

















**Worklist: 6017**

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
M2022-2120	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
M2022-2188	2	BCK	AM 27 Blood THC Quant by LC-QQQ	
M2022-2454	3	BCK	AM 27 Blood THC Quant by LC-QQQ	
M2022-2455	5	BCK	AM 27 Blood THC Quant by LC-QQQ	
M2022-2485	2	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1323	2	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1801	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1810	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1840	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1842	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1875	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1891	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1893	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1908	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1915	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1943	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2022-1944	1	BCK	AM 27 Blood THC Quant by LC-QQQ	

SC

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

Extraction Date: 07/01/2022  
Plate lot#: IDP-108-3-220309  
**Mobile phase A:** 0.1% Formic Acid in LCMS Water  
**Blank Blood Lot:** Lampire 20L20723  
**LCMS-QQQ ID:** 069901

Analyst: Sarah Collins  
Retest Date: 09/09/2022  
**Mobile phase B:** 0.1% Formic acid in Acetonitrile  
**Column:** UCT Selectra DA 100 x 2.1mm 3um

### 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: add 1.5mL urine to blank plate, add 250µl 1N KOH. Shake and incubate at 40 degrees for 15 minutes. Using a calibrated pipette, add **1000µl blood and urine (if applicable) (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID:** 3382167
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 4. Pipette **500µL 0.1% formic acid in water blood sample, 500 µL saturated phosphate buffer in urine** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **700-800µL of blood+acid or urine+acid** mixture to corresponding wells of SLE+ plate. Amount transferred: 800 uL
- 7. 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)**
- 8. Wait 5 minutes.
- 9. Add **2.25mL MTBE. (Add in 3 increments of 750uL)**
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. **(10-15 PSI- Selector to the left).**
- 12. Add **2.25mL Hexane. (Add in 3 increments of 750uL)**
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 15 seconds. **(10-15 PSI- Selector to the left).**
- 15. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C.
- 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  $\geq 0.98$  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.
- 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: Did not evaluate THC-OH due to interfering peak. Due to pressure maxing out, the run stopped in the middle of case sample m2022-2455. The sample and QC were reconstituted and reinjected 7/2/22.

SC

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_1		p2022-1908-1	p2022-1323-2	IS + QC_1 blood
B	IS + Cal. 2			p2022-1893-1	m2022-2485-2*	IS + Cal. 7
C	IS + Cal. 3			p2022-1891-1	m2022-2455-5*	IS + Cal. 6
D	IS + Cal. 4		m2022-2485-2	p2022-1875-1	m2022-2454-3	IS + Cal. 5
E	IS + Cal. 5		m2022-2455-5	p2022-1842-1	m2022-2188-2	IS + Cal. 4
F	IS + Cal. 6		p2022-1944-1	p2022-1840-1	m2022-2120-1	IS + Cal. 3
G	IS + Cal. 7		p2022-1943-1	p2022-1810-1	negative blood	IS + Cal. 2
H	IS + QC_1		p2022-1915-1	p2022-1801-1	IS + QC_1 urine	IS + Cal. 1

All wells to contain 100 µl of residual DMSO

\*Samples moved during analytical step 6 due to blood clot

SC

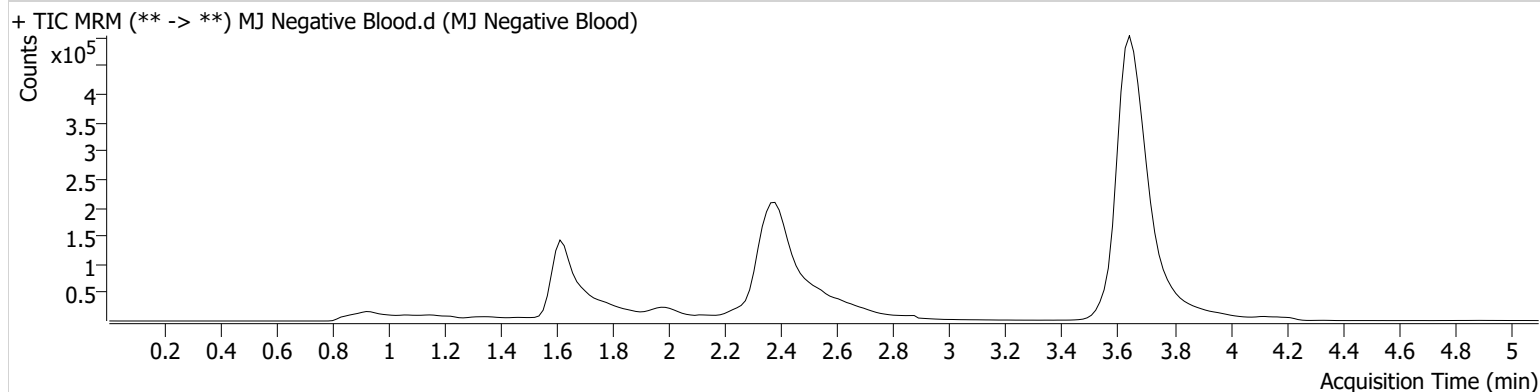


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ Negative Blood.d
<b>Type</b>	Sample	<b>Sample</b>	MJ Negative Blood
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-G5	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 4:57:32 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	1.693	138152	∞	3.0 <b>Low</b>	14.11	529718	0.9688 ng/ml <b>Low</b>

