

Supporting Information

Size-dependent Carrier Dynamics in CdS Nanoparticles by Femtosecond Visible-pump/IR-probe Measurements

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Results and Discussion Section:

Figure 1S shows an FT-IR spectrum of the as-prepared CdS nanocluster dispersions in n-heptane ($W = 8$). A broad peak around 3500 cm^{-1} is assigned to be due to O-H stretching vibration of water. The FT-IR spectra of the reversed micelle dispersion containing (a) Cd^{2+} and (b) S^{2-} were also measured. The intensity and shape of the O-H stretching peak of the three spectra were identical. These results indicate that the structure of water in the reverse micelle of Cd^{2+} and S^{2-} was maintained even after the formation of CdS nanoparticles, i.e., water remained in the reversed micelle and no phase separation of water from n-heptane occurred after the formation of CdS nanoparticles.

The schematic structural model of CdS nanoparticles based on the above discussions is shown in Figure 2S.

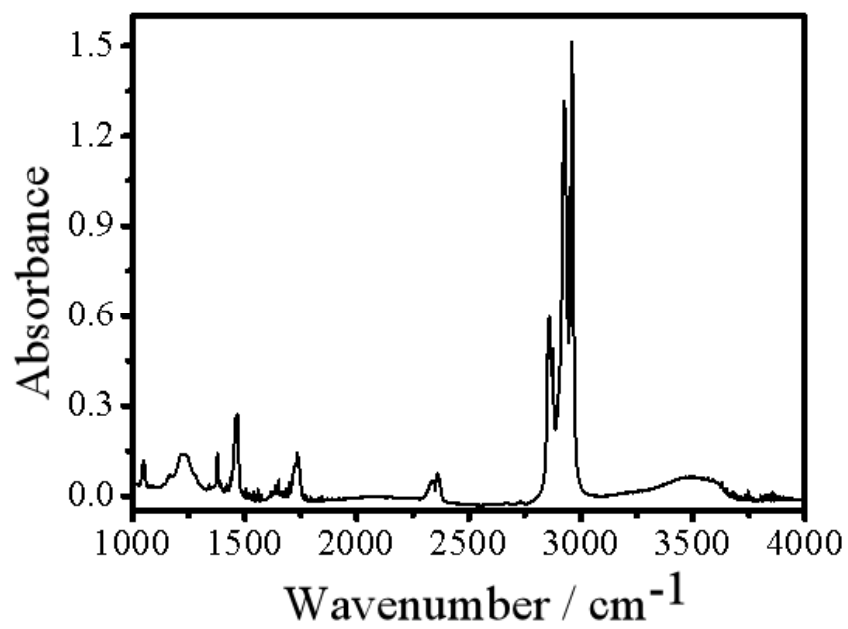


Figure 1S. Transmission FT-IR spectrum (optical path length is ca. 20 μm) of dispersion of CdS nanoparticle prepared by reversed micelle method ($W = 8$).

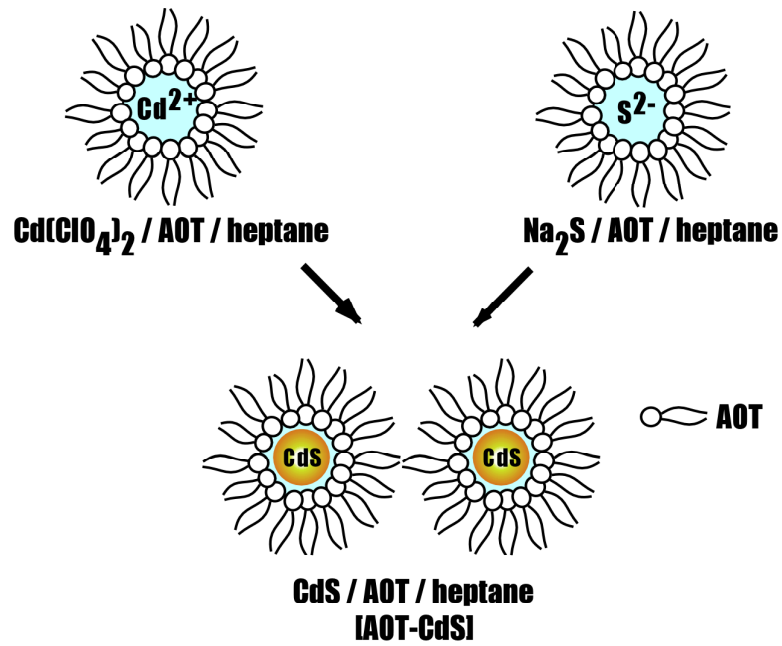


Figure 2S. Scheme of preparation of CdS nanoparticles in AOT/n-heptane reversed micelle.