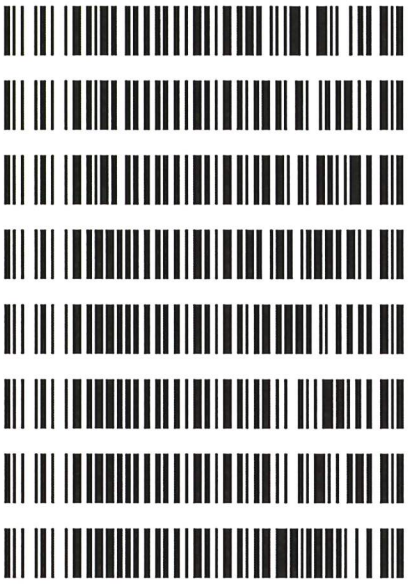
SJ

REVIEWED
By Tamara Salazar at 1:37 pm, Feb 25, 2021

2/24/2021

Worklist: 4790

LAB_CASE	ITEM	ITEM_TYPE	DESCRIPTION
M2020-5249	1	BCK	AM 27 Blood THC Quant by LC-QQQ
M2021-0167	3	BCK	AM 27 Blood THC Quant by LC-QQQ
M2021-0206	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2020-3699	4	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-0154	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-0169	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-0170	1	BCK	AM 27 Blood THC Quant by LC-QQQ
P2021-0186	1	BCK	AM 27 Blood THC Quant by LC-QQQ



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Idaho State Police
Forensic Services
Toxicology Discipline

Request for Departure from an Analytical Method

Date of Request
02/24/2021

Forensic Scientist
Anne Nord

Analytical Method
Toxicology AM #27: Quantitative Analysis of THC and Metabolites in Blood and Urine by LCMS-QQQ

Request

The method currently reads:
4.3.2.5 If any points are dropped from the approved quantitative range of the curve, the compound will be reported qualitatively. For calibrators and controls 10 ng and below, the accuracy must be within 30%, for calibrators and controls greater than 10 ng/mL the accuracy must be within 20%. If a control falls outside the accuracy range, at the analyst's discretion, the compound may be reported qualitatively.

I would like to add in the following exception:

If the 1ng/ml point is dropped for THC. If the 1 ng/ml point is dropped the quantitative range will be 3-50 ng/ml.

Discipline Leader Review

☒ Departure approved
Comments: This deviation is approved and will remain in effect until it is changed in the actual method.

☐ Departure Not Approved
Comments:

Celena Shrum

Celena Shrum
Toxicology Discipline Lead
Date: 02/24/2021

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

Extraction Date: 02/19/2021
Plate lot#: IDP-108-2-201206
Mobile phase A: 0.1% Formic Acid in LCMS Water
Blank Blood Lot: Lampire 20L20724
LCMS-QQQ ID: 069901

Analyst: Sophia Jackson
Plate Expiration: 06/06/2021
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. 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:** 16
☒ 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.
☒ 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 (quantitative), OH-THC 3ng/mL (quantitative), and 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:
QC-High was run prior to case samples and QC-Low was run after case samples.

The needle seat became clogged during the run following M2021-0167-3 and was changed. QC-High was reinjected following this change and there was a retention time shift. Calibrators, negative blood, QC-High, sample M2020-5249-1, and sample M2021-0167-3 were reinjected. Calibrator 7 was also reinjected prior to the needle seat becoming clogged (poor ISTD response on first injection).

QC-Low did not inject properly (poor ISTD response) and was immediately reinjected.

Curves limited: THC 3-100. THC calibrator 1 dropped due to ratio. A deviation was requested for the THC quantitative range to be 3-50 ng/mL in instances such as this.

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	1	2	3	4	5	6
A					Negative control	IS + QC-Low
B					M2020-5249-1	IS + Cal. 7
C					~~M2021-0167-3~~*	IS + Cal. 6 IS + QC-High***
D					M2021-0206-1	IS + Cal. 5
E					P2020-3699-4	IS + Cal. 4
F				M2021-0167-3	~~P2021-0154-1~~**	IS + Cal. 3
G				P2021-0154-1	P2021-0169-1	IS + Cal. 2
H				P2021-0186-1	P2021-0170-1	IS + Cal. 1

All wells to contain 100 µl of residual DMSO

* M2021-0167-3 moved during analytical step 6 due to blood clot
** P2021-0154-1 moved during analytical step 6 due to contamination (blood spot) on SLE plate
*** Contents of well C6 injected first as Calibrator 6 and then reinjected as QC-High

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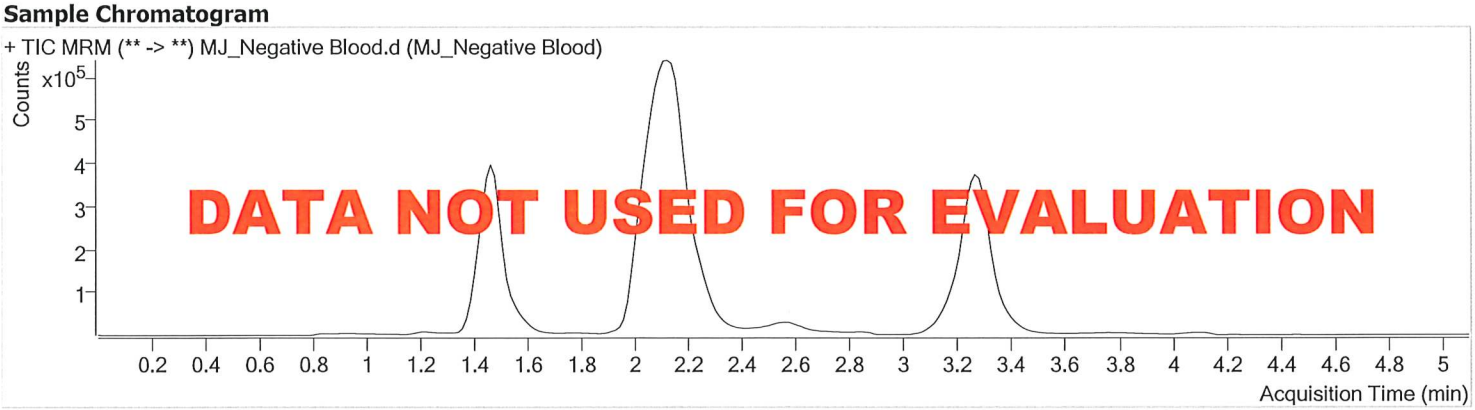
AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update	2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Negative Blood.d
Type	Sample	**Sample**	MJ_Negative Blood
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-A5	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 12:36:32 PM		
Sample Info.			

Sample Chromatogram



Sample reinjected due to retention time shift following needle seat change

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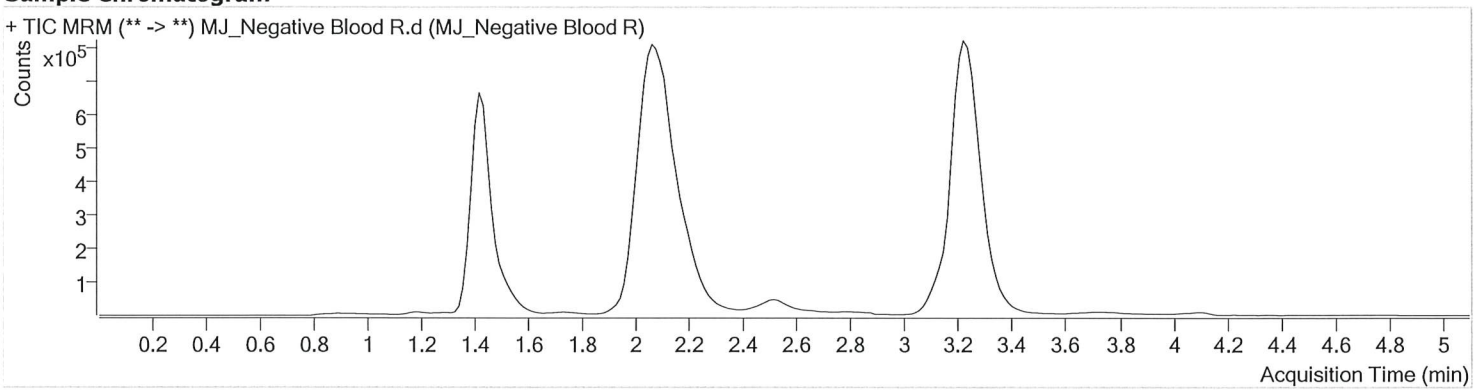
AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update	2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Negative Blood R.d
Type	Sample	**Sample**	MJ_Negative Blood R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-A5	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 4:29:54 PM		
Sample Info.			

Sample Chromatogram



AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_QC-High.d
Type	Cal	**Sample**	MJ_QC-High
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 12:13:39 PM		
Sample Info.			

