

REVIEWED

By Anne Nord at 3:40 pm, Feb 27, 2020

2/11/2020

\$ CG

TS

Worklist: 3990

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>
P2020-0053	1	BCK	AM 28 Blood Multi-Drug Quant Panel 2 by LC-QQQ
P2020-0384	1	BCK	AM 28 Blood Multi-Drug Quant Panel 2 by LC-QQQ






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Worklist: 4027

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>
P2020-0406	1	BCK	AM 28 Blood Multi-Drug Quant Panel 2 by LC-QQQ



Worklist: 4029

<u>LAB_CASE</u>	<u>ITEM</u>	<u>ITEM_TYPE</u>	<u>DESCRIPTION</u>	
M2020-0097	3	UCK	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	
M2020-0346	3	UCK	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	
P2020-0498	3	URINE	AM 28 Urine Multi-Drug Confirmation Panel 2 by LC-QQ	

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Worklist: 4032

<u>LAB CASE</u>	<u>ITEM</u>	<u>ITEM TYPE</u>	<u>DESCRIPTION</u>
C2020-0035	1	BCK	AM 28 Blood Multi-Drug Quant Panel 2 by LC-QQQ



**Idaho State Police
Forensic Services
Toxicology Discipline**

Request for Departure from an Analytical Method

Date of Request

01/13/2020

Forensic Scientist

Celena Shrum

Analytical Methods

Toxicology AM #25, Toxicology AM #26/27, and AM #28

Deviation

The expiration dates listed for the current batch of PinPoint ToxBox extraction plates are as follows:

- *MDS (batch IDP-107-190725)- Expiration is 1/25/2020
- *THC (batch IDP-108-190716)- Expiration is 1/16/2020
- *MDQ P1 (batch IDP-111-190729)- Expiration is 1/29/2020
- *MDQ P2 (batch IDP-112-190730)- Expiration is 1/30/2020

I am issuing a deviation to allow for the use of the remaining plates of these batches. The controls will be used to evaluate if the plate is working as intended. In addition, at least one external control must be included for each run.

Celena Shrum

Date: 01/13/2020

Celena Shrum

Toxicology Discipline Lead

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

Extraction Date: 02/24/2020

Analyst: Celena Shrum

Plate lot#: 190730

Plate Expiration: 01/30/20

Mobile phase A: 5mM Amm Form + 0.01% FA**Mobile phase B:** 0.01% Formic Acid in MeOH**Blank Blood Lot:** 445283-3**Urine Blank 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. 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 5 minutes at ambient temperature. Pipette **250µL blood (calibrated pipette) or 250µL hydrolyzed urine** in wells of analytical (standards) plate. **Pipette ID: #42**
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 067105*
- 4. Pipette **250µL 0.5M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **300µL of blood+base/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: 067104**
- 8. Wait 5 minutes.
- 9. Add **900uL ethyl acetate**.
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. **(10-15 PSI- Selector to the left)**.
- 12. Add **900uL ethyl acetate**.
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 15 seconds. **(10-15 PSI- Selector to the left)**.
- 15. 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. *SPE Dry ID: 067103*
- 16. 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.

COMMENTS:

Only evaluated 7-aminoflunitrazepam, etizolam, flunitrazepam, flurazepam (curve limited to 5-250), MDA, MDMA, methocarbamol (curve limited to 5-250), midazolam, and pseudoephedrine. Tamara Salazar, Sarah Pickle, and Celena Shrum all had samples in this batch. Celena Shrum acted as the primary analyst and performed steps 3-16.

I, Tamara Salazar, approved of all steps in this method. TS 02/26/20

I, Sarah Pickle, approved of all steps in this method. SP 2/26/20



Idaho State Police Forensic Services

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

Methanol External Control Solution (Lot: 022420)
100 ul each 1 mg/mL stock solution in 9600 ul MeOH

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	193941	
Midazolam	Cerilliant	FE01161704	04/30/2022
Etizolam	Cerilliant	FN06061606	11/30/2020
Flunitrazepam	Cerilliant	FE01161704	04/30/2022
Flurazepam	Cerilliant	FE02101501	04/30/2020
Prepared:	02/24/2020		
Prepared By:	Celena Shrum		
Expires:	Per AM 21 reference materials used for qualitative purposes do not have an expiration date.		

FE08051602, Exp: 08/31/2021
09/23/20 TS
09/23/2020

Blood External Control Solution (Lot: WS022420)
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	Hemostat	445283-1
Methanol External Control Solution	-	022420
Prepared:	02/24/2020	
Prepared by:	Celena Shrum	
Expires:	Per AM 21 reference materials used for qualitative purposes do not have an expiration date.	

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Urine External Control Solution (Lot: WS022420)

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	-	022420
Prepared:	02/24/2020	
Prepared by:	Celena Shrum	
Expires:	Per AM 21 reference materials used for qualitative purposes do not have an expiration date.	

TS \$CS

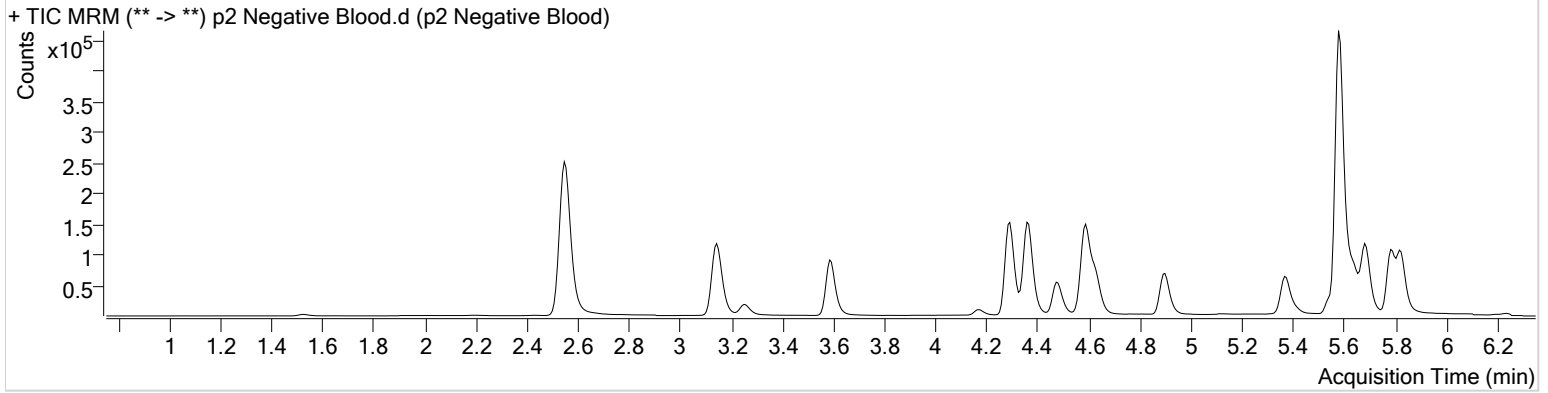


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 Negative Blood.d
Type	Sample	Sample	p2 Negative Blood
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-D11	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 6:22:36 PM		
Sample Info.			

Sample Chromatogram



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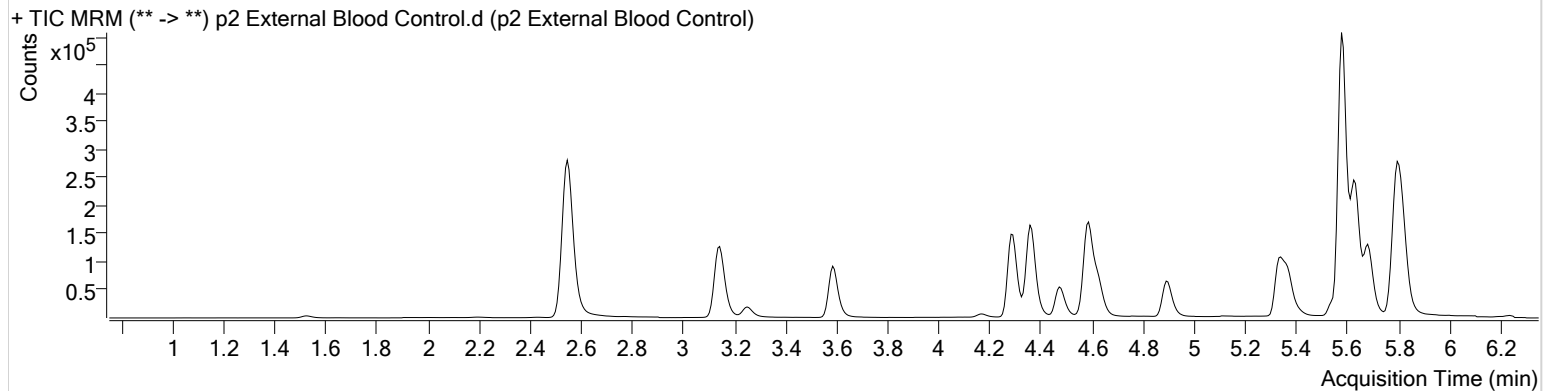


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 External Blood Control.d
Type	Sample	Sample	p2 External Blood Control
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-C11	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 6:33:06 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Etizolam	5.801	260290	6334.25	26.6	∞	223224	96.2376 ng/ml
Flunitrazepam	5.632	203546	∞	42.1	1556.44	46534	89.9478 ng/ml
Flurazepam	5.330	228660	∞	13.7	26751.69	46534	74.7745 ng/ml
Midazolam	5.795	86813	1141.34	83.3	3109.47	99207	99.0499 ng/ml

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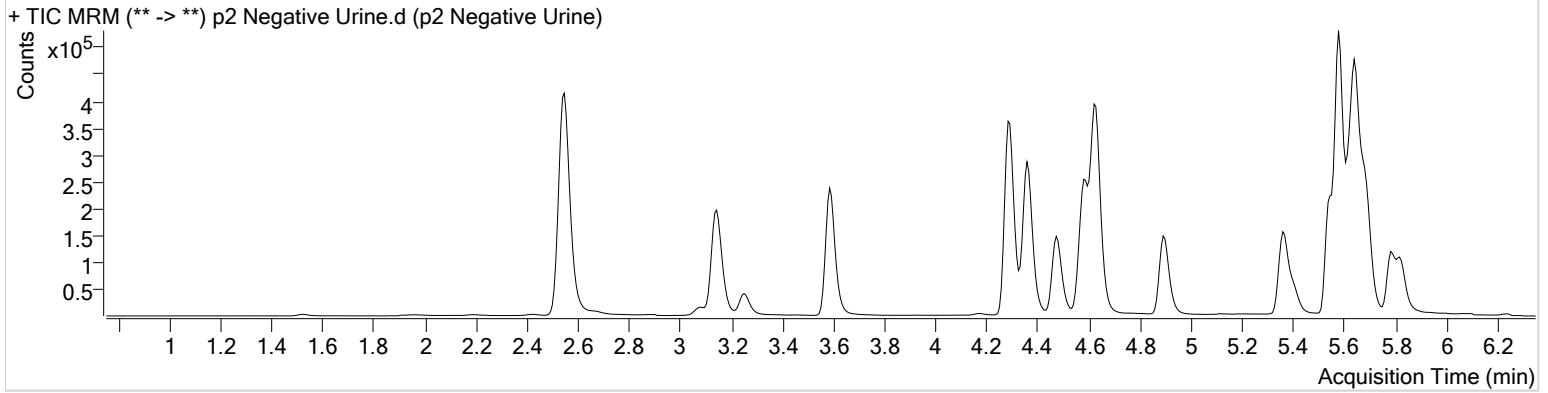


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 Negative Urine.d
Type	Sample	Sample	p2 Negative Urine
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-B11	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 6:43:36 PM		
Sample Info.			

