

VI. Extraction:

Our laboratory has extracted THC from plant material using methanol for the purposes of qualitative analysis in the past. Quantitative methods from the Drug Enforcement Agency, Washington State's crime laboratory, the Tennessee Department of Agriculture, and Agilent all used methanol for THC extractions. Methanol is the extraction solvent of choice for existing THC quantitative methods.

How long a plant material sample is in contact with an extraction solvent and how the mixture of solvent and sample are treated are addressed in many of the methods. Some samples are vortexed, placed on orbital shakers, centrifuged, or allowed to sit for a set amount of time. It will be important to determine and set extraction criteria for this method. The amount of plant material and the extraction solvent volume will be determined by the linearity, range, and instrument response of our method, but also must be considered in the extraction study as these amounts absolutely affect the concentration of our samples.

Twelve samples of marijuana each weighing approximately 100 mg were extracted using 2 mL of methanol containing 150 µg/mL Tribenzylamine (internal standard) on the vortex over the course of an hour at 5 minute intervals. The results of the timed extraction experiment are in the table below. There does not appear to be an increase in the amount of THC extracted over the course of this experiment implying that most of the extraction occurs early in the process.

Another experiment was conducted on 3/19/2019 similar to the one above, but instead of marijuana samples spiked (200 µg of THC) Oregano samples were extracted using a rotator mixer. Once again, extraction values did not seem to increase over time implying that most of the THC is extracted within the first five minutes. However, these samples were extracted very quickly (within an hour) after being spiked.

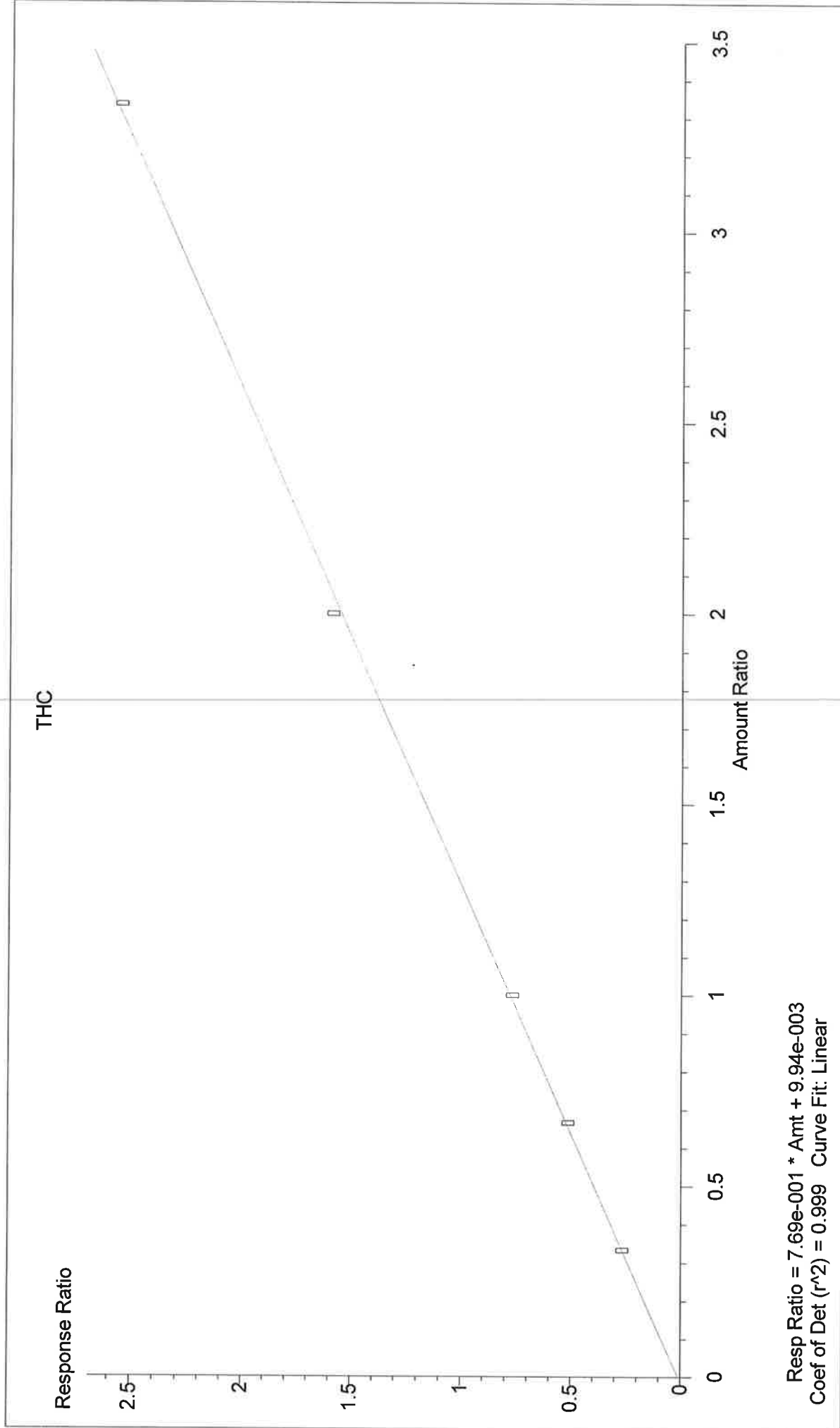
On 3/20/2019 the same source of marijuana that was used on 3/18/2019 was used to do the same extraction procedure using an orbital shaker instead of the vortex. The results are found in the table below. After the five minute mark, the instrument response and therefore the amount of THC extracted did not appear to increase. The results indicate once again that most of the THC extraction occurs early in the process. The vortex led to a slightly higher average of THC than the orbital shaker indicating that possibly vortexing is the more efficient tool for extraction. However, the results were within one standard deviation of each other and more testing would be required to prove efficiency. As the vortex is more vigorous than both the rotator mixer and the orbital shaker, it would stand to reason that it might have the advantage in extraction efficiency. However, all three methods demonstrated that THC can be effectively extracted and that the bulk of the extraction takes place very quickly.

Time	Percent THC Vortex	µg/mL THC Rotator Shaker	Percent THC Orbital Shaker
5	0.85	105.86	0.57
10	0.78	106.89	0.74
15	0.88	73.03	0.70
20	0.90	89.75	0.71
25	0.79	102.24	0.61
30	0.60	104.57	0.69
35	0.58	105.11	0.71
40	0.76	81.18	0.81
45	0.77	102.90	0.62
50	0.86	102.96	0.69
55	0.71	104.56	0.65
60	1.00	91.83	0.67

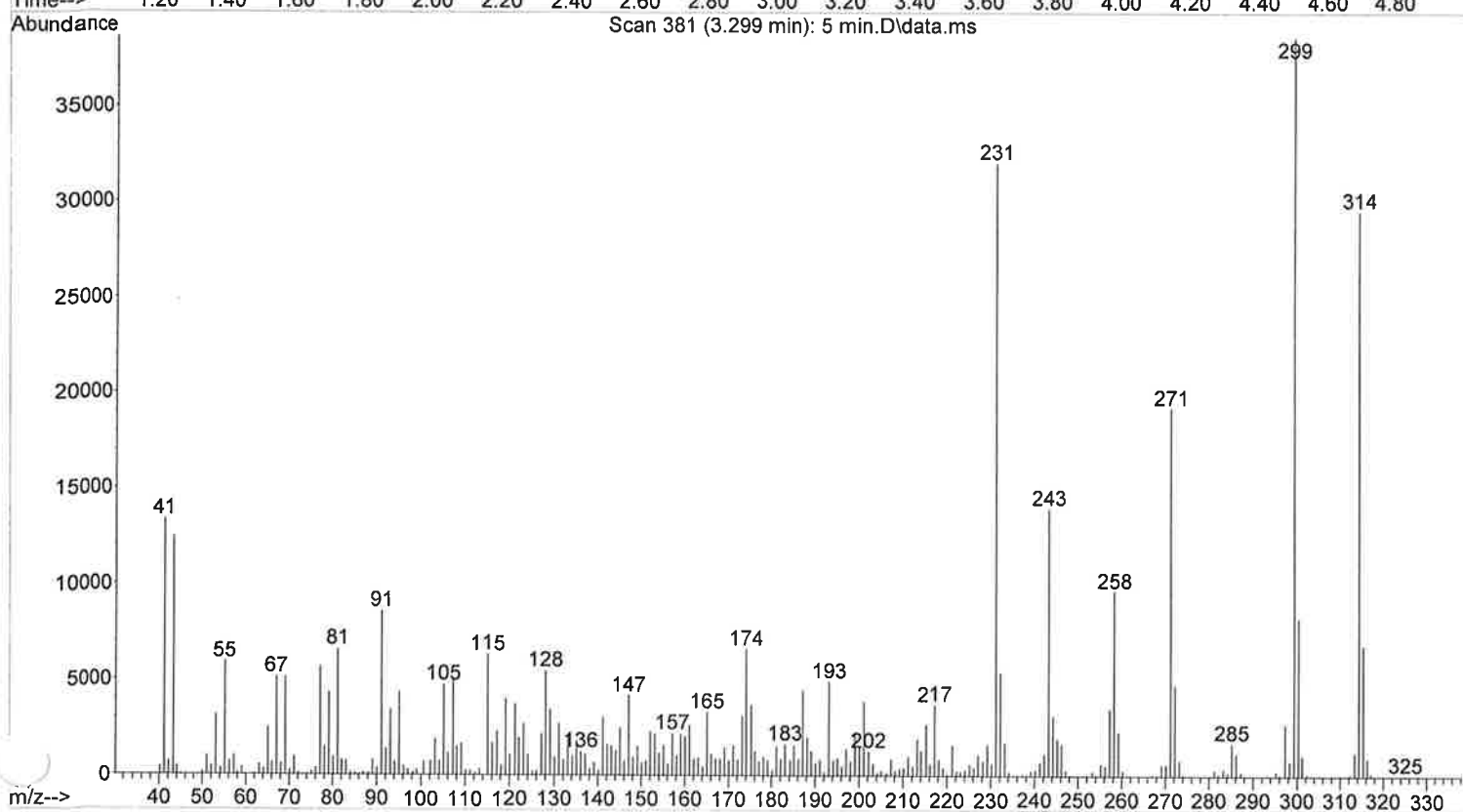
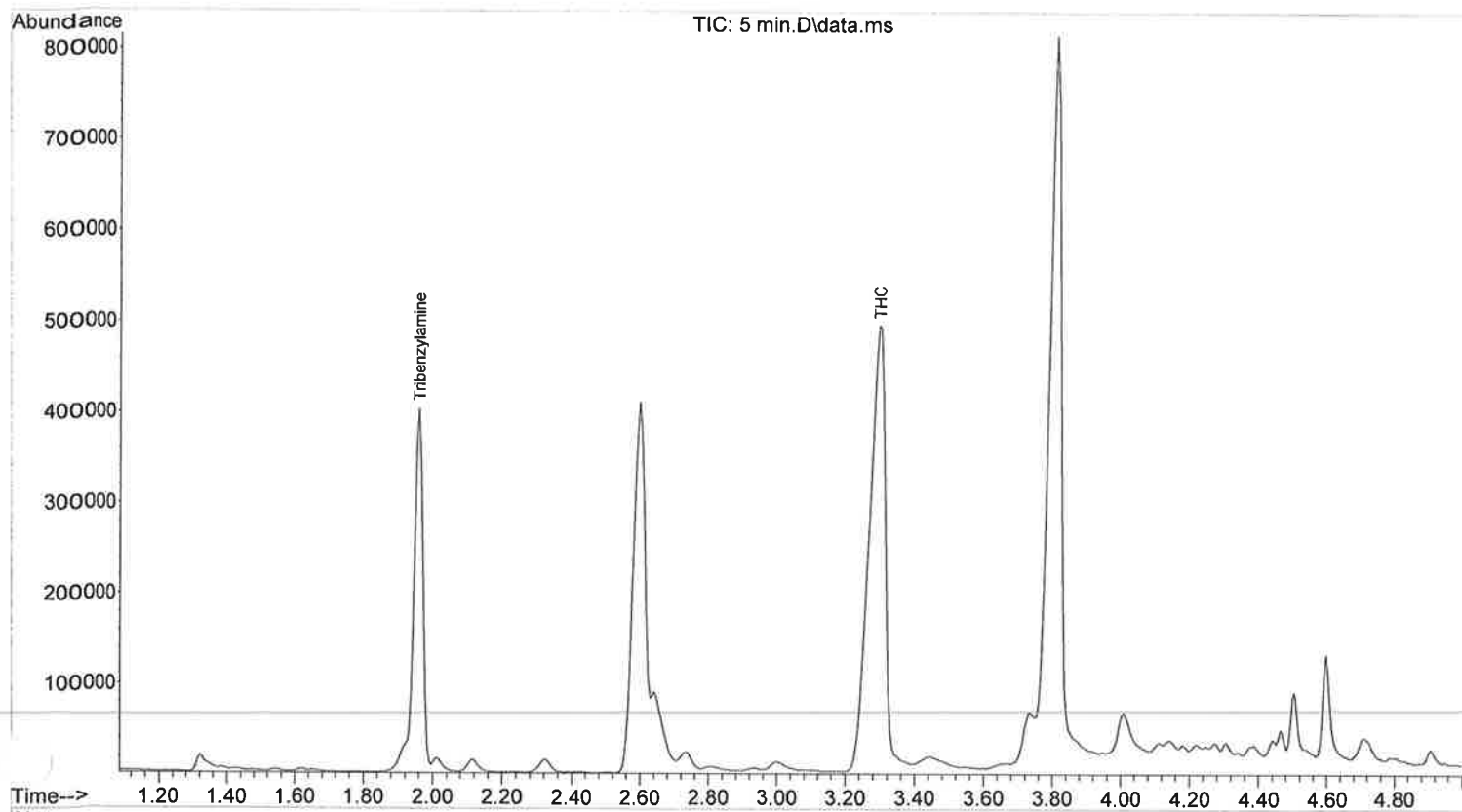
On 3/25/2019 ten samples of approximately 100 mg of oregano were prepared and spiked with 200 µg of THC standard. When extracted with 2 mL of 150 µg/mL Tribenzylamine in methanol a solution of 100 µg/mL THC would be expected. A calibration curve was generated and the samples were run and quantitated after 30 minutes on the orbital shaker. Averaging the results from this experiment yielded about 86.22 % extraction efficiency. Each sample was then vortexed for an additional 10 minutes leading to an average extraction efficiency of 105.14 %. This experiment demonstrates the necessity for vigorous shaking of the plant material in order to extract THC.

Calibration data of THC

Lv/LID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.265331	-0.32	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 50.D
100	0.6667	0.512312	-1.93	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 100.D
150	1.0000	0.769905	-1.12	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 150.D
300	2.0000	1.584739	2.42	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 300.D
500	3.3333	2.554598	-0.69	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 500.D



File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\5 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 11:05 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 99.76
Vial Number: 37



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 5 min.D
Acq On : 18 Mar 2019 11:05
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 99.76
; Vial : 37 Sample Multiplier: 1

Quant Time: Mar 18 11:58:10 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

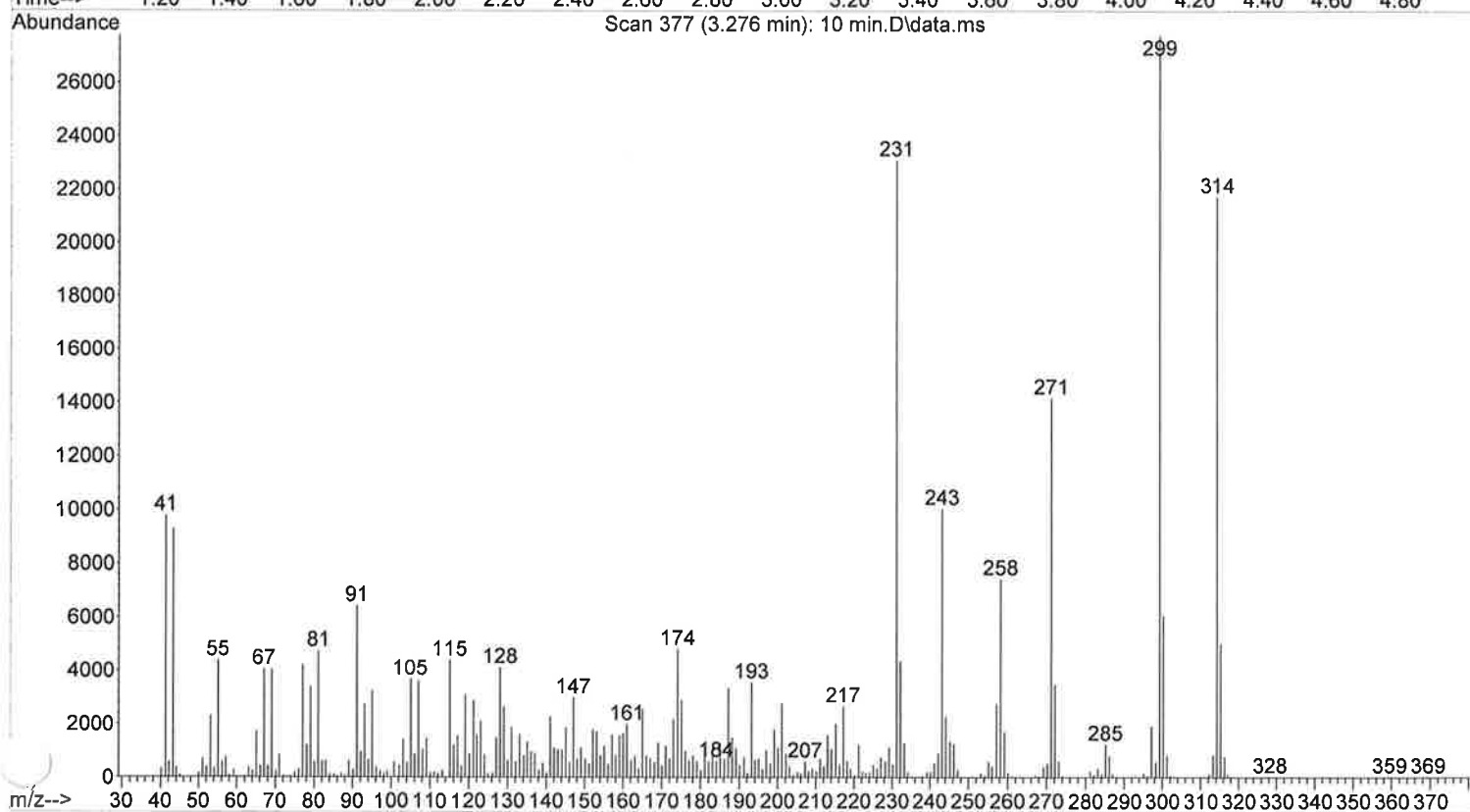
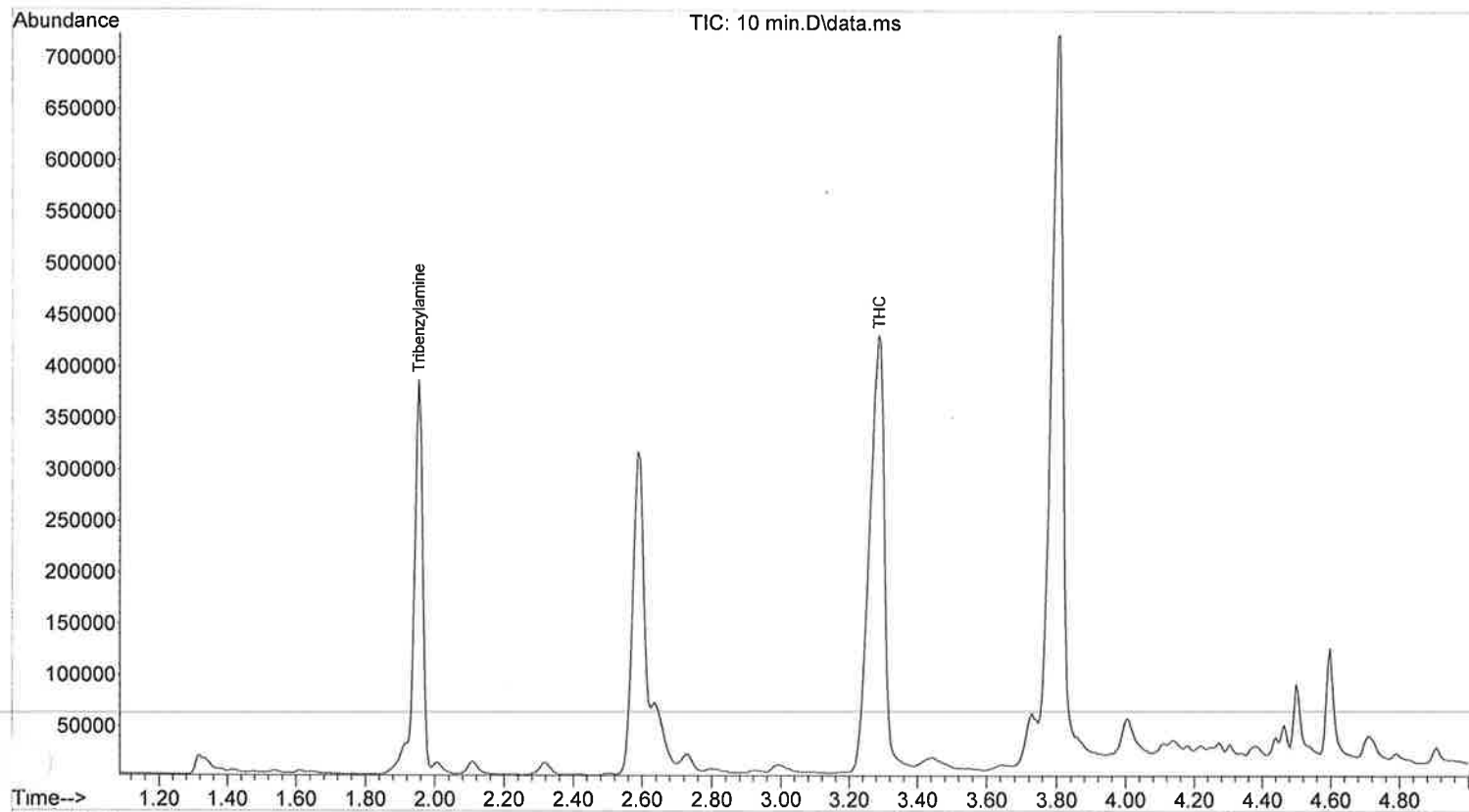
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.962	TIC	7059579	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.304	TIC	15481077	425.97	ug/mL	100

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

THC Quant.M Mon Mar 18 11:58:11 2019

File : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\10 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 11:20 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 99.35
Vial Number: 39



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 10 min.D
Acq On : 18 Mar 2019 11:20
Operator : TBI Analyst
Sample : Plant material
M³ SC : Methanol 99.35
Vial : 39 Sample Multiplier: 1

Quant Time: Mar 18 11:59:25 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

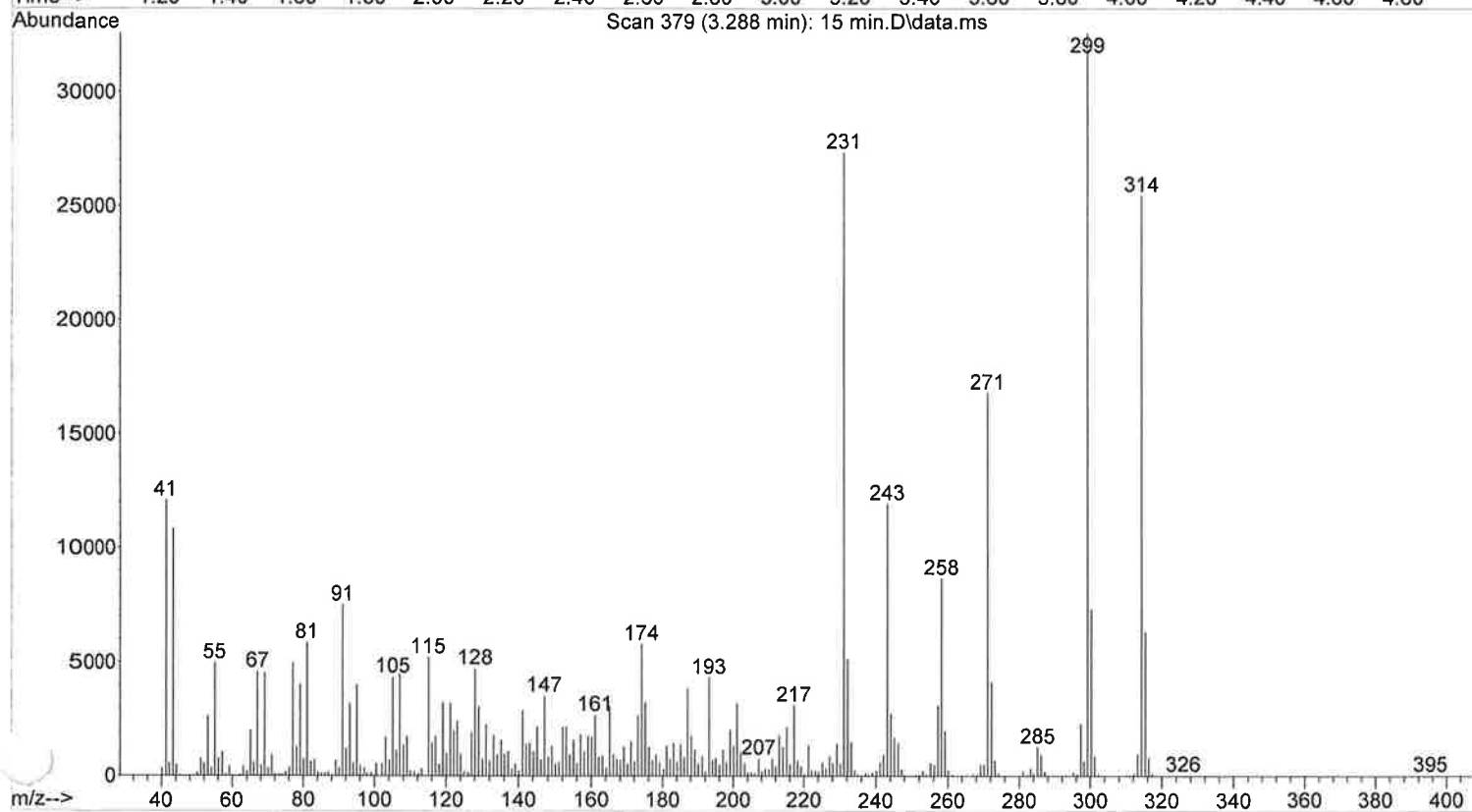
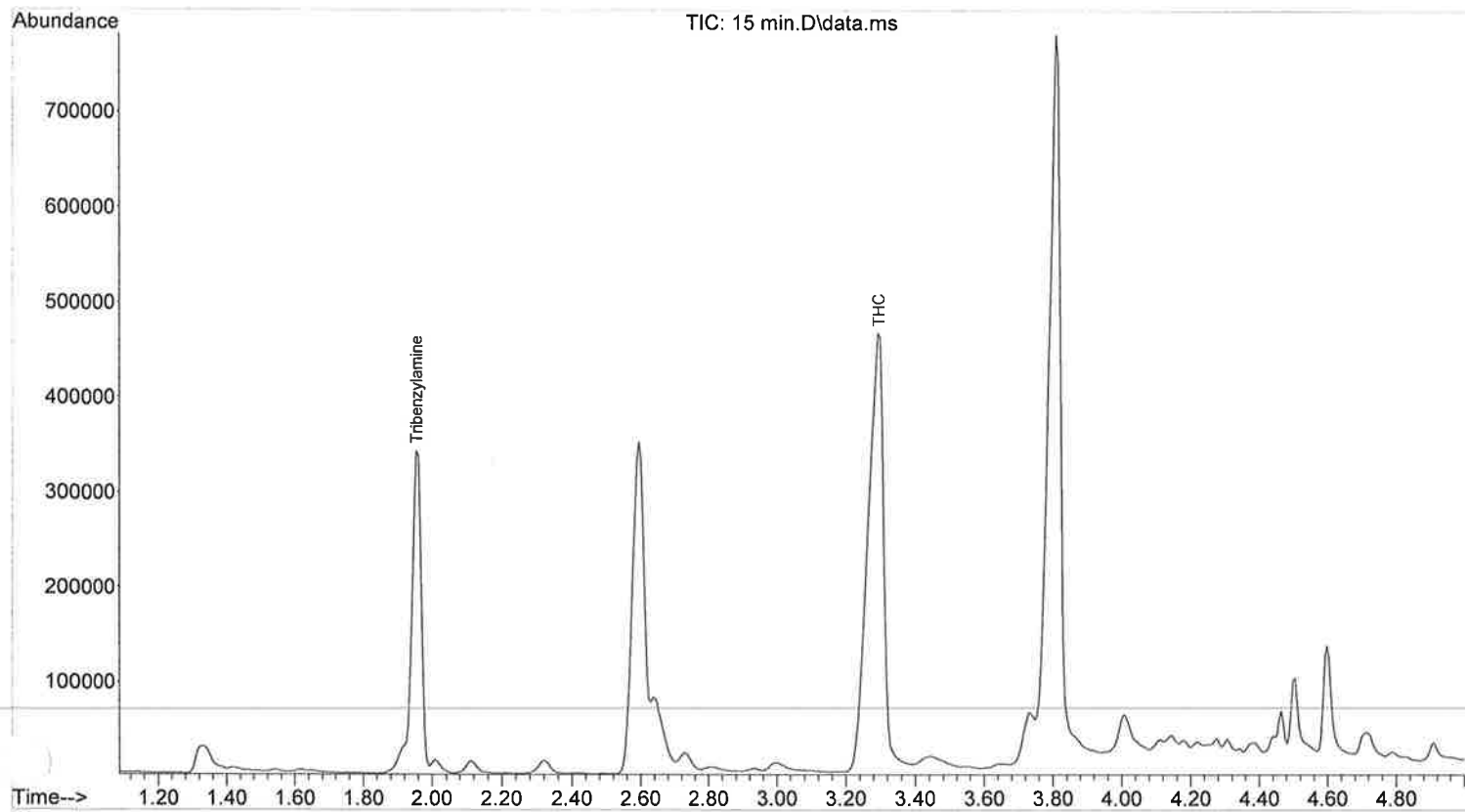
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.957	TIC	6447511	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.292	TIC	12801846	385.51	ug/mL	100

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

THC Quant.M Mon Mar 18 11:59:25 2019

File : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\15 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 11:35 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.37
V Number: 41



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 15 min.D
Acq On : 18 Mar 2019 11:35
Operator : TBI Analyst
Sample : Plant material
Solvent : Methanol 100.37
Vial : 41 Sample Multiplier: 1

Quant Time: Mar 18 12:00:13 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

