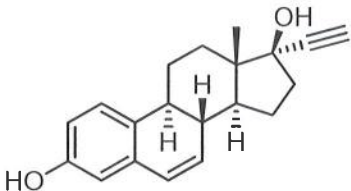


Certificate of Analysis

Name of Product: delta-6(7)-Ethinylestradiol		Lot Number: RY-4-083-06-100912
Manufacture Date: 10/09/12	Retested On: 01/12/23	Next Retest Date: 01/11/26
Recommended Storage Conditions:		
<input type="checkbox"/> Ambient atmosphere <input checked="" type="checkbox"/> Inert atmosphere <input type="checkbox"/> Ambient temperature <input checked="" type="checkbox"/> 0-10°C (refrigeration) <input type="checkbox"/> -20°C or below (freezer)		

Structure: 	Molecular Formula: C ₂₀ H ₂₂ O ₂
	Molecular Weight: 294.39
	CAS Number: 67703-68-8


Appearance: Light brownish powder

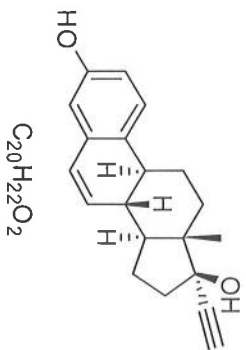
Identity: ¹H-NMR - conforms to structure

MS(ESI+ve): [M-H₂O+H]⁺ = 277.2; [M+H]⁺ = 295.2 - conforms to structure

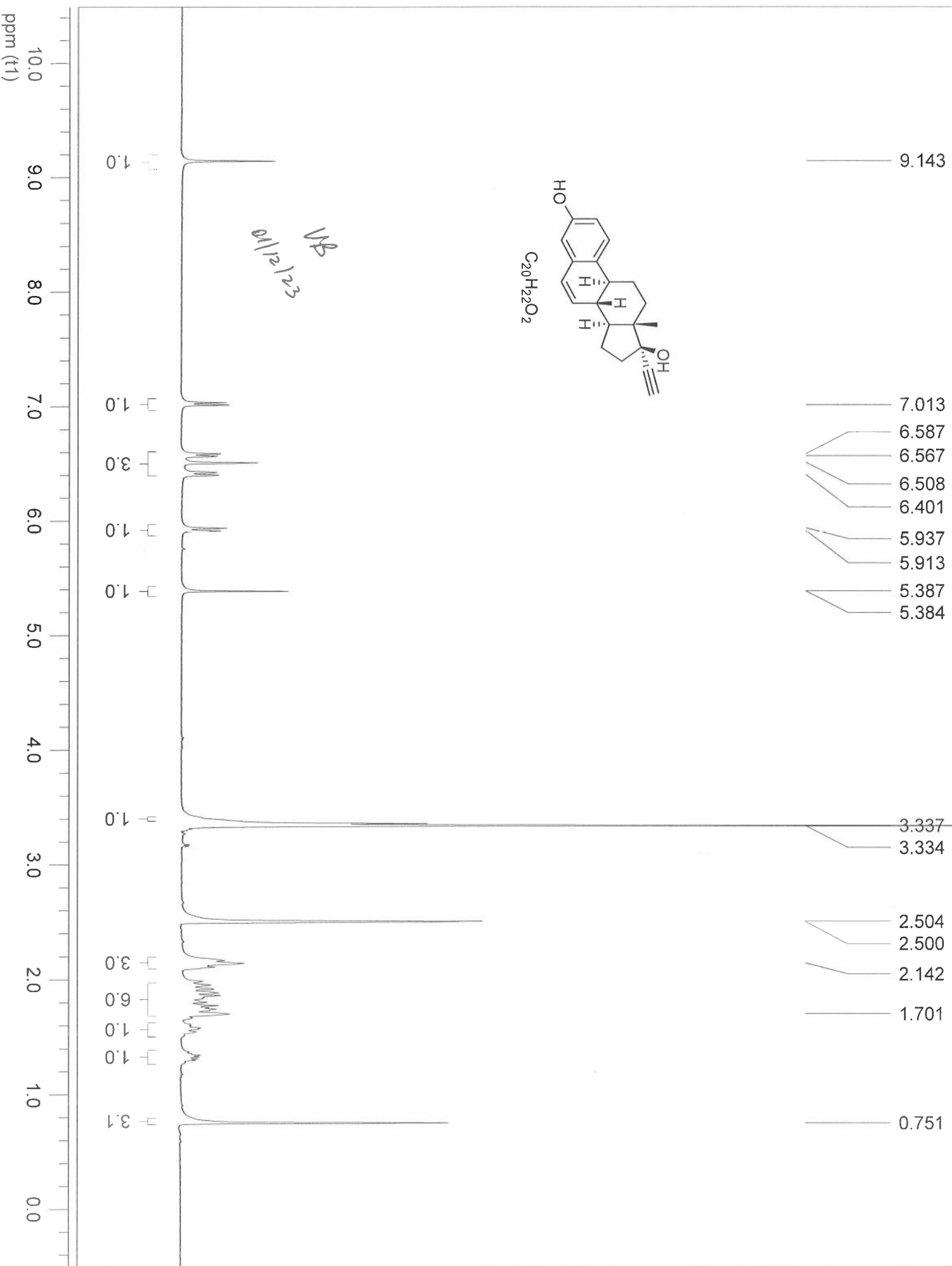
HPLC Purity: 96.6 % by AUC at 220 nm (HPLC)

