METHYLENE BLUE ADSORPTION ON CELLULOSE EXTRACTED FROM OIL PALM (*Elaeis guineensis*) TRUNK

NOORFAZLIN BINTI AHMAD AZMI

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ABSTRACT

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The potential of oil palm trunk cellulose (OP Cellulose) powder as adsorbent to removing methylene blue (MB) was observed. The functional group of OP cellulose was characterized by using Fourier Transform Infrared (FTIR). The pH of zero point charge was 5.10. The effect of pH, dosage, initial concentration and contact time were investigated. The adsorption equilibrium was achieved after 10 minutes. The MB maximum uptake was pH 10 with 90.41 % removal. Pseudo-first order and Pseudo-second order kinetics models were applied. The result showed that pseudo-second order achieve high correlation (R^2 >0.9999). The adsorption fitted well with Langmuir isotherm equation. In this study suggested that OP cellulose are effectively to remove MB.

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