

## Supporting Information

Anti-inflammatory and  $\alpha$ -Glucosidase Inhibitory Activities of Labdane and Norlabdane Diterpenoids from the Rhizomes of *Amomum villosum*

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S31. HRESIMS spectrum of compound **4**

S1. Lineweaver–Burk equation

$$\frac{1}{v} = \frac{K_m}{V_{\max}} \left( 1 + \frac{[I]}{K_i} \right) \frac{1}{[S]} + \frac{1}{V_{\max}} \left( 1 + \frac{[I]}{\alpha K_i} \right)$$

$v$ : the enzyme reaction rate in the absence and presence of the inhibitor;

$K_i$ : the inhibition constant;

$K_m$ : the Michaelis–Menten constant;

$[I]$ : the concentrations of the inhibitor with the unit of mol/L;

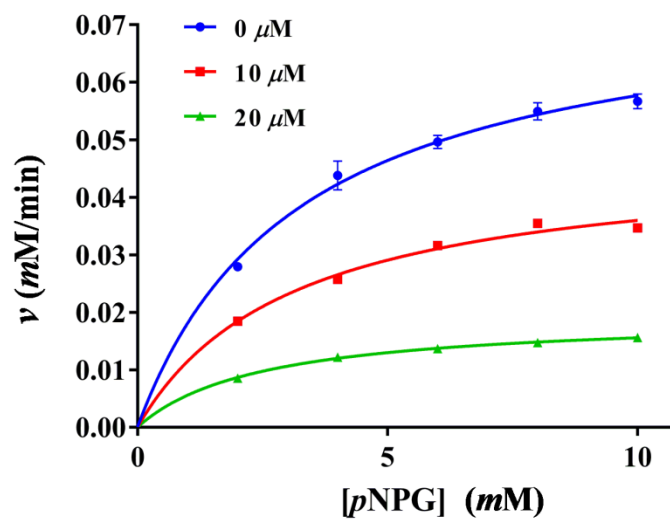
$[S]$ : the concentrations of the substrate with the unit of mol/L;

$\alpha$ : the apparent coefficient.

S2. 
$$\text{Slope} = \frac{K_m}{V_{\max}} + \frac{K_m [I]}{V_{\max}} [I]$$

S3. 
$$\text{Y-intercept} = \frac{1}{V_{\max}} + \frac{1}{V_{\max} \cdot K_{is}} [I] \quad (K_{is} = \alpha K_i)$$

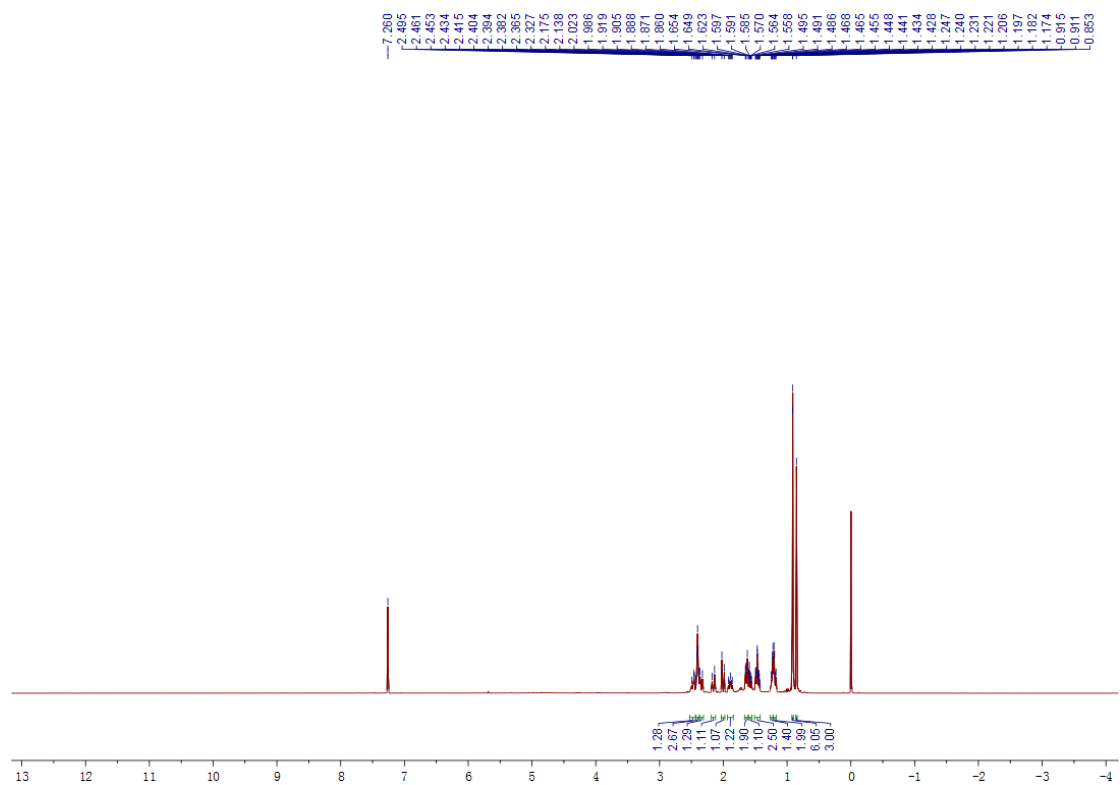
S2 and S3. Secondary equations acquired from Lineweaver–Burk equation



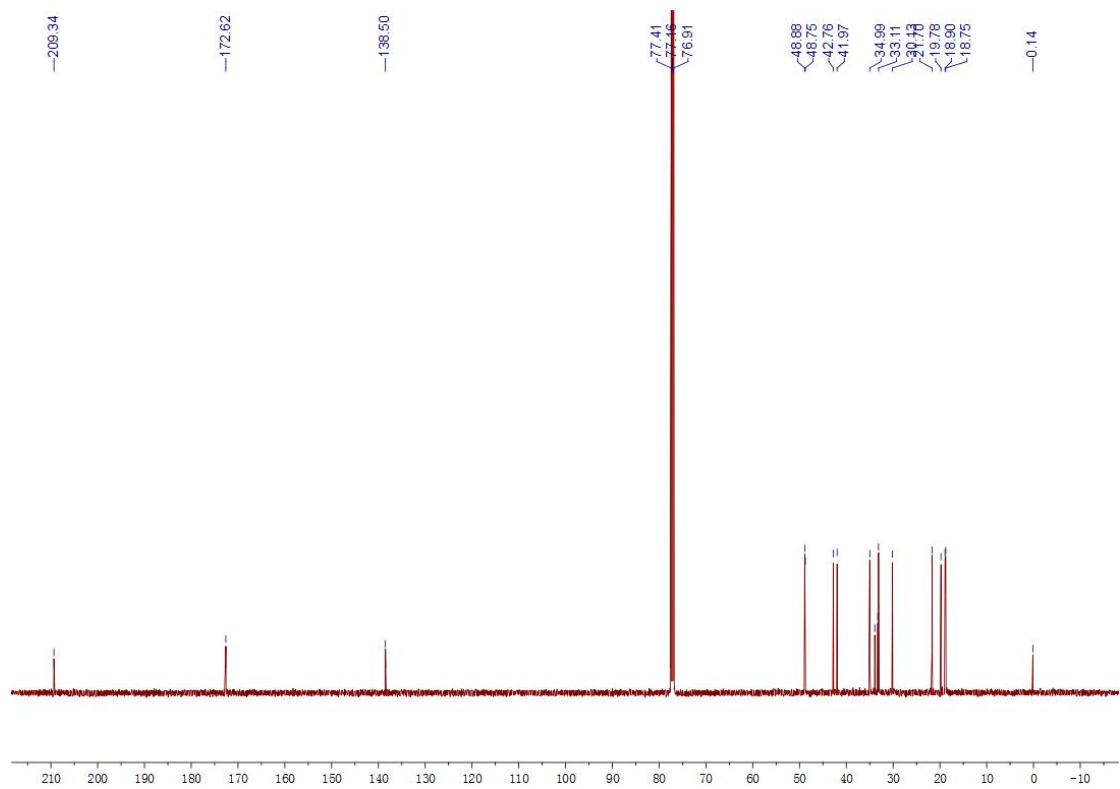
S4. Michaelis–Menten plots. Concentrations of **4** with 0, 10 and 20  $\mu\text{M}$

S5. Kinetic parameters of  $\alpha$ -glucosidase of compound **4** at different concentrations