Sample Chromatogram



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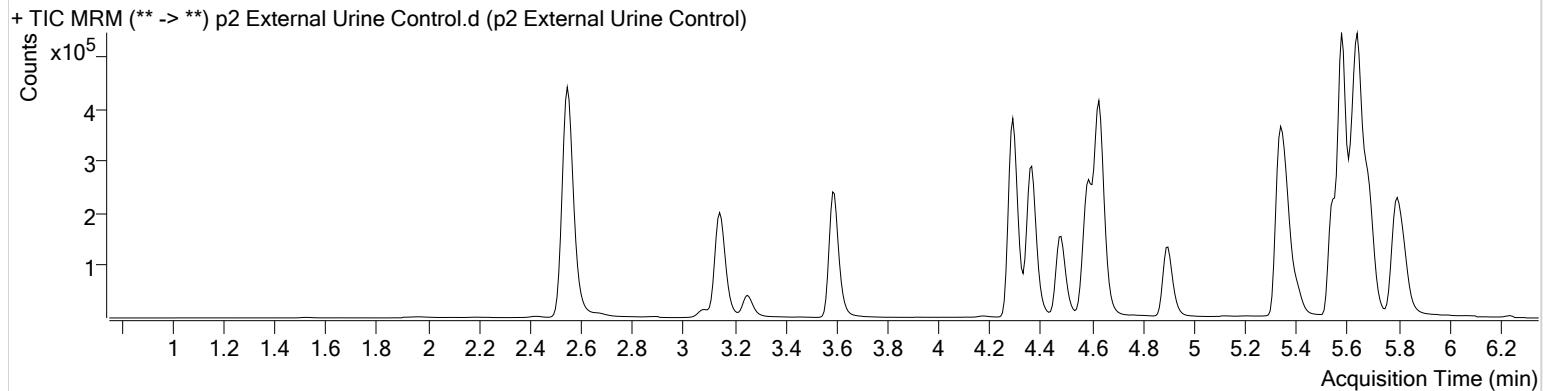


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 External Urine Control.d
Type	Sample	Sample	p2 External Urine Control
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-A11	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 6:54:06 PM		

Sample Chromatogram



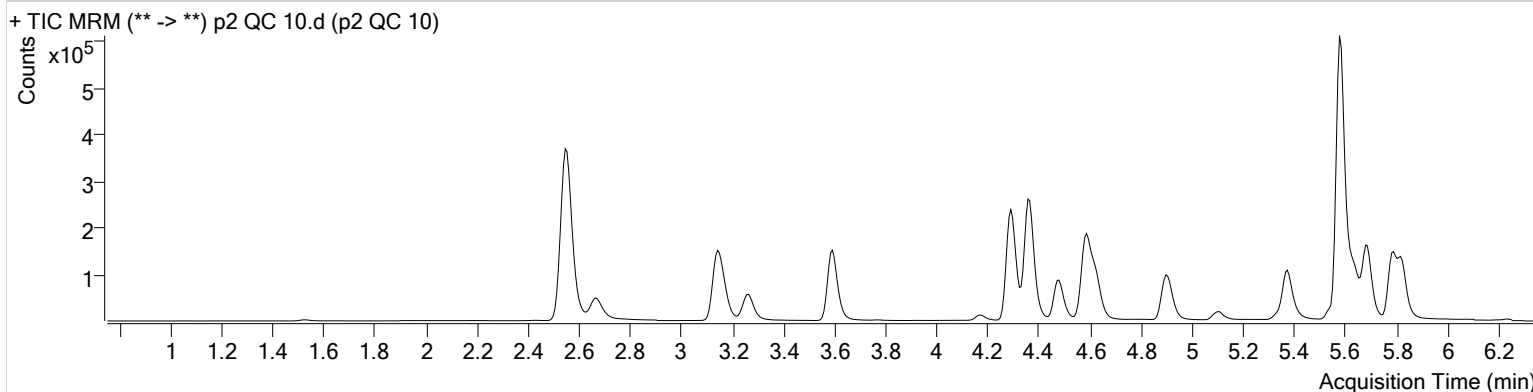
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
Etizolam	5.794	131635	1162.39	25.8	427.15	198260	54.4291 ng/ml
Flunitrazepam	5.632	98873	1634.96	40.9	∞	35757	56.8498 ng/ml
Flurazepam	5.330	736610	∞	13.6	8791.74	35757	310.7135 ng/ml
Midazolam	5.795	74090	2013.32	86.8	1220.00	154056	54.2028 ng/ml

AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 QC 10.d
Type	QC	Sample	p2 QC 10
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-H11	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 4:37:27 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	63156	627.61	24.6	1054.29	362581	10.3865 ng/ml
Etizolam	5.801	32936	∞	25.1	16369.70	216989	11.7826 ng/ml
Flunitrazepam	5.632	22113	∞	40.6	7397.79	45387	9.9927 ng/ml
Flurazepam	5.330	25155	1327.39	14.2	1101.25	45387	9.2022 ng/ml
MDA	3.173	56567	312.23	18.7	1788.59	99977	10.5001 ng/ml
MDMA	3.266	69078	3671.95	61.4	1725.63	58765	9.4532 ng/ml
Methocarbamol	4.373	10312	∞	82.8	∞	974873	9.3282 ng/ml
Midazolam	5.795	10913	270.15	86.9	781.51	117012	10.0922 ng/ml
Pseudoephedrine	2.556	216546	2041.93	15.3	1810.15	974873	10.1457 ng/ml

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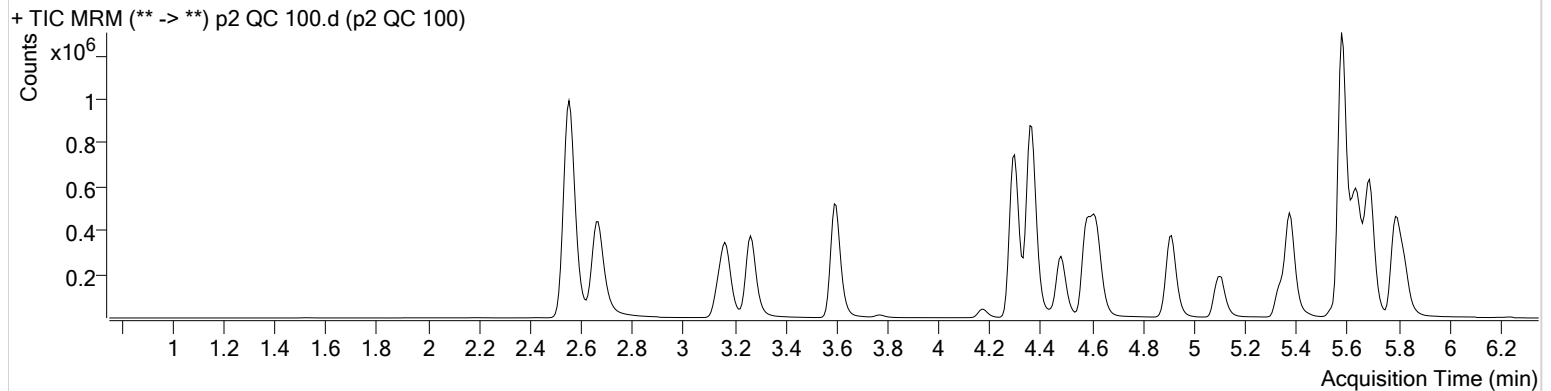


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 QC 100.d
Type	QC	Sample	p2 QC 100
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-G11	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 4:58:28 PM		

Sample Chromatogram



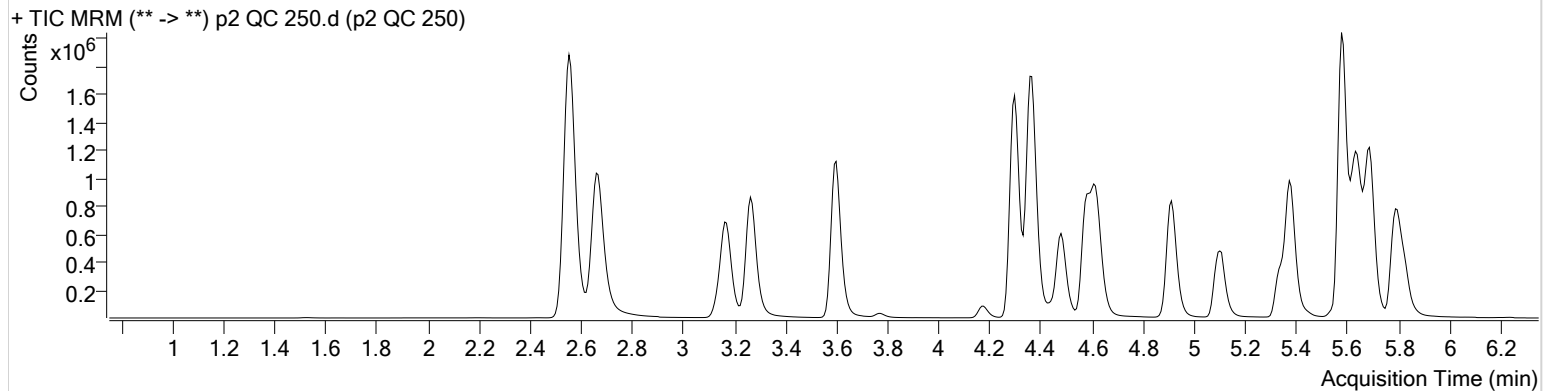
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	654104	1424.68	24.9	6753.48	387216	107.1957 ng/ml
Etizolam	5.801	281653	9873.53	27.4	∞	211355	110.1066 ng/ml
Flunitrazepam	5.632	213594	4081.15	41.0	∞	43853	100.1614 ng/ml
Flurazepam	5.330	296673	317451.92	13.6	486.47	43853	102.6200 ng/ml
MDA	3.173	497841	4255.93	18.7	596.19	91875	104.6513 ng/ml
MDMA	3.266	635645	36924.18	61.4	3170.53	55157	97.3868 ng/ml
Methocarbamol	4.373	94282	∞	84.5	∞	956398	96.9884 ng/ml
Midazolam	5.795	105563	1832.50	87.3	2696.51	116078	102.9581 ng/ml
Pseudoephedrine	2.556	2064972	∞	15.3	∞	956398	98.4716 ng/ml

AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument Falco **Data File** p2 QC 250.d
Type QC **Sample** p2 QC 250
Acq. Method MDQ P2 Combined 092319.m **Operator** Celena Shrum
Sample Position P1-F11 **Comment**
Injection Volume 2
Acq. Date-Time 2/24/2020 5:19:30 PM
Sample Info.

