

Supplementary Material

1,2,3-Triazole tethered Hybrid Capsaicinoids as anti-proliferative agents active against Lung cancer cells (A549)

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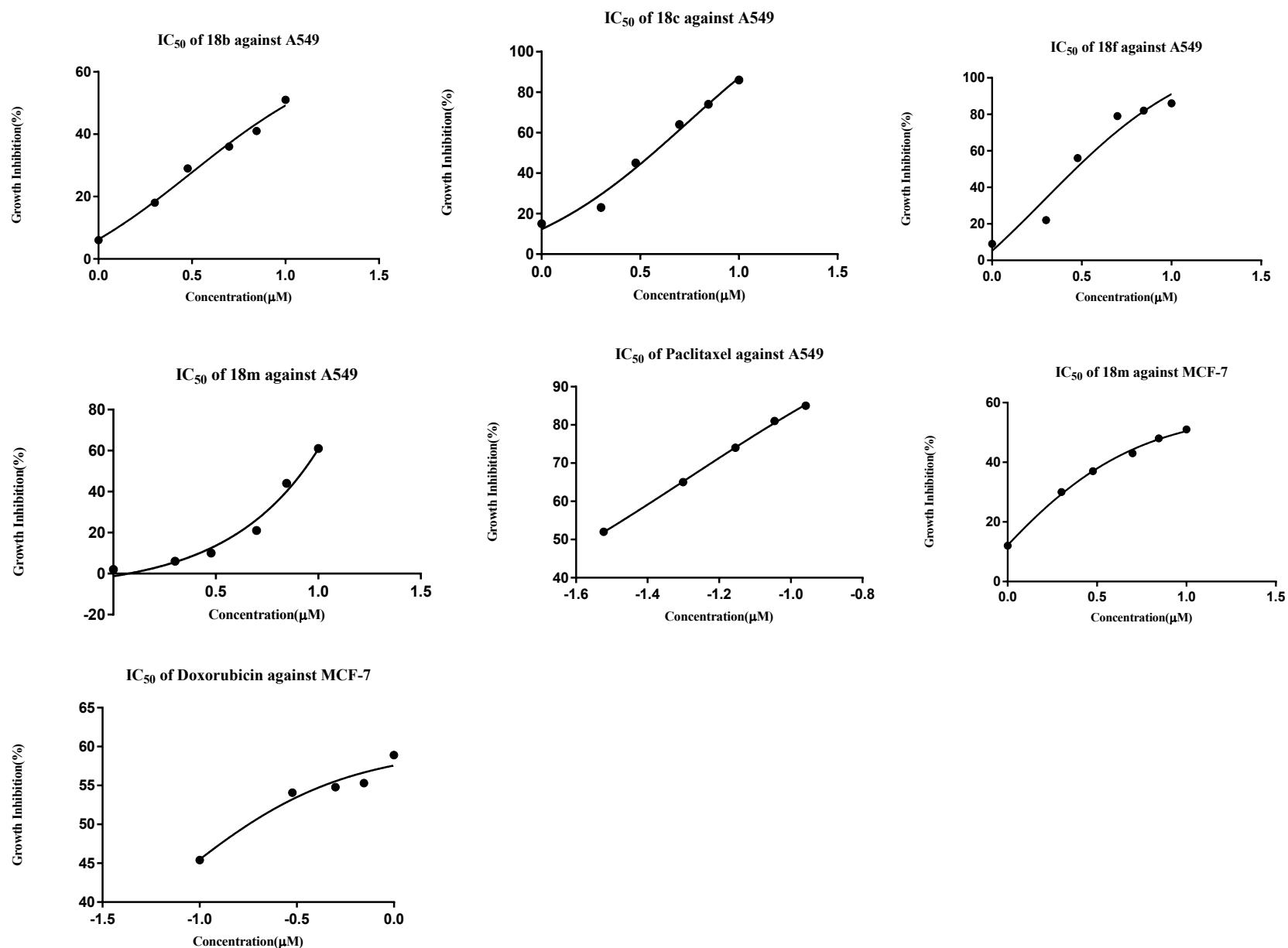


Figure S1: Dose response curve of compounds **18b**, **18c**, **18f**, **18m** and paclitaxel against A549 cell line. And another dose response curve of compound **18m** and doxorubicin toward breast (MCF-7) cancer cell line.

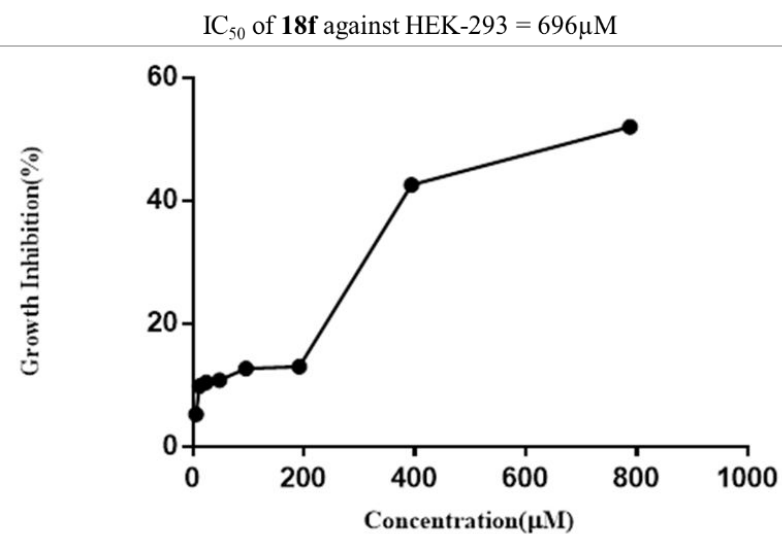


Figure S2: Selectivity Index=696/6=116, IC₅₀ of the compound 18f in HEK-293 (normal kidney cells) was 116-fold higher as compared to A549 cell line. So, it has high safety index.

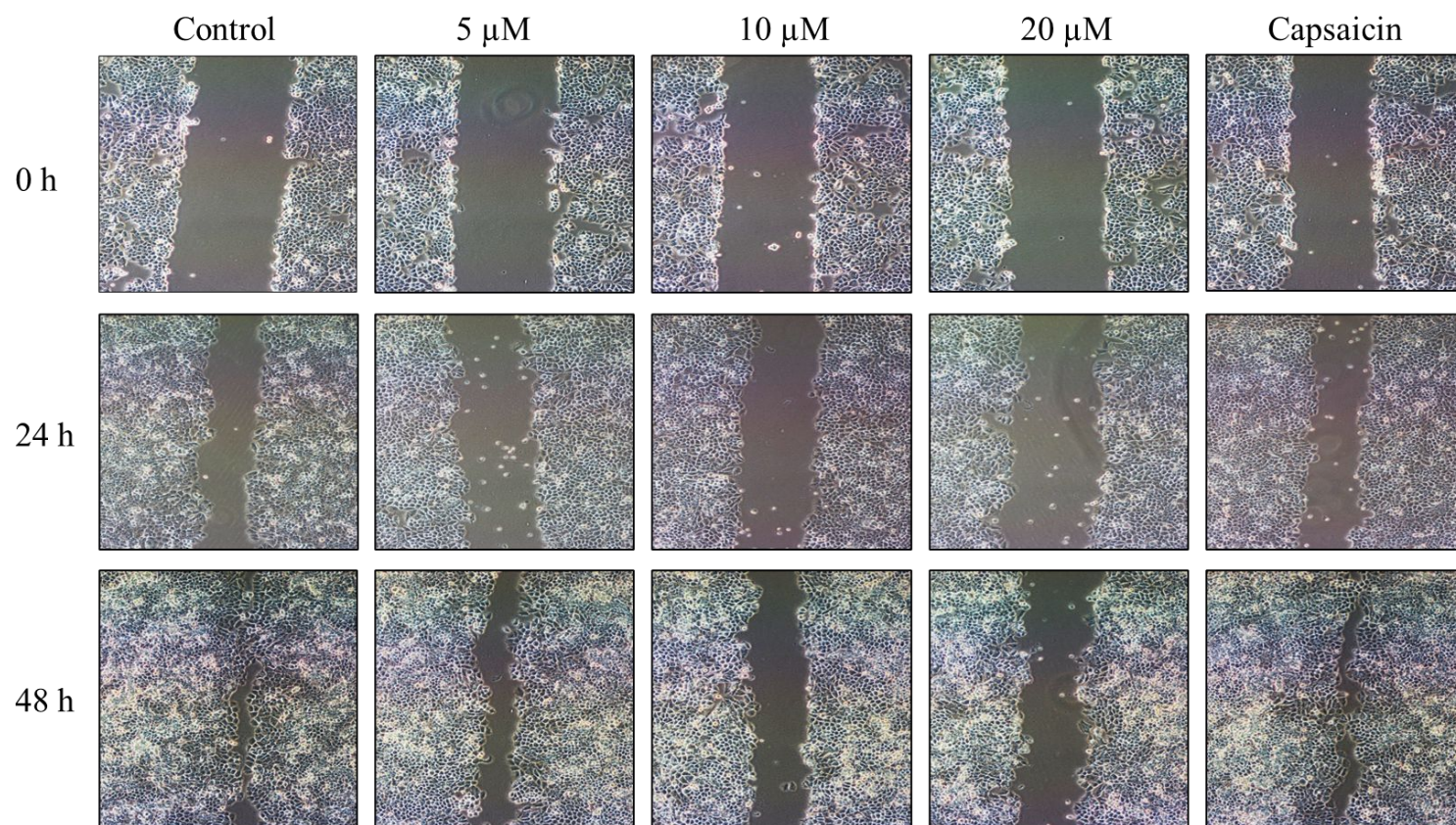


Figure S3: Compound **14j** inhibits the migration capacities of NCI-H460 cells.

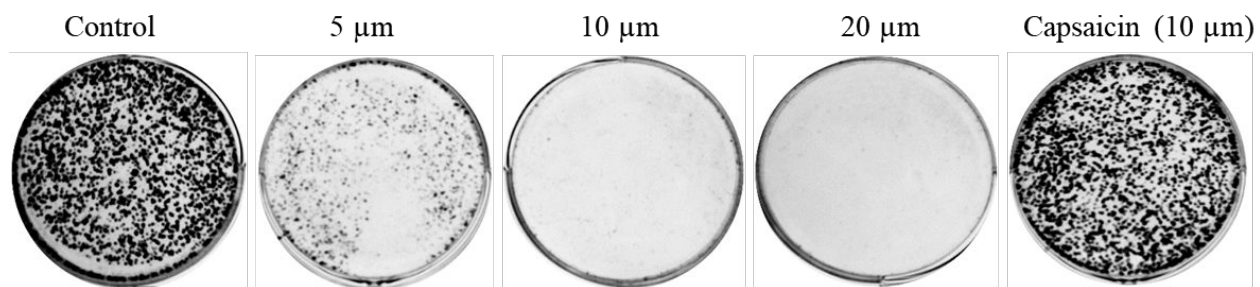
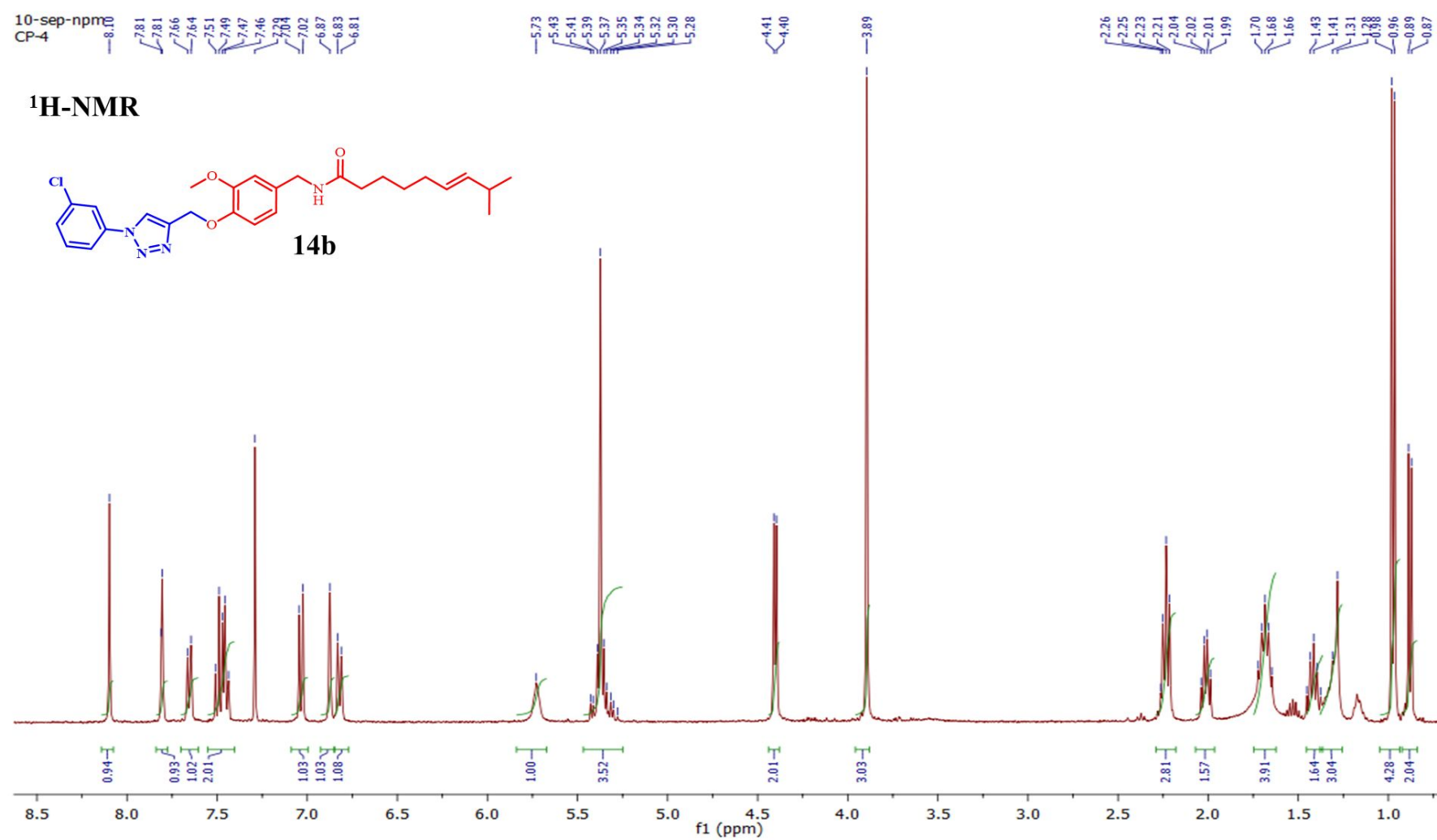
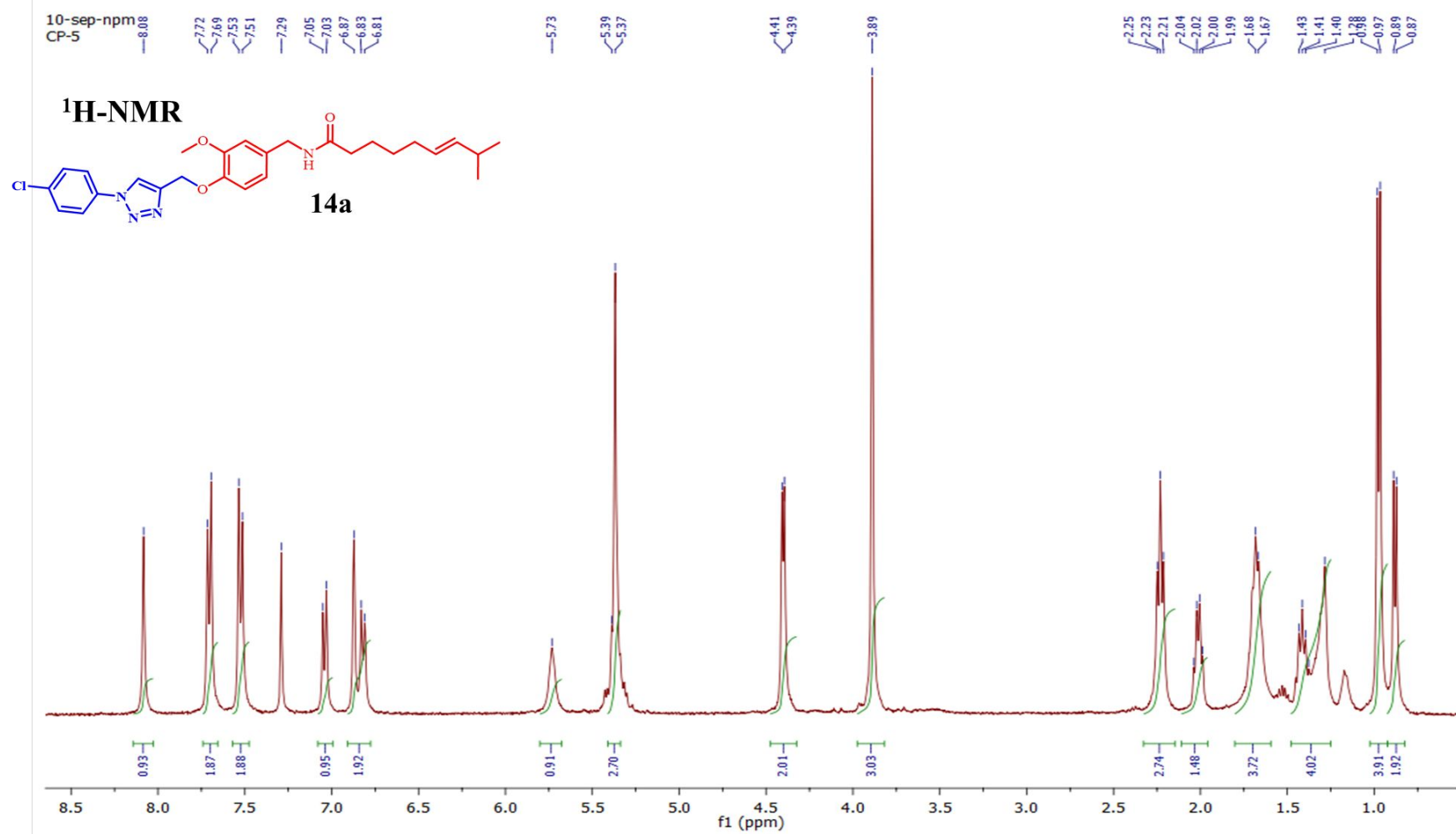
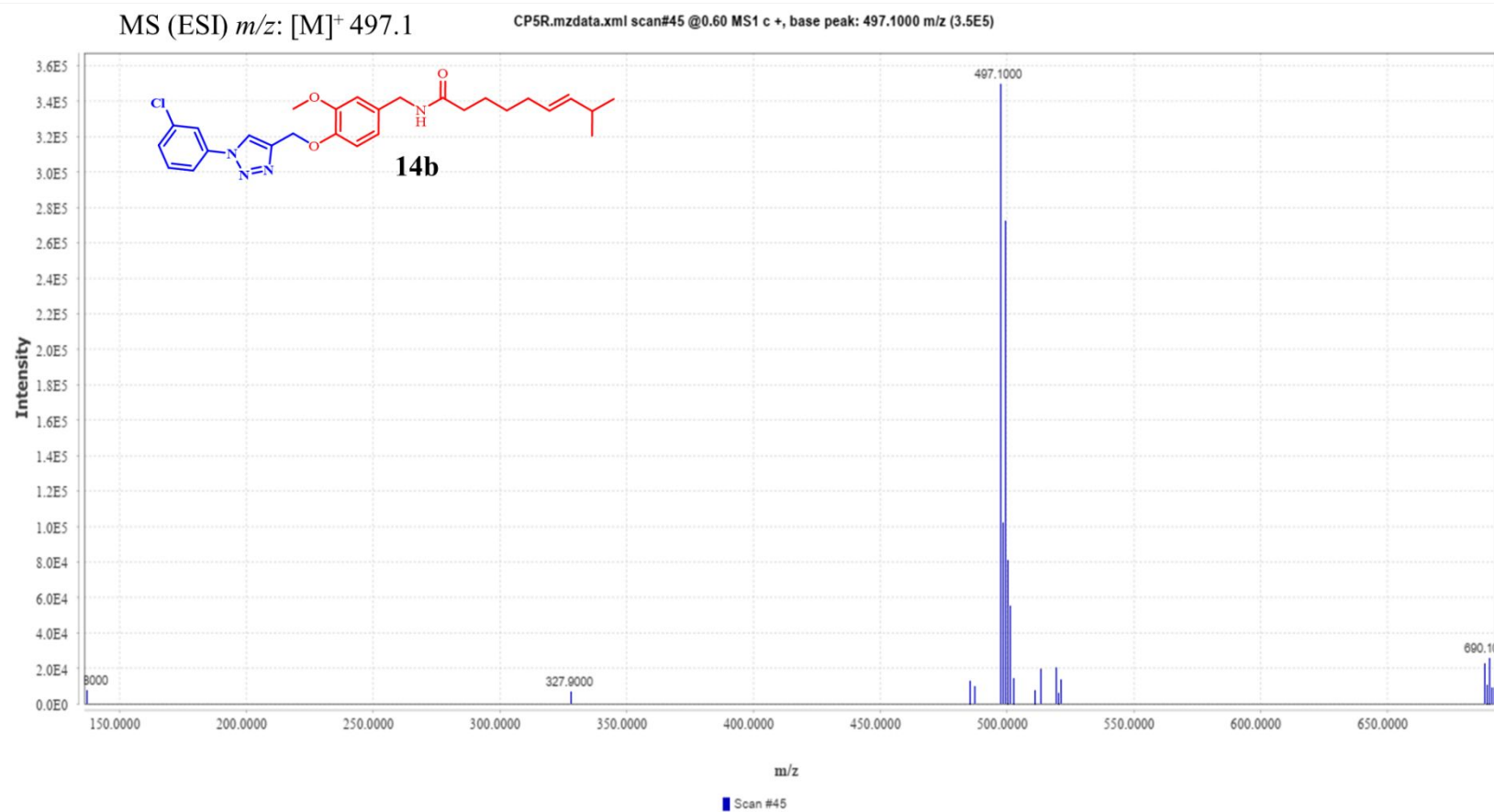
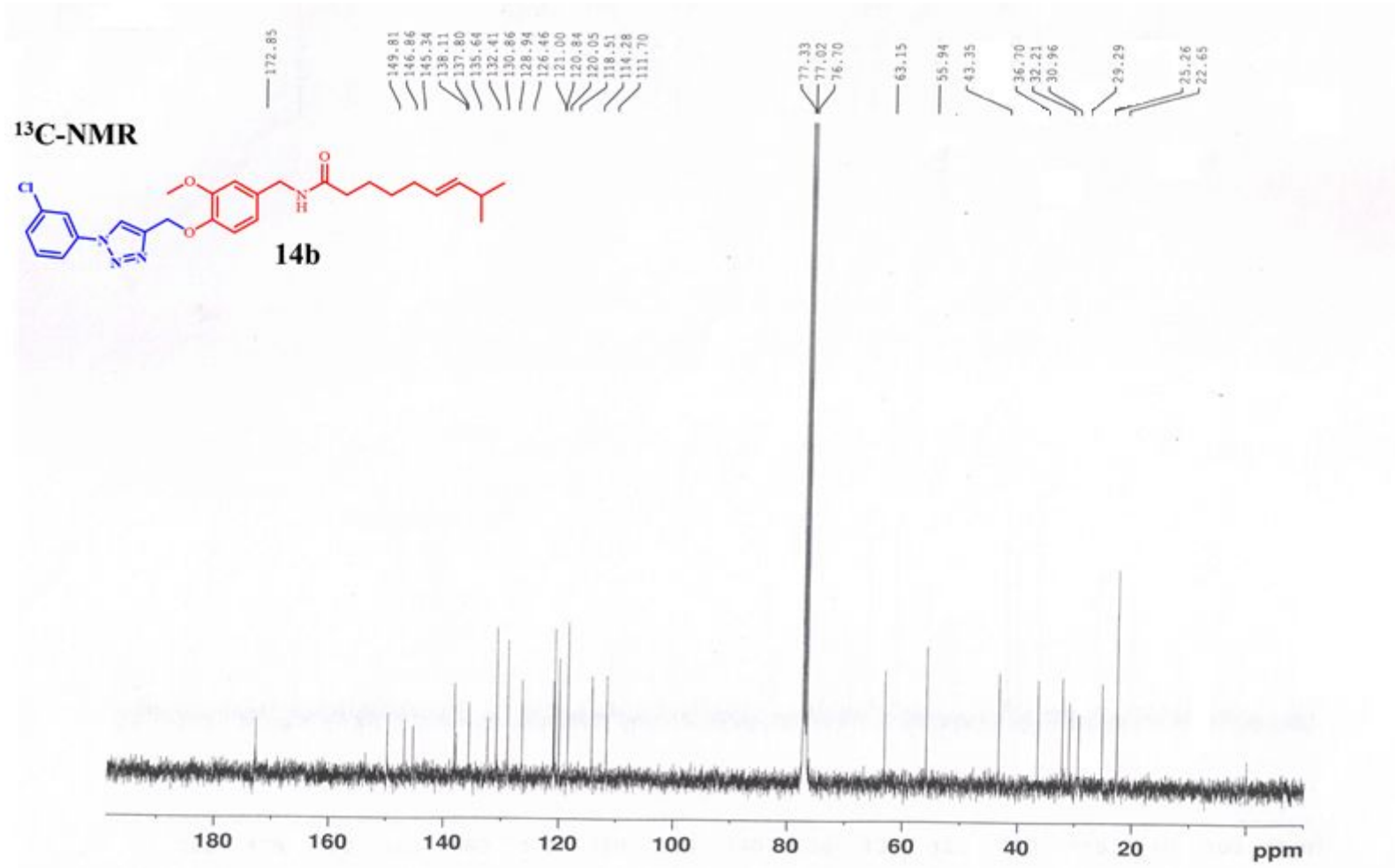


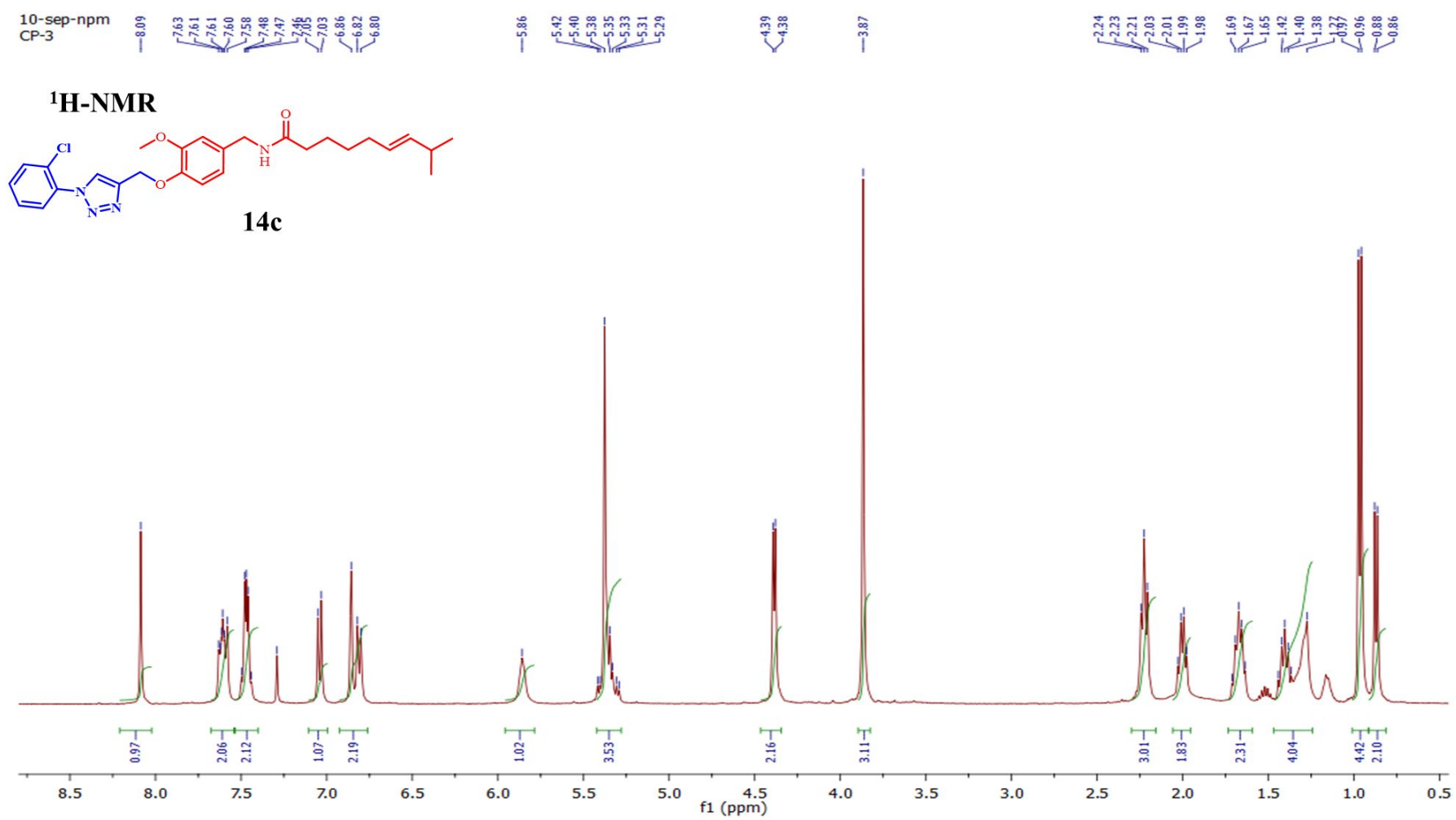
Figure S4: Compound **14j** inhibits the colony forming ability of NCI-H460 cells.

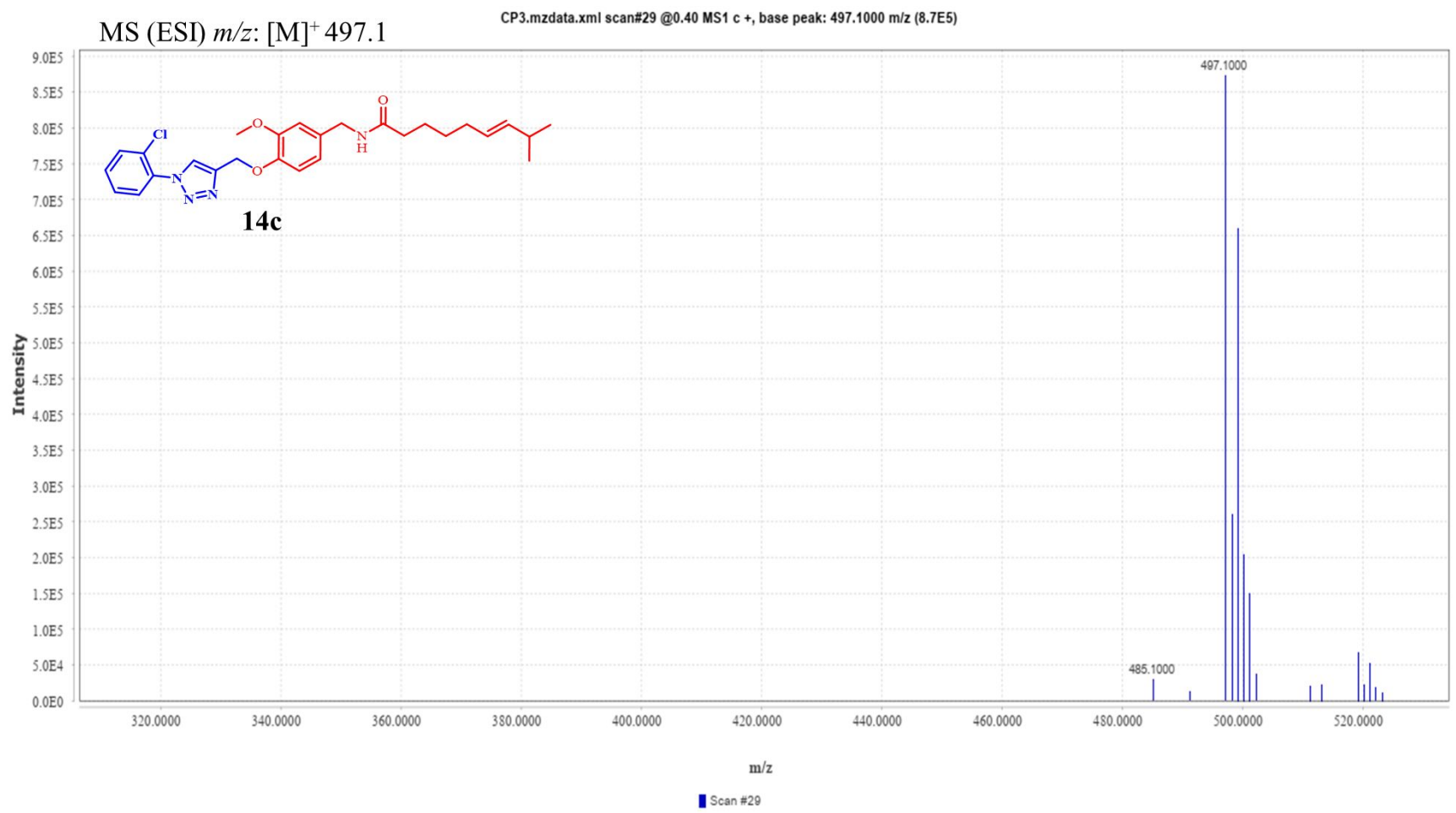
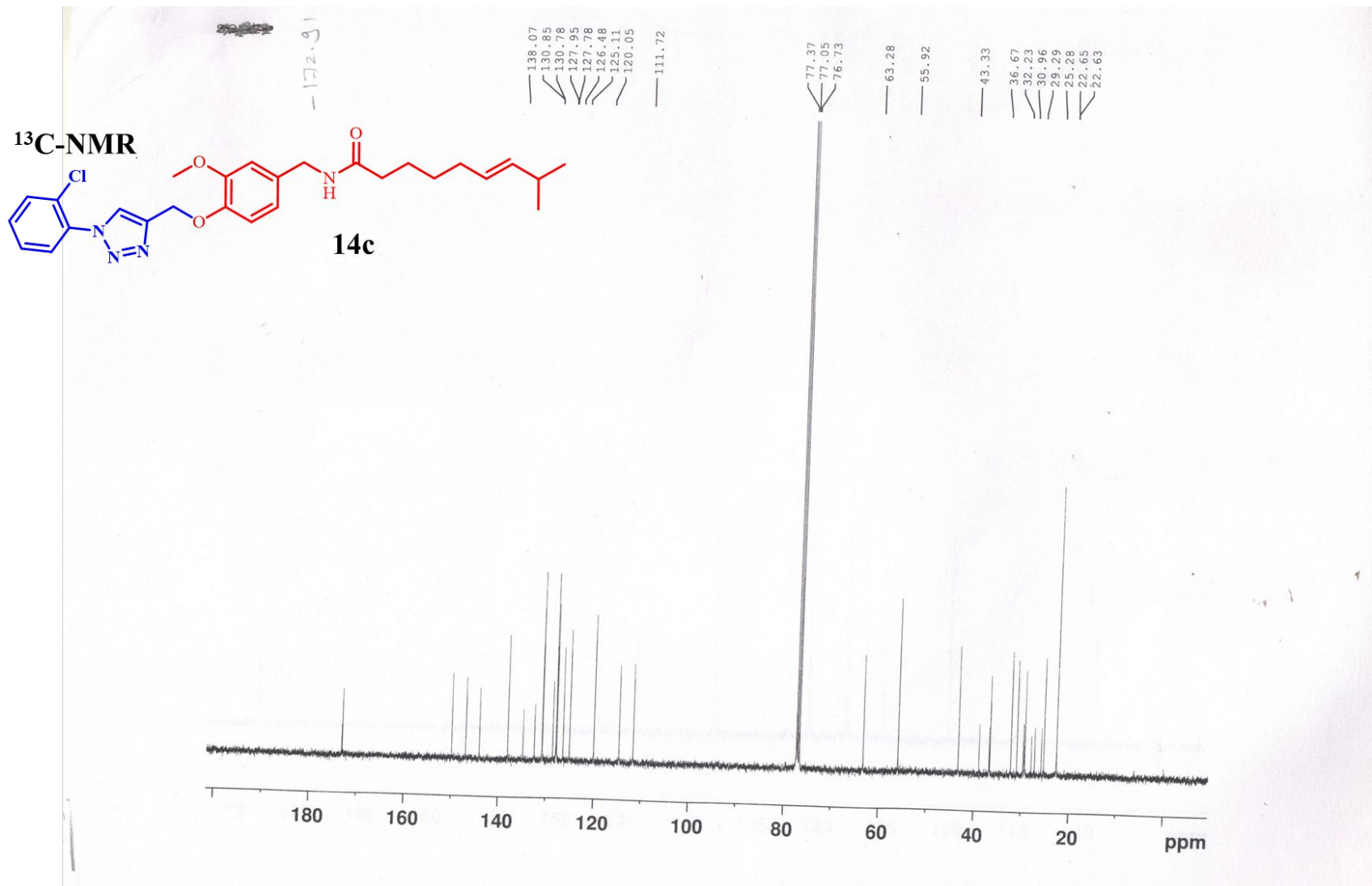
Spectral data S5: $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, ESI-MS, LC-MS and HRMS of 13, 14a-p and 16a, 16b, 16c, 17, 18a-p.





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CP-3

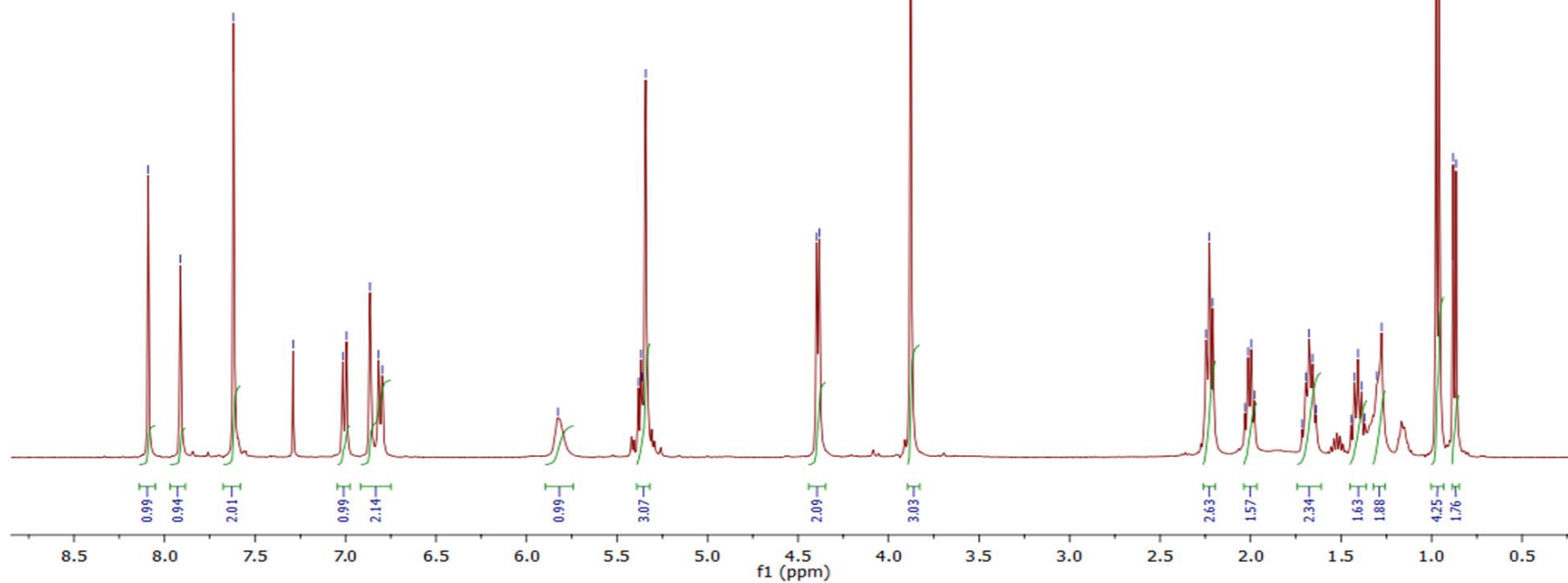
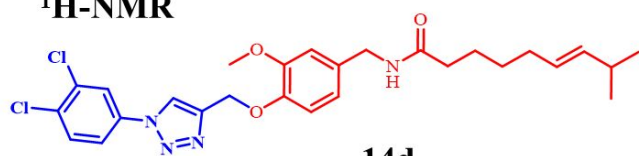




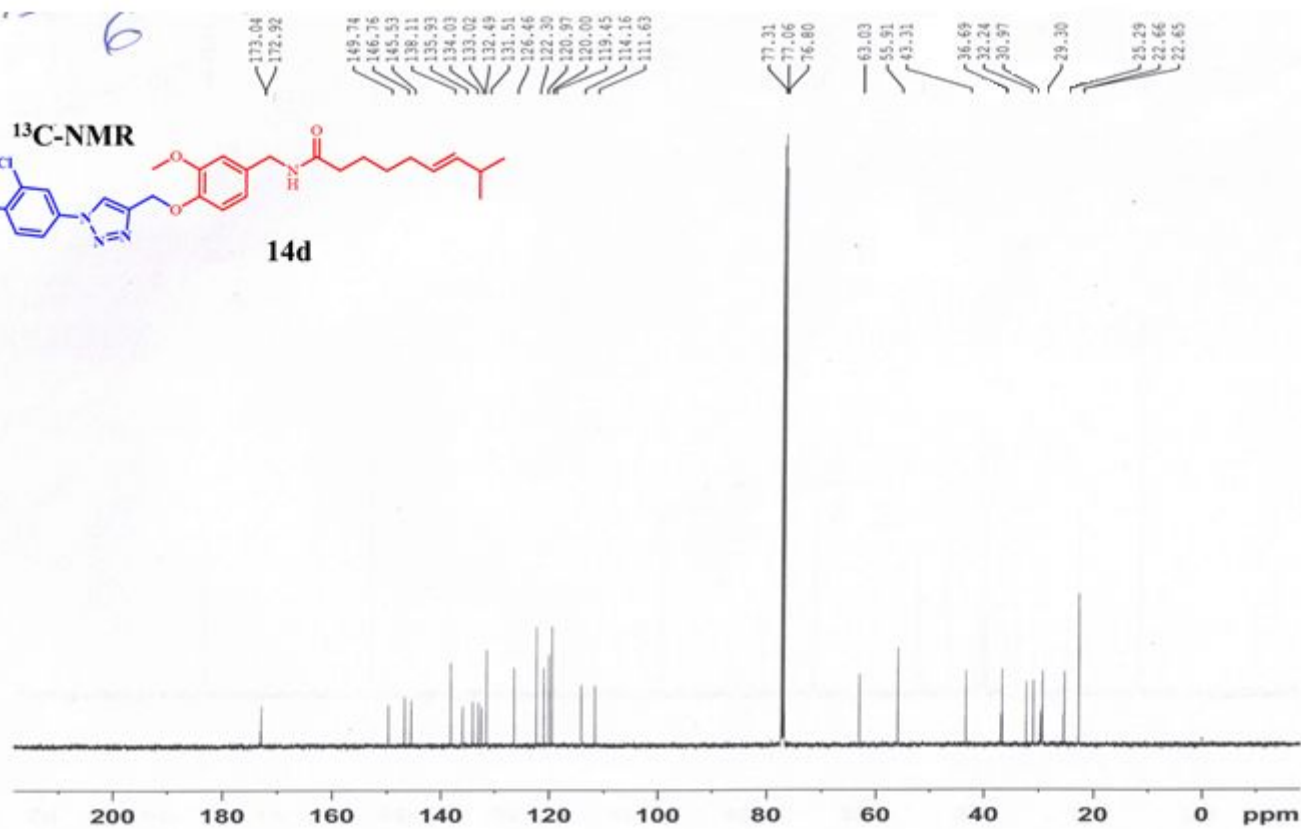
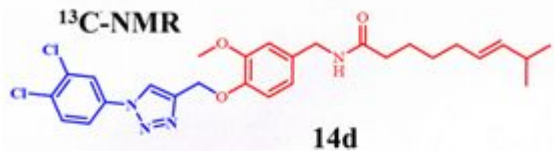
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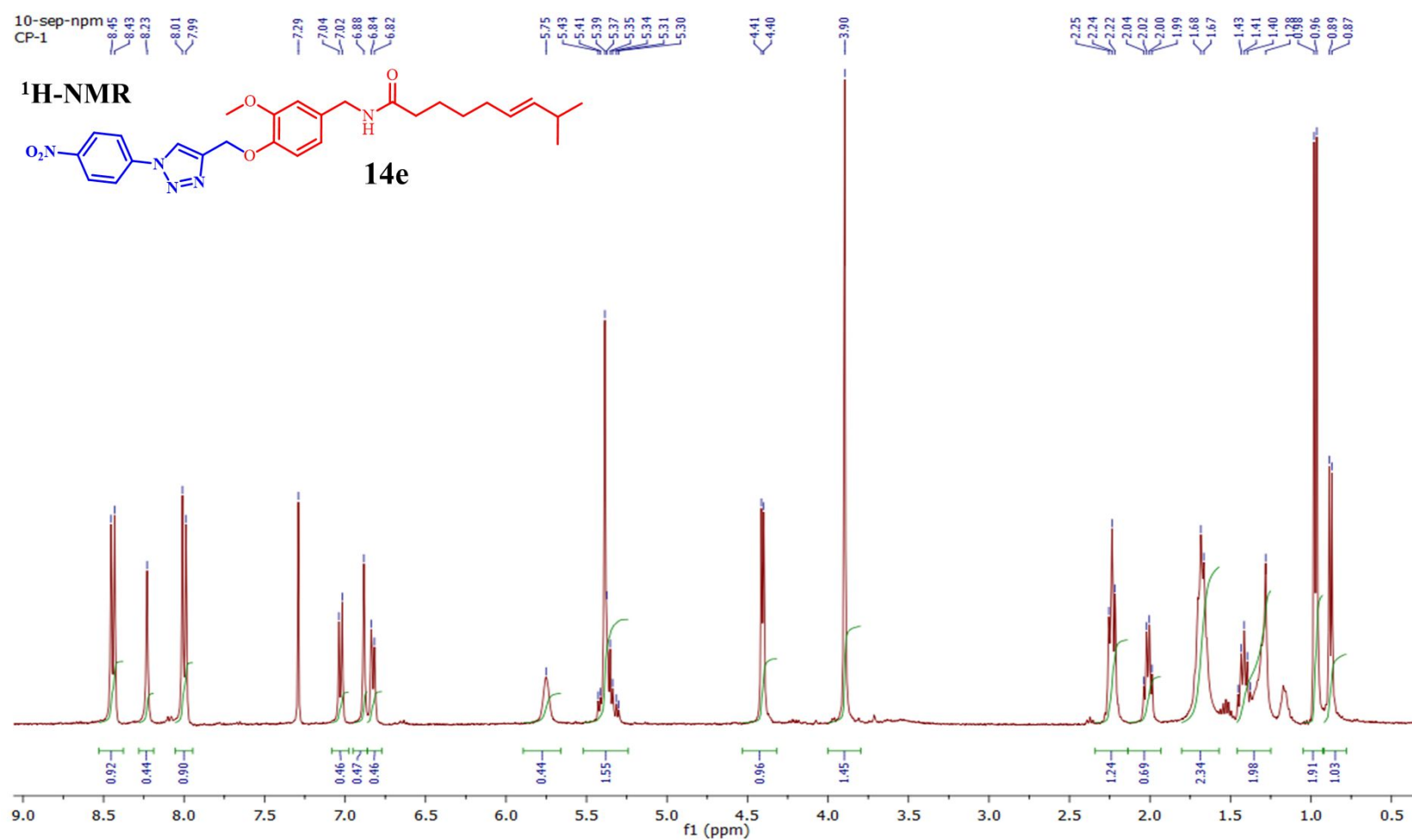
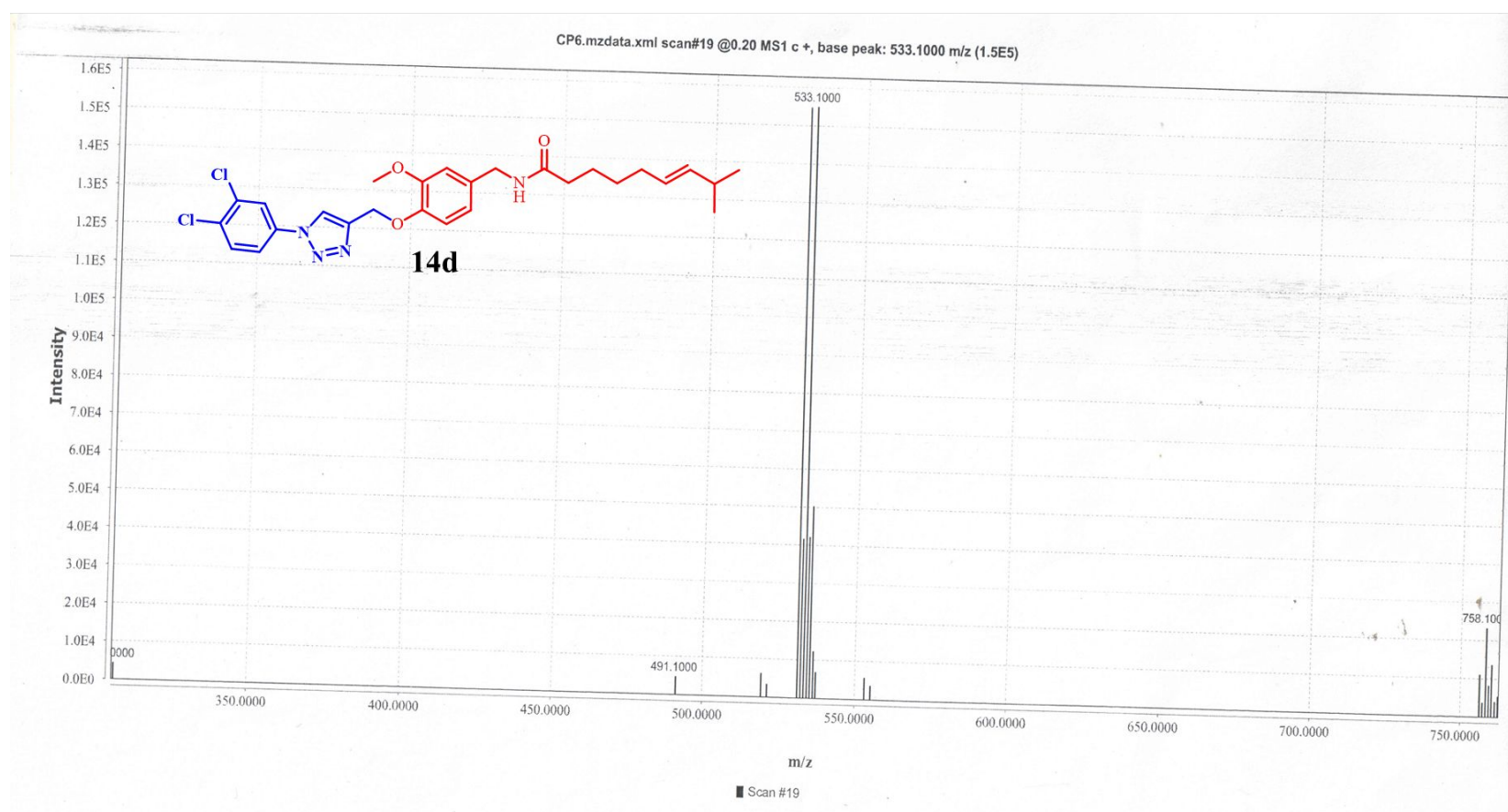
¹H-NMR

