

**Name:** S-(-)-Warfarin-D5

**Lot#:** GR-12-085

**Test Date:** 12/06/2023 (re-test date: 12/06/2028)

**CAS No.:** 791013-22-4

**MF:** C<sub>19</sub>H<sub>11</sub>D<sub>5</sub>O<sub>4</sub>

**MW:** 313.36

**Appearance:** Beige solid

**Purity:** 100% by CP HPLC (average of two sample preparations); 99.7% ee; 99% atom D

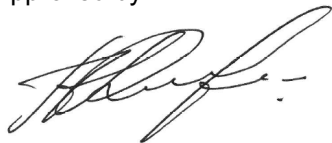
**<sup>1</sup>H-NMR:** Conforms

**MS-ESI (-)** Conforms (shows peak at m/z = 312.22 [M-H]<sup>-</sup>)

**Storage** Store at -18°C in a dry place away from direct sunlight

Approved by:

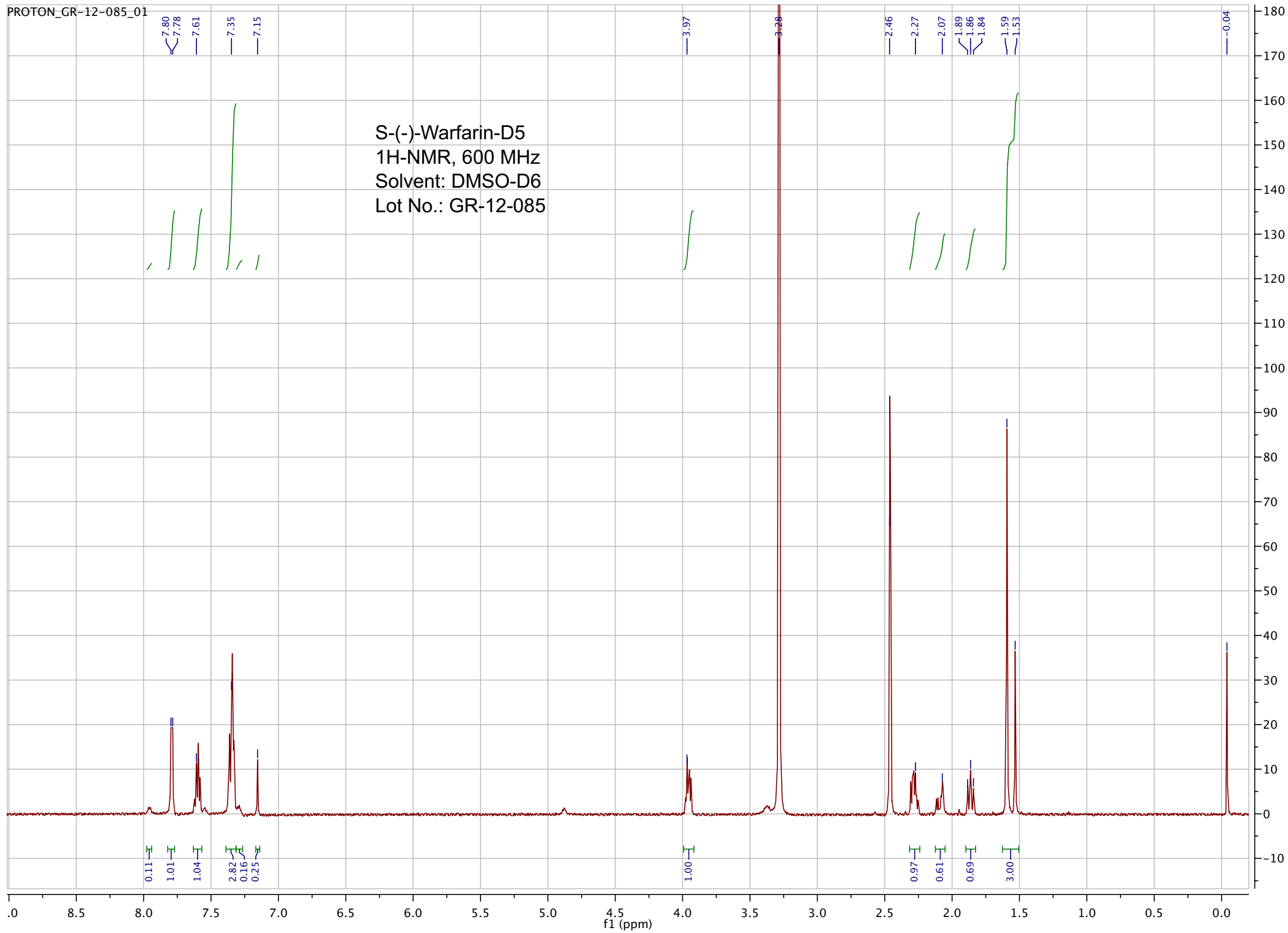
Date: 12/06/2023



Viorica Rusu, QC/QA Manager

PROTON\_GR-12-085\_01

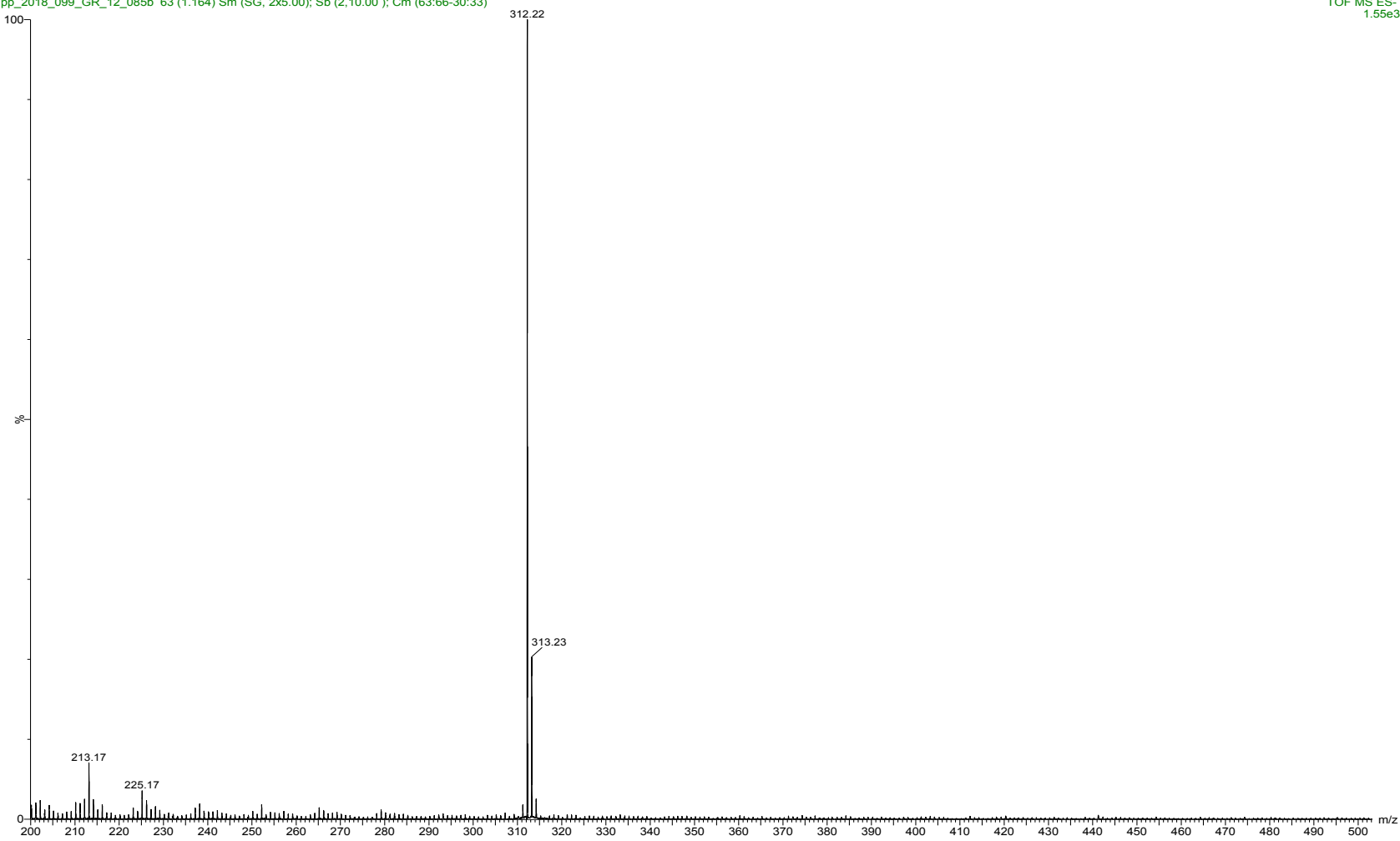
S-(-)-Warfarin-D5  
1H-NMR, 600 MHz  
Solvent: DMSO-D6  
Lot No.: GR-12-085



