

## **Supporting information**

for

### **Unsaturated fatty acids and a prenylated tryptophan derivative from a rare actinomycete of the genus *Couchioplanes***

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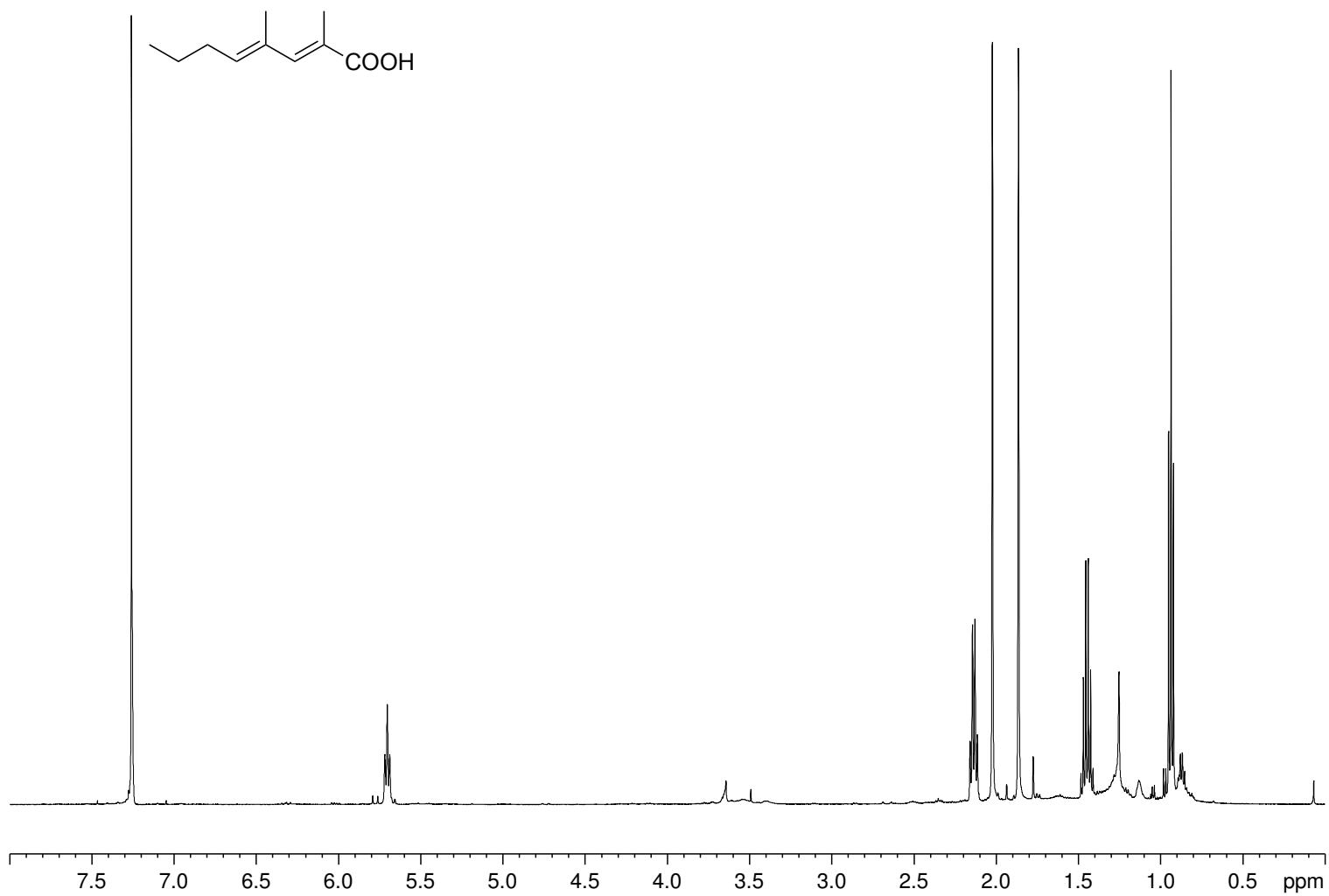
Yasuhiro Igarashi\*<sup>1</sup>

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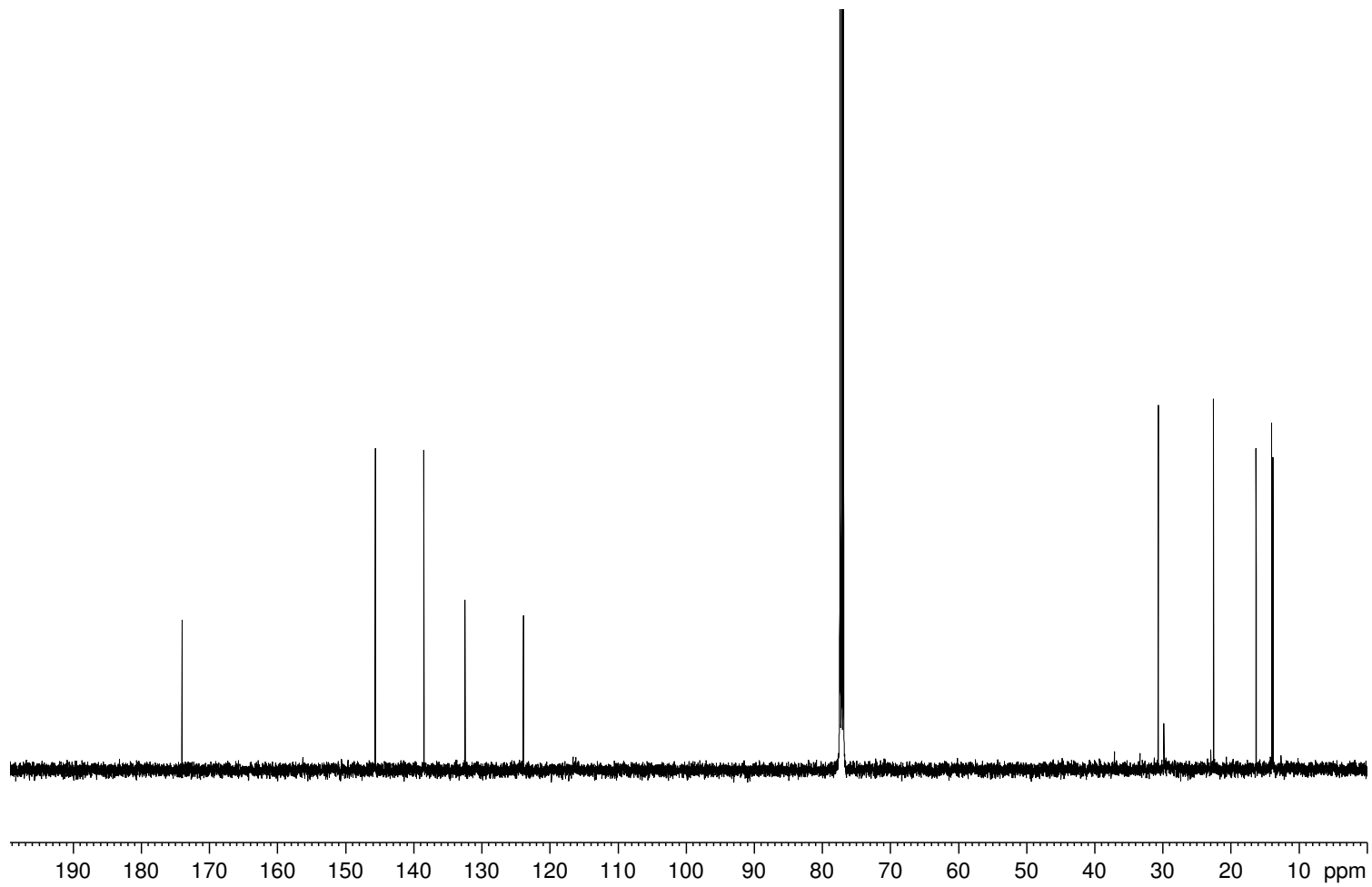
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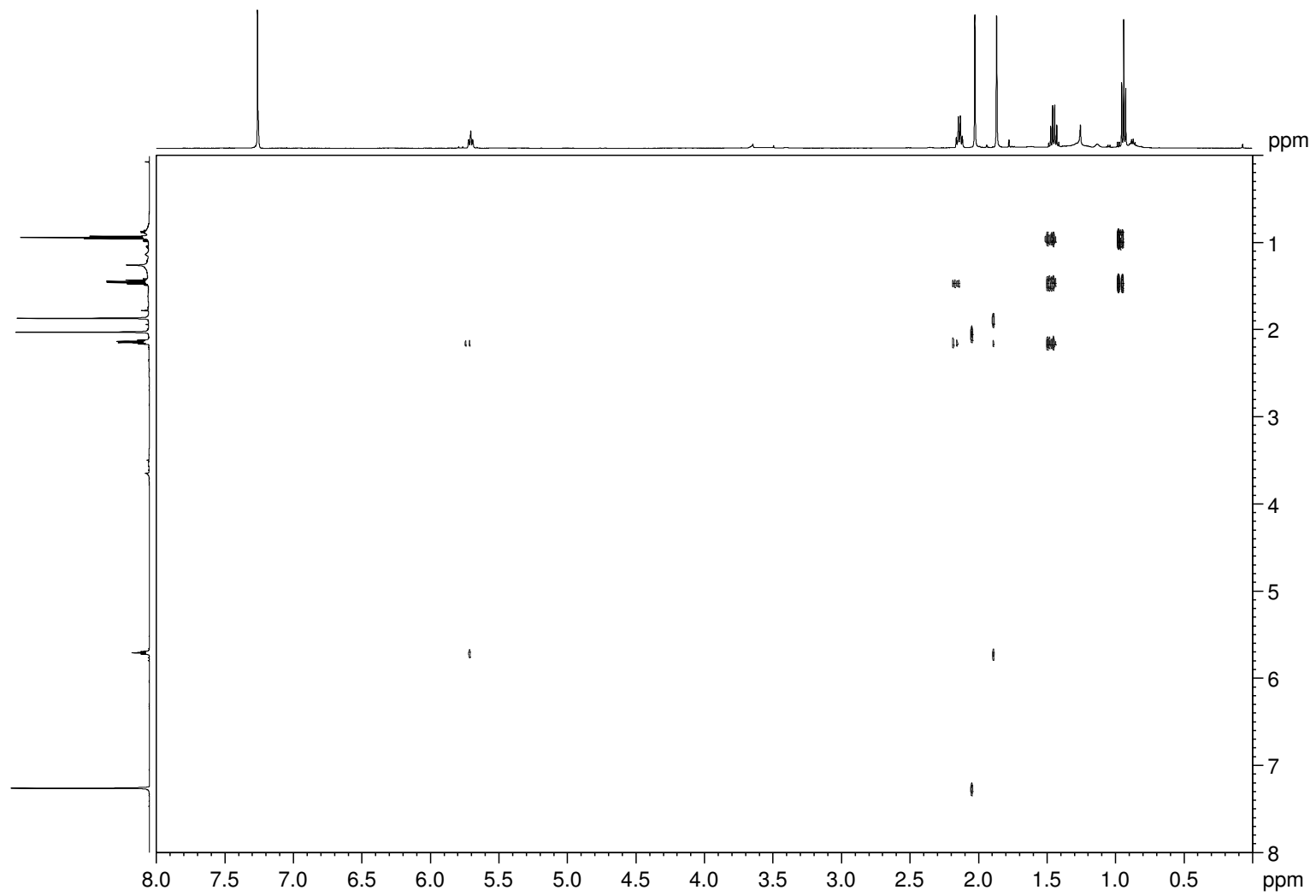
**Figure S1.**  $^1\text{H}$  NMR spectrum of compound **1** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S2.**  $^{13}\text{C}$  NMR spectrum of **1** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S3.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **1** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S4.** HSQC spectrum of **1** (500 MHz, CDCl<sub>3</sub>).

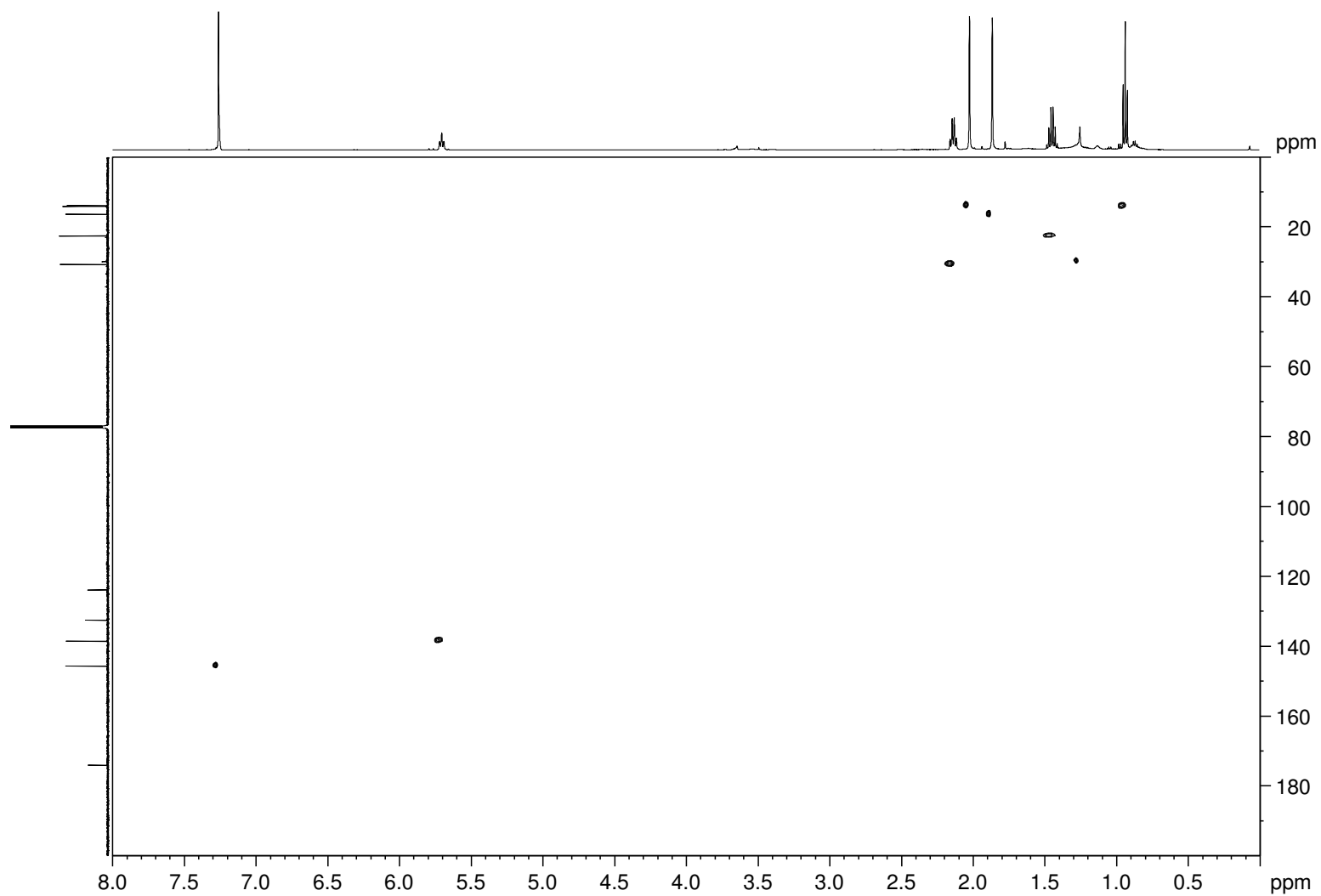
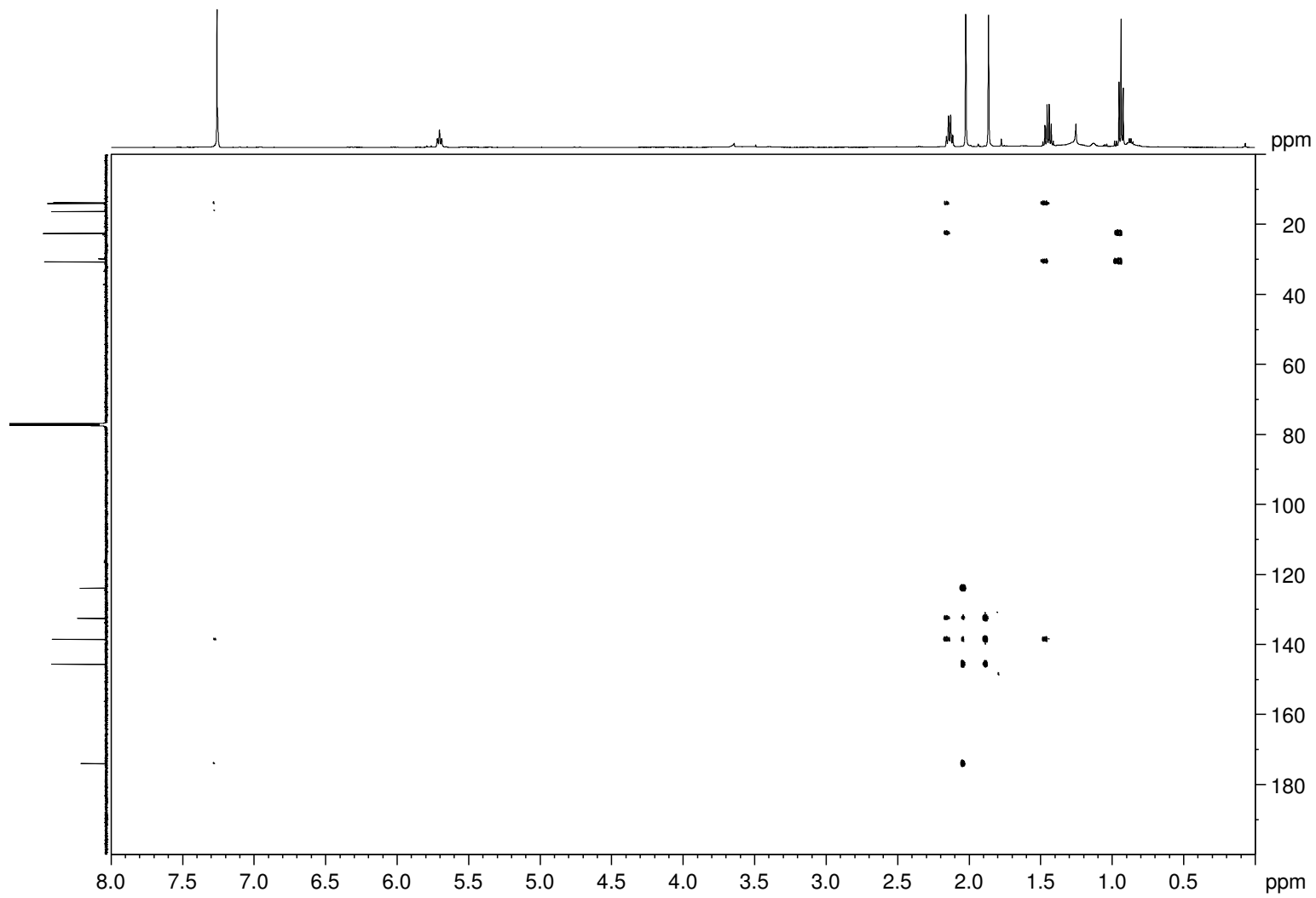
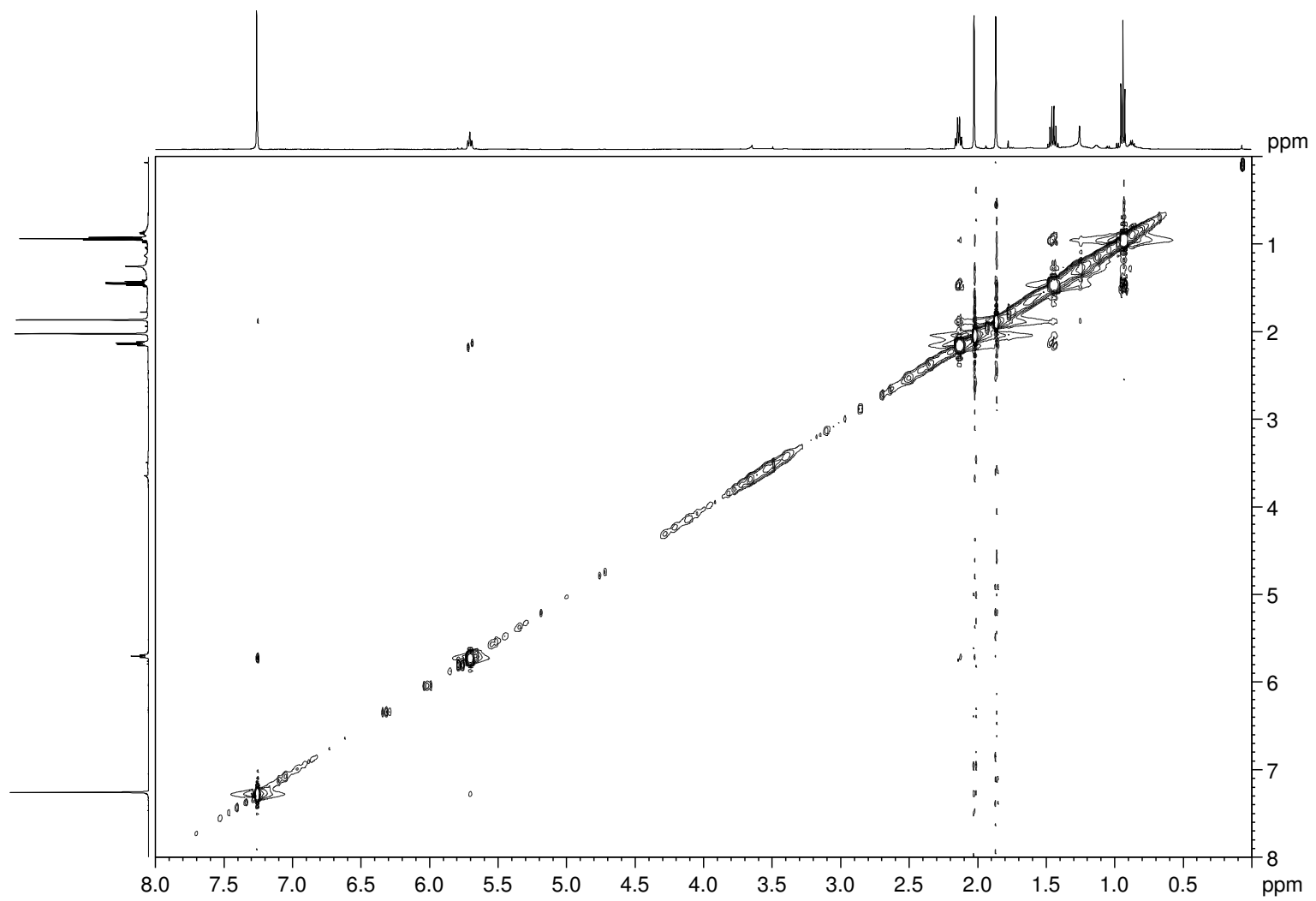


Figure S5. HMBC spectrum of **1** (500 MHz, CDCl<sub>3</sub>).

