

Natural Products Chemistry and Taxonomy of the Marine Cyanobacterium

Blennothrix cantharidosumum

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District, Papua New Guinea, Henry Ford Health System, Detroit, Michigan 48202 and Skaggs

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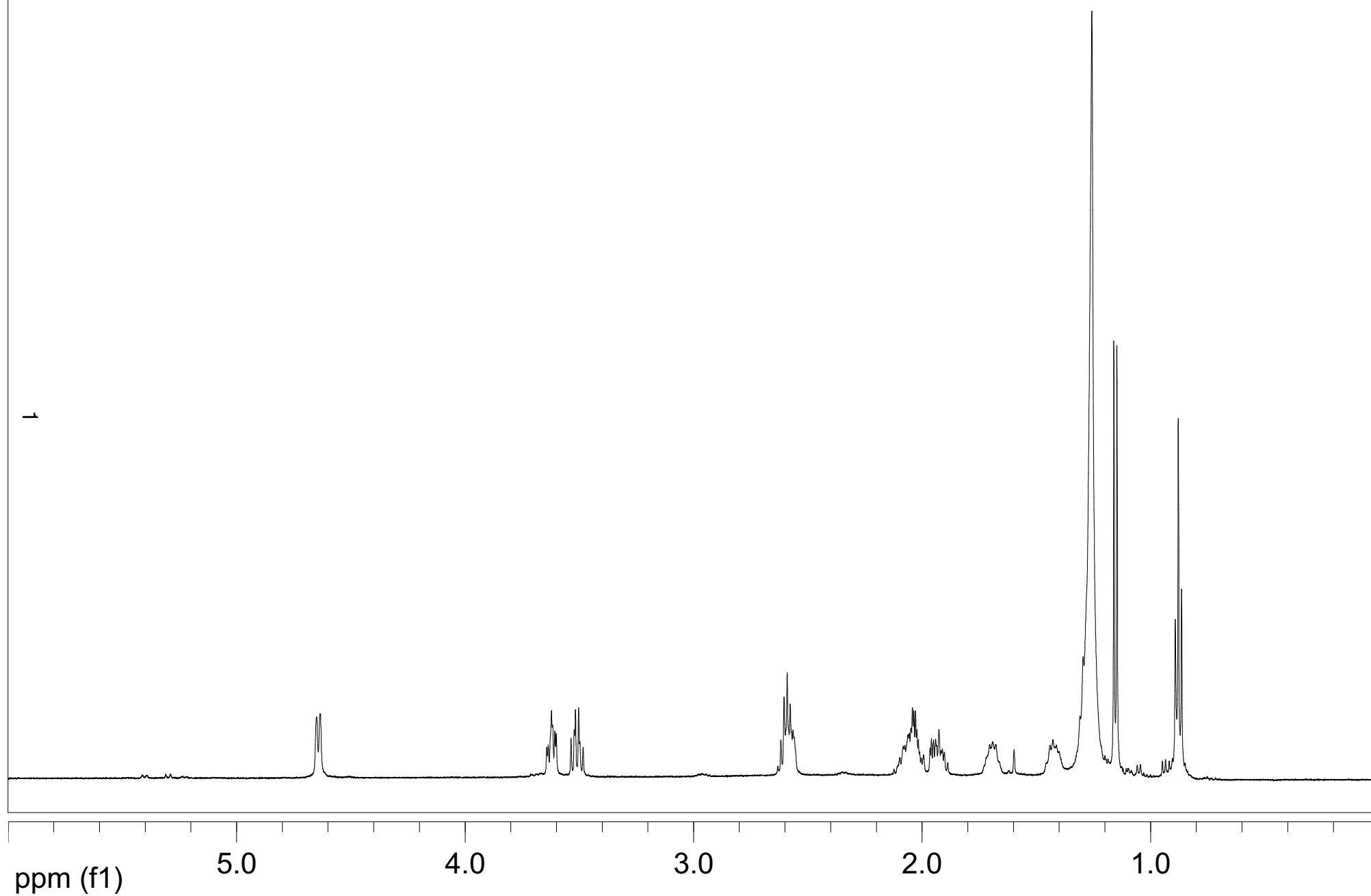
Gilman Drive, La Jolla, CA 92093-0212

Supporting Information:

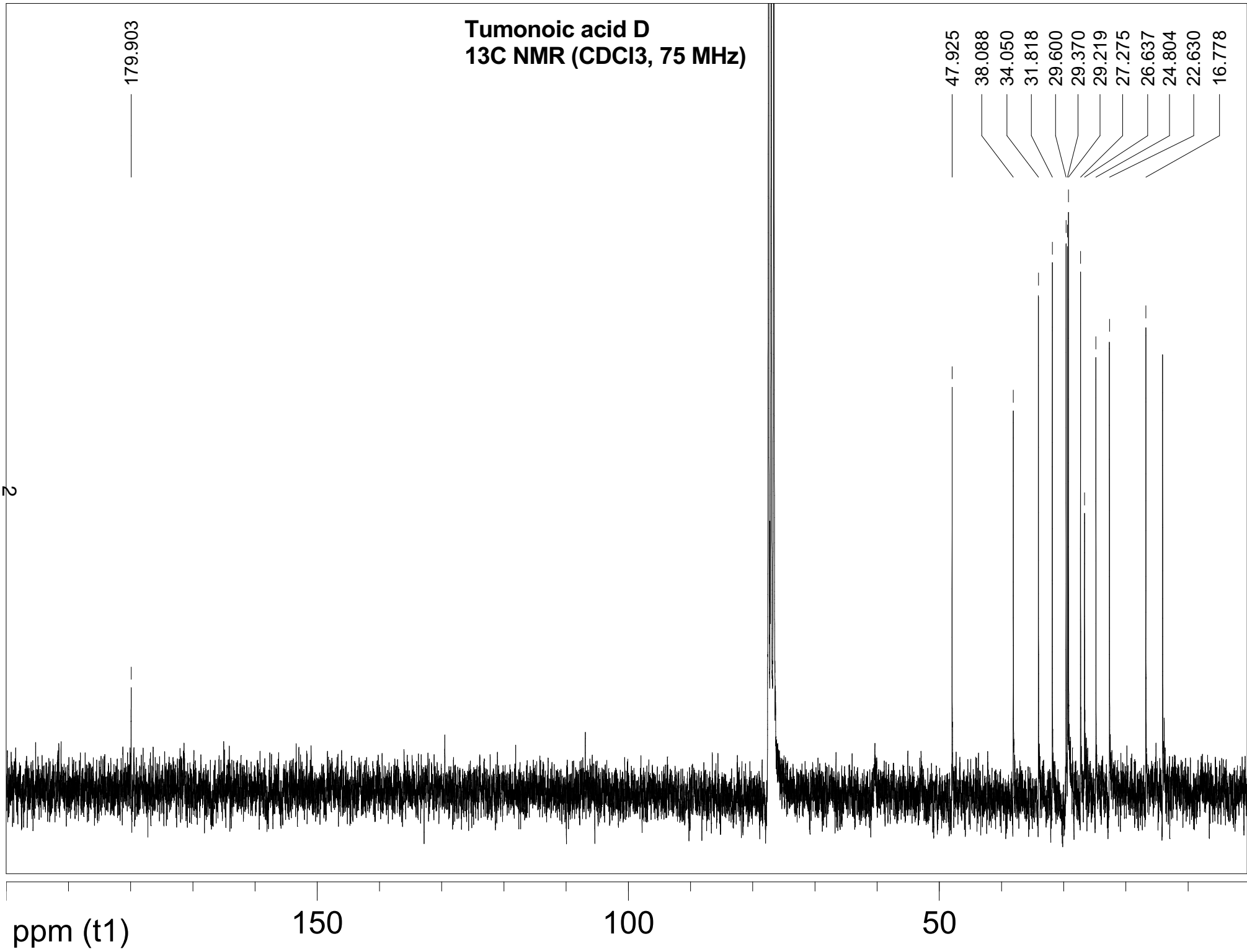
- 1) ¹H NMR spectrum of tumonoic acid D
- 2) ¹³C NMR spectrum of tumonoic acid D
- 3) gCOSY spectrum of tumonoic acid D
- 4) gHSQC spectrum of tumonoic acid D
- 5) gHMBC spectrum of tumonoic acid D
- 6) ¹H NMR spectrum of tumonoic acid E
- 7) ¹³C NMR spectrum of tumonoic acid E
- 8) gCOSY spectrum of tumonoic acid E
- 9) gHSQC spectrum of tumonoic acid E

- 10) gHMBC spectrum of tumonoic acid E
- 11) ¹H NMR spectrum of tumonoic acid F
- 12) ¹³C NMR spectrum of tumonoic acid F
- 13) gCOSY spectrum of tumonoic acid F
- 14) gHSQC spectrum of tumonoic acid F
- 15) gHMBC spectrum of tumonoic acid F
- 16) ¹H NMR spectrum of tumonoic acid G
- 17) ¹³C NMR spectrum of tumonoic acid G
- 18) gCOSY spectrum of tumonoic acid G
- 19) gHSQC spectrum of tumonoic acid G
- 20) gHMBC spectrum of tumonoic acid G
- 21) ¹H NMR spectrum of tumonoic acid H
- 22) ¹³C NMR spectrum of tumonoic acid H
- 23) gCOSY spectrum of tumonoic acid H
- 24) gHSQC spectrum of tumonoic acid H
- 25) gHMBC spectrum of tumonoic acid H
- 26) ¹H NMR spectrum of tumonoic acid I
- 27) ¹³C NMR spectrum of tumonoic acid I
- 28) gCOSY spectrum of tumonoic acid I
- 29) gHSQC spectrum of tumonoic acid I
- 30) gHMBC spectrum of tumonoic acid I
- 31) (ML)-phylogenetic tree including the full 1414-nucleotide sequence
- 32) (ML)-phylogenetic tree composed of the partial 599-nucleotide sequence

Tumonoic acid D
1H NMR (CDCl3, 500 MHz)



Tumonoic acid D
¹³C NMR (CDCl₃, 75 MHz)



179.903

47.925
38.088
34.050
31.818
29.600
29.370
29.219
27.275
26.637
24.804
22.630
16.778

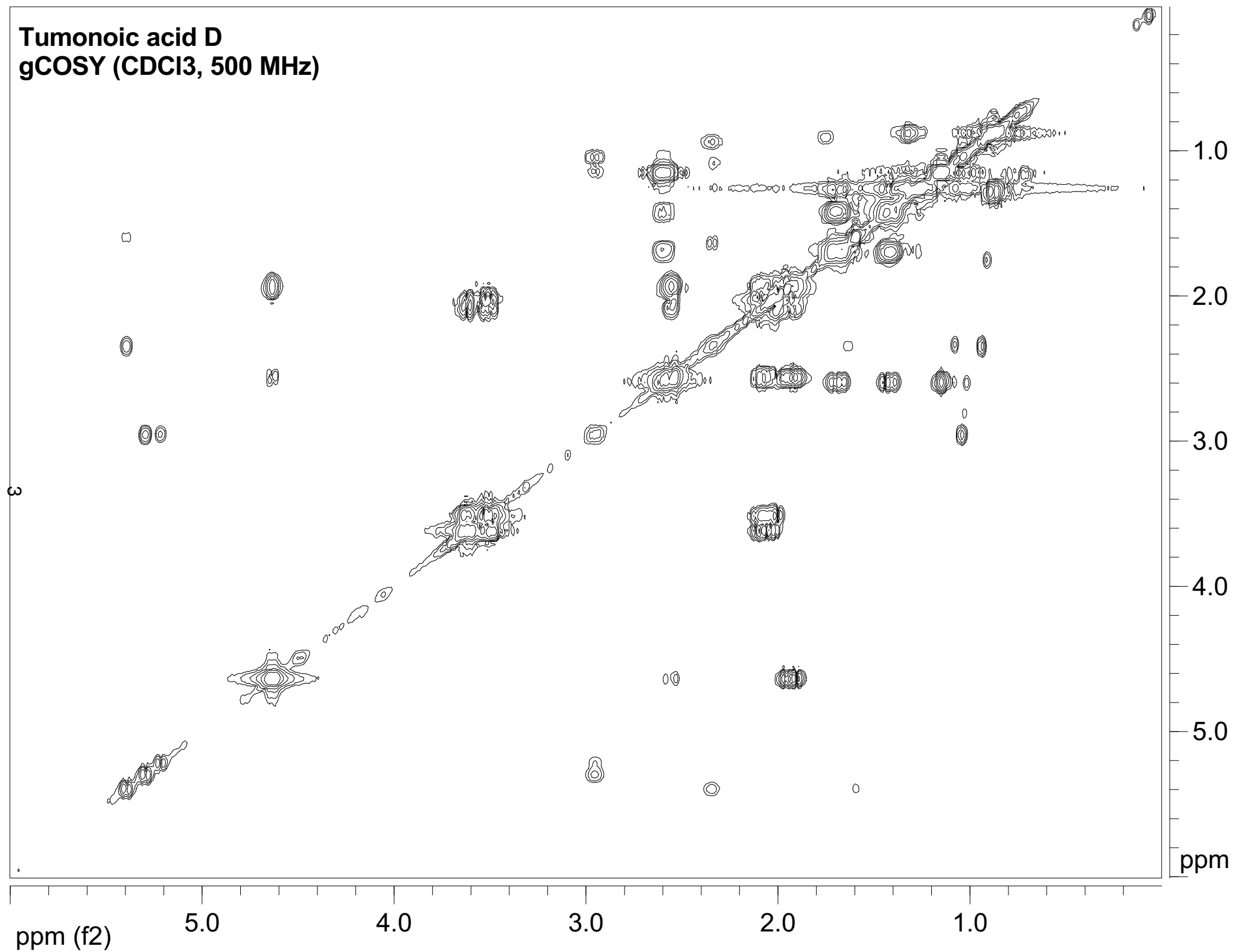
ppm (t1)

