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Investigation on the Structural, Optical and Thermal Behaviour of Terbium (Tb³⁺) DopedCdSeNanorods by Hydrothermal Method

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Abstract:Semiconductor nanocrystals have attained considerable attention due to their size dependent properties, photonic applications and cellular imaging. The structural and optical properties of the rare earth Terbium (Tb^{3+}) doped CdSenanorods have been explored. The terbium (Tb^{3+}) doped CdSenanorods were synthesized by hydrothermal method. The crystal structure and grain size were determined by XRD. The optical properties were studied by UV-Visible spectroscopy. Surface morphology of the terbium (Tb^{3+}) doped CdSe were studied by SEM analysis. The functional groups of the synthesized compound have been identified by FTIR spectral analysis. The thermal stability of Tb^{3+} doped CdSenano rods has been analyzed by TGA / DTA studies.

Keywords: Nanoparticles, nanorods, CdSe, Tb³⁺doped CdSe, SEM, FTIR, TG/DTA.

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