

## Supporting Information

*Rec. Nat. Prod.* **X:X** (202X) XX-XX

### A New Monoterpene Alkaloid From the Stems of *Rauvolfia vomitoria*

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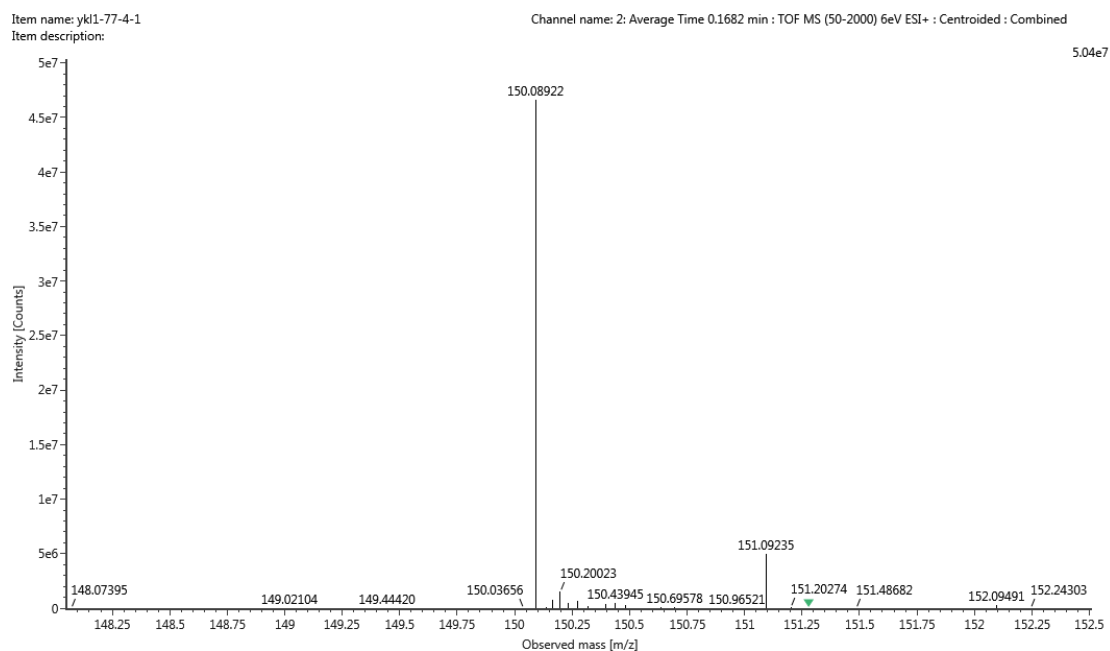
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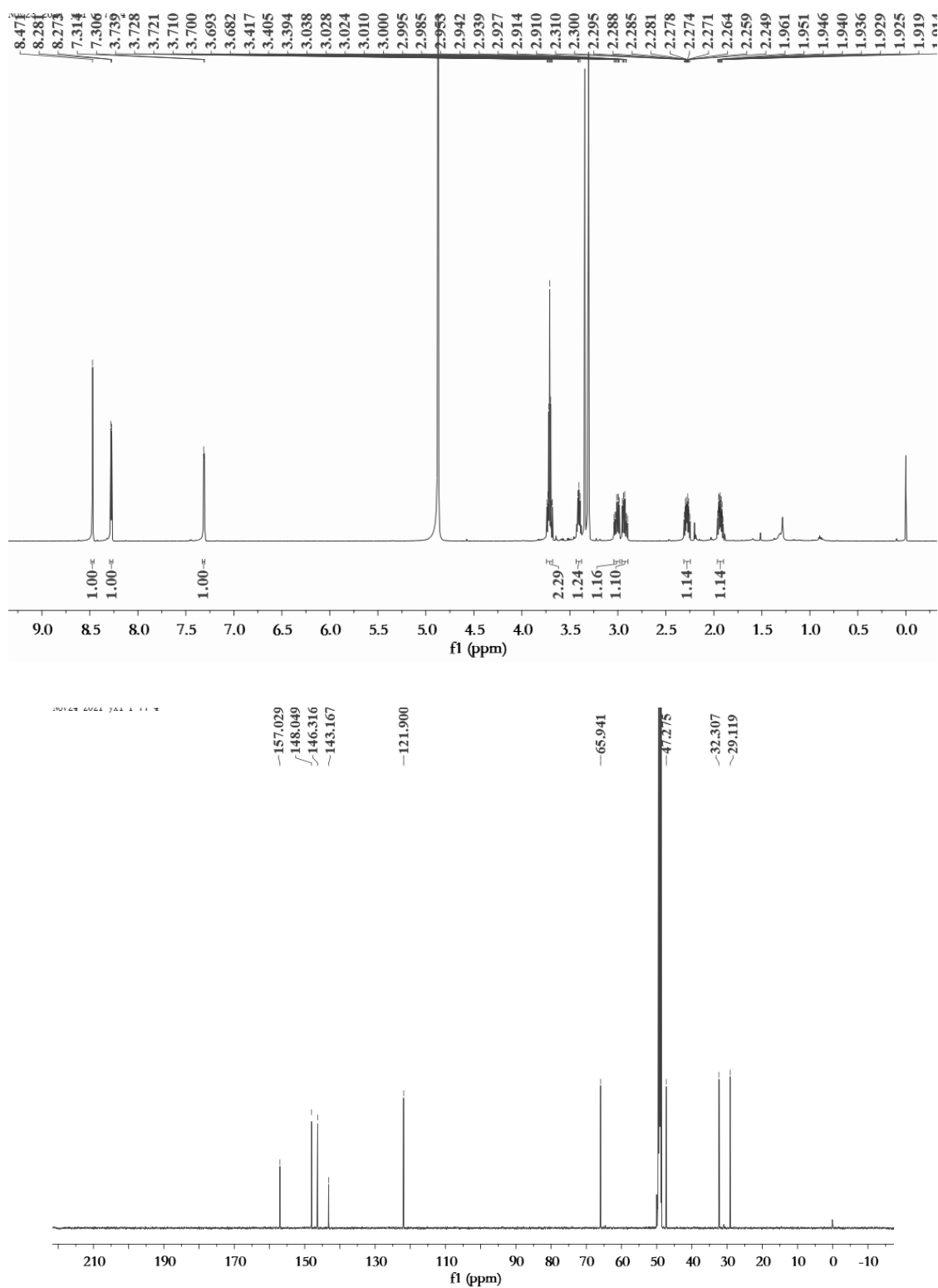
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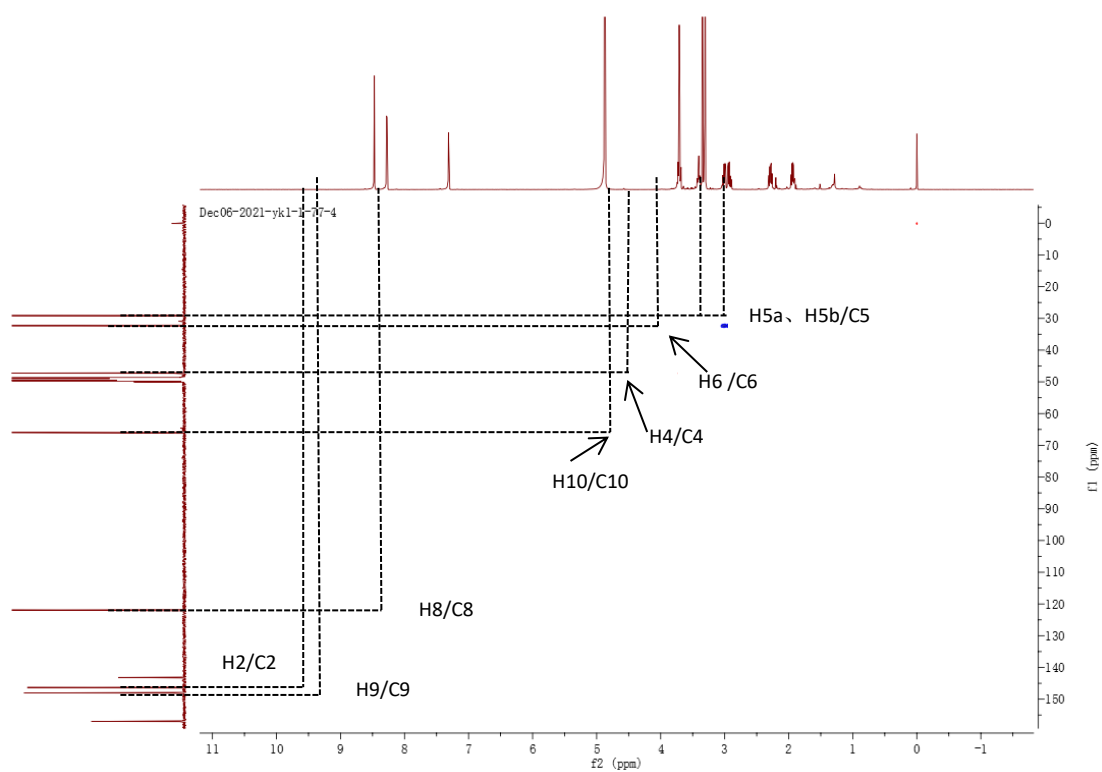
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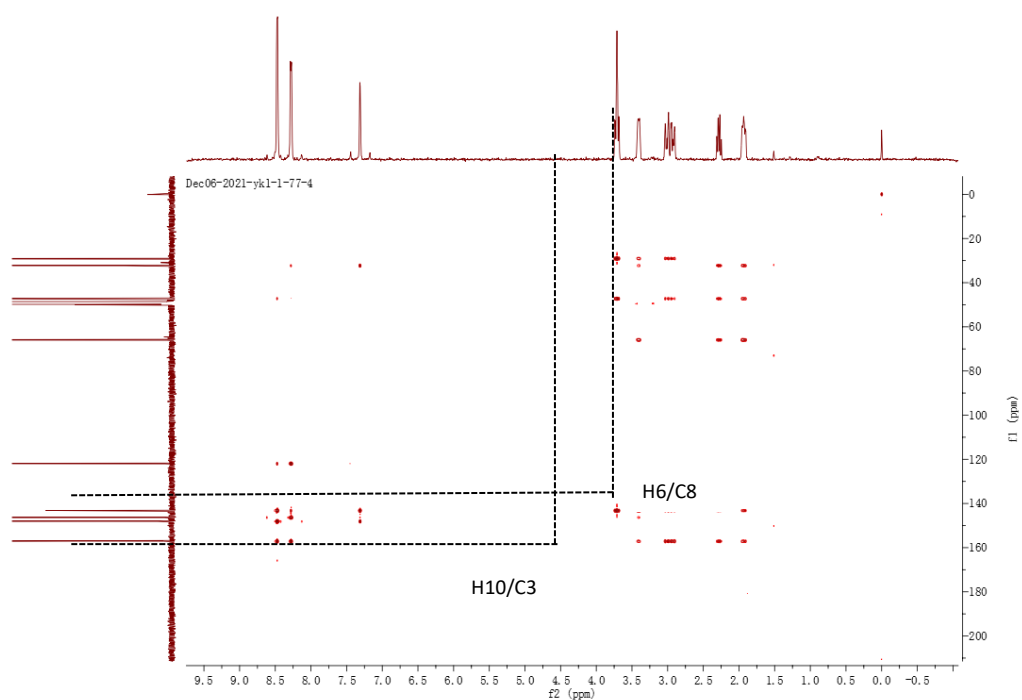
**Figure S1:** HR-ESI-MS spectrum of **1**



