

Supporting Information

Surface ligand dynamics in growth of nanocrystals

Narayan Pradhan, Danielle Reifsnyder, Renguo Xie, Jose Aldana, Xiaogang Peng*

Department of Chemistry & Biochemistry, University of Arkansas, Fayetteville, AR 72701

*Email: xpeng@uark.edu

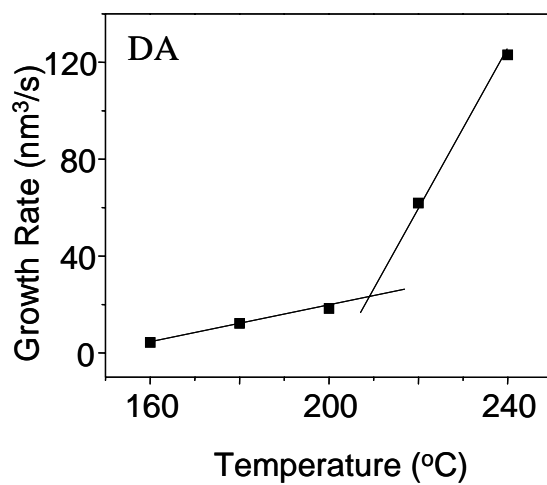


Figure S1. Plot of growth rate versus temperature of synthesis of CdSe nanocrystals using cadmium separate as precursors and decylamine as capping agents. The transition temperature was close to the boiling point of the amine (bp = 217 °C).

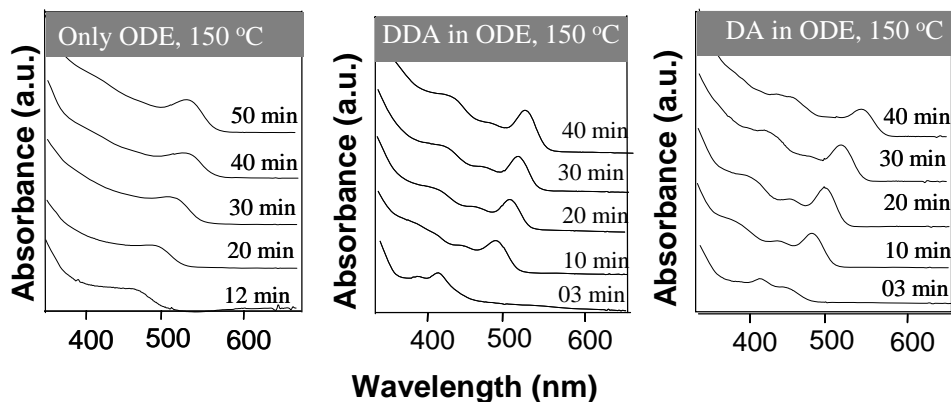


Figure S2. UV-visible spectra of evolution of CdSe nanocrystals at 150 °C in presence and absence of amines. With the addition of amine, the formation of CdSe nanocrystals was significantly accelerated. When no amine added, appearance of an observable UV-vis spectrum of CdSe nanocrystals for this specific system occurred after 12 minutes heating. However, this process reduced to 3 minutes in presence of amines. The quality of the spectra also significantly improved.

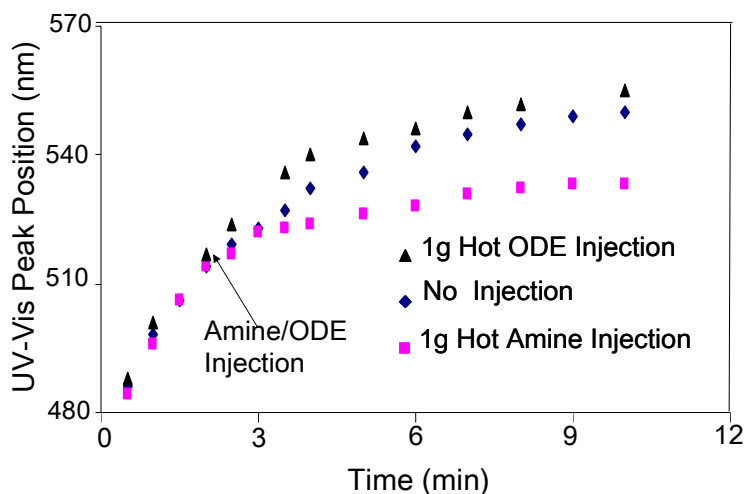


Figure S3. Influence of amines on growth of CdSe nanocrystals at 155 °C (dodecyl amines). Cadmium stearate was used as cadmium precursors. The apparent suppression of the growth of CdSe nanocrystals is evidenced by comparing the temporal evolution of the absorption peak position in the cases with/without amine injection. See detail discussion in the text.