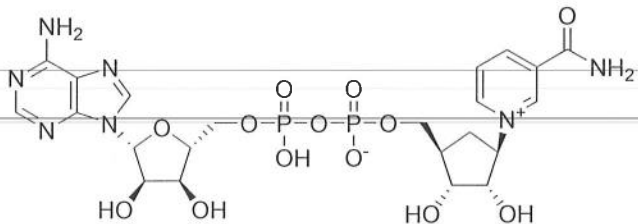



Certificate of Analysis

Name of Product: Carba-NAD		Lot Number: SPS-10-185-01
Manufacture Date: 03/20/23	Retested On: n/a	Next Retest Date: 03/19/26
Recommended Storage Conditions: <input type="checkbox"/> Ambient atmosphere <input checked="" type="checkbox"/> Inert atmosphere <input type="checkbox"/> Ambient temperature <input type="checkbox"/> 2-8°C (refrigeration) <input checked="" type="checkbox"/> -20°C or below (freezer)		

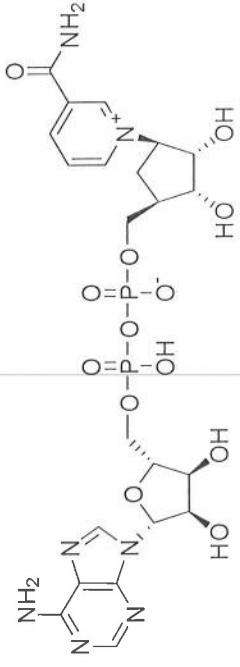
Structure: 	Molecular Formula: C ₂₂ H ₂₉ N ₇ O ₁₃ P ₂
	Molecular Weight: 661.46
	CAS Number: 112345-60-5

Appearance: White solid
Purity: 99.7% by AUC at 263 nm (HPLC)
Identity: ¹H-NMR - conforms to structure (nine exchangeable protons not observed)
MS(ESI+ve): [M+H]⁺ = 662.07 - conforms to structure

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

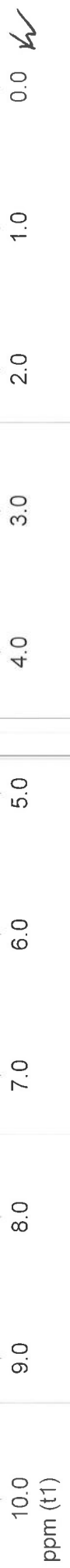
 <hr/> Zemin Li, Ph.D., R&D Chemistry Supervisor	Date: 05/03/23
--	-----------------------

Dalton Pharma Services
 Date: May 01, 2023am
 Solvent: D2O
 Operator Name: Brandon
 Title: SPS-10-185-01



- 9.249
- 9.029
- 9.013
- 8.766
- 8.746
- 8.405
- 8.176
- 8.097
- 8.081
- 8.077
- 8.061
- 5.995
- 5.980
- 4.752
- 4.743
- 4.700
- 4.676
- 4.670
- 4.665
- 4.652
- 4.638
- 4.419
- 4.407
- 4.300
- 4.295
- 4.164
- 4.162
- 4.123
- 4.118
- 4.109
- 2.585
- 2.563
- 2.552
- 2.354
- 2.351
- 2.348
- 2.345
- 2.343
- 2.077

- 1.01
- 1.01
- 1.03
- 5.15
- 1.08
- 2.13
- 1.19
- 1.00
- 1.00
- 0.96
- 1.00
- 1.02
- 1.01

