REVIEWED
By Tamara Salazar at 1:51 pm, Jun 10, 2024

6/6/2024

Worklist: 6834

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2024-2043	2	BCK	AM 27 Blood THC Quant by LC-QQQ
M2024-2071	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1539	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1573	2	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1585	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1592	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1603	2	BLOOD	AM 27 Blood THC Quant by LC-QQQ
P2024-1639	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1640	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1700	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2024-1702	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: 06/04/2024
Analyst: Celena Shrum
Plate lot#: 240513
Plate Retest Date: 11/13/2024
Mobile phase A: 0.1% Formic Acid in LCMS Water
Mobile phase B: 0.1% Formic acid in Acetonitrile
Blank Blood Lot: Lampire 24C52816
Column: UCT Selectra DA 100 x 2.1mm 3um
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*
☒ 17. 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: Run showed lowered/missing ISTD responses. Maintenance was performed on the instrument and the entire run was reinject on 6/5/24. This data will be used for evaluation. Curve Range: Carboxy-THC 10-250-- Cal 1 dropped due to peak shape

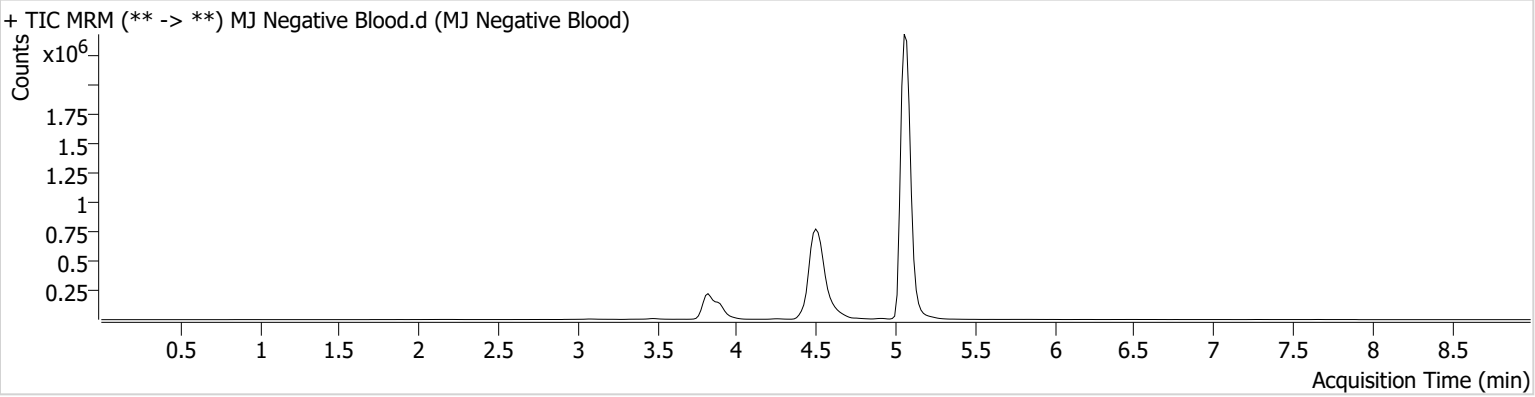
	1	2	3	4	5	6
A	IS + Cal. 1	QC2	P2024-1603-2			
B	IS + Cal. 2	NEG Blood	P2024-1639-1			
C	IS + Cal. 3	M2024-2043-2	P2024-1640-1			
D	IS + Cal. 4	M2024-2071-1	P2024-1700-1			
E	IS + Cal. 5	P2024-1539-1	P2024-1702-1			
F	IS + Cal. 6	P2024-1573-2				
G	IS + Cal. 7	P2024-1585-1				
H	QC1	P2024-1592-1				

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-B2	**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	6/5/2024 3:51:09 PM		
Sample Info.			

