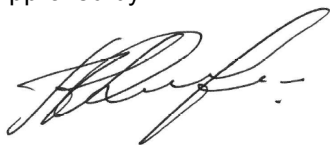


<b>Name:</b>	<i>rac-trans-Ambroxol-D<sub>5</sub> Hydrochloride</i>
<b>Lot#:</b>	GR-14-229A
<b>Test Date:</b>	03/06/2020 (re-test date:03/06/2025)
<b>CAS No.:</b>	23828-92-4 (unlabelled)
<b>MF:</b>	C <sub>13</sub> H <sub>14</sub> D <sub>5</sub> Br <sub>2</sub> ClN <sub>2</sub> O
<b>MW:</b>	419.60
<b>Appearance:</b>	Off-White Solid
<b>Purity:</b>	99.5% by HPLC; >98% atom D
<b><sup>1</sup>H-NMR:</b>	Conforms (shows a trace of MeOH and IPA)
<b>MS-MALDI (+)</b>	Conforms (shows peaks at m/z = 382.03, 384.03, 386.03 [M <sub>(free base)+H</sub> ] <sup>+</sup> exhibits the expected isotope pattern for di-bromo compounds)

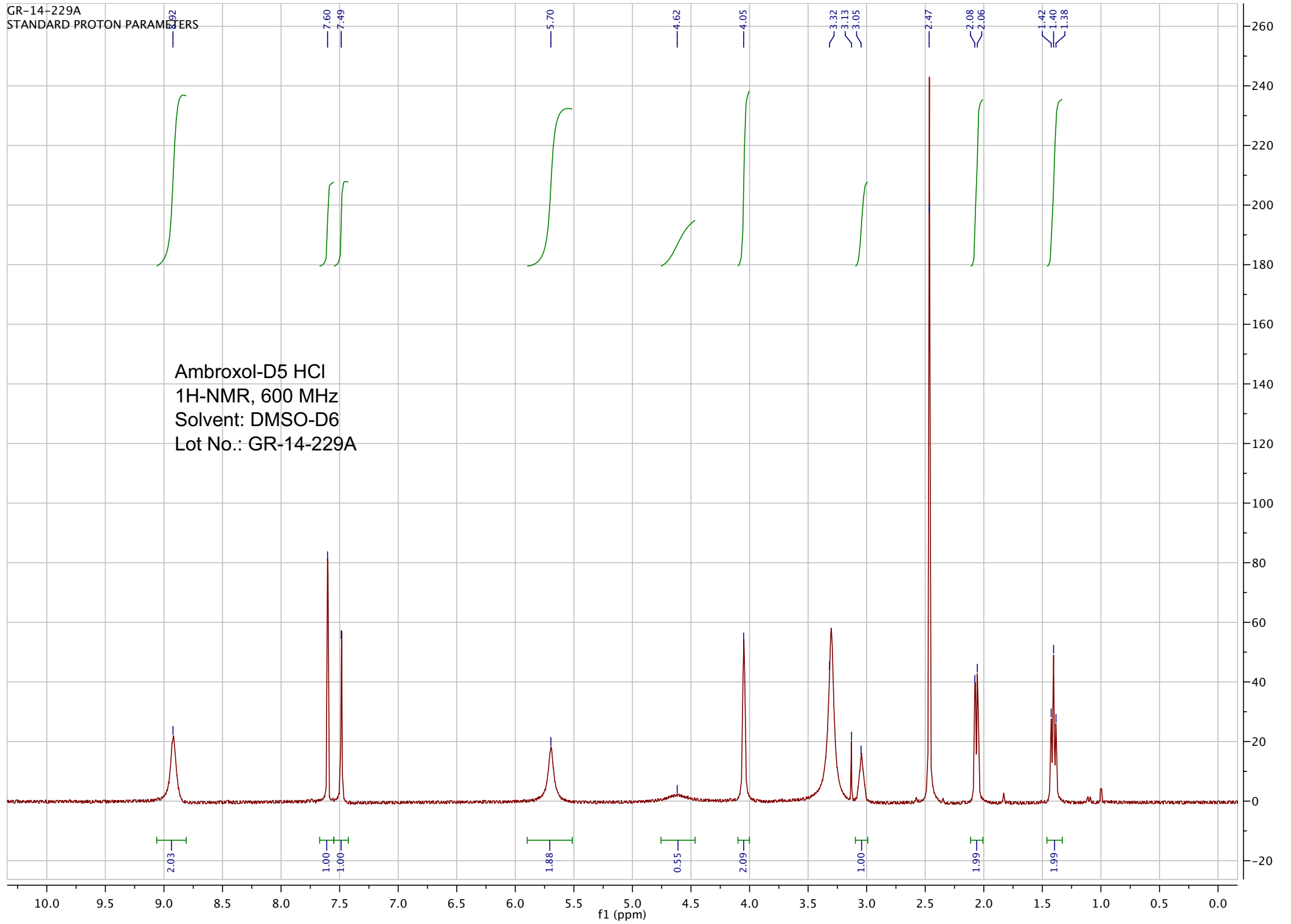
Approved by:

Date: 03/10/2020



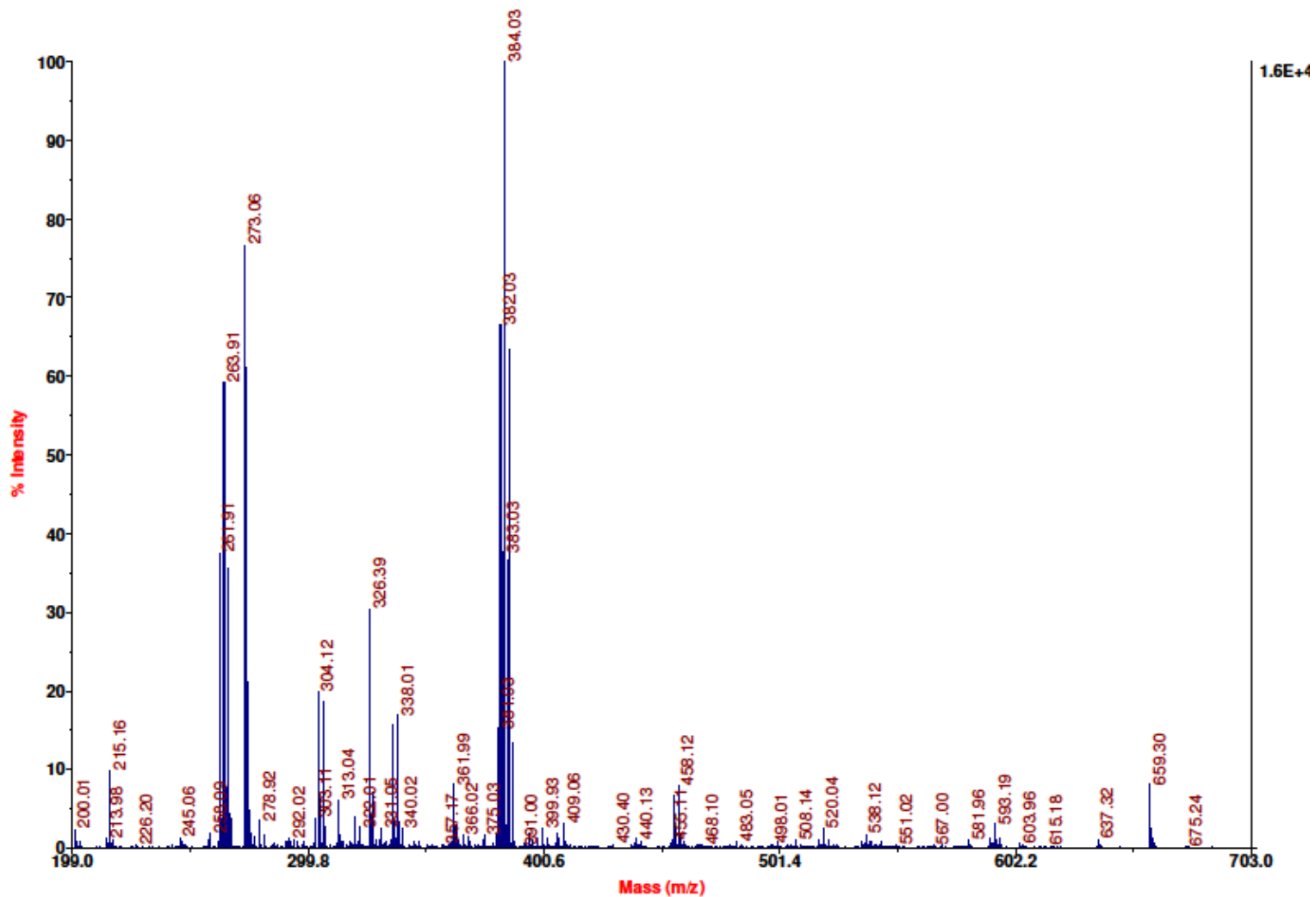
Viorica Rusu, QC/QA Manager

GR-14-229A  
STANDARD PROTON PARAMETERS



AB Sciex TOF/TOF™ Series Explorer™ 20511009

TOF/TOF™ Reflector Spec #1 MC[BP = 384.0, 16140]