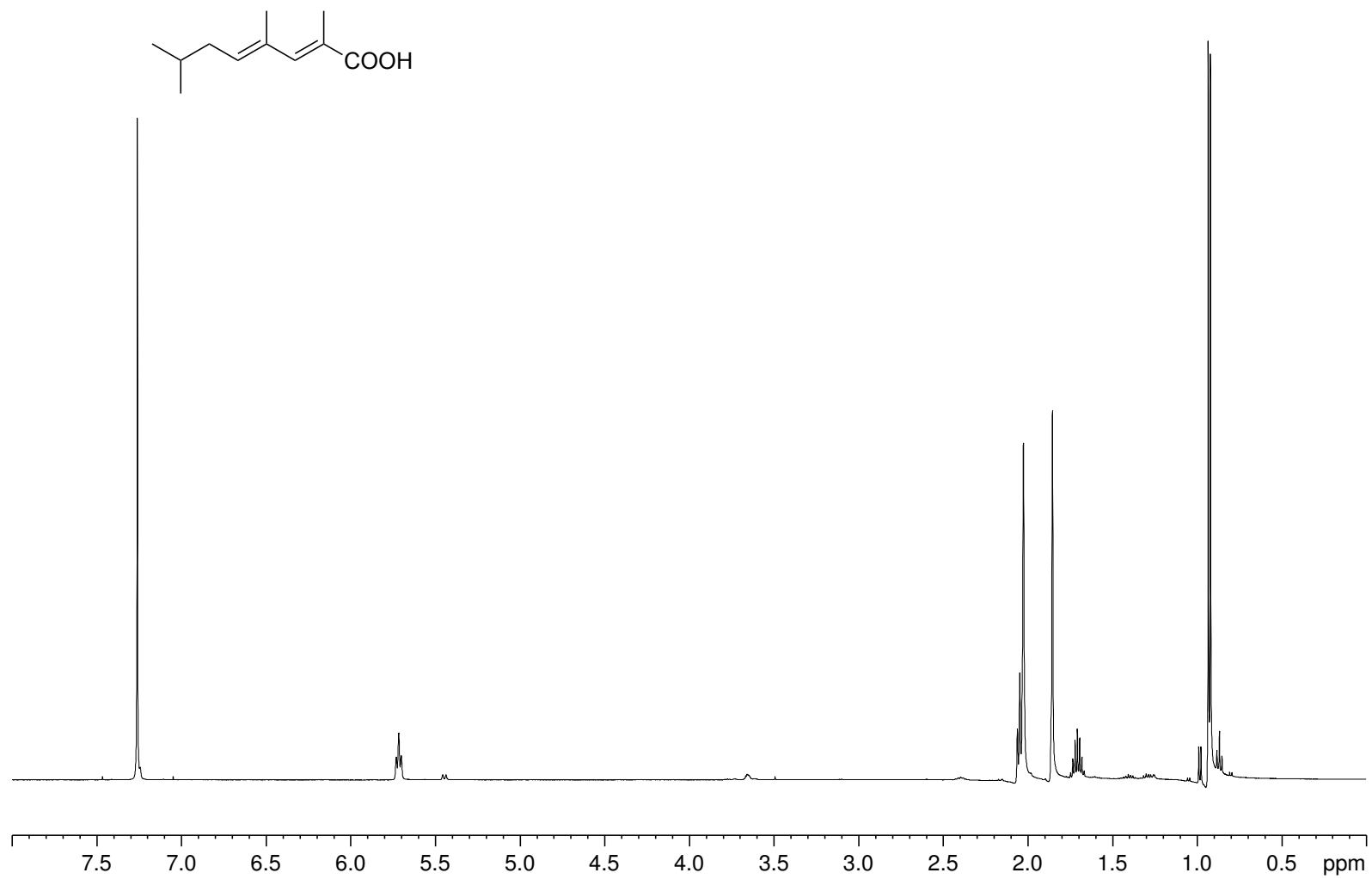




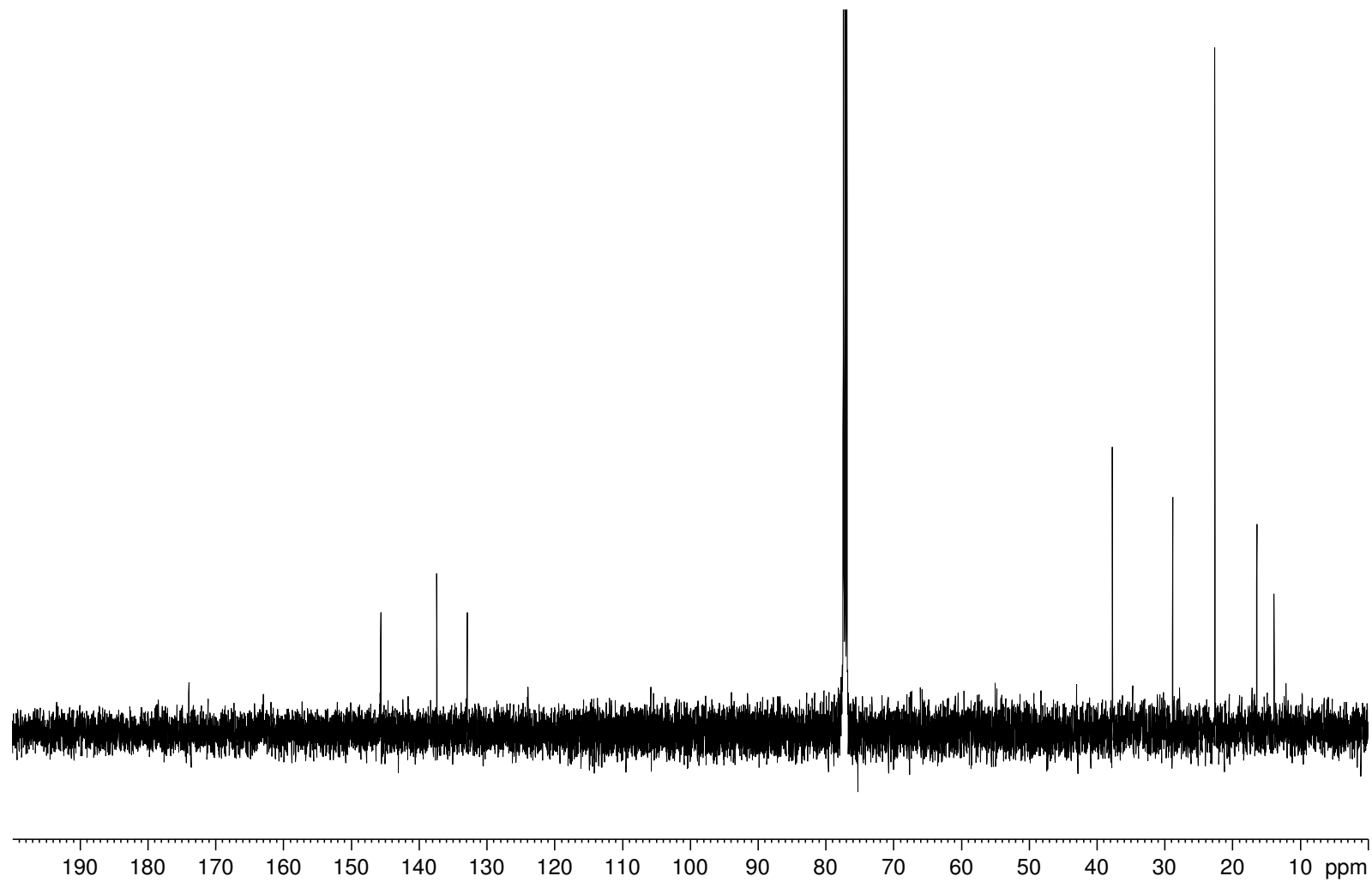
**Figure S6.** NOESY spectrum of **1** (500 MHz, CDCl<sub>3</sub>).



**Figure S7.**  $^1\text{H}$  NMR spectrum of compound **2** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S8.**  $^{13}\text{C}$  NMR spectrum of **2** (125 MHz,  $\text{CDCl}_3$ ).



**Figure S9.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **2** (500 MHz,  $\text{CDCl}_3$ ).

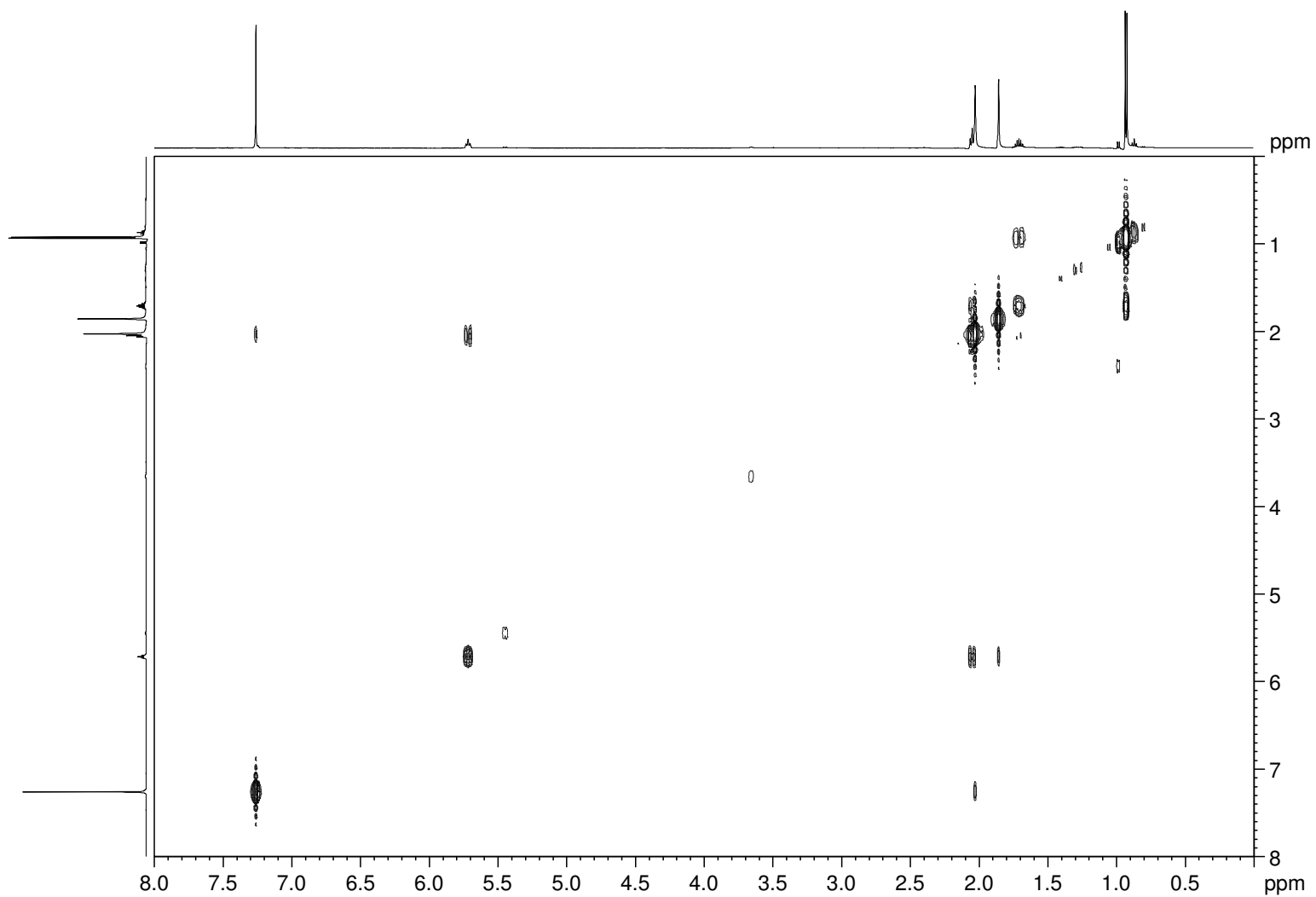


Figure S10. HSQC spectrum of **2** (500 MHz, CDCl<sub>3</sub>).

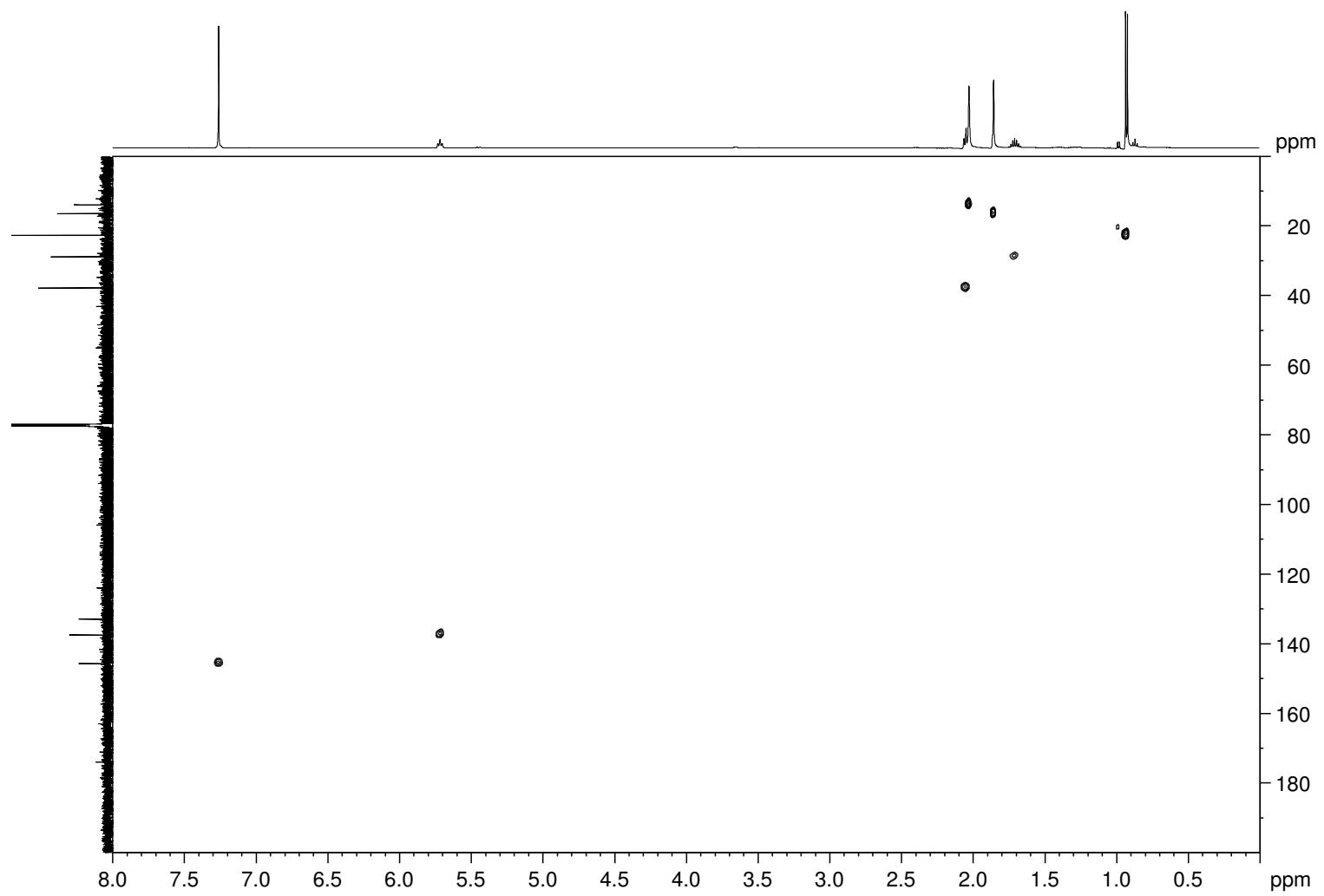
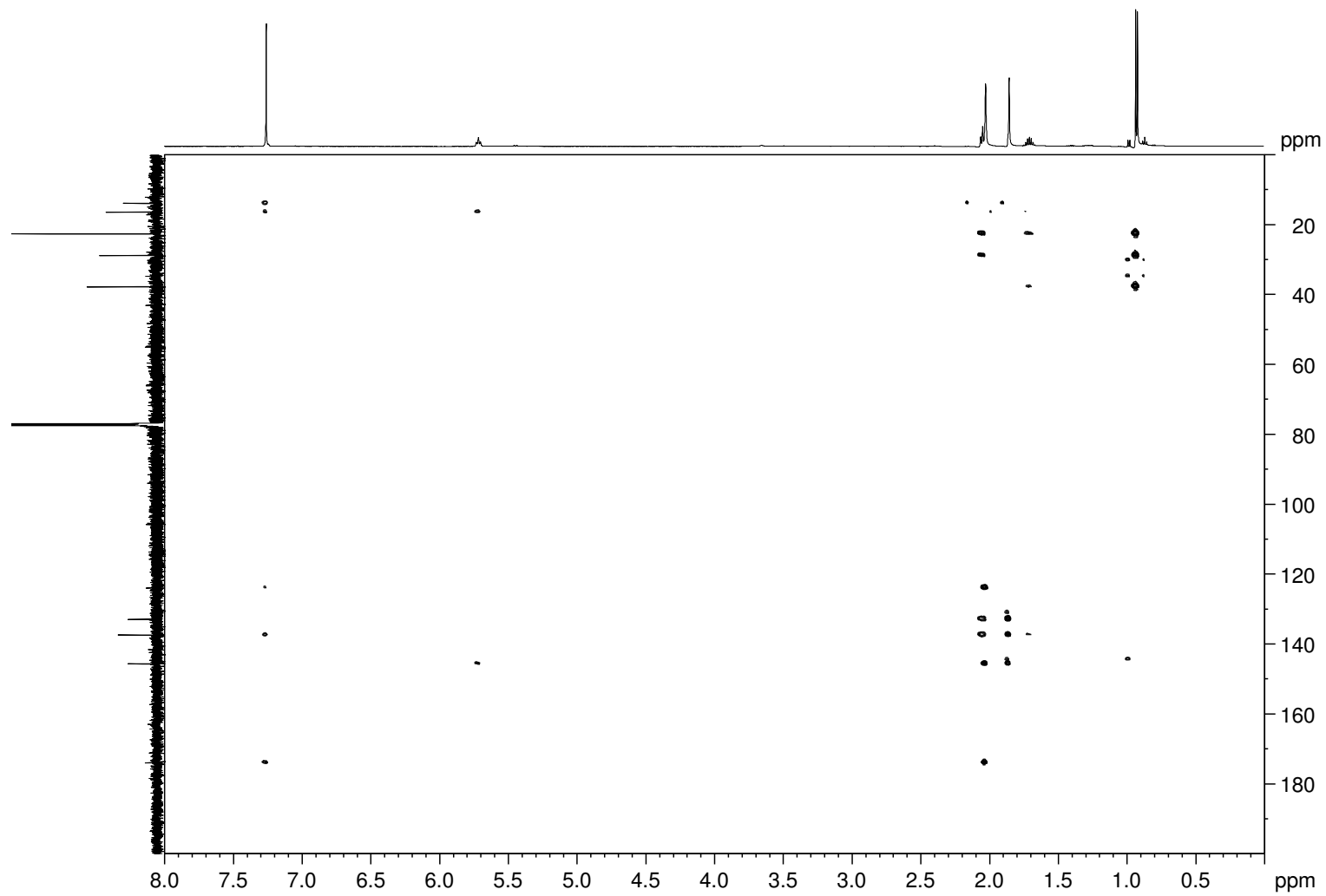
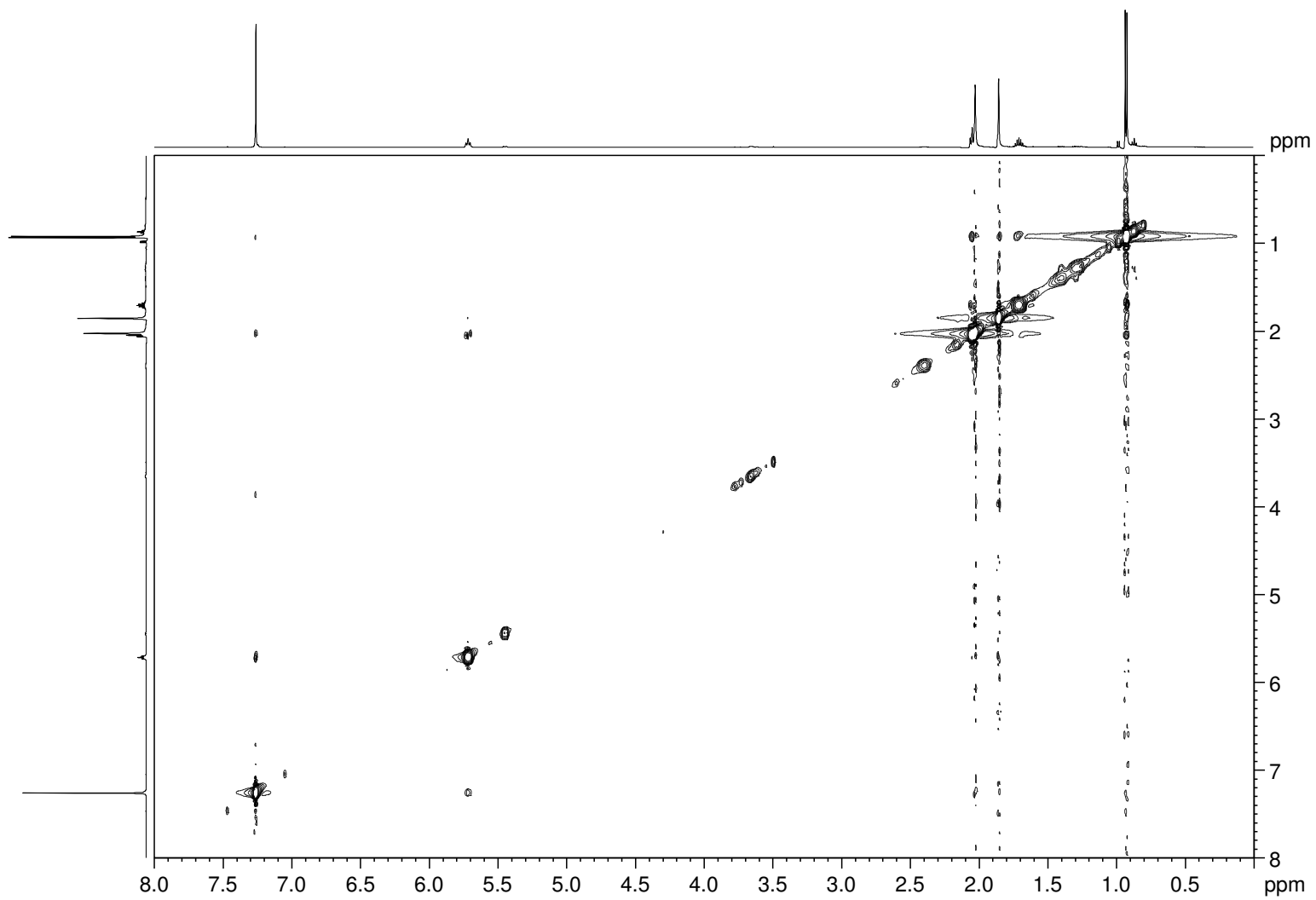


