REVIEWED
By Celena Shrum at 1:23 pm, Sep 08, 2021

TS 9/4/2021

Worklist: 5224

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION	
P2021-1506	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2021-2417	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2021-2722	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2021-2791	1	BCK	AM 27 Blood THC Quant by LC-QQQ	
P2021-2792	1	BCK	AM 27 Blood THC Quant by LC-QQQ	

TS

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

09/08/2021 TS

Extraction Date: 09/04/~~221~~ 2021
Plate lot#: IDP-108-2-210609
Mobile phase A: 0.1% Formic Acid in LCMS Water
Blank Blood Lot: Lampire 20L20724
LCMS-QQQ ID: 069901

Analyst: Tamara Salazar
Plate Re-test Date: 12-09-21
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. Using a calibrated pipette, add **1000µl blood and urine (if applicable) (calibrated pipette)** into the appropriate wells of analytical (standards) plate. **Pipette ID:** *42*
☒ 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: 800uL
☒ 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 ≥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 samples with calculated concentrations for THC at 1ng/mL or greater and OH-THC at 3ng/mL or greater may be reported quantitatively (blood only). Calculated concentrations for carboxy-THC of 5ng/mL may be reported qualitatively. 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: *THC-OH not evaluated due to a possible interfering compound.*

TS

	1	2	3	4	5	6
A	IS + Cal. 1					IS + QC_1
B	IS + Cal. 2					IS + Cal. 7
C	IS + Cal. 3				P2021-2792-1	IS + Cal. 6
D	IS + Cal. 4				P2021-2791-1	IS + Cal. 5
E	IS + Cal. 5				P20201-2722-1	IS + Cal. 4
F	IS + Cal. 6				P2021-2417-1	IS + Cal. 3
G	IS + Cal. 7				P2021-1506-1	IS + Cal. 2
H	IS + QC_1				Neg	IS + Cal. 1

All wells to contain 100 µl of residual DMSO

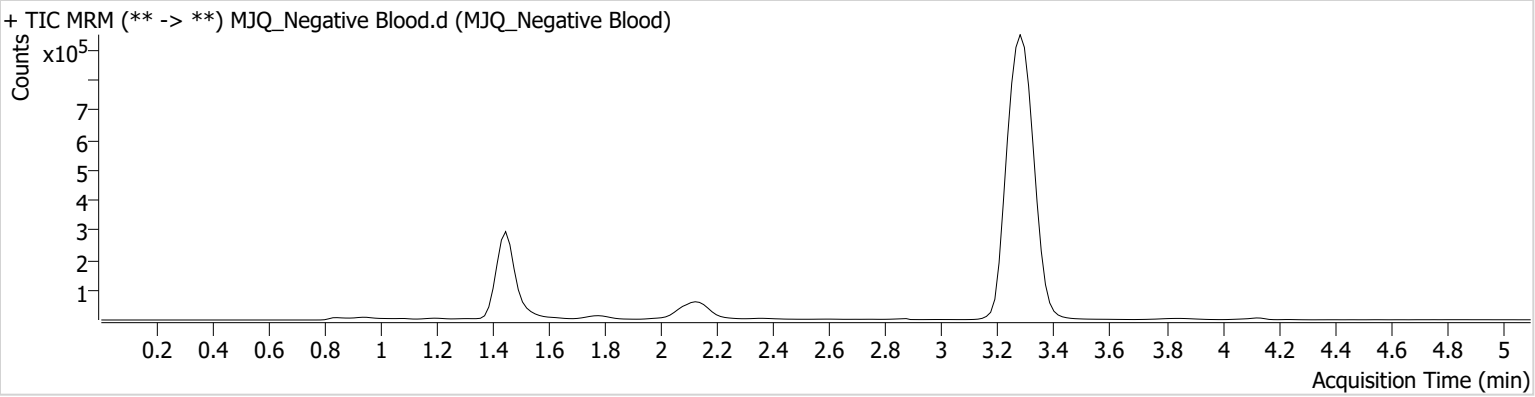
TS

AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update	9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Negative Blood.d
Type	Sample	**Sample**	MJQ_Negative Blood
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-H5	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 10:49:06 AM		
Sample Info.			

