

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032019\
 Data File : VL033402.D
 Acq On : 20 Mar 2019 23:04
 Operator : SY/AP
 Sample : K1976-01
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 IA1

Manual Integrations
 APPROVED

MMDadoda
 3/25/2019 8:27:11 AM

Quant Time: Mar 24 16:17:20 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL031519AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Mar 1
 QLast Update : Fri Mar 15 14:52:14 2019
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.76	49	846962	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.29	114	2140145	10.00	ppbv	-0.01
55) Chlorobenzene-d5	12.24	117	2039832	10.00	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.57	95	1489622	9.86	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	98.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.08	85	71689	0.481	ppbv	99
3) Chlorodifluoromethane	3.01	51	122637m	1.262	ppbv	
4) Chloromethane	3.17	50	32185	0.611	ppbv #	86
9) Propene	3.04	41	66299m	1.528	ppbv	
10) Heptane	8.25	43	38273	0.356	ppbv	98
11) Trichlorofluoromethane	4.00	101	36547	0.246	ppbv	91
13) Ethanol	3.64	45	332039	16.050	ppbv	98
15) Acetone	3.90	43	647618	4.919	ppbv	97
19) Isopropyl Alcohol	4.03	45	189127	3.020	ppbv #	96
20) Methylene Chloride	4.41	84	33157	0.772	ppbv	93
26) Hexane	5.78	57	53469	0.625	ppbv #	81
30) Cyclohexane	7.24	84	22709m	0.331	ppbv	
34) 2-Butanone	5.33	43	52487	0.373	ppbv	96
35) Carbon Tetrachloride	7.13	117	9825m	0.065	ppbv	
36) Benzene	7.00	78	79077m	0.413	ppbv	
38) Trichloroethene	7.96	130	6029m	0.083	ppbv	
44) 2,2,4-Trimethylpentane	7.98	57	68033m	0.214	ppbv	
52) Tetrachloroethene	11.37	164	3091275	38.741	ppbv	99
53) Toluene	9.94	91	493006	2.265	ppbv	99
58) Ethyl Benzene	12.86	91	79237	0.275	ppbv	97
59) m/p-Xylene	13.12	91	198328m	0.800	ppbv	
60) o-Xylene	13.84	91	71950m	0.297	ppbv	
61) Styrene	13.68	104	16559	0.098	ppbv	96
72) 4-Ethyltoluene	16.00	105	40741	0.148	ppbv #	92
73) 1,3,5-Trimethylbenzene	16.15	105	42581	0.159	ppbv	92
74) 1,2,4-Trimethylbenzene	16.92	105	132151	0.466	ppbv #	70
79) Naphthalene	22.42	128	27772m	0.102	ppbv	

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

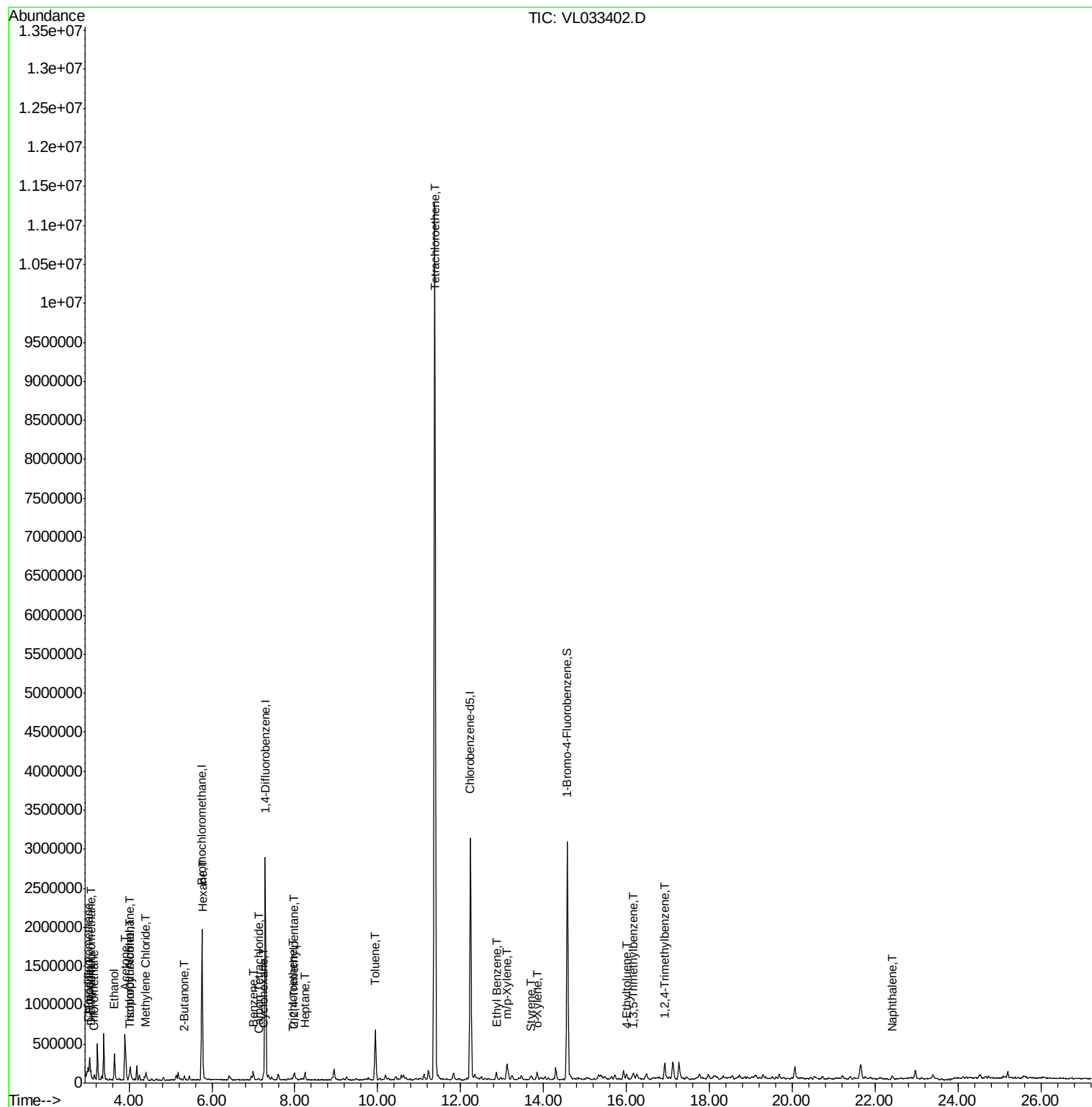
Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL032019\
Data File : VL033402.D
Acq On : 20 Mar 2019 23:04
Operator : SY/AP
Sample : K1976-01
Misc : 400ml/MSVOA L
ALS Vial : 1 Sample Multiplier: 1

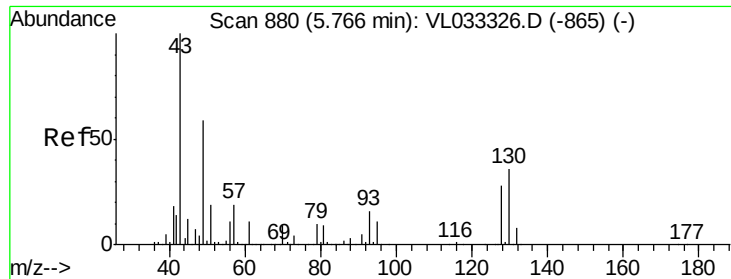
Instrument :
MSVOA_L
ClientSampleId :
IA1

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM

Quant Time: Mar 24 16:17:20 2019
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL031519AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Mar
QLast Update : Fri Mar 15 14:52:14 2019
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.76 min Scan# 877

Delta R.T. -0.01 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

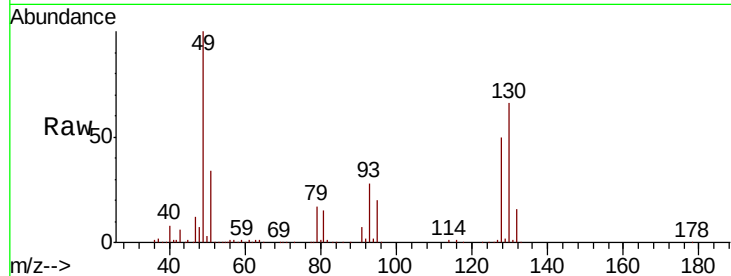
ClientSampled :

IA1

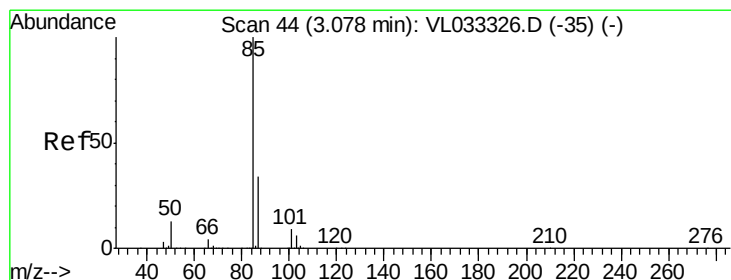
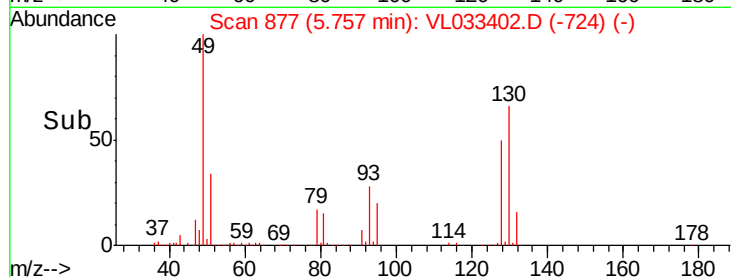
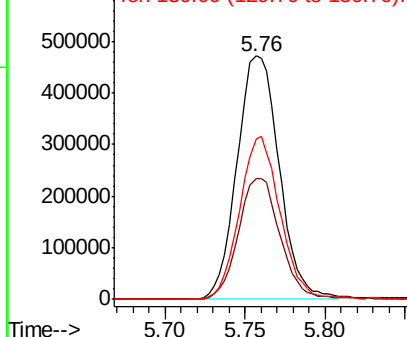
Tot Ion:	49	Resp:	846962
Ion	Ratio	Lower	Upper
49	100		
128	49.7	23.5	70.6
130	65.1	30.1	90.3

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM



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: 0.481 ppbv

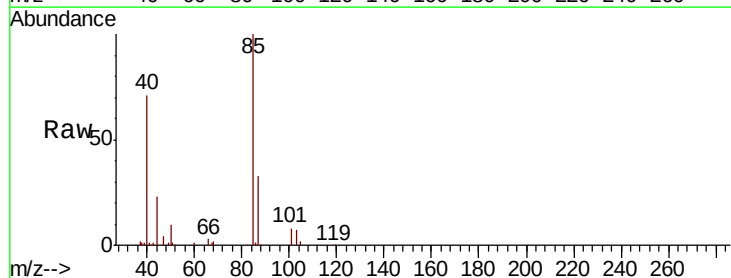
RT: 3.08 min Scan# 44

Delta R.T. -0.00 min

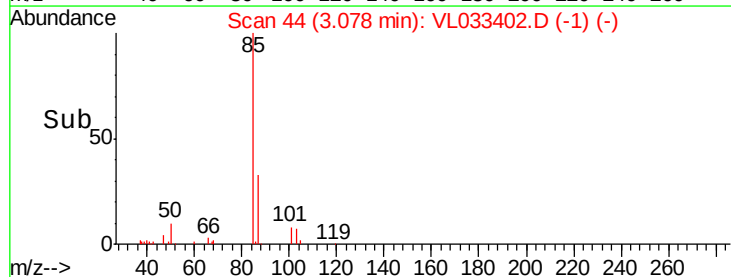
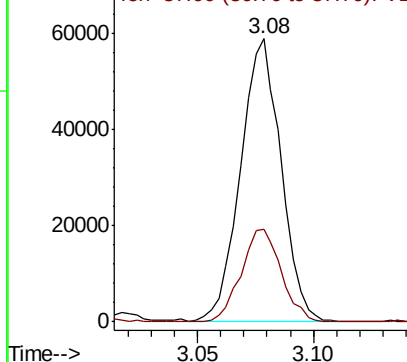
Lab File: VL033402.D