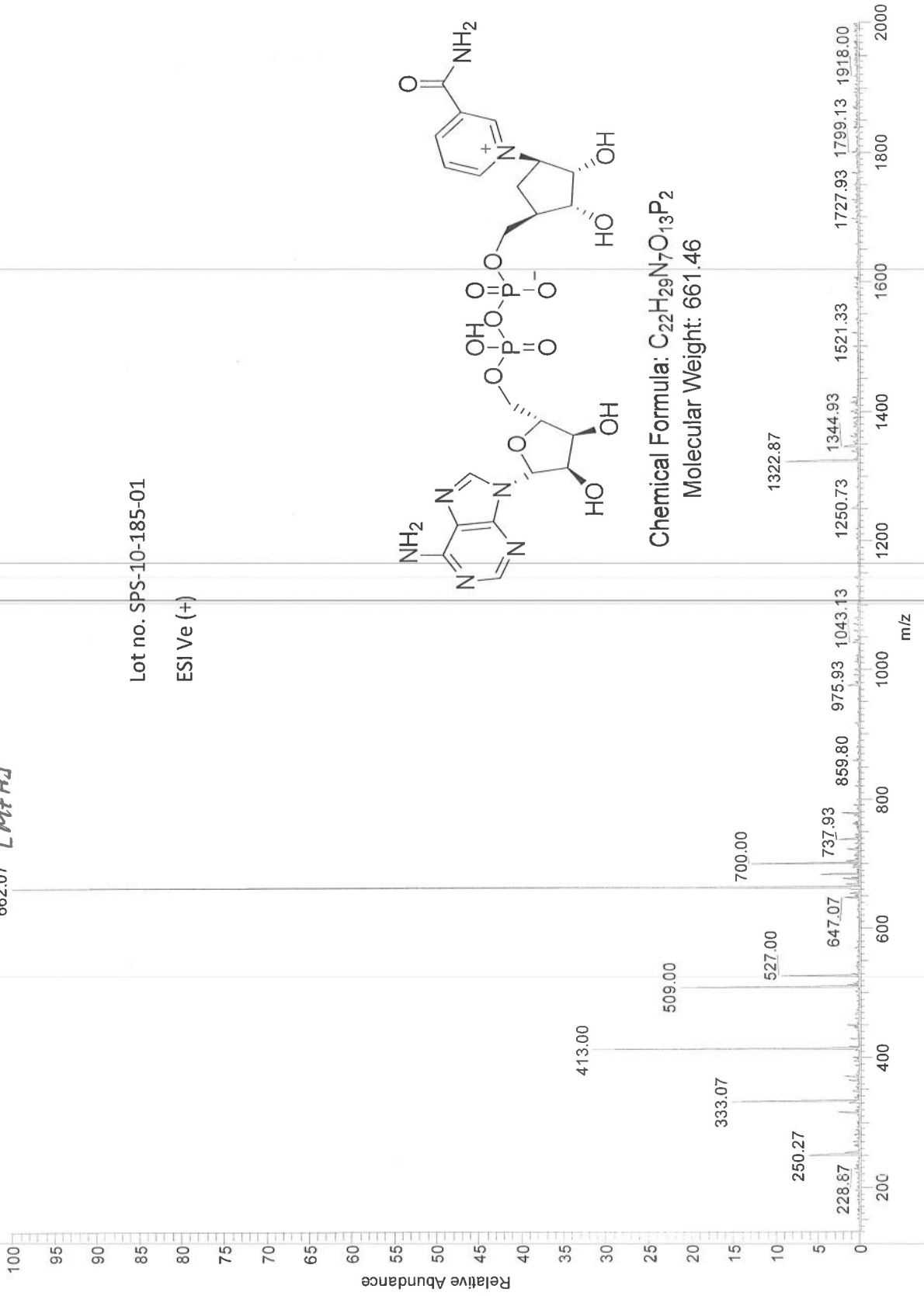


SPS-10-185-01

3/20/2023 12:29:43 PM

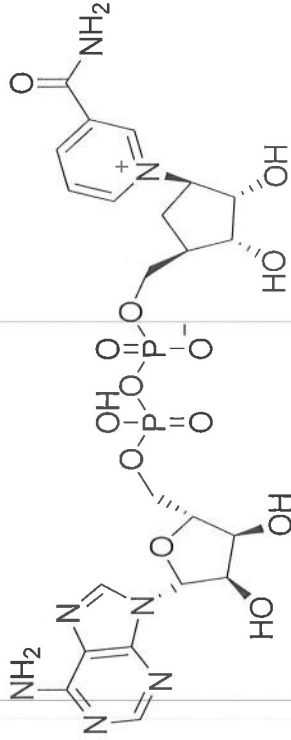
SPS-10-185-01 #17-21 RT: 0.56-0.69 AV: 5 NL: 2.26E5
T: + p ESI Full ms [50.00-2000.00]

