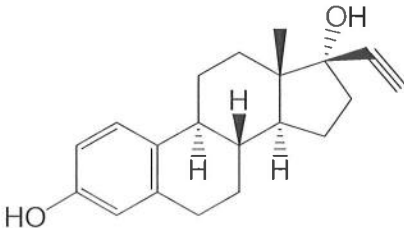


Certificate of Analysis

Name of Product: 17 β -Ethinyl-3,17 α -estradiol		Lot Number: RY-30-011-1
Manufacture Date: 04/08/22	Retested On: N/A	Next Retest Date: 04/07/27
Recommended Storage Conditions:		
<input type="checkbox"/> Ambient atmosphere <input checked="" type="checkbox"/> Inert atmosphere <input type="checkbox"/> Ambient temperature <input checked="" type="checkbox"/> 2-8°C (refrigeration) <input type="checkbox"/> -20°C or below (freezer)		

Structure: 	Molecular Formula: C ₂₀ H ₂₄ O ₂
	Molecular Weight: 296.41
	CAS Number: 4717-38-8


Appearance: White solid

Identity: ¹H-NMR - conforms to structure

MS(ESI-ve): [M-H]⁻ = 295.33 - conforms to structure

Purity: 95.2% by AUC at 280 nm (HPLC)

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

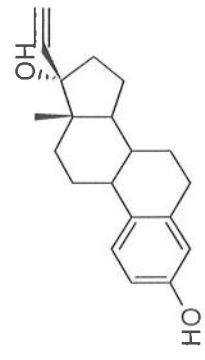
 <hr style="width: 80%; margin: 0 auto;"/> Zemin Li, Ph.D., Chemistry Supervisor	Date: 09/06/23
--	----------------