Sample Chromatogram



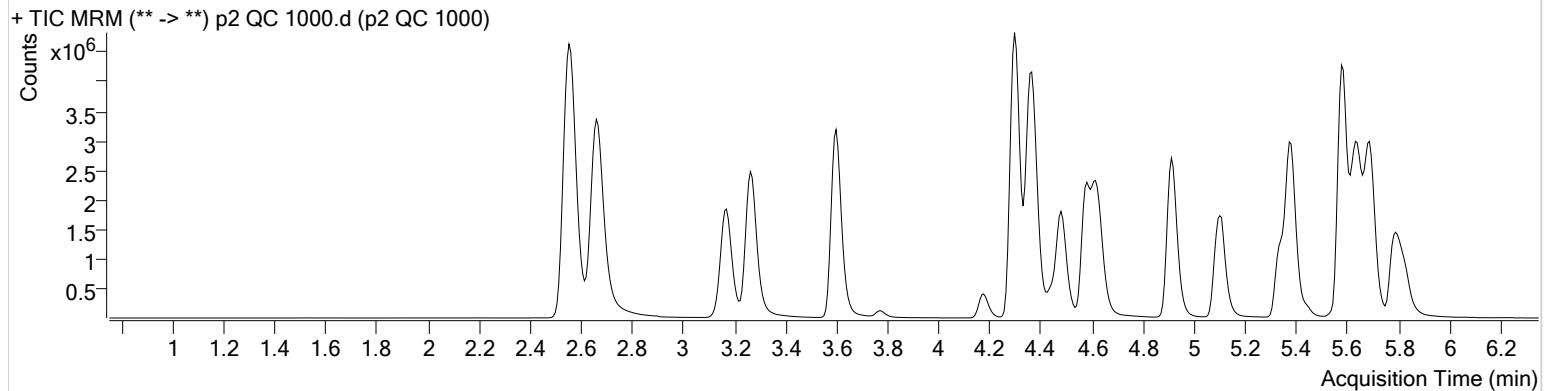
Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	1584889	26668.70	24.9	3797.23	400052	252.4009 ng/ml
Etizolam	5.801	557042	∞	26.4	∞	179447	257.6239 ng/ml
Flunitrazepam	5.632	438655	11761.24	40.8	15037.22	39273	229.7247 ng/ml
Flurazepam	5.330	721230	∞	13.2	∞	39273	277.0824 ng/ml
MDA	3.173	1151120	34556.08	18.5	3108.87	88199	252.7327 ng/ml
MDMA	3.266	1534008	348473.71	61.4	72378.85	54569	238.3260 ng/ml
Methocarbamol	4.373	198118	16011.63	84.7	∞	886723	221.3506 ng/ml
Midazolam	5.795	223861	1890.06	88.6	5427.13	104400	243.4634 ng/ml
Pseudoephedrine	2.556	4774314	2695.99	15.2	∞	886723	245.5355 ng/ml

AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument Falco **Data File** p2 QC 1000.d
Type QC **Sample** p2 QC 1000
Acq. Method MDQ P2 Combined 092319.m **Operator** Celena Shrum
Sample Position P1-E11 **Comment**
Injection Volume 2
Acq. Date-Time 2/24/2020 5:40:31 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	4849427	40249.14	24.6	17292.72	360356	859.1505 ng/ml
Etizolam	5.801	1273218	16871.82	26.5	∞	118628	892.8376 ng/ml
Flunitrazepam	5.632	1222513	∞	41.4	3946.60	26340	954.6801 ng/ml
Flurazepam	5.330	2602138	270254.38	13.3	∞	26340	1486.7470 ng/ml*
MDA	3.173	3282054	102027.77	18.3	44707.18	67429	943.8567 ng/ml
MDMA	3.266	4767226	∞	60.9	109821.15	42809	945.6815 ng/ml
Methocarbamol	4.380	536042	17444.20	84.7	18794.77	644310	827.5213 ng/ml*
Midazolam	5.795	561905	1806.56	89.1	2843.95	65081	981.8856 ng/ml
Pseudoephedrine	2.556	14276007	∞	14.8	∞	644310	1010.3710 ng/ml

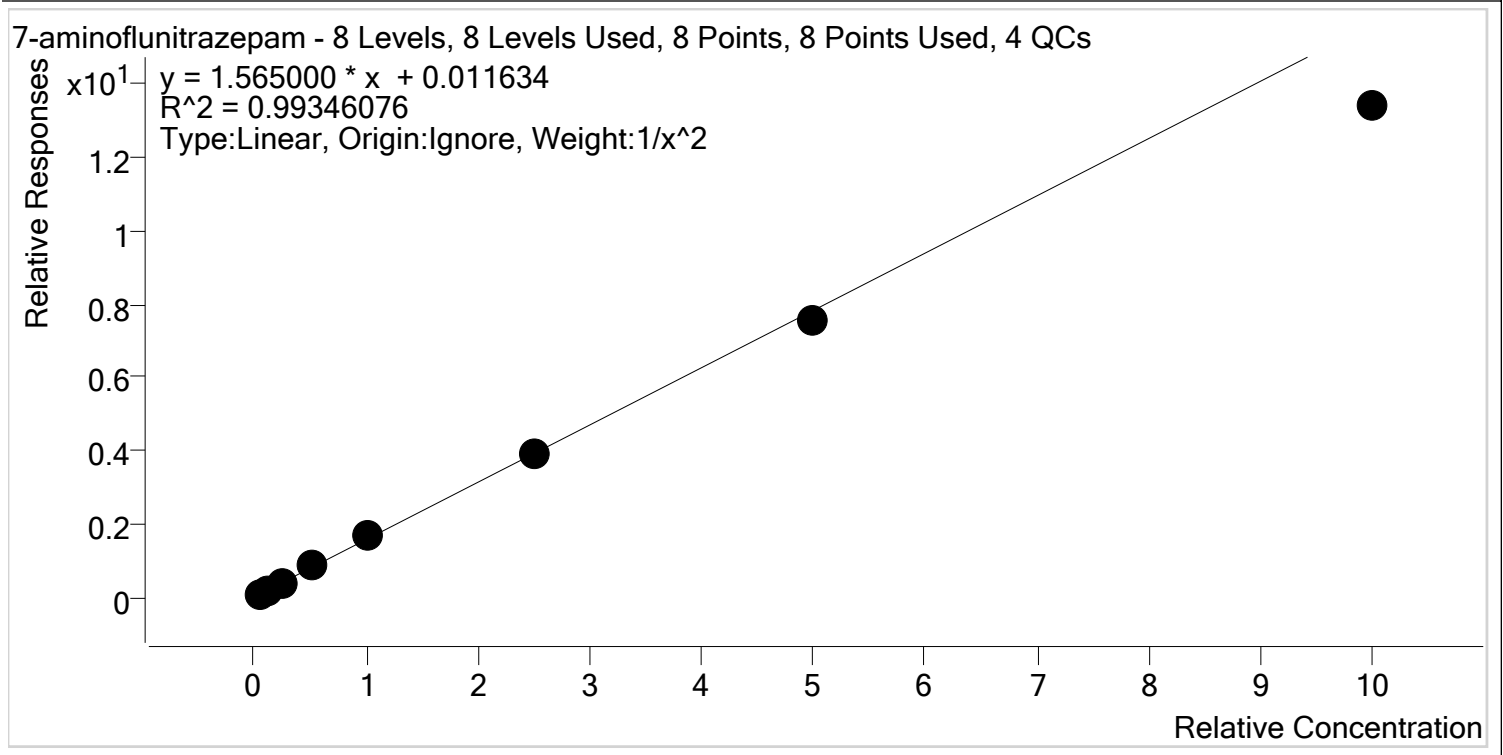
*Outside curve range. CS

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AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte 7-aminoflunitrazepam **Internal Standard** 7-aminoflunitrazepam-D7



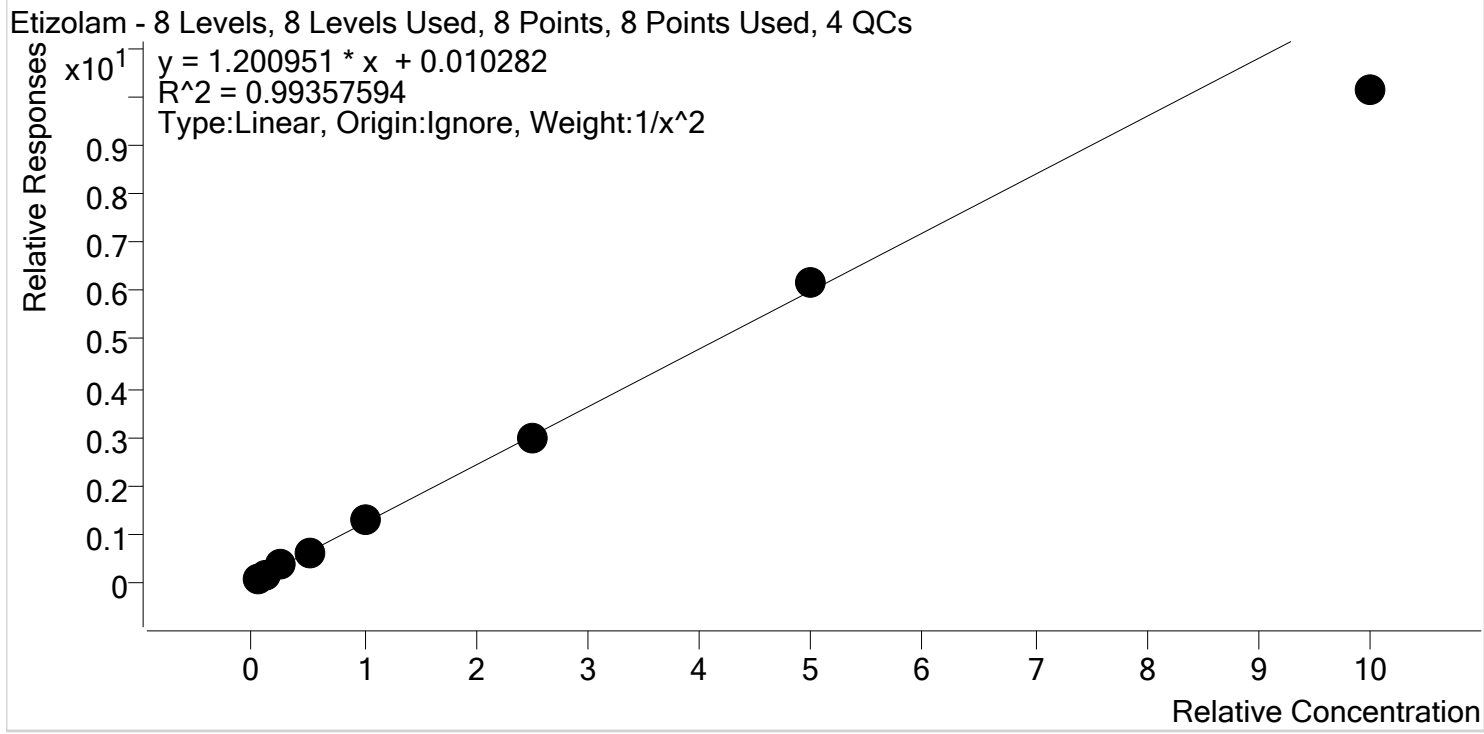
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.8	96.5
p2 Cal 2- 10ng	2	✓	10.0	10.3	103.4
p2 Cal 3 -25ng	3	✓	25.0	26.3	105.0
p2 Cal 4-50ng	4	✓	50.0	52.6	105.2
p2 Cal 5-100ng	5	✓	100.0	107.4	107.4
p2 Cal 6-250ng	6	✓	250.0	250.8	100.3
p2 Cal 7-500ng	7	✓	500.0	482.5	96.5
p2 Cal 8-1000ng	8	✓	1000.0	857.0	85.7