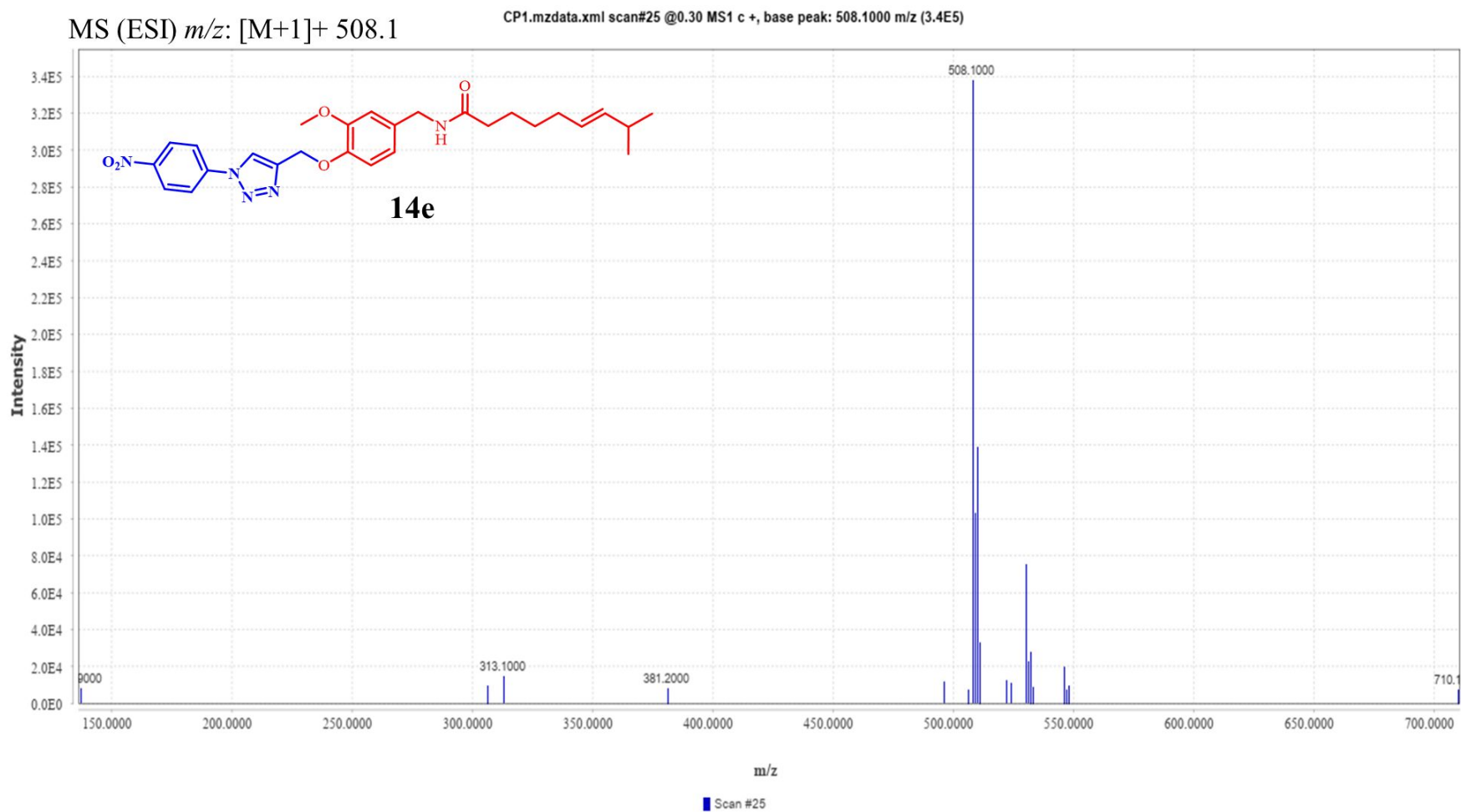
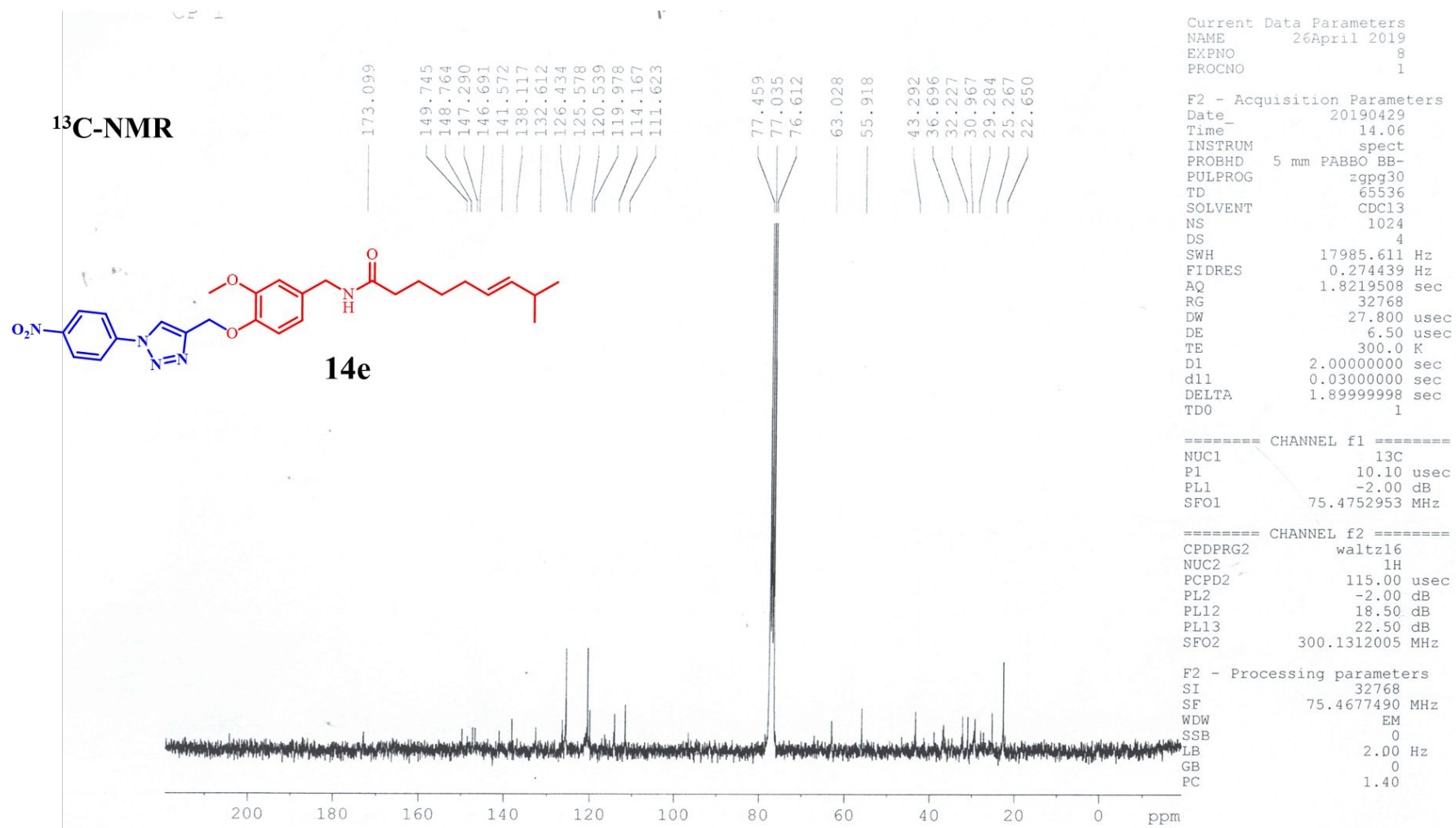


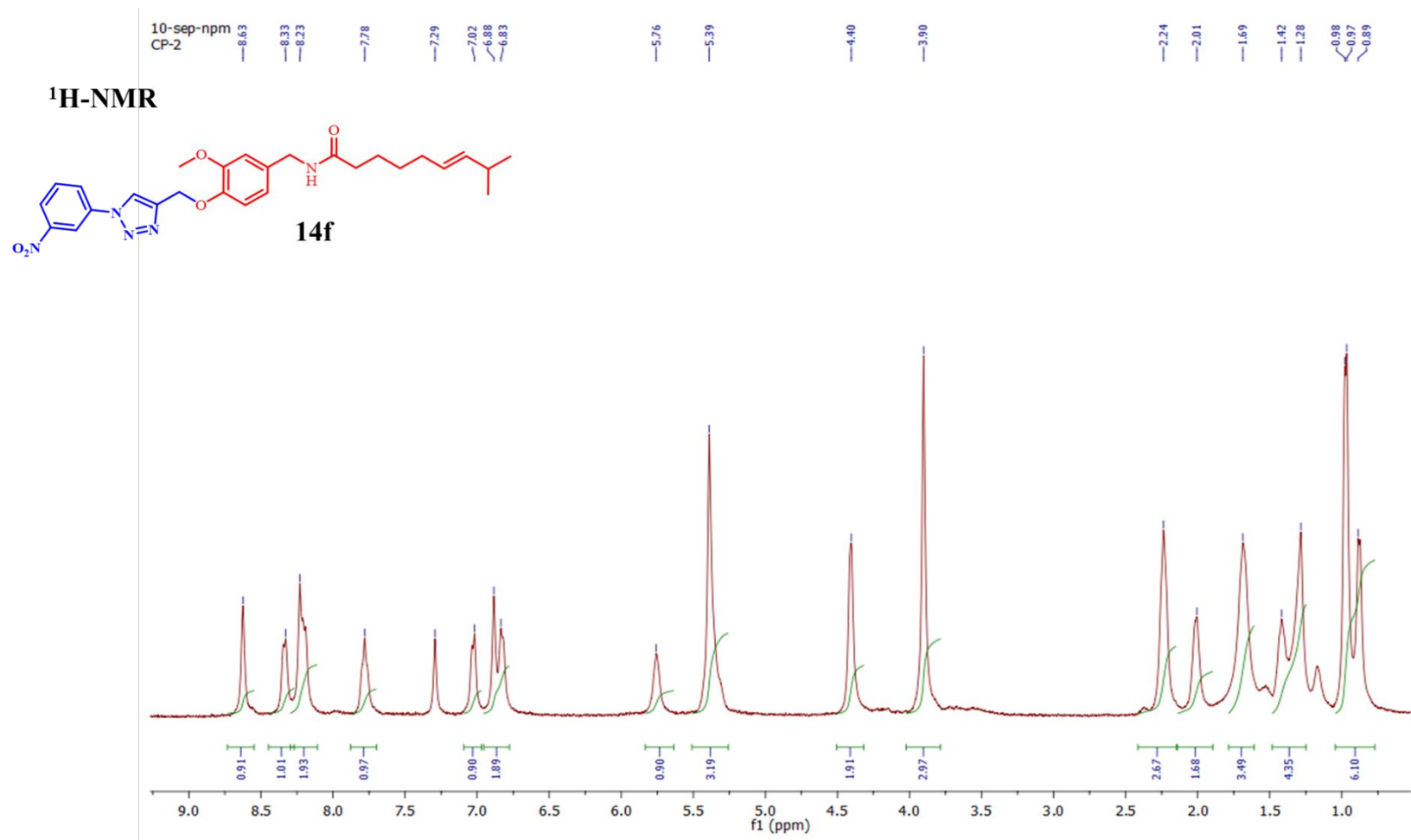
¹³C-NMR



MS (ESI) m/z : $[M+2]^+$ 533.1

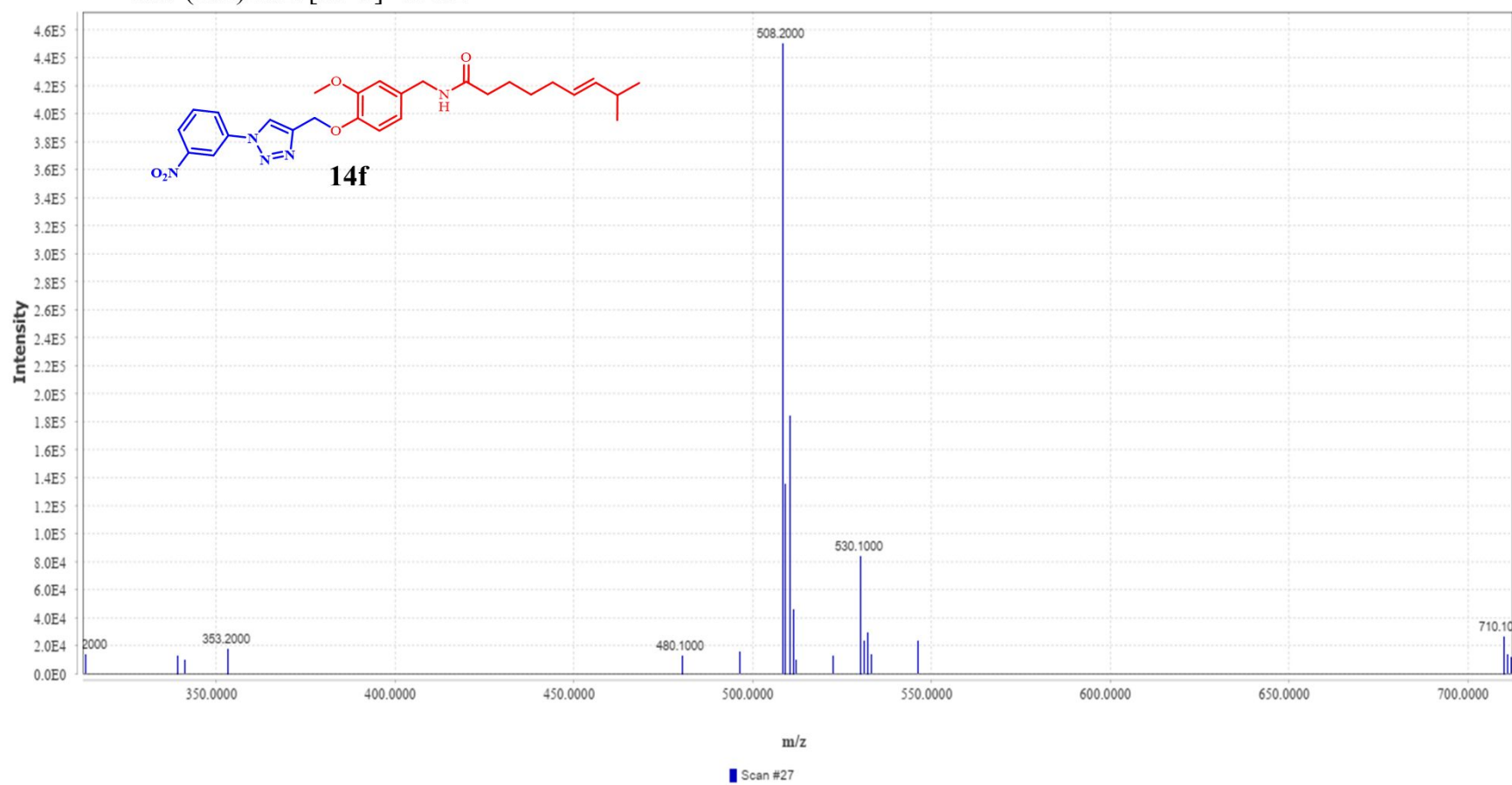


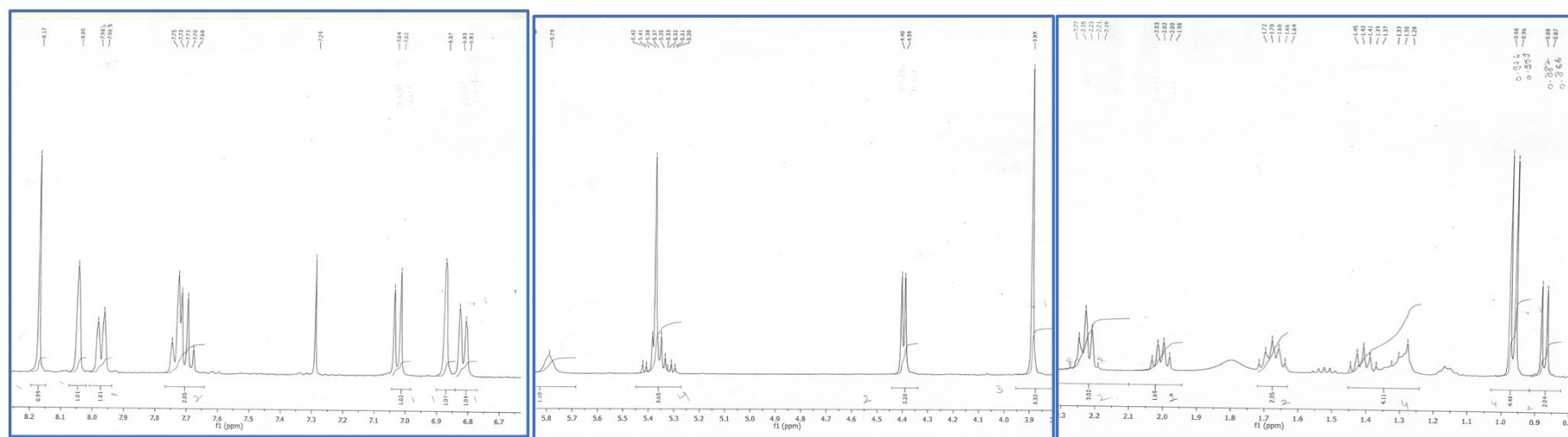
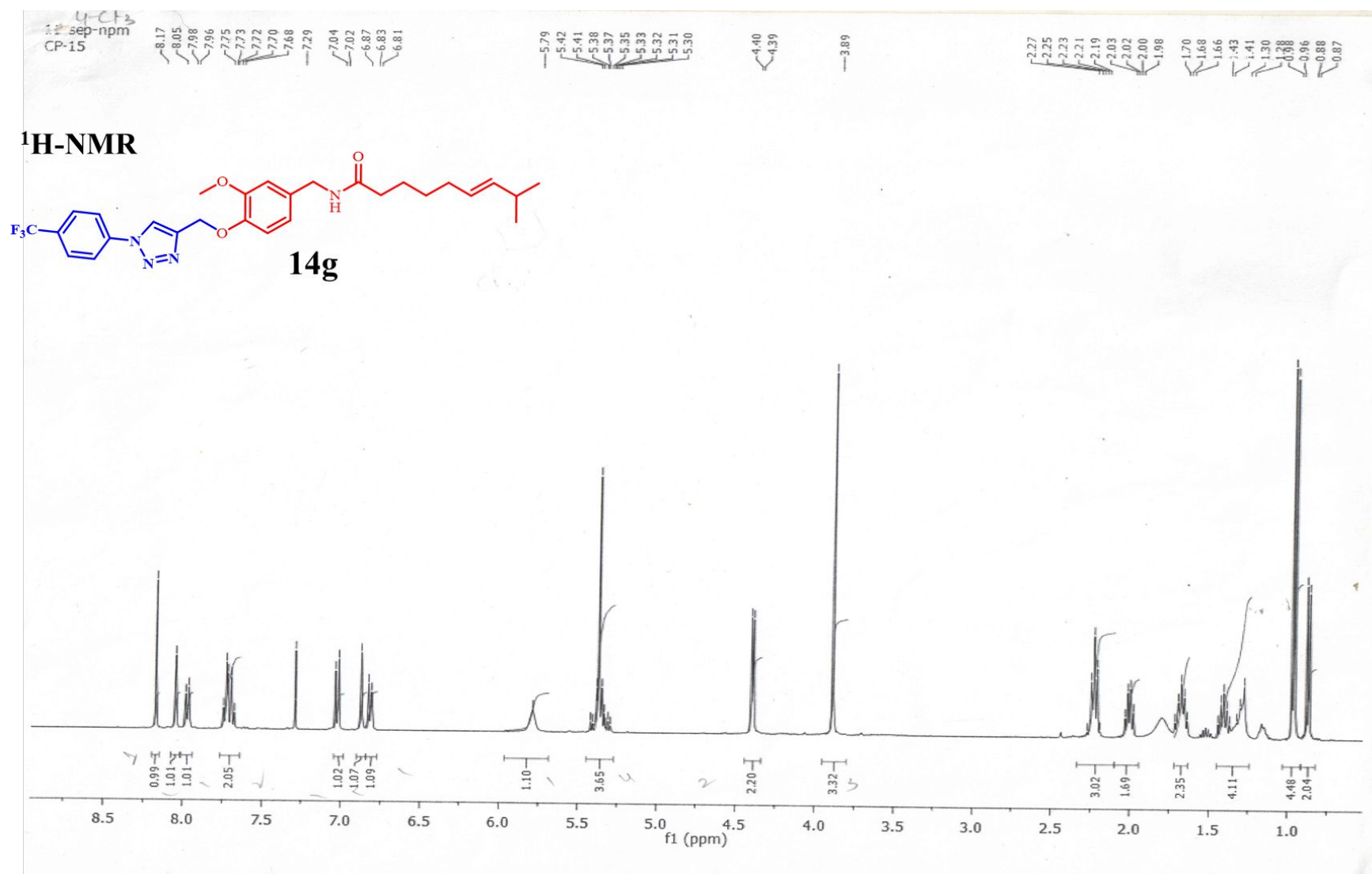




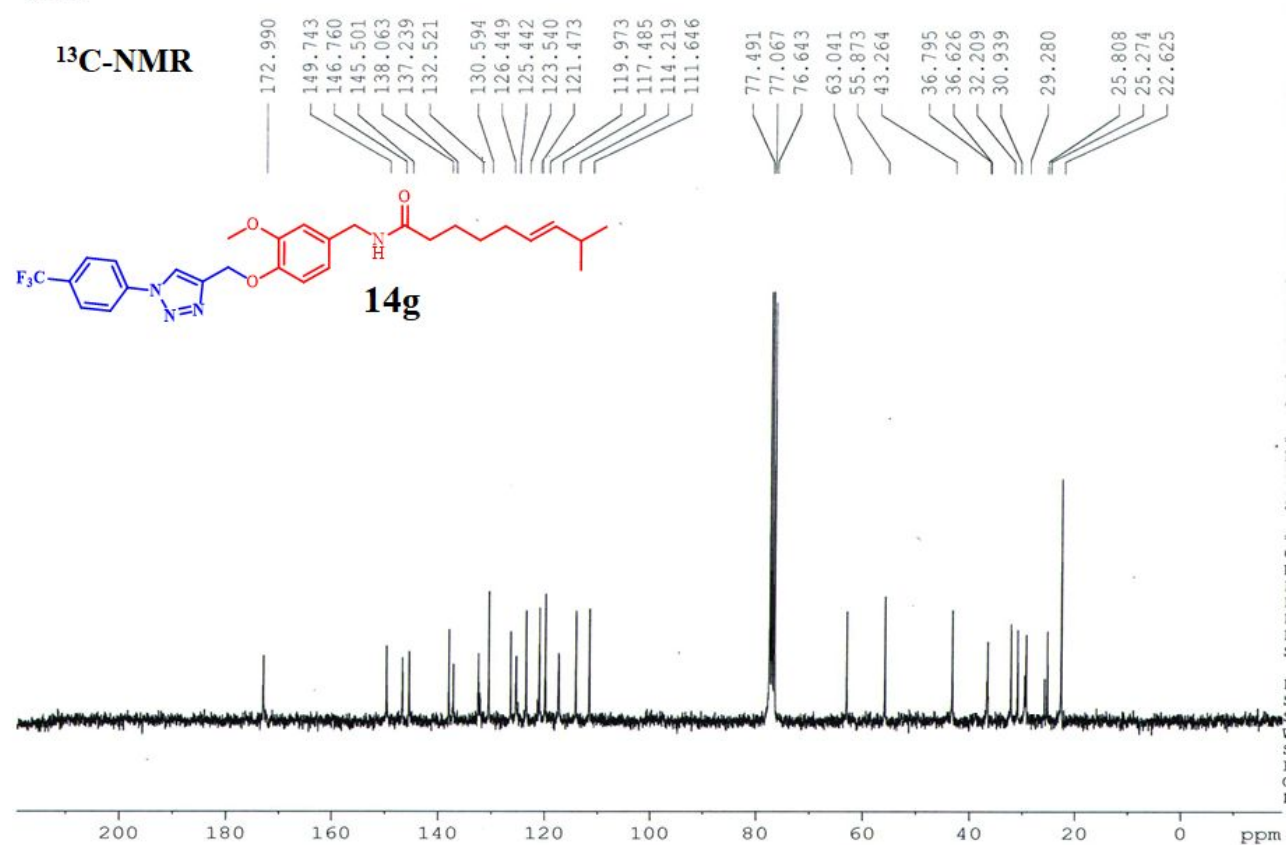
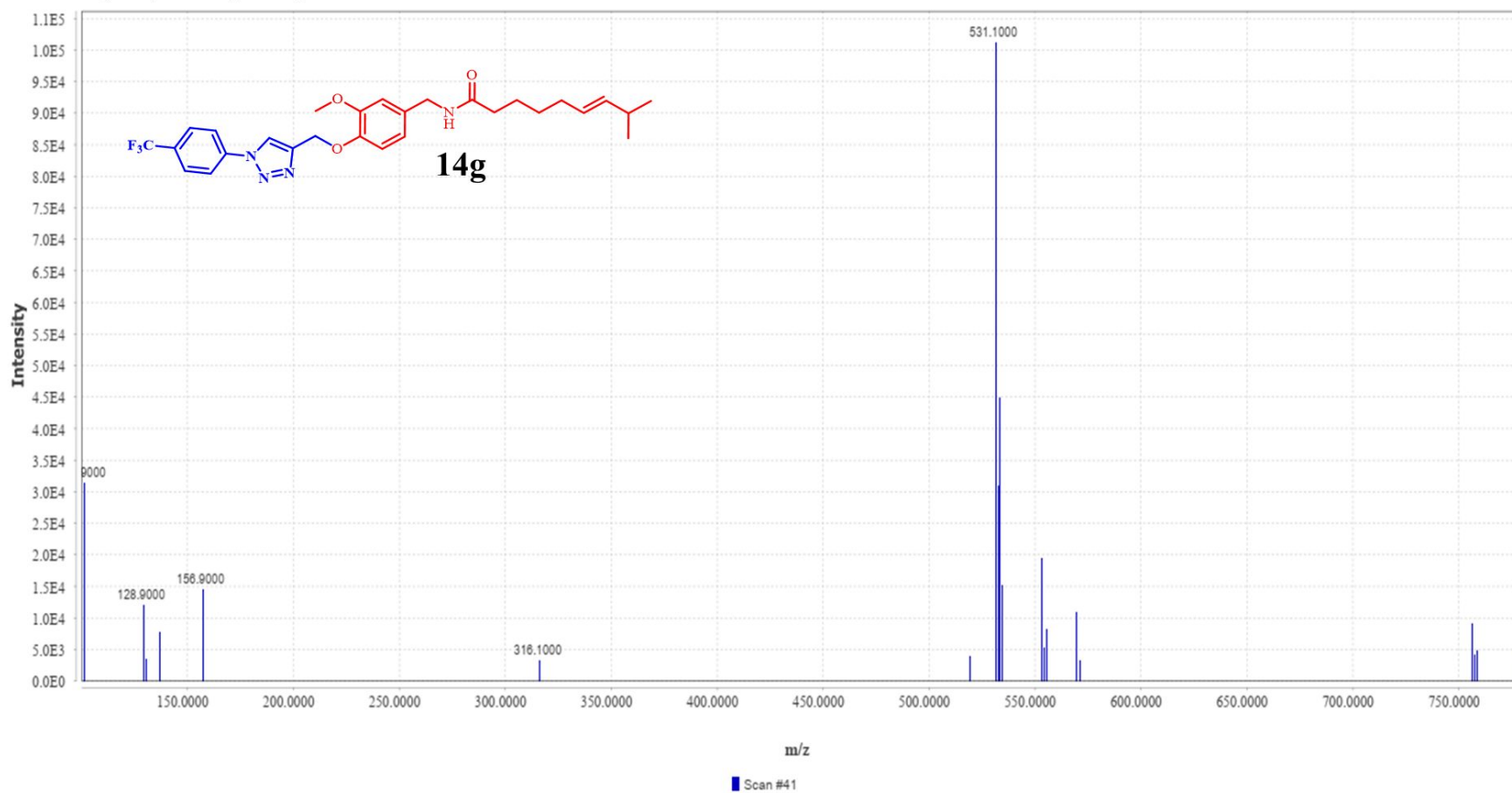
MS (ESI) m/z : $[M+1]^+$ 508.2

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CP15

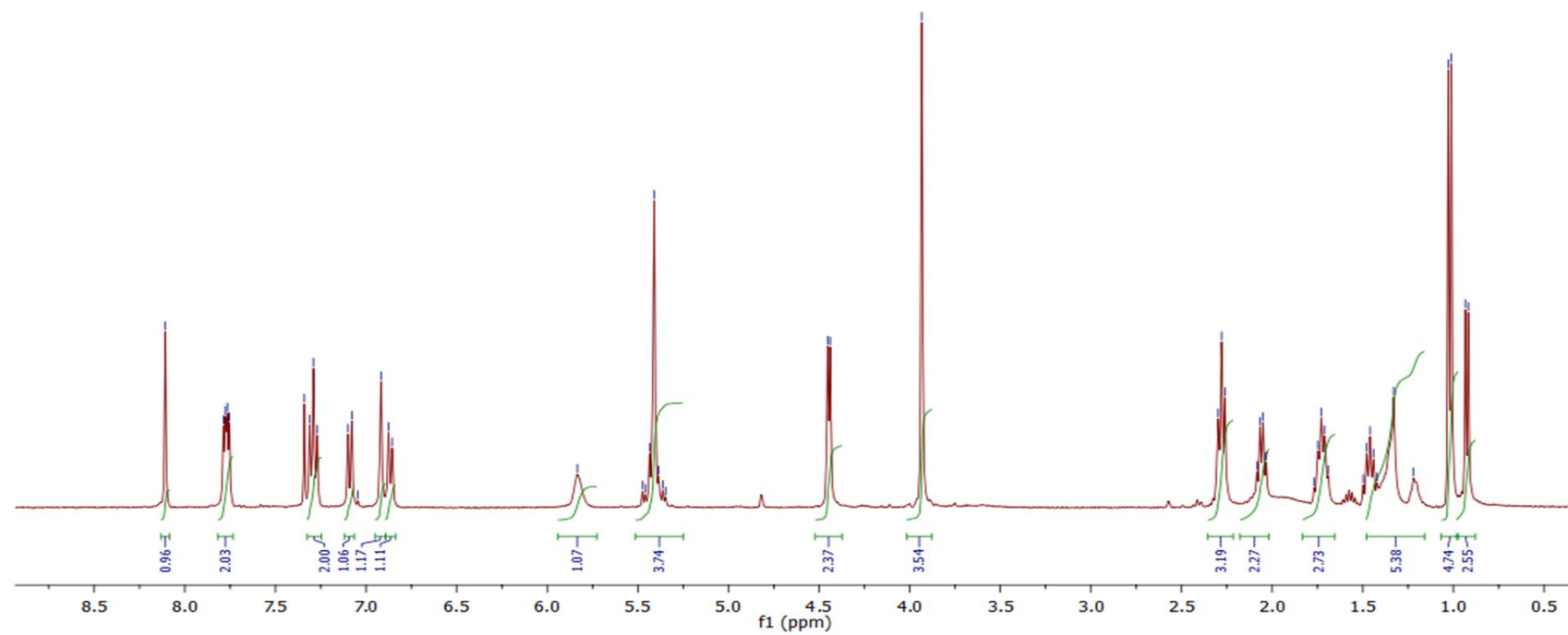
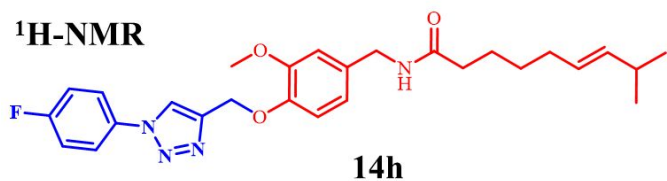
MS (ESI) m/z : $[M+1]^+$ 531.1CP15.mzdata.xml scan#41 @0.50 MS1 c +, base peak: 531.1000 m/z (1.0E5)

10-sep-npm
CP-8

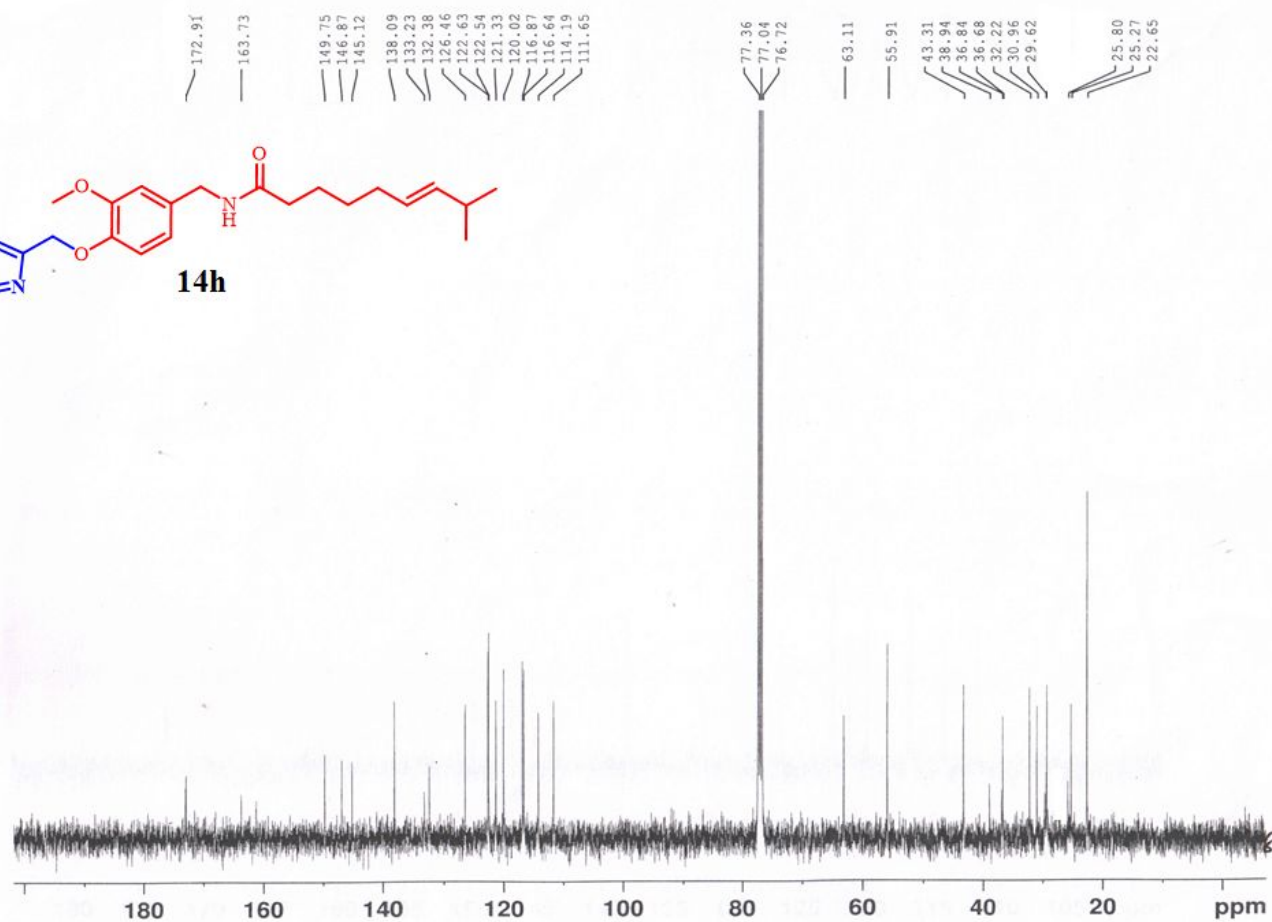
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6.88
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4.44
3.93

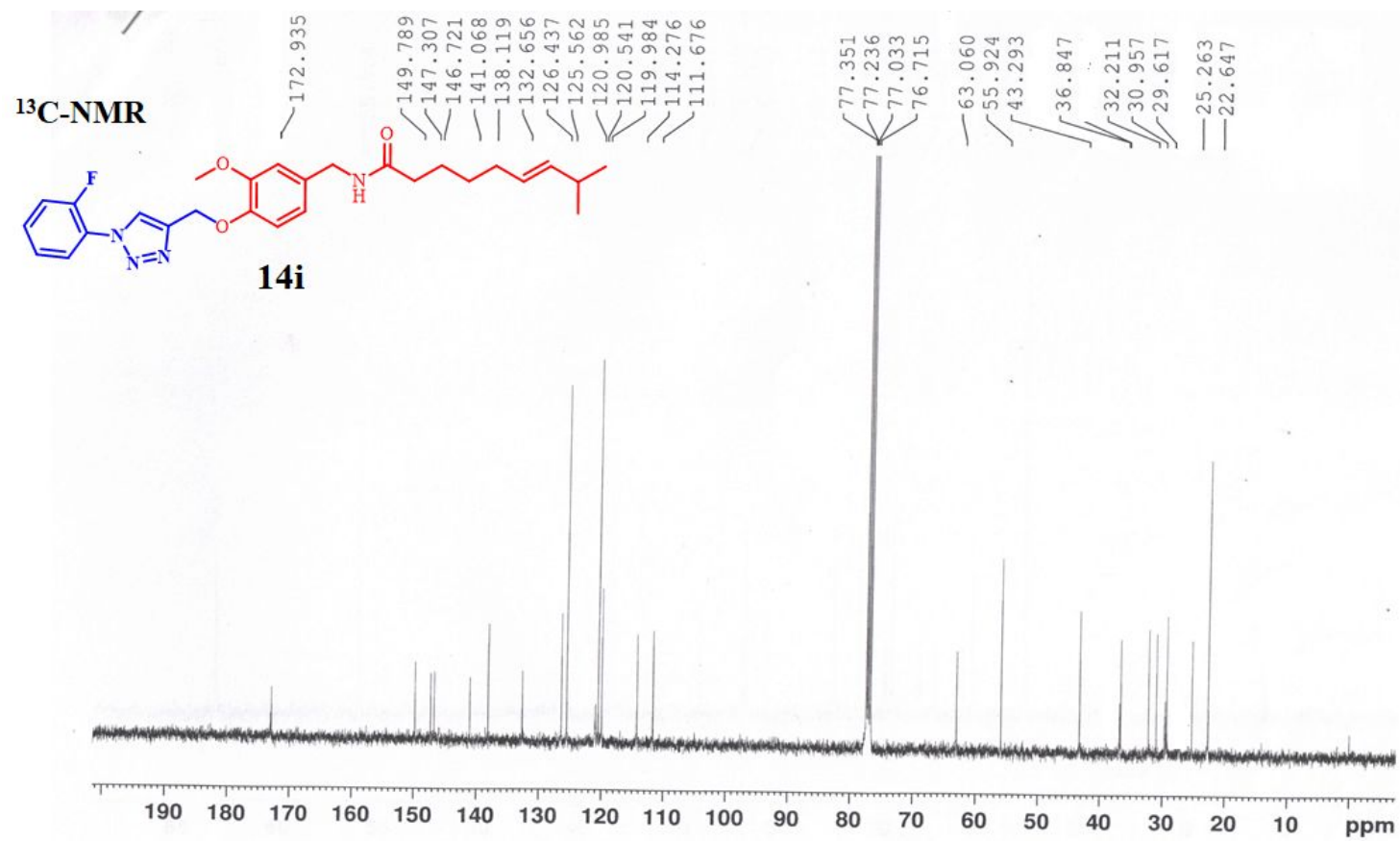
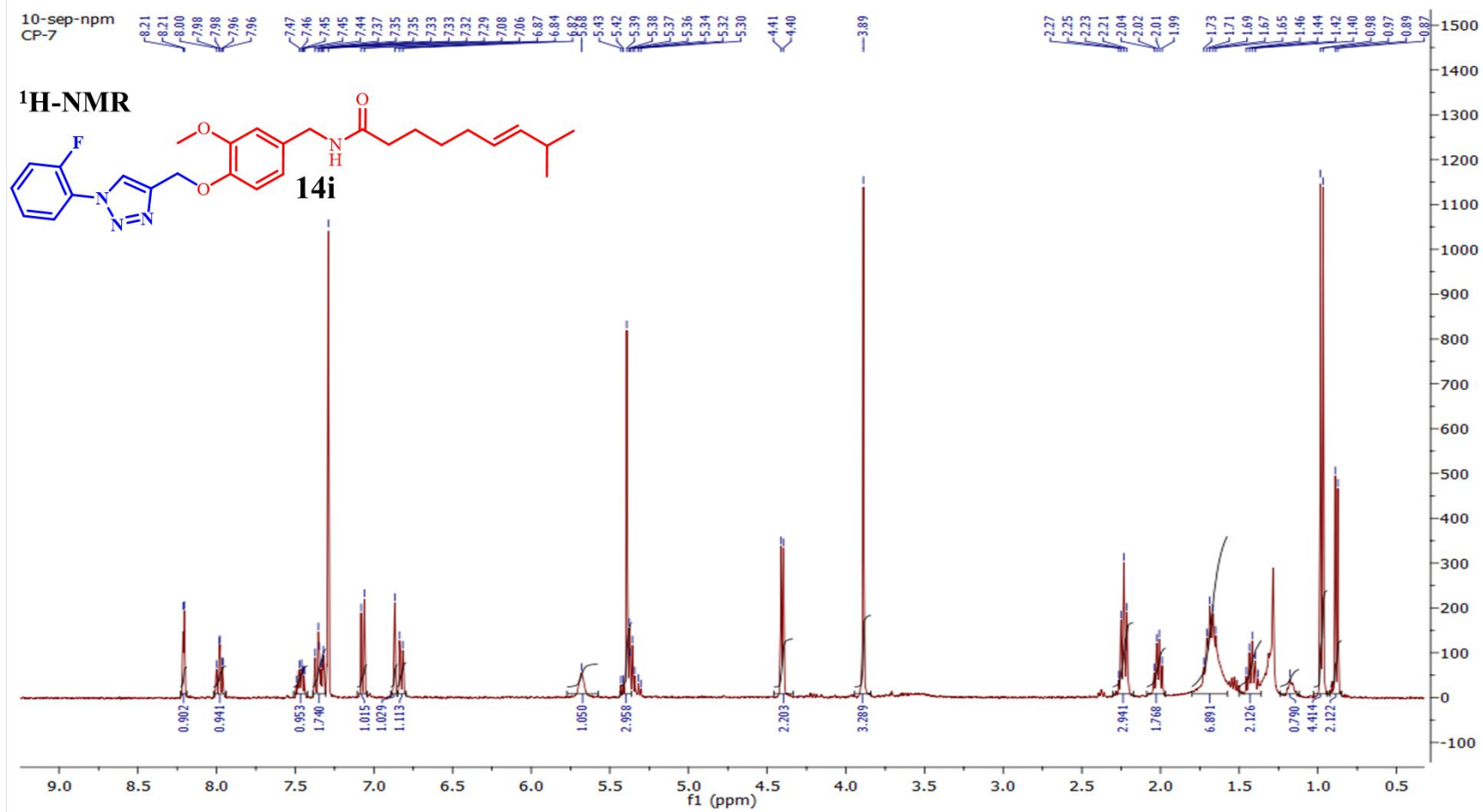
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1.71
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1.33
1.22
1.03
1.01
0.93
0.92

