

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL121719\
 Data File : VL034496.D
 Acq On : 17 Dec 2019 17:13
 Operator : SY/AP
 Sample : K6319-01
 Misc : 400ml/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 LIHA-IAH

Quant Time: Dec 18 04:21:43 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL111919AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Tue Nov 19 14:15:35 2019
 QLast Update : Tue Nov 19 14:15:35 2019
 Response via : Initial Calibration

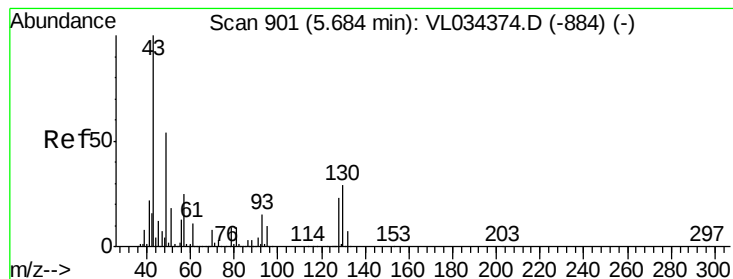
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	903945	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.20	114	1803352	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.13	117	932721	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.47	95	1558517	19.86	ppbv	-0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	198.60%#

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.02	85	83763	0.512	ppbv	98
4) Chloromethane	3.11	50	28750	0.432	ppbv	98
9) Propene	3.18	41	97405	1.945	ppbv	94
10) Heptane	8.15	43	37364	0.289	ppbv	99
11) Trichlorofluoromethane	3.94	101	41723	0.256	ppbv	91
13) Ethanol	3.60	45	5520784	395.806	ppbv	92
15) Acetone	3.83	43	869321	6.716	ppbv	92
16) 1,3-Butadiene	3.28	39	4899	0.087	ppbv #	9
17) tert-Butyl alcohol	4.31	59	15699	0.144	ppbv #	71
19) Isopropyl Alcohol	3.98	45	102664	1.237	ppbv #	89
20) Methylene Chloride	4.34	84	55740	1.214	ppbv #	94
23) Vinyl Acetate	5.07	43	24190	0.143	ppbv #	92
25) Ethyl Acetate	5.69	43	50943	0.221	ppbv #	96
26) Hexane	5.70	57	32970	0.332	ppbv #	64
29) Chloroform	5.76	83	111181	0.692	ppbv	97
34) 2-Butanone	5.25	43	12727	0.086	ppbv #	55
36) Benzene	6.92	78	33577	0.186	ppbv	97
39) 1,2-Dichloropropane	7.19	63	531654	7.655	ppbv #	24
52) Tetrachloroethene	11.27	164	3804	0.049	ppbv #	63
53) Toluene	9.84	91	172430	0.842	ppbv	97
58) Ethyl Benzene	13.01	91	15599	0.108	ppbv	95
59) m/p-Xylene	13.05	91	5674	0.045	ppbv #	33
60) o-Xylene	13.74	91	5576	0.045	ppbv #	1
61) Styrene	13.58	104	4425	0.050	ppbv #	36
69) p-Isopropyltoluene	18.01	119	101359	0.594	ppbv #	1
73) 1,3,5-Trimethylbenzene	16.06	105	4496	0.032	ppbv #	30
74) 1,2,4-Trimethylbenzene	16.82	105	21093	0.142	ppbv #	63

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 min Scan# 898

Delta R.T. -0.01 min

Lab File: VL034496.D

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LIHA-IAH

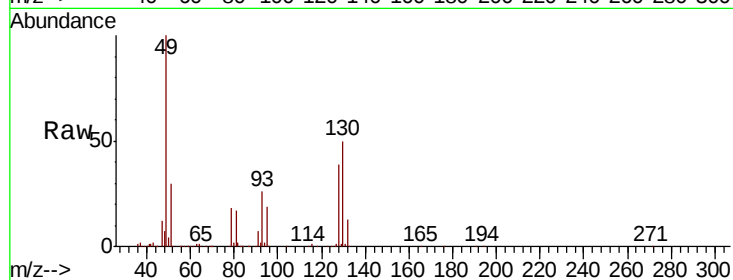
Tgt Ion: 49 Resp: 903945

Ion Ratio Lower Upper

49 100

128 43.9 21.8 65.3

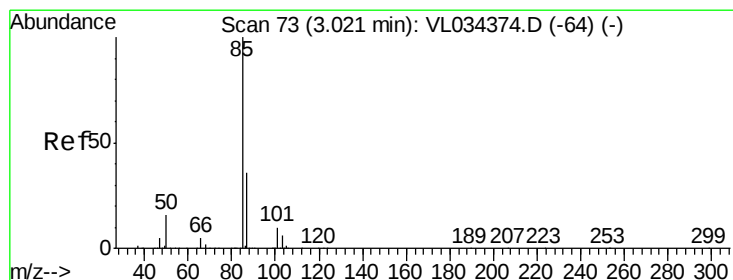
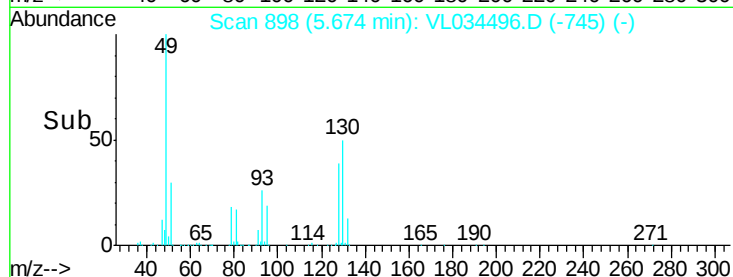
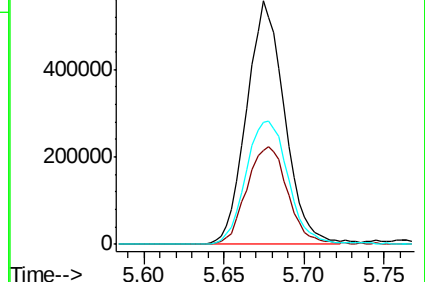
130 56.9 28.0 84.0



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#2

Dichlorodifluoromethane

Concen: 0.512 ppbv

RT: 3.02 min Scan# 73

Delta R.T. 0.00 min

Lab File: VL034496.D

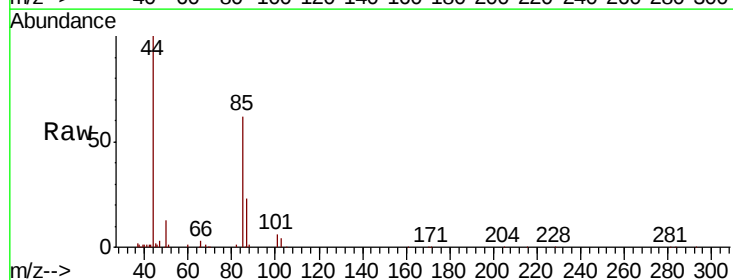
Acq: 17 Dec 2019 17:13

Tgt Ion: 85 Resp: 83763

Ion Ratio Lower Upper

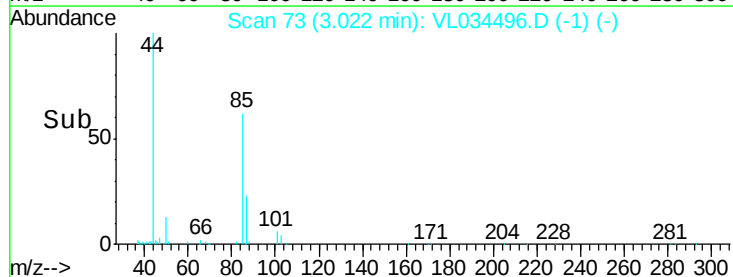
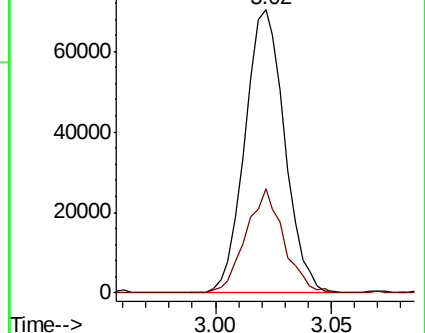
85 100

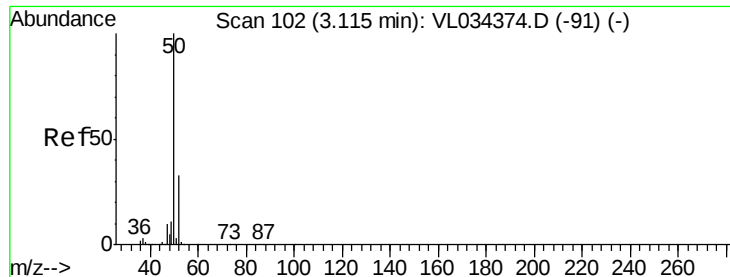
87 36.7 28.5 42.7



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#4

Chloromethane

Concen: 0.432 ppbv

RT: 3.11 min Scan# 102

Delta R.T. 0.00 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

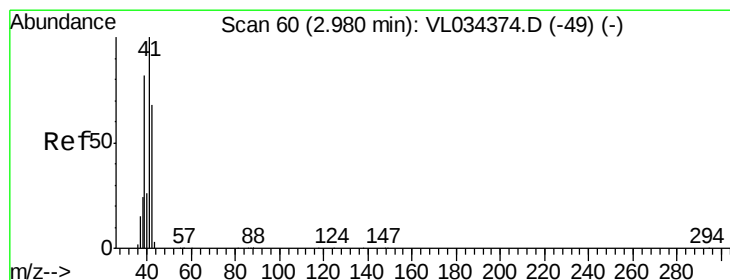
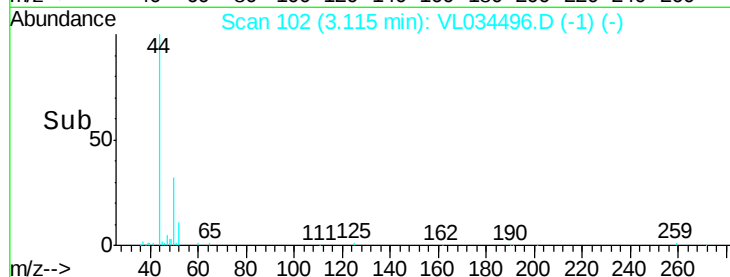
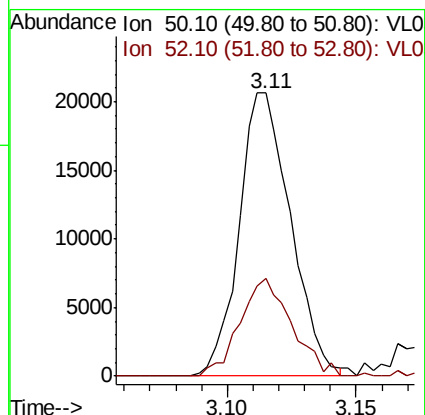
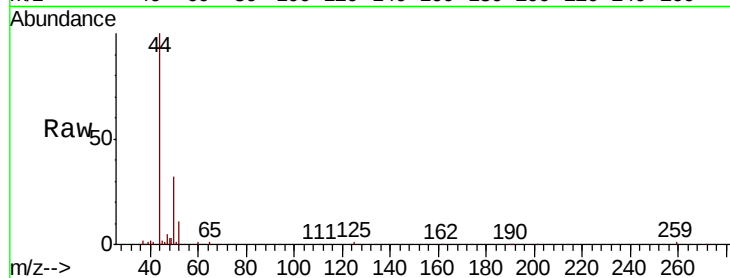
LIHA-IAH