150

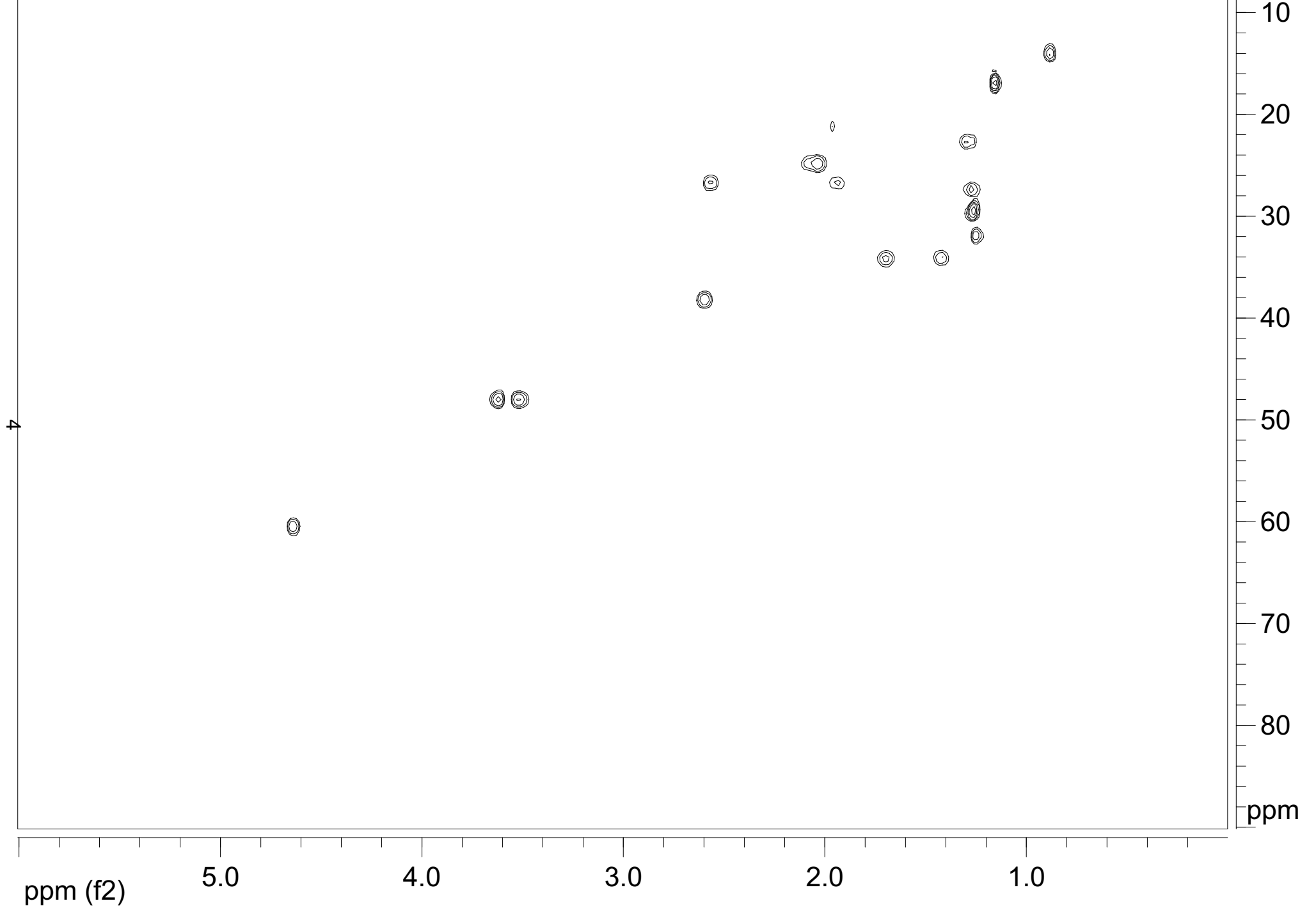
100

50

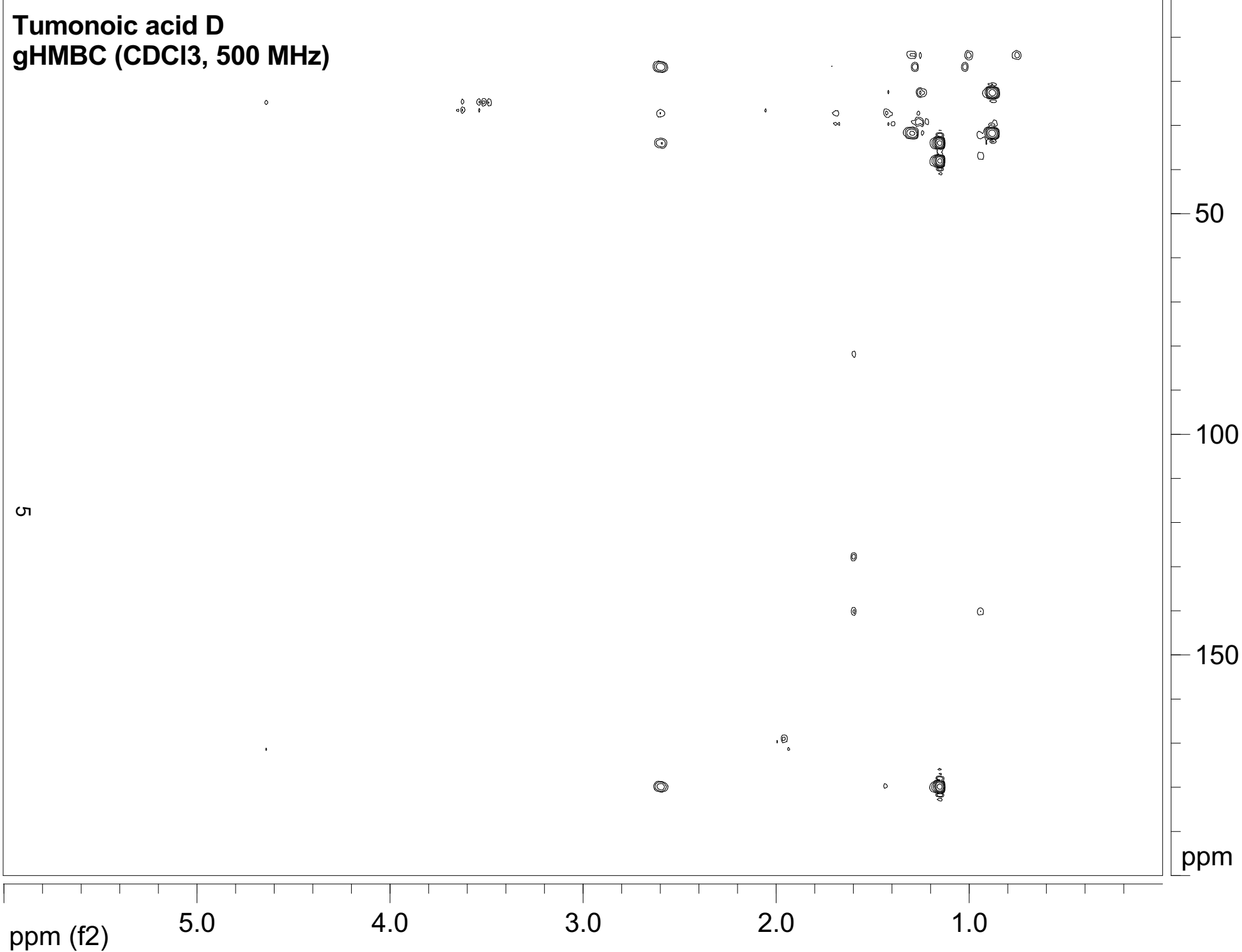
Tumonoic acid D
gCOSY (CDCl₃, 500 MHz)



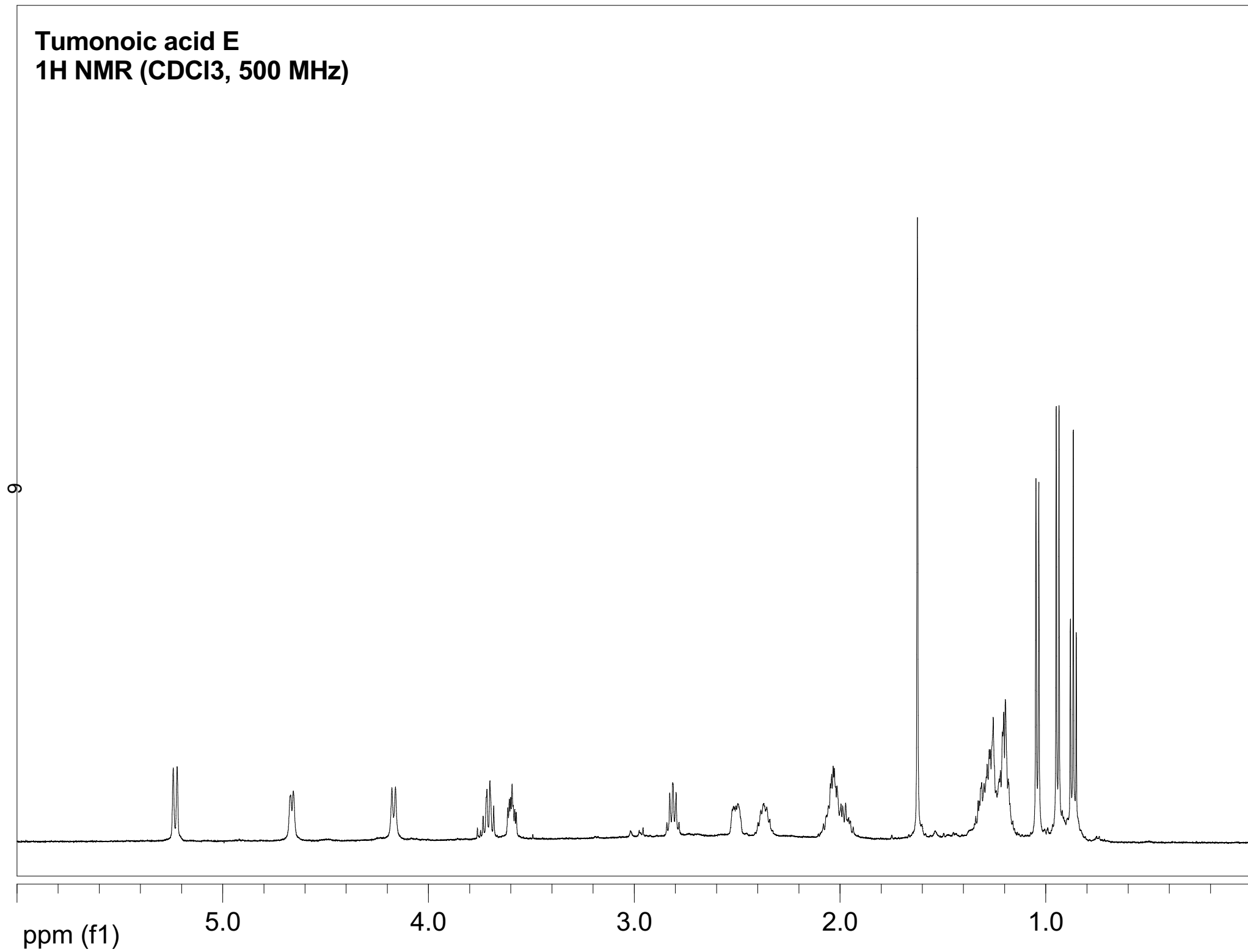
Tumonoic acid D
gHSQC (CDCl₃, 500 MHz)



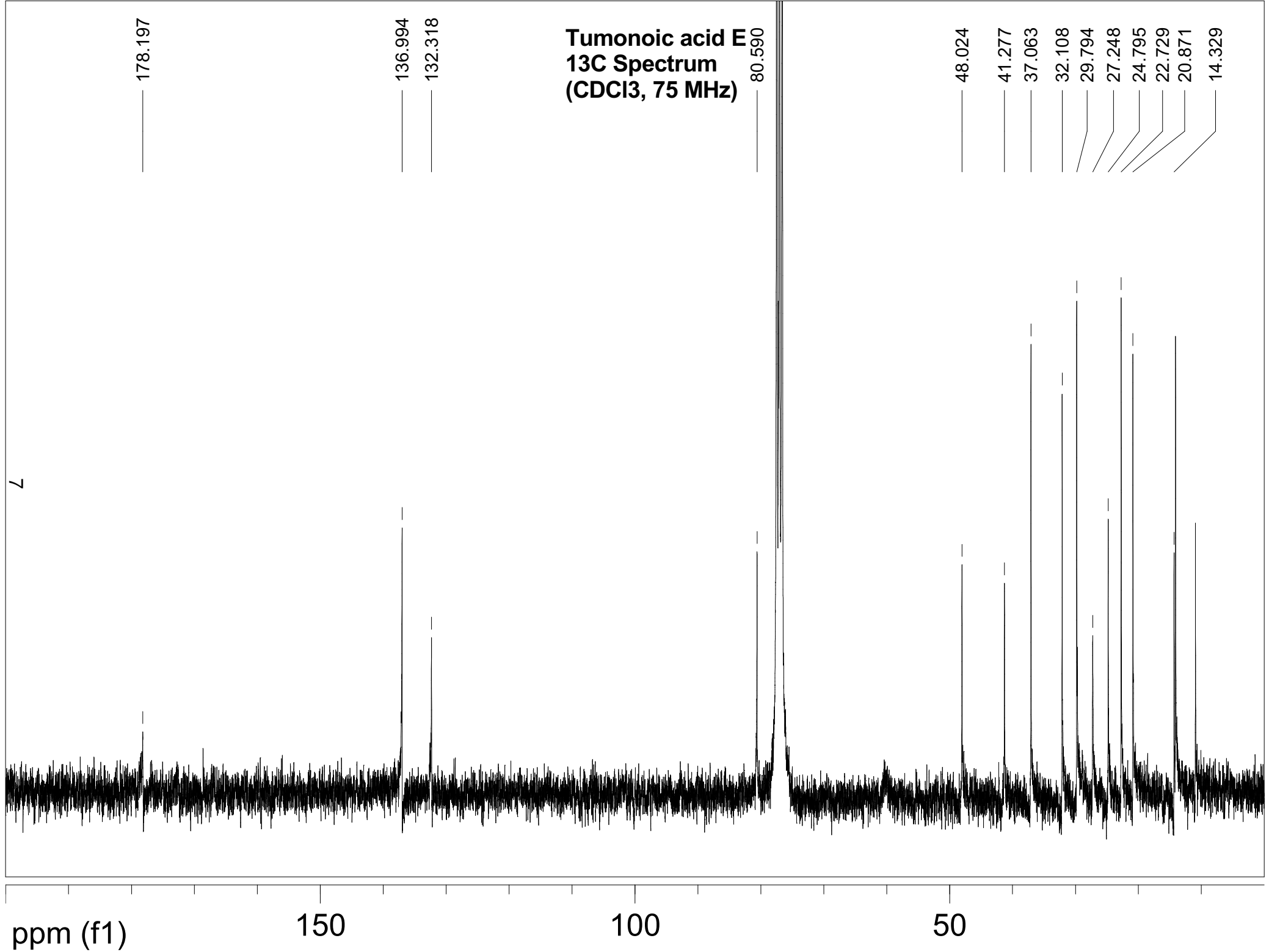
Tumonoic acid D
gHMBC (CDCl₃, 500 MHz)