**Figure S2:** <sup>1</sup>H-NMR (600 MHz, CD<sub>3</sub>OD) and <sup>13</sup>C-NMR (150 MHz, CD<sub>3</sub>OD) spectrum of **1**

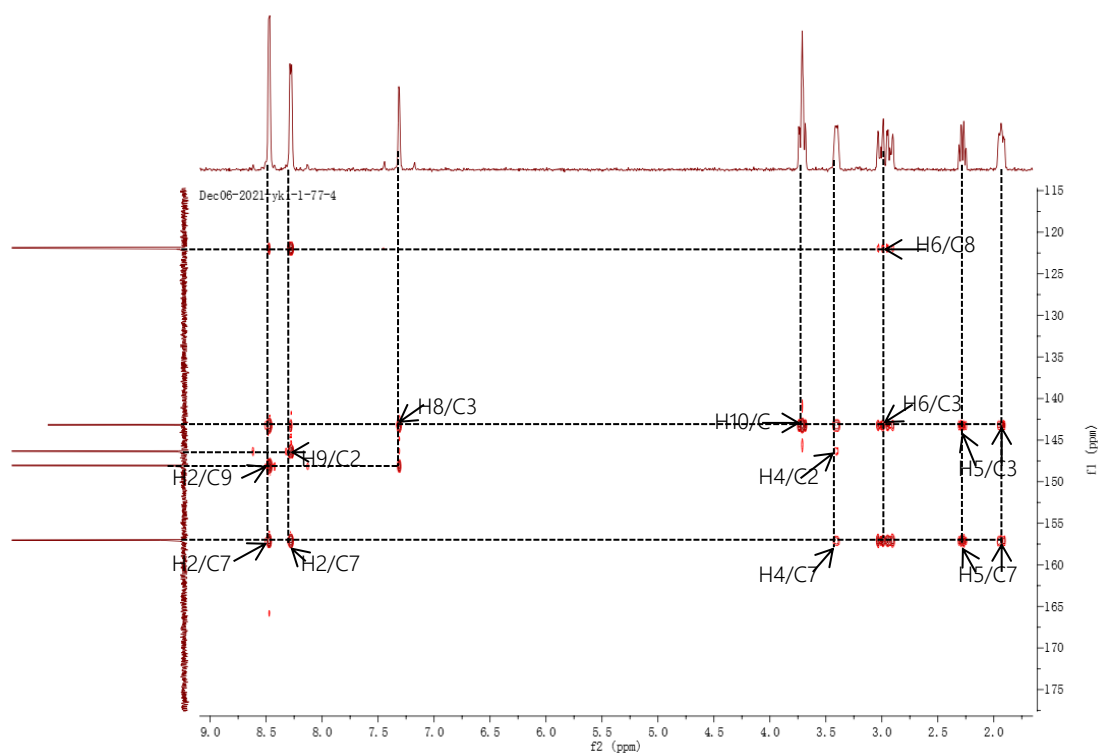


**Figure S3: HSQC spectrum of 1**

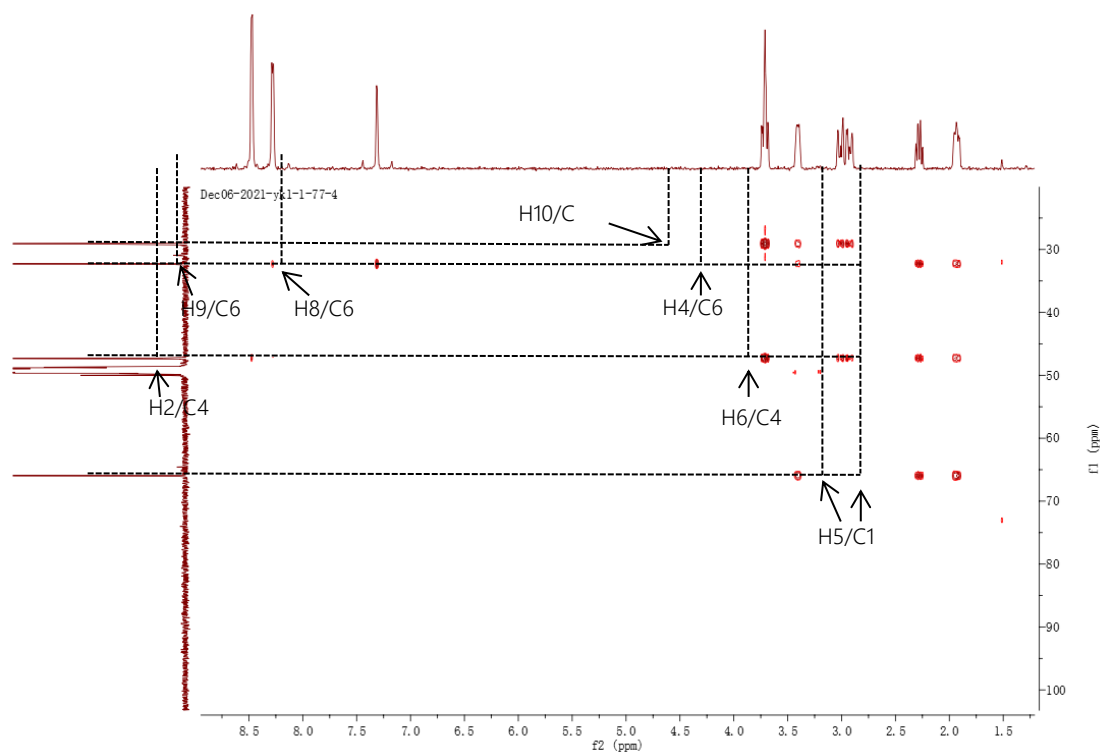


**Figure S4: HMBC spectrum of 1**

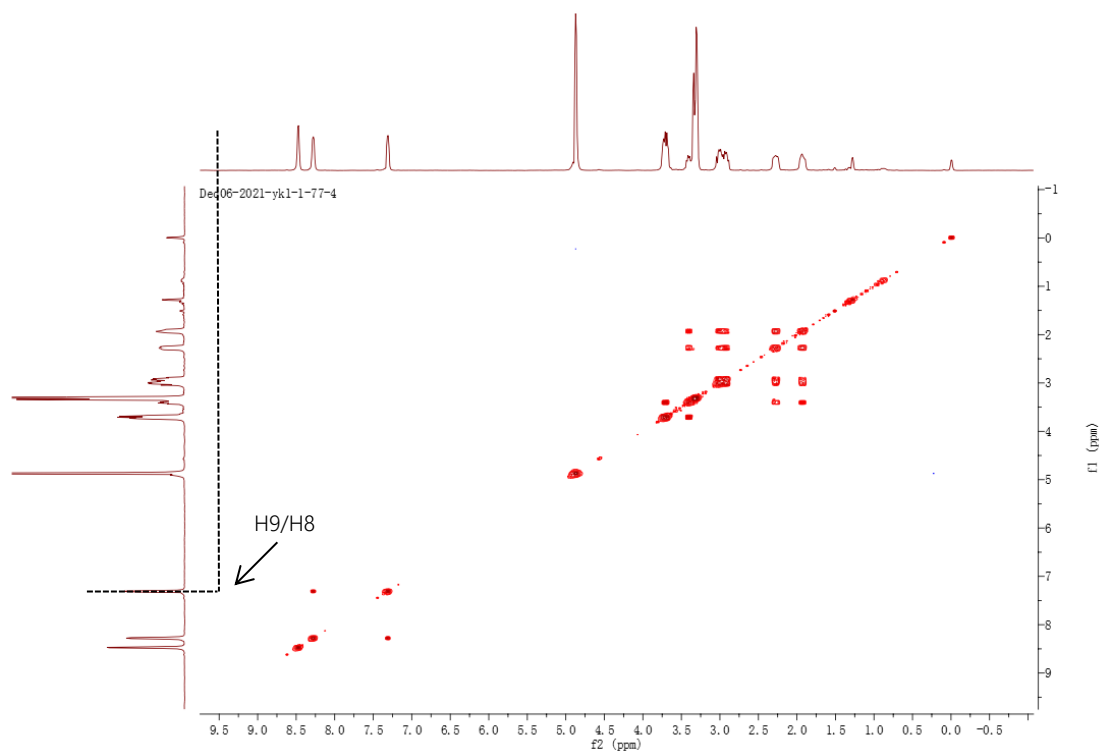
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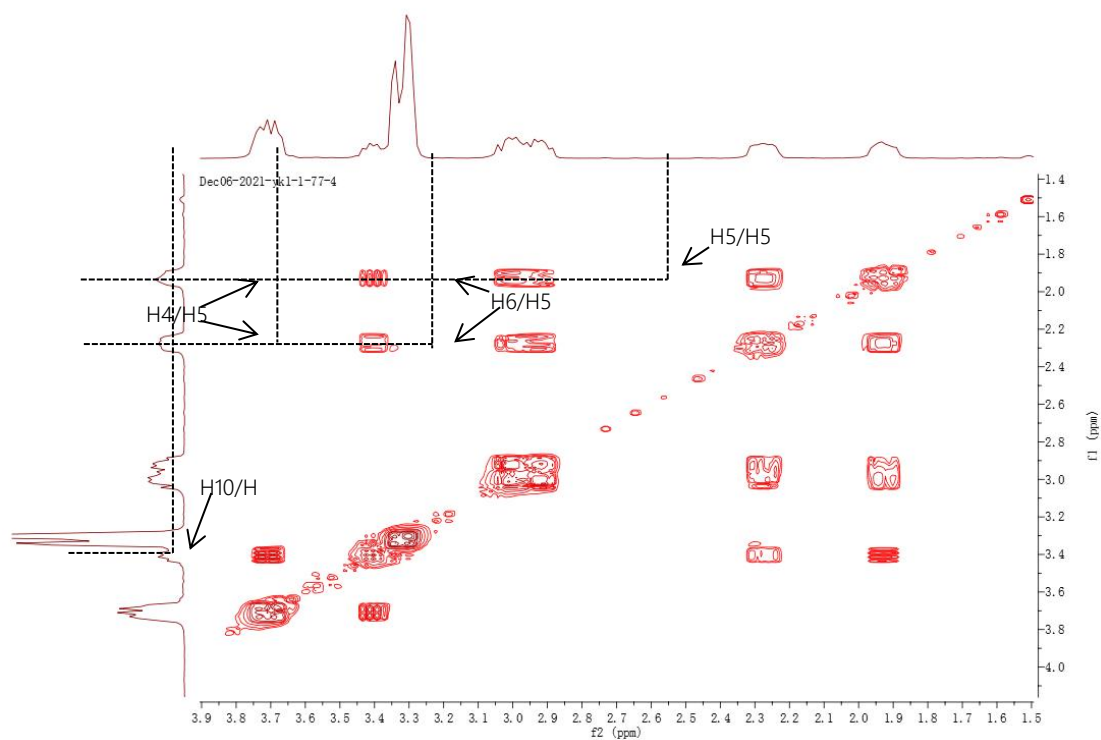
**Figure S5:** HMBC spectrum of **1** (From  $\delta_C$  115 ppm to  $\delta_C$  160 ppm )