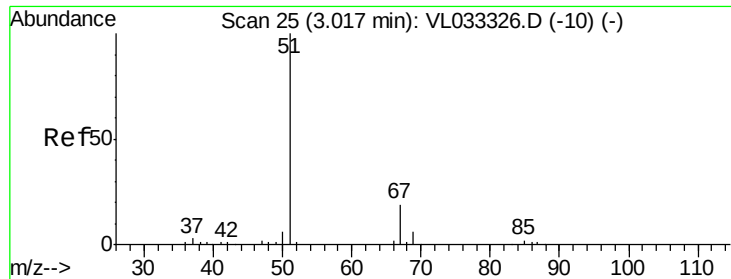
Acq: 20 Mar 2019 23:04

Tgt Ion:	85	Resp:	71689
Ion	Ratio	Lower	Upper
85	100		
87	32.9	26.9	40.3



Abundance Ion 85.00 (84.70 to 85.70): VL0
Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 1.262 ppbv

RT: 3.01 min Scan# 24

Delta R.T. -0.00 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

ClientSampled :

IA1

Tot Ion: 51 Resp: 122637

Ion Ratio Lower Upper

51 100

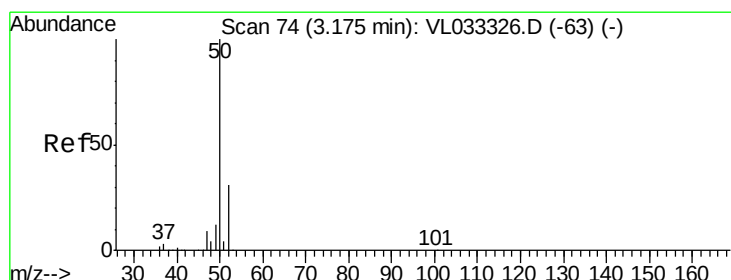
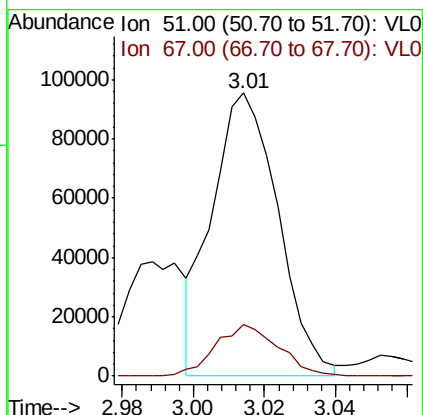
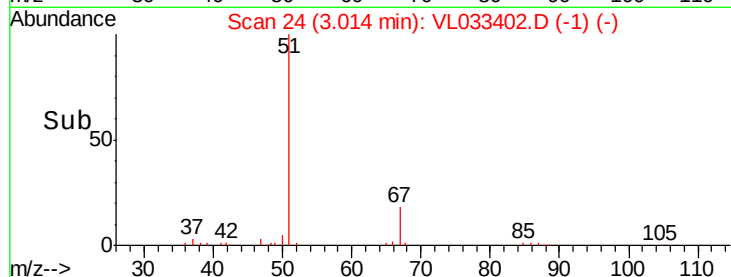
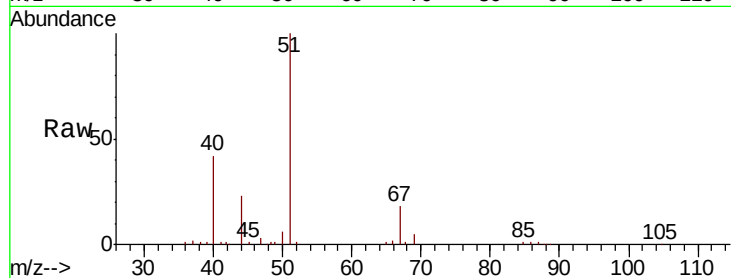
67 17.5 14.9 22.3

Manual Integrations

APPROVED

MMDadoda

3/25/2019 8:27:11 AM



#4

Chloromethane

Concen: 0.611 ppbv

RT: 3.17 min Scan# 72

Delta R.T. -0.01 min

Lab File: VL033402.D

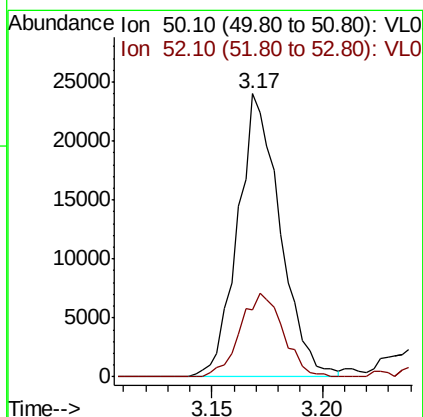
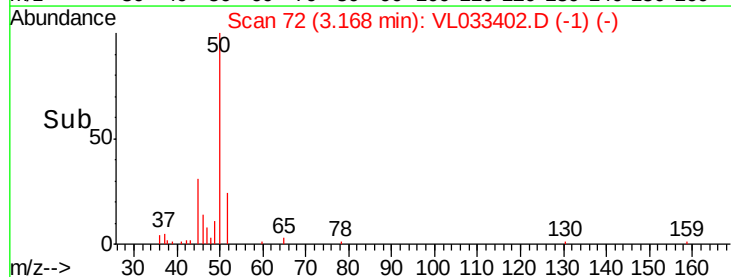
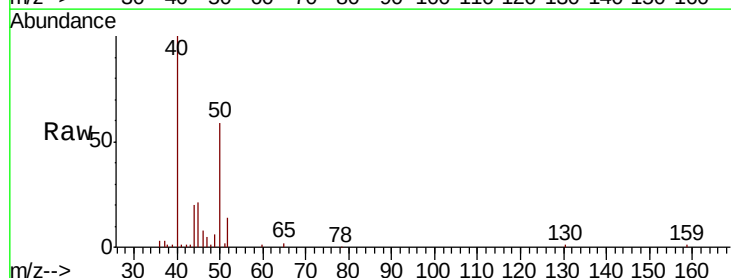
Acq: 20 Mar 2019 23:04

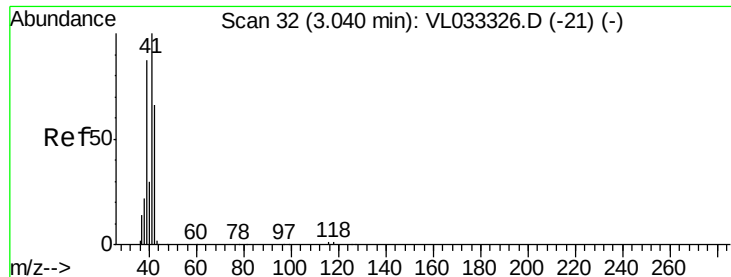
Tgt Ion: 50 Resp: 32185

Ion Ratio Lower Upper

50 100

52 23.7 25.0 37.6#





#9

Propene

Concen: 1.528 ppbv m

RT: 3.04 min Scan# 32

Delta R.T. -0.00 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

ClientSampled :

IA1

Tot Ion: 41 Resp: 66299

Ion Ratio Lower Upper

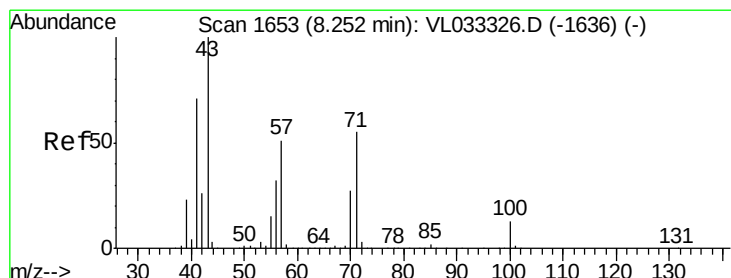
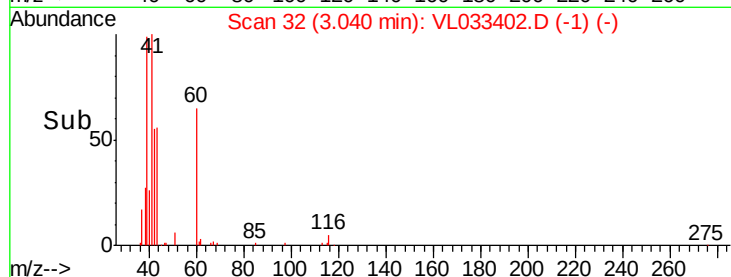
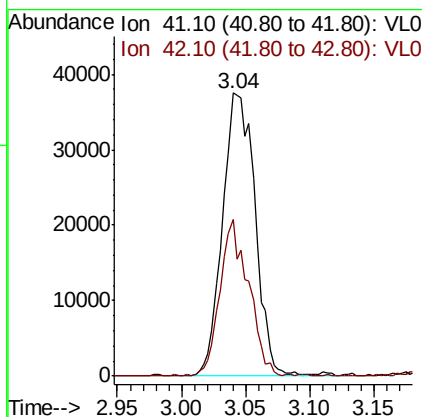
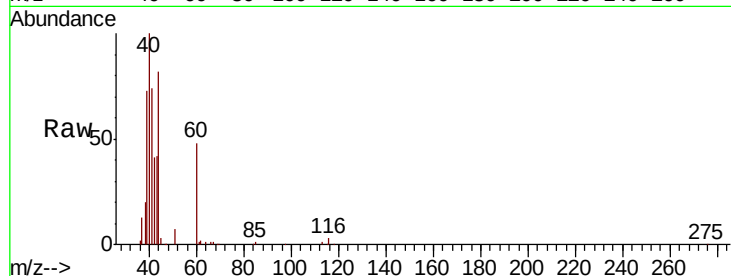
41 100

42 120.0 55.2 82.8#

Manual Integrations
APPROVED

MMDadoda

3/25/2019 8:27:11 AM



#10

Heptane

Concen: 0.356 ppbv

RT: 8.25 min Scan# 1651

Delta R.T. -0.01 min

Lab File: VL033402.D

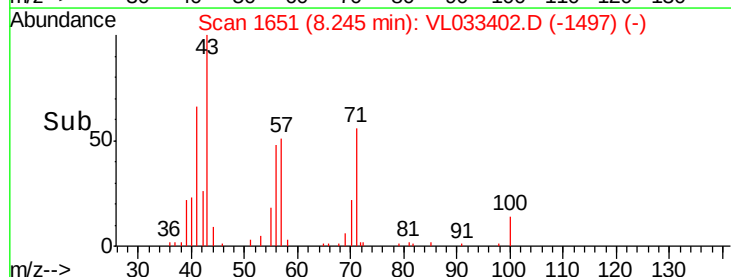
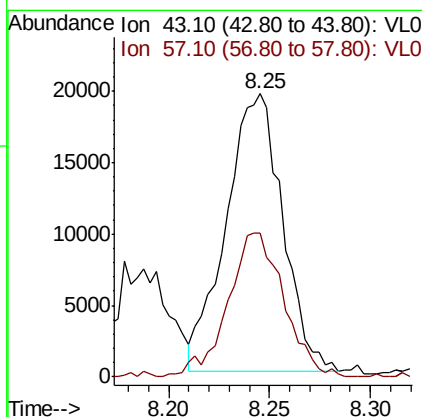
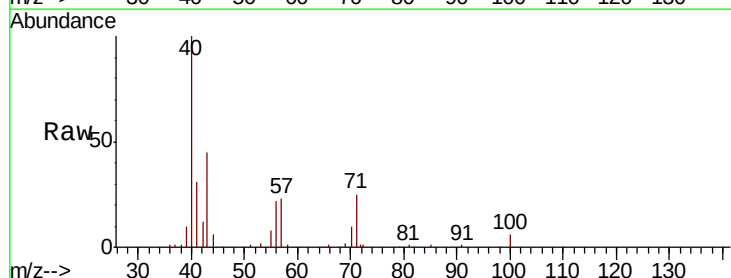
Acq: 20 Mar 2019 23:04

