

Name:	42-O-Formyl Rapamycin (Everolimus EP Impurity E)
Lot#:	GR-18-299
Test Date:	01/31/2024 (re-test date: 01/31/2027)
CAS No.:	1237826-25-3
MF:	C ₅₂ H ₇₉ NO ₁₄
MW:	942.18
Appearance:	White solid
Purity:	90.1% (96.2% (sum of two isomers)) by HPLC (average of two sample preparations)
¹H-NMR:	Conforms (shows a mixture of rotamers)
MS-ESI (+)	Conforms (shows peaks at m/z = 959.58 [M+NH ₄] ⁺ and 964.54 [M+Na] ⁺)
Storage	Store at -18°C in a dry place away from direct sunlight

Approved by:

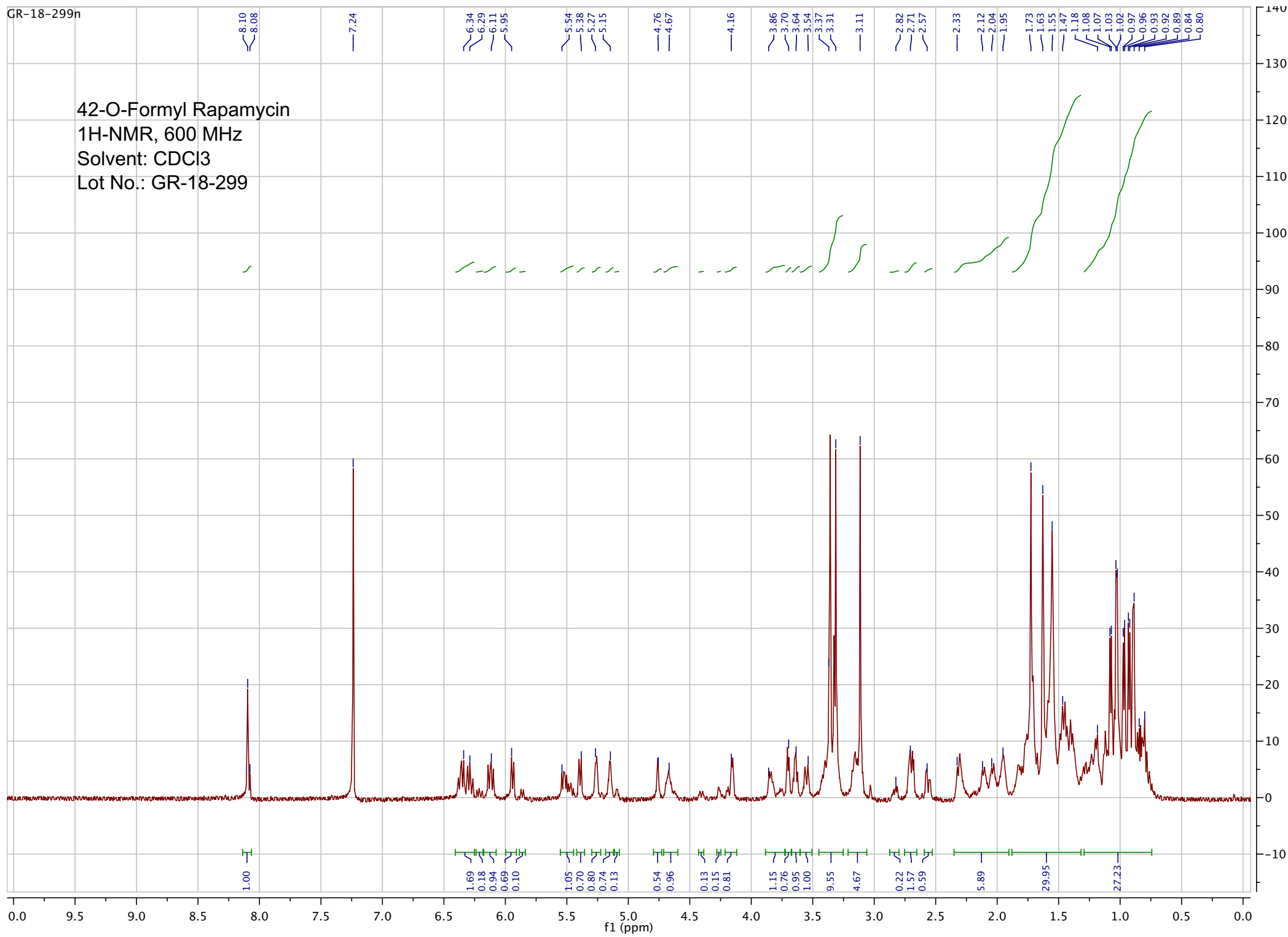
Date: 01/31/2024



Viorica Rusu, QC/QA Manager

GR-18-299h

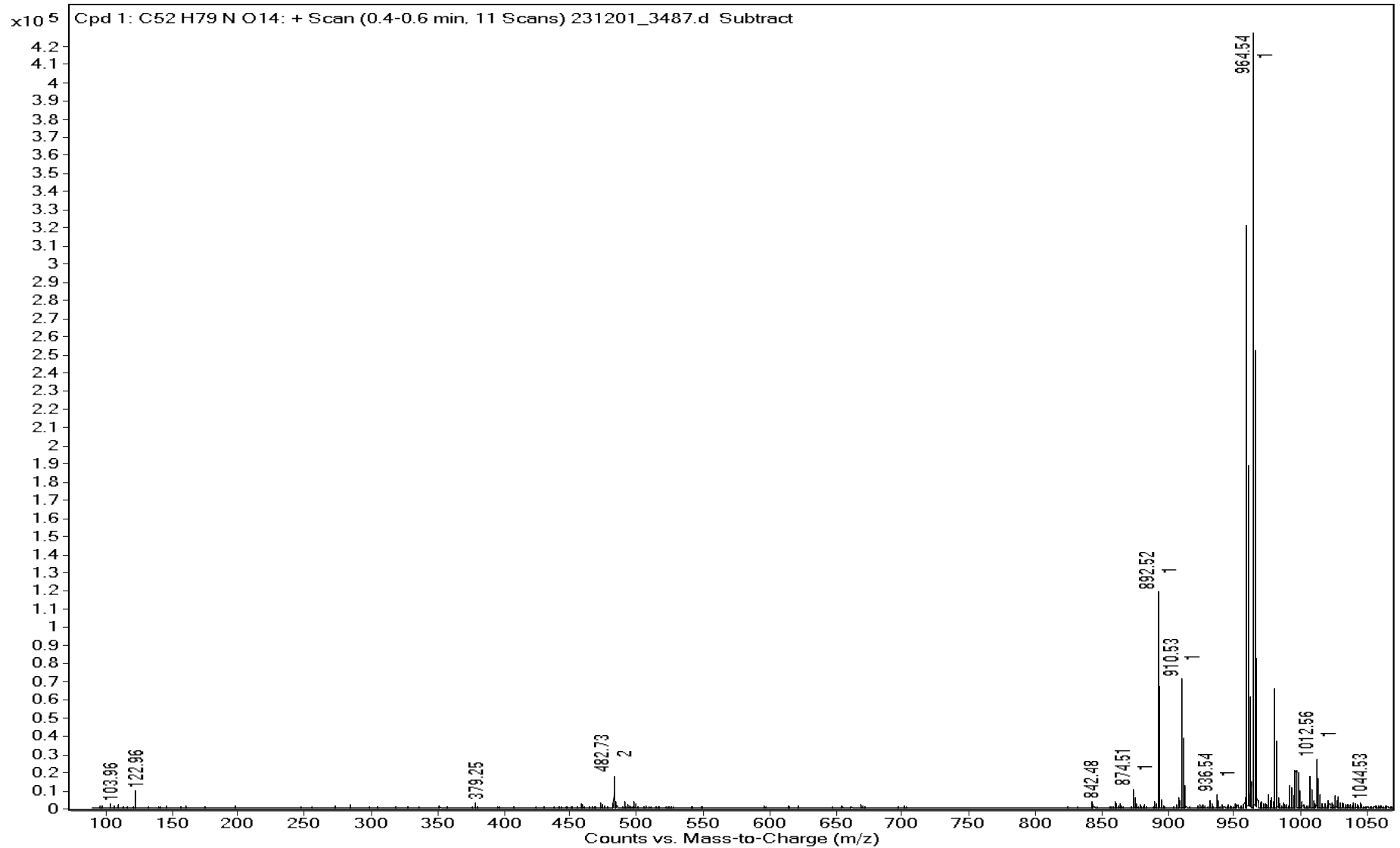
42-O-Formyl Rapamycin
1H-NMR, 600 MHz
Solvent: CDCl3
Lot No.: GR-18-299



