3/4/2024

Worklist: 6709

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION	
M2024-0391	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
M2024-0478	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
M2024-0580	4	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2023-3296	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0195	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0255	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0276	2	BLOOD	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0280	2	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0307	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0393	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0412	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0419	3	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
P2024-0446	1	BCK	AM 27 Blood THC Quant by LC-QQQ	|||||||||||||
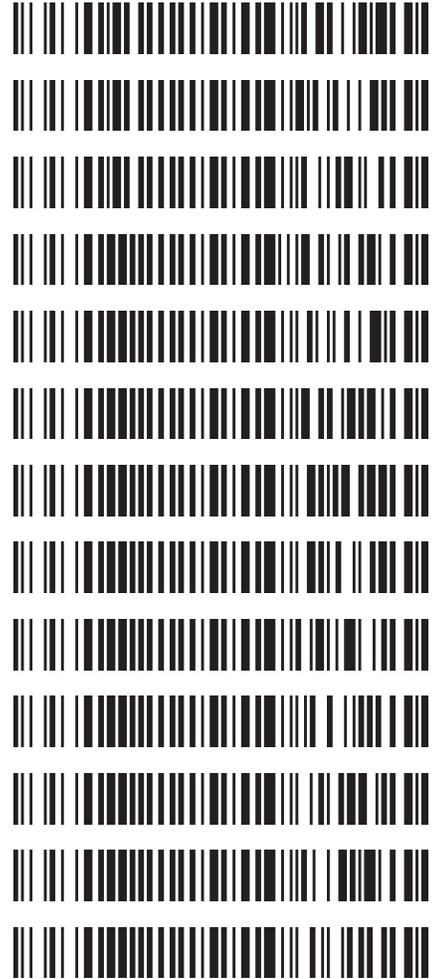
AM# 27: Quantitation of THC and Metabolites in Blood and Urine by LC-MS/MS

Extraction Date: 02/29/2024   Analyst: Celena Shrum
Plate lot#: 231212   Plate Retest Date: 06/12/2024
Mobile phase A: 0.1% Formic Acid in LCMS Water   **Mobile phase B:** 0.1% Formic acid in Acetonitrile
Blank Blood Lot: Lampire 23E52981   **Column**: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)
LCMS-QQQ ID: 069901

Pre-Analytic:
☒ 1. Check levels of mobile phases and needle wash refill as needed. Ensure waste is not full.
☒ 2. Ensure correct column is installed and begin mobile phase flow allow to equilibrate ~ 30 minutes.

Analytic:
☒ 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
☐ 2. Urine hydrolysis (if applicable): add 1.5mL urine to blank plate, add 250μl 1N KOH. Shake and incubate at 40 degrees for 15 minutes.
☒ 3. Using a calibrated pipette, add **1000μl blood or 1000μl hydrolyzed urine** into the appropriate wells of the analytical (standards) plate. **Pipette ID: #42**
☒ 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 5. Add **500μL of 0.1% formic acid in water to blood samples or 500μl of saturated phosphate buffer to urine samples** to the appropriate wells of the analytical plate.
☒ 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 7. Transfer **800μL of blood+acid mixture or urine+acid** to corresponding wells of SLE+ plate.
☒ 8. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent). *(Load at 85-100 PSI- Selector to the right)* Manifold ID: 067104
☒ 9. Wait 5 minutes.
☒ 10. Add **2.25mL MTBE. (*Add in 3 increments of 750uL*)**
☒ 11. Wait 5 minutes.
☒ 12. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
☒ 13. Add **2.25mL Hexane. (*Add in 3 increments of 750uL*)**
☒ 14. Wait 5 minutes.
☒ 15. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
☒ 16. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C. *SPE Dry ID: 067103*
☒ 16. Reconstitute in **100μL 100% MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

Post-Analytic
☒ 1. Create batch and process data.
☒ 2. Make any necessary integration changes, Curve weighting of Linear 1/x with r^2 values ≥0.98 for each analyte
☒ 3. RT +/- 3% or 0.100 min, whichever is greater, +/- 20% Accuracy for greater than (+/- 30% for 10ng/ml or less). Ion ratios must be within +/- 20% of the averaged calibrators
☒ 4. Case sample response for THC 1ng/mL and OH-THC 3ng/mL (quantitative), Carboxy-THC: 5ng/mL (qualitative only) will be reported. Samples with a THC or OH-THC response over 50 ng/mL will be reported out as greater than 50 ng/mL. THC concentrations of 1-3ng/mL will be reported qualitatively.
☒ 5. Did all QCs pass for each analyte? (if not, describe in comments section)
☒ 6. Enter QCs into control charting.
☒ 7. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: Curve limits: THC-OH 3-100 –calibrator 1 dropped due to poor chromatography/accuracy

	1	2	3	4	5	6
a					P2024-0280-2	QC 1
b				M2024-0391-1	P2024-0307-1*	cal 100 ng
c				M2024-0478-1	P2024-0393-1	cal 50 ng
d				M2024-0580-4	P2024-0412-1*	cal 25 ng
e				P2023-3296-1	P2024-0419-3	cal 10ng
f			P2024-0307-1*	P2024-0195-1	P2024-0446-1	cal 5 ng
g			P2024-0255-1*	P2024-0255-1*	NEG Blood	cal 3 ng
h			P2024-0412-1*	P2024-0276-2	QC 2	cal 1ng

*Moved during SLE portion of the extraction due to blood clots

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	MJ Negative Blood.d
Type	Sample	**Sample**	MJ Negative Blood
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-G5	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	2/29/2024 4:54:37 PM		
Sample Info.			

