ISOLATION AND CHARACTERIZATION OF COMPOUNDS FROM CINNAMON OIL (CINNAMOMUM BURMANII) DISTILLATION RESIDU

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ABSTRACT

This study aimed to isolate and characterize compounds from the distillation residue of cinnamon oil from Loksado, South Kalimantan. Cinnamon (Cinnamomum burmanii) distillation residue was extracted with methanol as solvent. The methanol extract was fractionated by liquid vacuum chromatography to obtain fractions A, B, C, and D. The crystals contained in fraction C were washed with cold n-hexane to obtain 5.4 mg of yellow isolate (FC1). FC1 isolates were characterized by UV-Vis, IR, ^{1}H-NMR, and ^{13}C-NMR spectrophotometers. UV spectra showed a maximum wavelength at 307, 316, and 321 nm indicating the presence of a conjugated or aromatic system. The infrared spectra showed -C=O, -OH, C-O, C-H, C-N, and C=N groups. The ^{1}H-NMR spectra showed the presence of aromatic protons at 6.38 ppm (1H, d, J=9.5 Hz), 7.67 ppm (1H, d, J=9.5 Hz), 7.29 ppm (1H, d, J=8 Hz), 7.44 ppm (1H, d, J=8 Hz), and 7.49 ppm (1H, t) and there was a methyl proton (acetyl group) at H 2.13 ppm (3H,s). The ^{13}C-NMR spectra showed the presence of a C=O ketone group at 207.26 ppm and there were 9 C-sp^{2} at 116.9; 119.0;124.6; 128.1;132.0;143.7; 154.3; 161.0 ppm, which δ_C 161.0 ppm was C-oxyaryl. Based on UV, IR, ^{1}H and ^{13}C-NMR spectra data, FC1 isolate was suggested as an isoquinoline alkaloid substituted by OH and acetyl groups.

***Keywords**: distillation residu, Cinnamomum burmanii, alkaloid, isoquinoline.*