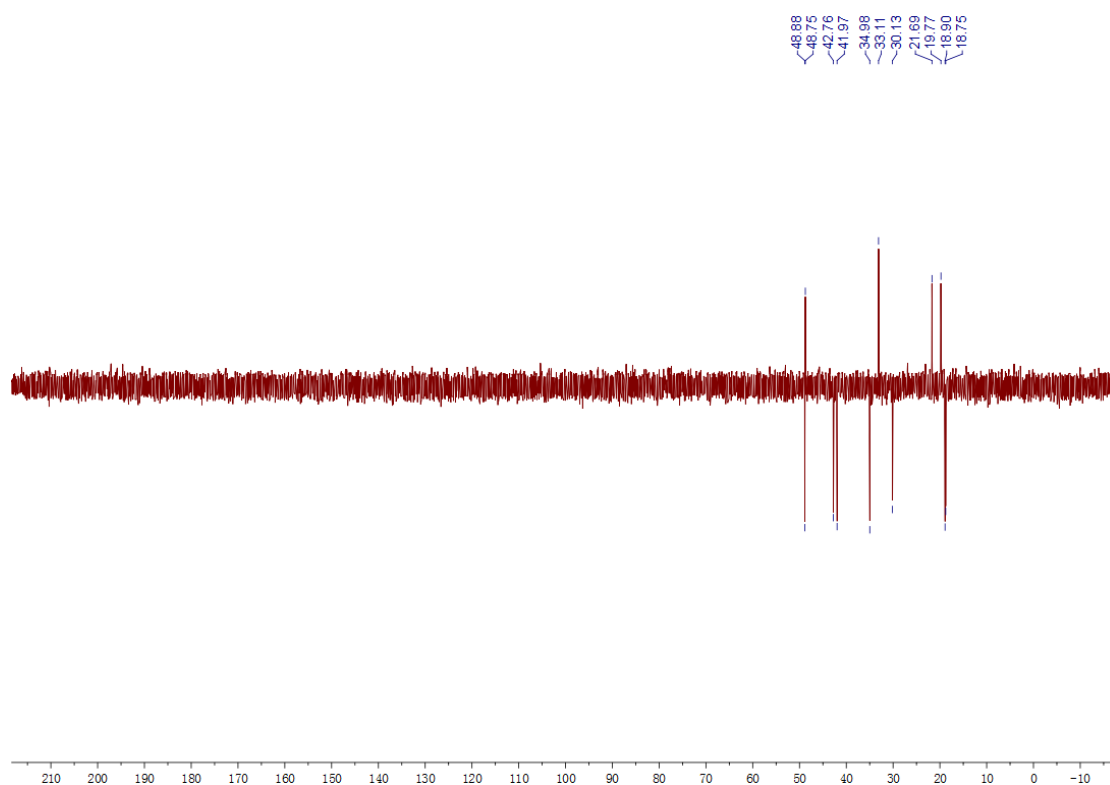
concentration ( $\mu\text{M}$ )	$V_{\max}$ ( $\mu\text{M}/\text{min}$ )	$K_m$ ( $\mu\text{M}$ )
0	$76.26 \pm 2.43$	$32.19 \pm 2.91$
10	$47.21 \pm 1.46$	$31.23 \pm 2.78$
20	$19.41 \pm 0.17$	$24.83 \pm 0.72$



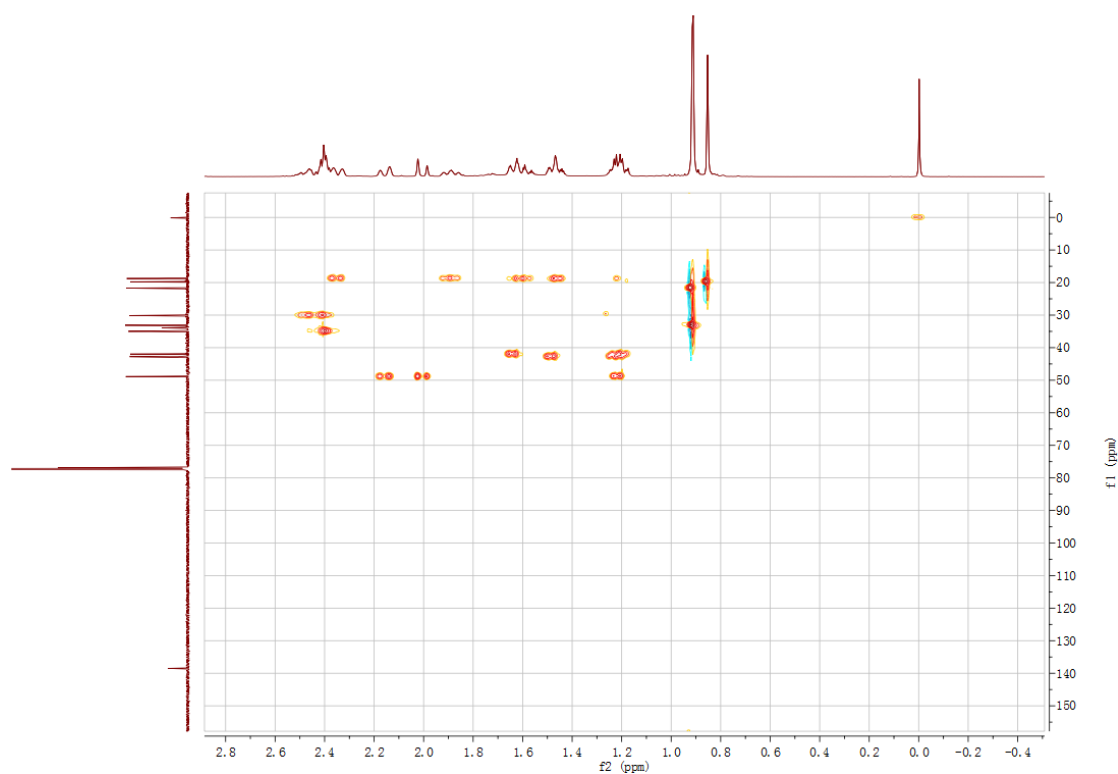
S6. <sup>1</sup>H NMR spectrum of compound **1** in CDCl<sub>3</sub>



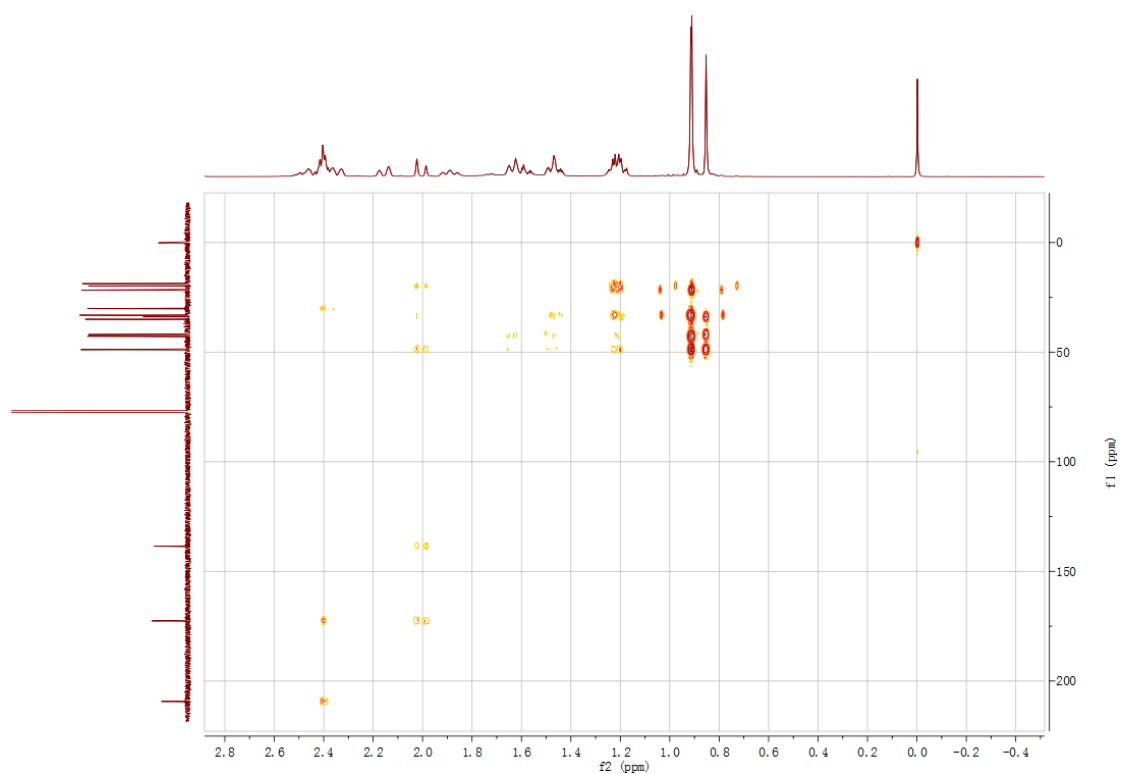
S7. <sup>13</sup>C NMR spectrum of compound **1** in CDCl<sub>3</sub>



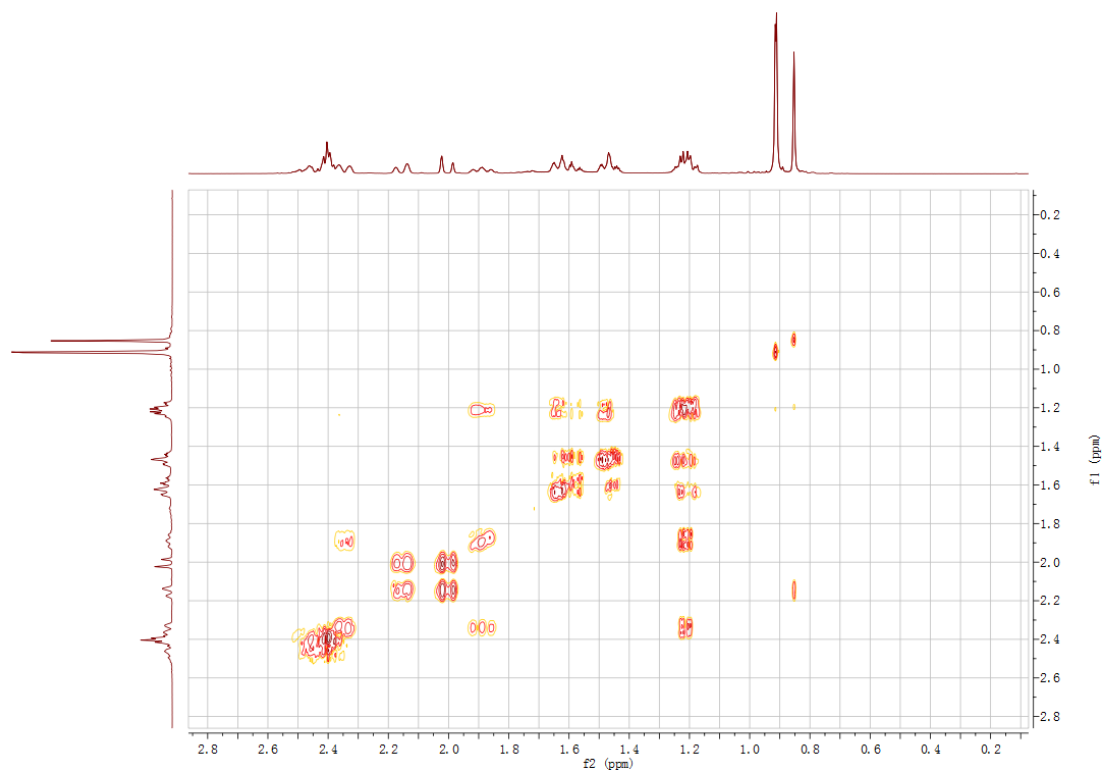
S8. DEPT spectrum of compound **1** in  $\text{CDCl}_3$