Dalton Pharma Services hereby certifies that the above information is authentic and accurate.

 <hr style="width: 80%; margin: 0 auto;"/> Zemin Li, R&D Supervisor	Date: 01/17/23
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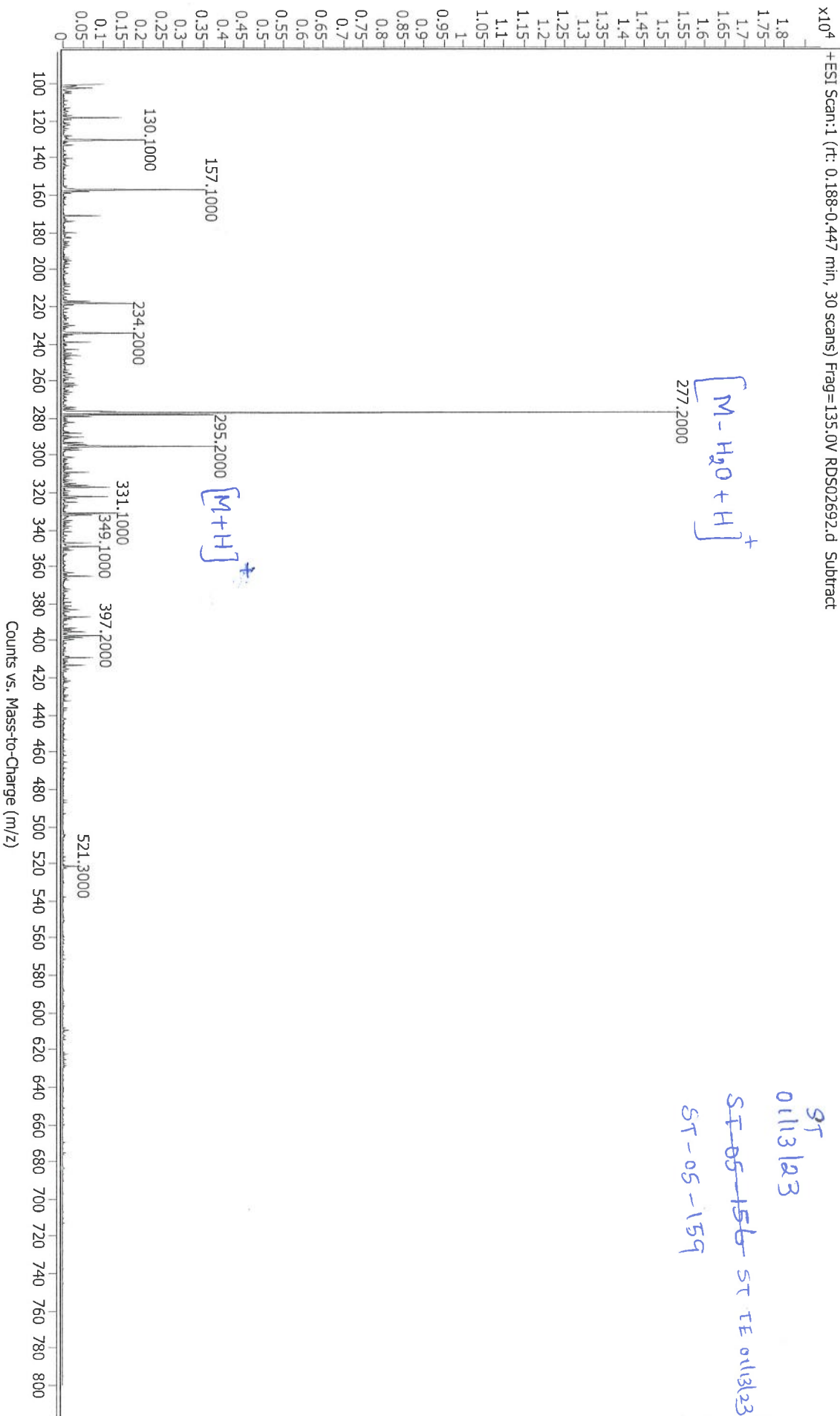
MS
01/12/23