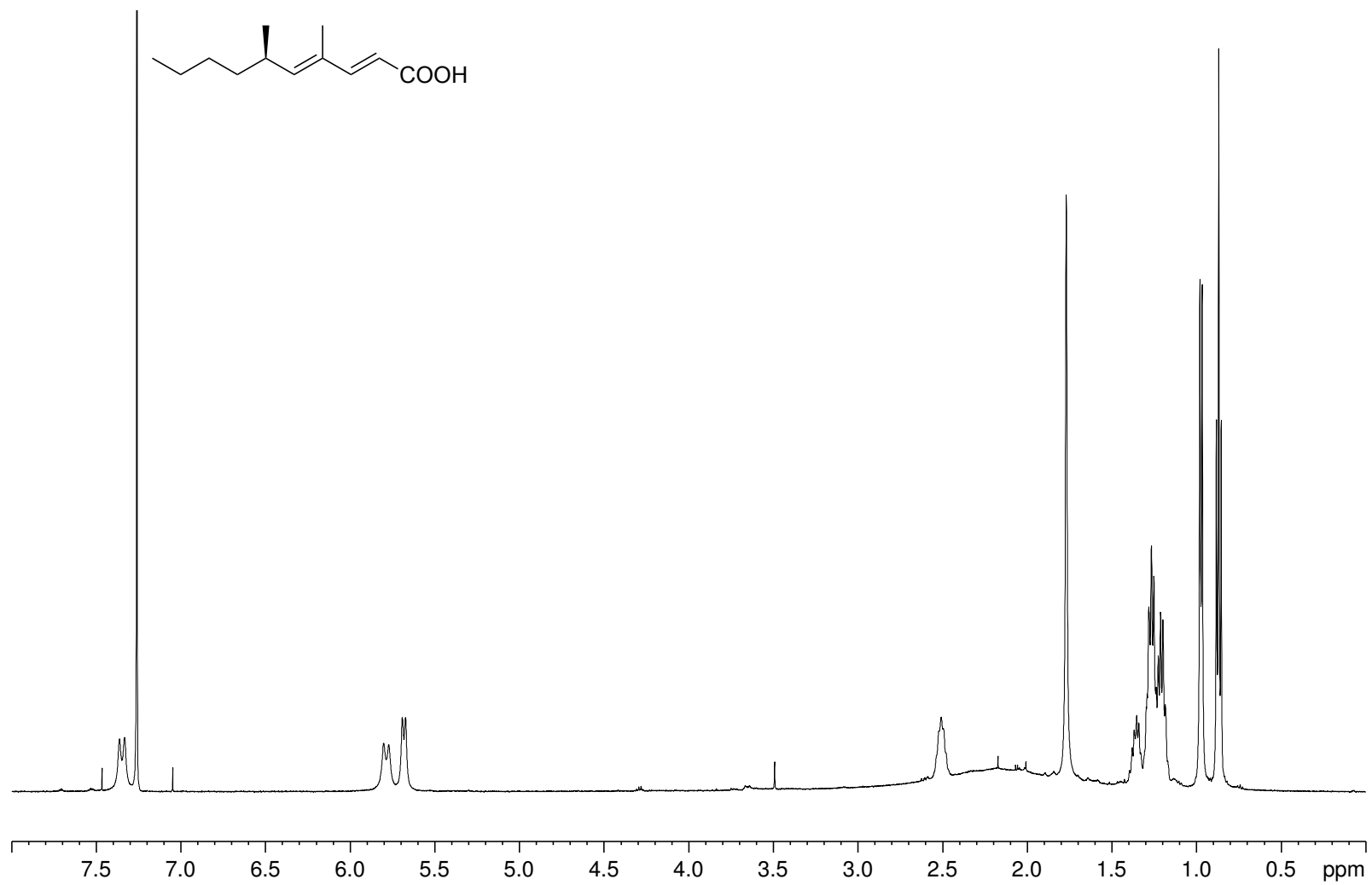
Figure S11. HMBC spectrum of **2** (500 MHz, CDCl<sub>3</sub>).



**Figure S12.** NOESY spectrum of **2** (500 MHz, CDCl<sub>3</sub>).

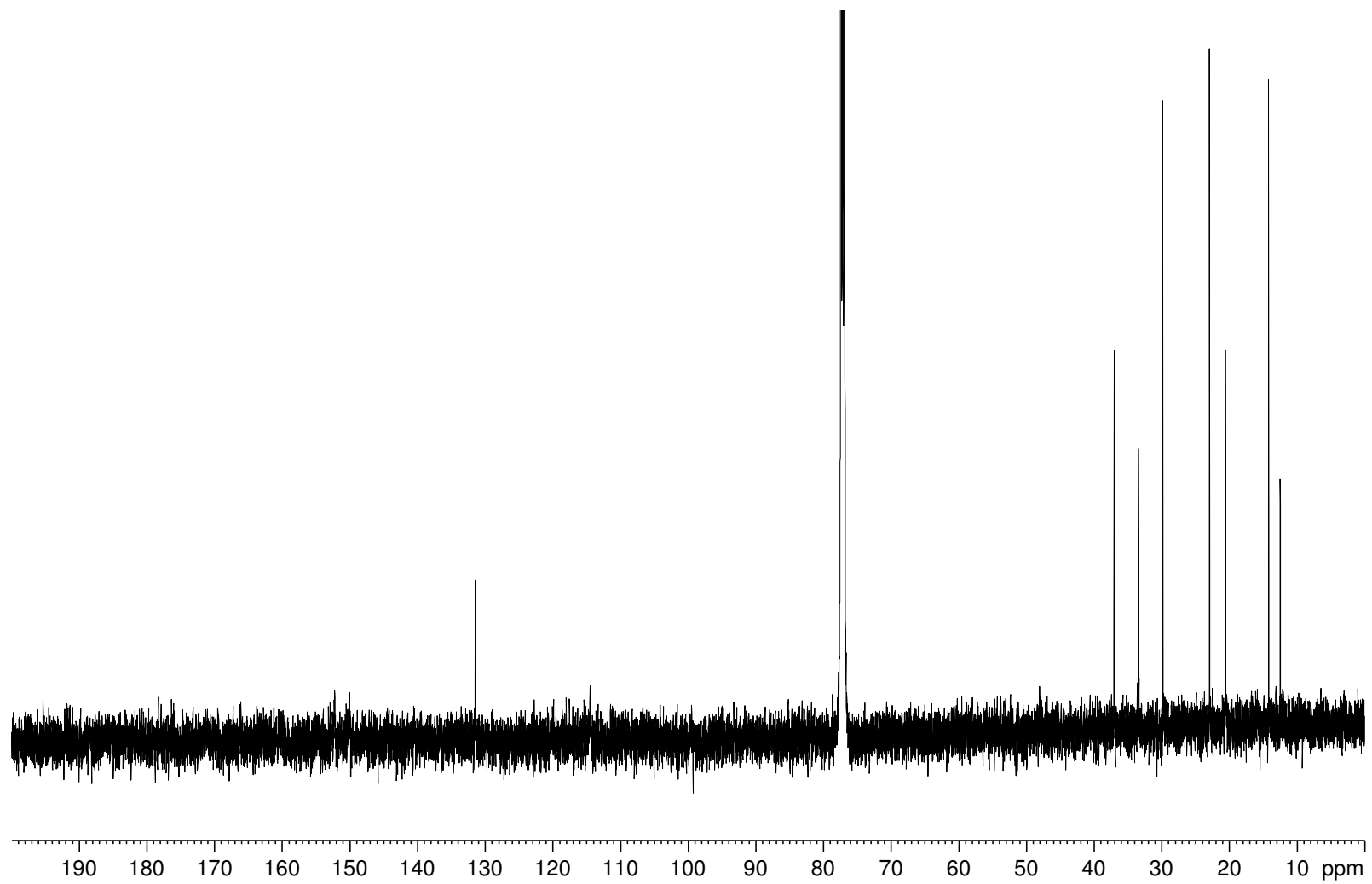


**Figure S13.**  $^1\text{H}$  NMR spectrum of compound **3** (500 MHz,  $\text{CDCl}_3$ ).





**Figure S14.**  $^{13}\text{C}$  NMR spectrum of **3** (125 MHz,  $\text{CDCl}_3$ ).



**Figure S15.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **3** (500 MHz,  $\text{CDCl}_3$ ).

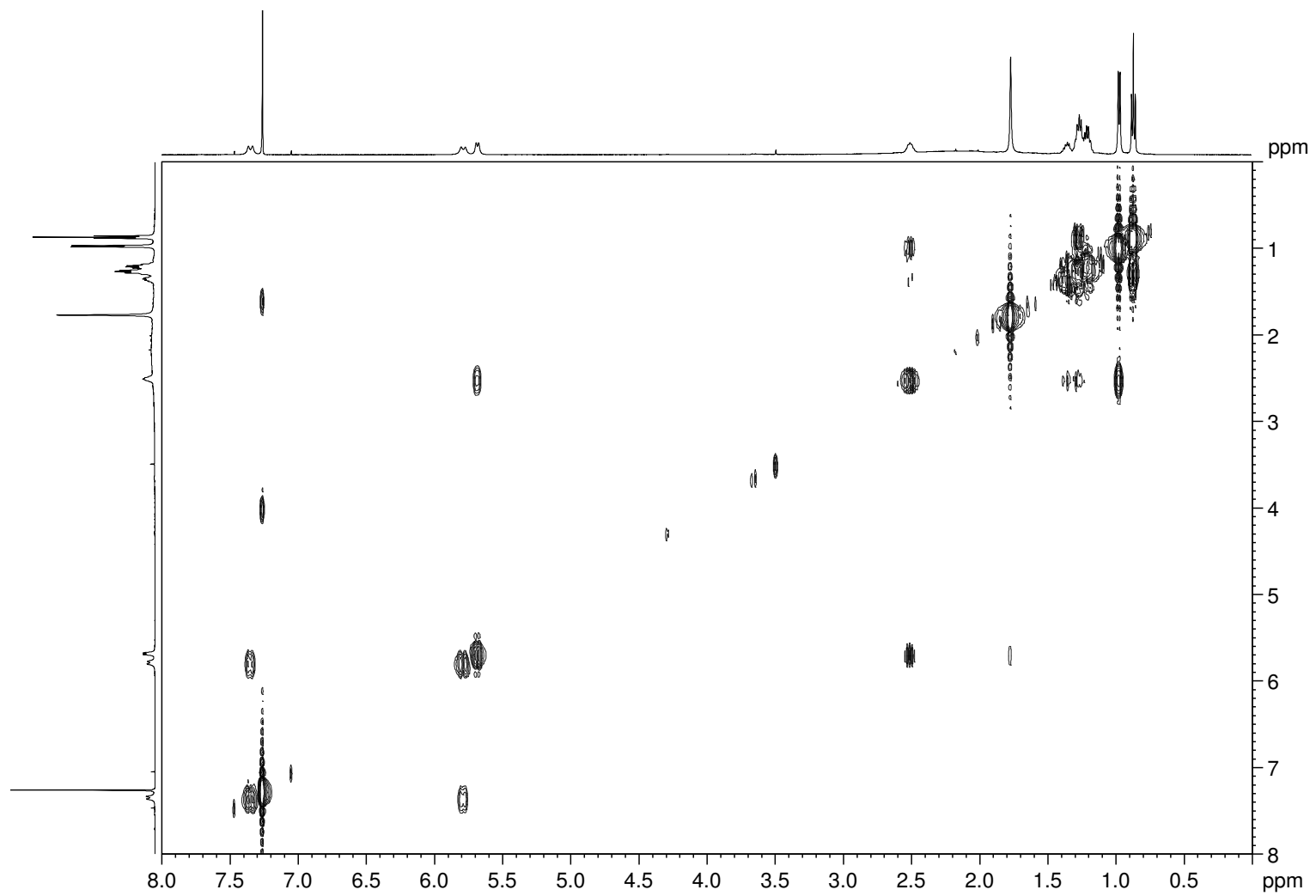


Figure S16. HSQC spectrum of **3** (500 MHz, CDCl<sub>3</sub>).

