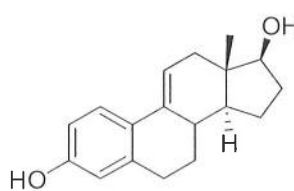


Certificate of Analysis

Name of Product: delta-9,11-Estradiol		Lot Number: SKG-04-105-052722
Manufacture Date: 05/27/22	Retested On: 06/14/23	Next Retest Date: 06/13/28
Recommended Storage Conditions: <input type="checkbox"/> Ambient atmosphere <input 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 ₁₈ H ₂₂ O ₂
	Molecular Weight: 270.37
	CAS Number: 791-69-5

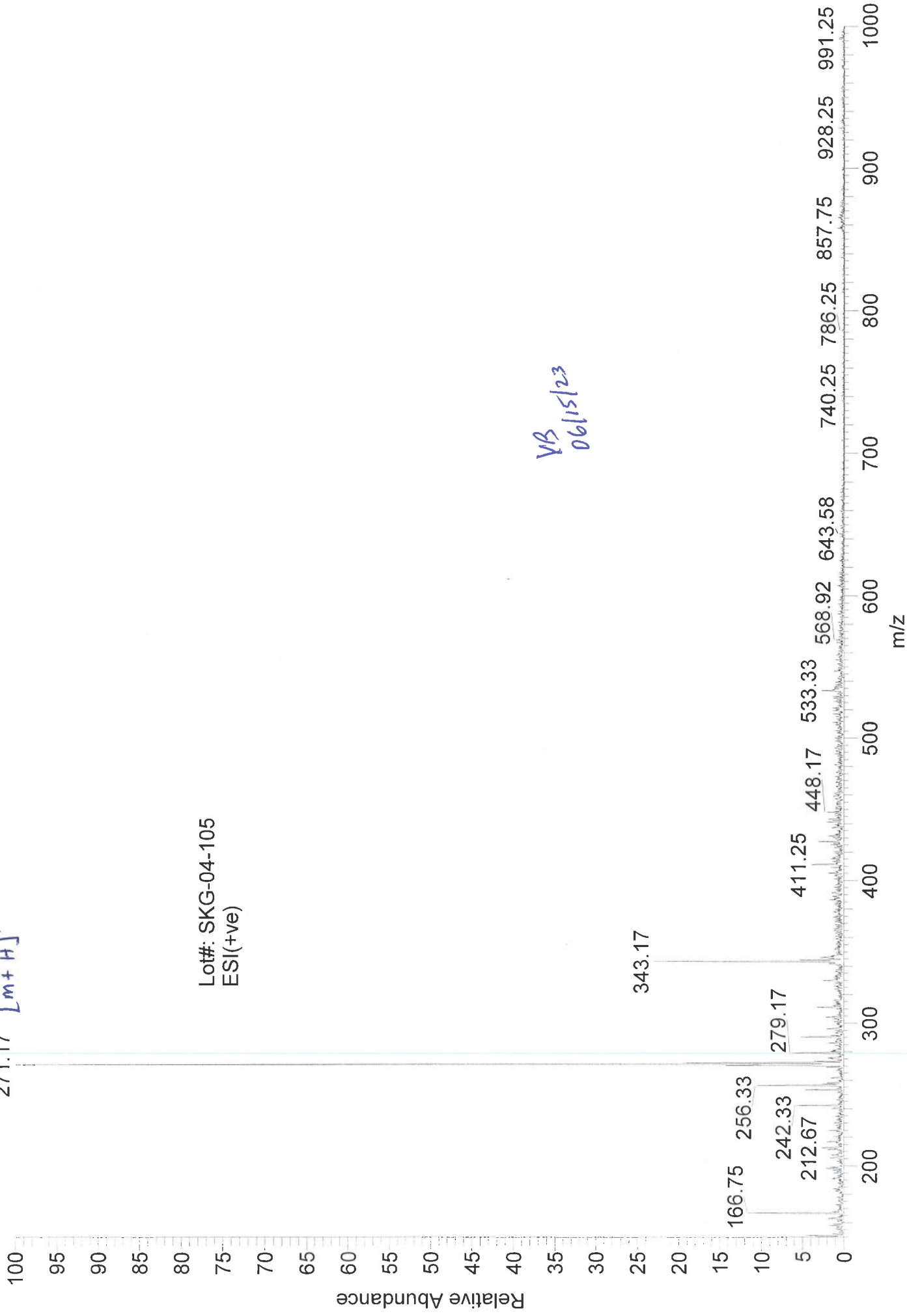
Appearance: White solid
Purity: 97.9% by AUC at 254 nm (by HPLC)
Identity: ¹H-NMR - conforms to structure
MS(ESI+ve): [M+H]⁺ = 271.17 conforms to structure