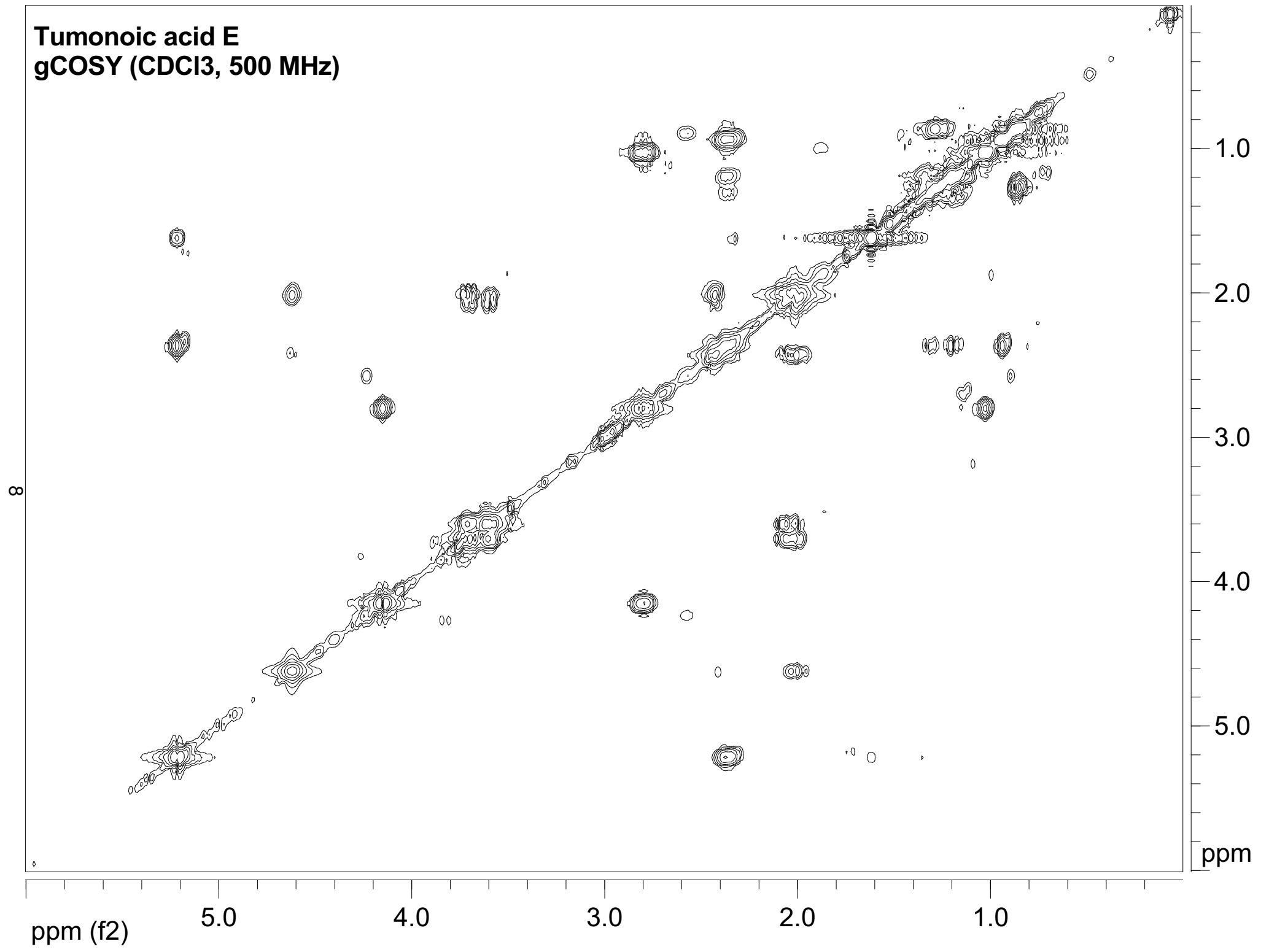
Tumonoic acid E
¹H NMR (CDCl₃, 500 MHz)



Tumonoic acid E
¹³C Spectrum
(CDCl₃, 75 MHz)



Tumonoic acid E
gCOSY (CDCl₃, 500 MHz)



8

ppm (f2)

5.0

4.0

3.0

2.0

1.0

ppm

1.0

2.0

3.0

4.0

5.0

Tumonoic acid E
gHSQC (CDCl₃, 500 MHz)

6

ppm (f2)

5.0

4.0

3.0

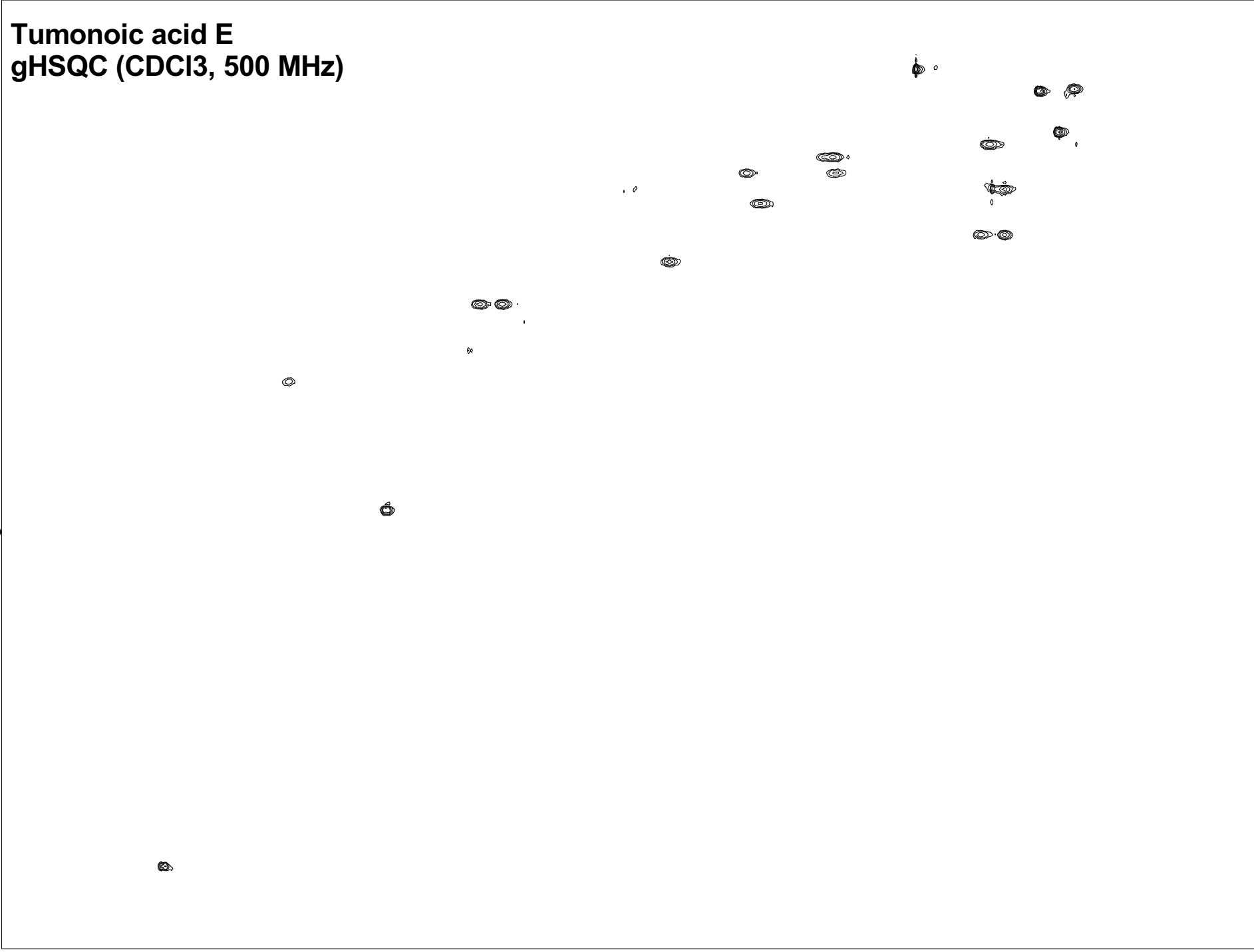
2.0

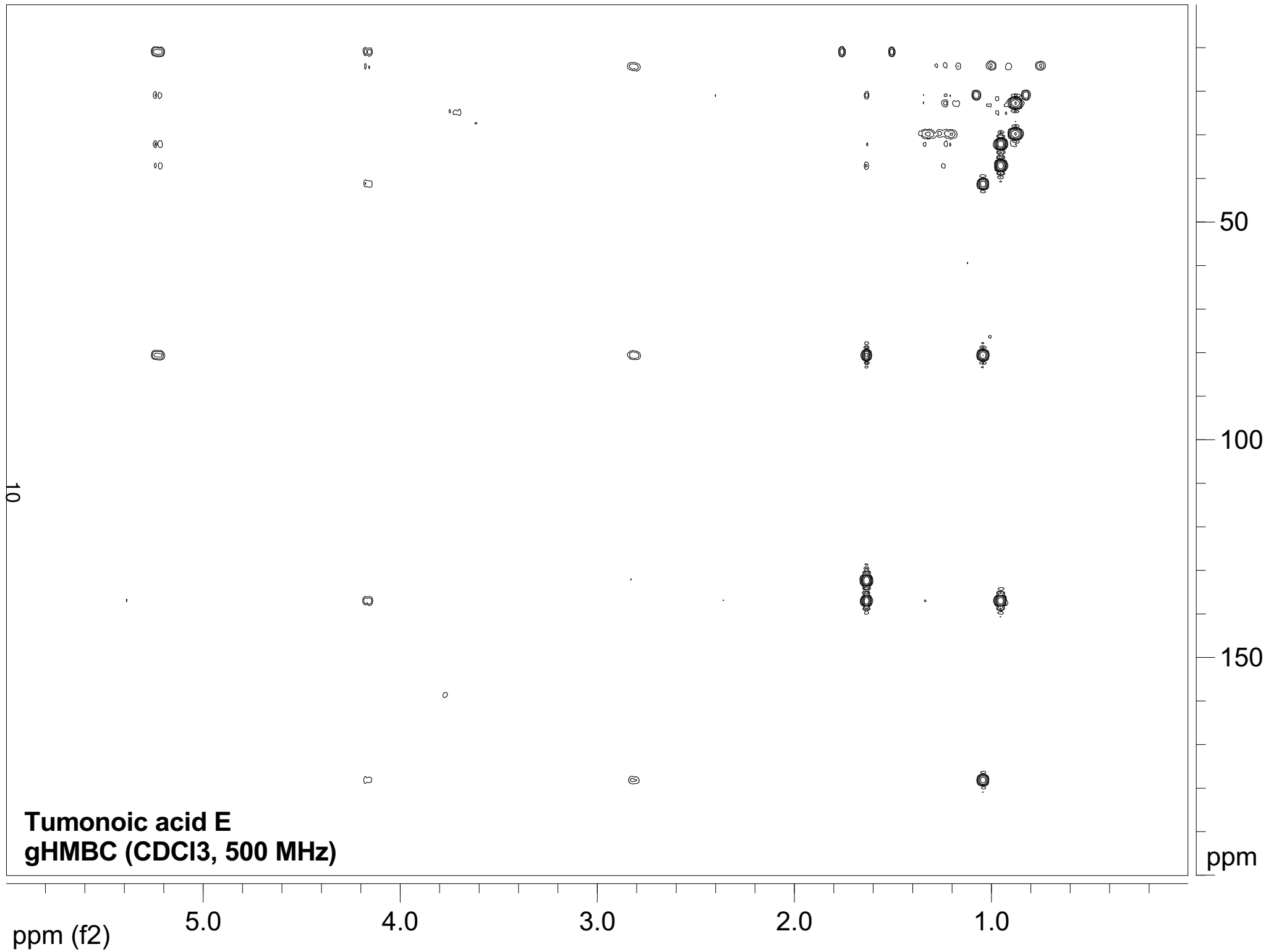
1.0

ppm

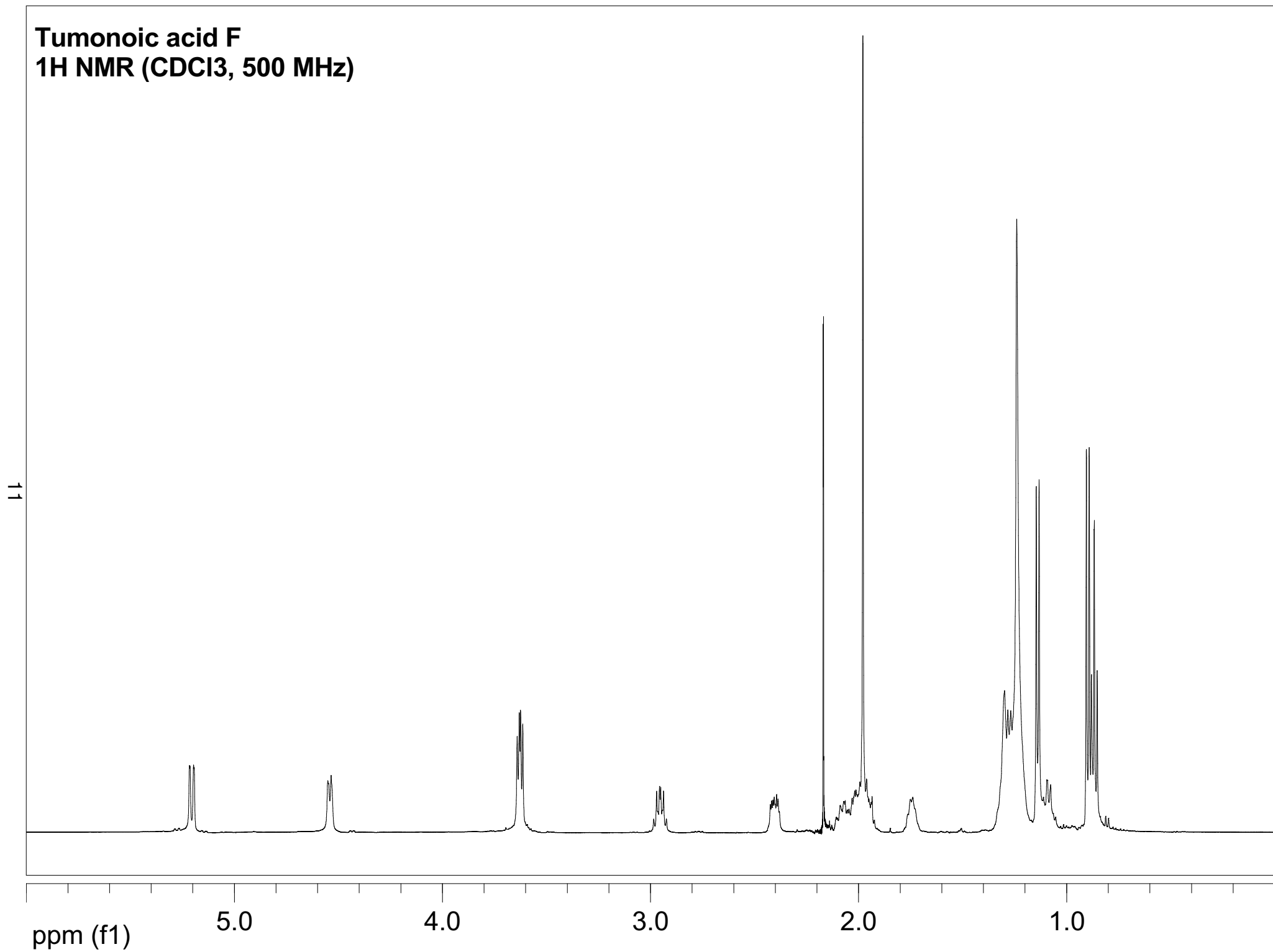
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100