Sample Chromatogram

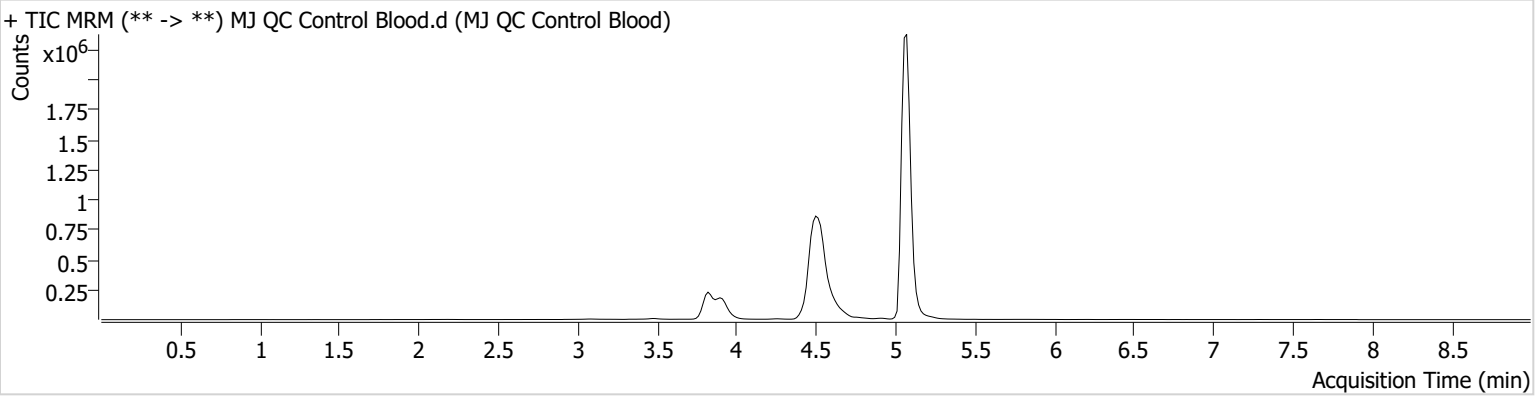


AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-H1	**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	6/5/2024 3:20:56 PM		
Sample Info.			

Sample Chromatogram



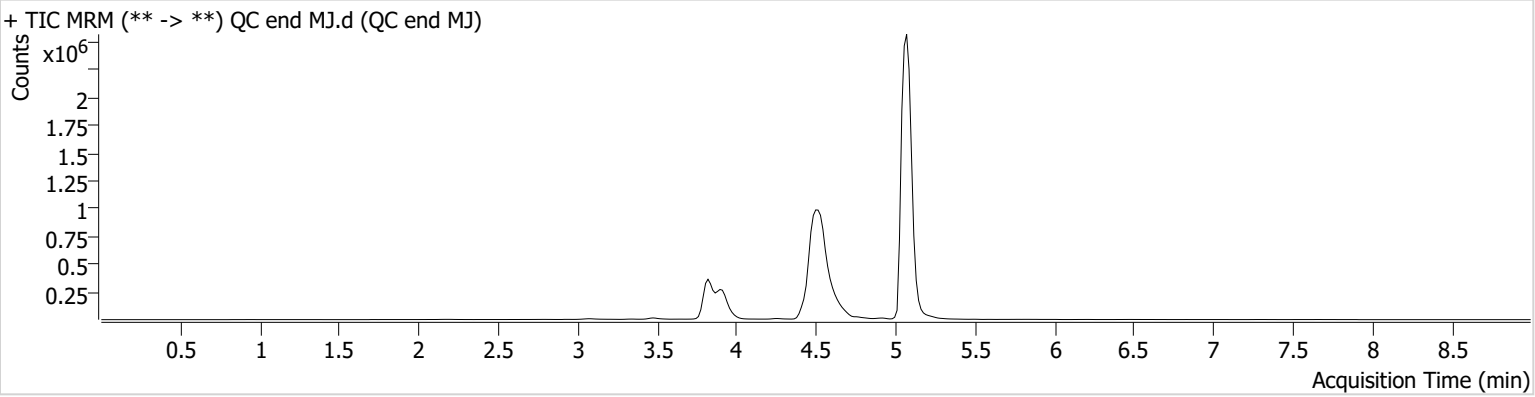
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	418691	5934.09	25.1	∞	8744076	5.0768 ng/ml
THC-COOH	3.909	48380	1361.93	252.0	∞	433641	14.9334 ng/ml
THC-OH	3.820	86419	∞	13.6	∞	957467	4.9024 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-H1	**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	6/5/2024 9:06:00 PM		
Sample Info.			

