

ABSTRACT

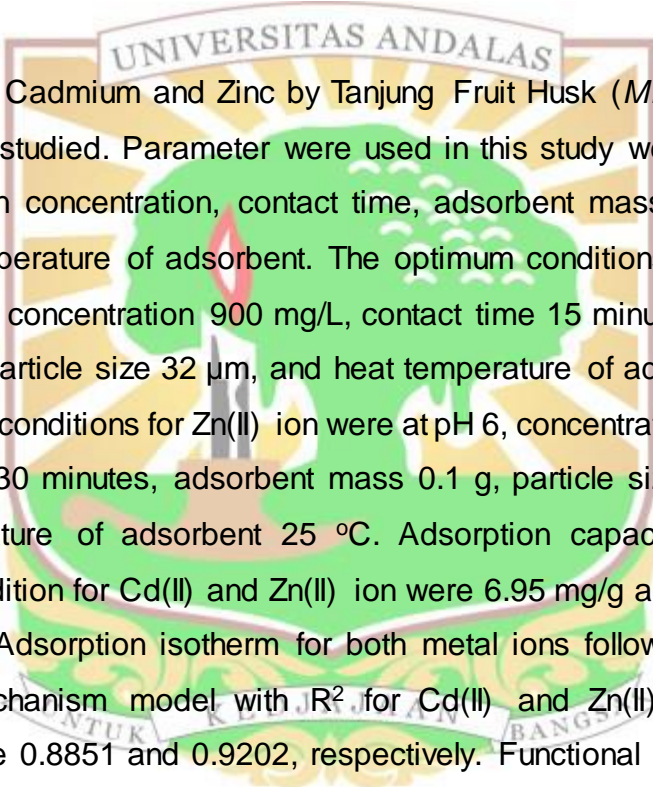
ADSORPTION OF CADMIUM AND ZINC BY TANJUNG FRUIT HUSK (*Mimusops elengi* L.)

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Adsorption of Cadmium and Zinc by Tanjung Fruit Husk (*Mimusops elengi* L.) has been studied. Parameter were used in this study were various pH effect, solution concentration, contact time, adsorbent mass, particle size, and heat temperature of adsorbent. The optimum conditions for Cd(II) ion were at pH 5, concentration 900 mg/L, contact time 15 minutes, adsorbent mass 0.1 g, particle size 32 μm , and heat temperature of adsorbent 25 $^{\circ}\text{C}$. The optimum conditions for Zn(II) ion were at pH 6, concentration 1000 mg/L, contact time 30 minutes, adsorbent mass 0.1 g, particle size 32 μm , and heat temperature of adsorbent 25 $^{\circ}\text{C}$. Adsorption capacity (q_e) at the optimum condition for Cd(II) and Zn(II) ion were 6.95 mg/g and 14.51 mg/g, respectively. Adsorption isotherm for both metal ions followed Freundlich isotherm mechanism model with R^2 for Cd(II) and Zn(II) ion with the numbers were 0.8851 and 0.9202, respectively. Functional group analysis using FTIR showed that adsorption occurred at *-OH stretching*, *C-H stretching*, *C=O stretching*, dan *C-O stretching* group with wave numbers were 3419.97; 2922.60; 1617.47; and 1034.99 cm^{-1} . Adsorbent surface morphology was analyzed using SEM.

Keywords : adsorbent, adsorption, *Mimusops elengi* L., Freundlich isotherm, SEM, FTIR, Cd, Zn