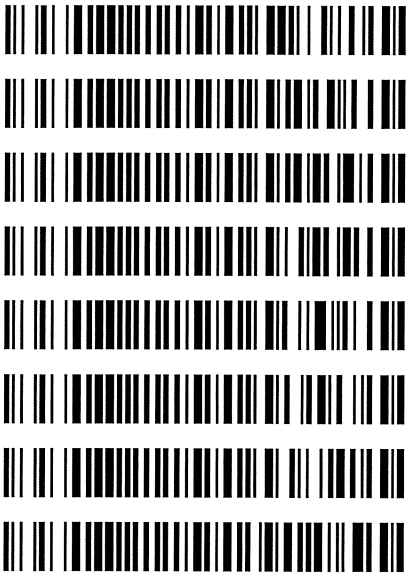
TS

9/18/2019

**Worklist: 3692**

| LAB_CASE | ITEM | TASK_ID | DESCRIPTION |
|---|---|---|---|
| P2019-2490 | 1 | 163857 | AM 27 Blood THC Quant by LC-QQQ |
| P2019-2517 | 1 | 163858 | AM 27 Blood THC Quant by LC-QQQ |
| P2019-2518 | 1 | 163864 | AM 27 Blood THC Quant by LC-QQQ |
| P2019-2533 | 1 | 163859 | AM 27 Blood THC Quant by LC-QQQ |
| P2019-2562 | 1 | 163860 | AM 27 Blood THC Quant by LC-QQQ |
| P2019-2572 | 1 | 163861 | AM 27 Blood THC Quant by LC-QQQ |
| P2019-2594 | 1 | 163862 | AM 27 Blood THC Quant by LC-QQQ |
| P2019-2777 | 1 | 163863 | AM 27 Blood THC Quant by LC-QQQ |



TS

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

Extraction Date: 09/16/19
Plate lot#: IDP-108-190716

Analyst: Tamara Salazar
Plate Expiration: 01/16/2020

**Mobile phase A**: 0.1% Formic Acid in LCMS Water
MTBE LCMS Methanol
**Blank Blood Lot**: Hemostat 445283-2
**LCMS-QQQ ID**: 069901

**Mobile phase B:** 0.1% Formic acid in Acetonitrile
Hexane
**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.
☒ 3. Create worklist:

## Analytic:

☒ 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
☒ 2. Pipette **1000µL blood/urine (calibrated pipette) Pipette ID: 3** in wells of analytical (standards) plate.
☒ 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 067105*
☒ 4. Pipette **500µL 0.1% formic acid in water** in wells of analytical plate for blood samples.
☒ 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
☒ 6. Transfer **800µL of blood+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)*** Manifold ID: 067104
☒ 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. *SPE Dry ID: 067103*
☒ 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.
Worklist path: D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS
Batch Name THCQ TS
☒ 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 and OH-THC 3ng/mL (quantitative), Carboxy-THC: 10ng/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? Y / N
☒ 6 Enter QCs into control charting.
☒ 7 Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

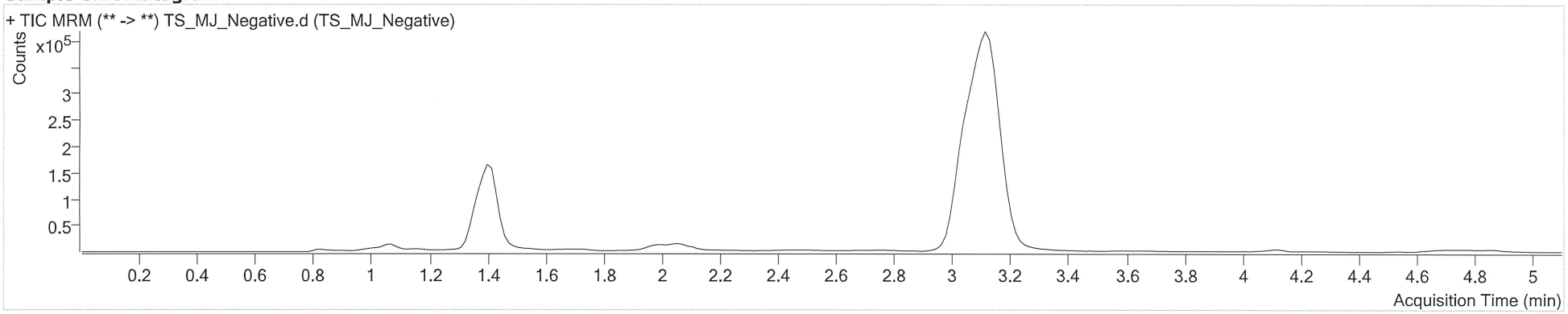
COMMENTS: *Curves limited: THC 3-100, THC-COOH 10-250, THC-OH 3-100*

