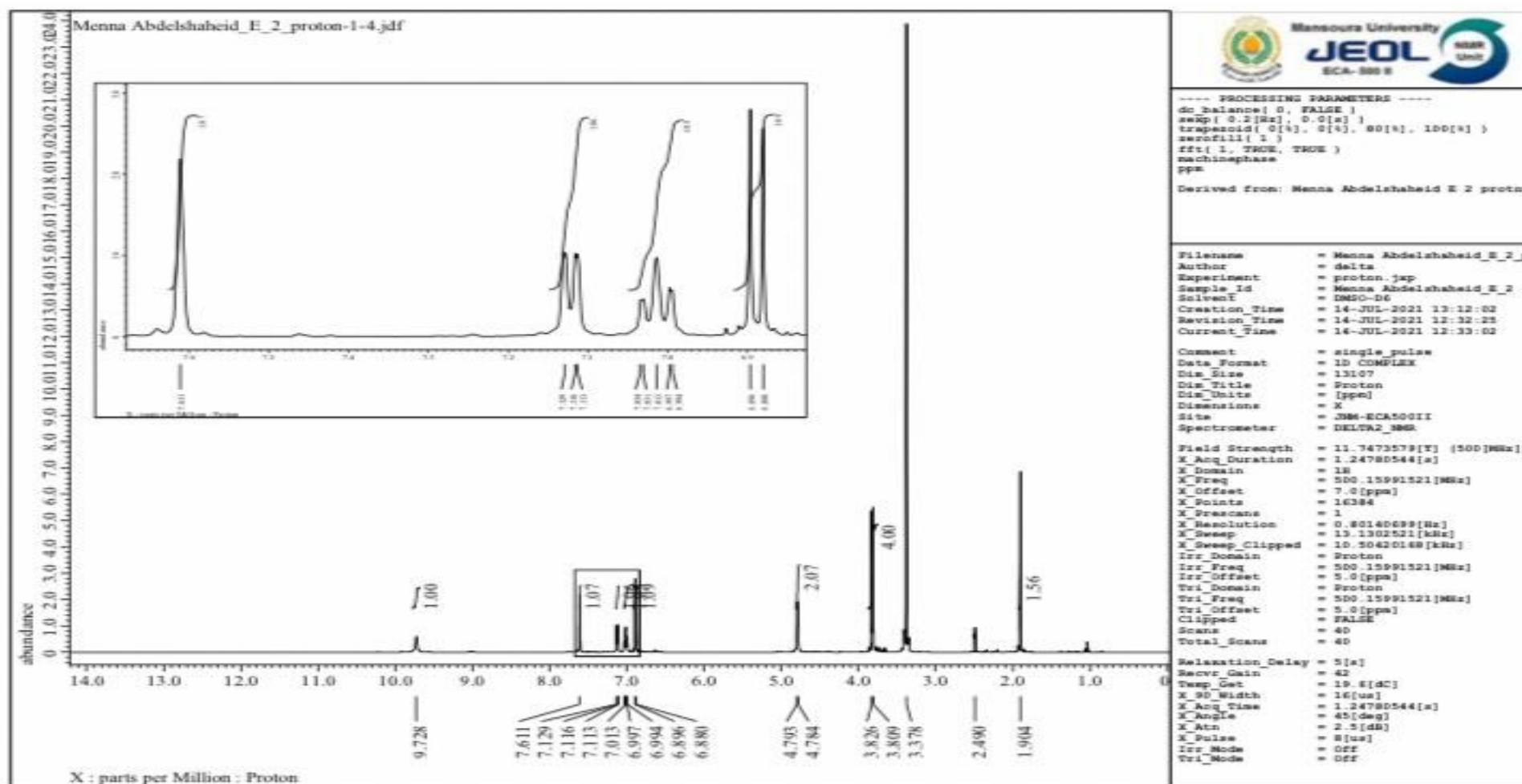
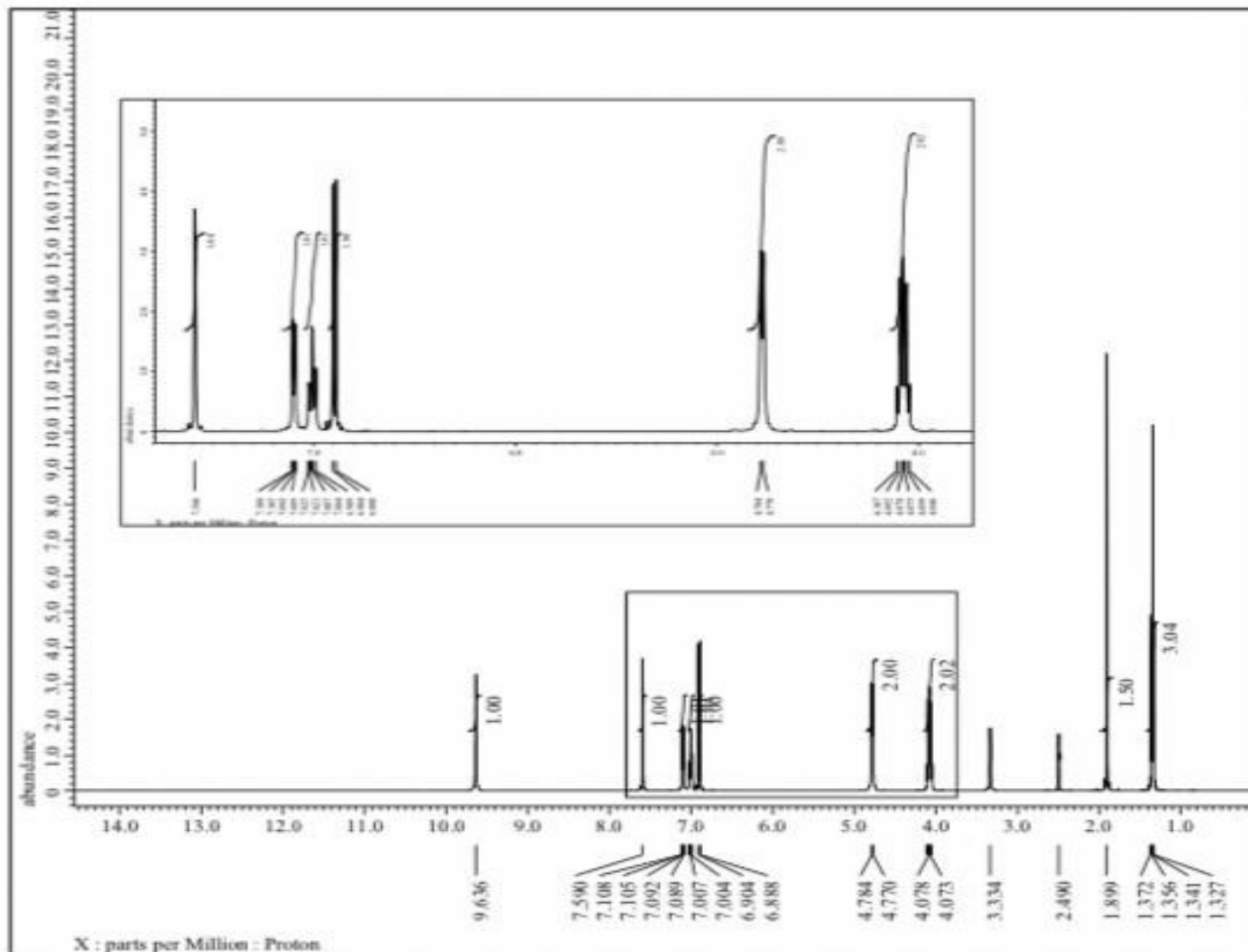


Supplementary material

S1: ¹H-NMR of 3a:



S2: ¹H-NMR of 3b:



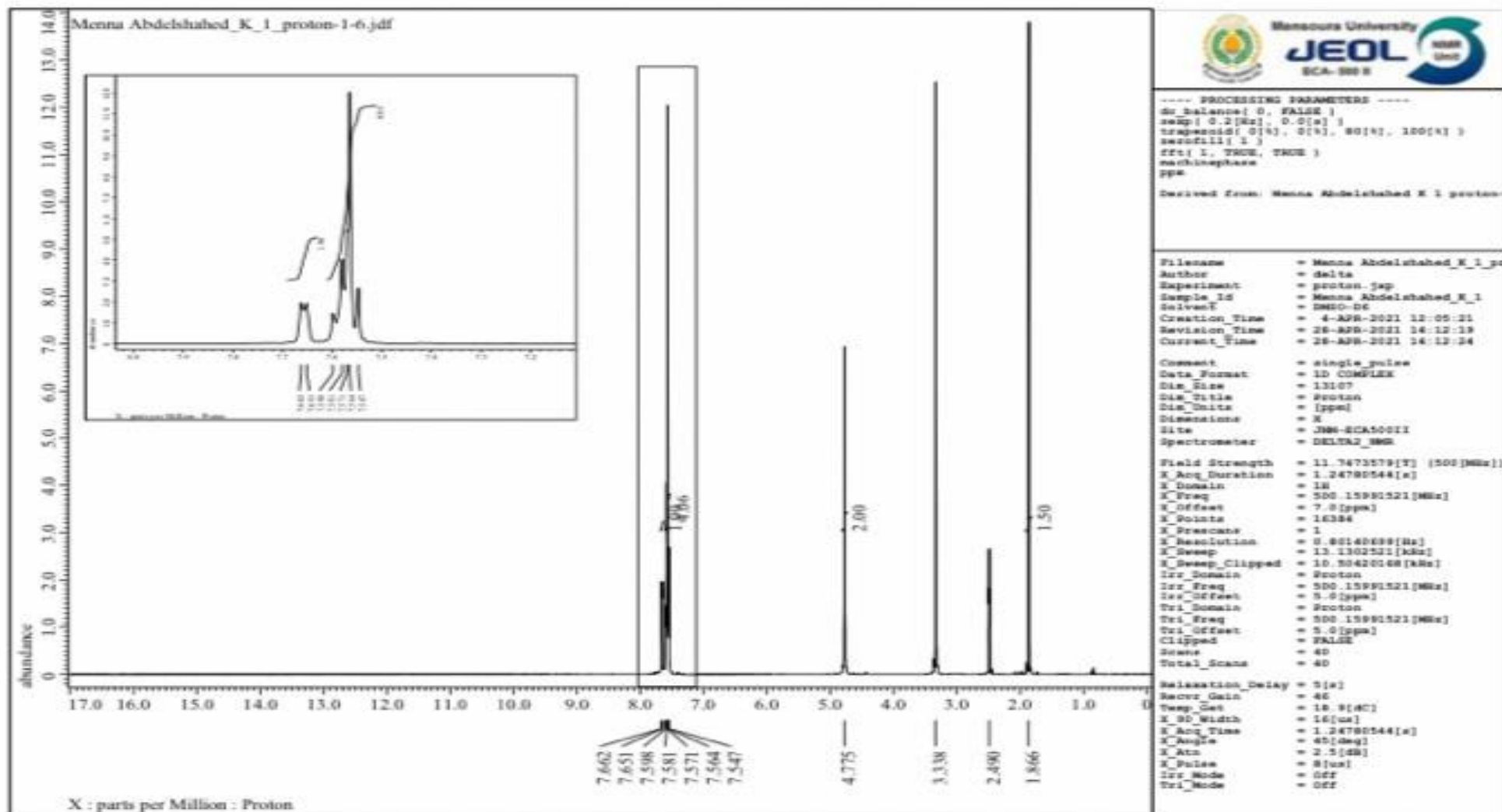
----- PROCESSING PARAMETERS -----
 dc_balance(0, FALSE)
 sweep(0.2[Hz], 0.0[s])
 trapwidth(0[%], 0[%], 80[%], 100[%])
 zerofill(1)
 fft(1, TRUE, TRUE)
 machinephase
 ppm
 Derived from: Menna Abdelshahed_V_2_protoc

Filename = Menna Abdelshahed_V_2_j
 Author = Aelita
 Experiment = proton_jep
 Sample Id = Menna Abdelshahed_V_2
 Solvent = DMSO-d6
 Creation Time = 13-JUL-2021 14:37:39
 Revision Time = 14-JUL-2021 11:19:25
 Current File = 14-JUL-2021 11:19:07