662.07 [M+H]⁺



Lot no. SPS-10-185-01

ESI Ve (+)



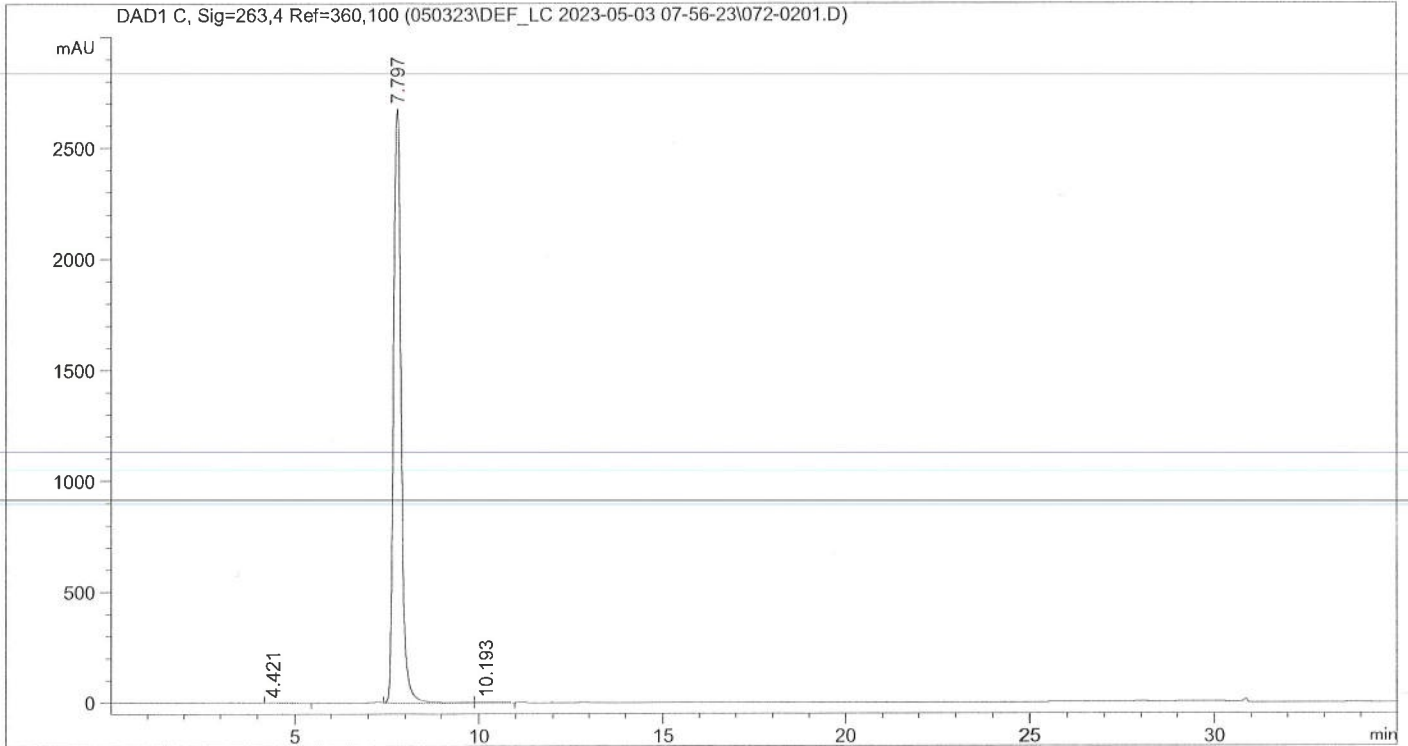
Chemical Formula: C₂₂H₂₉N₇O₁₃P₂
Molecular Weight: 661.46