Sample Chromatogram

Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.468	1260969	∞	11.8	∞	1938683	49.8790	ng/ml
THC-COOH	1.504	1365085	1297.36	58.6	2913.65	584377	100.3037	ng/ml
THC	3.285	1525619	4816.12	25.4	∞	3314092	49.4501	ng/ml

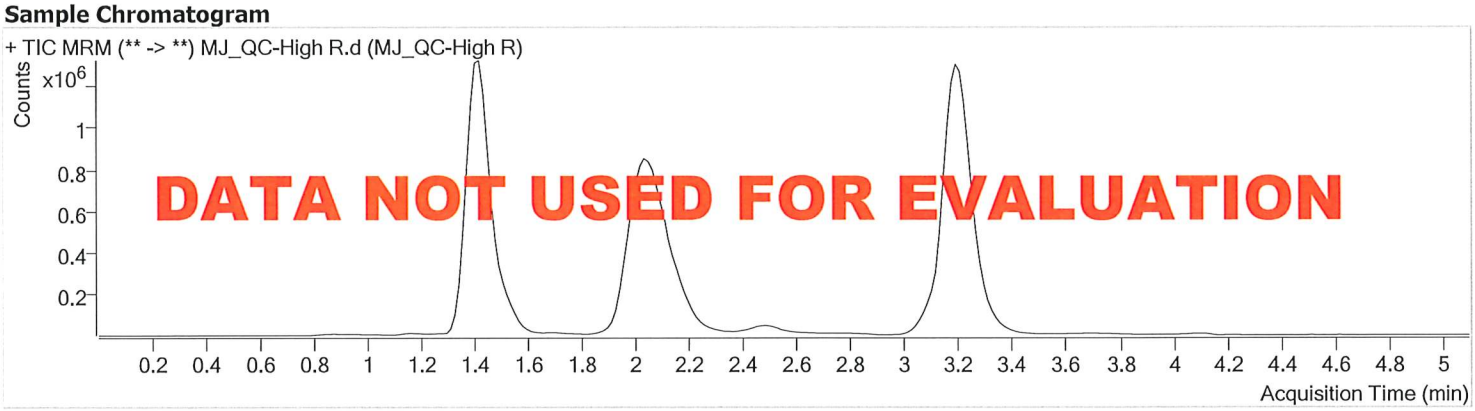
Sample reinjected due to retention time shift following needle seat change

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_QC-High R.d
Type	Cal	**Sample**	MJ_QC-High R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 3:06:41 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.408 Low *	1736343	∞	11.7	∞	2700553	49.3002	ng/ml
THC-COOH	1.429 Low *	1842590	∞	58.4	∞	774873	102.1209	ng/ml
THC	3.194	3083590	∞	25.4	699.07	6389465	51.8284	ng/ml

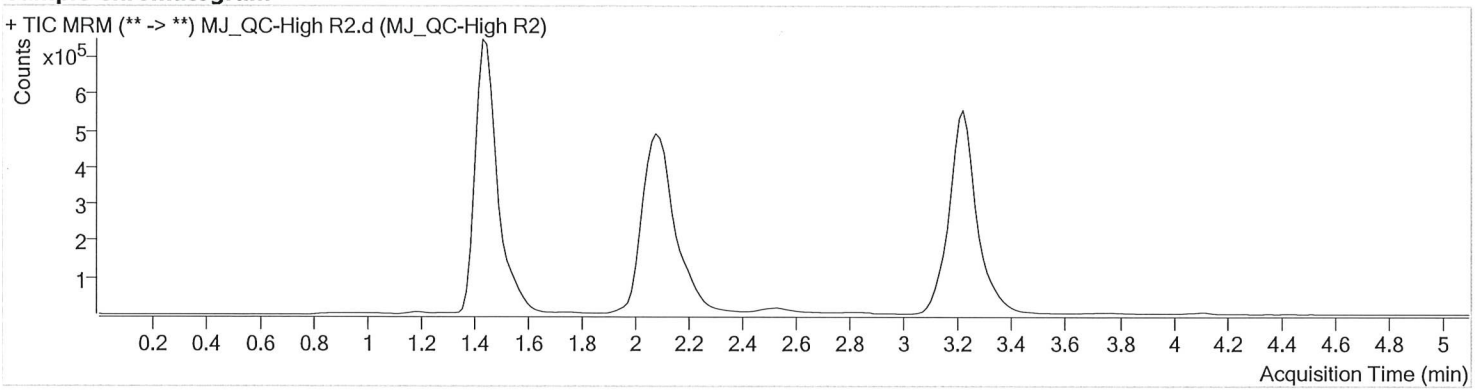
*Retention time shifted after needle seat was changed. Run was reinjected

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_QC-High R2.d
Type	Sample	**Sample**	MJ_QC-High R2
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 4:45:06 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.438	828608	∞	10.4	1236.42	1281241	49.9491	ng/ml
THC-COOH	1.459	944682	3846.63	57.6	4064.64	405773	98.0135	ng/ml
THC	3.224	1154387	9385.11	25.8	2647.17	2536282	46.4301	ng/ml

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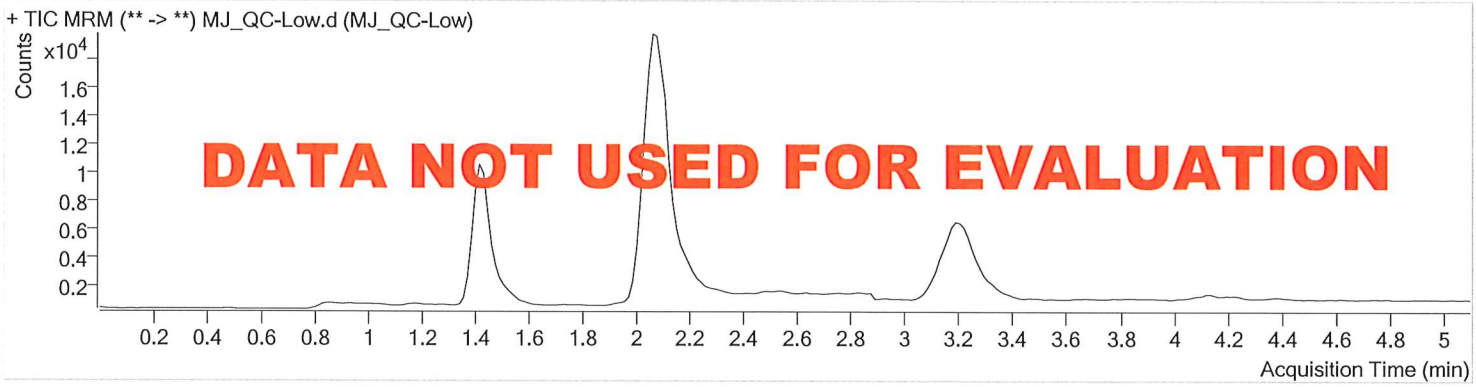
AM #27 Cannabinoid Quant. Results

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update	2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_QC-Low.d
Type	Sample	**Sample**	MJ_QC-Low
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-A6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 7:01:52 PM		
Sample Info.			

Sample Chromatogram



Sample reinjected due to poor ISTD response

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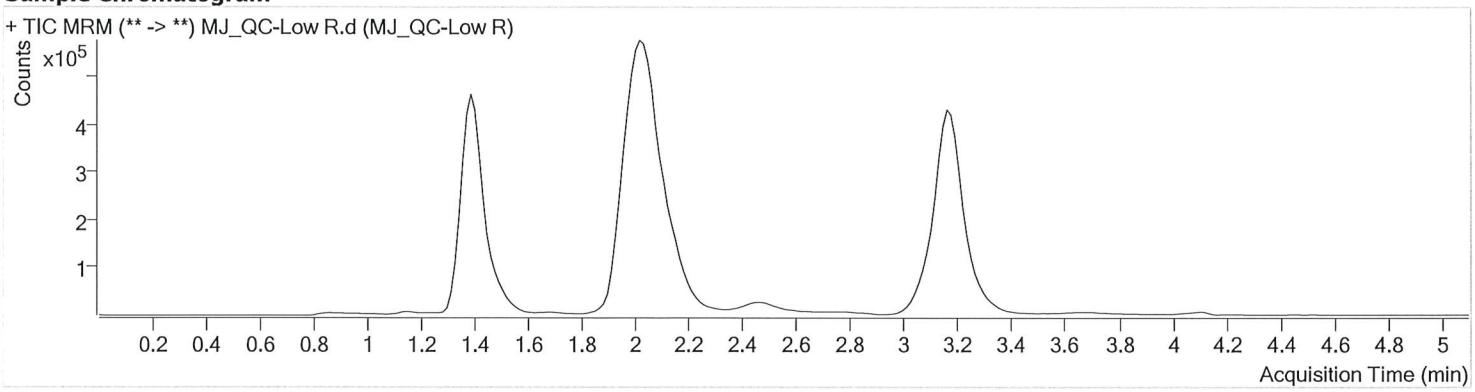
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_QC-Low R.d
Type	Sample	**Sample**	MJ_QC-Low R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-A6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 7:11:10 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.393	106226	∞	11.1	∞	1814995	4.0757	ng/ml
THC-COOH	1.414	186252	∞	55.9	941.71	561021	13.7234	ng/ml
THC	3.164	119915	690.58	31.0	70.17	3301367	3.9715	ng/ml

