

# Supporting Information

## New Antiproliferative Cembrane Diterpenes from the Red Sea *Sarcophyton* Species

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**Table S1.** Dereplicated metabolites from *Sarcophyton* sp.

No.	Molecular formula	Identification
1	C <sub>14</sub> H <sub>22</sub> O	Lobocalone
2	C <sub>18</sub> H <sub>37</sub> NO	NO HITS from <i>Sarcophyton</i>
3	C <sub>20</sub> H <sub>26</sub> O <sub>3</sub>	lobophytolide C
4	C <sub>20</sub> H <sub>26</sub> O <sub>3</sub>	Glaucopine C
5	C <sub>20</sub> H <sub>28</sub> O	Sinulobatin B
6	C <sub>20</sub> H <sub>28</sub> O <sub>2</sub>	Kaurenolide; ent-16-Kauren-19,6 $\beta$ -olide
7	C <sub>20</sub> H <sub>28</sub> O <sub>3</sub>	Sarcophine
8	C <sub>20</sub> H <sub>28</sub> O <sub>4</sub>	9 $\beta$ -hydroxysarcophine
9	C <sub>20</sub> H <sub>30</sub> O	Sarcophytonin-A
10	C <sub>20</sub> H <sub>30</sub> O <sub>2</sub>	16-Deoxysarcophine
11	C <sub>20</sub> H <sub>30</sub> O <sub>6</sub>	Sinulariolone
12	C <sub>20</sub> H <sub>31</sub> O <sub>5</sub> N	5 $\alpha$ ,12-Dihydroxy-1-tremulen-11-yl 2(S)-pyroglutamat
13	C <sub>20</sub> H <sub>31</sub> O <sub>4</sub> N	lepadin C
14	C <sub>20</sub> H <sub>33</sub> O <sub>4</sub> N	NO HITS from <i>Sarcophyton</i>
15	C <sub>20</sub> H <sub>33</sub> O <sub>6</sub> N	NO HITS from <i>Sarcophyton</i>
16	C <sub>20</sub> H <sub>34</sub> O <sub>8</sub>	Botcinolide
17	C <sub>21</sub> H <sub>36</sub> O <sub>4</sub>	Sclerophytin F methyl ether
18	C <sub>22</sub> H <sub>30</sub> O <sub>5</sub>	Lobophytol acetate
19	C <sub>22</sub> H <sub>42</sub> O <sub>4</sub>	NO HITS from <i>Sarcophyton</i>
20	C <sub>24</sub> H <sub>24</sub> O	NO HITS from <i>Sarcophyton</i>
21	C <sub>24</sub> H <sub>24</sub> O <sub>7</sub>	NO HITS from <i>Sarcophyton</i>
22	C <sub>24</sub> H <sub>36</sub> O <sub>4</sub>	Secosarcophinolide
23	C <sub>24</sub> H <sub>46</sub> O <sub>7</sub>	NO HITS from <i>Sarcophyton</i>
24	C <sub>26</sub> H <sub>24</sub> O	NO HITS from <i>Sarcophyton</i>
25	C <sub>26</sub> H <sub>24</sub> O <sub>2</sub>	NO HITS from <i>Sarcophyton</i>
26	C <sub>26</sub> H <sub>28</sub> O <sub>3</sub>	NO HITS from <i>Sarcophyton</i>
27	C <sub>26</sub> H <sub>42</sub> O <sub>4</sub>	Dihydroxy-24-methylscalaran-25,24-olide
28	C <sub>26</sub> H <sub>44</sub> O <sub>7</sub>	24-methyl-bisnor-cholest-22-ene-heptol
29	C <sub>26</sub> H <sub>47</sub> O <sub>5</sub> N <sub>3</sub>	NO HITS from <i>Sarcophyton</i>
30	C <sub>26</sub> H <sub>48</sub> O <sub>2</sub>	NO HITS from <i>Sarcophyton</i>
31	C <sub>28</sub> H <sub>44</sub> O	NO HITS from <i>Sarcophyton</i>
32	C <sub>28</sub> H <sub>46</sub> O <sub>2</sub>	NO HITS from <i>Sarcophyton</i>
33	C <sub>28</sub> H <sub>46</sub> O <sub>4</sub>	3 $\beta$ ,5 $\alpha$ ,6 $\beta$ ,9 $\alpha$ -Tetrahydroxy-ergosta-7,22-diene
34	C <sub>28</sub> H <sub>51</sub> O <sub>5</sub> N <sub>3</sub>	NO HITS from <i>Sarcophyton</i>
35	C <sub>32</sub> H <sub>44</sub> O <sub>8</sub>	NO HITS from <i>Sarcophyton</i>
36	C <sub>47</sub> H <sub>60</sub> O	NO HITS from <i>Sarcophyton</i>

F: FTMS + p ESI Full ms [100.00-2000.00]

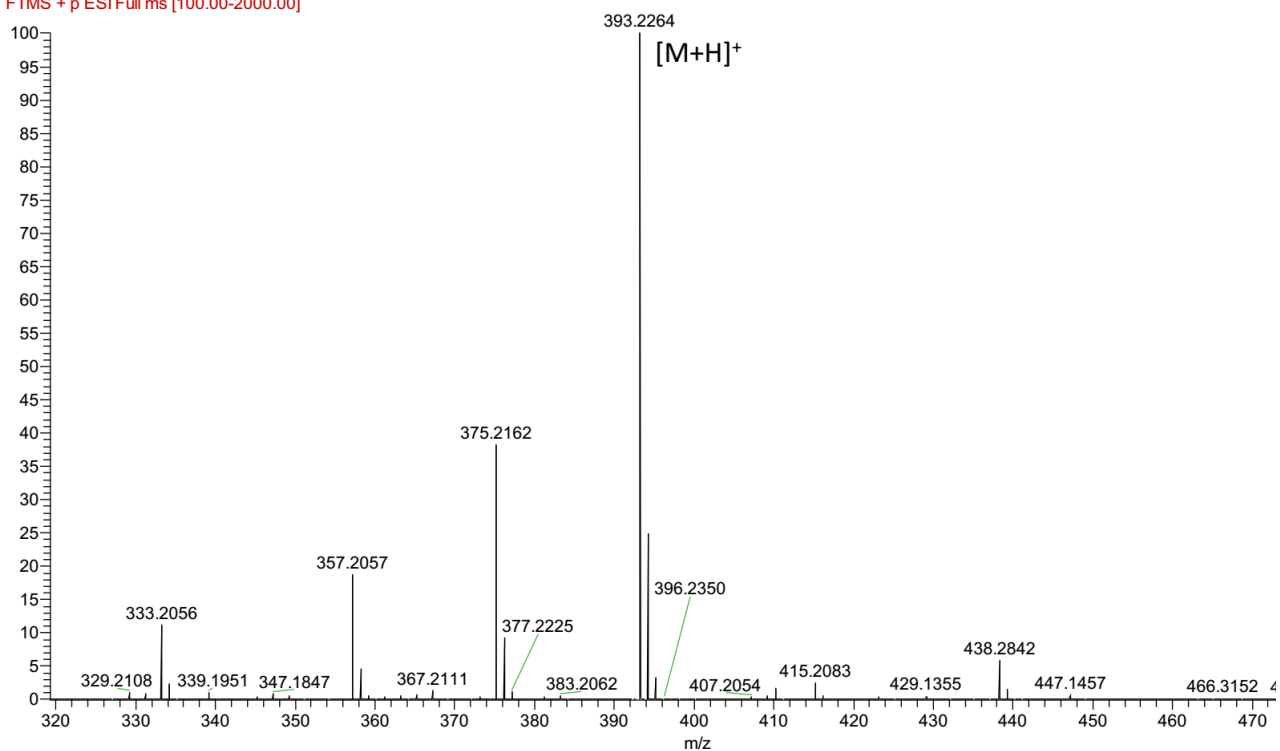


Fig.S1. The HRESIMS spectrum of **1**.

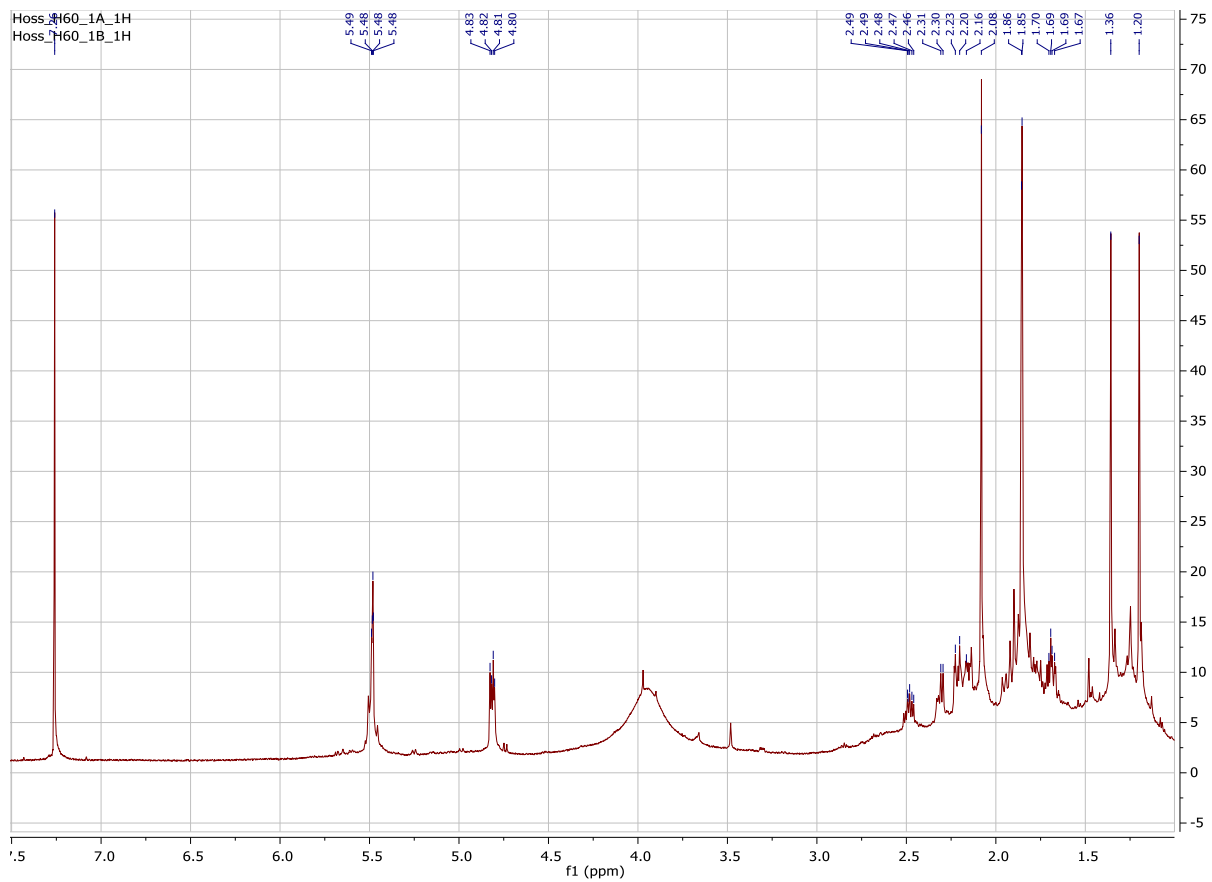


Fig.S2. The  $^1\text{H}$  NMR (600 MHz,  $\text{CDCl}_3$ ) spectrum of **1**.

