

Electronic supplementary material

Morphological properties of nanofibrillated cellulose produced using wet grinding as an ultimate fibrillation process

Oleksandr Nechyporchuk^{1,2,3,4,5}, Frédéric Pignon^{4,5}, Mohamed Naceur Belgacem^{1,2,3,*}

(1) Univ. Grenoble Alpes, LGP2, F-38000 Grenoble, France

(2) CNRS, LGP2, F-38000 Grenoble, France

(3) Agefpi

(4) Univ. Grenoble Alpes, LRP, F-38000 Grenoble, France

(5) CNRS, LRP, F-38000 Grenoble, France

*Corresponding author: naceur.belgacem@pagora.grenoble-inp.fr; tel.: +33 4 76 82 69 62; fax: +33 4 76 82 69 33

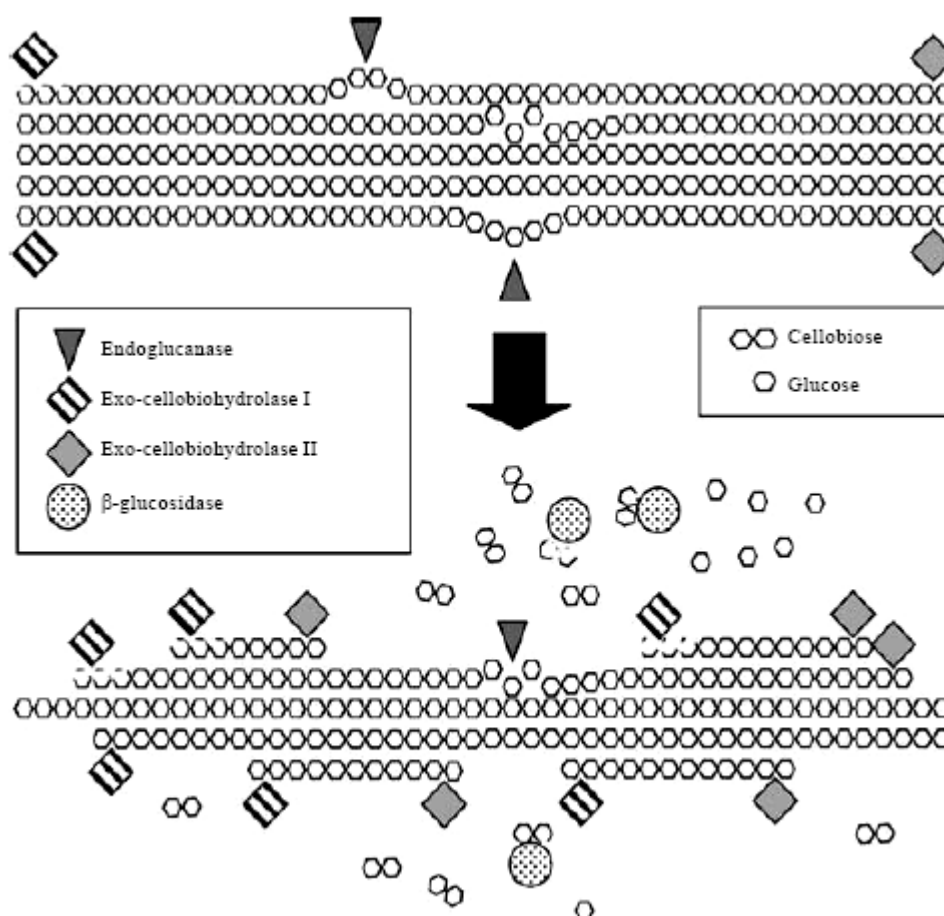


Fig. S1 Schematic diagram of the main cellulase types activity: endoglucanase, exoglucanase (exo-cellobiohydrolase) and β -glucosidase. Reproduced from [Murad HA, Azzaz HH (2010) Cellulase and Dairy Animal Feeding. *Biotechnol* 9:238–256. [doi: 10.3923/biotech.2010.238.256](https://doi.org/10.3923/biotech.2010.238.256)]

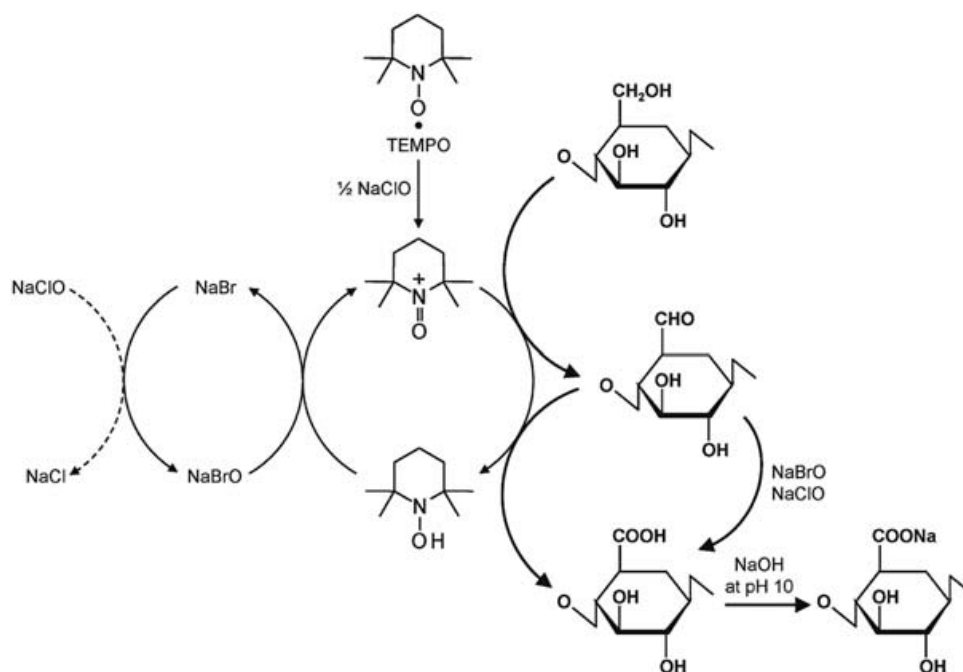


Fig. S2 Schematic diagram of regiospecific oxidation of cellulose primary hydroxyl groups by TEMPO/NaBr/NaClO system in water at basic pH. Reproduced from [Isogai A, Saito T, Fukuzumi H (2011) TEMPO-oxidized cellulose nanofibers. *Nanoscale* 3:71. [doi: 10.1039/c0nr00583e](https://doi.org/10.1039/c0nr00583e)] with permission of The Royal Society of Chemistry