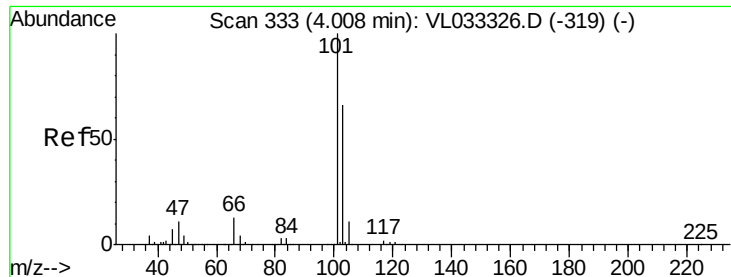
Tgt Ion: 43 Resp: 38273

Ion Ratio Lower Upper

43 100

57 51.6 40.4 60.6





#11

Trichlorofluoromethane

Concen: 0.246 ppbv

RT: 4.00 min Scan# 331

Delta R.T. -0.01 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

ClientSampled :

IA1

Tot Ion:101 Resp: 36547

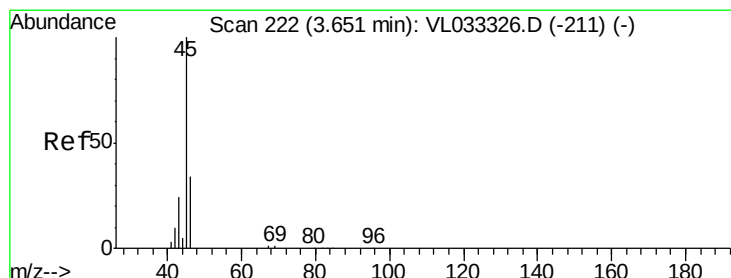
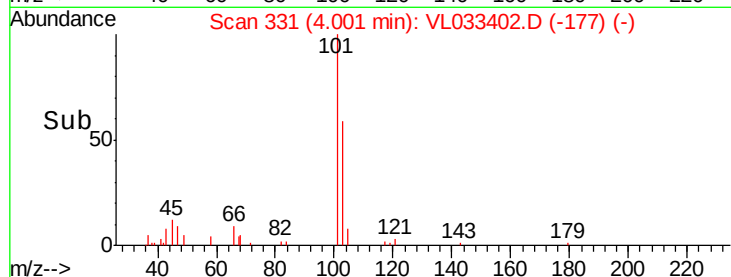
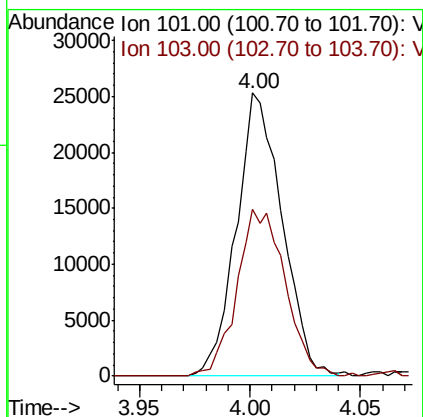
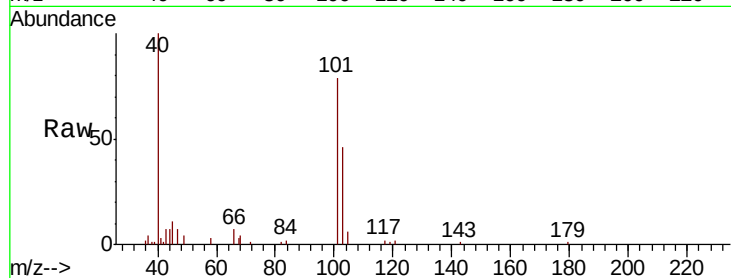
Ion Ratio Lower Upper

101 100

103 58.8 52.9 79.3

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM



#13

Ethanol

Concen: 16.050 ppbv

RT: 3.64 min Scan# 220

Delta R.T. -0.01 min

Lab File: VL033402.D

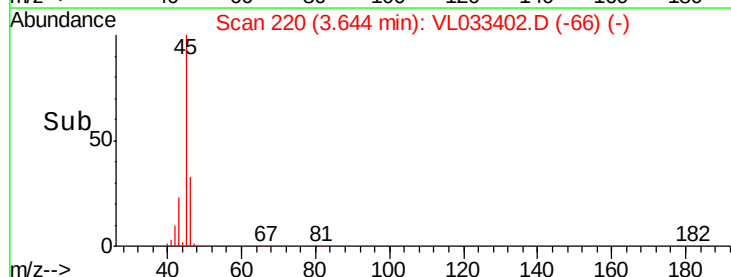
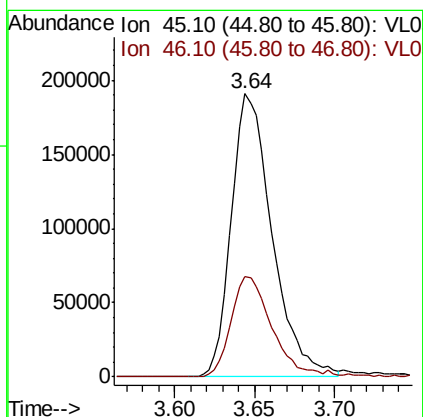
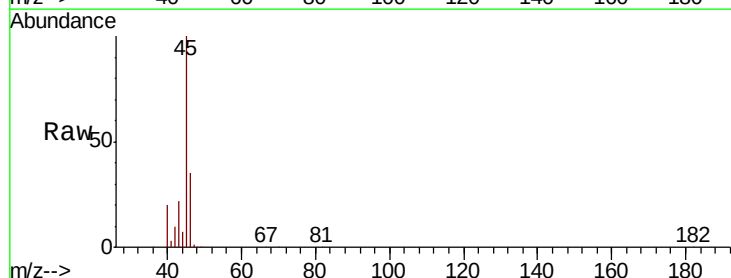
Acq: 20 Mar 2019 23:04

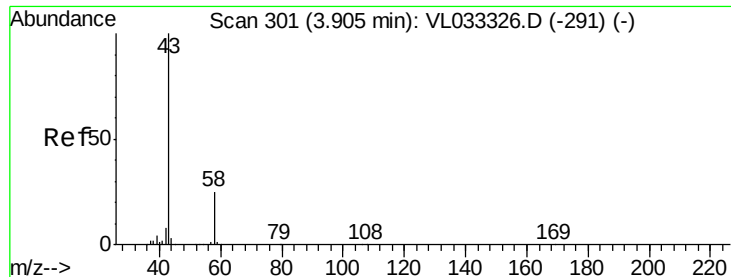
Tgt Ion: 45 Resp: 332039

Ion Ratio Lower Upper

45 100

46 35.9 14.9 59.7





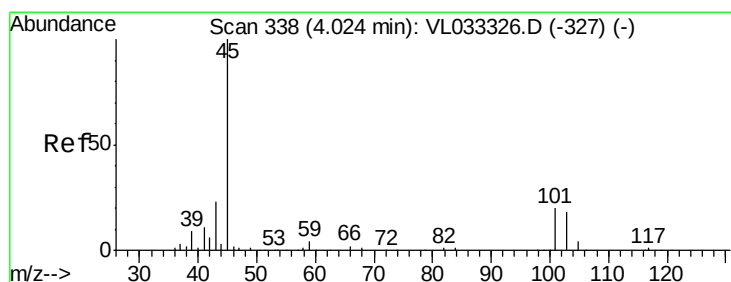
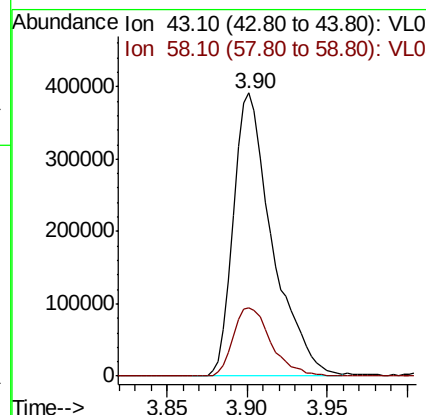
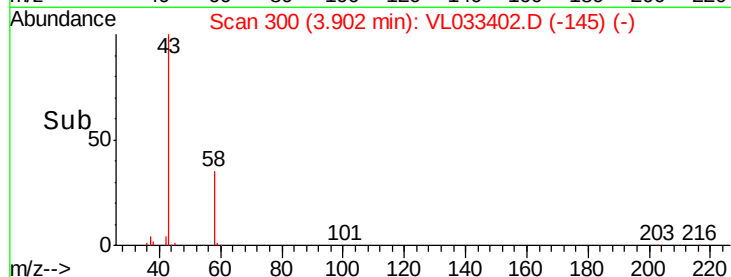
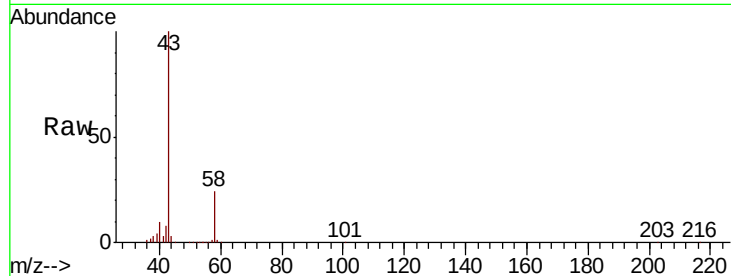
#15
Acetone
Concen: 4.919 ppbv
RT: 3.90 min Scan# 300
Delta R.T. -0.00 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Instrument :
MSVOA_L
ClientSampled :
IA1

Tot Ion: 43 Resp: 647618
Ion Ratio Lower Upper
43 100
58 23.9 20.4 30.6

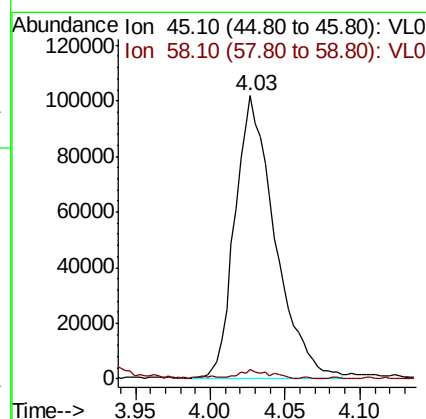
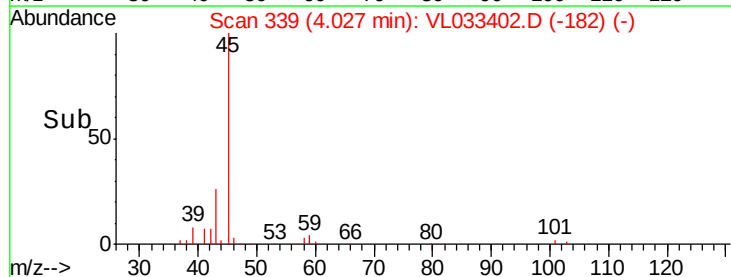
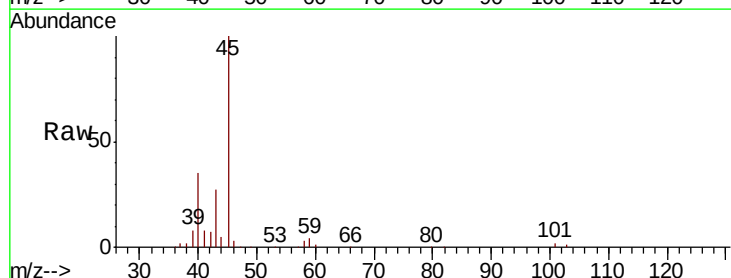
Manual Integrations
APPROVED