DNE THC-OH



SC

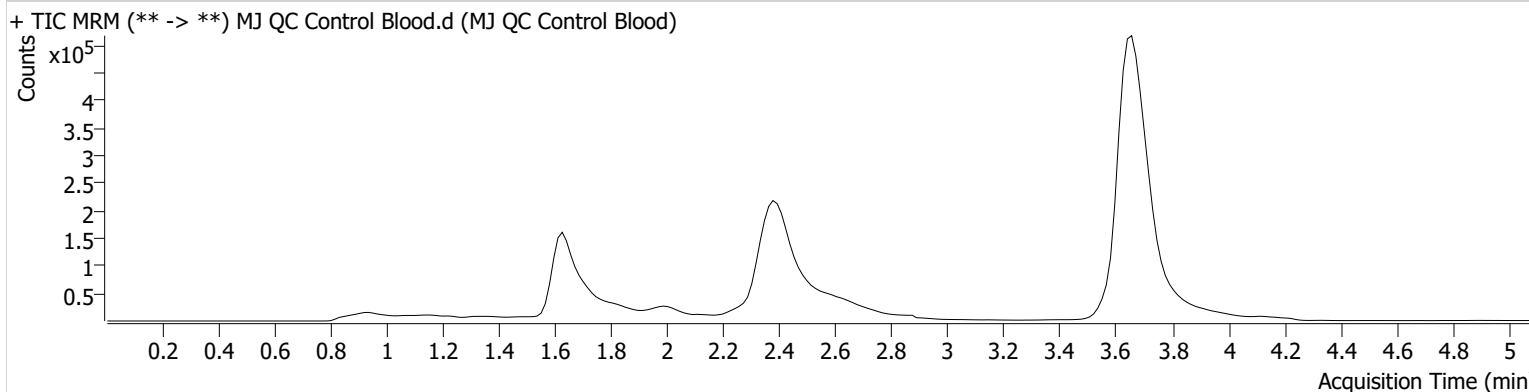


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ QC Control Blood.d
<b>Type</b>	QC	<b>Sample</b>	MJ QC Control Blood
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-A6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 4:42:19 AM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.655	54962	34.04	42.7	∞	138246	17.5413 ng/ml
THC-OH	1.708	177303	∞	4.3 <b>Low</b>	22.04	476104	5.2869 ng/ml
THC	3.661	142045	1610.76	31.0	∞	3946521	4.6952 ng/ml

DNE THC-OH

SC

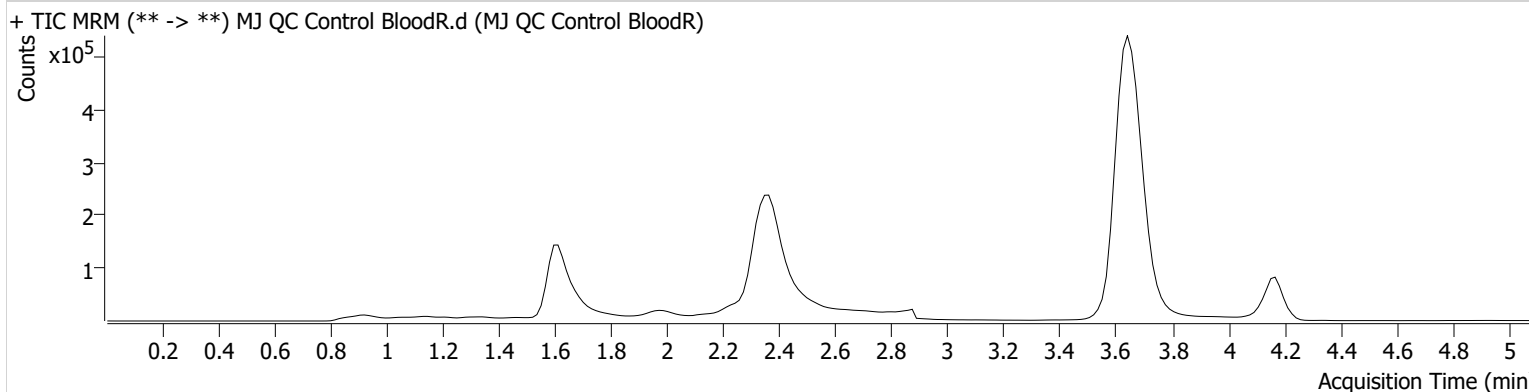


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	MJ QC Control BloodR.d
<b>Type</b>	QC	<b>Sample</b>	MJ QC Control BloodR
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-A6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 5:26:37 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.640	44804	∞	43.7	∞	124292	15.7425 ng/ml
THC-OH	1.678	133872	∞	5.2	85.02	485772	1.5408 ng/ml <b>Low</b>
THC	3.661	132983	366.92	27.9	95.38	3344555	5.1581 ng/ml