Sample Chromatogram



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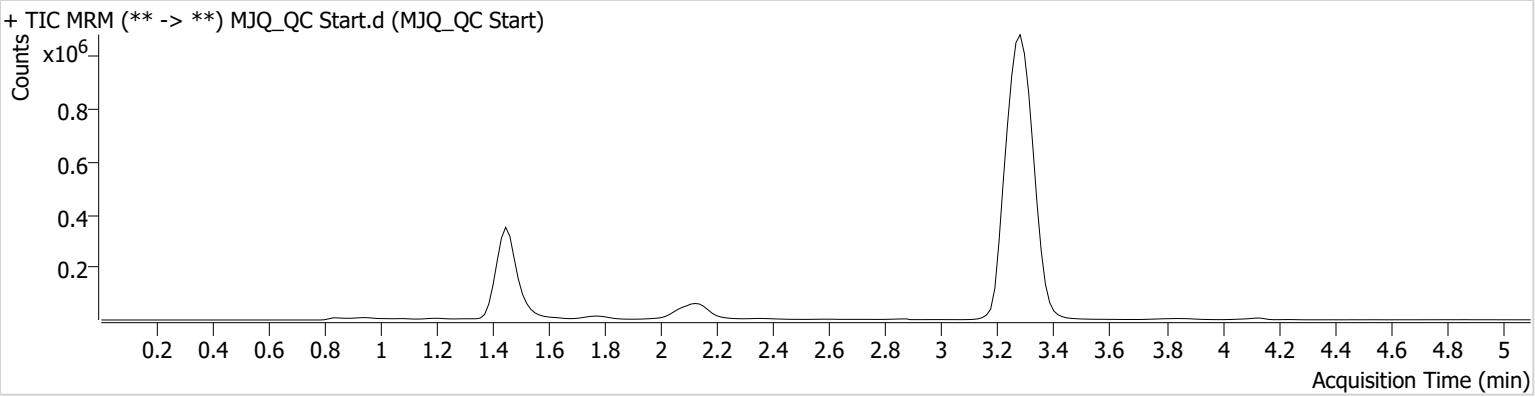
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_QC Start.d
Type	Sample	**Sample**	MJQ_QC Start
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-A6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 10:33:53 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	103527	∞	60.7	424.69	260887	14.9654	ng/ml
THC-OH	1.468	149758	29.63	8.5	∞	1196339	4.6410	ng/ml
THC	3.300	311618	1775.98	27.1	335.46	7128945	4.7722	ng/ml

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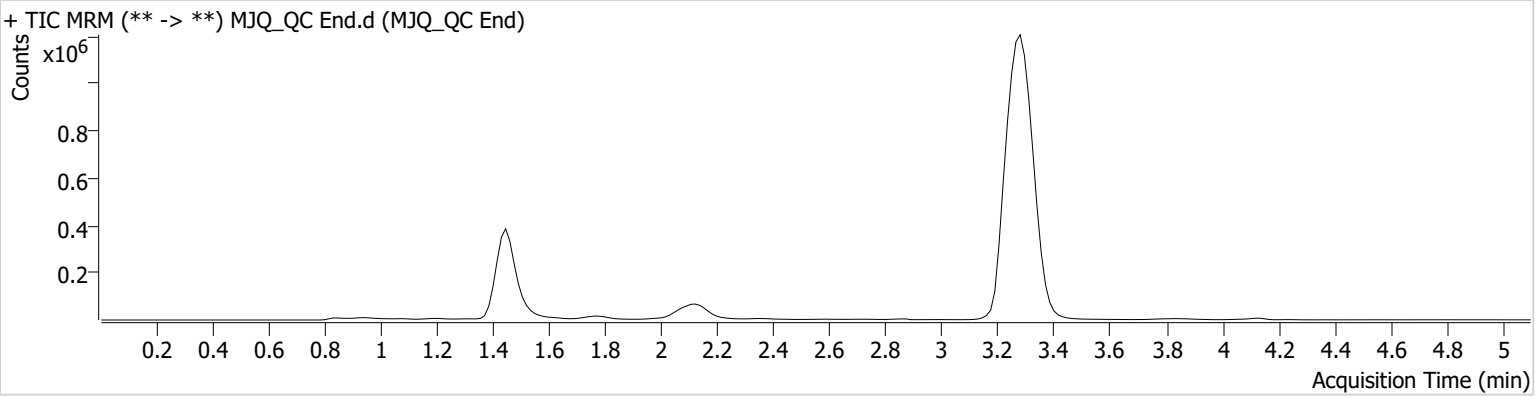
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_QC End.d
Type	Sample	**Sample**	MJQ_QC End
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-A6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 12:20:19 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	107244	242.67	62.2	815.77	273590	14.7730	ng/ml
THC-OH	1.468	159428	29.41	8.0	∞	1281015	4.5798	ng/ml
THC	3.300	345000	2210.17	27.0	∞	7895605	4.7705	ng/ml

