

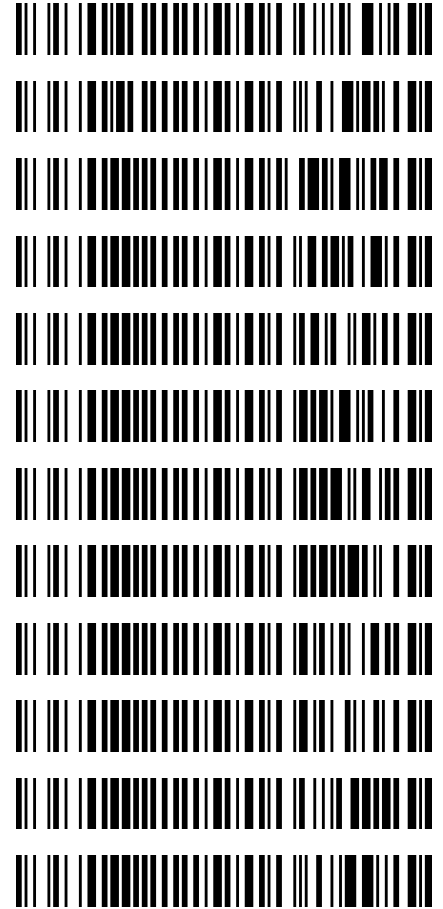
1/3/2022

REVIEWED

By Anthony Wylie at 10:18 am, Jan 14, 2022

Worklist: 5493

| <u>LAB CASE</u> | <u>ITEM</u> | <u>ITEM TYPE</u> | <u>DESCRIPTION</u> |
|-----------------|-------------|------------------|---------------------------------|
| M2021-5396 | 2 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| M2021-5619 | 2 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4072 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4079 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4090 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4169 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4170 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4171 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4183 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4184 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4192 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |
| P2021-4208 | 1 | BCK | AM 27 Blood THC Quant by LC-QQQ |



1/5/2022

Worklist: 5494

| <u>LAB CASE</u> | <u>ITEM</u> | <u>ITEM TYPE</u> | <u>DESCRIPTION</u> |
|-----------------|-------------|------------------|---------------------------------|
| P2021-4164 | 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: 01/05/2022

Analyst: Amber Gerheart

Plate lot#: 211018

Plate Retest Date: 04/18/2022

Mobile phase A: 0.1% Formic Acid in LCMS Water

Mobile phase B: 0.1% Formic acid in Acetonitrile

Blank Blood Lot: Lampire 20L20725

Column: UCT Selectra DA 100 x 2.1mm 3um

LCMS-QQQ ID: 069901

Blank Urine Lot: N/A

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: 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: 800 µL
- 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: Used for worklist 5493 and 5494. M2021-5396-2 reinjected due to retention time shift. THC-OH not evaluated due to a potential interfering peak. THC-COOH curve range 10-250 ng/mL.

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|-------------|----------------|--------------|-------------|-------------|-------------|
| A | IS + Cal. 1 | IS + QC_1 | P2021-4170-1 | IS + Sample | IS + Sample | IS + QC_1 |
| B | IS + Cal. 2 | Blood Negative | P2021-4171-1 | IS + Sample | IS + Sample | IS + Cal. 7 |
| C | IS + Cal. 3 | M2021-5396-2 | P2021-4183-1 | IS + Sample | IS + Sample | IS + Cal. 6 |
| D | IS + Cal. 4 | M2021-5619-2 | P2021-4184-1 | IS + Sample | IS + Sample | IS + Cal. 5 |
| E | IS + Cal. 5 | P2021-4072-1 | P2021-4192-1 | IS + Sample | IS + Sample | IS + Cal. 4 |
| F | IS + Cal. 6 | P2021-4079-1 | P2021-4208-1 | IS + Sample | IS + Sample | IS + Cal. 3 |
| G | IS + Cal. 7 | P2021-4090-1 | P2021-4164-1 | IS + Sample | IS + Sample | IS + Cal. 2 |
| H | IS + QC_1 | P2021-4169-1 | IS + Sample | IS + Sample | IS + QC_1 | IS + Cal. 1 |

All wells to contain 100 µl of residual DMSO

AG

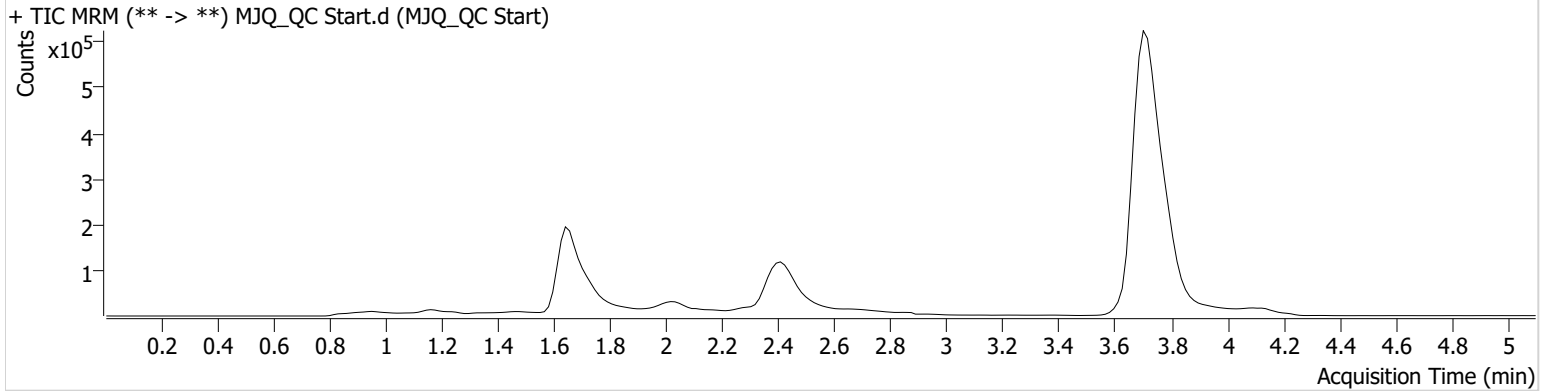


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_QC Start.d |
| Type | QC | Sample | MJQ_QC Start |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-H1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 3:43:53 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|-------|--------|---------|-------|-------|------------|---------------|
| THC-COOH | 1.685 | 54738 | ∞ | 64.6 | 91.31 | 148432 | 17.9991 ng/ml |
| THC | 3.721 | 190395 | 1293.09 | 28.1 | ∞ | 4191816 | 4.7619 ng/ml |

