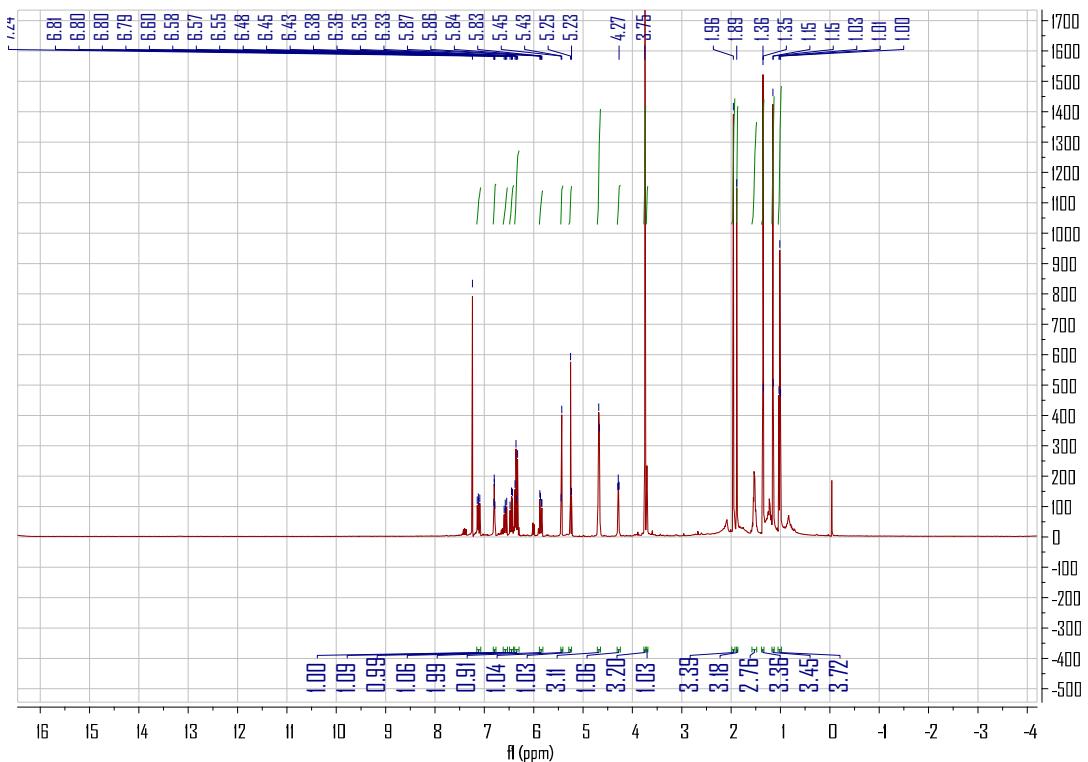


# Supplementary Materials: Asteltoxins with Antiviral Activities from the Marine Sponge-Derived Fungus *Aspergillus* sp. SCSIO XWS02F40

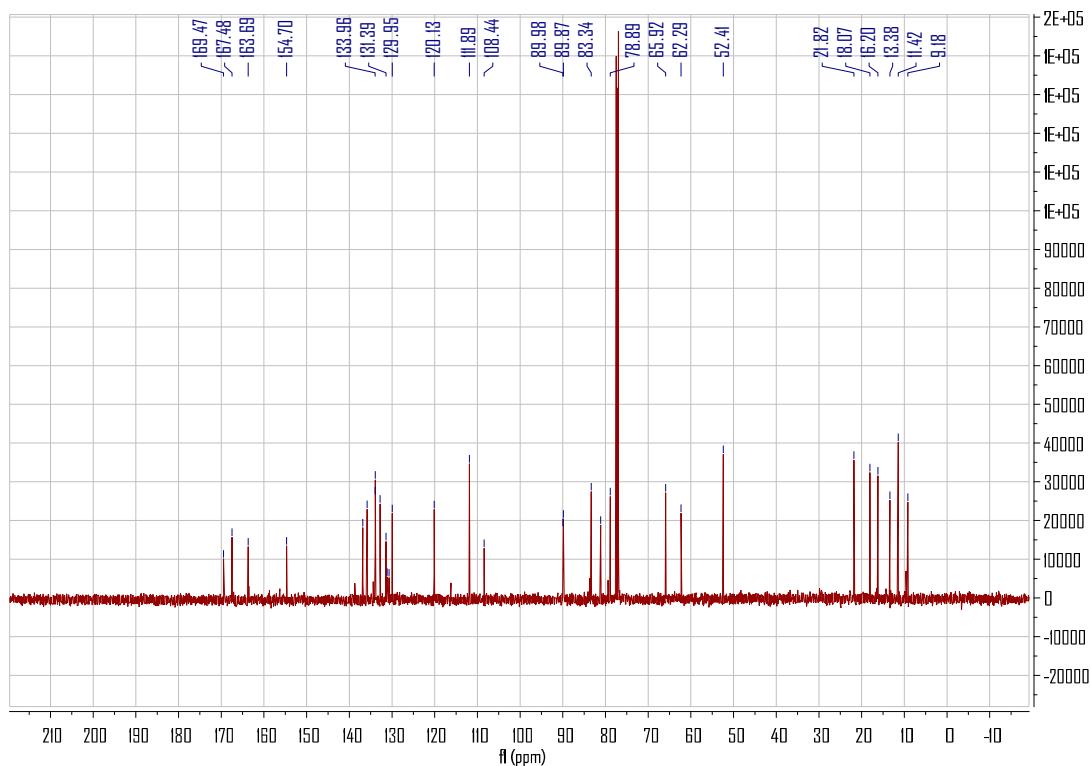
Yong-Qi Tian <sup>1,2</sup>, Xiu-Ping Lin <sup>1</sup>, Zhen Wang <sup>3</sup>, Xue-Feng Zhou <sup>1</sup>, Xiaochu Qin <sup>3</sup>, Kumaravel Kaliyaperumal <sup>1</sup>, Tianyu Zhang <sup>3</sup>, Zheng-Chao Tu <sup>3</sup> and Yonghong Liu <sup>1,\*</sup>