Tgt Ion: 50 Resp: 28750

Ion Ratio Lower Upper

50 100

52 34.6 26.8 40.2



#9

Propene

Concen: 1.945 ppbv

RT: 3.18 min Scan# 123

Delta R.T. 0.20 min

Lab File: VL034496.D

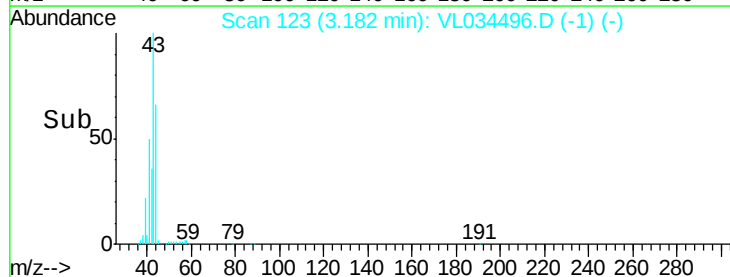
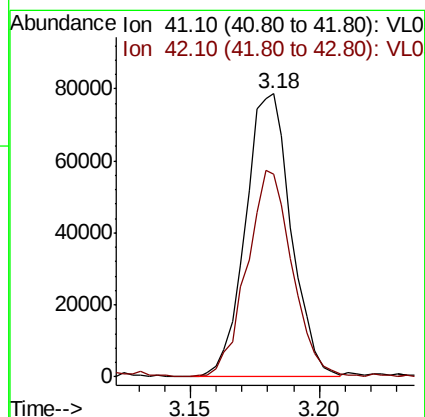
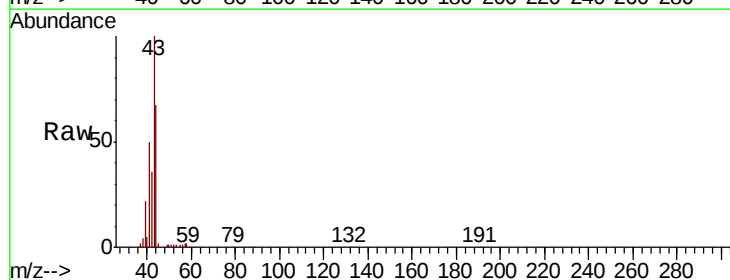
Acq: 17 Dec 2019 17:13

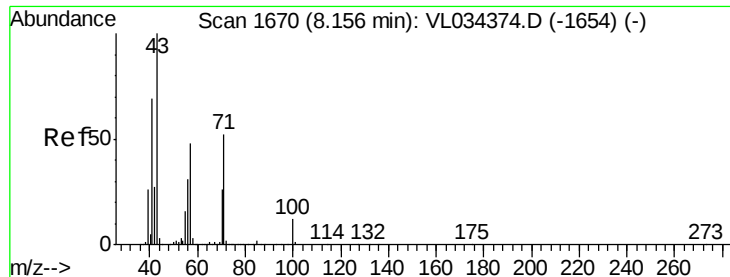
Tgt Ion: 41 Resp: 97405

Ion Ratio Lower Upper

41 100

42 73.4 54.6 82.0





#10

Heptane

Concen: 0.289 ppbv

RT: 8.15 min Scan# 1668

Delta R.T. -0.01 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

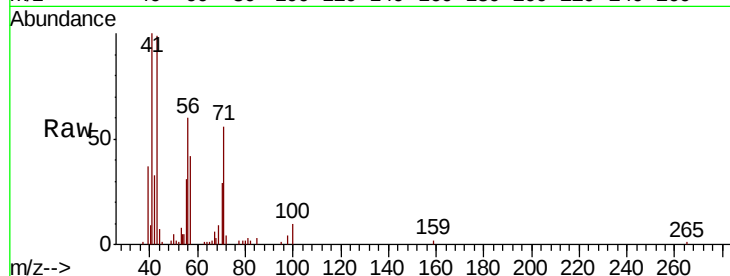
LIHA-IAH

Tgt Ion: 43 Resp: 37364

Ion Ratio Lower Upper

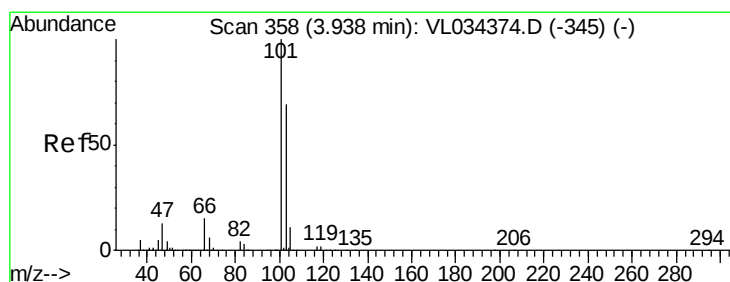
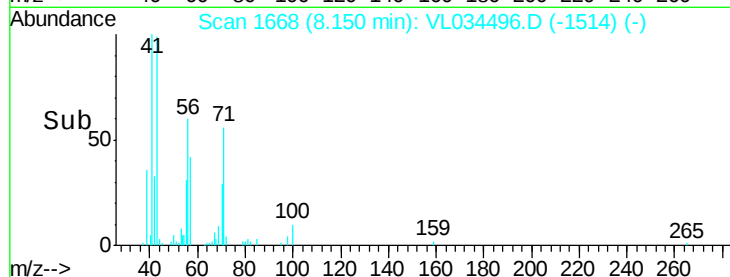
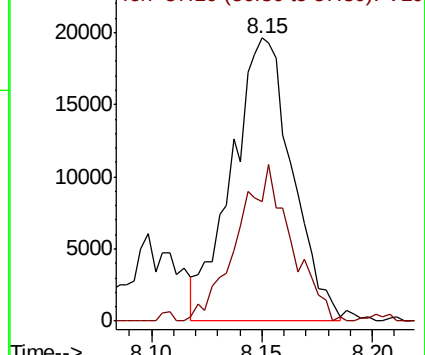
43 100

57 49.6 40.2 60.2



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0



#11

Trichlorofluoromethane

Concen: 0.256 ppbv

RT: 3.94 min Scan# 358

Delta R.T. 0.00 min

Lab File: VL034496.D

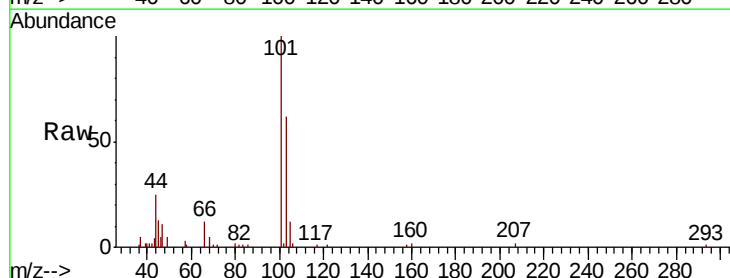
Acq: 17 Dec 2019 17:13

Tgt Ion: 101 Resp: 41723

Ion Ratio Lower Upper

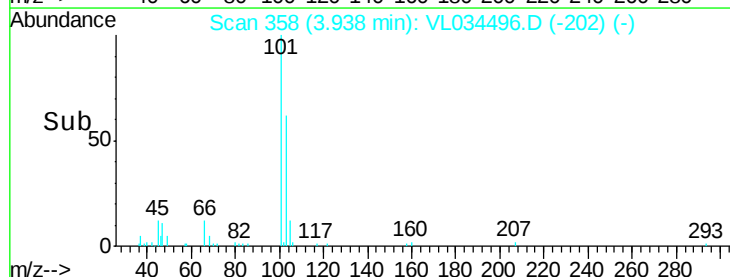
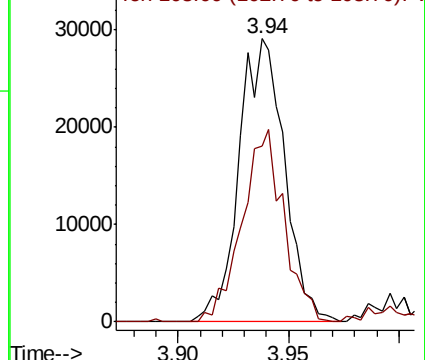
101 100

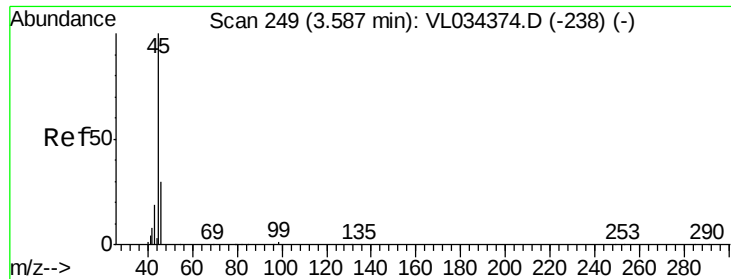
103 61.9 55.4 83.0



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V





#13

Ethanol

Concen: 395.806 ppbv

RT: 3.60 min Scan# 254

Delta R.T. 0.02 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

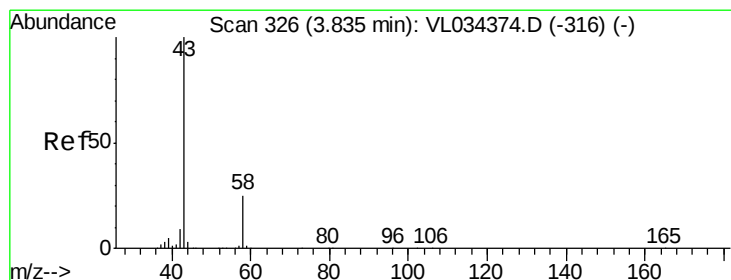
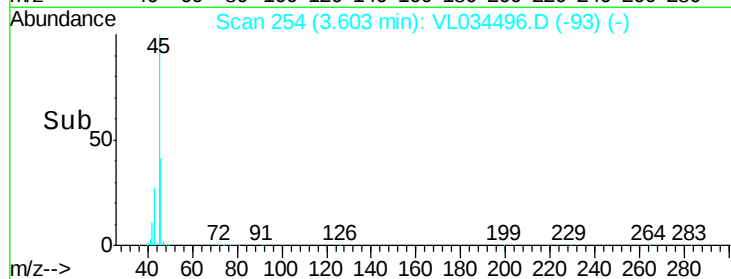
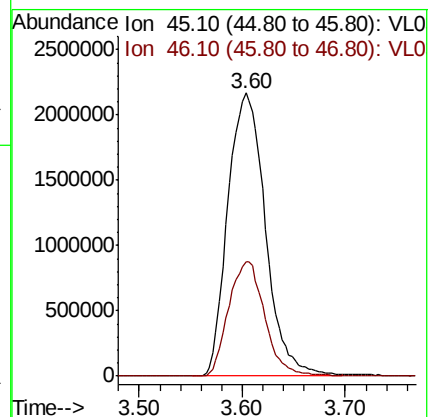
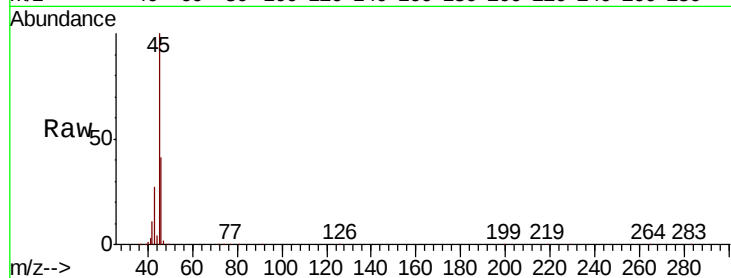
LIHA-IAH

