

Supplementary Information

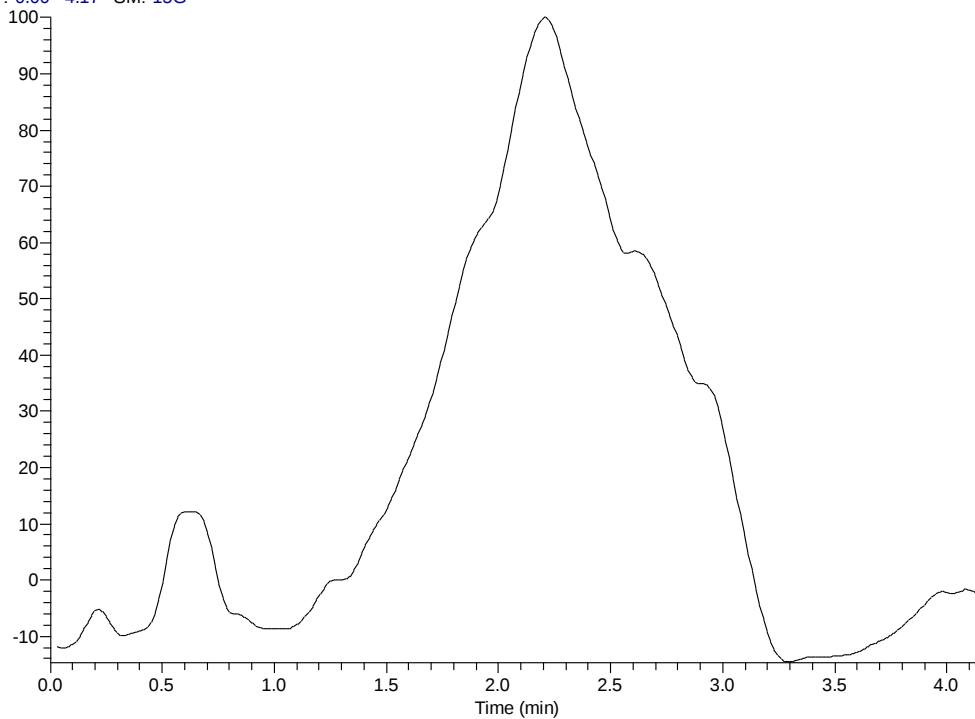
Synthesis and Characterization of Newly Fused 1,2-Dihydropyrido[3,4-*b*], Bridged Oxadiazol-2-yl, 4-Substituted-benzylidene Hydrazide and Arylidene 6-Chloroquinoxaline 1,4-Dioxides

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RT: 0.00 - 4.17 SM: 15G



NL:
2.00E6
TIC MS
ELHAM-
GABER-
NEGM-
AN11

ELHAM-GABER-NEGM-AN11 #144 RT: 2.43 AV: 1 NL: 3.67E5
T: {0,0} + c EI Full ms [40.00-1000.00]

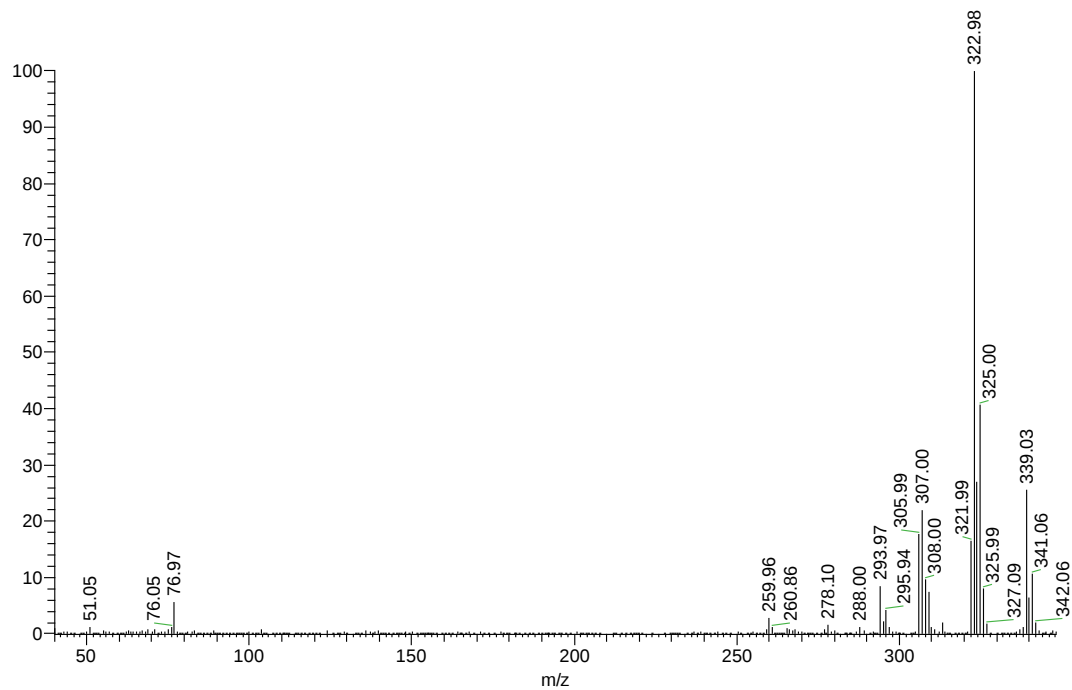
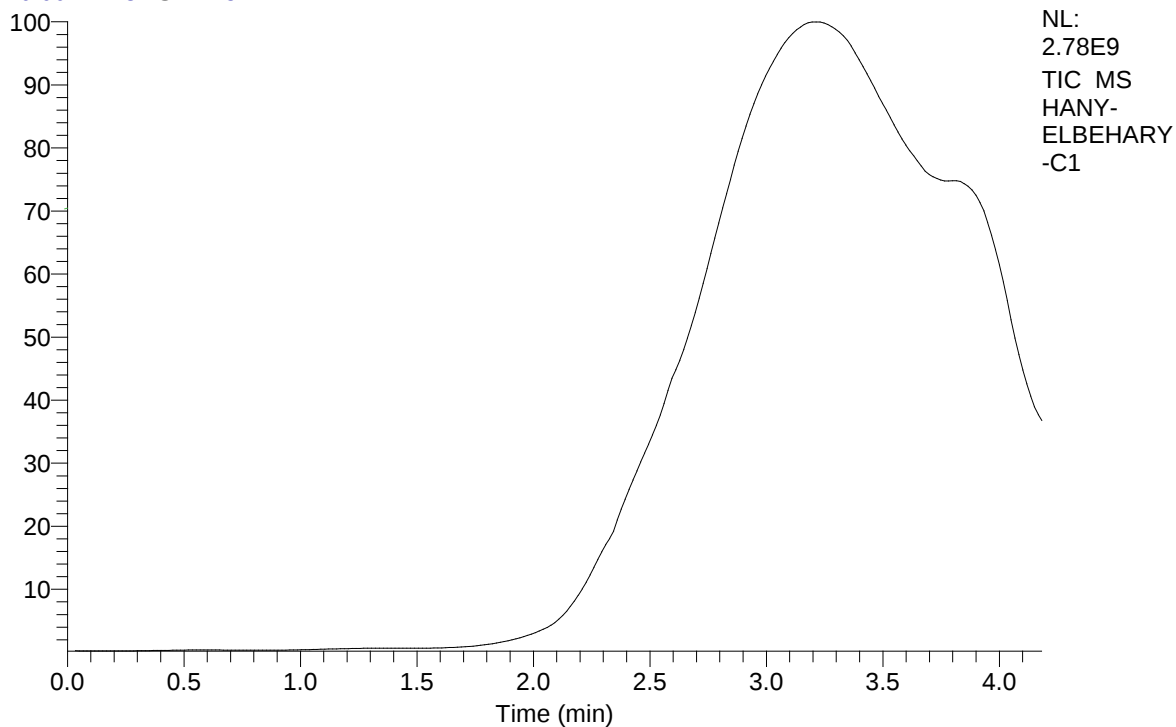


Figure S1. Mass spectrum of compound **10a**.

RT: 0.00 - 4.18 SM: 15B



HANY-ELBEHARY-C1 #214 RT: 3.60 AV: 1 NL: 9.77E7
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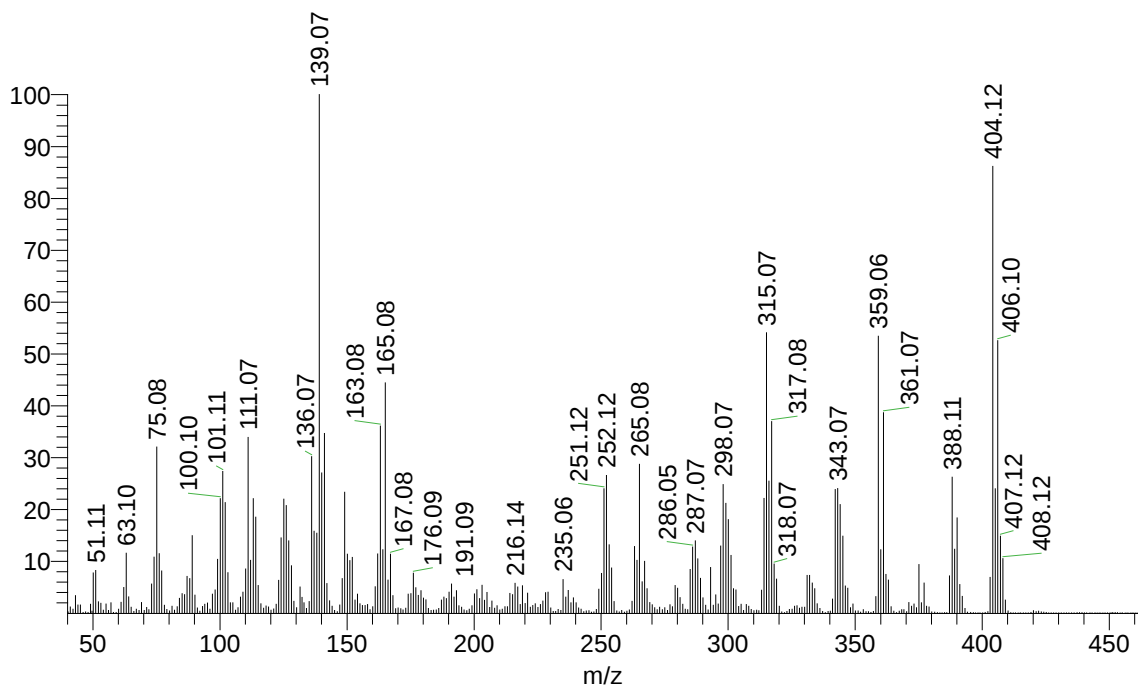
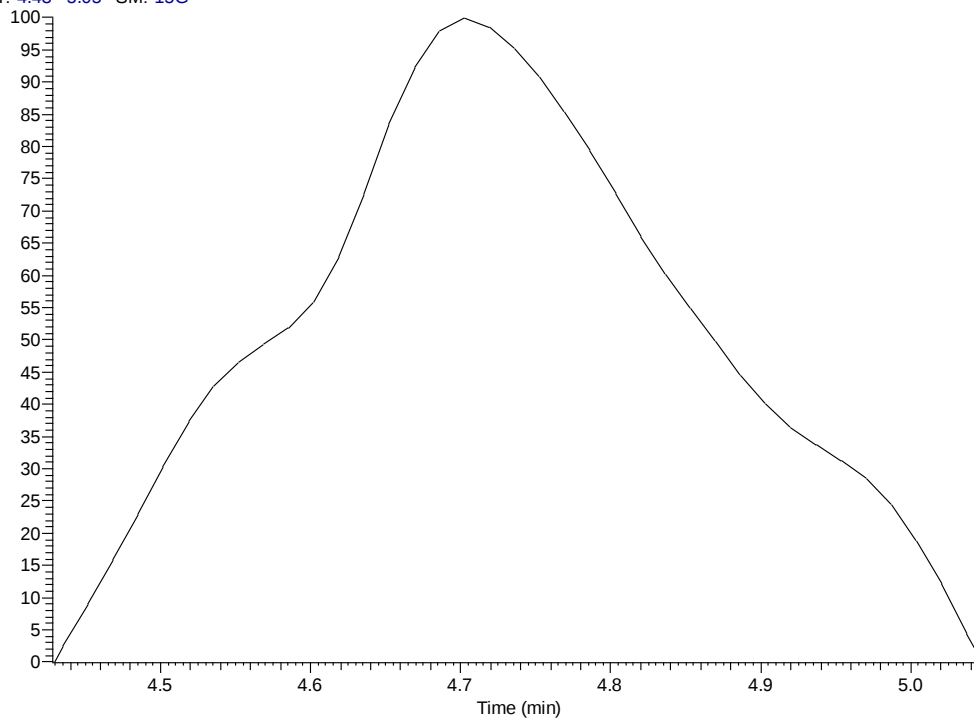


Figure S2. Mass spectrum of compound 11b.

RT: 4.43 - 5.05 SM: 15G



NL:
1.68E5
TIC MS
HANY-
ALBEHERY
-HB1

HANY-ALBEHERY-HB1 #303 RT: 5.09 AV: 1 NL: 2.81E3
T: {0,0} + c EI Full ms [40.00-1000.00]

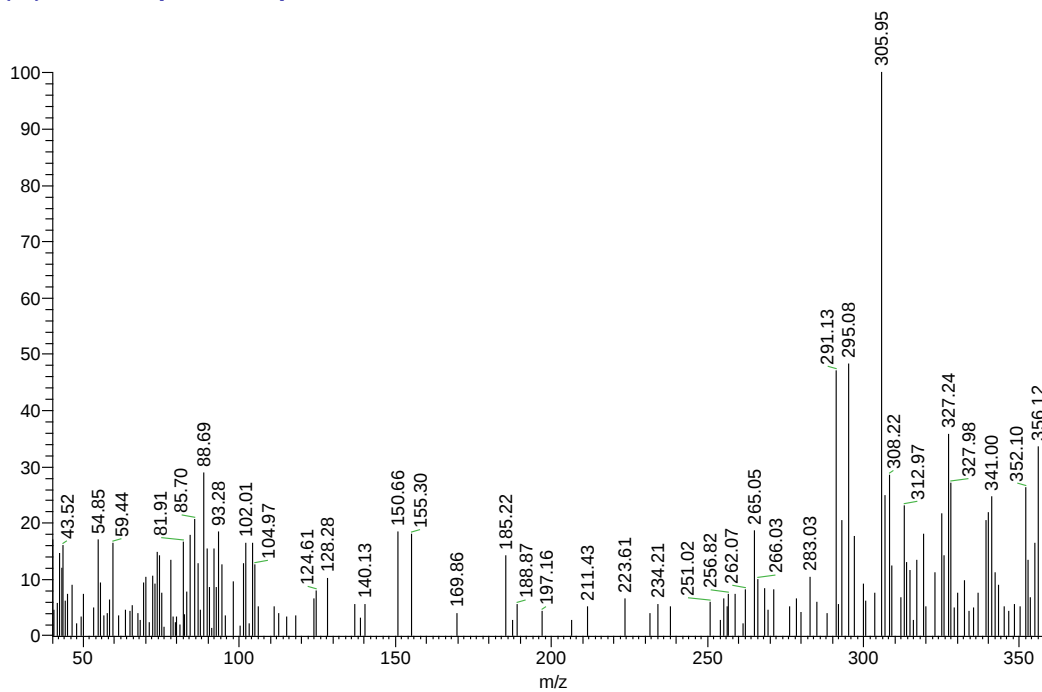
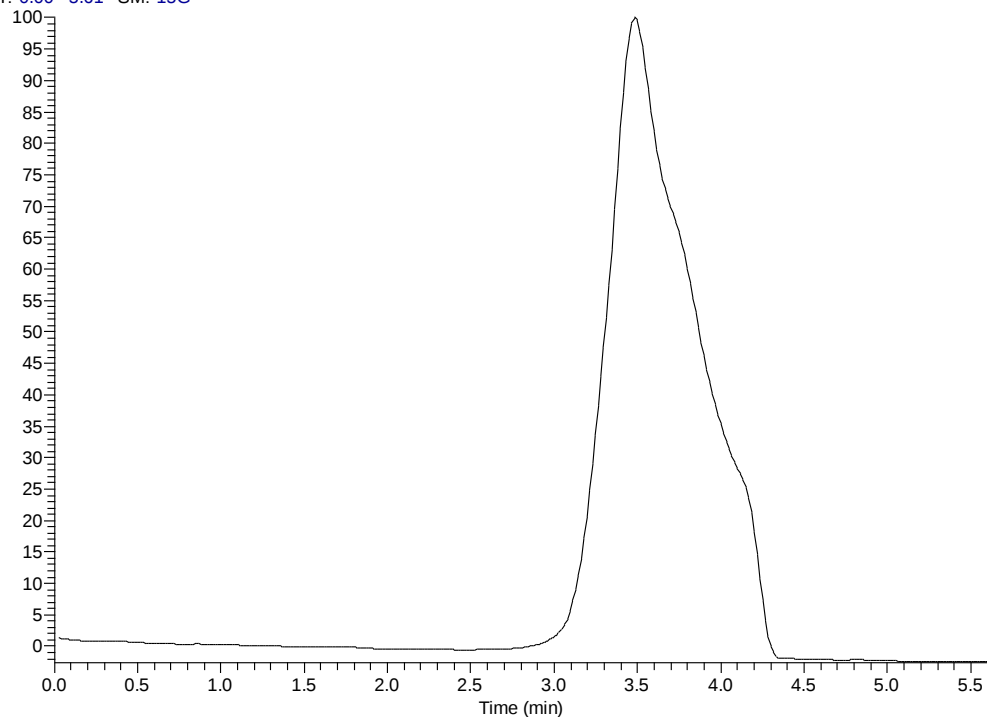


Figure S3. Mass spectrum of compound 16a.

RT: 0.00 - 5.61 SM: 15G



NL:
1.55E7
TIC MS
HANY-
ALBEHERY
-MH11

HANY-ALBEHERY-MH11 #289 RT: 4.85 AV: 1 NL: 1.72E3
T: {0,0} + c EI Full ms [40.00-1000.00]

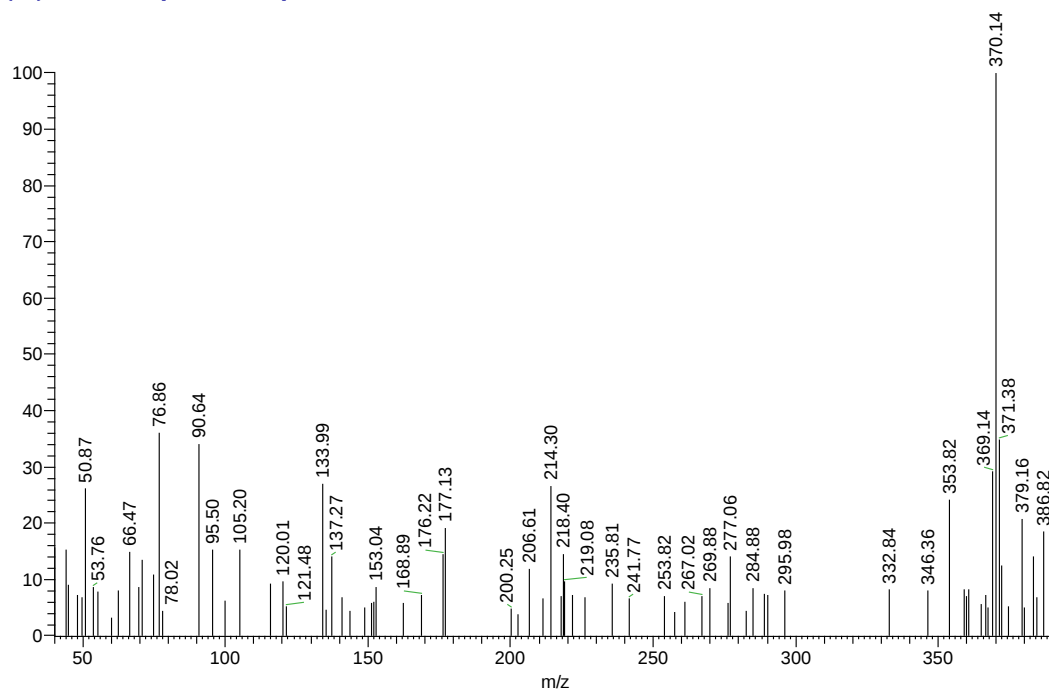
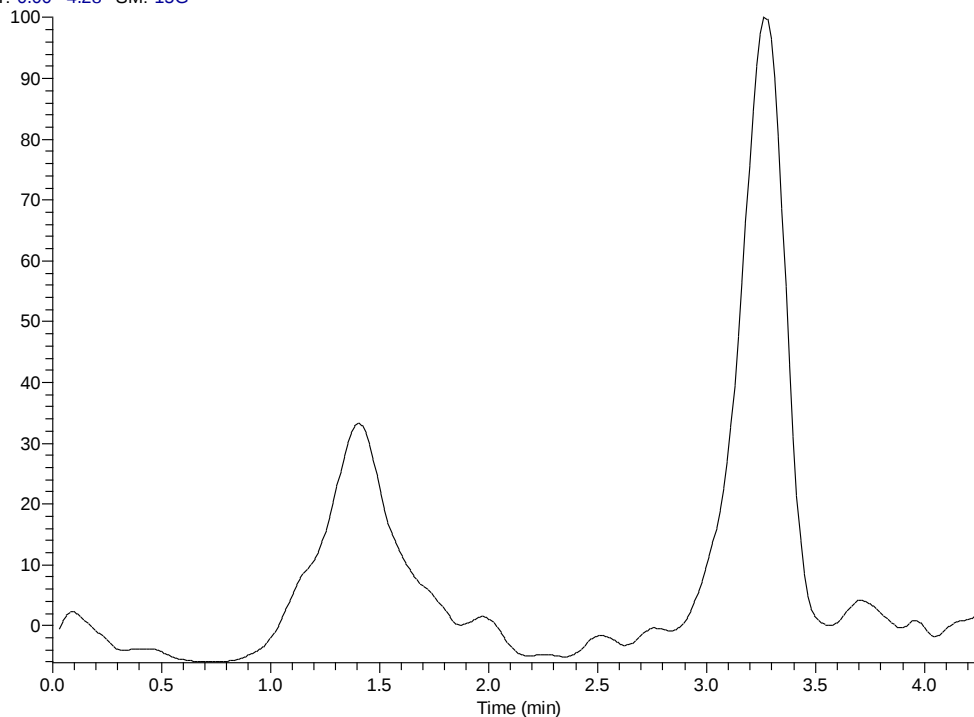


Figure S4. Mass spectrum of compound **16b**.

