









**REVIEWED**

By Celena Shrum at 1:19 pm, Apr 03, 2023

TS

4/3/2023

**Worklist: 6307**

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
M2023-0326	3	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
M2023-0406	2	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
M2023-0695	2	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
M2023-0991	3	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
P2023-0250	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
P2023-0580	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
P2023-0812	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	
P2023-0920	1	UCK	AM 27 Urine Cannabinoids Confirmation by LC-QQQ	

TS

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

Extraction Date: 03/30/2023  
Plate lot#: 230113  
Mobile phase A: 0.1% Formic Acid in LCMS Water  
Blank Blood Lot: Lampire 23A52593  
Column: UCT Selectra DA 100 x 2.1mm 3um

Analyst: Tamara Salazar  
Plate Retest Date: 07/13/2023  
Mobile phase B: 0.1% Formic acid in Acetonitrile  
Blank Urine Lot: POC0211022  
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: 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 and urine (if applicable) (calibrated pipette) into the appropriate wells of 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, and 500µL of saturated phosphate buffer to urine samples-in the wells of the analytical plate.
- 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 7. Transfer 700-800µL of blood+acid or urine+acid mixture to corresponding wells of SLE+ plate.  
Amount transferred: 750µL
- 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)*
- 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.
- 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  $\geq 0.98$  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. Did all QCs pass for each analyte? (if not, describe in comments section)
- 5. Enter QCs into control charting.
- 6. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:

TS

	1	2	3	4	5	6
A	IS + Cal. 1	IS + QC_1	P2023-0580-1	IS + Sample	IS + Sample	IS + QC_1
B	IS + Cal. 2	Neg Blood	P2023-0812-1	IS + Sample	IS + Sample	IS + Cal. 7
C	IS + Cal. 3	Neg Urine	P2023-0920-1	IS + Sample	IS + Sample	IS + Cal. 6
D	IS + Cal. 4	M2023-0326-3	IS + Sample	IS + Sample	IS + Sample	IS + Cal. 5
E	IS + Cal. 5	M2023-0406-2	IS + Sample	IS + Sample	IS + Sample	IS + Cal. 4
F	IS + Cal. 6	M2023-0695-2	IS + Sample	IS + Sample	IS + Sample	IS + Cal. 3
G	IS + Cal. 7	M2023-0991-3	IS + Sample	IS + Sample	IS + Sample	IS + Cal. 2
H	IS + QC_1	P2023-0250-1	IS + Sample	IS + Sample	IS + QC_1	IS + Cal. 1

All wells to contain 100  $\mu$ l of residual DMSO

TS

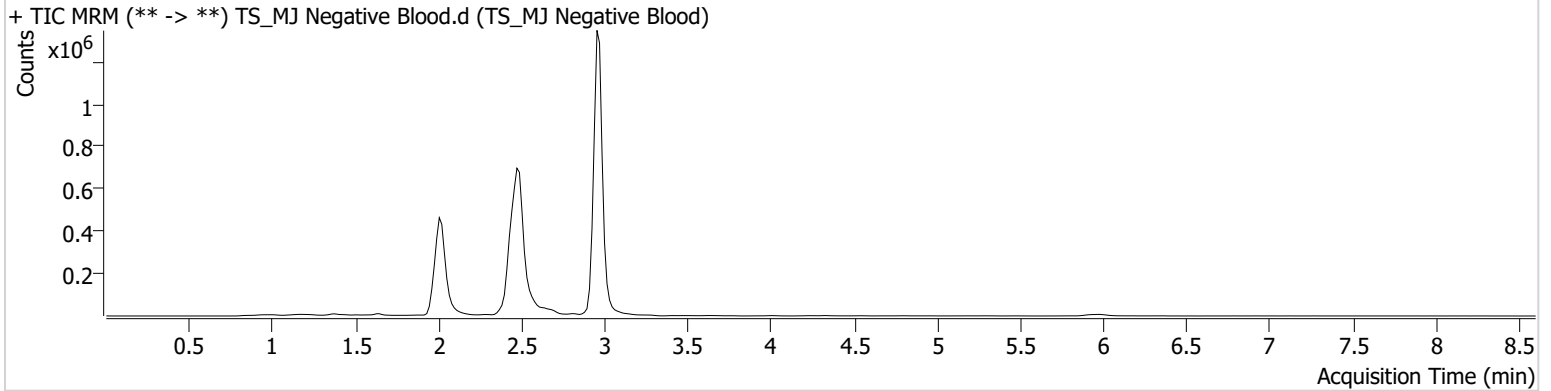


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_MJ Negative Blood.d
<b>Type</b>	Sample	<b>Sample</b>	TS_MJ Negative Blood
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-B2	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 8:29:18 AM		
<b>Sample Info.</b>			

