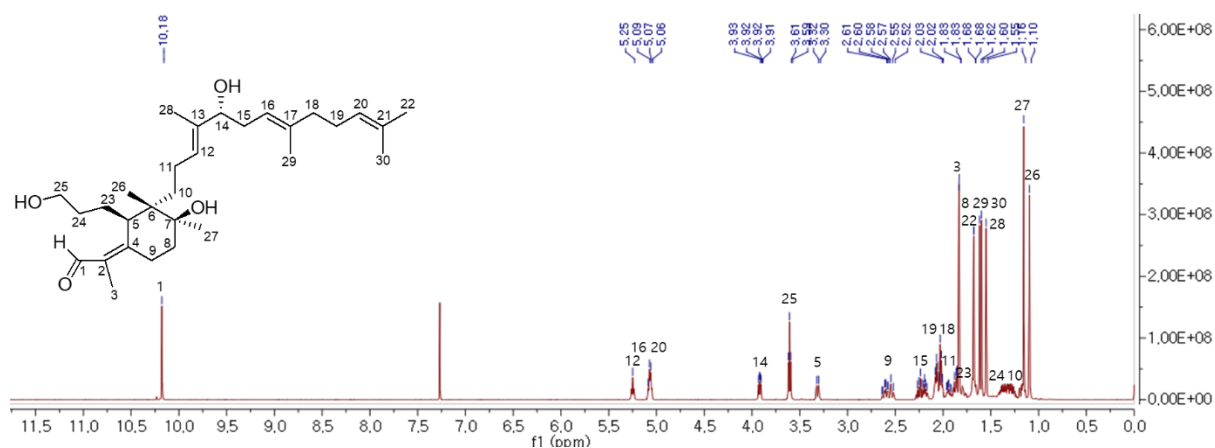


# Supplementary material

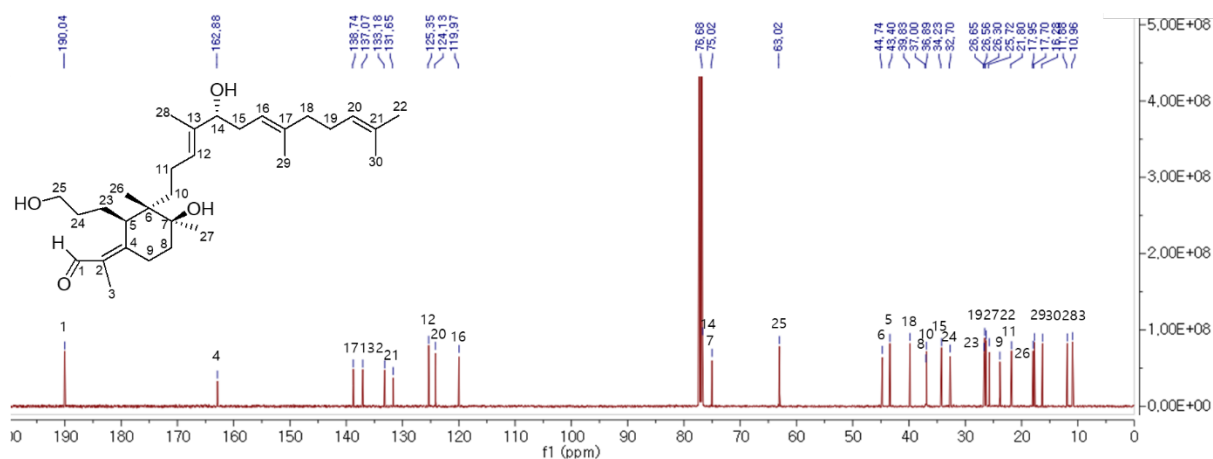
## Iridal-type triterpenoids displaying human neutrophil elastase inhibition and anti-inflammatory effects from *Belamcanda chinensis*

### **► Characterization Data**

- Figure. S1–7: NMR and HRESIMS data of compound **1**
- Figure. S8–14: NMR and HRESIMS data of compound **2**
- Figure. S15–21: NMR and HRESIMS data of compound **3**
- Table S1: Primer sequences used for RT- PCR

