

Name: 6,7-Dehydro Norethindrone
(Norethindrone EP Impurity A)

Lot#: GR-20-015

Test Date: 10/31/2025 (re-test date: 10/31/2030)

CAS No.: 31528-46-8

MF: C₂₀H₂₄O₂

MW: 296.41

Appearance: White solid

Purity: 98.2% by HPLC (average of two sample preparations)

¹H-NMR: Conforms

MS-DART (+) Conforms (shows peaks at m/z = 297.19 [M+H]⁺)

Storage Store at 0-8°C in a dry place away from direct sunlight

Approved by:

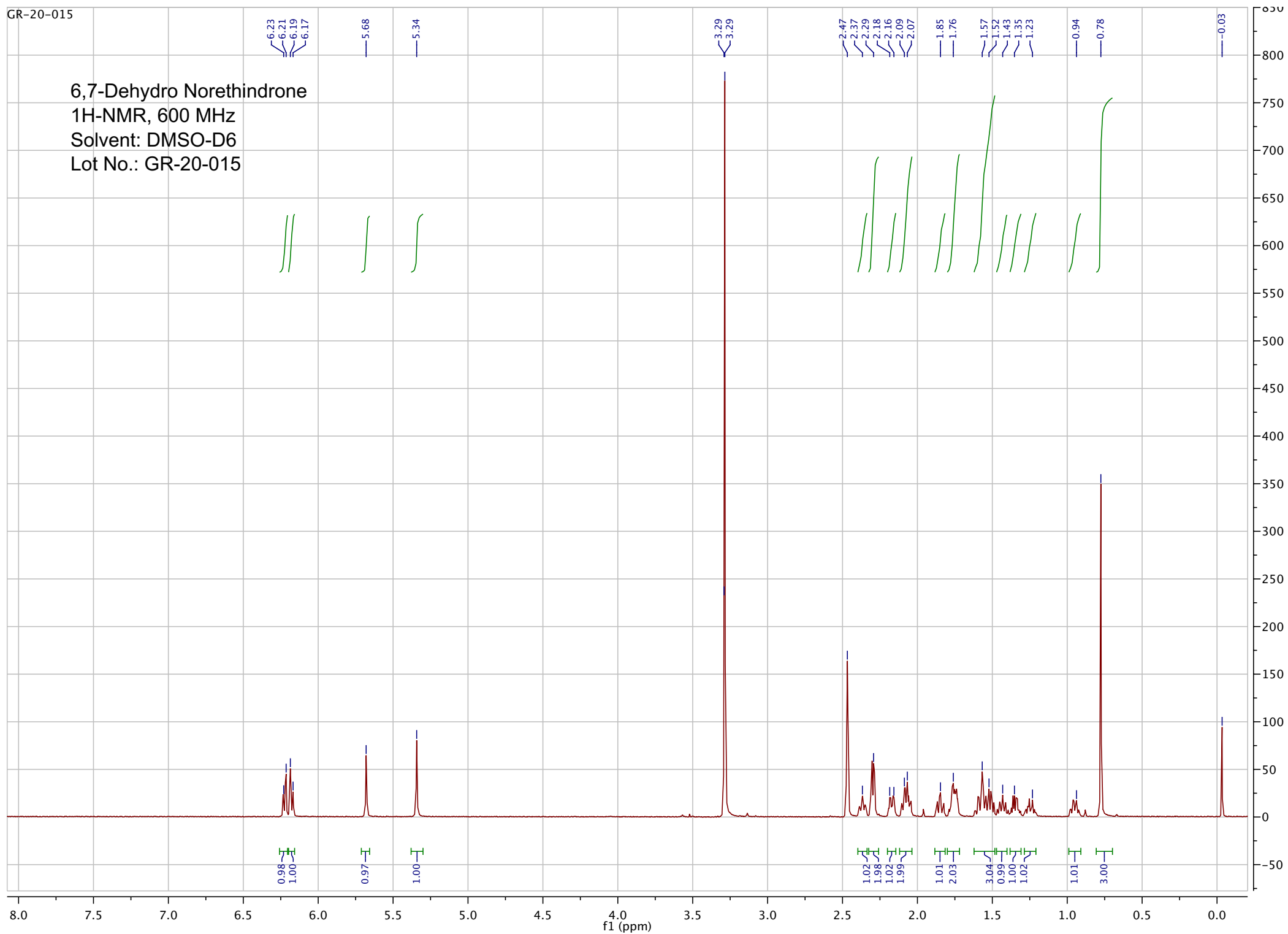
Date: 11/04/2025

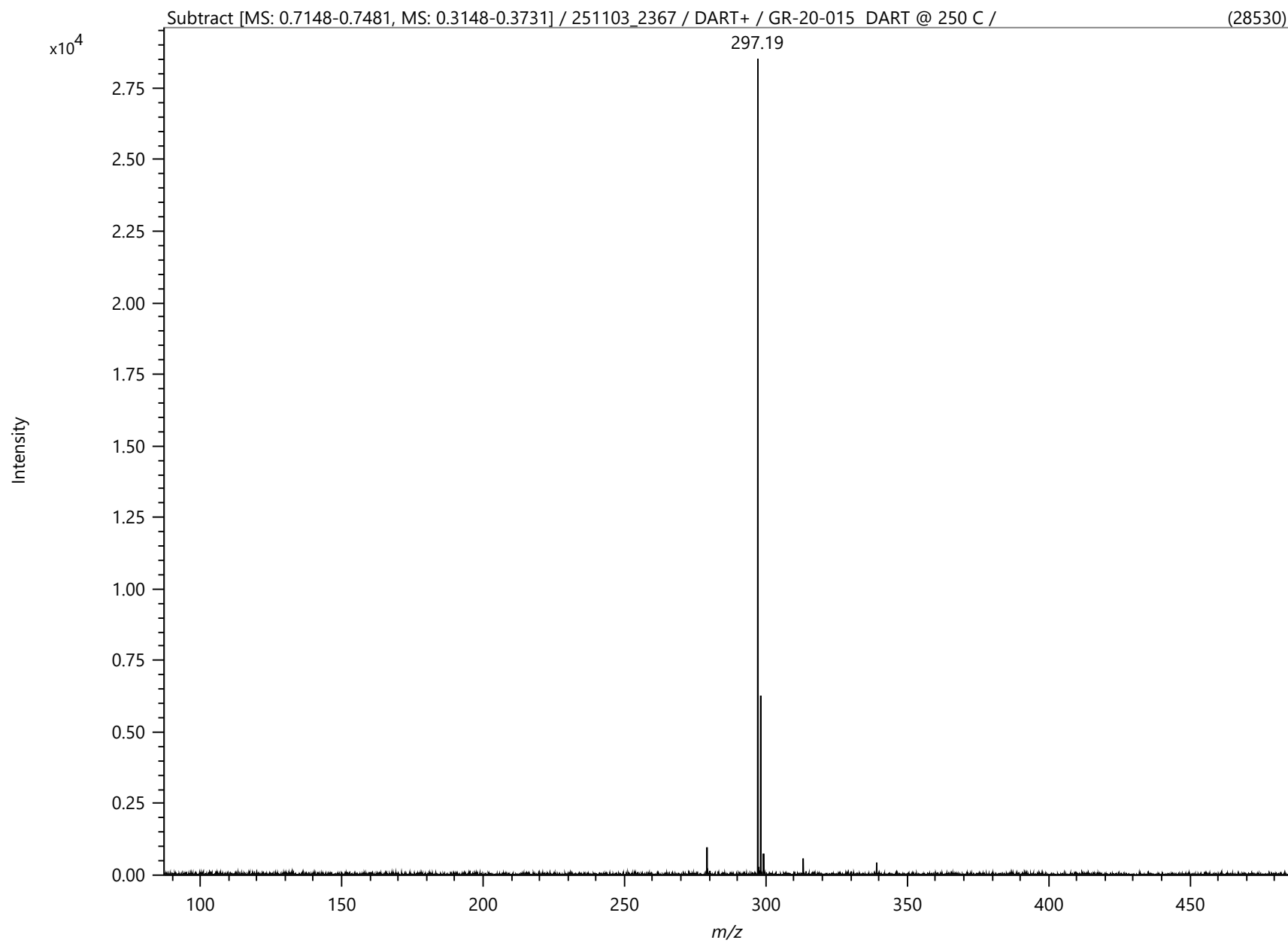


Viorica Rusu, QC/QA Manager