**Figure S6:** HMBC spectrum of **1** (From  $\delta_C$  25 ppm to  $\delta_C$  90 ppm )

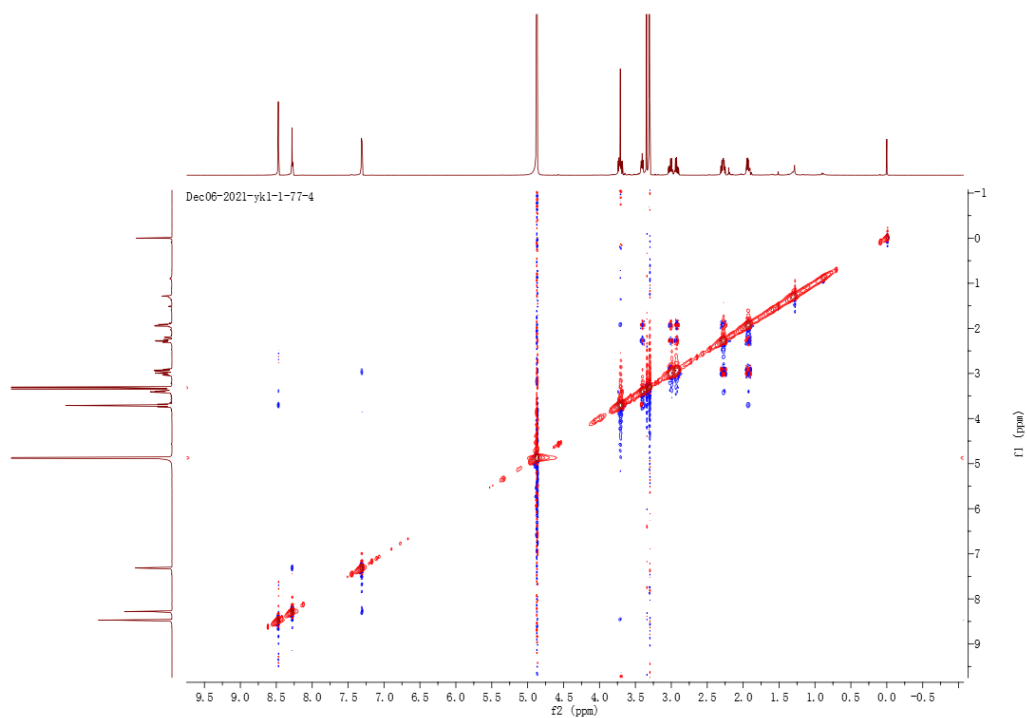


**Figure S7:**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **1**

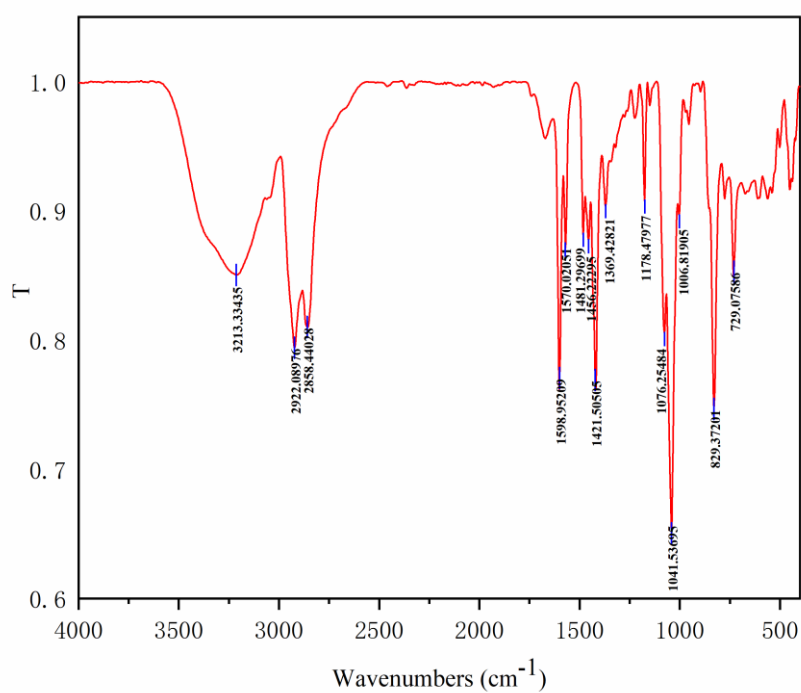


**Figure S8:**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **1** (From  $\delta_{\text{H}}$  1.5 ppm to  $\delta_{\text{H}}$  4.0 ppm)

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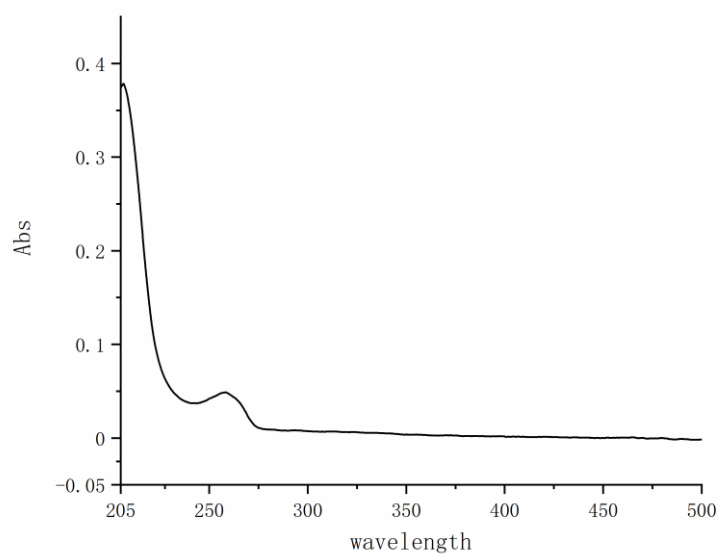
**Figure S9:** NOESY spectrum of **1**



**Figure S10:** FT-IR spectrum of **1**

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**Figure S11:** UV spectrum of **1**

SciFinder®

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**Substances** (0)

