

## **Supplementary Material**

# **Bioactive Lactones from the Mangrove-Derived Fungus *Penicillium* sp. TGM112**

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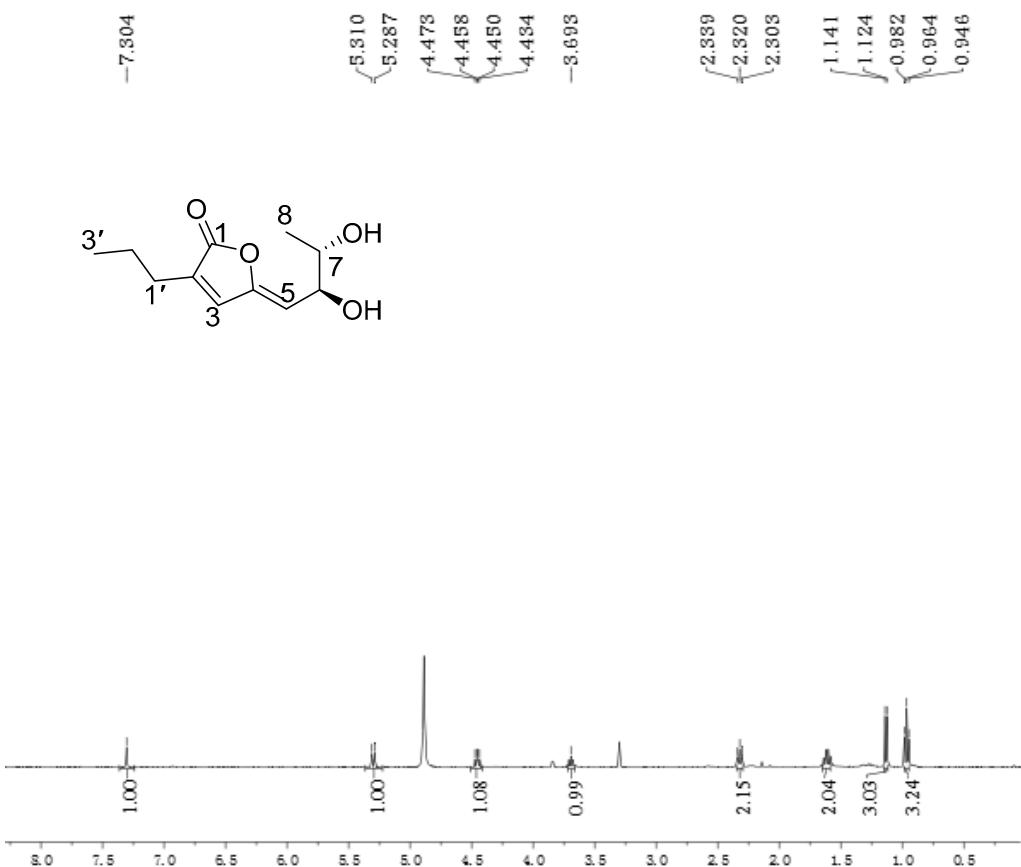


Figure S1.  $^1\text{H}$  NMR (CD<sub>3</sub>OD, 400 MHz) spectrum of **1**.

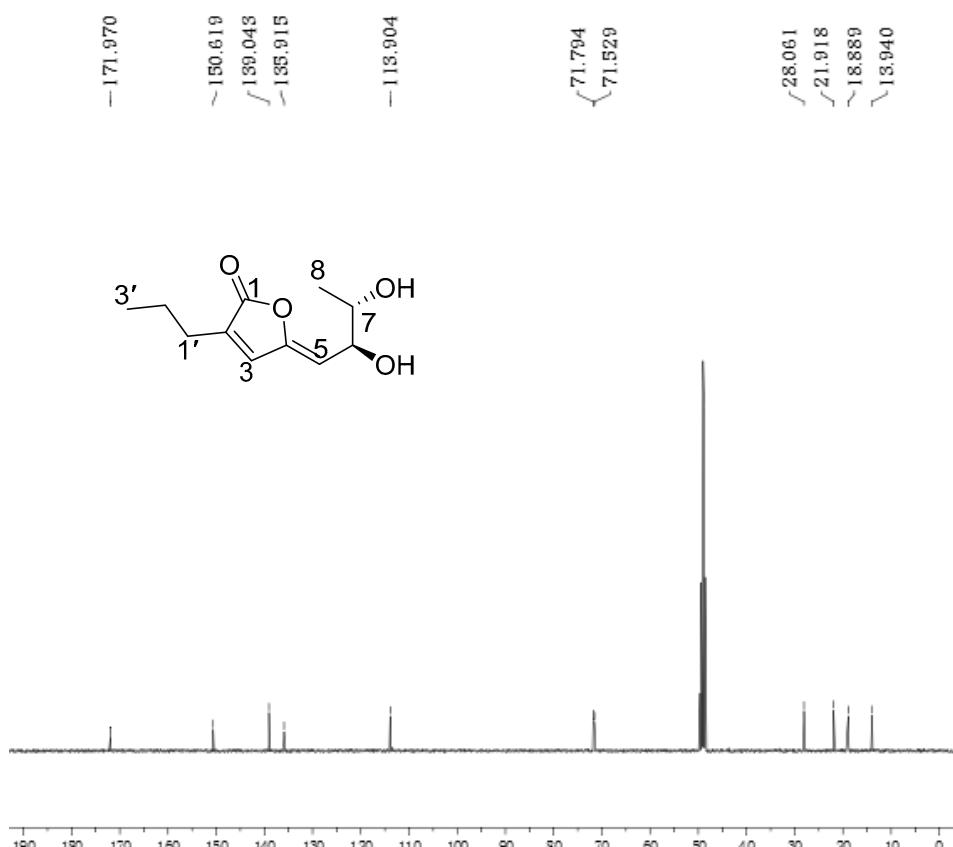


Figure S2  $^{13}\text{C}$  NMR (CD<sub>3</sub>OD, 100MHz) spectrum of **1**.

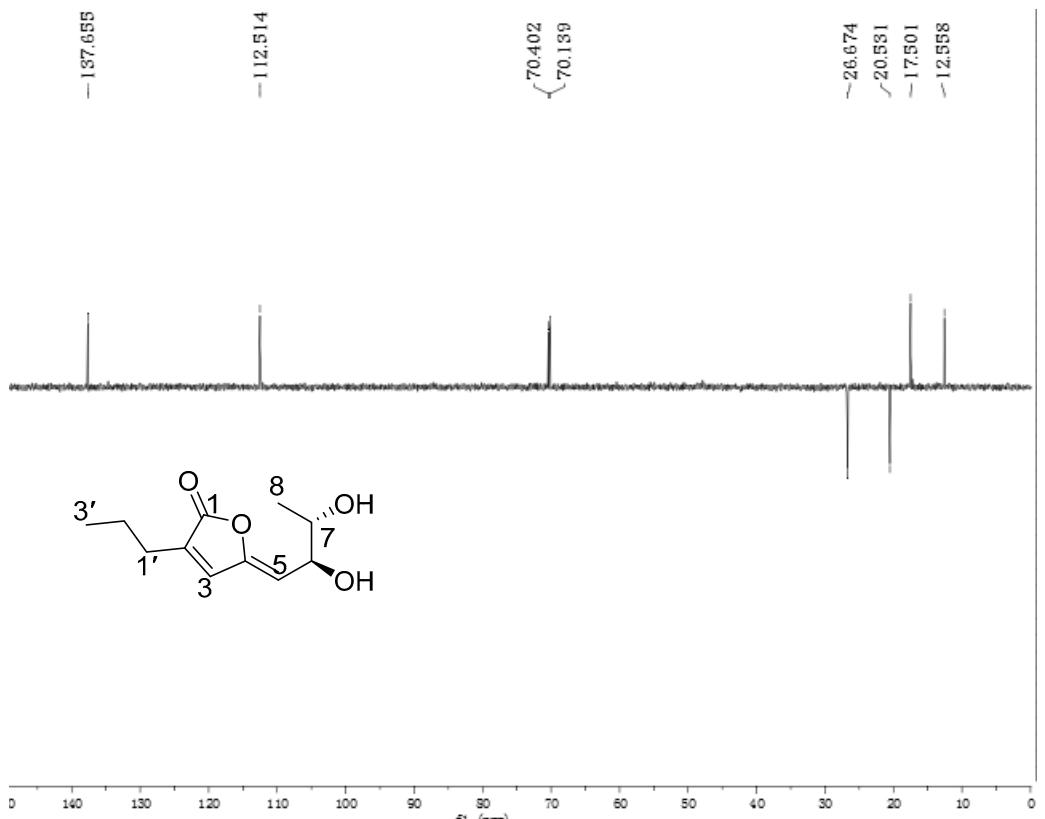


Figure S3 DEPT (CD<sub>3</sub>OD, 100 MHz) spectrum of 1.

