R.T. 0.000 min

Lab File: VL043088.D

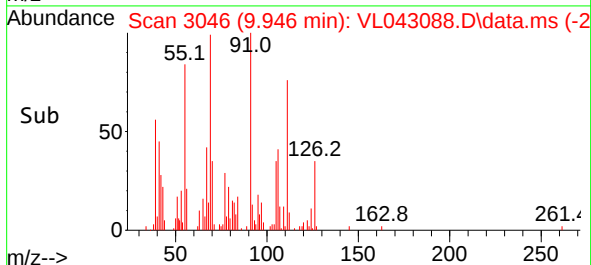
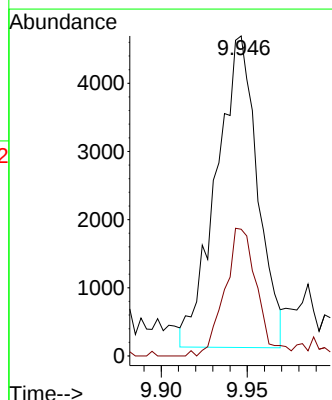
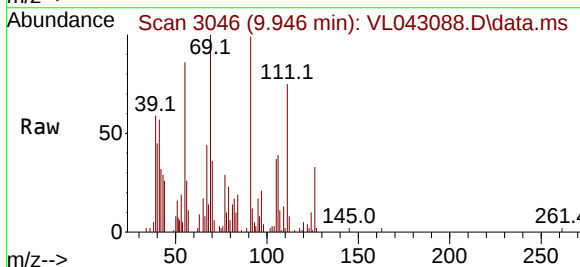
Acq: 09 Oct 2025 14:57

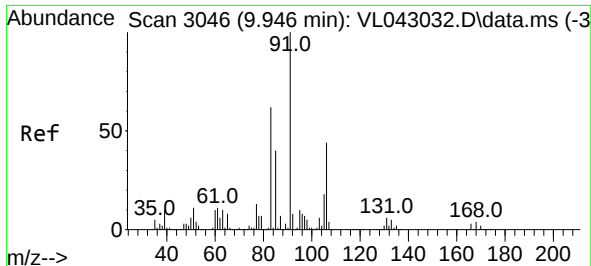
Tgt Ion: 91 Resp: 7619

Ion Ratio Lower Upper

91 100

106 35.6 21.9 65.5





#63

1,1,2,2-Tetrachloroethane

Concen: 0.048 ppbv

RT: 9.934 min Scan# 3046

Delta R.T. -0.013 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

Instrument :

MSVOA_L

ClientSampleId :

SV3

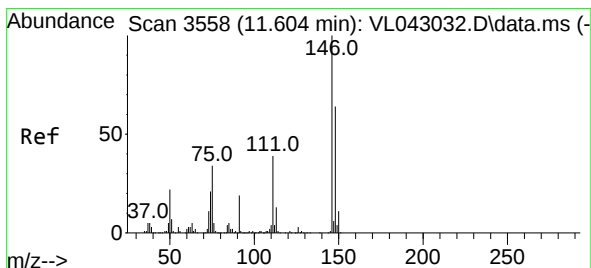
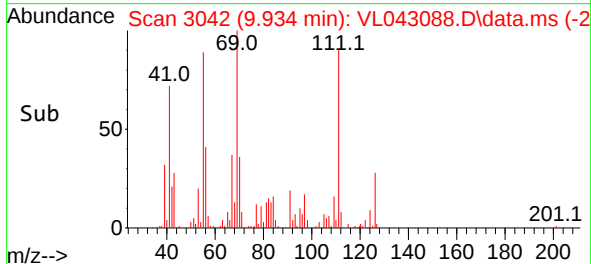
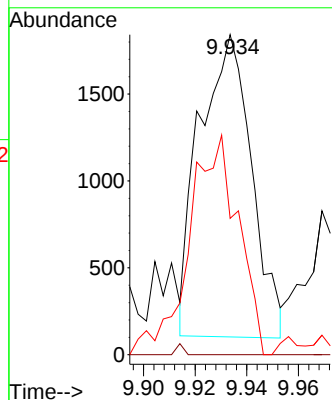
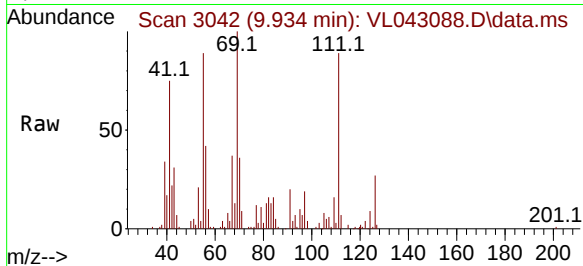
Tgt Ion: 83 Resp: 2427

