






REVIEWED
By Tamara Salazar at 1:33 pm, Feb 17, 2022

2/14/2022

CS

Worklist: 5597

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>	
M2022-0203	3	UCK	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	
P2022-0096	1	UCK	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	
P2022-0322	2	UCK	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	
P2022-0328	2	UCK	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	
P2022-0349	1	UCK	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	

**Idaho State Police
Forensic Services**

Request for Departure from an Analytical Method or Quality Standard

Deviation Number (assigned by QM): TOX-22-01

Date of Request: **2/3/2022**

Requestor/Discipline: Celena Shrum/Toxicology

Analytical Method/Quality Standard, Revision #: AM #25, AM #28, AM #29, Revision 13

Temporary or Permanent Deviation: Permanent

Scope of Deviation (record specific information, e.g. affected programs, evidence types, expected end date; etc): Deviation will remain in place until the change is made in the next method revision.

Deviation Request (Describe detailed instructions of the changes being made; include reference to specific section number(s) in the method manual): 4.1.4 (Place plate on shaking incubator at approximately 900 rpm for approximately 15 minutes) of AM #25, AM # 28, and AM #29 is being removed. The removal of this step was tested in the validation “Addition of Compounds/Modifications for the MDS” (approved on 2/2/2022) and it was determined that that step is not necessary and can be removed.

Technical Justification for Analytical Method Deviations: Refer to validation “Addition of Compounds/Modifications for the MDS” (approved on 2/2/2022)

Technical Review

Departure approved
Comments:

Departure Not Approved
Comments:

Approver: Rachel Cutler
Title: Laboratory Manager



Date: 2/10/2022

Quality Review

Quality Approver: Jason Crowe
Title: Quality Manager
Date: 2/10/2022



AM# 28: Multi-Drug Quantitation by LC-MS/MS

Extraction Date: 02/11/2022

Analyst: Celena Shrum

Plate lot#: 211018

Plate Retest Date: 04/18/2022

Mobile phase A: 5mM Amm Form + 0.01% FA

Mobile phase B: 0.01% Formic Acid in MeOH

Blank Blood Lot: Lampire 22B52016-2

Blank Urine Lot: POC031319

Column: Agilent 120 EC-C18 (2.1x 100-2.7um)

LCMS-QQQ ID: 069901

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 **250µL blood (calibrated pipette) or 250µL hydrolyzed urine** in wells of analytical (standards) plate.
Pipette ID: #42
- 3. Pipette **250µL 0.5 M ammonium hydroxide** in wells of analytical plate.
- 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 5. Transfer **300µL of blood+base/urine+base** mixture to corresponding wells of SLE+ plate.
- 6. 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)
- 7. Wait 5 minutes.
- 8. Add **900uL ethyl acetate**.
- 9. Wait 5 minutes.
- 10. Apply positive pressure for approx. 15 seconds. **(10-15 PSI- Selector to the left)**.
- 11. Add **900uL ethyl acetate**.
- 12. Wait 5 minutes.
- 13. Apply positive pressure for approx. 15 seconds. **(10-15 PSI- Selector to the left)**.
- 14. Remove plate containing eluate. **Urine samples add 50 ul 1% HCl in MeOH**. Place on SPE Dry and evaporate to dryness at approx. 35°C.
- 15. Reconstitute in **100µL 20% MeOH** and heat seal plate with foil.

Post-Analytic

- 1. Create batch and process data.
- 2. Make necessary changes to integration limits
- 3. Integration linear and R² values ≥ 0.98 for each analyte.
- 4. For unknown samples and controls: response ratio within 20% of average of controls and standards, RT within +/- 5% (tramadol RT +/-2%), S/N for primary transition >10 and secondary transitions >5.
- 5. Did all QCs pass for each analyte? Yes, see comments Add Control data to QC tracking spreadsheet.
- 6. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports.

Curve limits: Flurazepam 5-50, Levamisole 5-250, Maprotiline 5-100, Methylphenidate 5-500

Only acetyl-fentanyl, acetyl-norfentanyl, amitriptyline, cocaethylene, flurazepam, levamisole, maprotiline, methylphenidate, nortriptyline, and ~~were zaleplon evaluated.~~ ^{2/17/22}

Zaleplon were evaluated. CS

cg

	1	2	3	4	5	6	7	8	9	10	11	12
A	IS + Cal. 1	IS + QC_1	M2022-0203-3									
B	IS + Cal. 2	IS + QC_2	P2022-0096-1									
C	IS + Cal. 3	IS + QC_3	P2022-0322-2									
D	IS + Cal. 4	IS + QC_4	P2022-0328-2									
E	IS + Cal. 5	NEG Blood	P2022-0349-1									
F	IS + Cal. 6	Blood External Ctrl										
G	IS + Cal. 7	NEG Urine										
H	IS + Cal. 8	Urine External Ctrl										

Samples were moved to columns 5, 6, and 7 on the ~~SPE~~ plate (A1 became A5, A2 became A6, etc.).

SLE
2/17/22 cs

2/17/22 cs



Idaho State Police Forensic Services

AM #28 Blood/Urine Multi-Drug Confirmatory Analysis by LCMS-QQQ---Panel 2

Methanol External Control Solution (Lot: 011922)

100 ul each 1 mg/mL stock solution in 9800 ul MeOH

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	215245	
Amitriptyline	Cerilliant	FN02202004	03/31/2025
Flurazepam	Cerilliant	FE08231902	11/30/2024
Prepared:	01/19/2022		
Prepared By:	Sarah Collins		
Expires:	01/19/2023		

Blood External Control Solution (Lot: WS011922)

100 ul of methanol external control solution was added to 9900ul of blood.

Approximately 100ng/mL of each compound.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Blood	Lampire	20L20725
Methanol External Control Solution	-	011922
Prepared:	01/19/2022	
Prepared by:	Sarah Collins	
Expires:	01/19/2023	

Urine External Control Solution (Lot: WS011922)

100 ul of methanol external control solution was added to 9900ul of urine.

Approximately 100ng/mL of each compound.

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Urine		POC031319
Methanol External Control Solution	-	011922
Prepared:	01/19/2022	
Prepared by:	Sarah Collins	
Expires:	01/19/2023	

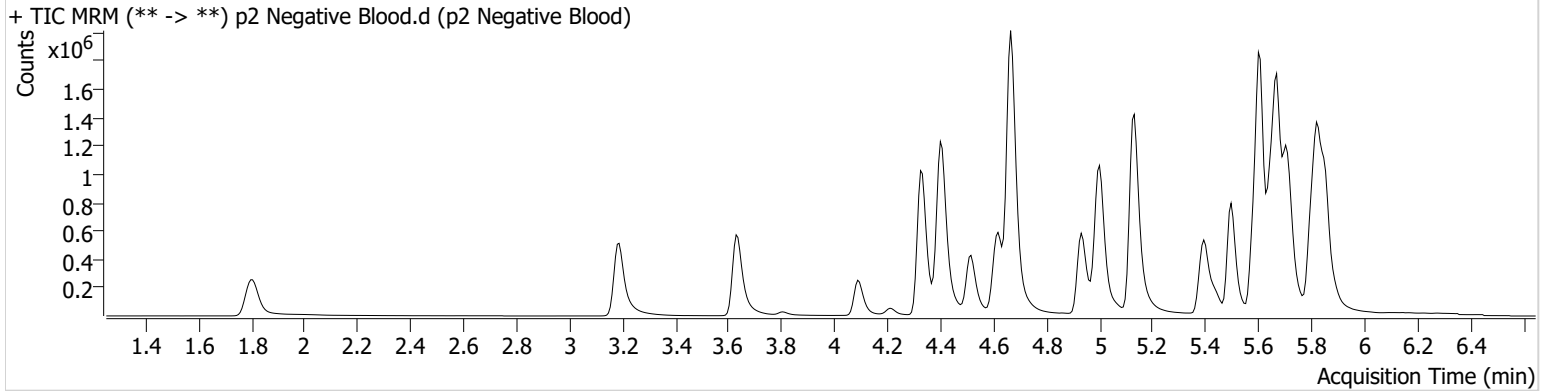
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Negative Blood.d
Type	Sample	Sample	p2 Negative Blood
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-E6	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 10:57:27 AM		
Sample Info.			

Sample Chromatogram



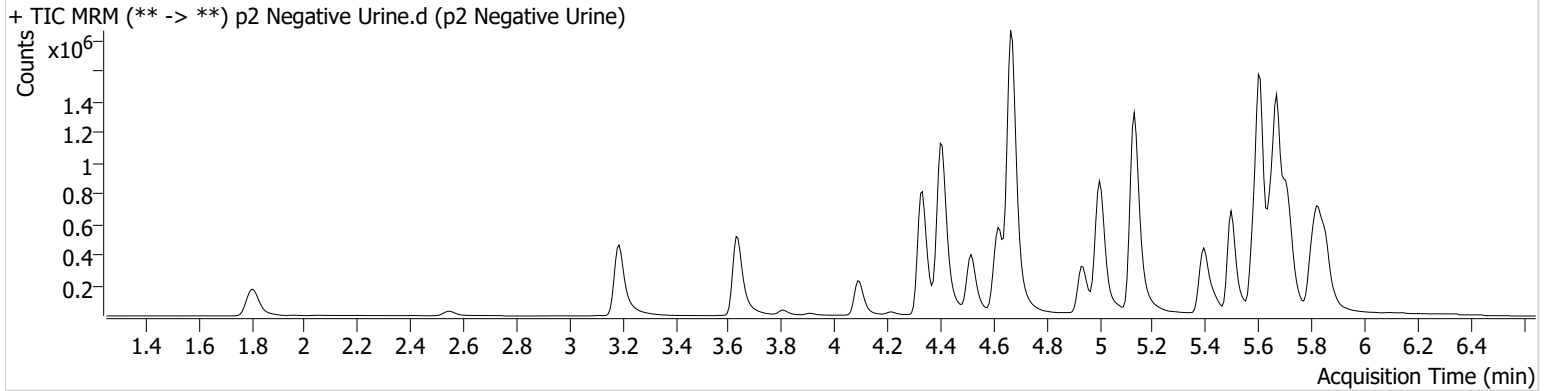
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Negative Urine.d
Type	Sample	Sample	p2 Negative Urine
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-G6	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 11:40:21 AM		
Sample Info.			