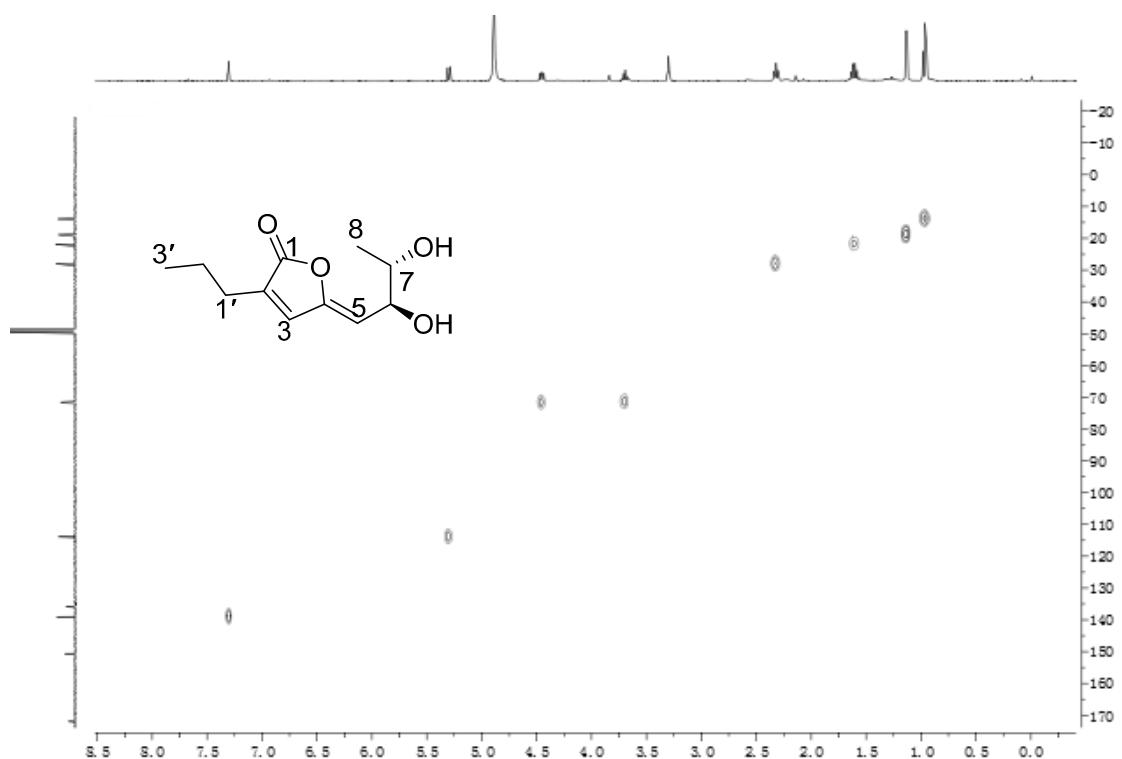


Figure S4 HMQC spectrum of 1.

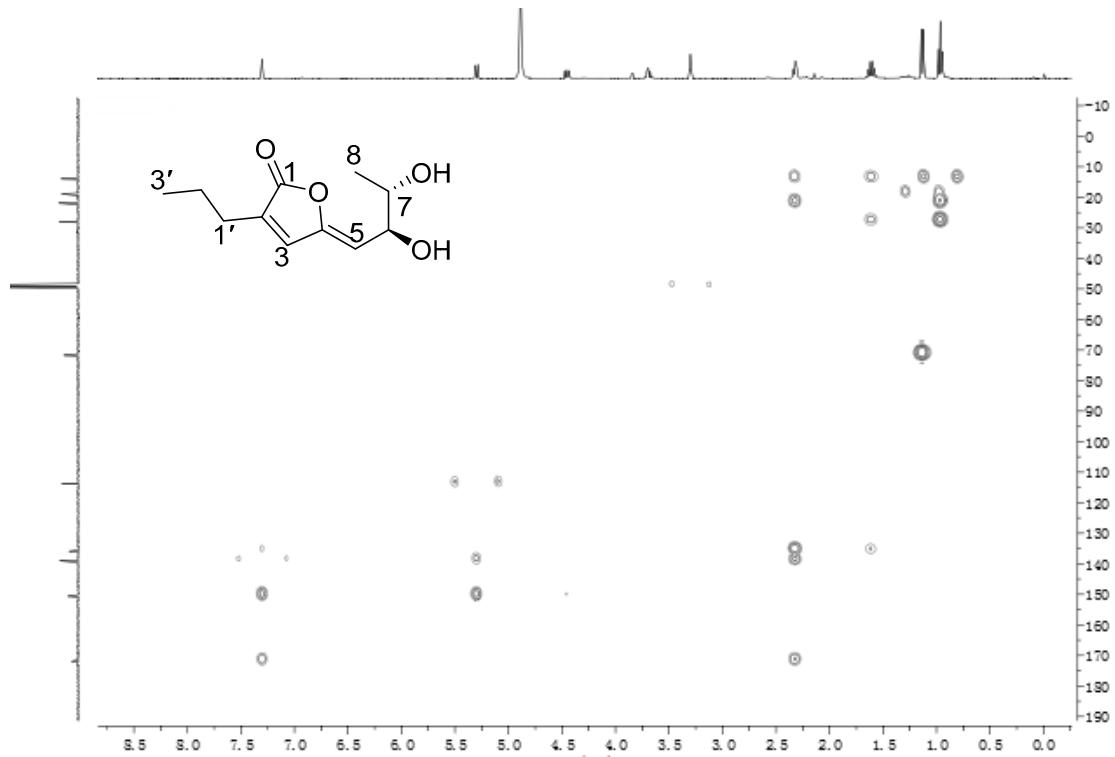


Figure S5 HMBC spectrum of **1**.

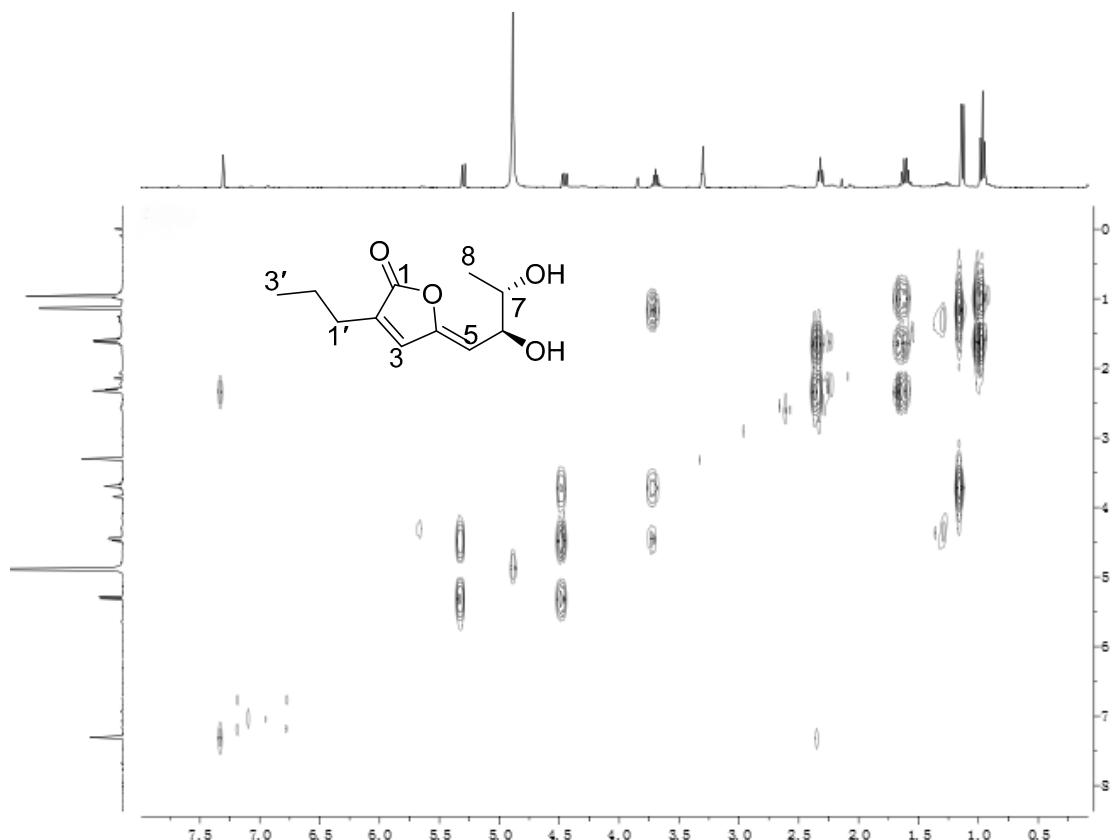


Figure S6  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **1**.