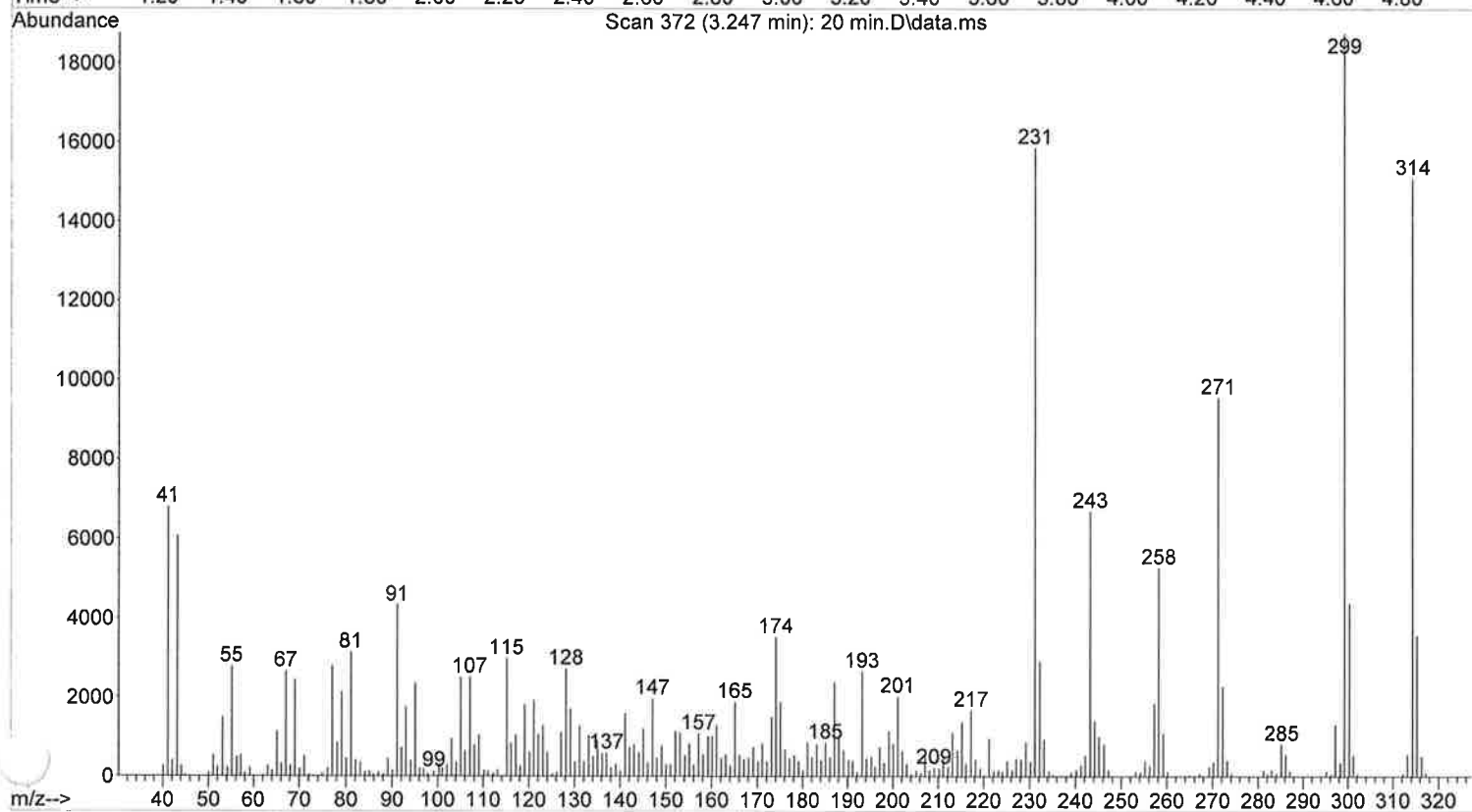
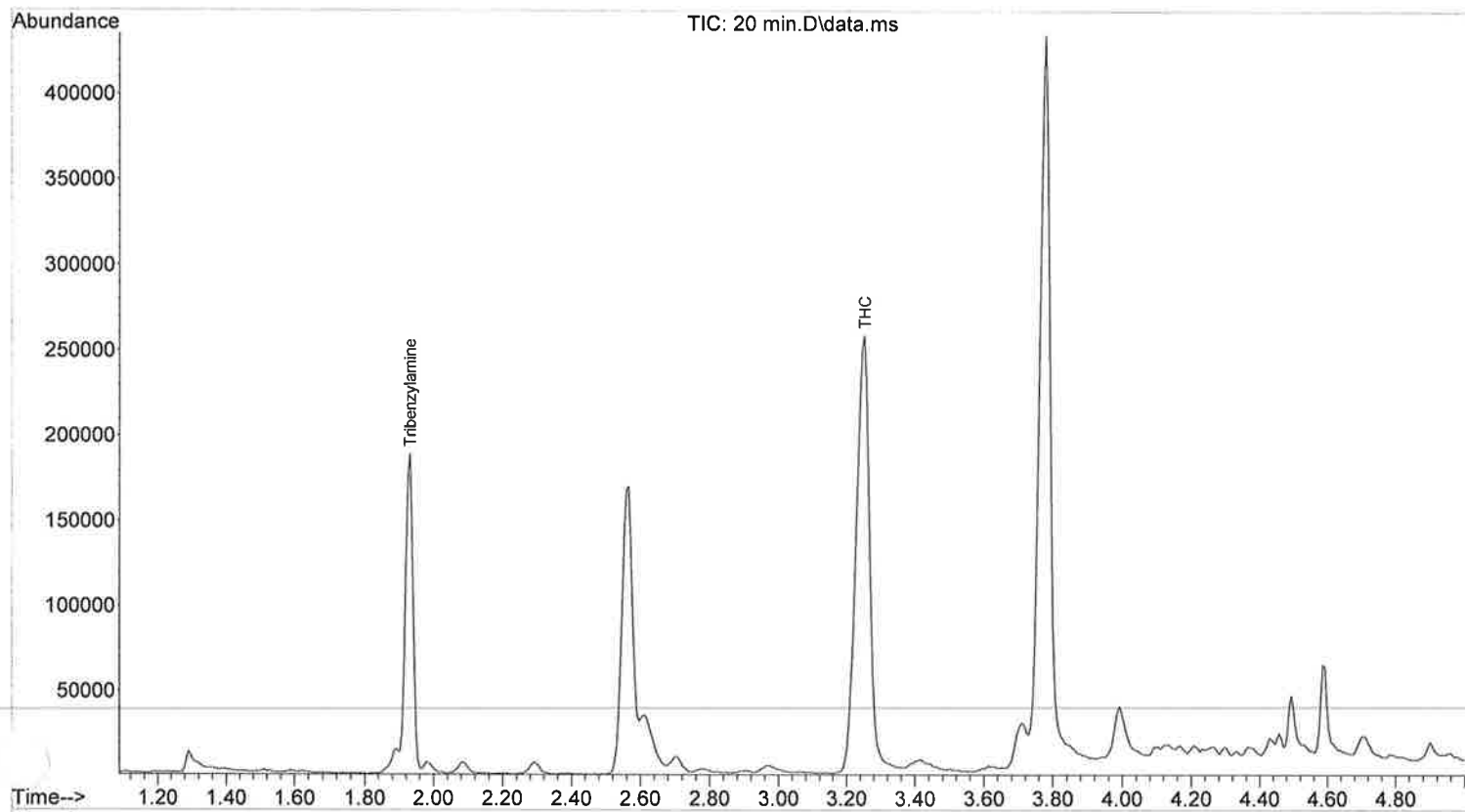
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.959	TIC	6259711	150.00	ug/mL	-0.03
Target Compounds						
2) THC	3.297	TIC	14306910	444.05	ug/mL	Qvalue 100

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

THC Quant.M Mon Mar 18 12:00:13 2019

File : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\20 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 11:51 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.23
Vial Number: 43



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 20 min.D
Acq On : 18 Mar 2019 11:51
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.23
3 Vial : 43 Sample Multiplier: 1

Quant Time: Mar 18 12:00:57 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

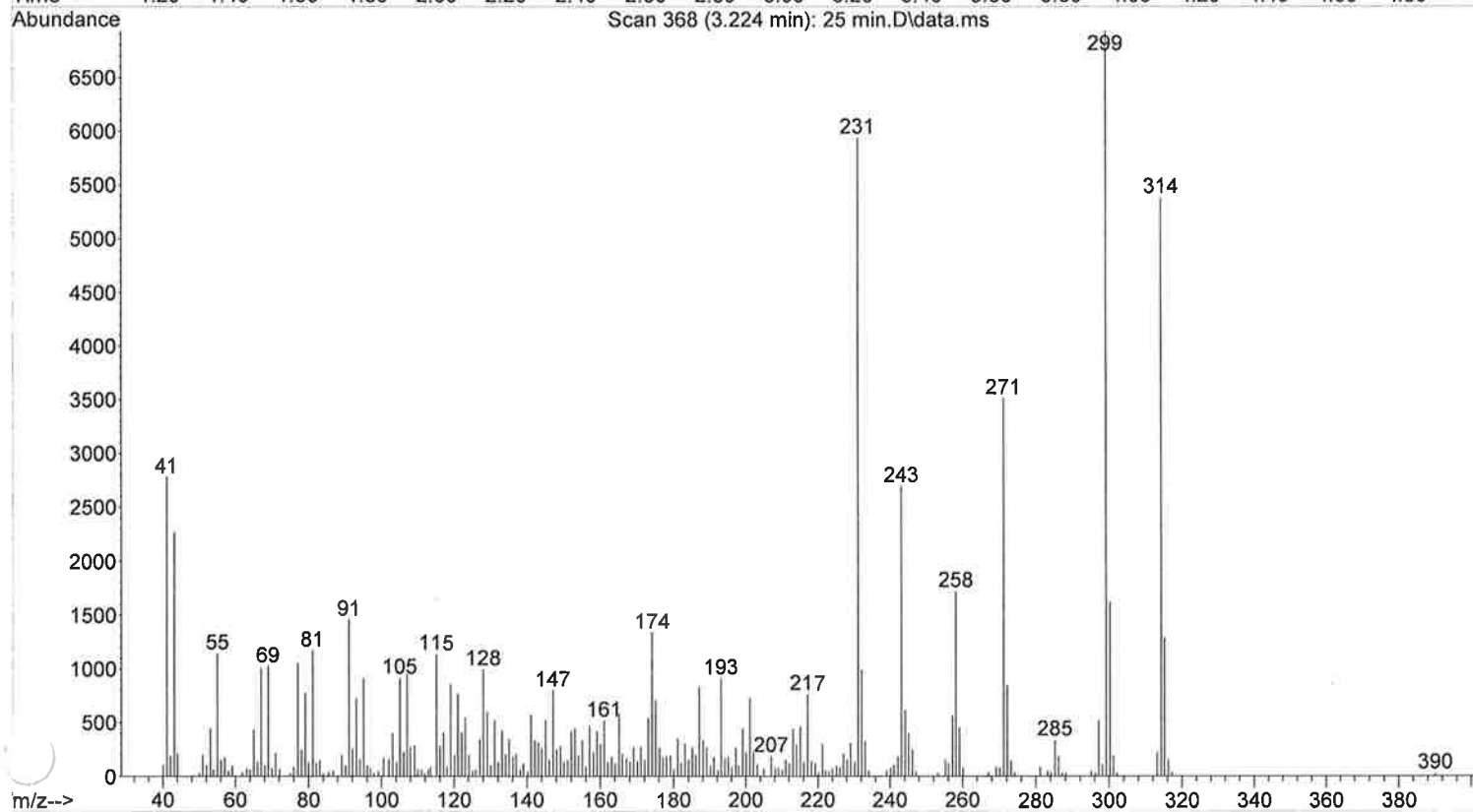
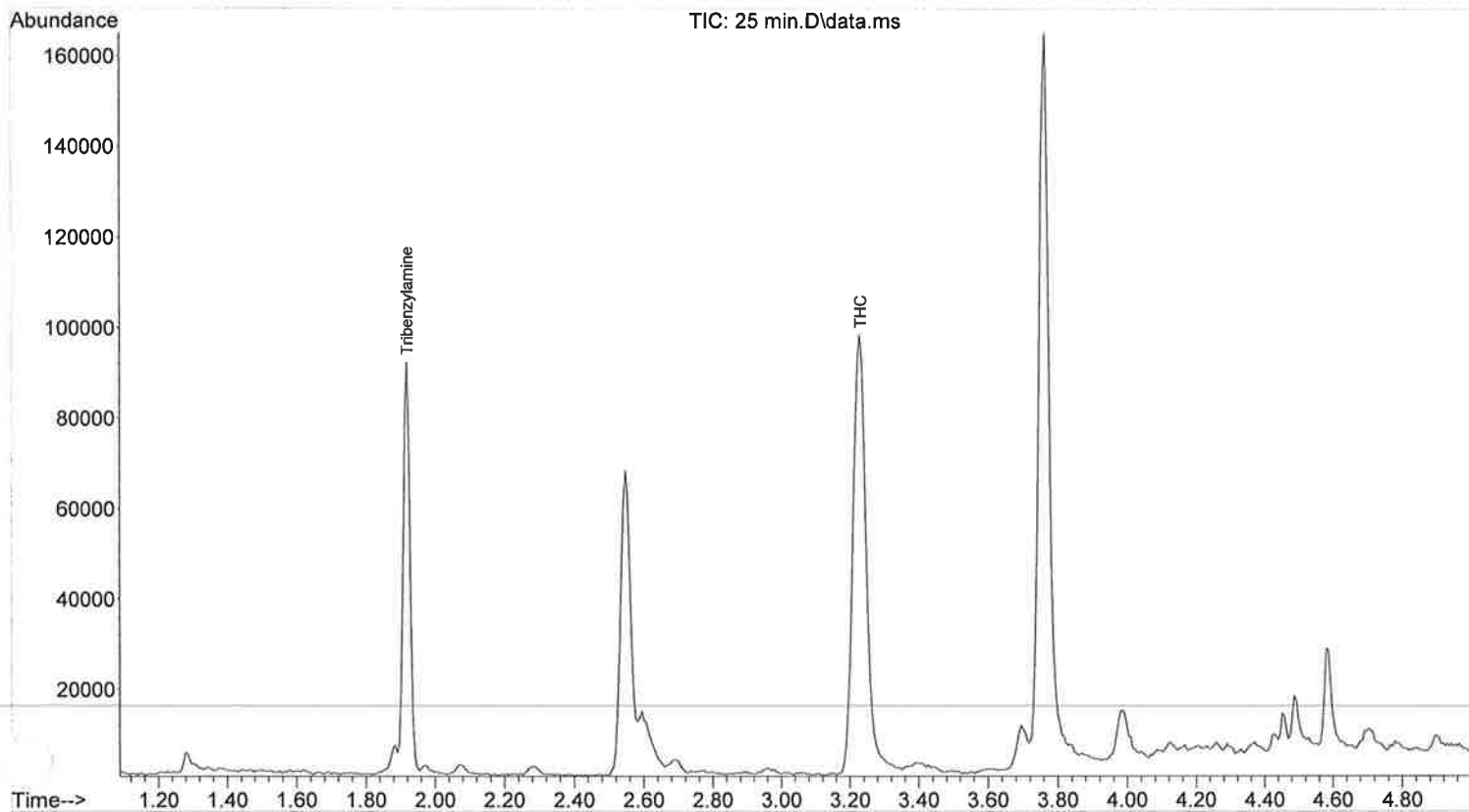
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.932	TIC	3016587	150.00	ug/mL	-0.06
Target Compounds						Qvalue
2) THC	3.254	TIC	7003241	451.08	ug/mL	100

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

THC Quant.M Mon Mar 18 12:00:57 2019

File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\25 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 12:07 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.57
Vial Number: 45



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 25 min.D
Acq On : 18 Mar 2019 12:07
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.57
S Vial : 45 Sample Multiplier: 1

Quant Time: Mar 18 12:29:19 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

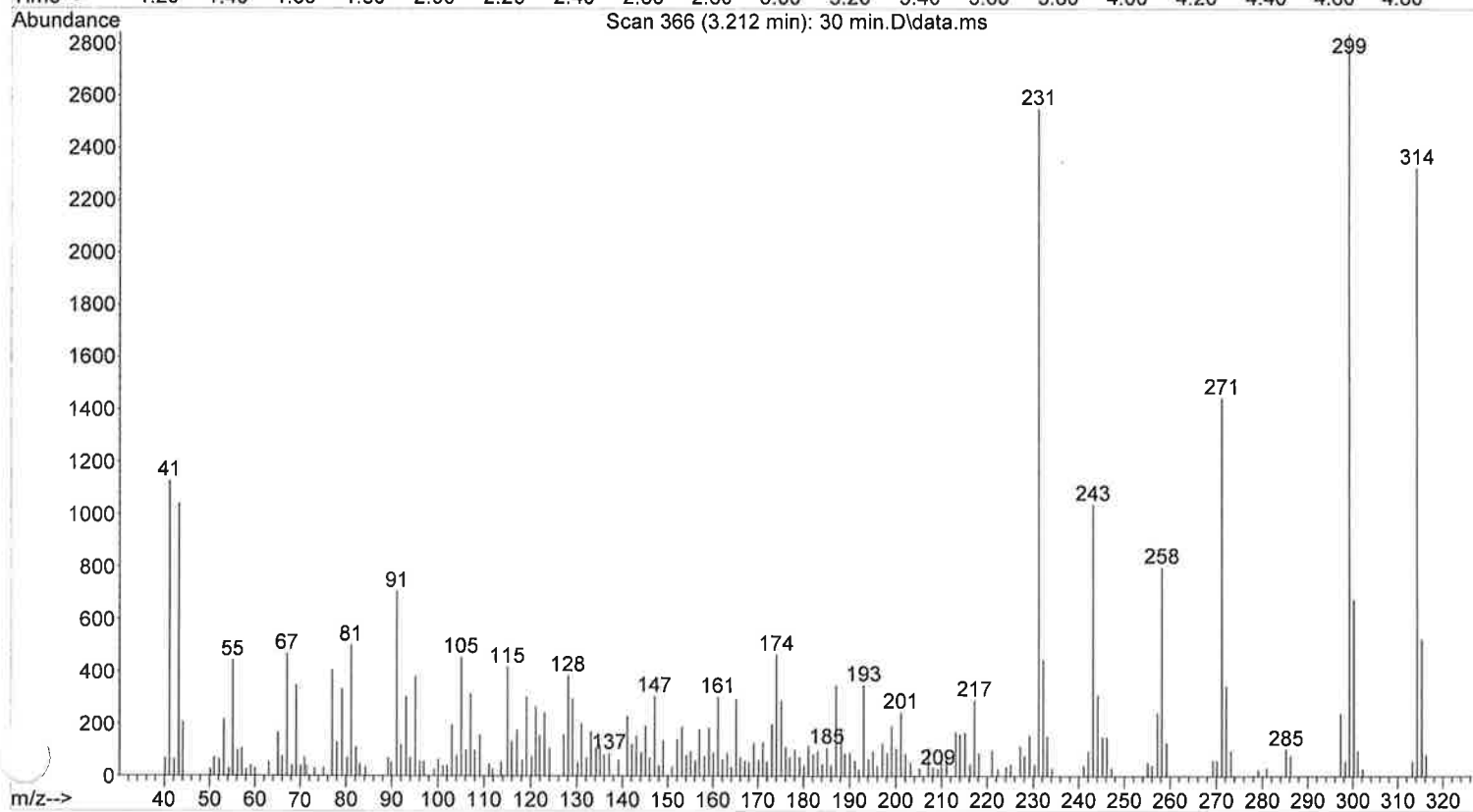
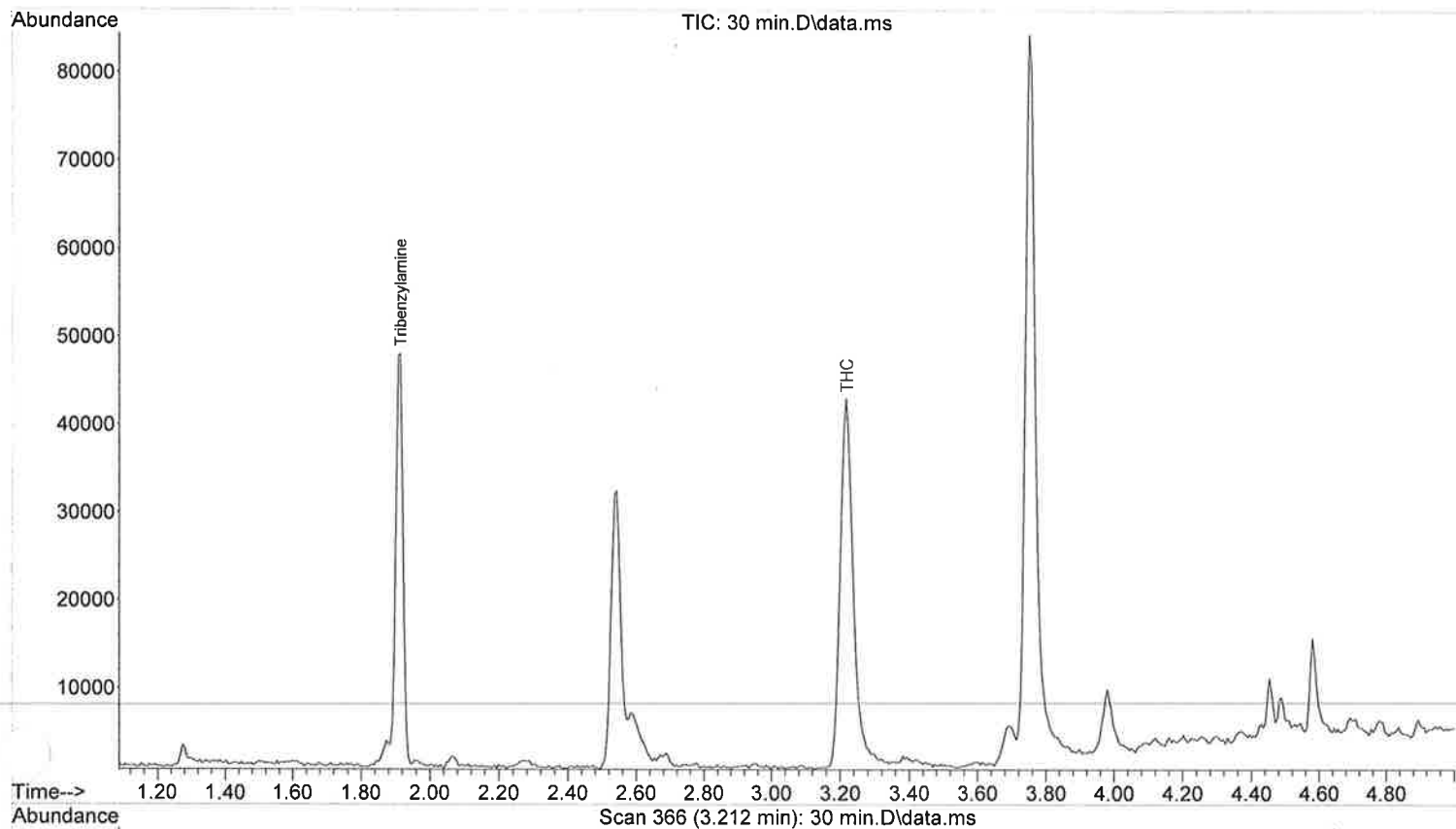
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.921	TIC	1254545	150.00	ug/mL	-0.07
Target Compounds						Qvalue
2) THC	3.232	TIC	2565492	397.10	ug/mL	100

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

THC Quant.M Mon Mar 18 12:29:19 2019

File : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\30 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 12:22 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.31
Vial Number: 47



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 30 min.D
Acq On : 18 Mar 2019 12:22
Operator : TBI Analyst
Sample : Plant material
Inj Vol : 100.31
Inj Vial : 47 Sample Multiplier: 1

Quant Time: Mar 18 12:29:51 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

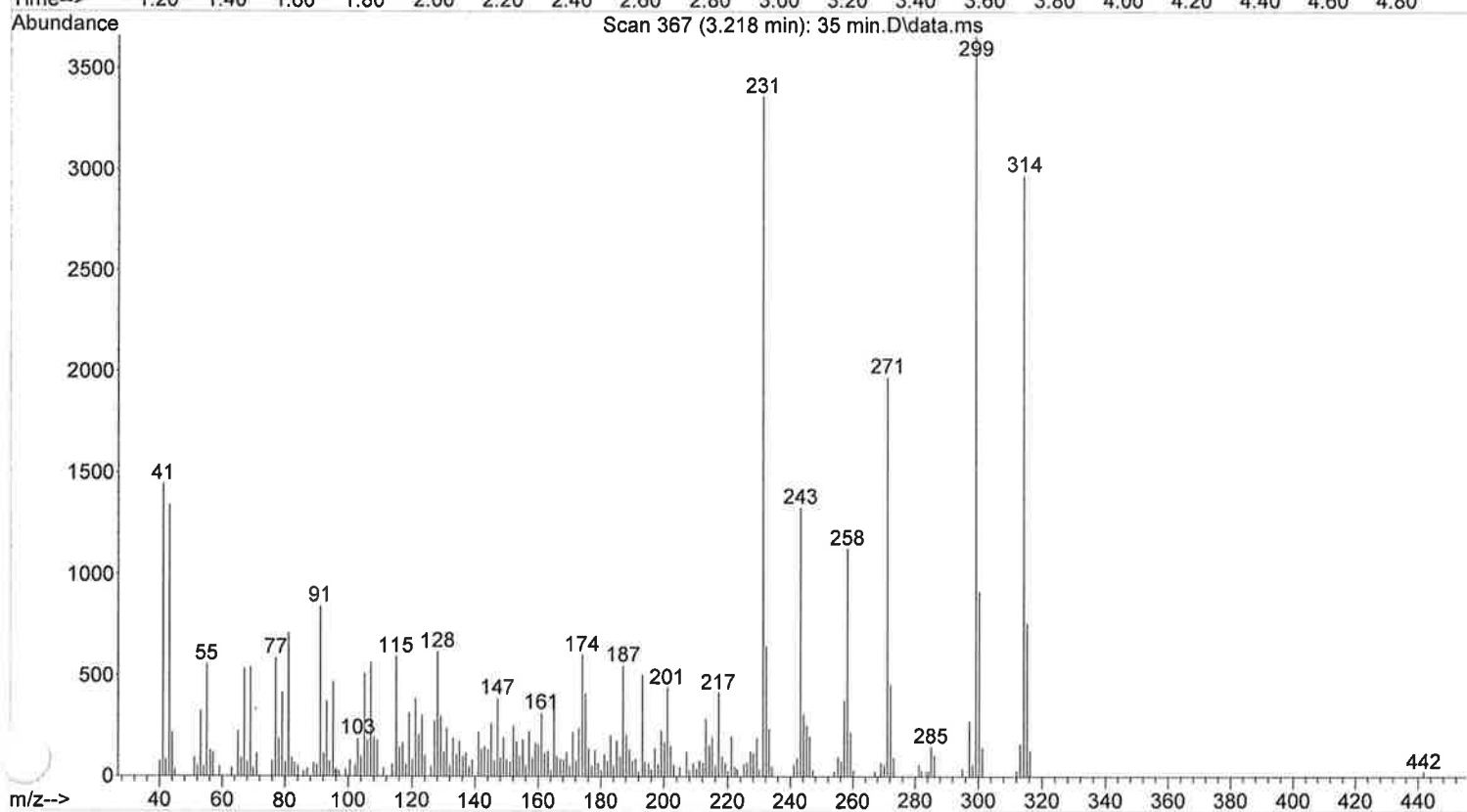
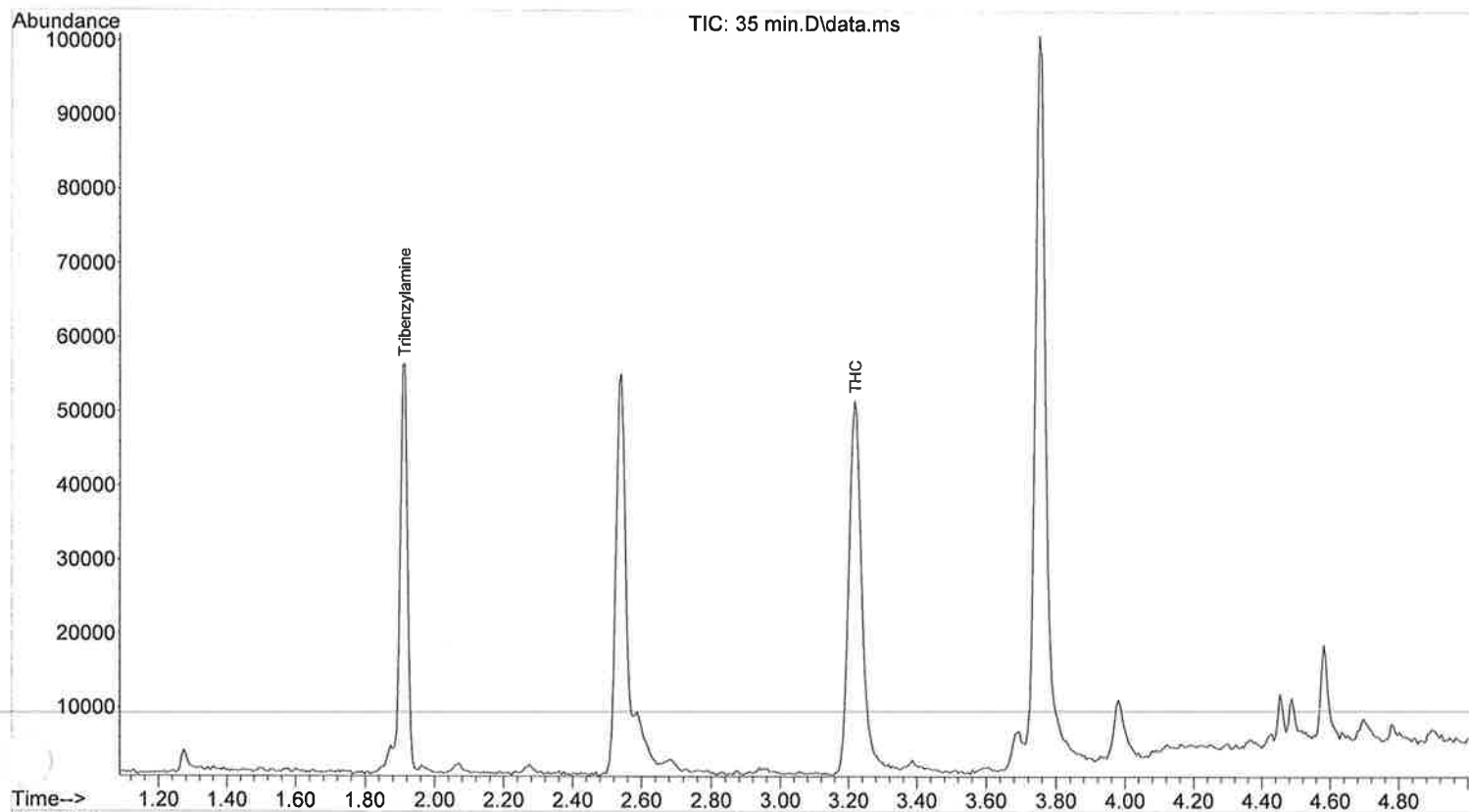
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.914	TIC	702835	150.00	ug/mL	-0.08
Target Compounds						Qvalue
2) THC	3.221	TIC	1093214	301.58	ug/mL	100

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

THC Quant.M Mon Mar 18 12:29:51 2019

File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\35 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 12:37 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 101.82
Vial Number: 49



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 35 min.D
Acq On : 18 Mar 2019 12:37
Operator : TBI Analyst
Sample : Plant material
SC : Methanol 101.82
Vial : 49 Sample Multiplier: 1

Quant Time: Mar 18 12:43:14 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

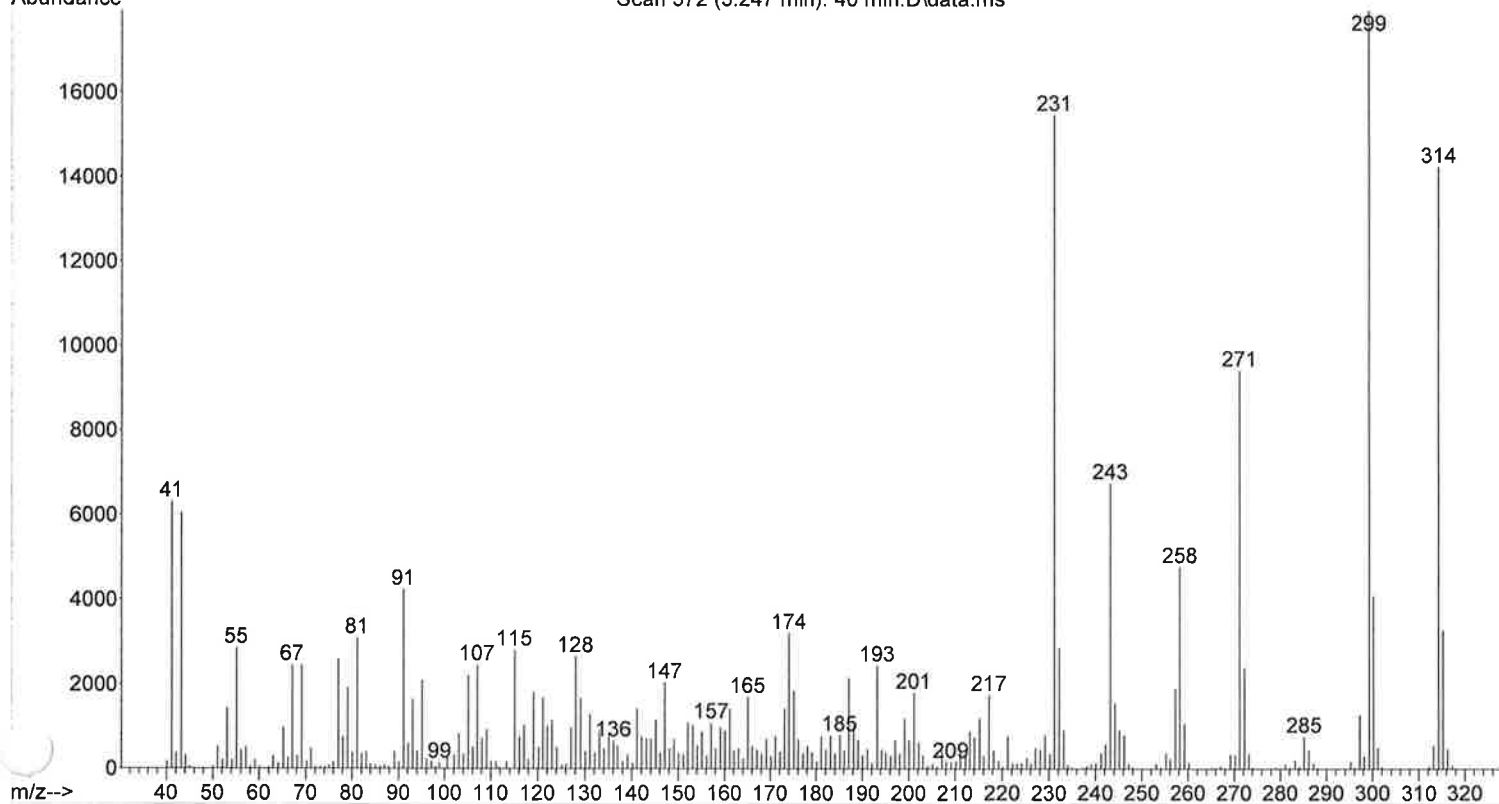
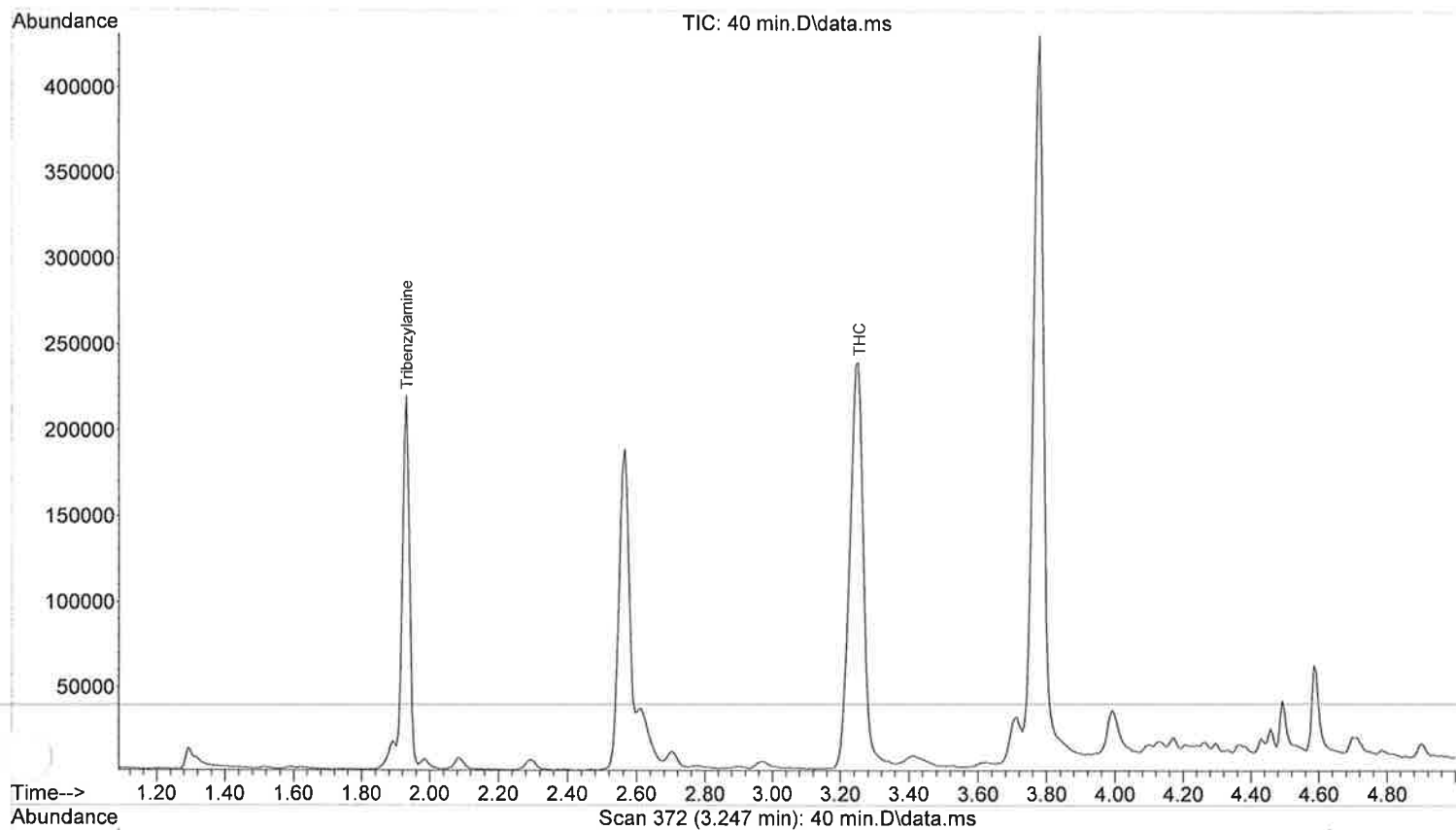
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.914	TIC	883418	150.00	ug/mL	-0.08
Target Compounds						
2) THC	3.222	TIC	1352939	296.90	ug/mL	Qvalue 100