RT: 0.00 - 4.28 SM: 15G



NL:
1.57E6
TIC MS
HANY-
ALBEHERY
-
HNN1_170
724151210

HANY-ALBEHERY-HNN1_170724151210 #160 RT: 2.69 AV: 1 NL: 1.00E4
T: {0,0} + c EI Full ms [40.00-1000.00]

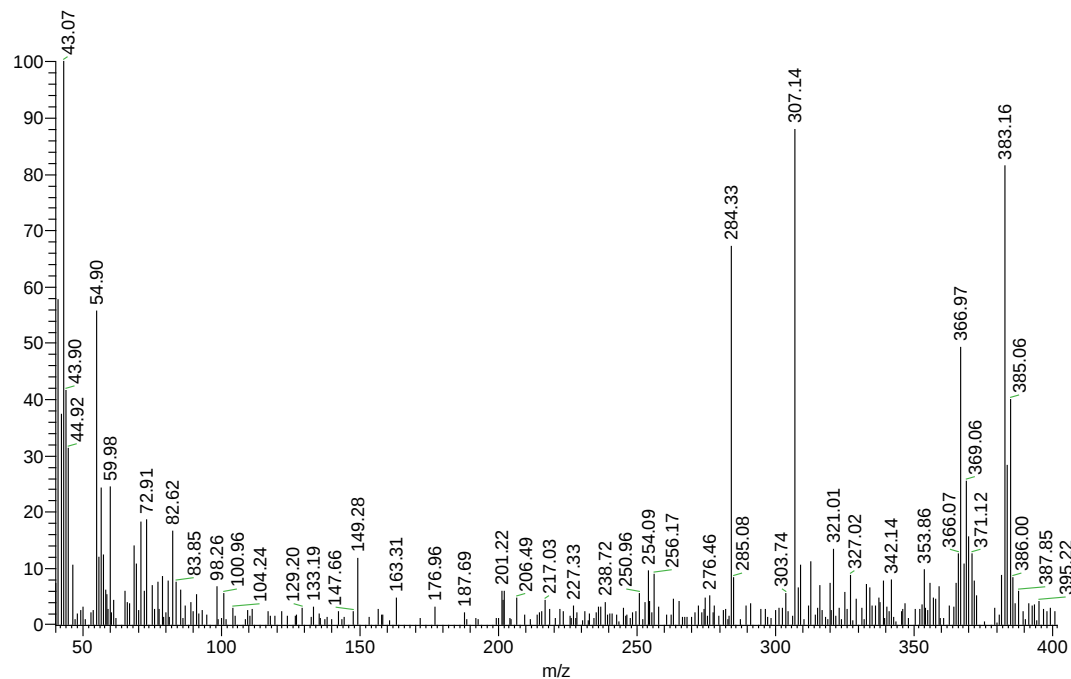
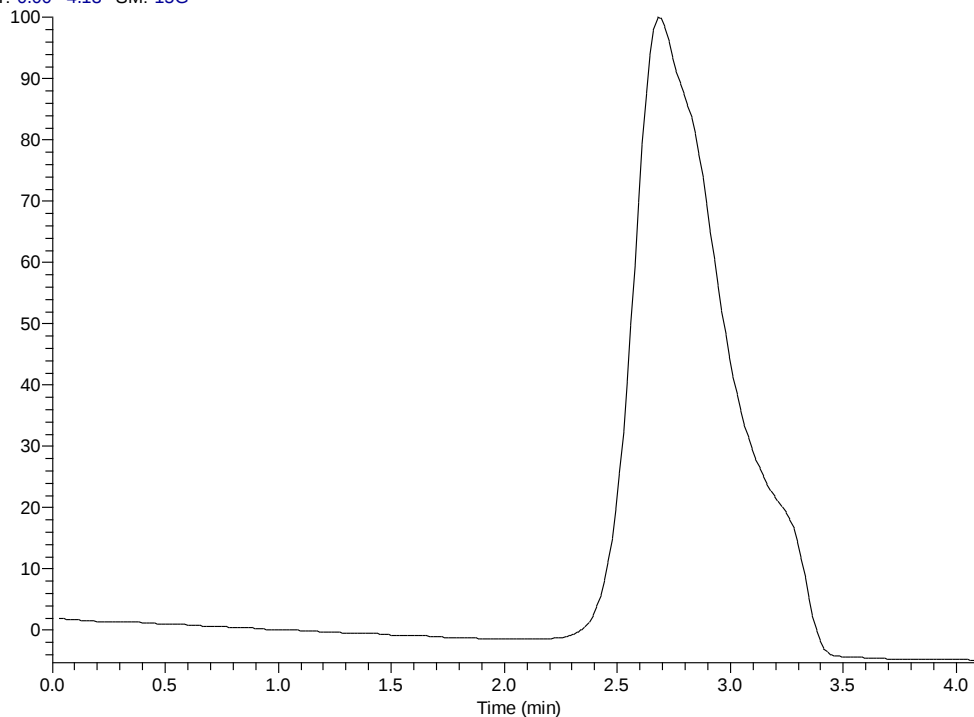


Figure S5. Mass spectrum of compound 16e.

RT: 0.00 - 4.13 SM: 15G



NL:
8.84E6
TIC MS
HANY-
ALBEHERY
-HPNB1

HANY-ALBEHERY-HPNB1 #206 RT: 3.46 AV: 1 NL: 9.06E2
T: {0,0} + c EI Full ms [40.00-1000.00]

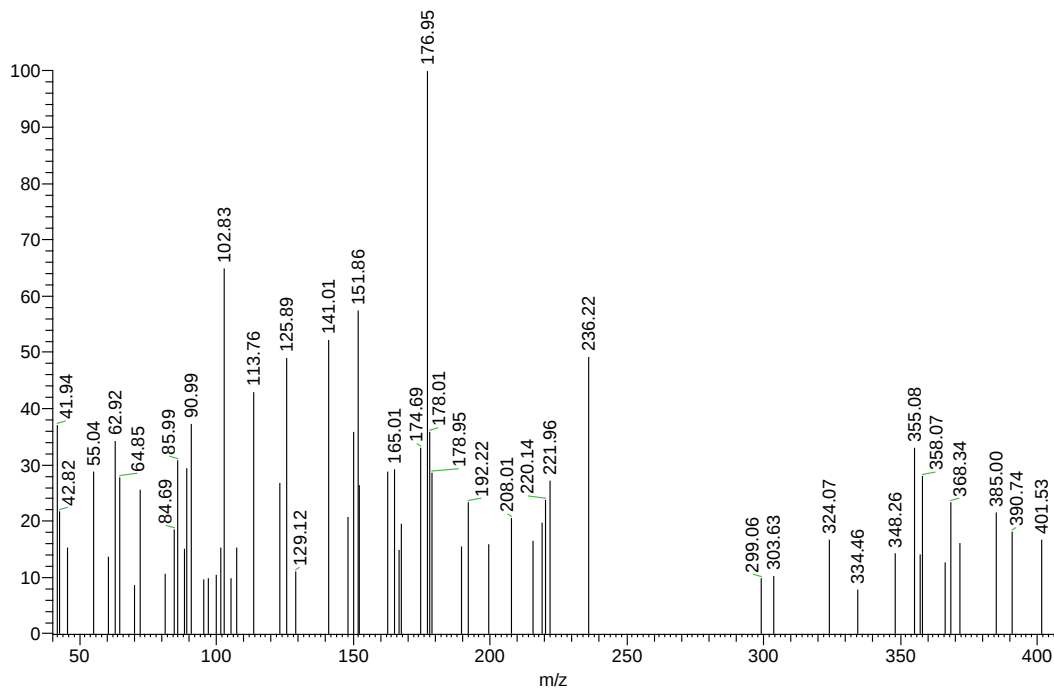
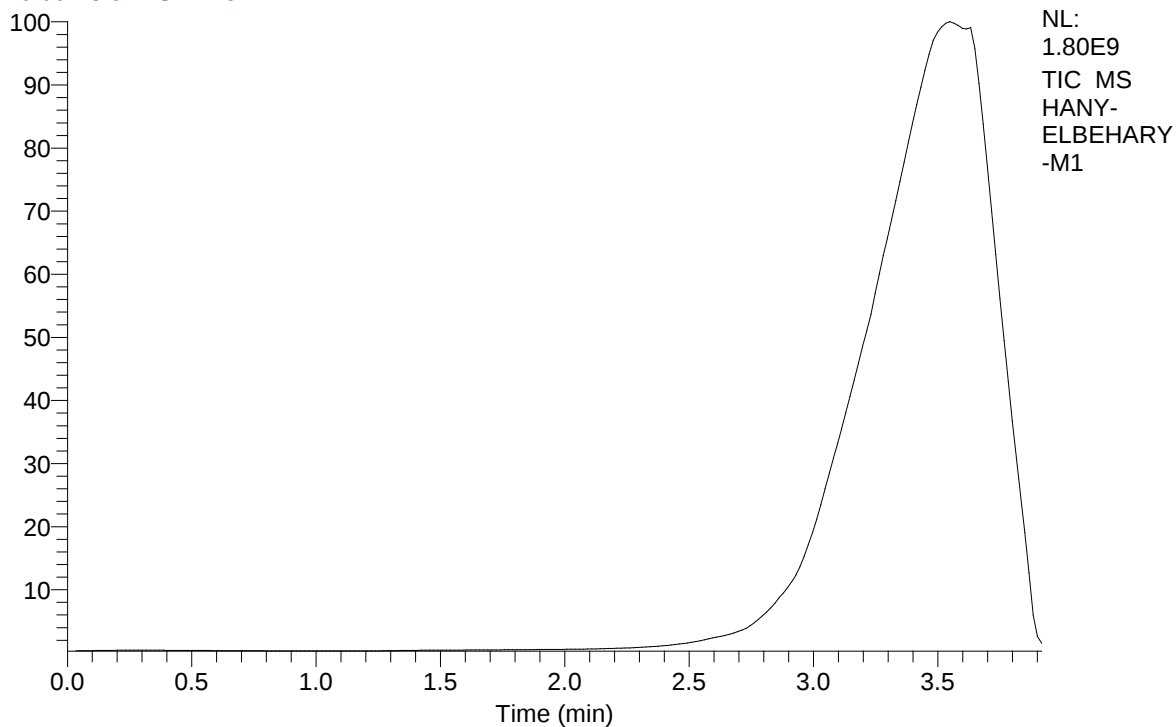


Figure S6. Mass spectrum of compound 16c.

RT: 0.00 - 3.92 SM: 15B



HANY-ELBEHARY-M1 #215 RT: 3.61 AV: 1 NL: 1.10E8

T: {0;0} + c EI Full ms [40.00-1000.00]

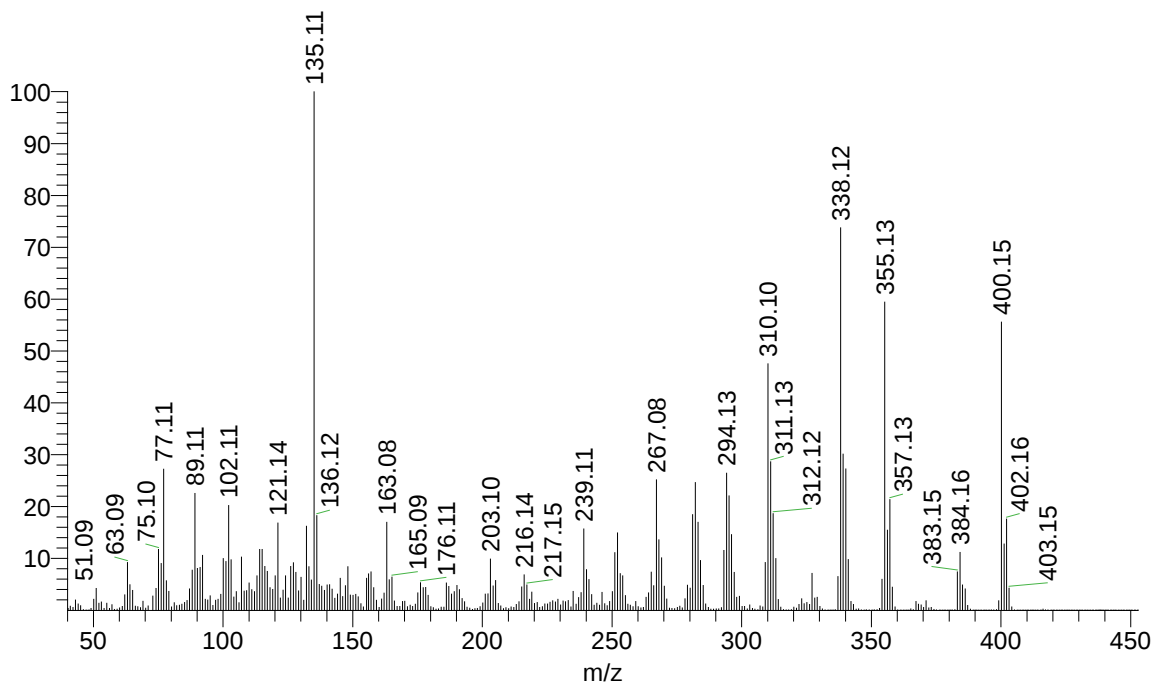
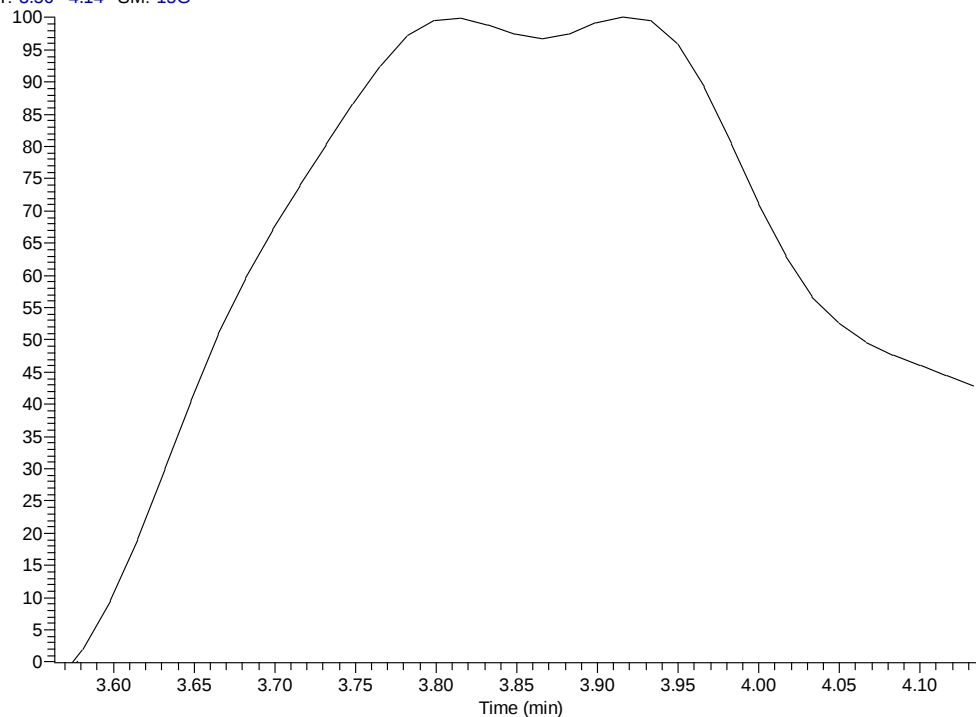


Figure S7. Mass spectrum of compound **11d**.

RT: 3.56 - 4.14 SM: 15G



NL:
1.85E5
TIC MS
ELHAM-
GABER-
NEGM-
MOR1

ELHAM-GABER-NEGM-MOR1 #109 RT: 1.84 AV: 1 NL: 6.19E4
T: {0,0} + c EI Full ms [40.00-1000.00]

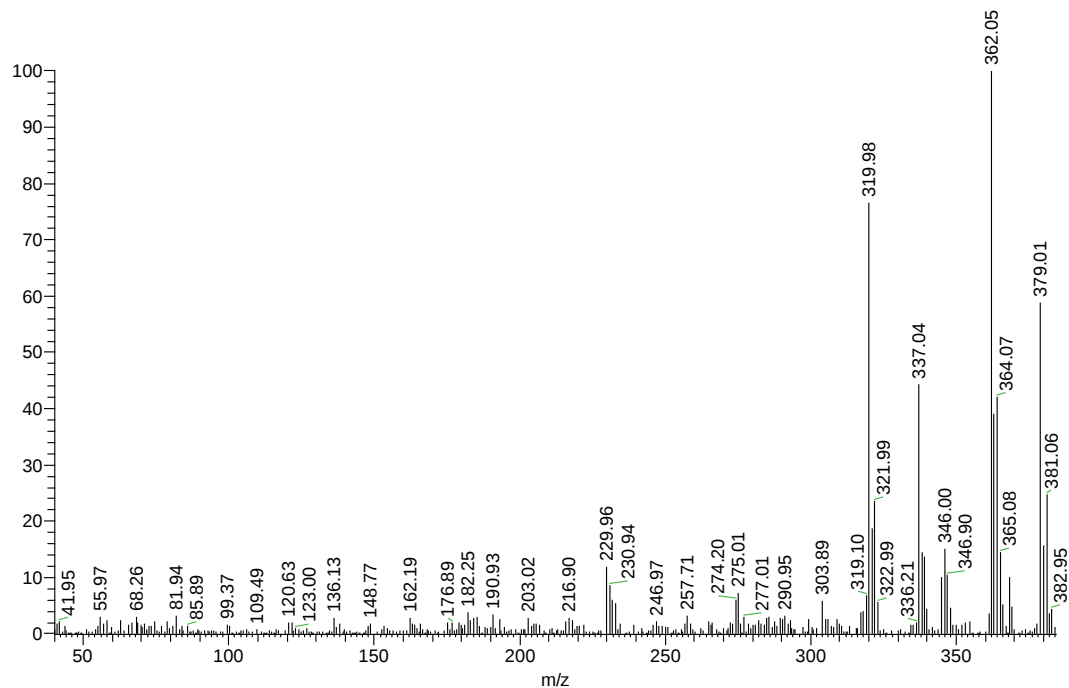
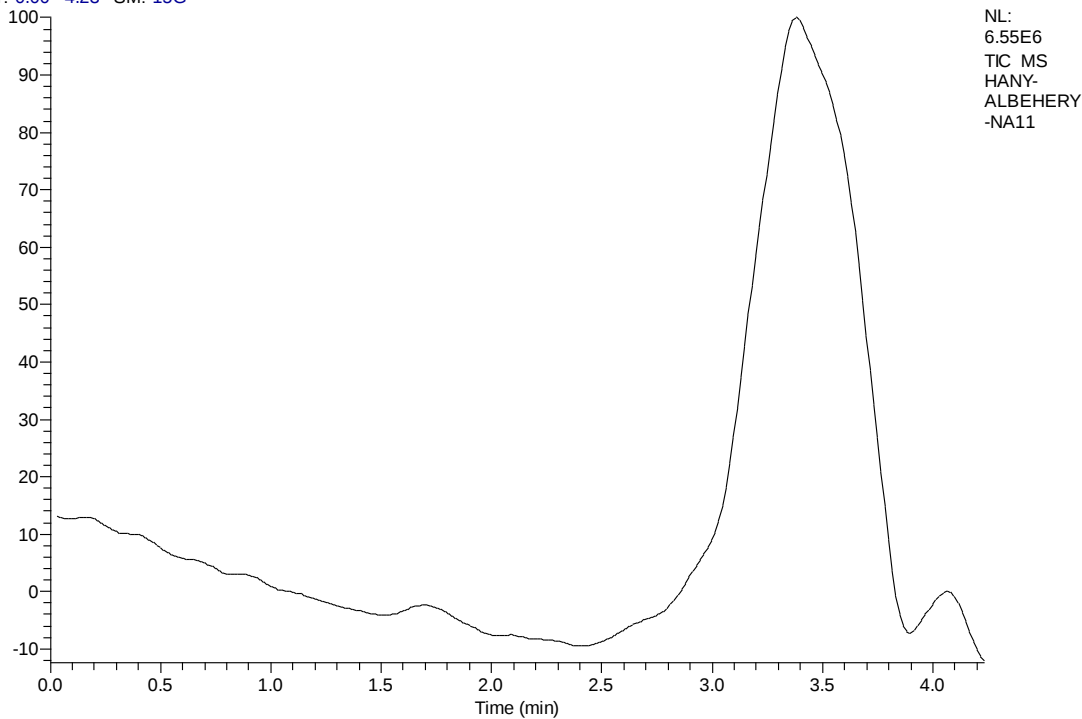


Figure S8. Mass spectrum of compound 9.

