

TUNABLE LUMINESCENCE OF CdTe QUANTUM DOTS

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ABSTRACT

This paper reports the synthesis and characterization of CdTe system with highly luminescence properties. The QDs was prepared by quick injection of tri-n-octylphosphine telluride into reactor that contains a hot mixed cadmium acetate hydrate, 1-octadecent, n-octadecyl phosphoric acid and oleic acid. We have successfully synthesized the CdTe QDs with highly yellow luminescence by controlling the concentration of cadmium. The CdTe QDs with unique bright emission wavelength from 550 nm to 574 nm. Our observation found that the quantum yields of the CdTe quantum dot are high with value up to ca 80 %. The CdTe QDs may be used in LEDs, biolabellings and solar cells.

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