Sample Chromatogram

+ TIC MRM (** -> **) MJ Negative Blood.d (MJ Negative Blood)

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	MJ QC Control Blood.d
Type	QC	**Sample**	MJ QC Control Blood
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-A6	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	2/29/2024 4:28:24 PM		
Sample Info.			

Sample Chromatogram

+ TIC MRM (** -> **) MJ QC Control Blood.d (MJ QC Control Blood)
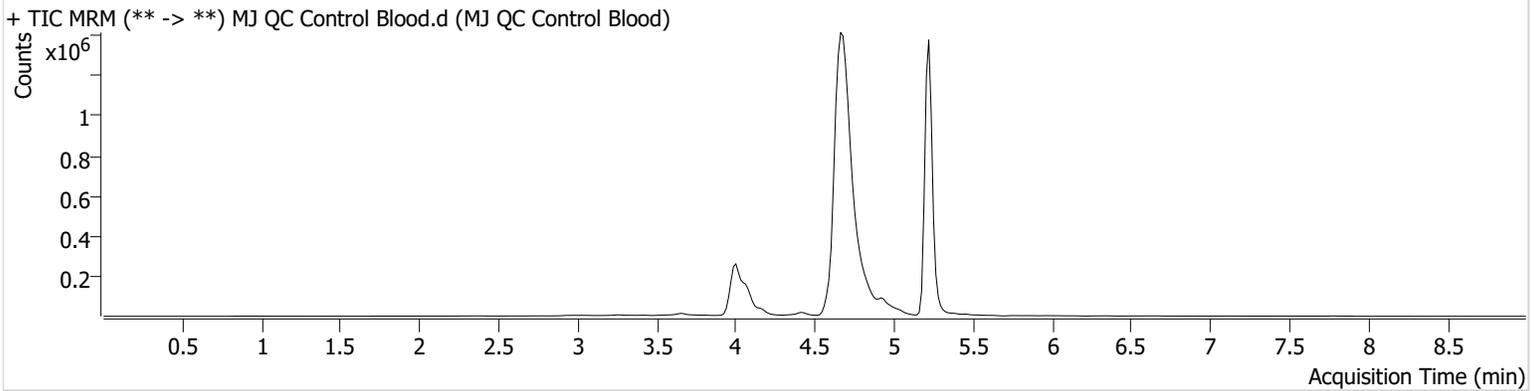
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.225	198831	3119.21	24.9	∞	4313088	5.1901 ng/ml
THC-COOH	4.075	26830	∞	230.3	1164.45	333030	15.1596 ng/ml
THC-OH	4.001	86207	∞	12.0	∞	1040021	5.1913 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	QC end MJ.d
Type	QC	**Sample**	QC end MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-H5	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	2/29/2024 11:01:50 PM		
Sample Info.			

Sample Chromatogram

+ TIC MRM (** -> **) QC end MJ.d (QC end MJ)
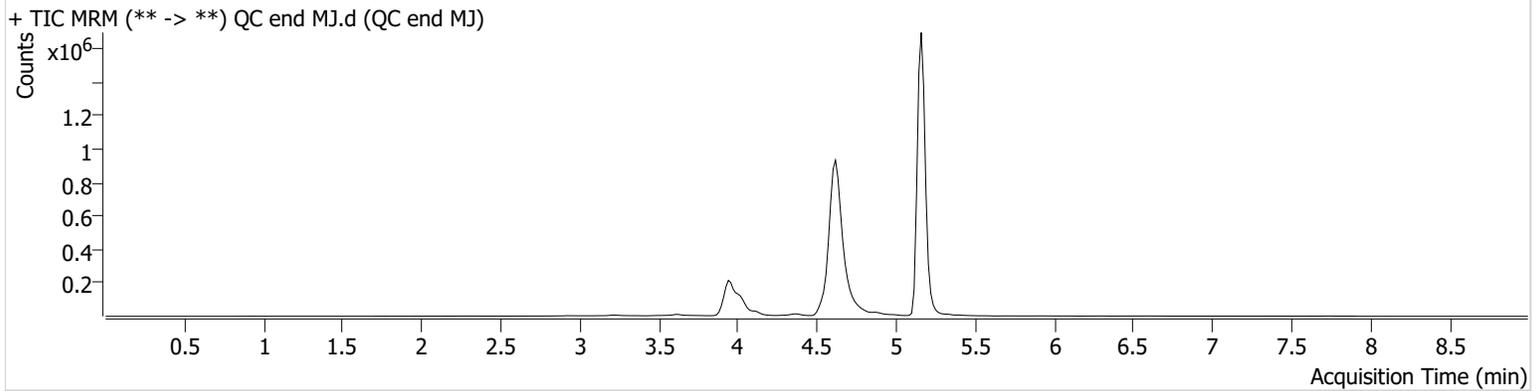
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.165	242909	6582.73	24.8	∞	5612512	4.8894 ng/ml
THC-COOH	4.030	21085	∞	239.4	∞	275035	14.4709 ng/ml
THC-OH	3.956	67219	∞	12.5	∞	862933	4.8902 ng/ml