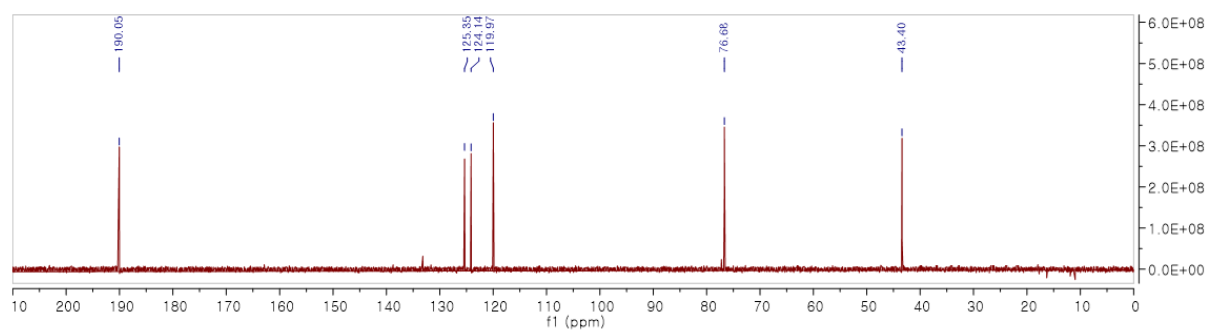


**Figure. S1.**  $^1\text{H}$ -NMR spectrum of compound **1** (500 MHz, chloroform-*d*)

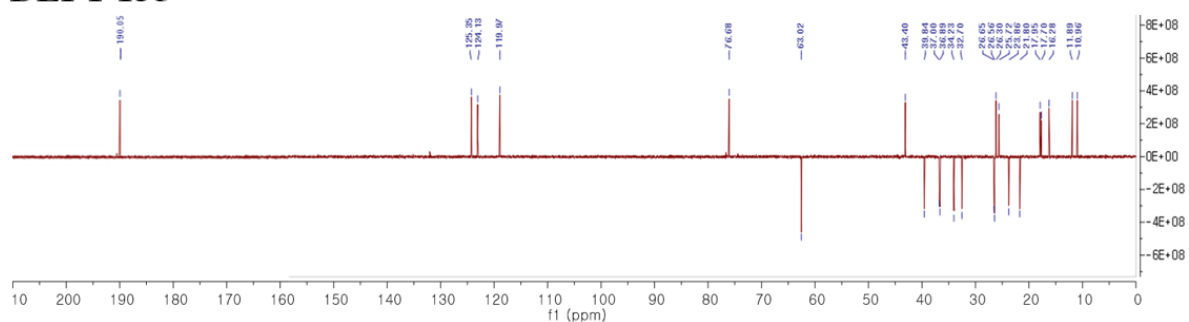


**Figure. S2.**  $^{13}\text{C}$ -NMR spectrum of compound **1** (500 MHz, chloroform-*d*)

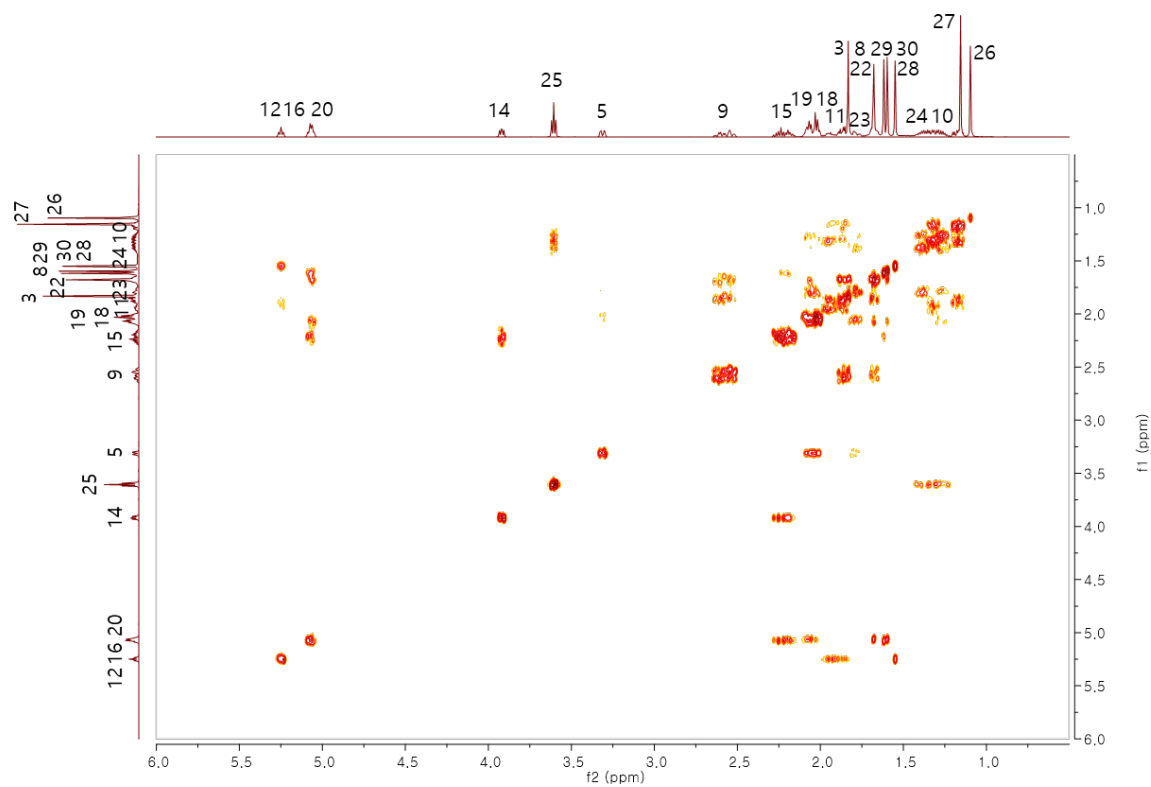
## DEPT 90



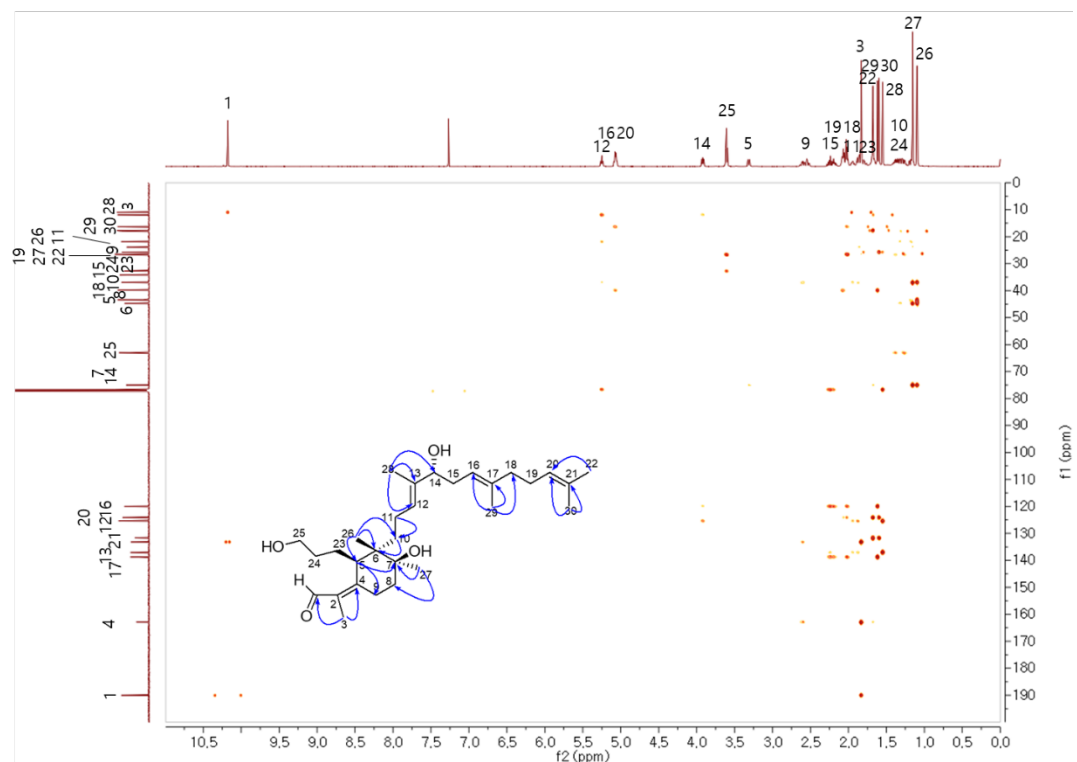