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 25\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/17/2019 8:17:47 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Negative.d |
| **Type** | Sample | **Sample** | TS_MJ_Negative |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-A2 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 4:11:49 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**

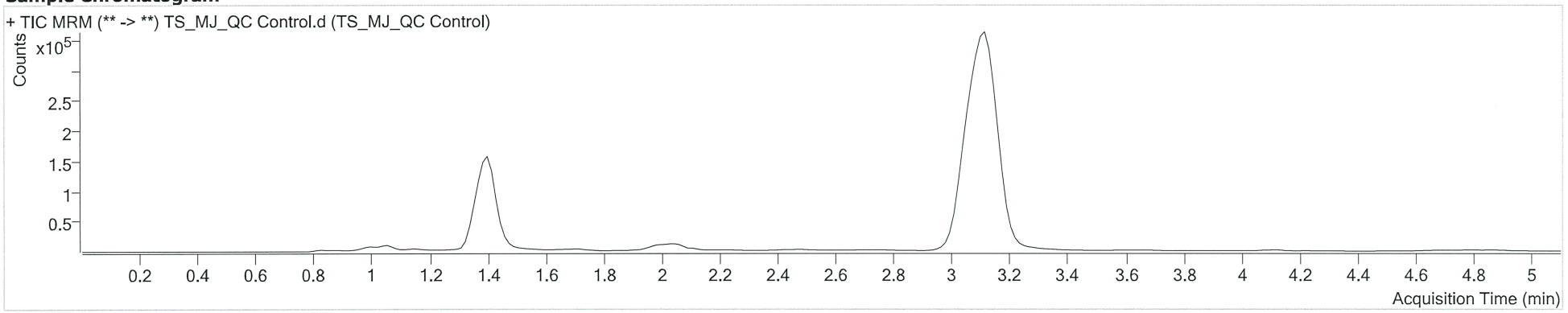


# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_QC Control.d |
| **Type** | Sample | **Sample** | TS_MJ_QC Control |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-H1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:56:36 AM | | |
| **Sample Info.** | | | |

