

| | |
|---------------------------|--|
| Name: | 28-Epirapamycin |
| Lot#: | GR-18-287 |
| Test Date: | 11/20/2023 (re-test date: 11/20/2025) |
| CAS No.: | 253431-35-5 |
| MF: | C ₅₁ H ₇₉ NO ₁₃ |
| MW: | 914.17 |
| Appearance: | White solid |
| Purity: | 97.0% by HPLC (average of two sample preparations) |
| ¹H-NMR: | Conforms (contains a trace of Acetone) |
| MS-ESI (+) | Conforms (shows peaks at m/z = 931.59 [M+NH ₄] ⁺ and 936.55 [M+Na] ⁺) |
| Storage | Store at -18°C in a dry place away from direct sunlight |

Approved by:

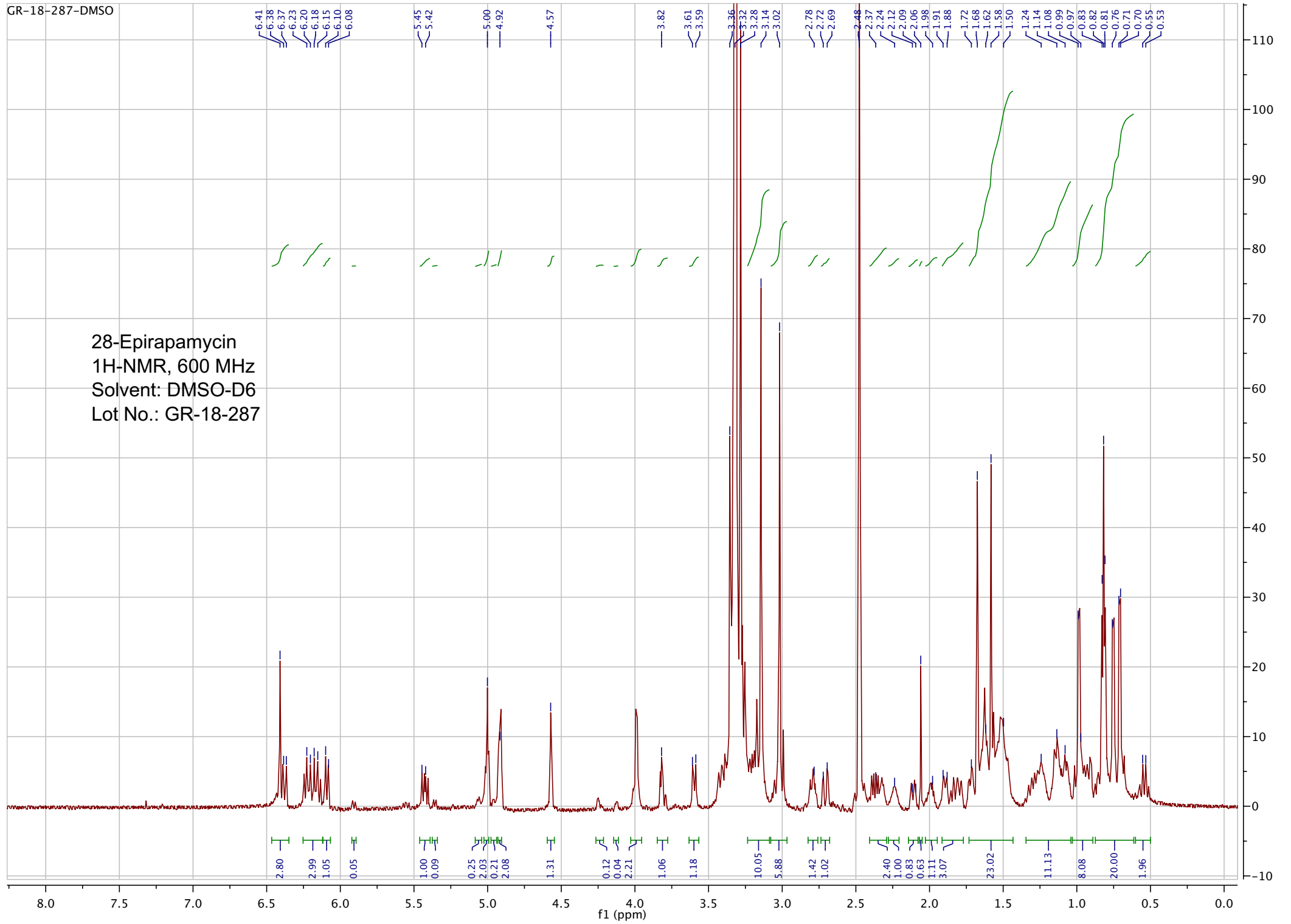
Date: 12/01/2023



