

REVIEWED

By Tamara Salazar at 8:35 am, Oct 05, 2023

10/2/2023

CS

Worklist: 6511

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
M2023-3638	2	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
M2023-3677	3	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
M2023-3702	5	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
M2023-3891	1	COBCK	AM 27 Blood THC Quant by LC-QQQ	
M2023-3909	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2023-2674	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2023-2855	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2023-2907	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2023-2908	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2023-3009	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	

AM# 27: Quantitation of THC and Metabolites in Blood and Urine by LC-MS/MS

Extraction Date: 09/28/2023

Analyst: Celena Shrum

Plate lot#: 230627

Plate Retest Date: 12/27/2023

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

Blank Urine Lot: POC021022

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 r² 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:

	1	2	3	4	5	6
A	IS + Cal. 1	QC2	NEG Urine			
B	IS + Cal. 2	NEG Blood	M2023-3638-2			
C	IS + Cal. 3	M2023-3891-1	M2023-3677-3			
D	IS + Cal. 4	M2023-3909-1	M2023-3702-5			
E	IS + Cal. 5	P2023-2674-1	P2023-3009-1			
F	IS + Cal. 6	P2023-2855-1				
G	IS + Cal. 7	P2023-2907-1				
H	QC1	P2023-2908-1				



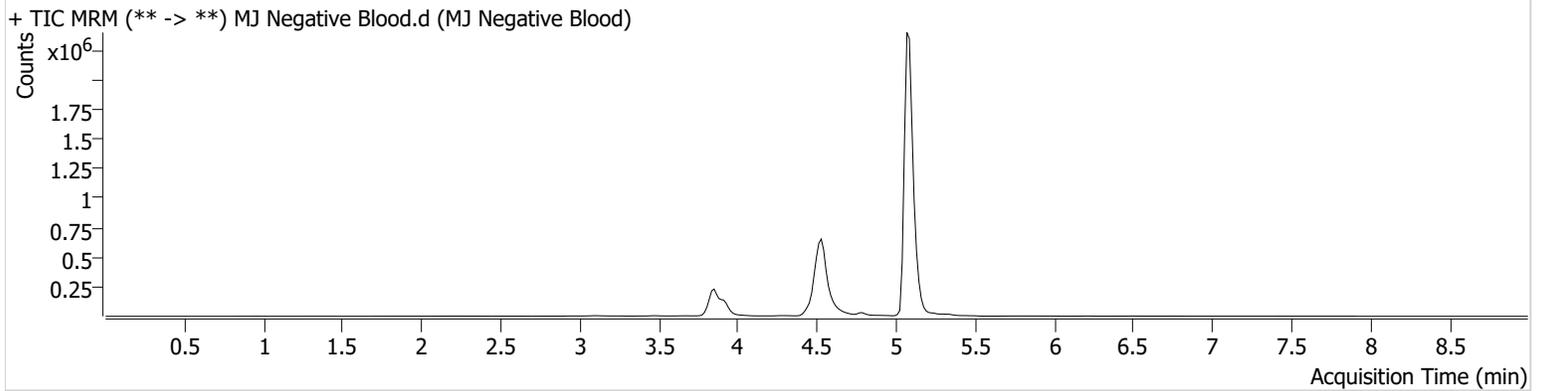
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-B2 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 3:54:15 PM
Sample Info.

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.

Sample Chromatogram





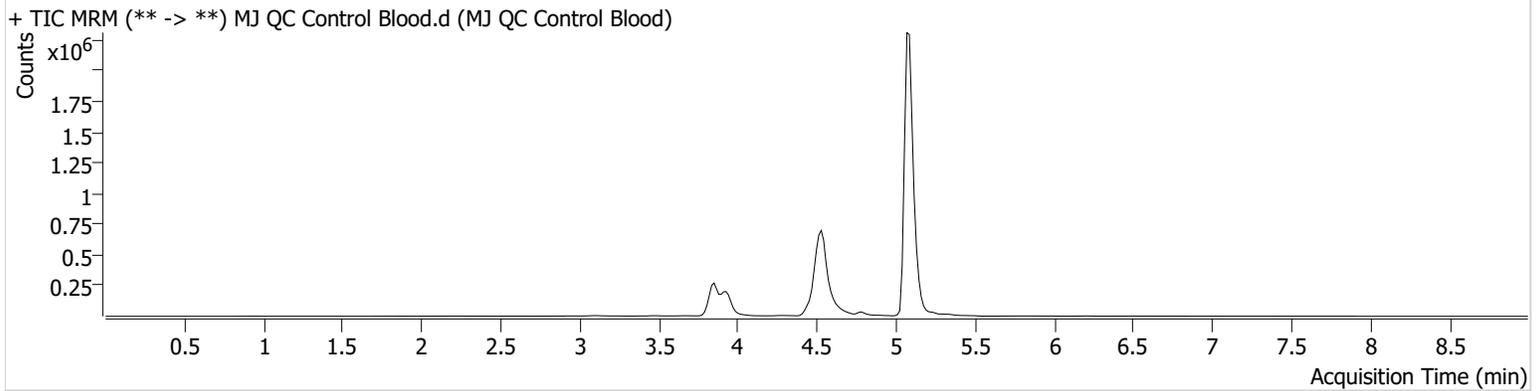
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-H1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 3:28:00 PM
Sample Info.