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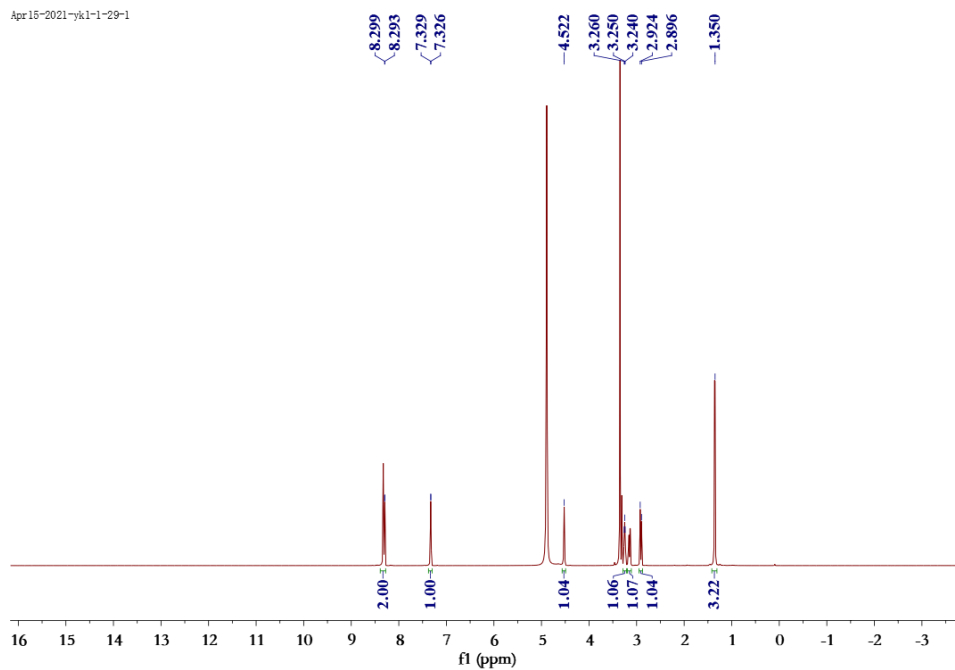
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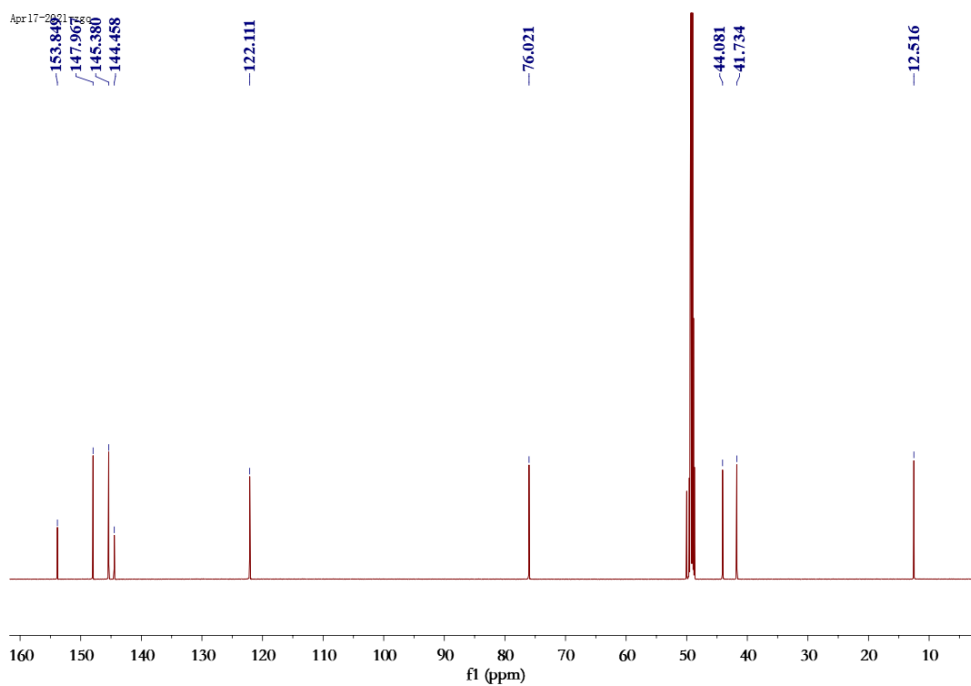
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**Figure S12:** Scifinder search of new compound **1**

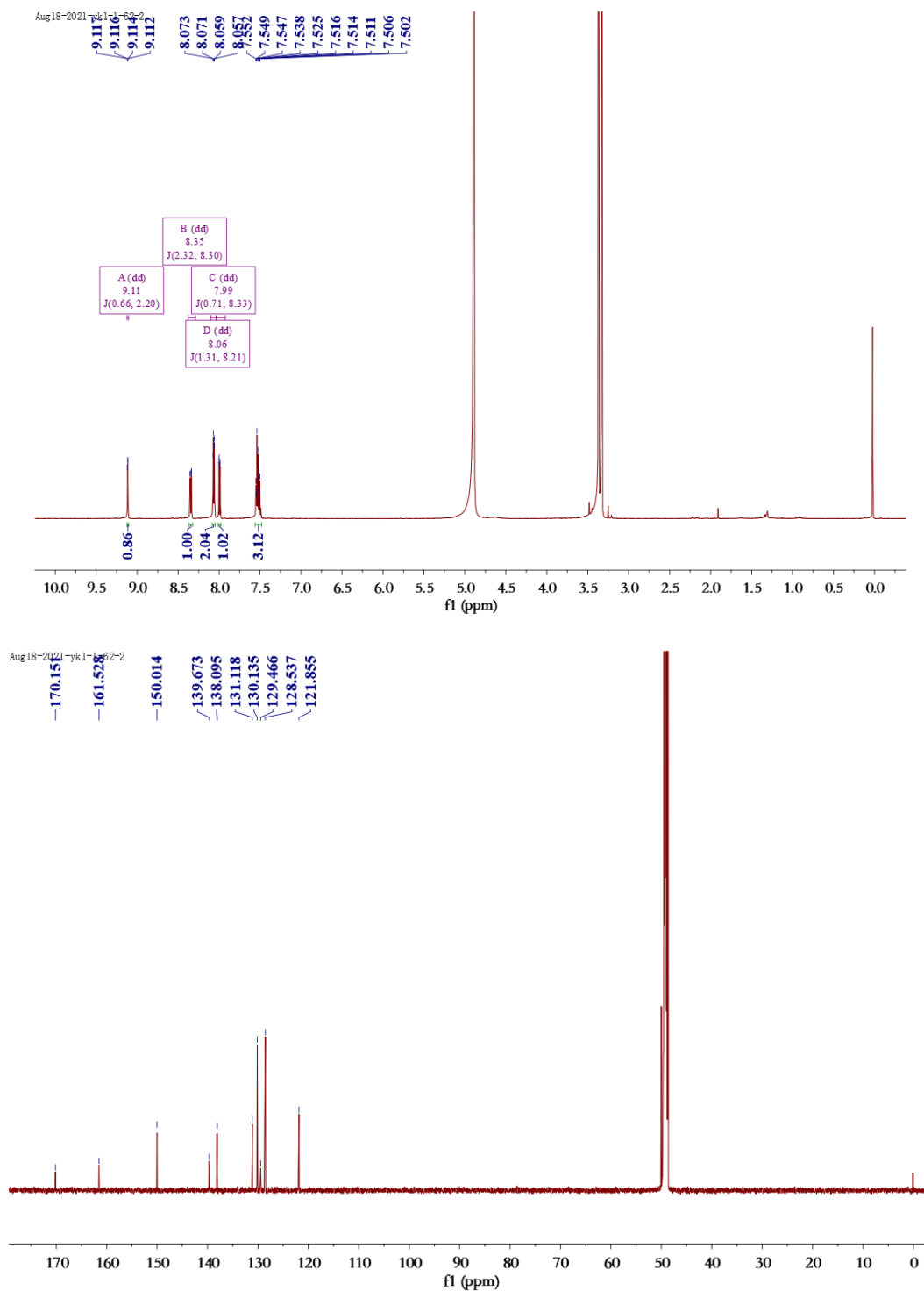
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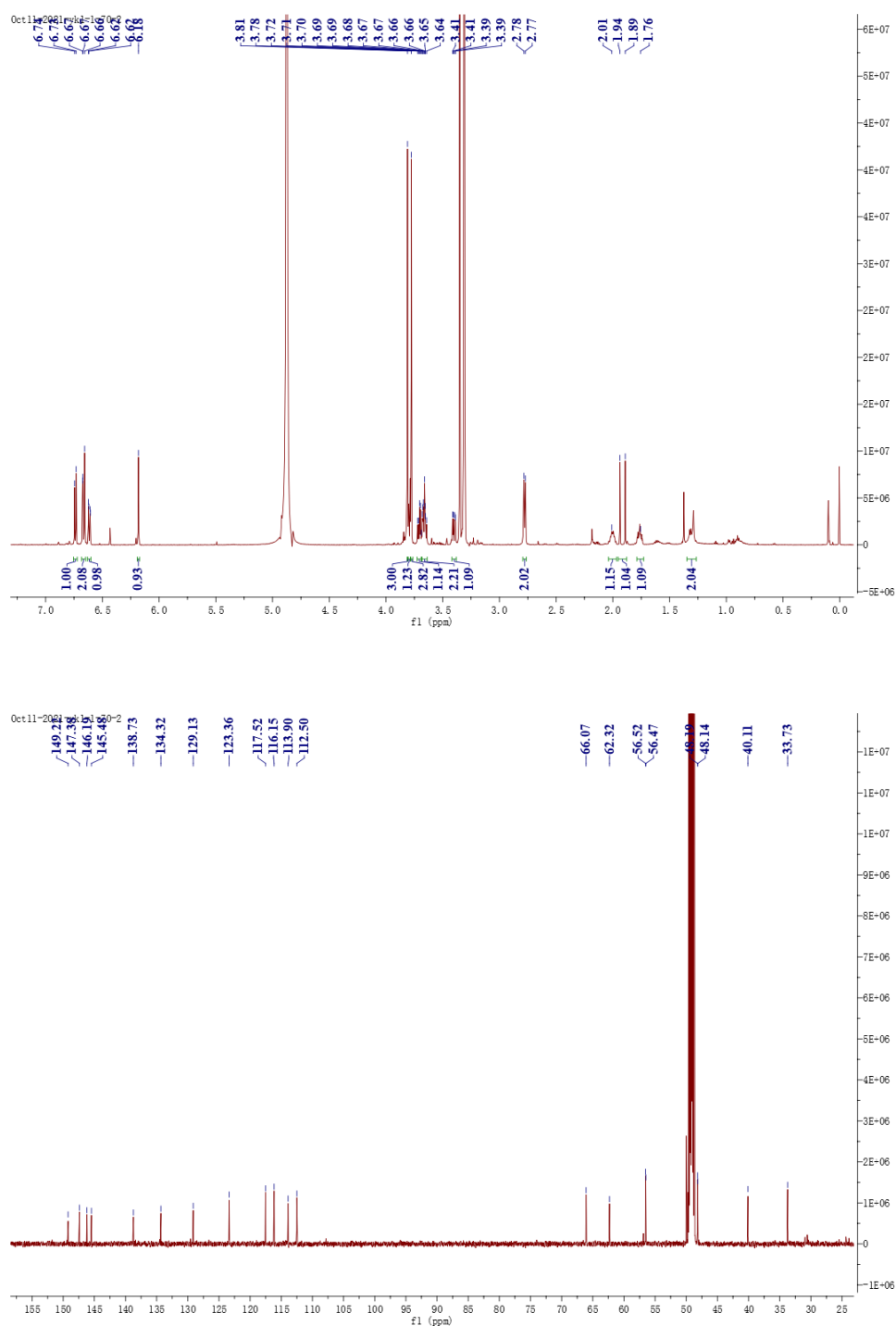
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**Figure S13:** <sup>1</sup>H-NMR (600 MHz, CD<sub>3</sub>OD) and <sup>13</sup>C-NMR (150 MHz, CD<sub>3</sub>OD) spectrum of **2**