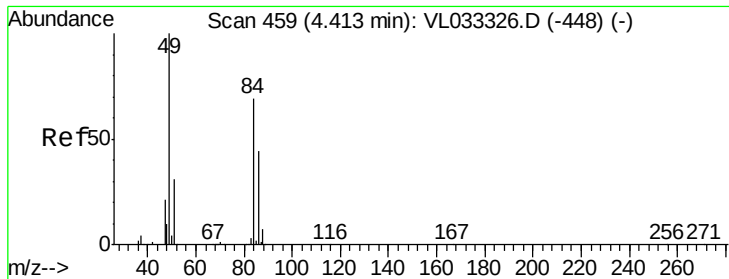
MMDadoda
3/25/2019 8:27:11 AM



#19
Isopropyl Alcohol
Concen: 3.020 ppbv
RT: 4.03 min Scan# 339
Delta R.T. 0.00 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Tgt Ion: 45 Resp: 189127
Ion Ratio Lower Upper
45 100
58 3.2 1.5 2.3#





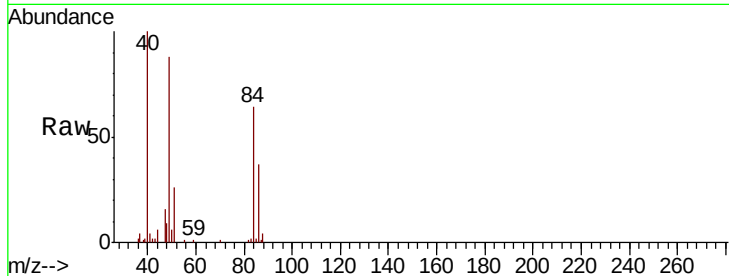
#20
Methvlene Chloride
Concen: 0.772 ppbv
RT: 4.41 min Scan# 458
Delta R.T. -0.00 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Instrument :
MSVOA_L
ClientSampled :
IA1

Tot Ion:	84	Resp:	33157
Ion	Ratio	Lower	Upper
84	100		
49	137.1	115.4	173.0
51	38.3	35.8	53.6
86	57.0	50.6	75.8

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM



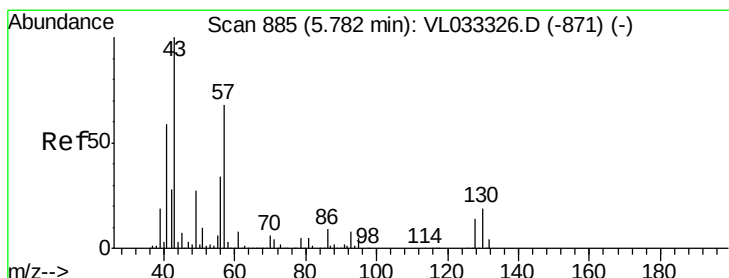
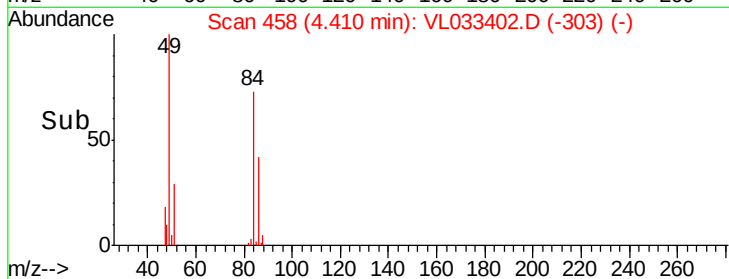
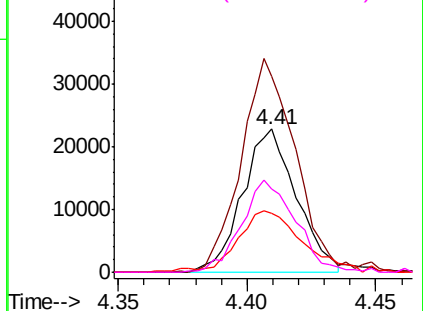
Abundance

Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

Ion 51.10 (50.80 to 51.80): VL0

Ion 86.00 (85.70 to 86.70): VL0



#26
Hexane
Concen: 0.625 ppbv
RT: 5.78 min Scan# 883
Delta R.T. -0.01 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Tgt Ion:	57	Resp:	53469
Ion	Ratio	Lower	Upper
57	100		
41	89.9	70.5	105.7
43	179.2	181.8	272.8#
56	53.3	42.2	63.2

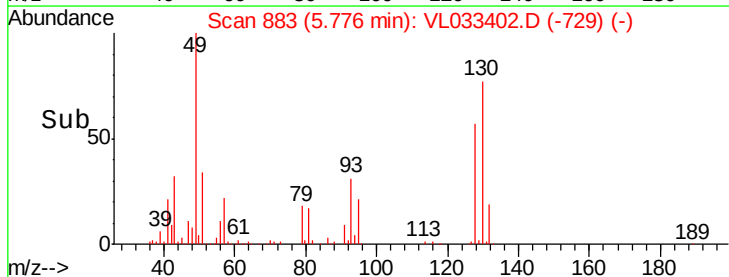
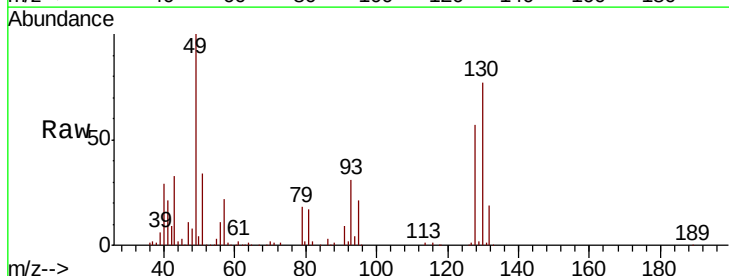
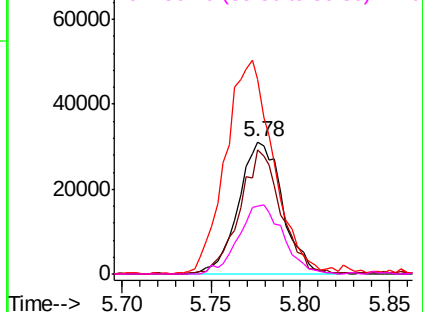
Abundance

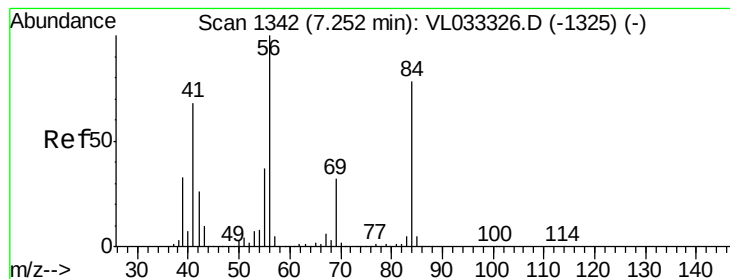
Ion 57.10 (56.80 to 57.80): VL0

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





#30

Cyclohexane

Concen: 0.331 ppbv m

RT: 7.24 min Scan# 1339

Delta R.T. -0.01 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

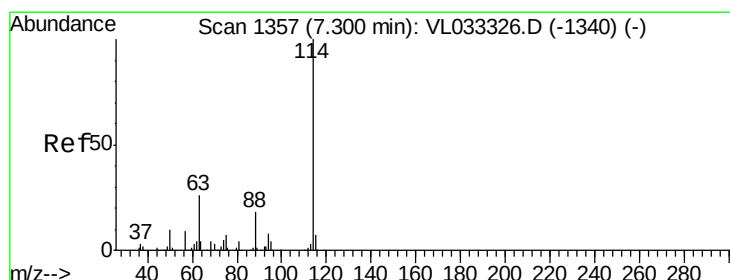
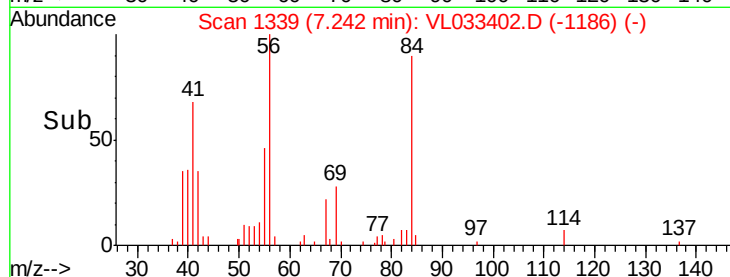
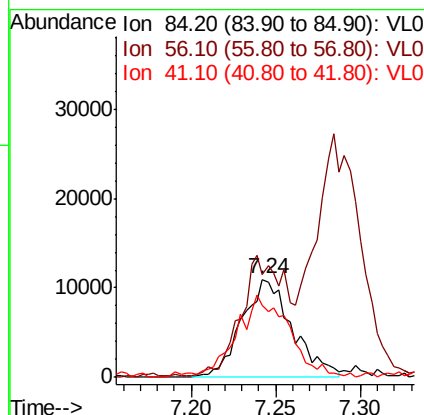
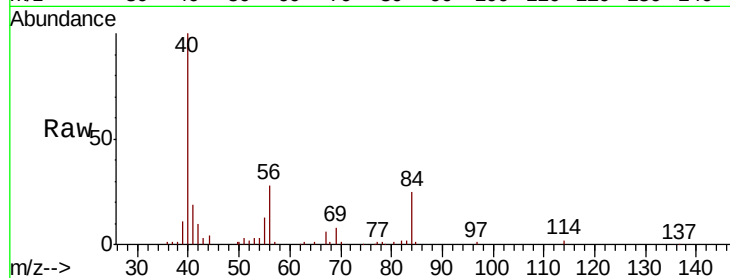
ClientSampleId :

IA1

Tot Ion:	84	Resp:	22709
Ion Ratio	Lower	Upper	
84	100		
56	0.0	111.3	166.9#
41	89.3	69.6	104.4

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

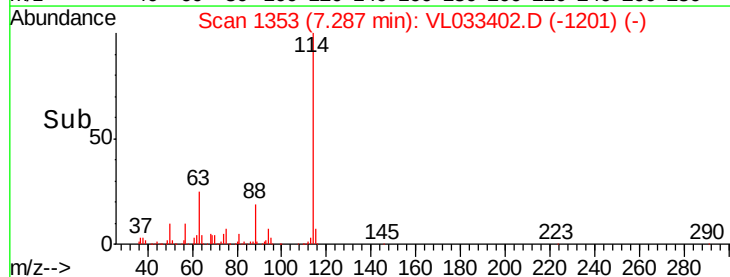
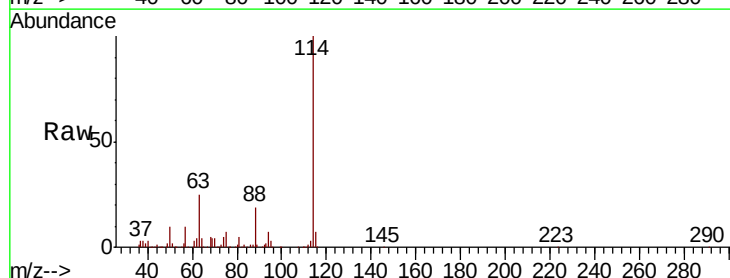
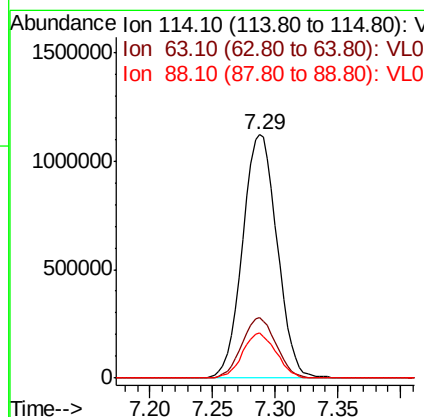
RT: 7.29 min Scan# 1353

