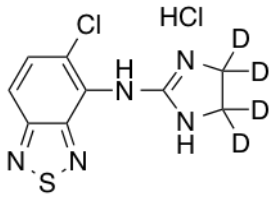
Certificate of Analysis



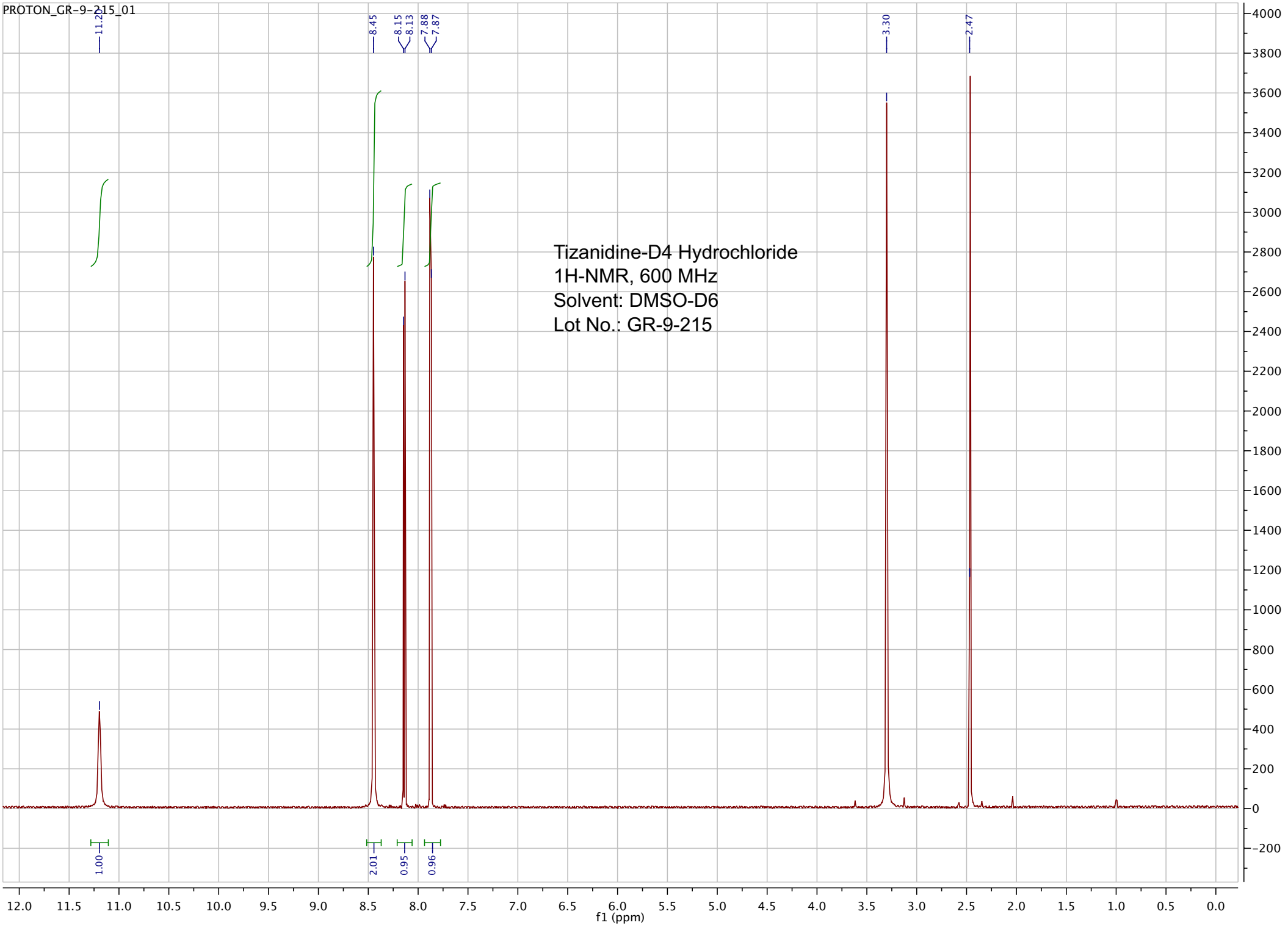
Name:	**Tizanidine-D4 Hydrochloride**
Lot#:	GR-9-215
Test Date:	02/10/2022 (re-test date: 02/10/2027)
CAS No.:	1188263-51-5
MF:	$C_9H_5D_4Cl_2N_5S$
MW:	294.20
Appearance:	Pale Yellow Solid
Purity:	100% by HPLC (average of two sample preparations); 99% atom D
^{1}H-NMR:	Conforms
MS-ESI (+)	Conforms (shows peak at m/z = 258.74, 260.74 $[M_{(free\ base)}+H]^+$), shows the expected pattern for the mono-chloro-substituted compounds
Storage	Long term store at -18^{o}C in a dry place away from direct sunlight

