REVIEWED
By Anne Nord at 9:41 am, Jul 21, 2020

7/14/2020

BW

**Worklist: 4360**

| LAB_CASE | ITEM | ITEM_TYPE | DESCRIPTION |
|---|---|---|---|
| C2020-1186 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1192 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1207 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1227 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1235 | 1 | UCK | AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ |
| C2020-1243 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1244 | 2 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1254 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1256 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1257 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1282 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1292 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1297 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1298 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1319 | 2 | UCK | AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ |
| C2020-1323 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1330 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1352 | 2 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1356 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1357 | 5 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1358 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |

**Worklist: 4360**

BW

| LAB_CASE | ITEM | ITEM_TYPE | DESCRIPTION |
|---|---|---|---|
| C2020-1359 | 1 | UCK | AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ |
| C2020-1360 | 3 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1373 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |
| C2020-1390 | 1 | UCK | AM 25/AM 26 Urine MultiDrug/THC Screen by LC-QQQ |

BW

**Worklist: 4364**

| LAB_CASE | ITEM | ITEM_TYPE | DESCRIPTION |
|---|---|---|---|
| C2020-1403 | 1 | BCK | AM 25/AM 26 Blood MultiDrug/THC Screen by LC-QQQ |

BW

# AM# 25: Multi-Drug Screen in Blood and Urine by LC-MS/MS

Extraction Date: 7/15/20 Analyst: Britany Wylie
Plate lot#: 200511 Plate Expiration: 11/11/2020

**Mobile phase A**: 10mM Amm Form **Mobile phase B:** 0.1% Formic Acid in MeOH
0.5M Ammonium Hydroxide Ethyl Acetate LC Methanol
**Blank Blood Lot**: 20A52255 **Blank Urine lot:** 6920 **Column**: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)
**LCMS-QQQ ID**: 69679

## 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 pipette: 250 ul urine in blank well, add 40 ul BG Turbo, add 100 ul 500 mm sodium phosphate buffer mix for at least five minutes ambient temperature.
Pipette **250 µL blood (calibrated pipette)** or 250 ul urine in wells of analytical (standards) plate. **Pipette ID: 1926134**
☒ 3. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
☒ 4. Pipette **250 µL of 0.5 M ammonium hydroxide** in wells of analytical plate.
☒ 5. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
☒ 6. Transfer **300 µL of blood or urine+base** 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: 66792*
☒ 8. Wait 5 minutes.
☒ 9. Add **900 µL ethyl acetate.**
☒ 10. Wait 5 minutes.
☒ 11. Apply positive pressure for approx. 10-15 seconds. ***(12-15 PSI- Selector to the left).***
☒ 12. Add **900 µL ethyl acetate.**
☒ 13. Wait 5 minutes.
☒ 14. Apply positive pressure for approx. 10-15 seconds. ***(12-15 PSI- Selector to the left).***
☒ 15. Remove plate containing eluate. **Urine samples add 50ul 1% HCl in MeOH** Place on SPE Dry and evaporate to dryness at approx. 35°C.
*SPE Dry ID: 66819*
☒ 16. Reconstitute in **100 µL 20% LC MeOH** in LC Water and heat seal plate with foil. Place in autosampler and run worklist.

## Post-Analytic

☒ 1. Open quantitation software and create a new quantitation batch.
☒ 2. Make necessary changes to integration limits
☒ 3. Evaluate samples, S/N of primary transition >5 and S/N of secondary transition >3 or evaluation of peak symmetry and resolution. Within +/- 2% or 0.1 min RT of administrative control. Calculated concentration 5 or greater or 2-5 for discretionary range.
☒ 4. Did all QCs pass for each analyte? (If no is it described in comments?)
☒ 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:

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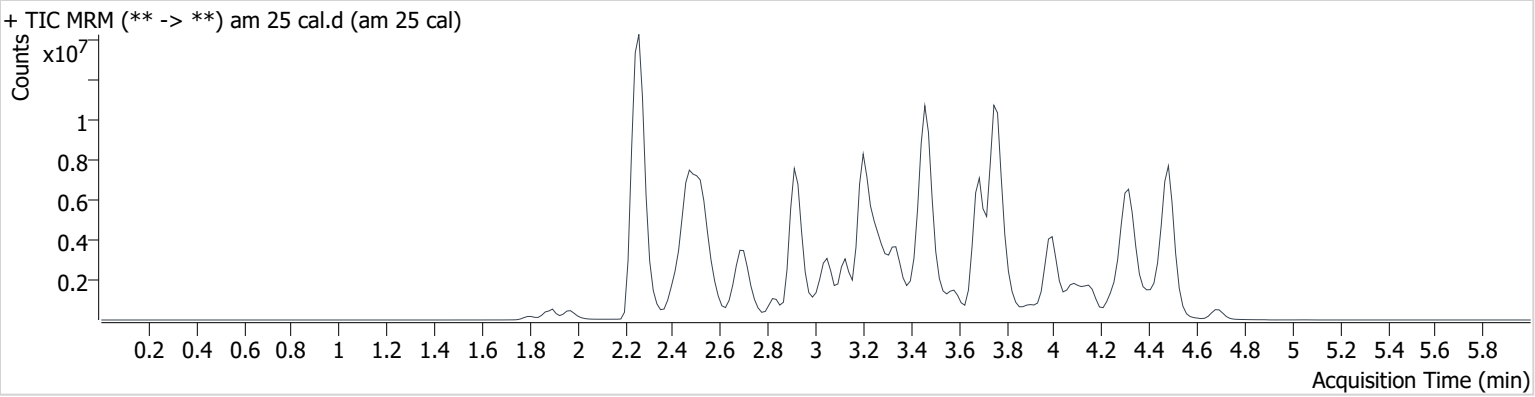
# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 25.batch.bin
**Calibration Last Update** 7/16/2020 9:49:09 AM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | am 25 cal.d |
| **Type** | Cal | **Sample** | am 25 cal |
| **Acq. Method** | MDS 5-27-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P2-A1 | **Comment** | |
| **Injection Volume** | 2.5 | | |
| **Acq. Date-Time** | 7/15/2020 1:16:12 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|---|---|---|---|---|---|---|
| 6-MAM | 2.453 | 34174 | 2548.6 | 28617.4 | 995844 | 10.000 |
| 7-aminoclonazepam | 3.294 | 1137116 | 960553.4 | 288.1 | 4941181 | 10.000 |
| 7-aminoflunitrazepam | 3.522 | 1765676 | 320.4 | 480.0 | 4941181 | 10.000 |
| Acetyl Fentanyl | 3.427 | 90878 | 55.4 | 35520.8 | 17392283 | 10.000 |
| Acetyl Norfentanyl | 2.460 | 176702 | 1549.8 | 117.5 | 17392283 | 10.000 |
| a-hydroxyalprazolam | 4.315 | 225508 | 256.1 | 498.8 | 4941181 | 10.000 |
| alpha-hydroxymidazolam | 4.329 | 1359986 | 473.1 | 3081.6 | 4941181 | 10.000 |
| alpha-PHP | 3.436 | 1155748 | 1586.5 | 247.8 | 4754689 | 10.000 |
| alpha-PVP | 3.133 | 2354251 | 1070.9 | 392.6 | 4754689 | 10.000 |
| Alprazolam | 4.439 | 1784277 | 882.8 | 417.9 | 17869640 | 10.000 |
| Amitriptyline | 4.108 | 318691 | 124.2 | 64.3 | 1383082 | 10.000 |
| Amphetamine | 2.451 | 1734535 | 1599.9 | 2074.1 | 4754689 | 10.000 |
| Benzoylecgonine | 3.065 | 624165 | 404.9 | 437.5 | 290732 | 10.000 |
| Brompheniramine | 3.704 | 25019 | 210.9 | 17.9 | 17926181 | 10.000 |
| Buprenorphine | 3.776 | 81855 | 312.6 | 12024.2 | 357193 | 10.000 |
| Bupropion | 3.345 | 1686788 | 421.9 | 938.3 | 5944137 | 10.000 |
| Carbamazepine | 4.004 | 5955979 | ∞ | 3772.8 | 396655 | 10.000 |
| Carisoprodol | 3.987 | 1149100 | 334.2 | 96.0 | 6161739 | 10.000 |
| Chlordiazepoxide | 4.441 | 542088 | 93.9 | 1202.1 | 17869640 | 10.000 |
| Chlorpheniramine | 3.601 | 5617 | 10.8 | 2023.9 | 17926181 | 10.000 |
| Citalopram | 3.750 | 802633 | 344.0 | 138510.5 | 17926181 | 10.000 |
| Clomimpramine | 4.331 | 470257 | 743.2 | 414.3 | 17926181 | 10.000 |
| Clonazepam | 4.255 | 1593676 | 1100.4 | 1789.5 | 17869640 | 10.000 |
| Clonazolam | 4.160 | 1161559 | 844.1 | 125355.9 | 17869640 | 10.000 |
| Cocaethylene | 3.428 | 2775658 | 2648.8 | 1154685.1 | 4754689 | 10.000 |
| Cocaine | 3.200 | 3504098 | ∞ | 440.5 | 20829425 | 10.000 |
| Codeine | 2.320 | 274105 | 1353.1 | 1032.1 | 6896359 | 10.000 |
| Cyclobenzaprine | 4.031 | 550167 | 1839.2 | 41.2 | 1383082 | 10.000 |
| Desipramine | 4.079 | 838819 | 316.1 | 214.6 | 1383082 | 10.000 |
| Dextromethorphan | 3.740 | 469837 | 1126.0 | 659.4 | 2530572 | 10.000 |
| Dextrorphan | 3.006 | 1482172 | 1200.0 | 1014121.1 | 2530572 | 10.000 |
| Diazepam | 4.703 | 961622 | 1071.5 | 442.3 | 17869640 | 10.000 |
| Dihydrocodeine | 2.288 | 698547 | 1398.5 | 1520.2 | 6896359 | 10.000 |
| Diphenhydramine | 3.695 | 2586419 | 1807.4 | 1434.2 | 17926181 | 10.000 |