AG

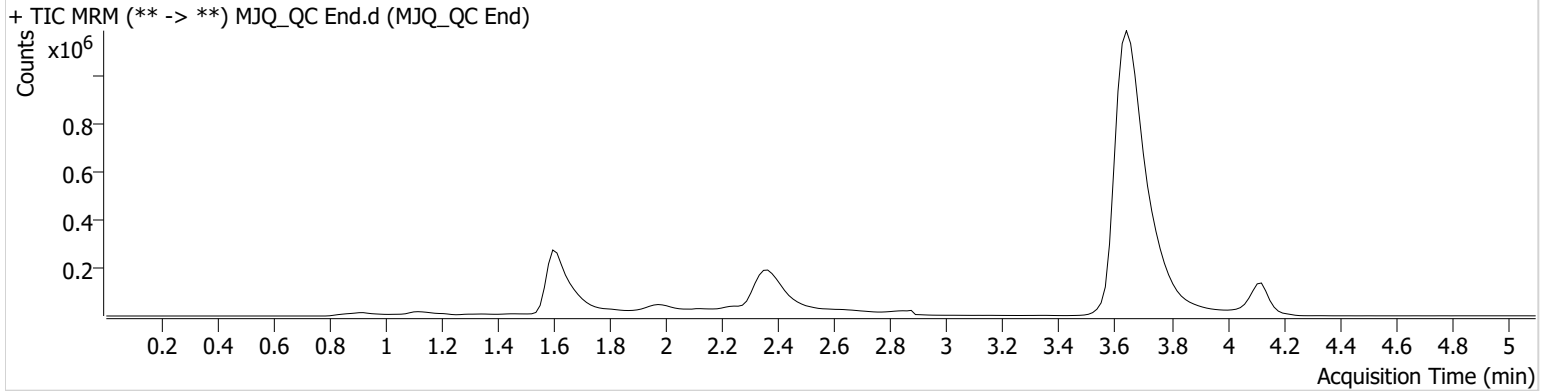


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_QC End.d |
| Type | QC | Sample | MJQ_QC End |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-H1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 7:32:40 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|-------|--------|---------|-------|--------|------------|---------------|
| THC-COOH | 1.640 | 72572 | ∞ | 61.1 | 242.28 | 209173 | 17.2873 ng/ml |
| THC | 3.661 | 393678 | 1576.21 | 26.7 | 198.26 | 8560383 | 4.8177 ng/ml |

AG

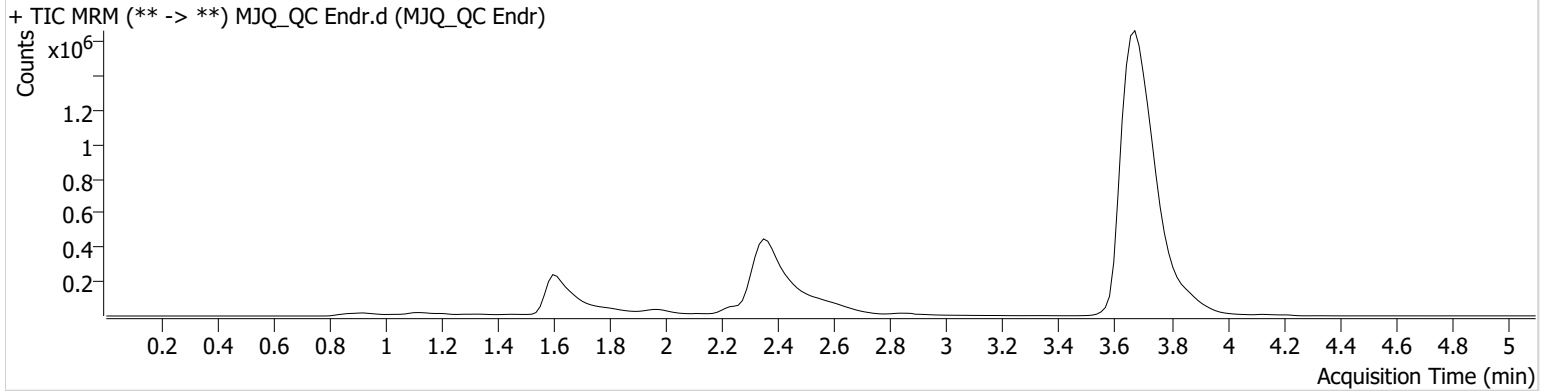


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|----------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_QC Endr.d |
| Type | QC | Sample | MJQ_QC Endr |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-H1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/6/2022 11:42:18 AM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|-------|--------|----------|----------------|--------|------------|---------------|
| THC-COOH | 1.640 | 80513 | ∞ | 74.2 | 154.14 | 257570 | 16.1666 ng/ml |
| THC-OH | 1.678 | 286233 | ∞ | 6.0 Low | 35.18 | 688981 | 4.4645 ng/ml |
| THC | 3.691 | 578474 | 12200.34 | 25.8 | 336.52 | 12929300 | 4.6952 ng/ml |