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin

Last Cal. Update   3/5/2024 9:52 AM

Analyst Name   ISP\datastor

Analyte   THC   **Internal Standard**   THC-D3

THC - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 2 QCs

$y = 0.009378 * x - 0.002572$

$R^2 = 0.99959057$

Type:Linear, Origin:Ignore, Weight:1/x
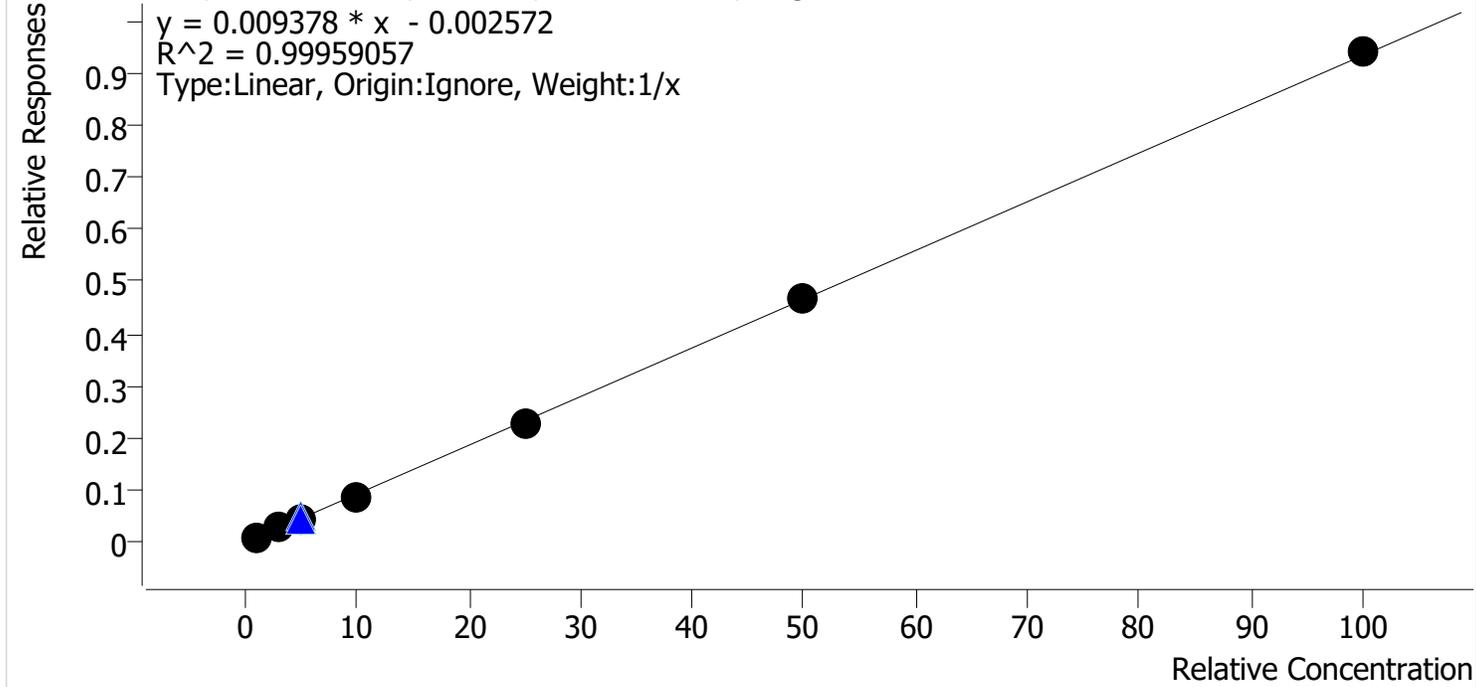
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.1	111.5
Cal 2 MJ	2	✔	3.0	3.0	98.7
Cal 3 MJ	3	✔	5.0	4.7	94.2
Cal 4 MJ	4	✔	10.0	9.6	96.2
Cal 5 MJ	5	✔	25.0	24.4	97.7
Cal 6 MJ	6	✔	50.0	50.5	101.0
Cal 7 MJ	7	✔	100.0	100.7	100.7

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update   3/5/2024 9:52 AM
Analyst Name   ISP\datastor
Analyte   THC-COOH   **Internal Standard**   THC-COOH-D9