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AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte Etizolam **Internal Standard** Estazolam-D5



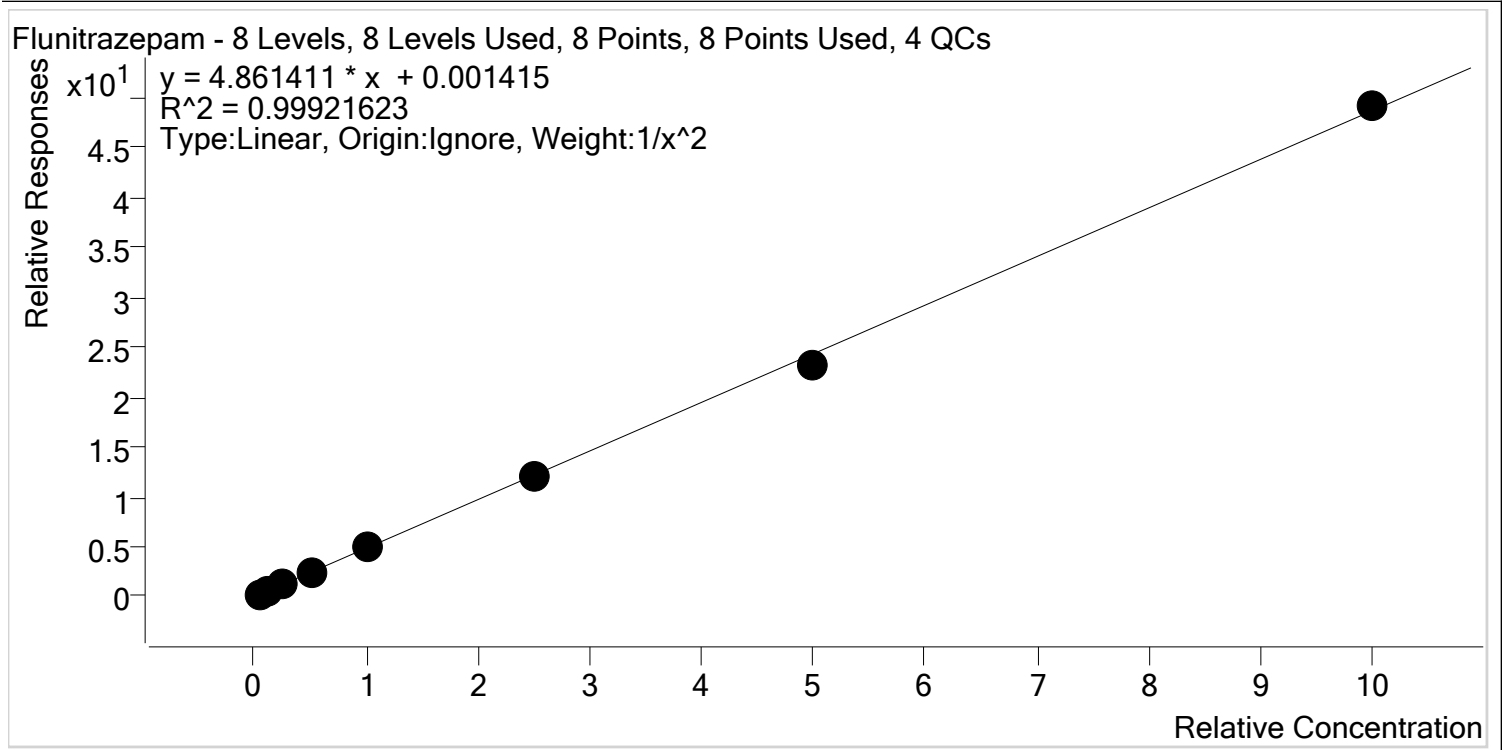
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.9	97.4
p2 Cal 2- 10ng	2	✓	10.0	10.2	101.5
p2 Cal 3 -25ng	3	✓	25.0	26.7	106.9
p2 Cal 4-50ng	4	✓	50.0	51.6	103.3
p2 Cal 5-100ng	5	✓	100.0	104.8	104.8
p2 Cal 6-250ng	6	✓	250.0	246.8	98.7
p2 Cal 7-500ng	7	✓	500.0	514.1	102.8
p2 Cal 8-1000ng	8	✓	1000.0	845.2	84.5

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AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte Flunitrazepam **Internal Standard** Flunitrazepam-D7



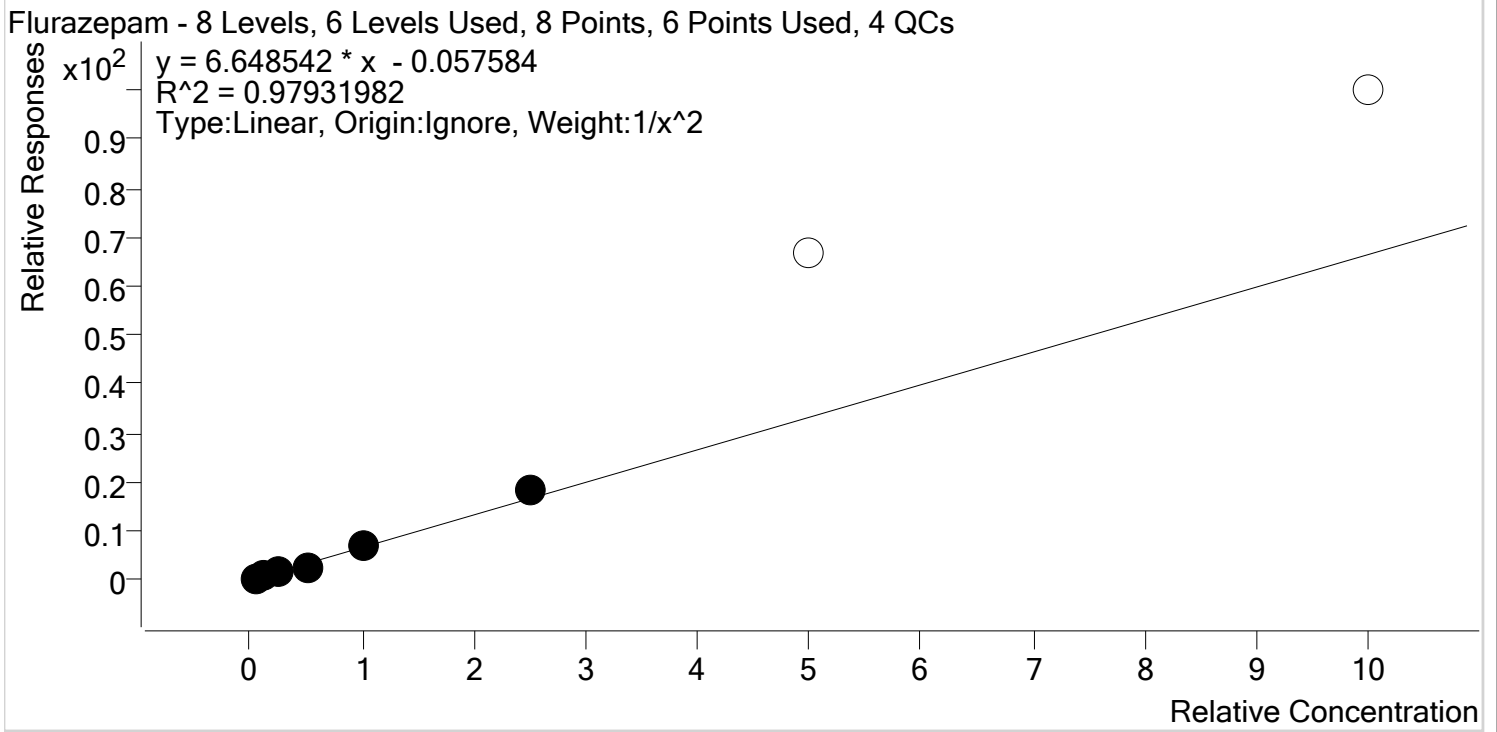
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.9	98.9
p2 Cal 2- 10ng	2	✓	10.0	10.2	102.1
p2 Cal 3 -25ng	3	✓	25.0	24.8	99.3
p2 Cal 4-50ng	4	✓	50.0	50.9	101.9
p2 Cal 5-100ng	5	✓	100.0	101.8	101.8
p2 Cal 6-250ng	6	✓	250.0	251.0	100.4
p2 Cal 7-500ng	7	✓	500.0	473.7	94.7
p2 Cal 8-1000ng	8	✓	1000.0	1009.3	100.9

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AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte Flurazepam **Internal Standard** Flunitrazepam-D7



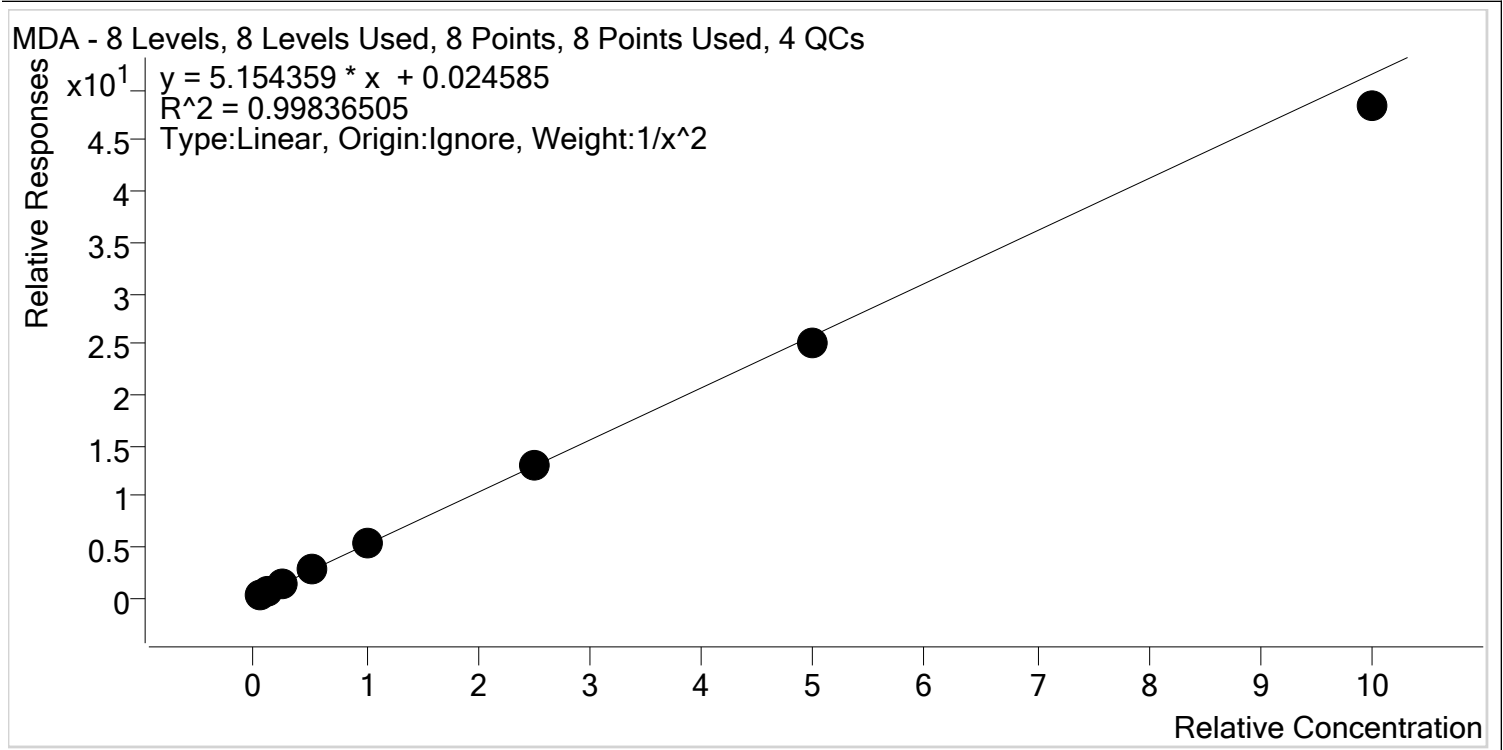
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.9	97.8
p2 Cal 2- 10ng	2	✓	10.0	11.0	110.5
p2 Cal 3 -25ng	3	✓	25.0	22.7	91.0
p2 Cal 4-50ng	4	✓	50.0	41.1	82.3
p2 Cal 5-100ng	5	✓	100.0	106.1	106.1
p2 Cal 6-250ng	6	✓	250.0	281.0	112.4
p2 Cal 7-500ng	7	✗	500.0	1010.0	202.0
p2 Cal 8-1000ng	8	✗	1000.0	1505.0	150.5