RT: 0.00 - 4.23 SM: 15G



HANY-ALBEHERY-NA11 #1 RT: 0.03 AV: 1 NL: 4.45E4
T: {0,0} + c EI Full ms [40.00-1000.00]

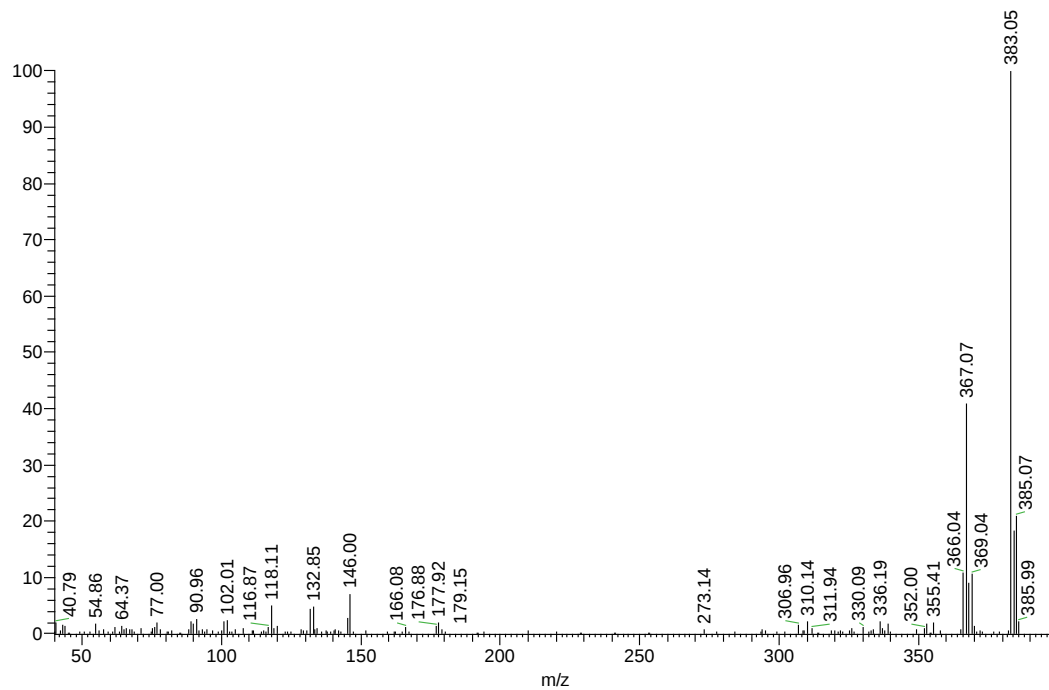
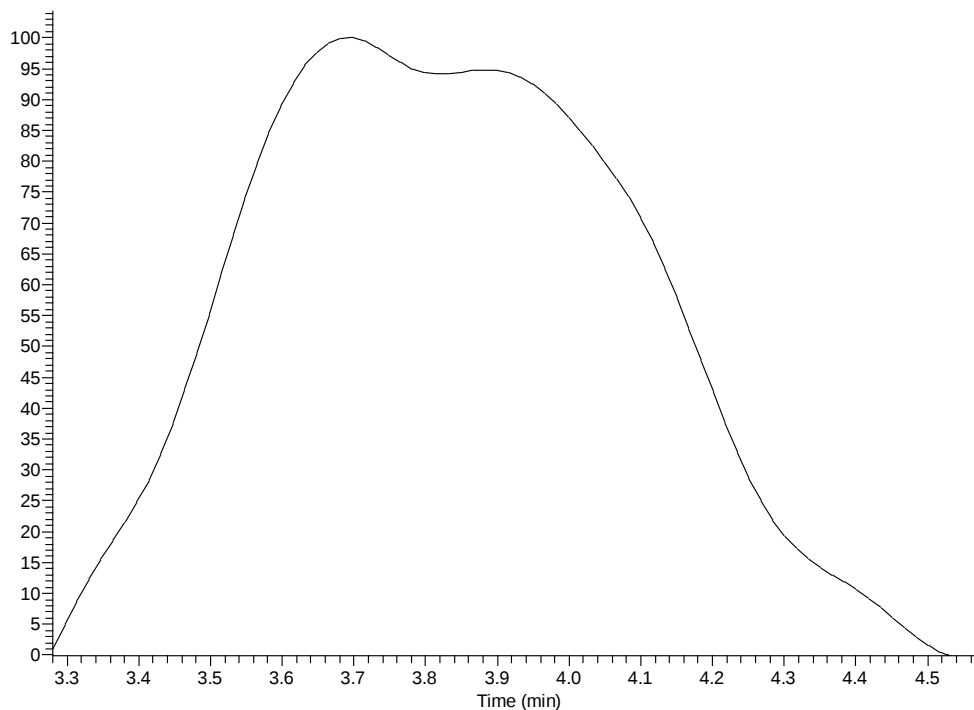


Figure S9. Mass spectrum of compound 10c.

RT: 3.28 - 4.58 SM: 15G



NL:
8.80E6
TIC MS
HANY-
ALBEHERY
-NB1

HANY-ALBEHERY-NB1 #126 RT: 2.13 AV: 1 NL: 1.17E4
T: {0,0} + c EI Full ms [40.00-1000.00]

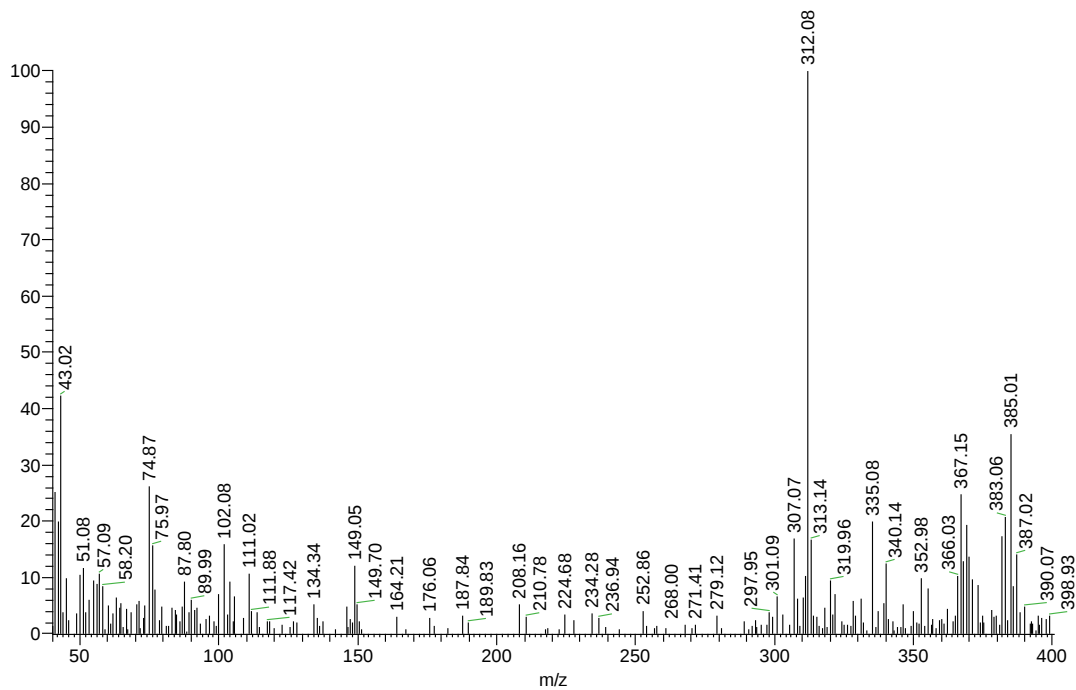
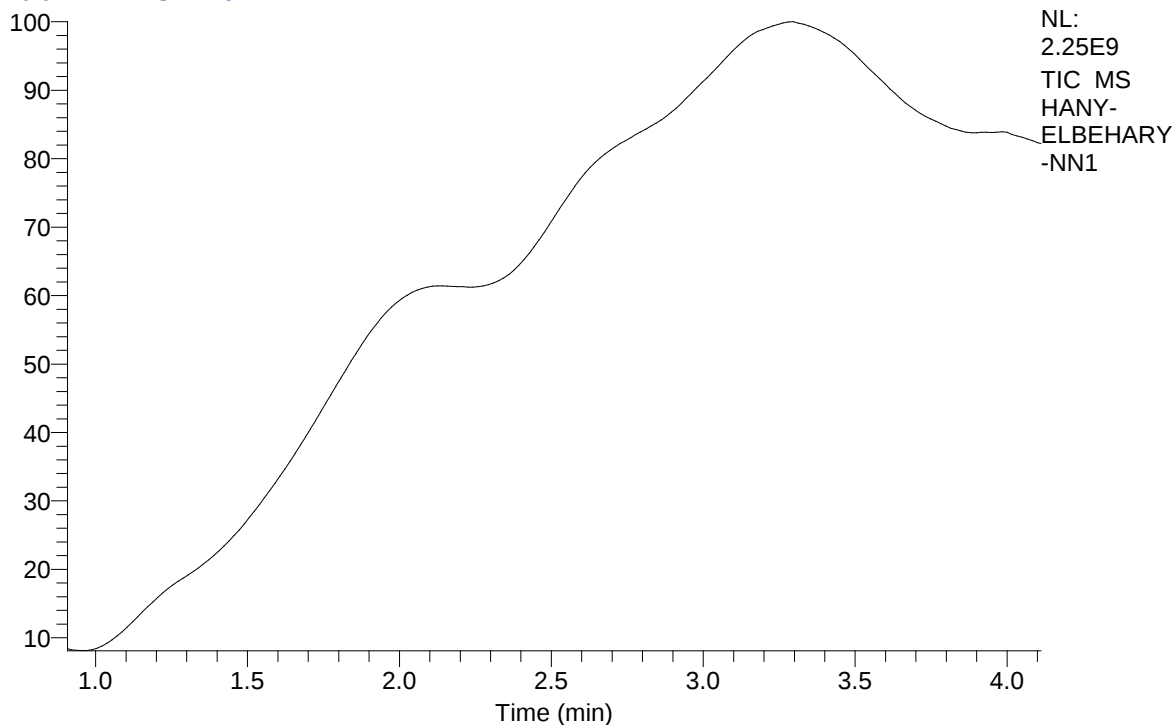


Figure S10. Mass spectrum of compound 15.

RT: 0.91 - 4.11 SM: 15B



HANY-ELBEHARY-NN1 #214 RT: 3.60 AV: 1 NL: 9.59E7
T: {0;0} + c EI Full ms [40.00-1000.00]

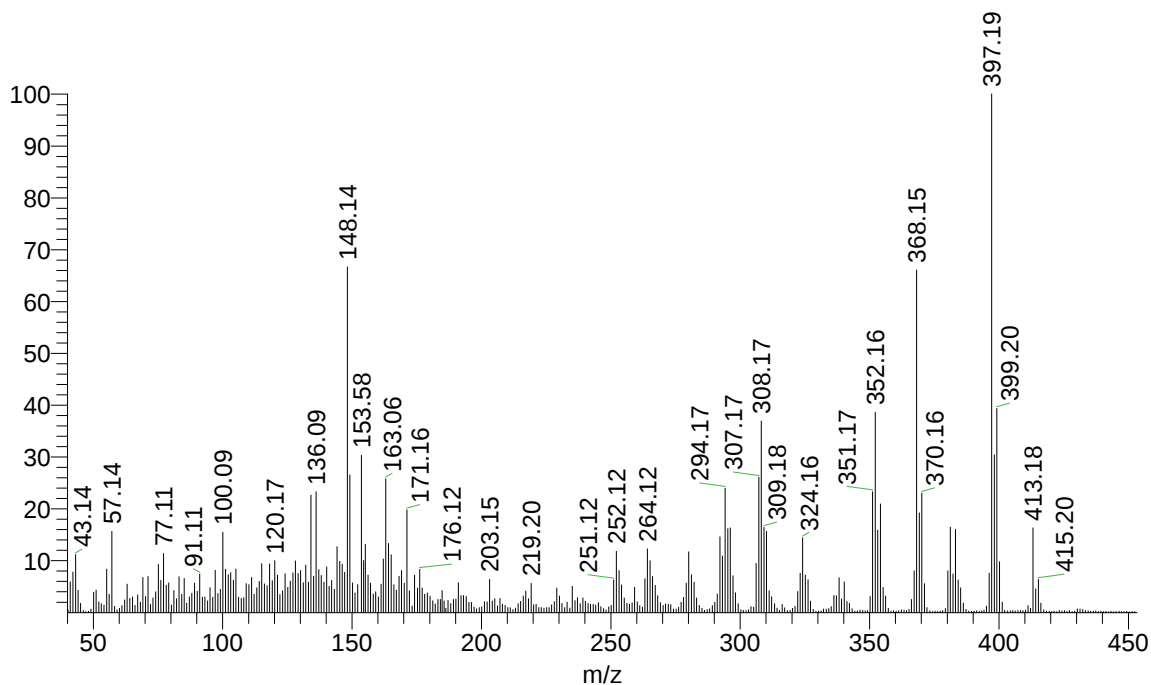
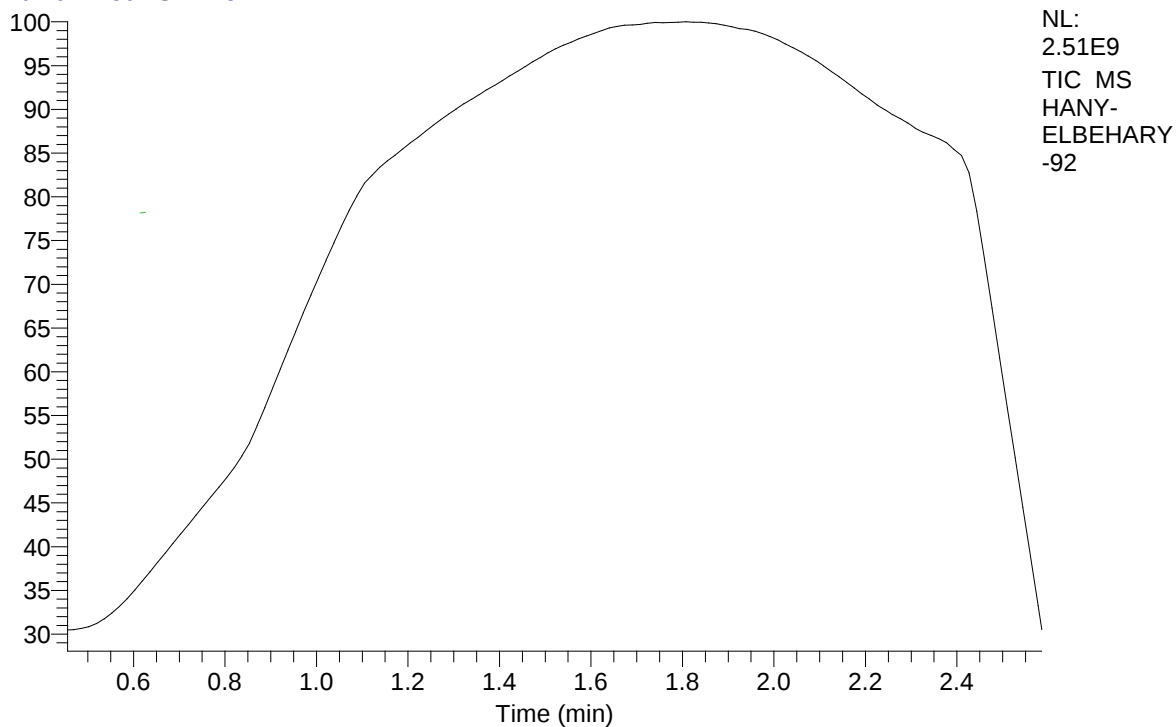


Figure S11. Mass spectrum of compound 11c.

RT: 0.46 - 2.59 SM: 15B



HANY-ELBEHARY-92 #130 RT: 2.19 AV: 1 NL: 2.11E8
T: {0;0} + c EI Full ms [40.00-1000.00]

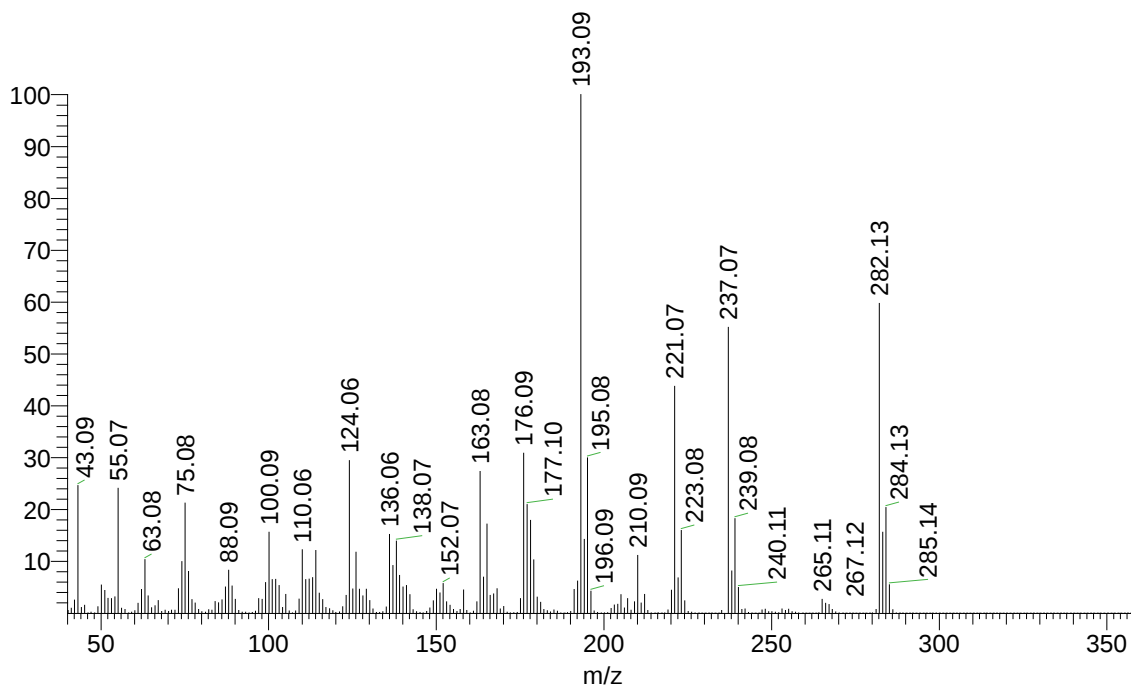


Figure S12. Mass spectrum of compound 7.

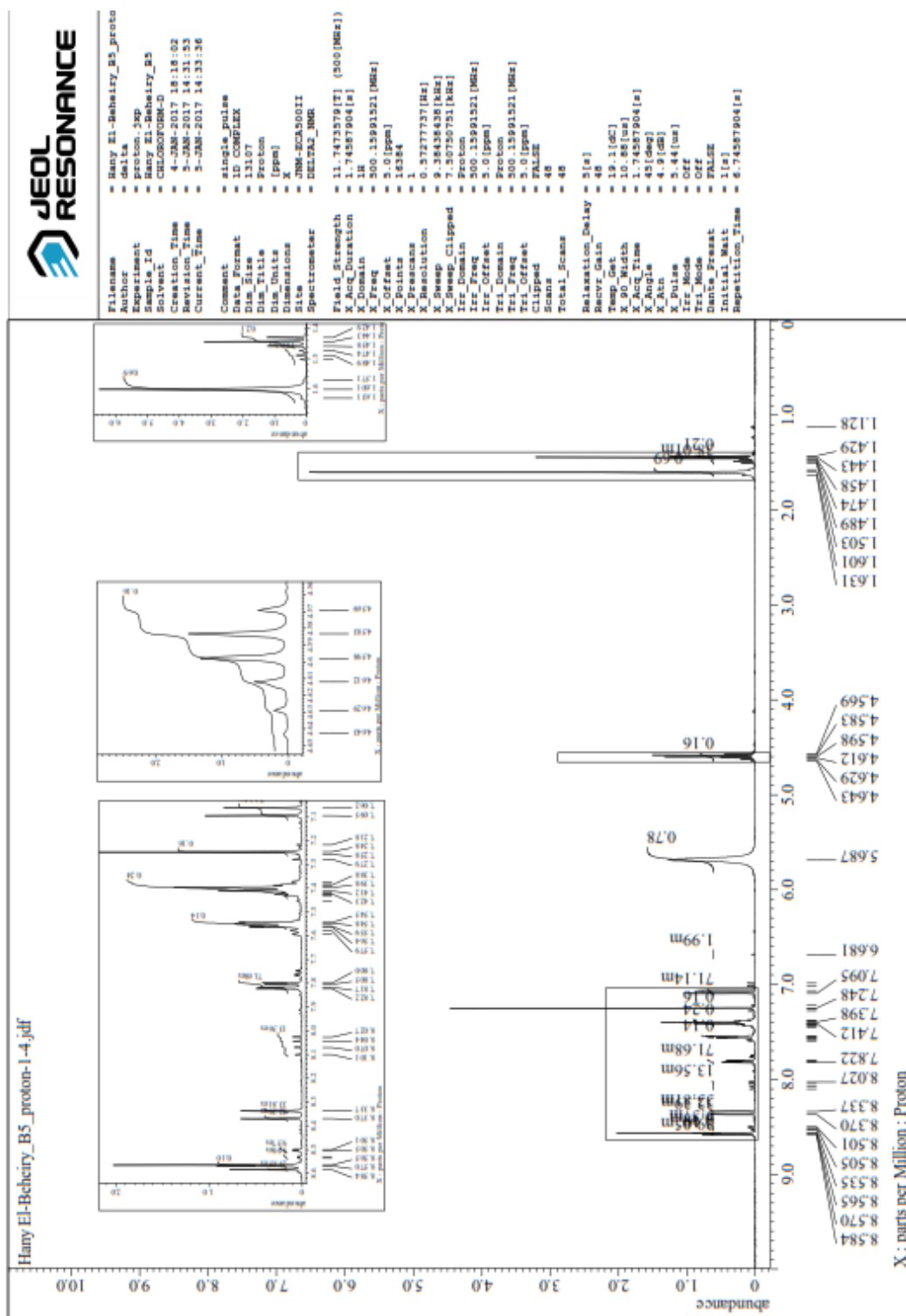


Figure S13. ^1H NMR spectrum (500 MHz, CDCl_3) of compound **11a**.