Product name: 17 β -Ethinyl-3,17 α -estradiol
 Lot number: RY-30-011-1

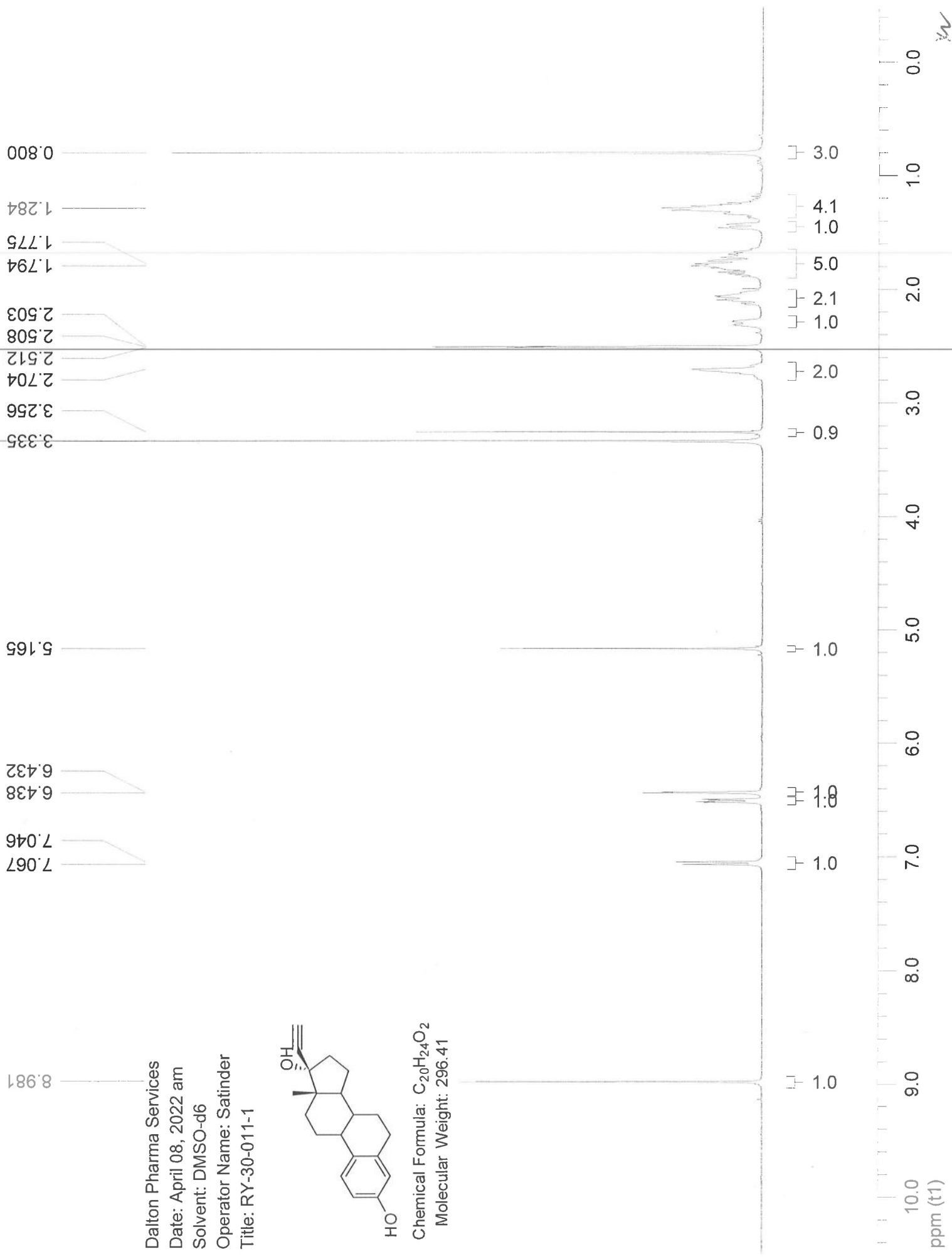
RDS# 02417
 Page 1 of 1

Research Use Only

Dalton Pharma Services
Date: April 08, 2022 am
