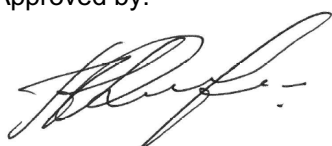


Name:	Nor Verapamil-D7 Hydrochloride
Lot#:	GR-12-143
Test Date:	02/09/2024 (re-test date: 02/09/2029)
CAS No.:	1216413-74-9
MF:	C ₂₆ H ₃₀ D ₇ ClN ₂ O ₄
MW:	484.08
Appearance:	White Solid
Purity:	98.8% by HPLC (average of two sample preparations); >98% atom D
¹H-NMR:	Conforms
MS-ESI (+)	Conforms (shows peak at m/z = 448.39 [M _{free base} +H] ⁺)
Storage	Store at -18°C in a dry place away from direct sunlight

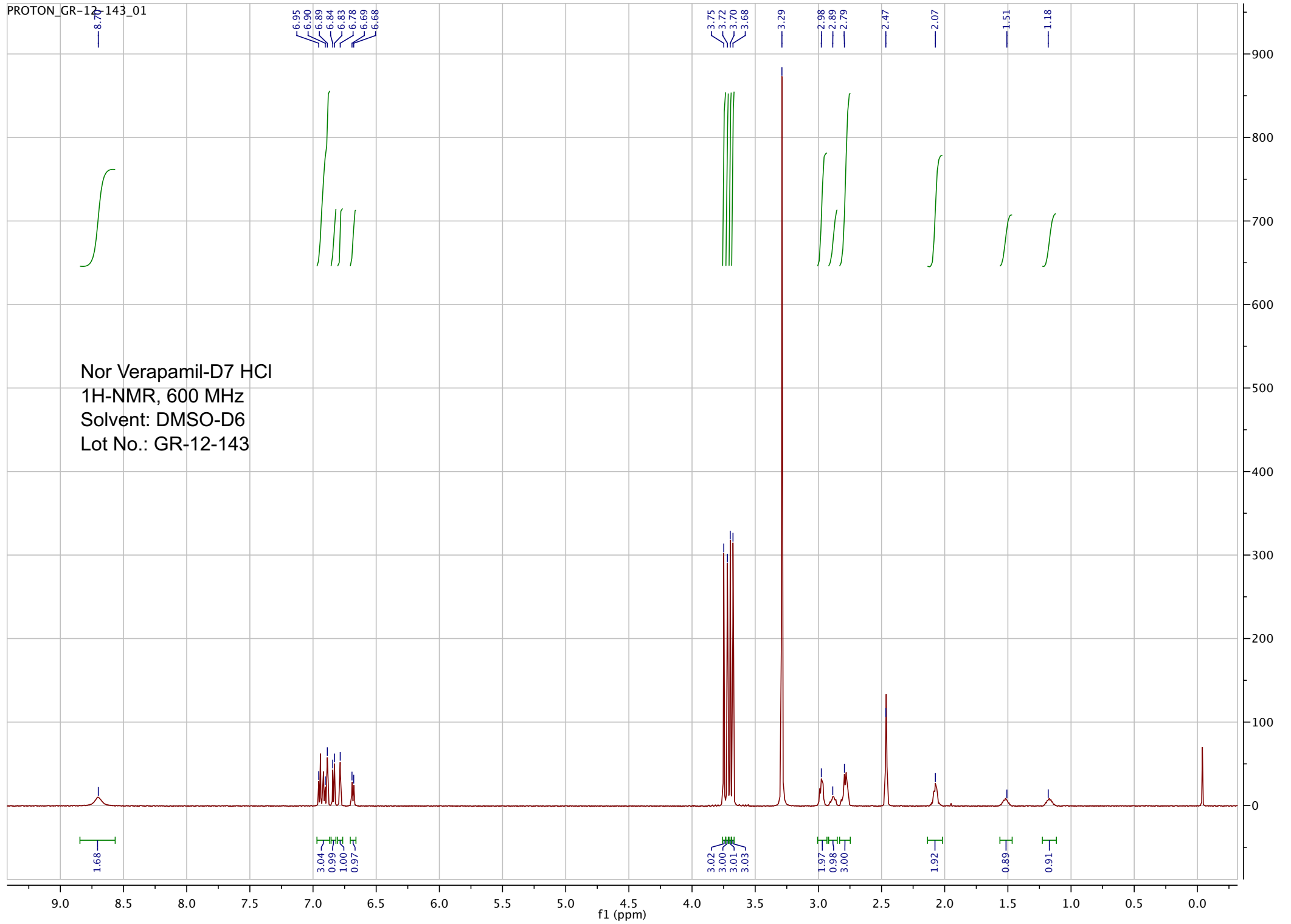
Approved by:

Date: 02/09/2024



Viorica Rusu, QC/QA Manager

Nor Verapamil-D7 HCl
1H-NMR, 600 MHz
Solvent: DMSO-D6
Lot No.: GR-12-143

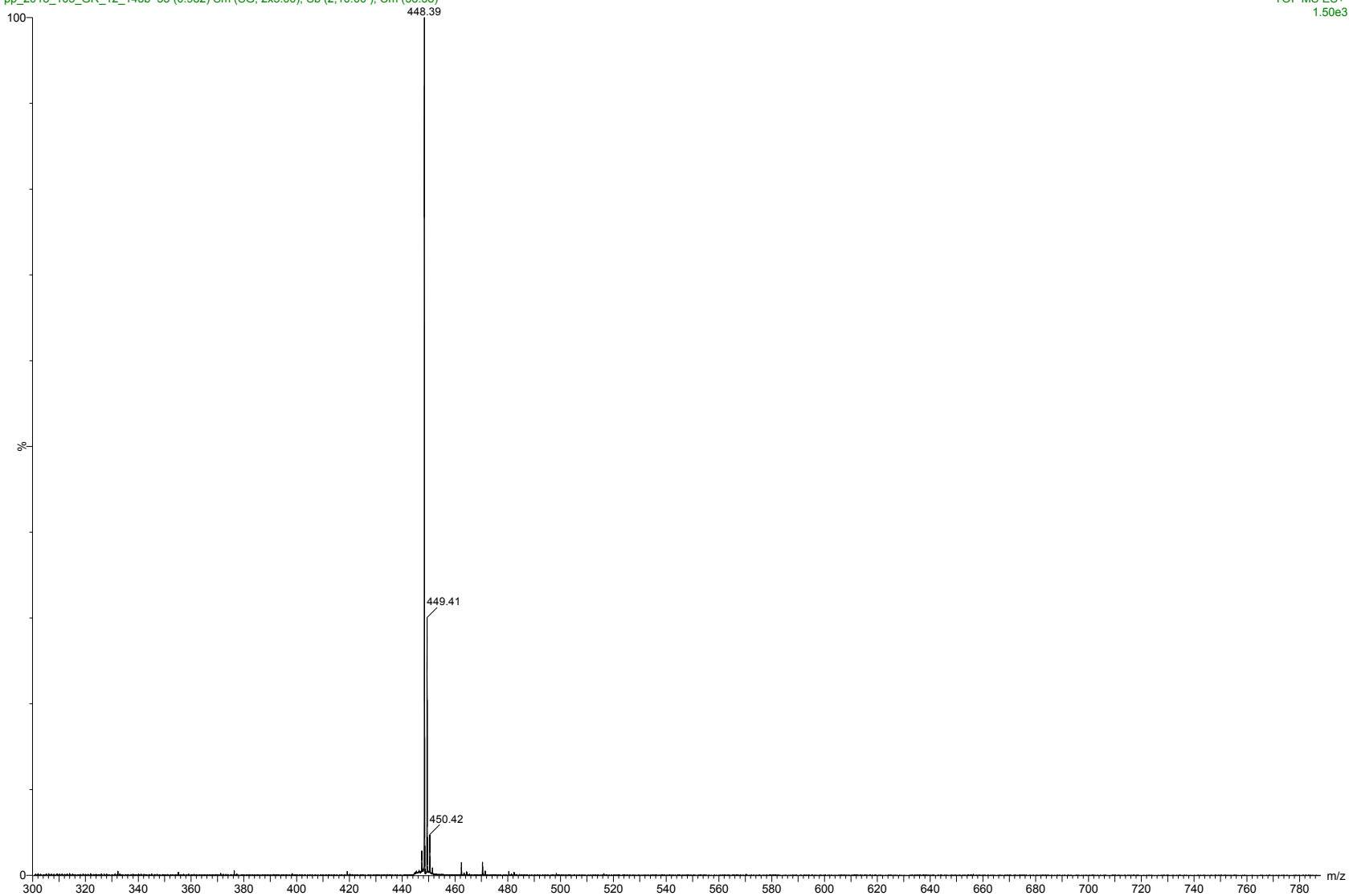


pp_2018_105_GR_12_143b 53 (0.982) Sm (SG, 