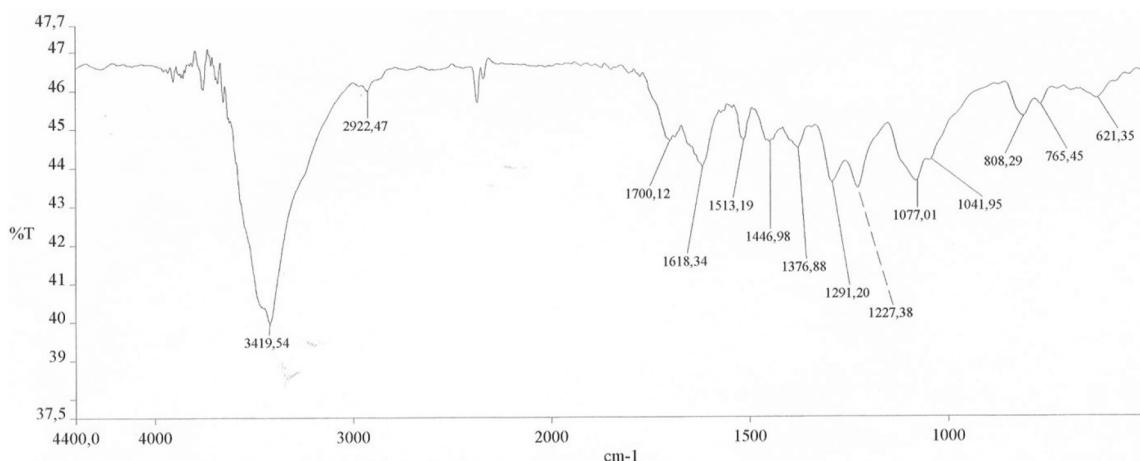


## Amburosides C-H and 6-O-protocatechuoyl Coumarin from *Amburana cearensis*

Kirley M. Canuto,<sup>#</sup> Mary Anne S. Lima and Edilberto R. Silveira\*

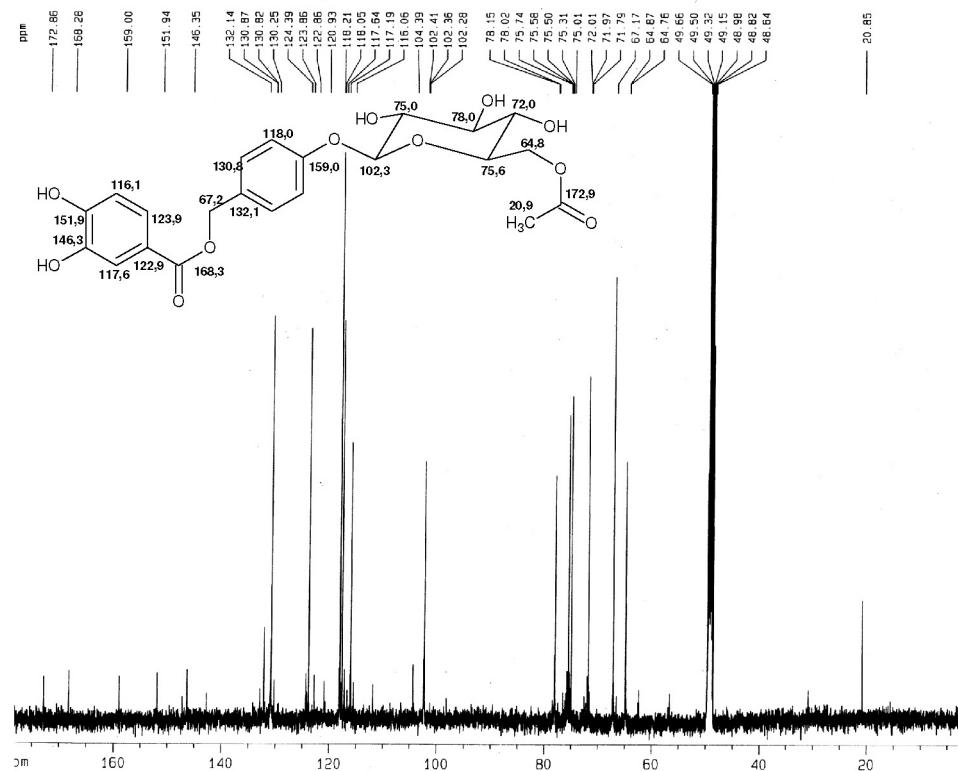
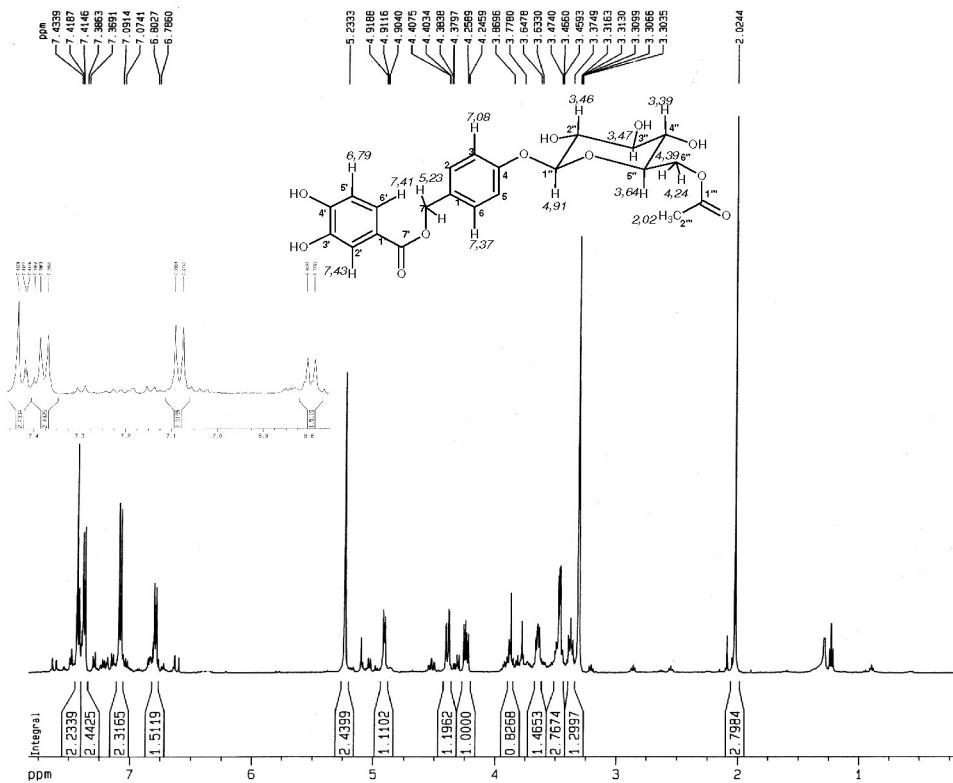
Departamento de Química Orgânica e Inorgânica, Centro de Ciências,  
Universidade Federal do Ceará, CP 12200, 60021-970 Fortaleza-CE, Brazil

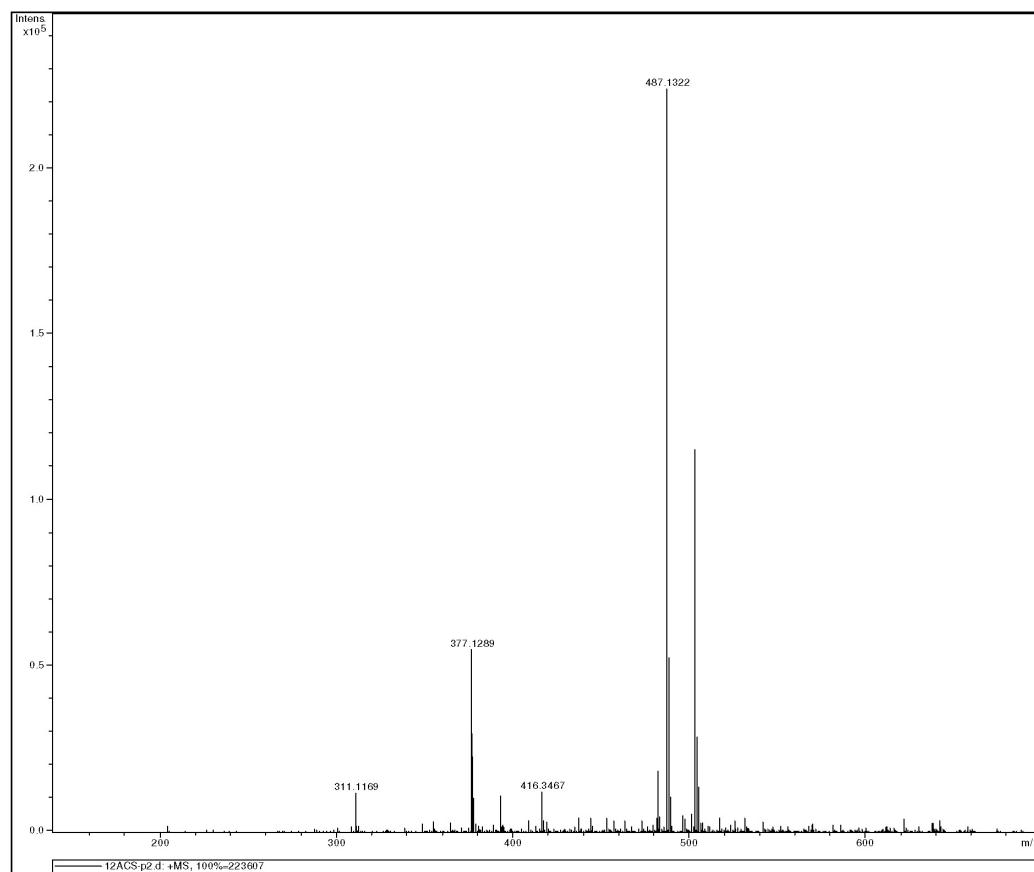


**Figure S1.** Infrared spectrum of compound 1 (KBr pellets).

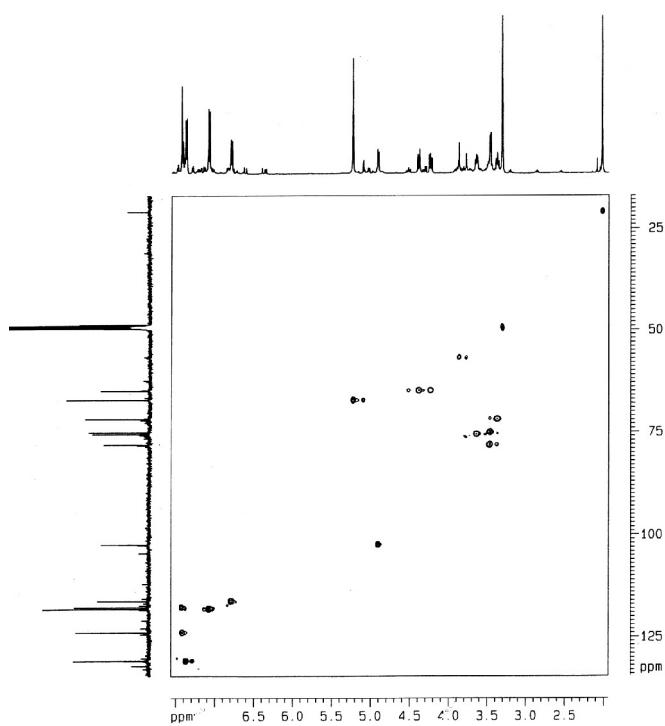
\*e-mail: edil@ufc.br

<sup>#</sup>Present address: Embrapa Agroindústria Tropical, Rua Dra. Sara Mesquita, 2270, Pici, CP 3761, 60511-110 Fortaleza-CE, Brazil