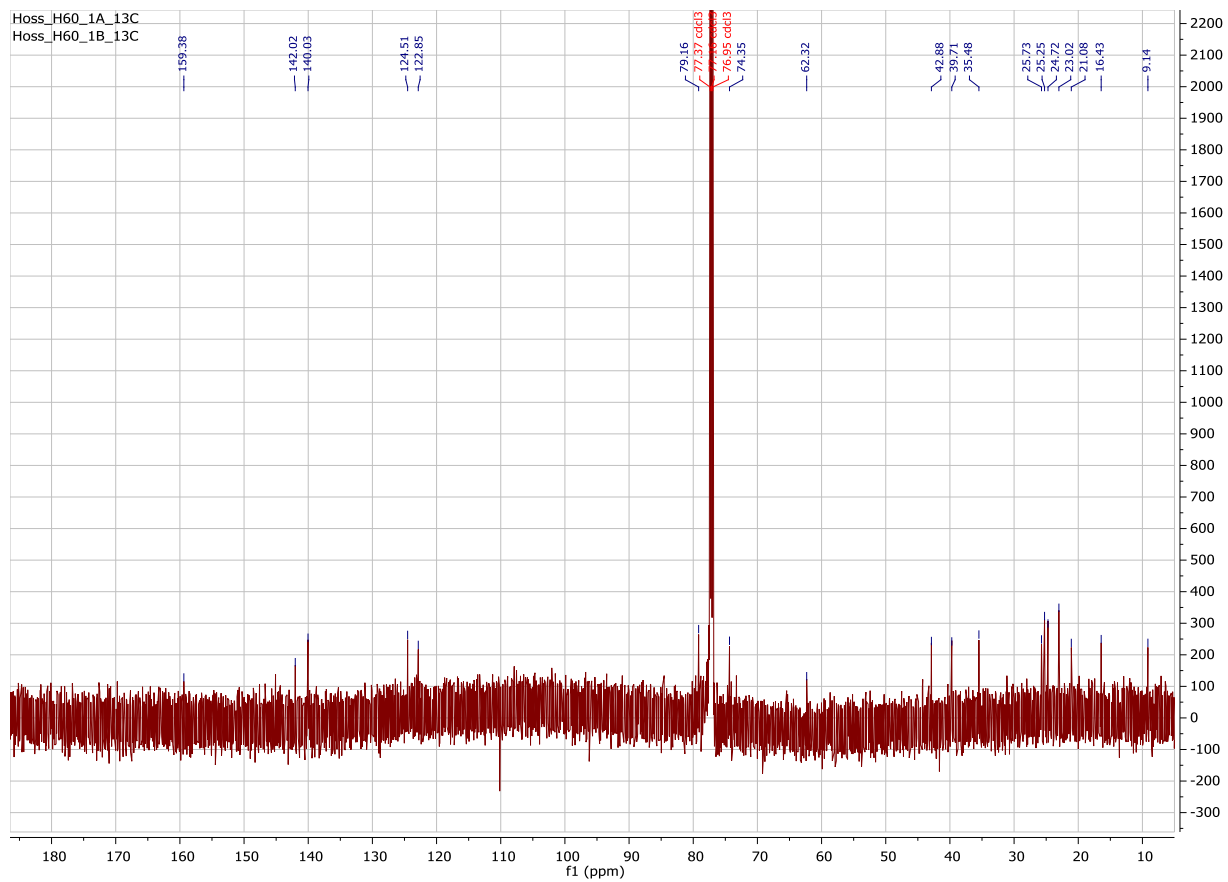


Fig.S3.The  $^{13}\text{C}$  NMR (150 MHz,  $\text{CDCl}_3$ ) spectrum of **1**

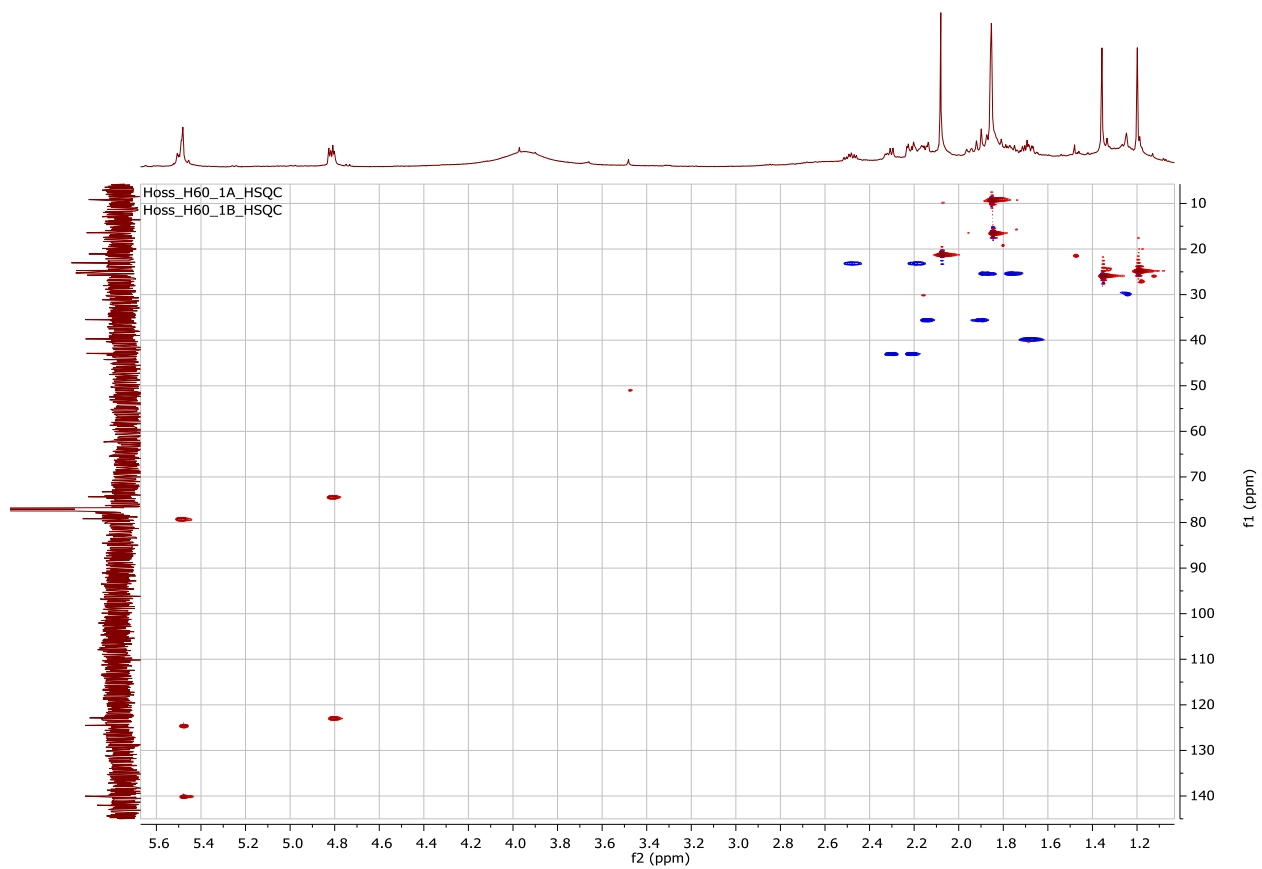


Fig.S4.The HSQC (600 MHz, CDCl<sub>3</sub>) spectrum of **1**

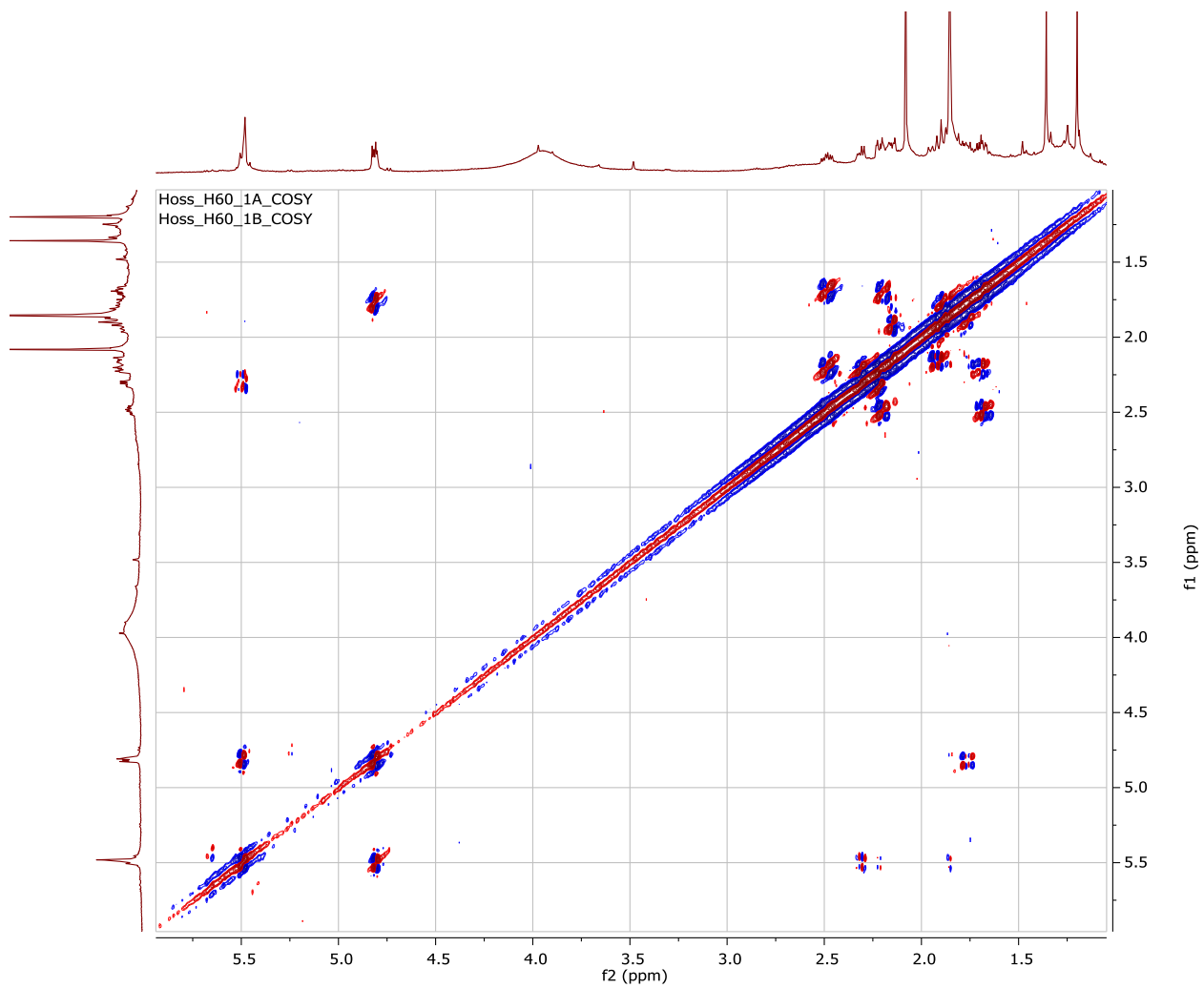


Fig.S5.The  $^1\text{H}$ - $^1\text{H}$  COSY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **1**