Tgt Ion: 45 Resp: 5520784

Ion Ratio Lower Upper

45 100

46 39.3 13.8 55.4



#15

Acetone

Concen: 6.716 ppbv

RT: 3.83 min Scan# 326

Delta R.T. 0.00 min

Lab File: VL034496.D

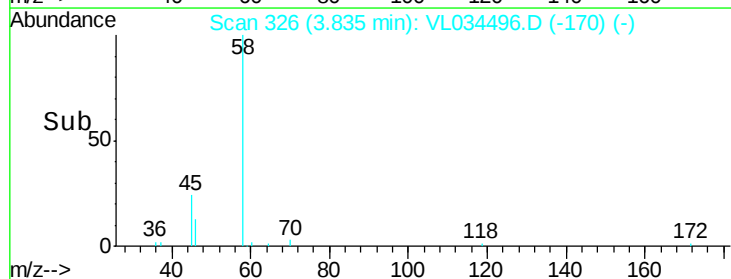
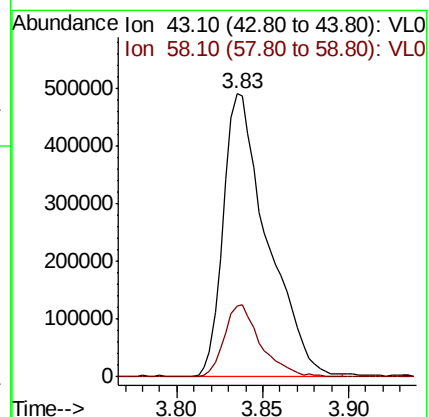
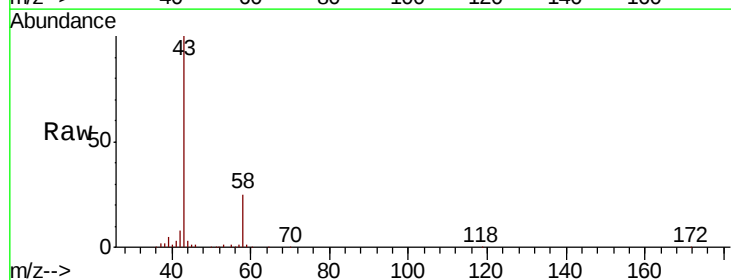
Acq: 17 Dec 2019 17:13

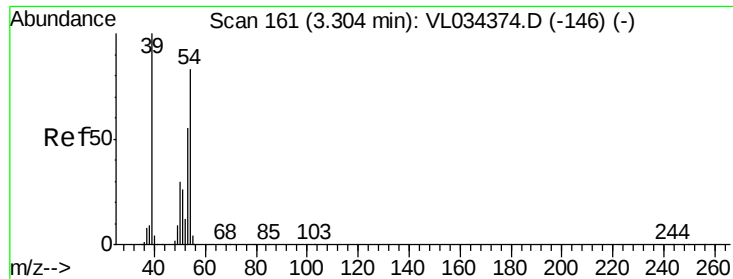
Tgt Ion: 43 Resp: 869321

Ion Ratio Lower Upper

43 100

58 21.4 20.2 30.4

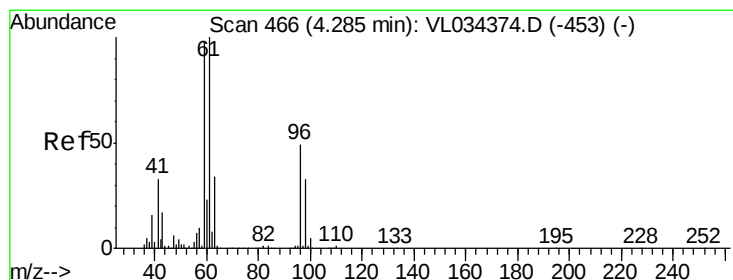
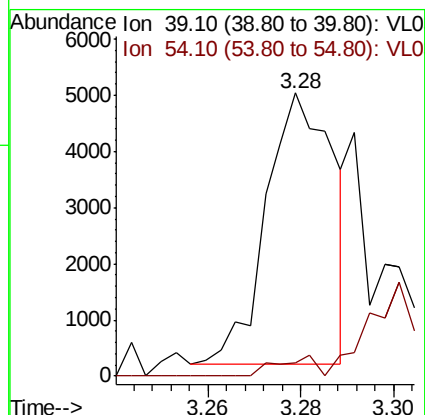
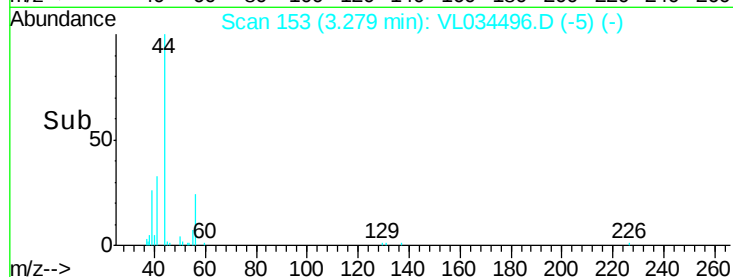
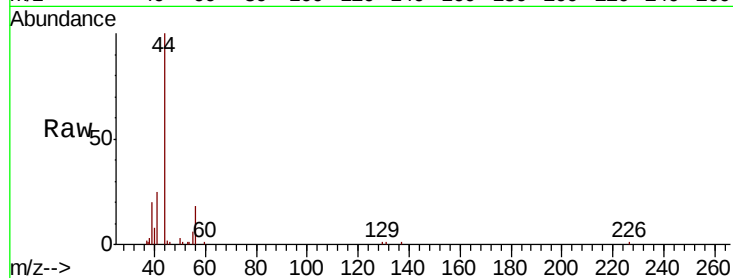




#16
1,3-Butadiene
Concen: 0.087 ppbv
RT: 3.28 min Scan# 153
Delta R.T. -0.03 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

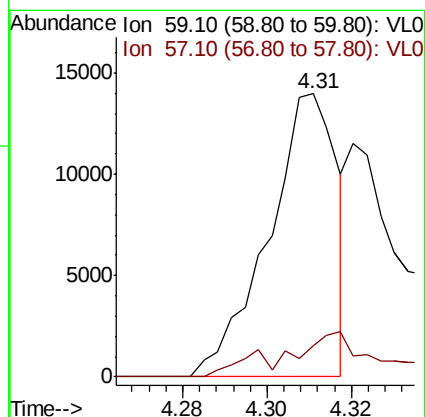
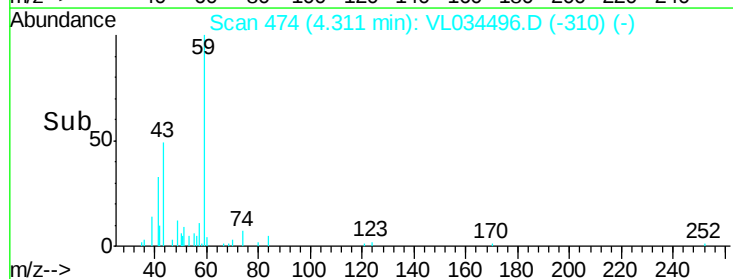
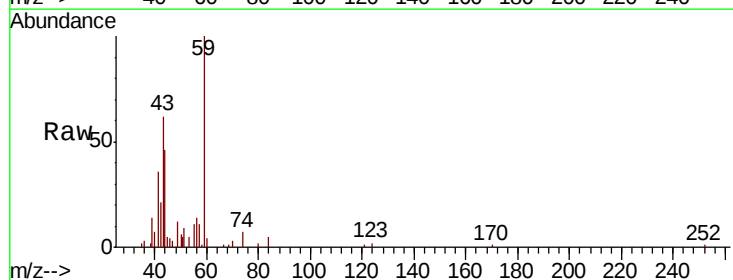
Instrument :
MSVOA_L
ClientSampleId :
LIHA-IAH

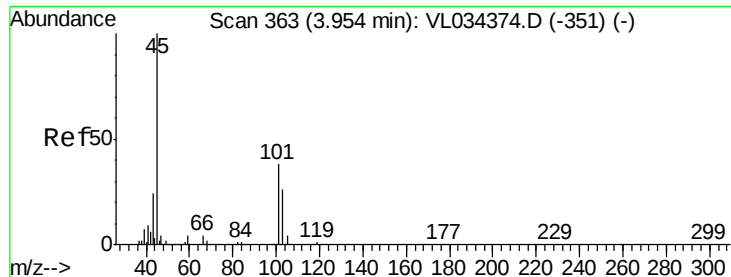
Tgt Ion: 39 Resp: 4899
Ion Ratio Lower Upper
39 100
54 0.0 64.7 97.1#



#17
tert-Butyl alcohol
Concen: 0.144 ppbv
RT: 4.31 min Scan# 474
Delta R.T. 0.03 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

Tgt Ion: 59 Resp: 15699
Ion Ratio Lower Upper
59 100
57 0.0 8.8 13.2#

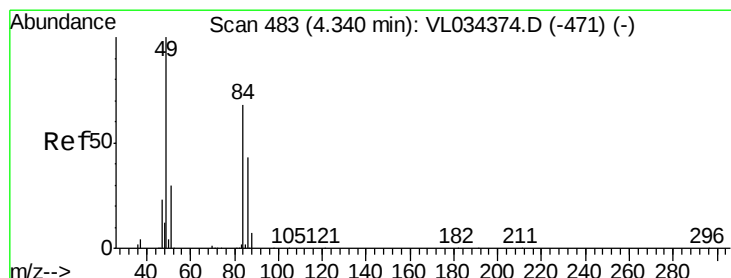
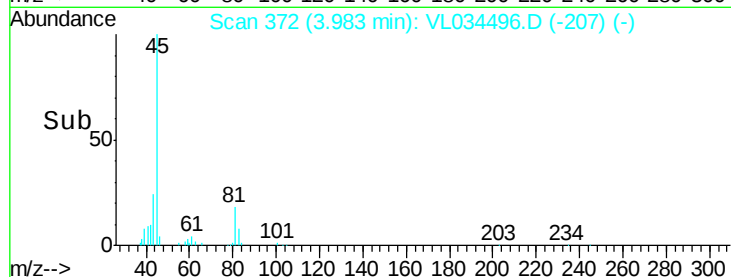
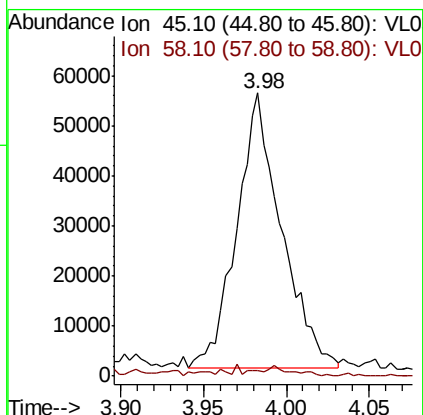
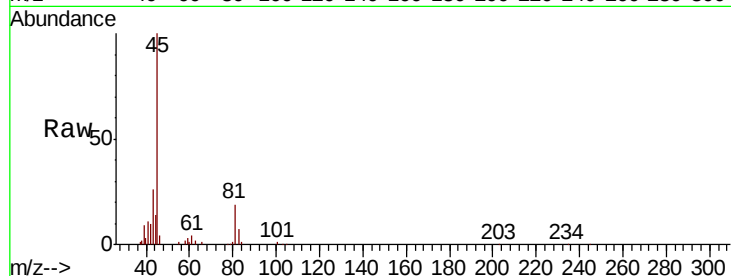