Comment = single_pulse
 Data Format = 1D_COMPLEX
 Dia_Size = 13107
 Dia_Title = Proton
 Dia_Units = [ppm]
 Dimensions = X
 Site = JNM-ECA500II
 Spectrometer = DELTA2_500
 Field Strength = 500.15991321[MHz]
 X_Acq_Duration = 1.24780544[s]
 X_Domain = 18
 X_Freq = 500.15991321[MHz]
 X_Offset = 7.0[ppm]
 X_Points = 16384
 X_Prescans = 1
 X_Resolution = 0.82140689[Hz]
 X_Sweep = 13.1302521[kHz]
 X_Sweep_Clipped = 10.504320168[kHz]
 Irr_Domain = Proton
 Irr_Freq = 500.15991321[MHz]
 Irr_Offset = 5.0[ppm]
 Tri_Domain = Proton
 Tri_Freq = 500.15991321[MHz]
 Tri_Offset = 5.0[ppm]
 Clipped = FALSE
 Scans = 40
 Total_Scans = 40

Relaxation_Delay = 5[s]
 Recv_Gain = 44
 Sweep_Gat = 20.1[μC]
 X_90_Width = 16[μs]
 X_Acq_Time = 1.24780544[s]
 X_Angle = 45[deg]
 X_Atn = 2.3[dB]
 X_Pulse = 8[μs]
 Irr_Mode = OFF
 Tri_Mode = OFF

S3: ¹H-NMR of 3c:



----- PROCESSING PARAMETERS -----
 dr_balance[0, FALSE]
 swep[0.2[Hz], 0.0[s]]
 trapasoid[0[%], 0[%], 80[%], 100[%]]
 swcfl[1]
 rft[1, TRUE, TRUE]
 machinephase
 ppm

Derived from: Menna Abdelshahed_K_1_proton-

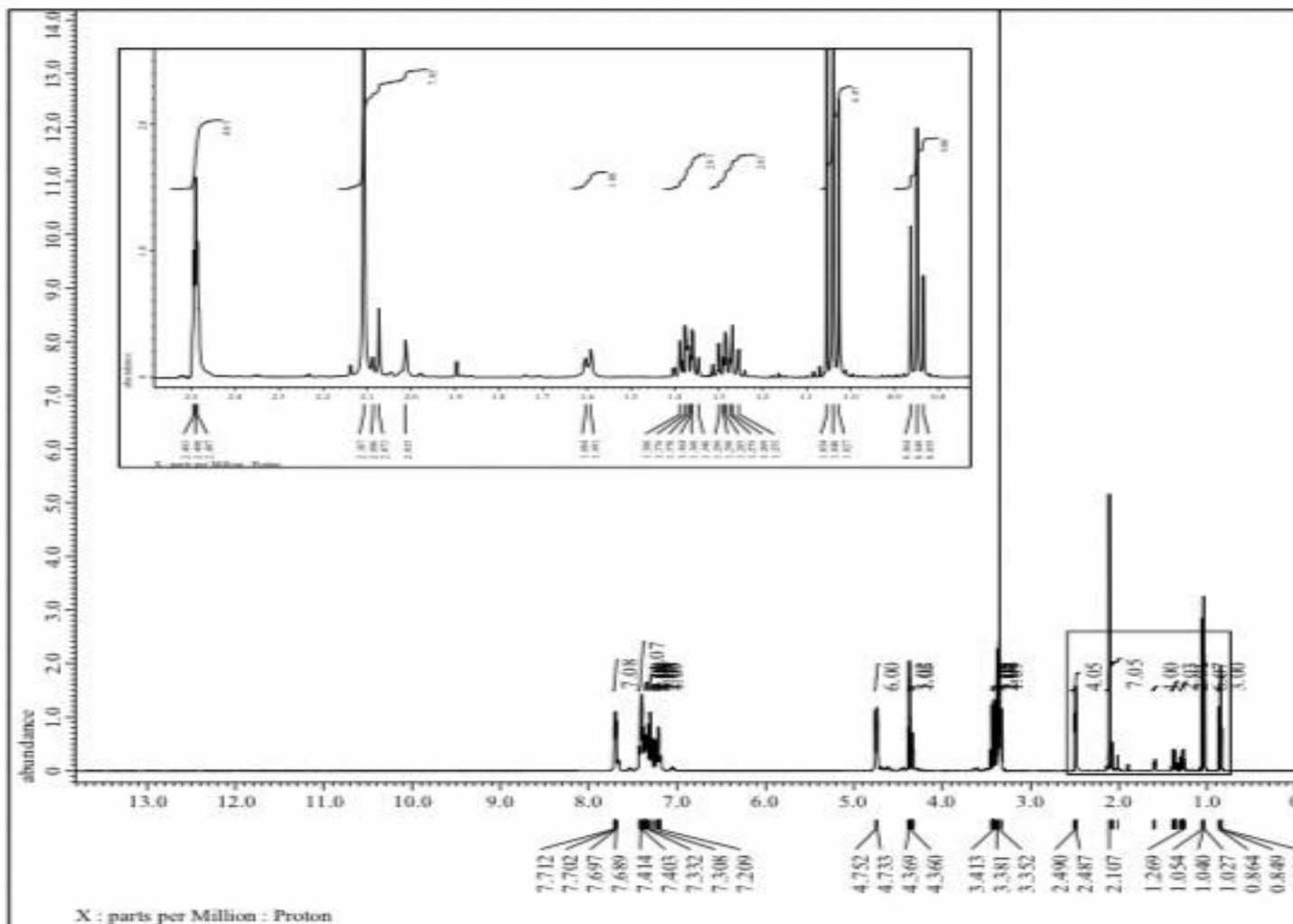
Filename = Menna Abdelshahed_K_1_p
 Author = delta
 Experiment = proton.jep
 Sample_ID = Menna Abdelshahed_K_1
 Solvent = DMSO-D6
 Creation_Time = 4-APR-2021 12:05:21
 Revision_Time = 28-APR-2021 14:12:19
 Current_Time = 28-APR-2021 14:12:24

Comment = single_pulse
 Data_Format = 1D_COMPLEX
 Dia_File = 13107
 Dia_Title = proton
 Dia_Units = [ppm]
 Dimensions = X
 Site = JNM-SCA500II
 Spectrometer = DELTA2_500

Field_Strength = 11.7472579[T] (500[MHz])
 X_Acq_Duration = 1.24780544[s]
 X_Domain = 18
 X_Freq = 500.15981521[MHz]
 X_Offset = 7.0[ppm]
 X_Points = 16384
 X_Prescan = 1
 X_Resolution = 0.80140699[Hz]
 X_Sweep = 13.1302531[kHz]
 X_Sweep_Clipped = 10.50420168[kHz]
 Xr_Domain = proton
 Xr_Freq = 500.15981521[MHz]
 Xr_Offset = 5.0[ppm]
 Xr_Domain = proton
 Xr_Freq = 500.15981521[MHz]
 Xr_Offset = 5.0[ppm]
 Clipped = FALSE
 Scale = 40
 Total_Scans = 40

Relaxation_Delay = 0[s]
 Recor_Gain = 46
 Sweep_Get = 16.8[Hz]
 X_90_Width = 16[us]
 X_Acq_Time = 1.24780544[s]
 X_Angle = 45[deg]
 X_Atts = 2.5[dB]
 X_Pulse = 8[us]
 Xr_Mode = Off
 Xr_Mode = Off

S4: $^1\text{H-NMR}$ of 3d:



```

---- PROCESSING PARAMETERS ----
dc_balancc| 0, FALSE |
sweep| 0.2[Hz], 0.0[s] |
trapezoid| 0[%, 0[%, 00[%, 100[% |
zerofill| 1 |
fft| 1, TRUE, TRUE |
machine| ppa
Derived from: Menna Mahmoud Q 1 proton-1-1

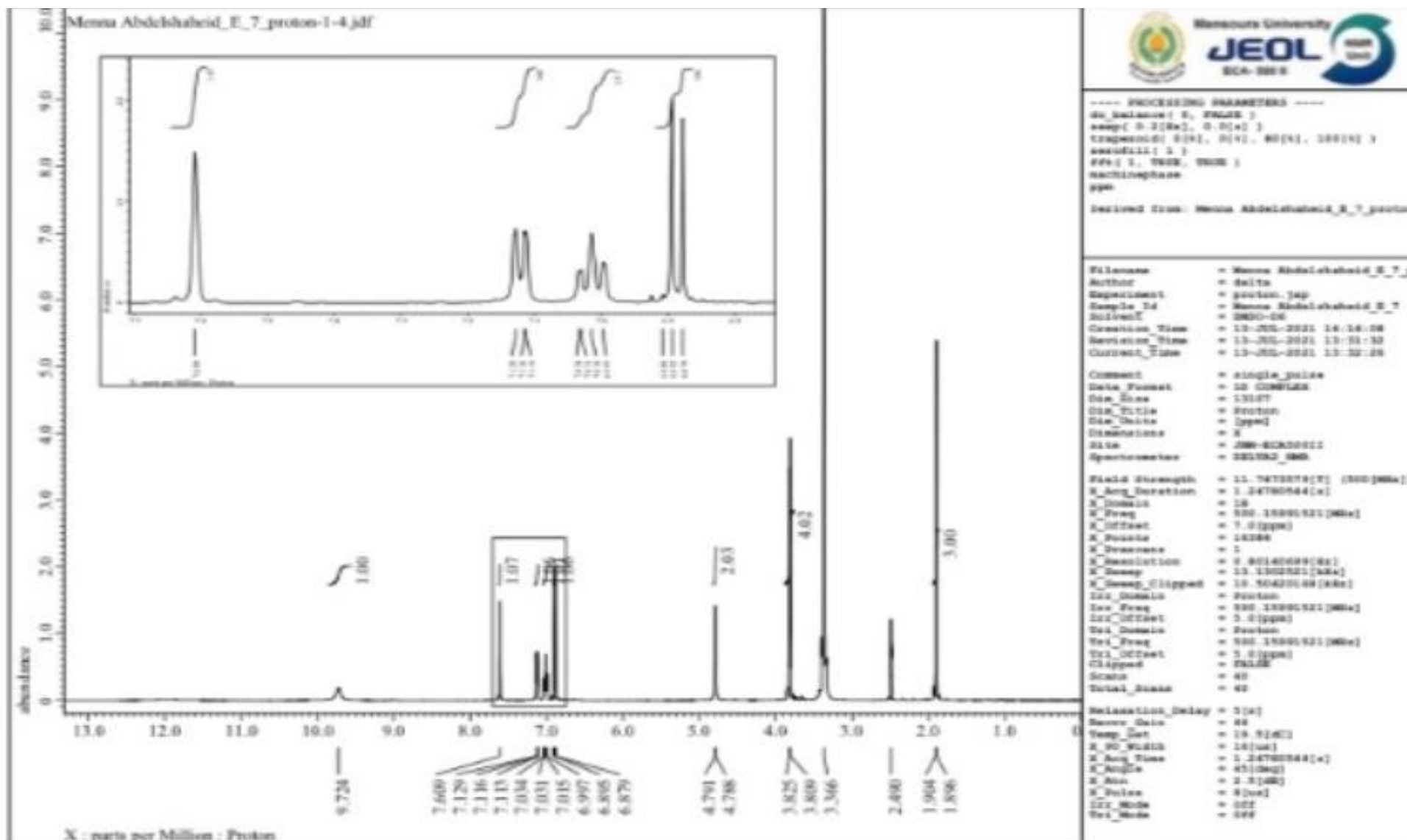
Filename = Menna Mahmoud_Q_1_protoc
Author = delta
Experiment = proton.jxp
Sample Id = Menna Mahmoud_Q_1
Solvent = DMSO-d6
Creation Time = 16-MAR-2021 13:06:23
Revision Time = 16-MAR-2021 13:15:17
Current Time = 16-MAR-2021 13:15:27

Comment = single pulse
Data Format = 1D COMPLEX
Dir Size = 13107
Dir Title = Proton
Dir Units = [ppm]
Dimensions = 1
Site = JSM-ECA500II
Spectrometer = DELTA2_500

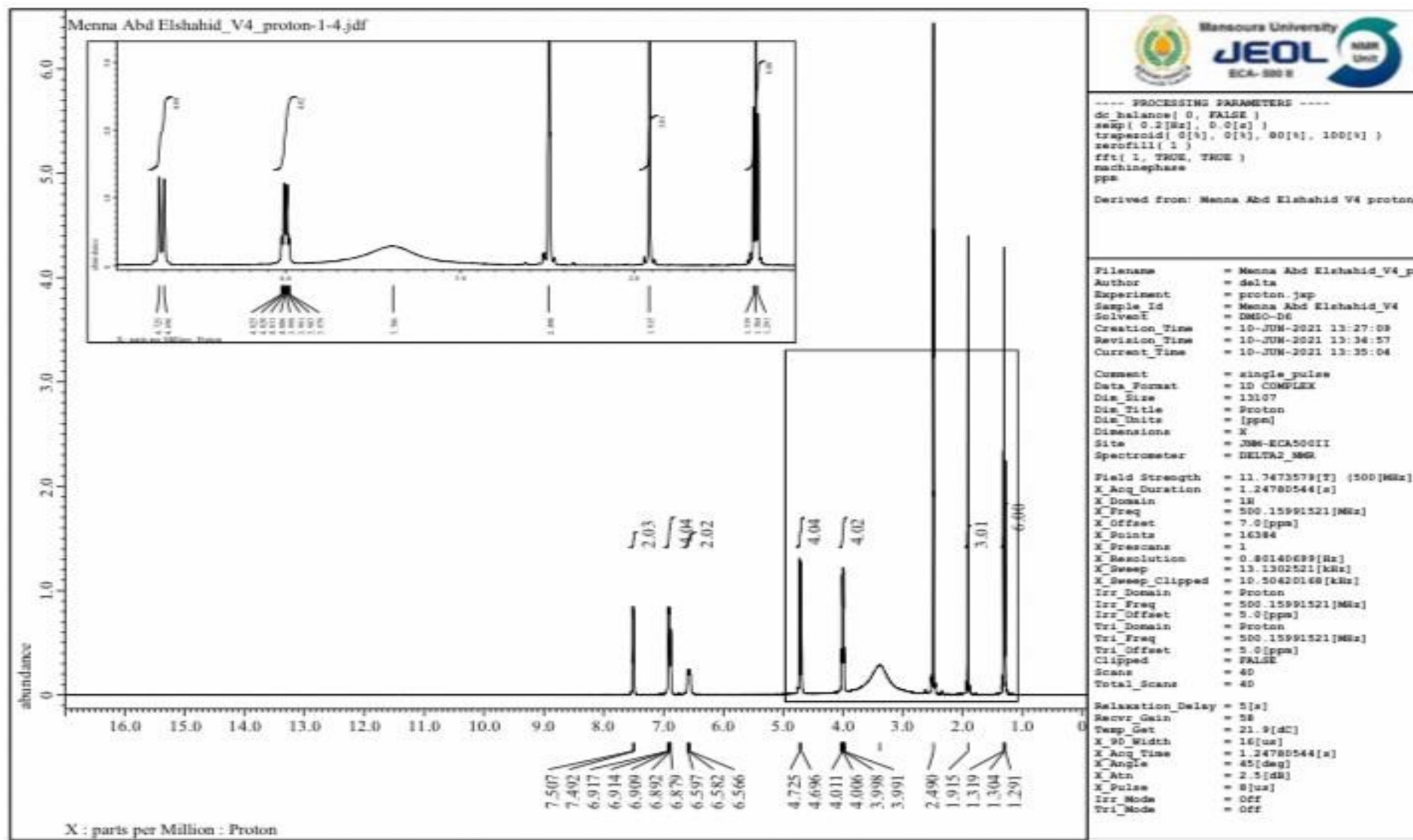
Field Strength = 11.7473579[T] (500[MHz])
K_Acq_Duration = 1.24780544[s]
K_Domain = 1H
K_Freq = 500.15991521[MHz]
K_Offset = 7.0[ppm]
K_Points = 16384
K_Prescans = 1
K_Resolution = 0.80140699[Hz]
K_Sweep = 13.1302531[kHz]
K_Sweep_Clipped = 10.50420168[kHz]
Irr_Domain = Proton
Irr_Freq = 500.15991521[MHz]
Irr_Offset = 5.0[ppm]
Tri_Domain = Proton
Tri_Freq = 500.15991521[MHz]
Tri_Offset = 5.0[ppm]
Clipped = TRUE
Scans = 40
Total_Scans = 40

Relaxation_Delay = 5[s]
Recvr_Gain = 50
Temp_Get = 18.1[4C]
K_90_Width = 16[us]
K_Acq_Time = 1.24780544[s]
K_Angle = 45[deg]
K_Atn = 2.5[db]
K_Pulse = 8[us]
Irr_Mode = ocr
Tri_Mode = ocr
    
```