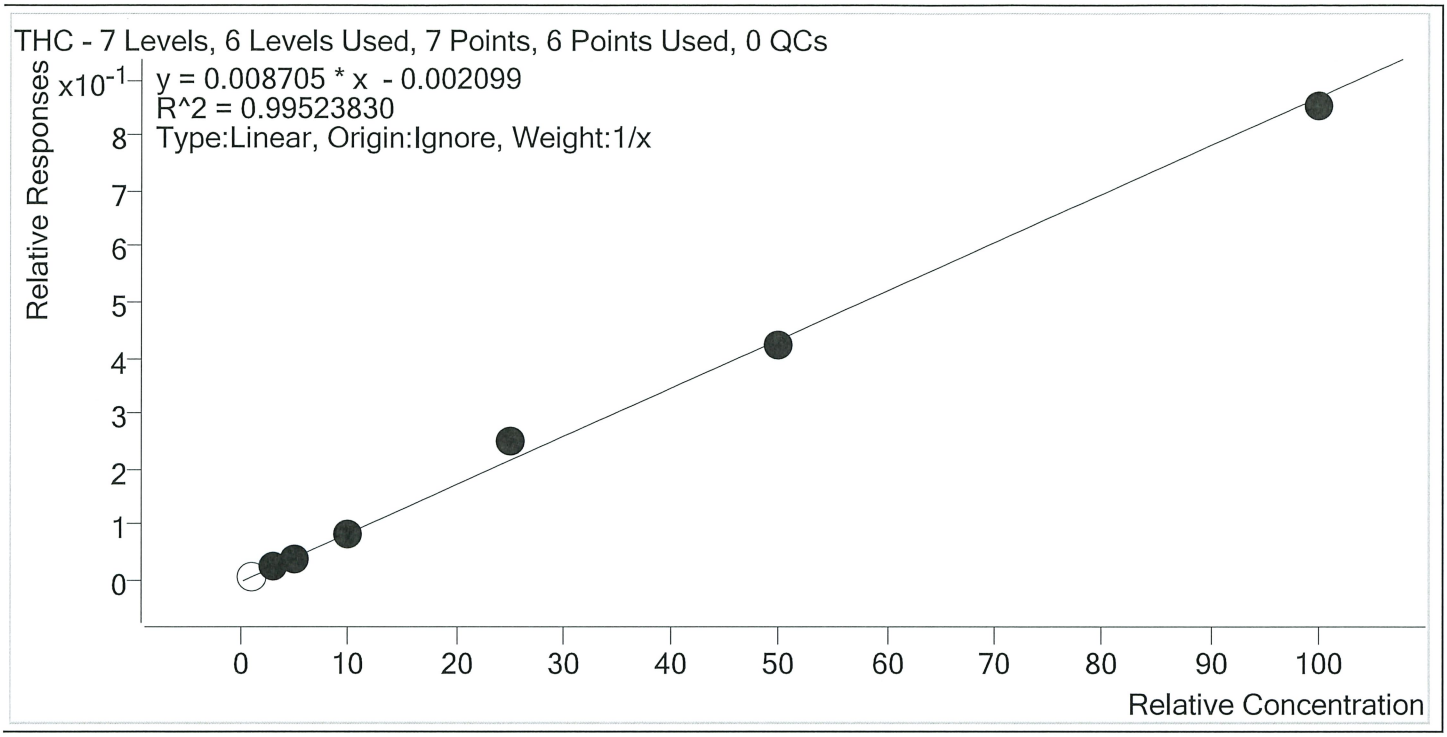
**Sample Chromatogram**




| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.134 | 92669 | 620.25 | 30.1 | ∞ | 2628842 | 4.2905 ng/ml |
| THC-COOH | 1.429 | 47061 | 767.00 | 55.0 | 844.82 | 141588 | 14.6005 ng/ml |
| THC-OH | 1.408 | 46919 | ∞ | 10.1 | 41.72 | 525642 | 4.1229 ng/ml |

# AM #27 Cannabinoids Quant. Calibration Curve Report

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Last Cal. Update** | 9/21/2019 7:29 AM |
| **Analyst Name** | ISP\datastor |
| **Analyte** | THC |
| **Internal Standard** | THC-D3 |