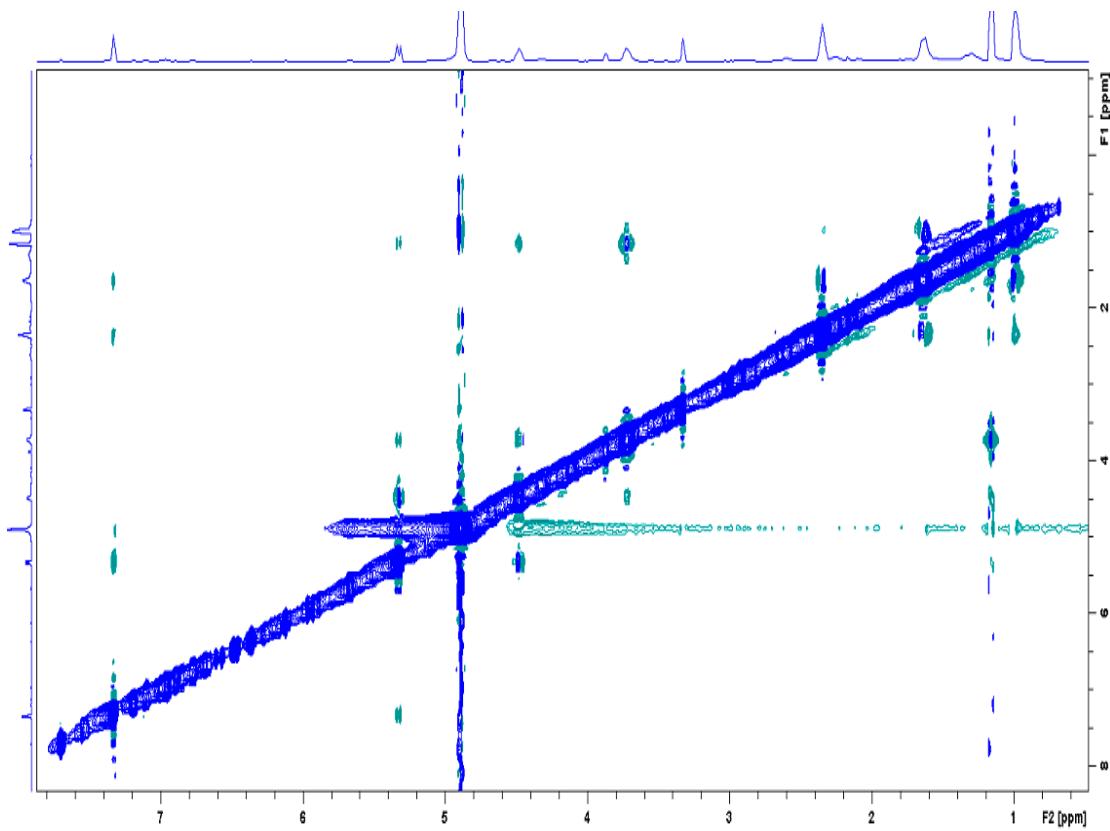


Figure S7 NOESY spectrum of **1**.

20190321-BX-A-6\_190314150900 #61 RT: 0.49 AV: 1 NL: 4.77E7  
T: FTMS + c ESI Full ms [50.00-2000.00]

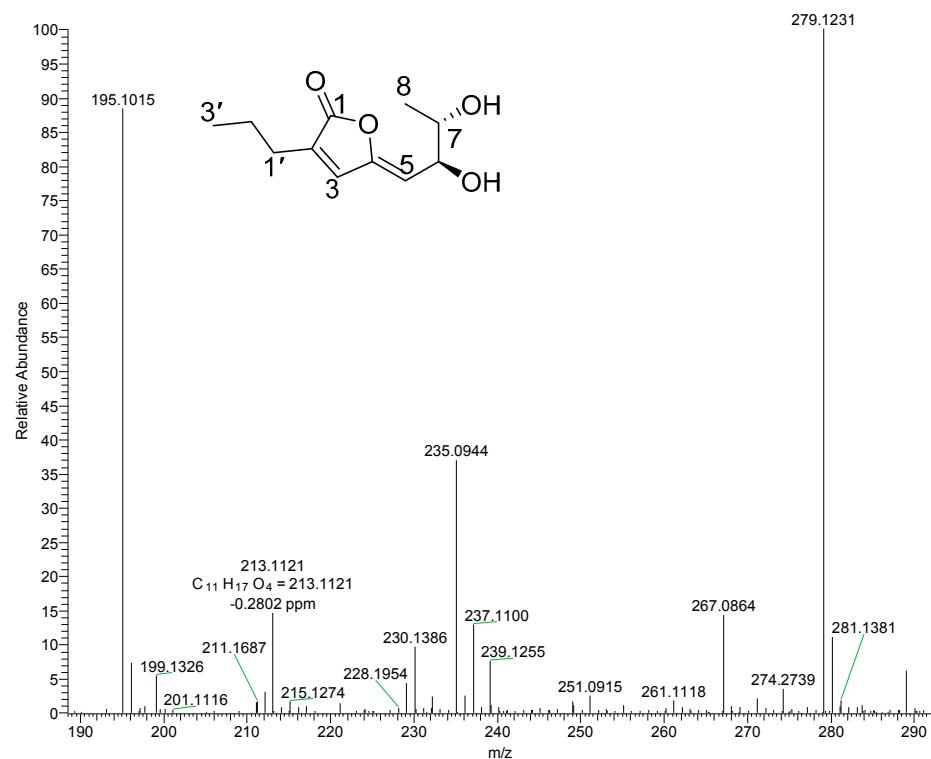


Figure S8 HR-ESI-MS spectrum of **1**.

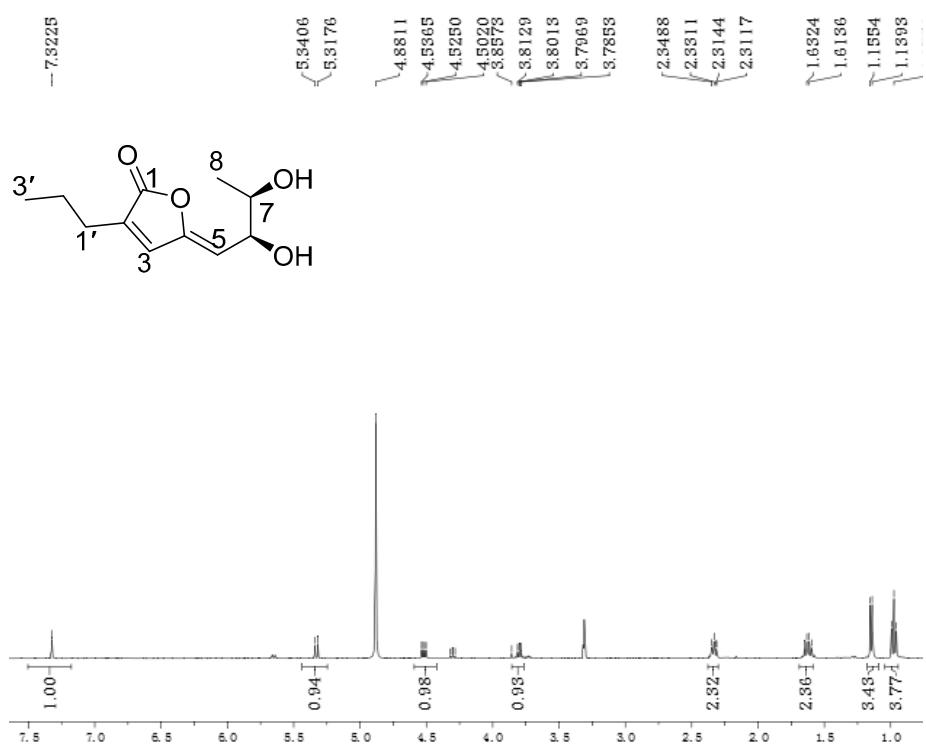


Figure S9  $^1\text{H}$  NMR ( $\text{CD}_3\text{OD}$ , 400 MHz) spectrum of **2**.