¹H-NMR



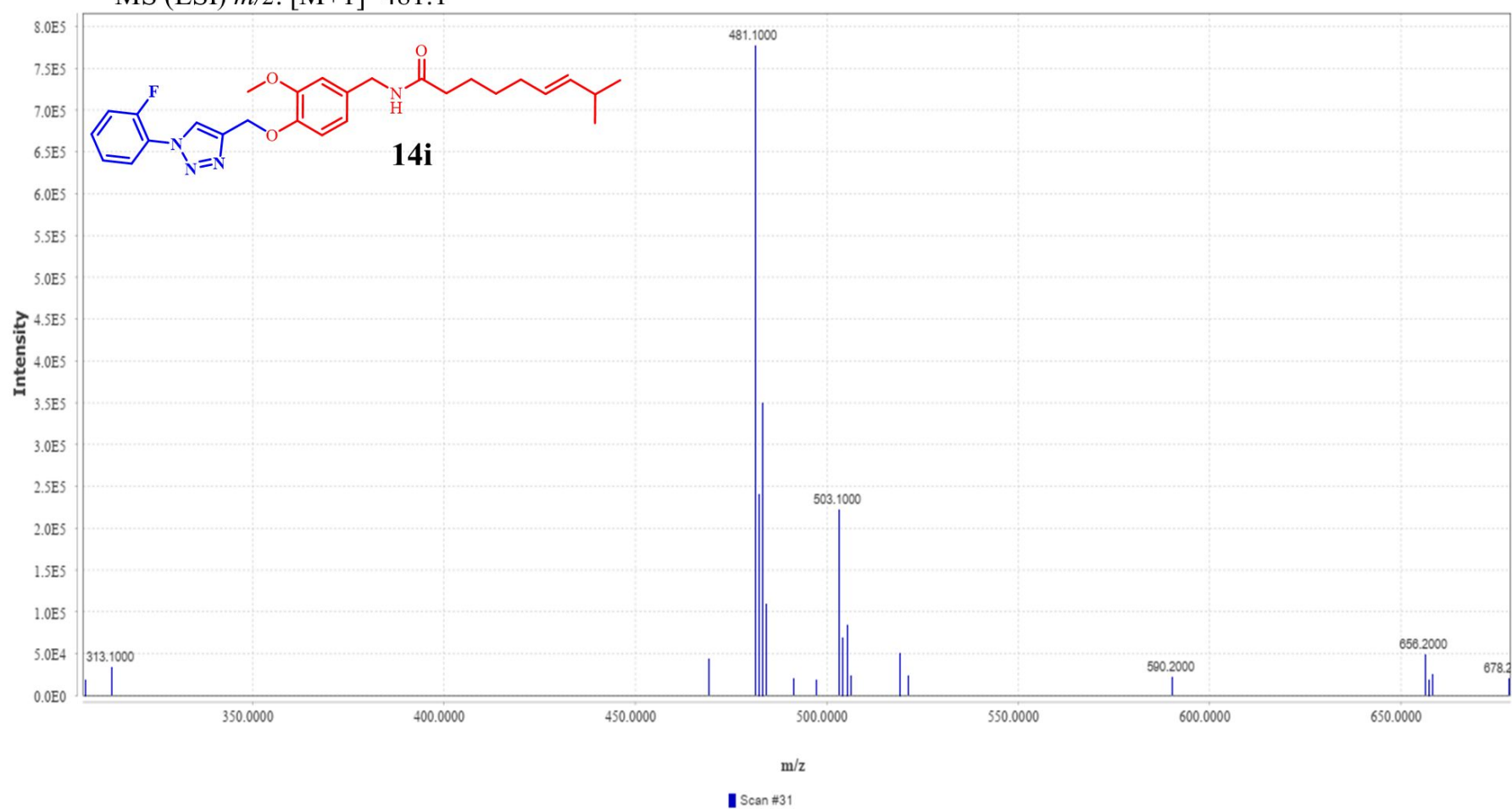
¹³C-NMR



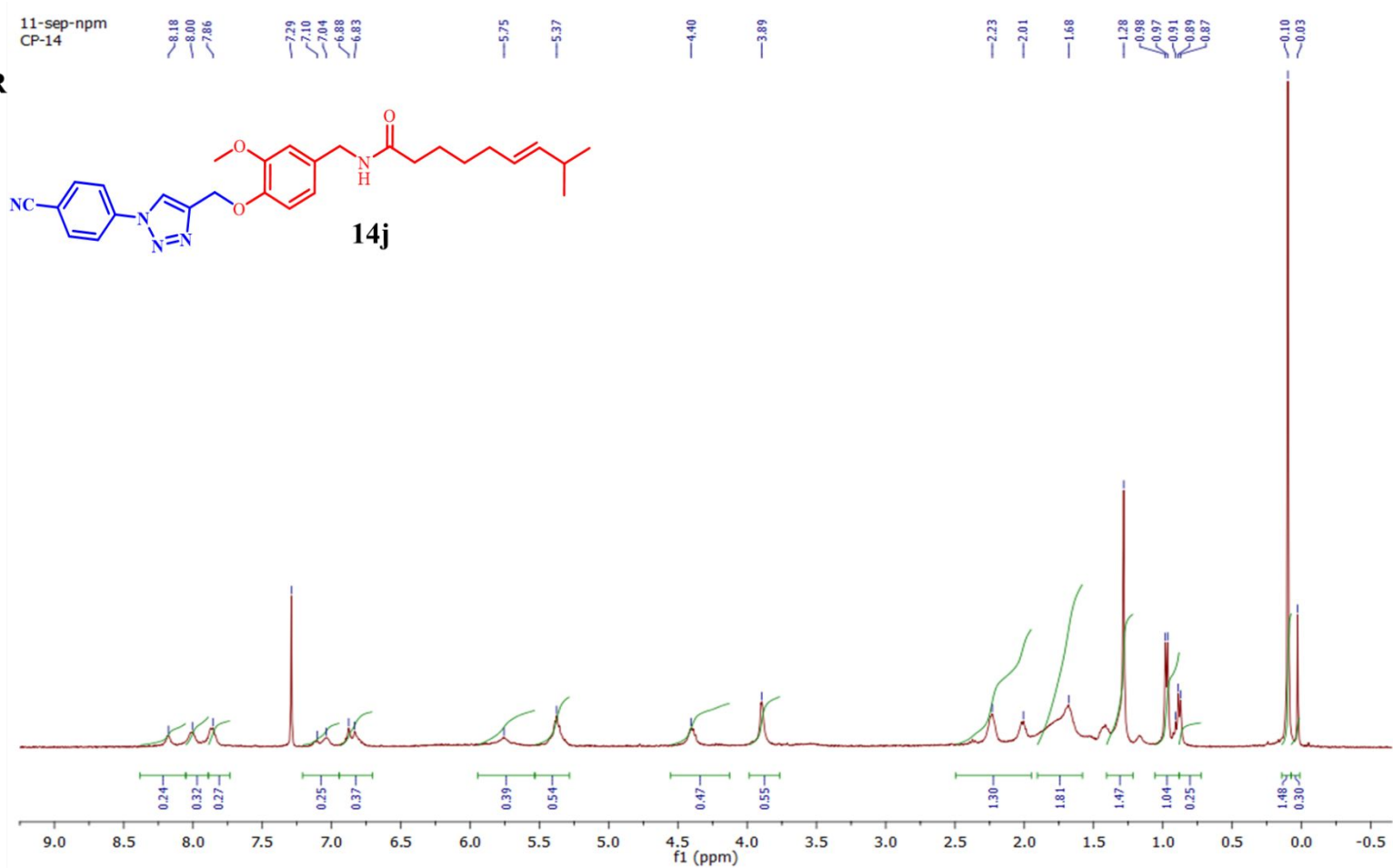


MS (ESI) m/z : $[M+1]^+$ 481.1

CP7.mzdata.xml scan#31 @0.40 MS1 c +, base peak: 481.1000 m/z (7.8E5)

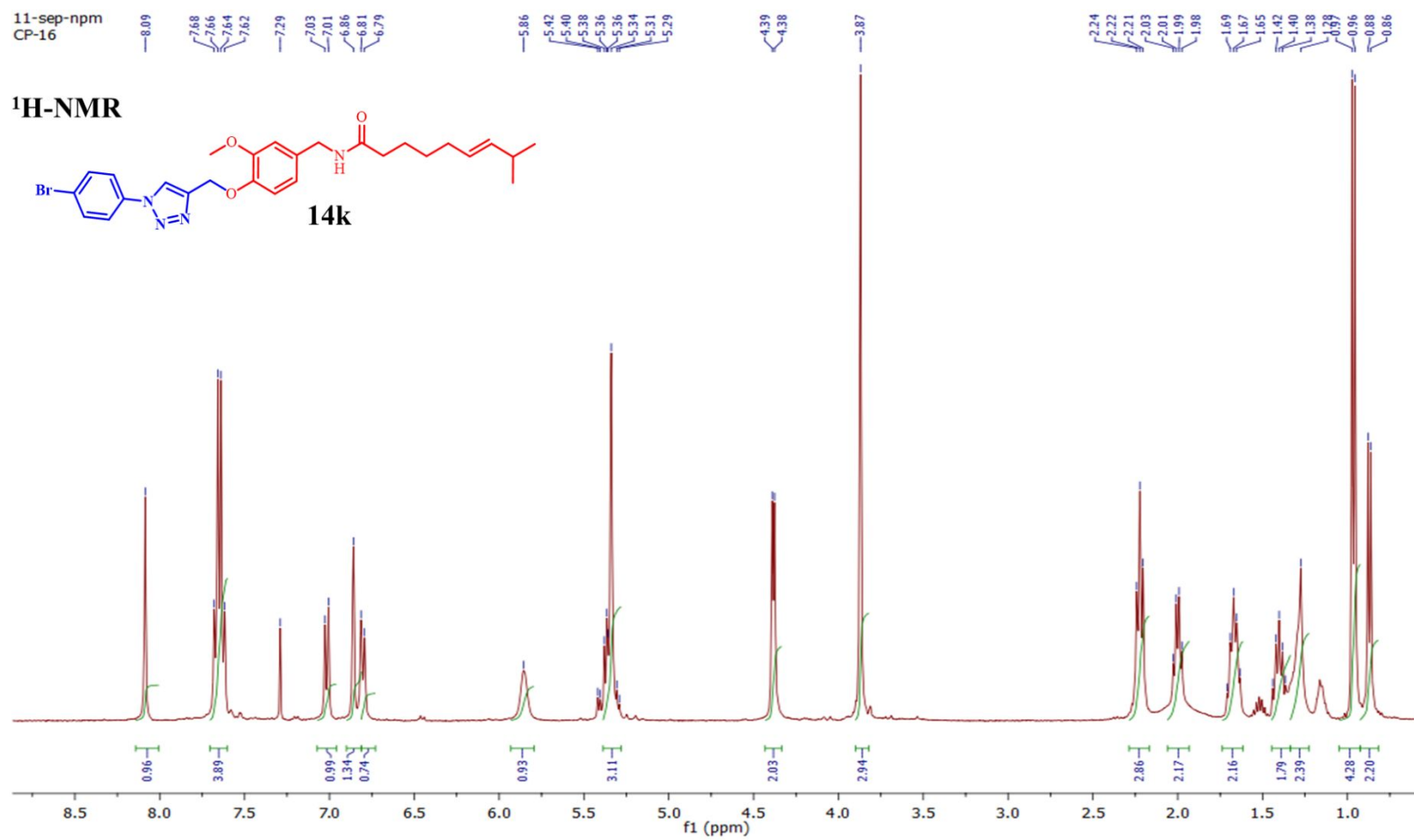
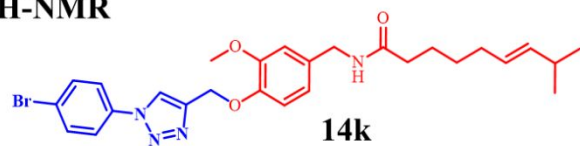


$^1\text{H-NMR}$

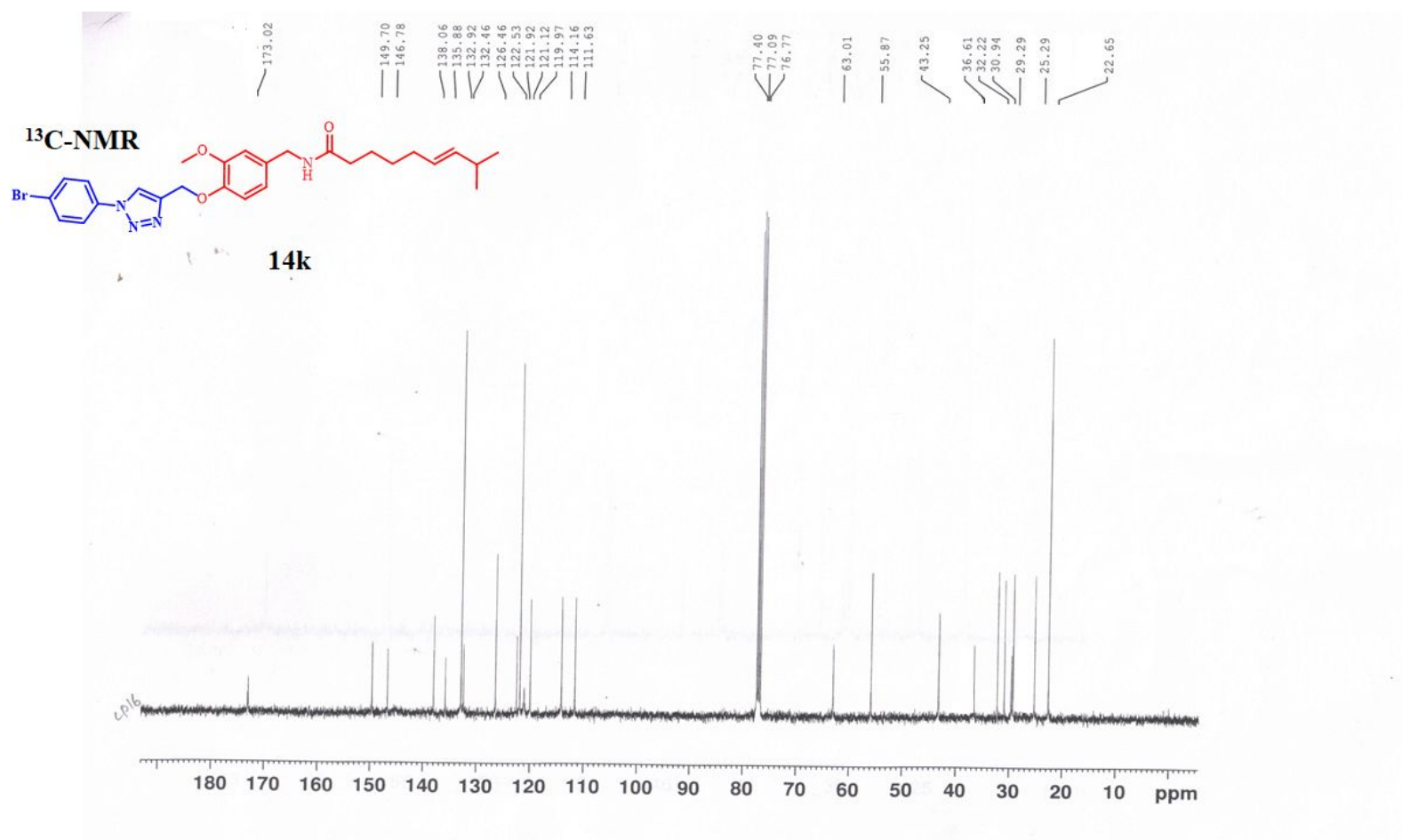
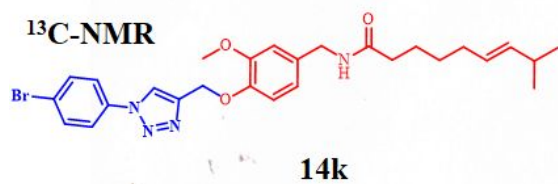


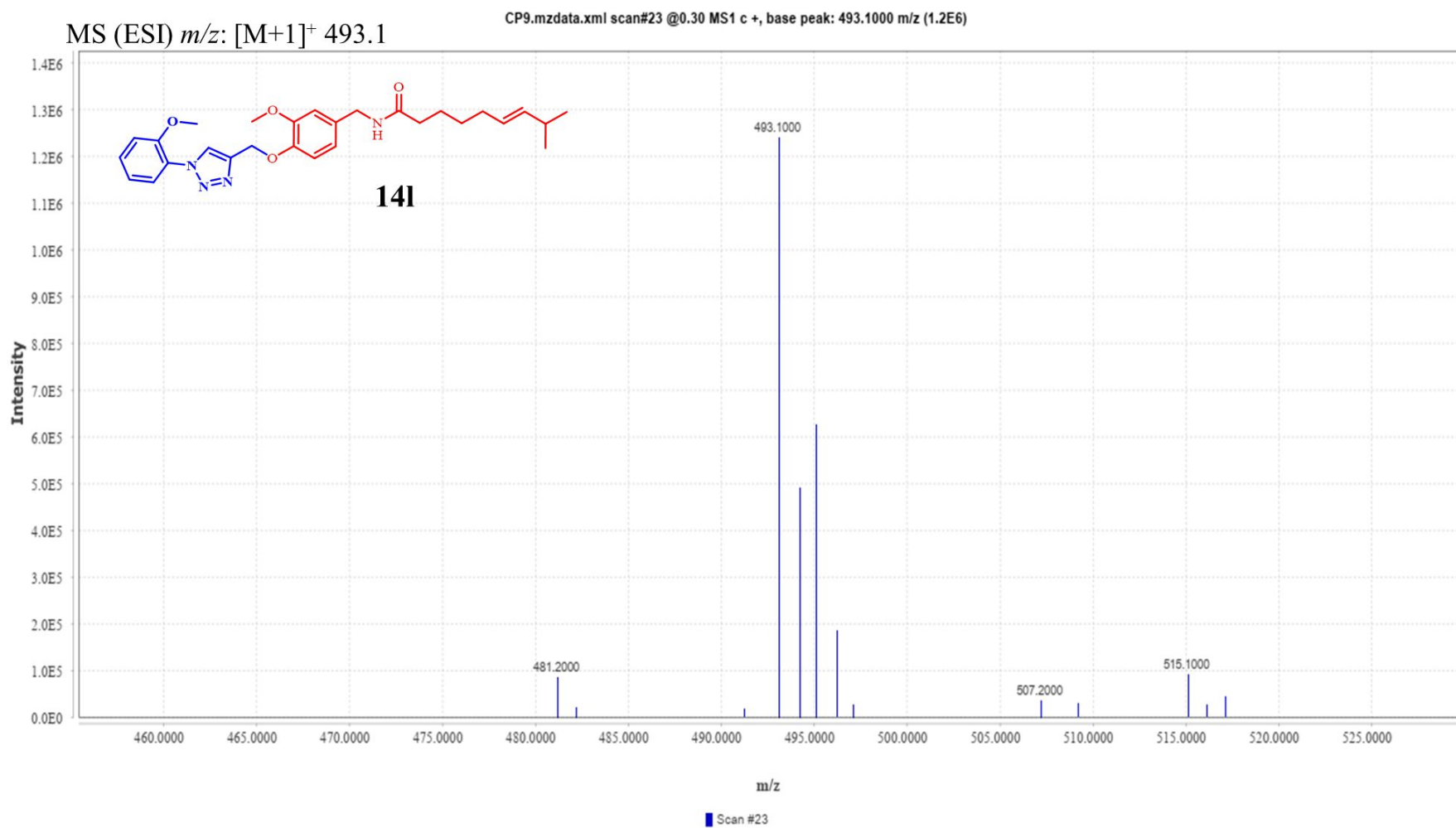
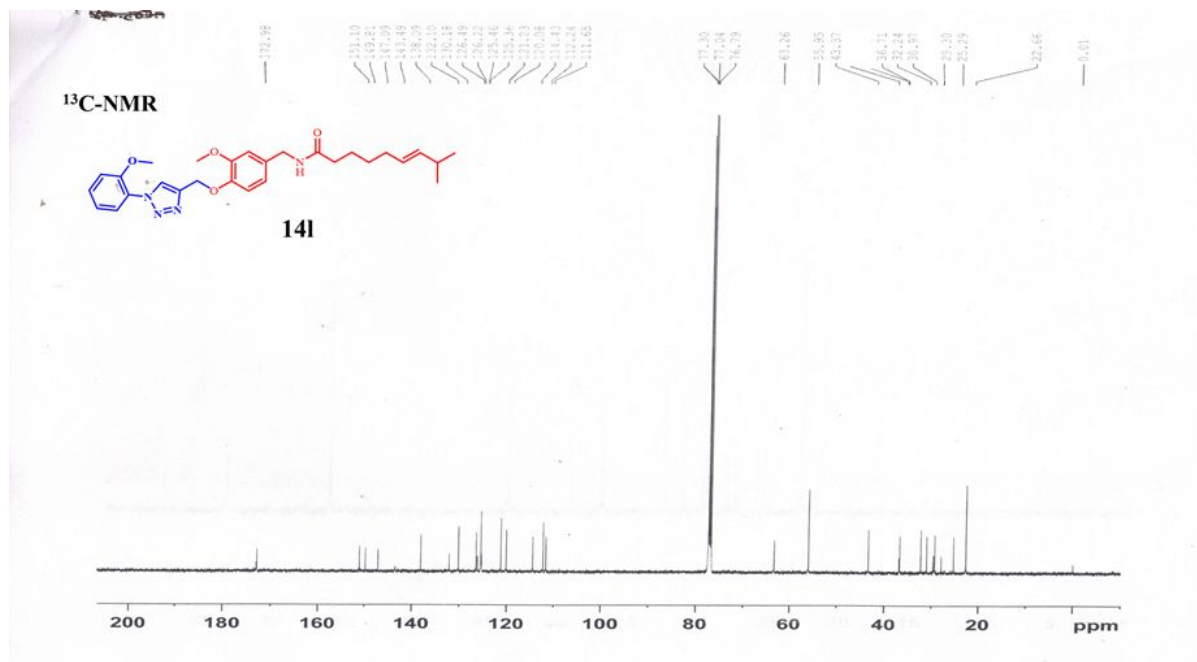
11-sep-npm
CP-16

¹H-NMR



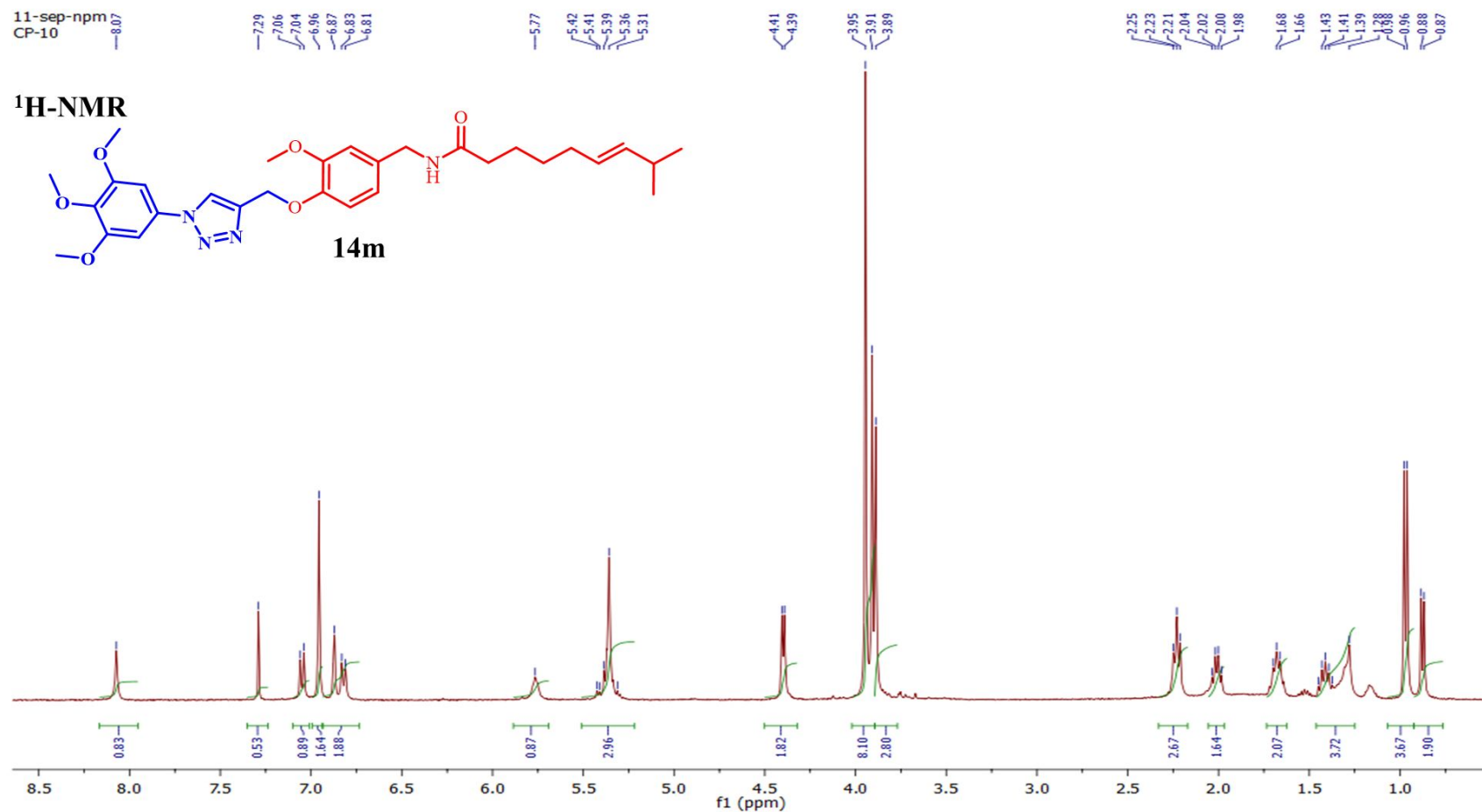
¹³C-NMR



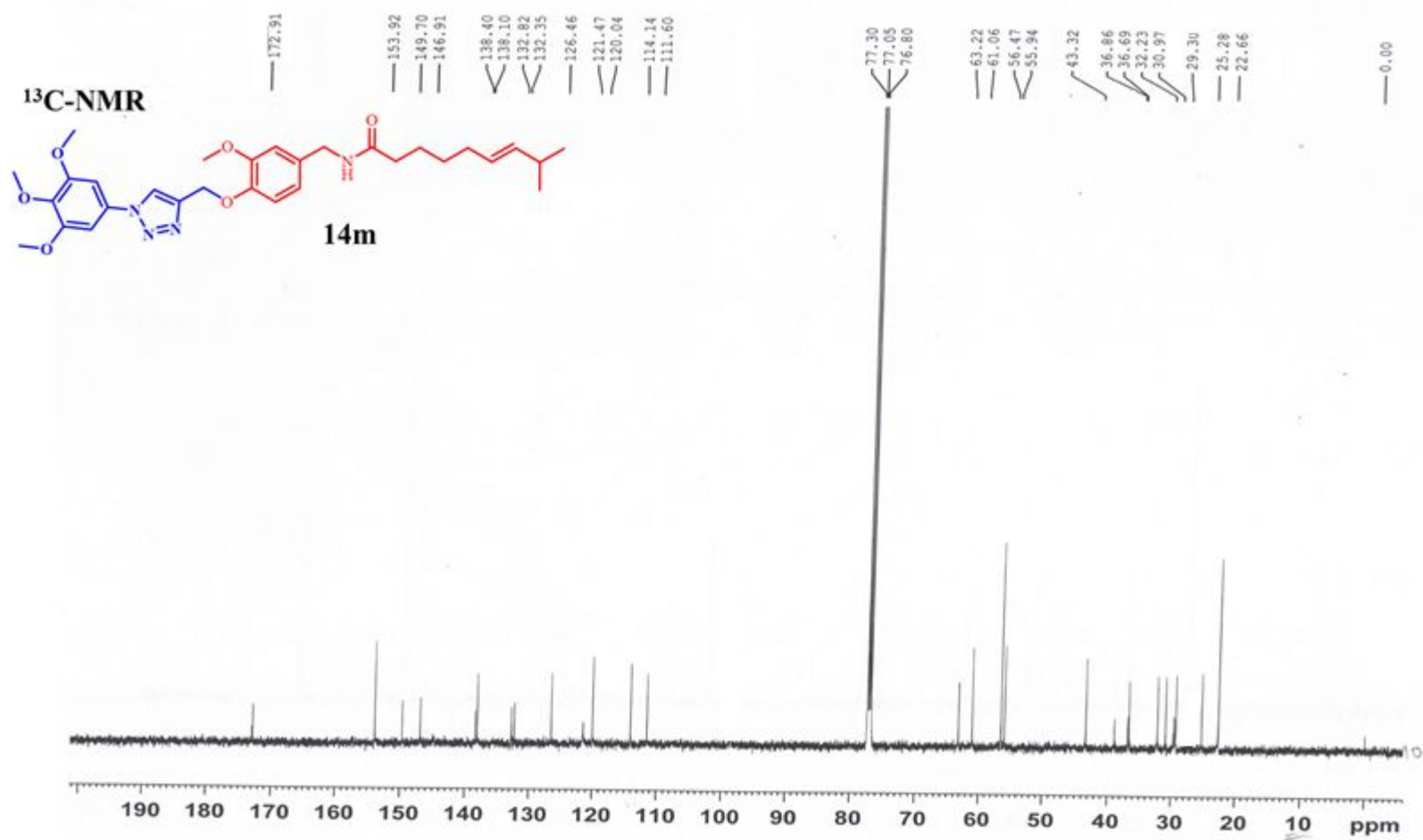


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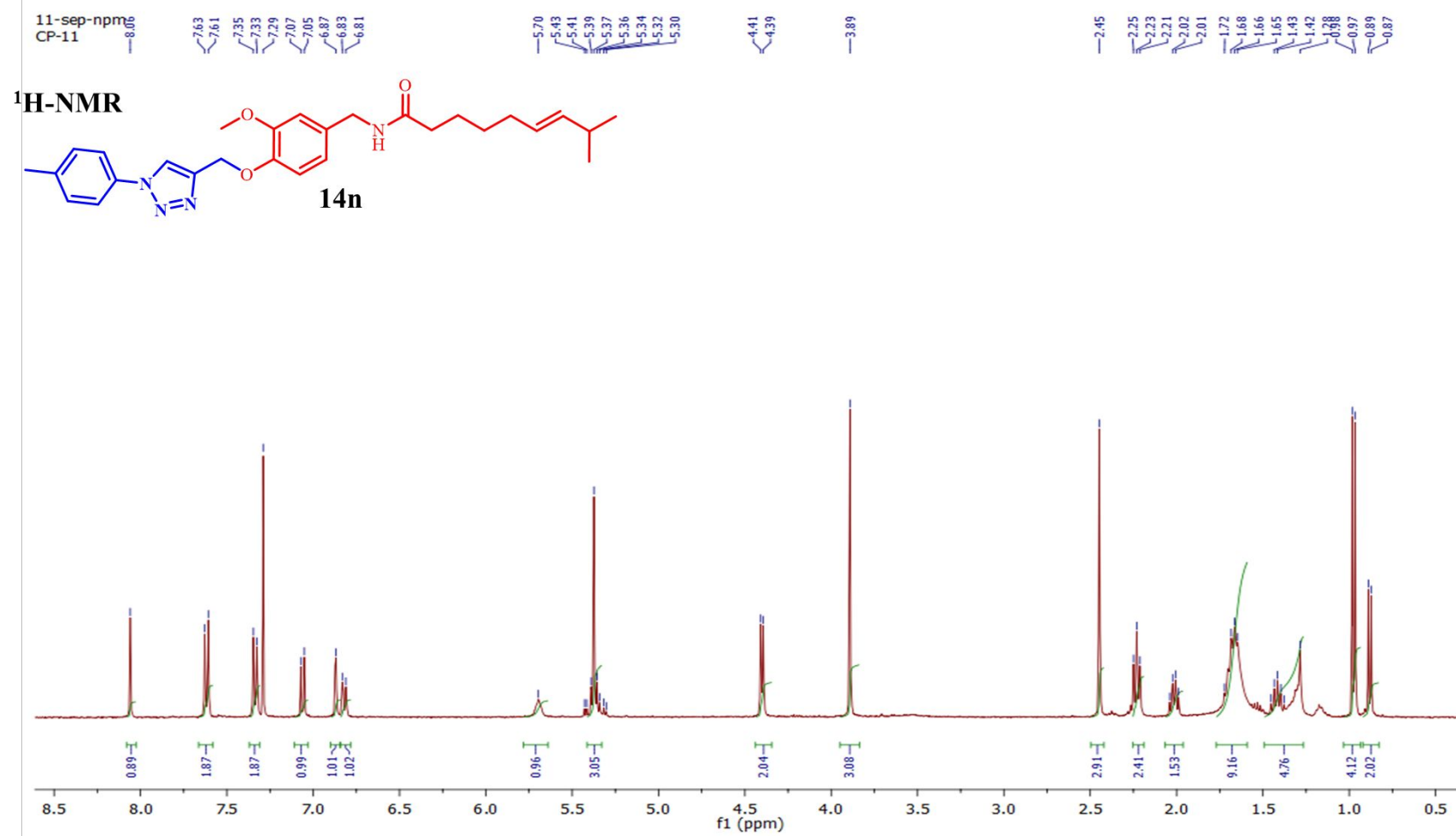
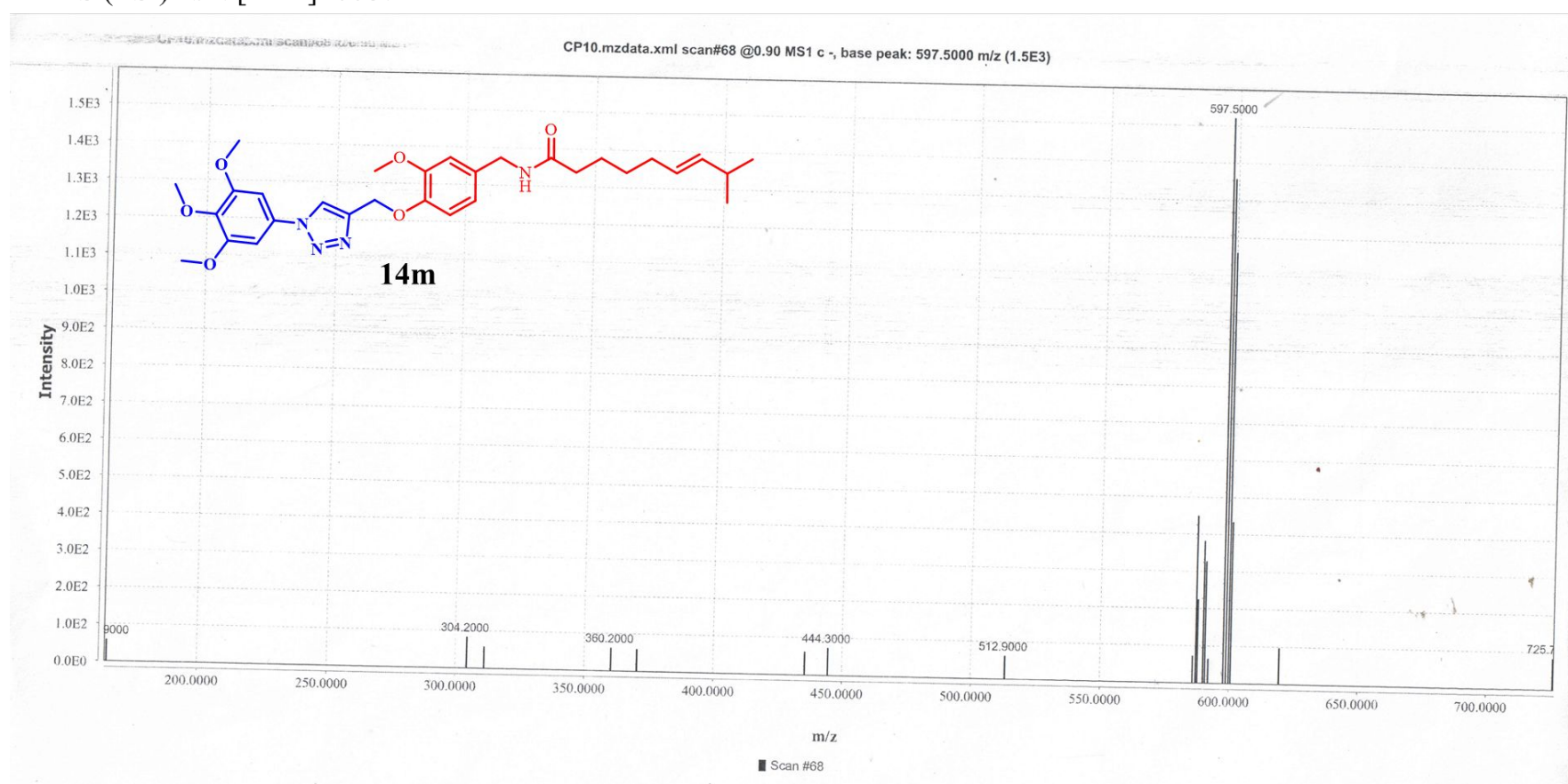
¹H-NMR



¹³C-NMR

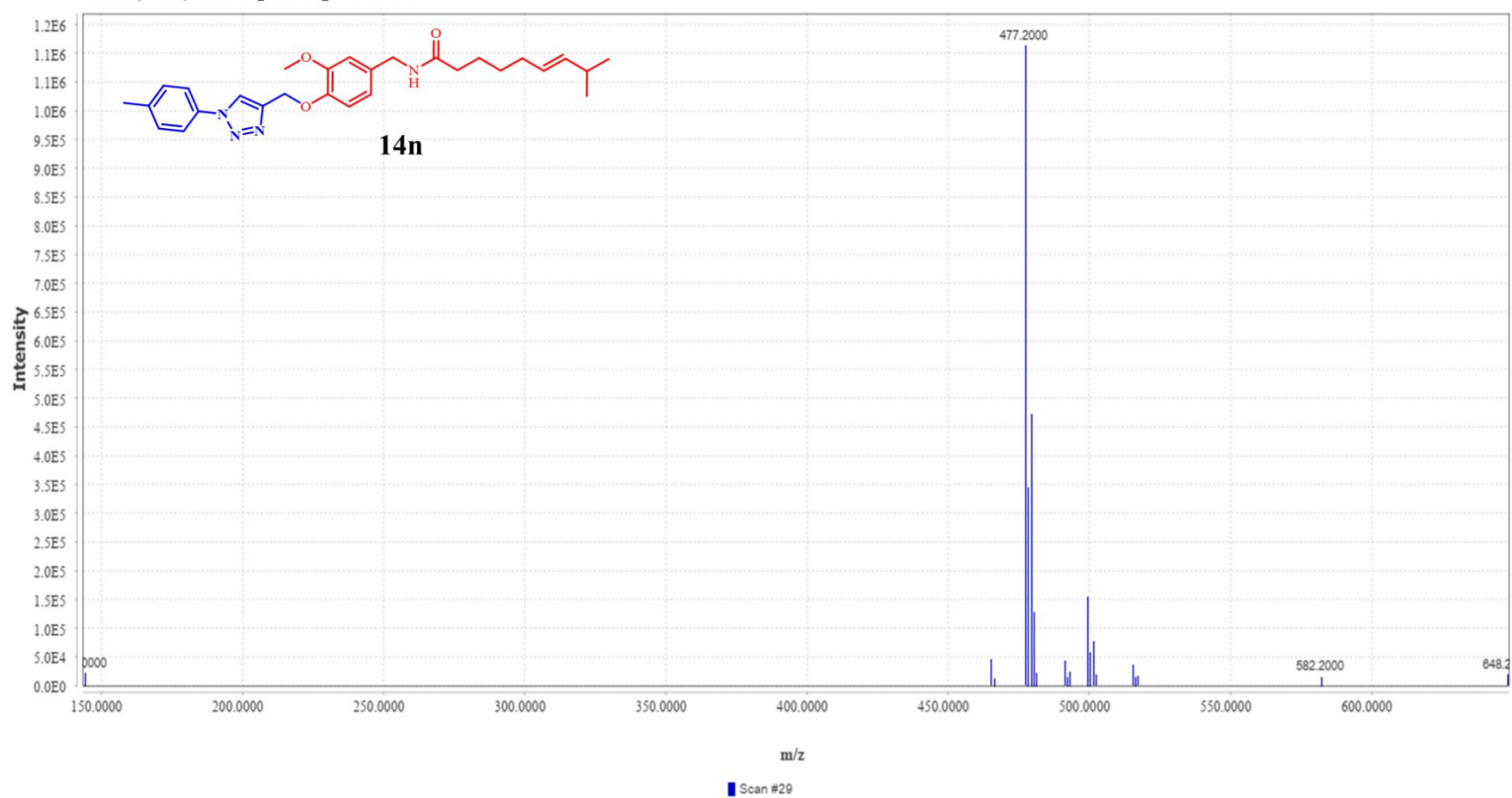


MS (ESI) m/z : $[M+1]^+$ 553.1

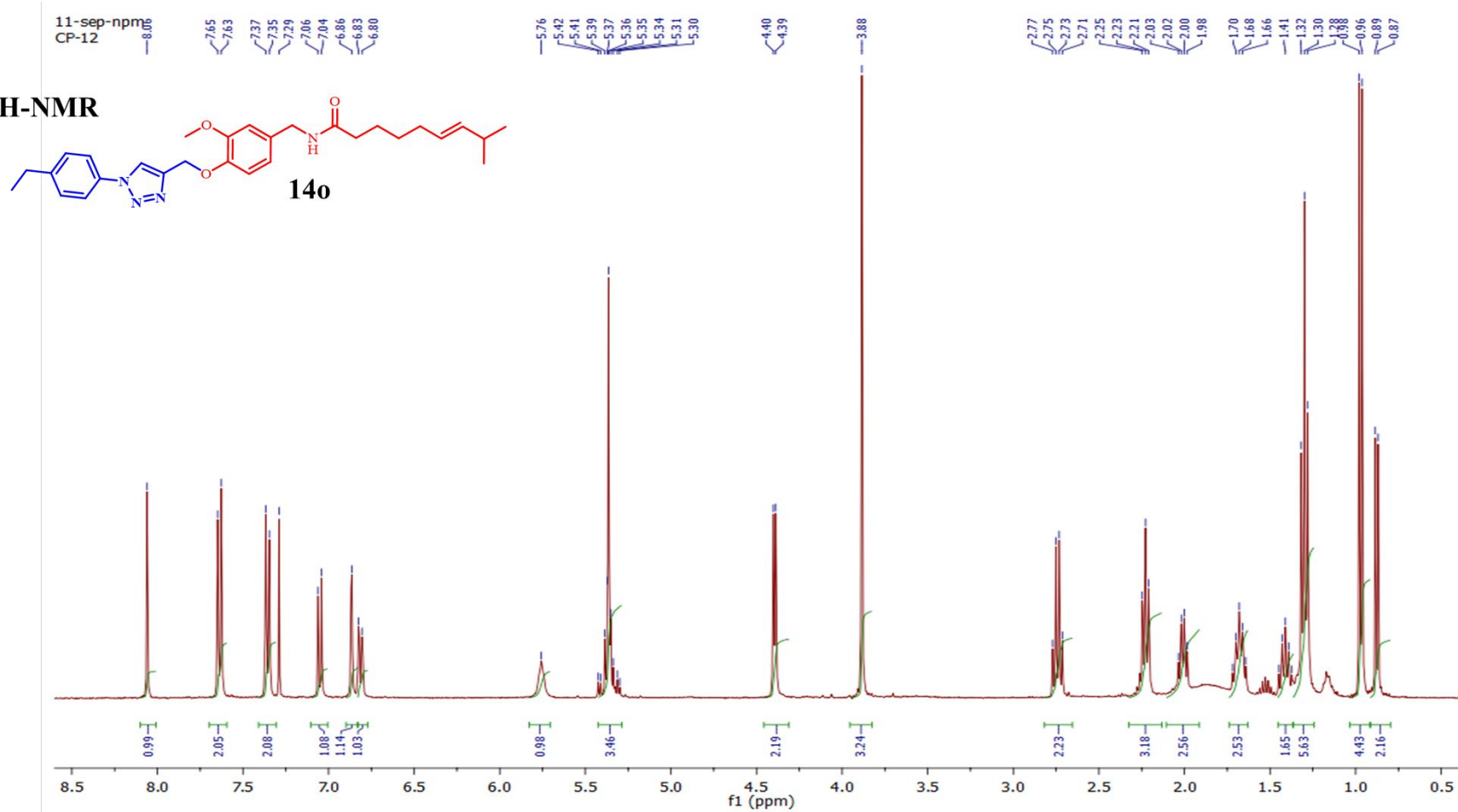


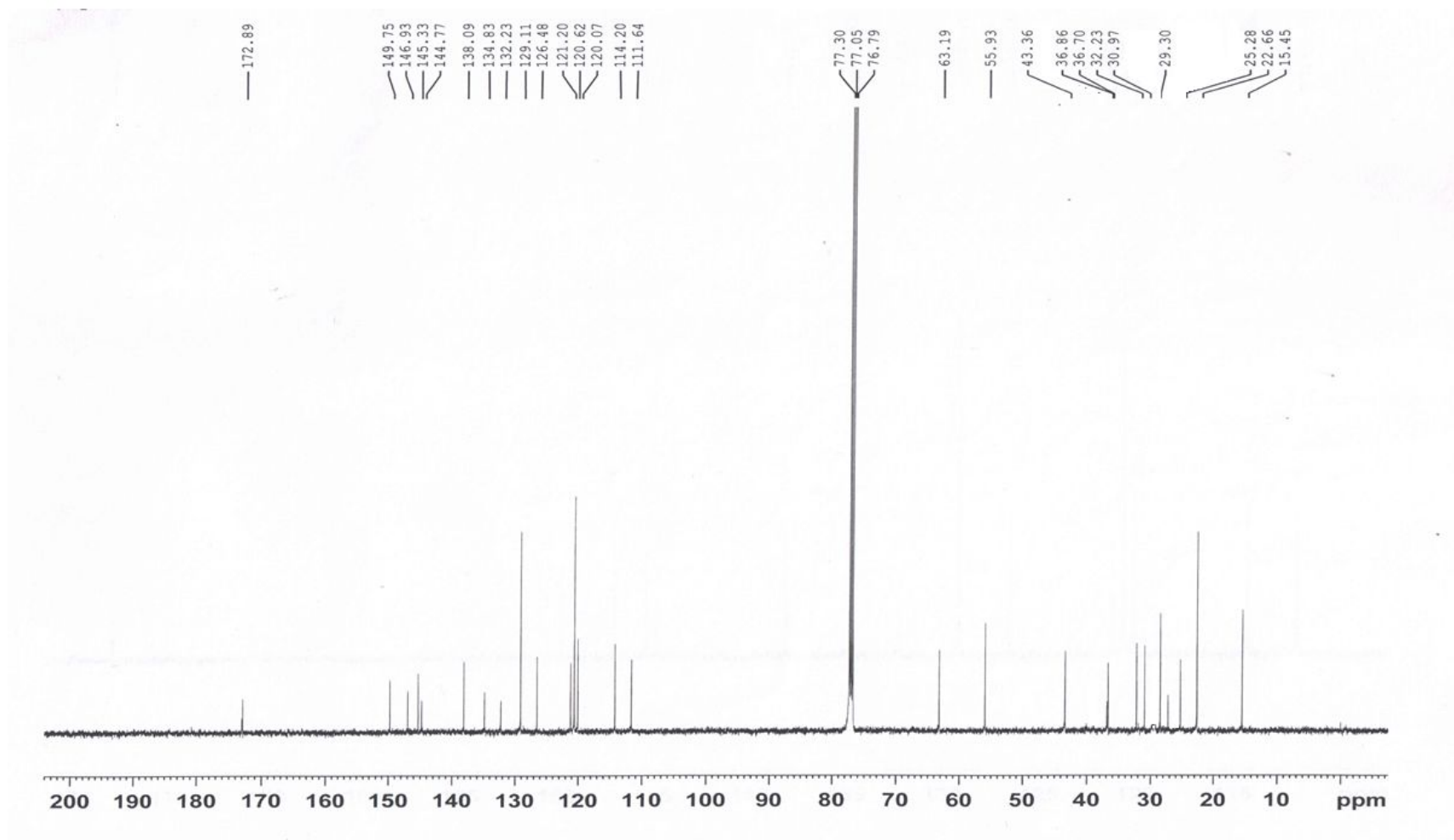
MS (ESI) m/z : $[M+1]^+$ 477.2

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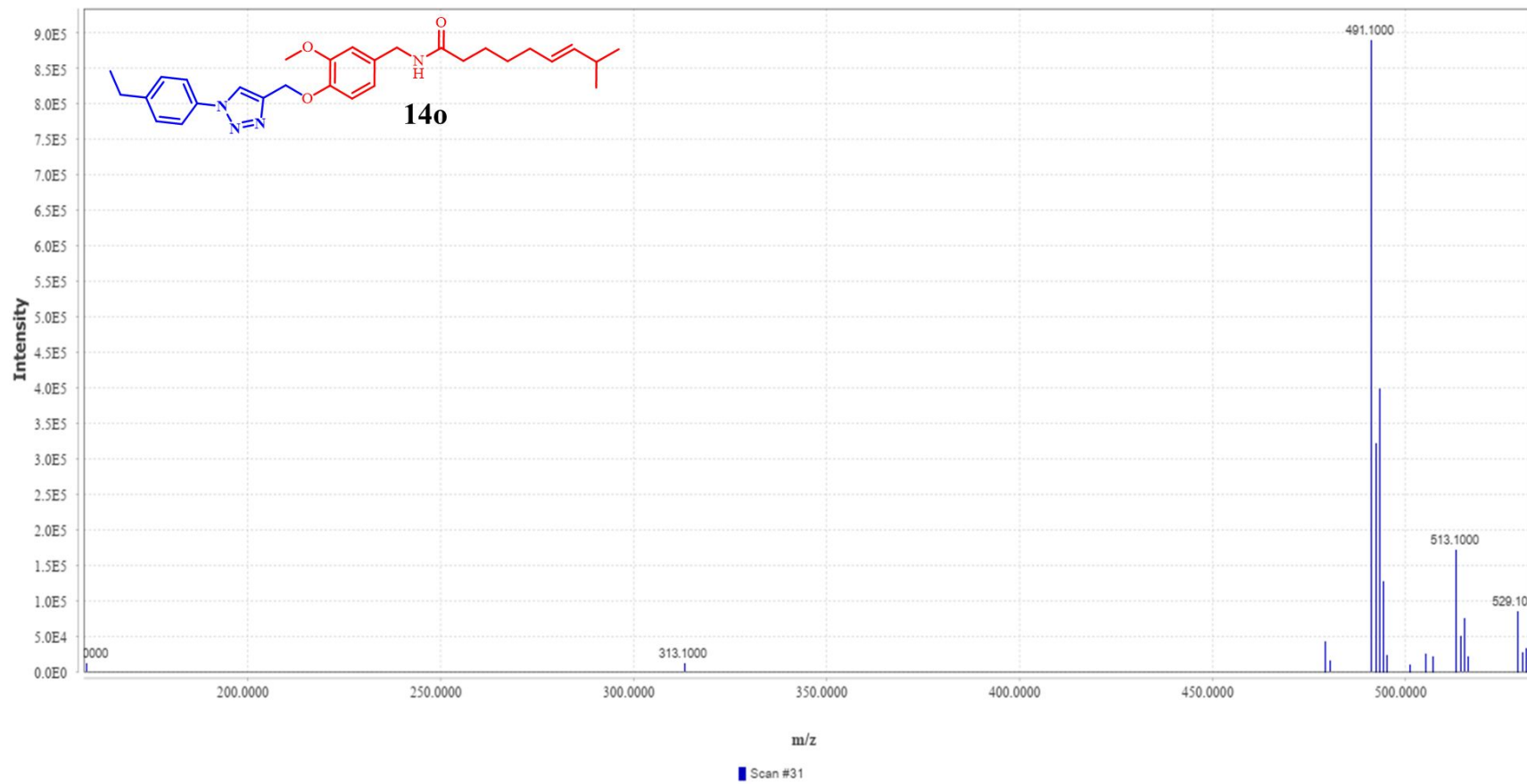
$^1\text{H-NMR}$

