

Name:	Hydrocortisone-9,11,12,12-D4
Lot#:	GR-18-145
Test Date:	05/10/2023 (re-test date: 05/10/2028)
CAS No.:	73565-87-4
MF:	C ₂₁ H ₂₆ D ₄ O ₅
MW:	366.49
Appearance:	White solid
Purity:	97.9% by HPLC (average of two sample preparations); >98% atom D
¹H-NMR:	Conforms
MS-ESI (+)	Conforms (shows peaks at m/z = 367.2 [M+H] ⁺)
Storage	Store at -18°C in a dry place away from direct sunlight

Approved by:

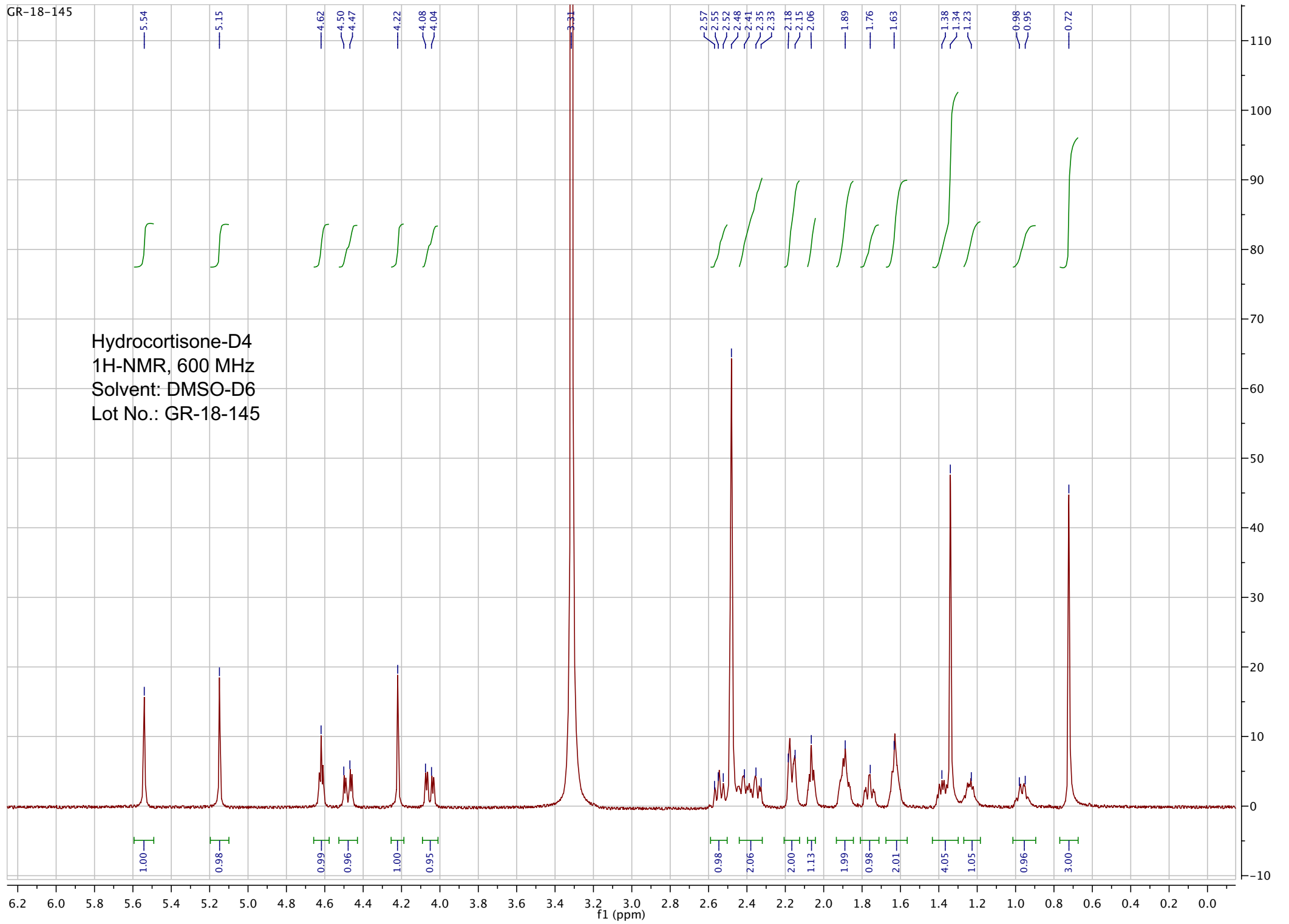
Date: 05/30/2023



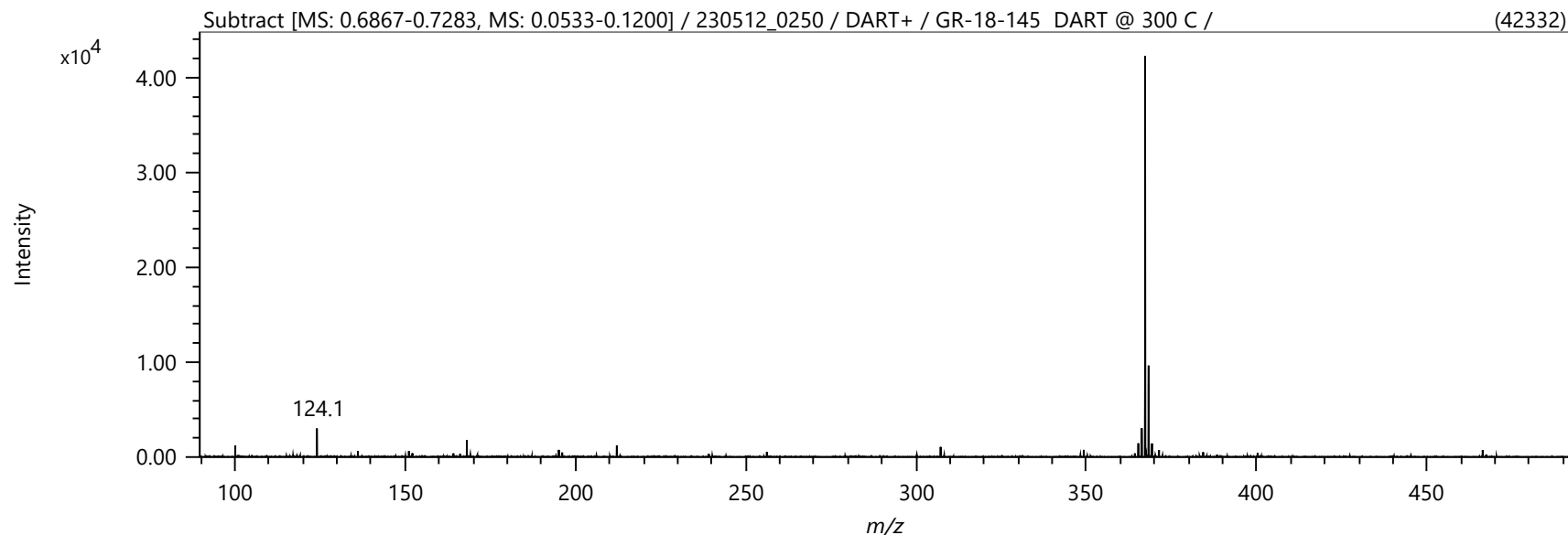
Viorica Rusu, QC/QA Manager

GR-18-145

Hydrocortisone-D4
1H-NMR, 600 MHz
Solvent: DMSO-D6
Lot No.: GR-18-145



Spectrum



Elemental Composition

Parameters

Tolerance: ±10.00 mDa
 Electron: Even
 Charge: +1
 DBE: -1.5 - 100.0

Elements Set 1:

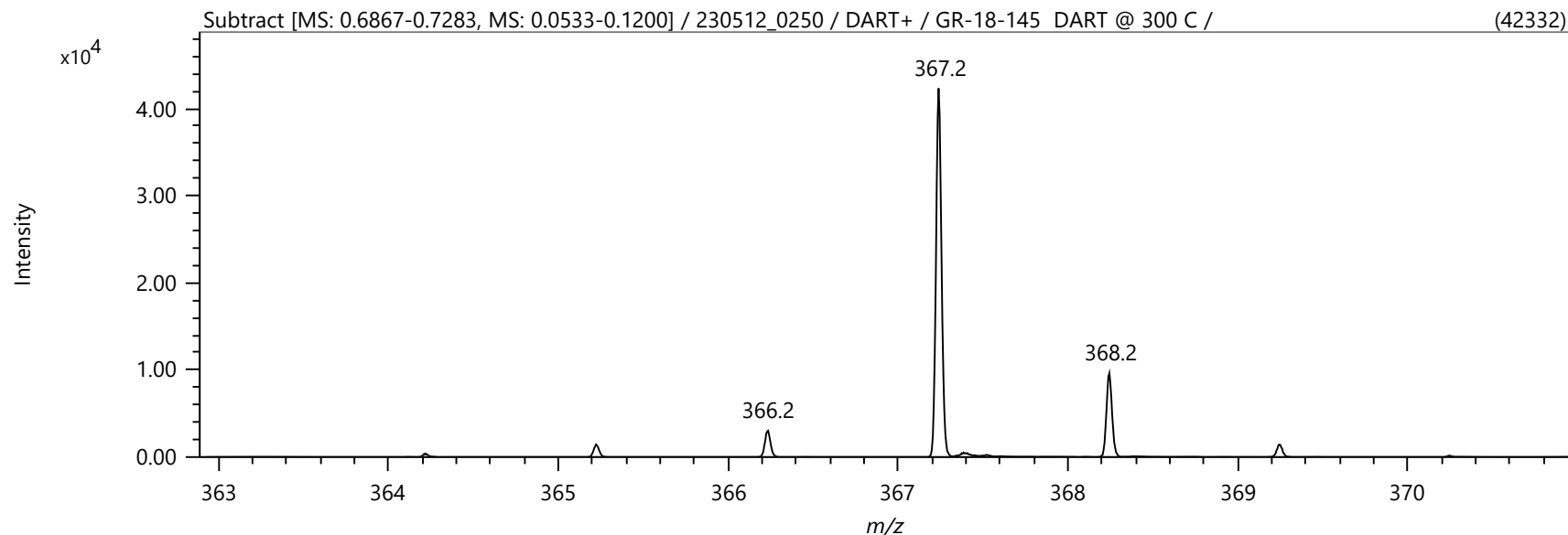
Symbol	C	H	O	N	D
Min	0	0	0	0	4
Max	100	200	20	10	4

Results

Mass	Intensity	Formula	Calculated Mass	Mass Difference [mDa]	Mass Difference [ppm]	DBE
367.24143	42331.80	C21 H27 O5 D4	367.24171	-0.27	-0.75	6.5
		C22 H23 N4 O D4	367.24304	-1.61	-4.39	11.5
		C17 H23 N6 O3 D4	367.23902	2.41	6.56	7.5
		C10 H27 N6 O8 D4	367.24490	-3.46	-9.43	-1.5
		C16 H27 N2 O7 D4	367.23768	3.75	10.21	2.5
		C11 H23 N10 O4 D4	367.24623	-4.80	-13.07	3.5

Mass	Intensity	Formula	Calculated Mass	Mass Difference [mDa]	Mass Difference [ppm]	DBE
		C28 H23 D4	367.23583	5.60	15.24	15.5
		C12 H23 N8 O5 D4	367.23500	6.43	17.52	3.5
		C15 H27 N4 O6 D4	367.24892	-7.49	-20.38	2.5
		C11 H27 N4 O9 D4	367.23366	7.77	21.16	-1.5
		C16 H23 N8 O2 D4	367.25026	-8.82	-24.02	7.5
		C23 H23 N2 O2 D4	367.23181	9.62	26.20	11.5

Spectrum



Elemental Composition

Parameters

Tolerance: ±10.00 mDa
 Electron: Even
 Charge: +1
 DBE: -1.5 - 100.0

Elements Set 1:

Symbol	C	H	O	N	D
Min	0	0	0	0	4
Max	100	200	20	10	4

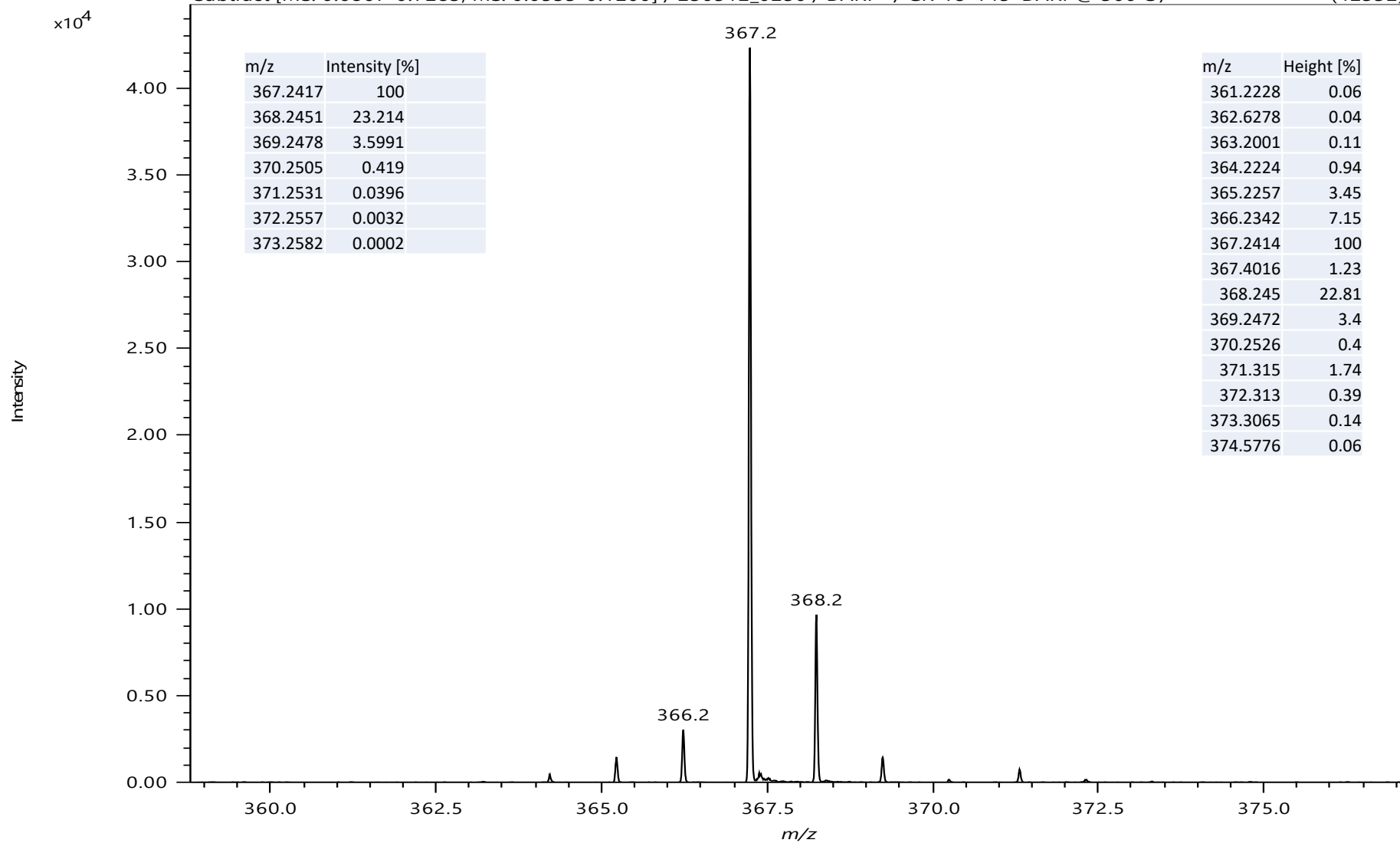
Results

Mass	Intensity	Formula	Calculated Mass	Mass Difference [mDa]	Mass Difference [ppm]	DBE
367.24143	42331.80	C21 H27 O5 D4	367.24171	-0.27	-0.75	6.5
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		C17 H23 N6 O3 D4	367.23902	2.41	6.56	7.5
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		C16 H27 N2 O7 D4	367.23768	3.75	10.21	2.5
		C11 H23 N10 O4 D4	367.24623	-4.80	-13.07	3.5