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	380378	∞	26.7	1566.13	8323892	4.3058 ng/ml
THC-COOH	3.939	64315	1716.12	174.4	∞	462087	15.1511 ng/ml
THC-OH	3.850	83033	∞	15.4	968.25	1037204	4.6695 ng/ml

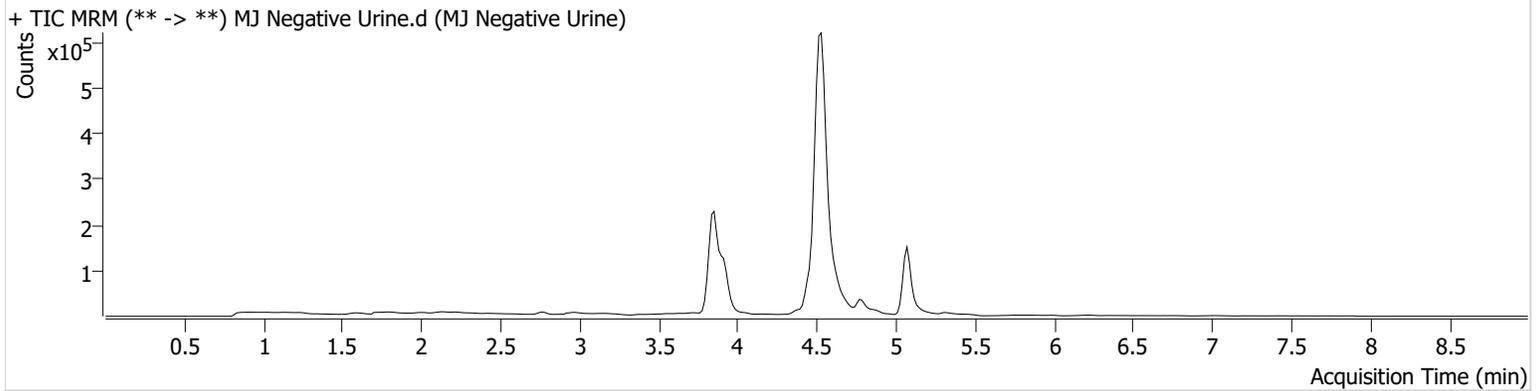


AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 AM

Instrument	Falco (069901)	Data File	MJ Negative Urine.d
Type	Sample	Sample	MJ Negative Urine
Acq. Method	AM 27 Agilent Method.m	Operator	Celena Shrum
Sample Position	P5-A3	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	9/28/2023 6:57:48 PM		
Sample Info.			

Sample Chromatogram





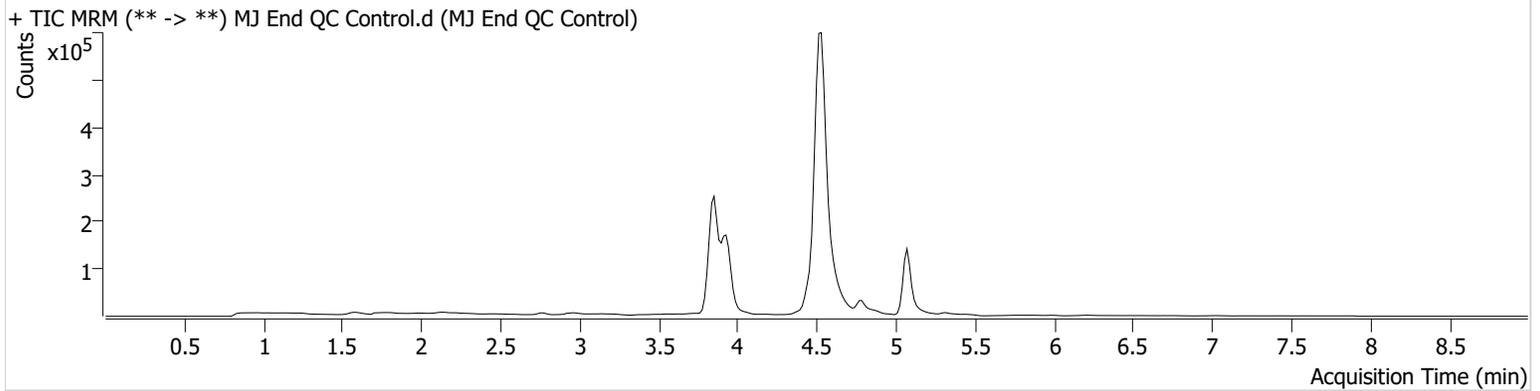
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 AM

Instrument Falco (069901) **Data File** MJ End QC Control.d
Type QC **Sample** MJ End QC Control
Acq. Method AM 27 Agilent Method.m **Operator** Celena Shrum
Sample Position P5-A2 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 10:27:37 PM
Sample Info.