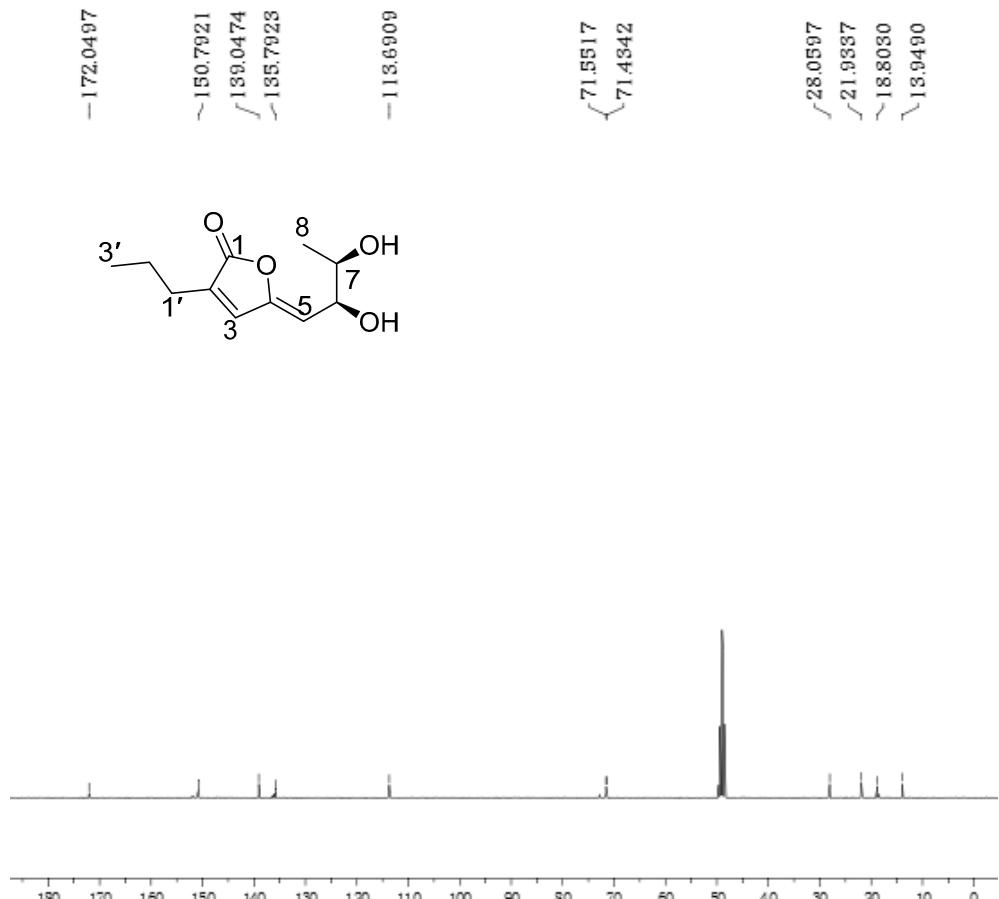


Figure S10  $^{13}\text{C}$  NMR ( $\text{CD}_3\text{OD}$ , 100 MHz) spectrum of **2**.

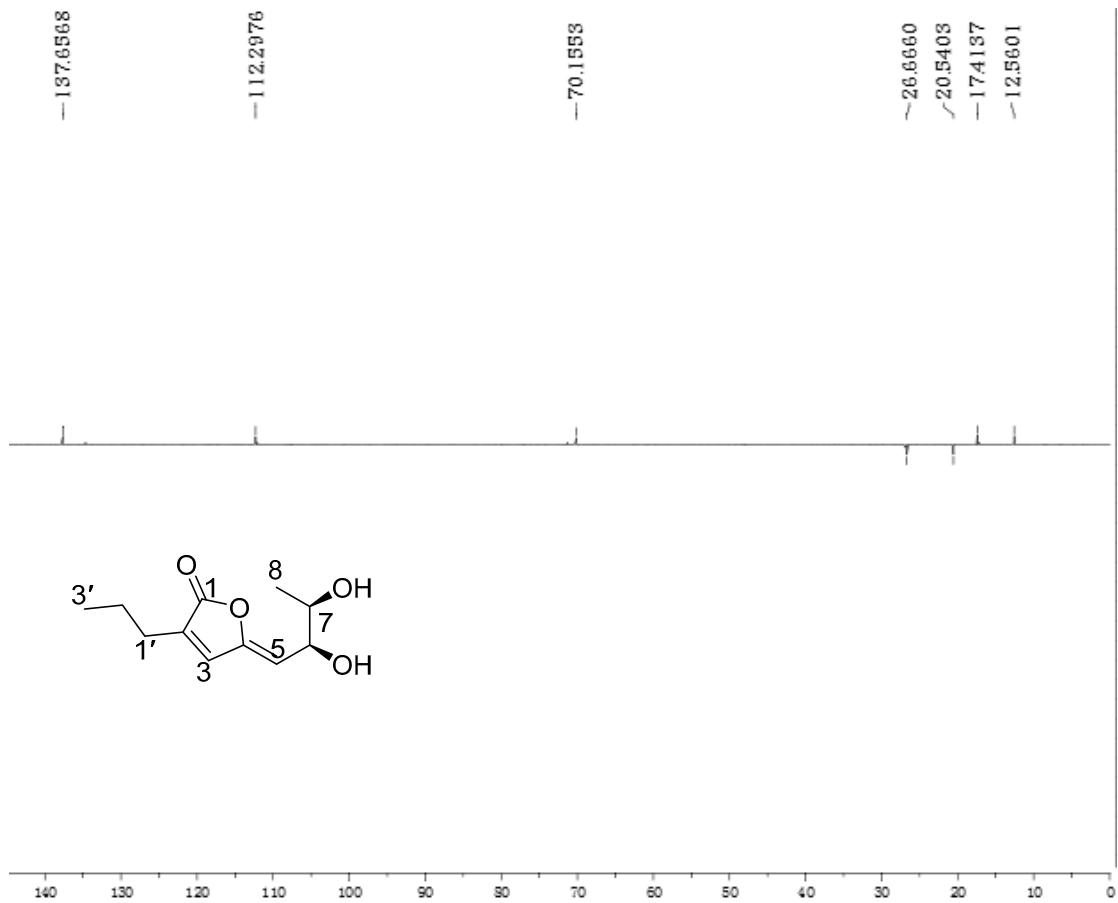


Figure S11 DEPT ( $\text{CD}_3\text{OD}$ , 100 MHz) spectrum of **2**.

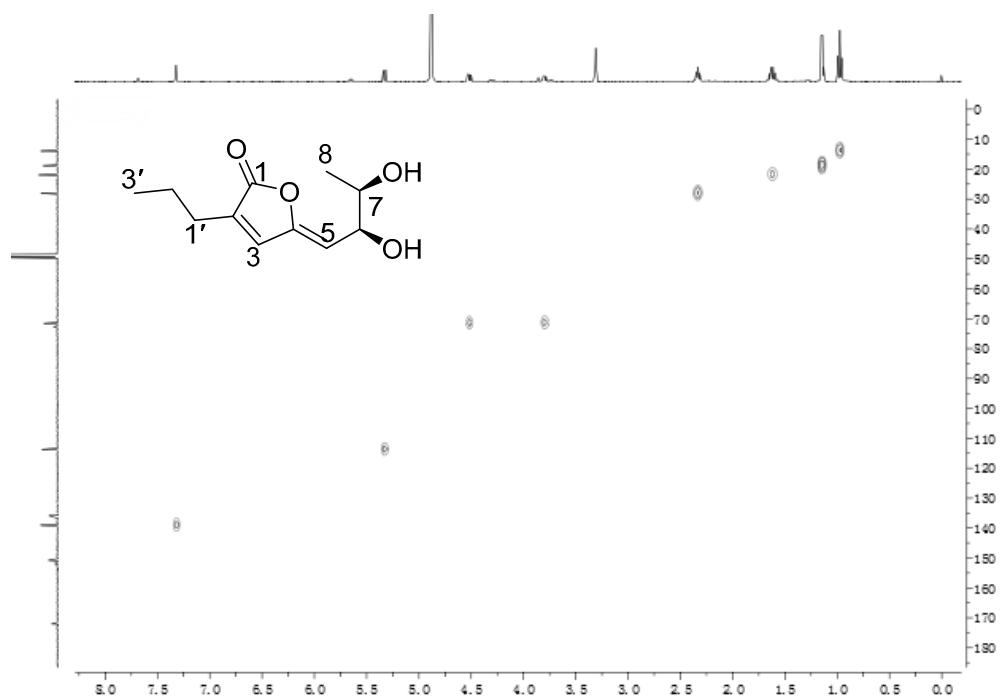


Figure S12 HMQC spectrum of **2**.