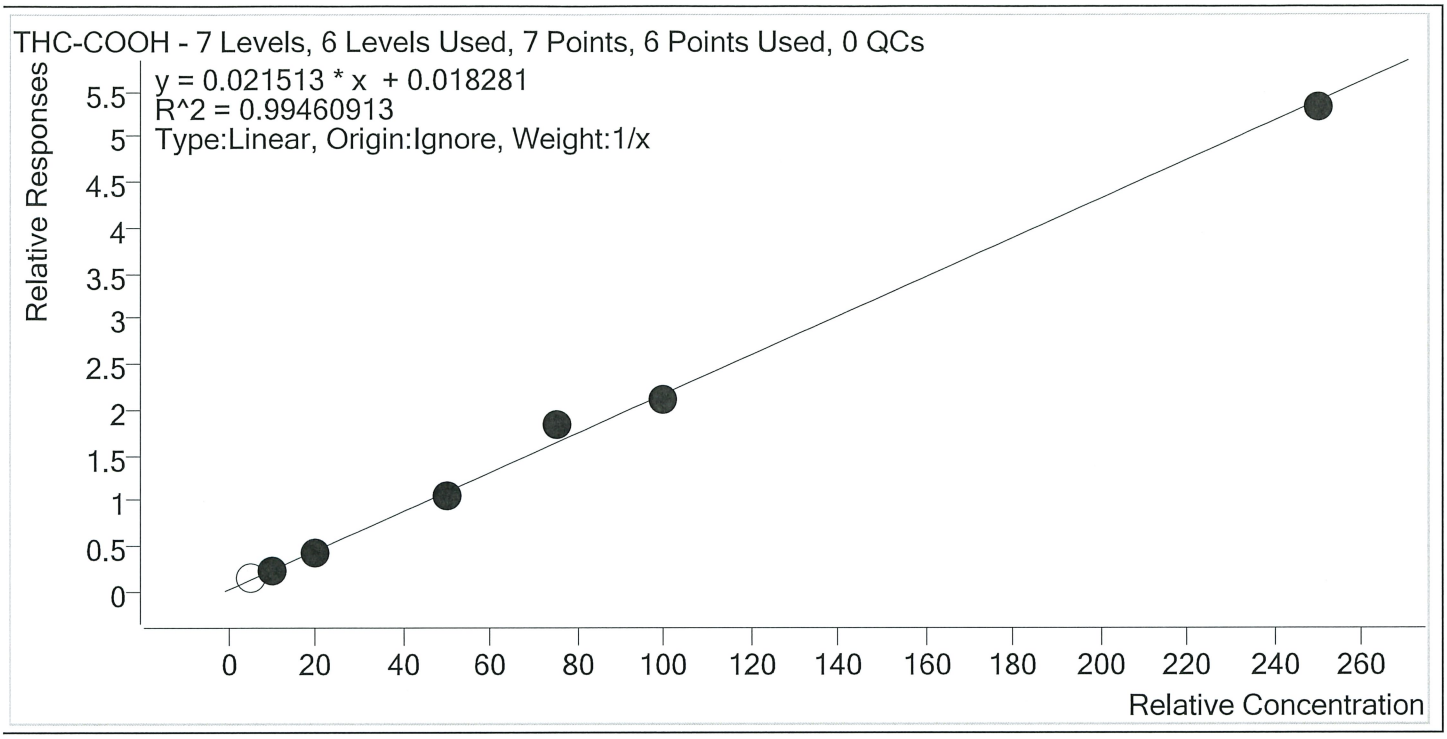



| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|---|---|---|---|---|---|
| TS_MJ_Cal 1 | 1 | × | 1.0 | 1.2 | 116.0 |
| TS_MJ_Cal 2 | 2 | ✓ | 3.0 | 3.0 | 98.7 |
| TS_MJ_Cal 3 | 3 | ✓ | 5.0 | 4.8 | 95.1 |
| TS_MJ_Cal 4 | 4 | ✓ | 10.0 | 9.5 | 95.1 |
| TS_MJ_Cal 5 | 5 | ✓ | 25.0 | 28.8 | 115.2 |
| TS_MJ_Cal 6 | 6 | ✓ | 50.0 | 48.9 | 97.7 |
| TS_MJ_Cal 7 | 7 | ✓ | 100.0 | 98.1 | 98.1 |

TS

# AM #27 Cannabinoids Quant. Calibration Curve Report

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Last Cal. Update** | 9/21/2019 7:29 AM |
| **Analyst Name** | ISP\datastor |
| **Analyte** | THC-COOH |
| **Internal Standard** | THC-COOH-D9 |