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Sample Chromatogram



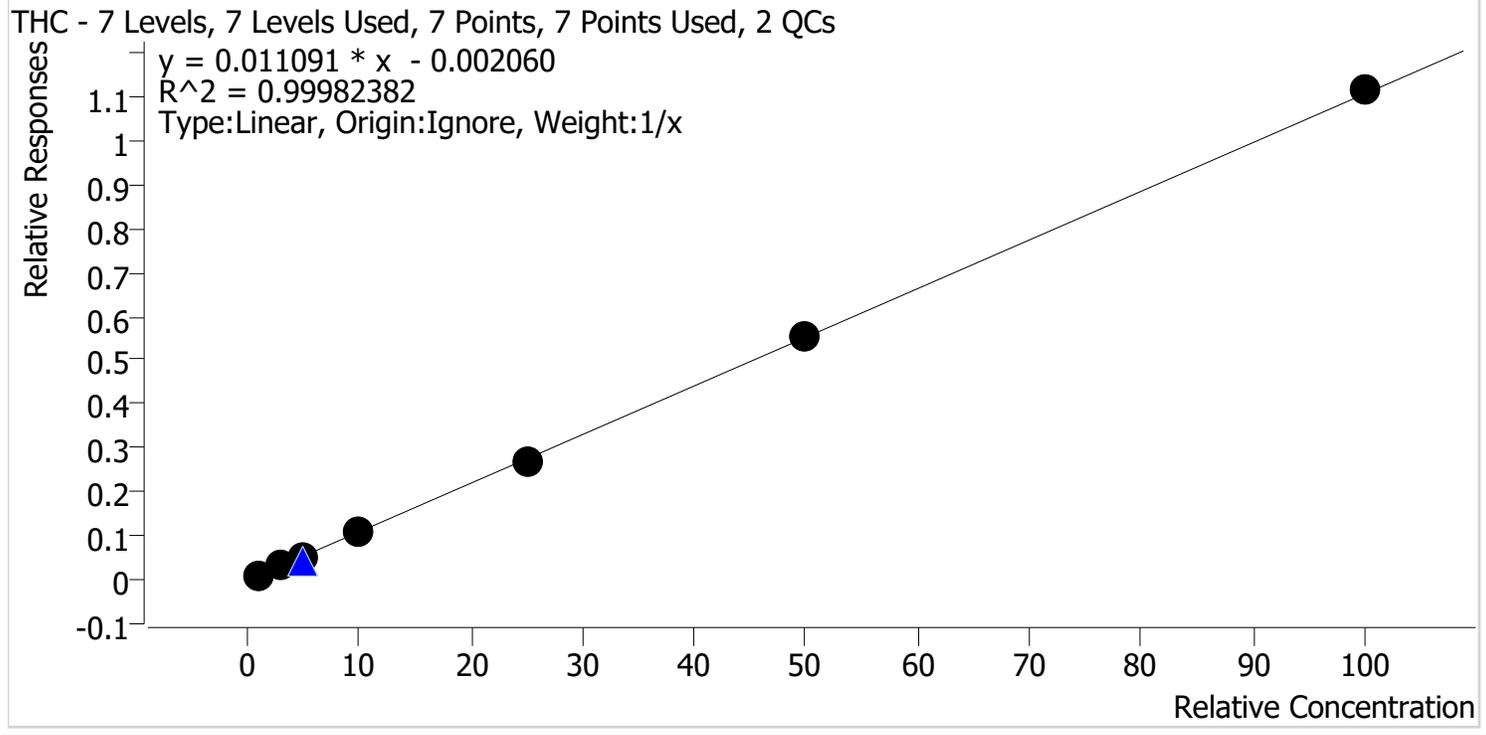
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.075	21724	271.60	31.0	∞	509246	4.0319 ng/ml
THC-COOH	3.939	55710	1542.56	158.8	∞	382492	15.8443 ng/ml
THC-OH	3.850	76650	281.37	15.6	338.31	979480	4.5698 ng/ml

CS



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update 10/3/2023 8:39 AM
Analyst Name ISP\Datastor
Analyte THC **Internal Standard** THC-D3



