

**CHEMICAL CONSTITUENTS OF SOME
SRI LANKAN MARINE ORGANISMS**

**A DISSERTATION SUBMITTED
TO THE
UNIVERSITY OF COLOMBO
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE
DEGREE OF MASTER OF PHILOSOPHY IN CHEMISTRY**

BY

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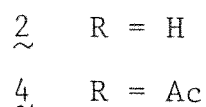
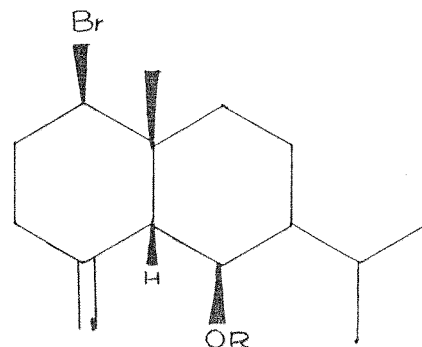
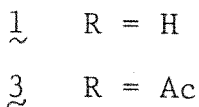
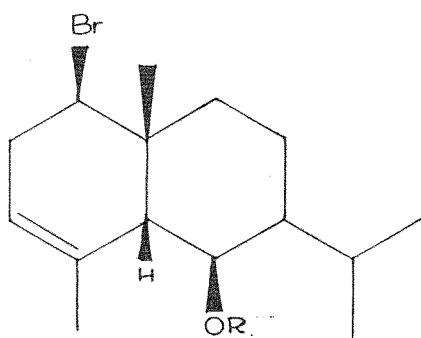
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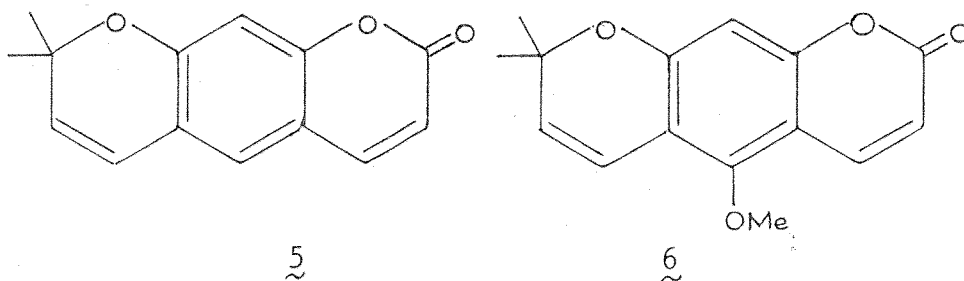
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ABSTRACT

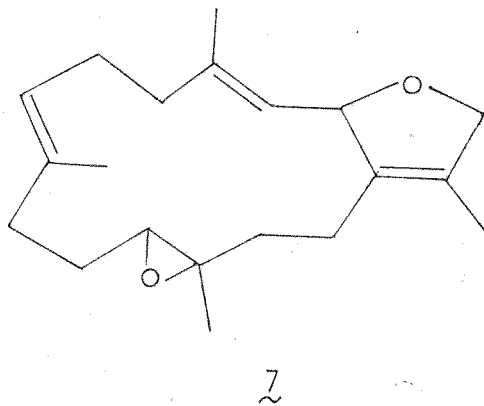
From the marine mollusc, Aplysia dactylomela, two new brominated sesquiterpenoids, lankalapuol A and B (1 and 2), were isolated. Structure elucidation of these compounds was based on the spectral data of their corresponding acetates, 3 and 4, and the absolute stereochemistry of lankalapuol A acetate was determined by x-ray analysis.



The lankalapuols represent the first observations of cis-fused eudesmane skeleton from the genus Aplysia and from the general class of halogenated sesquiterpenoids from algae of the genus Laurencia, the likely source of these compounds in Aplysia dactylomela.

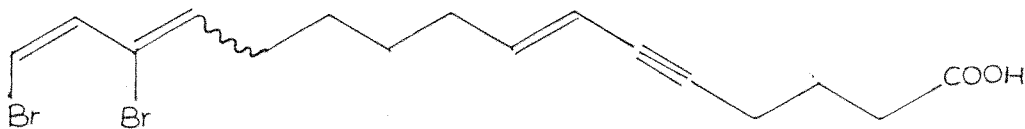


The two coumarins, xanthyletin (5) and xanthoxyletin (6), were isolated from a gorgonian Echinogorgia species. Their structures were determined by the analysis of spectral data. Although these two coumarins have been previously isolated from terrestrial plants, this is the first report of their isolation from a marine origin.



The structure of isosarcophytoxide (7) isolated from the soft coral, Sarcophyton

trocheliophorum was determined by spectral analysis. This diterpene has been previously isolated from an Australian Sarcophyton species.



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The C₁₆-dibromo acetylenic acid (8) was isolated from a sponge of the genus Xestospongia species and the characterization of its structure was based on the spectral data. This acetylenic acid has been reported from Xestospongia muta.