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

THC Quant.M Mon Mar 18 12:43:14 2019

File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\40 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 12:53 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 99.93
Vi umber: 51



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 40 min.D
Acq On : 18 Mar 2019 12:53
Operator : TBI Analyst
Sample : Plant material
Solvent : Methanol 99.93
Vial : 51 Sample Multiplier: 1

Quant Time: Mar 18 12:59:45 2019
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Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

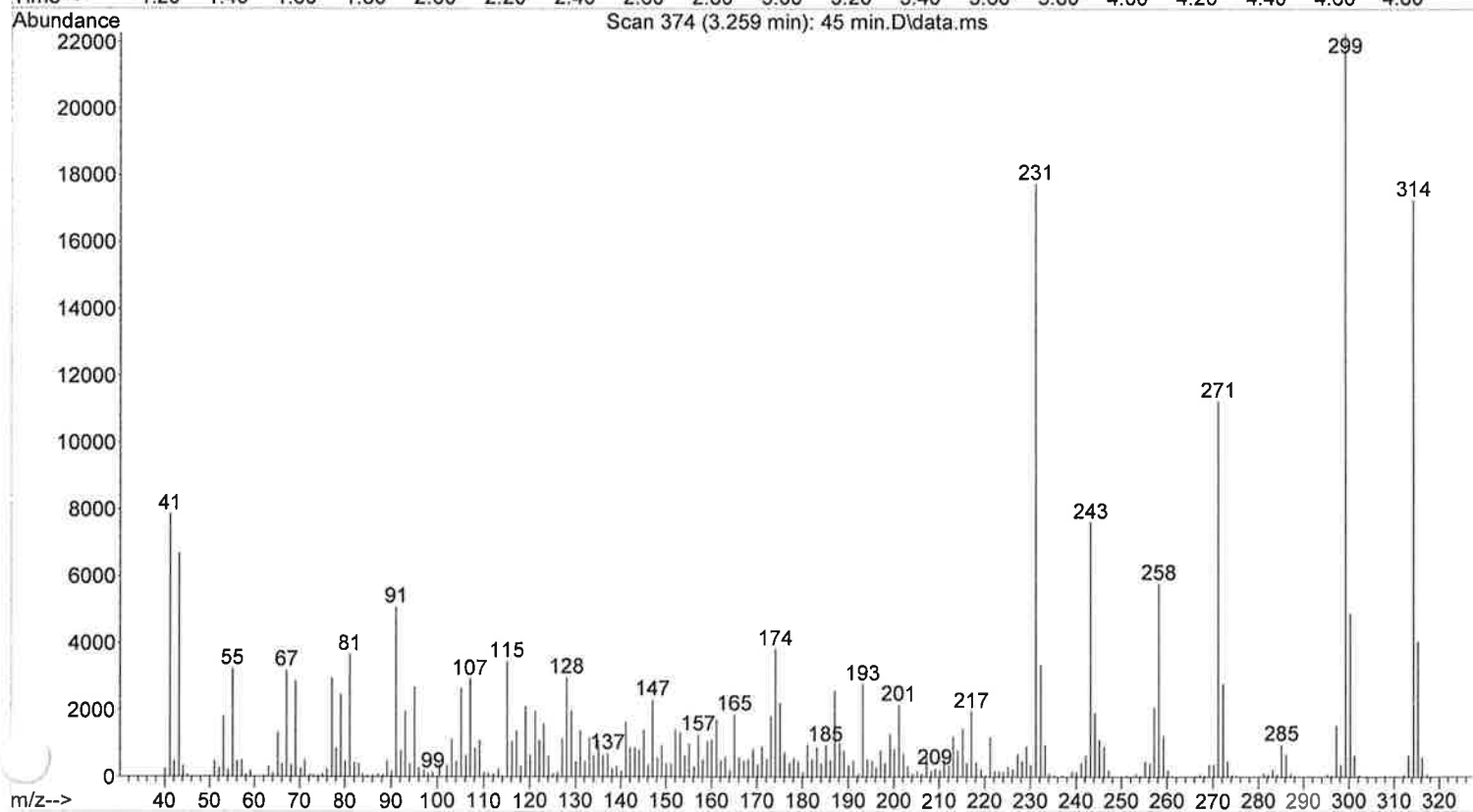
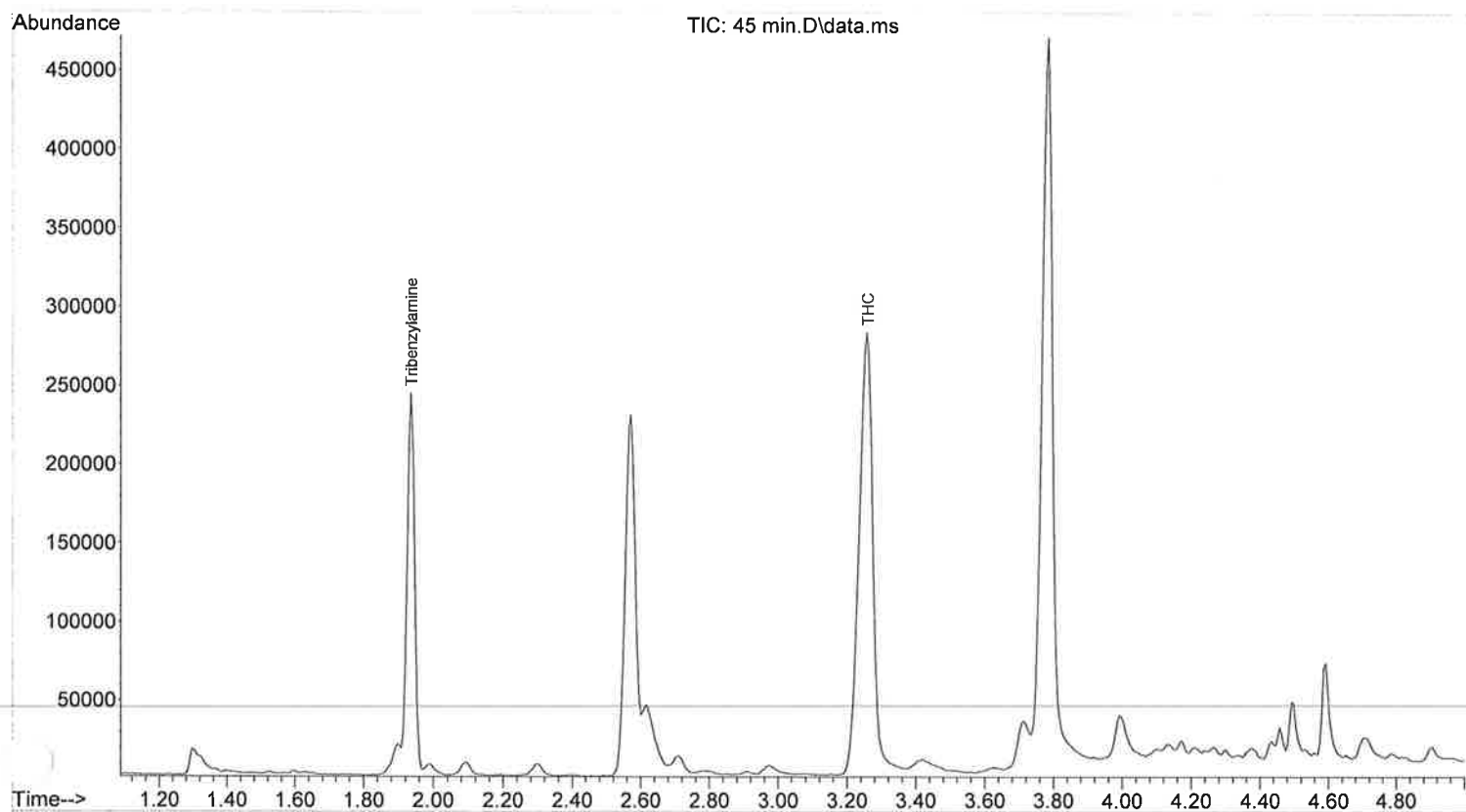
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.933	TIC	3361714	150.00	ug/mL	-0.06
Target Compounds						Qvalue
2) THC	3.252	TIC	6573414	379.62	ug/mL	100

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

THC Quant.M Mon Mar 18 12:59:45 2019

File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\45 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 13:08 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.49
Vial Number: 53



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 45 min.D
Acq On : 18 Mar 2019 13:08
Operator : TBI Analyst
Sample : Plant material
Msc : Methanol 100.49
Vial : 53 Sample Multiplier: 1

Quant Time: Mar 18 13:28:42 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

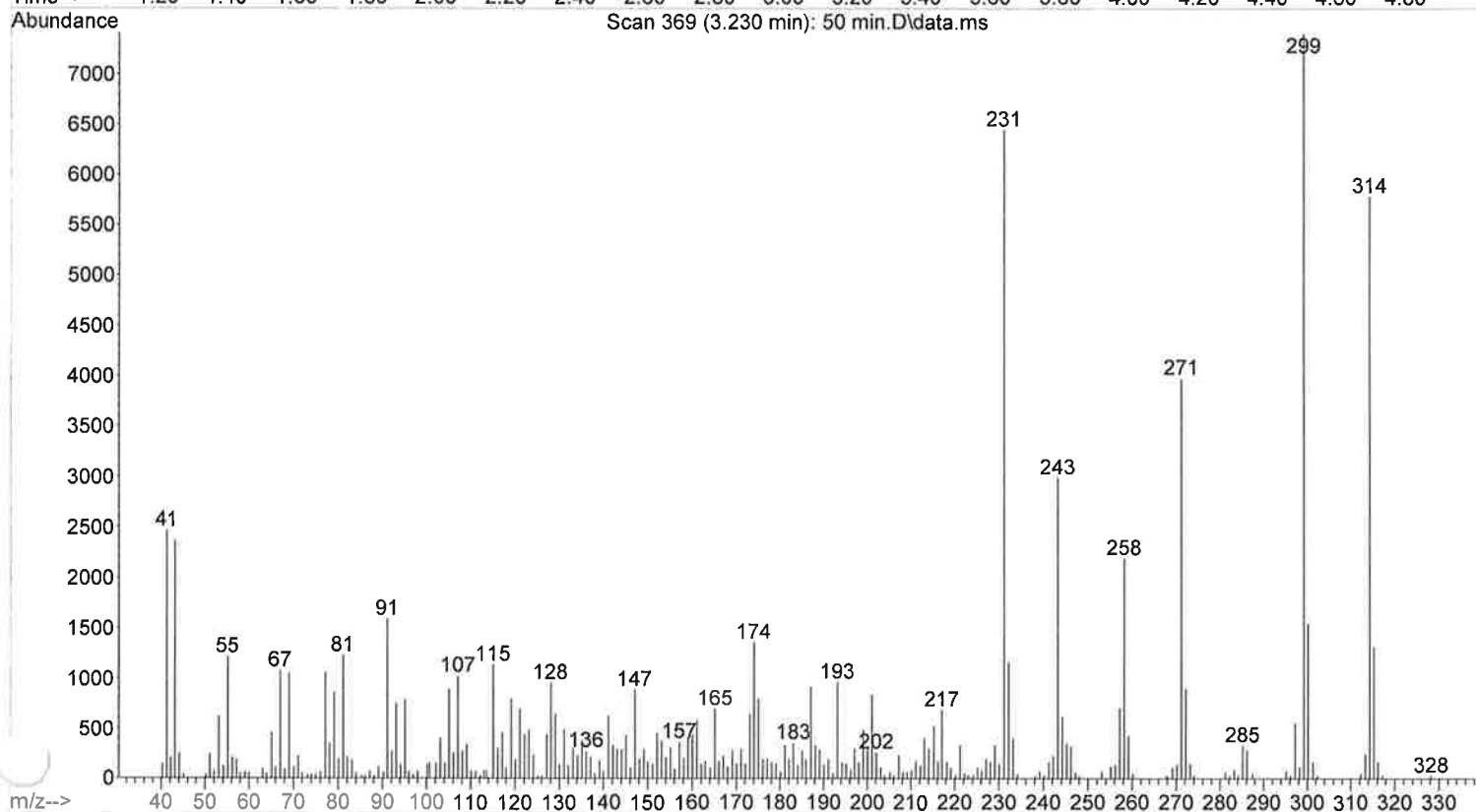
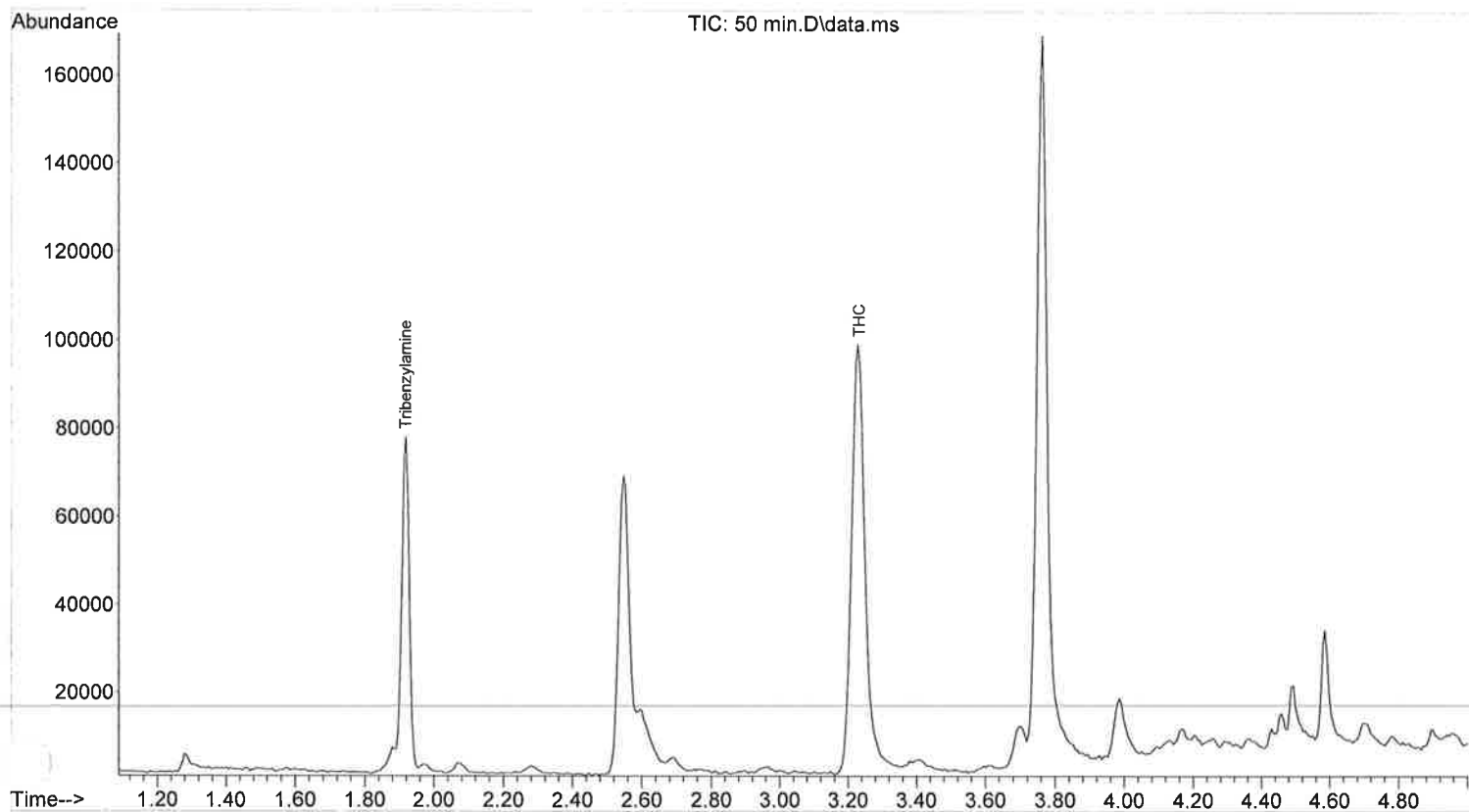
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.939	TIC	3908355	150.00	ug/mL	-0.05
Target Compounds						Qvalue
2) THC	3.261	TIC	7751089	385.05	ug/mL	100

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

THC Quant.M Mon Mar 18 13:28:42 2019

File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\50 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 13:24 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.98
Vial Number: 55



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 50 min.D
Acq On : 18 Mar 2019 13:24
Operator : TBI Analyst
Sample : Plant material
SC : Methanol 100.98
Vial : 55 Sample Multiplier: 1

Quant Time: Mar 18 13:29:30 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

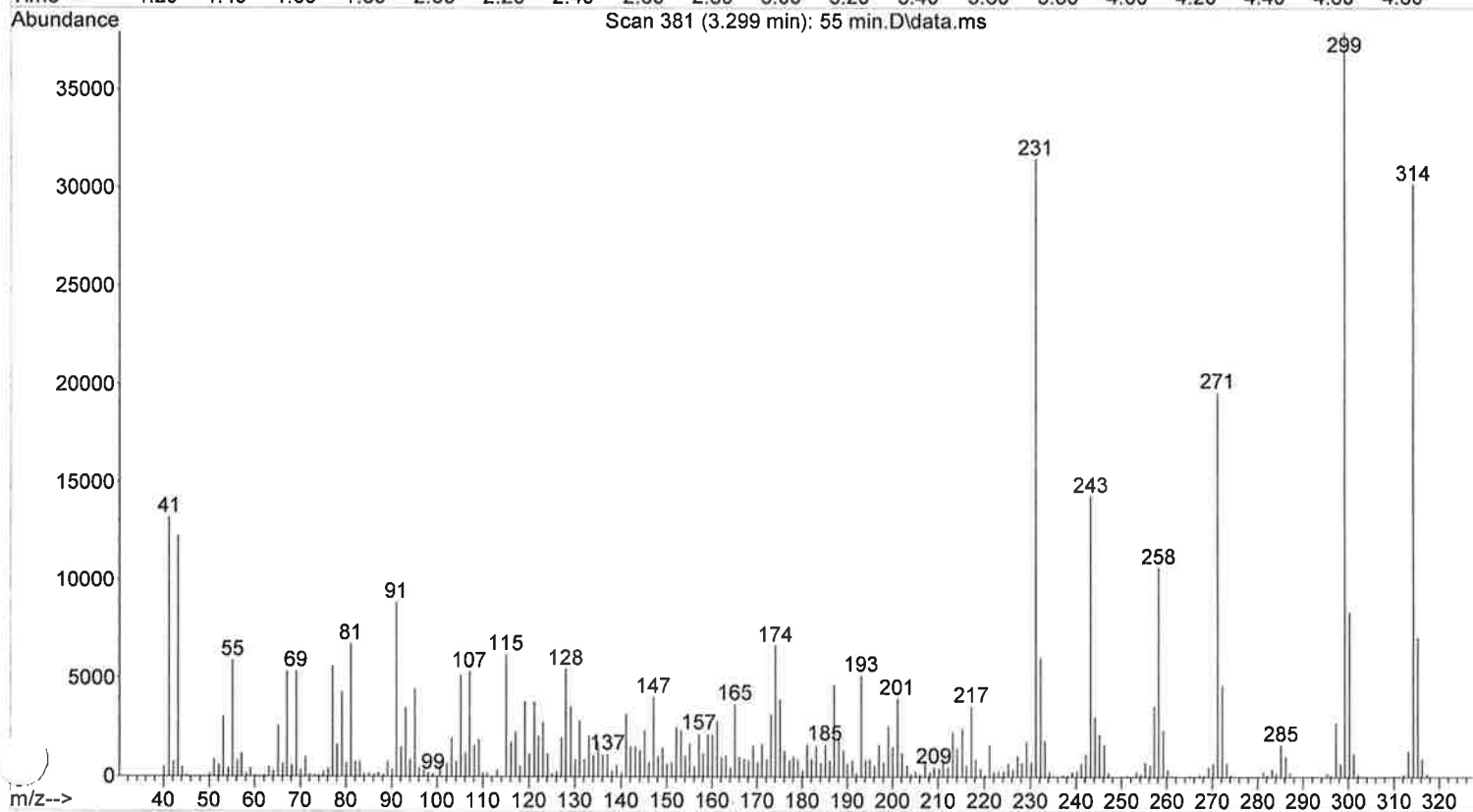
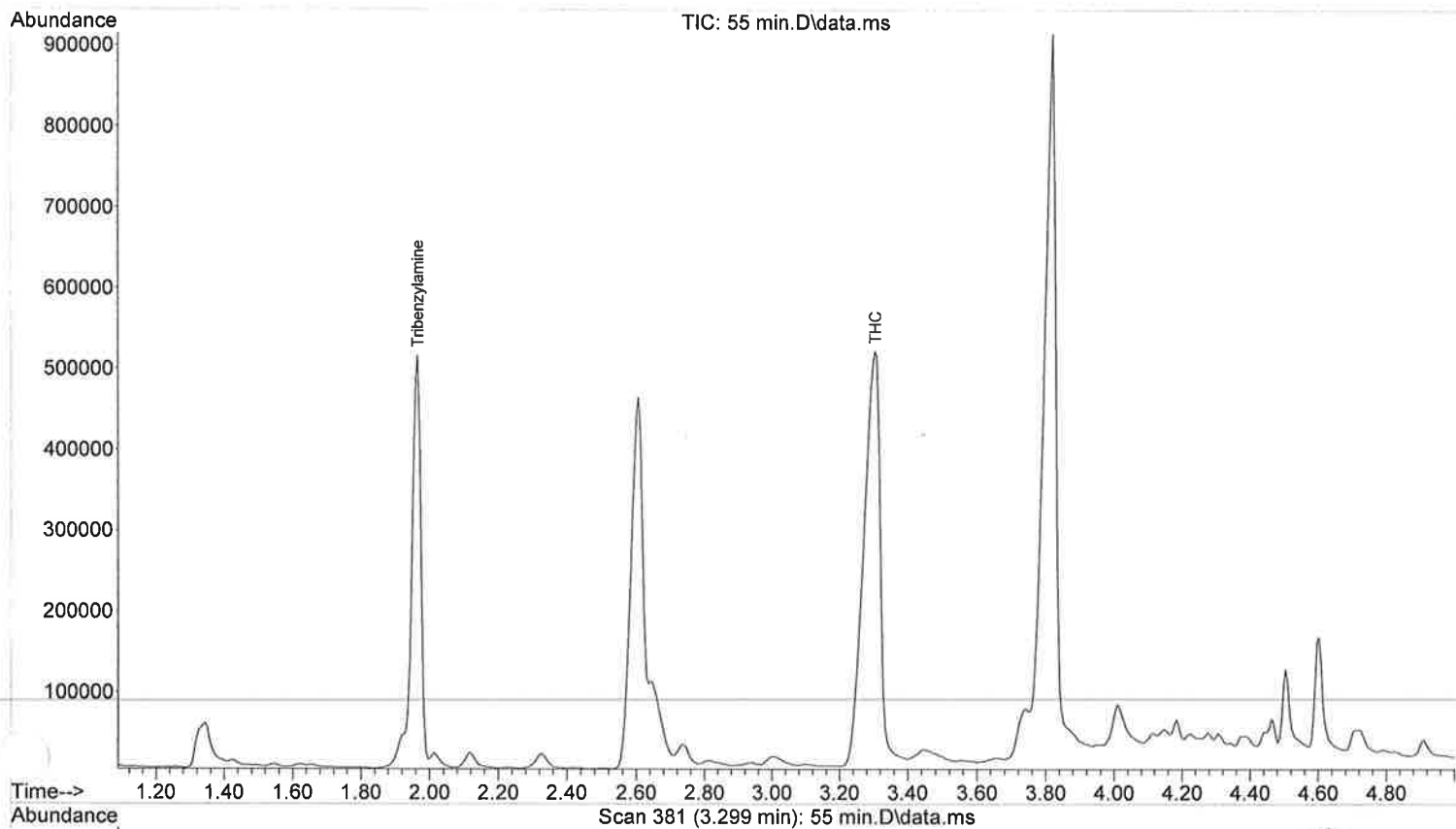
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.921	TIC	1215272	150.00	ug/mL	-0.07
Target Compounds						Qvalue
2) THC	3.232	TIC	2710332	433.25	ug/mL	100

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

THC Quant.M Mon Mar 18 13:29:30 2019

File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\55 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 13:39 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.62
Vial Number: 57



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 55 min.D
Acq On : 18 Mar 2019 13:39
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.62
Vial : 57 Sample Multiplier: 1

Quant Time: Mar 18 13:45:03 2019
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Quant Title : BT THC Quant
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Response via : Initial Calibration

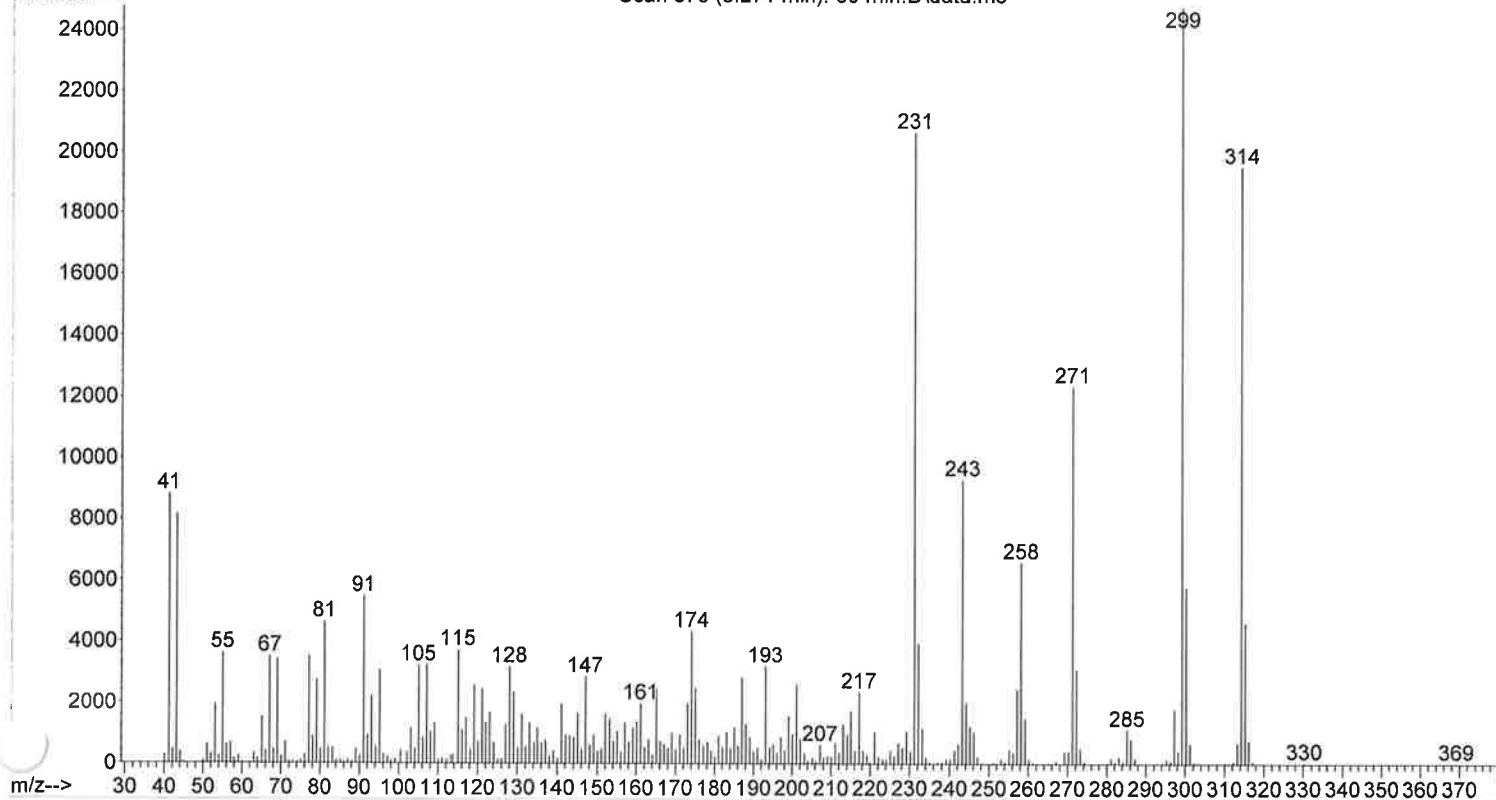
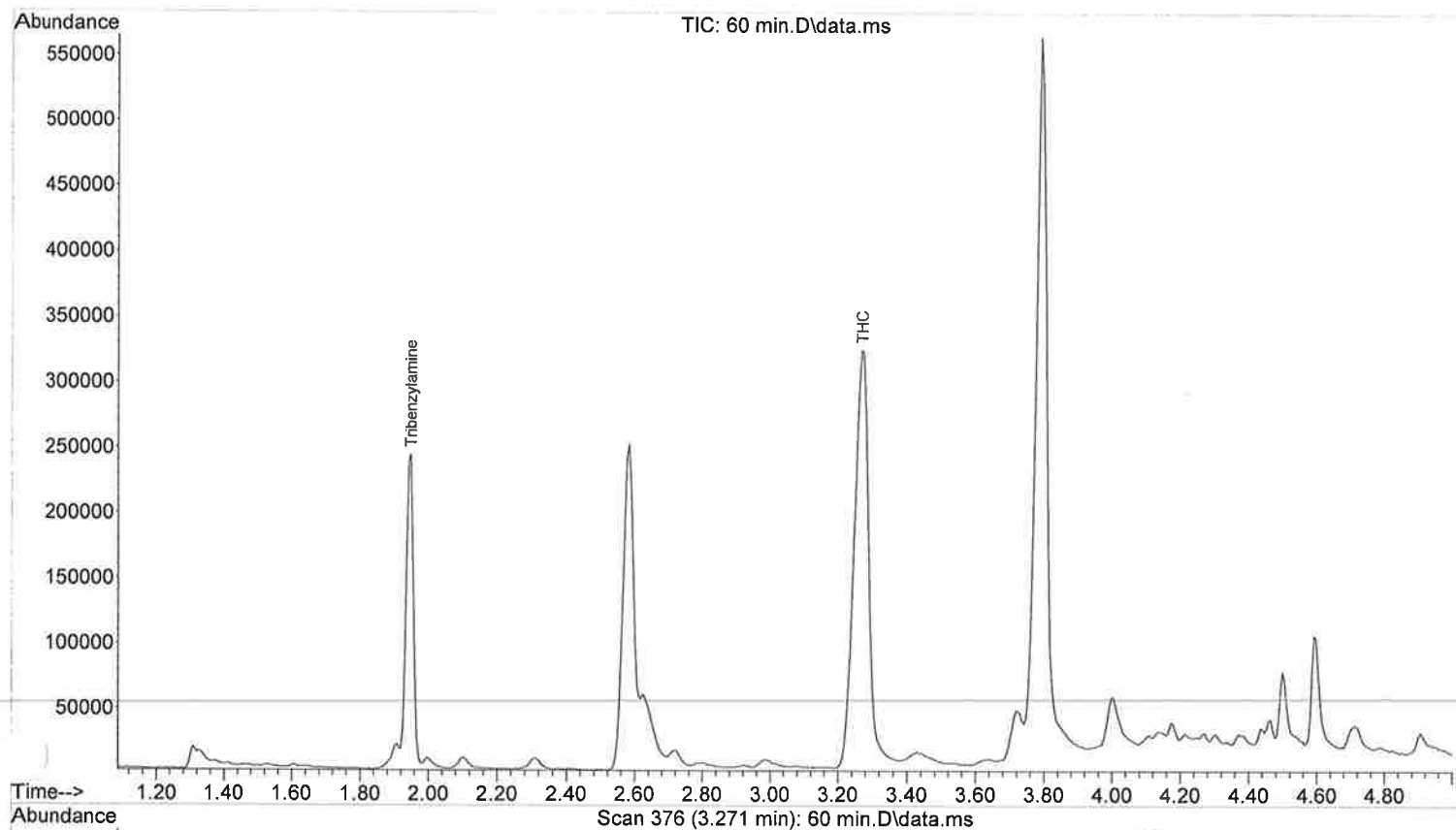
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.967	TIC	9163548	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.307	TIC	16777327	355.32	ug/mL	100