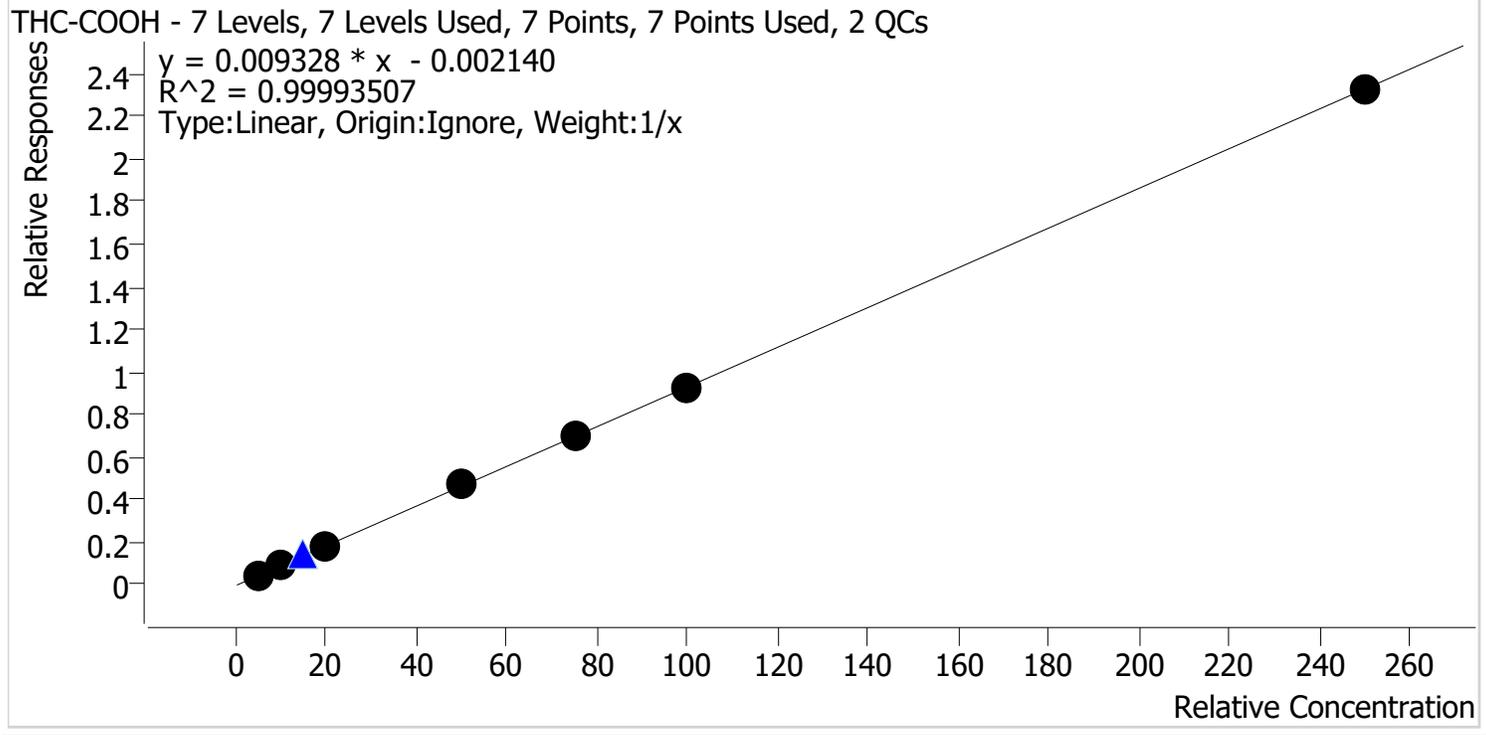
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✓	1.0	1.1	108.1
Cal 2 MJ	2	✓	3.0	2.9	97.9
Cal 3 MJ	3	✓	5.0	4.9	97.3
Cal 4 MJ	4	✓	10.0	9.7	97.3
Cal 5 MJ	5	✓	25.0	24.7	98.7
Cal 6 MJ	6	✓	50.0	49.9	99.9
Cal 7 MJ	7	✓	100.0	100.8	100.8

CS



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update 10/3/2023 8:39 AM
Analyst Name ISP\Datastor
Analyte THC-COOH **Internal Standard** THC-COOH-D9