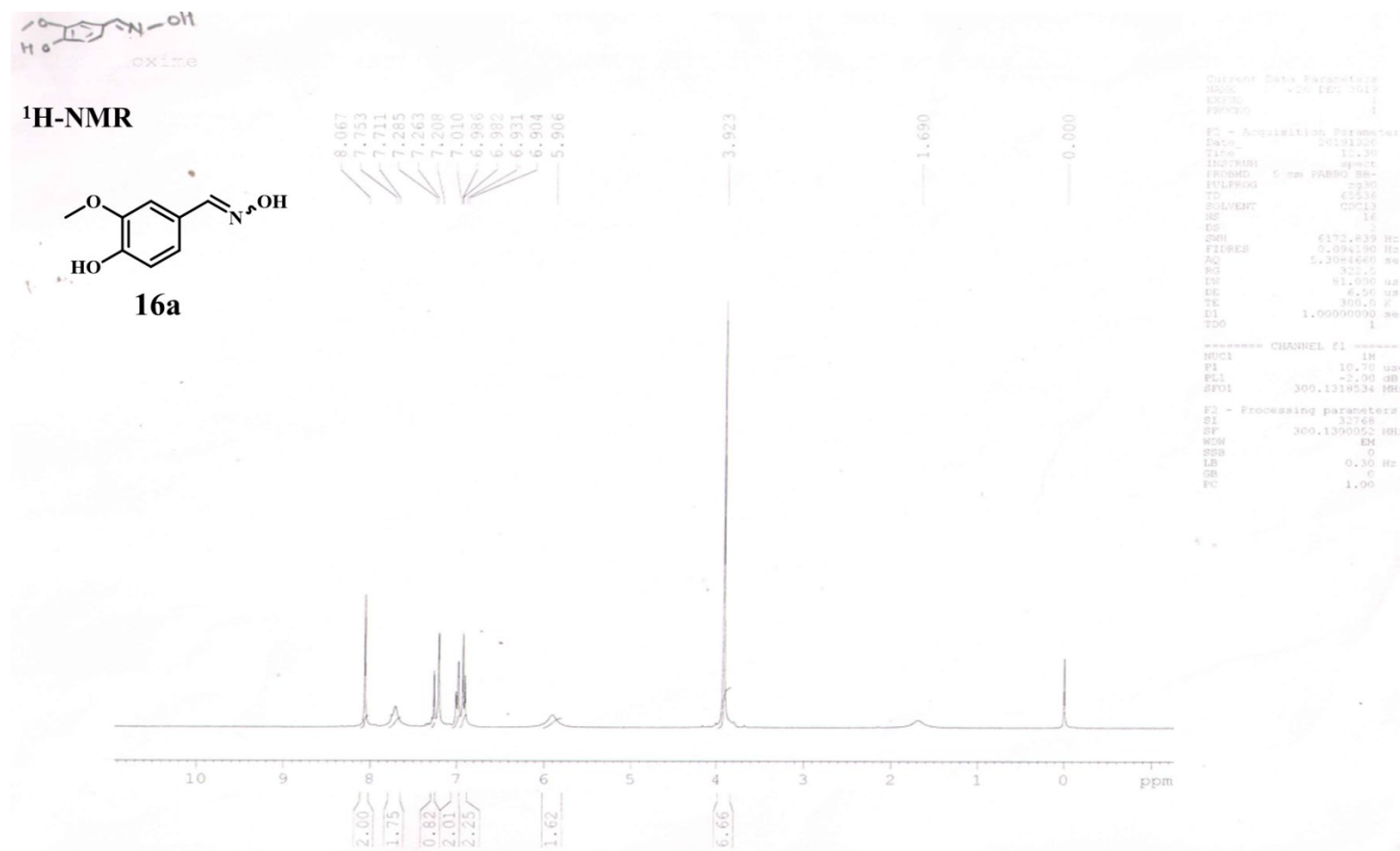
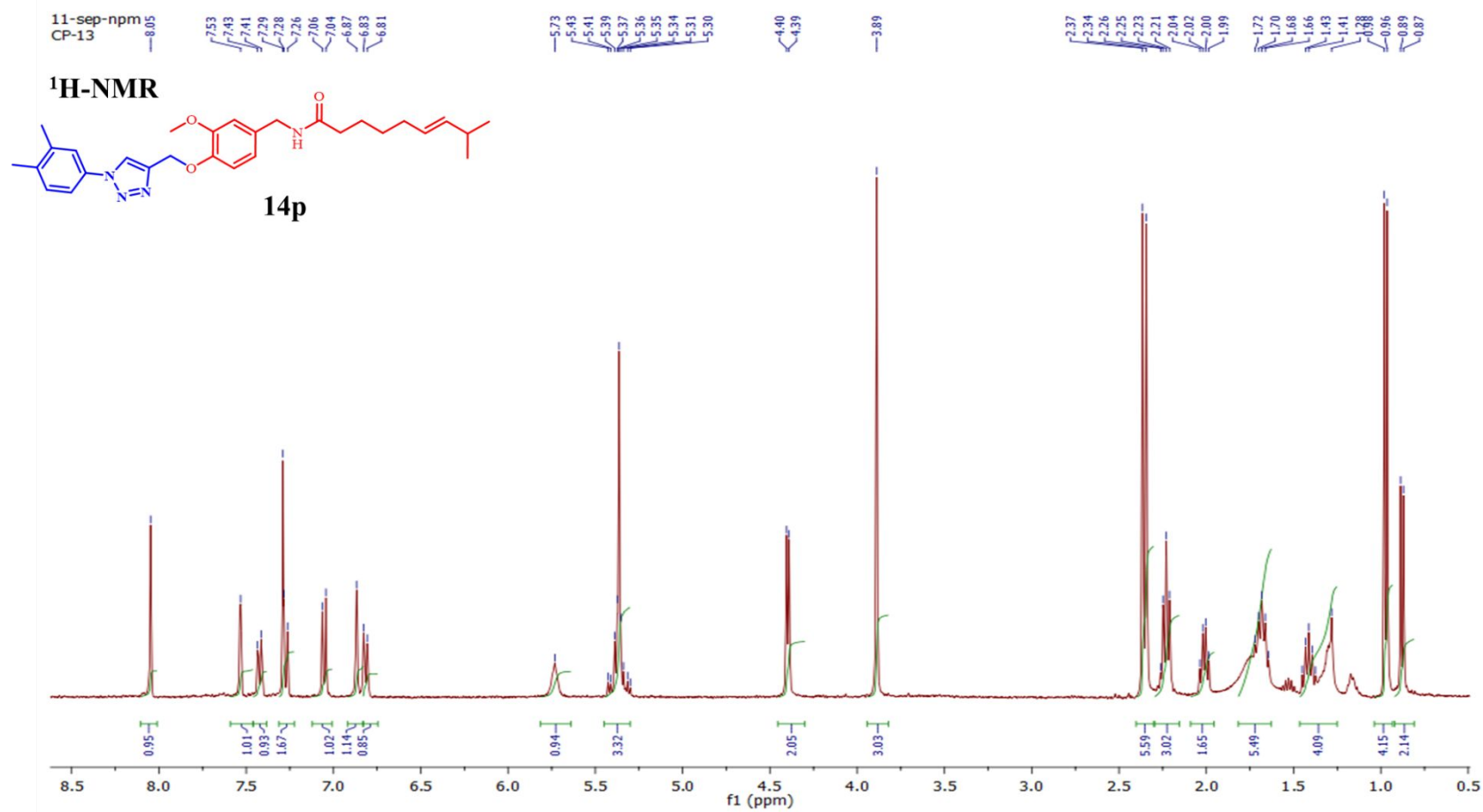




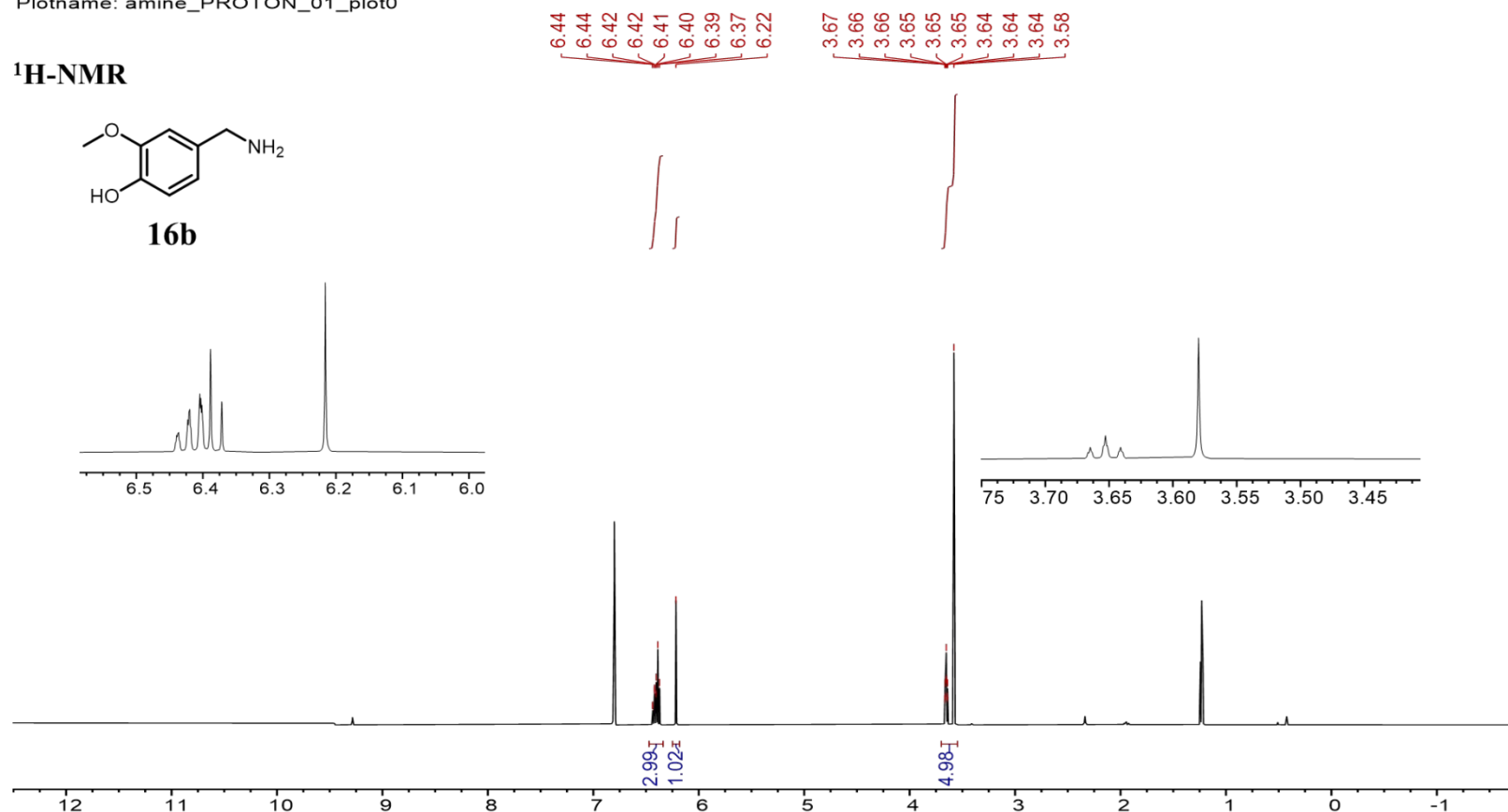
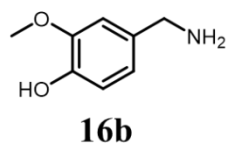
MS (ESI) m/z : $[M+1]^+$ 491.1

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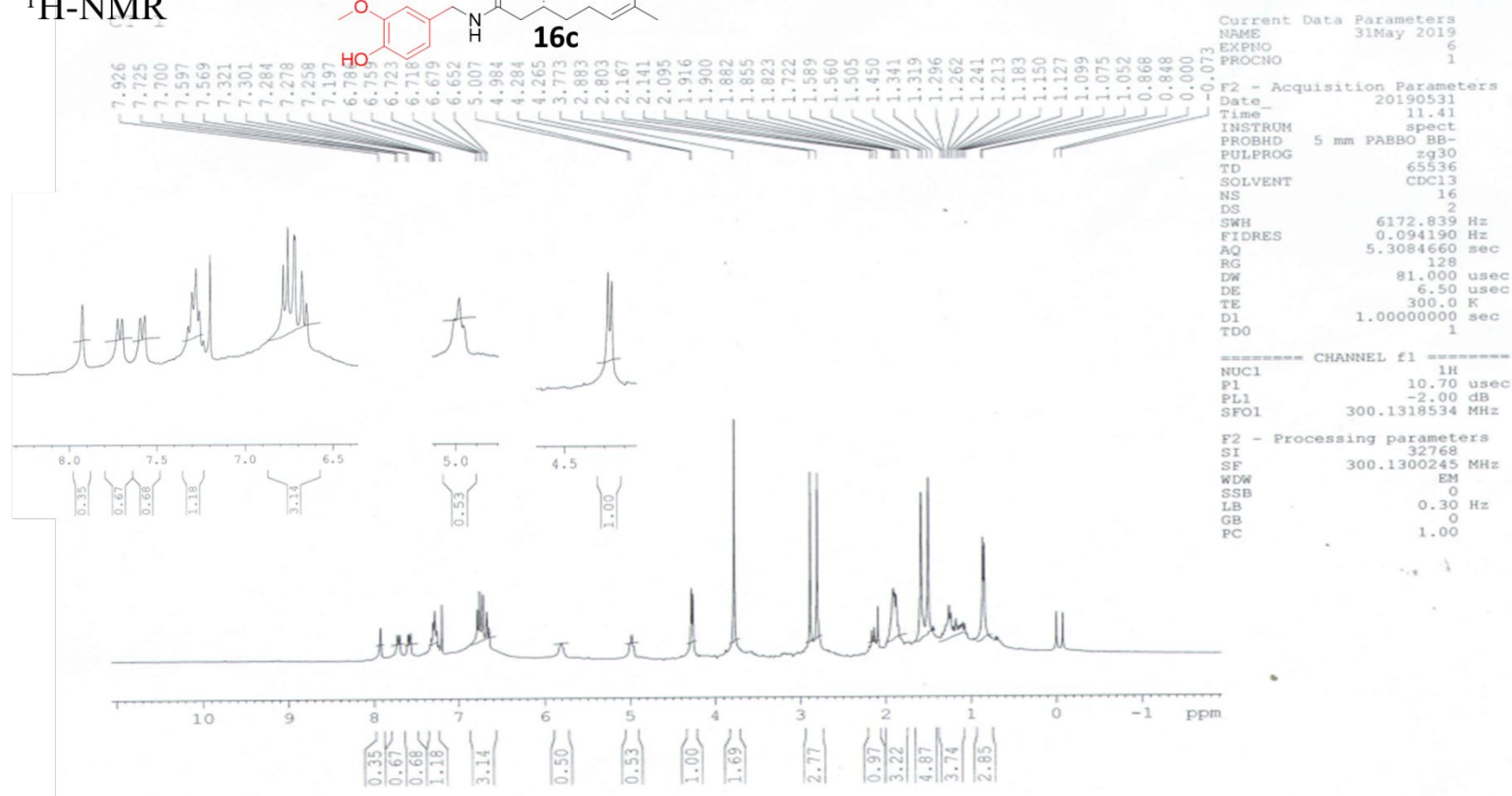
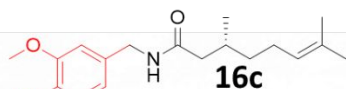




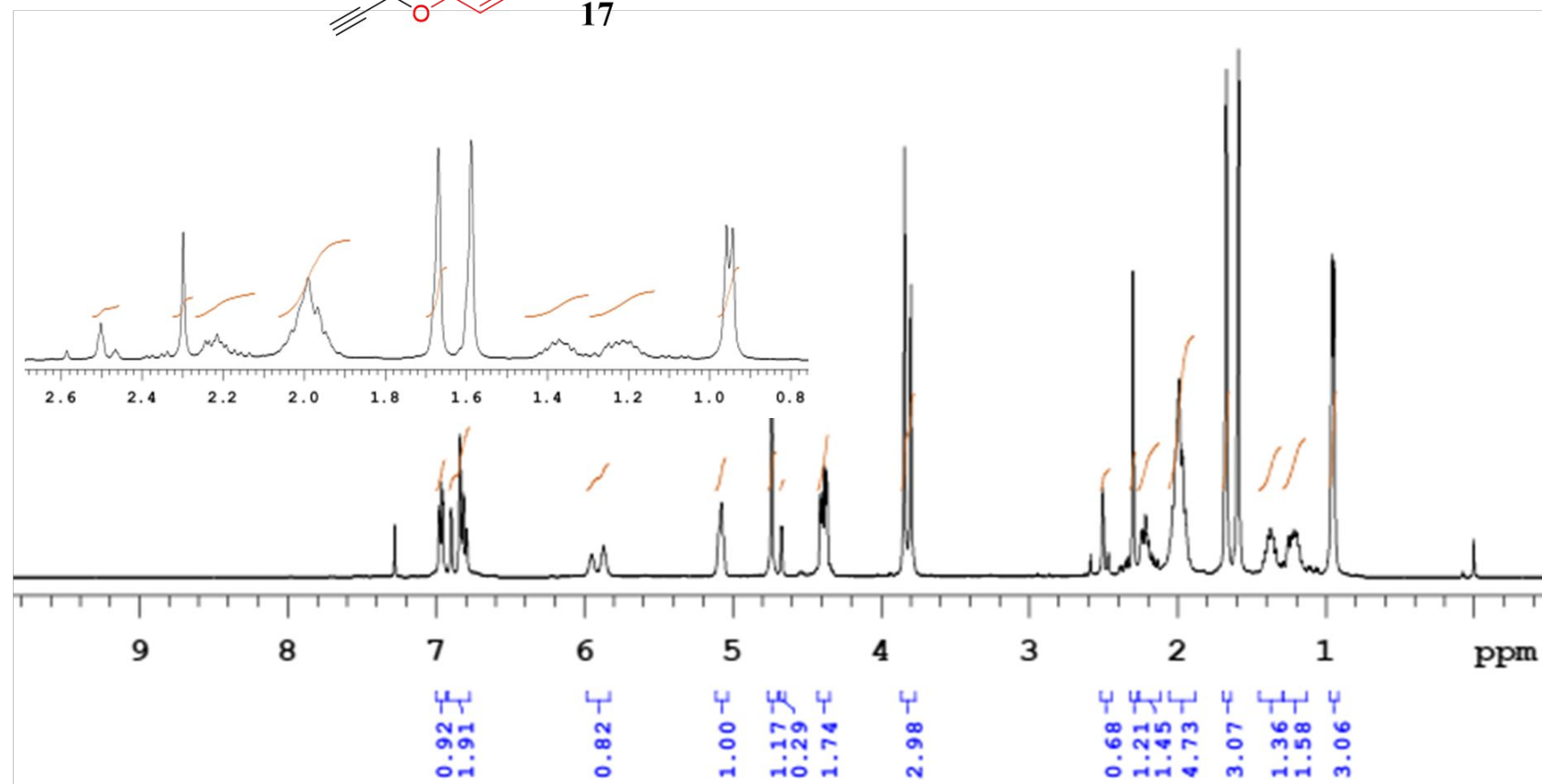
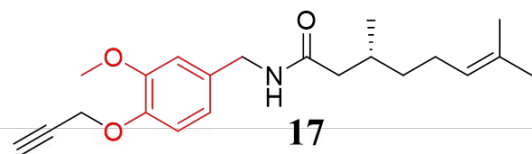
¹H-NMR



¹H-NMR

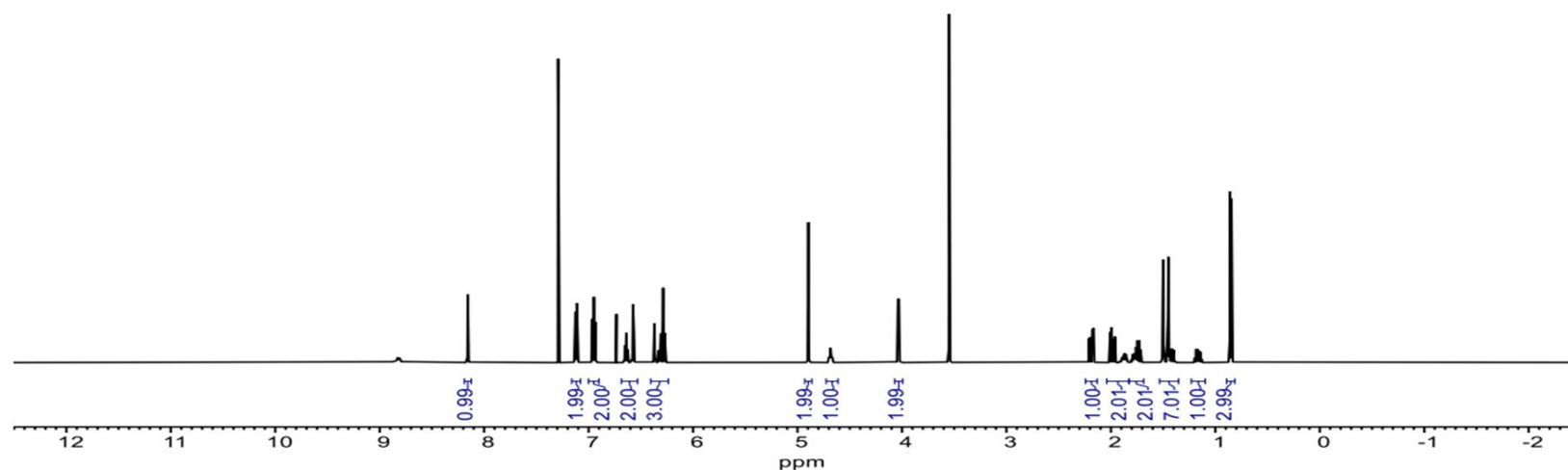
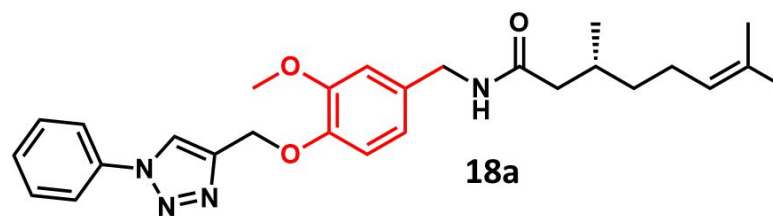


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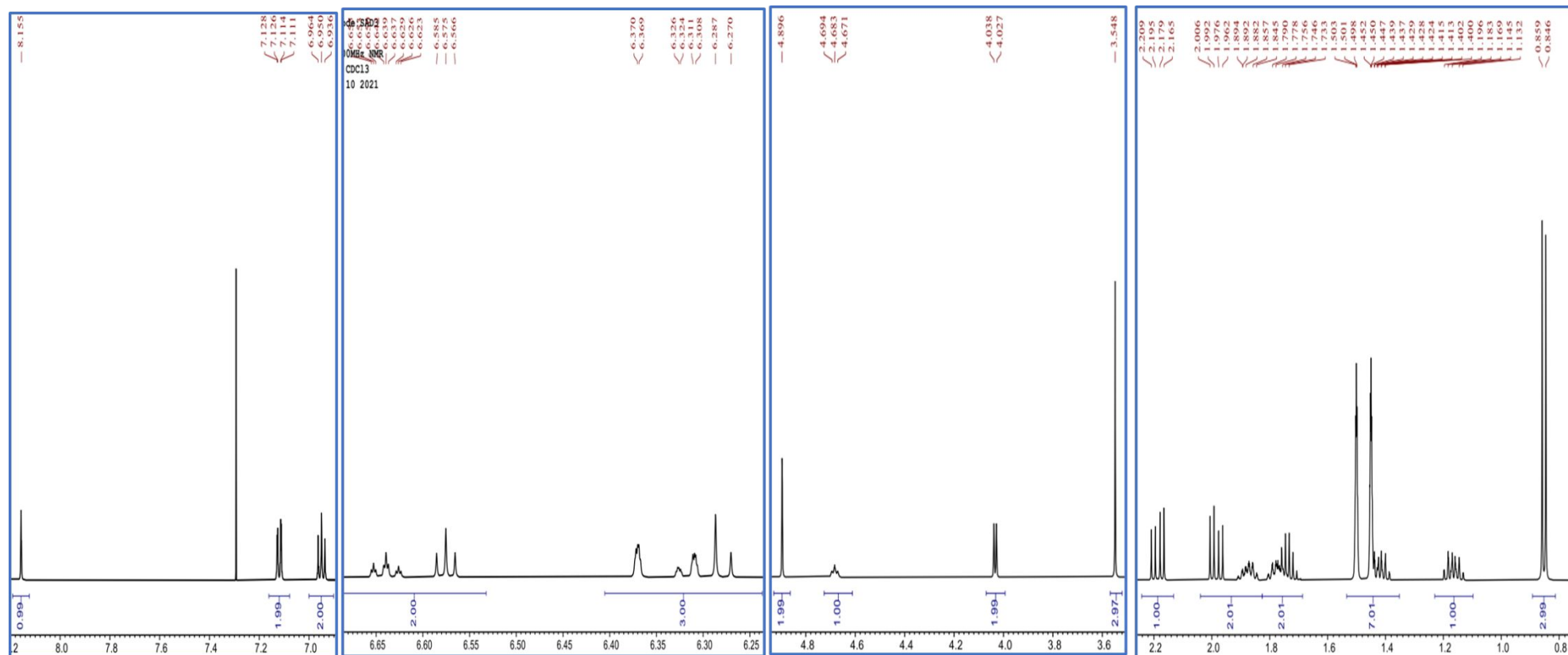


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Solvent: CDCl3
Date: Jul 10 2021

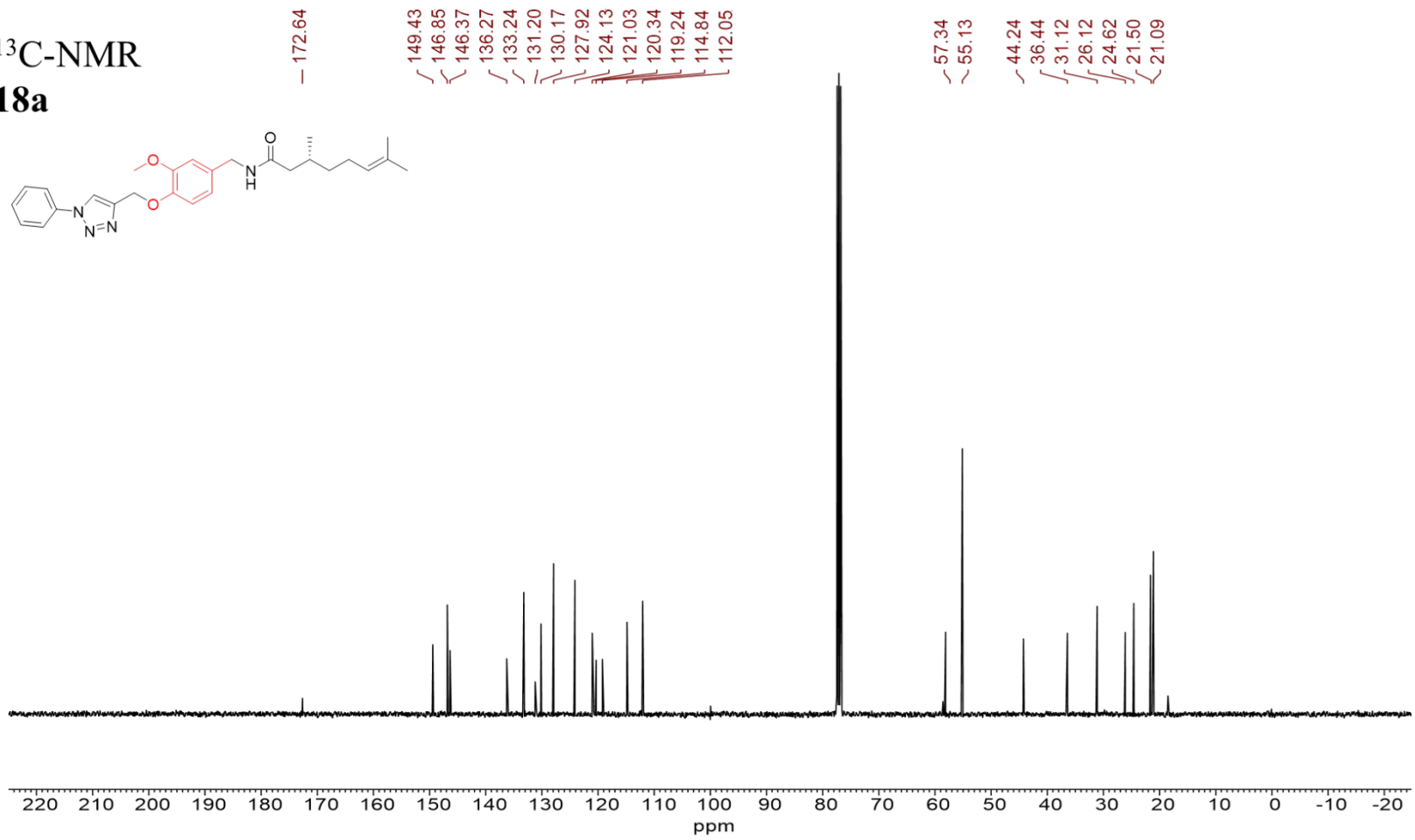
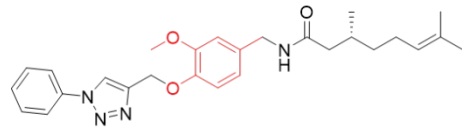
¹H-NMR



Plotname: SAD2_PROTON_01_plot01



¹³C-NMR
18a

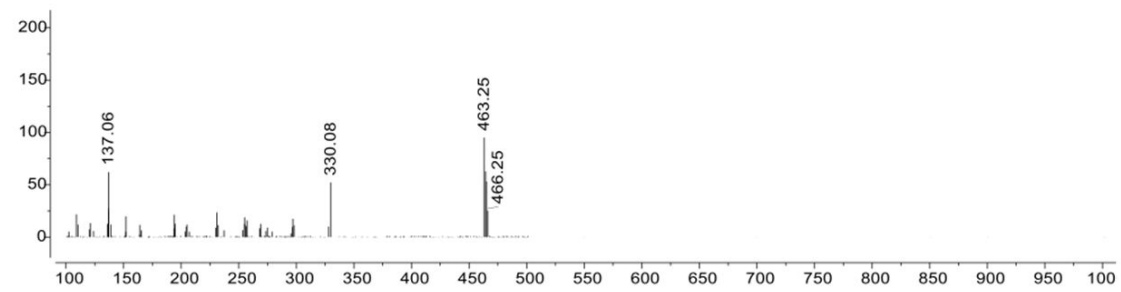
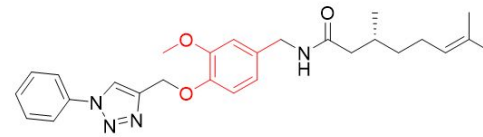


ESI-MS

18a

Page 1

Retention Time (MS)	MS Area	Mol. Weight or Ion
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		463.25 I
		466.25 I

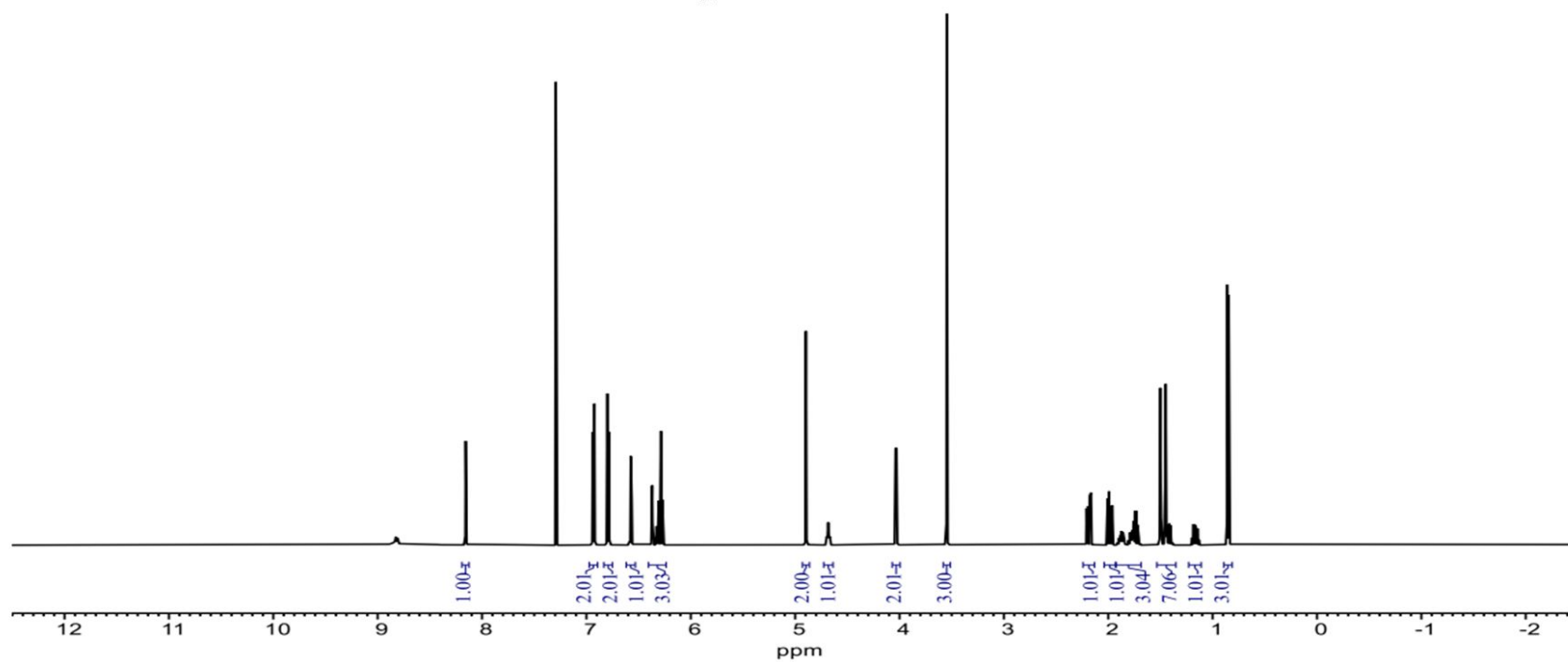
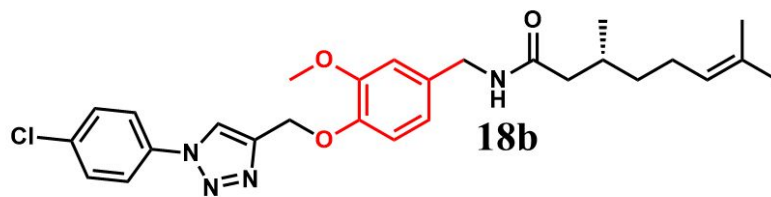


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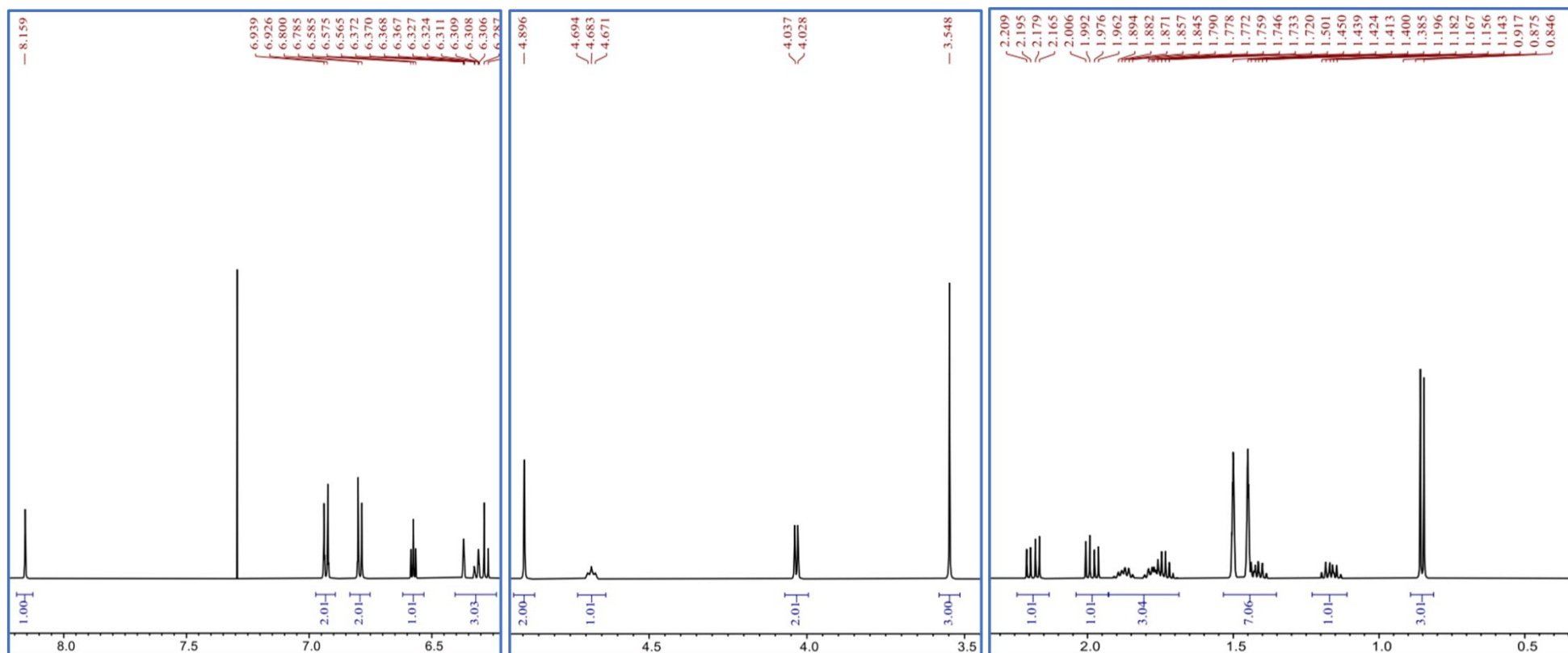
VARIAN 400MHz NMR

Solvent: CDCl3

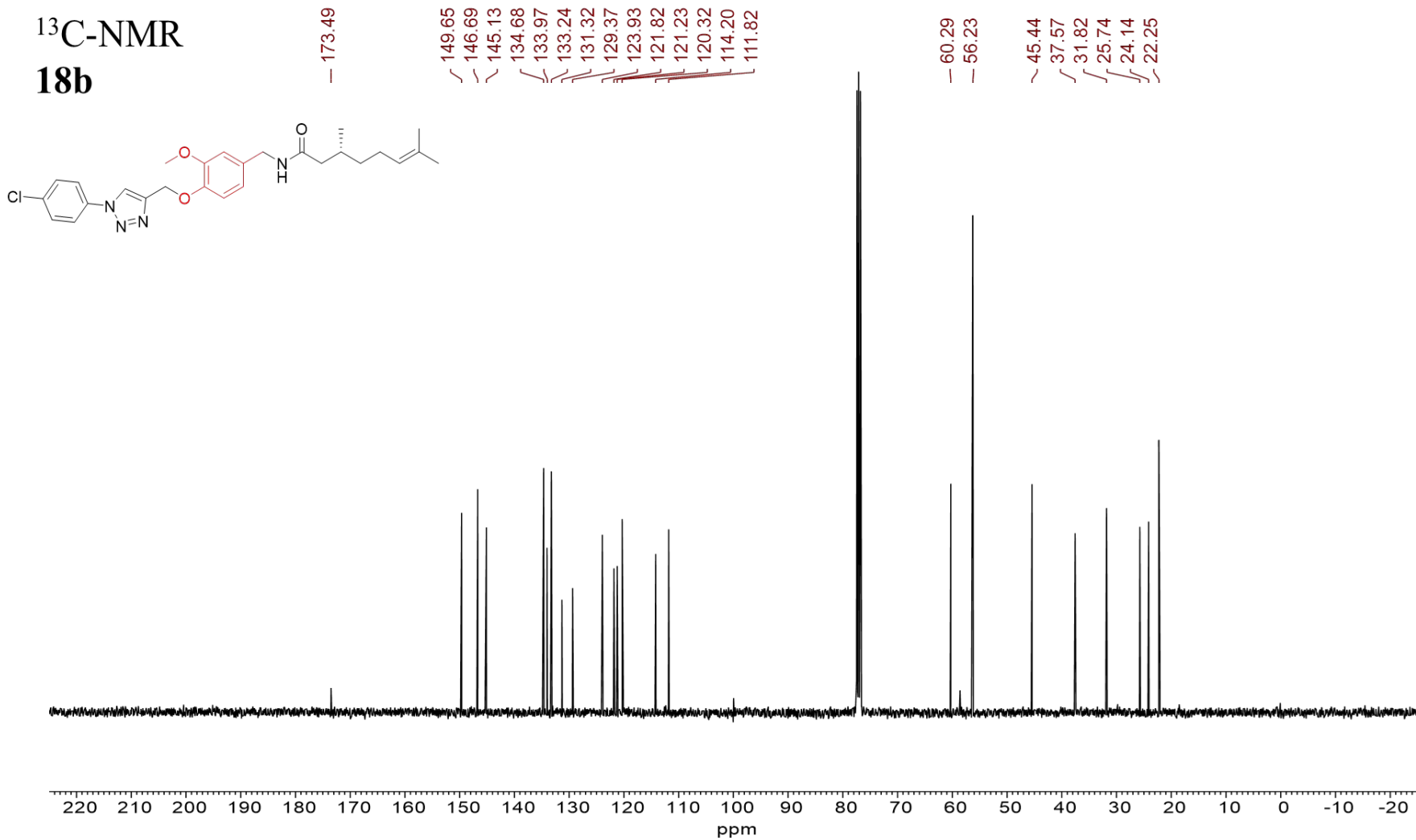
Date: Jul 10 2021



Plotname: SAD2_PROTON_01_plot01



¹³C-NMR
18b

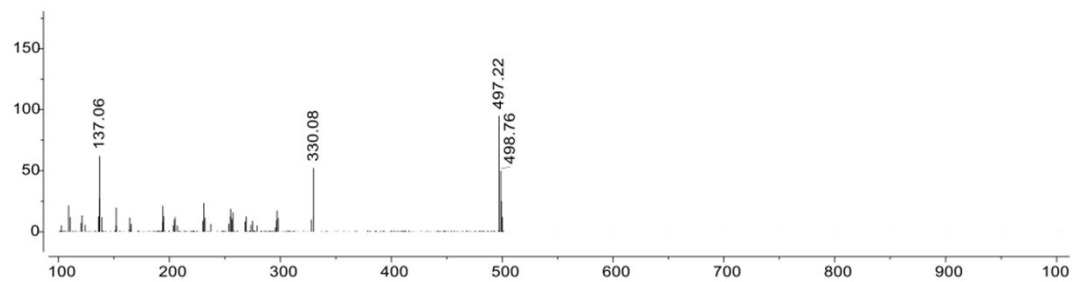
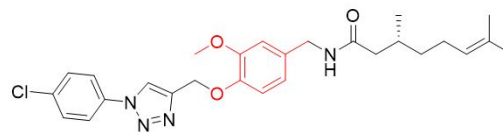