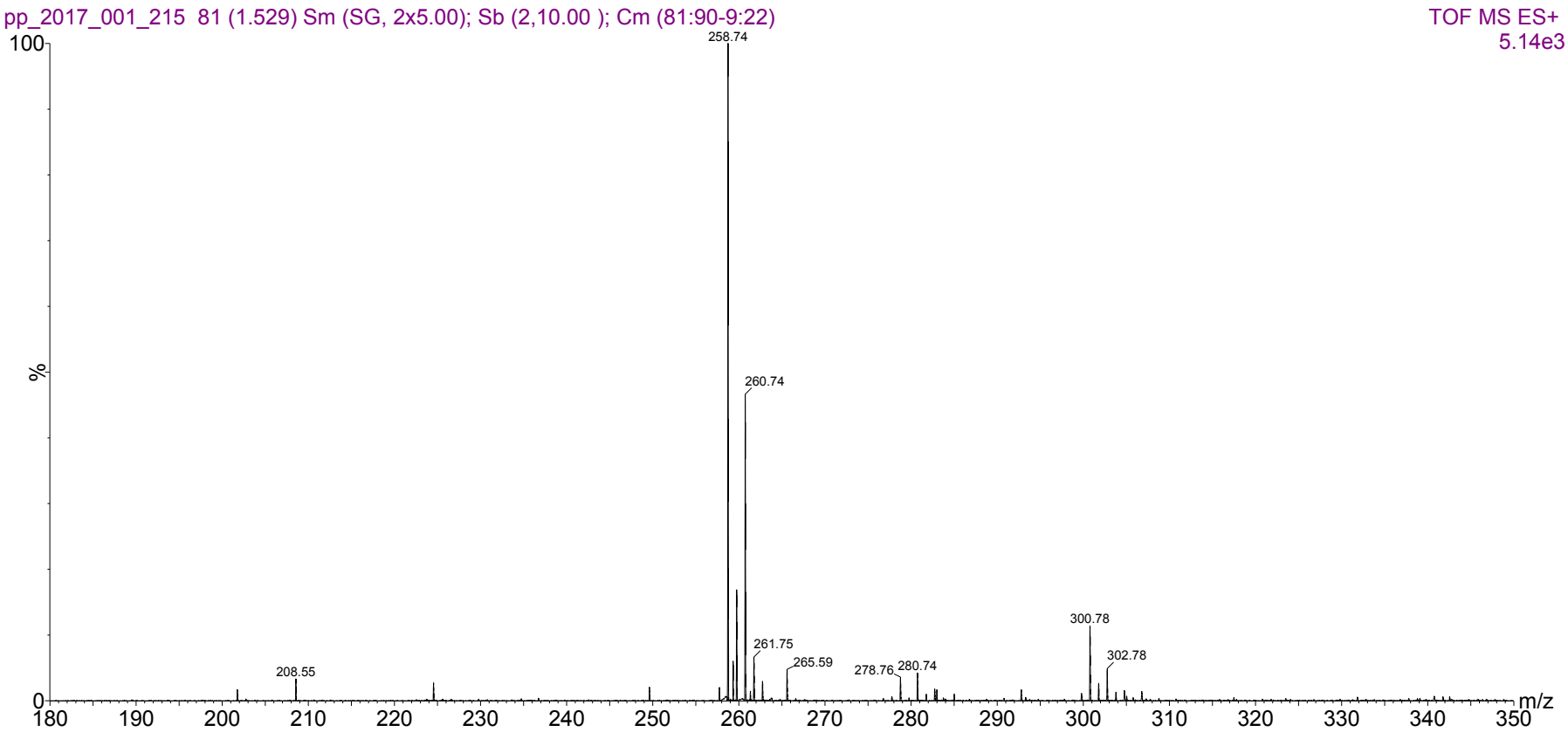
Approved by:

Date: 02/10/2022

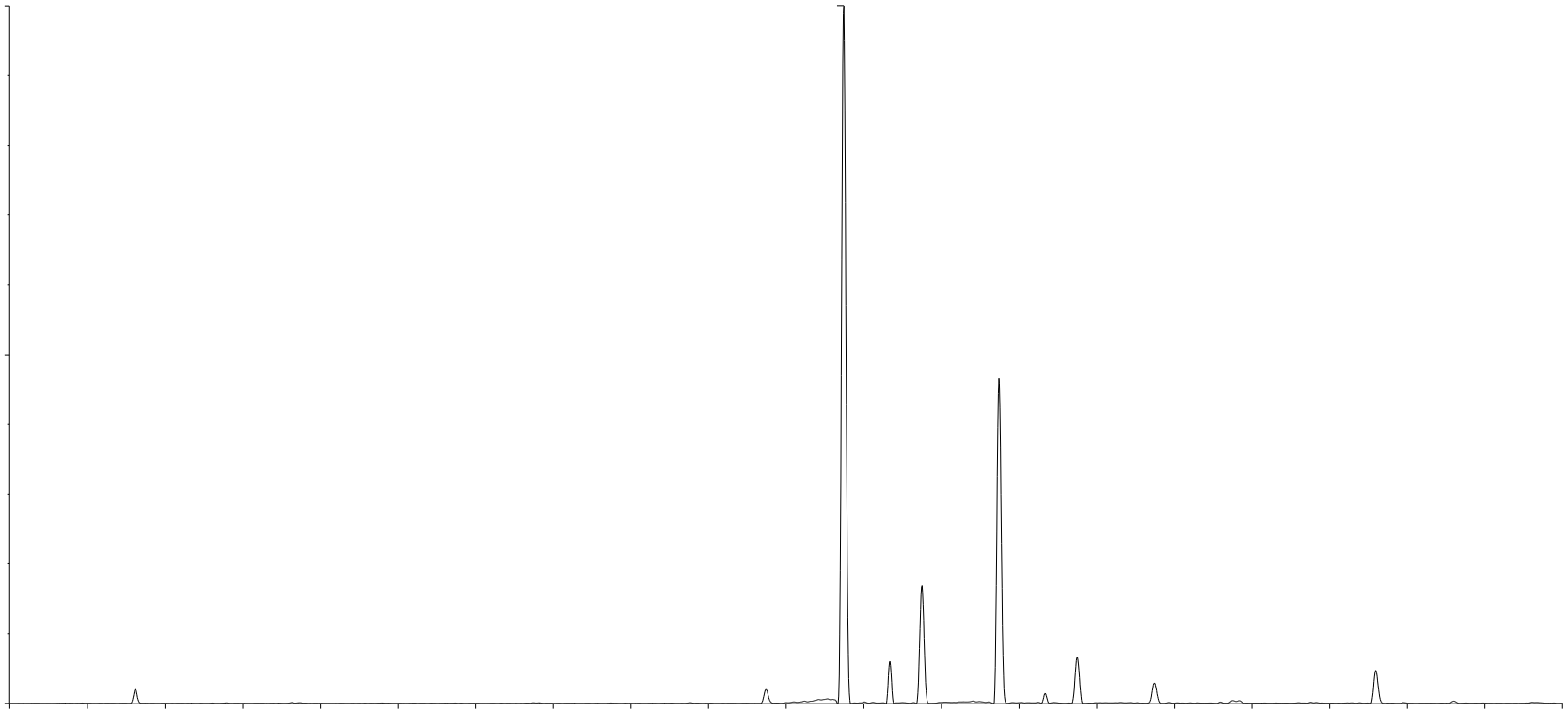
Viorica Rusu, QC/QA Manager

700, Collip Circle, The Research Park, London, ON, N6G 4X8
Ph: (647)4079078, e-mail: grusu@esschemco.com, www.esschemco.com


PROTON_GR-9-215_01
11.21
8.45
8.15
8.13
7.88
7.87
3.30
2.47
Tizanidine-D4 Hydrochloride
1H-NMR, 600 MHz
Solvent: DMSO-D6
Lot No.: GR-9-215
1.00
2.01
0.95
0.96
f1 (ppm)



Raw ESI-MS spectrum for sample GR-9-215. Shows monoisotopic [M+H]+ mass



Expansion of above with intensity labels

pp_2017_001_215 81 (1.529) Sm (SG, 2x5.00); Sb (2,10.00); Cm (81:90-9:22)