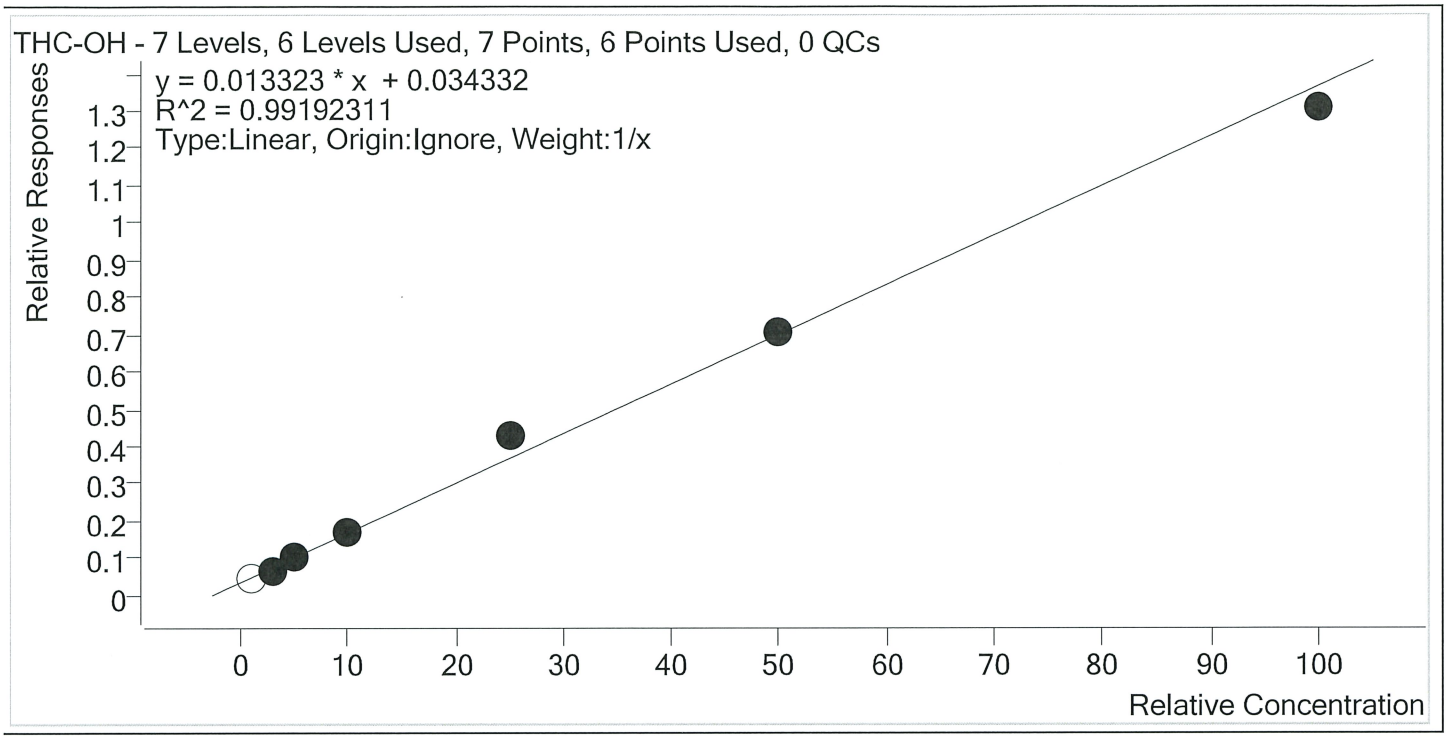



| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|---|---|---|---|---|---|
| TS_MJ_Cal 1 | 1 | × | 5.0 | 6.3 | 125.4 |
| TS_MJ_Cal 2 | 2 | ✓ | 10.0 | 10.4 | 103.6 |
| TS_MJ_Cal 3 | 3 | ✓ | 20.0 | 18.4 | 92.2 |
| TS_MJ_Cal 4 | 4 | ✓ | 50.0 | 47.6 | 95.2 |
| TS_MJ_Cal 5 | 5 | ✓ | 75.0 | 85.1 | 113.5 |
| TS_MJ_Cal 6 | 6 | ✓ | 100.0 | 96.9 | 96.9 |
| TS_MJ_Cal 7 | 7 | ✓ | 250.0 | 246.6 | 98.6 |

TS

# AM #27 Cannabinoids Quant. Calibration Curve Report

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Last Cal. Update** | 9/21/2019 7:29 AM |
| **Analyst Name** | ISP\datastor |
| **Analyte** | THC-OH |
| **Internal Standard** | THC-OH-D3 |



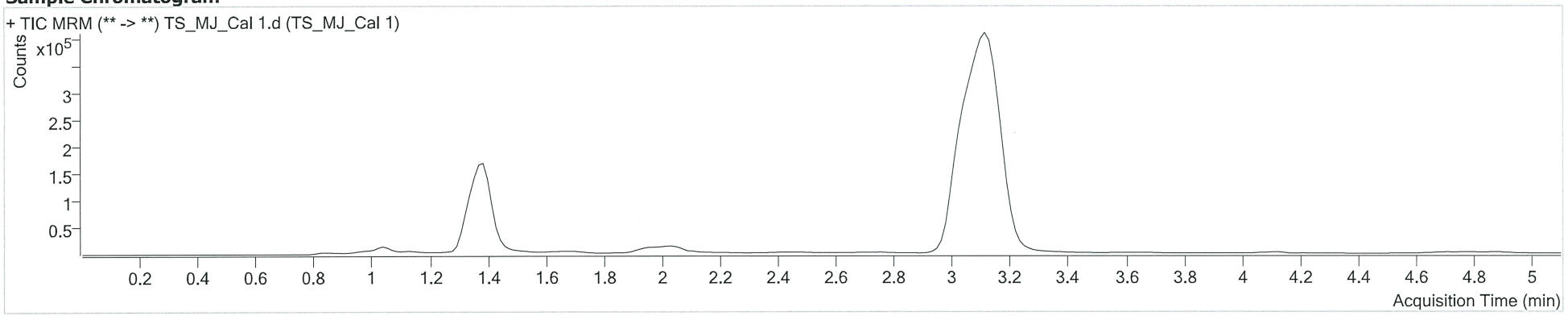

| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|---|---|---|---|---|---|
| TS_MJ_Cal 1 | 1 | × | 1.0 | 1.0 | 97.3 |
| TS_MJ_Cal 2 | 2 | ✓ | 3.0 | 2.6 | 88.0 |
| TS_MJ_Cal 3 | 3 | ✓ | 5.0 | 4.9 | 98.1 |
| TS_MJ_Cal 4 | 4 | ✓ | 10.0 | 9.9 | 98.7 |
| TS_MJ_Cal 5 | 5 | ✓ | 25.0 | 29.8 | 119.1 |
| TS_MJ_Cal 6 | 6 | ✓ | 50.0 | 50.2 | 100.3 |
| TS_MJ_Cal 7 | 7 | ✓ | 100.0 | 95.6 | 95.6 |

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Cal 1.d |
| **Type** | Cal | **Sample** | TS_MJ_Cal 1 |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-A1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:03:08 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**



