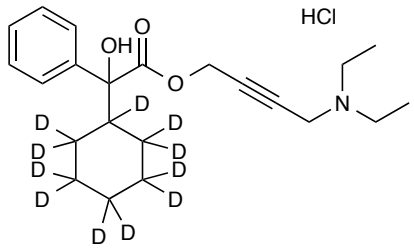
Certificate of Analysis



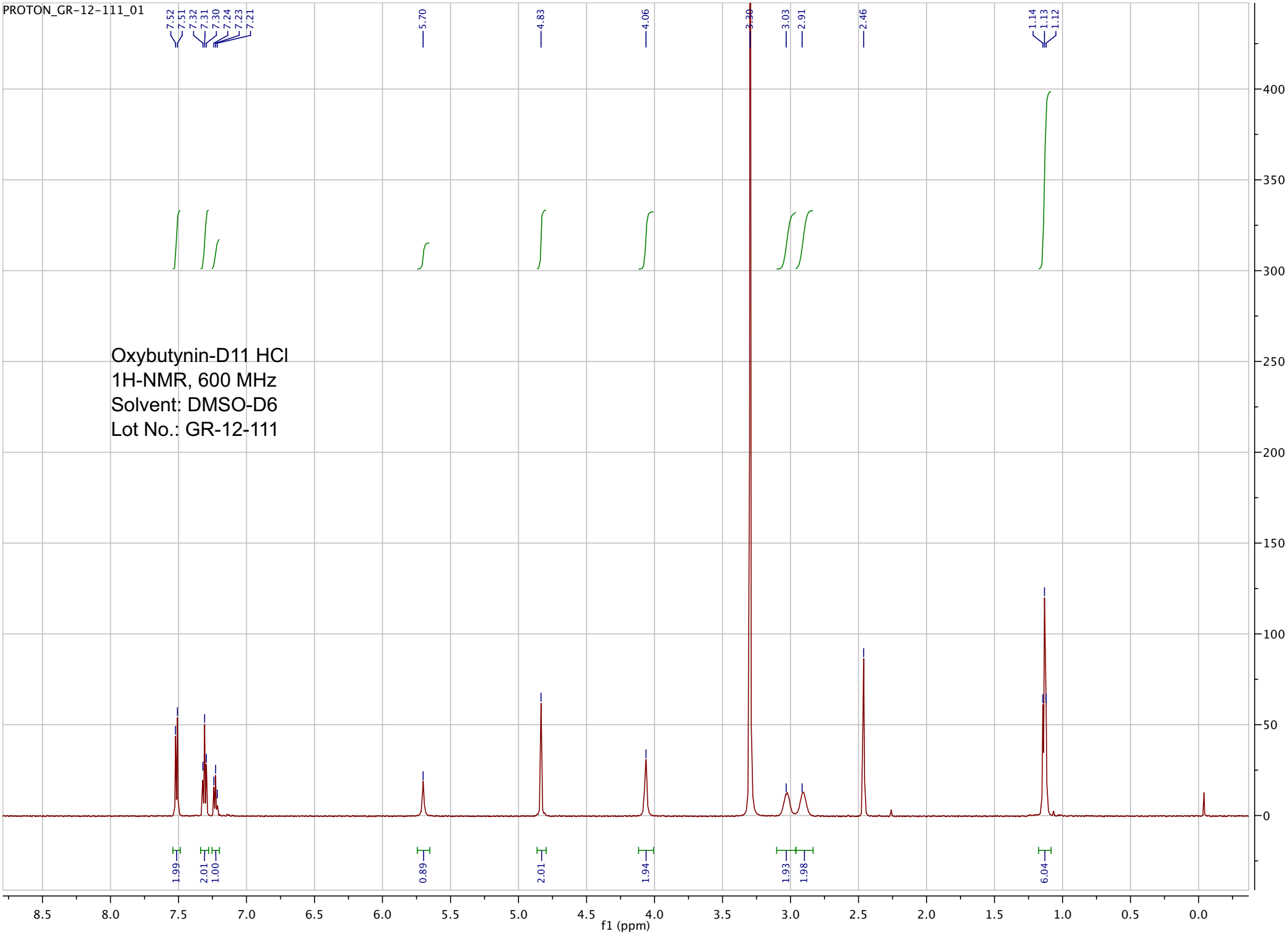
Name:	**rac-Oxybutynin-D11 HCl**
Lot#:	GR-12-111
Test Date:	12/07/2023 (re-test date: 12/07/2028)
CAS No.:	1185151-95-4
MF:	$C_{22}H_{21}D_{11}ClNO_3$
MW:	405.02
Appearance:	White solid
Purity:	97.5% by HPLC (average of two sample preparations); 99% atom D
^{1}H-NMR:	Conforms (contains ~1% Toluene)
MS-ESI (+)	Conforms (shows peak at m/z = 369.31 $[M_{free\ base}+H]^+$)
Storage	Store at -18°C in a dry place away from direct sunlight