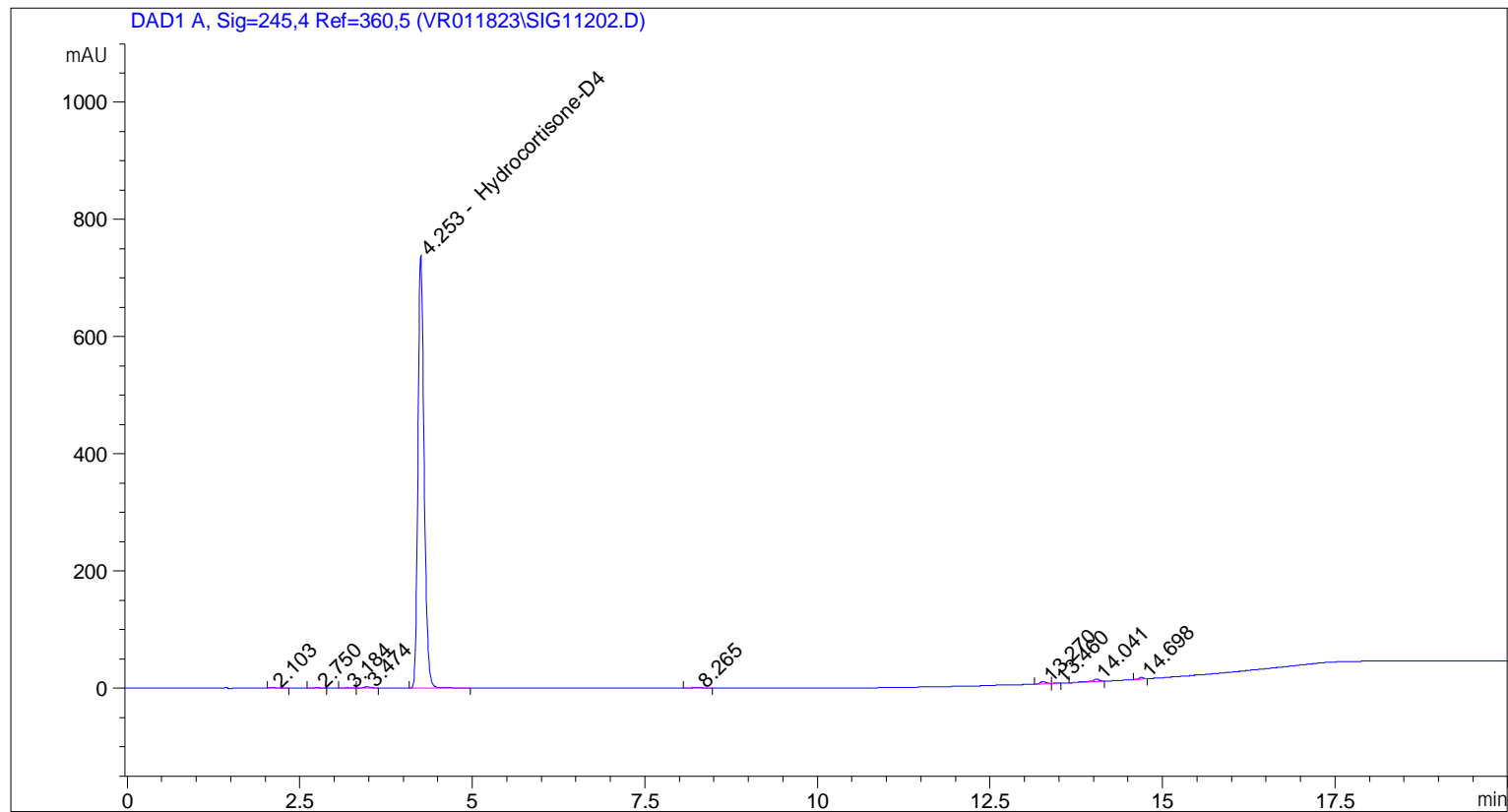
Mass	Intensity	Formula	Calculated Mass	Mass Difference [mDa]	Mass Difference [ppm]	DBE
		C28 H23 D4	367.23583	5.60	15.24	15.5
		C12 H23 N8 O5 D4	367.23500	6.43	17.52	3.5
		C15 H27 N4 O6 D4	367.24892	-7.49	-20.38	2.5
		C11 H27 N4 O9 D4	367.23366	7.77	21.16	-1.5
		C16 H23 N8 O2 D4	367.25026	-8.82	-24.02	7.5
		C23 H23 N2 O2 D4	367.23181	9.62	26.20	11.5

