REVIEWED
By Tamara Salazar at 7:51 am, May 25, 2021

5/14/2021

Worklist: 4980

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2021-1694	3	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3115	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1105	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1254	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1255	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1256	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1278	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1279	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1314	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1315	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1317	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1318	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1358	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1359	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1361	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1372	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-1374	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: 05/12/2021
Plate lot#: IDP-108-2-210412
Mobile phase A: 0.1% Formic Acid in LCMS Water
Blank Blood Lot: Lampire 20L20723
LCMS-QQQ ID: 069901

Analyst: Celena Shrum
Plate Expiration: 10/12/2021
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** of analytical plate.
☒ 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 6. Transfer **800µL of blood+acid or urine+acid** mixture to corresponding wells of SLE+ plate.
☒ 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 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: Curve Limits: THC: 1-100, c-THC: 5-250. THC-OH not evaluated. Calibrator 7 and M2021-1694-3 were reinjected due to low ISTD responses.

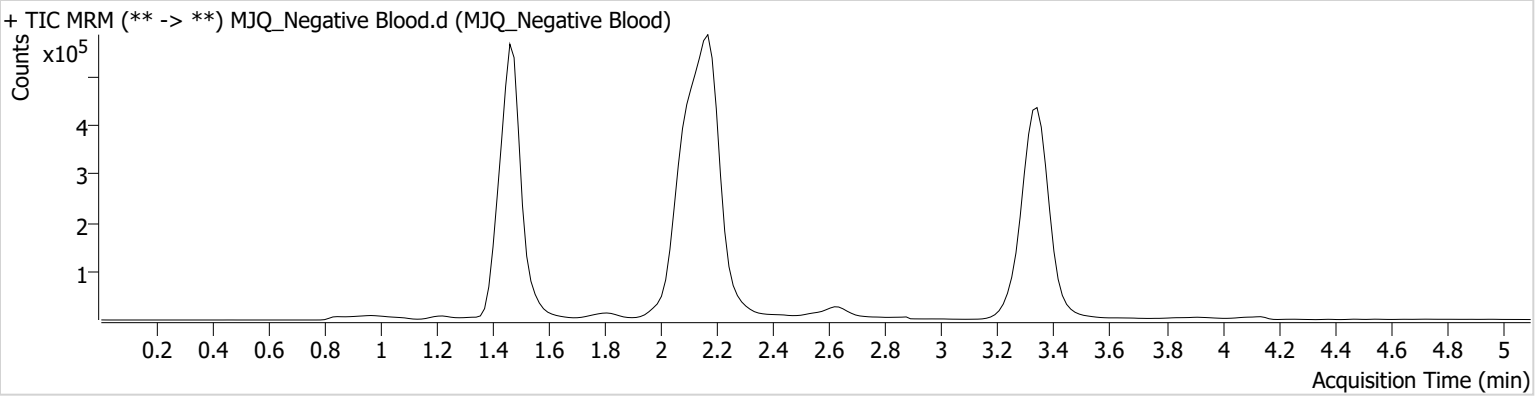
	1	2	3	4	5	6
a	cal 1ng	Blood NC	P2021-1279-1	P2021-1372-1		
b	cal 3 ng	M2021-1694-3	P2021-1314-1	P2021-1374-1		
c	cal 5 ng	P2020-3115-1	P2021-1315-1			
d	cal 10ng	P2021-1105-1	P2021-1317-1			
e	cal 25 ng	P2021-1254-1	P2021-1318-1			
f	cal 50 ng	P2021-1255-1	P2021-1358-1			
g	cal 100 ng	P2021-1256-1	P2021-1359-1			
h	QC 1	P2021-1278-1	P2021-1361-1			

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Negative Blood.d
Type	Sample	**Sample**	MJQ_Negative Blood
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-A2	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 3:05:03 PM		
Sample Info.			

Sample Chromatogram



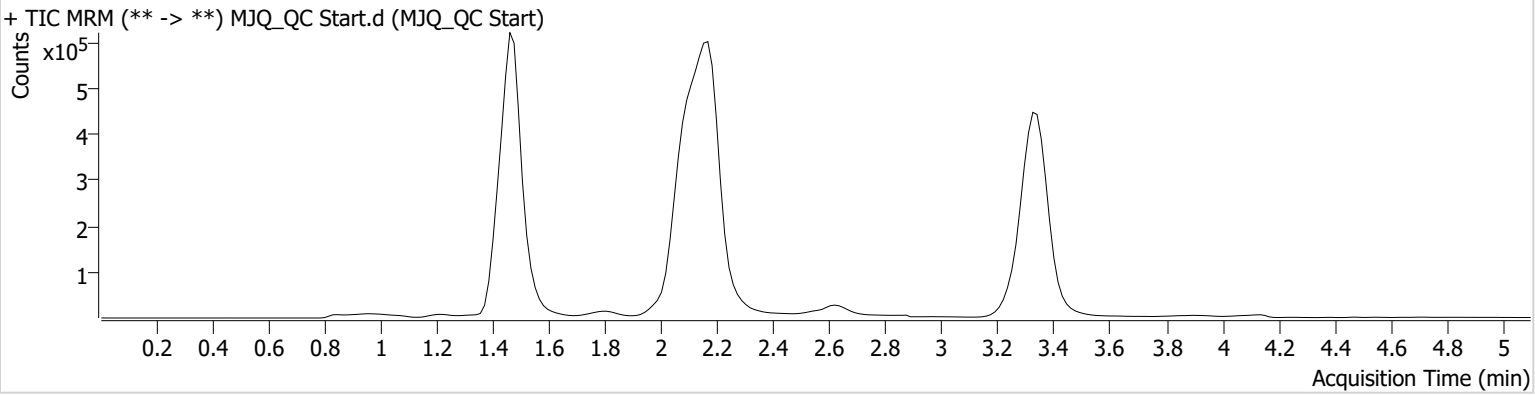
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.543 High	105277	∞	2.6 Low	27.29	2366681	0.1921	ng/ml Low

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_QC Start.d
Type	Sample	**Sample**	MJQ_QC Start
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 3:20:16 PM		
Sample Info.			