S9. HSQC spectrum of compound **1** in  $\text{CDCl}_3$

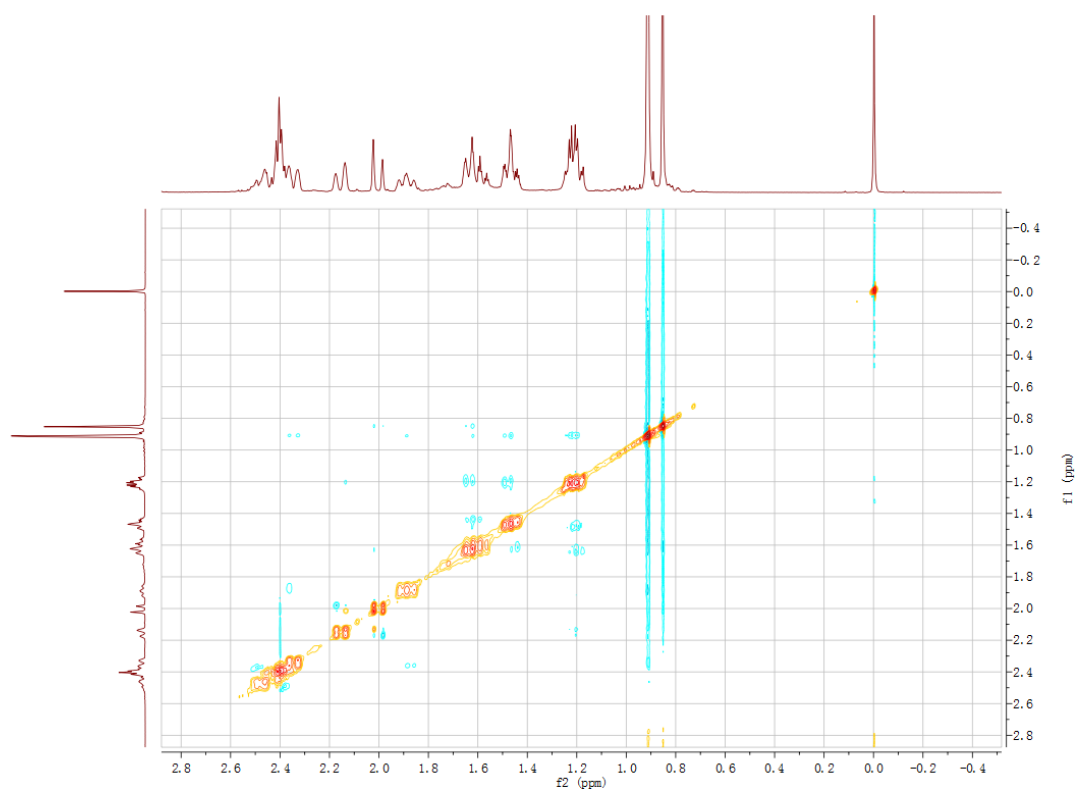


S10. HMBC spectrum of compound **1** in CDCl<sub>3</sub>



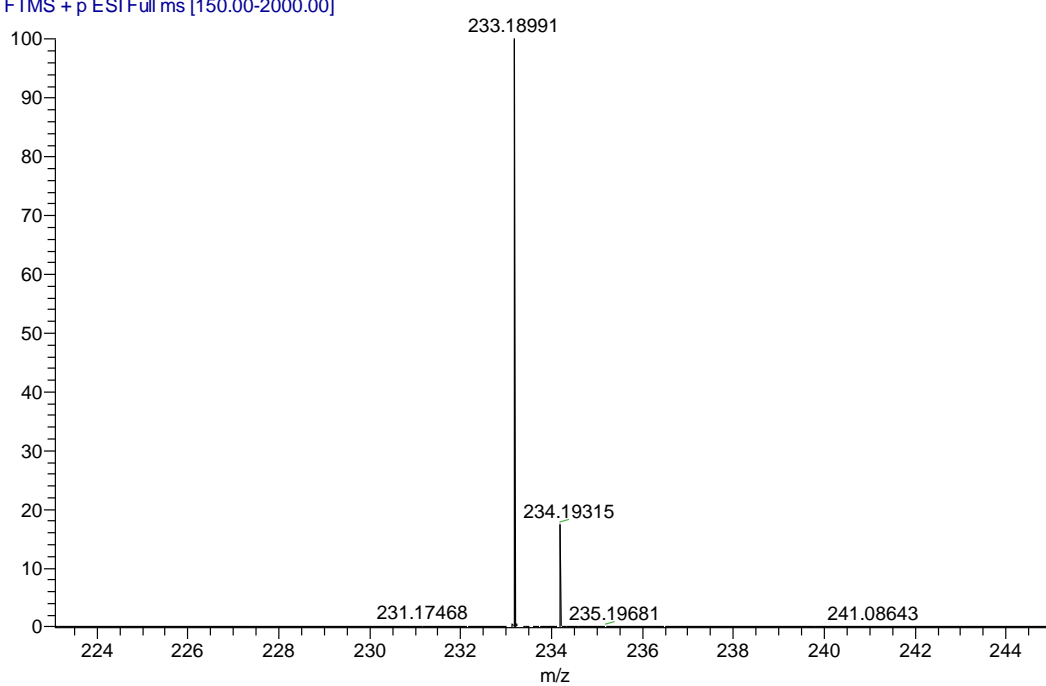
S11. <sup>1</sup>H-<sup>1</sup>H COSY spectrum of compound **1** in CDCl<sub>3</sub>