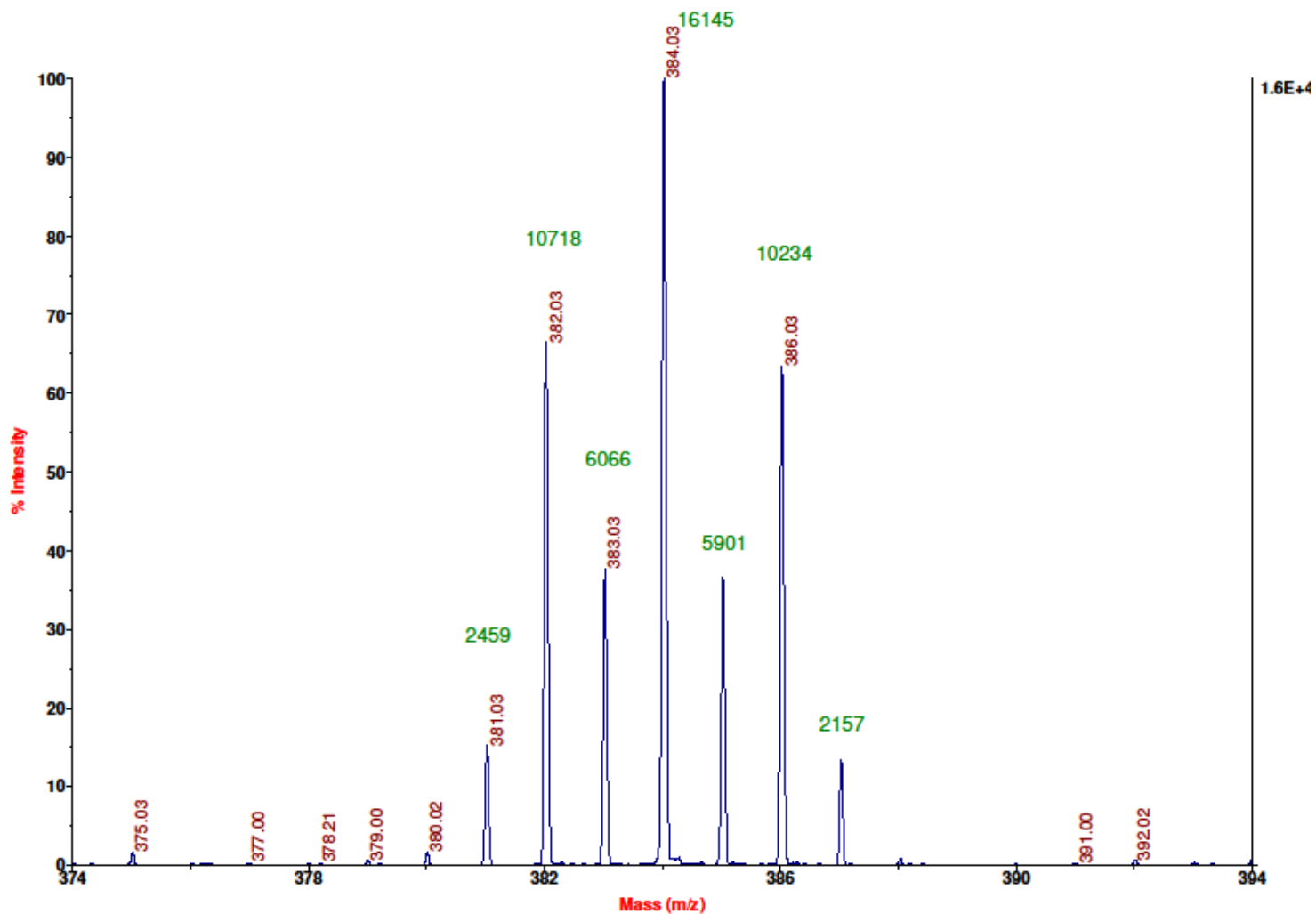
D:\MALDI FACILITY\MALDI\_2020\031020\_Rusu\IC1\_MS\_1.t2d

Printed: 12:36, March 10, 2020

Maldi-MS spectrum for sample GR-14-229. Shows monoisotopic [M+H]<sup>+</sup> mass.

