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Preparation, properties and applications of nanocellulosic materials

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Highlights

- Interest for the nanoscale materials derived from lignocellulosic biomass is increasing rapidly,
- Various methods of nanocellulose preparations have been reviewed,
- Methods for the surface modifications of nanocellulose have been included,
- Applications of nanocellulosic materials in various fields are discussed.

Abstract

Recently, nano materials derived from natural renewable resources have drawn much attention in the nanotechnology research thrust. Lignocelluloses are composed of cellulosic nano-fibrils which can be disintegrated by chemical, mechanical and enzymatic methods in order to obtain nanocellulose. Further, nanocellulose can also be synthesized by bacterial method in a suitable culture. Nanocelluloses have many interesting properties (viz. nano-dimension, renewability, low

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