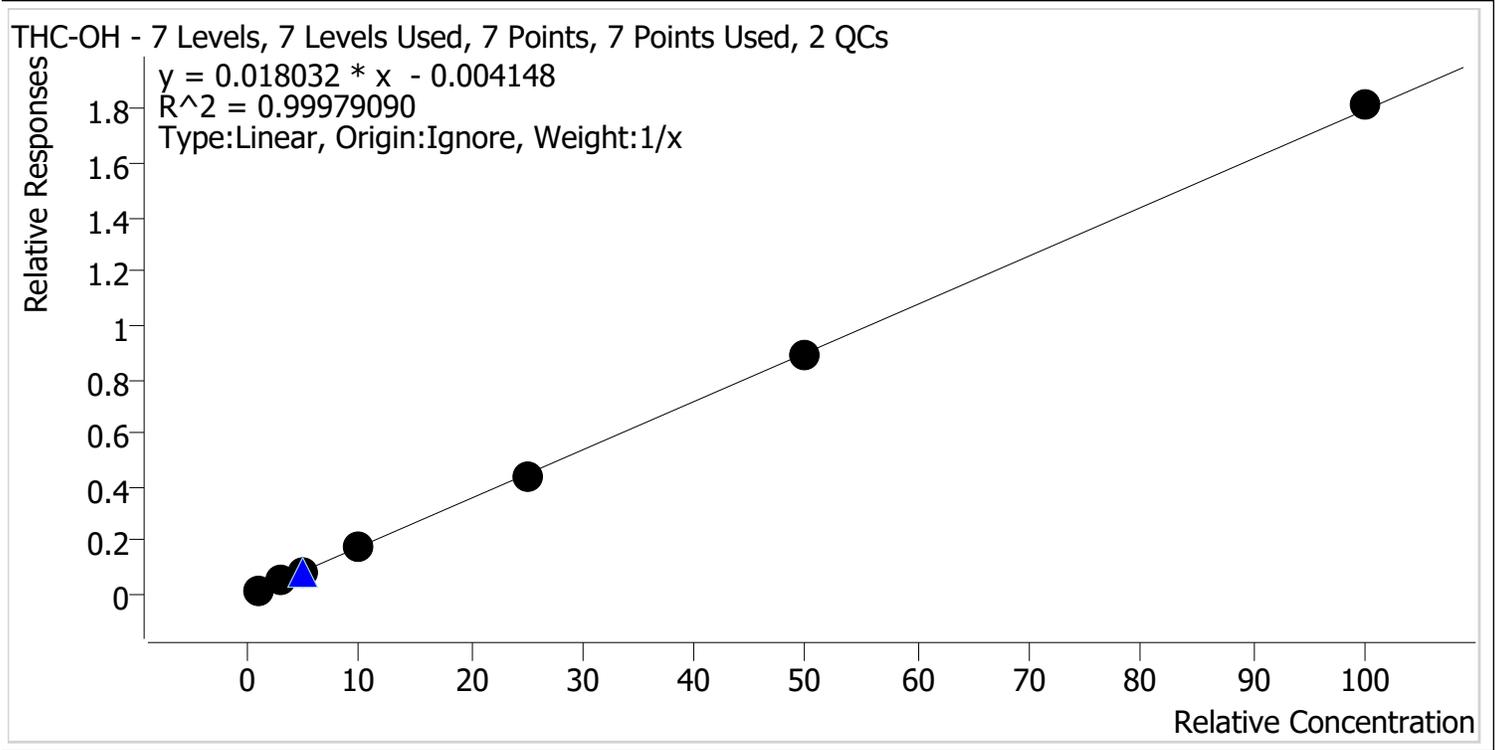


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✓	5.0	5.1	102.7
Cal 2 MJ	2	✓	10.0	9.7	96.7
Cal 3 MJ	3	✓	20.0	19.9	99.3
Cal 4 MJ	4	✓	50.0	50.6	101.2
Cal 5 MJ	5	✓	75.0	75.2	100.2
Cal 6 MJ	6	✓	100.0	100.1	100.1
Cal 7 MJ	7	✓	250.0	249.5	99.8



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Last Cal. Update 10/3/2023 8:39 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	107.2
Cal 2 MJ	2	✓	3.0	2.9	98.0
Cal 3 MJ	3	✓	5.0	4.9	98.5
Cal 4 MJ	4	✓	10.0	9.7	97.0
Cal 5 MJ	5	✓	25.0	24.9	99.4
Cal 6 MJ	6	✓	50.0	49.5	98.9
Cal 7 MJ	7	✓	100.0	101.1	101.1



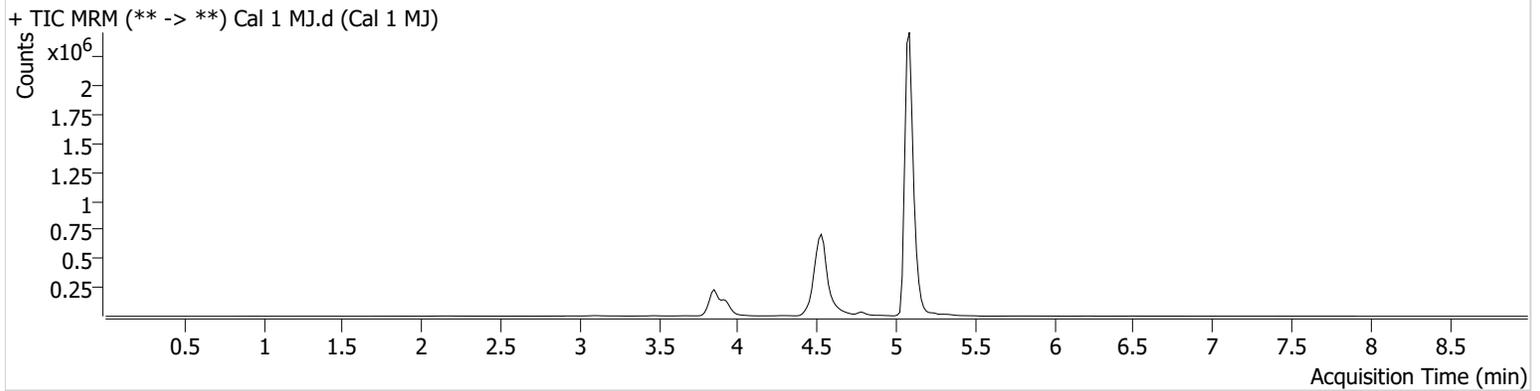
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-A1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 1:43:02 PM
Sample Info.