Solvent: DMSO-d6
Operator Name: Satinder
Title: RY-30-011-1



Chemical Formula: C₂₀H₂₄O₂
Molecular Weight: 296.41



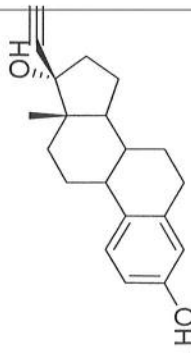
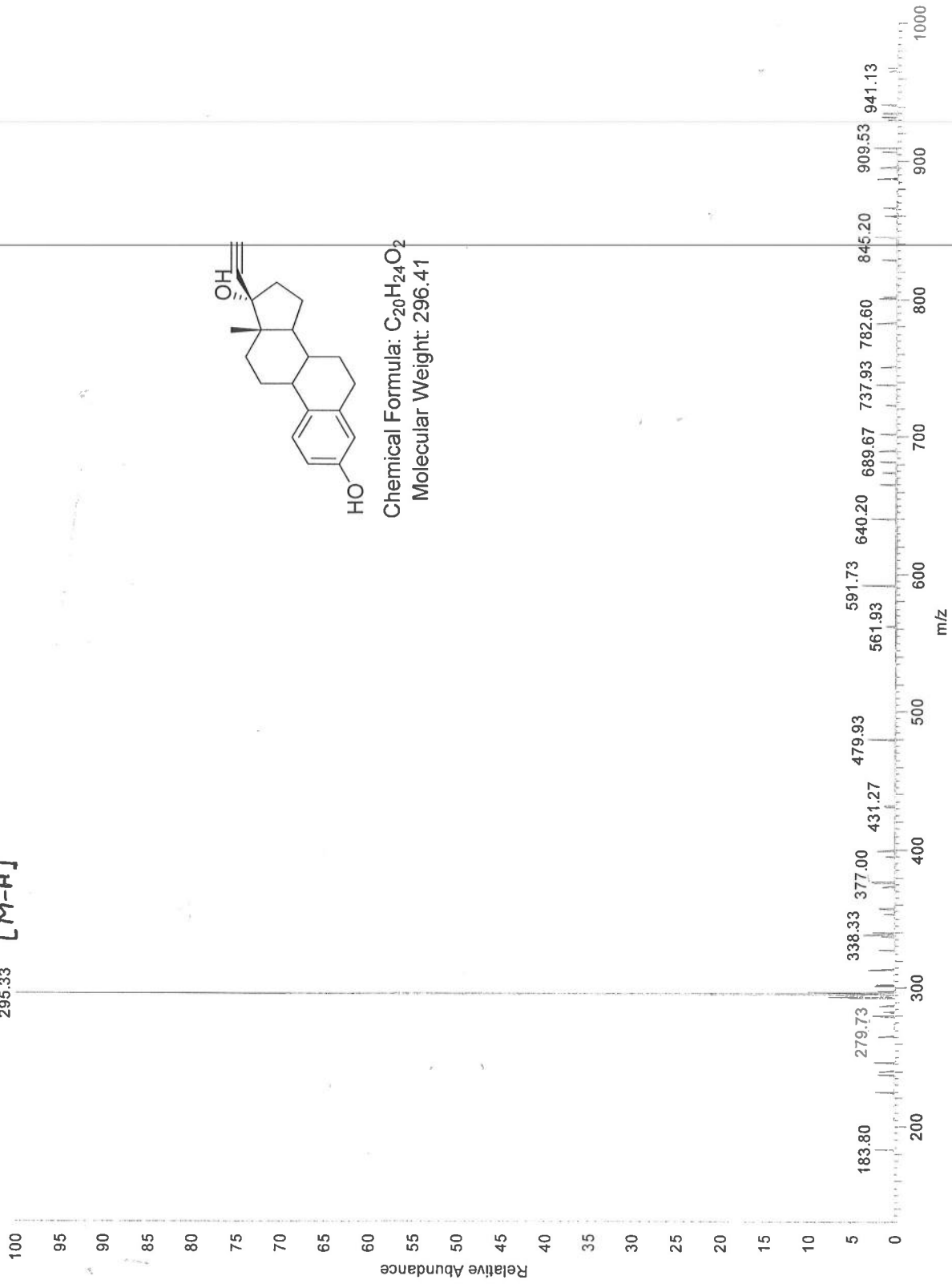
F:\LARY-30-011-1