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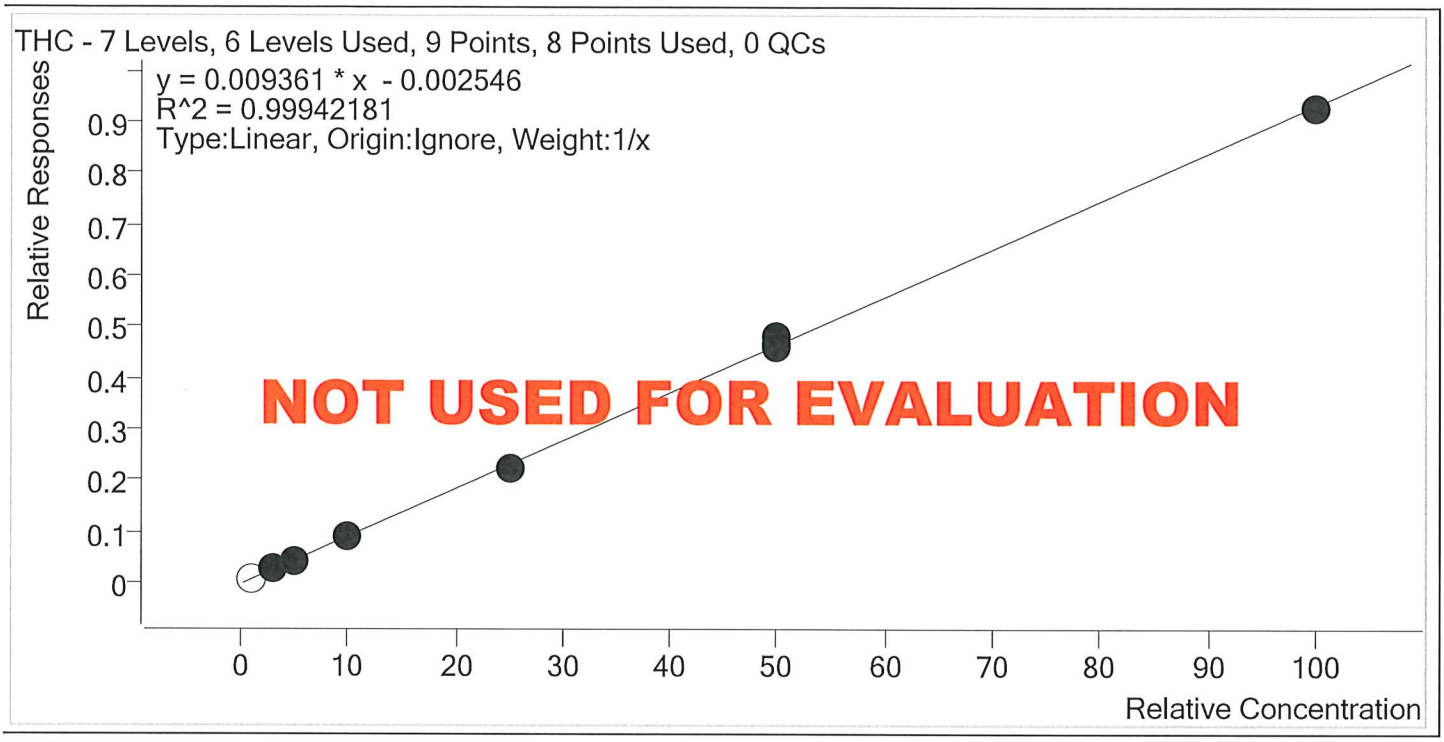
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Last Cal. Update	2/24/2021 11:58 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	×	1.0	1.2	121.1
MJ_Cal 2	2	✓	3.0	3.0	98.8
MJ_Cal 3	3	✓	5.0	5.1	102.9
MJ_Cal 4	4	✓	10.0	10.0	99.7
MJ_Cal 5	5	✓	25.0	24.0	96.2
MJ_Cal 6	6	✓	50.0	50.2	100.5
*MJ_QC-High	6	✓	50.0	49.5	98.9
*MJ_QC-High R	6	✓	50.0	51.8	103.7
MJ_Cal 7 R	7	✓	100.0	99.4	99.4

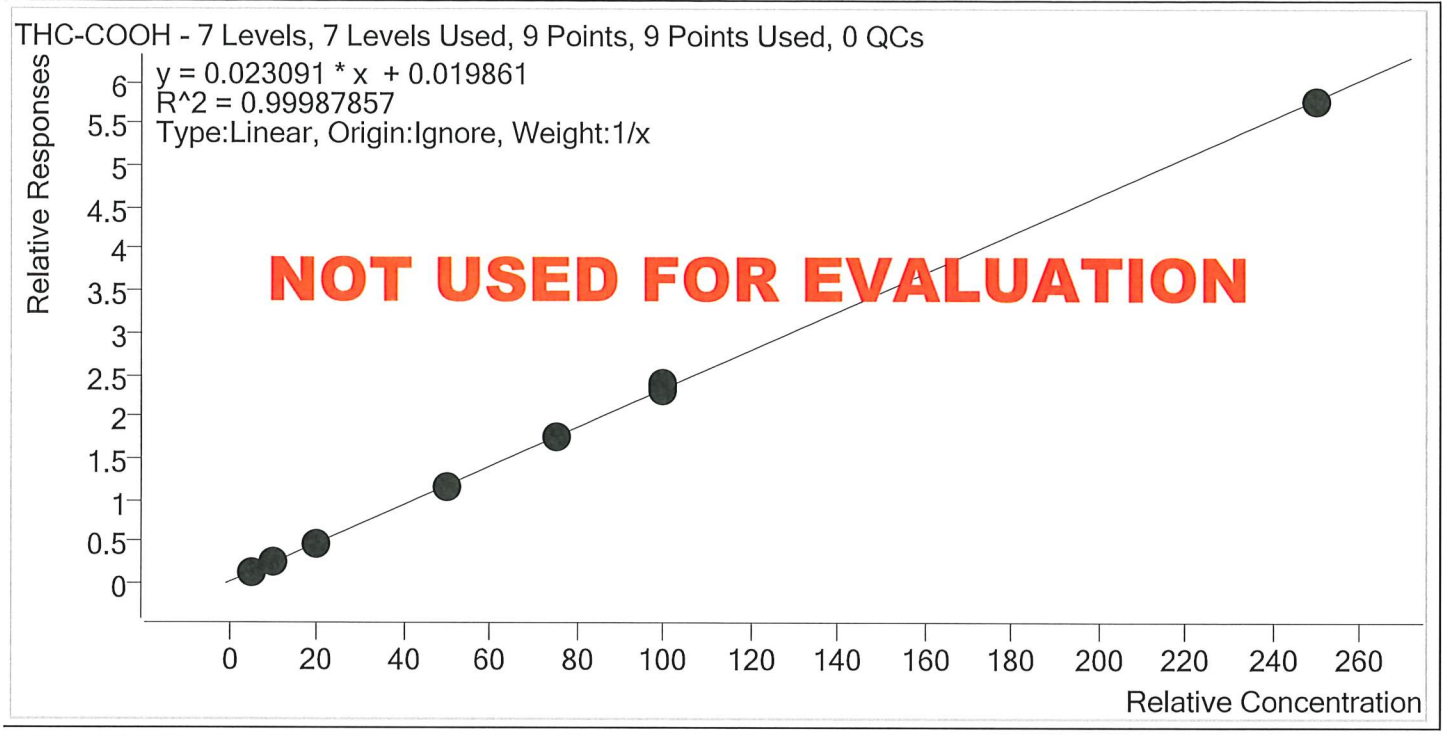
All samples reinjected due to retention time shift following needle seat change

*QC-High mistakenly included as a calibrator

Generated at 11:59 AM on 2/24/2021

AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin		
Last Cal. Update	2/24/2021 11:58 AM		
Analyst Name	ISP\datastor		
Analyte	THC-COOH	**Internal Standard**	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✓	5.0	5.1	101.2
MJ_Cal 2	2	✓	10.0	9.9	98.5
MJ_Cal 3	3	✓	20.0	20.0	99.8
MJ_Cal 4	4	✓	50.0	49.6	99.1
MJ_Cal 5	5	✓	75.0	75.0	100.0
MJ_Cal 6	6	✓	100.0	99.5	99.5
* MJ_QC-High	6	✓	100.0	100.3	100.3
* MJ_QC-High R	6	✓	100.0	102.1	102.1
MJ_Cal 7 R	7	✓	250.0	248.6	99.5

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*QC-High mistakenly included as a calibrator