AG



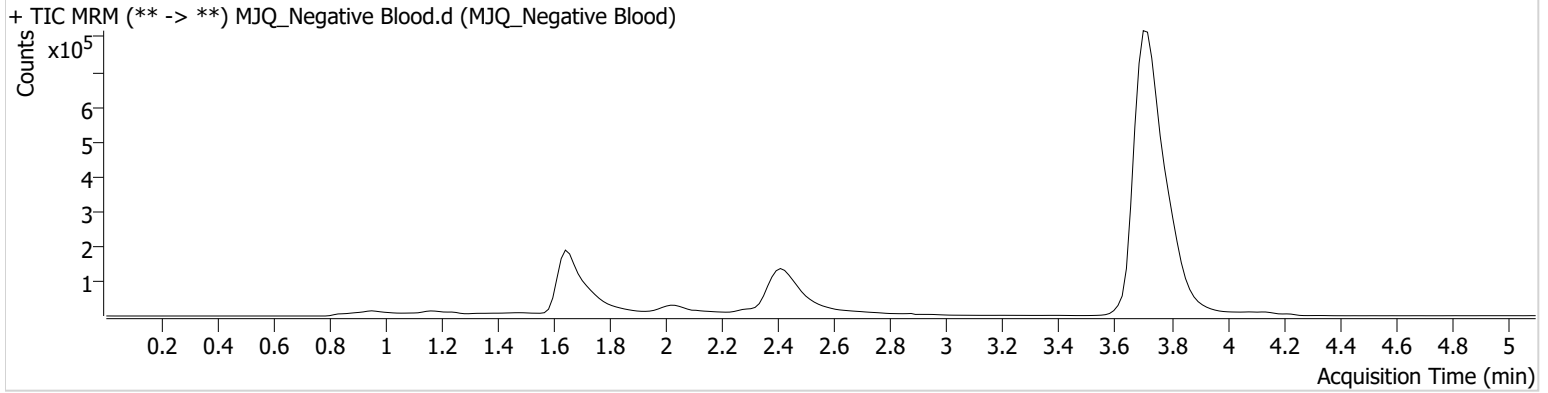
AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------------|
| Instrument | Falco (069901) | Data File | MJQ_Negative Blood.d |
| Type | Sample | Sample | MJQ_Negative Blood |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-B2 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 3:59:06 PM | | |

Sample Info.

Sample Chromatogram

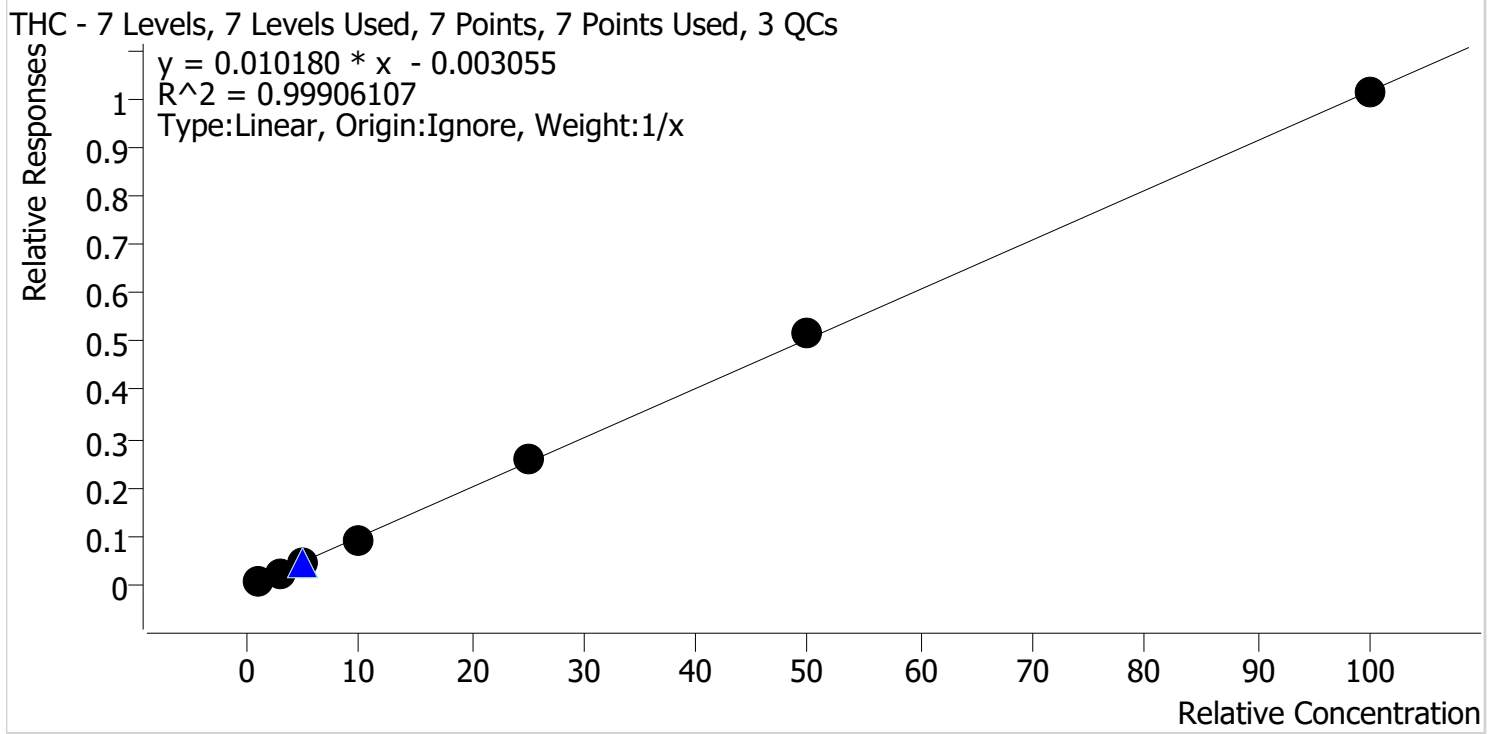


Handwritten initials/signature



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Last Cal. Update 1/13/2022 7:58 AM
Analyst Name ISP\datastor
Analyte THC **Internal Standard** THC-D3