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# AM #25 Multi-Drug Screen Results

| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|---|---|---|---|---|---|---|
| Doxepin | 3.815 | 446391 | 199.0 | 83.0 | 6647033 | 10.000 |
| Doxylamine | 3.250 | 5226654 | 743.2 | 13453.8 | 2530572 | 10.000 |
| EDDP | 3.754 | 1954284 | 996.0 | 433275.2 | 1164193 | 10.000 |
| Estazolam | 4.335 | 4276881 | 3562.7 | 549.3 | 17869640 | 10.000 |
| Etizolam | 4.450 | 168095 | 577.6 | 2051.2 | 17869640 | 10.000 |
| Fentanyl | 3.672 | 50238 | 25.6 | 14369.4 | 3117339 | 10.000 |
| Flualprazolam | 4.284 | 769975 | 579.7 | 934.7 | 17869640 | 10.000 |
| Flunitrazepam | 4.393 | 2306594 | 1945.8 | 2051.8 | 17869640 | 10.000 |
| Fluoxetine | 4.043 | 471191 | 799.9 | 54.3 | 1316797 | 10.000 |
| Flurazepam | 3.793 | 915380 | 1859.6 | 166.9 | 17869640 | 10.000 |
| Hydrocodone | 2.531 | 1070919 | 392.2 | 230.1 | 6896359 | 10.000 |
| Hydromorphone | 1.976 | 846425 | 361.1 | 1167.7 | 121645 | 10.000 |
| Imipramine | 4.076 | 993264 | 587125.2 | 363.5 | 1383082 | 10.000 |
| Ketamine | 2.947 | 2347734 | 3930.2 | 140.8 | 10548640 | 10.000 |
| Lamotrigine | 3.129 | 220220 | 1057.5 | 11105.9 | 17926181 | 10.000 |
| Levamisole | 2.476 | 1954986 | 775.5 | 285.3 | 20829425 | 10.000 |
| Levetireacetam | 2.267 | 1117535 | 3162.5 | 442.2 | 17926181 | 10.000 |
| Lorazepam | 4.240 | 422833 | 828.6 | 295.9 | 17869640 | 10.000 |
| Maprotiline | 4.109 | 224548 | 30.5 | 103.4 | 1383082 | 10.000 |
| MDA | 2.583 | 1633533 | 359.4 | 168.6 | 8438351 | 10.000 |
| MDEA | 2.827 | 2358308 | 868.4 | 422.5 | 8438351 | 10.000 |
| MDMA | 2.674 | 2895806 | 1042.3 | 452.1 | 8438351 | 10.000 |
| Meperidine | 3.206 | 1170149 | 632.9 | 336.5 | 2530572 | 10.000 |
| Meprobamate | 3.378 | 706280 | 876.2 | 178.0 | 6161739 | 10.000 |
| Methadone | 4.088 | 1209854 | 1160.3 | 352.4 | 1164193 | 10.000 |
| Methamphetamine | 2.557 | 2299076 | 152.1 | 356.5 | 8438351 | 10.000 |
| Methocarbamol | 3.284 | 374691 | 193.9 | 329.7 | 1164193 | 10.000 |
| Methylphenidate | 3.132 | 4817151 | 1720.1 | 722.2 | 9172798 | 10.000 |
| Metoprolol | 3.067 | 308427 | 372.1 | 370.4 | 2530572 | 10.000 |
| Midazolam | 4.239 | 343888 | 3032.4 | 6666.6 | 17869640 | 10.000 |
| Mirtazapine | 3.327 | 875583 | 1227.6 | 613.7 | 2530572 | 10.000 |
| Mitragynine | 3.822 | 70040 | 33024.9 | 214494.3 | 2530572 | 10.000 |
| Morphine | 1.796 | 144920 | 502.8 | 2249.8 | 121645 | 10.000 |
| Norbuprenorphine | 3.487 | 11484 | 5223.2 | 3443.9 | 357193 | 10.000 |
| Nordiazepam | 4.521 | 1056148 | 1864.4 | 676.8 | 17869640 | 10.000 |
| Norfentanyl | 2.933 | 3322801 | 1243.5 | 423.0 | 17392283 | 10.000 |
| Norhydrocodone | 2.518 | 52788 | 63.5 | 16429.3 | 121645 | 10.000 |
| norketamine | 2.918 | 434477 | 290.3 | 1394.5 | 10548640 | 10.000 |
| Normeperidine | 3.239 | 970584 | 346.9 | 277.2 | 17926181 | 10.000 |
| Noroxycodone | 2.470 | 856082 | 333.2 | 393.4 | 10548640 | 10.000 |
| Nortriptyline | 4.125 | 343178 | 126218.1 | 173.6 | 1383082 | 10.000 |
| O-desmethyl-tramadol | 2.490 | 5122115 | 9641.8 | 195.2 | 17926181 | 10.000 |
| Olanzapine | 3.031 | 300733 | 29.9 | 16.3 | 396655 | 10.000 |
| Oxazepam | 4.320 | 1992226 | 271.4 | 488.8 | 12863989 | 10.000 |
| Oxycodone | 2.468 | 2136963 | 910.9 | 933.8 | 10548640 | 10.000 |
| Oxymorphone | 1.881 | 1051716 | 383.0 | 461.8 | 121645 | 10.000 |
| Paroxetine | 4.070 | 71981 | 38.3 | 133.7 | 1316797 | 10.000 |
| Phenazepam | 4.464 | 2107081 | 1767.1 | 1589.6 | 17869640 | 10.000 |
| Phencyclidine | 3.574 | 1644487 | 721.0 | 306.3 | 2530572 | 10.000 |
| Phentermine | 2.724 | 716345 | 80.7 | 9.8 | 9172798 | 10.000 |
| Phenytoin | 3.911 | 843698 | 5459.9 | 441.2 | 396655 | 10.000 |
| Promethazine | 3.983 | 1107237 | 434.8 | 109.0 | 17926181 | 10.000 |
| Pseudoephedrine | 2.267 | 43087195 | 41413.8 | 65889.0 | 8438351 | 10.000 |
| Quetiapine | 3.930 | 870208 | 298036.2 | 107557.2 | 28143296 | 10.000 |
| Sertraline | 4.272 | 253089 | 73013.0 | 122.0 | 1316797 | 10.000 |
| Sufentanil | 3.945 | 36559 | 55.8 | 119.1 | 17392283 | 10.000 |
| Tapentadol | 3.073 | 2683180 | 560.7 | 1473.6 | 10548640 | 10.000 |
| Temazepam | 4.486 | 3153478 | 1430.0 | 366.6 | 17869640 | 10.000 |
| Tramadol | 3.037 | 5611342 | 2487.7 | 44.3 | 17926181 | 10.000 |
| Trazodone | 3.793 | 1317439 | 1017832.0 | 15880.9 | 6647033 | 10.000 |

am 25 cal

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# AM #25 Multi-Drug Screen Results

| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|---|---|---|---|---|---|---|
| Venlafaxine | 3.448 | 2831170 | 2331.7 | 244.6 | 1316797 | 10.000 |
| Zaleplon | 4.150 | 2041413 | 1509.7 | 375.6 | 28143296 | 10.000 |
| Zolpidem | 3.475 | 5369537 | 3641643.2 | 235937.3 | 28143296 | 10.000 |
| Zopiclone | 3.395 | 419862 | 343.0 | 1735.8 | 2120258 | 10.000 |

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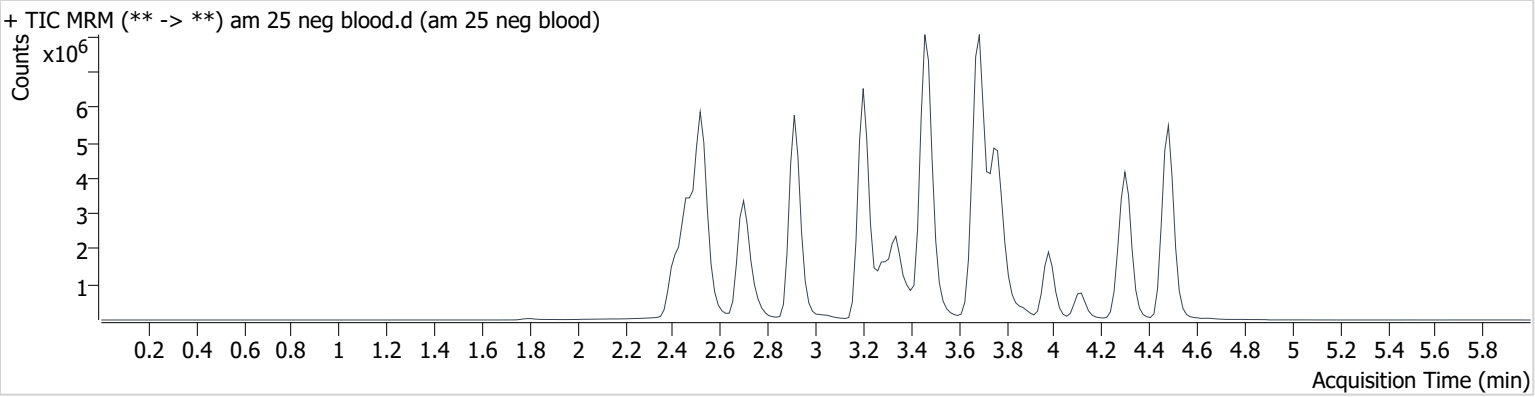
# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 25.batch.bin
**Calibration Last Update** 7/16/2020 9:49:09 AM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | am 25 neg blood.d |
| **Type** | Sample | **Sample** | am 25 neg blood |
| **Acq. Method** | MDS 5-27-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P2-E1 | **Comment** | |
| **Injection Volume** | 2.5 | | |
| **Acq. Date-Time** | 7/15/2020 1:29:36 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**