## Sample Chromatogram



TS

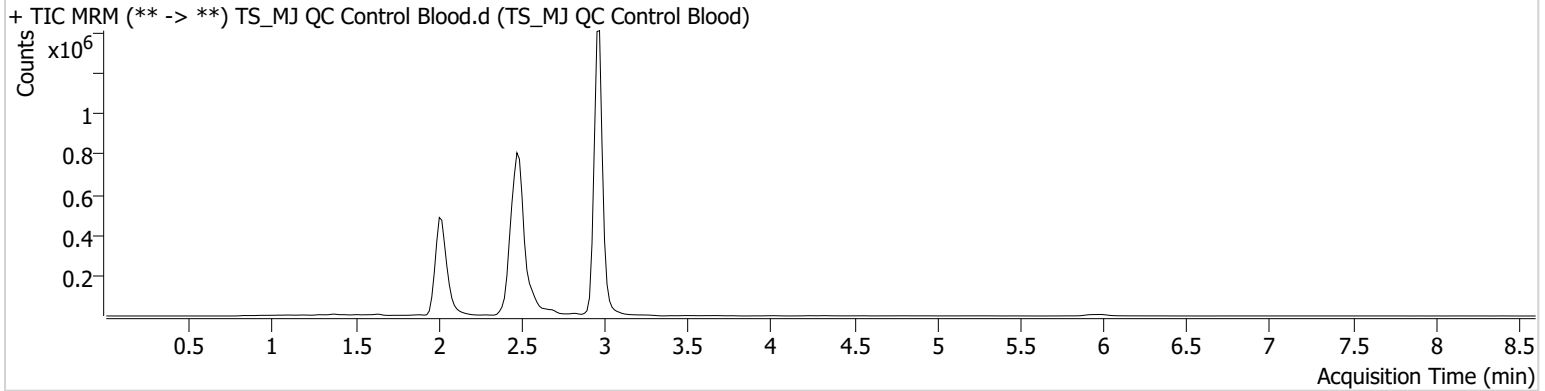


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_MJ QC Control Blood.d
<b>Type</b>	QC	<b>Sample</b>	TS_MJ QC Control Blood
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-H1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 8:04:06 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.006	126285	∞	11.5	434.66	1419103	4.6899 ng/ml
THC-COOH	2.050	34004	604.44	251.5	∞	401081	15.5935 ng/ml
THC	2.974	189096	∞	22.8	∞	4596806	5.0052 ng/ml

TS

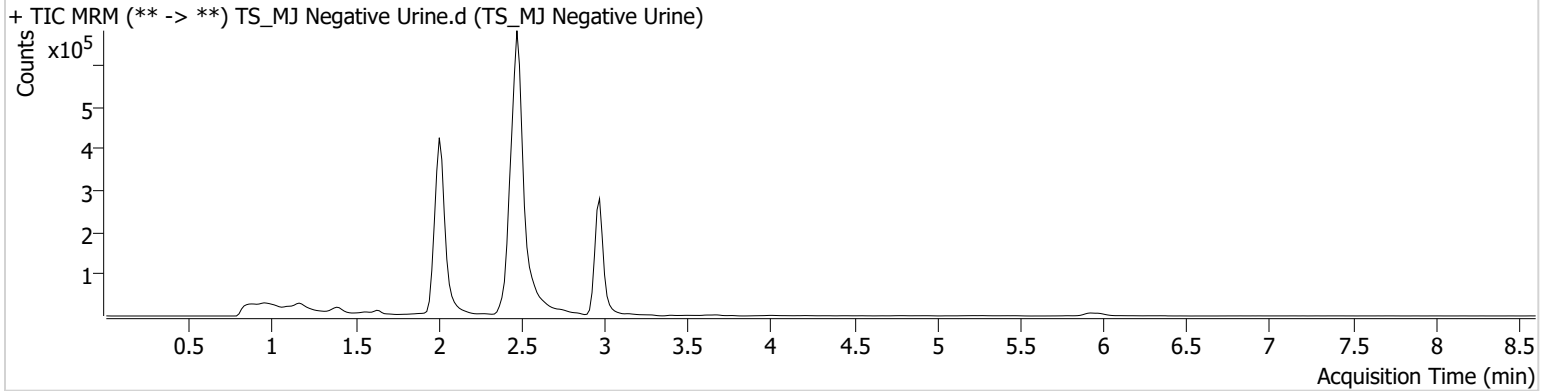


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_MJ Negative Urine.d
<b>Type</b>	Sample	<b>Sample</b>	TS_MJ Negative Urine
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-C2	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 8:41:55 AM		
<b>Sample Info.</b>			