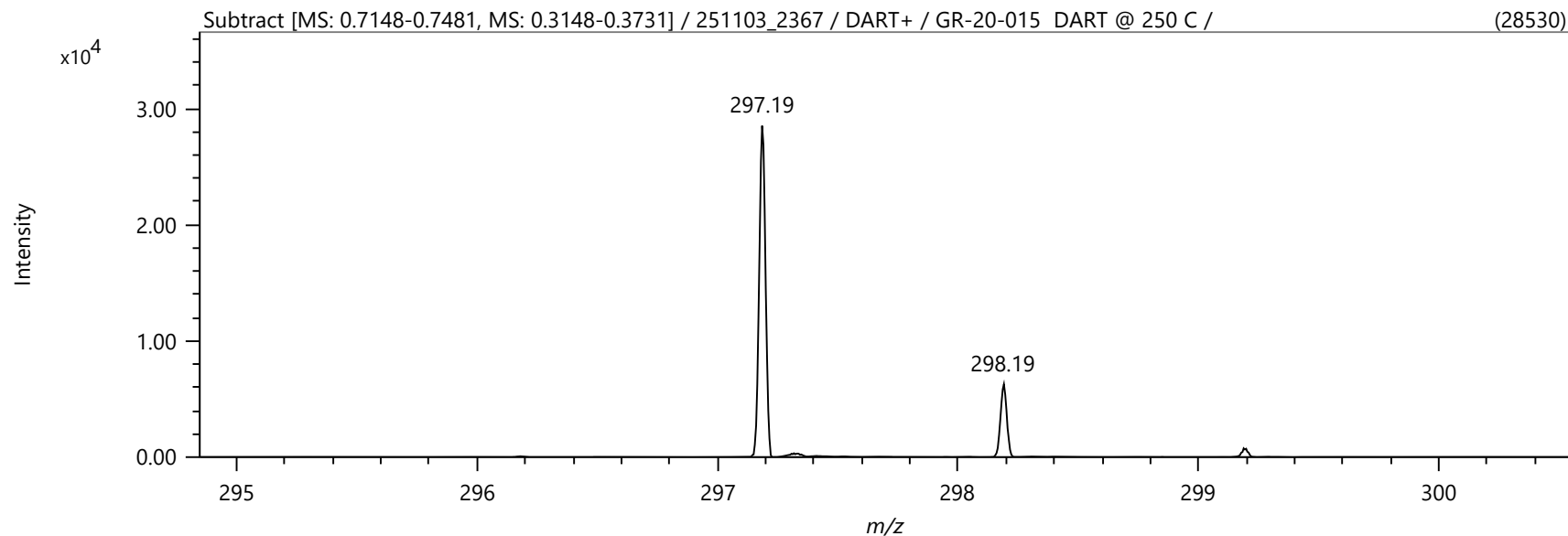
GR-20-015

6,7-Dehydro Norethindrone
1H-NMR, 600 MHz
Solvent: DMSO-D6
Lot No.: GR-20-015





Spectrum



Elemental Composition

Parameters

Tolerance: ± 5.00 mDa
 Electron: Even
 Charge: +1
 DBE: -1.5 - 100.0

Elements Set 1:

