

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL030320\
 Data File : VL034768.D
 Acq On : 3 Mar 2020 17:49
 Operator : SY/AP
 Sample : L1704-05
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-5-4

Manual Integrations
 APPROVED

MMDadoda
 3/4/2020 4:49:15 PM

Quant Time: Mar 04 11:21:27 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL022620AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Feb 28 2020
 QLast Update : Fri Feb 28 01:15:02 2020
 Response via : Initial Calibration

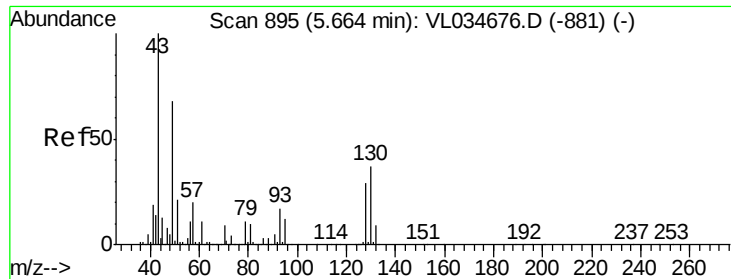
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.72	49	1021182	10.00	ppbv	0.05
33) 1,4-Difluorobenzene	7.24	114	2174156	10.00	ppbv	0.05
55) Chlorobenzene-d5	12.16	117	2263144	10.00	ppbv	0.04

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.49	95	1915633	10.32	ppbv	0.03
Spiked Amount	10.000	Range	65 - 135	Recovery	=	103.20%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.03	85	42517	0.264	ppbv	91
3) Chlorodifluoromethane	2.96	51	28090m	0.255	ppbv	
4) Chloromethane	3.12	50	32481m	0.527	ppbv	
9) Propene	3.00	41	191252m	4.152	ppbv	
10) Heptane	8.18	43	9069417	76.488	ppbv	90
11) Trichlorofluoromethane	3.94	101	45618	0.323	ppbv	93
13) Ethanol	3.64	45	469671	32.274	ppbv	96
15) Acetone	3.87	43	26442634	227.240	ppbv #	20
20) Methylene Chloride	4.38	84	137122m	3.168	ppbv	
26) Hexane	5.71	57	1108435	11.675	ppbv #	54
29) Chloroform	5.81	83	37984m	0.251	ppbv	
30) Cyclohexane	7.17	84	786305	10.687	ppbv	94
34) 2-Butanone	5.29	43	400461	2.926	ppbv	98
36) Benzene	6.94	78	66758	0.356	ppbv	99
52) Tetrachloroethene	11.29	164	9406m	0.137	ppbv	
53) Toluene	9.90	91	20497939	102.632	ppbv #	66
58) Ethyl Benzene	12.78	91	594312	2.171	ppbv	93
59) m/p-Xylene	13.04	91	1731367m	7.250	ppbv	
60) o-Xylene	13.76	91	918830	3.877	ppbv	97
62) Isopropylbenzene	14.74	105	304606	0.881	ppbv	100
64) n-propylbenzene	15.63	120	435689	4.889	ppbv	82
67) sec-Butylbenzene	17.37	105	120245m	0.280	ppbv	
70) n-Butylbenzene	18.63	91	165198m	0.429	ppbv	
72) 4-Ethyltoluene	15.91	105	2288847	8.678	ppbv	99
73) 1,3,5-Trimethylbenzene	16.07	105	1790568	7.057	ppbv	97
74) 1,2,4-Trimethylbenzene	16.83	105	4658493	16.624	ppbv #	70
79) Naphthalene	22.30	128	226275m	0.918	ppbv	
80) Naphthalene,2-methyl-	25.04	142	28850	0.379	ppbv #	90

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.72 min Scan# 912

Delta R.T. 0.05 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

ClientSampleId :

IA-5-4

Tot Ion: 49 Resp: 1021182

Ion Ratio Lower Upper

49 100

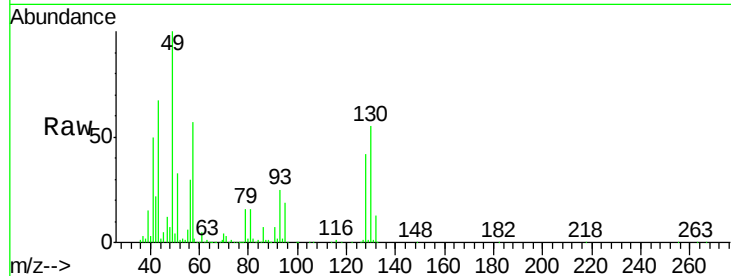
128 42.8 21.6 65.0

130 55.8 27.7 83.1

Manual Integrations
APPROVED

MMDadoda

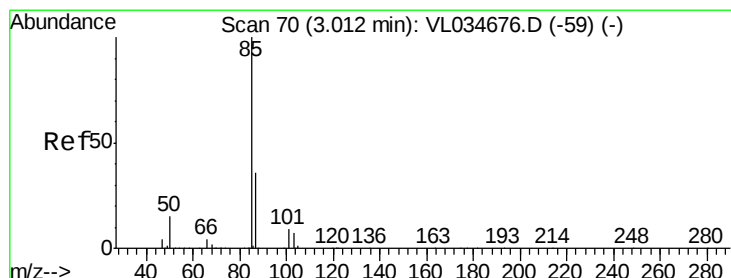
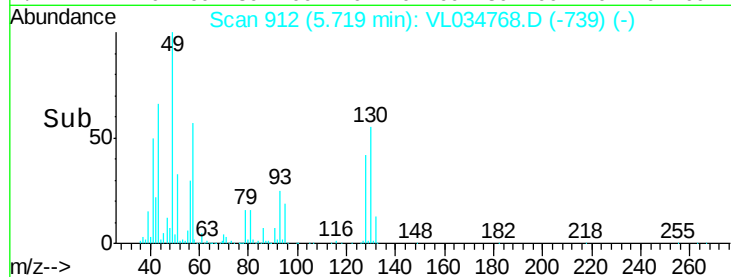
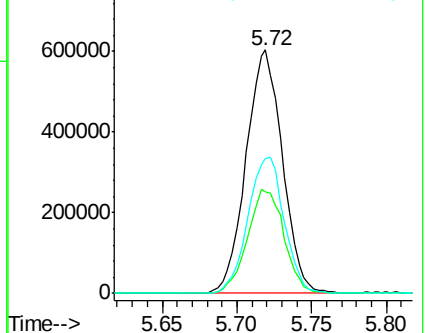
3/4/2020 4:49:15 PM



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.264 ppbv

RT: 3.03 min Scan# 75

Delta R.T. 0.02 min

Lab File: VL034768.D

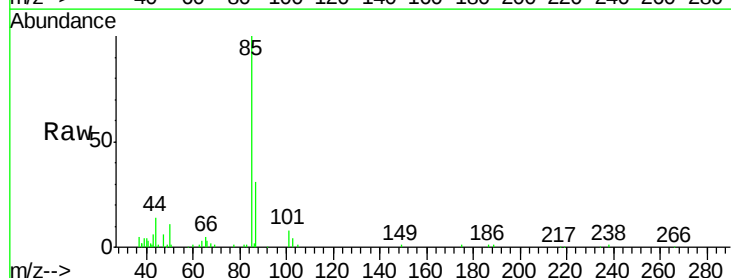
Acq: 3 Mar 2020 17:49

Tgt Ion: 85 Resp: 42517

Ion Ratio Lower Upper

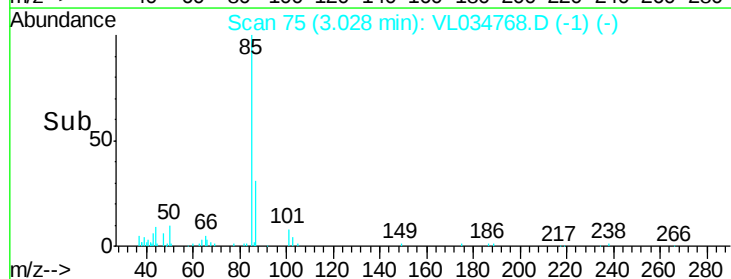
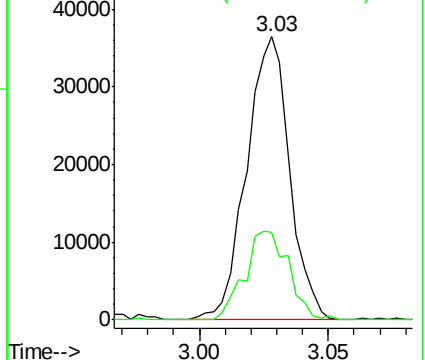
85 100

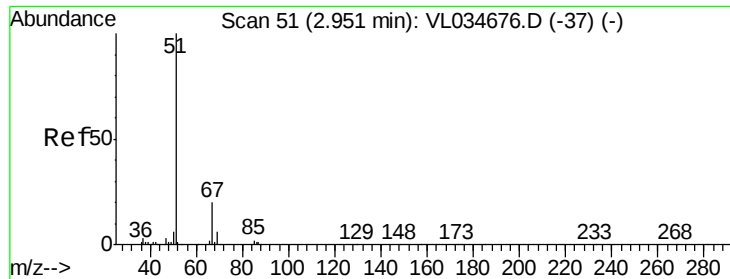
87 31.0 29.2 43.8



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

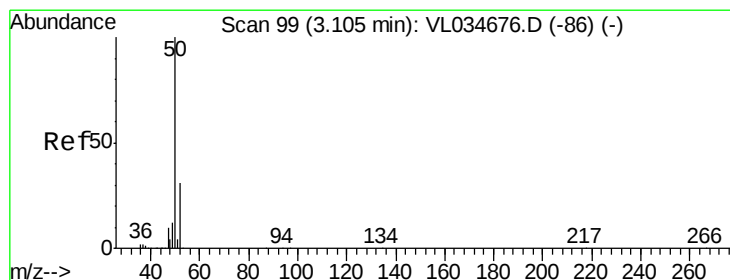
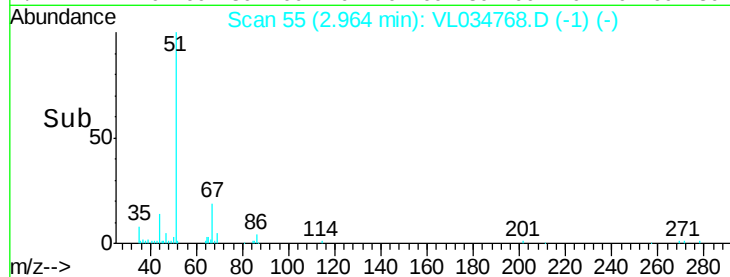
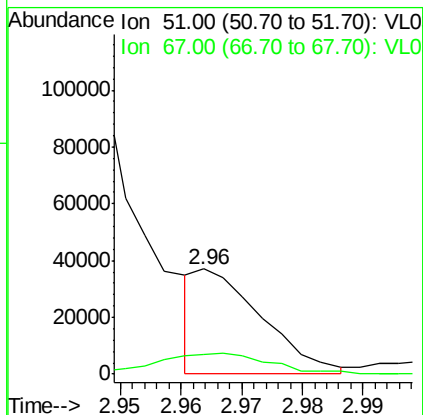
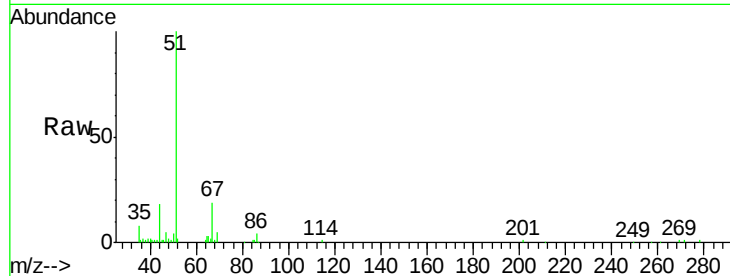
Chlorodifluoromethane
 Concen: 0.255 ppbv m
 RT: 2.96 min Scan# 55
 Delta R.T. 0.01 min
 Lab File: VL034768.D
 Acq: 3 Mar 2020 17:49