DNE THC-OH

Reinjected bracket QC

SC

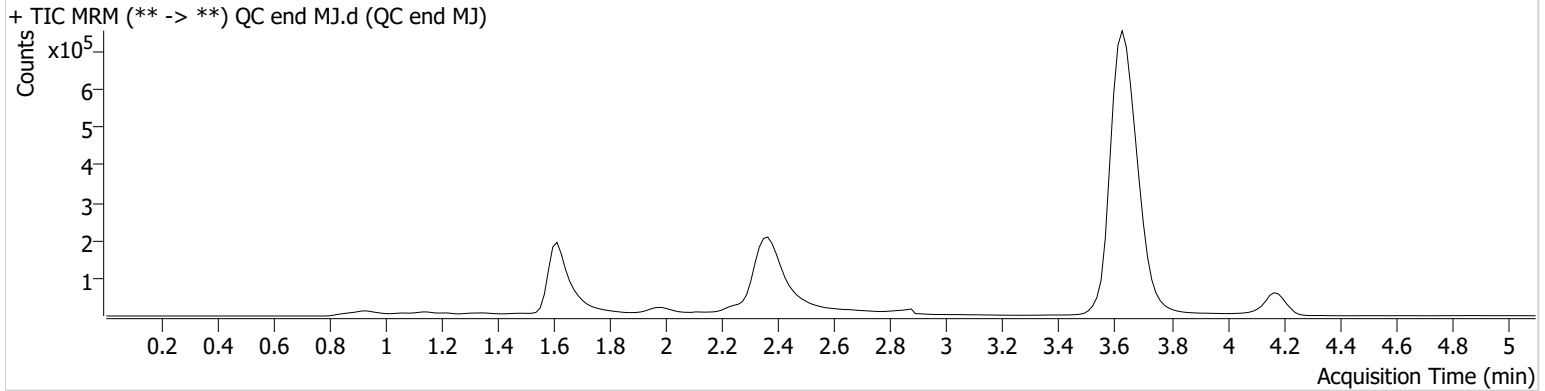


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	QC end MJ.d
<b>Type</b>	QC	<b>Sample</b>	QC end MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-A6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 9:15:05 PM		

**Sample Chromatogram**



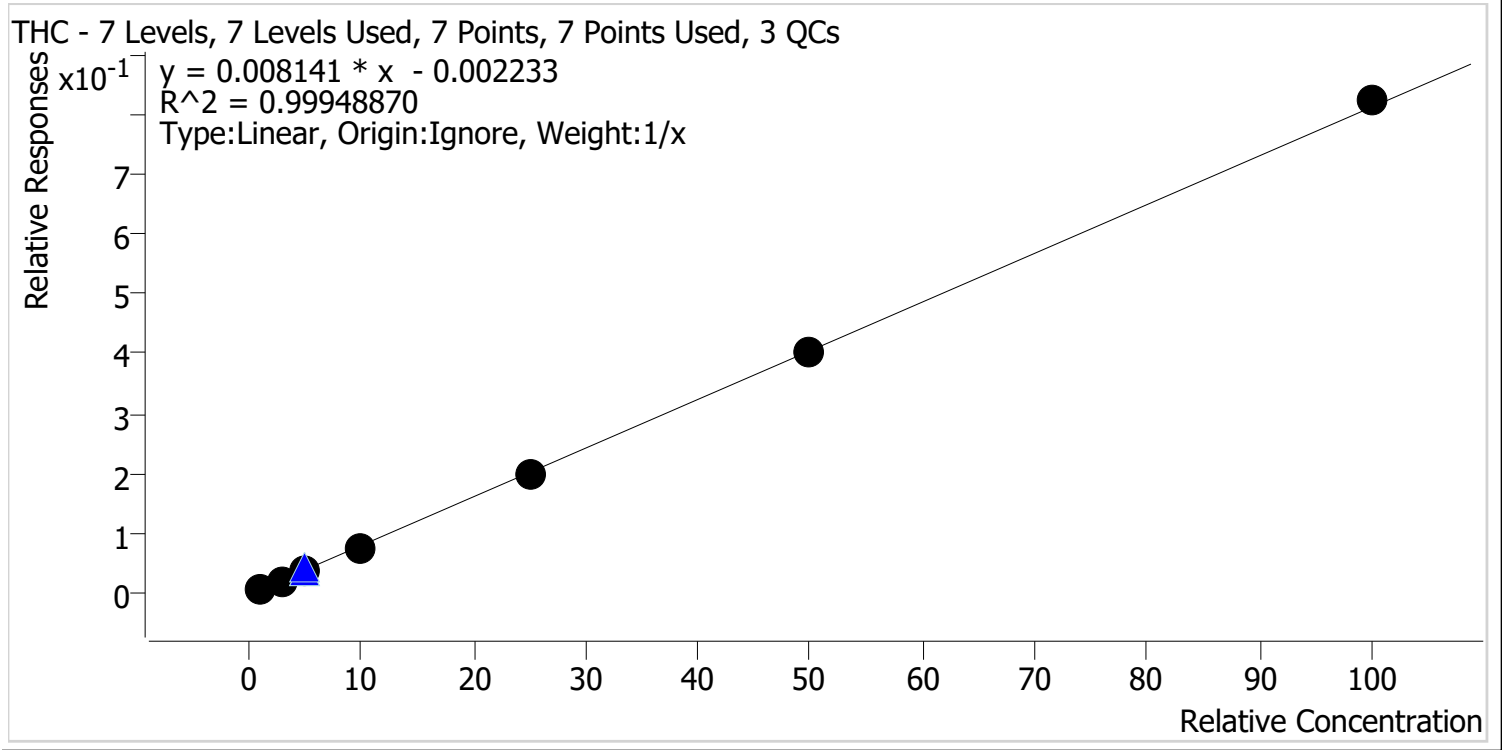
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.640	41760	∞	57.9	∞	151109	11.6625 ng/ml
THC	3.646	197360	756.80	29.0	77.48	4618572	5.5230 ng/ml