Generated at 11:59 AM on 2/24/2021

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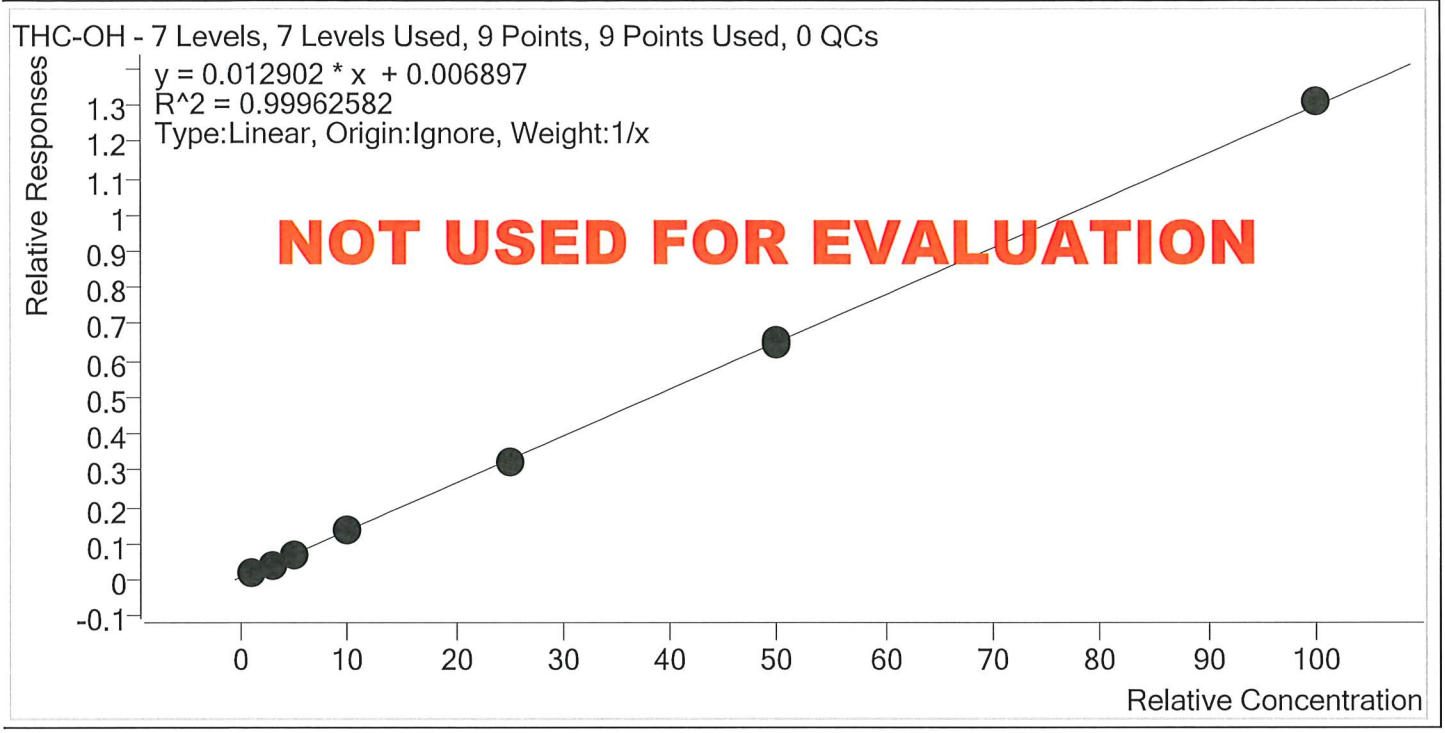
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Last Cal. Update	2/24/2021 11:58 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1	1	✓	1.0	1.1	112.3
MJ_Cal 2	2	✓	3.0	2.6	87.6
MJ_Cal 3	3	✓	5.0	5.1	101.5
MJ_Cal 4	4	✓	10.0	10.0	100.0
MJ_Cal 5	5	✓	25.0	24.6	98.4
MJ_Cal 6	6	✓	50.0	50.5	100.9
*MJ_QC-High	6	✓	50.0	49.9	99.8
*MJ_QC-High R	6	✓	50.0	49.3	98.6
MJ_Cal 7 R	7	✓	100.0	100.9	100.9

All samples reinjected due to retention time shift following needle seat change

*QC-High mistakenly included as a calibrator

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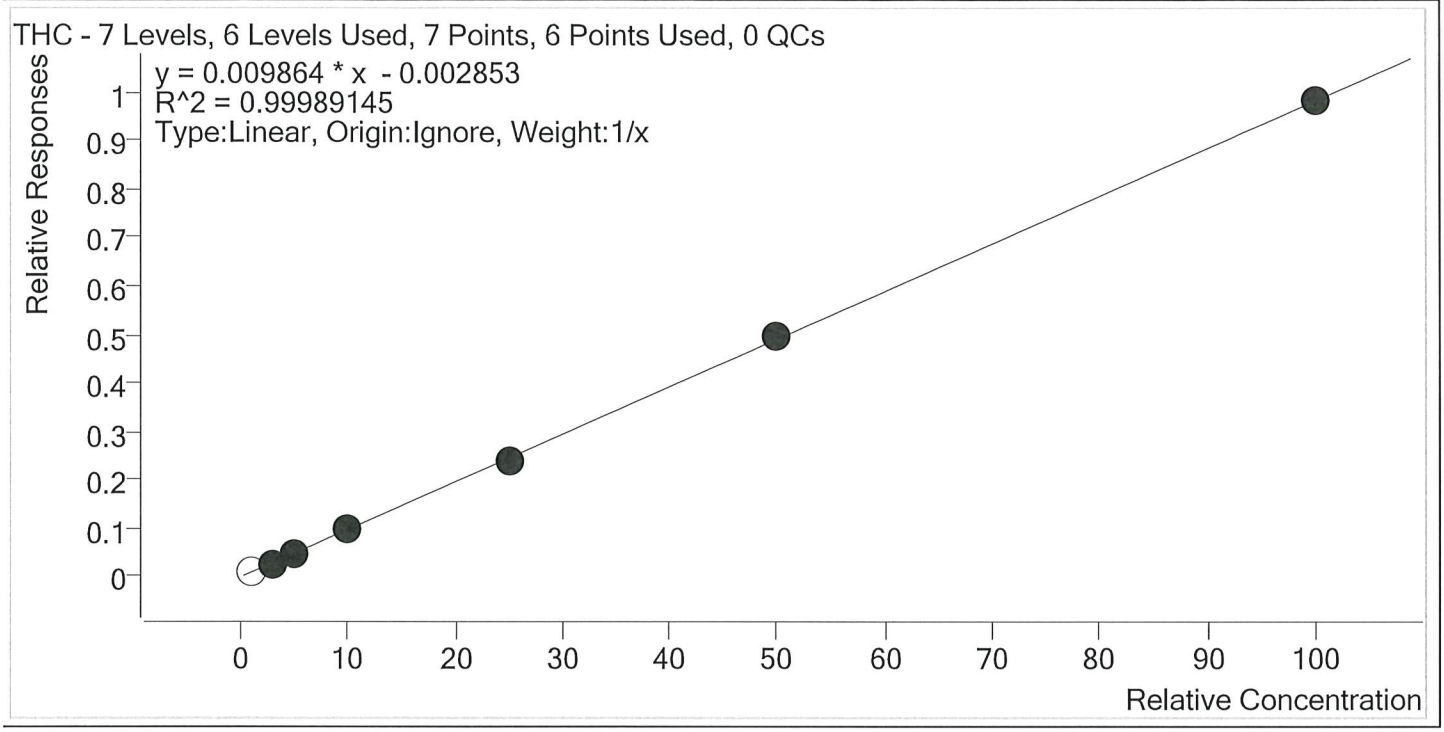
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Last Cal. Update	2/24/2021 11:53 AM
Analyst Name	ISP\datastor
Analyte	THC
Internal Standard	THC-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1 R	1	x	1.0	1.3	126.0
MJ_Cal 2 R	2	✓	3.0	3.0	100.0
MJ_Cal 3 R	3	✓	5.0	5.1	102.1
MJ_Cal 4 R	4	✓	10.0	9.9	98.7
MJ_Cal 5 R	5	✓	25.0	24.6	98.3
MJ_Cal 6 R	6	✓	50.0	50.5	100.9
MJ_Cal 7 R2	7	✓	100.0	100.0	100.0

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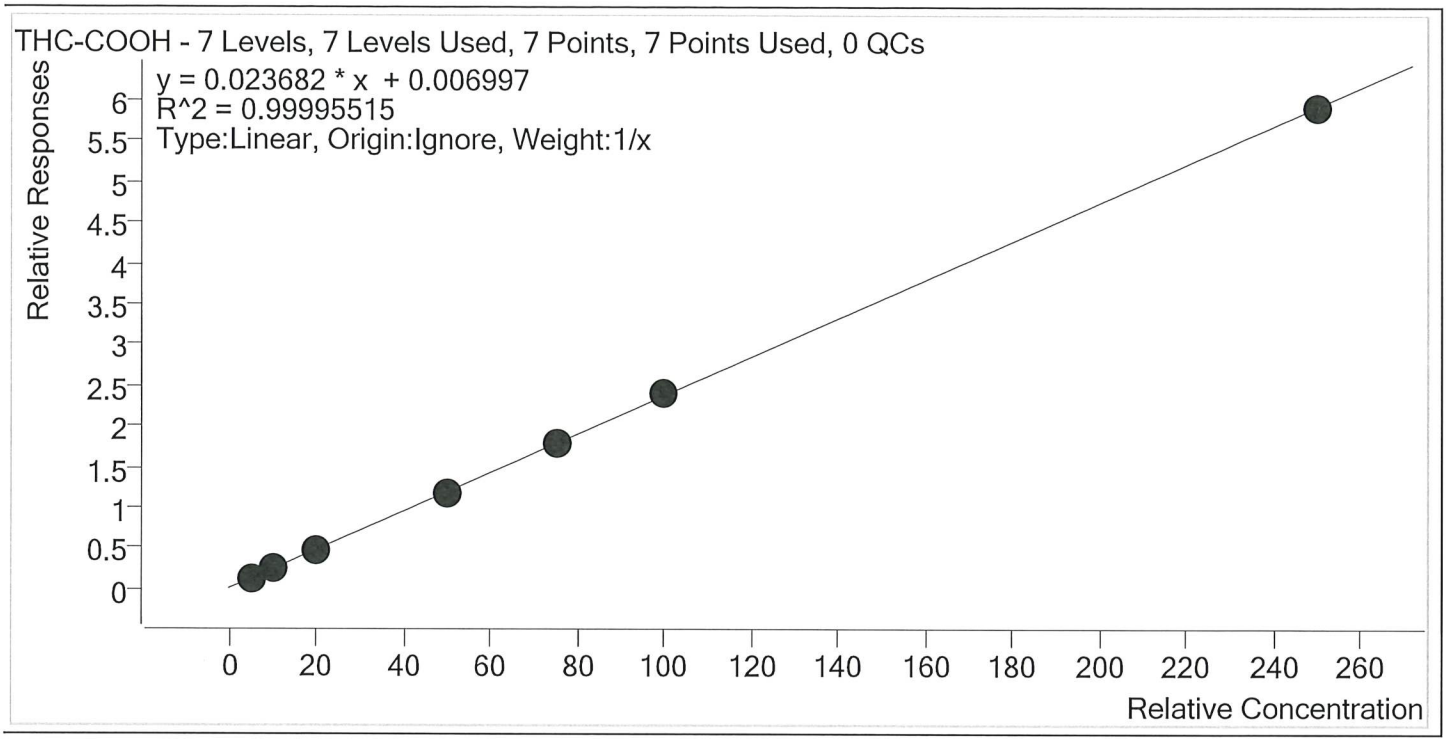
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Last Cal. Update	2/24/2021 11:53 AM
Analyst Name	ISP\datastor
Analyte	THC-COOH
Internal Standard	THC-COOH-D9



