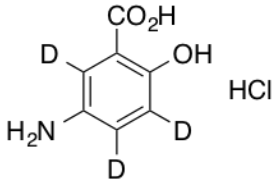
Certificate of Analysis



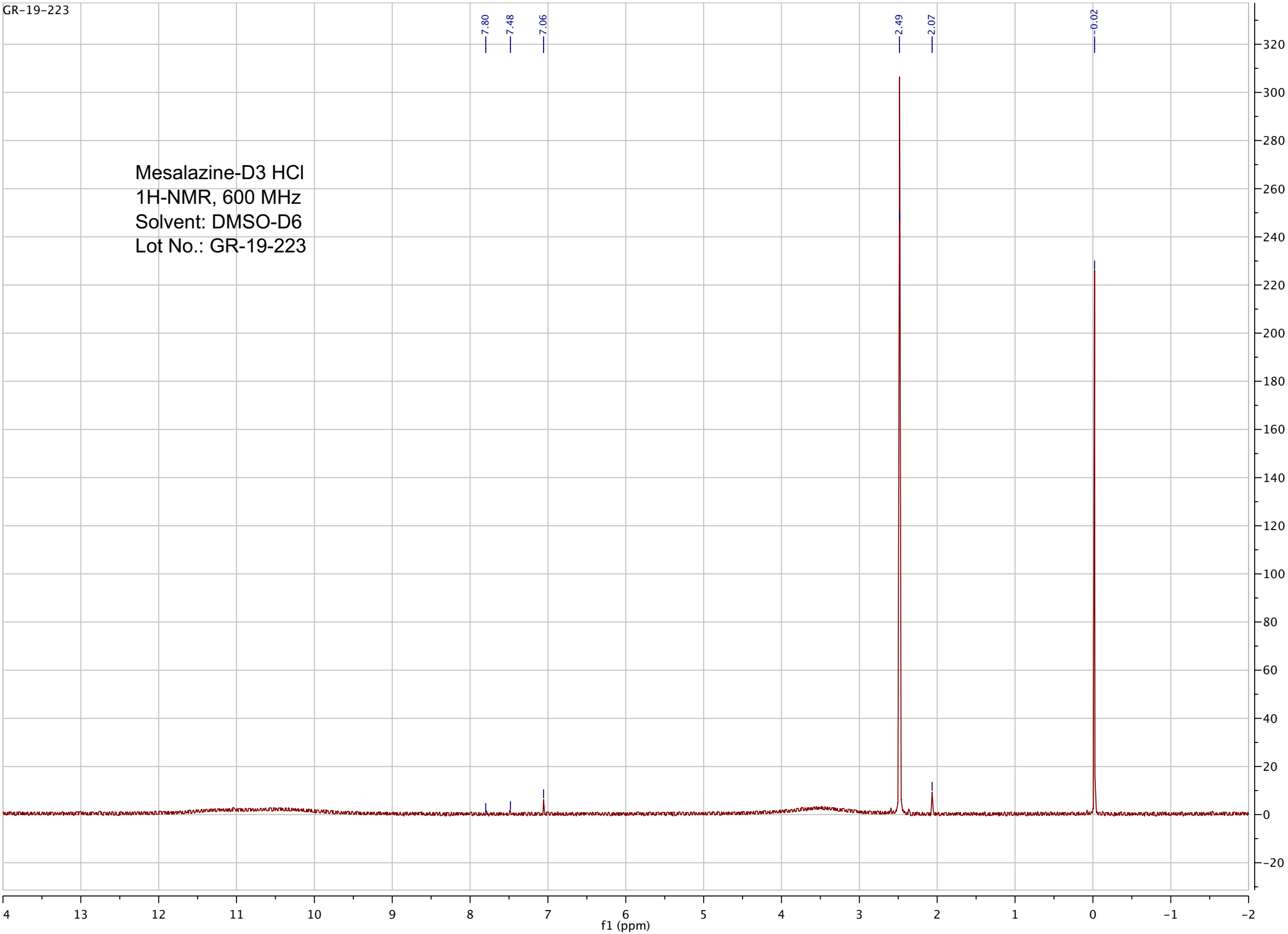
Name:	**Mesalazine-D3 HCl** (5-Amino-2-hydroxybenzoic Acid-d3 Hydrochloride; 5-Aminosalicylic Acid-d3 Hydrochloride; 5-Aminosalicylic Acid-d3 Hydrochloride; Mesalamine-d3 HCl)
Lot#:	GR-19-223
Test Date:	02/03/2025 (re-test date: 02/03/2030)
CAS No.:	1346601-18-0
MF:	$C_7H_5D_3ClNO_3$
MW:	192.61
Appearance:	Off-white solid
Purity:	99.9% by HPLC (average of two sample preparations); >98% atom D
^{1}H-NMR:	Conforms (shows a trace of acetone)
MS-ESI (+)	Conforms (shows peak at m/z = 157.07 $[M_{(free\ base)}+H]^+$)
Storage	Store at -18°C in a dry place away from direct sunlight

