

Special Issue

Colloidal Quantum Dots

Message from the Guest Editor

Colloidal quantum dots (CQDs), semiconductor nanocrystals synthesised by solvent-based chemistry, have been studied intensively over the last three decades. Their small scale, typically a few nanometres, results in an optical band gap that is size-tunable by the quantum confinement effect. This property, coupled with their photo-stability and the low-cost and facile methods by which they can be produced and processed, has prompted their study as the light absorbing or emitting species for a number of important applications. CQDs can be produced as homogeneous crystals of single materials and alloys, or as more complex structures. A shell or shells of different material can be grown around the original nanocrystal subsequent to its synthesis to produce a core/shell CQD. This spherical heterostructure enables the engineering of carrier wavefunctions, and hence of the photo-physical properties of the CQD.

Guest Editor

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