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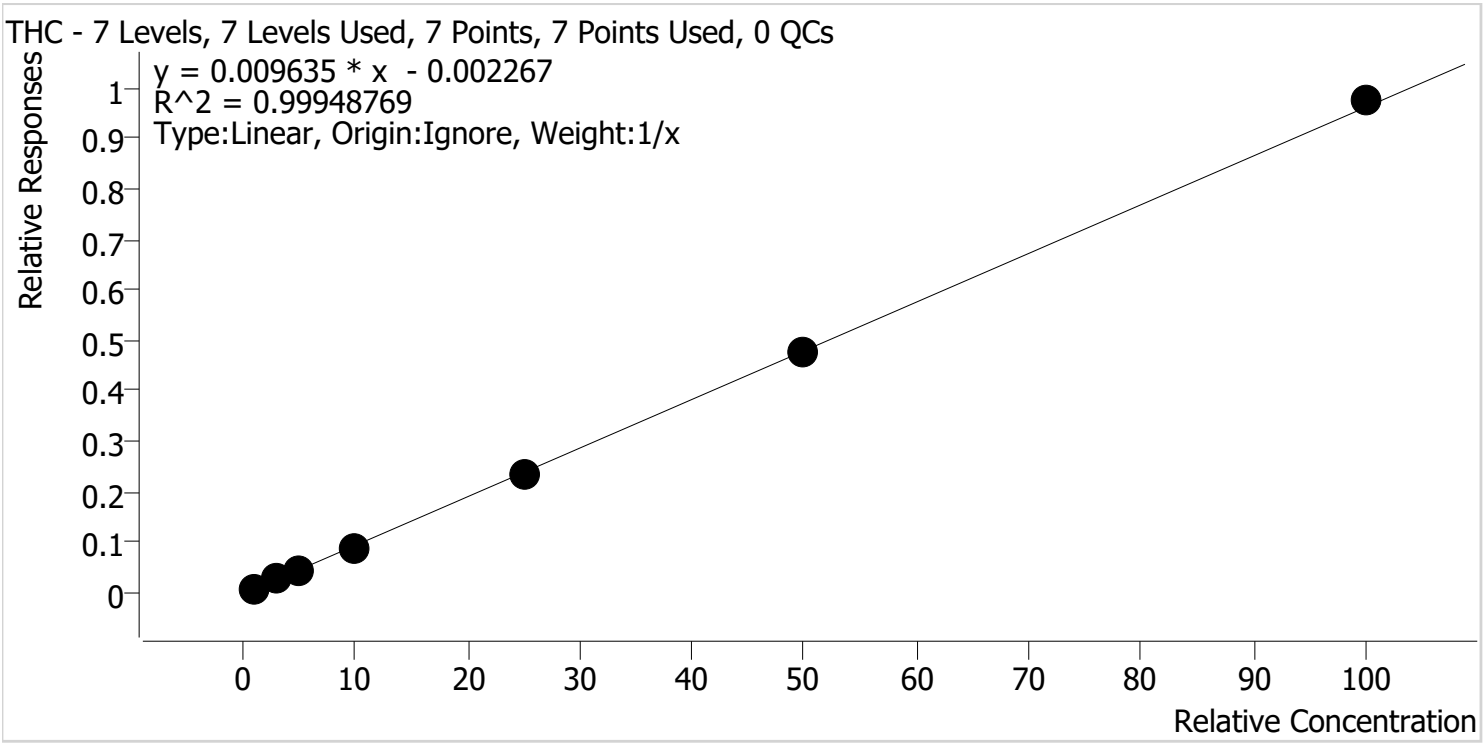
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Last Cal. Update	9/4/2021 1:47 PM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJQ_Cal 1	1	✔	1.0	1.1	113.3
MJQ_Cal 2	2	✔	3.0	2.9	97.1
MJQ_Cal 3	3	✔	5.0	4.8	95.5
MJQ_Cal 4	4	✔	10.0	9.4	94.3
MJQ_Cal 5	5	✔	25.0	24.8	99.1
MJQ_Cal 6	6	✔	50.0	49.6	99.3
MJQ_Cal 7	7	✔	100.0	101.3	101.3