Spectrum Plot Report

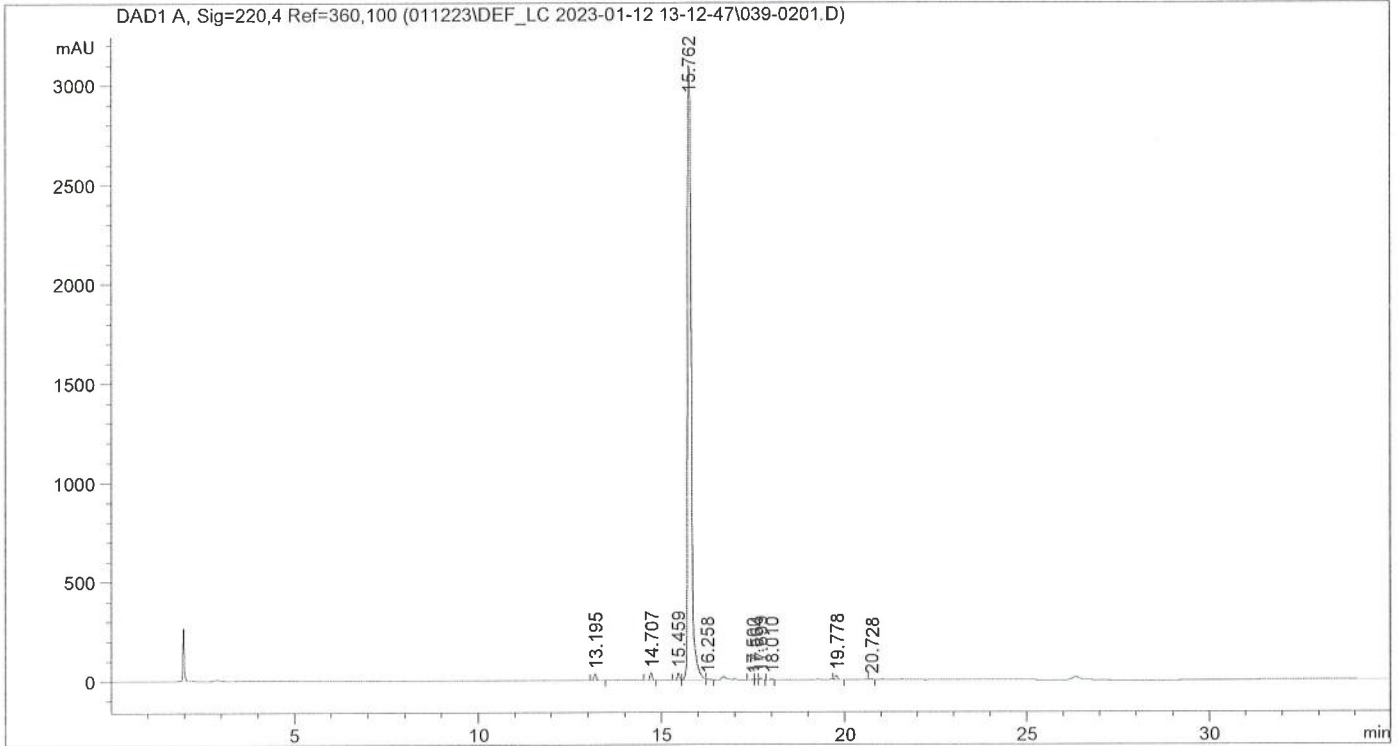


Name: RDS 02692 Rack Pos.: Instrument 1 Operator: DALTON\SThiru
Inj. Vol. (µl): 2 Plate Pos.: IRM Status Comment: Acq. Time (Local): 01/13/23 12:39:12 PM
Data File: RDS02692.d Method (Acq): ESI_00_Scan.m Instrument 1 (UTC-05:00)



```

=====
Acq. Operator   : VPR                               Seq. Line :    2
Acq. Instrument : HPLC#2                           Location  : Vial 39
Injection Date  : 01/12/23 1:50:50 PM              Inj       :    1
                                                    Inj Volume: 5.000 µl
Different Inj Volume from Sequence !      Actual Inj Volume : 10.000 µl
Acq. Method     : C:\CHEM32\1\DATA\011223\DEF_LC 2023-01-12 13-12-47\OTS2.M
Last changed    : 01/10/23 9:54:02 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed    : 01/13/23 12:59:03 PM by VPR
                  (modified after loading)
Additional Info : Peak(s) manually integrated
  
```



Area Percent Report

```

Sorted By      :      Signal
Multiplier:    :      1.0000
Dilution:     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
  
```

Signal 1: DAD1 A, Sig=220,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	13.195	BV	0.0712	153.65079	32.47367	0.6578
2	14.707	BV	0.0711	175.61194	38.59221	0.7518
3	15.459	BV	0.0720	169.20064	36.57985	0.7243
4	15.762	VV	0.1172	2.25649e4	3090.08447	96.6005
5	16.258	VB	0.0802	30.79920	5.59580	0.1319
6	17.500	BV	0.0701	19.25130	4.15406	0.0824

VPR
01/13/23

Sample Name: RY-4-063-06

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
7	17.584	VV	0.0660	25.72119	5.77261	0.1101
8	17.699	VB	0.0671	46.95542	10.71130	0.2010
9	18.010	BV	0.0758	35.15269	7.09352	0.1505
10	19.778	VV	0.0756	111.00745	22.47780	0.4752
11	20.728	VV	0.0933	26.74182	4.50249	0.1145