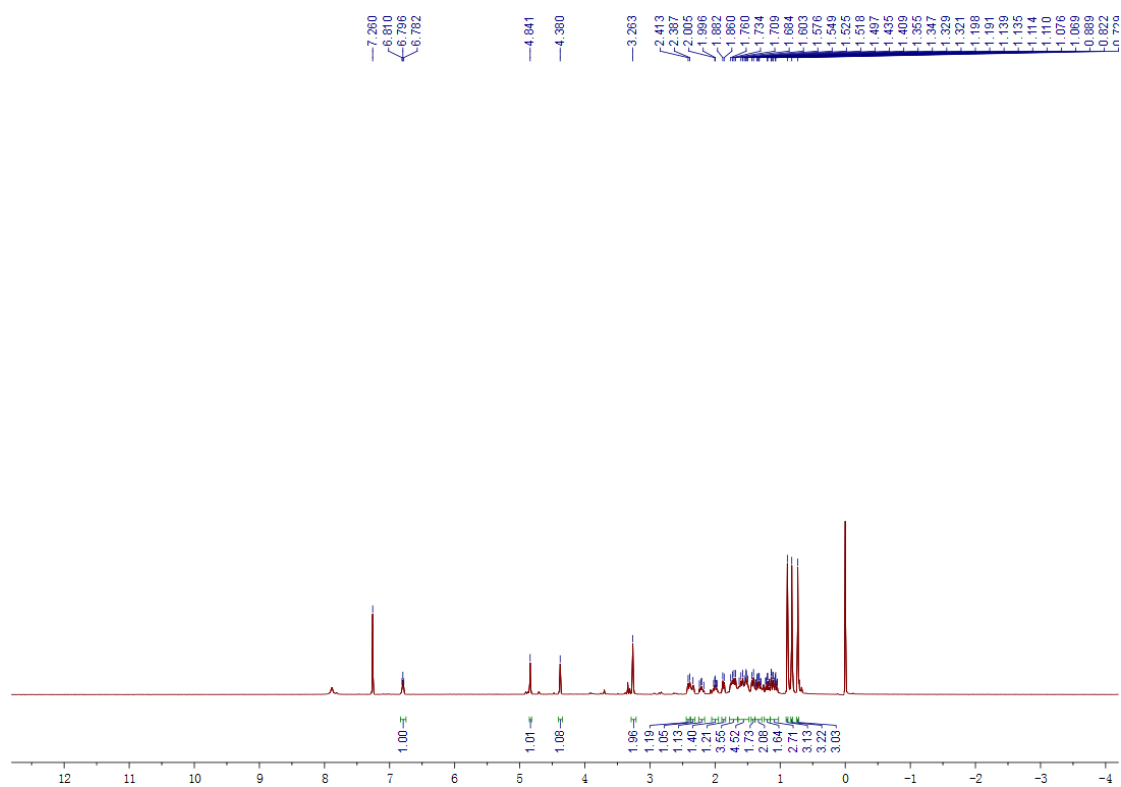


S12. ROESY spectrum of compound **1** in  $\text{CDCl}_3$

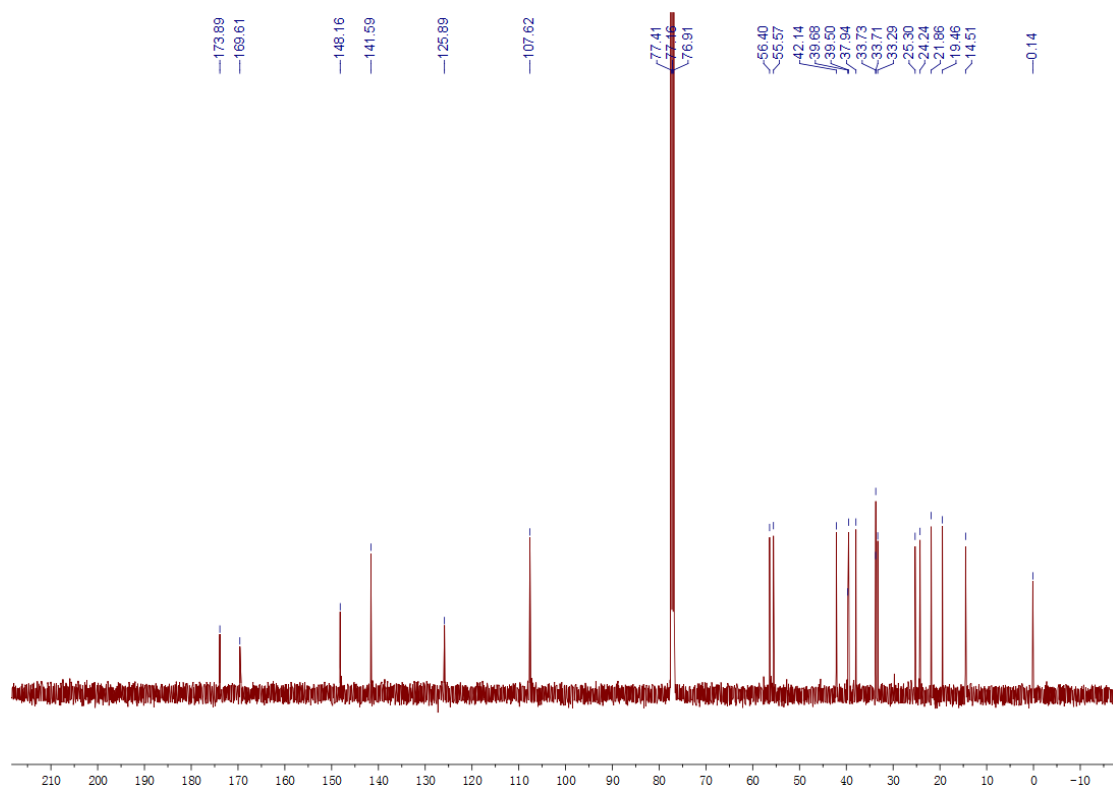
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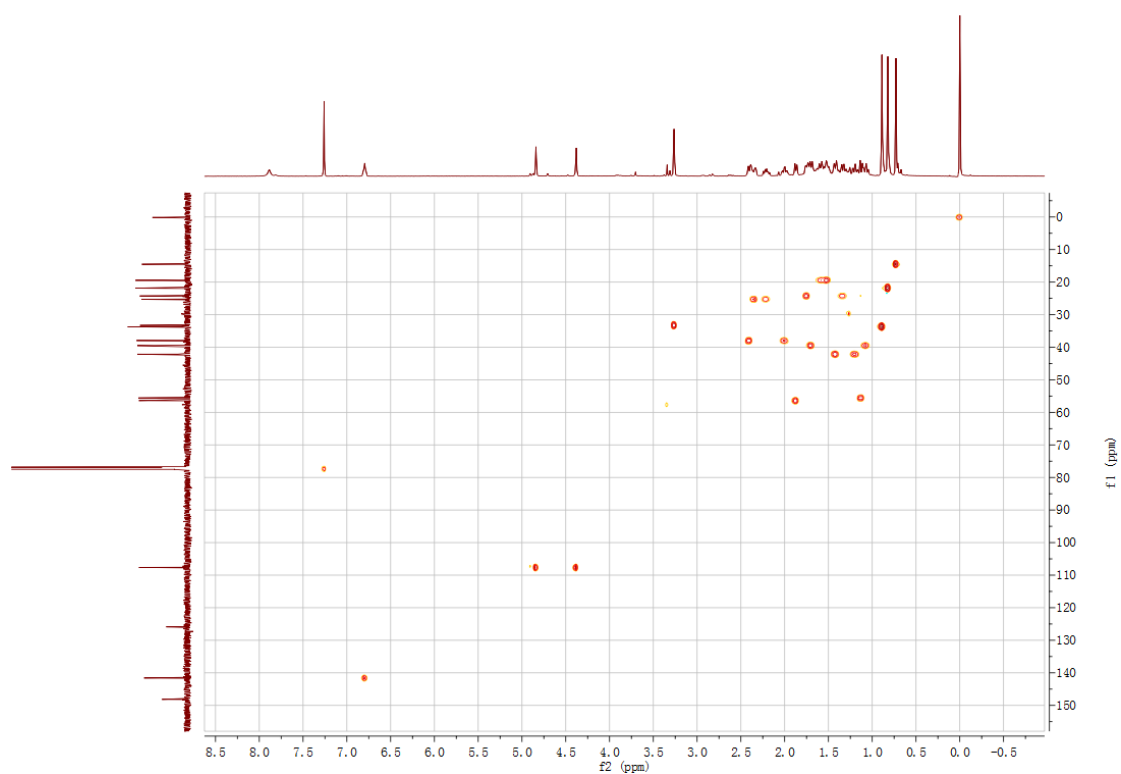
S13. HRESIMS spectrum of compound **1**



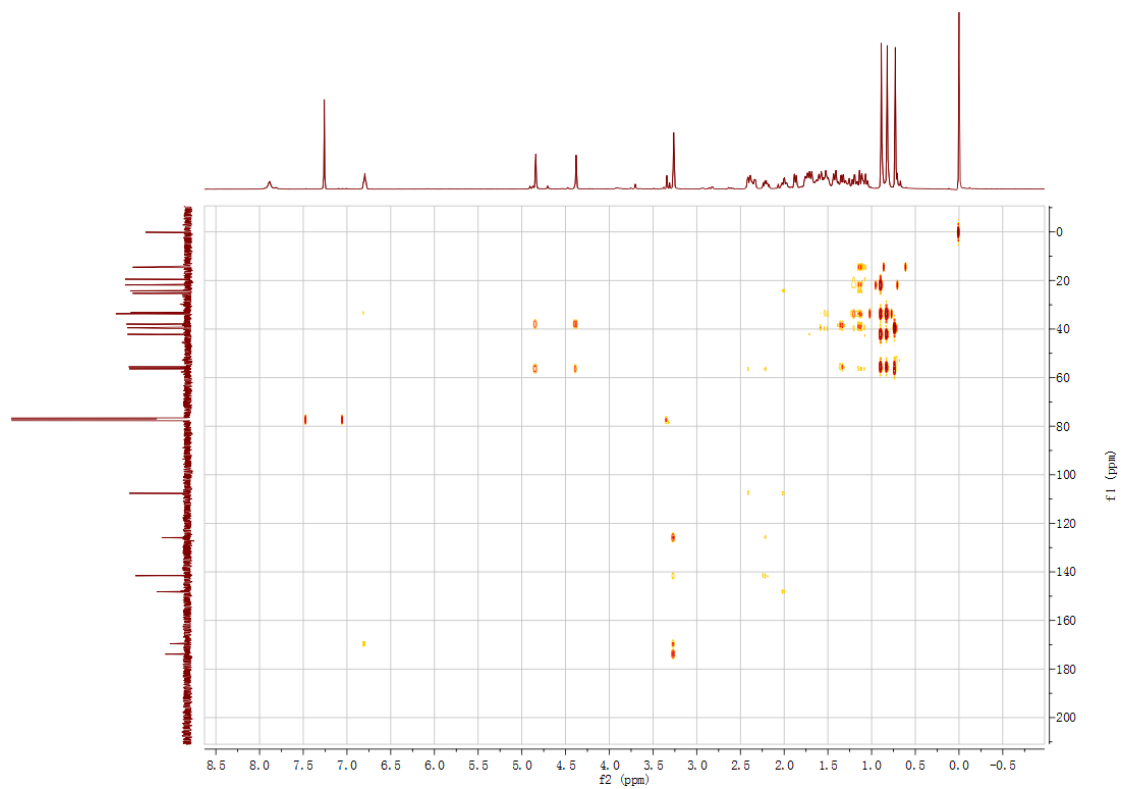
S14. <sup>1</sup>H NMR spectrum of compound **2** in CDCl<sub>3</sub>



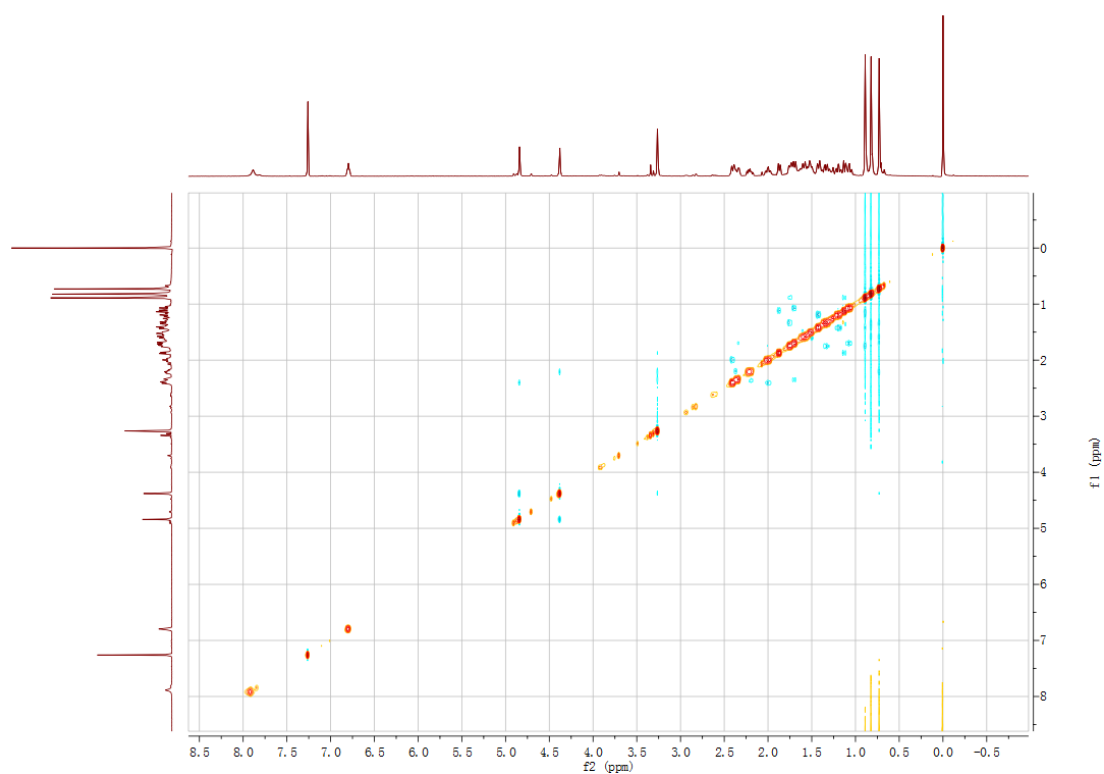
S15. <sup>13</sup>C NMR spectrum of compound **2** in CDCl<sub>3</sub>



