インドネシア産海綿 Acanthostrongylophora ingens から得られた二つの新規 
manzamine 結縁体の構造と活性

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【Objective】In our continuous search for proteasome inhibitors from marine organisms, 
we found that two specimens of marine sponge Acanthostrongylophora ingens collected in 
Indonesia showed the proteasome inhibition. The bioassay-guided purification afforded 
two new alkaloids, acantholactam (1) and bajotalamine (2), along with two known 
alkaloids, manzamine A1) (3) and neo-kauluamine (4).2)

【Results and discussion】The structures of 1 and 2 were established by 2D NMR spectra. 
Compound 1 contains a γ-lactam ring substituted with a (Z)-2-hexenoic acid at the 
nitrogen atom, which is probably biosynthetically related to an eight 
membered ring in 3. Although more 
than 80 manzamine congeners have 
been reported so far, the structure of 1 
is unprecedented in the manzamine 
family. Compound 2 has an ether 
linkage in the eight membered ring. 
During the storage of 2 in a freezer, 2 
converted to its dimer, of which 
spectral data were completely 
identical to those of 4. This result 
indicates that 4 might be an artifact in 
the sponge extract.