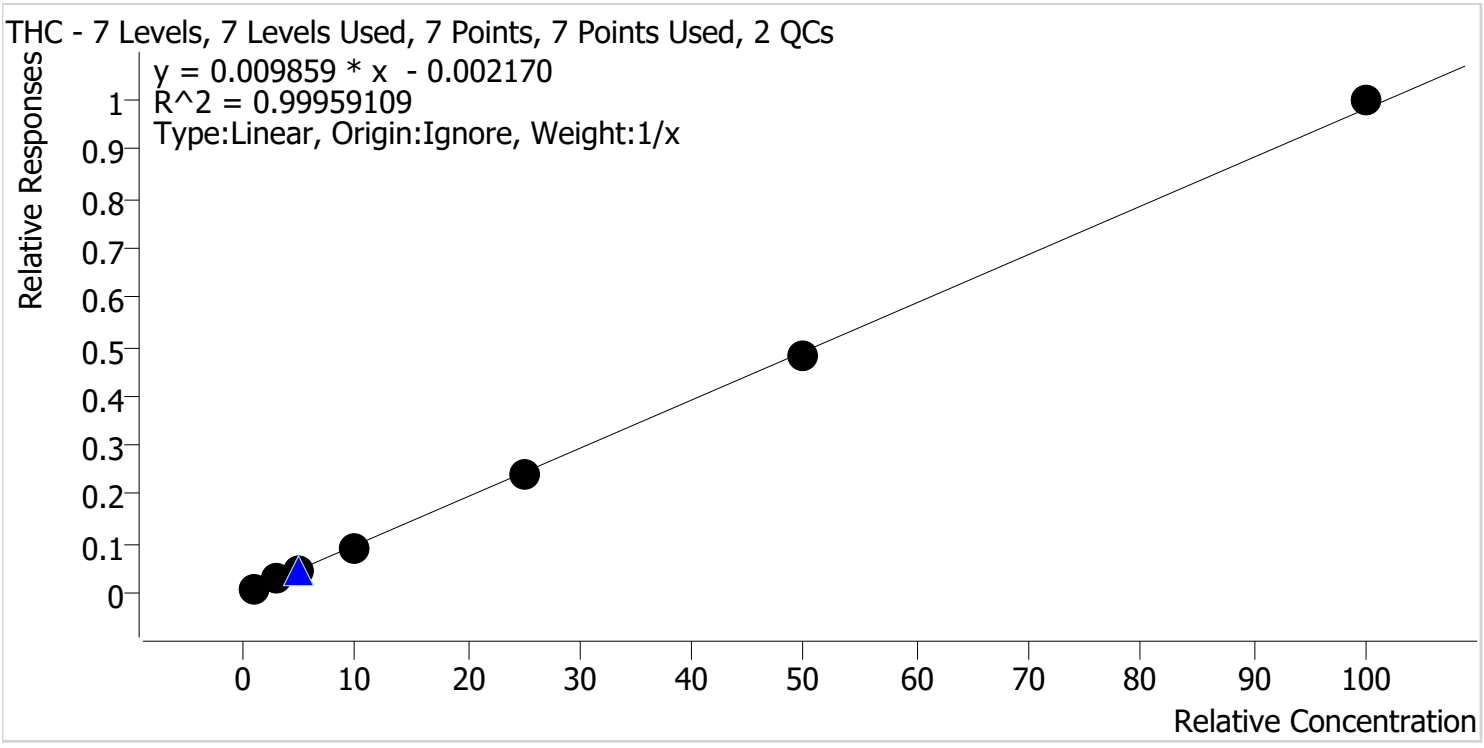
Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	495041	∞	25.4	∞	10499080	5.0025 ng/ml
THC-COOH	3.909	72947	∞	252.7	∞	634998	15.3449 ng/ml
THC-OH	3.820	135995	∞	12.6	257.02	1471281	5.0164 ng/ml

AM #27 Cannabinoids Quant. Calibration Curve Report

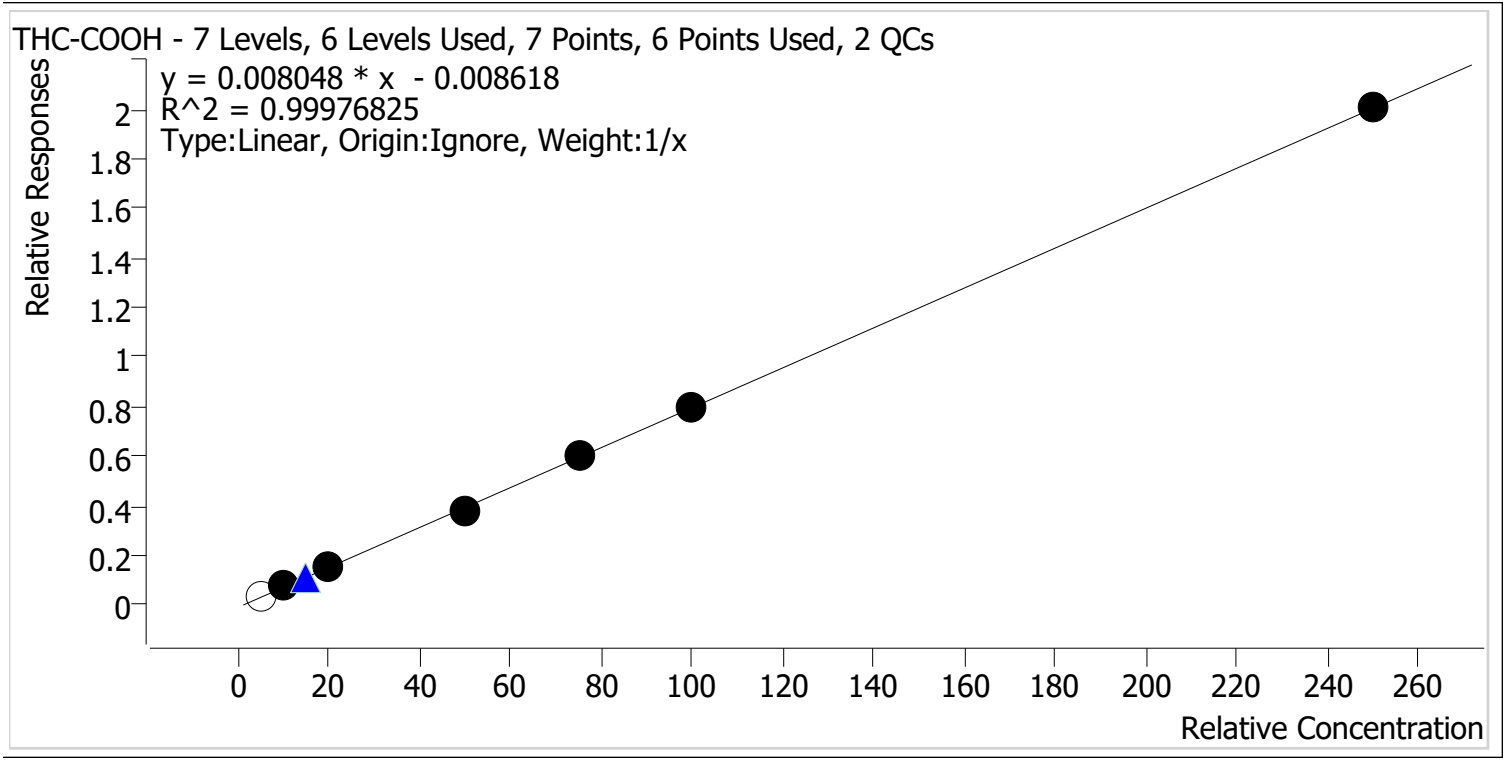
Batch results	D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	6/10/2024 8:31 AM
Analyst Name	ISP\Datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.1	105.7
Cal 2 MJ	2	✔	3.0	3.0	99.9
Cal 3 MJ	3	✔	5.0	5.0	99.6
Cal 4 MJ	4	✔	10.0	9.7	97.0
Cal 5 MJ	5	✔	25.0	24.5	98.0
Cal 6 MJ	6	✔	50.0	49.1	98.2
Cal 7 MJ	7	✔	100.0	101.7	101.7