SC



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Last Cal. Update** 7/5/2022 11:37 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	114.1
Cal 2 MJ	2	✓	3.0	2.9	96.0
Cal 3 MJ	3	✓	5.0	4.8	95.4
Cal 4 MJ	4	✓	10.0	9.6	95.7
Cal 5 MJ	5	✓	25.0	24.4	97.7
Cal 6 MJ	6	✓	50.0	49.9	99.8
Cal 7 MJ	7	✓	100.0	101.3	101.3

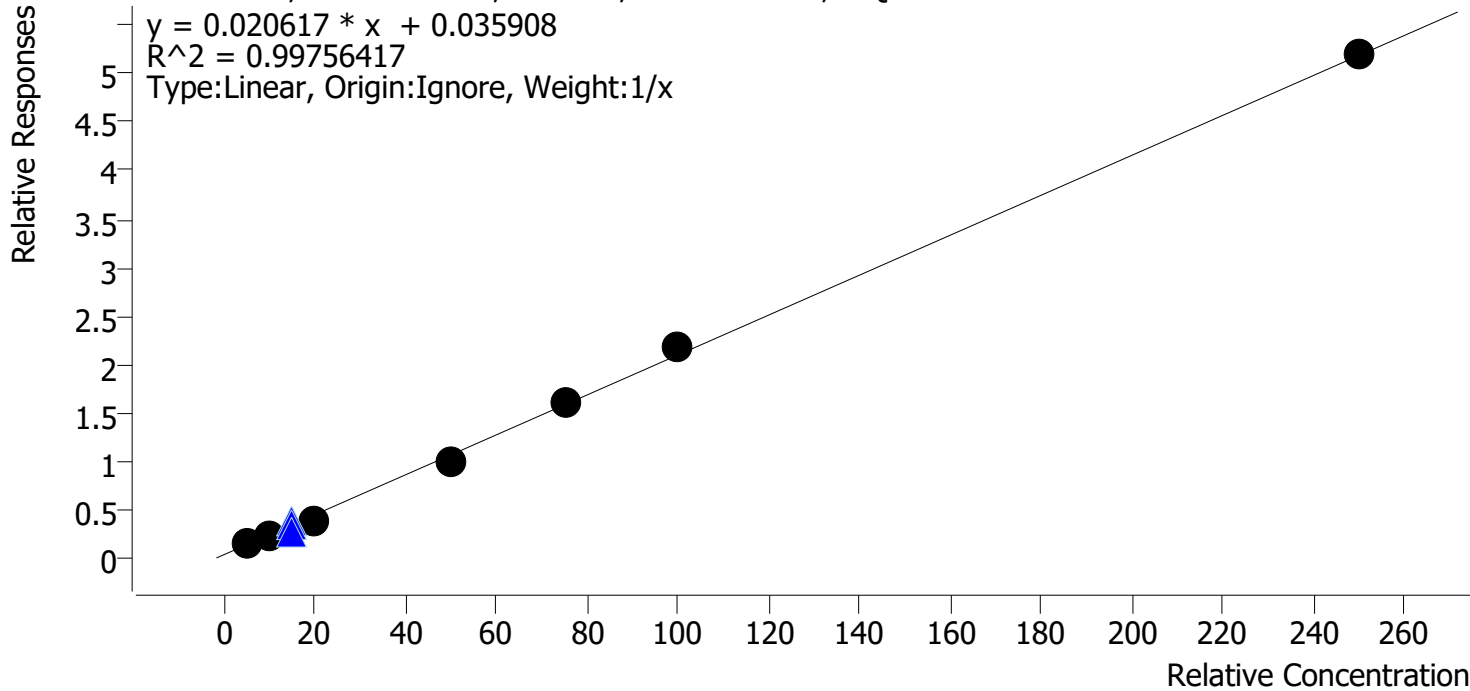
SC



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Last Cal. Update** 7/5/2022 11:37 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, 3 QCs