## Sample Chromatogram



TS

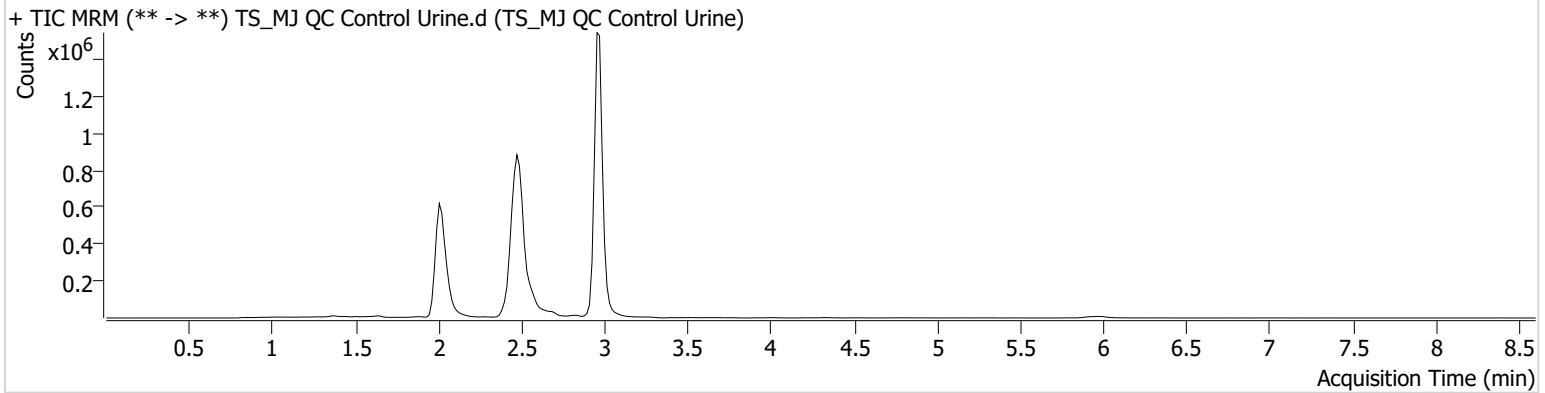


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_MJ QC Control Urine.d
<b>Type</b>	QC	<b>Sample</b>	TS_MJ QC Control Urine
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-H1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 12:28:54 PM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.006	137445	∞	14.9	202.40	1711249	4.2063 ng/ml
THC-COOH	2.050	39129	730.71	253.8	1057.52	454746	15.8197 ng/ml
THC	2.974	214042	∞	22.9	∞	4844348	5.3627 ng/ml

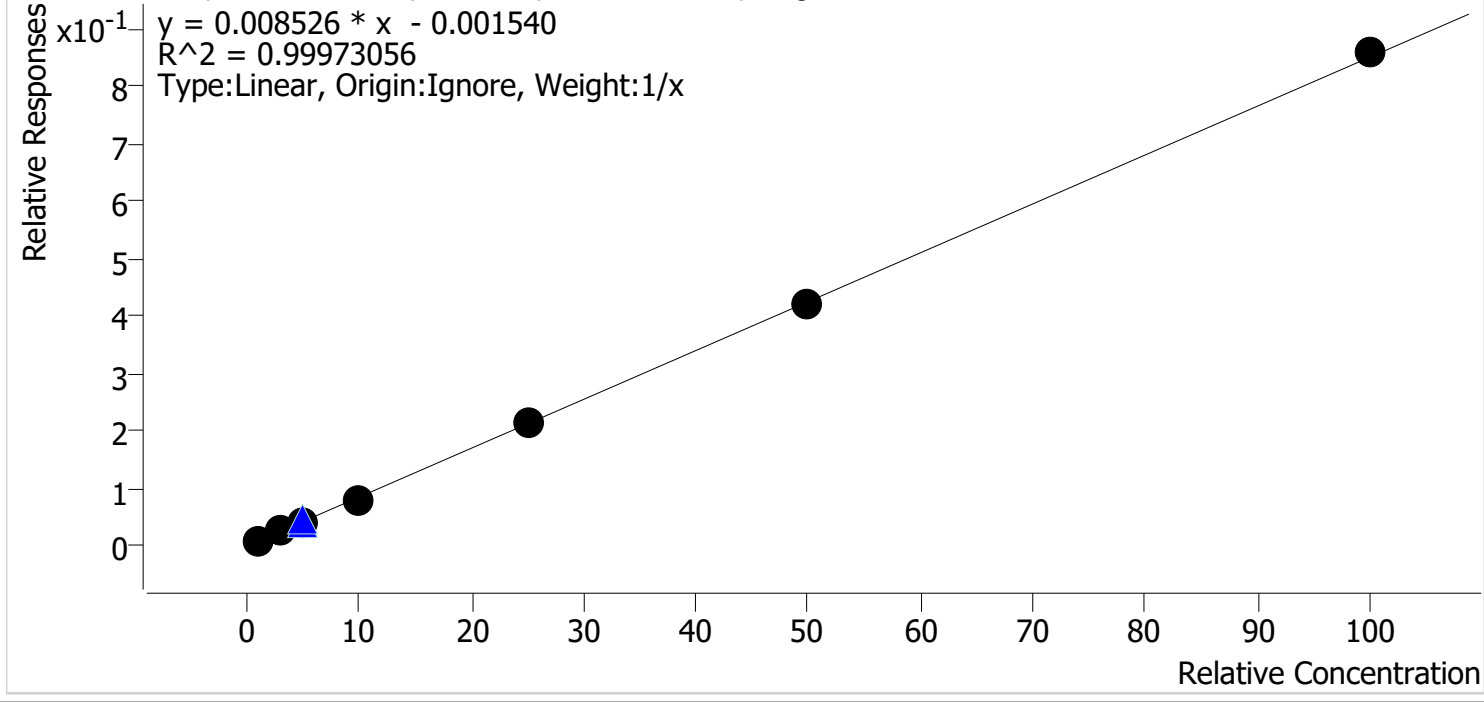
TS



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Last Cal. Update** 3/31/2023 1:26 PM  
**Analyst Name** ISP\datastor  
**Analyte** THC **Internal Standard** THC-D3

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



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
TS_Cal 1 MJ	1	✓	1.0	1.1	107.5
TS_Cal 2 MJ	2	✓	3.0	3.0	100.8
TS_Cal 3 MJ	3	✓	5.0	4.8	96.3
TS_Cal 4 MJ	4	✓	10.0	9.5	95.4
TS_Cal 5 MJ	5	✓	25.0	25.0	99.8
TS_Cal 6 MJ	6	✓	50.0	49.7	99.4
TS_Cal 7 MJ	7	✓	100.0	100.9	100.9