Sample Chromatogram



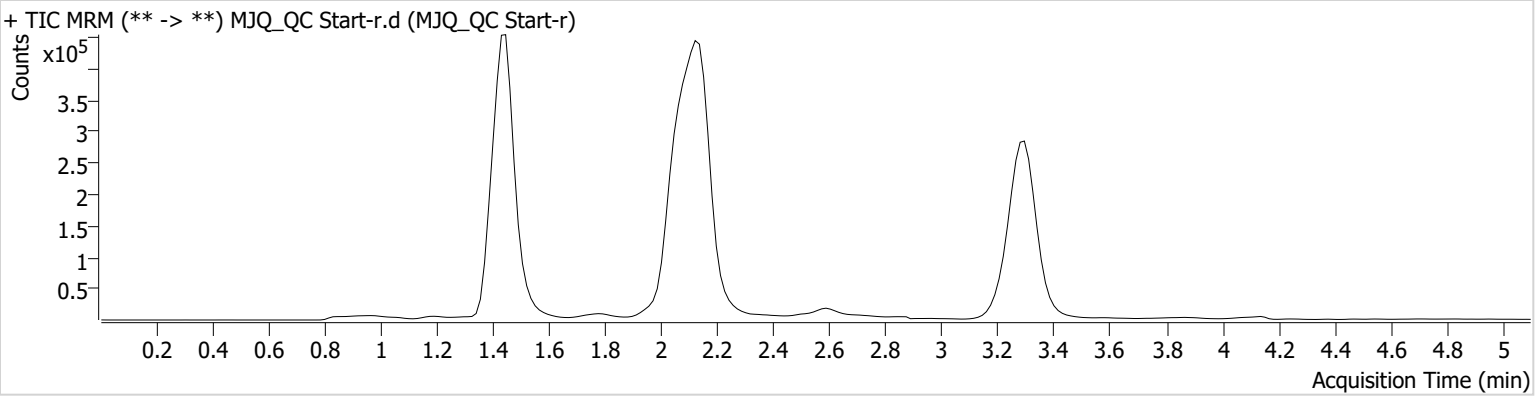
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.483	248940	∞	7.1 **Low**	∞	2312022	4.6273	ng/ml
THC-COOH	1.504	195921	∞	54.1	1844.41	517993	14.6735	ng/ml
THC	3.345	136192	671.89	31.5	236.09	3004252	4.3689	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_QC Start-r.d
Type	Sample	**Sample**	MJQ_QC Start-r
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/13/2021 12:54:56 PM		
Sample Info.			

Sample Chromatogram



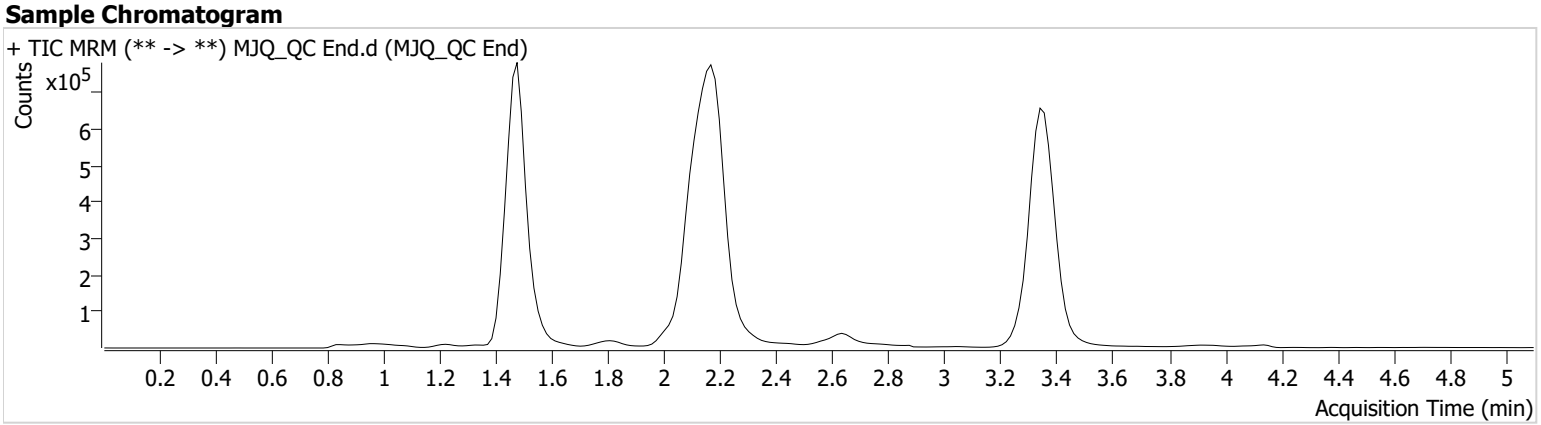
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.453	177786	∞	7.9	∞	1750817	4.1972	ng/ml
THC-COOH	1.474	132448	∞	53.5	593.00	363729	14.1232	ng/ml
THC	3.300	88543	∞	33.3	∞	1937620	4.4031	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_QC End.d
Type	Sample	**Sample**	MJQ_QC End
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 8:01:39 PM		
Sample Info.			

