

ABSTRACT

ISOLATION AND STRUCTURAL MODIFICATIONS OF METABOLITE COMPOUND SPONGE *Xestospongia* sp. THE KUPANG BAY WATERS OF EAST NUSA TENGGARA

By

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Isolation, modification and characterization of alkaloids from sponge *Xestospongia* sp. have been carried out in this experiment. The purification process by some chromatographic steps was obtained compound C4 214 mg. Alkaloid compound in C4 analyzed using thin layer chromatography (TLC) and visualization with reagent Dragendorff indicating an orange spots on the value Rf 0,63 after elution with eluent DCM-MetOH (5:1). The result from structural modification C4 was obtained compound C5 with the value Rf 0,25 after elution with the same elution. The interpretation of FTIR spectrum showed that C4 and C5 have a carbonyl groups are indicated by C=O stretch at 1716 cm^{-1} , alkyl chain length of CH_2 is indicated by C-H stretch at 2928 cm^{-1} , and terminal methyl groups are indicated from C-H stretch at 2853 cm^{-1} and C-H bend at 1465 cm^{-1} . While the cyclic amine from alkaloid compound is indicated by N-tertiary vibration at 1348 cm^{-1} . However, the C5 compound found another group that is hydroxyl groups are indicated by O-H stretch at 3419 cm^{-1} and C-O stretch at 1272 cm^{-1} . Test antibacterial activity C5 compound at concentration 2 mg/mL able to inhibit the growth of bacteria *Staphylococcus aureus*.

Key words : *Isolation, Modification, Alkaloid, Antibacterial, Staphylococcus aureus*
Sponge.