THC-COOH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 2 QCs

$y = 0.005665 * x - 0.005309$
$R^2 = 0.99962819$
Type:Linear, Origin:Ignore, Weight:1/x
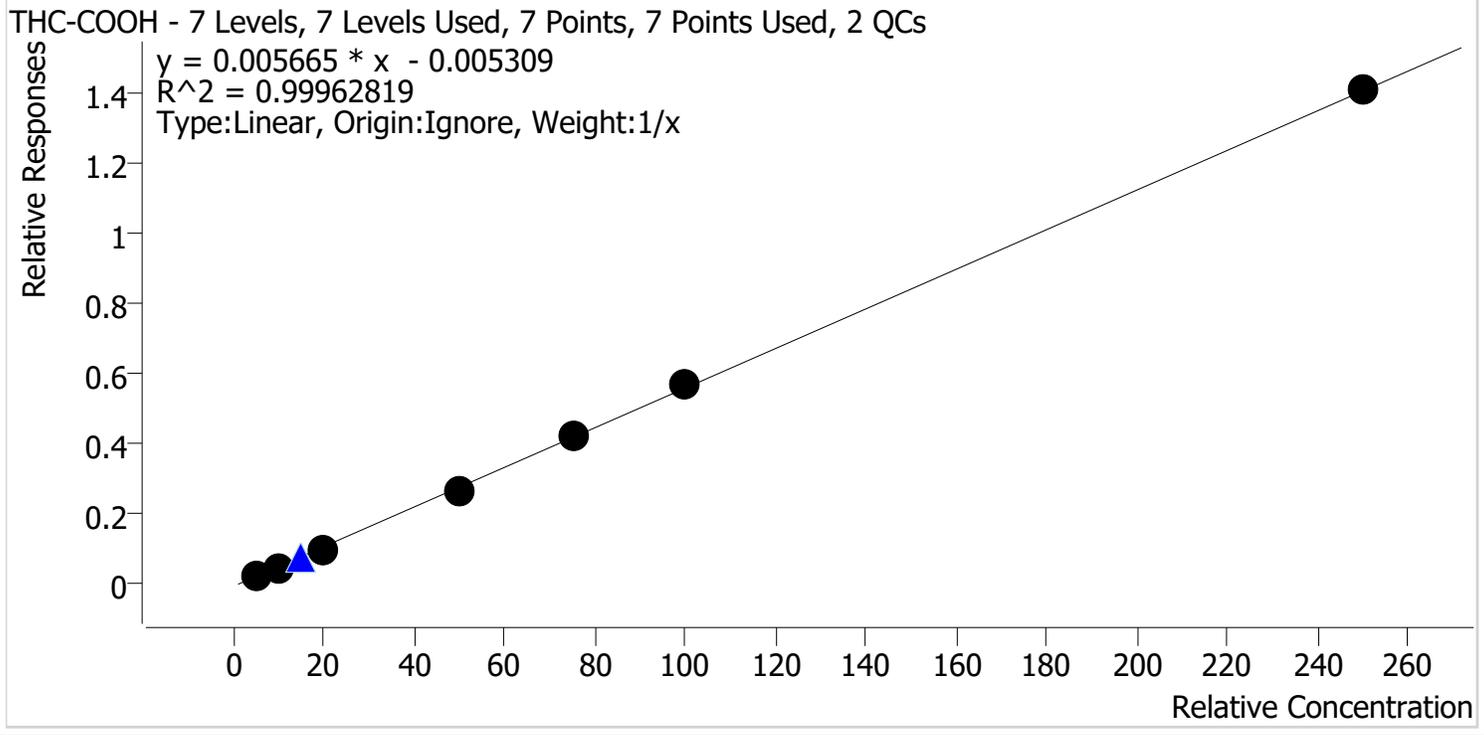
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	5.0	5.4	108.5
Cal 2 MJ	2	✔	10.0	9.7	96.8
Cal 3 MJ	3	✔	20.0	19.0	95.0
Cal 4 MJ	4	✔	50.0	48.8	97.6
Cal 5 MJ	5	✔	75.0	75.7	101.0
Cal 6 MJ	6	✔	100.0	101.0	101.0
Cal 7 MJ	7	✔	250.0	250.4	100.2

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results　　　　D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update　　　3/5/2024 9:52 AM
Analyst Name　　　　ISP\datastor
Analyte　　　　　　　THC-OH　　　　　　　　　　　　**Internal Standard**　　　THC-OH-D3

THC-OH - 7 Levels, 6 Levels Used, 7 Points, 6 Points Used, 2 QCs
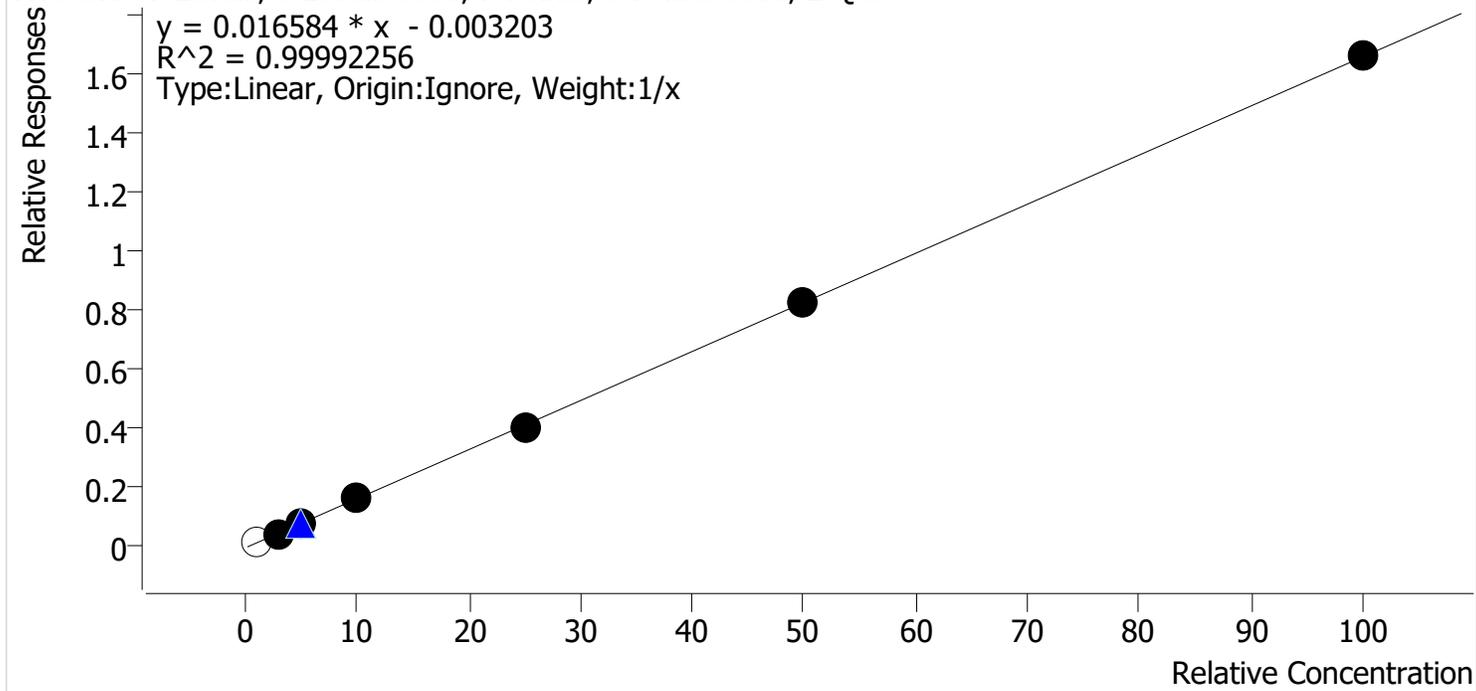
$y = 0.016584 * x - 0.003203$
$R^2 = 0.99992256$
Type:Linear, Origin:Ignore, Weight:1/x