## DEPT 135



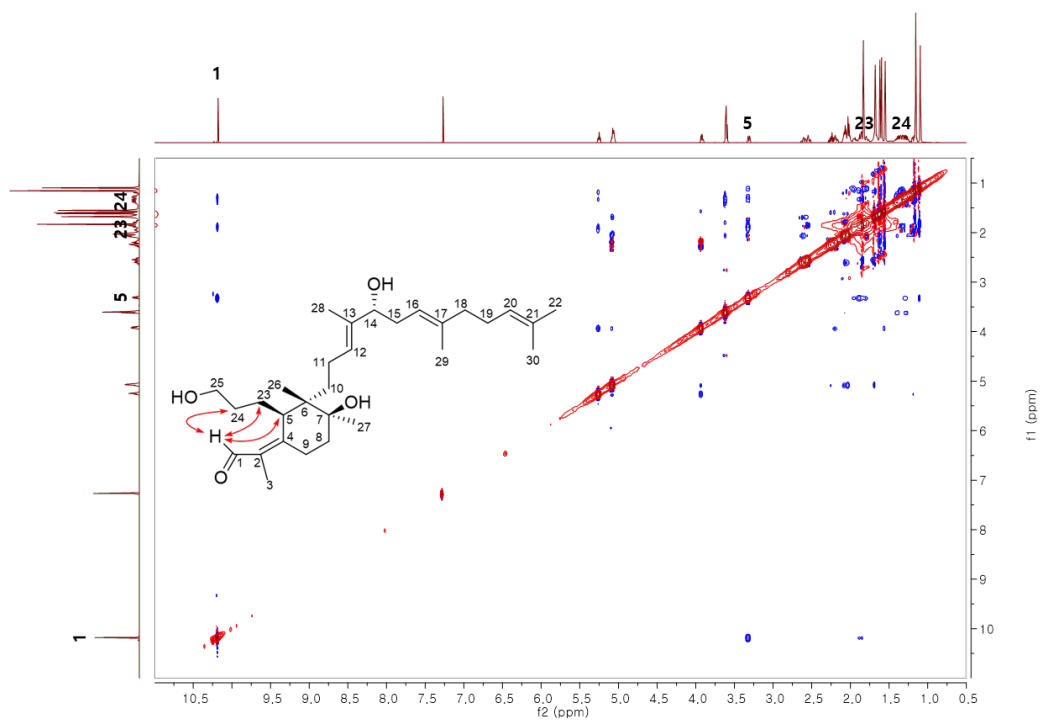
**Figure. S3.** DEPT-90 and -135 spectra of compound 1.



**Figure. S4.** COSY spectrum of compound 1.



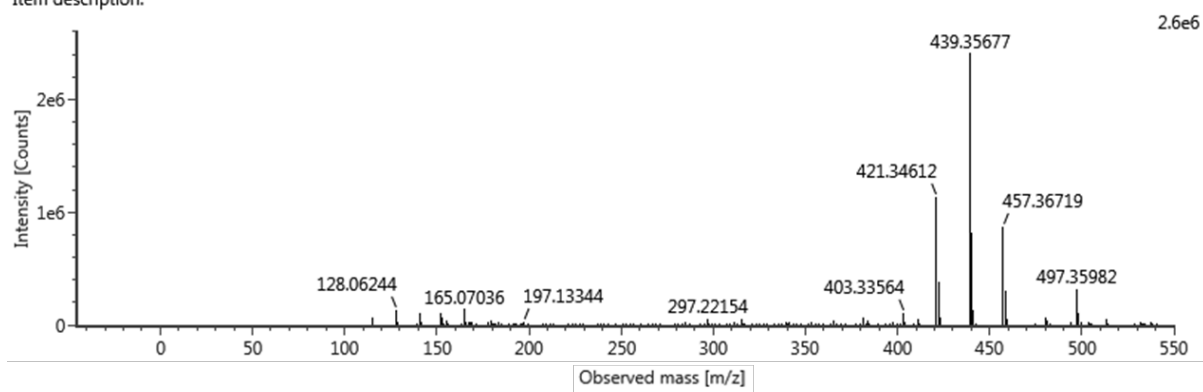
**Figure. S5.** HMBC spectrum of compound 1.



**Figure. S6.** NOESY spectrum of compound 1.

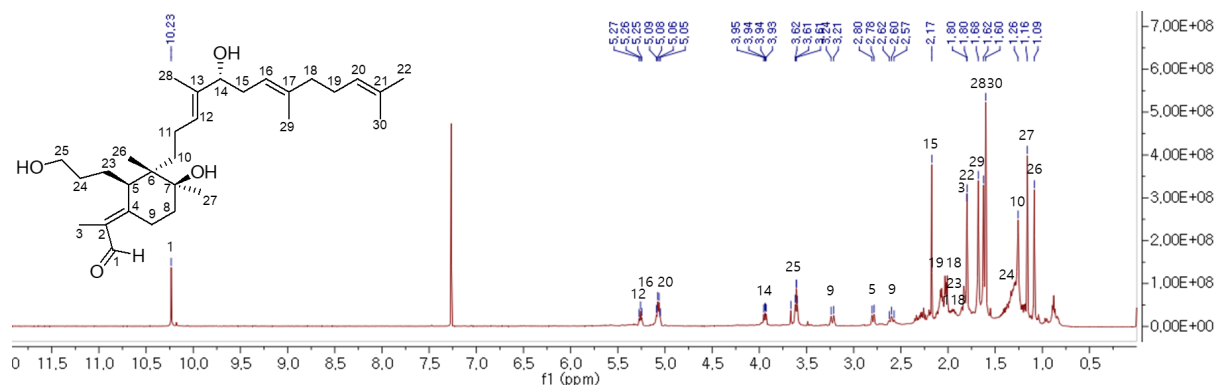
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Item description:

Channel name: Low energy : Time 5.6681 +/- 0.0171 minutes

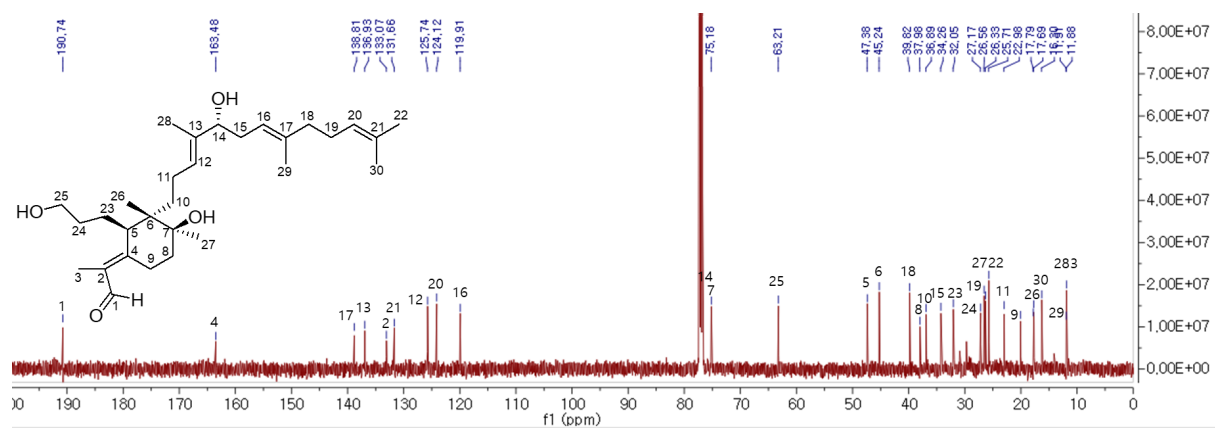


Component name	Formula	Neutral mass (Da)	Observed neutral mass (Da)	Observed m/z	Mass error (mDa)	Mass error (ppm)	Observed RT (min)	Adducts
Compound 1	C <sub>30</sub> H <sub>50</sub> O <sub>4</sub>	474.37091	474.3706	497.3598	-0.3	-0.6	5.67	+Na

**Figure. S7.** LC-Q-TOF/MS data of compound 1.

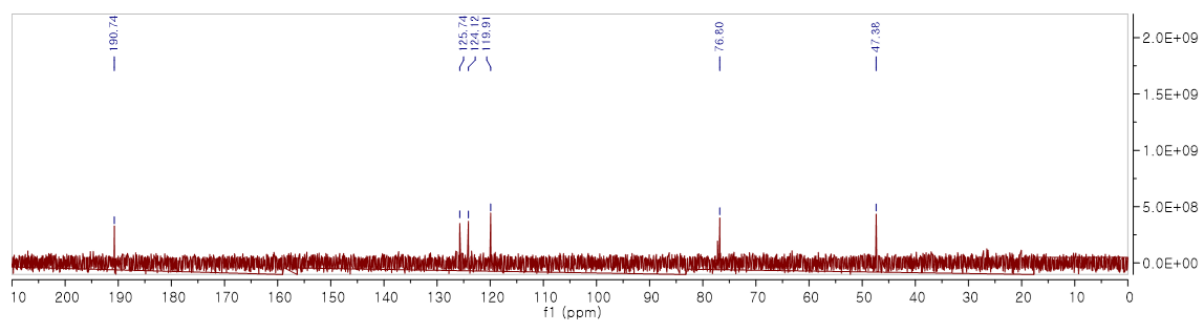


**Figure. S8.**  $^1\text{H}$ -NMR spectrum of compound **2** (500 MHz, chloroform-*d*)



**Figure. S9.**  $^{13}\text{C}$ -NMR spectrum of compound **2** (500 MHz, chloroform-*d*)

## DEPT 90



## DEPT 135

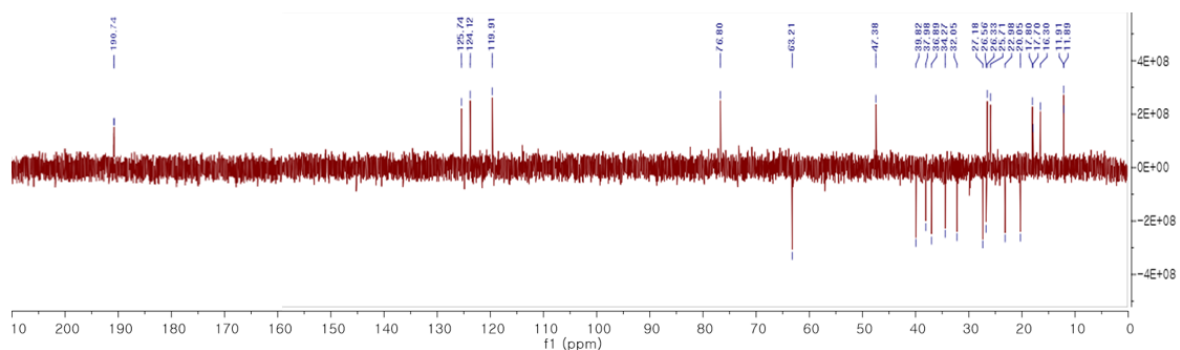


Figure. S10. DEPT-90 and -135 spectra of compound 2.

