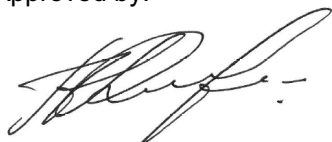


<b>Name:</b>	<b>R-(+)-Warfarin</b>
<b>Lot#:</b>	GR-12-049
<b>Test Date:</b>	07/24/2023 (re-test date: 07/24/2028)
<b>CAS No.:</b>	5543-58-8
<b>MF:</b>	C <sub>19</sub> H <sub>16</sub> O <sub>4</sub>
<b>MW:</b>	308.33
<b>Appearance:</b>	White Solid
<b>Purity:</b>	100% by HPLC (average of two sample preparations); 100% ee by chiral HPLC
<b><sup>1</sup>H-NMR:</b>	Conforms
<b>MS-ESI (-)</b>	Conforms (shows peak at m/z = 307.11 [M-H] <sup>-</sup> )
<b>Storage</b>	Store at 0-5°C in a dry place away from direct sunlight

Approved by:

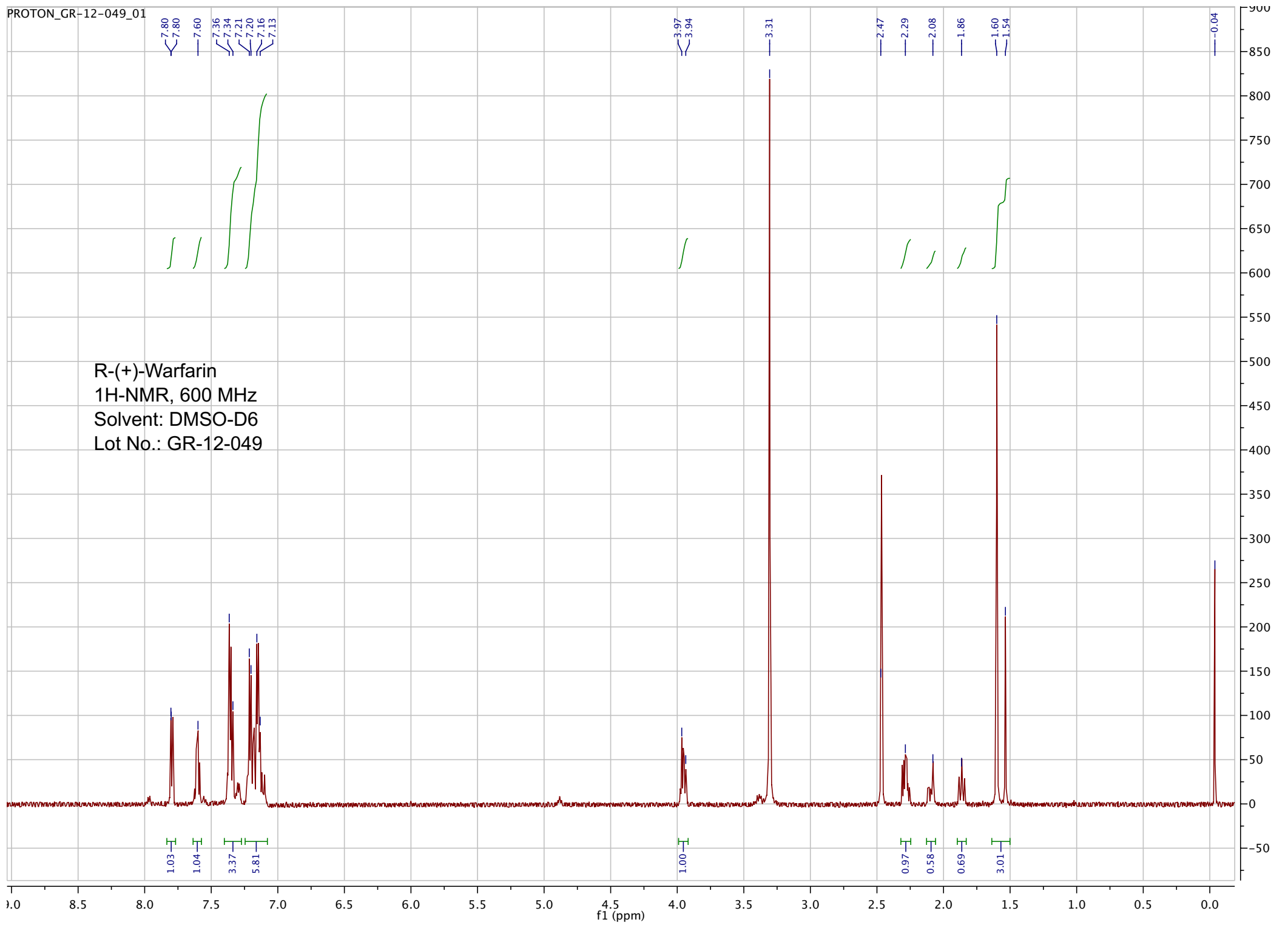
Date: 07/24/2023



Viorica Rusu, QC/QA Manager

PROTON\_GR-12-049\_01

R-(+)-Warfarin  
1H-NMR, 600 MHz  
Solvent: DMSO-D6  
Lot No.: GR-12-049

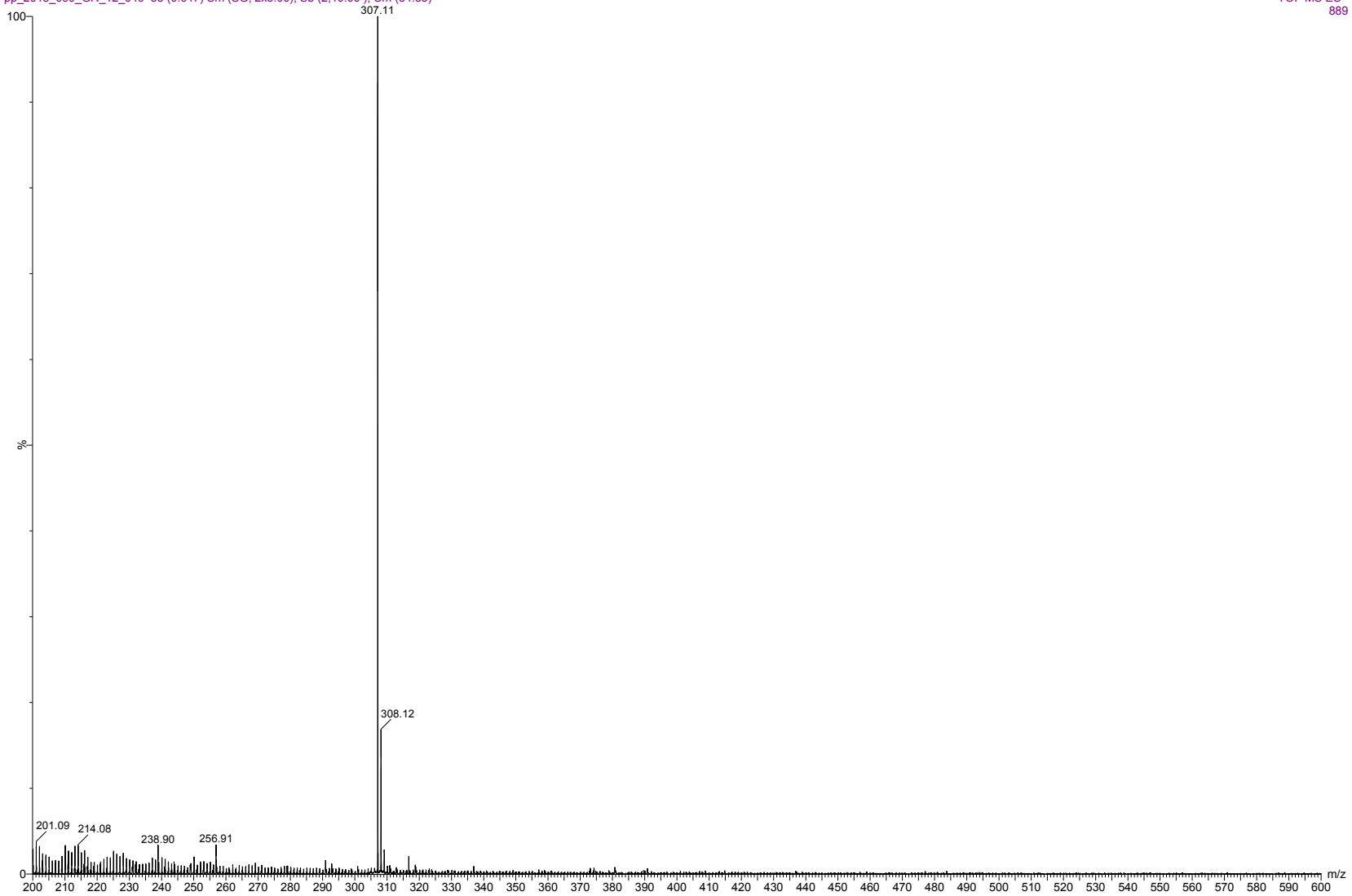


pp\_2018\_090\_GR\_12\_049 35 (0.647) Sm (SG, 2x5.00); Sb (2,10.00); Cm (34:35)

