

Characteristics of CdTe nano-particle by paraffin route method

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Paraffin route method, which a paraffin is used as a solvent instead of TOPO, is relatively new method to synthesize nano-particles using a solvent with high melting point. Thus, this method is relatively clean and cheap.. In this study, CdTe QDs was synthesized by using a paraffin method. First, the Cd precursor solution was prepared by dissolving CdO in a mixture of oleic acid and paraffin liquid. Then the Te precursor solution was prepared by dissolving Te powder in a mixture of trioctylphosphine (TOP) and paraffin liquid. After mixing both solutions, the solutions were stirred to grow CdTe NCs. Finally the CdTe NCs were separated by centrifugation and washed by methanol. As-synthesized CdTe NCs were investigated by various methods including XRD, TEM, 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.