

Instrument Name LCMS-2
MS Model G6470A
MS Instrument Serial SG1936G104
Software_Firmware Version 10.0.142, FW: A.00.08.100
Tune Date & Time 12 May 2022 07:22:28
Data Path D:\MassHunter\Tune\QQQ\G6470A\atunes.TUNE.XML
Ion Source AJS ESI
Ionization Mode AJS ESI
Tuned Resolution All
Vacuum Pressure 1.99E+0 [R] (Torr); 5.22E-5 [H] (Torr)

Source Parameters

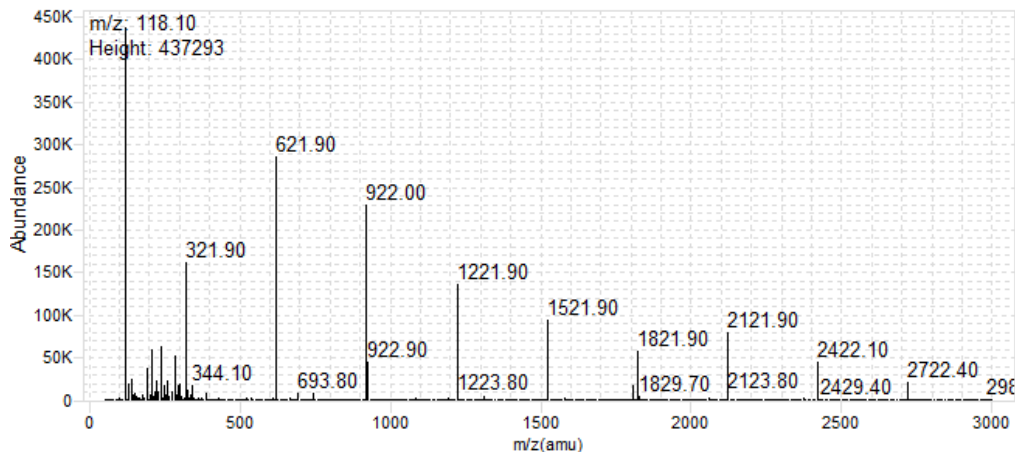
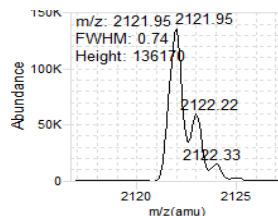
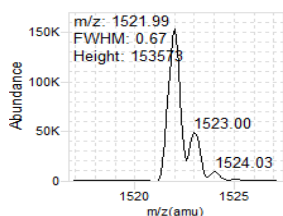
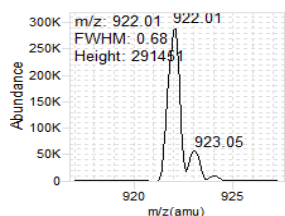
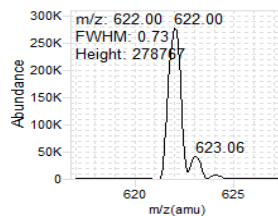
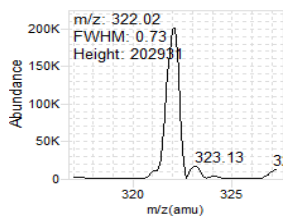
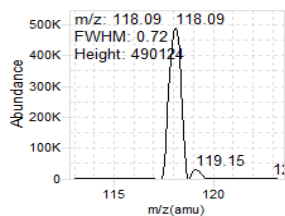
Parameter	Positive	Negative
Gas Temp (°C)	300	300
Gas Flow (l/min)	8	8
Nebulizer (psi)	15	15
Capillary (V)	4000	4000
Nozzle Voltage (V)	1500	1500
Sheath Gas Temp (°C)	250	250
Sheath Gas Flow (l/min)	7	7