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1 R	1	✓	5.0	4.9	98.9
MJ_Cal 2 R	2	✓	10.0	9.9	99.2
MJ_Cal 3 R	3	✓	20.0	20.3	101.5
MJ_Cal 4 R	4	✓	50.0	50.1	100.1
MJ_Cal 5 R	5	✓	75.0	74.8	99.7
MJ_Cal 6 R	6	✓	100.0	100.9	100.9
MJ_Cal 7 R2	7	✓	250.0	249.1	99.6

Generated at 11:54 AM on 2/24/2021

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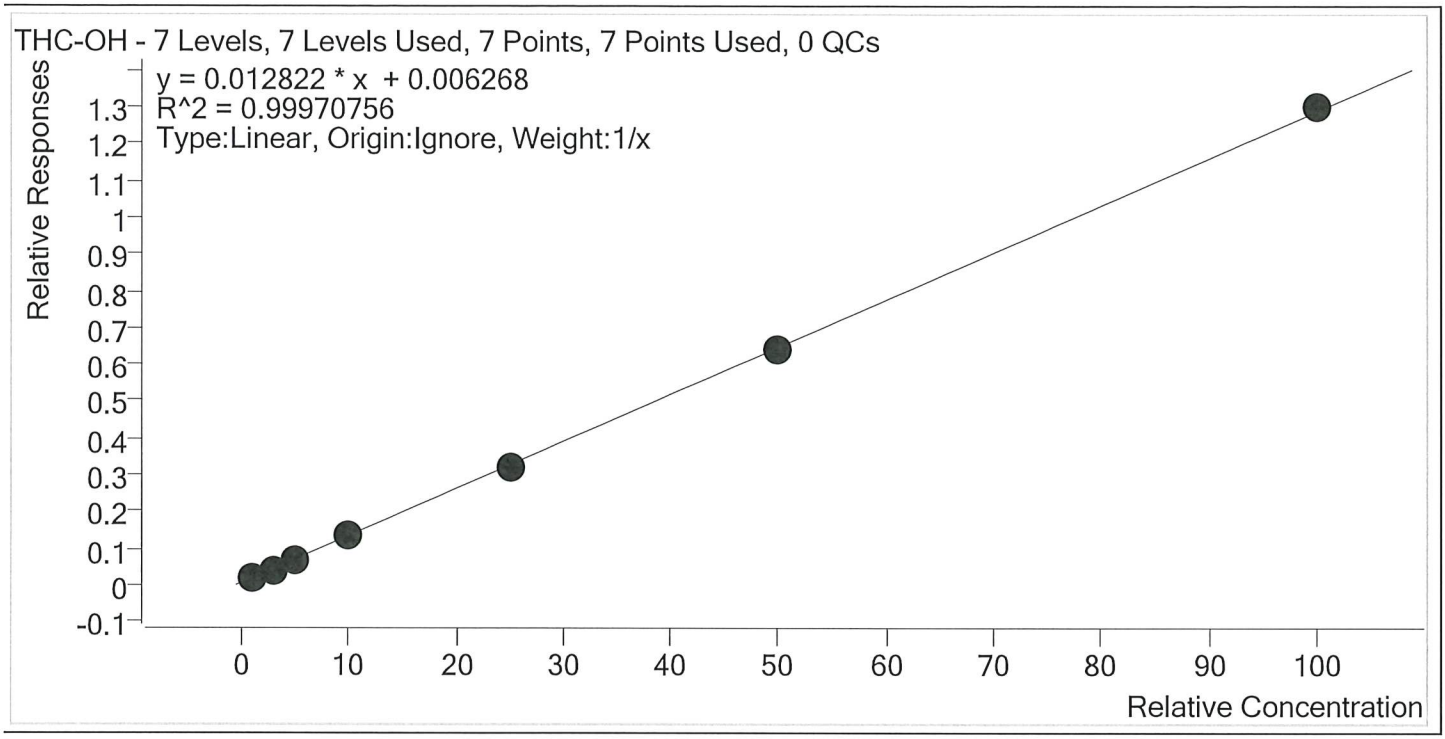
AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results	D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Last Cal. Update	2/24/2021 11:53 AM
Analyst Name	ISP\datastor
Analyte	THC-OH
Internal Standard	THC-OH-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
MJ_Cal 1 R	1	✓	1.0	1.1	111.1
MJ_Cal 2 R	2	✓	3.0	2.8	91.8
MJ_Cal 3 R	3	✓	5.0	4.9	98.5
MJ_Cal 4 R	4	✓	10.0	10.0	99.8
MJ_Cal 5 R	5	✓	25.0	24.6	98.4
MJ_Cal 6 R	6	✓	50.0	49.8	99.6
MJ_Cal 7 R2	7	✓	100.0	100.9	100.9

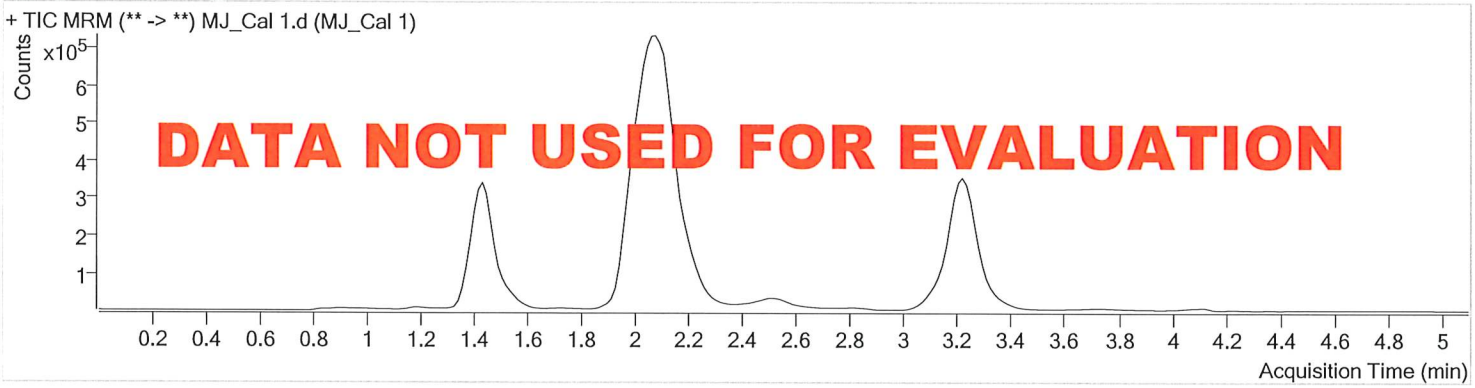
Generated at 11:54 AM on 2/24/2021

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 1.d
Type	Cal	**Sample**	MJ_Cal 1
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-H6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 11:12:33 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.453	32812	∞	10.5	14.13	1533996	1.1233	ng/ml **Low**
THC-COOH	1.459	67488	∞	45.0	198.56	493808	5.0586	ng/ml
THC	3.224	25405	∞	54.4 **High**	24.68	2889565	1.2112	ng/ml

Sample reinjected due to retention time shift following needle seat change

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 2.d
Type	Cal	**Sample**	MJ_Cal 2
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-G6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 11:20:18 AM		
Sample Info.			

Sample Chromatogram

Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.		
THC-OH	1.468	72629	∞	12.2	130.83	1780374	2.6273	ng/ml	**Low**
THC-COOH	1.489	133026	653.79	53.0	∞	537874	9.8505	ng/ml	
THC	3.285	78866	222.01	33.2	124.04	3129289	2.9643	ng/ml	

Sample reinjected due to retention time shift following needle seat change

SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 3.d
Type	Cal	**Sample**	MJ_Cal 3
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-F6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 11:27:56 AM		
Sample Info.			