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

 <hr style="width: 80%; margin: auto;"/> Vinod Ramanatham, Ph.D., R & D Services Manager	Date: 07/10/23
--	----------------

SKG-04-105 #1066-1090 RT: 4.89-5.00 AV: 25 NL: 5.06E3
T: ITMS + p ESI Full ms [50.00-2000.00]

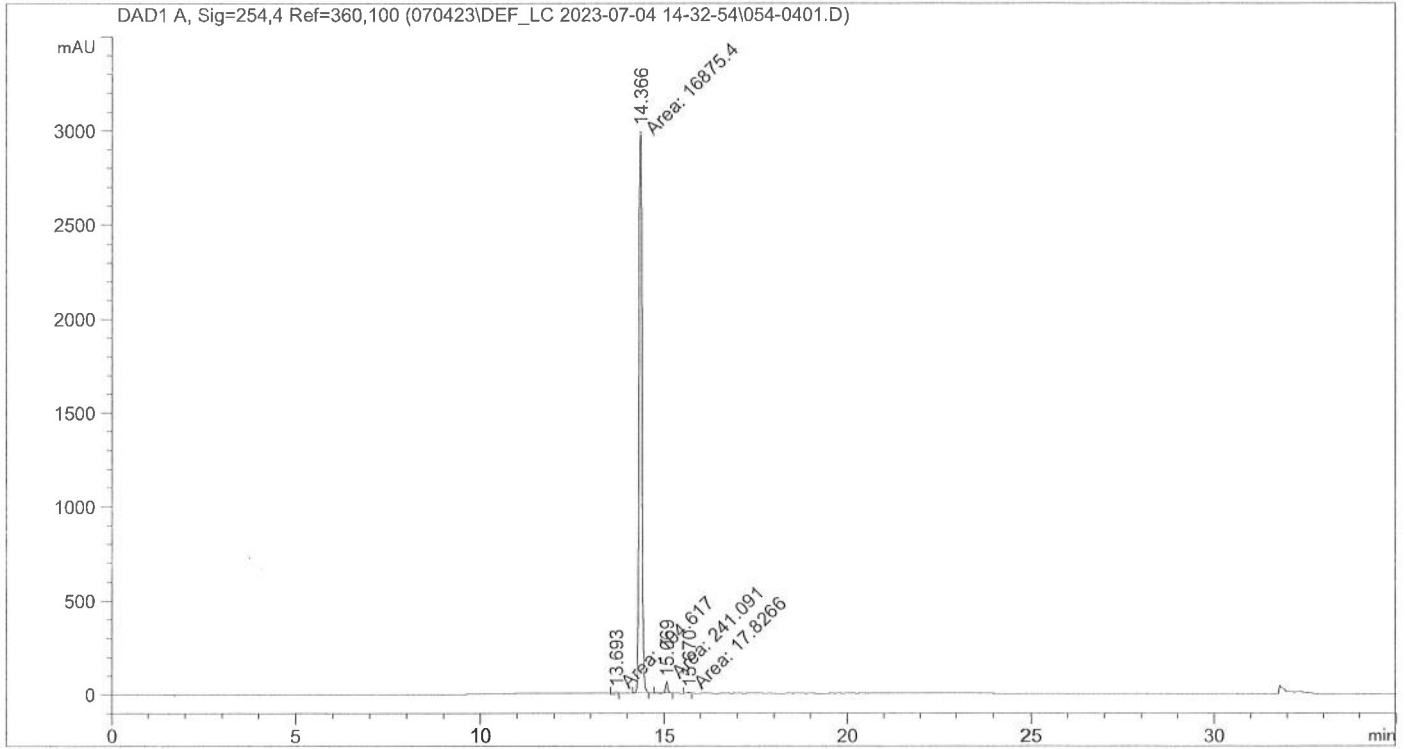
271.17 [m+H]⁺



```

=====
Acq. Operator   : SPS                               Seq. Line :    4
Acq. Instrument : Instrument 1                       Location  : Vial 54
Injection Date  : 07/04/23 4:22:48 PM              Inj       :    1
                                                    Inj Volume: 10.000 µl