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AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte MDA **Internal Standard** MDA-D5



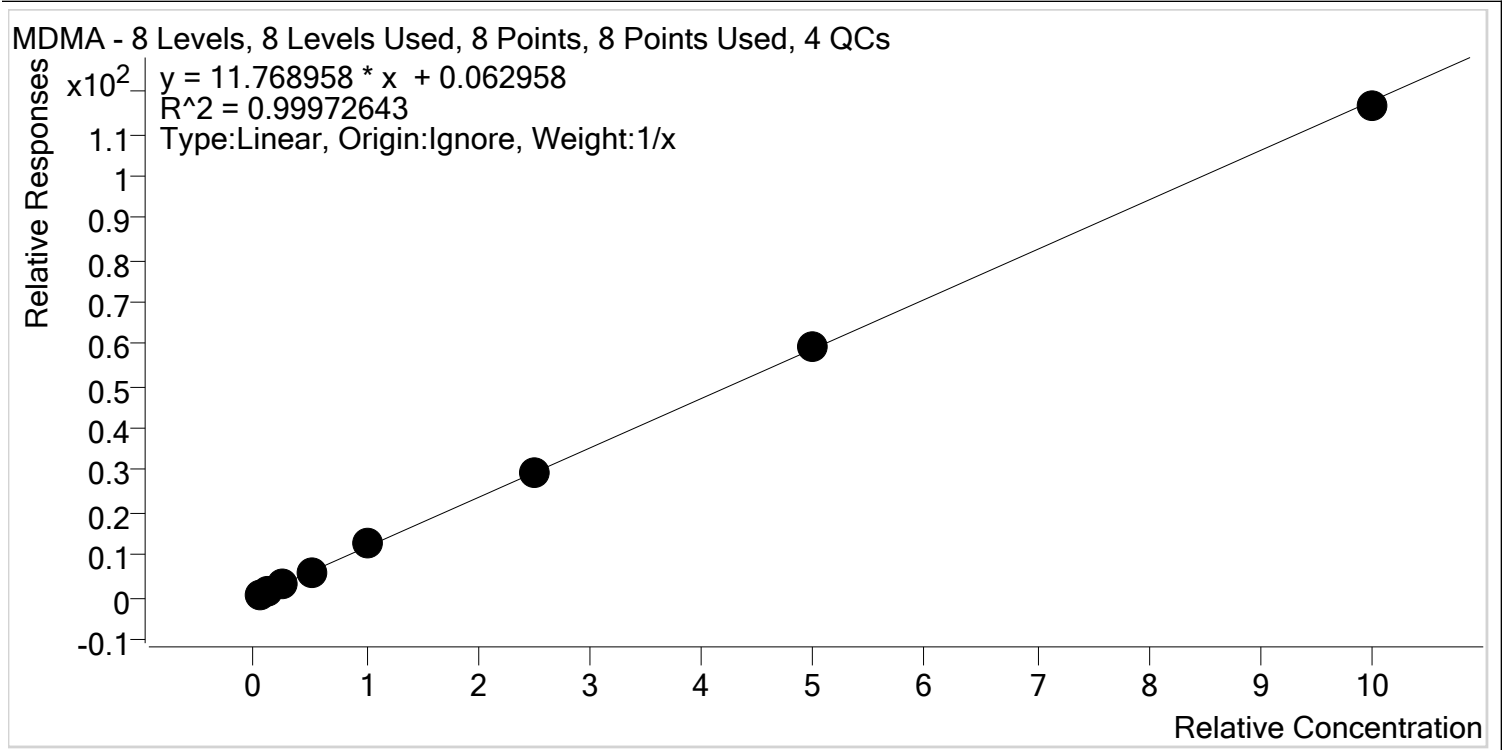
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.9	98.3
p2 Cal 2- 10ng	2	✓	10.0	10.2	101.5
p2 Cal 3 -25ng	3	✓	25.0	25.6	102.4
p2 Cal 4-50ng	4	✓	50.0	51.3	102.5
p2 Cal 5-100ng	5	✓	100.0	104.6	104.6
p2 Cal 6-250ng	6	✓	250.0	250.1	100.1
p2 Cal 7-500ng	7	✓	500.0	483.8	96.8
p2 Cal 8-1000ng	8	✓	1000.0	938.4	93.8

TS SCY



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte MDMA **Internal Standard** MDMA-D6



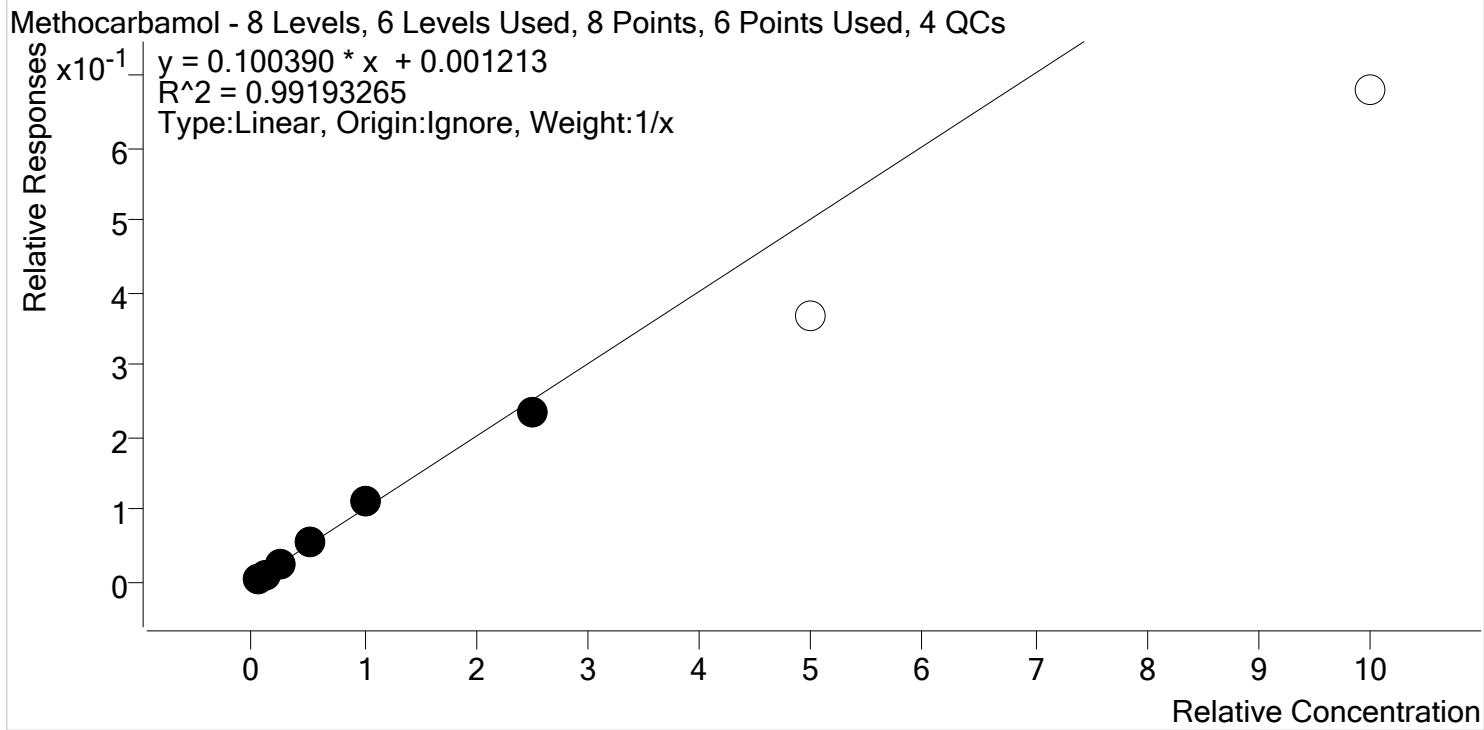
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.8	96.5
p2 Cal 2- 10ng	2	✓	10.0	9.8	98.0
p2 Cal 3 -25ng	3	✓	25.0	25.0	100.1
p2 Cal 4-50ng	4	✓	50.0	49.6	99.2
p2 Cal 5-100ng	5	✓	100.0	105.5	105.5
p2 Cal 6-250ng	6	✓	250.0	252.9	101.1
p2 Cal 7-500ng	7	✓	500.0	503.1	100.6
p2 Cal 8-1000ng	8	✓	1000.0	989.2	98.9

TS \$9



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte Methocarbamol **Internal Standard** Pseudoephedrine-D3



