

Synthesis and Characterization of Chitosan Microparticles for Scaffold Structure and Bioprinting

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Abstract : Chitosan, a natural polysaccharide of β -1,4-linked glucosamine residues, is a biopolymer obtained primarily from the exoskeletons of crustaceans. Interest in polymeric materials increases year by year. Chitosan is one of the most plentiful biomaterials, with a wide range of pharmaceutical, biomedical, industrial and agricultural applications. Chitosan nanoparticles were synthesized via the ionotropic gelation of chitosan with sodium tripolyphosphate (TPP). Two concentrations of chitosan microparticles (0.1 and 0.2%) were synthesized. In this study, it was possible to synthesize and characterize microparticles of chitosan biomaterial and this will be used for future applications in cell anchorage for 3D bioprinting.

Keywords : chitosan microparticles, biomaterial, scaffold, bioprinting

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