Totals : 2.33590e4 3258.03777

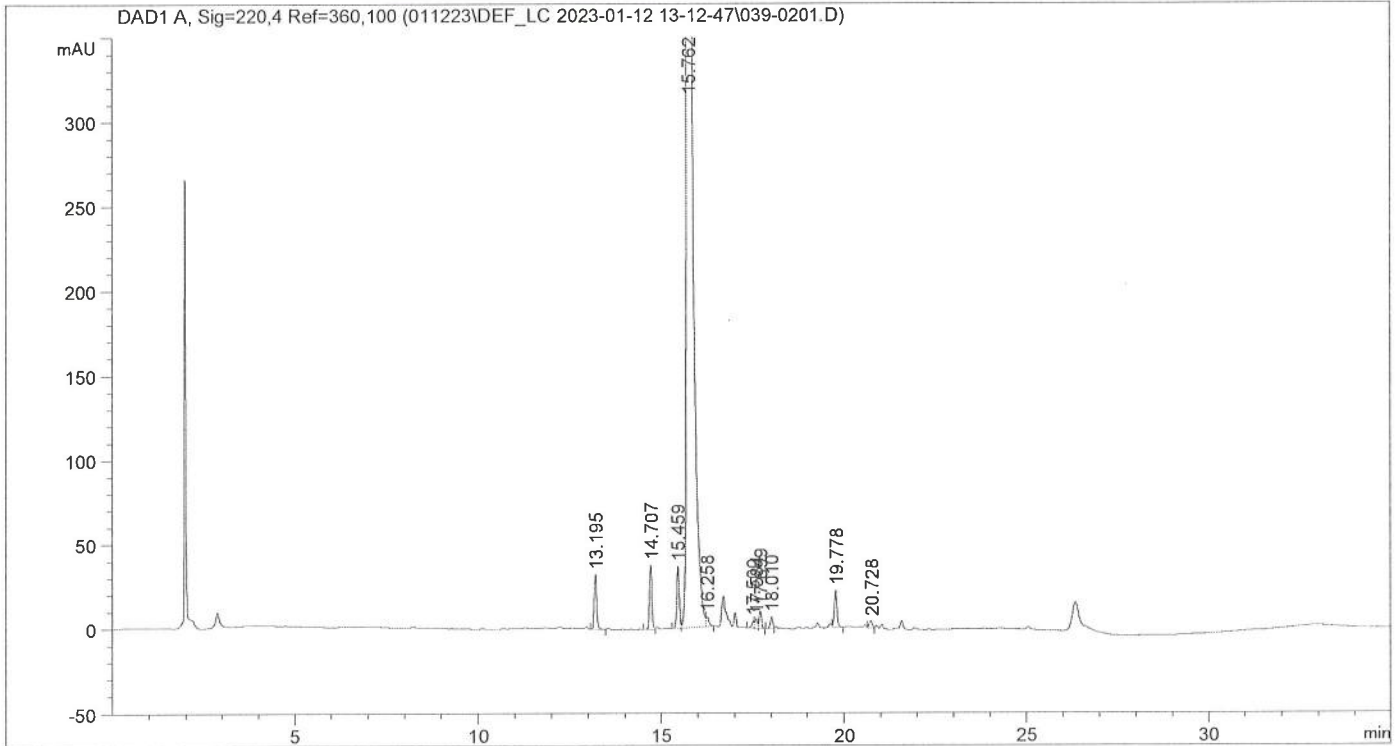
=====
*** End of Report ***

VPR
01/13/23

Sample Name: RY-4-063-06

```

=====
Acq. Operator   : VPR                               Seq. Line :    2
Acq. Instrument : HPLC#2                           Location  : Vial 39
Injection Date  : 01/12/23 1:50:50 PM              Inj       :    1
                                                    Inj Volume: 5.000 µl
Different Inj Volume from Sequence !   Actual Inj Volume : 10.000 µl
Acq. Method     : C:\CHEM32\1\DATA\011223\DEF_LC 2023-01-12 13-12-47\OTS2.M
Last changed    : 01/10/23 9:54:02 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed    : 01/13/23 1:00:03 PM by VPR
                (modified after loading)
Additional Info : Peak(s) manually integrated
    
```



Area Percent Report

```

Sorted By      :      Signal
Multiplier:    :      1.0000
Dilution:      :      1.0000