2x5.00); Sb (2,10.00); Cm (53:58)

7.0000000

04-Oct-2018, 13:43:33

TOFMS ES+
1.50e3



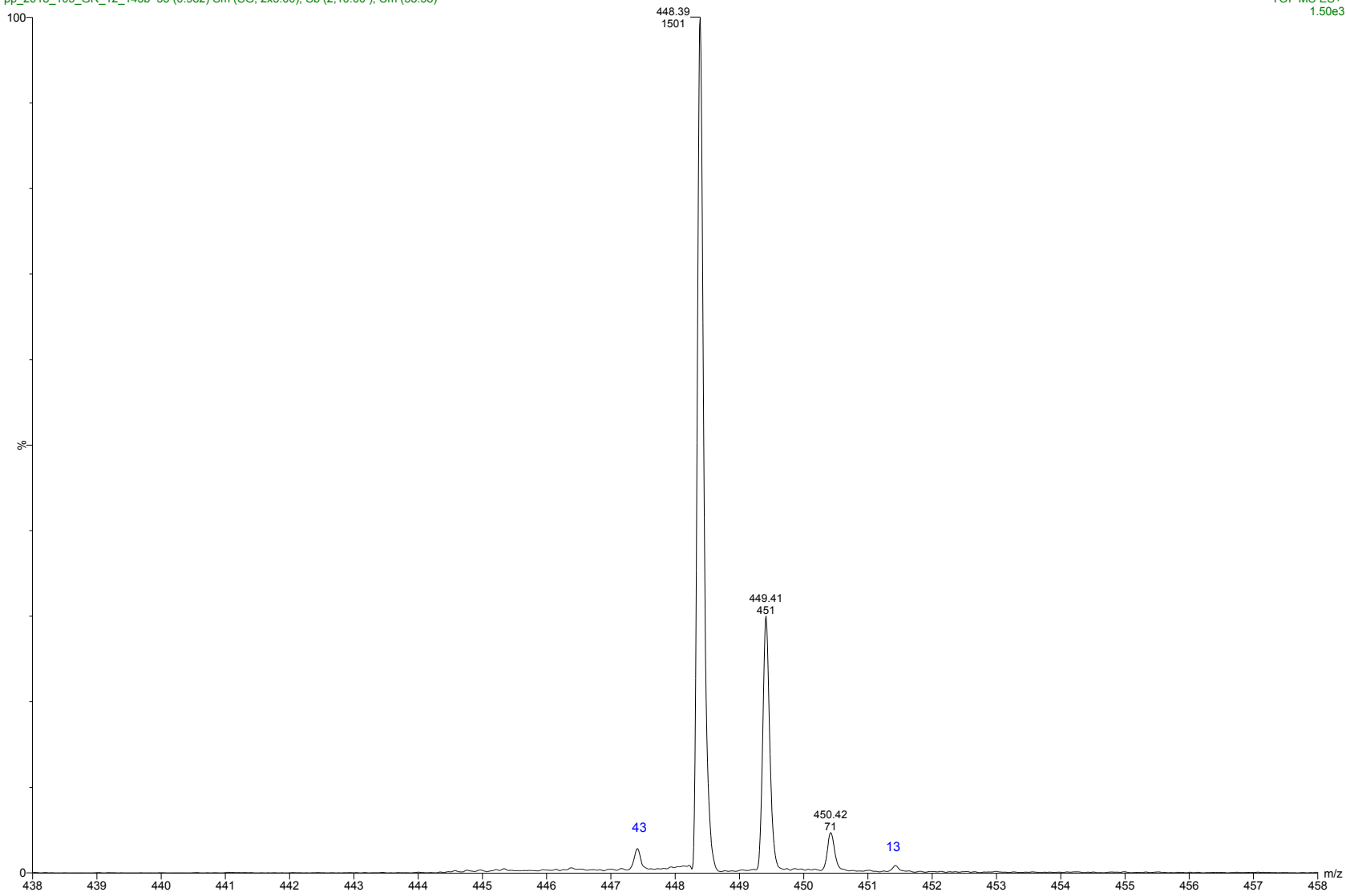
ESI-MS spectrum for sample GR-12-143. Shows monoisotopic $[M+H]^+$ mass.