Instrument :
 MSVOA_L
 ClientSampled :
 IA-5-4

Tot Ion	Ratio	Lower	Upper
51	100		
67	0.0	15.5	23.3#

Manual Integrations
 APPROVED

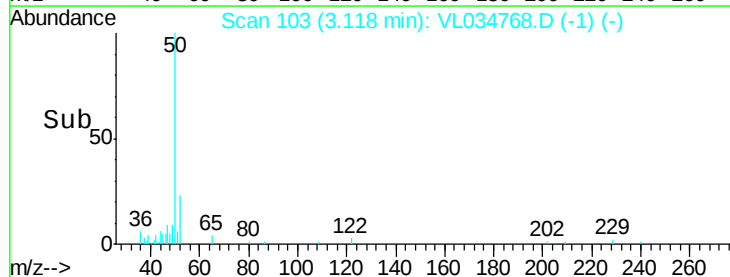
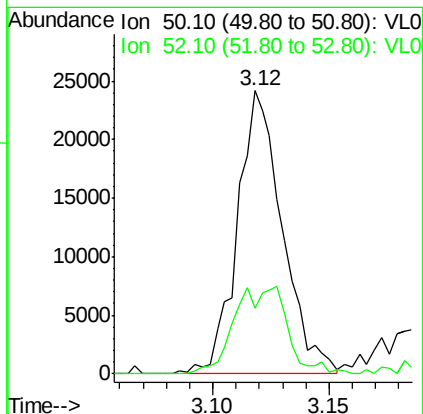
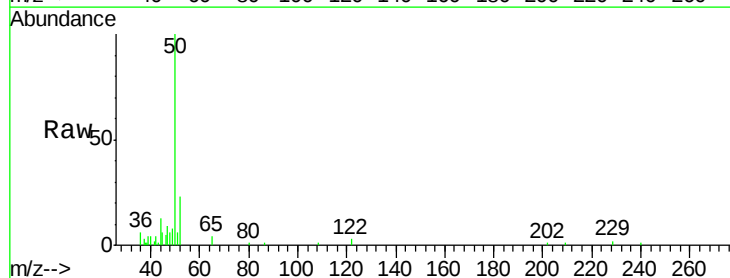
MMDadoda
 3/4/2020 4:49:15 PM

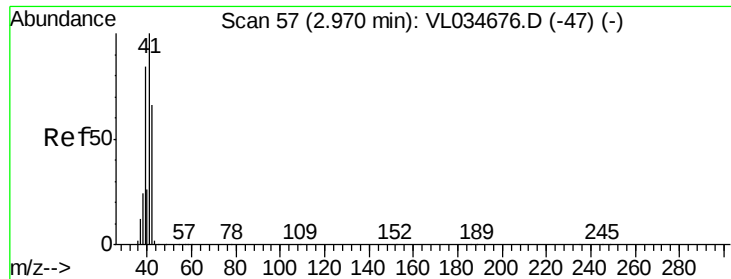


#4

Chloromethane
 Concen: 0.527 ppbv m
 RT: 3.12 min Scan# 103
 Delta R.T. 0.01 min
 Lab File: VL034768.D
 Acq: 3 Mar 2020 17:49

Tgt Ion	Ratio	Lower	Upper
50	100		
52	23.1	25.0	37.4#





#9

Propene

Concen: 4.152 ppbv m

RT: 3.00 min Scan# 66

Delta R.T. 0.03 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

ClientSampleId :

IA-5-4

Tot Ion: 41 Resp: 191252

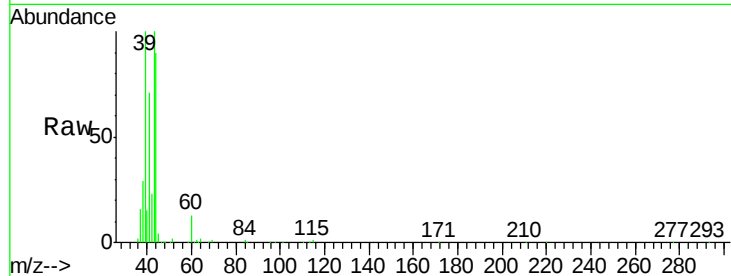
Ion Ratio Lower Upper

41 100

42 67.0 54.9 82.3

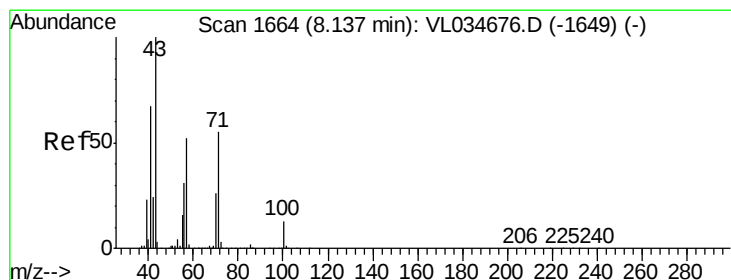
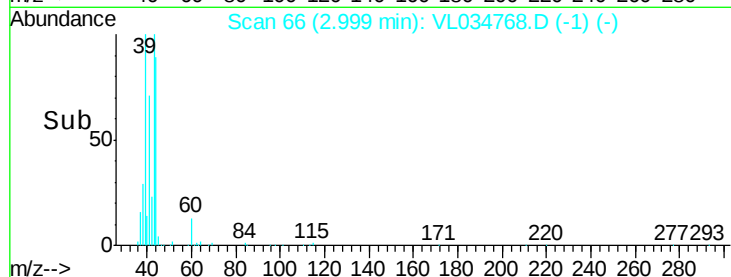
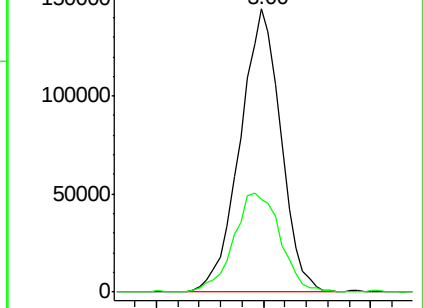
Manual Integrations
APPROVED

MMDadoda
3/4/2020 4:49:15 PM



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0



#10

Heptane

Concen: 76.488 ppbv

RT: 8.18 min Scan# 1678

Delta R.T. 0.05 min

Lab File: VL034768.D

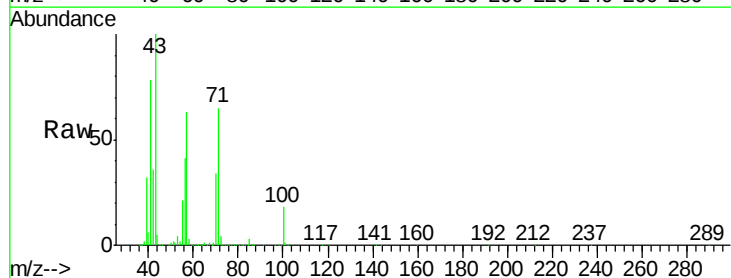
Acq: 3 Mar 2020 17:49

Tgt Ion: 43 Resp: 9069417

Ion Ratio Lower Upper

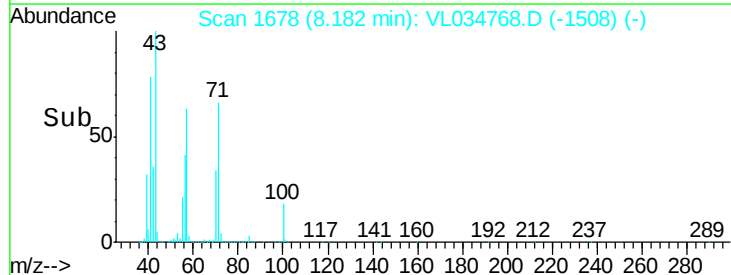
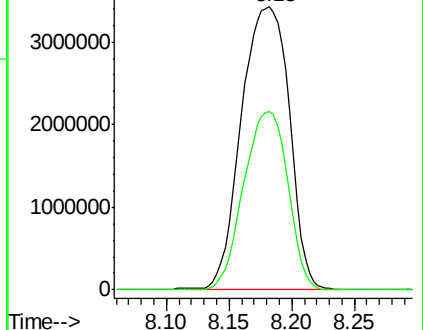
43 100

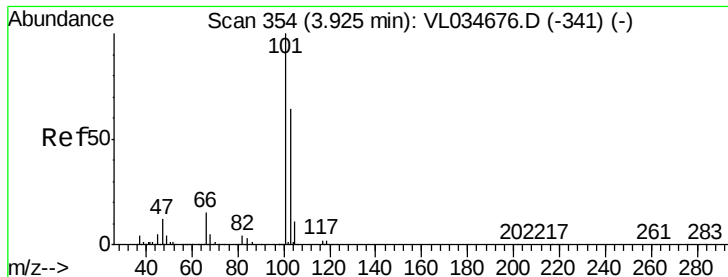
57 58.4 41.0 61.6



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0





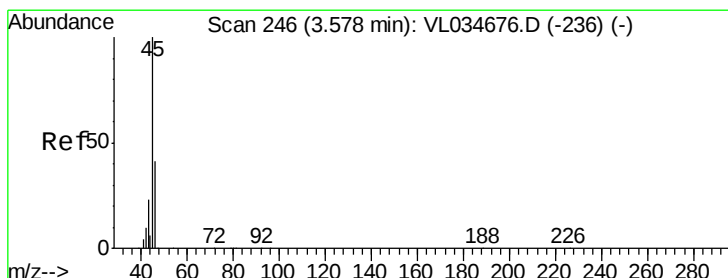
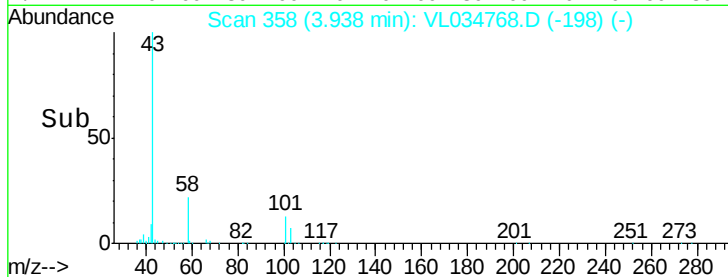
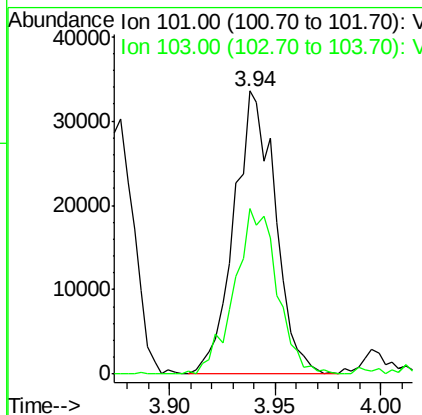
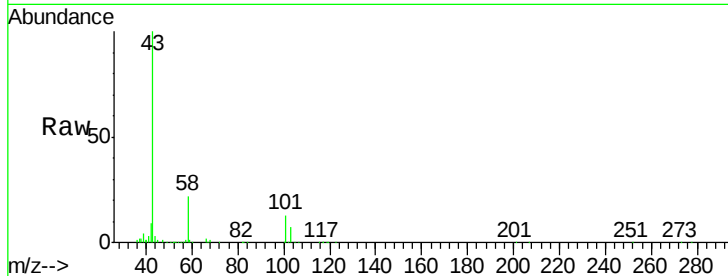
#11
 Trichlorofluoromethane
 Concen: 0.323 ppbv
 RT: 3.94 min Scan# 358
 Delta R.T. 0.01 min
 Lab File: VL034768.D
 Acq: 3 Mar 2020 17:49