#19
Isopropyl Alcohol
Concen: 1.237 ppbv
RT: 3.98 min Scan# 372
Delta R.T. 0.03 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

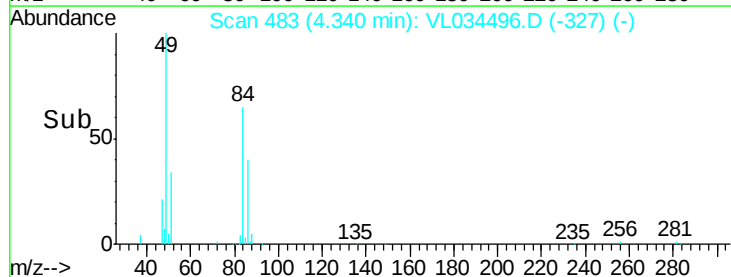
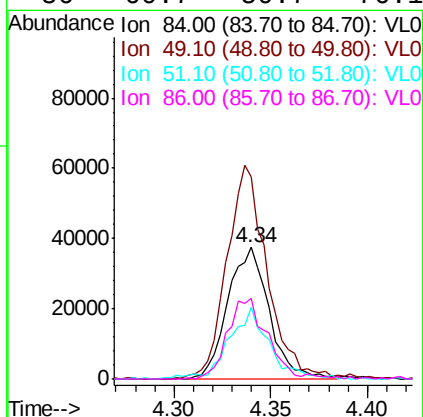
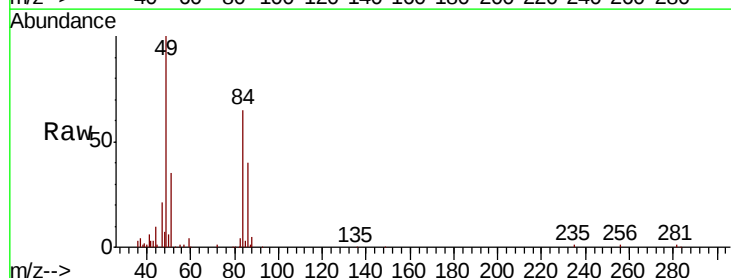
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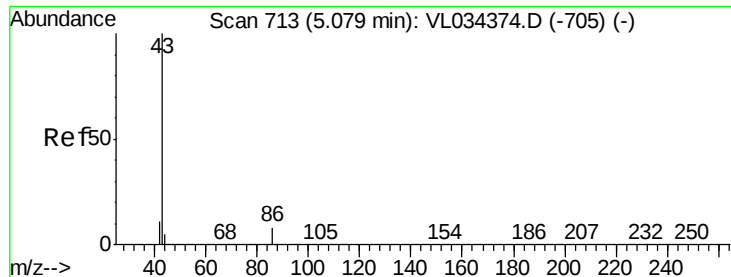
Tgt Ion: 45 Resp: 102664
Ion Ratio Lower Upper
45 100
58 5.8 1.3 1.9#



#20
Methylene Chloride
Concen: 1.214 ppbv
RT: 4.34 min Scan# 483
Delta R.T. 0.00 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

Tgt Ion: 84 Resp: 55740
Ion Ratio Lower Upper
84 100
49 151.2 116.8 175.2
51 54.2 35.6 53.4#
86 60.7 50.7 76.1





#23

Vinyl Acetate

Concen: 0.143 ppbv

RT: 5.07 min Scan# 709

Delta R.T. -0.01 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IAH

Tgt Ion: 43 Resp: 24190

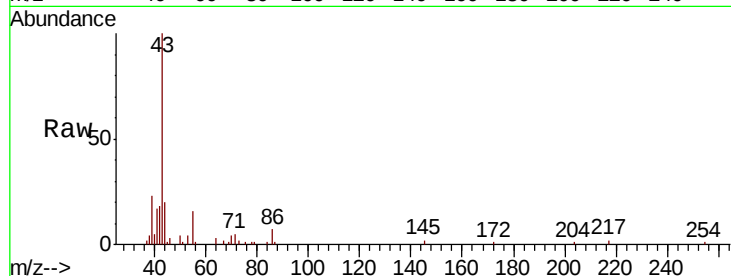
Ion Ratio Lower Upper

43 100

86 5.8 5.8 8.6

42 15.0 8.9 13.3#

44 1.4 4.0 6.0#

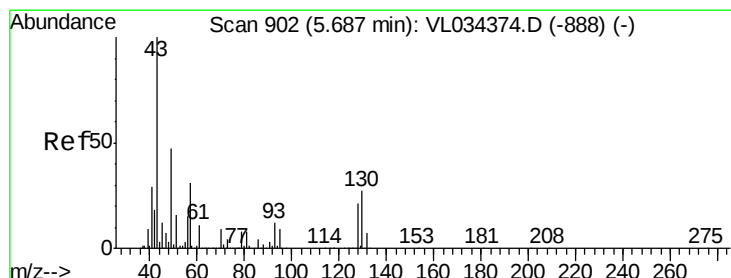
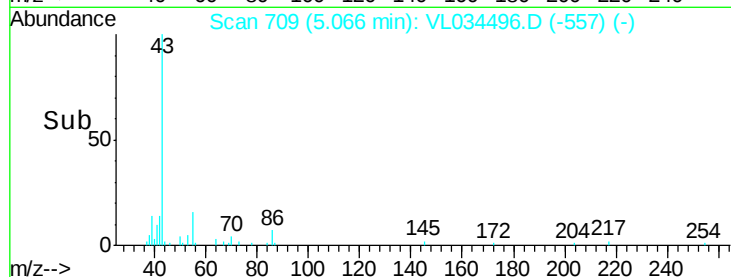
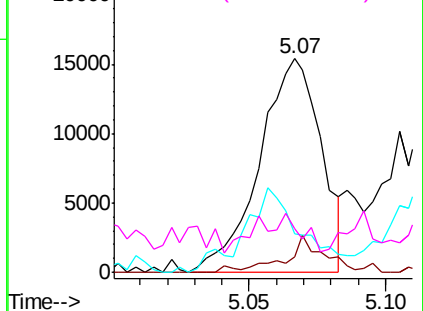


Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 86.10 (85.80 to 86.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

Ion 44.10 (43.80 to 44.80): VL0



#25

Ethyl Acetate

Concen: 0.221 ppbv

RT: 5.69 min Scan# 902

Delta R.T. 0.00 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Tgt Ion: 43 Resp: 50943

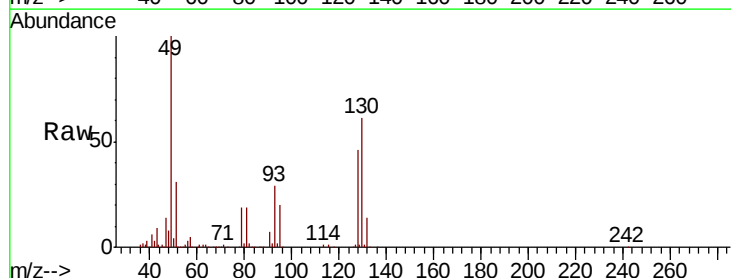
Ion Ratio Lower Upper

43 100

45 11.0 8.2 12.4

61 6.7 7.5 11.3#

70 6.1 5.7 8.5

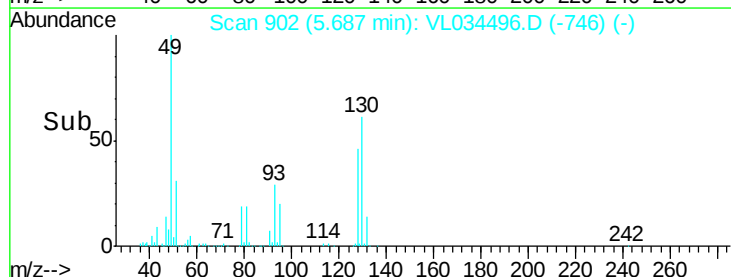
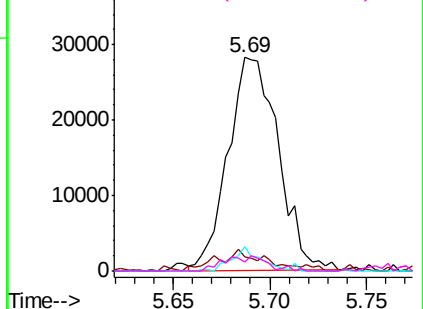


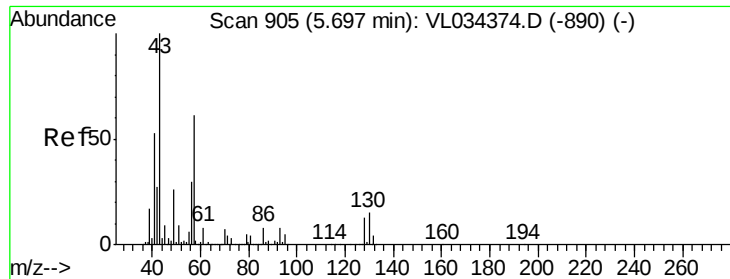
Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0

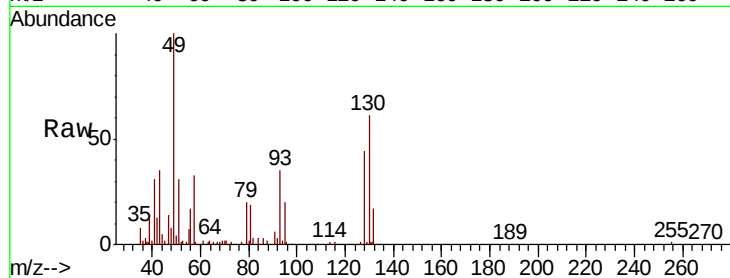




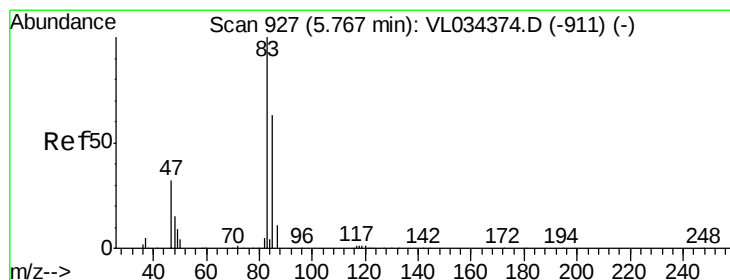
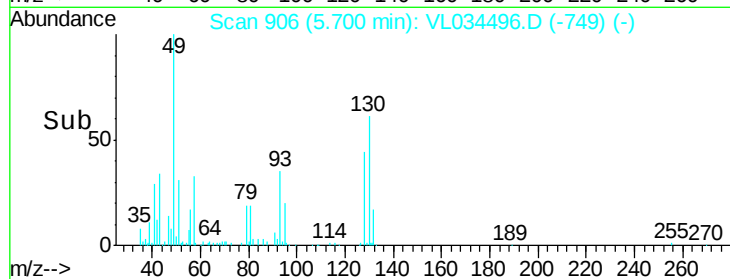
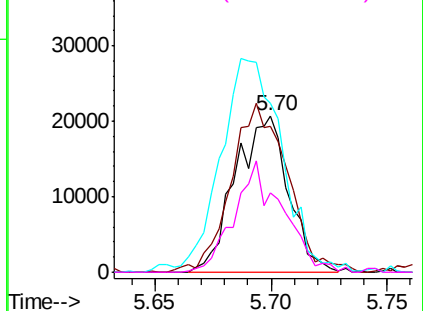
#26
Hexane
Concen: 0.332 ppbv
RT: 5.70 min Scan# 906
Delta R.T. 0.00 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