Acq. Method     : C:\CHEM32\1\DATA\070423\DEF_LC 2023-07-04 14-32-54\OTS1.M
Last changed    : 07/04/23 2:32:53 PM by SPS
Analysis Method : C:\CHEM32\1\METHODS\BAUSCH2.M
Last changed    : 07/06/23 7:45:20 AM by SPS
                  (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=254,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	13.693	MM	0.1559	104.61693	11.18774	0.6069
2	14.366	MM	0.0941	1.68754e4	2989.35034	97.8912
3	15.069	MM	0.0693	241.09109	58.00691	1.3985
4	15.670	MM	0.0669	17.82663	4.44429	0.1034

SPS
07/10/23

Totals : 1.72390e4 3062.98928

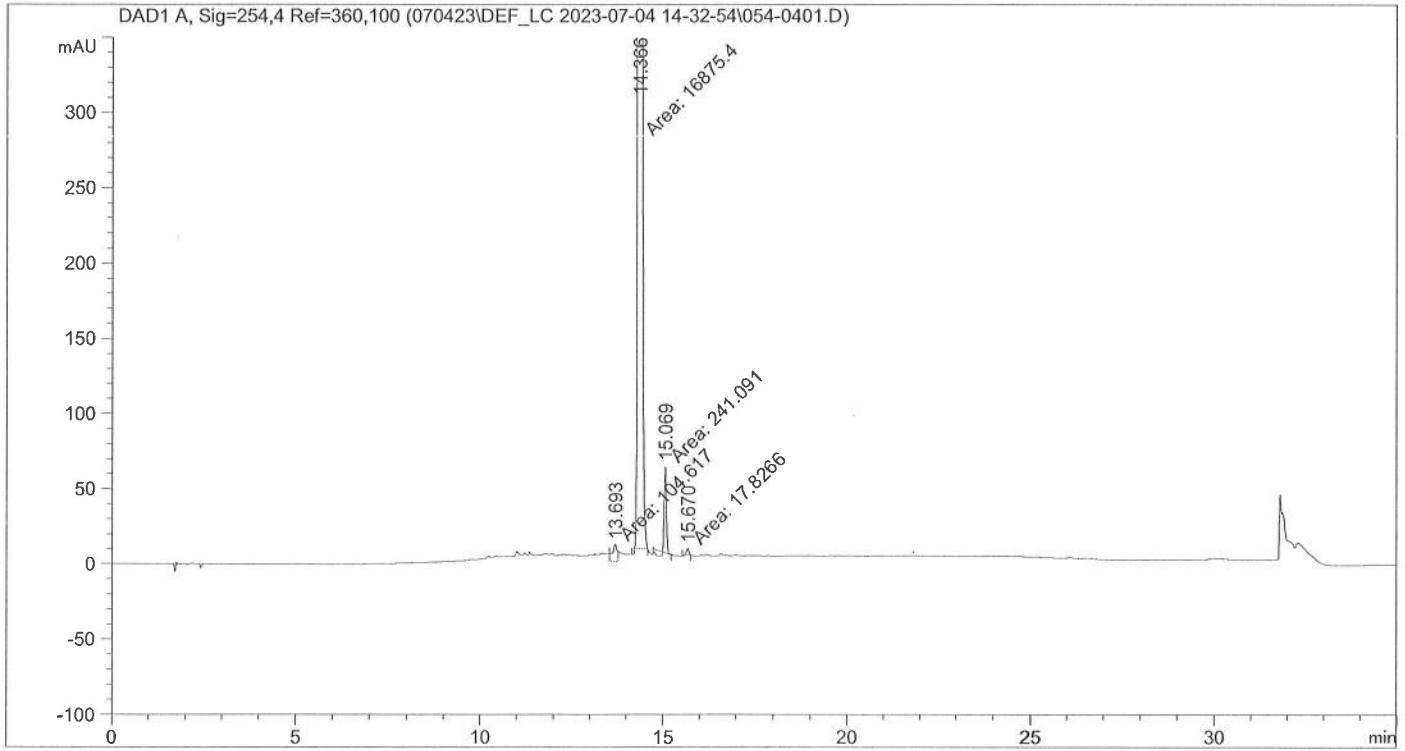
=====
*** End of Report ***

SPS
07/10/23

