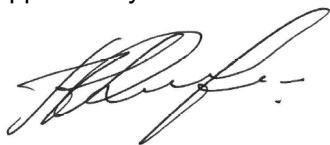


<b>Name:</b>	<b>16-Oxo Estradiol</b>
<b>Lot#:</b>	GR-18-151
<b>Test Date:</b>	05/29/2023 (re-test date: 05/29/2028)
<b>CAS No.:</b>	566-75-6
<b>MF:</b>	C <sub>18</sub> H <sub>22</sub> O <sub>3</sub>
<b>MW:</b>	286.37
<b>Appearance:</b>	White solid
<b>Purity:</b>	99.1% by HPLC (average of two sample preparations)
<b><sup>1</sup>H-NMR:</b>	Conforms
<b>MS-ESI (+)</b>	Conforms (shows peaks at m/z = 287.2 [M+H] <sup>+</sup> and 304.2 [M+NH <sub>4</sub> ] <sup>+</sup> )
<b>Storage</b>	Store at 0-5°C in a dry place away from direct sunlight

Approved by:

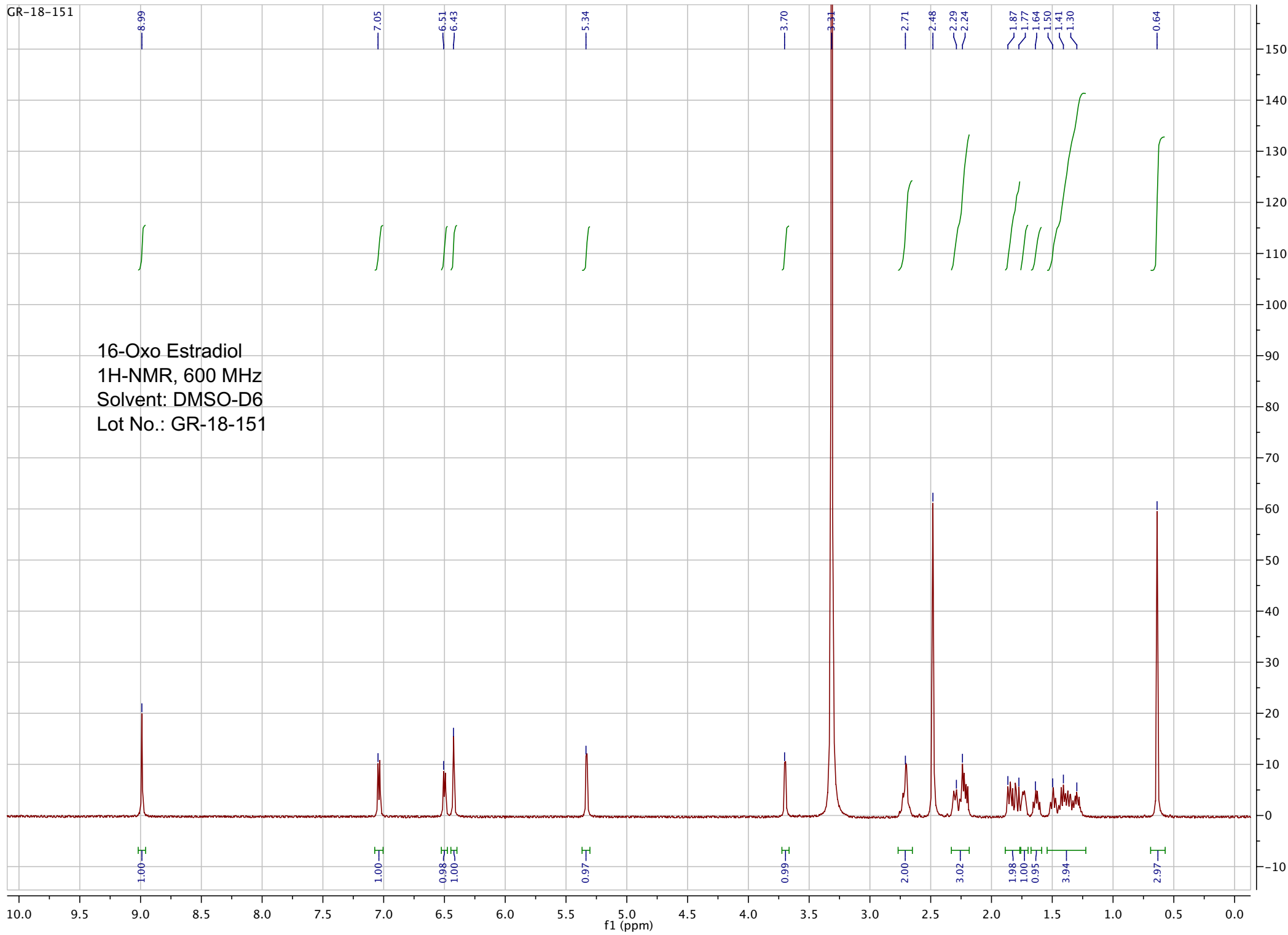
Date: 05/30/2023

