

# DE LA SALLE UNIVERSITY

## ISOLATION, CHARACTERIZATION AND ANTIMICROBIAL ASSAY OF STEROIDS FROM THE CHLOROFORM EXTRACT OF SARCOPHYTON ELEGANS

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A Masteral Thesis

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**SABIDO**  
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College of Science  
De La Salle University

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In Partial Fulfillment of the  
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Master of Science in Chemistry

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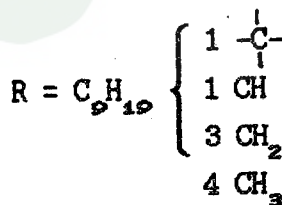
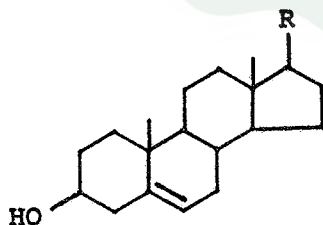
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## ABSTRACT

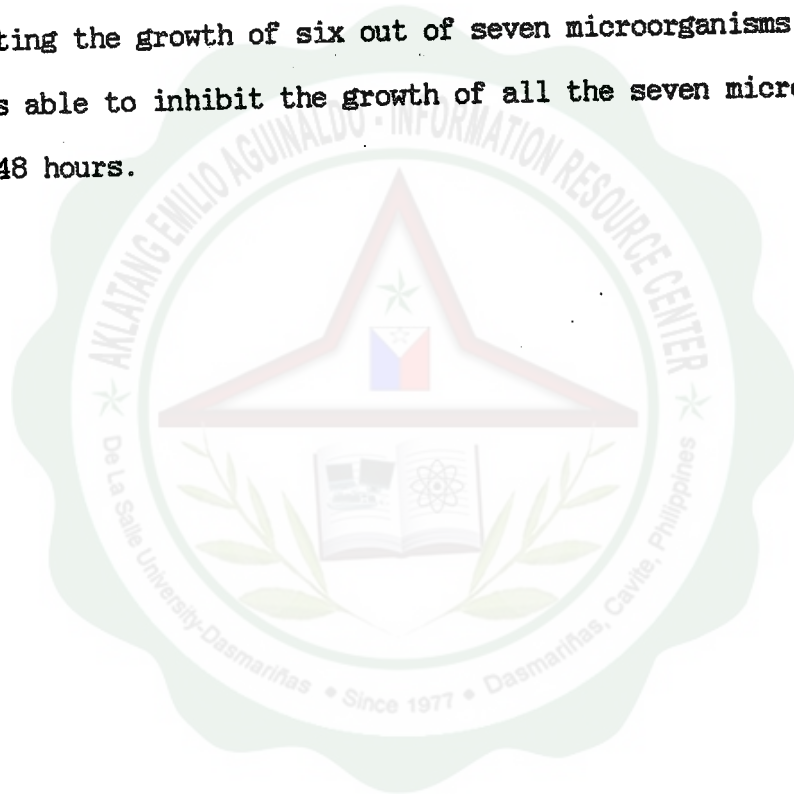
Three sterols from the chloroform extract of the Philippine soft coral, *Sarcophyton elegans* were isolated by chromatographic methods.

The structure of one of the sterol (SE3) was partially elucidated based on data from the nuclear magnetic resonance (nmr), infrared (ir) and by comparison with literature data. Comparison with literature data confirmed the presence of a double bond between C-5 and C-6 and the presence of an -OH functional groups attached to C-3 of the sterol. Its molecular formula  $C_{28}H_{48}O$  was derived from  $^{13}C$  nmr data. Its skeletal system was found to be that of the perhydrocyclopentanophenanthrene-type. The structure of the aliphatic side chain was not fully established but was found to contain one quaternary, one methine, three methylene and four methyl carbon atoms.



The skeletal structure of the other two steroids, SE5 and SE9, were also found to be of the perhydrocyclopentanophenanthrene-type. Other details of its structure could not be determined due to insufficiency of other pertinent data.

The three isolates showed potential antimicrobial properties. SE5 showed the greatest activity after 24 hours of incubation by inhibiting the growth of six out of seven microorganisms. Isolate SE3 was able to inhibit the growth of all the seven microorganisms after 48 hours.



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