Instrument :
 MSVOA_L
 ClientSampleId :
 IA-5-4

Tot Ion	Ratio	Lower	Upper
101	100		
103	58.4	51.2	76.8

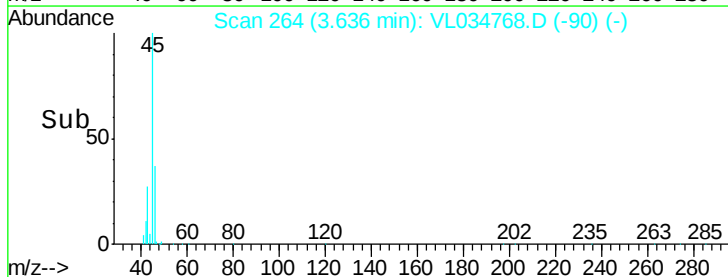
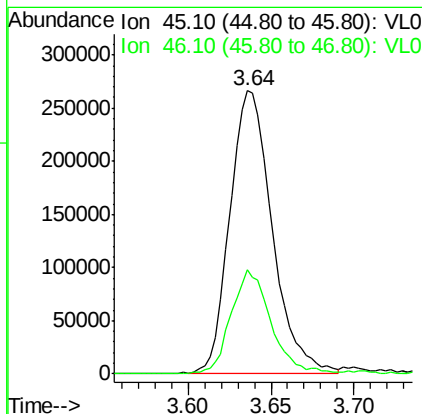
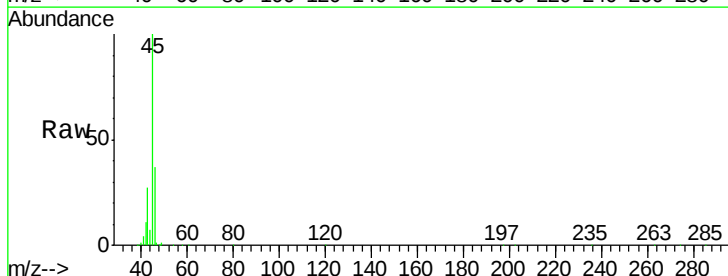
Manual Integrations
 APPROVED

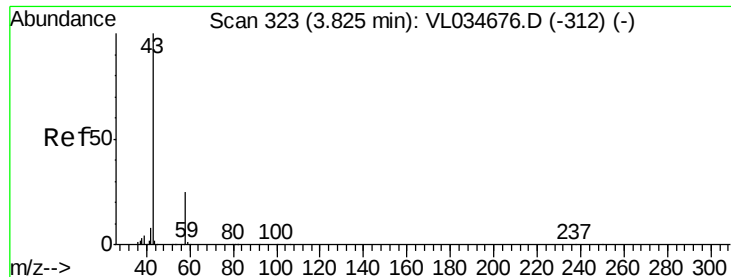
MMDadoda
 3/4/2020 4:49:15 PM



#13
 Ethanol
 Concen: 32.274 ppbv
 RT: 3.64 min Scan# 264
 Delta R.T. 0.06 min
 Lab File: VL034768.D
 Acq: 3 Mar 2020 17:49

Tgt Ion	Ratio	Lower	Upper
45	100		
46	35.7	15.4	61.4





#15

Acetone

Concen: 227.240 ppbv

RT: 3.87 min Scan# 338

Delta R.T. 0.05 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

ClientSampleId :

IA-5-4

Tot Ion: 43 Resp: 26442634

Ion Ratio Lower Upper

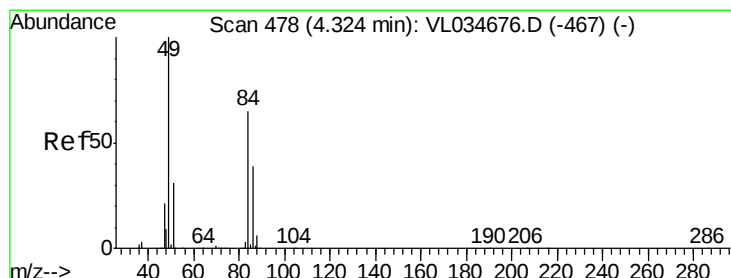
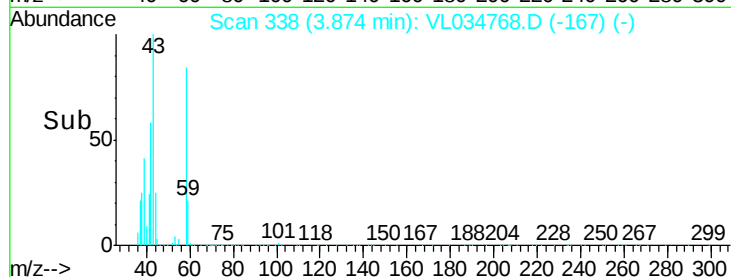
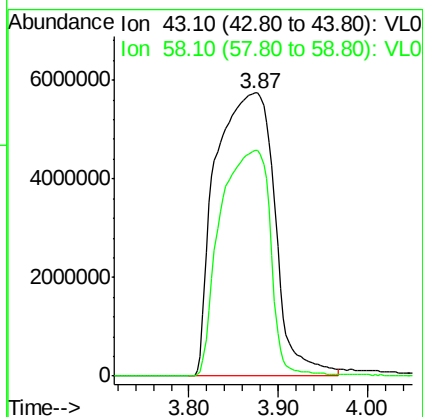
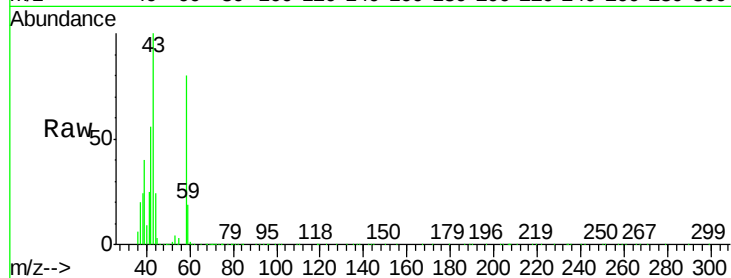
43 100

58 67.9 21.4 32.0#

Manual Integrations
APPROVED

MMDadoda

3/4/2020 4:49:15 PM



#20

Methylene Chloride

Concen: 3.168 ppbv m

RT: 4.38 min Scan# 495

Delta R.T. 0.05 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Tgt Ion: 84 Resp: 137122

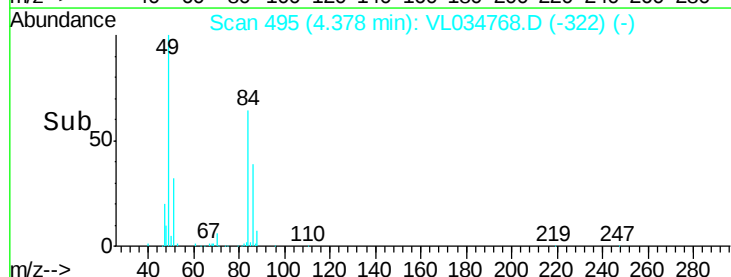
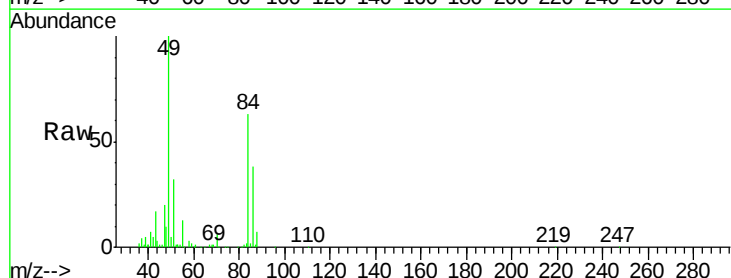
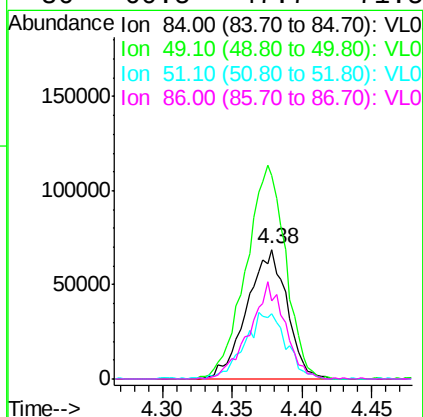
Ion Ratio Lower Upper

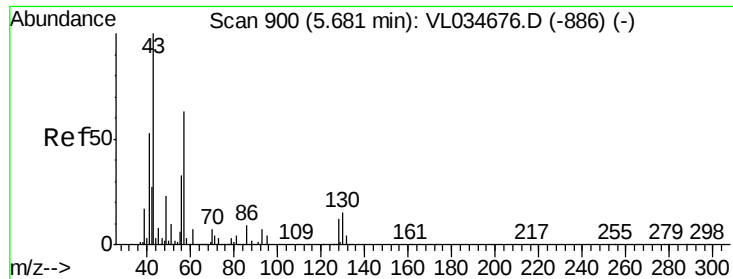
84 100

49 157.6 122.8 184.2

51 50.3 38.6 58.0

86 60.5 47.7 71.5





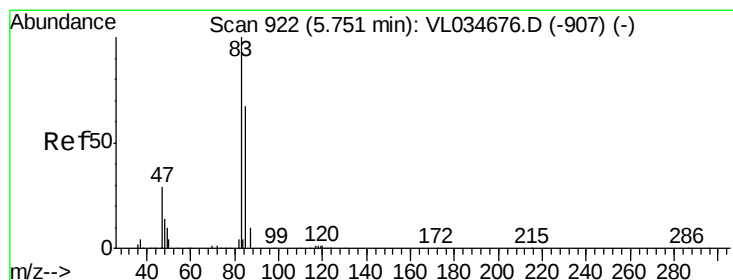
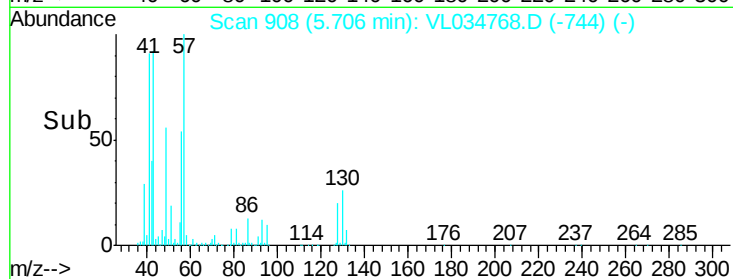
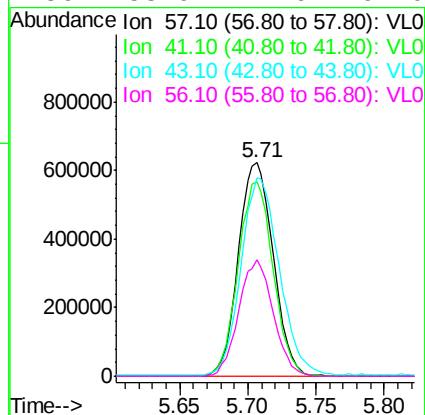
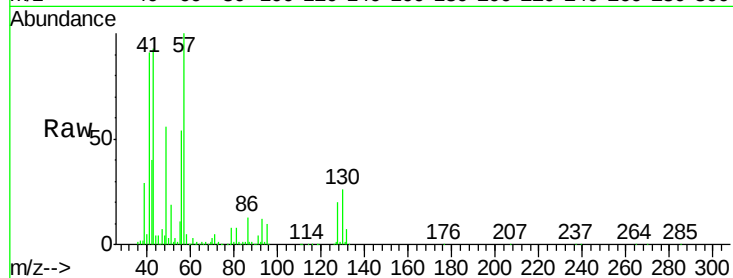
#26
Hexane
Concen: 11.675 ppbv
RT: 5.71 min Scan# 908
Delta R.T. 0.03 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Instrument :
MSVOA_L
ClientSampleId :
IA-5-4