Sample Chromatogram



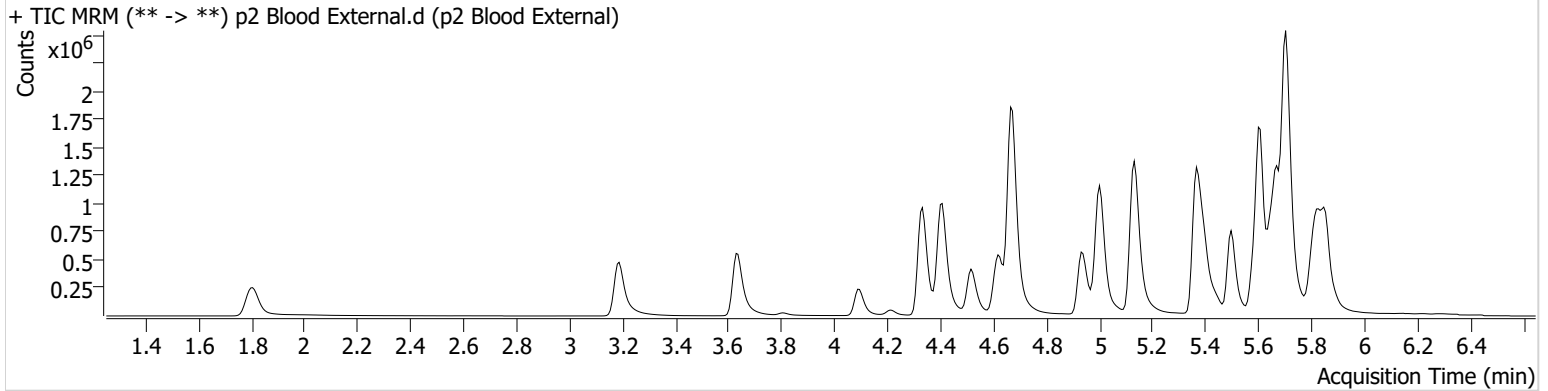
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Blood External.d
Type	Sample	Sample	p2 Blood External
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-F6	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 11:18:54 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Amitriptyline	5.706	972731	2076.07	87.6	1900.61	452242	86.3500 ng/ml
Flurazepam	5.365	2716020	8098.36	12.9	1990.65	972434	70.0497 ng/ml
Nortriptyline	5.728	9114	110.83	33.0	38.04	408253	1.0280 ng/ml <5

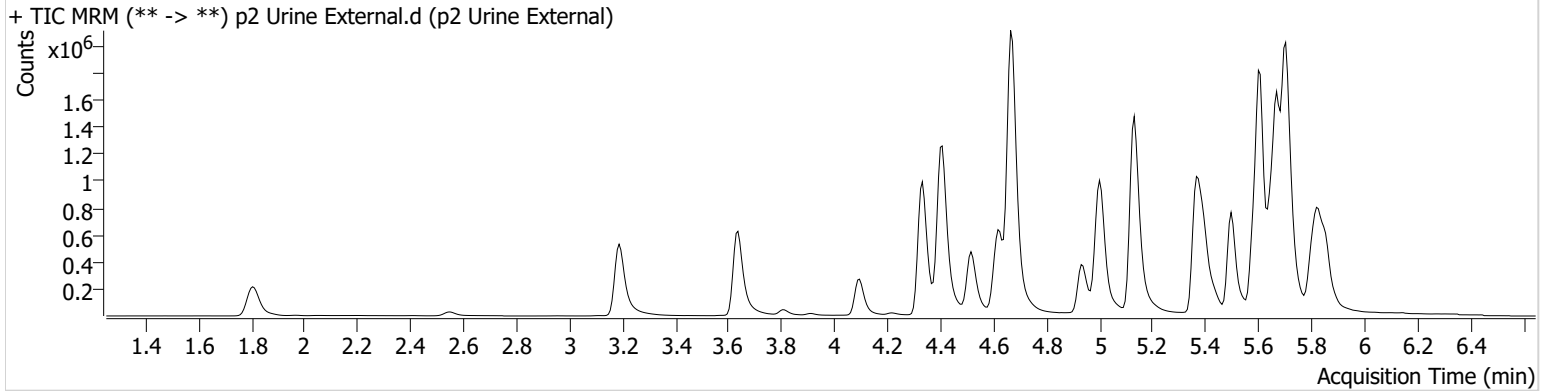
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Urine External.d
Type	Sample	Sample	p2 Urine External
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-H6	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 12:01:49 PM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Amitriptyline	5.706	653297	1921.17	87.1	3043.76	486318	53.8533 ng/ml
Flurazepam	5.365	2035167	604.16	13.0	2636.98	750619	68.0345 ng/ml

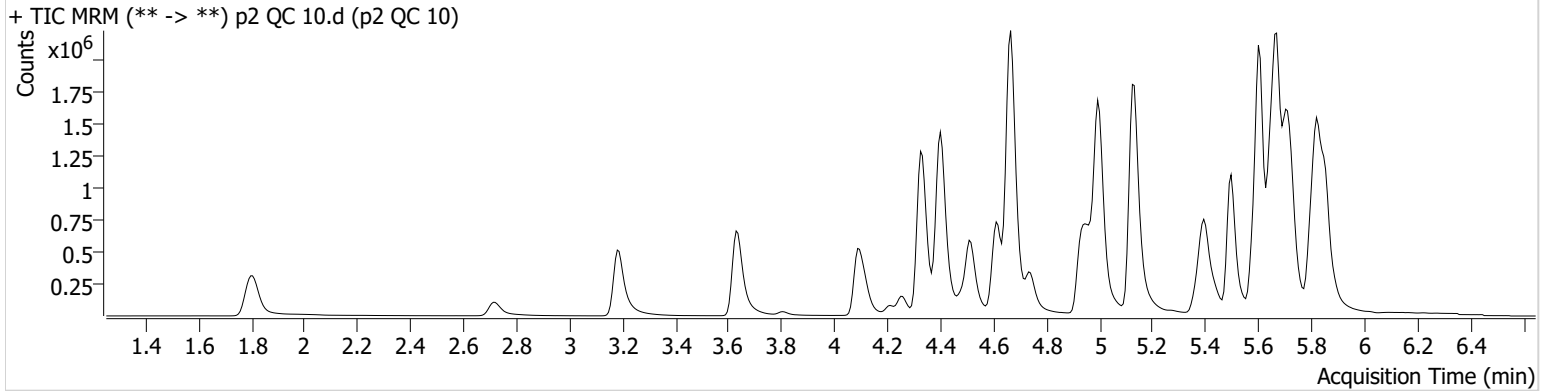
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 QC 10.d
Type	QC	Sample	p2 QC 10
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-A6	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 9:42:21 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	34622	315.46	83.9	194.93	2069734	0.9600 ng/ml
acetyl-norfentanyl	3.213	37154	503.24	37.4	1129.46	1590618	1.0027 ng/ml
Amitriptyline	5.706	147775	430.55	104.9	533.51	609336	9.5547 ng/ml
Cocaethylene	4.741	426800	2209.05	43.4	487.01	1679962	9.5769 ng/ml
Flurazepam	5.358	346026	1407.34	11.7	273.13	1039768	9.3623 ng/ml
Levamisole	2.720	225042	3776.87	88.1	1110.93	1679962	10.1005 ng/ml
Maprotiline	5.672	91096	284.43			609336	11.3073 ng/ml
Methylphenidate	4.342	744461	3293.45	23.0	533.43	2648487	9.9635 ng/ml
Nortriptyline	5.721	156925	1292.65	35.5	635.98	543833	10.1254 ng/ml
Zaleplon	5.403	251910	2549.35	71.9	961.76	677336	10.1038 ng/ml

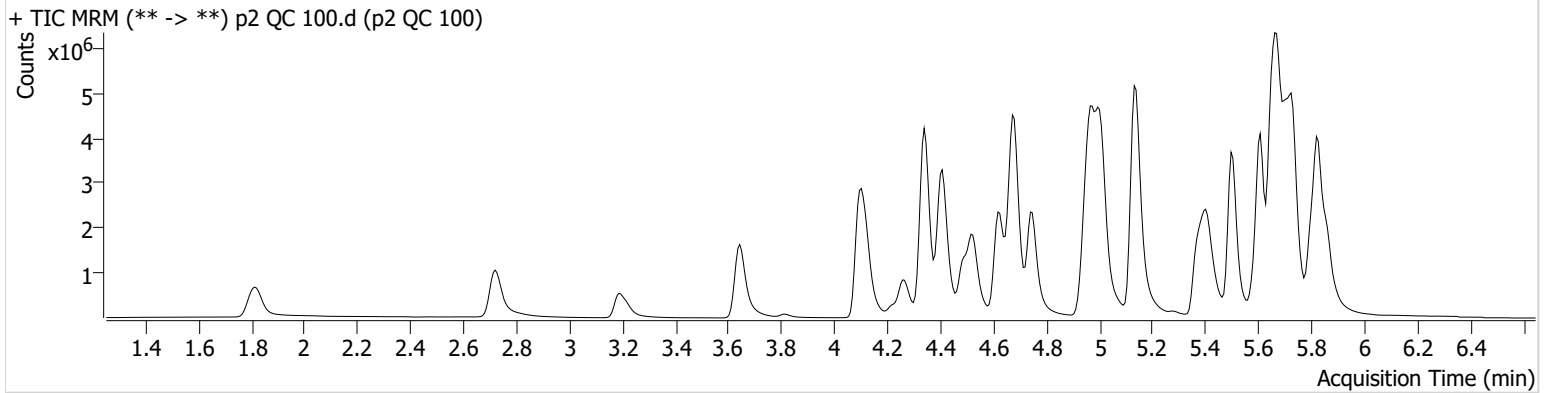
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument Falco (069901) **Data File** p2 QC 100.d
Type QC **Sample** p2 QC 100
Acq. Method AM 28 MDQ P2 102521.m **Operator** Celena Shrum
Sample Position P6-B6 **Comment**
Injection Volume 5
Acq. Date-Time 2/12/2022 2:10:29 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.686	330935	1441.81	83.5	3501.63	1960620	9.4192 ng/ml
acetyl-norfentanyl	3.213	363455	1356.72	37.3	8424.77	1596434	10.1021 ng/ml
Amitriptyline	5.706	1349170	4093.39	97.6	2136.43	548136	98.8437 ng/ml
Cocaethylene	4.748	3908295	7494.27	45.8	10762.79	1470081	92.9343 ng/ml
Flurazepam	5.365	3082581	5288.92	12.9	3462.88	566704	135.3315 ng/ml *
Levamisole	2.720	2218150	205630.52	86.5	15421.08	1470081	104.1769 ng/ml
Maprotiline	5.679	548845	1152.75			548136	94.1692 ng/ml
Methylphenidate	4.342	7365398	1667.40	22.4	66774.17	2493549	104.1043 ng/ml
Nortriptyline	5.728	1102273	191880.57	35.5	247807.27	388591	97.1947 ng/ml
Zaleplon	5.409	1859314	79751.74	70.4	609214.07	488718	95.9821 ng/ml

*Outside curve range.

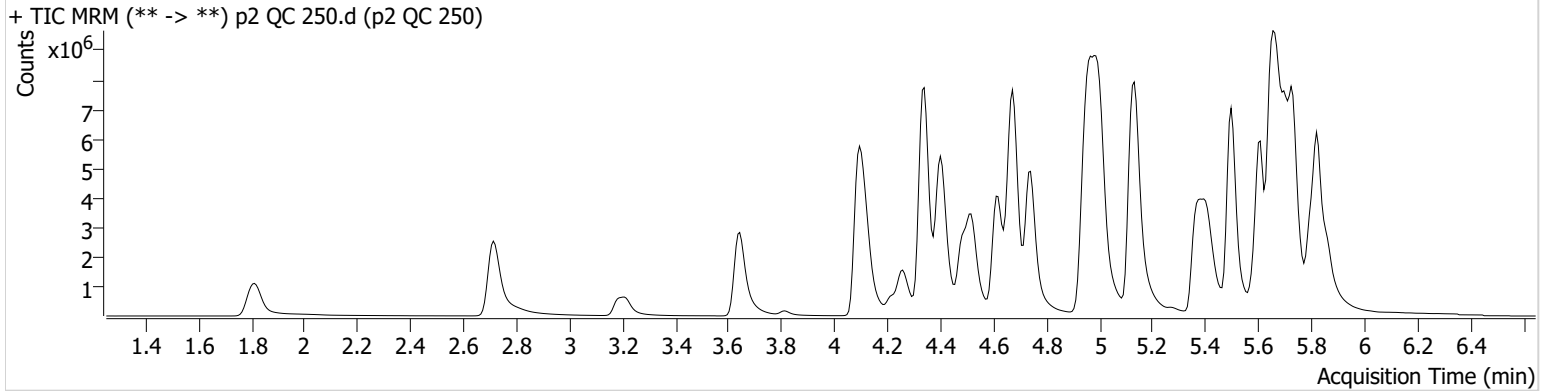
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 QC 250.d
Type	QC	Sample	p2 QC 250
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-C6	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 10:03:48 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	721199	1866.37	82.4	20775.04	1676973	23.9533 ng/ml
acetyl-norfentanyl	3.213	913019	9252.60	37.1	1089.29	1631770	24.8823 ng/ml
Amitriptyline	5.699	2611314	2217.38	93.4	5107.53	420206	249.8675 ng/ml
Cocaethylene	4.741	8677956	14946.25	45.9	15916.97	1216514	248.0668 ng/ml
Flurazepam	5.359	6917319	19813.47	12.3	5463.46	286365	597.0116 ng/ml*
Levamisole	2.714	5525016	310524.42	86.5	3538.18	1216514	311.6941 ng/ml
Maprotiline	5.679	689028	1520.03			420206	156.2767 ng/ml*
Methylphenidate	4.342	16253703	309164.12	22.2	3244.94	2249635	254.5517 ng/ml
Nortriptyline	5.728	1680094	40101.28	35.9	49551.50	236673	242.8402 ng/ml
Zaleplon	5.409	3288534	76100.81	71.2	148397.76	334409	246.8298 ng/ml

*Outside curve range.