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

THC Quant.M Mon Mar 18 13:45:03 2019

File :C:\msdchem\1\DATA\2019\BTT\3-18-19 II\60 min.D
Operator : TBI Analyst
Acquired : 18 Mar 2019 13:55 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.97
V Number: 59



Data Path : C:\msdchem\1\DATA\2019\BTT\3-18-19 II\
Data File : 60 min.D
Acq On : 18 Mar 2019 13:55
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.97
5 Vial : 59 Sample Multiplier: 1

Quant Time: Mar 18 14:01:26 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Mon Mar 18 10:55:00 2019
Response via : Initial Calibration

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

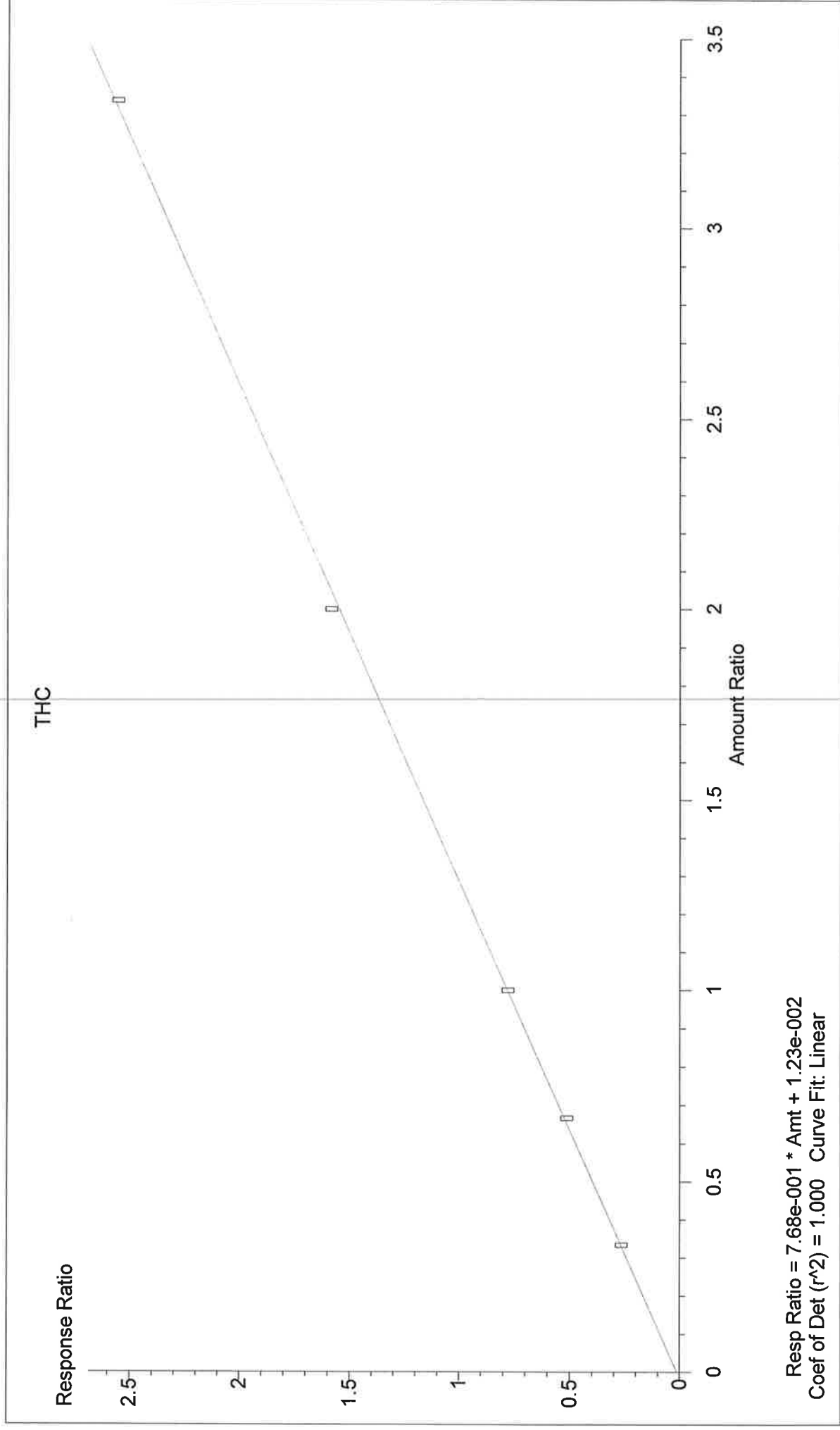
Internal Standards						
1) Tribenzylamine	1.949	TIC	3576327	150.00	ug/mL	-0.04
Target Compounds						
2) THC	3.275	TIC	9266168	503.64	ug/mL	100

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

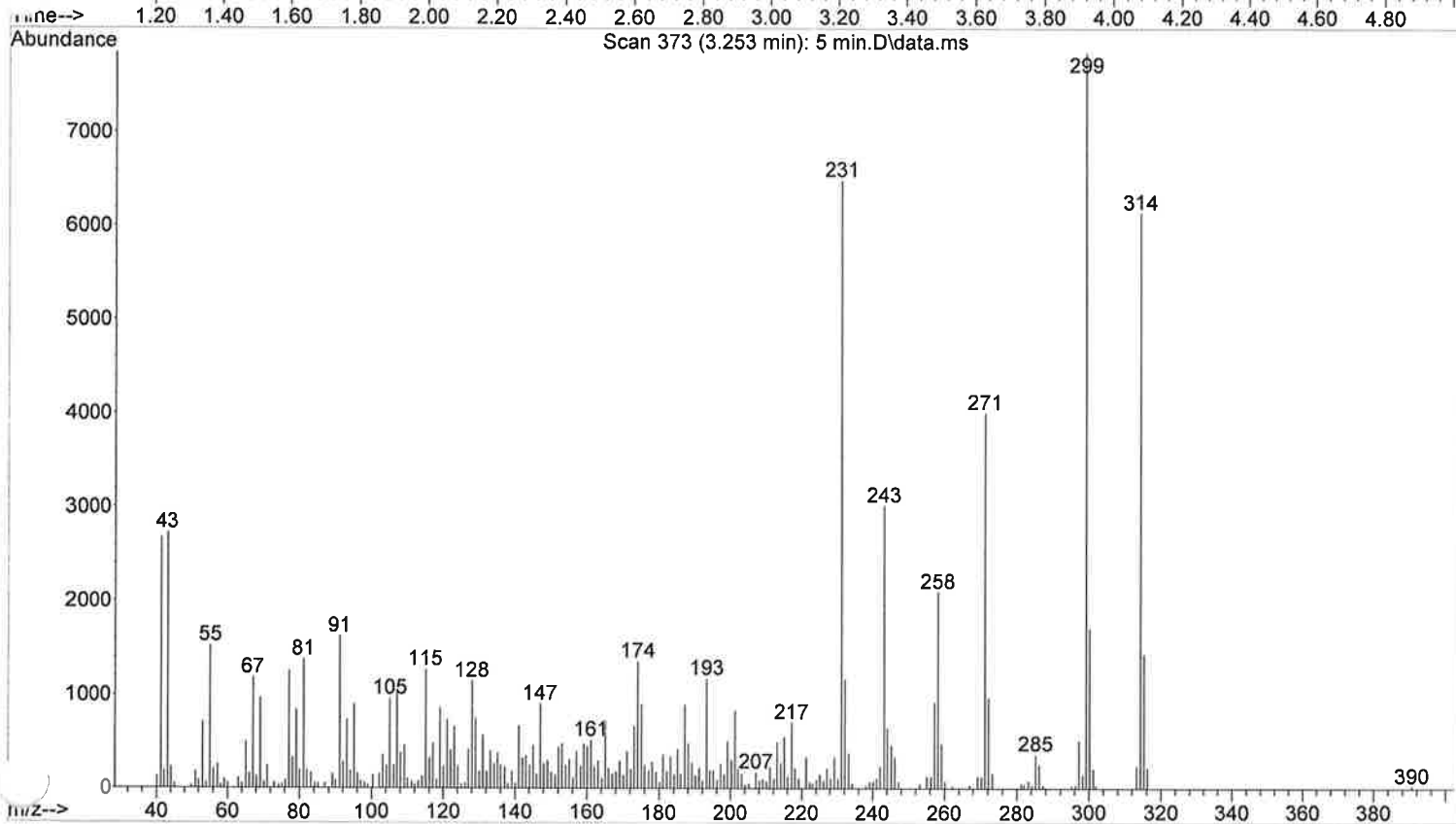
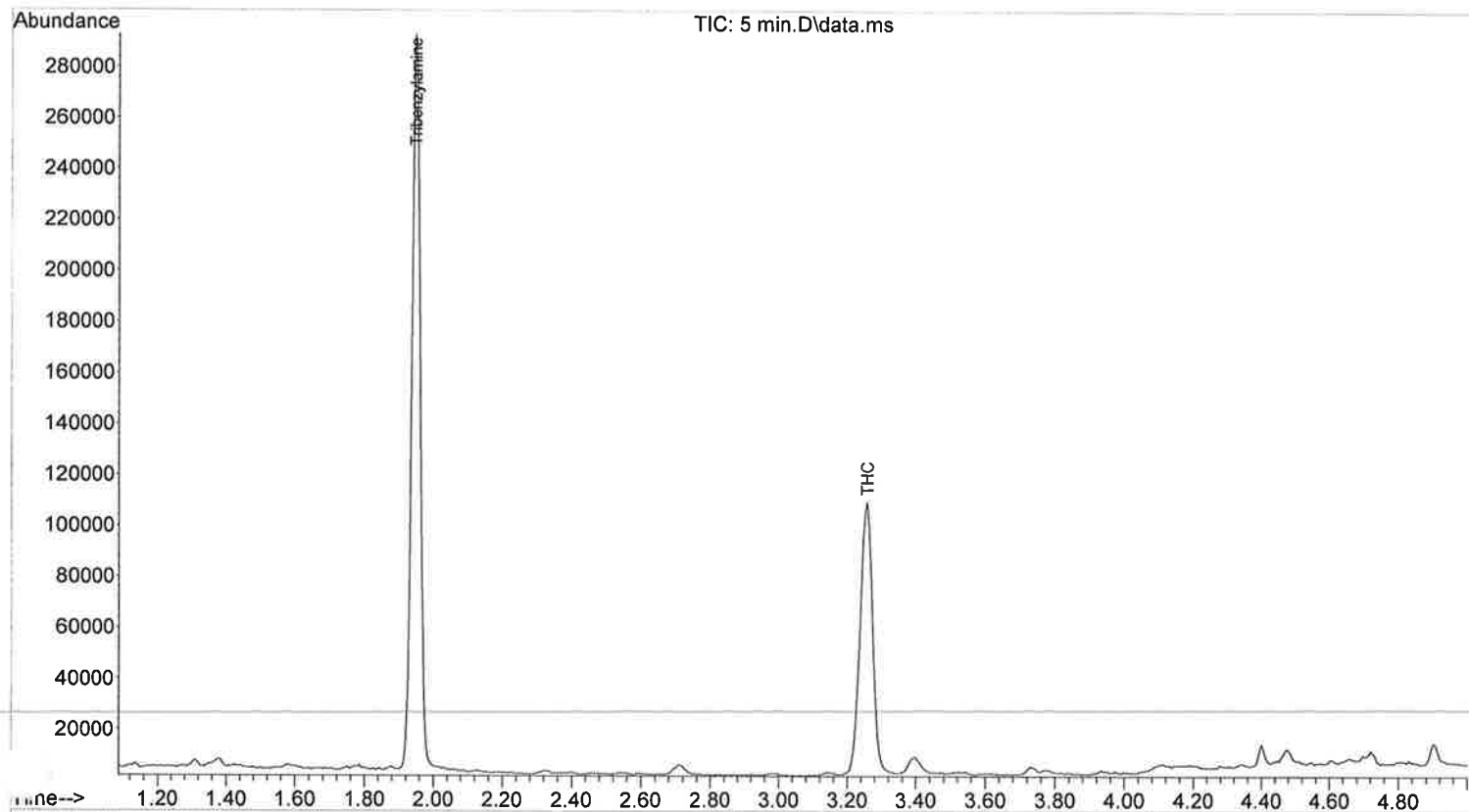
THC Quant.M Mon Mar 18 14:01:26 2019

Calibration data of TH

LvLID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.265346	-1.14	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 50.D
100	0.6667	0.512465	-2.29	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 100.D
150	1.0000	0.778377	-0.28	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 150.D
300	2.0000	1.583641	2.25	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 300.D
500	3.3333	2.555628	-0.68	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 500.D



File :C:\msdchem\1\DATA\2019\BTT\3-19-19\5 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 15:01 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 101.47
Vial Number: 37



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 5 min.D
Acq On : 19 Mar 2019 15:01
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 101.47
Vial : 37 Sample Multiplier: 1

Quant Time: Mar 20 07:33:06 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

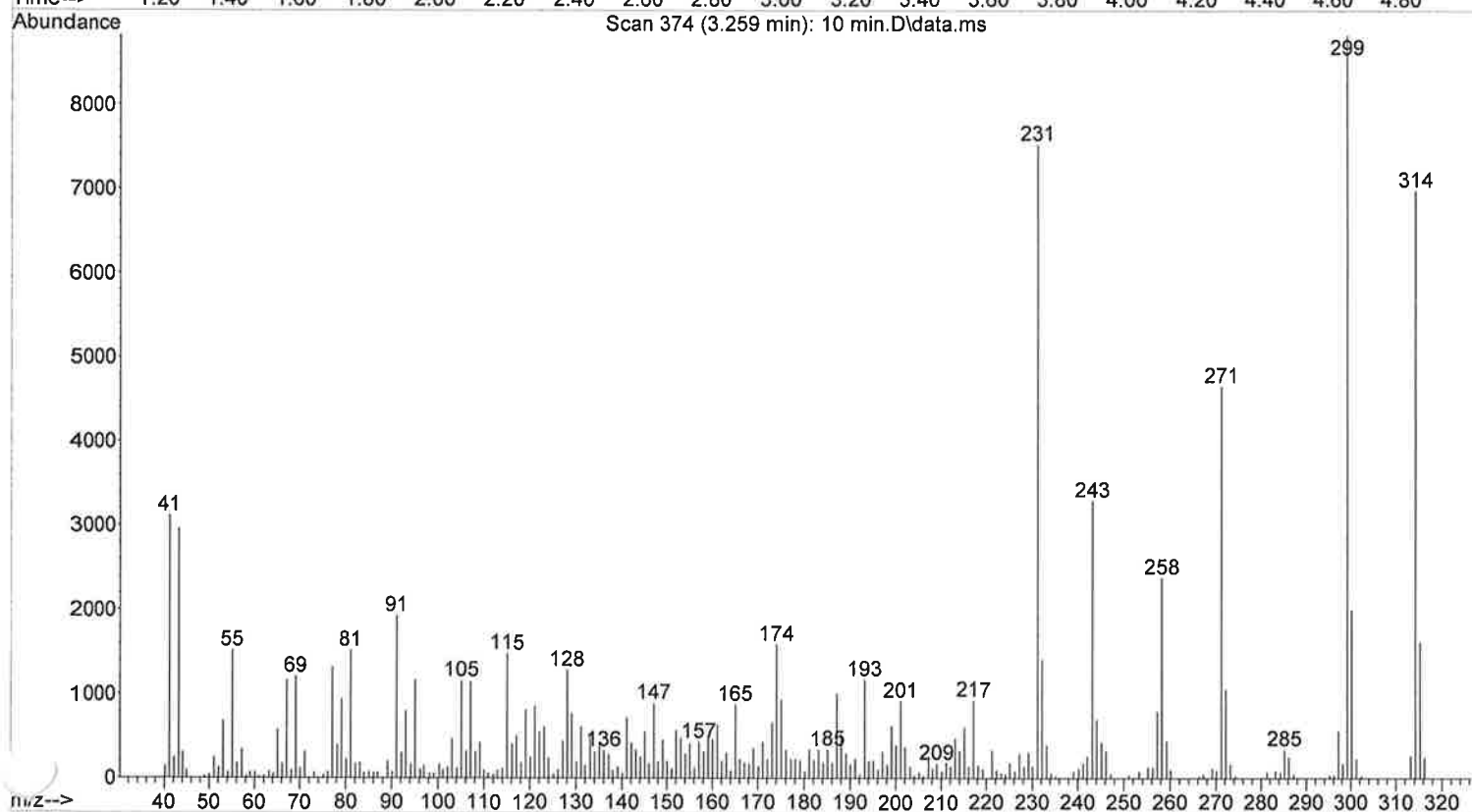
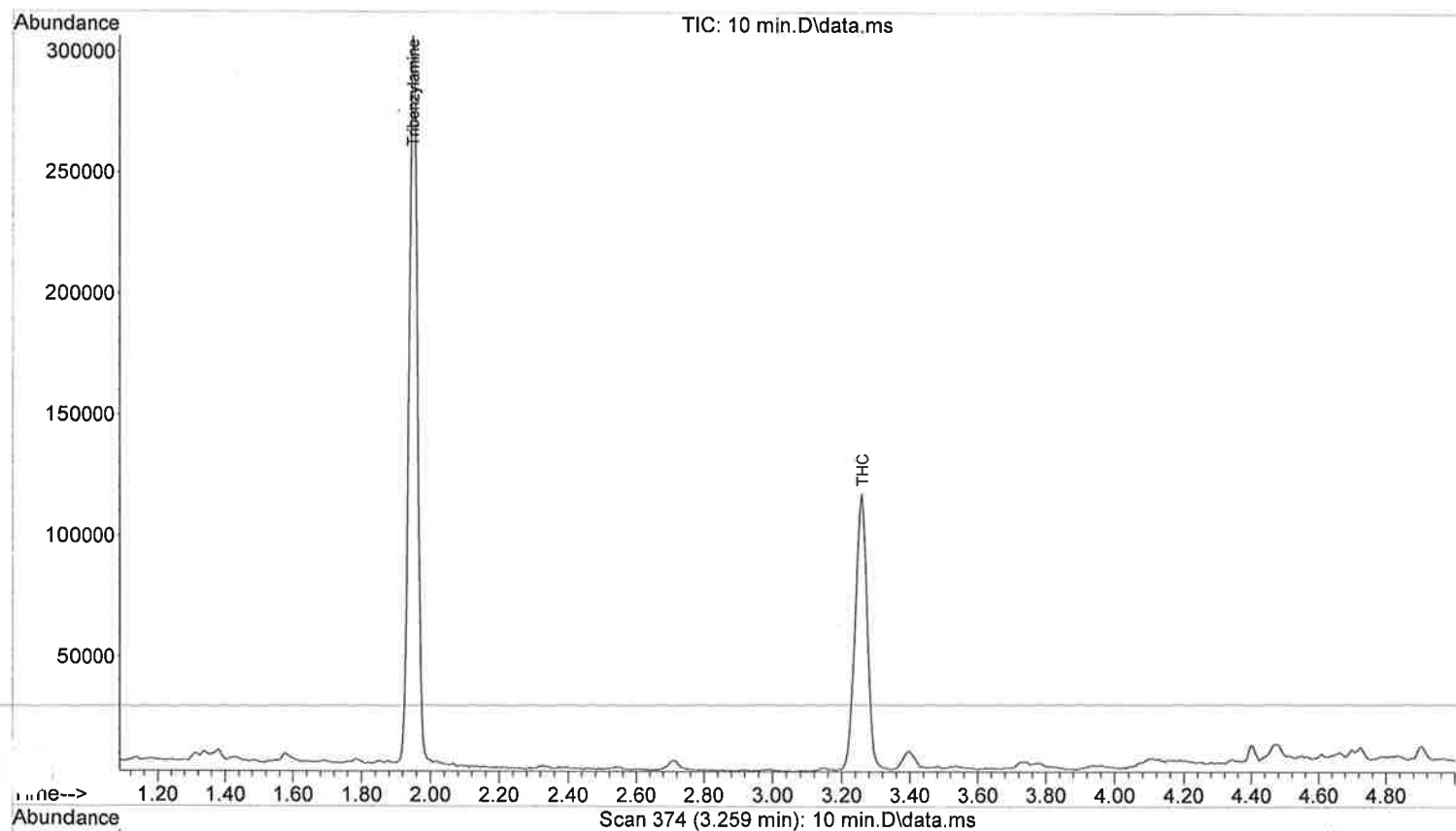
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.953	TIC	4901041	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.260	TIC	2717618	105.86	ug/mL	100

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

THC Quant.M Wed Mar 20 07:33:06 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\10 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 15:17 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.38
Vial Number: 39



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 10 min.D
Acq On : 19 Mar 2019 15:17
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.38
Vial : 39 Sample Multiplier: 1

Quant Time: Mar 20 07:33:38 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

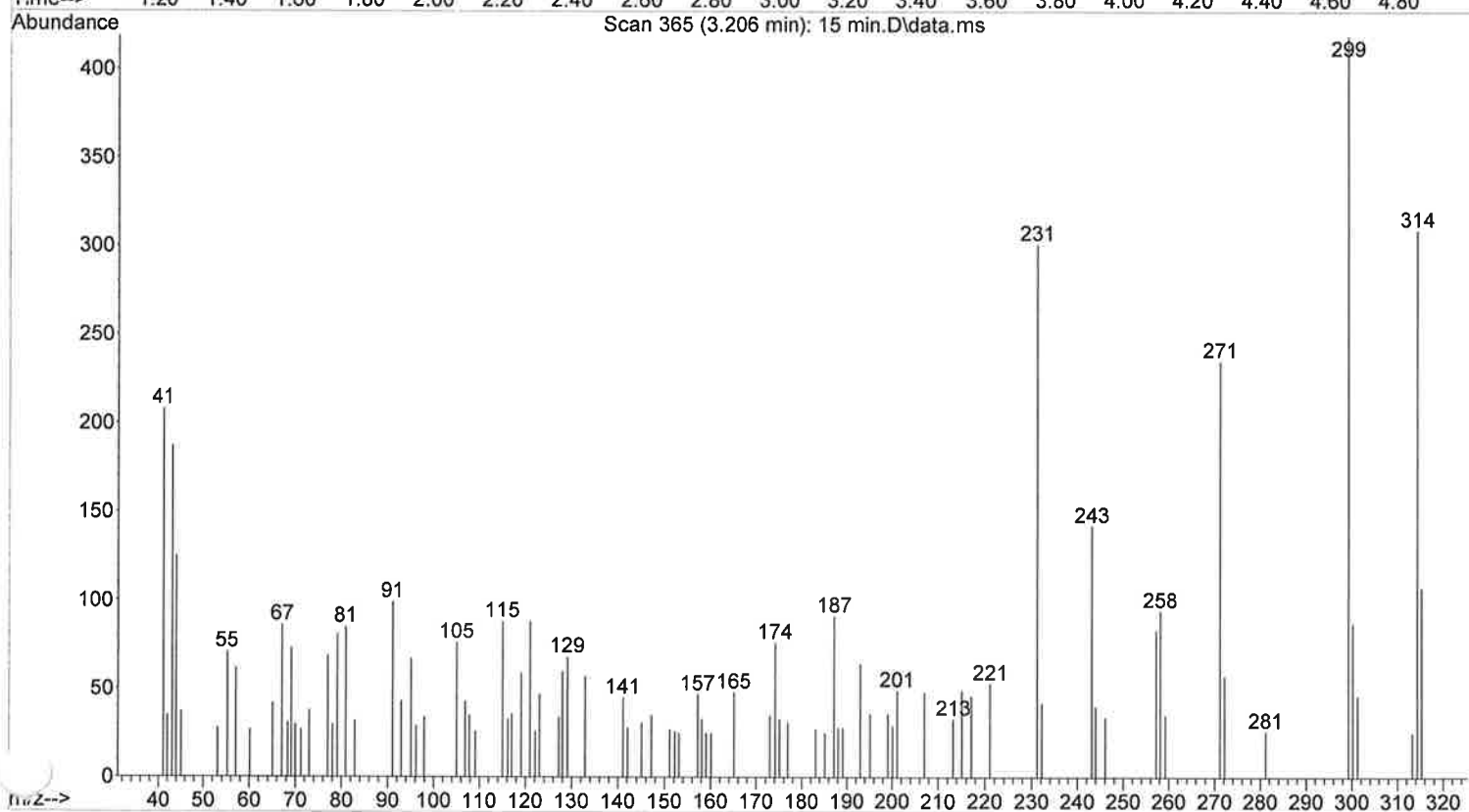
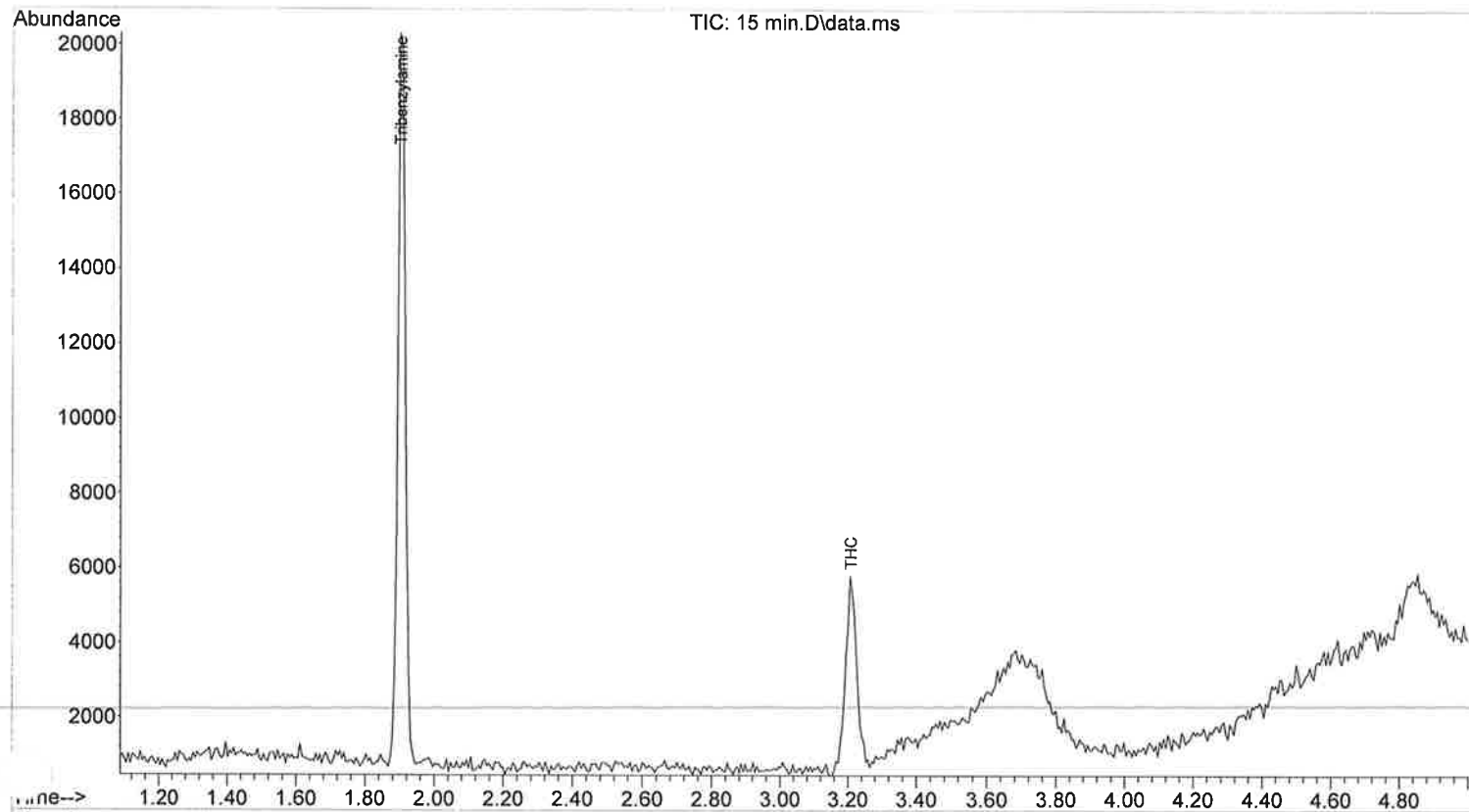
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.954	TIC	5054036	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.261	TIC	2829154	106.89	ug/mL	100

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

THC Quant.M Wed Mar 20 07:33:38 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\15 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 15:32 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 99.68
Vial Number: 41



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 15 min.D
Acq On : 19 Mar 2019 15:32
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 99.68
Vial : 41 Sample Multiplier: 1

Quant Time: Mar 20 07:34:12 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