4/8/2022 10:23:33 AM

RY-30-011-1 #168-178 RT: 5.71-6.05 AV: 11 NL: 1.07E4

T: - p ESI Full ms [50.00-2000.00]

295.33 [M-H]⁻



Chemical Formula: C₂₀H₂₄O₂

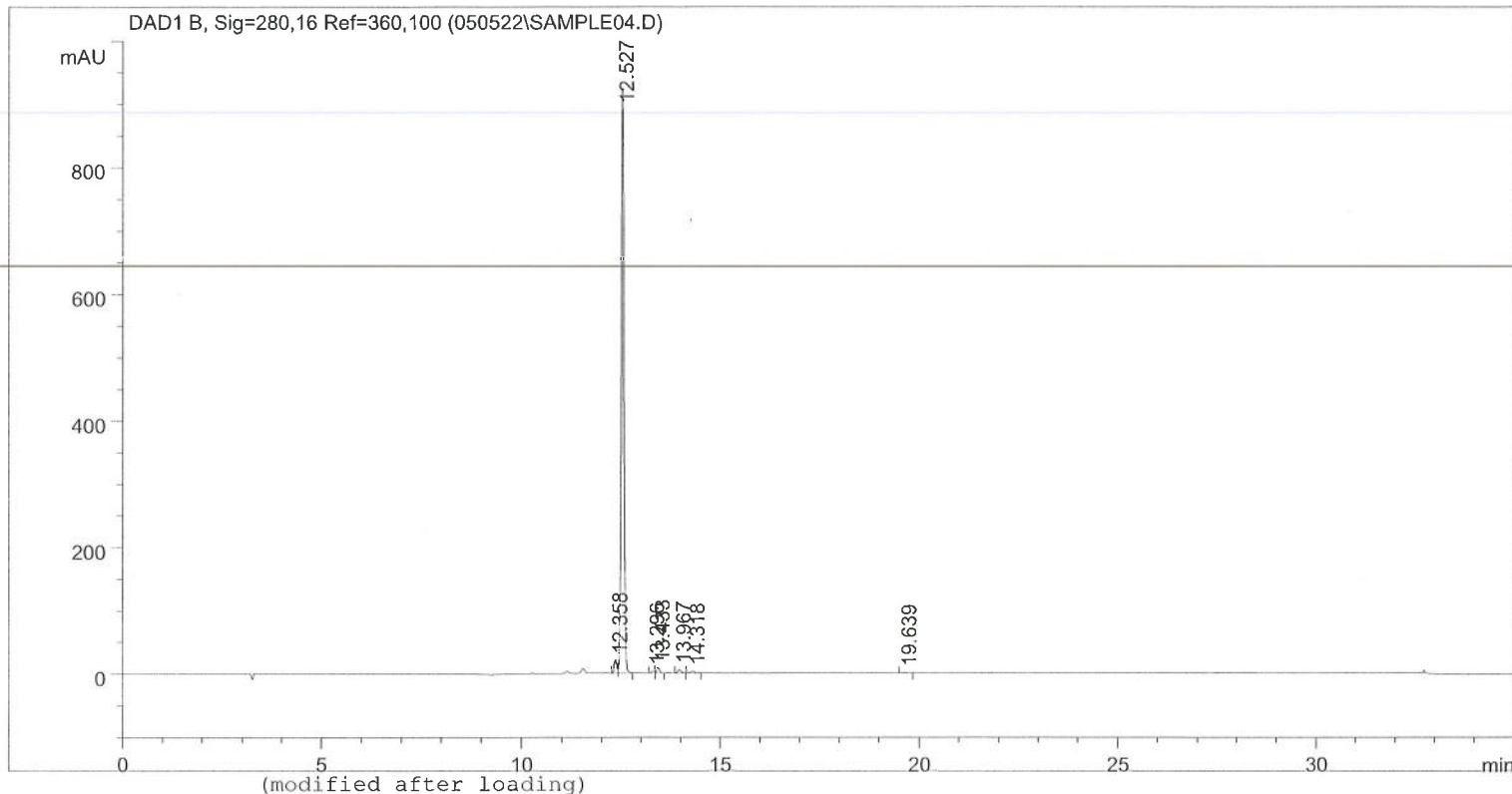
Molecular Weight: 296.41

Xi

```

===== Injection Date
: 5/5/2022 12:23:29 PM      Seq. Line : 4
Sample Name      : RY-30-011-1      Location : Vial 25
Acq. Operator   : VPR              Inj : 1 Acq.
Instrument      : HPLC#12          Inj Volume : 10 µl
Acq. Method     : C:\HPCHEM\1\METHODS\OTS1.M
Last changed    : 5/5/2022 10:32:11 AM by VPR
Analysis Method : C:\HPCHEM\1\METHODS\WASH.M
Last changed    : 5/5/2022 2:22:07 PM by VPR

```



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

```

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

```

Signal 1: DAD1 B, Sig=280,16 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	12.358	BV	0.0709	93.96778	20.72195	2.0855
2	12.527	VB	0.0718	4287.81201	930.05176	95.1639
3	13.296	BV	0.0755	18.93446	3.84075	0.4202
4	13.433	VB	0.0755	42.54556	8.63863	0.9443
5	13.967	BB	0.0837	33.00068	6.04013	0.7324
6	14.318	BV	0.1016	21.10732	2.94697	0.4685
7	19.639	PP	0.1041	8.34719	1.24751	0.1853