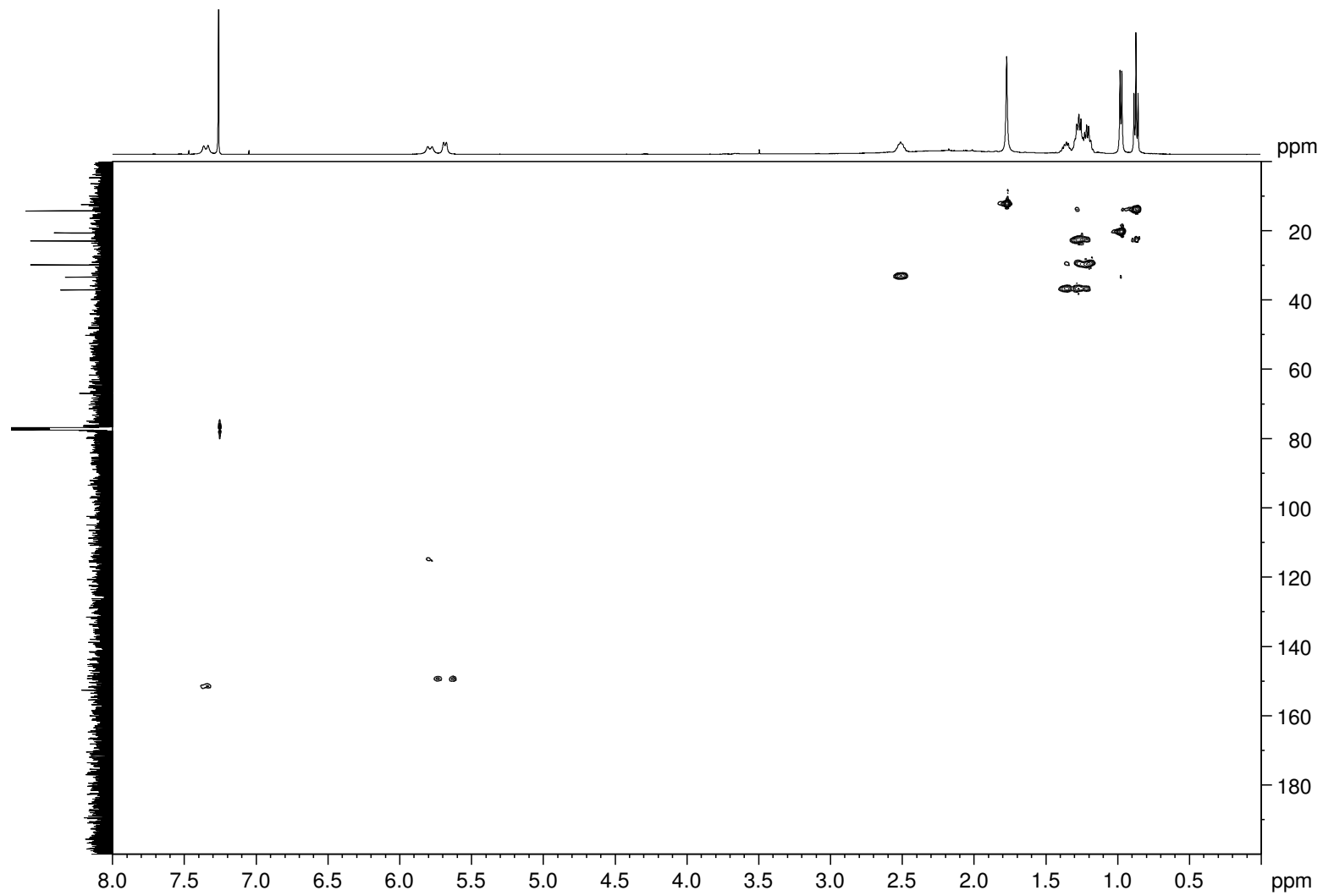
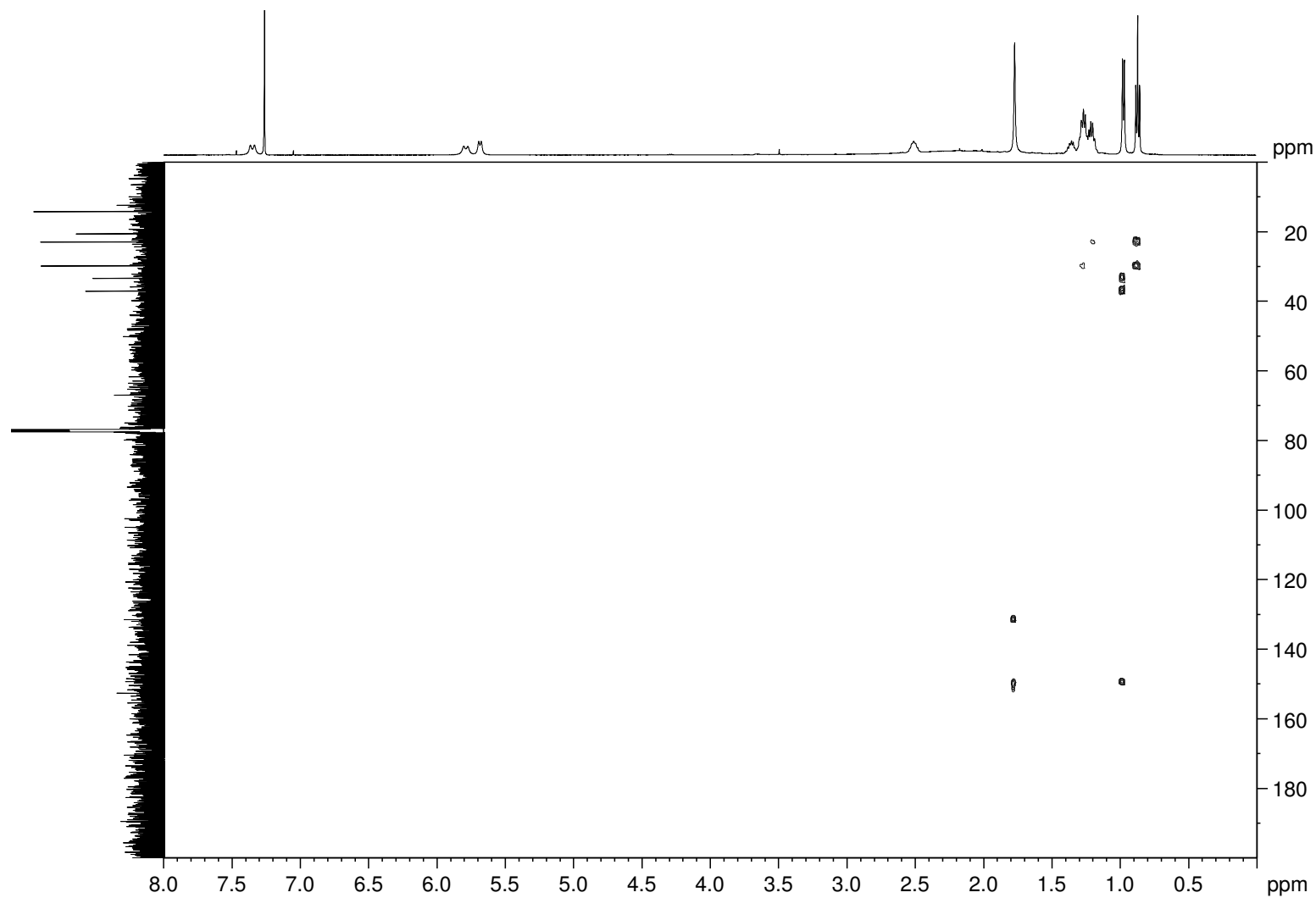
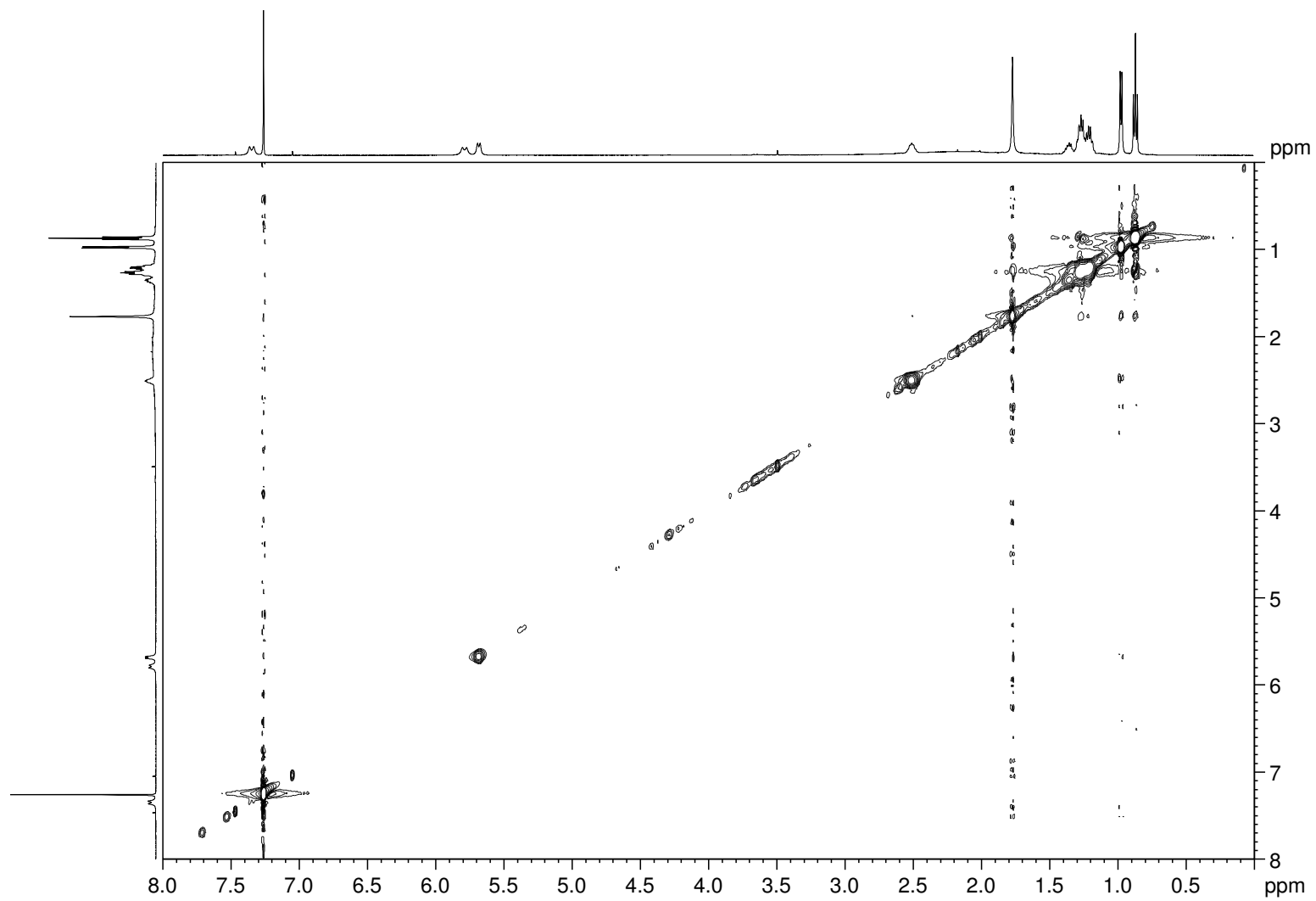


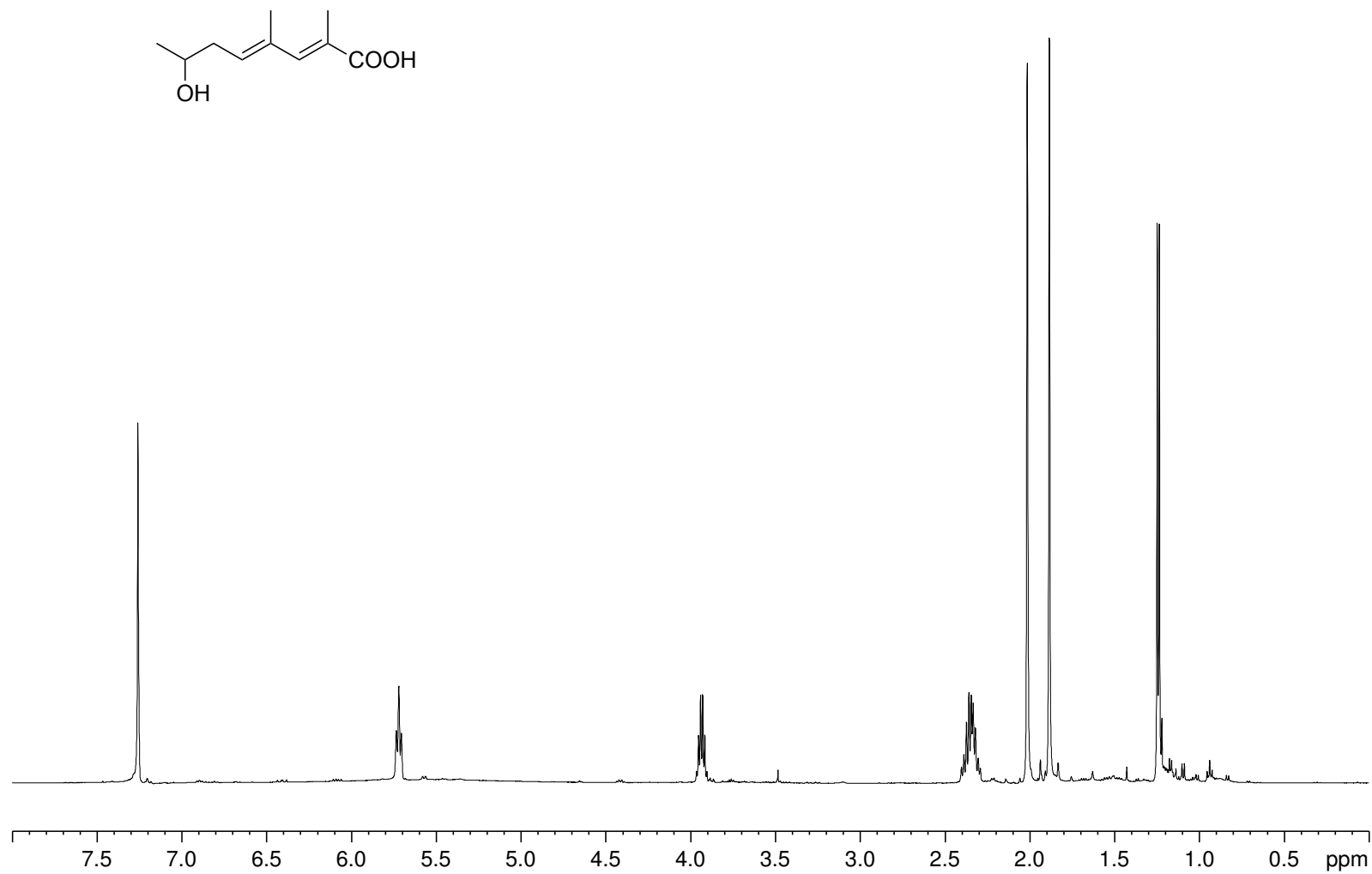
Figure S17. HMBC spectrum of **3** (500 MHz, CDCl<sub>3</sub>).



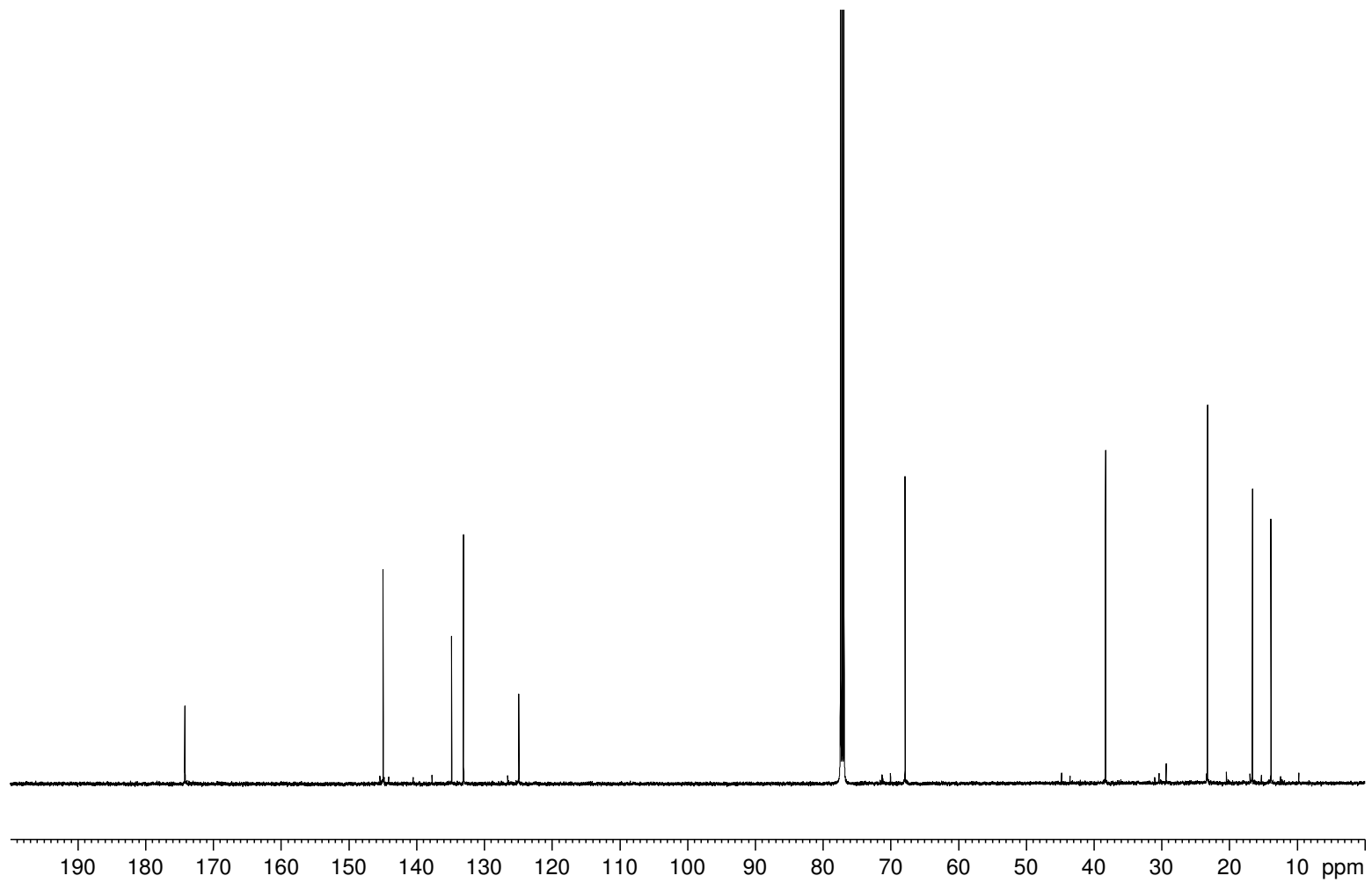
**Figure S18.** NOESY spectrum of **3** (500 MHz, CDCl<sub>3</sub>).



**Figure S19.**  $^1\text{H}$  NMR spectrum of compound **4** (500 MHz,  $\text{CDCl}_3$ ).



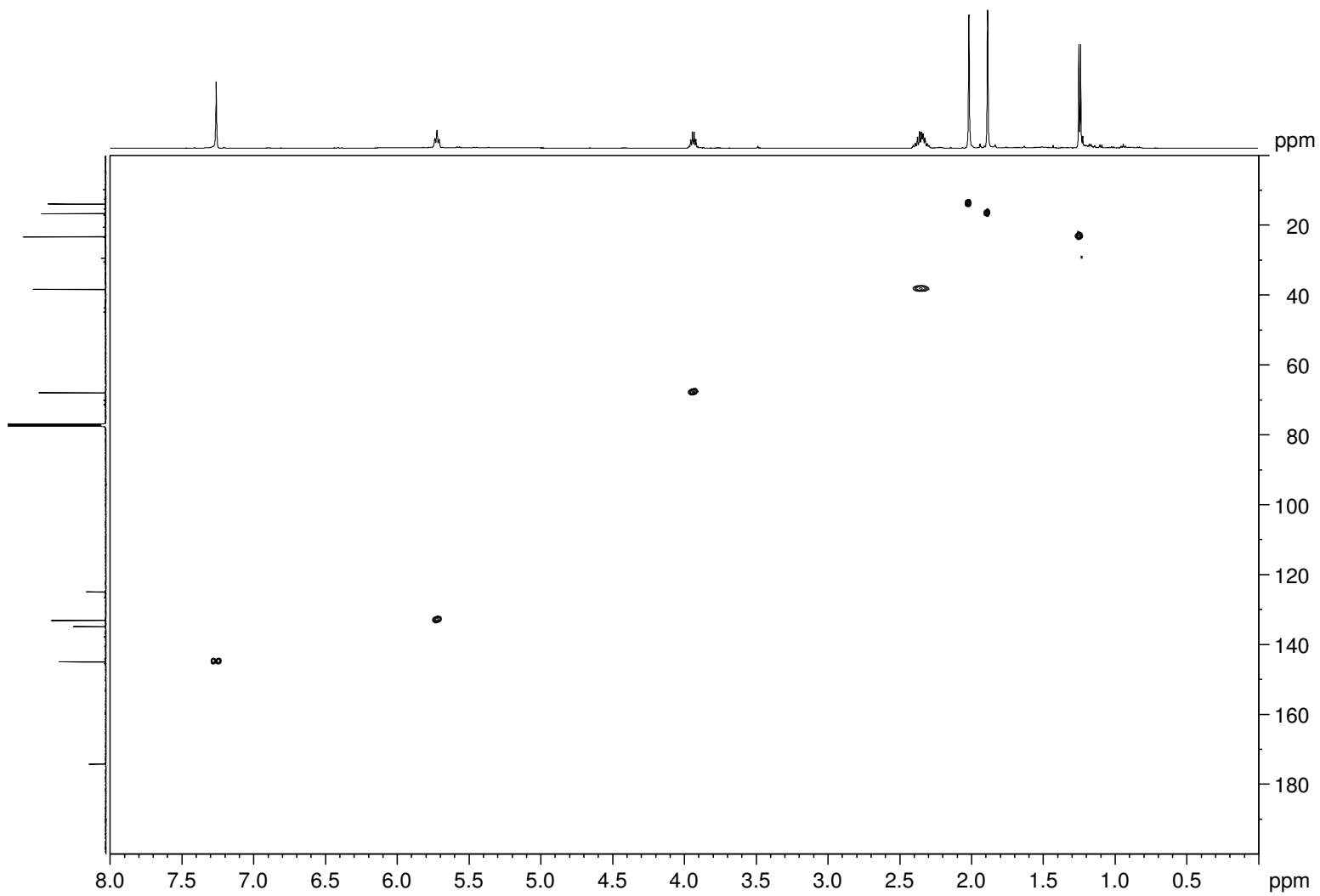
**Figure S20.**  $^{13}\text{C}$  NMR spectrum of **4** (125 MHz,  $\text{CDCl}_3$ ).



