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Preparation and characterization of hexadecyltrimethylammonium bromide modified nanocrystalline cellulose/graphene oxide composite thin film and its potential in sensing copper ion using surface plasmon resonance technique

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Abstract

In this study, the preparation of hexadecyltrimethylammonium bromide modified nanocrystalline cellulose/graphene oxide composite (CTA-NCC/GO) solution under mild condition has been described. The CTA-NCC/GO thin film then was prepared by spin coating technique. Moreover, the CTA-NCC/GO thin film was characterized by Fourier transform infrared spectroscopy (FTIR) and atomic force microscopy (AFM) for the structural properties while the optical properties were characterized by ultraviolet-visible (UV-Vis). FTIR confirmed the functional group that is contained in CTA-NCC/GO thin film and the surface morphology obtained from AFM results showed that the thin film is homogenous. The UV-Vis analysis also

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