Sample Chromatogram



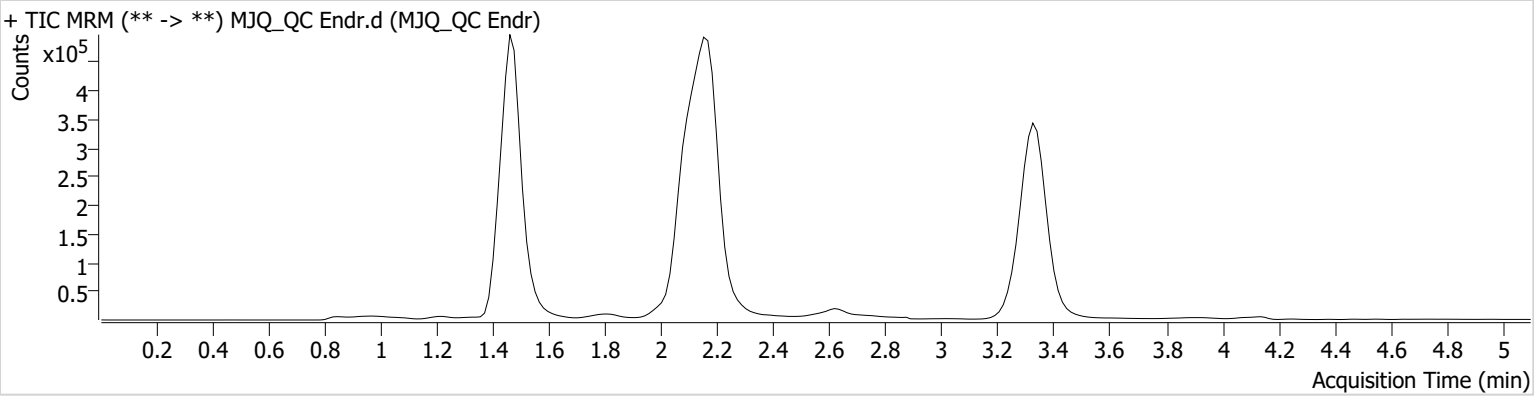
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.483	297242	∞	7.1 **Low**	154.56	2681439	4.8505	ng/ml
THC-COOH	1.504	229511	∞	55.9	565.79	606066	14.6914	ng/ml
THC	3.360	192518	∞	29.3	93.75	4110017	4.5108	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_QC Endr.d
Type	Sample	**Sample**	MJQ_QC Endr
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-H1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/13/2021 1:25:32 PM		
Sample Info.			

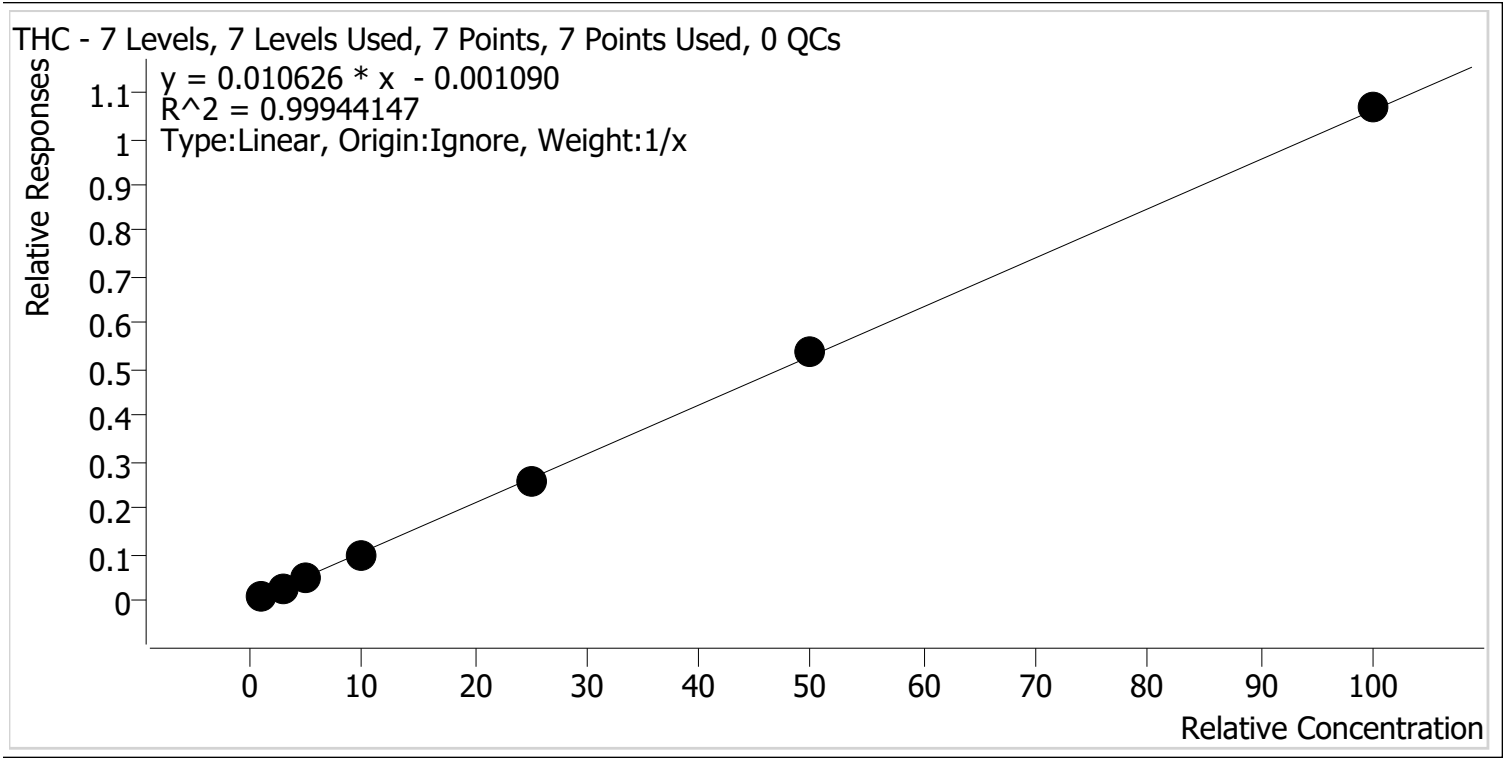
Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.483	184473	∞	7.7	∞	1770098	4.3847	ng/ml
THC-COOH	1.504	152880	∞	52.2	365.66	404757	14.6531	ng/ml
THC	3.345	102245	∞	30.9	∞	2225720	4.4258	ng/ml