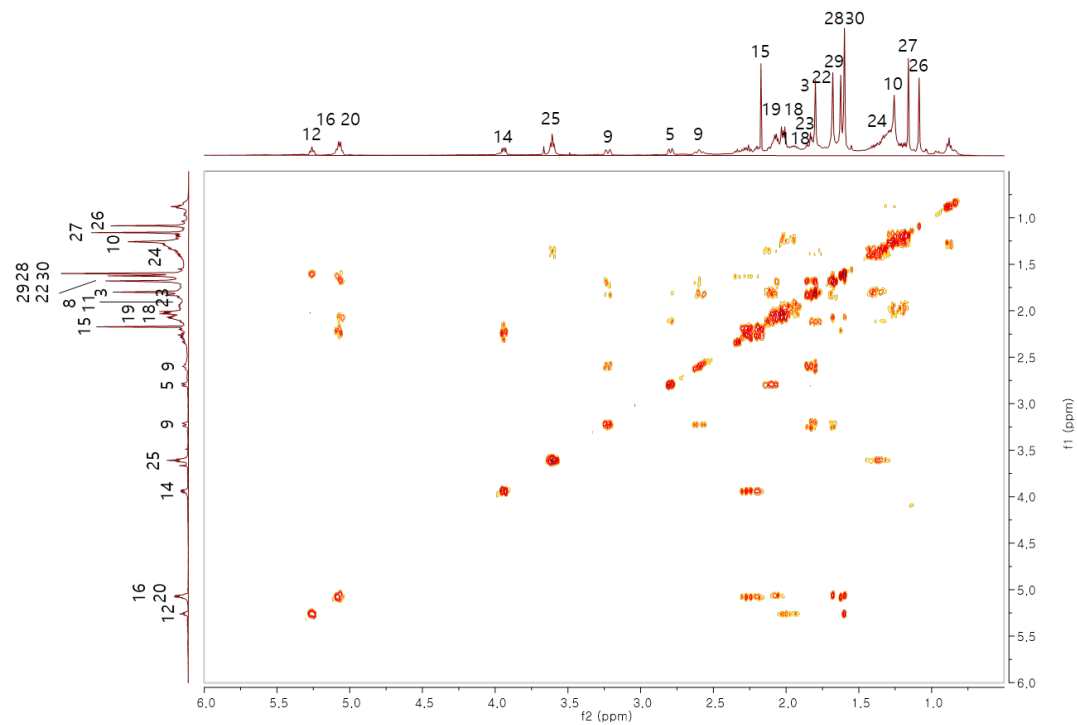
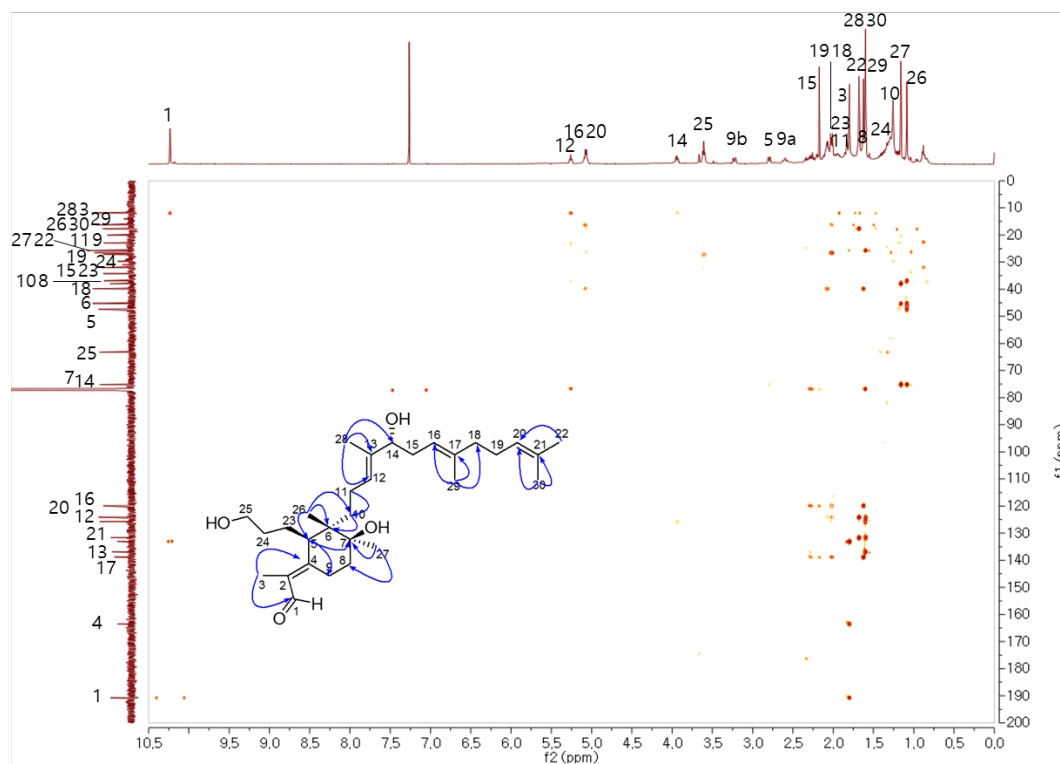
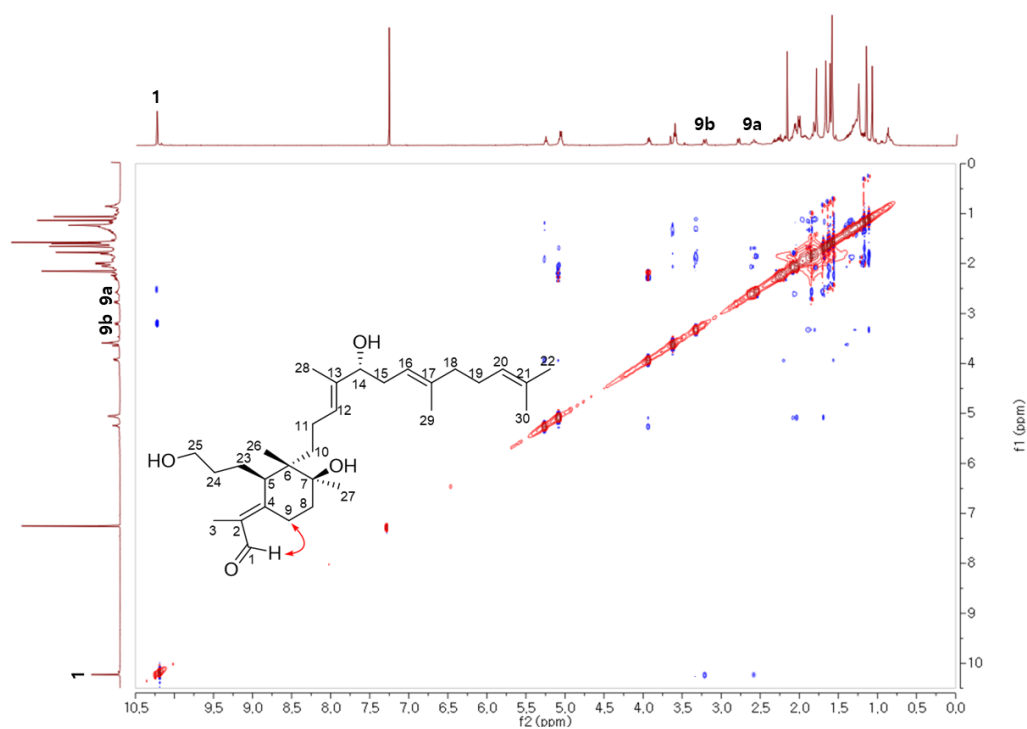


Figure. S11. COSY spectrum of compound 2.