pp\_2018\_099\_GR\_12\_085b 63 (1.164) Sm (SG, 2x5.00); Sb (2,10.00 ); Cm (63:66-30:33)

7.00000000

18-Sep-2018, 16:02:28  
TOF MS ES-  
1.55e3



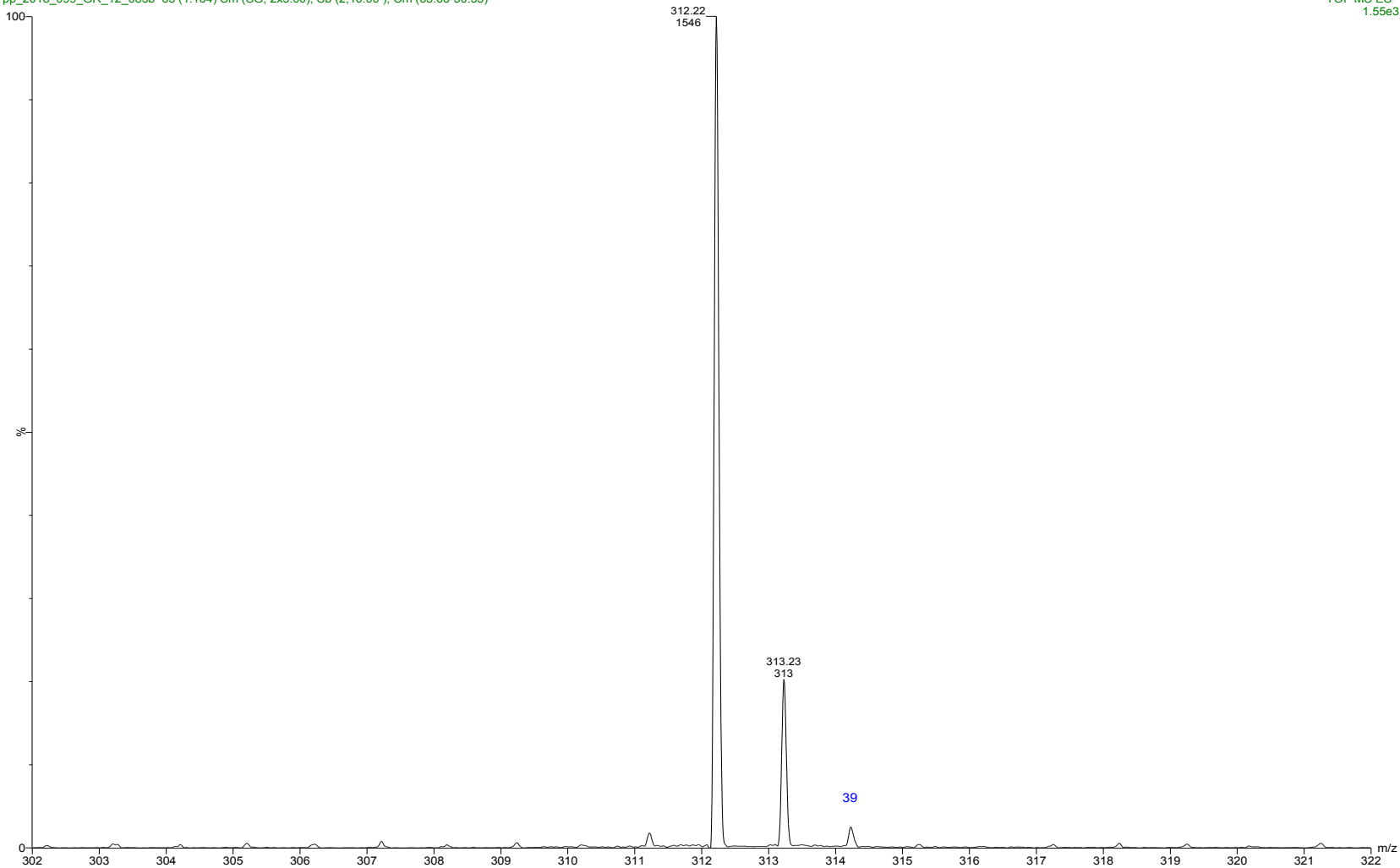
ESI-MS spectrum for sample GR-12-085. Shows monoisotopic [M-H]<sup>-</sup> mass.