AB Sciex TOF/TOF™ Series Explorer™ 20511009

TOF/TOF™ Reflector Spec #1 MC[BP = 384.0, 16140]

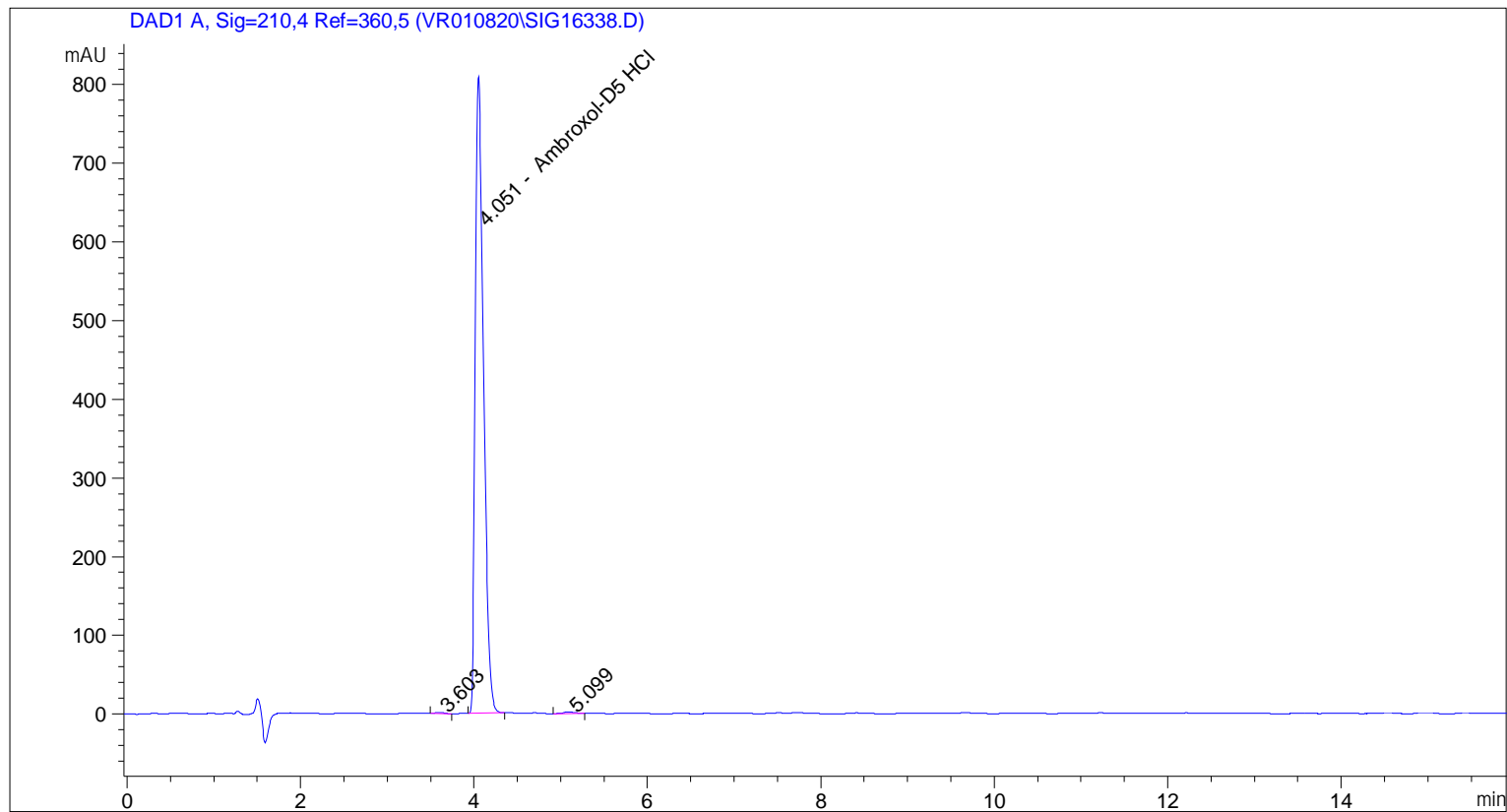


D:\MALDI FACILITY\MALDI\_2020\031020\_Rusu\IC1\_MS\_1.t2d

Printed: 12:39, March 10, 2020

Expansion of above showing intensity labels.

=====  
Acq. Operator : vrusu  
Acq. Instrument : Instrument 1 Location : Vial 63  
Injection Date : 3/6/2020 9:54:25 AM Inj Volume : 3.0 µl  
Acq. Method : C:\CHEM32\1\METHODS\VR030620\_229A.M  
Last changed : 3/6/2020 9:53:22 AM by vrusu  
Analysis Method : C:\CHEM32\1\METHODS\VR030620\_229A\_PM.M  
Last changed : 3/6/2020 10:16:18 AM by vrusu



=====  
Area Percent Report  
=====

Sorted By : Signal  
Calib. Data Modified : 3/6/2020 10:15:54 AM  
Multiplier: : 1.0000  
Dilution: : 1.0000  
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=210,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.603	BB	0.1006	9.58109	0.1767	?
2	4.051	BB	0.1037	5394.49756	99.4609	Ambroxol-D5 HCl
3	5.099	BB	0.1313	19.65772	0.3624	?

Totals : 5423.73637