Generated at 9:27 AM on 9/8/2021

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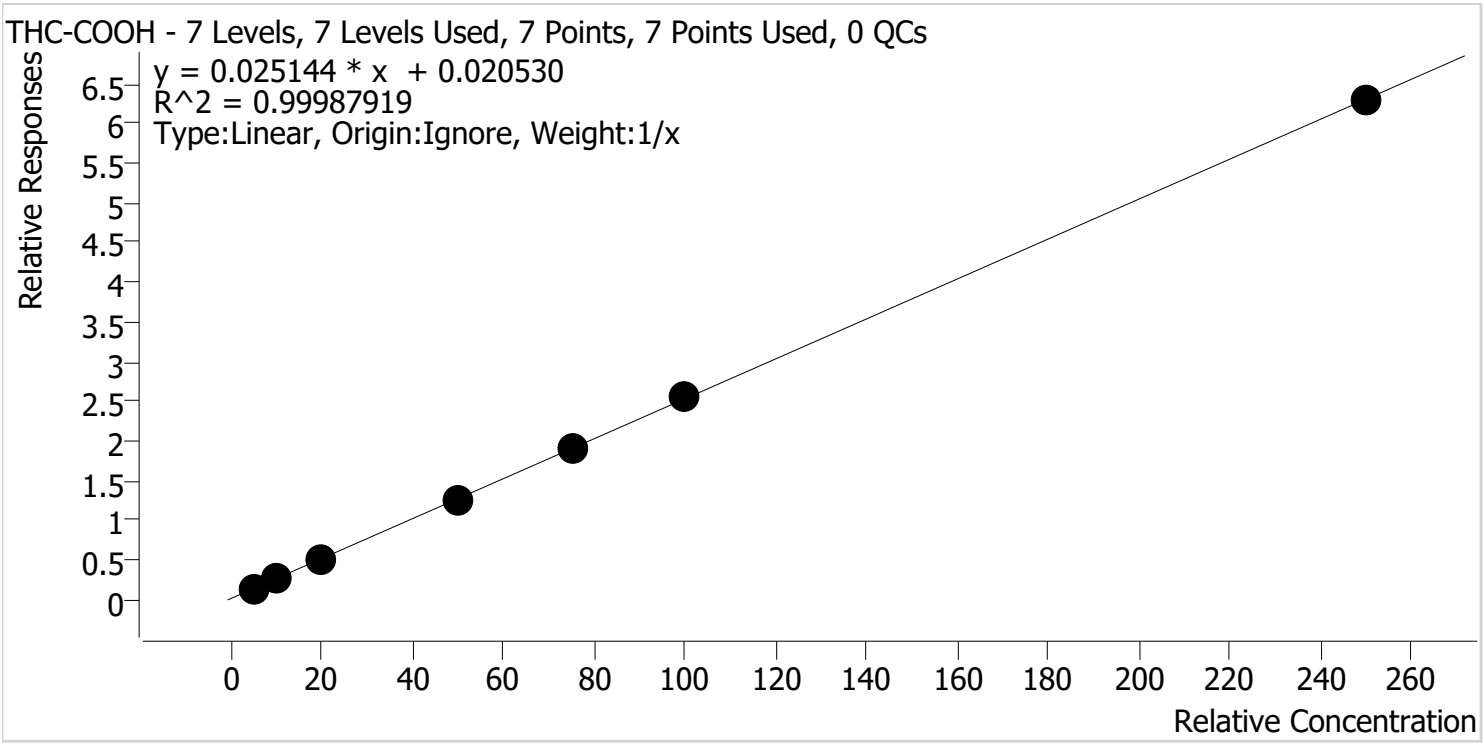
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Last Cal. Update	9/4/2021 1:47 PM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJQ_Cal 1	1	✔	5.0	4.8	96.3
MJQ_Cal 2	2	✔	10.0	10.4	104.0
MJQ_Cal 3	3	✔	20.0	20.0	100.1
MJQ_Cal 4	4	✔	50.0	49.4	98.7
MJQ_Cal 5	5	✔	75.0	75.0	100.0
MJQ_Cal 6	6	✔	100.0	101.2	101.2
MJQ_Cal 7	7	✔	250.0	249.3	99.7

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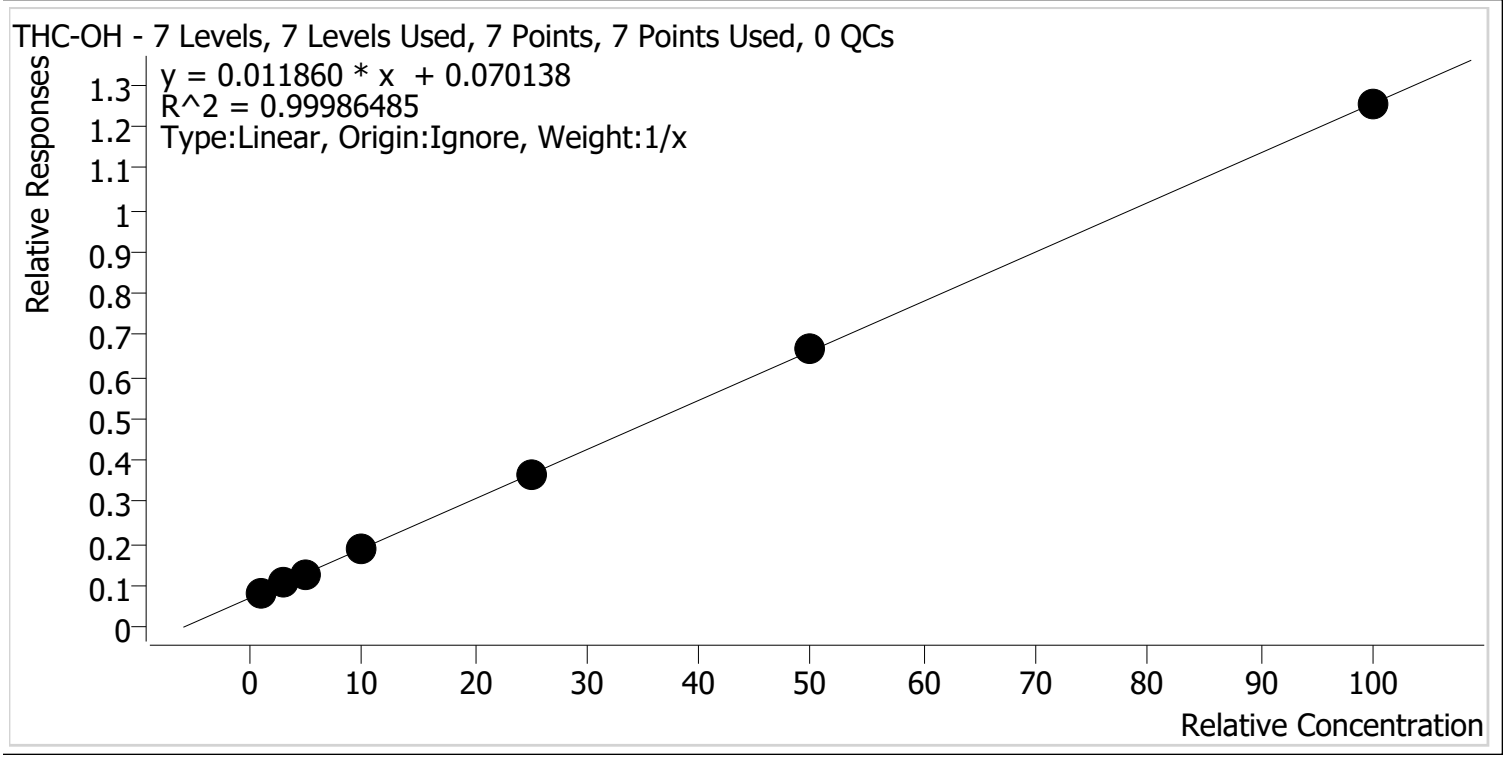
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Last Cal. Update	9/4/2021 1:47 PM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJQ_Cal 1	1	✔	1.0	1.1	107.2
MJQ_Cal 2	2	✔	3.0	2.9	96.1
MJQ_Cal 3	3	✔	5.0	4.8	97.0
MJQ_Cal 4	4	✔	10.0	9.8	98.4
MJQ_Cal 5	5	✔	25.0	25.2	100.7
MJQ_Cal 6	6	✔	50.0	50.4	100.8
MJQ_Cal 7	7	✔	100.0	99.8	99.8