```

=====
Acq. Operator   : SPS                               Seq. Line :    4
Acq. Instrument : Instrument 1                       Location  : Vial 54
Injection Date  : 07/04/23 4:22:48 PM              Inj       :    1
                                                    Inj Volume: 10.000 µl

Acq. Method     : C:\CHEM32\1\DATA\070423\DEF_LC 2023-07-04 14-32-54\OTS1.M
Last changed    : 07/04/23 2:32:53 PM by SPS
Analysis Method : C:\CHEM32\1\METHODS\BAUSCH2.M
Last changed    : 07/06/23 7:46:14 AM by SPS
                  (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=254,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	13.693	MM	0.1559	104.61693	11.18774	0.6069
2	14.366	MM	0.0941	1.68754e4	2989.35034	97.8912
3	15.069	MM	0.0693	241.09109	58.00691	1.3985
4	15.670	MM	0.0669	17.82663	4.44429	0.1034

Totals : 1.72390e4 3062.98928

SPS
07/10/23

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

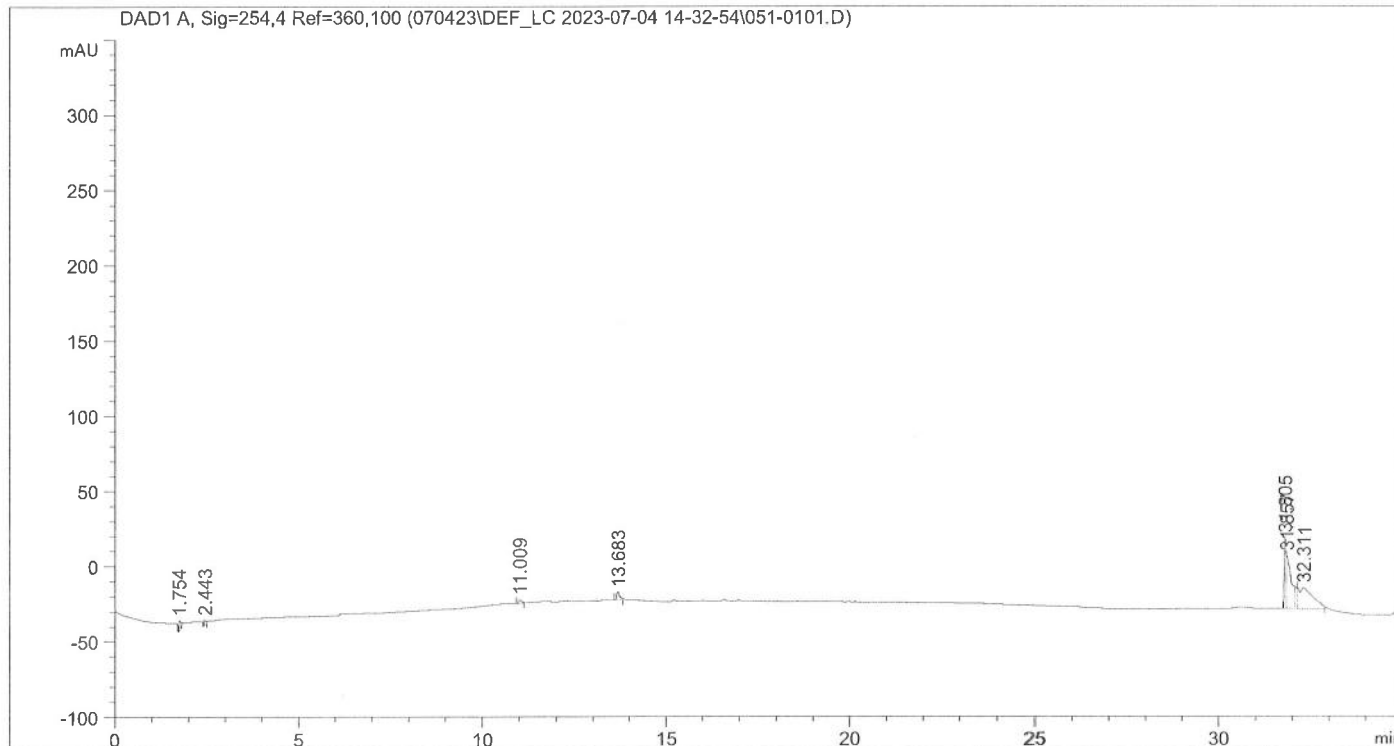
SPS
07/10/23

Sample Name: Blank

```

=====
Acq. Operator   : SPS                               Seq. Line :    1
