

Highly *N*-methylated Linear Peptides Produced by an Atypical Sponge-derived *Acremonium* Strain

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Figure S1: Flow chart indicating the isolation scheme and potency for active fractions from 021172cKZ.

Figure S2a: FAB-MS of **3** (*m/z* 500-2100).

Figure S2b: FAB-MS of **3** (*m/z* 100-480).

Figure S3: ¹H NMR spectrum for **3**.

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Figure S7: gHMBC spectrum for **1**.

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Figure S10: gCOSY spectrum for **1**.

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Figure S12: ¹H NMR spectrum for **2**.

Figure S13: ¹³C NMR spectrum for **2**.

Figure S14: gHMBC spectrum for **2**.

Figure S15: Expanded regions of gHMBC spectrum for **2** a.) alpha protons with aliphatic carbons b.) alpha and aliphatic protons with carbonyl carbons.

Figure S16: Expansion of upfield region of gHMBC spectrum for **2**.

Figure S17: gCOSY spectrum for **2**.

Figure S18: TOCSY spectrum for **2**.

Figure S19: ¹H NMR (DMSO-*d*₆, 500 MHz) of selected regions for RHM1 (**1**) and RHM2 (**2**) illustrating the presence of rotational isomers (codes show rotamers A-D).

Figure S20: Selected regions of ¹³C NMR (125 MHz, DMSO-*d*₆) illustrating rotational isomers for RHM1 (**1**) and RHM2 (**2**).

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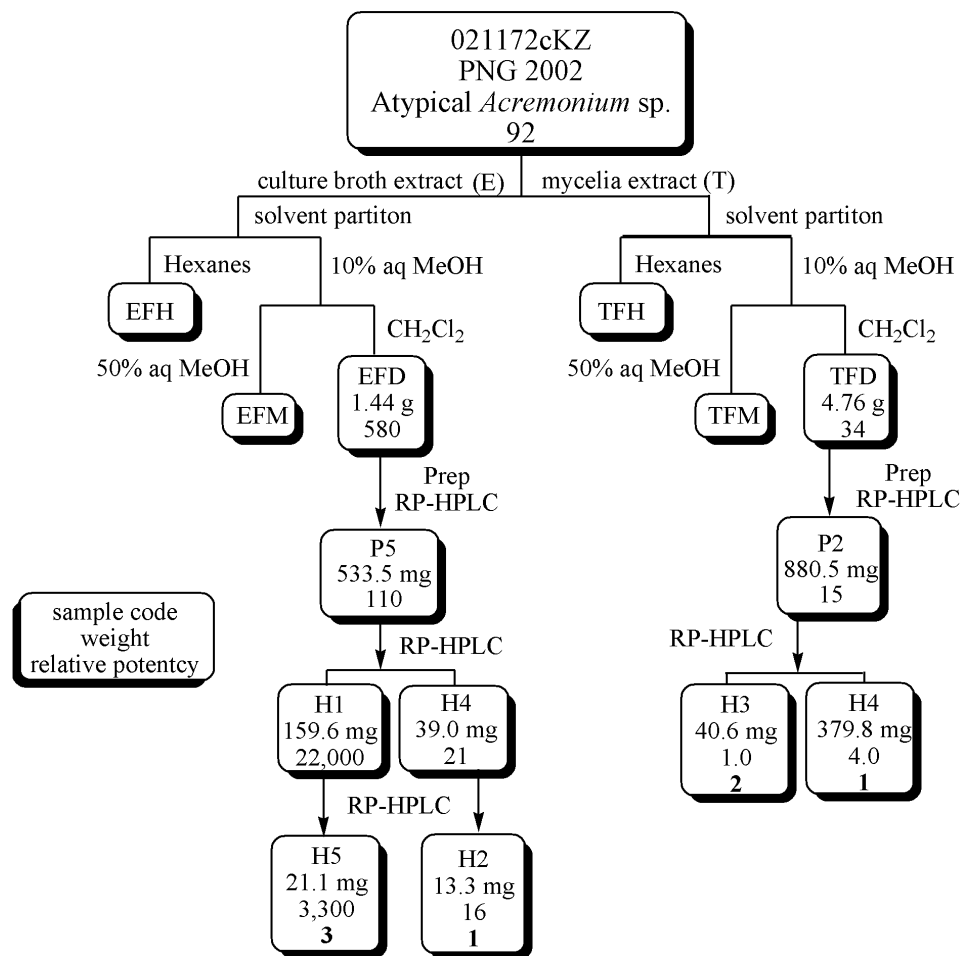


Figure S1. Flow chart indicating the isolation scheme and potency for active fractions from 021172cKZ. The potency value was calculated by dividing the reciprocal of dilution required for a 500 zone units of inhibition by the concentration of the sample in mg/ml $\times 100$. The relative potency was calculated by setting the value for **2** as 1.0.

[Mass Spectrum]
 Data : J5.1075-001 Date : 01-Jul-2005 14:21
 Sample: 021172cKZEFOP5H115
 Note : in NBA
 Inlet : Reserv. Ion Mode : FAB+
 Spectrum Type : Normal Ion [MF-Linear]
 RT : 0.46 min Scan# : (1,6)
 BP : m/z 1648.9763 Int. : 59.84
 Output m/z range : 500.0000 to 2100.0000 Cut Level : 0.00 %
 3714309

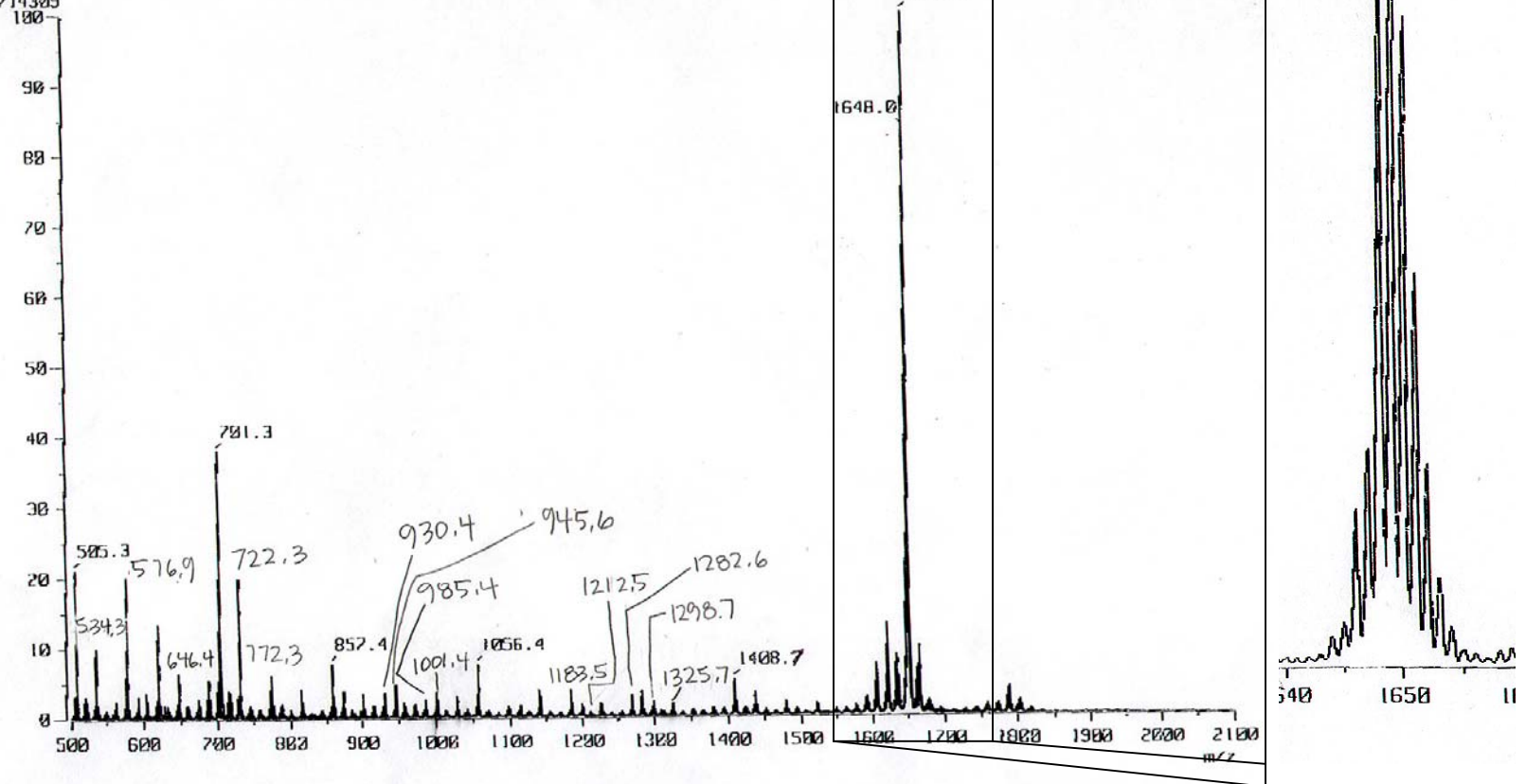


Figure S2a. FAB-MS of 3 (m/z 500-2100).