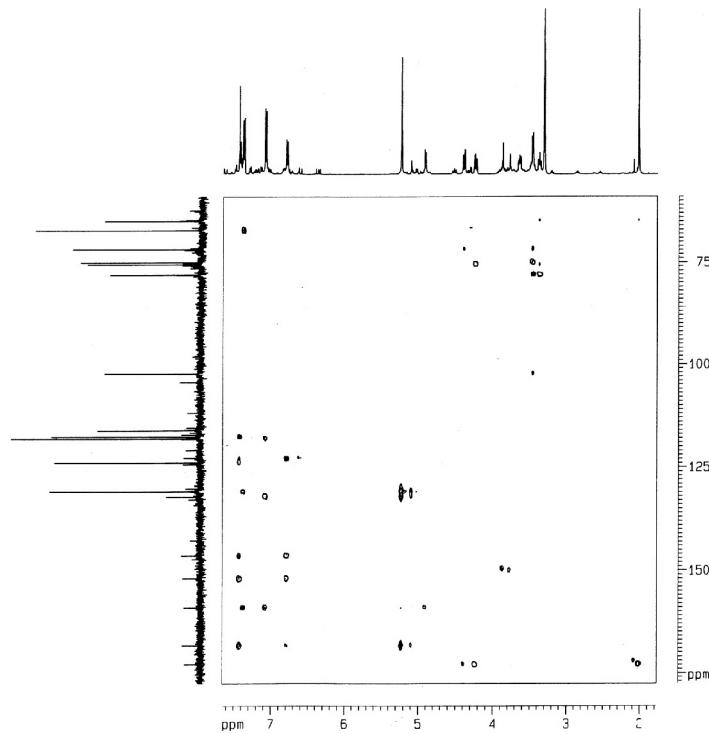




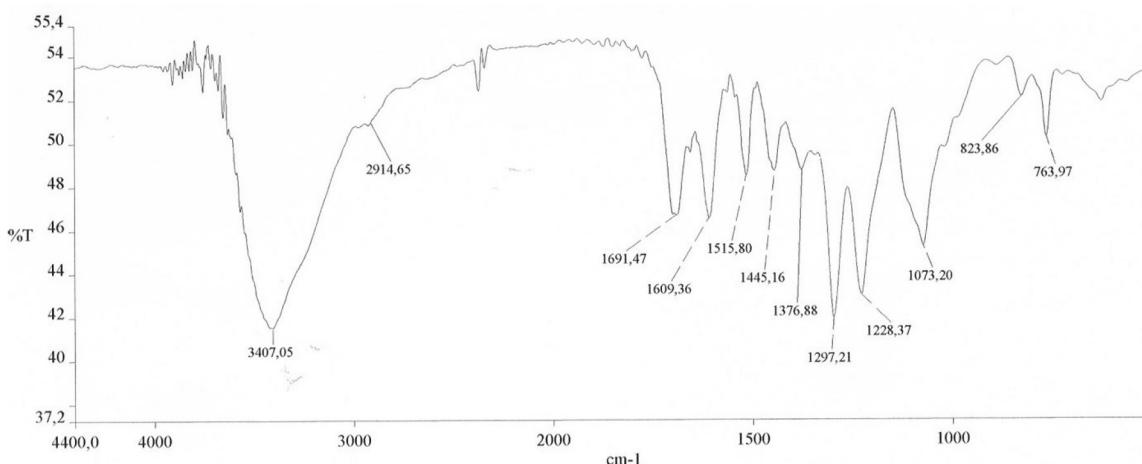
**Figure S4.** High resolution electrospray ionization mass spectrum of **1**.



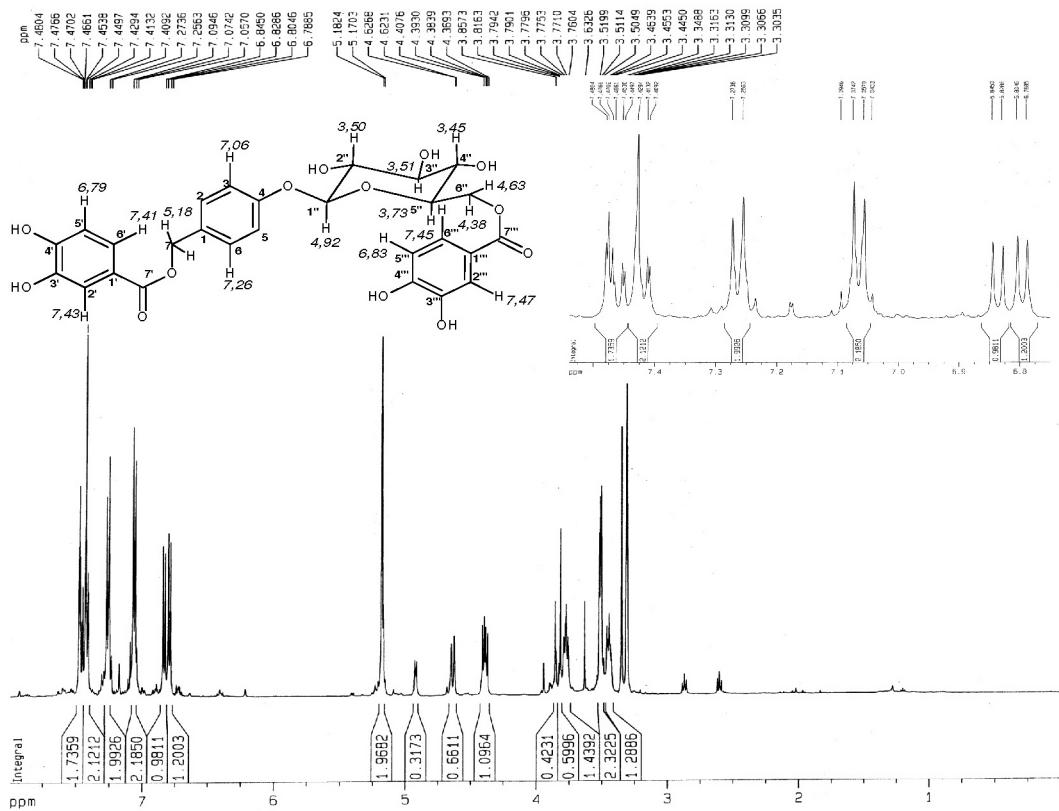
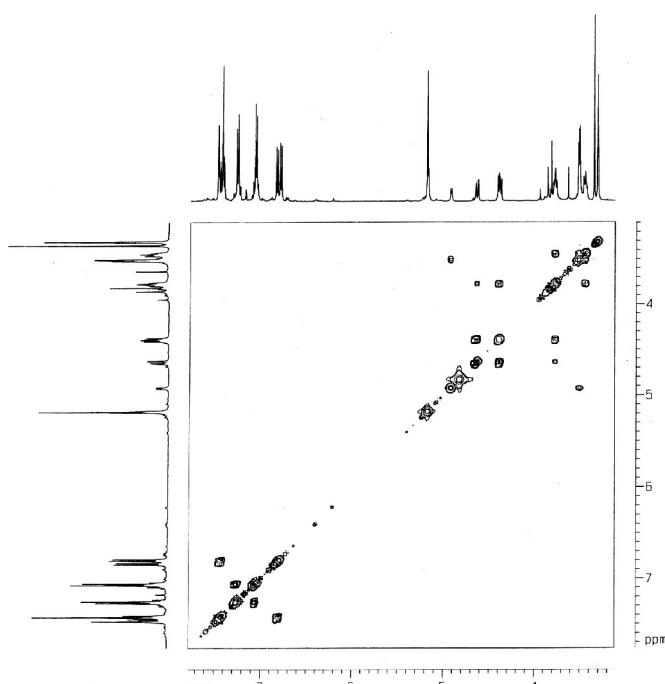
**Figure S5.**  $^{1}\text{H}$ ,  $^{13}\text{C}$  HSQC-NMR spectrum of **1** ( $\text{CD}_3\text{OD}$ ,  $500 \times 125$  MHz).

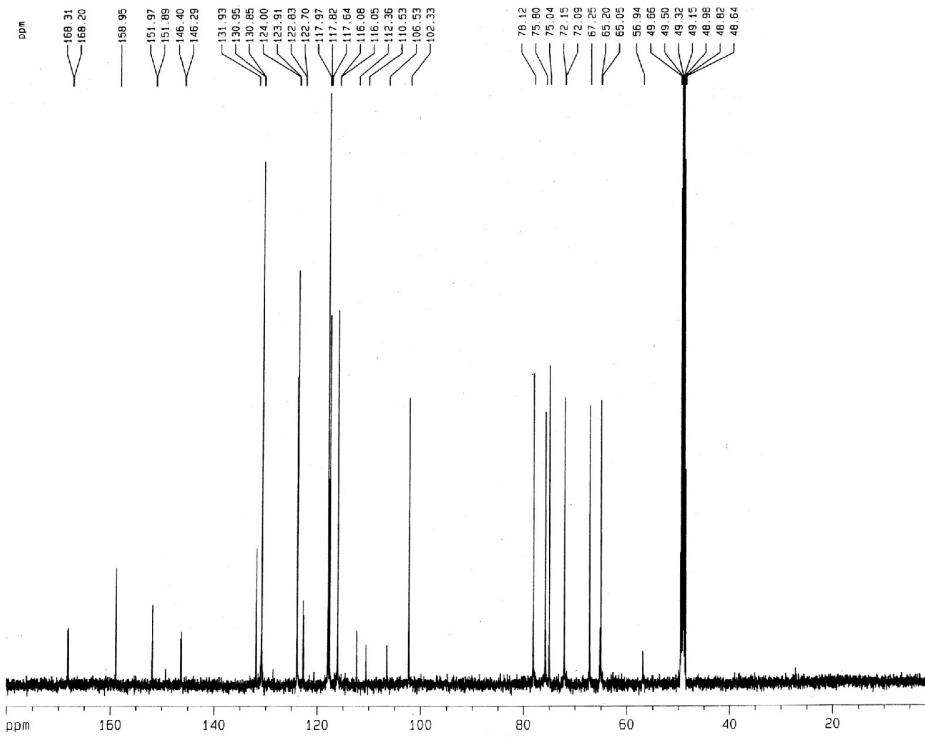


**Figure S6.**  $^1\text{H}$ ,  $^{13}\text{C}$  HMBC-NMR spectrum of **1** ( $\text{CD}_3\text{OD}$ ,  $500 \times 125$  MHz).

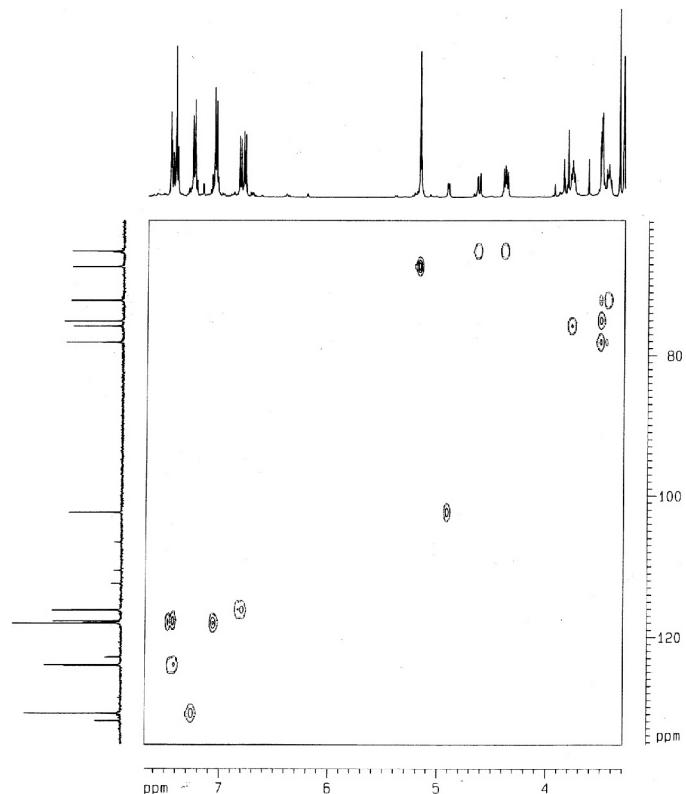


**Figure S7.** Infrared spectrum of compound **2** (KBr pellets).

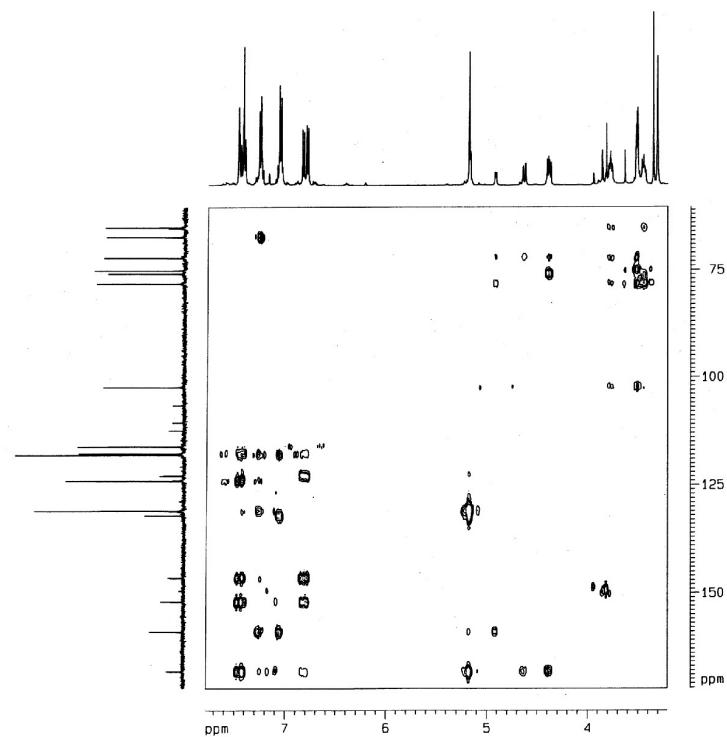
**Figure S8.**  $^1\text{H}$  NMR spectrum of **2** ( $\text{CD}_3\text{OD}$ , 500 MHz).**Figure S9.**  $^1\text{H}$ ,  $^1\text{H}$  COSY-NMR spectrum of **2** ( $\text{CD}_3\text{OD}$ , 500  $\times$  500 MHz).