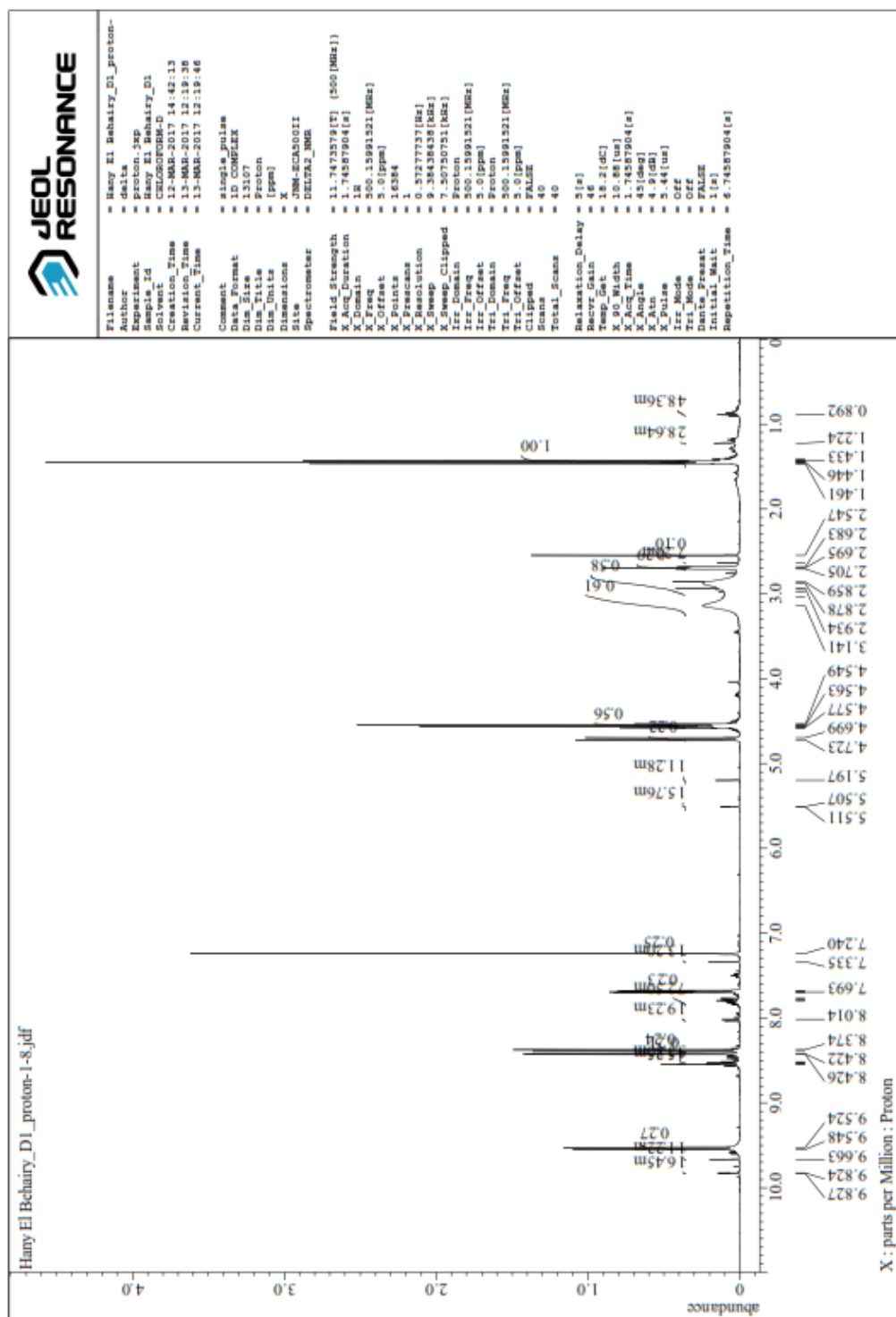


Figure S14. ^1H NMR spectrum (500 MHz, CDCl_3) of compound **8**.

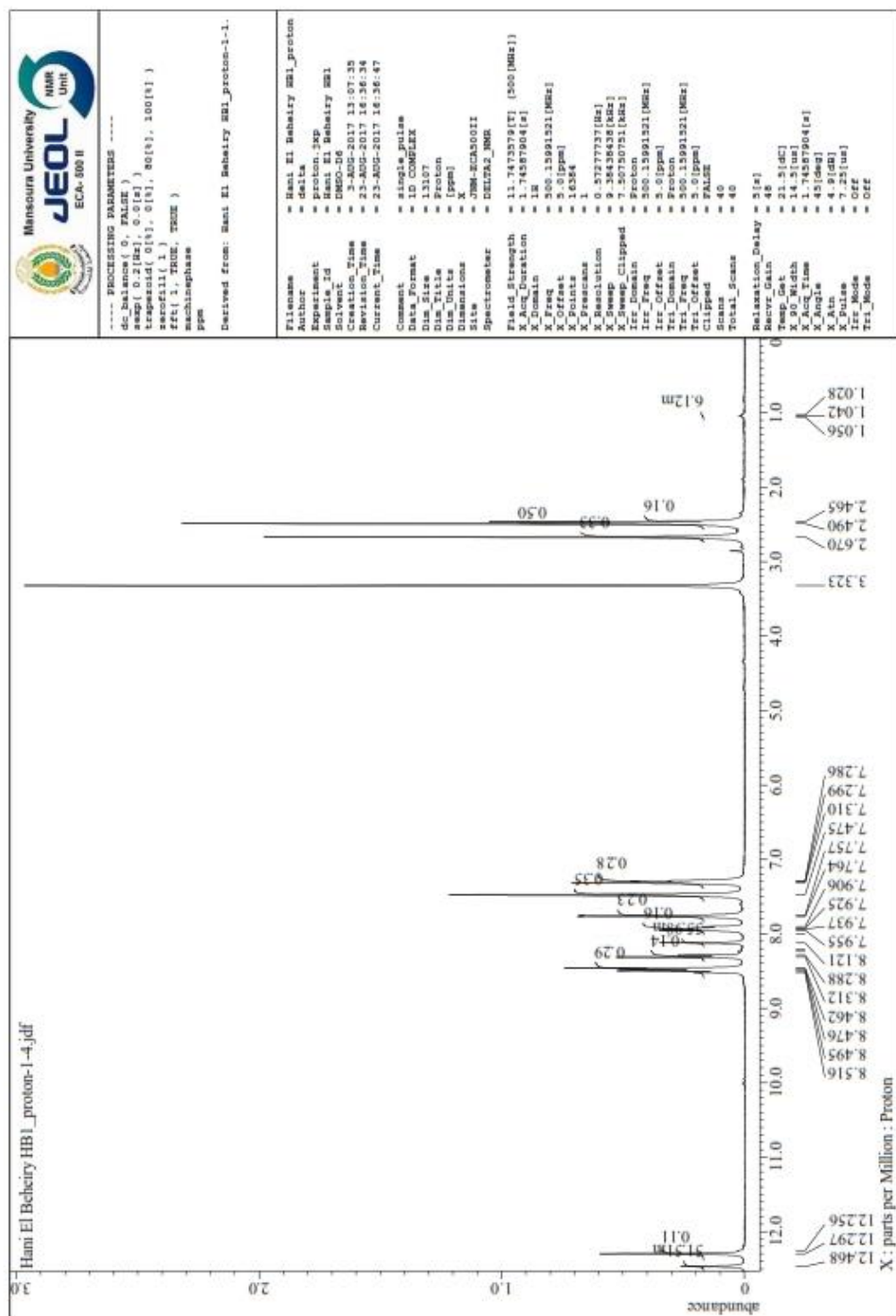
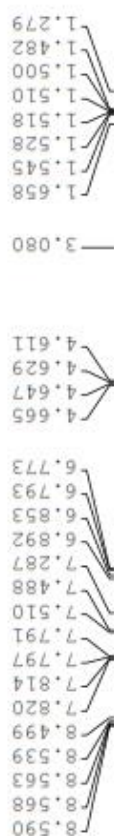


Figure S16. ^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound 16a.



HAN1 (NN11) -1H-CDCL3-2192016

Current Data Parameters
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 EXPNO 30
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20160921
 Time 11.04
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg30
 TD 65536
 SOLVENT CDCL3
 NS 16
 DS 2
 SMR 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 62.8
 DM 62.400 usec
 DE 6.50 usec
 TE 298.0 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SPOL 400.1724712 MHz
 NUC1 1H
 F1 10.00 usec
 PLW1 16.50000000 W

F2 - Processing Parameters
 SI 65536
 SF 400.1700000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



Figure S21. ¹H NMR spectrum (300 MHz, CDCl₃) of compound 11c.

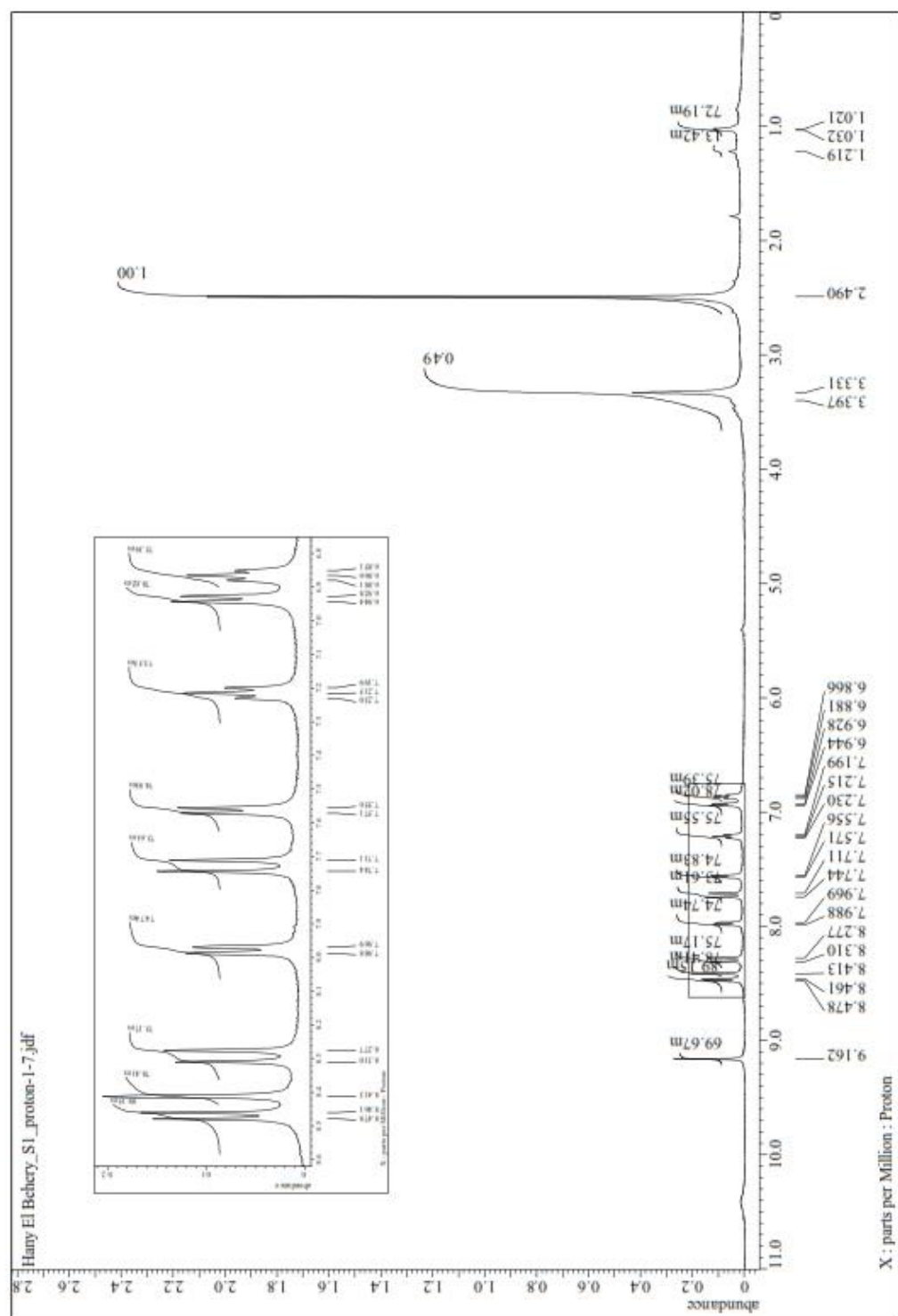


Figure S23. ^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound 12b.

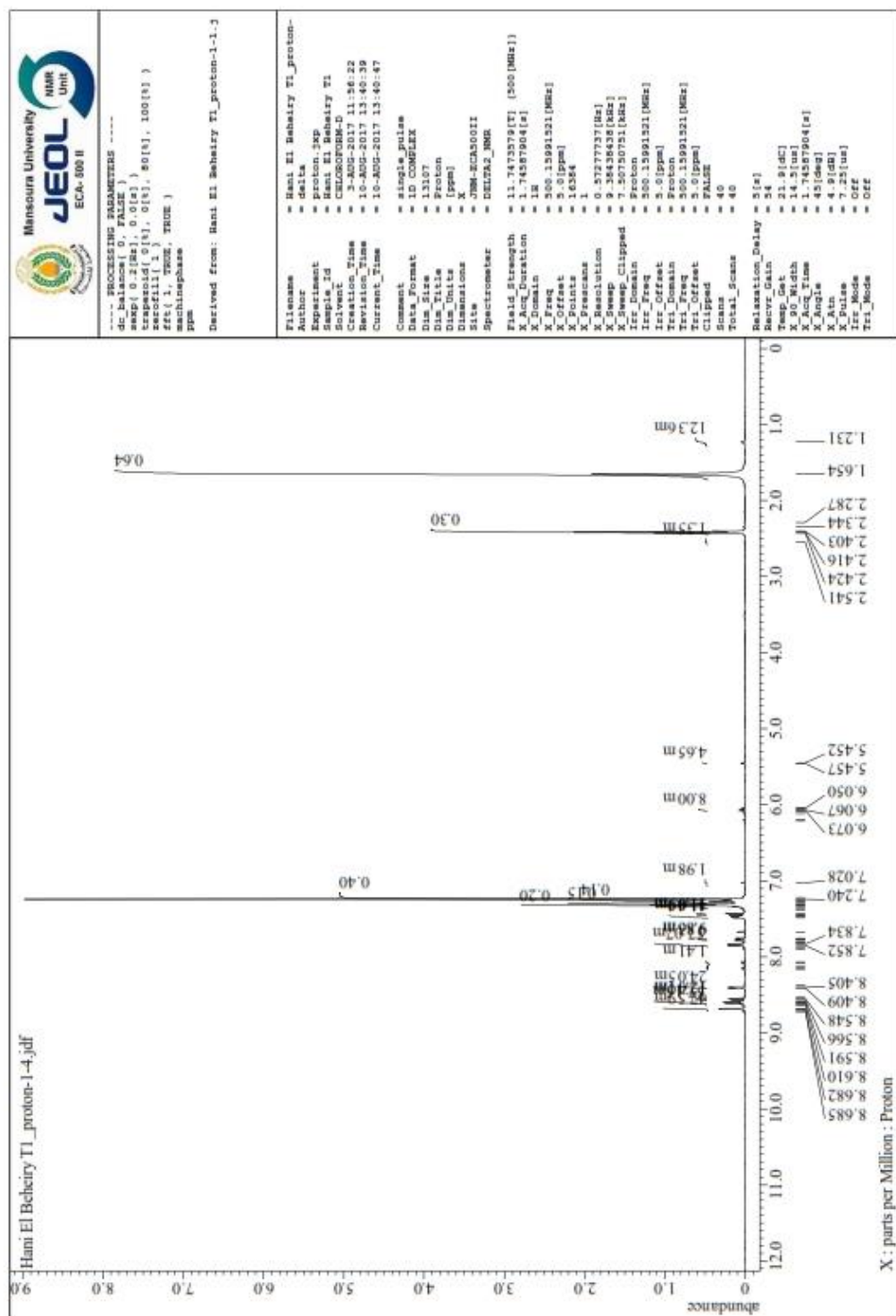


Figure S24. ^1H NMR spectrum (500 MHz, CDCl_3) of compound **10b**.

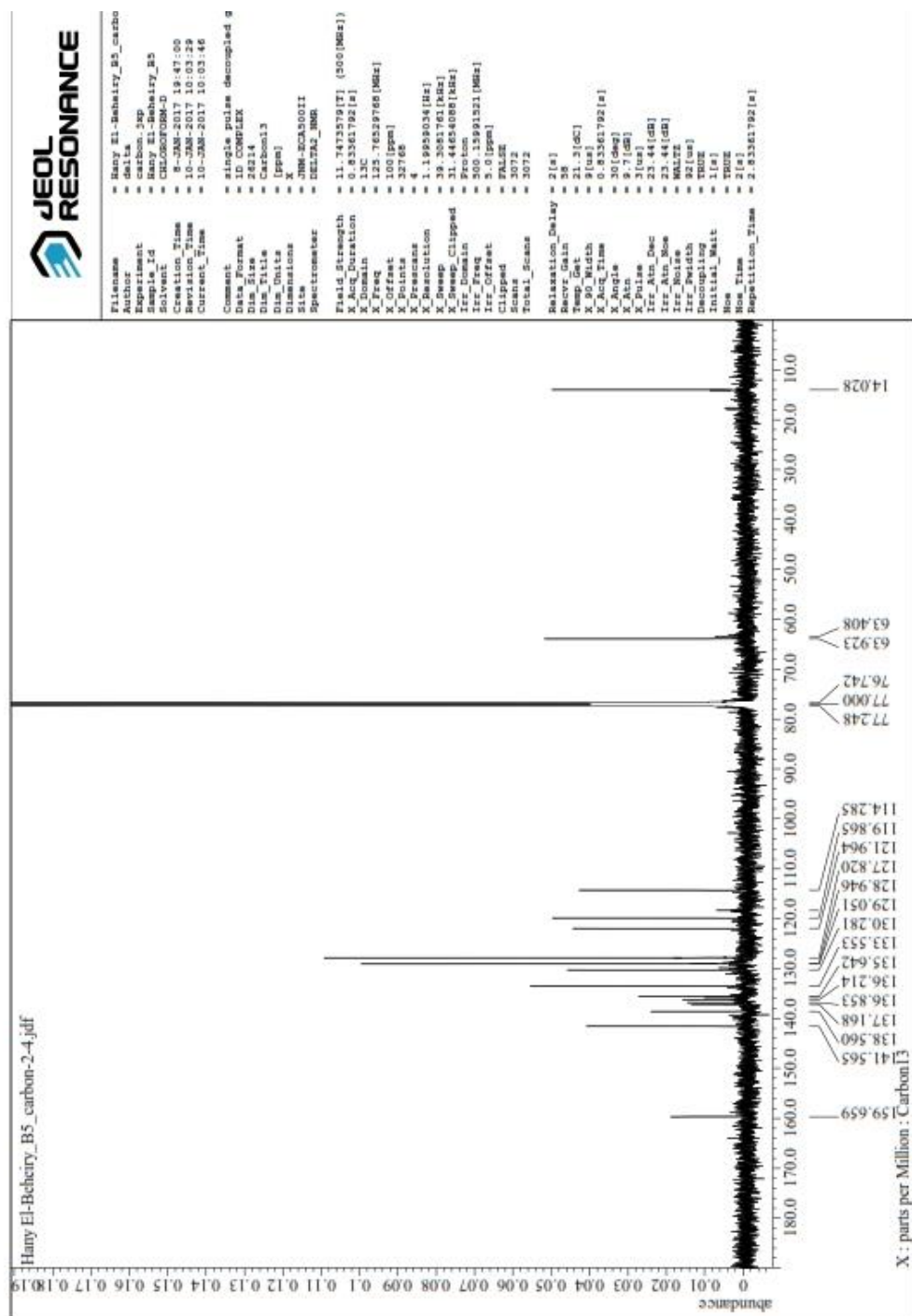


Figure S25. ^{13}C NMR spectrum (500 MHz, CDCl_3) of compound **11a**.

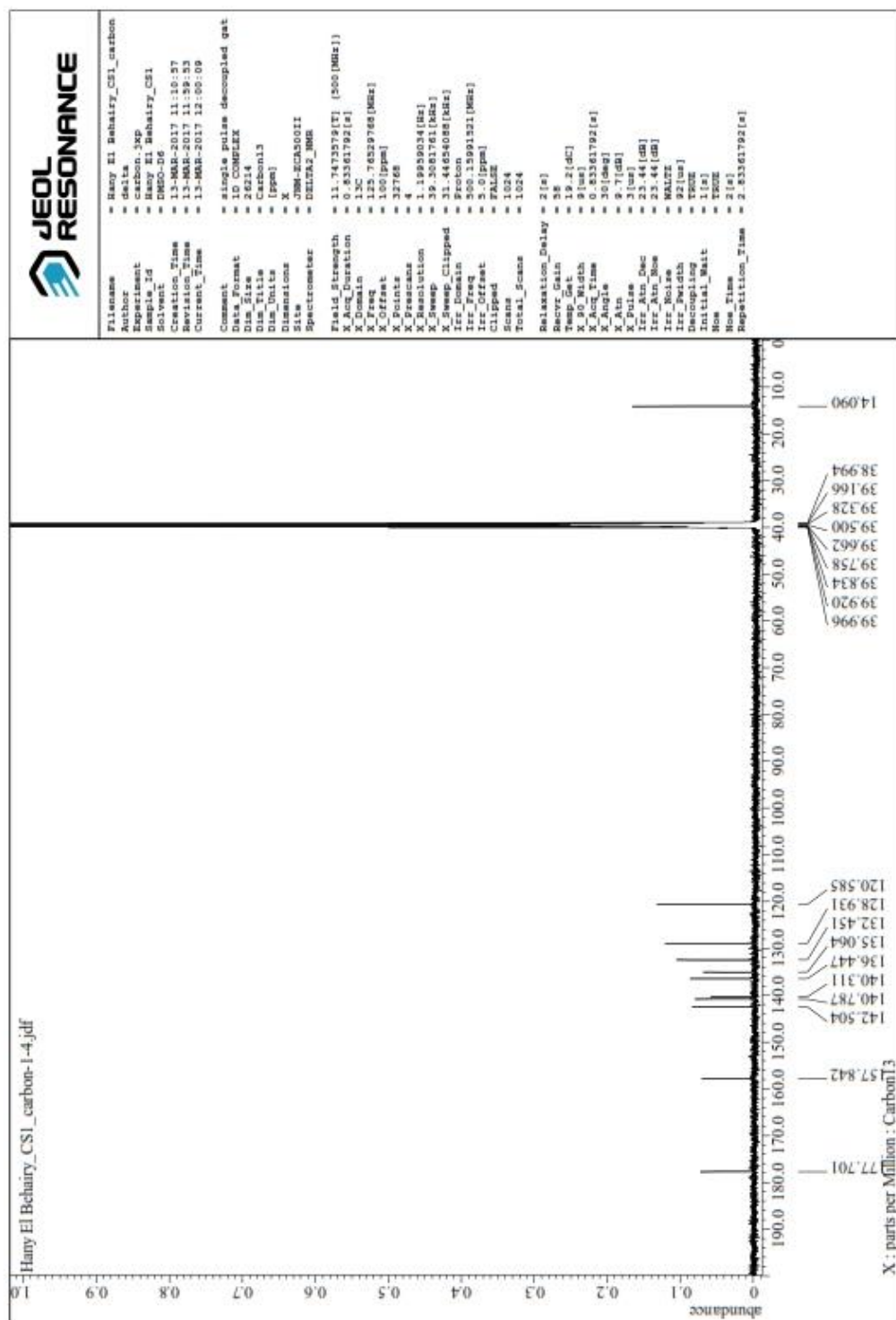


Figure S26. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound 14.

