

Investigation of Deacetylation Treatment at Different Temperature for Chitosan Extraction from Shrimp Shell Waste

ABSTRACT

Background: Disposal of shrimp shell waste is gradually increasing throughout the years due to the constant growing of cultured shrimp production at the local area which in turn increases the bio-waste of shrimp shell. Shrimp shell waste contains valuable components such as protein and chitin. Chitin can be found at the outer surface of shrimp shell, while chitosan can be derived from chitin. Chitosan is a valuable natural polymer as it holds major potentials for industrial applications. However, the poor quality of chitosan has restricted its potential in applications and this is due to the difficulties in maintaining its degree of deacetylation, solubility, and ash content. Hence, several factors such as the temperature for deacetylation treatment, concentration of alkaline solution, ratio of chitin to alkaline solution, and few other factors are important to produce a good quality of chitosan.