Tot Ion	Ratio	Lower	Upper
57	100		
41	91.6	70.3	105.5
43	101.5	177.0	265.4#
56	53.9	42.6	64.0

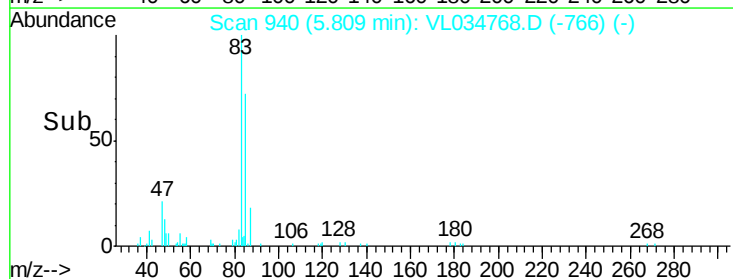
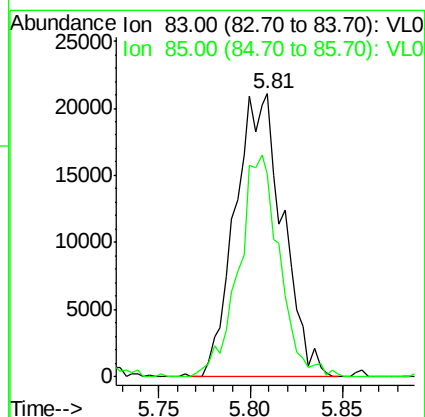
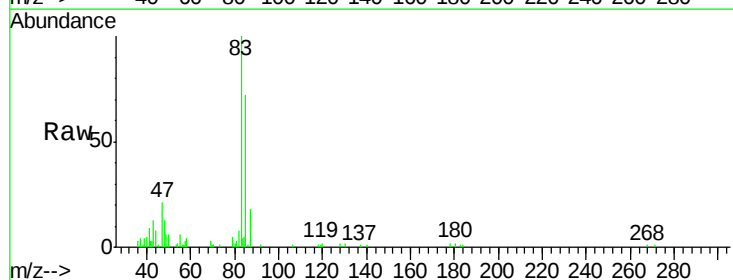
Manual Integrations
APPROVED

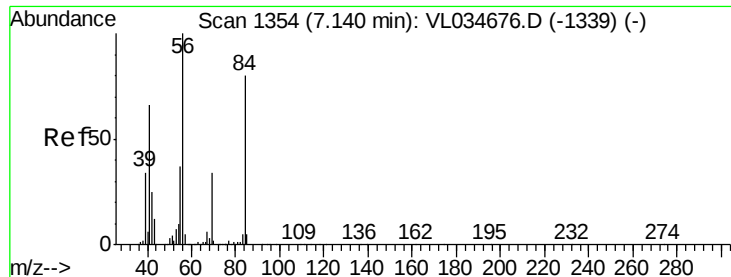
MMDadoda
3/4/2020 4:49:15 PM



#29
Chloroform
Concen: 0.251 ppbv m
RT: 5.81 min Scan# 940
Delta R.T. 0.06 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Tgt Ion	Ratio	Lower	Upper
83	100		
85	71.8	53.9	80.9





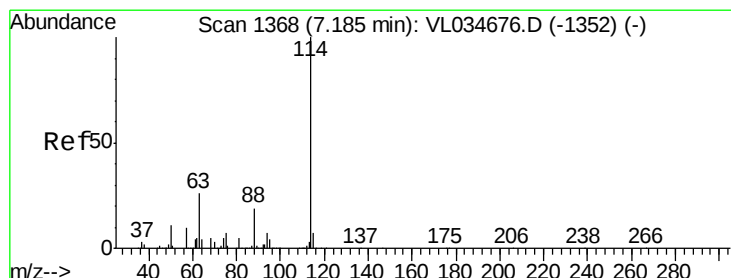
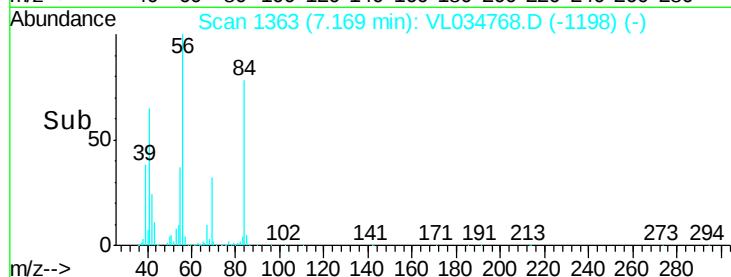
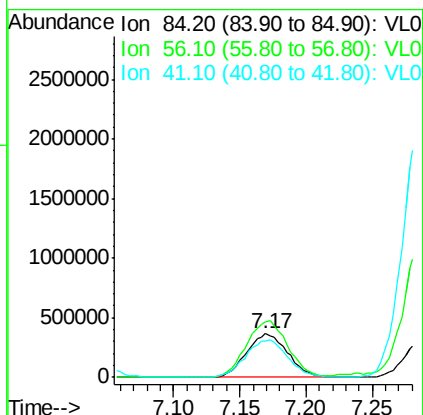
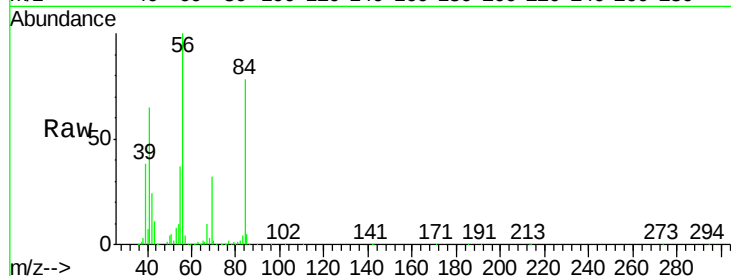
#30
Cyclohexane
Concen: 10.687 ppbv
RT: 7.17 min Scan# 1363
Delta R.T. 0.03 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Instrument :
MSVOA_L
ClientSampled :
IA-5-4

Tot Ion	Ratio	Lower	Upper
84	100		
56	132.8	113.4	170.2
41	87.6	68.2	102.4

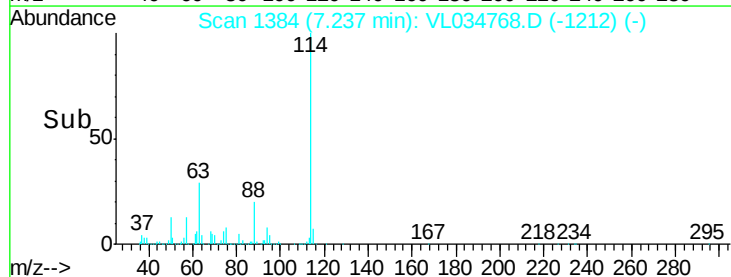
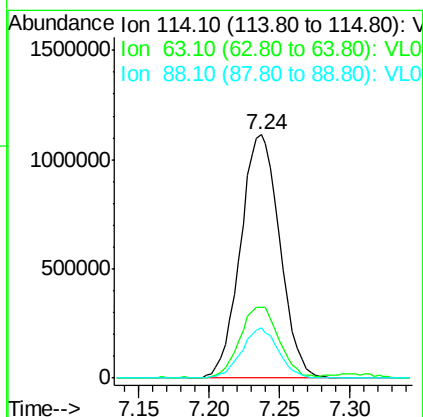
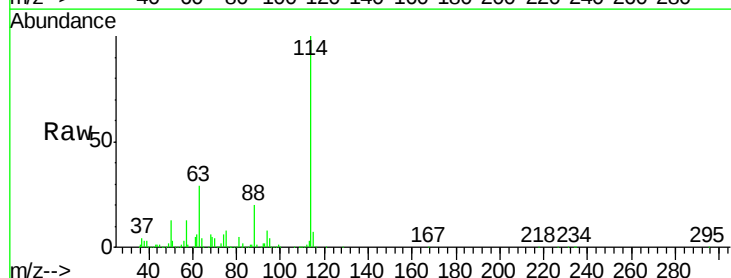
Manual Integrations
APPROVED

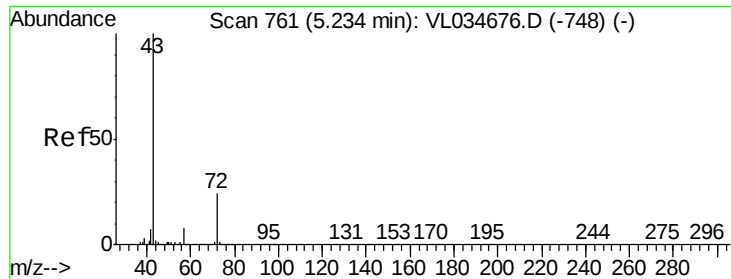
MMDadoda
3/4/2020 4:49:15 PM



#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 7.24 min Scan# 1384
Delta R.T. 0.05 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Tgt Ion	Ratio	Lower	Upper
114	100		
63	29.4	22.9	34.3
88	19.3	15.8	23.6





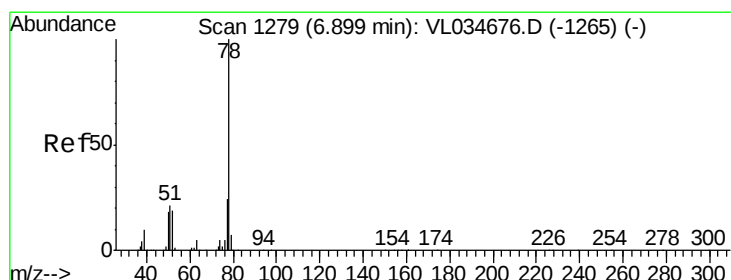
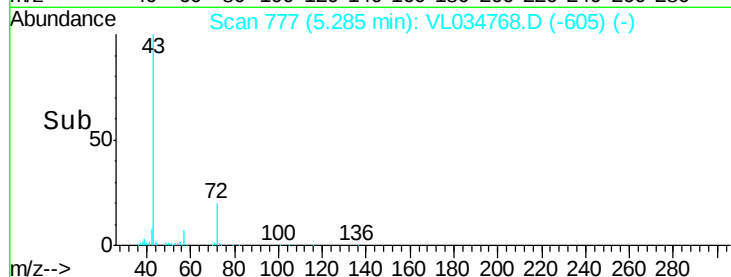
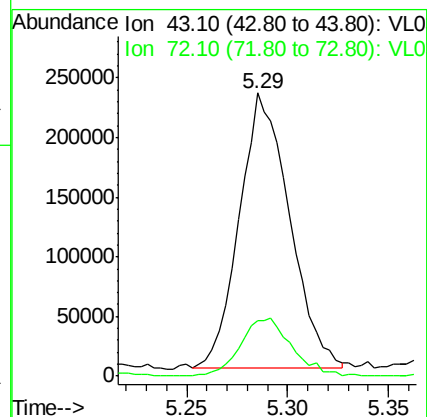
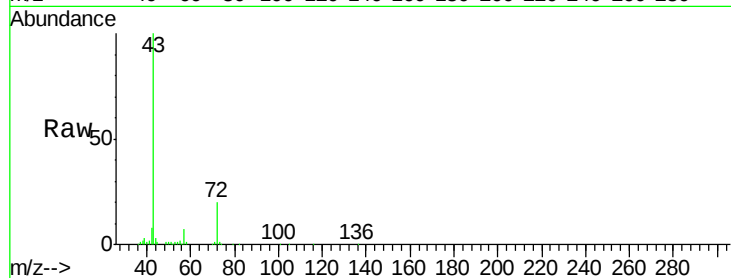
#34
2-Butanone
Concen: 2.926 ppbv
RT: 5.29 min Scan# 777
Delta R.T. 0.05 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Instrument :
MSVOA_L
ClientSampled :
IA-5-4