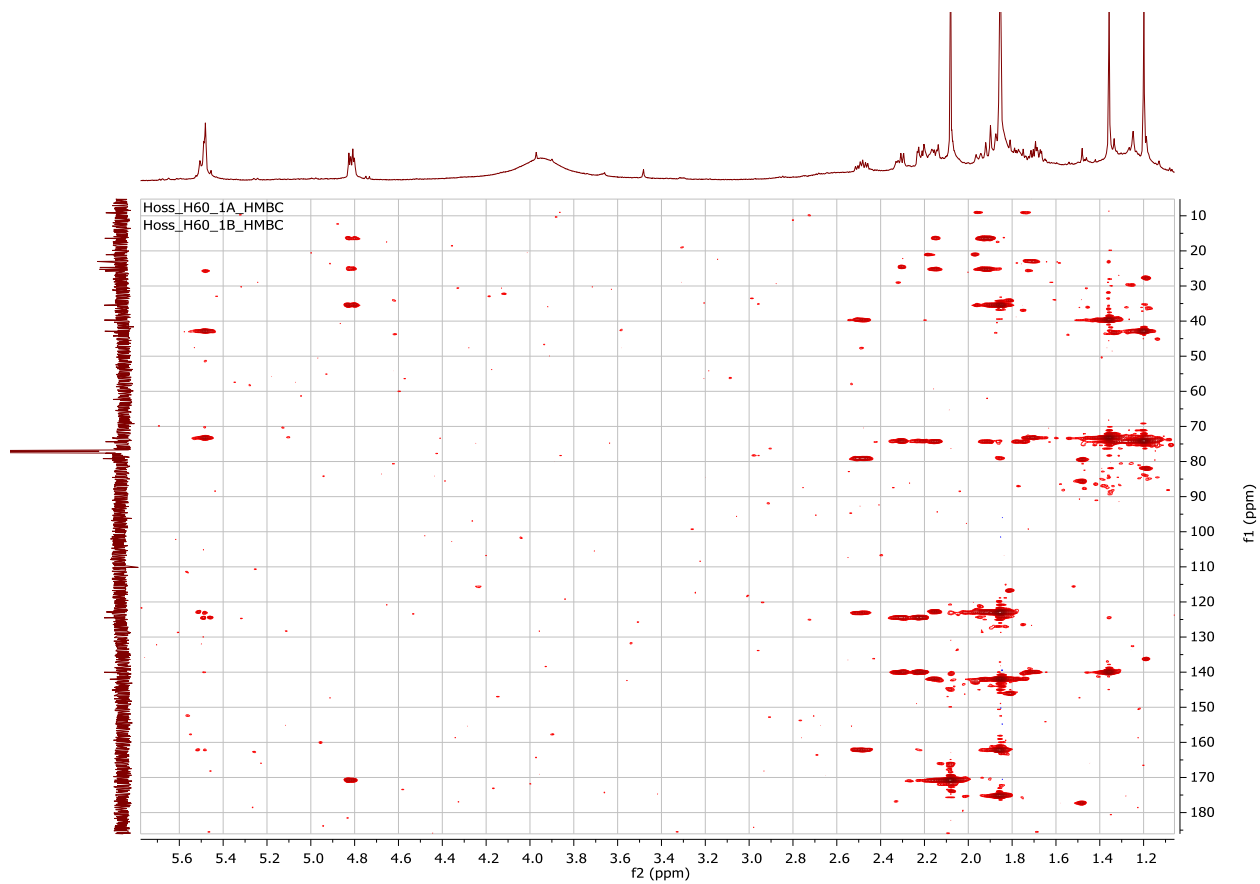


Fig.S6.The HMBC (600 MHz, CDCl<sub>3</sub>) spectrum of **1**



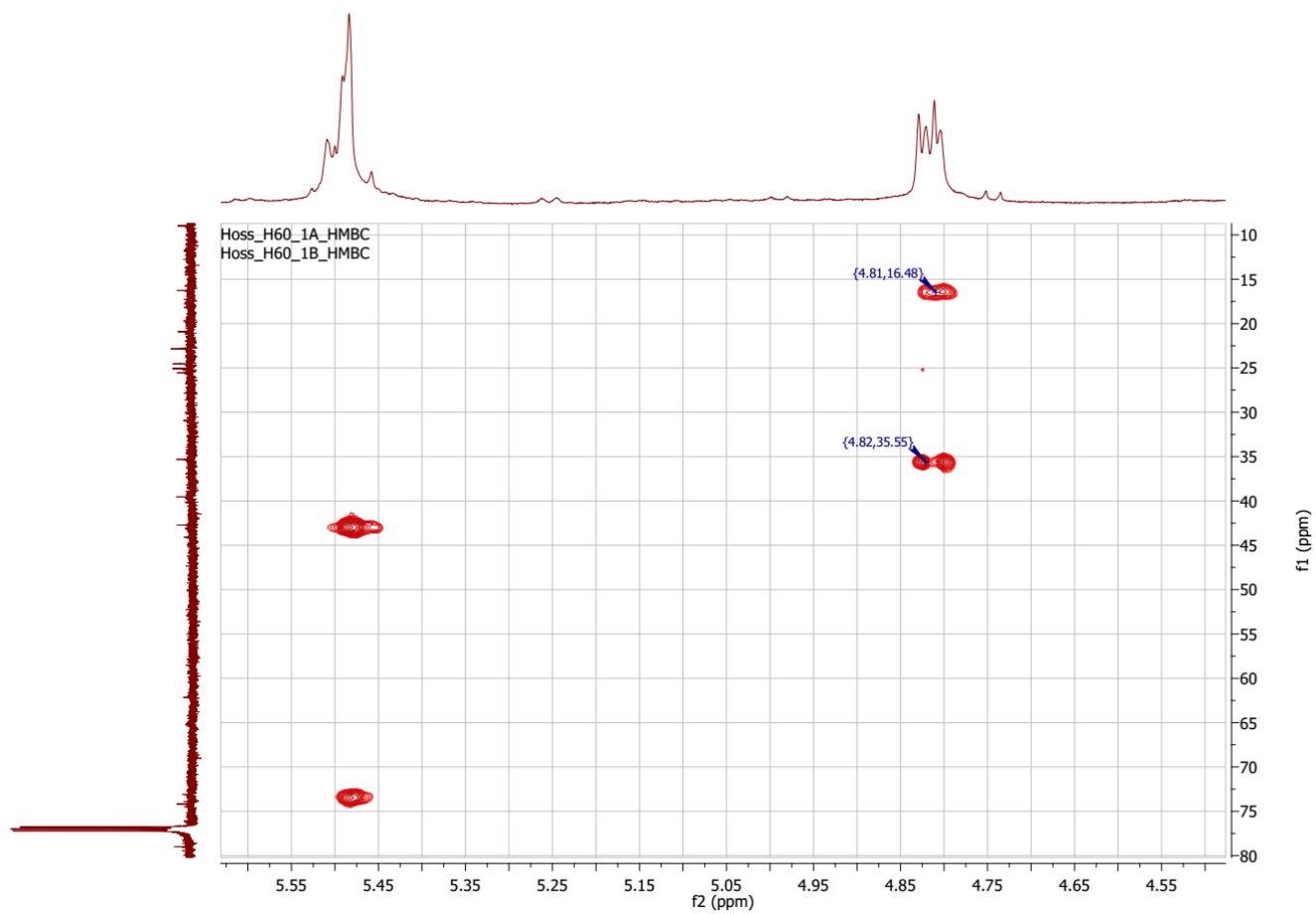


Fig.S7.The expanded HMBC (600 MHz, CDCl<sub>3</sub>) spectrum of **1**

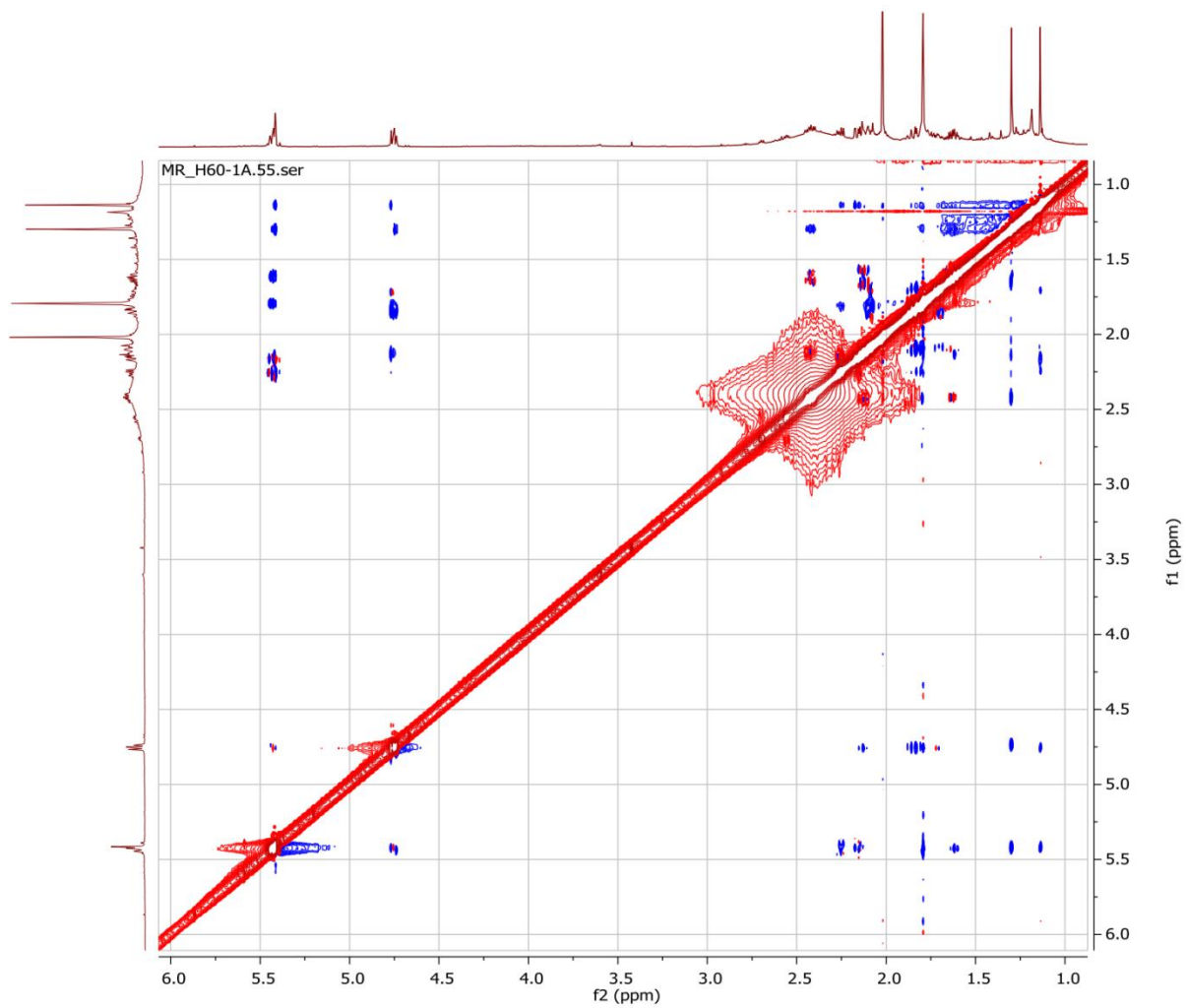


Fig.S8. The NOESY (600 MHz, CDCl<sub>3</sub>) spectrum of **1**

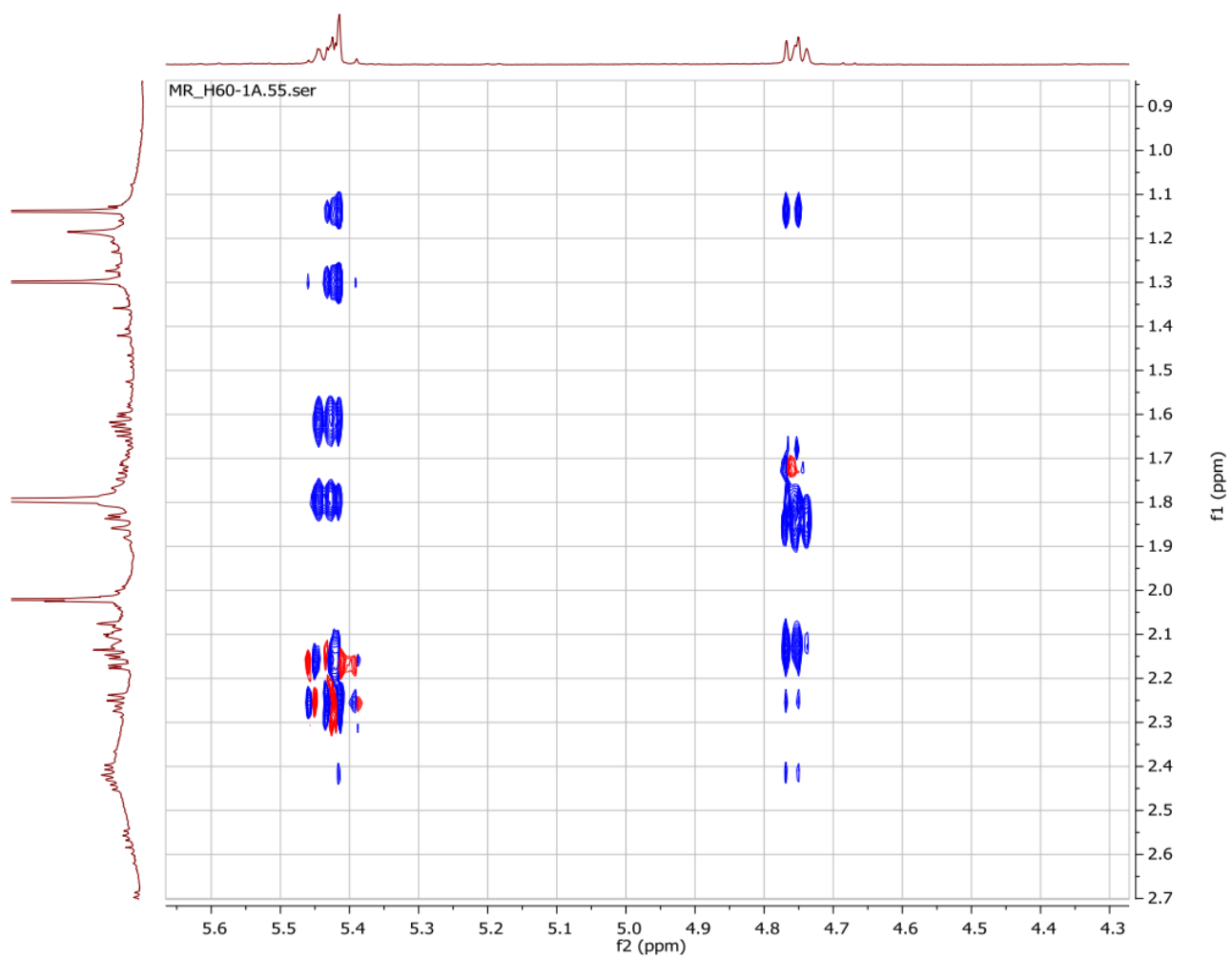


Fig.S9. The expanded NOESY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **1**

F: FTMS + p ESI Full ms [100.00-2000.00]

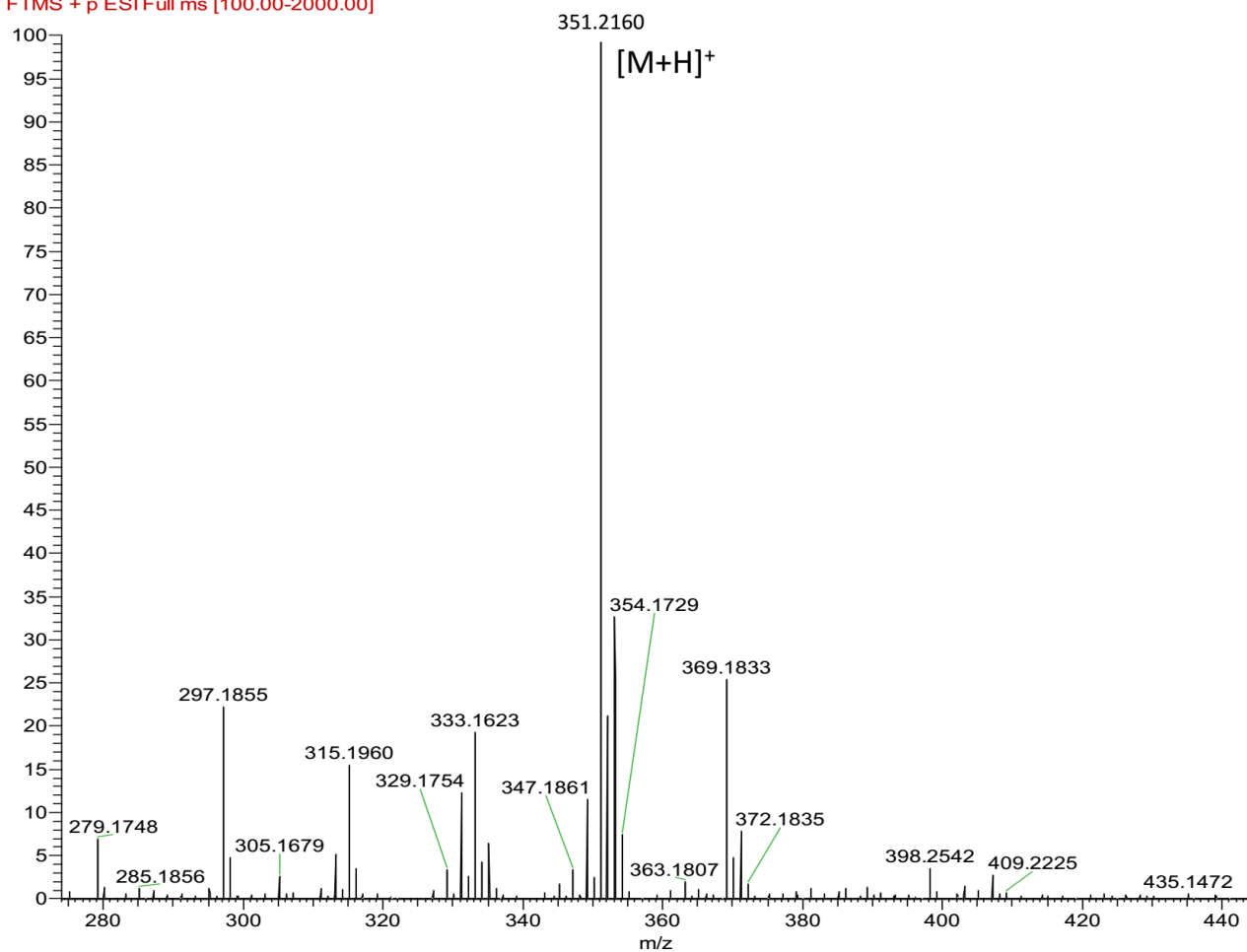


Fig.S10. The HRESIMS spectrum of **2**.

