

Accepted Manuscript

Title: Spin-coating: A new approach for improving dispersion of cellulose nanocrystals and mechanical properties of poly (lactic acid) composites

Authors: Jamileh Shojaeiarani, Dilpreet Bajwa, Nicole M. Stark



PII: S0144-8617(18)30227-3
DOI: <https://doi.org/10.1016/j.carbpol.2018.02.069>
Reference: CARP 13331

To appear in:

Received date: 10-11-2017
Revised date: 9-2-2018
Accepted date: 22-2-2018

Please cite this article as: Shojaeiarani, Jamileh., Bajwa, Dilpreet., & Stark, Nicole M., Spin-coating: A new approach for improving dispersion of cellulose nanocrystals and mechanical properties of poly (lactic acid) composites. *Carbohydrate Polymers* <https://doi.org/10.1016/j.carbpol.2018.02.069>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Spin-coating: A new approach for improving dispersion of cellulose nanocrystals and mechanical properties of poly (lactic acid) composites

Jamileh Shojaeiarani ^{a,*}, Dilpreet Bajwa ^b, Nicole M Stark ^c

^a Department of Mechanical Engineering, North Dakota State University, Fargo, ND 58102, United States.

Email address: jamileh.shojaeiarani@ndsu.edu, Phone: +1-701-799-7759

^b Department of Mechanical Engineering, North Dakota State University, Fargo, ND 58102, United States.

* Corresponding Author

Email address: dilpreet.bajwa@ndsu.edu, Phone: +1-701-231-7279

^c U.S. Forest Service, Forest Products Laboratory, Madison, WI 53726-2398, United States.

Email address: nstark@fs.fed.us, Phone: +1-608-231-9392

Highlight

- Composites were successfully manufactured using masterbatch approach.
- Masterbatches were prepared using solvent casting and spin-coating technique.
- Composites with spin-coated masterbatch had superior mechanical properties.
- A huge advance in degree of crystallinity was seen in spin-coated composites.

Download English Version:

<https://daneshyari.com/en/article/7782923>

Download Persian Version:

<https://daneshyari.com/article/7782923>

[Daneshyari.com](https://daneshyari.com)