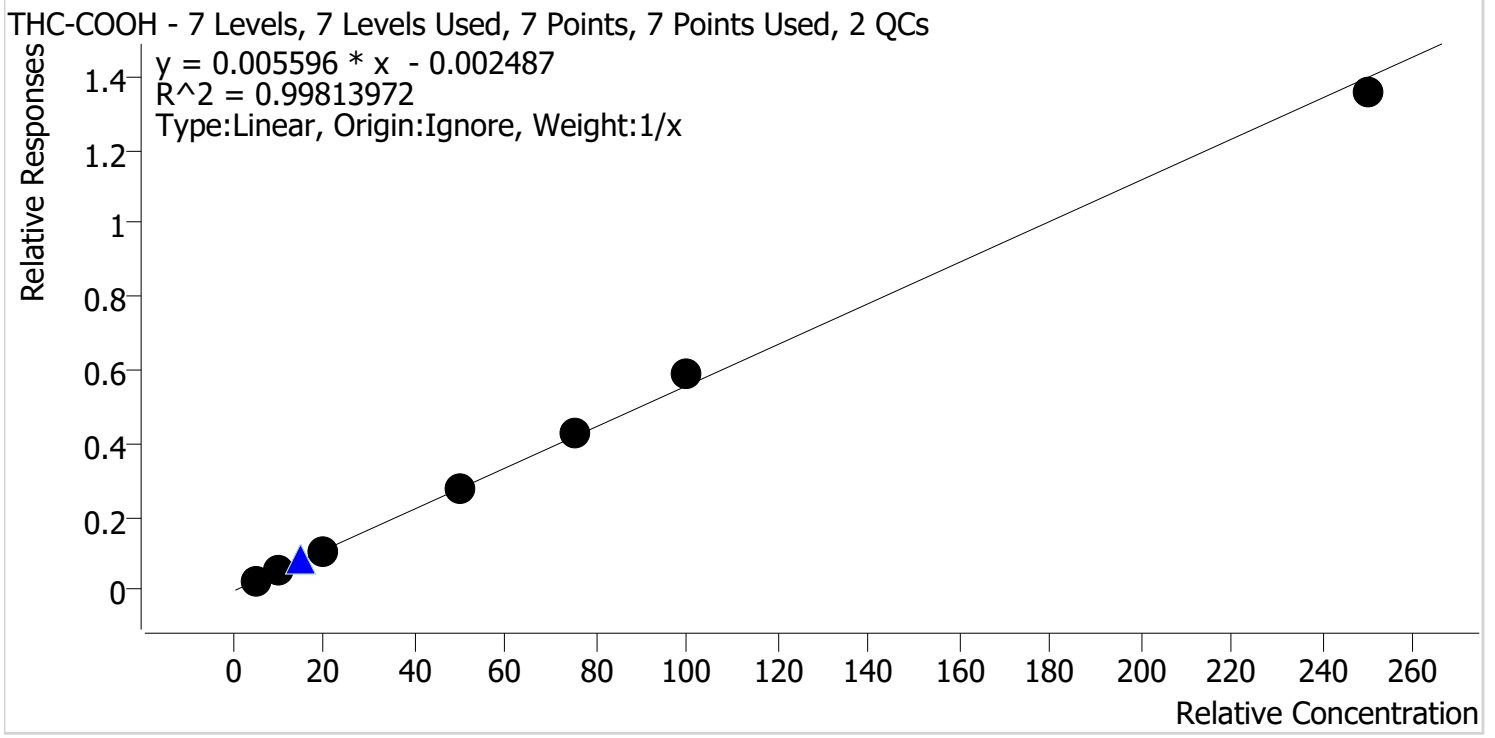


TS



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Last Cal. Update** 3/31/2023 1:26 PM  
**Analyst Name** ISP\datastor  
**Analyte** THC-COOH **Internal Standard** THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
TS_Cal 1 MJ	1	✓	5.0	5.1	101.4
TS_Cal 2 MJ	2	✓	10.0	9.4	93.6
TS_Cal 3 MJ	3	✓	20.0	19.9	99.5
TS_Cal 4 MJ	4	✓	50.0	49.6	99.3
TS_Cal 5 MJ	5	✓	75.0	77.3	103.1
TS_Cal 6 MJ	6	✓	100.0	106.2	106.2
TS_Cal 7 MJ	7	✓	250.0	242.6	97.0