AM #27 Cannabinoids Quant. Calibration Curve Report

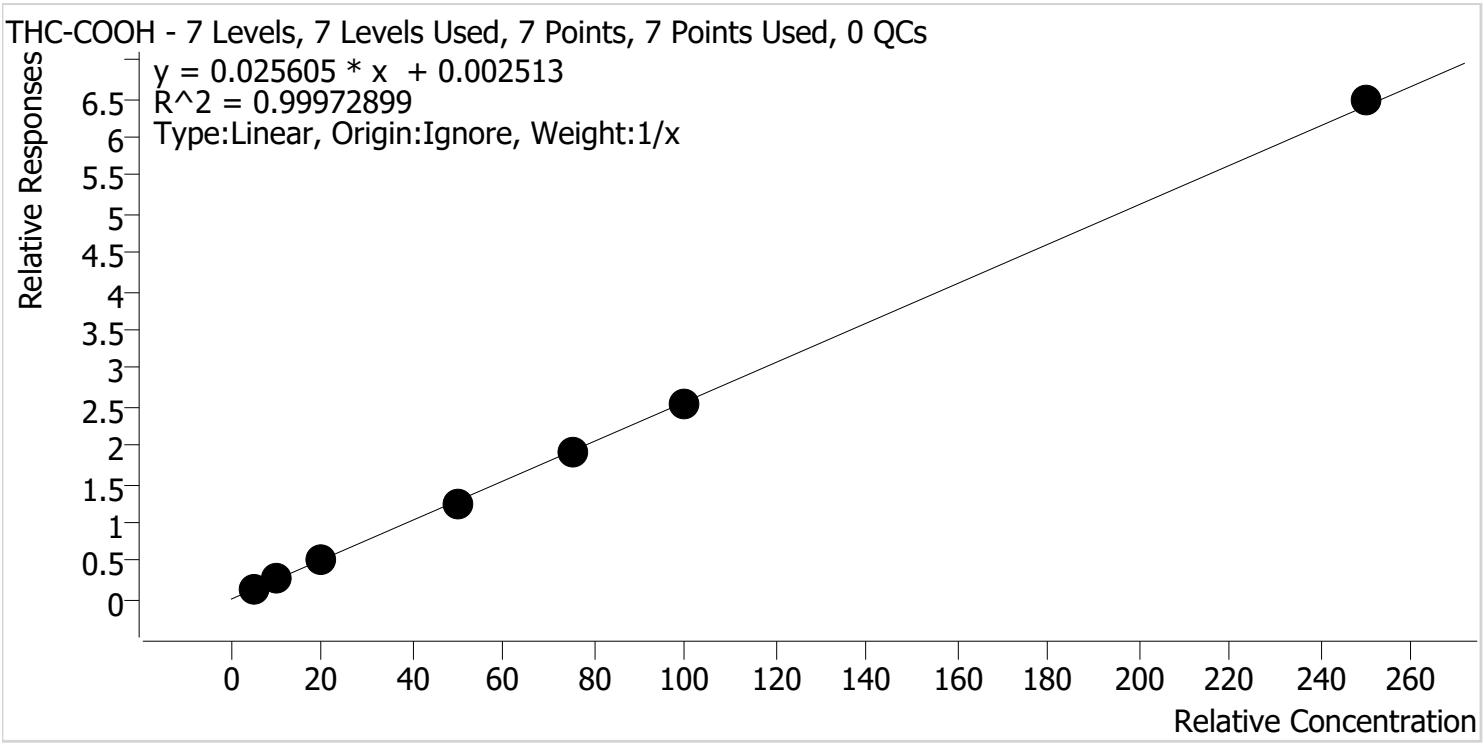
Batch results	D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	5/21/2021 9:59 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJQ_Cal 1	1	✔	1.0	1.1	114.5
MJQ_Cal 2	2	✔	3.0	2.9	96.4
MJQ_Cal 3	3	✔	5.0	4.7	94.9
MJQ_Cal 4	4	✔	10.0	9.4	93.9
MJQ_Cal 5	5	✔	25.0	24.6	98.5
MJQ_Cal 6	6	✔	50.0	50.7	101.3
MJQ_Cal 7r	7	✔	100.0	100.6	100.6