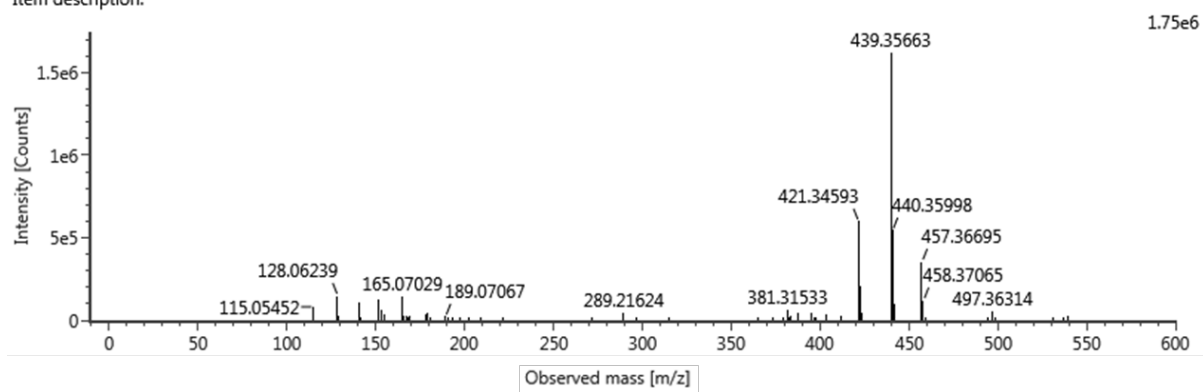
**Figure. S12.** HMBC spectrum of compound 2.



**Figure. S13.** NOESY spectrum of compound 2.

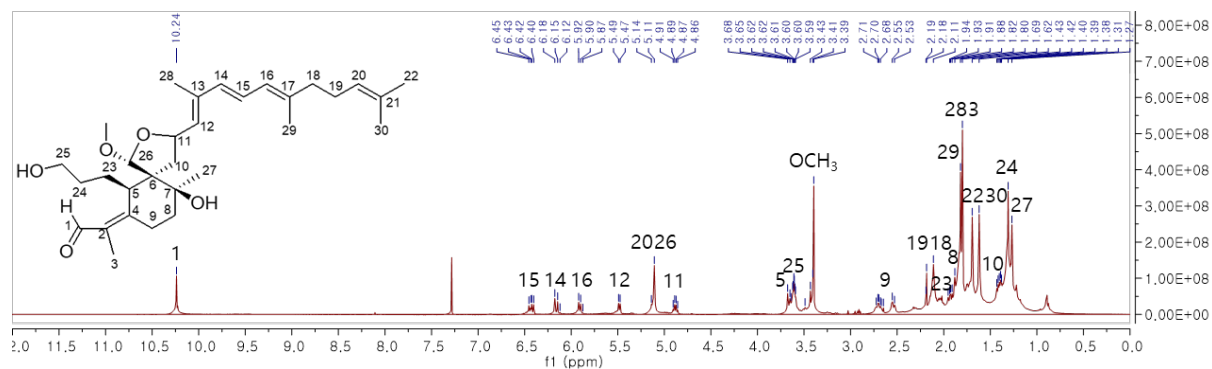
Item name: 10-30EV  
Item description:

Channel name: Low energy : Time 5.5892 +/- 0.0171 minutes

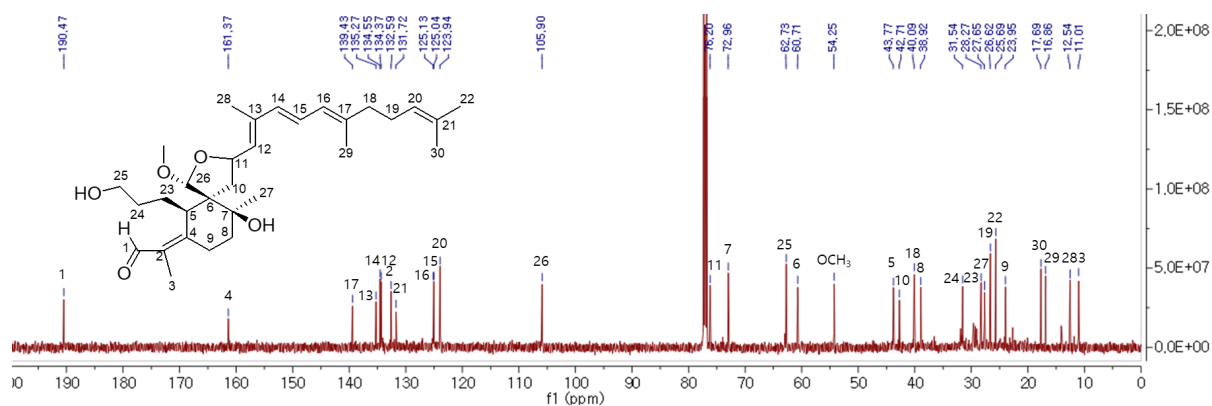


Component name	Formula	Neutral mass (Da)	Observed neutral mass (Da)	Observed m/z	Mass error (mDa)	Mass error (ppm)	Observed RT (min)	Adducts
Compound 2	C <sub>30</sub> H <sub>50</sub> O <sub>4</sub>	474.37091	474.3739	497.3631	3.1	6.3	5.59	+Na

