The effect of temperature and annealing on the structural properties of CdS: Mn semiconductor nanocrystals

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Abstract: CdS: Mn nanocrystals were obtained by nucleation and growth in colloidal solution. Their mean size range between 3.96 nm and 4.90 nm. The structural properties were studied by the use of X-ray diffraction (XRD). Phase transition between the hexagonal structure and cubic structure was evidenced to be a function of synthesis temperature. The mechanism of the phase transition also was revealed by two-step annealing for 2h.

Keywords: CdS: Mn, semiconductor nanocrystal, annealing, phase transition

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