AM #27 Cannabinoids Quant. Calibration Curve Report

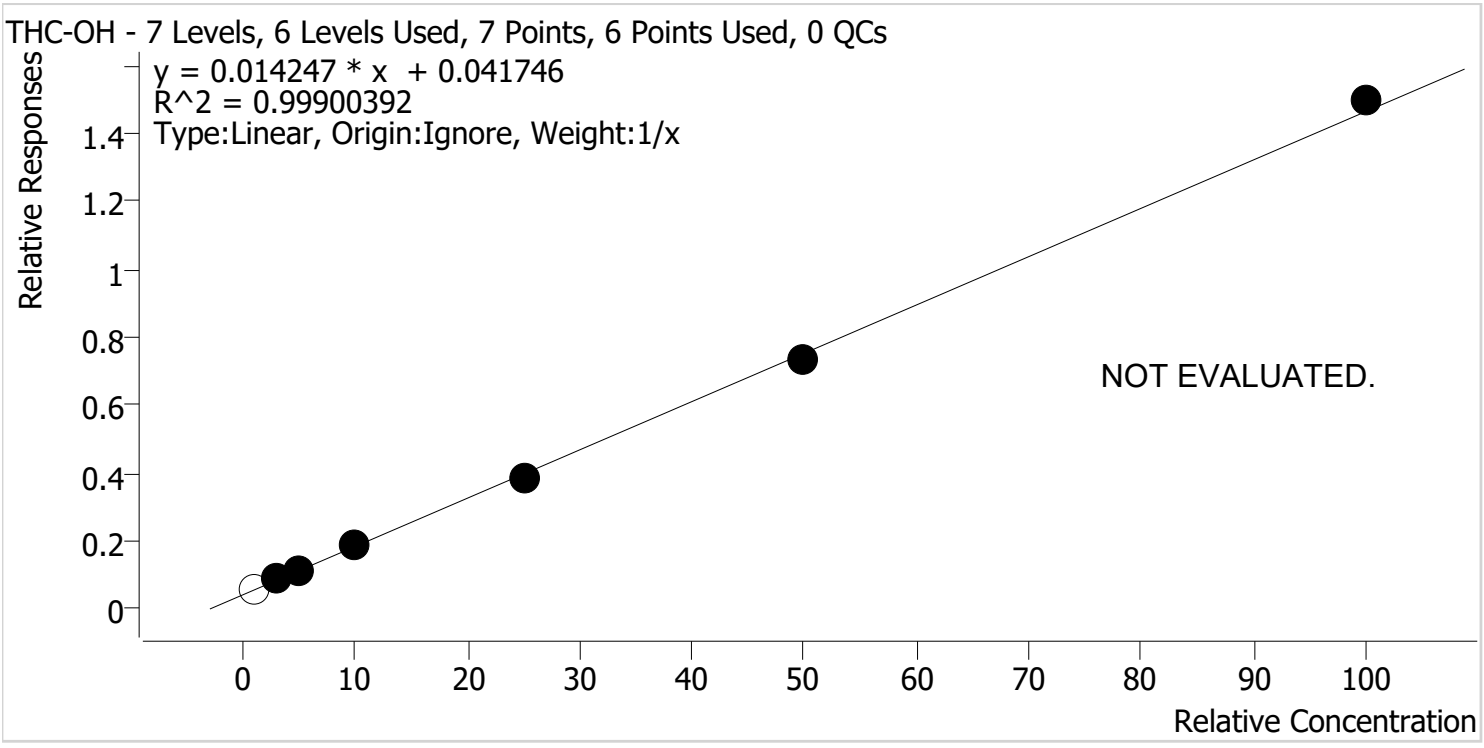
Batch results	D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	5/21/2021 9:59 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJQ_Cal 1	1	✔	5.0	5.2	104.9
MJQ_Cal 2	2	✔	10.0	10.1	101.4
MJQ_Cal 3	3	✔	20.0	19.2	96.1
MJQ_Cal 4	4	✔	50.0	49.0	98.1
MJQ_Cal 5	5	✔	75.0	74.6	99.5
MJQ_Cal 6	6	✔	100.0	99.0	99.0
MJQ_Cal 7r	7	✔	250.0	252.7	101.1

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Last Cal. Update	5/21/2021 9:59 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



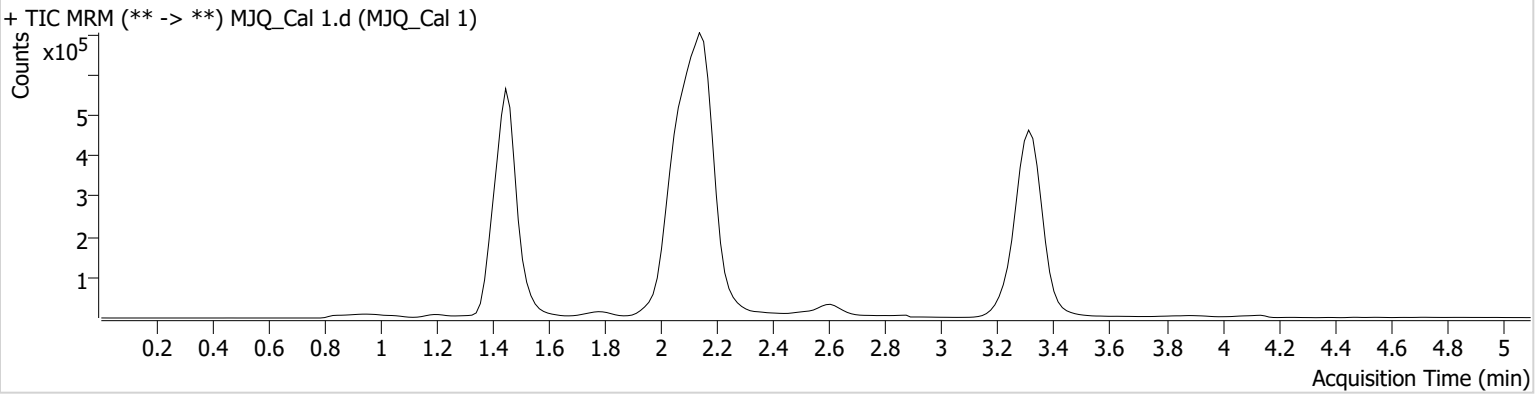
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJQ_Cal 1	1	✗	1.0	1.3	127.2
MJQ_Cal 2	2	✔	3.0	3.2	105.5
MJQ_Cal 3	3	✔	5.0	4.9	98.3
MJQ_Cal 4	4	✔	10.0	10.1	100.8
MJQ_Cal 5	5	✔	25.0	24.0	95.9
MJQ_Cal 6	6	✔	50.0	48.6	97.2
MJQ_Cal 7r	7	✔	100.0	102.2	102.2

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 1.d
Type	Cal	**Sample**	MJQ_Cal 1
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-A1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 1:48:11 PM		
Sample Info.			

