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Title: Bio-nanocomposite Films Reinforced with Cellulose Nanocrystals: Rheology of Film-Forming Solutions, Transparency, Water Vapor Barrier and Tensile Properties of Films

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1 **Highlights**

2 - CNC-reinforced biopolymer blend nanocomposite films were fabricated by casting method

3 - CNC were extracted at nanometric scale from sugarcane bagasse via acid hydrolysis

4 - Viscosity of film-forming solutions was suitable for the casting process of films

5 - Entanglement network structure was observed for all film-forming solutions

6 - Films exhibited good transparency, reduced WVP and improved tensile properties

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