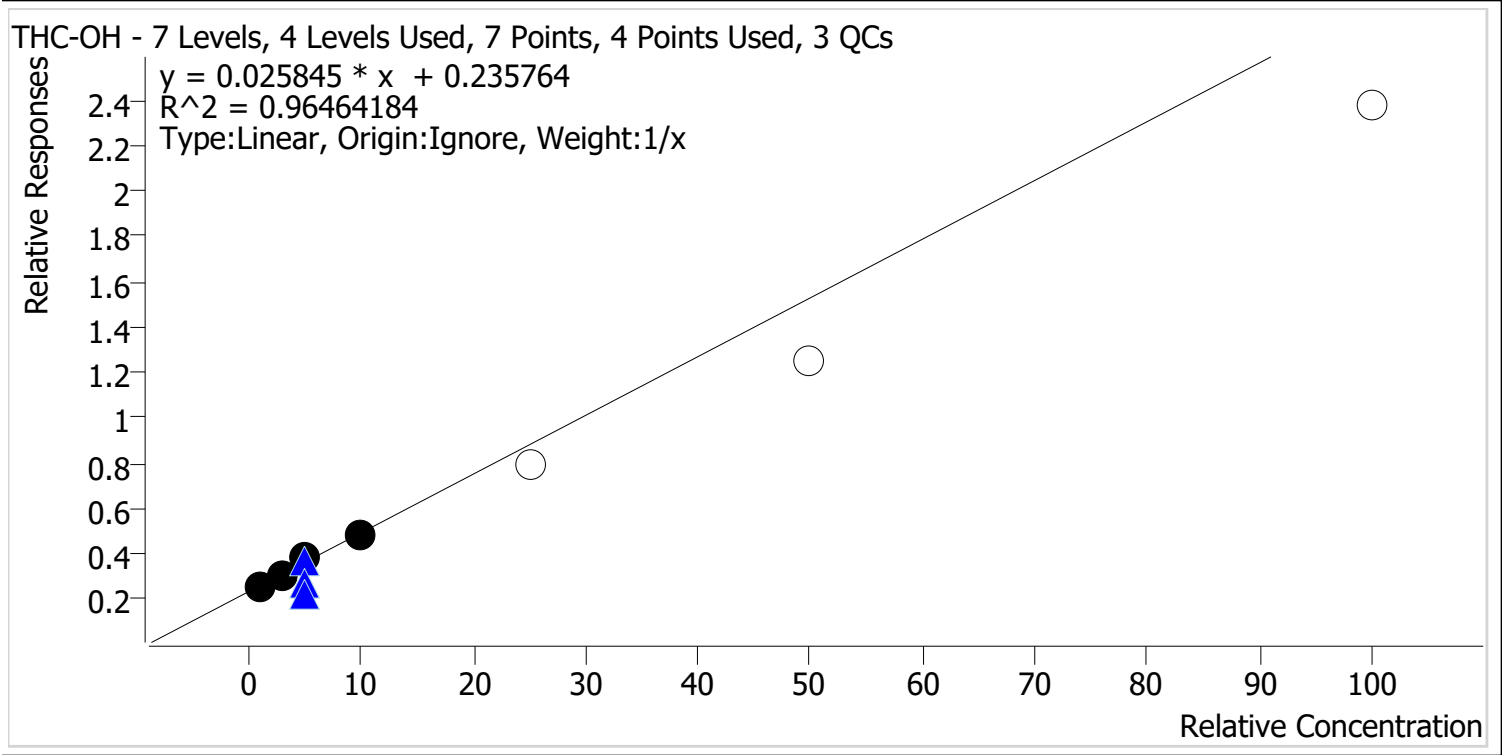
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
Cal 1 MJ	1	✓	5.0	5.9	118.2
Cal 2 MJ	2	✓	10.0	9.7	97.3
Cal 3 MJ	3	✓	20.0	16.9	84.6
Cal 4 MJ	4	✓	50.0	47.2	94.4
Cal 5 MJ	5	✓	75.0	76.5	102.0
Cal 6 MJ	6	✓	100.0	103.3	103.3
Cal 7 MJ	7	✓	250.0	250.4	100.2

SC



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Last Cal. Update** 7/5/2022 11:37 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	1.0	100.1
Cal 2 MJ	2	✓	3.0	2.5	84.6
Cal 3 MJ	3	✓	5.0	6.1	121.4
Cal 4 MJ	4	✓	10.0	9.4	93.9
Cal 5 MJ	5	✗	25.0	21.8	87.3
Cal 6 MJ	6	✗	50.0	39.1	78.1
Cal 7 MJ	7	✗	100.0	82.7	82.7