Positive Results

Analyzer: MS1

Polarity: Positive

Width: Unit

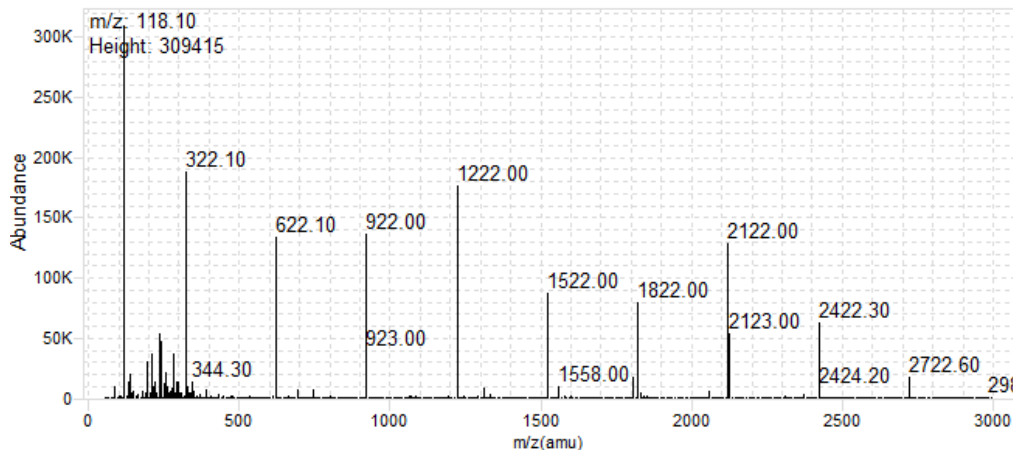
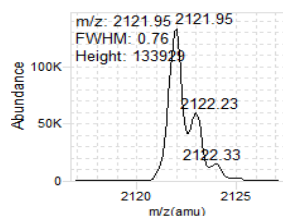
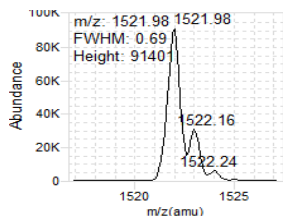
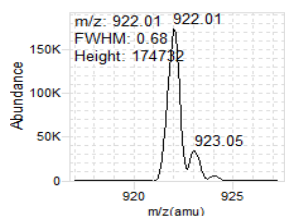
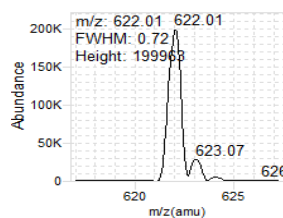
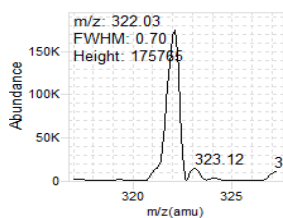
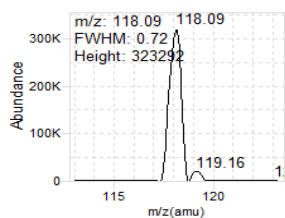


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
118.09	118.09	0.72	0.70	490124
322.02	322.05	0.73	0.70	202931
622.00	622.03	0.73	0.70	278767
922.01	922.01	0.68	0.70	291451
1521.99	1521.97	0.67	0.70	153573
2121.96	2121.93	0.74	0.70	136170

Analyzer: MS2

Polarity: Positive

Width: Unit

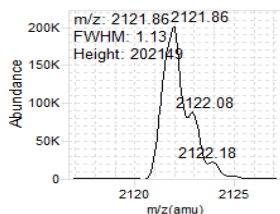
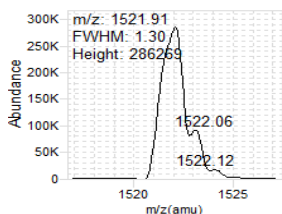
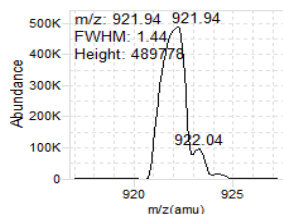
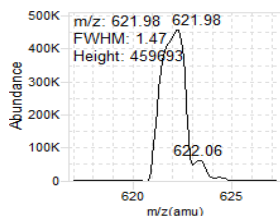
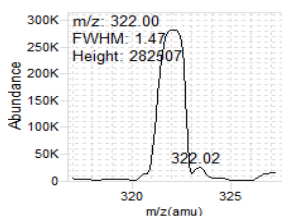
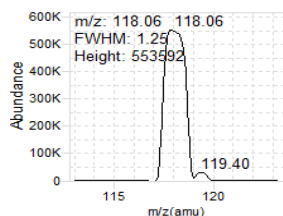


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
118.09	118.09	0.72	0.70	323292
322.03	322.05	0.70	0.70	175765
622.01	622.03	0.72	0.70	199963
922.01	922.01	0.68	0.70	174732
1521.98	1521.97	0.69	0.70	91401
2121.95	2121.93	0.76	0.70	133929

Analyzer: MS1

Polarity: Positive

Width: Wide

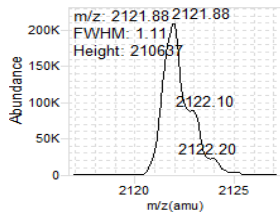
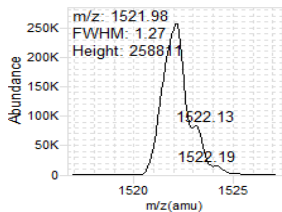
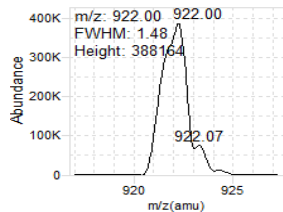
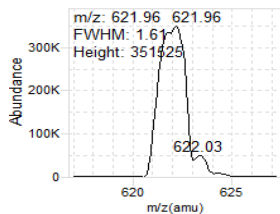
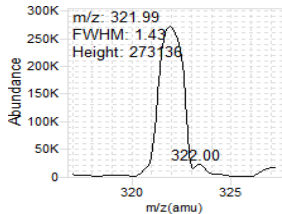
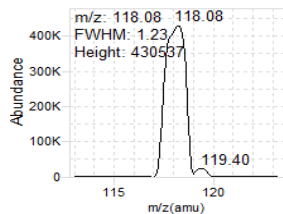