[Mass Spectrum]
Data : JS.1875-002 Date : 01-Jul-2005 14:23
Sample: 021172cKZEFDP5H1H5
Note : an NDA
Inlet : Direct Ion Mode : FAB+
Spectrum Type : Normal Ion [MF-Linear]
RT : 0.94 min Scan# : (1,10)
BP : m/z 125.0352 Int. : 2.17
Output m/z range : 100.0000 to 483.2344 Cut Level : 0.00 %

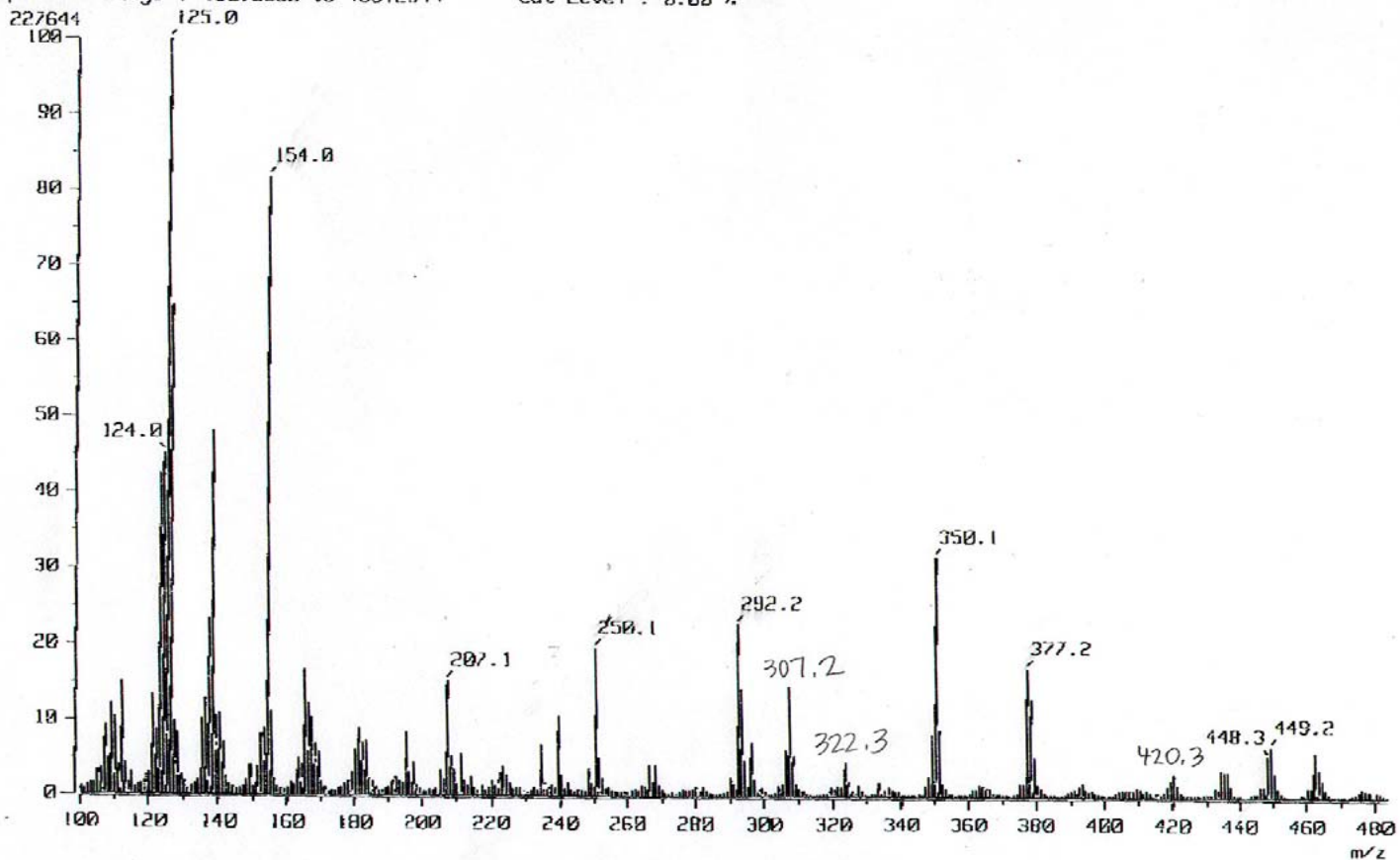


Figure S2b. FAB-MS of 3 (m/z 100-480).

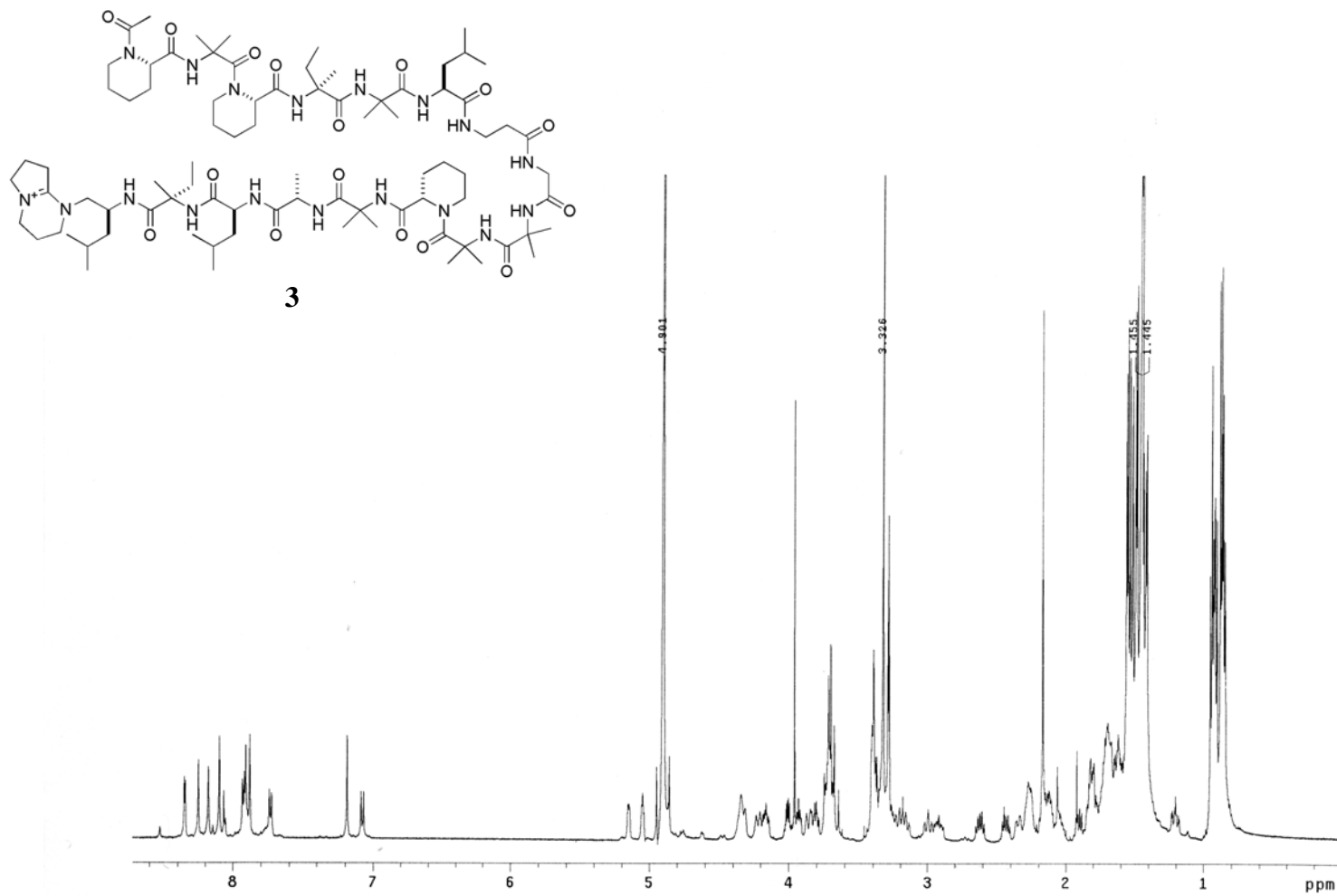


Figure S3. ¹H NMR for efrapeptin G (3).