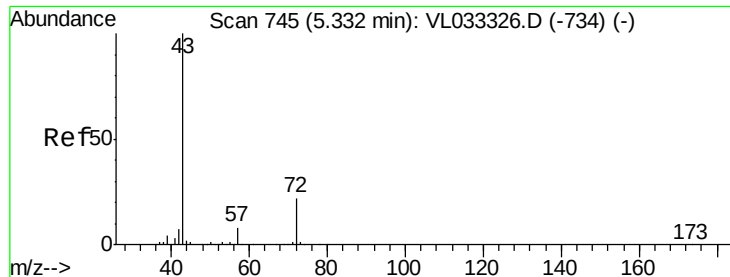
Delta R.T. -0.01 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Tgt Ion:	114	Resp:	2140145
Ion Ratio	Lower	Upper	
114	100		
63	24.6	21.4	32.2
88	18.0	14.5	21.7





#34

2-Butanone

Concen: 0.373 ppbv

RT: 5.33 min Scan# 745

Delta R.T. 0.00 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

ClientSampled :

IA1

Tot Ion: 43 Resp: 52487

Ion Ratio Lower Upper

43 100

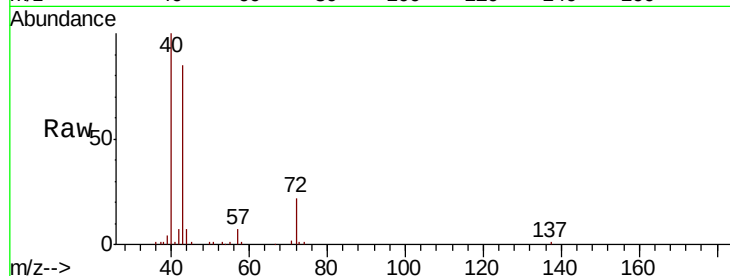
72 23.8 17.7 26.5

Manual Integrations

APPROVED

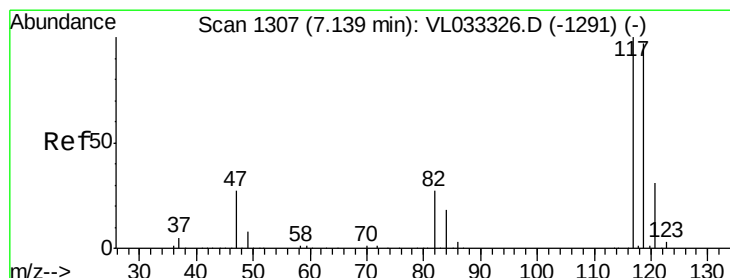
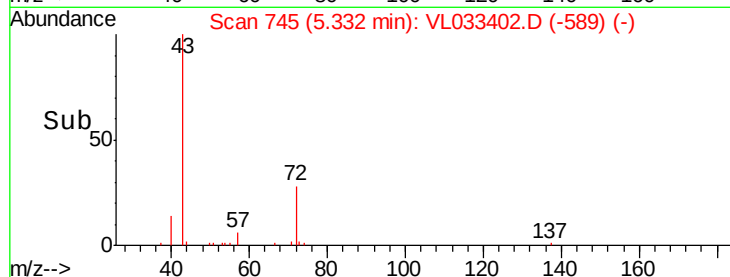
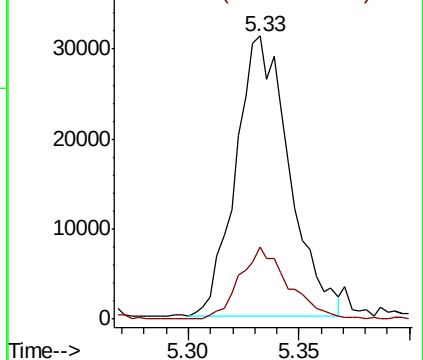
MMDadoda

3/25/2019 8:27:11 AM



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 72.10 (71.80 to 72.80): VL0



#35

Carbon Tetrachloride

Concen: 0.065 ppbv m

RT: 7.13 min Scan# 1304

Delta R.T. -0.01 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

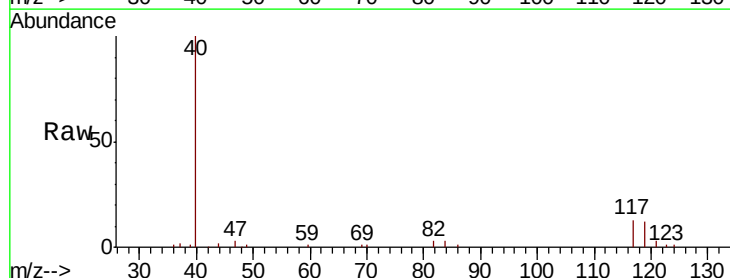
Tgt Ion: 117 Resp: 9825

Ion Ratio Lower Upper

117 100

119 91.8 77.4 116.0

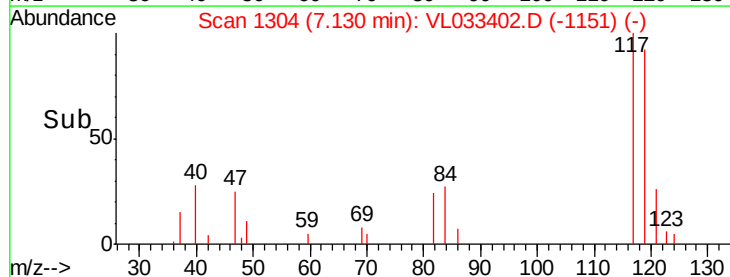
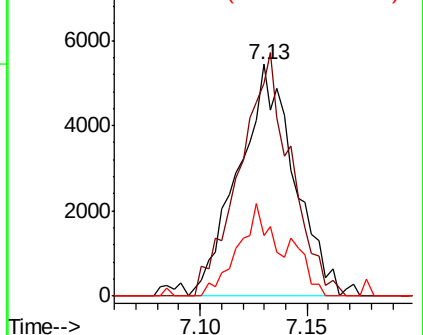
121 26.1 24.9 37.3

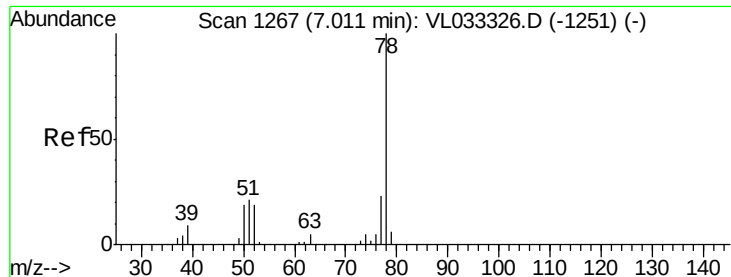


Abundance Ion 117.00 (116.70 to 117.70): V

Ion 119.00 (118.70 to 119.70): V

Ion 121.00 (120.70 to 121.70): V





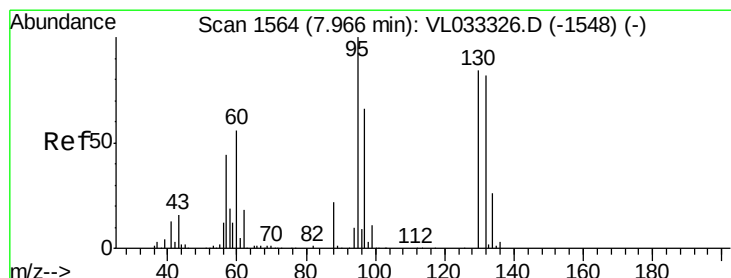
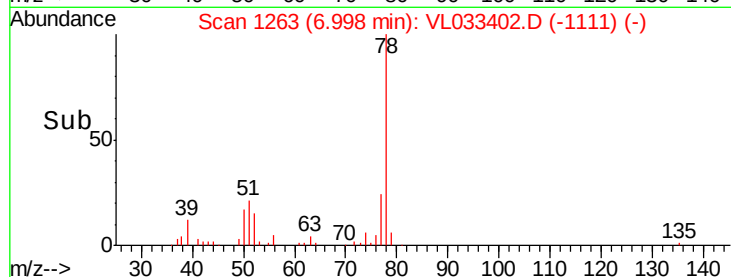
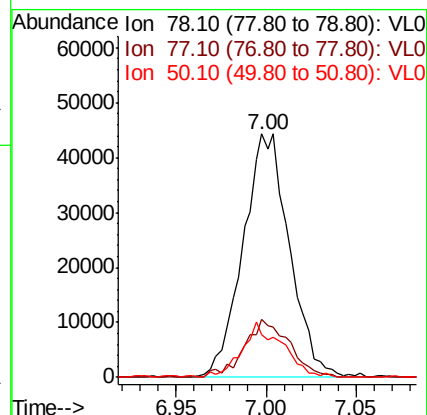
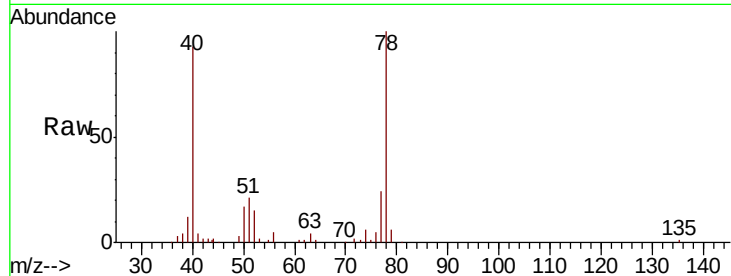
#36
Benzene
Concen: 0.413 ppbv m
RT: 7.00 min Scan# 1263
Delta R.T. -0.01 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Instrument :
MSVOA_L
ClientSampled :
IA1

Tot Ion	Ratio	Lower	Upper
78	100		
77	24.0	18.1	27.1
50	17.3	15.2	22.8

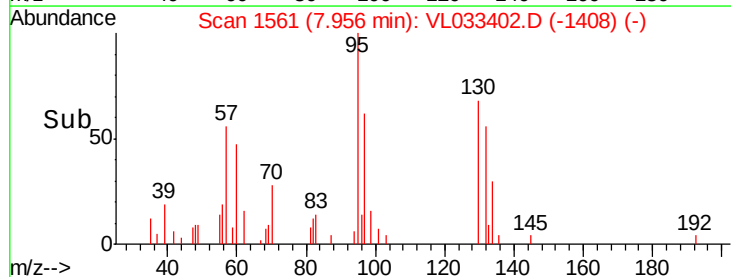
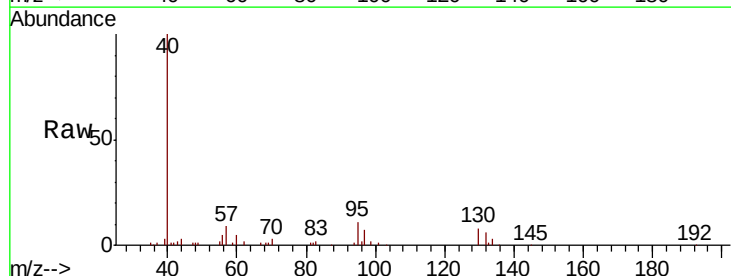
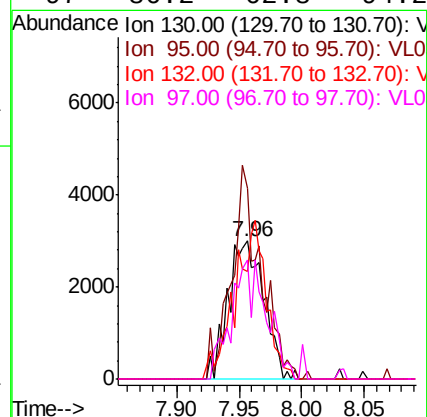
Manual Integrations
APPROVED

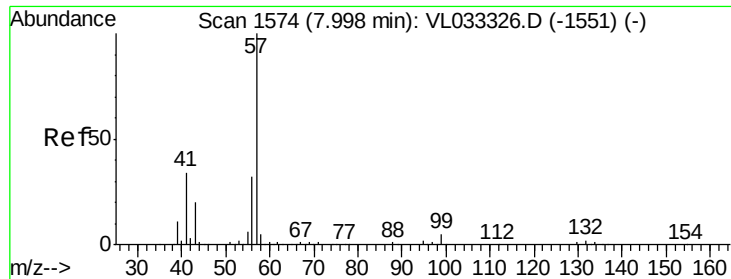
MMDadoda
3/25/2019 8:27:11 AM



#38
Trichloroethene
Concen: 0.083 ppbv m
RT: 7.96 min Scan# 1561
Delta R.T. -0.01 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Tgt Ion	Ratio	Lower	Upper
130	100		
95	138.2	95.2	142.8
132	77.8	77.7	116.5
97	86.2	62.8	94.2