Viorica Rusu, QC/QA Manager

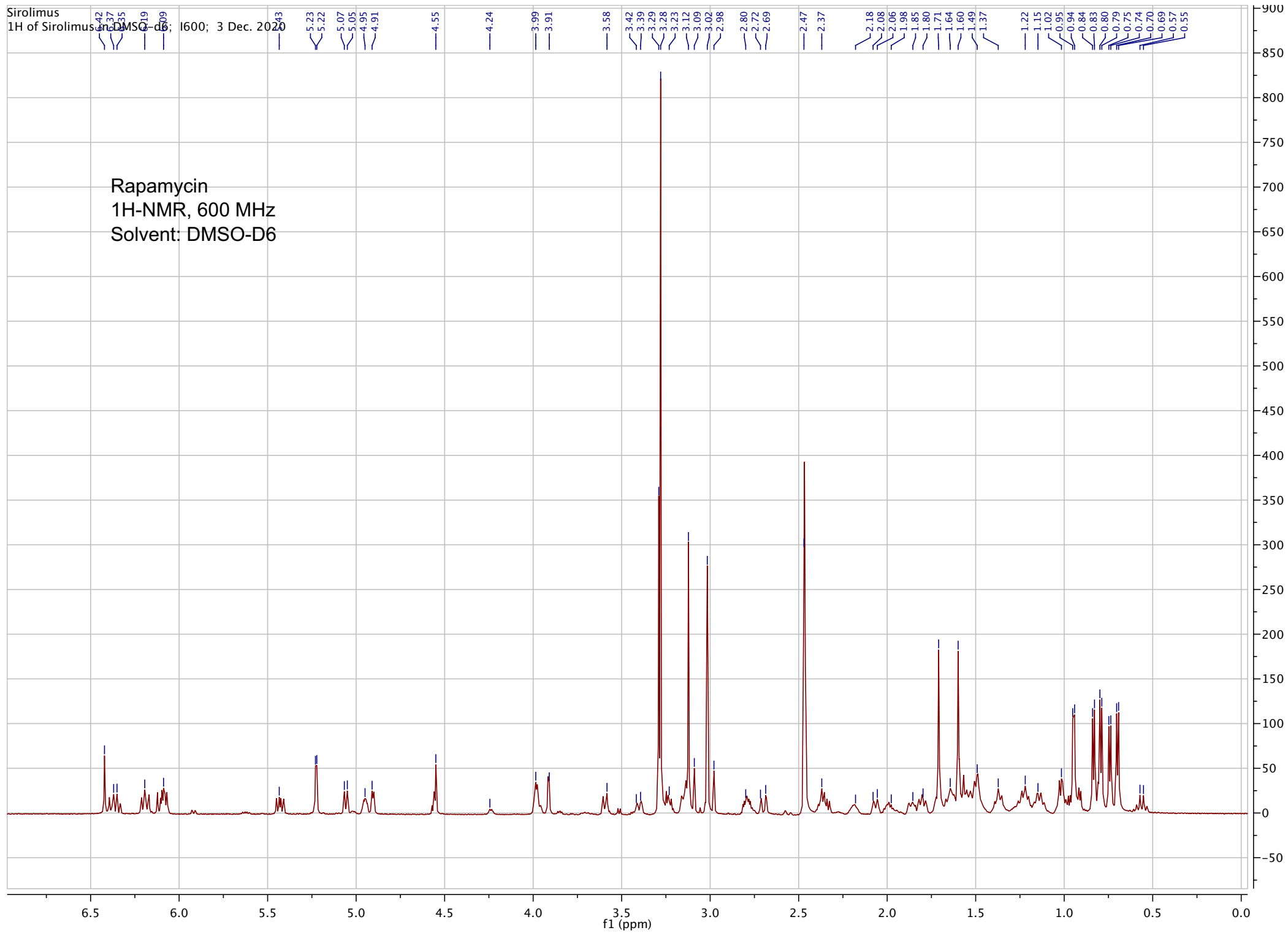
GR-18-287-DMSO

28-Epirapamycin
1H-NMR, 600 MHz
Solvent: DMSO-D6
Lot No.: GR-18-287



Sirrolimus
1H of Sirrolimus in DMSO-d6; 1600; 3 Dec. 2020

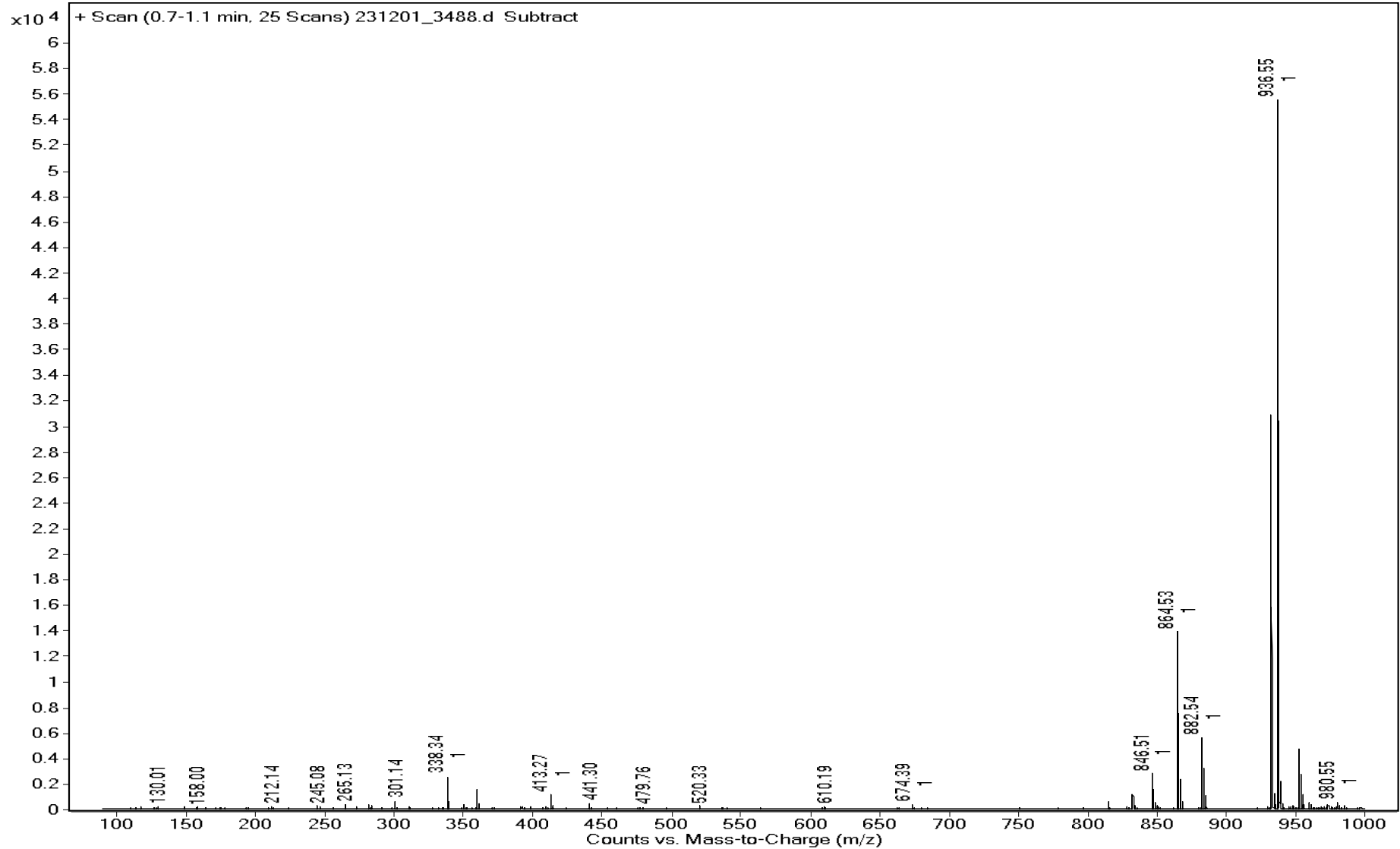
Rapamycin
1H-NMR, 600 MHz
Solvent: DMSO-D6



