

The separation of uniform size solution of chitosan nanoparticles as a function of pH

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Chitosan oligosaccharide has the properties of bio-degradable, bio-compatible, and bio-adaptable characteristics. It is synthesized by deacetylation and hydrolysis of crab shell to form chitosan oligomer nanoparticles. The preparation of chitosan oligosaccharide nanoparticles was performed by dropping Tripolyphosphate to the appropriate concentration of it. To make an uniform chitosan nanoparticles solution it needs to separate carefully natural polymers nano-complex. The formation of uniform chitosan nanoparticles had to be treated according to pH, chitosan oligosaccharide concentration, and stirring speed. Characteristics of chitosan oligosaccharide nanoparticles was analyzed by Scanning electron microscopy(SEM), Transmission electro microscopy (TEM), Dynamic light scattering(DLS) and Zeta potential. Characteristics of gold nanoshell produced from these particles were also considered and it will be applied to anticancer treatment by the reaction of antigen-antibody.