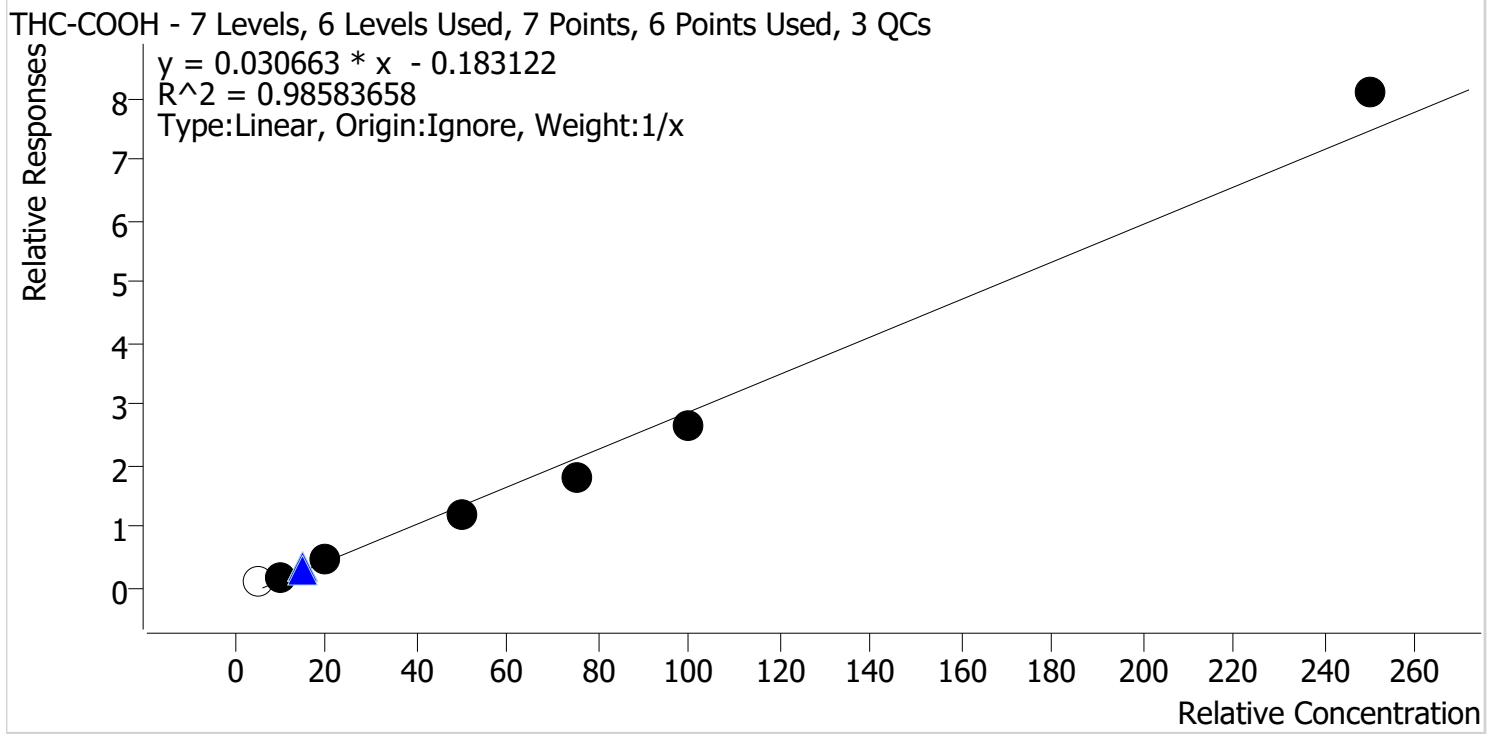
| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|-----------|-------|---------|------------------------|---------------------|----------|
| MJQ_Cal 1 | 1 | ✓ | 1.0 | 1.2 | 115.7 |
| MJQ_Cal 2 | 2 | ✓ | 3.0 | 2.7 | 89.2 |
| MJQ_Cal 3 | 3 | ✓ | 5.0 | 5.0 | 100.4 |
| MJQ_Cal 4 | 4 | ✓ | 10.0 | 9.2 | 91.5 |
| MJQ_Cal 5 | 5 | ✓ | 25.0 | 25.4 | 101.7 |
| MJQ_Cal 6 | 6 | ✓ | 50.0 | 50.9 | 101.8 |
| MJQ_Cal 7 | 7 | ✓ | 100.0 | 99.7 | 99.7 |

Handwritten initials/signature.



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Last Cal. Update 1/13/2022 7:58 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 | x | 5.0 | 9.9 | 197.6 |
| MJQ_Cal 2 | 2 | ✓ | 10.0 | 11.9 | 118.8 |
| MJQ_Cal 3 | 3 | ✓ | 20.0 | 21.0 | 104.8 |
| MJQ_Cal 4 | 4 | ✓ | 50.0 | 45.0 | 90.1 |
| MJQ_Cal 5 | 5 | ✓ | 75.0 | 64.3 | 85.7 |
| MJQ_Cal 6 | 6 | ✓ | 100.0 | 92.6 | 92.6 |
| MJQ_Cal 7 | 7 | ✓ | 250.0 | 270.3 | 108.1 |

Cal 1 dropped due to S/N and accuracy out.

