

## Supporting Information

*Rec. Nat. Prod.* X:X (2022) XX-XX

### A New Monoterpene Rhamnoside from *Cercis glabra* Legumes

Ting Xu<sup>1,2,3</sup>, Yueyue Lou<sup>1,2,3</sup>, Yabing Ge<sup>3</sup>, Xiaoqing Lu<sup>3</sup>,

Pengpai Zhang<sup>1,2\*</sup> and Penghua Shu<sup>3\*</sup>

<sup>1</sup> School of Life Sciences, Henan University, Kaifeng, Henan 475004, China

<sup>2</sup> Engineering Research Center for Applied Microbiology of Henan Province, Kaifeng 475004, China

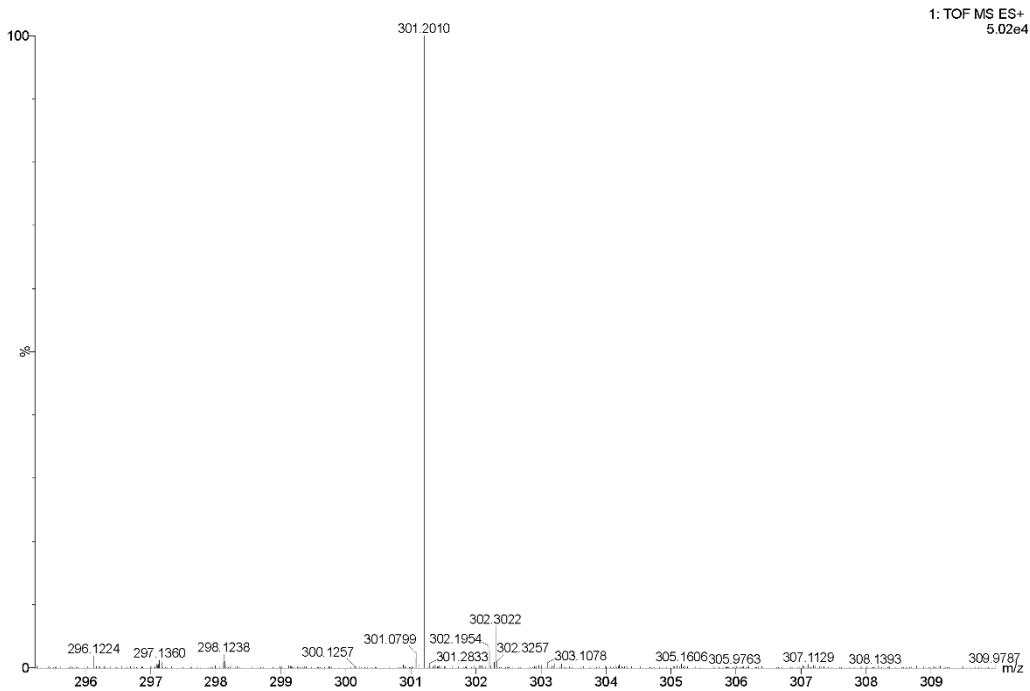
<sup>3</sup> Food and Pharmacy College, Xuchang University, 88 Bayi Road, Xuchang, Henan 461000, China

Table of Contents	Page
<b>Figure S1:</b> HR-ESI-MS spectrum of <b>1</b>	3
<b>Figure S2:</b> UV spectrum of <b>1</b> in CHCl <sub>3</sub>	4
<b>Figure S3:</b> IR spectrum of <b>1</b>	5
<b>Figure S4:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>1</b> in CDCl <sub>3</sub>	6
<b>Figure S5:</b> <sup>13</sup> C NMR spectrum (100 MHz) of <b>1</b> in CDCl <sub>3</sub>	7
<b>Figure S6:</b> DEPT 135 spectrum of <b>1</b> in CDCl <sub>3</sub>	8
<b>Figure S7:</b> HSQC spectrum of <b>1</b> in CDCl <sub>3</sub>	9
<b>Figure S8:</b> <sup>1</sup> H- <sup>1</sup> H COSY spectrum of <b>1</b> in CDCl <sub>3</sub>	10
<b>Figure S9:</b> HMBC spectrum of <b>1</b> in CDCl <sub>3</sub>	11
<b>Figure S10:</b> NOESY spectrum of <b>1</b> in CDCl <sub>3</sub>	12
<b>Figure S11:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>1a</b> in CDCl <sub>3</sub>	13
<b>Figure S12:</b> <sup>13</sup> C NMR spectrum (100 MHz) of <b>1a</b> in CDCl <sub>3</sub>	14
<b>Figure S13:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>2</b> in CD <sub>3</sub> OD	15
<b>Figure S14:</b> <sup>13</sup> C NMR spectrum (100 MHz) of <b>2</b> in CD <sub>3</sub> OD	16
<b>Figure S15:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>3</b> in CD <sub>3</sub> OD	17
<b>Figure S16:</b> <sup>13</sup> C NMR spectrum (100 MHz) of <b>3</b> in CD <sub>3</sub> OD	18
<b>Figure S17:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>4</b> in CD <sub>3</sub> OD	19
<b>Figure S18:</b> <sup>13</sup> C NMR spectrum (100 MHz) of <b>4</b> in CD <sub>3</sub> OD	20
<b>Figure S19:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>5</b> in CD <sub>3</sub> OD	21
<b>Figure S20:</b> <sup>13</sup> C NMR spectrum (100 MHz) of <b>5</b> in CD <sub>3</sub> OD	22
<b>Figure S21:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>6</b> in CD <sub>3</sub> COCD <sub>3</sub>	23
<b>Figure S22:</b> <sup>13</sup> C NMR spectrum (100 MHz) of <b>6</b> in CD <sub>3</sub> COCD <sub>3</sub>	24
<b>Figure S23:</b> <sup>1</sup> H NMR spectrum (400 MHz) of <b>7</b> in CD <sub>3</sub> OD	25

---

<b>Figure S24:</b> $^{13}\text{C}$ NMR spectrum (100 MHz) of <b>7</b> in $\text{CD}_3\text{OD}$	26
<b>Figure S25:</b> $^1\text{H}$ NMR spectrum (400 MHz) of <b>8</b> in $\text{CD}_3\text{OD}$	27
<b>Figure S26:</b> $^{13}\text{C}$ NMR spectrum (100 MHz) of <b>8</b> in $\text{CD}_3\text{OD}$	28
<b>Figure S27:</b> $^1\text{H}$ NMR spectrum (400 MHz) of <b>9</b> in $\text{DMSO-}d_6$	29
<b>Figure S28:</b> $^{13}\text{C}$ NMR spectrum (100 MHz) of <b>9</b> in $\text{DMSO-}d_6$	30
<b>Figure S29:</b> $^1\text{H}$ NMR spectrum (400 MHz) of <b>10</b> in $\text{DMSO-}d_6$	31
<b>Figure S30:</b> $^{13}\text{C}$ NMR spectrum (100 MHz) of <b>10</b> in $\text{DMSO-}d_6$	32
<b>Figure S31:</b> $^1\text{H}$ NMR spectrum (400 MHz) of <b>11</b> in $\text{CD}_3\text{OD}$	33
<b>Figure S32:</b> $^{13}\text{C}$ NMR spectrum (100 MHz) of <b>11</b> in $\text{CD}_3\text{OD}$	34

---



1: TOF MS ES+  
5.02e4

**Elemental Composition Report**

Page 1

**Single Mass Analysis**

Tolerance = 10.0 PPM / DBE: min = -1.5, max = 50.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

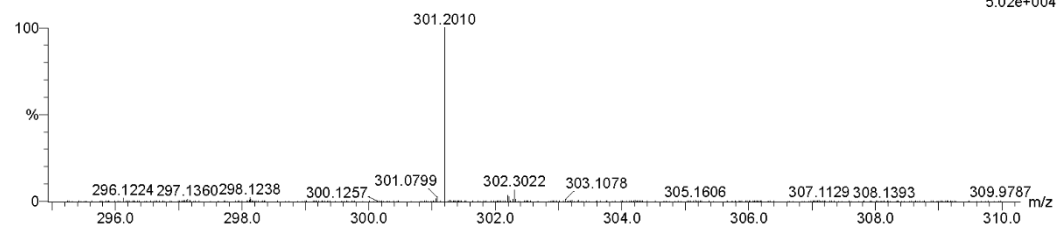
13 formula(e) evaluated with 1 results within limits (up to 50 best isotopic matches for each mass)

Elements Used:

C: 5-18 H: 5-80 O: 3-7

1: TOF MS ES+

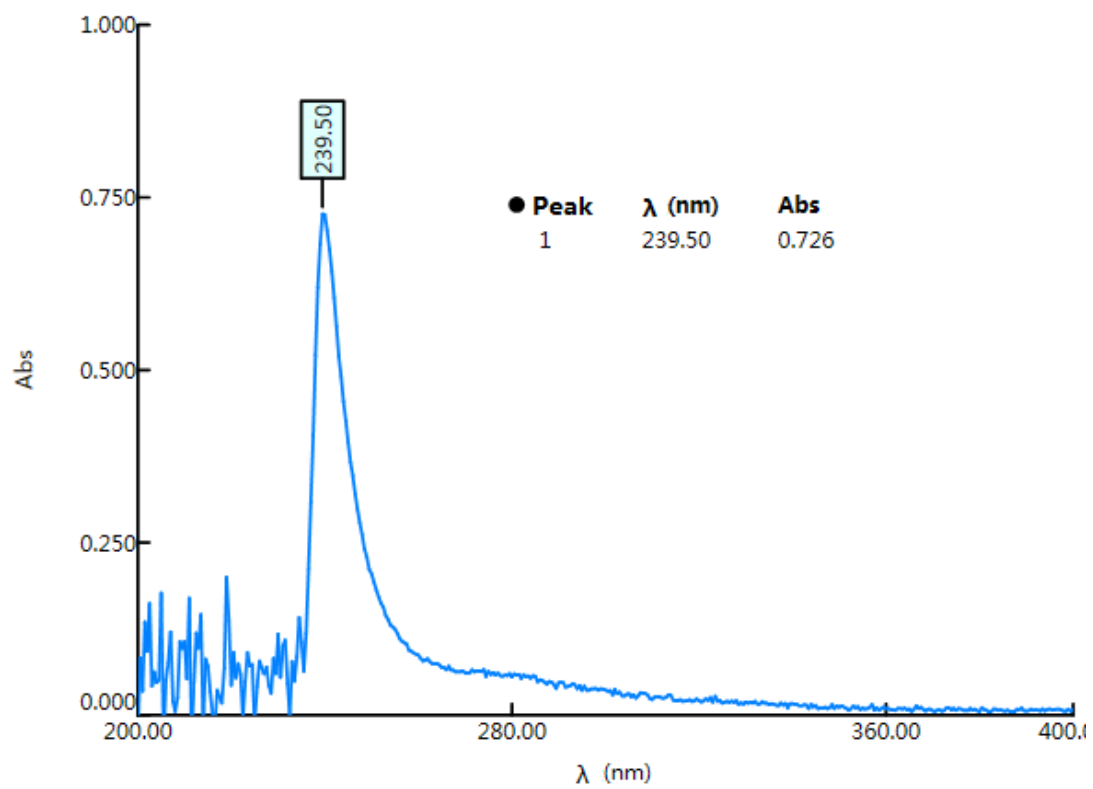
5.02e+004



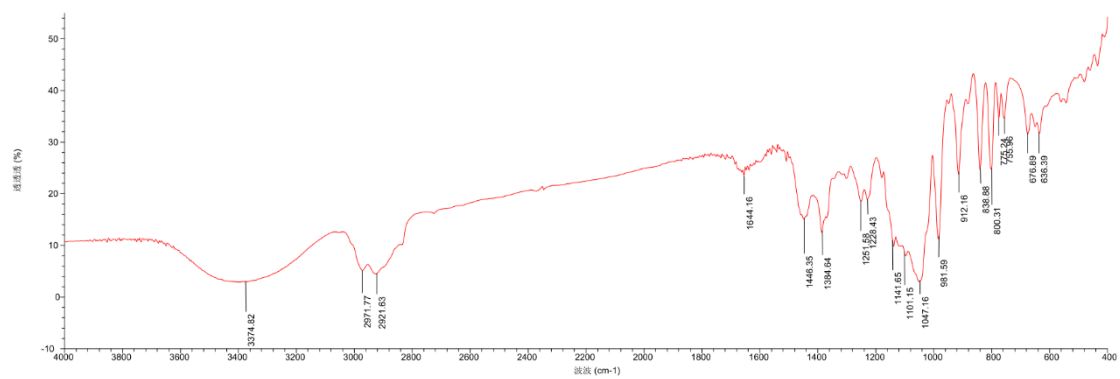
Minimum: -1.5  
Maximum: 50.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Norm	Conf (%)	Formula
301.2010	301.2015	-0.5	-1.7	2.5	597.3	n/a	n/a	C16 H29 O5