pp_2018_105_GR_12_143b 53 (0.982) Sm (SG, 2x5.00); Sb (2,10.00); Cm (53:58)

7.00000000

04-Oct-2018, 13:43:33

TOF MS ES+
1.50e3

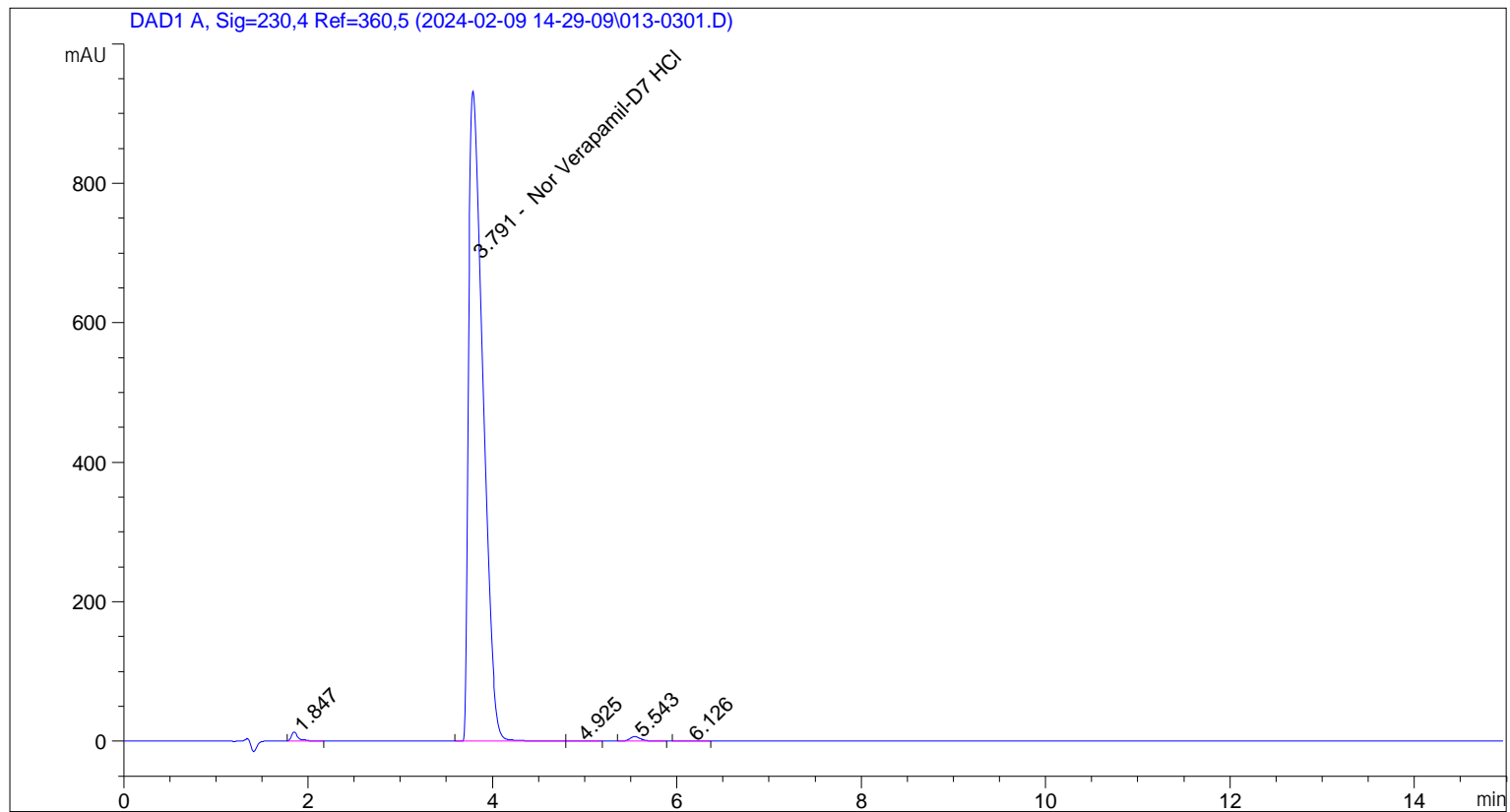


Sample Name: GR-12-143 spl-2

```

=====
Acq. Operator   : vrusu                               Seq. Line :    3
Acq. Instrument : Instrument 1                         Location  : Vial 13
Injection Date  : 2/9/2024 3:03:13 PM                 Inj       :    1
                                                    Inj Volume: 10.0 µl

Acq. Method     : C:\CHEM32\1\DATA\2024-02-09 14-29-09\VR020924_143.M
Last changed    : 2/9/2024 2:28:54 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR021024_143_PM.M
Last changed    : 2/10/2024 7:07:22 AM by vrusu
=====
    
```