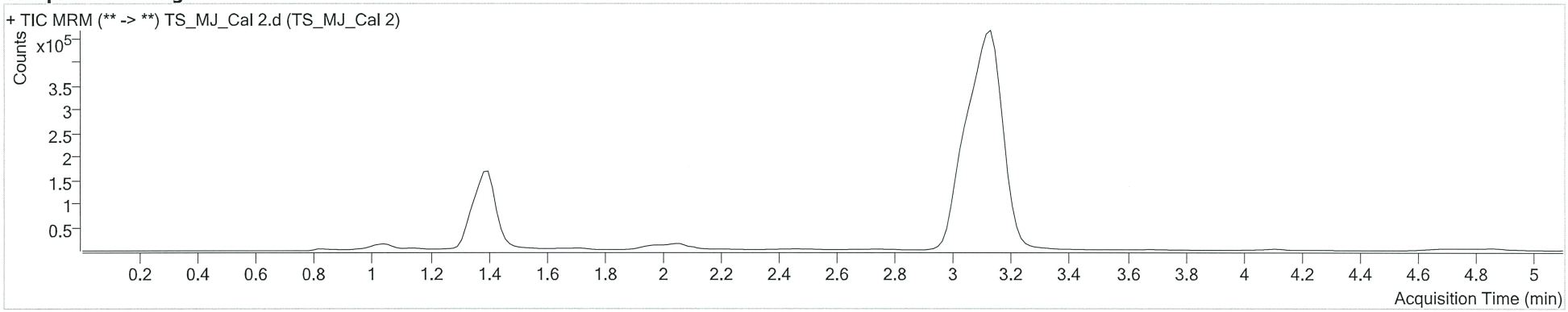

| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.134 | 30355 | 122.26 | 33.3 | 46.12 | 3795239 | 1.1599 ng/ml |
| THC-COOH | 1.399 | 28129 | ∞ | 43.1 **Low** | 108.70 | 183669 | 6.2692 ng/ml |
| THC-OH | 1.393 | 32441 | ∞ | 5.1 **Low** | 6.43 **Low** | 685853 | 0.9733 ng/ml |

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Cal 2.d |
| **Type** | Cal | **Sample** | TS_MJ_Cal 2 |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-B1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:11:00 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**



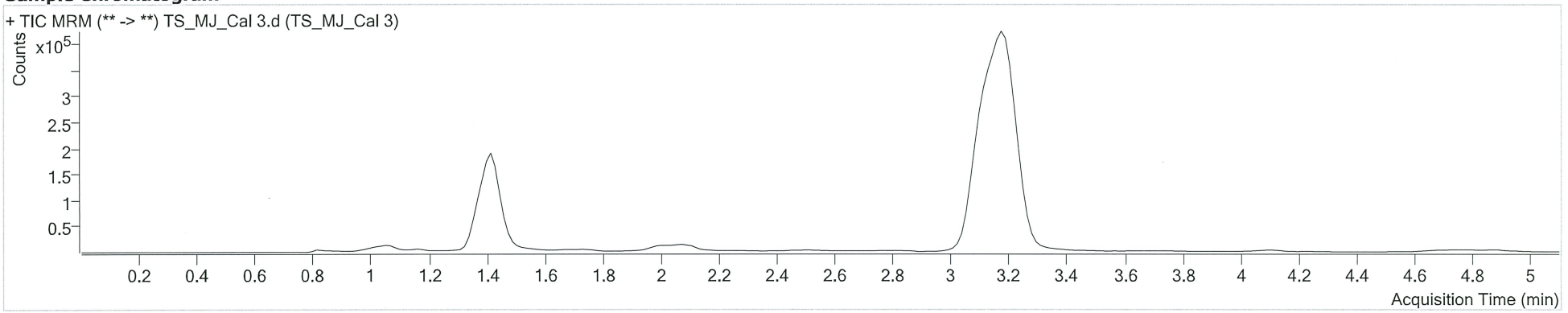

| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.134 | 94127 | 203.67 | 30.5 | ∞ | 3973457 | 2.9624 ng/ml |
| THC-COOH | 1.429 | 42965 | 84.85 | 52.0 | 141.26 | 178182 | 10.3588 ng/ml |
| THC-OH | 1.408 | 45839 | ∞ | 9.7 | 35.01 | 659391 | 2.6410 ng/ml |

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Cal 3.d |
| **Type** | Cal | **Sample** | TS_MJ_Cal 3 |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-C1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:18:37 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**