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
118.06	118.09	1.25	1.20	553592
322.00	322.05	1.47	1.20	282507
621.98	622.03	1.47	1.20	459693
921.94	922.01	1.44	1.20	489778
1521.90	1521.97	1.30	1.20	286269
2121.86	2121.93	1.13	1.20	202149

Analyzer: MS2

Polarity: Positive

Width: Wide

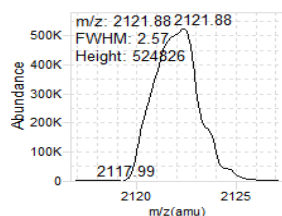
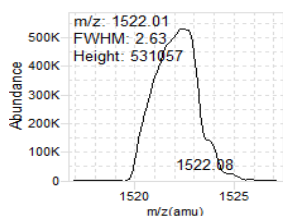
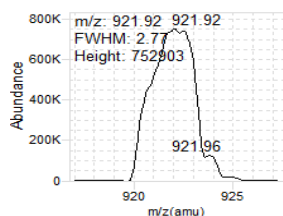
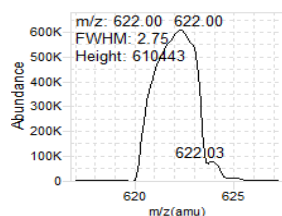
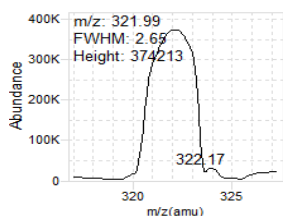
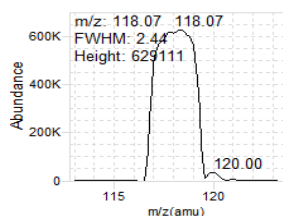


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
118.08	118.09	1.23	1.20	430537
321.99	322.05	1.43	1.20	273136
621.96	622.03	1.61	1.20	351525
922.00	922.01	1.48	1.20	388164
1521.98	1521.97	1.27	1.20	258811
2121.89	2121.93	1.11	1.20	210637

Analyzer: MS1

Polarity: Positive

Width: Widest

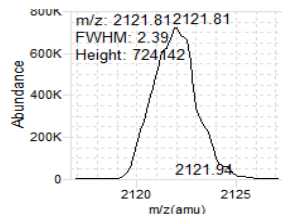
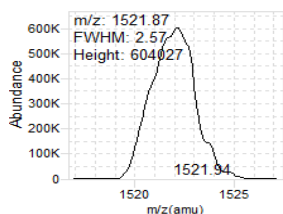
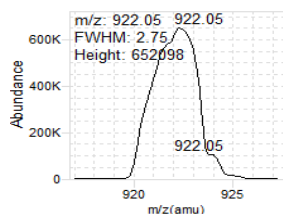
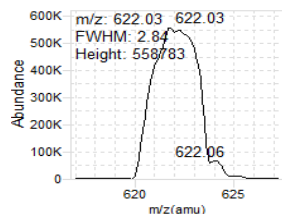
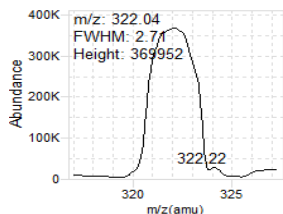
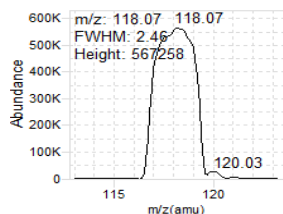


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
118.07	118.09	2.44	2.50	629111
321.99	322.05	2.65	2.50	374213
622.00	622.03	2.74	2.50	610443
921.91	922.01	2.77	2.50	752903
1522.01	1521.97	2.63	2.50	531057
2121.88	2121.93	2.57	2.50	524826

Analyzer: MS2

Polarity: Positive

Width: Widest



m/z	m/z Expected	FWHM	FWHM Expected	Abundance
118.07	118.09	2.46	2.50	567258
322.04	322.05	2.71	2.50	369952
622.03	622.03	2.84	2.50	558783
922.05	922.01	2.75	2.50	652098
1521.87	1521.97	2.56	2.50	604027
2121.81	2121.93	2.39	2.50	724142

Positive Results

Tune Parameters

Parameters	Setting
Fragmentor	135
Skimmer	15
Octopole DC	5
Octopole RF	600
Lens 1	3.50
MS1 PreFilter	-30
MS1 DC	3.00
MS1 PostFilter	2.00
MS1 Axis Offset	0.91
MS1 Axis Gain	9
MS1 Width Offset	0.11
MS1 Width Gain	3
MS1 Heater	100
MS2 DC	-10
MS2 PreFilter	-30
MS2 Axis Offset	0.75
MS2 Axis Gain	17.85
MS2 Width Offset	0.16
MS2 Width Gain	-8
MS2 Heater	100
Cell Entry	1
Hexapole DC	0.00
Hexapole RF	500
Hexapole Accel	5
Cell Exit	-7
Collision Gas	1
Iris	-150
HED	-10
EMV	1220
Collision Energy	0
Lens 1[MS2]	1.80
MS1 PreFilter[MS2]	2.60