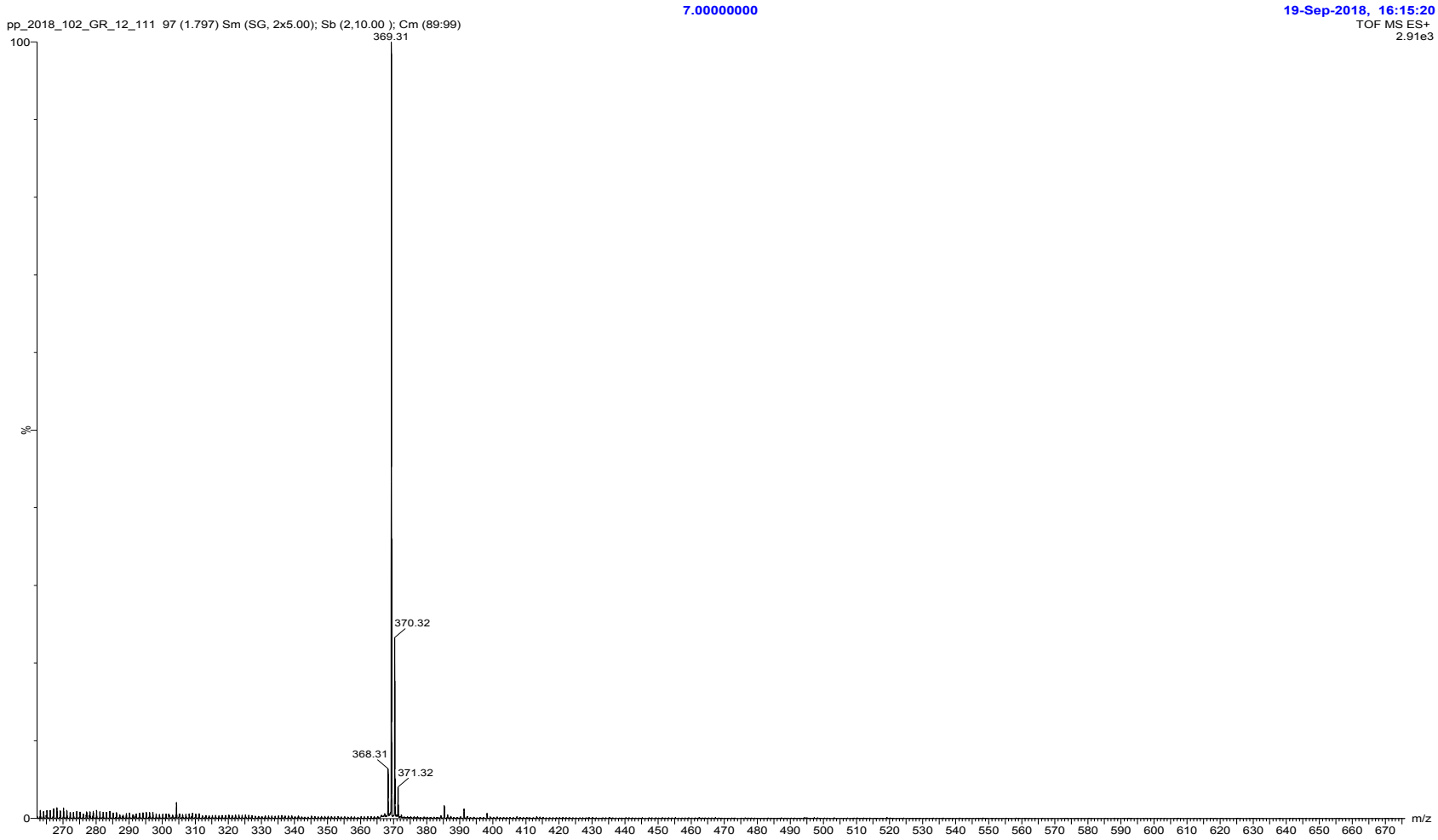
Approved by:

Date: 12/07/2023

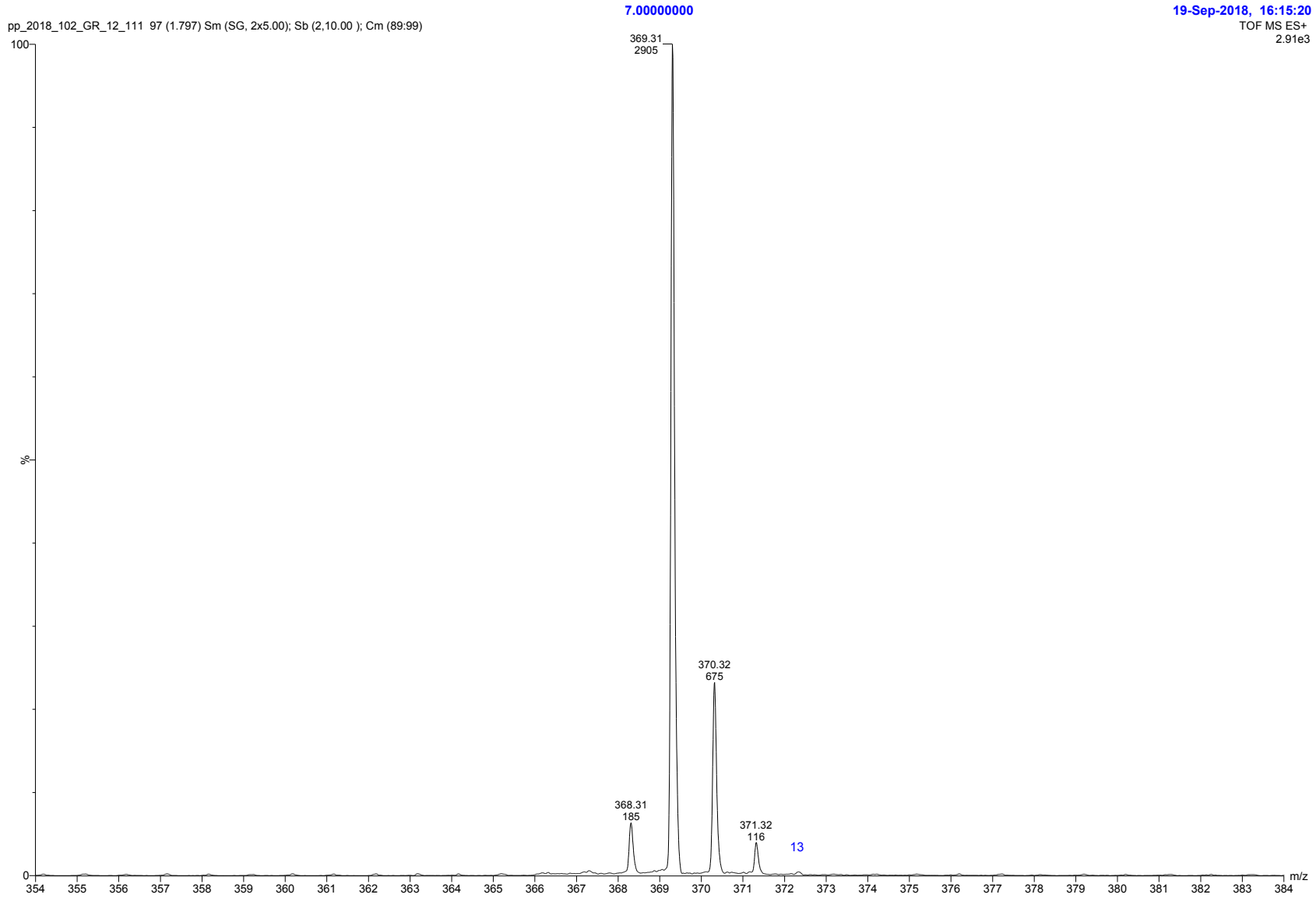
Viorica Rusu, QC/QA Manager

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


PROTON_GR-12-111_01
7.52
7.51
7.32
7.31
7.30
7.24
7.23
7.21
5.70
4.83
4.06
3.30
3.03
2.91
2.46
1.14
1.13
1.12
Oxybutynin-D11 HCl
1H-NMR, 600 MHz
Solvent: DMSO-D6
Lot No.: GR-12-111
1.99
2.01
1.00
0.89
2.01
1.94
1.93
1.98
6.04
f1 (ppm)



ESI-MS spectrum for sample GR-12-111. Shows monoisotopic [M+H]+ mass.