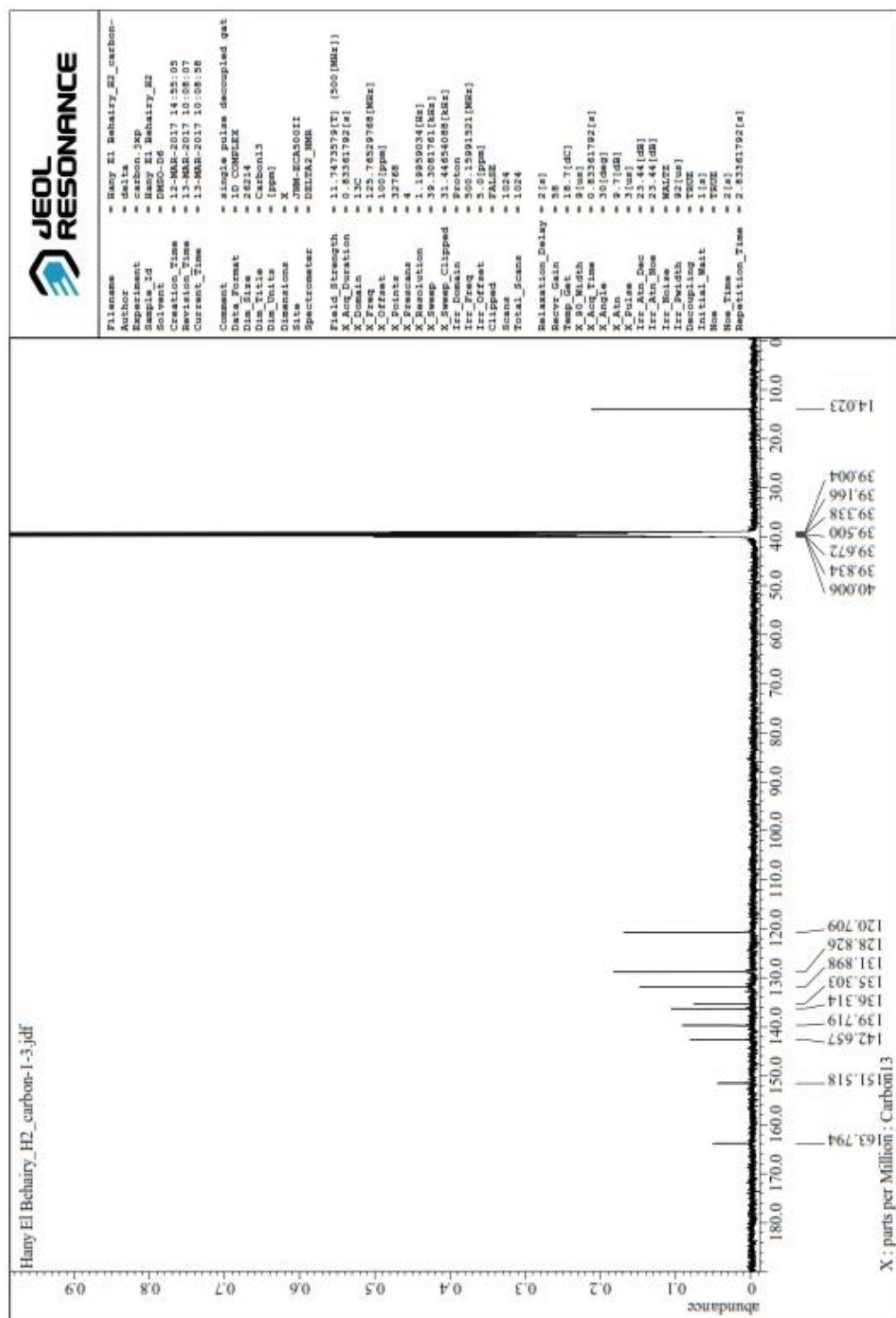


Figure S28. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound 13.

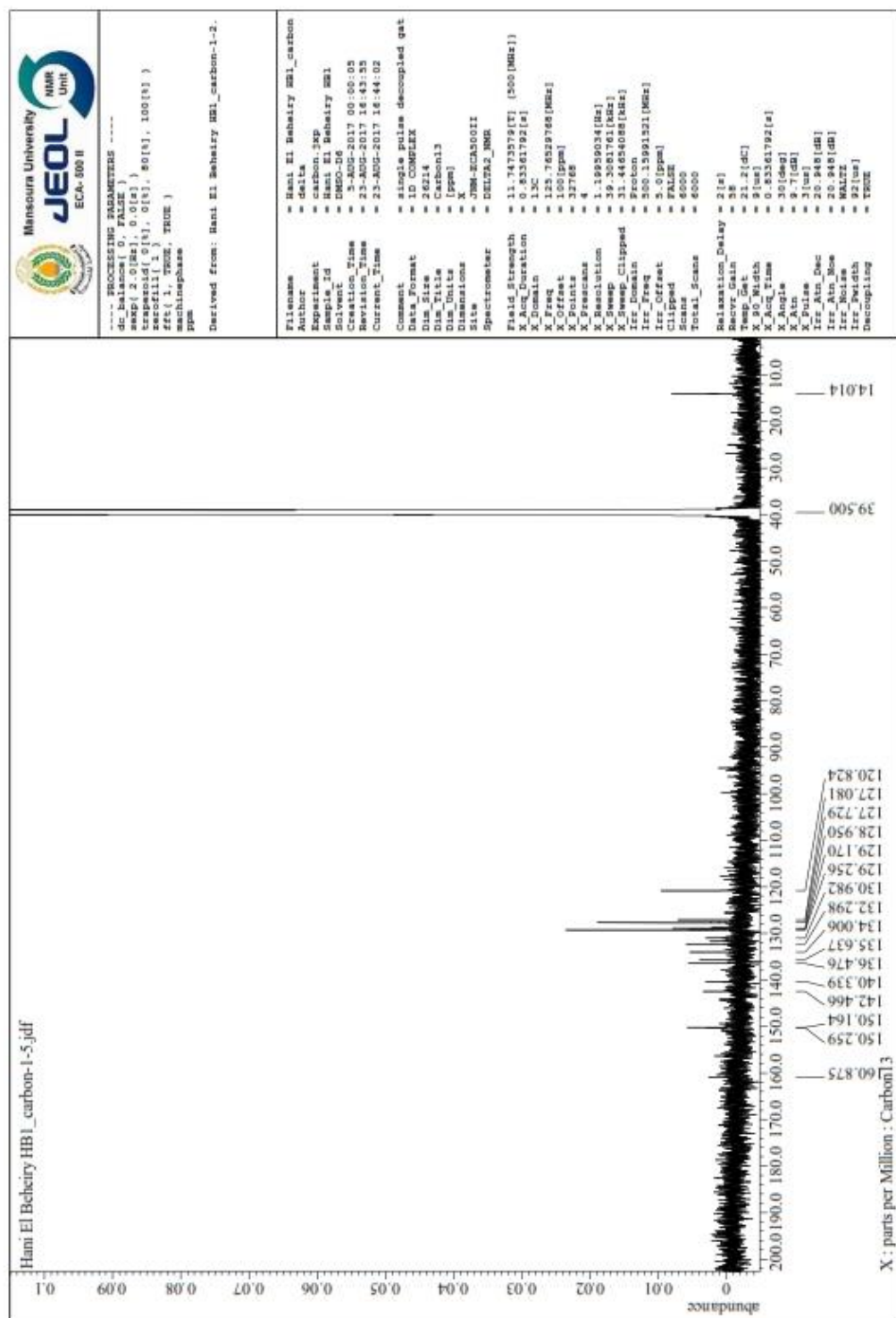


Figure S29. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound **16a**.

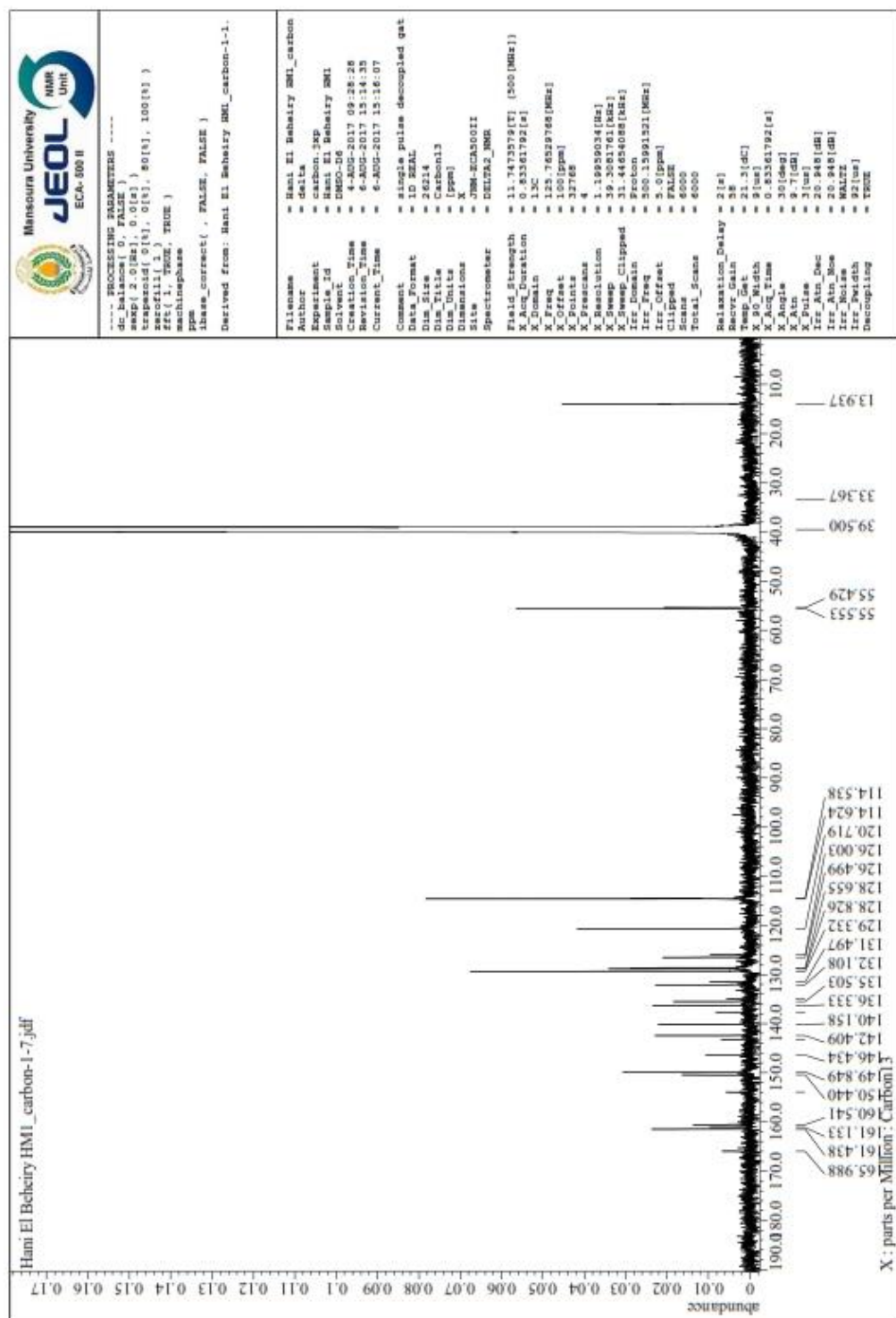


Figure S30. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound **16b**.

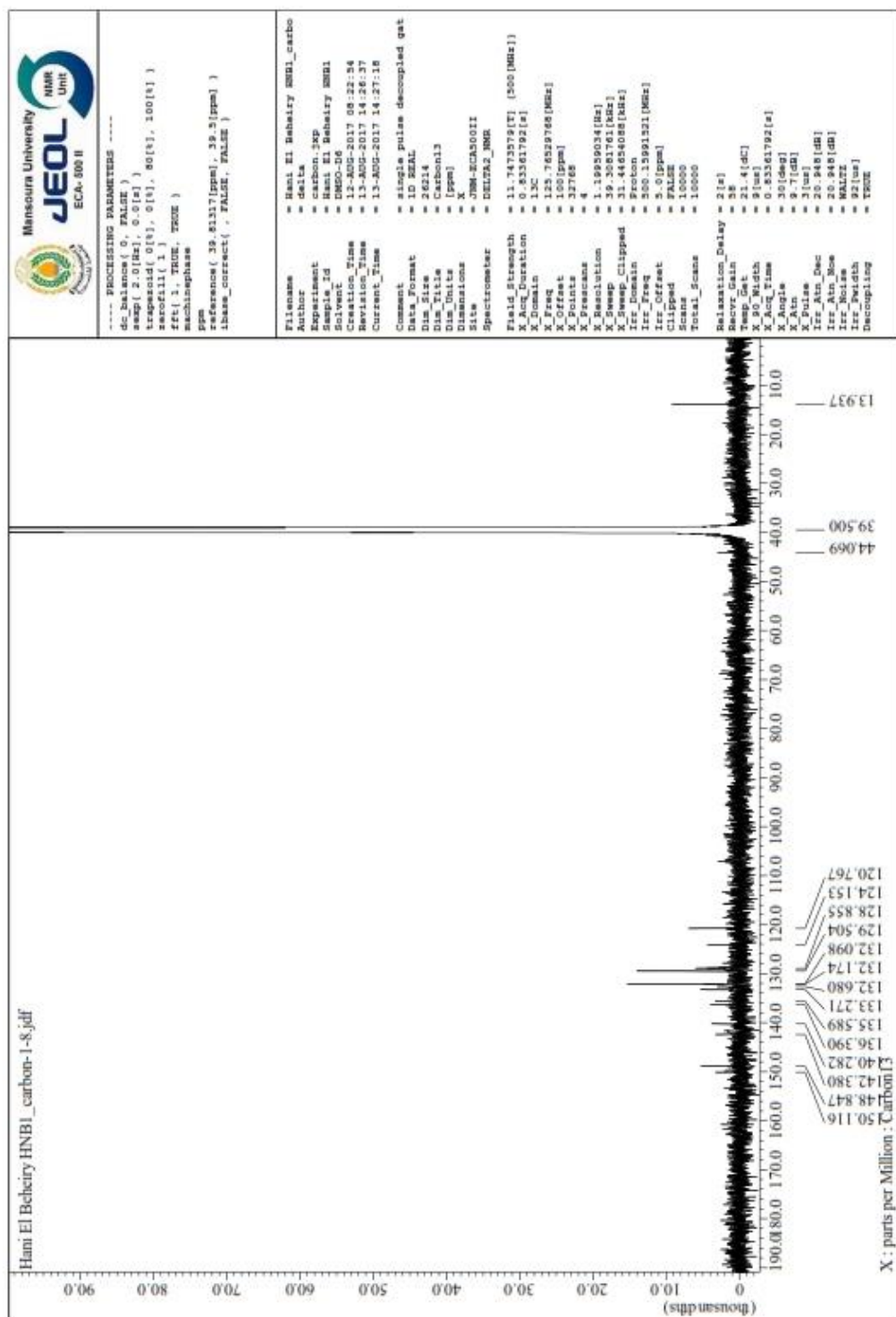


Figure S31. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound **16d**.

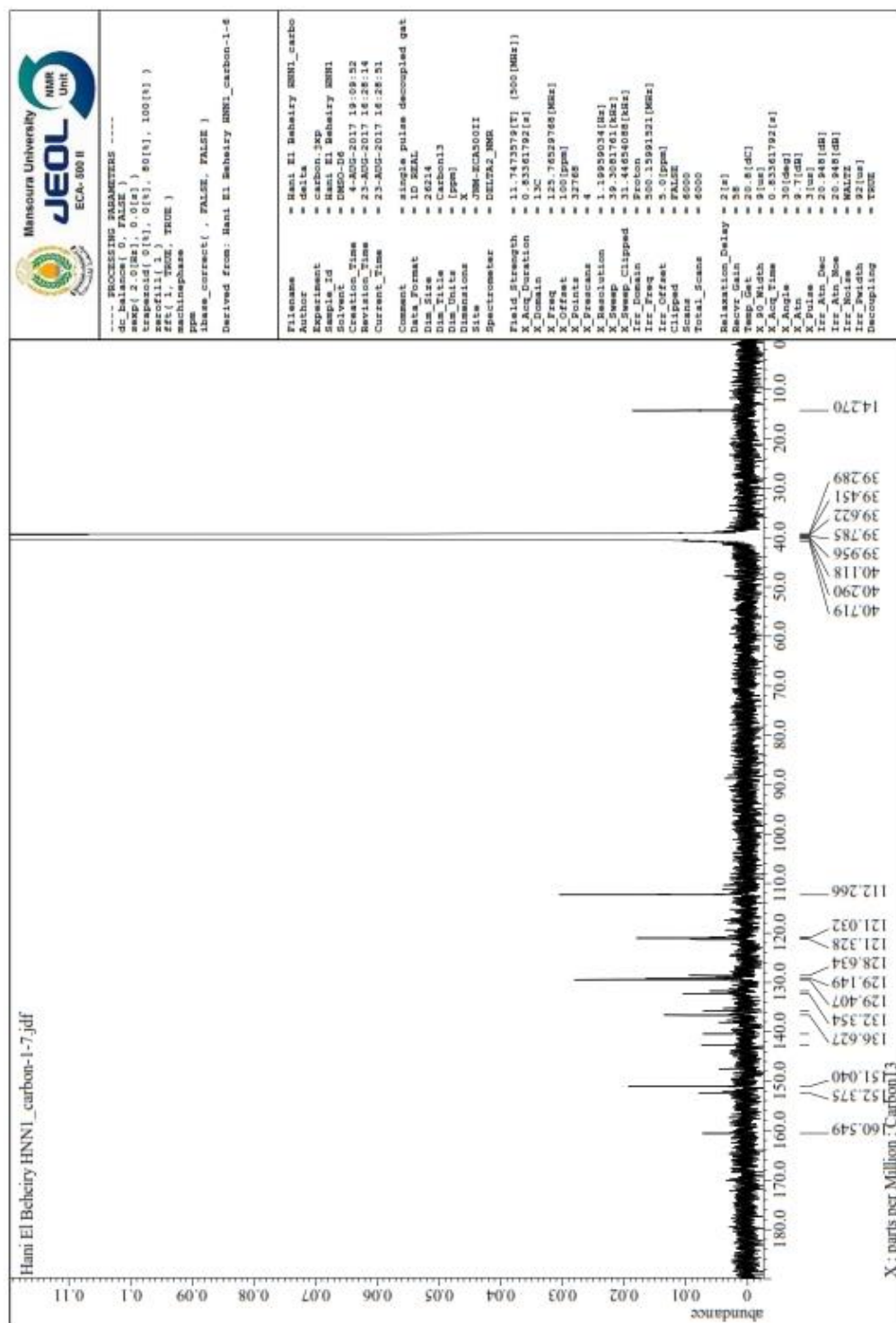


Figure S32. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound **16e**.

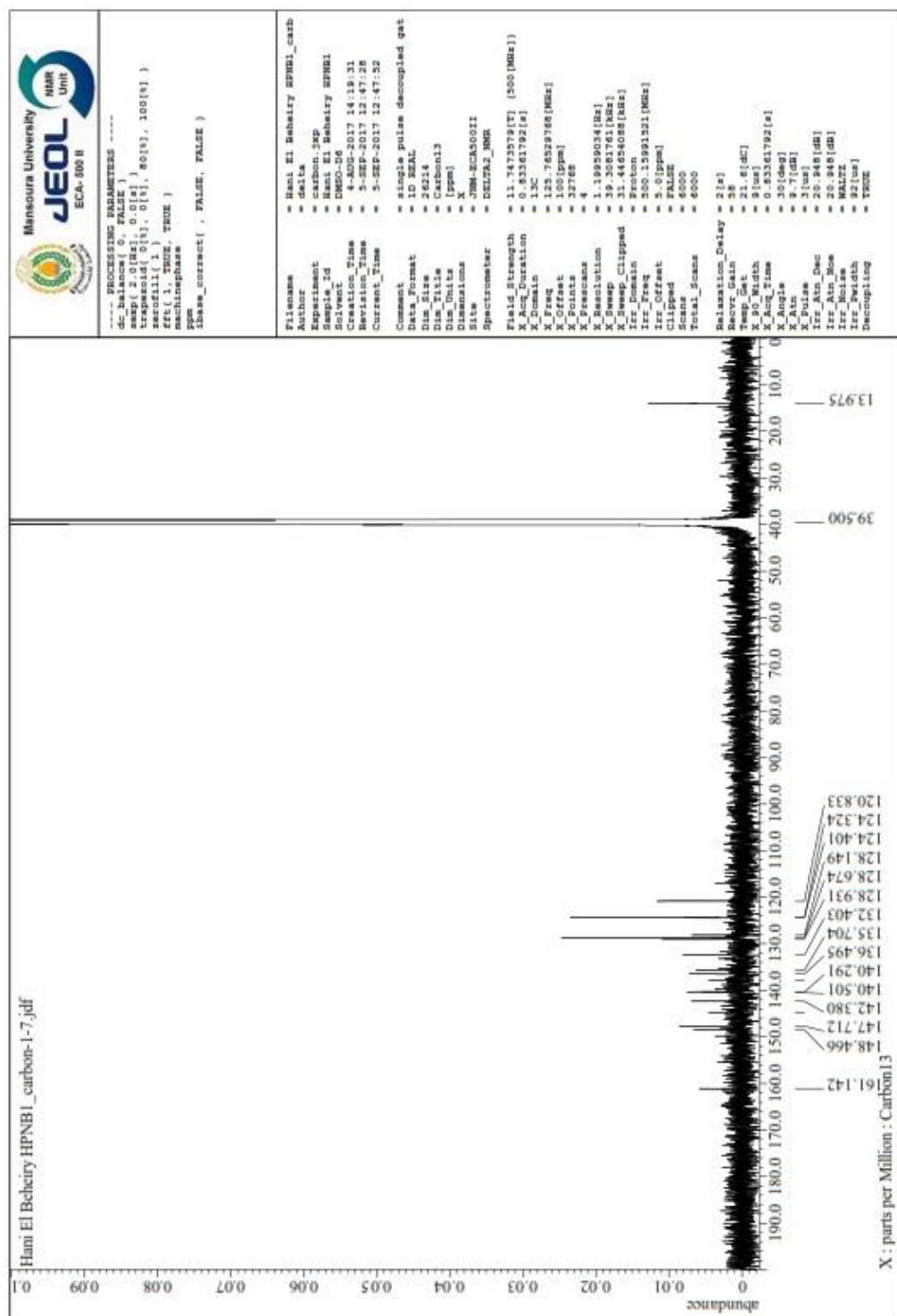


Figure S33. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound **16c**.