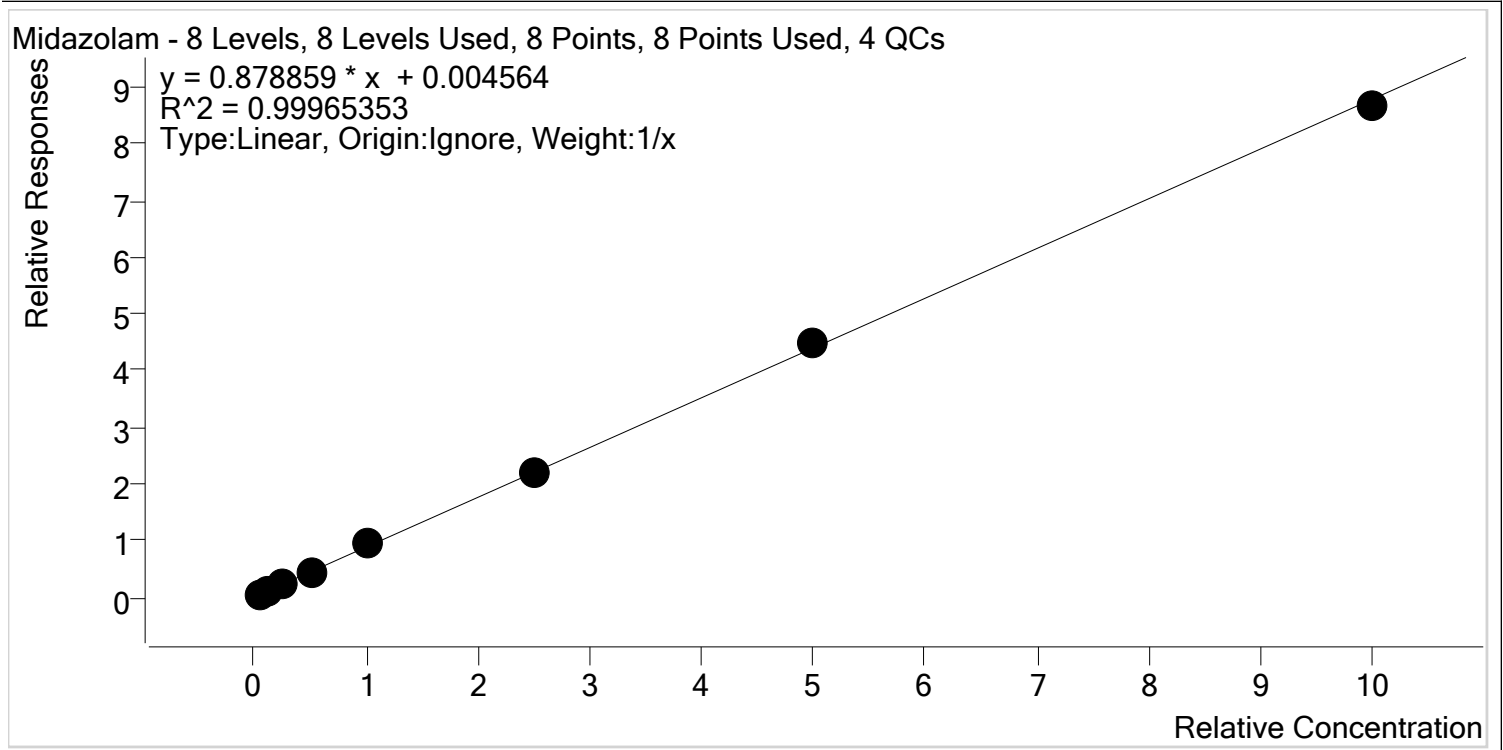
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.4	88.5
p2 Cal 2- 10ng	2	✓	10.0	9.7	97.5
p2 Cal 3 -25ng	3	✓	25.0	25.1	100.5
p2 Cal 4-50ng	4	✓	50.0	53.7	107.3
p2 Cal 5-100ng	5	✓	100.0	112.3	112.3
p2 Cal 6-250ng	6	✓	250.0	234.7	93.9
p2 Cal 7-500ng	7	✗	500.0	366.6	73.3
p2 Cal 8-1000ng	8	✗	1000.0	676.9	67.7

TS \$ 9



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte Midazolam **Internal Standard** Midazolam-D4



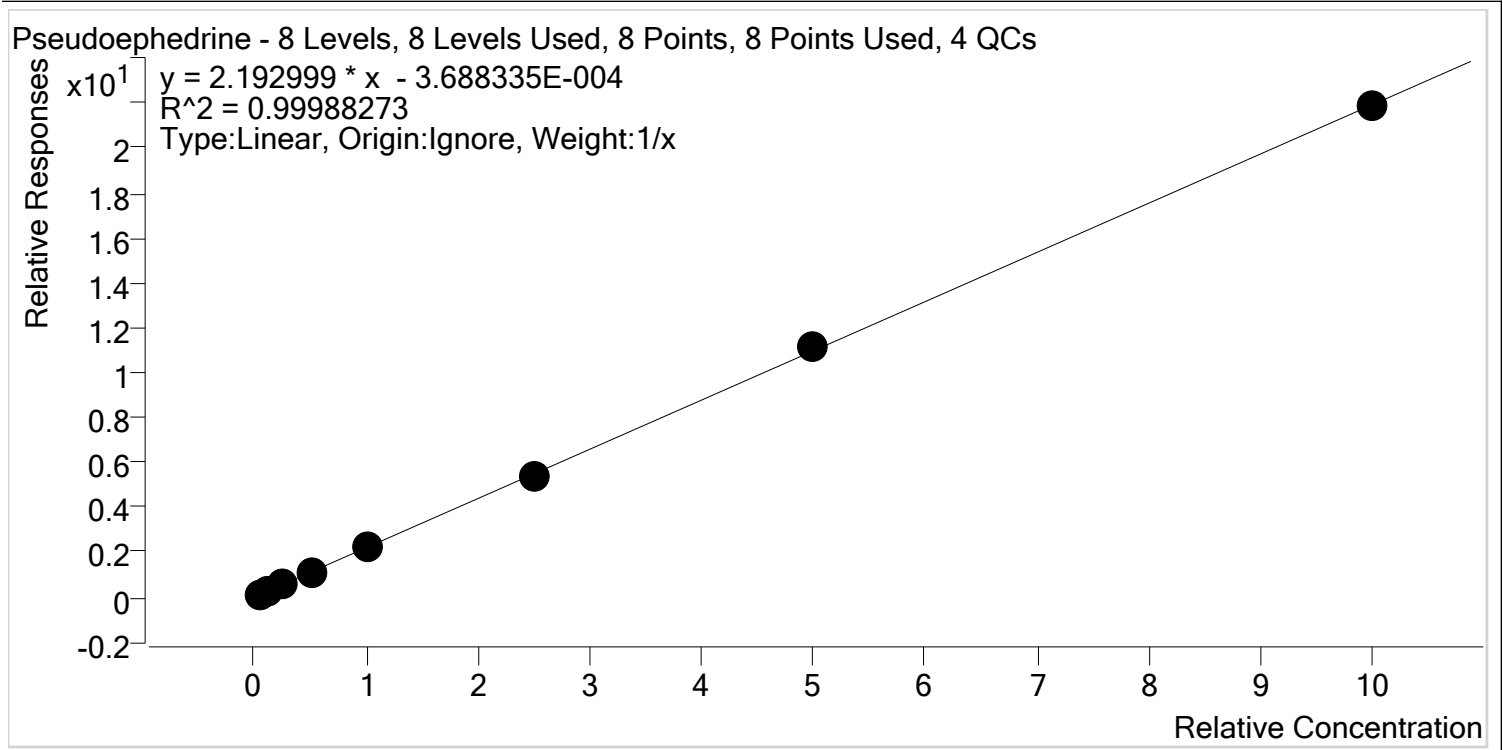
Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	4.9	97.1
p2 Cal 2- 10ng	2	✓	10.0	9.6	95.9
p2 Cal 3 -25ng	3	✓	25.0	25.3	101.3
p2 Cal 4-50ng	4	✓	50.0	50.5	100.9
p2 Cal 5-100ng	5	✓	100.0	104.4	104.4
p2 Cal 6-250ng	6	✓	250.0	249.5	99.8
p2 Cal 7-500ng	7	✓	500.0	509.9	102.0
p2 Cal 8-1000ng	8	✓	1000.0	986.0	98.6

TS SC



AM #28 Multi-Drug Quant. Calibration Curve Report

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Last Cal. Update 2/26/2020 3:29 PM
Analyst Name ISP\datastor
Analyte Pseudoephedrine **Internal Standard** Pseudoephedrine-D3



Sample	Level	Enabled	Expected Concentration	Final Concentration	Accuracy
p2 Cal 1-5ng	1	✓	5.0	5.2	103.2
p2 Cal 2- 10ng	2	✓	10.0	10.2	101.6
p2 Cal 3 -25ng	3	✓	25.0	24.4	97.8
p2 Cal 4-50ng	4	✓	50.0	48.5	97.0
p2 Cal 5-100ng	5	✓	100.0	100.5	100.5
p2 Cal 6-250ng	6	✓	250.0	247.1	98.9
p2 Cal 7-500ng	7	✓	500.0	507.1	101.4
p2 Cal 8-1000ng	8	✓	1000.0	997.1	99.7

TS \$CS

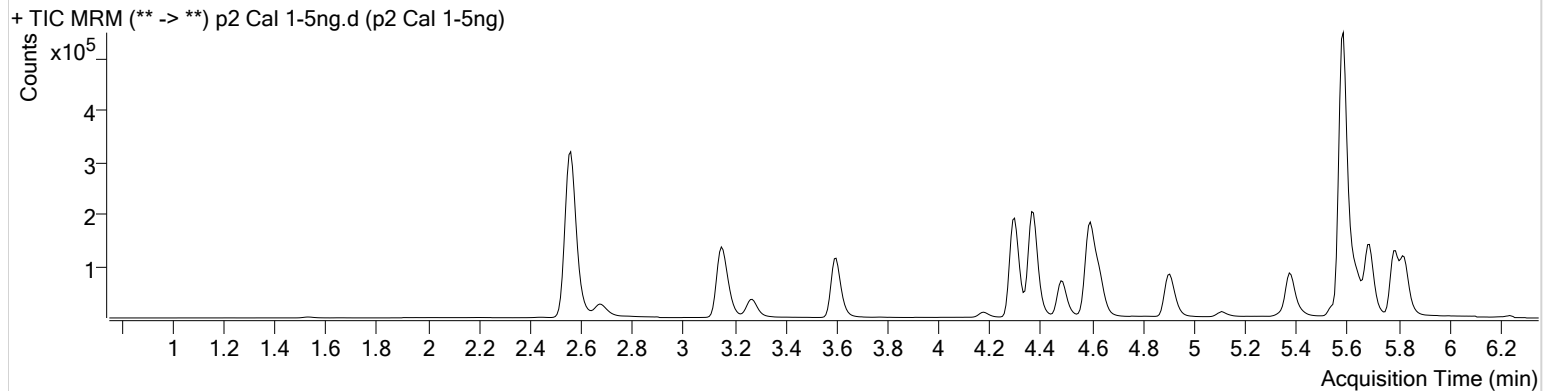


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument Falco **Data File** p2 Cal 1-5ng.d
Type Cal **Sample** p2 Cal 1-5ng
Acq. Method MDQ P2 Combined 092319.m **Operator** Celena Shrum
Sample Position P1-H12 **Comment**
Injection Volume 2
Acq. Date-Time 2/24/2020 2:41:38 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.621	34666	2944.39	25.6	1330.06	397723	4.8260 ng/ml
Etizolam	5.801	15668	25482.40	27.4	∞	227924	4.8677 ng/ml
Flunitrazepam	5.632	11444	603.33	42.4	6586.26	47339	4.9436 ng/ml
Flurazepam	5.337	12662	22486.93	15.0	4886.64	47339	4.8893 ng/ml
MDA	3.180	26374	553.43	19.3	268.32	94857	4.9172 ng/ml
MDMA	3.279	32637	78006.60	62.7	1607.29	51728	4.8260 ng/ml
Methocarbamol	4.380	5256	∞	88.3	559.30	929074	4.4269 ng/ml
Midazolam	5.795	5513	220.72	86.6	∞	116707	4.8553 ng/ml
Pseudoephedrine	2.570	104782	∞	15.3	∞	929074	5.1596 ng/ml