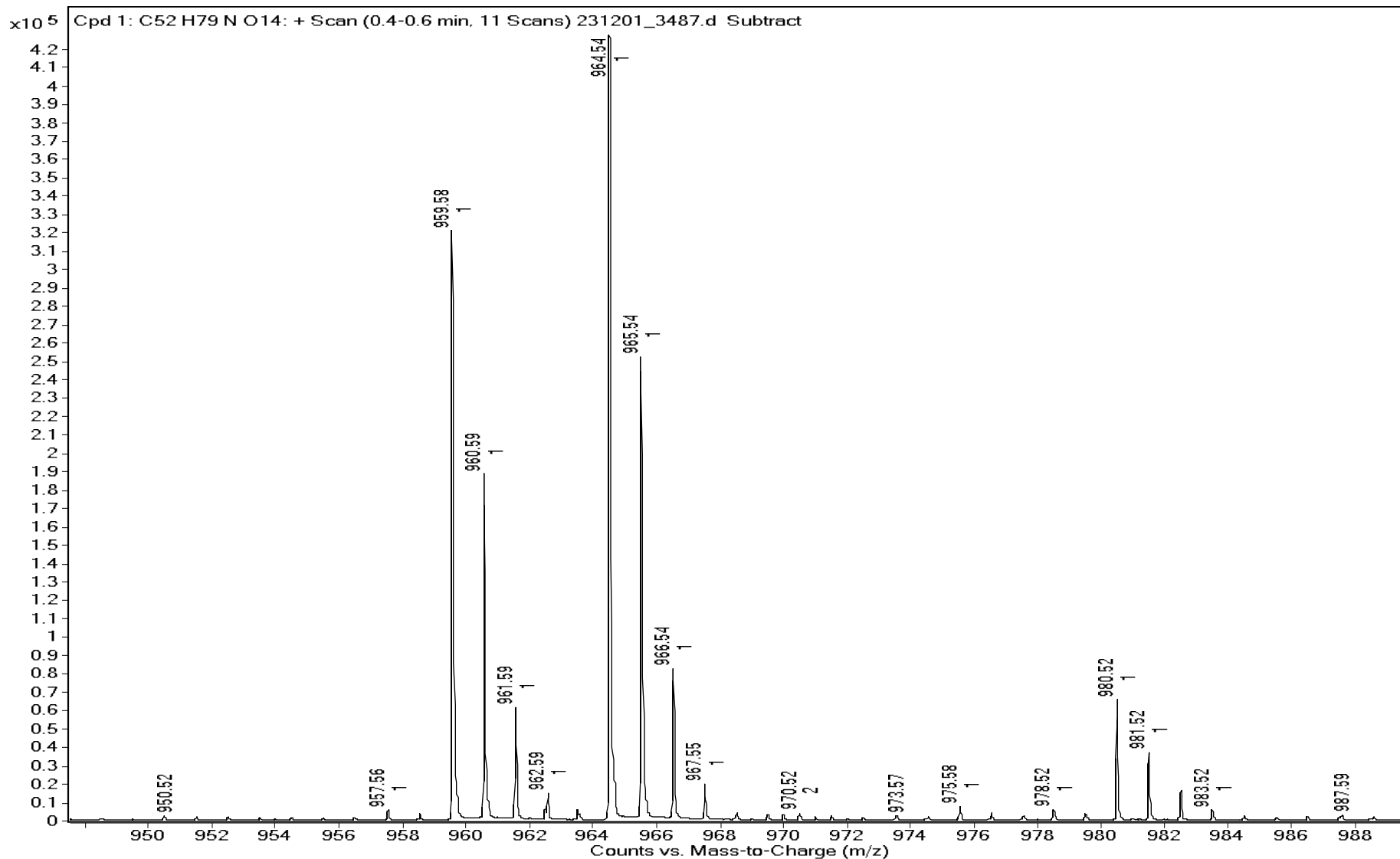
Sample Name GR-18-299
DA Method AIMS_Accurate_Mass.m
Comment ESI+

