

Title:	A process for low molecular weight chitosan
Abstract:	<p>The invention, in particular describes the preparation of low molecular weight chitosan and chitooligomers, which are of high value addition for use in medicine, agriculture, food and non-food industries as well as in other allied applications. The functional properties of chitosan and its oligomers are mainly dependent upon their molecular weight and the consequent ease of solubility in aqueous media. Low molecular weight chitosan and chitooligomers can be prepared by acidic or enzymic degradation of polymeric chitosan molecule. The enzymic process is generally preferable over that of acid degradation, because the course of hydrolysis and product distribution can be controlled precisely. The drawback of the process is that large quantities of monomeric glucosamine appeared in the early hydrolysates and the concentrations of dimer, trimer and higher oligosaccharides were never obtained in comparable concentrations. Further, the inherent difficulties of removing the acid by alkali neutralization followed by desalting by chromatographic means make the whole process expensive and very laborious, and therefore not viable for commercial exploitation. The novelty in the present invention is that the degradation of chitosan molecule is induced by free radical initiation at the amino group of the glucosamine residues followed by subsequent glycosidic cleavage giving rise to low molecular weight chitosan.</p>