Sample Chromatogram



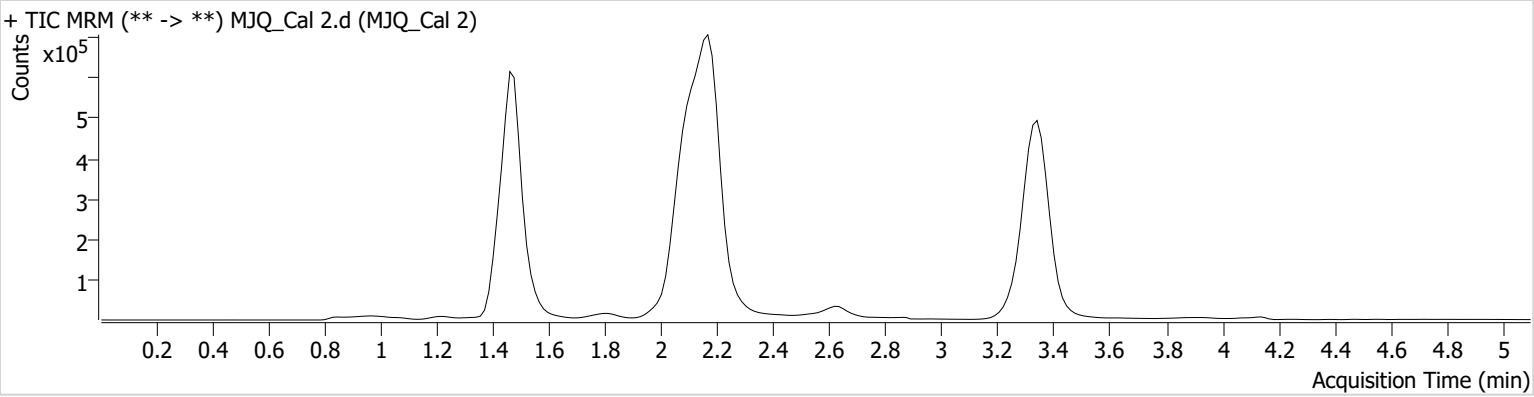
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.513	140625	∞	5.2 **Low**	131.85	2349083	1.2716	ng/ml **Low**
THC-COOH	1.489	72015	∞	48.4	375.20	526471	5.2441	ng/ml
THC	3.330	35851	137.10	33.0	∞	3236635	1.1450	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 2.d
Type	Cal	**Sample**	MJQ_Cal 2
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-B1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 1:55:56 PM		
Sample Info.			

Sample Chromatogram



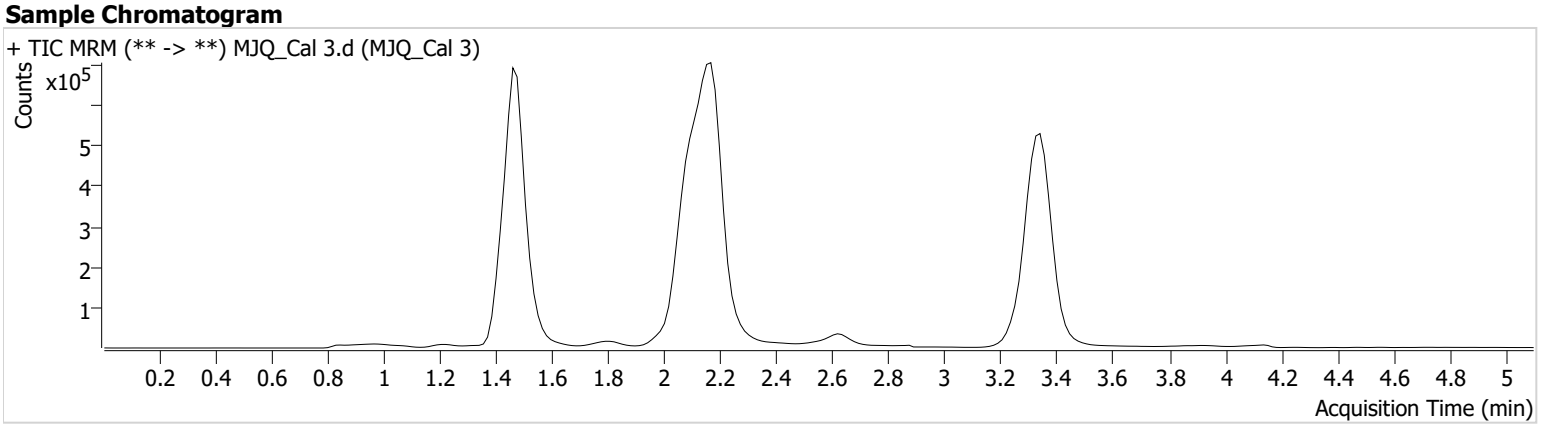
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.483	205276	∞	6.7 **Low**	132.72	2363950	3.1648	ng/ml
THC-COOH	1.504	141342	∞	50.8	∞	539359	10.1364	ng/ml
THC	3.360	97592	∞	31.8	∞	3294251	2.8906	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 3.d
Type	Cal	**Sample**	MJQ_Cal 3
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-C1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 2:03:32 PM		
Sample Info.			

Sample Chromatogram



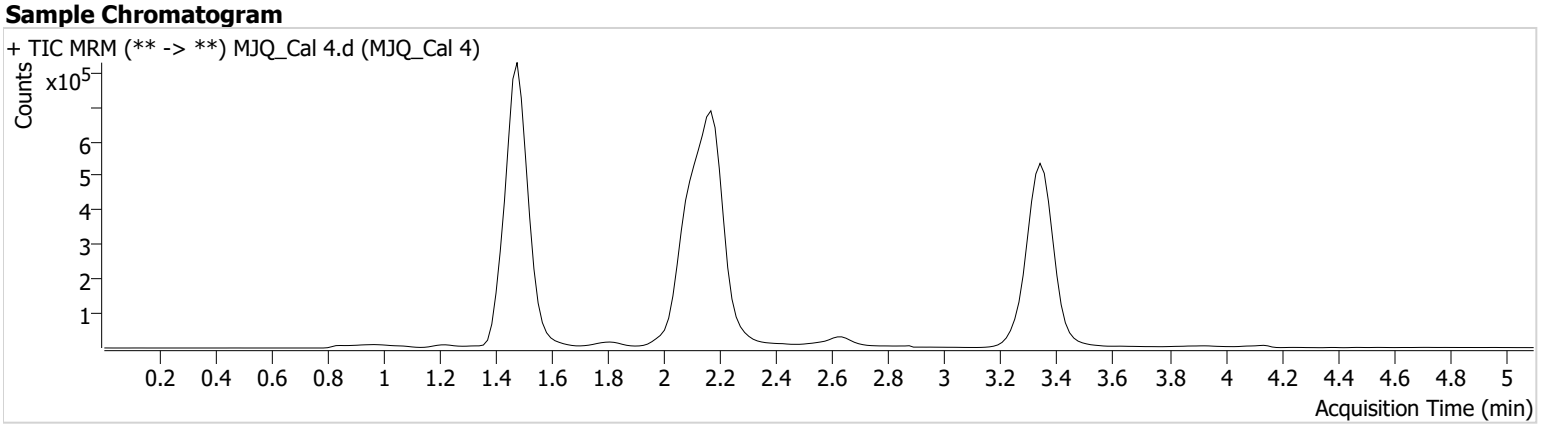
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.483	277090	∞	7.8	∞	2479785	4.9128	ng/ml
THC-COOH	1.504	276380	∞	54.9	1301.47	558717	19.2210	ng/ml
THC	3.345	170972	887.51	29.7	∞	3467359	4.7431	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 4.d
Type	Cal	**Sample**	MJQ_Cal 4
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-D1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 2:11:07 PM		
Sample Info.			