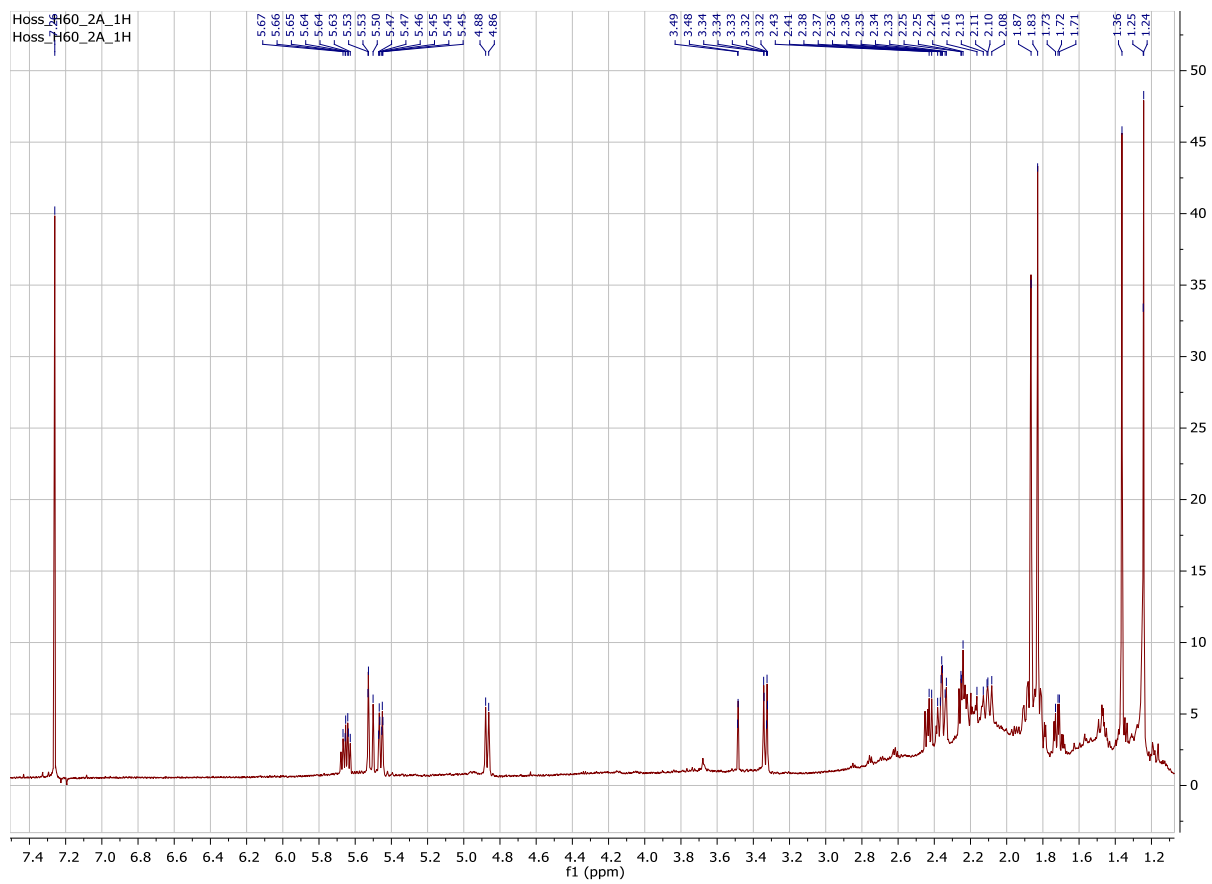


Fig.S11.The  $^1\text{H}$  NMR (600 MHz,  $\text{CDCl}_3$ ) spectrum of **2**

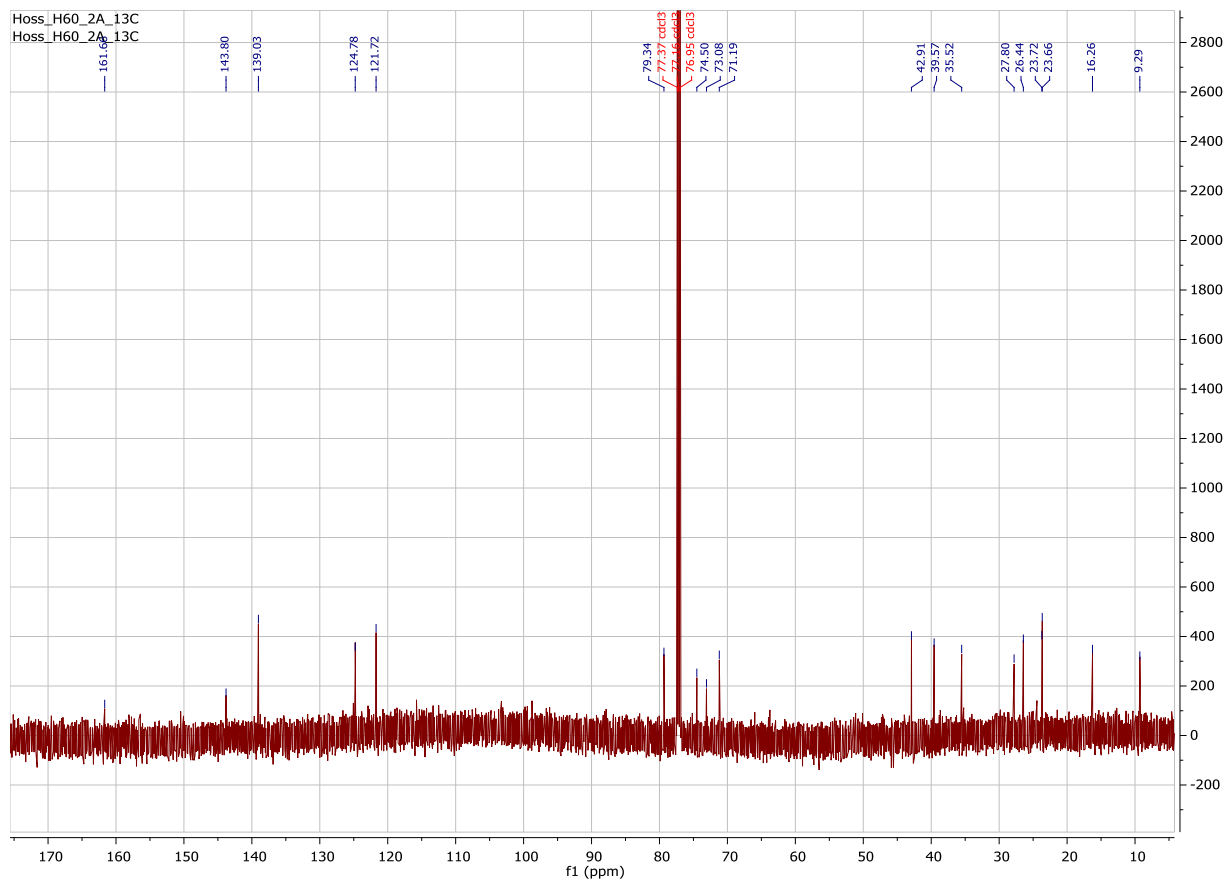


Fig.S12.The  $^{13}\text{C}$  NMR (150 MHz,  $\text{CDCl}_3$ ) spectrum of **2**

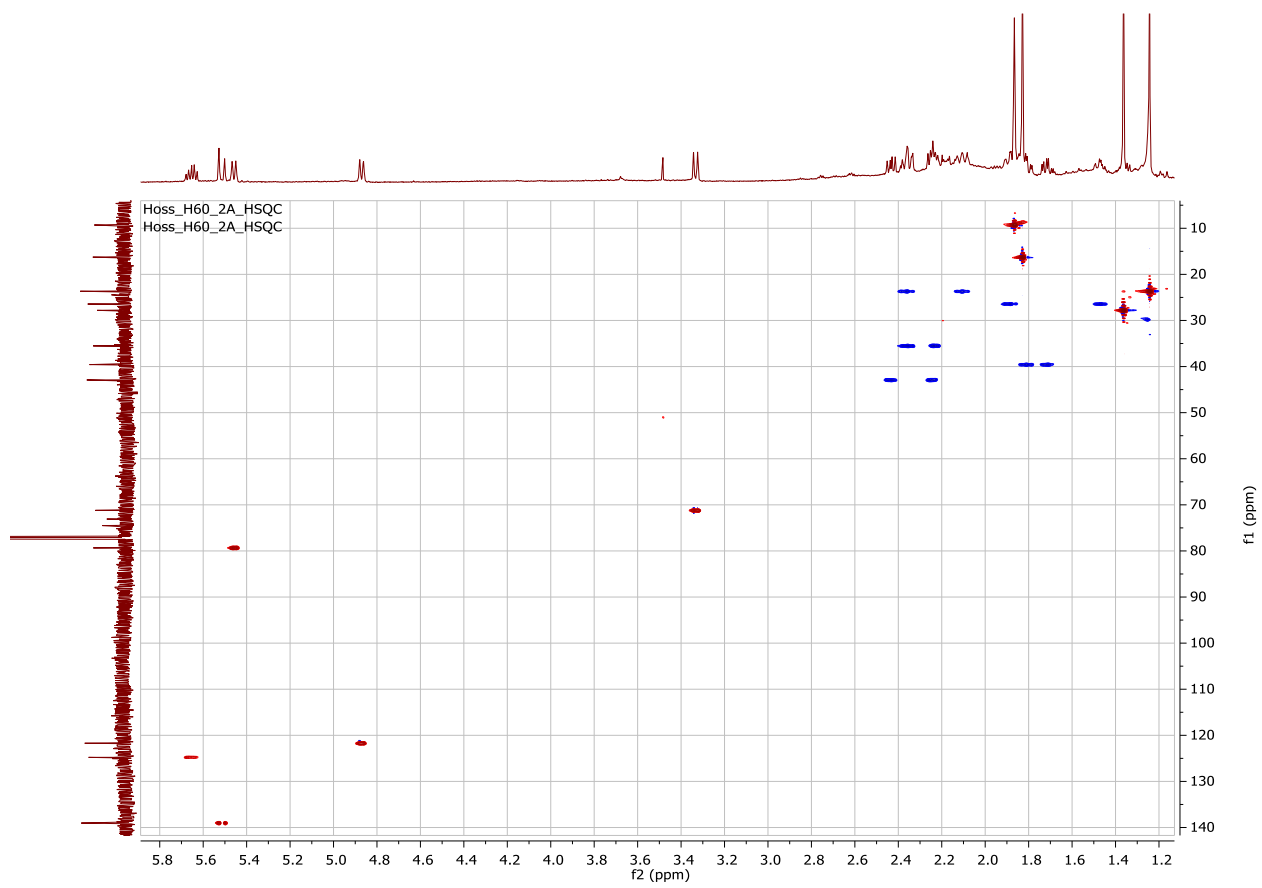


Fig.S13.The HSQC (600 MHz,  $\text{CDCl}_3$ ) spectrum of **2**

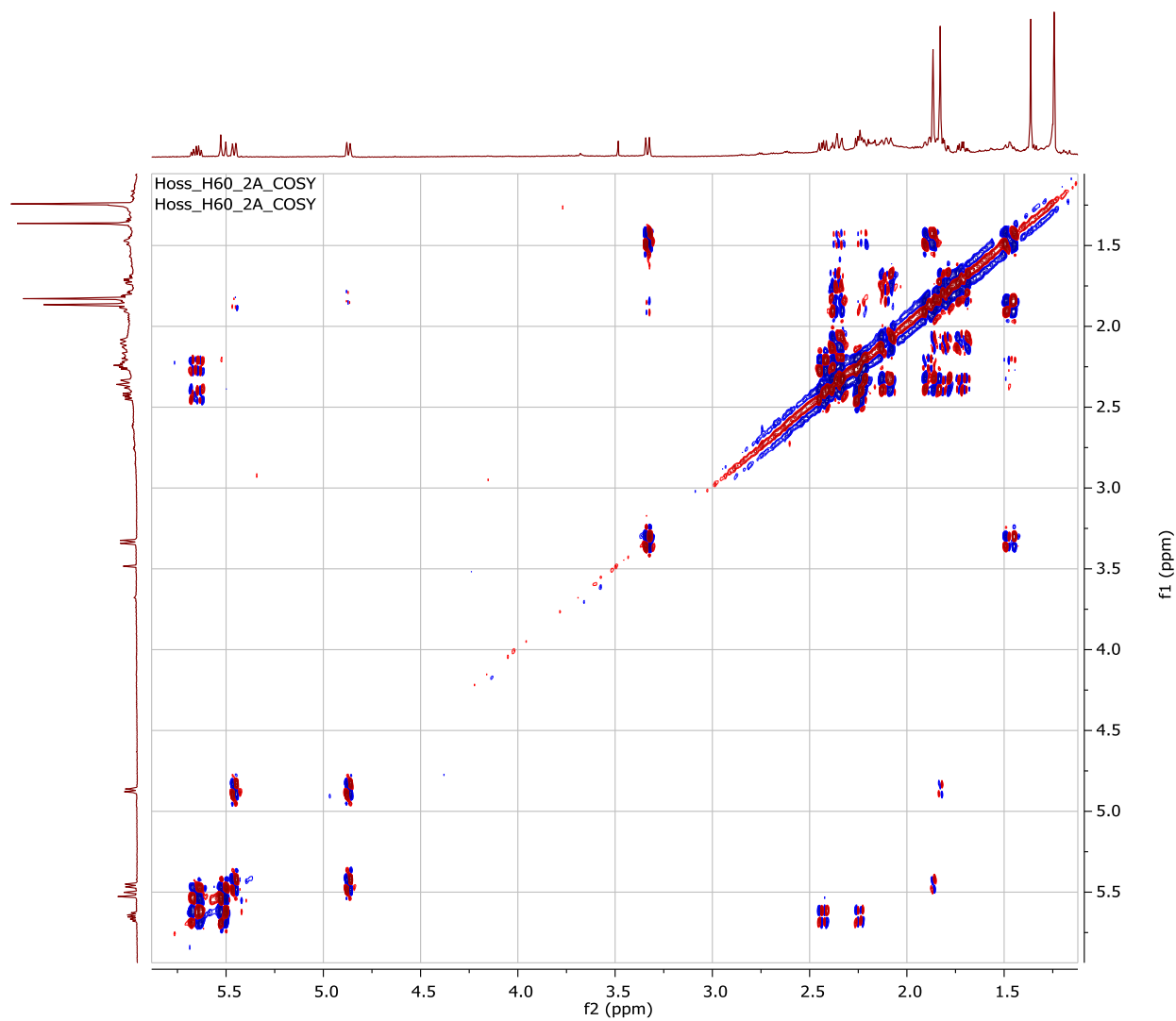


Fig.S14. The  $^1\text{H}$ - $^1\text{H}$  COSY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **2**



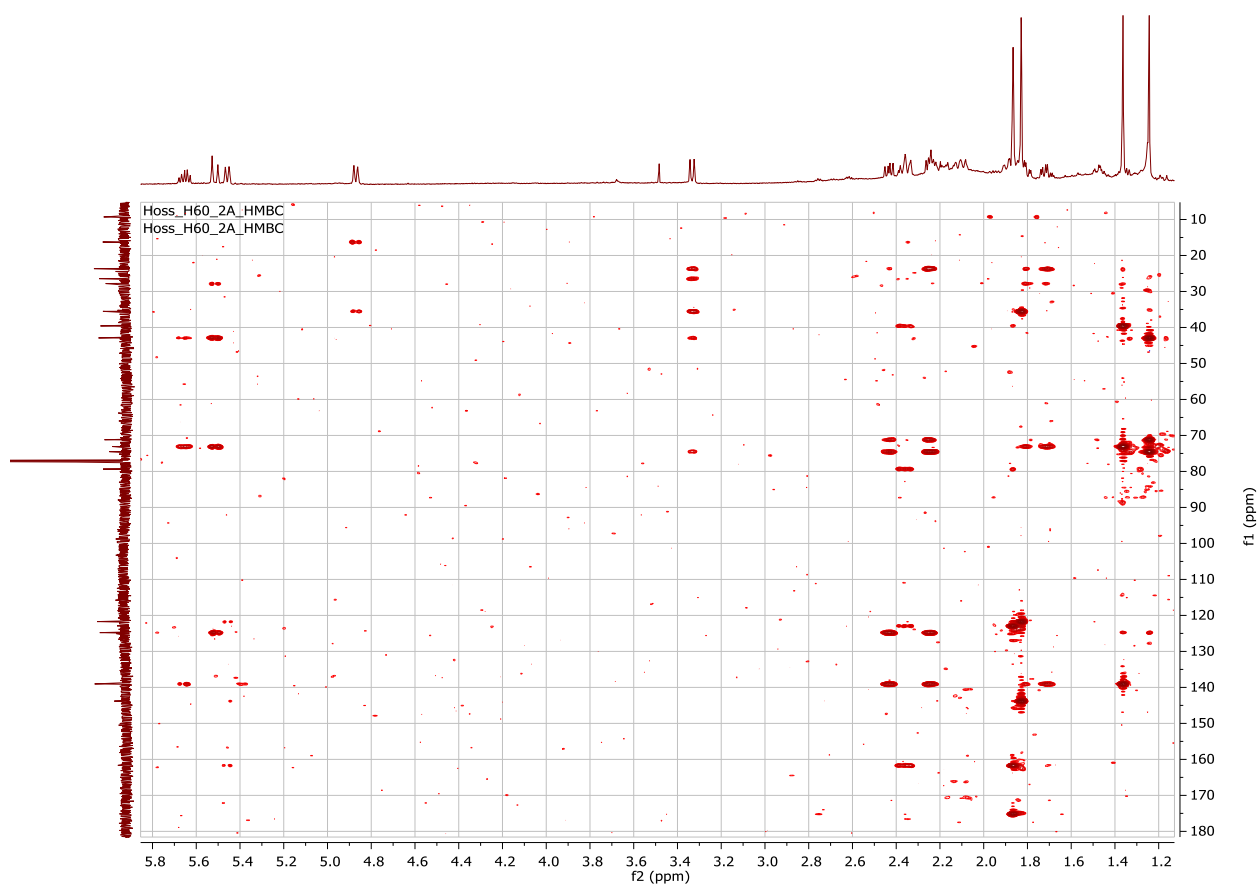


Fig.S15.The HMBC (600 MHz, CDCl<sub>3</sub>) spectrum of **2**

F: FTMS + p ESI Full ms [100.00-2000.00]

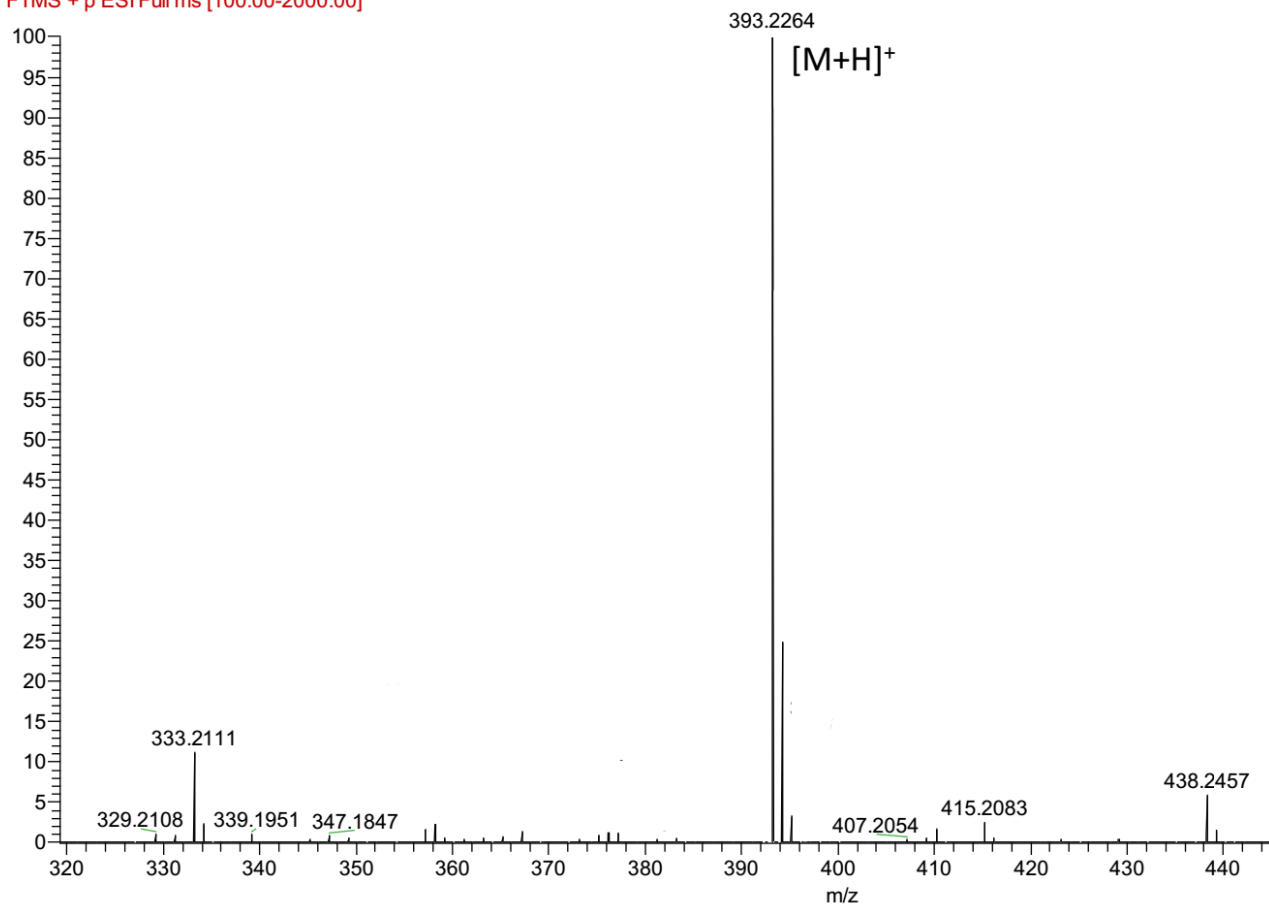


Fig.S16. The HRESIMS spectrum of **3**.