Dynamic Ramp Tables

MS1 PreFilter

m/z	Setting
118.09	-11.4
322.05	-5
622.03	-9.2
922.01	-12.6
1521.97	-18
2121.93	-32

MS1 Axis Offset

m/z	Setting
118.09	0.912
322.05	1.07
622.03	1.139
922.01	1.142
1521.97	1.077
2121.93	0.912

MS1 Width Offset

m/z	Setting
118.09	0.11
322.05	-0.07
622.03	-0.15
922.01	-0.16
1521.97	-0.12
2121.93	0.11

MS2 PreFilter

m/z	Setting
58	-15.2
79	-21
117.97	-30
118	-12
154	-15.2
290	-33.4

MS2 Axis Offset

m/z	Setting
118.09	0.746
322.05	0.882
622.03	1
922.01	1.04
1521.97	0.914
2121.93	0.746

MS2 Width Offset

m/z	Setting
118.09	0.16
322.05	-0.04
622.03	-0.19
922.01	-0.23
1521.97	-0.17
2121.93	0.16

MS1 Calibrations

Resolution	Mass Gain	Mass Offset	Width Gain	Width Offset
Unit	8.5	0.912	2.8	0.11
Wide	8.15	1.082	2.6	0.53
Widest	8.15	1.458	3.5	1.43

MS2 Calibrations

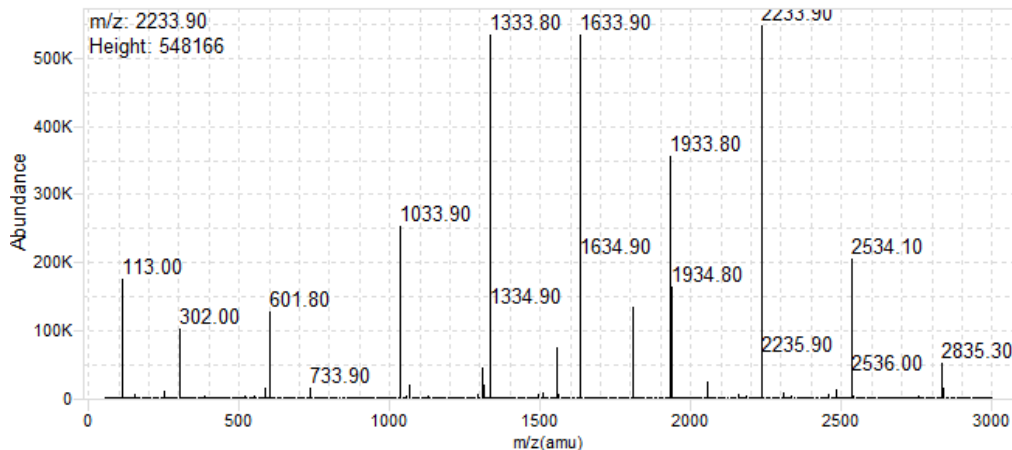
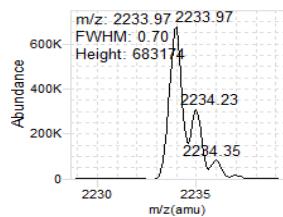
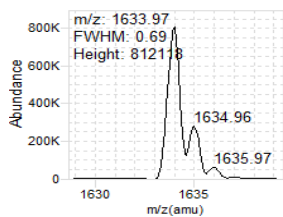
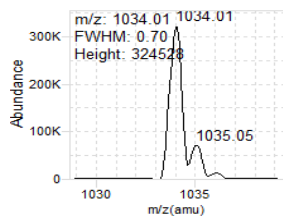
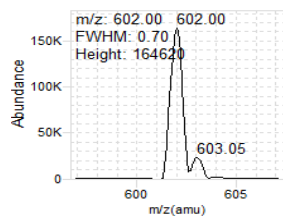
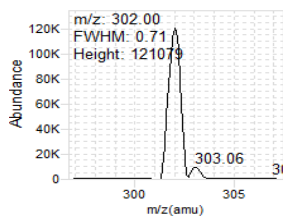
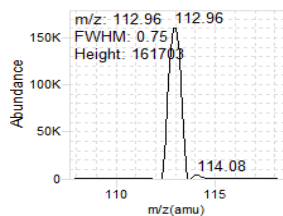
Resolution	Mass Gain	Mass Offset	Width Gain	Width Offset
Unit	17.85	0.746	-7.6	0.16
Wide	17.5	0.928	-7.8	0.59
Widest	17.15	1.362	-6.9	1.54