S16. HSQC spectrum of compound **2** in  $\text{CDCl}_3$

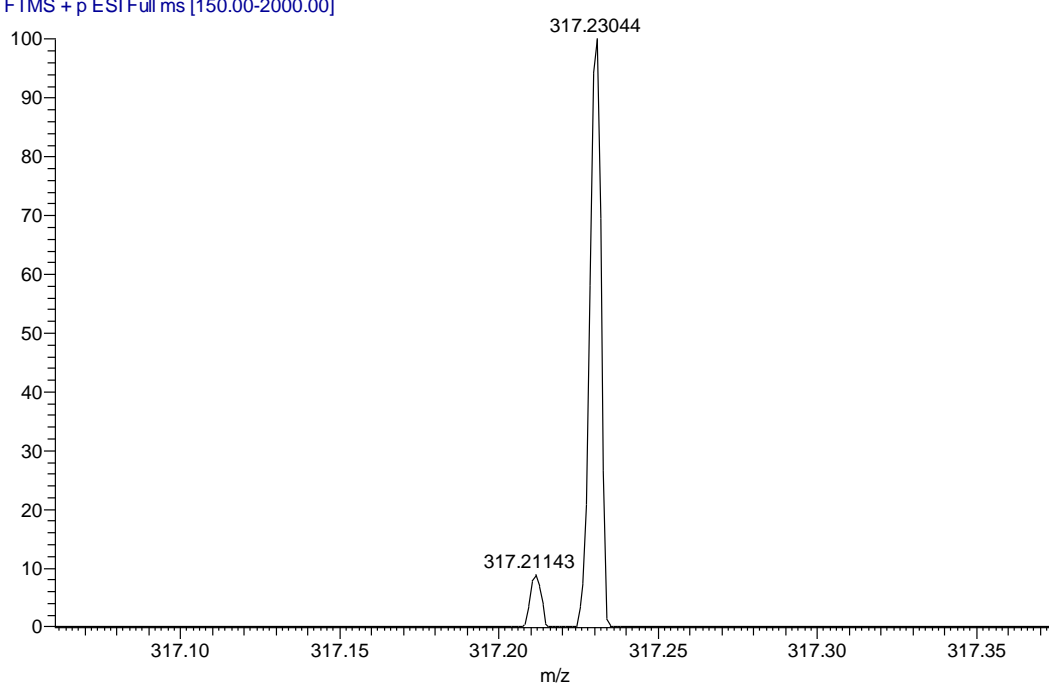


S17. HMBC spectrum of compound **2** in  $\text{CDCl}_3$

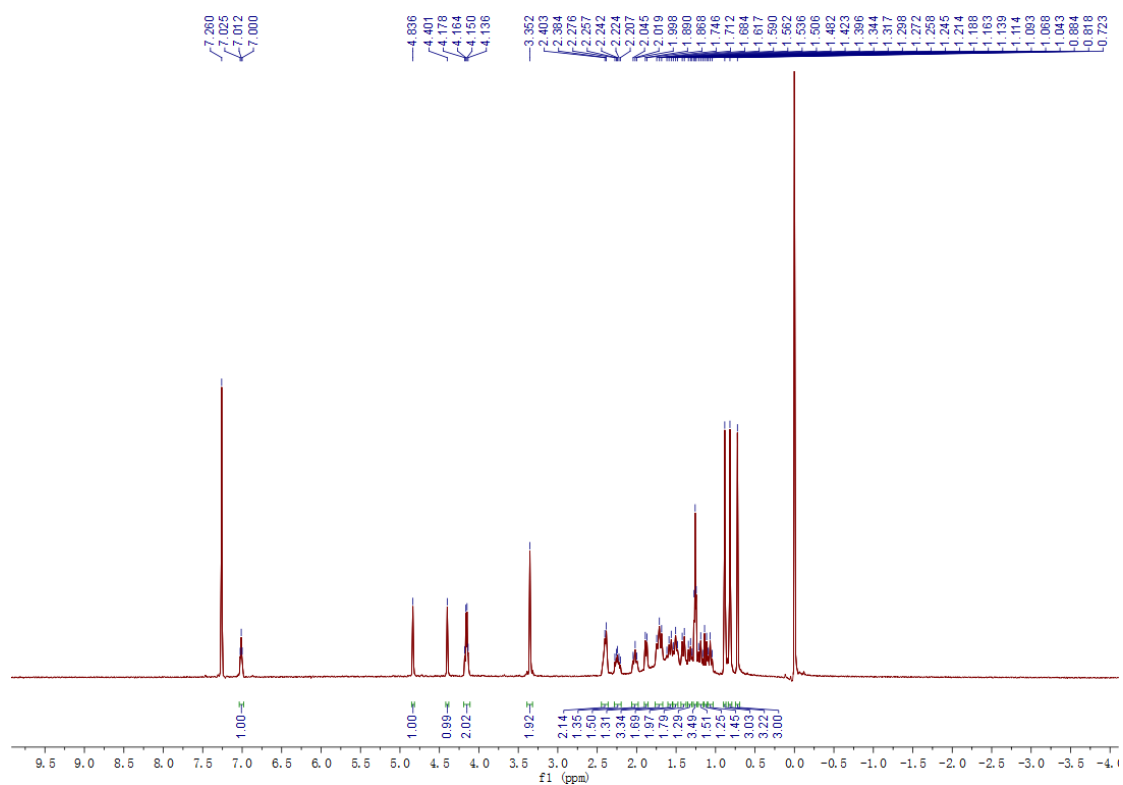


S18. ROESY spectrum of compound **2** in CDCl<sub>3</sub>

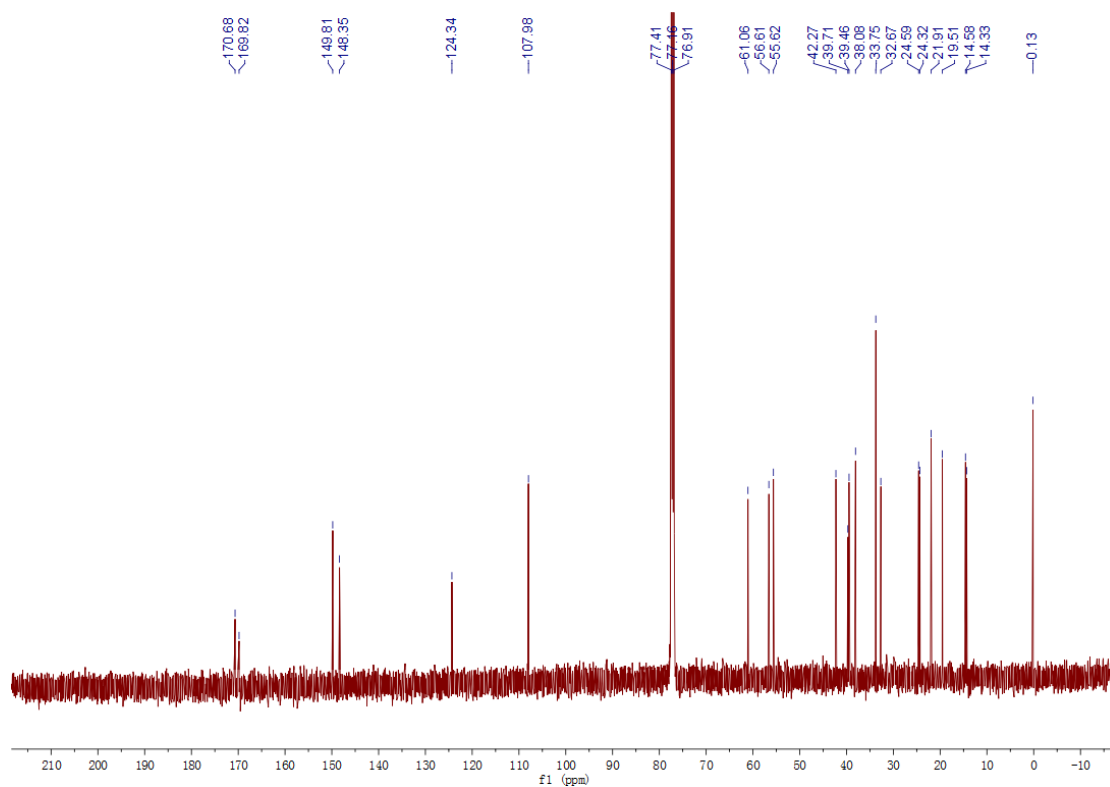