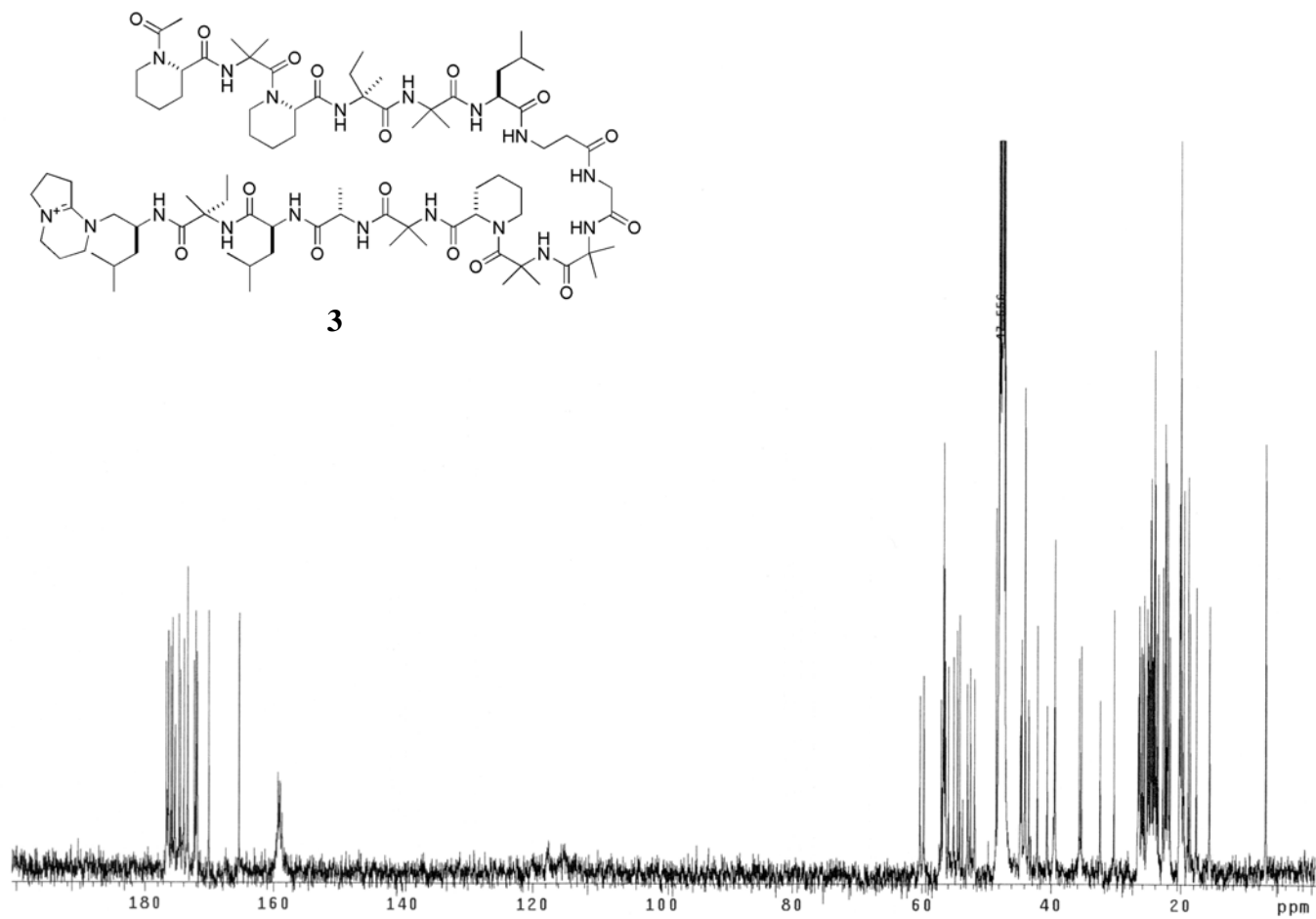


Figure S4. ^{13}C NMR for efrapeptin G (**3**).

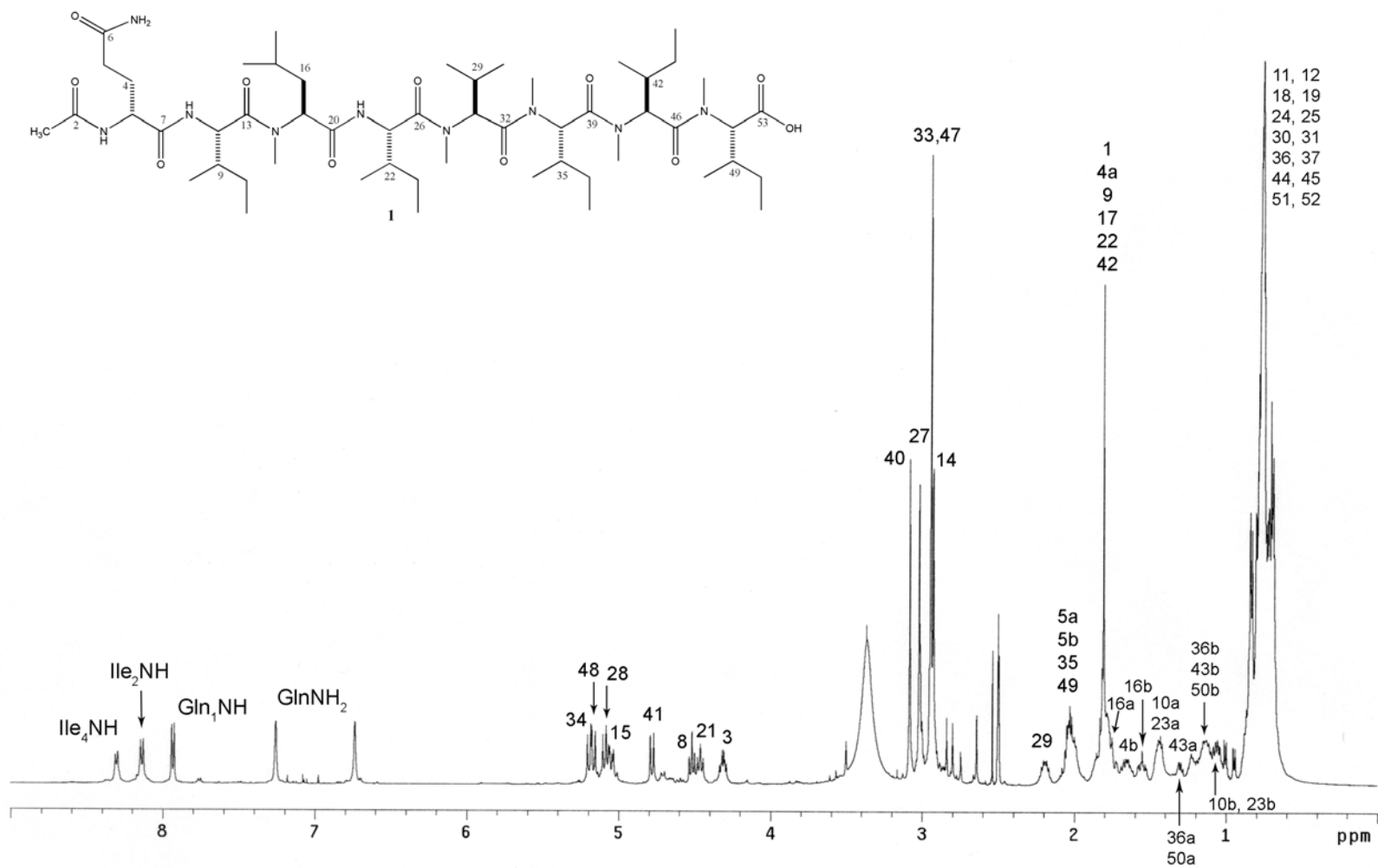


Figure S5. ¹H NMR spectrum for **1**.

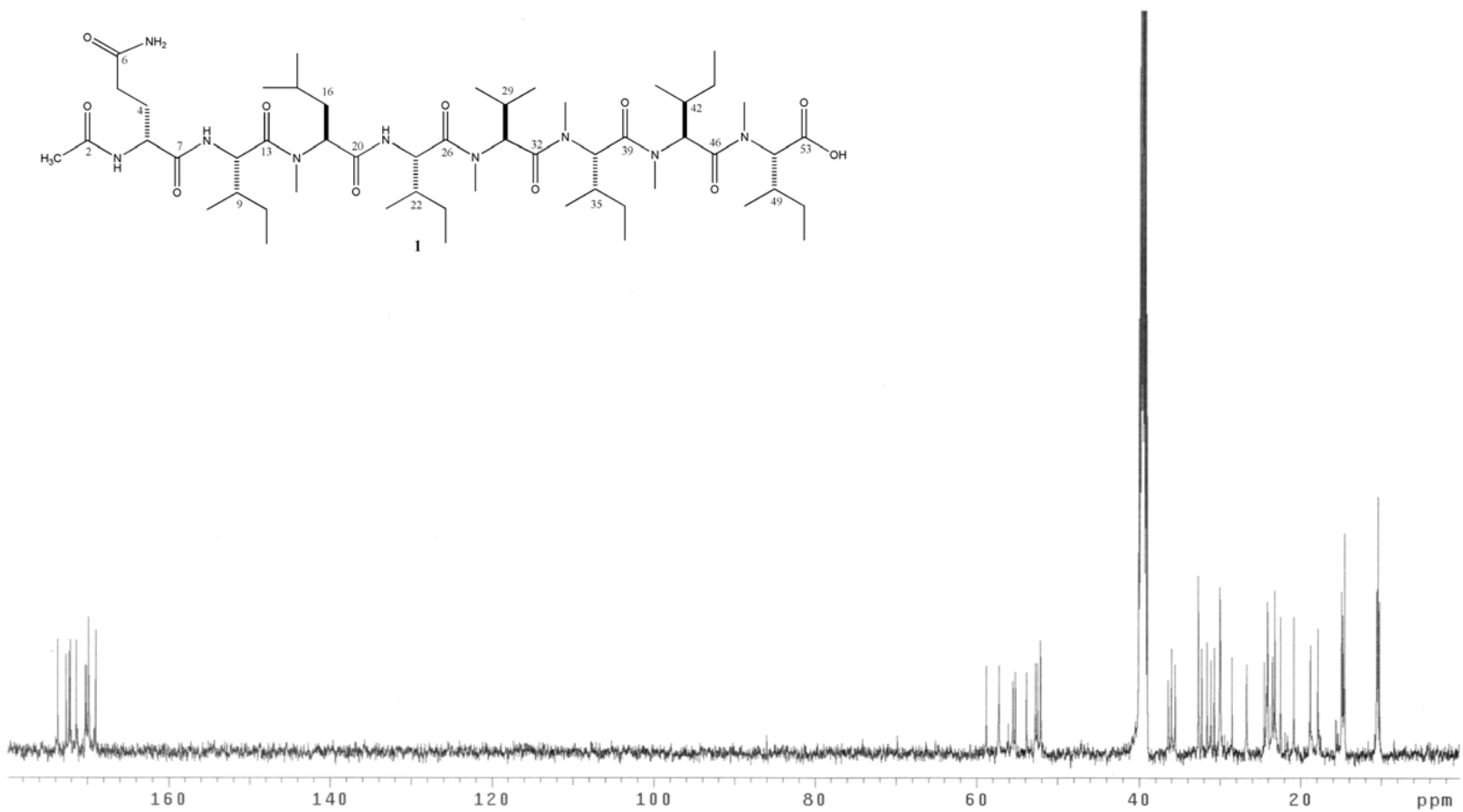
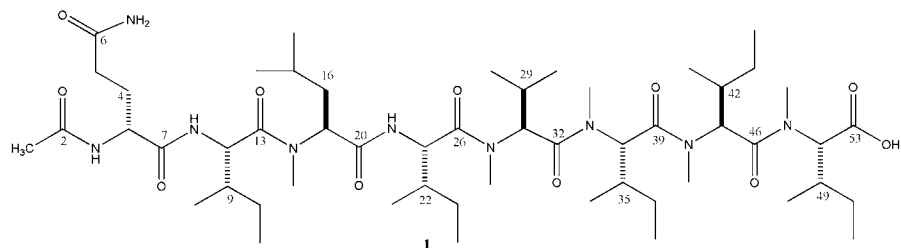