Acq. Instrument : Instrument 1                       Location  : Vial 51
Injection Date  : 07/04/23 2:34:08 PM              Inj       :    1
                                                    Inj Volume: 10.000 µl

Acq. Method    : C:\CHEM32\1\DATA\070423\DEF_LC 2023-07-04 14-32-54\OTS1.M
Last changed   : 07/04/23 2:32:53 PM by SPS
Analysis Method: C:\CHEM32\1\METHODS\BAUSCH2.M
Last changed   : 07/06/23 7:46:14 AM by SPS
                (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=254,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.754	BB	0.0506	22.89684	6.27454	2.4541
2	2.443	BB	0.0485	12.01311	3.45981	1.2876
3	11.009	BB	0.0852	12.18112	2.11403	1.3056
4	13.683	BB	0.0886	32.44452	5.36041	3.4774
5	31.805	BV	0.0490	148.22664	46.76677	15.8868
6	31.857	VB	0.1179	322.74753	34.89301	34.5917
7	32.311	BB	0.3551	382.50998	13.89685	40.9970

SPS 07/10/23

Totals : 933.01973 112.76542

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

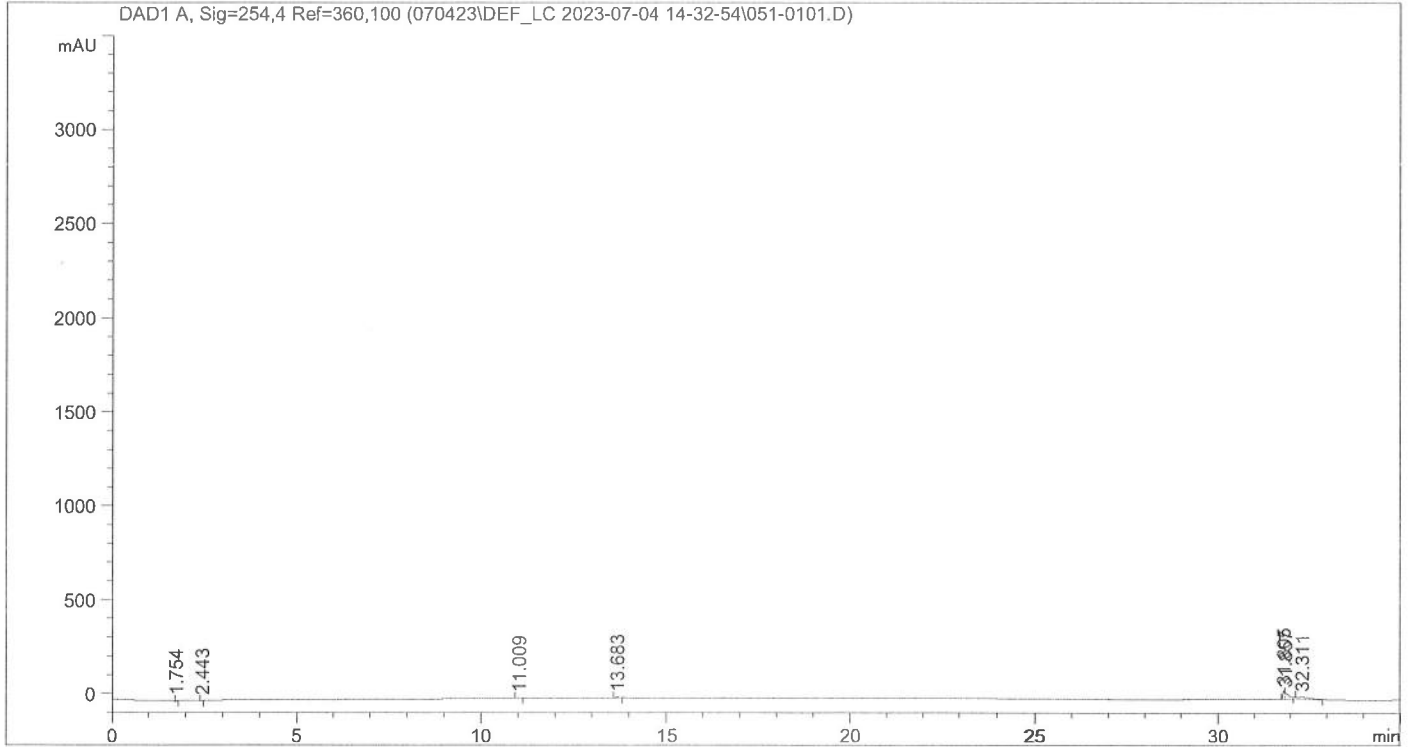
SPS
07/10/23

Sample Name: Blank

```

=====
Acq. Operator   : SPS                               Seq. Line :    1
Acq. Instrument : Instrument 1                       Location  : Vial 51
Injection Date  : 07/04/23 2:34:08 PM              Inj       :    1
                                                    Inj Volume: 10.000 µl

Acq. Method     : C:\CHEM32\1\DATA\070423\DEF_LC 2023-07-04 14-32-54\OTS1.M
Last changed    : 07/04/23 2:32:53 PM by SPS
Analysis Method : C:\CHEM32\1\METHODS\BAUSCH2.M
Last changed    : 07/06/23 7:47:12 AM by SPS
                  (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=254,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.754	BB	0.0506	22.89684	6.27454	2.4541
2	2.443	BB	0.0485	12.01311	3.45981	1.2876
3	11.009	BB	0.0852	12.18112	2.11403	1.3056
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5	31.805	BV	0.0490	148.22664	46.76677	15.8868
6	31.857	VB	0.1179	322.74753	34.89301	34.5917
7	32.311	BB	0.3551	382.50998	13.89685	40.9970

SPS
07/10/23

Totals : 933.01973 112.76542

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

SPS
07/10/23