Instrument :
MSVOA_L
ClientSampleId :
LIHA-IAH

Tgt Ion: 57 Resp: 32970
Ion Ratio Lower Upper
57 100
41 114.7 75.0 112.4#
43 158.8 186.6 279.8#
56 65.6 41.5 62.3#

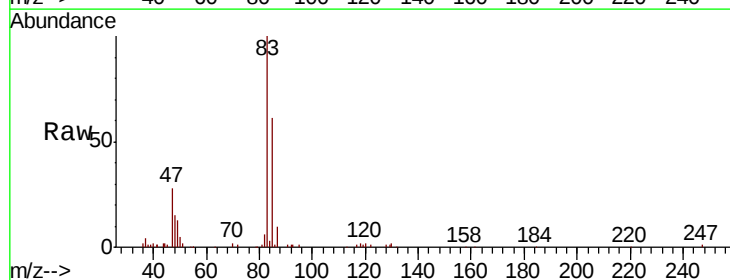


Abundance Ion 57.10 (56.80 to 57.80): VL0
Ion 41.10 (40.80 to 41.80): VL0
Ion 43.10 (42.80 to 43.80): VL0
Ion 56.10 (55.80 to 56.80): VL0

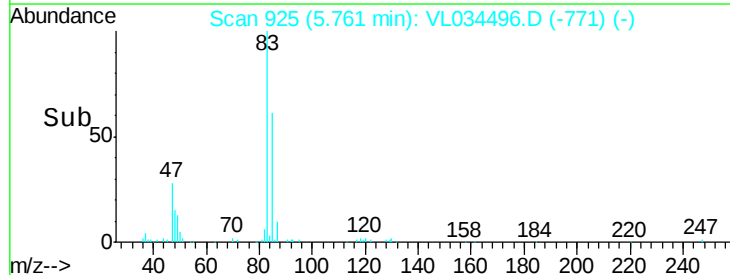
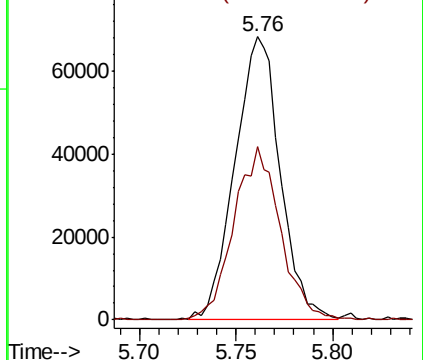


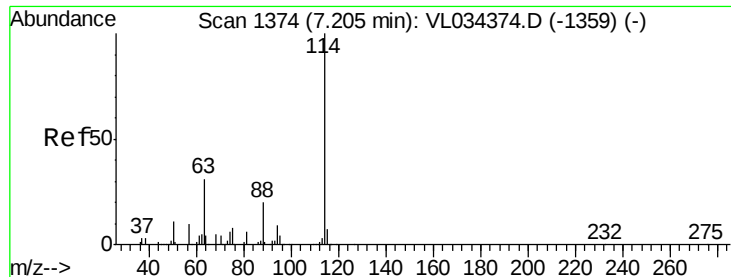
#29
Chloroform
Concen: 0.692 ppbv
RT: 5.76 min Scan# 925
Delta R.T. -0.01 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

Tgt Ion: 83 Resp: 111181
Ion Ratio Lower Upper
83 100
85 60.7 50.4 75.6



Abundance Ion 83.00 (82.70 to 83.70): VL0
Ion 85.00 (84.70 to 85.70): VL0

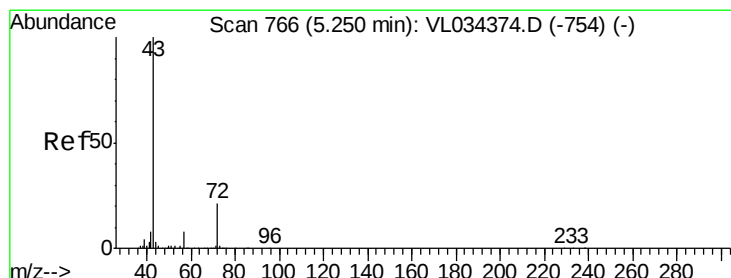
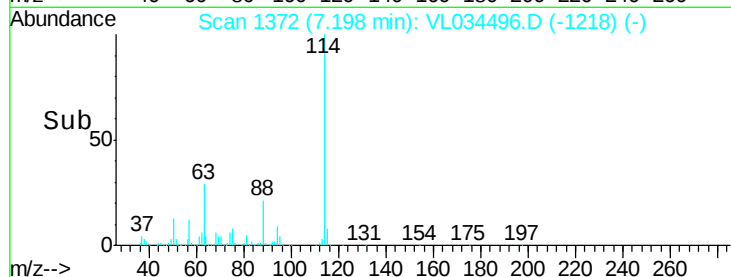
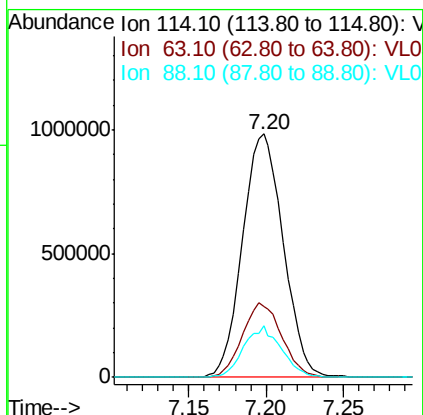
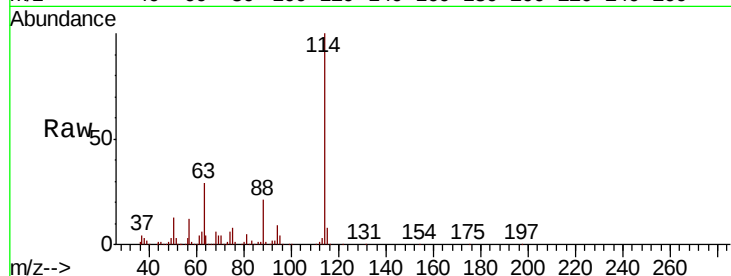




#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.20 min Scan# 1372
 Delta R.T. -0.01 min
 Lab File: VL034496.D
 Acq: 17 Dec 2019 17:13

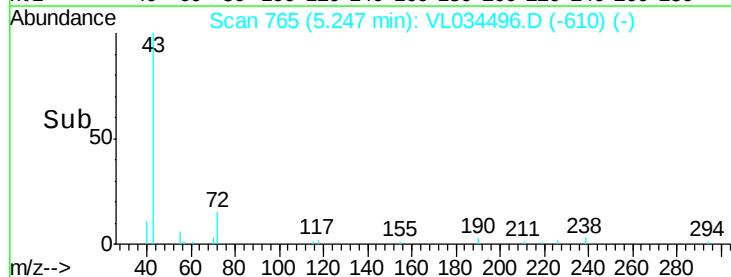
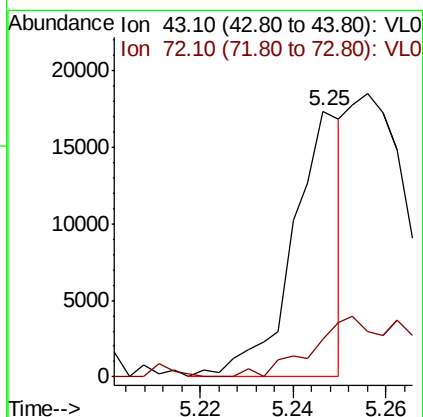
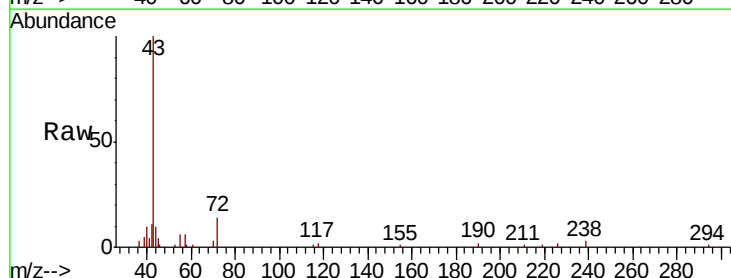
Instrument :
 MSVOA_L
 ClientSampleId :
 LIHA-IAH

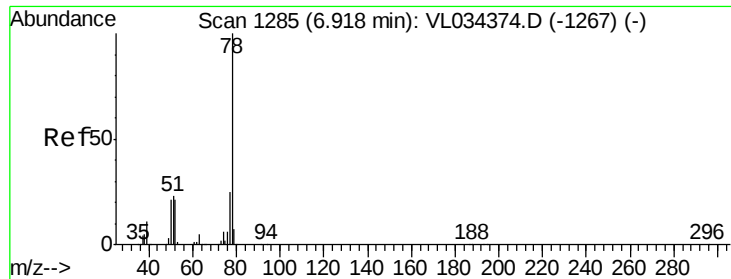
Tgt Ion:114 Resp: 1803352
 Ion Ratio Lower Upper
 114 100
 63 29.7 24.2 36.4
 88 19.6 15.9 23.9



#34
 2-Butanone
 Concen: 0.086 ppbv
 RT: 5.25 min Scan# 765
 Delta R.T. -0.00 min
 Lab File: VL034496.D
 Acq: 17 Dec 2019 17:13

Tgt Ion: 43 Resp: 12727
 Ion Ratio Lower Upper
 43 100
 72 0.0 17.0 25.6#





#36

Benzene

Concen: 0.186 ppbv

RT: 6.92 min Scan# 1284

Delta R.T. -0.00 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IAH

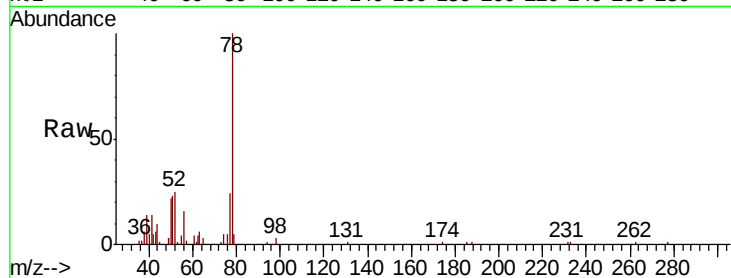
Tgt Ion: 78 Resp: 33577

Ion Ratio Lower Upper

78 100

77 23.7 20.2 30.4

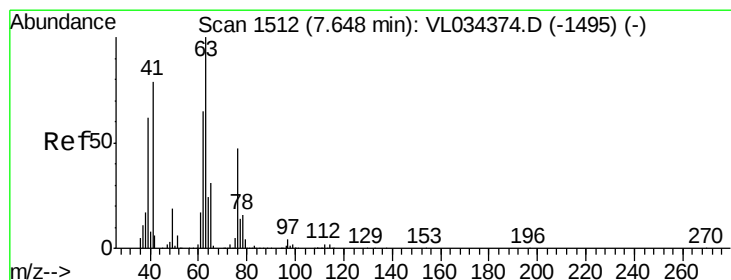
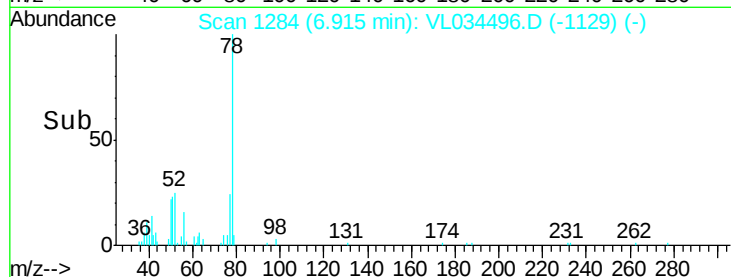
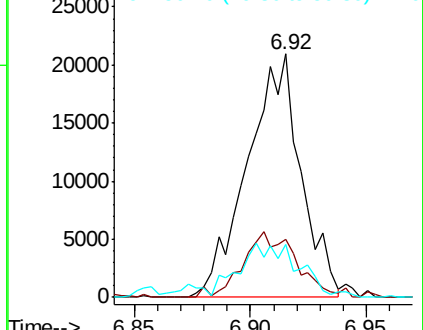
50 19.8 17.1 25.7