Sample Name GR-18-287
DA Method AIMS_Accurate_Mass.m
Comment ESI+

Data File 231201_3488.d
Instrument Agilent 6538 UHD

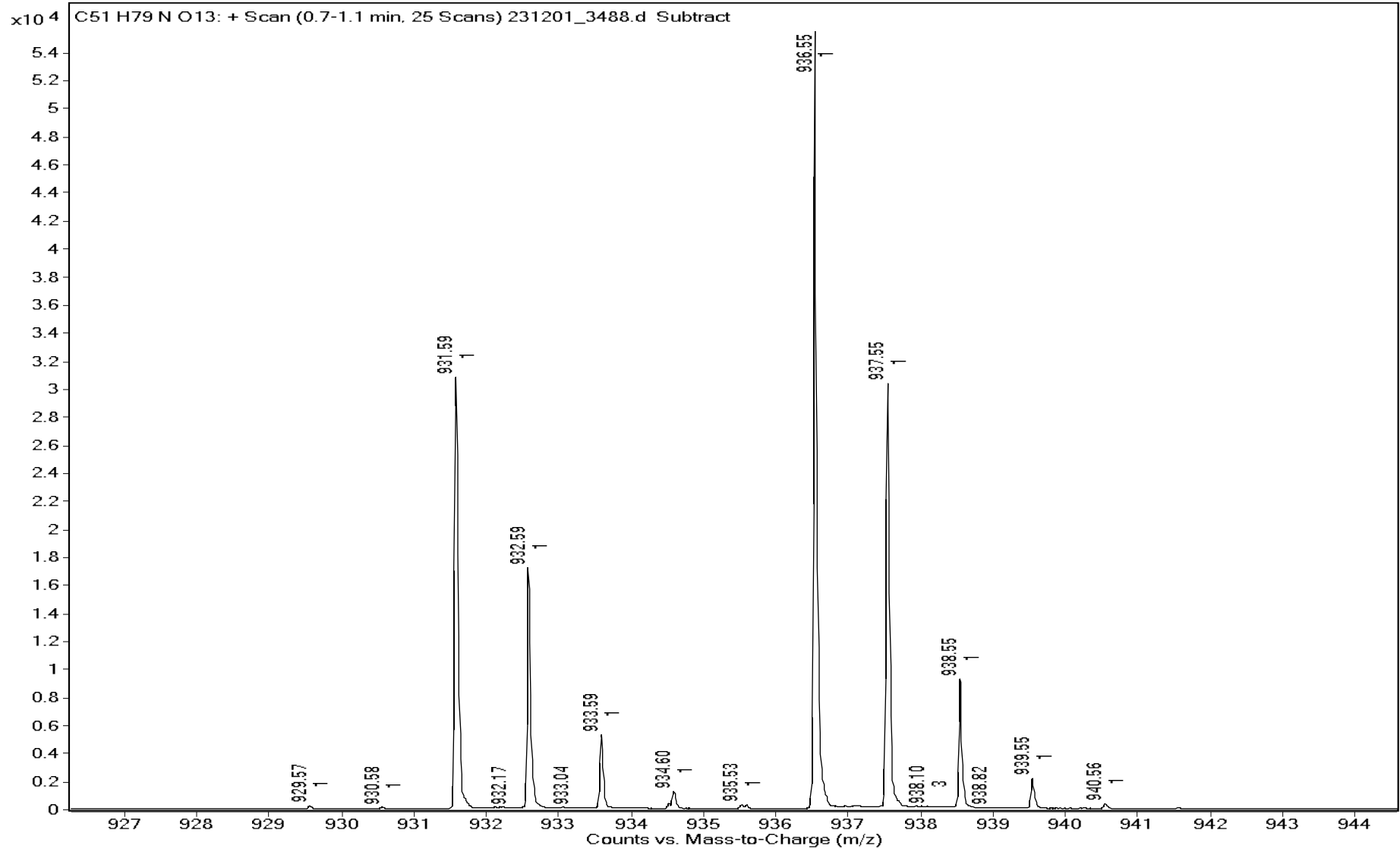
Acq Method HRMS.m
Acq Date, Time 01/12/2023 12:37:38 PM