Totals : 4505.71500 973.48769

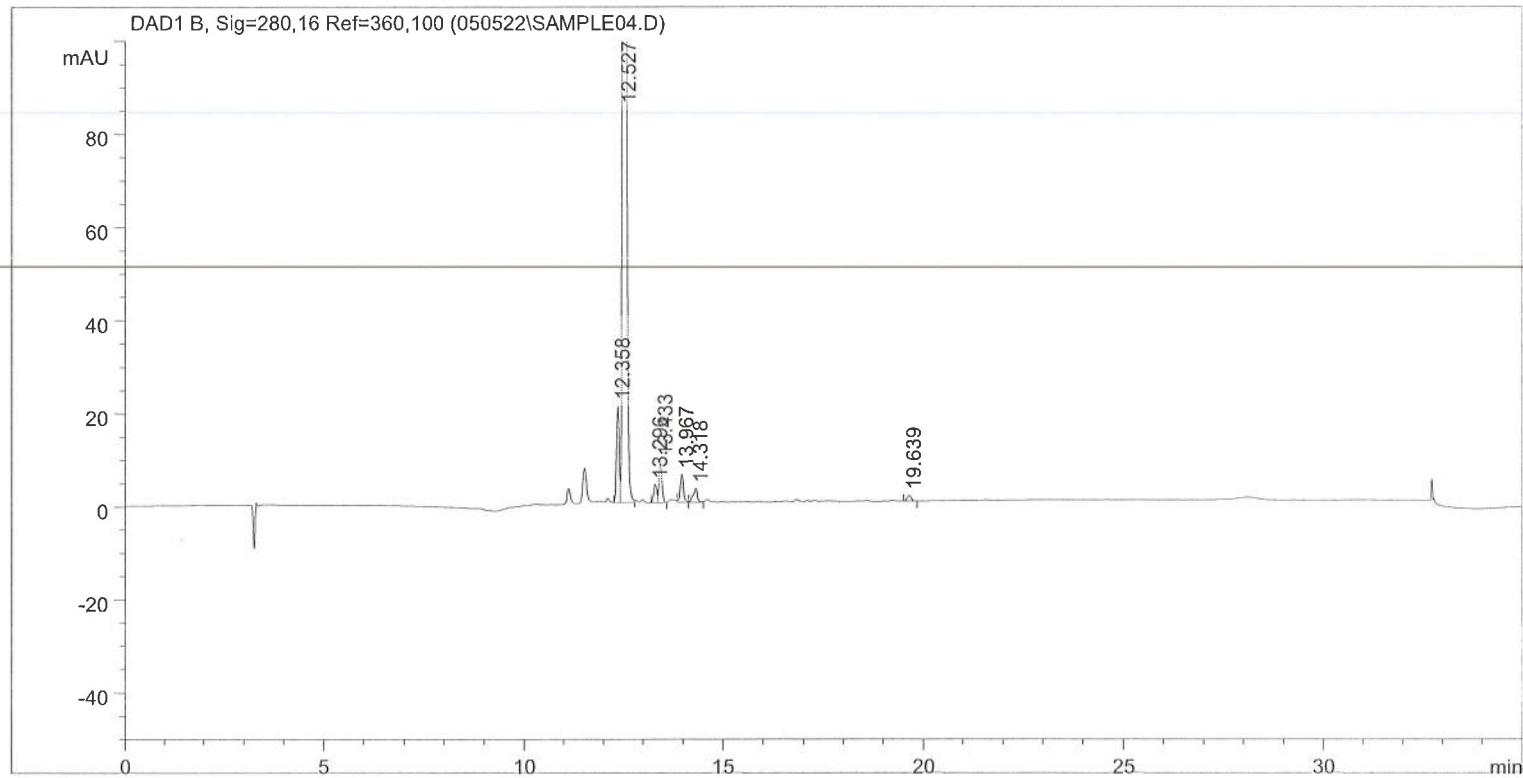
Results obtained with enhanced integrator!

*** End of Report ***

SAS
05/06/22

```

=====
Injection Date   : 5/5/2022 12:23:29 PM           Seq. Line   :    4
Sample Name     : RY-30-011-1                     Location    : Vial 25
Acq. Operator   : VPR                               Inj         :    1
Acq. Instrument : HPLC#12                          Inj Volume  : 10 µl
Acq. Method     : C:\HPCHEM\1\METHODS\OTS1.M
Last changed    : 5/5/2022 10:32:11 AM by VPR
Analysis Method : C:\HPCHEM\1\METHODS\WASH.M
=====
    
```