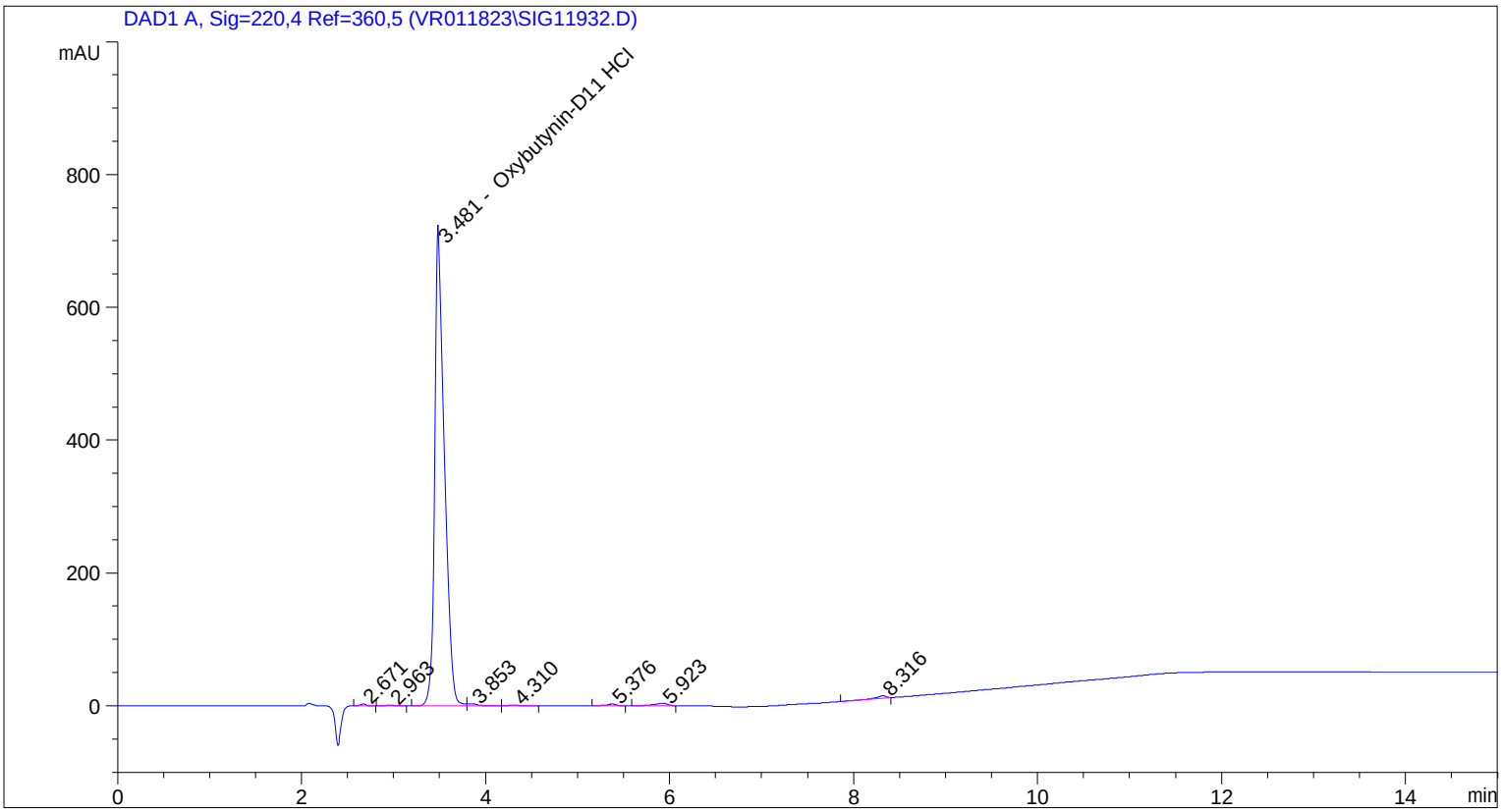


Expansion of above showing intensity labels.

Data File C:\CHEM32\1\DATA\VR011823\SIG11932.D
Sample Name: GR-12-111

==========

Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 11
Injection Date : 12/7/2023 12:56:07 PM
Inj Volume : 15.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR120723_111.M
Last changed : 12/7/2023 12:55:06 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR120723_111PM.M
Last changed : 12/7/2023 1:45:53 PM by vrusu



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Area Percent Report

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Sorted By : Signal
Calib. Data Modified : 12/7/2023 1:36:49 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=220,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	2.671	BB	0.0652	13.02445	0.2348	?
2	2.963	BB	0.0772	7.68795	0.1386	?
3	3.481	BV	0.1088	5401.98779	97.3985	Oxybutynin-D11 HCl
4	3.853	VV	0.1201	26.34931	0.4751	?
5	4.310	VB	0.1400	8.94207	0.1612	?
6	5.376	BB	0.1073	18.53991	0.3343	?
7	5.923	BB S	0.1424	42.10224	0.7591	?
8	8.316	BB	0.1041	27.63844	0.4983	?

