PRELIMINARY STUDY OF ADSORPTION OF Ca AND Mg CATION (CAUSE OF HARDNESS) USING NATA DE WITH BATCH METHOD

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Abstract

Nata de coco is product of coconut water with activity of Acetobacter xylinum bacteria. Nata de coco is bacterial cellulose that has identical structure with botanical cellulose. This research aims to utilize nata de coco as an adsorbent for Ca and Mg cation (cause of hardness), using batch method. Besides that, in this research also have been done wide surface measurement of nata de coco with metilen blue method. Wide surface was gotten from this measurement is 11,5945 m$^2$/gr at the optimum time adsorption of metilen blue 40 minutes. This adsorbent can reduce Ca with adsorption capacity 27,466 mg/gr at concentration 400 mg/L and reduces Mg with adsorption capacity 18,944 mg/gr at concentration 300 mg/L. Adsorption of Ca and Mg cation have been done at the same optimum time, 30 minutes.

Key words: Nata de coco, Bacterial cellulose, Adsorption of Ca and Mg