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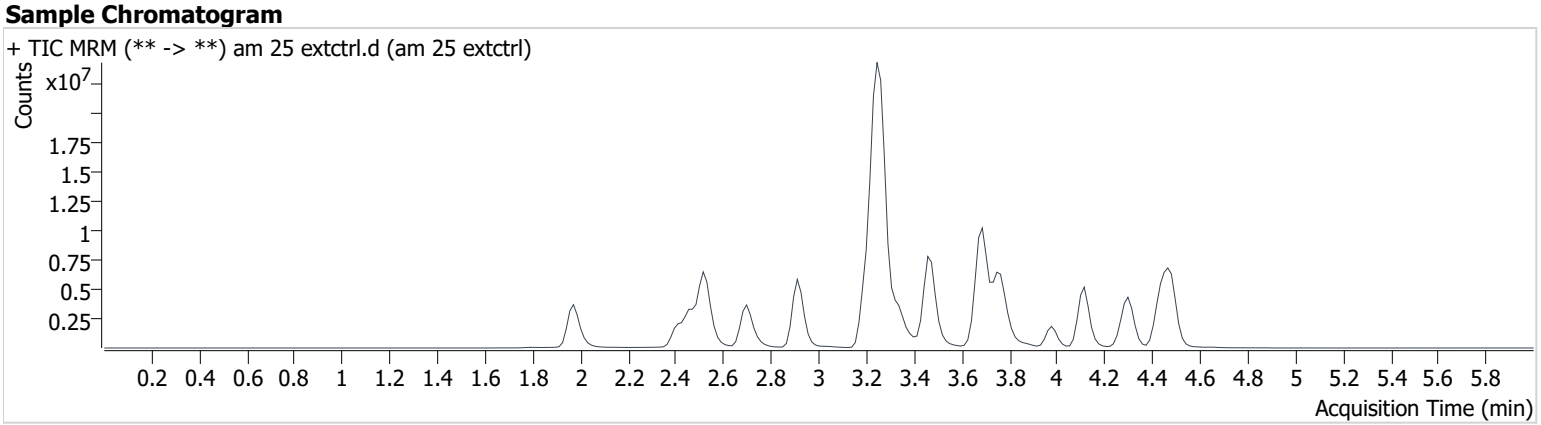
# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 25.batch.bin
**Calibration Last Update** 7/16/2020 9:49:09 AM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | am 25 extctrl.d |
| **Type** | Sample | **Sample** | am 25 extctrl |
| **Acq. Method** | MDS 5-27-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P2-F1 | **Comment** | |
| **Injection Volume** | 2.5 | | |
| **Acq. Date-Time** | 7/15/2020 1:36:17 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|---|---|---|---|---|---|---|
| Chlordiazepoxide | 4.441 | 7126903 | 1413.1 | 3625.0 | 18591907 | 126.364 |
| Doxylamine | 3.250 | 48755077 | 2039.0 | 938.7 | 5027536 | 46.953 |
| Hydromorphone | 1.976 | 7103101 | 1477.9 | 161166.7 | 120024 | 85.053 NE |
| Nortriptyline | 4.125 | 8923721 | 16561.1 | 1801.6 | 3741868 | 96.114 |

NE- Not Evaluated (hydromorphone)

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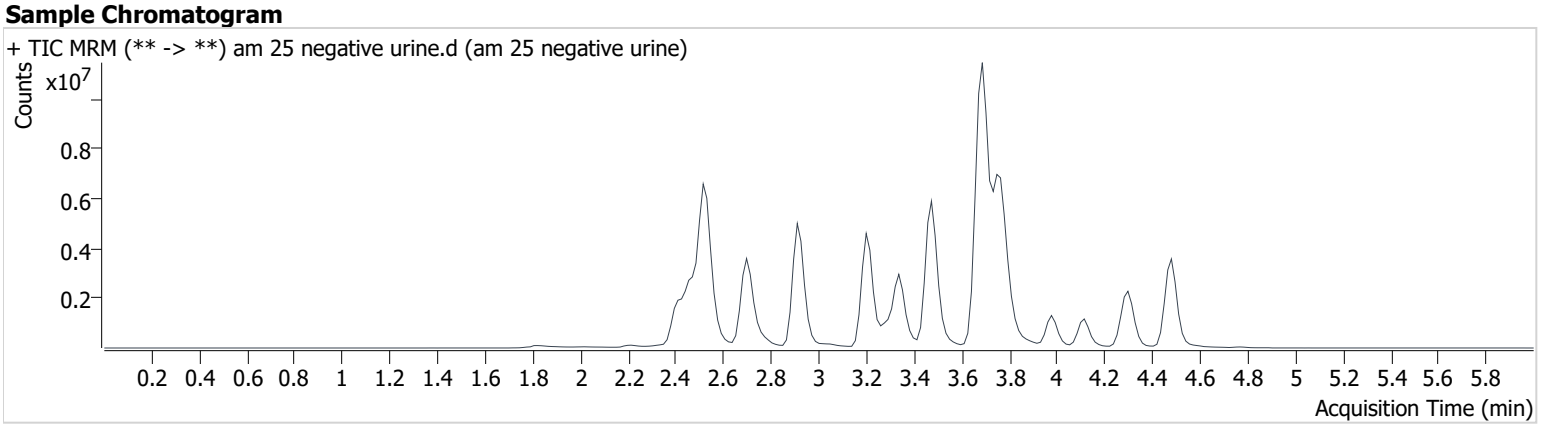
# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 25.batch.bin
**Calibration Last Update** 7/16/2020 9:49:09 AM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | am 25 negative urine.d |
| **Type** | Sample | **Sample** | am 25 negative urine |
| **Acq. Method** | MDS 5-27-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P2-E4 | **Comment** | |
| **Injection Volume** | 2.5 | | |
| **Acq. Date-Time** | 7/15/2020 4:10:08 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|---|---|---|---|---|---|---|
| 6-MAM | 2.362 **Low** | 1228 | 233.7 | | 753438 | 0.475 <5 |
| Normeperidine | 3.041 **Low** | 28769 | 25.0 | | 33687085 | 0.158 <5 |

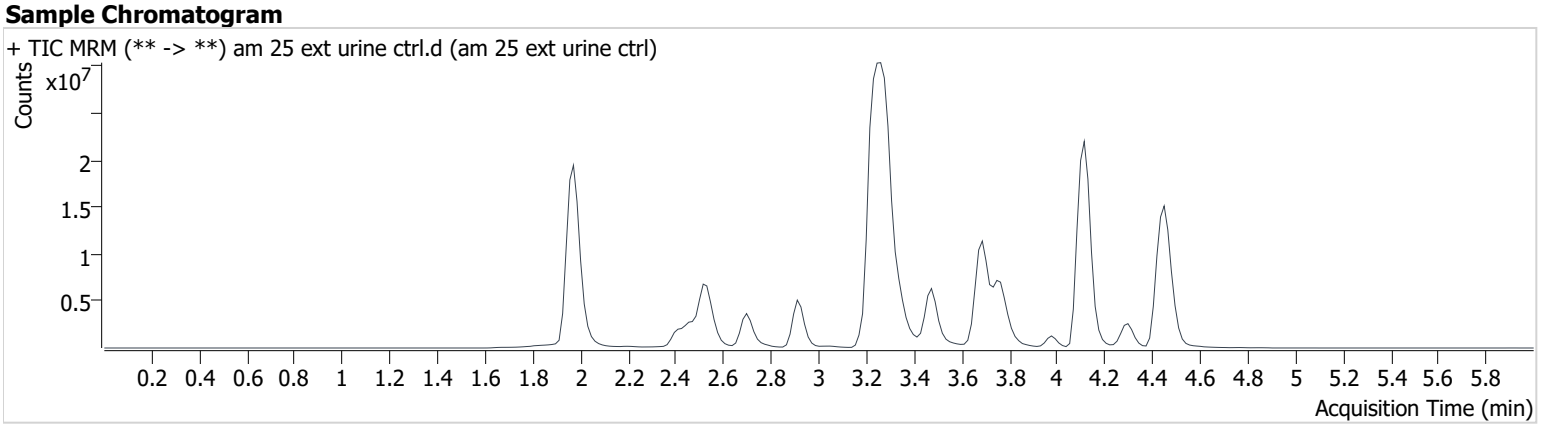
BW

# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 25.batch.bin
**Calibration Last Update** 7/16/2020 9:49:09 AM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | am 25 ext urine ctrl.d |
| **Type** | Sample | **Sample** | am 25 ext urine ctrl |
| **Acq. Method** | MDS 5-27-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P2-F4 | **Comment** | |
| **Injection Volume** | 2.5 | | |
| **Acq. Date-Time** | 7/15/2020 4:16:50 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. | |
|---|---|---|---|---|---|---|---|
| 6-MAM | 2.362 **Low** | 1382 | 615.5 | | 673654 | 0.598 | <5 |
| Chlordiazepoxide | 4.456 | 24503462 | 1709.8 | 3058.7 | 11426676 | 706.893 | |
| Doxylamine | 3.265 | 93886276 | 1311.5 | 1678.9 | 6322314 | 71.899 | |
| Hydromorphone | 1.976 | 40675316 | 3229.6 | 3738.8 | 135071 | 432.788 | NE |
| Methamphetamine | 2.557 | 2538688 | 213.7 | 140.4 | 16571442 | 5.623 | <32 |
| Nortriptyline | 4.125 | 48957946 | 176627.0 | 2903.0 | 3531201 | 558.765 | |
| Oxazepam | 4.137 **Low** | 234304 | 137.0 | 2.3 **Low** | 6579397 | 2.299 | <5 |