Sample Chromatogram



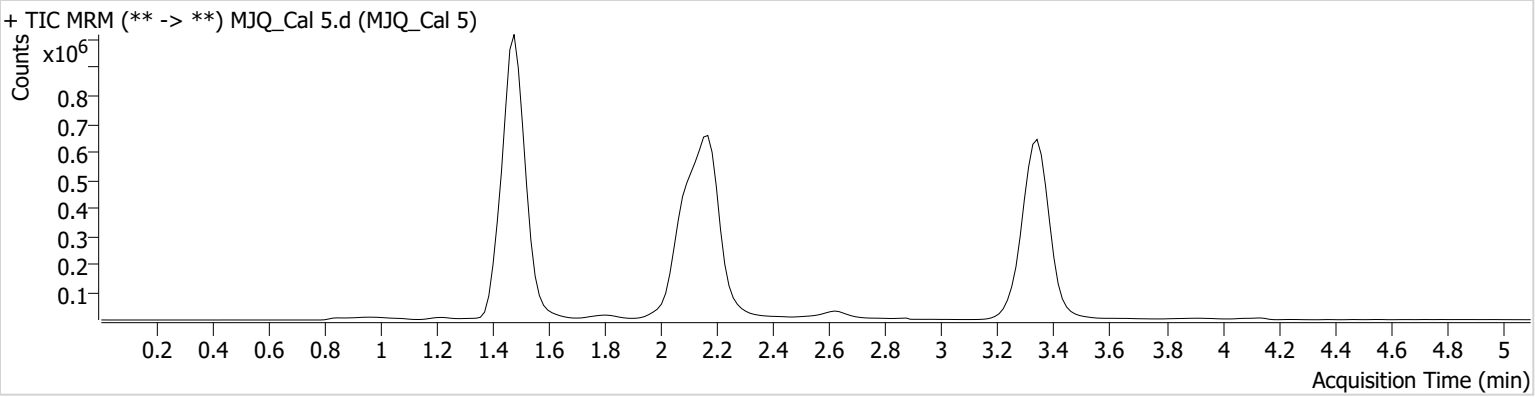
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.483	455432	∞	8.5	∞	2456137	10.0848	ng/ml
THC-COOH	1.504	690380	∞	57.0	∞	548850	49.0275	ng/ml
THC	3.360	322909	∞	28.1	∞	3270505	9.3945	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 5.d
Type	Cal	**Sample**	MJQ_Cal 5
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-E1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 2:18:43 PM		
Sample Info.			

Sample Chromatogram



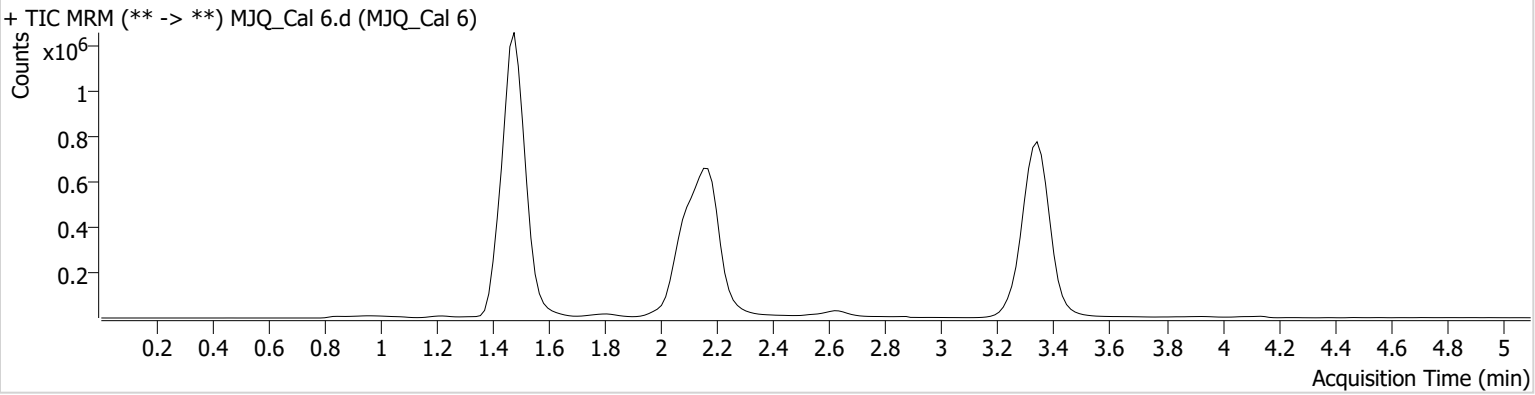
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.468	932055	∞	10.1	∞	2430568	23.9855	ng/ml
THC-COOH	1.504	1025735	∞	57.1	∞	536213	74.6106	ng/ml
THC	3.345	879752	∞	25.9	647.31	3377010	24.6195	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 6.d
Type	Cal	**Sample**	MJQ_Cal 6
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-F1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 2:26:18 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.468	1761317	∞	10.9	992.50	2398634	48.6098	ng/ml
THC-COOH	1.504	1328906	∞	57.4	∞	523635	99.0168	ng/ml
THC	3.345	1757341	∞	25.5	∞	3271396	50.6573	ng/ml

