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Extraction of Nanocellulose from Matured Coconut Husk

Abstract

Nanocellulose is a promising nanomaterial that can be used in various applications such as reinforcements for composite films. Agricultural lignocellulosic wastes, such as coconut husks, offer great advantages as raw materials for nanocellulose extraction due to their abundance and economic viability. The aim of this study is to extract nanocellulose from matured coconut husk. Nanocellulose was extracted using sulfuric acid hydrolysis and characterized using Atomic Force Microscopy (AFM). Results showed that nanocellulose extracted from matured coconut husk has 2.26% yield with agglomerated, rod-shaped structures. An average aspect ratio of 3.16 ± 1.82 nm was also obtained.

Keywords

Acid Hydrolysis; Matured Coconut Husk; Nanocellulose