

Pretreatment of Cattail (*Typha domingensis*) Fibers to Obtain Cellulose Nanocrystals

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Abstract : Natural fibers are rich raw materials in cellulose and abundant in the world, its use for the cellulose nanocrystals extraction is promising as an example cited is the cattail, macrophyte native weed in South America. This study deals with the pre-treatment cattail of crushed fibers, at six different methods of mercerization, followed by the use of bleaching. As a result, have found The positive effects of treating fibers by means of optical microscopy and spectroscopy, Fourier transform (FTIR). The sample selected for future testing of cellulose nanocrystals extraction was treated in 2.5% NaOH for 2 h, 60 °C in the first stage and 30vol H₂O₂, NaOH 5% in the proportion 30/70% (v/v) for 1 hour 60 °C, followed by treatment at 50/50% (v/v) 15 minutes, 50°C, with the same constituents of the solution.

Keywords : cellulose nanocrystal, chemical treatment, mercerization, natural fibers

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