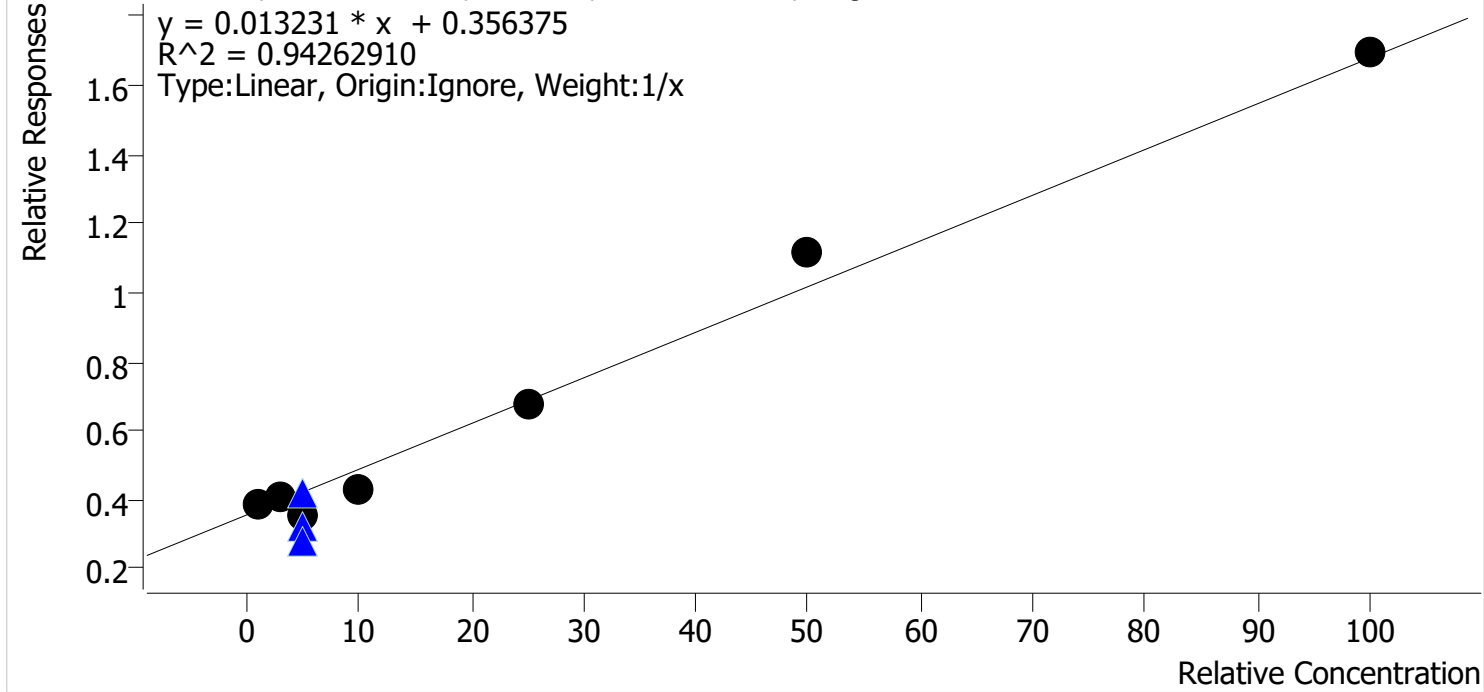
Handwritten initials/signature.



AM #27 Cannabinoids Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Last Cal. Update 1/13/2022 7:58 AM
Analyst Name ISP\datastor
Analyte THC-OH **Internal Standard** THC-OH-D3

THC-OH - 7 Levels, 7 Levels Used, 7 Points, 7 Points Used, 3 QCs



| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|-----------|-------|---------|------------------------|---------------------|----------|
| MJQ_Cal 1 | 1 | ✓ | 1.0 | 2.1 | 211.7 |
| MJQ_Cal 2 | 2 | ✓ | 3.0 | 3.7 | 124.5 |
| MJQ_Cal 3 | 3 | ✓ | 5.0 | 0.0 | 0.0 |
| MJQ_Cal 4 | 4 | ✓ | 10.0 | 5.2 | 51.9 |
| MJQ_Cal 5 | 5 | ✓ | 25.0 | 24.5 | 98.2 |
| MJQ_Cal 6 | 6 | ✓ | 50.0 | 57.3 | 114.7 |
| MJQ_Cal 7 | 7 | ✓ | 100.0 | 101.2 | 101.2 |

Compound not evaluated.