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	88591	∞	28.9	∞	8918310	1.0813 ng/ml
THC-COOH	3.939	19105	313.17	170.0	∞	417651	5.1335 ng/ml
THC-OH	3.850	14198	∞	15.5	13.25	935618	1.0716 ng/ml



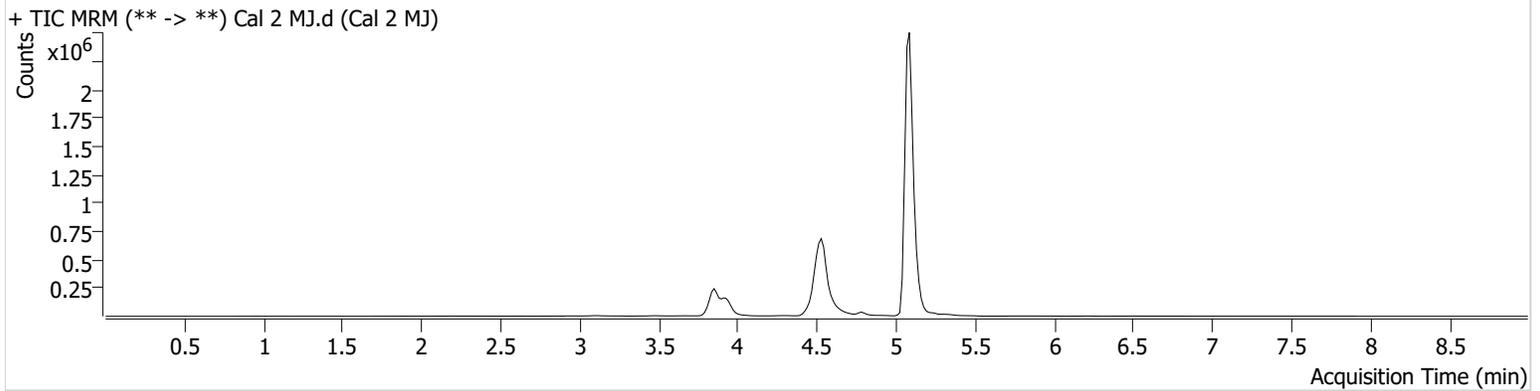
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-B1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 1:56:18 PM
Sample Info.

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	268680	∞	27.1	∞	8803597	2.9374 ng/ml
THC-COOH	3.939	37227	335.72	174.0	593.86	422975	9.6651 ng/ml
THC-OH	3.850	46667	∞	15.3	78.80	954997	2.9400 ng/ml



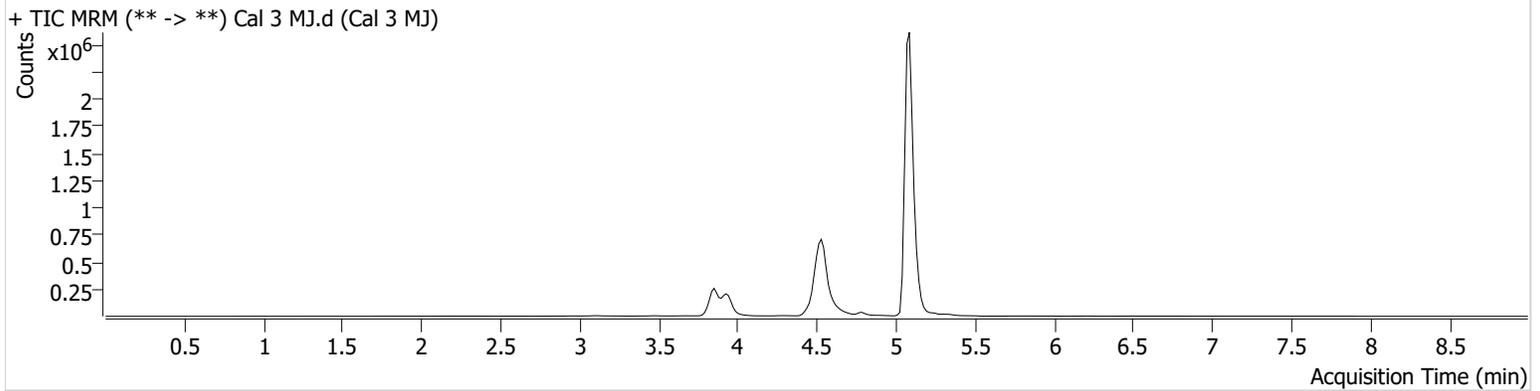
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-C1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 2:09:24 PM
Sample Info.