Negative Results

Analyzer: MS1

Polarity: Negative

Width: Unit

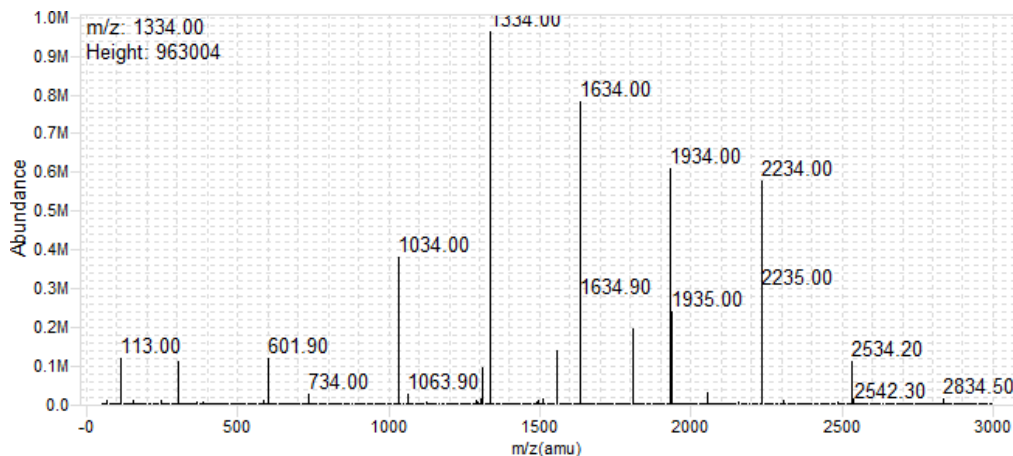
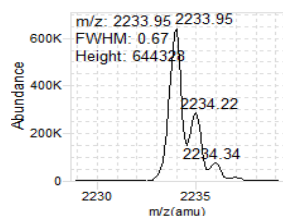
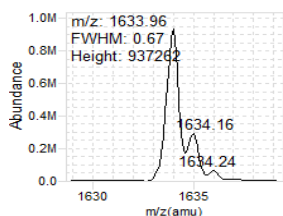
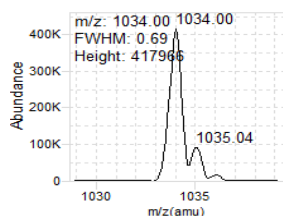
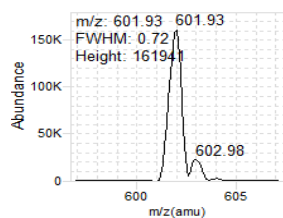
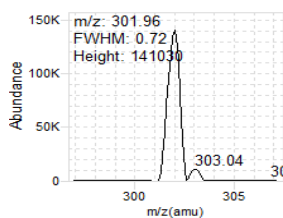
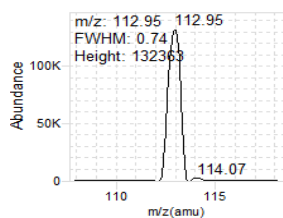


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
112.96	112.99	0.75	0.70	161703
302.00	302.00	0.71	0.70	121079
601.99	601.98	0.70	0.70	164620
1034.01	1033.99	0.70	0.70	324528
1633.97	1633.95	0.69	0.70	812118
2233.97	2233.91	0.70	0.70	683174

Analyzer: MS2

Polarity: Negative

Width: Unit

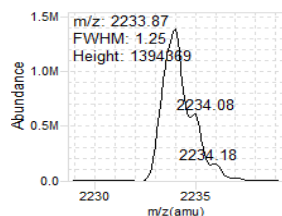
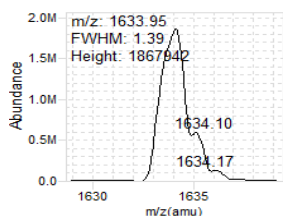
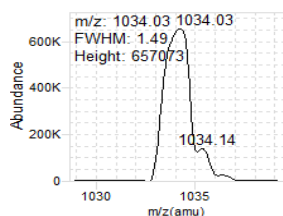
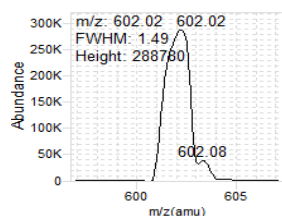
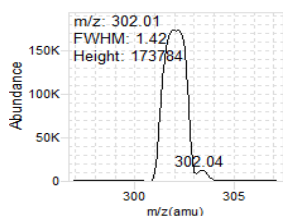
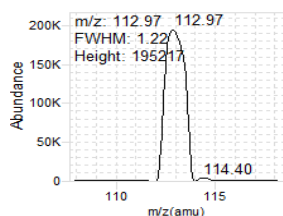


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
112.95	112.99	0.74	0.70	132363
301.96	302.00	0.72	0.70	141030
601.93	601.98	0.72	0.70	161941
1034.00	1033.99	0.69	0.70	417966
1633.96	1633.95	0.67	0.70	937262
2233.95	2233.91	0.67	0.70	644328

Analyzer: MS1

Polarity: Negative

Width: Wide

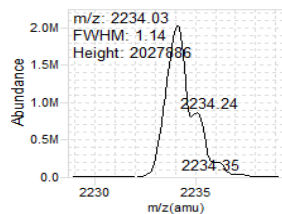
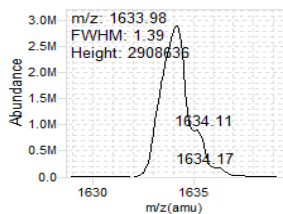
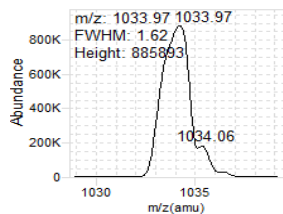
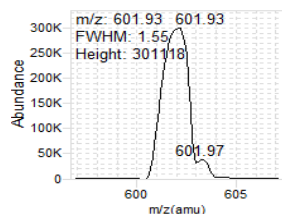
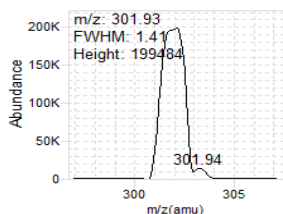
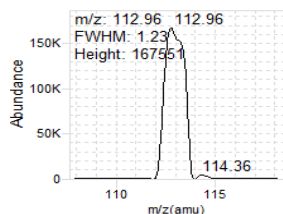