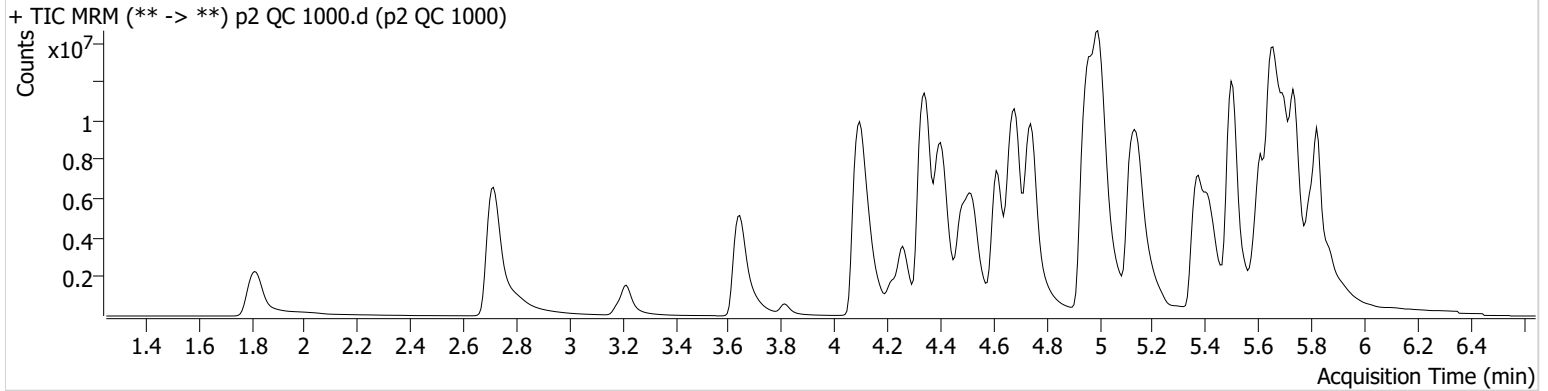
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument Falco (069901) **Data File** p2 QC 1000.d
Type QC **Sample** p2 QC 1000
Acq. Method AM 28 MDQ P2 102521.m **Operator** Celena Shrum
Sample Position P6-D6 **Comment**
Injection Volume 5
Acq. Date-Time 2/12/2022 10:25:16 AM
Sample Info.

Sample Chromatogram



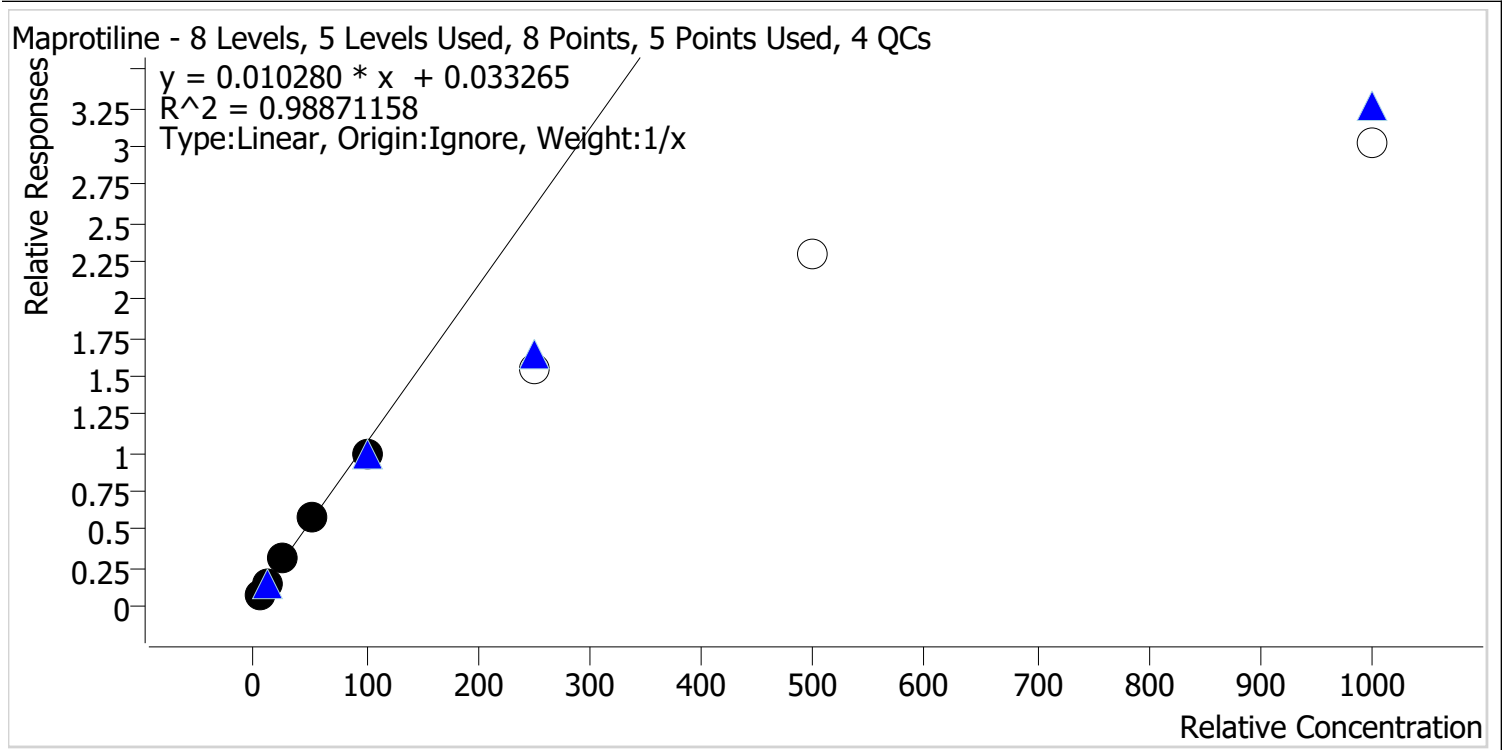
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.686	1823784	39092.19	84.1	1551.76	982692	103.2715 ng/ml
acetyl-norfentanyl	3.213	3195063	232166.98	36.7	1459.41	1514489	93.9216 ng/ml
Amitriptyline	5.699	4816902	18285.28	90.7	1459.36	194867	994.5066 ng/ml
Cocaethylene	4.741	20800624	447788.50	49.1	446172.33	626255	1152.2176 ng/ml
Flurazepam	5.358	14947123	3321.30	12.8	11582.30	28626	12881.3055 ng/ml *
Levamisole	2.714	17018085	5783.09	86.5	11860.14	626255	1860.3129 ng/ml *
Maprotiline	5.679	635753	364.21			194867	314.1368 ng/ml *
Methylphenidate	4.342	30295923	1252.77	26.7	98805.35	1351650	789.5565 ng/ml *
Nortriptyline	5.721	2254310	102751.20	36.4	83752.23	79031	974.9763 ng/ml
Zaleplon	5.409	5167444	1101.33	70.8	93968.49	112422	1150.7772 ng/ml

*Outside curve range.



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Maprotiline **Internal Standard** Amitriptyline-D3



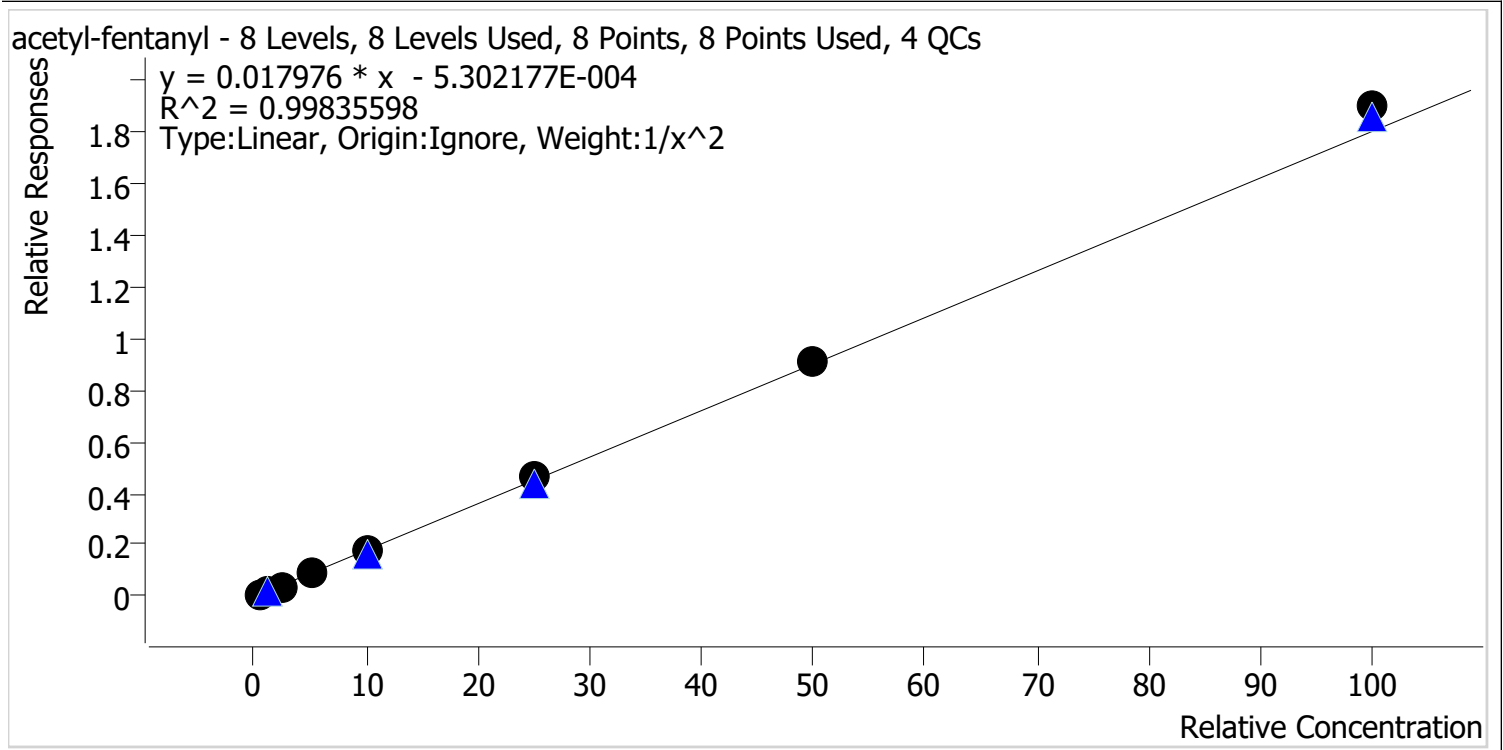
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	3.9	77.2
p2 Cal 2-10ng	2	✓	10.0	11.1	110.5
p2 Cal 3 -25ng	3	✓	25.0	27.8	111.1
p2 Cal 4-50ng	4	✓	50.0	53.8	107.7
p2 Cal 5-100ng	5	✓	100.0	93.5	93.5
p2 Cal 6-250ng	6	✗	250.0	148.1	59.2
p2 Cal 7-500ng	7	✗	500.0	220.1	44.0
p2 Cal 8-1000ng	8	✗	1000.0	289.9	29.0

Calibrators 6, 7, and 8 dropped due to not meeting accuracy requirement.