Data File C:\CHEM32\1\DATA\VR011823\SIG11932.D
Sample Name: GR-12-111

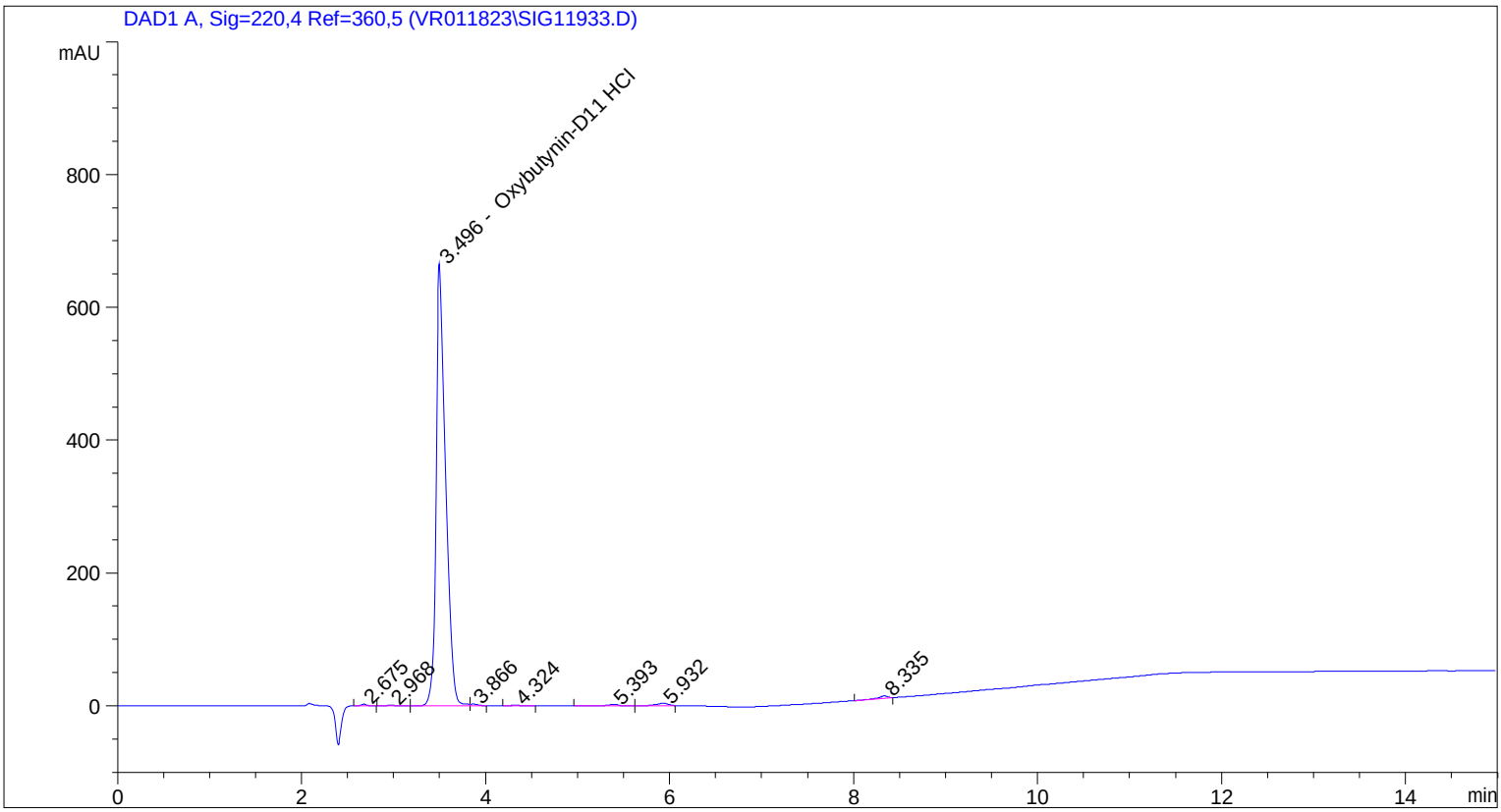
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
Totals :				5546.27216		

*** End of Report ***

Data File C:\CHEM32\1\DATA\VR011823\SIG11933.D
Sample Name: GR-12-111 spl-2

==========

Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 12
Injection Date : 12/7/2023 1:17:00 PM
Inj Volume : 15.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR120723_111.M
Last changed : 12/7/2023 1:15:56 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR120723_111PM.M
Last changed : 12/7/2023 1:45:53 PM by vrusu



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Area Percent Report

==========

Sorted By : Signal
Calib. Data Modified : 12/7/2023 1:36:49 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=220,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	2.675	BB	0.0681	11.93665	0.2408	?
2	2.968	BB	0.0833	7.37247	0.1487	?
3	3.496	BV	0.1067	4833.32861	97.5038	Oxybutynin-D11 HCl
4	3.866	VB	0.0793	12.69111	0.2560	?
5	4.324	BB	0.1291	6.77433	0.1367	?
6	5.393	BB	0.1364	24.62034	0.4967	?
7	5.932	BB S	0.1375	36.18994	0.7301	?
8	8.335	BB	0.1001	24.15266	0.4872	?

Data File C:\CHEM32\1\DATA\VR011823\SIG11933.D
Sample Name: GR-12-111 spl-2

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
Totals :				4957.06612		

*** End of Report ***