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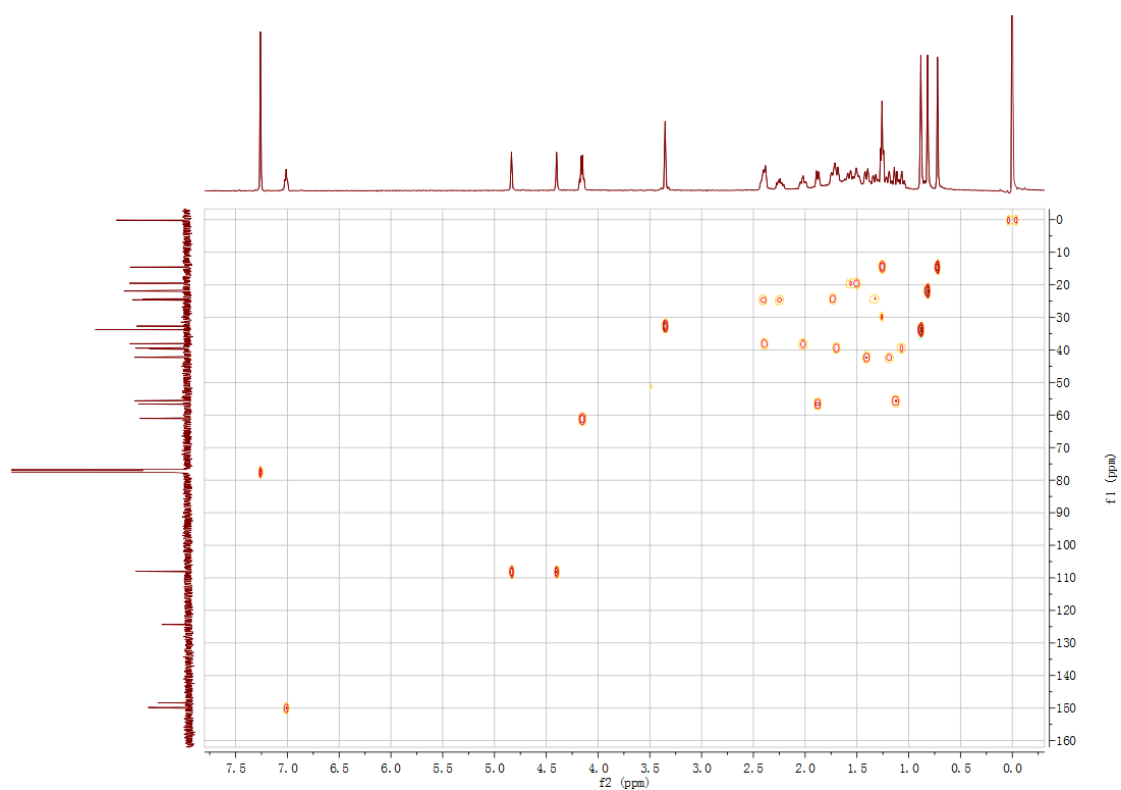
S19. HRESIMS spectrum of compound **2**



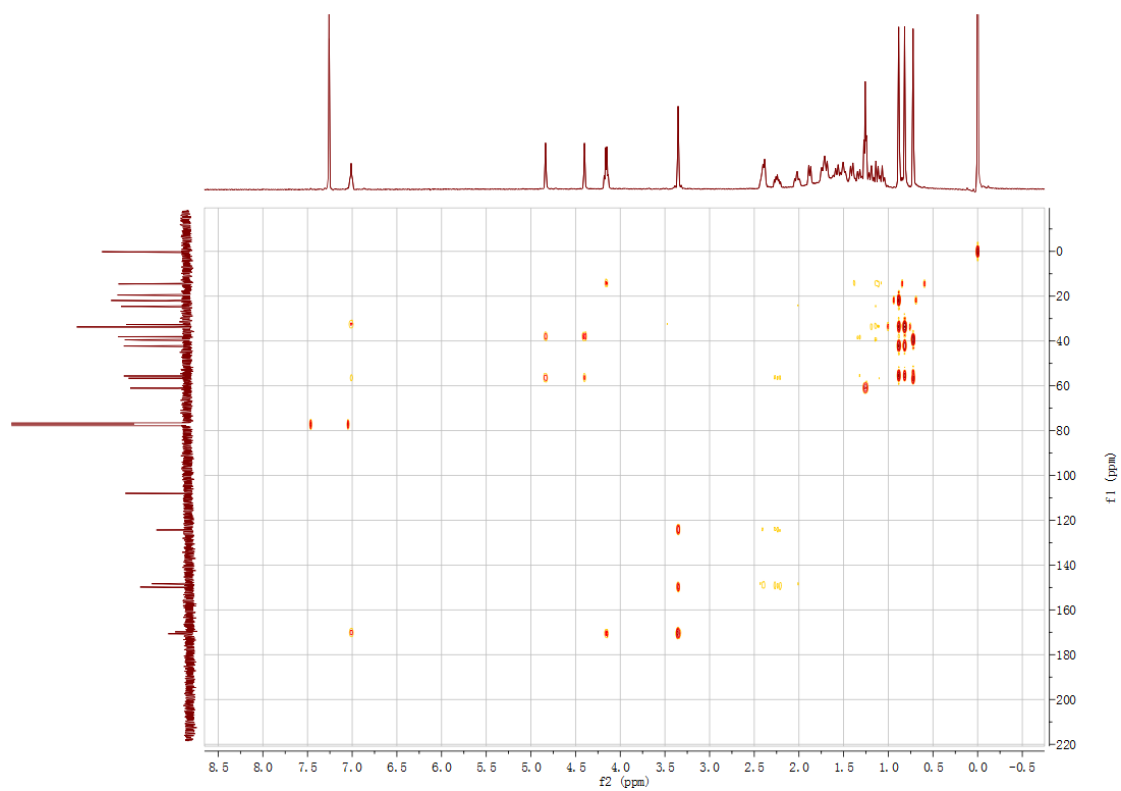
S20. <sup>1</sup>H NMR spectrum of compound **3** in CDCl<sub>3</sub>



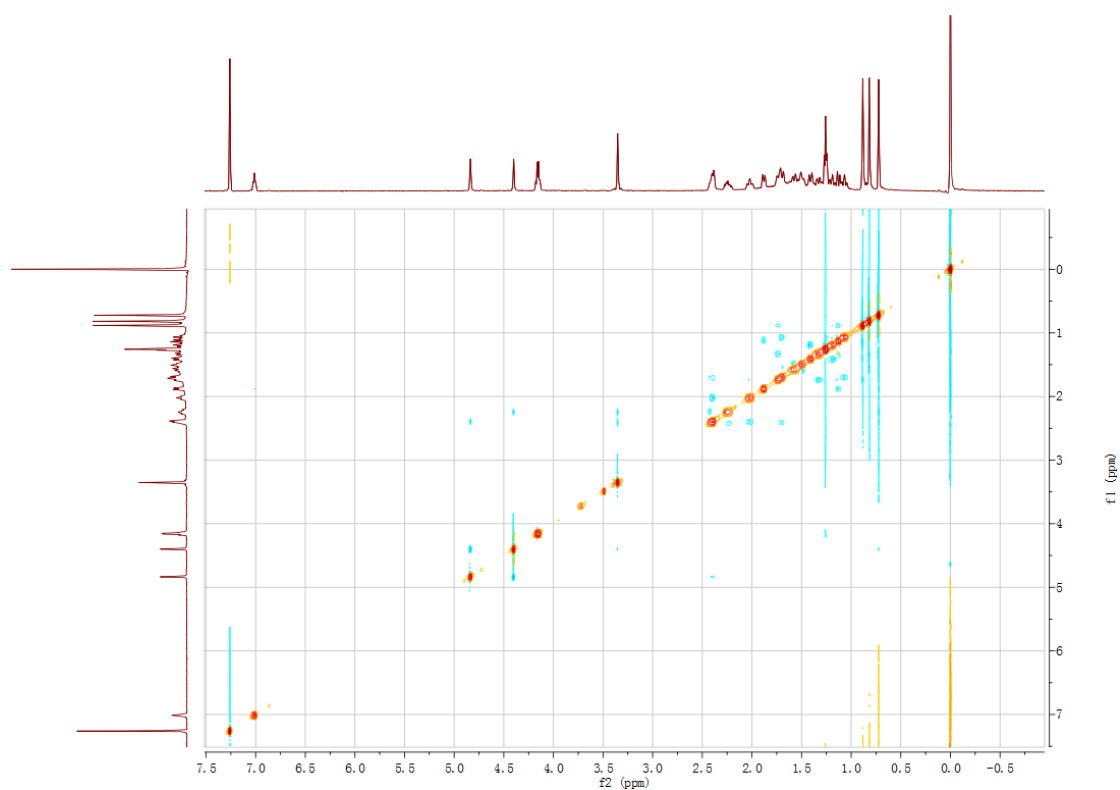
S21. <sup>13</sup>C NMR spectrum of compound **3** in CDCl<sub>3</sub>