ESI-MS

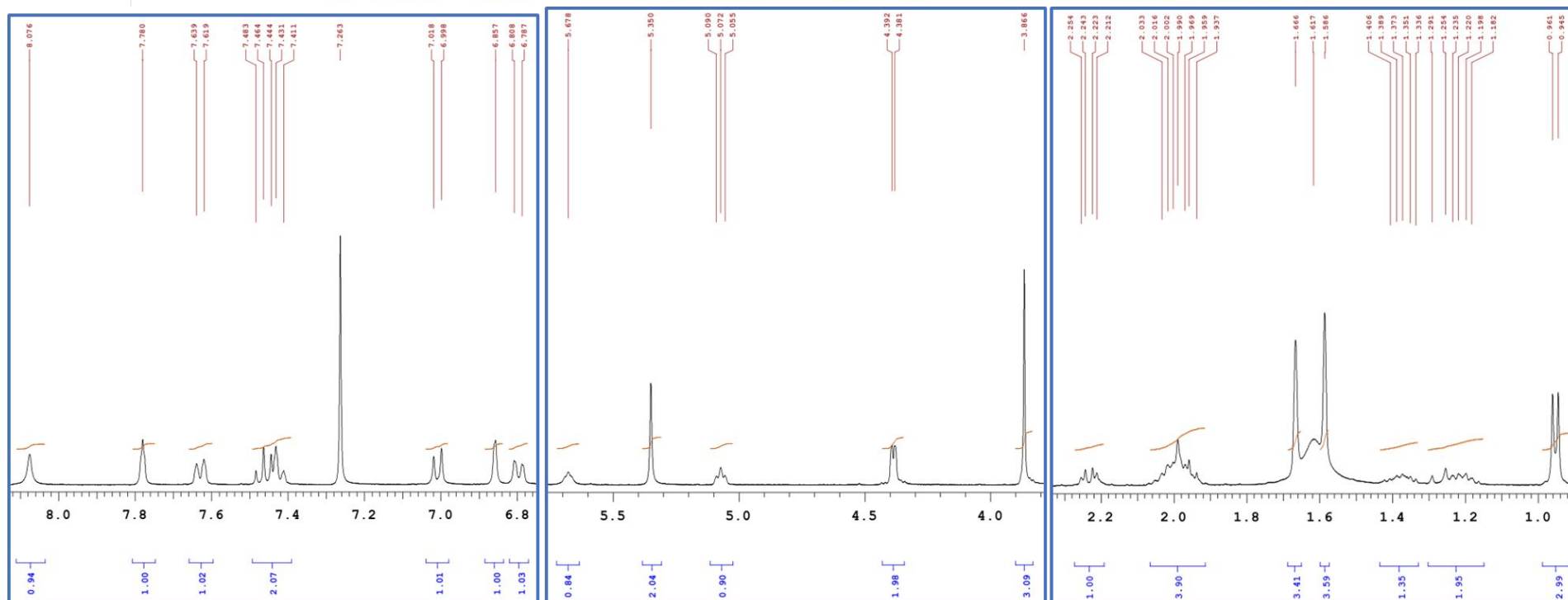
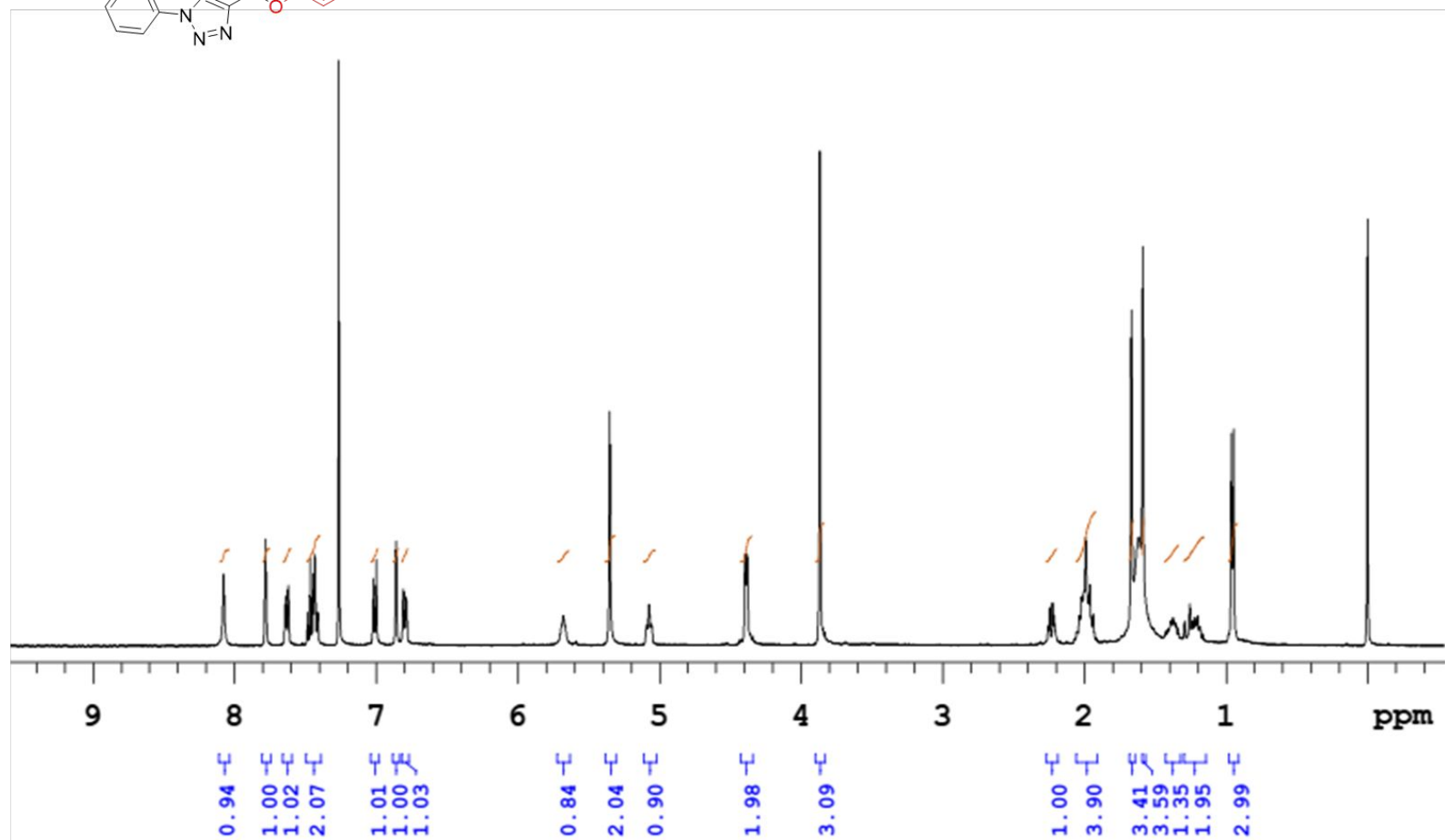
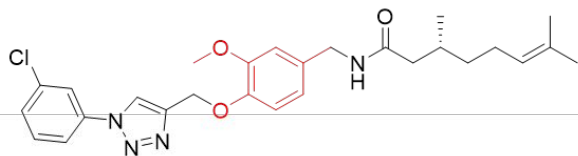
18b

Page 1

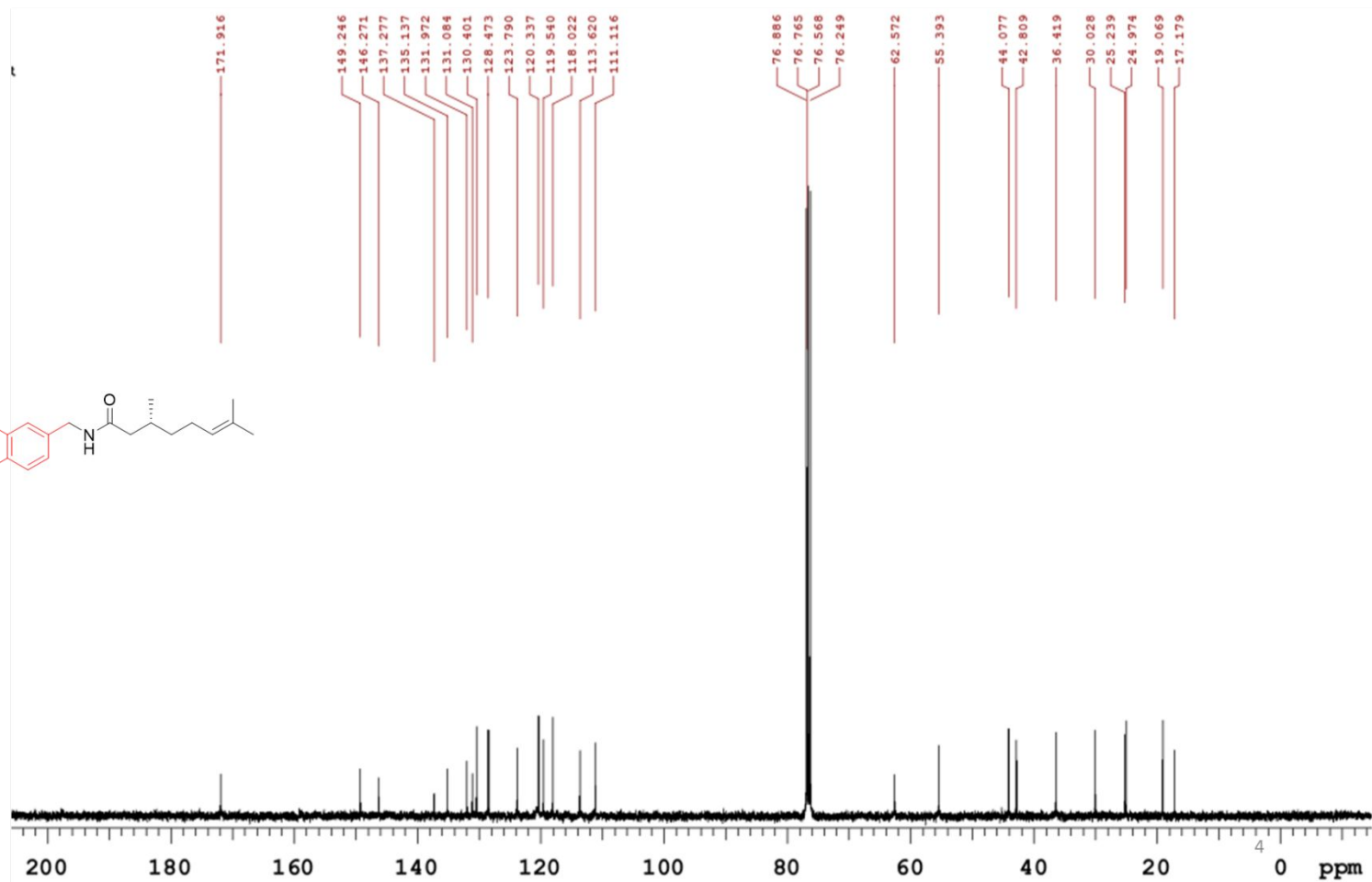
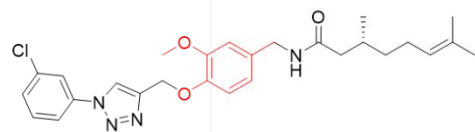
Retention Time (MS)	MS Area	Mol. Weight or Ion
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¹H-NMR
18c



¹³C-NMR
18c



Sample Information

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Date Processed : 12/16/2021 3:35:14 PM

Sample ID :

Vial# :

Data File :

Processed by :

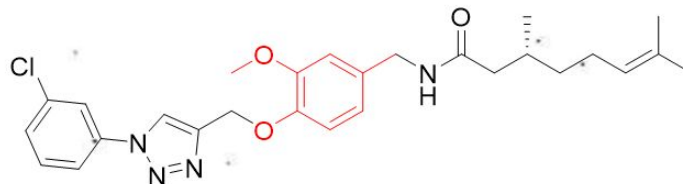
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: 85

: 16-12-2021 Jlcd26.lcd

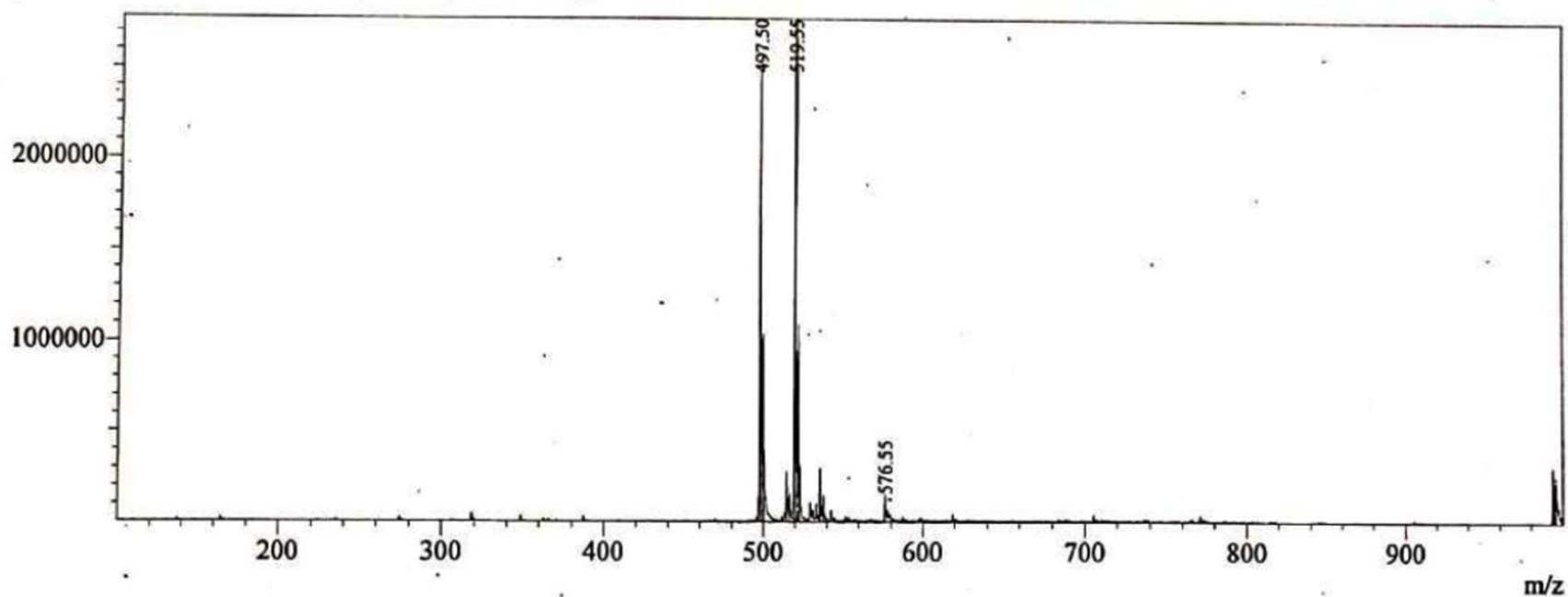
: System Administrator

LC-MS Spectra
18c

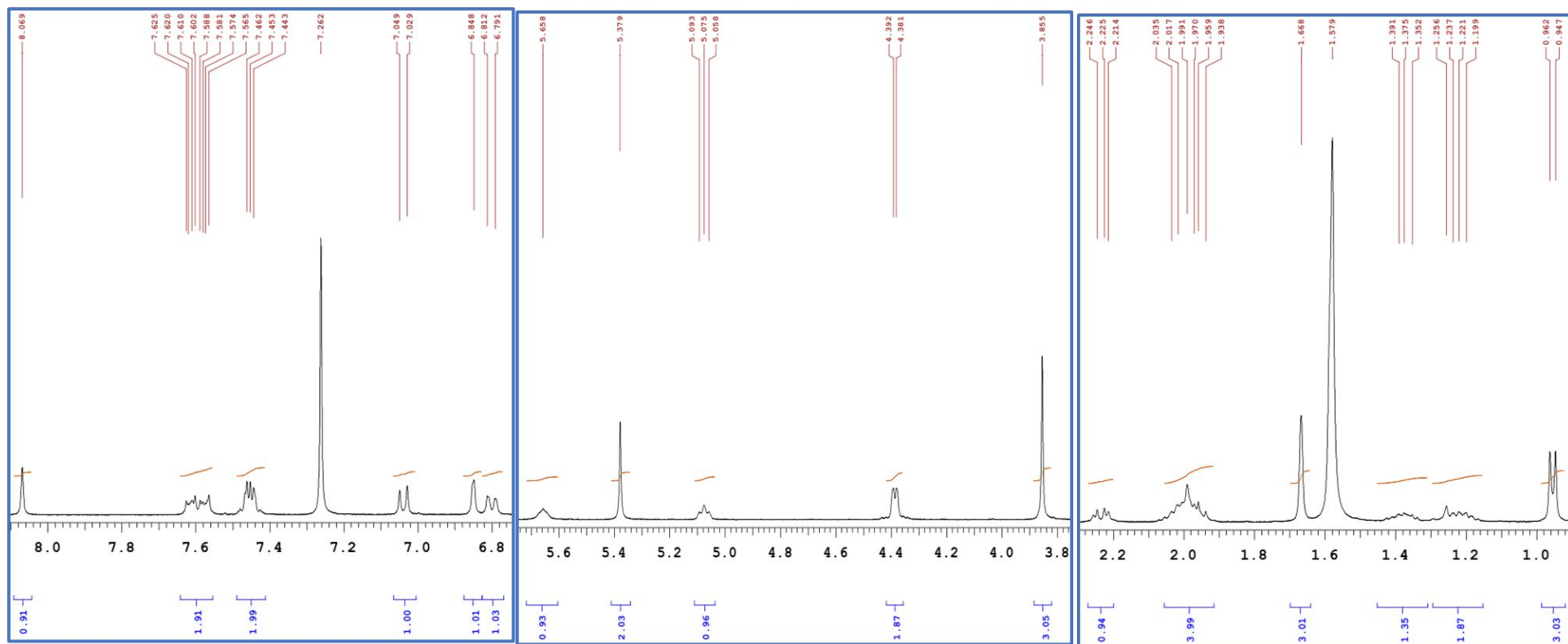
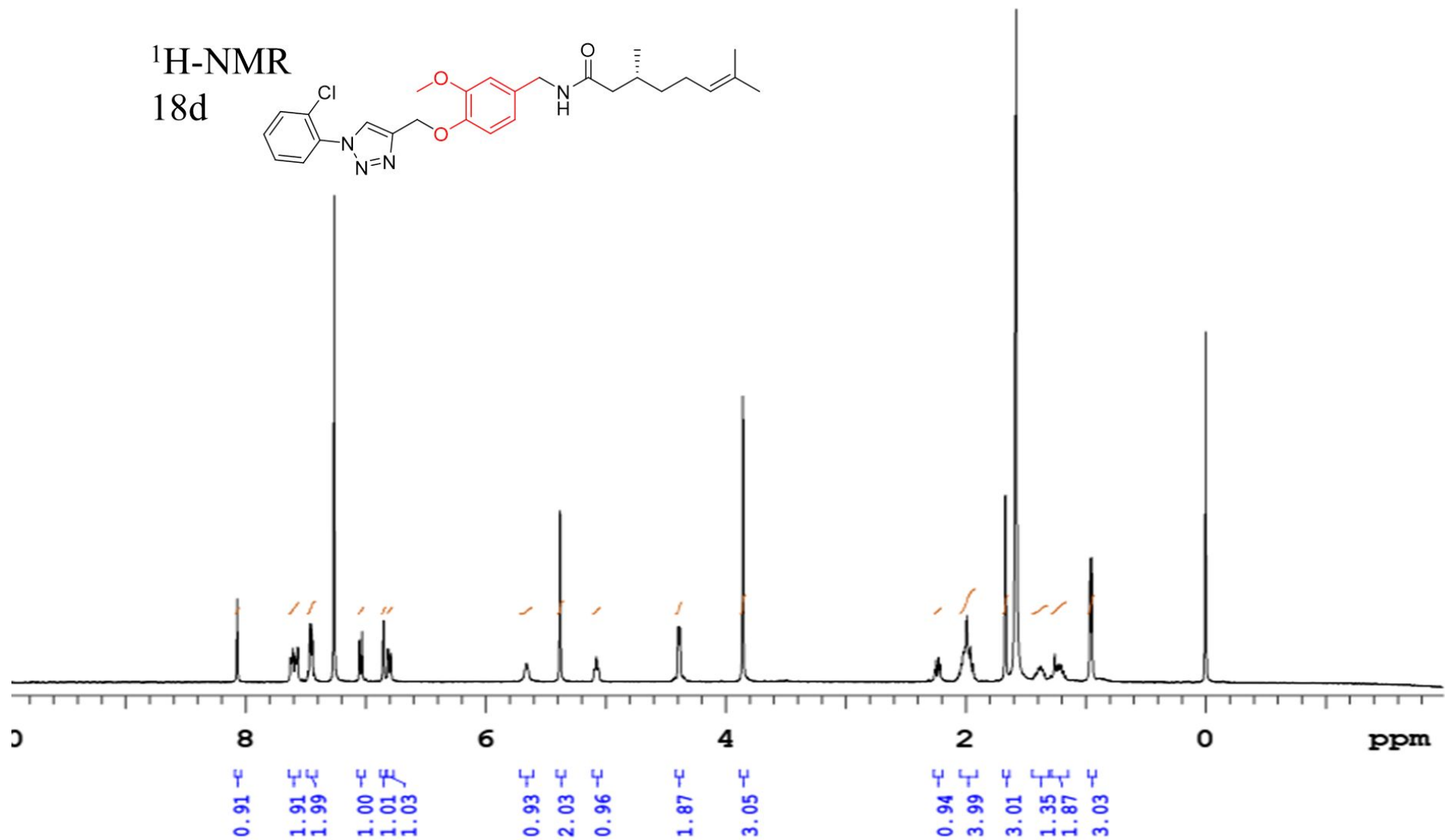
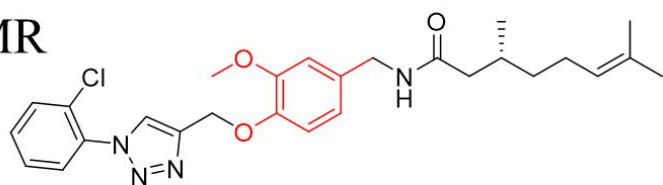


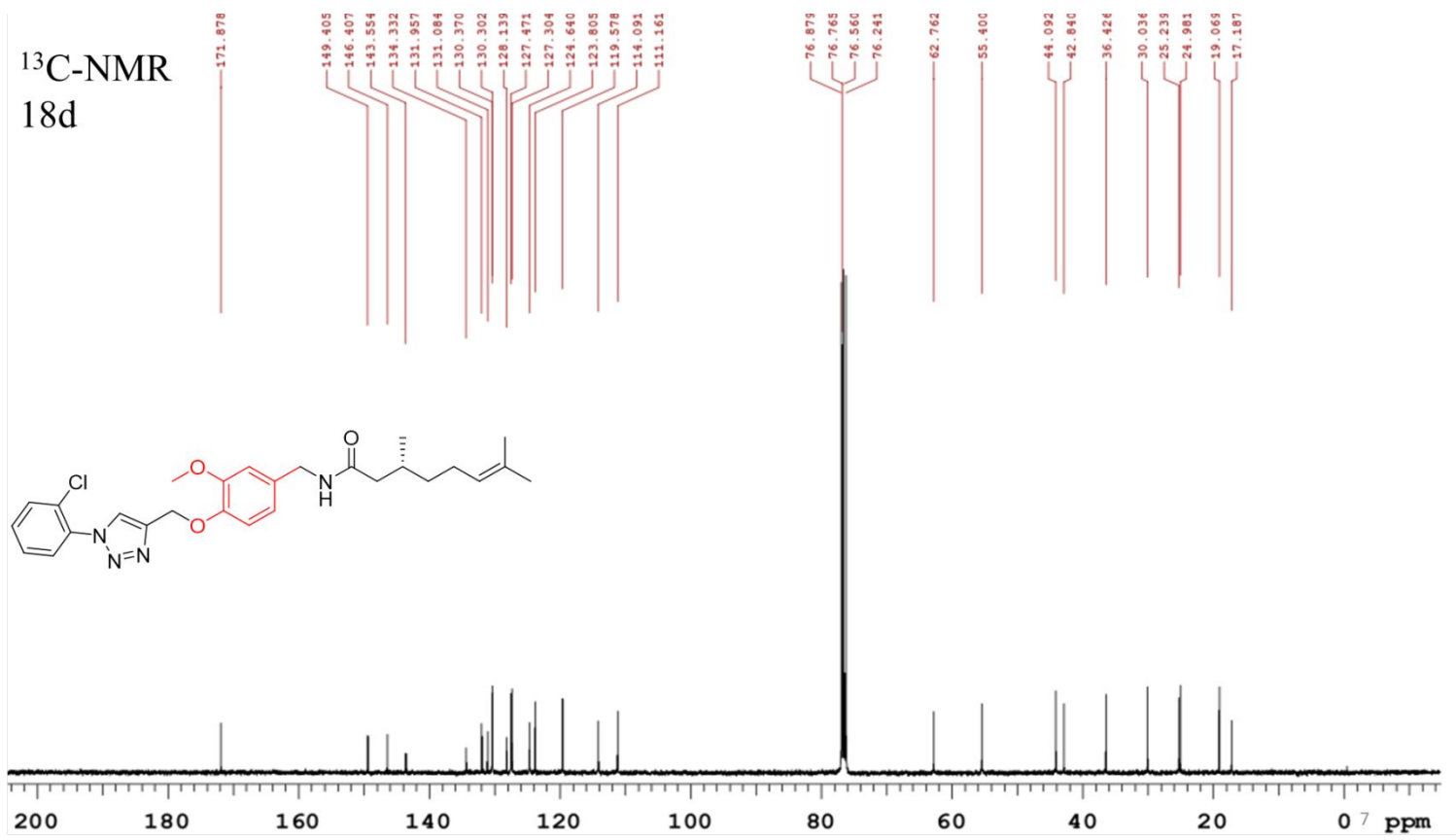
MS Spectrum

BG Mode:Averaged 0.515-0.979(61-115)\$EndIf\$ Segment 1 - Event 1



¹H-NMR
18d





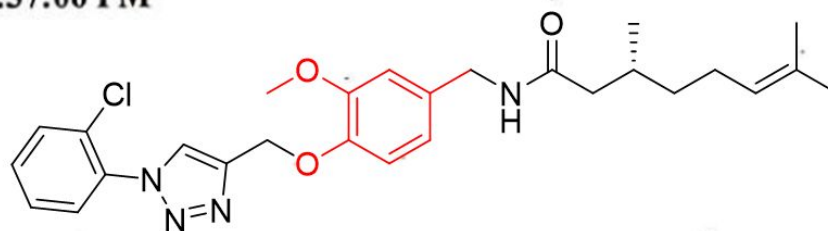
Sample Information

Sample Name : SA 5
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANN 13APRIL2021.lcm
Date Processed : 12/16/2021 3:37:00 PM

Sample ID :
Vial# : 86
Data File : 16-12-2021 Jlcd27.lcd

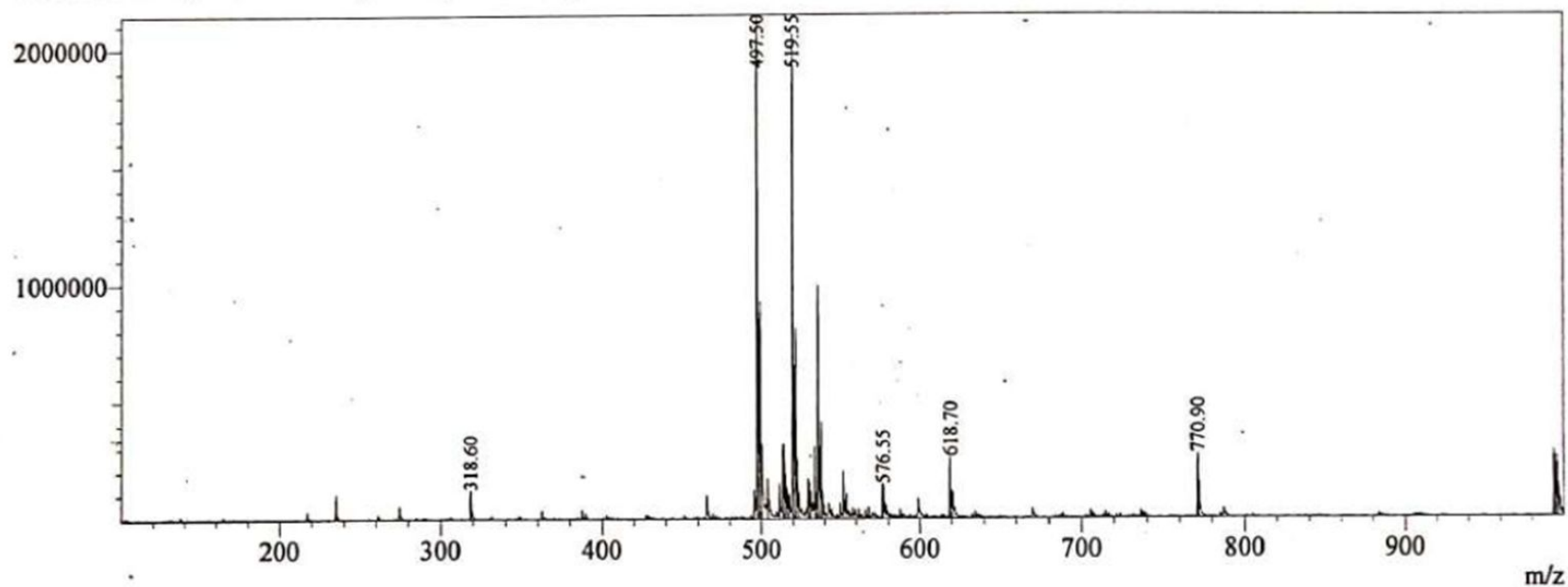
Processed by : System Administrator

LC-MS Spectra
18d



MS Spectrum

BG Mode:Averaged 0.464-0.979(55-115)\$EndIf\$ Segment 1 - Event 1



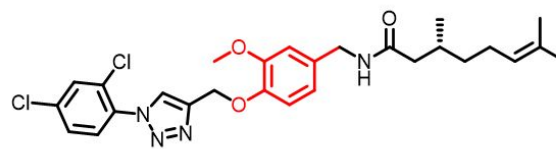
Sample code: SAD13

¹³H-NMR

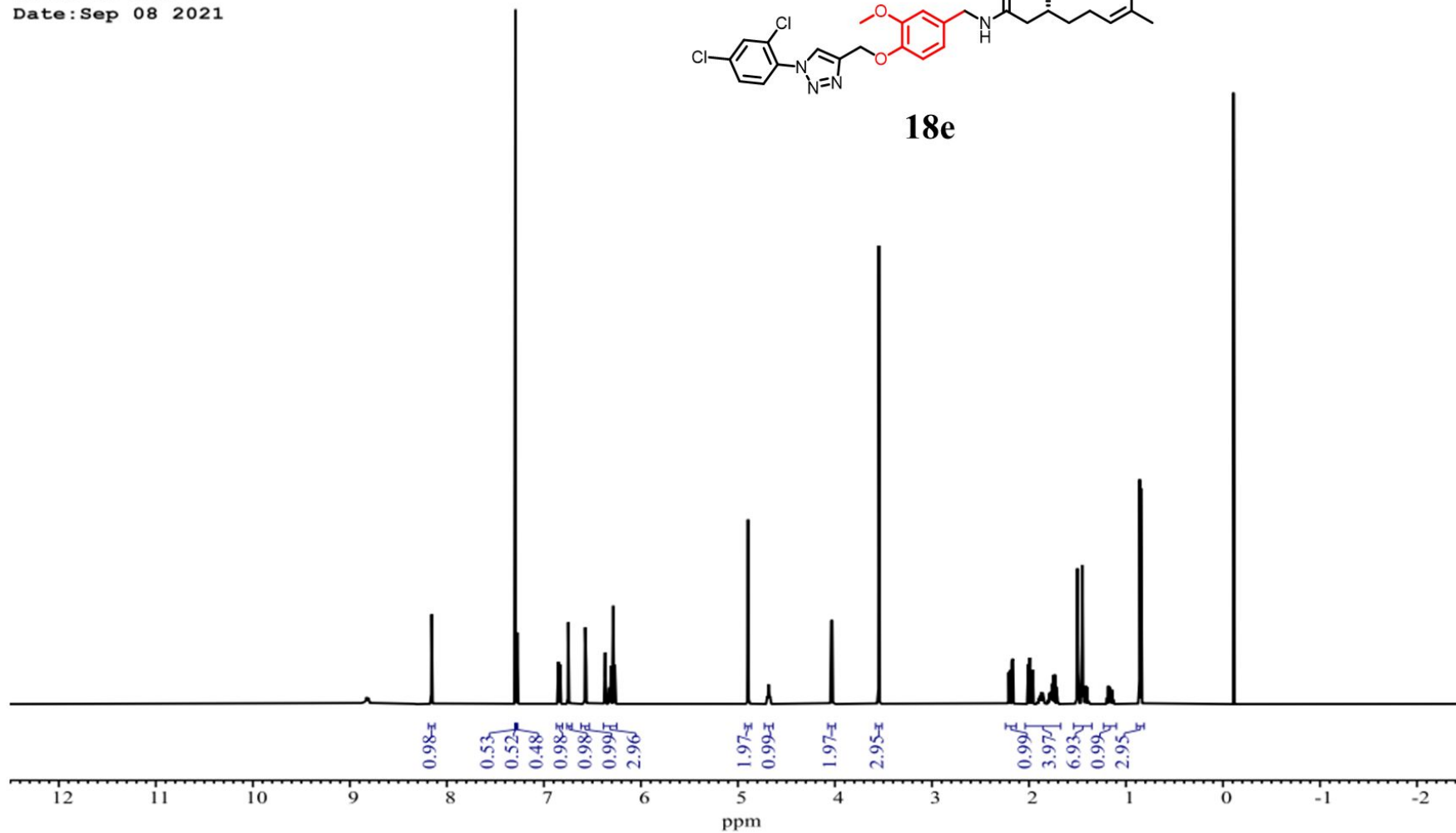
VARIAN 400MHz NMR

Solvent: CDC13

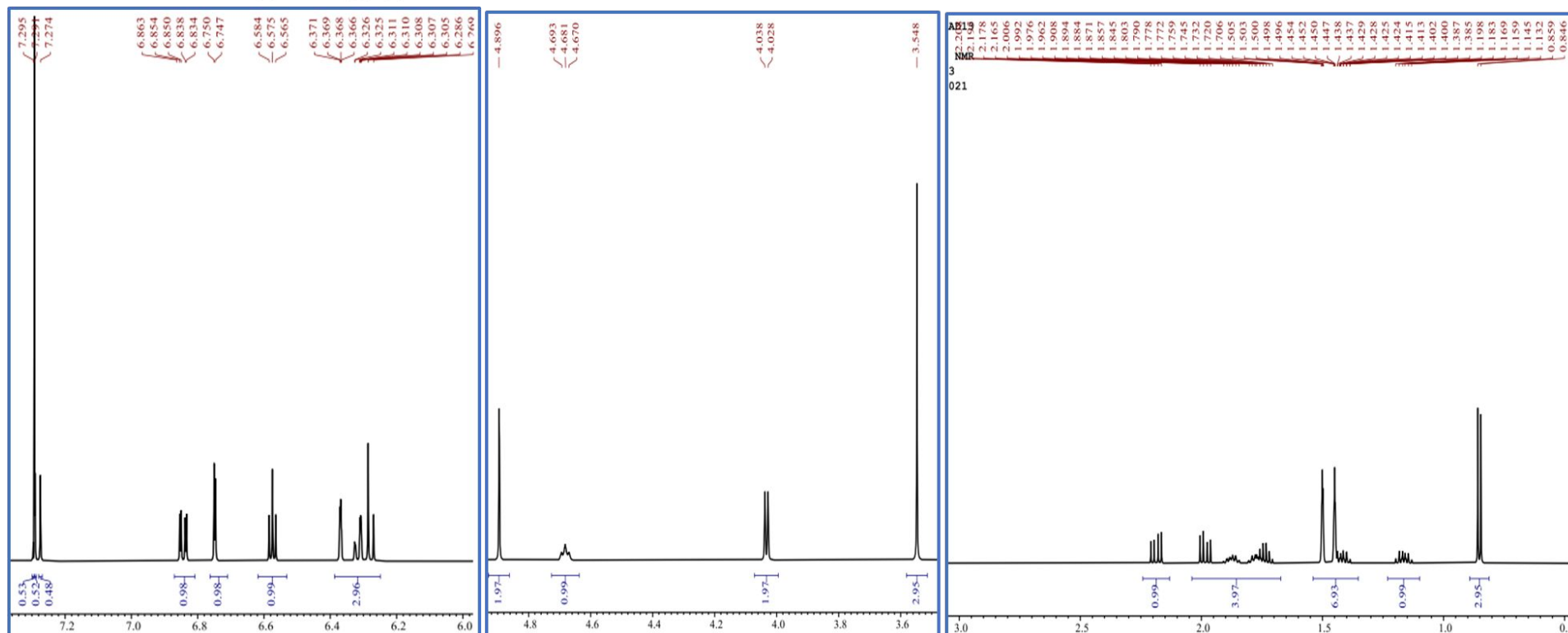
Date: Sep 08 2021



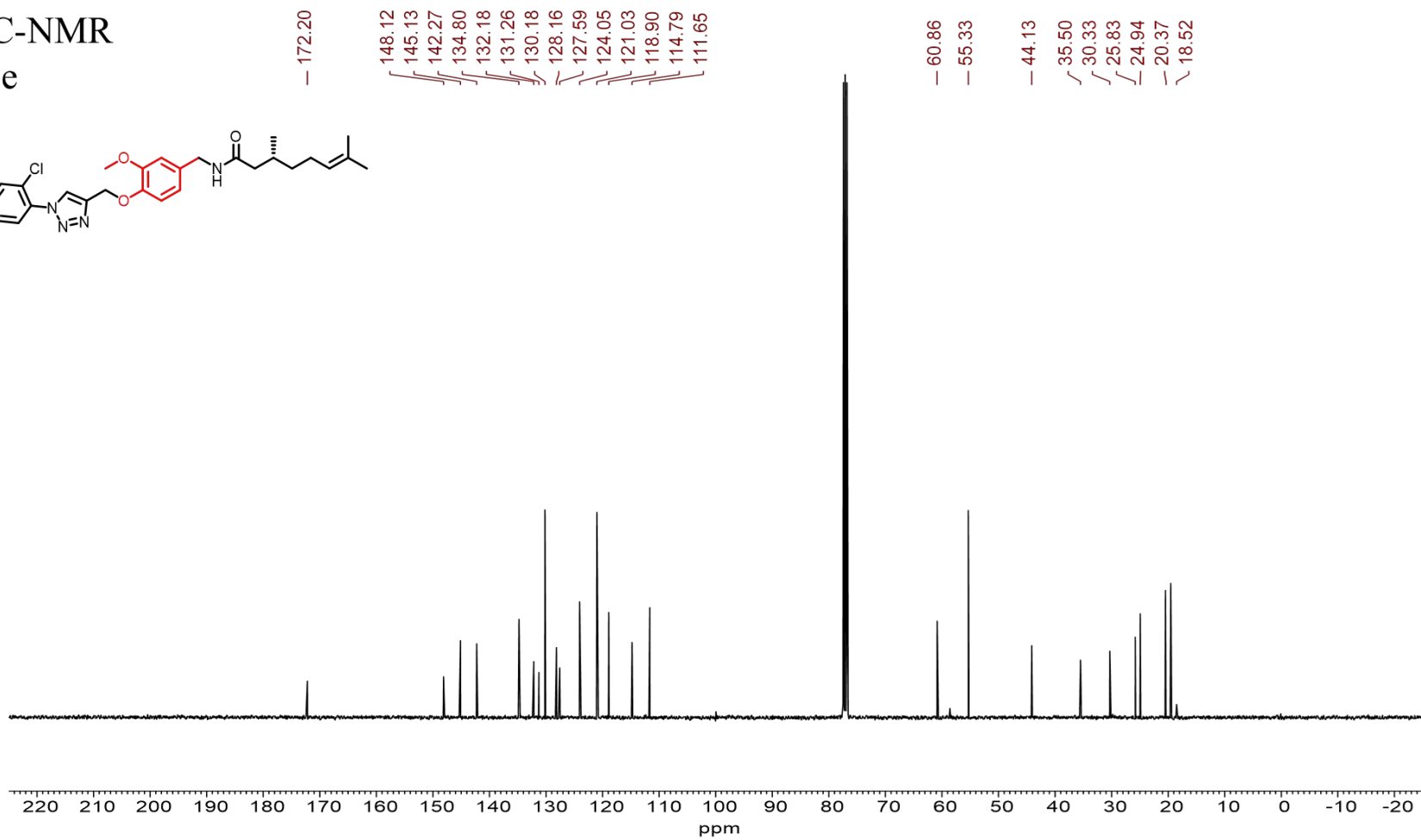
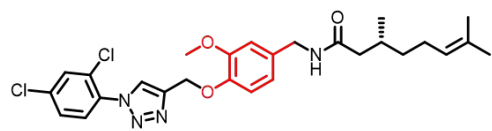
18e



Plotname: SAD13_PROTON_01_plot01



¹³C-NMR
18e



Sample Information

Sample Name : SA 13

Tray# : 1

Injection Volume : 0.5

Method File : MASS SCANN 13APRIL2021.lcm

Date Processed : 12/20/2021 1:25:40 PM

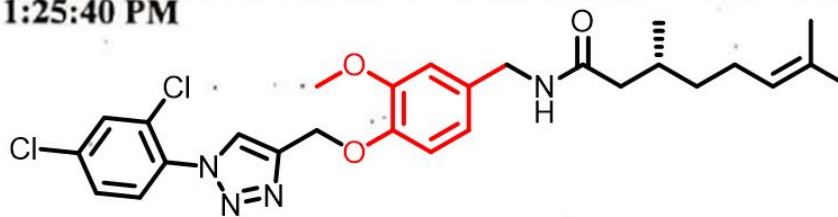
Sample ID :

Vial# : 19

Data File : 20-12-2021 Jled19.lcd

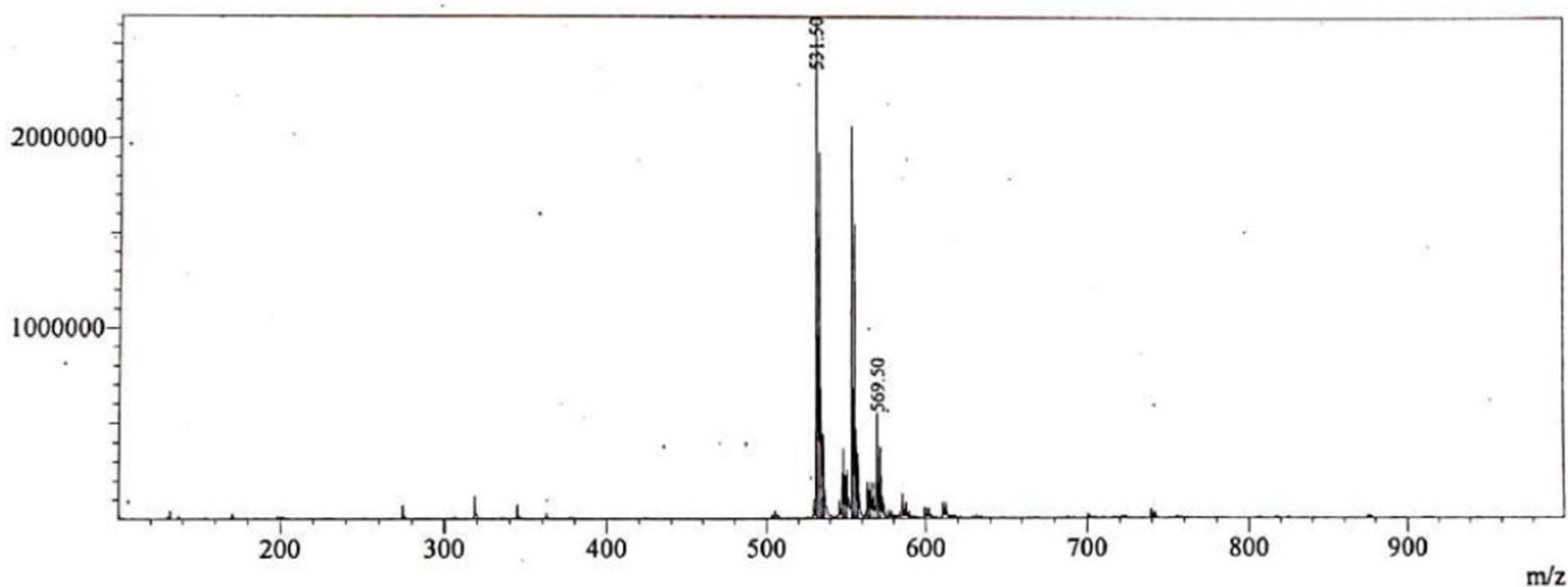
Processed by : System Administrator

**LC-MS spectra
18e**



MS Spectrum

BG Mode: Averaged 0.412-0.961(49-113) Segment 1 - Event 1



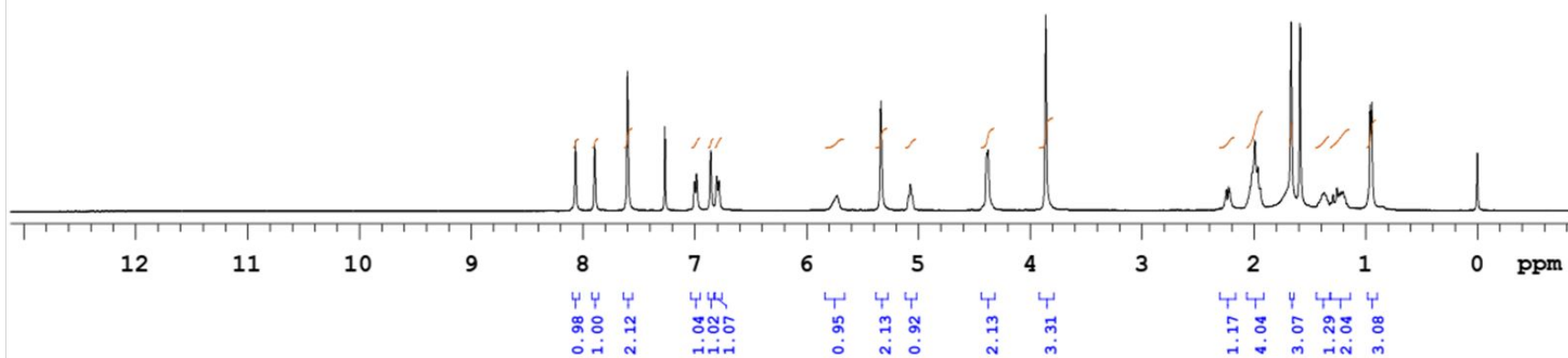
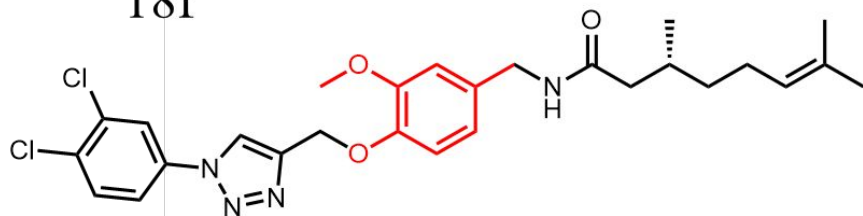
Sample code:SAD6