Figure S6. ^{13}C NMR spectrum for **1**.



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pp      2048  9514  40
f0      4200  5210  0
ss      32  GRADIENTS  0
d1      1.000  0.1411  0.001000
n2  ACQUISITION  70  0.1113  0.001000
sw1     32000.0  0.13  0.001000
n1      300  0.5tab  0.000500
phase   0  F2 PROCESSING  1.2
tr      TRANSMITTER  0  0.012
tfa     499.786  f0  2048
tof     -366.0  f1  PROCESSING
fmer     6.500  sb13  not used
pw      DECOUPLER  f01  102.4
dn      C13  0  DISPLAY  102.4
dof     0  0  -1617.8
dm     0  0  -2489.2
dms     0  0  -4157.9
dof     24800  0.1  32000.0
dmer     0  0  2846.2
pwr     0  0  1548.4
dwx     11.000  rf1  0118.3
j1xh    HMBC  140.0  rfp1  4960.4
jnxh     8.0  wc  170.0
          sc  0
          wc2  110.0
          sc2  0
          vs  1.92325e+07
          tr  2
          at  av
  
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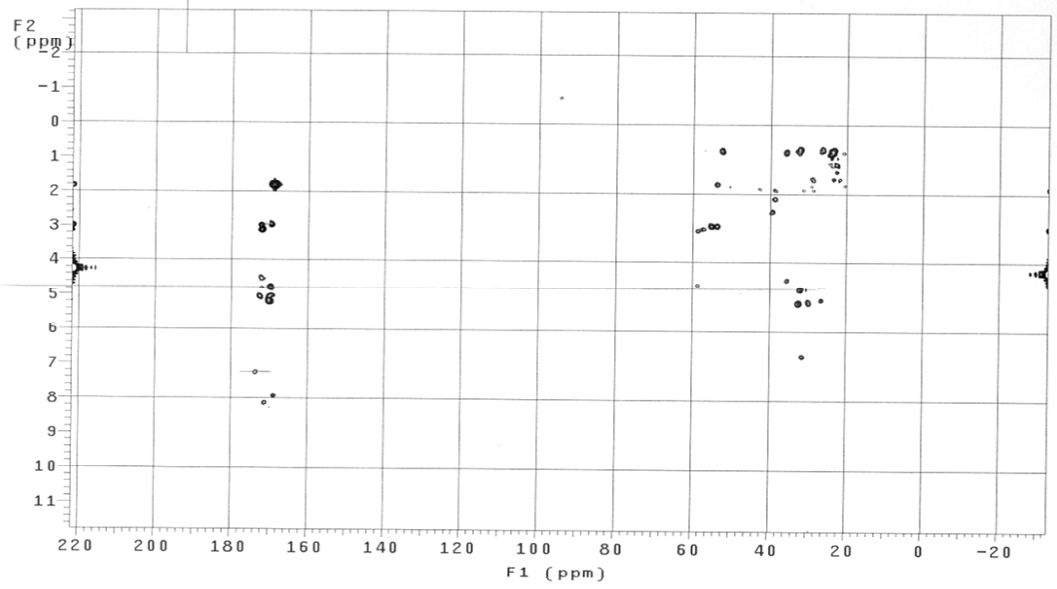
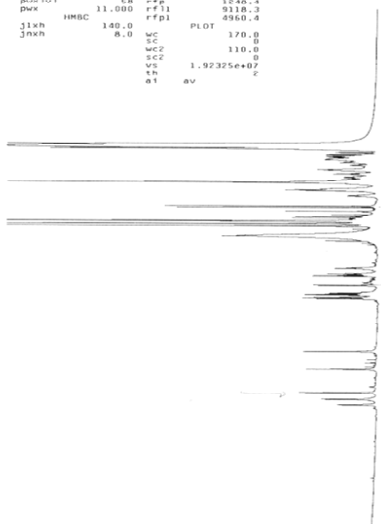
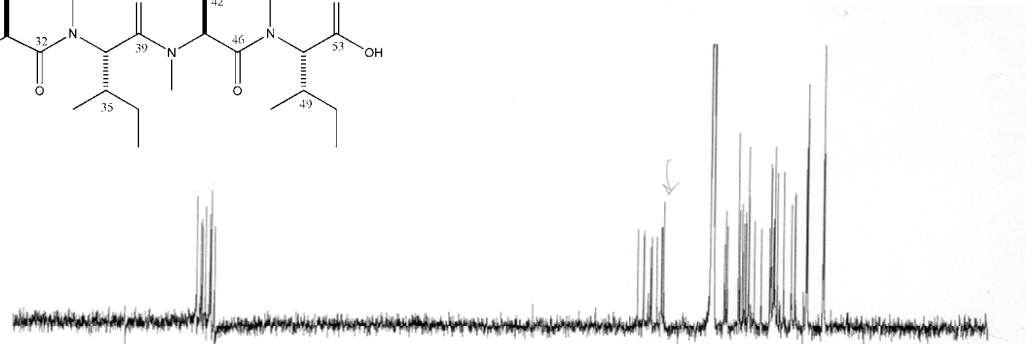


Figure S7. gHMBC spectrum for **1**.