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte acetyl-fentanyl **Internal Standard** acetyl-fentanyl-d5

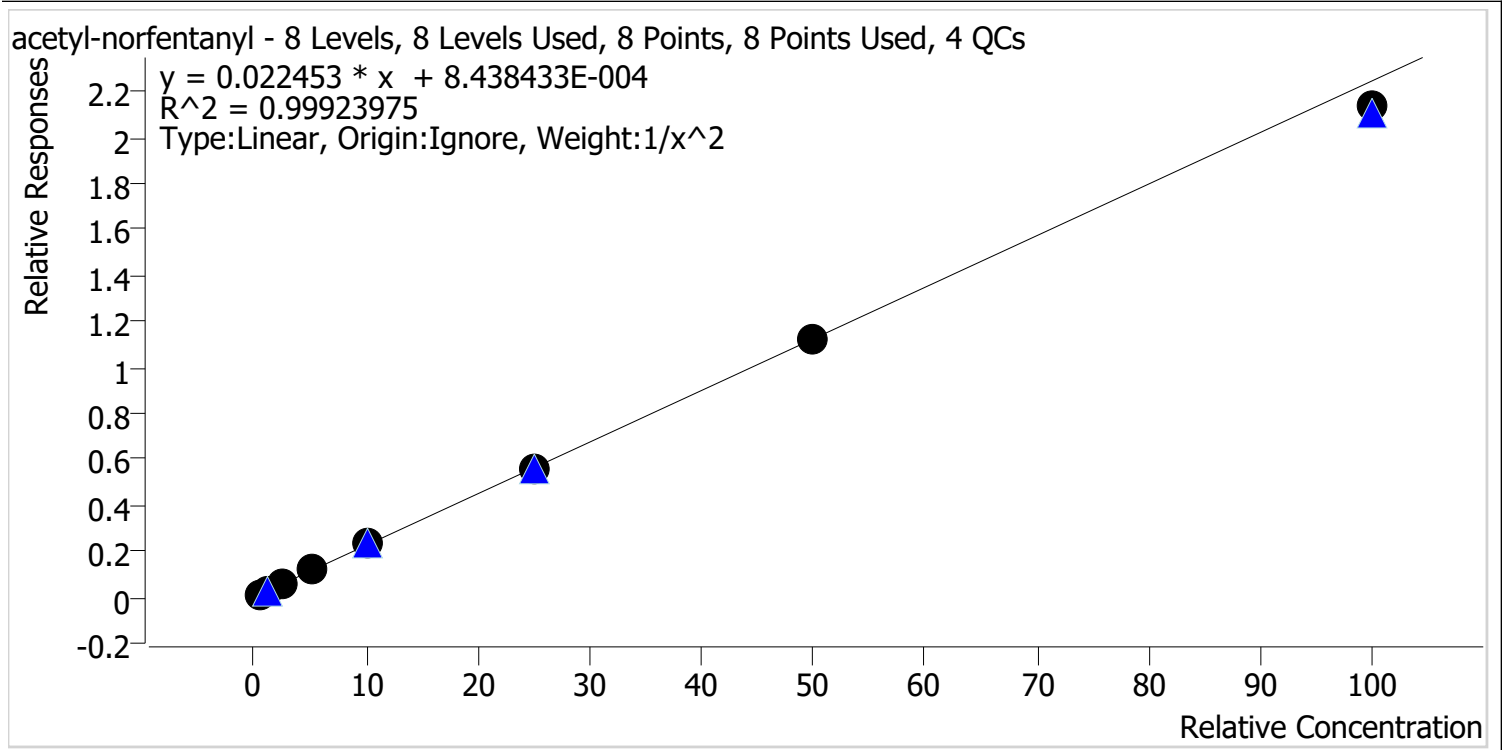


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	0.5	0.5	101.6
p2 Cal 2-10ng	2	✓	1.0	1.0	99.9
p2 Cal 3 -25ng	3	✓	2.5	2.4	94.1
p2 Cal 4-50ng	4	✓	5.0	4.8	96.4
p2 Cal 5-100ng	5	✓	10.0	9.9	99.2
p2 Cal 6-250ng	6	✓	25.0	25.6	102.3
p2 Cal 7-500ng	7	✓	50.0	50.6	101.2
p2 Cal 8-1000ng	8	✓	100.0	105.4	105.4



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte acetyl-norfentanyl **Internal Standard** acetyl-norfentanyl-d5

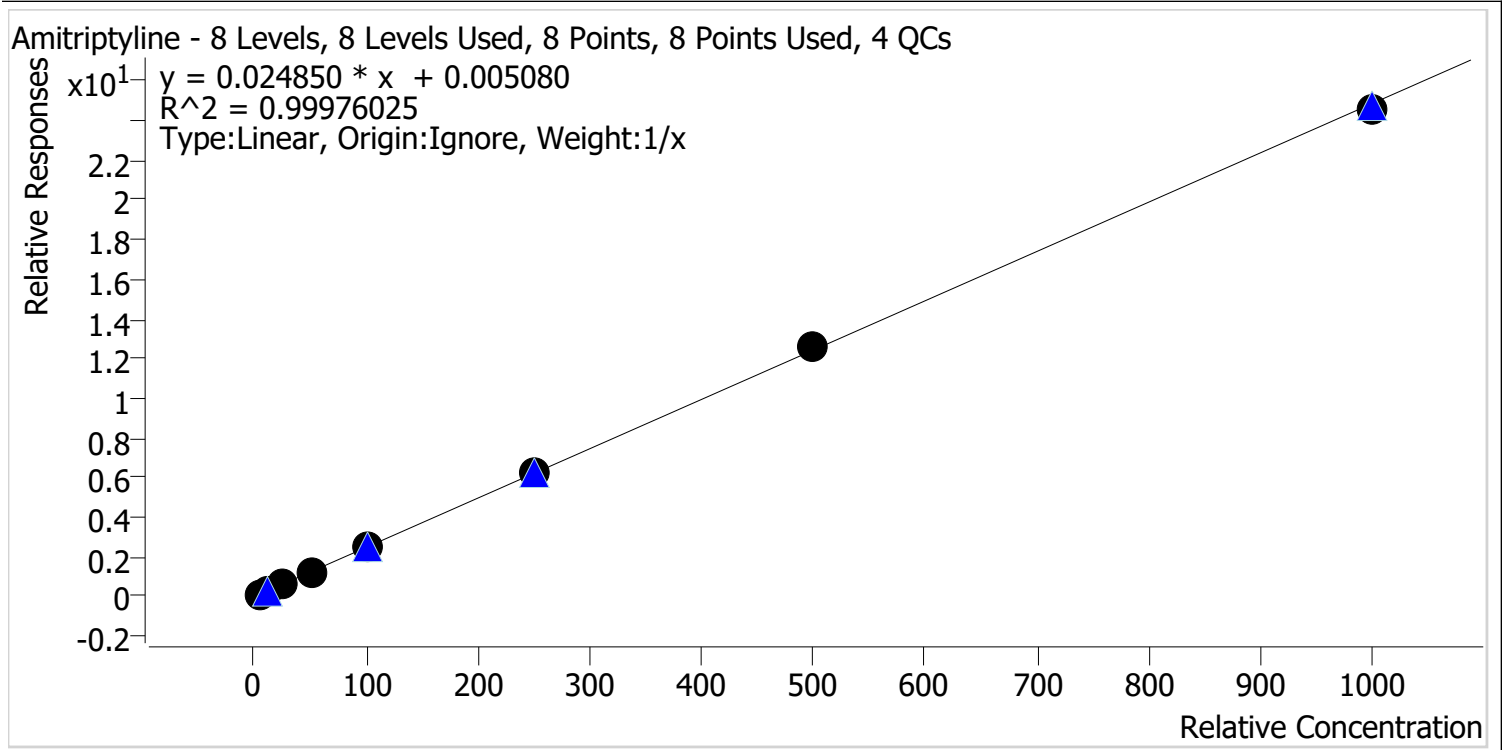


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	0.5	0.5	98.5
p2 Cal 2-10ng	2	✓	1.0	1.0	102.2
p2 Cal 3 -25ng	3	✓	2.5	2.5	100.5
p2 Cal 4-50ng	4	✓	5.0	5.1	102.2
p2 Cal 5-100ng	5	✓	10.0	10.2	101.8
p2 Cal 6-250ng	6	✓	25.0	25.1	100.4
p2 Cal 7-500ng	7	✓	50.0	49.7	99.3
p2 Cal 8-1000ng	8	✓	100.0	95.1	95.1



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Amitriptyline **Internal Standard** Amitriptyline-D3

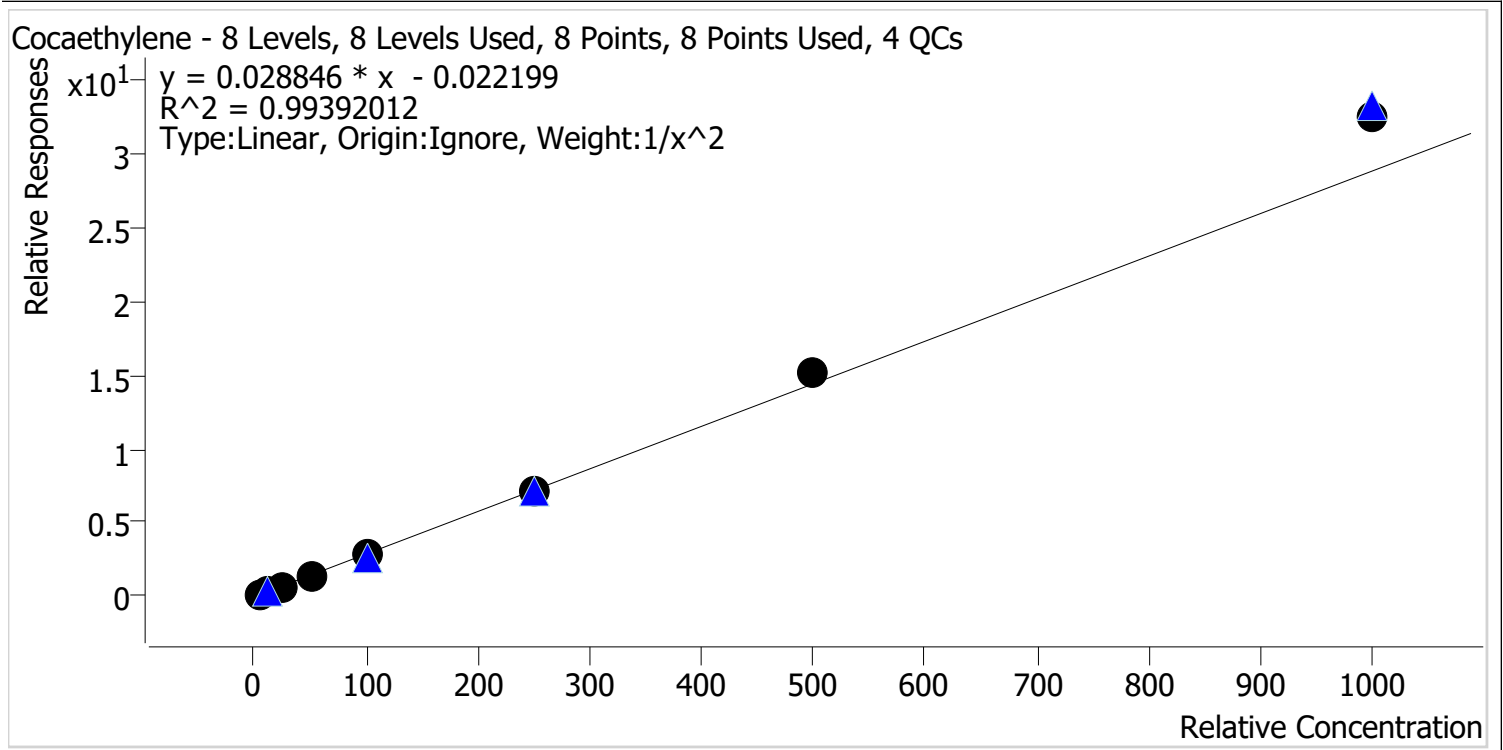


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.7	93.4
p2 Cal 2-10ng	2	✓	10.0	10.3	102.9
p2 Cal 3 -25ng	3	✓	25.0	24.9	99.5
p2 Cal 4-50ng	4	✓	50.0	50.4	100.8
p2 Cal 5-100ng	5	✓	100.0	102.2	102.2
p2 Cal 6-250ng	6	✓	250.0	251.7	100.7
p2 Cal 7-500ng	7	✓	500.0	509.0	101.8
p2 Cal 8-1000ng	8	✓	1000.0	986.9	98.7