Relative Responses vs. Relative Concentration

Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✗	1.0	1.3	132.9
Cal 2 MJ	2	✔	3.0	3.0	100.3
Cal 3 MJ	3	✔	5.0	5.1	101.7
Cal 4 MJ	4	✔	10.0	9.9	98.9
Cal 5 MJ	5	✔	25.0	24.6	98.4
Cal 6 MJ	6	✔	50.0	50.3	100.6
Cal 7 MJ	7	✔	100.0	100.1	100.1

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	Cal 1 MJ.d
Type	Cal	**Sample**	Cal 1 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-H6	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	2/29/2024 2:43:23 PM		
Sample Info.			

Sample Chromatogram

+ TIC MRM (** -> **) Cal 1 MJ.d (Cal 1 MJ)
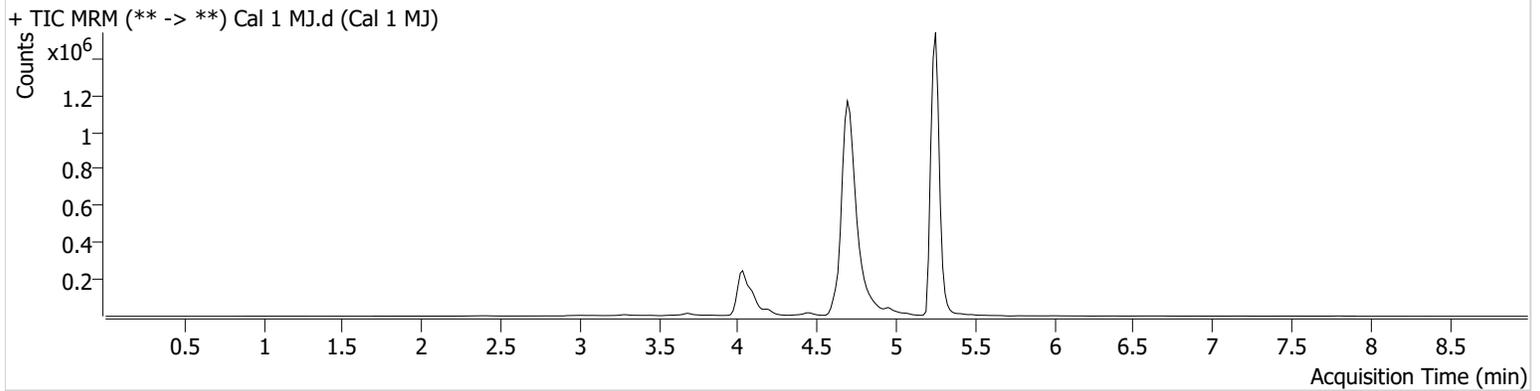
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.255	44387	999.23	27.6	∞	5627986	1.1152 ng/ml
THC-COOH	4.105	8051	∞	250.4	212.91	316595	5.4266 ng/ml
THC-OH	4.031	19225	∞	11.8	13.95	1020212	1.3294 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	Cal 2 MJ.d
Type	Cal	**Sample**	Cal 2 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-G6	**Comment**	Only drugs and concentrations listed on the laboratory
Injection Volume	10		report itself are appropriate to be used for
Acq. Date-Time	2/29/2024 2:56:39 PM		interpretation purposes. Any drugs or values included
Sample Info.			in the notes but not included on the report are used by
			laboratory personnel to make determinations/reach
			conclusions within the confines of the methods.