Subtract [MS: 0.6867-0.7283, MS: 0.0533-0.1200] / 230512_0250 / DART+ / GR-18-145 DART @ 300 C /

(42332)



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Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 56
Injection Date : 5/10/2023 2:11:13 PM Inj Volume : 5.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR051023_145.M
Last changed : 5/10/2023 2:10:11 PM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR051023_145PM.M
Last changed : 5/10/2023 3:04:14 PM by vrusu



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Area Percent Report
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Sorted By : Signal
Calib. Data Modified : 5/10/2023 3:03:31 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=245,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	2.103	BB	0.0765	4.05731	0.0865	?
2	2.750	BB	0.0894	2.44889	0.0522	?
3	3.184	BV	0.0702	1.29265	0.0276	?
4	3.474	VV	0.0934	10.53465	0.2247	?
5	4.253	BB	0.0965	4595.72412	98.0244	Hydrocortisone-D4
6	8.265	BB	0.1398	4.15897	0.0887	?
7	13.270	BB	0.0899	22.57427	0.4815	?
8	13.460	BB	0.0576	2.45847	0.0524	?

Sample Name: GR-18-145

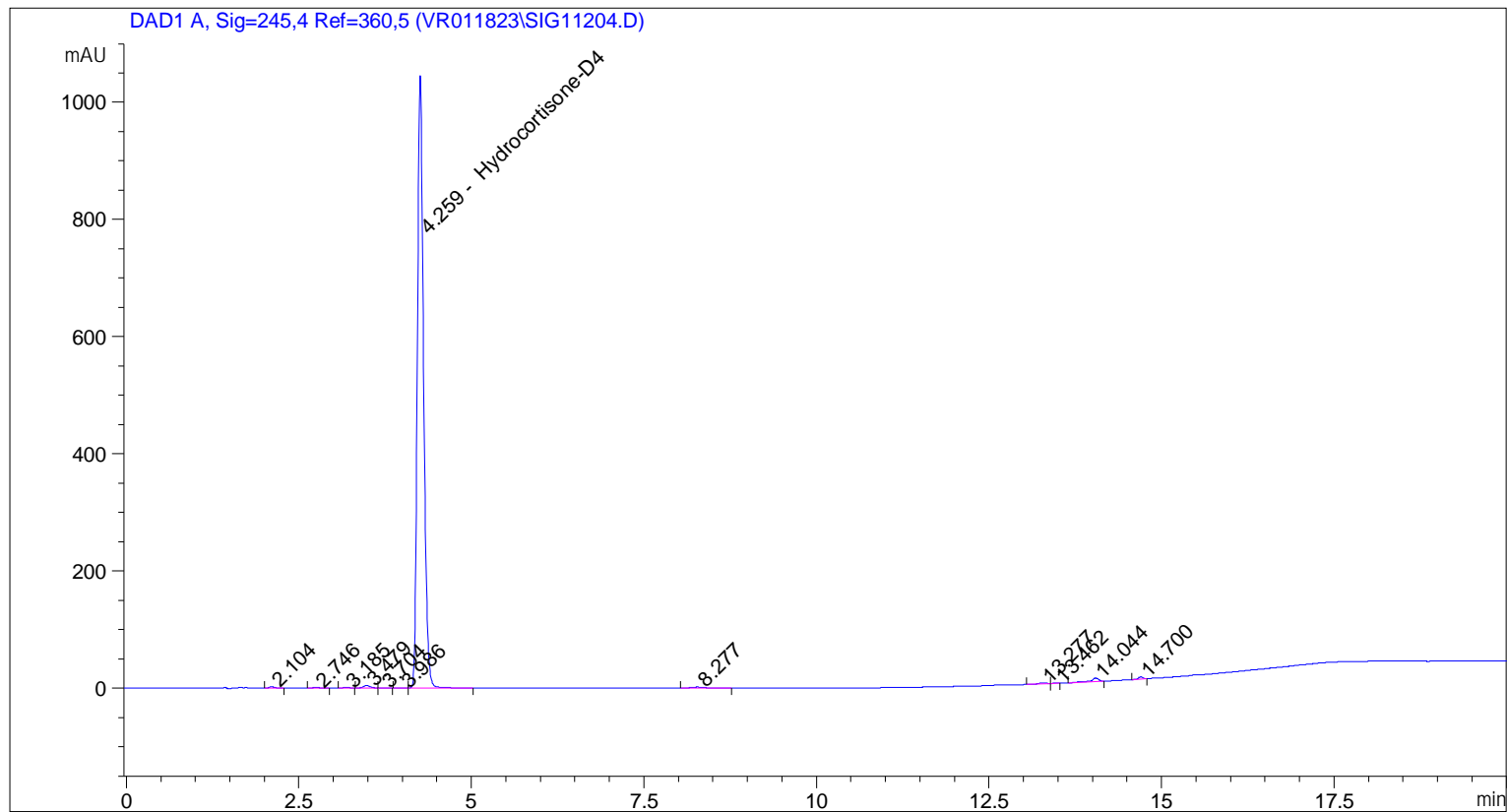
Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
9	14.041	BB	0.1051	32.85638	0.7008	?
10	14.698	BB	0.0655	12.24016	0.2611	?

Totals : 4688.34589

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*** End of Report ***

