

Comparison of Pbs/Zns Quantum Dots Synthesis Methods

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Abstract : Nanoparticles with PbS core of 12 nm and shell of approximately 3 nm were synthesized at PbS:ZnS ratios of 1.01:0.1 using Merca Ptopropionic Acid as stabilizing agent. PbS/ZnS nanoparticles present a dramatically increase of Photoluminescence intensity, confirming the confinement of the PbS core by increasing the Quantum Yield from 0.63 to 0.92 by the addition of the ZnS shell. In this case, the synthesis by microwave method allows obtaining nanoparticles with enhanced optical characteristics than those of nanoparticles synthesized by colloidal method.

Keywords : Pbs/Zns, quantum dots, colloidal method, microwave

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