Ion Ratio Lower Upper

83 100

131 0.0 4.7 14.1#

85 71.0 32.0 96.2



#66

Benzyl Chloride

Concen: 0.066 ppbv

RT: 11.604 min Scan# 3558

Delta R.T. 0.000 min

Lab File: VL043088.D

Acq: 09 Oct 2025 14:57

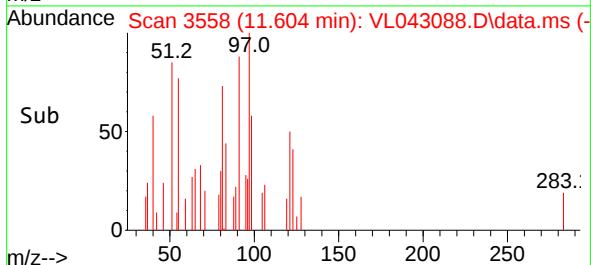
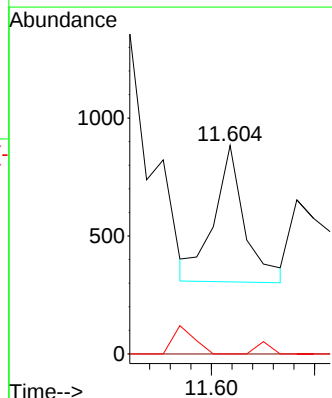
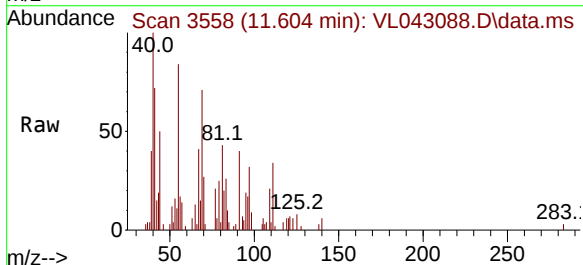
Tgt Ion: 91 Resp: 239

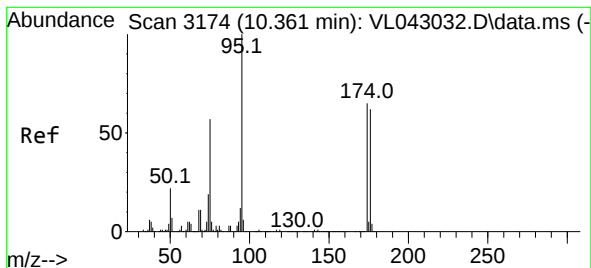
Ion Ratio Lower Upper

91 100

126 0.0 14.2 21.4#

128 0.0 4.8 7.2#

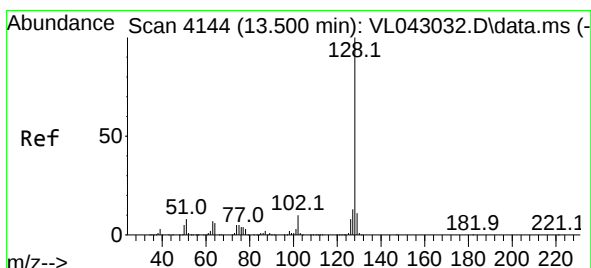
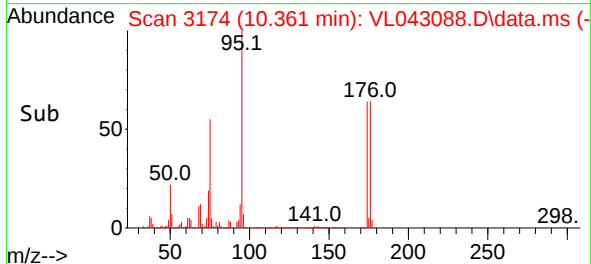
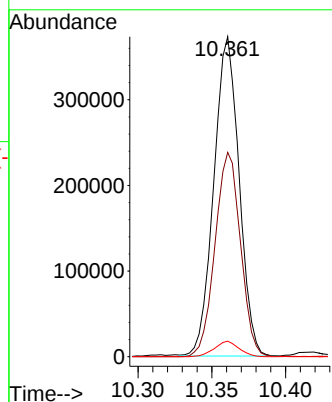
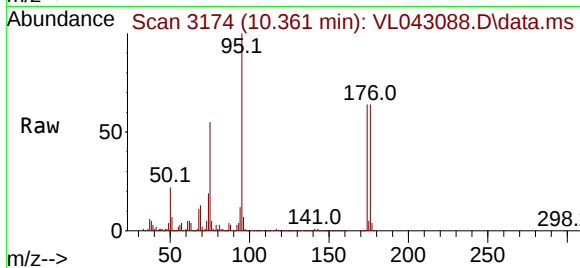