Sample Name GR-18-287
DA Method AIMS_Accurate_Mass.m
Comment ESI+

Data File 231201_3488.d
Instrument Agilent 6538 UHD

Acq Method HRMS.m
Acq Date, Time 01/12/2023 12:37:38 PM



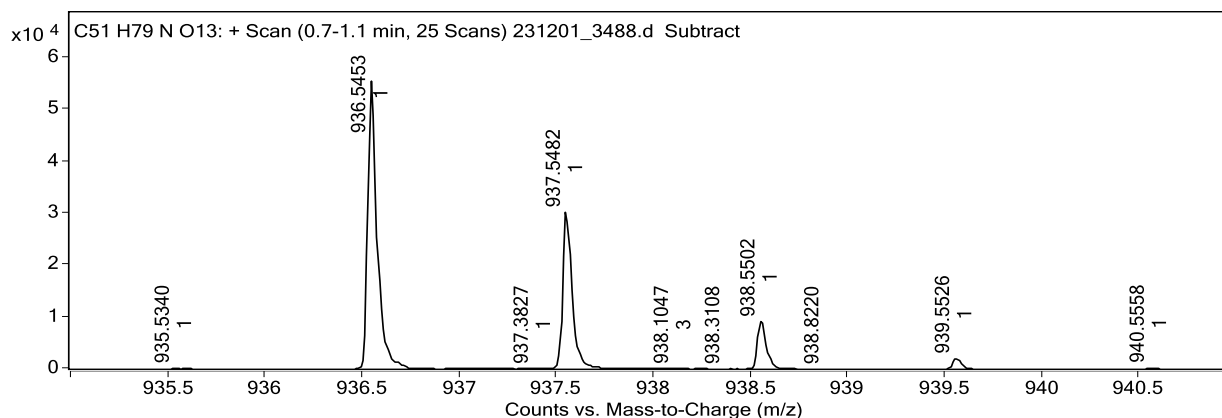
| | | | |
|--------------------|------------------|-----------------------|------------------------|
| Sample Name | GR-18-287 | Data File | 231201_3488.d |
| Acq Method | HRMS.m | DA Method | AIMS_Accurate_Mass.m |
| Instrument | Agilent 6538 UHD | Acq Date, Time | 01/12/2023 12:37:38 PM |
| Comment | ESI+ | | |

Target Ion Species

| Ion Species | m/z | Ionic Formula |
|---------------------|----------|------------------|
| (M+Na) ⁺ | 936.5453 | C51 H79 N Na O13 |