Hydromorphone not evaluated in this control

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Toxicology AM method 25/28 urine external control prep

working solution 10000 ng/ml in meoh Hydromorphone, Doxylamine, Nortriptyline, Chlordiazepoxide

Stock solution 1mg/ml 50 ul each in 4800ul meOH (Alfa Aesar lot Z22F712)

ppd 5/6/20: Exp: 6/1/20 lot 5620 by baw

| Drug | lot | expiration |
|---|---|---|
| Hydromorphone | FE04101502 | 6/1/2020 |
| Doxylamine | FN11201501 | 11/1/2020 |
| nortriptyline | FN06191503 | 8/1/2020 |
| chlordiazepoxide | FE07241502 | 8/1/2020 |

**AM 25/28 control 500 ul working solution (5620) in 4500 ul negative urine (1000ng/mL Expected concentration)**

ppd 5/6/20, exp 6/1/20 lot u32420 negative urine 41520 by BAW

*ok to use until 8/1/20 (evaluating doxylamine, nortriptyline, and chlordiazepoxide)*

**AM 25/28 Blood Control: 50ul working solution (562020) in 4950 ul neg blood (100ng/mL Expected concentration)**

ppd 5/6/20, exp 6/1/20 lot b3920 neg blood lot 20A52255 by BAW

*ok to use until 8/1/20 (evaluating doxylamine, nortriptyline, and chlordiazepoxide)*

BW

# AM# 26: THC and Metabolites Screen in Blood by LC-MS/MS

Extraction Date: 7/14/2020 Analyst: Britany Wylie

Plate lot#: 200303 Plate Expiration: 09/03/2020

**Mobile phase A**: 10mM Ammonium Formate 0.1% Formic Acid in Water **Mobile phase B:** 0.1% Formic acid in MeOH MTBE Hexane
**Blank Blood Lot**: 20A52255 **Urine Blank:** 6920 **Column**: Phenomenex Phenyl Hexyl (4.6x50mm: 2.6 um)
**LCMS-QQQ ID**: 69679

## 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 1.5 ml urine to blank plate, add 250 ul 1N KOH mix and incubate at 40 degrees for 15 minutes.
Pipette **1000 µL blood (calibrated pipette)** in wells of analytical (standards) plate. **Pipette ID: K52558g**
Pipette 1000 ul urine to analytical (standards) plate.
☒ 3. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
☒ 4. Pipette **500 µL 0.1% formic acid in blood** wells **500 ul saturated phosphate buffer in urine** wells of analytical plate.
☒ 5. Place on shaking incubator at ambient temp., 900 rpm for 15 minutes.
☒ 6. Transfer **800 µL 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)*** Manifold ID: 66792
☒ 8. Wait 5 minutes.
☒ 9. Add **2.25 mL MTBE** (add in 3 increments of 750 µL).
☒ 10. Wait 5 minutes.
☒ 11. Apply positive pressure for approx. 10-15 seconds. ***(12-15 PSI- Selector to the left).***
☒ 12. Add **2.25 mL hexane** (add in 3 increments of 750 µL).
☒ 13. Wait 5 minutes.
☒ 14. Apply positive pressure for approx. 10-15 seconds. ***(12-15 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: 66819*
☒ 16. Reconstitute in **100 µL 100% LCMS MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

## Post-Analytic

☒ 1. Create batch and process data.
☒ 2. Calculated sample concentration of 3 ng/mL or greater for THC and THC-OH, a calculated sample concentration of 10 ng/mL or greater for Carboxy-THC.
☒ 3. Retention time within +/- 2% or +/-0.100 min whichever is greater of the average retention time of the calibrators.
☒ 4. Did all QCs pass for each analyte? Yes
☒ 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: *urines evaluated for Carboxy-THC only,*
*Curves limited: THC 1-50, carboxy-THC 5-100, THC-OH 1-100*

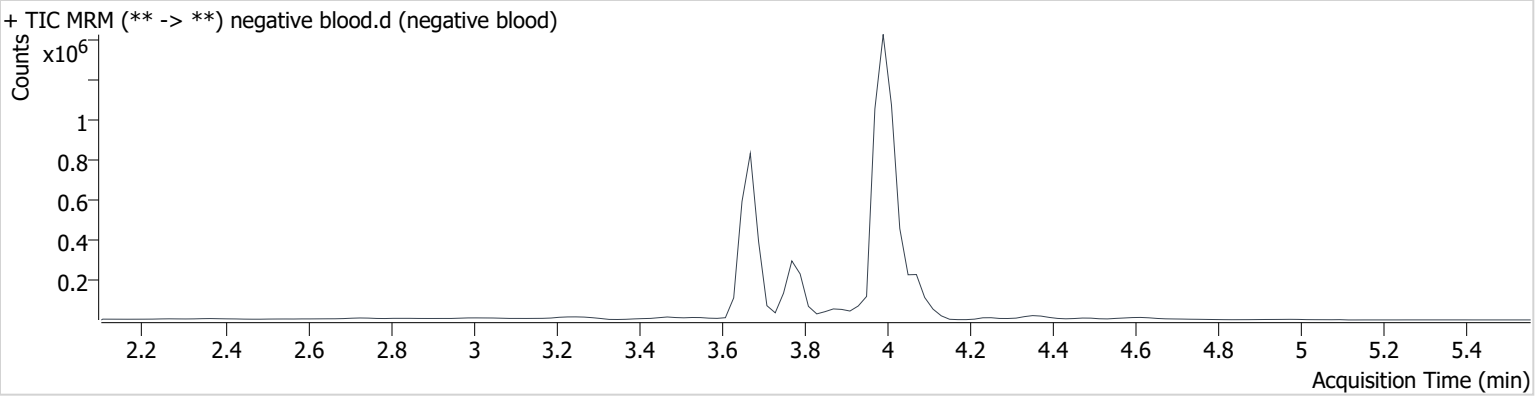
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | negative blood.d |
| **Type** | Sample | **Sample** | negative blood |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-A2 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 6:29:51 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**



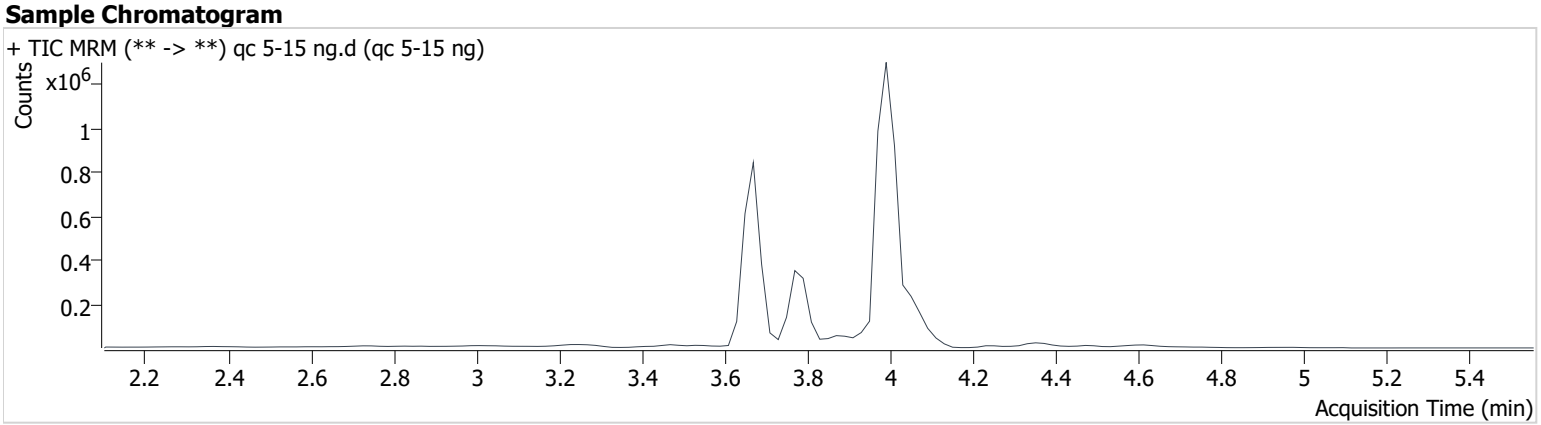
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | qc 5-15 ng.d |
| **Type** | QC | **Sample** | qc 5-15 ng |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-H1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 6:23:14 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.064 | 13343 | 390529 | 4.396 | ng/ml |
| THC-COOH | 3.792 | 123001 | 727241 | 15.070 | ng/ml |
| THC-OH | 3.676 | 211061 | 2214428 | 4.902 | ng/ml |