## Contents

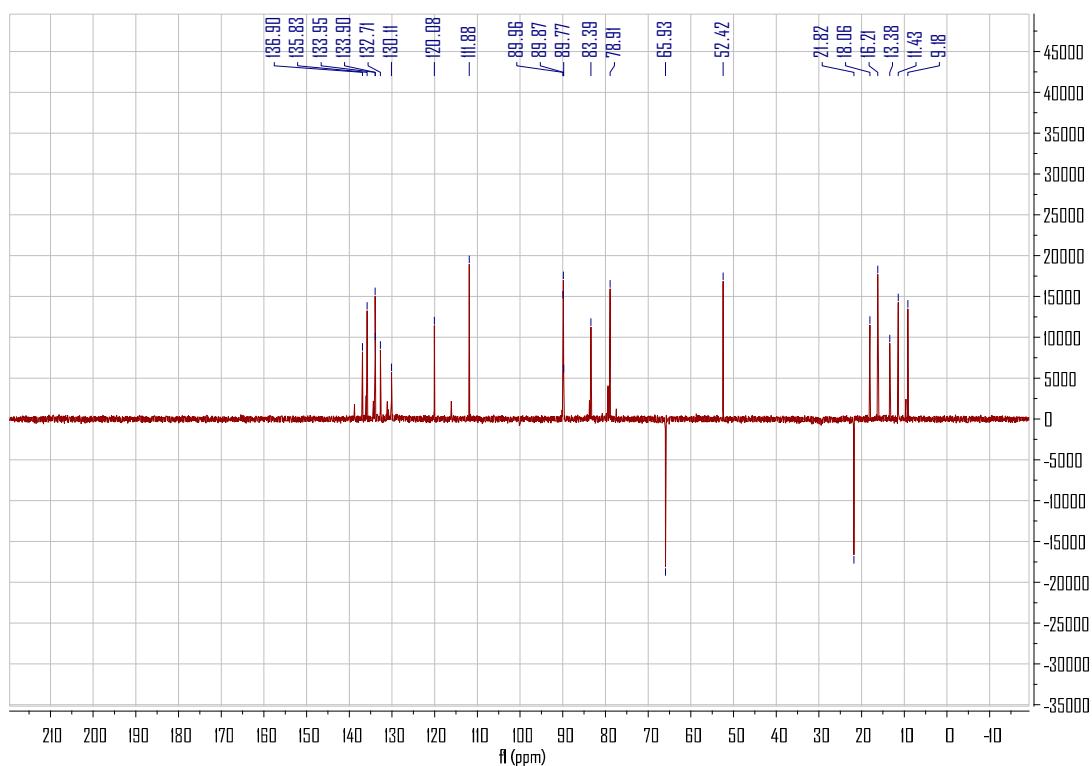
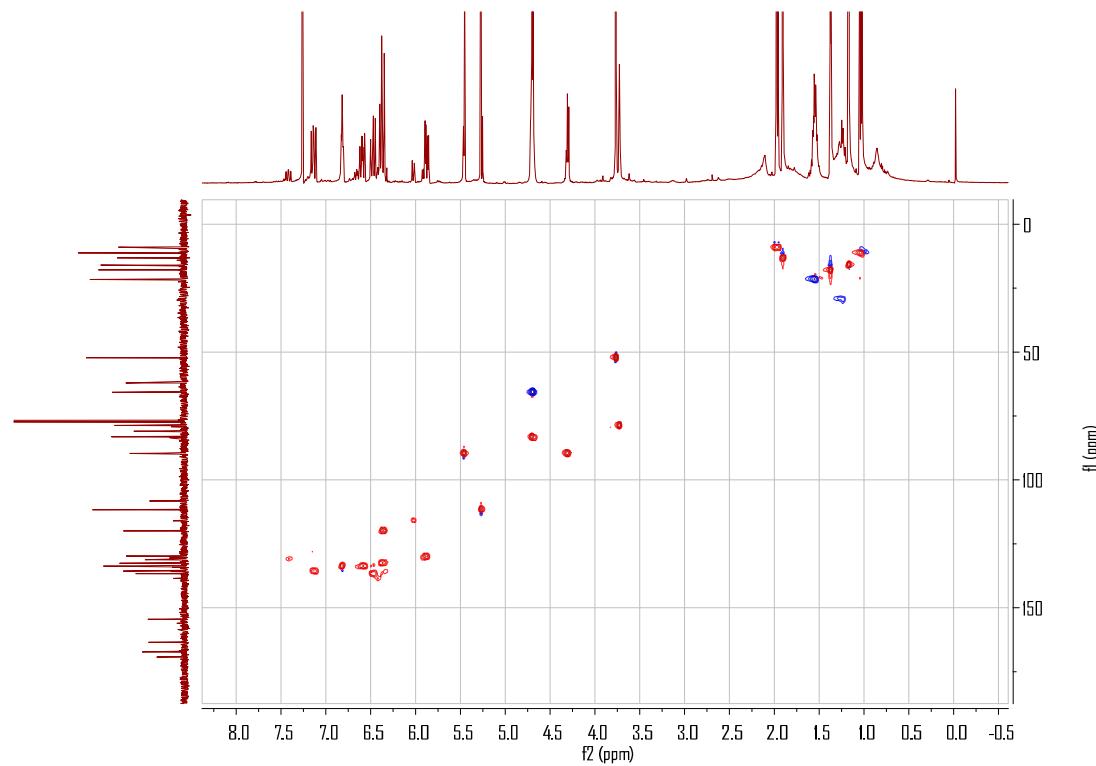
- (1) **Figure S1.** <sup>1</sup>H-NMR spectrum of compound **2**(500 MHz, CDCl<sub>3</sub>).
- (2) **Figure S2.** <sup>13</sup>C-NMR spectrum of compound **2** (125 MHz, CDCl<sub>3</sub>).
- (3) **Figure S3.** DEPT-135 spectrum of compound **2** (125 MHz, CDCl<sub>3</sub>).
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- (19) **Figure S19.** DEPT-135 spectrum of compound **4** (125 MHz, DMSO-d<sub>6</sub>).
- (20) **Figure S20.** HSQC spectrum of compound **4** (500 MHz, DMSO-d<sub>6</sub>).
- (21) **Figure S21.** COSY spectrum of compound **4** (500 MHz, DMSO-d<sub>6</sub>).
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- (23) **Figure S23.** HRESIMS spectrum of compound **4**.