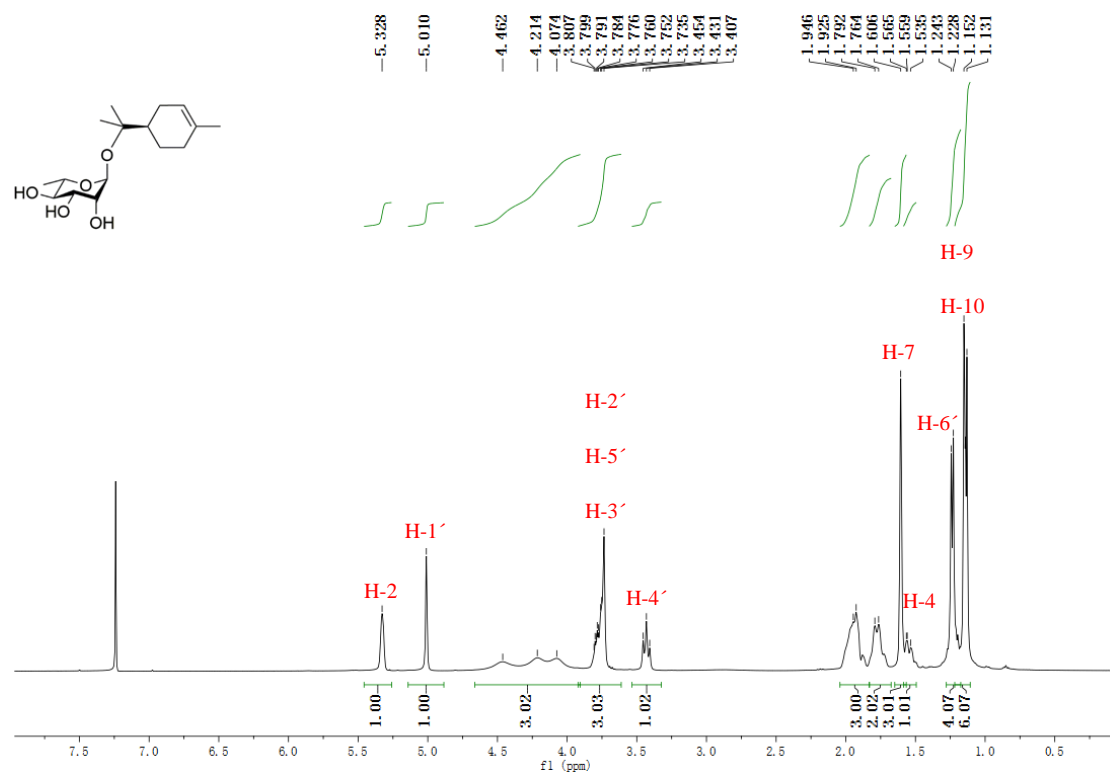
**Figure S1: HR-ESI-MS spectrum of 1**



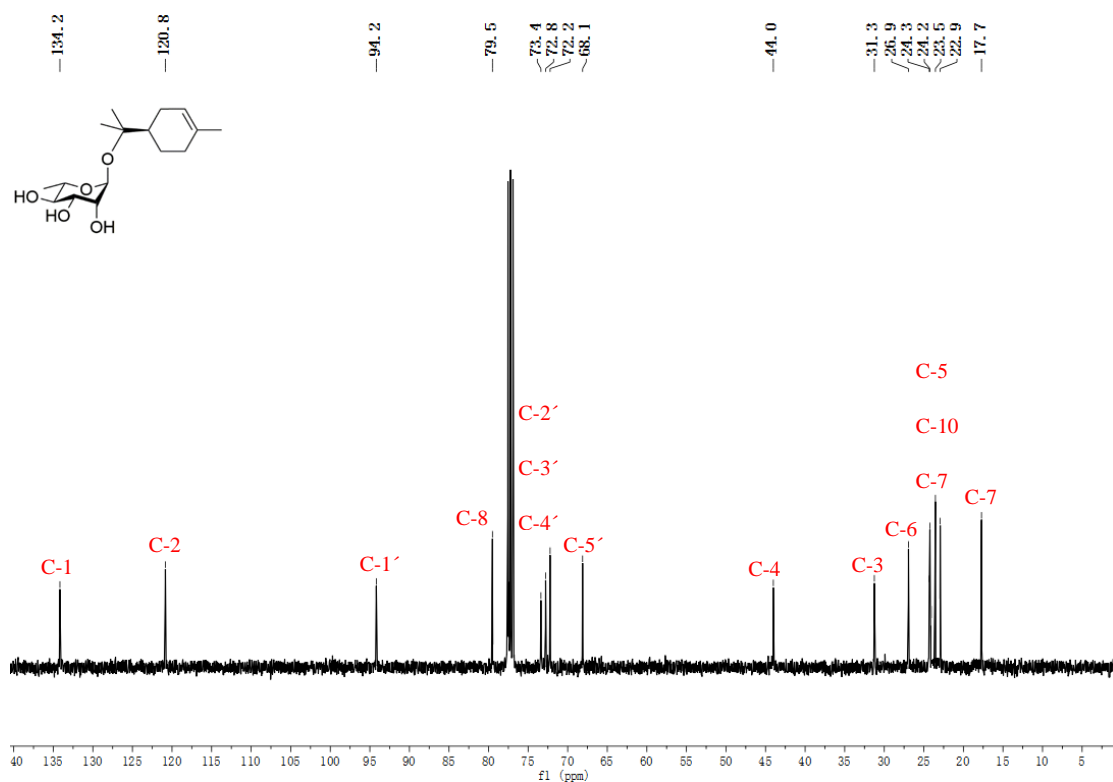
**Figure S2:** UV spectrum of **1** in CHCl<sub>3</sub>