Symbol	C	H	O	N
Min	0	0	0	0
Max	100	100	20	10

Results

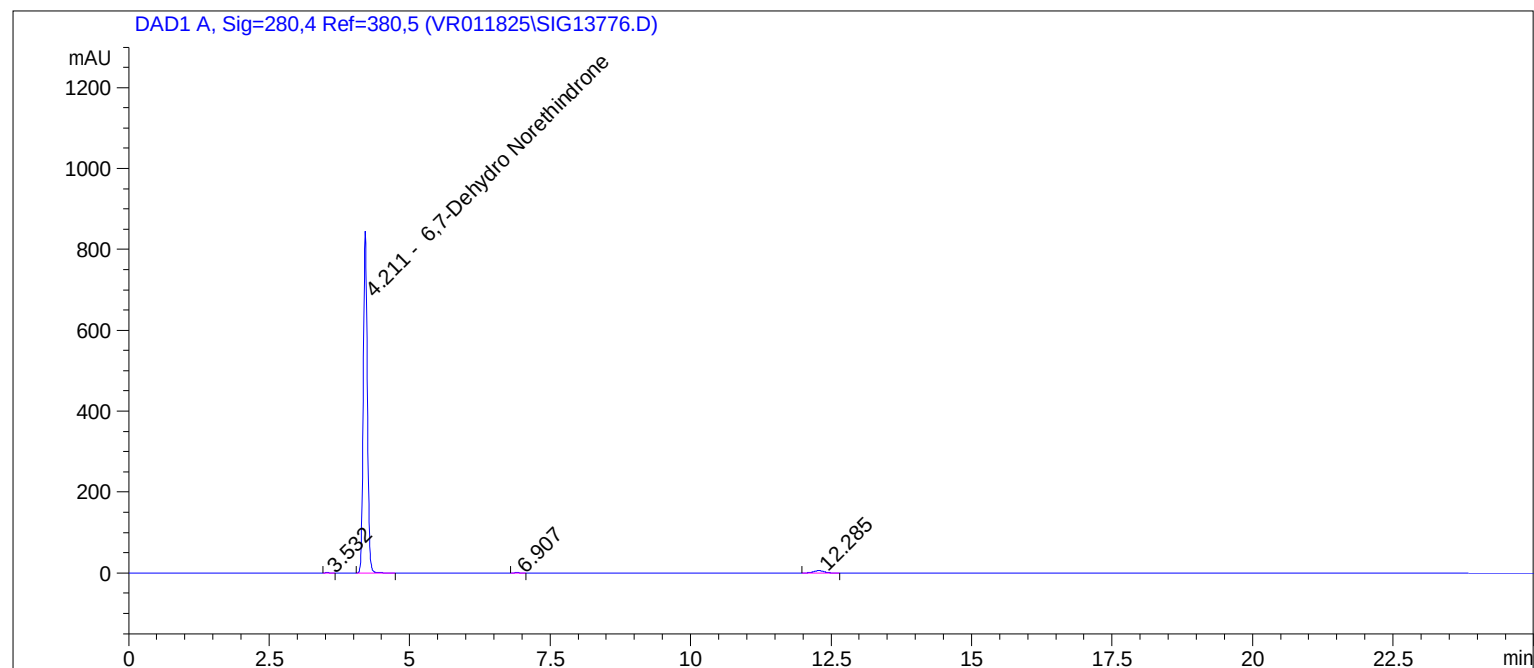
Mass	Intensity	Formula	Calculated Mass	Mass Difference [mDa]	Mass Difference [ppm]	DBE
297.18606	28529.71	C ₂₀ H ₂₅ O ₂	297.18491	1.15	3.88	8.5
		C ₉ H ₂₅ N ₆ O ₅	297.18809	-2.03	-6.85	0.5
		C ₁₀ H ₂₁ N ₁₀ O	297.18943	-3.37	-11.35	5.5
		C ₁₆ H ₂₁ N ₆	297.18222	3.84	12.92	9.5
		C ₁₃ H ₂₉ O ₇	297.19078	-4.72	-15.88	-0.5

Sample Name: GR-20-015

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=====
Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                      Location : Vial 92
Injection Date  : 10/31/2025 11:01:16 AM
                                           Inj Volume : 5.0 µl

Acq. Method     : C:\CHEM32\1\METHODS\VR103125_015.M
Last changed    : 10/31/2025 10:55:50 AM by vrusu
                  (modified after loading)

Analysis Method : C:\CHEM32\1\METHODS\VR110325_015PM.M
Last changed    : 11/3/2025 8:49:52 AM by vrusu
=====
```



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

```
Sorted By           :      Signal
Calib. Data Modified :      11/3/2025 8:49:25 AM
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: DAD1 A, Sig=280,4 Ref=380,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.532	BB	0.0733	3.20139	0.0735	?
2	4.211	BB	0.0789	4276.46729	98.2120	6,7-Dehydro Norethindrone
3	6.907	BB	0.0959	4.27322	0.0981	?
4	12.285	BB	0.1988	70.38268	1.6164	?