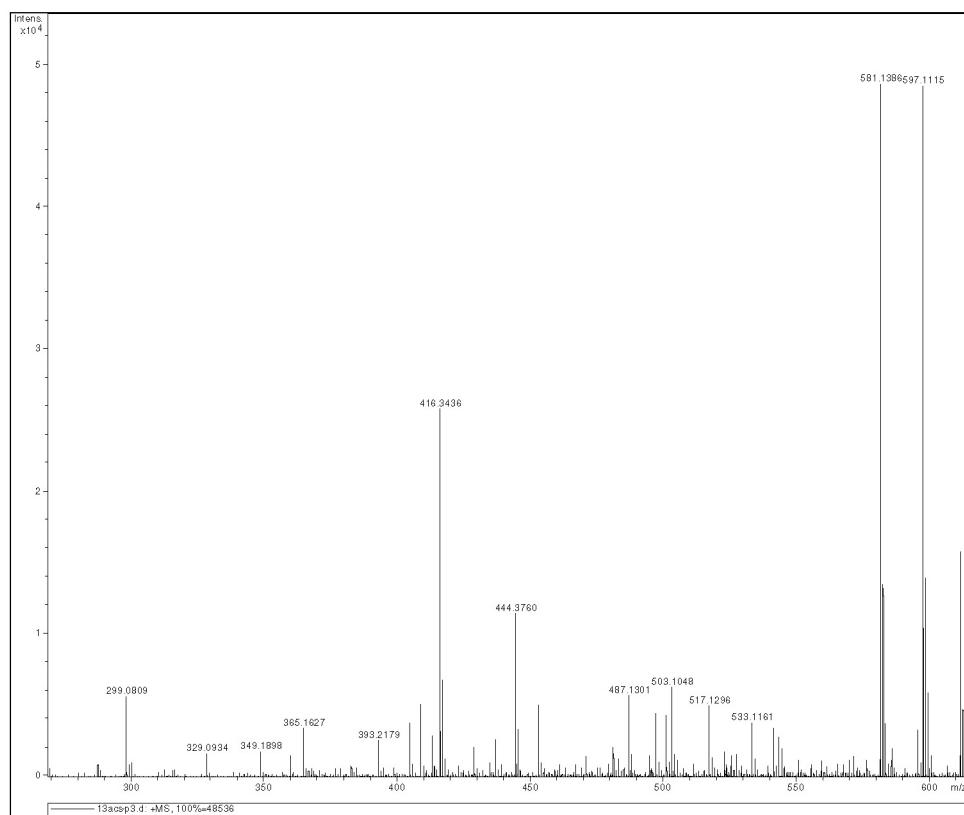
**Figure S10.**  $^{13}\text{C}$  NMR spectrum of **2** ( $\text{CD}_3\text{OD}$ , 125 MHz).



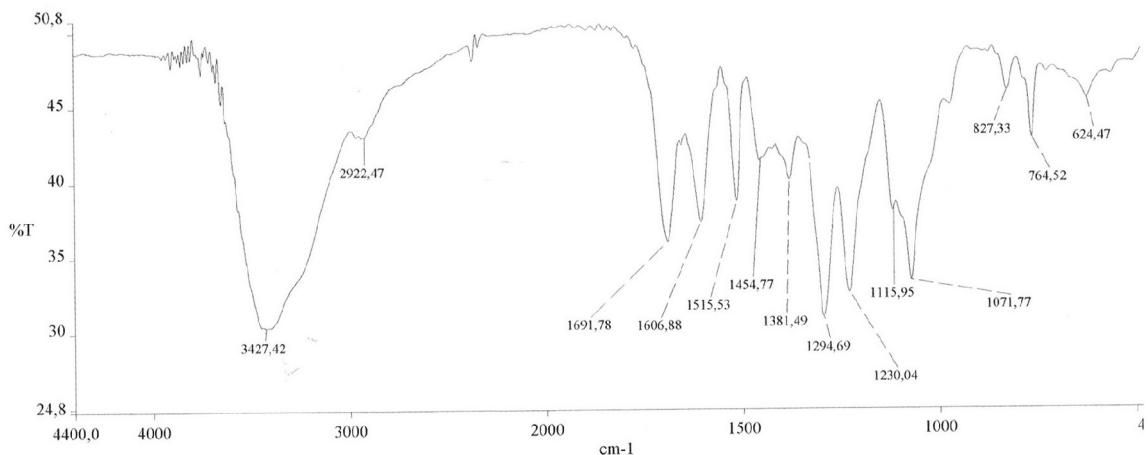
**Figure S11.**  $^1\text{H}, ^{13}\text{C}$  HSQC-NMR spectrum of **2** ( $\text{CD}_3\text{OD}$ , 500  $\times$  125 MHz).



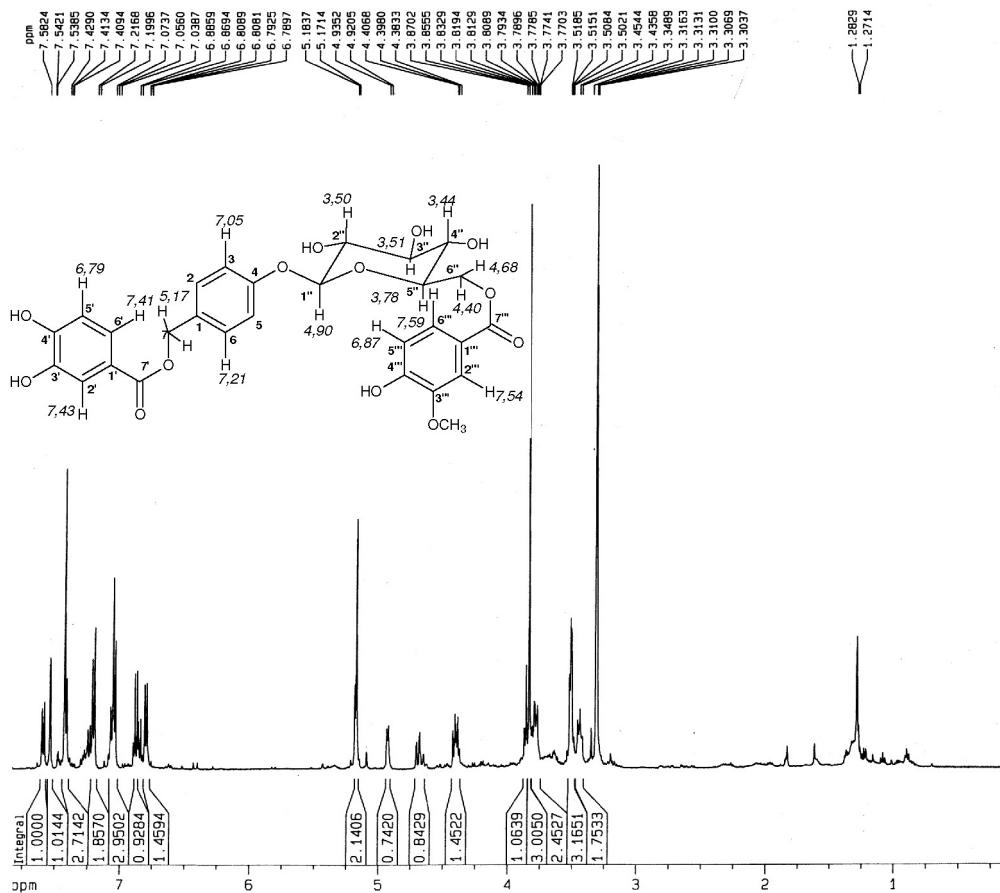
**Figure S12.** <sup>1</sup>H, <sup>13</sup>C HMBC-NMR spectrum of **2** (CD<sub>3</sub>OD, 500 × 125 MHz).



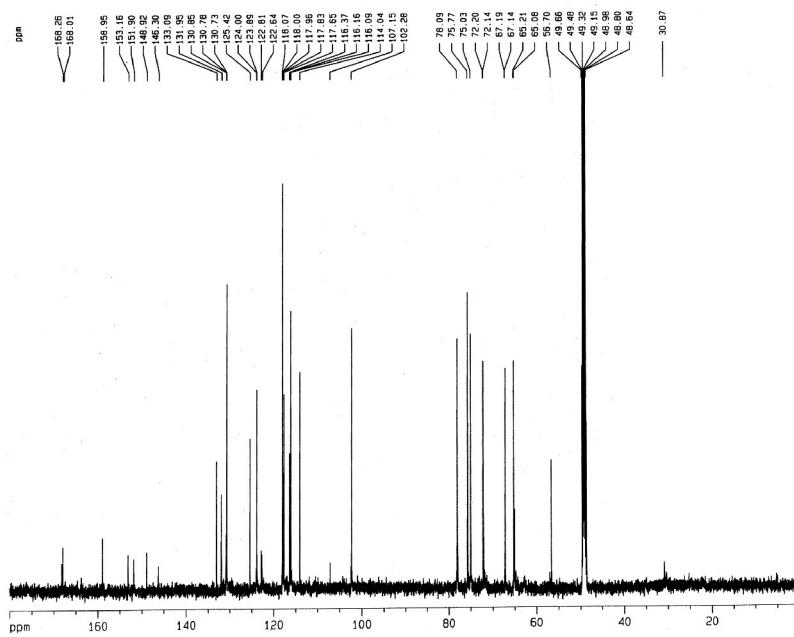
**Figure S13.** High resolution electrospray ionization mass spectrum of **2**.



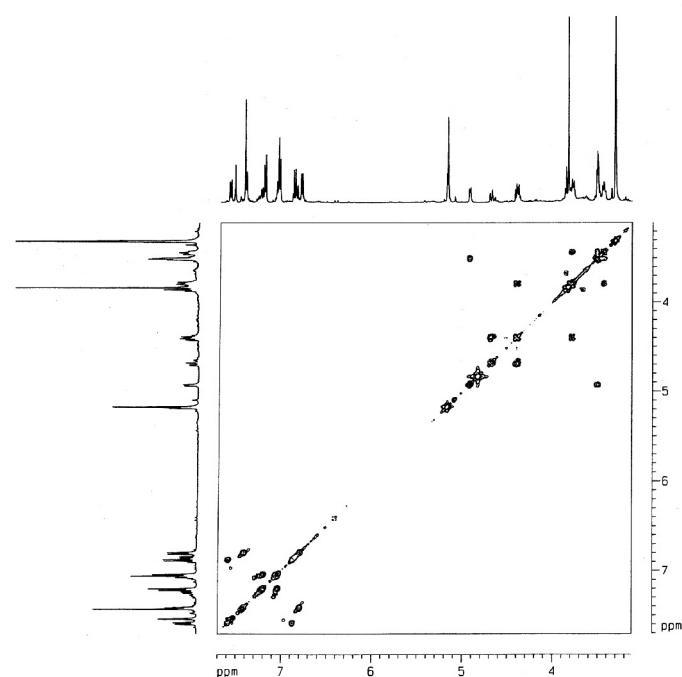
**Figure S14.** Infrared spectrum of compound 3 (KBr pellets).



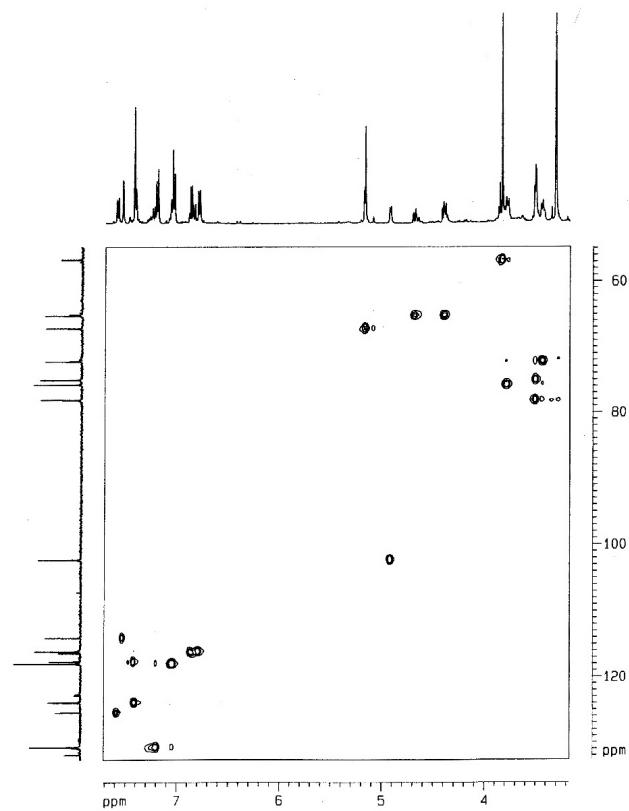
**Figure S15.** <sup>1</sup>H NMR spectrum of 3 ( $\text{CD}_3\text{OD}$ , 500 MHz).