MFG Calculator Results

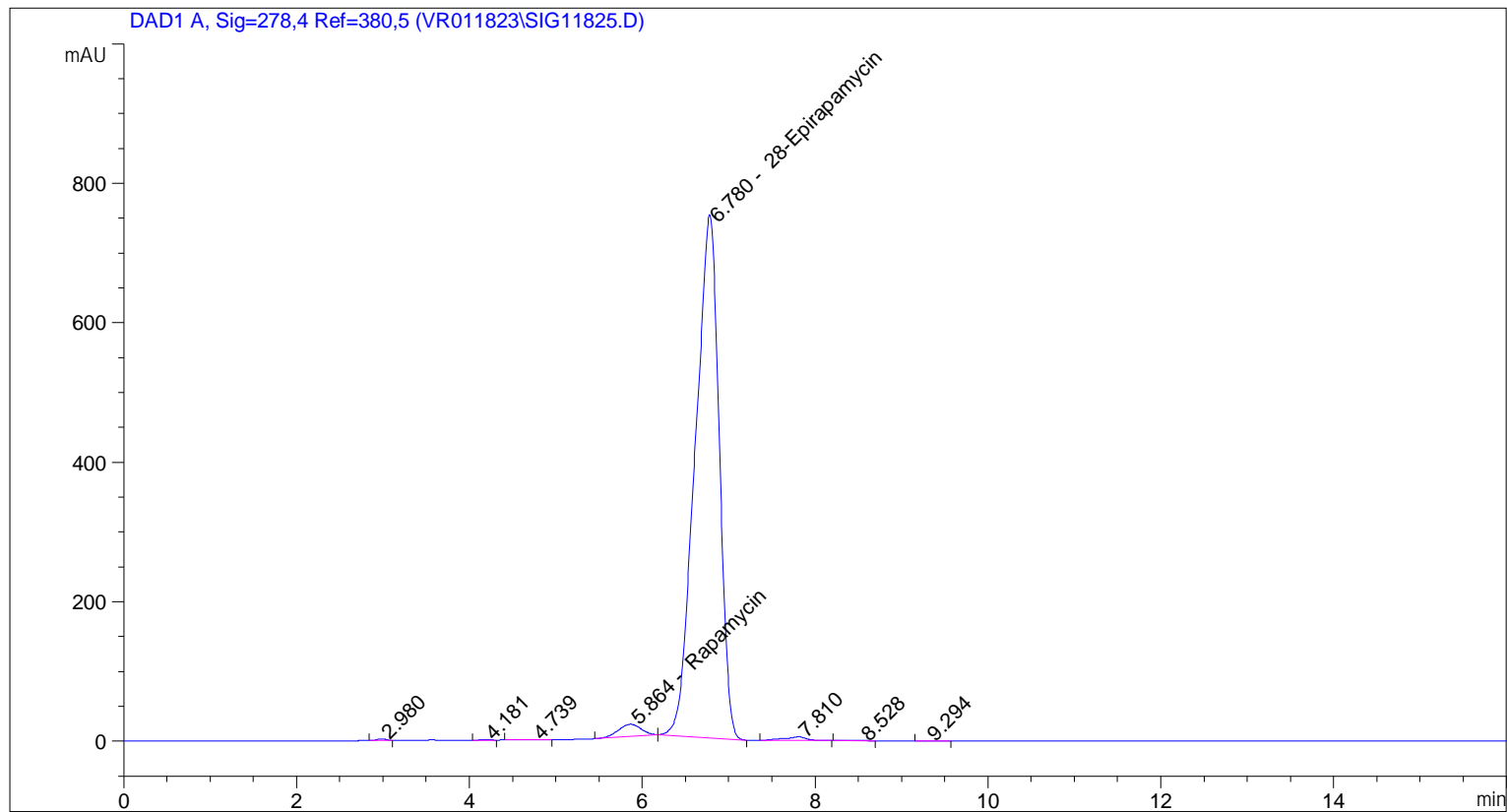
| Target m/z | Ionic Formula | Calc m/z | +/- (mDa) | +/- (ppm) | DBE | MFG Score |
|------------|-------------------|----------|-----------|-----------|------|-----------|
| 936.5453 | C51 H79 N Na O13 | 936.5444 | 0.9 | 1.0 | 13.0 | 98.95 |
| 936.5453 | C52 H75 N5 Na O9 | 936.5457 | -0.4 | -0.4 | 18.0 | 98.66 |
| 936.5453 | C53 H71 N9 Na O5 | 936.5470 | -1.7 | -1.8 | 23.0 | 94.93 |
| 936.5453 | C39 H83 N3 Na O20 | 936.5462 | -0.9 | -1.0 | 0.0 | 91.54 |
| 936.5453 | C40 H79 N7 Na O16 | 936.5476 | -2.3 | -2.5 | 5.0 | 90.59 |
| 936.5453 | C47 H75 N7 Na O11 | 936.5417 | 3.6 | 3.8 | 14.0 | 89.97 |
| 936.5453 | C64 H71 N3 Na O2 | 936.5438 | 1.5 | 1.6 | 31.0 | 89.64 |
| 936.5453 | C46 H79 N3 Na O15 | 936.5403 | 5.0 | 5.3 | 9.0 | 82.36 |
| 936.5453 | C60 H67 N9 Na | 936.5412 | 4.1 | 4.4 | 32.0 | 80.69 |
| 936.5453 | C57 H75 N3 Na O7 | 936.5497 | -4.4 | -4.7 | 22.0 | 80.10 |