Area Percent Report

```

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

Signal 1: DAD1 B, Sig=280,16 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	12.358	BV	0.0709	93.96778	20.72195	2.0855
2	12.527	VB	0.0718	4287.81201	930.05176	95.1639
3	13.296	BV	0.0755	18.93446	3.84075	0.4202
4	13.433	VB	0.0755	42.54556	8.63863	0.9443
5	13.967	BB	0.0837	33.00068	6.04013	0.7324
6	14.318	BV	0.1016	21.10732	2.94697	0.4685
7	19.639	PP	0.1041	8.34719	1.24751	0.1853

Sps 05/06/22

Totals : 4505.71500 973.48769

Results obtained with enhanced integrator!

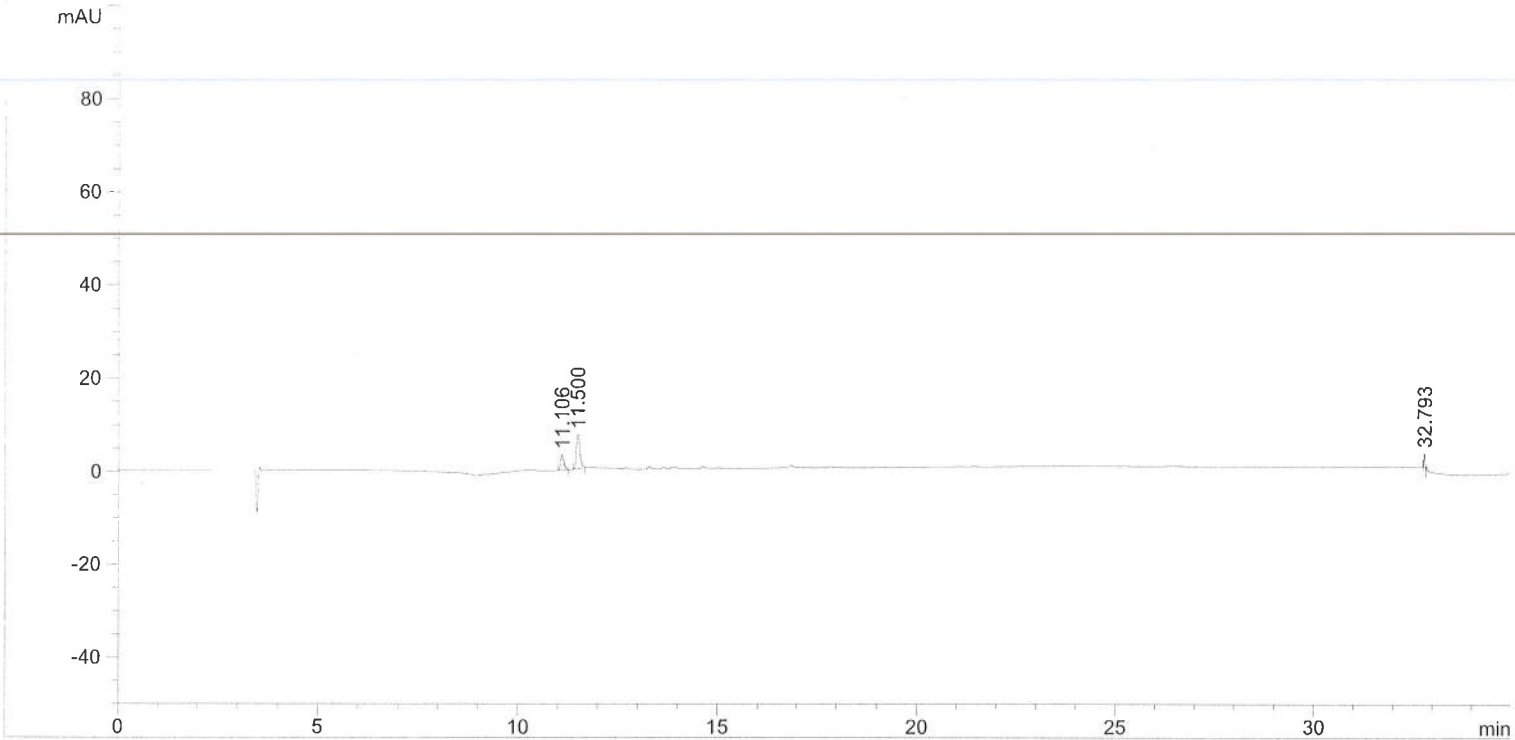
*** End of Report ***

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=====
Injection Date   : 5/5/2022 11:47:08 AM      Seq. Line   :    3
Sample Name     : blank                      Location    : Vial 31
Acq. Operator  : VPR                        Inj         :    1
Acq. Instrument : HPLC#12                   Inj Volume  : 10 µl
Acq. Method    : C:\HPCHEM\1\METHODS\OTS1.M
Last changed   : 5/5/2022 10:32:11 AM by VPR
Analysis Method : C:\HPCHEM\1\METHODS\WASH.M
Last changed   : 5/5/2022 2:24:24 PM by VPR
                (modified after loading)
=====

```

DAD1 B, Sig=280,16 Ref=360,100 (050522\SAMPLE03.D)



```

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

```

```

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

```

Signal 1: DAD1 B, Sig=280,16 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	11.106	BB	0.0894	19.15329	3.31626	26.4580
2	11.500	BB	0.0957	45.38105	7.37958	62.6886
3	32.793	BP	0.0316	7.85694	3.57564	10.8534

```
Totals :                      72.39128   14.27147
```