DNE due to poor peak shape and ratios

SC

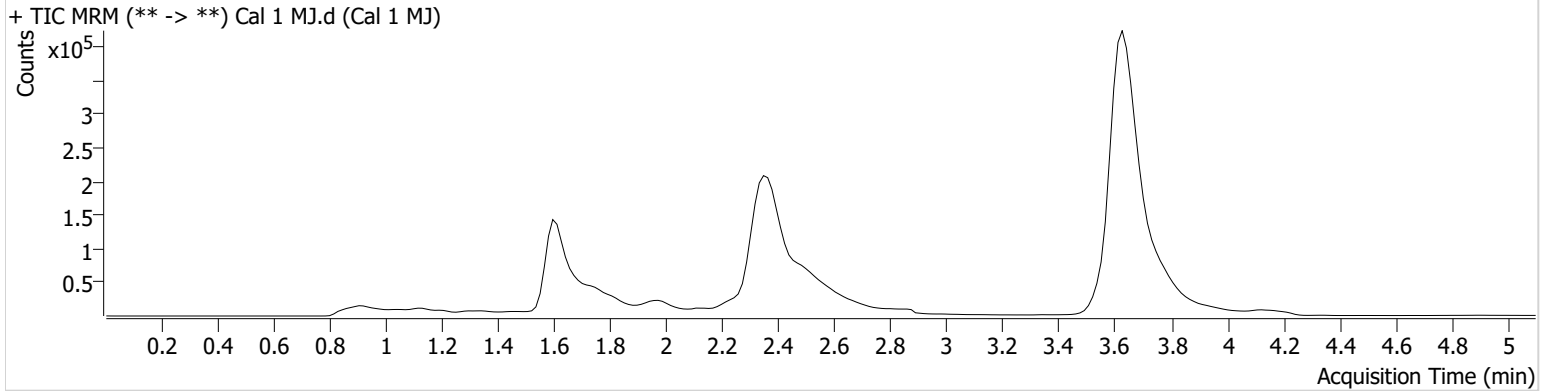


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal 1 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	Cal 1 MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-H6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 3:41:18 AM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.640	20825	28.64	43.3	52.97	132027	5.9090 ng/ml
THC-OH	1.678	136194	∞	3.6 <b>Low</b>	21.19	520568	1.0006 ng/ml <b>Low</b>
THC	3.631	24303	231.33	28.1	50.45	3443492	1.1411 ng/ml

SC

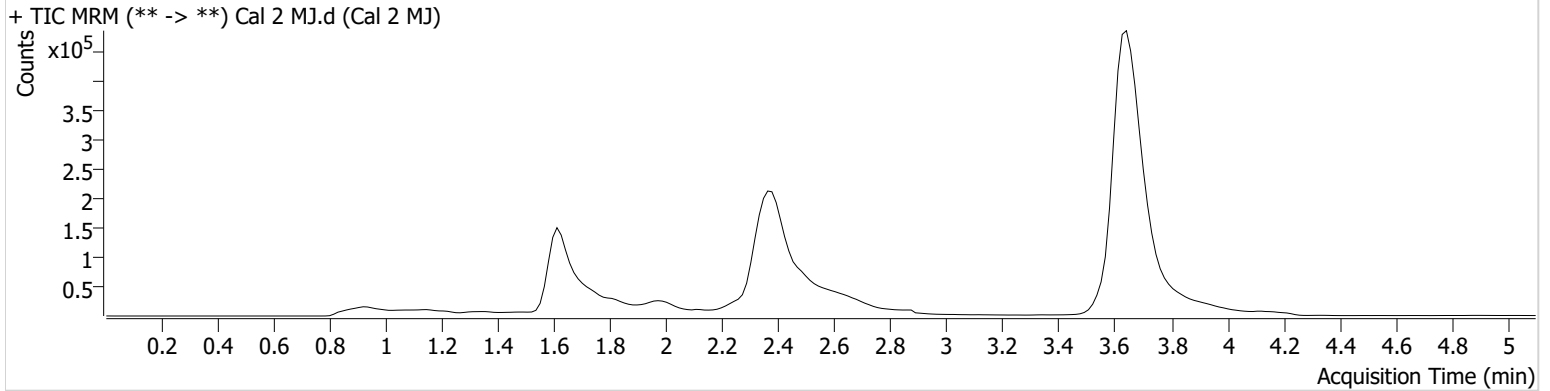


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal 2 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	Cal 2 MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-G6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 3:49:04 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.655	30570	∞	46.2	25.85	129290	9.7266 ng/ml
THC-OH	1.693	154087	70.89	5.0	64.82	511272	2.5388 ng/ml <b>Low</b>
THC	3.646	80261	∞	27.9	∞	3785425	2.8785 ng/ml



SC

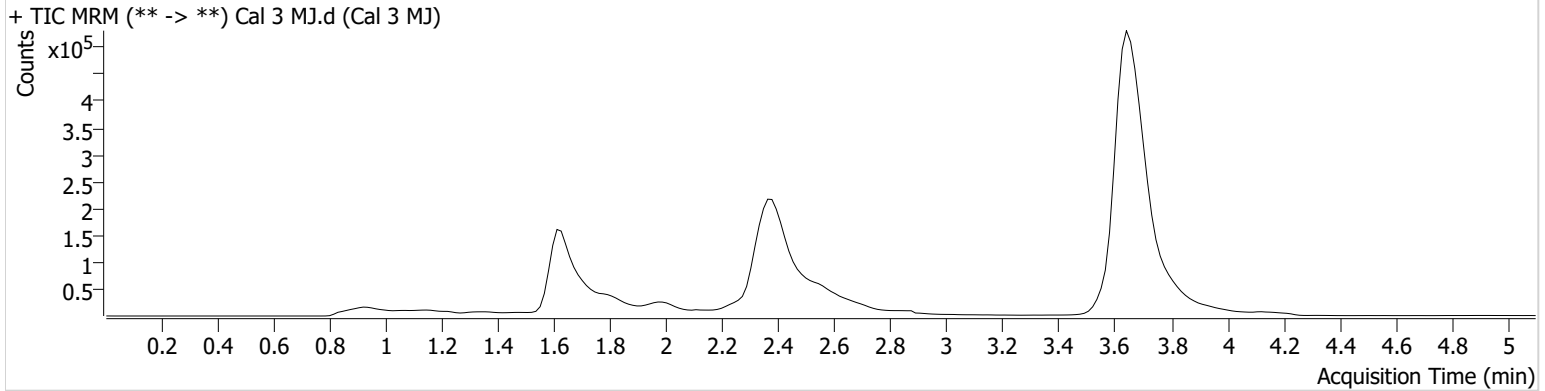


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal 3 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	Cal 3 MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-F6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 3:56:40 AM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.655	55704	∞	56.1	612.34	144716	16.9279 ng/ml
THC-OH	1.693	178349	∞	6.2	158.19	454205	6.0706 ng/ml
THC	3.661	151107	1677.96	33.4	∞	4127041	4.7715 ng/ml