Data File 231201_3487.d
Instrument Agilent 6538 UHD

Acq Method HRMS.m
Acq Date, Time 01/12/2023 12:55:21 PM



Sample Name	GR-18-299	Data File	231201_3487.d	Acq Method	HRMS.m
DA Method	AIMS_Accurate_Mass.m	Instrument	Agilent 6538 UHD	Acq Date, Time	01/12/2023 12:55:21 PM
Comment	ESI+				



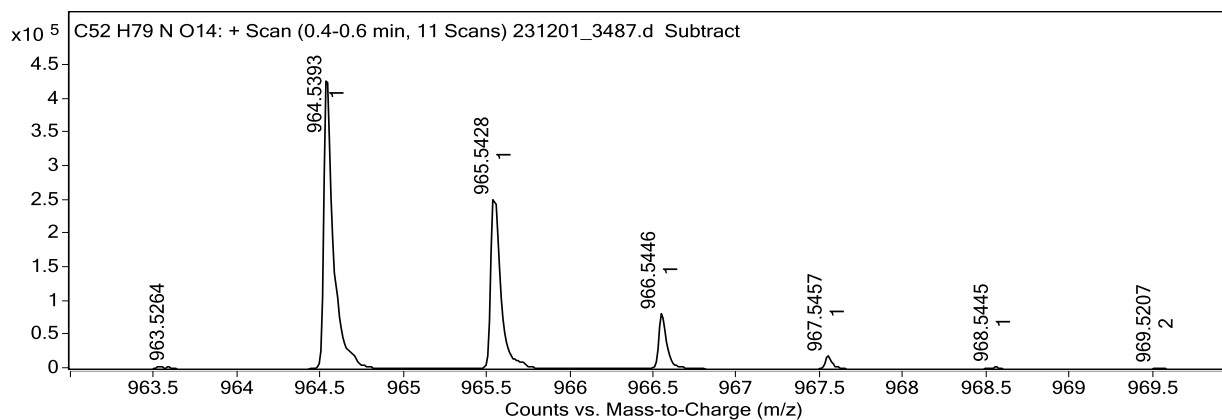
Sample Name	GR-18-299	Data File	231201_3487.d
Acq Method	HRMS.m	DA Method	AIMS_Accurate_Mass.m
Instrument	Agilent 6538 UHD	Acq Date, Time	01/12/2023 12:55:21 PM
Comment	ESI+		

