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Facile extraction of chitin and chitosan from shrimp shell

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Abstract

In this study, the chitin and chitosan were extracted from shrimp shell through two-steps acid and alkaline treatment. The shrimp shell was deproteinized by 1 M of sodium hydroxide and demineralised by 1%, 2%, 3%, 4% and 5% of hydrochloric acid, respectively. The produced chitin was characterized by FTIR and FESEM. FTIR depicted that the chitin extracted from shrimp shell was in a-chitin isomorph. The surface morphology of chitin was found to increase with an increase in acid concentration. The chitosan film with rod-like micro-structure was produced when dissolved in 2% of acetic acid. It was shown that chitosan with 65% of DD was successfully produced using this chemical route. (C) 2021 Elsevier Ltd. All rights reserved.

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