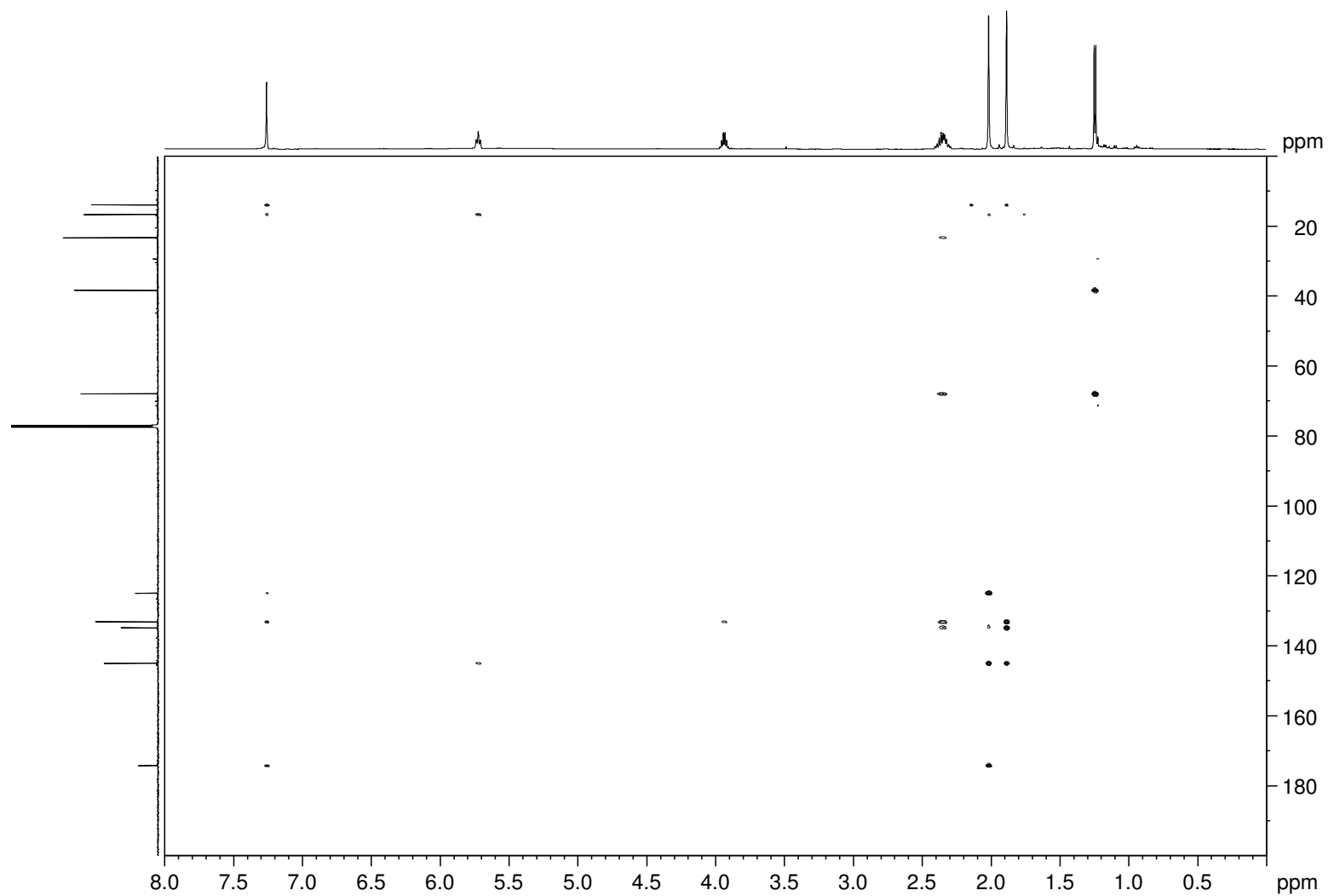




**Figure S22.** HSQC spectrum of **4** (500 MHz, CDCl<sub>3</sub>).



**Figure S23.** HMBC spectrum of **4** (500 MHz, CDCl<sub>3</sub>).



**Figure S24.** NOESY spectrum of **4** (500 MHz, CDCl<sub>3</sub>).

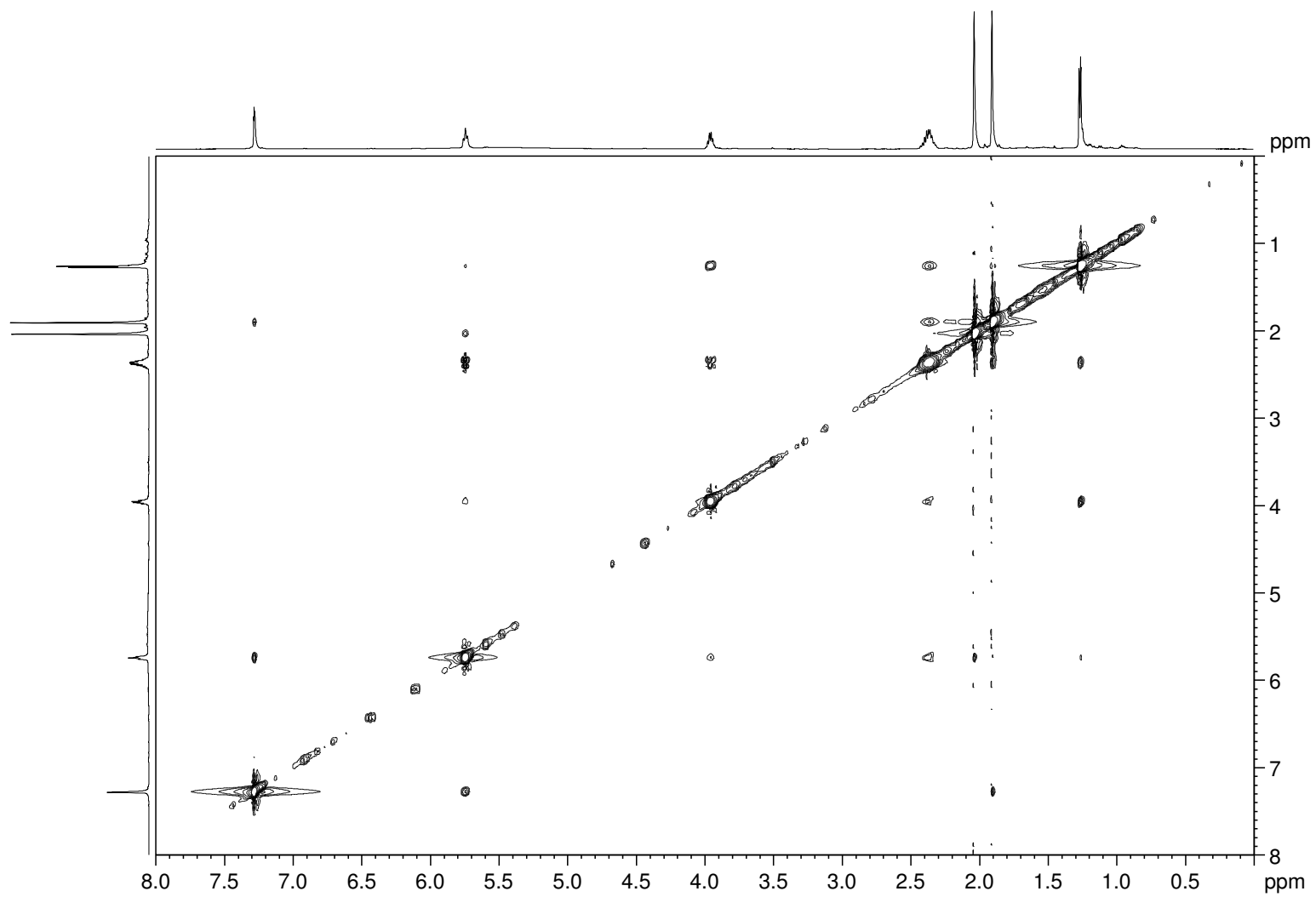


Figure S25.  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **4'a** (500 MHz,  $\text{CDCl}_3$ ).

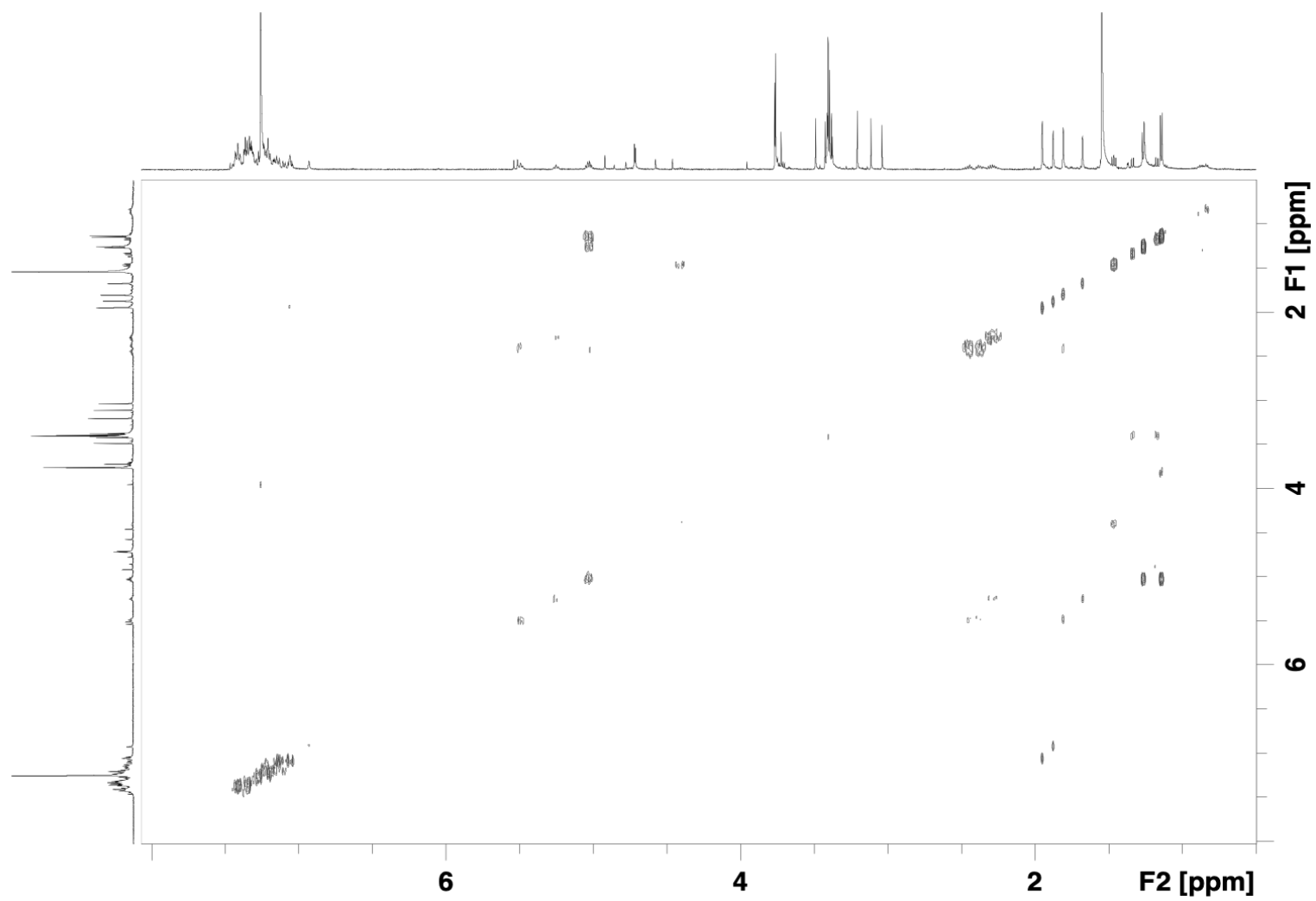
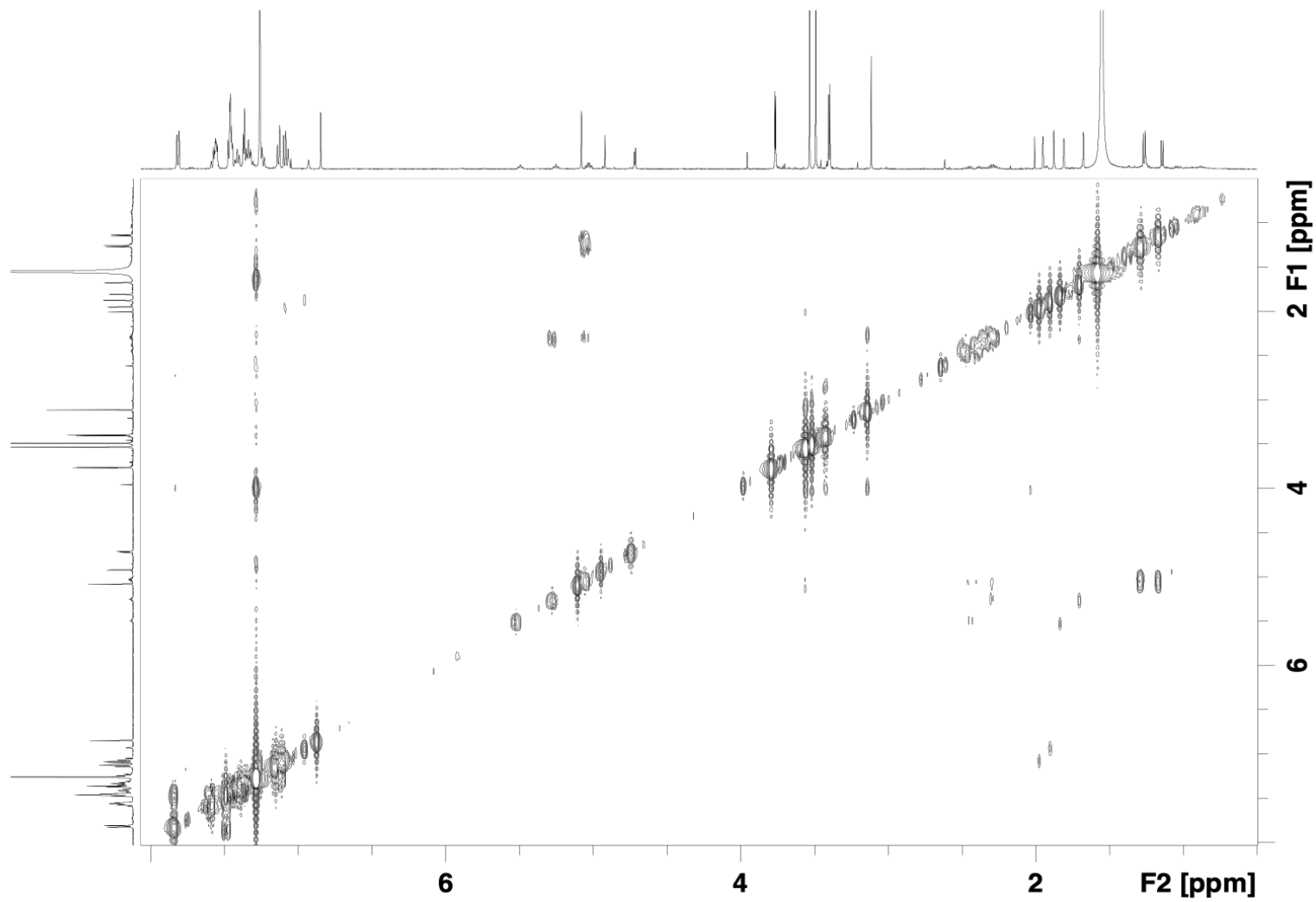
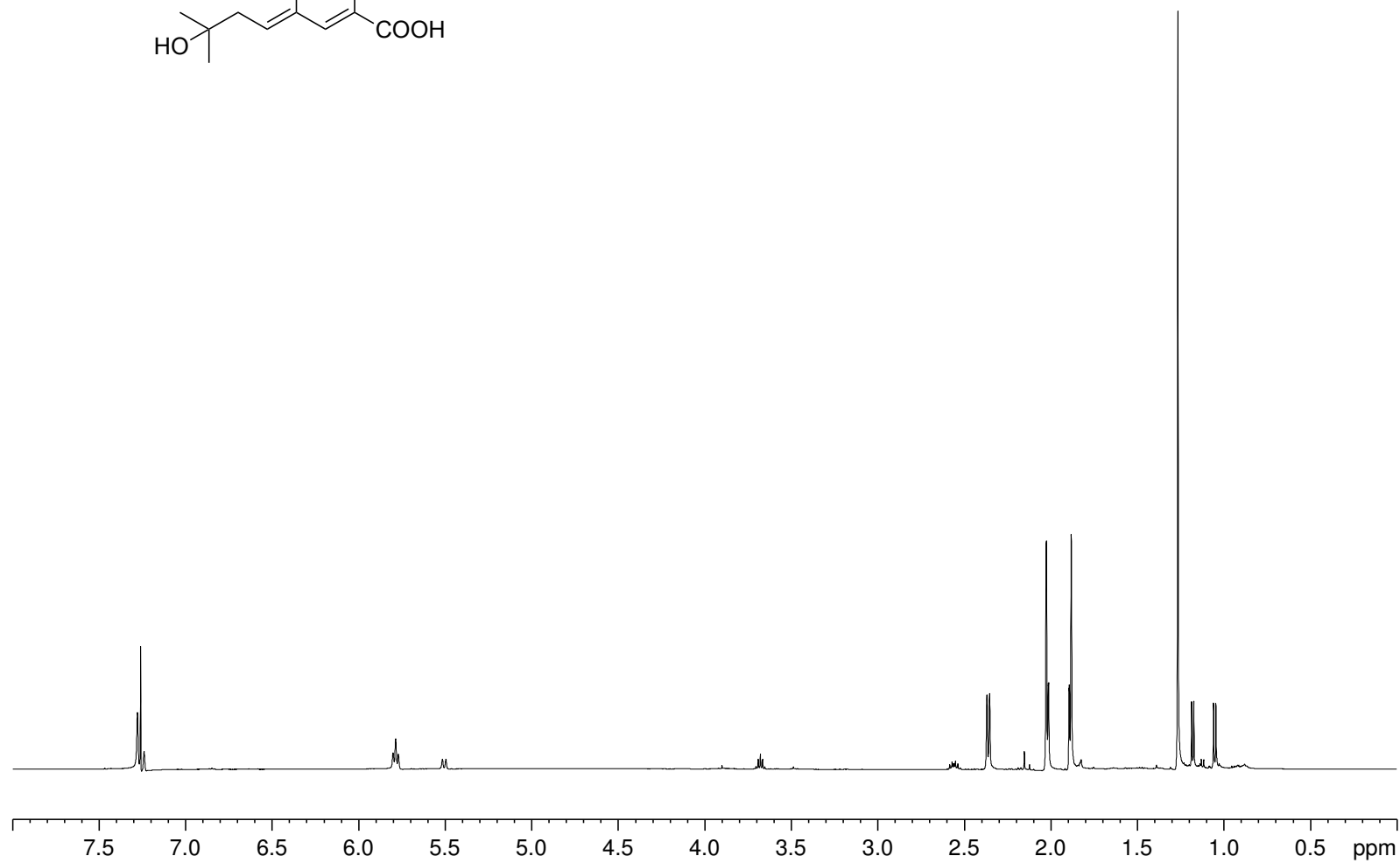
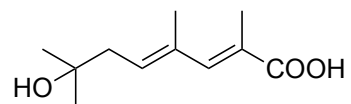


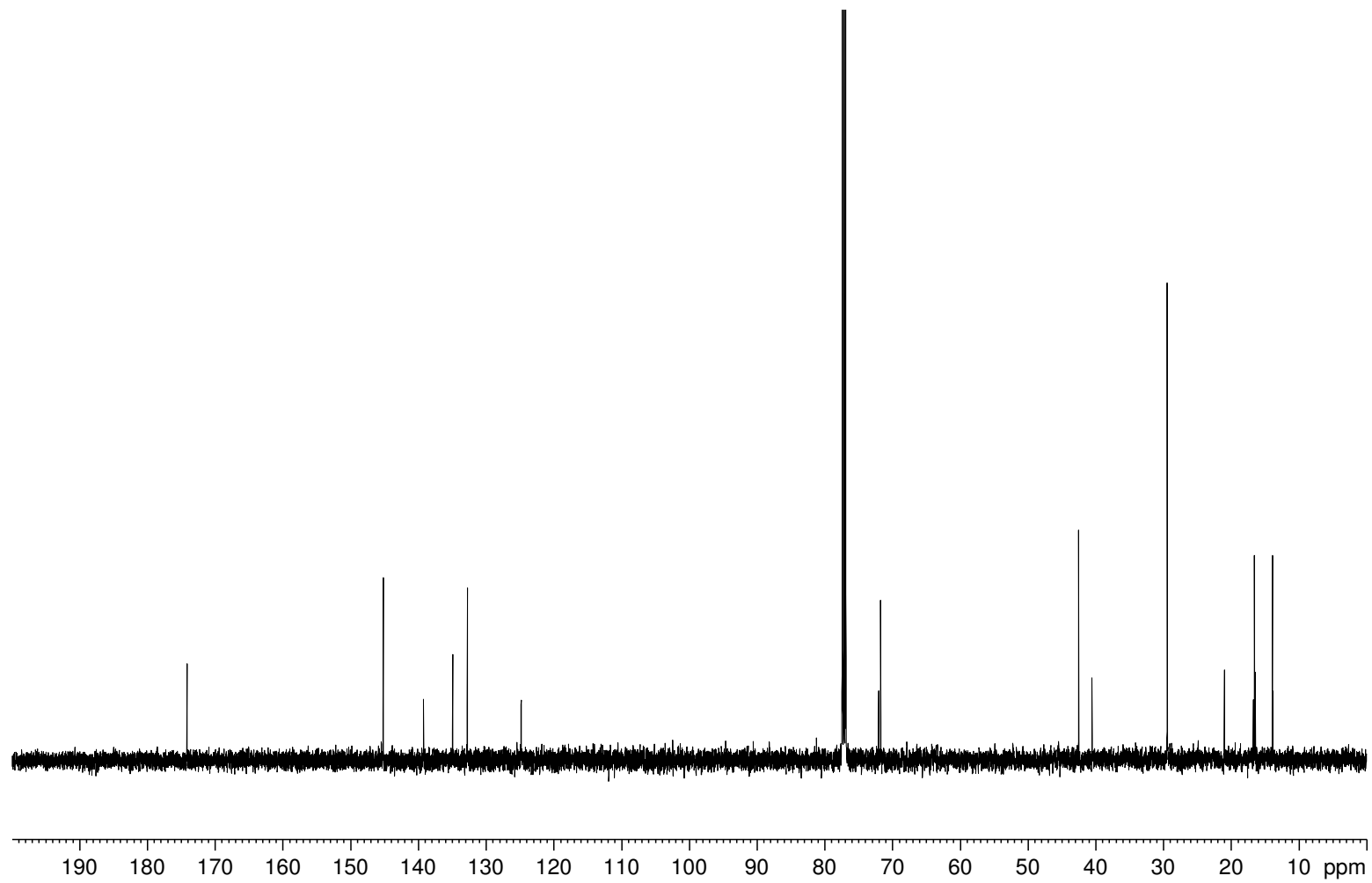
Figure S26.  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **4'b** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S27.**  $^1\text{H}$  NMR spectrum of compound **5** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S28.**  $^{13}\text{C}$  NMR spectrum of **5** (125 MHz,  $\text{CDCl}_3$ ).