Target Ion Species

Ion Species	m/z	Ionic Formula
(M+Na) ⁺	964.5393	C52 H79 N Na O14

MFG Calculator Results

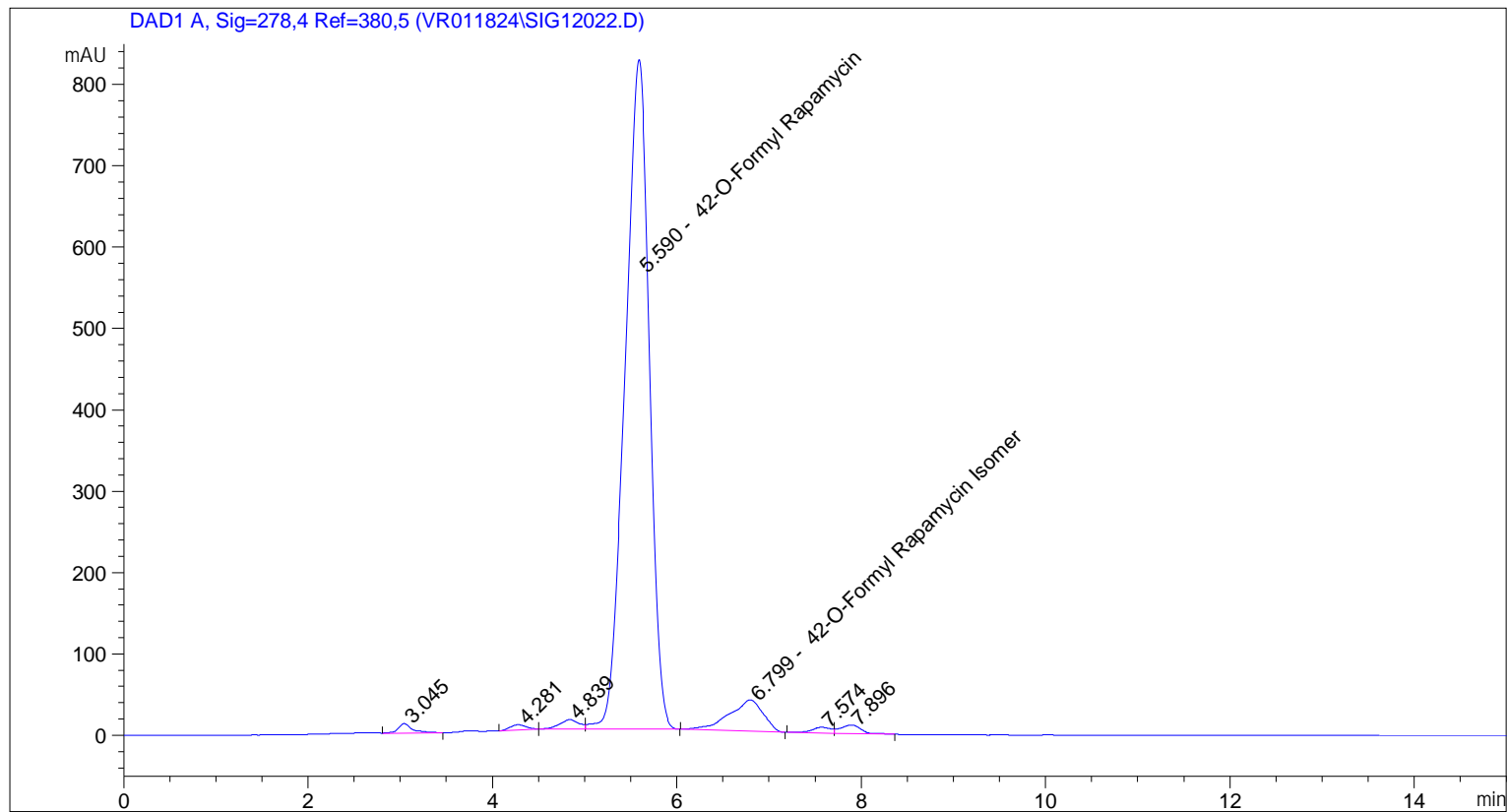
Target m/z	Ionic Formula	Calc m/z	+/- (mDa)	+/- (ppm)	DBE	MFG Score
964.5393	C52 H79 N Na O14	964.5393	0.0	0.0	14.0	99.50
964.5393	C53 H75 N5 Na O10	964.5406	-1.3	-1.3	19.0	97.97
964.5393	C48 H75 N7 Na O12	964.5366	2.7	2.8	15.0	93.34
964.5393	C54 H71 N9 Na O6	964.5420	-2.7	-2.8	24.0	93.32
964.5393	C65 H71 N3 Na O3	964.5388	0.5	0.5	32.0	92.85
964.5393	C61 H67 N9 Na O	964.5361	3.2	3.3	33.0	86.71
964.5393	C41 H79 N7 Na O17	964.5425	-3.2	-3.3	6.0	86.37
964.5393	C47 H79 N3 Na O16	964.5353	4.0	4.1	10.0	86.25
964.5393	C60 H71 N5 Na O5	964.5347	4.6	4.8	28.0	81.84