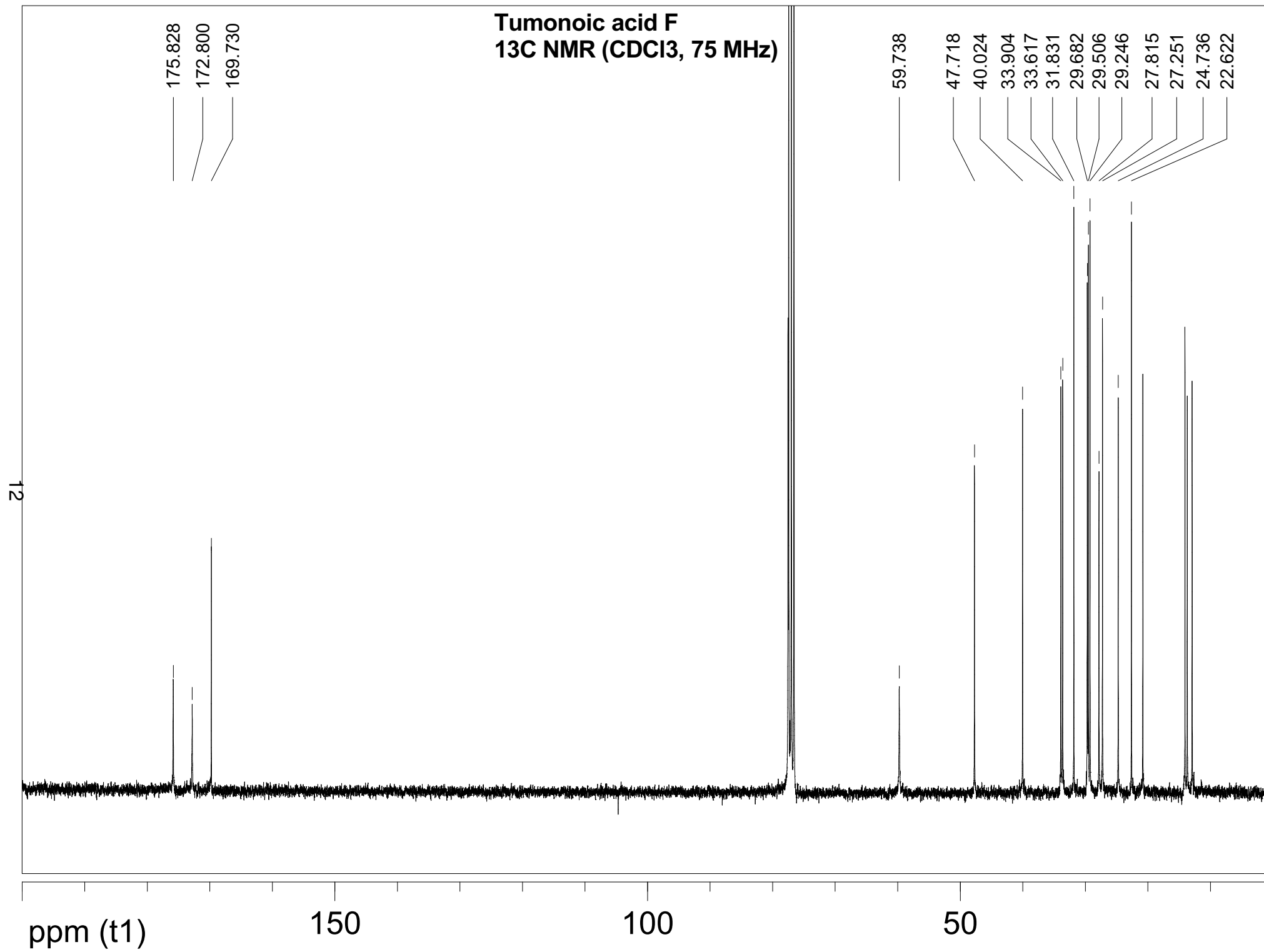




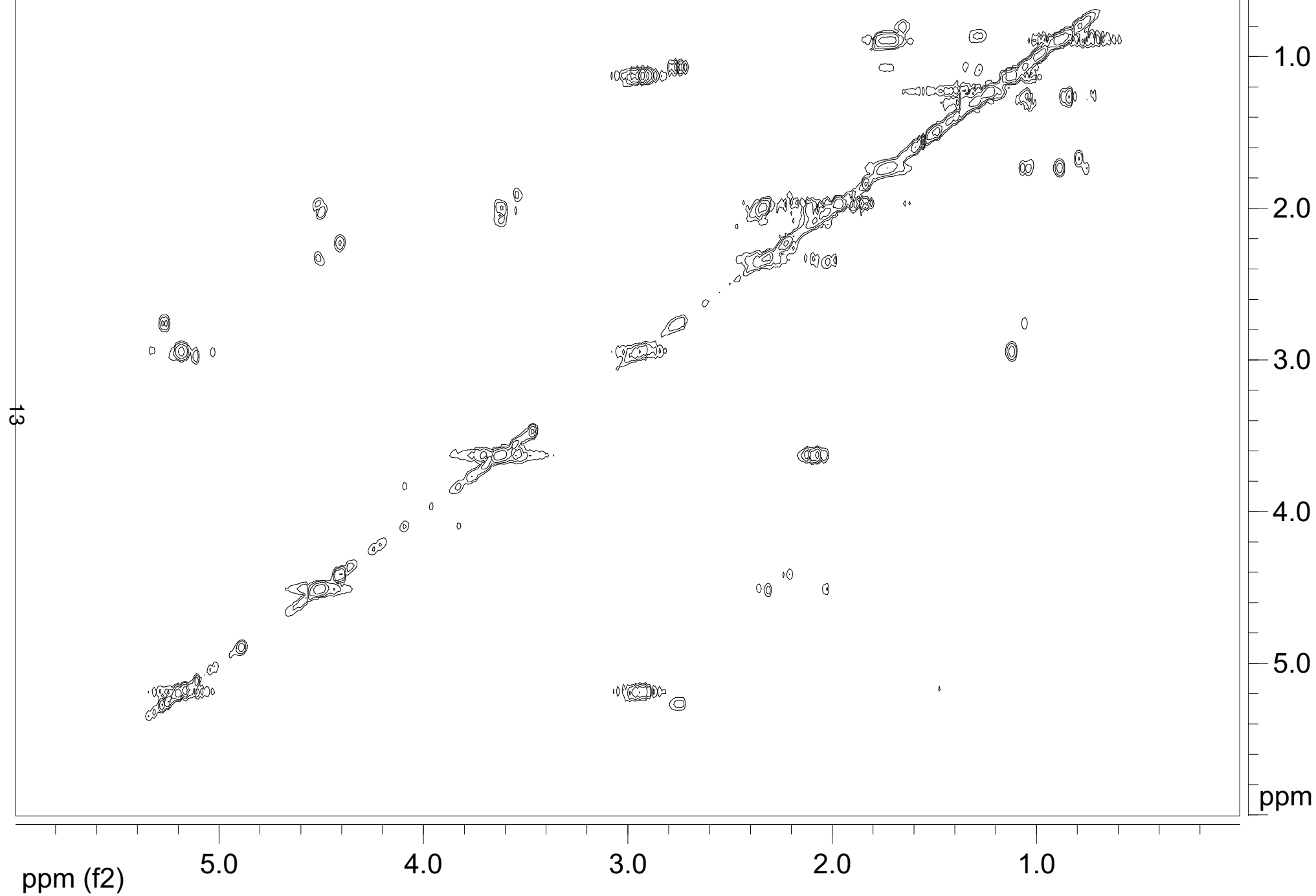
Tumonoic acid F
¹H NMR (CDCl₃, 500 MHz)



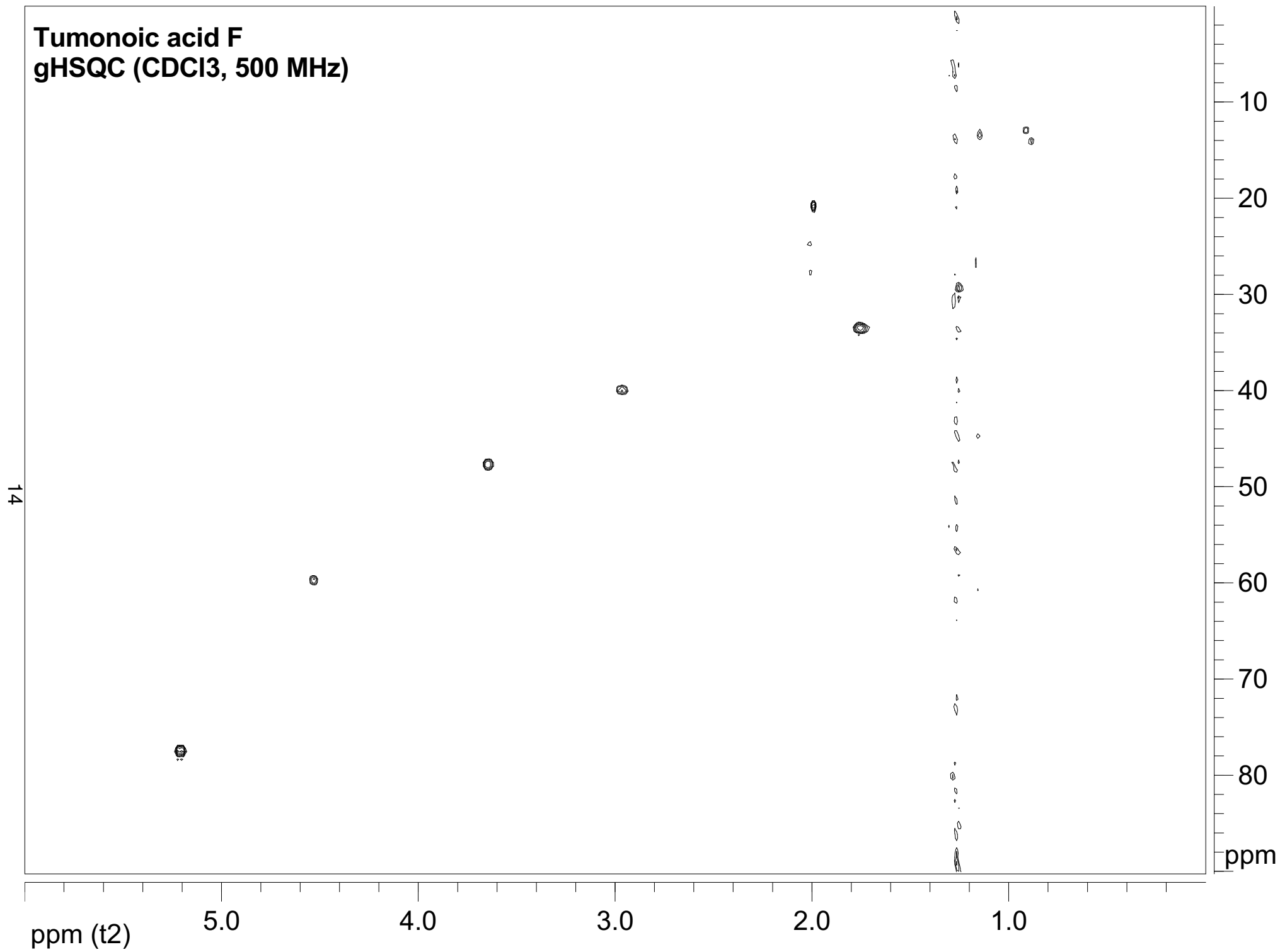
Tumonoic acid F
¹³C NMR (CDCl₃, 75 MHz)

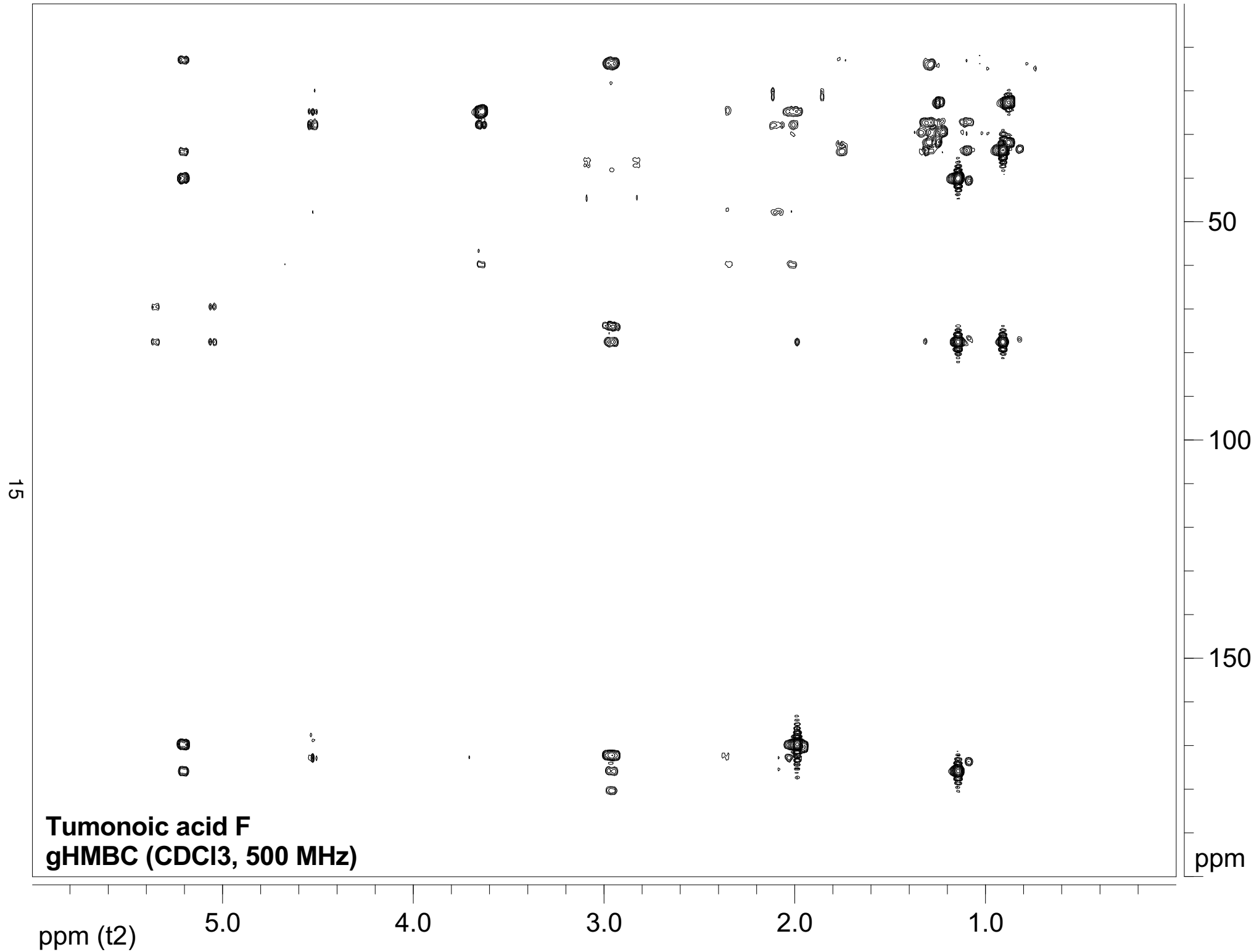


Tumonoic acid F
gCOSY (CDCl₃, 500 MHz)