TS \$C

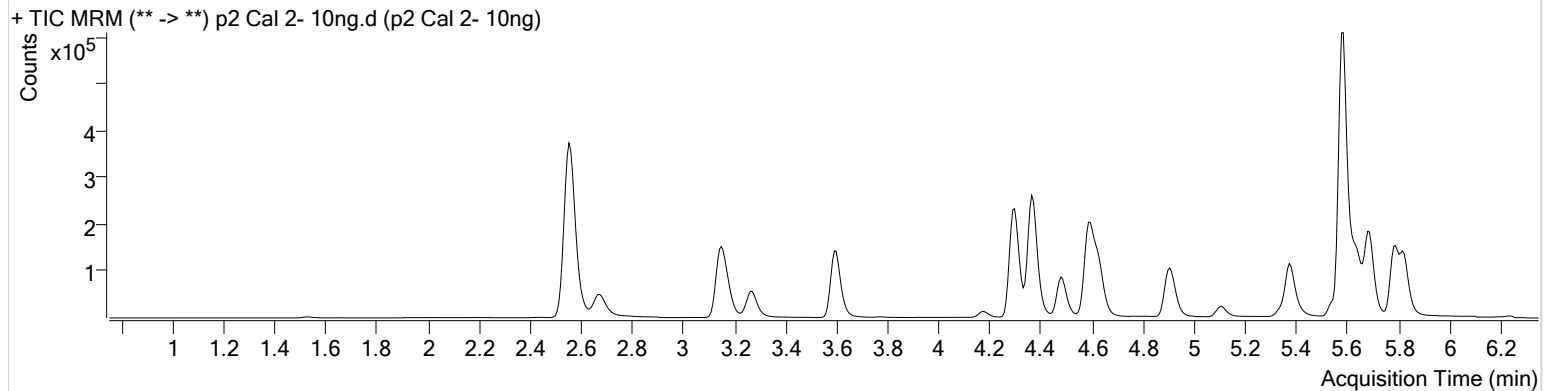


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 Cal 2- 10ng.d
Type	Cal	Sample	p2 Cal 2- 10ng
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-G12	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 2:52:19 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.621	70249	1373.42	24.5	1792.93	405061	10.3382 ng/ml
Etizolam	5.801	30654	∞	26.9	∞	231858	10.1528 ng/ml
Flunitrazepam	5.632	23013	1174.22	40.4	∞	46254	10.2054 ng/ml
Flurazepam	5.337	31312	1818.94	13.7	370.28	46254	11.0480 ng/ml
MDA	3.180	54692	278.17	18.9	260.59	99843	10.1506 ng/ml
MDMA	3.273	68087	7302.29	62.6	1064.70	56001	9.7957 ng/ml
Methocarbamol	4.380	10657	∞	86.7	∞	969022	9.7468 ng/ml
Midazolam	5.795	10899	872.83	87.0	2265.82	122661	9.5909 ng/ml
Pseudoephedrine	2.563	215555	974.53	15.4	∞	969022	10.1603 ng/ml

TS SC9

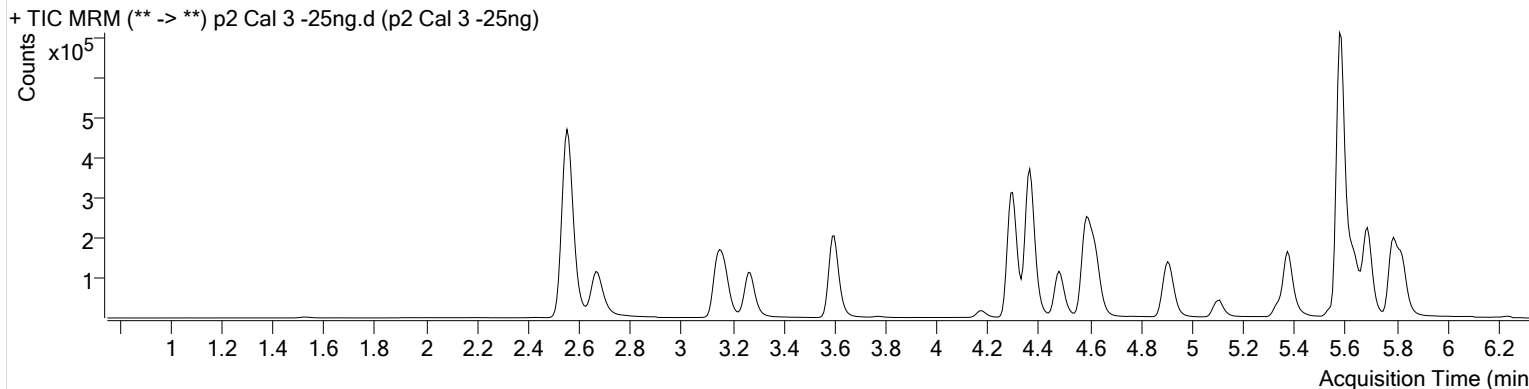


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 Cal 3 -25ng.d
Type	Cal	Sample	p2 Cal 3 -25ng
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-F12	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 3:02:49 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	176339	10582.64	25.1	∞	417394	26.2518 ng/ml
Etizolam	5.801	73142	∞	25.6	∞	220759	26.7321 ng/ml
Flunitrazepam	5.632	55198	709.94	38.9	∞	45677	24.8291 ng/ml
Flurazepam	5.330	66431	434685.13	13.0	∞	45677	22.7411 ng/ml
MDA	3.173	132920	1118.78	19.0	266.99	98856	25.6093 ng/ml
MDMA	3.273	169367	203029.39	62.2	1275.07	56313	25.0202 ng/ml
Methocarbamol	4.380	25263	331.64	85.2	∞	955962	25.1156 ng/ml
Midazolam	5.795	25981	∞	85.7	1029.75	114349	25.3335 ng/ml
Pseudoephedrine	2.563	512049	1520.24	15.4	∞	955962	24.4417 ng/ml

TS SCS

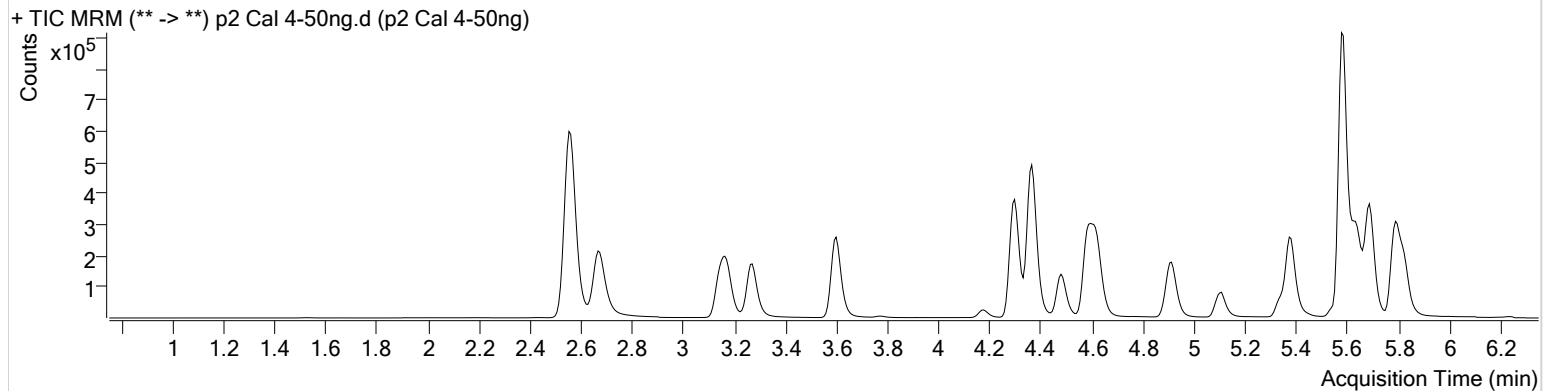


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument Falco **Data File** p2 Cal 4-50ng.d
Type Cal **Sample** p2 Cal 4-50ng
Acq. Method MDQ P2 Combined 092319.m **Operator** Celena Shrum
Sample Position P1-E12 **Comment**
Injection Volume 2
Acq. Date-Time 2/24/2020 3:13:19 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	346954	16173.10	24.9	7991.50	415748	52.5812 ng/ml
Etizolam	5.801	142054	13027.60	27.4	33428.10	225277	51.6499 ng/ml
Flunitrazepam	5.632	112191	1752.84	40.8	∞	45278	50.9406 ng/ml
Flurazepam	5.330	121266	∞	13.8	∞	45278	41.1497 ng/ml
MDA	3.173	220071	2039.34	18.8	2685.14	82538	51.2521 ng/ml
MDMA	3.273	281865	10226.13	61.6	9876.32	47752	49.6201 ng/ml
Methocarbamol	4.373	49358	∞	84.3	∞	896180	53.6530 ng/ml
Midazolam	5.795	55676	2291.00	86.2	3447.33	124284	50.4527 ng/ml
Pseudoephedrine	2.563	952945	3432.86	15.5	∞	896180	48.5048 ng/ml

TS \$C9

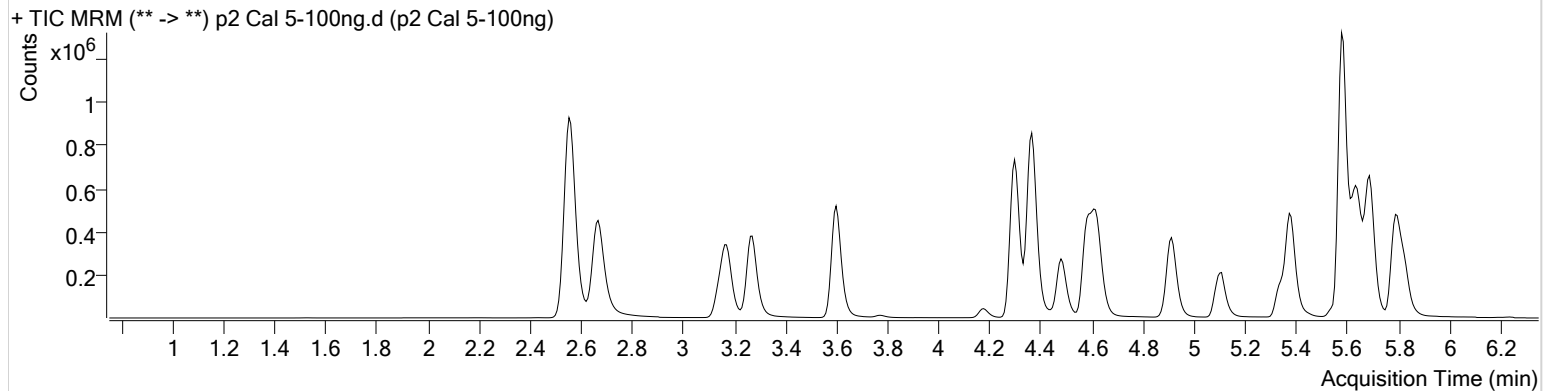


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 Cal 5-100ng.d
Type	Cal	Sample	p2 Cal 5-100ng
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-D12	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 3:23:49 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	716858	4487.55	24.8	∞	423503	107.4156 ng/ml
Etizolam	5.801	275883	5806.43	26.4	∞	217321	104.8495 ng/ml
Flunitrazepam	5.632	223382	5456.51	40.8	1536.87	45131	101.7858 ng/ml
Flurazepam	5.330	315683	∞	13.5	30205.85	45131	106.0747 ng/ml
MDA	3.173	498718	2717.92	18.9	4419.58	92124	104.5513 ng/ml
MDMA	3.273	656085	112797.12	61.2	29728.86	52571	105.5068 ng/ml
Methocarbamol	4.373	99572	∞	85.6	3165.95	873523	112.3378 ng/ml
Midazolam	5.795	113141	3127.78	87.9	2384.96	122755	104.3536 ng/ml
Pseudoephedrine	2.563	1923944	1486.95	15.6	8198.40	873523	100.4506 ng/ml