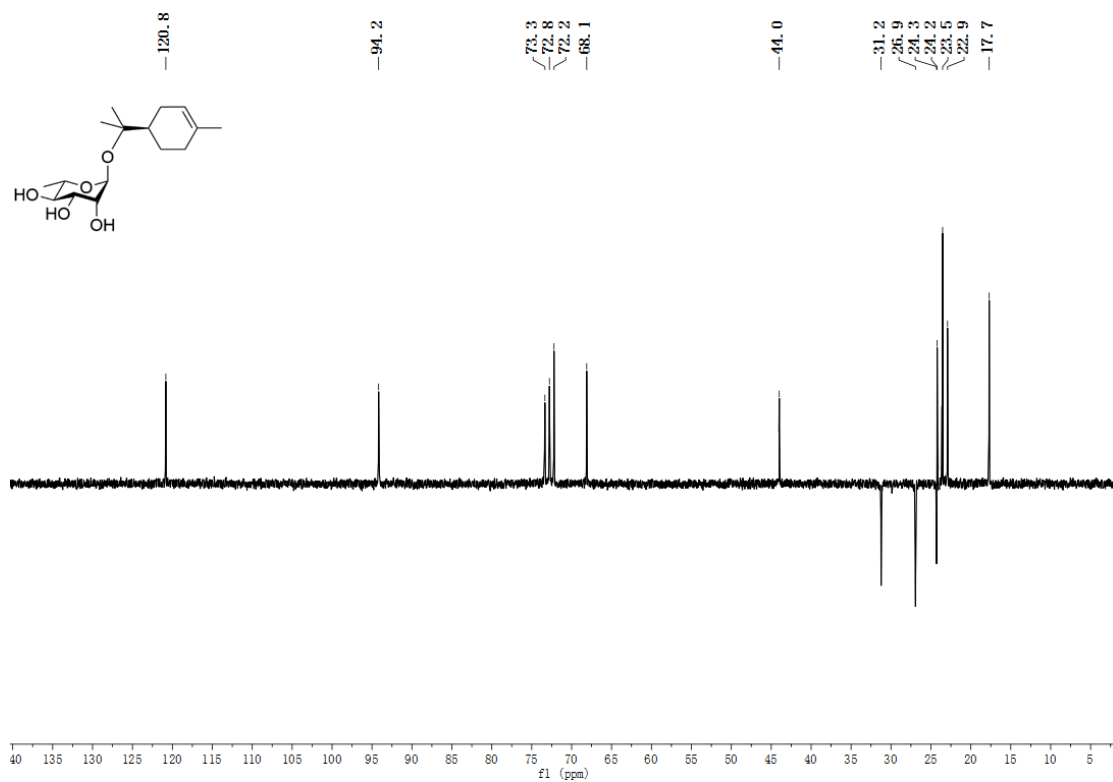
**Figure S3:** IR spectrum of **1**



**Figure S4:** <sup>1</sup>H NMR spectrum (400 MHz) of 1 in CDCl<sub>3</sub>

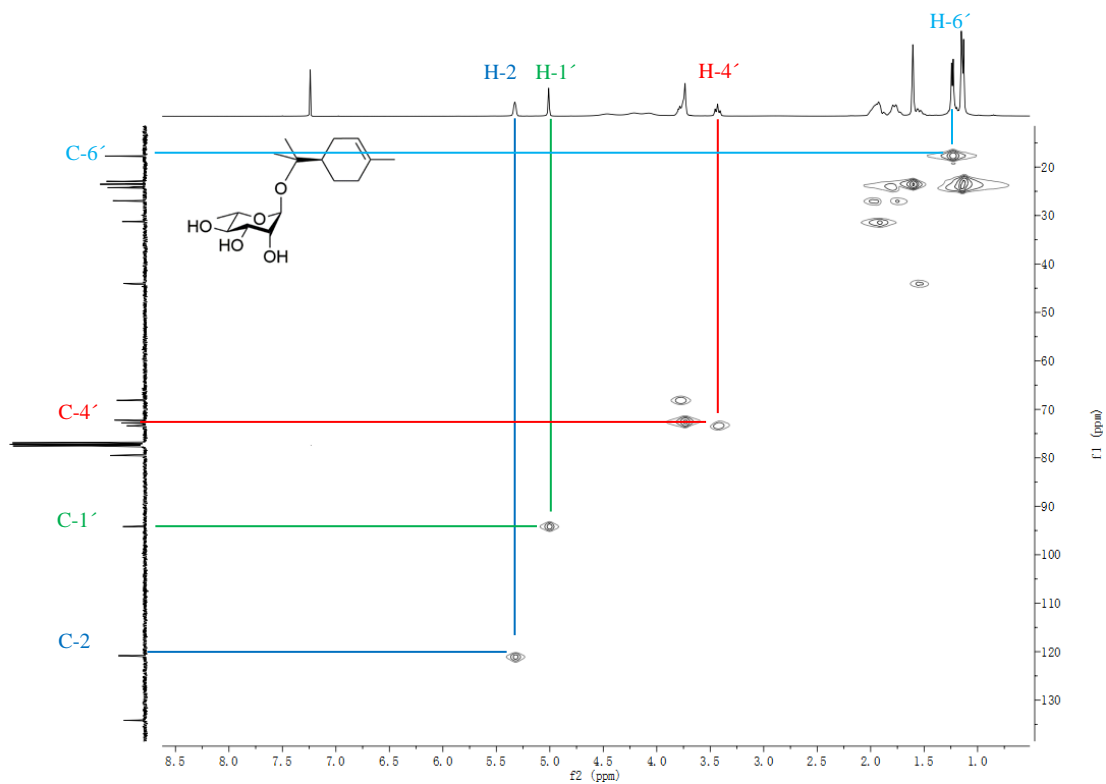


**Figure S5:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of **1** in  $\text{CDCl}_3$

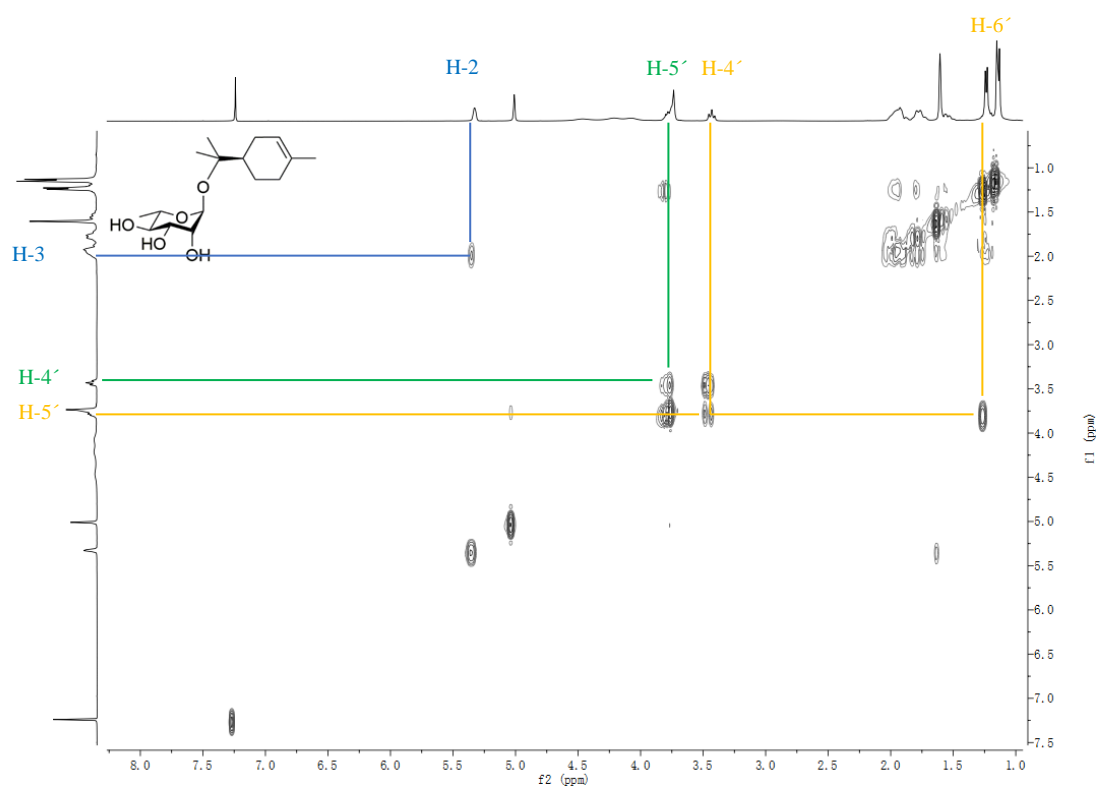


**Figure S6:** DEPT 135 spectrum of **1** in  $\text{CDCl}_3$

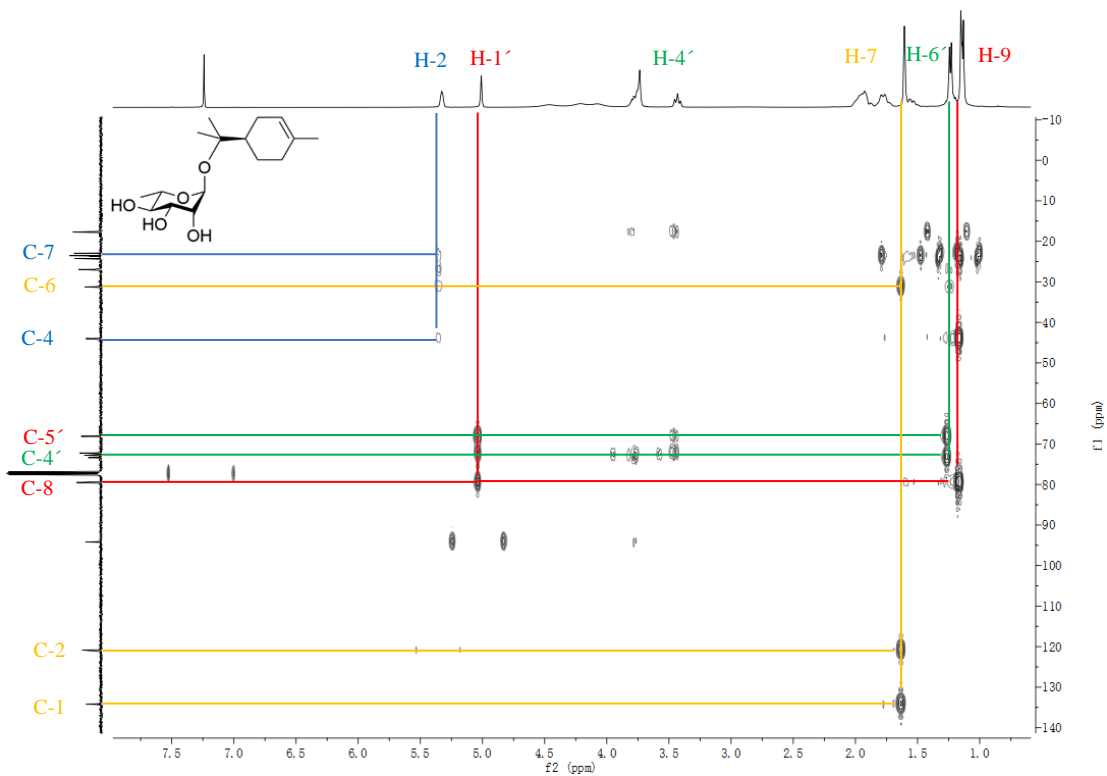




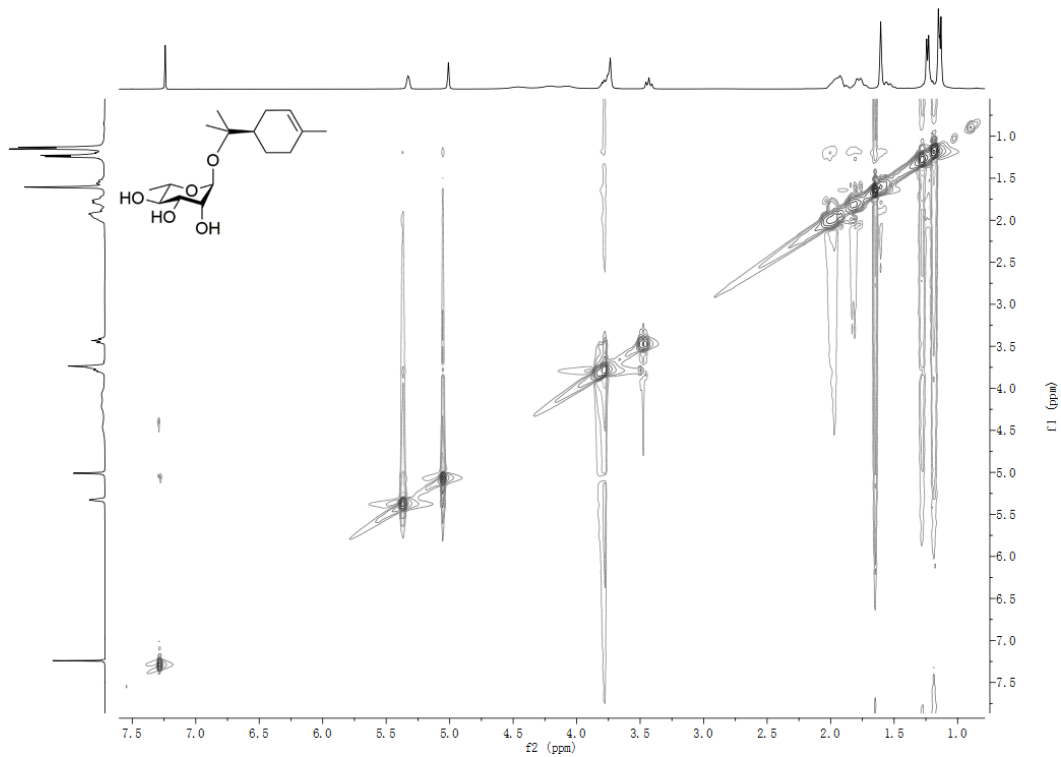
**Figure S7:** HSQC spectrum of **1** in CDCl<sub>3</sub>



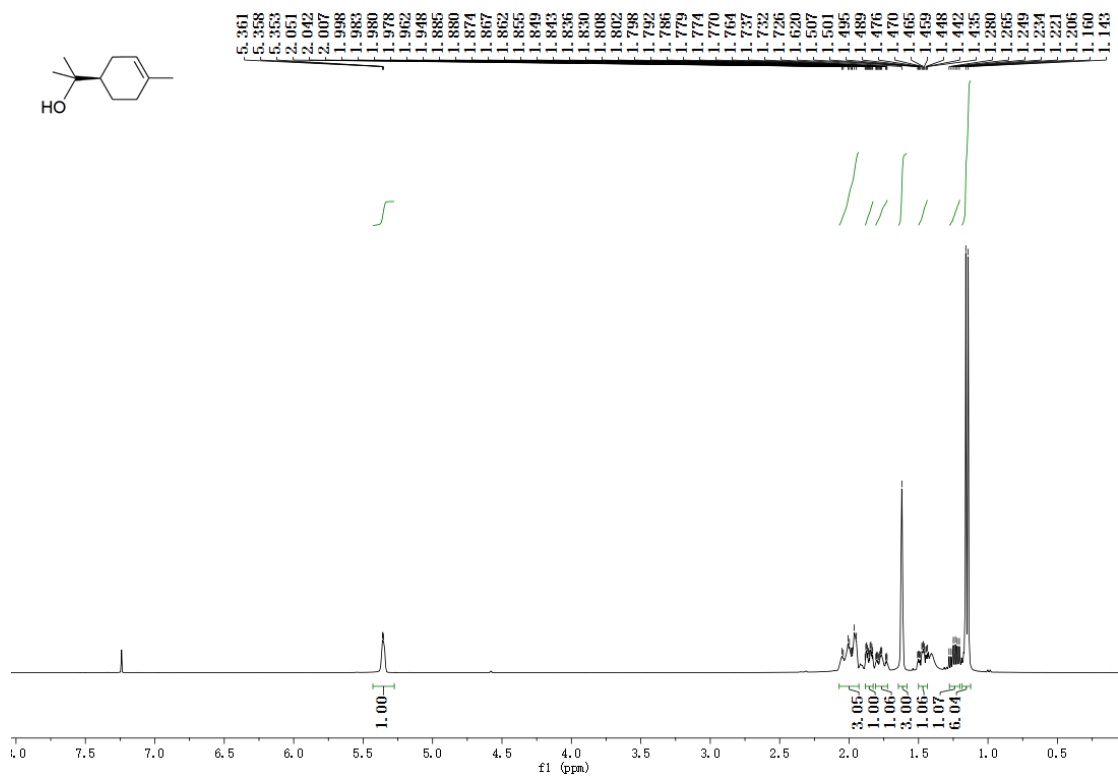
**Figure S8:**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **1** in  $\text{CDCl}_3$