**Figure S29.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **5** (500 MHz,  $\text{CDCl}_3$ ).

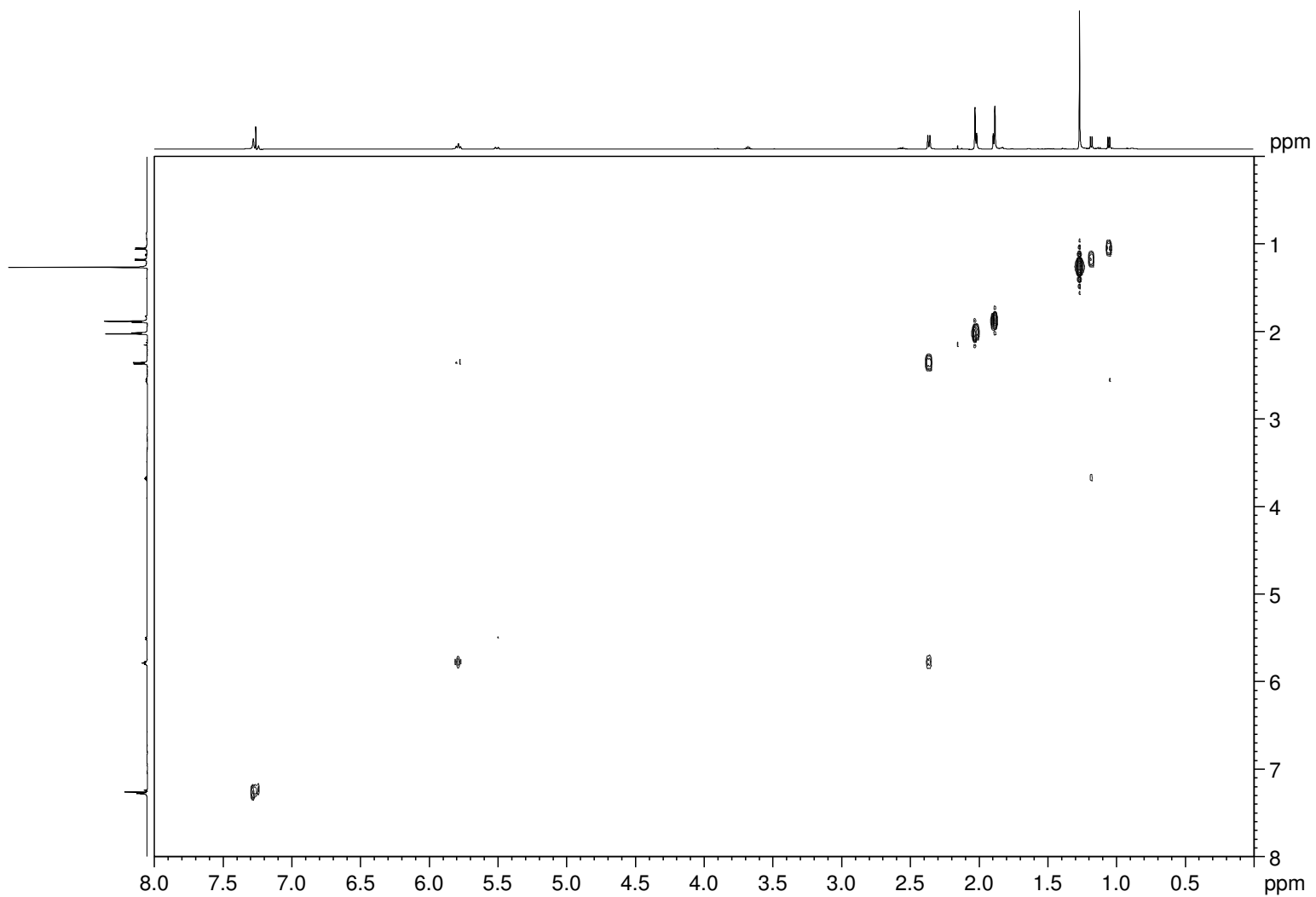




Figure S30. HSQC spectrum of **5** (500 MHz, CDCl<sub>3</sub>).

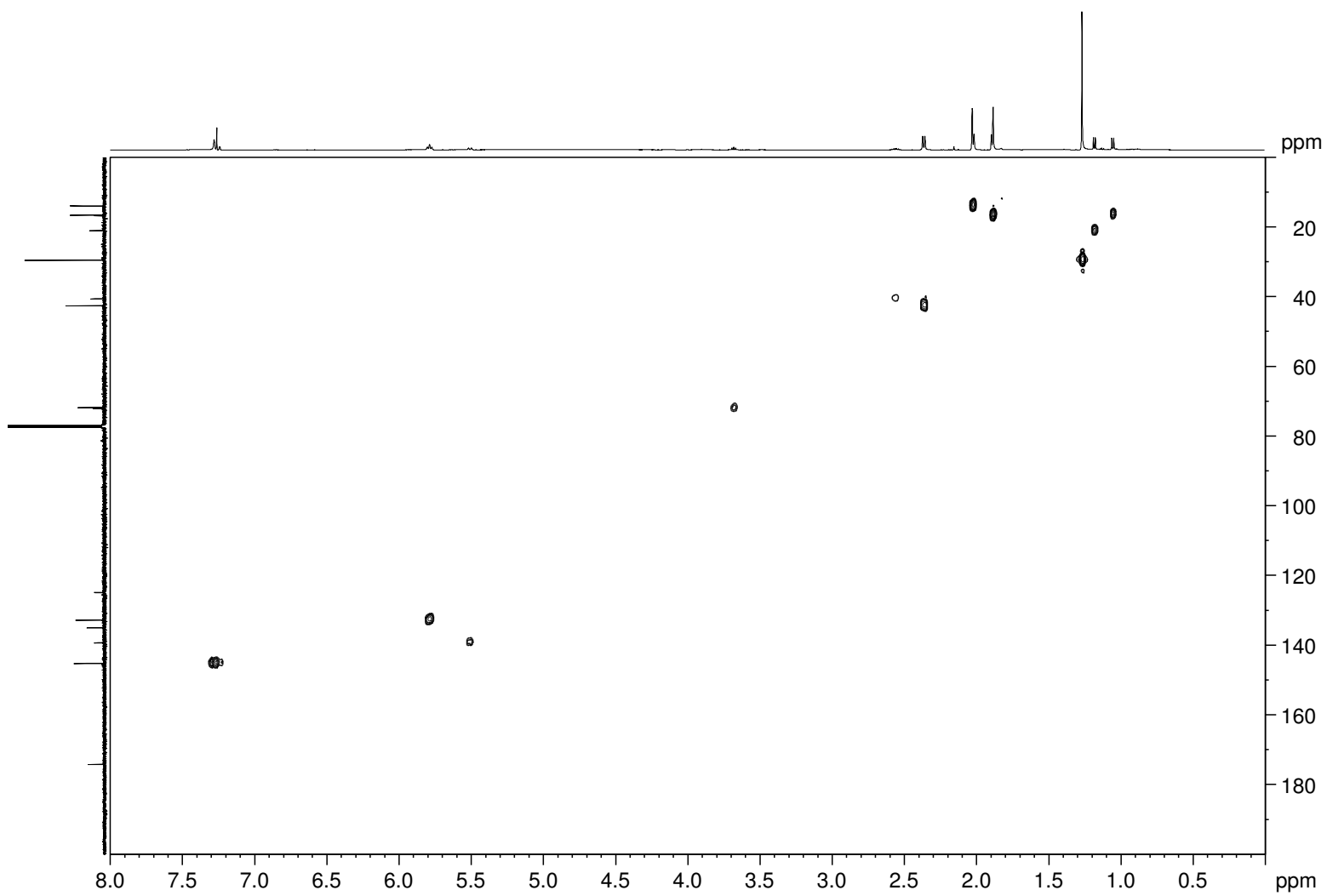


Figure S31. HMBC spectrum of **5** (500 MHz, CDCl<sub>3</sub>).

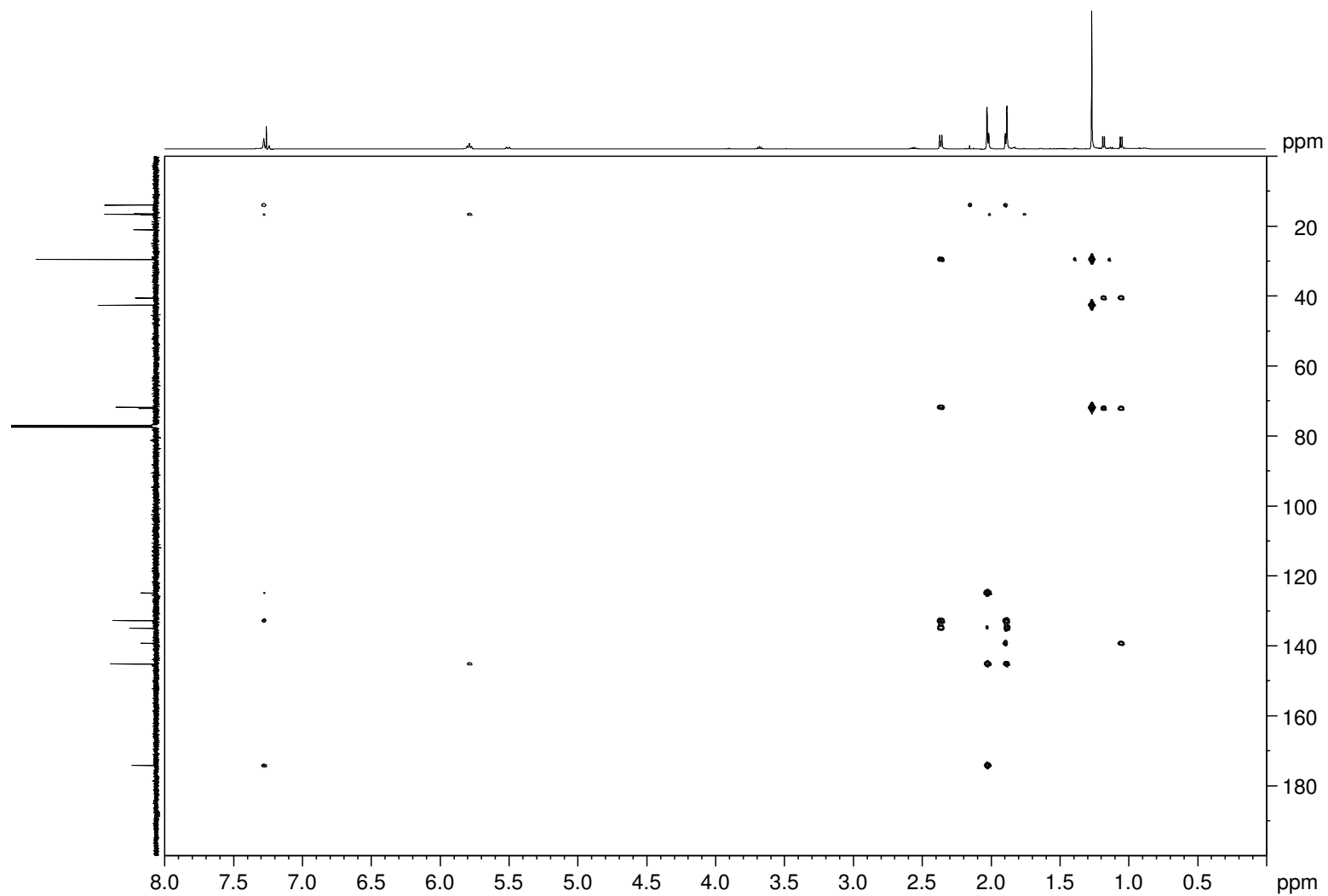
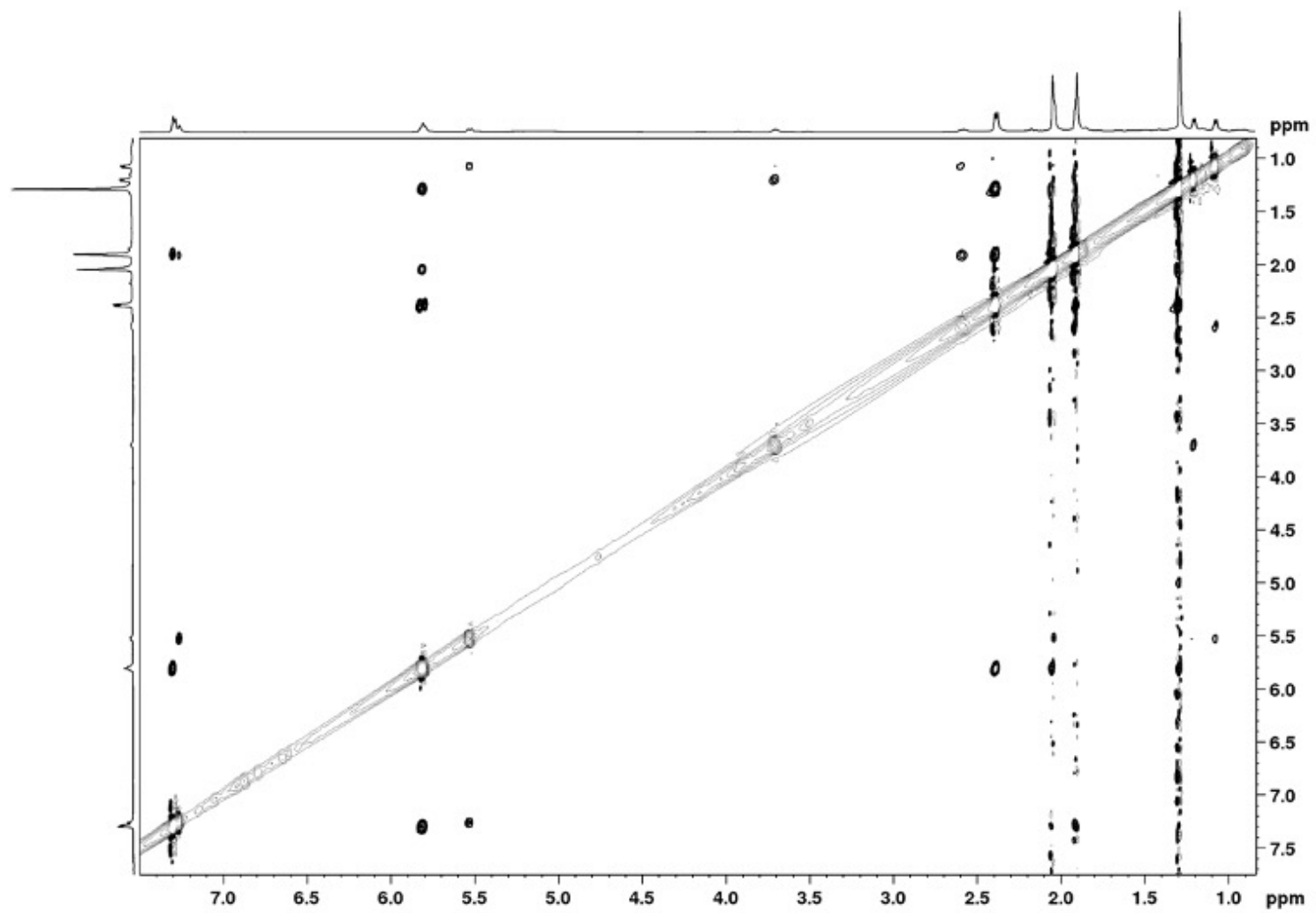
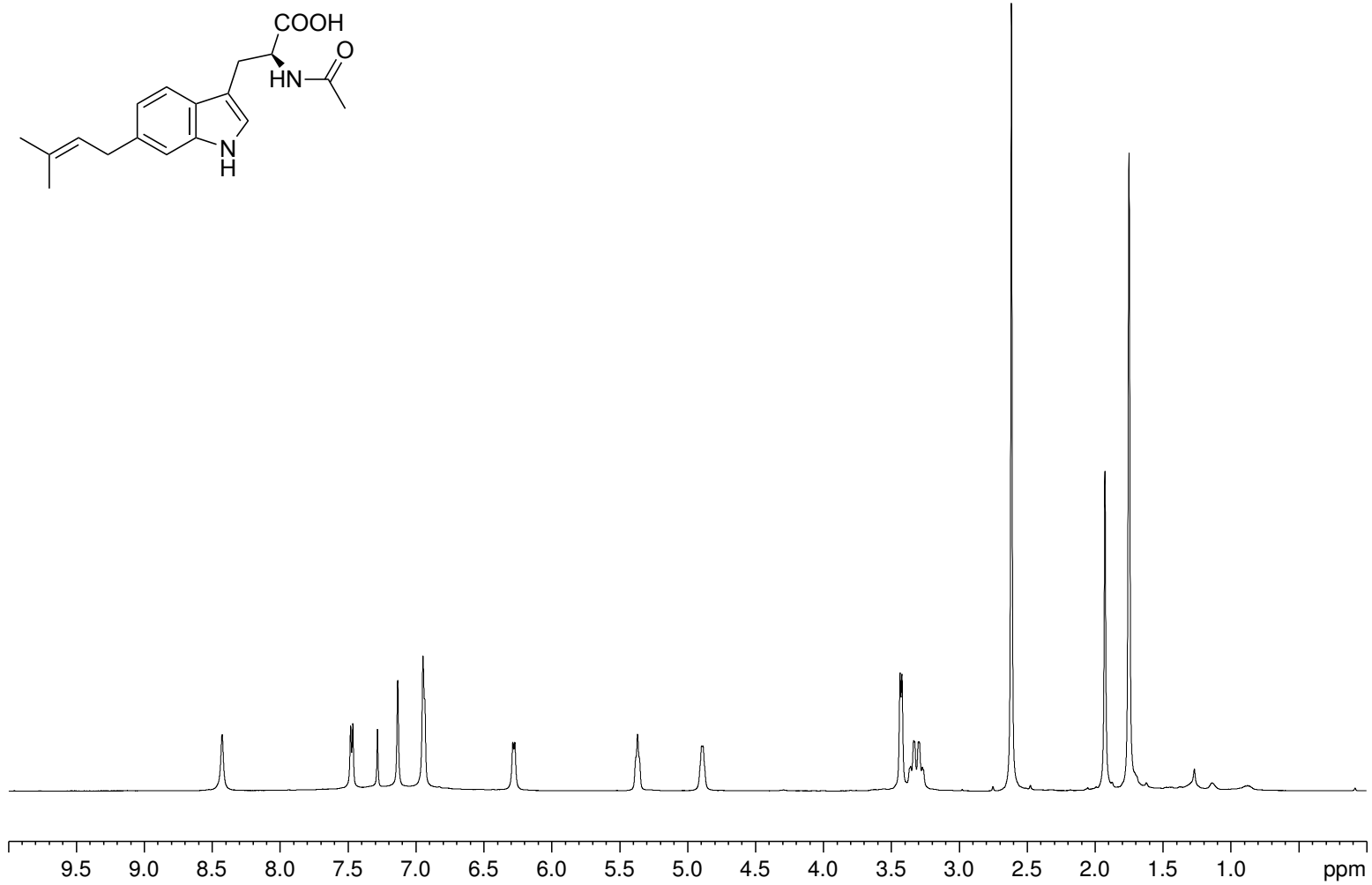


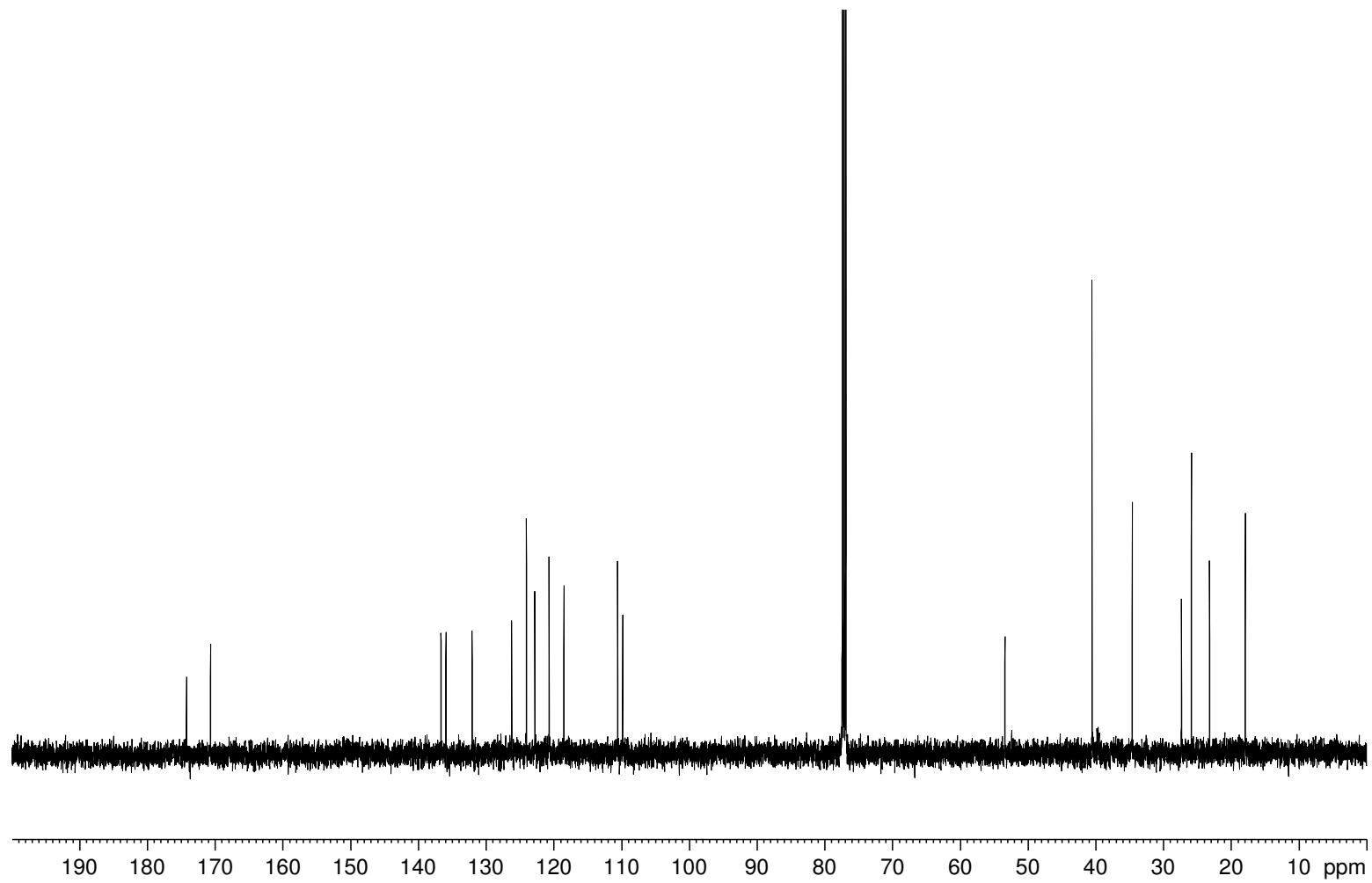
Figure S32. NOESY spectrum of **5** (500 MHz, CDCl<sub>3</sub>).