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	469513	∞	26.6	322.61	9045692	4.8655 ng/ml
THC-COOH	3.939	77562	467.67	169.5	3714.56	423429	19.8674 ng/ml
THC-OH	3.850	81614	∞	14.0	∞	964012	4.9250 ng/ml



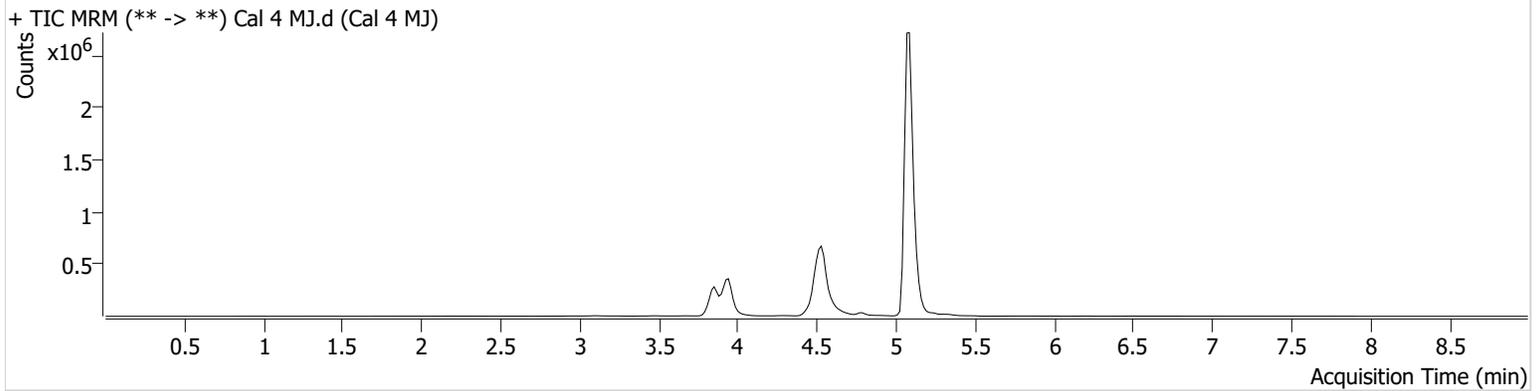
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-D1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 2:22:29 PM
Sample Info.

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	958636	∞	26.6	∞	9057025	9.7287 ng/ml
THC-COOH	3.939	197293	12268.85	167.2	5630.88	419718	50.6238 ng/ml
THC-OH	3.850	167920	∞	15.0	∞	983807	9.6954 ng/ml



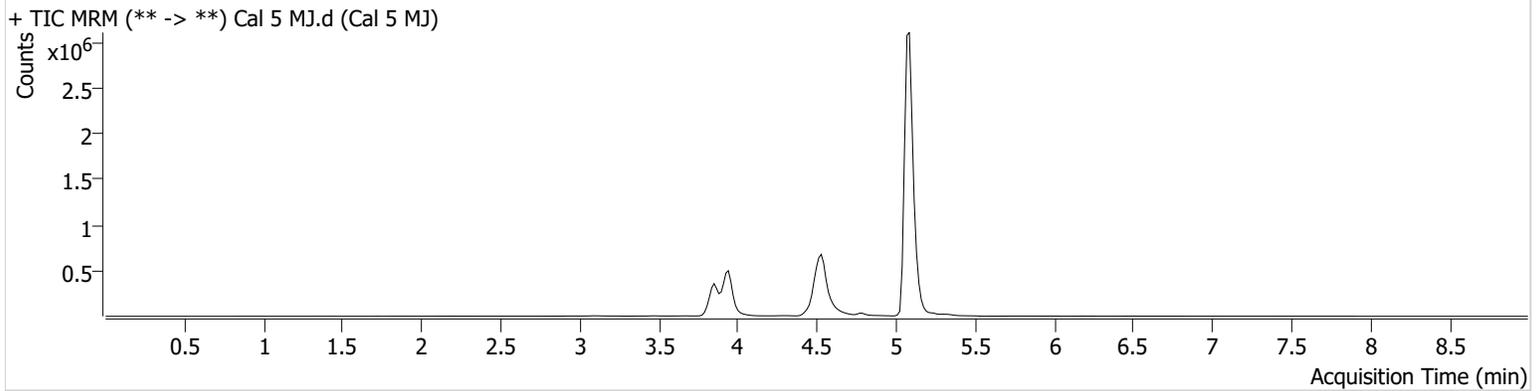
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-E1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 2:35:35 PM
Sample Info.

