

Comparative study for nanocellulose fabrication from *Gelidium amansii* using two kinds of grinding process

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Cellulose is the most abundant biopolymer and can be fabricated from a variety of sources, such as wood, grasses, seed fibers, marine animals, algae, fungi, invertebrates, and some bacteria. This study compared the advantages and disadvantages of two methods for the grinding process of fabrication nanocellulose from *Gelidium amansii*. The preparation of cellulose from *Gelidium amansii* was pre-treated using the separating and bleaching process. The first method is to wet condition decompose the pre-treated sample using a disintegrator and then fabricate nanocellulose using a disc grinder. Another method is the pre-treated sample was dried, grinding by planetary ball mill (PBM) in dry condition, and decomposed using a disintegrator. The disk grinder was used in wet condition at 1500 rpm to fabricate nanocellulose from pre-grinding cellulose. Comparing the two methods, pre-grinding samples using PBM had the advantages of long-term storage of the sample and preparation quality non-changes than first method to fabricate nanocellulose.