

Article

The Characterization and Synthesis of CdTe Quantum Dots in Liquid Paraffin

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Abstract

In order to synthesize CdTe quantum dots in liquid paraffin, we adopted chemical route that is simple easy and cheap. The prepared samples are characterized by X-ray diffractometry (XRD), high resolution transmission electron microscopy (HRTEM), UV-Vis absorption and fluorescence (FL) spectroscopy. Blue shifted absorption edge is observed for the CdTe samples. The average size of the quantum dots is determined to be less than 10 nm. Room-temperature luminescence is observed in the visible spectral range (orange). The prepared quantum dots are stable and their relative properties remain the same for a long period.

Keywords: CdTe, quantum dots, chemical route, optical properties.