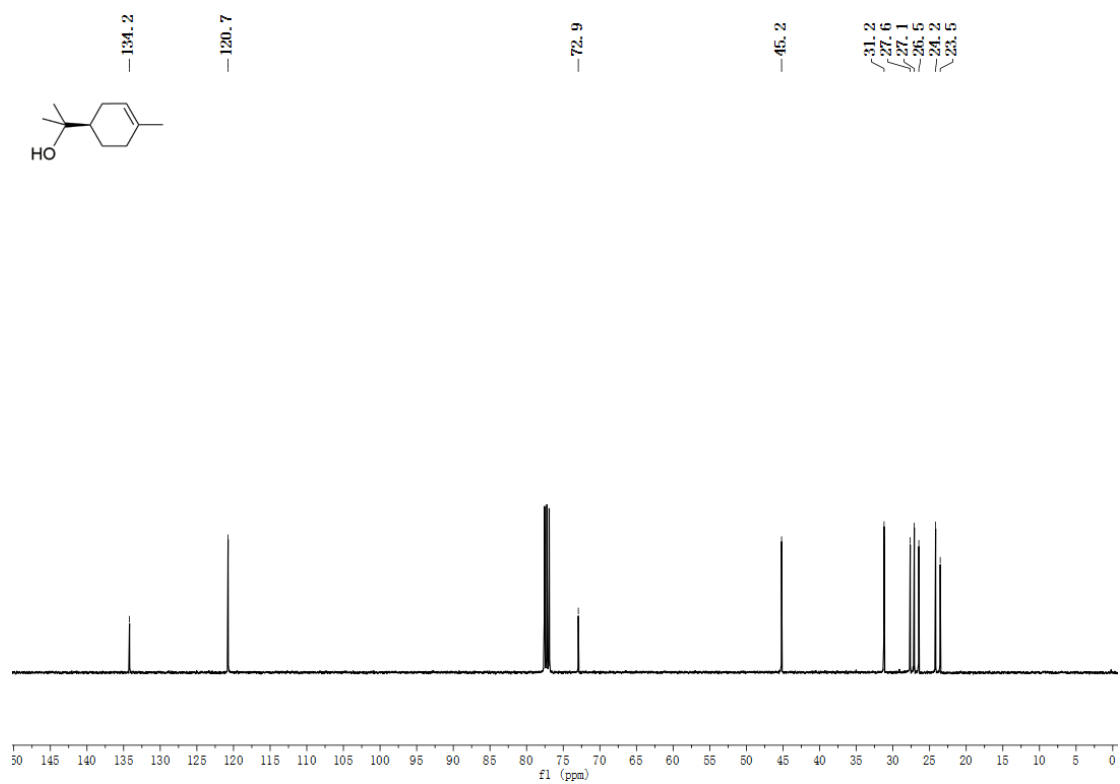
**Figure S9:** HMBC spectrum of **1** in CDCl<sub>3</sub>



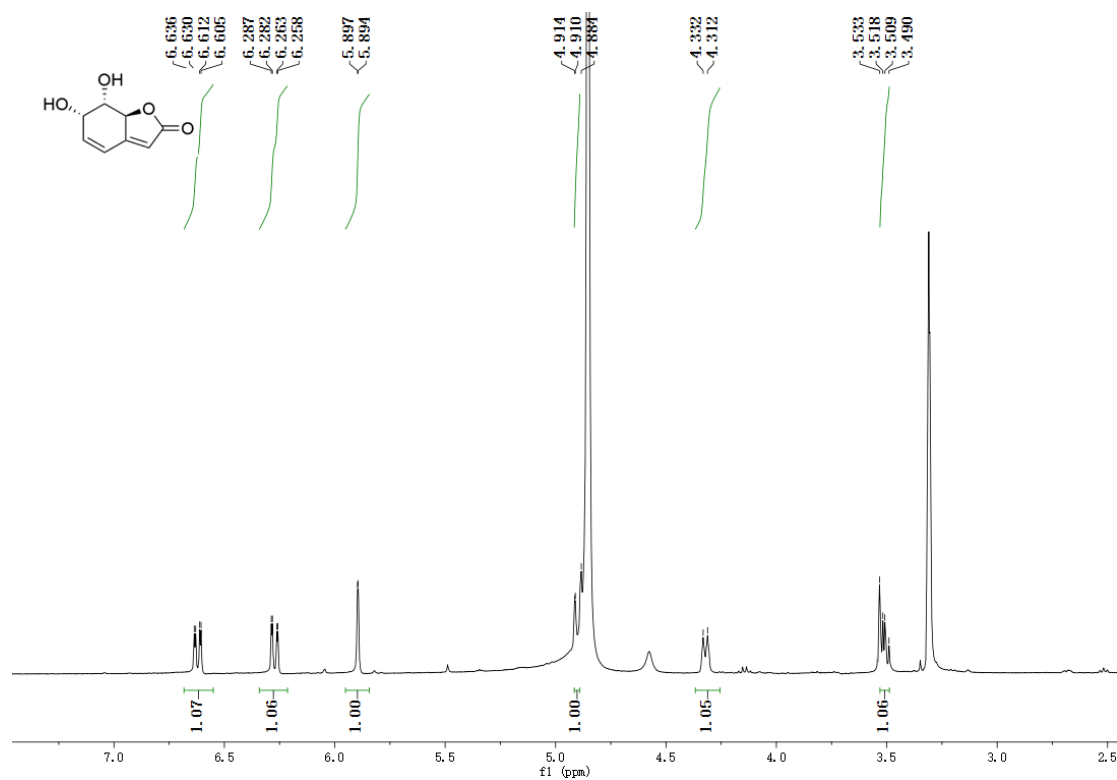
**Figure S10:** NOESY spectrum of **1** in CDCl<sub>3</sub>



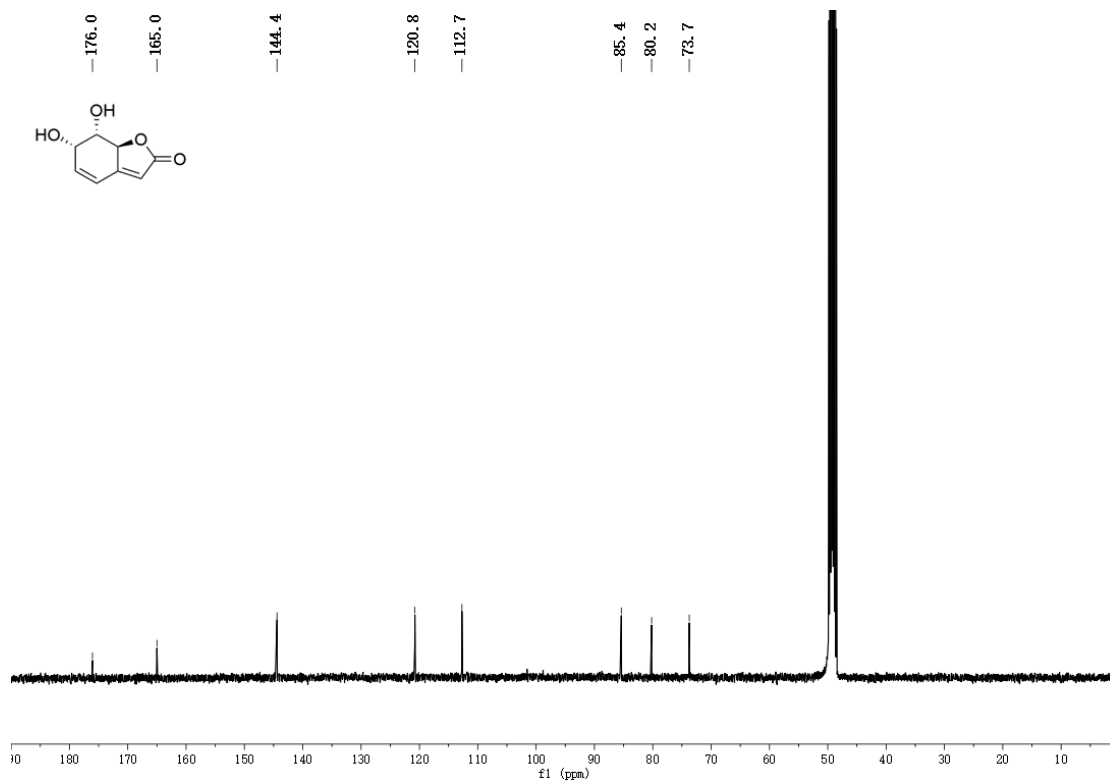
**Figure S11:** <sup>1</sup>H NMR spectrum (400 MHz) of **1a** in CDCl<sub>3</sub>