Predicted Isotope Match Table

| Isotope | m/z | Calc m/z | Diff (mDa) | Abund (%) | Calc Abund (%) | +/- |
|---------|----------|----------|------------|-----------|----------------|-----|
| 1 | 936.5453 | 936.5444 | 0.9 | 100.0 | 100.0 | 0.0 |
| 2 | 937.5482 | 937.5477 | 0.5 | 55.6 | 56.9 | 1.3 |
| 3 | 938.5502 | 938.5507 | -0.5 | 17.2 | 18.6 | 1.4 |
| 4 | 939.5526 | 939.5536 | -1.0 | 4.0 | 4.4 | 0.4 |

=====
Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 62
Injection Date : 11/20/2023 10:02:27 AM
Inj Volume : 5.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR112023_287.M
Last changed : 11/20/2023 10:01:23 AM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR112023_287PM.M
Last changed : 11/20/2023 2:51:51 PM by vrusu



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Area Percent Report
=====

Sorted By : Signal
Calib. Data Modified : 11/20/2023 2:51:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=278,4 Ref=380,5

| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Area % | Name |
|--------|---------------|------|-------------|--------------|---------|-----------------|
| 1 | 2.980 | BB | 0.1111 | 16.03976 | 0.1075 | ? |
| 2 | 4.181 | BB | 0.1171 | 4.12765 | 0.0277 | ? |
| 3 | 4.739 | BB | 0.1795 | 5.67098 | 0.0380 | ? |
| 4 | 5.864 | BB | 0.2892 | 317.54788 | 2.1279 | Rapamycin |
| 5 | 6.780 | BB | 0.2791 | 1.44737e4 | 96.9877 | 28-Epirapamycin |
| 6 | 7.810 | BB | 0.2522 | 95.42580 | 0.6394 | ? |
| 7 | 8.528 | BB | 0.1818 | 6.84214 | 0.0458 | ? |
| 8 | 9.294 | BB | 0.1731 | 3.87783 | 0.0260 | ? |

Sample Name: GR-18-287

| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Area % | Name |
|----------|---------------|------|-------------|--------------|--------|------|
| Totals : | | | | 1.49233e4 | | |