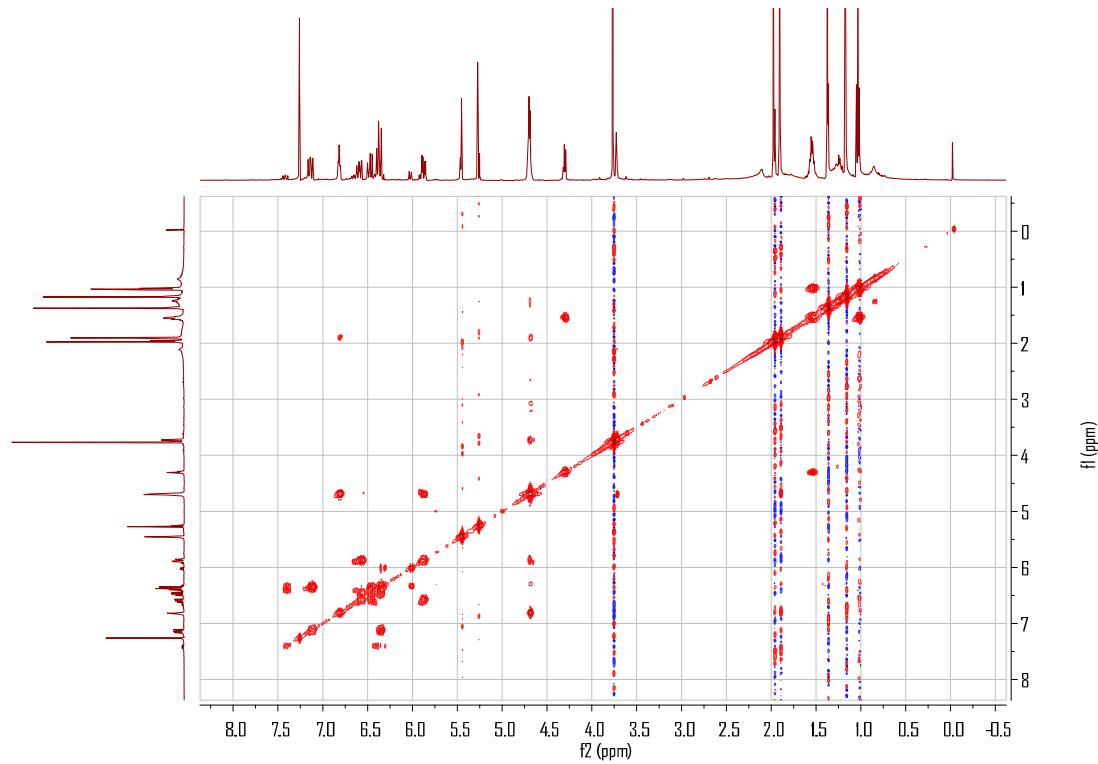


**Figure S1.** <sup>1</sup>H-NMR spectrum of compound 2 (500 MHz, CDCl<sub>3</sub>).

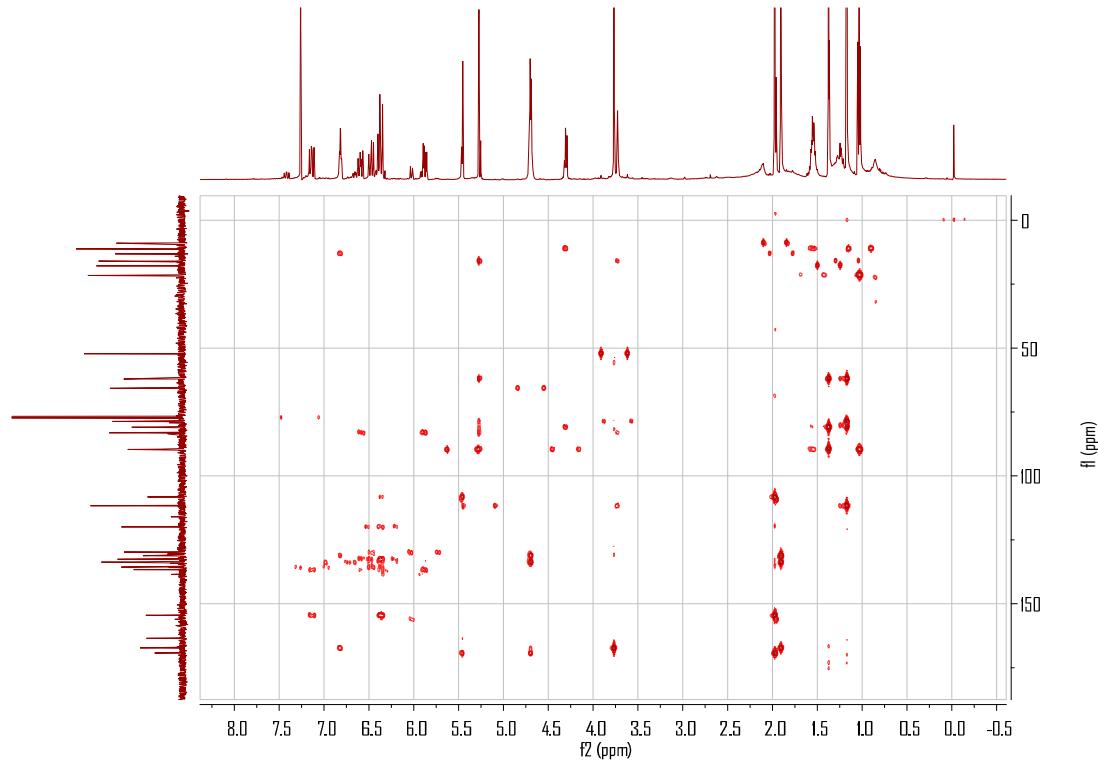


**Figure S2.** <sup>13</sup>C-NMR spectrum of compound 2 (125 MHz, CDCl<sub>3</sub>).

**Figure S3.** DEPT-135 spectrum of compound 2 (125 MHz,  $\text{CDCl}_3$ ).**Figure S4.** HSQC spectrum of compound 2 (500 MHz,  $\text{CDCl}_3$ ).



**Figure S5.** COSY spectrum of compound 2 (500 MHz,  $\text{CDCl}_3$ ).



**Figure S6.** HMBC spectrum of compound 2 (500 MHz,  $\text{CDCl}_3$ ).

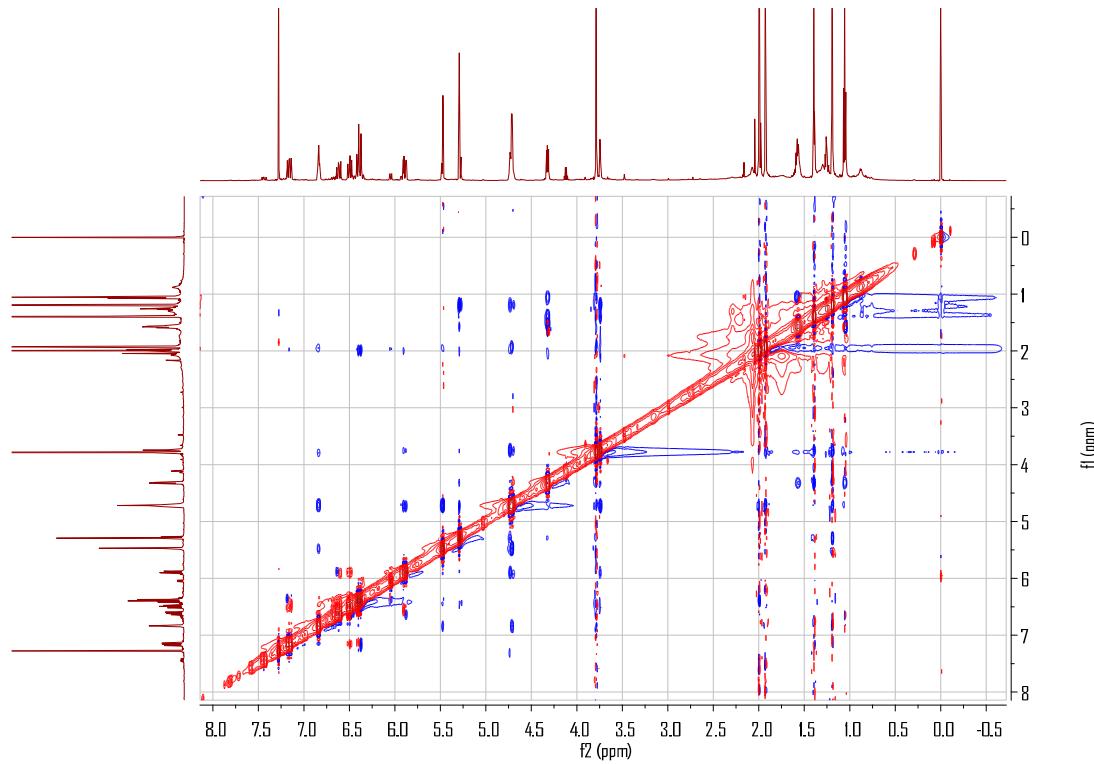
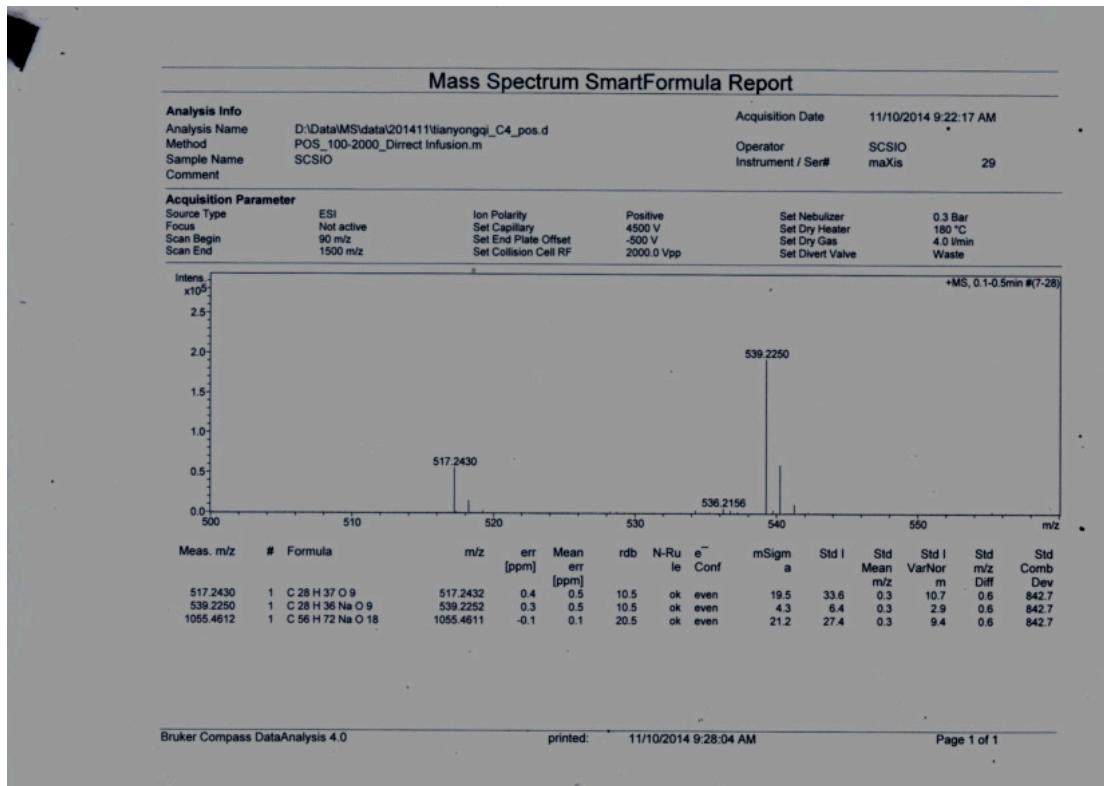
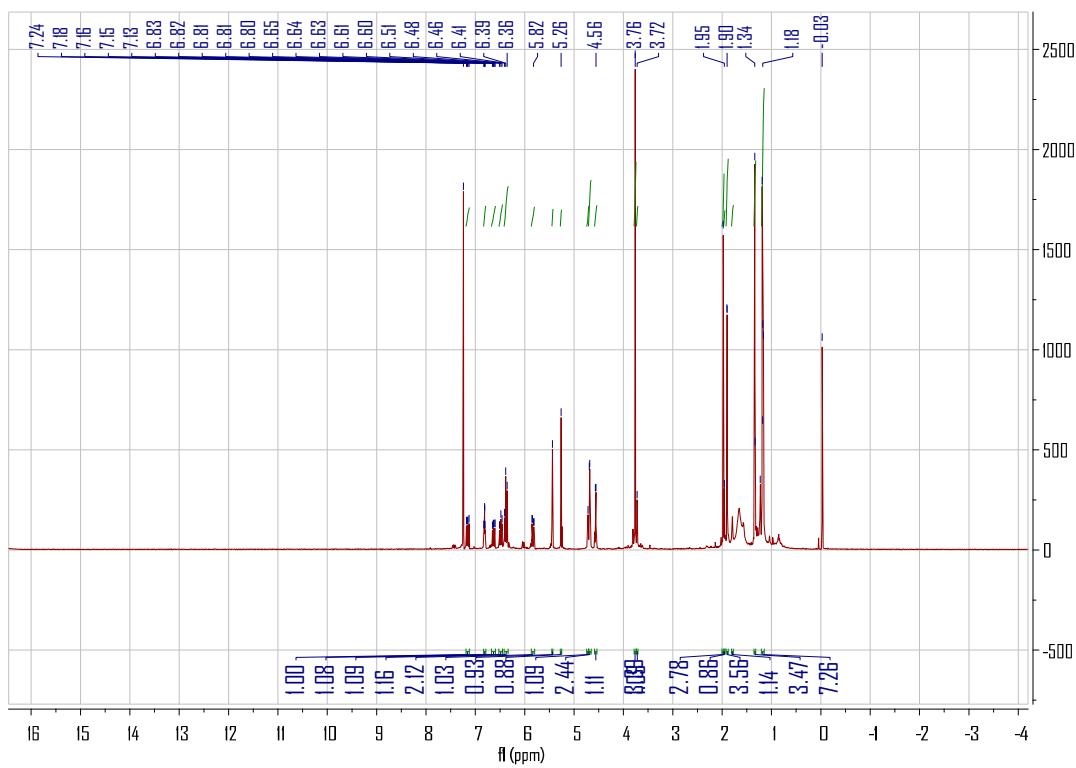
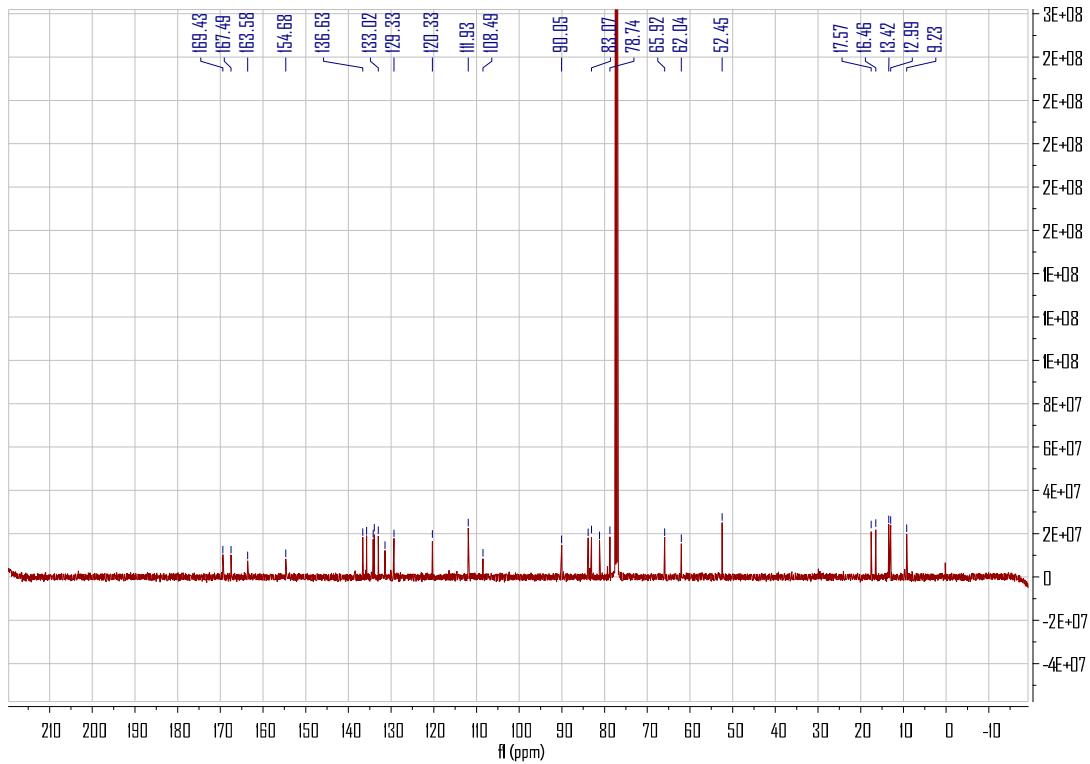
Figure S7. NOE spectrum of compound 2 (600 MHz, CDCl<sub>3</sub>).

