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Authors: Le Van Hai, Lindong Zhai, Hyun Chan Kim, Jung Woong Kim, Eun Sik Choi, Jaehwan Kim



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## Cellulose nanofibers isolated by TEMPO-oxidation and aqueous counter collision methods

Le Van Hai<sup>1,2</sup>, Lindong Zhai<sup>1</sup>, Hyun Chan Kim<sup>1</sup>, Jung Woong Kim<sup>1</sup>, Eun Sik Choi<sup>1</sup>, Jaehwan Kim<sup>1\*</sup>

<sup>1</sup>Creative Research center for Nanocellulose Future Composite, Inha University, Incheon, South Korea.

<sup>2</sup>Pulp and Paper Dept. Phutho College of Industry and Trade, Phutho, Vietnam.

\*Corresponding author: [jaehwan@inha.ac.kr](mailto:jaehwan@inha.ac.kr)

### Highlights

- Cellulose nanofiber was isolated by TEMPO-oxidation and aqueous counter collision methods.
- The less oxidized softwood than hardwood resulted in wider width.
- Hardwood CNFs exhibit better birefringence than softwood ones.
- The combination of TEMPO-oxidation and ACC is useful for isolating CNFs with its size control.

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