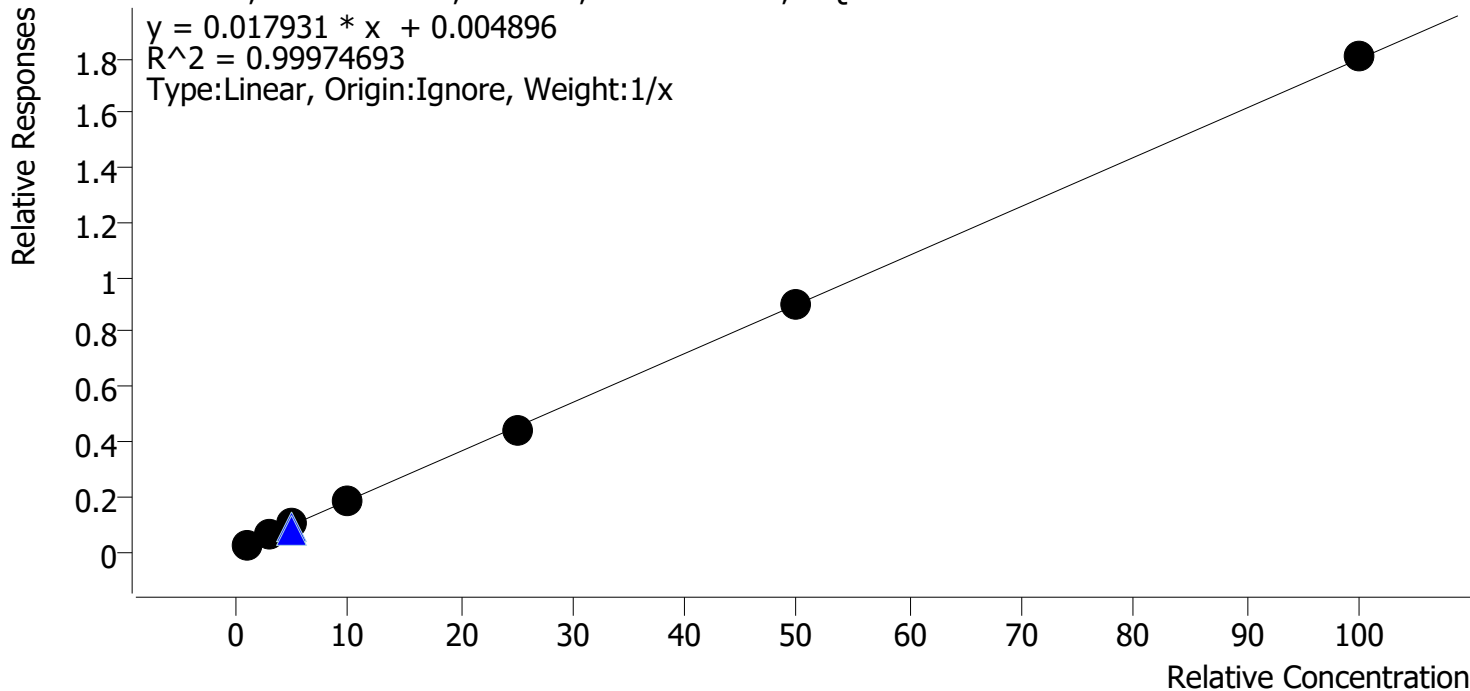
TS



# AM #27 Cannabinoids Quant. Calibration Curve Report

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Last Cal. Update** 3/31/2023 1:26 PM  
**Analyst Name** ISP\datastor  
**Analyte** THC-OH **Internal Standard** THC-OH-D3

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



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
TS_Cal 1 MJ	1	✓	1.0	1.0	98.9
TS_Cal 2 MJ	2	✓	3.0	3.1	102.7
TS_Cal 3 MJ	3	✓	5.0	5.2	103.9
TS_Cal 4 MJ	4	✓	10.0	9.6	95.6
TS_Cal 5 MJ	5	✓	25.0	24.5	98.1
TS_Cal 6 MJ	6	✓	50.0	50.2	100.4
TS_Cal 7 MJ	7	✓	100.0	100.5	100.5

TS

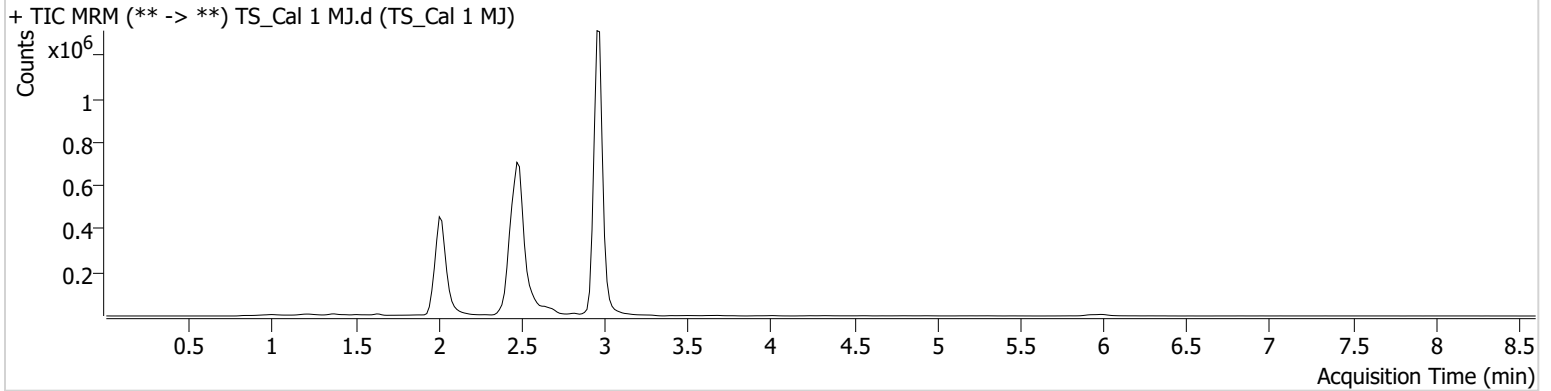


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_Cal 1 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	TS_Cal 1 MJ
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-A1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 6:23:08 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.021	33110	∞	11.9	26.68	1462649	0.9894 ng/ml <b>Low</b>
THC-COOH	2.050	10983	74.68	241.4	∞	424468	5.0681 ng/ml
THC	2.974	35146	∞	25.6	∞	4610566	1.0746 ng/ml