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
112.97	112.99	1.22	1.20	195217
302.01	302.00	1.42	1.20	173784
602.02	601.98	1.49	1.20	288780
1034.03	1033.99	1.49	1.20	657073
1633.95	1633.95	1.39	1.20	1867942
2233.88	2233.91	1.25	1.20	1394369

Analyzer: MS2

Polarity: Negative

Width: Wide

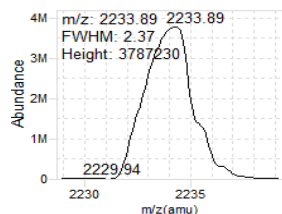
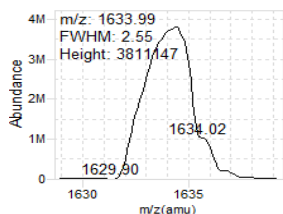
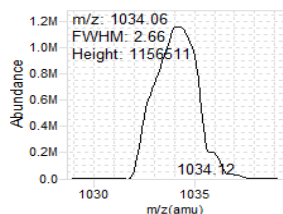
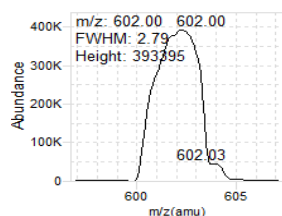
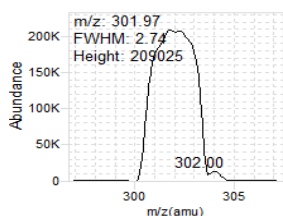
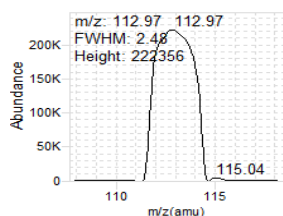


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
112.96	112.99	1.23	1.20	167551
301.93	302.00	1.41	1.20	199484
601.92	601.98	1.55	1.20	301118
1033.97	1033.99	1.62	1.20	885893
1633.98	1633.95	1.39	1.20	2908636
2234.04	2233.91	1.14	1.20	2027886

Analyzer: MS1

Polarity: Negative

Width: Widest

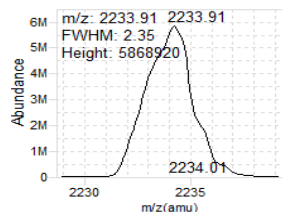
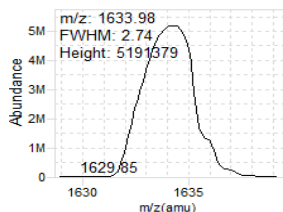
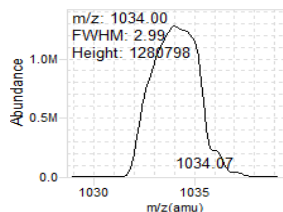
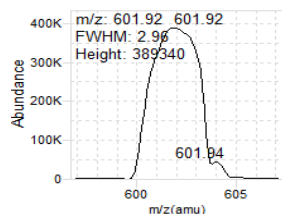
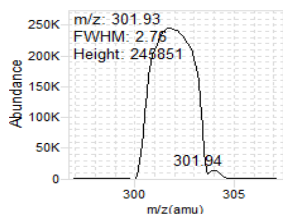
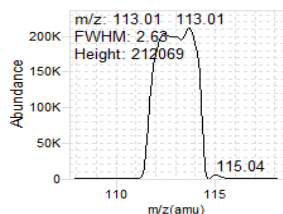


m/z	m/z Expected	FWHM	FWHM Expected	Abundance
112.97	112.99	2.48	2.50	222356
301.97	302.00	2.74	2.50	209025
602.00	601.98	2.79	2.50	393395
1034.06	1033.99	2.66	2.50	1156510
1633.99	1633.95	2.55	2.50	3811147
2233.89	2233.91	2.38	2.50	3787230

Analyzer: MS2

Polarity: Negative

Width: Widest



m/z	m/z Expected	FWHM	FWHM Expected	Abundance
113.01	112.99	2.63	2.50	212069
301.93	302.00	2.76	2.50	245851
601.92	601.98	2.96	2.50	389340
1034.00	1033.99	2.99	2.50	1280798
1633.97	1633.95	2.74	2.50	5191379
2233.92	2233.91	2.36	2.50	5868920