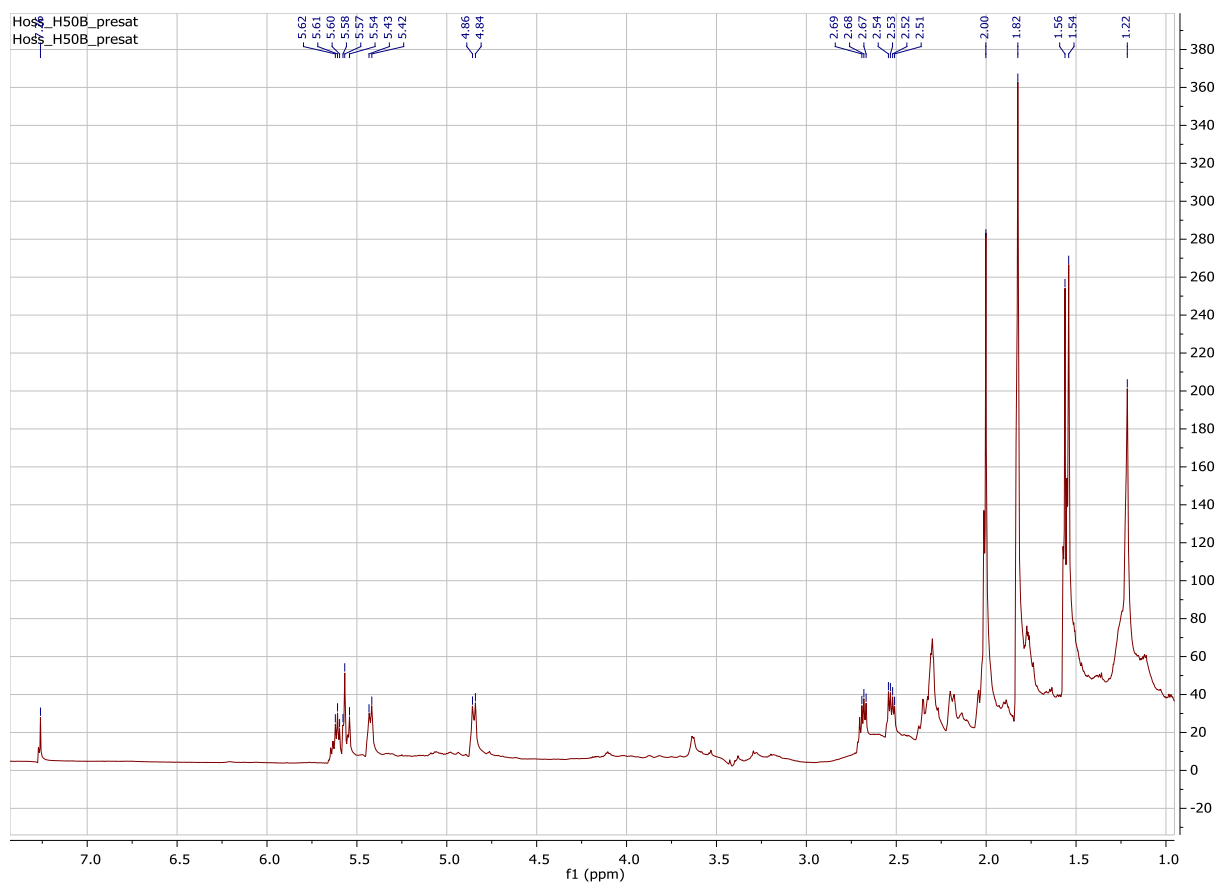


Fig.S17.The  $^1\text{H}$  NMR (600 MHz,  $\text{CDCl}_3$ ) spectrum of **3**

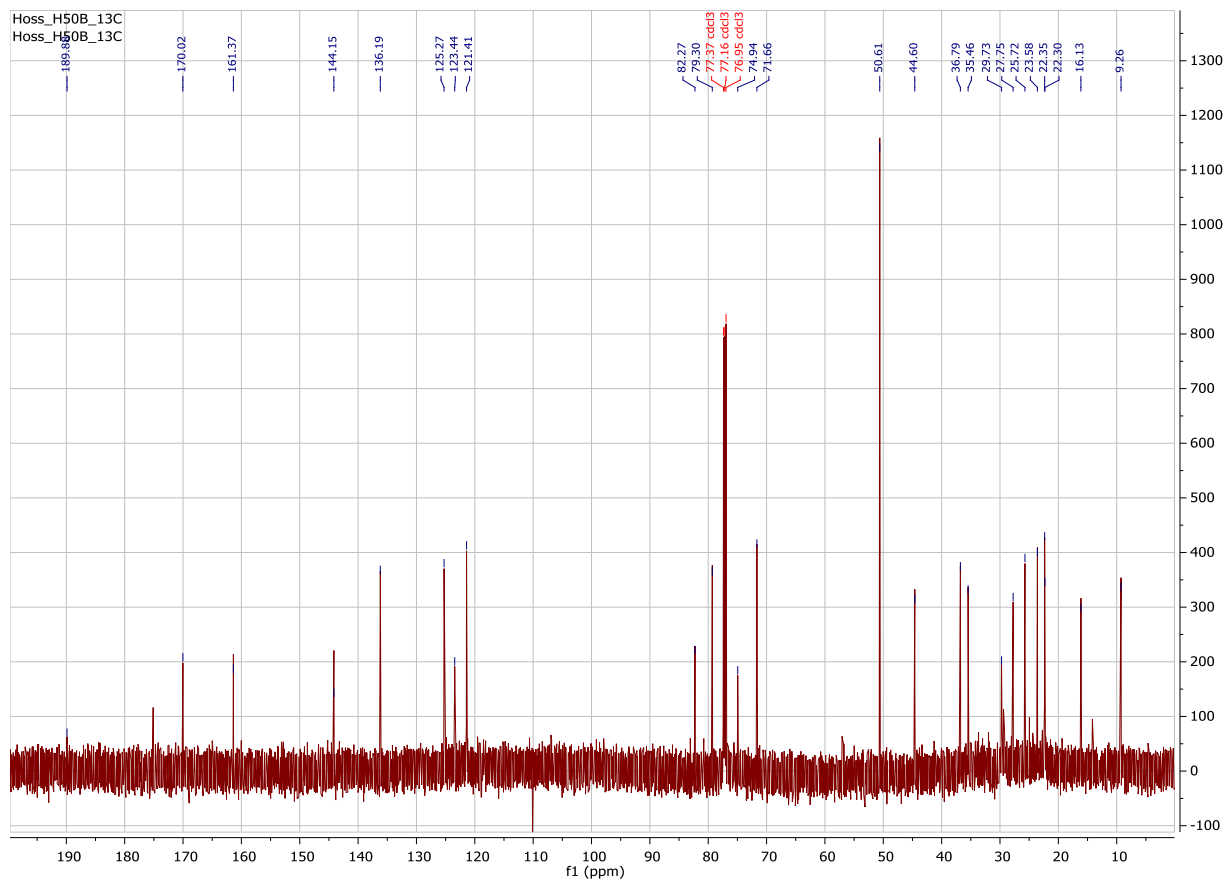


Fig.S18.The  $^{13}\text{C}$  NMR (150 MHz,  $\text{CDCl}_3$ ) spectrum of **3**

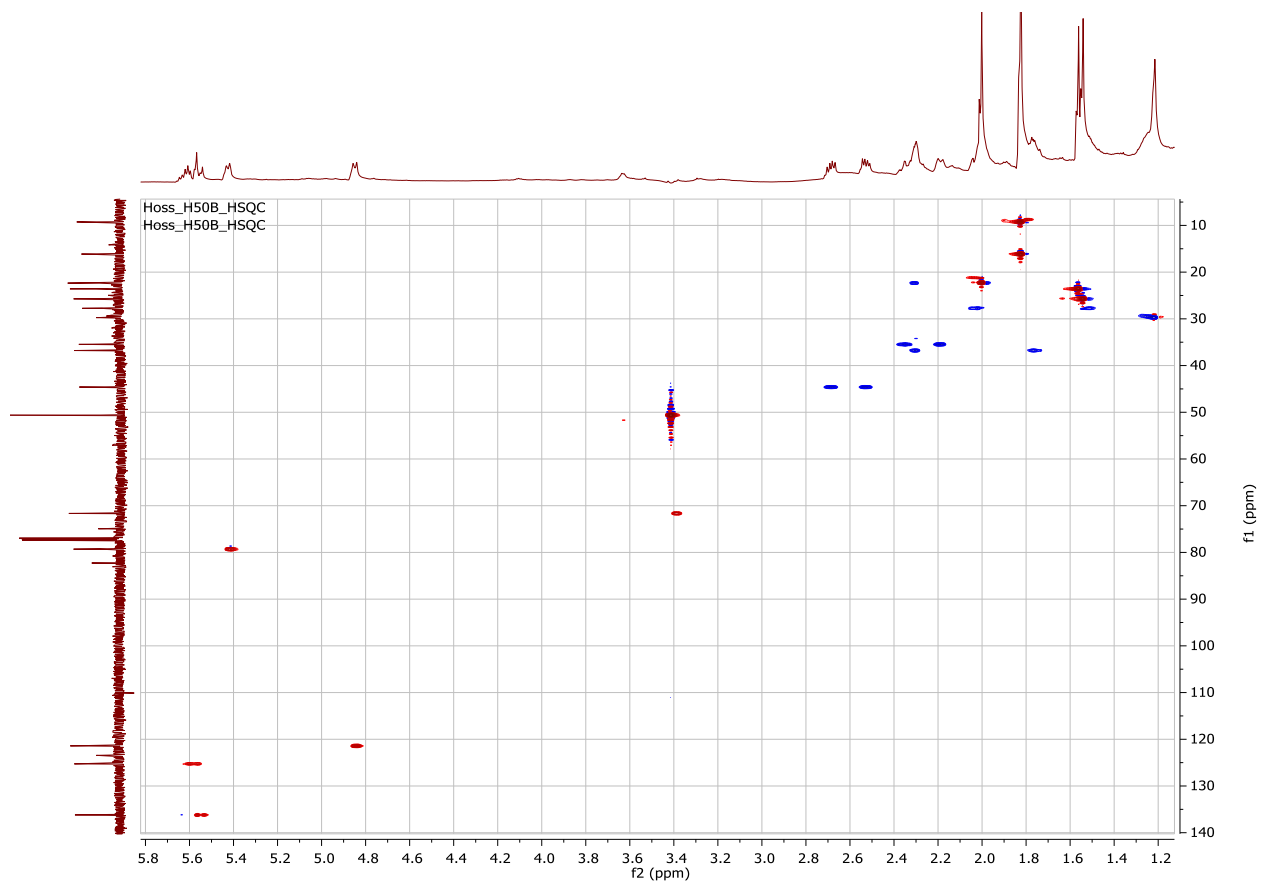


Fig.S19.The HSQC (600 MHz,  $\text{CDCl}_3$ ) spectrum of **3**

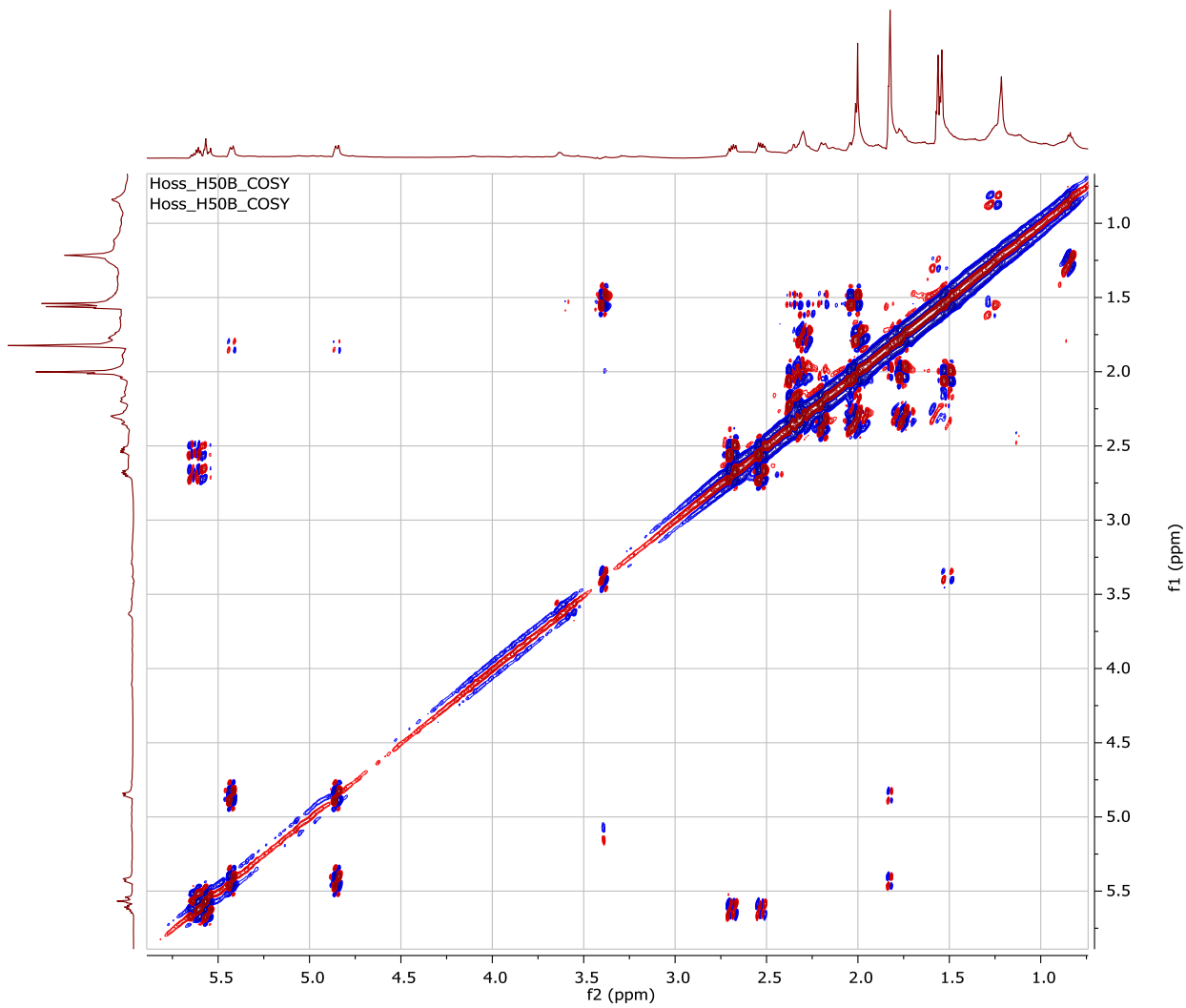


Fig.S20.The  $^1\text{H}$ - $^1\text{H}$  COSY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **3**

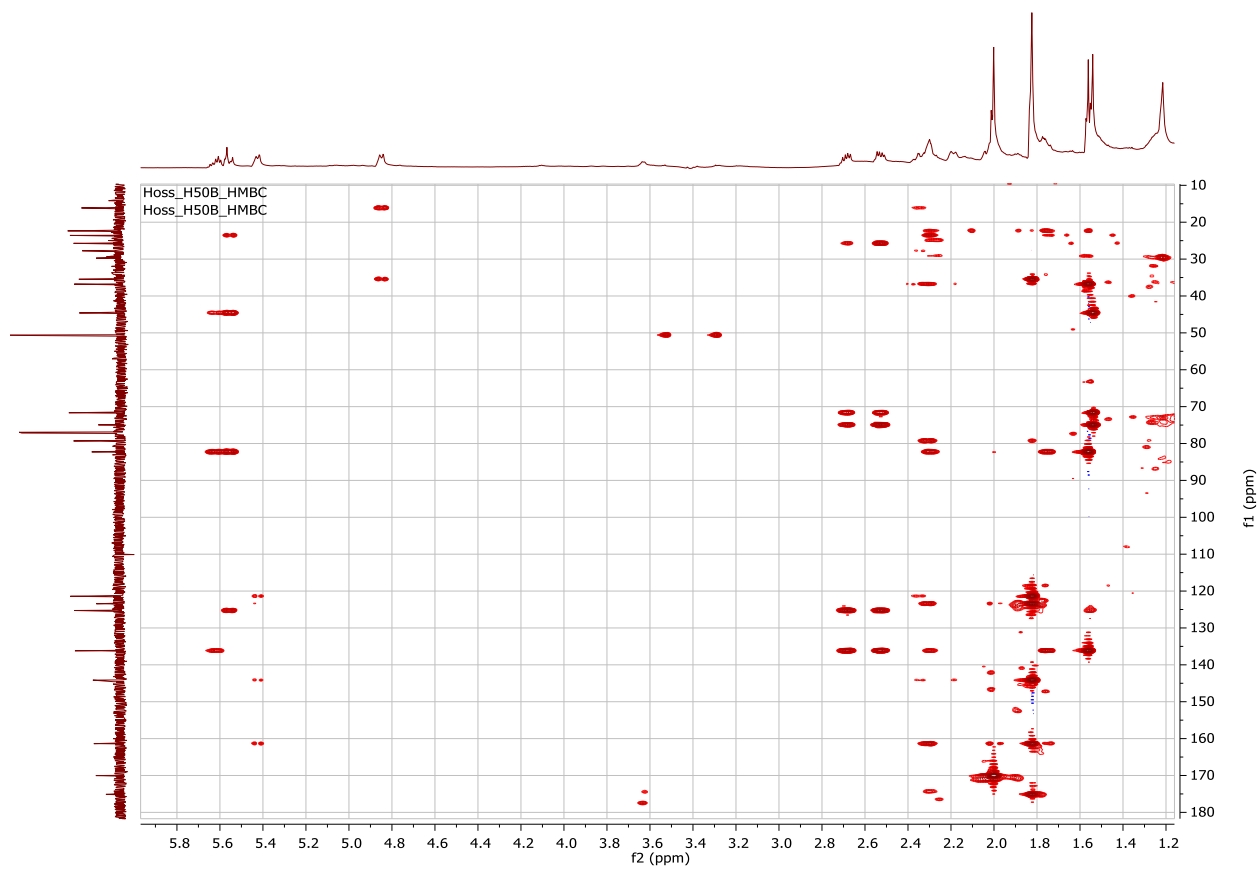


Fig.S21.The HMBC (600 MHz, CDCl<sub>3</sub>) spectrum of **3**

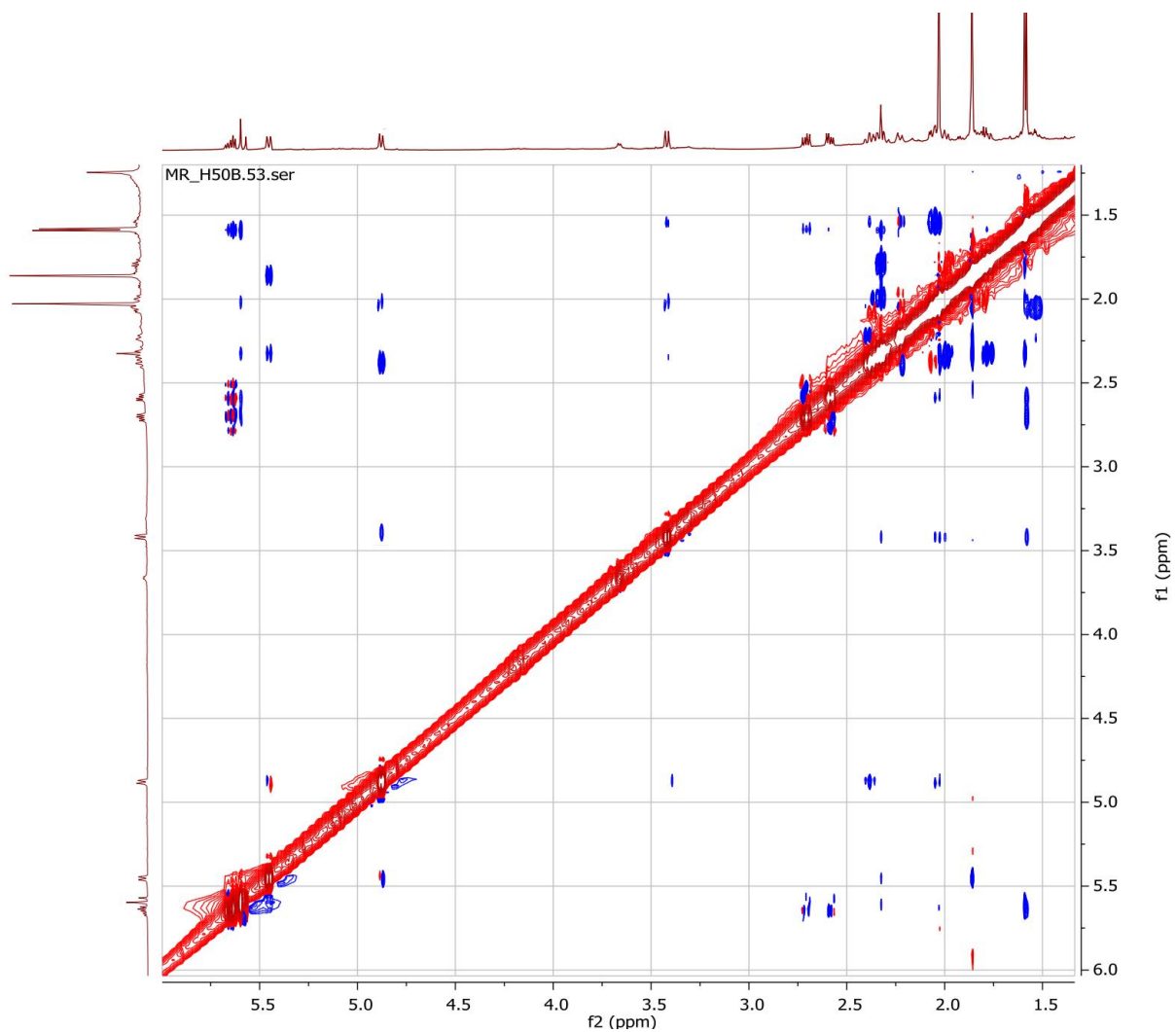


Fig.S22.The NOESY (600 MHz, CDCl<sub>3</sub>) spectrum of **3**



F: FTMS + p ESI Full ms [100.00-2000.00]