**Figure S12:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of **1a** in  $\text{CDCl}_3$

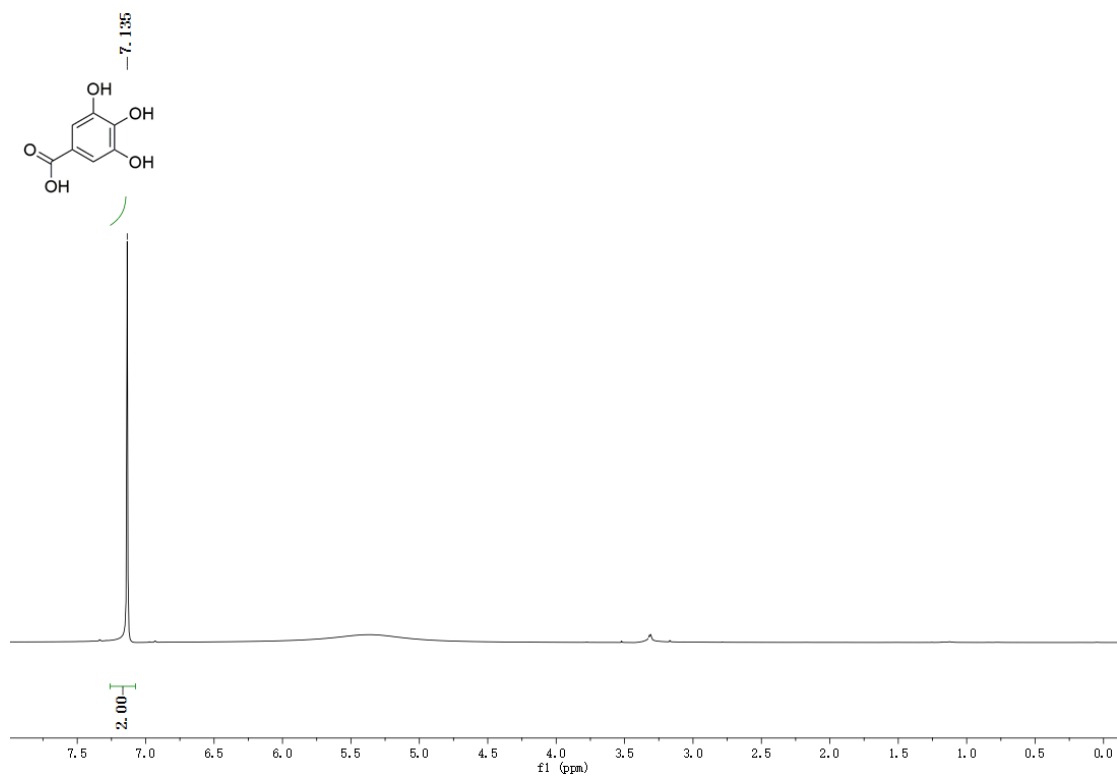


**Figure S13:**  $^1\text{H}$  NMR spectrum (400 MHz) of **2** in  $\text{CD}_3\text{OD}$

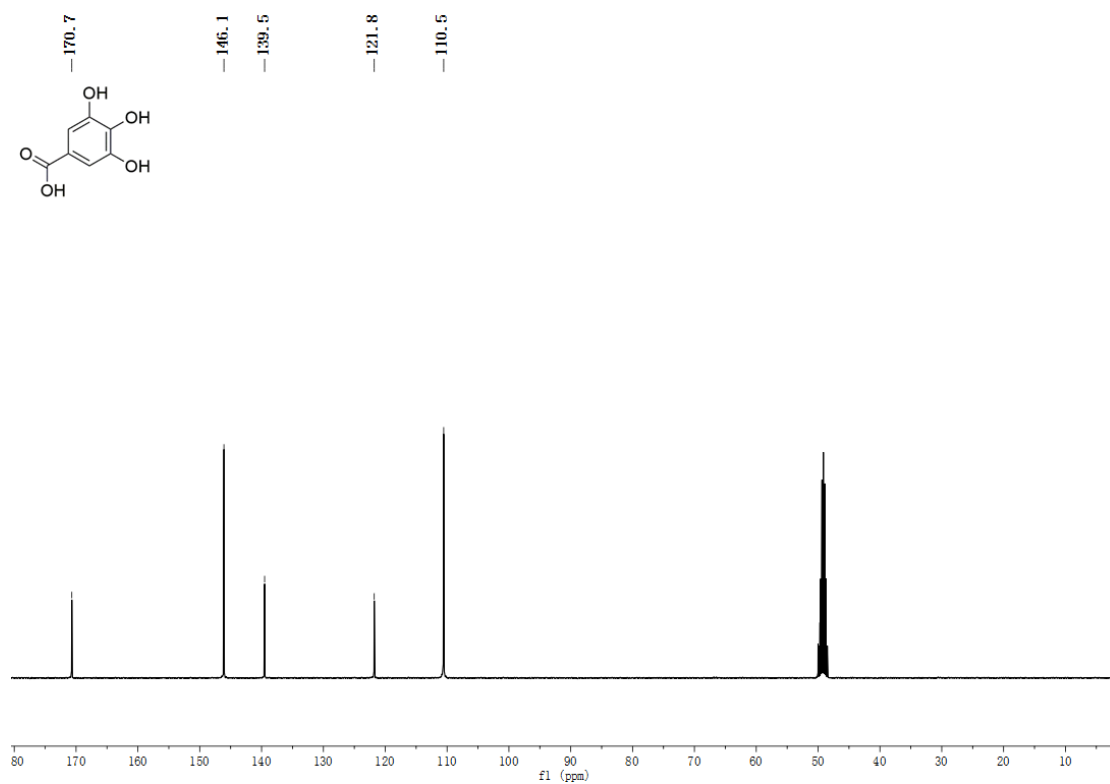


**Figure S14:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of **2** in  $\text{CD}_3\text{OD}$

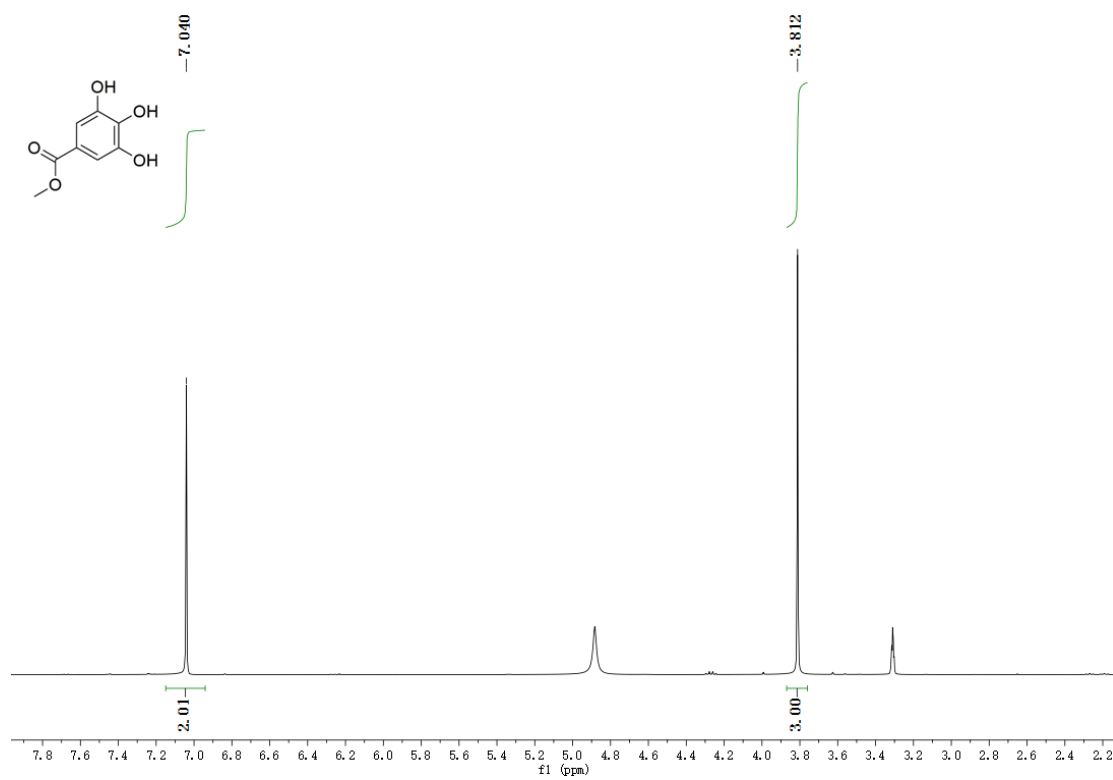




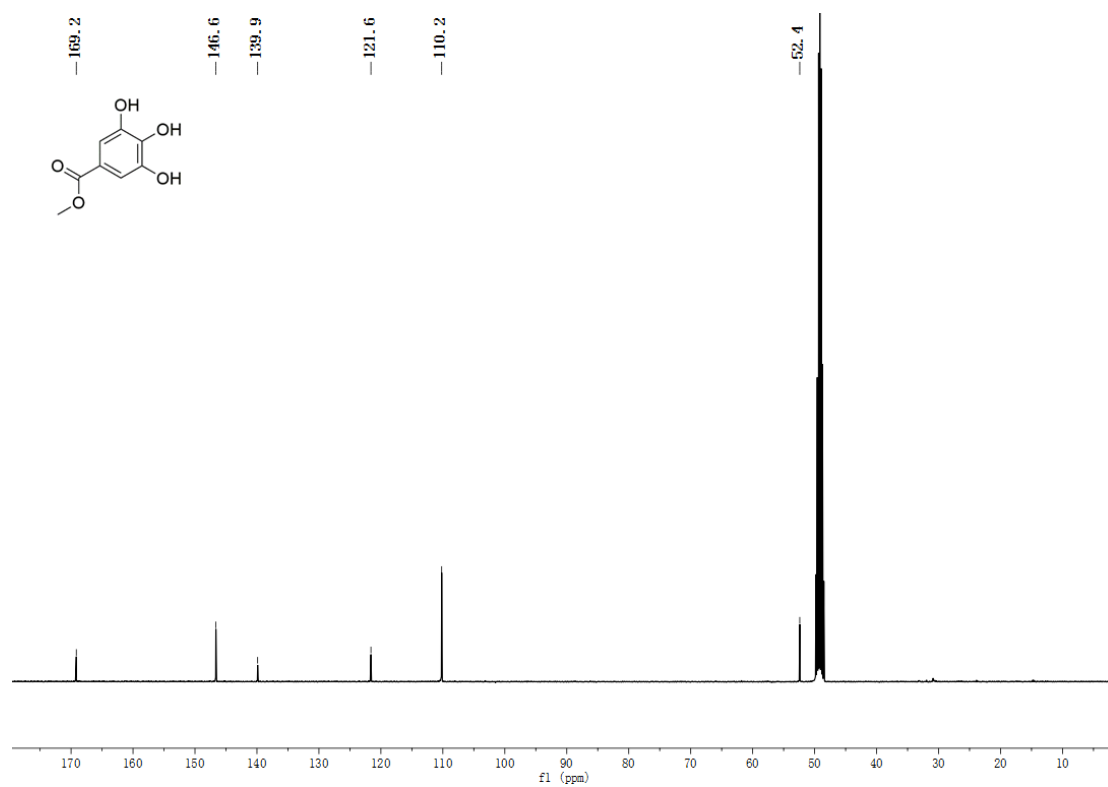
**Figure S15:**  $^1\text{H}$  NMR spectrum (400 MHz) of **3** in  $\text{CD}_3\text{OD}$



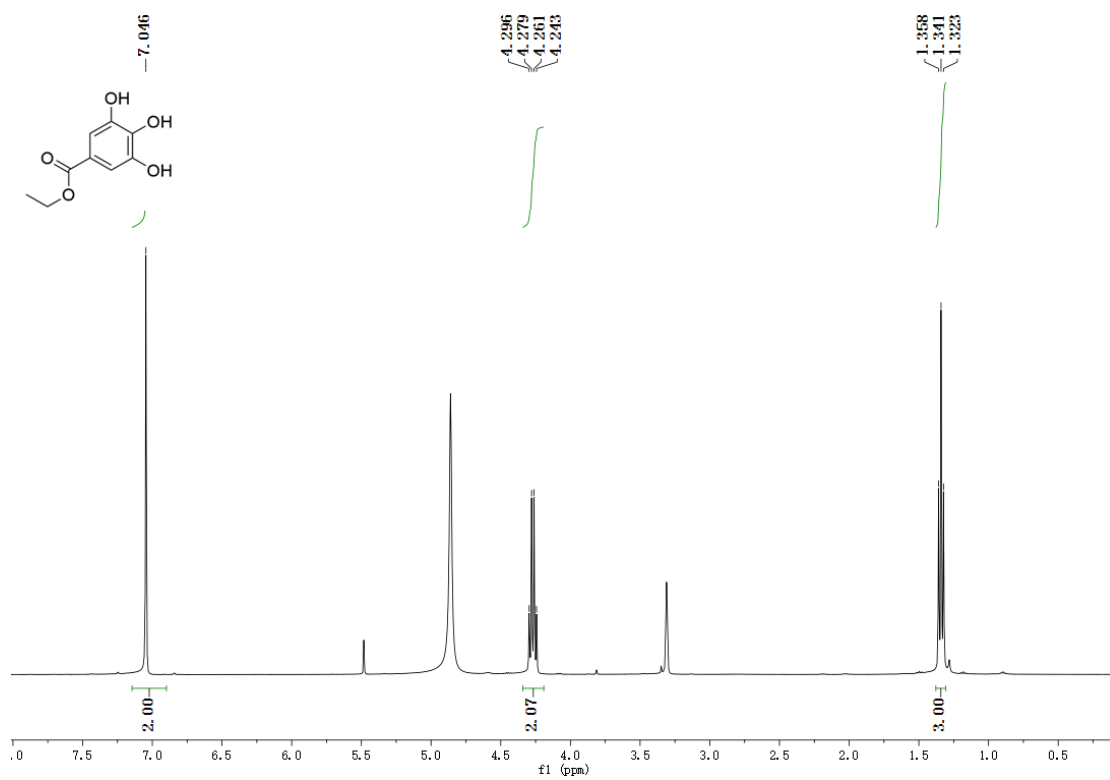
**Figure S16:** <sup>13</sup>C NMR spectrum (100 MHz) of **3** in CD<sub>3</sub>OD



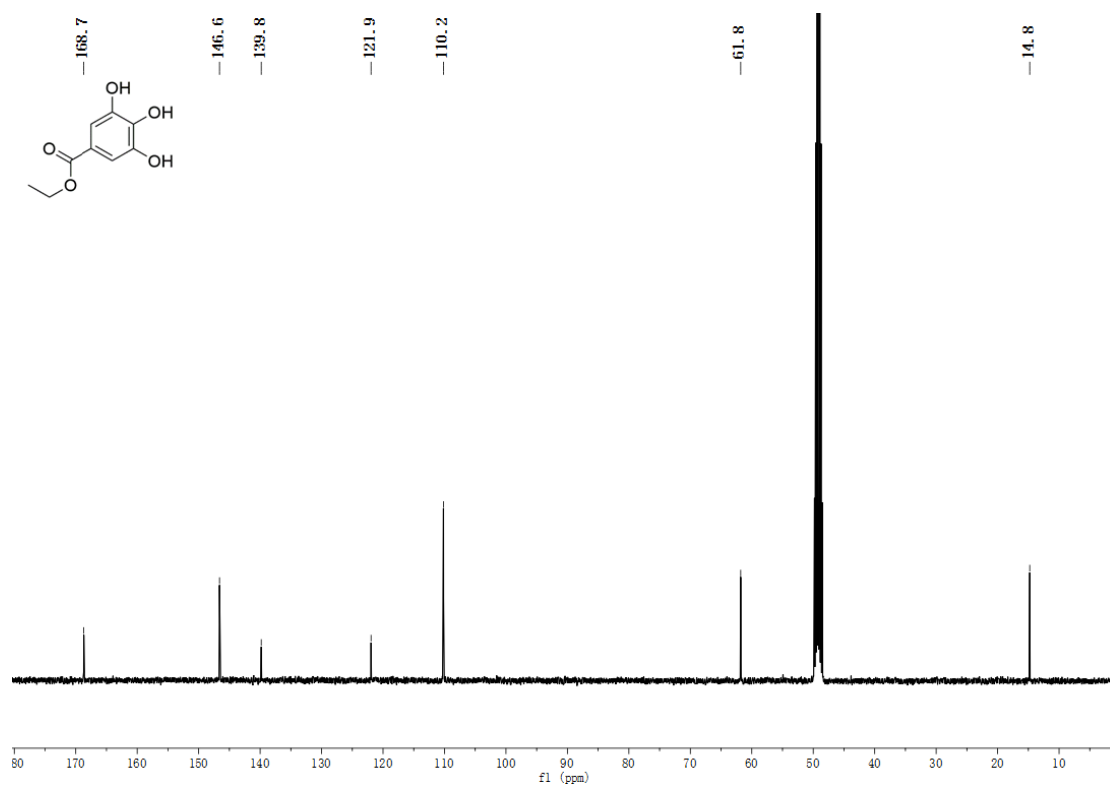
**Figure S17:** <sup>1</sup>H NMR spectrum (400 MHz) of **4** in CD<sub>3</sub>OD



