

FTIR analysis of plant-based cellulose as adsorbents for water remediation

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ABSTRACT

Finding an effective, green adsorbent for removal of heavy metals is one of the main problems in water purification field. Cellulose has gain tremendous attention for its variability of purposes including heavy metal removal via adsorption. As a preliminary material study, Fourier Transform Infrared Spectroscopy (FTIR) would be a good step in analyzing the removal potential of an adsorbent. In this study, cellulose-based adsorbent extracted from Pandan leaves was subjected to acid hydrolysis after being pre-treated with alkali and bleaching treatment. The output material was then analyzed in this research using FTIR. The result showed that some components were removed after the treatments and the material has potential for future development as adsorbent for heavy metal removal due to presence of carboxyl group in the backbone.

KEYWORDS

Cellulose; Green technology; Adsorbent

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