Results obtained with enhanced integrator!

```

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

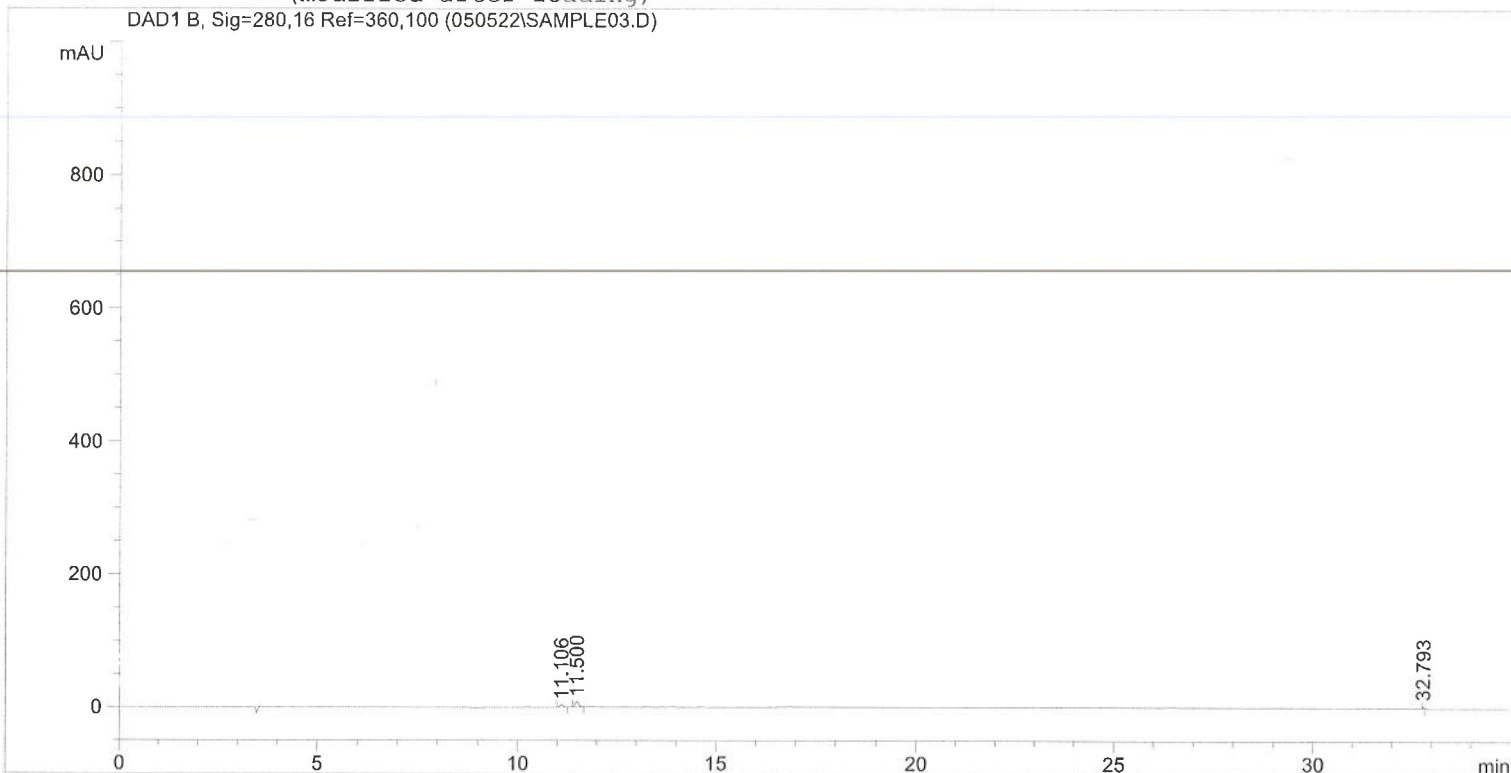
```

SPS
05/06/22

```

=====
Injection Date   : 5/5/2022 11:47:08 AM      Seq. Line   :    3
Sample Name     : blank                      Location    : Vial 31
Acq. Operator  : VPR                        Inj        :    1
Acq. Instrument : HPLC#12                   Inj Volume  : 10 µl
Acq. Method    : C:\HPCHEM\1\METHODS\OTS1.M
Last changed   : 5/5/2022 10:32:11 AM by VPR
Analysis Method : C:\HPCHEM\1\METHODS\WASH.M
Last changed   : 5/5/2022 2:25:48 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 B, Sig=280,16 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	11.106	BB	0.0894	19.15329	3.31626	26.4580
2	11.500	BB	0.0957	45.38105	7.37958	62.6886
3	32.793	BP	0.0316	7.85694	3.57564	10.8534

```
Totals :                      72.39128  14.27147
```

Results obtained with enhanced integrator!

```

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

```

*SPS
05/06/22*