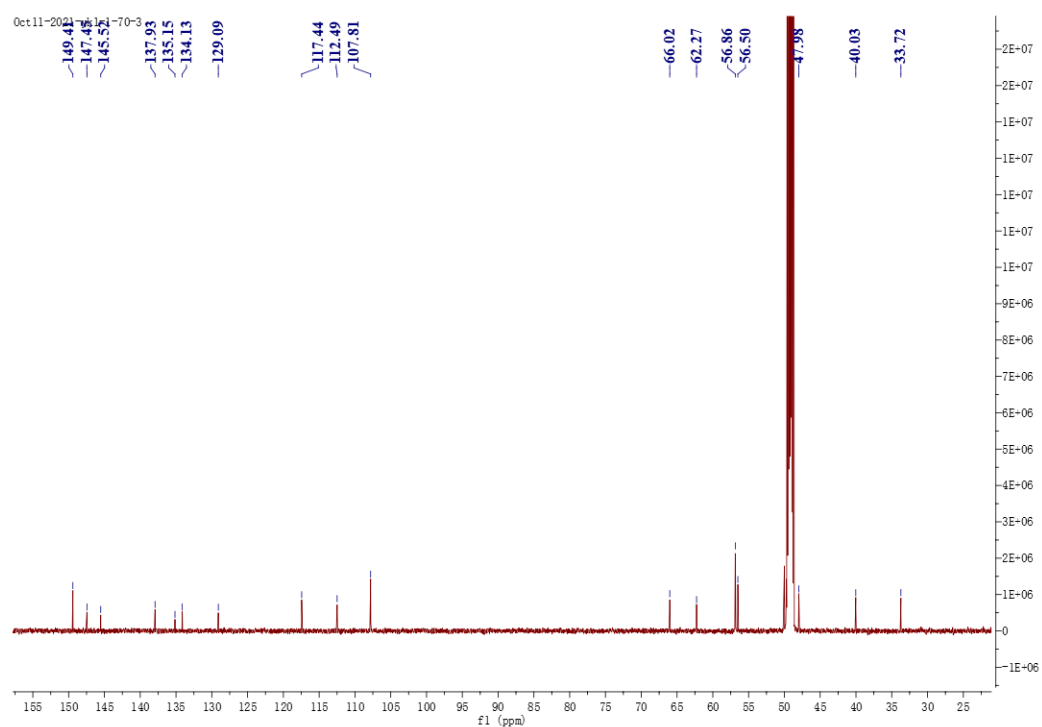
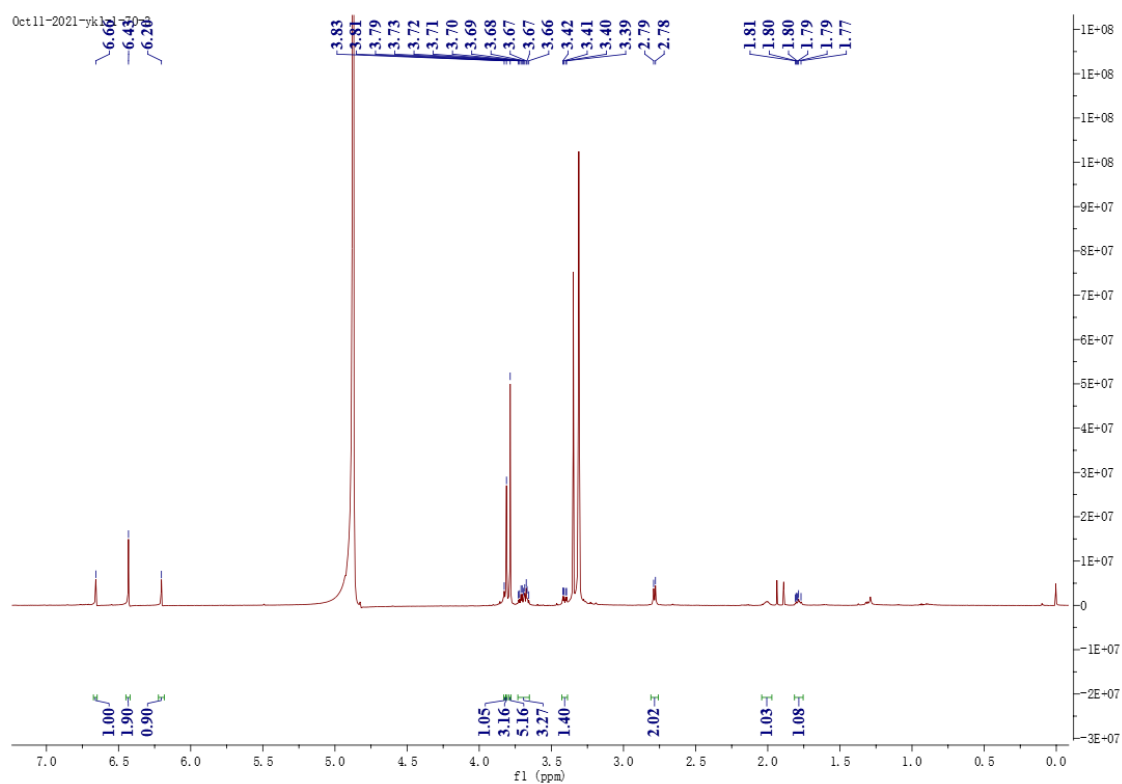


**Figure S14:**  $^1\text{H}$ -NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) and  $^{13}\text{C}$ -NMR (150 MHz,  $\text{CD}_3\text{OD}$ ) spectrum of **3**



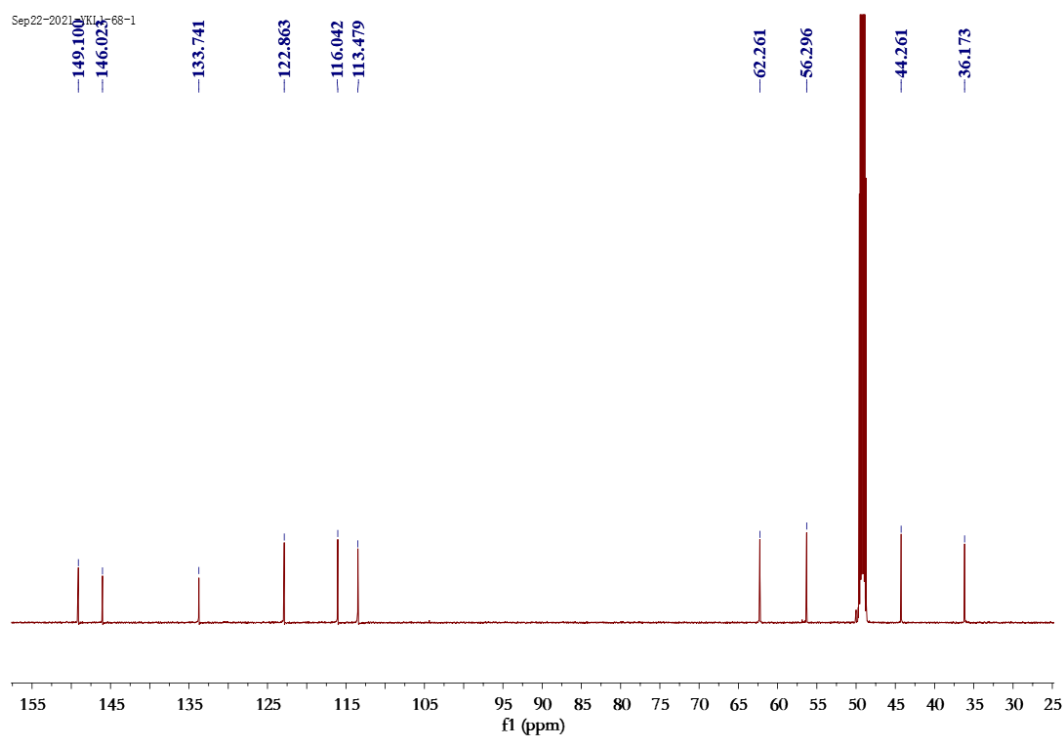
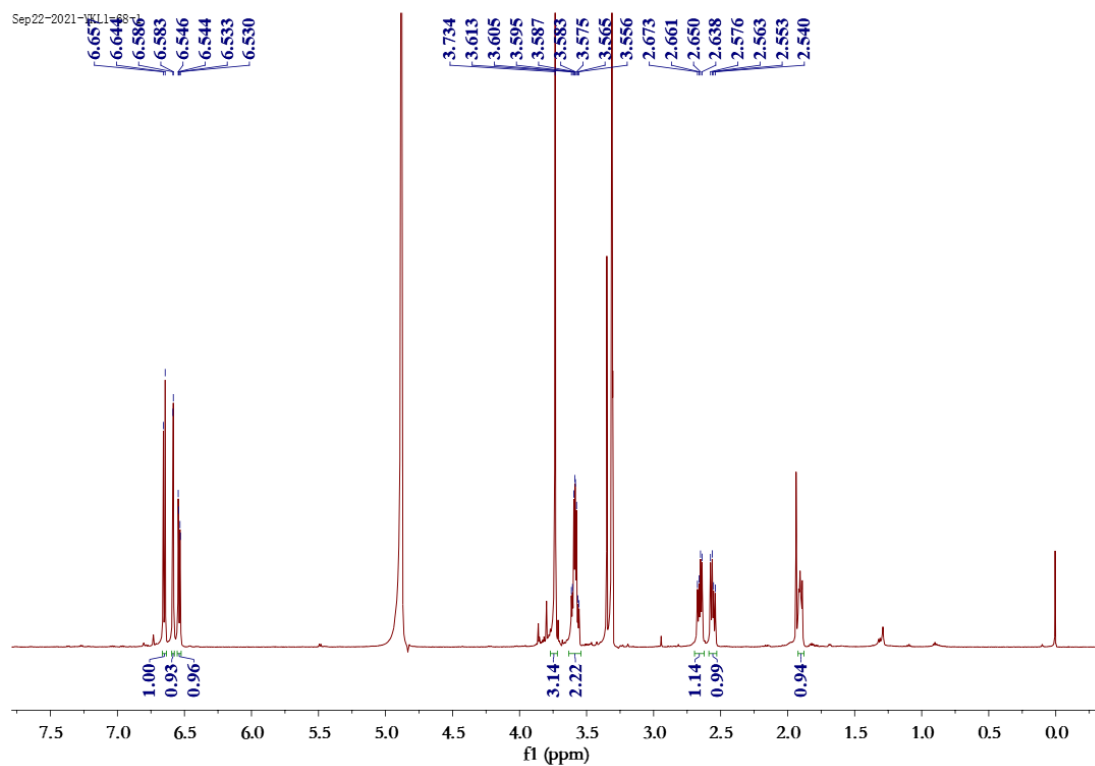
**Figure S15:** <sup>1</sup>H-NMR (600 MHz, CD<sub>3</sub>OD) and <sup>13</sup>C-NMR (150 MHz, CD<sub>3</sub>OD) spectrum of **4**