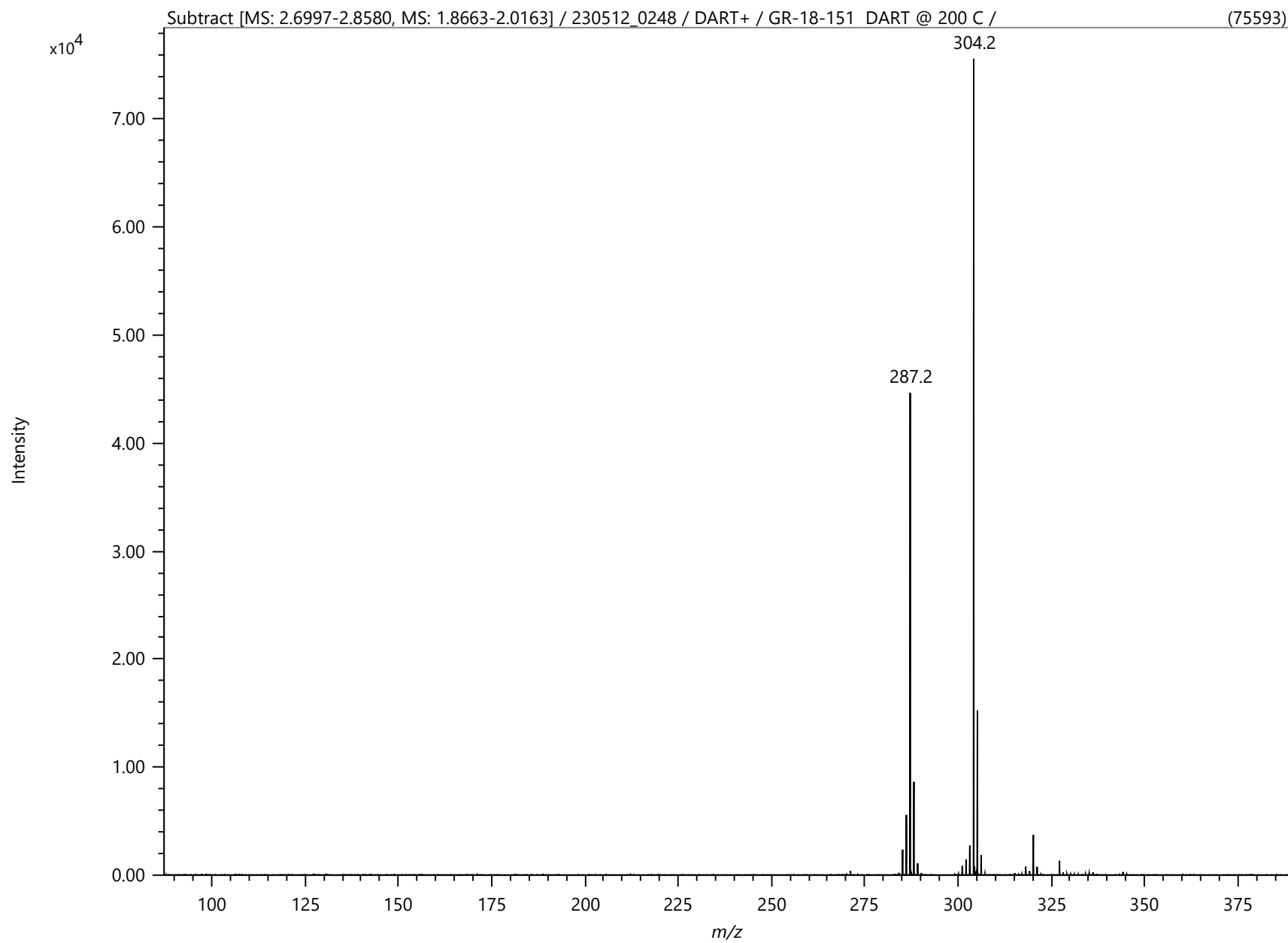


Viorica Rusu, QC/QA Manager

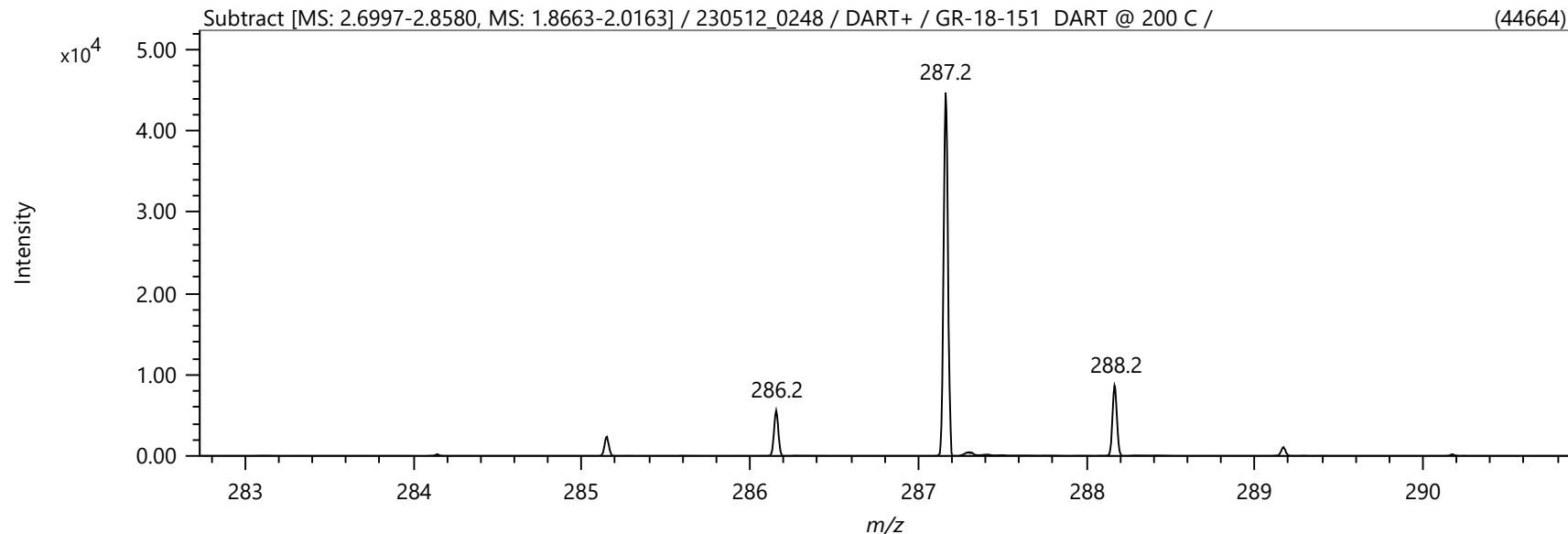
GR-18-151

16-Oxo Estradiol  
1H-NMR, 600 MHz  
Solvent: DMSO-D6  
Lot No.: GR-18-151





Spectrum



Elemental Composition

Parameters

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

Elements Set 1:

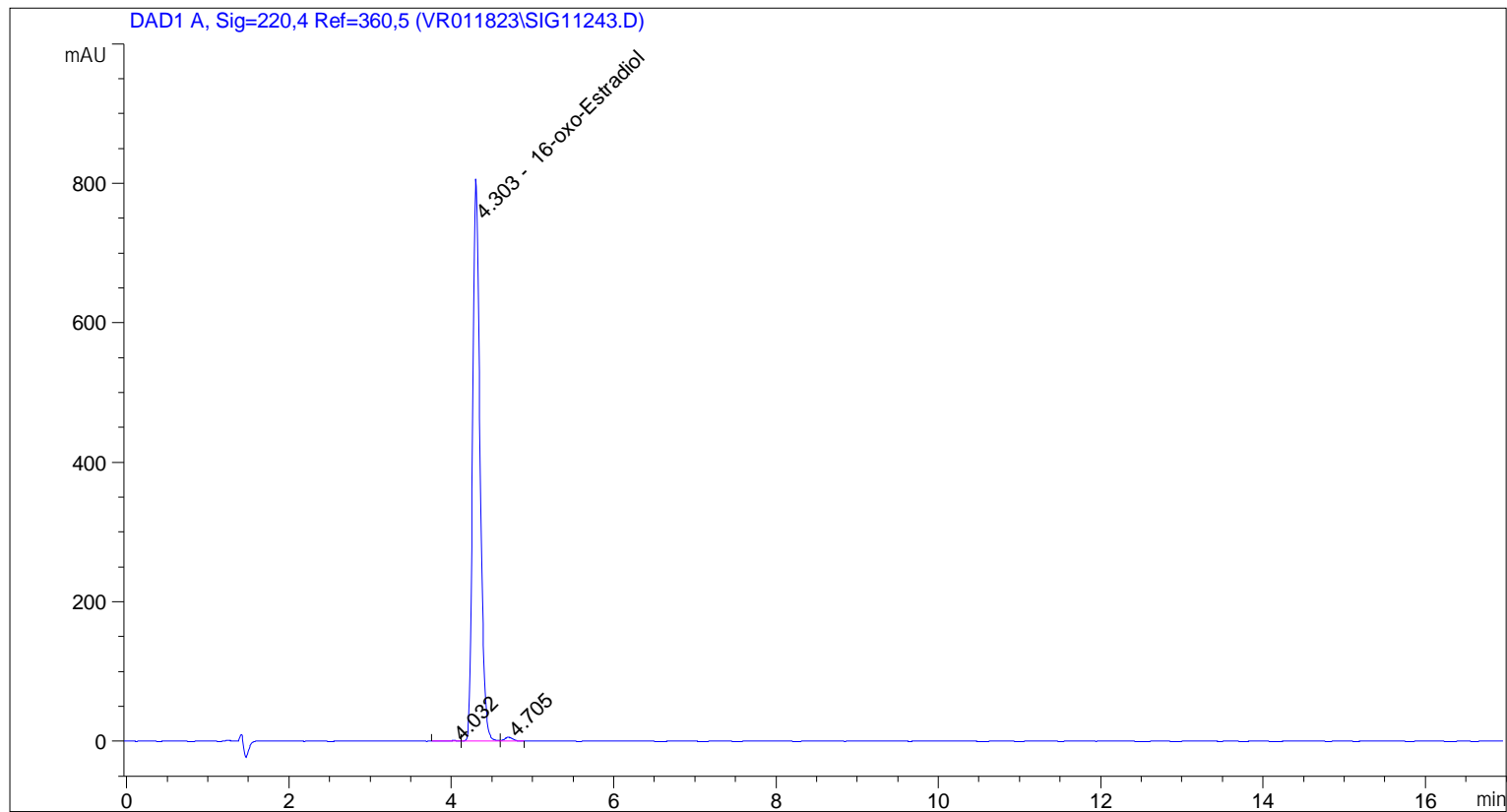
Symbol	C	H	O	N
Min	0	0	0	0
Max	100	200	20	10

Results

Mass	Intensity	Formula	Calculated Mass	Mass Difference [mDa]	Mass Difference [ppm]	DBE
287.16394	44663.97	C18 H23 O3	287.16417	-0.23	-0.82	7.5
		C14 H19 N6 O	287.16149	2.45	8.53	8.5
		C7 H23 N6 O6	287.16736	-3.42	-11.92	-0.5
		C13 H23 N2 O5	287.16015	3.79	13.19	3.5
		C8 H19 N10 O2	287.16870	-4.76	-16.58	4.5
		C11 H27 O8	287.17004	-6.11	-21.27	-1.5

Mass	Intensity	Formula	Calculated Mass	Mass Difference [mDa]	Mass Difference [ppm]	DBE
		C9 H19 N8 O3	287.15746	6.47	22.54	4.5
		C12 H23 N4 O4	287.17138	-7.45	-25.93	3.5
		C8 H23 N4 O7	287.15613	7.81	27.20	-0.5
		C13 H19 N8	287.17272	-8.78	-30.58	8.5
		C20 H19 N2	287.15428	9.66	33.64	12.5

=====  
Acq. Operator : vrusu  
Acq. Instrument : Instrument 1 Location : Vial 85  
Injection Date : 5/29/2023 8:32:26 AM Inj Volume : 5.0 µl  
Acq. Method : C:\CHEM32\1\METHODS\VR052923\_151.M  
Last changed : 5/29/2023 8:31:24 AM by vrusu  
Analysis Method : C:\CHEM32\1\METHODS\VR052923\_151PM.M  
Last changed : 5/29/2023 10:04:11 AM by vrusu