TS \$C

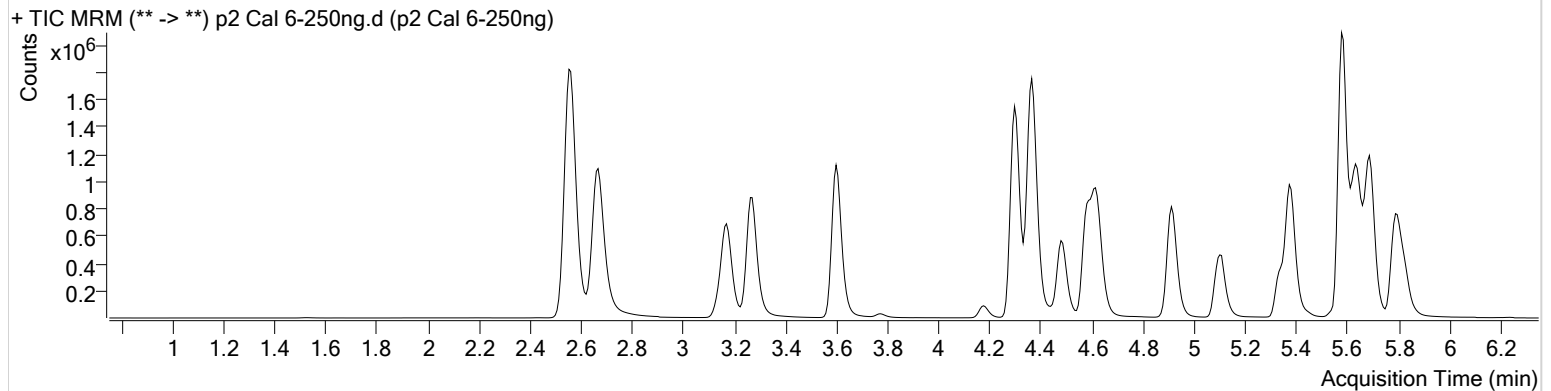


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument Falco **Data File** p2 Cal 6-250ng.d
Type Cal **Sample** p2 Cal 6-250ng
Acq. Method MDQ P2 Combined 092319.m **Operator** Celena Shrum
Sample Position P1-C12 **Comment**
Injection Volume 2
Acq. Date-Time 2/24/2020 3:34:21 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	1598044	29097.70	25.0	6905.47	405972	250.7798 ng/ml
Etizolam	5.801	545131	4115.97	26.8	∞	183311	246.7648 ng/ml
Flunitrazepam	5.632	469620	10473.71	42.0	9763.64	38476	251.0412 ng/ml
Flurazepam	5.330	716580	∞	13.3	6950.31	38476	280.9896 ng/ml
MDA	3.173	1135927	20219.15	18.8	5876.27	87935	250.1419 ng/ml
MDMA	3.273	1582091	4875.19	61.5	27650.40	53049	252.8691 ng/ml
Methocarbamol	4.380	201473	2130.02	84.3	5679.75	850641	234.7199 ng/ml
Midazolam	5.795	219319	2994.13	88.3	2819.38	99800	249.5314 ng/ml
Pseudoephedrine	2.563	4610117	9804.86	15.2	∞	850641	247.1478 ng/ml

TS \$CS

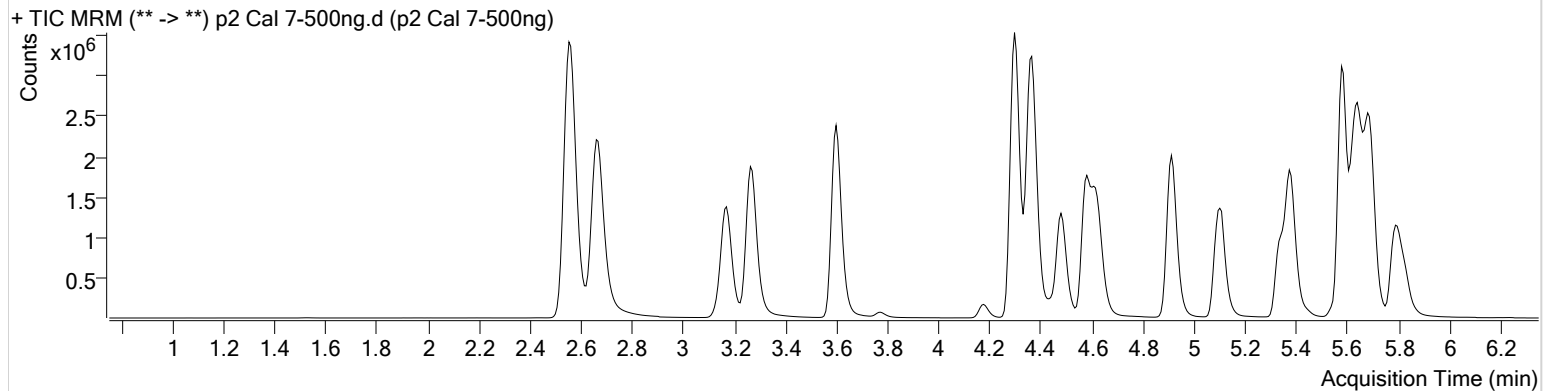


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument	Falco	Data File	p2 Cal 7-500ng.d
Type	Cal	Sample	p2 Cal 7-500ng
Acq. Method	MDQ P2 Combined 092319.m	Operator	Celena Shrum
Sample Position	P1-B12	Comment	
Injection Volume	2		
Acq. Date-Time	2/24/2020 3:44:50 PM		

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	2825958	41012.31	24.9	27687.51	373669	482.4982 ng/ml
Etizolam	5.801	868353	6949.60	27.0	∞	140419	514.0698 ng/ml
Flunitrazepam	5.632	680771	2615.59	40.9	9065.09	29559	473.7155 ng/ml
Flurazepam	5.330	1983140	∞	13.6	9265.17	29559	1009.9630 ng/ml
MDA	3.173	2438135	2395.75	18.5	∞	97679	483.7870 ng/ml
MDMA	3.266	3492312	24469.69	61.0	29569.09	58917	503.1174 ng/ml
Methocarbamol	4.380	321706	1110.03	85.0	5797.77	871296	366.5833 ng/ml
Midazolam	5.795	428325	2081.84	87.2	4668.44	95480	509.9171 ng/ml
Pseudoephedrine	2.556	9688309	∞	15.0	∞	871296	507.0587 ng/ml

TS \$CJ

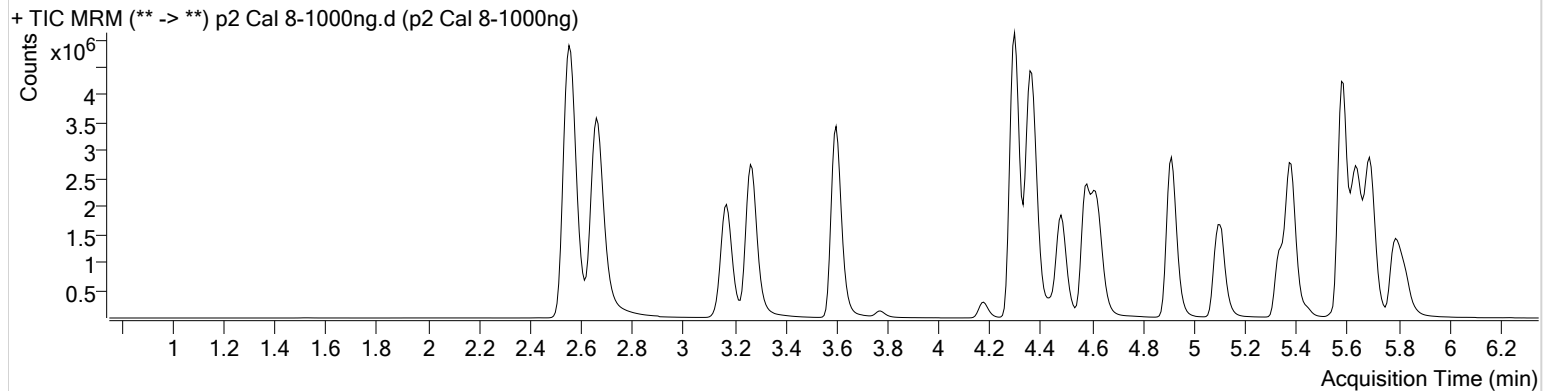


AM #28 Multi-Drug Quant. Results

Batch results D:\MassHunter\Data\2020\AM 27-28\MDQ P2 022420 TS SPC CS\QuantResults\MDQ P2 updated.batch.bin
Calibration Last Update 2/26/2020 3:29:13 PM

Instrument Falco **Data File** p2 Cal 8-1000ng.d
Type Cal **Sample** p2 Cal 8-1000ng
Acq. Method MDQ P2 Combined 092319.m **Operator** Celena Shrum
Sample Position P1-A12 **Comment**
Injection Volume 2
Acq. Date-Time 2/24/2020 3:55:21 PM
Sample Info.

Sample Chromatogram



Name	RT	Resp.	S/N	Ratio	S/N	ISTD Resp.	Final Conc.
7-aminoflunitrazepam	4.614	4611735	25136.92	24.8	15172.84	343551	857.0030 ng/ml
Etizolam	5.801	1250125	5986.09	26.9	3785.74	123033	845.2126 ng/ml
Flunitrazepam	5.632	1274110	3846.60	40.9	3764.61	25966	1009.3134 ng/ml
Flurazepam	5.330	2596645	211230.17	13.4	8716.94	25966	1504.9777 ng/ml
MDA	3.173	3624137	48006.03	18.4	30742.03	74887	938.4366 ng/ml
MDMA	3.266	5406322	183973.16	61.1	9659.99	46411	989.2447 ng/ml
Methocarbamol	4.380	473126	6422.60	88.2	8450.98	695006	676.8962 ng/ml
Midazolam	5.795	550498	4783.66	88.6	4507.35	63496	985.9656 ng/ml
Pseudoephedrine	2.556	15196670	2221.49	14.7	10251.84	695006	997.0766 ng/ml