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Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                Location : Vial 57
Injection Date  : 5/10/2023 2:37:01 PM
                                           Inj Volume : 5.0 µl
Acq. Method    : C:\CHEM32\1\METHODS\VR051023_145.M
Last changed   : 5/10/2023 2:35:54 PM by vrusu
Analysis Method: C:\CHEM32\1\METHODS\VR051023_145PM.M
Last changed   : 5/10/2023 3:04:14 PM by vrusu
  
```



Area Percent Report

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Sorted By           : Signal
Calib. Data Modified : 5/10/2023 3:03:31 PM
Multiplier          : 1.0000
Dilution            : 1.0000
Use Multiplier & Dilution Factor with ISTDs
  
```

Signal 1: DAD1 A, Sig=245,4 Ref=360,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	2.104	BB	0.0706	10.23092	0.1533	?
2	2.746	BB	0.0999	4.14664	0.0621	?
3	3.185	BB	0.0795	3.94821	0.0591	?
4	3.479	BV	0.0951	27.91722	0.4182	?
5	3.704	VB	0.0863	1.23737	0.0185	?
6	3.986	BV	0.0936	1.74290	0.0261	?
7	4.259	VB	0.0968	6531.22168	97.8399	Hydrocortisone-D4
8	8.277	BB	0.1695	17.28054	0.2589	?

Sample Name: GR-18-145 spl-2

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
9	13.277	BV	0.1183	13.27457	0.1989	?
10	13.462	VB	0.0614	2.99488	0.0449	?
11	14.044	BB	0.1082	45.10271	0.6757	?
12	14.700	BB	0.0658	16.32018	0.2445	?

Totals : 6675.41783

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*** End of Report ***