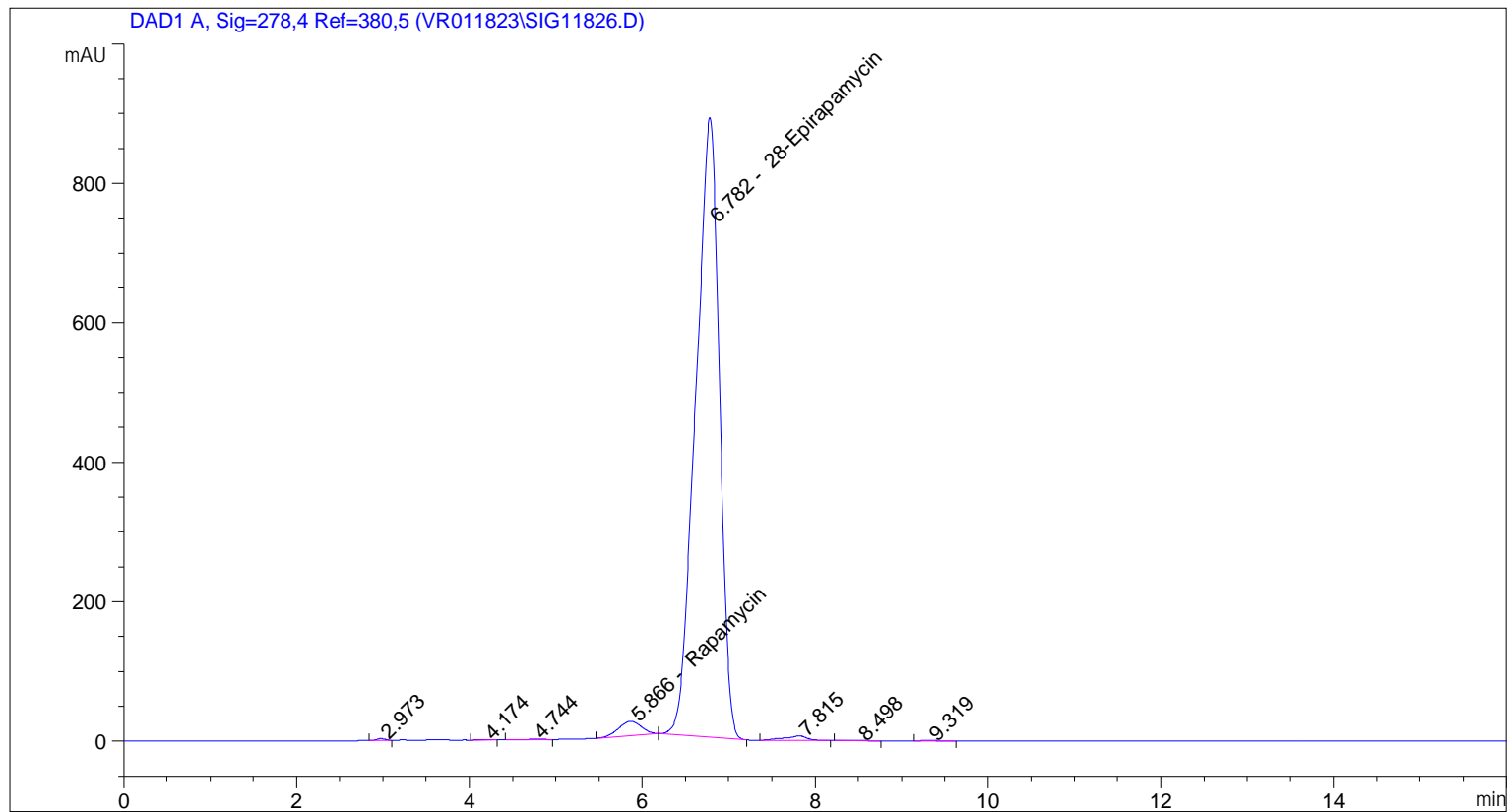
1 Warnings or Errors :

Warning : Invalid calibration curve, (Rapamycin)

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*** End of Report ***


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Acq. Operator   : vrusu
Acq. Instrument : Instrument 1                Location : Vial 63
Injection Date  : 11/20/2023 10:22:52 AM
                                           Inj Volume : 5.0 µl
Acq. Method     : C:\CHEM32\1\METHODS\VR112023_287.M
Last changed    : 11/20/2023 10:21:45 AM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR112023_287PM.M
Last changed    : 11/20/2023 2:51:51 PM by vrusu
  
```



Area Percent Report

```

Sorted By           : Signal
Calib. Data Modified : 11/20/2023 2:51:43 PM
Multiplier:         : 1.0000
Dilution:           : 1.0000
Use Multiplier & Dilution Factor with ISTDs
  
```

Signal 1: DAD1 A, Sig=278,4 Ref=380,5

| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Area % | Name |
|--------|---------------|------|-------------|--------------|---------|-----------------|
| 1 | 2.973 | BB | 0.1069 | 17.14338 | 0.0984 | ? |
| 2 | 4.174 | BB | 0.1199 | 4.66961 | 0.0268 | ? |
| 3 | 4.744 | BB | 0.1920 | 6.13484 | 0.0352 | ? |
| 4 | 5.866 | BB | 0.2849 | 380.38141 | 2.1832 | Rapamycin |
| 5 | 6.782 | BB | 0.2776 | 1.68864e4 | 96.9200 | 28-Epirapamycin |
| 6 | 7.815 | BB | 0.2511 | 117.13275 | 0.6723 | ? |
| 7 | 8.498 | BB | 0.1957 | 5.79513 | 0.0333 | ? |
| 8 | 9.319 | BB | 0.1786 | 5.36346 | 0.0308 | ? |

Sample Name: GR-18-287 spl-2

| Peak # | RetTime [min] | Type | Width [min] | Area [mAU*s] | Area % | Name |
|----------|---------------|------|-------------|--------------|--------|------|
| Totals : | | | | 1.74230e4 | | |

1 Warnings or Errors :

Warning : Invalid calibration curve, (Rapamycin)

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*** End of Report ***