7.00000000

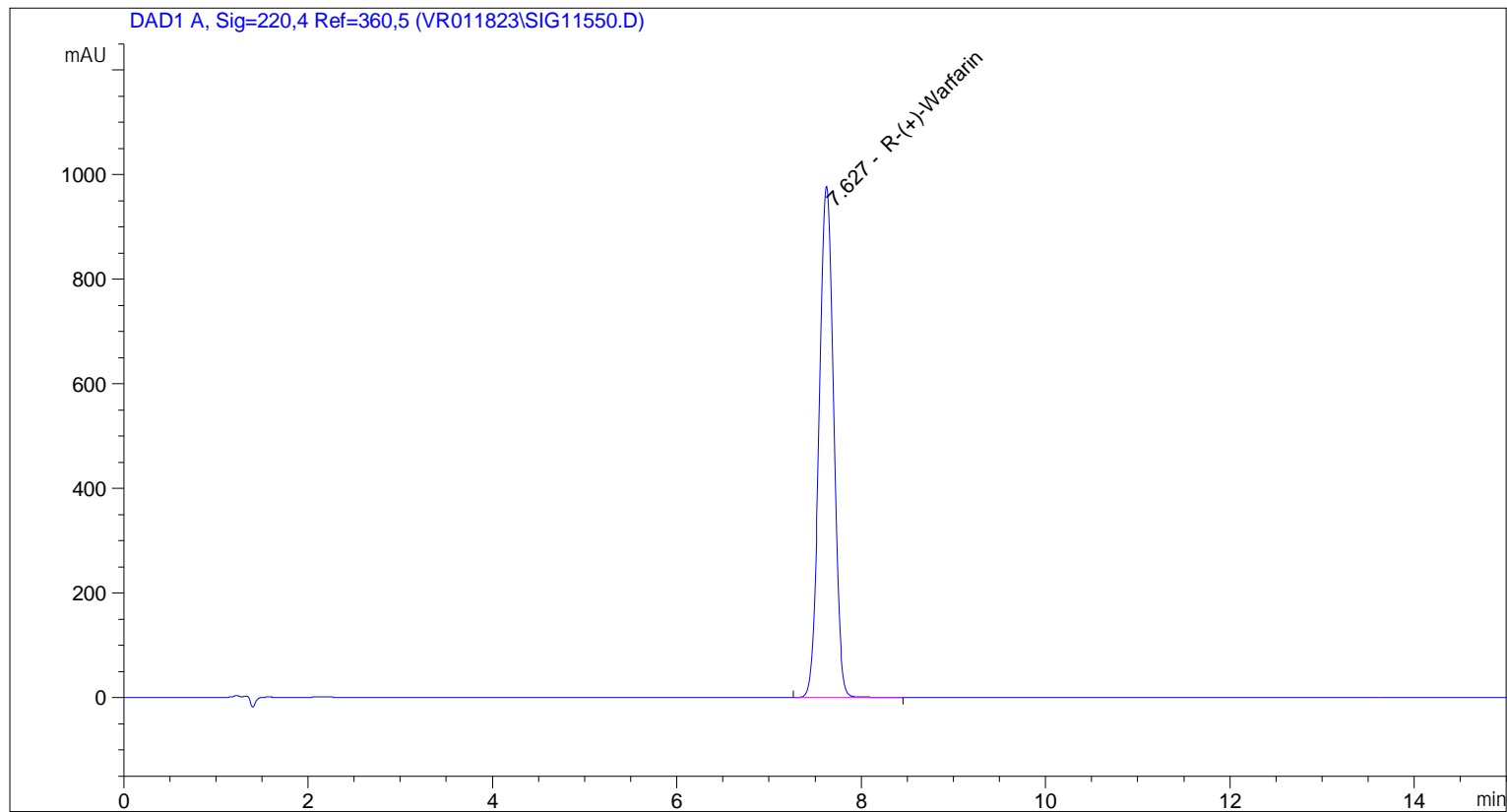
21-Aug-2018, 16:36:37

TOF MS ES-  
889



Raw ESI-MS spectrum for sample GR-12-049. Shows monoisotopic [M-H]<sup>-</sup> mass.

=====  
Acq. Operator : vrusu  
Acq. Instrument : Instrument 1 Location : Vial 94  
Injection Date : 7/24/2023 10:24:24 AM Inj Volume : 5.0 µl  
Acq. Method : C:\CHEM32\1\METHODS\VR072423\_049.M  
Last changed : 7/24/2023 10:23:21 AM by vrusu  
Analysis Method : C:\CHEM32\1\METHODS\VR072423\_049PM.M  