Predicted Isotope Match Table

Isotope	m/z	Calc m/z	Diff (mDa)	Abund (%)	Calc Abund (%)	+/-
1	964.5393	964.5393	0.0	100.0	100.0	0.0
2	965.5428	965.5426	0.2	58.4	58.0	-0.4
3	966.5446	966.5456	-1.0	18.8	19.4	0.6
4	967.5457	967.5485	-2.8	4.4	4.8	0.4

=====
Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 83
Injection Date : 1/31/2024 8:59:00 AM Inj Volume : 15.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR013124_299.M
Last changed : 1/31/2024 8:57:47 AM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR013124_299_PM.M
Last changed : 1/31/2024 9:32:31 AM by vrusu



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

Sorted By : Signal
Calib. Data Modified : 1/31/2024 9:29:37 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not 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	5.590	VB	0.2727	1.50018e4	90.3397	42-O-Formyl Rapamycin
2	6.799	BB	0.3486	979.32849	5.8974	42-O-Formyl Rapamycin Isomer

Totals : 1.59812e4 96.2371

Uncalibrated Peaks:

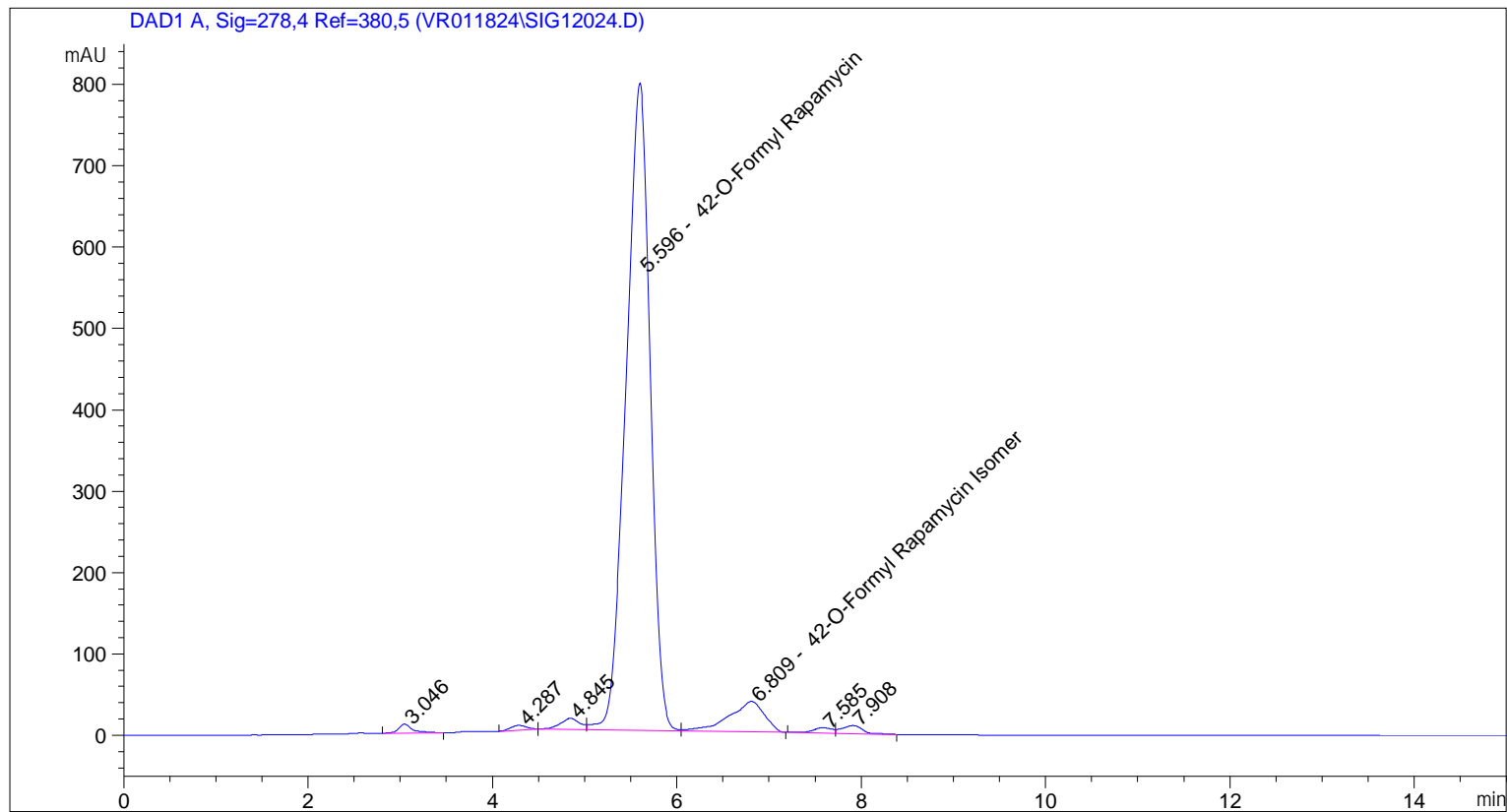
Sample Name: GR-18-299 spl-2

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.045	BB	0.1556	123.74935	0.7452	?
2	4.281	BB	0.1870	77.60126	0.4673	?
3	4.839	BV	0.2014	165.50813	0.9967	?
4	7.574	BV	0.2087	98.61420	0.5938	?