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Cocaethylene **Internal Standard** Tapentadol-D3

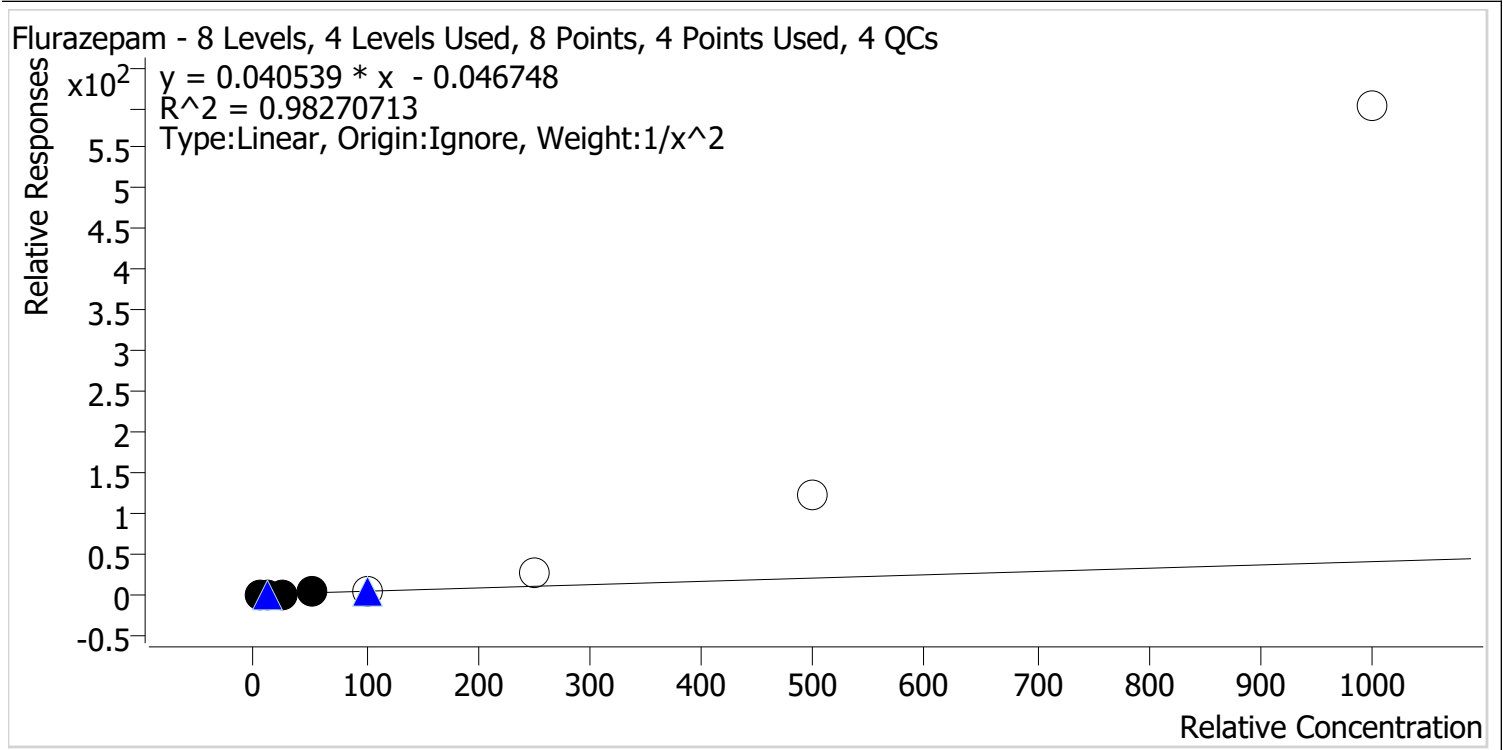


Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	5.1	102.7
p2 Cal 2-10ng	2	✓	10.0	9.9	99.4
p2 Cal 3 -25ng	3	✓	25.0	23.1	92.5
p2 Cal 4-50ng	4	✓	50.0	46.3	92.5
p2 Cal 5-100ng	5	✓	100.0	95.3	95.3
p2 Cal 6-250ng	6	✓	250.0	251.2	100.5
p2 Cal 7-500ng	7	✓	500.0	522.2	104.4
p2 Cal 8-1000ng	8	✓	1000.0	1126.9	112.7



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Flurazepam **Internal Standard** Estazolam-D5



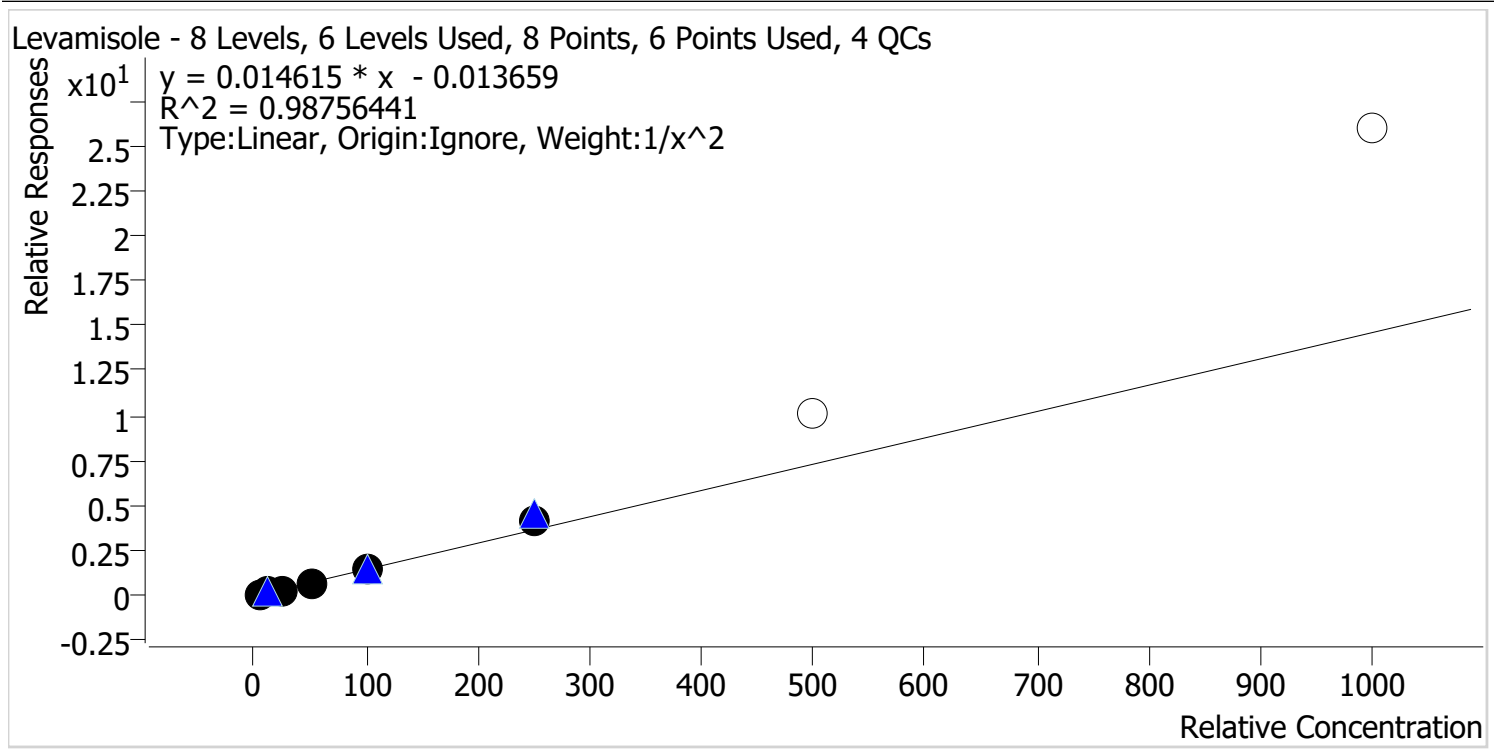
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	5.2	103.8
p2 Cal 2-10ng	2	✓	10.0	9.4	93.6
p2 Cal 3 -25ng	3	✓	25.0	22.8	91.1
p2 Cal 4-50ng	4	✓	50.0	55.7	111.4
p2 Cal 5-100ng	5	✗	100.0	153.2	153.2
p2 Cal 6-250ng	6	✗	250.0	655.4	262.1
p2 Cal 7-500ng	7	✗	500.0	3010.2	602.0
p2 Cal 8-1000ng	8	✗	1000.0	14844.8	1484.5

Calibrators 5, 6, 7, and 8 dropped due to not meeting accuracy requirement.



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Levamisole **Internal Standard** Tapentadol-D3



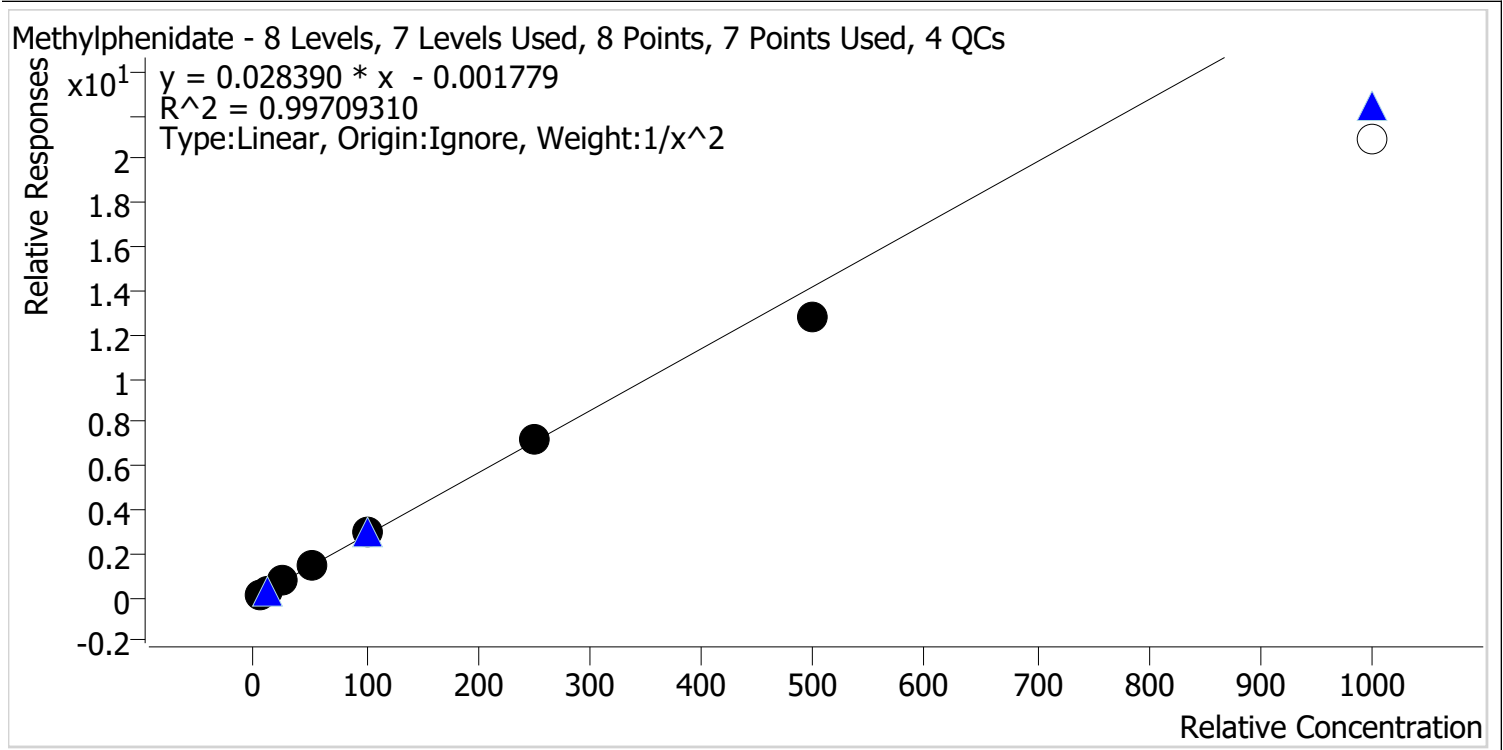
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	5.1	102.4
p2 Cal 2-10ng	2	✓	10.0	10.0	99.9
p2 Cal 3 -25ng	3	✓	25.0	22.8	91.0
p2 Cal 4-50ng	4	✓	50.0	46.5	92.9
p2 Cal 5-100ng	5	✓	100.0	97.2	97.2
p2 Cal 6-250ng	6	✓	250.0	291.4	116.5
p2 Cal 7-500ng	7	✗	500.0	687.0	137.4
p2 Cal 8-1000ng	8	✗	1000.0	1778.4	177.8

Calibrators 7 and 8 dropped due to not meeting accuracy requirement.