AG

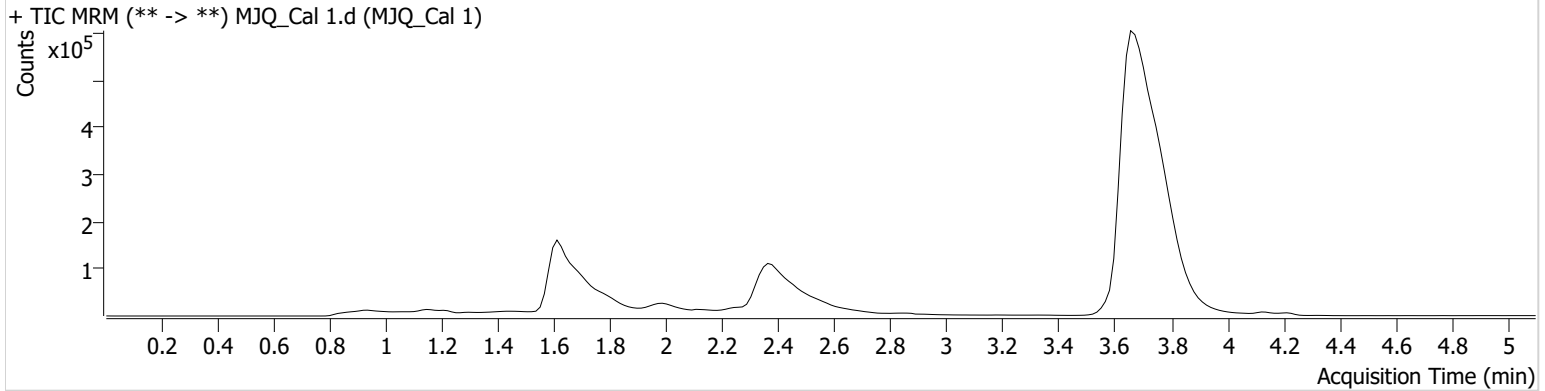


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_Cal 1.d |
| Type | Cal | Sample | MJQ_Cal 1 |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-A1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 2:09:42 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|-------|--------|--------|----------------|-------|------------|-------------------------|
| THC-COOH | 1.655 | 19975 | ∞ | 63.1 | ∞ | 166602 | 9.8824 ng/ml |
| THC-OH | 1.693 | 205578 | ∞ | 3.5 Low | 13.26 | 534830 | 2.1167 ng/ml Low |
| THC | 3.691 | 53135 | 181.41 | 24.7 | 22.57 | 6092139 | 1.1569 ng/ml |

AG

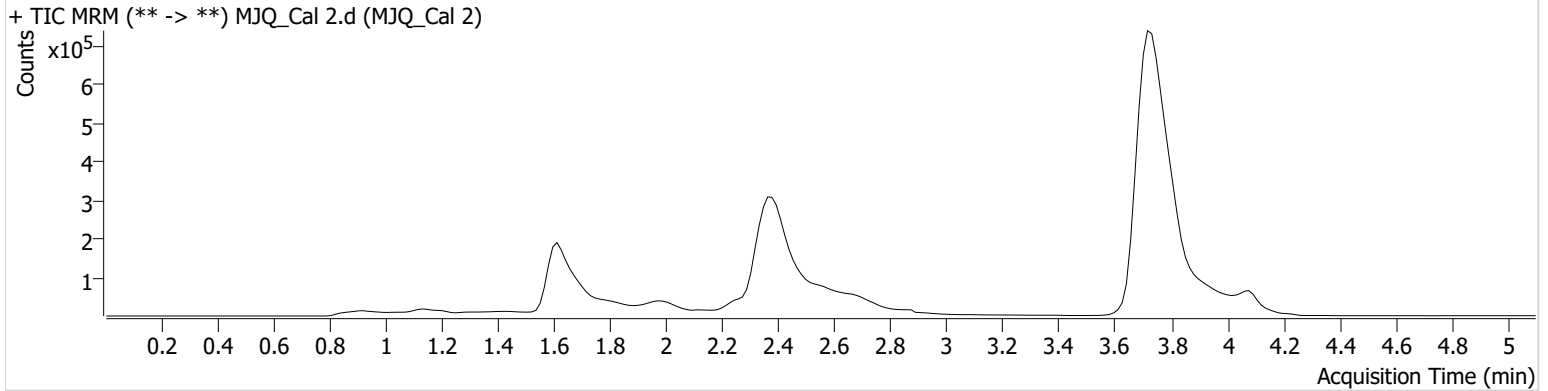


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_Cal 2.d |
| Type | Cal | Sample | MJQ_Cal 2 |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-B1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 2:50:31 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|-------|--------|---------|----------------|-------|------------|---------------|
| THC-COOH | 1.655 | 27237 | 54.15 | 67.9 | ∞ | 150471 | 11.8756 ng/ml |
| THC-OH | 1.693 | 231244 | ∞ | 4.4 Low | 31.71 | 569852 | 3.7353 ng/ml |
| THC | 3.751 | 153981 | 2068.05 | 27.9 | ∞ | 6370521 | 2.6745 ng/ml |

AG

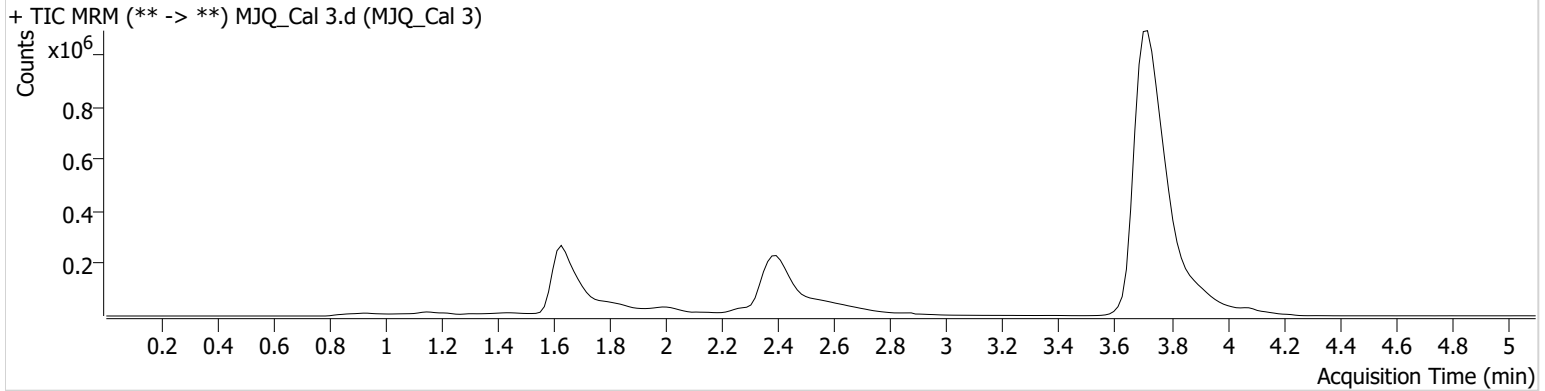


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_Cal 3.d |
| Type | Cal | Sample | MJQ_Cal 3 |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-C1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 2:58:15 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|-------|--------|-----|-------|-----|------------|---------------|
| THC-COOH | 1.670 | 106640 | ∞ | 71.6 | ∞ | 232031 | 20.9610 ng/ml |
| THC | 3.736 | 370070 | ∞ | 26.8 | ∞ | 7698583 | 5.0222 ng/ml |