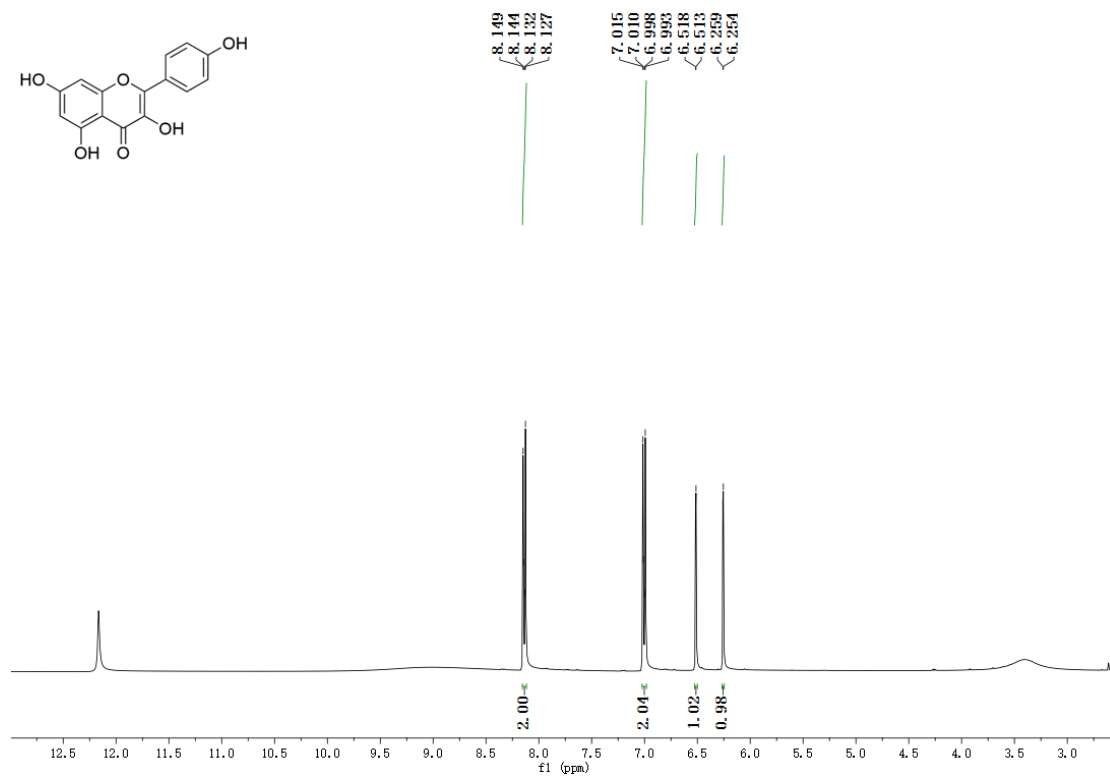
**Figure S18:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of **4** in  $\text{CD}_3\text{OD}$



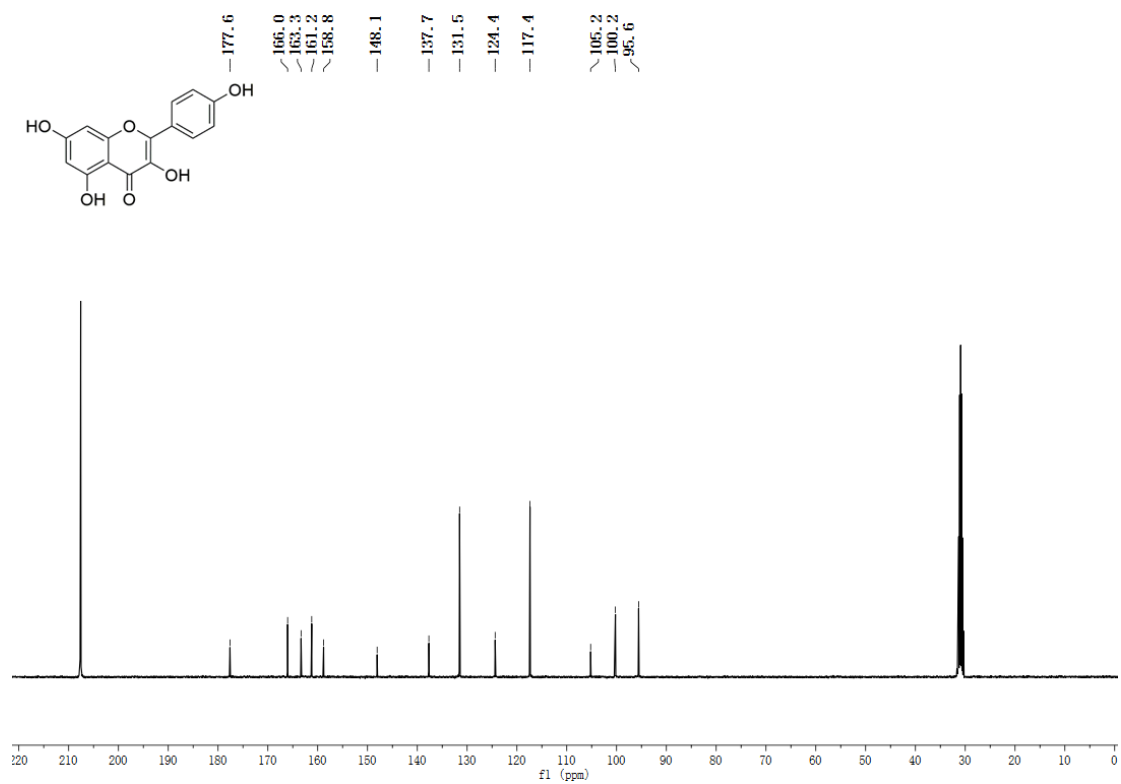
**Figure S19:** <sup>1</sup>H NMR spectrum (400 MHz) of **5** in CD<sub>3</sub>OD