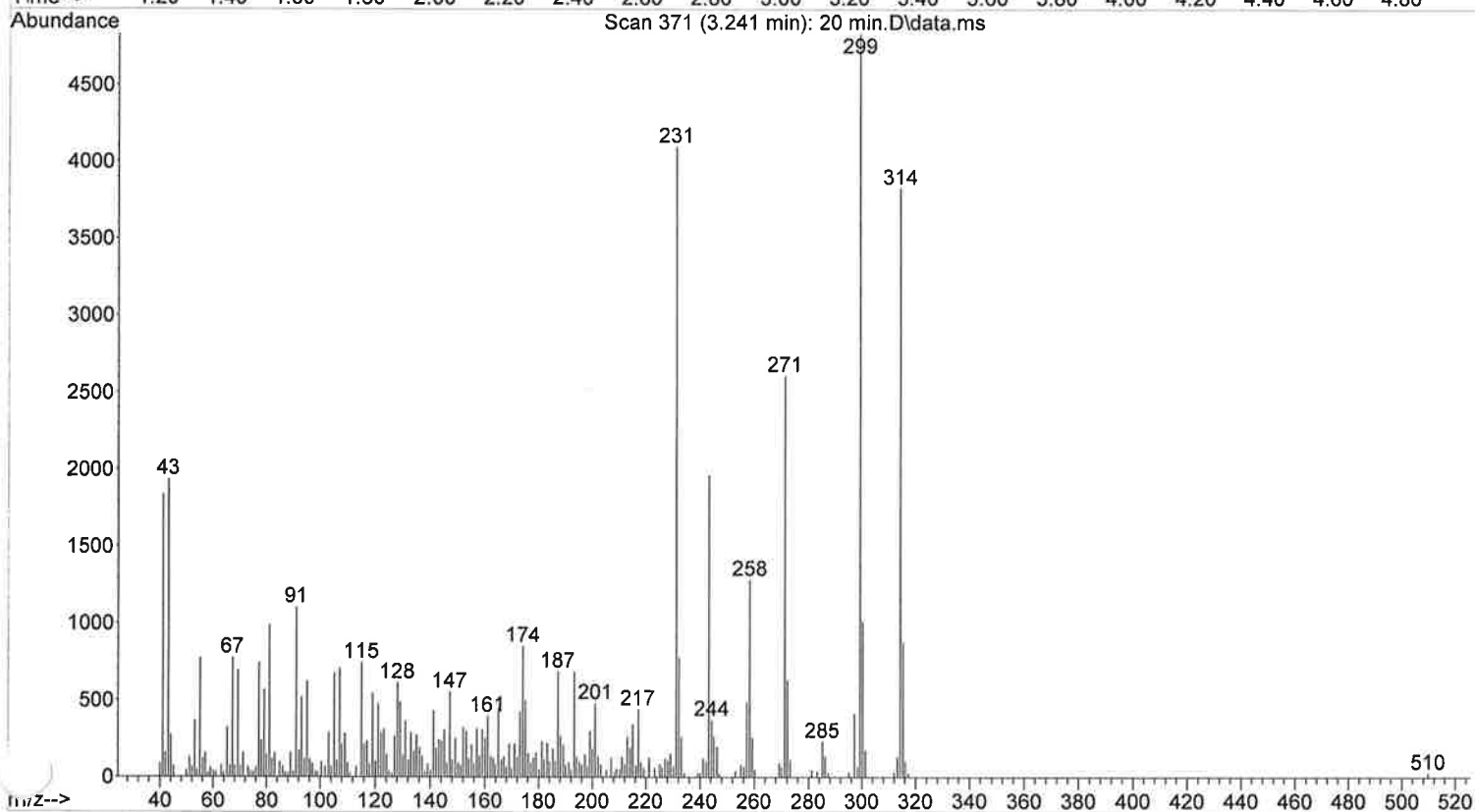
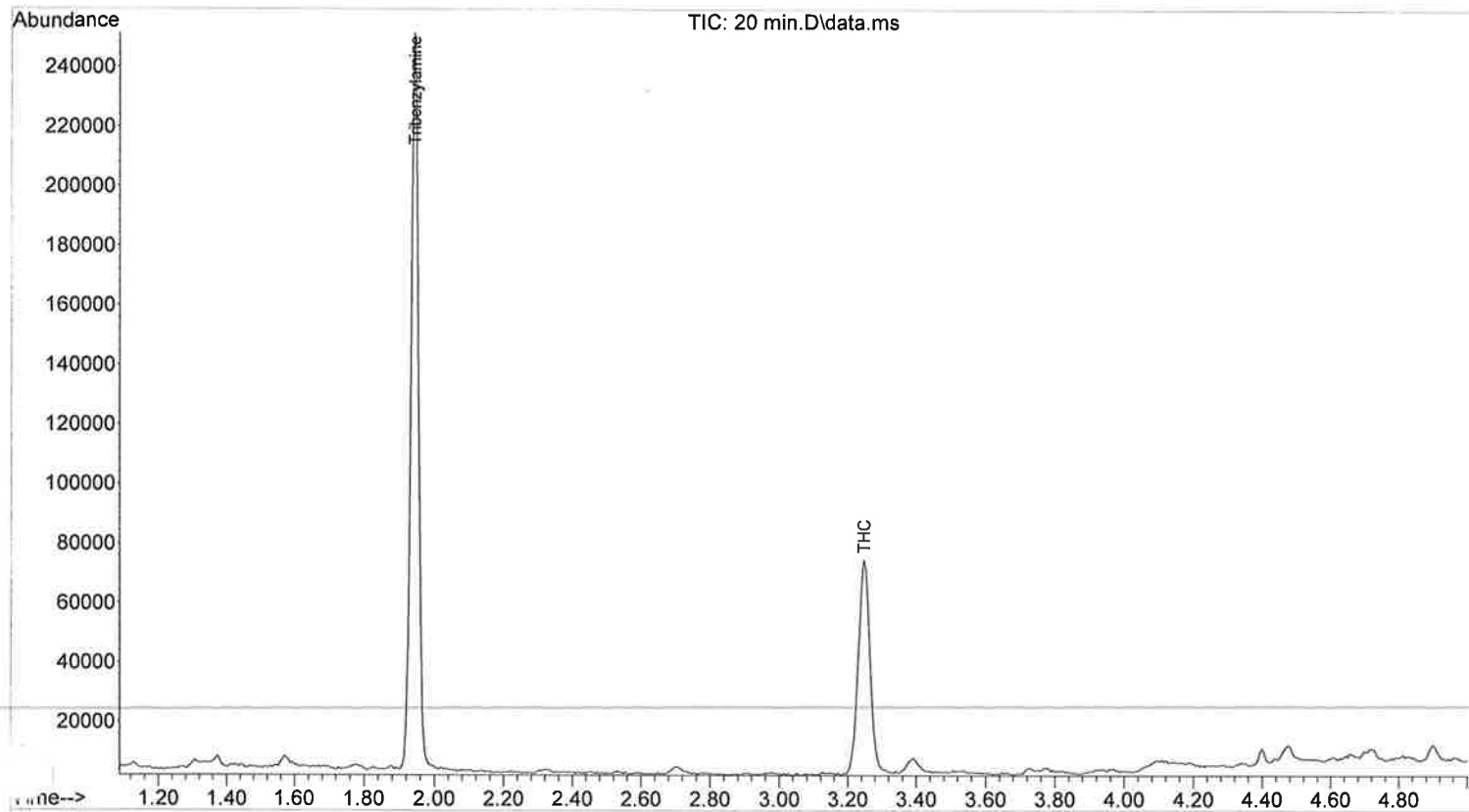
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.907	TIC	304087	150.00	ug/mL	-0.05
Target Compounds						Qvalue
2) THC	3.211	TIC	117491	73.03	ug/mL	100

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

THC Quant.M Wed Mar 20 07:34:12 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\20 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 15:48 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 98.65
Vial Number: 43



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 20 min.D
Acq On : 19 Mar 2019 15:48
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 98.65
Vial : 43 Sample Multiplier: 1

Quant Time: Mar 20 07:34:42 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

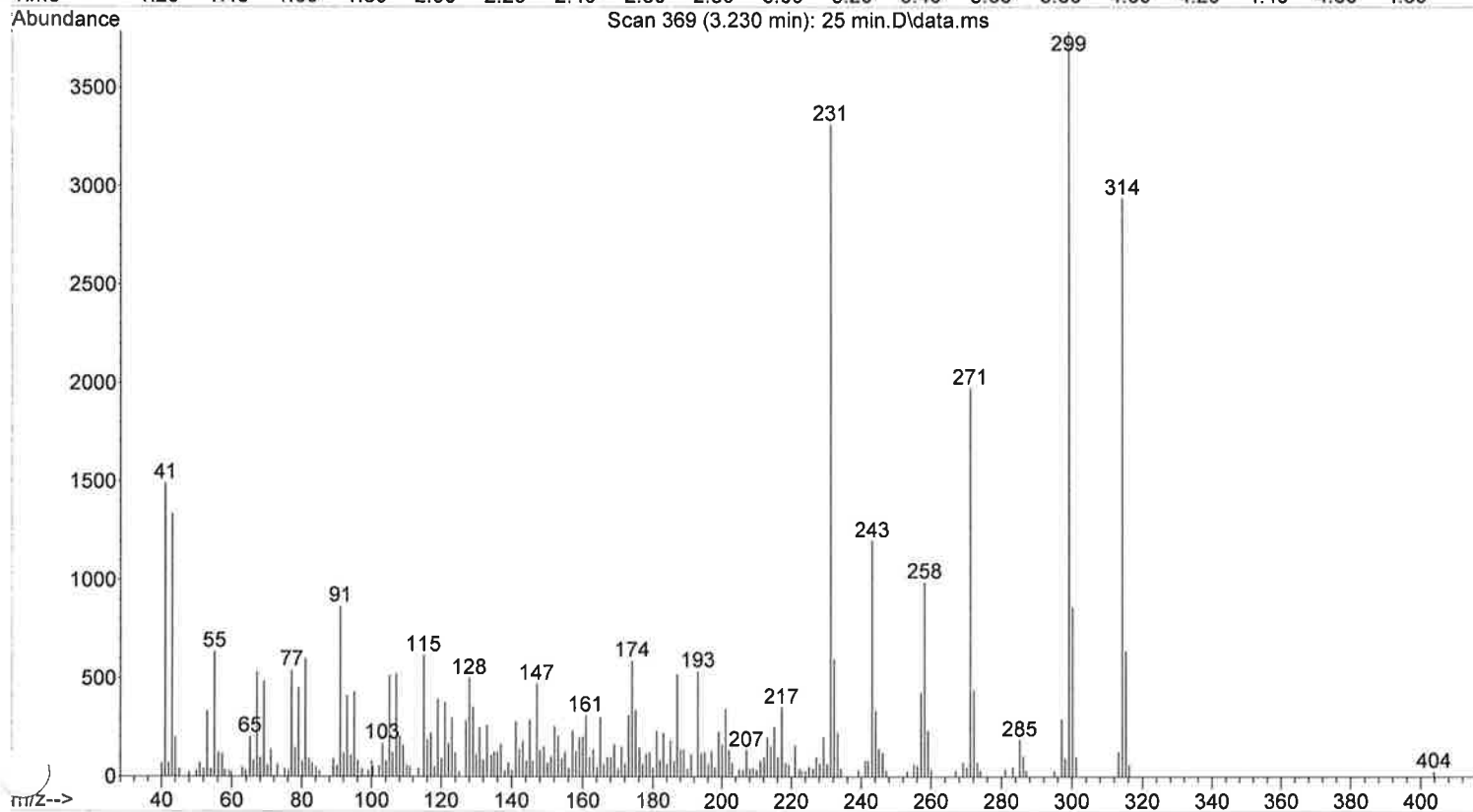
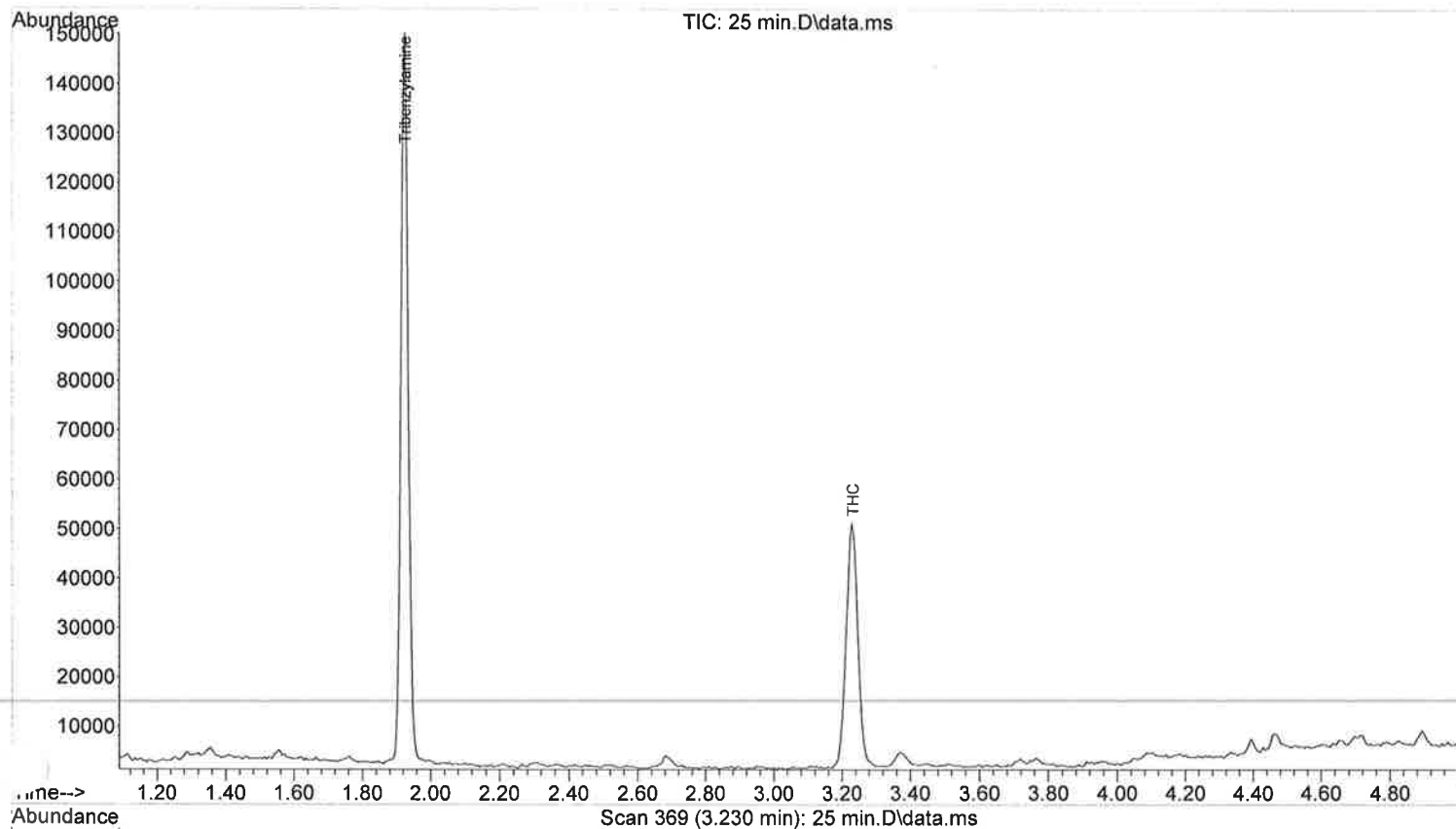
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.946	TIC	3673557	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.251	TIC	1733997	89.75	ug/mL	100

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

THC Quant.M Wed Mar 20 07:34:42 2019

File : C:\msdchem\1\DATA\2019\BTT\3-19-19\25 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 16:03 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 102.31
Vial Number: 45



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 25 min.D
Acq On : 19 Mar 2019 16:03
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 102.31
5 Vial : 45 Sample Multiplier: 1

Quant Time: Mar 20 07:35:08 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

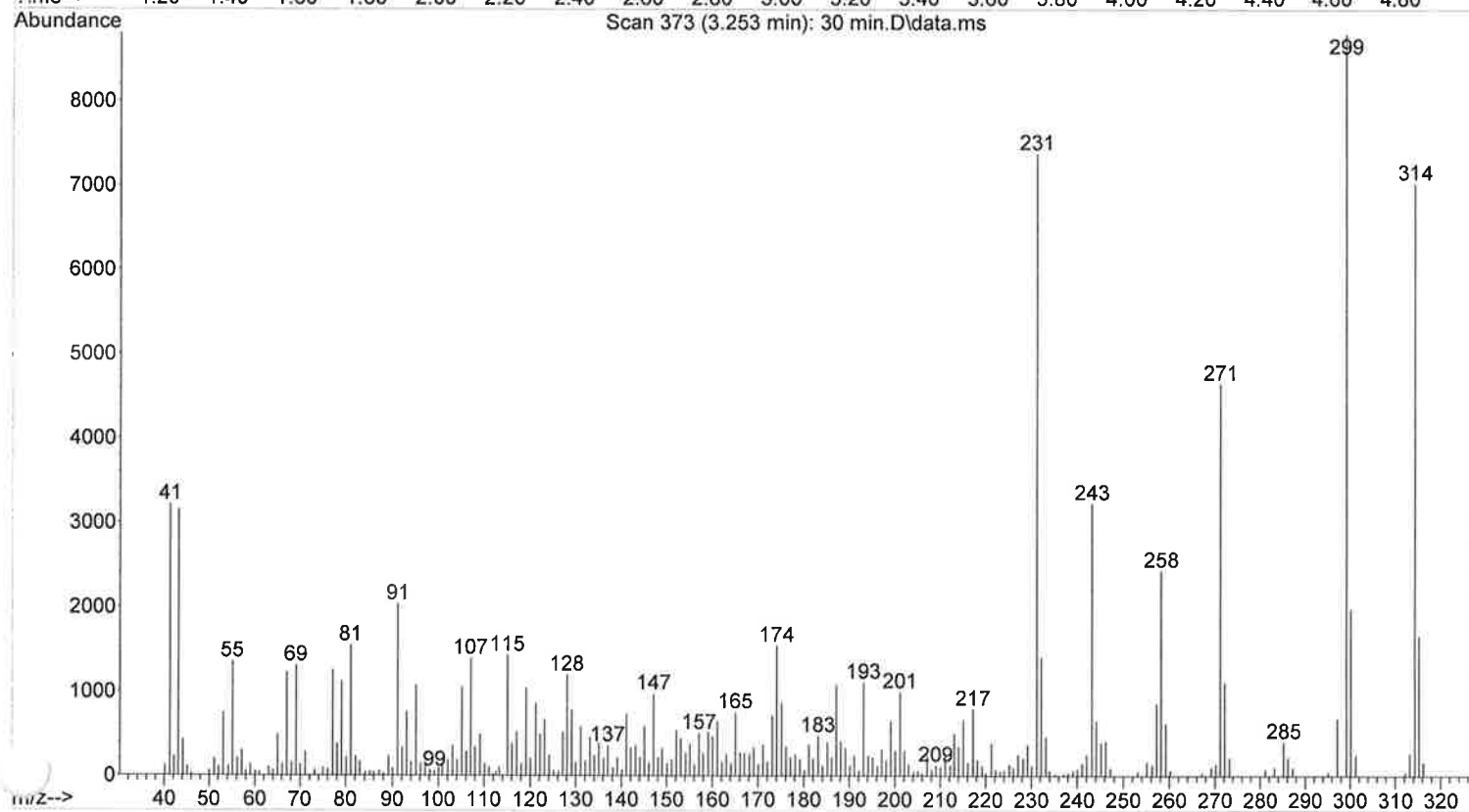
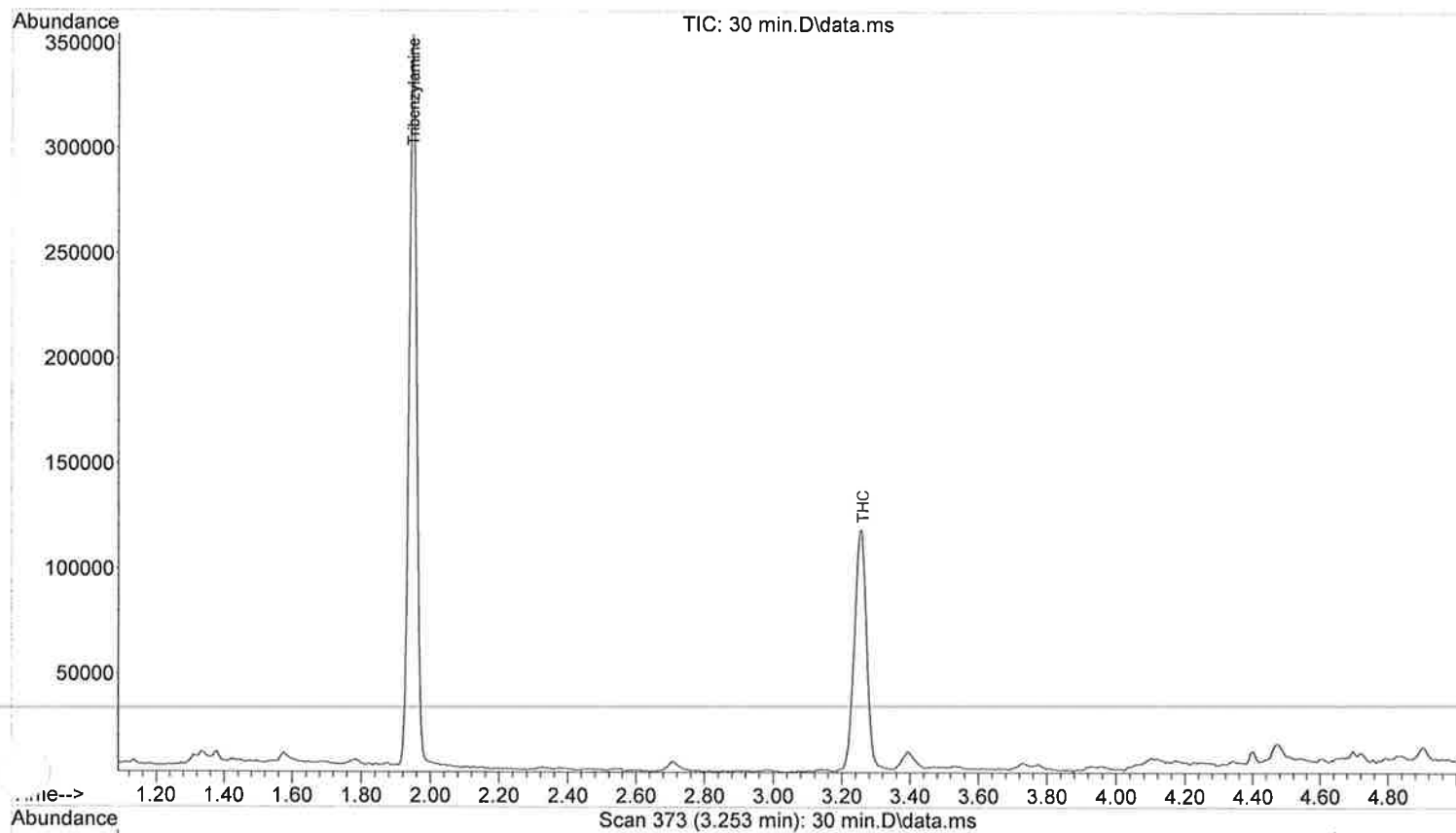
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.928	TIC	2250938	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.232	TIC	1206443	102.24	ug/mL	100

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

THC Quant.M Wed Mar 20 07:35:08 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\30 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 16:19 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 99.47
Vial Number: 47



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 30 min.D
Acq On : 19 Mar 2019 16:19
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 99.47
Vial : 47 Sample Multiplier: 1

Quant Time: Mar 20 07:35:38 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

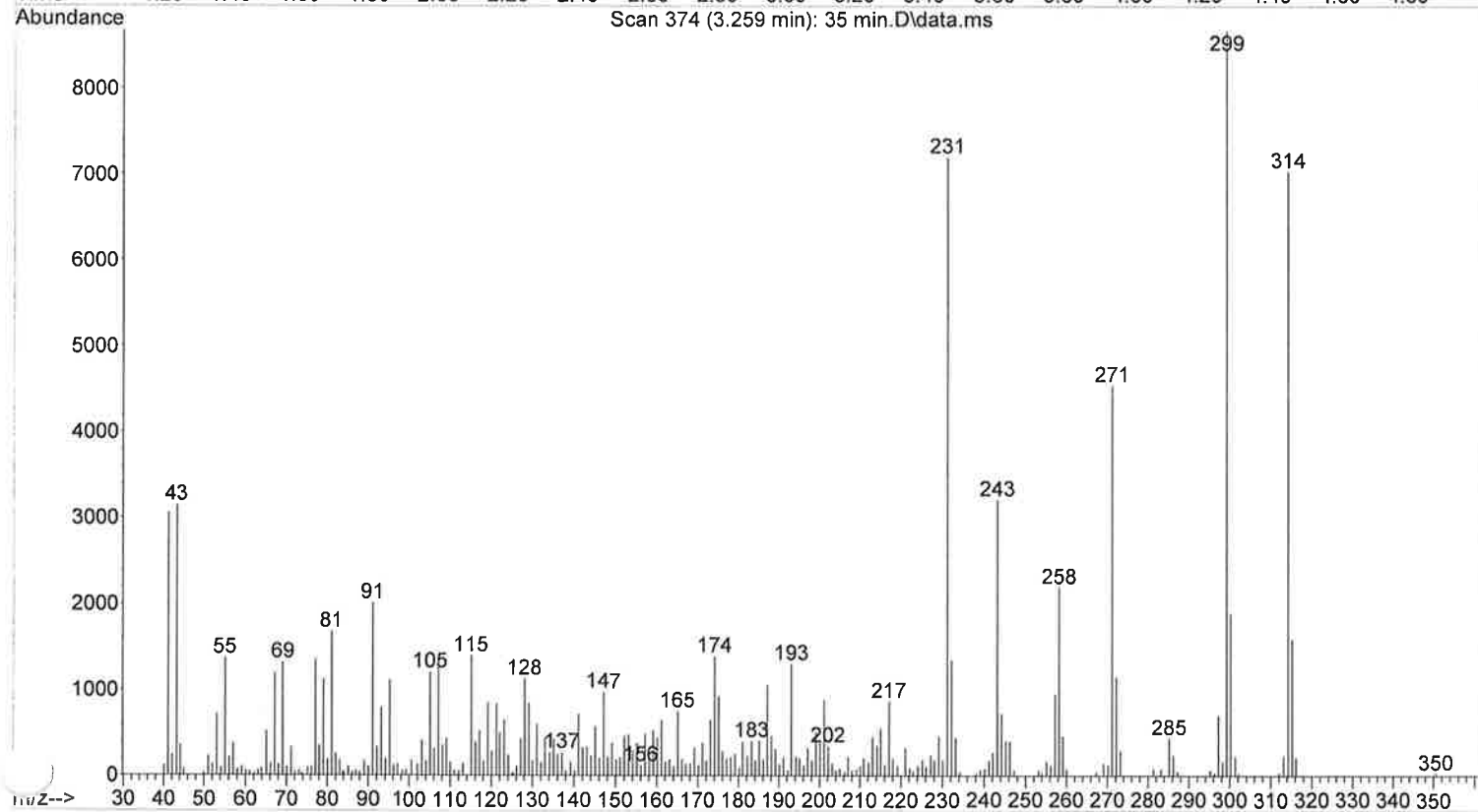
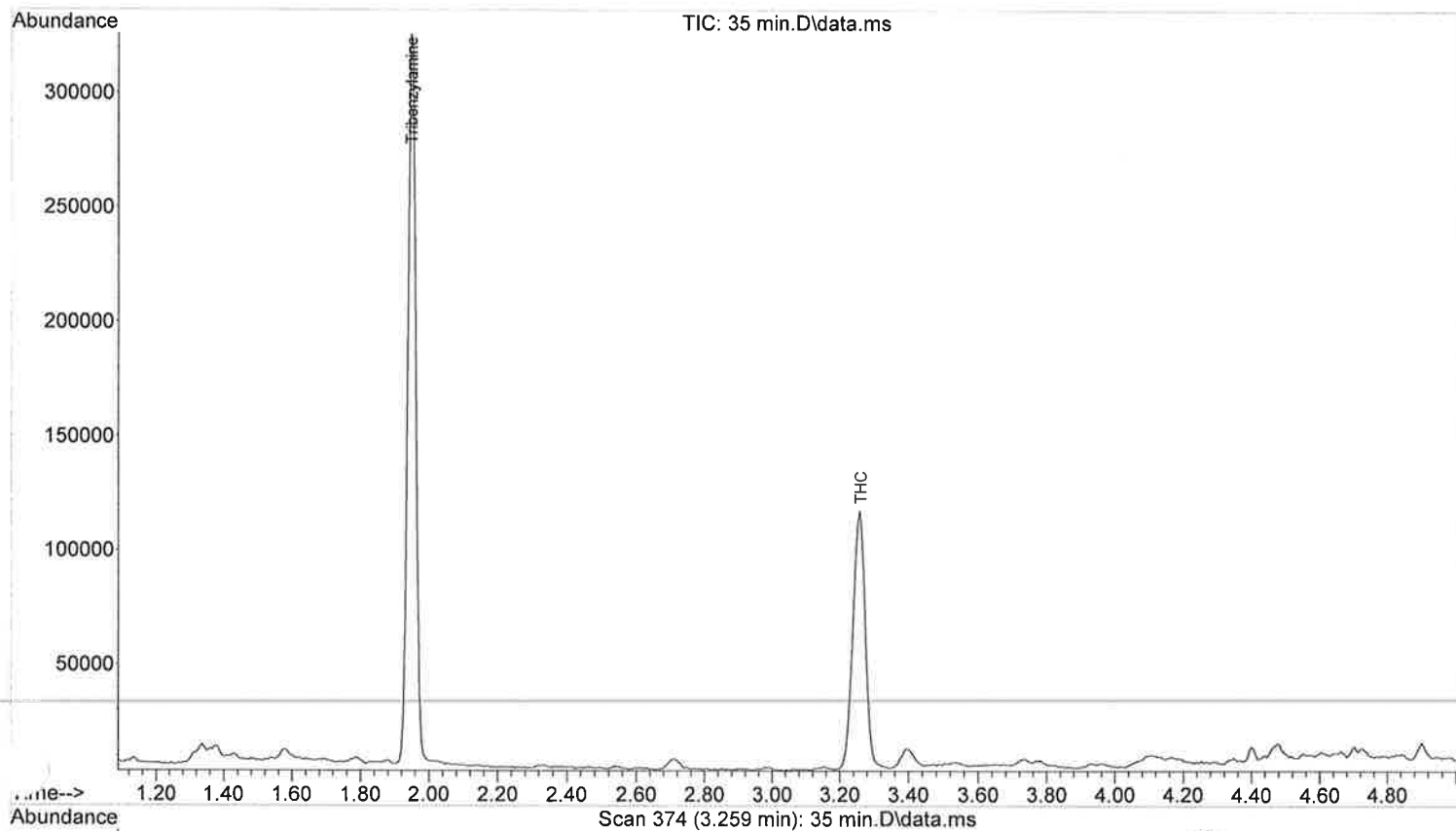
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.952	TIC	5237050	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	2869330	104.57	ug/mL	100

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

THC Quant.M Wed Mar 20 07:35:38 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\35 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 16:34 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.00
Vial Number: 49



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 35 min.D
Acq On : 19 Mar 2019 16:34
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.00
Vial : 49 Sample Multiplier: 1

Quant Time: Mar 20 07:36:10 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

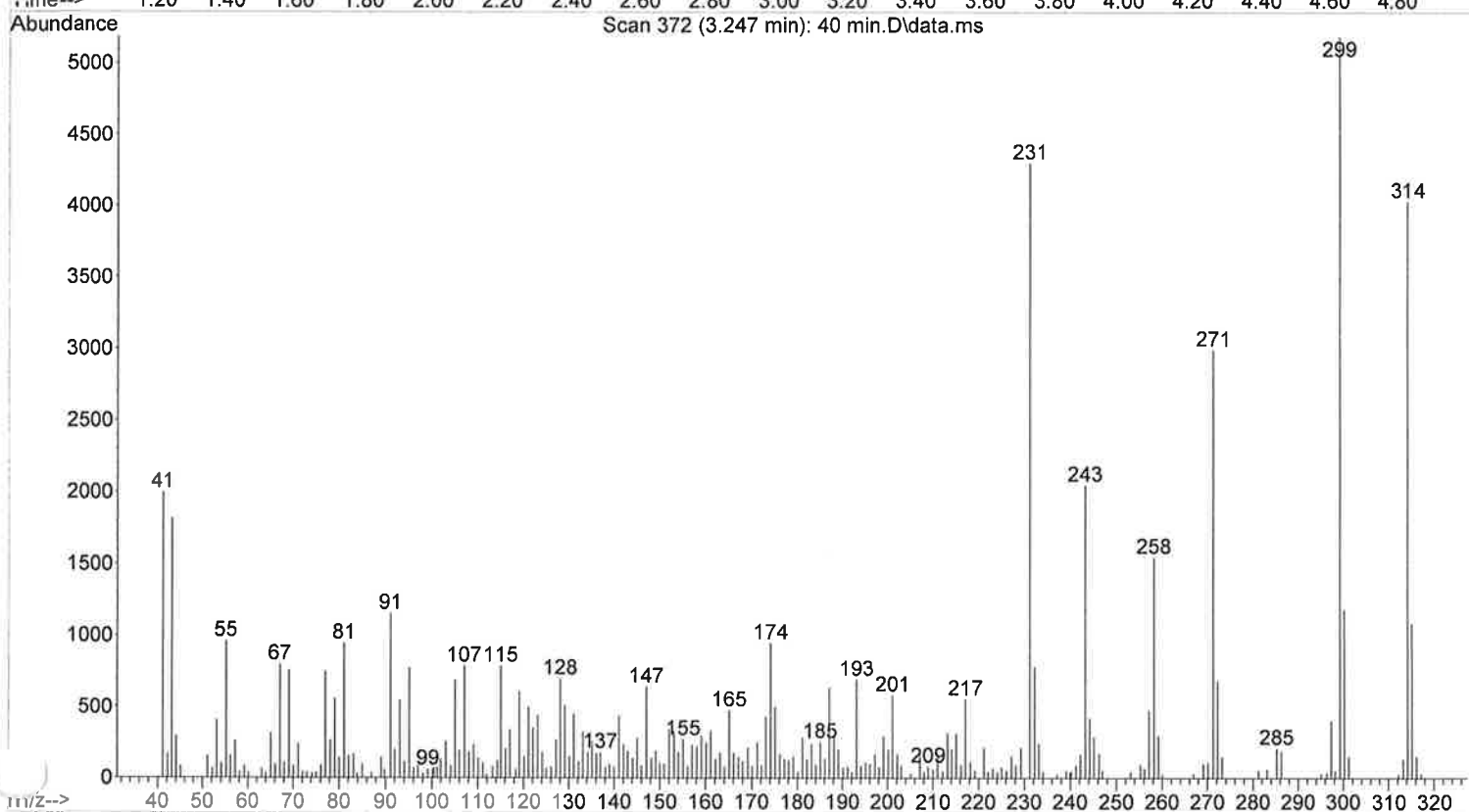
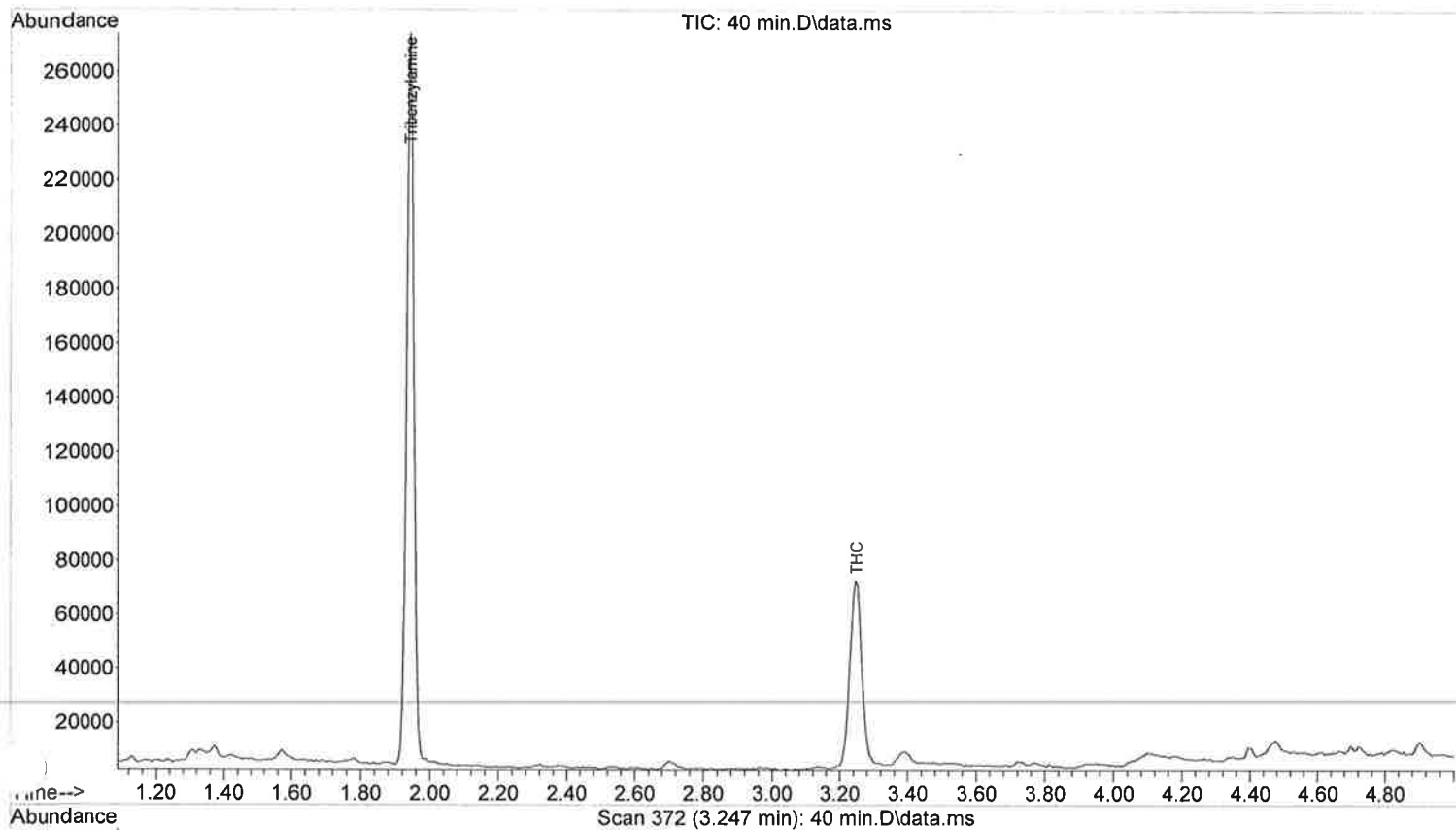
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.953	TIC	5154684	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.261	TIC	2838580	105.11	ug/mL	100