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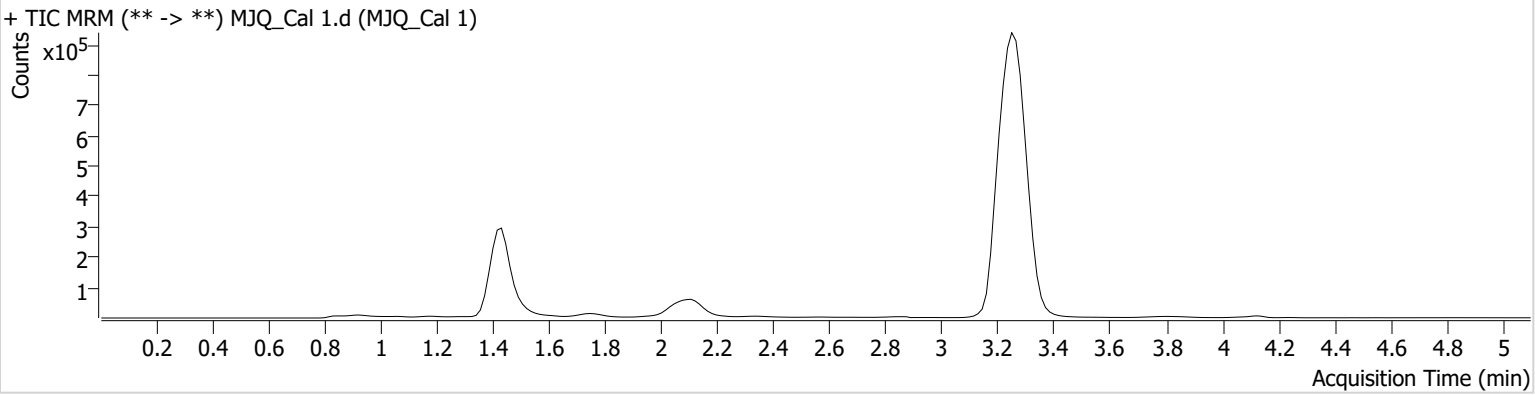
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 1.d
Type	Cal	**Sample**	MJQ_Cal 1
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-H6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 9:32:54 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.459	35256	∞	52.7	240.89	248905	4.8168	ng/ml **Low**
THC-OH	1.498	95808	∞	3.9 **Low**	10.62	1156363	1.0721	ng/ml **Low**
THC	3.270	56063	335.39	32.5	52.84	6481194	1.1331	ng/ml