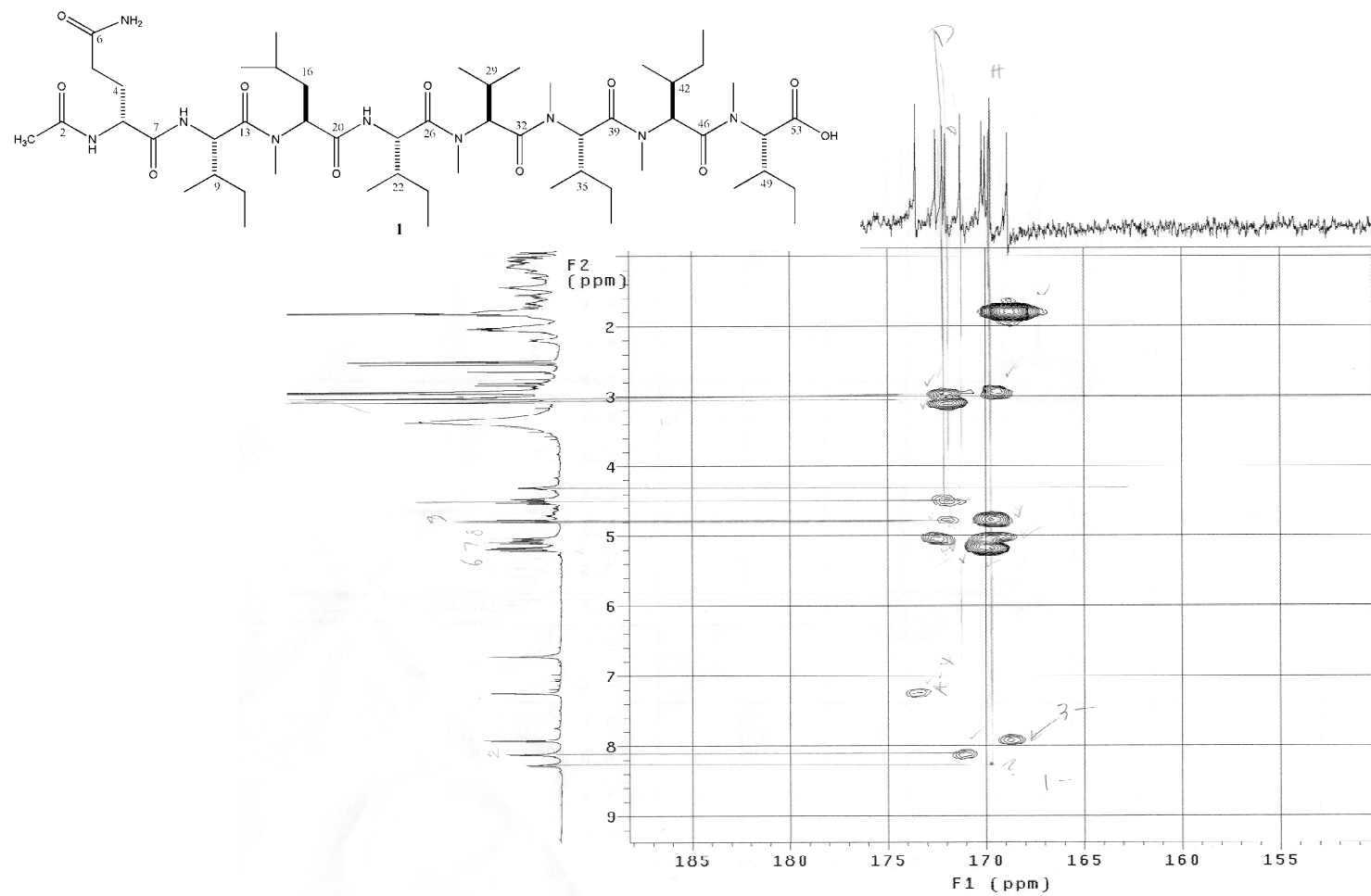


Figure S8. Expansion of downfield region of gHMBC spectrum for **1**.

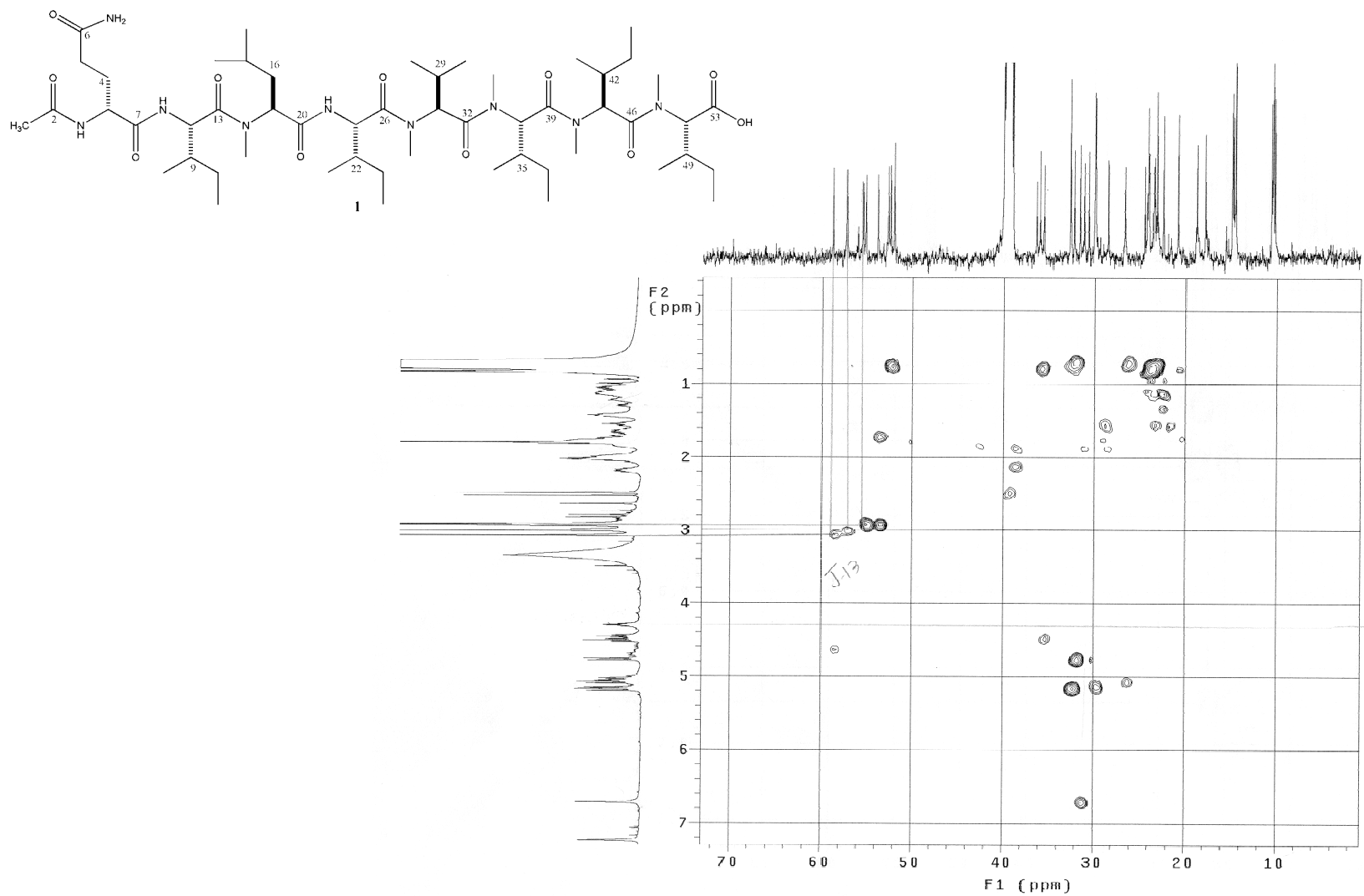


Figure S9. Expansion of upfield region of gHMBC spectrum for **1**.

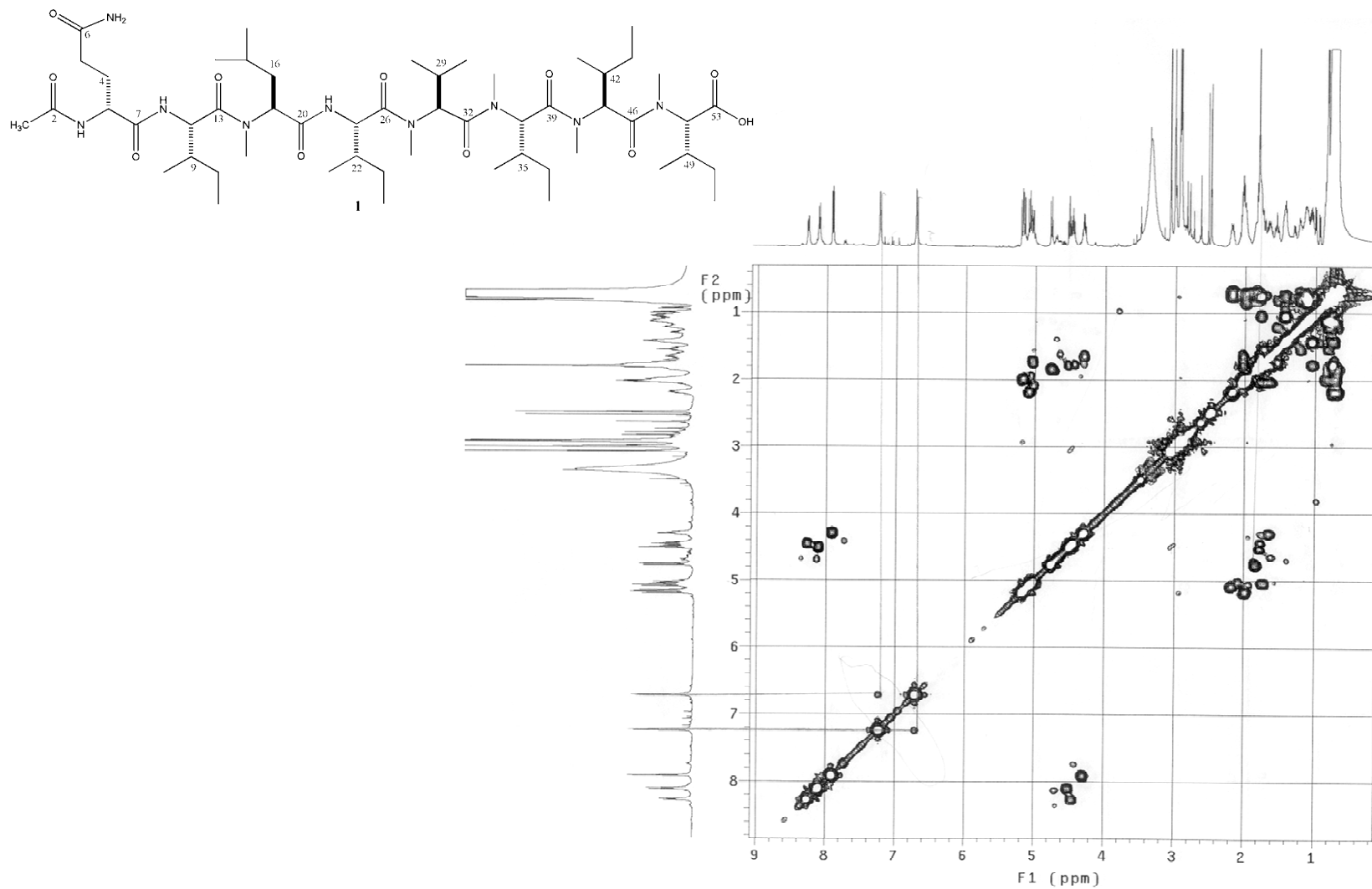


Figure S10. gCOSY spectrum for **1**.