**Figure S33.**  $^1\text{H}$  NMR spectrum of compound **6** (500 MHz,  $\text{CDCl}_3$ ).



**Figure S34.**  $^{13}\text{C}$  NMR spectrum of **6** (125 MHz,  $\text{CDCl}_3$ ).



**Figure S35.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **6** (500 MHz,  $\text{CDCl}_3$ ).

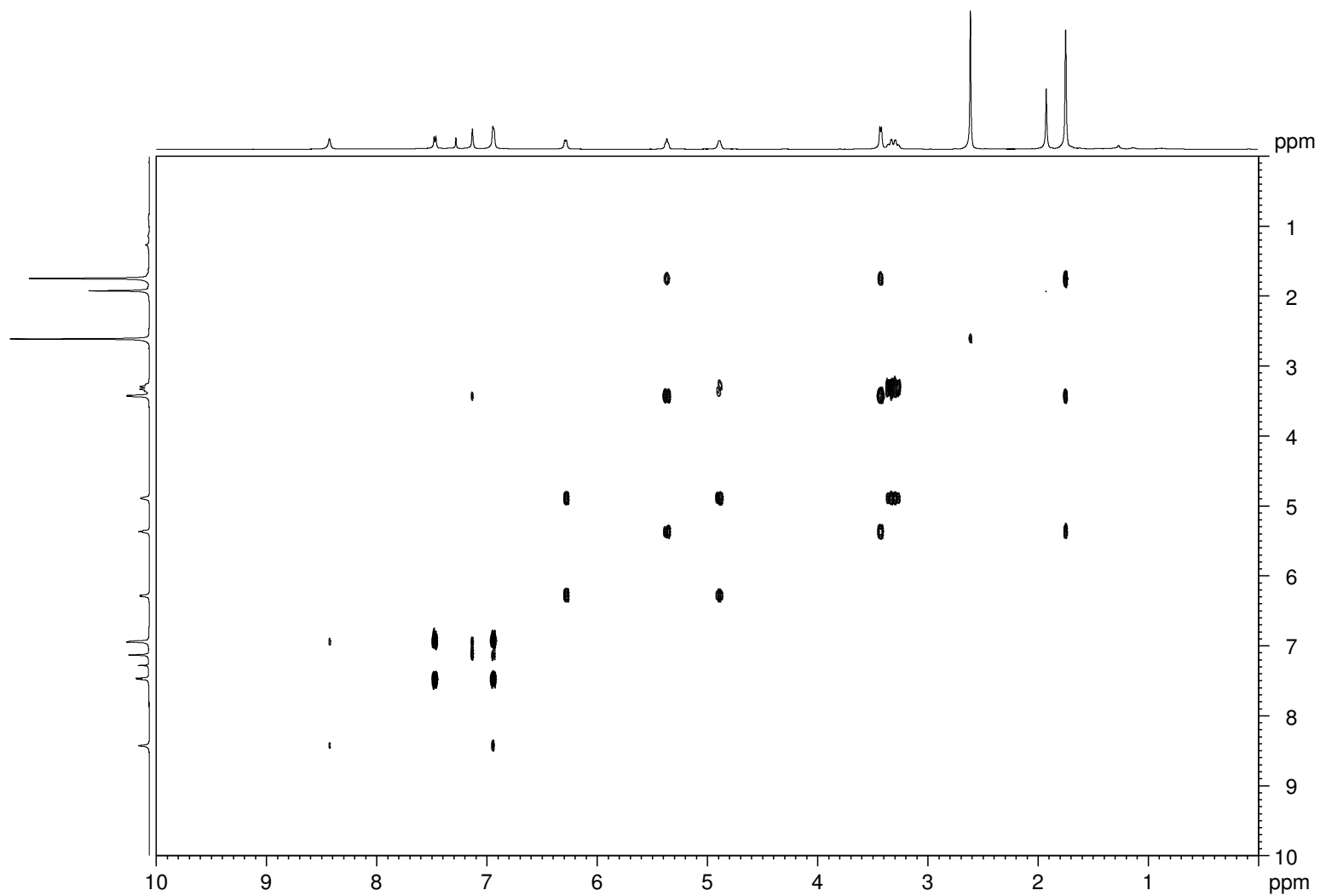


Figure S36. HSQC spectrum of **6** (500 MHz, CDCl<sub>3</sub>).

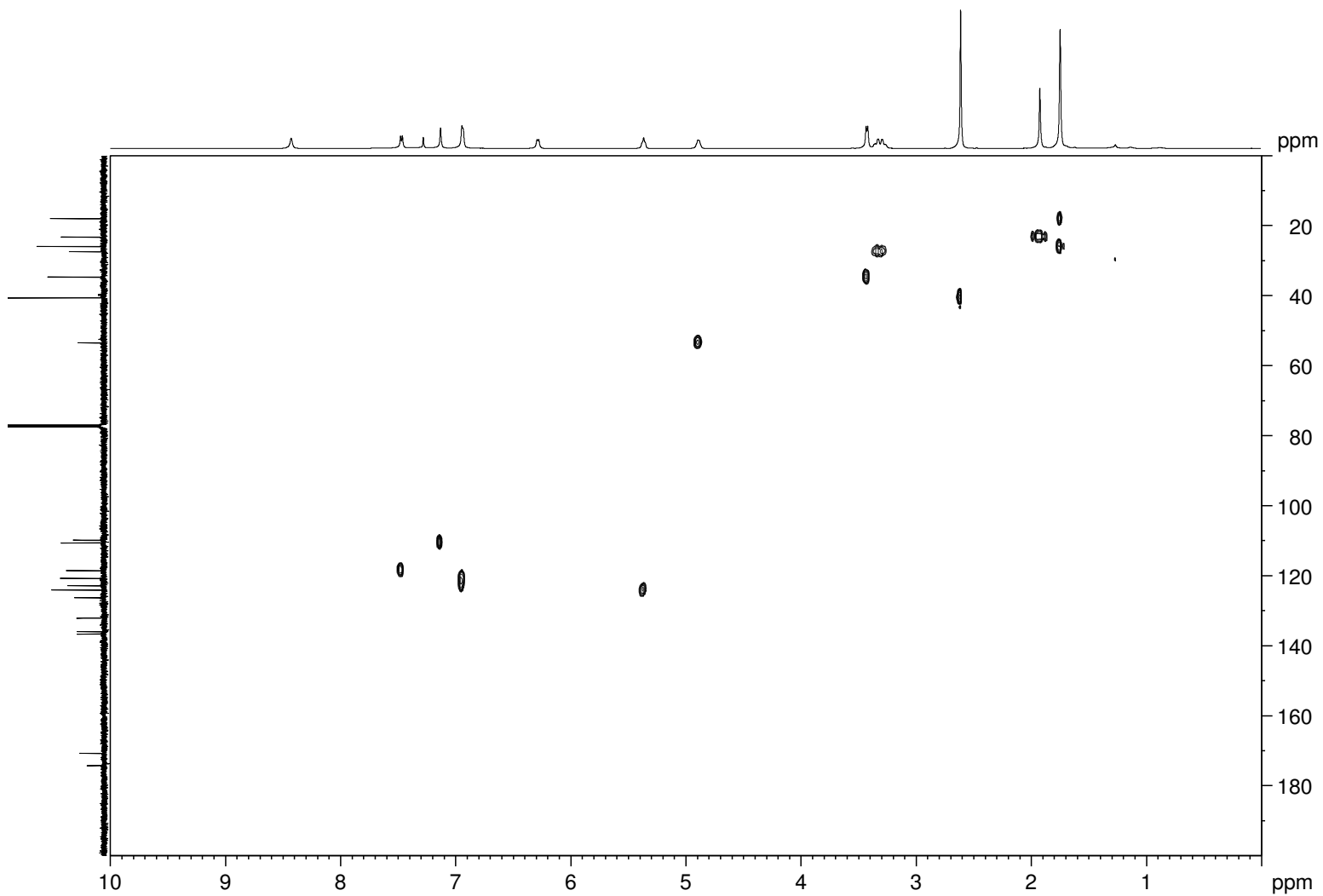
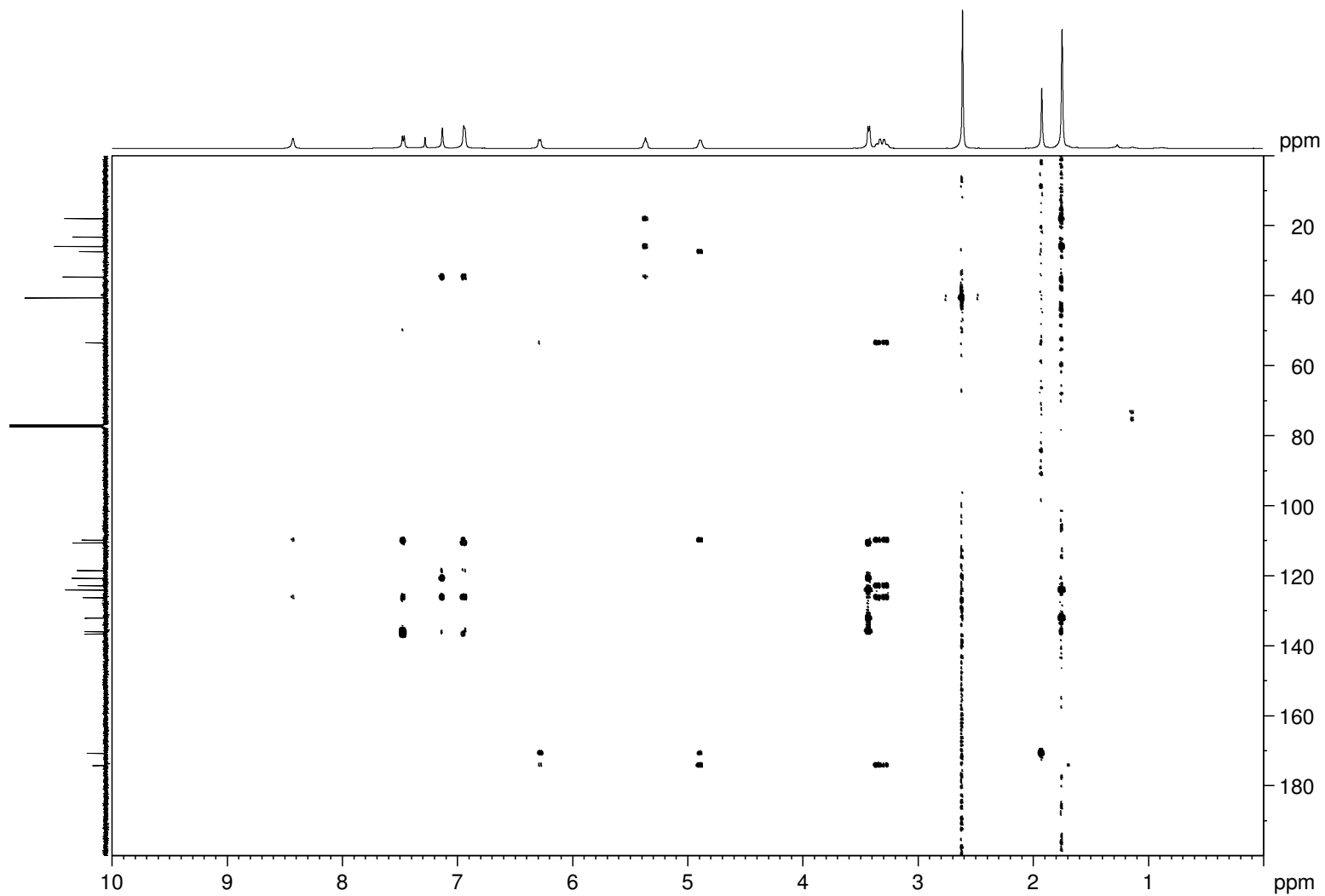


Figure S37. HMBC spectrum of **6** (500 MHz, CDCl<sub>3</sub>).





**Figure S38.**  $^1\text{H}$  NMR spectrum of **6a** (500 MHz,  $\text{DMSO-}d_6$ ).

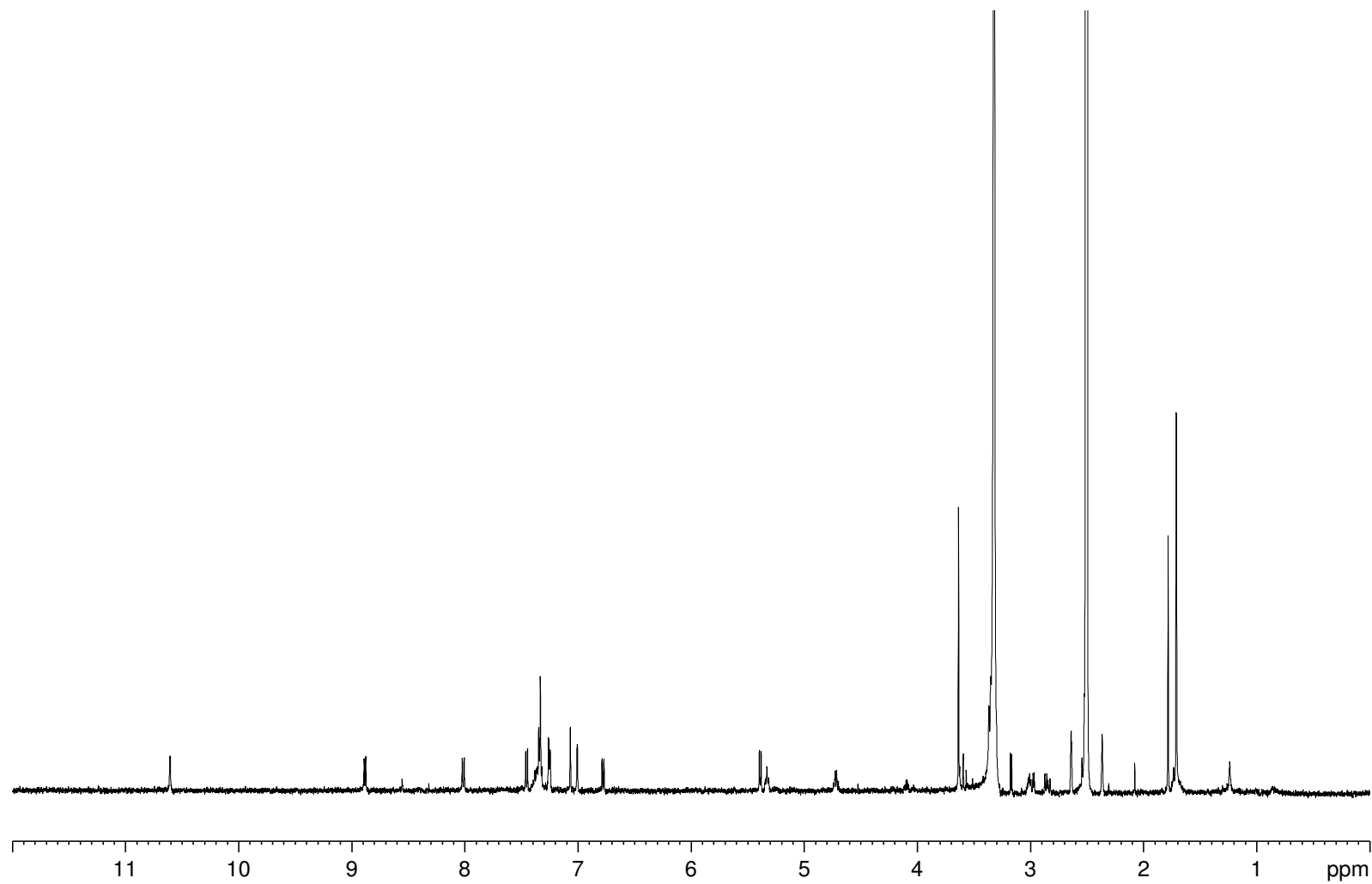
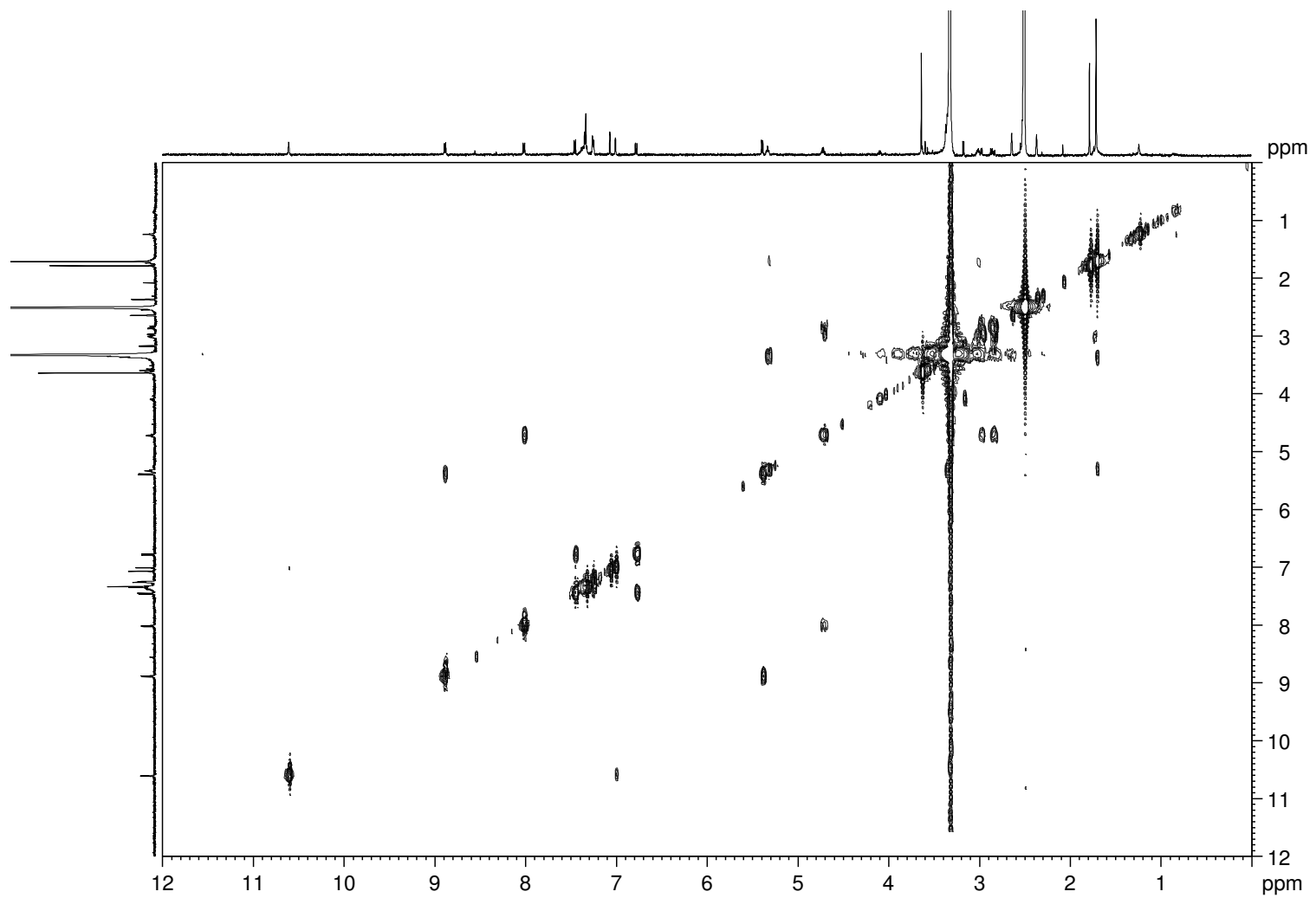
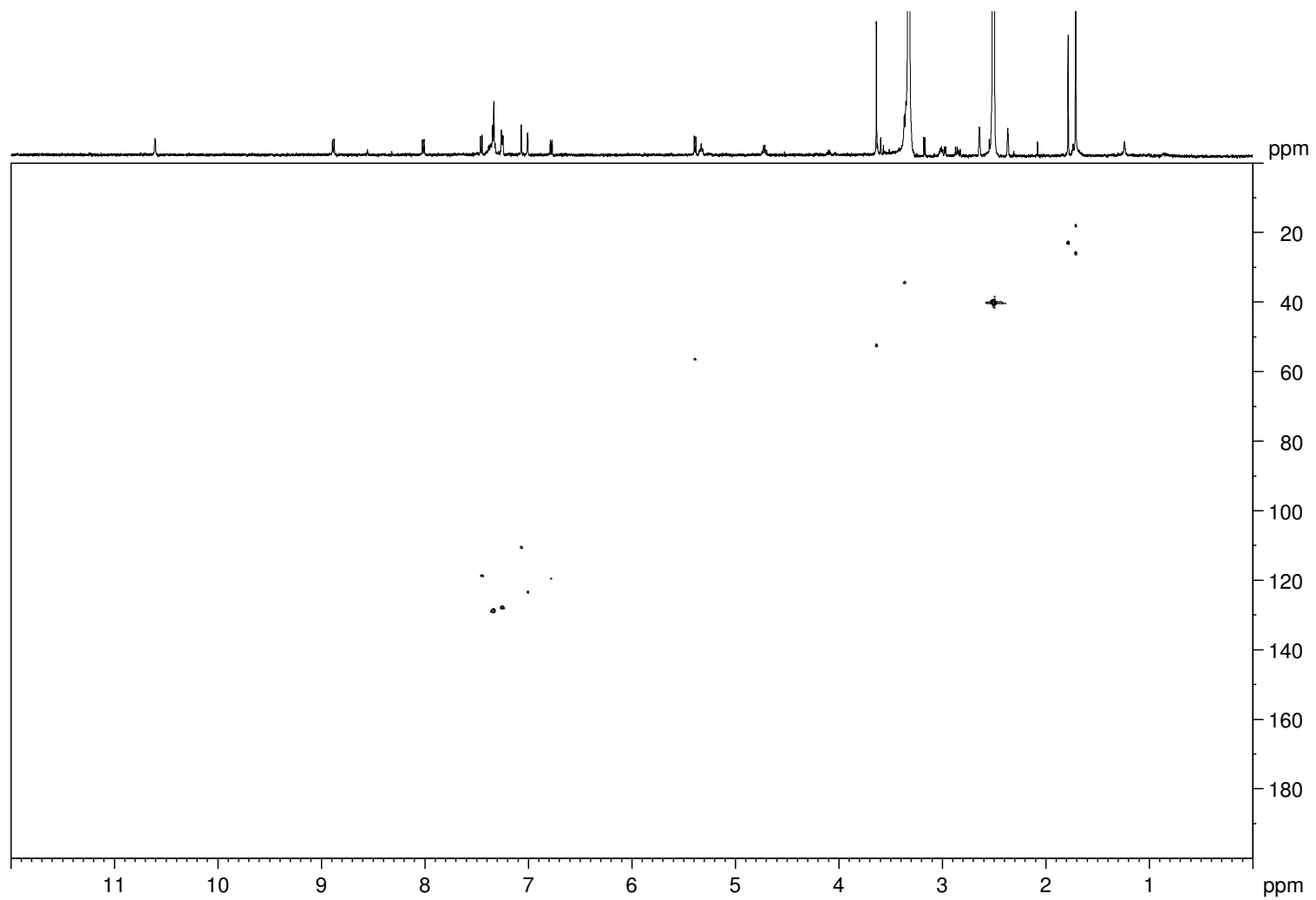