pp\_2018\_099\_GR\_12\_085b 63 (1.164) Sm (SG, 2x5.00); Sb (2,10.00 ); Cm (63:66-30:33)

7.00000000

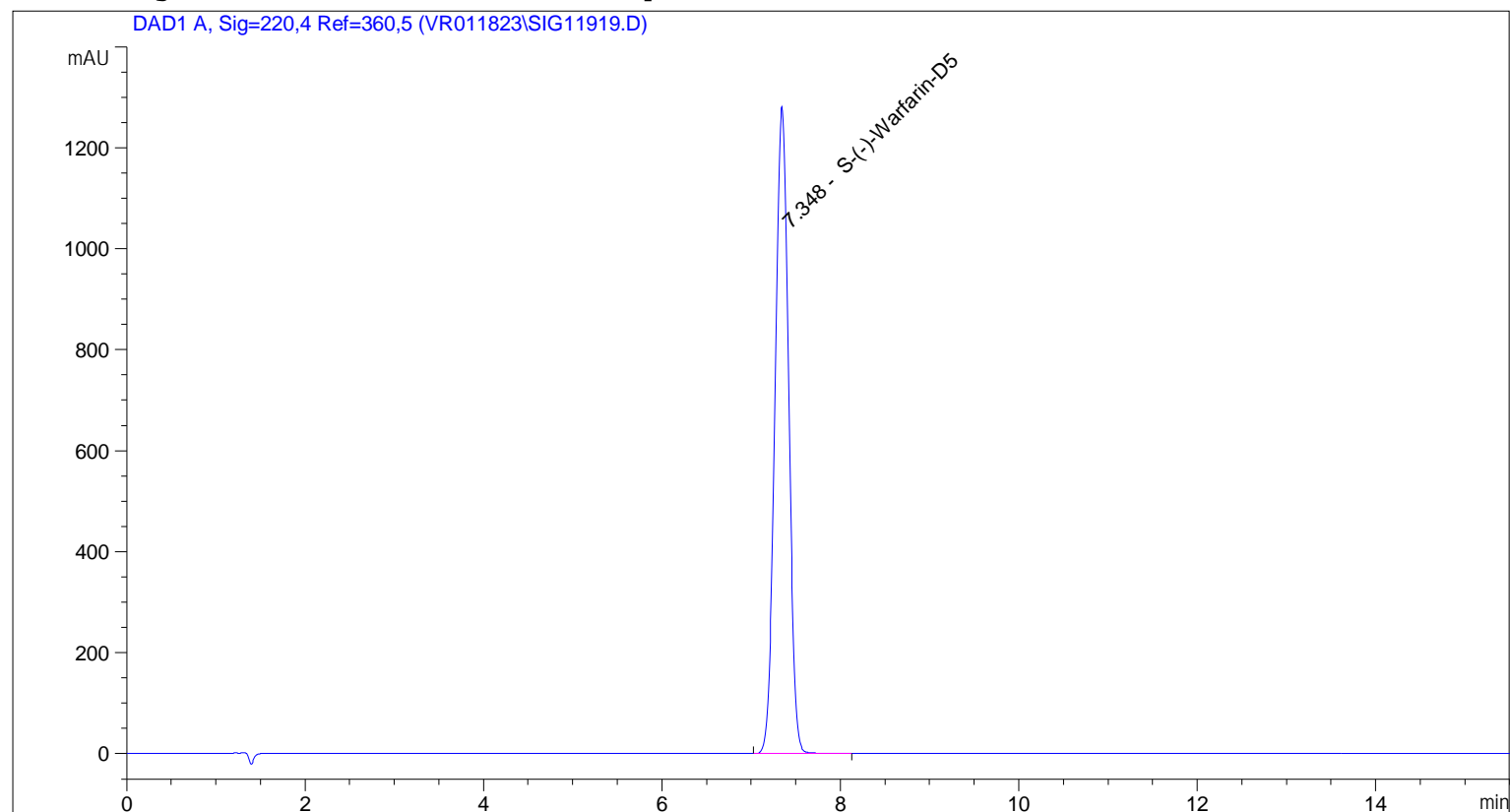
18-Sep-2018, 16:02:28

TOF MS ES-  
1.55e3



Expansion of above showing intensity ratios.

```
=====
Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                Location : Vial 4
Injection Date  : 12/6/2023 2:18:19 PM
                                           Inj Volume : 5.0 µl
Acq. Method     : C:\CHEM32\1\METHODS\VR120623_085.M