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ
 P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Methylphenidate **Internal Standard** Methylphenidate-D4



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.9	98.8
p2 Cal 2-10ng	2	✓	10.0	10.2	101.7
p2 Cal 3 -25ng	3	✓	25.0	25.0	100.1
p2 Cal 4-50ng	4	✓	50.0	50.8	101.5
p2 Cal 5-100ng	5	✓	100.0	105.4	105.4
p2 Cal 6-250ng	6	✓	250.0	254.7	101.9
p2 Cal 7-500ng	7	✓	500.0	453.6	90.7
p2 Cal 8-1000ng	8	✗	1000.0	737.0	73.7

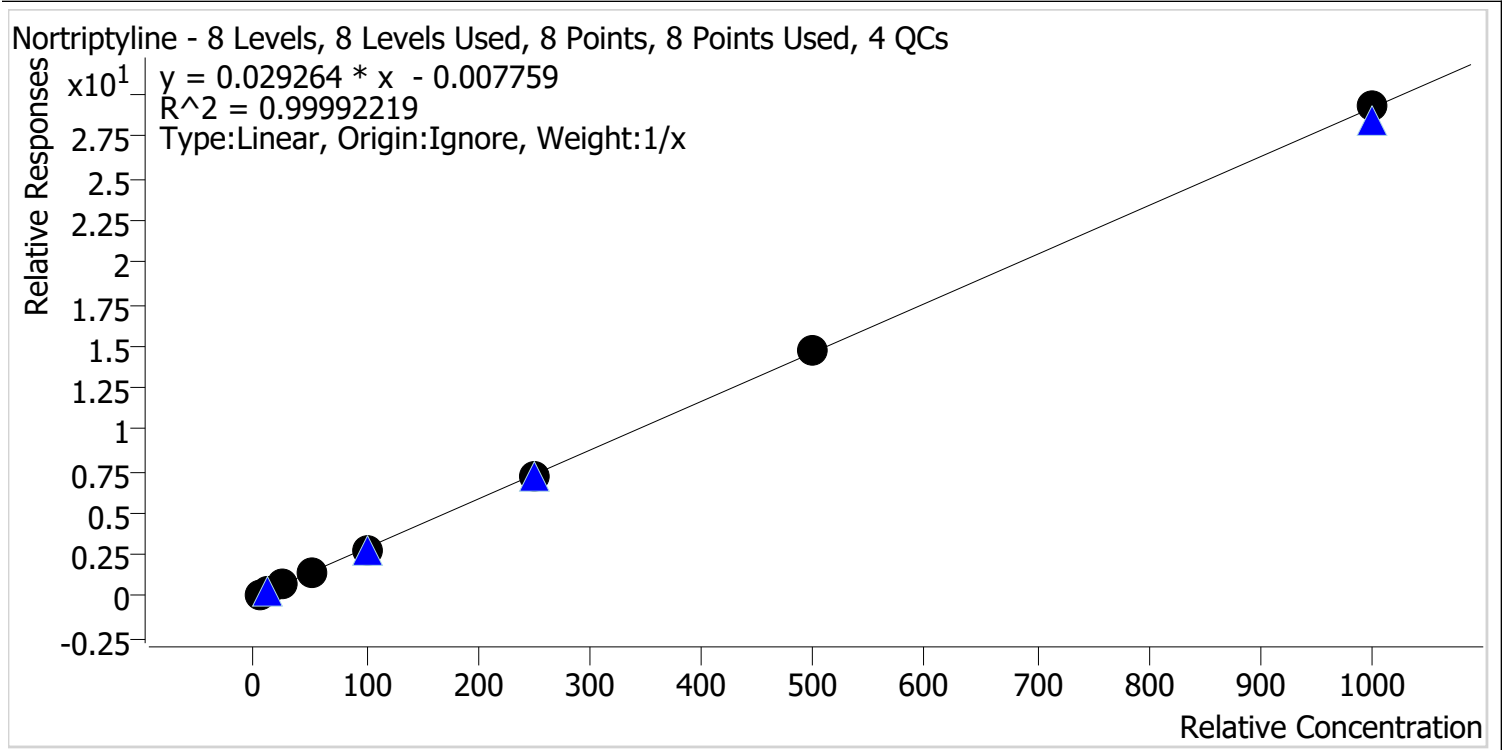
Calibrator 8 dropped due to not meeting accuracy requirement.

cg



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Nortriptyline **Internal Standard** Nortriptyline-d3



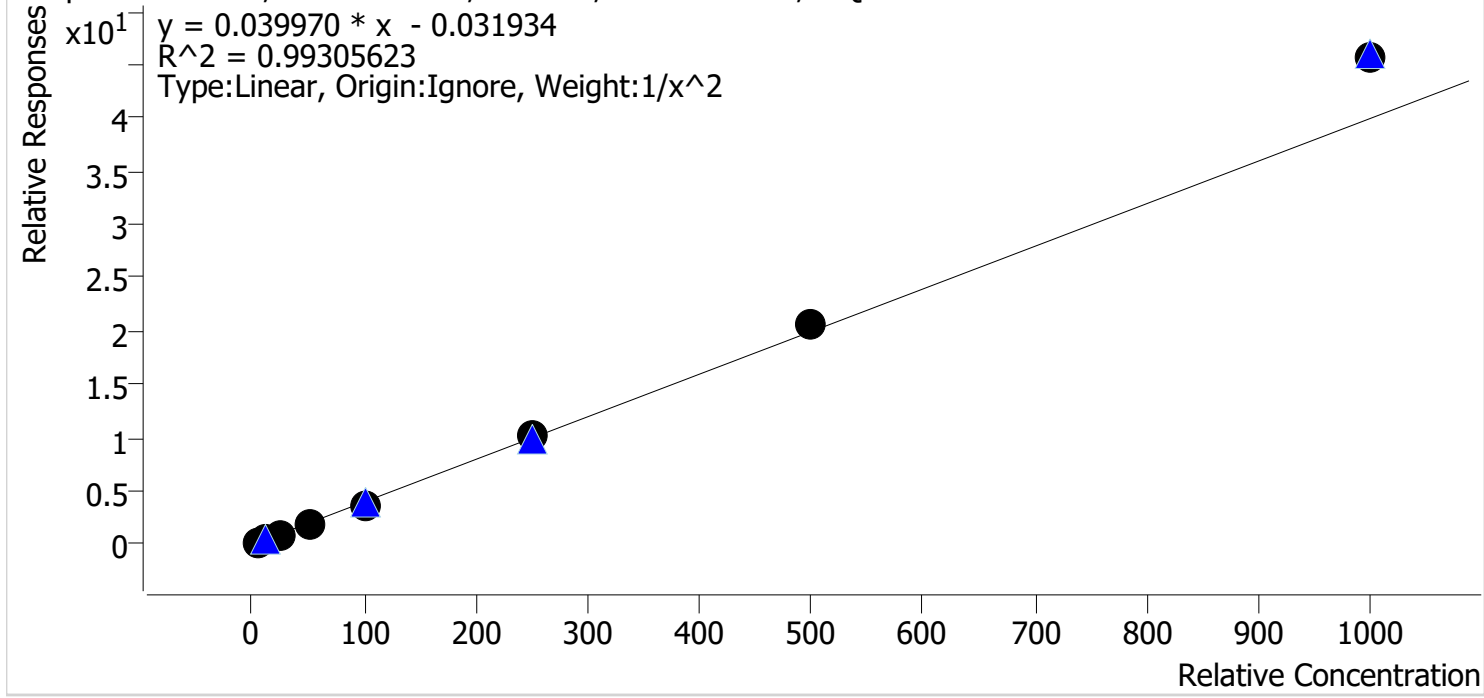
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	5.3	105.3
p2 Cal 2-10ng	2	✓	10.0	10.1	100.9
p2 Cal 3 -25ng	3	✓	25.0	24.4	97.8
p2 Cal 4-50ng	4	✓	50.0	49.1	98.2
p2 Cal 5-100ng	5	✓	100.0	98.2	98.2
p2 Cal 6-250ng	6	✓	250.0	246.9	98.8
p2 Cal 7-500ng	7	✓	500.0	502.8	100.6
p2 Cal 8-1000ng	8	✓	1000.0	1003.1	100.3



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Last Cal. Update 2/16/2022 2:44 PM
Analyst Name ISP\Datastor
Analyte Zaleplon **Internal Standard** Zaleplon-D4

Zaleplon - 8 Levels, 8 Levels Used, 8 Points, 8 Points Used, 4 QCs



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	5.1	102.8
p2 Cal 2-10ng	2	✓	10.0	9.9	99.3
p2 Cal 3 -25ng	3	✓	25.0	23.1	92.5
p2 Cal 4-50ng	4	✓	50.0	46.4	92.8
p2 Cal 5-100ng	5	✓	100.0	93.9	93.9
p2 Cal 6-250ng	6	✓	250.0	251.8	100.7
p2 Cal 7-500ng	7	✓	500.0	519.6	103.9
p2 Cal 8-1000ng	8	✓	1000.0	1141.2	114.1

