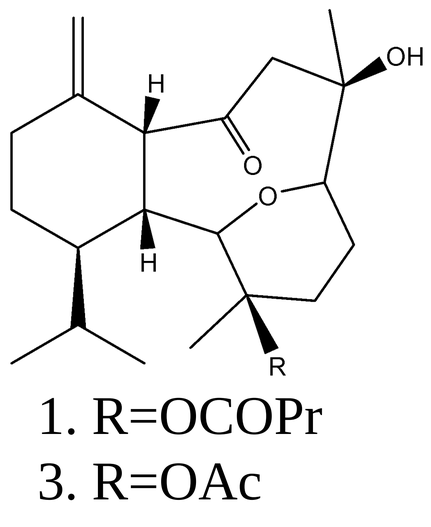
Four new eunicellin-based diterpenoids from soft coral *Cladiella conifera* (Tixier-Durivault, 1943)

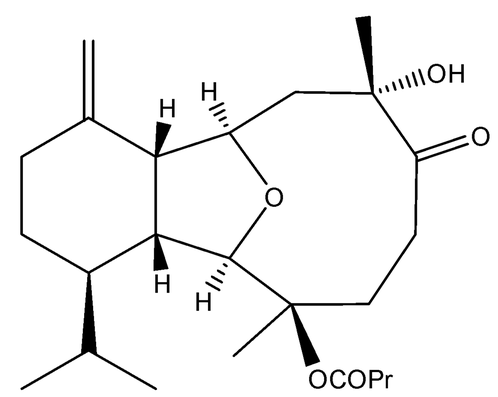
Jhao-Syuan Zeng [a,b], Pin-Chang Huang [b,c], Ping-Jyun Sung [b,d,e,f,]*

[a] Graduate Institute of Marine Biology, National Dong Hwa University, Pingtung 944401, Taiwan
[b] National Museum of Marine Biology and Aquarium, Pingtung 944401, Taiwan
[c] Doctoral Degree Program in Marine Biotechnology, National Sun Yat-Sen University, Kaohsiung 804201, Taiwan
[d] Department of Marine Biotechnology and Resources, National Sun Yat-sen University, Kaohsiung 804201, Taiwan
[e] Chinese Medicine Research and Development Center, China Medical University Hospital, Taichung 404394, Taiwan
[f] Graduate Institute of Natural Products, Kaohsiung Medical University, Kaohsiung 807378, Taiwan
[*] Corresponding author: pjsung@nmmba.gov.tw (P.-J. Sung).

Abstract

Eunicellin-based diterpenoid had been found to possess multiple and extensive bioactivities, which was rich in the octocoral of genus *Cladella*. Therefore, we collected *Cladella conifera* from Penghu Archipelago in Taiwan by scuba diving. It isolation of seven eunicellin type diterpenoids, including four new compounds coniferains A-D (**1**, **2**, **6**, and **7**), and three known compounds, multifloralin (**3**), litophynol B (**4**), (1*R**,2*R**,3*R**,6*S**,7*S**,9*R**,10*R**,14*R**)-3-butanoyloxycladiell-11(17)-en-6,7-diol (**5**). The structures **1**–**5** were determined by extensive spectroscopic analysis and comparison of spectroscopic with those data release before. These compounds showed not efficient cytotoxic activity to HL-60 and HT-29 cell lines, .