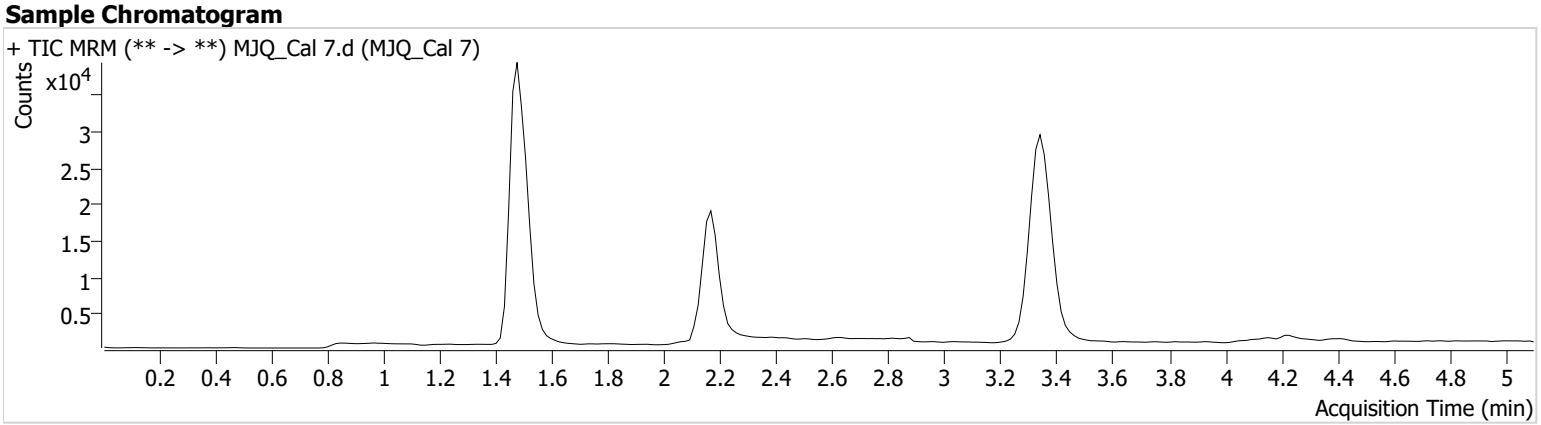
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 10:11:57 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 7.d
Type	Cal	**Sample**	MJQ_Cal 7
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 2:33:54 PM		
Sample Info.			

Sample reinjected due to poor ISTD responses.

Sample Chromatogram



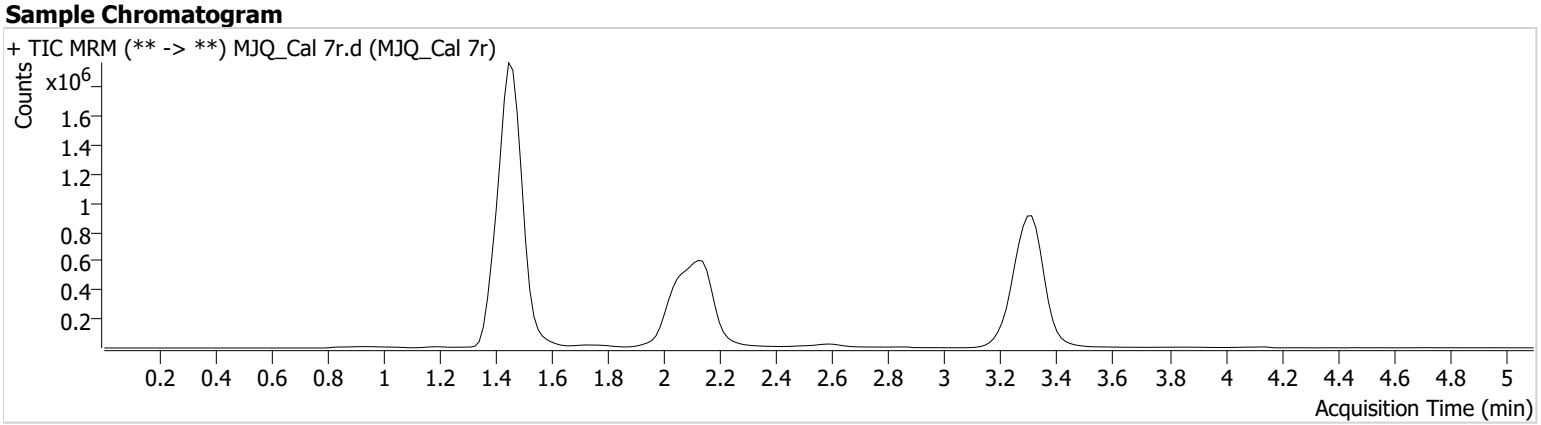
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-COOH	1.504	30678	505.36	57.2	∞	5322	233.4537	ng/ml
THC	3.345	69148	591.33	26.3	118.55	71062	94.5040	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\051221 AM 27 28 P1 P2 CS\QuantResults\AM 27.batch.bin
Calibration Last Update 5/21/2021 9:59:10 AM

Instrument	Falco (069901)	**Data File**	MJQ_Cal 7r.d
Type	Cal	**Sample**	MJQ_Cal 7r
Acq. Method	AM 27 THCQ.m	**Operator**	Celena Shrum
Sample Position	P1-G1	**Comment**	
Injection Volume	10		
Acq. Date-Time	5/12/2021 2:49:51 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.453	3407077	∞	10.8	∞	2273790	102.2424	ng/ml
THC-COOH	1.474	3064982	∞	57.4	5682.76	473427	252.7436	ng/ml
THC	3.315	3207059	∞	25.7	∞	3004737	100.5501	ng/ml