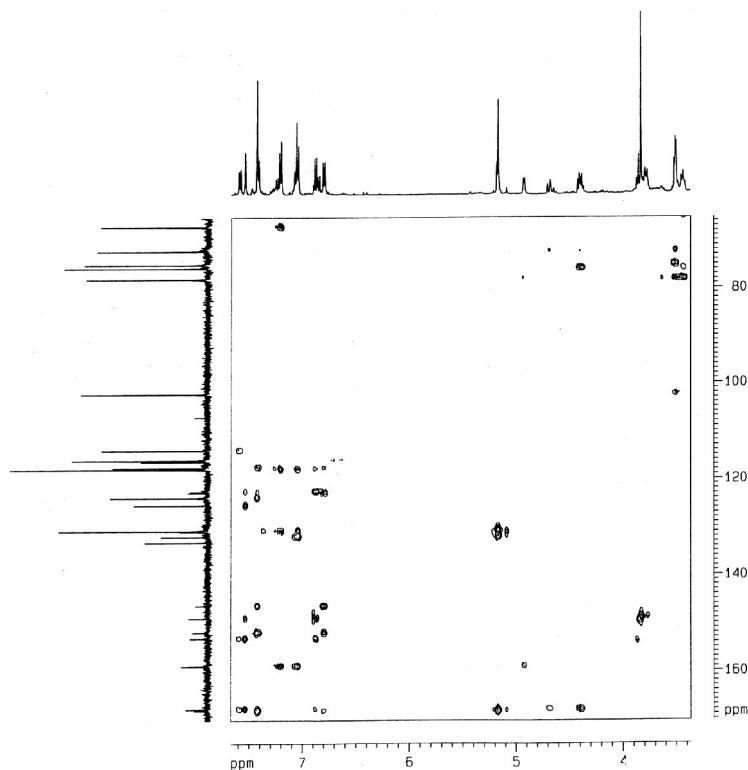
**Figure S16.**  $^{13}\text{C}$  NMR spectrum of **3** ( $\text{CD}_3\text{OD}$ , 125 MHz).



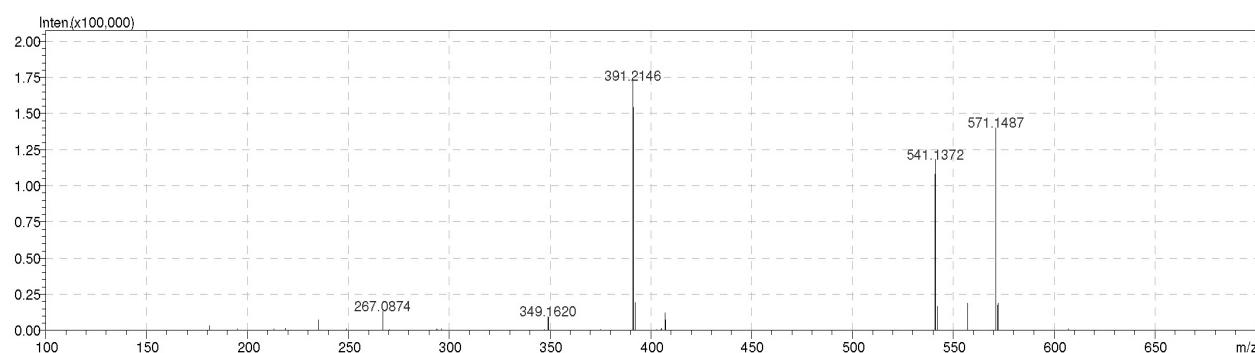
**Figure S17.**  $^1\text{H}$ ,  $^1\text{H}$  COSY-NMR spectrum of **3** ( $\text{CD}_3\text{OD}$ , 500  $\times$  500 MHz).



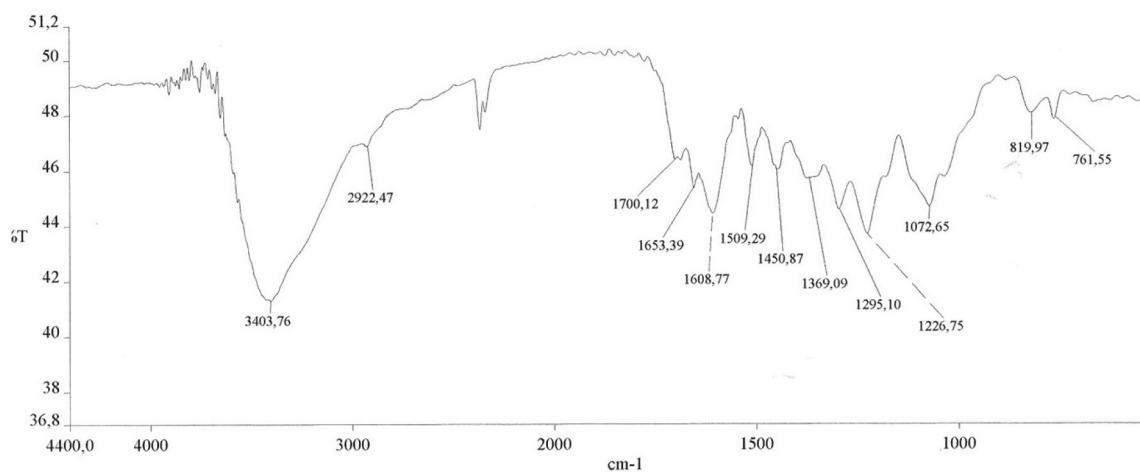
**Figure S18.** <sup>1</sup>H, <sup>13</sup>C HSQC-NMR spectrum of **3** ( $\text{CD}_3\text{OD}$ ,  $500 \times 125$  MHz).



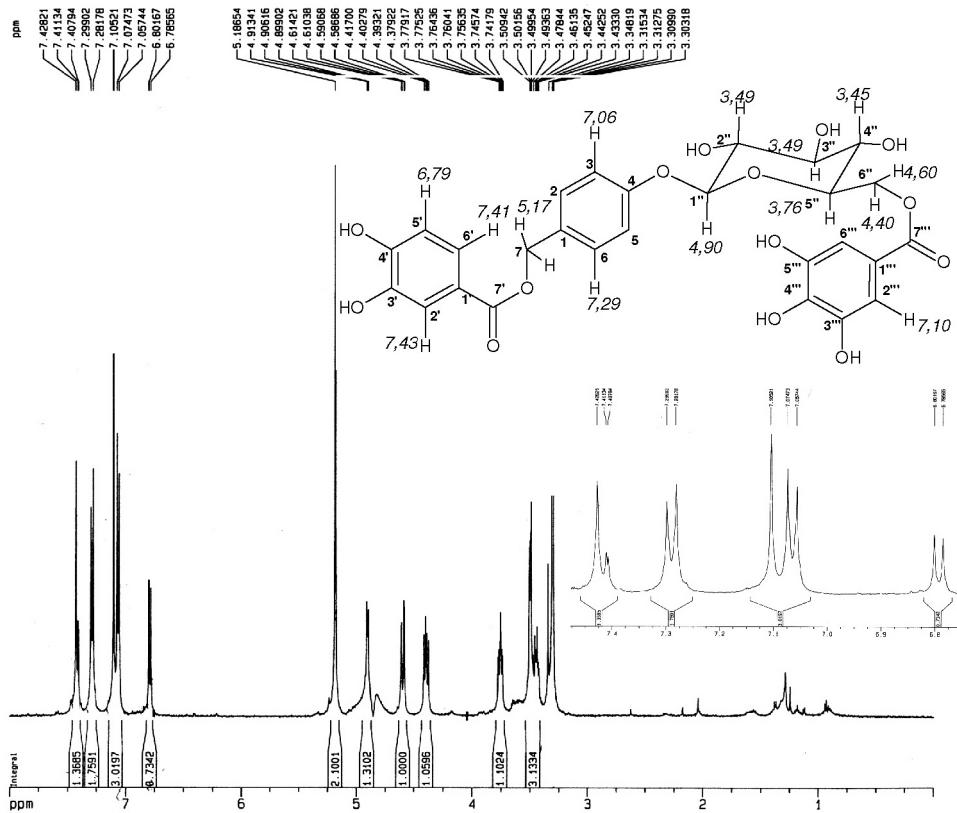
**Figure S19.** <sup>1</sup>H, <sup>13</sup>C HMBC-NMR spectrum of **3** ( $\text{CD}_3\text{OD}$ ,  $500 \times 125$  MHz).



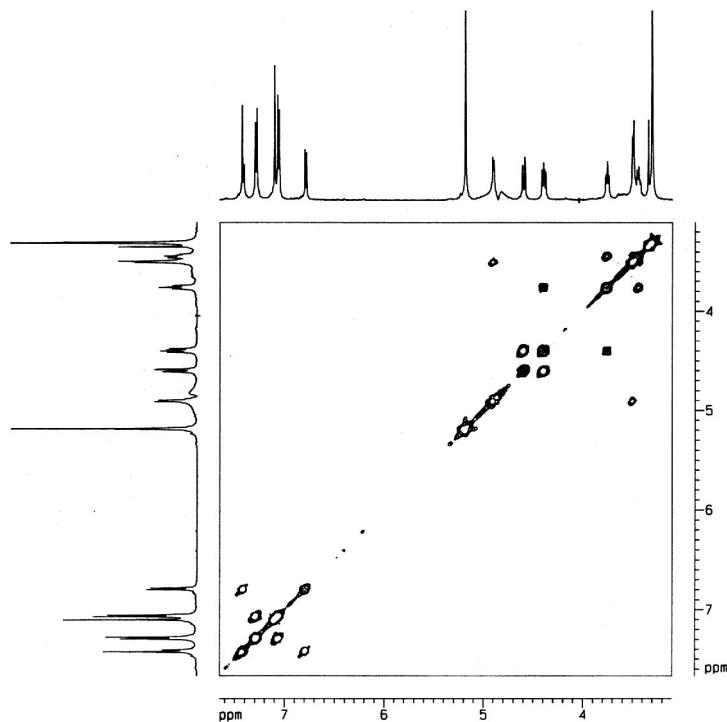
**Figure S20.** High resolution electrospray ionization mass spectrum of **3**.



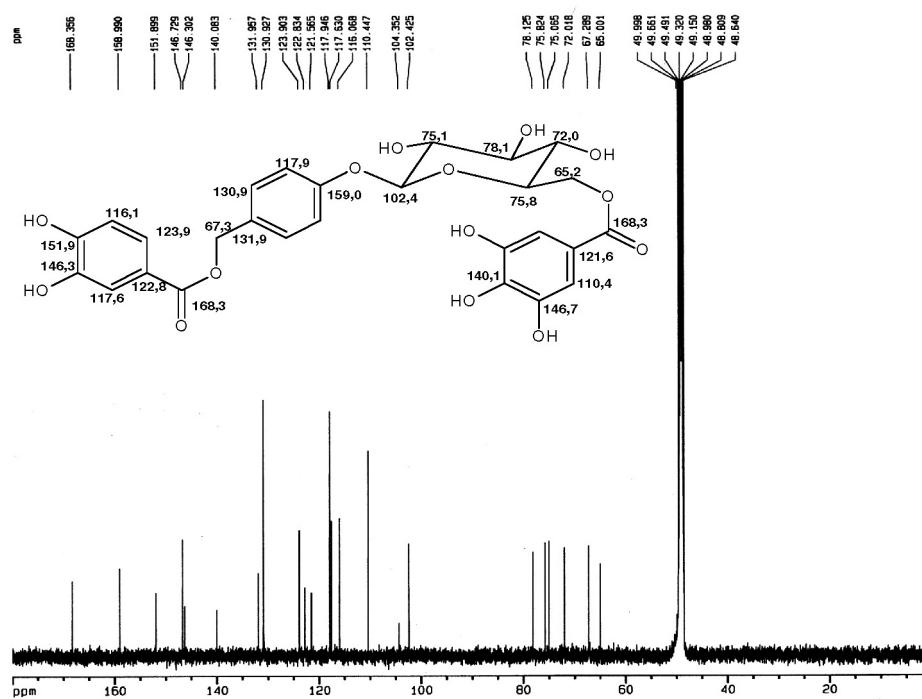
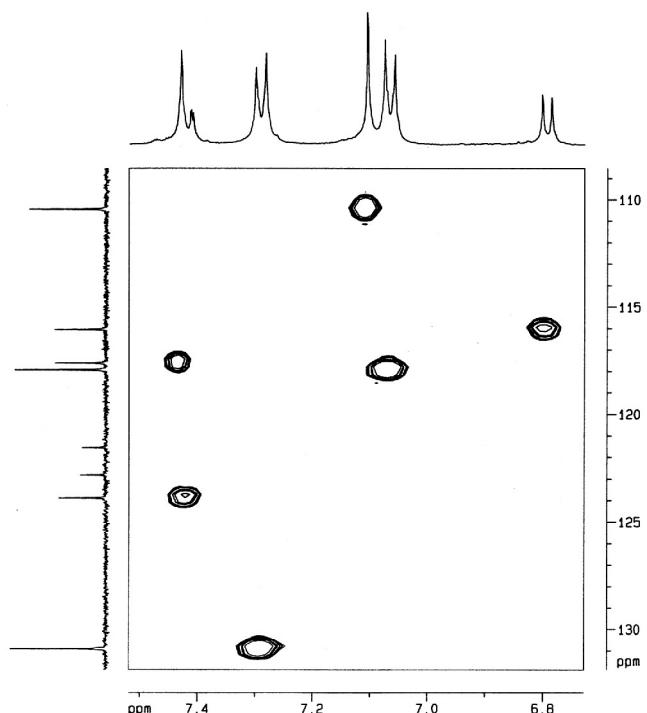
**Figure S21.** Infrared spectrum of compound **4** (KBr pellets).