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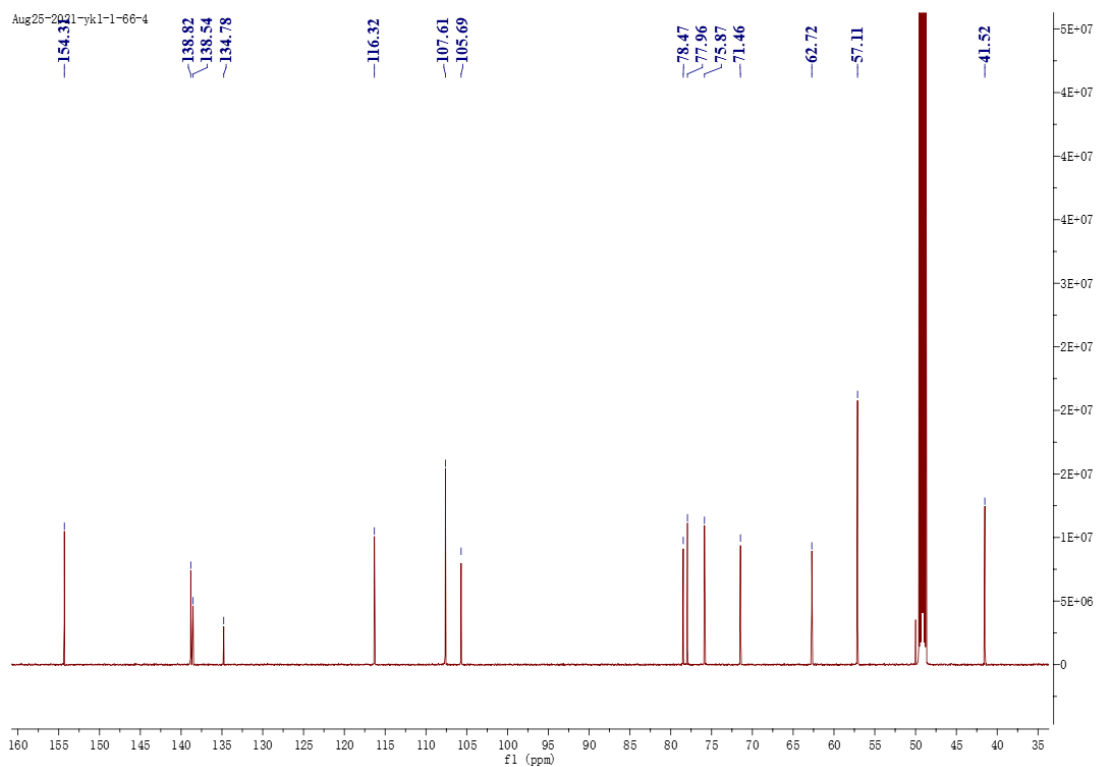
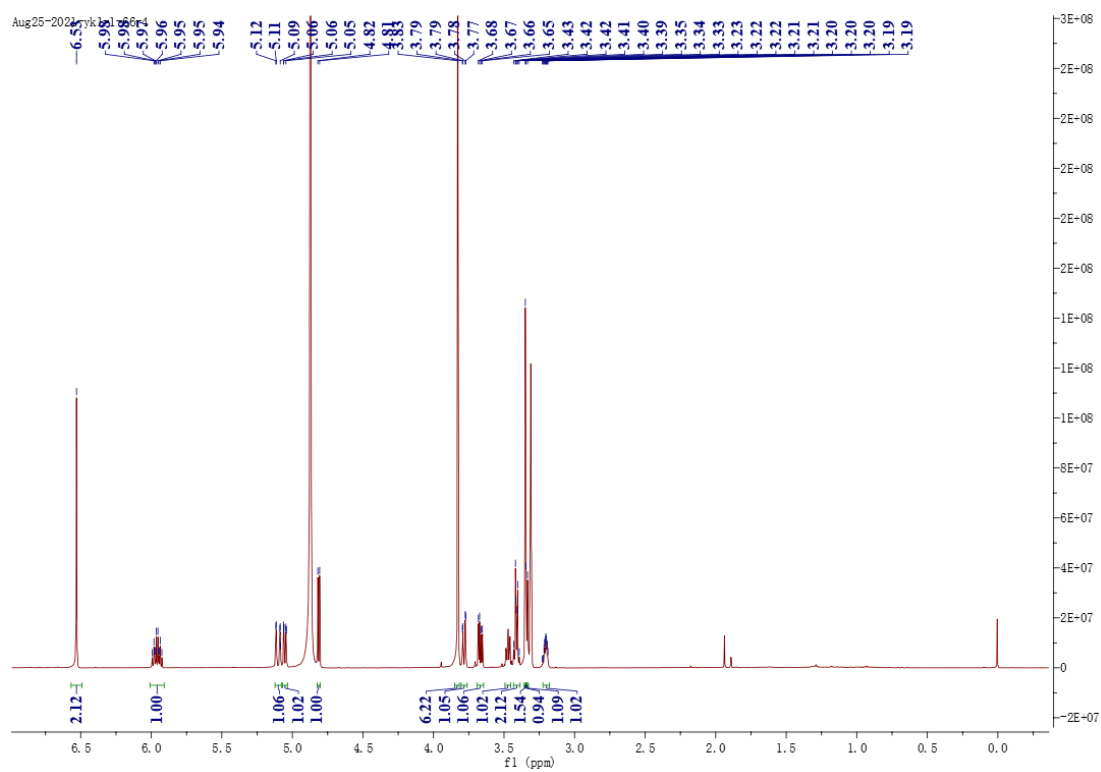
**Figure S16:**  $^1\text{H}$ -NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) and  $^{13}\text{C}$ -NMR (150 MHz,  $\text{CD}_3\text{OD}$ ) spectrum of **5**

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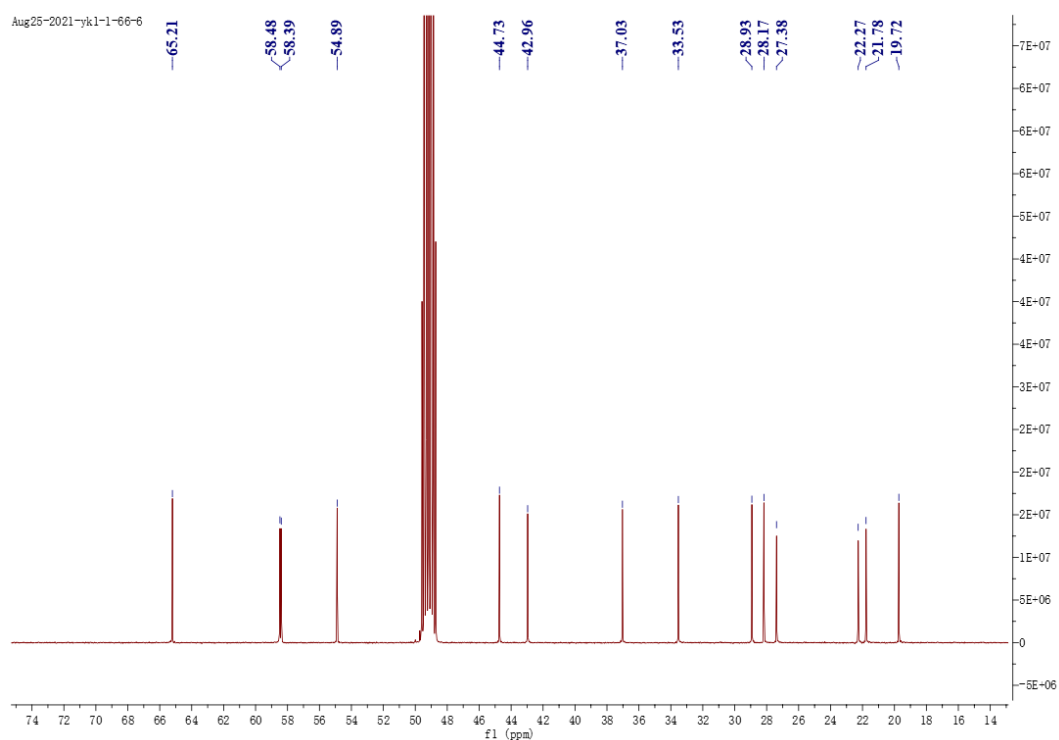
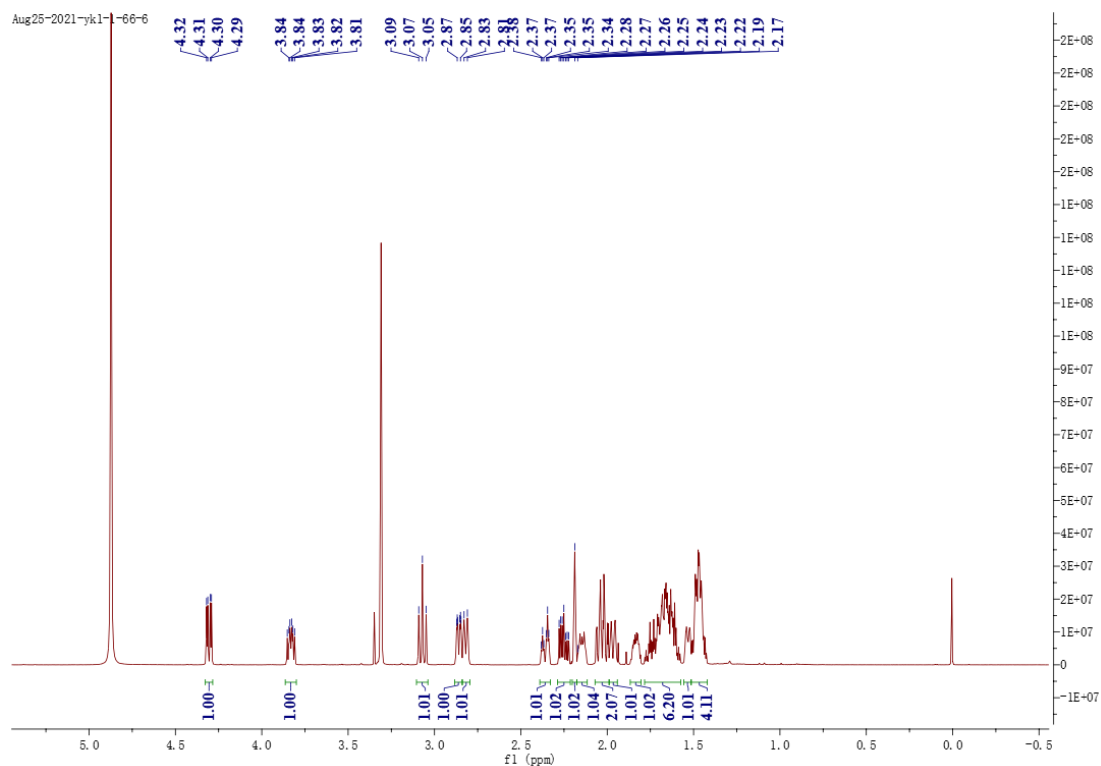
**Figure S17:**  $^1\text{H}$ -NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) and  $^{13}\text{C}$ -NMR (150 MHz,  $\text{CD}_3\text{OD}$ ) spectrum of **6**