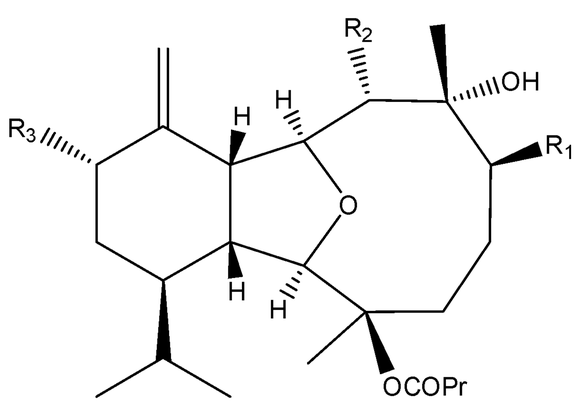


Figure 1. The structure of compounds

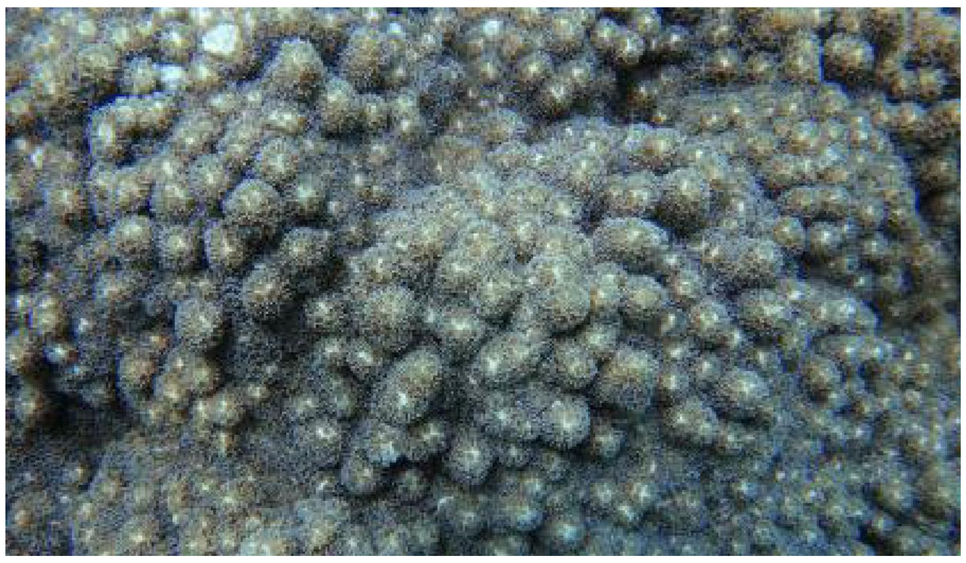


Figure 2. Specimens of *C. conifera* were collected in May 2017 by hand with SCUBA divers off the coast of Penghu Archipelago.

Table 1. Cytotoxic data of compounds **1**–**5**

Effects of compounds on cell viability in HL-60 and HT-29 cells.

Sample	HL-60		HT-29	
	[a]Viability (%)	[b]IC_{50} (μM)	[a]Viability (%)	[b]IC_{50} (μM)
DMSO	100.00 ± 0.58	-	100.00 ± 0.18	-
1	100.68 ± 0.45	> 10	95.34 ± 0.65	> 10
2	97.85 ± 1.92	> 10	103.96 ± 1.69	> 10
3	89.69 ± 2.31	> 10	101.50 ± 0.97	> 10
4	111.64 ± 1.64	> 10	95.49 ± 0.86	> 10
5	99.62 ± 2.12	> 10	103.79 ± 1.55	> 10

[a]Percentage of cell viability of 10 μM in HL-60 (24 h) or HT-29 (72 h) cells. Resultls are expressed as mean ± S.E.M. (n = 3).

[b]Concentration necessary for 50 % inhibition (IC_{50}).

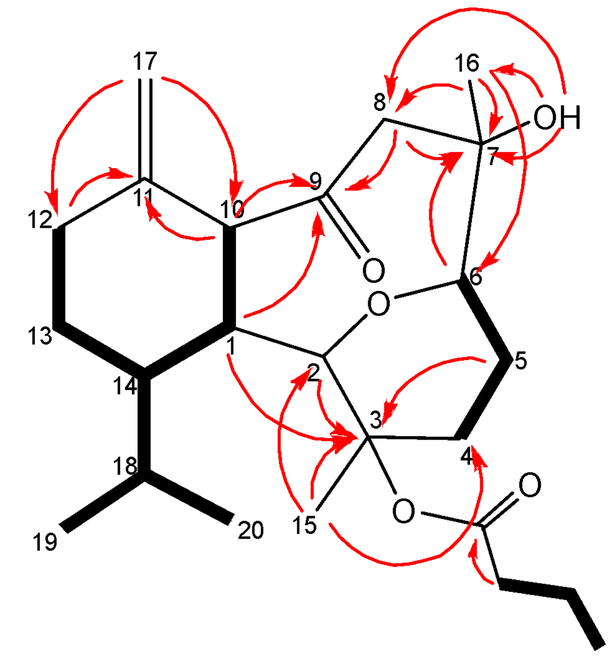


Figure 3. ^{1}H-^{1}H COSY (bold bonds) and HMBC (arrow) correlations for coniferain A