Sample Chromatogram

Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.438	138842	∞	11.2	∞	1917623	5.0773	ng/ml
THC-COOH	1.459	279597	4350.19	55.3	∞	581455	19.9644	ng/ml
THC	3.239	155245	281.69	33.3	91.33	3402009	5.1469	ng/ml

Sample reinjected due to retention time shift following needle seat change

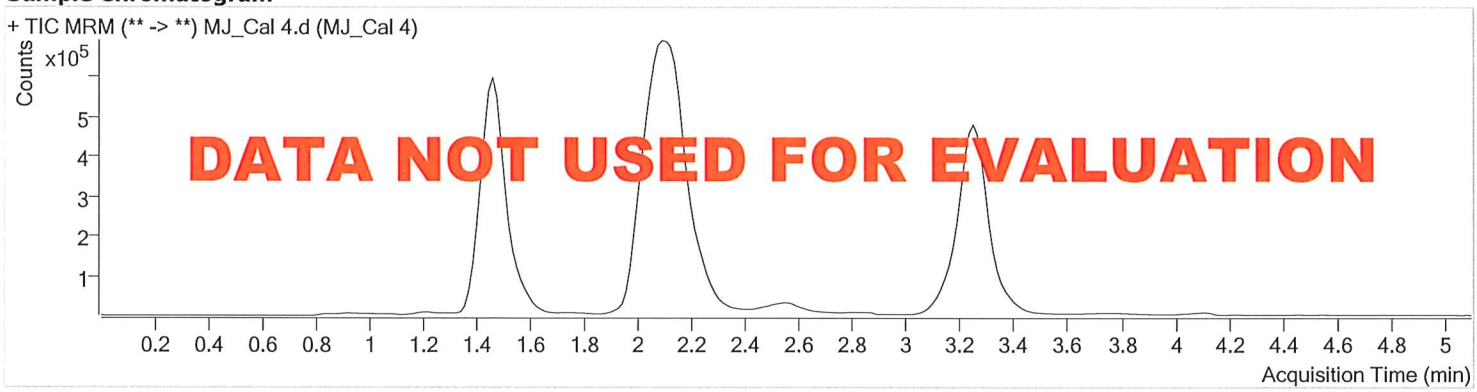
SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 4.d
Type	Cal	**Sample**	MJ_Cal 4
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-E6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 11:35:33 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.453	257234	∞	11.7	∞	1893411	9.9956	ng/ml
THC-COOH	1.489	681320	3020.53	55.9	2273.87	585168	49.5630	ng/ml
THC	3.254	320708	1692.58	28.3	∞	3533718	9.9674	ng/ml

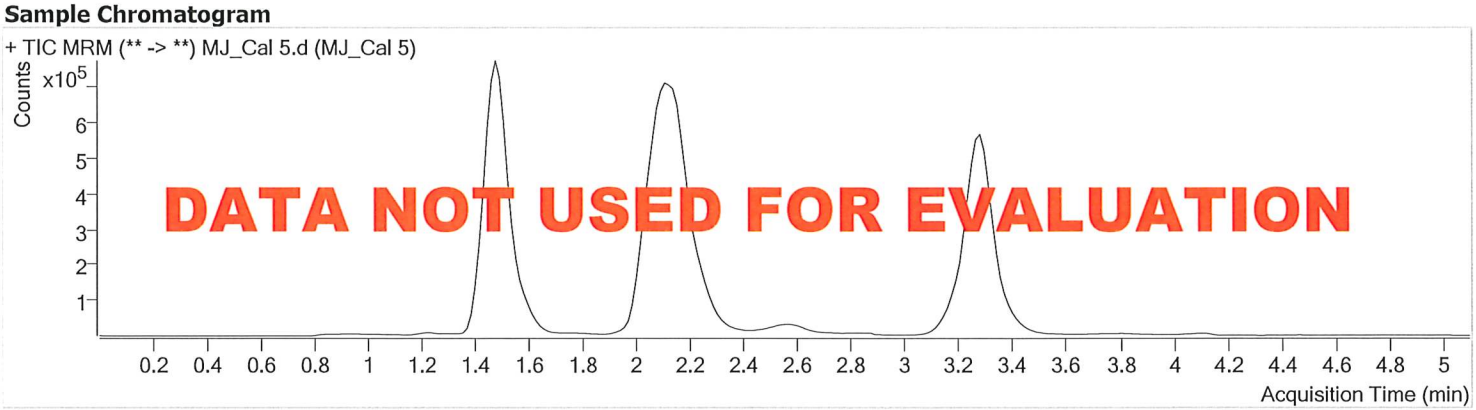
Sample reinjected due to retention time shift following needle seat change

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 5.d
Type	Cal	**Sample**	MJ_Cal 5
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-D6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 11:43:08 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.468	626437	270.02	11.7	∞	1932464	24.5910	ng/ml
THC-COOH	1.504	1047337	∞	56.4	6827.89	597874	75.0039	ng/ml
THC	3.285	782885	2697.57	25.5	∞	3518257	24.0437	ng/ml

Sample reinjected due to retention time shift following needle seat change

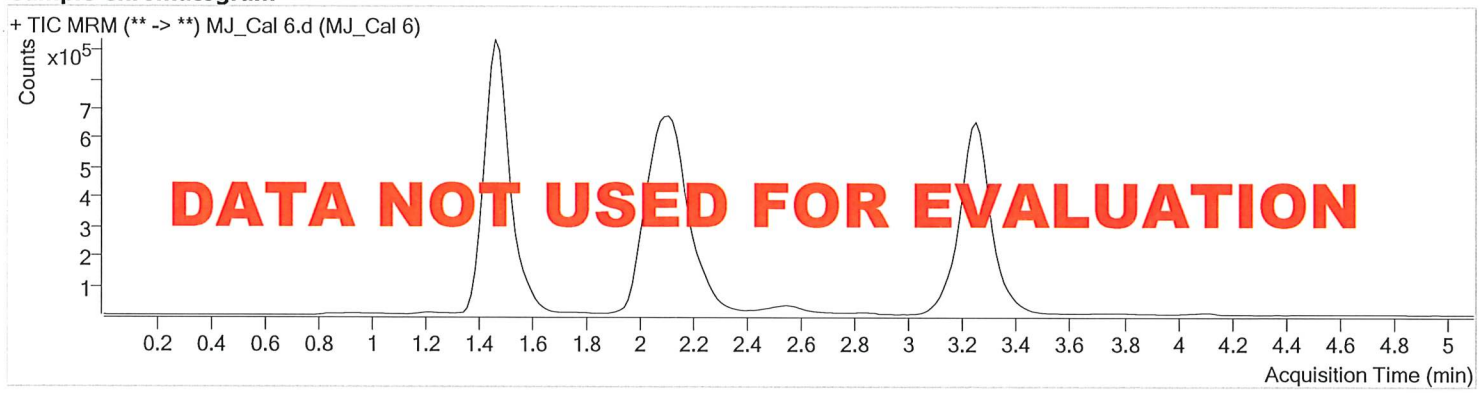
SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 6.d
Type	Cal	**Sample**	MJ_Cal 6
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 11:50:46 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.453	1238242	∞	11.7	∞	1882007	50.4612	ng/ml
THC-COOH	1.489	1319033	34632.31	58.9	∞	569268	99.4854	ng/ml
THC	3.254	1574825	∞	24.7	495.42	3366594	50.2446	ng/ml

Sample reinjected due to retention time shift following needle seat change

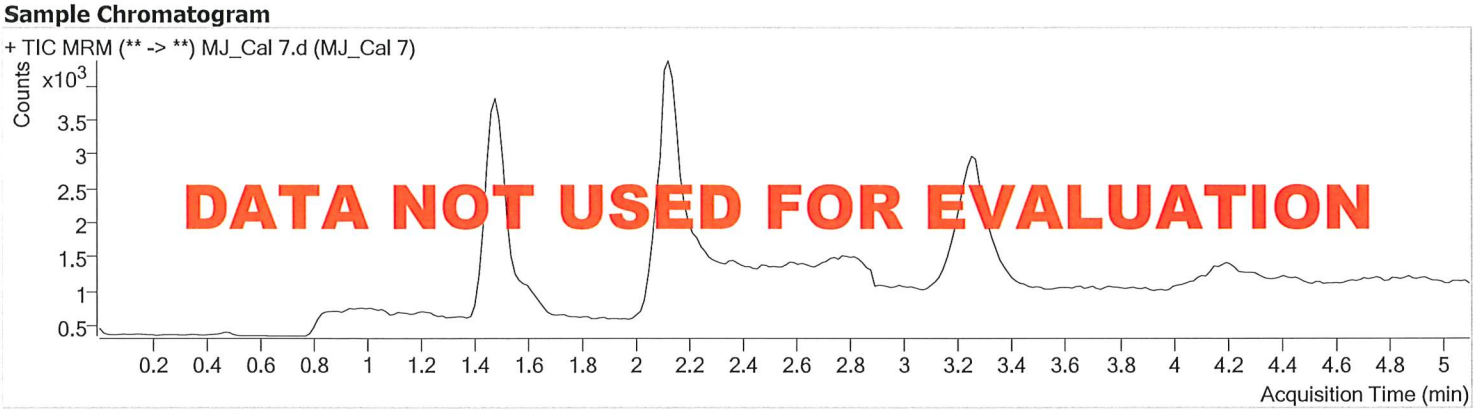
SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 7.d
Type	Cal	**Sample**	MJ_Cal 7
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-B6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 11:58:23 AM		
Sample Info.			