Last changed : 7/24/2023 12:28:27 PM by vrusu



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

Sorted By : Signal  
Calib. Data Modified : 7/24/2023 12:28:12 PM  
Multiplier: : 1.0000  
Dilution: : 1.0000  
Use Multiplier & Dilution Factor with ISTDs

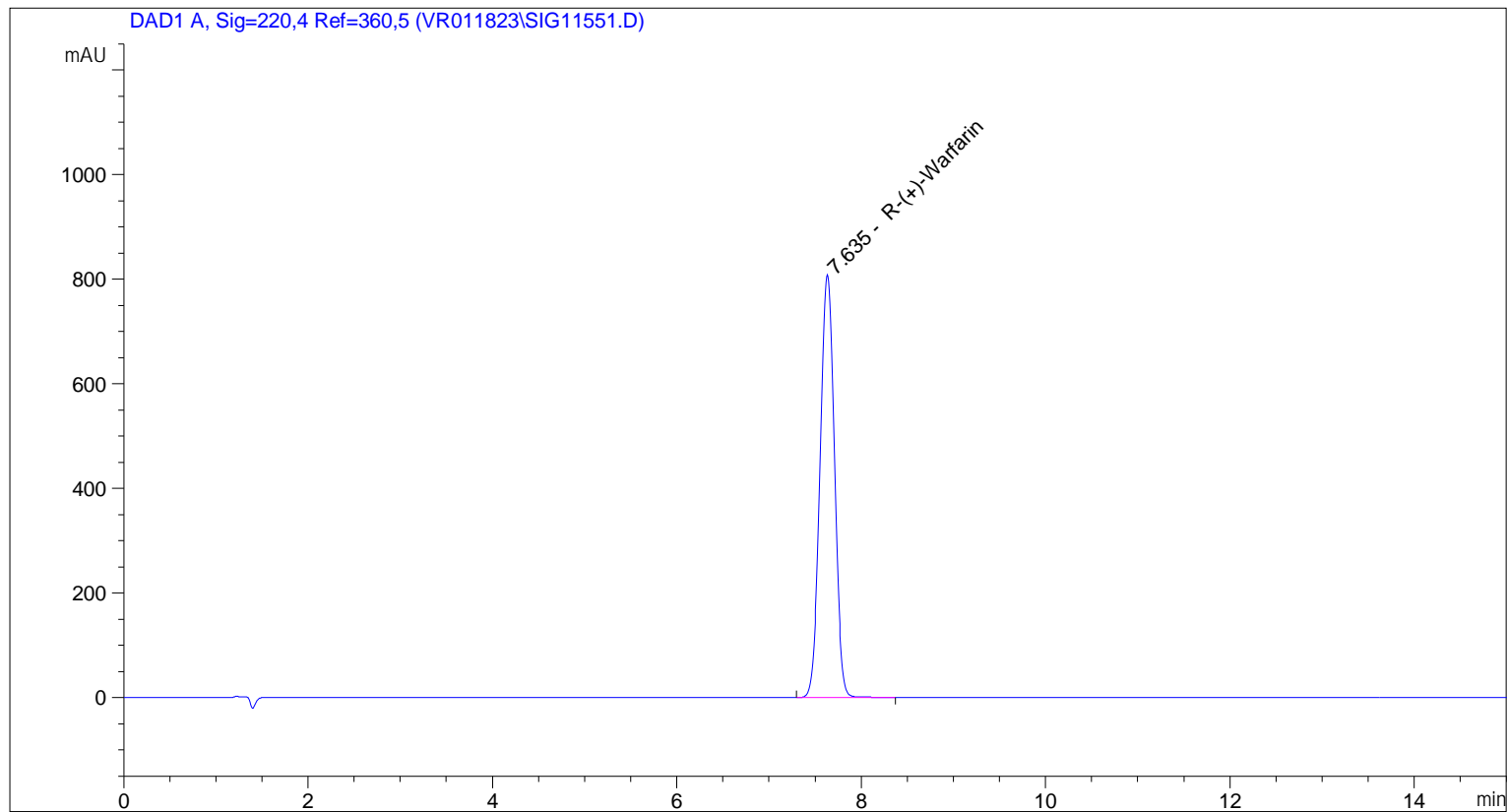
Signal 1: DAD1 A, Sig=220,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	7.627	BB	0.1703	1.05874e4	100.0000	R-(+)-Warfarin