SC

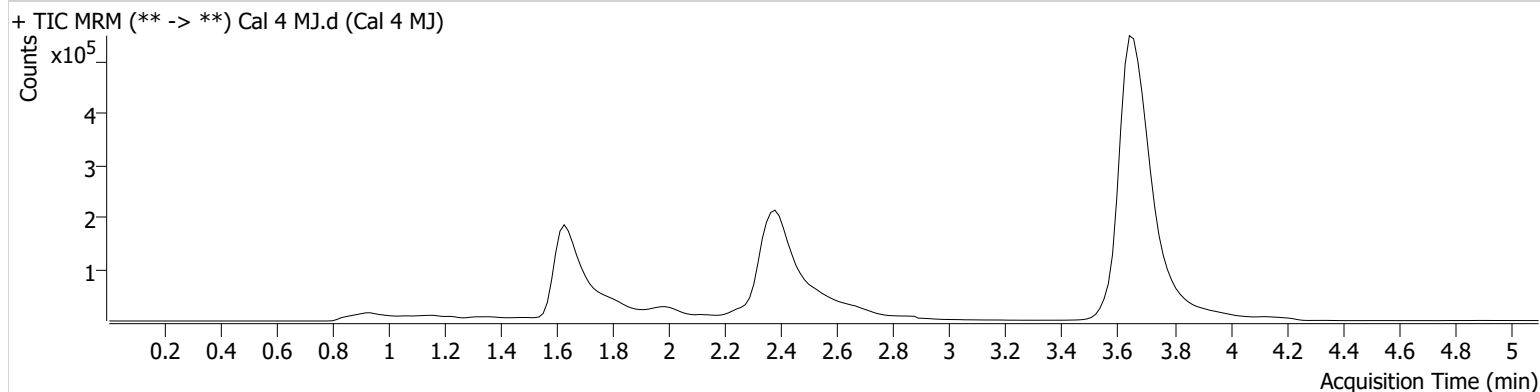


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal 4 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	Cal 4 MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-E6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 4:04:16 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.655	148593	107.17	54.4	744.92	147253	47.2025 ng/ml
THC-OH	1.693	232292	∞	7.5 <b>High</b>	∞	485509	9.3900 ng/ml
THC	3.661	307000	∞	27.8	622.18	4056759	9.5695 ng/ml

SC

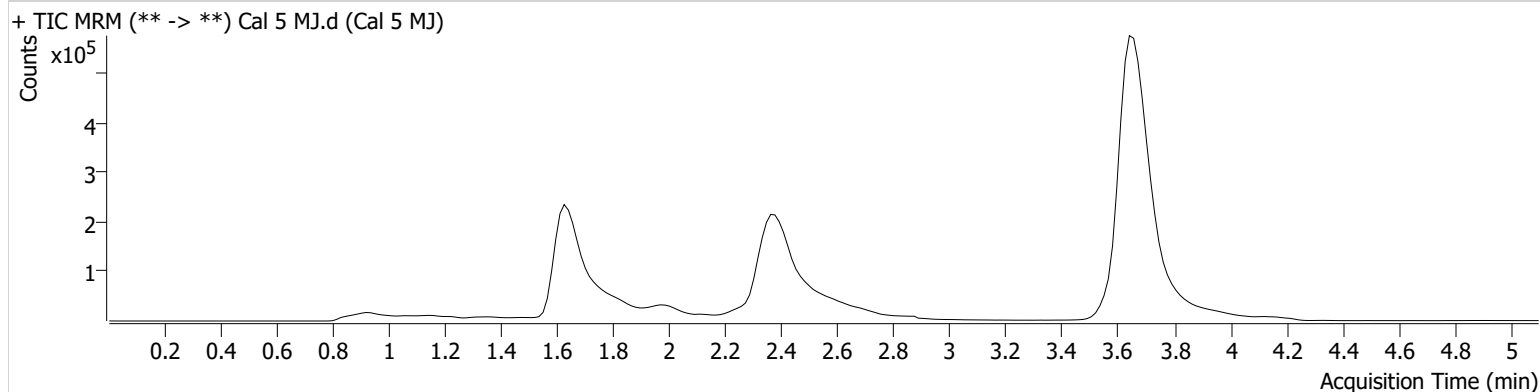


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal 5 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	Cal 5 MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-D6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 4:11:52 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.655	238125	264.80	53.7	533.13	147602	76.5076 ng/ml
THC-OH	1.633	399411	∞	10.2 <b>High</b>	∞	499221	21.8340 ng/ml
THC	3.661	722763	4010.10	27.0	591.60	3677407	24.4154 ng/ml