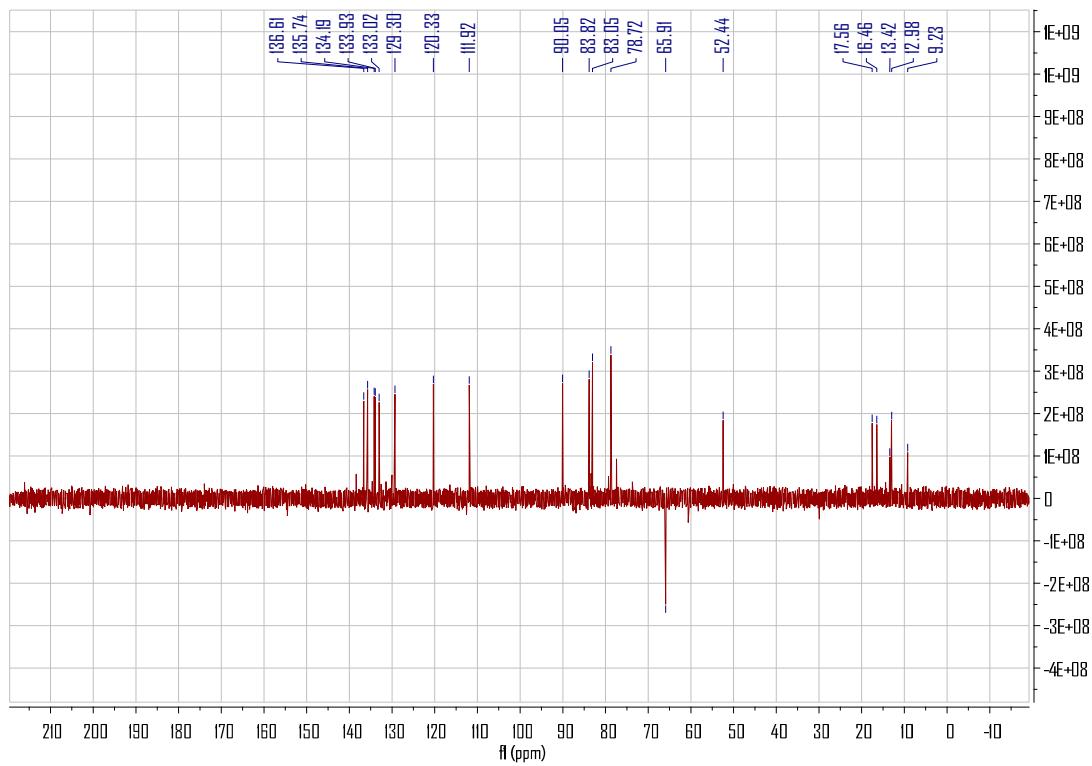
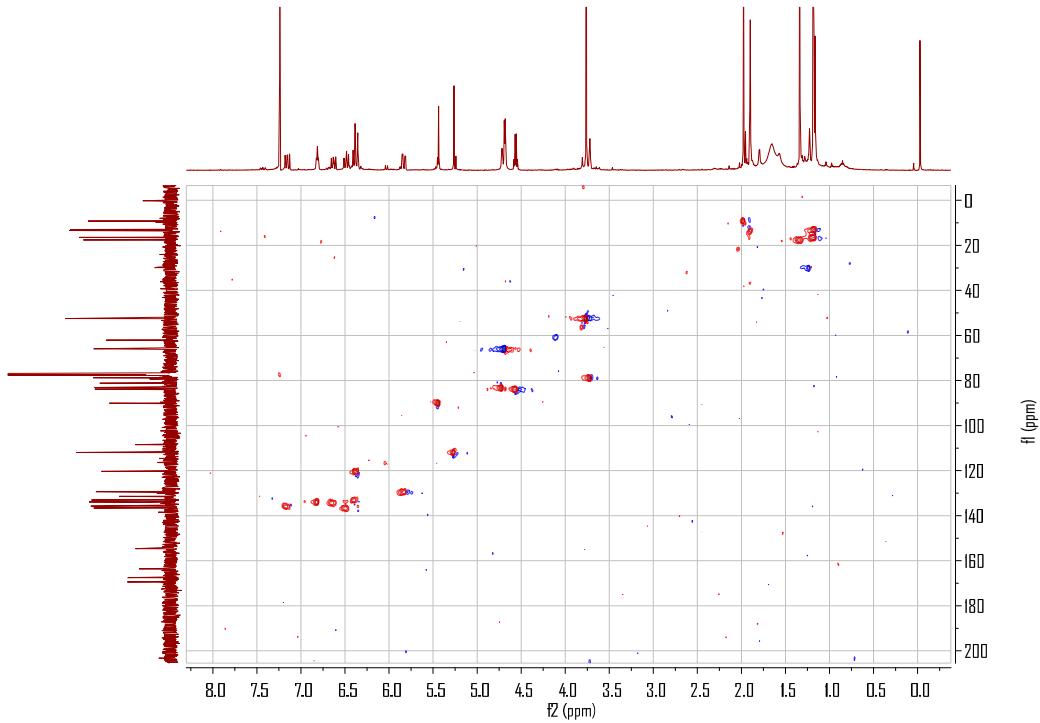
Figure S8. HRESIMS spectrum of compound 2.