Abundance Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0



#39

1,2-Dichloropropane

Concen: 7.655 ppbv

RT: 7.19 min Scan# 1371

Delta R.T. -0.45 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

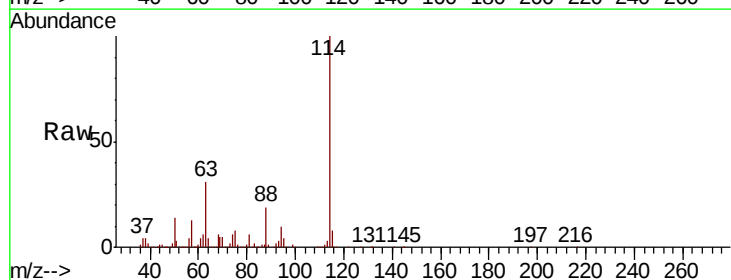
Tgt Ion: 63 Resp: 531654

Ion Ratio Lower Upper

63 100

41 0.0 63.1 94.7#

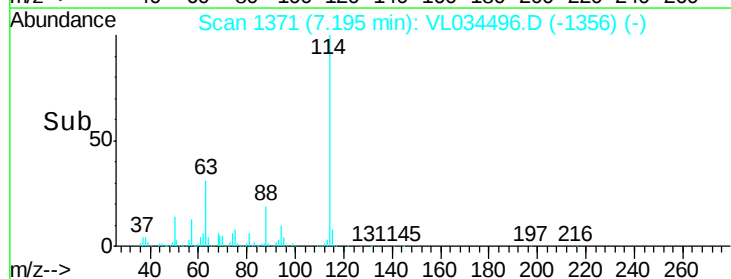
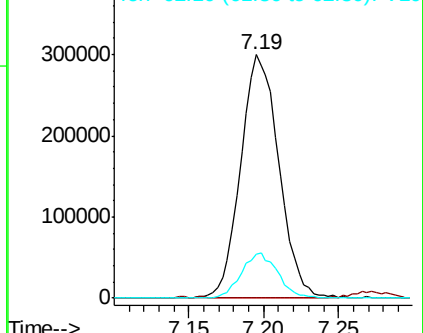
62 17.9 52.3 78.5#

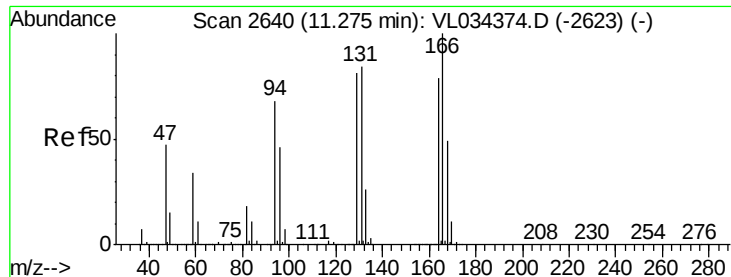


Abundance Ion 63.10 (62.80 to 63.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 62.10 (61.80 to 62.80): VL0





#52

Tetrachloroethene

Concen: 0.049 ppbv

RT: 11.27 min Scan# 2638

Delta R.T. -0.01 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IAH

Tgt Ion:164 Resp: 3804

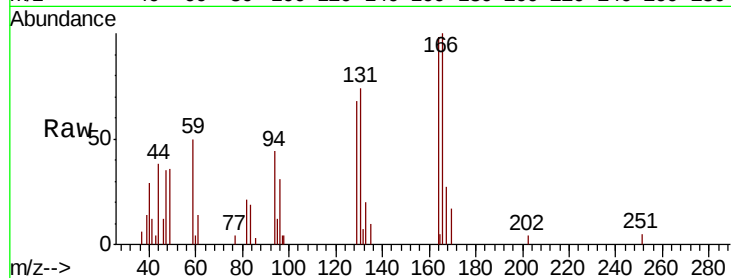
Ion Ratio Lower Upper

164 100

166 89.3 101.7 152.5#

129 69.1 82.6 123.8#

131 59.7 85.2 127.8#

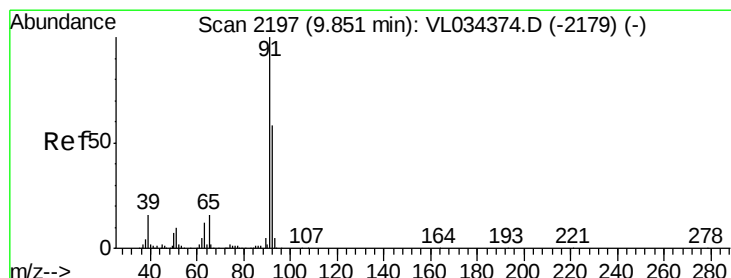
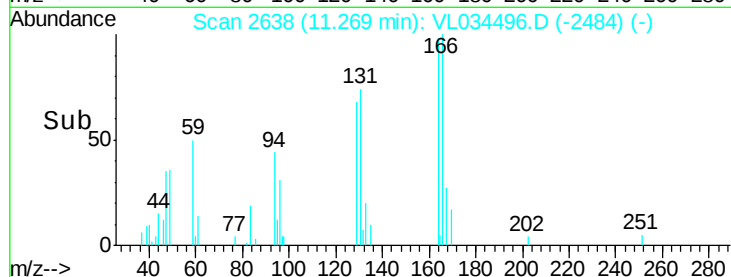
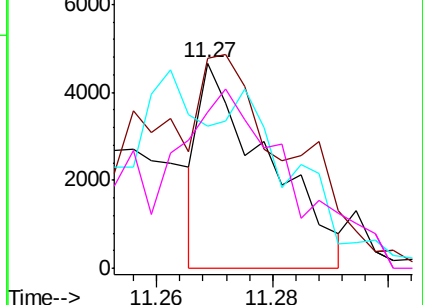


Abundance Ion 163.90 (163.60 to 164.60): V

Ion 165.90 (165.60 to 166.60): V

Ion 129.00 (128.70 to 129.70): V

Ion 131.00 (130.70 to 131.70): V



#53

Toluene

Concen: 0.842 ppbv

RT: 9.84 min Scan# 2195

Delta R.T. -0.01 min

Lab File: VL034496.D

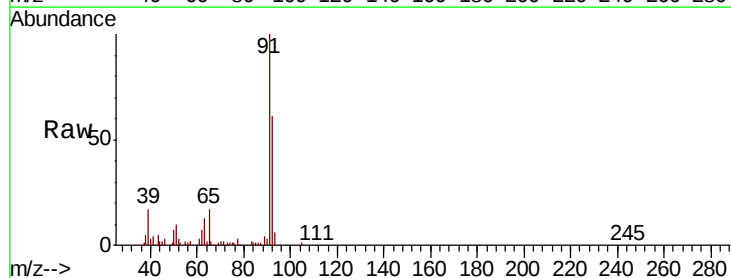
Acq: 17 Dec 2019 17:13

Tgt Ion: 91 Resp: 172430

Ion Ratio Lower Upper

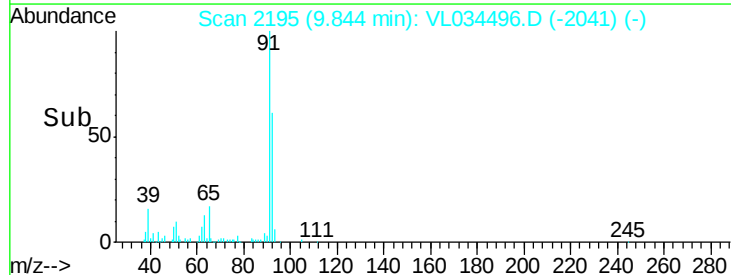
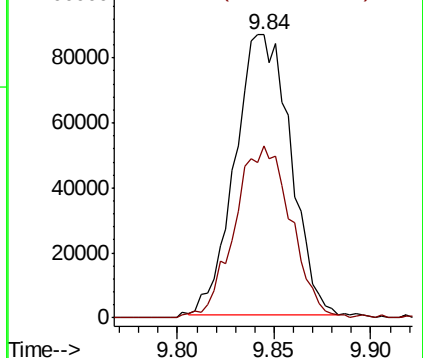
91 100

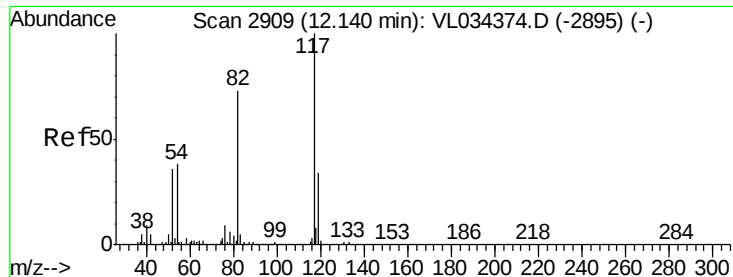
92 62.3 47.9 71.9



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

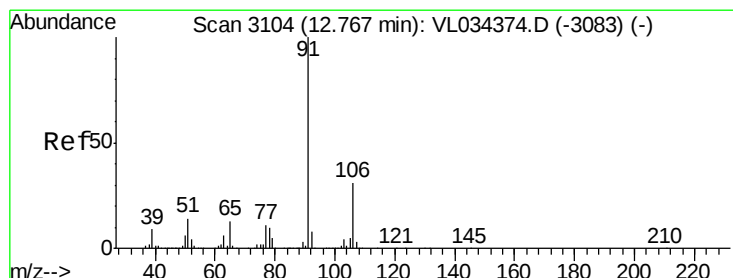
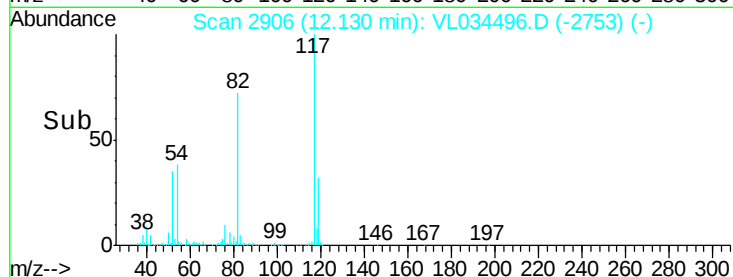
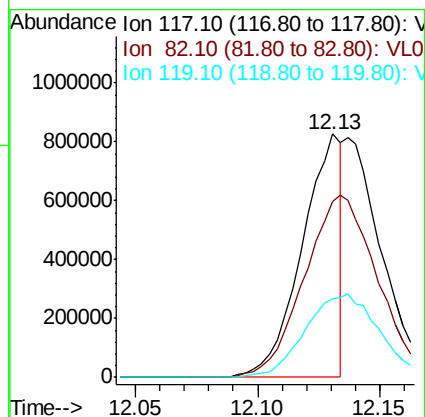
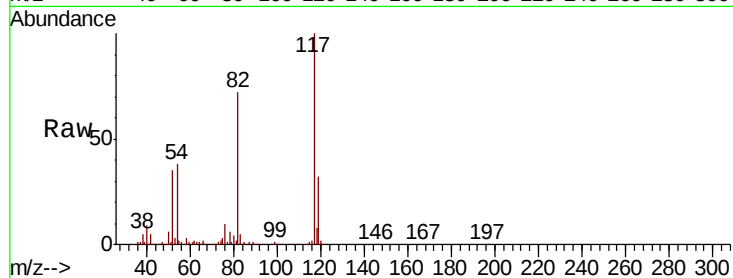