Use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: DAD1 A, Sig=220,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	13.195	BV	0.0712	153.65079	32.47367	0.6578
2	14.707	BV	0.0711	175.61194	38.59221	0.7518
3	15.459	BV	0.0720	169.20064	36.57985	0.7243
4	15.762	VV	0.1172	2.25649e4	3090.08447	96.6005
5	16.258	VB	0.0802	30.79920	5.59580	0.1319
6	17.500	BV	0.0701	19.25130	4.15406	0.0824

VPR
01/13/23

Sample Name: RY-4-063-06

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
7	17.584	VV	0.0660	25.72119	5.77261	0.1101
8	17.699	VB	0.0671	46.95542	10.71130	0.2010
9	18.010	BV	0.0758	35.15269	7.09352	0.1505
10	19.778	VV	0.0756	111.00745	22.47780	0.4752
11	20.728	VV	0.0933	26.74182	4.50249	0.1145

Totals : 2.33590e4 3258.03777

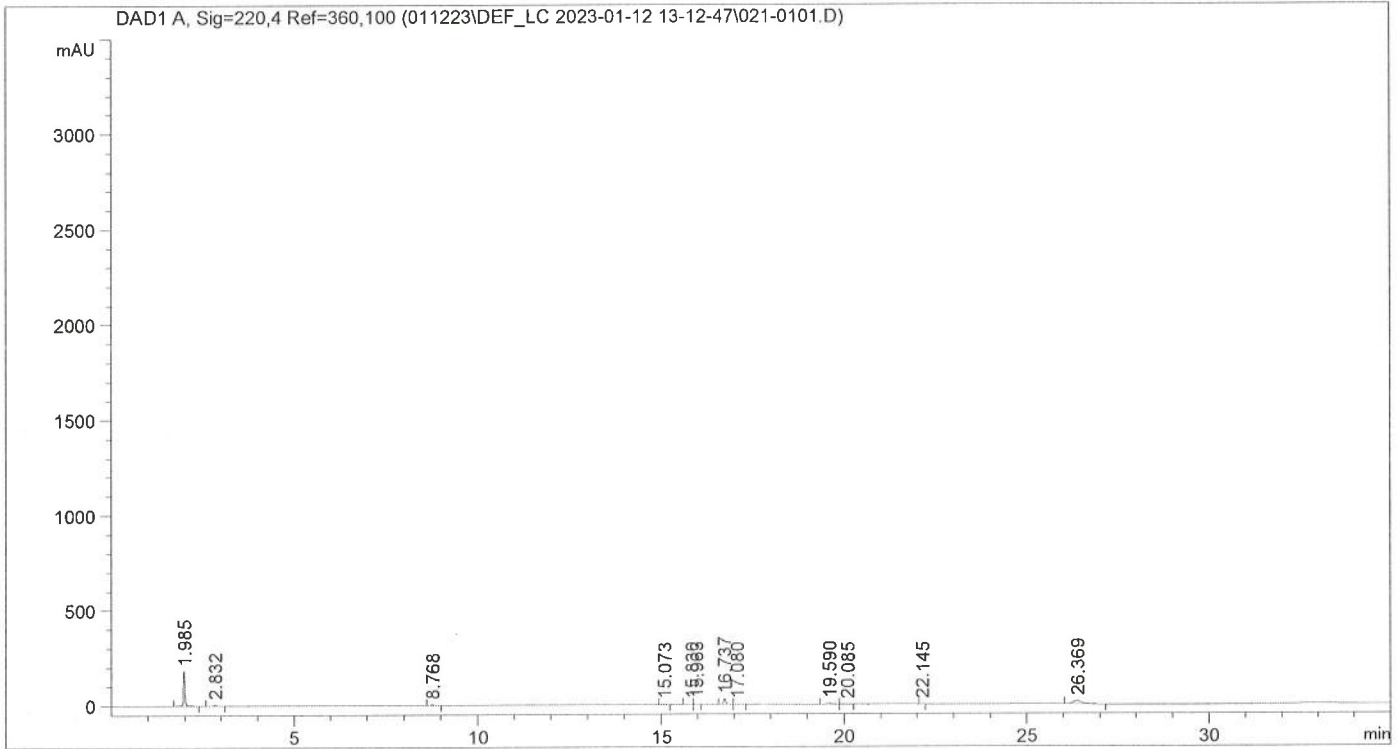
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*** End of Report ***

VPR
01/13/23

Sample Name: Blank

