

### Size-Controlled Synthesis of Cadmium Telluride Nanocrystals by Using Paraffin Route

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Semiconductor nanocrystals (NCs) of size below 10 nm, frequently called as quantum dots (QDs), show fascinating optical properties due to the quantum confinement effect. Colloidal semiconductor nanocrystals (NCs) are interesting for the development of solar cell, optoelectronics, because of their unique size-dependent optical properties. In this work, the oleic acid dependence of the size of colloidal CdTe NCs was studied. CdTe nanocrystals (NCs) were synthesized by the paraffin route method using paraffin liquid, oleic acid and trioctylphosphine (TOP) as precursor solvents. If using CdTe NCs, that have the potential to enhance light absorption and improve charge transport. As synthesized CdTe NCs were investigated by various methods including XRD, TEM, UV-Vis spectrometer, PL and EDS. This work was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (2010-0023839) and the Human Resources Development Program of Korea Institute of Energy Technology Evaluation and Planning (KETEP) grant (No. 20104010100580) funded by the Korean Ministry of Knowledge Economy.