TS

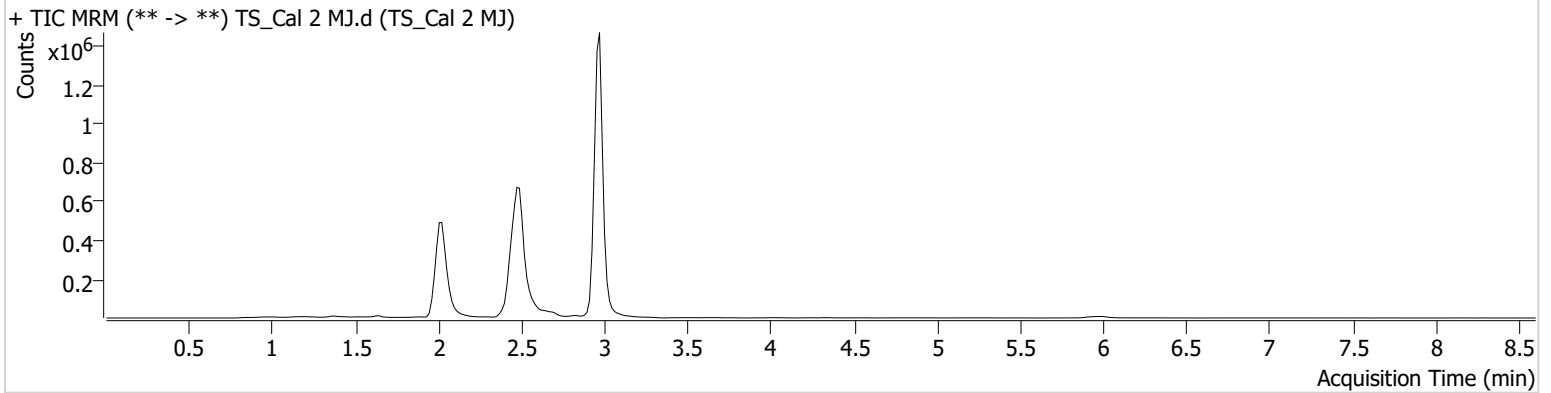


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_Cal 2 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	TS_Cal 2 MJ
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-B1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 6:35:54 AM		

**Sample Chromatogram**



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.021	91084	∞	11.8	∞	1515100	3.0797 ng/ml
THC-COOH	2.050	21893	∞	270.0	∞	438543	9.3650 ng/ml
THC	2.974	117657	∞	22.8	∞	4855057	3.0229 ng/ml

TS

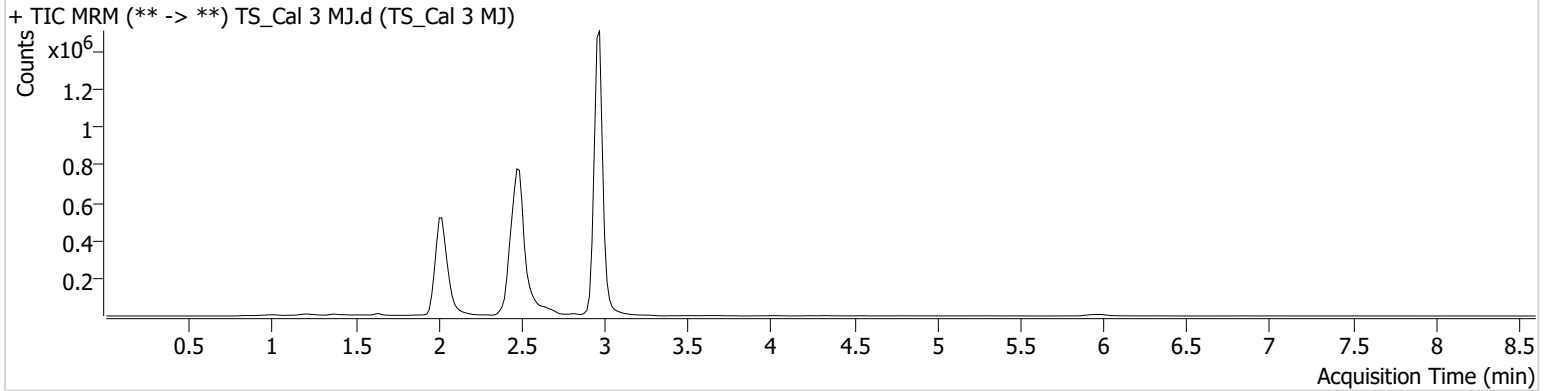


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_Cal 3 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	TS_Cal 3 MJ
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-C1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 6:48:30 AM		
<b>Sample Info.</b>			

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.021	151595	∞	11.3	733.17	1545841	5.1961 ng/ml
THC-COOH	2.050	46699	1688.85	262.7	∞	429110	19.8907 ng/ml
THC	2.974	196240	∞	24.0	∞	4965440	4.8158 ng/ml

