

Raman spectroscopy and FTIR spectroscopy studies of Mn-doped CdSe QDs at different particles size

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Abstract

In this paper, we exclusively report on raman spectroscopy and fourier-transform infrared (FTIR) spectroscopy results and analysis of zinc blende manganese-doped cadmium selenide quantum dots (Mn-doped CdSe QDs) that synthesized using inverse Micelle technique with physical size ranging from 3 to 14 nm. Two significant peaks were observed correspond to the raman scattering by longitudinal optical (LO) of phonon and its first overtone (2LO) which located near ~ 200 and 400 cm^{-1} under an exposure of 532 nm incident laser. The role of oleic acid as a surfactant and capping agent shows in FTIR spectra.