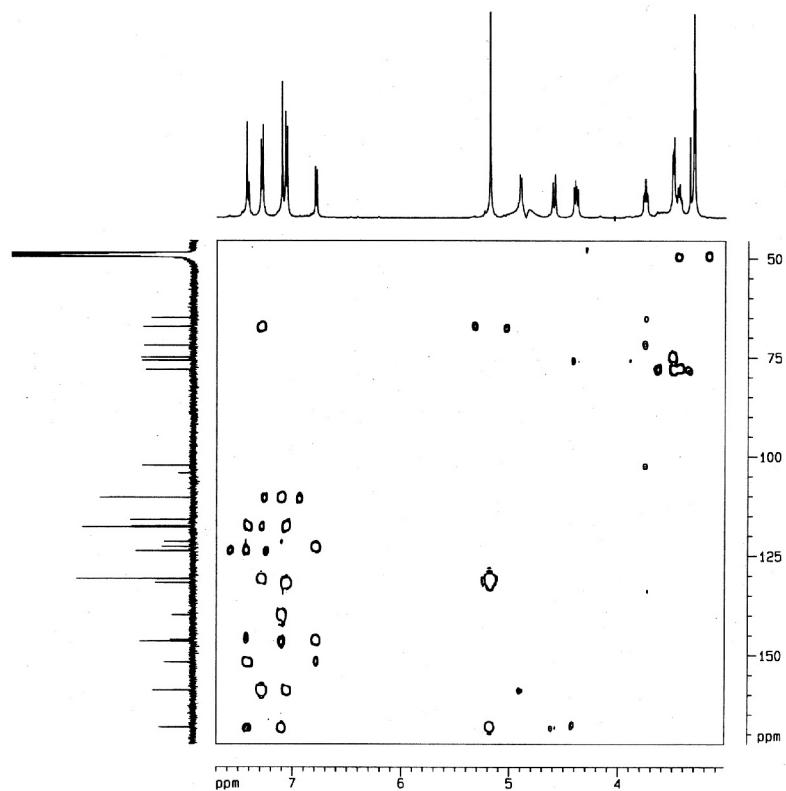


**Figure S22.** <sup>1</sup>H NMR spectrum of **4** (CD<sub>3</sub>OD, 500 MHz).

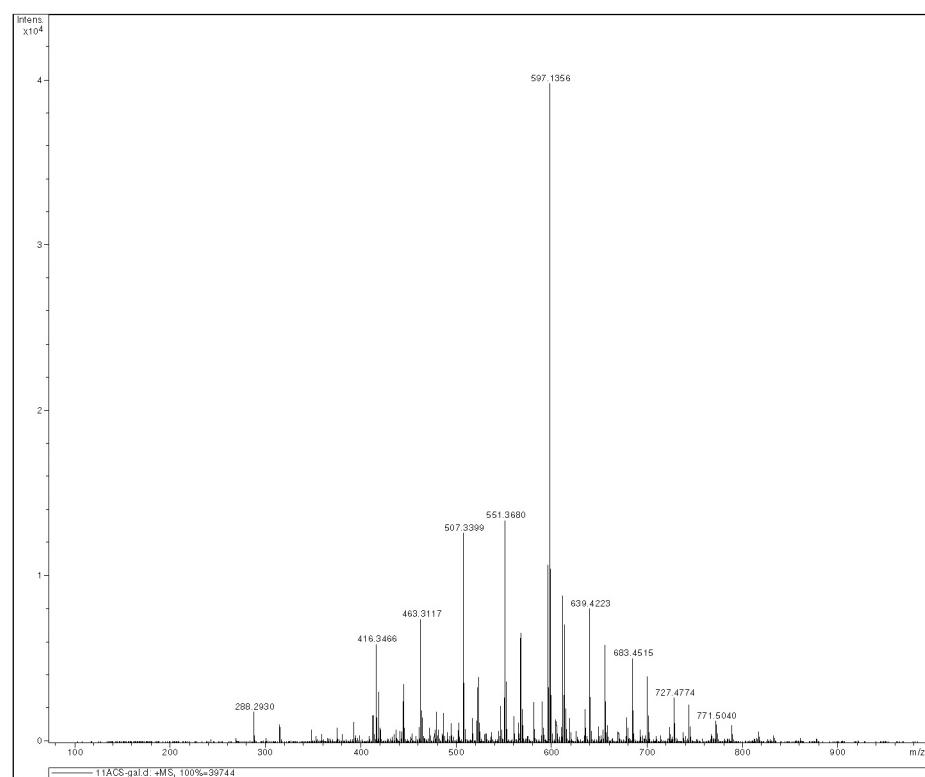


**Figure S23.** <sup>1</sup>H, <sup>1</sup>H COSY-NMR spectrum of **4** (CD<sub>3</sub>OD, 500 × 500 MHz).

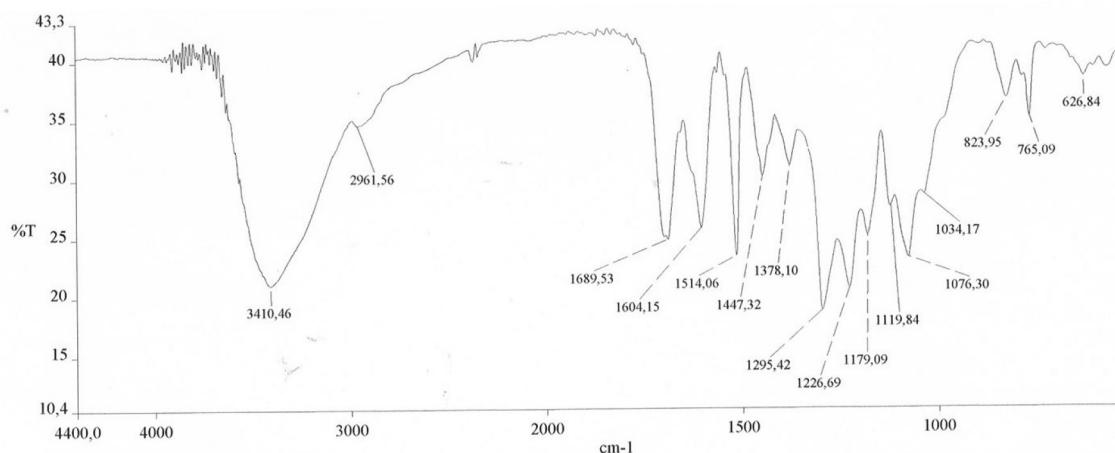
**Figure S24.**  $^{13}\text{C}$  NMR spectrum of **4** ( $\text{CD}_3\text{OD}$ , 125 MHz).**Figure S25.**  $^1\text{H}$ ,  $^{13}\text{C}$  HSQC-NMR spectrum of **4** ( $\text{CD}_3\text{OD}$ , 500  $\times$  125 MHz).



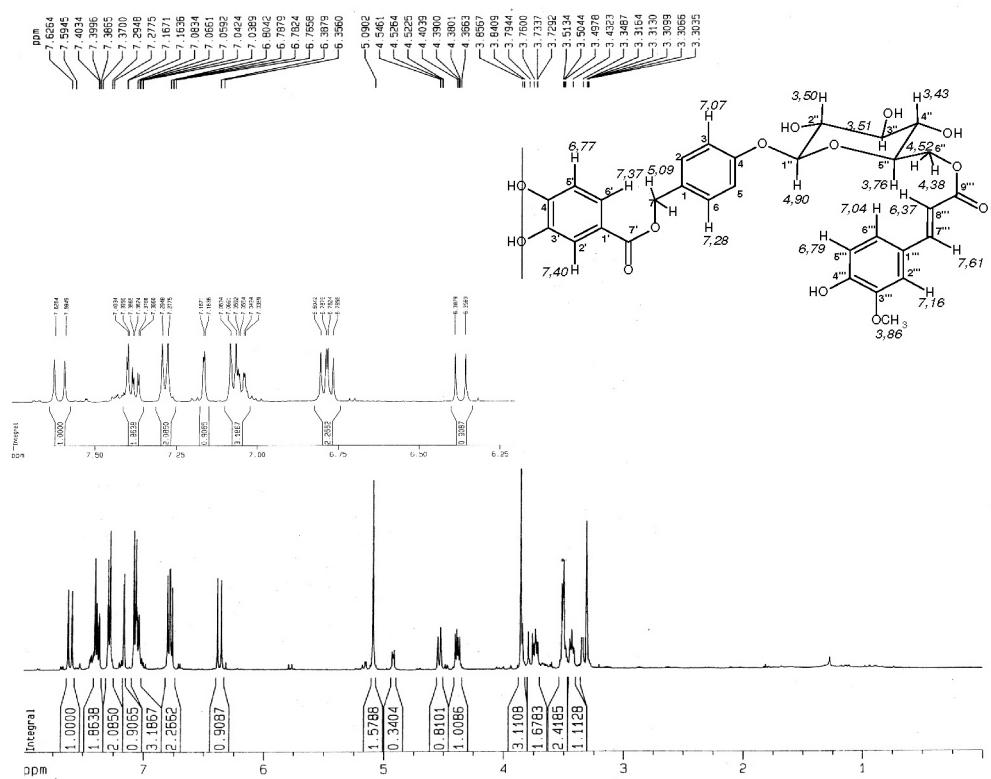
**Figure S26.**  $^1\text{H}$ ,  $^{13}\text{C}$  HMBC-NMR spectrum of **4** ( $\text{CD}_3\text{OD}$ ,  $500 \times 125$  MHz).



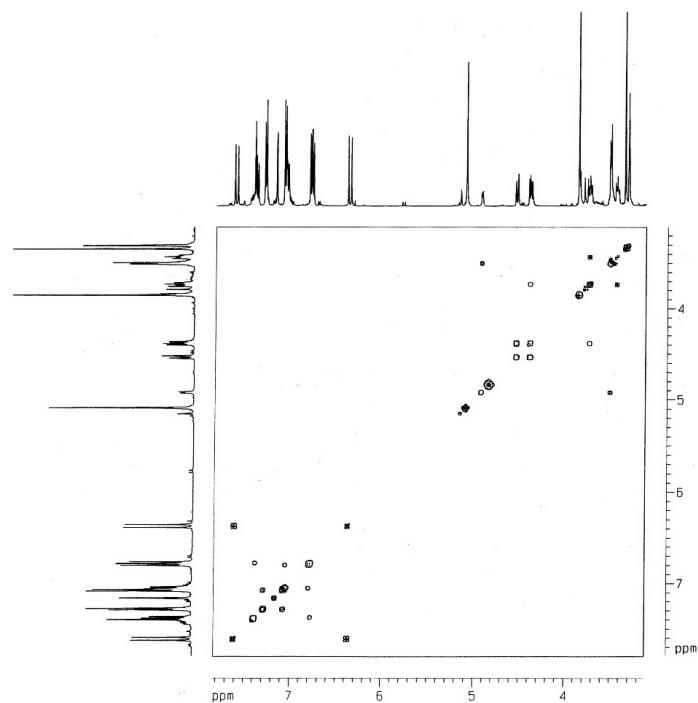
**Figure S27.** High resolution electrospray ionization mass spectrum of **4**.