Approved by:

Date: 02/04/2025

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


GR-19-223
7.80
7.48
7.06
2.49
2.07
-0.02
Mesalazine-D3 HCl
1H-NMR, 600 MHz
Solvent: DMSO-D6
Lot No.: GR-19-223
f1 (ppm)

25.02.04.3588

MASS SPECTROMETRY

Sample Submission Form 2022-2023

The AIMS Mass Spectrometry Laboratory has no Biocontainment Level designation.
All samples of biological origin must therefore be inactivated and free from pathogens.

	Yes	No
Is sample of biological origin?	○	⊗
If yes, has sample been treated to inactivate pathogens?	○	○

Authorized Signature: [signature]

P.I. Name: Expert Synthesis Solutions

Account:

Name: Ghenadie Ruzu

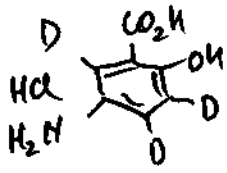
Email (Please type): gruzu@esschemco.com

Sample ID: GR-IP-223

Molecular Formula: $C_7H_5D_3ClNO_2$ Molecular Mass: 156.15 (free base)

Solubility: H_2O ☒ CH_3OH ☐ CH_3CN ☒ CH_2Cl_2 ☐ Other

Structure / Sample information:



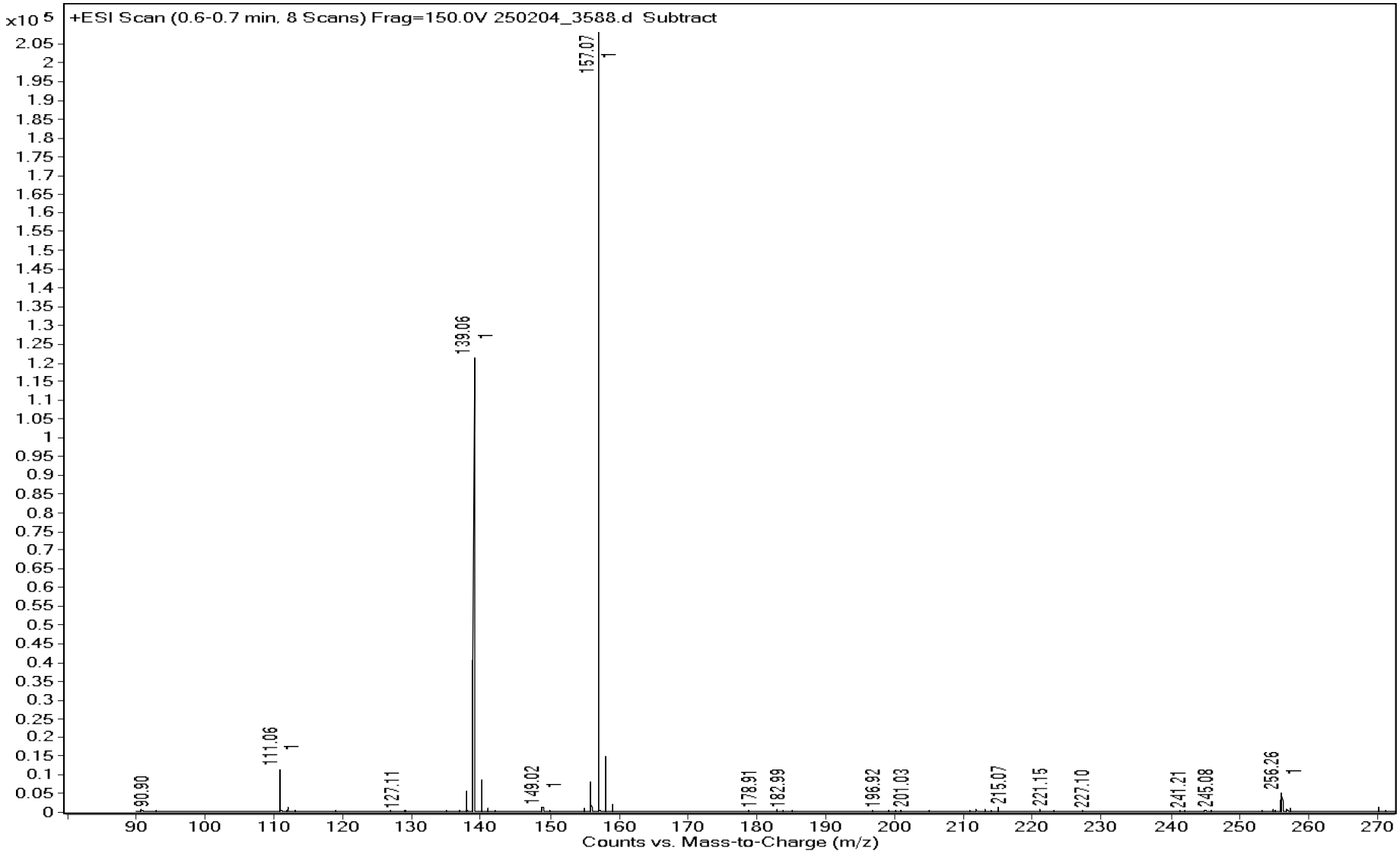
Please, integrate the peaks of M ± 10 Da

Thank you!

Ionization/Analysis:	EI	☐	ESI	☒	DART	☐	MALDI	☐	LC-MS ☐
Polarity:	+	☒	-	☐					GC-MS ☐
Accurate Mass:		☐							

ESI Mass Spectrum

Sample Name	GR-19-223	**Data File**	250204_3588.d	**Acq Method**	HRMS.m
DA Method	AIMS_Accurate_Mass.m	**Instrument**	Agilent 6538 UHD	**Acq Date, Time**	04/02/2025 10:35:26 AM