SC

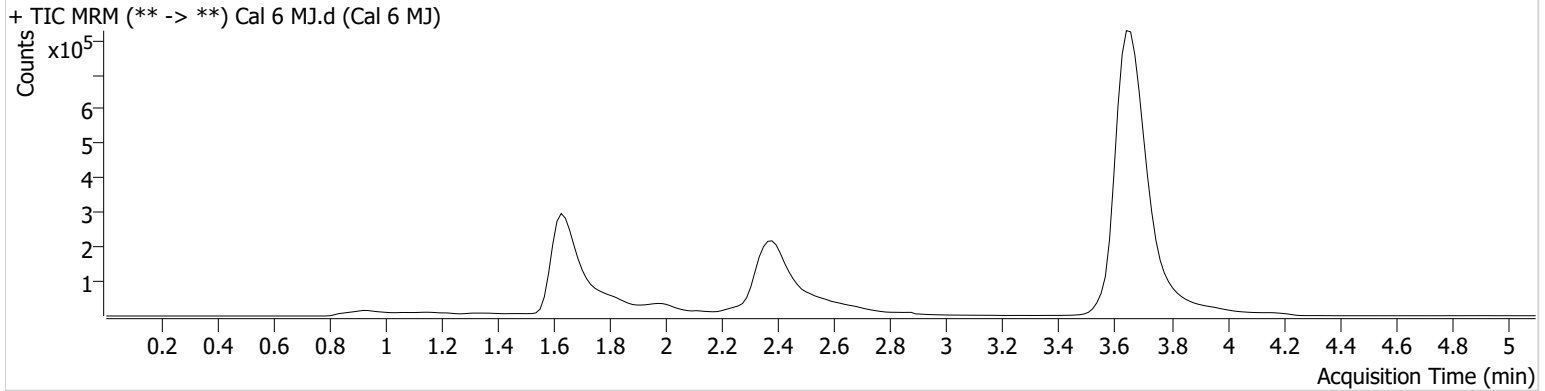


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal 6 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	Cal 6 MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-C6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 4:19:28 AM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.655	317277	∞	53.2	∞	146433	103.3492 ng/ml
THC-OH	1.618	679653	∞	11.5 <b>High</b>	∞	545819	39.0568 ng/ml
THC	3.661	1735341	∞	27.1	1244.40	4293211	49.9227 ng/ml

SC

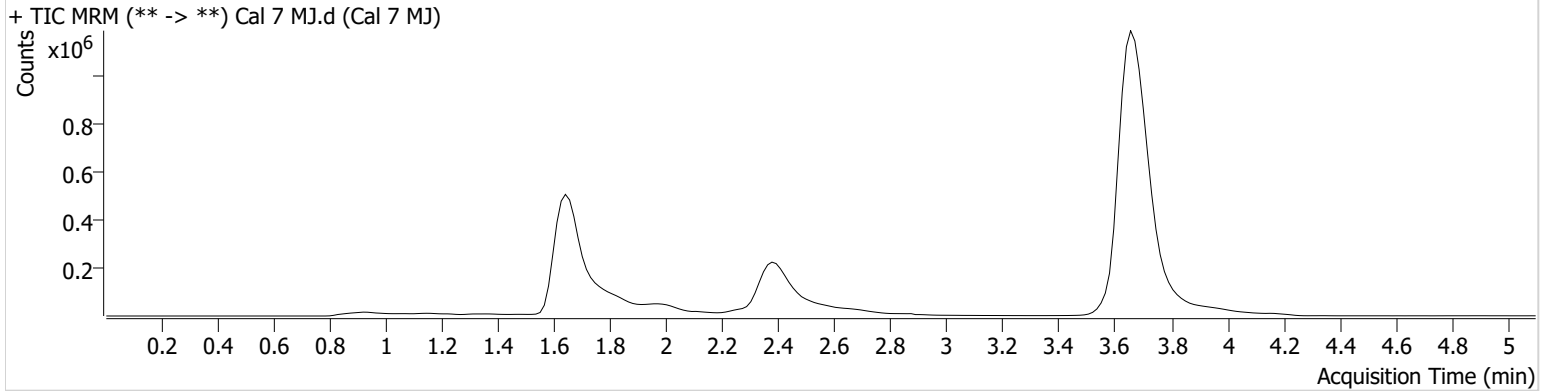


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2022\AM 27-28\070122 AM 27 28 P1 P2 SC\QuantResults\AM 27.batch.bin  
**Calibration Last Update** 7/5/2022 11:37:03 AM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	Cal 7 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	Cal 7 MJ
<b>Acq. Method</b>	AM 27 THCQ.m	<b>Operator</b>	Sarah Collins
<b>Sample Position</b>	P1-B6	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	7/2/2022 4:27:04 AM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-COOH	1.655	721779	759.92	59.9	3060.06	138856	250.3773 ng/ml
THC-OH	1.633	1228549	∞	12.5 <b>High</b>	∞	517675	82.7016 ng/ml
THC	3.661	3540483	∞	27.5	4020.43	4304562	101.3011 ng/ml