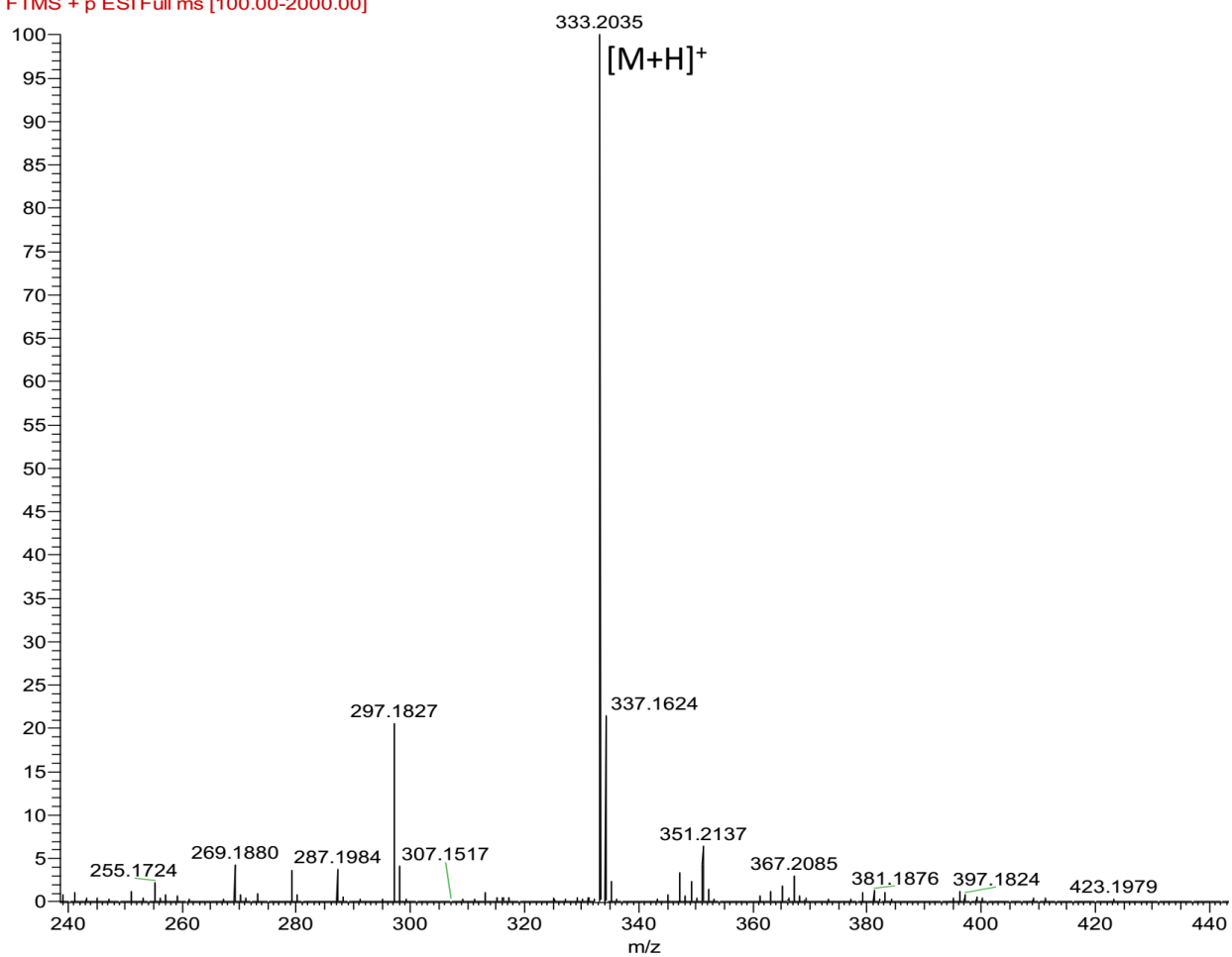


Fig.S23. The HRESIMS spectrum of **4**.



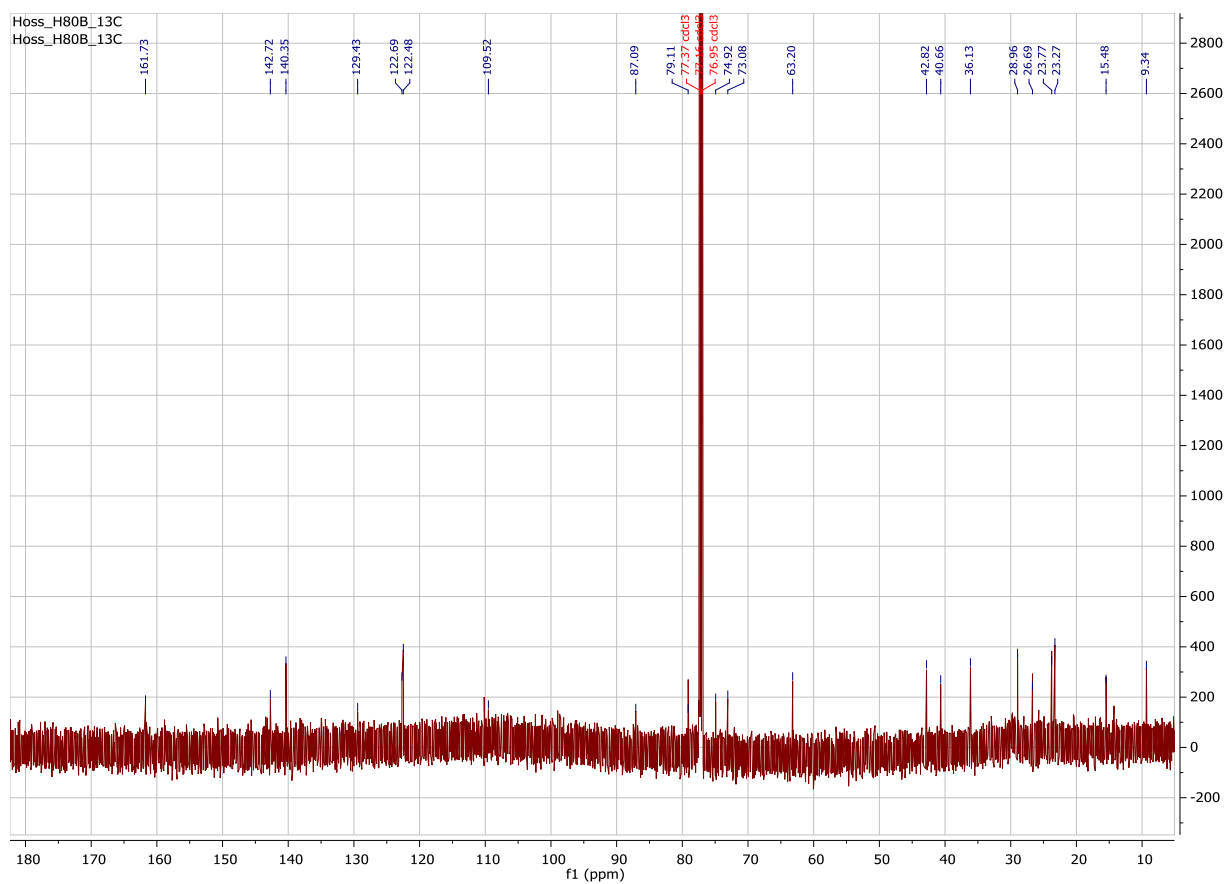


Fig.S25.The  $^{13}\text{C}$  NMR (150 MHz,  $\text{CDCl}_3$ ) spectrum of **4**

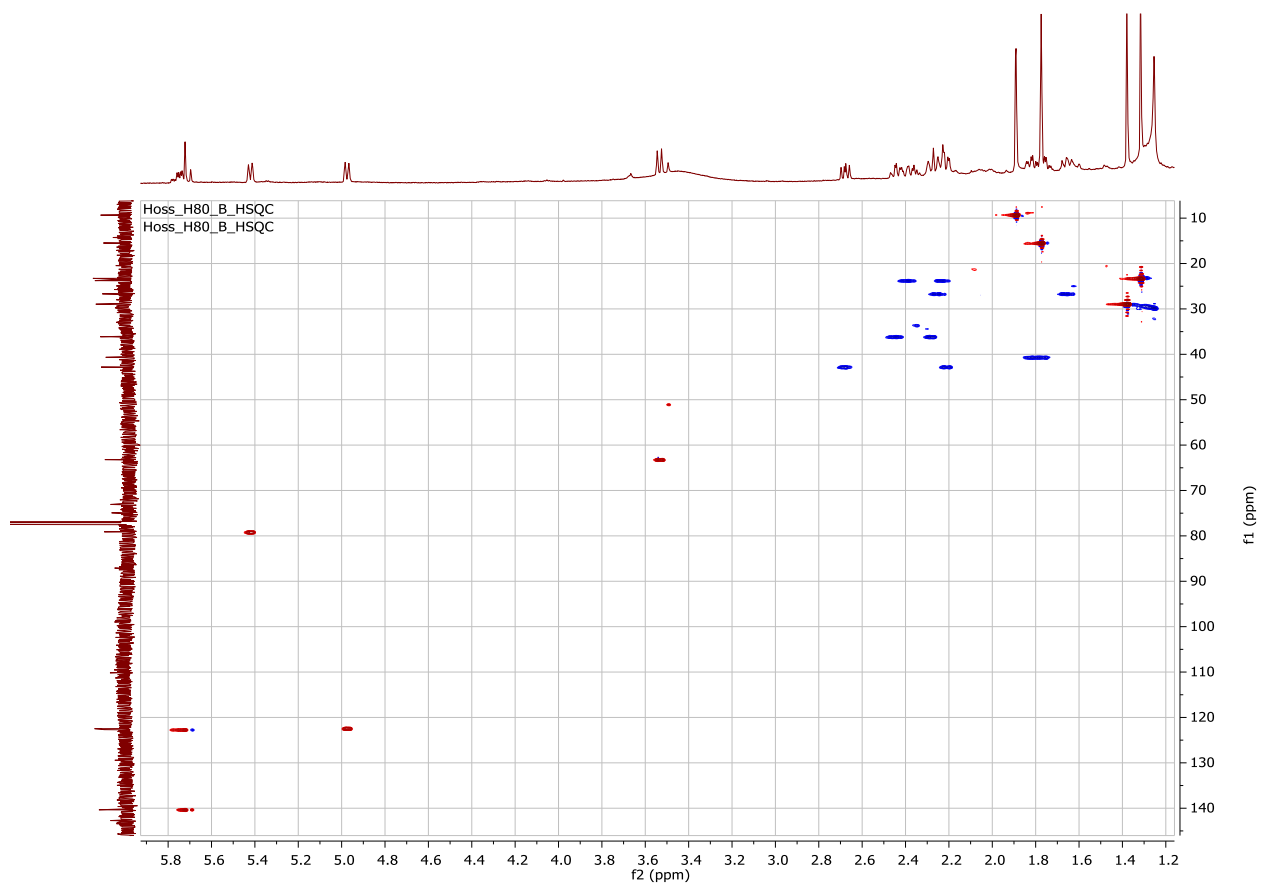


Fig.S26.The HSQC (600 MHz, CDCl<sub>3</sub>) spectrum of **4**

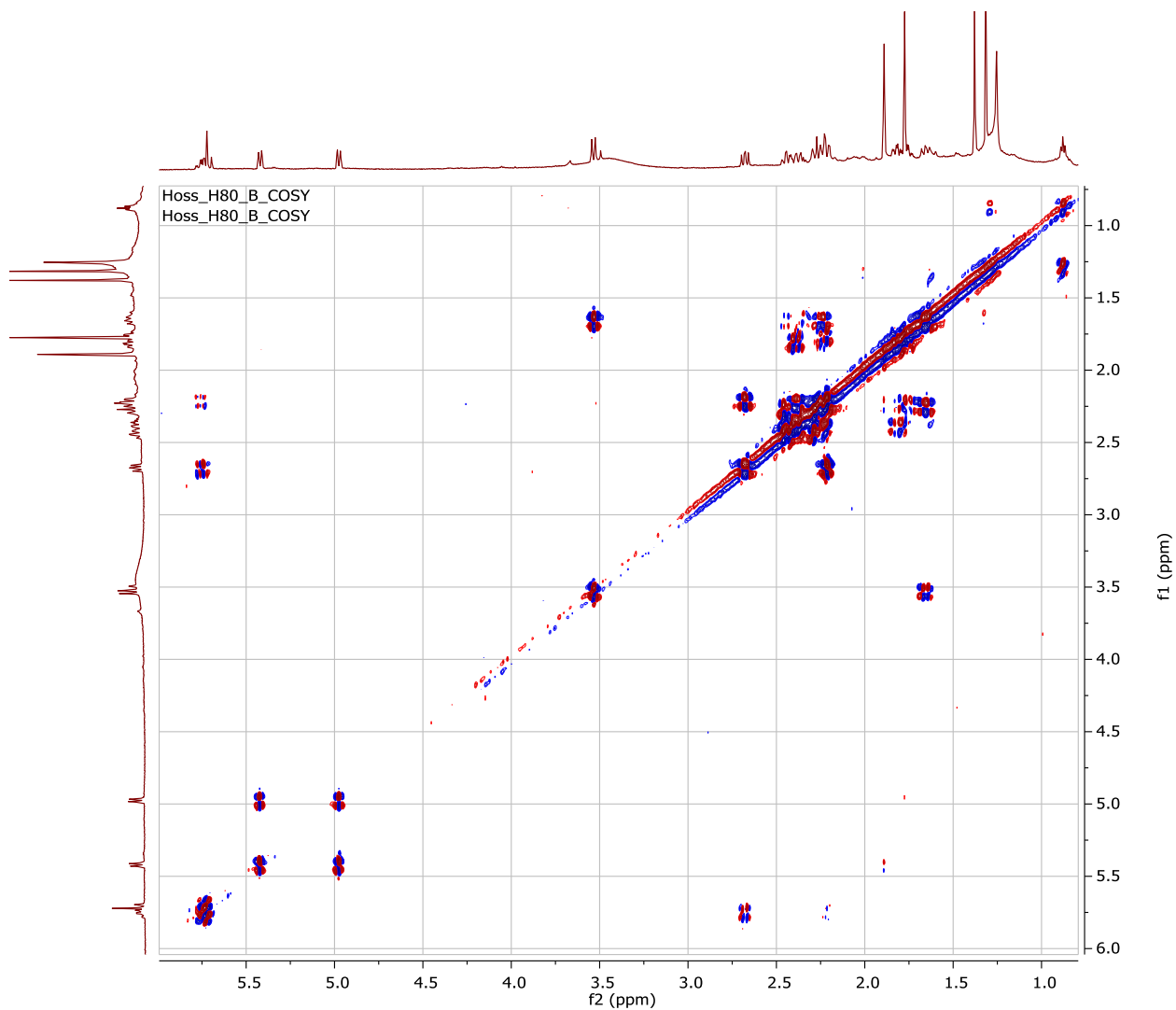


Fig.S27.The  $^1\text{H}$ - $^1\text{H}$  COSY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **4**

