

## Synthesis and Characterization of Multicolored Quantum dots with Chitosan Nanoparticles

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Chitosan QDs nanoparticles have their own electrical, optical properties and stability. They can be applied in the various field of bio-imaging, drug delivery, catalyst, environment, and energy study because of its higher adsorptivity and bio-compatability. Chitosan nanoparticles are excellent conductible antibiotic, deodorant, adsorptive, absorptive, and harmless for human body and then can be used broadly for semiconductor and bio-application area. A novel and simple way to encapsulate QDs into Chitosan nanoparticles was ensured. The nanoparticles formed are mono-dispersed and spherical in shape, and they were embedded QDs dispersed within Chitosan nanoparticles. UV absorption, AFM, SEM and TEM analyses proved that just like Chitosan nanoparticles, QDs could be encapsulated using Chitosan as well. Quantum dots were strongly effected by ligands that was monitored by UV-Vis, Photoluminescence spectroscopy.