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.13 min Scan# 2906
Delta R.T. -0.01 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

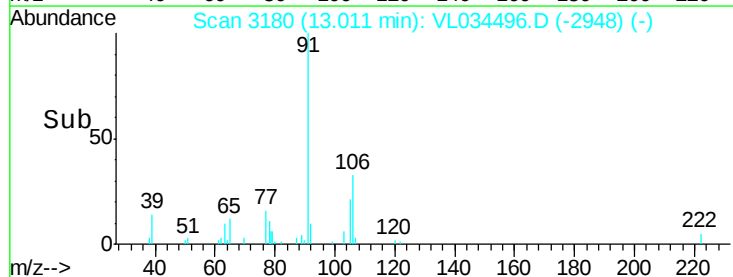
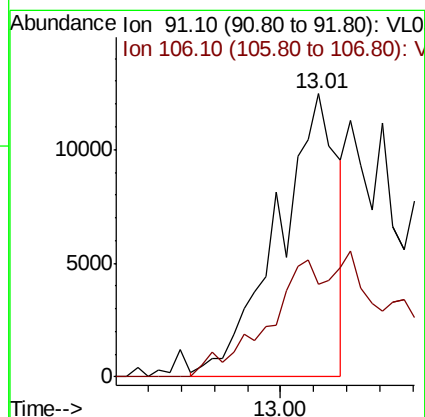
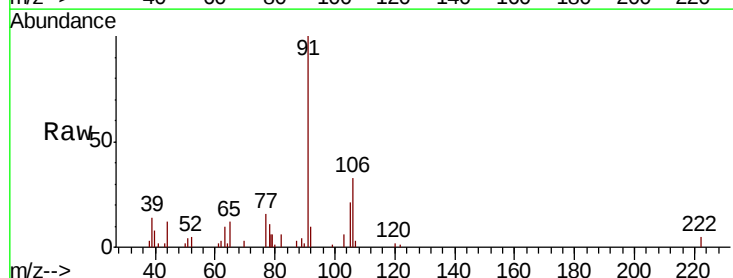
Instrument :
MSVOA_L
ClientSampleId :
LIHA-IAH

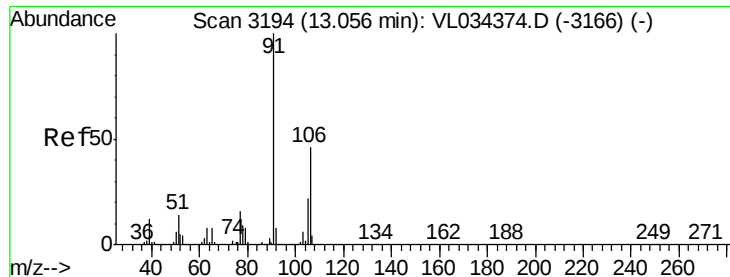
Tgt Ion: 117 Resp: 932721
Ion Ratio Lower Upper
117 100
82 0.0 57.5 86.3#
119 0.0 25.4 38.2#



#58
Ethyl Benzene
Concen: 0.108 ppbv
RT: 13.01 min Scan# 3180
Delta R.T. 0.24 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

Tgt Ion: 91 Resp: 15599
Ion Ratio Lower Upper
91 100
106 33.5 24.8 37.2

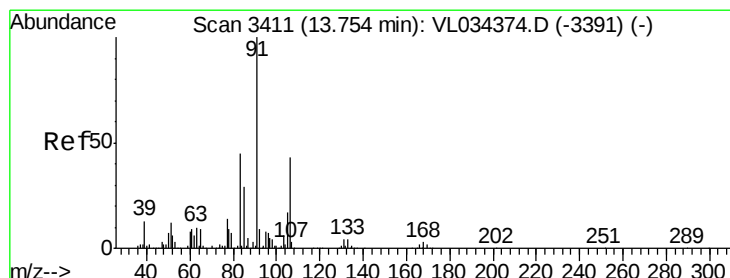
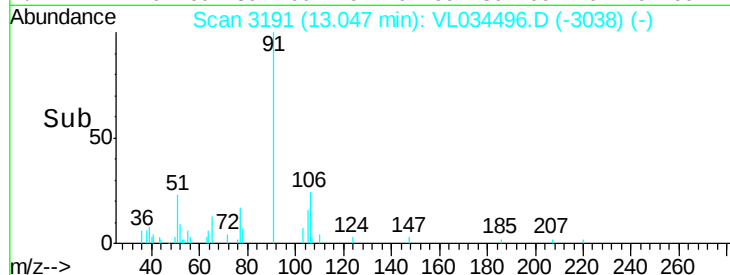
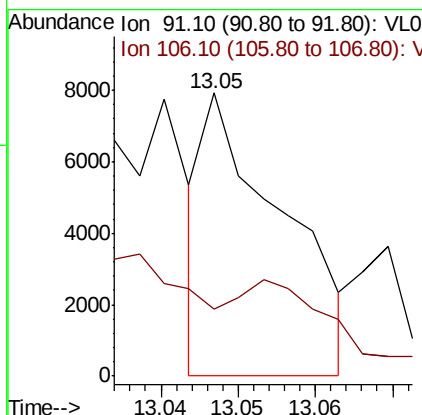
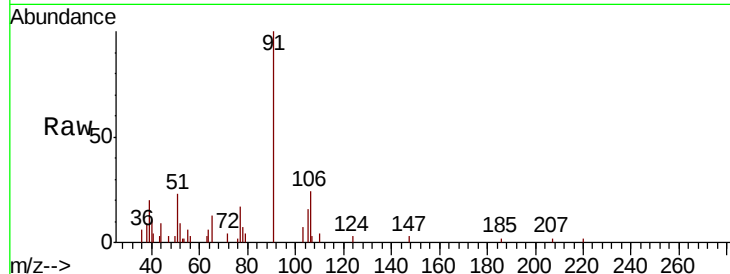




#59
m/p-Xylene
Concen: 0.045 ppbv
RT: 13.05 min Scan# 3191
Delta R.T. -0.01 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

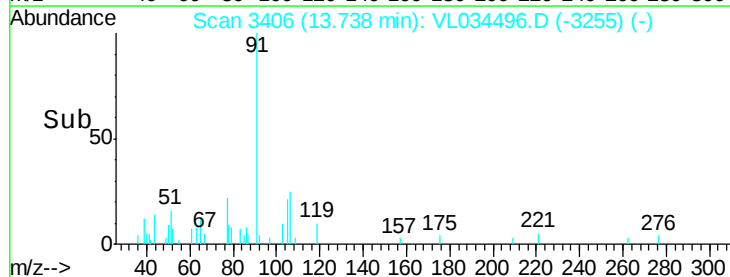
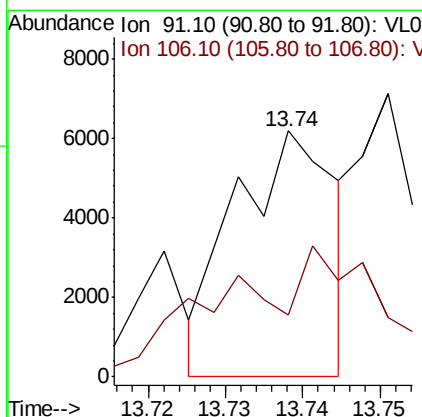
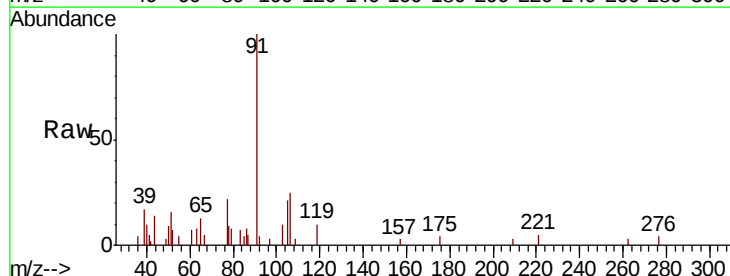
Instrument :
MSVOA_L
ClientSampleId :
LIHA-IAH

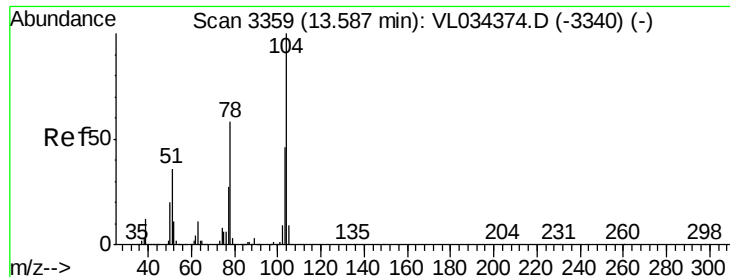
Tgt Ion: 91 Resp: 5674
Ion Ratio Lower Upper
91 100
106 0.0 34.6 51.8#



#60
o-Xylene
Concen: 0.045 ppbv
RT: 13.74 min Scan# 3406
Delta R.T. -0.02 min
Lab File: VL034496.D
Acq: 17 Dec 2019 17:13

Tgt Ion: 91 Resp: 5576
Ion Ratio Lower Upper
91 100
106 107.4 21.3 64.0#





#61

Styrene

Concen: 0.050 ppbv

RT: 13.58 min Scan# 3356

Delta R.T. -0.01 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IAH

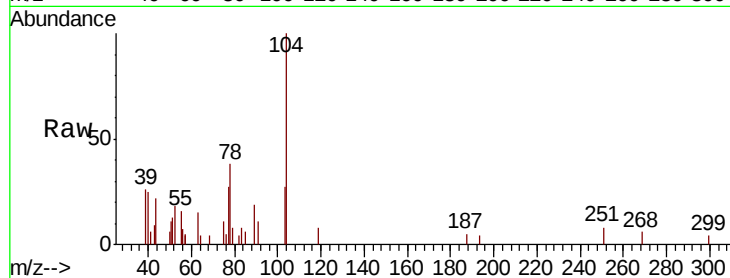
Tgt Ion:104 Resp: 4425

Ion Ratio Lower Upper

104 100

78 102.9 47.6 71.4#

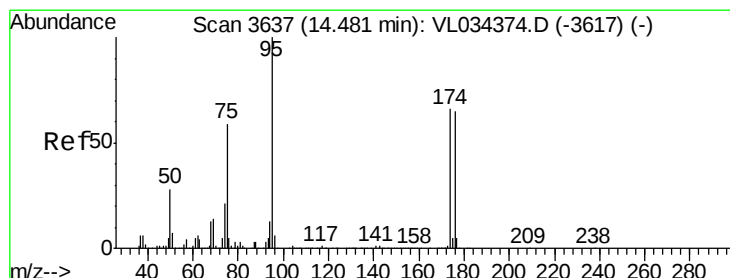
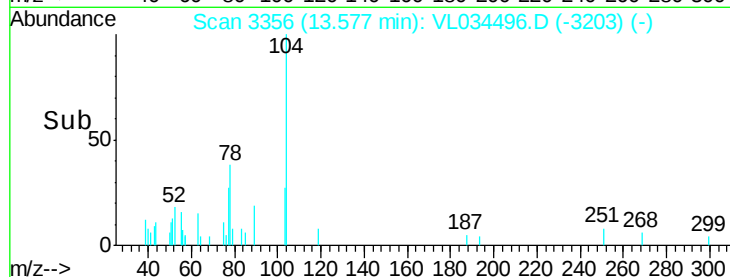
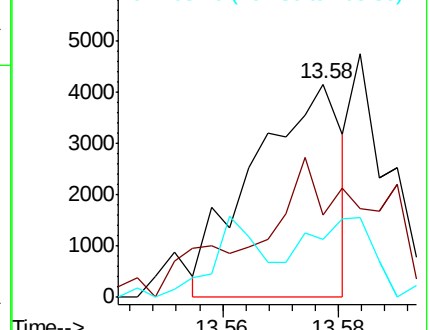
103 0.0 38.6 57.8#