**Figure. S14.** LC-Q-TOF/MS data of compound 2.

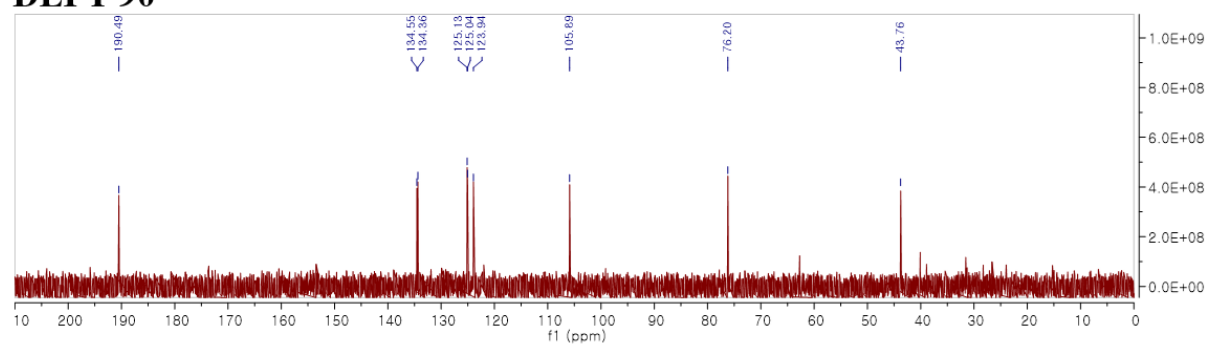


**Figure. S15.**  $^1\text{H}$ -NMR spectrum of compound **3** (500 MHz, chloroform-*d*).

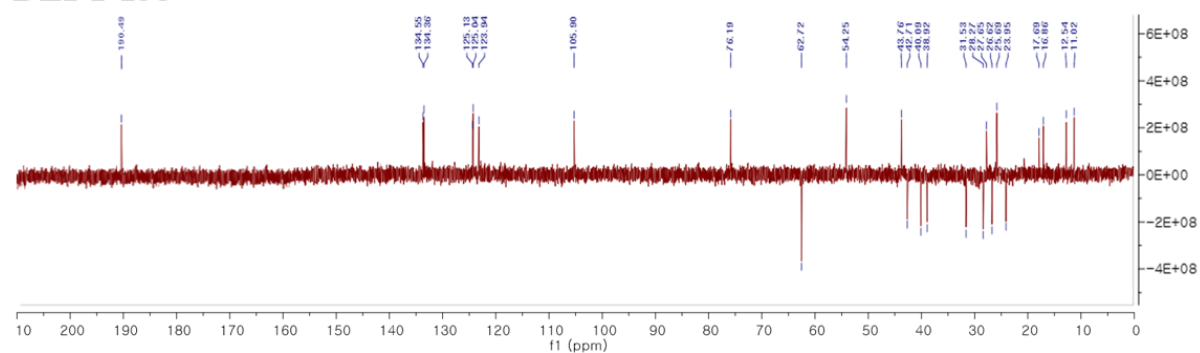


**Figure. S16.**  $^{13}\text{C}$ -NMR spectrum of compound **3** (500 MHz, chloroform-*d*).

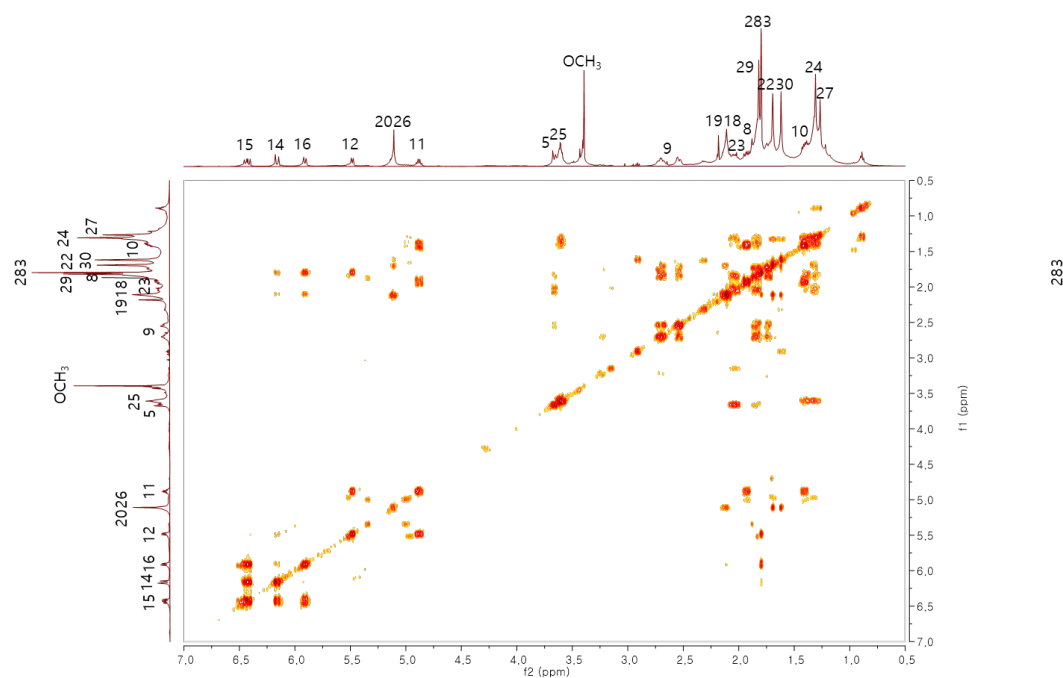
# DEPT 90



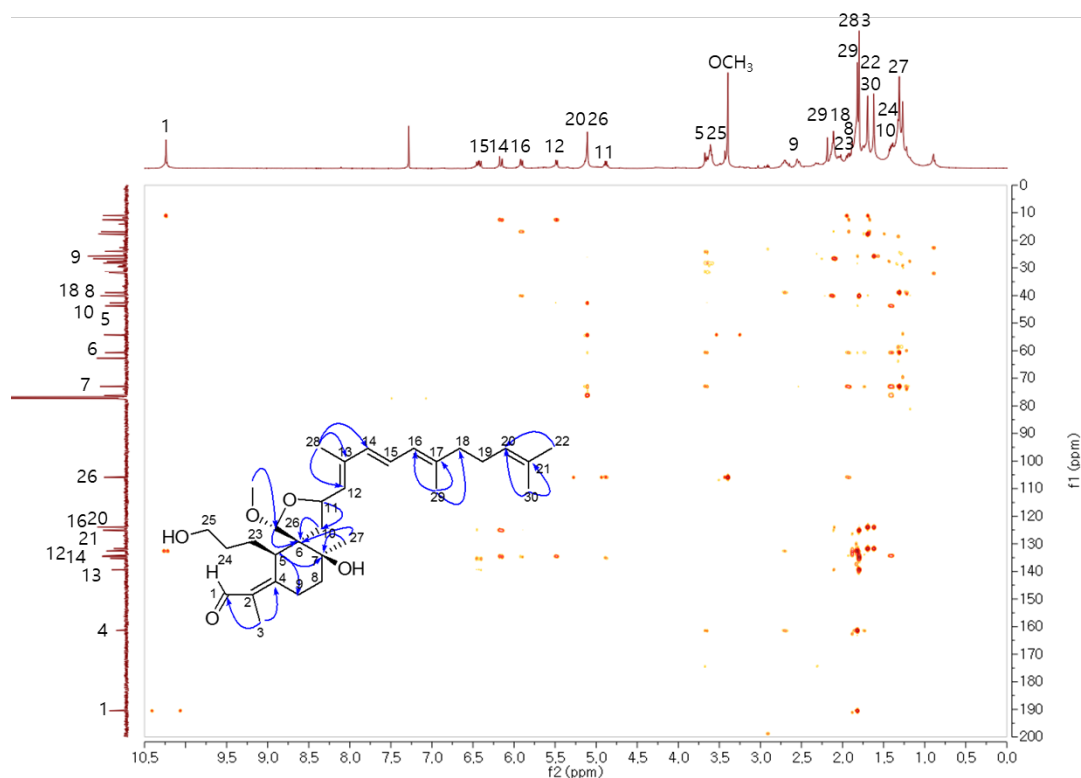
# DEPT 135



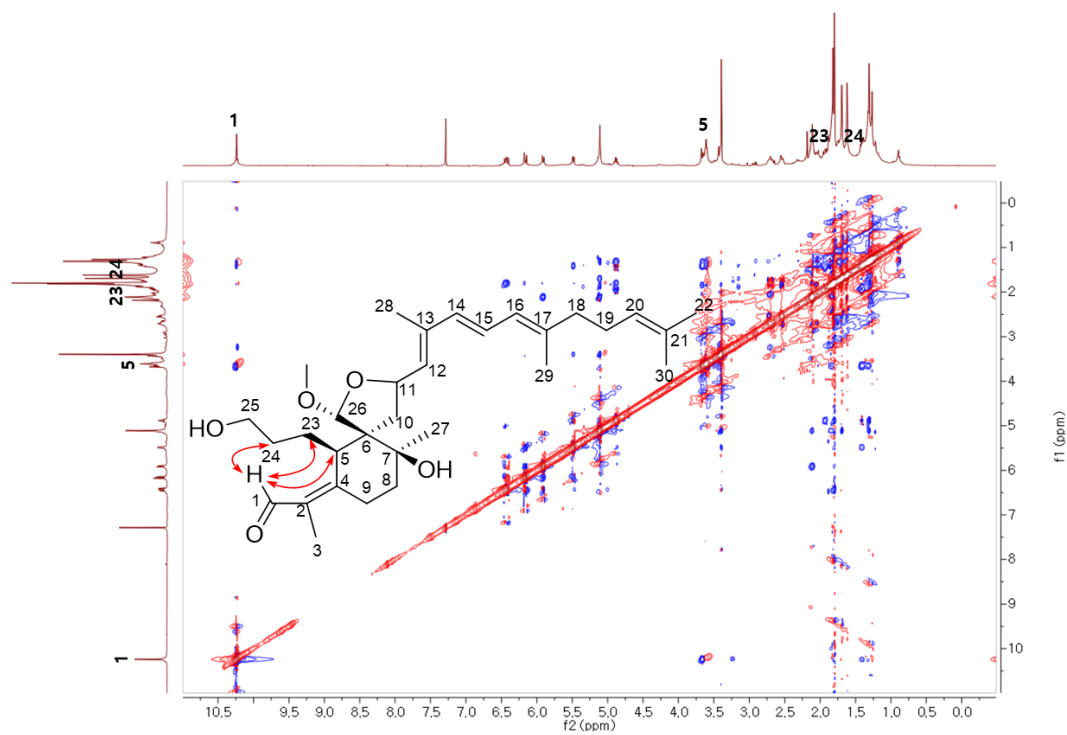
**Figure. S17.** DEPT-90 and -135 spectra of compound **3**.



**Figure. S18.** COSY spectrum of compound **3**.



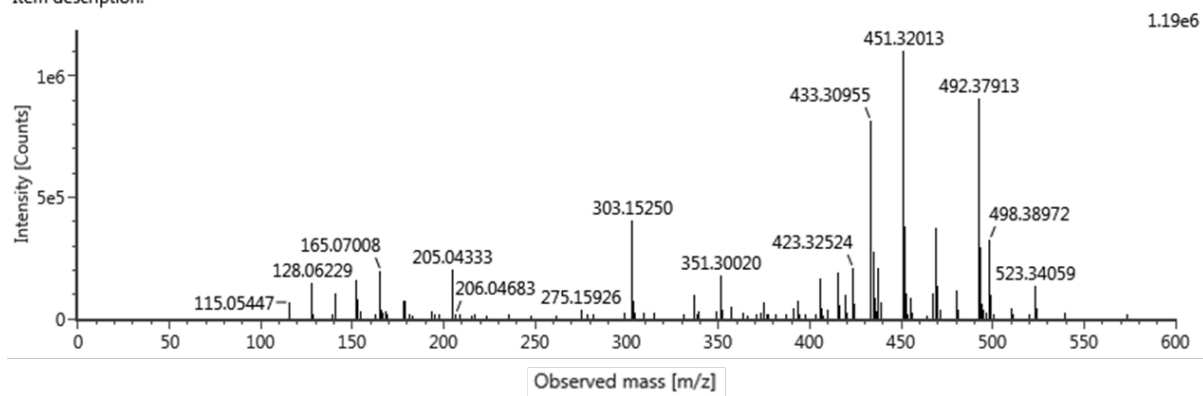
**Figure. S19.** HMBC spectrum of compound **3**.



**Figure. S20.** NOESY spectrum of compound **3**.

Item name: 10-30EV  
Item description:

Channel name: Low energy : Time 6.4106 +/- 0.0171 minutes