Tot Ion	Ratio	Lower	Upper
43	100		
72	21.6	18.2	27.2

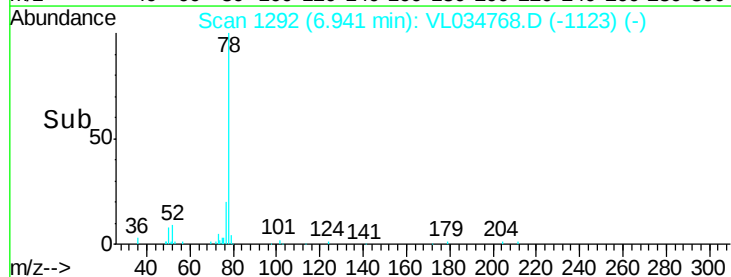
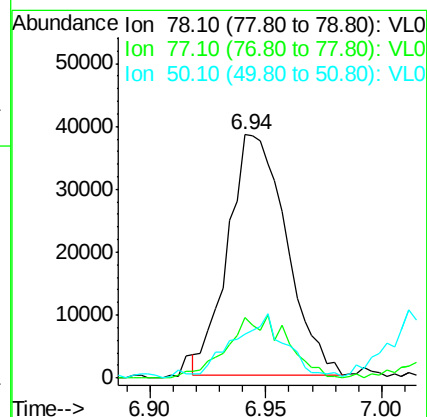
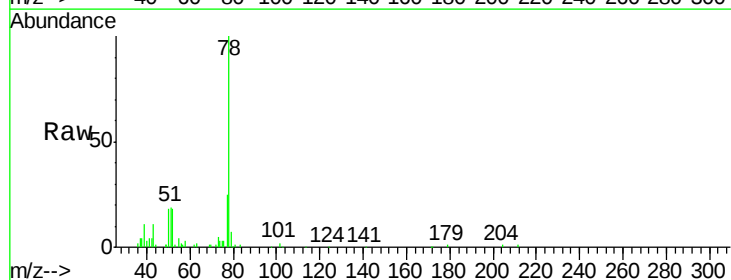
Manual Integrations
APPROVED

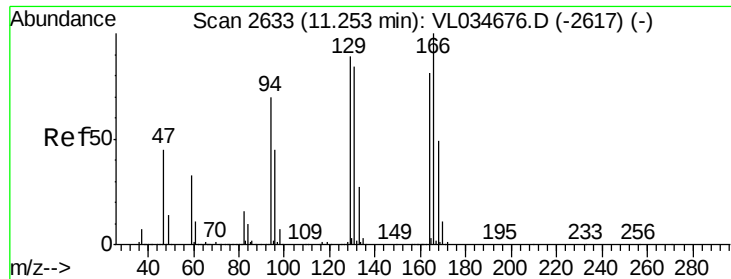
MMDadoda
3/4/2020 4:49:15 PM



#36
Benzene
Concen: 0.356 ppbv
RT: 6.94 min Scan# 1292
Delta R.T. 0.04 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Tgt Ion	Ratio	Lower	Upper
78	100		
77	23.9	19.5	29.3
50	17.5	14.6	21.8





#52

Tetrachloroethene

Concen: 0.137 ppbv m

RT: 11.29 min Scan# 2645

Delta R.T. 0.04 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

ClientSampleId :

IA-5-4

Tot Ion:164 Resp: 9406

Ion Ratio Lower Upper

164 100

166 75.2 99.2 148.8#

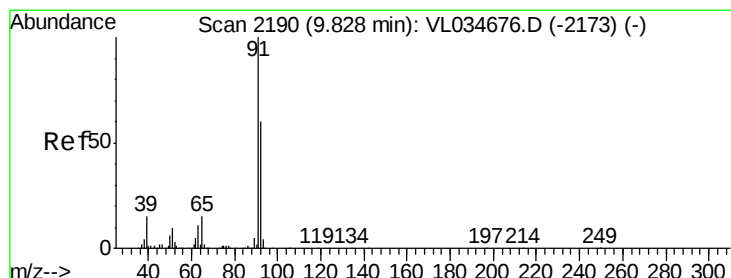
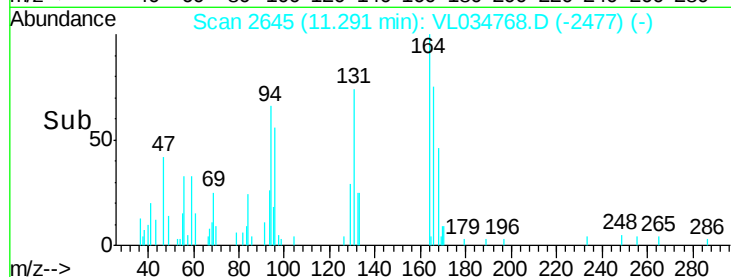
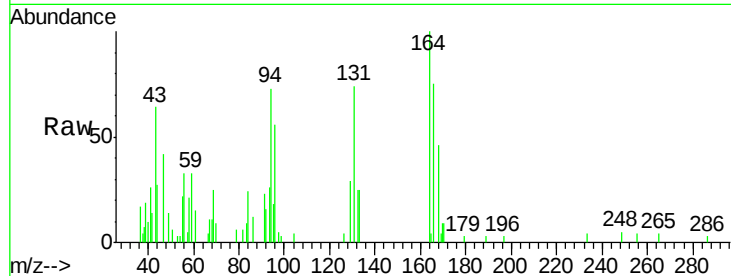
129 29.4 88.0 132.0#

131 74.4 83.7 125.5#

Manual Integrations
APPROVED

MMDadoda

3/4/2020 4:49:15 PM



#53

Toluene

Concen: 102.632 ppbv

RT: 9.90 min Scan# 2211

Delta R.T. 0.07 min

Lab File: VL034768.D

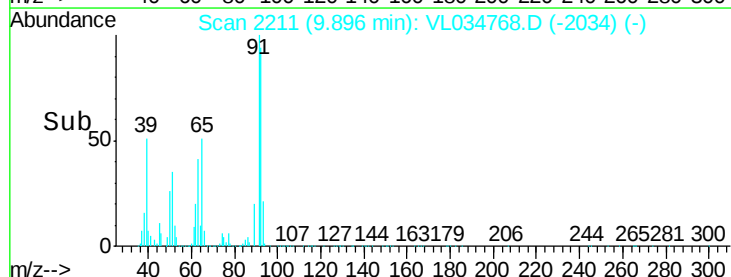
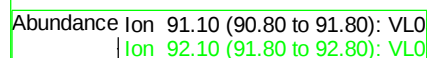
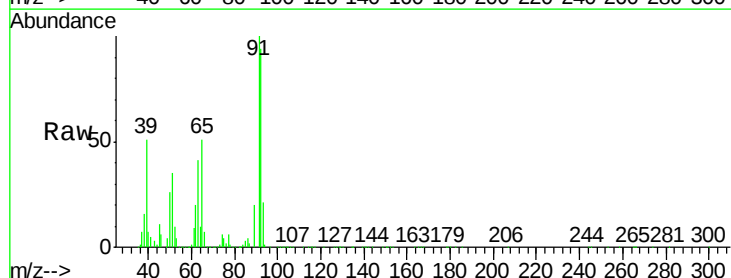
Acq: 3 Mar 2020 17:49

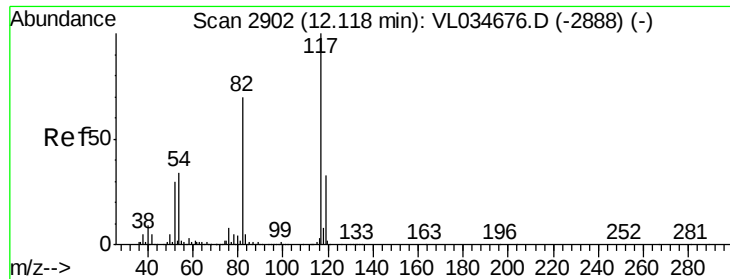
Tgt Ion: 91 Resp:20497939

Ion Ratio Lower Upper

91 100

92 86.2 48.5 72.7#





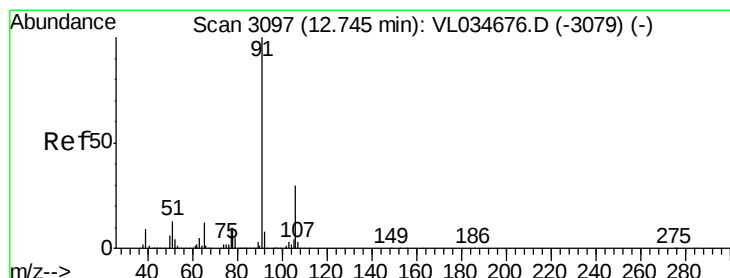
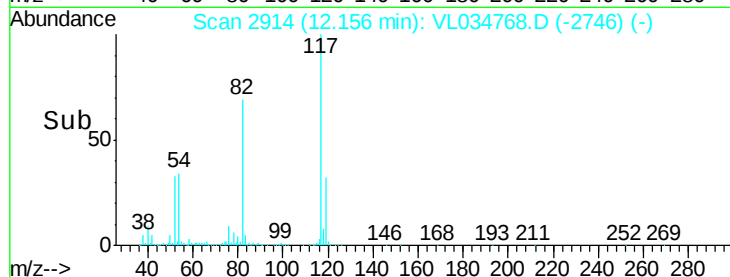
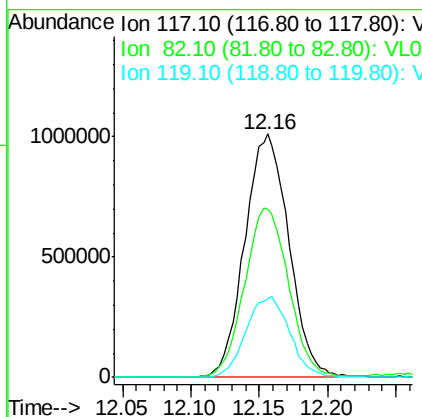
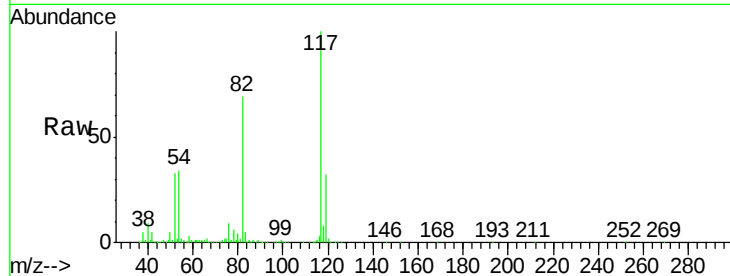
#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.16 min Scan# 2914
Delta R.T. 0.04 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Instrument :
MSVOA_L
ClientSampled :
IA-5-4