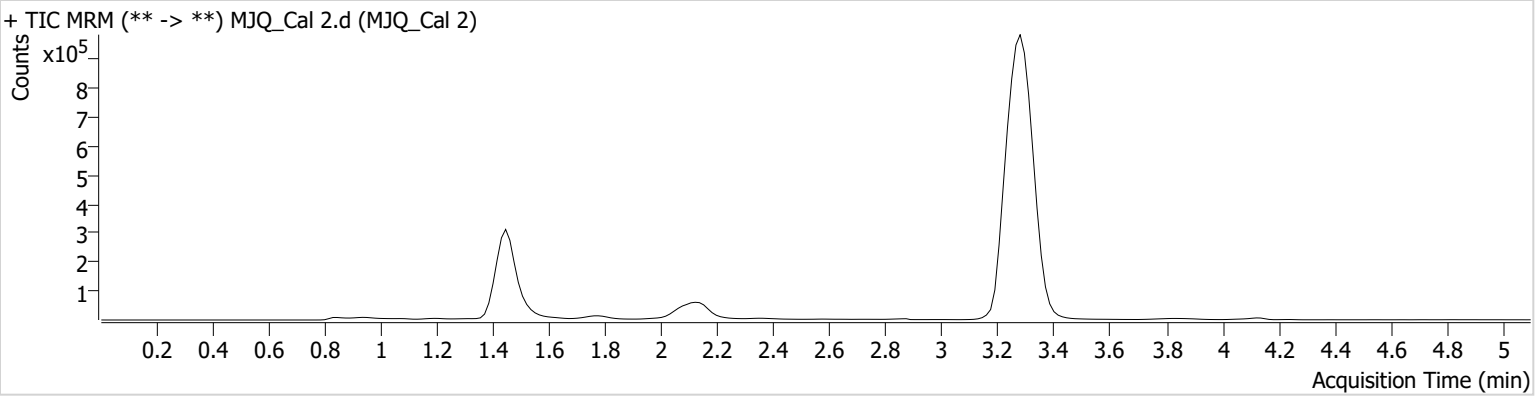
TS

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 2.d
Type	Cal	**Sample**	MJQ_Cal 2
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-G6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 9:40:40 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	68996	∞	55.4	261.00	244559	10.4037	ng/ml
THC-OH	1.513	117387	∞	6.7 **Low**	∞	1125050	2.8838	ng/ml **Low**
THC	3.300	168145	∞	29.4	∞	6516086	2.9136	ng/ml

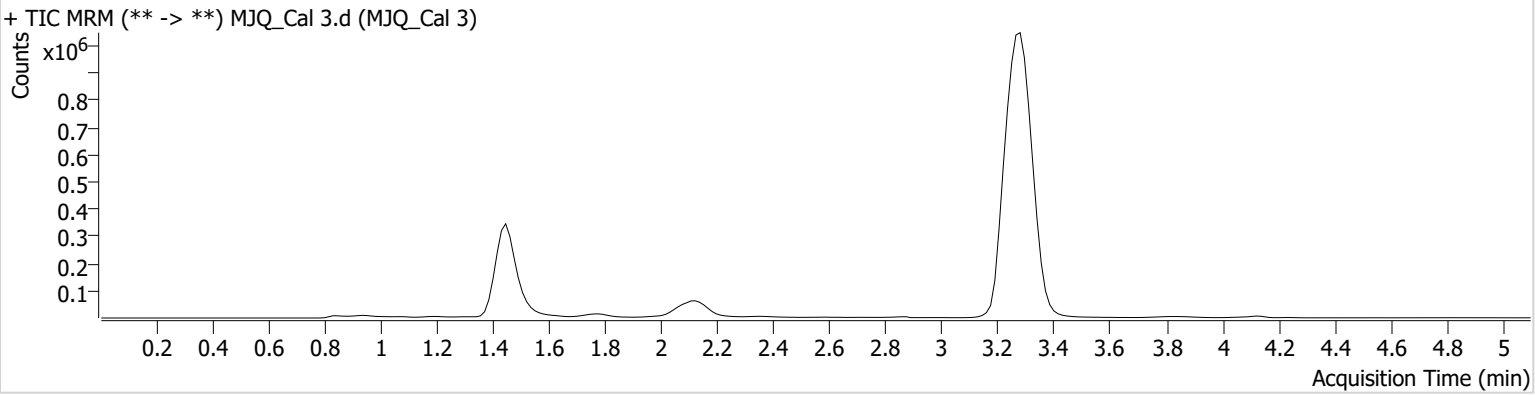
TS

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 3.d
Type	Cal	**Sample**	MJQ_Cal 3
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-F6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 9:48:17 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.474	131107	∞	61.5	∞	250305	20.0148	ng/ml
THC-OH	1.483	148288	∞	7.9	∞	1161678	4.8493	ng/ml
THC	3.285	298307	1736.88	27.0	383.61	6818975	4.7759	ng/ml