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**Figure S18:**  $^1\text{H}$ -NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) and  $^{13}\text{C}$ -NMR (150 MHz,  $\text{CD}_3\text{OD}$ ) spectrum of **7**

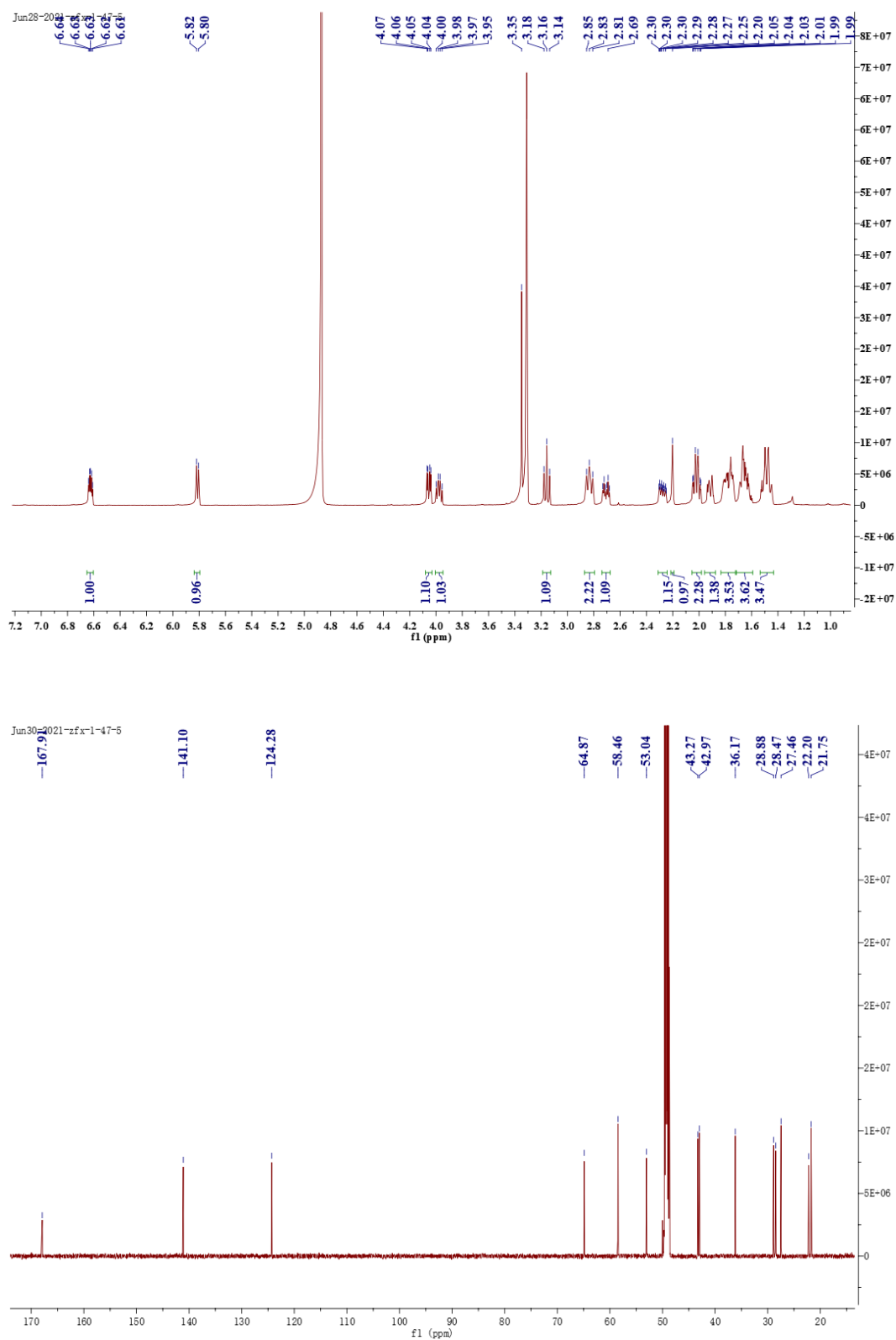
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**Figure S19:**  $^1\text{H}$ -NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) and  $^{13}\text{C}$ -NMR (150 MHz,  $\text{CD}_3\text{OD}$ ) spectrum of **8**

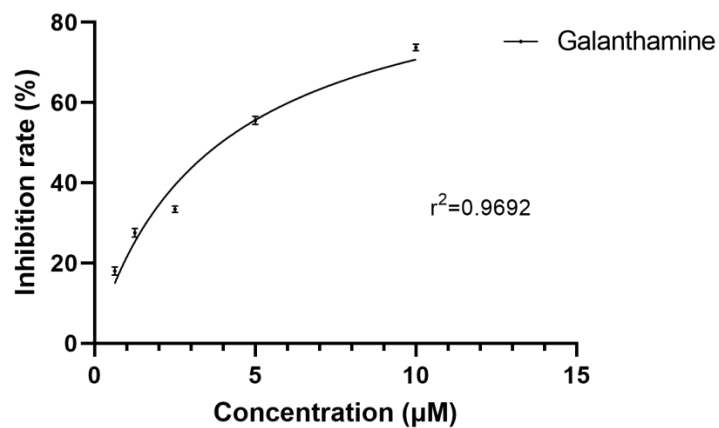
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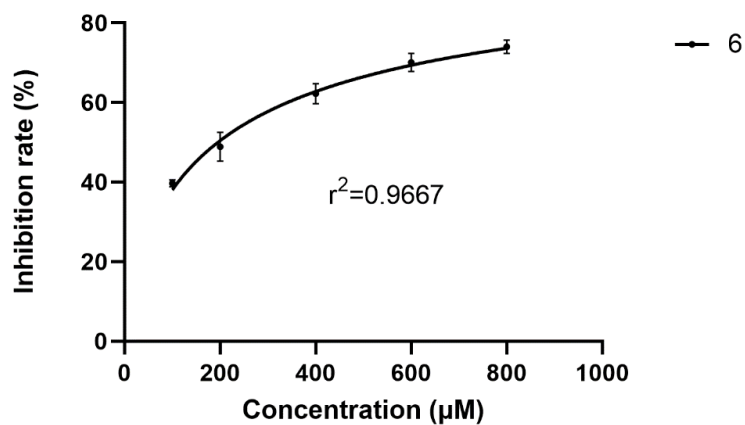
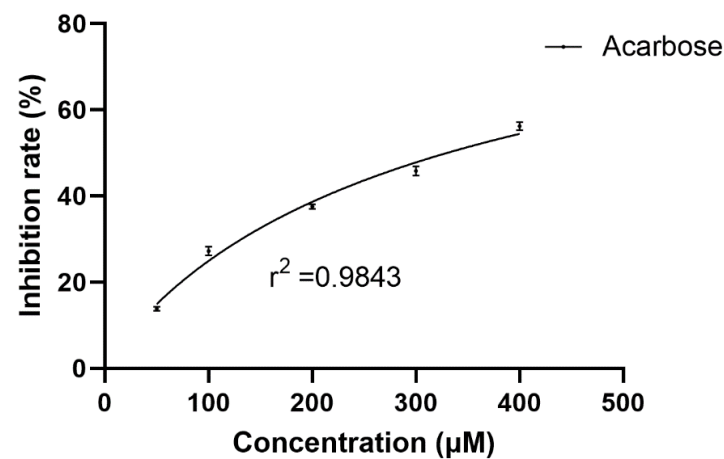


**Figure S20:**  $^1\text{H}$ -NMR (600 MHz,  $\text{CD}_3\text{OD}$ ) and  $^{13}\text{C}$ -NMR (150 MHz,  $\text{CD}_3\text{OD}$ ) spectrum of **9**