**Figure S20:** <sup>13</sup>C NMR spectrum (100 MHz) of **5** in CD<sub>3</sub>OD

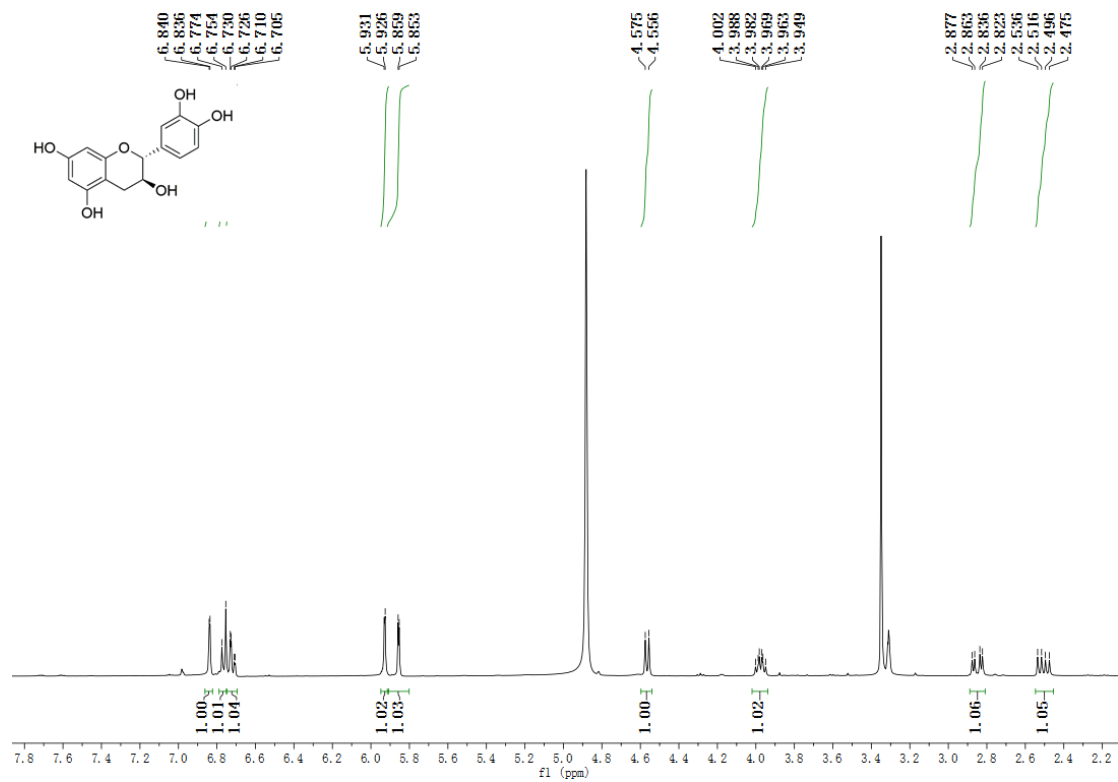


**Figure S21:**  $^1\text{H}$  NMR spectrum (400 MHz) of **6** in  $\text{CD}_3\text{COCD}_3$

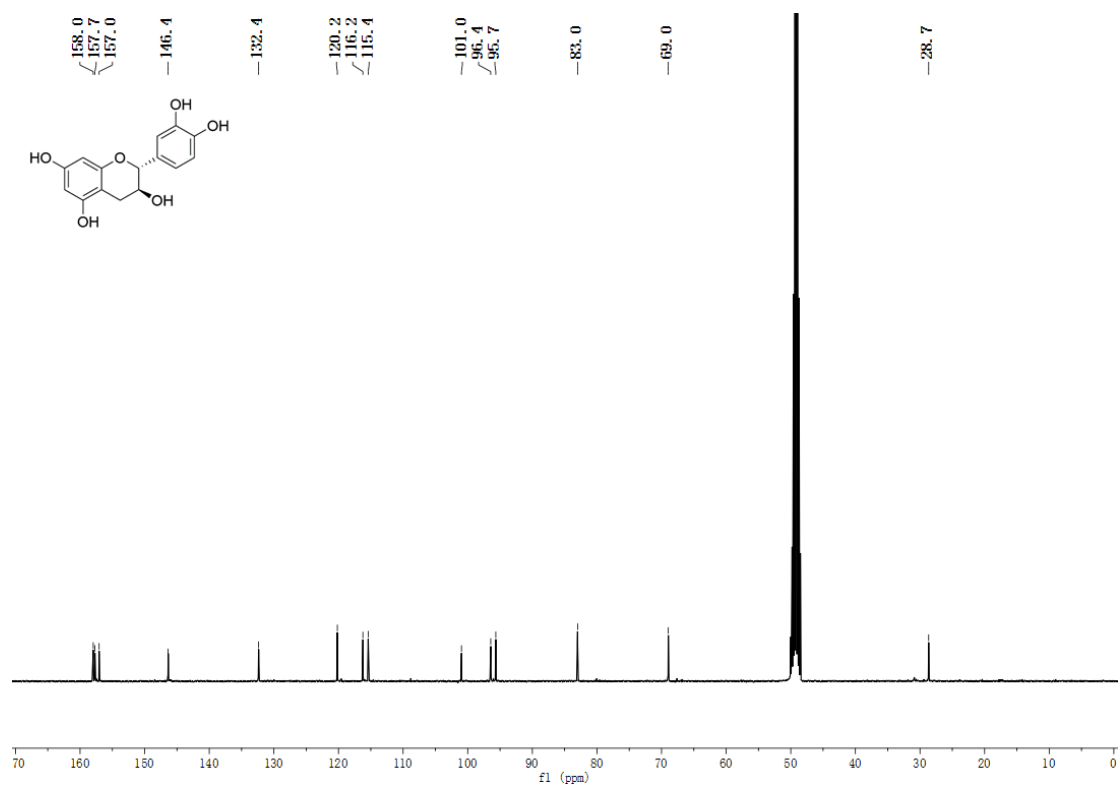


**Figure S22:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of **6** in  $\text{CD}_3\text{COCD}_3$

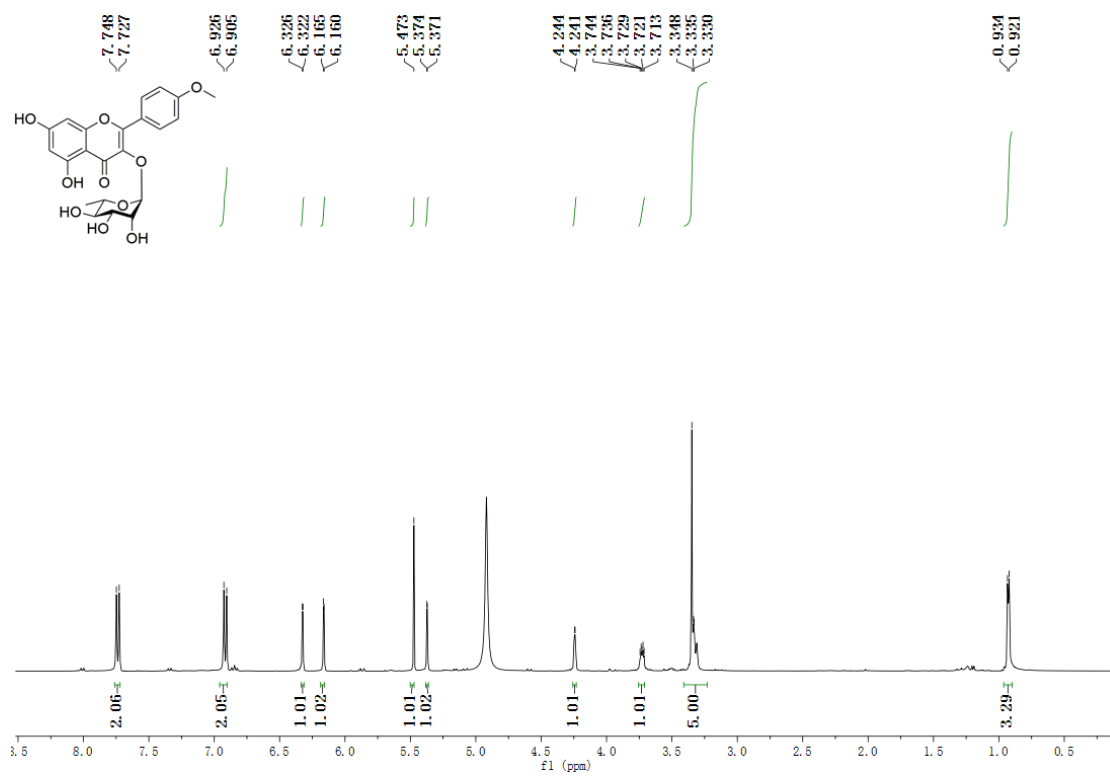




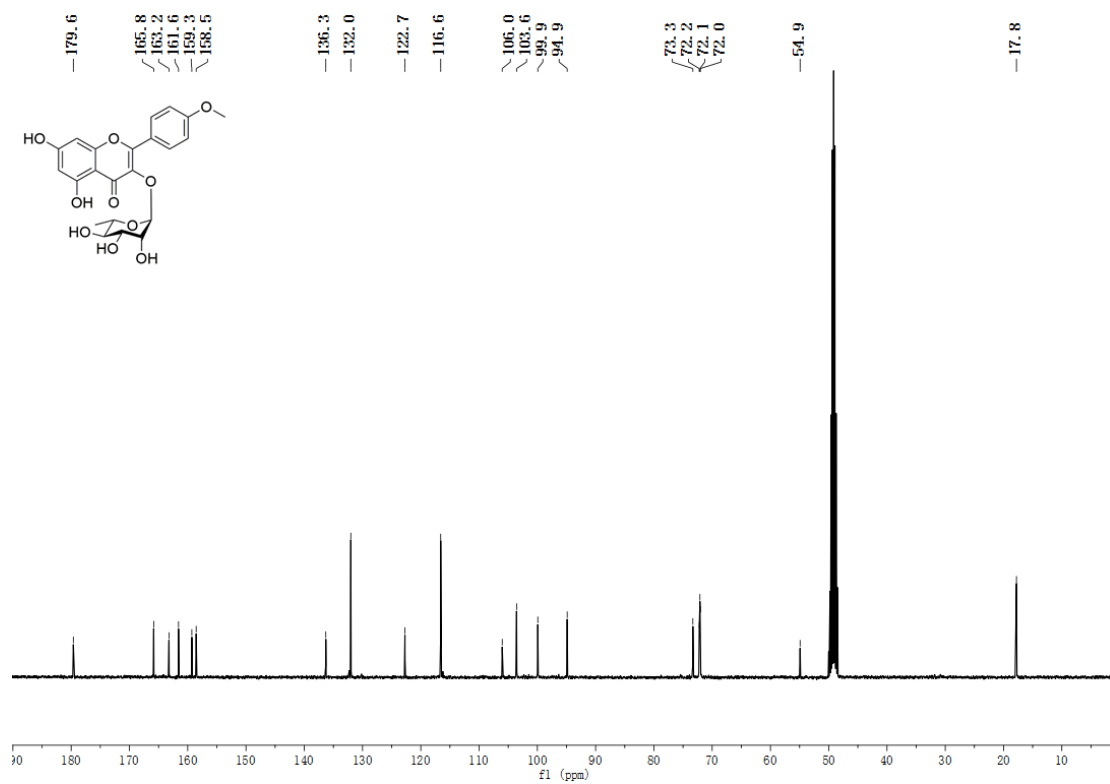
**Figure S23:** <sup>1</sup>H NMR spectrum (400 MHz) of **7** in CD<sub>3</sub>OD



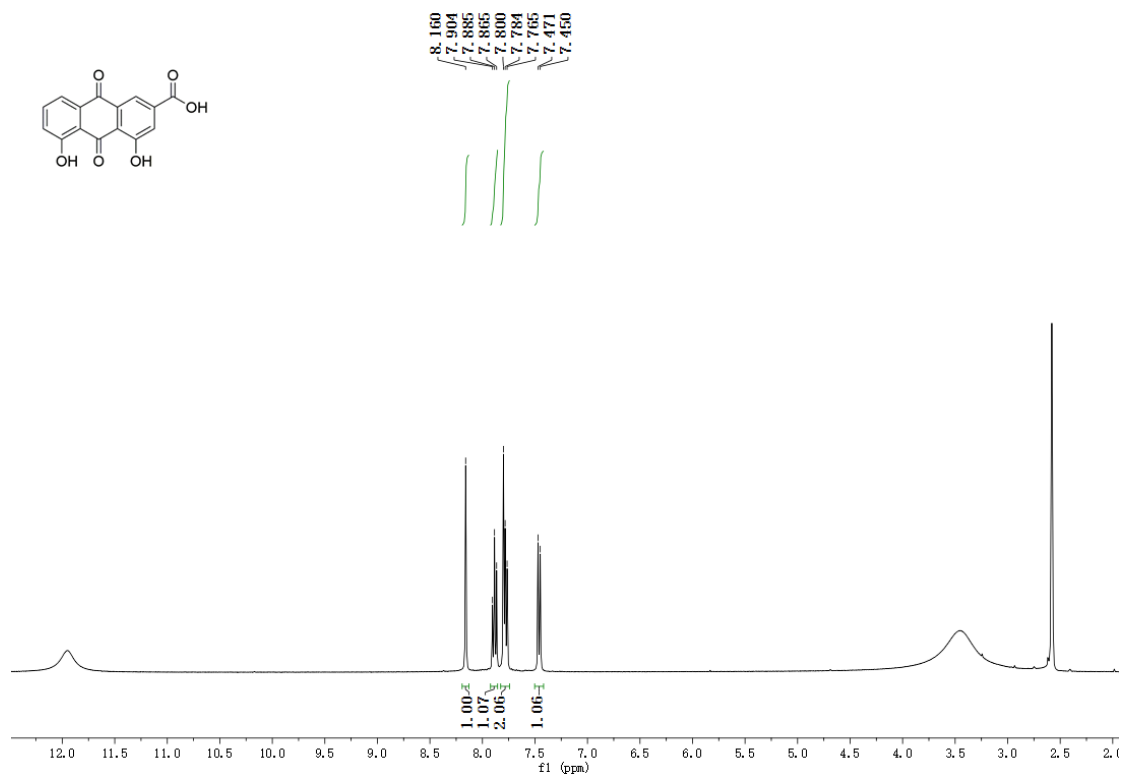
**Figure S24:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of 7 in  $\text{CD}_3\text{OD}$



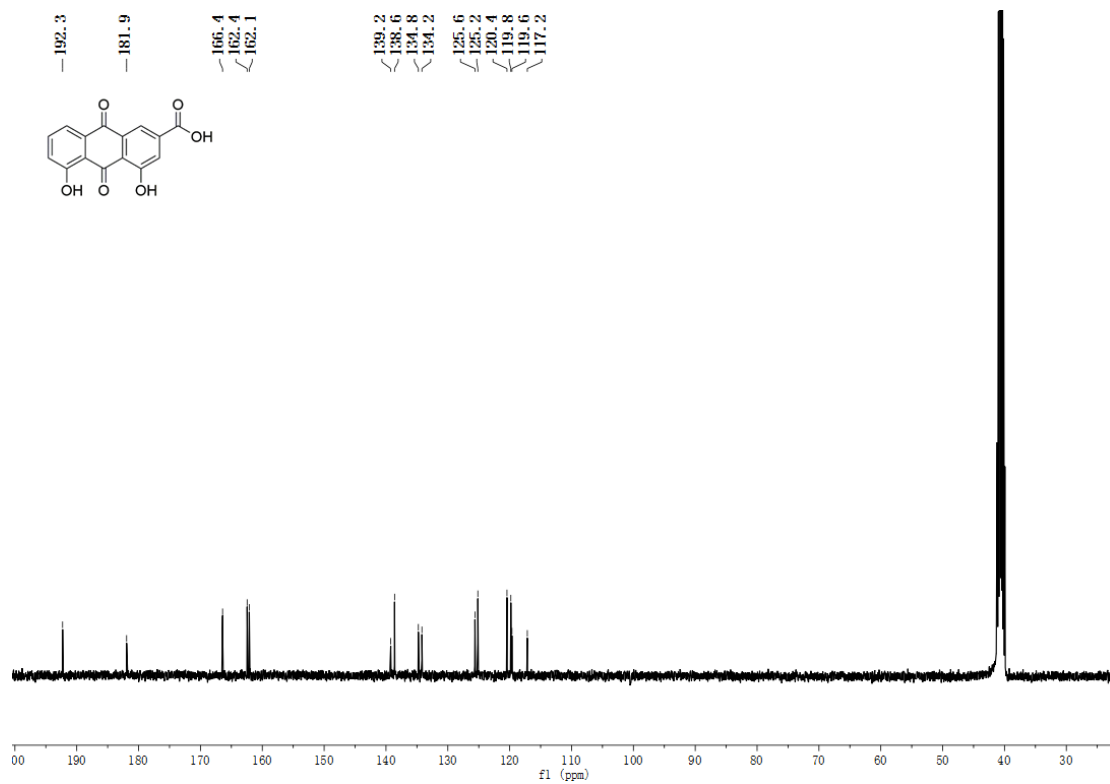
**Figure S25:** <sup>1</sup>H NMR spectrum (400 MHz) of **8** in CD<sub>3</sub>OD