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

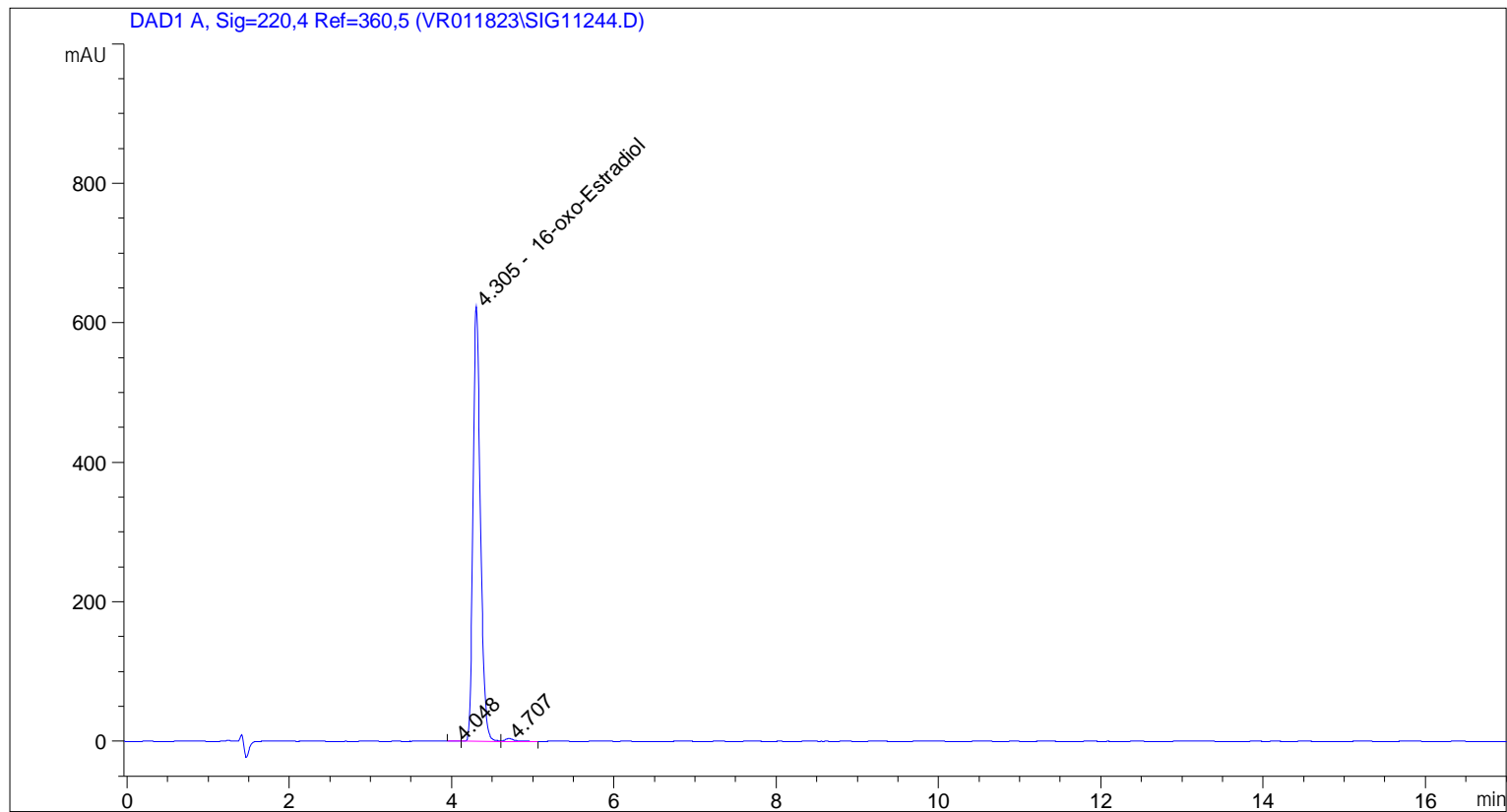
Sorted By : Signal  
Calib. Data Modified : 5/29/2023 10:03:20 AM  
Multiplier: : 1.0000  
Dilution: : 1.0000  
Use Multiplier & Dilution Factor with ISTDs

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

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	4.032	BV	0.1480	10.25783	0.1980	?
2	4.303	VV	0.0962	5128.26318	98.9887	16-oxo-Estradiol
3	4.705	VB	0.1083	42.13251	0.8133	?

Totals : 5180.65352

=====  
Acq. Operator : vrusu  
Acq. Instrument : Instrument 1 Location : Vial 86  
Injection Date : 5/29/2023 8:51:43 AM Inj Volume : 5.0 µl  
Acq. Method : C:\CHEM32\1\METHODS\VR052923\_151.M  
Last changed : 5/29/2023 8:50:46 AM by vrusu  
Analysis Method : C:\CHEM32\1\METHODS\VR052923\_151PM.M  
Last changed : 5/29/2023 10:04:11 AM by vrusu



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

Sorted By : Signal  
Calib. Data Modified : 5/29/2023 10:03:20 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	4.048	BV	0.0906	3.48393	0.0873	?
2	4.305	VV	0.0960	3955.11060	99.0855	16-oxo-Estradiol
3	4.707	VB	0.1145	33.02046	0.8272	?

Totals : 3991.61499