#44

2,2,4-Trimethylpentane

Concen: 0.214 ppbv m

RT: 7.98 min Scan# 1569

Delta R.T. -0.02 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

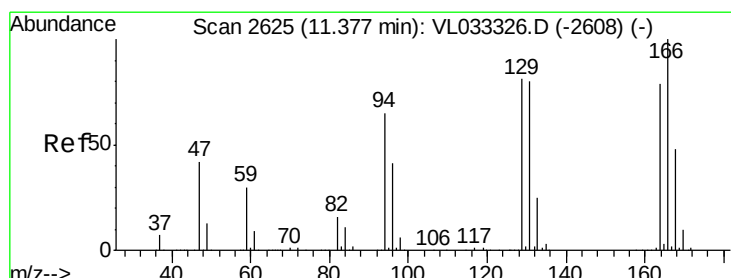
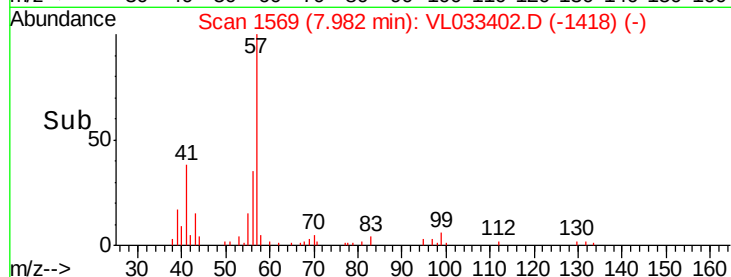
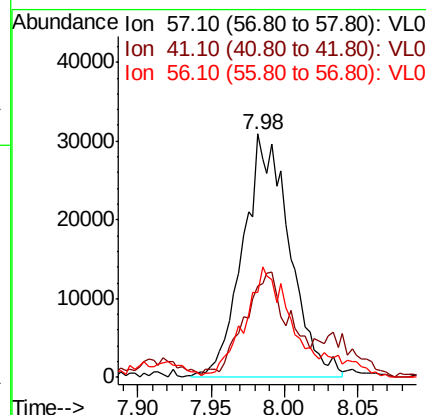
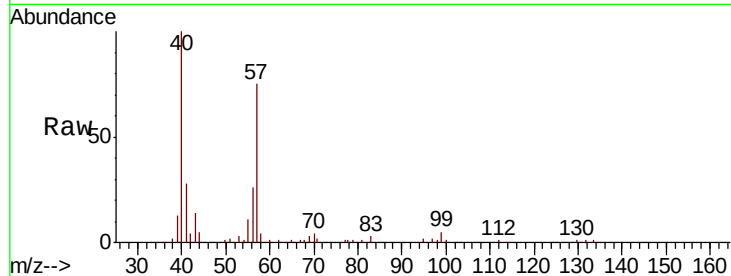
ClientSampleId :

IA1

Tot Ion:	57	Resp:	68033
Ion Ratio	Lower	Upper	
57	100		
41	0.0	26.0	39.0#
56	50.6	24.6	36.8#

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM



#52

Tetrachloroethene

Concen: 38.741 ppbv

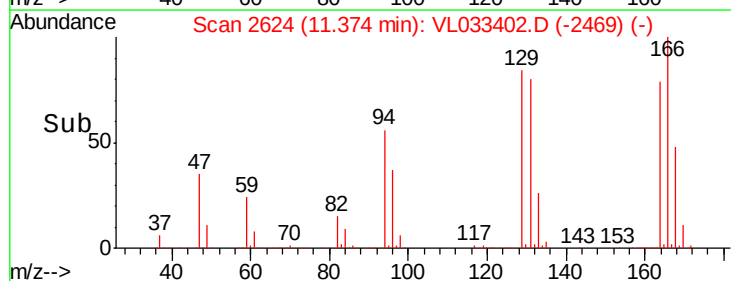
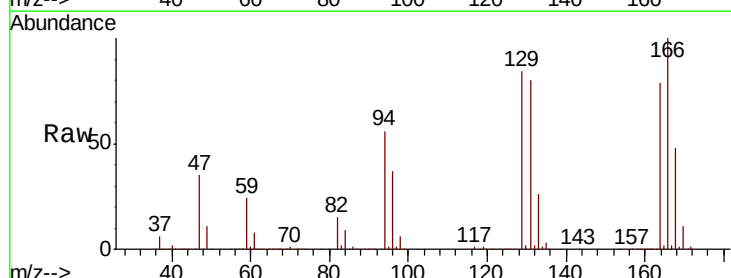
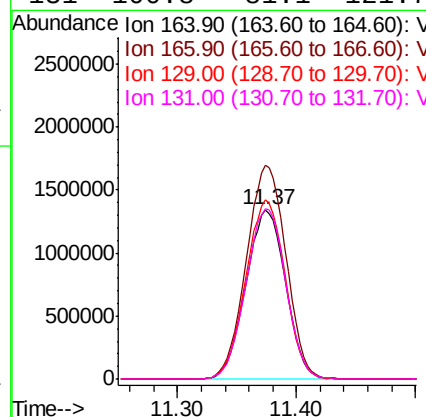
RT: 11.37 min Scan# 2624

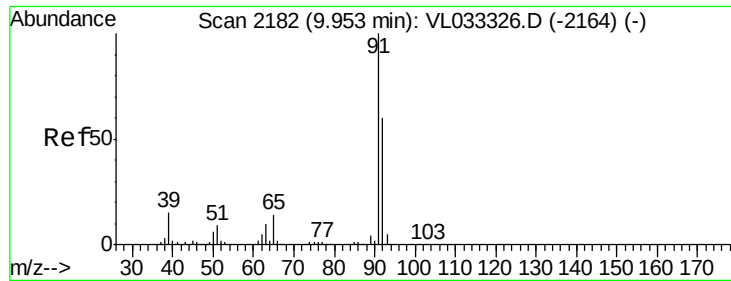
Delta R.T. -0.00 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Tgt Ion:	164	Resp:	3091275
Ion Ratio	Lower	Upper	
164	100		
166	126.2	101.5	152.3
129	106.1	82.2	123.2
131	100.8	81.1	121.7





#53

Toluene

Concen: 2.265 ppbv

RT: 9.94 min Scan# 2178

Delta R.T. -0.01 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

ClientSampled :

IA1

Tot Ion: 91 Resp: 493006

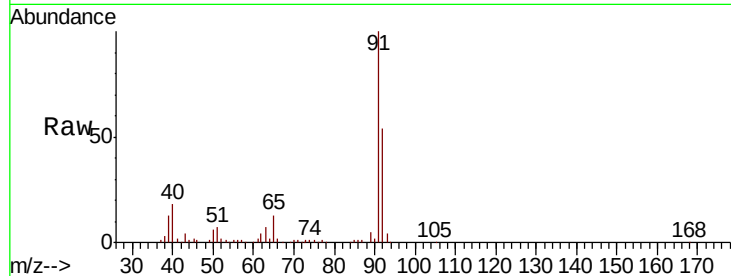
Ion Ratio Lower Upper

91 100

92 58.5 47.4 71.0

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

9.94

250000

200000

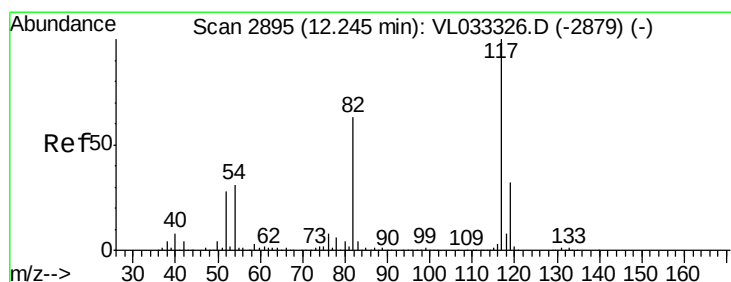
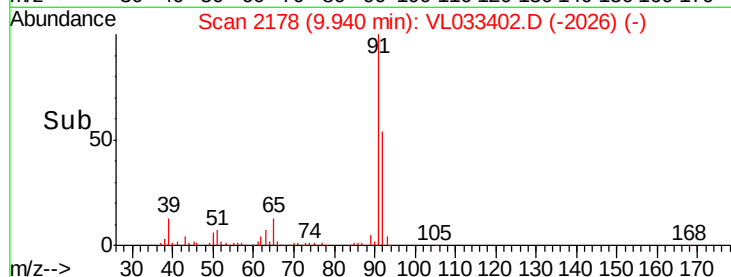
150000