AM #27 Cannabinoids Quant. Calibration Curve Report

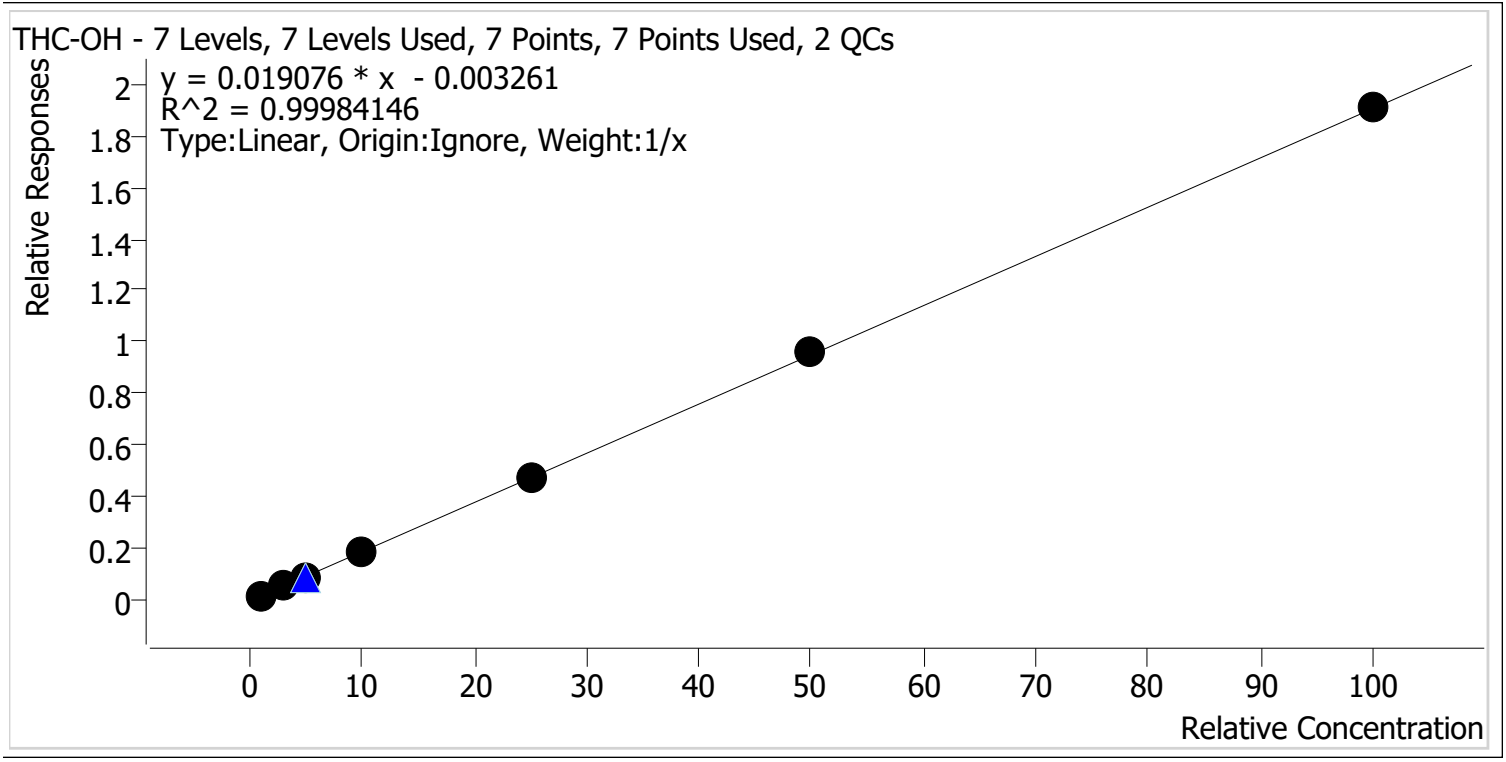
Batch results	D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	6/10/2024 8:31 AM
Analyst Name	ISP\Datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✗	5.0	5.8	115.4
Cal 2 MJ	2	✔	10.0	10.3	103.0
Cal 3 MJ	3	✔	20.0	19.7	98.7
Cal 4 MJ	4	✔	50.0	48.4	96.7
Cal 5 MJ	5	✔	75.0	75.6	100.8
Cal 6 MJ	6	✔	100.0	100.7	100.7
Cal 7 MJ	7	✔	250.0	250.3	100.1