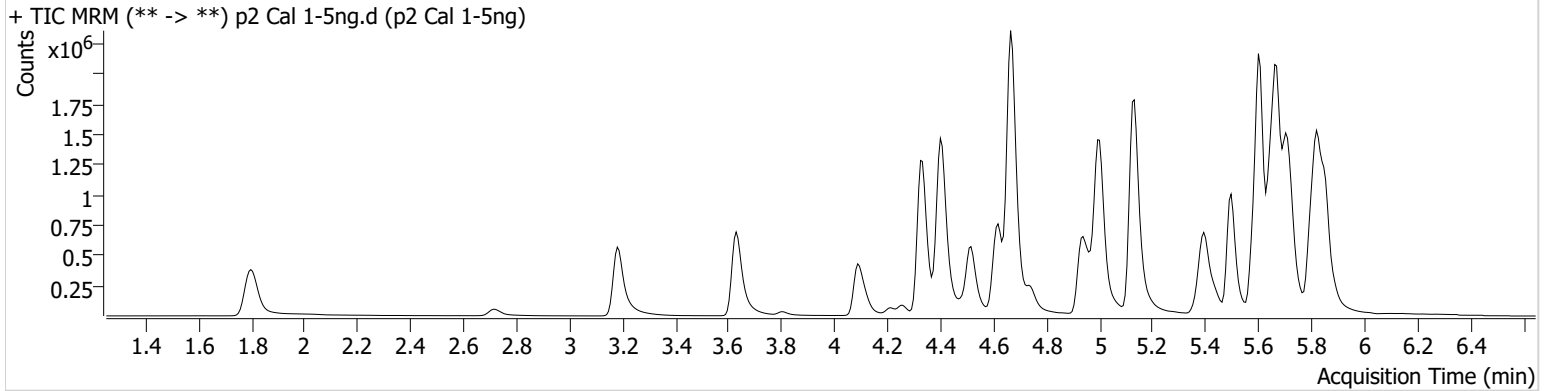
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 1-5ng.d
Type	Cal	Sample	p2 Cal 1-5ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-A5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 7:54:55 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	20159	653.25	82.8	285.96	2344492	0.5078 ng/ml
acetyl-norfentanyl	3.213	21024	1105.04	37.2	458.70	1766103	0.4926 ng/ml
Amitriptyline	5.706	83112	846.47	104.1	784.77	686154	4.6698 ng/ml
Cocaethylene	4.741	240055	2110.35	43.0	900.50	1906829	5.1339 ng/ml
Flurazepam	5.365	191283	21125.64	12.2	729.17	1168315	5.1919 ng/ml
Levamisole	2.714	116590	3198.13	86.4	1167.55	1906829	5.1183 ng/ml
Maprotiline	5.672	50069	291.17			686154	3.8624 ng/ml
Methylphenidate	4.342	420616	2771.12	22.5	830.75	3037699	4.9398 ng/ml
Nortriptyline	5.721	89370	444.77	35.1	245.03	610843	5.2646 ng/ml
Zaleplon	5.409	130110	215650.19	78.5	2972.87	750125	5.1385 ng/ml

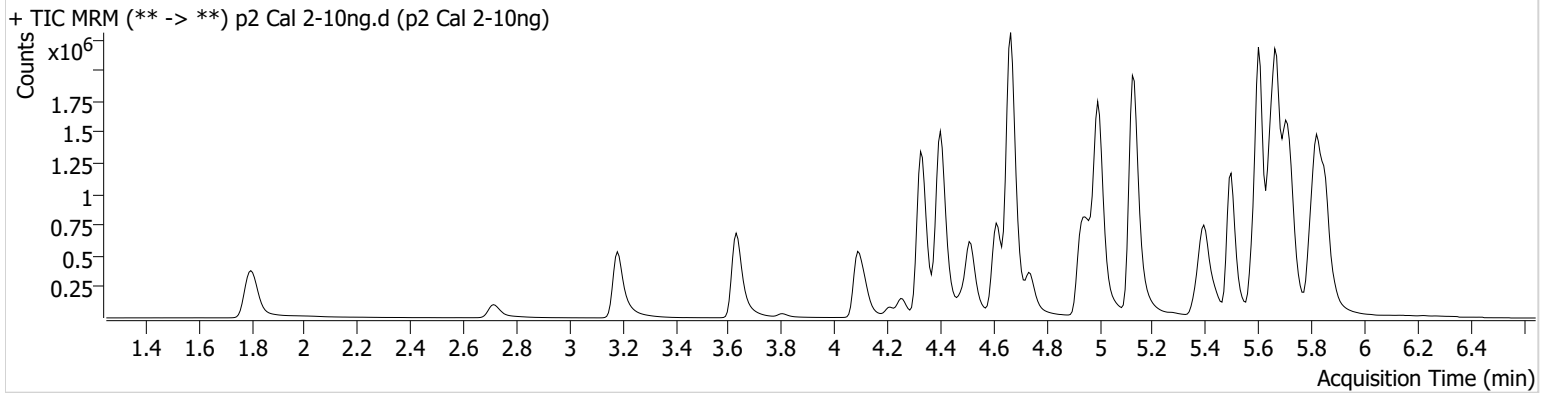
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 2-10ng.d
Type	Cal	Sample	p2 Cal 2-10ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-B5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 8:05:50 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	35917	449.15	88.3	6318.26	2061568	0.9987 ng/ml
acetyl-norfentanyl	3.213	39301	2229.94	37.9	1872.11	1651883	1.0220 ng/ml
Amitriptyline	5.699	154011	2021.68	99.6	1007.12	590357	10.2935 ng/ml
Cocaethylene	4.741	457120	11810.47	42.8	4437.32	1728768	9.9363 ng/ml
Flurazepam	5.359	347170	341106.38	12.3	2763.38	1043730	9.3582 ng/ml
Levamisole	2.714	228760	4187.48	86.1	3507.76	1728768	9.9889 ng/ml
Maprotiline	5.672	86706	572.57			590357	11.0514 ng/ml
Methylphenidate	4.335	784223	2510.59	22.9	989.02	2734140	10.1656 ng/ml
Nortriptyline	5.721	146521	2111.84	35.6	5144.93	509846	10.0854 ng/ml
Zaleplon	5.403	250442	117606.31	71.0	55930.20	686424	9.9270 ng/ml

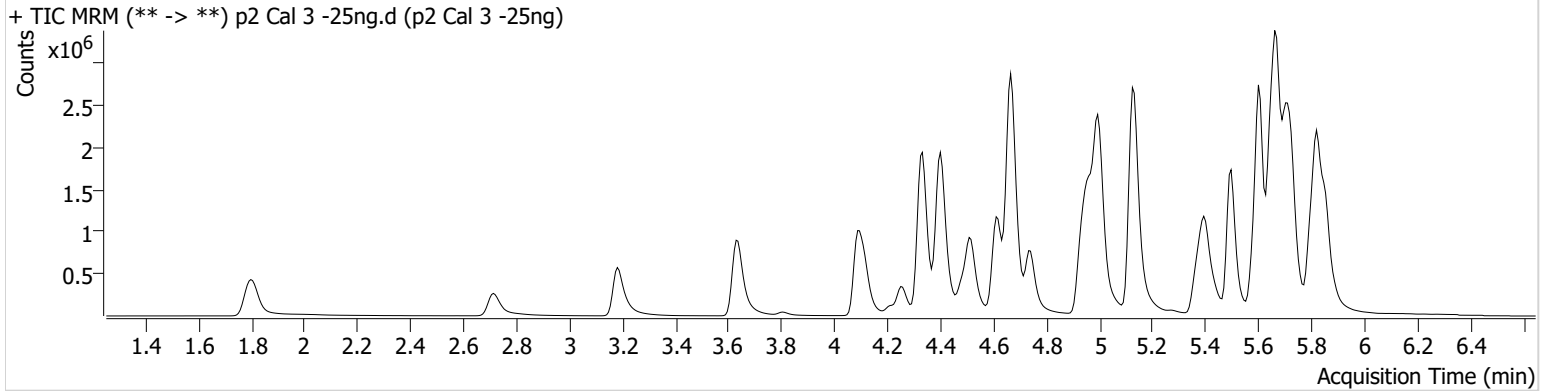
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 3 -25ng.d
Type	Cal	Sample	p2 Cal 3 -25ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-C5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 8:16:34 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	94026	888.90	87.1	7884.14	2252164	2.3520 ng/ml
acetyl-norfentanyl	3.213	100718	5242.81	37.0	1441.68	1759320	2.5121 ng/ml
Amitriptyline	5.699	416680	1281.21	100.0	2815.37	668599	24.8742 ng/ml
Cocaethylene	4.741	1155959	91670.01	43.5	1414.89	1791797	23.1347 ng/ml
Flurazepam	5.359	902742	16207.87	12.2	7483.09	1029422	22.7851 ng/ml
Levamisole	2.714	571340	55128.17	86.3	3110.84	1791797	22.7526 ng/ml
Maprotiline	5.672	213094	791.48			668599	27.7685 ng/ml
Methylphenidate	4.335	2058135	5404.03	22.6	2310.17	2905592	25.0125 ng/ml
Nortriptyline	5.721	388821	2712.49	35.7	1749.13	549640	24.4382 ng/ml
Zaleplon	5.403	630718	3113.10	72.4	241902.58	707006	23.1181 ng/ml

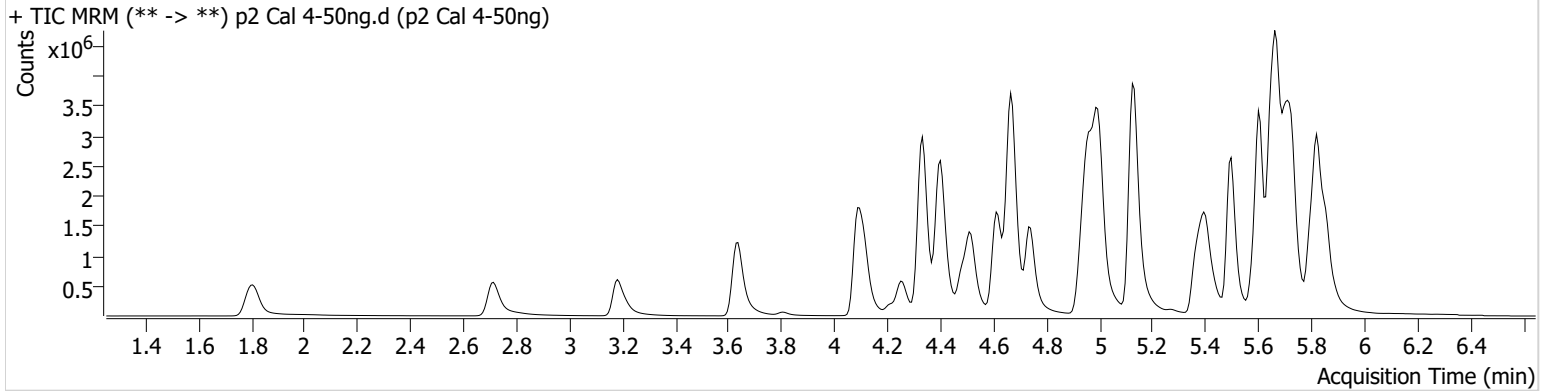
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 4-50ng.d
Type	Cal	Sample	p2 Cal 4-50ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-D5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 8:27:17 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	197972	4089.28	82.2	462.05	2297819	4.8223 ng/ml
acetyl-norfentanyl	3.207	211463	5635.63	37.4	1177.01	1830447	5.1076 ng/ml
Amitriptyline	5.699	807616	2432.81	98.2	129.36	641942	50.4220 ng/ml
Cocaethylene	4.741	2374114	5786.01	44.1	4667.58	1809620	46.2509 ng/ml
Flurazepam	5.359	1863084	2019.56	12.6	3263.60	842217	55.7205 ng/ml
Levamisole	2.714	1204291	173123.61	84.6	18062.61	1809620	46.4703 ng/ml
Maprotiline	5.672	376680	4692.01			641942	53.8456 ng/ml
Methylphenidate	4.335	4305310	6782.18	22.5	4080.01	2991464	50.7558 ng/ml
Nortriptyline	5.721	712091	6437.63	36.3	2782.34	498153	49.1117 ng/ml
Zaleplon	5.403	1169651	941139.72	71.2	346831.10	641730	46.3994 ng/ml

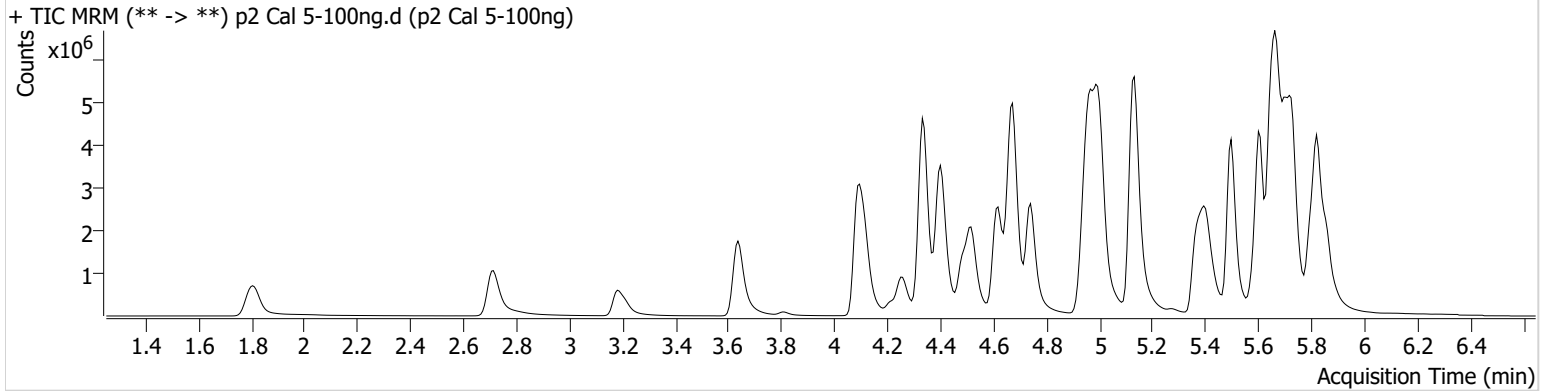
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 5-100ng.d
Type	Cal	Sample	p2 Cal 5-100ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-E5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 8:38:00 AM		
Sample Info.			