100000

50000

0

Time-->



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.24 min Scan# 2892

Delta R.T. -0.01 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

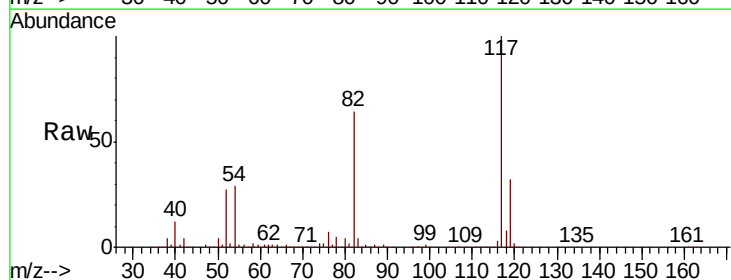
Tgt Ion: 117 Resp: 2039832

Ion Ratio Lower Upper

117 100

82 63.4 53.4 80.2

119 32.3 27.3 40.9



Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V

1200000

1000000

800000

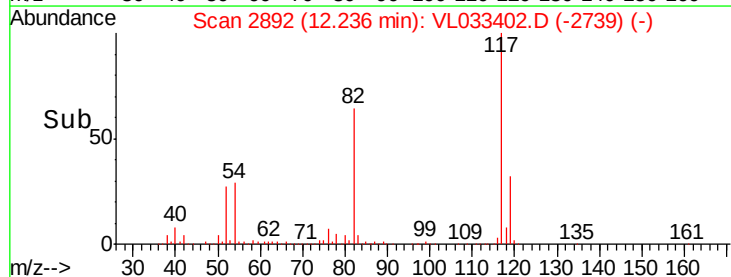
600000

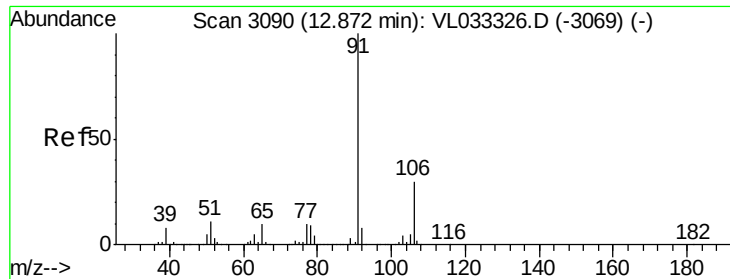
400000

200000

0

Time-->





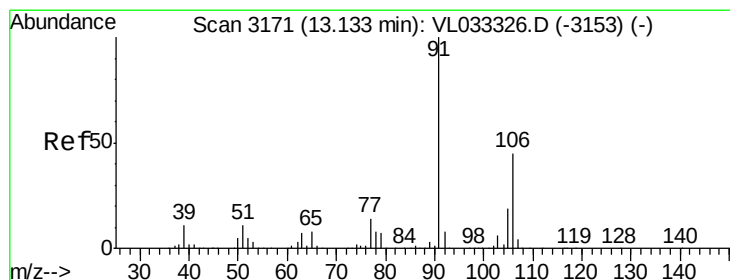
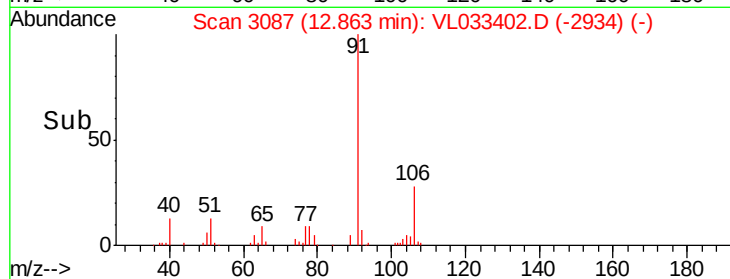
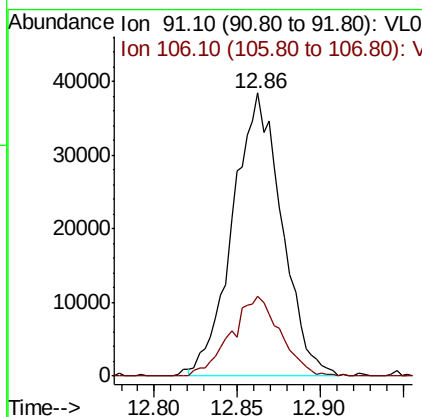
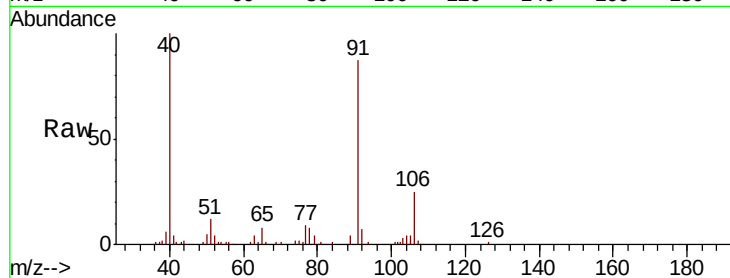
#58
Ethyl Benzene
Concen: 0.275 ppbv
RT: 12.86 min Scan# 3087
Delta R.T. -0.01 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Instrument :
MSVOA_L
ClientSampled :
IA1

Tot Ion: 91 Resp: 79237
Ion Ratio Lower Upper
91 100
106 28.4 24.2 36.2

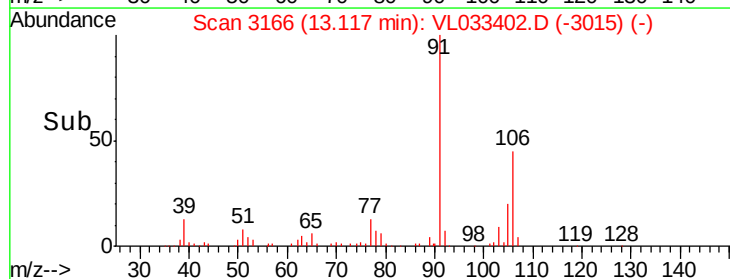
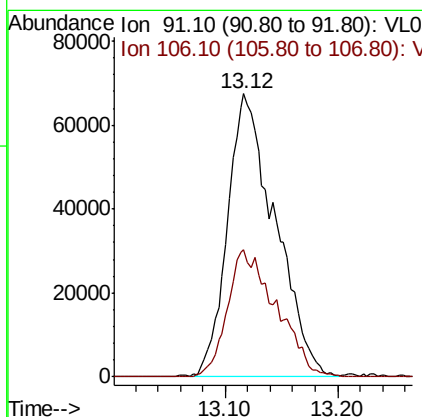
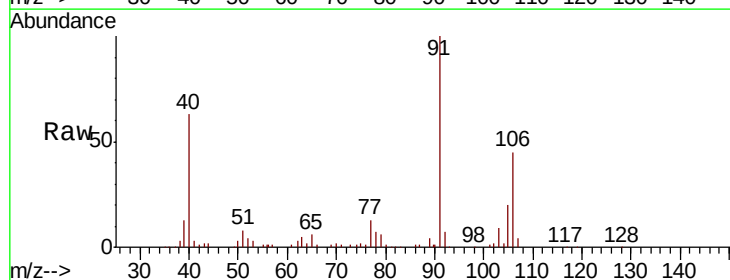
Manual Integrations
APPROVED

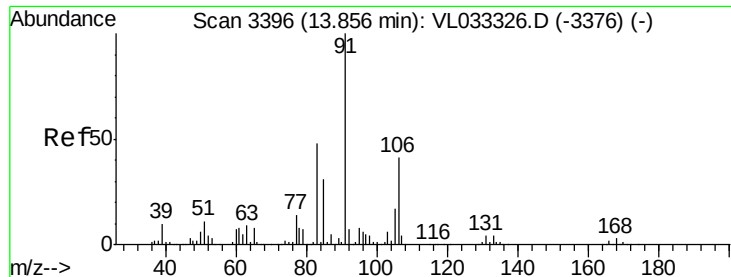
MMDadoda
3/25/2019 8:27:11 AM



#59
m/p-Xylene
Concen: 0.800 ppbv m
RT: 13.12 min Scan# 3166
Delta R.T. -0.02 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Tgt Ion: 91 Resp: 198328
Ion Ratio Lower Upper
91 100
106 46.0 0.0 0.0#





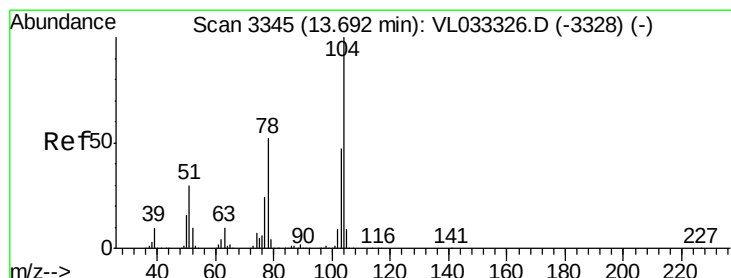
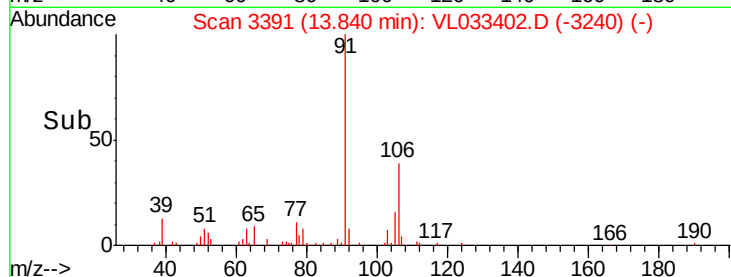
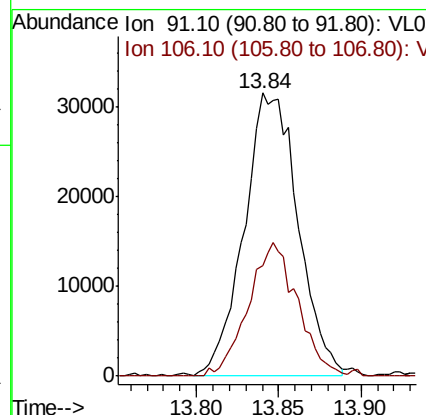
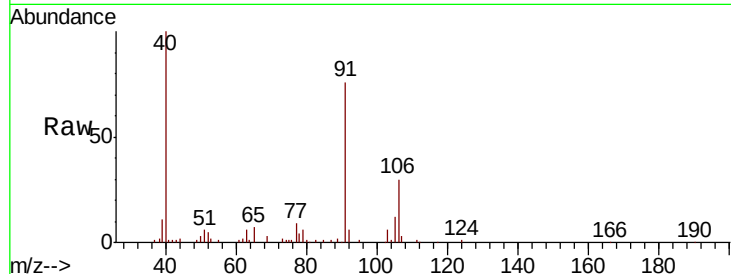
#60
o-Xylene
Concen: 0.297 ppbv m
RT: 13.84 min Scan# 3391
Delta R.T. -0.02 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Instrument :
MSVOA_L
ClientSampled :
IA1

Tot Ion	Ratio	Lower	Upper
91	100		
106	43.1	21.3	63.9

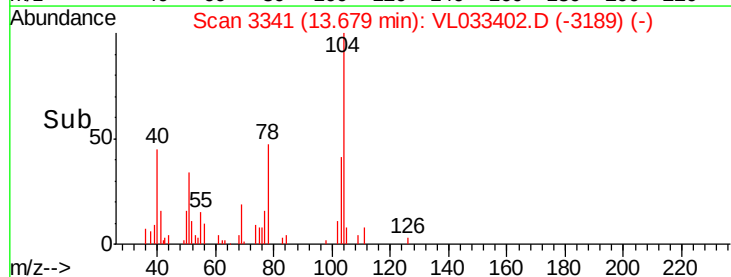
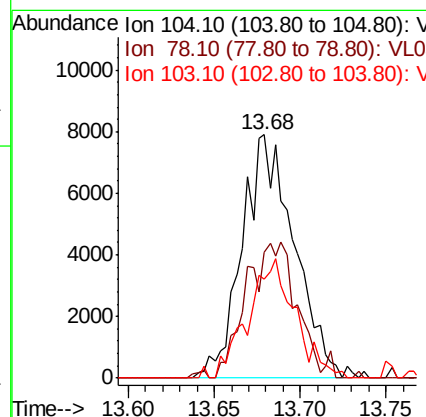
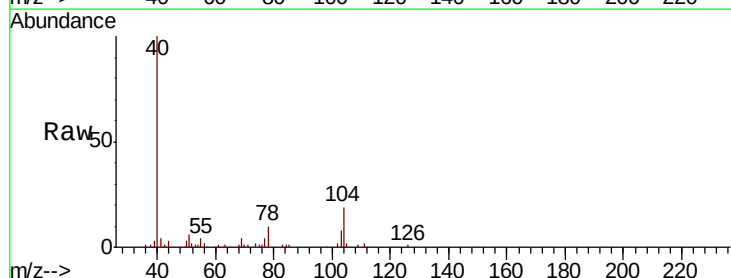
Manual Integrations
APPROVED

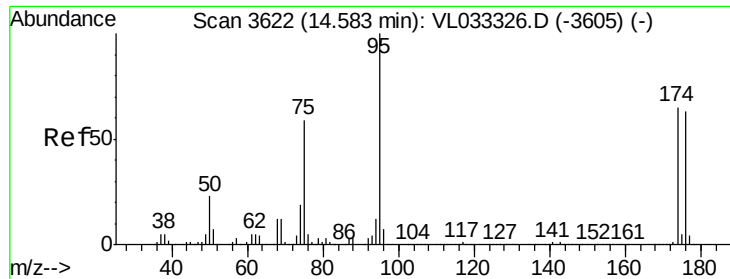
MMDadoda
3/25/2019 8:27:11 AM



#61
Styrene
Concen: 0.098 ppbv
RT: 13.68 min Scan# 3341
Delta R.T. -0.01 min
Lab File: VL033402.D
Acq: 20 Mar 2019 23:04

