SUPPLEMENTARY MATERIAL

Isolaurenidificin and Bromlaurenidificin, two new C15-acetogenins from the red alga Laurencia obtusa

Nahed O. Bawakid1, Waled M. Alarif2*, Nagla A. Alboura3, Hajar S. Alorfi1, Khalid O. Al-Footy1, Sultan S. Al-Lihaibi2 and Mohamed A. Ghandourah2

1 Department of Chemistry, Faculty of Science, King Abdulaziz University, PO. Box 80203, Jeddah 21589, Saudi Arabia; nahbaw@kau.edu.sa (N.O.B); halaorfi@kau.edu.sa (H.S.A.); Kalfooti@kau.edu.sa (Kh.O.A.).
2 Department of Marine Chemistry, Faculty of Marine Sciences, King Abdulaziz University, PO.Box 80207, Jeddah 21589, Saudi Arabia; sallihaibi@kau.edu.sa (S.S.A.); mghandourah@kau.edu.sa (M.H.Gh.)
3 Department of Biology, Faculty of Sciences, King Abdulaziz University, PO. Box 80207, Jeddah 21589, Saudi Arabia; nalbourae@gmail.com (N.A.A.)
* Correspondence: walied1737@yahoo.com; welaref@kau.edu.sa. Tel.: +966- 56-0352-034.
Isolaurenidificin and Bromlaurenidificin, two new C$_{15}$-acetogenins from the red alga Laurencia obtusa

Abstract
Chromatographic investigation of the CH$_2$Cl$_2$/MeOH extract of the Red Sea red alga Laurencia obtusa gave two new hexahydrofuro[3,2-b]furan-based C$_{15}$-acetogenin, namely, isolaurenidificin (1) and bromlaurenidificin (2). Their chemical structures were elucidated based on extensive analyses of their spectral data. The apoptosis-inducing or inhibiting effect of both compounds on apoptosis of peripheral blood neutrophils was studied.

Keywords: Marine algae; Fatty acids; halogenations; spectroscopy; Anti-inflammatory.
Figure S1a: $^1$HNMR of compound 1
Figure S1b: $^1$HNMR of compound 1
Figure S1c: 'HNMR of compound 1
Figure S1d: $^1$HNMR of compound 1
Figure S1e: $^1$HNMR of compound 1
Figure S1f: $^{13}$CNMR of compound 1
Figure S1g: $^{13}$C-NMR of compound 1
Figure S1h: DEPT NMR of compound 1
Figure S1i: COSY NMR of compound 1
Figure S1j: COSY NMR of compound 1
Figure S1k: COSY NMR of compound 1
Figure S11: HSQC NMR of compound 1
Figure S1m: HSQC NMR of compound 1
Figure S1n: HSQC NMR of compound 1
Figure S10: HMBC NMR of compound 1
Figure S1p: HMBC NMR of compound 1
Figure S1q: HMBC NMR of compound 1
Figure S1r: NOESY NMR of compound 1
Figure S2a: $^1$HNMR of compound 2
Figure S2b: $^1$HNMR of compound 2
Figure S2c: $^1$HNMR of compound 2
Figure S2d: $^1$HNMR of compound 2
Figure S2e: $^1$HNMR of compound 2
Figure S2f: $^{13}$CNMR of compound 2
Figure S2g: $^{13}$CNMR of compound 2
Figure S2h: DEPT NMR of compound 2
Figure S2i: COSY NMR of compound 2
Figure S2j: COSY NMR of compound 2
Figure S2k: COSY NMR of compound 2
Figure S2l: HSQC NMR of compound 2
Figure S2m: HSQC NMR of compound 2
Figure S2n: HMBC NMR of compound 2
Figure S2o: NOESY NMR of compound 2
Figure S2p: NOESY NMR of compound 2