Negative Results

Tune Parameters

Parameters	Setting
Fragmentor	115
Skimmer	15
Octopole DC	5
Octopole RF	600
Lens 1	-3.90
MS1 PreFilter	13
MS1 DC	-3.00
MS1 PostFilter	-2.00
MS1 Axis Offset	0.91
MS1 Axis Gain	8.35
MS1 Width Offset	0.18
MS1 Width Gain	3
MS1 Heater	100
MS2 DC	10
MS2 PreFilter	30
MS2 Axis Offset	0.72
MS2 Axis Gain	17.75
MS2 Width Offset	0.15
MS2 Width Gain	-8
MS2 Heater	100
Cell Entry	1
Hexapole DC	0.00
Hexapole RF	500
Hexapole Accel	5
Cell Exit	7.00
Collision Gas	1
Iris	150
HED	18
EMV	1205
Collision Energy	0
Lens 1[MS2]	-4.00
MS1 PreFilter[MS2]	-2.60

Dynamic Ramp Tables

MS1 PreFilter

m/z	Setting
112.99	10.4
302	7.6
601.98	8.4
1033.99	20.9
1633.95	16.5
2233.91	11.7

MS1 Axis Offset

m/z	Setting
112.99	0.91
302	1.109
601.98	1.163
1033.99	1.178
1633.95	1.061
2233.91	0.91

MS1 Width Offset

m/z	Setting
112.99	0.18
302	-0.03
601.98	-0.12
1033.99	-0.1
1633.95	-0.01
2233.91	0.18

MS2 PreFilter

m/z	Setting
69	17.6
112.97	30
113	10
207	20.4
232	22.4
302	34.2

MS2 Axis Offset

m/z	Setting
112.99	0.72
302	0.884
601.98	1.009
1033.99	1.084
1633.95	0.957
2233.91	0.72

MS2 Width Offset

m/z	Setting
112.99	0.15
302	0.02
601.98	-0.15
1033.99	-0.18
1633.95	-0.11
2233.91	0.15

MS1 Calibrations

Resolution	Mass Gain	Mass Offset	Width Gain	Width Offset
Unit	8.35	0.91	2.6	0.18
Wide	8.05	1.106	2.7	0.58
Widest	7.8	1.554	3.2	1.57

MS2 Calibrations

Resolution	Mass Gain	Mass Offset	Width Gain	Width Offset
Unit	17.75	0.72	-7.5	0.15
Wide	17.65	0.934	-7.2	0.56
Widest	17.05	1.426	-6.7	1.62

QQQ Check Tune Report

Instrument Name LCMS-2
MS Model G6470A
MS Instrument Serial SG1936G104
Software_Firmware Version 10.0.142, FW: A.00.08.100
Tune Date & Time 12 May 2022 07:22:28
Data Path D:\MassHunter\Tune\QQQ\G6470A\tunes.TUNE.XML
Ion Source AJS ESI
Ionization Mode AJS ESI
Tuned Resolution All
Vacuum Pressure 1.99E+0 [R] (Torr); 5.22E-5 [H] (Torr)

Source Parameters

Parameter	Positive	Negative
Gas Temp (°C)	300	300
Gas Flow (l/min)	8	8
Nebulizer (psi)	15	15
Capillary (V)	4000	4000
Nozzle Voltage (V)	1500	1500
Sheath Gas Temp (°C)	250	250
Sheath Gas Flow (l/min)	7	7

Positive Results

Analyzer: MS1 Polarity: Positive Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
118.09	118.09	0.00	Pass	0.70	0.72	0.02	Pass	490124
322.05	322.02	-0.03	Pass	0.70	0.73	0.03	Pass	202931
622.03	622.00	-0.03	Pass	0.70	0.73	0.03	Pass	278767
922.01	922.01	0.00	Pass	0.70	0.68	-0.02	Pass	291451
1521.97	1521.99	0.02	Pass	0.70	0.67	-0.03	Pass	153573
2121.93	2121.96	0.03	Pass	0.70	0.74	0.04	Pass	136170

Analyzer: MS2 Polarity: Positive Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
118.09	118.09	0.00	Pass	0.70	0.72	0.02	Pass	323292
322.05	322.03	-0.02	Pass	0.70	0.70	0.00	Pass	175765
622.03	622.01	-0.02	Pass	0.70	0.72	0.02	Pass	199963
922.01	922.01	0.00	Pass	0.70	0.68	-0.02	Pass	174732
1521.97	1521.98	0.01	Pass	0.70	0.69	-0.01	Pass	91401
2121.93	2121.95	0.02	Pass	0.70	0.76	0.06	Pass	133929

Analyzer: MS1 Polarity: Positive Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
118.09	118.06	-0.03	Pass	1.20	1.25	0.05	Pass	553592
322.05	322.00	-0.05	Pass	1.20	1.47	0.27	Pass	282507
622.03	621.98	-0.05	Pass	1.20	1.47	0.27	Pass	459693
922.01	921.94	-0.07	Pass	1.20	1.44	0.24	Pass	489778
1521.97	1521.90	-0.07	Pass	1.20	1.30	0.10	Pass	286269
2121.93	2121.86	-0.07	Pass	1.20	1.13	-0.07	Pass	202149