AG

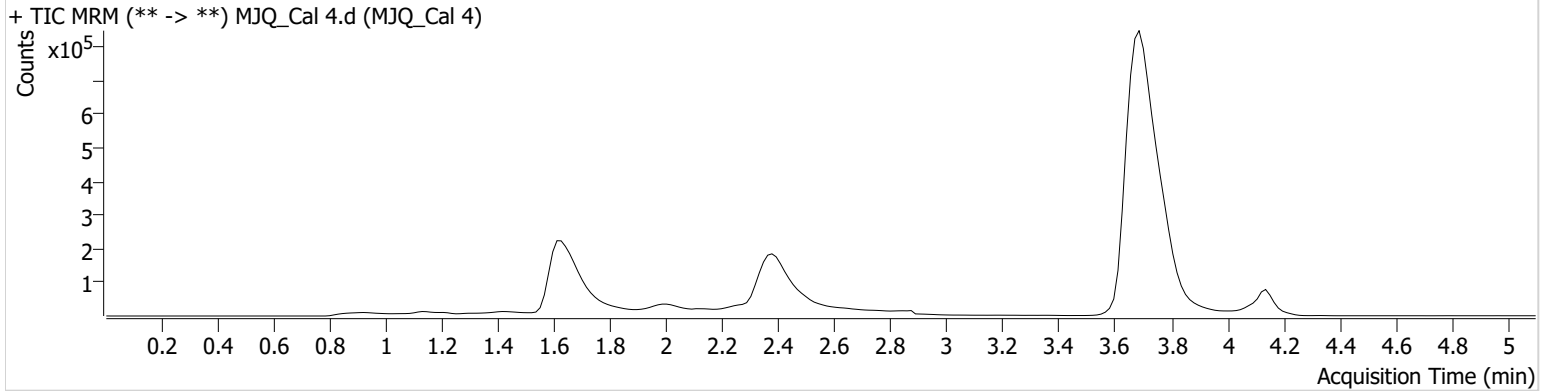


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_Cal 4.d |
| Type | Cal | Sample | MJQ_Cal 4 |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-D1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 3:05:51 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|-------|--------|---------|-------|--------|------------|---------------|
| THC-COOH | 1.655 | 186288 | 110.39 | 69.7 | ∞ | 155484 | 45.0464 ng/ml |
| THC-OH | 1.693 | 299523 | ∞ | 7.1 | 46.99 | 704598 | 5.1941 ng/ml |
| THC | 3.706 | 539577 | 3035.26 | 26.4 | 711.68 | 5985920 | 9.1549 ng/ml |

AG

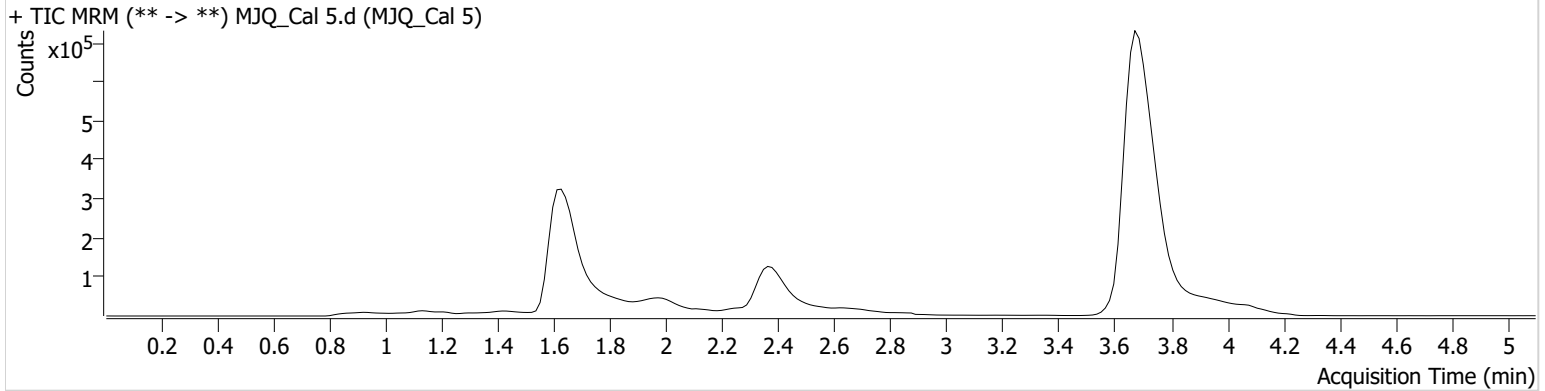


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_Cal 5.d |
| Type | Cal | Sample | MJQ_Cal 5 |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-E1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 3:13:27 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|------------------|---------|-----|-------|--------|------------|---------------|
| THC-COOH | 1.655 | 353199 | ∞ | 68.0 | ∞ | 197652 | 64.2509 ng/ml |
| THC-OH | 1.618 Low | 514023 | ∞ | 8.5 | 97.31 | 754764 | 24.5383 ng/ml |
| THC | 3.691 | 1059797 | ∞ | 25.8 | 899.77 | 4142220 | 25.4332 ng/ml |