Tumonoic acid F
gHSQC (CDCl₃, 500 MHz)





Tumonoic acid G
¹H NMR (CDCl₃, 500 MHz)

16

ppm (f1)

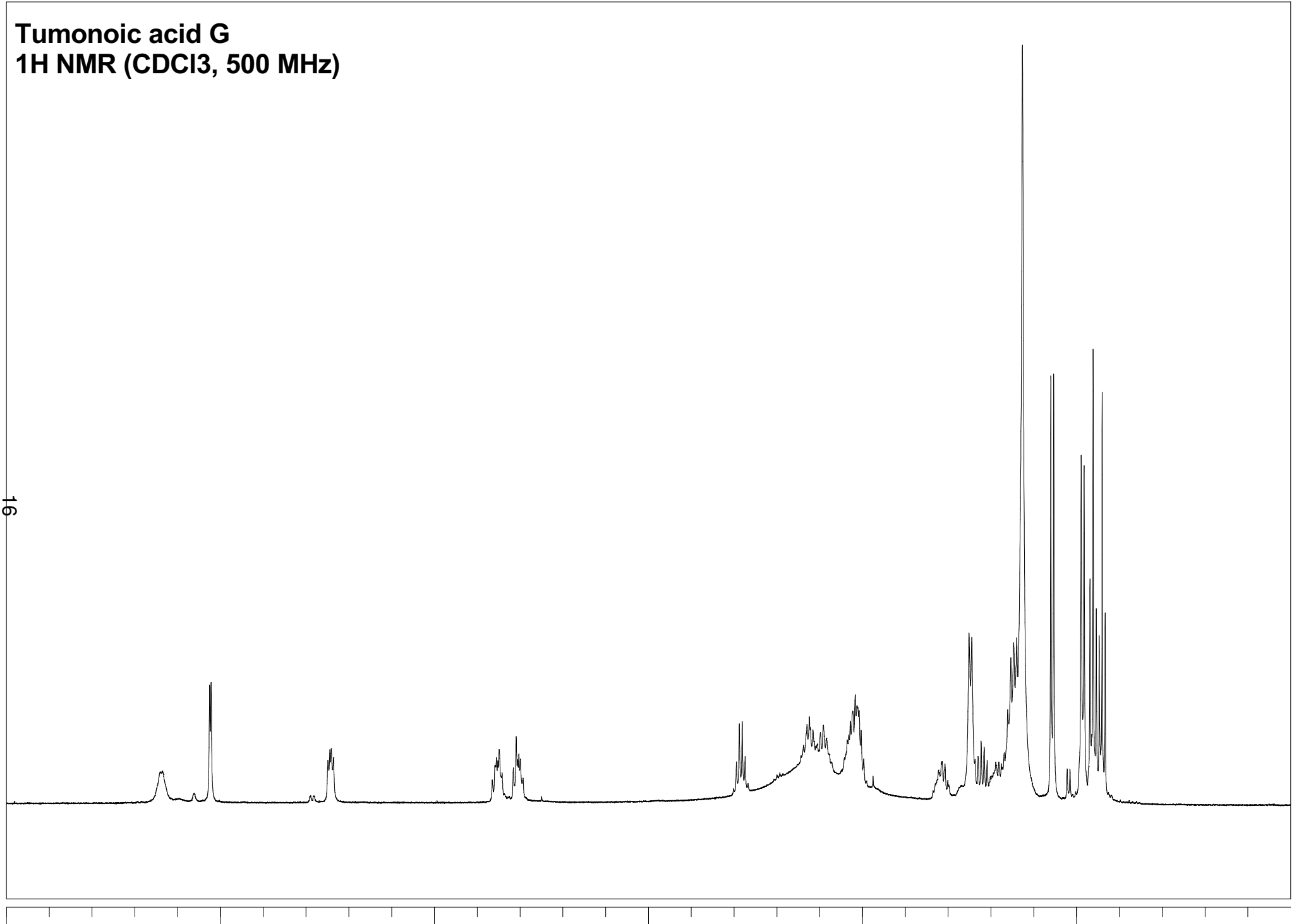
5.0

4.0

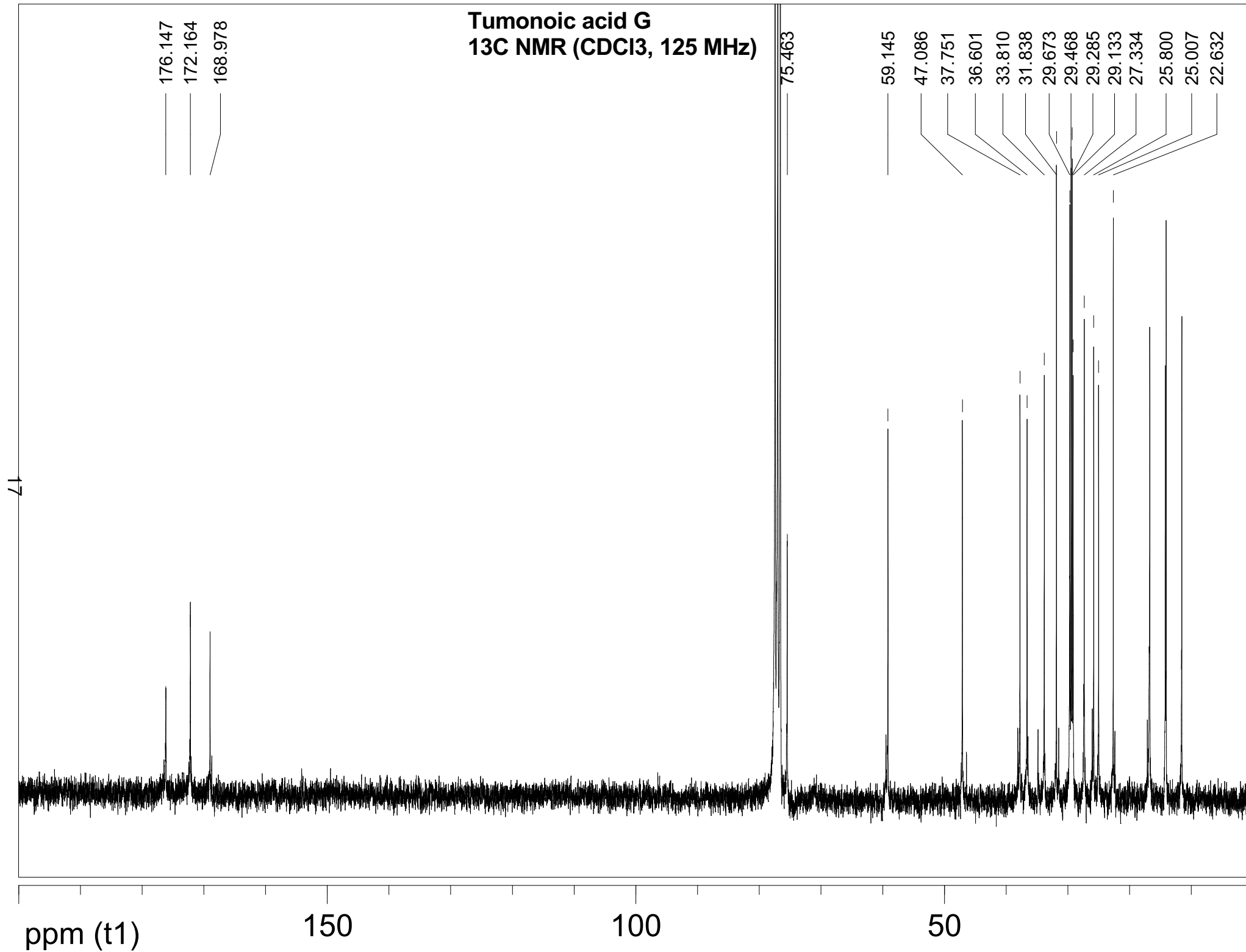
3.0

2.0

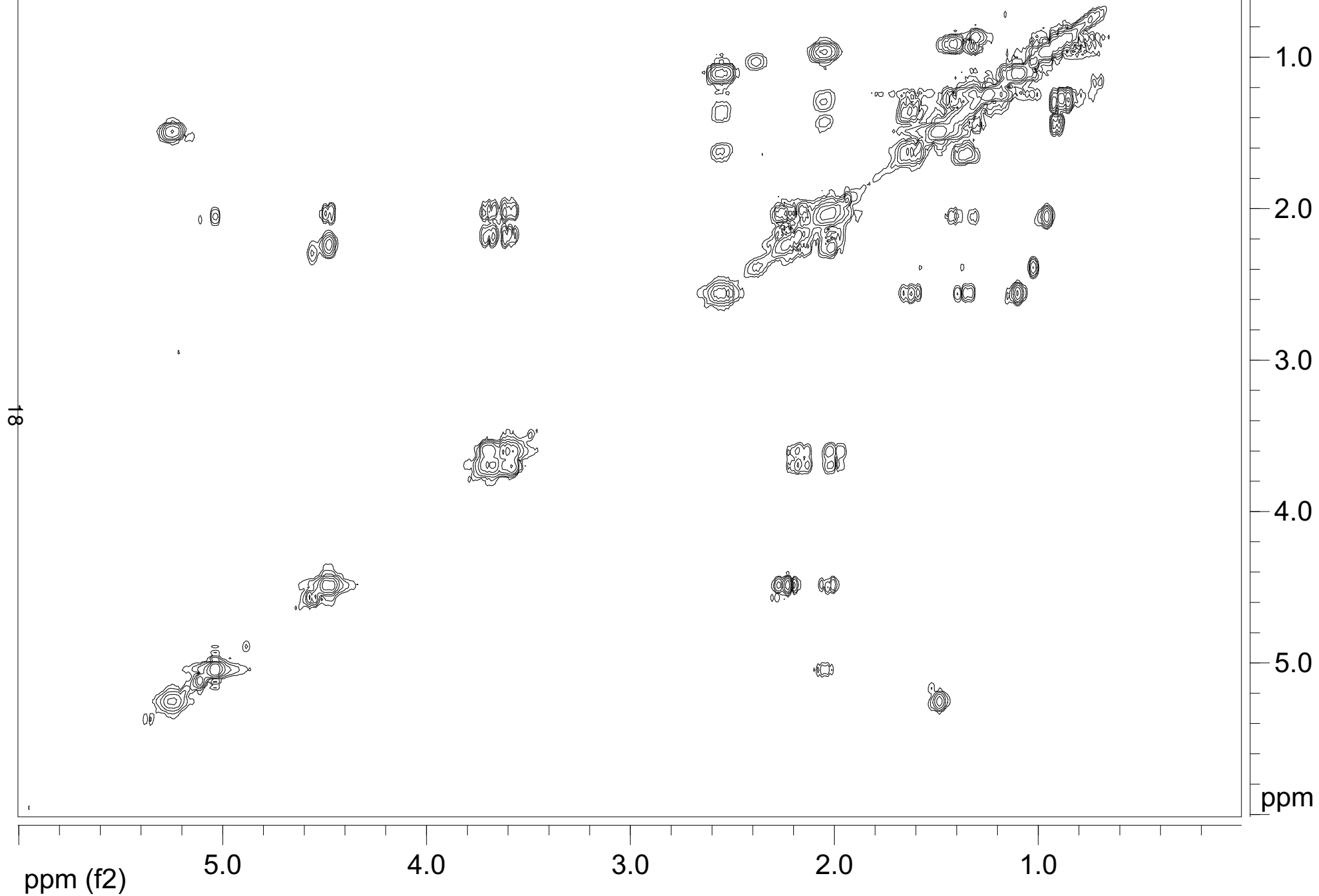
1.0



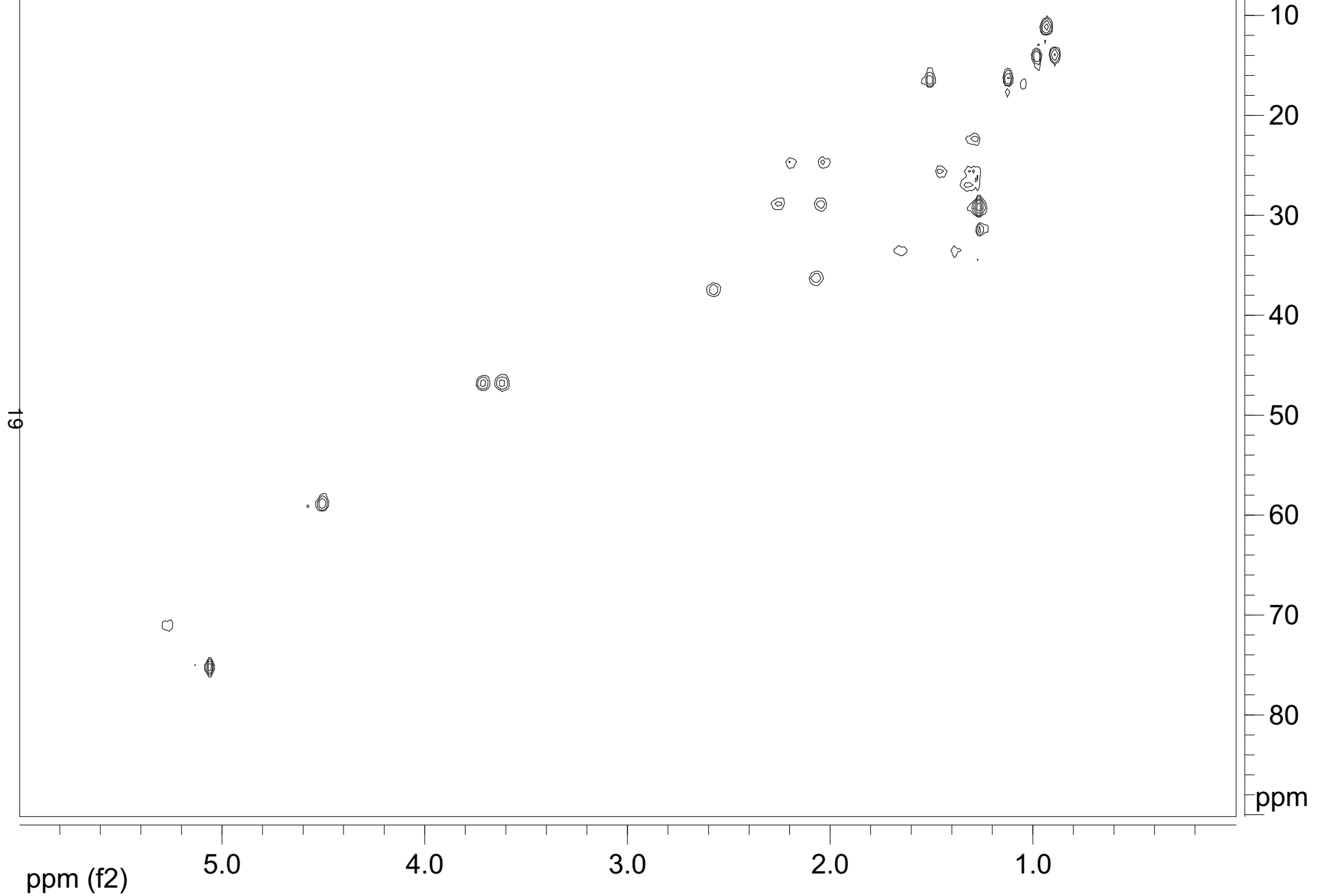
Tumonoic acid G
¹³C NMR (CDCl₃, 125 MHz)