5	7.896	VB	0.2297	159.39297	0.9598	?

Uncalib. totals : 624.86591 3.7629

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

=====
Acq. Operator : vrusu
Acq. Instrument : Instrument 1 Location : Vial 84
Injection Date : 1/31/2024 10:26:35 AM Inj Volume : 15.0 µl
Acq. Method : C:\CHEM32\1\METHODS\VR013124_299.M
Last changed : 1/31/2024 10:25:17 AM by vrusu
Analysis Method : C:\CHEM32\1\METHODS\VR013124_299_PM.M
Last changed : 1/31/2024 10:50:31 AM by vrusu



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

Sorted By : Signal
Calib. Data Modified : 1/31/2024 10:35:45 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Do not 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	5.596	VV	0.2722	1.44700e4	89.9064	42-O-Formyl Rapamycin
2	6.809	VB	0.3612	992.14441	6.1645	42-O-Formyl Rapamycin Isomer

Totals : 1.54621e4 96.0709

Uncalibrated Peaks:

Sample Name: GR-18-299 spl-3

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Area %	Name
1	3.046	BB	0.1527	120.02593	0.7458	?
2	4.287	BB	0.1848	67.58089	0.4199	?
3	4.845	BV	0.2094	199.60555	1.2402	?
4	7.585	BV	0.2090	94.10123	0.5847	?
5	7.908	VB	0.2293	151.05090	0.9385	?

Uncalib. totals : 632.36450 3.9291

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