W

Sample Name: SPS-10-185-01

```

=====
Acq. Operator   : SPS                               Seq. Line :    2
Acq. Instrument : HPLC#2                           Location  : Vial 72
Injection Date  : 05/03/23 8:34:15 AM              Inj       :    1
                                                    Inj Volume: 5.000 µl
Different Inj Volume from Sequence !   Actual Inj Volume : 10.000 µl
Acq. Method    : C:\CHEM32\1\DATA\050323\DEF_LC 2023-05-03 07-56-23\OTSNAH2PO4 2.M
Last changed   : 02/27/23 10:27:38 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DAMONA.M
Last changed   : 05/03/23 1:53:30 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 C, Sig=263,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	4.421	VB	0.3183	35.99977	1.57721	0.0927
2	7.797	VV	0.2290	3.87404e4	2673.90405	99.7248
3	10.193	VV	0.6251	70.92104	1.34962	0.1826

*SPS
05/03/23*

Totals : 3.88473e4 2676.83088

Sample Name: SPS-10-185-01

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

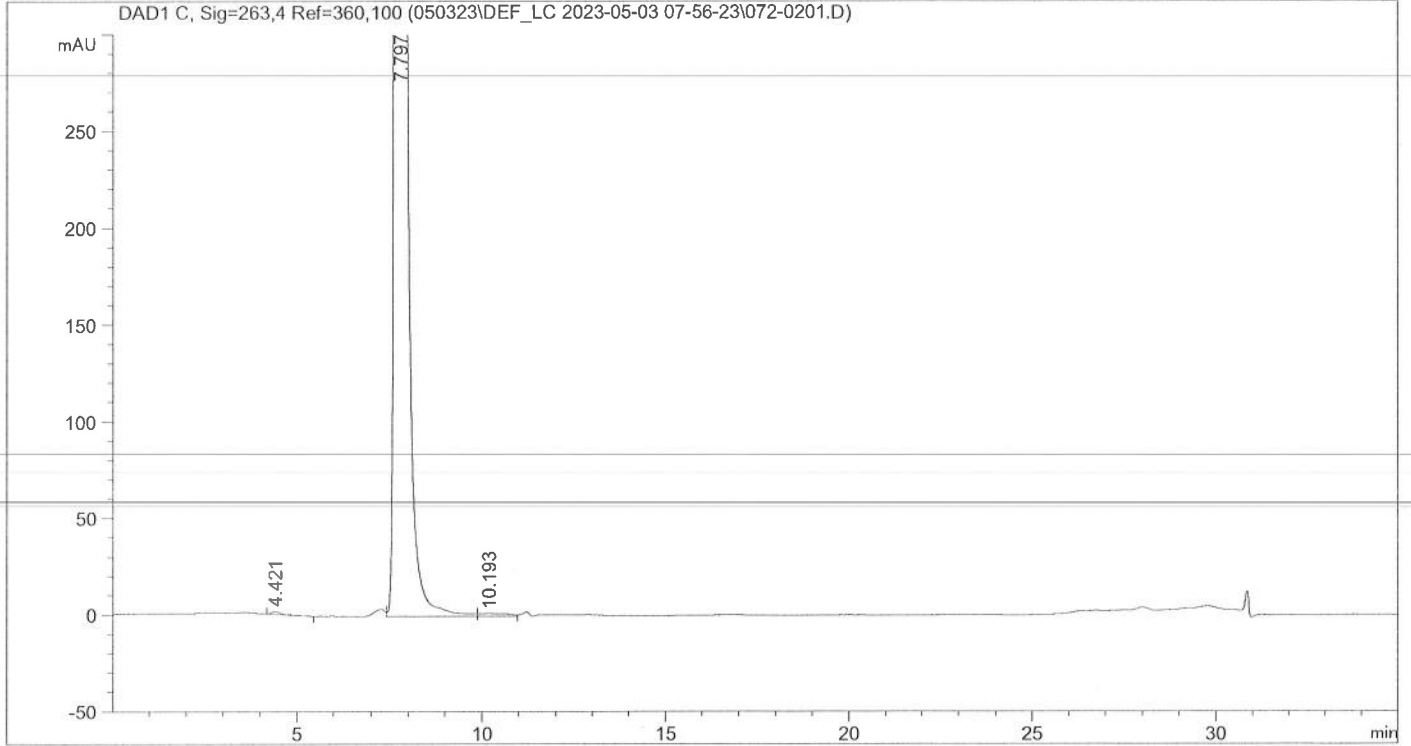
SPS
05/03/23

Sample Name: SPS-10-185-01