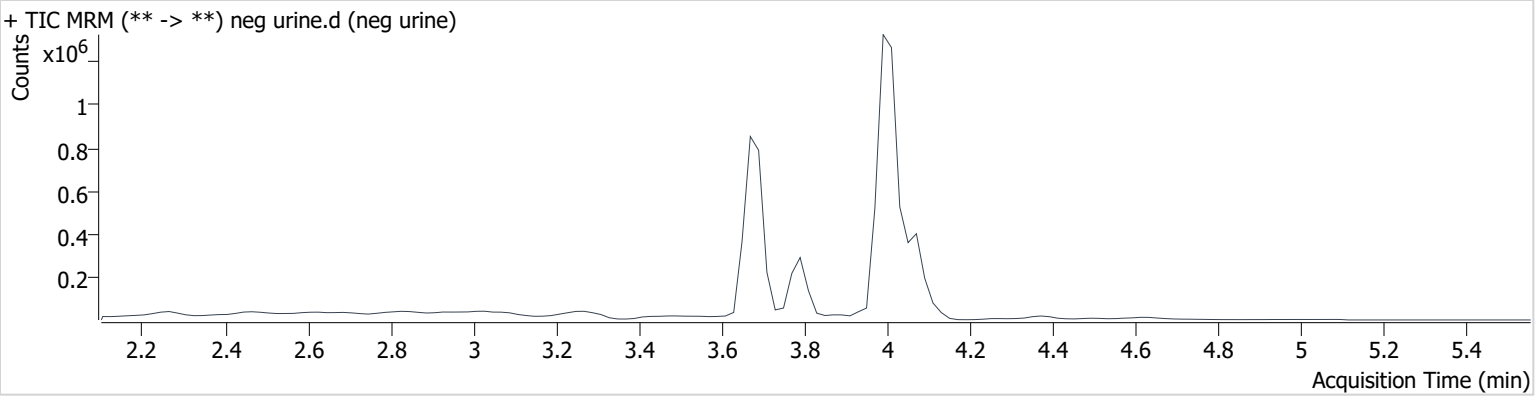
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | neg urine.d |
| **Type** | Sample | **Sample** | neg urine |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-H4 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 9:01:41 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. |
|---|---|---|---|---|
| THC-COOH | 3.612 **Low** | 37572 | 763659 | 4.689 ng/ml **Low** |

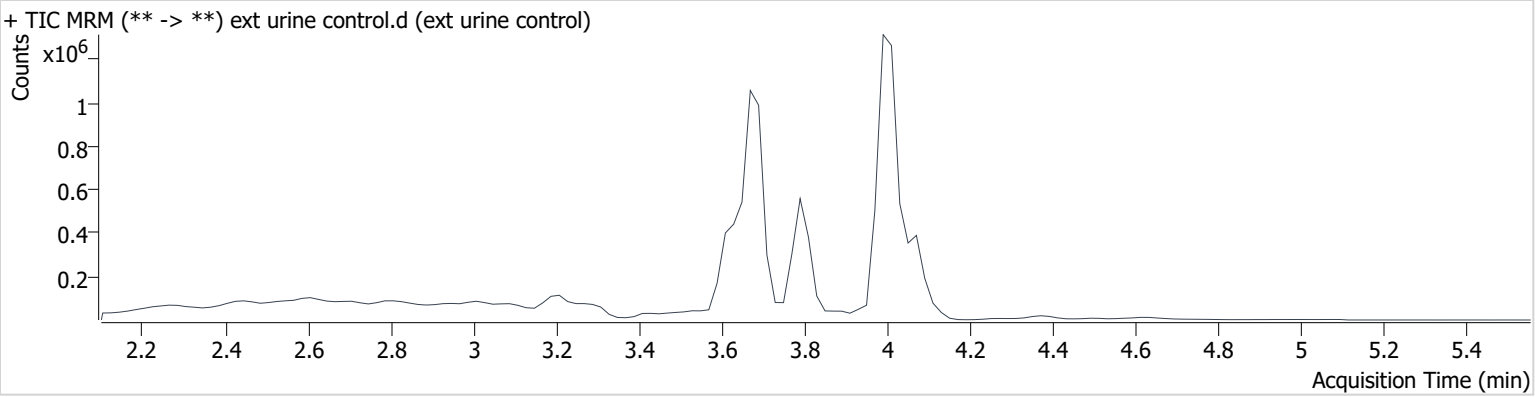
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | ext urine control.d |
| **Type** | Sample | **Sample** | ext urine control |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-A5 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 9:08:17 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.084 | 67574 | 731285 | 11.987 | ng/ml |
| THC-COOH | 3.792 | 310973 | 763599 | 35.680 | ng/ml |
| THC-OH | 3.696 | 598009 | 2634835 | 12.771 | ng/ml |

# Toxicology AM method 27/26 external prep information

BW

working solution 1 ug/ml in meoh C-THC, THC-OH, THC

Stock solution 1mg/ml 7.5 ul each THC, 100 ug/ml 150 ul C-THC, 75 ulTHC-OH in 9767.5 ul meOH
Ppd 2/13/20 Exp: 8/13/20 lot 21320 by AMN

| Drug | lot | expiration |
|---|---|---|
| C-THC | FE07171501 | 9/1/2020 |
| THC-OH | FE07721601 | 7/1/2021 |
| THC | FE001041701 | 3/1/2022 |

**AM 27/26 blood control 100 ul working solution lot (91319) in 9900 ul blood lot (20A522**

| | | | |
|---|---|---|---|
| ppd 02/13/20 Exp 08/13/20 | lot b81320 | Concentration 7.5 ng/ml THC, THC-OH and 15 ng/ml C-THC | by AMN |

**AM 27/26 urine control 400 ul working solution lot (21320) in 9600 ul urine lot (6 out of use**

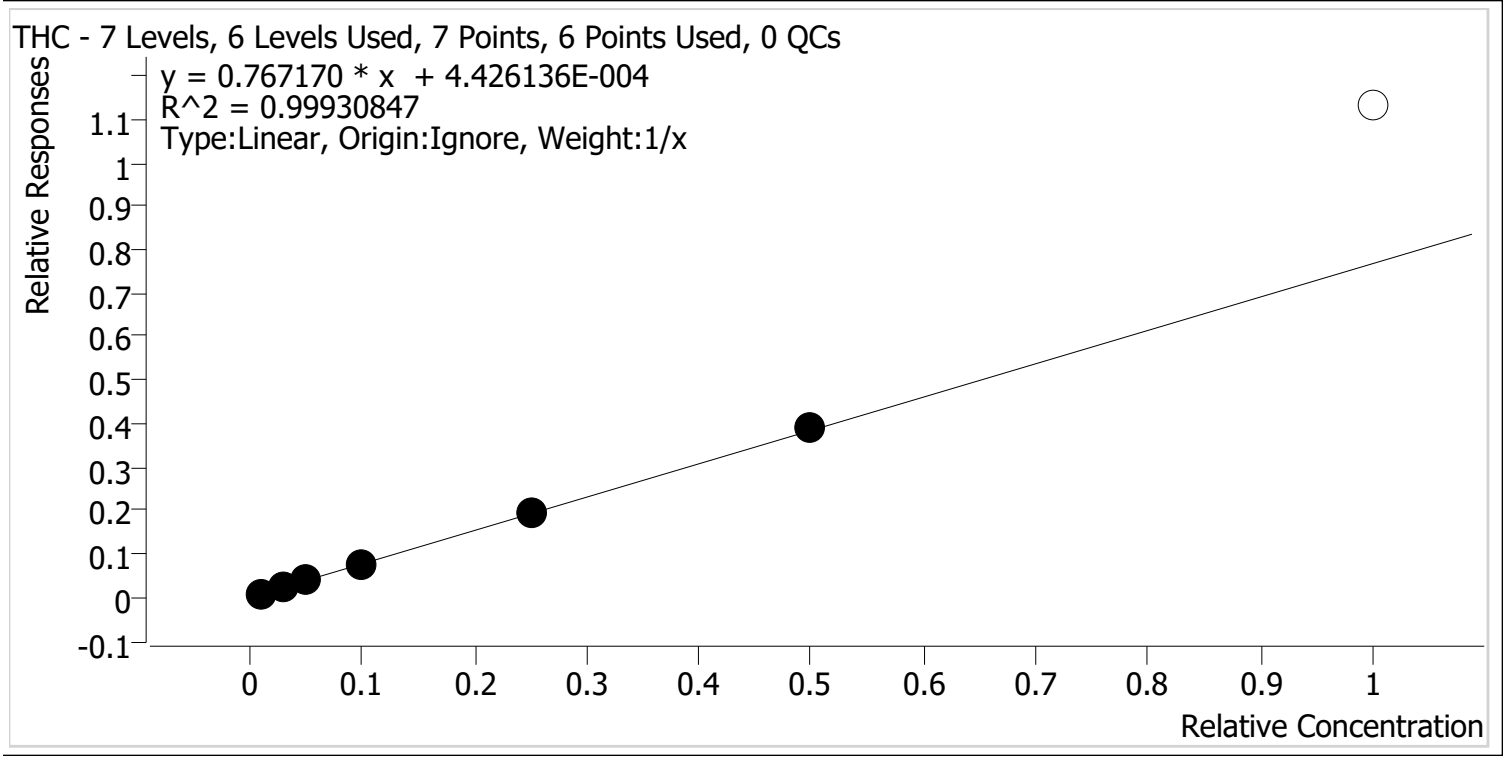
| | | | | |
|---|---|---|---|---|
| ppd 4/17/20 Exp 9120 | lot u101720 | Concentration 30 ng/ml THC, THC-OH and 60 ng/ml C-THC | by BAW | 6/8/2020 |
| ppd 6/9/20 exp 8/13/20 | lot 6920 | Concentration 30 ng/ml THC, THC-OH and 60 ng/ml C-THC | by amn | 7/15/2020 |
| ppd 2.5mL 7/17/20 one time use | lot 71720 | Concentration 30 ng/ml THC, THC-OH and 60 ng/ml C-THC | by baw | 7/17/2020 |