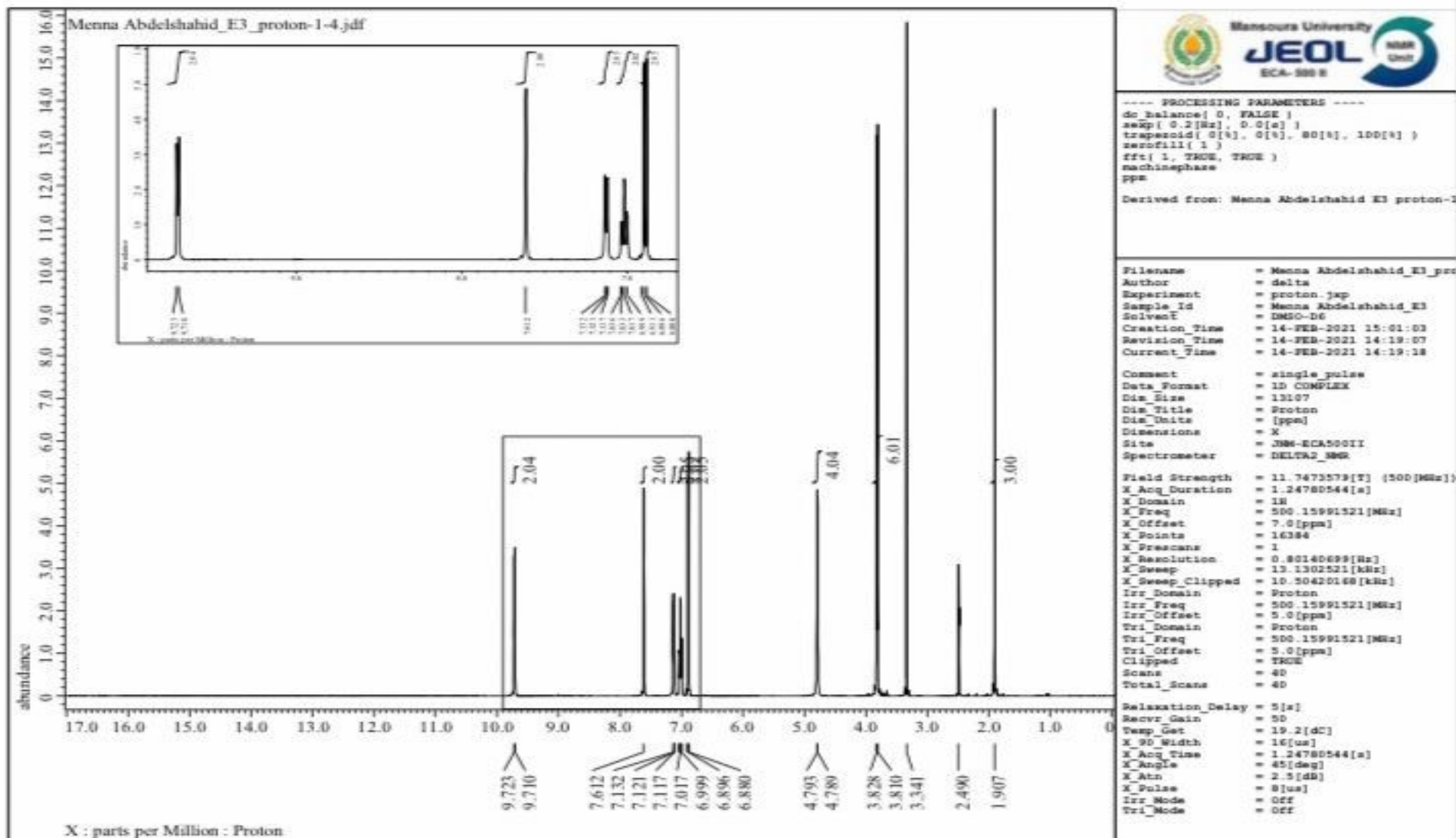
S5: ¹H-NMR of 4a:



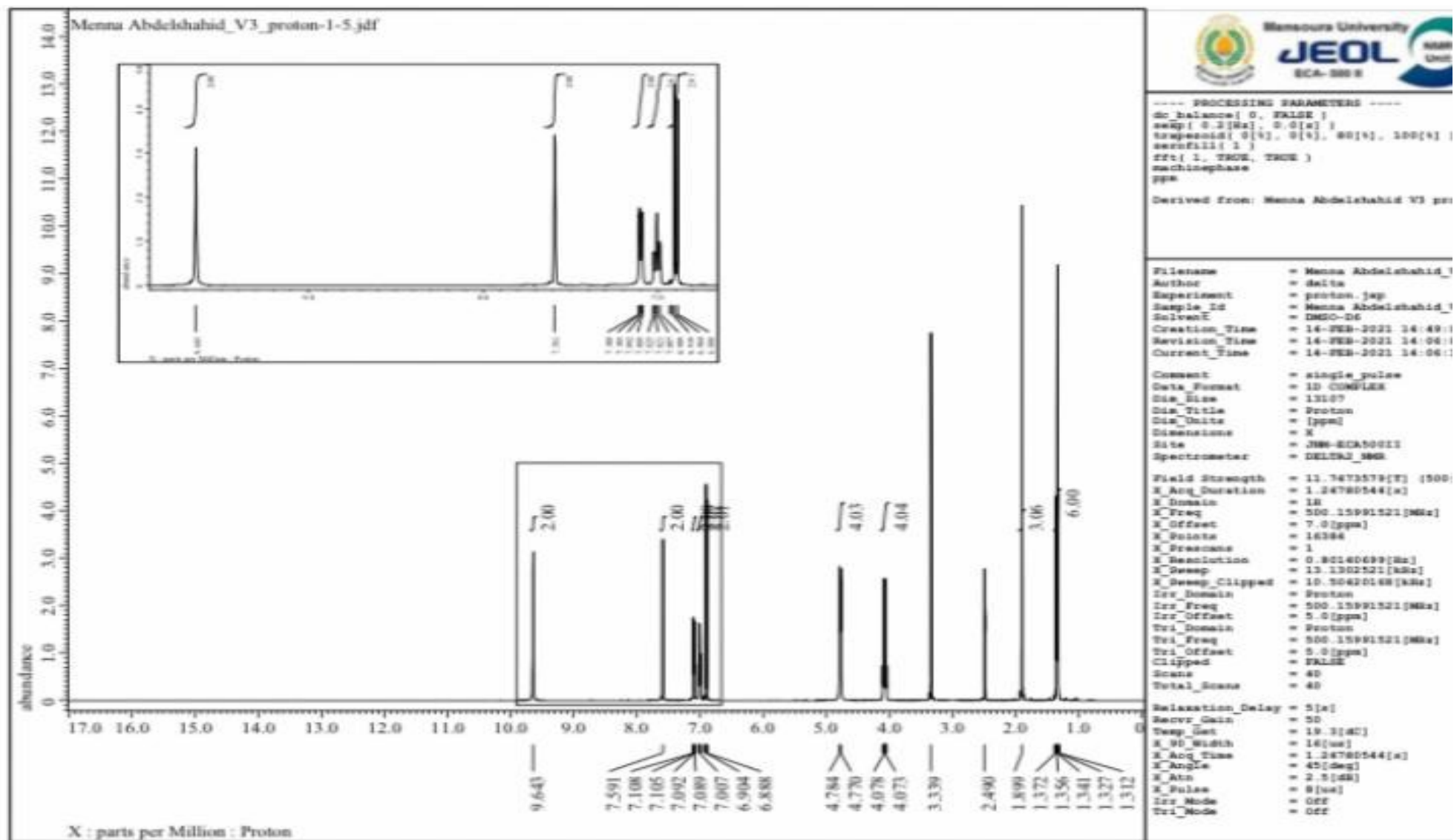
S6: ¹H-NMR of 4b:



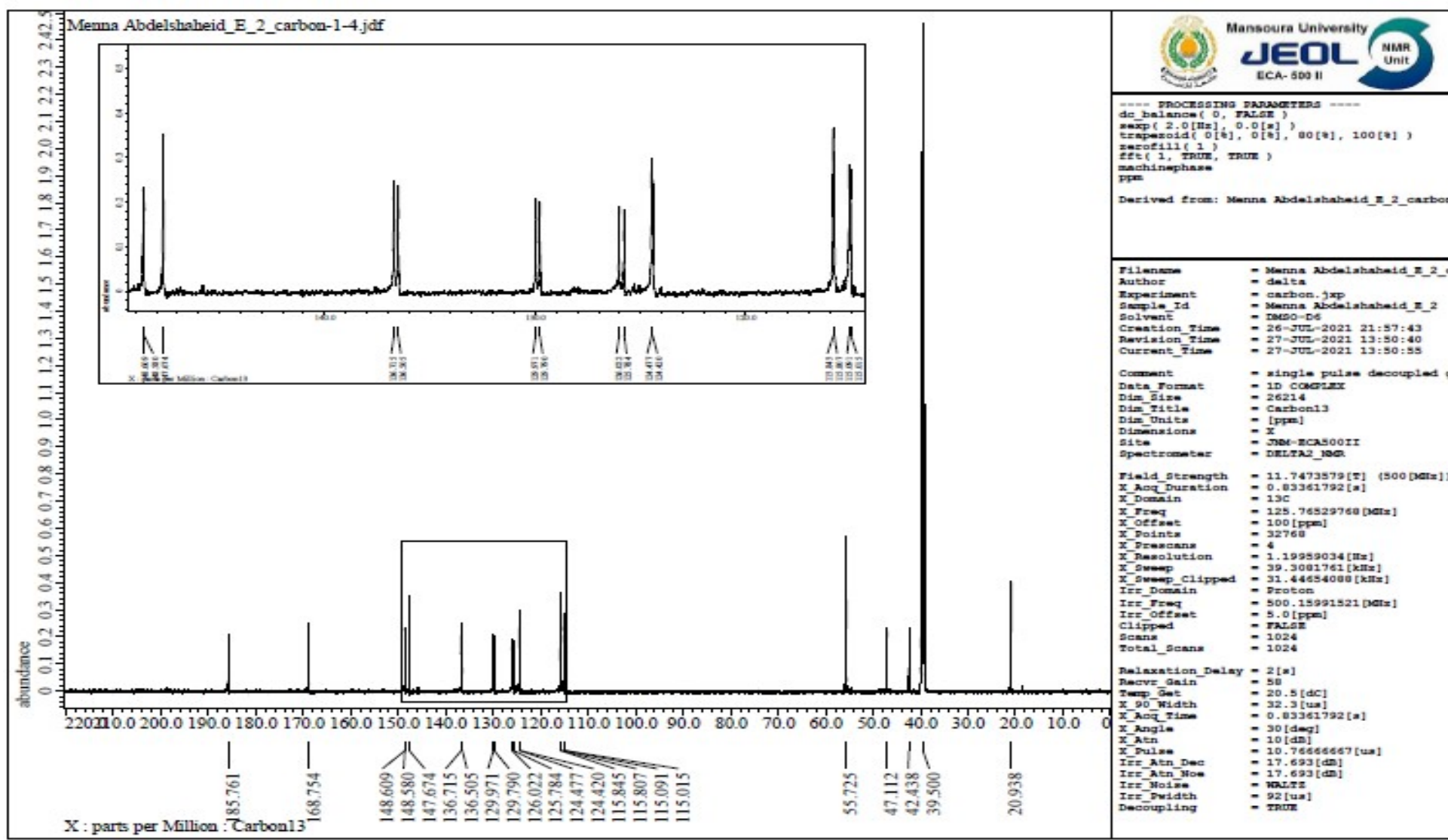
S7: ¹H-NMR of 5a:



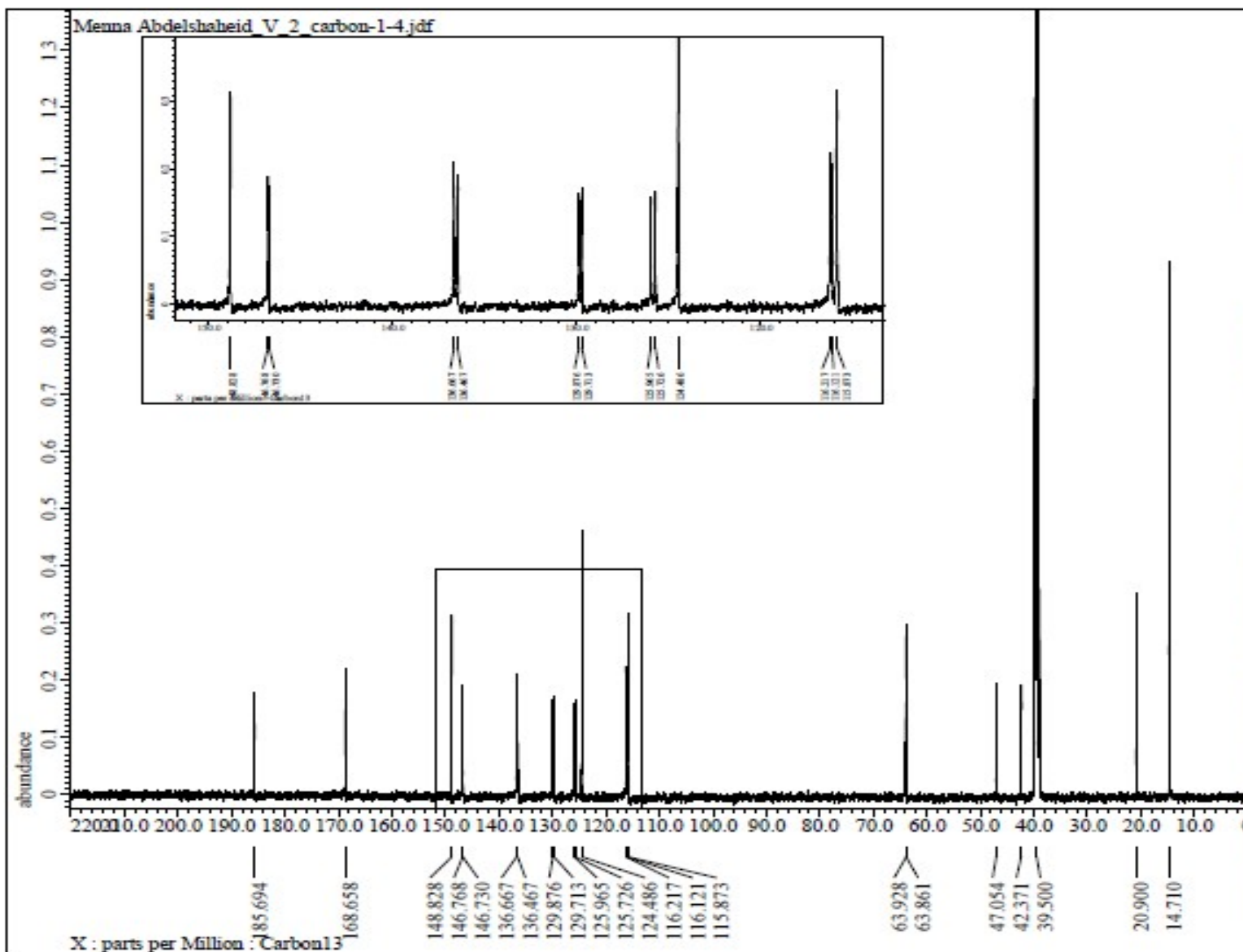
S8: ¹H-NMR of 5b:



S9: ¹³C-NMR of 3a:



S10: ^{13}C -NMR of 3b:



```

----- PROCESSING PARAMETERS -----
dc_balance( 0, FALSE )
sweep( 2.0[Hz], 0.0[s] )
trapezoid( 0[%, 0[%, 80[%, 100[%) )
zerofill( 1 )
fft( 1, TRUE, TRUE )
machinephase
ppm
Derived from: Menna Abdelshahid V 2_carbon

```

```

Filename      = Menna Abdelshahid V 2_c
Author       = delta
Experiment   = carbon.jxp
Sample Id    = Menna Abdelshahid V 2
Solvent      = DMSO-d6
Creation Time = 26-JUL-2021 22:54:56
Revision Time = 27-JUL-2021 13:52:57
Current Time  = 27-JUL-2021 13:53:04

```

```

Comment      = single pulse decoupled g
Data Format   = 1D COSYEX
Dim Size     = 26214
Dim Title    = Carbon13
Dim Units    = [ppm]
Dimensions   = X
Site         = JNM-ECA500II
Spectrometer = DELTA2 500

```

```

Field Strength = 11.7473579[T] (500[MHz])
X_Acq_Duration = 0.83361792[s]
X_Domain       = 13C
X_Freq         = 125.76529768 [MHz]
X_Offset       = 100[ppm]
X_Points       = 32768
X_Prescans     = 4
X_Resolution   = 1.19959034[Hz]
X_Sweep        = 39.3081761 [kHz]
X_Sweep_Clipped = 31.44654088 [kHz]
Irr_Domain     = Proton
Irr_Freq       = 500.15991521 [MHz]
Irr_Offset     = 5.0 [ppm]
Clipped        = FALSE
Scans          = 1024
Total_Scans    = 1024

```

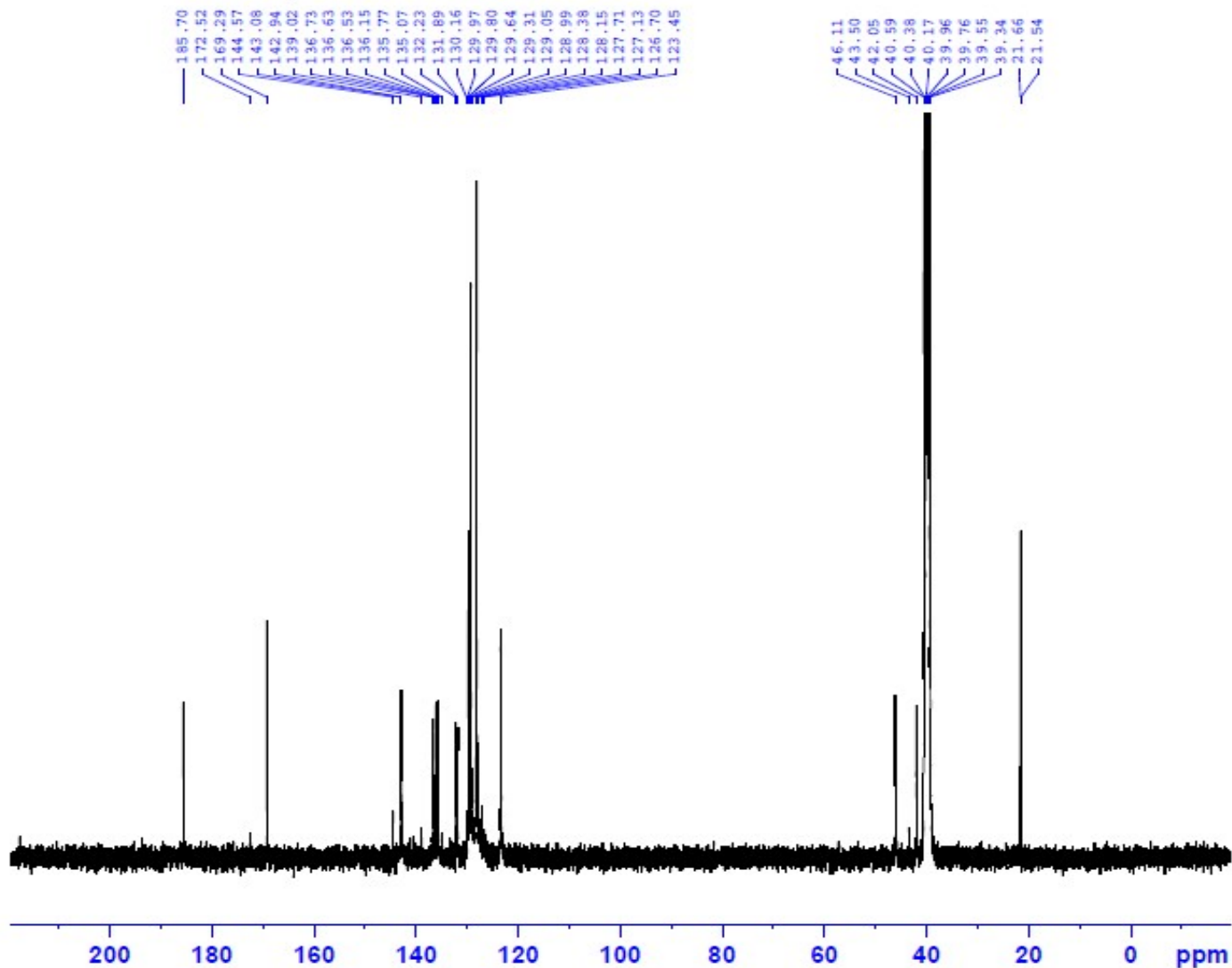
```

Relaxation_Delay = 2[s]
Recvr_Gain       = 60
Temp_Set         = 20.0 [dC]
X_90_Width       = 32.3 [us]
X_Acq_Time       = 0.83361792[s]
X_Angle          = 30[deg]
X_Atn            = 10[dB]
X_Pulse          = 10.76666667[us]
Irr_Atn_Dec      = 17.693[dB]
Irr_Atn_Noise   = 17.693[dB]
Irr_Noise        = WALTZ
Irr_Pwidth       = 92[us]
Decoupling       = TRUE

