

Heat-Up Synthesis of Highly Luminescent Indium Phosphide Core/Shell Quantum Dots

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Utilizing zinc carboxylate and dodecanethiol in nucleation and growth process of InP based core QDs, we synthesized InPZnS QDs which has homogeneously alloyed structure by simple heat-up method. Overcoated with ZnSeS and ZnS multi-shell by SILAR method, as-synthesized QDs exhibit highly efficient quantum efficiency of 71.2% and have full-width at half-maximum as narrow as 45.6 nm.