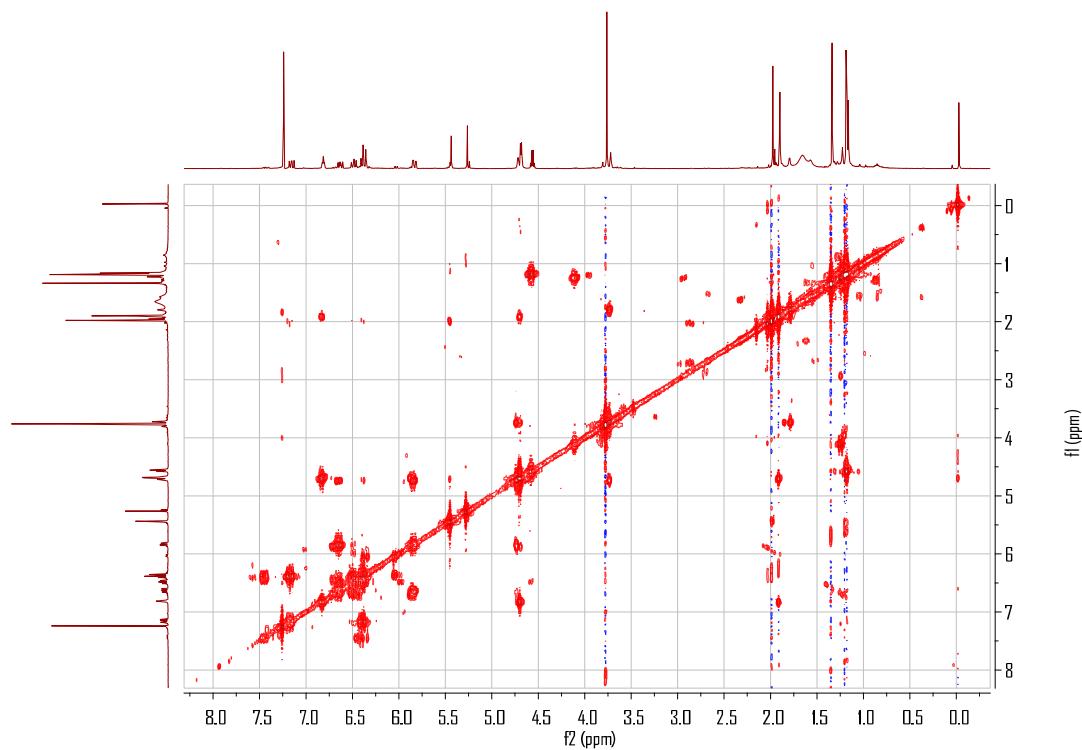


**Figure S9.**  $^1\text{H}$ -NMR spectrum of compound **3** (500 MHz,  $\text{CDCl}_3$ ).

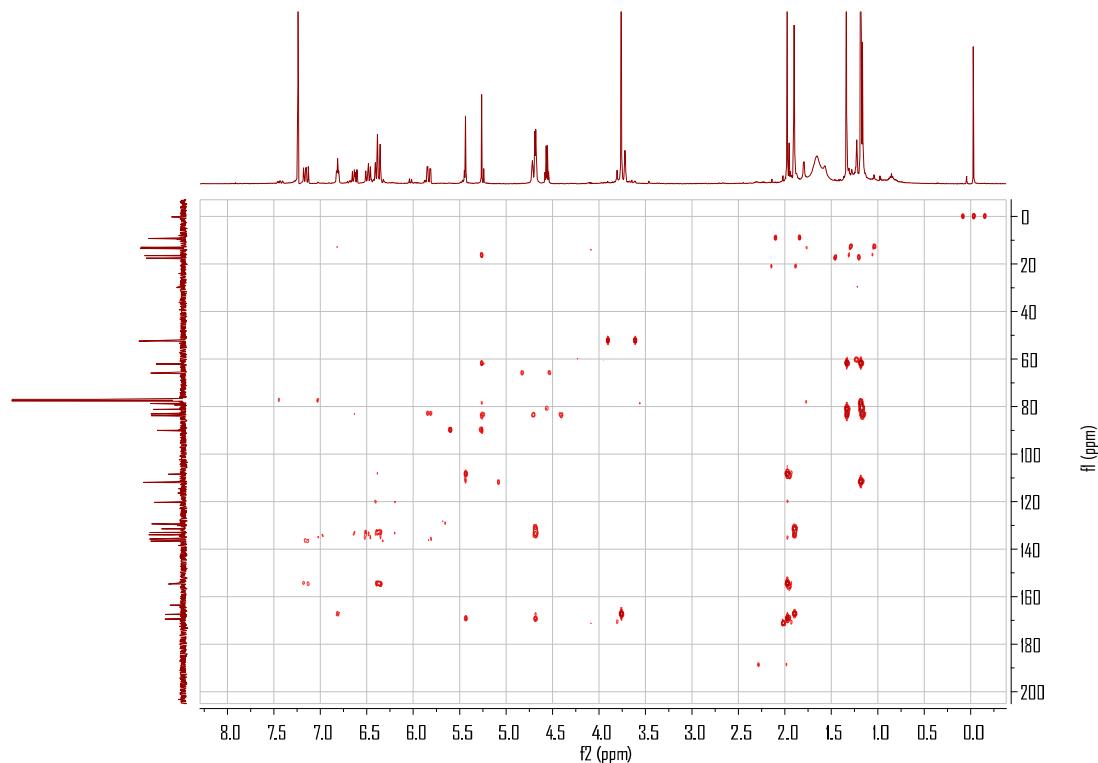


**Figure S10.**  $^{13}\text{C}$ -NMR spectrum of compound 3 (125 MHz,  $\text{CDCl}_3$ ).

**Figure S11.** DEPT-135 spectrum of compound 3 (125 MHz,  $\text{CDCl}_3$ ).**Figure S12.** HSQC spectrum of compound 3 (500 MHz,  $\text{CDCl}_3$ ).