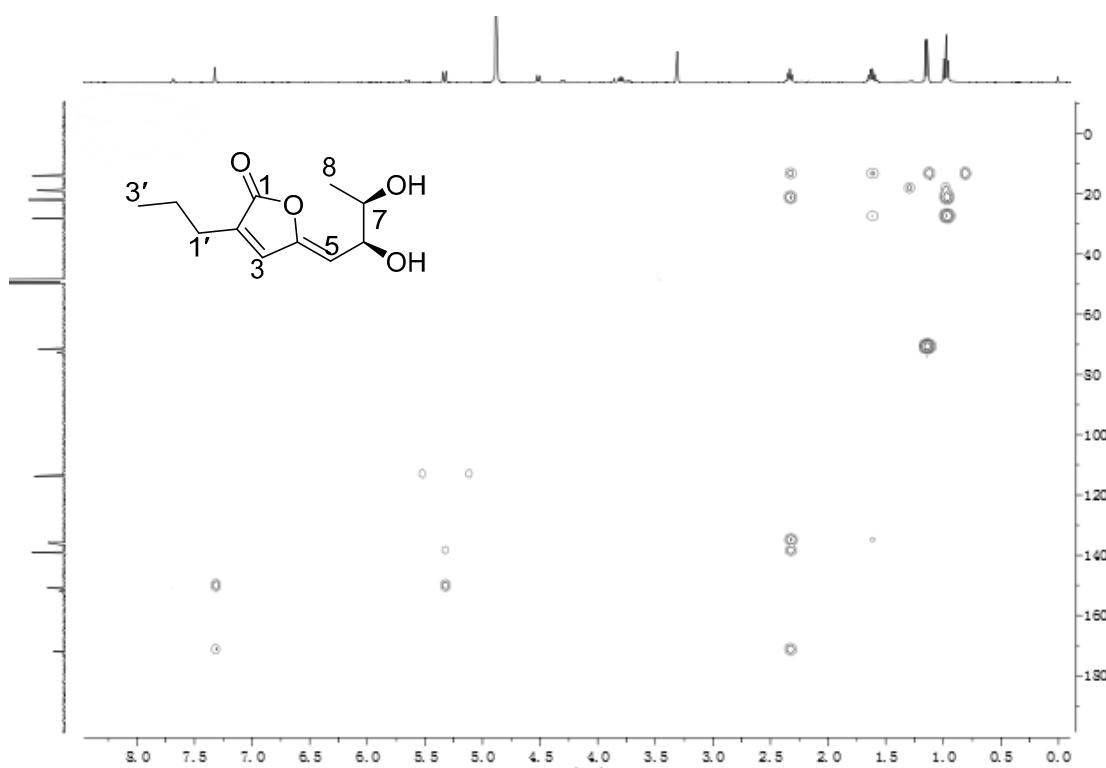


Figure S13 HMBC spectrum of **2**.

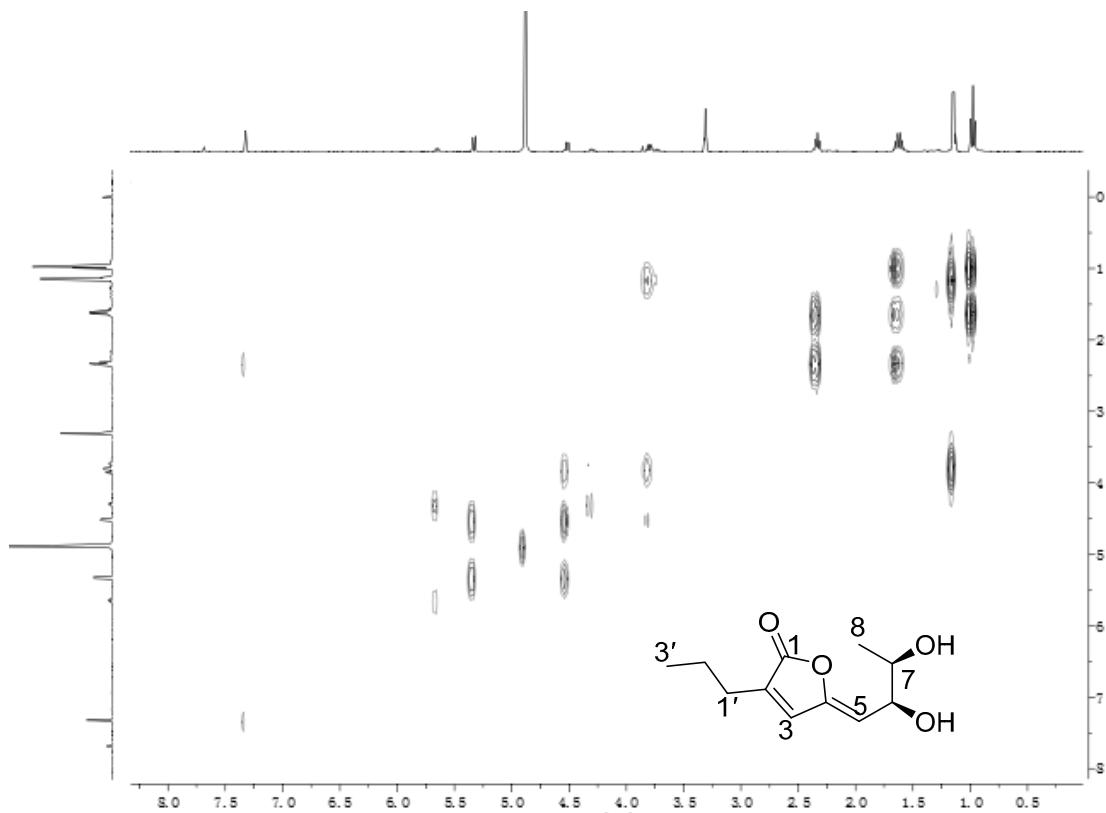


Figure S14  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **2**.

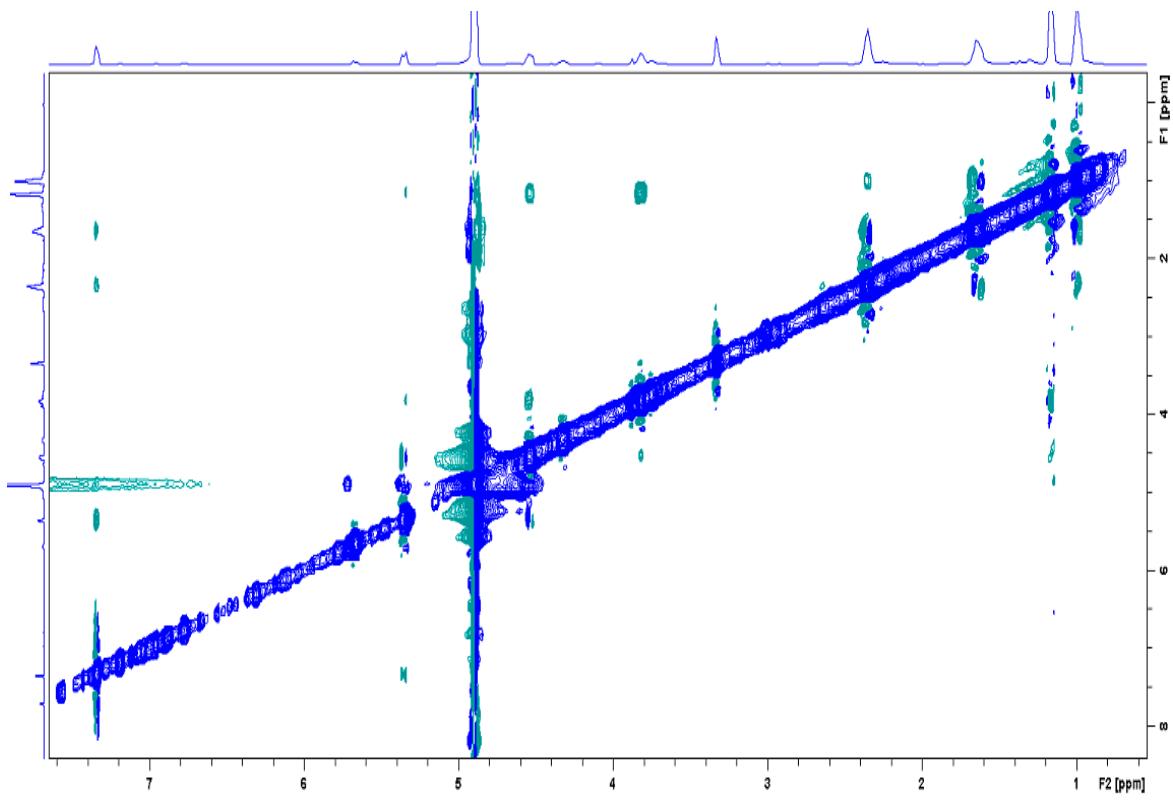


Figure S15 NOESY spectrum of **2**.