VARIAN 400MHz NMR

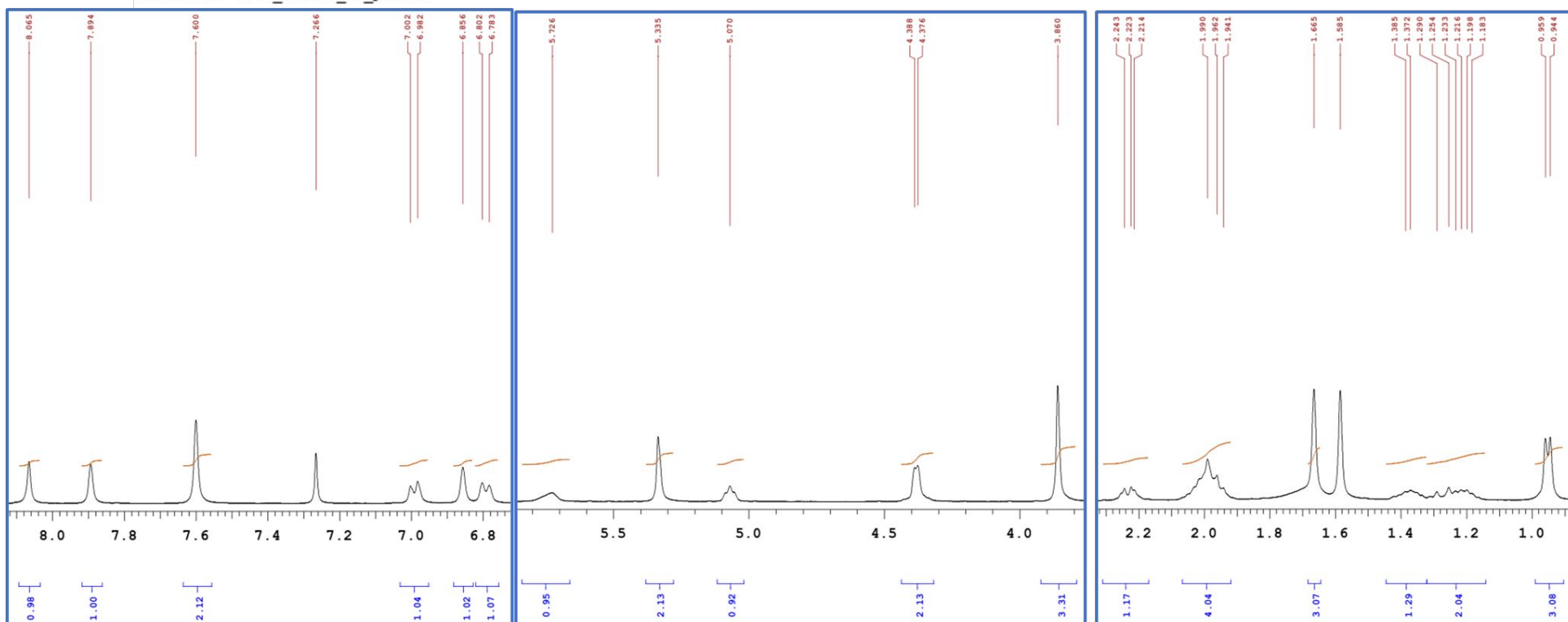
Solvent: CDCl3

Date:Jul 10 2021

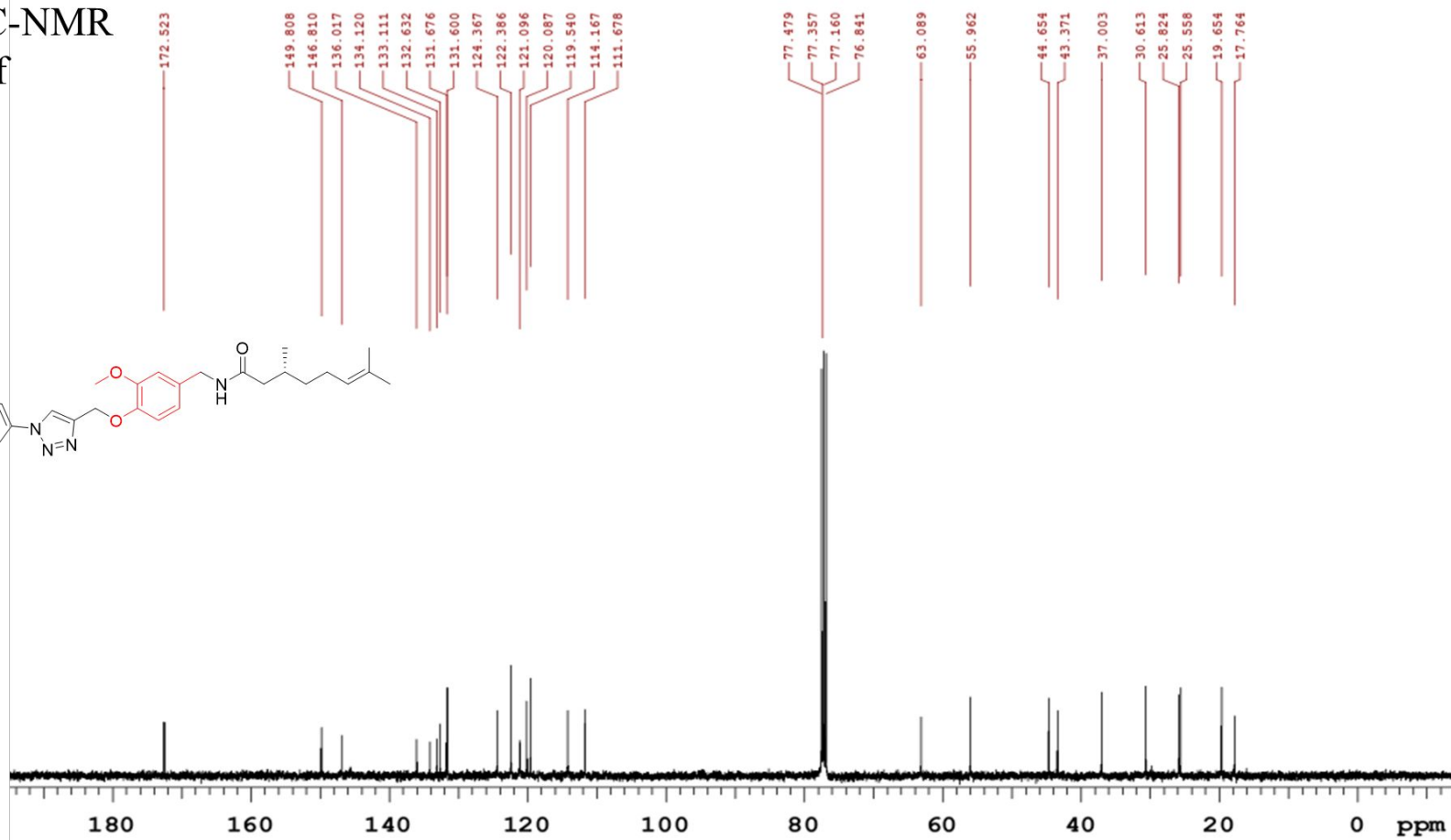
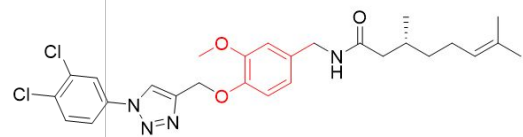
¹H-NMR 18f



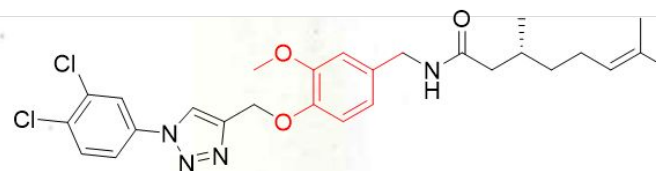
Plotname: SAD6_PROTON_01_plot01



¹³C-NMR
18f



LC-MS spectra 18f



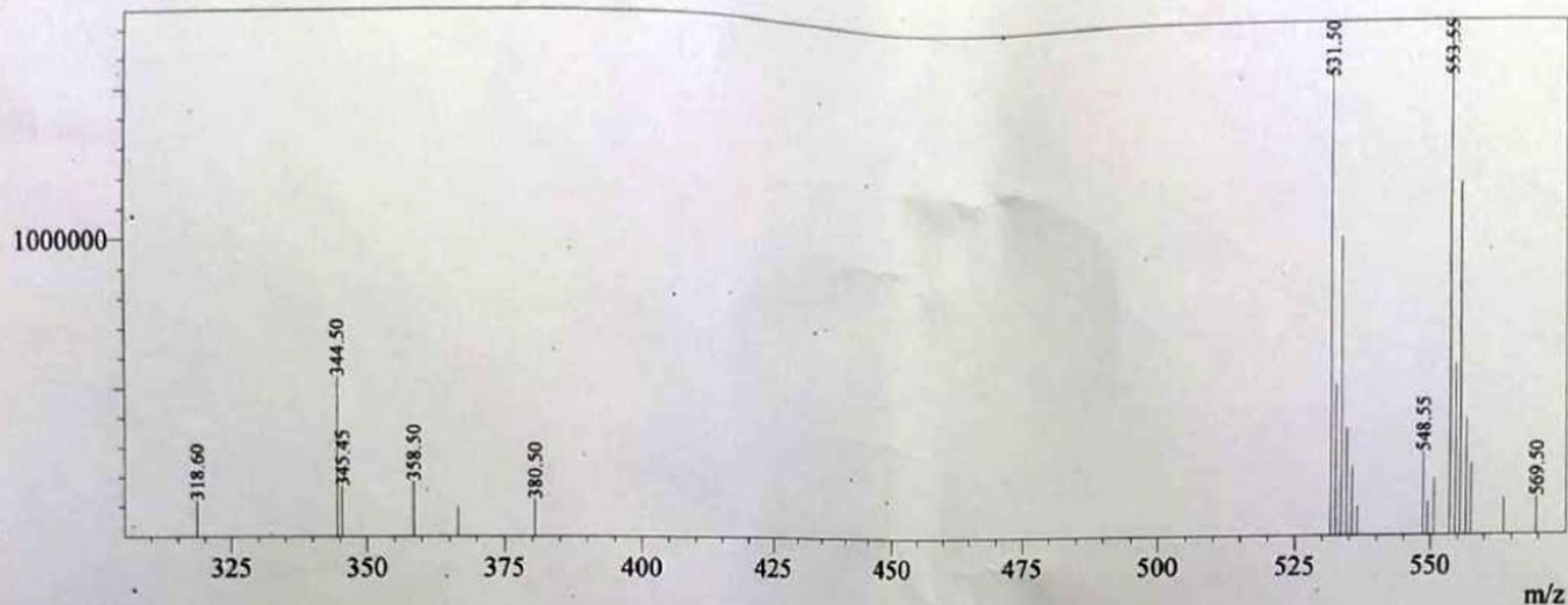
Sample Information

Sample Name : SA 6
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANN 13APRIL2021.lcm
Date Processed : 12/16/2021 3:38:48 PM

Sample ID :
Vial# :
Data File :
Processed by :

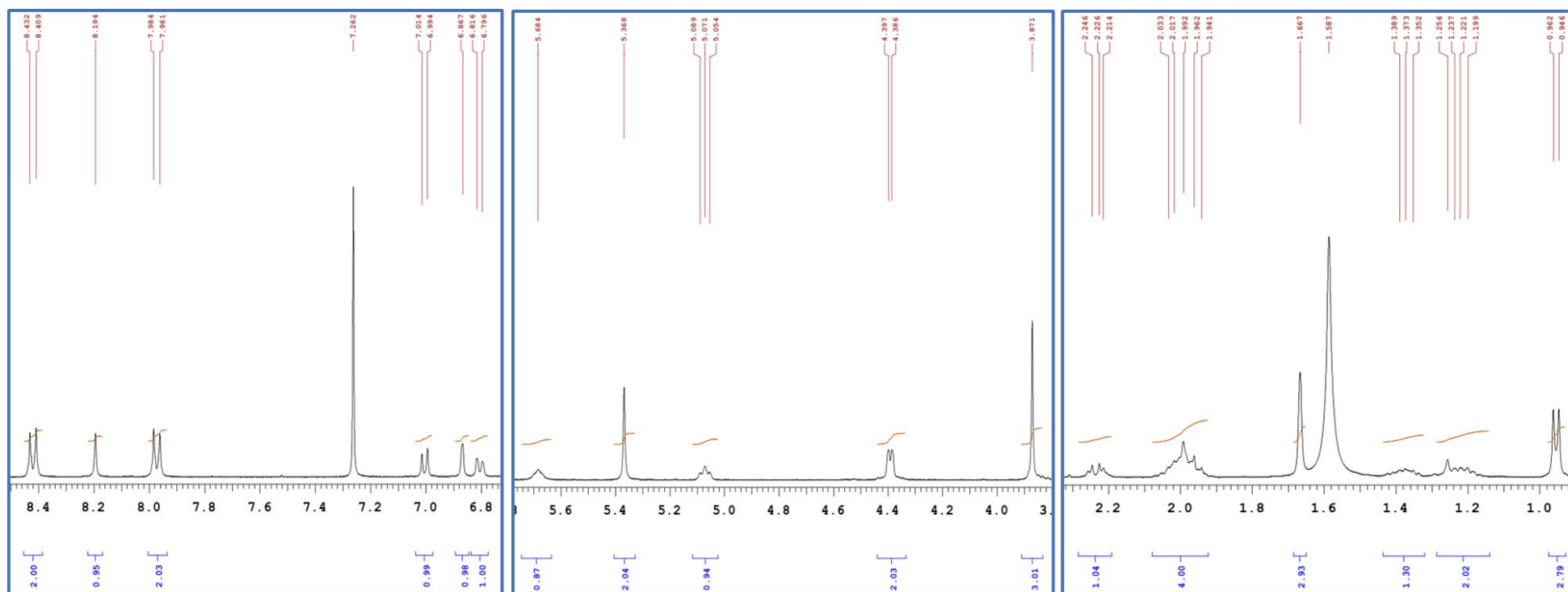
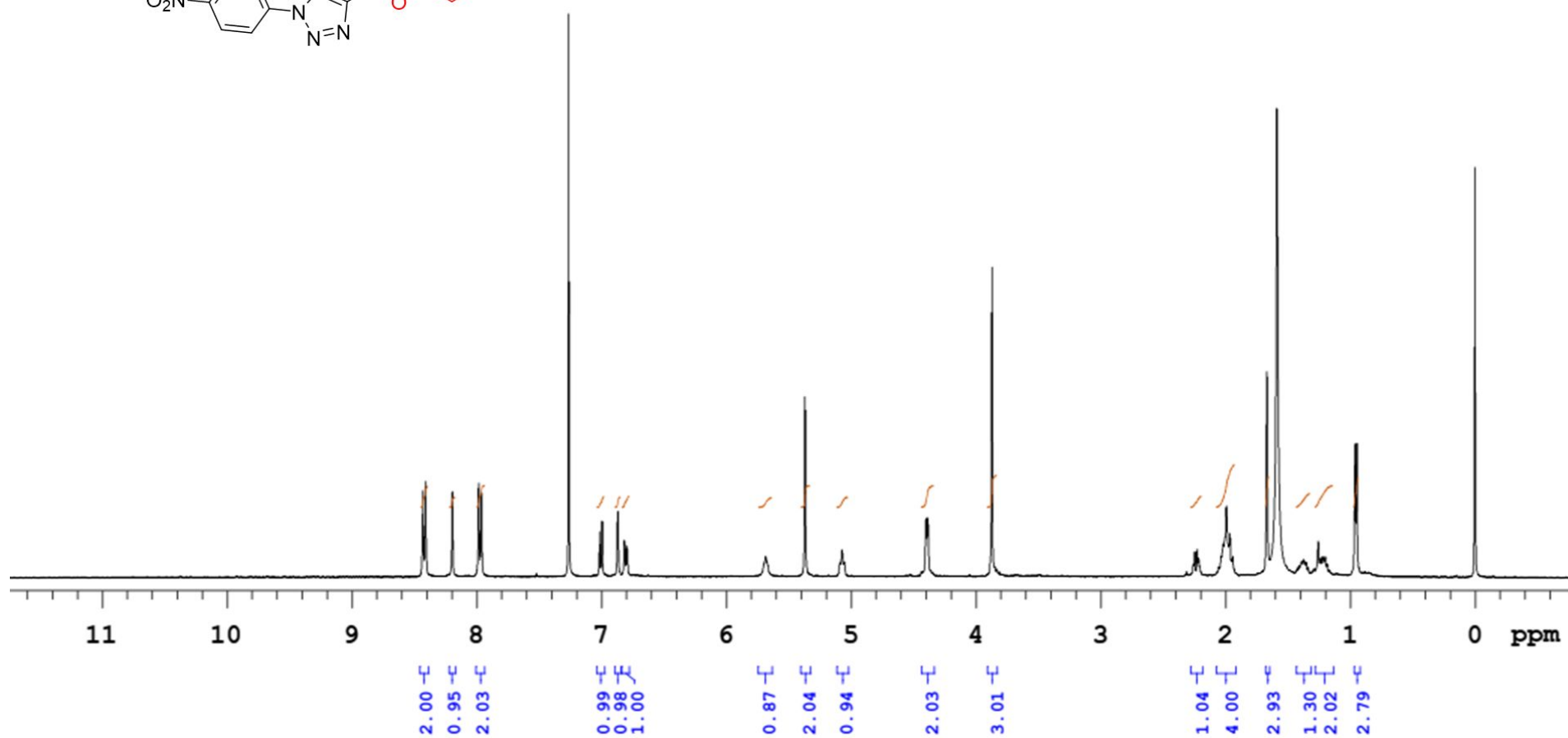
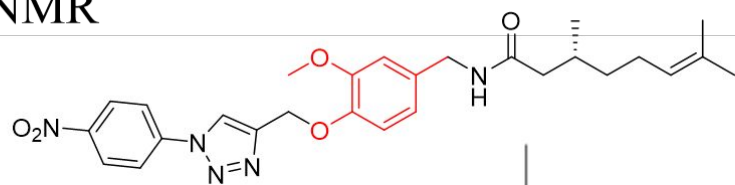
: 87
: 16-12-2021 Jlcd28.lcd
: System Administrator

MS Spectrum
BG Mode: Averaged 0.429-0.979(51-115) Segment 1 - Event 1

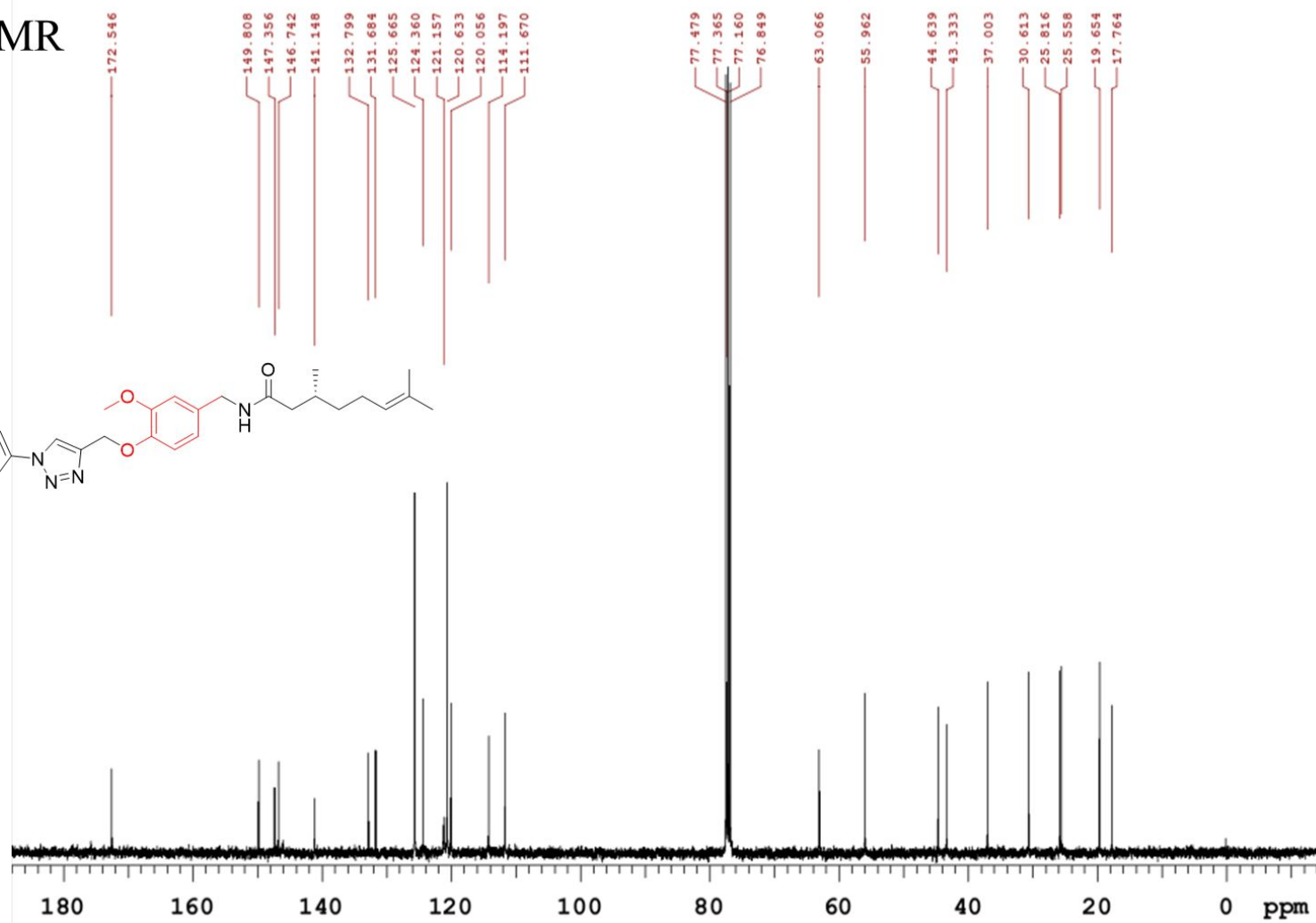
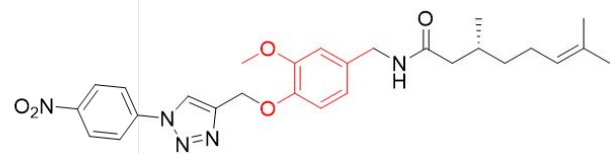


¹H-NMR

18g



¹³C-NMR
18g



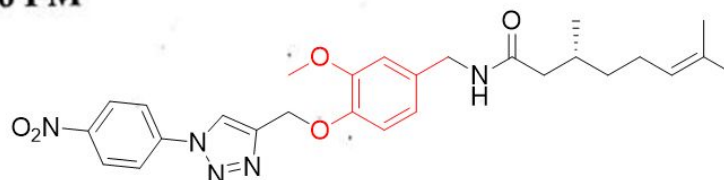
Sample Information

Sample Name : SA 7
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANN 13APRIL2021.lcm
Date Processed : 12/16/2021 3:40:36 PM

Sample ID :
Vial# : 88
Data File : 16-12-2021 Jlcd29.lcd

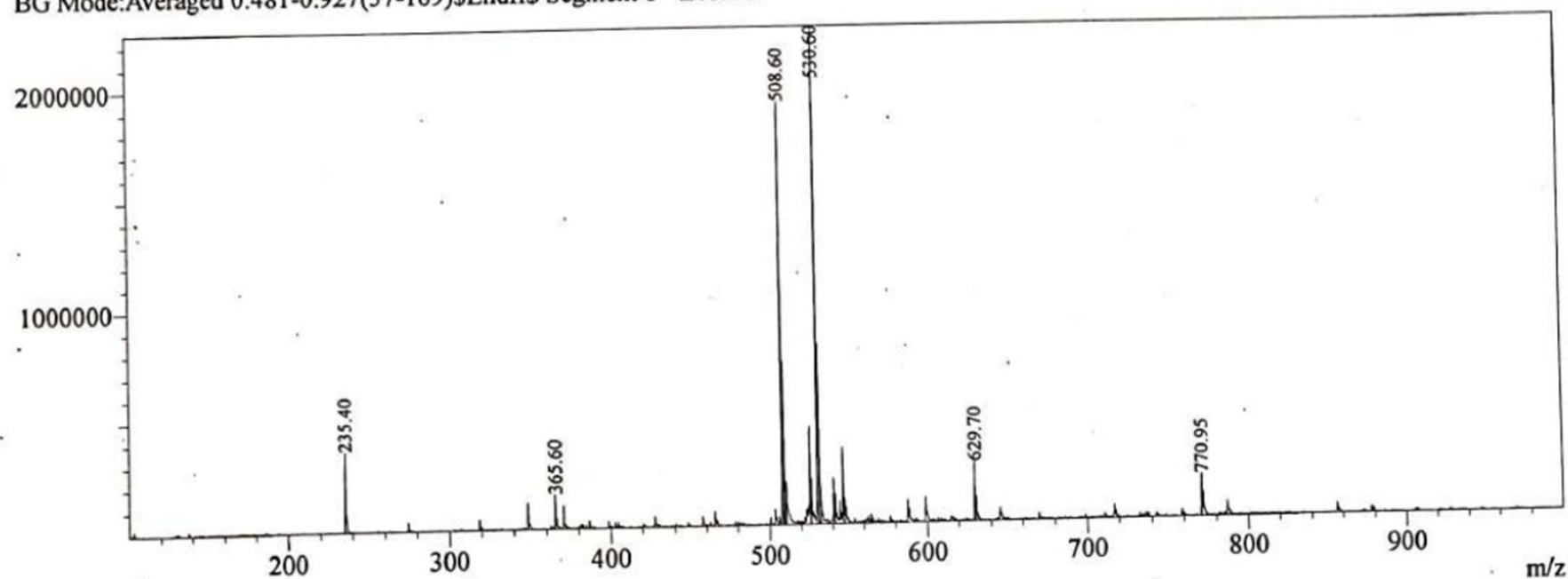
Processed by : System Administrator

LC-MS spectra
18g

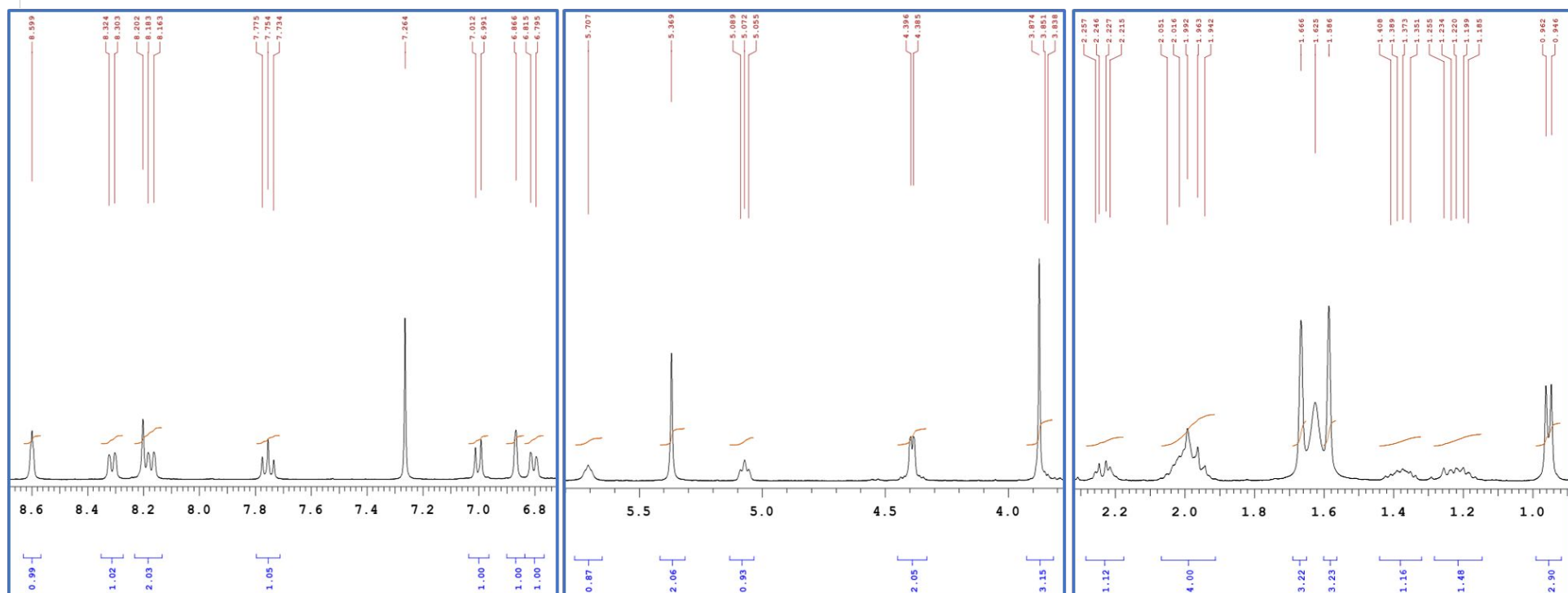
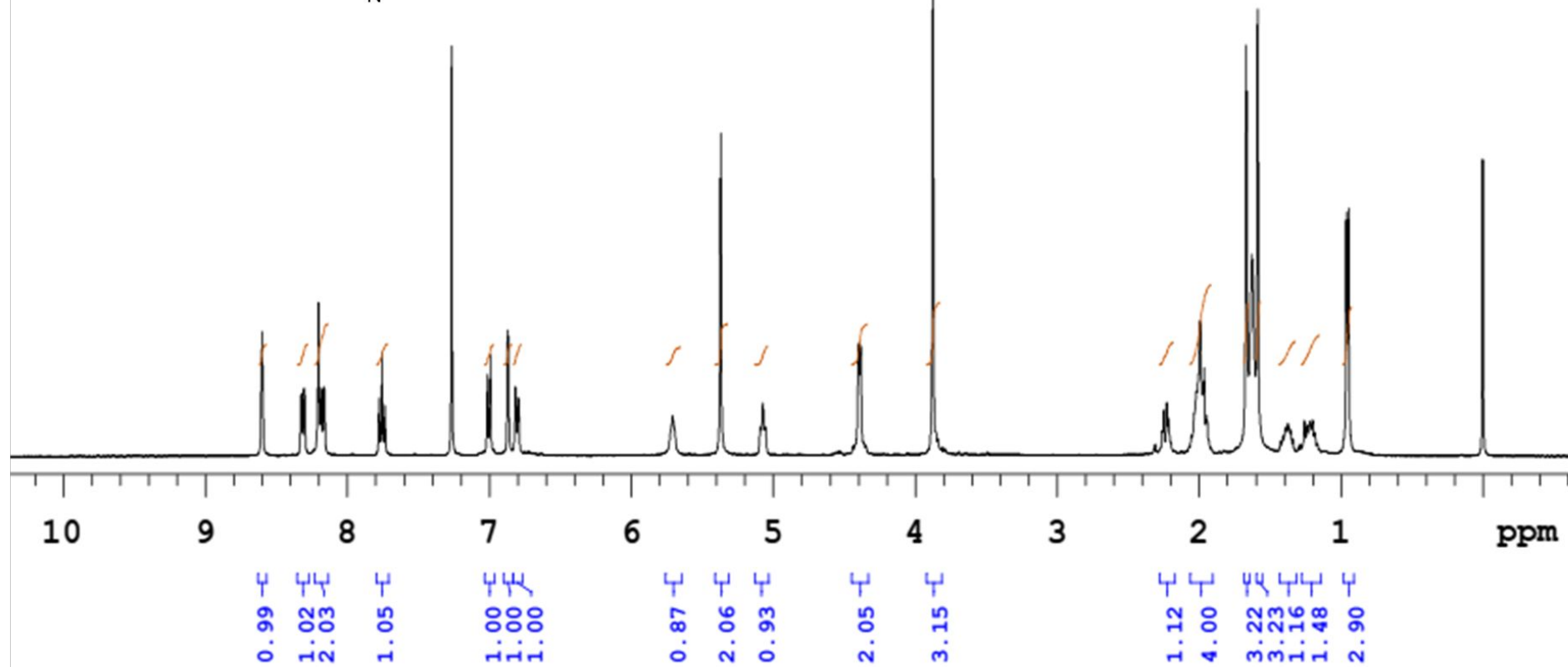
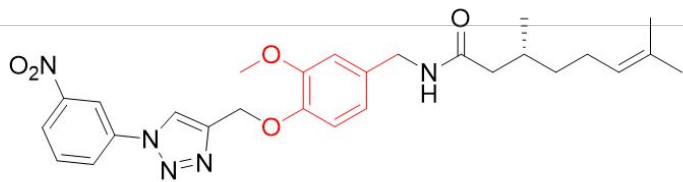


MS Spectrum

BG Mode:Averaged 0.481-0.927(57-109)\$EndIf\$ Segment 1 - Event 1

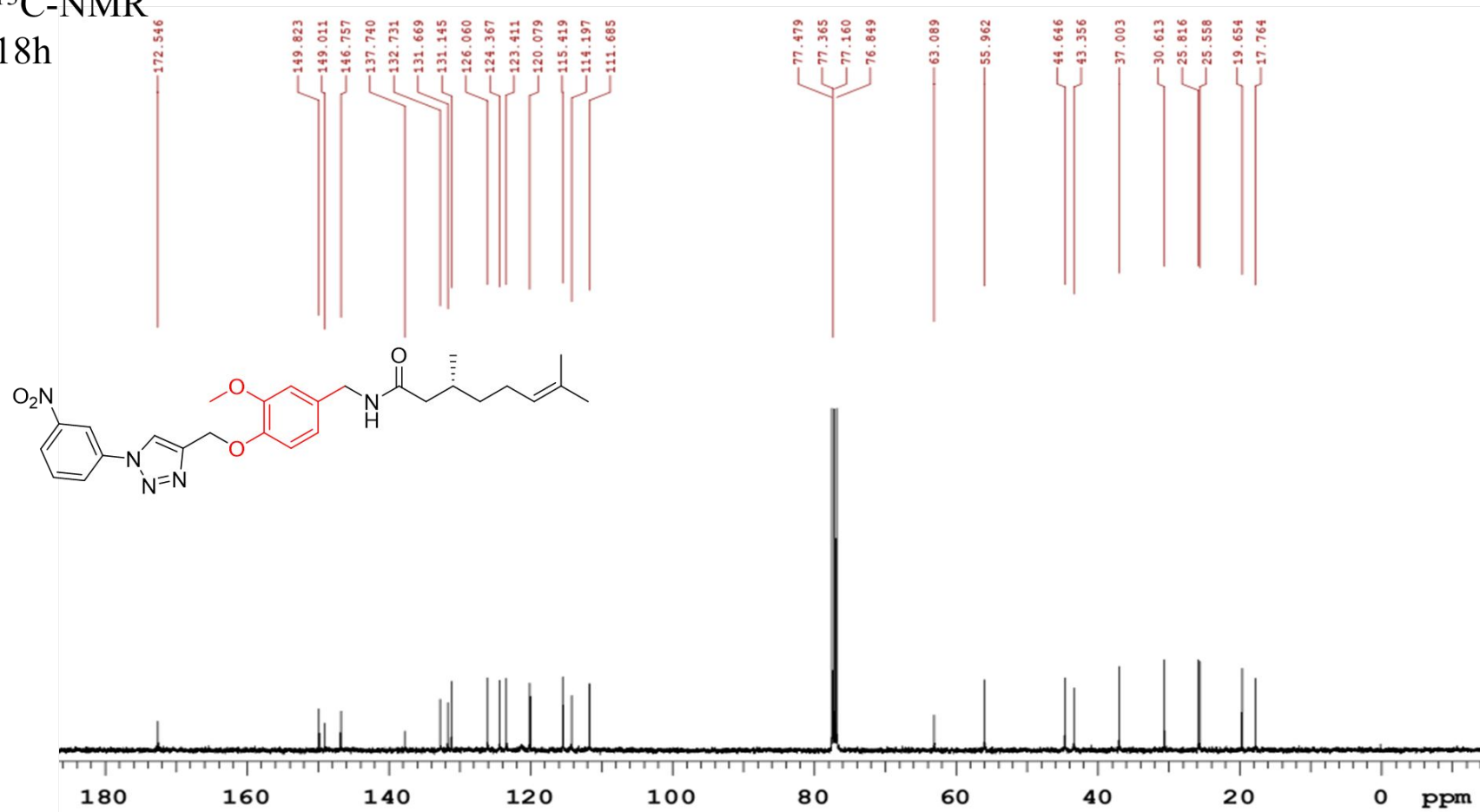


¹H-NMR
18h



¹³C-NMR

18h



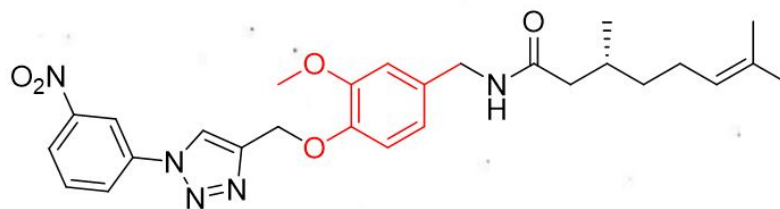
Sample Information

Sample Name : SA 8
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANN 13APRIL2021.lcm
Date Processed : 12/16/2021 3:42:24 PM

Sample ID :
Vial# : 89
Data File : 16-12-2021 Jlcd30.lcd

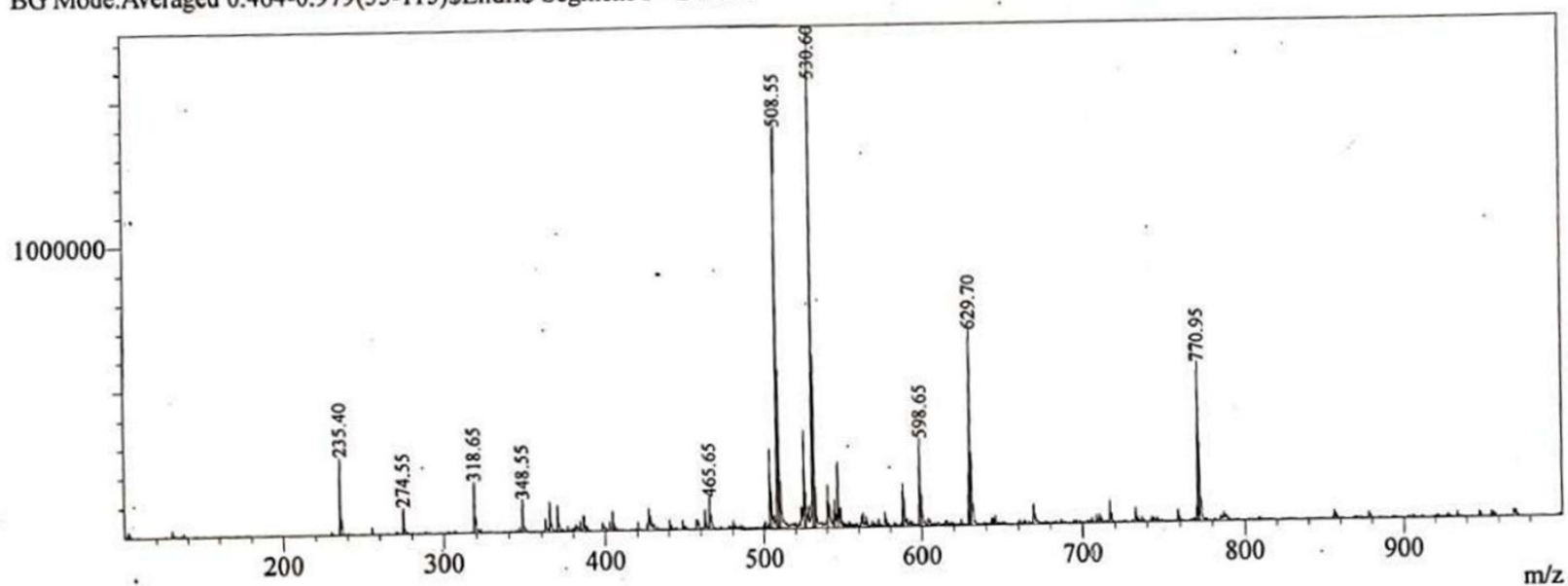
Processed by : System Administrator

LC-MS spectra
18h



MS Spectrum

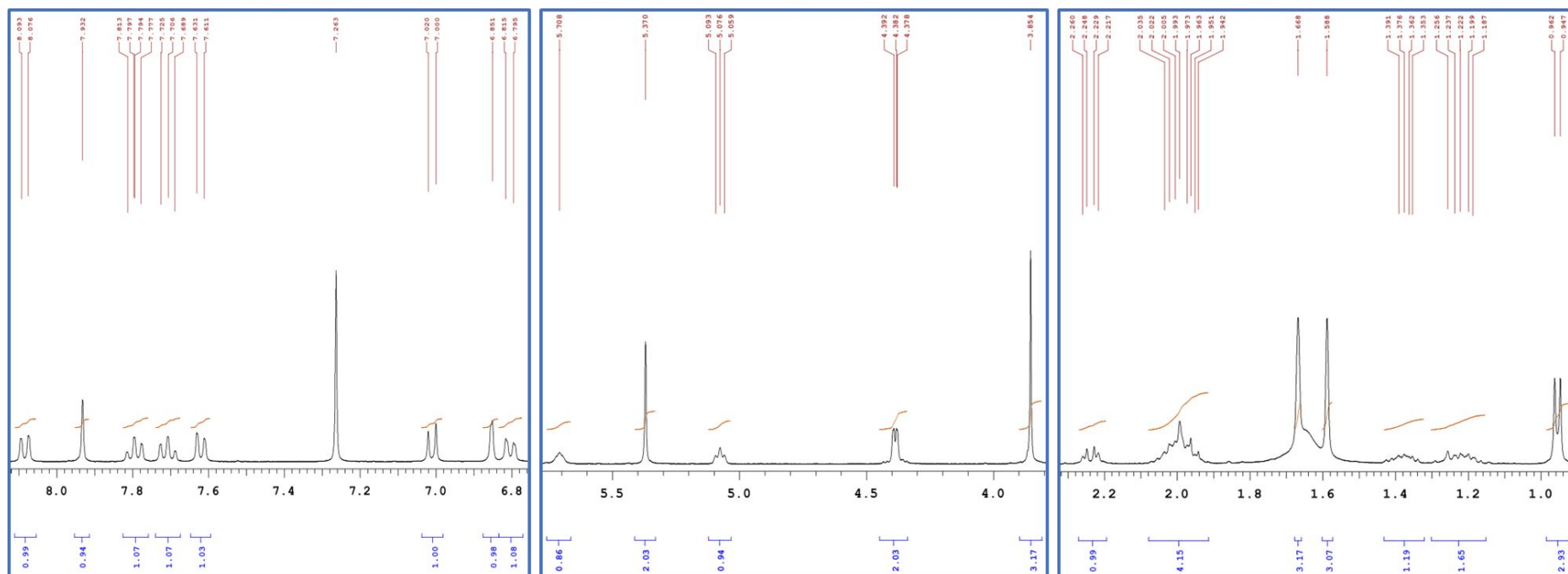
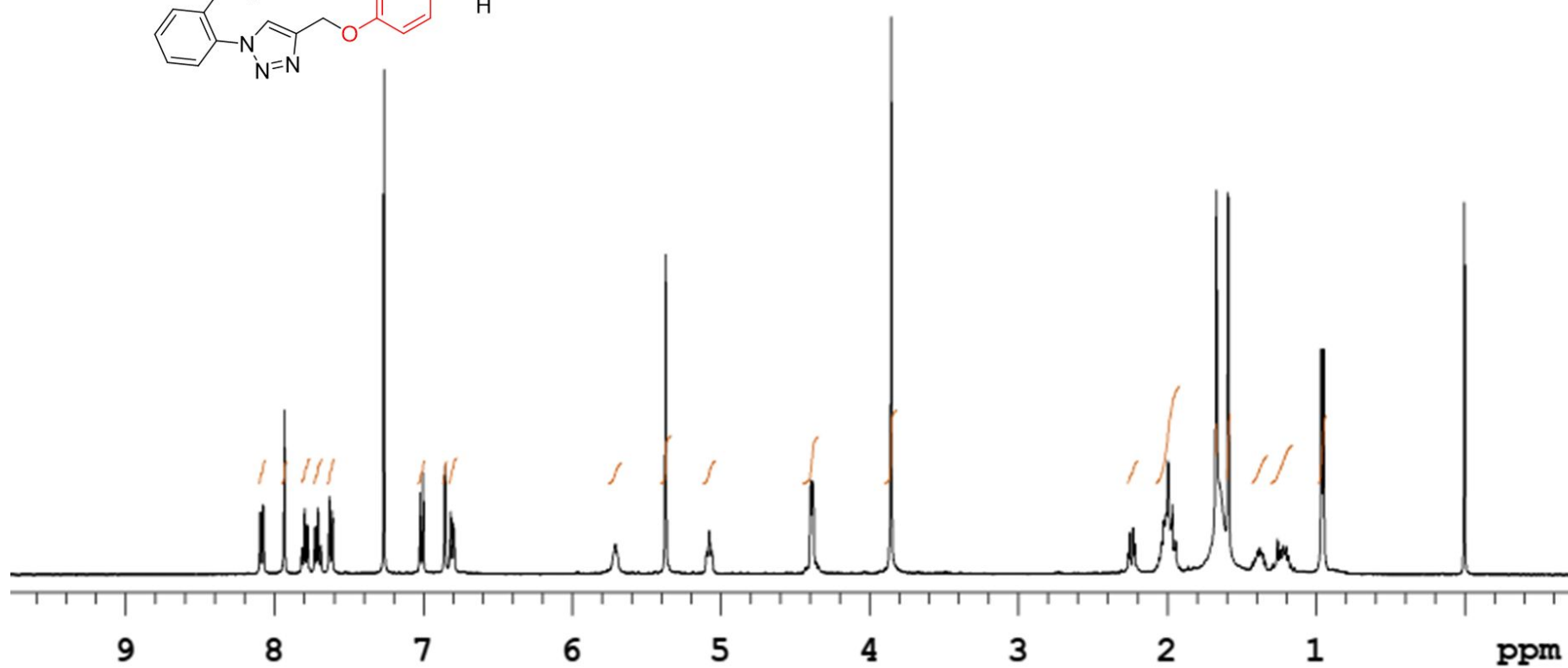
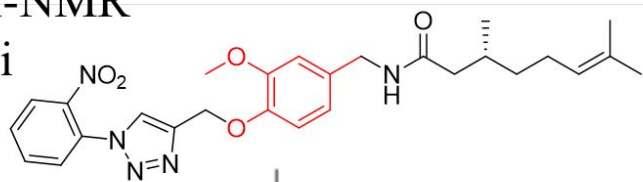
BG Mode:Averaged 0.464-0.979(55-115)\$EndIf\$ Segment 1 - Event 1



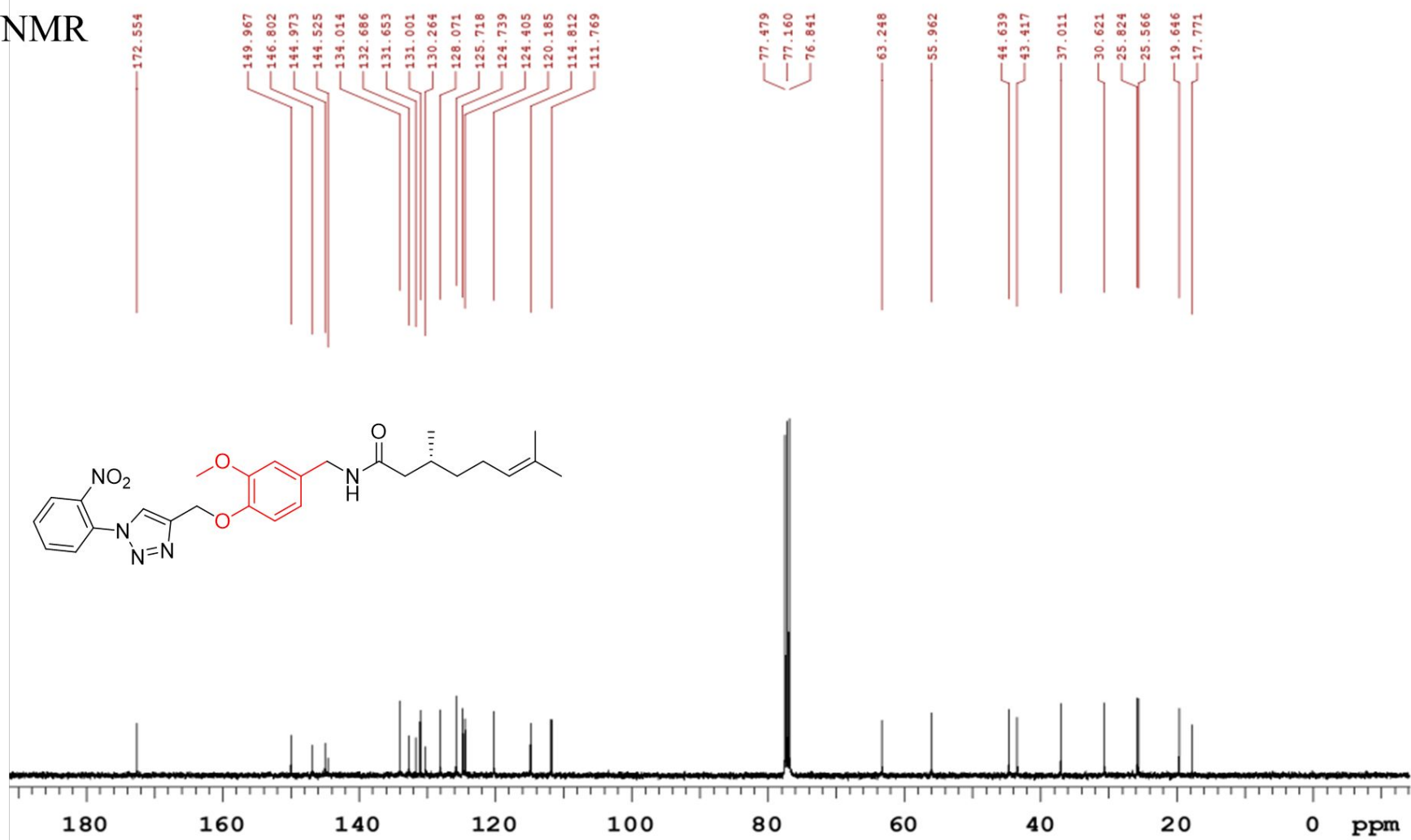
BG Mode:Averaged 0.472-0.987(56-116)\$EndIf\$ Segment 1 - Event 2