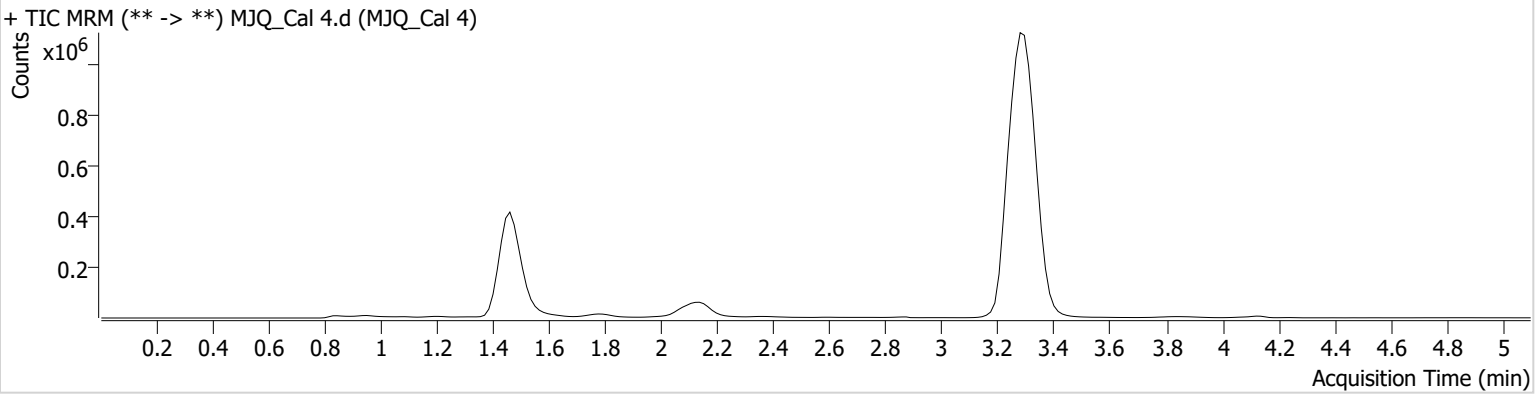
TS

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 4.d
Type	Cal	**Sample**	MJQ_Cal 4
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-E6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 9:55:52 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.489	321372	1357.18	68.7	3354.11	254727	49.3589	ng/ml
THC-OH	1.468	221201	∞	9.3	320.48	1184242	9.8355	ng/ml
THC	3.300	614534	6571.14	26.9	∞	6934236	9.4337	ng/ml

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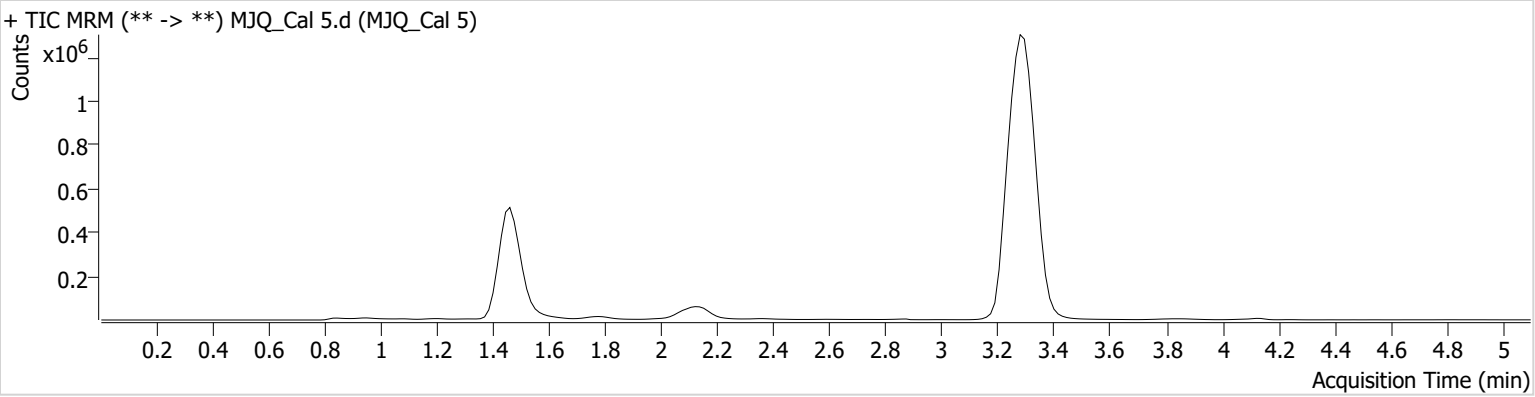
AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update	9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 5.d
Type	Cal	**Sample**	MJQ_Cal 5
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-D6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 10:03:28 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.489	476540	∞	65.0	2362.07	250047	74.9777	ng/ml
THC-OH	1.453	434918	∞	11.4 **High**	∞	1179233	25.1835	ng/ml
THC	3.300	1627673	15936.98	25.8	1395.42	6883416	24.7782	ng/ml