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	6/10/2024 8:31 AM
Analyst Name	ISP\Datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



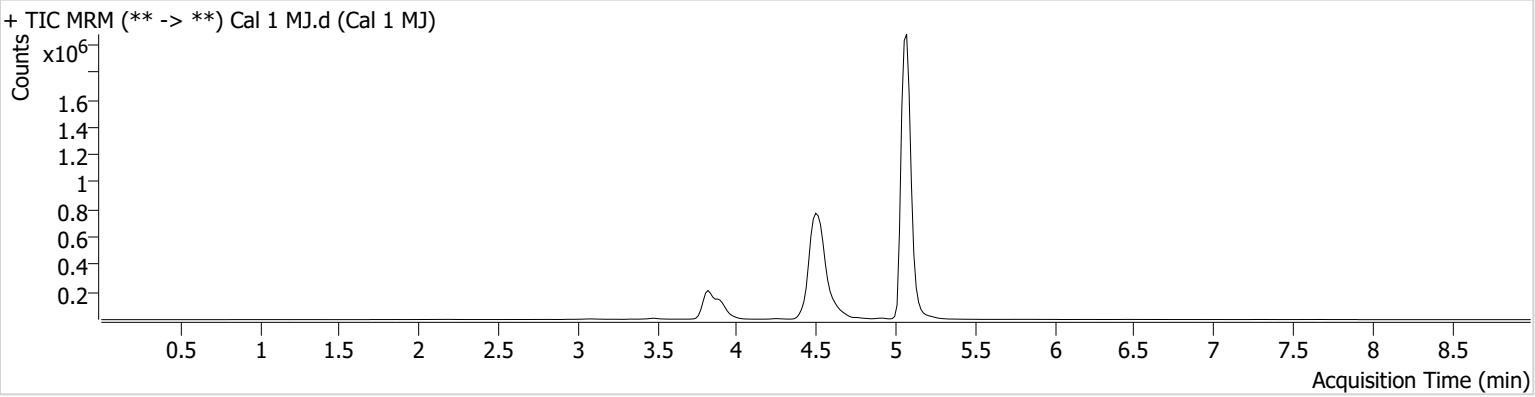
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✔	1.0	1.1	106.5
Cal 2 MJ	2	✔	3.0	3.0	99.1
Cal 3 MJ	3	✔	5.0	4.9	97.2
Cal 4 MJ	4	✔	10.0	9.7	97.3
Cal 5 MJ	5	✔	25.0	24.7	98.6
Cal 6 MJ	6	✔	50.0	50.5	101.1
Cal 7 MJ	7	✔	100.0	100.2	100.2

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-A1	**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	6/5/2024 1:35:55 PM		
Sample Info.			