Component name	Formula	Neutral mass (Da)	Observed neutral mass (Da)	Observed m/z	Mass error (mDa)	Mass error (ppm)	Observed RT (min)	Adducts
Compound 4	C <sub>31</sub> H <sub>48</sub> O <sub>5</sub>	500.35017	500.3514	523.3406	-0.3	0.6	6.41	+Na

**Figure. S21.** LC-Q-TOF/MS data of compound 3.

**Table S1.** Primer sequences used for RT- PCR

Gene Name	GenBank Acc. No.	Primer Sequences (5'-3')	Expected Size (bp)
<i>Il1b</i>	NM_008361.4	Sense: GTTGACGGACCCCAAAAGAT Antisense: TCGTTGCTTGGTTCTCCTTG	440
<i>Nos2</i>	<u>NM_012611.3</u>	Sense: CTCCATGACTCTCAGCACAGAG Antisense: GCACCGAAGATATCCTCATGAT	401
<i>Tnf</i>	NM_013693.3	Sense: CAGCCTCTTCTCTTCTCATTCCTGC Antisense: TGTCCCTTGAAGAGAGAACCTG	339
<i>Gapdh</i>	GU214026	Sense: CTA AAG GGC ATC CTG GGC Antisense: TTA CTC CTT GGA GGC CAT	201