S22. HSQC spectrum of compound **3** in  $\text{CDCl}_3$

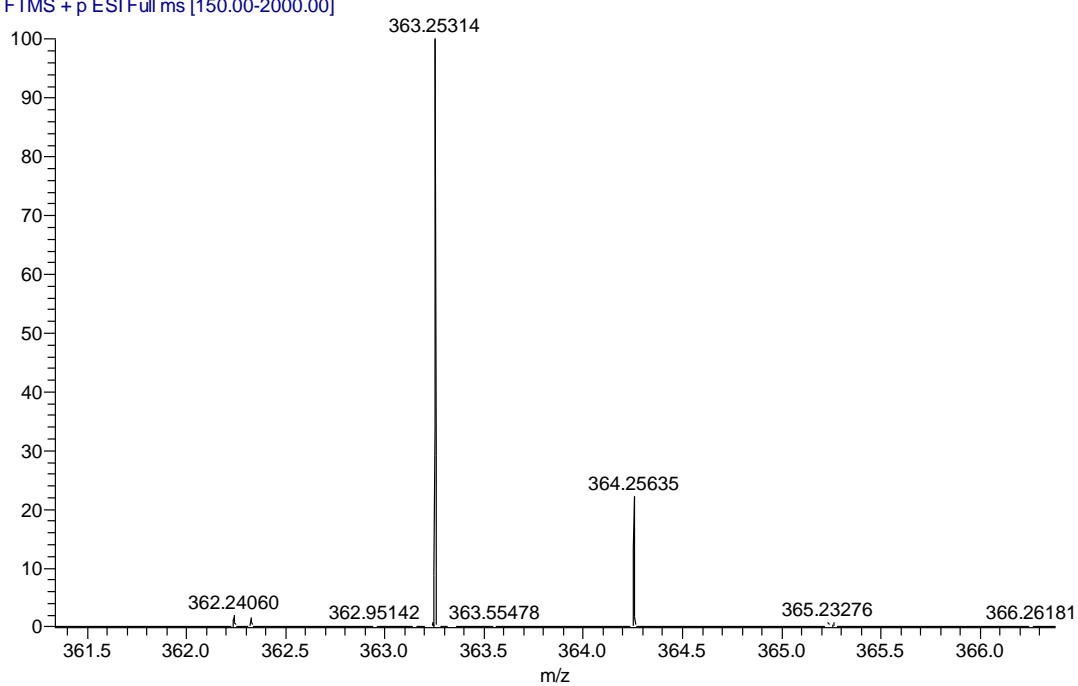


S23. HMBC spectrum of compound **3** in  $\text{CDCl}_3$

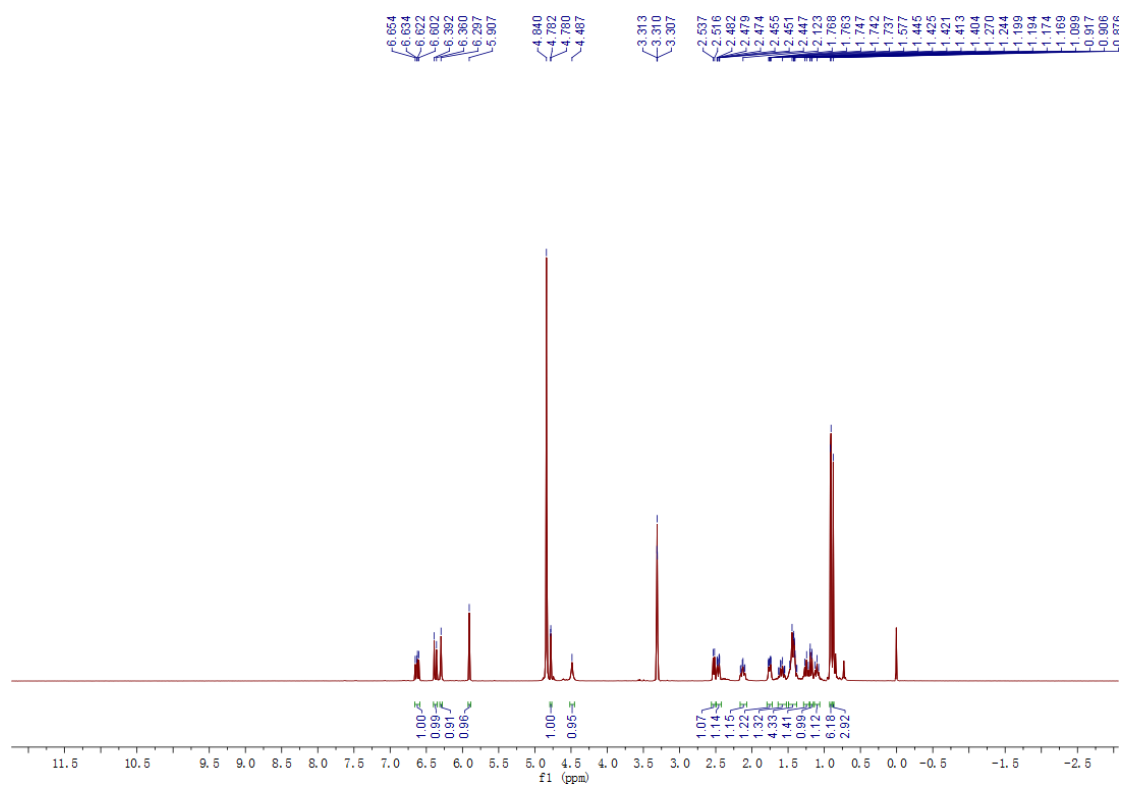


S24. ROESY spectrum of compound **3** in  $\text{CDCl}_3$

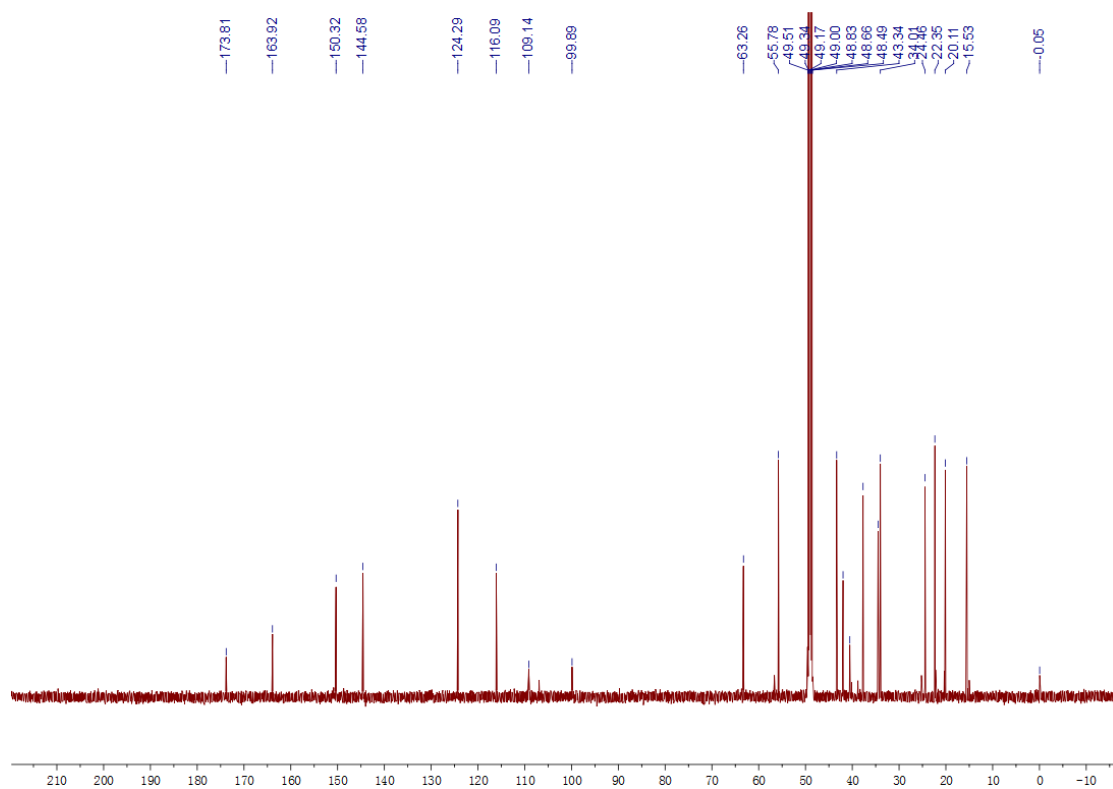
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S25. HRESIMS spectrum of compound **3**

