

**ABSTRACTS FOR POSTER PRESENTATIONS**

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

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**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. **Objective:** Therefore, the main focus of this study is to investigate the effect of temperature (50°C, 60°C, 70°C, 80°C) during 48 hours of deacetylation process and determine the physico-chemical characteristic of chitosan in terms of its degree of deacetylation and solubility in 1% acetic acid. **Results:** From the results, it showed that the degree of deacetylation and solubility of chitosan were higher at temperature of 70°C with 93.81% and 100%, respectively, with the lowest ash content of 0.38%. The degree of deacetylation and solubility were found decreased when temperature increased to 80°C. **Conclusion:** Corresponding to this matter, it can be concluded that a good quality of chitosan can be produced when the heating temperature of 70°C was applied during the soaking hours of deacetylation process.