Totals : 1.05874e4

=====  
\*\*\* End of Report \*\*\*

=====  
Acq. Operator : vrusu  
Acq. Instrument : Instrument 1 Location : Vial 95  
Injection Date : 7/24/2023 10:43:25 AM Inj Volume : 5.0 µl  
Acq. Method : C:\CHEM32\1\METHODS\VR072423\_049.M  
Last changed : 7/24/2023 10:42:21 AM by vrusu  
Analysis Method : C:\CHEM32\1\METHODS\VR072423\_049PM.M  
Last changed : 7/24/2023 12:28:27 PM by vrusu



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

Sorted By : Signal  
Calib. Data Modified : 7/24/2023 12:28:12 PM  
Multiplier: : 1.0000  
Dilution: : 1.0000  
Use Multiplier & Dilution Factor with ISTDs

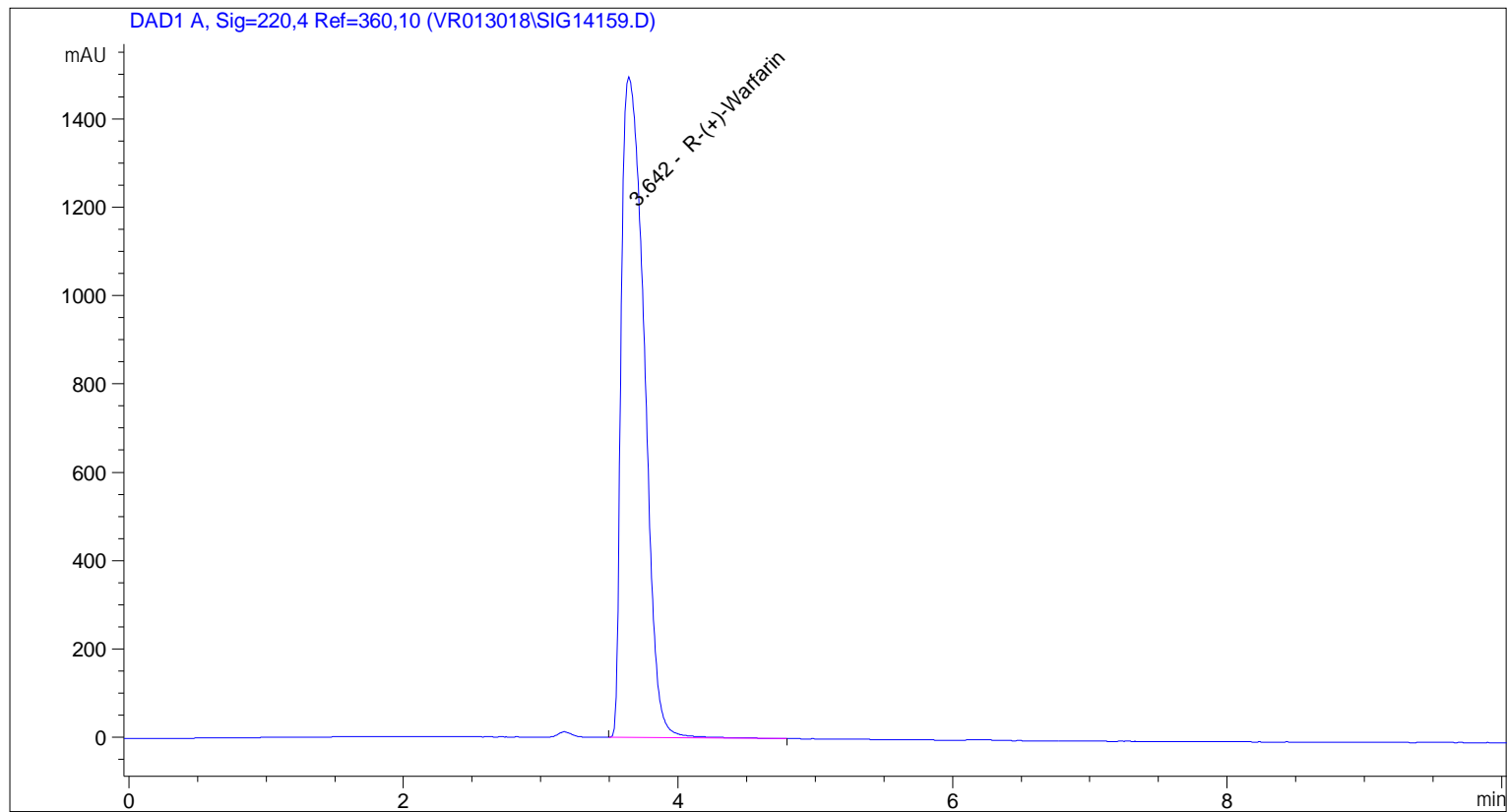
Signal 1: DAD1 A, Sig=220,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	7.635	BB	0.1678	8713.07910	100.0000	R-(+)-Warfarin

Totals : 8713.07910

=====  
\*\*\* End of Report \*\*\*

=====  
Acq. Operator : vrusu  
Acq. Instrument : Instrument 1 Location : Vial 32  
Injection Date : 8/14/2018 2:11:43 PM Inj Volume : 10.0 µl  
Acq. Method : C:\CHEM32\1\METHODS\VR081318\_049.M  
Last changed : 8/14/2018 2:08:17 PM by vrusu  
Analysis Method : C:\CHEM32\1\METHODS\VR081418\_049PM.M  
Last changed : 8/14/2018 2:28:43 PM by vrusu



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

Sorted By : Signal  
Calib. Data Modified : 8/14/2018 2:28:17 PM  
Multiplier: : 1.0000  
Dilution: : 1.0000  
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=220,4 Ref=360,10

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.642	BB	0.1921	1.71779e4	100.0000	R-(+)-Warfarin
2	5.352		0.0000	0.00000	0.0000	S(-)-Warfarin