Last changed    : 12/6/2023 2:17:23 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR120723_085PM.M
Last changed    : 12/7/2023 9:46:30 AM by vrusu
=====
```



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

```
Sorted By           :      Signal
Calib. Data Modified :      12/7/2023 9:42:52 AM
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

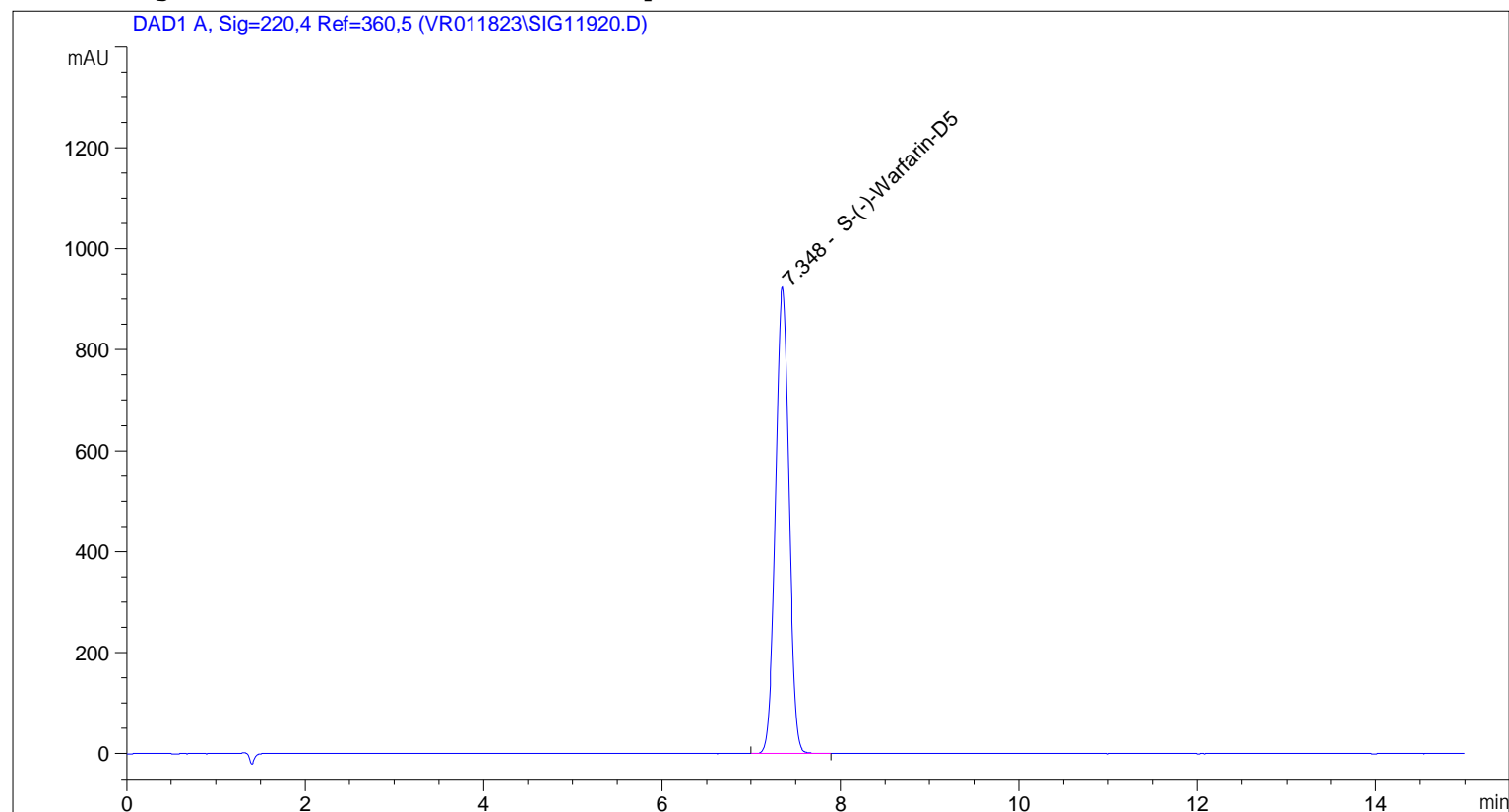
Signal 1: DAD1 A, Sig=220,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	7.348	BB	0.1658	1.35965e4	100.0000	S-(-)-Warfarin-D5

Totals : 1.35965e4

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=====
*** End of Report ***
```

```
=====
Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                Location : Vial 5
Injection Date  : 12/6/2023 2:35:42 PM
                                           Inj Volume : 5.0 µl
Acq. Method     : C:\CHEM32\1\METHODS\VR120623_085.M
Last changed    : 12/6/2023 2:34:48 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR120723_085PM.M
Last changed    : 12/7/2023 9:46:30 AM by vrusu
=====
```