Comment	ESI+				



ESI-MS Report
Molecular Formula Generation (MFG)

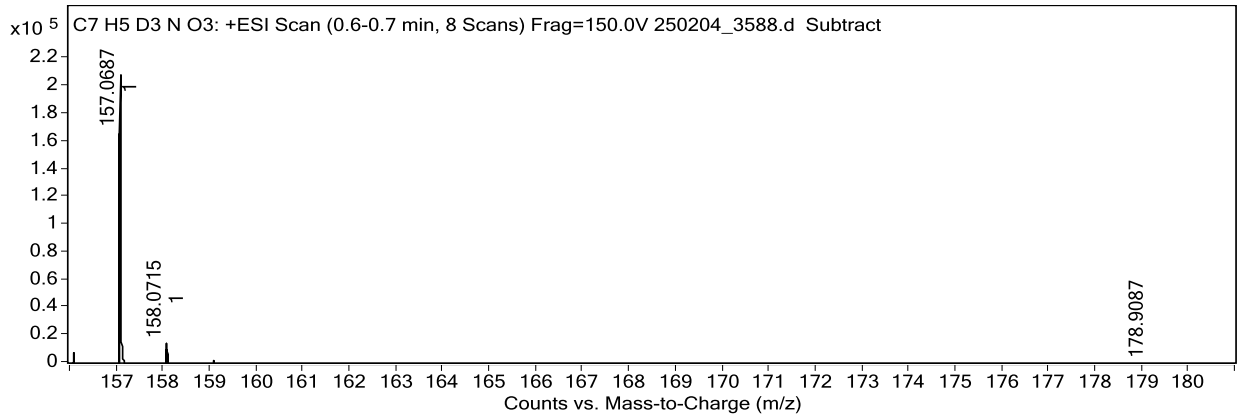
Sample Name	GR-19-223	**Data File**	250204_3588.d
Acq Method	HRMS.m	**DA Method**	AIMS_Accurate_Mass.m
Instrument	Agilent 6538 UHD	**Acq Date, Time**	04/02/2025 10:35:26 AM
Comment	ESI+		