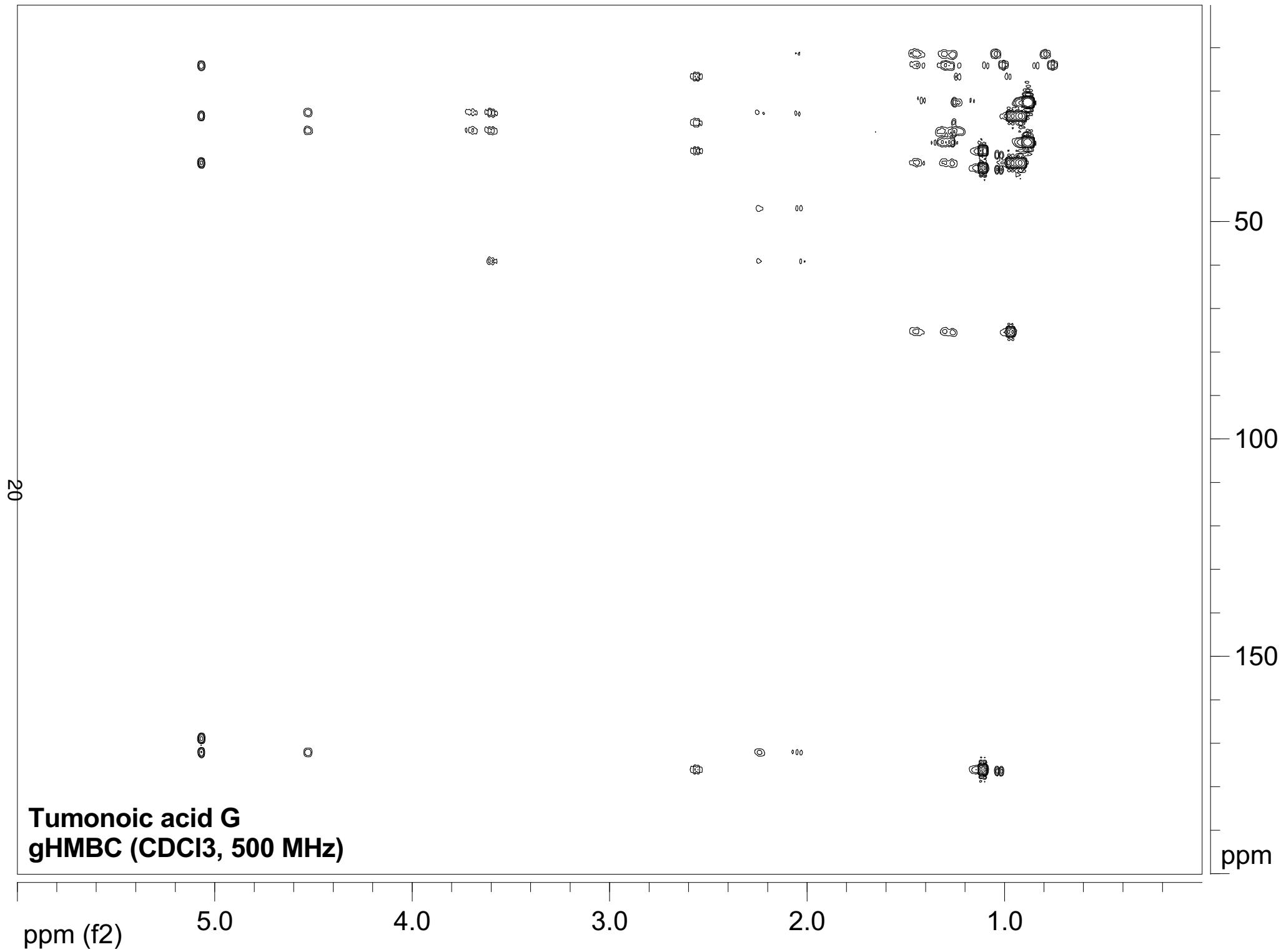


Tumonoic acid G
gCOSY (CDCl₃, 500 MHz)



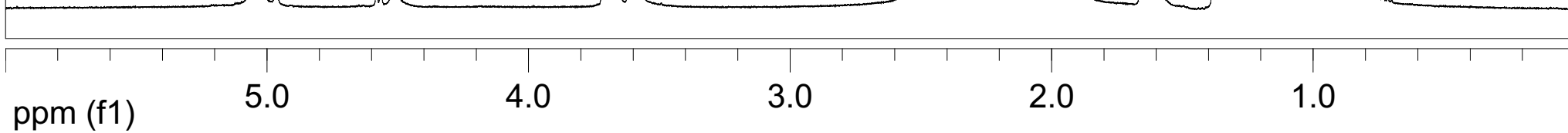
Tumonoic acid G
gHSQC (CDCl₃, 500 MHz)



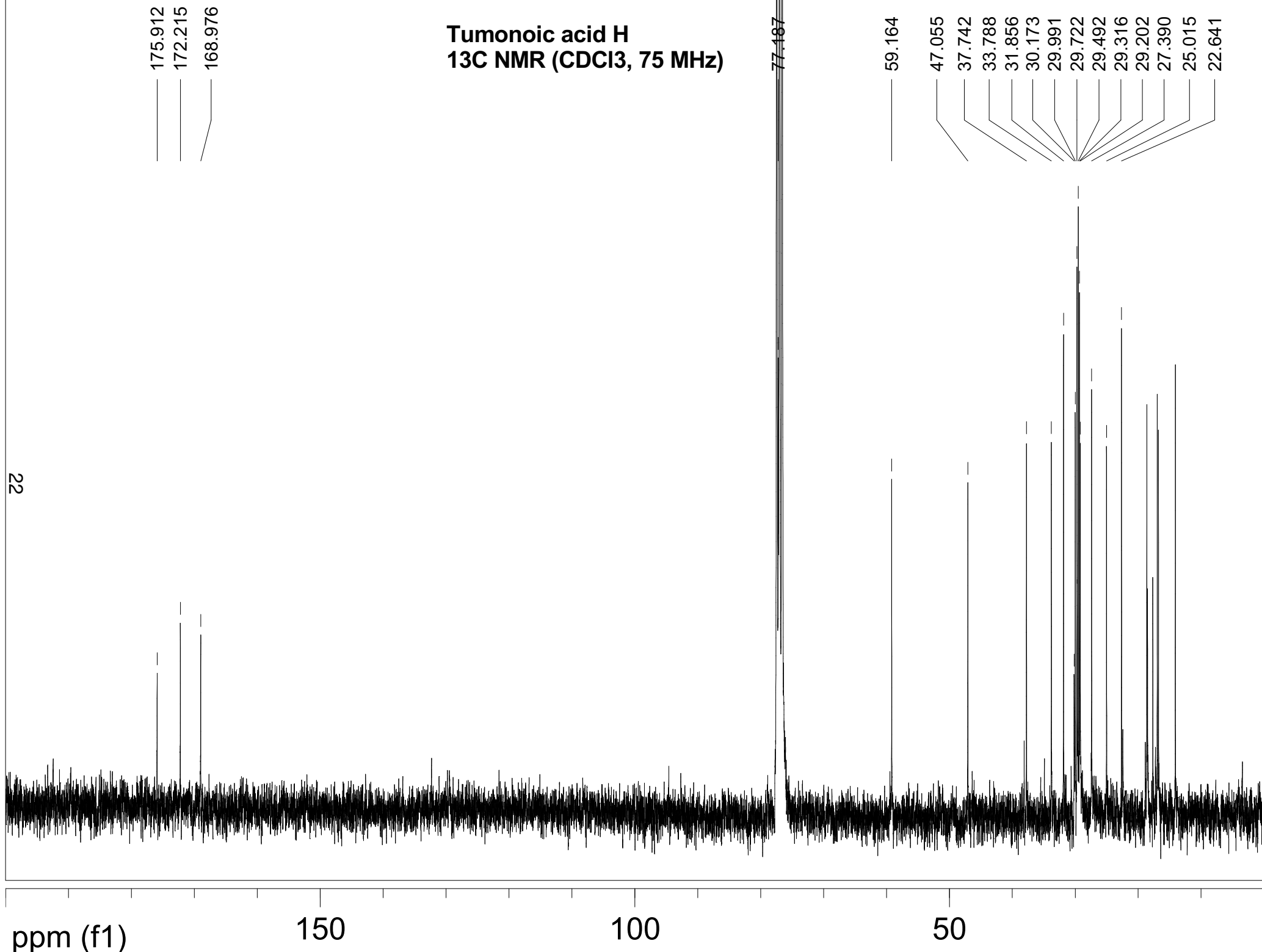


Tumonoic acid H
¹H NMR (CDCl₃, 500 MHz)

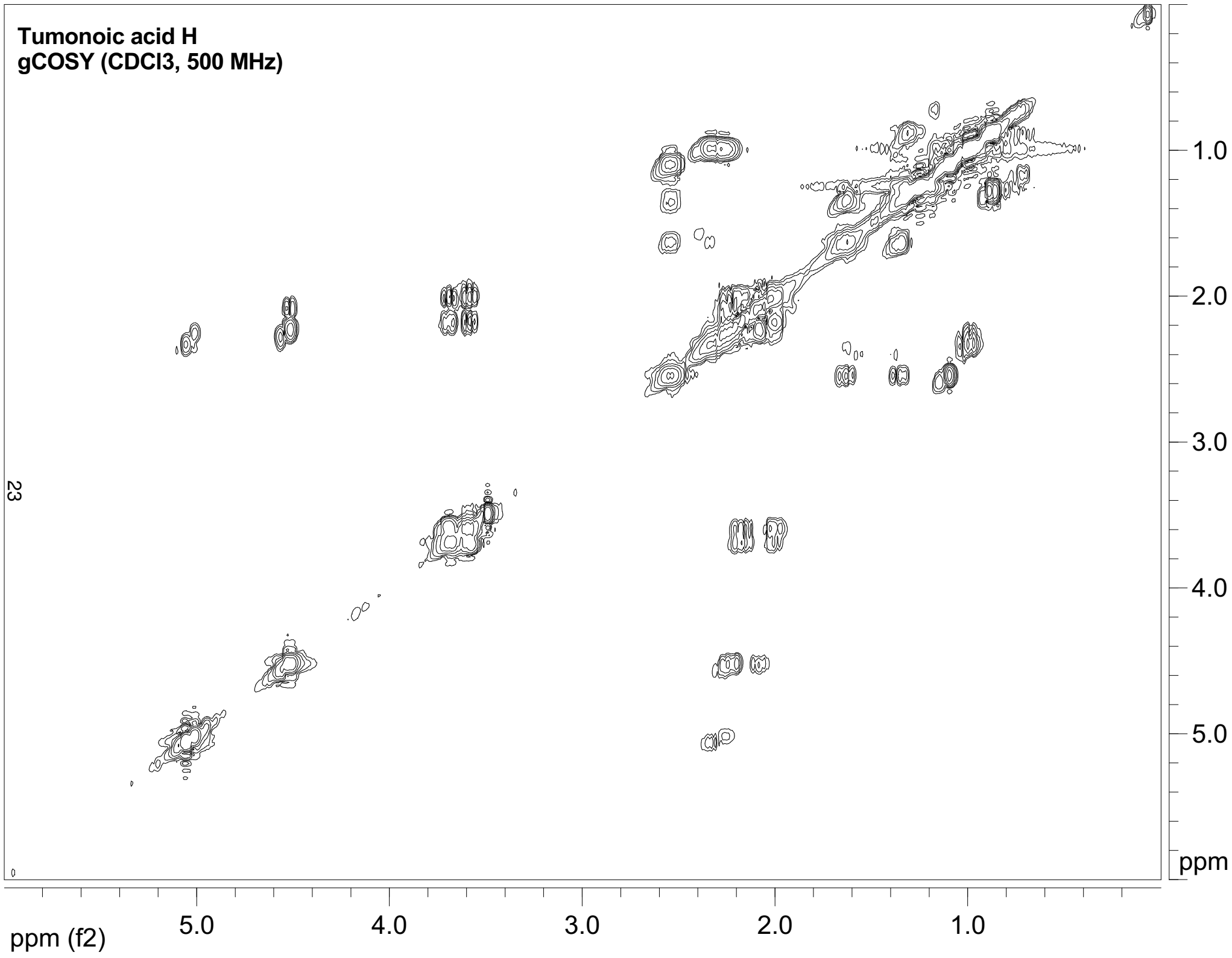
21



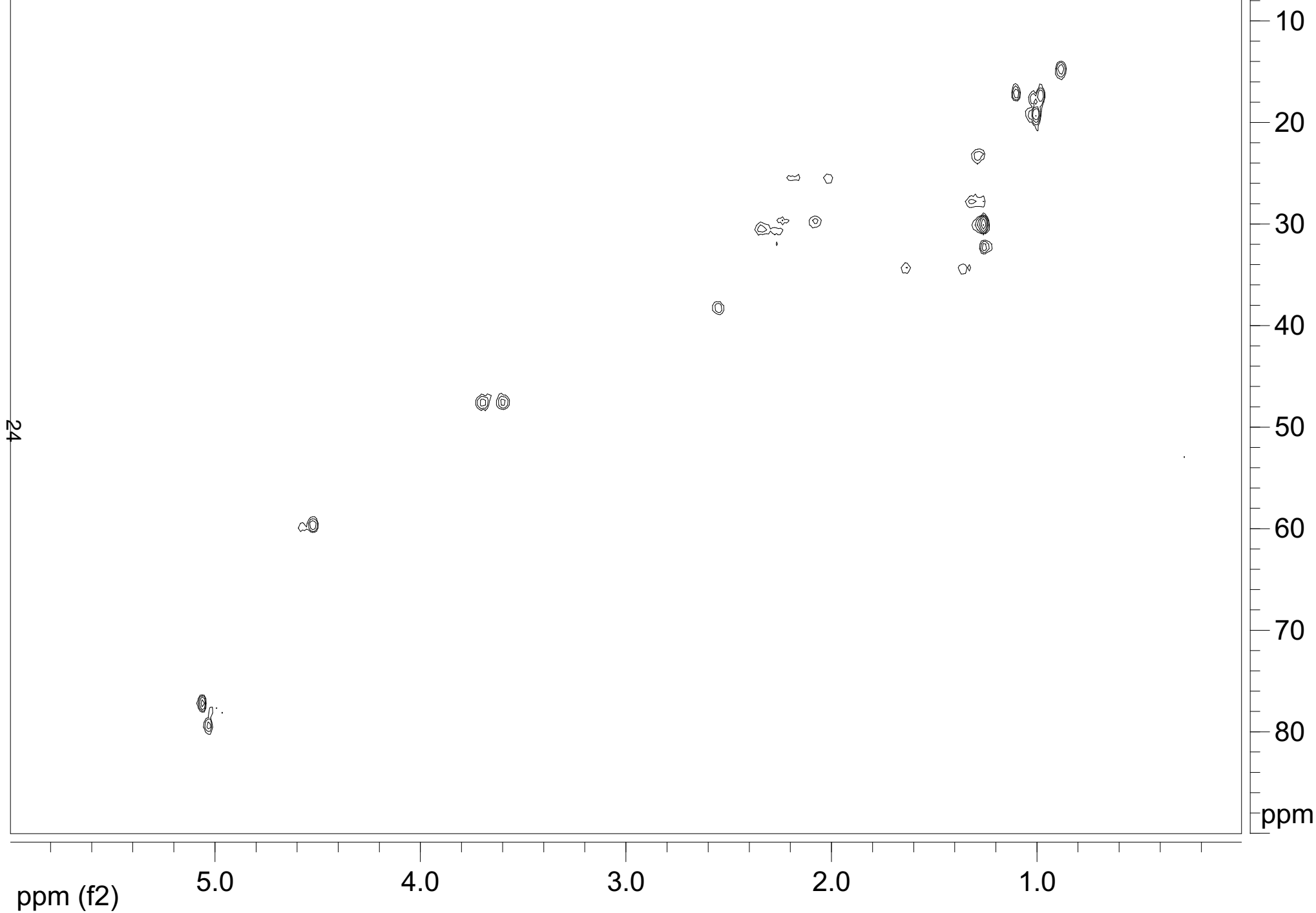
Tumonoic acid H
¹³C NMR (CDCl₃, 75 MHz)