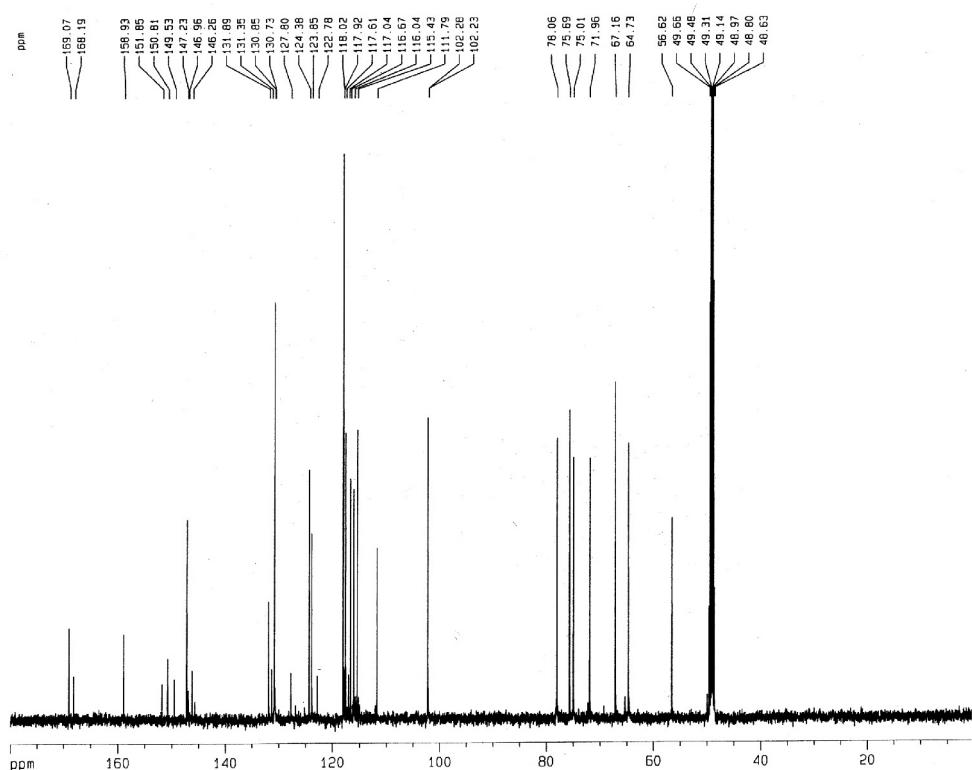
**Figure S28.** Infrared spectrum of compound **5** (KBr pellets).



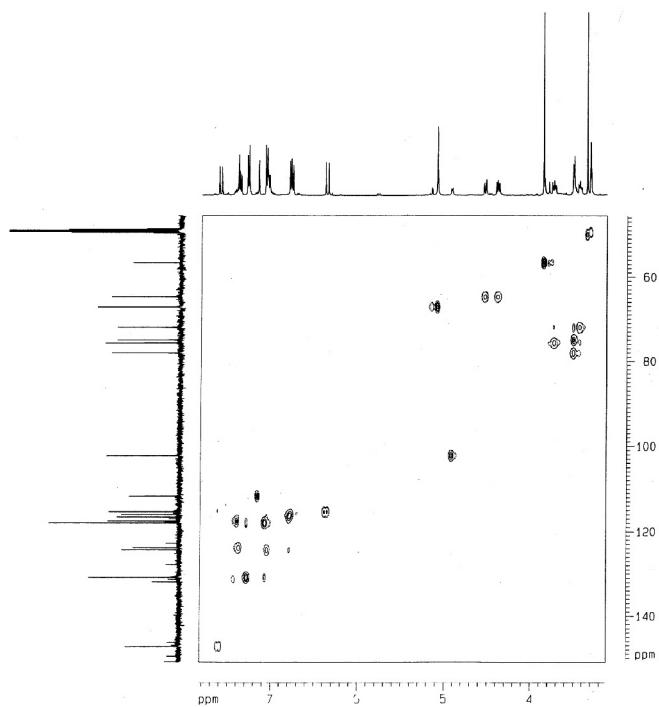
**Figure S29.**  $^1\text{H}$  NMR spectrum of **5** ( $\text{CD}_3\text{OD}$ , 500 MHz).



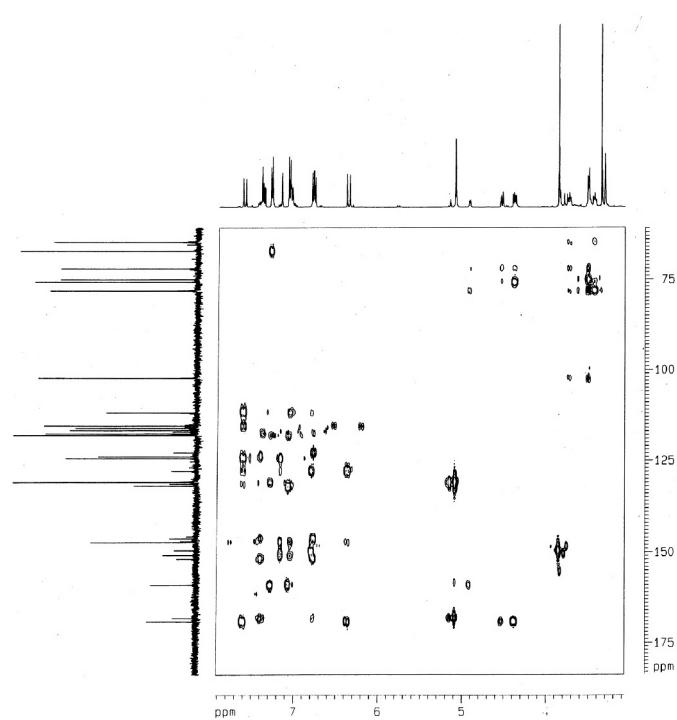
**Figure S30.**  $^1\text{H}$ ,  $^1\text{H}$  COSY-NMR spectrum of **5** ( $\text{CD}_3\text{OD}$ ,  $500 \times 500$  MHz).



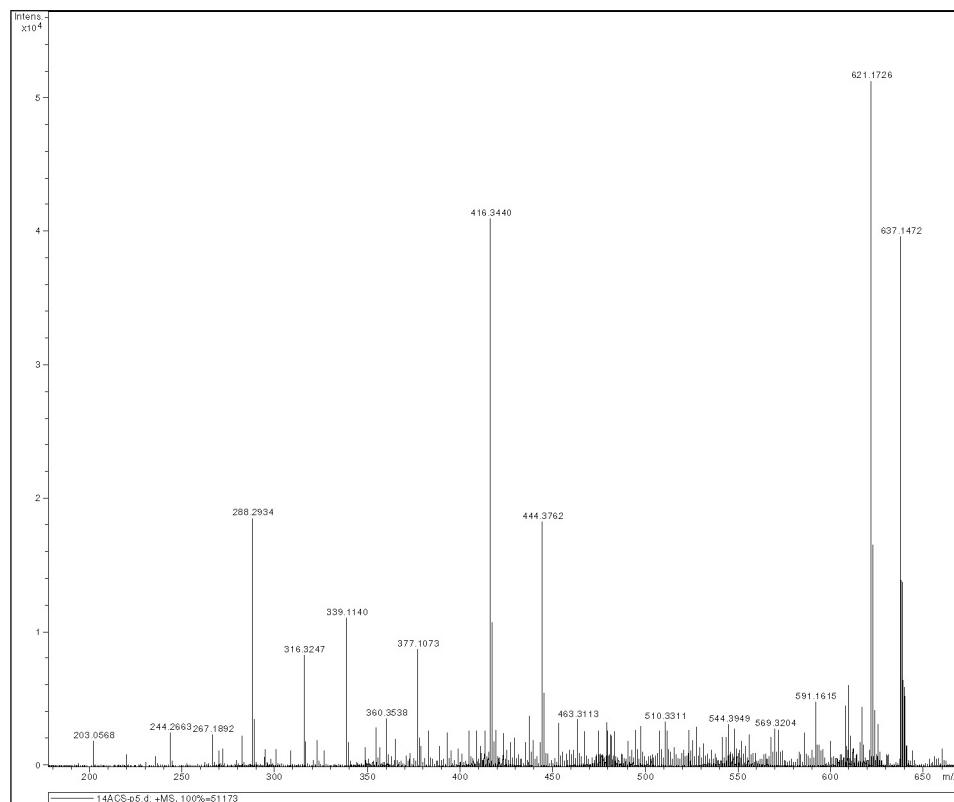
**Figure S31.**  $^{13}\text{C}$  NMR spectrum of **5** ( $\text{CD}_3\text{OD}$ ,  $125$  MHz).



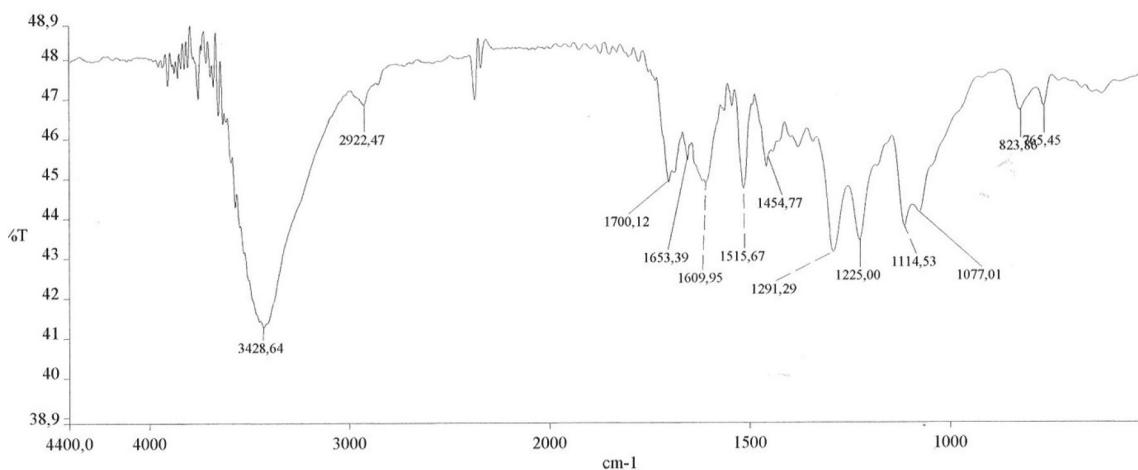
**Figure S32.** <sup>1</sup>H, <sup>13</sup>C HSQC-NMR spectrum of **5** ( $\text{CD}_3\text{OD}$ ,  $500 \times 125$  MHz).



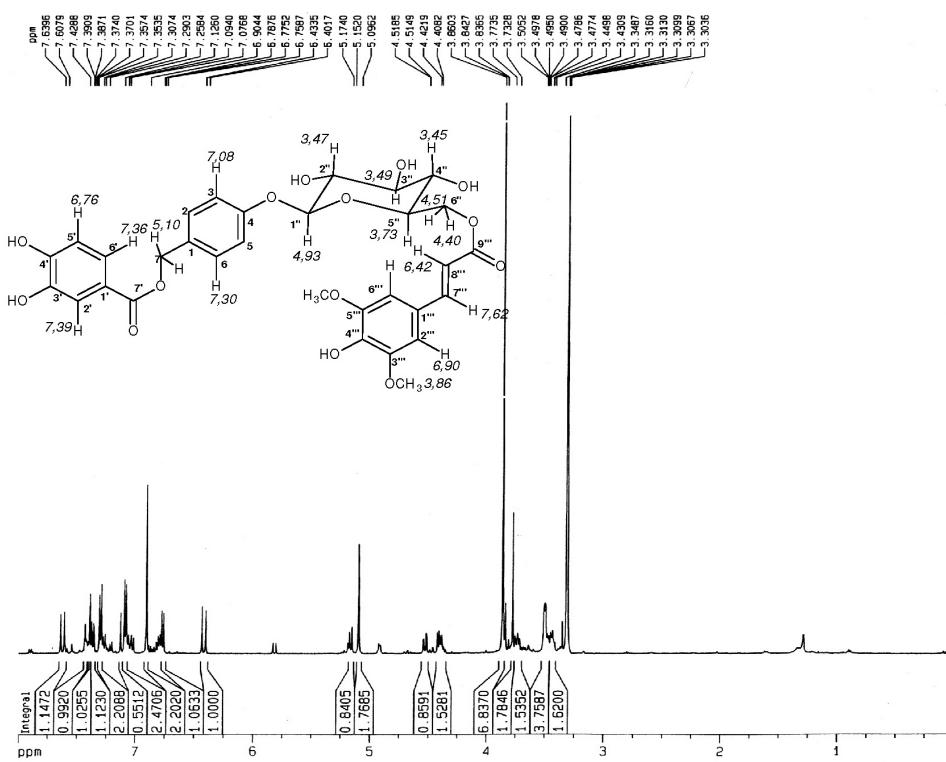
**Figure S33.** <sup>1</sup>H, <sup>13</sup>C HMBC-NMR spectrum of **5** ( $\text{CD}_3\text{OD}$ ,  $500 \times 125$  MHz).



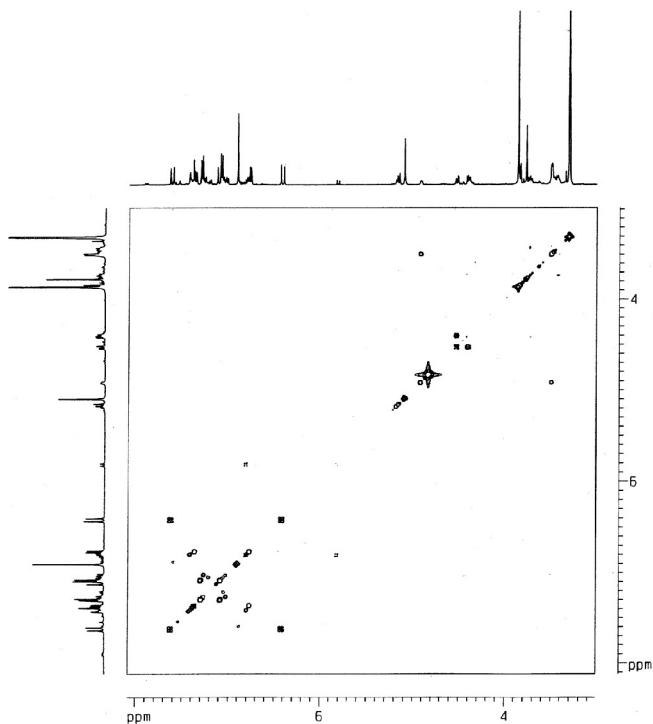
**Figure S34.** High resolution electrospray ionization mass spectrum of **5**.