TS

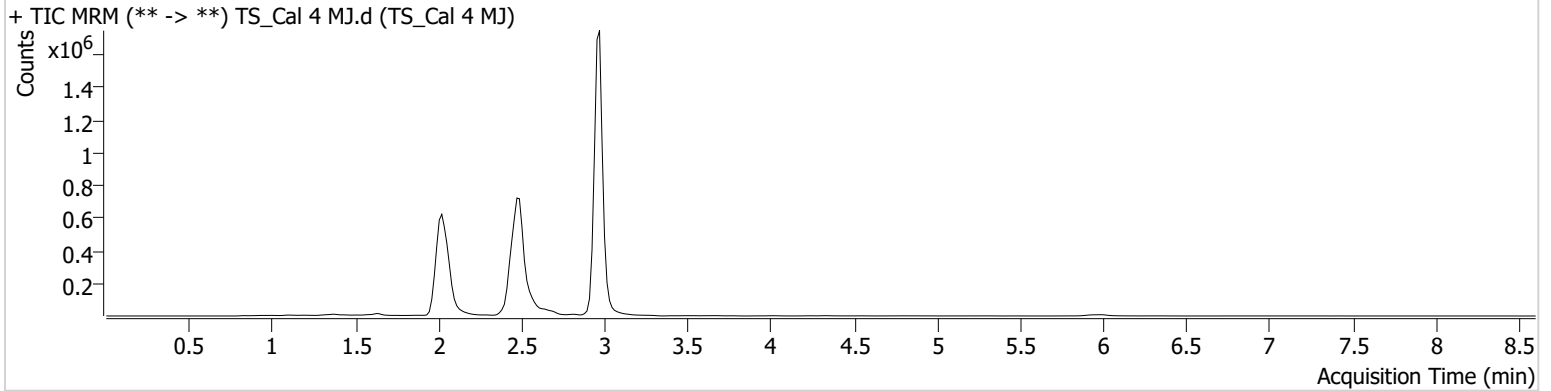


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

**Instrument** Falco (069901) **Data File** TS\_Cal 4 MJ.d  
**Type** Cal **Sample** TS\_Cal 4 MJ  
**Acq. Method** AM 27 UCT Method Test CS.m **Operator** Tamara Salazar  
**Sample Position** P5-D1 **Comment**  
**Injection Volume** 10  
**Acq. Date-Time** 3/31/2023 7:01:06 AM  
**Sample Info.**

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.021	275799	632.80	14.0	∞	1564752	9.5568 ng/ml
THC-COOH	2.050	117691	∞	245.8	∞	427590	49.6267 ng/ml
THC	2.974	429741	∞	23.1	∞	5386823	9.5371 ng/ml

TS

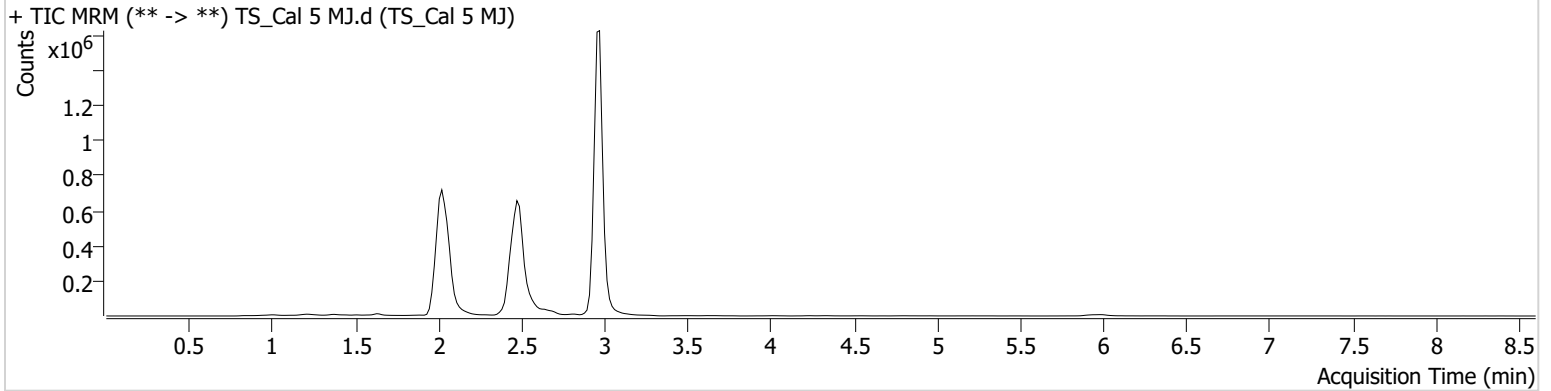


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_Cal 5 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	TS_Cal 5 MJ
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-E1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 7:13:41 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.006	632191	∞	13.2	∞	1422201	24.5175 ng/ml
THC-COOH	2.050	165204	1924.01	238.8	2510.07	384103	77.2983 ng/ml
THC	2.974	958166	14620.17	22.1	∞	4536491	24.9525 ng/ml