Analyzer: MS2 Polarity: Positive Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
118.09	118.08	-0.01	Pass	1.20	1.23	0.03	Pass	430537
322.05	321.99	-0.06	Pass	1.20	1.43	0.23	Pass	273136
622.03	621.96	-0.07	Pass	1.20	1.61	0.41	Pass	351525
922.01	922.00	-0.01	Pass	1.20	1.48	0.28	Pass	388164
1521.97	1521.98	0.01	Pass	1.20	1.27	0.07	Pass	258811
2121.93	2121.89	-0.04	Pass	1.20	1.11	-0.09	Pass	210637

Analyzer: MS1 Polarity: Positive Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
118.09	118.07	-0.02	Pass	2.50	2.44	-0.06	Pass	629111
322.05	321.99	-0.06	Pass	2.50	2.65	0.15	Pass	374213
622.03	622.00	-0.03	Pass	2.50	2.74	0.24	Pass	610443
922.01	921.91	-0.10	Pass	2.50	2.77	0.27	Pass	752903
1521.97	1522.01	0.04	Pass	2.50	2.63	0.13	Pass	531057
2121.93	2121.88	-0.05	Pass	2.50	2.57	0.07	Pass	524826

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Agilent

Trusted Answers

Analyzer: MS2 Polarity: Positive Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
118.09	118.07	-0.02	Pass	2.50	2.46	-0.04	Pass	567258
322.05	322.04	-0.01	Pass	2.50	2.71	0.21	Pass	369952
622.03	622.03	0.00	Pass	2.50	2.84	0.34	Pass	558783
922.01	922.05	0.04	Pass	2.50	2.75	0.25	Pass	652098
1521.97	1521.87	-0.10	Pass	2.50	2.56	0.06	Pass	604027
2121.93	2121.81	-0.12	Pass	2.50	2.39	-0.11	Pass	724142

Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.96	-0.03	Pass	0.70	0.75	0.05	Pass	161703
302.00	302.00	0.00	Pass	0.70	0.71	0.01	Pass	121079
601.98	601.99	0.01	Pass	0.70	0.70	0.00	Pass	164620
1033.99	1034.01	0.02	Pass	0.70	0.70	0.00	Pass	324528
1633.95	1633.97	0.02	Pass	0.70	0.69	-0.01	Pass	812118
2233.91	2233.97	0.06	Pass	0.70	0.70	0.00	Pass	683174

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.95	-0.04	Pass	0.70	0.74	0.04	Pass	132363
302.00	301.96	-0.04	Pass	0.70	0.72	0.02	Pass	141030
601.98	601.93	-0.05	Pass	0.70	0.72	0.02	Pass	161941
1033.99	1034.00	0.01	Pass	0.70	0.69	-0.01	Pass	417966
1633.95	1633.96	0.01	Pass	0.70	0.67	-0.03	Pass	937262
2233.91	2233.95	0.04	Pass	0.70	0.67	-0.03	Pass	644328

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.97	-0.02	Pass	1.20	1.22	0.02	Pass	195217
302.00	302.01	0.01	Pass	1.20	1.42	0.22	Pass	173784
601.98	602.02	0.04	Pass	1.20	1.49	0.29	Pass	288780
1033.99	1034.03	0.04	Pass	1.20	1.49	0.29	Pass	657073
1633.95	1633.95	0.00	Pass	1.20	1.39	0.19	Pass	1867942
2233.91	2233.88	-0.03	Pass	1.20	1.25	0.05	Pass	1394369

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.96	-0.03	Pass	1.20	1.23	0.03	Pass	167551
302.00	301.93	-0.07	Pass	1.20	1.41	0.21	Pass	199484
601.98	601.92	-0.06	Pass	1.20	1.55	0.35	Pass	301118
1033.99	1033.97	-0.02	Pass	1.20	1.62	0.42	Pass	885893
1633.95	1633.98	0.03	Pass	1.20	1.39	0.19	Pass	2908636
2233.91	2234.04	0.13	Pass	1.20	1.14	-0.06	Pass	2027886

Analyzer: MS1 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.97	-0.02	Pass	2.50	2.48	-0.02	Pass	222356
302.00	301.97	-0.03	Pass	2.50	2.74	0.24	Pass	209025
601.98	602.00	0.02	Pass	2.50	2.79	0.29	Pass	393395
1033.99	1034.06	0.07	Pass	2.50	2.66	0.16	Pass	1156510
1633.95	1633.99	0.04	Pass	2.50	2.55	0.05	Pass	3811147
2233.91	2233.89	-0.02	Pass	2.50	2.38	-0.12	Pass	3787230

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	113.01	0.02	Pass	2.50	2.63	0.13	Pass	212069
302.00	301.93	-0.07	Pass	2.50	2.76	0.26	Pass	245851
601.98	601.92	-0.06	Pass	2.50	2.96	0.46	Pass	389340
1033.99	1034.00	0.01	Pass	2.50	2.99	0.49	Pass	1280798
1633.95	1633.97	0.02	Pass	2.50	2.74	0.24	Pass	5191379
2233.91	2233.92	0.01	Pass	2.50	2.36	-0.14	Pass	5868920