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## Isolation and characterization of chitin and chitosan from fresh water prawn shells

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Chitin and chitosan were prepared from exoskeleton of fresh water prawns found in Nepal employing standard experimental procedures. The chemical structure and Degree of Deacetylation (DD) in chitin and chitosan were studied through FTIR spectroscopy, XRD analysis complemented with titration methods as well as ash and moisture content measurements. The deacetylation process was monitored by variation of reaction time. It could be inferred that the chitin could be deacetylated to a considerable degree. The distinction between chitin and chitosan could be made through the nature of absorption bands in the frequency region corresponding to O-H, N-H stretching and amide group vibrations. It was found that the value of DD leveled off after a certain time indicating that the DD could be adjusted via reaction time control. Further, targeting at antibacterial packaging materials applications, the biodegradable blends with commercially available co-polyester were prepared and their mechanical properties evaluated.

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