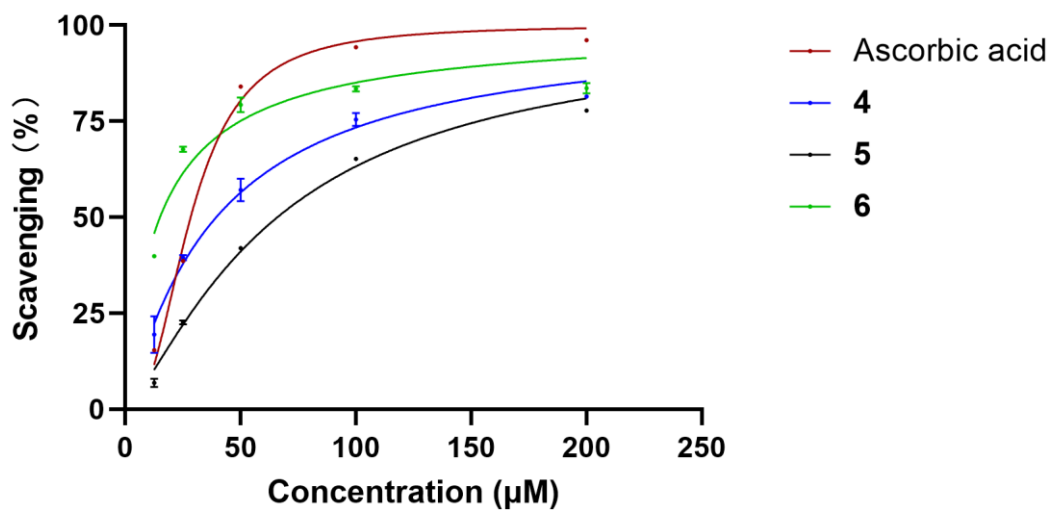
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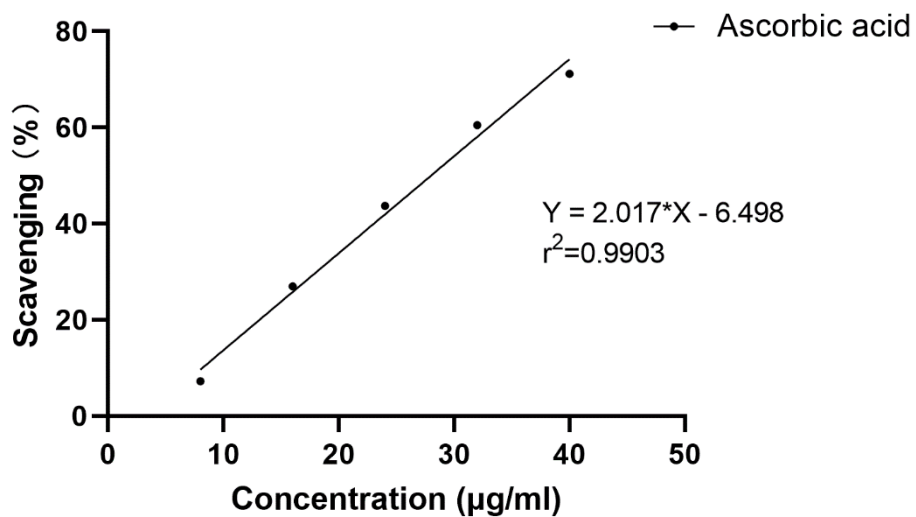
**Figure S21:** The inhibition rate curves of acetylcholinesterase inhibition activity



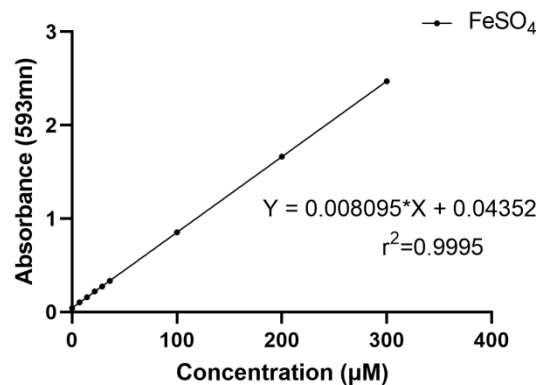
**Figure S22:** The inhibition rate curves of  $\alpha$ -glucosidase inhibitory activity



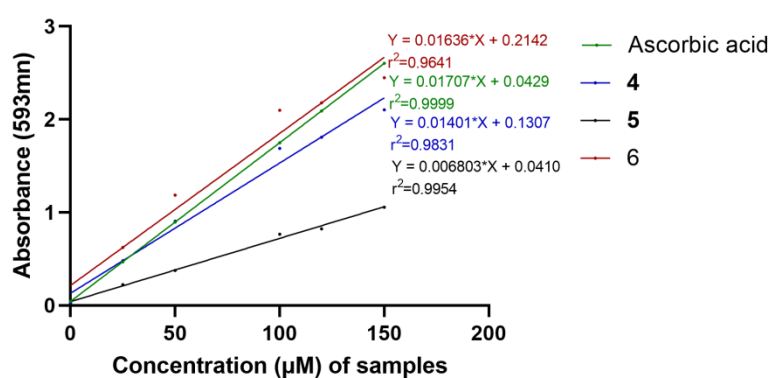
**Figure S23:** The inhibition rate curves of DPPH radical scavenging activity



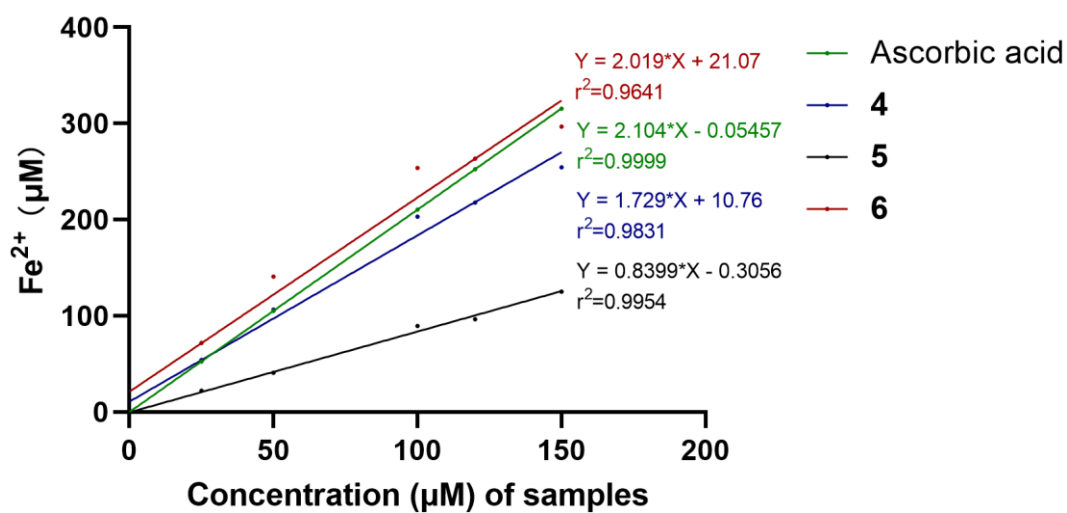
**Figure S24:** The inhibition rate curves of hydroxyl radical scavenging activity



(a)



(b)



(c)

**Figure S25:** The inhibition rate curves of FRAP activity

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- (a) Liner regression analysis between FeSO<sub>4</sub> and absorbance at 593 nm ;  
 (b) Liner regression analysis between samples and absorbance at 593 nm;  
 (c) Liner regression analysis between samples and FeSO<sub>4</sub>

**Table S1:** The inhibitory rates of compounds **1–9** at the test concentrations\*

No.	AChE inhibition activity <sup>a</sup>	$\alpha$ -Glucosidase inhibitory activity <sup>b</sup>	DPPH radical scavenging capacity <sup>c</sup>	FRAP value <sup>d</sup>	Hydroxyl radical scavenging capacity <sup>e</sup>
	Inhibitory rates(%)	Inhibitory rates(%)	Scavenging rates(%)	$\mu\text{M Fe}^{2+}/250 \mu\text{M}$ samples	Scavenging rates(%)
<b>1</b>	0.09 $\pm$ 0.01	8.52 $\pm$ 1.04	0.32 $\pm$ 0.07	−6.06 $\pm$ 0.23	−4.39 $\pm$ 1.52
<b>2</b>	−2.62 $\pm$ 0.04	1.20 $\pm$ 1.71	5.00 $\pm$ 0.42	5.85 $\pm$ 0.31	−1.29 $\pm$ 0.38
<b>3</b>	−4.76 $\pm$ 0.05	5.71 $\pm$ 0.90	2.55 $\pm$ 0.32	−2.90 $\pm$ 0.18	1.46 $\pm$ 0.74
<b>4</b>	−8.21 $\pm$ 0.02	6.37 $\pm$ 0.47	85.70 $\pm$ 0.13	295.04 $\pm$ 1.48	−32.46 $\pm$ 2.16
<b>5</b>	−3.56 $\pm$ 0.04	−5.69 $\pm$ 0.18	83.27 $\pm$ 0.18	171.25 $\pm$ 1.40	−21.07 $\pm$ 2.27
<b>6</b>	−5.39 $\pm$ 0.06	41.08 $\pm$ 0.69	86.98 $\pm$ 0.14	317.73 $\pm$ 4.28	−33.37 $\pm$ 1.27
<b>7</b>	1.19 $\pm$ 0.01	−17.75 $\pm$ 0.23	−0.32 $\pm$ 0.52	−3.06 $\pm$ 0.48	0.12 $\pm$ 0.20
<b>8</b>	−3.79 $\pm$ 0.01	6.63 $\pm$ 1.15	1.22 $\pm$ 0.50	−5.32 $\pm$ 0.57	0.76 $\pm$ 0.37
<b>9</b>	−0.67 $\pm$ 0.02	−0.76 $\pm$ 0.51	1.92 $\pm$ 0.71	−0.44 $\pm$ 0.30	1.42 $\pm$ 0.46

\*Result values are expressed as the mean  $\pm$  SD (n = 3)

The test concentrations a: 100  $\mu\text{M}$ ; b: 400  $\mu\text{M}$ ; c: 200  $\mu\text{M}$ ;

d: 250  $\mu\text{M}$  (525.21  $\mu\text{M Fe}^{2+}/250 \mu\text{M}$  ascorbic acid); e:250  $\mu\text{M}$ .

**Table S2:** Optical rotation value of **4–6** ( $[\alpha]_D^{20}$ )

Compounds	Optical rotation
<b>4</b>	16.8°
<b>5</b>	10.8°
<b>6</b>	−16.1°