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

THC Quant.M Wed Mar 20 07:36:10 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\40 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 16:50 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 99.18
Vial Number: 51



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 40 min.D
Acq On : 19 Mar 2019 16:50
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 99.18
6 Vial : 51 Sample Multiplier: 1

Quant Time: Mar 20 08:42:12 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

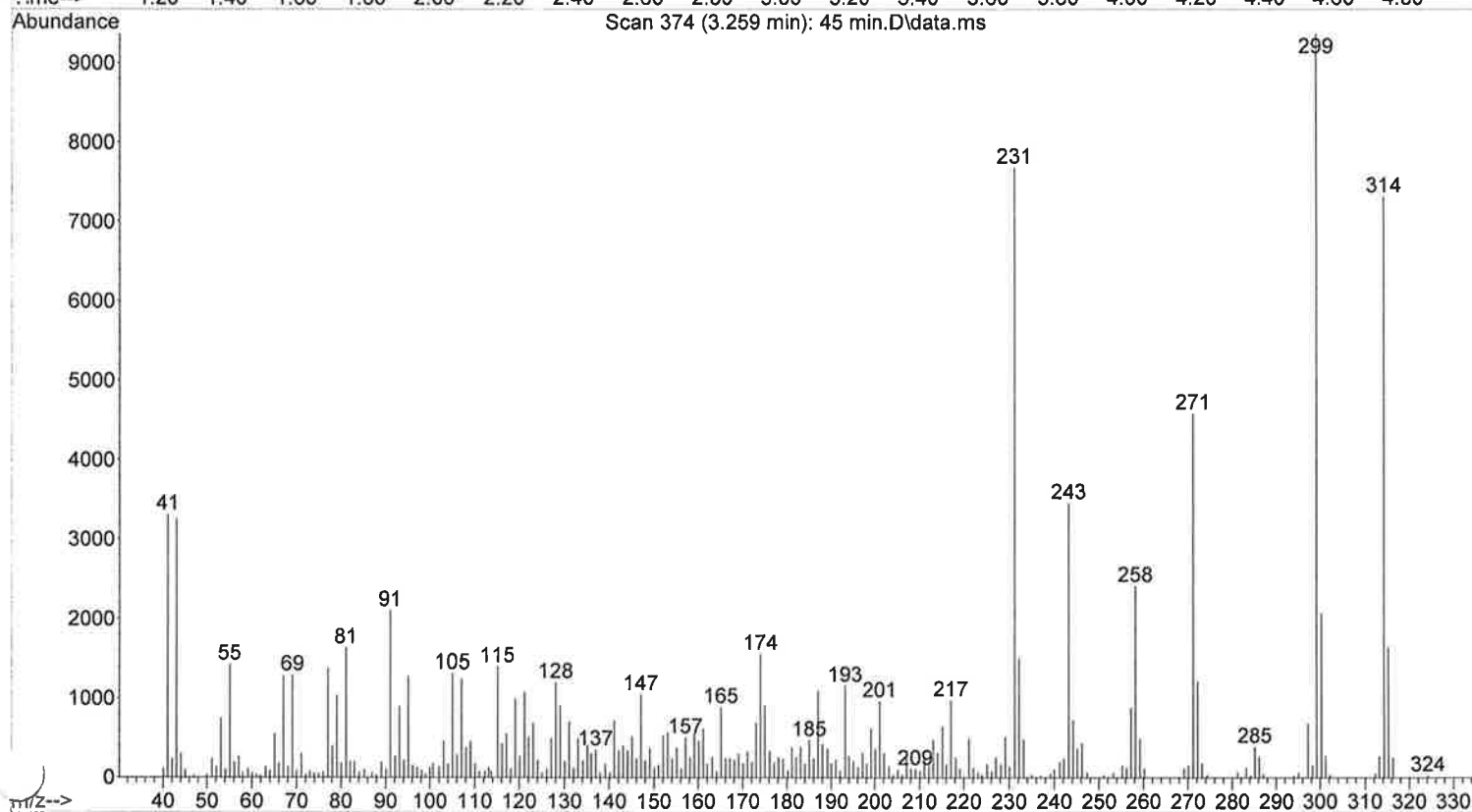
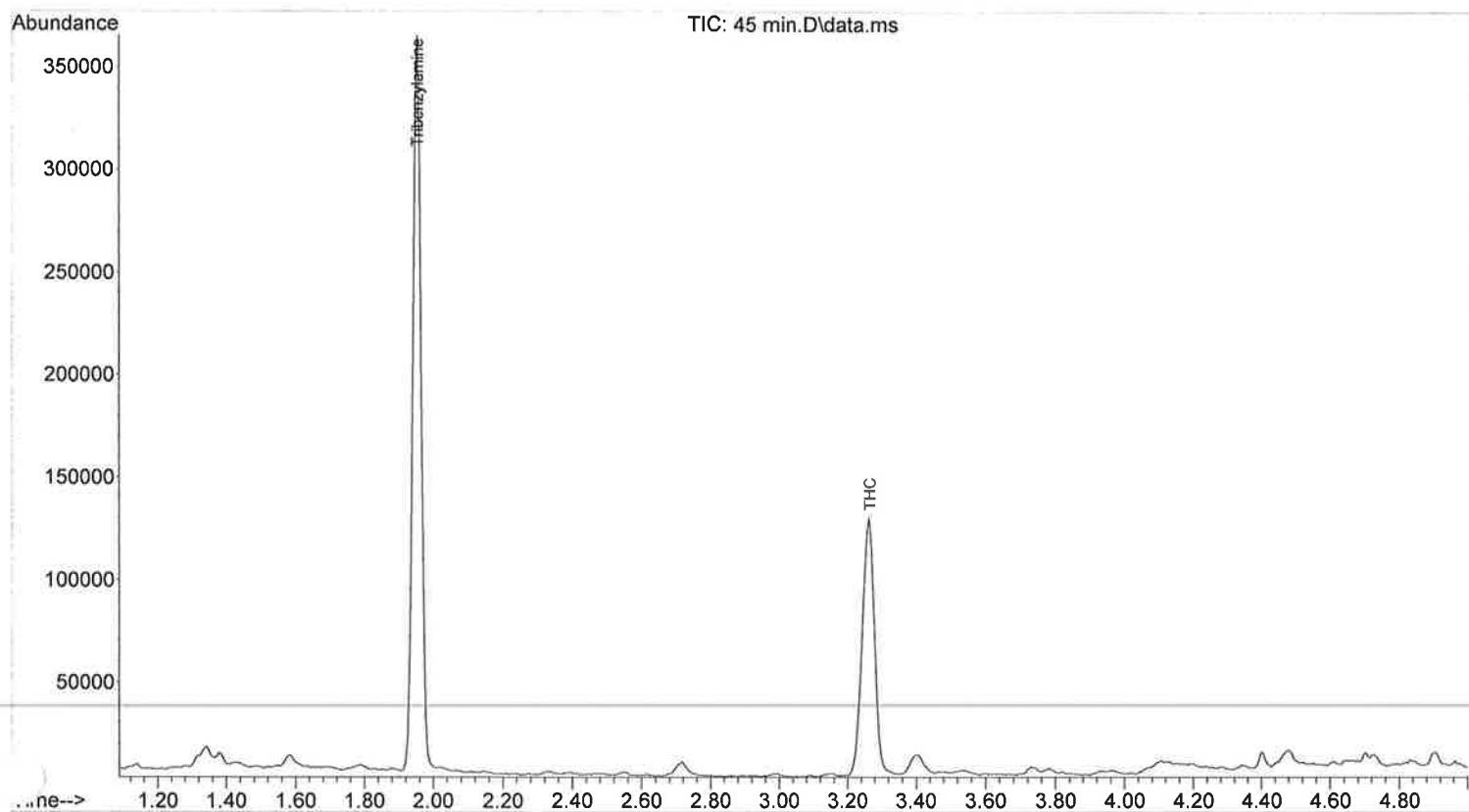
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.946	TIC	3972247	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.251	TIC	1700507	81.18	ug/mL	100

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

THC Quant.M Wed Mar 20 08:42:12 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\45 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 17:05 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.78
Vial Number: 53



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 45 min.D
Acq On : 19 Mar 2019 17:05
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.78
Vial : 53 Sample Multiplier: 1

Quant Time: Mar 20 07:36:41 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

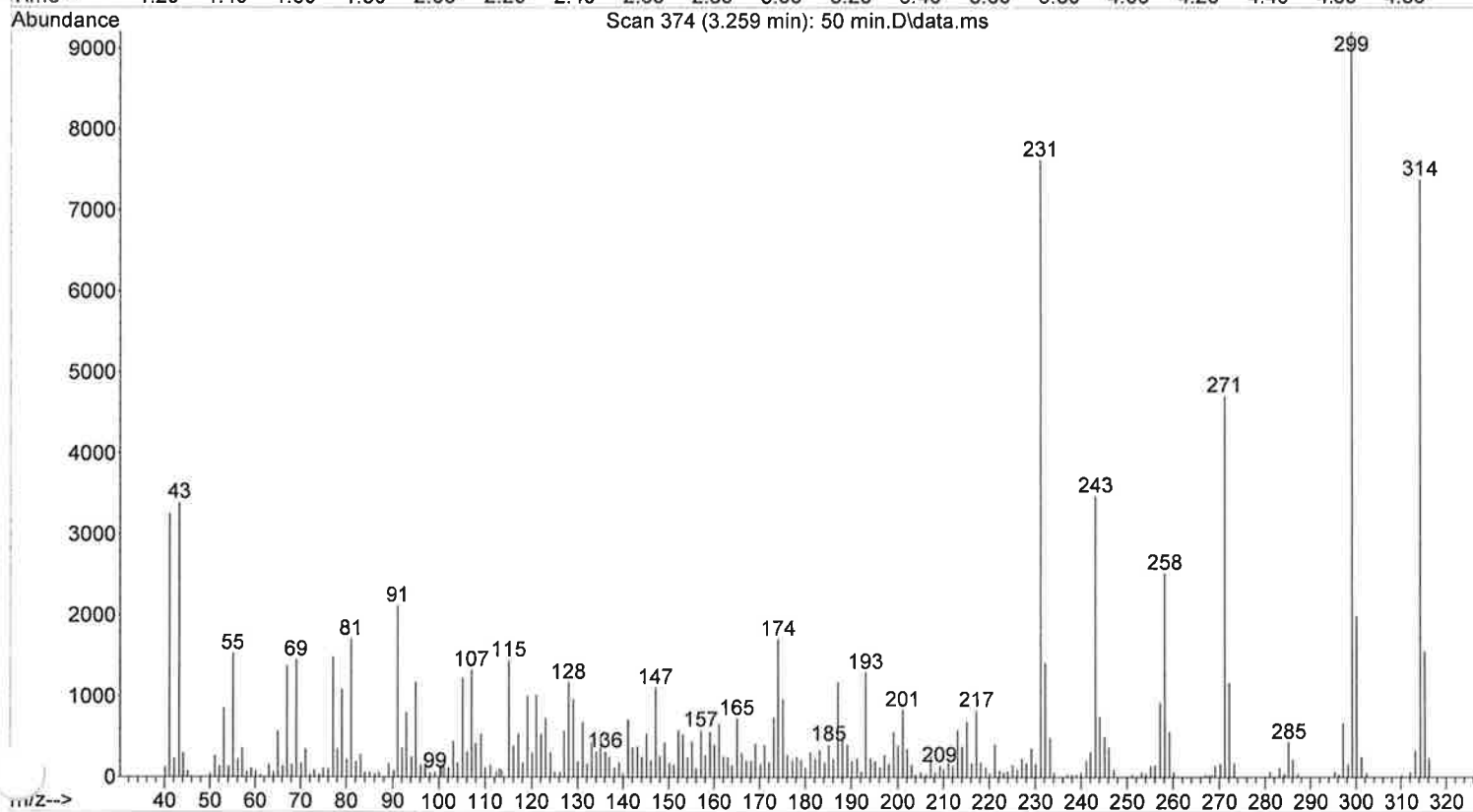
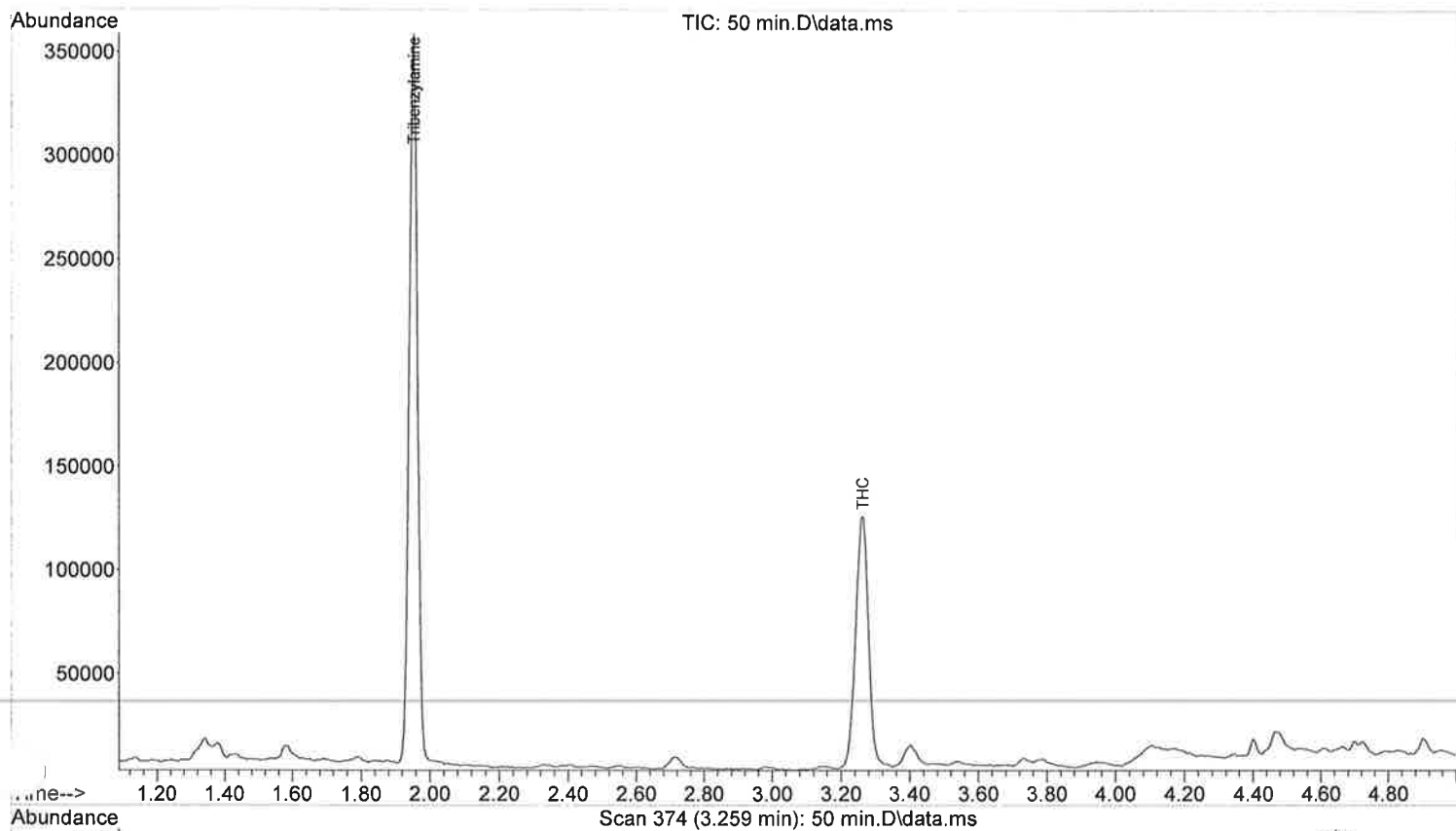
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.957	TIC	5918414	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.266	TIC	3192007	102.90	ug/mL	100

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

THC Quant.M Wed Mar 20 07:36:41 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\50 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 17:21 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 101.12
Vial Number: 55



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 50 min.D
Acq On : 19 Mar 2019 17:21
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 101.12
Vial : 55 Sample Multiplier: 1

Quant Time: Mar 20 07:37:21 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

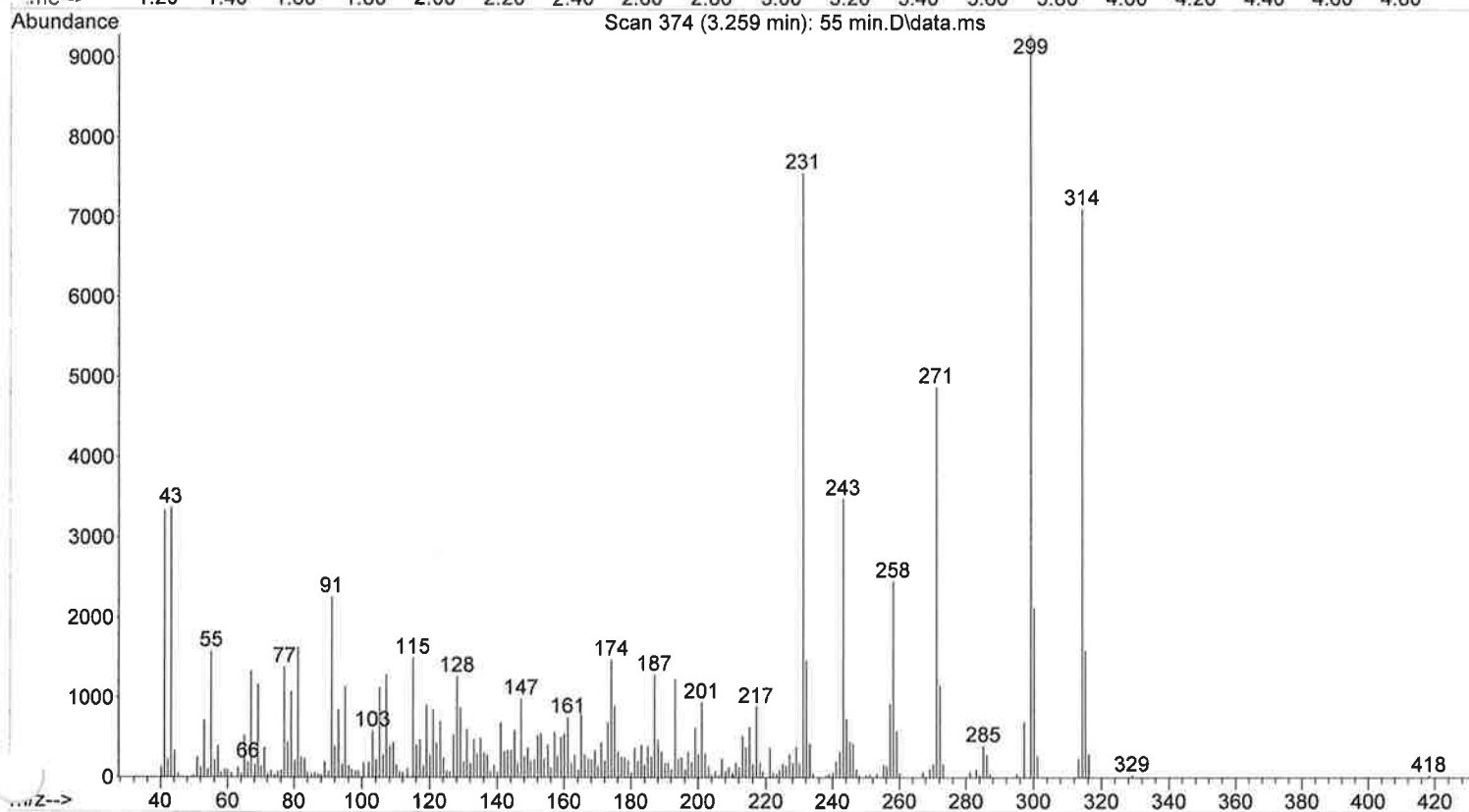
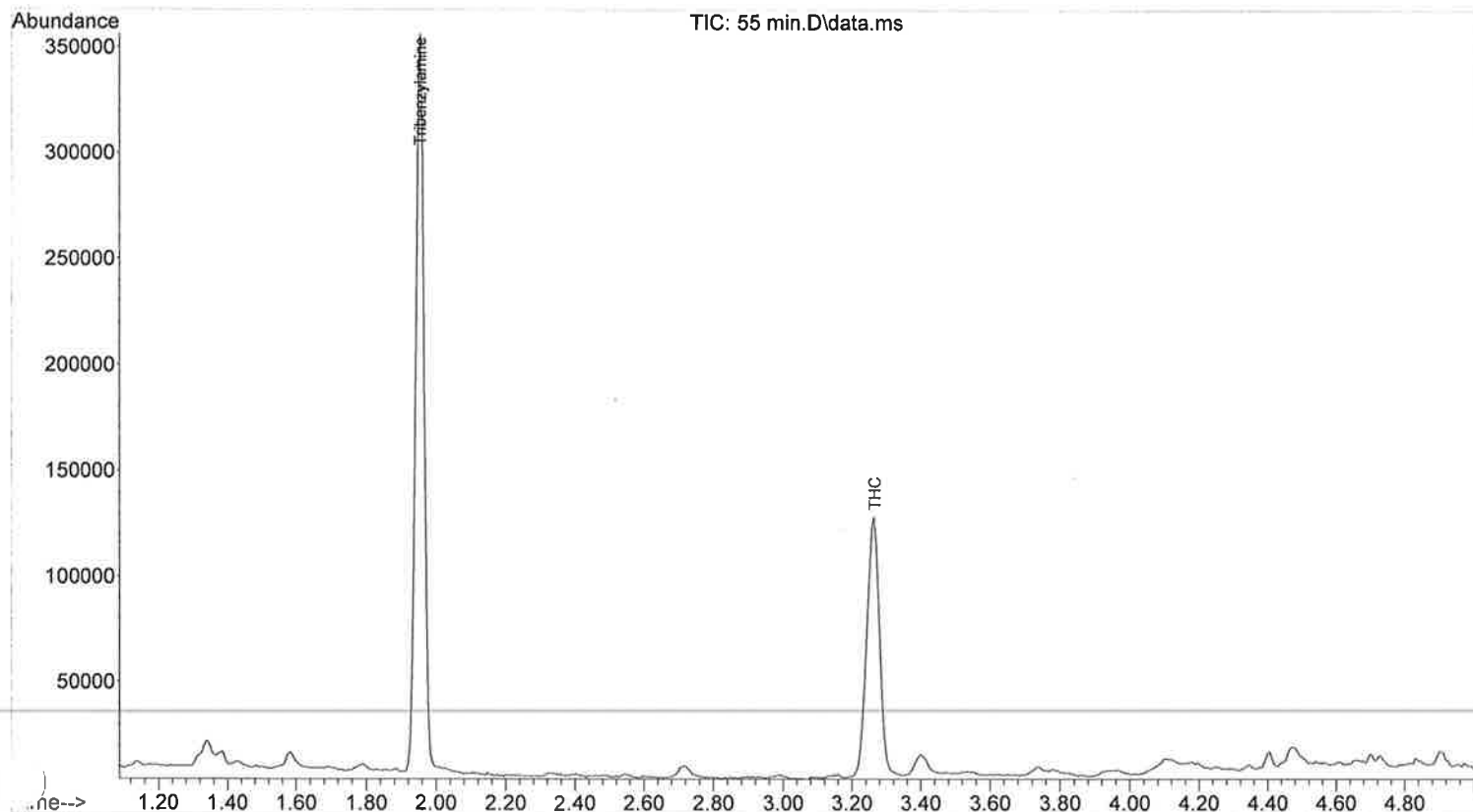
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.957	TIC	5806228	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.264	TIC	3133350	102.96	ug/mL	100

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

THC Quant.M Wed Mar 20 07:37:21 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\55 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 17:36 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 103.33
View Number: 57



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 55 min.D
Acq On : 19 Mar 2019 17:36
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 103.33
\$ Vial : 57 Sample Multiplier: 1

Quant Time: Mar 20 07:37:52 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

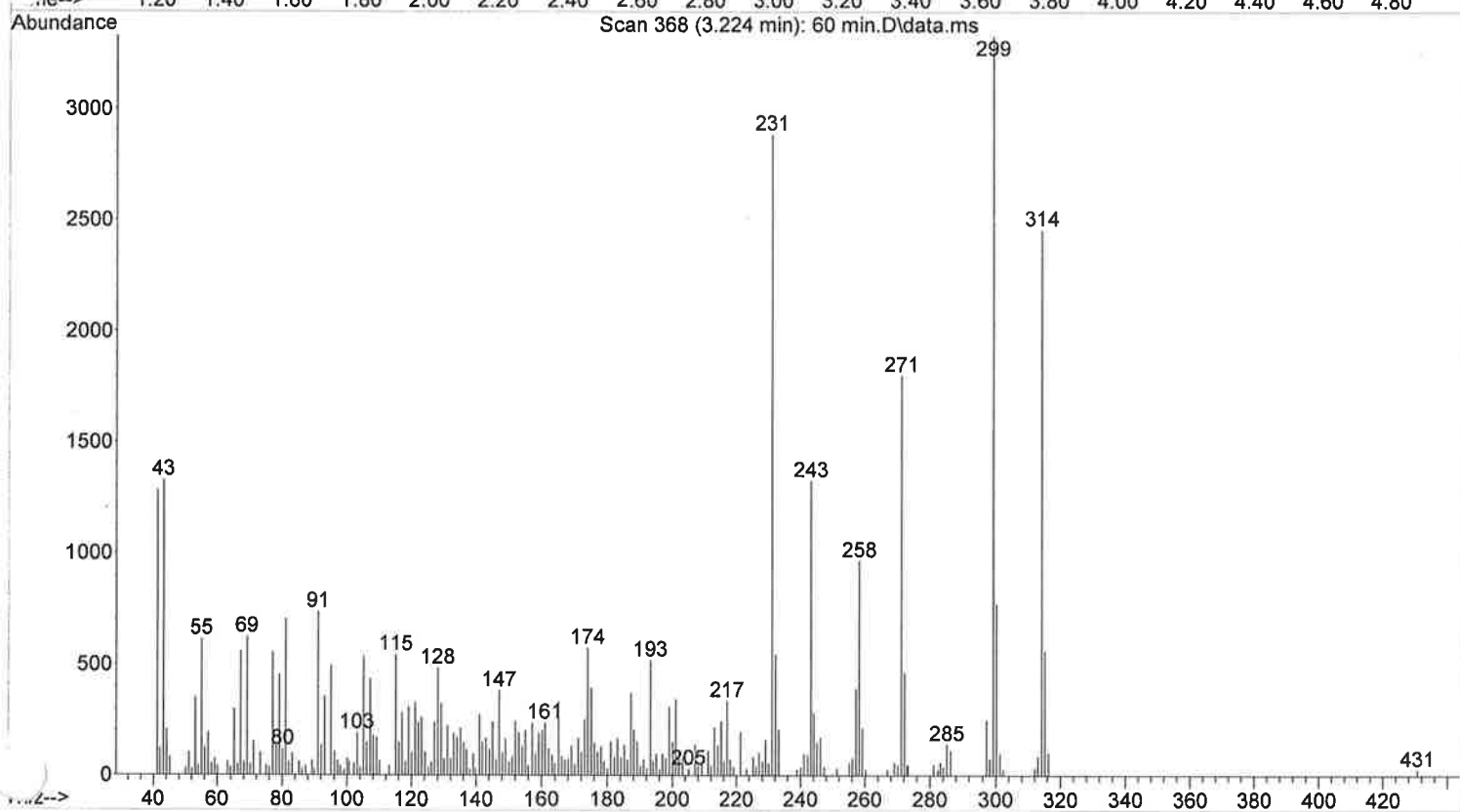
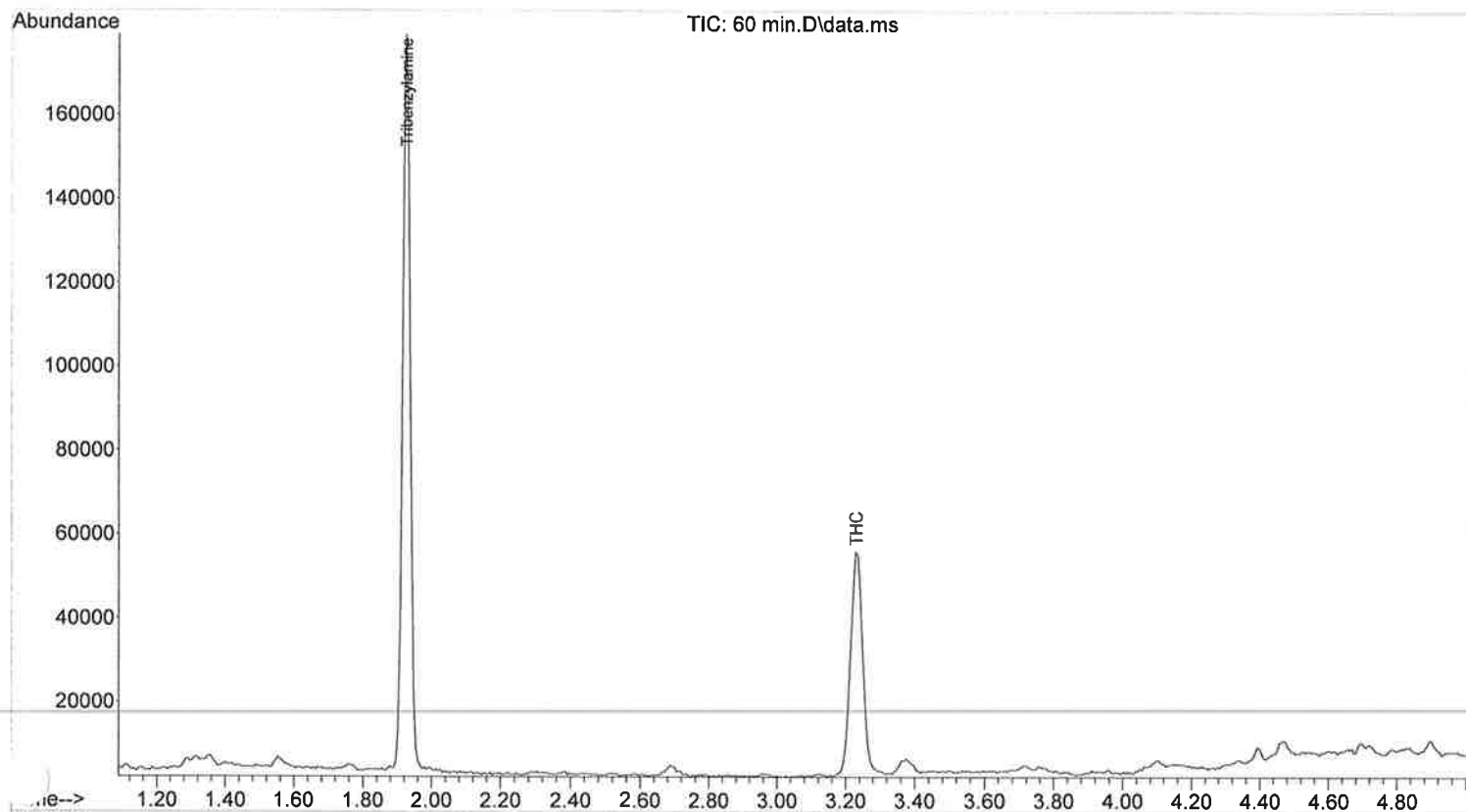
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.957	TIC	5757113	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.266	TIC	3154084	104.56	ug/mL	100