TS

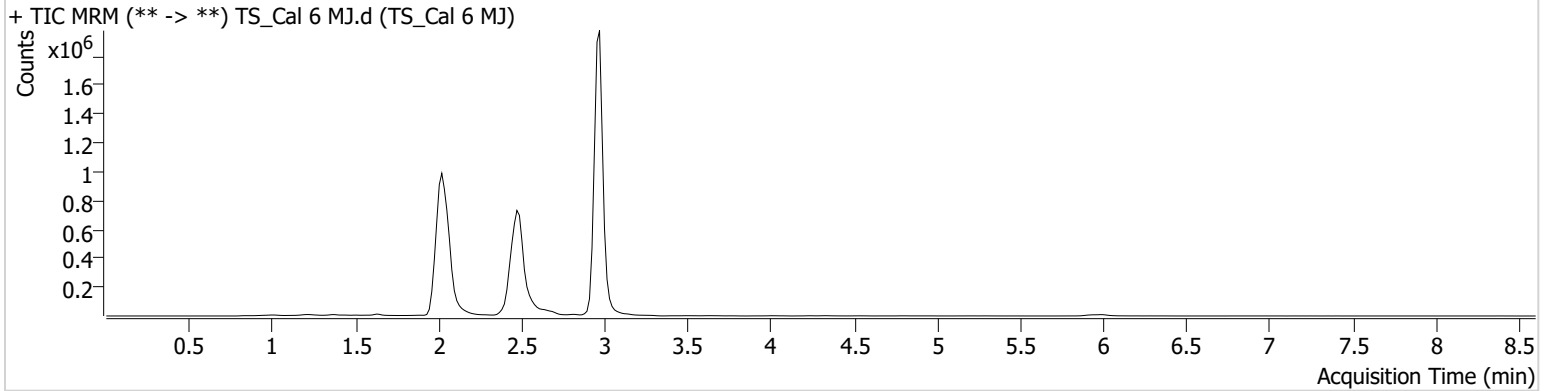


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_Cal 6 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	TS_Cal 6 MJ
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-F1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 7:26:16 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.006	1357450	5332.28	13.3	∞	1500388	50.1837 ng/ml
THC-COOH	2.050	234889	∞	236.5	4907.02	396887	106.1960 ng/ml
THC	2.974	1937769	15586.53	22.8	∞	4591409	49.6794 ng/ml



TS

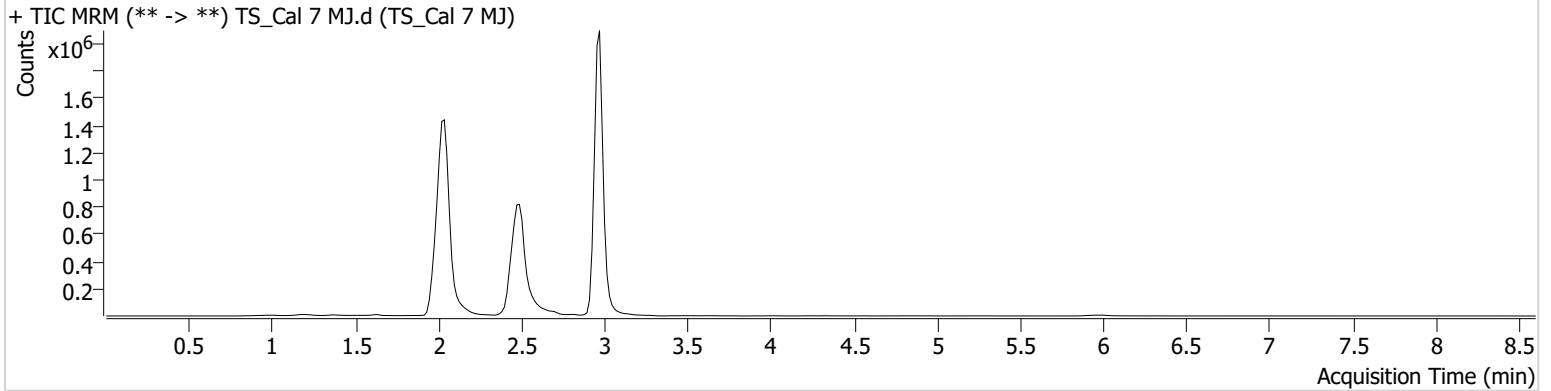


# AM #27 Cannabinoid Quant. Results

**Batch results** D:\MassHunter\Data\2023\AM 27 28\033023 AM 27 28 SC TS\QuantResults\AM 27 TS.batch.bin  
**Calibration Last Update** 3/31/2023 1:26:21 PM

<b>Instrument</b>	Falco (069901)	<b>Data File</b>	TS_Cal 7 MJ.d
<b>Type</b>	Cal	<b>Sample</b>	TS_Cal 7 MJ
<b>Acq. Method</b>	AM 27 UCT Method Test CS.m	<b>Operator</b>	Tamara Salazar
<b>Sample Position</b>	P5-G1	<b>Comment</b>	
<b>Injection Volume</b>	10		
<b>Acq. Date-Time</b>	3/31/2023 7:38:52 AM		

## Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
THC-OH	2.021	2538542	∞	13.1	∞	1405199	100.4769 ng/ml
THC-COOH	2.050	435571	7318.29	243.5	∞	321468	242.5553 ng/ml
THC	2.974	3113292	16885.96	22.2	∞	3624669	100.9178 ng/ml