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Identification of Functional Groups of Compounds in the Nginang Process: Ethnochemistry-Based Teaching Module for High School

The Nginang (betel chewing) process is one of the Sasak tribe's cultures that can be integrated into SASAMBO ethnochemical learning. The basic ingredients of the betel chewing process consist of betel leaves, lime, and areca nuts. These ingredients contain organic compounds that are identified as including hydroxyl (-OH) and carbonyl (C=O) groups. This study aims to determine the functional groups in betel leaves, areca nuts and residues after the betel chewing process in the functional group area and fingerprint area. Identification of organic compounds in this study was carried out in 3 stages, namely: (1) grinding the "betel chewing" material, namely the refining and sieving process using 100 mesh; (2) washing using 20% isopropyl alcohol and (3) functional group analysis using Fourier Transform Infrared Spectroscopy. Based on the results of the Fourier Transform Infrared Spectroscopy analysis of betel leaves, areca nuts, and residue after chewing betel in the functional group area containing -OH groups respectively at wave numbers 3165.73 cm-1, 3280.67 cm-1 and 3406.03 cm-1, the C=O group shows peaks at wave numbers 1728.86 cm-1, 1649.00 cm-1 and 1728.08 cm-1, while in the fingerprint area the C-O group appears at wave numbers 1059.61 cm-1, 1056.89 cm-1, and 1056.80 cm-1.

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