```

=====
Acq. Operator   : VPR                               Seq. Line :    1
Acq. Instrument : HPLC#2                           Location  : Vial 21
Injection Date  : 01/12/23 1:14:15 PM              Inj       :    1
                                                    Inj Volume: 5.000 µl
Different Inj Volume from Sequence !      Actual Inj Volume : 10.000 µl
Acq. Method    : C:\CHEM32\1\DATA\011223\DEF_LC 2023-01-12 13-12-47\OTS2.M
Last changed   : 01/10/23 9:54:02 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed   : 01/13/23 1:02:14 PM by VPR
                (modified after loading)
    
```



Area Percent Report

```

Sorted By           :      Signal
Multiplier:         :      1.0000
Dilution:           :      1.0000
Use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: DAD1 A, Sig=220,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.985	BB	0.0504	606.26813	183.96024	48.0036
2	2.832	BB	0.1157	49.51588	6.16273	3.9206
3	8.768	BB	0.0871	15.52105	2.69744	1.2289
4	15.073	BB	0.0784	9.21154	1.84016	0.7294
5	15.830	BV	0.1089	13.84876	1.94788	1.0965
6	15.963	VB	0.0883	16.82400	2.87202	1.3321
7	16.737	BV	0.0827	154.69446	28.76959	12.2485

VPR
01/13/23

Sample Name: Blank

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
8	17.080	VB	0.0971	14.96492	2.20778	1.1849
9	19.590	BB	0.1197	61.78444	7.86040	4.8920
10	20.085	BV	0.1413	25.56890	2.77959	2.0245
11	22.145	BB	0.0696	5.26581	1.19031	0.4169
12	26.369	BB	0.2426	289.49603	17.00513	22.9220