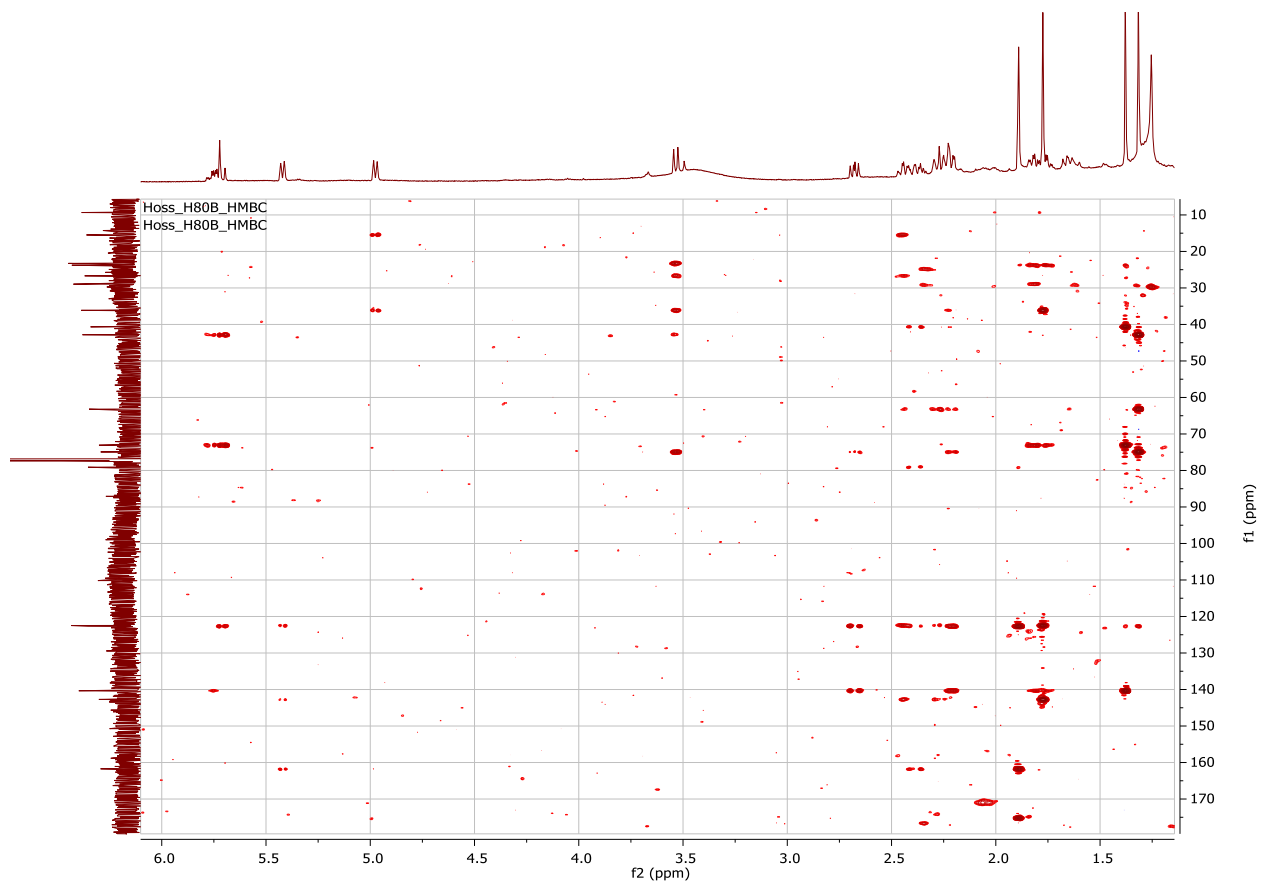


Fig.28.The HMBC (600 MHz,  $\text{CDCl}_3$ ) spectrum of **4**

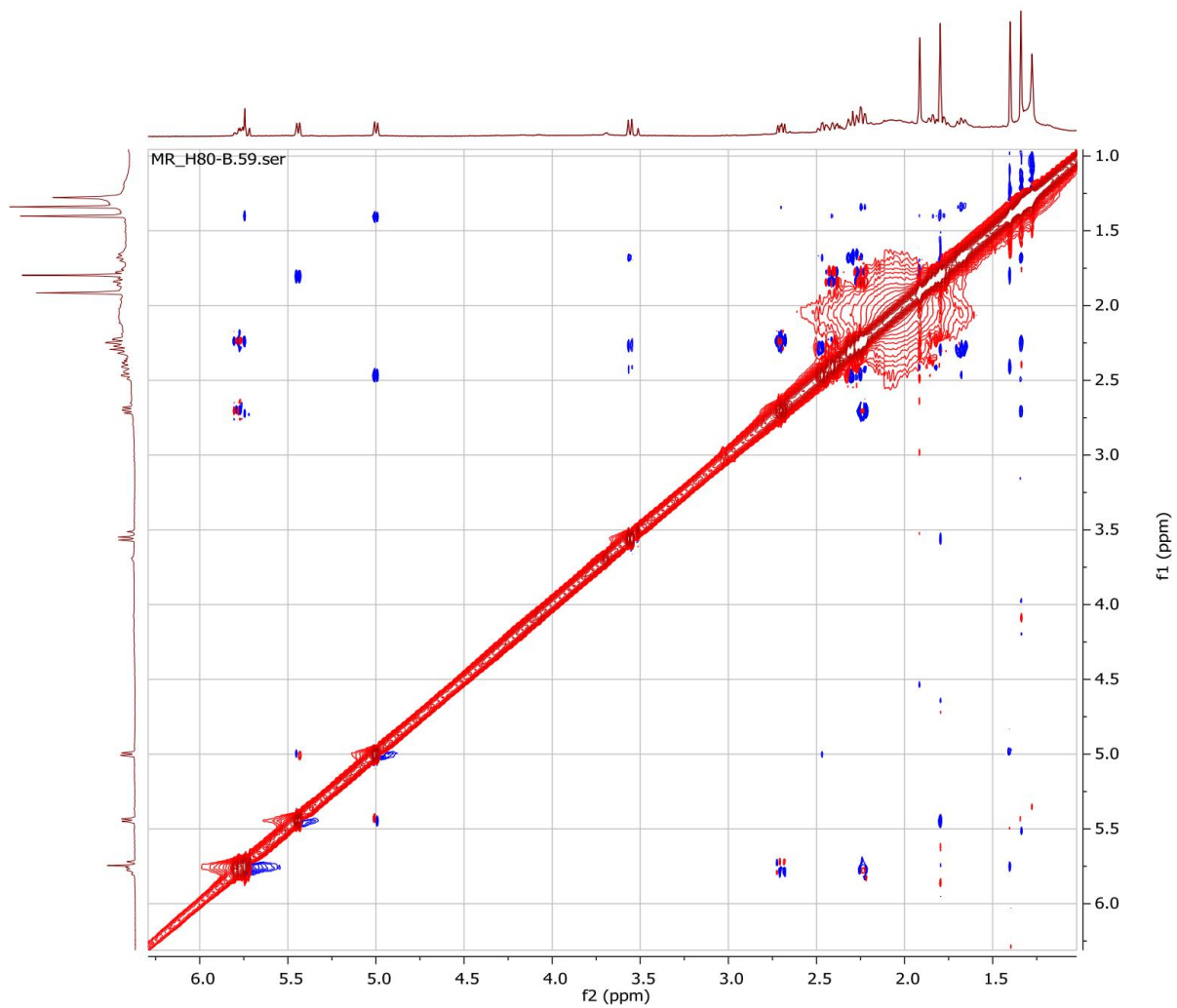


Fig.S29.The NOESY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **4**

F: FTMS + p ESI Full ms [100.00-2000.00]

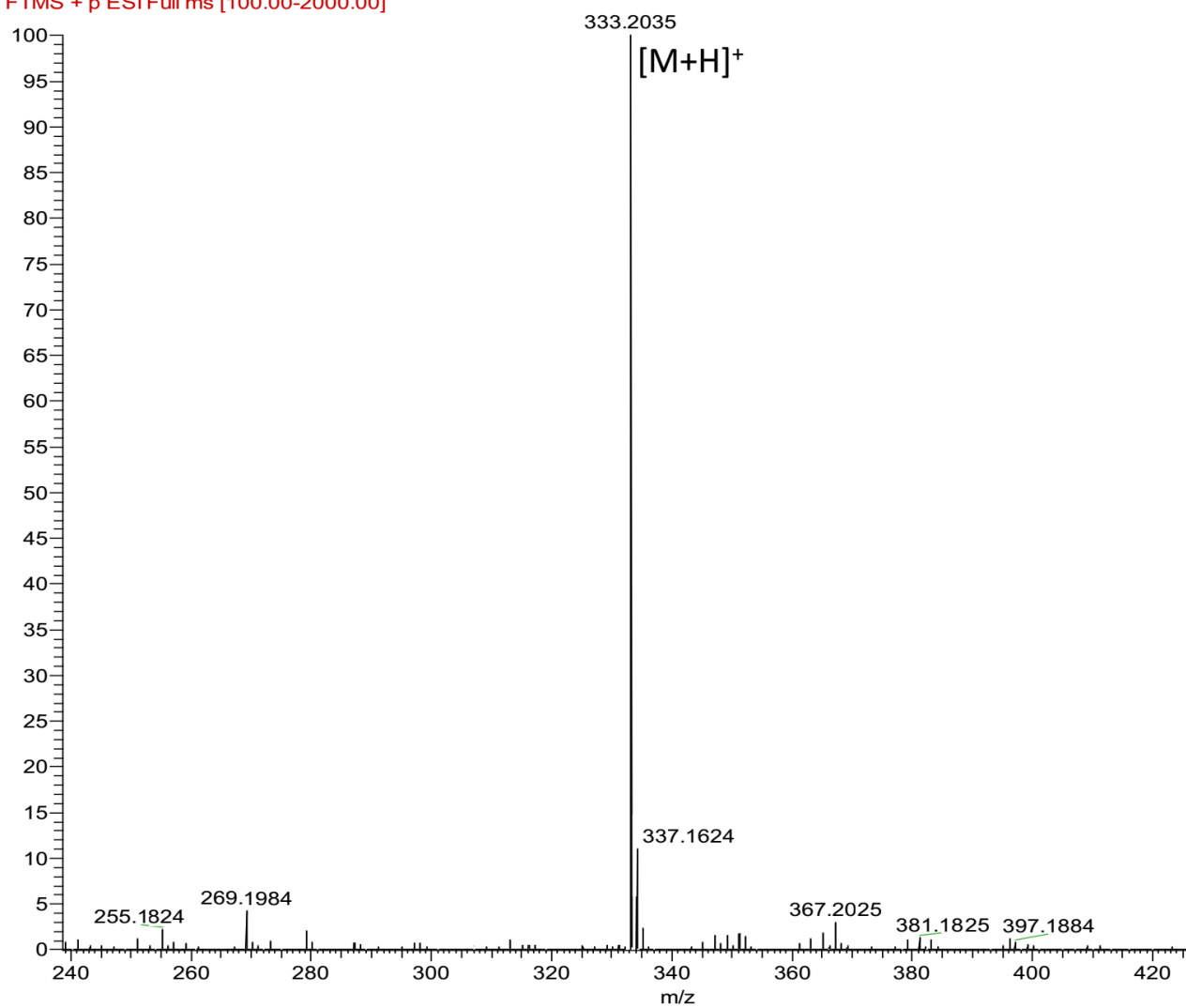


Fig.S30. The HRESIMS spectrum of **5**.