Totals : 4354.32457

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

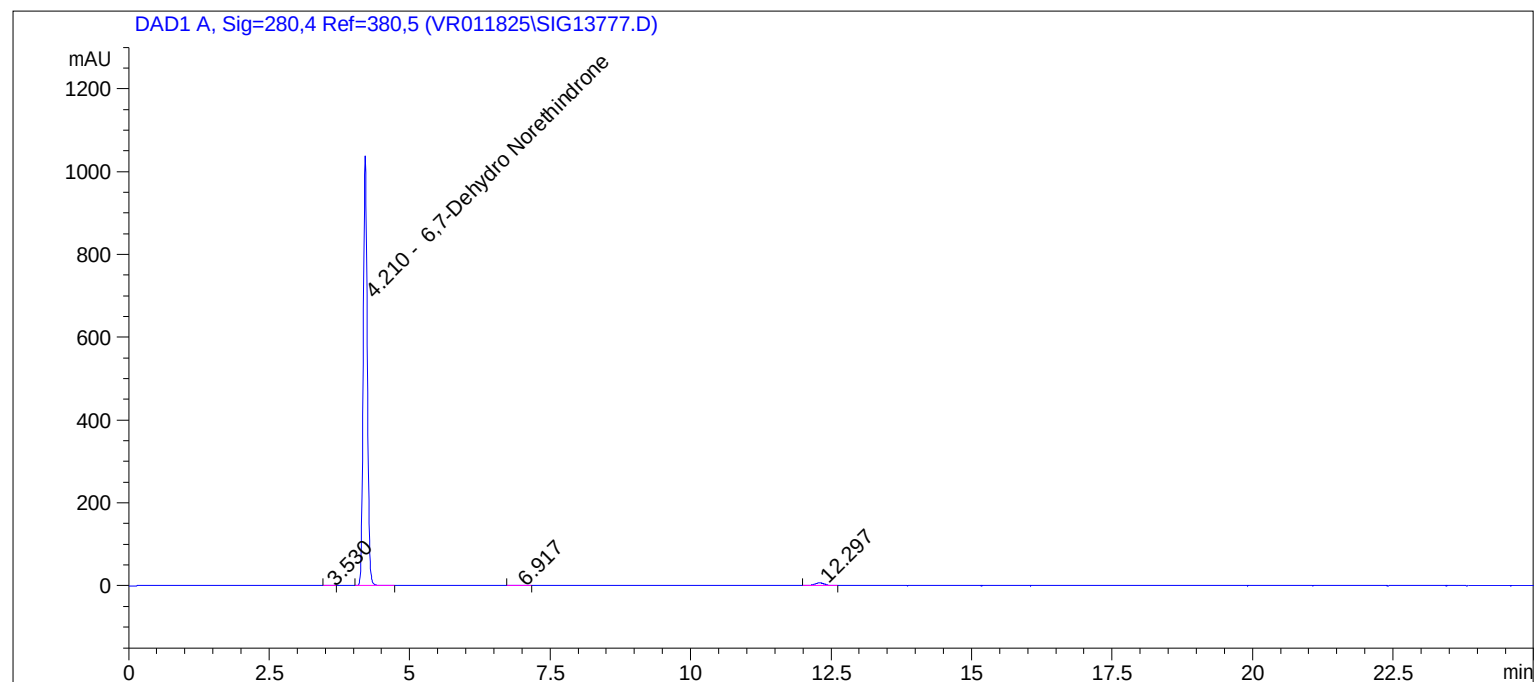
Sample Name: GR-20-015 spl-2

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=====
Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                      Location : Vial 93
Injection Date  : 10/31/2025 11:32:05 AM
                                           Inj Volume : 5.0 µl

Acq. Method     : C:\CHEM32\1\METHODS\VR103125_015.M
Last changed    : 10/31/2025 11:31:02 AM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR110325_015PM.M
Last changed    : 11/3/2025 8:49:52 AM by vrusu
=====

```



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

```

```

Sorted By           :      Signal
Calib. Data Modified :      11/3/2025 8:49:25 AM
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs

```

Signal 1: DAD1 A, Sig=280,4 Ref=380,5

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.530	BB	0.0712	3.79719	0.0707	?
2	4.210	BB	0.0791	5277.09570	98.2144	6,7-Dehydro Norethindrone
3	6.917	BB	0.1084	6.29544	0.1172	?
4	12.297	BB	0.1993	85.84753	1.5977	?

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Totals :                      5373.03586
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*** End of Report ***

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