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	2383250	∞	26.8	∞	8773244	24.6778 ng/ml
THC-COOH	3.939	295698	7677.86	170.2	11503.37	422931	75.1855 ng/ml
THC-OH	3.850	439114	∞	14.3	∞	988919	24.8543 ng/ml



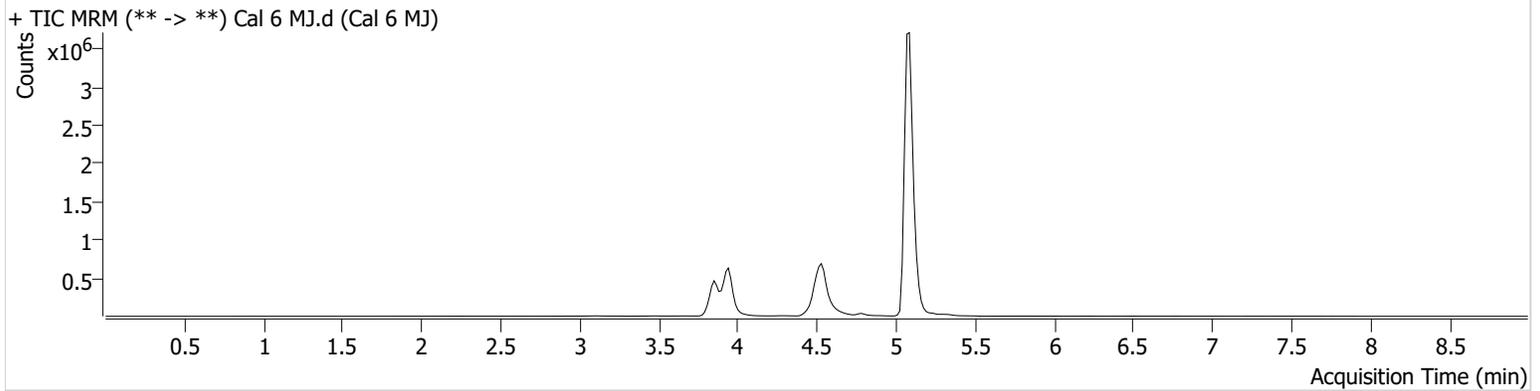
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-F1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 2:48:41 PM
Sample Info.

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Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	4593136	∞	26.7	∞	8323941	49.9361 ng/ml
THC-COOH	3.939	384735	8884.98	168.0	∞	413149	100.0644 ng/ml
THC-OH	3.850	862249	∞	14.9	2868.46	971312	49.4589 ng/ml



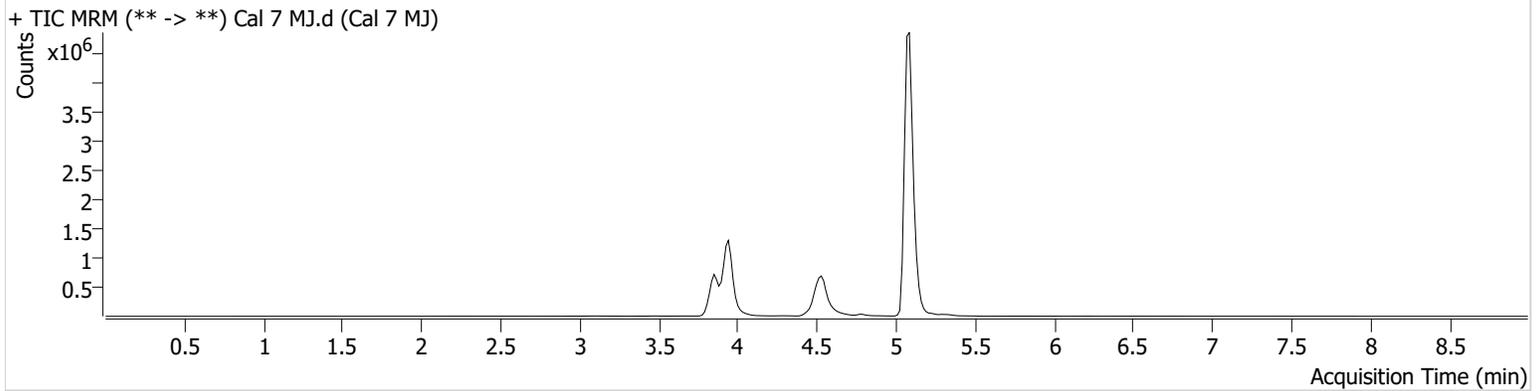
AM #27 Cannabinoids Quant. Results

Batch results D:\MassHunter\Data\2023\AM 27 28\092823 AM 27 28 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 10/3/2023 8:39:05 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 P5-G1 **Comment**
Injection Volume 10
Acq. Date-Time 9/28/2023 3:01:46 PM
Sample Info.

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.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC	5.090	8668150	∞	26.8	∞	7769600	100.7732 ng/ml
THC-COOH	3.939	893832	27577.67	166.8	51294.00	384487	249.4604 ng/ml
THC-OH	3.850	1800276	∞	14.4	∞	990188	101.0549 ng/ml