Abundance Ion 104.10 (103.80 to 104.80): V

Ion 78.10 (77.80 to 78.80): VL0

Ion 103.10 (102.80 to 103.80): V



#68

1-Bromo-4-Fluorobenzene

Concen: 19.862 ppbv

RT: 14.47 min Scan# 3633

Delta R.T. -0.01 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

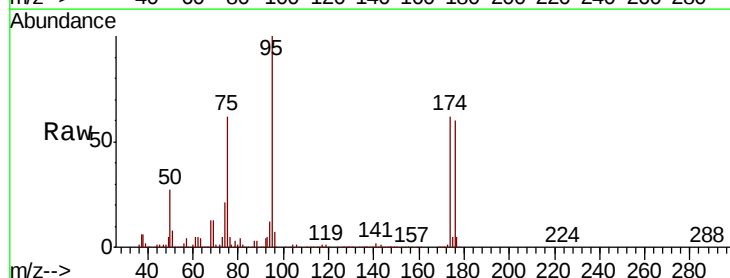
Tgt Ion: 95 Resp: 1558517

Ion Ratio Lower Upper

95 100

174 64.3 52.2 78.2

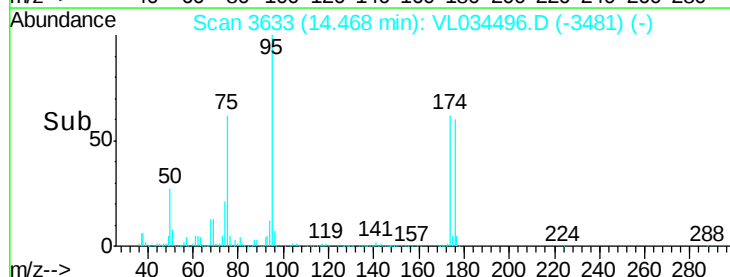
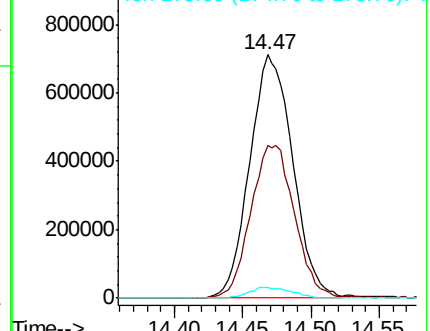
175 4.6 3.8 5.8

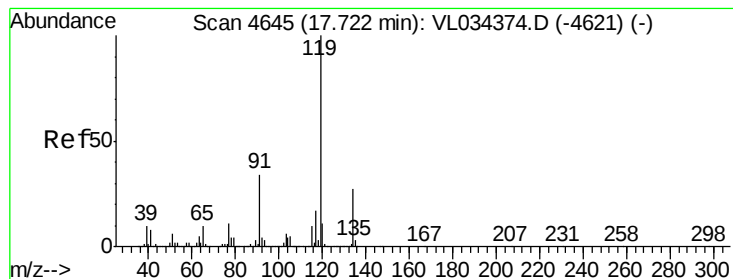


Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V





#69

p-Isopropyltoluene

Concen: 0.594 ppbv

RT: 18.01 min Scan# 4734

Delta R.T. 0.29 min

Lab File: VL034496.D

Acq: 17 Dec 2019 17:13

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IAH

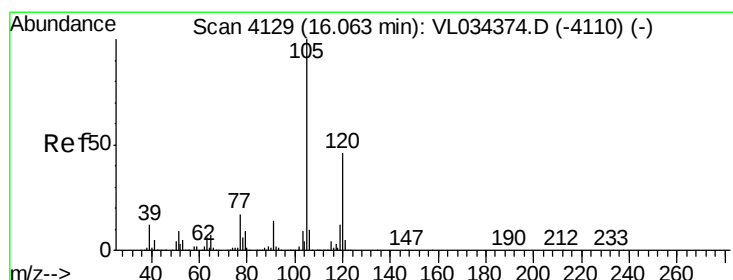
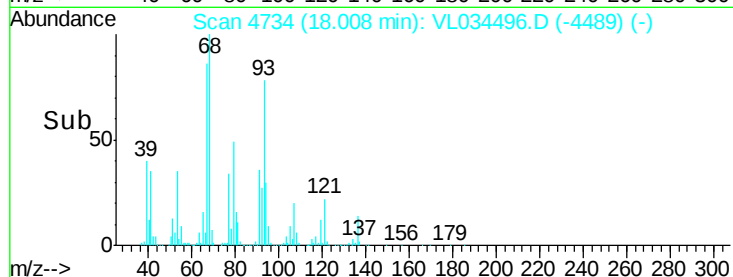
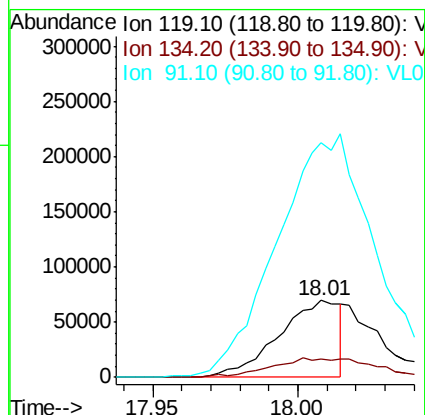
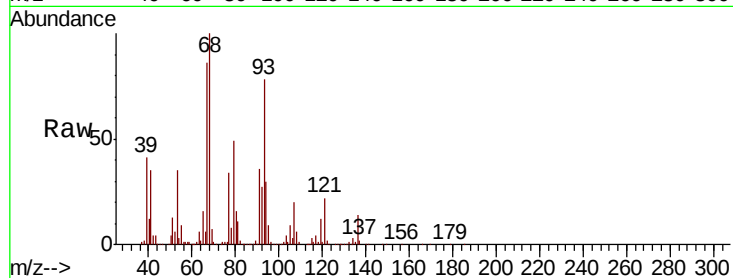
Tgt Ion:119 Resp: 101359

Ion Ratio Lower Upper

119 100

134 44.8 20.6 31.0#

91 521.4 26.3 39.5#



#73

1,3,5-Trimethylbenzene

Concen: 0.032 ppbv

RT: 16.06 min Scan# 4127

Delta R.T. -0.01 min

Lab File: VL034496.D

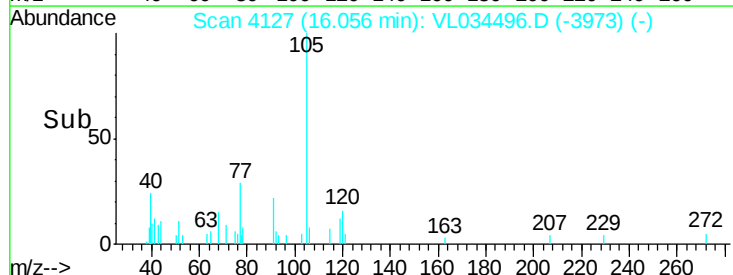
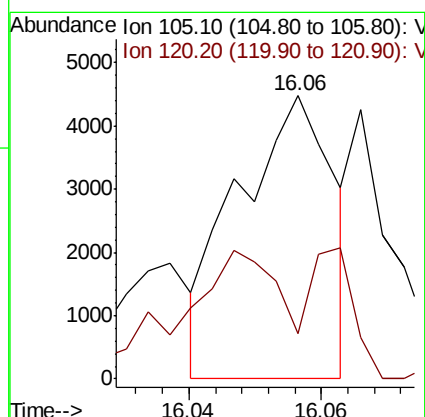
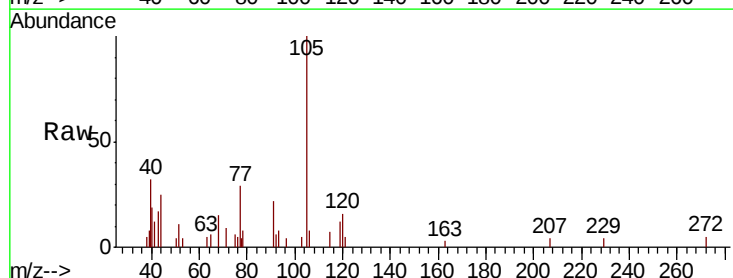
Acq: 17 Dec 2019 17:13

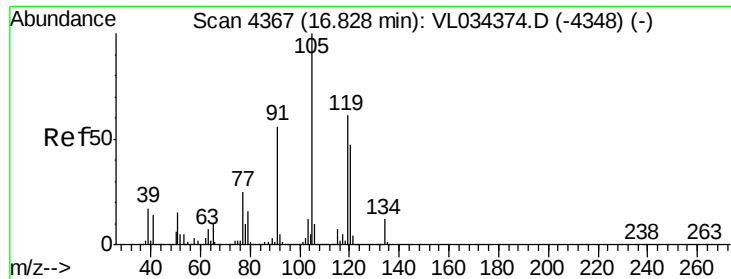
Tgt Ion:105 Resp: 4496

Ion Ratio Lower Upper

105 100

120 0.0 37.1 55.7#

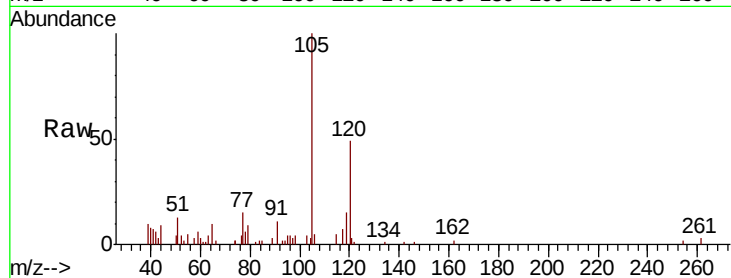




#74
 1,2,4-Trimethylbenzene
 Concen: 0.142 ppbv
 RT: 16.82 min Scan# 4363
 Delta R.T. -0.01 min
 Lab File: VL034496.D
 Acq: 17 Dec 2019 17:13

Instrument :
 MSVOA_L
 ClientSampleId :
 LIHA-IAH

Tgt Ion:	105	Resp:	21093
Ion Ratio	Lower	Upper	
105	100		
120	47.9	37.4	56.0
91	6.7	46.3	69.5#
77	10.6	20.6	30.8#



Abundance Ion 105.10 (104.80 to 105.80): V
 Ion 120.20 (119.90 to 120.90): V
 Ion 91.10 (90.80 to 91.80): VL0
 Ion 77.10 (76.80 to 77.80): VL0