Sample Chromatogram



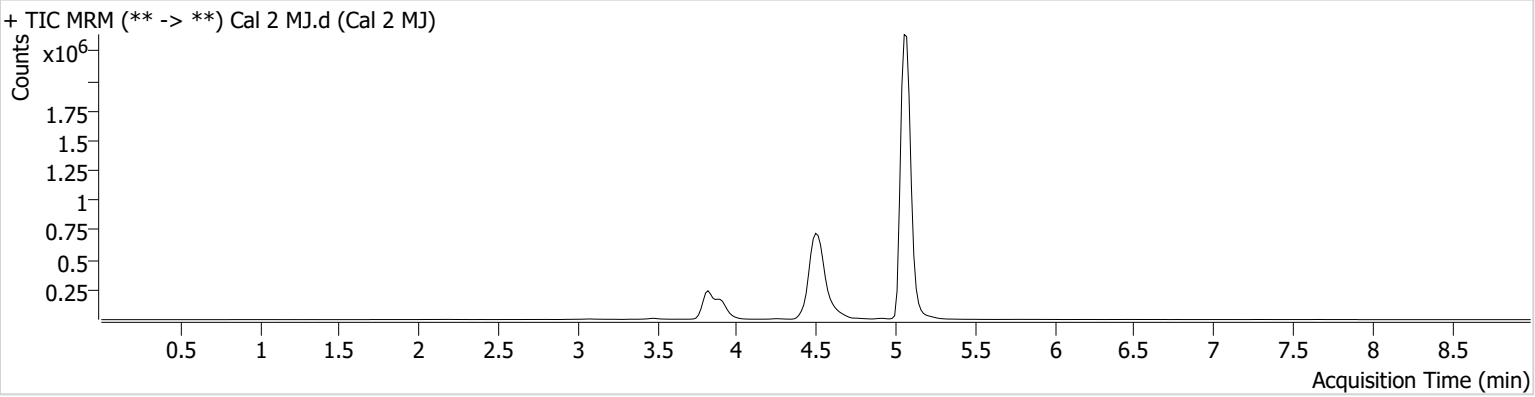
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	69619	700.26	28.6	∞	8440103	1.0568 ng/ml
THC-COOH	3.909	15871	∞	234.7	∞	419864	5.7677 ng/ml
THC-OH	3.820	16360	∞	14.2	15.87	959123	1.0651 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-B1	**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	6/5/2024 1:49:12 PM		
Sample Info.			

Sample Chromatogram



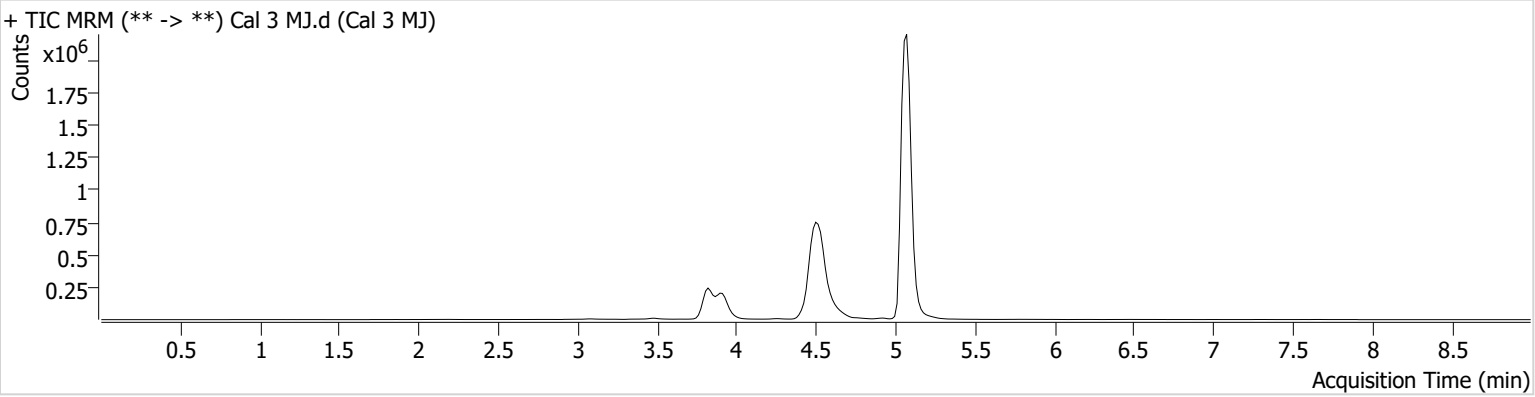
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	272897	∞	25.0	121.92	9963389	2.9982 ng/ml
THC-COOH	3.909	33755	1365.79	258.3	∞	454548	10.2980 ng/ml
THC-OH	3.820	56252	214.08	13.6	79.00	1052460	2.9728 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-C1	**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	6/5/2024 2:02:18 PM		
Sample Info.			

