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Designed cellulose nanocrystal surface properties for improving barrier properties in polylactide nanocomposites

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HIGHLIGHTS

- Surface grafting of cellulose nanocrystals reduces nanocomposite water swelling
- Permeant trapping at cellulose nanocrystal surface decreases non-Fickian transport rate

Abstract

Nanocomposites are an opportunity to increase the performance of polymer membranes by fine-tuning their morphology. In particular, the understanding of the contribution of the

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