# Compound Calibration Report

Agilent | Trusted Answers

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin |
| **Last Cal. Update** | 7/20/2020 12:55 PM |
| **Analyst Name** | ISP\datastor |
| **Analyte** | THC |
| **Internal Standard** | THC-d3 |

BW

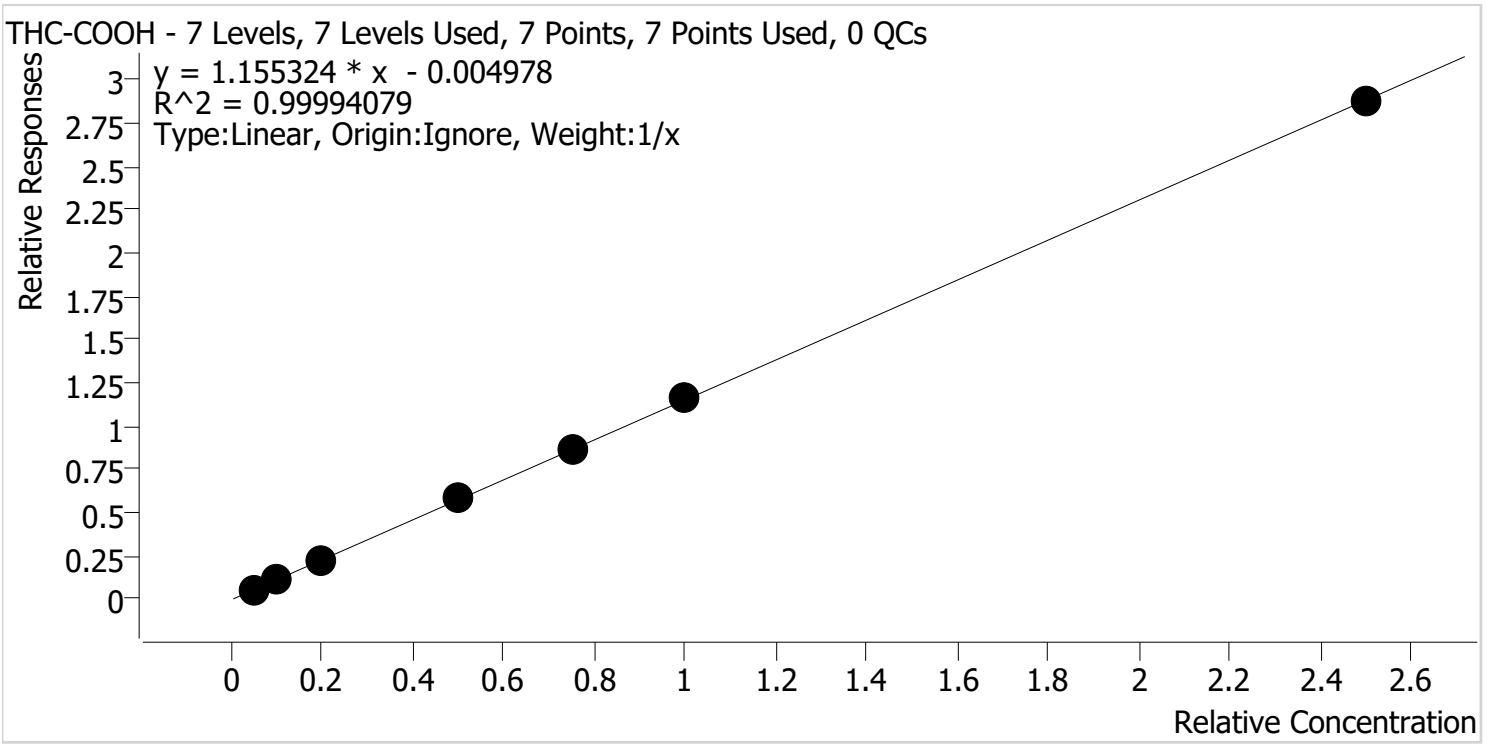



| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|---|---|---|---|---|---|
| check std 1ng | 1 | ✔ | 1.0 | 1.1 | 105.4 |
| cal 2 | 2 | ✔ | 3.0 | 3.0 | 101.2 |
| cal 3 | 3 | ✔ | 5.0 | 4.9 | 98.4 |
| cal 4 | 4 | ✔ | 10.0 | 9.4 | 94.3 |
| cal 5 | 5 | ✔ | 25.0 | 24.8 | 99.2 |
| cal-6 | 6 | ✔ | 50.0 | 50.8 | 101.5 |
| cal-7 | 7 | ✗ | 100.0 | 147.3 | 147.3 |

# Compound Calibration Report

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin |
| **Last Cal. Update** | 7/20/2020 12:55 PM |
| **Analyst Name** | ISP\datastor |
| **Analyte** | THC-COOH |
| **Internal Standard** | THC-COOH-d9 |

BW



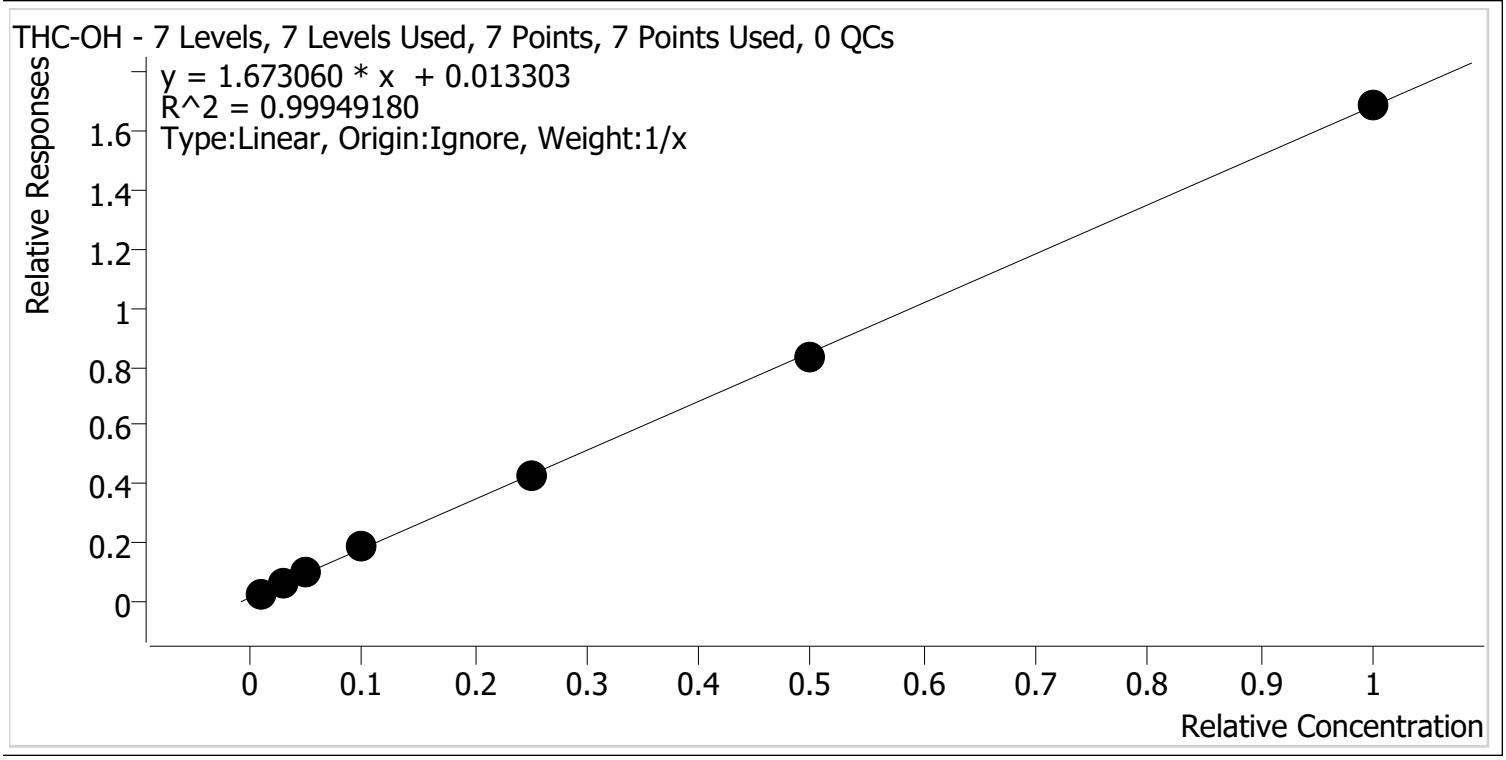

| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|---|---|---|---|---|---|
| check std 1ng | 1 | ✔ | 5.0 | 5.0 | 100.6 |
| cal 2 | 2 | ✔ | 10.0 | 10.0 | 100.1 |
| cal 3 | 3 | ✔ | 20.0 | 19.6 | 97.8 |
| cal 4 | 4 | ✔ | 50.0 | 50.6 | 101.3 |
| cal 5 | 5 | ✔ | 75.0 | 75.0 | 100.1 |
| cal-6 | 6 | ✔ | 100.0 | 100.5 | 100.5 |
| cal-7 | 7 | ✔ | 250.0 | 249.2 | 99.7 |

# Compound Calibration Report

Agilent | Trusted Answers

| | |
|---|---|
| **Batch results** | D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin |
| **Last Cal. Update** | 7/20/2020 12:55 PM |
| **Analyst Name** | ISP\datastor |
| **Analyte** | THC-OH |
| **Internal Standard** | THC-OH-d3 |