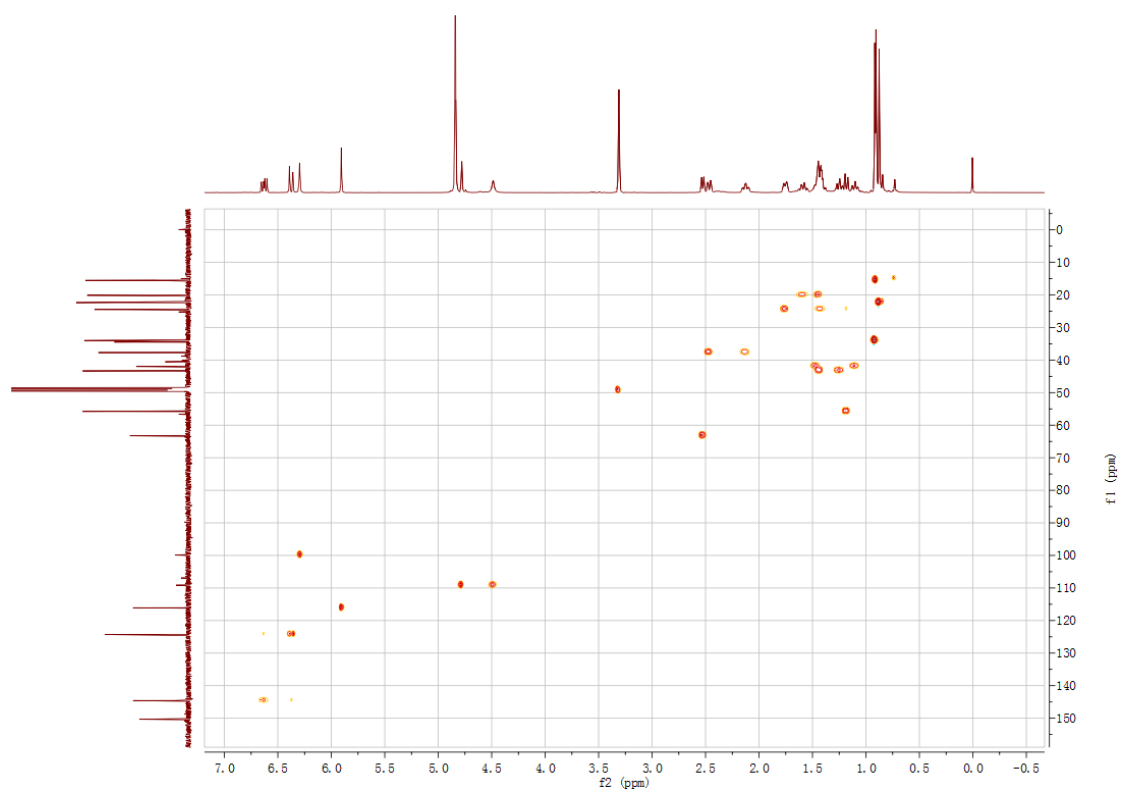


S26. <sup>1</sup>H NMR spectrum of compound **4** in CD<sub>3</sub>OD

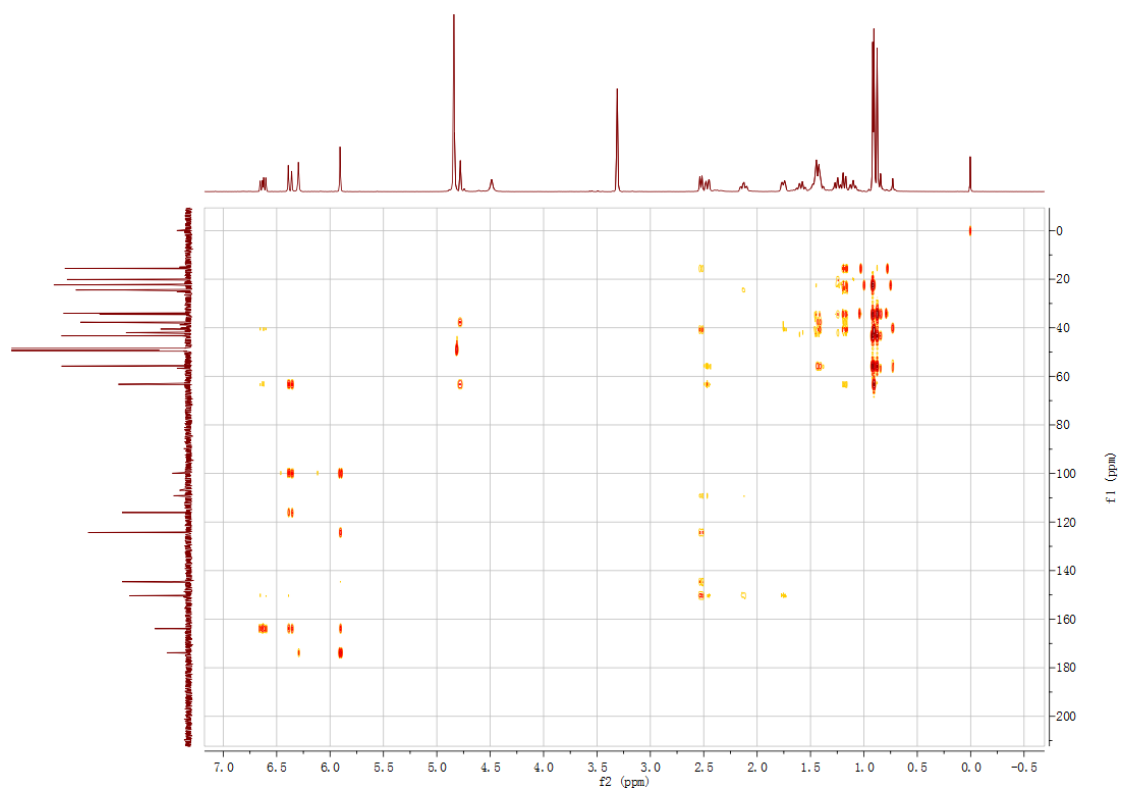


S27. <sup>13</sup>C NMR spectrum of compound **4** in CD<sub>3</sub>OD

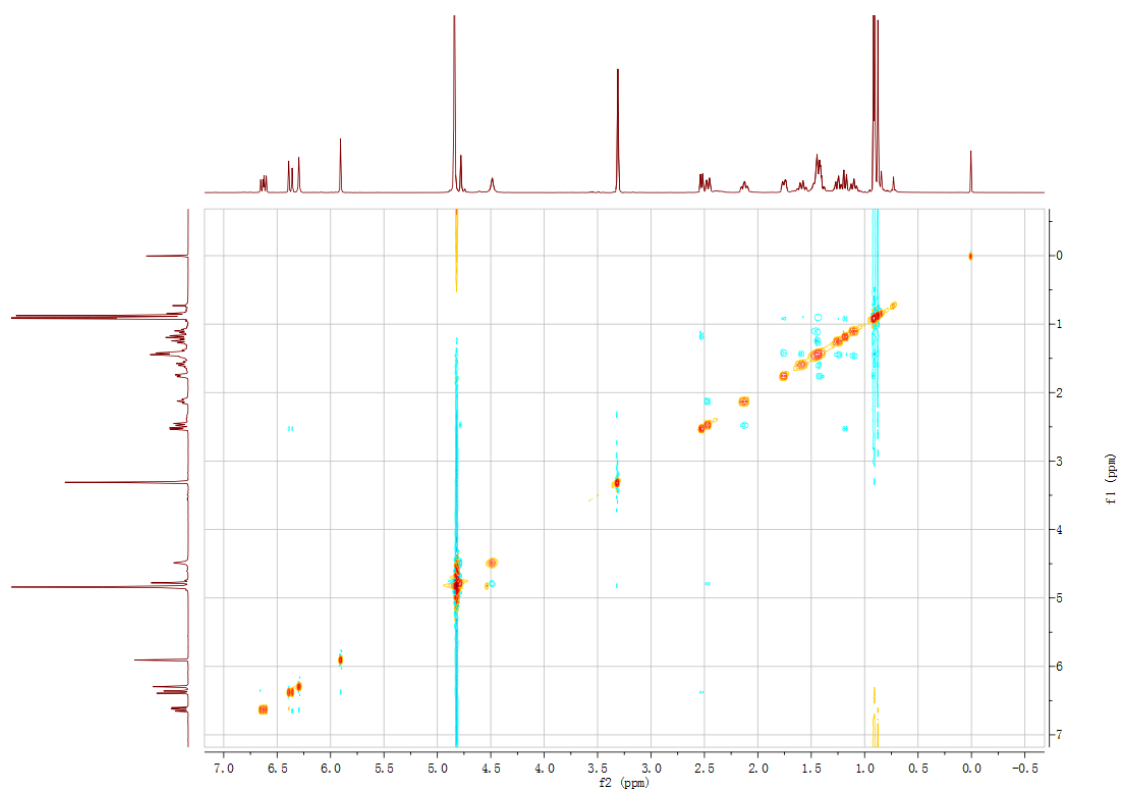




S28. HSQC spectrum of compound **4** in CD<sub>3</sub>OD

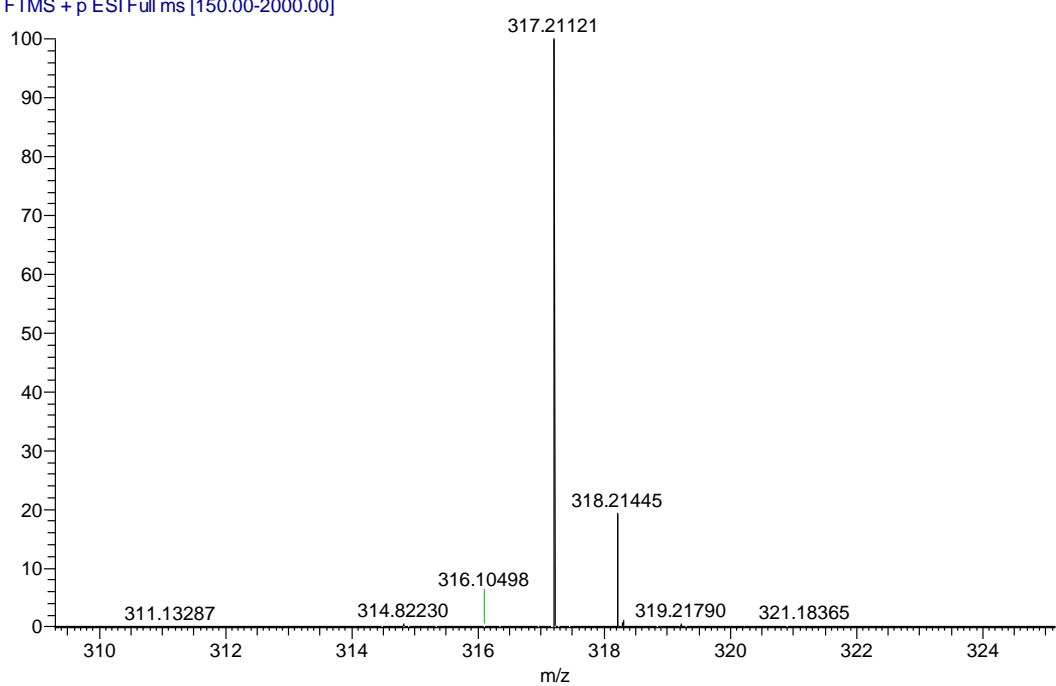


S29. HMBC spectrum of compound **4** in CD<sub>3</sub>OD



S30. ROESY spectrum of compound **4** in CD<sub>3</sub>OD

3 #19 RT: 0.25 AV: 1 NL: 1.56E7  
T: FTMS + p ESI Full ms [150.00-2000.00]



S31. HRESIMS spectrum of compound **4**