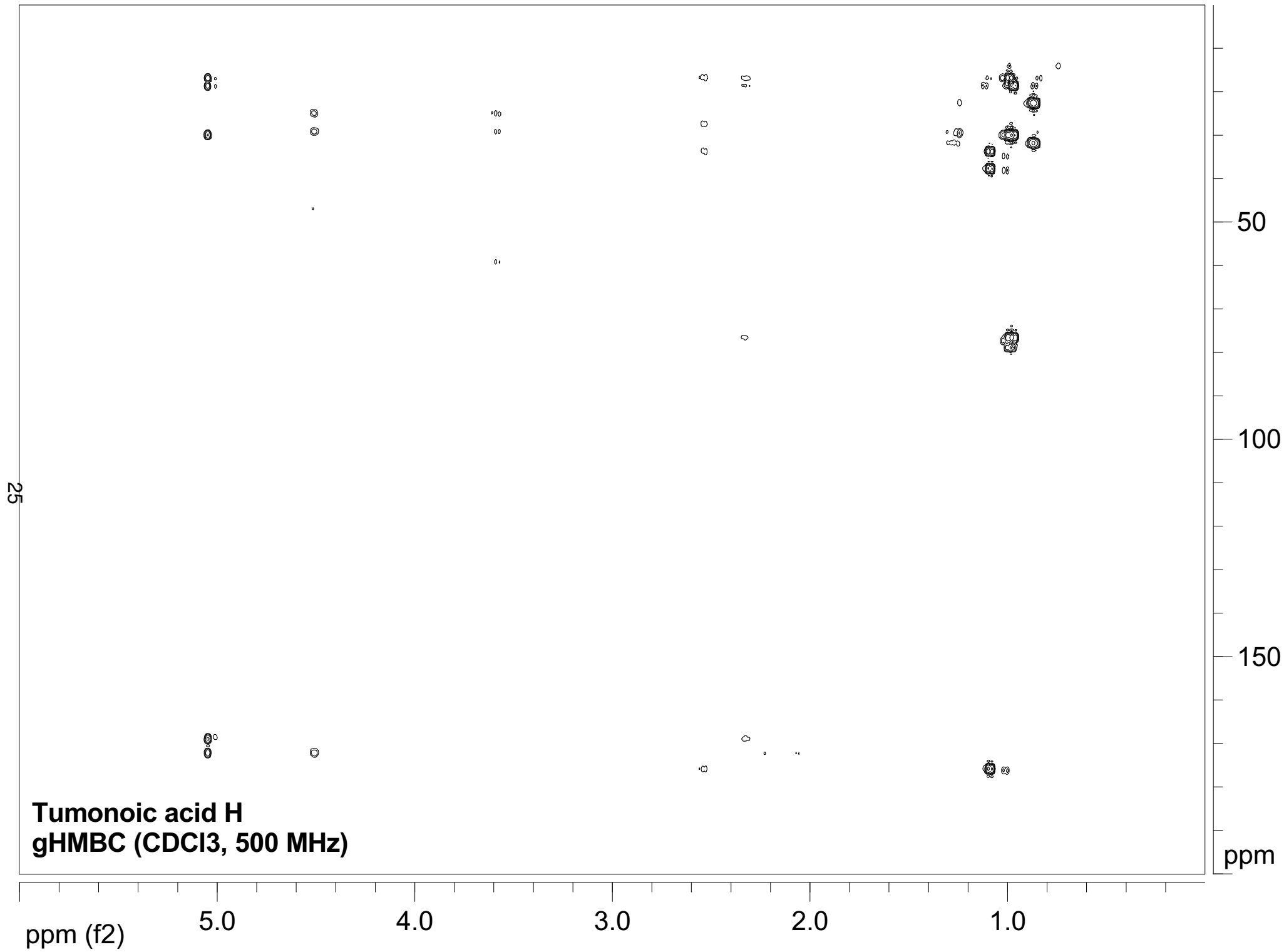


Tumonoic acid H
gCOSY (CDCl₃, 500 MHz)



Tumonoic acid H
gHSQC (CDCl₃, 500 MHz)

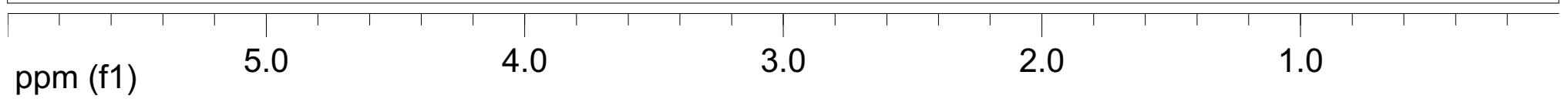


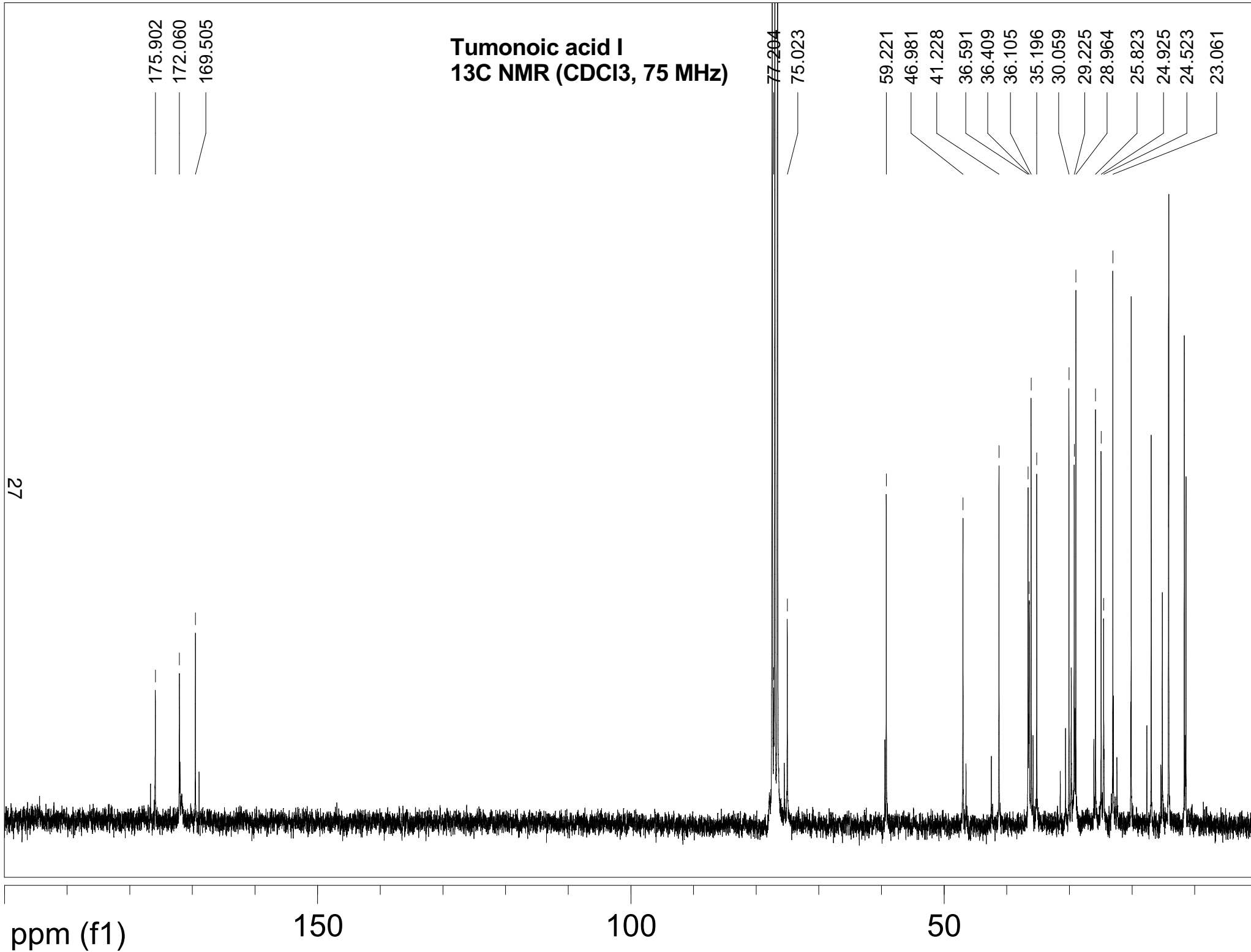


Tumonoic acid I
¹H NMR (CDCl₃, 300 MHz)