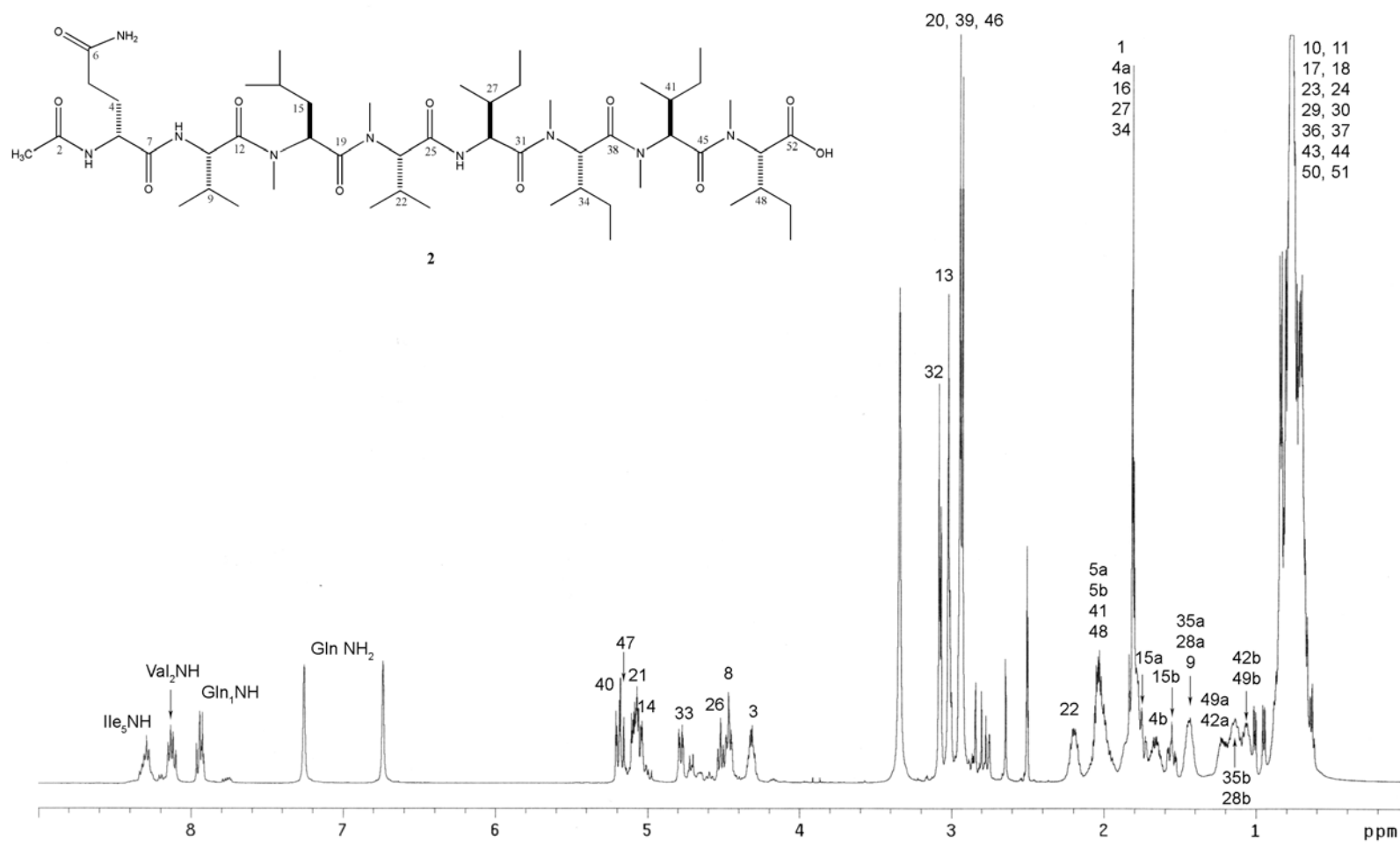
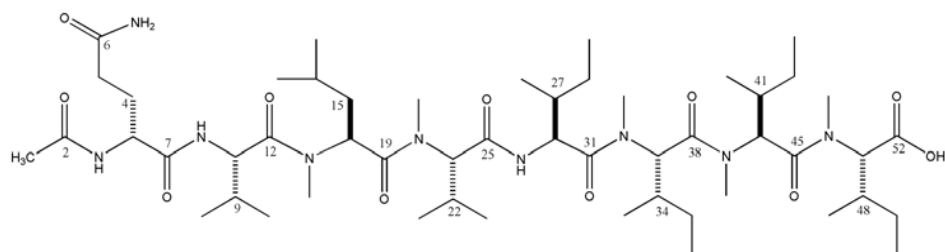


Figure S12. ¹H NMR spectrum for **2**.



2

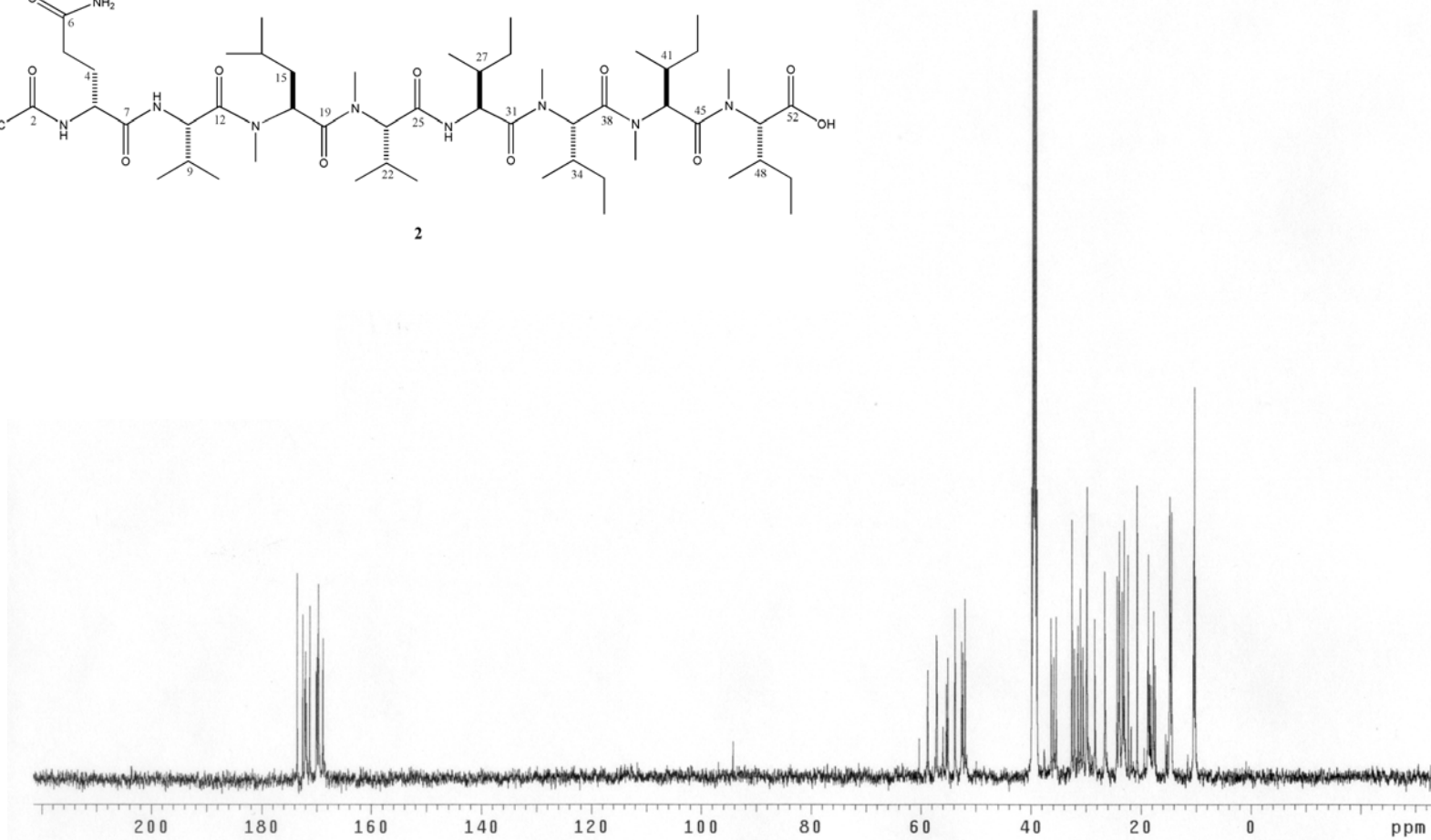


Figure S13. ^{13}C NMR Spectrum for **2**.