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	365898	1156.38	82.9	6477.82	2058904	9.9156 ng/ml
acetyl-norfentanyl	3.213	403644	15287.27	37.7	4963.51	1759119	10.1819 ng/ml
Amitriptyline	5.699	1450601	3489.80	96.8	4061.73	570159	102.1765 ng/ml
Cocaethylene	4.741	4330774	164657.39	44.8	7719.51	1588169	95.3035 ng/ml
Flurazepam	5.358	3551551	49701.85	12.7	372.50	576195	153.1984 ng/ml
Levamisole	2.714	2235533	5354.54	86.4	58936.72	1588169	97.2493 ng/ml
Maprotiline	5.679	566812	1639.11			570159	93.4721 ng/ml
Methylphenidate	4.335	8100580	9526.18	22.1	56774.18	2709210	105.3806 ng/ml
Nortriptyline	5.721	1140038	51494.77	36.3	4176.86	397653	98.2312 ng/ml
Zaleplon	5.409	1930441	949.34	72.1	44287.71	518523	93.9427 ng/ml

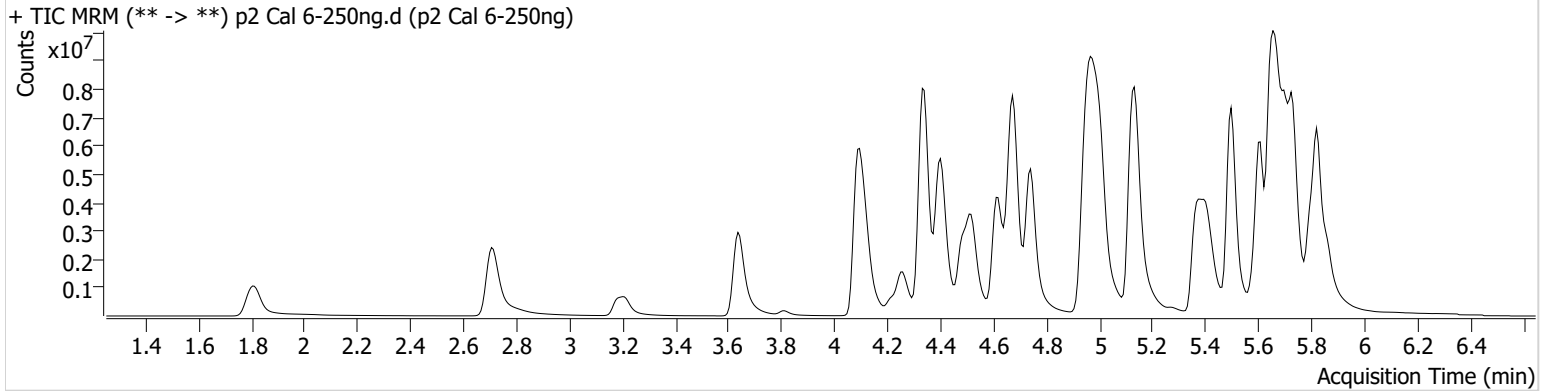
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 6-250ng.d
Type	Cal	Sample	p2 Cal 6-250ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-F5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 8:48:44 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	793753	3714.54	81.3	13178.23	1728202	25.5795 ng/ml
acetyl-norfentanyl	3.213	969449	131025.31	37.4	3338.04	1717484	25.1020 ng/ml
Amitriptyline	5.699	2778117	2745.31	93.7	6759.67	443870	251.6574 ng/ml
Cocaehtylene	4.741	9148978	19541.40	46.0	5371.92	1266475	251.2044 ng/ml
Flurazepam	5.359	7269904	13664.39	12.8	591.27	274114	655.3708 ng/ml
Levamisole	2.707	5375601	331919.46	86.3	243751.58	1266475	291.3624 ng/ml
Maprotiline	5.679	690301	974.81			443870	148.0513 ng/ml
Methylphenidate	4.342	16869524	1629.10	22.7	979.59	2333504	254.7006 ng/ml
Nortriptyline	5.728	1802679	37883.08	34.6	765.90	249732	246.9287 ng/ml
Zaleplon	5.409	3334679	2223846.57	69.8	10075.63	332435	251.7633 ng/ml

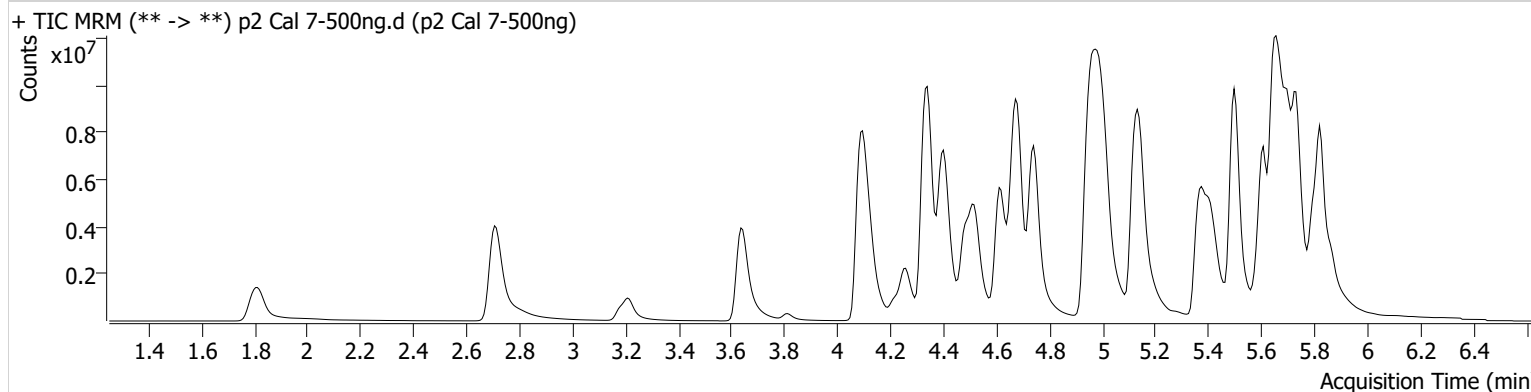
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 7-500ng.d
Type	Cal	Sample	p2 Cal 7-500ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-G5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 8:59:28 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.686	1192894	14615.44	85.0	6445.94	1312682	50.5820 ng/ml
acetyl-norfentanyl	3.213	1740055	36488.25	37.0	10588.68	1559048	49.6708 ng/ml
Amitriptyline	5.699	3853676	675.20	93.5	47089.13	304563	508.9695 ng/ml
Cocaethylene	4.741	13925344	8378.41	47.7	47564.97	925805	522.2104 ng/ml
Flurazepam	5.359	10908787	530.32	12.9	2426.99	89429	3010.1514 ng/ml
Levamisole	2.707	9282396	295877.44	86.5	210188.59	925805	686.9728 ng/ml
Maprotiline	5.679	699156	570.40			304563	220.0787 ng/ml
Methylphenidate	4.343	23592186	22827.79	25.8	5711.72	1832155	453.6229 ng/ml
Nortriptyline	5.728	2131730	34919.36	36.1	5333.90	144949	502.8123 ng/ml
Zaleplon	5.409	4296236	479284.58	71.7	435.11	207185	519.5927 ng/ml

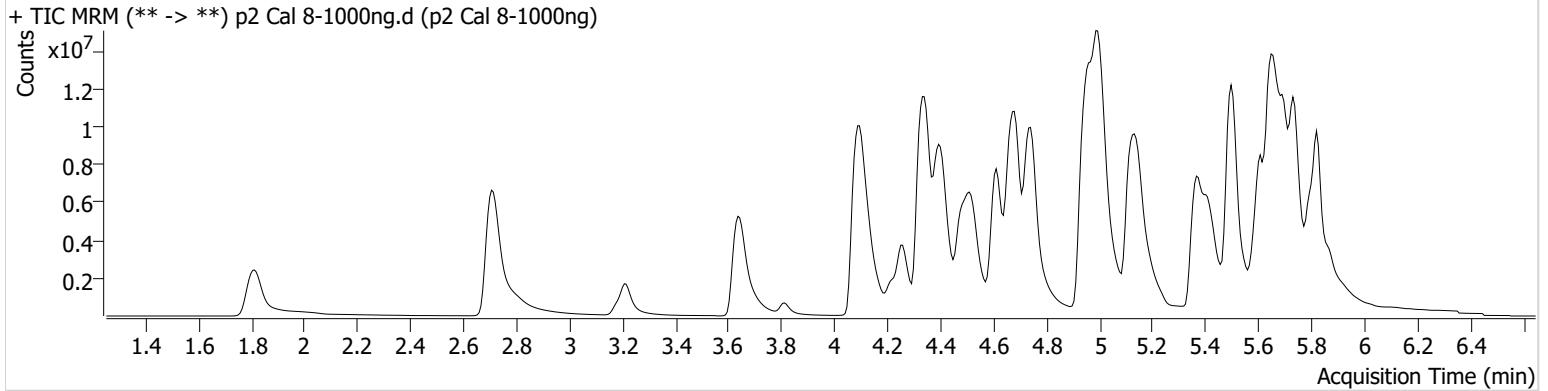
AM #28 Multi-Drug Quant. Results



Batch results D:\MassHunter\Data\2022\AM 27-28\AM 27 28 Urines 2-11-22 CS\QuantResults\AM 28 MDQ P2.batch.bin
Calibration Last Update 2/16/2022 2:44:50 PM

Instrument	Falco (069901)	Data File	p2 Cal 8-1000ng.d
Type	Cal	Sample	p2 Cal 8-1000ng
Acq. Method	AM 28 MDQ P2 102521.m	Operator	Celena Shrum
Sample Position	P6-H5	Comment	
Injection Volume	5		
Acq. Date-Time	2/12/2022 9:10:10 AM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
acetyl-fentanyl	4.679	1995739	52938.00	85.2	11291.06	1053553	105.4070 ng/ml
acetyl-norfentanyl	3.213	3494838	313353.07	36.7	114169.40	1636548	95.0720 ng/ml
Amitriptyline	5.699	5015382	1704.83	91.5	1926.41	204453	986.9371 ng/ml
Cocaethylene	4.741	21662056	226440.79	49.2	127185.92	666845	1126.9129 ng/ml
Flurazepam	5.358	15475681	74079.73	13.2	6643.25	25718	14844.7892 ng/ml
Levamisole	2.707	17322986	4552.63	86.8	192630.49	666845	1778.4190 ng/ml
Maprotiline	5.672	615993	6809.31			204453	289.8556 ng/ml
Methylphenidate	4.342	30721615	1223.92	31.1 High	3992.85	1468370	737.0118 ng/ml
Nortriptyline	5.721	2340767	1521.41	35.7	22057.53	79759	1003.1279 ng/ml
Zaleplon	5.409	5124695	18265.27	69.9	334031.43	112426	1141.2246 ng/ml