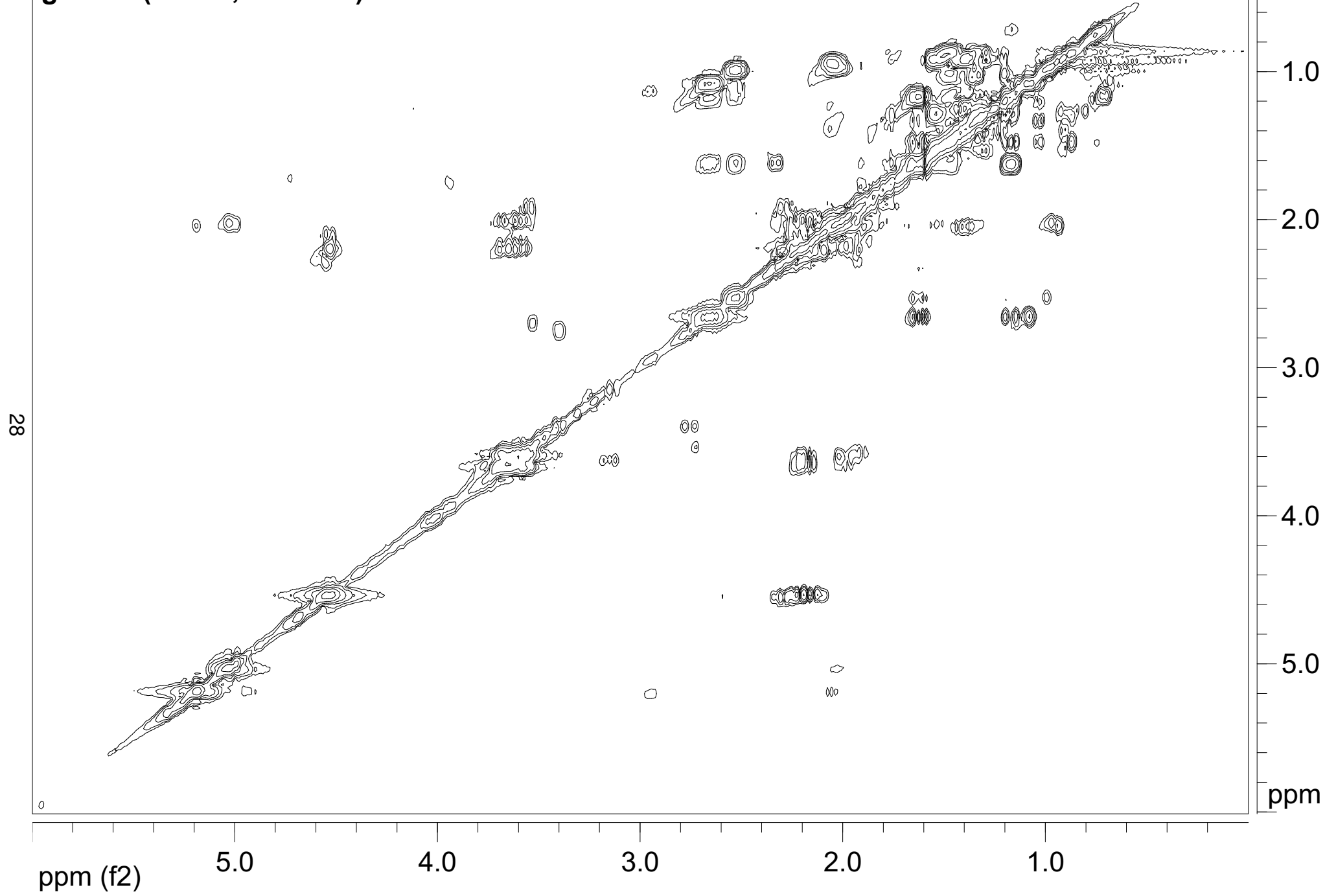
acetone

26

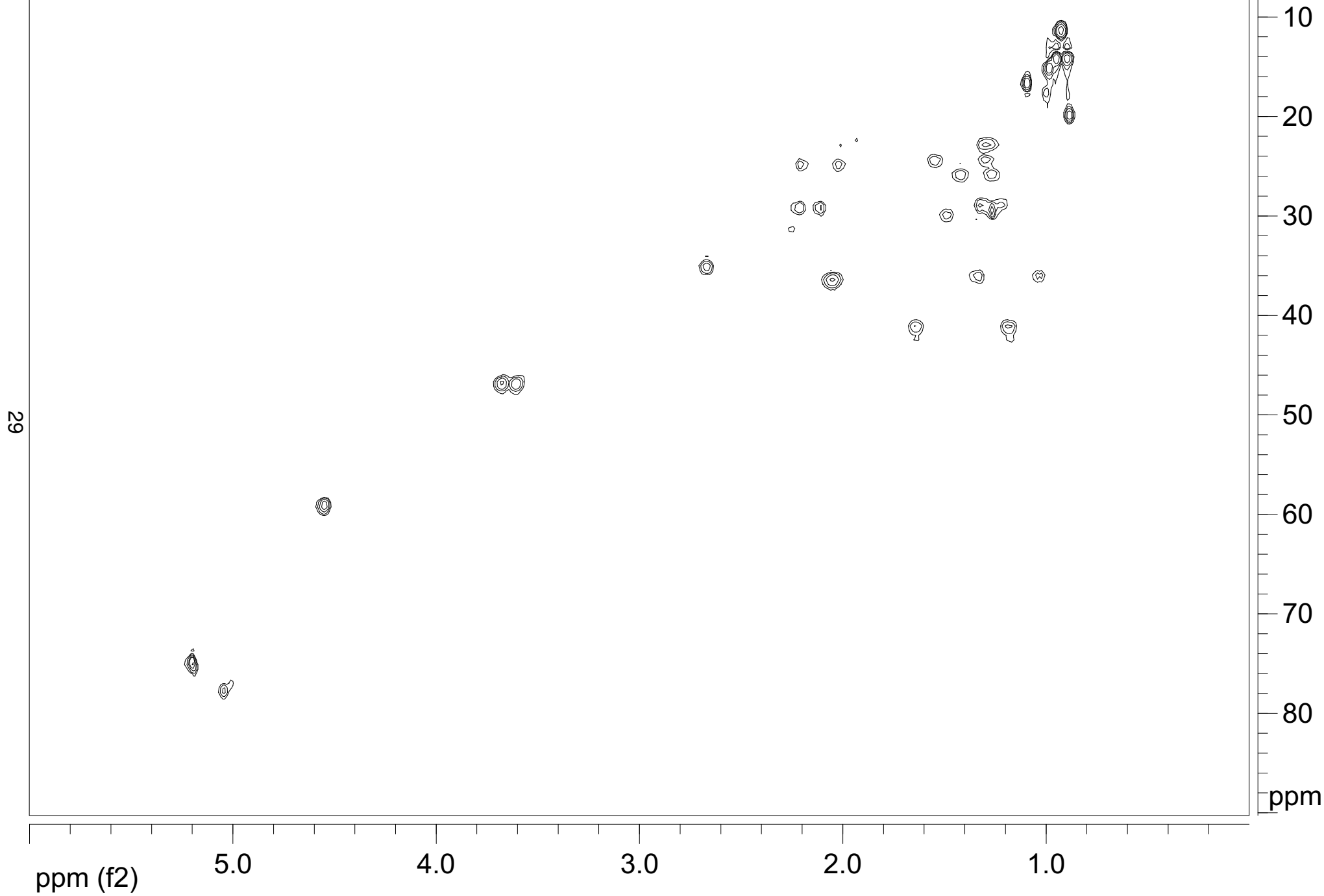


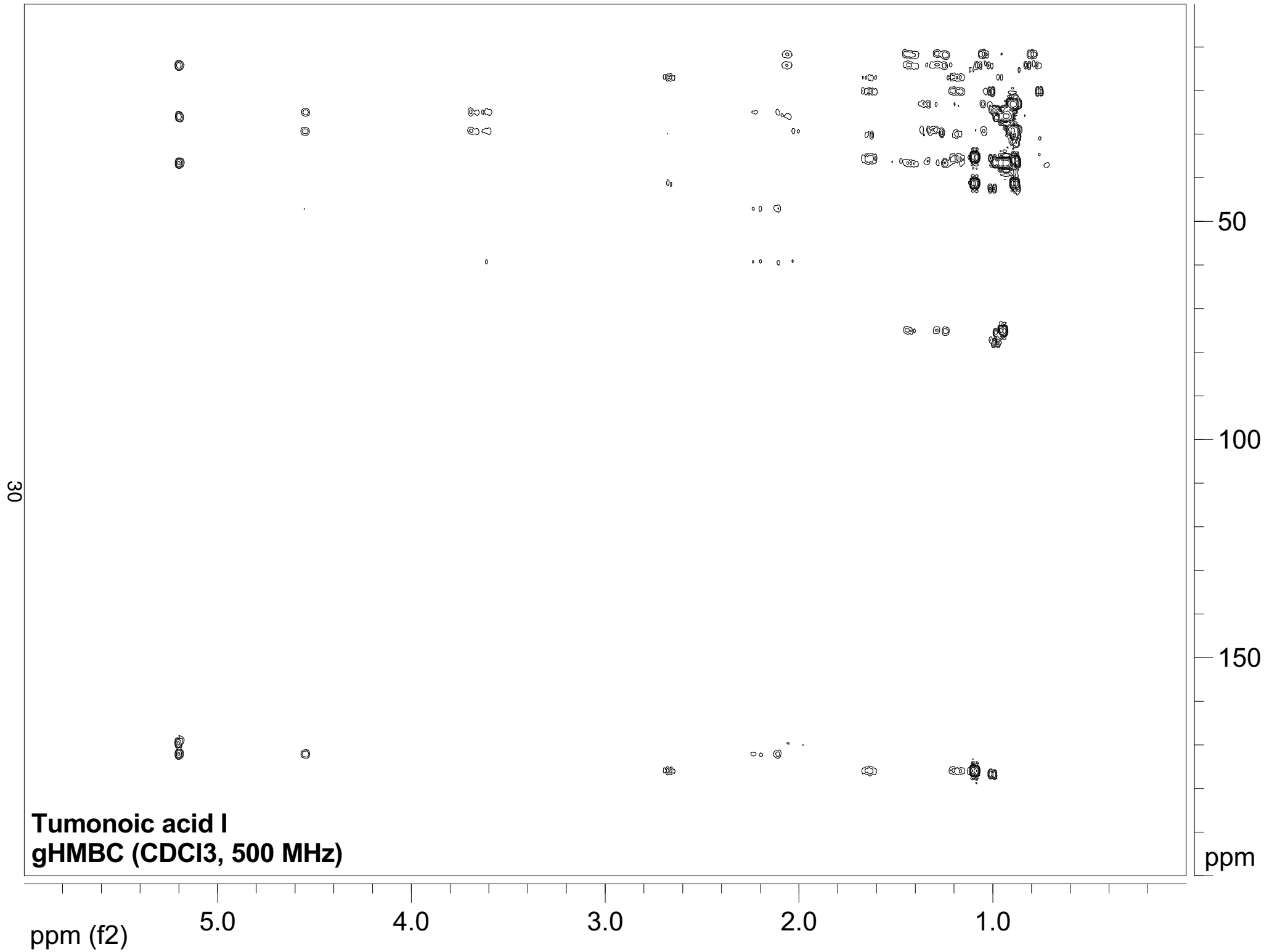


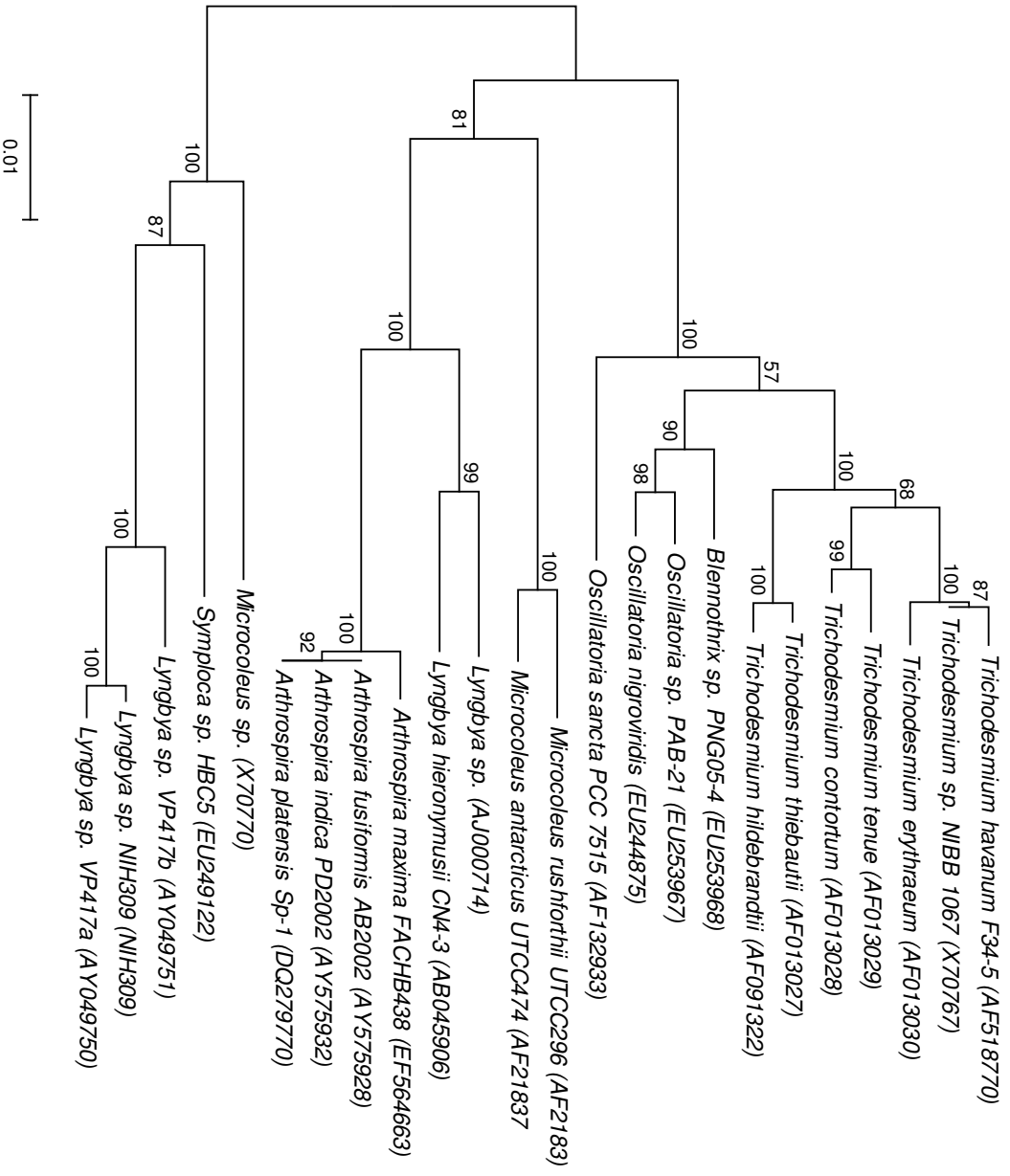
Tumonoic acid I
gCOSY (CDCl₃, 500 MHz)



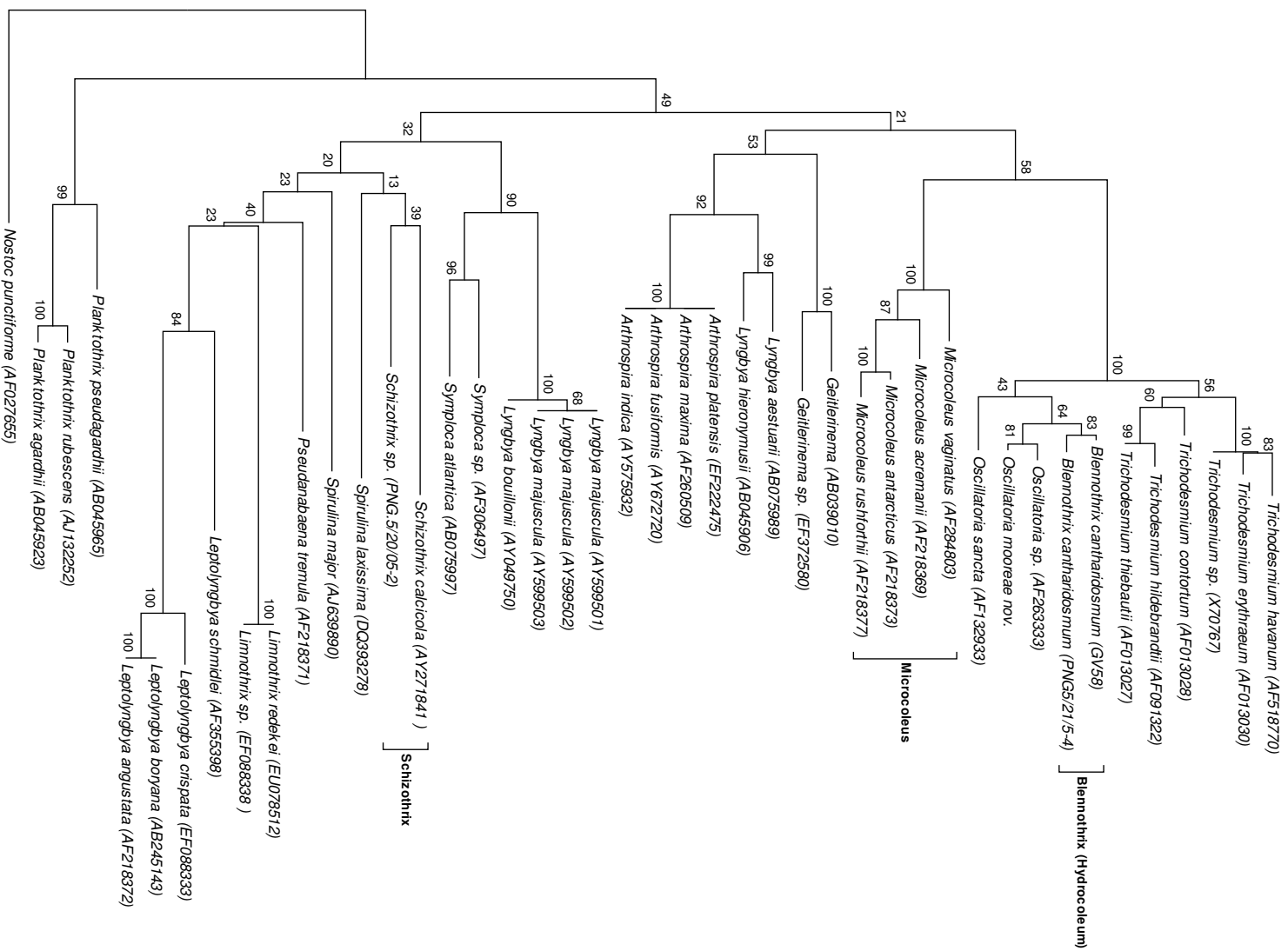
Tumonoic acid I
gHSQC (CDCl₃, 500 MHz)







(ML)-phylogenetic tree including the full 1,414 nucleotide sequence



(ML)-phylogenetic tree composed of partial 599 nucleotide sequence