```

S11: ¹³C-NMR of 3d:

Menna Abdelshaheed-Q10-CNMR-DMSO-AF



```

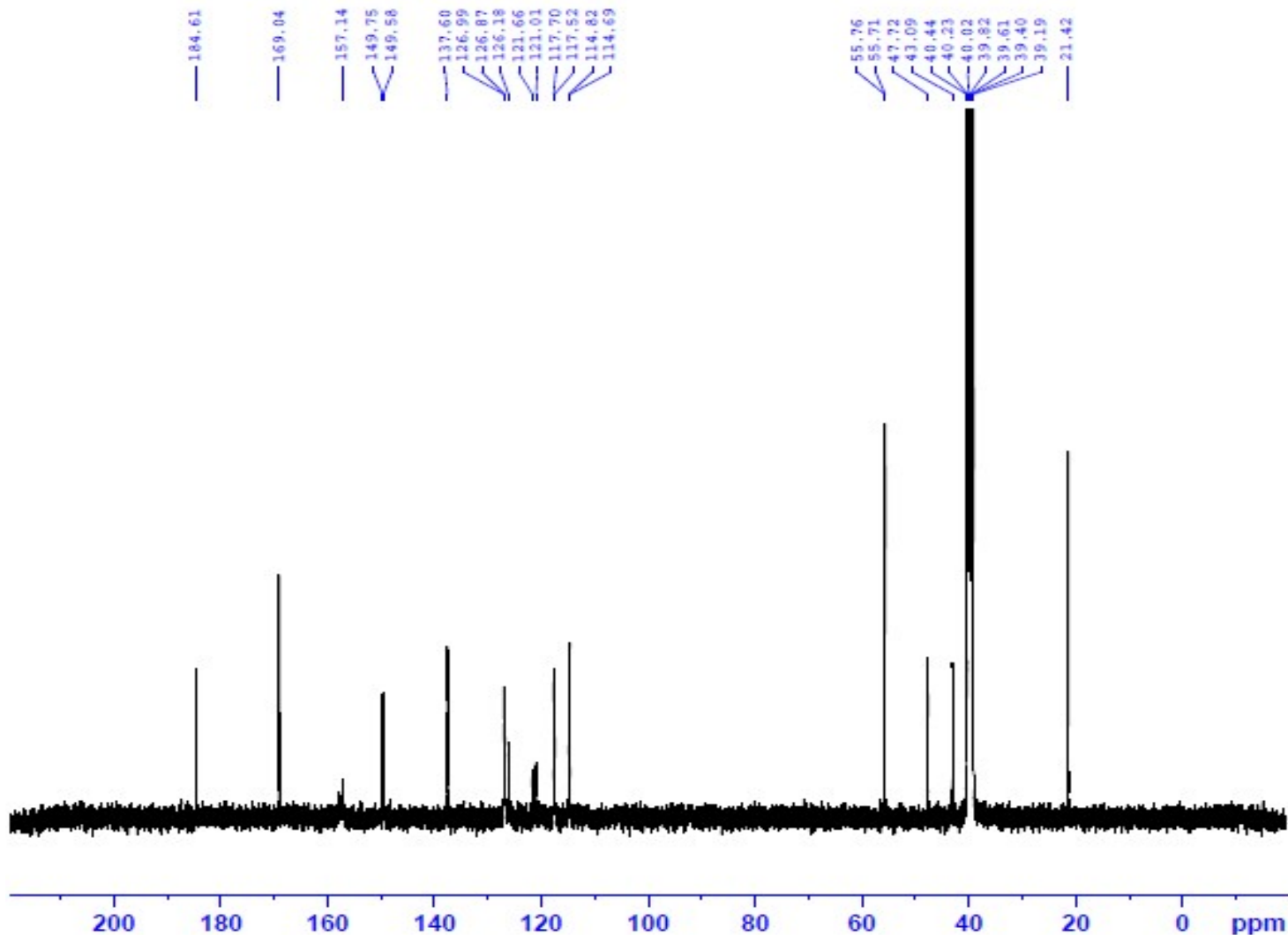
Current Data Parameters
NAME      Menna Abdelshaheed-Q10-CNMR-DMSO-AF
EXPNO     10
PROCNO    1

F2 - Acquisition Parameters
Date_     20210913
Time      8.15 h
INSTRUM   spect
PROBHD    X100618_0945 (
PULPROG   zgpg30
TD        65536
SOLVENT   DMSO
NS        2200
DS        4
SWH        24038.461 Hz
FIDRES    0.733596 Hz
AQ        1.2631488 sec
RG        197.77
DW        20.800 usec
DE        6.50 usec
TE        296.8 K
D1        2.00000000 sec
D11       0.03000000 sec
TD0       1
SFO1      100.6404331 MHz
NUC1      13C
P1        10.00 usec
PLW1      47.00000000 W
SFO2      400.2016000 MHz
NUC2      1H
CPDPRG2   waltz16
PCPD2     90.00 usec
PLW2      13.00000000 W
PLW12     0.29249999 W
PLW13     0.14713000 W

F2 - Processing parameters
SI        32768
SF        100.6302700 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        1.40
    
```

S12: ^{13}C -NMR of 4b:

MennaALLAH Elshahid-E4-carbon-DMSO-D



```

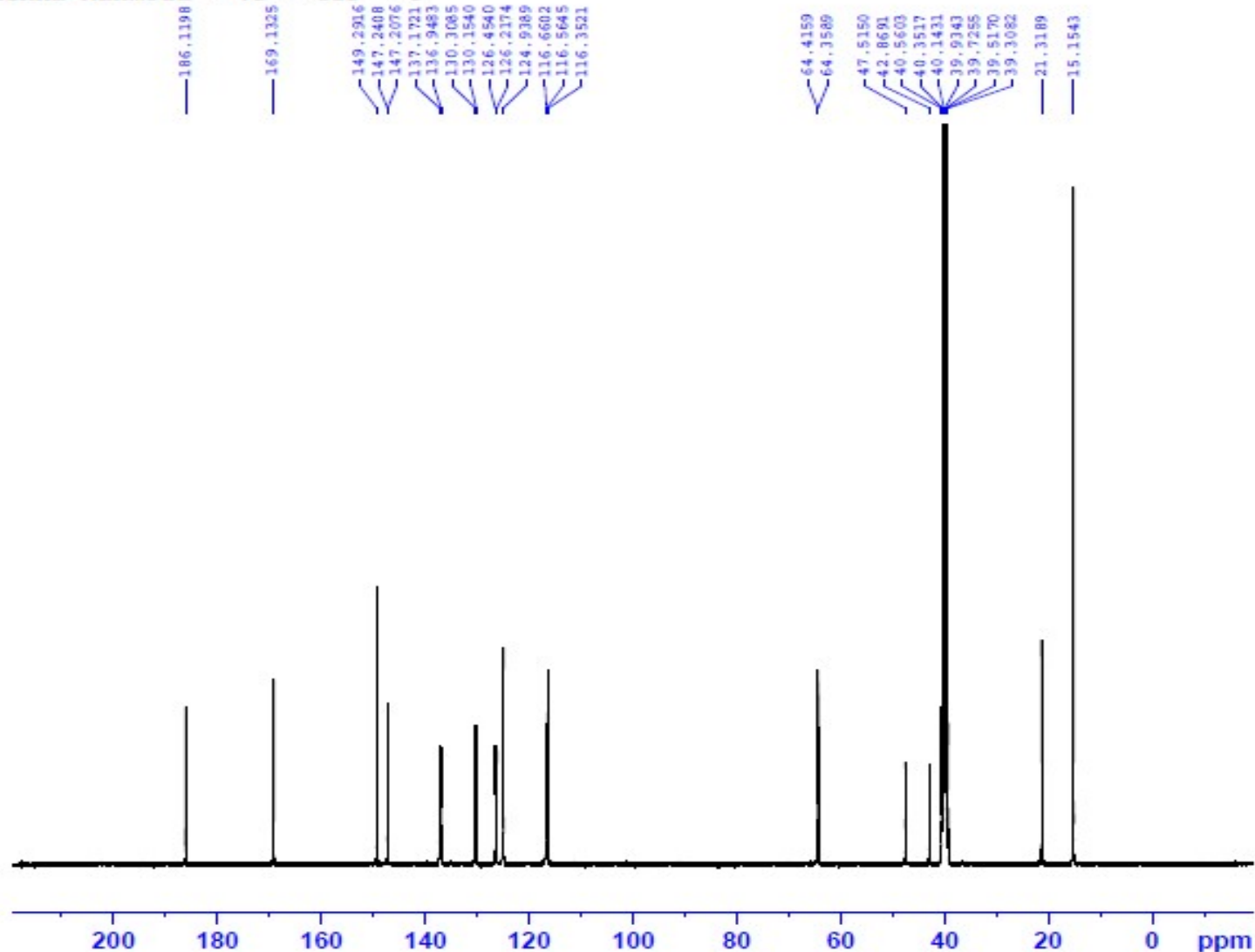
Current Data Parameters
NAME      MennaALLAH Elshahid-E4-carbon-DMSO-D
EXPNO    10
PROCNO    1

F2 - Acquisition Parameters
Date_    20210720
Time     14.21 h
INSTRUM  spect
PROBHD   zgpg30
PULPROG  zgpg30
TD       65536
SOLVENT  DMSO
NS       2200
DS       4
SWH      24038.461 Hz
FIDRES   0.733596 Hz
AQ       1.3631488 sec
RG       197.77
DW       20.800 usec
DE       6.50 usec
TE       293.8 K
D1       2.00000000 sec
D11      0.03000000 sec
TDO      1
SFO1     100.6404331 MHz
NUC1     13C
P1       10.00 usec
PLW1     47.00000000 W
SFO2     400.2016008 MHz
NUC2     1H
CPDPRC12 waltz16
PCPD2    90.00 usec
PLW2     13.00000000 W
PLW12    0.29249999 W
PLW13    0.14713000 W

F2 - Processing parameters
SI       32768
SF       100.6303700 MHz
WDW      EM
SSB      0
LR       1.00 Hz
GB       0
PC       1.40
    
```

S13: ¹³C-NMR of 5b:

Menna Mahmoud - V3 - C13 - T



```

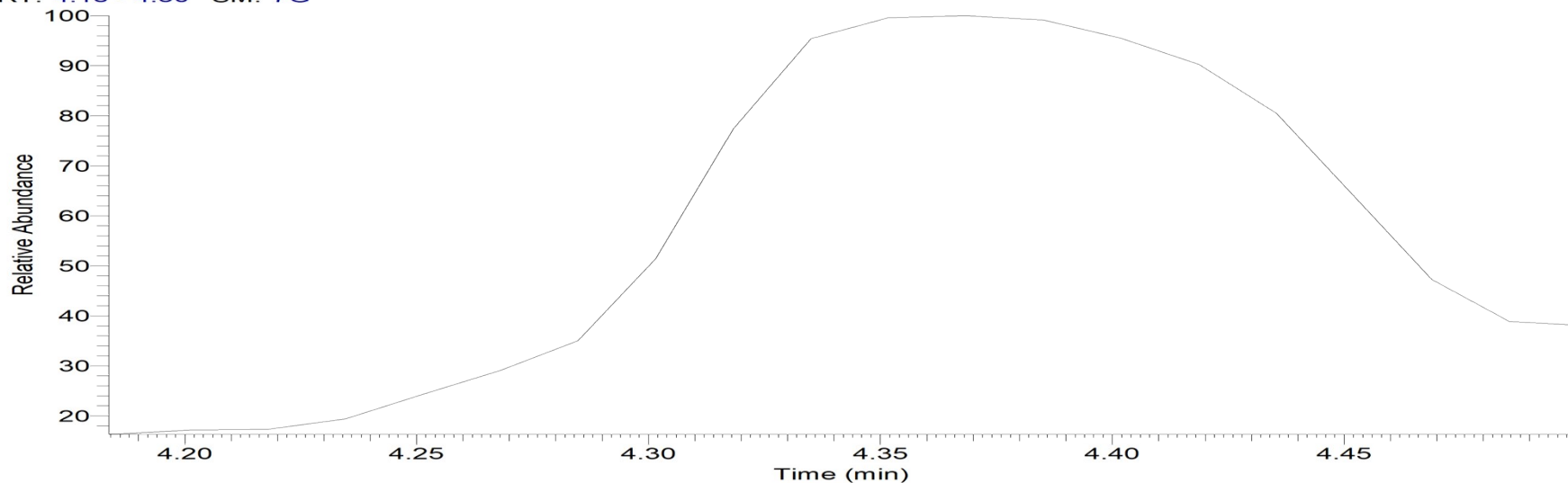
Current Data Parameters
NAME: Menna Mahmoud - V3 - C13 - T
EXPNO: 10
PROCNO: 1

F2 - Acquisition Parameters
Date_: 20220624
Time: 0.06 h
INSTRUM: spect
PROBHD: E106418 50Hz 1
PULPROG: zgpg30
TD: 65536
SOLVENT: DM50
NS: 2100
DS: 4
SWH: 24019.461 Hz
FIDRES: 0.713696 Hz
AQ: 1.3631488 sec
RG: 197.77
DM: 20.000 usec
DE: 6.50 usec
TE: 297.6 K
D1: 2.0000000 sec
d11: 0.0300000 sec
TDO: 1
SFO1: 100.6404311 MHz
MPC1: 13C
PI: 10.00 usec
PLM1: 47.0000000 W
SFO2: 400.2014008 MHz
MPC2: 1H
CPDPRG2: waltz16
PCPD2: 90.00 usec
PLM2: 13.0000000 W
PLM3: 0.2924998 W
PLM4: 0.14713000 W

F2 - Processing parameters
SI: 32768
SF: 100.6103700 MHz
WDW: EM
SSB: 0
LB: 1.00 Hz
GB: 0
PC: 1.40
    
```