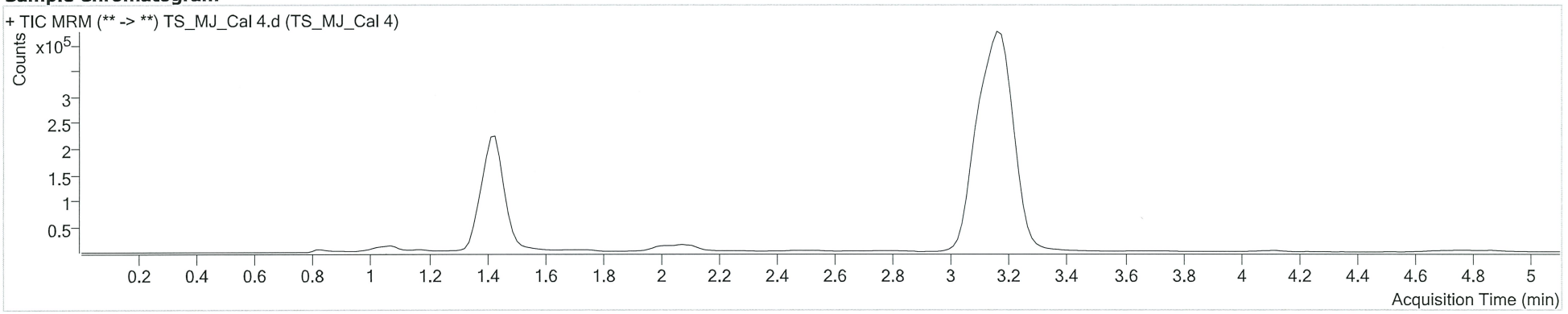

| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.194 | 139526 | 276.25 | 28.7 | 45.85 | 3552354 | 4.7530 ng/ml |
| THC-COOH | 1.444 | 71095 | 149.52 | 60.5 | 485.19 | 171329 | 18.4391 ng/ml |
| THC-OH | 1.423 | 63395 | ∞ | 10.0 | 67.56 | 635783 | 4.9073 ng/ml |

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Cal 4.d |
| **Type** | Cal | **Sample** | TS_MJ_Cal 4 |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-D1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:26:11 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.179 | 271734 | 406.55 | 28.5 | 401.77 | 3366741 | 9.5126 ng/ml |
| THC-COOH | 1.444 | 177457 | 366.18 | 61.9 | 947.28 | 170231 | 47.6070 ng/ml |
| THC-OH | 1.438 | 104423 | ∞ | 12.0 | 158.13 | 629645 | 9.8710 ng/ml |

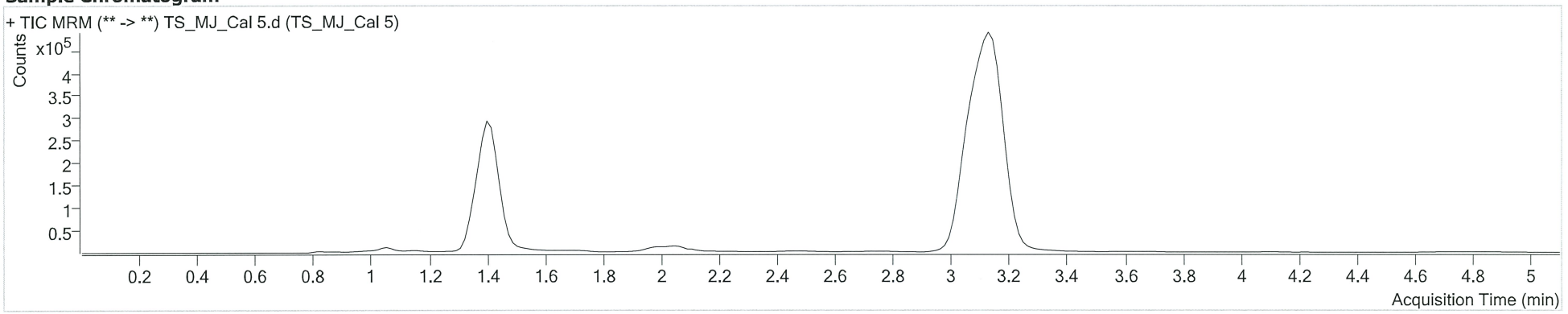
TS

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Cal 5.d |
| **Type** | Cal | **Sample** | TS_MJ_Cal 5 |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-E1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:33:47 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**