```

=====
Acq. Operator   : SPS                               Seq. Line :    2
Acq. Instrument : HPLC#2                           Location  : Vial 72
Injection Date  : 05/03/23 8:34:15 AM              Inj       :    1
                                                    Inj Volume: 5.000 µl
Different Inj Volume from Sequence !   Actual Inj Volume : 10.000 µl
Acq. Method    : C:\CHEM32\1\DATA\050323\DEF_LC 2023-05-03 07-56-23\OTSNAH2PO4 2.M
Last changed   : 02/27/23 10:27:38 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DAMONA.M
Last changed   : 05/03/23 1:52:14 PM by VPR
                (modified after loading)
Additional Info : Peak(s) manually integrated
=====

```



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

```

```

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

```

*SPS
05/03/23*

Signal 1: DAD1 C, Sig=263,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
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2	7.797	VV	0.2290	3.87404e4	2673.90405	99.7248
3	10.193	VV	0.6251	70.92104	1.34962	0.1826

Totals : 3.88473e4 2676.83088

Sample Name: SPS-10-185-01

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

SPS
05/03/23

Sample Name: blank

```

=====
Acq. Operator   : SPS                               Seq. Line :    1
Acq. Instrument : HPLC#2                             Location  : Vial 71
Injection Date  : 05/03/23 7:57:48 AM                Inj       :    1
                                                    Inj Volume: 5.000 µl
Different Inj Volume from Sequence !   Actual Inj Volume : 10.000 µl
Acq. Method    : C:\CHEM32\1\DATA\050323\DEF_LC 2023-05-03 07-56-23\OTSNAH2PO4 2.M
Last changed   : 02/27/23 10:27:38 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DAMONA.M
Last changed   : 05/03/23 1:50:06 PM by VPR
                (modified after loading)
Additional Info : Peak(s) manually integrated

```



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

```

```

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

```

Signal 1: DAD1 C, Sig=263,4 Ref=360,100

SP^S 05/03/23

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.081	BB	0.1612	165.79504	14.97406	68.4209
2	7.182	BB	0.1857	51.35384	4.48191	21.1929
3	11.038	BB	0.1546	25.16737	2.31872	10.3862