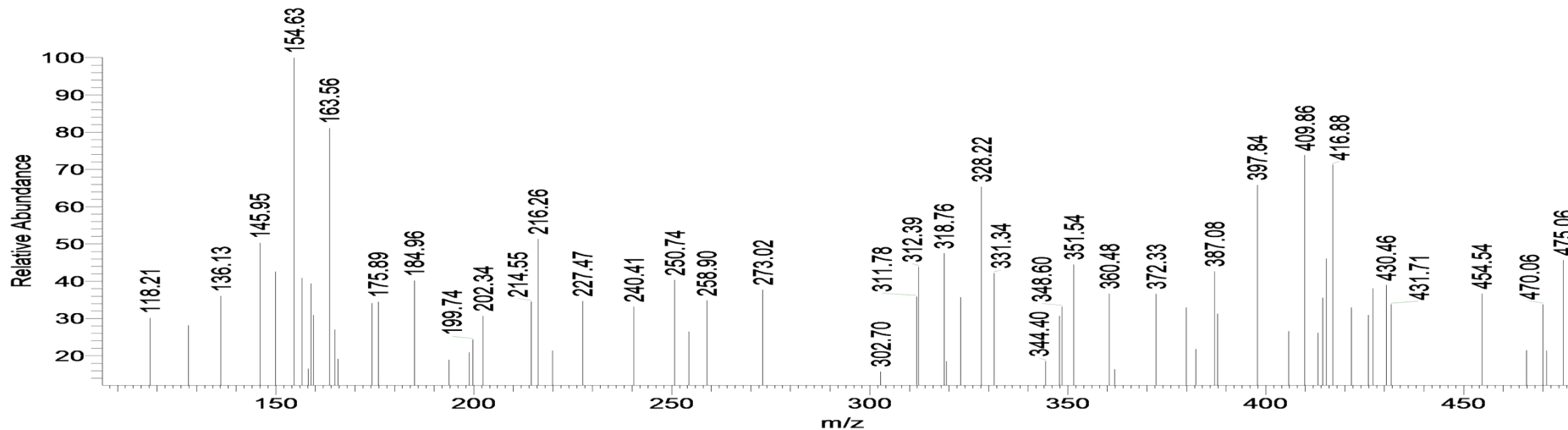
S14: Mass Spectrum of 3a:

RT: 4.18 - 4.50 SM: 7G



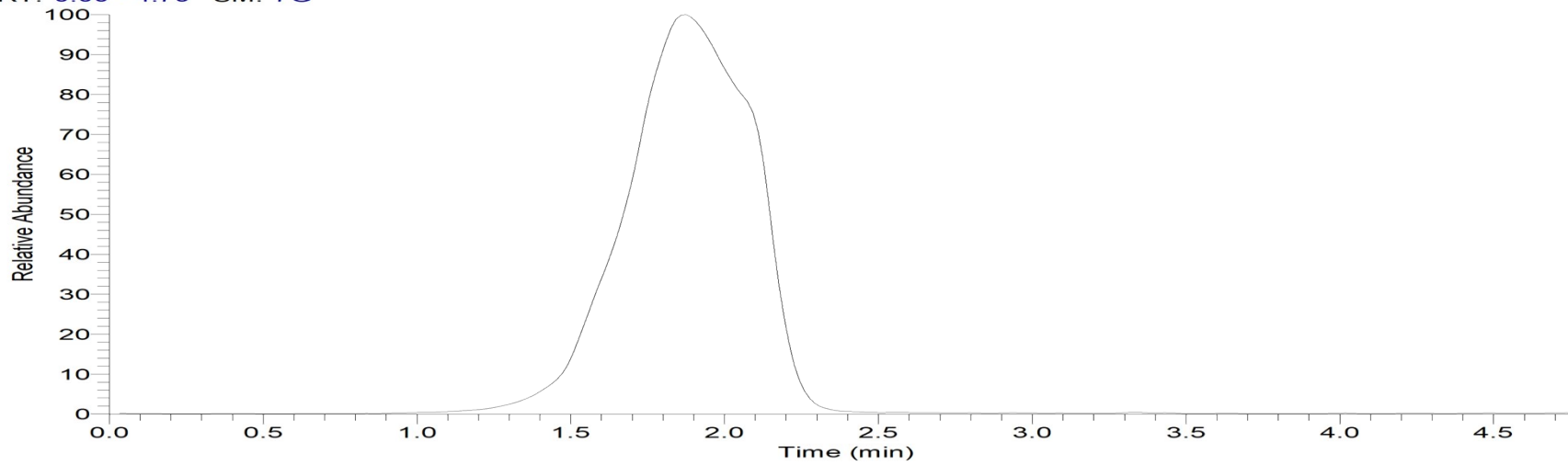
NL:
1.35E4
TIC MS
menna-
mahmoud-
ey

menna-mahmoud-ey #110-111 RT: 1.86-1.88 AV: 2 NL: 1.64E2
T: + c EI Full ms [40.00-1000.00]



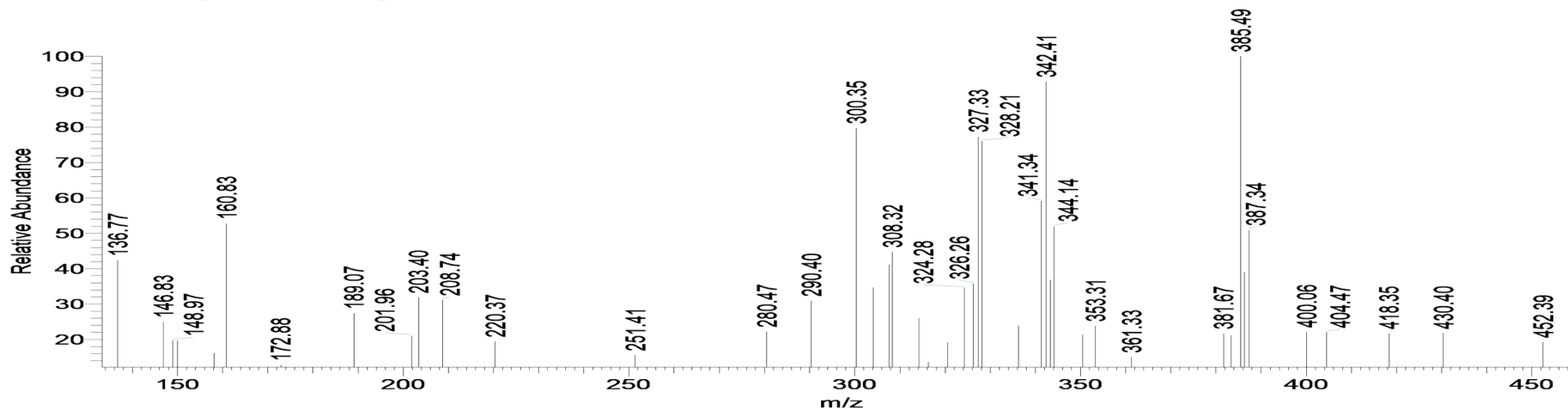
S15: Mass Spectrum of 3c:

RT: 0.00 - 4.79 SM: 7G



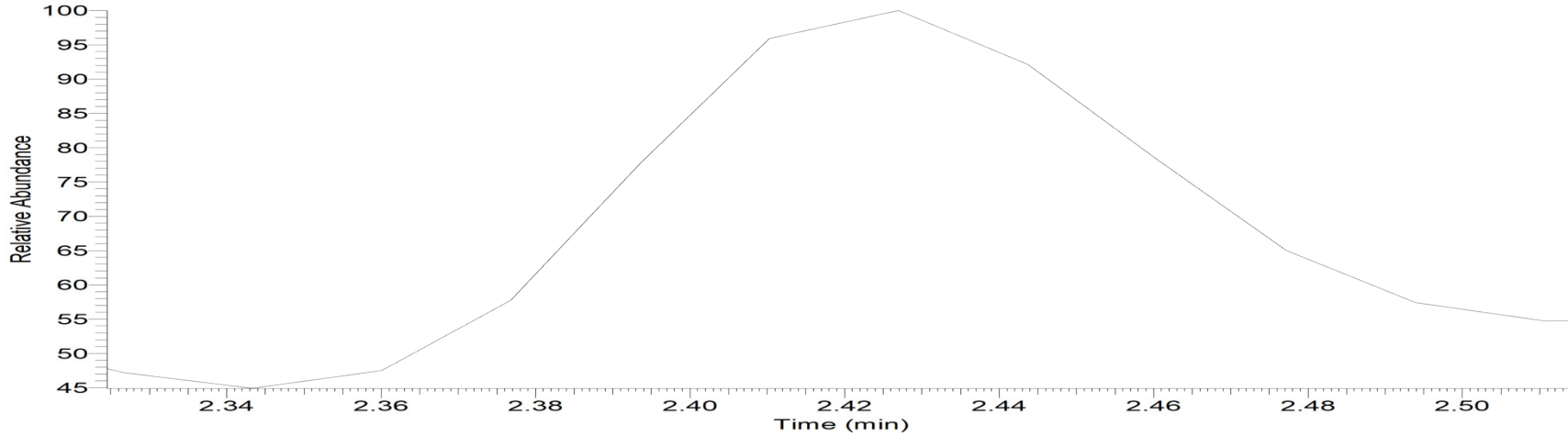
NL:
5.13E6
TIC MS
menna-
mahmoud-
ky

menna-mahmoud-ky #154 RT: 2.59 AV: 1 NL: 5.40E2
T: + c EI Full ms [40.00-1000.00]



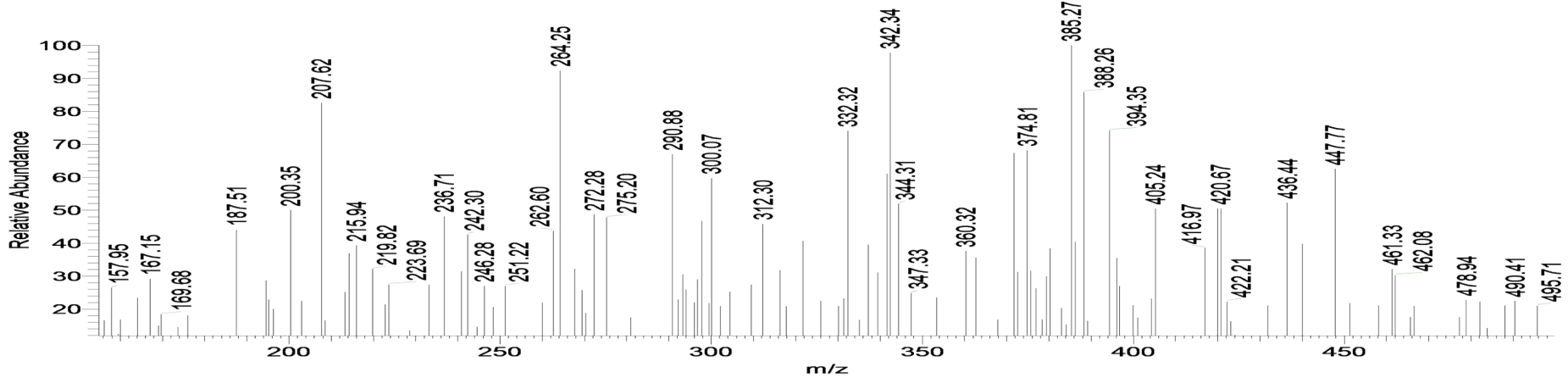
S16: Mass Spectrum of 4b:

RT: 2.32 - 2.51 SM: 7G



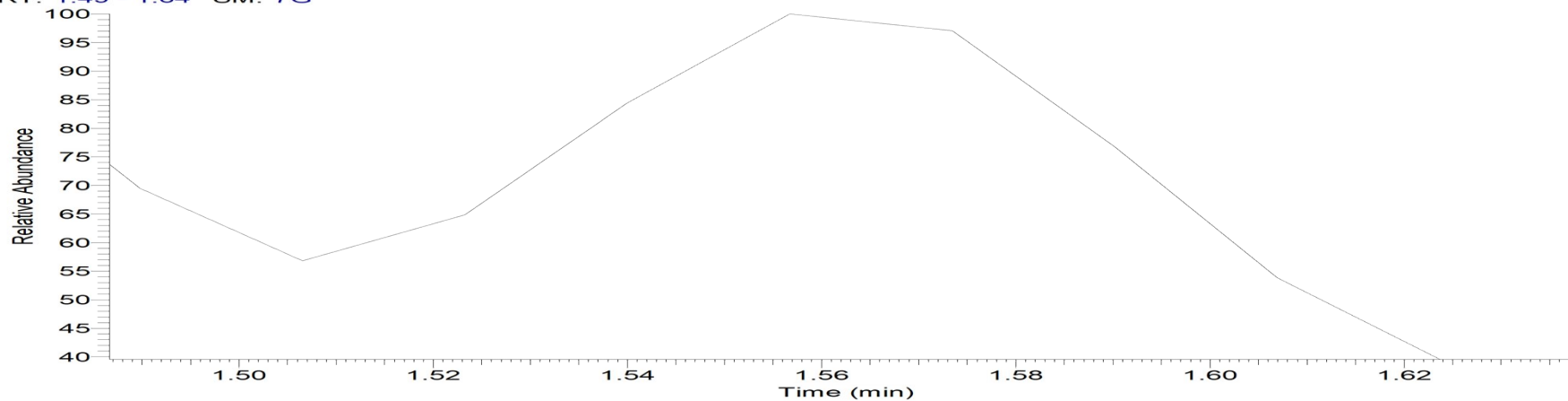
NL:
1.76E4
TIC MS
menna-
mahmoud-
vz

menna-mahmoud-vz #120-122 RT: 2.03-2.06 AV: 3 NL: 1.61E2
T: + c EI Full ms [40.00-1000.00]



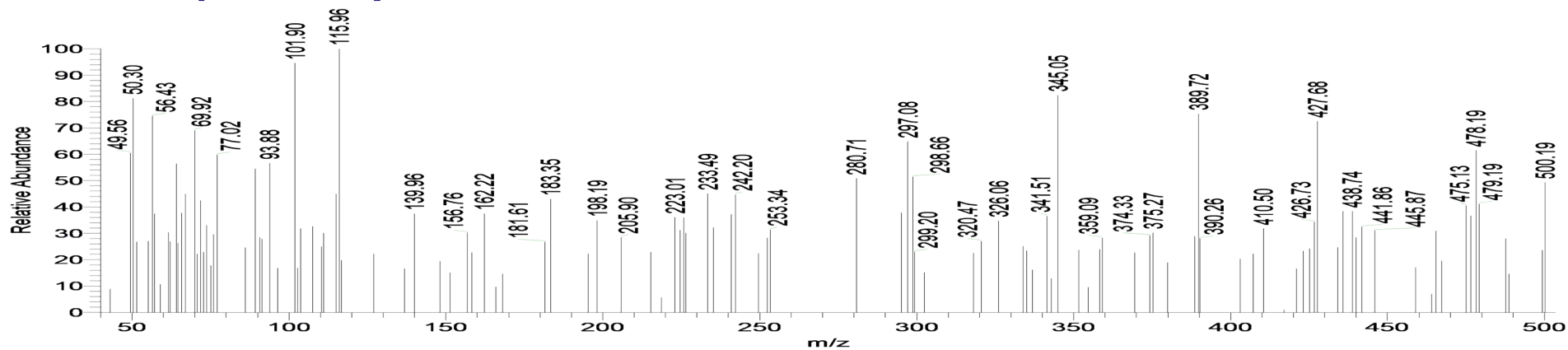
S17: Mass Spectrum of 5a:

RT: 1.49 - 1.64 SM: 7G



NL:
6.17E3
TIC MS
menna-
mahmoud-
ex

menna-mahmoud-ex #29-30 RT: 0.50-0.52 AV: 2 SB: 7 1.37, 1.32-1.41 NL: 1.54E2
T: + c EI Full ms [40.00-1000.00]



S18: Results of Elemental Analysis:

Al-Azhar University The Regional Center for Mycology and Biotechnology



Requester Data:

Name: Dr. Menna Mahmoud Abdel-Shahid
Authority: Faculty of Pharmacy,
Future University

Sample Data:

Ten samples had been submitted for elemental analysis.

Analysis Report:

Sample Code	C%	H%	N%	S%
E ₂	65.82	5.41	9.07	0
E ₄	63.24	6.08	8.70	6.53
E ₅	66.28	4.97	8.12	6.17
E ₇	63.27	6.14	8.71	6.49
Q ₂	67.05	5.97	8.50	0
O ₄	72.09	5.56	9.21	6.97
S ₁	62.17	4.70	4.47	19.61
S ₂	60.95	4.51	10.85	16.29
S ₃	66.08	5.23	10.29	15.40
V ₂	73.25	6.08	9.16	7.61

INVESTIGATOR

M. Elasser

DIRECTOR

E. S. W.



Al-Azhar University Campus - Nasr City, Cairo, Egypt.

Tel: 0202 22620373 Fax: 0202 22620373

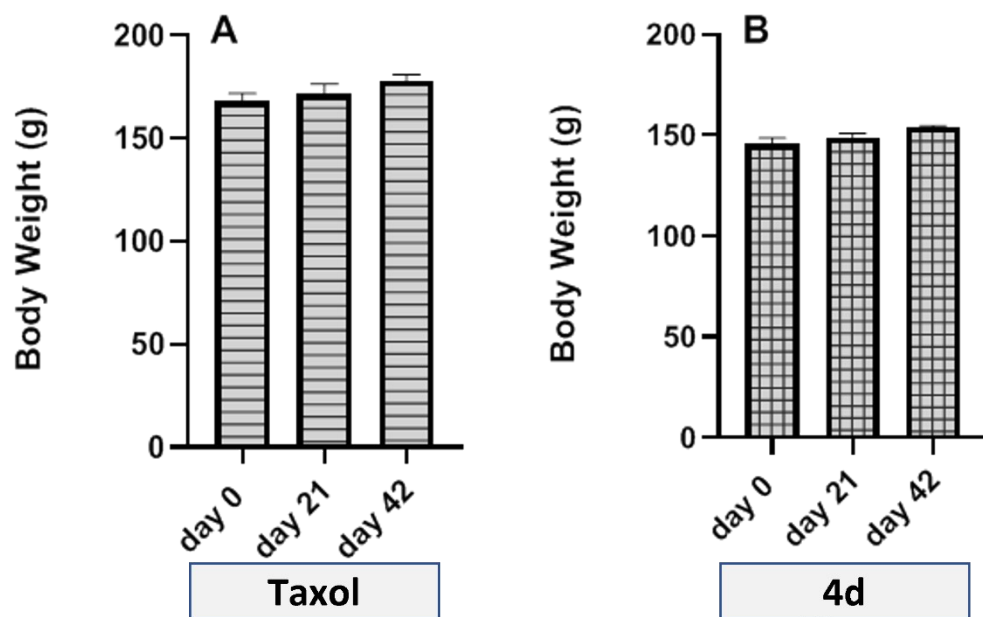
E-mail: rcmb@azhar.edu.eg

Website: <http://www.azhar.edu.eg.htm> * http://www.azhar.edu.eg/pages/fungi_center.htm

Facebook: RCMB AZHAR

P.O. box mail: 11751 Nasr City Cairo, Egypt.

S19: Tumor volume and body weight:



S19 figure: Rats body weight. Body weight in diseased rats after the end of the induction phase, at day 0, day 21 and day 42 of treatment with A) Taxol and B) the synthetic drug 4d. Data are presented as mean \pm SEM (n=6). Statistical analysis was carried out using one-way ANOVA followed by Tukey's Multiple comparison test at p-value <0.05 . no significance difference was found between different groups.

S20: Statistical analysis

Values were presented as mean \pm SEM of 6 animals. Significant difference between groups was carried out using analysis of variance (ANOVA) followed by Tukey's post hoc test. Significance was taken as $P < 0.05$.

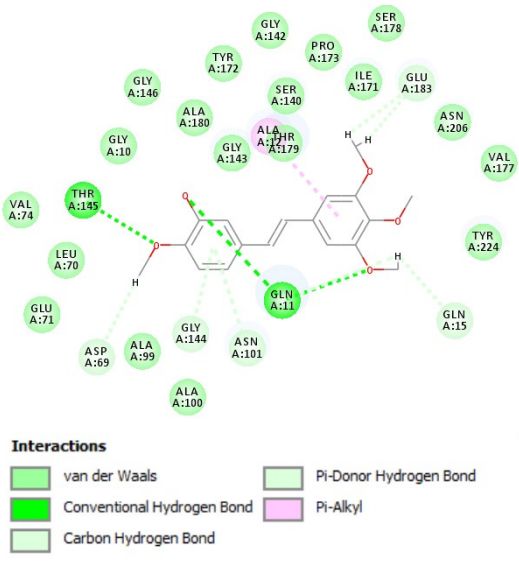
S20 A: Table: Body weight in diseased rats after the end of the induction phase, at day 0, day 21 and day 42 of treatment:

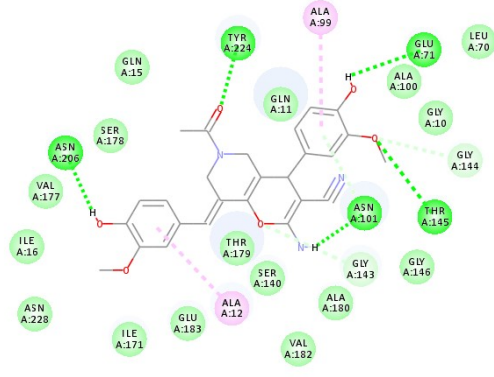
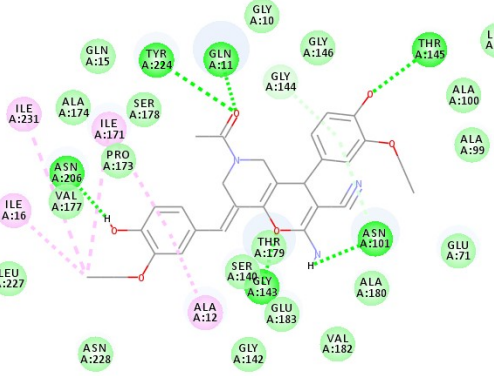
Drug/ body weight (gm)	Day 0	Day 21	Day 42
Taxol	168 ± 3.8	171.6 ± 4.7	178.3 ± 2.7
4d	145.5 ± 3	148.6 ± 2.1	154 ± 0.8

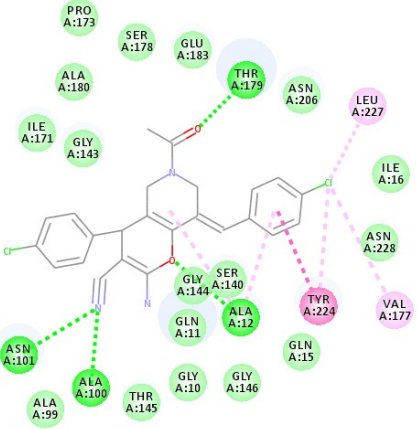
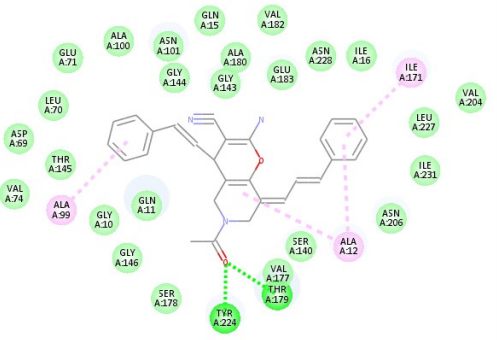
S20 B: Table: Tumor size in diseased rats after treatment at day 0, day 21 and day 42 of treatment:

Drug/ Tumour size (cm³)	Day 0	Day 21	Day 42
Taxol	0.05 ± 0.01	0.17 ± 0.03*	0.25 ± 0.006*
4d	0.24 ± 0.01	0.15 ± 0.006*	0.056 ± 0.007*

S21: Results of -(C-docker interaction energy), binding mode and 2D diagram of the molecular docking studies:

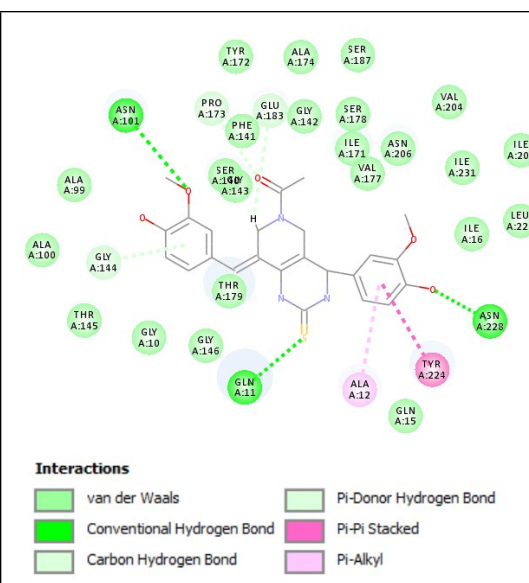
Compound	-(C-docker interaction energy) in Kcal/mol	2D binding diagram	Binding mode
<p>Combrestatin (Reference Compound)</p>	<p>-38.52</p>	 <p>Interactions</p> <ul style="list-style-type: none"> ■ van der Waals ■ Conventional Hydrogen Bond ■ Carbon Hydrogen Bond ■ Pi-Donor Hydrogen Bond ■ Pi-Alkyl 	<p>: Gln 11 (x2), Gln 15, Asp 69, Gly 144, Thr 145, Glu 183 (x2)</p> <p>Pi-Alkyl: Ala 12</p>

<p>3a</p>	<p>-48.05</p>	 <p>Interactions</p> <ul style="list-style-type: none"> van der Waals Conventional Hydrogen Bond Carbon Hydrogen Bond Pi-Donor Hydrogen Bond Pi-Alkyl 	<p>Gln 11, Glu 71, Asn 101 (x2), Gly 144, Thr 145, Thr 179, Asn 206, Tyr 224</p> <p>i-Alkyl: Ala 12, Ala 99</p>
<p>3b</p>	<p>-48.22</p>	 <p>Interactions</p> <ul style="list-style-type: none"> van der Waals Conventional Hydrogen Bond Pi-Donor Hydrogen Bond Alkyl Pi-Alkyl 	<p>Gln 11, Asn 101, Glu 143, Gly 144, Thr 145, Asn 206, Tyr 224</p> <p>Ala 12, Ile 16, Ile 171 (x2), Ile 251</p>

<p>3c</p>	<p>-45.44</p>	 <p>Interactions</p> <table border="0"> <tr> <td>■ van der Waals</td> <td>■ Pi-Pi Stacked</td> </tr> <tr> <td>■ Conventional Hydrogen Bond</td> <td>■ Alkyl</td> </tr> <tr> <td>■ Carbon Hydrogen Bond</td> <td>■ Pi-Alkyl</td> </tr> </table>	■ van der Waals	■ Pi-Pi Stacked	■ Conventional Hydrogen Bond	■ Alkyl	■ Carbon Hydrogen Bond	■ Pi-Alkyl	<p>Gln 11, Ala 12, Ala 100, Asn 101, Thr 179</p> <p>Pi-Pi: Tyr 224</p> <p>Ala 12 (x2), Val 177, Tyr 224, Leu 277</p>
■ van der Waals	■ Pi-Pi Stacked								
■ Conventional Hydrogen Bond	■ Alkyl								
■ Carbon Hydrogen Bond	■ Pi-Alkyl								
<p>3d</p>	<p>-44.87</p>	 <p>Interactions</p> <table border="0"> <tr> <td>■ van der Waals</td> <td>■ Alkyl</td> </tr> <tr> <td>■ Conventional Hydrogen Bond</td> <td>■ Pi-Alkyl</td> </tr> </table>	■ van der Waals	■ Alkyl	■ Conventional Hydrogen Bond	■ Pi-Alkyl	<p>Hydrogen bond: Thr 179, Tyr 224</p> <p>Alkyl: Ala 12 (x2), Ala 99, Ile 171</p>		
■ van der Waals	■ Alkyl								
■ Conventional Hydrogen Bond	■ Pi-Alkyl								

4a

-50.74



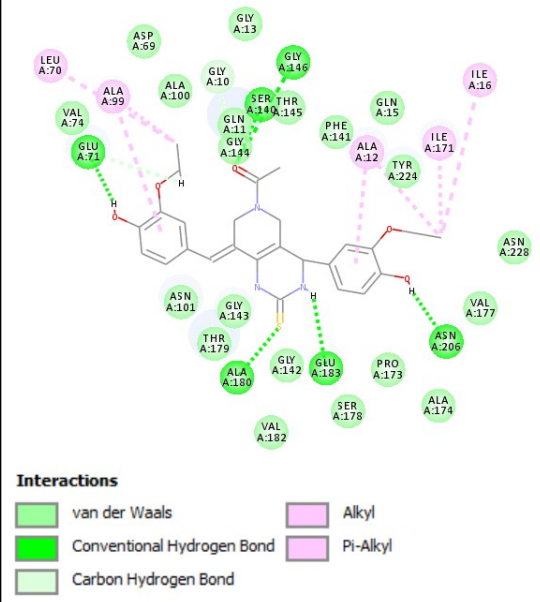
Gln 11, Asn 101, Phe 141, Gly 144, Glu 183, Asn 228

Pi-Pi: Tyr 224

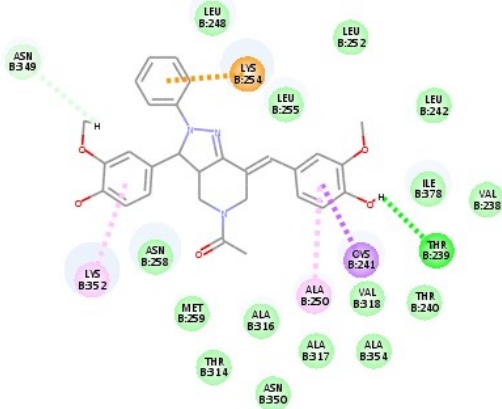
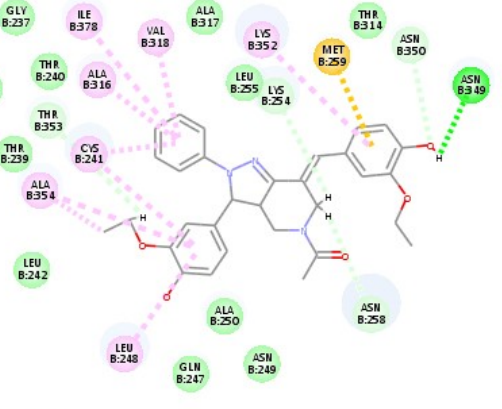
Pi-Alkyl: Ala 12

4b

-48.59



: Gln 11, Glu 71, Ser 140, Gly
179, Ala 180, Glu 183, Asn 226
: Ala 112 (x2), Ile 16, Leu 70,
Ala 99 (x2), Ile 171

<p>5a</p>	<p>-47.65</p>	 <p>Interactions</p> <table border="0"> <tr> <td>■ van der Waals</td> <td>■ Pi-Cation</td> </tr> <tr> <td>■ Conventional Hydrogen Bond</td> <td>■ Pi-Sigma</td> </tr> <tr> <td>■ Carbon Hydrogen Bond</td> <td>■ Pi-Alkyl</td> </tr> </table>	■ van der Waals	■ Pi-Cation	■ Conventional Hydrogen Bond	■ Pi-Sigma	■ Carbon Hydrogen Bond	■ Pi-Alkyl	<p>Thr 259, Asn 49 Pi-Cation: Lys 254 Pi-Sigma: Cys 241 Alkyl: Ala 250, Lys 352</p>
■ van der Waals	■ Pi-Cation								
■ Conventional Hydrogen Bond	■ Pi-Sigma								
■ Carbon Hydrogen Bond	■ Pi-Alkyl								
<p>5b</p>	<p>-54.83</p>	 <p>Interactions</p> <table border="0"> <tr> <td>■ van der Waals</td> <td>■ Pi-Sulfur</td> </tr> <tr> <td>■ Conventional Hydrogen Bond</td> <td>■ Alkyl</td> </tr> <tr> <td>■ Carbon Hydrogen Bond</td> <td>■ Pi-Alkyl</td> </tr> </table>	■ van der Waals	■ Pi-Sulfur	■ Conventional Hydrogen Bond	■ Alkyl	■ Carbon Hydrogen Bond	■ Pi-Alkyl	<p>Lys 254, Asn 258, Asn 349, Asn 350, Thr 353 Pi-Sulfur: Met 259 Alkyl: Cys 241 (x2), Leu 248, Ala 318, Lys 352, Ala 354 (x2), Ile 378</p>
■ van der Waals	■ Pi-Sulfur								
■ Conventional Hydrogen Bond	■ Alkyl								
■ Carbon Hydrogen Bond	■ Pi-Alkyl								

S22: Table Results of Dynamic Simulation Cascades of Combrestatin-tubulin complex:

Name	Stage	Forcefield	Start Time (ps)	End Time (ps)	Initial Potential Energy (kcal/mol)	Total Energy (kcal/mol)	Potential Energy (kcal/mol)	Kinetic Energy (kcal/mol)	Temperature (K)	Van der Waals Energy (kcal/mol)	Electrostatic Energy (kcal/mol)	Initial RMS Gradient (kcal/(mol x A))	Final RMS Gradient (kcal/(mol x A))
Combrestatin	Minimization	CHARMm			5.807E+10		-18208.904			-2078.803	-25944.82	1.509E+10	0.898
Combrestatin	Minimization2	CHARMm			-18208.904		-22101.759			-3118.442	-18432.404	0.898	0.097
Combrestatin	Heating	CHARMm	0	4	-22101.759	-20536.987	-21451.036	914.05	54.267	-3109.562	-18297.805	1.574	7.692
Combrestatin	Equilibration	CHARMm	4	14	-21451.036	-12114.933	-17265.263	5150.33	305.777	-2505.498	-16660.435	7.692	18.805
Combrestatin	Production	CHARMm	14	24	-17265.263	-12289.69	-17370.043	5080.352	301.622	-2433.721	-16272.189	18.805	18.557

S23: Table Results of Dynamic Simulation Cascades of 3b-tubulin complex:

Name	Stage	Forcefield	Start Time (ps)	End Time (ps)	Initial Potential Energy (kcal/mol)	Total Energy (kcal/mol)	Potential Energy (kcal/mol)	Kinetic Energy (kcal/mol)	Temperature (K)	Van der Waals Energy (kcal/mol)	Electrostatic Energy (kcal/mol)	Initial RMS Gradient (kcal/(mol x A))	Final RMS Gradient (kcal/(mol x A))
3b	Minimization	1SA1-CHARMm			1.027E+13		-15002.708			-1101.505	-25887.553	3.238E+12	0.948
3b	Minimization2	1SA1-CHARMm			-15002.708		-18304.957			-1967.835	-18592.248	0.948	0.146
3b	Heating	1SA1-CHARMm	0	4	-18304.957	-16707.358	-17616.758	909.4	53.656	-1962.481	-18449.633	1.615	7.674
3b	Equilibration	1SA1-CHARMm	4	14	-17616.758	-8288.681	-13461.538	5172.857	305.206	-1186.345	-16416.55	7.674	18.786
3b	Production	1SA1-CHARMm	14	24	-13461.538	-8453.329	-13606.281	5152.952	304.031	-1324.499	-16147.583	18.786	18.567