Area Percent Report

```

=====
Sorted By           :      Signal
Calib. Data Modified :      2/10/2024 7:06:48 AM
Multiplier:         :      1.0000
Dilution:           :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: DAD1 A, Sig=230,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.791	BV	0.1692	1.01630e4	98.7727	Nor Verapamil-D7 HCl

Totals : 1.01630e4 98.7727

Uncalibrated Peaks:

Sample Name: GR-12-143 spl-2

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	1.847	BB	0.0789	67.54752	0.6565	?
2	4.925	VB	0.1531	3.87975	0.0377	?
3	5.543	BB	0.1229	51.21143	0.4977	?
4	6.126	BB	0.1376	3.64660	0.0354	?

Uncalib. totals : 126.28529 1.2273

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

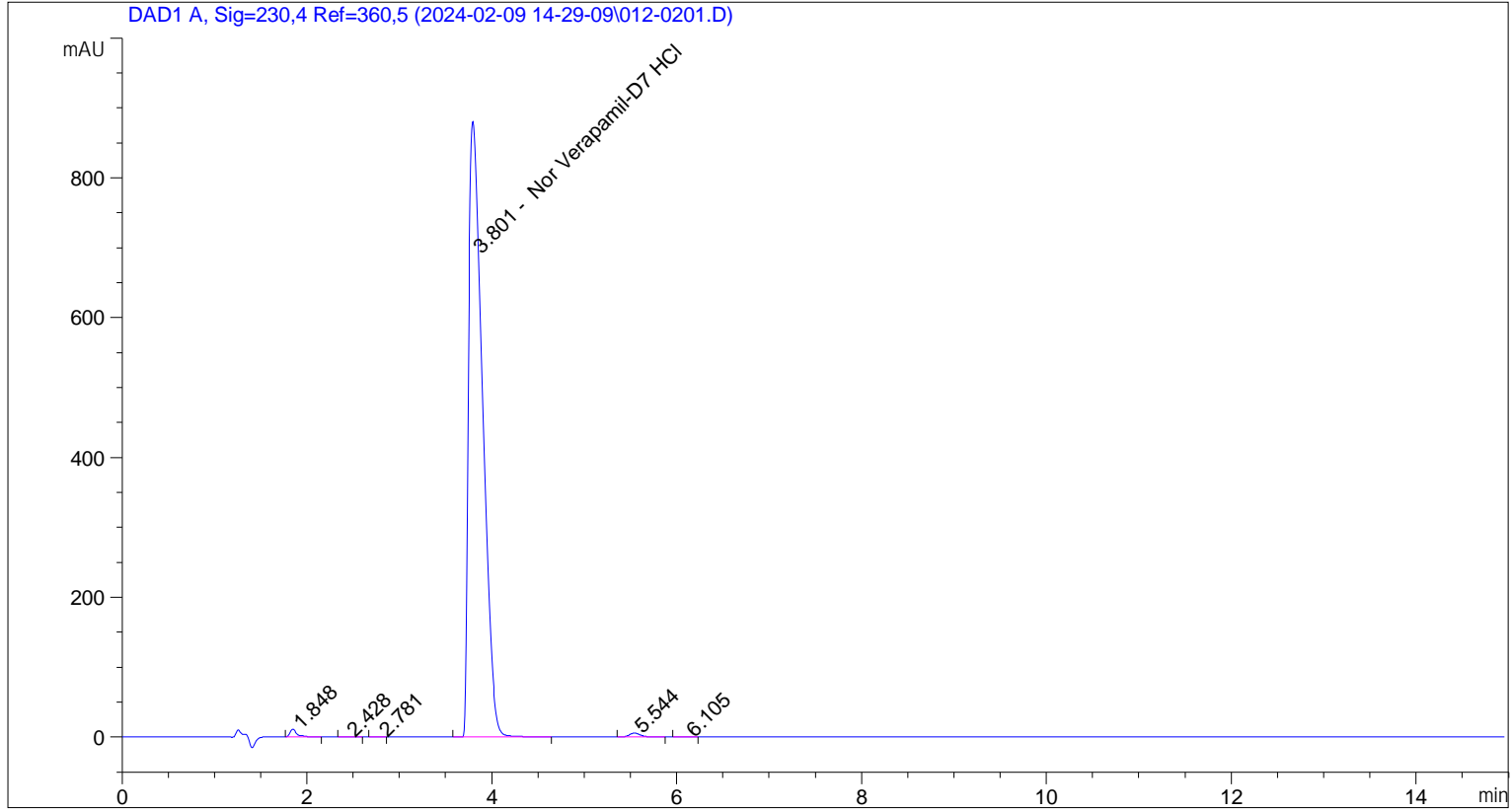
Sample Name: GR-12-143

```

=====
Acq. Operator   : vrusu                               Seq. Line :    2
Acq. Instrument : Instrument 1                         Location  : Vial 12
Injection Date  : 2/9/2024 2:46:46 PM                 Inj       :    1
                                                    Inj Volume: 10.0 µl

Acq. Method     : C:\CHEM32\1\DATA\2024-02-09 14-29-09\VR020924_143.M
Last changed    : 2/9/2024 2:28:54 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR021024_143_PM.M
Last changed    : 2/10/2024 7:07:22 AM by vrusu
=====

```



```

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

```

```

Sorted By           :      Signal
Calib. Data Modified :      2/10/2024 7:06:48 AM
Multiplier:         :      1.0000
Dilution:           :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

```

Signal 1: DAD1 A, Sig=230,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.801	BB	0.1653	9314.59766	98.8639	Nor Verapamil-D7 HCl

```
Totals :                      9314.59766  98.8639
```

Uncalibrated Peaks:

Sample Name: GR-12-143

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	1.848	BB	0.0769	58.35241	0.6193	?
2	2.428	BB	0.0856	1.15366	0.0122	?
3	2.781	BB	0.0770	9.60440e-1	0.0102	?
4	5.544	BB	0.1238	44.25046	0.4697	?
5	6.105	BB	0.1148	2.31876	0.0246	?

Uncalib. totals : 107.03573 1.1361

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