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



**Figure S14.** HMBC spectrum of compound 3 (500 MHz,  $\text{CDCl}_3$ ).

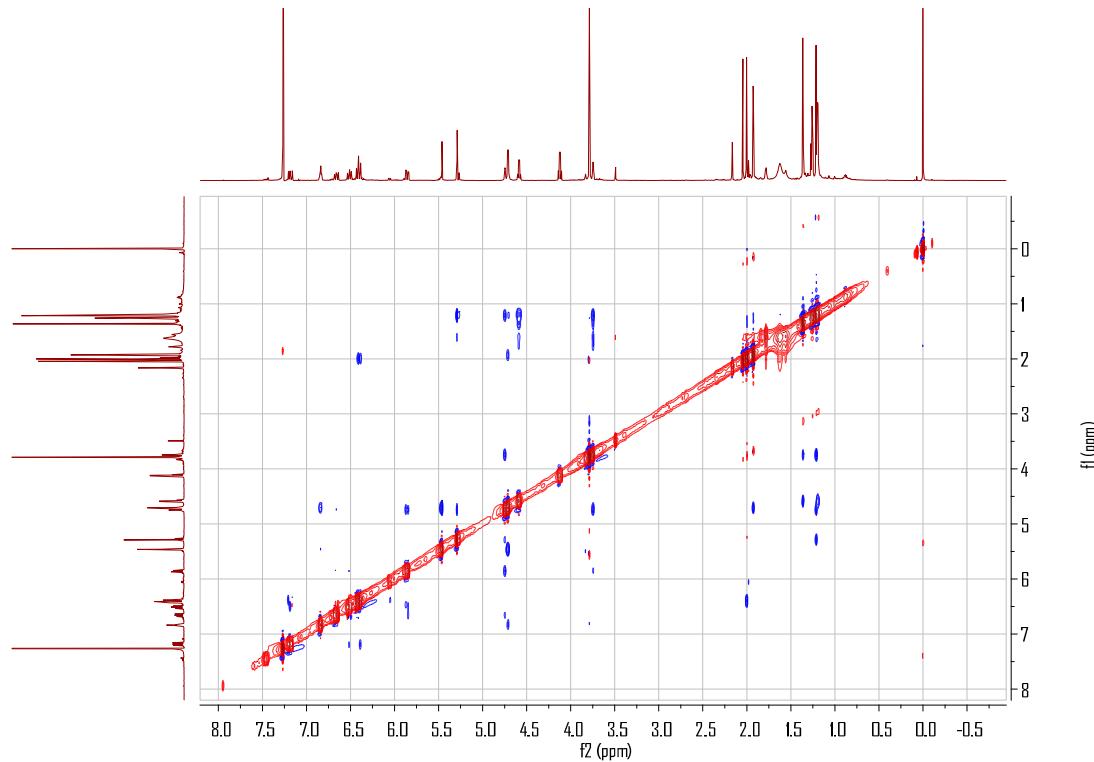
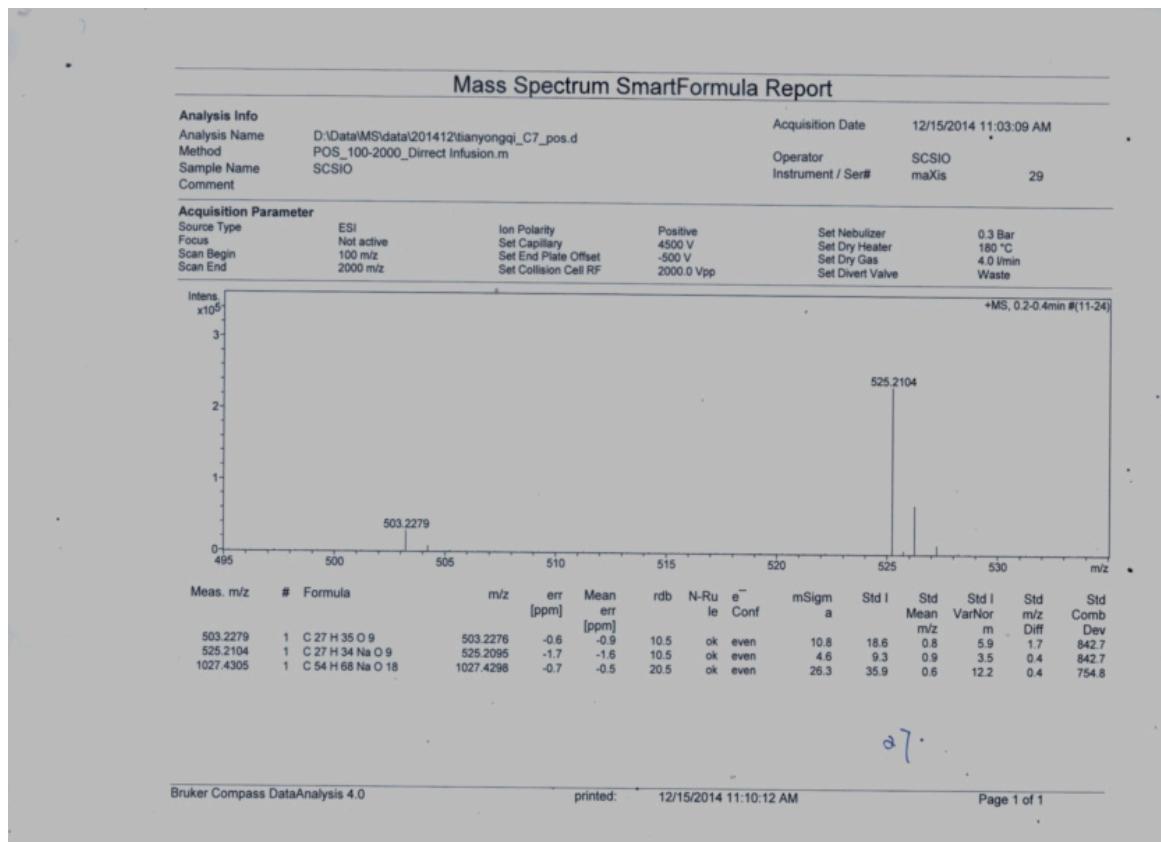
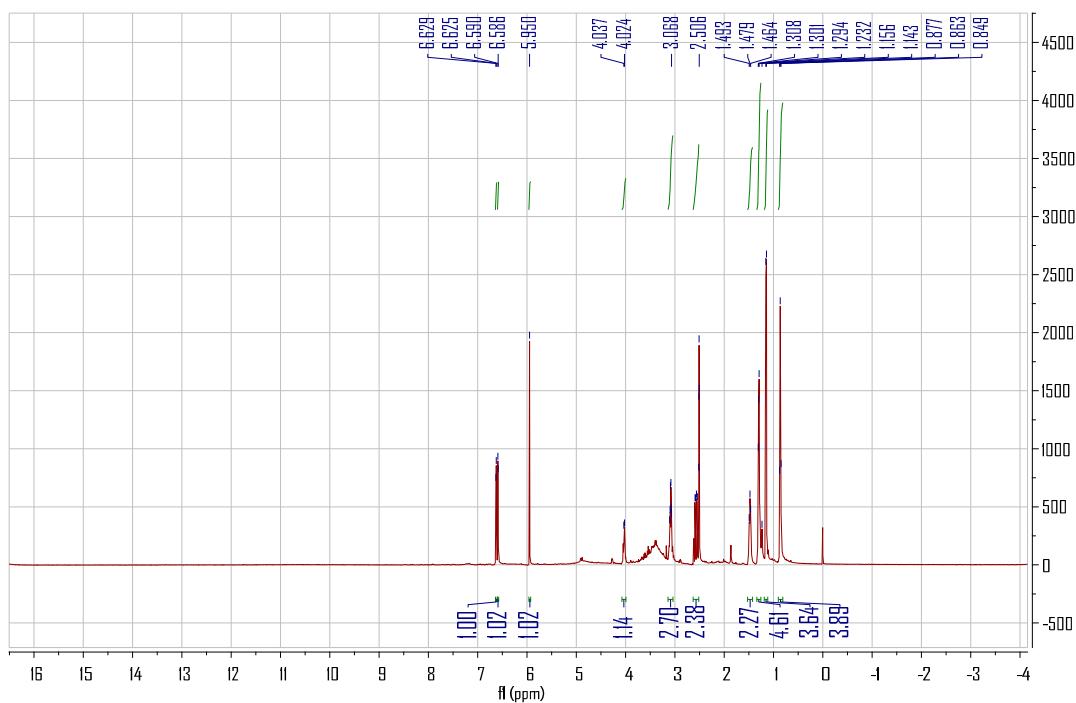
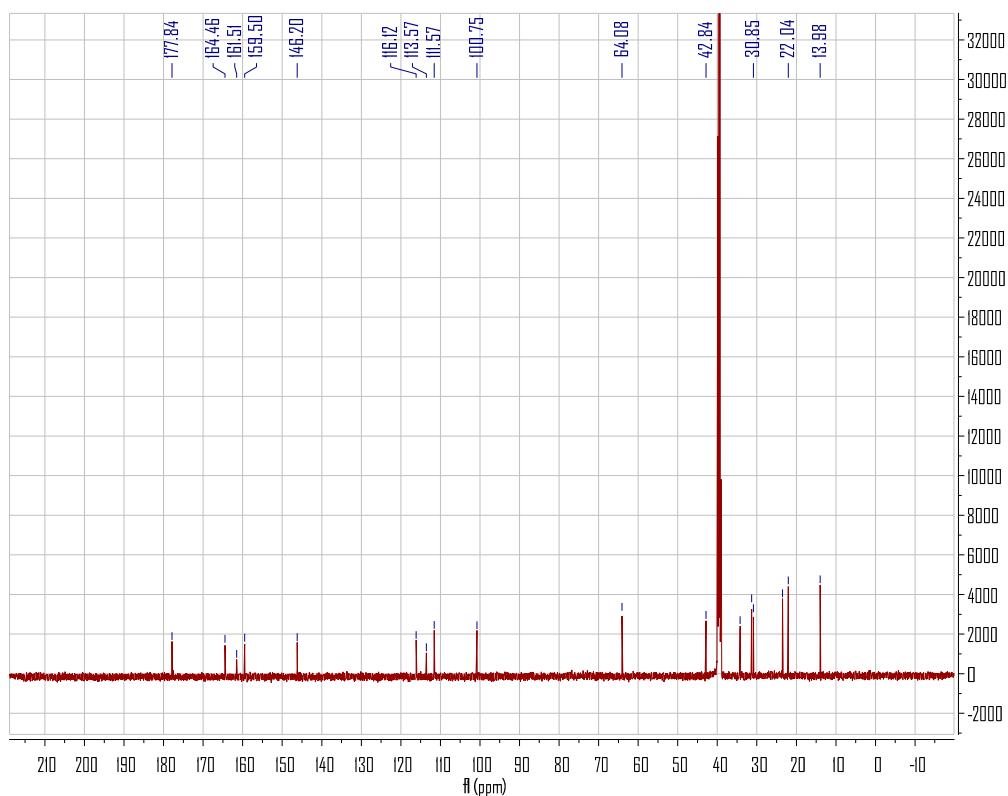
Figure S15. NOE spectrum of compound 3 (600 MHz, CDCl<sub>3</sub>).