```
Totals :                242.31625    21.77469
```


Sample Name: blank

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

SPS
05/03/23

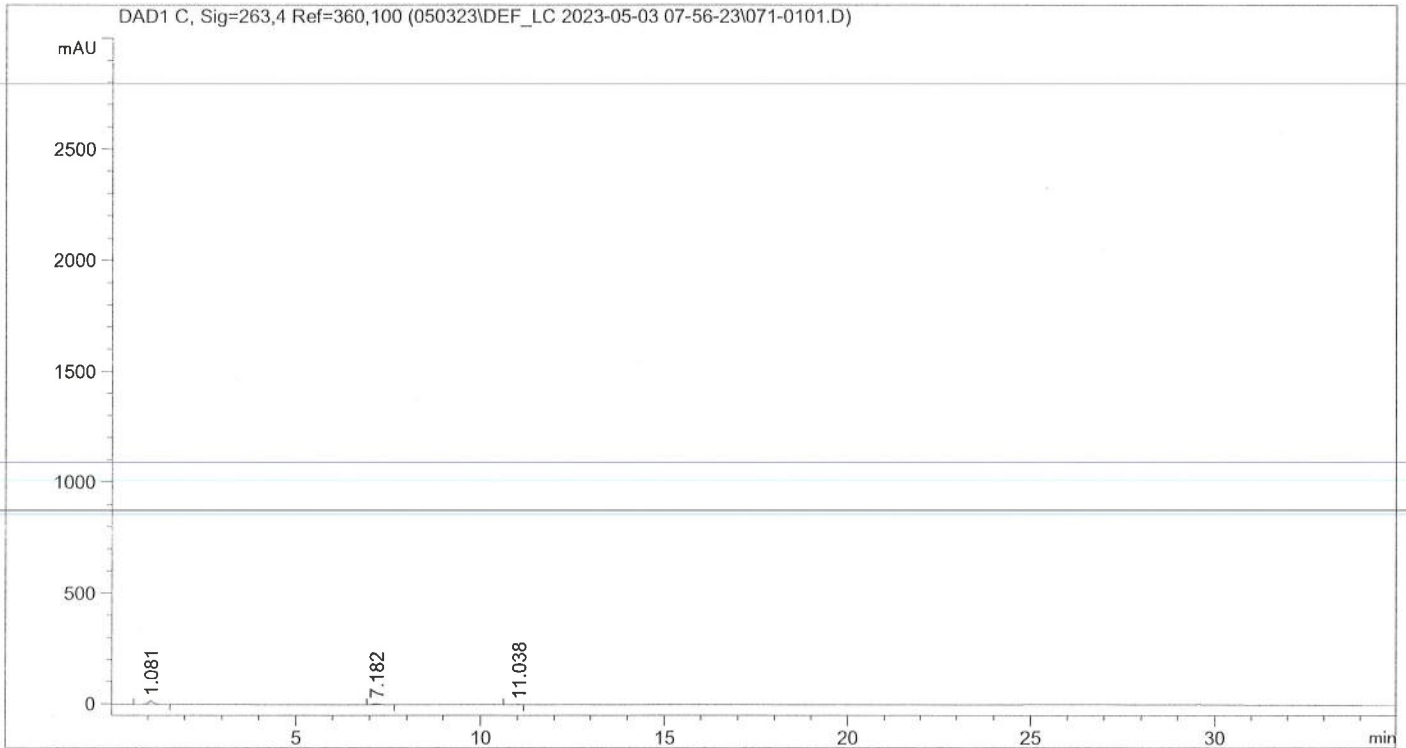
Sample Name: blank

```

=====
Acq. Operator   : SPS                               Seq. Line :    1
Acq. Instrument : HPLC#2                           Location  : Vial 71
Injection Date  : 05/03/23 7:57:48 AM              Inj       :    1
                                                    Inj Volume: 5.000 µl

Different Inj Volume from Sequence !   Actual Inj Volume : 10.000 µl
Acq. Method    : C:\CHEM32\1\DATA\050323\DEF_LC 2023-05-03 07-56-23\OTSNAH2PO4 2.M
Last changed   : 02/27/23 10:27:38 AM by VPR
Analysis Method : C:\CHEM32\1\METHODS\DAMONA.M
Last changed   : 05/03/23 1:50:41 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

```

*SPS
05/03/23*

Signal 1: DAD1 C, Sig=263,4 Ref=360,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	1.081	BB	0.1612	165.79504	14.97406	68.4209
2	7.182	BB	0.1857	51.35384	4.48191	21.1929
3	11.038	BB	0.1546	25.16737	2.31872	10.3862

```
Totals :                242.31625    21.77469
```

Sample Name: blank

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

SPS 05/03/23