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

```
Sorted By           :      Signal
Calib. Data Modified :      12/7/2023 9:42:52 AM
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	7.348	BB	0.1643	9695.42285	100.0000	S-(-)-Warfarin-D5

Totals : 9695.42285

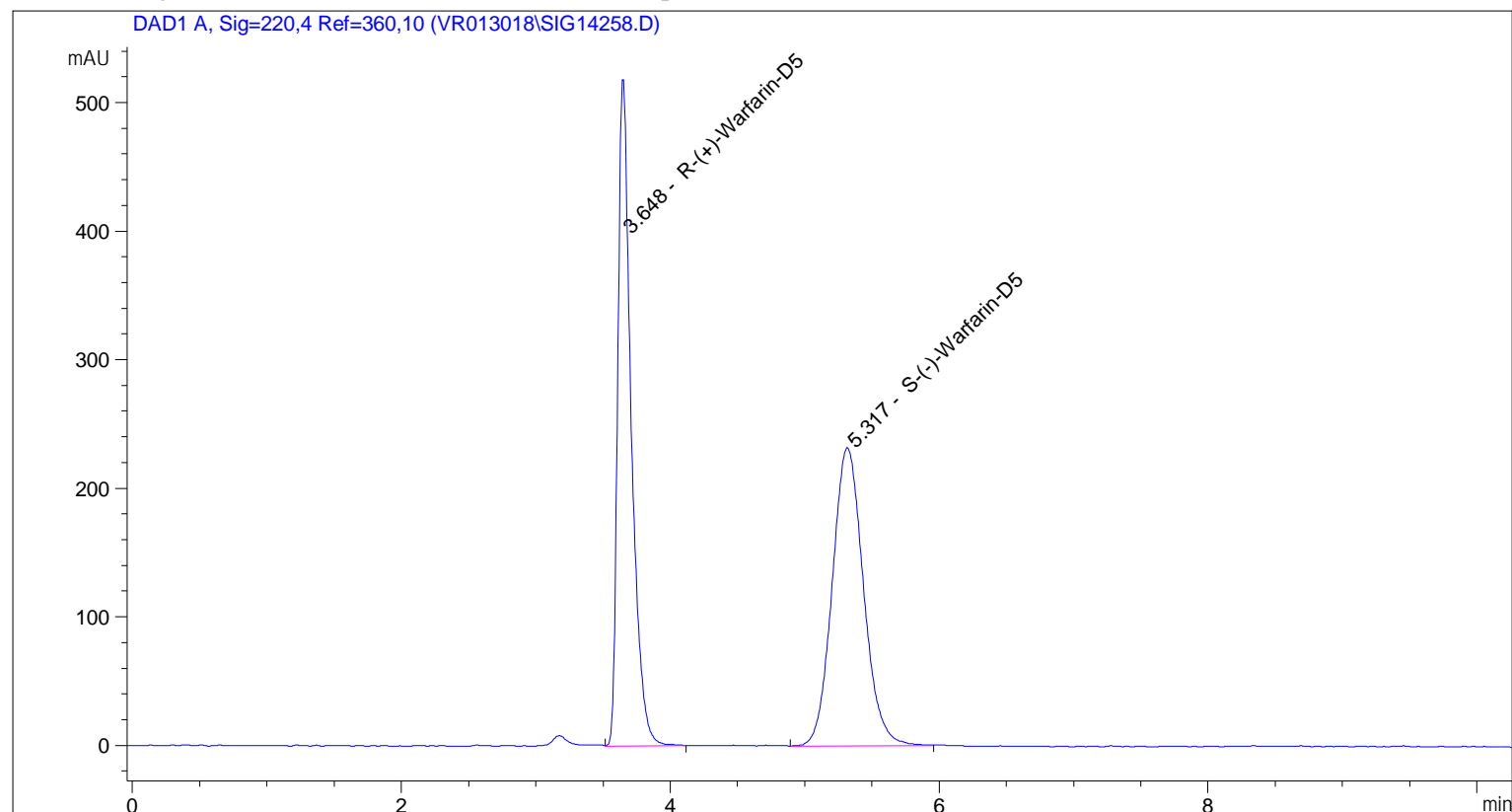
```
=====
*** End of Report ***
```

Sample Name: GR-12-099

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=====
Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                Location : Vial 6
Injection Date  : 9/11/2018 4:48:12 PM
                                           Inj Volume : 5.0 µl
Acq. Method     : C:\CHEM32\1\METHODS\VR091018_083.M
Last changed    : 9/11/2018 4:46:37 PM by vrusu
                  (modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\VR091118_085PM.M
Last changed    : 9/11/2018 10:50:21 AM by vrusu
=====

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                        Area Percent Report
=====

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```

Sorted By           :      Signal
Calib. Data Modified :      Tuesday, September 11, 2018 10:50:02 AM
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs

```

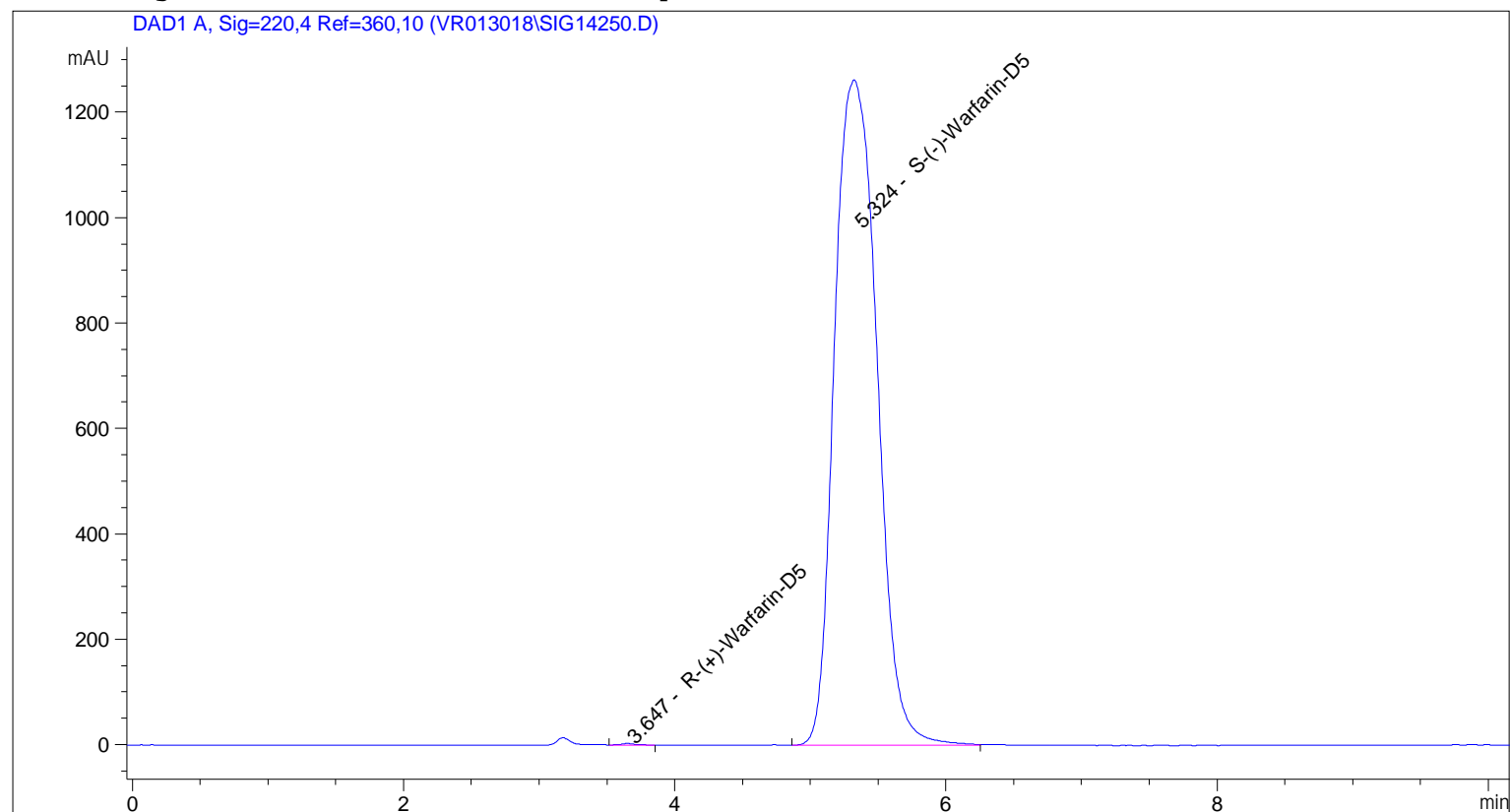
Signal 1: DAD1 A, Sig=220,4 Ref=360,10

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.648	VV	0.1034	3625.84375	49.1348	R-(+)-Warfarin-D5
2	5.317	BV	0.2507	3753.53687	50.8652	S-(-)-Warfarin-D5

```
Totals :                      7379.38062
```

Sample Name: GR-12-085

```
=====
Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                Location : Vial 3
Injection Date  : 9/10/2018 3:06:46 PM
                                           Inj Volume : 10.0 µl
Acq. Method     : C:\CHEM32\1\METHODS\VR091018_083.M
Last changed    : 9/10/2018 3:05:28 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR091118_085PM.M
Last changed    : 9/11/2018 10:50:21 AM by vrusu
=====
```



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

```
Sorted By           :      Signal
Calib. Data Modified :      Tuesday, September 11, 2018 10:50:02 AM
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	3.647	VV	0.1229	31.12562	0.1129	R-(+)-Warfarin-D5
2	5.324	BV	0.3546	2.75473e4	99.8871	S-(-)-Warfarin-D5

Totals : 2.75784e4

```
=====
*** End of Report ***
```