Totals : 1.71779e4

1 Warnings or Errors :

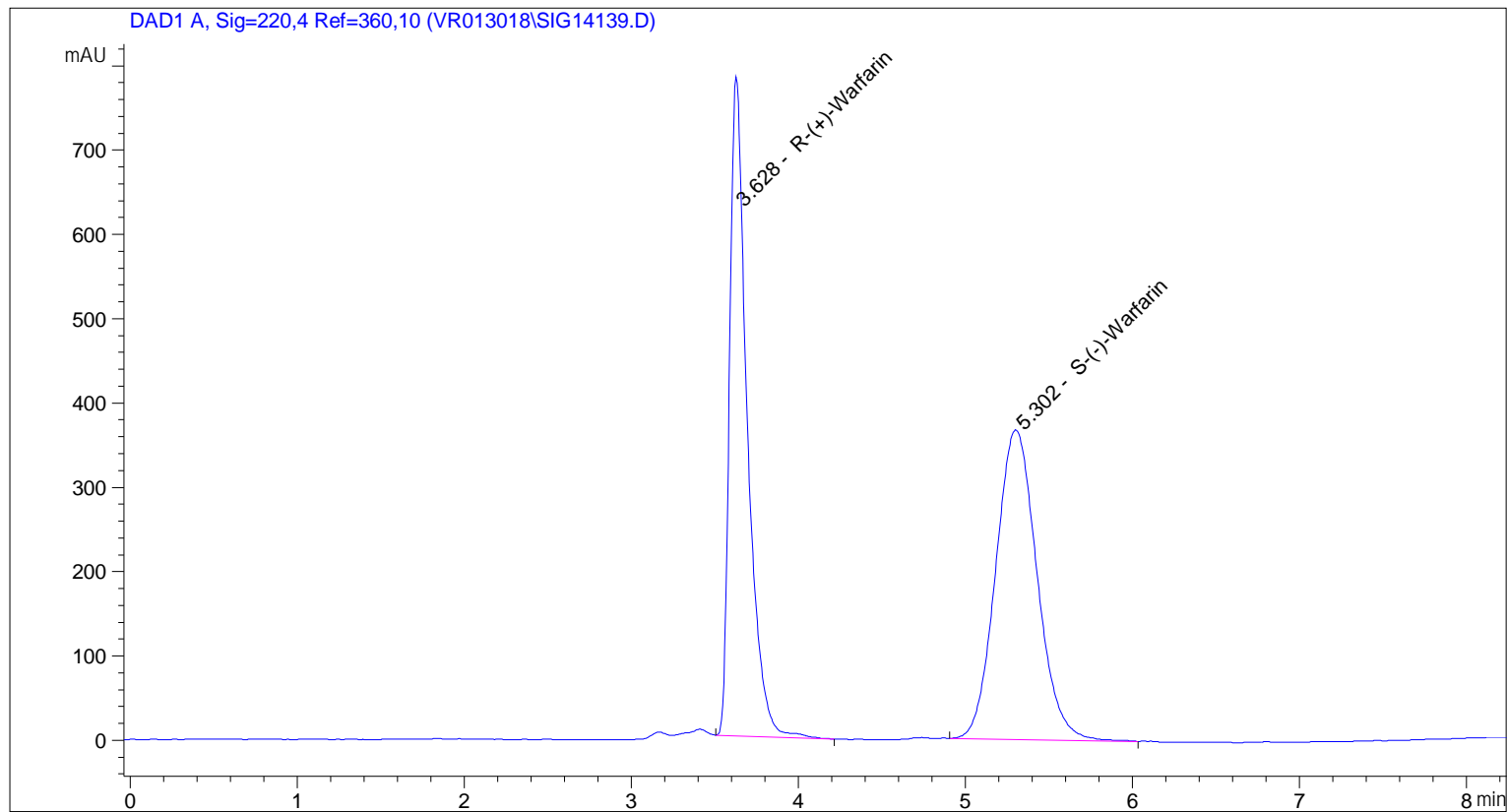
Sample Name: GR-12-049

Warning : Calibrated compound(s) not found

=====

\*\*\* End of Report \*\*\*

=====  
Acq. Operator : vrusu  
Acq. Instrument : Instrument 1 Location : Vial 16  
Injection Date : 8/9/2018 10:43:43 AM Inj Volume : 5.0 µl  
Acq. Method : C:\CHEM32\1\METHODS\VR080918\_047.M  
Last changed : 8/9/2018 10:42:03 AM by vrusu  
Analysis Method : C:\CHEM32\1\METHODS\VR081418\_047PM.M  
Last changed : 8/14/2018 3:30:03 PM by vrusu



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

Sorted By : Signal  
Calib. Data Modified : 8/14/2018 2:28:17 PM  
Multiplier: : 1.0000  
Dilution: : 1.0000  
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=220,4 Ref=360,10

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.628	BB	0.1077	5740.59619	47.6524	R-(+)-Warfarin
2	5.302	BB	0.2625	6306.22412	52.3476	S-(-)-Warfarin

Totals : 1.20468e4

=====  
\*\*\* End of Report \*\*\*