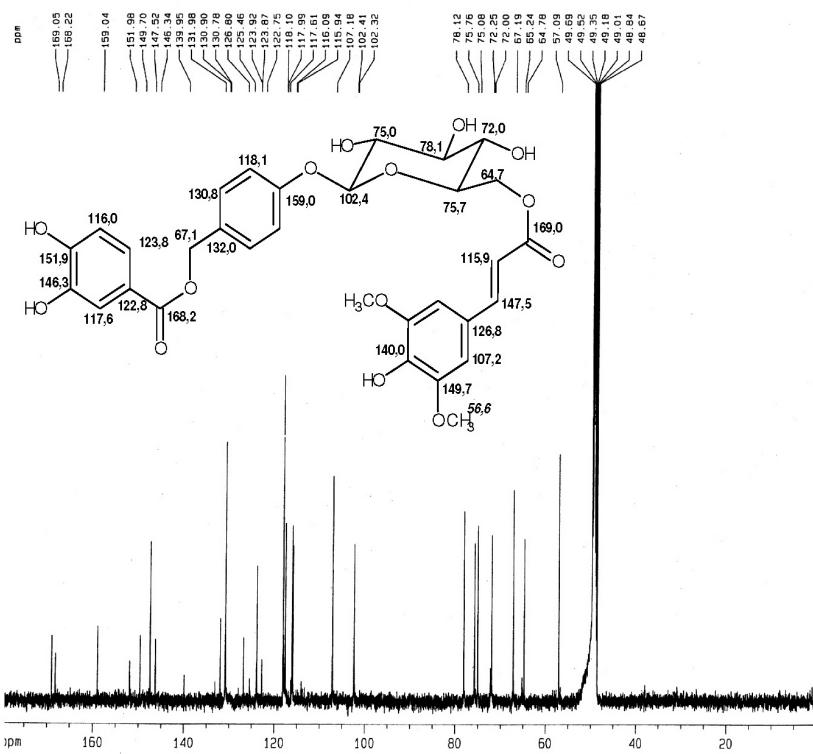
**Figure S35.** Infrared spectrum of compound **6** (KBr pellets).



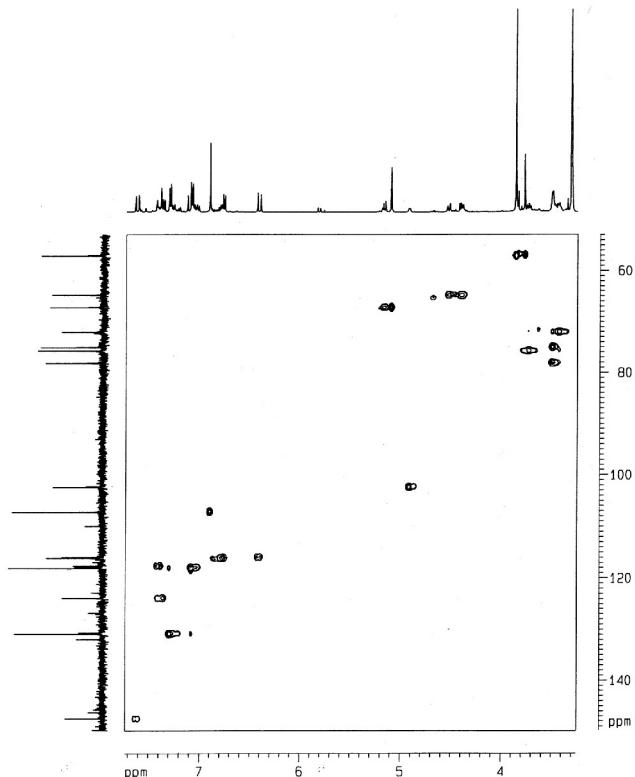
**Figure S36.**  $^1\text{H}$  NMR spectrum of **6** ( $\text{CD}_3\text{OD}$ , 500 MHz).



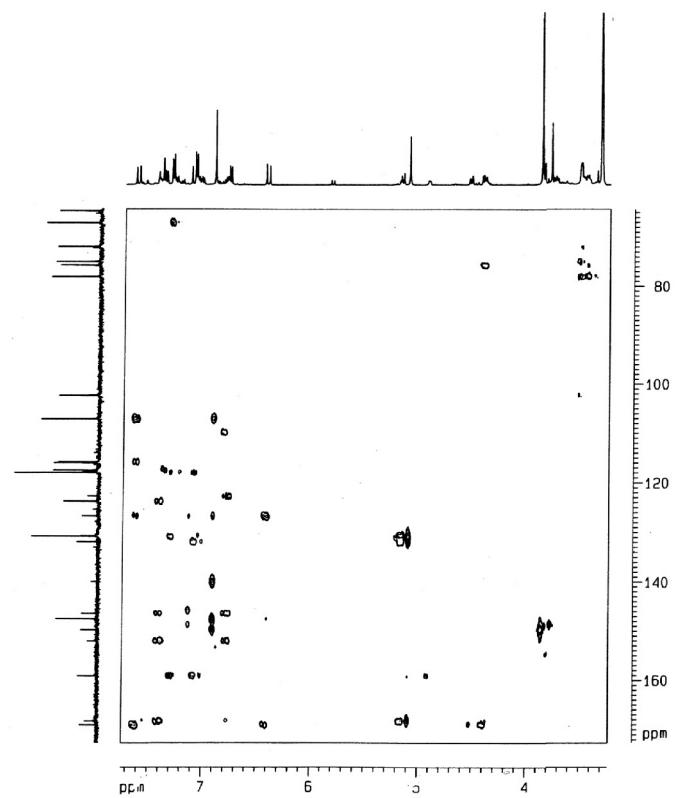
**Figure S37.**  $^1\text{H}$ ,  $^1\text{H}$  COSY-NMR spectrum of **6** ( $\text{CD}_3\text{OD}$ , 500  $\times$  500 MHz).



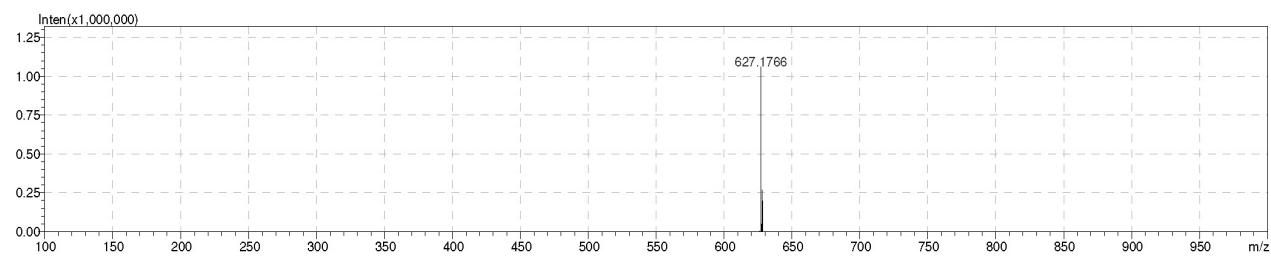
**Figure S38.**  $^{13}\text{C}$  NMR spectrum of **6** ( $\text{CD}_3\text{OD}$ , 125 MHz).



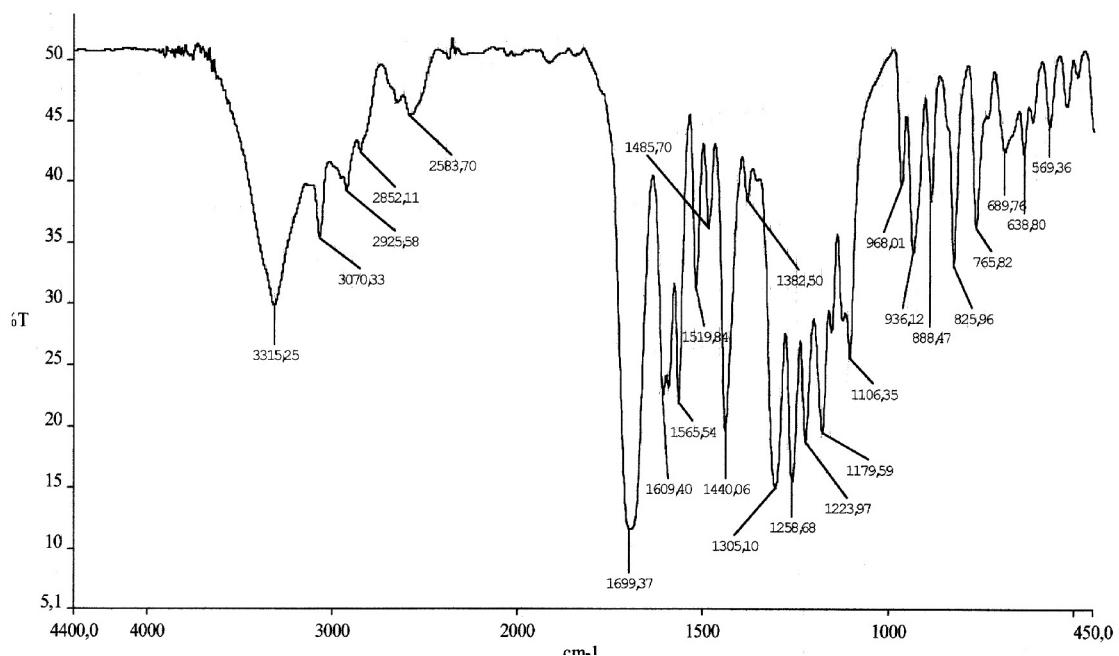
**Figure S39.**  $^1\text{H}$ ,  $^{13}\text{C}$  HSQC-NMR spectrum of **6** ( $\text{CD}_3\text{OD}$ , 500  $\times$  125 MHz).



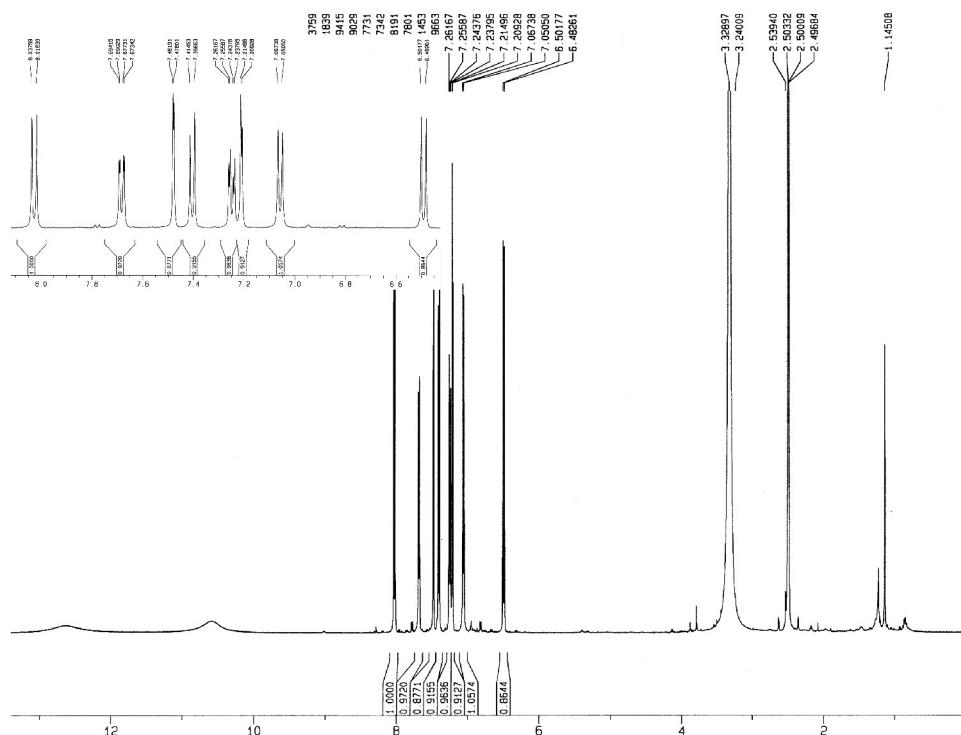
**Figure S40.** <sup>1</sup>H, <sup>13</sup>C HMBC-NMR spectrum of **6** (CD<sub>3</sub>OD, 500 × 125 MHz).