¹H-NMR

18i



¹³C-NMR
18i



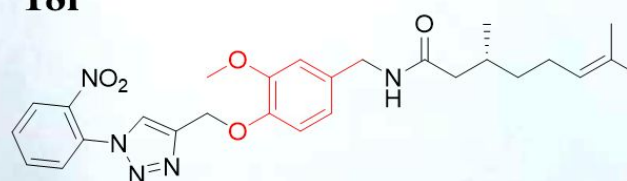
Elemental Composition Report

LC-MS spectra 18i

Page 1

Single Mass Analysis

Tolerance = 3.0 PPM / DBE: min = -1.5, max = 50.0
Element prediction: Off
Number of isotope peaks used for i-FIT = 3



Monoisotopic Mass, Even Electron Ions

40 formula(e) evaluated with 1 results within limits (up to 3 closest results for each mass)

Elements Used:

C: 0-27 H: 0-200 N: 0-5 O: 0-5

SAD-9

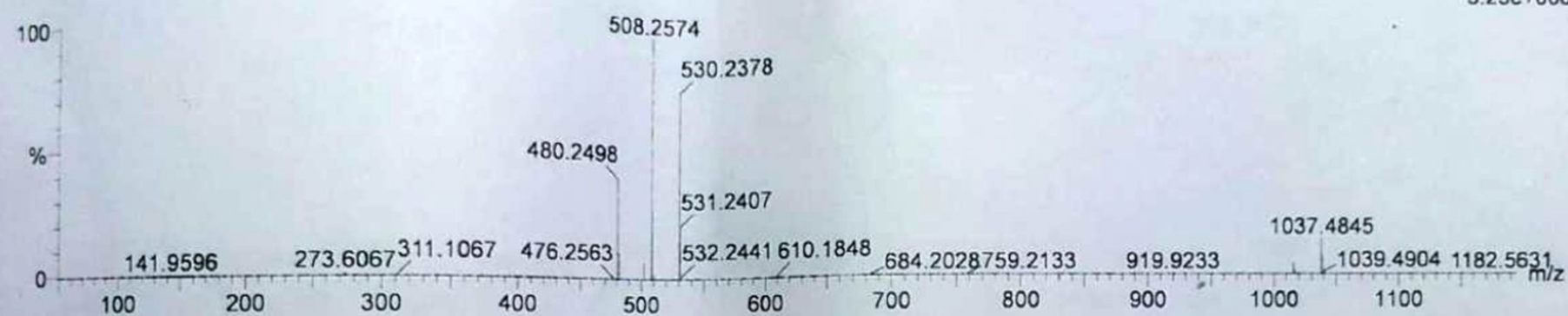
QMI DIVISION, CSIR-IIIM JAMMU
Xevo G2-XS QTOF YFC2015

11-Jan-2022

11:47:44

1: TOF MS ES+
3.23e+006

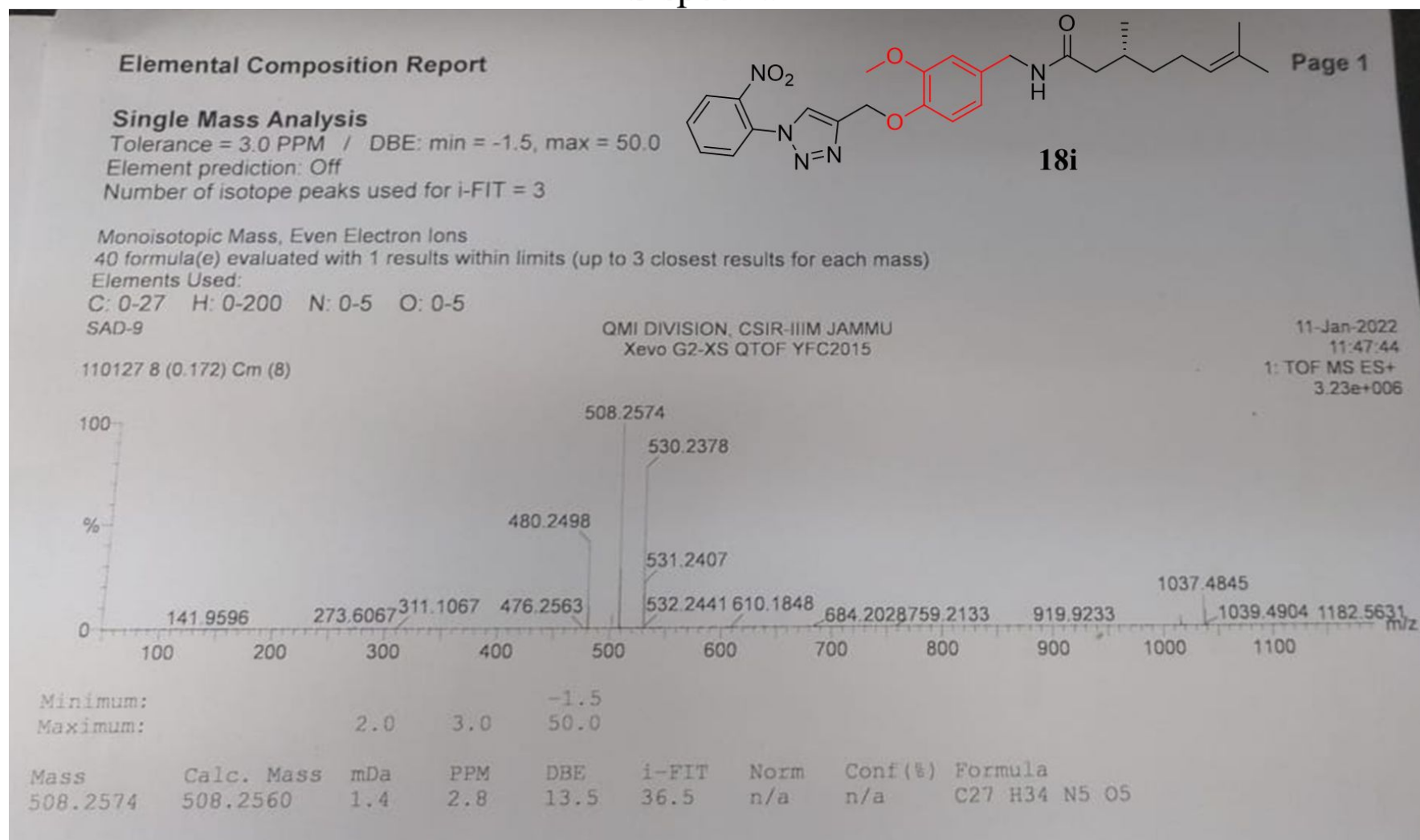
110127 8 (0.172) Cm (8)



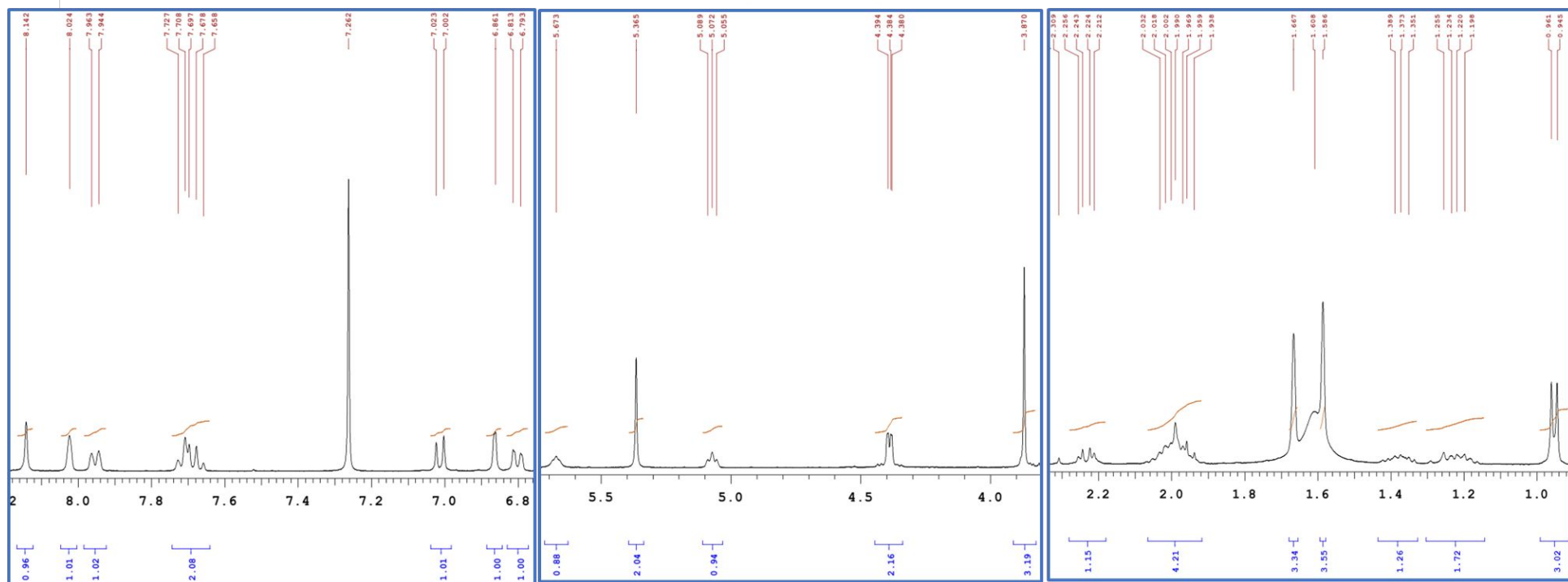
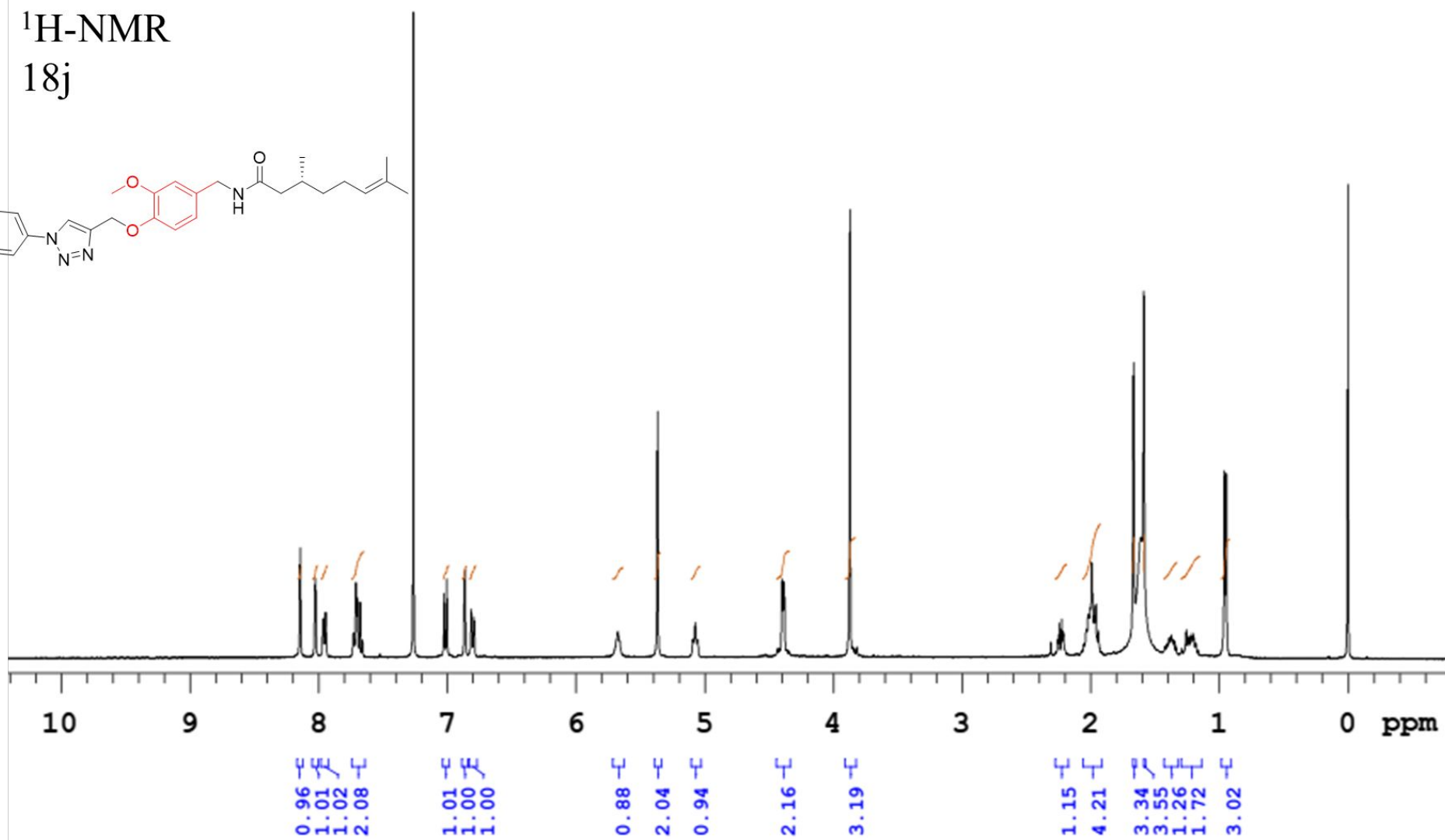
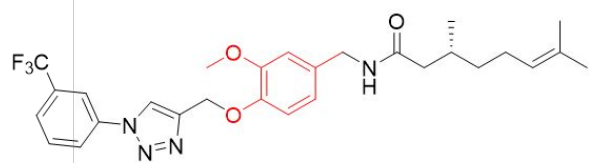
Minimum: -1.5
Maximum: 2.0 3.0 50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Norm	Conf(%)	Formula
508.2574	508.2560	1.4	2.8	13.5	36.5	n/a	n/a	C27 H34 N5 O5

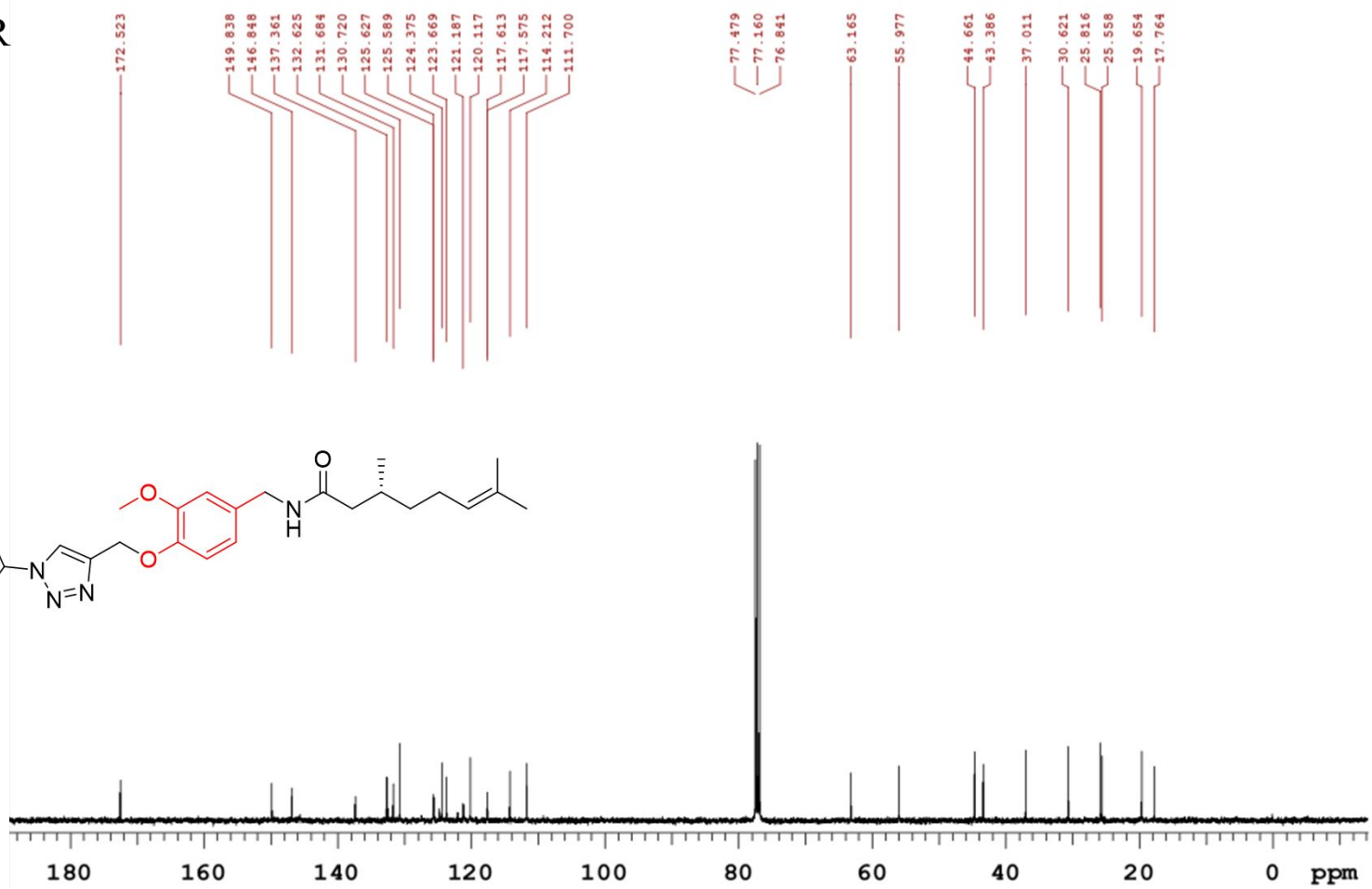
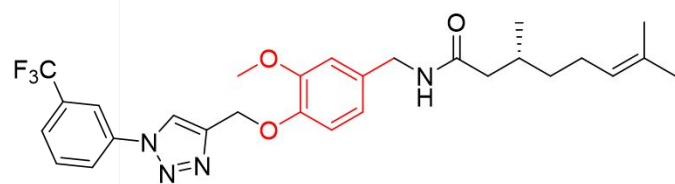
HR-MS spectra



¹H-NMR
18j



¹³C-NMR
18j

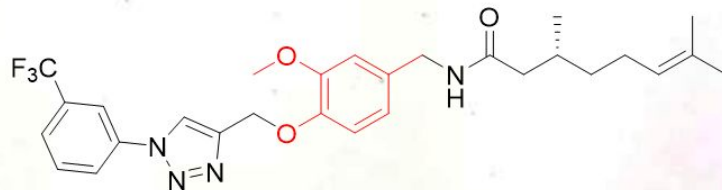


Sample Information
Sample Name : SA 10
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANN 13APRIL2021.lcm
Date Processed : 12/16/2021 3:45:59 PM

Sample ID :
Vial# : 91
Data File : 16-12-2021 Jlcd32.lcd

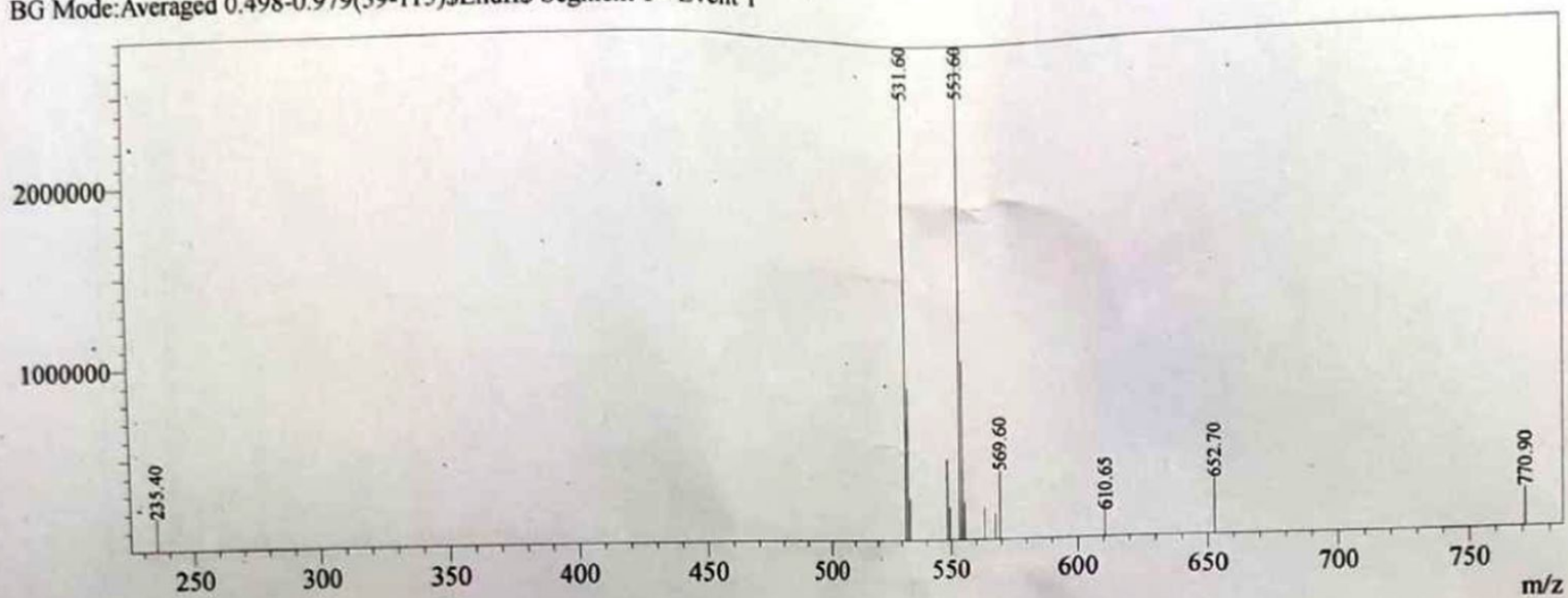
Processed by : System Administrator

LC-MS spectra 18j



MS Spectrum

BG Mode: Averaged 0.498-0.979(59-115)\$EndIf\$ Segment 1 - Event 1



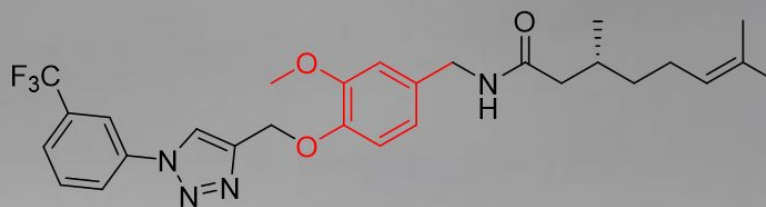
HR-MS spectra

Page 1

Elemental Composition Report

Single Mass Analysis

Tolerance = 3.0 PPM / DBE: min = -1.5, max = 50.0
 Element prediction: Off
 Number of isotope peaks used for i-FIT = 3



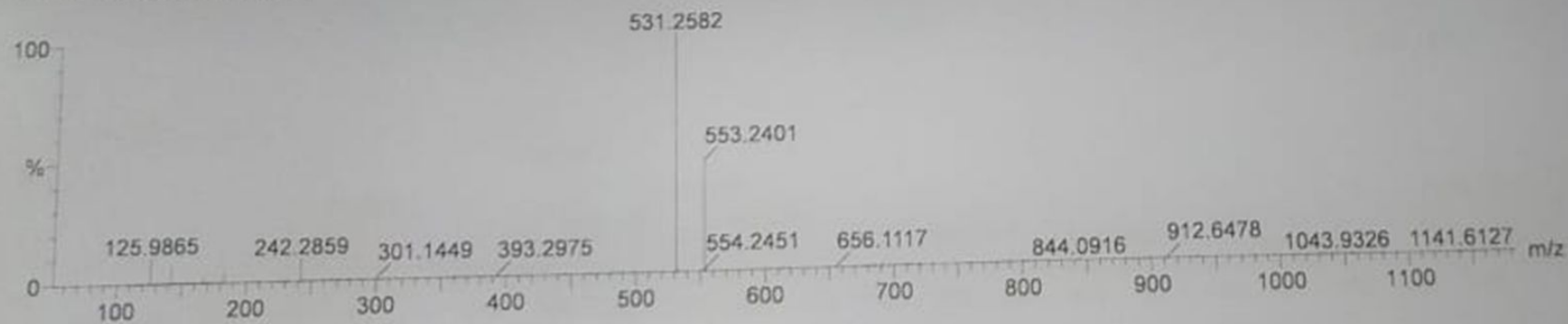
18j

Monoisotopic Mass, Even Electron Ions
 85 formula(e) evaluated with 1 results within limits (up to 3 closest results for each mass)
 Elements Used:
 C: 0-28 H: 0-200 N: 0-4 O: 0-3 F: 0-3
 SAD-10

QMI DIVISION, CSIR-IIIM JAMMU
 Xevo G2-XS QTOF YFC2015

11-Jan-2022
 11:42:27
 1: TOF MS ES+
 2.74e+005

110125 10 (0.225) Cm (10:11)

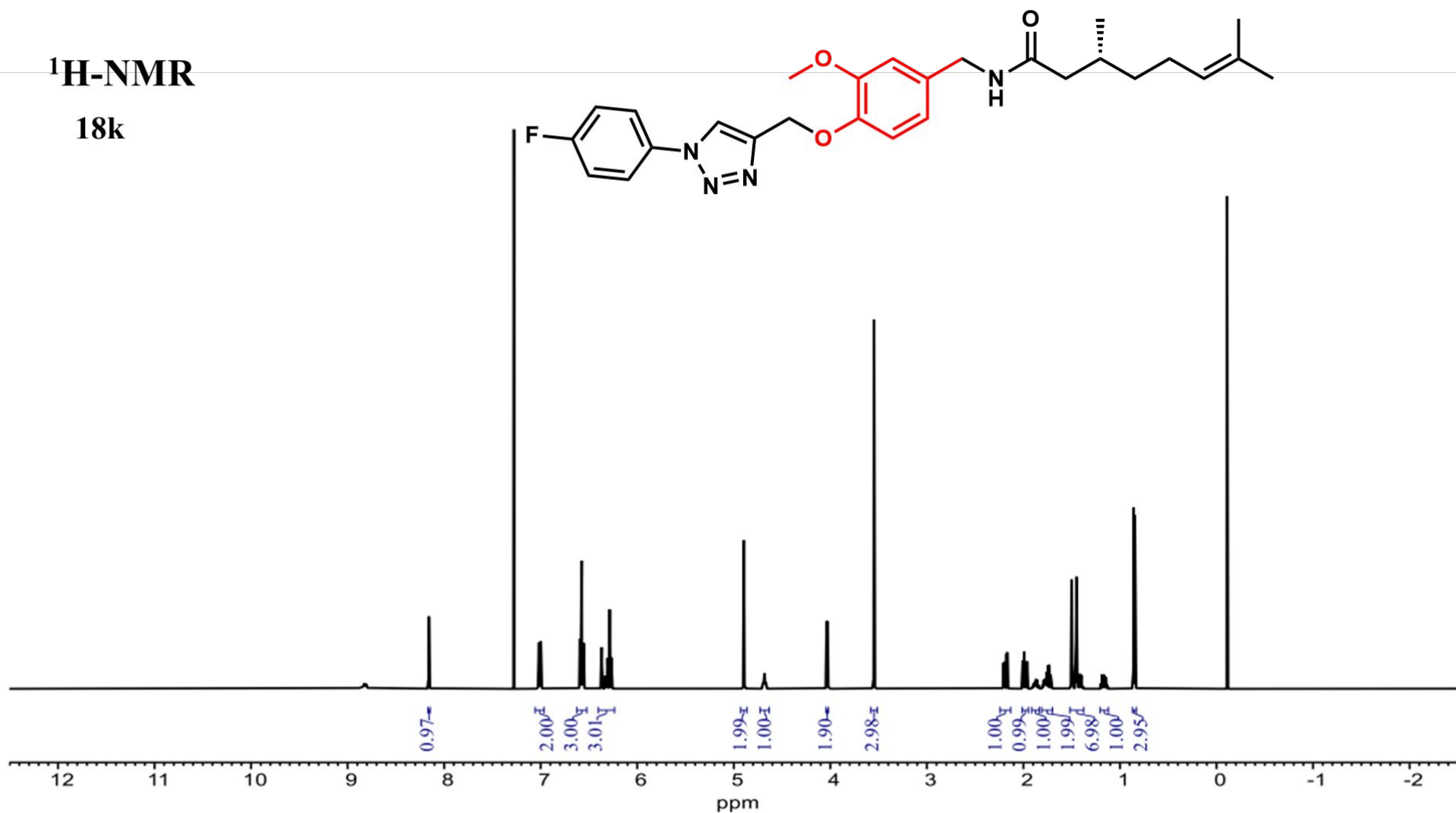


Minimum: -1.5
 Maximum: 2.0 3.0 50.0

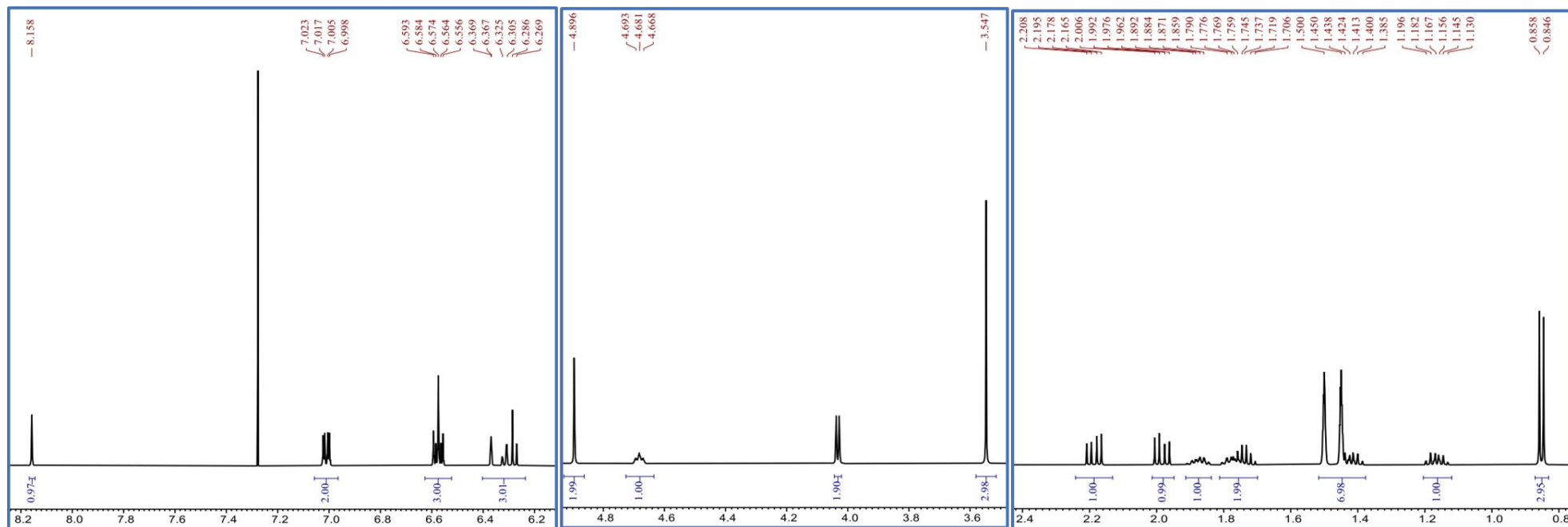
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Norm	Conf (%)	Formula
531.2582	531.2583	-0.1	-0.2	12.5	44.3	n/a	n/a	C28 H34 N4 O3 F3

¹H-NMR

18k



Plotname: SAD11_PROTON_01_plot01



Sample code: SAD11

VARIAN 100MHZ NMR

Solvent: CDCl3

Date: Sep 08 2021

171.944

161.222

148.878

146.194

144.616

133.198

132.058

130.194

123.476

121.760

117.336

117.002

113.927

110.613

59.890

54.526

43.146

35.899

29.124

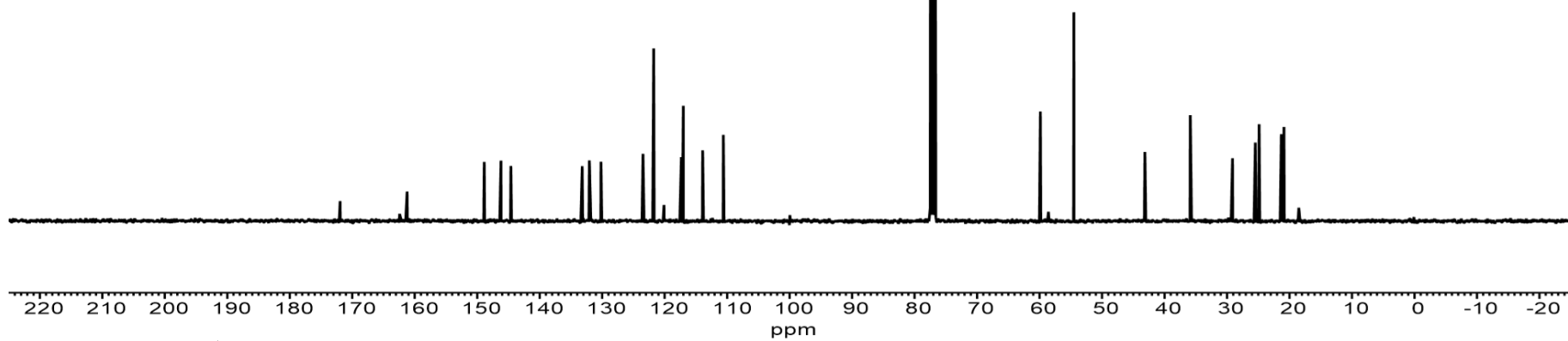
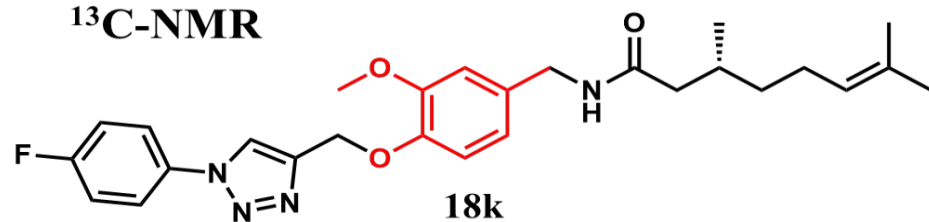
25.472

24.853

21.315

20.876

¹³C-NMR



ESI-MS

Retention
Time (MS)

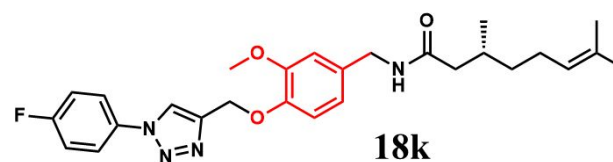
MS Area

Mol. Weight
or Ion

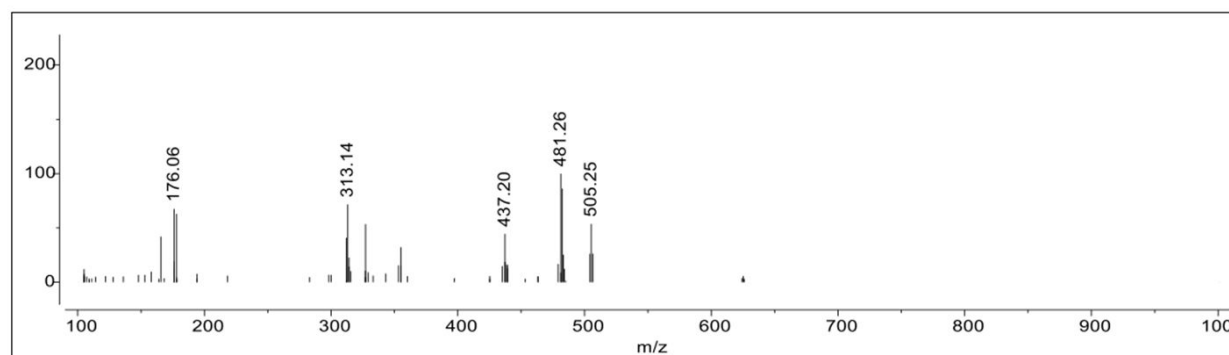
0.397

71036516

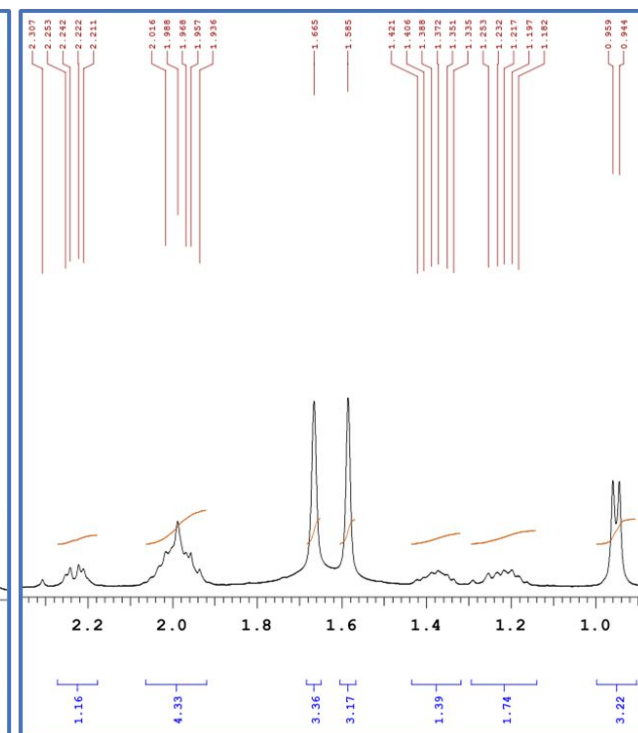
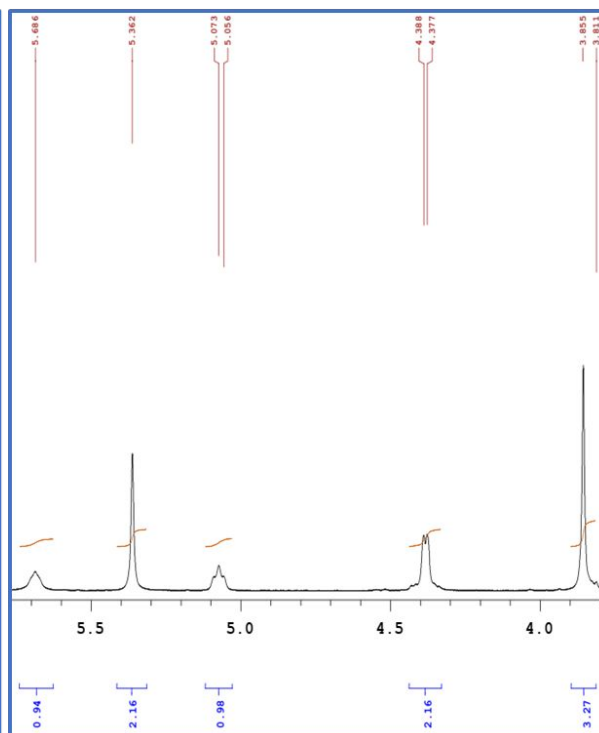
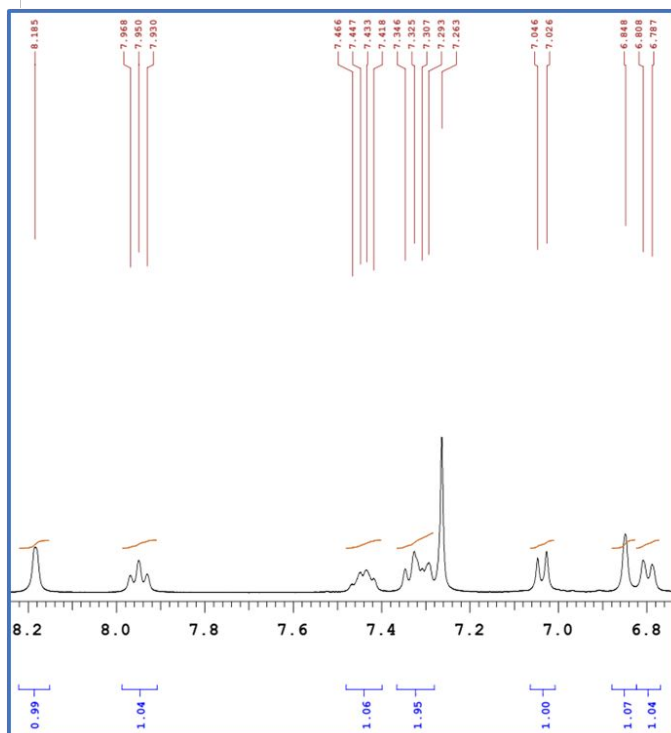
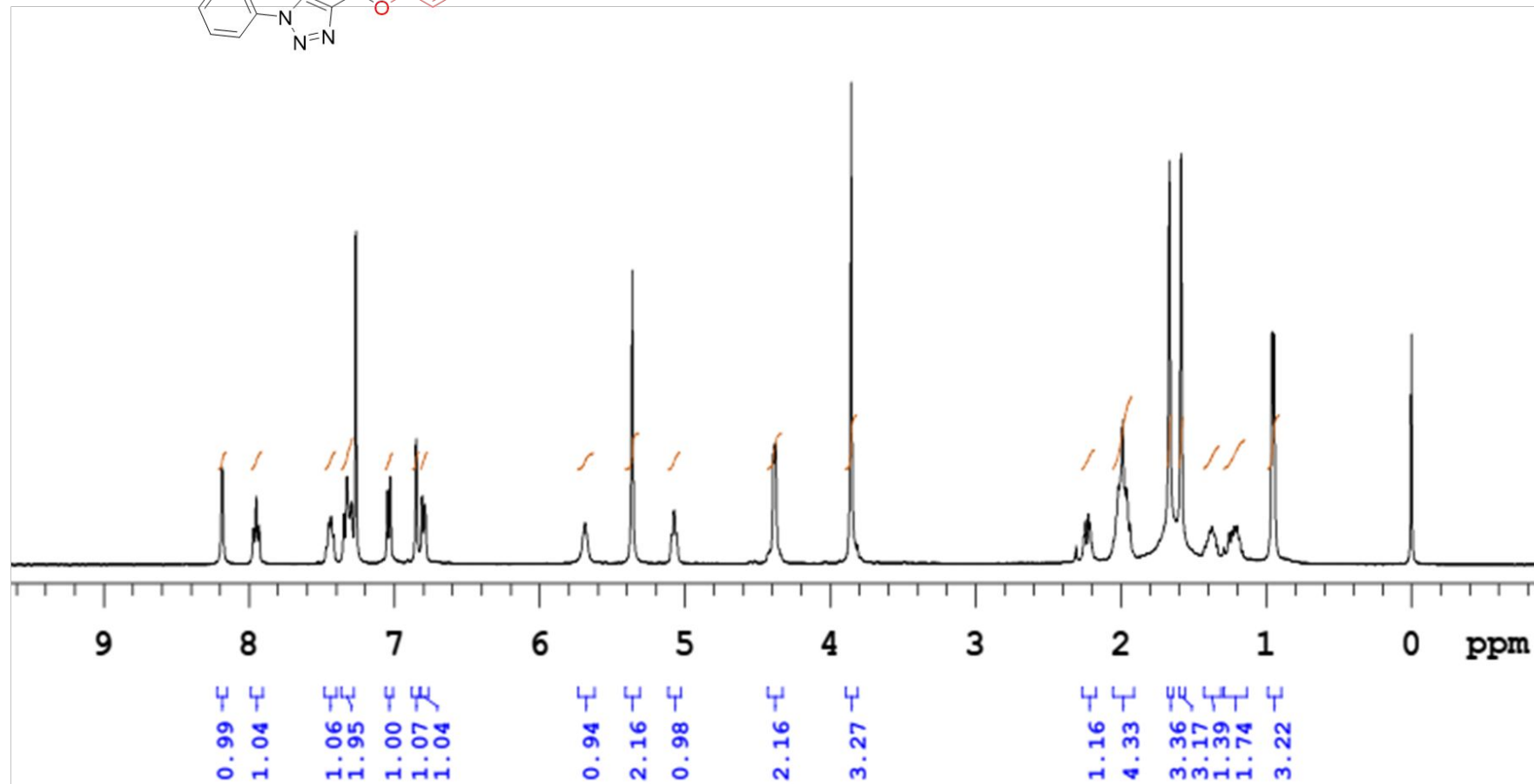
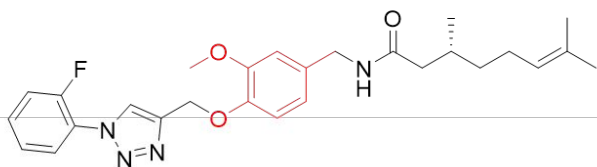
176.06 I
313.14 I
437.20 I
481.26 I
505.25 I



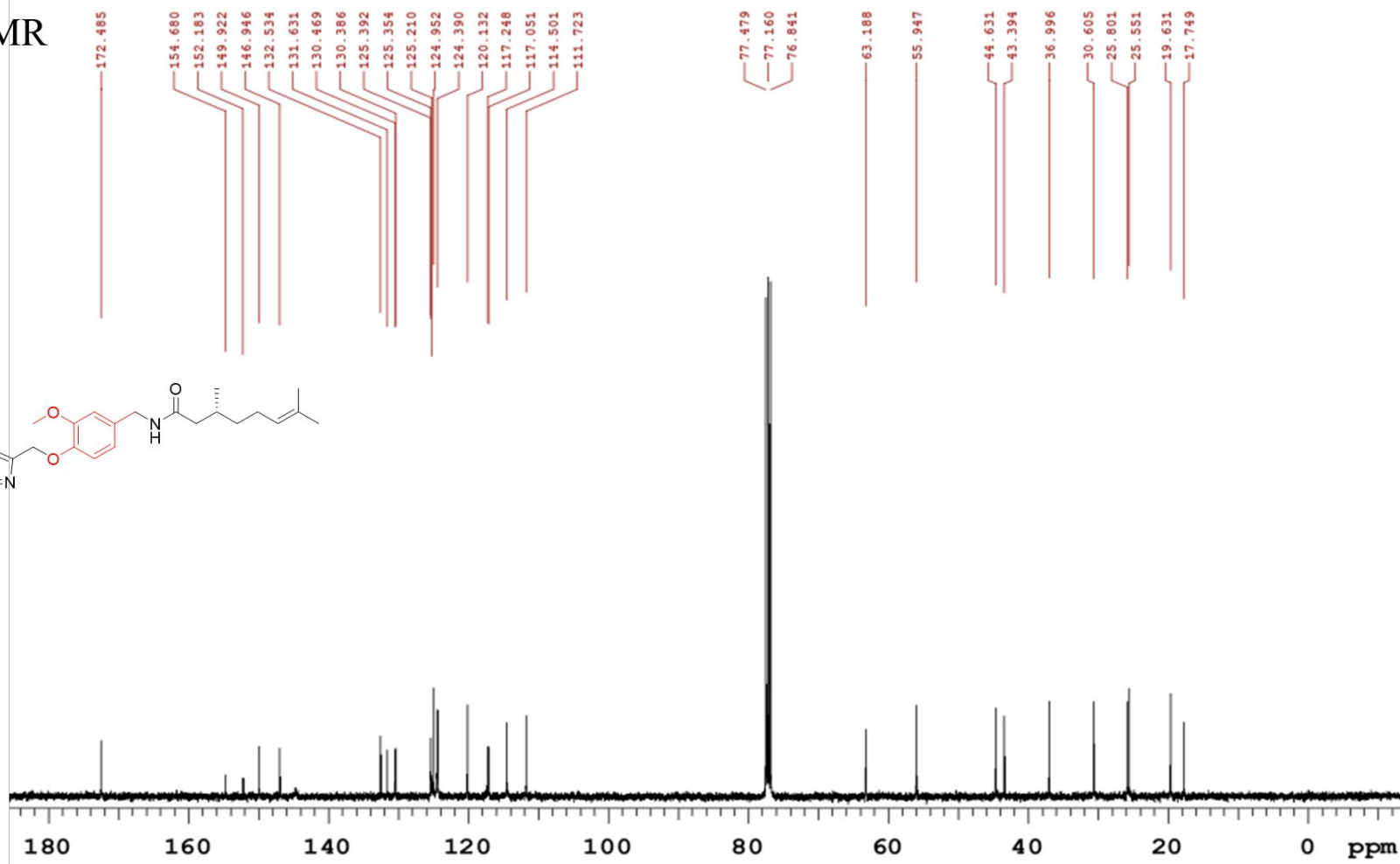
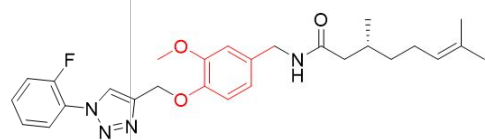
Page 1