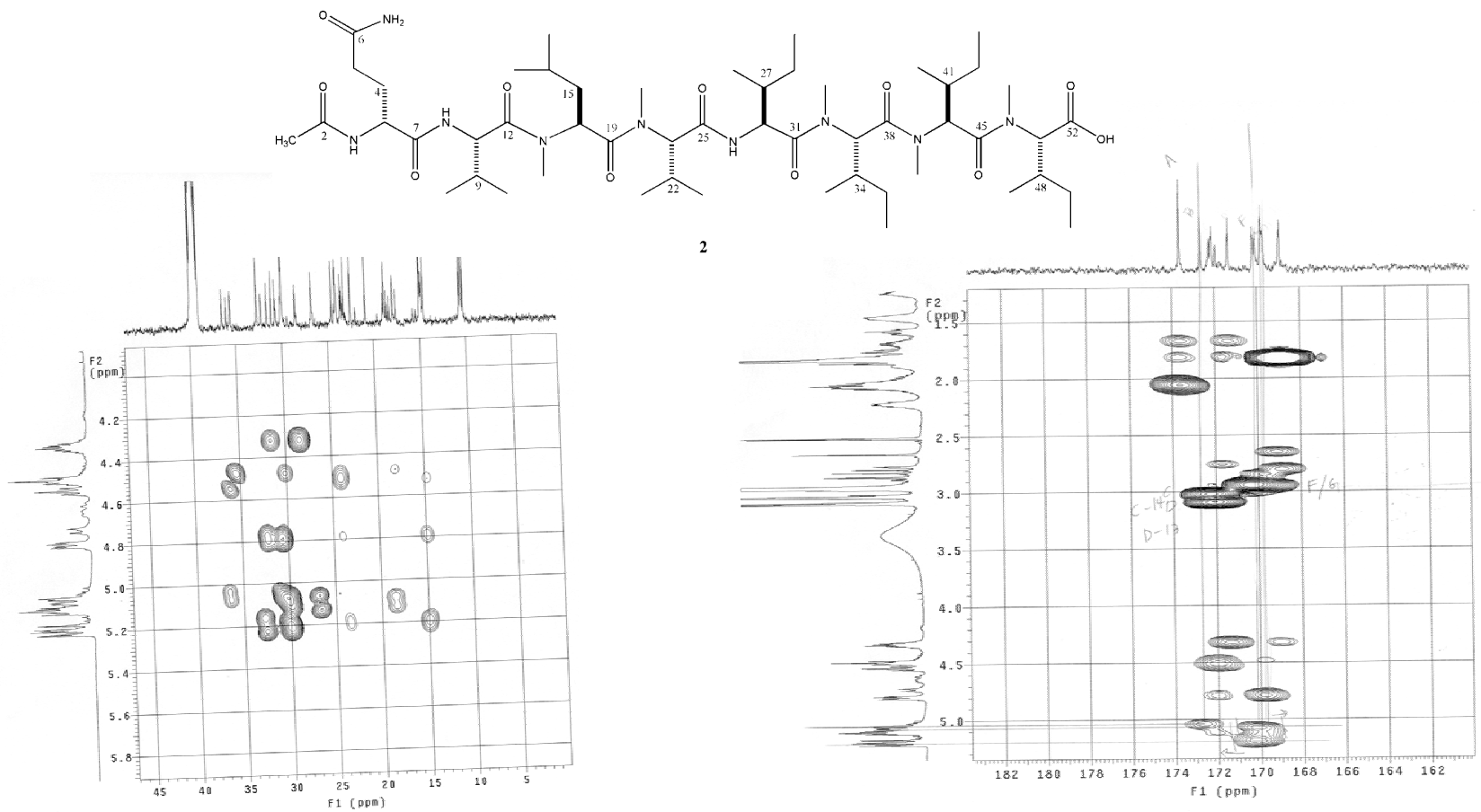


Figure S15. Expanded regions of gHMBC spectrum for **2** a.) alpha protons with aliphatic carbons b.) alpha and aliphatic protons with carbonyl carbons.

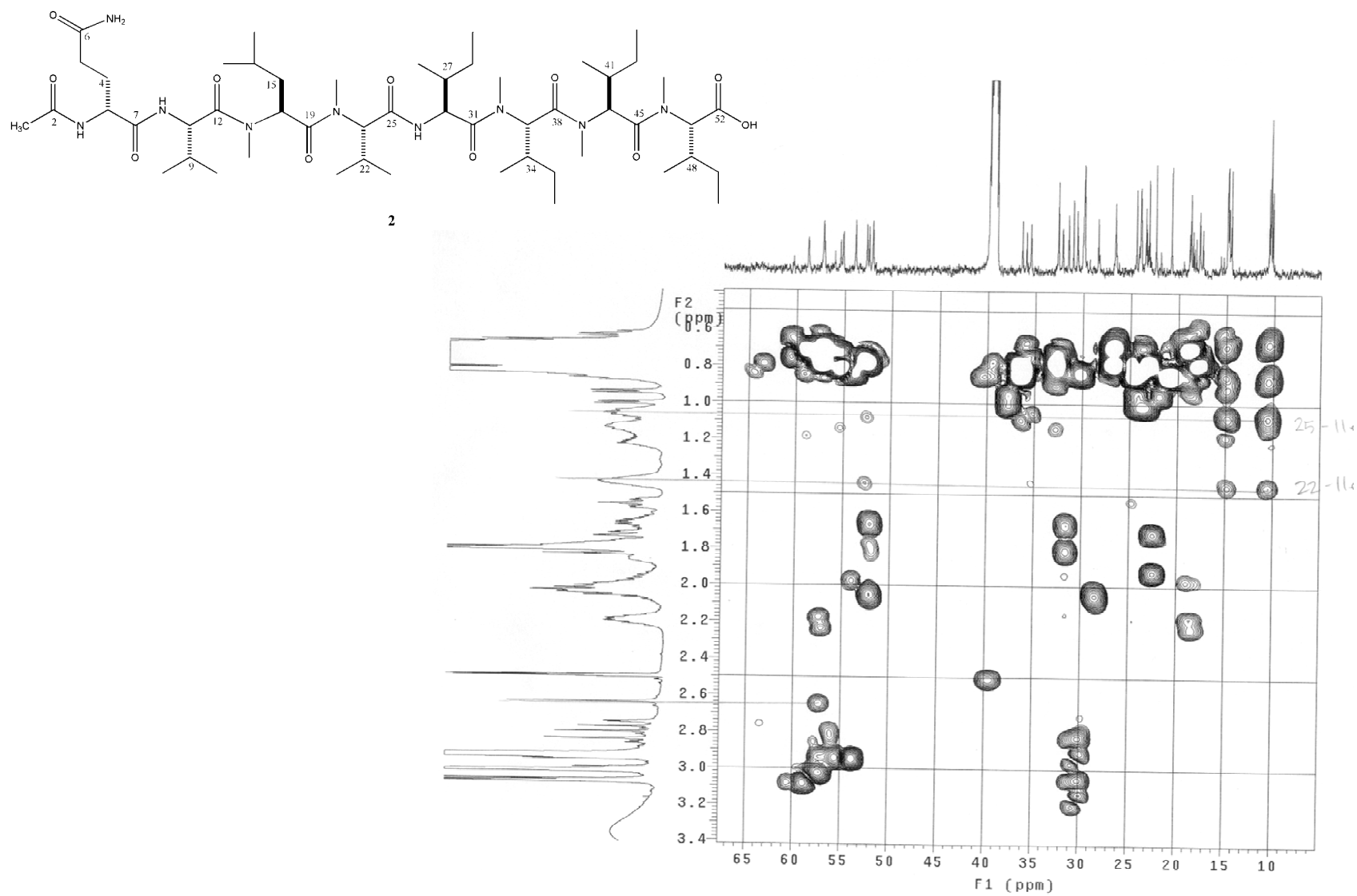


Figure S16. Expansion of upfield region of gHMBC spectrum for **2**.

