

SYNTHESIS OF BIOPLASTIC USING BANANA'S PEEL

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ABSTRACT

SYNTHESIS OF BIOPLASTIC USING BANANA'S PEEL

Bioplastic has a wide range of positive features and potentially to change the health of environment. Facilitating through the industrialization and development era, Malaysia is one of the fastest growing nation and this connotation brings about the increment of the plastics alternatives for a better, greener future. Hence, bioplastics can be the greatest substitute based on its excellent features for the ecological conservation and the management of natural resources. Peaks produced by the Fourier Transform Spectrometer technique shows a range of peaks and stretching which can be concluded that the bioplastic produced really derived from banana peels. The peaks range of $3640\text{--}3610\text{ cm}^{-1}$ referred to the existence of hydroxyl functional group as the monomers of the bioplastic. Other than that, $3100\text{--}3000\text{ cm}^{-1}$ referred to the basic hydrocarbon components which exist in every polymer. While $1760\text{--}1665\text{ cm}^{-1}$ and $1320\text{--}1000\text{ cm}^{-1}$ referred to the functional group of carbonyl and esters. The thermal properties of banana's peel bioplastic with the concentration of 0.1 M and 10 ml of banana's peel paste has the lowest thermal withstand quality. Plastic characteristic such as thin transparent layer also did not formed. The concentration of HCl and NaOH higher than 0.1 M with 10 ml of banana's paste have a better plastic formation.