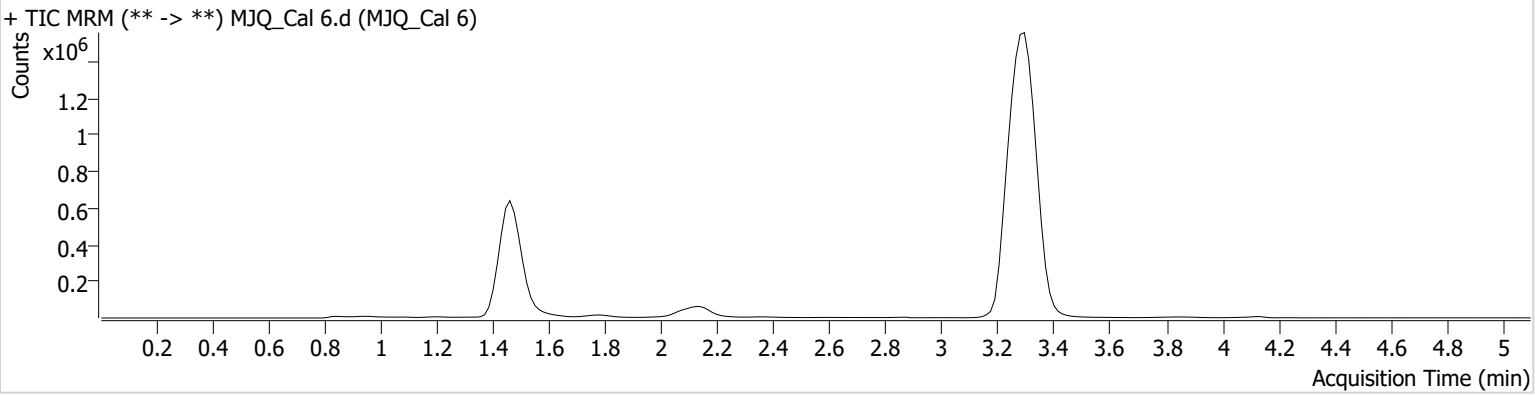
TS

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 6.d
Type	Cal	**Sample**	MJQ_Cal 6
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 10:11:03 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.489	637374	∞	68.1	5295.72	248583	101.1558	ng/ml
THC-OH	1.453	795715	∞	12.8 **High**	1147.76	1191063	50.4159	ng/ml
THC	3.300	3268484	30670.43	26.3	∞	6867393	49.6343	ng/ml

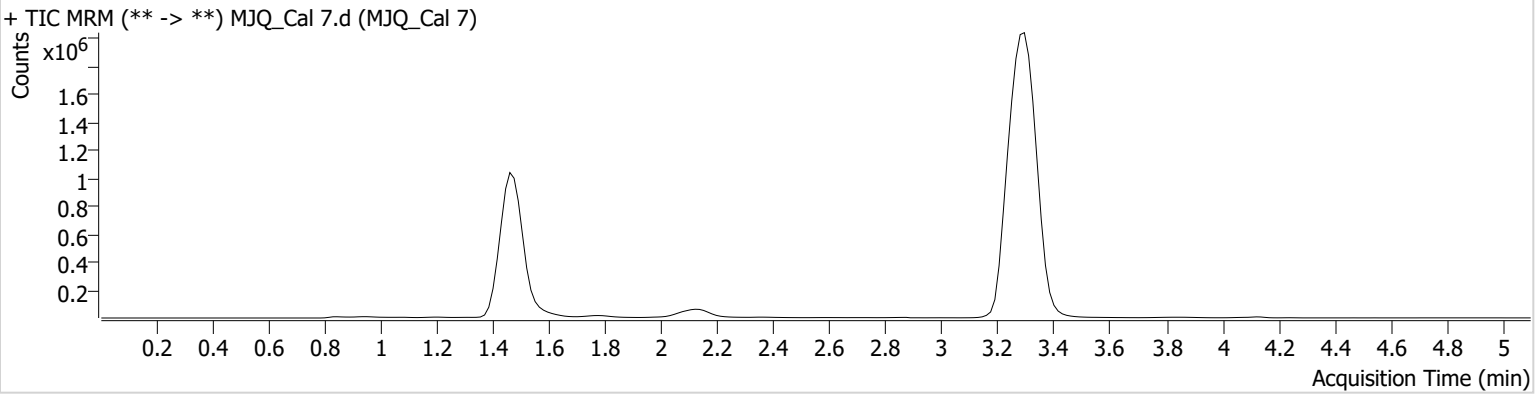
TS

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\090421 AM 27 TS\QuantResults\AM 27 TS.batch.bin
Calibration Last Update 9/4/2021 1:47:26 PM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 7.d
Type	Cal	**Sample**	MJQ_Cal 7
Acq. Method	AM 27 THCQ.m	**Operator**	Tamara Salazar
Sample Position	P1-B6	**Comment**	
Injection Volume	10		
Acq. Date-Time	9/4/2021 10:18:38 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.489	1443628	∞	69.0	∞	229572	249.2724	ng/ml
THC-OH	1.453	1436961	∞	13.8 **High**	3469.30	1146549	99.7600	ng/ml
THC	3.300	6327775	∞	26.3	∞	6496519	101.3312	ng/ml