Tot Ion	Ratio	Lower	Upper
117	100		
82	69.9	54.1	81.1
119	33.1	27.6	41.4

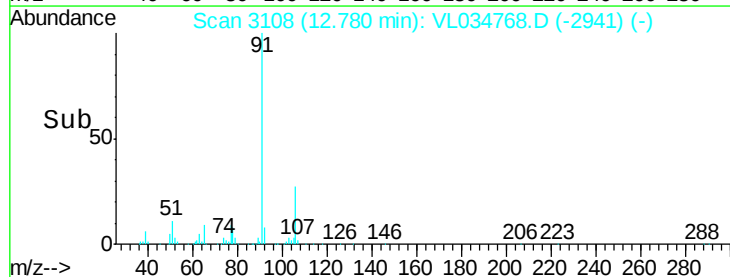
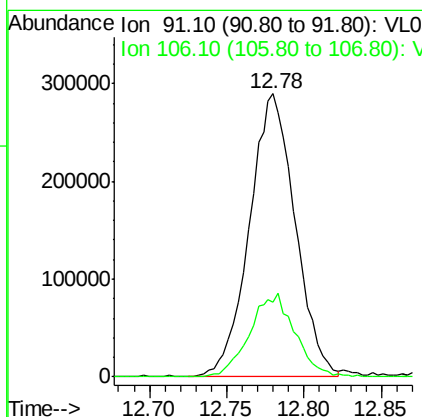
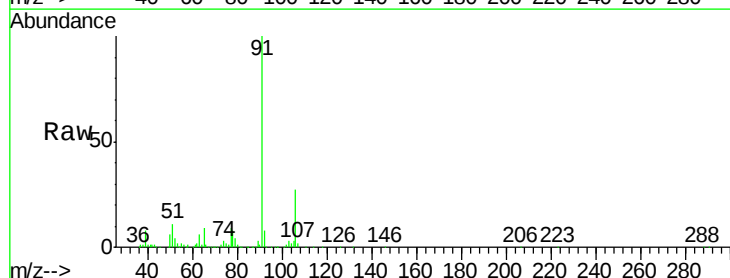
Manual Integrations
APPROVED

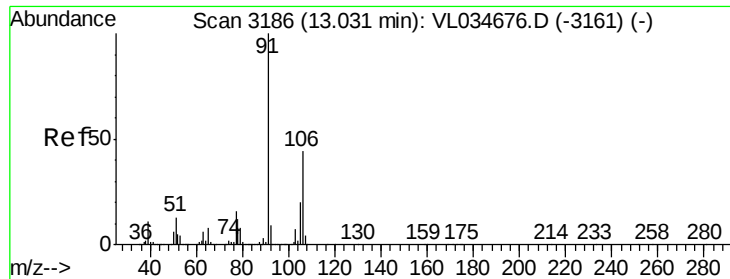
MMDadoda
3/4/2020 4:49:15 PM



#58
Ethyl Benzene
Concen: 2.171 ppbv
RT: 12.78 min Scan# 3108
Delta R.T. 0.04 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Tgt Ion	Ratio	Lower	Upper
91	100		
106	26.1	24.0	36.0





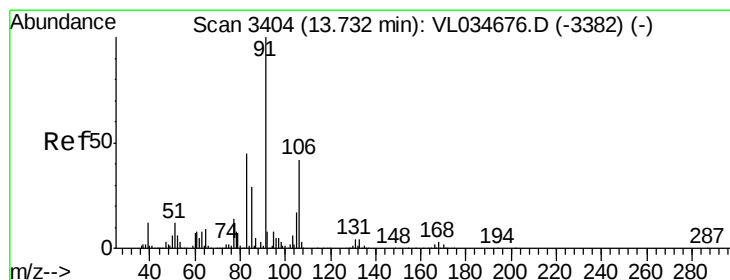
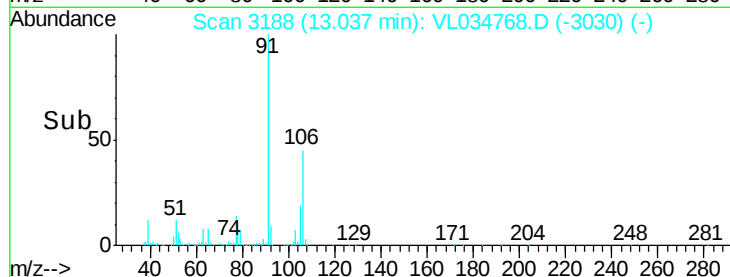
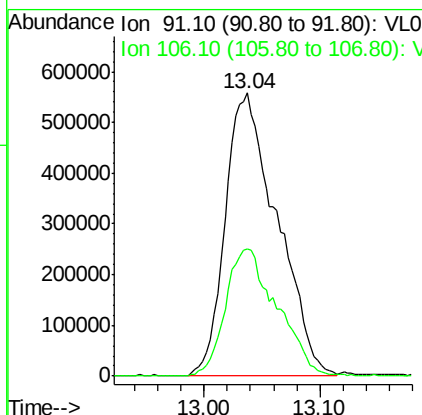
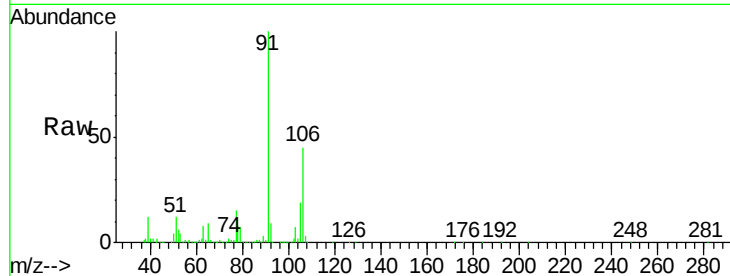
#59
m/p-Xylene
Concen: 7.250 ppbv m
RT: 13.04 min Scan# 3188
Delta R.T. 0.01 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Instrument :
MSVOA_L
ClientSampled :
IA-5-4

Tot Ion: 91 Resp: 1731367
Ion Ratio Lower Upper
91 100
106 0.0 35.6 53.4#

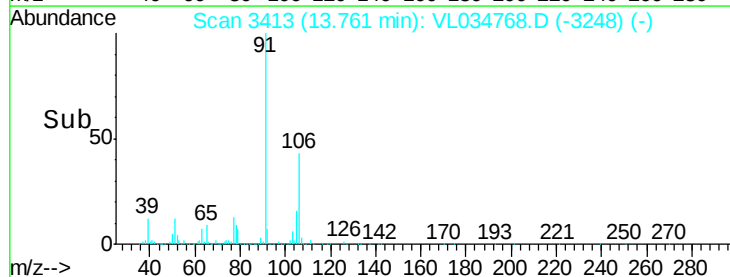
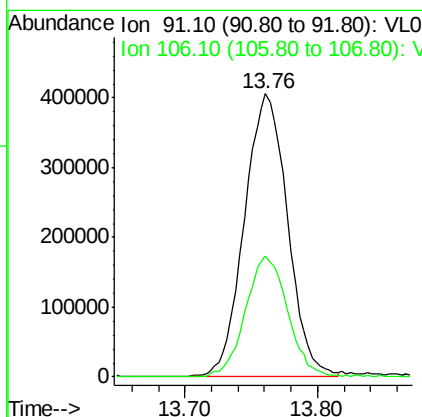
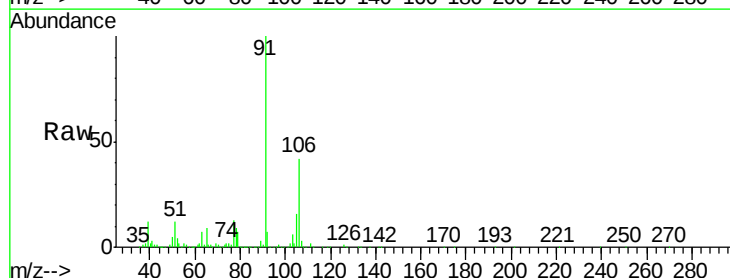
Manual Integrations
APPROVED

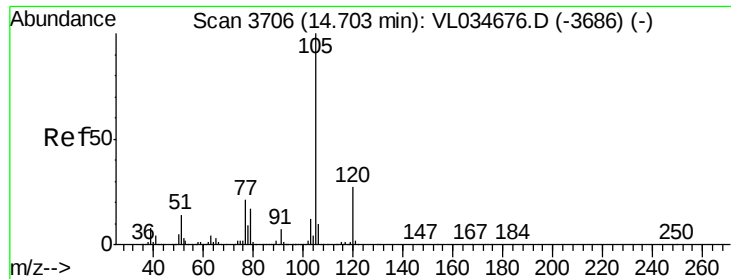
MMDadoda
3/4/2020 4:49:15 PM



#60
o-Xylene
Concen: 3.877 ppbv
RT: 13.76 min Scan# 3413
Delta R.T. 0.03 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Tgt Ion: 91 Resp: 918830
Ion Ratio Lower Upper
91 100
106 41.8 21.9 65.5





#62

Isopropylbenzene

Concen: 0.881 ppbv

RT: 14.74 min Scan# 3717

Delta R.T. 0.04 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

ClientSampled :

IA-5-4

Tot Ion:105 Resp: 304606

Ion Ratio Lower Upper

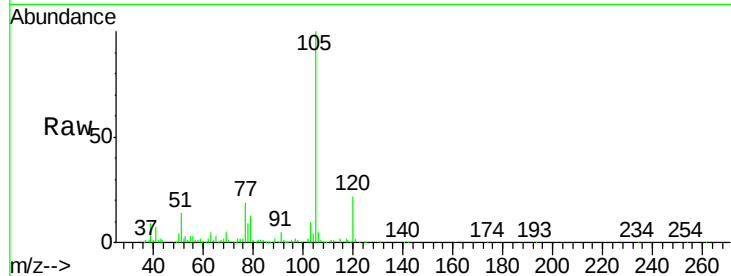
105 100

120 25.2 20.2 30.4

Manual Integrations
APPROVED

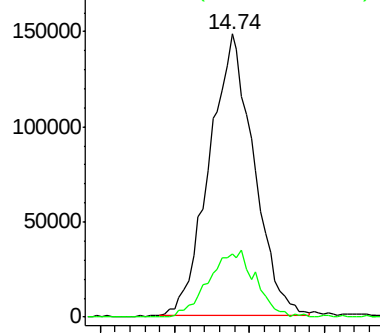
MMDadoda

3/4/2020 4:49:15 PM

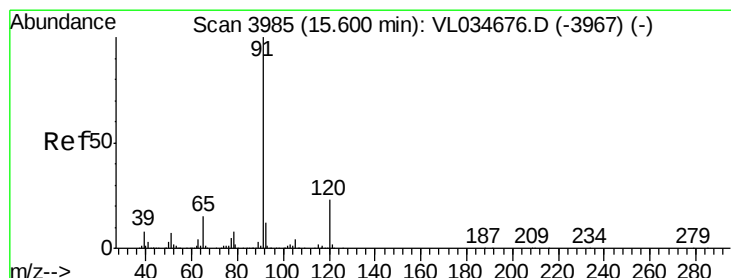
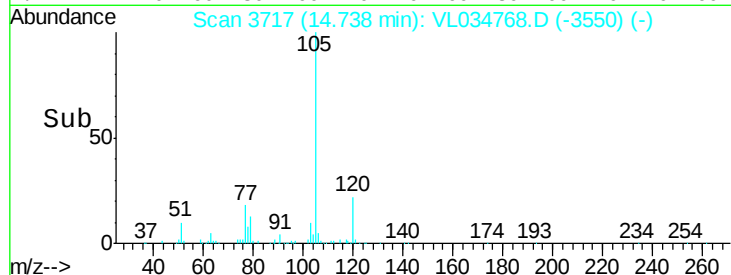


Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V



Time-->



#64

n-propylbenzene

Concen: 4.889 ppbv

RT: 15.63 min Scan# 3995

Delta R.T. 0.03 min

Lab File: VL034768.D

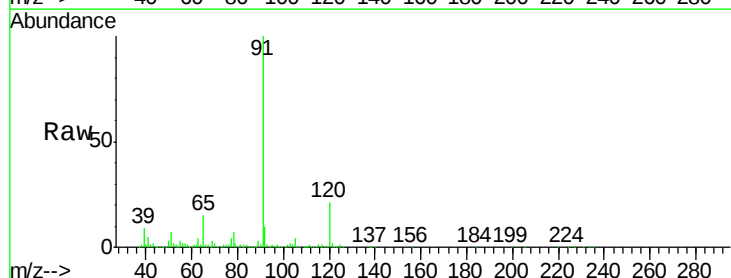
Acq: 3 Mar 2020 17:49

Tgt Ion:120 Resp: 435689

Ion Ratio Lower Upper

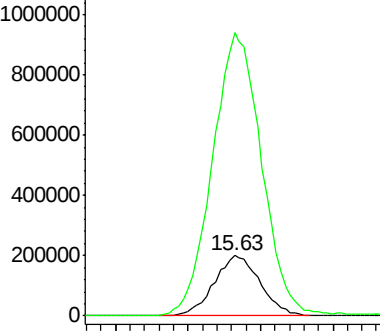
120 100

91 509.2 369.8 554.8

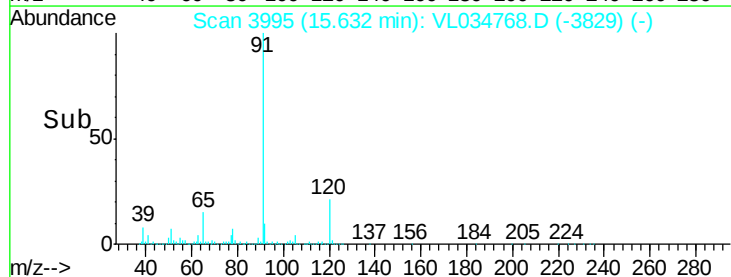


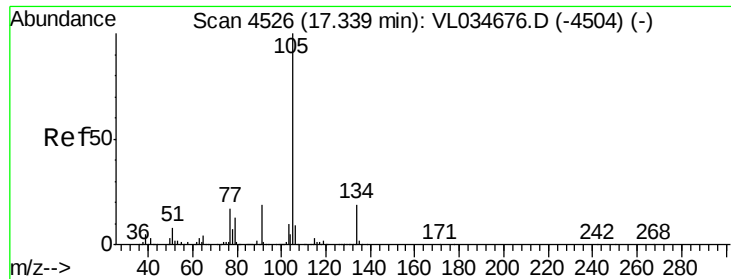
Abundance Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0



Time-->





#67

sec-Butylbenzene

Concen: 0.280 ppbv m

RT: 17.37 min Scan# 4534

Delta R.T. 0.03 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

ClientSampled :

IA-5-4

Tot Ion:105 Resp: 120245

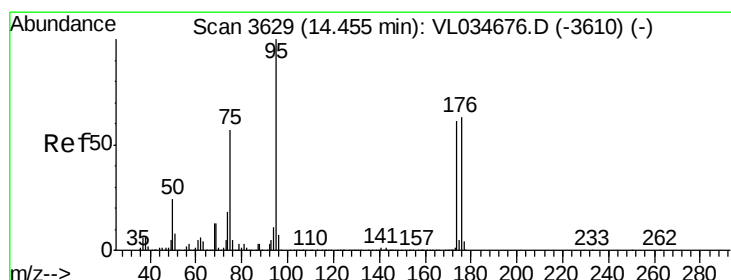
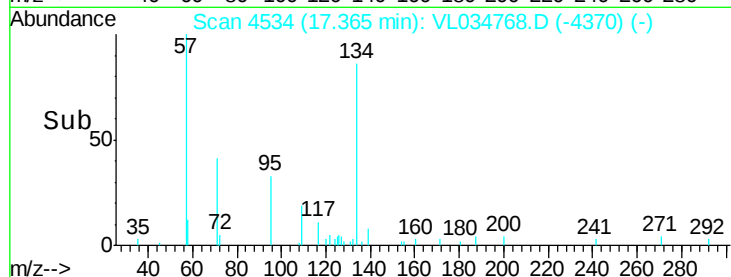
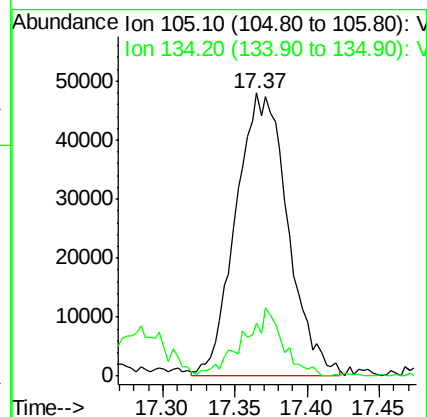
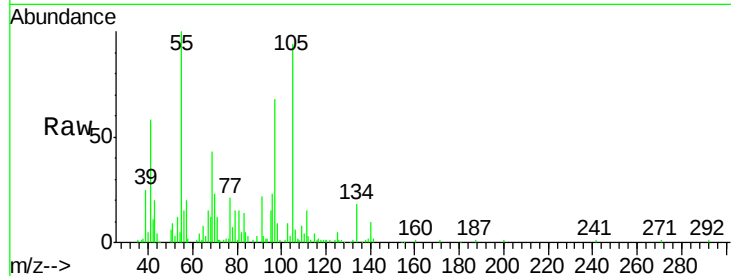
Ion Ratio Lower Upper

105 100

134 18.3 14.8 22.2

Manual Integrations
APPROVED

MMDadoda
3/4/2020 4:49:15 PM



#68

1-Bromo-4-Fluorobenzene

Concen: 10.323 ppbv

RT: 14.49 min Scan# 3639

Delta R.T. 0.03 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

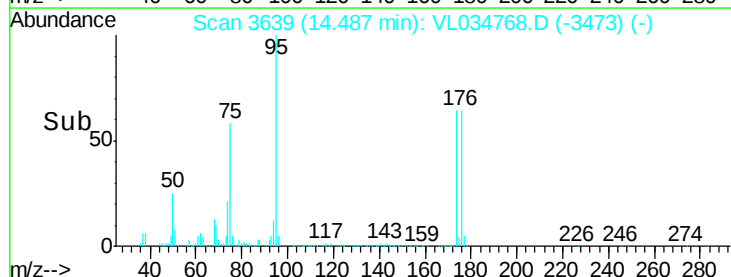
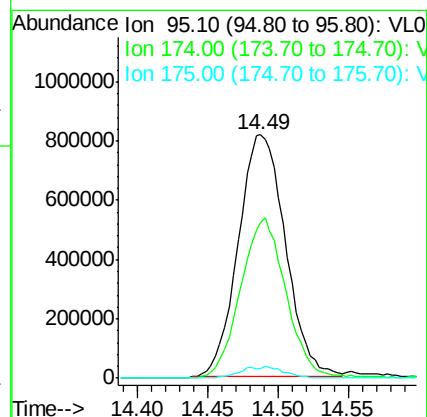
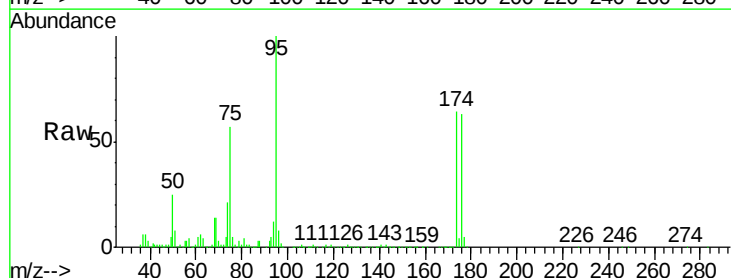
Tgt Ion: 95 Resp: 1915633

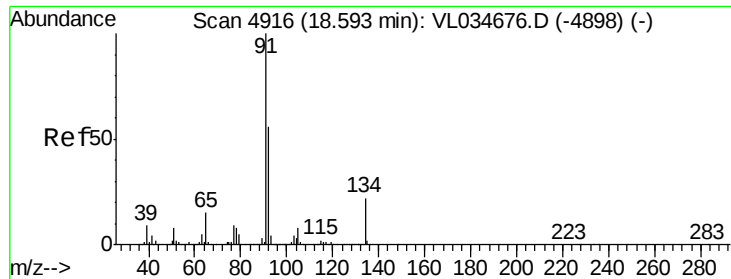
Ion Ratio Lower Upper

95 100

174 63.9 50.7 76.1

175 4.6 3.9 5.9





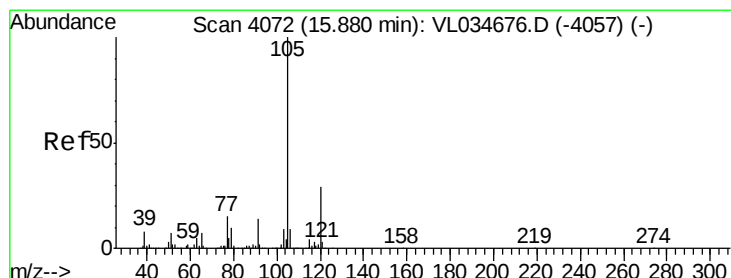
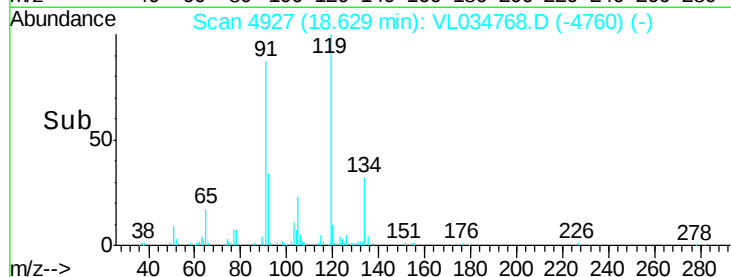
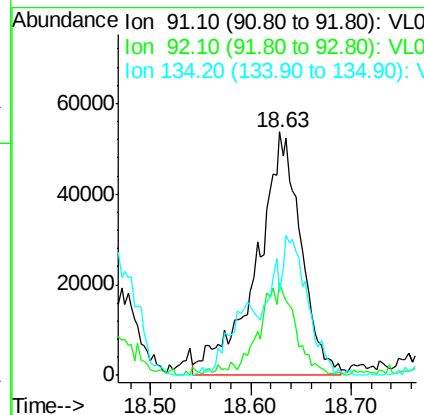
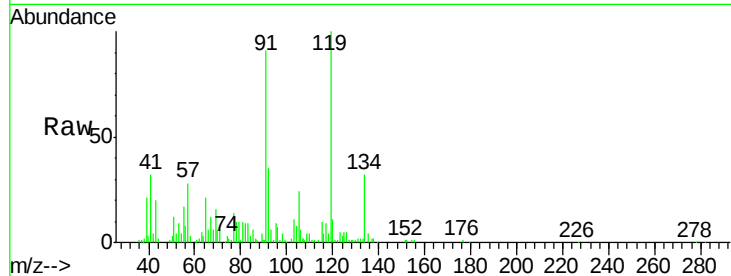
#70
n-Butylbenzene
Concen: 0.429 ppbv m
RT: 18.63 min Scan# 4927
Delta R.T. 0.04 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Instrument :
MSVOA_L
ClientSampled :
IA-5-4

