

UPDATE FROM THE CUTTING EDGE

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The abstracts of the recent research information appearing in the Vol.6 No.7–No.9 of "AIST TODAY" are introduced and classified by research area. For inquiry about the full article, please contact the author directly.

Life Science & Technology

Primary Process in the Growth of Quantum Dot Nano-crystals

We have experimentally analyzed a crystal nucleation process and a subsequent crystal growth process in the colloidal synthesis of CdSe quantum dots. Furthermore, theoretical analysis clarifies relationships among crystal size, crystal structure, and optical absorption spectra in the primary process of the crystal growth. The techniques will contribute to the design and creation of nano-scale electronic materials including quantum dots.

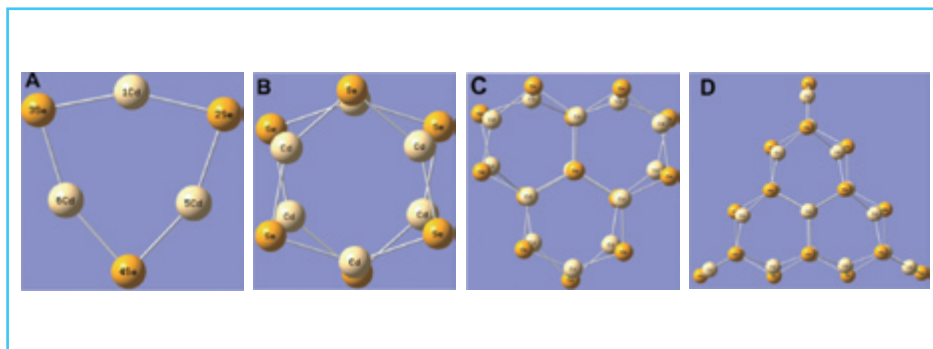


Figure : Crystal structures of CdSe predicted by theoretical calculations and found to be physically reasonable. (A) $(\text{CdSe})_5$, (B) $(\text{CdSe})_6$, (C) $(\text{CdSe})_{13}$, and (D) $(\text{CdSe})_{16}$.

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