Sample Chromatogram



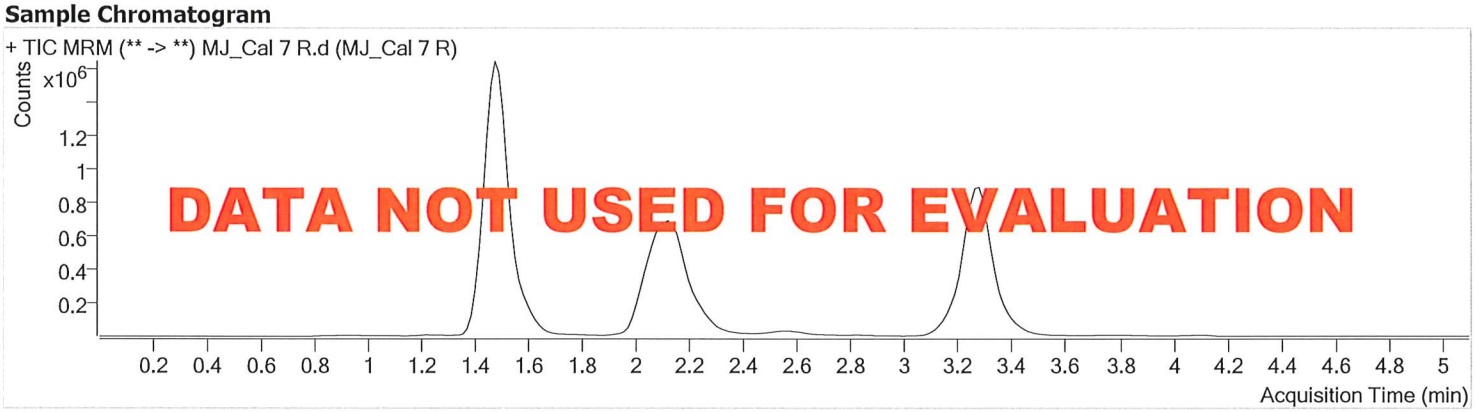
Sample reinjected due to poor ISTD response

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27.batch.bin
Calibration Last Update 2/24/2021 11:58:33 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 7 R.d
Type	Cal	**Sample**	MJ_Cal 7 R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-B6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 12:21:17 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.468	2507936	∞	11.9	∞	1915524	100.9450	ng/ml
THC-COOH	1.489	3177943	∞	57.6	15421.12	551592	248.6496	ng/ml
THC	3.285	3111161	∞	25.7	2780.09	3354404	99.3546	ng/ml

Sample reinjected due to retention time shift following needle seat change

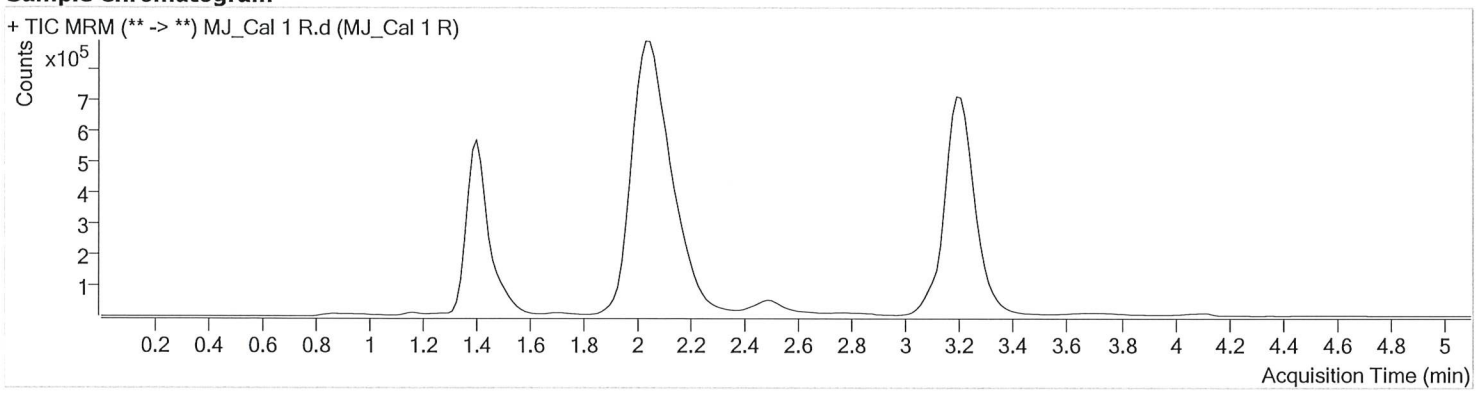
SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 1 R.d
Type	Cal	**Sample**	MJ_Cal 1 R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-H6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 3:28:58 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.438	48954	∞	9.7	31.43	2386711	1.1108	ng/ml **Low**
THC-COOH	1.429	86950	118.20	52.4	1025.46	700498	4.9460	ng/ml **Low**
* ~~THC~~	~~3.209~~	~~53534~~	~~94.60~~	~~64.2~~ **High**	∞	5588204	1.2604	ng/ml

SJ 2/25/21

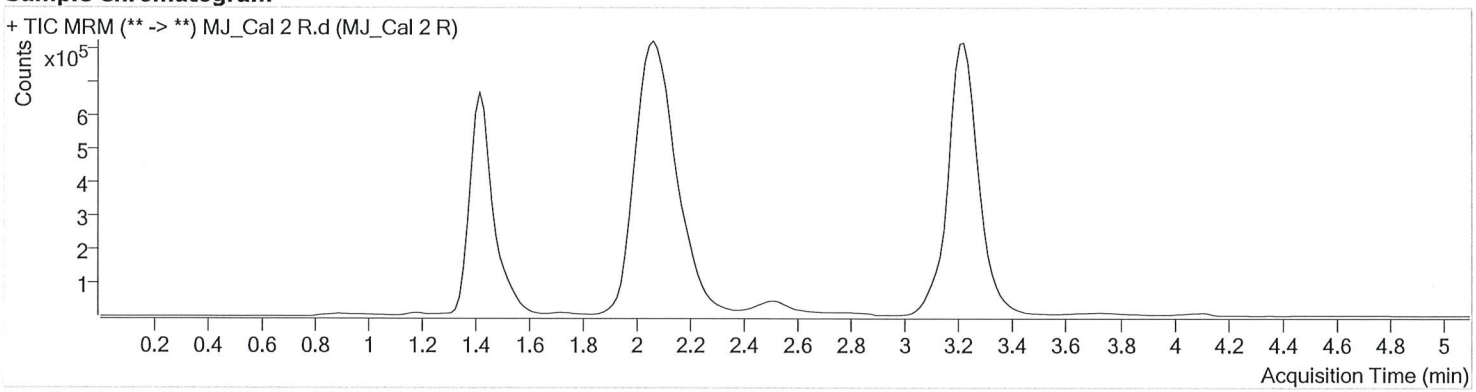
* Outside curve range SJ 2/25/21

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 2 R.d
Type	Cal	**Sample**	MJ_Cal 2 R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-G6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 3:36:44 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.		
THC-OH	1.423	113850	∞	11.5	244.25	2737123	2.7552	ng/ml	Low
THC-COOH	1.444	193642	∞	53.0	1125.83	800077	9.9247	ng/ml	
THC	3.224	167789	568.11	30.7	∞	6271873	3.0013	ng/ml	

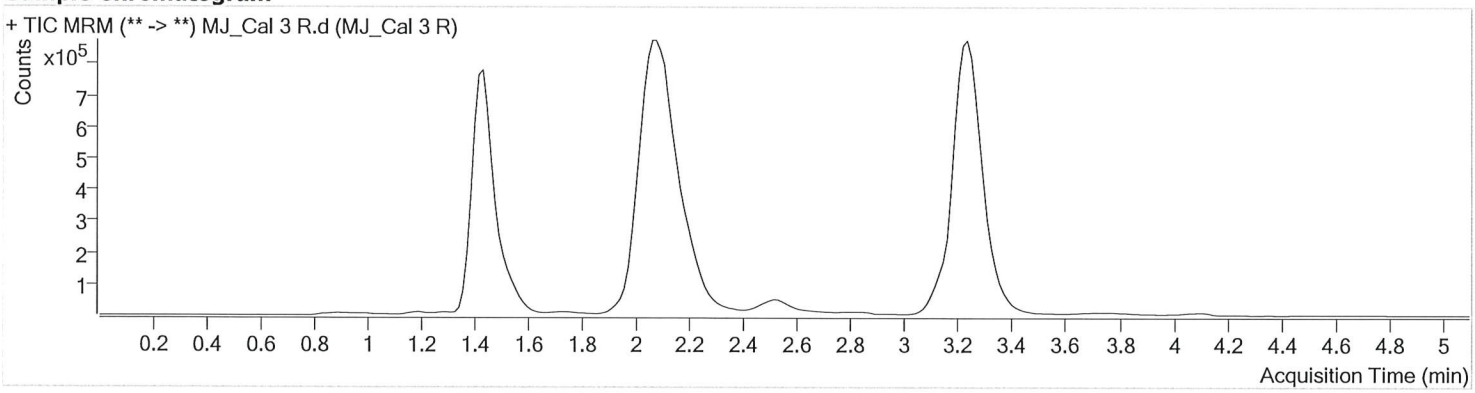
SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 3 R.d
Type	Cal	**Sample**	MJ_Cal 3 R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-F6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 3:44:19 PM		
Sample Info.			