Totals : 1262.96392 259.29327

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

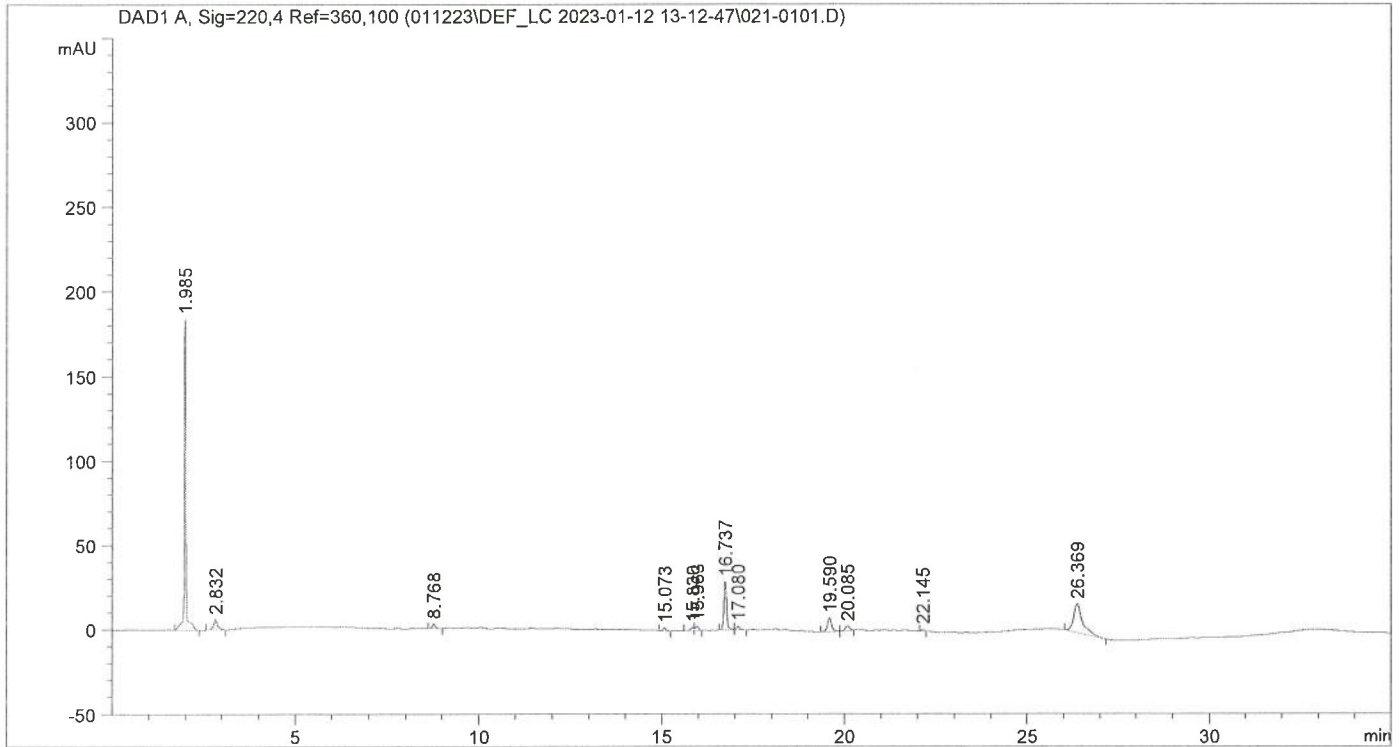
VPR
01/13/23

Sample Name: Blank

```

=====
Acq. Operator   : VPR                               Seq. Line :    1
Acq. Instrument : HPLC#2                           Location  : Vial 21
Injection Date  : 01/12/23 1:14:15 PM              Inj       :    1
                                                    Inj Volume: 5.000 µl

Different Inj Volume from Sequence !   Actual Inj Volume : 10.000 µl
Acq. Method    : C:\CHEM32\1\DATA\011223\DEF_LC 2023-01-12 13-12-47\OTS2.M
Last changed   : 01/10/23 9:54:02 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed   : 01/13/23 1:00:24 PM by VPR
                (modified after loading)
    
```



Area Percent Report

```

Sorted By      :      Signal
Multiplier:    :      1.0000
Dilution:      :      1.0000
Use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: DAD1 A, Sig=220,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.985	BB	0.0504	606.26813	183.96024	48.0036
2	2.832	BB	0.1157	49.51588	6.16273	3.9206
3	8.768	BB	0.0871	15.52105	2.69744	1.2289
4	15.073	BB	0.0784	9.21154	1.84016	0.7294
5	15.830	BV	0.1089	13.84876	1.94788	1.0965
6	15.963	VB	0.0883	16.82400	2.87202	1.3321
7	16.737	BV	0.0827	154.69446	28.76959	12.2485

VPR
01/13/23

Sample Name: Blank

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
8	17.080	VB	0.0971	14.96492	2.20778	1.1849
9	19.590	BB	0.1197	61.78444	7.86040	4.8920
10	20.085	BV	0.1413	25.56890	2.77959	2.0245
11	22.145	BB	0.0696	5.26581	1.19031	0.4169
12	26.369	BB	0.2426	289.49603	17.00513	22.9220

Totals : 1262.96392 259.29327

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

VPR
01/13/23