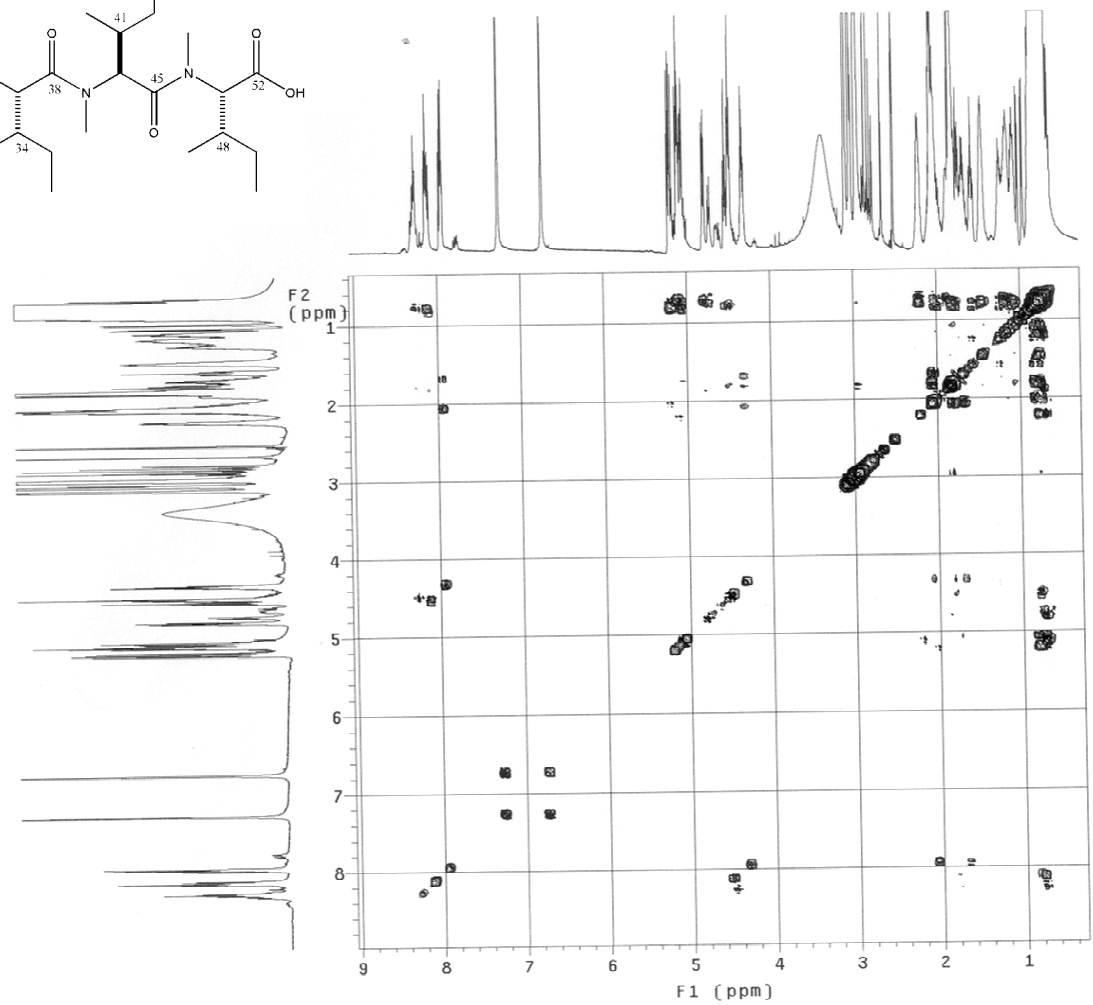
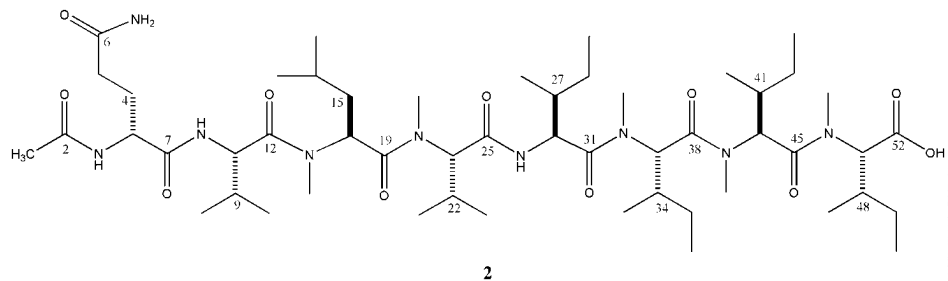


Figure S18. TOCSY spectrum for **2**.

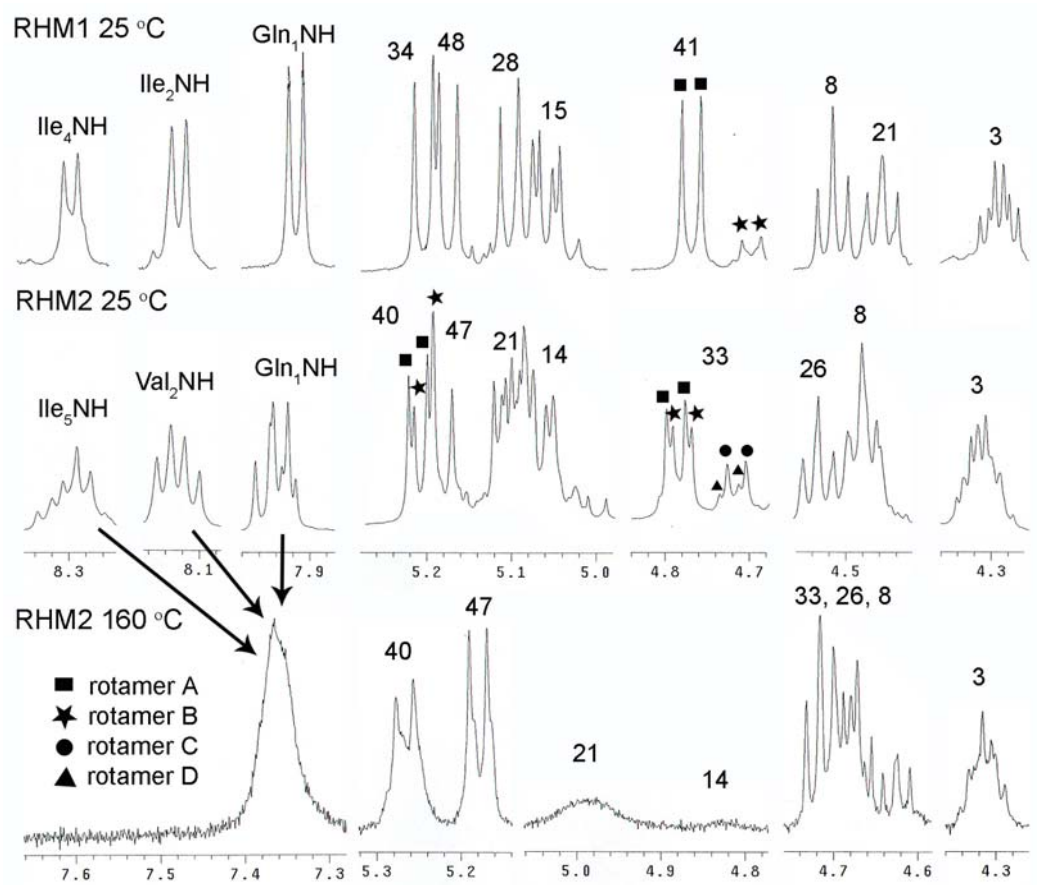


Figure S19. ¹H NMR (DMSO-*d*₆, 500 MHz) of selected regions for RHM1 (1) and RHM2 (2) illustrating the presence of rotational isomers (codes show rotamers A-D).

RHM1 25 °C

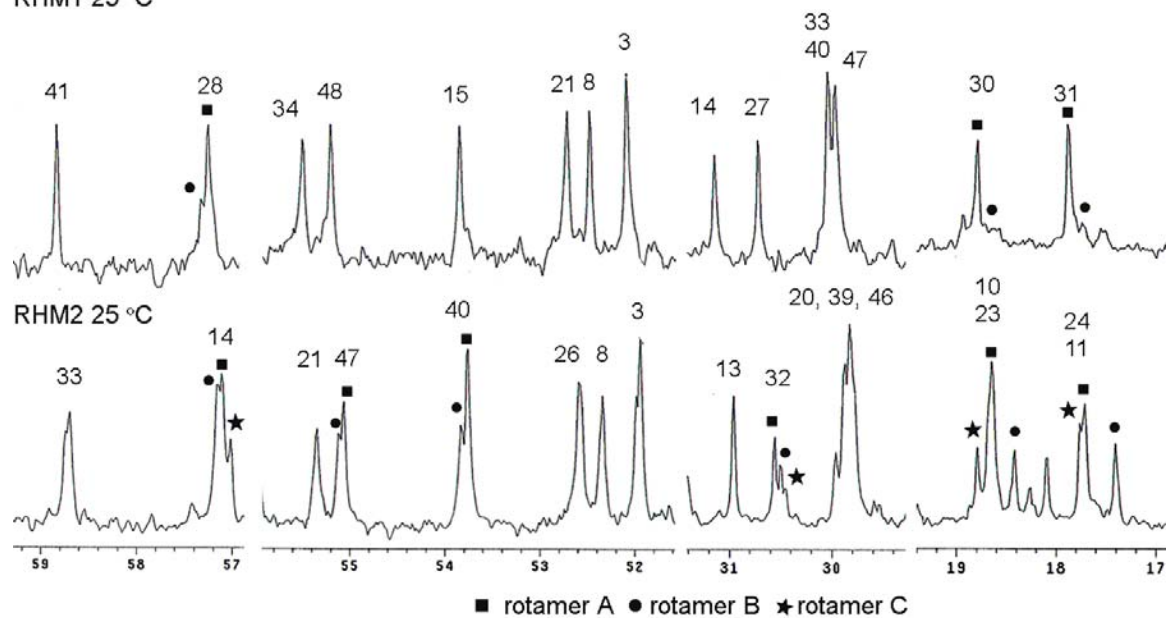


Figure S20. Selected regions of ¹³C NMR (125 MHz, DMSO-*d*₆) illustrating rotational isomers for RHM1 (1) and RHM2 (2).