Target Ion Species

Ion Species	*m/z*	*Ionic Formula*
M+	157.0687	C7 H5 [2H]3 N O3

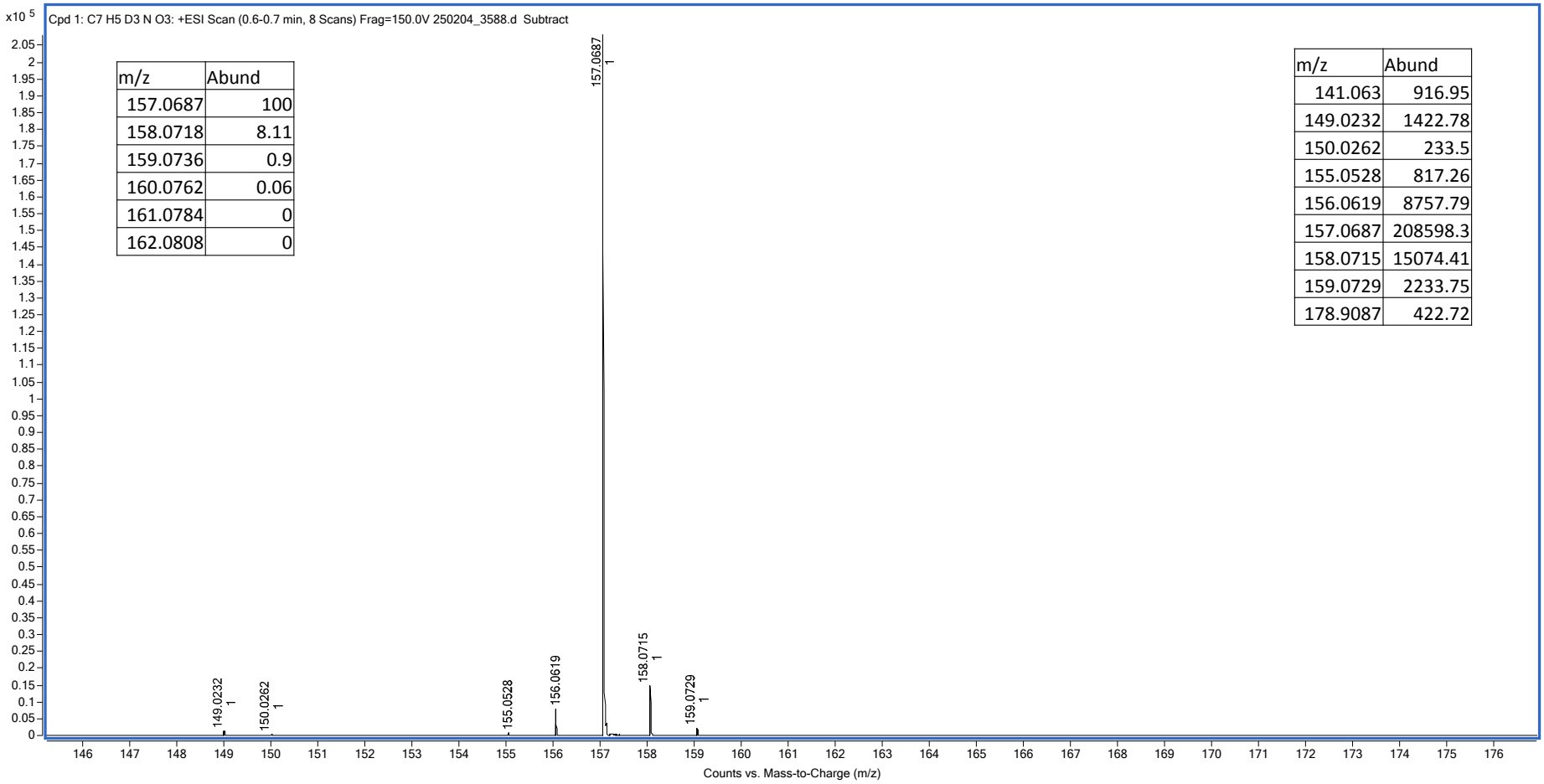
MFG Calculator Results

Target m/z	*Ionic Formula*	*Calc m/z*	*+/- (mDa)*	*+/- (ppm)*	*DBE*	*MFG Score*
157.0687	C7 H5 [2H]3 N O3	157.0687	0.0	0.0	4.5	99.59
157.0687	C5 H5 [2H]2 N4 O2	157.0689	-0.2	-1.3	4.5	98.91
157.0687	C2 H9 [2H] N3 O5	157.0678	0.9	5.7	-0.5	88.00
157.0687	H9 N6 O4	157.0680	0.7	4.5		77.35



Predicted Isotope Match Table

Isotope	*m/z*	*Calc m/z*	Diff (mDa)	Abund (%)	Calc Abund (%)	+/-
1	157.0687	157.0687	0.0	100.0	100.0	0.0
2	158.0715	158.0718	-0.3	7.2	8.1	0.9
3	159.0729	159.0736	-0.7	1.1	0.9	-0.2



m/z	Abund
157.0687	100
158.0718	8.11
159.0736	0.9
160.0762	0.06
161.0784	0
162.0808	0

m/z	Abund
141.063	916.95
149.0232	1422.78
150.0262	233.5
155.0528	817.26
156.0619	8757.79
157.0687	208598.3
158.0715	15074.41
159.0729	2233.75
178.9087	422.72