AG

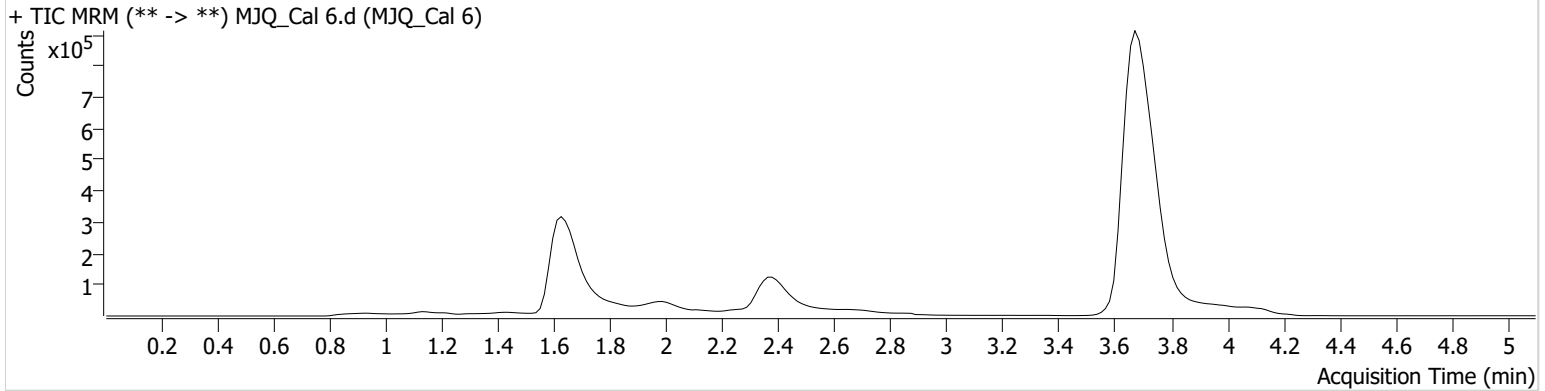


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_Cal 6.d |
| Type | Cal | Sample | MJQ_Cal 6 |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-F1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 3:21:02 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|------------------|---------|---------|-----------------|---------|------------|---------------|
| THC-COOH | 1.655 | 368472 | ∞ | 64.4 | ∞ | 138795 | 92.5532 ng/ml |
| THC-OH | 1.618 Low | 700600 | ∞ | 9.7 High | ∞ | 628257 | 57.3490 ng/ml |
| THC | 3.691 | 2164295 | 8621.91 | 25.6 | 1330.52 | 4203718 | 50.8754 ng/ml |

AG

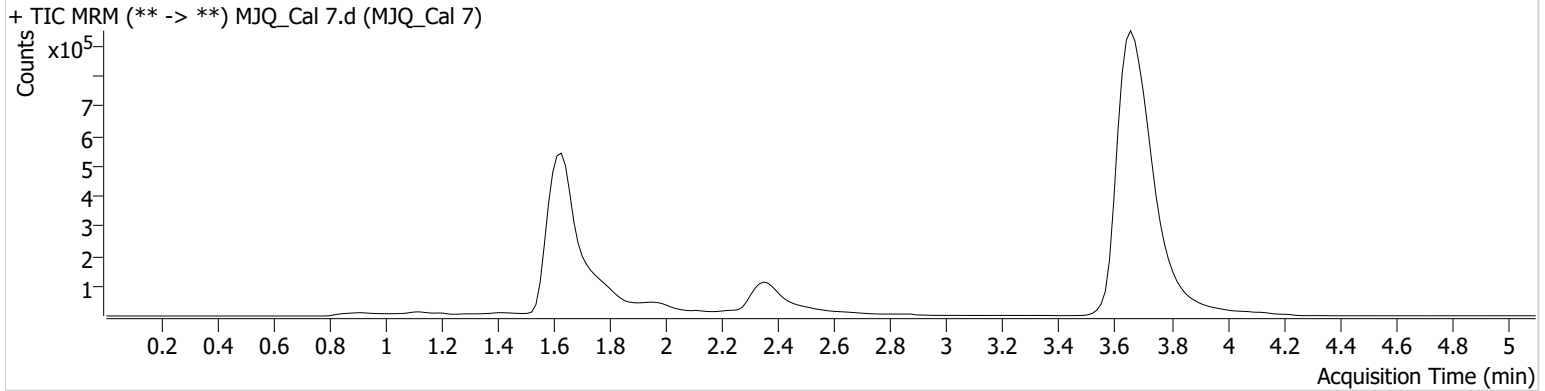


AM #27 Cannabinoid Quant. Results

Batch results D:\MassHunter\Data\2022\AM 27-28\010522 AM 27 28 AG\QuantResults\AM 27.batch.bin
Calibration Last Update 1/13/2022 7:58:54 AM

| | | | |
|-------------------------|---------------------|------------------|----------------|
| Instrument | Falco (069901) | Data File | MJQ_Cal 7.d |
| Type | Cal | Sample | MJQ_Cal 7 |
| Acq. Method | AM 27 THCQ.m | Operator | Amber Gerheart |
| Sample Position | P1-G1 | Comment | |
| Injection Volume | 10 | | |
| Acq. Date-Time | 1/5/2022 3:28:38 PM | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|----------|------------------|---------|---------|------------------|---------|------------|----------------|
| THC-COOH | 1.640 | 1049810 | 1839.86 | 63.0 | 3511.65 | 129521 | 270.3129 ng/ml |
| THC-OH | 1.603 Low | 1046049 | ∞ | 13.9 High | 383.71 | 617143 | 101.1739 ng/ml |
| THC | 3.676 | 3680219 | 9805.92 | 25.5 | ∞ | 3637626 | 99.6829 ng/ml |