Sample Chromatogram



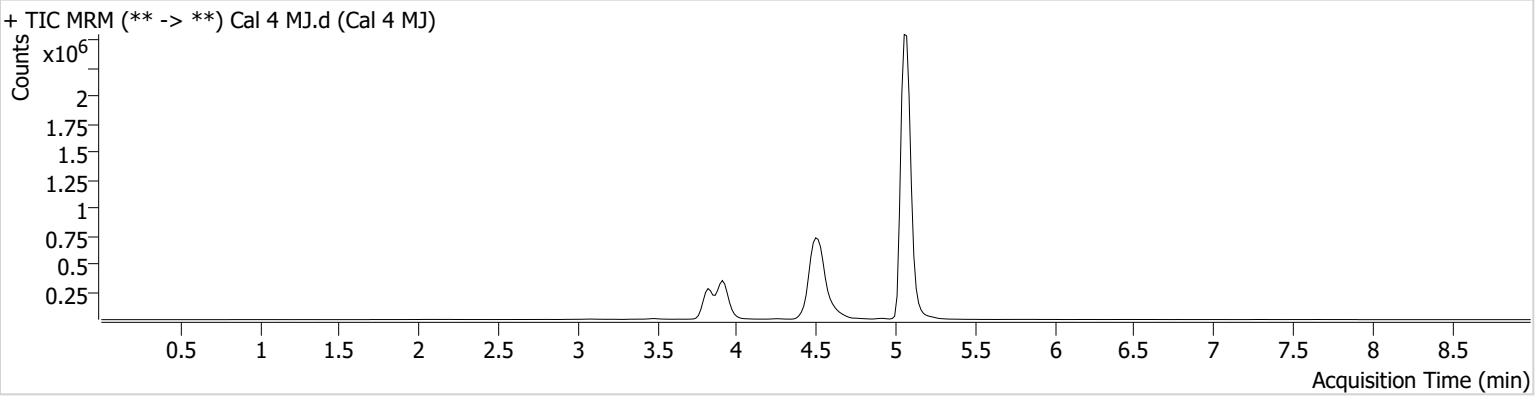
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	413477	∞	24.8	169.58	8813521	4.9785 ng/ml
THC-COOH	3.909	66954	1424.92	250.3	∞	445614	19.7401 ng/ml
THC-OH	3.820	92065	178.28	13.9	58.10	1029069	4.8608 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-D1	**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	6/5/2024 2:15:22 PM		
Sample Info.			

Sample Chromatogram



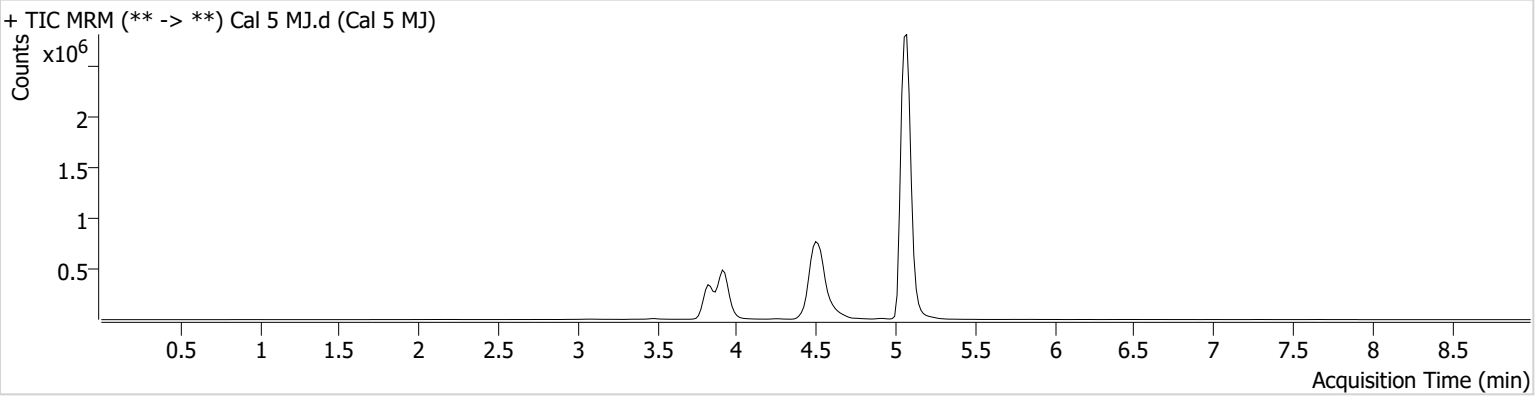
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	906738	∞	25.0	∞	9705689	9.6959 ng/ml
THC-COOH	3.909	173036	∞	201.4	∞	454562	48.3701 ng/ml
THC-OH	3.820	193908	∞	12.9	∞	1063467	9.7292 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-E1	**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	6/5/2024 2:28:29 PM		
Sample Info.			