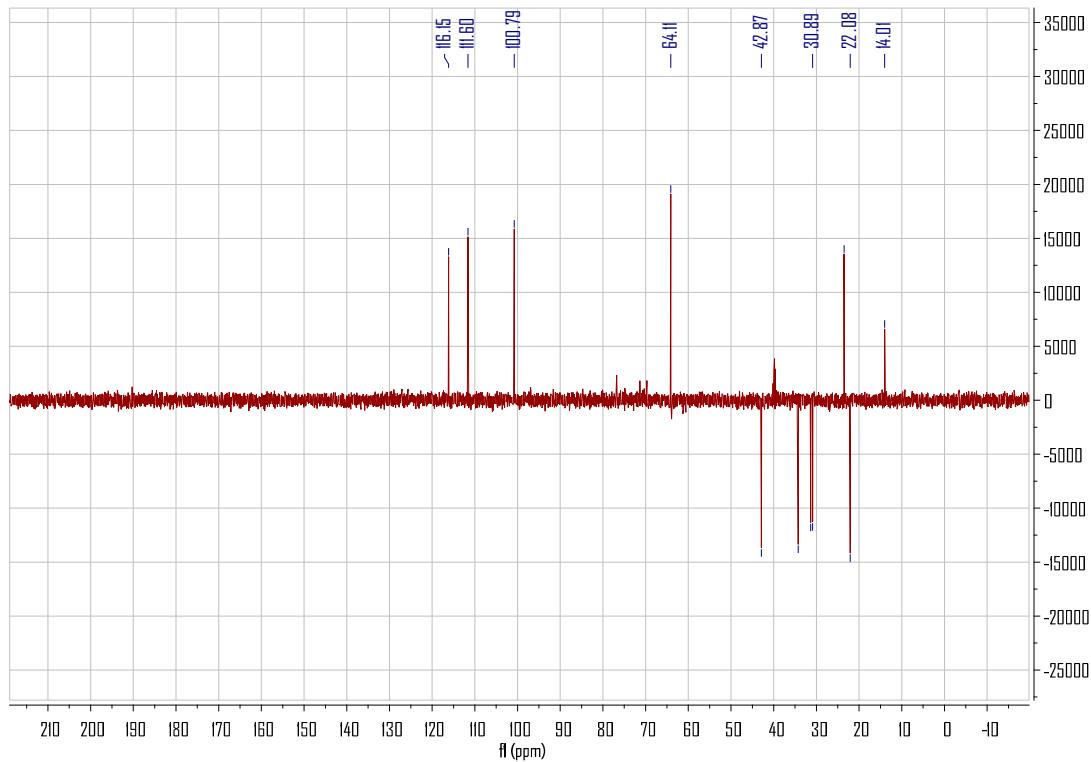
Figure S16. HRESIMS spectrum of compound 3.



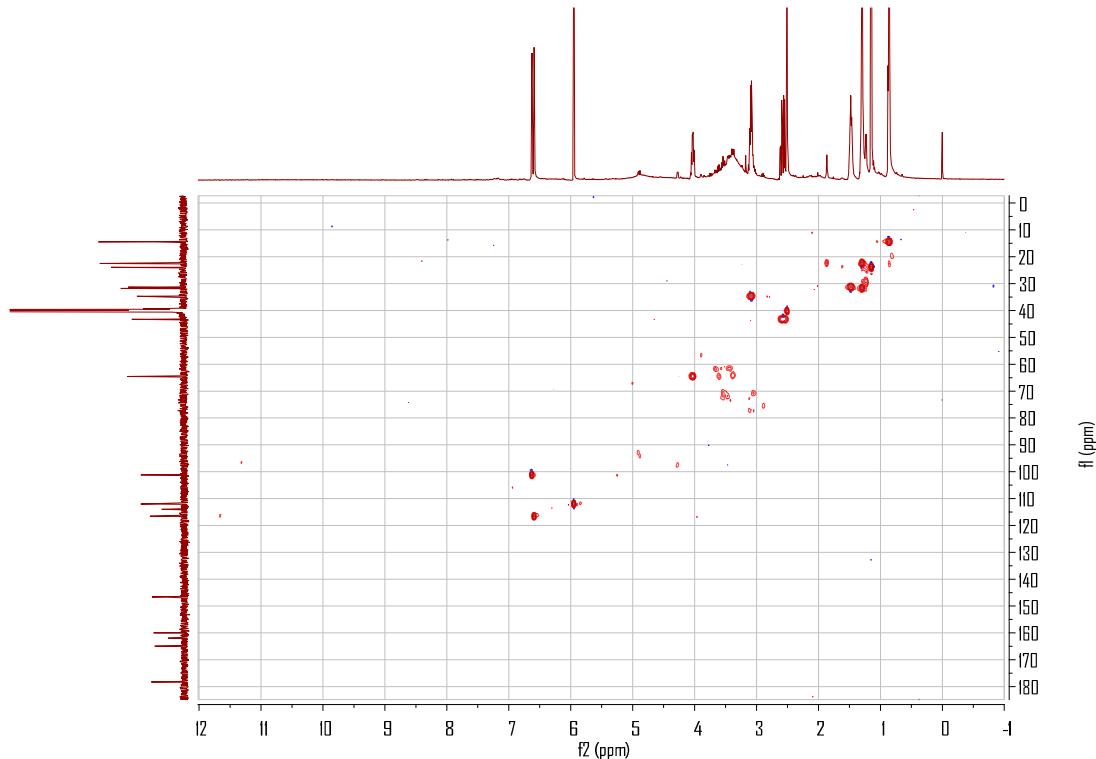
**Figure S17.**  $^1\text{H}$ -NMR spectrum of compound 4 (500 MHz,  $\text{DMSO}-d_6$ ).