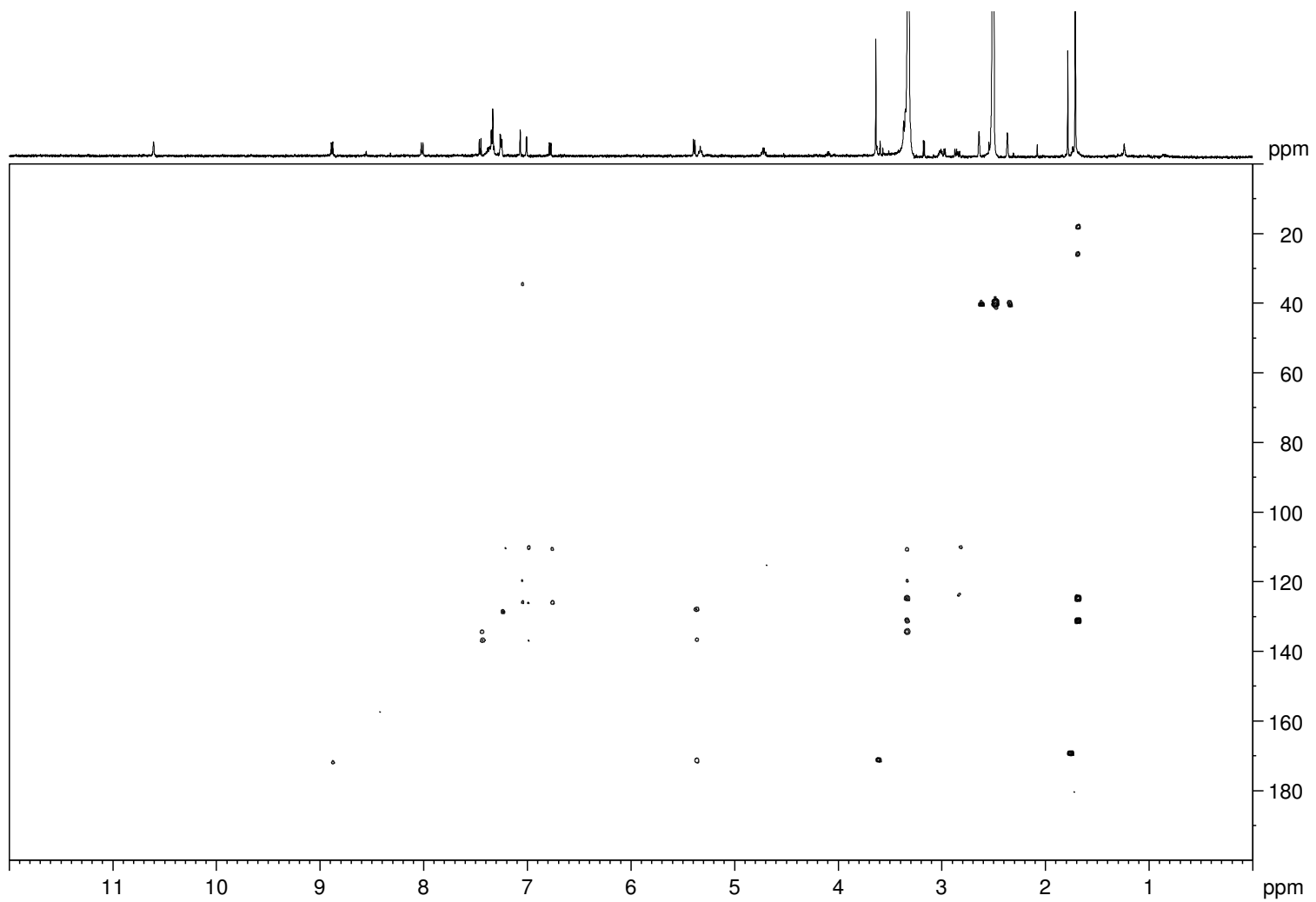
Figure S39.  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **6a** (500 MHz,  $\text{DMSO-}d_6$ ).



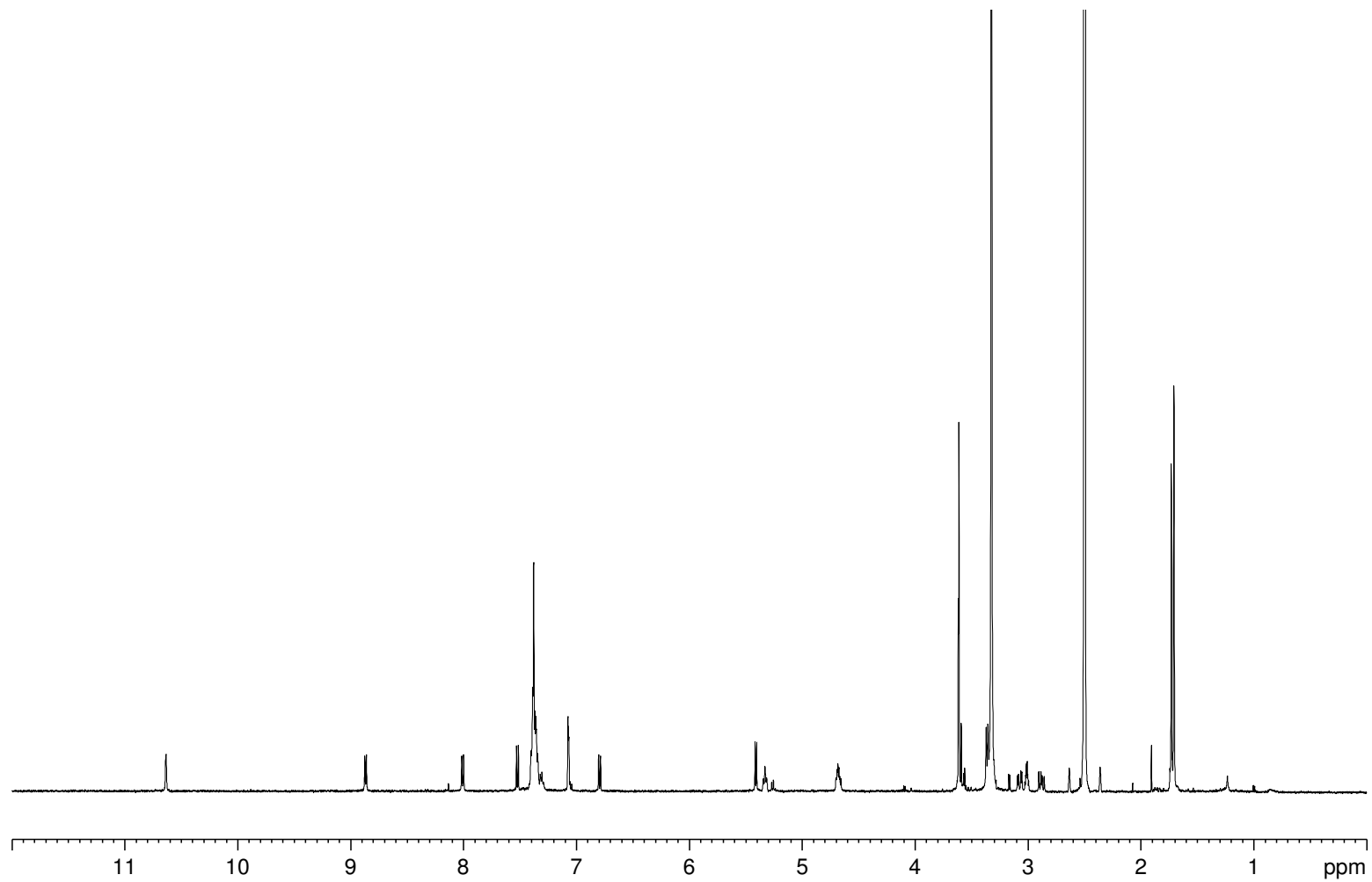
**Figure S40.** HSQC spectrum of **6a** (500 MHz, DMSO-*d*<sub>6</sub>).



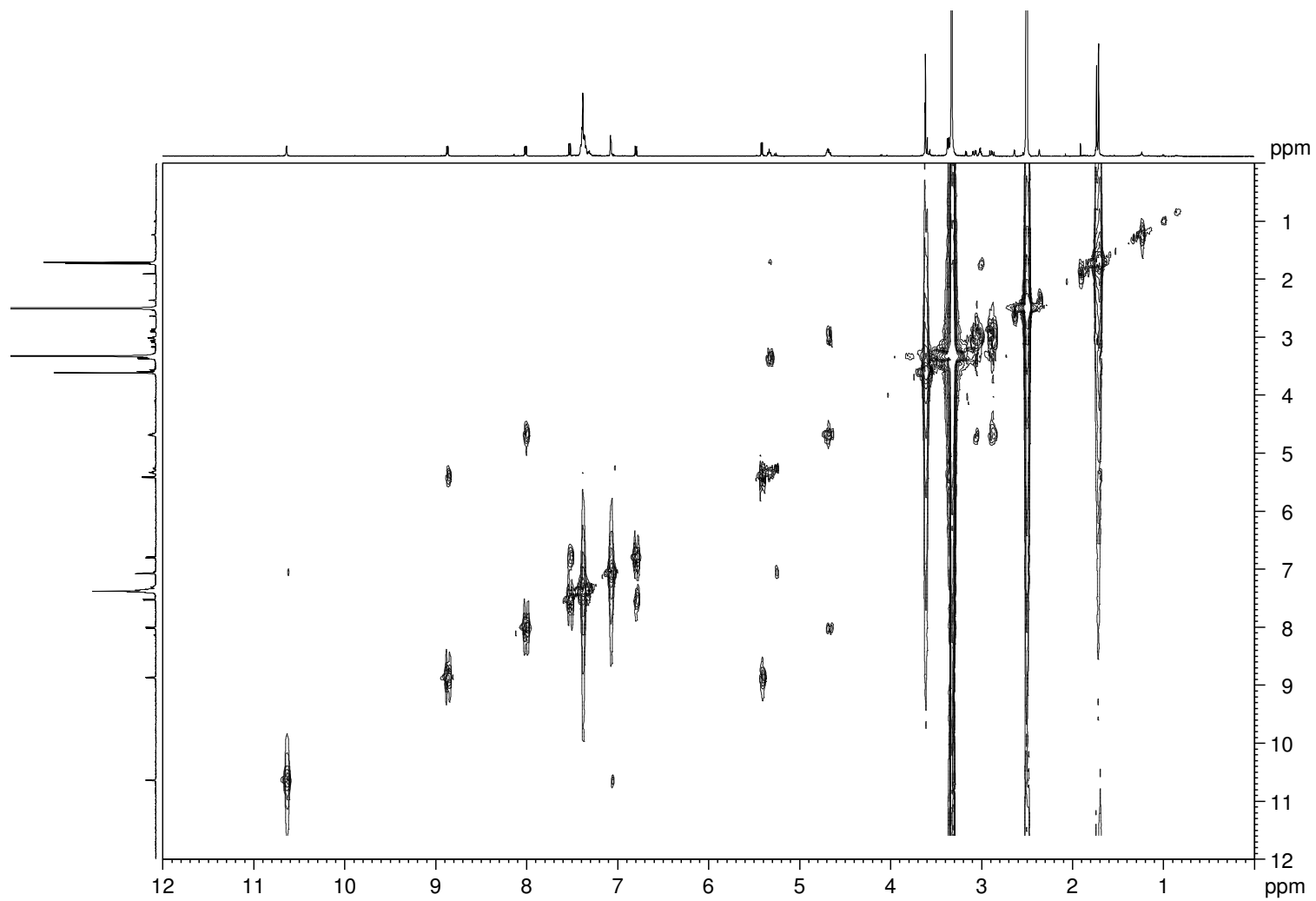
**Figure S41.** HMBC spectrum of **6a** (500 MHz, DMSO-*d*<sub>6</sub>).



**Figure S42.**  $^1\text{H}$  NMR spectrum of **6b** (500 MHz,  $\text{DMSO-}d_6$ ).



**Figure S43.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **6b** (500 MHz,  $\text{DMSO-}d_6$ ).



**Figure S44.** HSQC spectrum of **6b** (500 MHz, DMSO-*d*<sub>6</sub>).

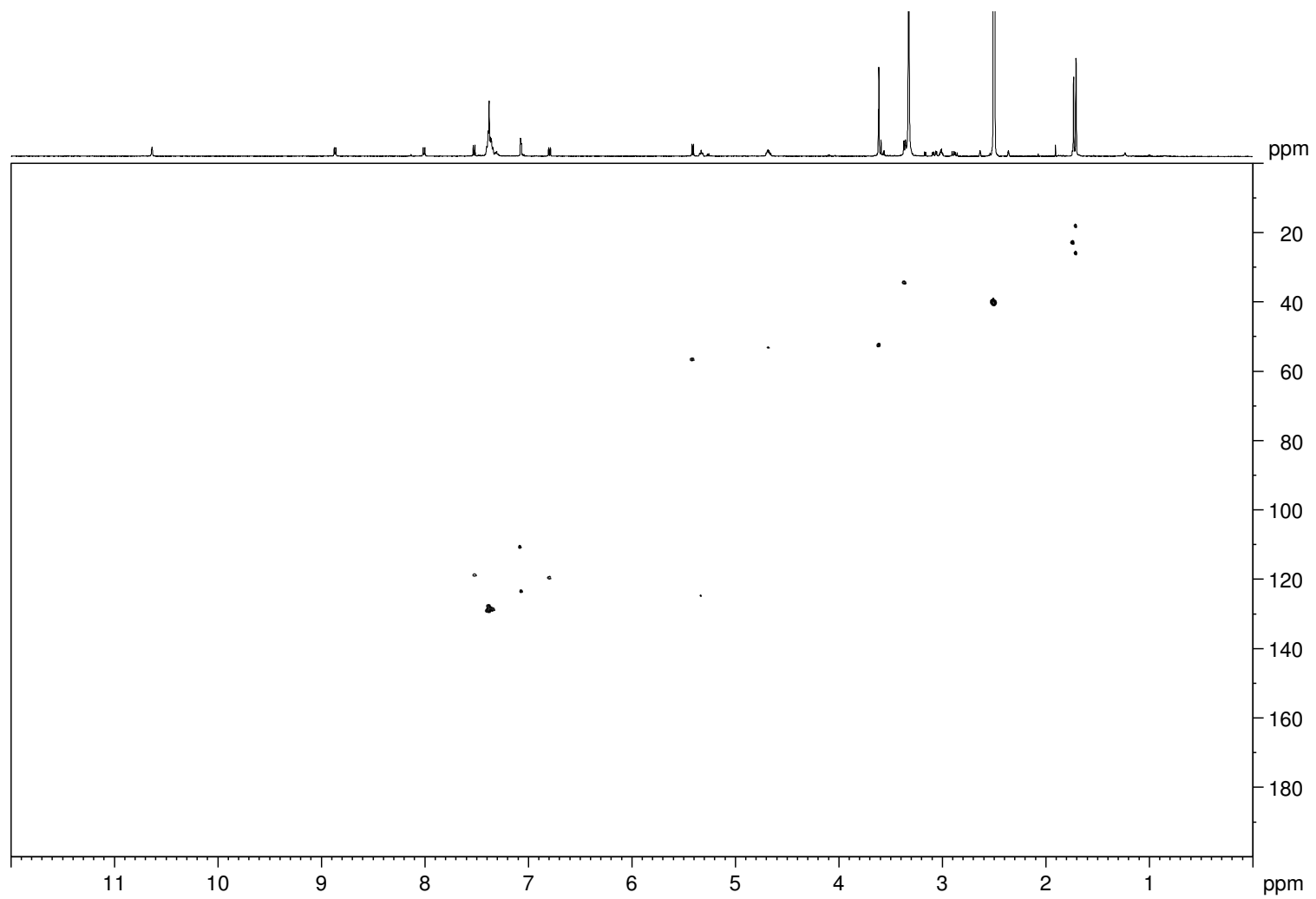


Figure S45. HMBC spectrum of **6b** (500 MHz, DMSO-*d*<sub>6</sub>).