Sample Chromatogram

+ TIC MRM (** -> **) Cal 2 MJ.d (Cal 2 MJ)
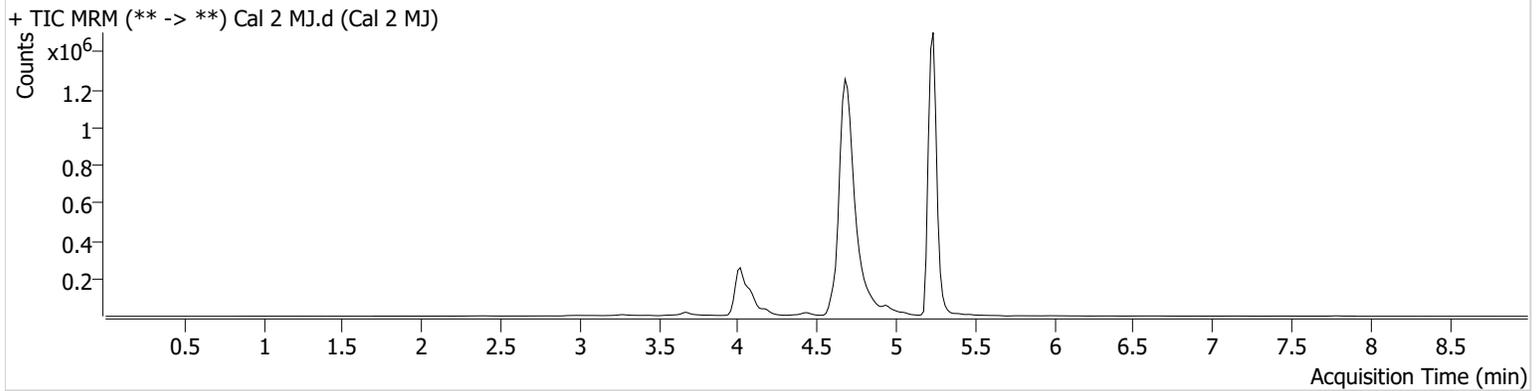
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.240	133763	1230.60	25.3	∞	5306762	2.9621 ng/ml
THC-COOH	4.090	15399	146.17	255.6	475.91	310814	9.6838 ng/ml
THC-OH	4.016	47597	47.56	12.3	195.18	1018880	3.0100 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	Cal 3 MJ.d
Type	Cal	**Sample**	Cal 3 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-F6	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	2/29/2024 3:09:46 PM		
Sample Info.			

Sample Chromatogram

+ TIC MRM (** -> **) Cal 3 MJ.d (Cal 3 MJ)
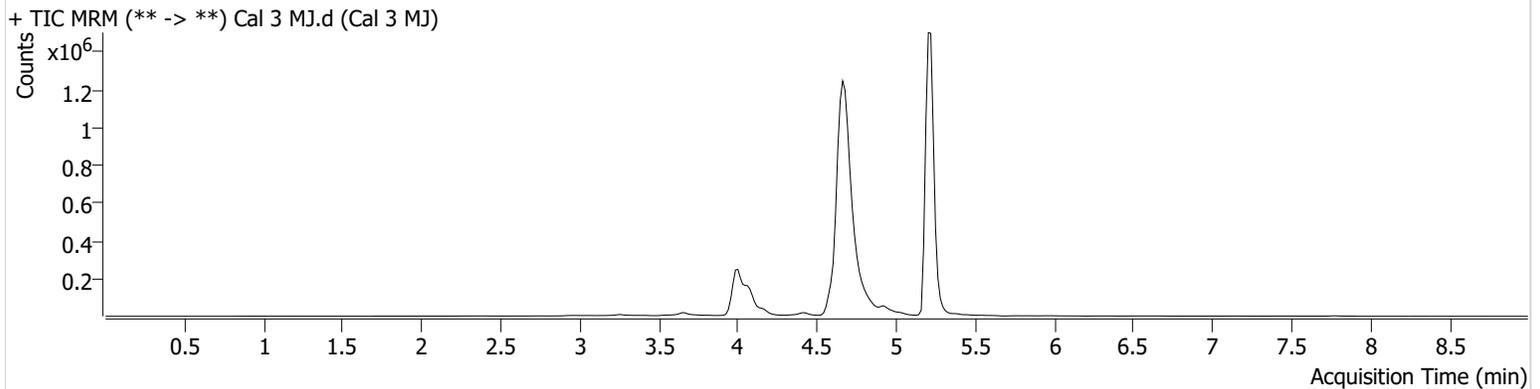
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.225	219556	1411.54	23.9	∞	5280438	4.7081 ng/ml
THC-COOH	4.075	31920	∞	234.2	∞	312068	18.9939 ng/ml
THC-OH	4.001	79742	109.41	12.8	156.03	983170	5.0838 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	Cal 4 MJ.d
Type	Cal	**Sample**	Cal 4 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-E6	**Comment**	Only drugs and concentrations listed on the laboratory
Injection Volume	10		report itself are appropriate to be used for
Acq. Date-Time	2/29/2024 3:22:53 PM		interpretation purposes. Any drugs or values included
Sample Info.			in the notes but not included on the report are used by
			laboratory personnel to make determinations/reach
			conclusions within the confines of the methods.