20190321-BX-1-B\_190314150900 #71 RT: 0.57 AV: 1 SB: 13 0.06-0.16 NL: 5.29E6  
T: FTMS + c ESI Full ms [50.00-2000.00]

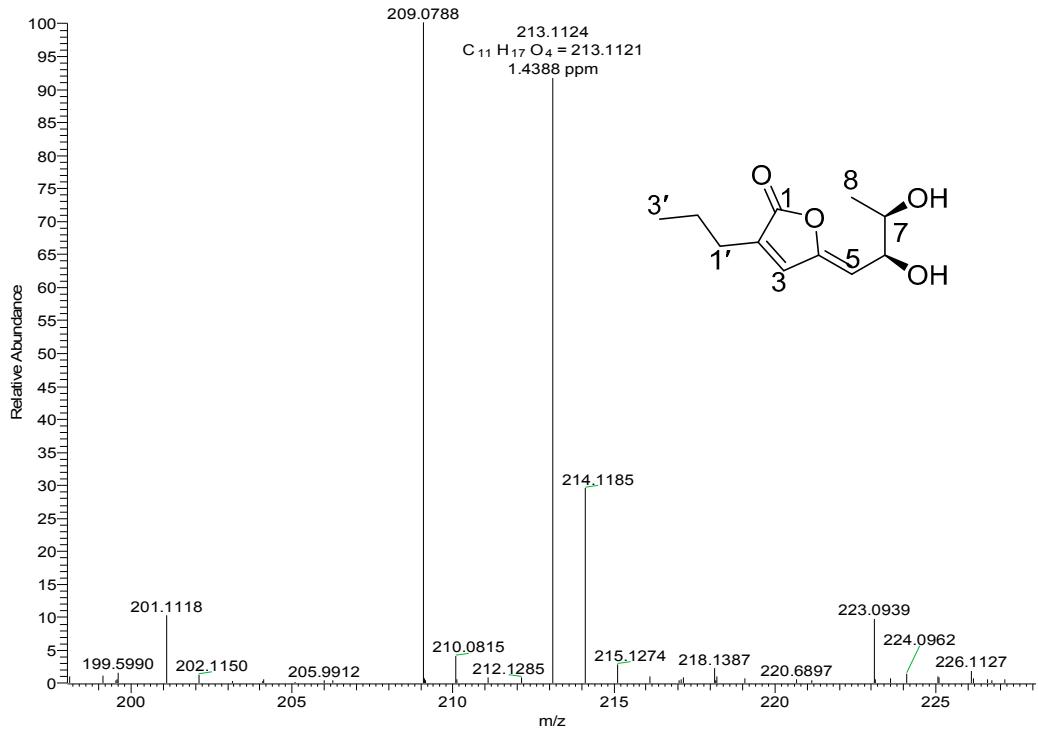


Figure S16 HR-ESI-MS spectrum of **2**.

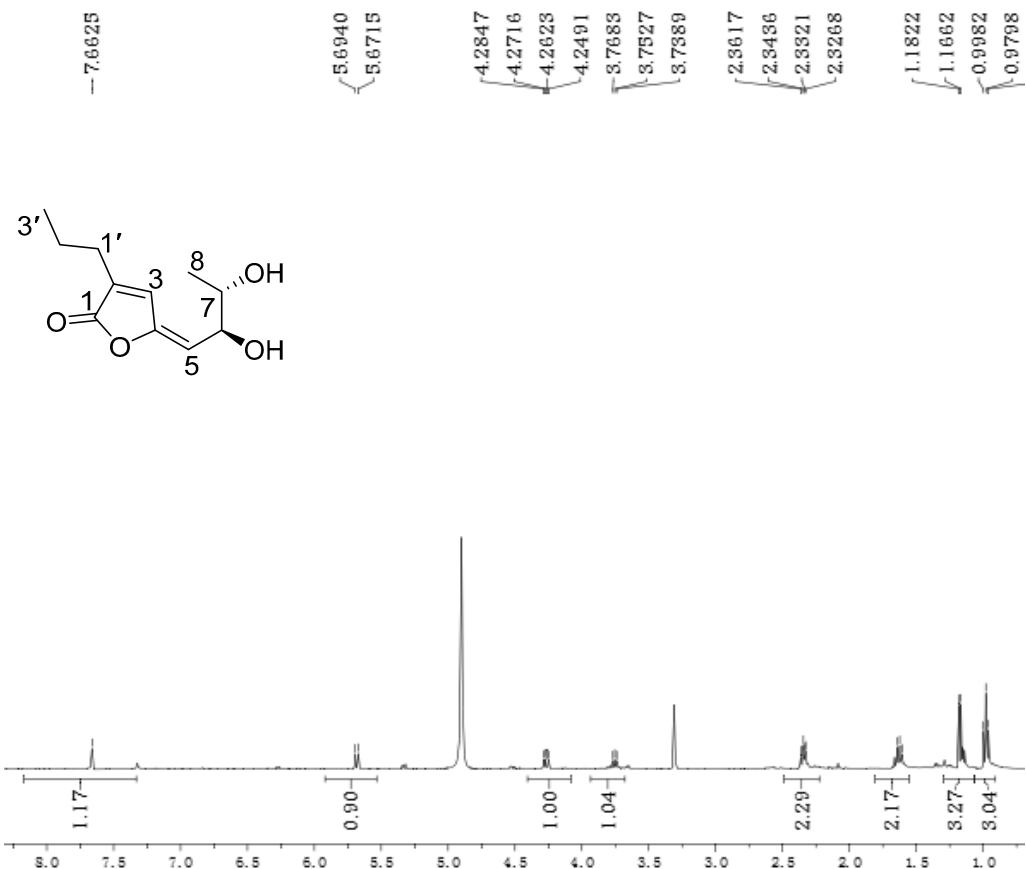


Figure S17  $^1\text{H}$  NMR (CD<sub>3</sub>OD, 400 MHz) spectrum of **3**.

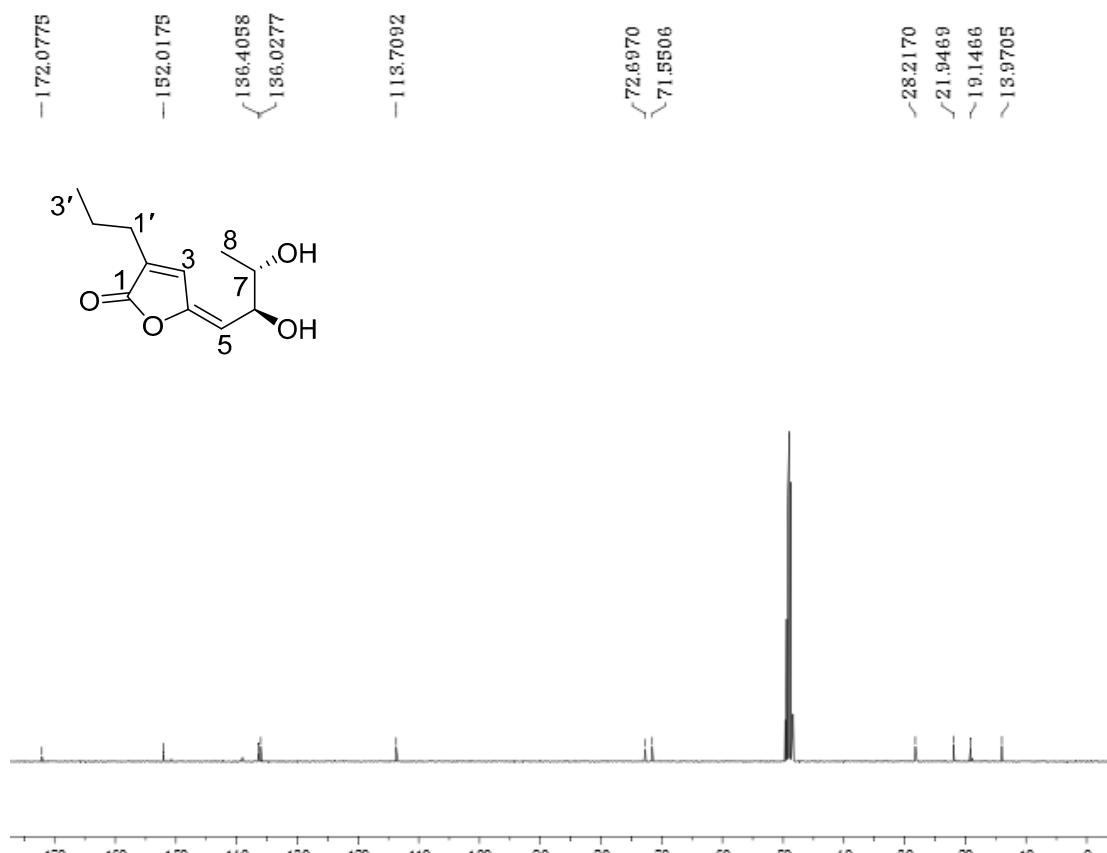


Figure S18  $^{13}\text{C}$  NMR (CD<sub>3</sub>OD, 100 MHz) spectrum of **3**.