Tot Ion	Ratio	Lower	Upper
91	100		
92	0.0	43.8	65.6#
134	0.0	17.6	26.4#

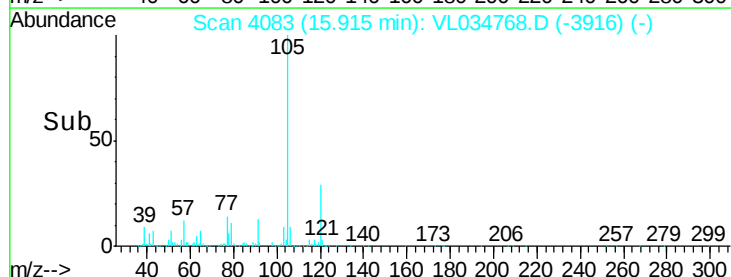
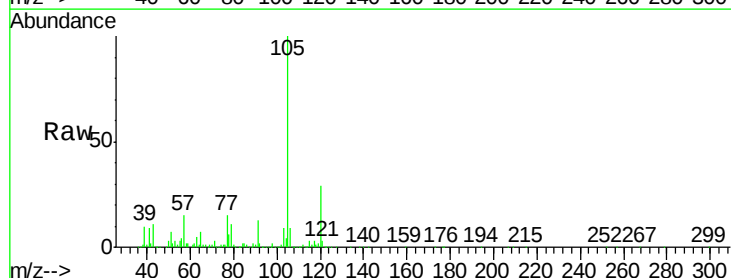
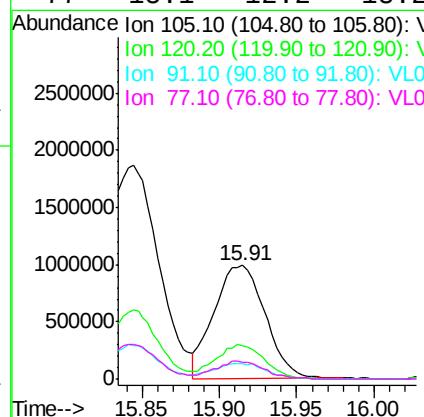
Manual Integrations
APPROVED

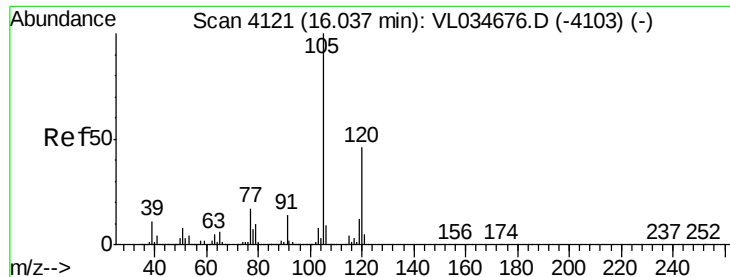
MMDadoda
3/4/2020 4:49:15 PM



#72
4-Ethyltoluene
Concen: 8.678 ppbv
RT: 15.91 min Scan# 4083
Delta R.T. 0.04 min
Lab File: VL034768.D
Acq: 3 Mar 2020 17:49

Tgt Ion	Ratio	Lower	Upper
105	100		
120	29.2	23.7	35.5
91	13.8	10.9	16.3
77	15.1	12.2	18.2





#73

1,3,5-Trimethylbenzene

Concen: 7.057 ppbv

RT: 16.07 min Scan# 4131

Delta R.T. 0.03 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

ClientSampled :

IA-5-4

Tot Ion:105 Resp: 1790568

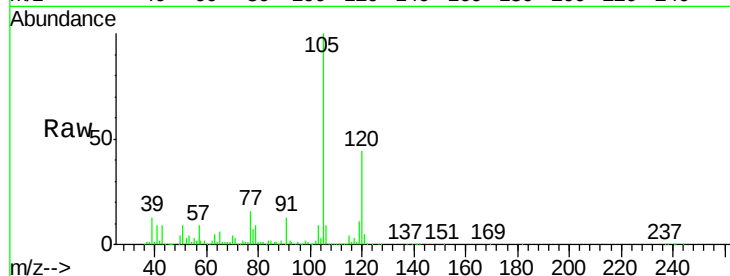
Ion Ratio Lower Upper

105 100

120 44.2 37.1 55.7

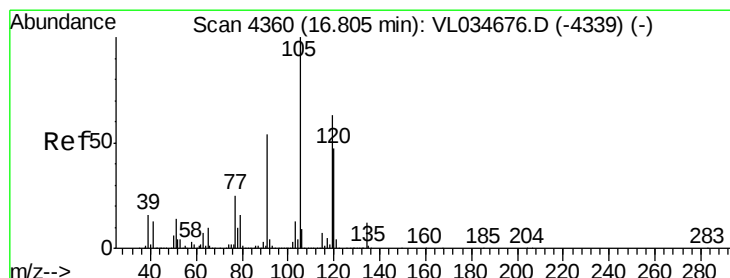
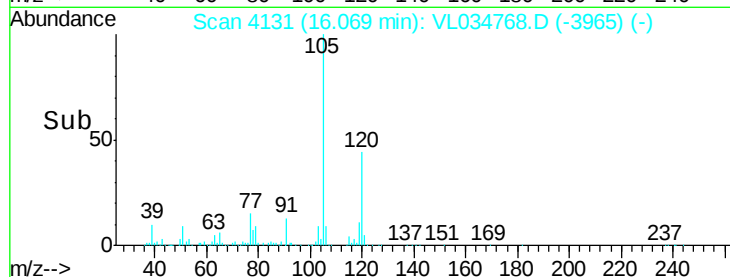
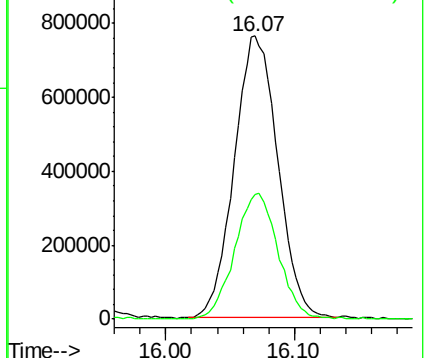
Manual Integrations
APPROVED

MMDadoda
3/4/2020 4:49:15 PM



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V



#74

1,2,4-Trimethylbenzene

Concen: 16.624 ppbv

RT: 16.83 min Scan# 4369

Delta R.T. 0.03 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Tgt Ion:105 Resp: 4658493

Ion Ratio Lower Upper

105 100

120 43.9 37.9 56.9

91 12.7 43.9 65.9#

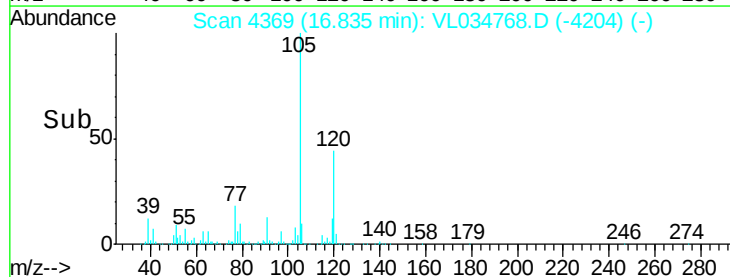
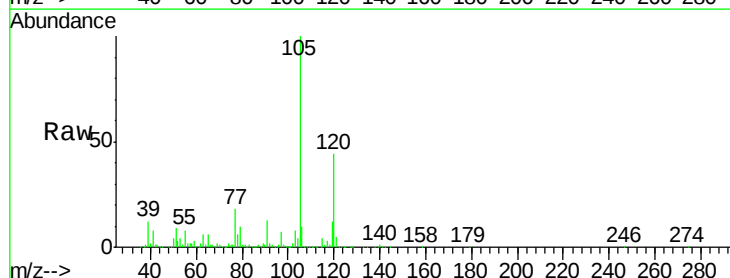
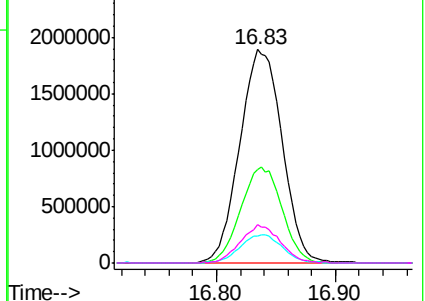
77 17.9 20.3 30.5#

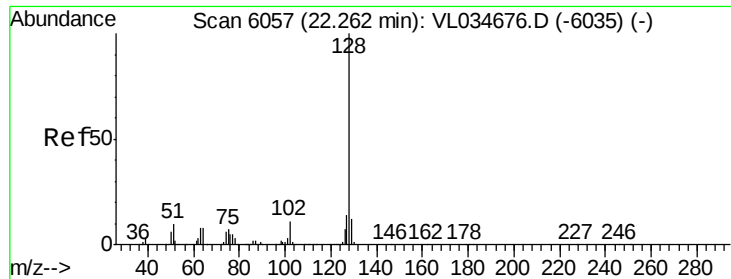
Abundance Ion 105.10 (104.80 to 105.80): V

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





#79

Naphthalene

Concen: 0.918 ppbv m

RT: 22.30 min Scan# 6069

Delta R.T. 0.04 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Instrument :

MSVOA_L

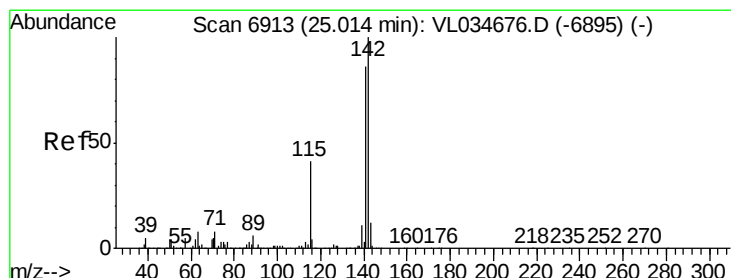
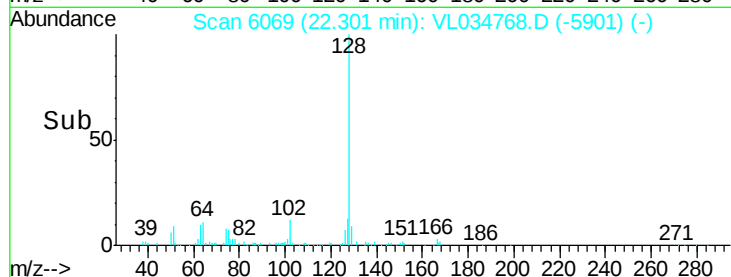
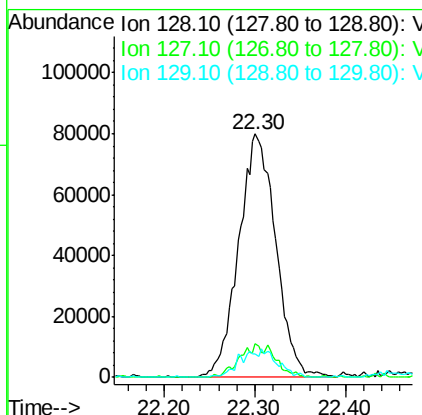
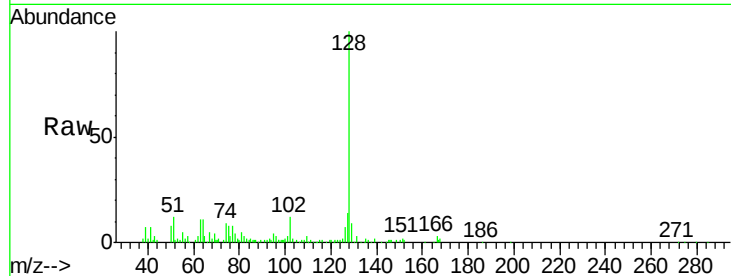
ClientSampled :

IA-5-4

Tot Ion:	128	Resp:	226275
Ion Ratio		Lower	Upper
128	100		
127	13.9	11.0	16.6
129	9.4	9.4	14.2#

Manual Integrations
APPROVED

MMDadoda
3/4/2020 4:49:15 PM



#80

Naphthalene, 2-methyl-

Concen: 0.379 ppbv

RT: 25.04 min Scan# 6922

Delta R.T. 0.03 min

Lab File: VL034768.D

Acq: 3 Mar 2020 17:49

Tgt Ion:	142	Resp:	28850
Ion Ratio		Lower	Upper
142	100		
141	84.5	66.5	99.7
115	55.1	30.6	46.0#