#68
1-Bromo-4-Fluorobenzene
Concen: 11.504 ppbv
RT: 10.361 min Scan# 3174
Delta R.T. 0.000 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

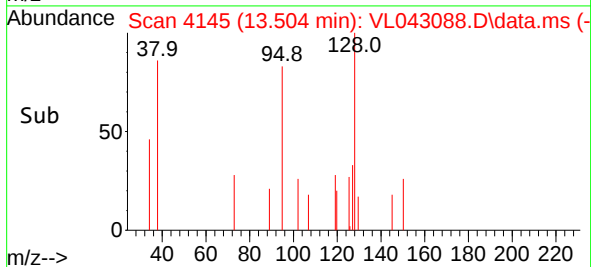
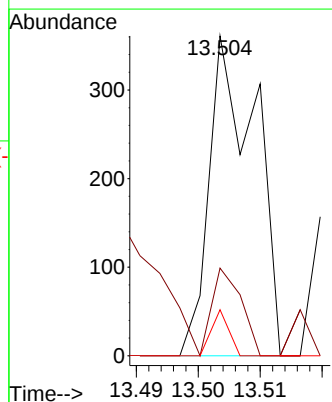
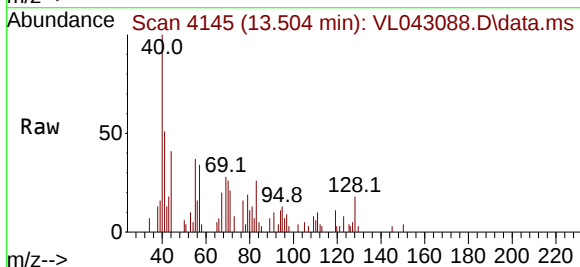
Instrument :
MSVOA_L
ClientSampleId :
SV3

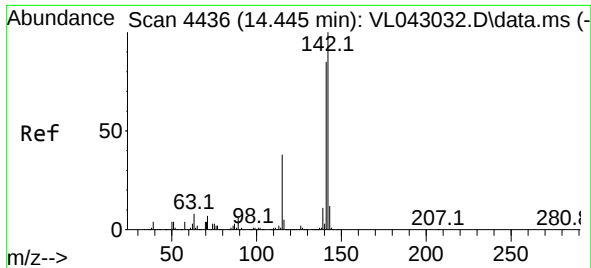
Tgt Ion: 95 Resp: 444574
Ion Ratio Lower Upper
95 100
174 64.5 52.3 78.5
175 4.7 3.8 5.8



#79
Naphthalene
Concen: 0.237 ppbv
RT: 13.504 min Scan# 4145
Delta R.T. 0.004 min
Lab File: VL043088.D
Acq: 09 Oct 2025 14:57

Tgt Ion: 128 Resp: 187
Ion Ratio Lower Upper
128 100
127 27.4 10.6 16.0#
129 14.4 8.8 13.2#





#80
 Naphthalene, 2-methyl-
 Concen: 0.671 ppbv
 RT: 14.455 min Scan# 44
 Delta R.T. 0.010 min
 Lab File: VL043088.D
 Acq: 09 Oct 2025 14:57

Instrument :
 MSVOA_L
 ClientSampleId :
 SV3

Tgt Ion:142 Resp: 303
 Ion Ratio Lower Upper
 142 100
 141 119.8 66.6 100.0#
 115 89.8 30.1 45.1#