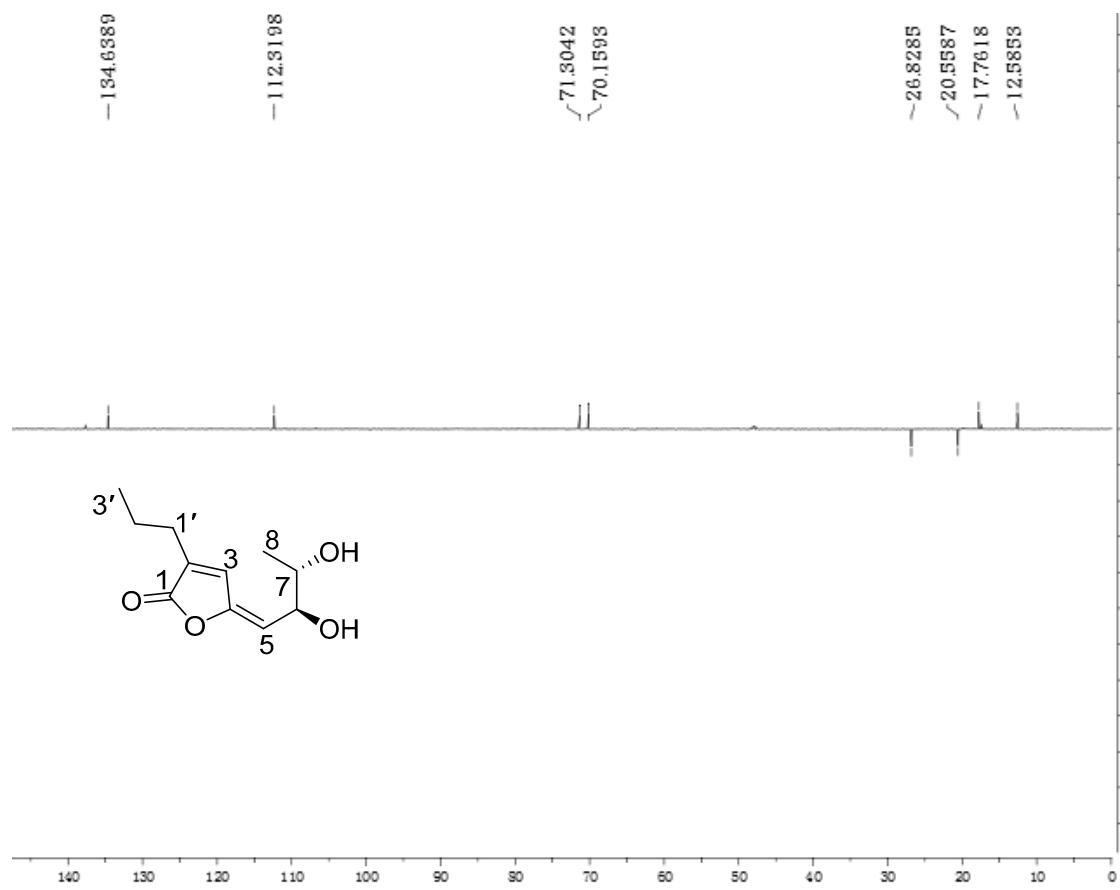


Figure S19 DEPT (CD<sub>3</sub>OD, 100 MHz) spectrum of **3**.

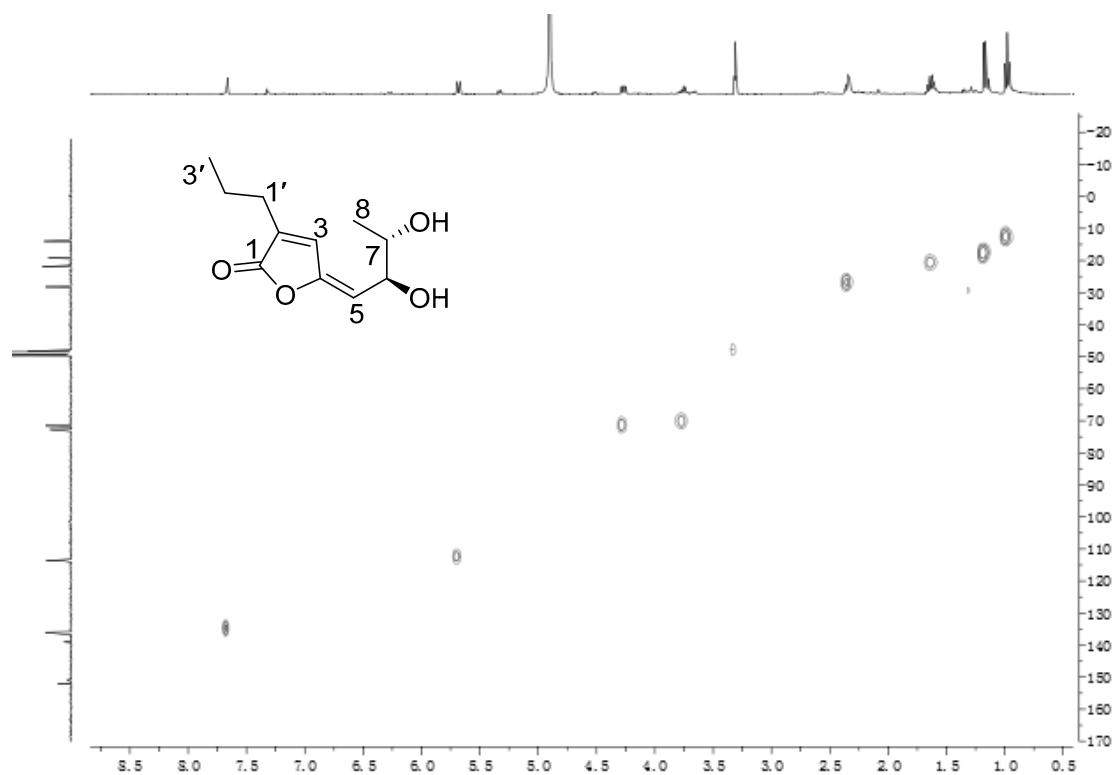


Figure S20 HMQC spectrum of **3**.

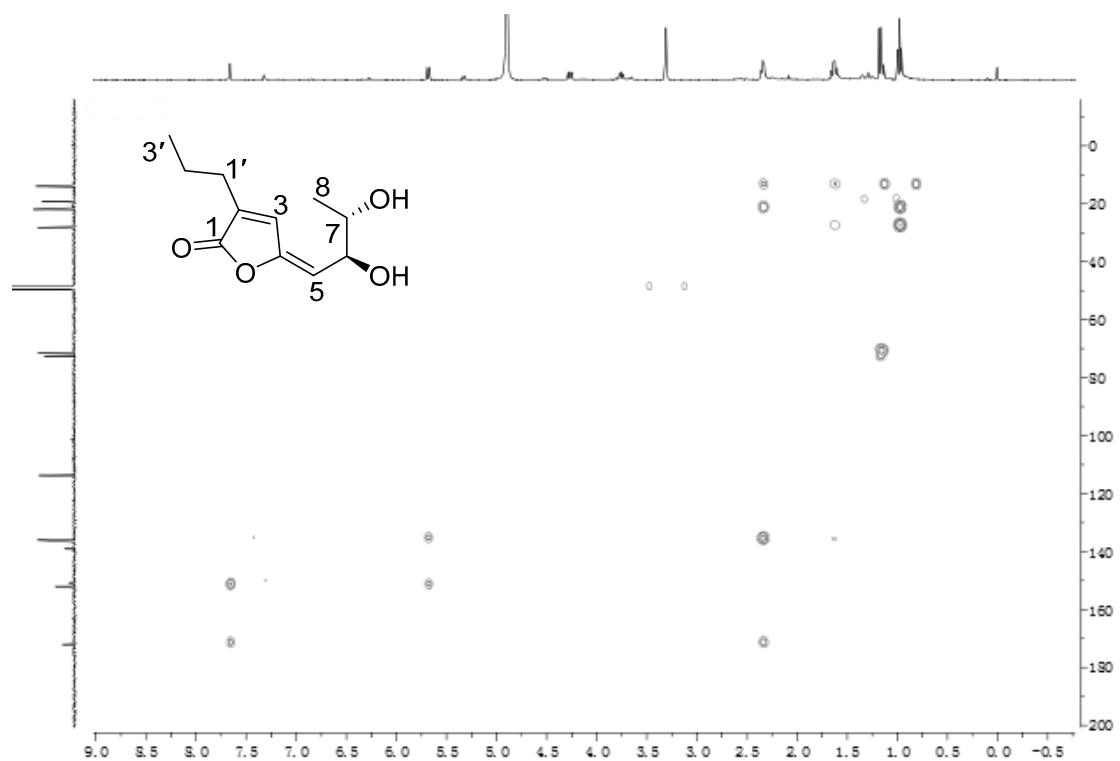


Figure S21 HMBC spectrum of **3**.