BW




| Sample | Level | Enabled | Expected Concentration | Final Concentration | Accuracy |
|---|---|---|---|---|---|
| check std 1ng | 1 | ✔ | 1.0 | 0.8 | 84.2 |
| cal 2 | 2 | ✔ | 3.0 | 3.3 | 108.8 |
| cal 3 | 3 | ✔ | 5.0 | 5.3 | 106.7 |
| cal 4 | 4 | ✔ | 10.0 | 10.2 | 101.8 |
| cal 5 | 5 | ✔ | 25.0 | 25.0 | 100.0 |
| cal-6 | 6 | ✔ | 50.0 | 49.3 | 98.6 |
| cal-7 | 7 | ✔ | 100.0 | 100.1 | 100.1 |

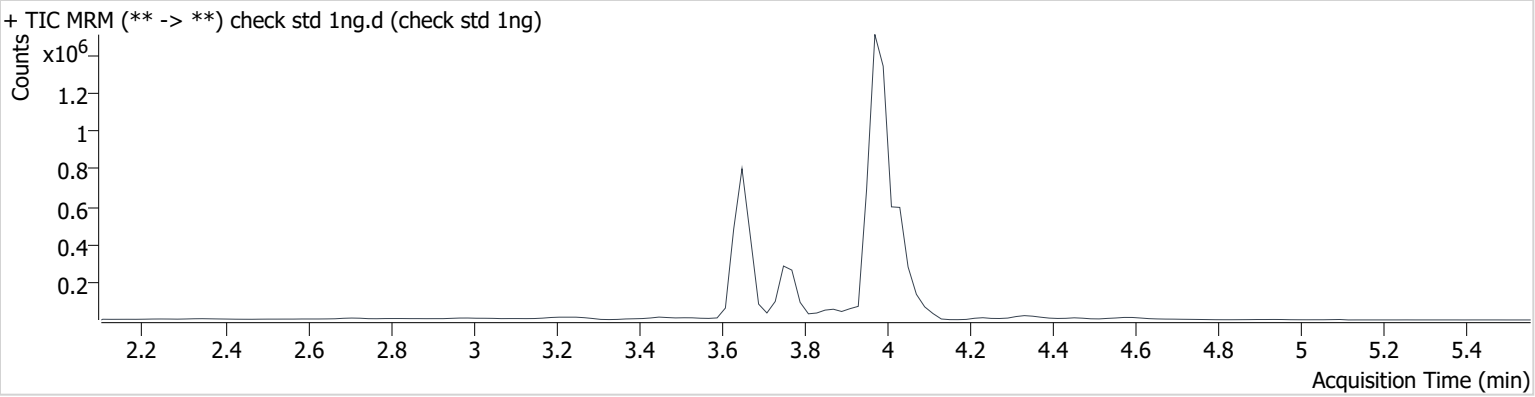
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | check std 1ng.d |
| **Type** | Cal | **Sample** | check std 1ng |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-A1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 5:30:31 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | | |
|---|---|---|---|---|---|---|
| THC | 4.044 | 7340 | 860934 | 1.054 | ng/ml | **Low** |
| THC-COOH | 3.772 | 38906 | 732020 | 5.031 | ng/ml | **Low** |
| THC-OH | 3.656 | 60624 | 2213788 | 0.842 | ng/ml | **Low** |

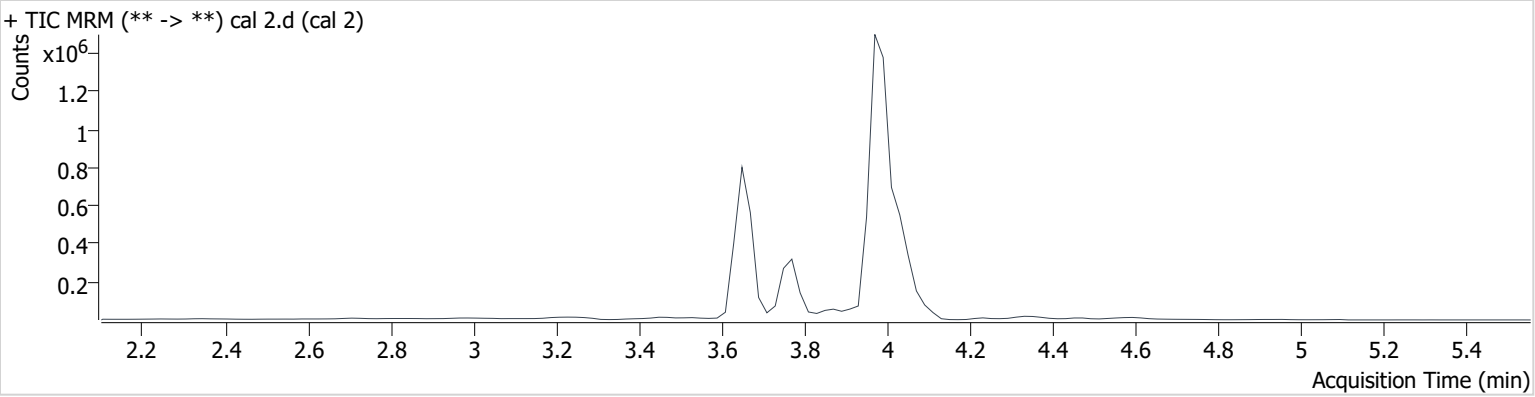
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | cal 2.d |
| **Type** | Cal | **Sample** | cal 2 |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-B1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 5:37:08 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.044 | 19510 | 822110 | 3.036 | ng/ml |
| THC-COOH | 3.772 | 77468 | 700315 | 10.006 | ng/ml |
| THC-OH | 3.656 | 149420 | 2200941 | 3.263 | ng/ml |

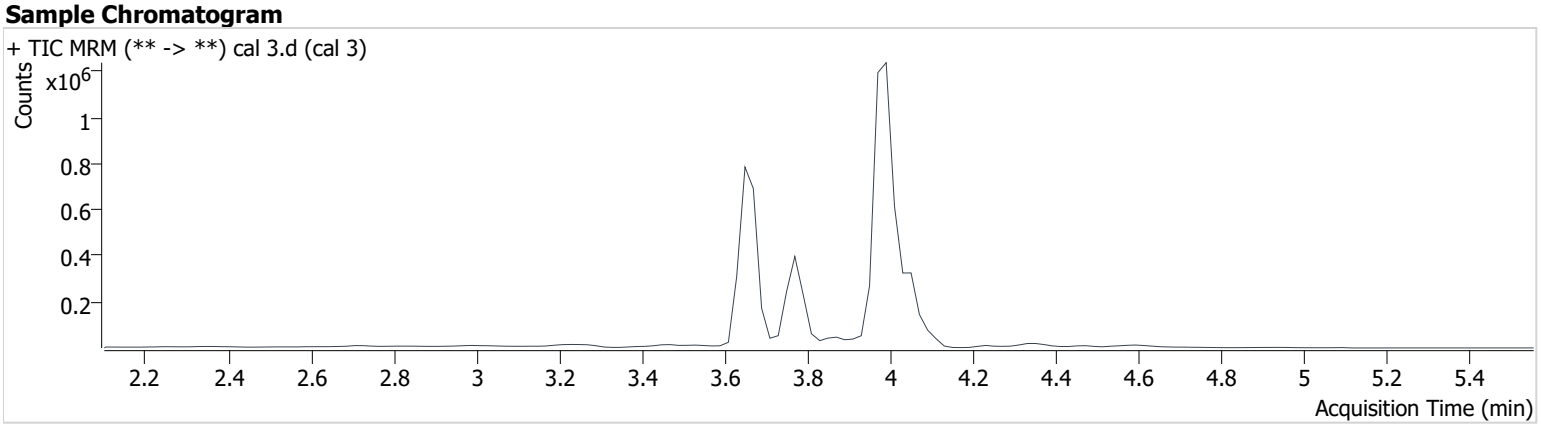
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | cal 3.d |
| **Type** | Cal | **Sample** | cal 3 |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-C1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 5:43:44 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.064 | 22391 | 586056 | 4.922 | ng/ml |
| THC-COOH | 3.772 | 149804 | 677867 | 19.559 | ng/ml |
| THC-OH | 3.676 | 224775 | 2192161 | 5.333 | ng/ml |

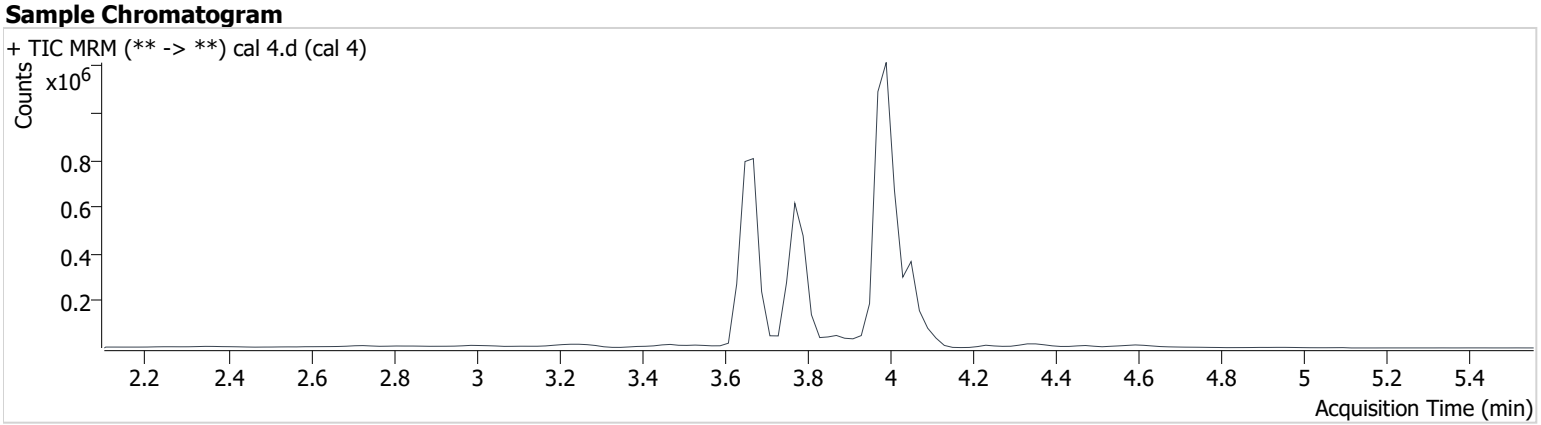
# AM #26 Cannabinoids Screen Results

BW

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | cal 4.d |
| **Type** | Cal | **Sample** | cal 4 |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-D1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 5:50:20 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.064 | 42172 | 579402 | 9.430 | ng/ml |
| THC-COOH | 3.772 | 421998 | 727365 | 50.648 | ng/ml |
| THC-OH | 3.676 | 399744 | 2177985 | 10.175 | ng/ml |