¹H-NMR
181



¹³C-NMR
181

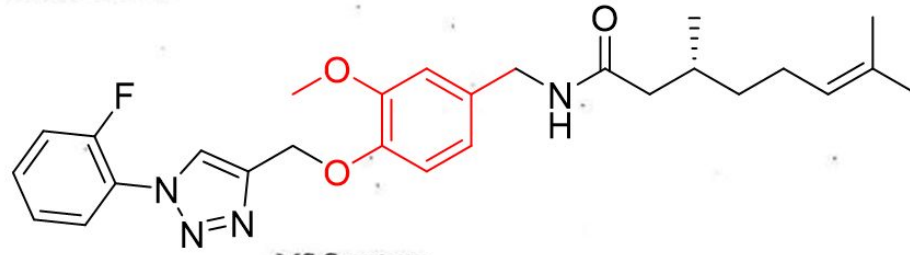


Sample Information

Sample Name : SA 12
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANN 13APRIL2021.lcm
Date Processed : 12/20/2021 1:16:43 PM

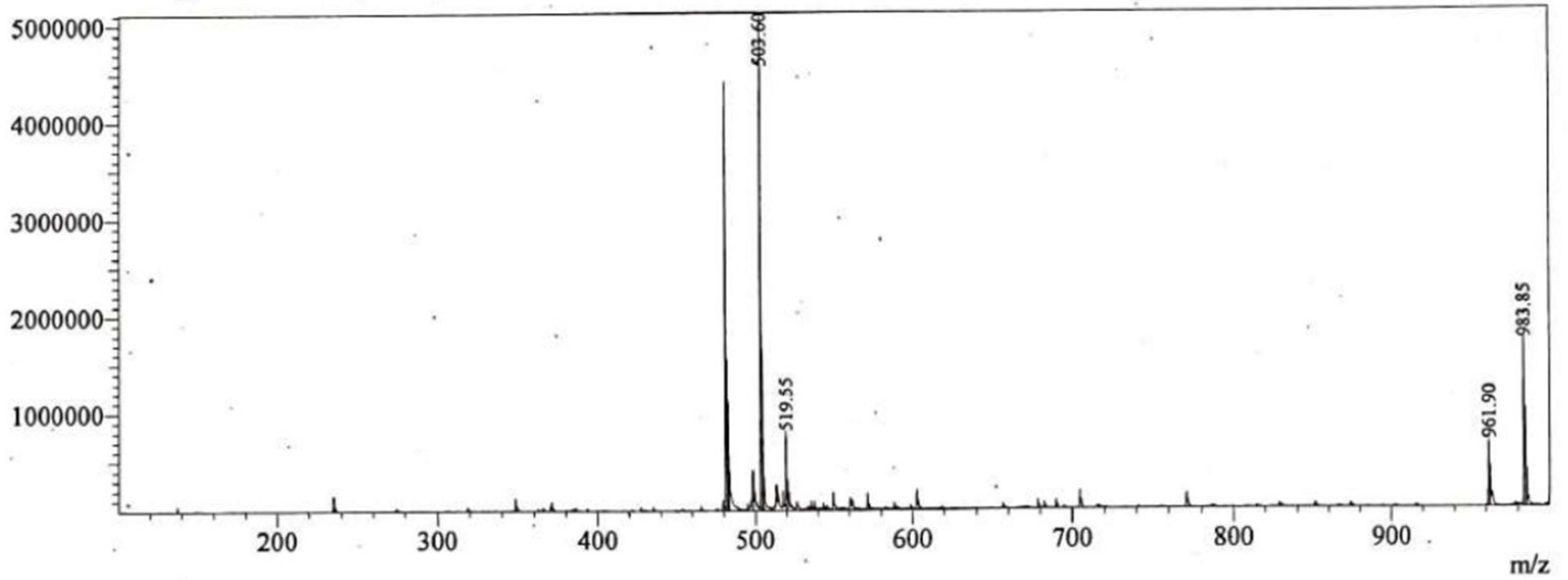
Sample ID :
Vial# : 14
Data File : 20-12-2021 Jled14.lcd
Processed by : System Administrator

LC-MS Spectra
181



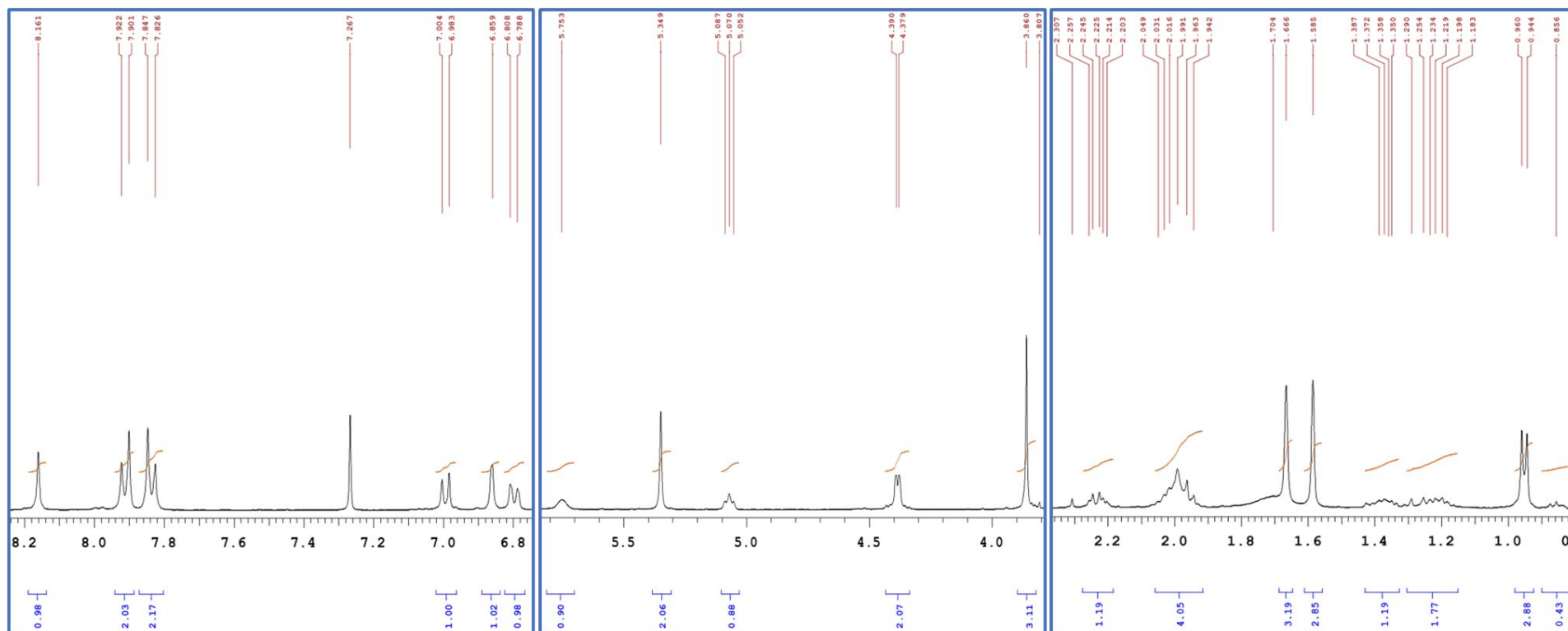
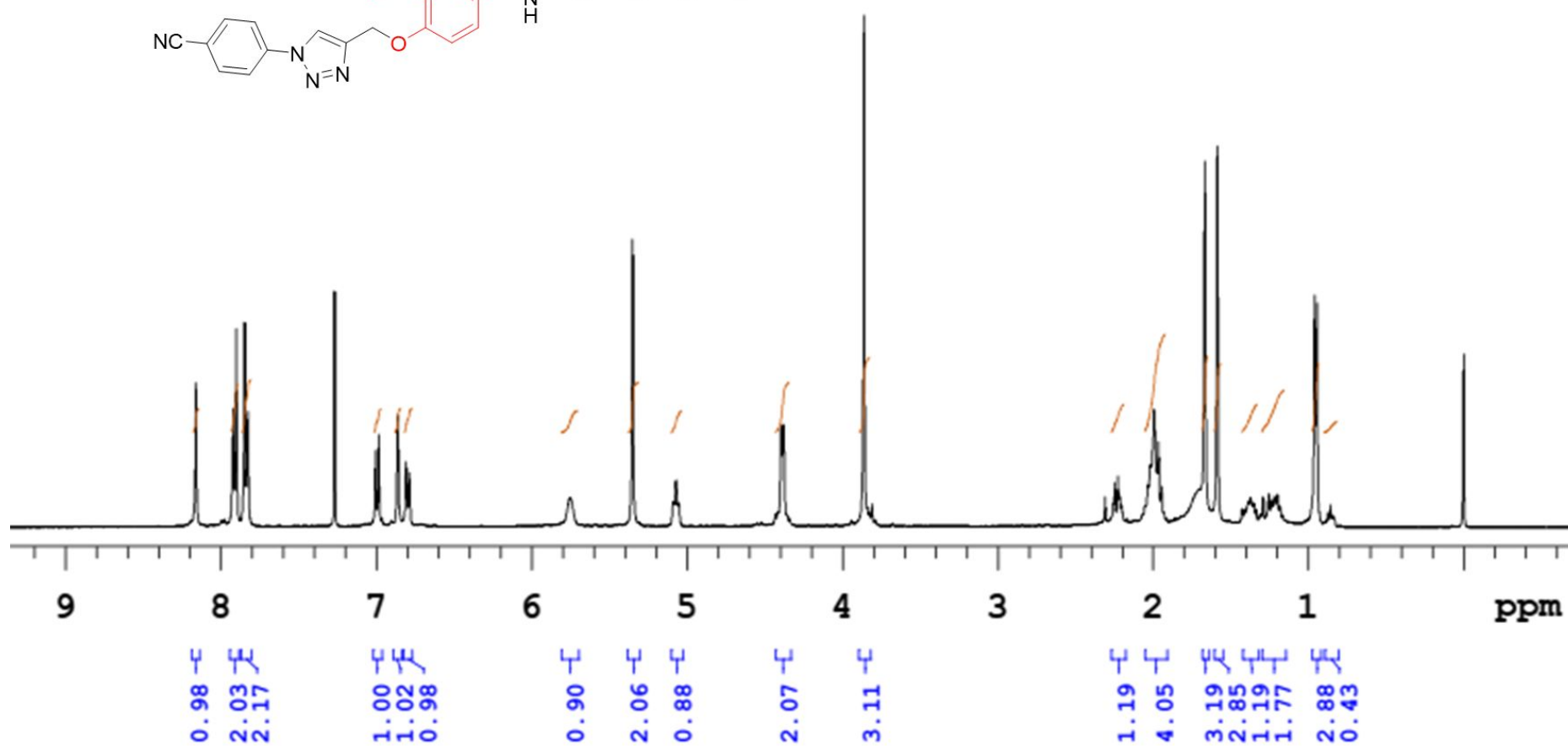
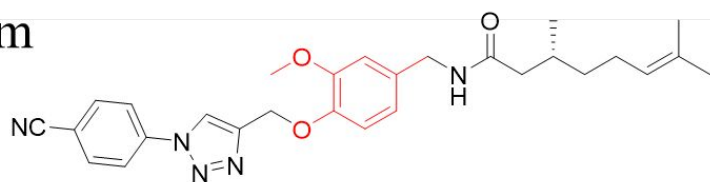
MS Spectrum

BG Mode:Averaged 0.429-0.961(51-113)\$EndIf\$ Segment 1 - Event 1

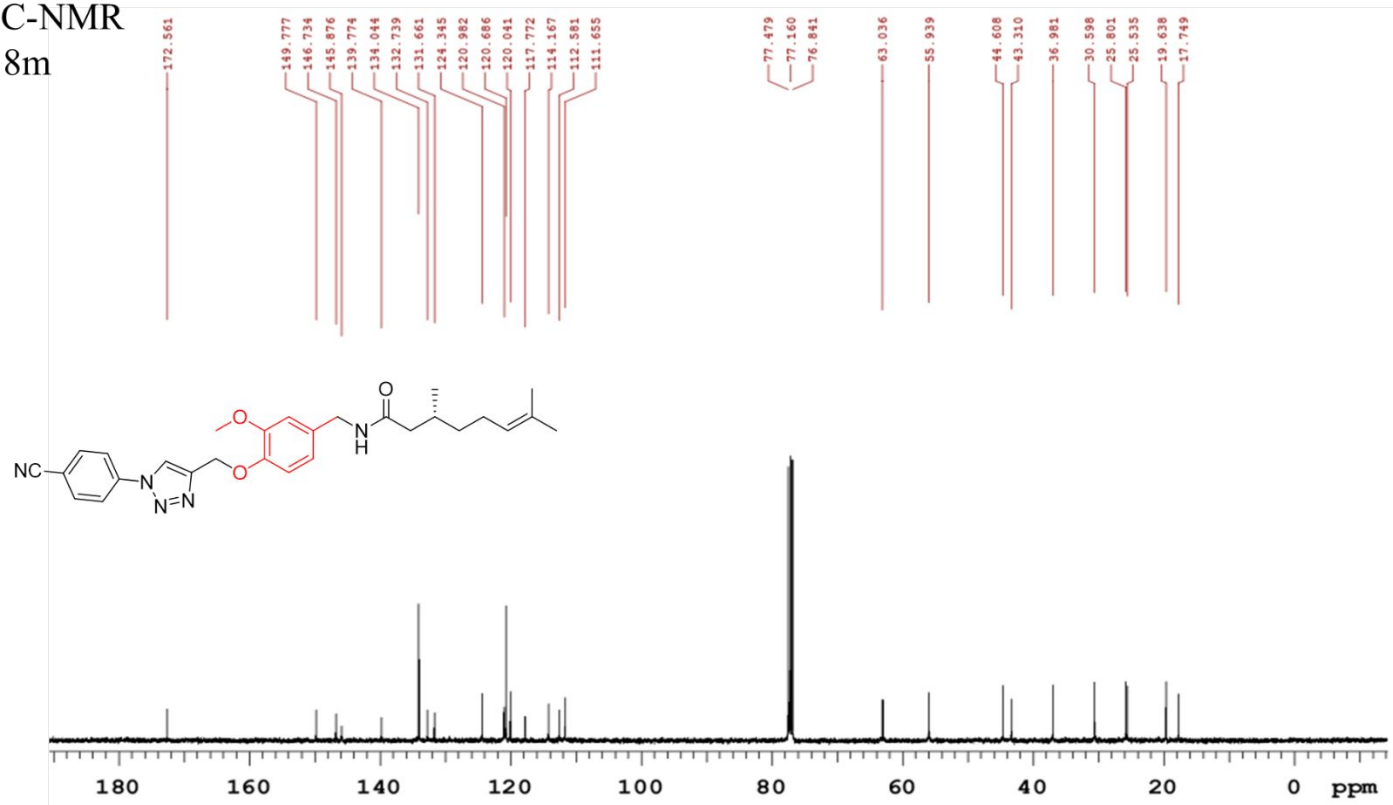


$^1\text{H-NMR}$

18m



¹³C-NMR
18m



Sample Information

Sample Name : SA 14

Tray# : 1

Injection Volume : 0.5

Method File : MASS SCANNN 13APRIL2021.lcm

Date Processed : 12/20/2021 1:20:19 PM

Sample ID

Vial#

Data File

Processed by

:

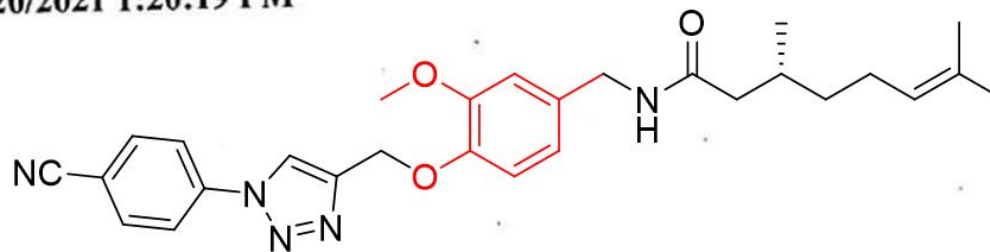
: 16

: 20-12-2021 Jled16.lcd

: System Administrator

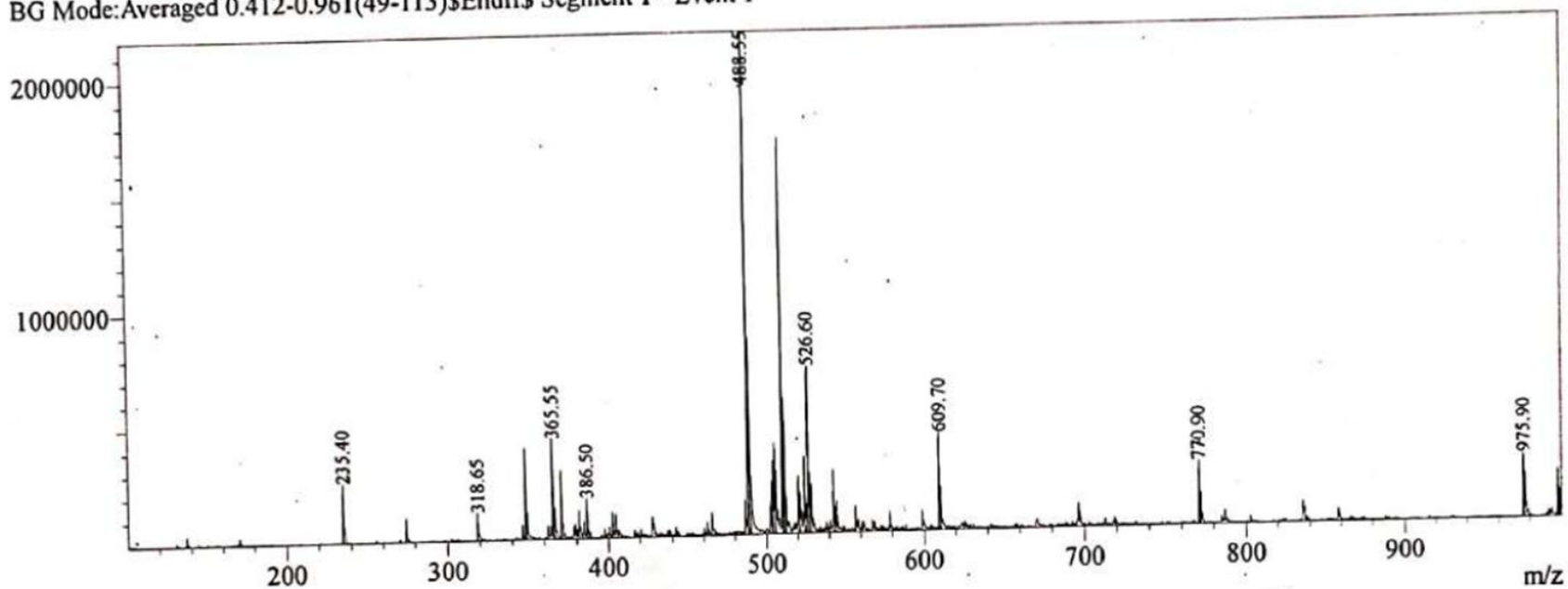
LC-MS spectra

18m



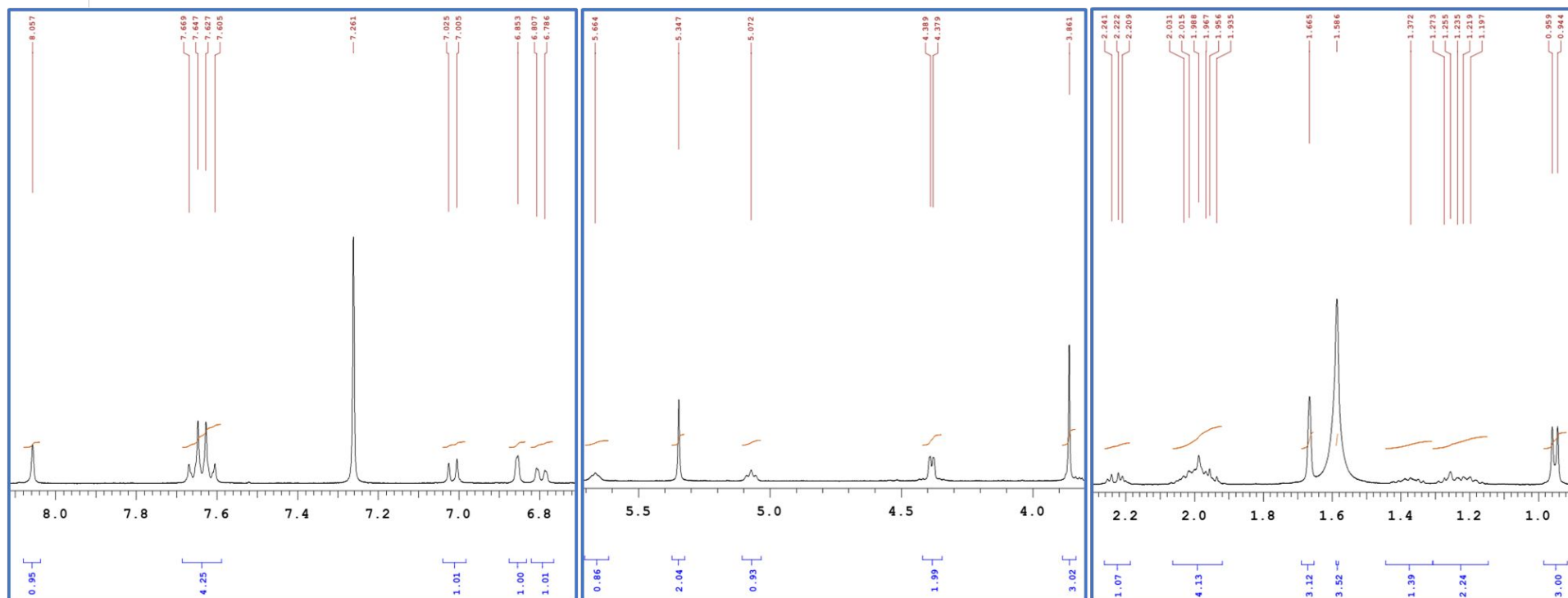
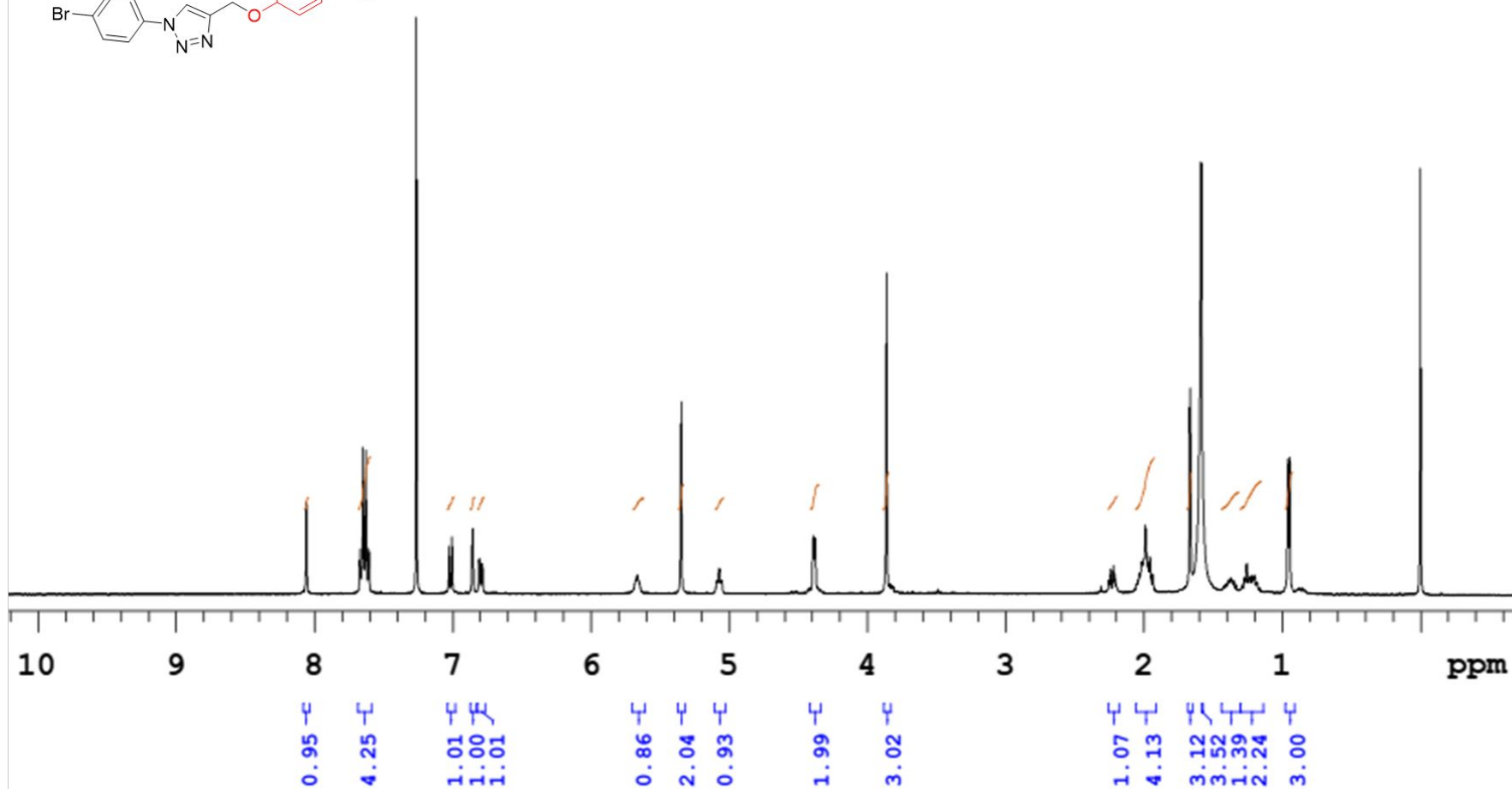
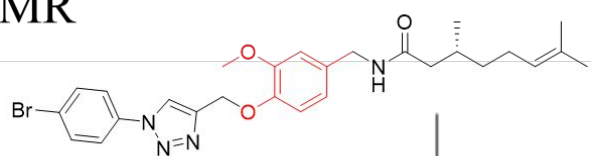
MS Spectrum

BG Mode: Averaged 0.412-0.961(49-113) Segment 1 - Event 1

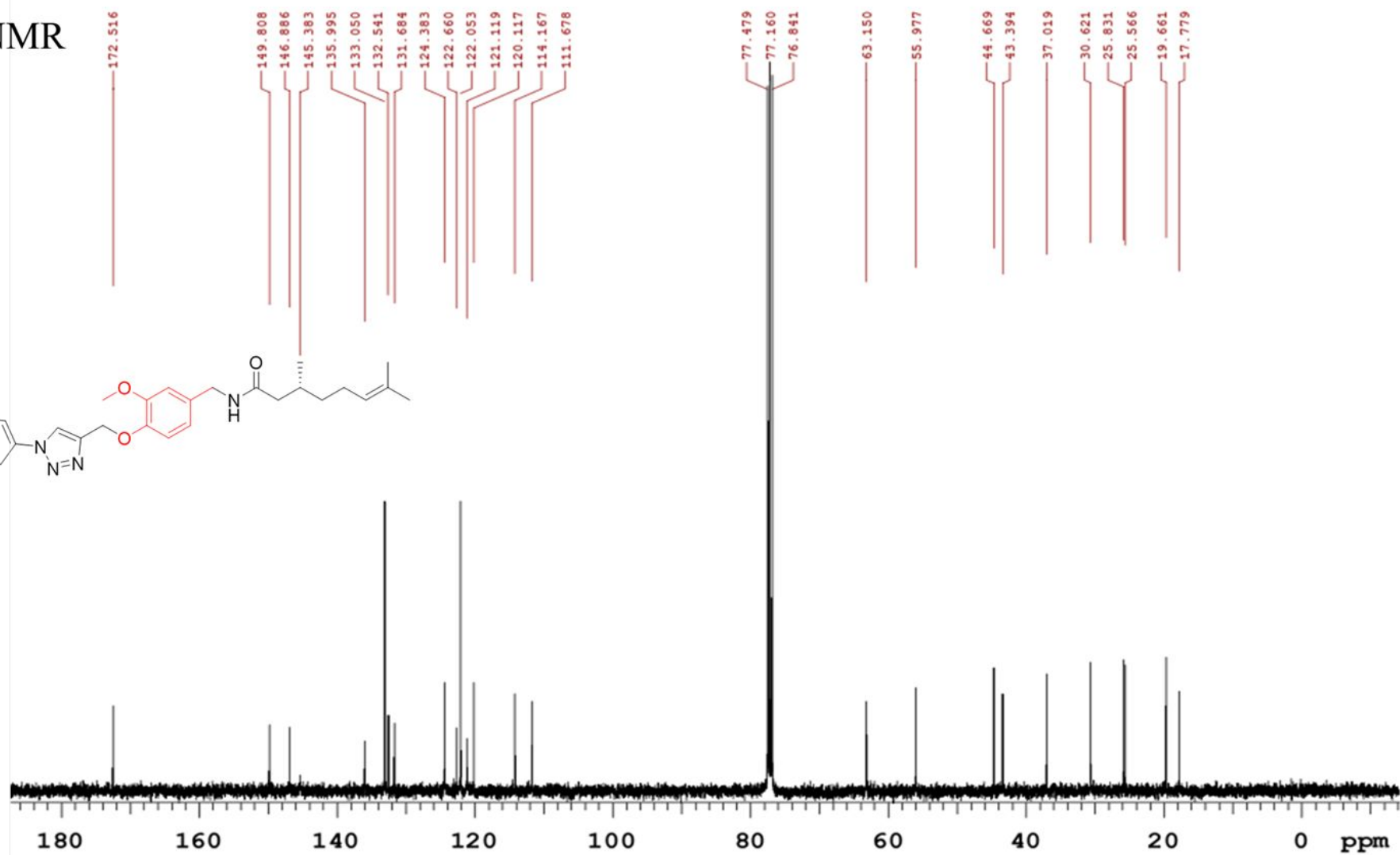
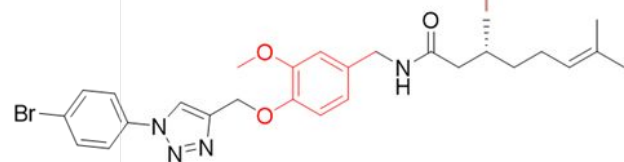


¹H-NMR

18n



¹³C-NMR
18n

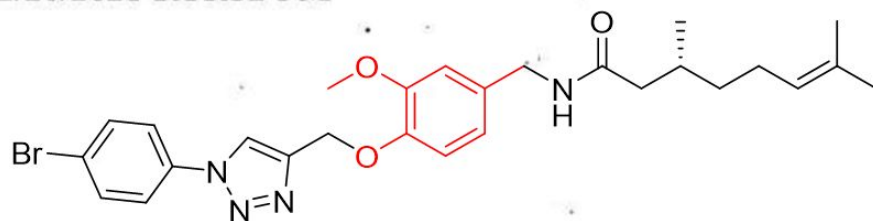


Sample Information

Sample Name : SA 15
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANN 13APRIL2021.lcm
Date Processed : 12/20/2021 1:18:32 PM

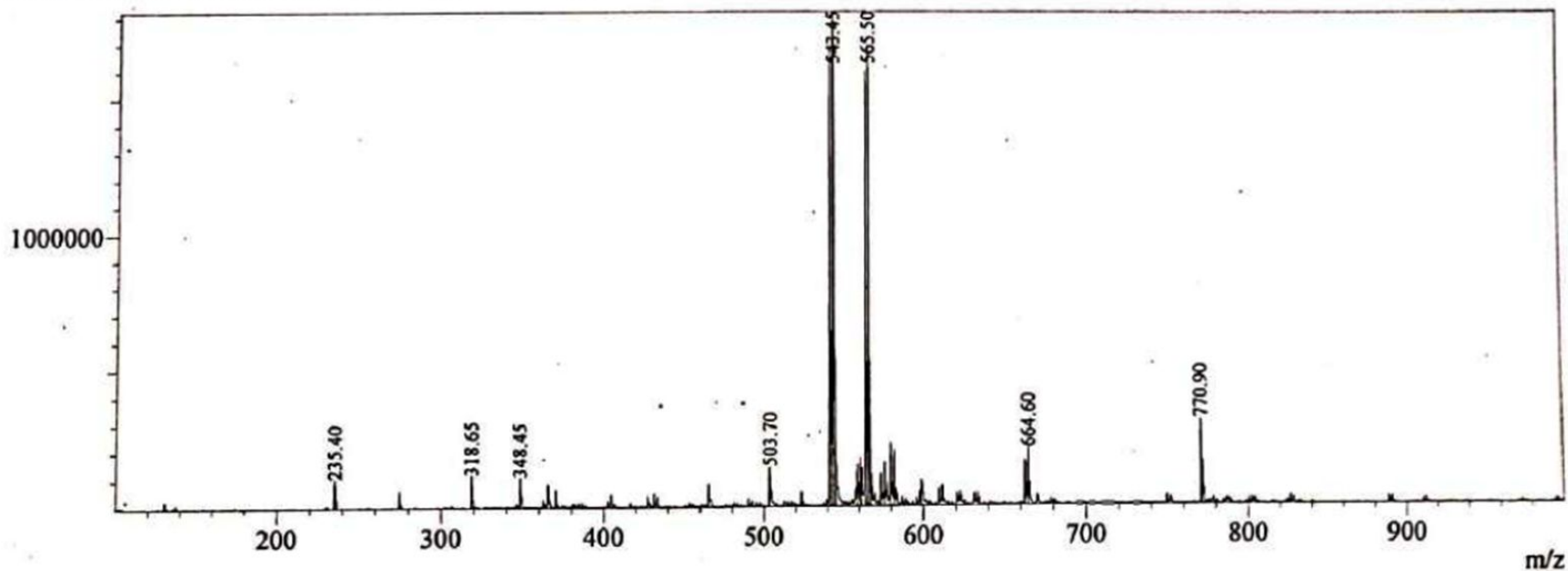
Sample ID :
Vial# : 15
Data File : 20-12-2021 Jlcd15.lcd
Processed by : System Administrator

LC-MS Spectra
18n

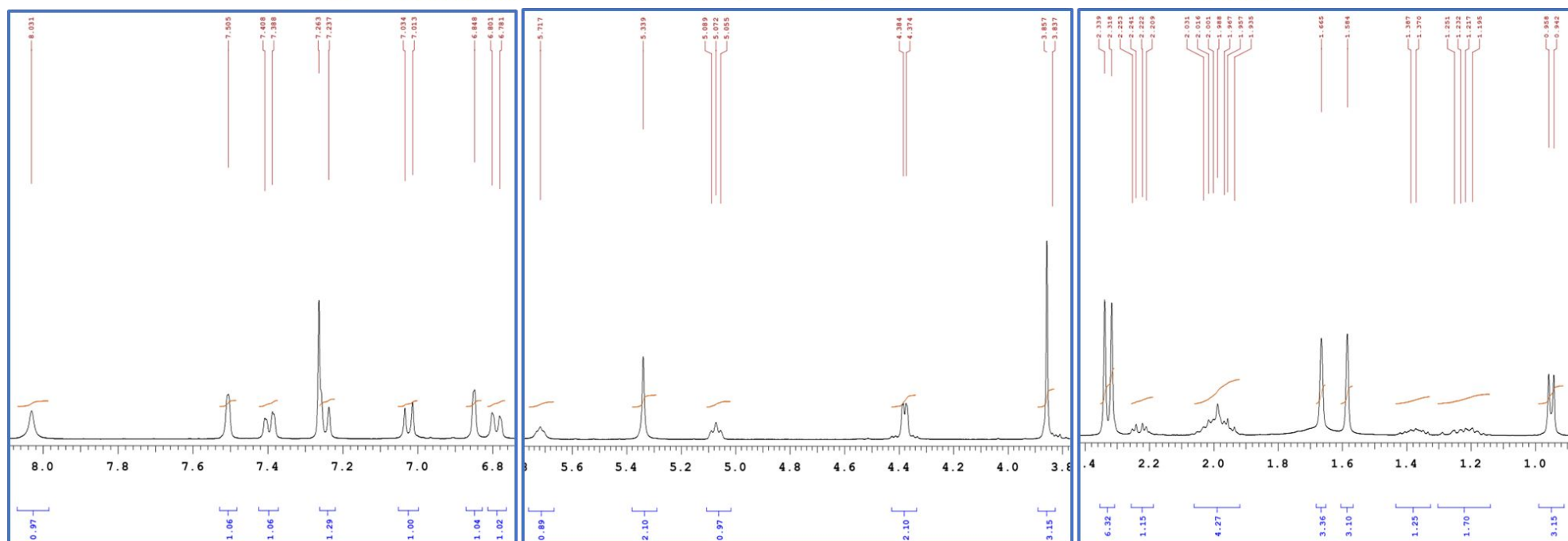
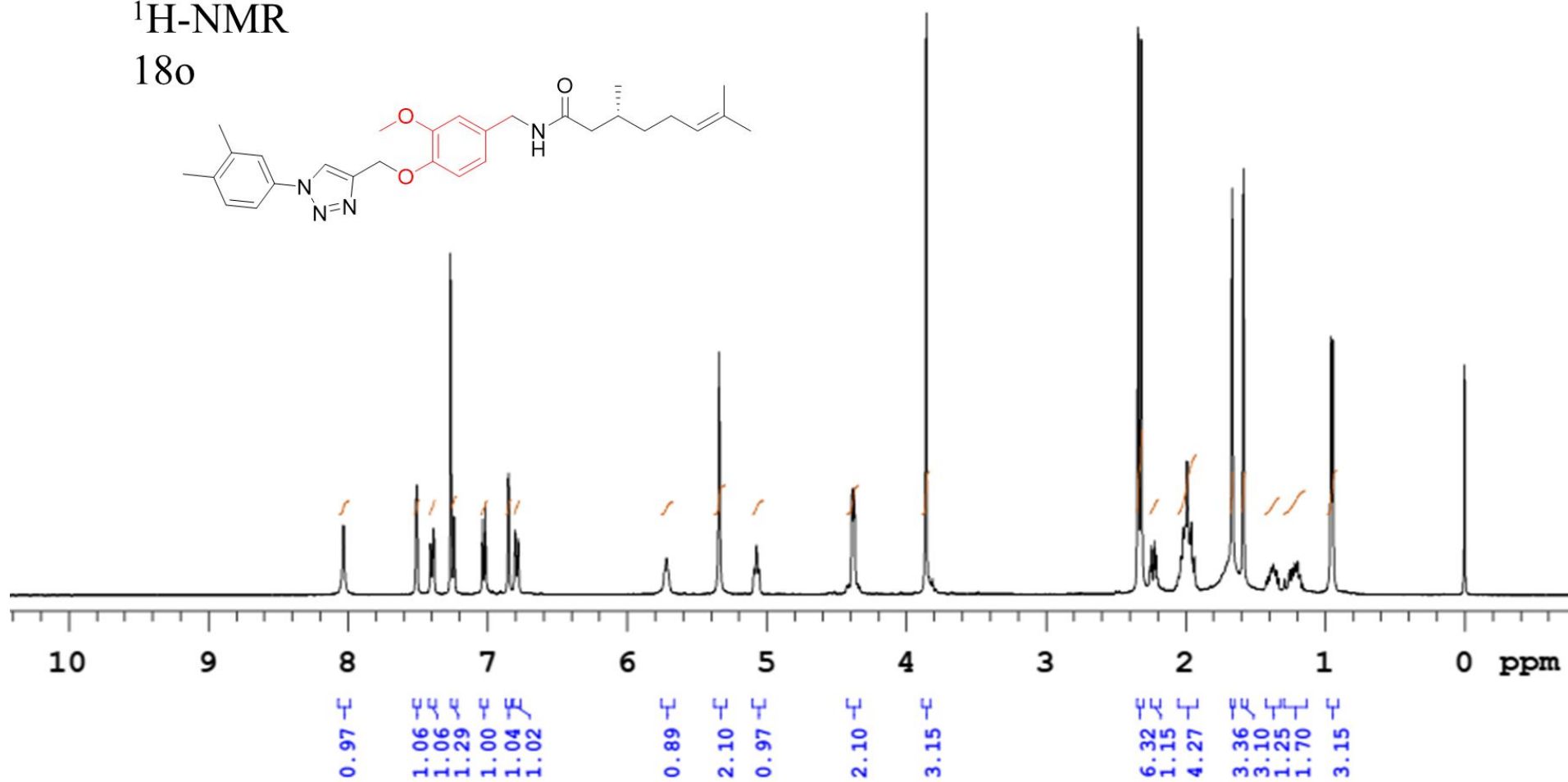
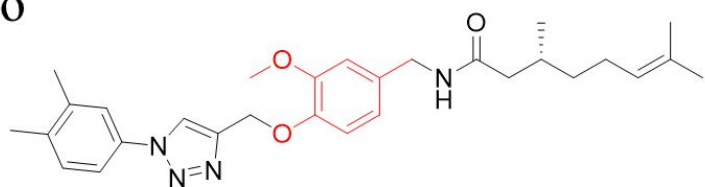


MS Spectrum

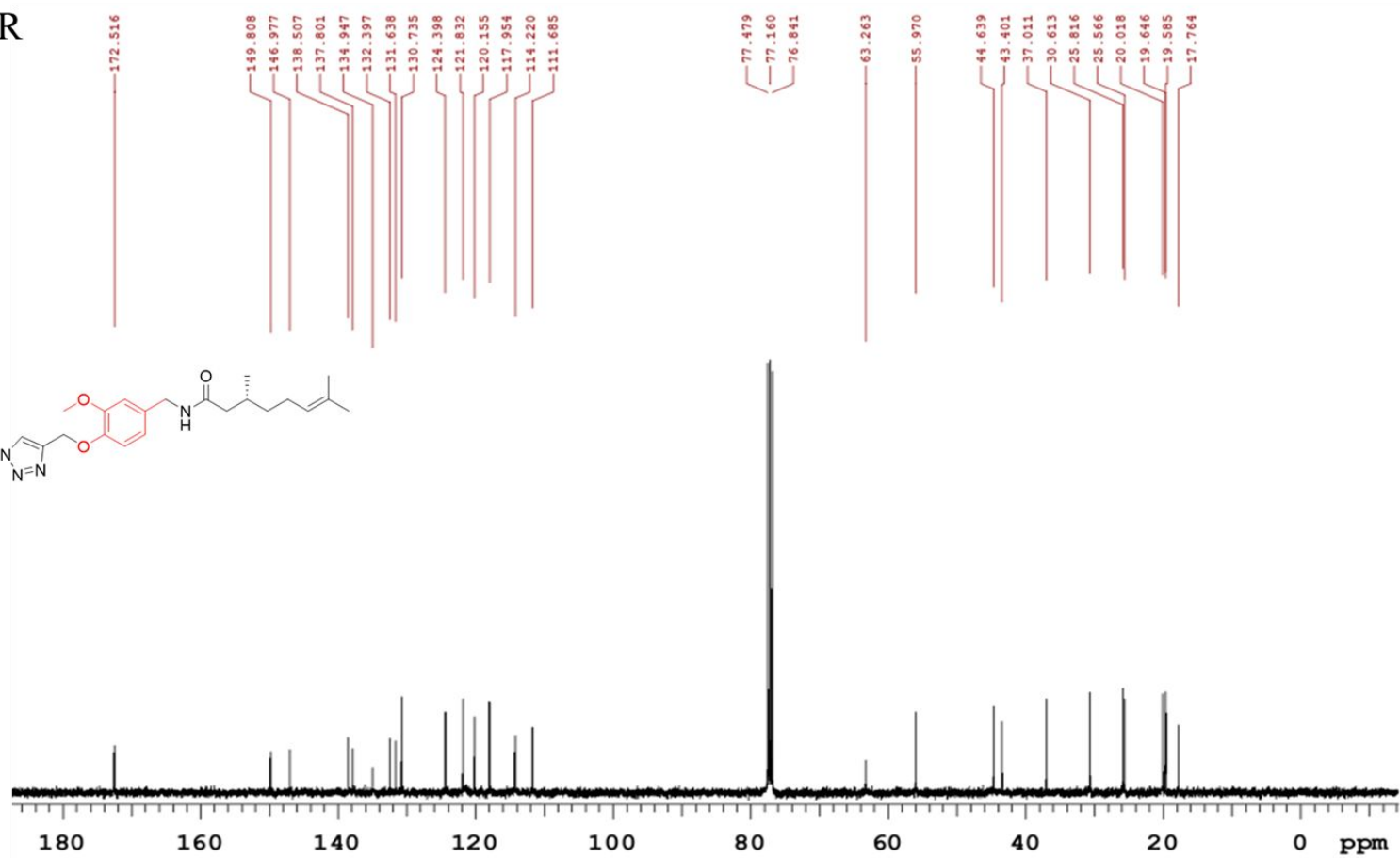
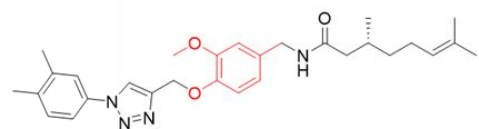
BG Mode:Averaged 0.395-0.961(47-113)\$EndIf\$ Segment 1 - Event 1



¹H-NMR
180



^{13}C -NMR
180



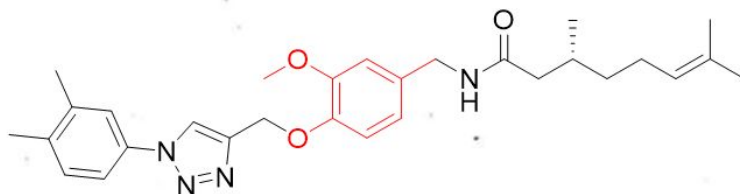
Sample Information

Sample Name : SA 16
Tray# : 1
Injection Volume : 0.5
Method File : MASS SCANNN 13APRIL2021.lcm
Date Processed : 12/20/2021 1:14:56 PM

Sample ID :
Vial# : 13
Data File : 20-12-2021 Jlcd13.lcd

Processed by : System Administrator

LC-MS Spectra
180



MS Spectrum

BG Mode:Averaged 0.464-0.961(55-113)\$EndIf\$ Segment 1 - Event 1