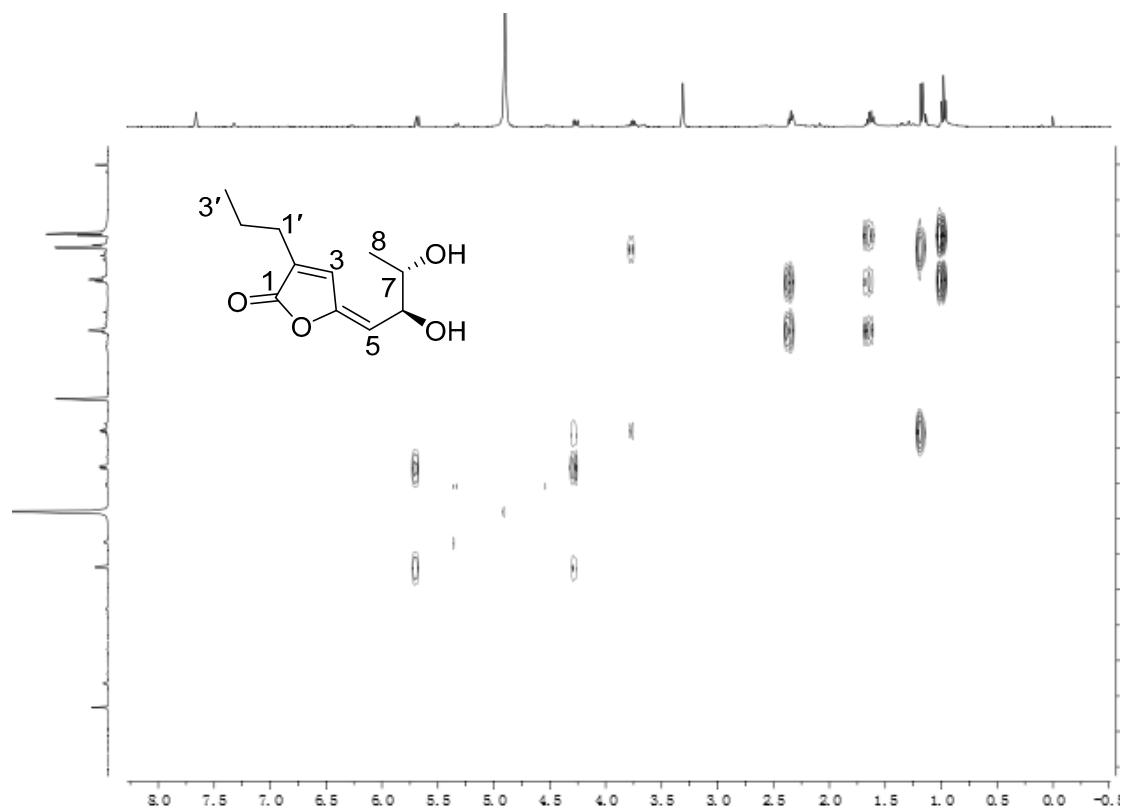


Figure S22  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of **3**.

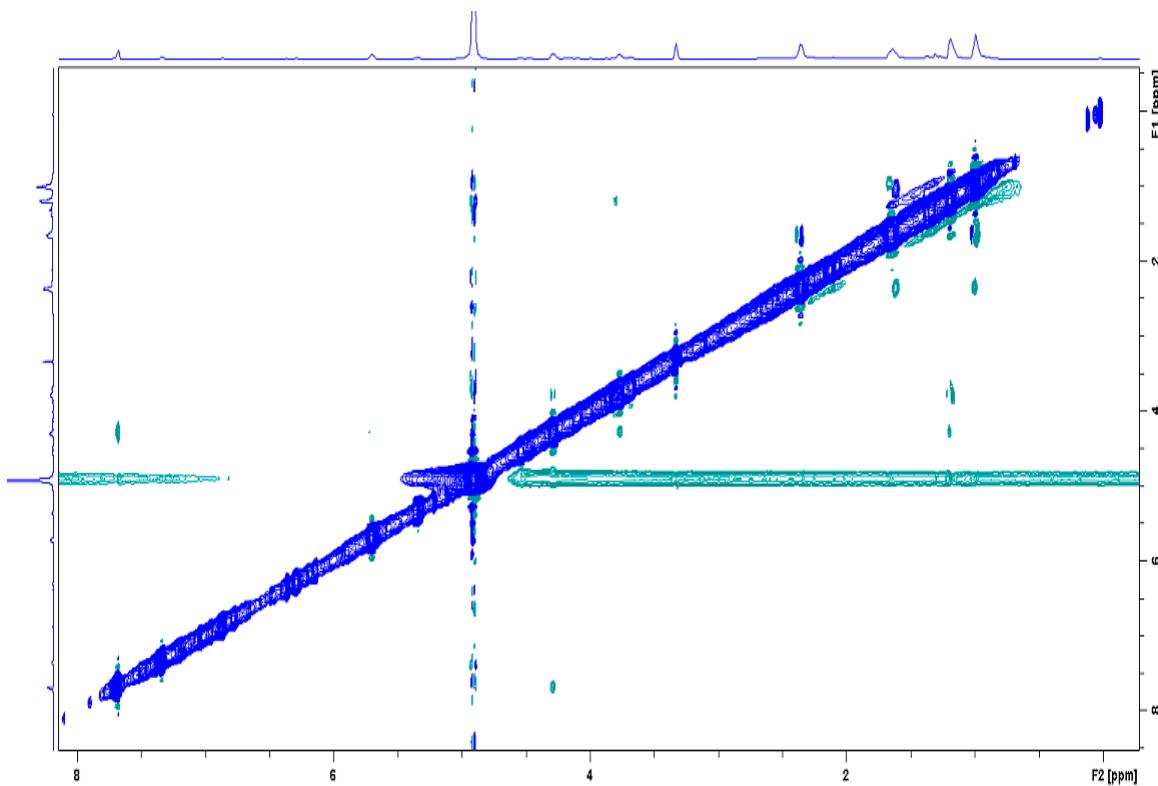


Figure S23 NOESY spectrum of **3**.

20190321-BX-A-3\_190314150900 #45 RT: 0.37 AV: 1 NL: 2.08E7  
T: FTMS + c ESI Full ms [50.00-2000.00]

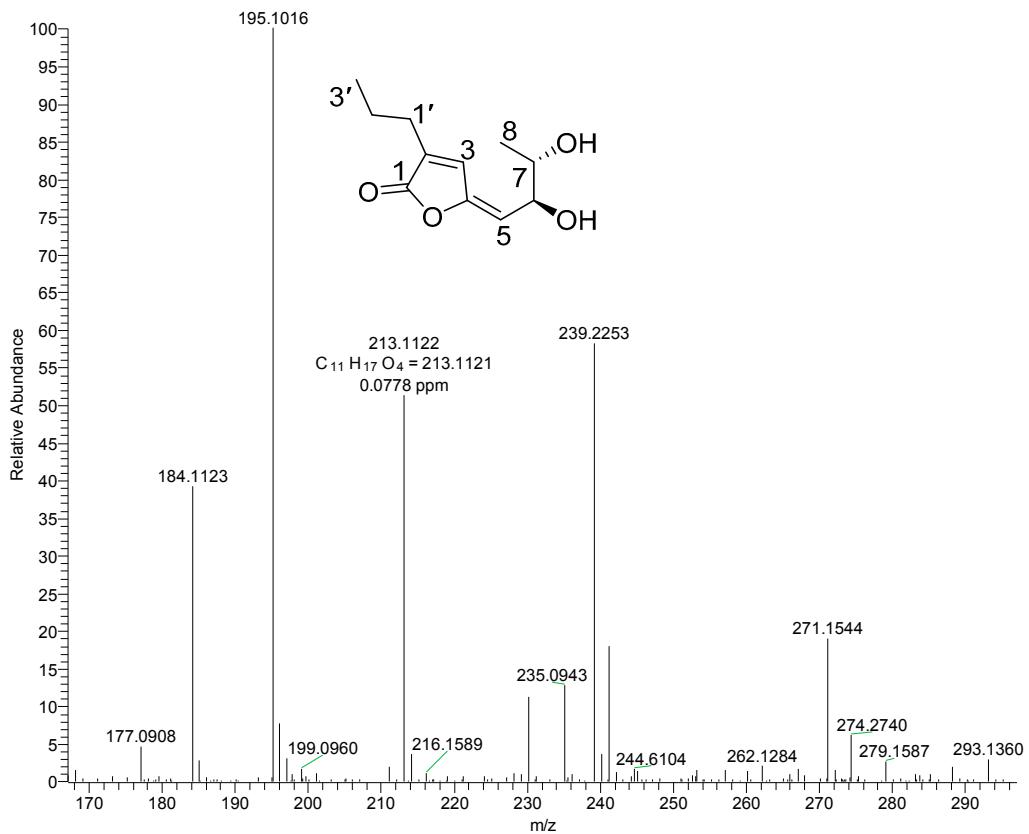


Figure S24 HR-ESI-MS spectrum of **3**.