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## Obtaining cellulose acetate from coir fiber subjected to treatment with the ionic liquid n-butylammonium acetate

Andreia de Araújo Morandim Giannetti, José Carlos de Andrade Neto, Andressa Carolina de Almeida, Camila dos Santos Machado, Daniella Olmo Coelho, Najib Mourad and Natália Siqueira Teixeira

Centro Universitário da FEI, Brazil

The coconut fiber is a lignocellulosic waste found in abundance; however, it is normally not reused even though, it is an important cellulose source. In this context, within the possible applications of cellulose that comes from this waste are: bioethanol, composites and biodegradable plastics, such as cellulose acetate. Therefore, knowing the importance of the application of this material in processes, the objective of the work is to purify the coir fiber and cellulose fiber with the aim of producing cellulose acetate. The process was initiated with the fiber's milling, followed by pulping and whitening that together resulted in a delignification of 66.37%. This also accomplished the synthesis and characterization of the ionic liquid n-butylammonium acetate that was proved to be the right one by nuclear magnetic resonance analysis. With the ionic liquid, the treatment of coir fiber followed by whitening was fulfilled resulting in a delignification of 0.82 and 6.10% respectively. After this, the esterification was accomplished generating cellulose triacetate that was characterized by Infrared Spectroscopy, Scanning Electron Microscope (SEM), X-Ray Diffraction (XRD) and Degree of Substitution. These methods gave related results, because the surface crystallinity and characteristic bands are similar in the triacetates produced by all the three materials. This means that when producing cellulose triacetate, the delignification treatment is not needed.

### Biography

Andreia de Araújo Morandim Giannetti has completed her PhD at Paulista State University and Postdoctoral studies from the same. She is a teacher at the FEI University Center. She has published more than 18 papers in reputed journals and has been serving as a reviewer in several renowned journals.

preamorandim@fei.edu.br

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