

**BIOSORPTION OF NI(II) ONTO SULFURIC ACID TREATED
SPENT GRATED COCONUT POWDER (*Cocos nucifera*)
IN FIXED-BED COLUMN**

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ABSTRACT

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Spent grated coconut (*cocos nucifera*) modified with sulfuric acid (SSGC) from the agricultural and food industry waste was developed as an efficient and new biosorbent. In this study, the SSGC was chosen to be investigated for removal of Ni(II) in aqueous solution. The column was set-up with fixed parameters; using 1 g of biosorbent with flow rate of 10 mL/min. The experiment was carried out in the initial Ni(II) concentration of 40 mg/L at pH of solution (4.5 ± 0.5). The breakthrough curve was obtained and the experimental data were modelled using the Thomas and Yoon-Nelson models. Both models were fitted to this study with coefficient correlation (R^2) of 0.896. The adsorption capacity (q_b) obtained from breakthrough curve plot was 31.204 mg/g.

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