TOF MS ES+
5.14e3

100

258.74
5142

260.74

Data File C:\CHEM32\1\DATA\VR011122\SIG19495.D
Sample Name: GR-9-215

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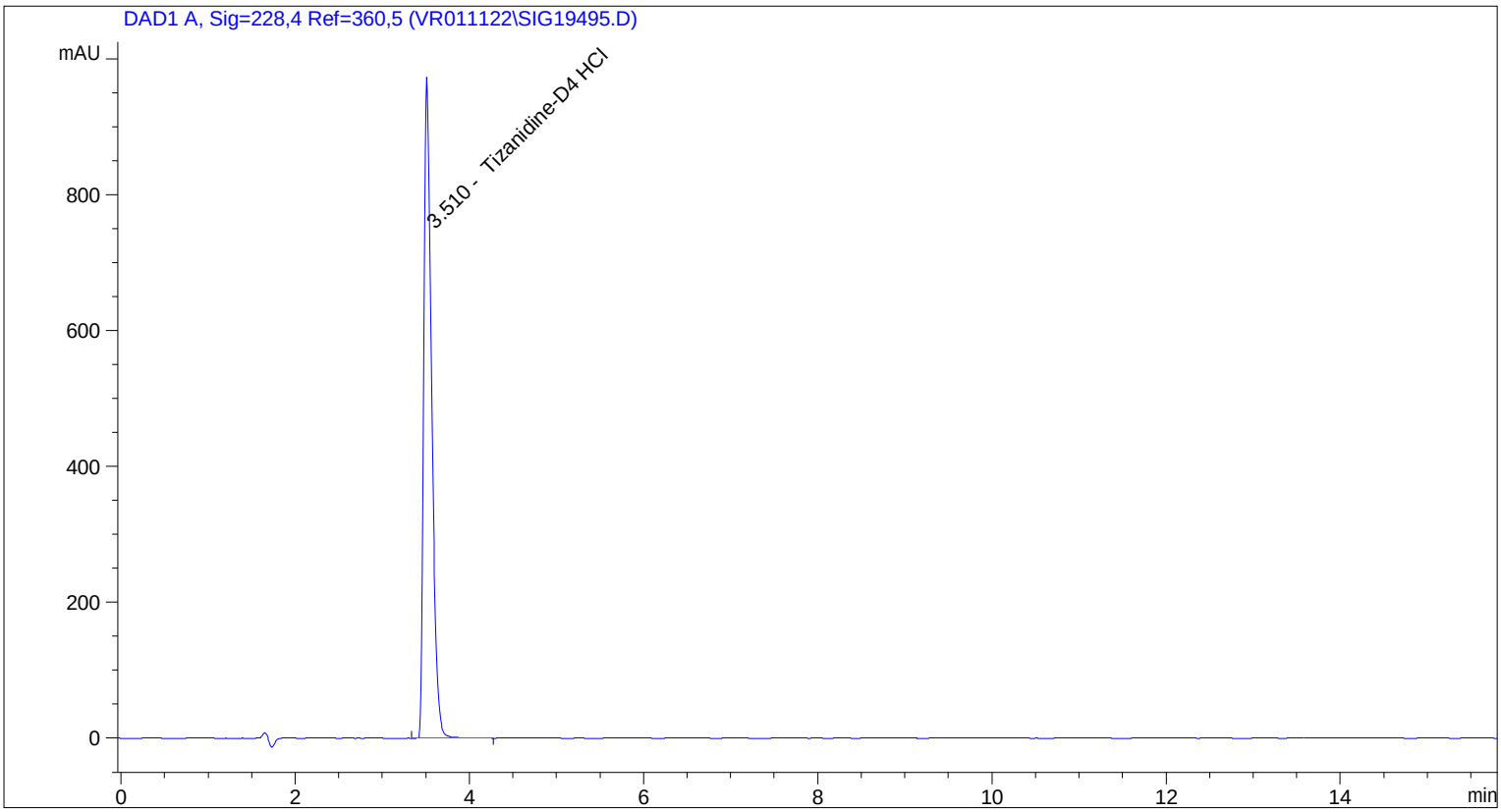
Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 99
Injection Date : 2/10/2022 12:58:59 PM
Inj Volume : 5.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR021022_215.M
Last changed : 2/10/2022 12:57:26 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR021022_215PM.M
Last changed : 2/10/2022 2:47:05 PM by vrusu



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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : 2/10/2022 2:46:16 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=228,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.510	BB	0.0978	6164.54346	100.0000	Tizanidine-D4 HCl