Data File C:\CHEM32\1\DATA\2025-02-03 15-42-28\013-0201.D
Sample Name: GR-19-223

```
==========================================================================
Acq. Operator   : vrusu                          Seq. Line :   2
Acq. Instrument : Instrument 1                    Location : Vial 13
Injection Date  : 2/3/2025 4:16:47 PM                  Inj :   1
                                                 Inj Volume : 5.0 µl
Acq. Method     : C:\CHEM32\1\DATA\2025-02-03 15-42-28\VR020325_223.M
Last changed    : 2/3/2025 3:42:11 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR020425_223PM.M
Last changed    : 2/4/2025 8:05:38 AM
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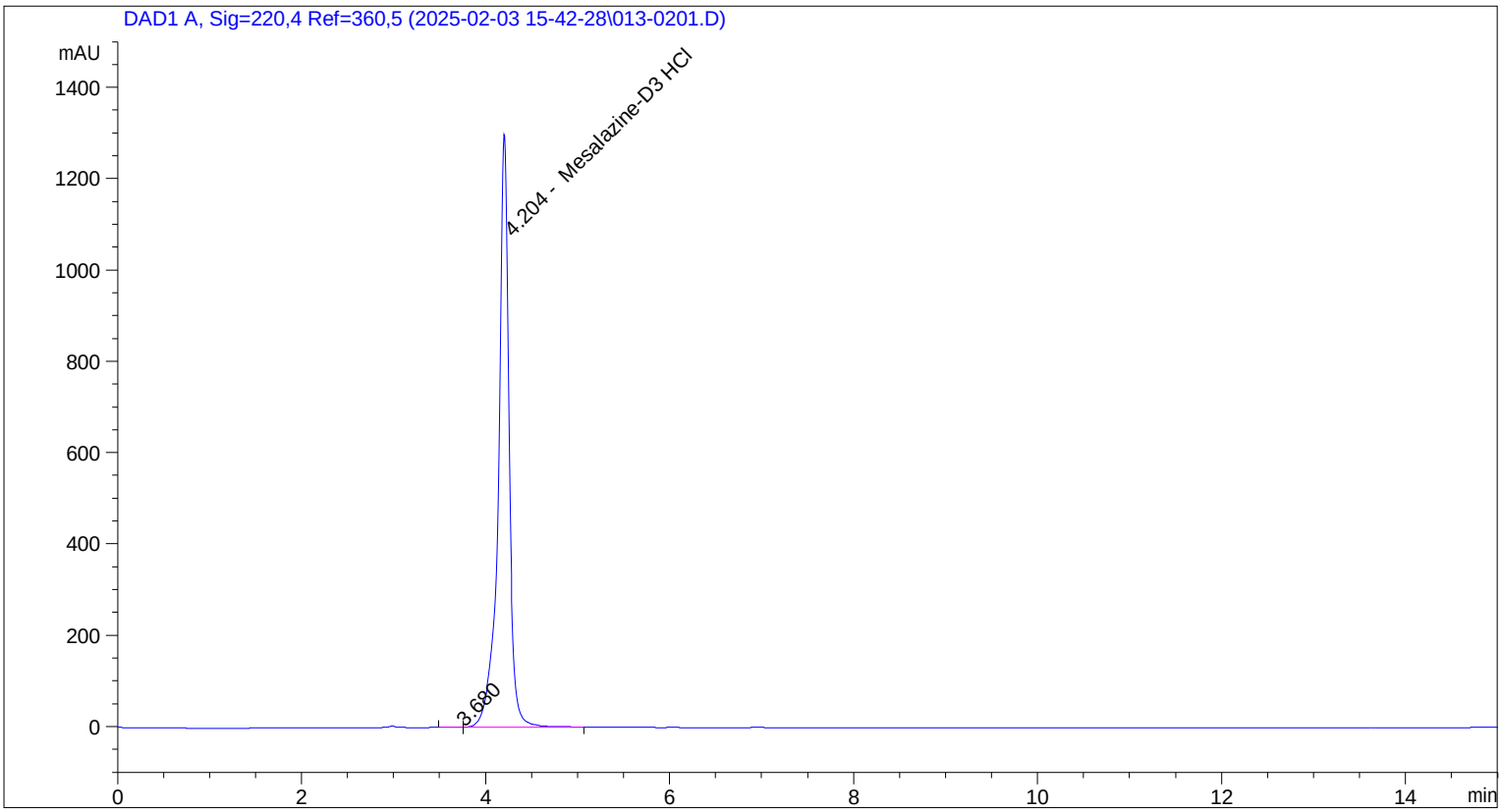



```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      2/4/2025 8:04:32 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs


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

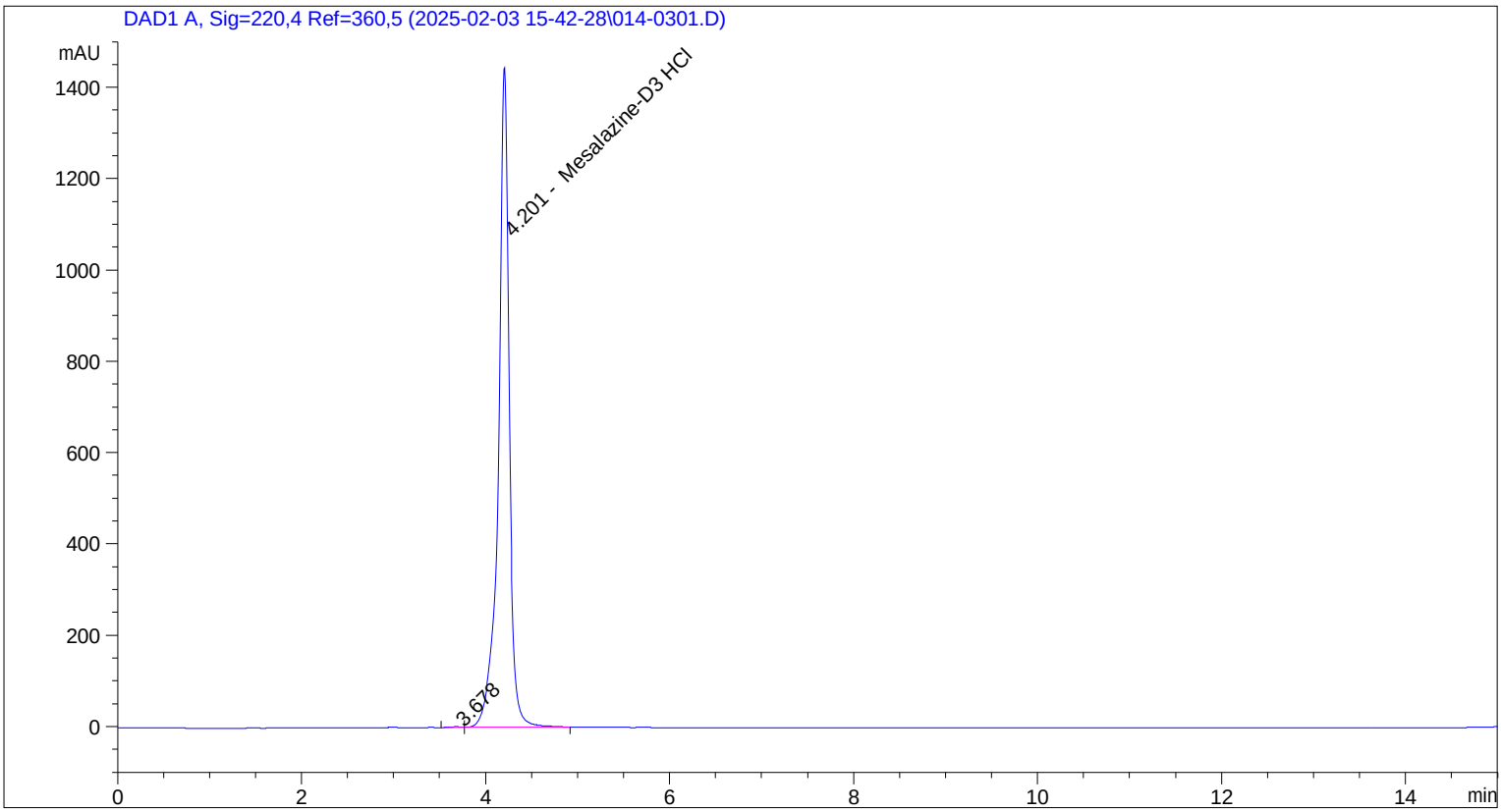
Peak RetTime  Type   Width     Area      Area    Name
  #   [min]          [min]   [mAU*s]       %
----|-------|------|-------|----------|--------|--------------------
   1   3.680 BV      0.0812    7.34112   0.0703 ?
   2   4.204 VB      0.1176 1.04346e4   99.9297 Mesalazine-D3 HCl

Totals :                   1.04419e4


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

Data File C:\CHEM32\1\DATA\2025-02-03 15-42-28\014-0301.D
Sample Name: GR-19-223 spl-2

```
==========================================================================
Acq. Operator   : vrusu                          Seq. Line :   3
Acq. Instrument : Instrument 1                    Location : Vial 14
Injection Date  : 2/3/2025 4:50:06 PM                  Inj :   1
                                                 Inj Volume : 5.0 µl
Acq. Method     : C:\CHEM32\1\DATA\2025-02-03 15-42-28\VR020325_223.M
Last changed    : 2/3/2025 3:42:11 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR020425_223PM.M
Last changed    : 2/4/2025 8:05:38 AM
```




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

Sorted By             :      Signal
Calib. Data Modified  :      2/4/2025 8:04:32 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  Type   Width     Area      Area    Name
  #   [min]          [min]   [mAU*s]       %
----|-------|------|-------|----------|--------|--------------------
   1   3.678 BV      0.0868   10.05560   0.0866 ?
   2   4.201 VB      0.1175 1.16043e4   99.9134 Mesalazine-D3 HCl

Totals :                   1.16143e4


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