Sample Chromatogram



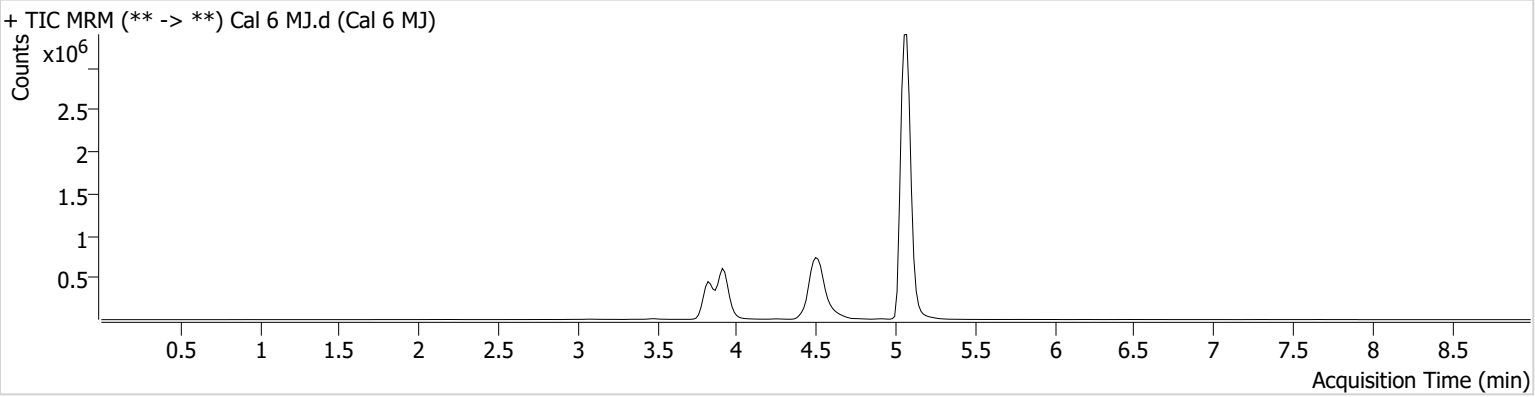
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	2223896	21180.27	26.3	∞	9290955	24.4981 ng/ml
THC-COOH	3.924	270312	∞	196.2	∞	450718	75.5905 ng/ml
THC-OH	3.835	502521	1781.47	13.3	∞	1075619	24.6618 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-F1	**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	6/5/2024 2:41:35 PM		
Sample Info.			

Sample Chromatogram



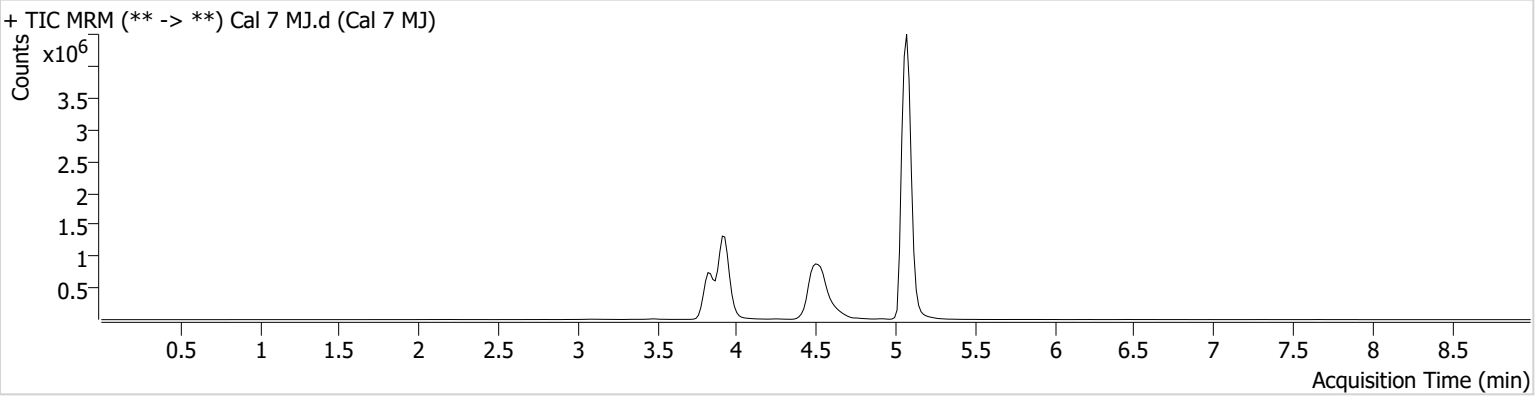
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	4390016	∞	26.7	∞	9111587	49.0888 ng/ml
THC-COOH	3.909	346317	2260.60	198.0	∞	432124	100.6515 ng/ml
THC-OH	3.820	1007457	4307.93	13.5	1526.79	1048729	50.5293 ng/ml

AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2024\AM 27 28\060424 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 6/10/2024 8:31:47 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-G1	**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	6/5/2024 2:54:42 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	8085069	∞	26.2	∞	8082251	101.6837 ng/ml
THC-COOH	3.924	872758	4292.73	189.9	3724.05	435029	250.3497 ng/ml
THC-OH	3.820	2206019	∞	13.6	4225.99	1156309	100.1809 ng/ml