Totals : 6164.54346

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*** End of Report ***

Data File C:\CHEM32\1\DATA\VR011122\SIG19496.D
Sample Name: GR-9-215 spl-2

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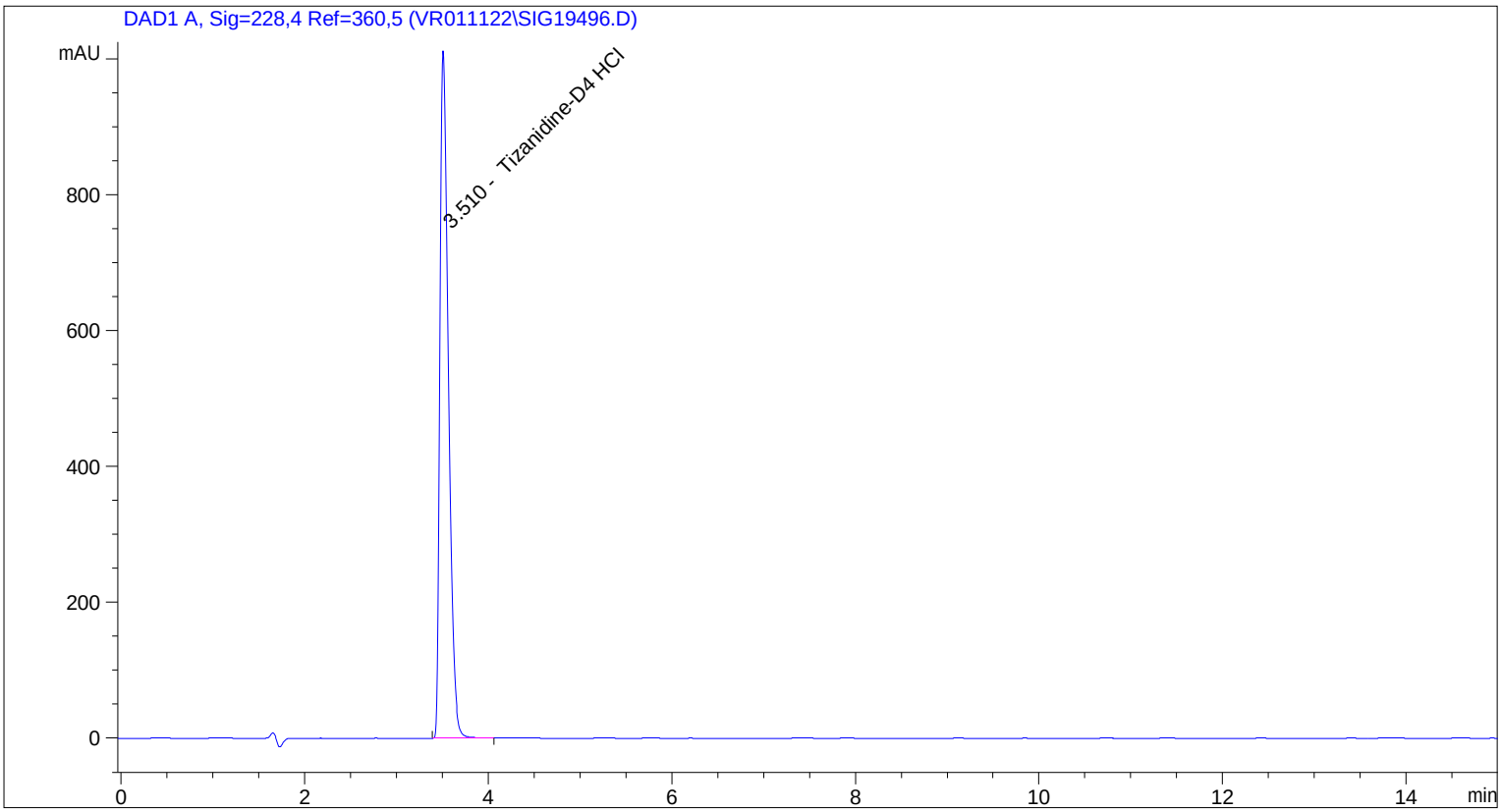
Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 100
Injection Date : 2/10/2022 1:17:12 PM
Inj Volume : 5.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR021022_215.M
Last changed : 2/10/2022 1:15:40 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR021022_215PM.M
Last changed : 2/10/2022 2:47:05 PM by vrusu



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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : 2/10/2022 2:46:16 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=228,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.510	BB	0.0979	6416.10059	100.0000	Tizanidine-D4 HCl

Totals : 6416.10059

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*** End of Report ***