Studies on the Briarane-type Diterpenoids from a Cultured Octocoral *Briareum excavatum*

Mei-Ru Lin (林美如)[1], Ping-Jyun Sung(宋秉鈞)[2], and Jyh-Horng Sheu (許志宏)[1]*
[1]*Department of Marine Biotechnology and Resources, National Sun Yat-sen University, Kaohsiung 804, Taiwan*
[2]*National Museum of Marine Biology & Aquarium, Checheng, Pingtung 944, Taiwan*

Abstract
Nineteen new briarane derivatives, including briaexcavatins I–Z (**1**–**18**) and excavatoid A (**19**), were isolated from a cultured octocoral *Briareum excavatum*. The structures of compounds **1**–**19** were determined by extensive spectroscopic methods, particularly with 1D and 2D NMR experiments and the structures of briaexcavatins U (**13**), W (**15**), and excavatoid A (**19**), were confirmed by X-ray data analysis. The absolute configuration of briarane **13** was also determined by X-ray diffraction analysis directly. It is noteworthy to mention that briaexcavatin Y (**17**) represents the first example of a briarane possessing a C-8/9 epoxy group and briarane **19** is the first briarane which possesses a 17-methoxy and six hydroxy groups. The relationships between ^{13}C NMR chemical shifts and the conformations of the briaranes possessing an 11,12-epoxy group are described. Some of these briaranes have displayed effects on superoxide anion generation and elastase release by human neutrophils.

Key words: *Briareum excavatum*, diterpenoids