Sample Chromatogram

+ TIC MRM (** -> **) Cal 4 MJ.d (Cal 4 MJ)
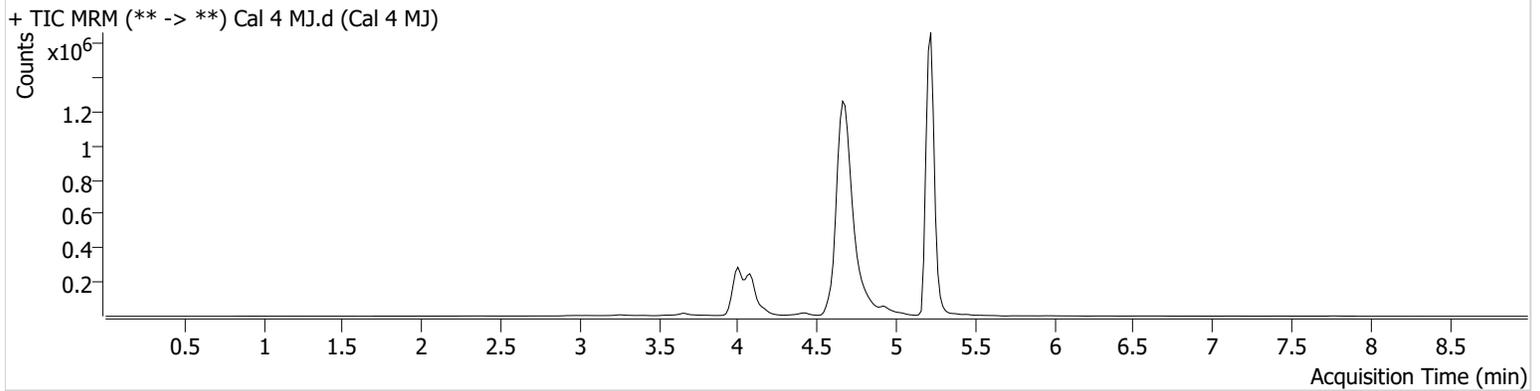
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.225	476818	5143.21	23.4	∞	5438463	9.6236 ng/ml
THC-COOH	4.075	88553	∞	230.4	∞	326755	48.7793 ng/ml
THC-OH	4.001	170772	183.12	12.2	∞	1061656	9.8926 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	Cal 5 MJ.d
Type	Cal	**Sample**	Cal 5 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-D6	**Comment**	Only drugs and concentrations listed on the laboratory report itself are appropriate to be used for interpretation purposes. Any drugs or values included in the notes but not included on the report are used by laboratory personnel to make determinations/reach conclusions within the confines of the methods.
Injection Volume	10		
Acq. Date-Time	2/29/2024 3:35:59 PM		
Sample Info.			

Sample Chromatogram

+ TIC MRM (** -> **) Cal 5 MJ.d (Cal 5 MJ)
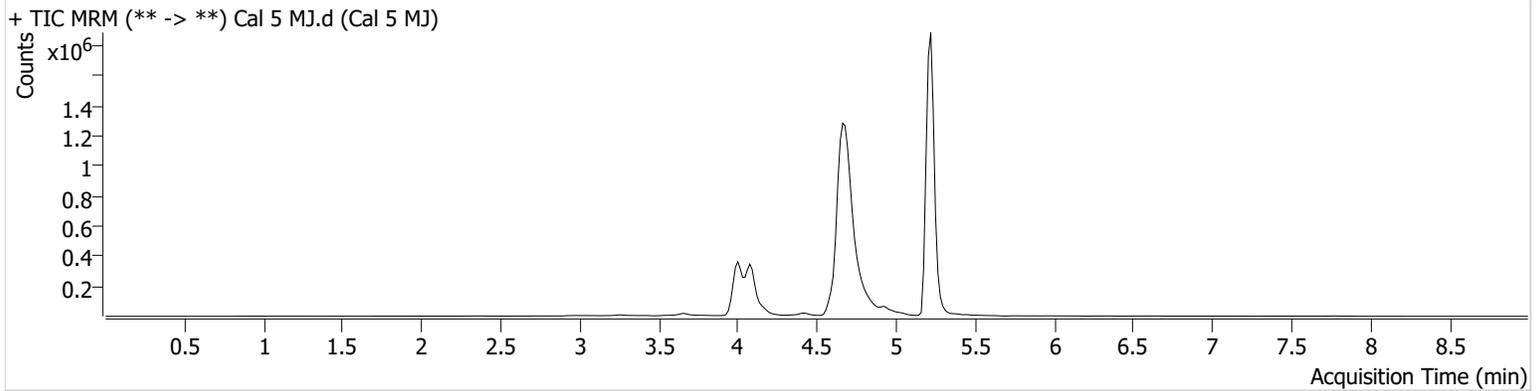
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.225	1187681	5899.46	24.1	∞	5244664	24.4225 ng/ml
THC-COOH	4.075	138991	∞	234.4	∞	328074	75.7273 ng/ml
THC-OH	4.001	434582	850.22	12.7	1406.98	1074031	24.5920 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update   3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	Cal 6 MJ.d
Type	Cal	**Sample**	Cal 6 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-C6	**Comment**	Only drugs and concentrations listed on the laboratory
Injection Volume	10		report itself are appropriate to be used for
Acq. Date-Time	2/29/2024 3:49:05 PM		interpretation purposes. Any drugs or values included
Sample Info.			in the notes but not included on the report are used by
			laboratory personnel to make determinations/reach
			conclusions within the confines of the methods.

