Modification of Gold and Silver Nanoparticles with Chitosan for Bio-applications

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Recent advances in nanotechnology have provided a variety of nanoparticles with highly controlled shapes, sizes, and interesting properties. These nanoparticles can bring new and unique capabilities to a variety of biomedical applications ranging from diagnosis of diseases to novel therapies. In particular, gold(Au), silver(Ag) colloids and semiconductor quantum dots (QDs) have become very useful in quite a few applications spanning fields in drug delivery, biosensing, and bioimaging.

It was found that a Au, Ag, chitosan of smaller produced chitosan-encapsulate sufficiently small size, and this result was then applied in the chitosan encapsulation of QDs. Chitosan-encapsulated nanoparticles such as Au, Ag nanoparticles and QDs can then find uses in a host of biomedical applications. Characteristics of nanoparticles were examined by ELS (electrophorestic light scattering), UV-visible Spectrometer, TEM(Transmission Electron microscope), FT-IR(Fourier transform- infrared) and Zeta Potentiometer.