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Record 1 of 1**Title:** Chitin Nanopaper from Mushroom Extract: Natural Composite of Nanofibers and Glucan from a Single Biobased Source**Author(s):** Nawawi, WMFW (Nawawi, Wan Mohd Fazli Wan); Lee, KY (Lee, Koon-Yang); Kontturi, E (Kontturi, Eero); Murphy, RJ (Murphy, Richard J.); Bismarck, A (Bismarck, Alexander)**Source:** ACS SUSTAINABLE CHEMISTRY & ENGINEERING **Volume:** 7 **Issue:** 7 **Pages:** 6492-6496 **DOI:** 10.1021/acssuschemeng.9b00721 **Published:** APR 1 2019**Times Cited in Web of Science Core Collection:** 0**Total Times Cited:** 0**Usage Count (Last 180 days):** 11**Usage Count (Since 2013):** 11**Cited Reference Count:** 27**Abstract:** An isolation method with mild mechanical agitation and no acidic extraction step from a mushroom substrate resulted in chitin nanofibers (ChNFs) with large shares of retained glucans (50-65%). The subsequent chitin nanopapers exhibited exceptionally high tensile strengths of >200 MPa and moduli of ca. 7 GPa, which were largely attributed to the preserved glucans in the mixture, imparting a composite nature to the nanopapers. The isolation method for ChNFs is notably different from the conventional process with crustacean chitin sources that do not incorporate glucans and where an acidic extraction step for the removal of minerals must always be included.**Accession Number:** WOS:000463462100010**Language:** English**Document Type:** Article**Author Keywords:** Alternative biomass; Chitin nanofibers; Mechanical properties; Mild extraction; Nanopaper; Nonwoven networks**KeyWords Plus:** TRANSPARENT PAPER; STRENGTH; FILM**Addresses:** [Nawawi, Wan Mohd Fazli Wan; Kontturi, Eero; Bismarck, Alexander] Imperial Coll London, Dept Chem Engr, South Kensington Campus, London SW7 2AZ, England.

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