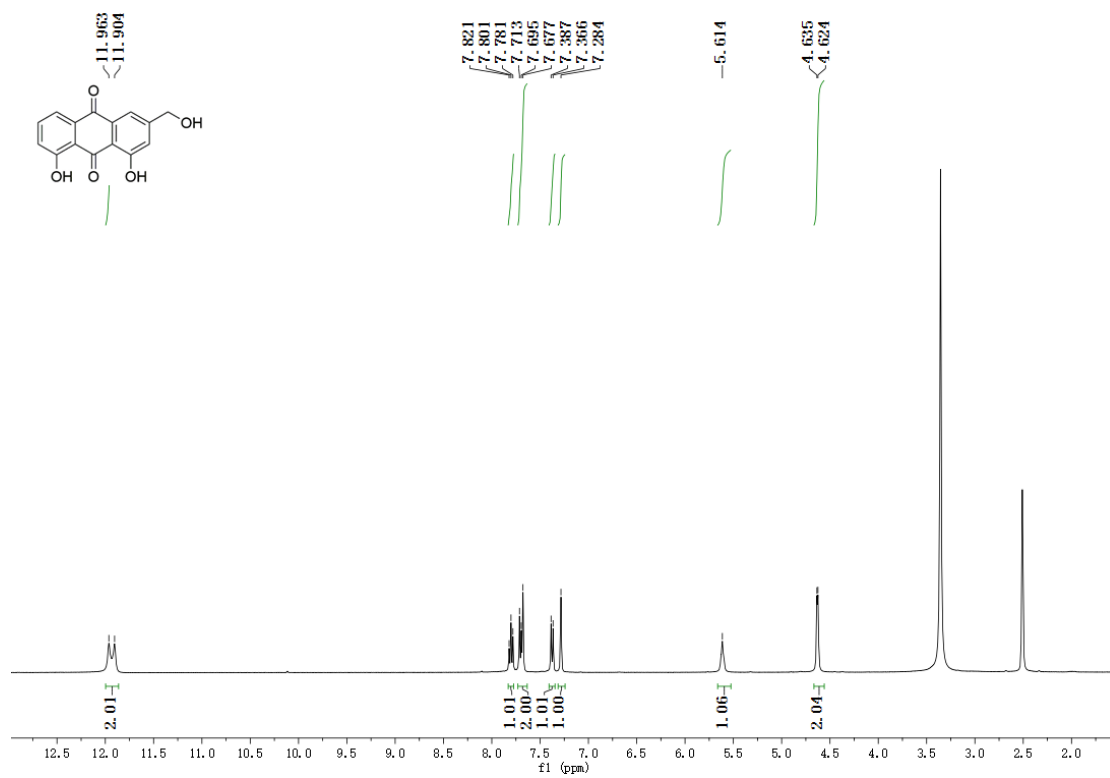
**Figure S26:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of **8** in  $\text{CD}_3\text{OD}$



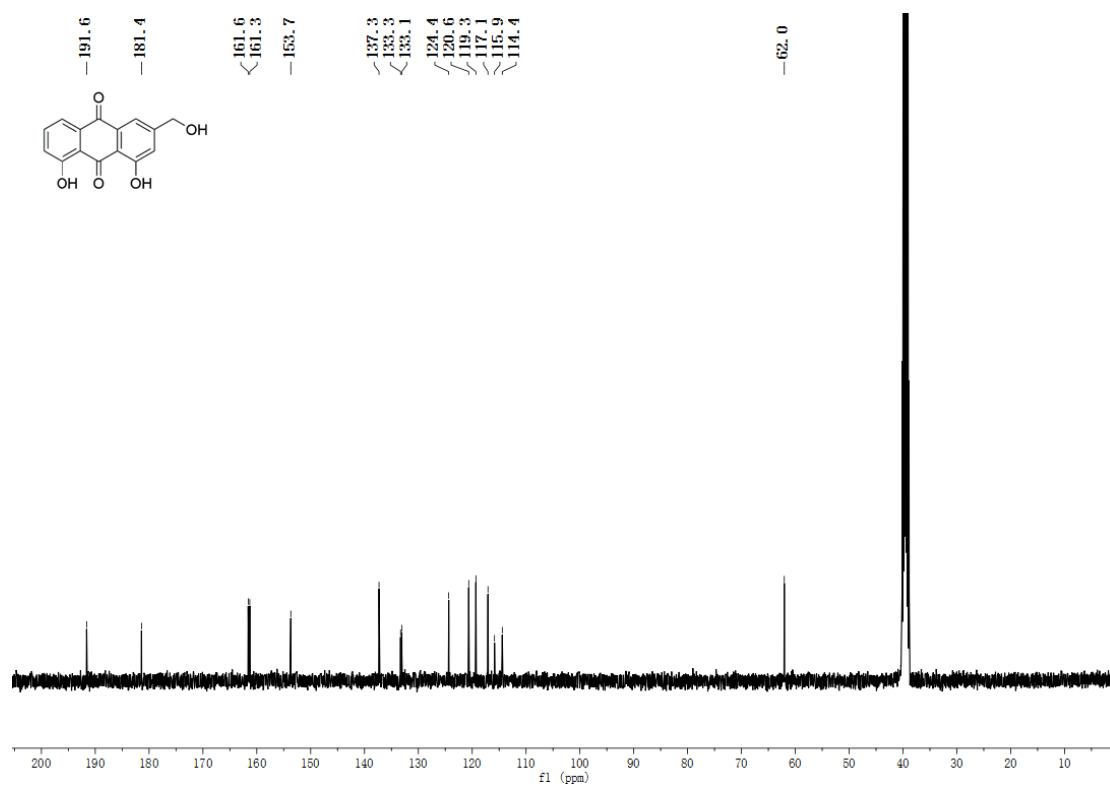
**Figure S27:** <sup>1</sup>H NMR spectrum (400 MHz) of **9** in DMSO-*d*<sub>6</sub>



**Figure S28:** <sup>13</sup>C NMR spectrum (100 MHz) of **9** in DMSO-*d*<sub>6</sub>

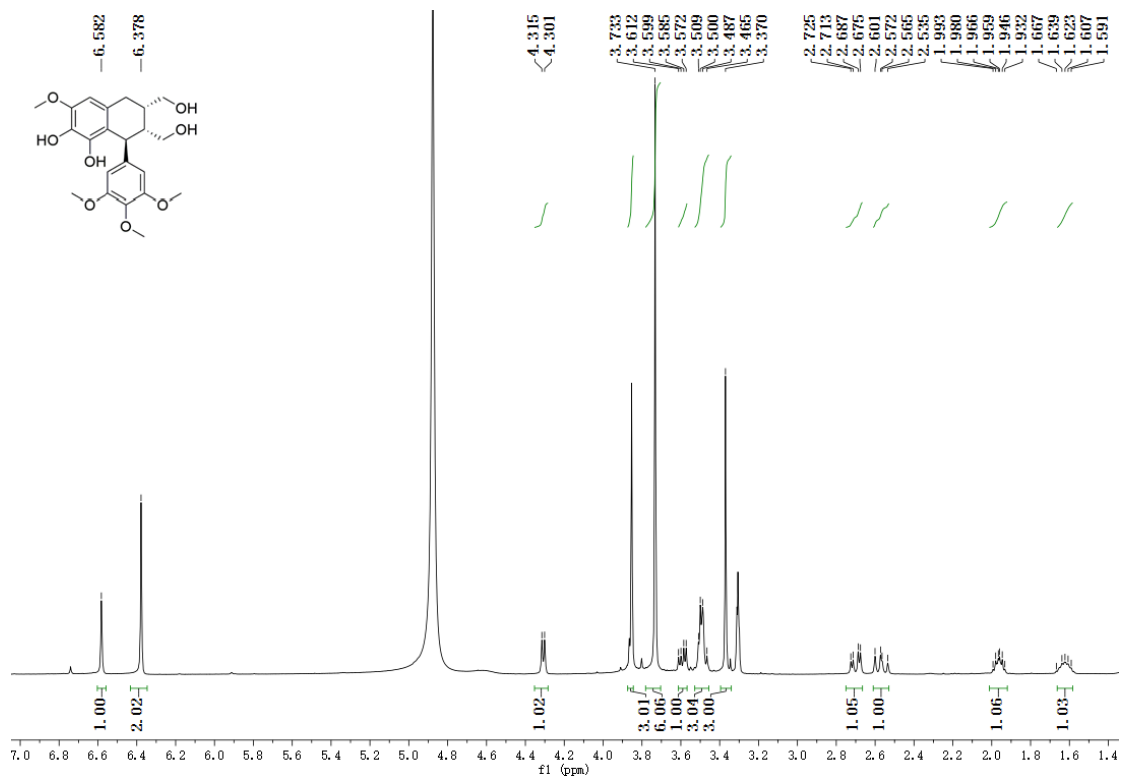


**Figure S29:**  $^1\text{H}$  NMR spectrum (400 MHz) of **10** in  $\text{DMSO-}d_6$

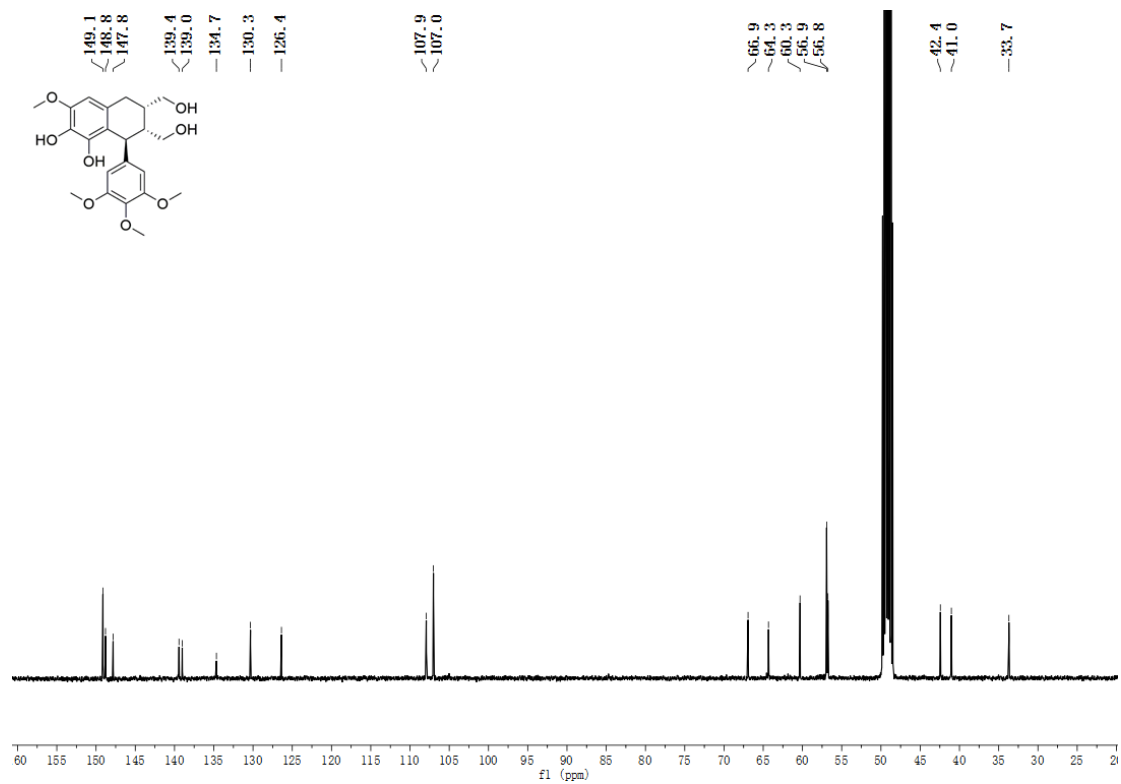


**Figure S30:** <sup>13</sup>C NMR spectrum (100 MHz) of **10** in DMSO-*d*<sub>6</sub>





**Figure S31:**  $^1\text{H}$  NMR spectrum (400 MHz) of **11** in  $\text{CD}_3\text{OD}$



**Figure S32:**  $^{13}\text{C}$  NMR spectrum (100 MHz) of **11** in  $\text{CD}_3\text{OD}$