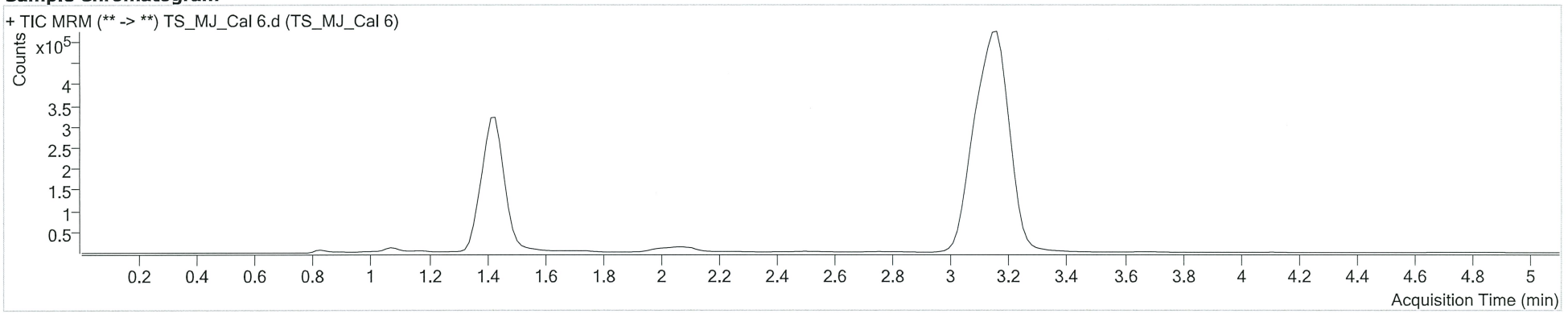

| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.149 | 789159 | 2082.26 | 27.5 | ∞ | 3173279 | 28.8085 ng/ml |
| THC-COOH | 1.429 | 294342 | 708.97 | 62.5 | 1514.72 | 159207 | 85.0896 ng/ml |
| THC-OH | 1.408 | 259511 | ∞ | 13.4 | ∞ | 601862 | 29.7866 ng/ml |

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Cal 6.d |
| **Type** | Cal | **Sample** | TS_MJ_Cal 6 |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-F1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:41:24 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**



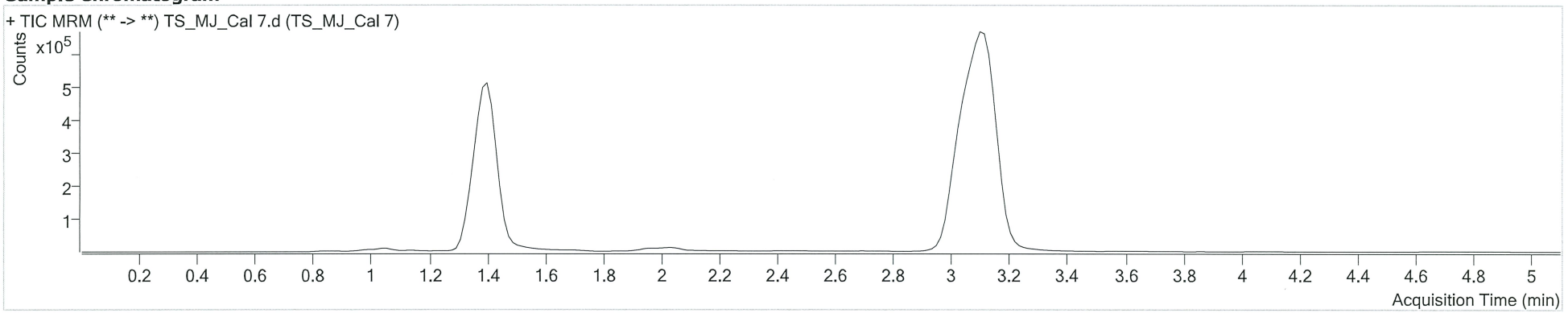

| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.164 | 1209231 | 1416.50 | 27.6 | ∞ | 2856439 | 48.8705 ng/ml |
| THC-COOH | 1.444 | 316856 | 252.75 | 62.6 | 4373.37 | 150660 | 96.9117 ng/ml |
| THC-OH | 1.423 | 405611 | ∞ | 13.8 | 1164.80 | 577189 | 50.1690 ng/ml |

# AM #27 Cannabinoids Quant. Results

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2019\AM 27\091619 MDS SP TS\QuantResults\THCQ_TS.batch.bin |
| **Calibration Last Update** | 9/21/2019 7:29:40 AM |

| | | | |
|---|---|---|---|
| **Instrument** | Falco | **Data File** | TS_MJ_Cal 7.d |
| **Type** | Cal | **Sample** | TS_MJ_Cal 7 |
| **Acq. Method** | AM 27 THC quant.m | | |
| **Sample Position** | P4-G1 | **Comment** | |
| **Injection Volume** | 10 | | |
| **Acq. Date-Time** | 9/17/2019 3:49:00 AM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | S/N | Ratio | S/N | ISTD Resp. | Final Conc. |
|---|---|---|---|---|---|---|---|
| THC | 3.119 | 2365150 | 8325.08 | 27.3 | ∞ | 2776538 | 98.0930 ng/ml |
| THC-COOH | 1.414 | 731354 | 2182.66 | 62.8 | 3436.21 | 137389 | 246.5938 ng/ml |
| THC-OH | 1.393 | 712130 | ∞ | 14.2 | 31122.40 | 544297 | 95.6251 ng/ml |