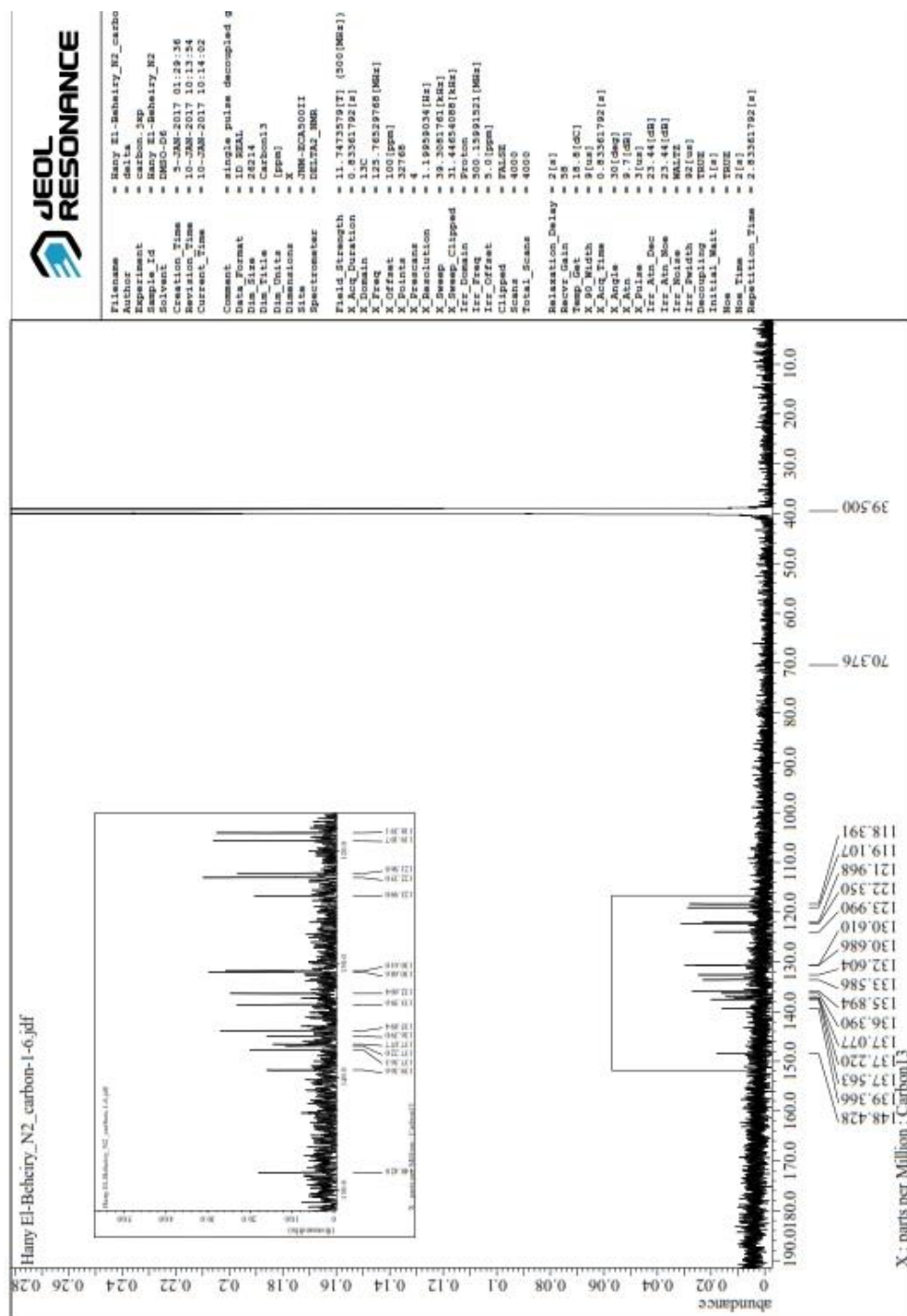


Figure S34. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound **12a**.

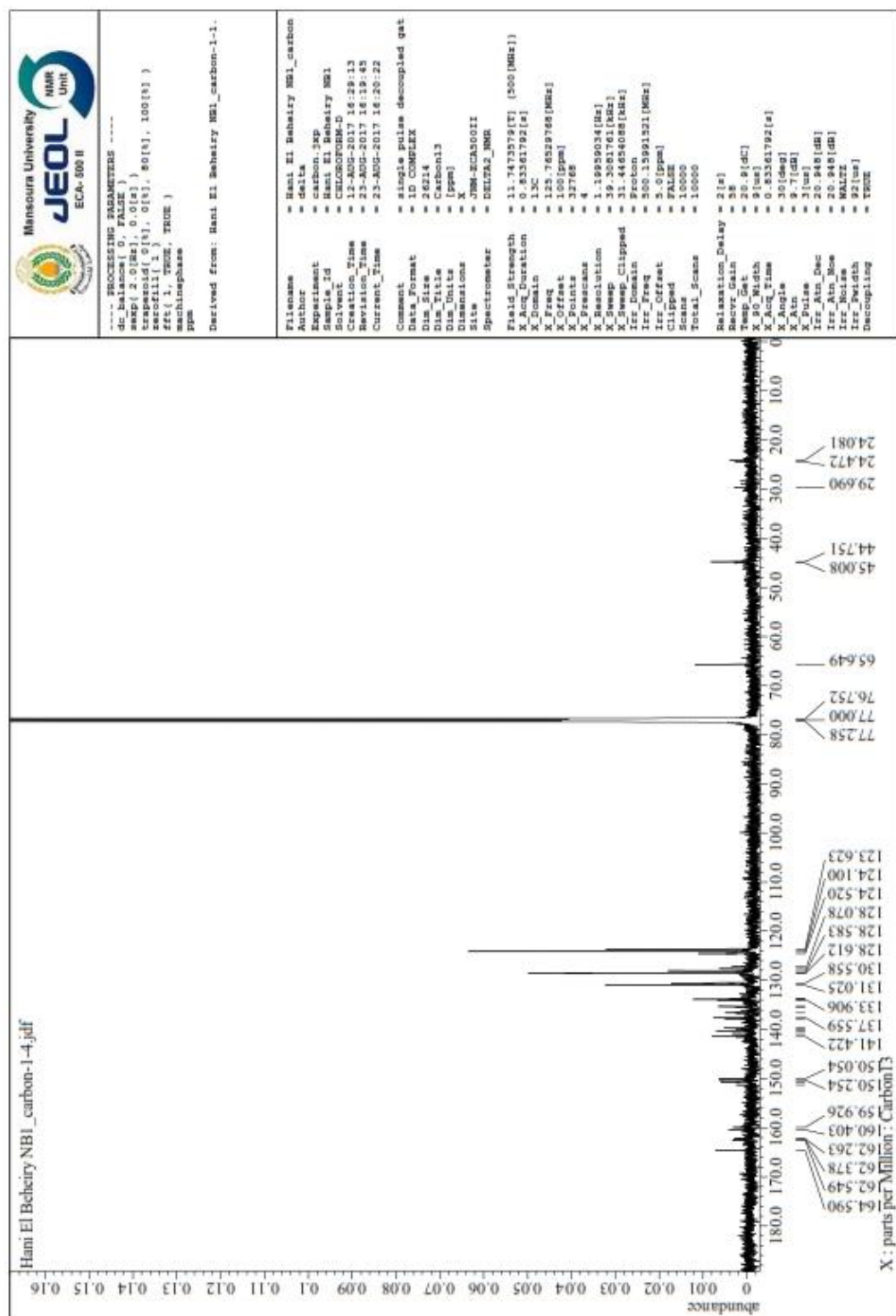


Figure S35. ^{13}C NMR spectrum (500 MHz, CDCl_3) of compound 15.

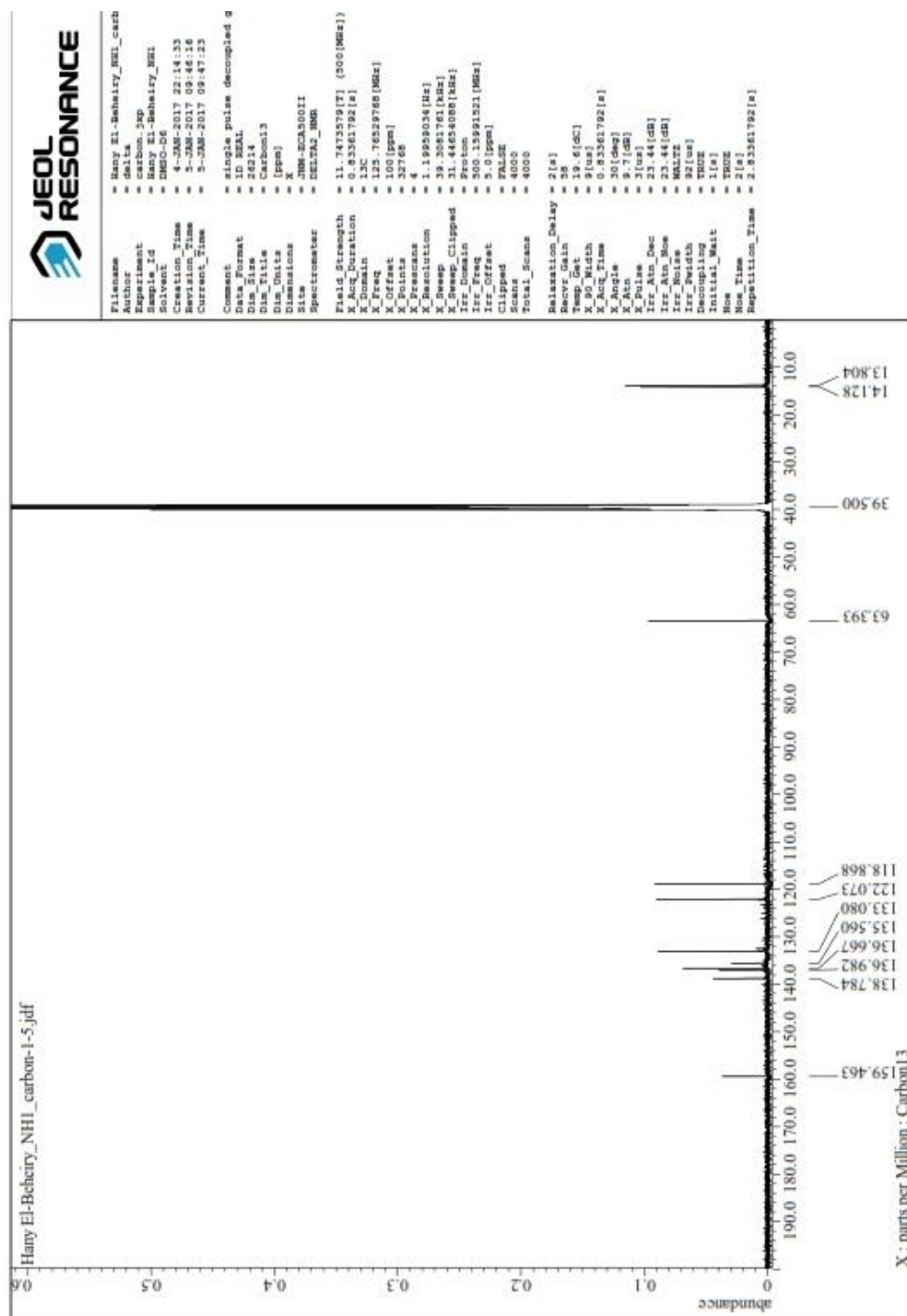


Figure S36. ^{13}C NMR spectrum (500 MHz, $\text{DMSO}-d_6$) of compound 7.

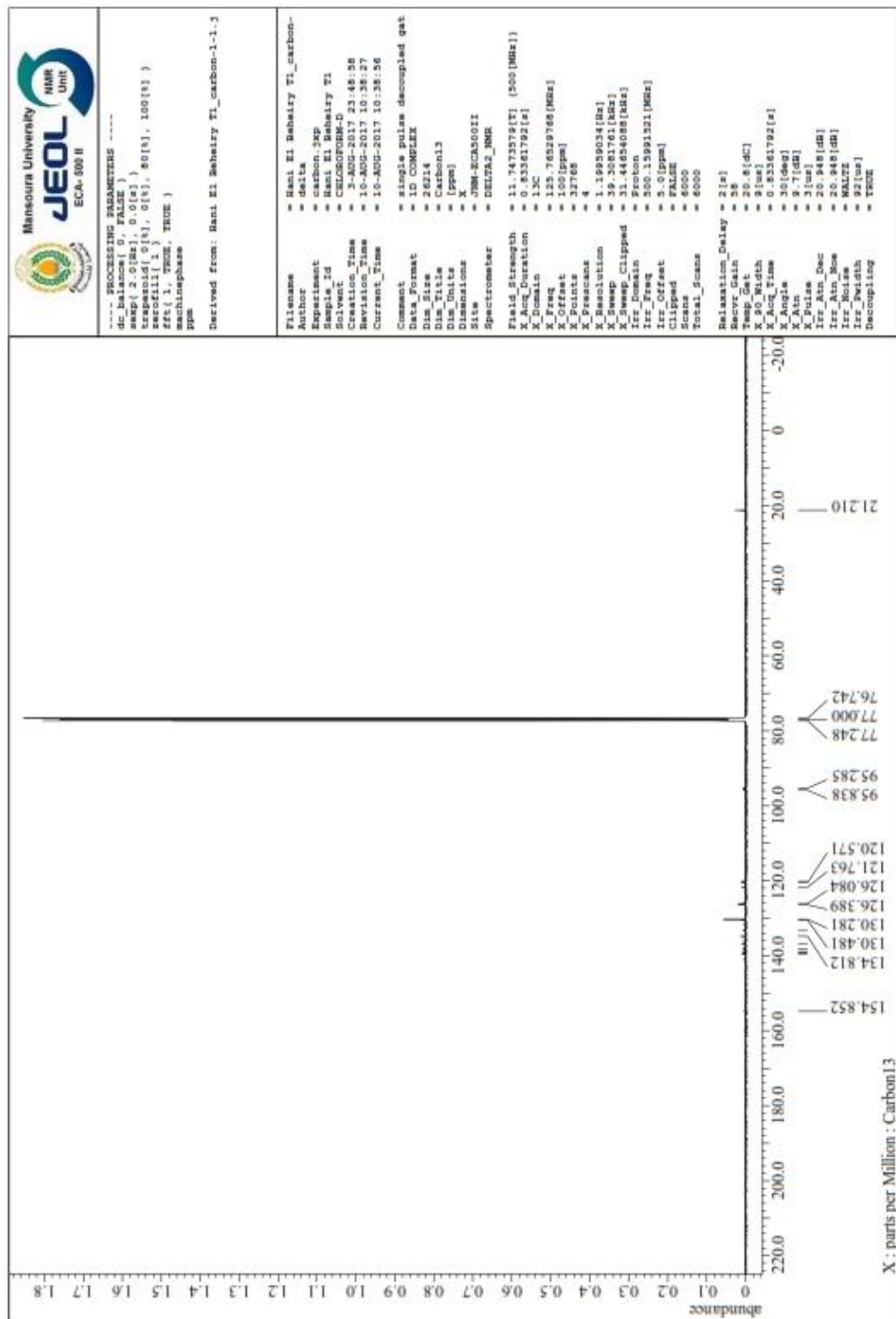


Figure S38. ^{13}C NMR spectrum (500 MHz, CDCl_3) of compound **10b**.

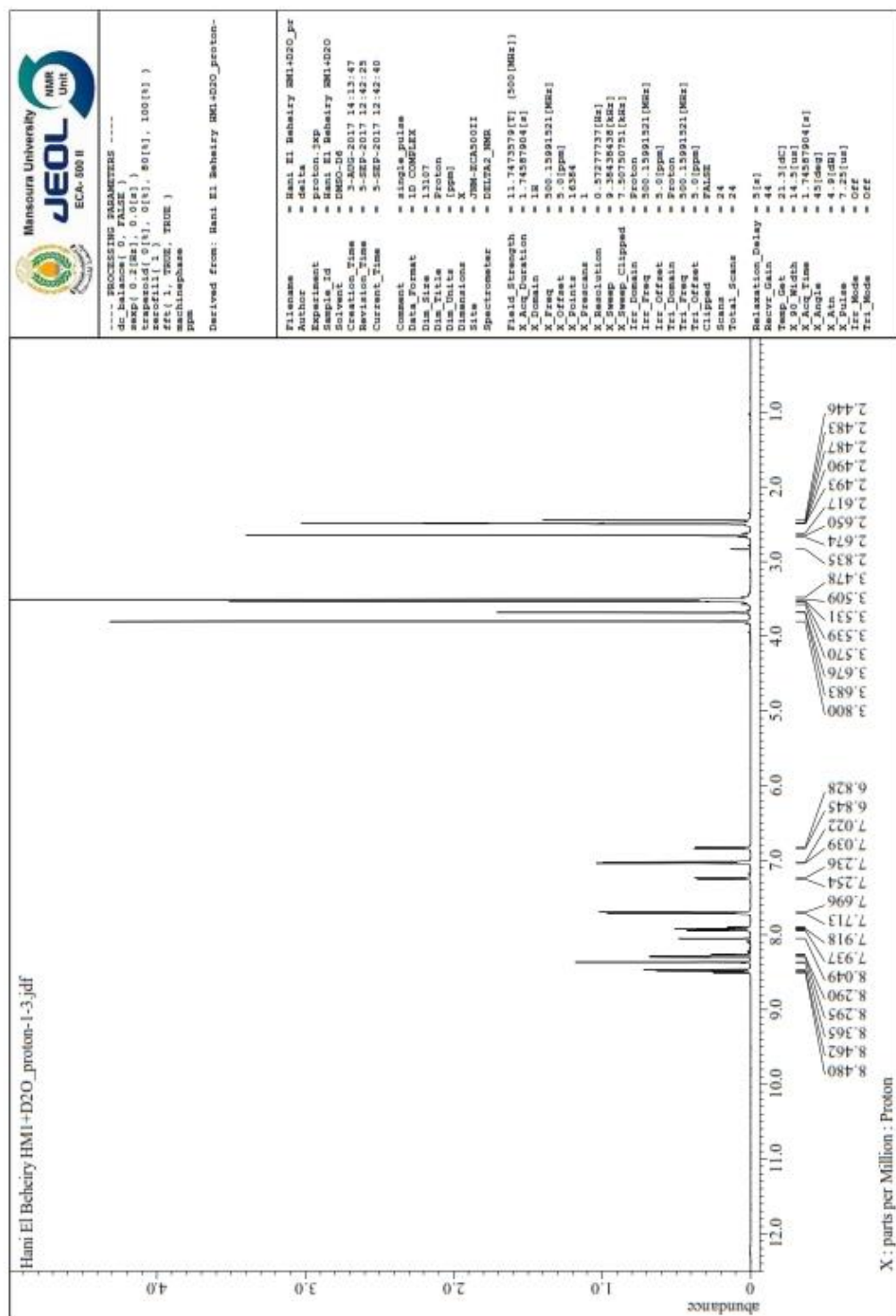


Figure S42. ^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$) ($\underline{\text{D}_2\text{O}}$) of compound **16b**.

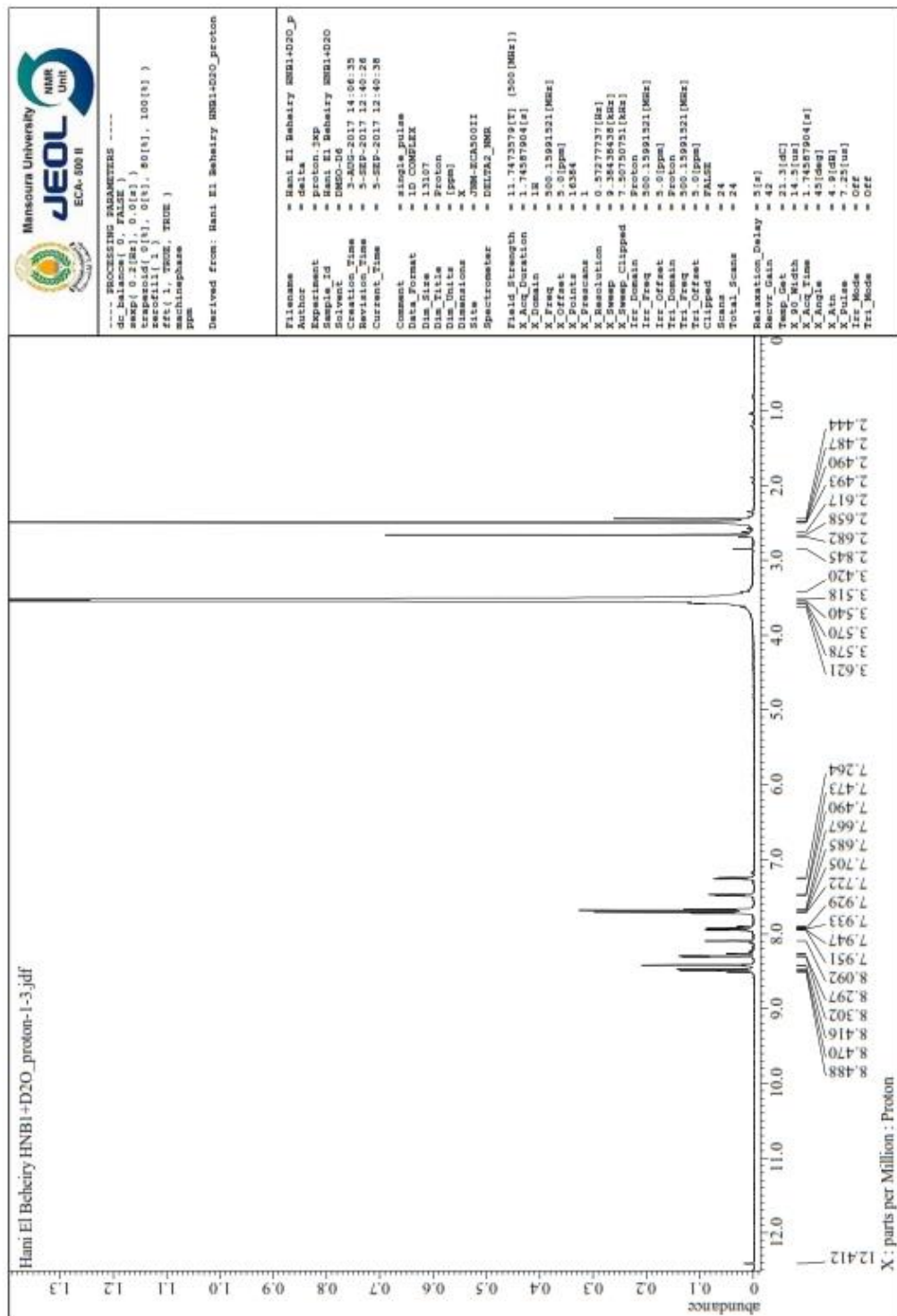


Figure S43. ^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$ (D_2O)) of compound **16d**.

