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**Protein recovery by ultrafiltration during isolation of chitin from shrimp shells
*Parapenaeus longirostris***

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ABSTRACT:

In the food processing industry shrimp shells (*Parapenaeus longirostris*) have great commercial value because they are rich in chitin (24 wt%), protein (40 wt%), lipids, pigments and flavor compounds. In the present study protein recovery by ultrafiltration was examined during isolation of chitin from shrimp shell *P. longirostris*. Up to 96 wt% of the proteins could be removed (i.e. deproteinization) from the shrimp shells by incubating them in NaOH (2 N) over 2 h, at T = 45 °C, and solid to solvent ratio of 1:2 (w/v). A solute rejection coefficient (R₀) of 97% was obtained in the ultrafiltration process to recover proteins from deproteinized shell waste water. The protein concentration process which was carried out beyond the critical flux of 380 L/h.m², at a trans-membrane pressure of 3 bars, and a tangential velocity of 5 m/s was found to reduce the hydrolysate volume by a factor of 2.4. Due to a reduction in organic matter in the effluent, the chemical oxygen demand (COD) of the permeate was reduced by 87%.