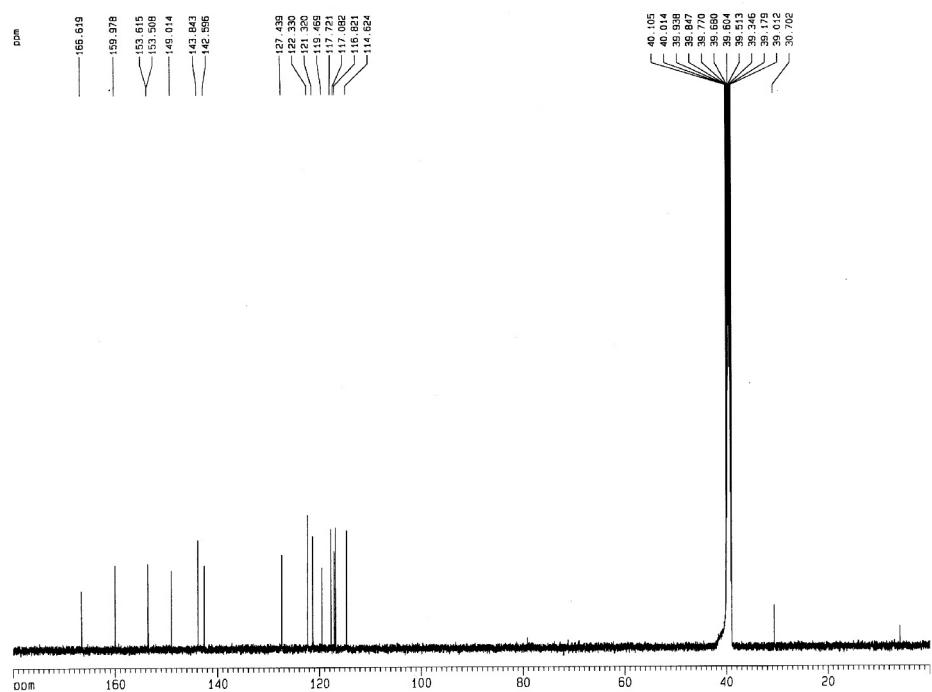
**Figure S41.** High resolution electrospray ionization mass spectrum of **6**.



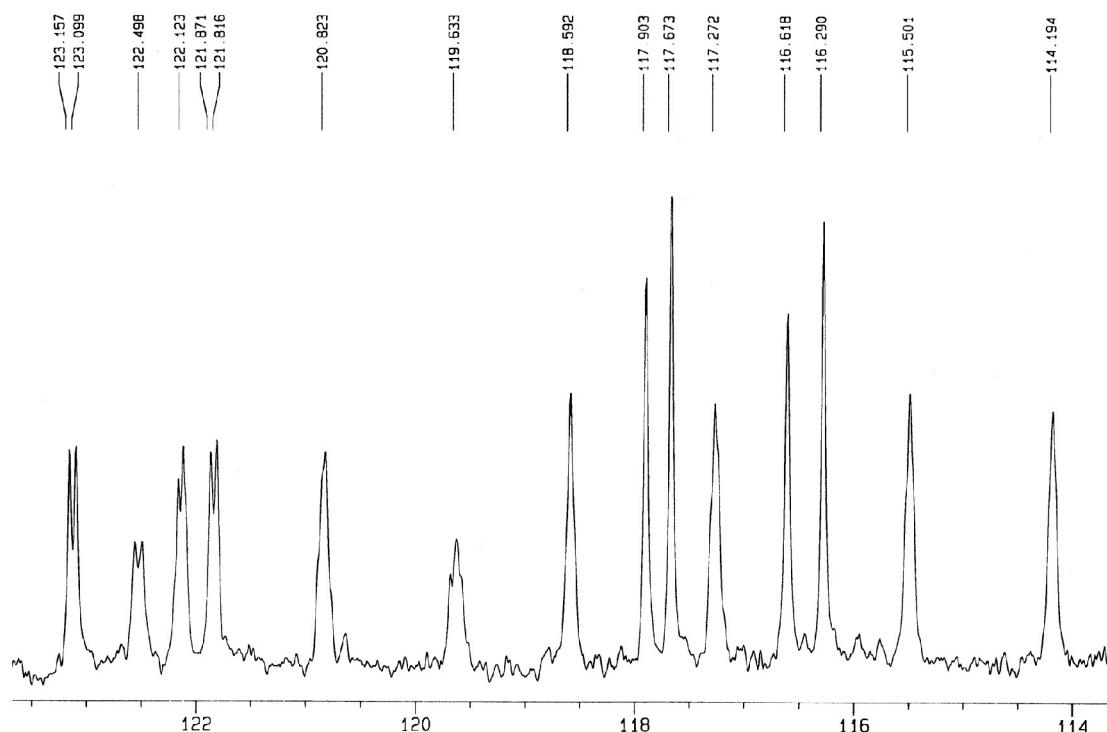
**Figure S42.** Infrared spectrum of compound 7 (KBr pellets).



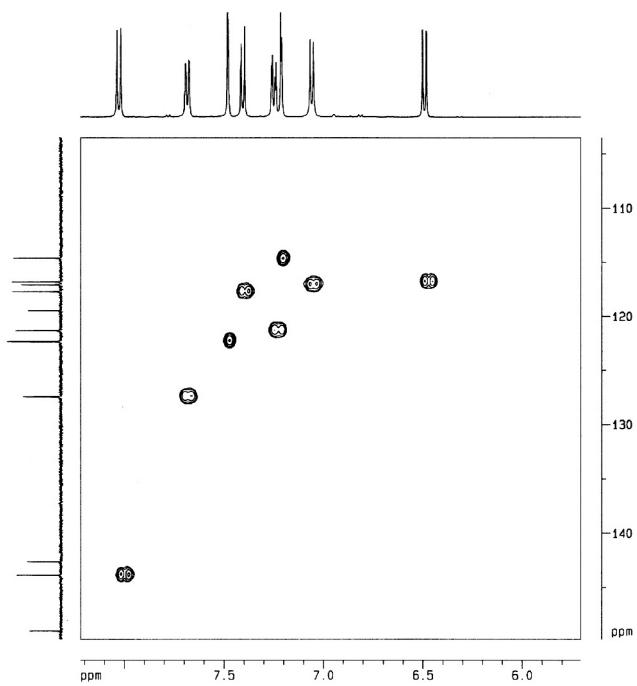
**Figure S43.**  $^1\text{H}$  NMR spectrum of 7 (DMSO- $d_6$ , 500 MHz).



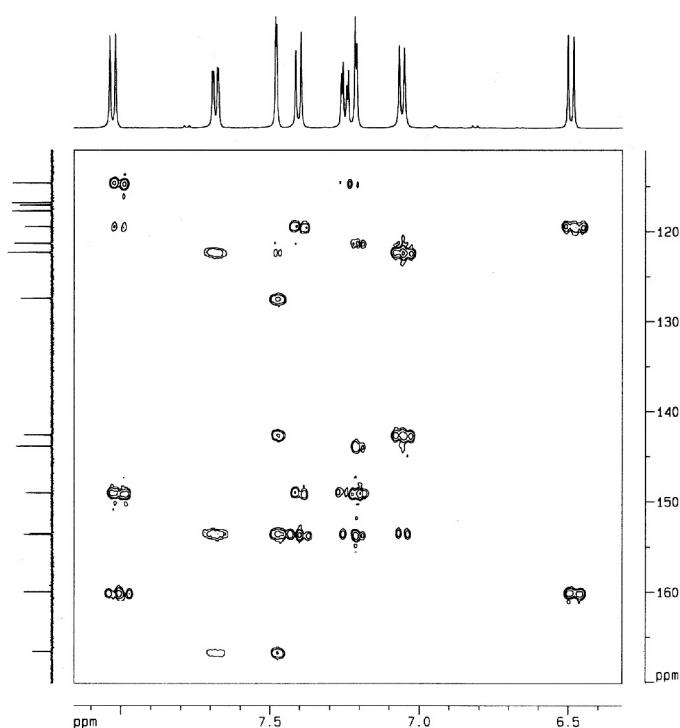
**Figure S44.**  $^{13}\text{C}$  NMR spectrum of **7** ( $\text{DMSO}-d_6$ , 125 MHz).



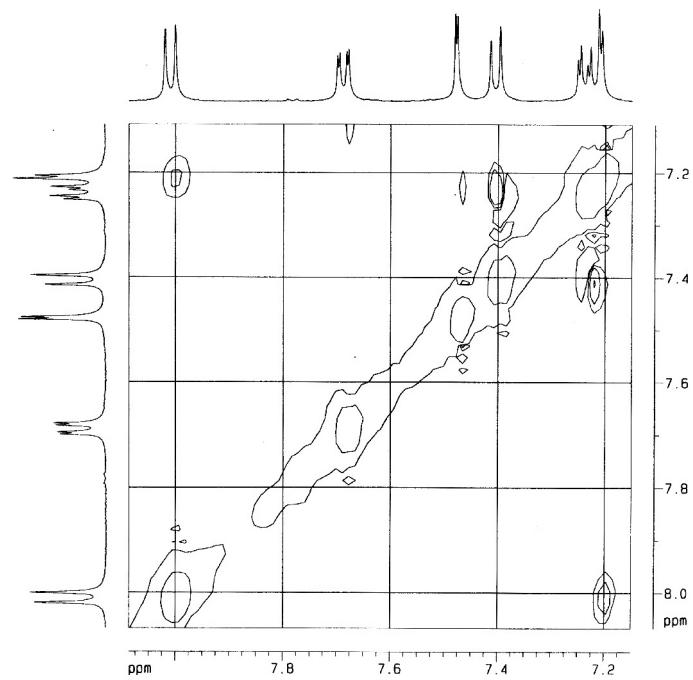
**Figure S45.** Expansion of the  $^{13}\text{C}$  NMR-GATED spectrum of **7** ( $\delta$  123.5–113.5).



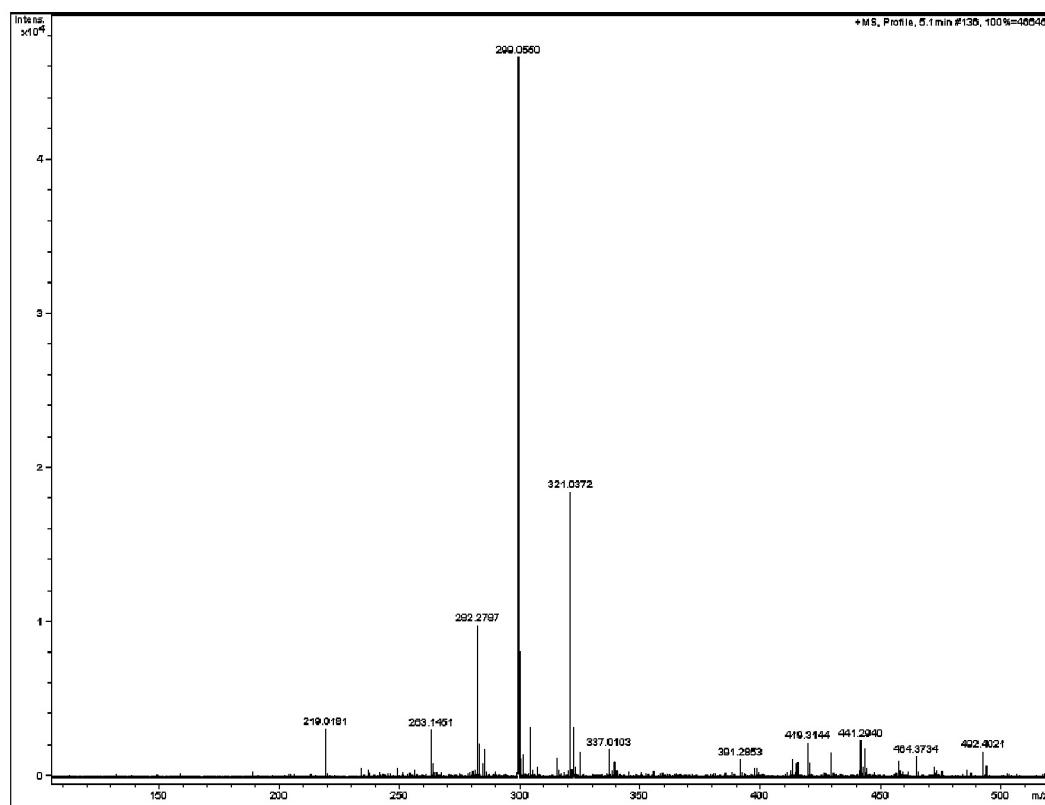
**Figure S46.**  $^1\text{H}$ ,  $^{13}\text{C}$  HSQC-NMR spectrum of **7** (DMSO- $d_6$ , 500  $\times$  125 MHz).



**Figure S47.**  $^1\text{H}$ ,  $^{13}\text{C}$  HMBC-NMR spectrum of **7** (DMSO- $d_6$ , 500  $\times$  125 MHz).



**Figure S48.** <sup>1</sup>H, <sup>1</sup>H NOESY-NMR spectrum of **7** (DMSO-*d*<sub>6</sub>, 500 × 500 MHz).



**Figure S49.** High resolution electrospray ionization mass spectrum of **7**.