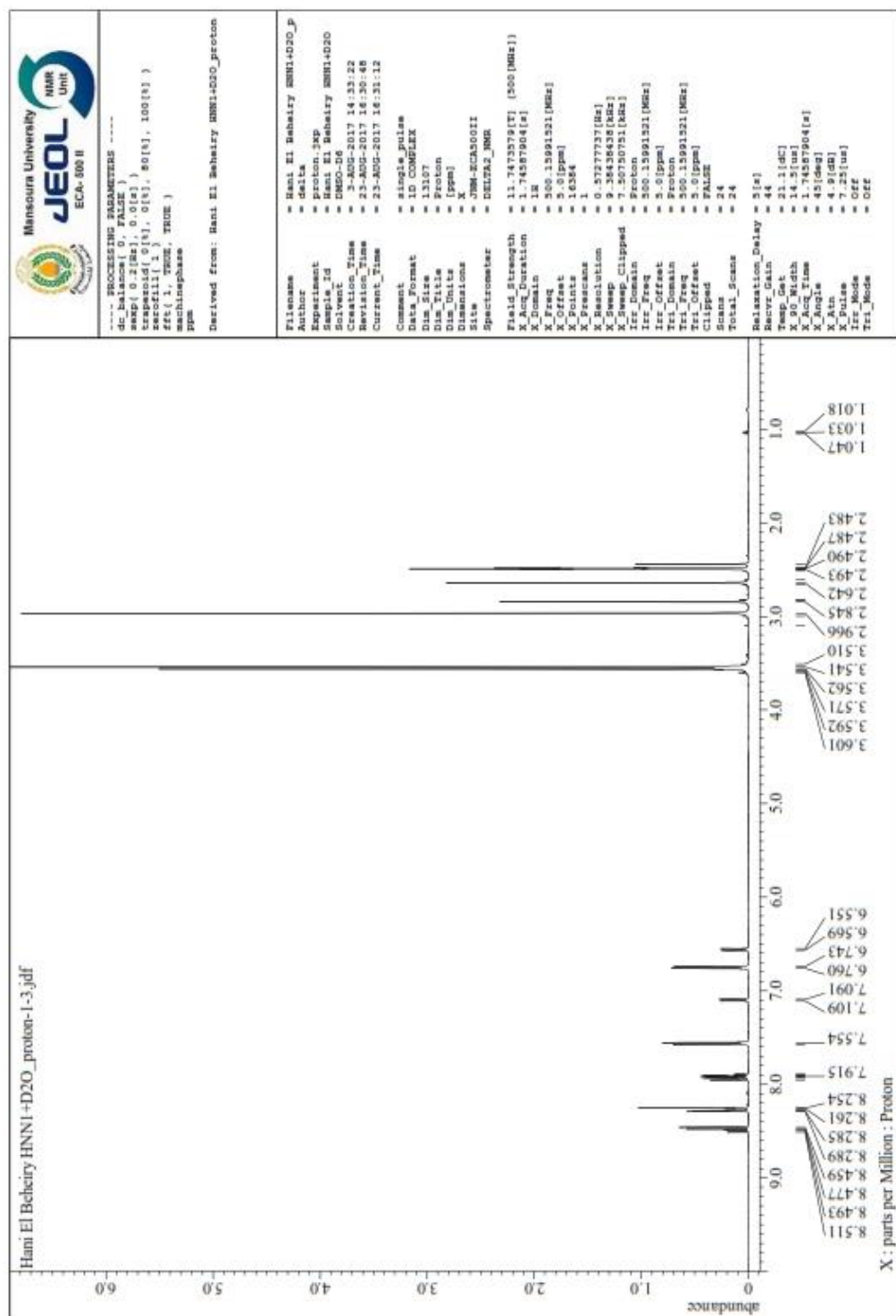


Figure S44. ^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$ (D_2O) of compound **16e**.

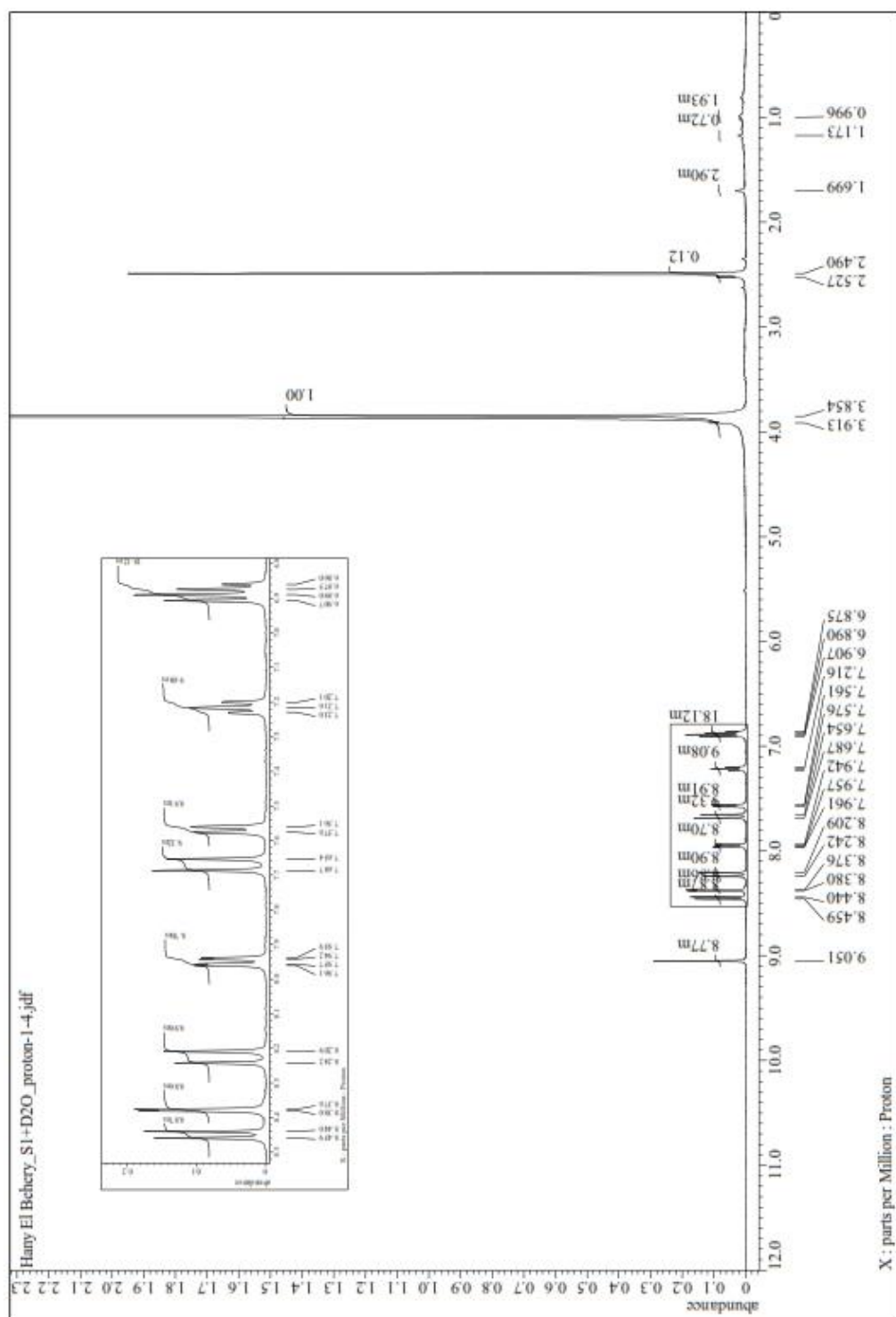


Figure S46. ^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$) (D_2O) of compound 12b.

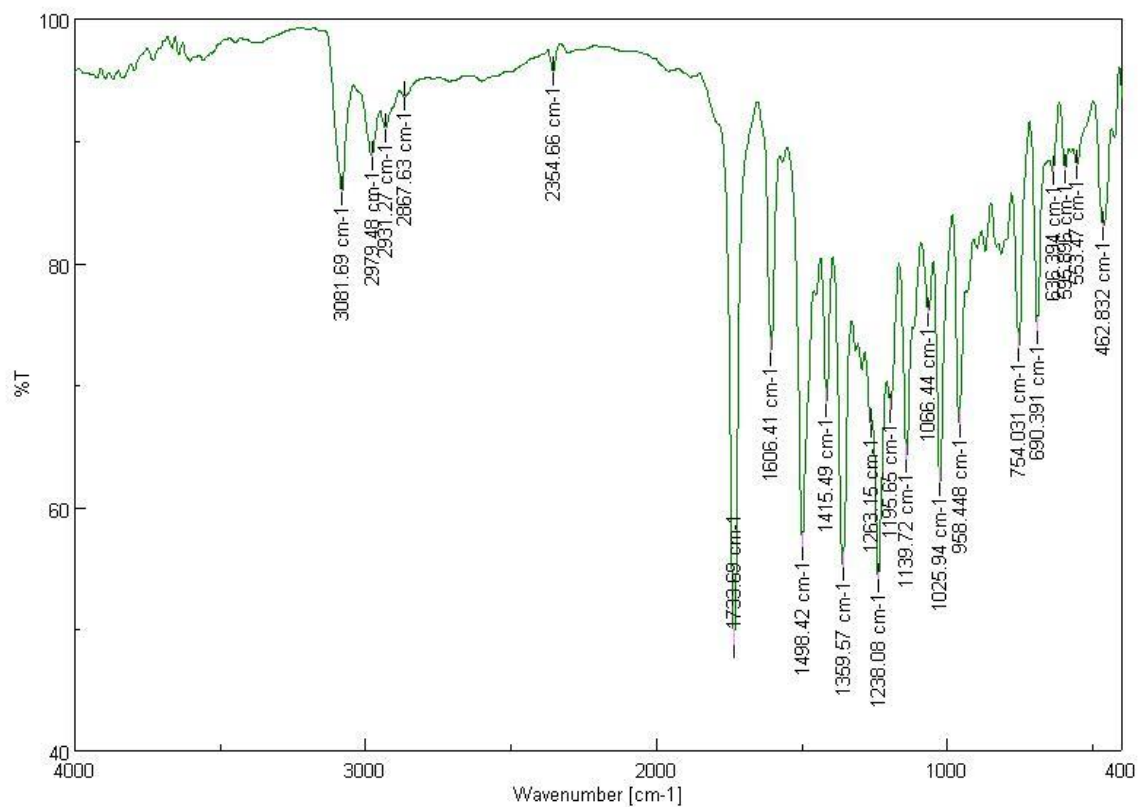


Figure S47. FTIR (KBr) spectrum of compound **11a**.

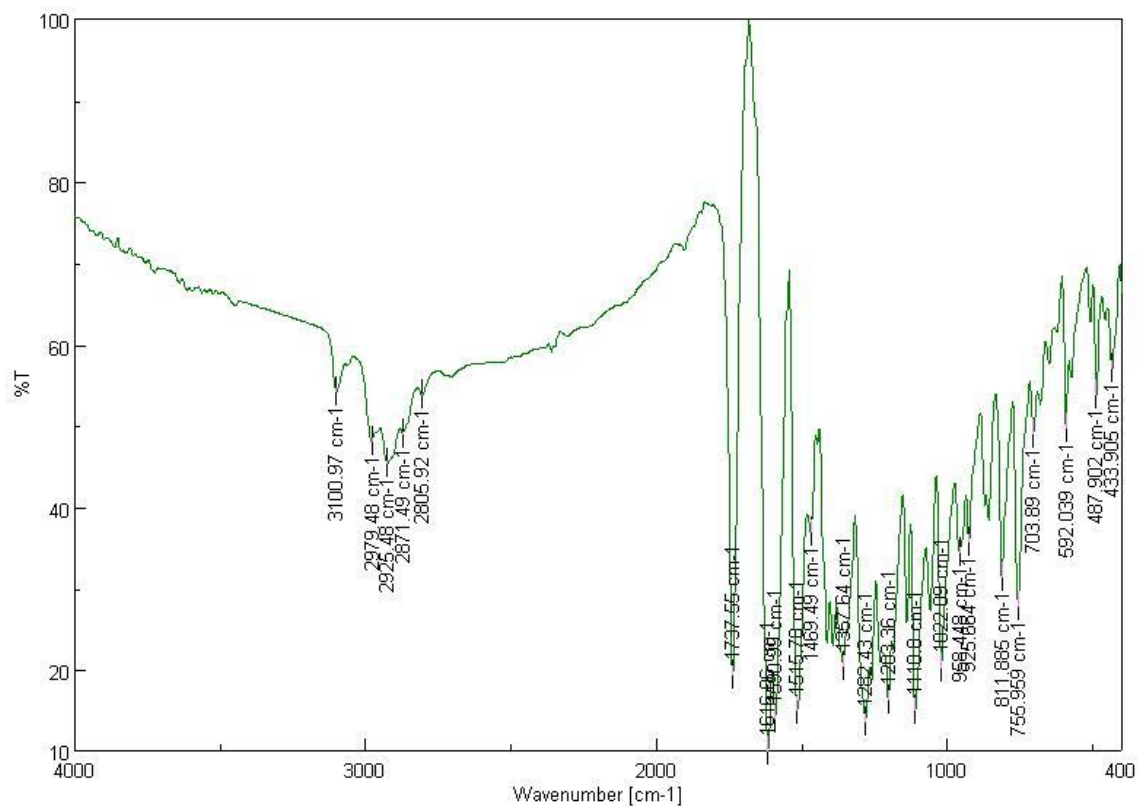


Figure S48. FTIR (KBr) spectrum of compound **8**.

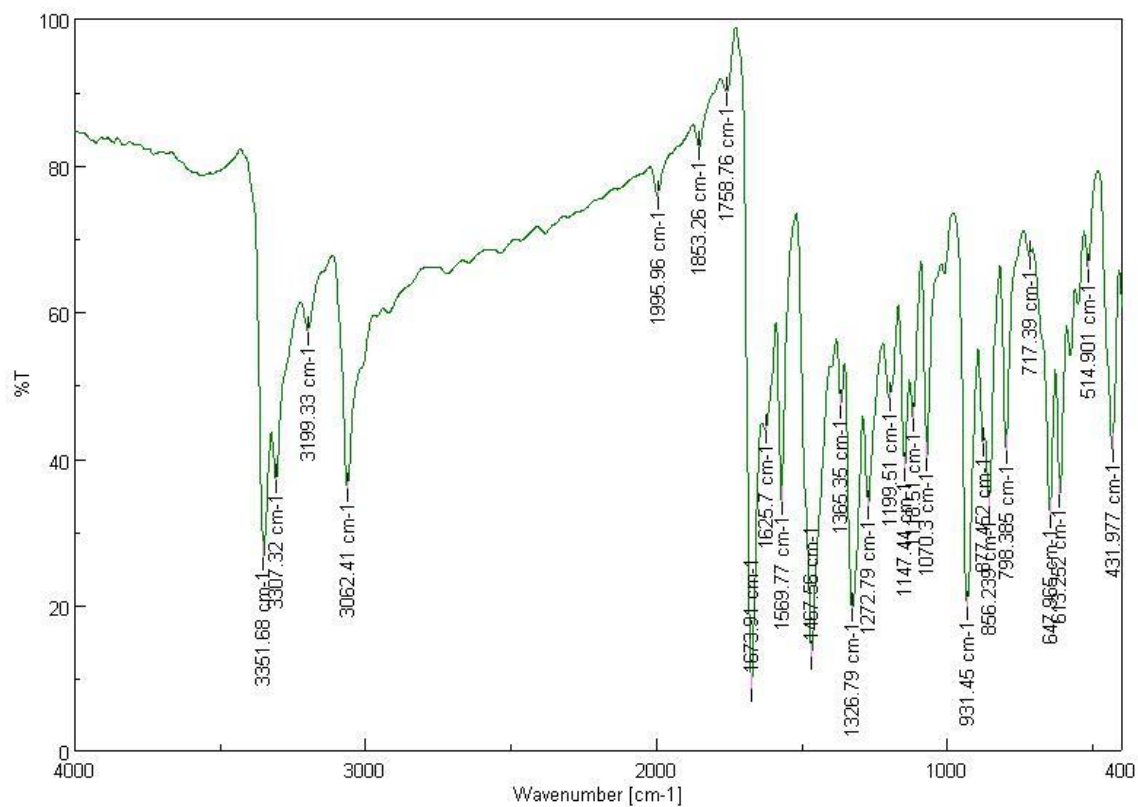


Figure S49. FTIR (KBr) spectrum of compound **13**.

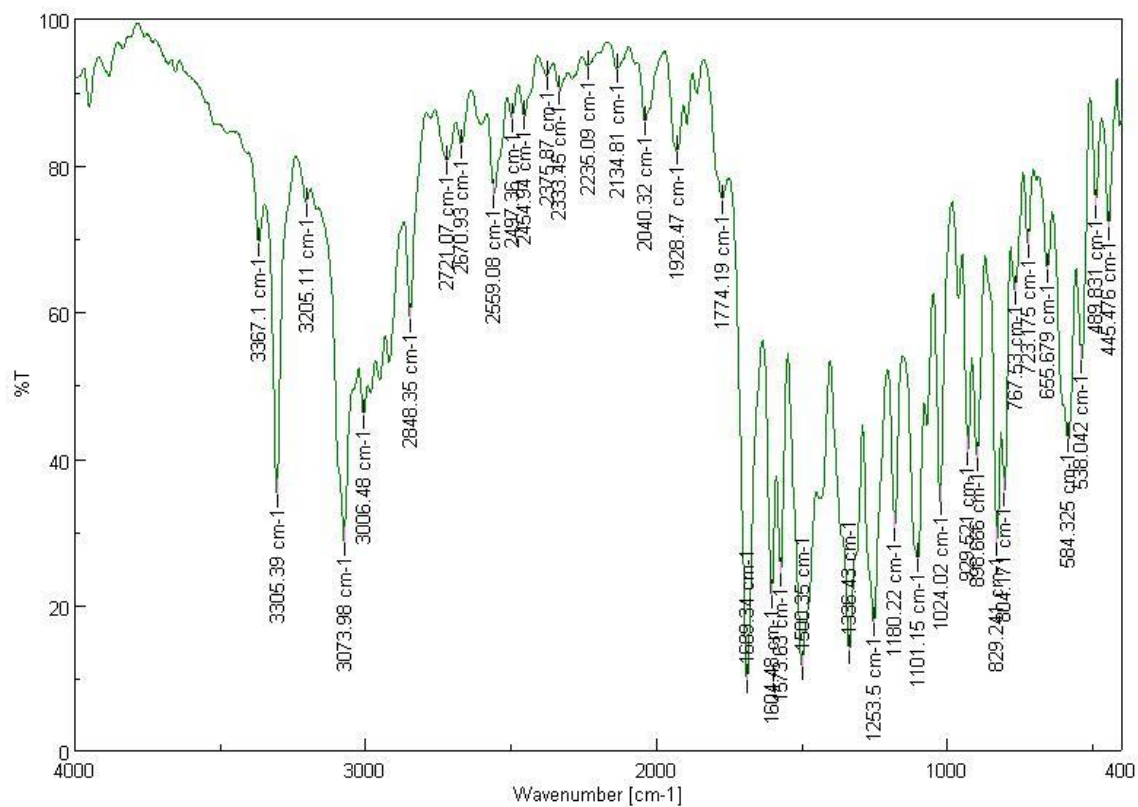


Figure S50. FTIR (KBr) spectrum of compound **16b**.