Sample Chromatogram

+ TIC MRM (** -> **) Cal 6 MJ.d (Cal 6 MJ)
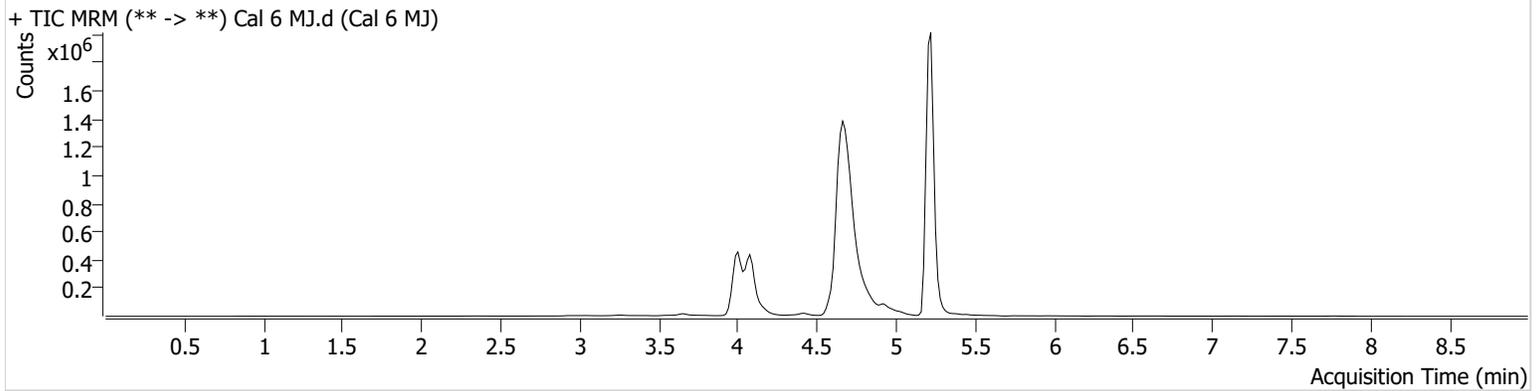
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.225	2083234	∞	24.6	∞	4424507	50.4828 ng/ml
THC-COOH	4.075	179869	3341.43	227.5	∞	317460	100.9601 ng/ml
THC-OH	4.001	857372	∞	12.8	1369.46	1032283	50.2754 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results   D:\MassHunter\Data\2024\AM 27 28\022924 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 3/5/2024 9:52:07 AM

Instrument	Falco (069901)	**Data File**	Cal 7 MJ.d
Type	Cal	**Sample**	Cal 7 MJ
Acq. Method	AM 27 Agilent Method.m	**Operator**	Celena Shrum
Sample Position	P1-B6	**Comment**	Only drugs and concentrations listed on the laboratory
Injection Volume	10		report itself are appropriate to be used for
Acq. Date-Time	2/29/2024 4:02:11 PM		interpretation purposes. Any drugs or values included
Sample Info.			in the notes but not included on the report are used by
			laboratory personnel to make determinations/reach
			conclusions within the confines of the methods.

Sample Chromatogram

+ TIC MRM (** -> **) Cal 7 MJ.d (Cal 7 MJ)
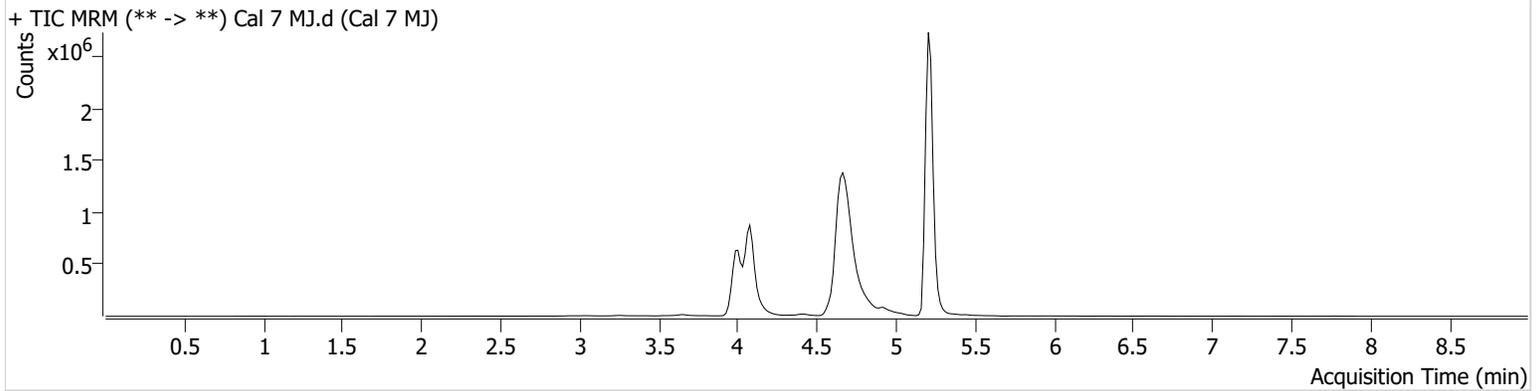
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.210	3998539	∞	24.4	∞	4246419	100.6857 ng/ml
THC-COOH	4.075	415122	4941.40	236.6	5255.05	293731	250.4290 ng/ml
THC-OH	4.001	1651680	∞	11.7	∞	996422	100.1463 ng/ml