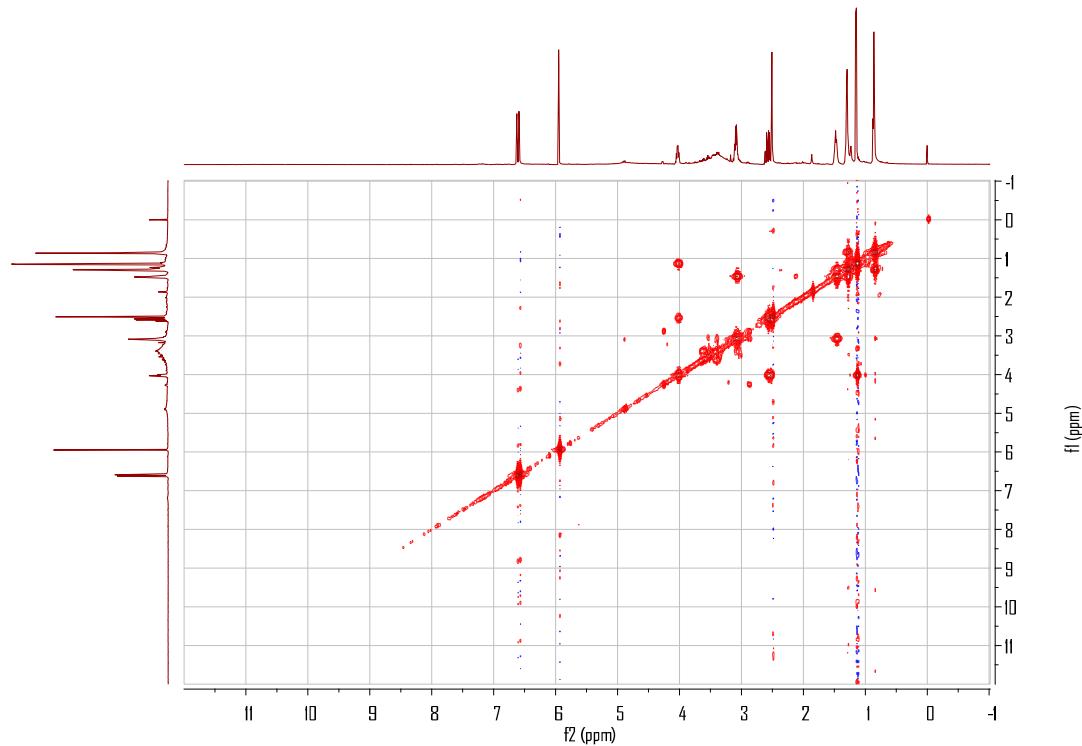
**Figure S18.**  $^{13}\text{C}$ -NMR spectrum of compound 4 (125 MHz,  $\text{DMSO}-d_6$ ).



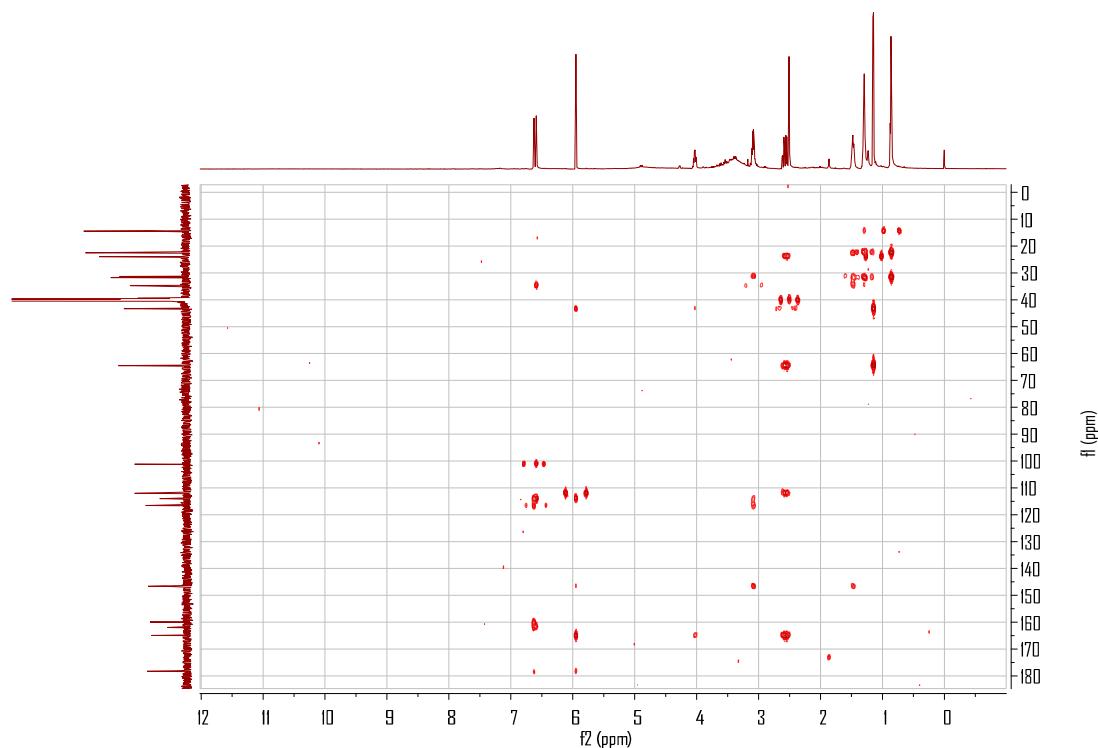
**Figure S19.** DEPT-135 spectrum of compound 4 (125 MHz, DMSO-*d*<sub>6</sub>).



**Figure S20.** HSQC spectrum of compound 4 (500 MHz, DMSO-*d*<sub>6</sub>).



**Figure S21.** COSY spectrum of compound 4 (500 MHz,  $\text{DMSO}-d_6$ ).



**Figure S22.** HMBC spectrum of compound 4 (500 MHz,  $\text{DMSO}-d_6$ ).

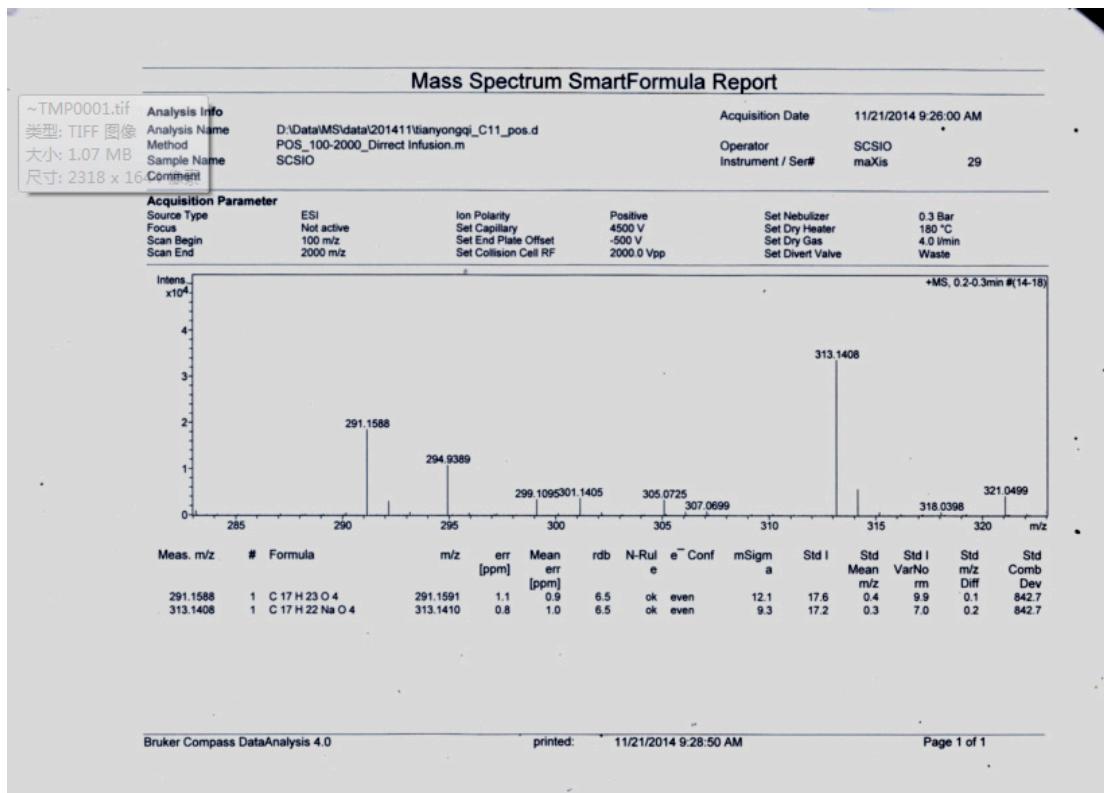


Figure S23. HRESIMS spectrum of compound 4.