Tgt Ion	Ratio	Lower	Upper
104	100		
78	55.7	42.7	64.1
103	44.8	38.0	57.0





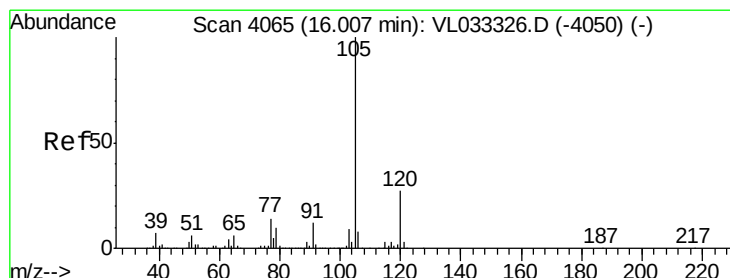
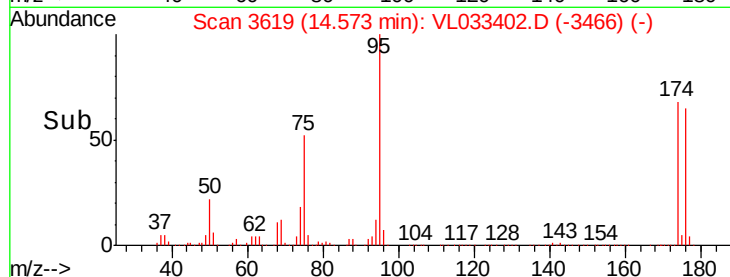
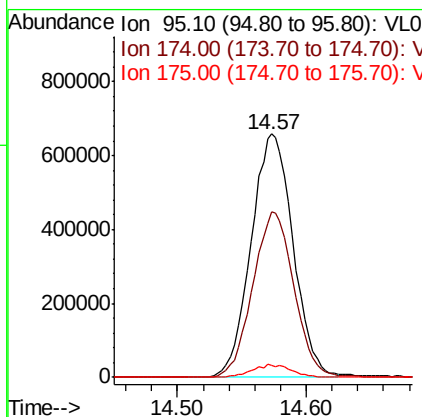
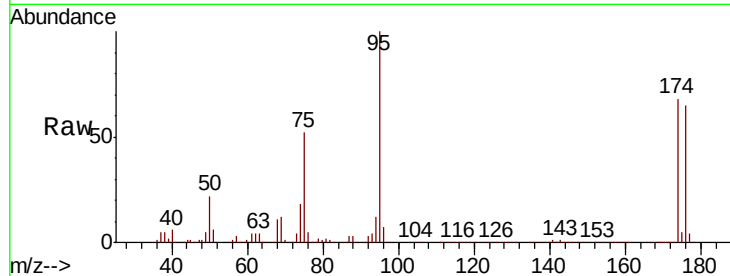
#68
 1-Bromo-4-Fluorobenzene
 Concen: 9.855 ppbv
 RT: 14.57 min Scan# 3619
 Delta R.T. -0.01 min
 Lab File: VL033402.D
 Acq: 20 Mar 2019 23:04

Instrument :
 MSVOA_L
 ClientSampled :
 IA1

Tot Ion: 95 Resp: 1489622
 Ion Ratio Lower Upper
 95 100
 174 67.2 51.5 77.3
 175 5.0 3.8 5.6

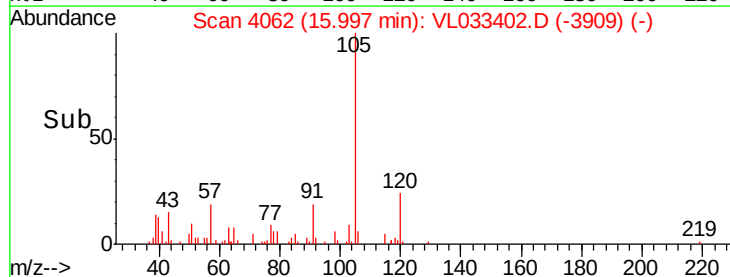
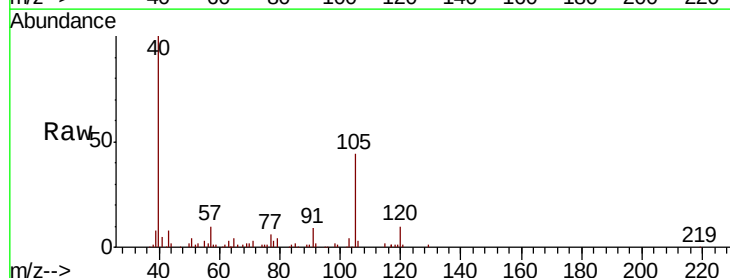
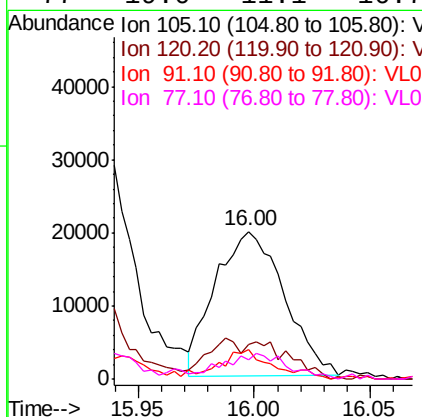
Manual Integrations
 APPROVED

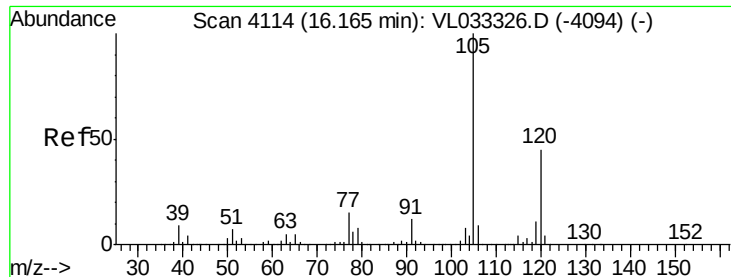
MMDadoda
 3/25/2019 8:27:11 AM



#72
 4-Ethyltoluene
 Concen: 0.148 ppbv
 RT: 16.00 min Scan# 4062
 Delta R.T. -0.01 min
 Lab File: VL033402.D
 Acq: 20 Mar 2019 23:04

Tgt Ion:105 Resp: 40741
 Ion Ratio Lower Upper
 105 100
 120 30.9 22.9 34.3
 91 16.4 10.2 15.2#
 77 19.0 11.1 16.7#





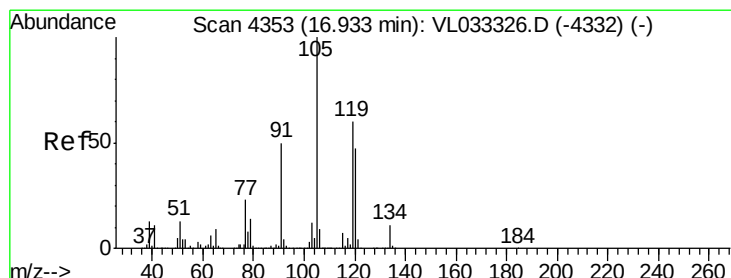
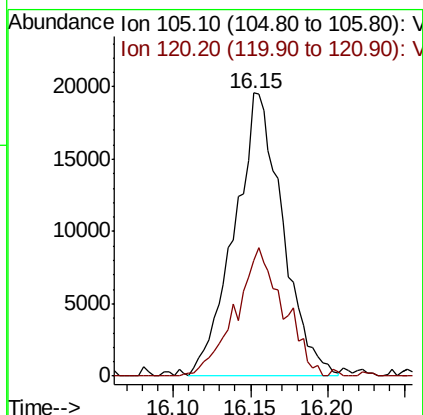
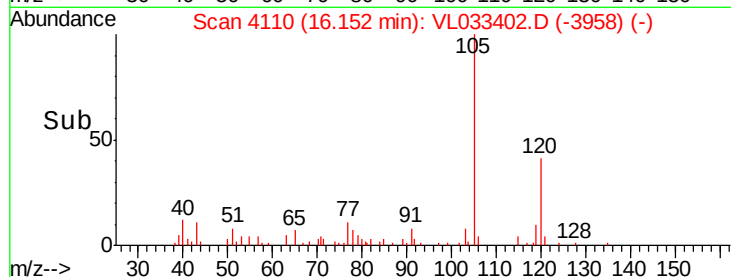
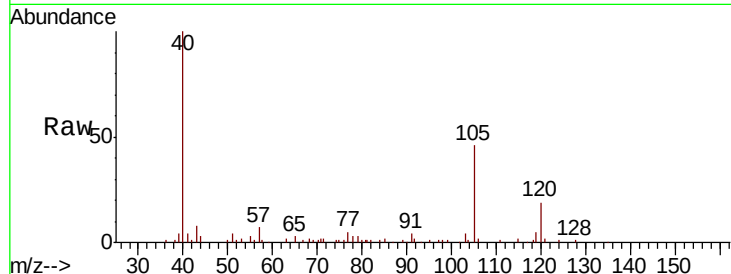
#73
 1,3,5-Trimethylbenzene
 Concen: 0.159 ppbv
 RT: 16.15 min Scan# 4110
 Delta R.T. -0.01 min
 Lab File: VL033402.D
 Acq: 20 Mar 2019 23:04

Instrument :
 MSVOA_L
 ClientSampled :
 IA1

Tot Ion	Ratio	Lower	Upper
105	100		
120	40.0	36.2	54.4

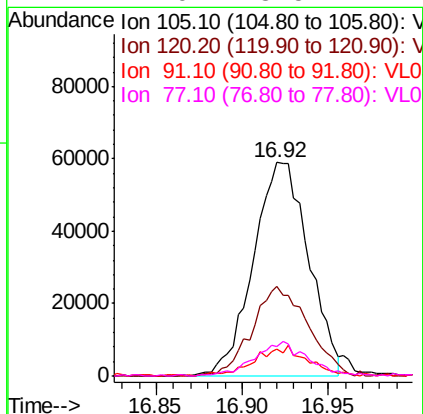
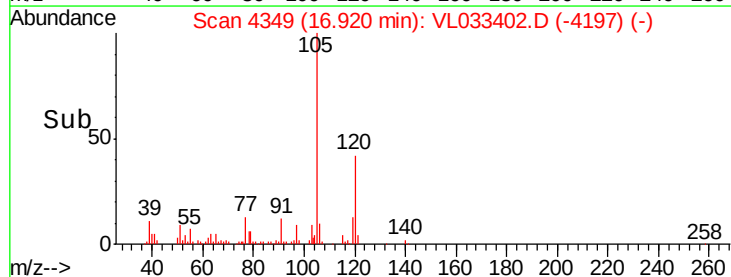
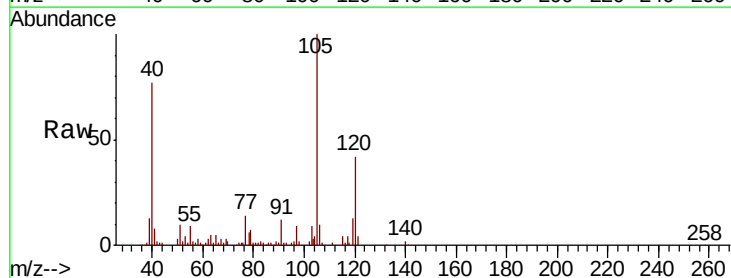
Manual Integrations
 APPROVED

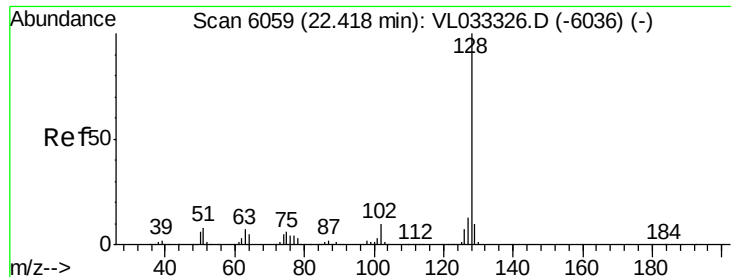
MMDadoda
 3/25/2019 8:27:11 AM



#74
 1,2,4-Trimethylbenzene
 Concen: 0.466 ppbv
 RT: 16.92 min Scan# 4349
 Delta R.T. -0.01 min
 Lab File: VL033402.D
 Acq: 20 Mar 2019 23:04

Tgt Ion	Ratio	Lower	Upper
105	100		
120	42.1	37.4	56.2
91	11.9	41.0	61.4#
77	14.0	18.5	27.7#





#79

Naphthalene

Concen: 0.102 ppbv m

RT: 22.42 min Scan# 6058

Delta R.T. -0.00 min

Lab File: VL033402.D

Acq: 20 Mar 2019 23:04

Instrument :

MSVOA_L

ClientSampleId :

IA1

Tot Ion:	128	Resp:	27772
Ion Ratio	Lower	Upper	
128	100		
127	8.0	10.1	15.1#
129	9.2	8.2	12.2

Manual Integrations
APPROVED

MMDadoda
3/25/2019 8:27:11 AM