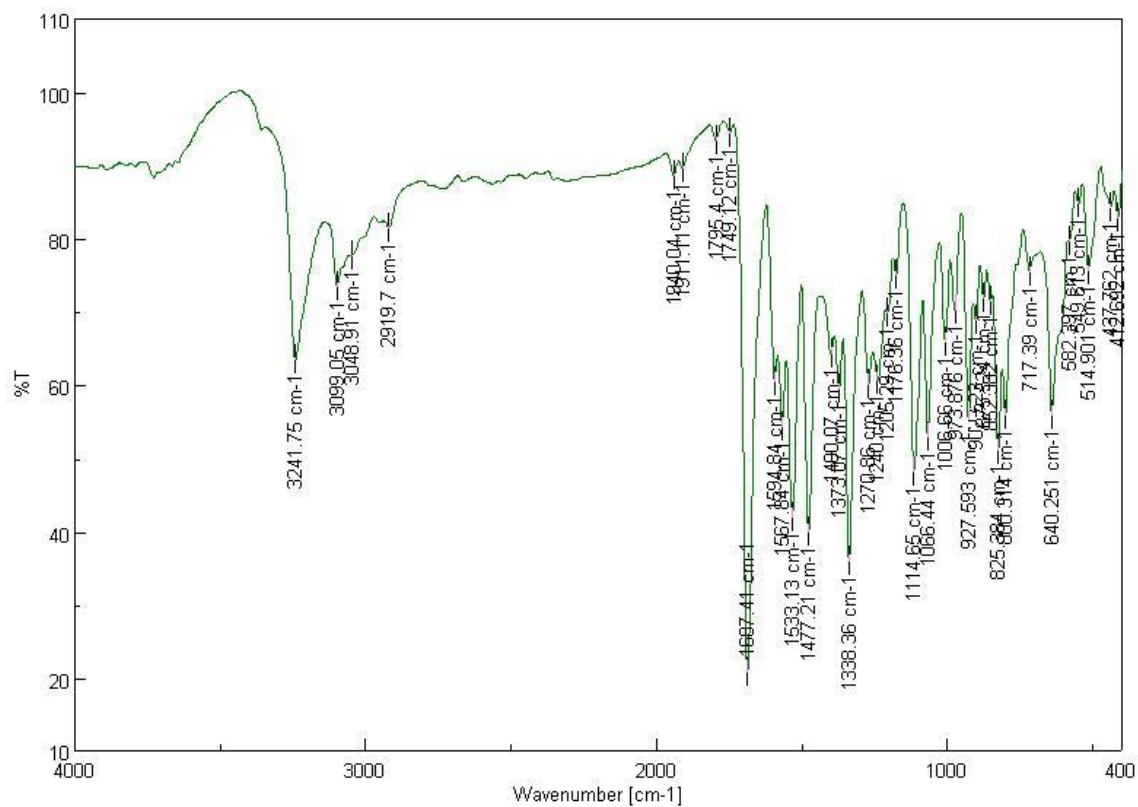


Figure S51. FTIR (KBr) spectrum of compound **16d**.

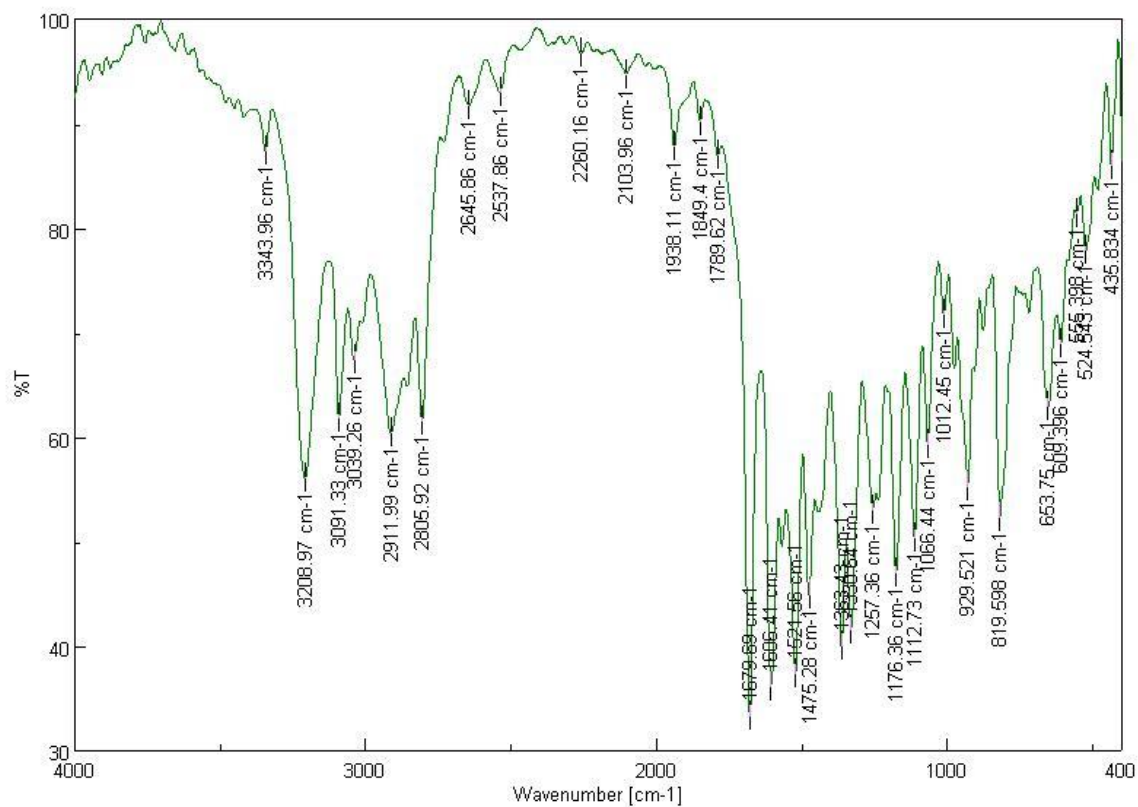


Figure S52. FTIR (KBr) spectrum of compound **16e**.

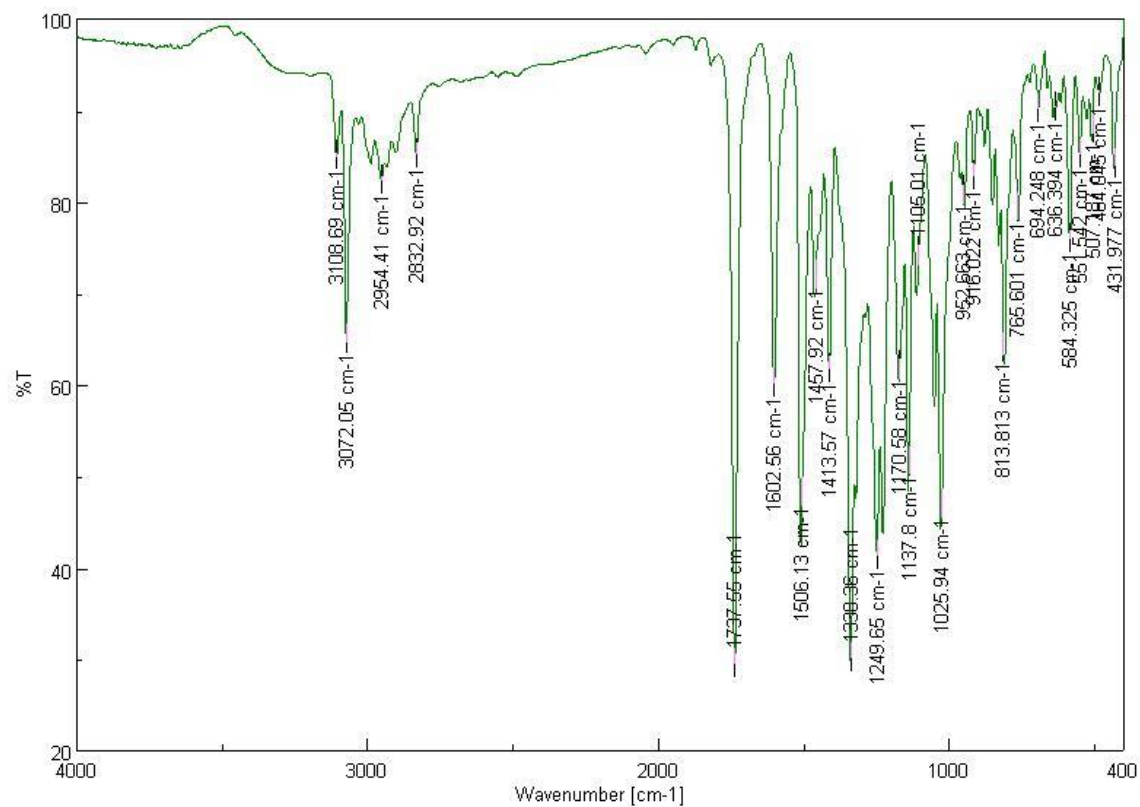


Figure S53. FTIR (KBr) spectrum of compound **11d**.

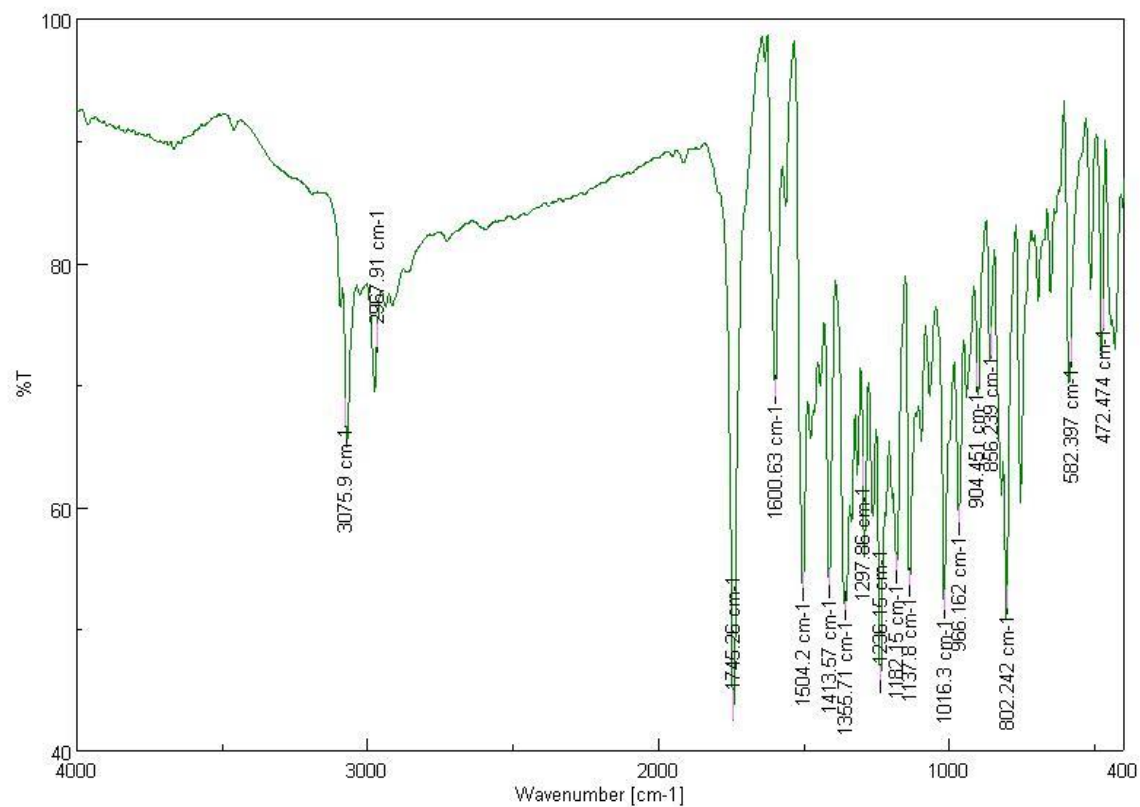


Figure S54. FTIR (KBr) spectrum of compound **11e**.

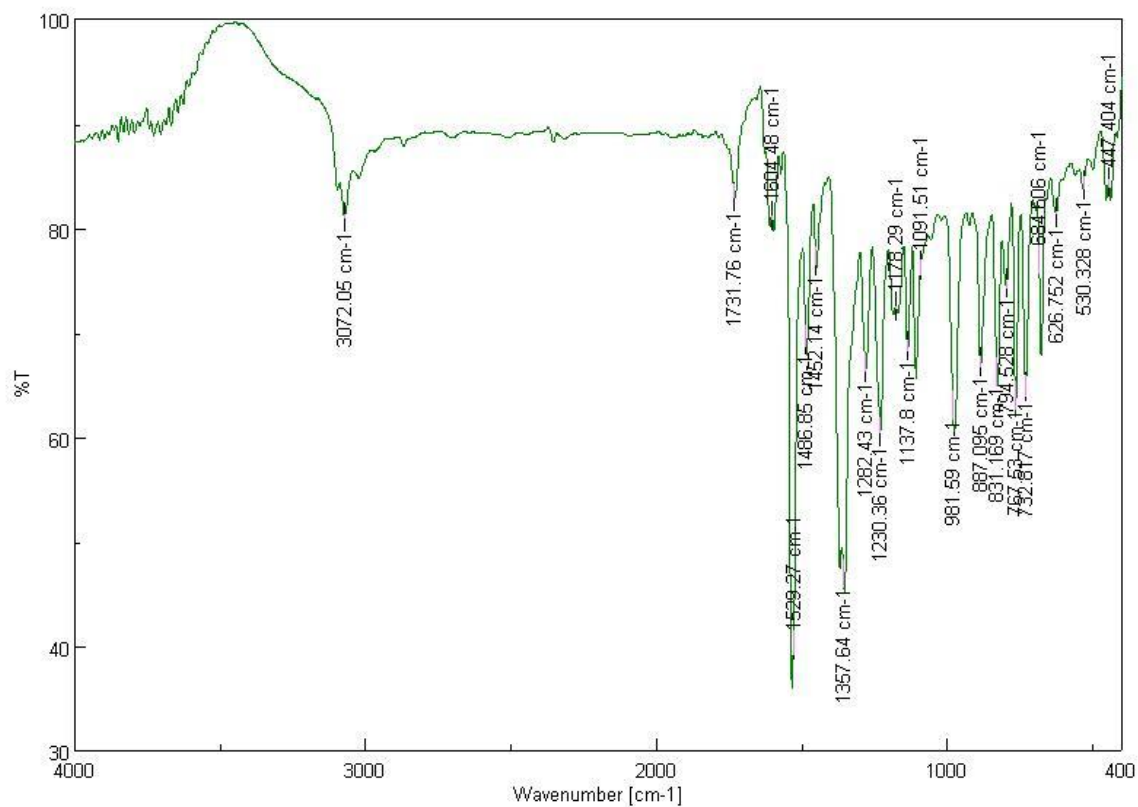


Figure S55. FTIR (KBr) spectrum of compound **12a**.

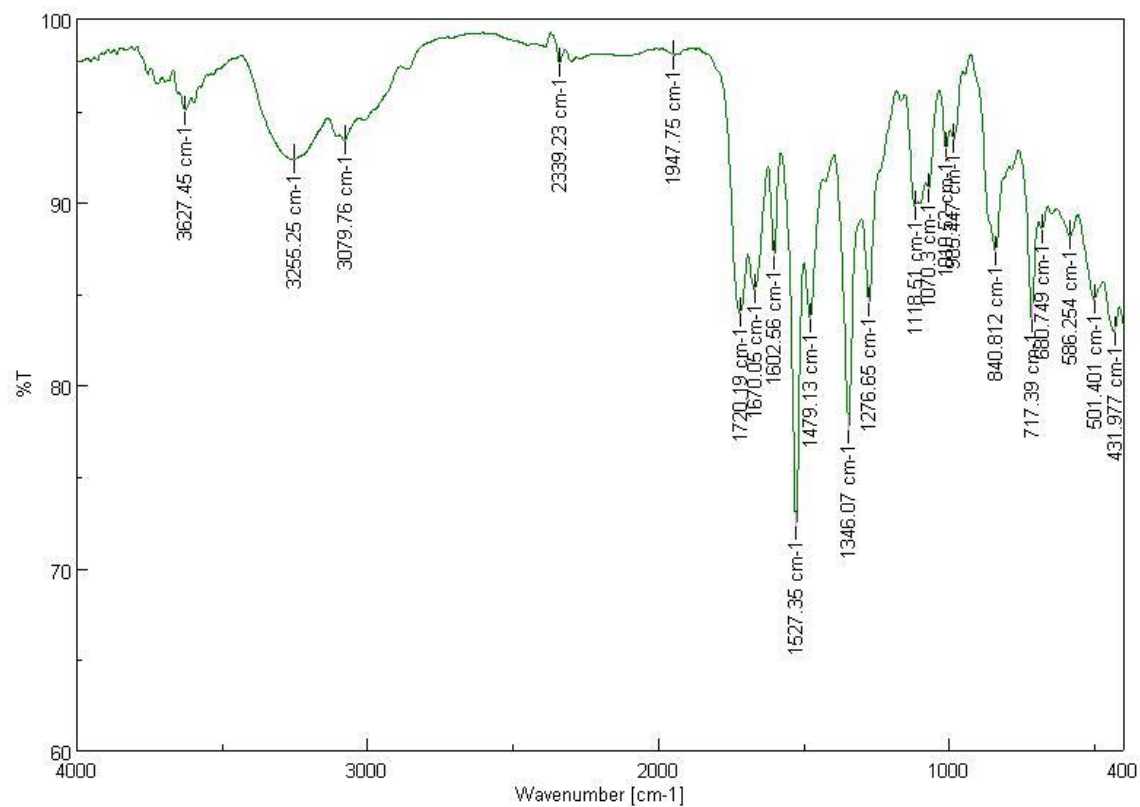


Figure S56. FTIR (KBr) spectrum of compound 15.

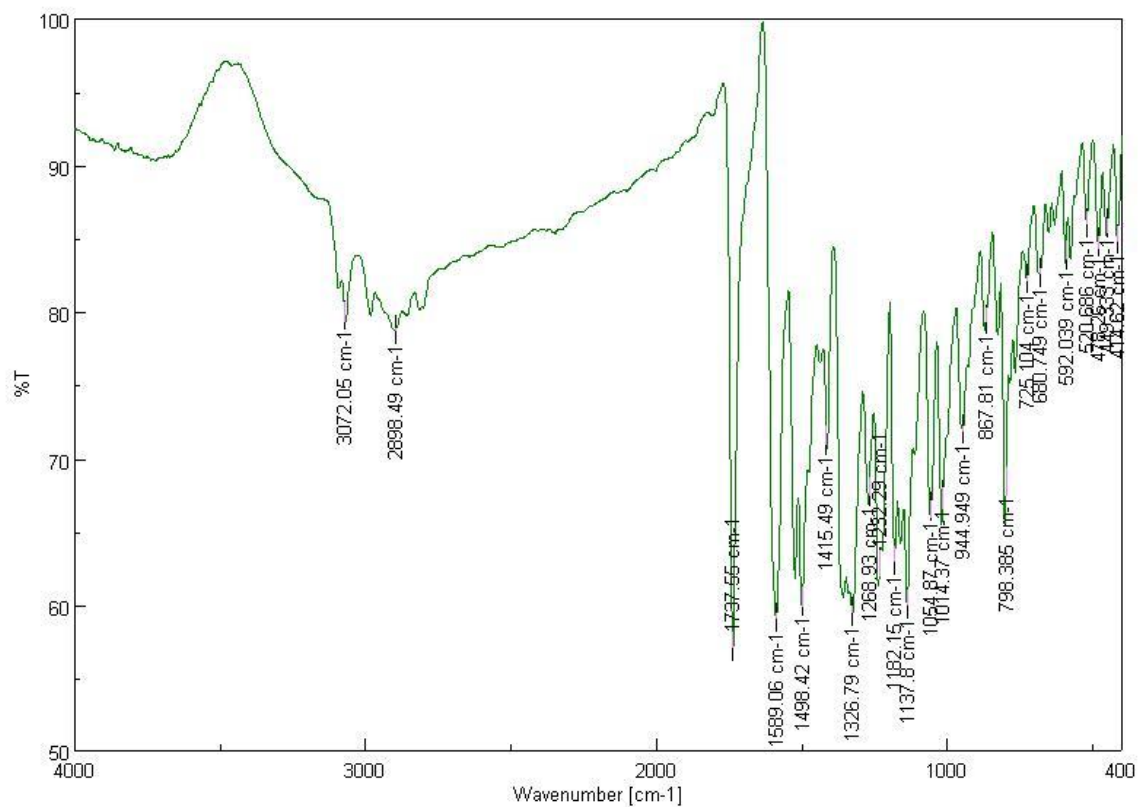


Figure S57. FTIR (KBr) spectrum of compound **11c**.

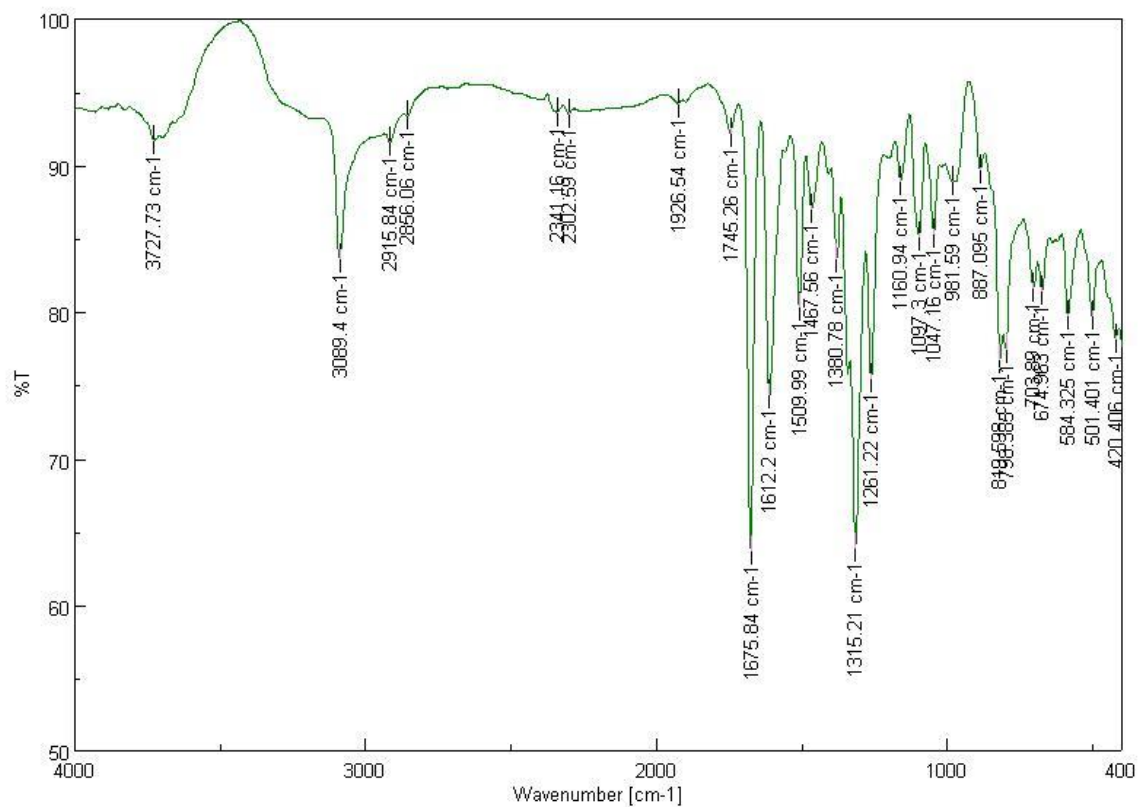


Figure S58. FTIR (KBr) spectrum of compound **10b**.