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

THC Quant.M Wed Mar 20 07:37:52 2019

File :C:\msdchem\1\DATA\2019\BTT\3-19-19\60 min.D
Operator : TBI Analyst
Acquired : 19 Mar 2019 17:52 using AcqMethod THC-MS.M
Instrument : Gumbo
Sample Name: Plant material
Misc Info : Methanol 100.74
View Number: 59



Data Path : C:\msdchem\1\DATA\2019\BTT\3-19-19\
Data File : 60 min.D
Acq On : 19 Mar 2019 17:52
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.74
\$ Vial : 59 Sample Multiplier: 1

Quant Time: Mar 20 07:38:22 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 07:29:03 2019
Response via : Initial Calibration

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

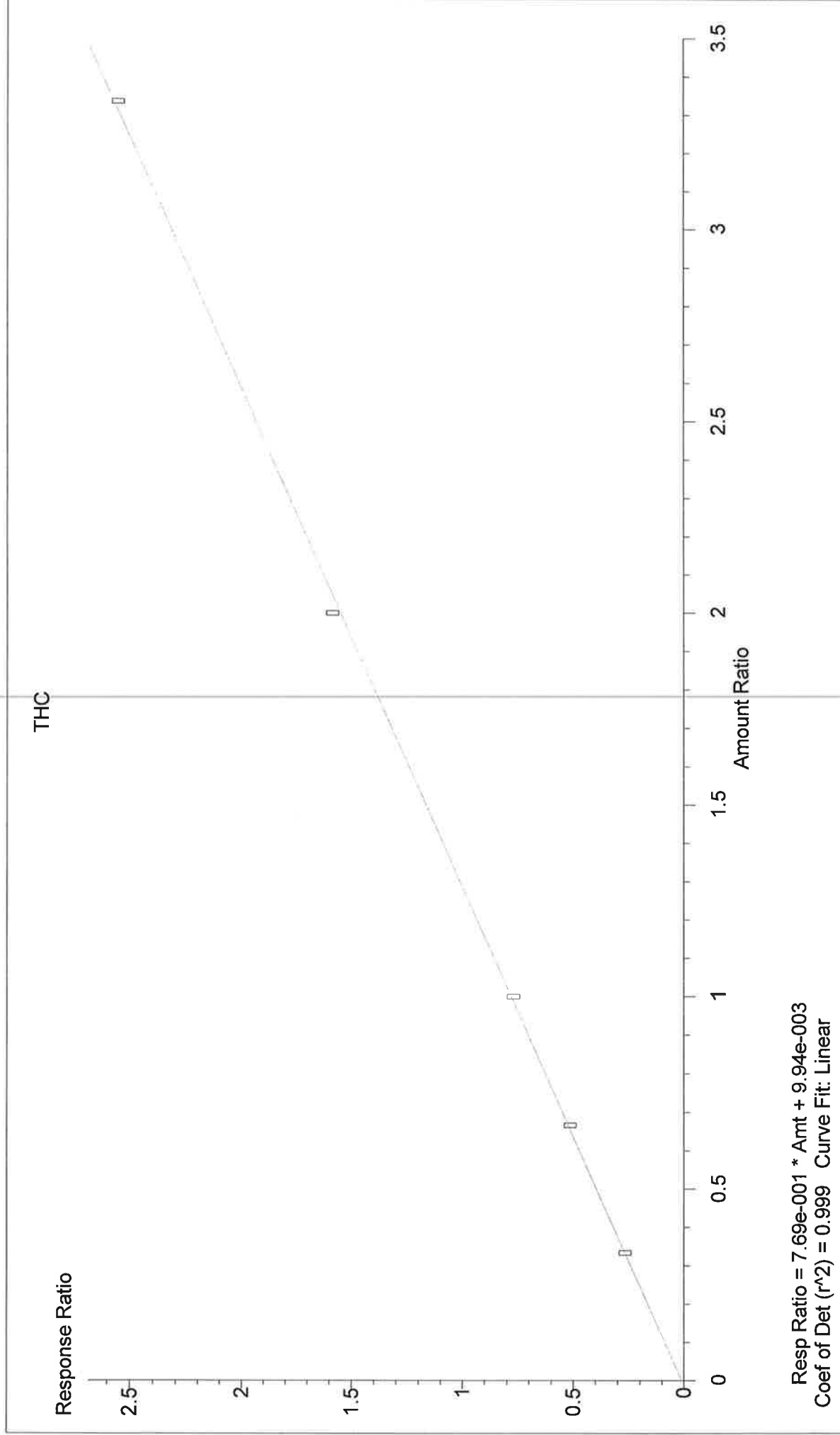
Internal Standards						
1) Tribenzylamine	1.929	TIC	2752271	150.00	ug/mL	-0.02
Target Compounds						Qvalue
2) THC	3.235	TIC	1328376	91.83	ug/mL	100

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

THC Quant.M Wed Mar 20 07:38:22 2019

Calibration data of THC

LvLID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.265331	-0.32	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 50.D
100	0.6667	0.512312	-1.93	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 100.D
150	1.0000	0.769905	-1.12	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 150.D
300	2.0000	1.584739	2.42	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 300.D
500	3.3333	2.554598	-0.69	C:\msdchem\1\DATA\2019\BTT\3-18-19 I\THC 500.D



Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 5 Minutes.D
Acq On : 20 Mar 2019 12:19
Operator : TBI Analyst
Sample : Plant material
Methanol : 100.56
Vial : 27 Sample Multiplier: 1

Quant Time: Mar 20 13:35:41 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.946	TIC	4662168	150.00	ug/mL	-0.05
Target Compounds						Qvalue
2) THC	3.266	TIC	6885797	286.26	ug/mL	100

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

THC Quant.M Wed Mar 20 13:35:42 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 10 Minutes.D
Acq On : 20 Mar 2019 12:35
Operator : TBI Analyst
Sample : Plant material
Methanol : 100.29
Vial : 29 Sample Multiplier: 1

Quant Time: Mar 20 13:35:56 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.963	TIC	7970094	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.303	TIC	15229788	370.93	ug/mL	100

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

THC Quant.M Wed Mar 20 13:35:56 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 15 Minutes.D
Acq On : 20 Mar 2019 12:50
Operator : TBI Analyst
Sample : Plant material
Methanol : Methanol 101.02
Vial : 31 Sample Multiplier: 1

Quant Time: Mar 20 13:36:08 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.966	TIC	7884636	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.301	TIC	14277552	351.41	ug/mL	100

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

THC Quant.M Wed Mar 20 13:36:08 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 20 Minutes.D
Acq On : 20 Mar 2019 13:06
Operator : TBI Analyst
Sample : Plant material
Methanol : 101.53
Vial : 33 Sample Multiplier: 1

Quant Time: Mar 20 13:36:20 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.962	TIC	7291962	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.296	TIC	13473631	358.61	ug/mL	100

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

THC Quant.M Wed Mar 20 13:36:20 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 25 Minutes.D
Acq On : 20 Mar 2019 13:21
Operator : TBI Analyst
Sample : Plant material
Meth : Methanol 100.30
Vial : 35 Sample Multiplier: 1

Quant Time: Mar 20 13:36:37 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.939	TIC	4200954	150.00	ug/mL	-0.05
Target Compounds						Qvalue
2) THC	3.260	TIC	6591927	304.25	ug/mL	100

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

THC Quant.M Wed Mar 20 13:36:37 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 30 Minutes.D
Acq On : 20 Mar 2019 13:37
Operator : TBI Analyst
Sample : Plant material
Methanol : 100.21
Vial : 37 Sample Multiplier: 1

Quant Time: Mar 20 13:43:18 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.964	TIC	8126253	150.00	ug/mL	-0.03
Target Compounds						Qvalue
2) THC	3.300	TIC	14537976	347.16	ug/mL	100

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

THC Quant.M Wed Mar 20 13:43:18 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 35 Minutes.D
Acq On : 20 Mar 2019 13:52
Operator : TBI Analyst
Sample : Plant material
Meth : Methanol 101.24
Vial : 39 Sample Multiplier: 1

Quant Time: Mar 20 14:14:32 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.936	TIC	2416605	150.00	ug/mL	-0.06
Target Compounds						Qvalue
2) THC	3.252	TIC	4444041	356.90	ug/mL	100

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

THC Quant.M Wed Mar 20 14:14:32 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 40 Minutes.D
Acq On : 20 Mar 2019 14:08
Operator : TBI Analyst
Sample : Plant material
Meth : Methanol 101.09
Vial : 41 Sample Multiplier: 1

Quant Time: Mar 20 14:14:59 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.967	TIC	8481791	150.00	ug/mL	-0.02
Target Compounds						Qvalue
2) THC	3.308	TIC	17959143	411.23	ug/mL	100

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

THC Quant.M Wed Mar 20 14:14:59 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 45 Minutes.D
Acq On : 20 Mar 2019 14:23
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 100.55
Vial : 43 Sample Multiplier: 1

Quant Time: Mar 20 14:38:13 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.942	TIC	4053024	150.00	ug/mL	-0.05
Target Compounds						Qvalue
2) THC	3.262	TIC	6555669	313.68	ug/mL	100

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

THC Quant.M Wed Mar 20 14:38:13 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 50 Minutes.D
Acq On : 20 Mar 2019 14:38
Operator : TBI Analyst
Sample : Plant material
Methanol : 99.68
Vial : 45 Sample Multiplier: 1

Quant Time: Mar 21 08:07:03 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.967	TIC	7986685	150.00	ug/mL	-0.02
Target Compounds						Qvalue
2) THC	3.301	TIC	14222166	345.54	ug/mL	100

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

THC Quant.M Thu Mar 21 08:07:03 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 55 Minutes.D
Acq On : 20 Mar 2019 14:54
Operator : TBI Analyst
Sample : Plant material
Misc : Methanol 101.54
Vial : 47 Sample Multiplier: 1

Quant Time: Mar 21 08:07:15 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.945	TIC	3427932	150.00	ug/mL	-0.05
Target Compounds						Qvalue
2) THC	3.264	TIC	5862420	331.77	ug/mL	100

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

THC Quant.M Thu Mar 21 08:07:15 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-20-19\
Data File : 60 Minutes.D
Acq On : 20 Mar 2019 15:09
Operator : TBI Analyst
Sample : Plant material
Methanol : 99.96
Vial : 49 Sample Multiplier: 1

Quant Time: Mar 21 08:07:28 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 20 12:55:46 2019
Response via : Initial Calibration

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

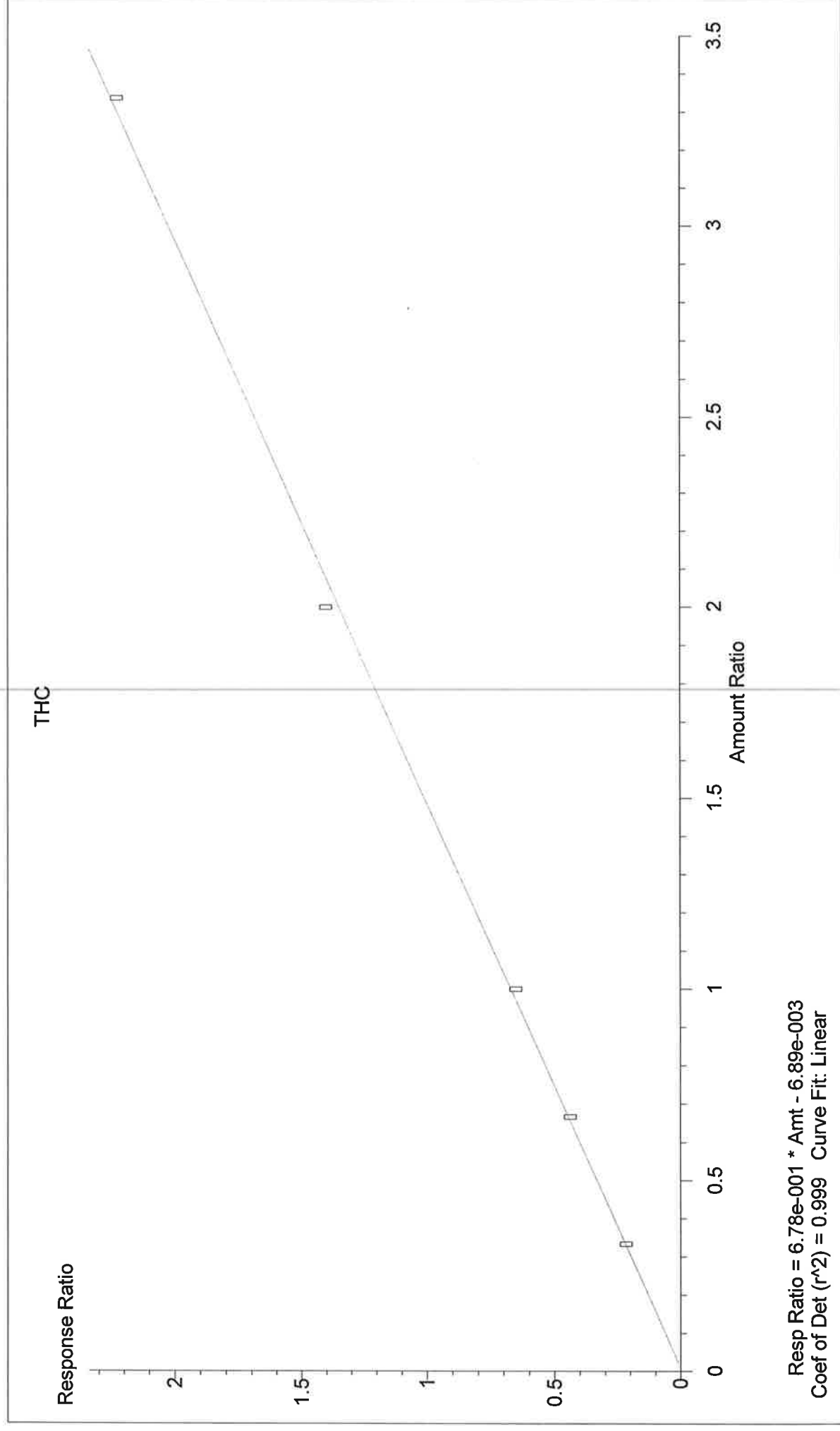
Internal Standards						
1) Tribenzylamine	1.968	TIC	8471750	150.00	ug/mL	-0.02
Target Compounds						Qvalue
2) THC	3.303	TIC	14566038	333.56	ug/mL	100

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

THC Quant.M Thu Mar 21 08:07:28 2019

Calibration data of THC

LvLID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.216955	-0.96	C:\msdchem\1\DATA\2019\BTT\3-26-19 I\THC 50.D
100	0.6667	0.437542	-1.67	C:\msdchem\1\DATA\2019\BTT\3-26-19 I\THC 100.D
150	1.0000	0.652178	-2.80	C:\msdchem\1\DATA\2019\BTT\3-26-19 I\THC 150.D
300	2.0000	1.401219	3.89	C:\msdchem\1\DATA\2019\BTT\3-26-19 I\THC 300.D
500	3.3333	2.228375	-1.07	C:\msdchem\1\DATA\2019\BTT\3-26-19 I\THC 500.D



Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 1.D
Acq On : 26 Mar 2019 14:31
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 37 Sample Multiplier: 1

Quant Time: Mar 27 07:41:10 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	6003919	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	2236493	83.96	ug/mL	100

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

THC Quant.M Wed Mar 27 07:41:10 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 2.D
Acq On : 26 Mar 2019 14:51
Operator : BTT
Sample : Spiked Oregano
Meth : Methanol
Vial : 39 Sample Multiplier: 1

Quant Time: Mar 27 07:41:27 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	6449047	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	2295463	80.29	ug/mL	100

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

THC Quant.M Wed Mar 27 07:41:27 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 3.D
Acq On : 26 Mar 2019 15:11
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 41 Sample Multiplier: 1

Quant Time: Mar 27 07:41:40 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.955	TIC	5948531	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	2316398	87.70	ug/mL	100

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

THC Quant.M Wed Mar 27 07:41:40 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 4.D
Acq On : 26 Mar 2019 15:30
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 43 Sample Multiplier: 1

Quant Time: Mar 27 07:41:53 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	6504833	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	2463908	85.35	ug/mL	100

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

THC Quant.M Wed Mar 27 07:41:53 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 5.D
Acq On : 26 Mar 2019 15:50
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 45 Sample Multiplier: 1

Quant Time: Mar 27 07:42:05 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	6569479	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.260	TIC	2601129	89.14	ug/mL	100

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

THC Quant.M Wed Mar 27 07:42:05 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 6.D
Acq On : 26 Mar 2019 16:10
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 47 Sample Multiplier: 1

Quant Time: Mar 27 07:42:18 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.955	TIC	6368172	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.258	TIC	2439233	86.29	ug/mL	100

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

THC Quant.M Wed Mar 27 07:42:18 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 7.D
Acq On : 26 Mar 2019 16:29
Operator : BTT
Sample : Spiked Oregano
Solvent : Methanol
Vial : 49 Sample Multiplier: 1

Quant Time: Mar 27 07:42:30 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	6595409	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.259	TIC	2546714	86.97	ug/mL	100

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

THC Quant.M Wed Mar 27 07:42:30 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 8.D
Acq On : 26 Mar 2019 16:49
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 51 Sample Multiplier: 1

Quant Time: Mar 27 07:42:41 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	6316039	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.259	TIC	2572655	91.66	ug/mL	100

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

THC Quant.M Wed Mar 27 07:42:42 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 9.D
Acq On : 26 Mar 2019 17:09
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 53 Sample Multiplier: 1

Quant Time: Mar 27 07:42:54 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	6327405	150.00	ug/mL	0.00
Target Compounds						Qvalue
2) THC	3.260	TIC	2470326	87.92	ug/mL	100

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

THC Quant.M Wed Mar 27 07:42:54 2019

Data Path : C:\msdchem\1\DATA\2019\BTT\3-26-19 II\
Data File : Oregano 10.D
Acq On : 26 Mar 2019 17:28
Operator : BTT
Sample : Spiked Oregano
Methanol : Methanol
Vial : 55 Sample Multiplier: 1

Quant Time: Mar 27 07:43:05 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Tue Mar 26 14:30:01 2019
Response via : Initial Calibration

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

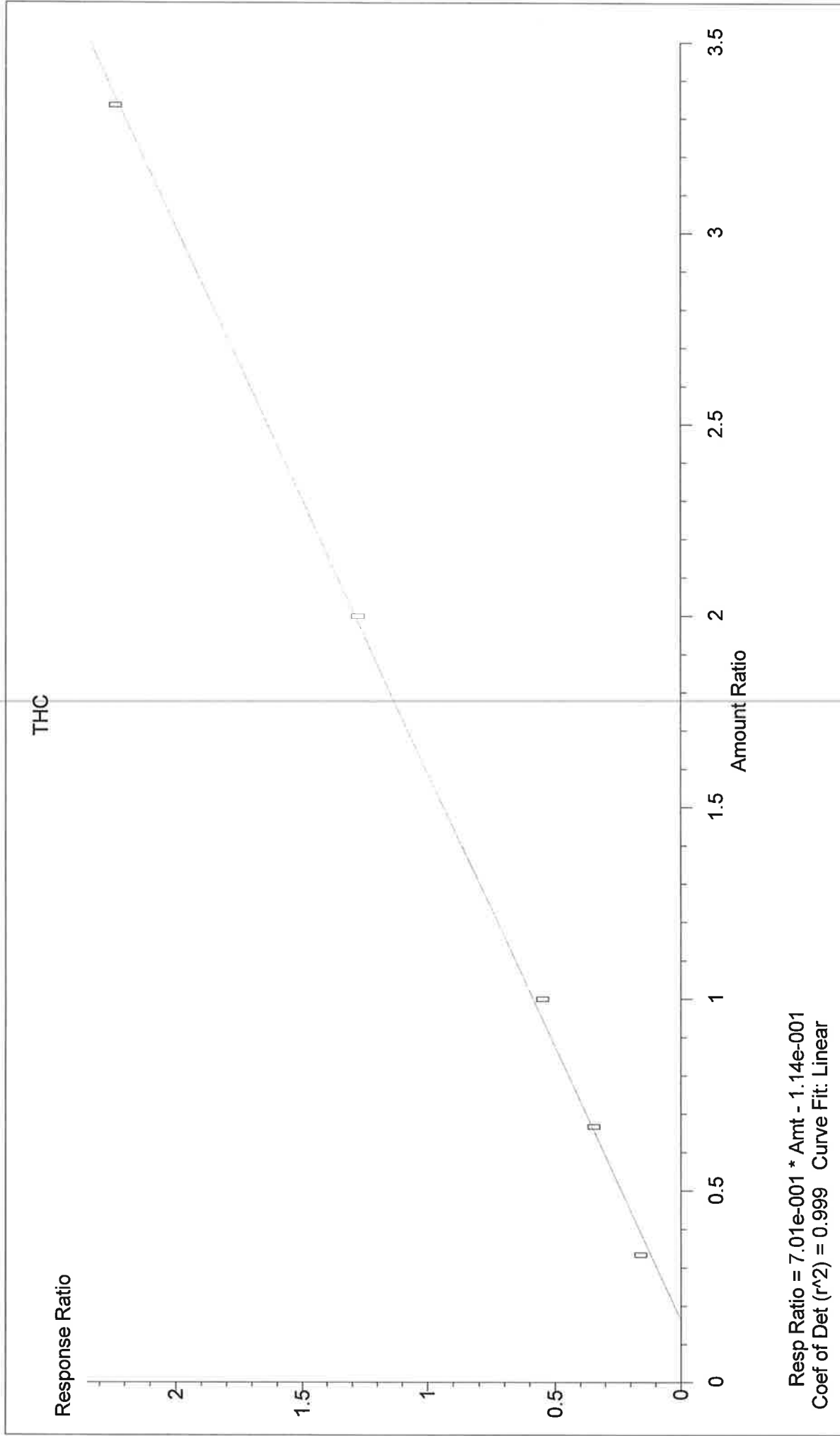
Internal Standards						
1) Tribenzylamine	1.930	TIC	2901760	150.00	ug/mL	-0.02
Target Compounds						Qvalue
2) THC	3.232	TIC	1066870	82.89	ug/mL	100

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

THC Quant.M Wed Mar 27 07:43:05 2019

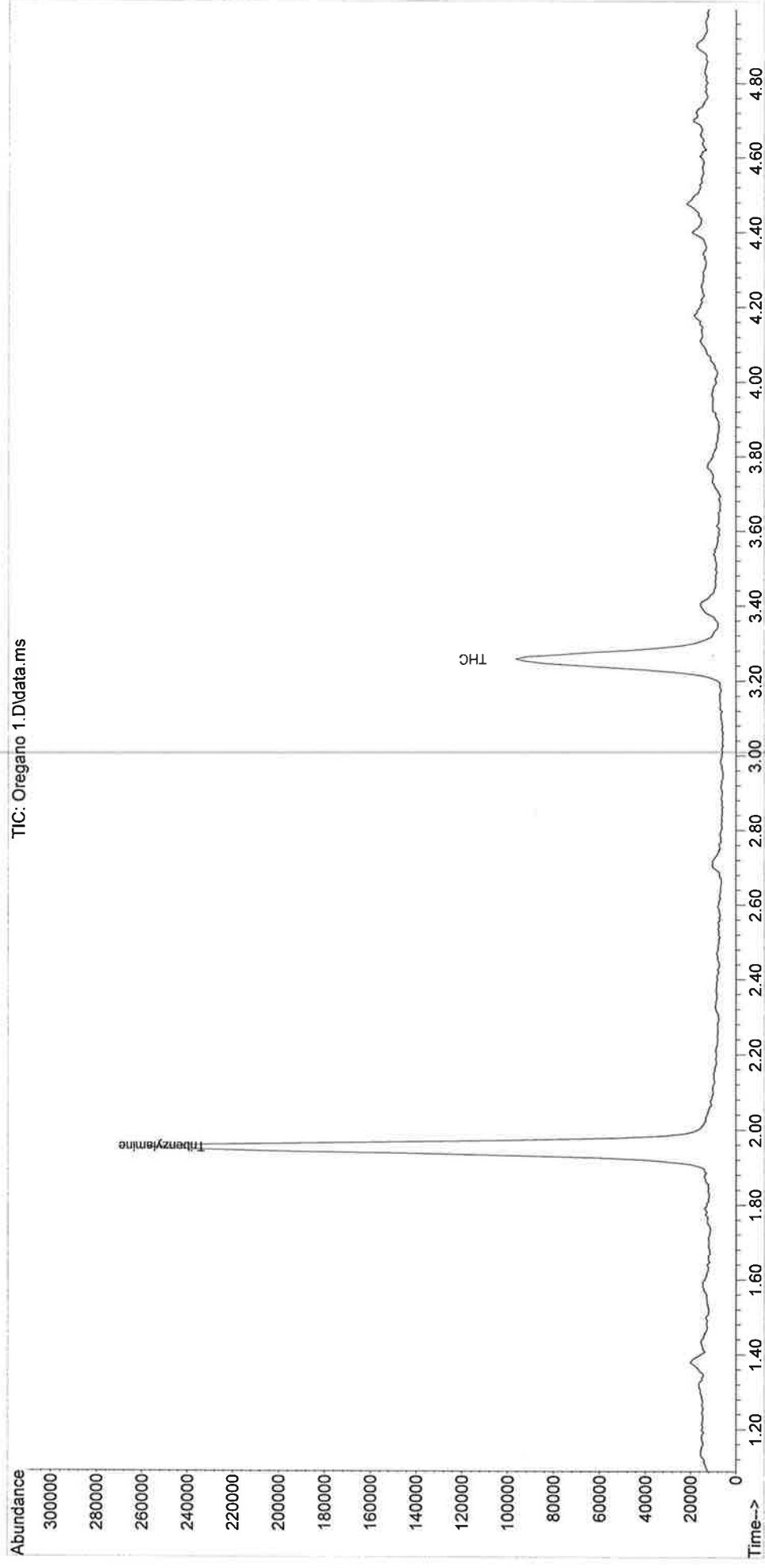
Calibration data of THC

LvLID	Amount (ratio)	Response (ratio)	bias (%)	Data File
50	0.3333	0.159607	33.84	C:\msdchem\1\DATA\2019\BTT\3-27-19 INTHC 50.D
100	0.6667	0.345611	-2.05	C:\msdchem\1\DATA\2019\BTT\3-27-19 INTHC 100.D
150	1.0000	0.549242	-6.34	C:\msdchem\1\DATA\2019\BTT\3-27-19 INTHC 150.D
300	2.0000	1.275946	-0.87	C:\msdchem\1\DATA\2019\BTT\3-27-19 INTHC 300.D
500	3.3333	2.236854	0.69	C:\msdchem\1\DATA\2019\BTT\3-27-19 INTHC 500.D



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\
 Data File : Oregano 1.D
 Acq On : 27 Mar 2019 11:26
 Operator : BTT
 Sample : Spiked Oregano
 Misc : Methanol
 ALS Vial : 37 Sample Multiplier: 1

Quant Time: Mar 27 14:50:13 2019
 Quant Method : C:\msdchem\1\METHODS\THC Quant.M
 Quant Title : BT THC Quant
 QLast Update : Wed Mar 27 12:50:52 2019
 Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 1.D

Acq On : 27 Mar 2019 11:26

Operator : BTT

Sample : Spiked Oregano

M. : Methanol

ALS Vial : 37 Sample Multiplier: 1

Quant Time: Mar 27 14:50:13 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	5490769	150.00	ug/mL	0.00
Target Compounds				Qvalue		
2) THC	3.260	TIC	2696559	110.26	ug/mL	100

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

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 2.D

Acq On : 27 Mar 2019 11:50

Operator : BTT

Sample : Spiked Oregano

Misc : Methanol

ALS Vial : 39 Sample Multiplier: 1

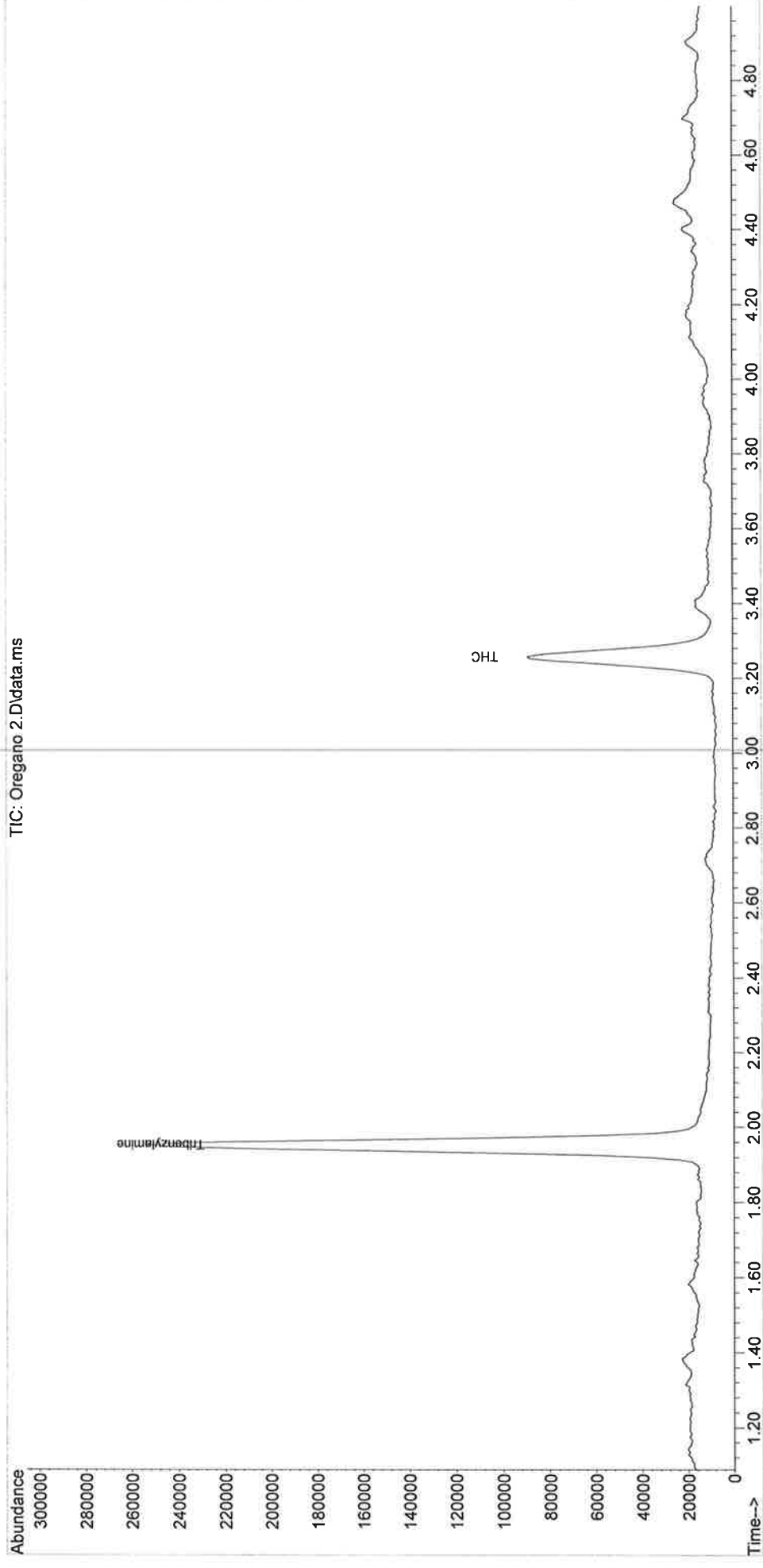
Quant Time: Mar 27 12:55:29 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 2.D

Acq On : 27 Mar 2019 11:50

Operator : BTT

Sample : Spiked Oregano

M : Methanol

ALS Vial : 39 Sample Multiplier: 1

Quant Time: Mar 27 12:55:29 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tribenzylamine	1.956	TIC	5570897	150.00	ug/mL	0.00
Target Compounds						
2) THC	3.259	TIC	2370602	95.75	ug/mL	100