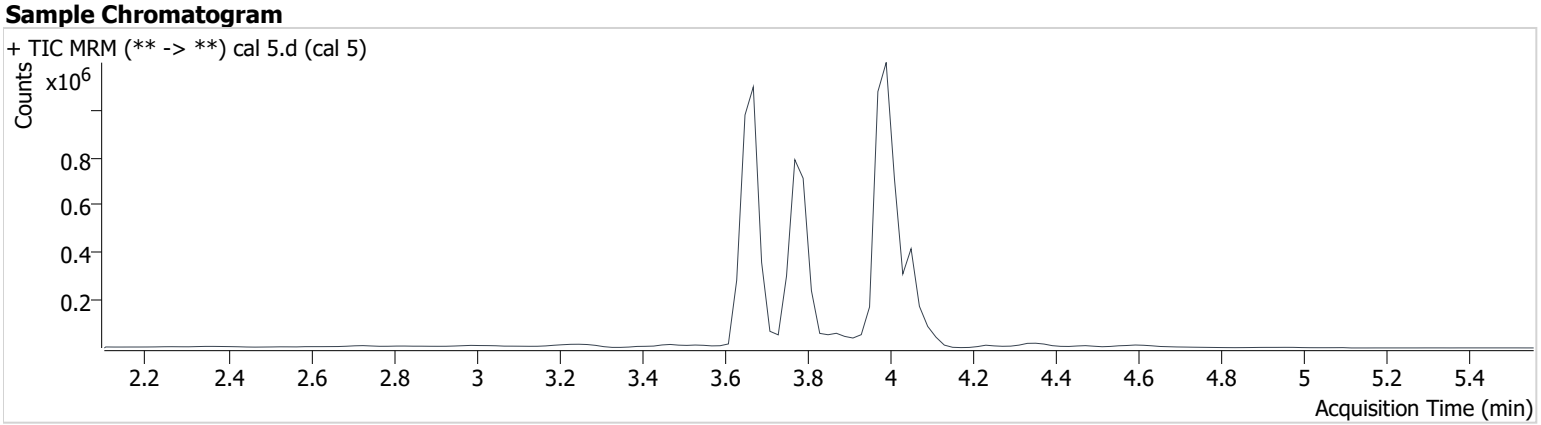
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | cal 5.d |
| **Type** | Cal | **Sample** | cal 5 |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-E1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 5:56:56 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.064 | 111635 | 585509 | 24.795 | ng/ml |
| THC-COOH | 3.792 | 656895 | 762020 | 75.046 | ng/ml |
| THC-OH | 3.676 | 986311 | 2285533 | 24.999 | ng/ml |

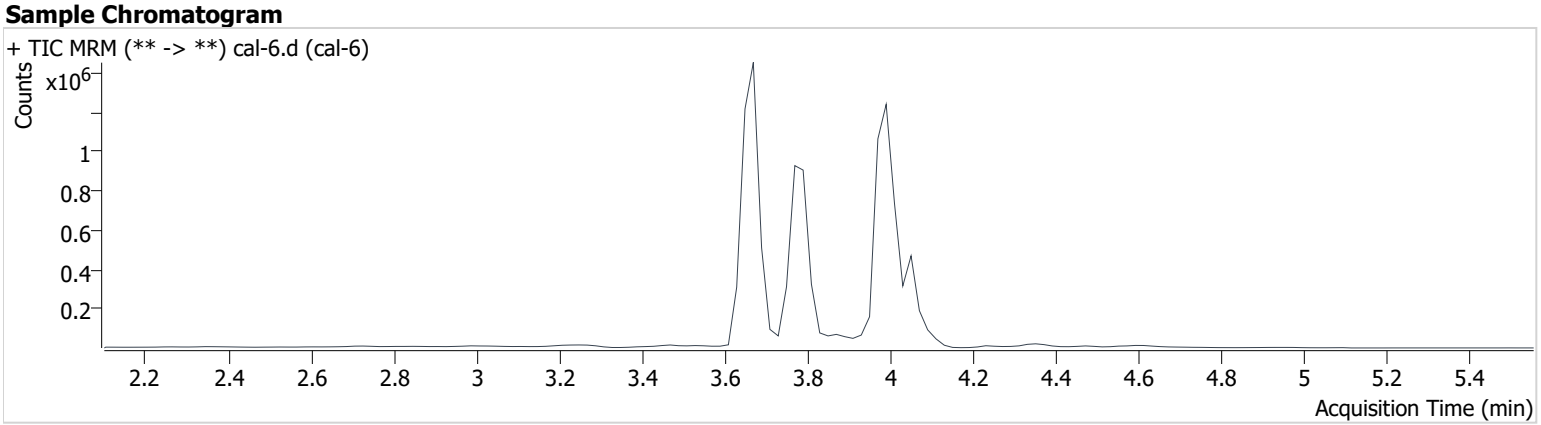
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | cal-6.d |
| **Type** | Cal | **Sample** | cal-6 |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-F1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 6:03:32 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.064 | 214665 | 550587 | 50.763 | ng/ml |
| THC-COOH | 3.792 | 872240 | 754666 | 100.472 | ng/ml |
| THC-OH | 3.676 | 1887191 | 2252814 | 49.275 | ng/ml |

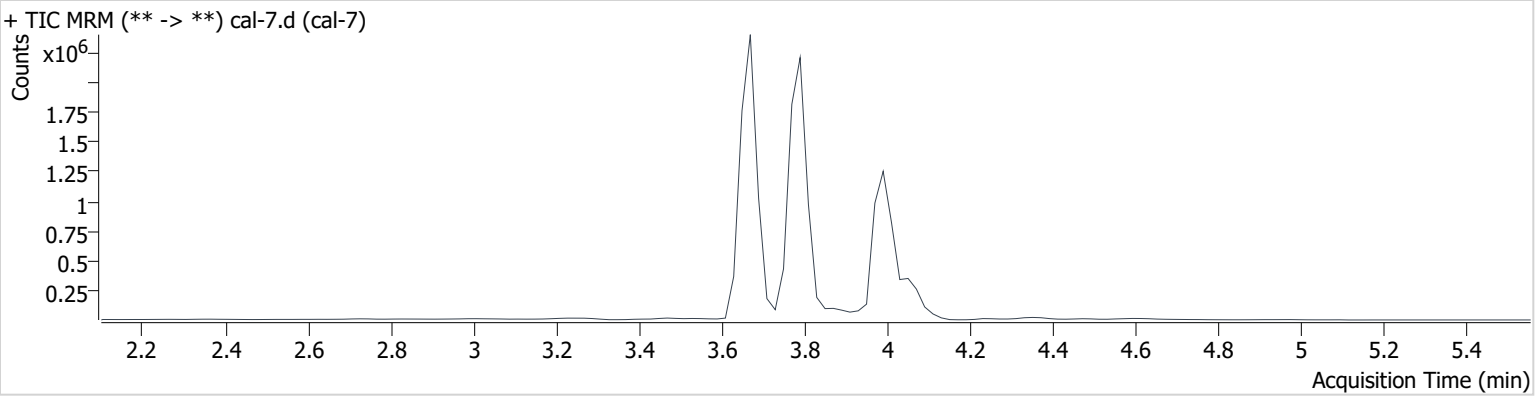
BW

# AM #26 Cannabinoids Screen Results

**Batch results** D:\MassHunter\Data\2020 Data\am 25-26 7-15-2020\QuantResults\am 26.batch.bin
**Calibration Last Update** 7/20/2020 12:55:35 PM

| | | | |
|---|---|---|---|
| **Instrument** | 69679 | **Data File** | cal-7.d |
| **Type** | Cal | **Sample** | cal-7 |
| **Acq. Method** | am 26 cann scr 5-5-20.m | **Operator** | Britany Wylie |
| **Sample Position** | P3-G1 | **Comment** | |
| **Injection Volume** | 5 | | |
| **Acq. Date-Time** | 7/15/2020 6:10:07 PM | | |
| **Sample Info.** | | | |

**Sample Chromatogram**




| Name | RT | Resp. | ISTD Resp. | Final Conc. | |
|---|---|---|---|---|---|
| THC | 4.064 | 356004 | 314856 | 147.326 | ng/ml |
| THC-COOH | 3.792 | 2289122 | 796346 | 249.238 | ng/ml |
| THC-OH | 3.676 | 4094160 | 2425076 | 100.113 | ng/ml |