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## Gelatin stabilization of quantum dots for improved stability and biocompatibility

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### Highlights

- Gelatin stabilized CdTe/CdS/ZnS core/double shell quantum dots (QDs) were prepared
- The core/double shell structure and gelatin protection were confirmed
- The QDs were highly luminescent with excellent stability over a period of one year
- Gelatin stabilization reduced the cytotoxicity of QDs by about 50 %
- The QDs were served as fluorescent probe for *in vitro* imaging of HeLa cells

### Abstract

We herein report an aqueous synthesis of gelatin stabilized CdTe/CdS/ZnS (CSSG) core/double shell quantum dots (QDs) with improved biocompatibility. The as-synthesized QDs were characterized by ultraviolet-visible (UV-Vis) and photoluminescence (PL) spectroscopic techniques, x-ray diffraction technique (XRD), x-ray photoelectron spectroscopy (XPS) and transmission electron microscopy (TEM). The CSSG QDs revealed high photoluminescence quantum yield (PLQY) with excellent stability over a period of one year and retained 90 % of its initial PLQY without any aggregation or precipitation under

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