Sample Chromatogram



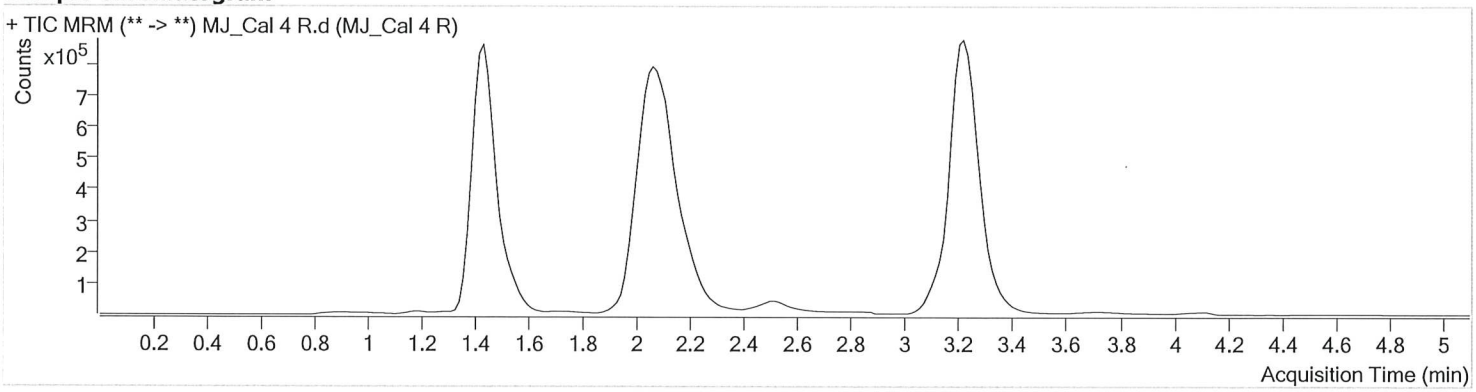
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.423	200652	∞	11.3	∞	2890434	4.9252	ng/ml
THC-COOH	1.459	406565	∞	57.7	1046.92	833750	20.2959	ng/ml
THC	3.239	309809	294.99	27.1	173.62	6524824	5.1027	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 4 R.d
Type	Cal	**Sample**	MJ_Cal 4 R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-E6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 3:51:55 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.423	358926	∞	11.4	1105.04	2674361	9.9782	ng/ml
THC-COOH	1.444	921264	5179.48	58.8	4521.43	772471	50.0653	ng/ml
THC	3.224	586245	∞	29.3	∞	6205820	9.8658	ng/ml

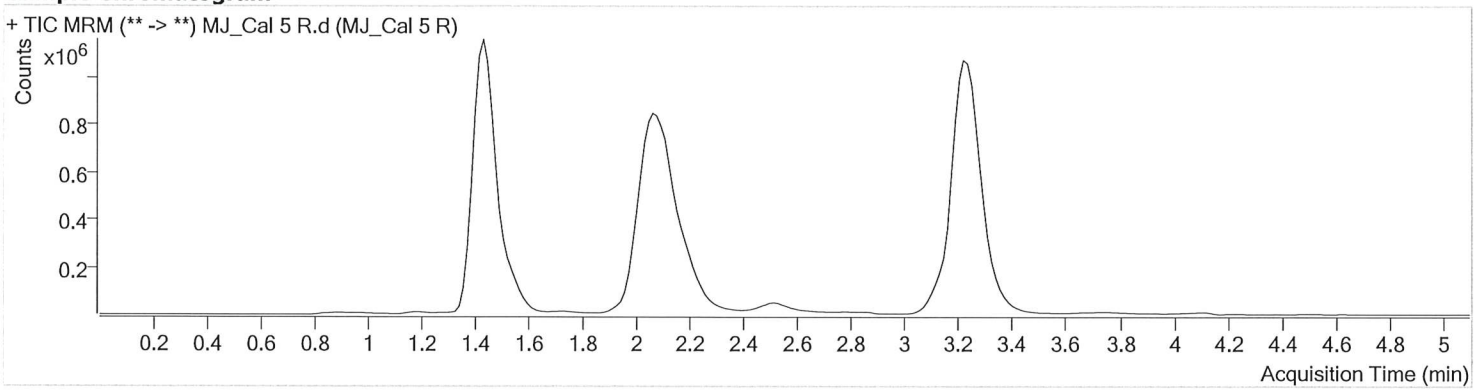
SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 5 R.d
Type	Cal	**Sample**	MJ_Cal 5 R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-D6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 3:59:30 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.423	914116	∞	11.7	588.70	2842568	24.5913	ng/ml
THC-COOH	1.459	1433477	∞	59.5	∞	806407	74.7676	ng/ml
THC	3.239	1569958	4048.09	24.8	∞	6551856	24.5808	ng/ml

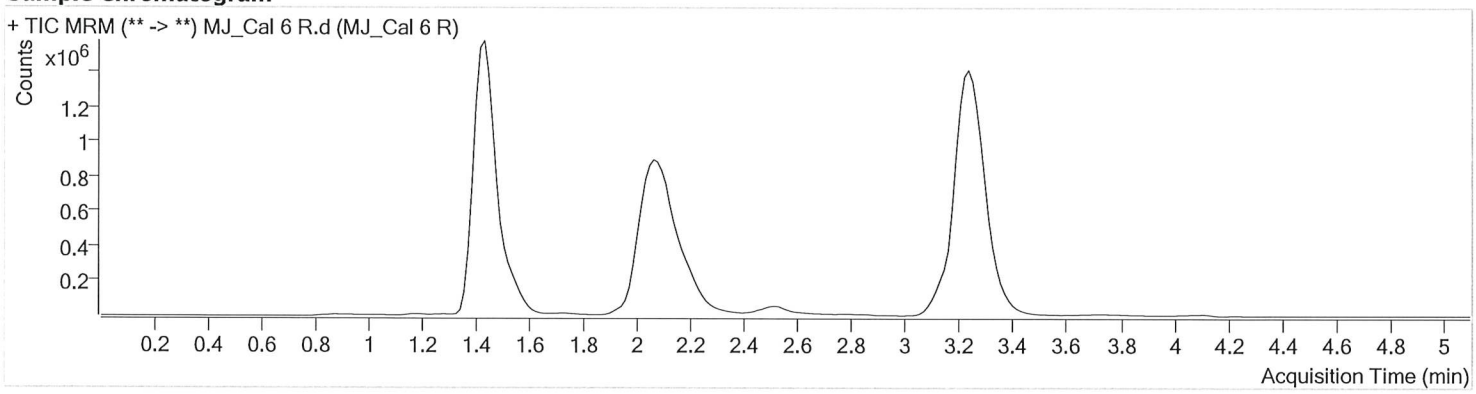
SJ

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 6 R.d
Type	Cal	**Sample**	MJ_Cal 6 R
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-C6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 4:07:08 PM		
Sample Info.			

Sample Chromatogram



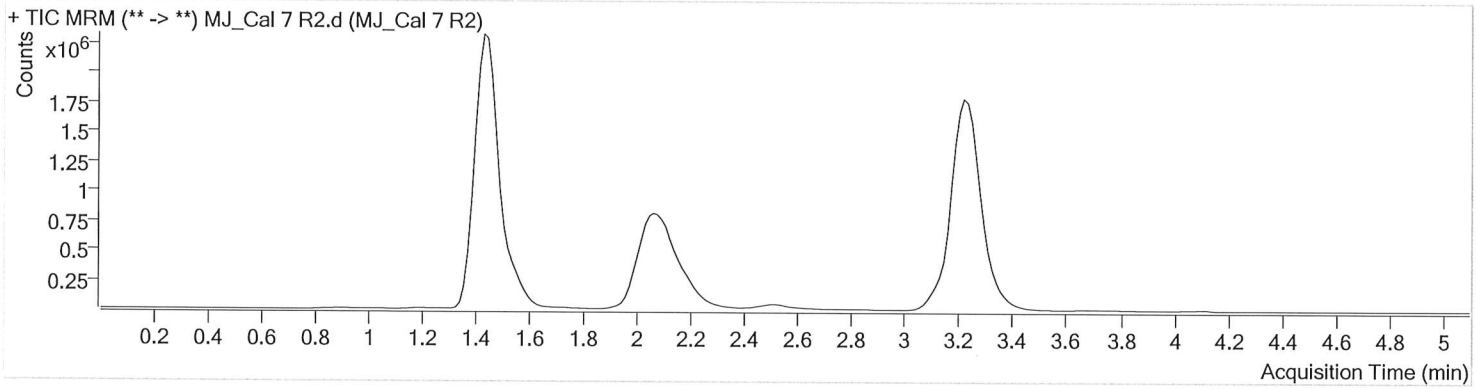
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.423	1966729	∞	11.9	∞	3050986	49.7851	ng/ml
THC-COOH	1.444	1977377	∞	59.5	∞	825230	100.8869	ng/ml
THC	3.239	3480564	8878.91	25.5	∞	7031190	50.4718	ng/ml

AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2021\AM 27-28\021921 AM 27 SJ\QuantResults\AM 27 post clog.batch.bin
Calibration Last Update 2/24/2021 11:53:55 AM

Instrument	Instrument 1	**Data File**	MJ_Cal 7 R2.d
Type	Cal	**Sample**	MJ_Cal 7 R2
Acq. Method	AM 27 THCQ.m	**Operator**	Sophia Jackson
Sample Position	P1-B6	**Comment**	
Injection Volume	10		
Acq. Date-Time	2/19/2021 4:14:43 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.	
THC-OH	1.423	3497024	∞	11.8	2788.99	2691184	100.8542	ng/ml
THC-COOH	1.444	4233034	∞	60.3	∞	716688	249.1136	ng/ml
THC	3.239	6157758	∞	25.5	∞	6261962	99.9776	ng/ml