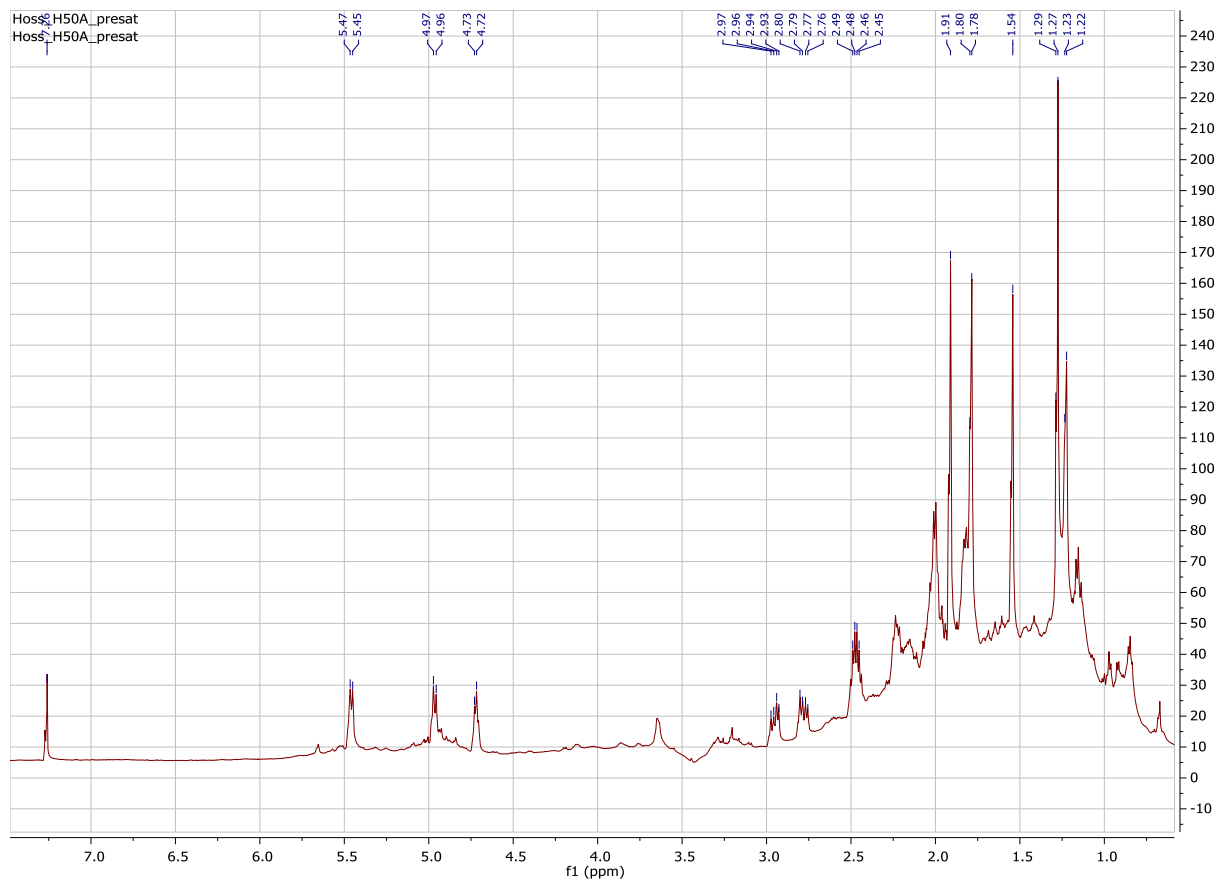


Fig.S31.The  $^1\text{H}$  NMR (600 MHz,  $\text{CDCl}_3$ ) spectrum of **5**

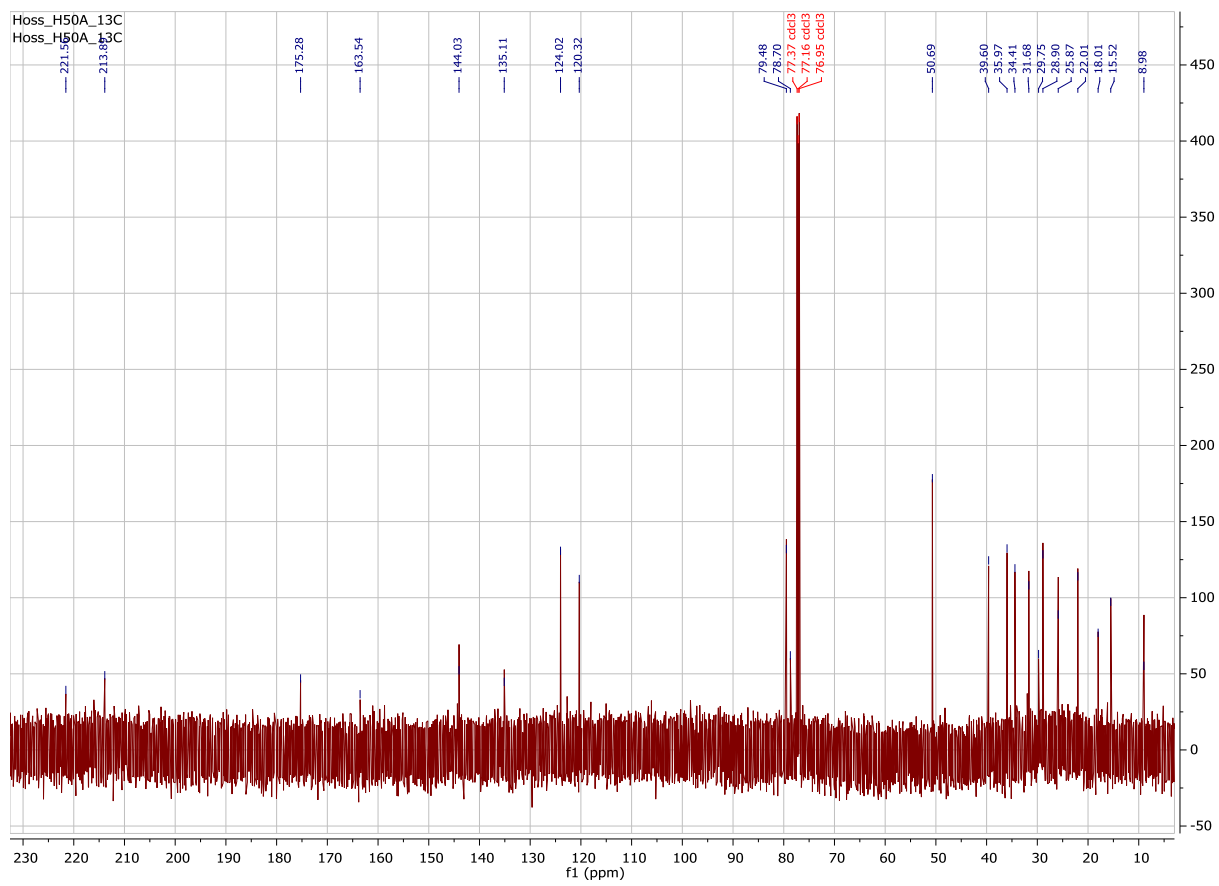


Fig.S32.The  $^{13}\text{C}$  NMR (150 MHz,  $\text{CDCl}_3$ ) spectrum of **5**

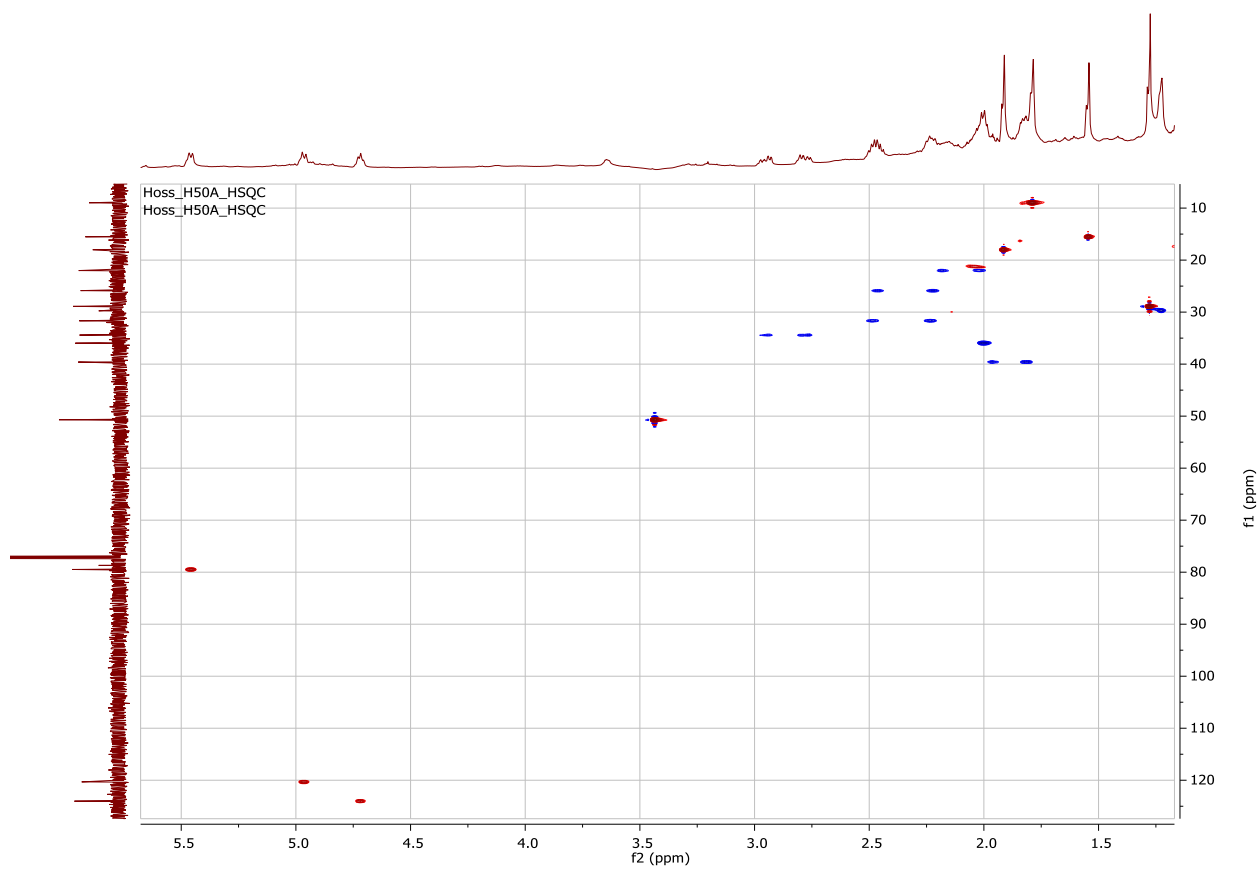


Fig.S33.The HSQC (600 MHz,  $\text{CDCl}_3$ ) spectrum of **5**

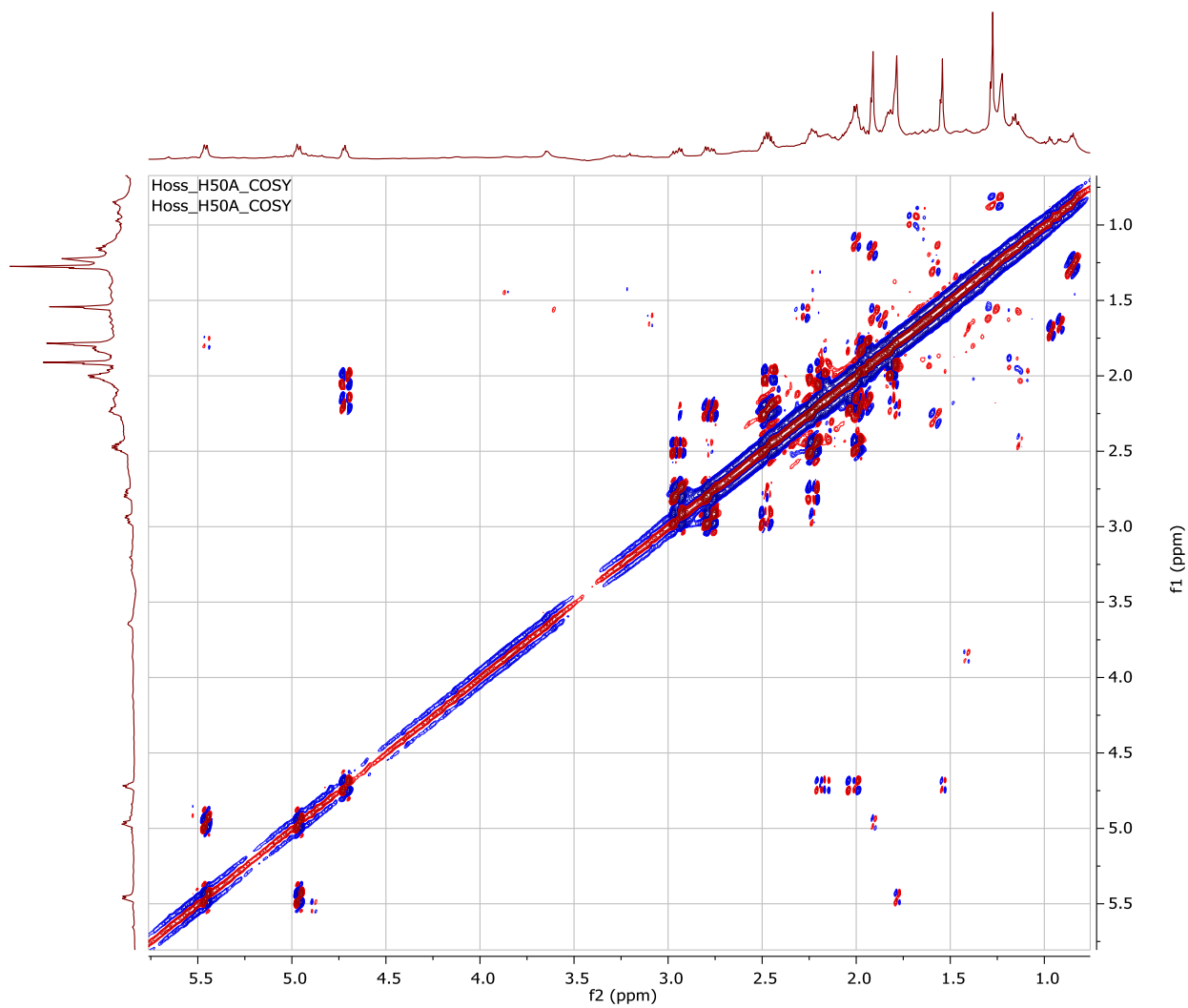


Fig.S34.The  $^1\text{H}$ - $^1\text{H}$  COSY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **5**

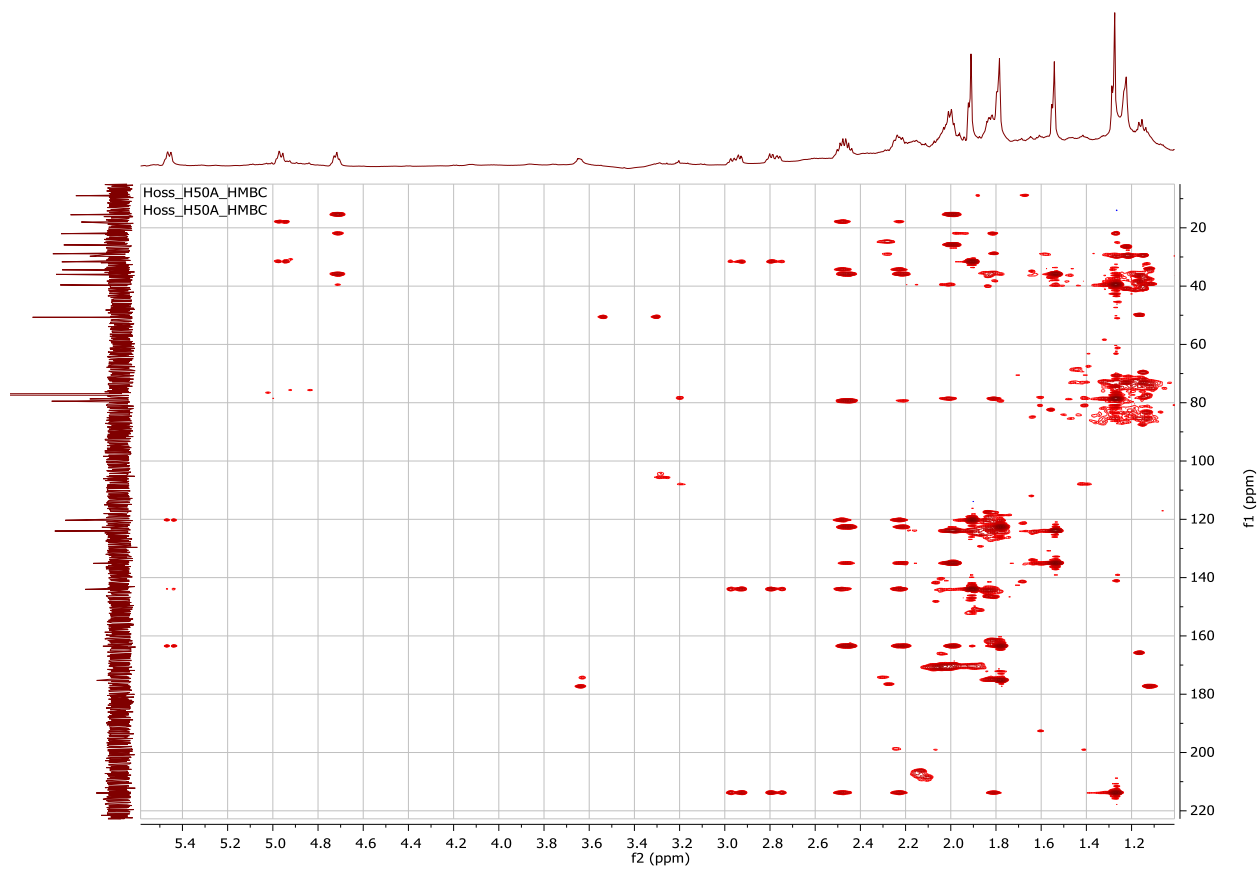


Fig.S35.The HMBC (600 MHz, CDCl<sub>3</sub>) spectrum of **5**

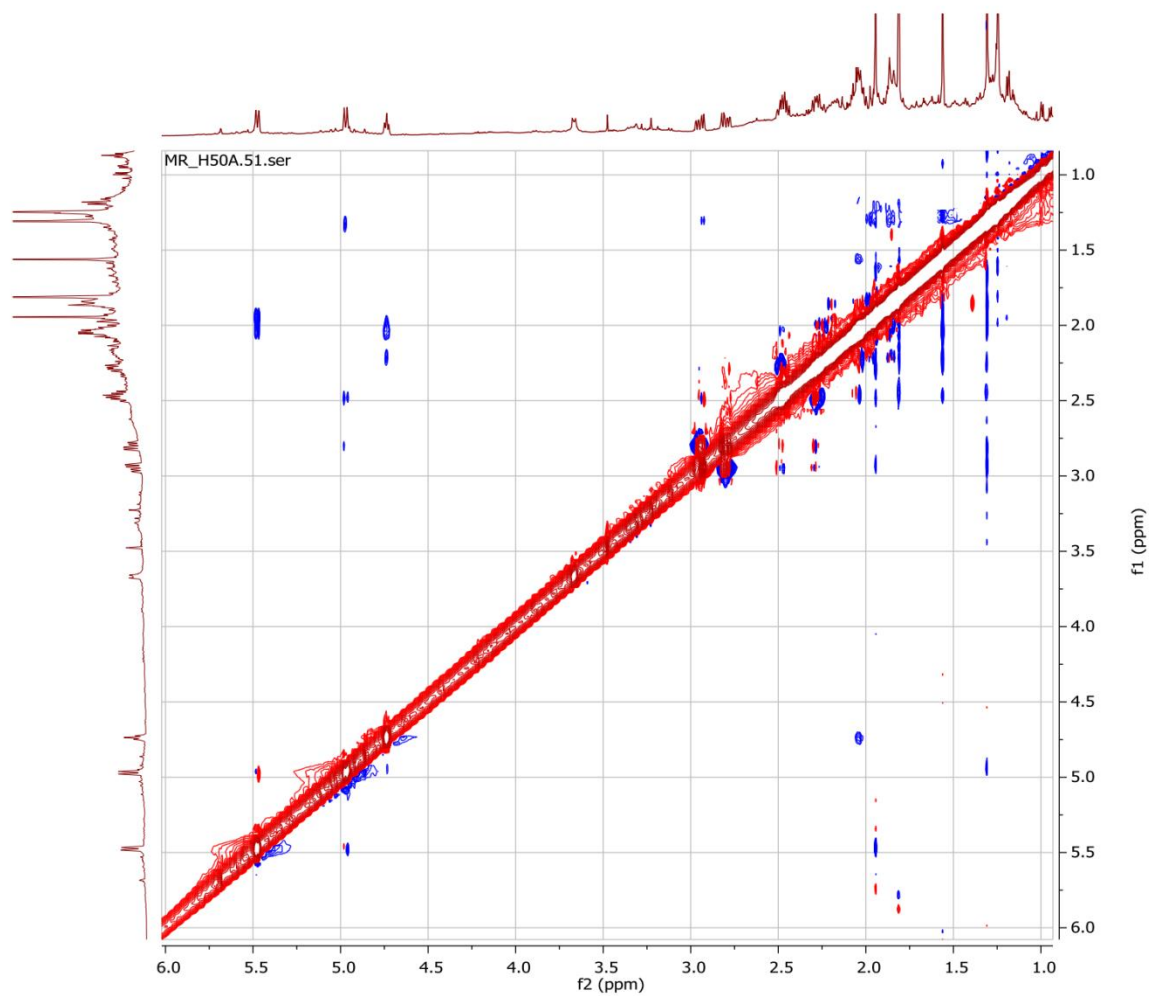


Fig.S36.The NOESY (600 MHz,  $\text{CDCl}_3$ ) spectrum of **5**