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

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 3.D

Acq On : 27 Mar 2019 12:13

Operator : BTT

Sample : Spiked Oregano

Misc : Methanol

ALS Vial : 41 Sample Multiplier: 1

Quant Time: Mar 27 12:55:39 2019

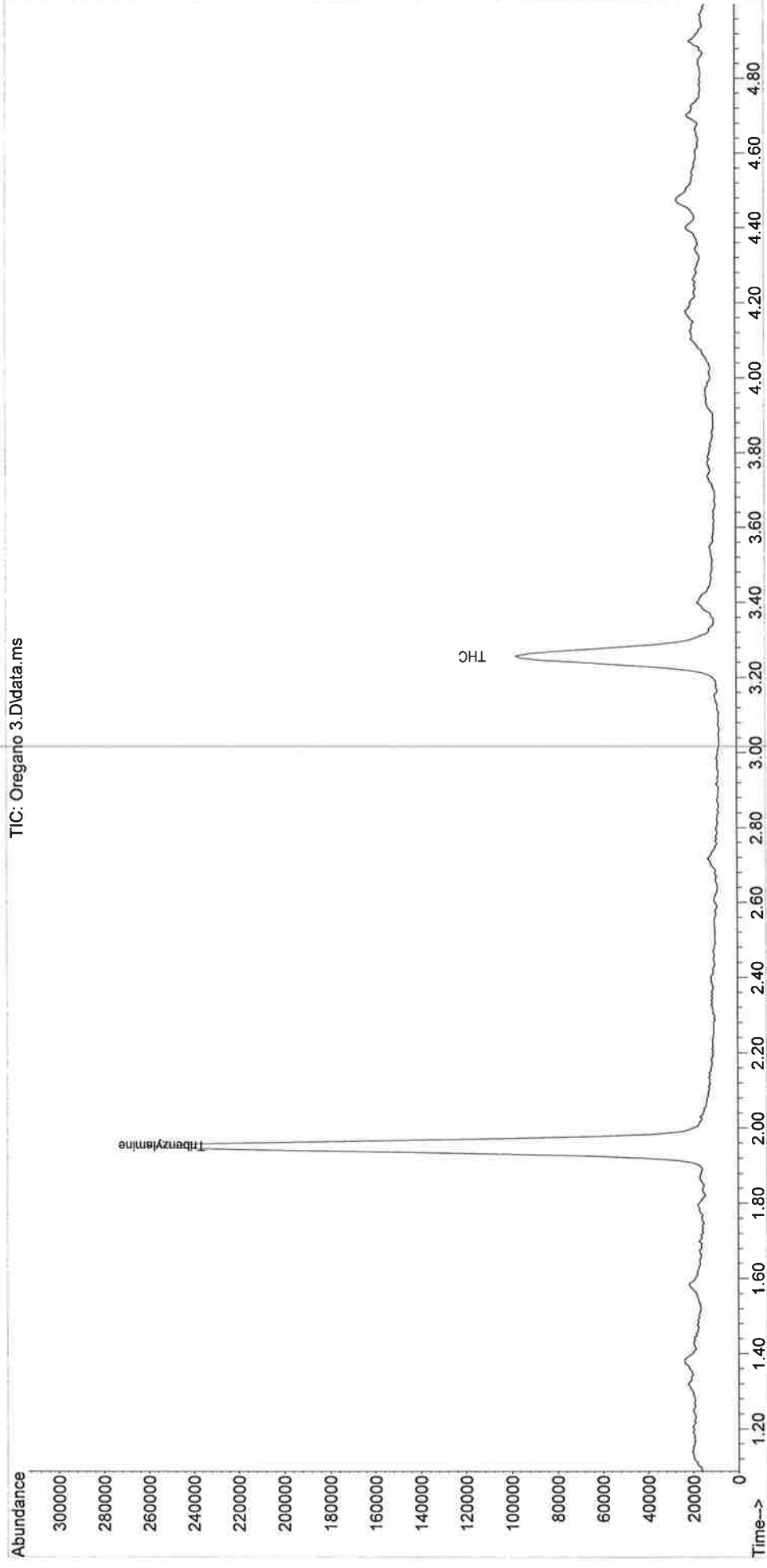
Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

TIC: Oregano 3.D\data.ms



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 3.D

Acq On : 27 Mar 2019 12:13

Operator : BTT

Sample : Spiked Oregano

M : Methanol

ALS Vial : 41 Sample Multiplier: 1

Quant Time: Mar 27 12:55:39 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

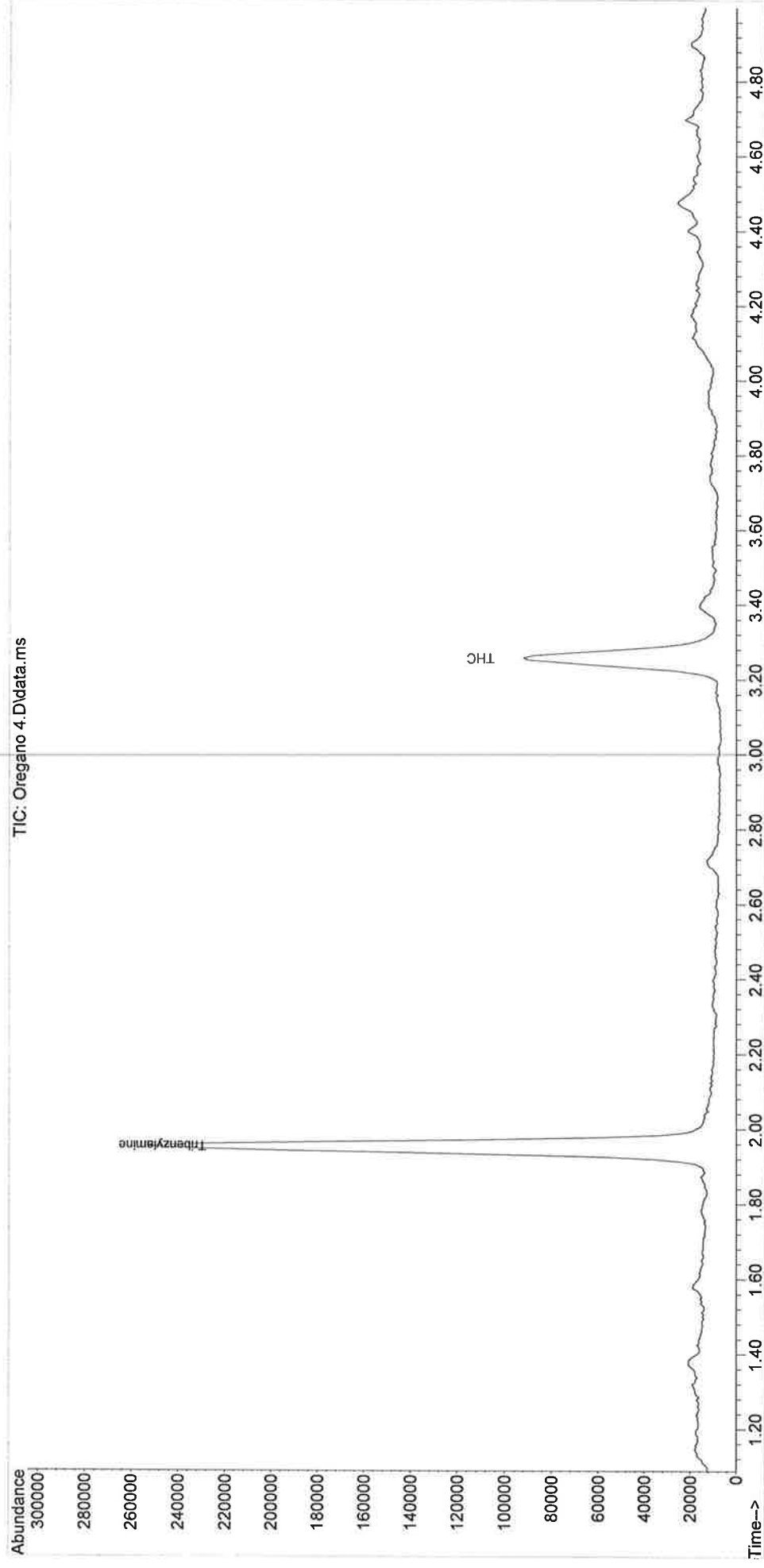
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tribenzylamine	1.956	TIC	5706691	150.00	ug/mL	0.00
Target Compounds						
2) THC	3.260	TIC	2669260	105.09	ug/mL	100

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

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\
 Data File : Oregano 4.D
 Acq On : 27 Mar 2019 12:37
 Operator : BTT
 Sample : Spiked Oregano
 Misc : Methanol
 ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 27 12:55:49 2019
 Quant Method : C:\msdchem\1\METHODS\THC Quant.M
 Quant Title : BT THC Quant
 QLast Update : Wed Mar 27 12:50:52 2019
 Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 4.D

Acq On : 27 Mar 2019 12:37

Operator : BTT

Sample : Spiked Oregano

M : Methanol

ALS Vial : 43 Sample Multiplier: 1

Quant Time: Mar 27 12:55:49 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.956	TIC	5461138	150.00	ug/mL	0.00
Target Compounds			Qvalue			
2) THC	3.260	TIC	2513024	103.42	ug/mL	100

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

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 5.D

Acq On : 27 Mar 2019 13:00

Operator : BTT

Sample : Spiked Oregano

Misc : Methanol

ALS Vial : 45 Sample Multiplier: 1

Quant Time: Mar 27 13:24:37 2019

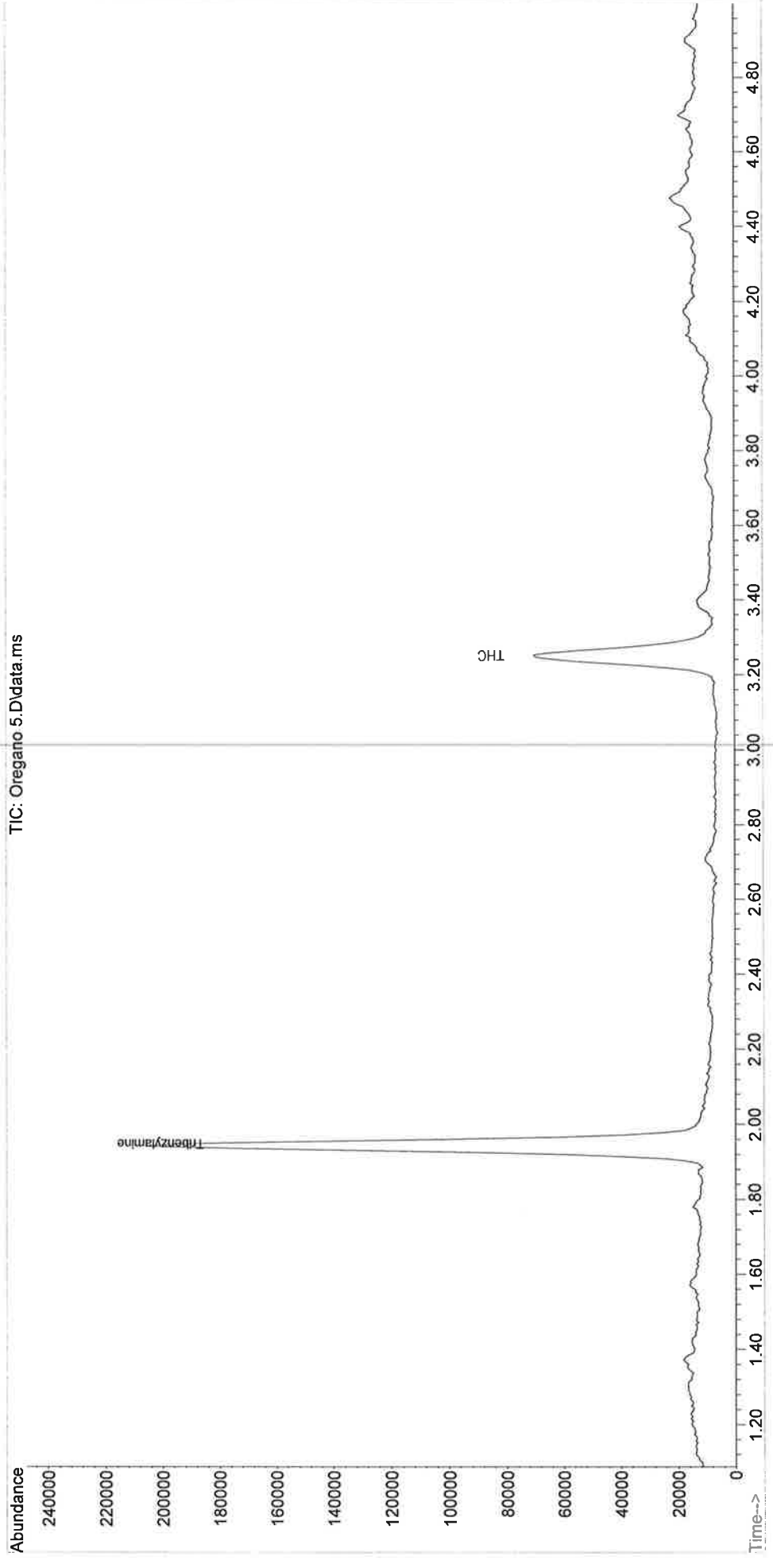
Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

TIC: Oregano 5.D\data.ms



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\
Data File : Oregano 5.D
Acq On : 27 Mar 2019 13:00
Operator : BTT
Sample : Spiked Oregano
M : Methanol
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Mar 27 13:24:37 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 27 12:50:52 2019
Response via : Initial Calibration

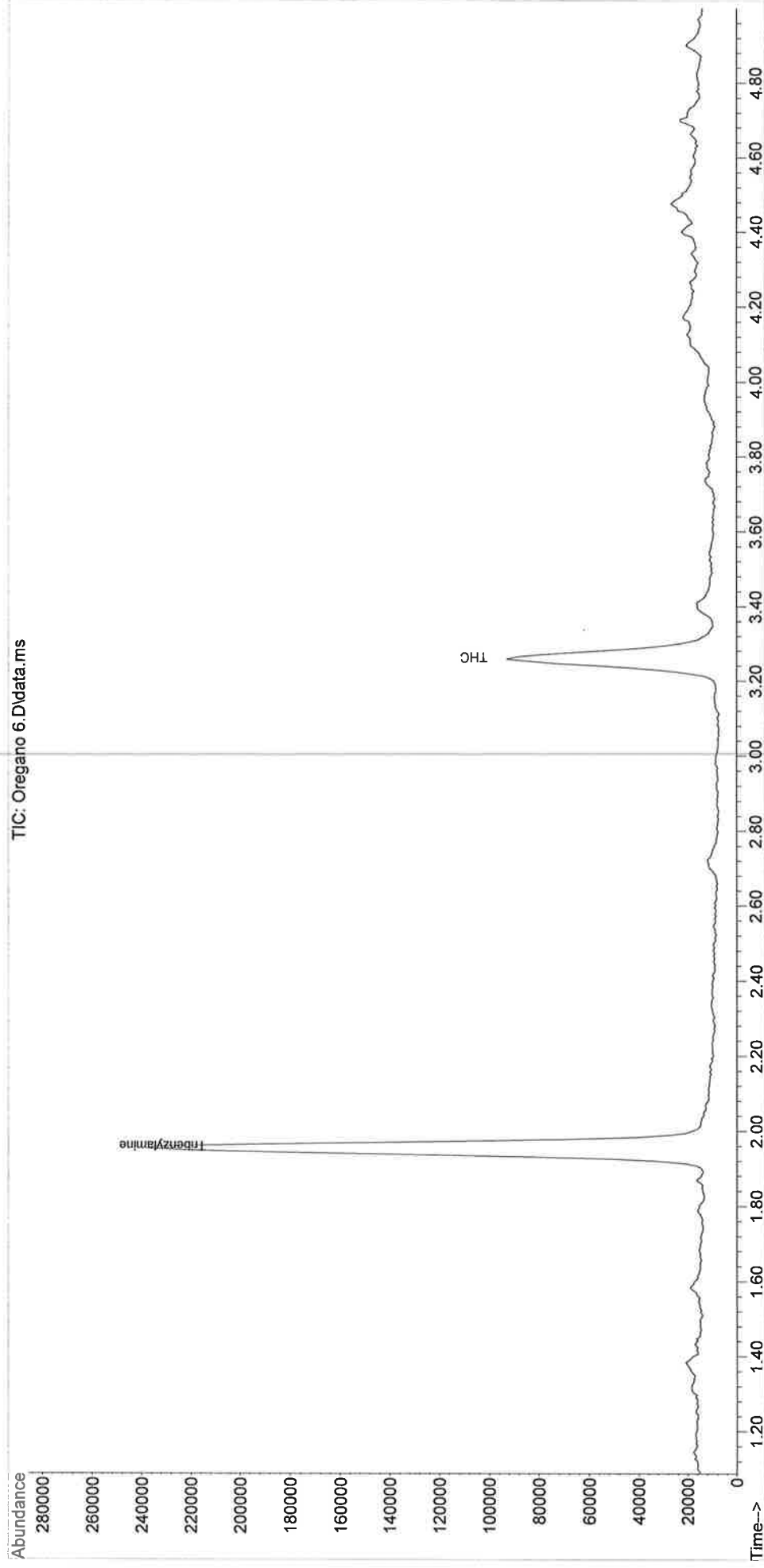
Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Tribenzylamine	1.947	TIC	4201166	150.00	ug/mL	0.00
Target Compounds				Qvalue		
2) THC	3.253	TIC	1963382	105.00	ug/mL	100

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

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 III
 Data File : Oregano 6.D
 Acq On : 27 Mar 2019 13:24
 Operator : BTT
 Sample : Spiked Oregano
 Misc : Methanol
 ALS Vial : 47 Sample Multiplier: 1

Quant Time: Mar 27 14:52:43 2019
 Quant Method : C:\msdchem\1\METHODS\THC Quant.M
 Quant Title : BT THC Quant
 QLast Update : Wed Mar 27 12:50:52 2019
 Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 6.D

Acq On : 27 Mar 2019 13:24

Operator : BTT

Sample : Spiked Oregano

M : Methanol

ALS Vial : 47 Sample Multiplier: 1

Quant Time: Mar 27 14:52:43 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

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

Internal Standards						
1) Tribenzylamine	1.958	TIC	5240223	150.00	ug/mL	0.00
Target Compounds				Qvalue		
2) THC	3.263	TIC	2540901	108.88	ug/mL	100

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

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 7.D

Acq On : 27 Mar 2019 13:47

Operator : BTT

Sample : Spiked Oregano

Misc : Methanol

ALS Vial : 49 Sample Multiplier: 1

Quant Time: Mar 27 14:53:14 2019

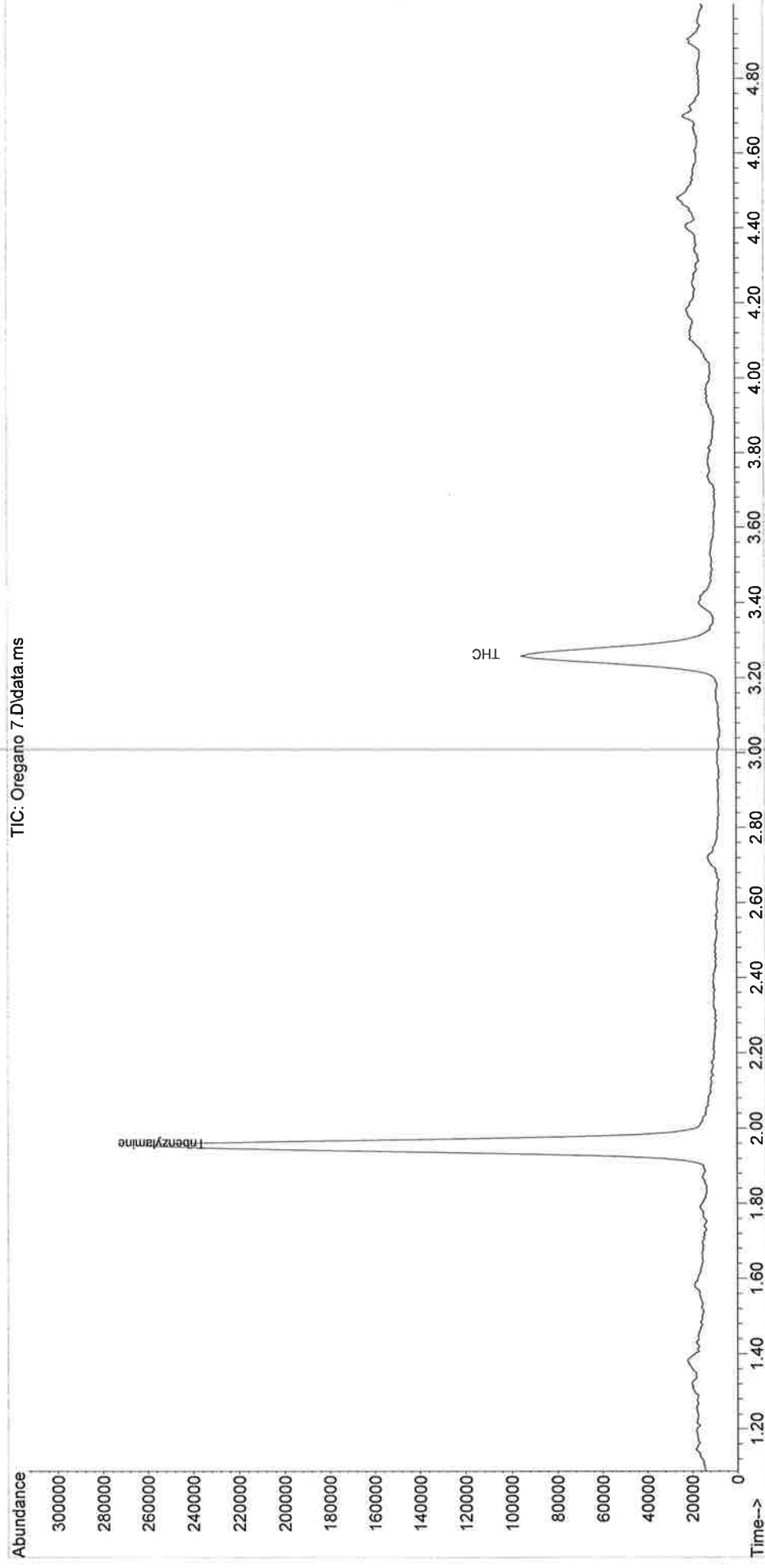
Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

TIC: Oregano 7.D\data.ms



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\

Data File : Oregano 7.D

Acq On : 27 Mar 2019 13:47

Operator : BTT

Sample : Spiked Oregano

M. : Methanol

ALS Vial : 49 Sample Multiplier: 1

Quant Time: Mar 27 14:53:14 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tribenzylamine	1.958	TIC	5741369	150.00	ug/mL	0.00
Target Compounds						
2) THC	3.262	TIC	2643634	103.48	ug/mL	100

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

TBI Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 III

Data File : Oregano 8.D

Acq On : 27 Mar 2019 14:11

Operator : BTT

Sample : Spiked Oregano

Misc : Methanol

ALS Vial : 51 Sample Multiplier: 1

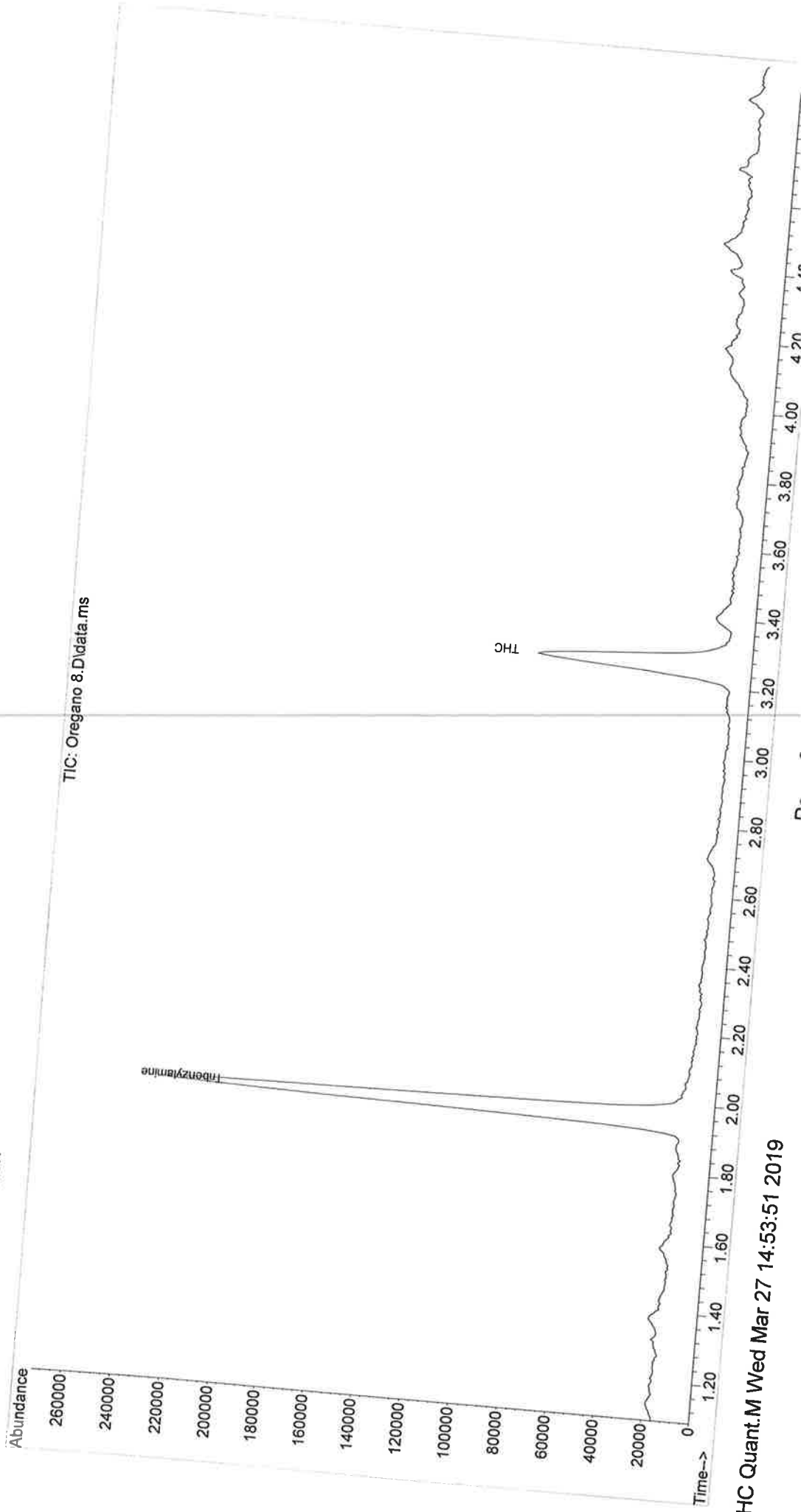
Quant Time: Mar 27 14:53:32 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration



Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 III
 File : Oregano 8.D
 Date : 27 Mar 2019 14:11
 Operator : BTT
 Sample : Spiked Oregano
 Material : Methanol
 ALS : 51 Sample Multiplier: 1

Quant Time: Mar 27 14:53:32 2019
 Quant Method : C:\msdchem\1\METHODS\THC Quant.M
 Quant Title : BT THC Quant
 QLast Update : Wed Mar 27 12:50:52 2019
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tribenzylamine	1.959	TIC	4991943	150.00	ug/mL	0.00
Target Compounds						
2) THC	3.263	TIC	2489700	111.95	ug/mL	100

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

Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19\11\

Data File : Oregano 9.D

Acq On : 27 Mar 2019 14:34

Operator : BTT

Sample : Spiked Oregano

Misc : Methanol

ALS Vial : 53 Sample Multiplier: 1

Quant Time: Mar 27 14:54:35 2019

Quant Method : C:\msdchem\1\METHODS\THC Quant.M

Quant Title : BT THC Quant

QLast Update : Wed Mar 27 12:50:52 2019

Response via : Initial Calibration



Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 III
 File : Oregano 9.D
 Date : 27 Mar 2019 14:34
 Operator : BTT
 Sample : Spiked Oregano
 Material : Methanol
 Volume : 53 Sample Multiplier: 1

Quant Time: Mar 27 14:54:35 2019
 Quant Method : C:\msdchem\1\METHODS\THC Quant.M
 Quant Title : BT THC Quant
 QLast Update : Wed Mar 27 12:50:52 2019
 Response via : Initial Calibration

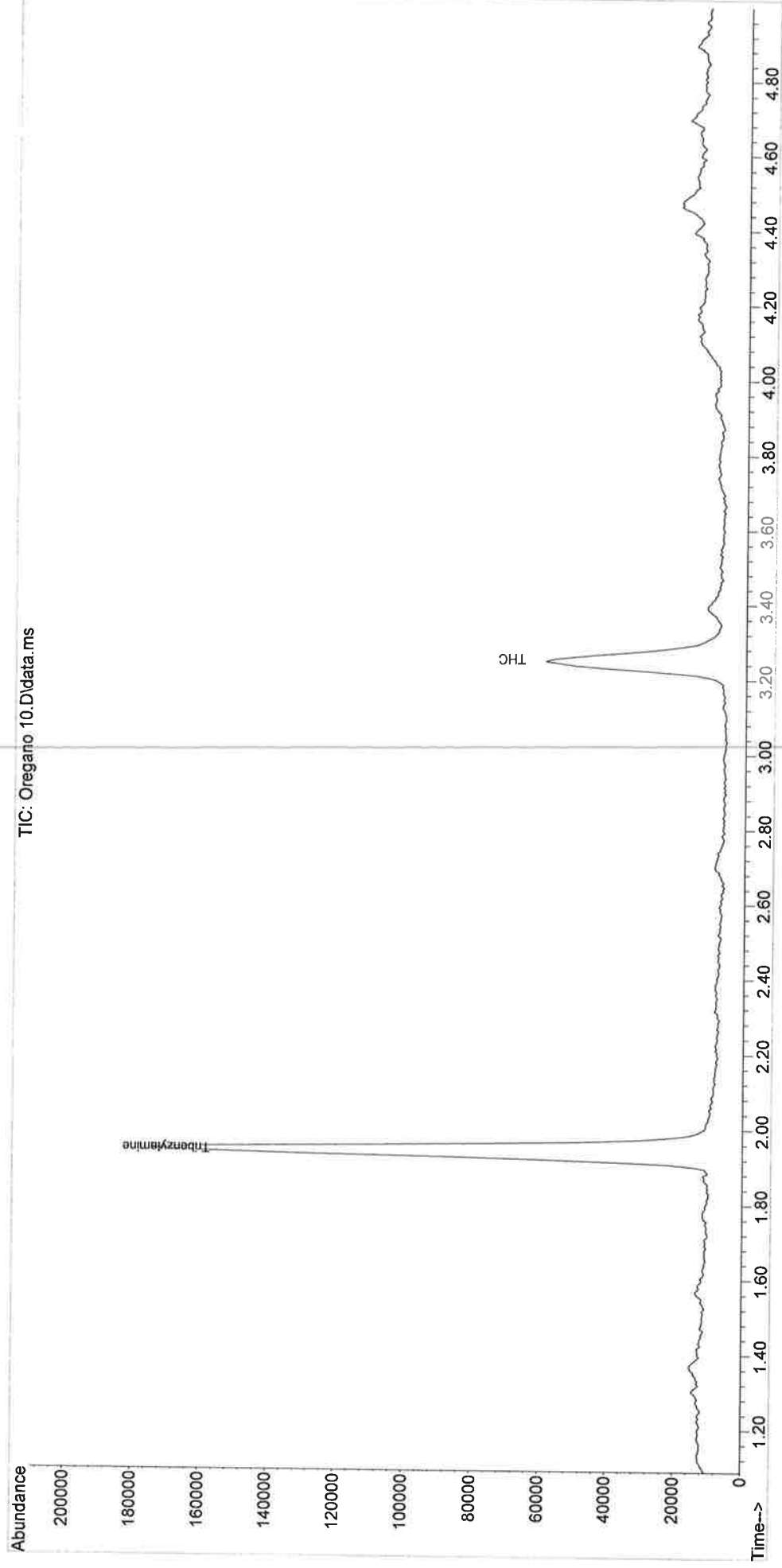
Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tribenzylamine	1.960	TIC	5148926	150.00	ug/mL	0.00
Target Compounds						
2) THC	3.264	TIC	2427628	105.92	ug/mL	100
					Qvalue	

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

TBI Quantitation Report (Not Reviewed)

Data Path : J:\msdchem\1\DATA\2019\BTT\3-27-19 II\
Data File : Oregano 10.D
Acq On : 27 Mar 2019 14:58
Operator : BTT
Sample : Spiked Oregano
Misc : Methanol
ALS Vial : 55 Sample Multiplier: 1

Quant Time: Mar 27 15:45:42 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 27 12:50:52 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\2019\BTT\3-27-19 II\
Data File : Oregano 10.D
Acq On : 27 Mar 2019 14:58
Operator : BTT
Sample : Spiked Oregano
M : Methanol
ALS Vial : 55 Sample Multiplier: 1

Quant Time: Mar 27 15:45:42 2019
Quant Method : C:\msdchem\1\METHODS\THC Quant.M
Quant Title : BT THC Quant
QLast Update : Wed Mar 27 12:50:52 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tribenzylamine	1.945	TIC	3674267	150.00	ug/mL	0.00
Target Compounds					Qvalue	
2) THC	3.250	TIC	1661674	101.66	ug/mL	100

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