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**Formation of Colloidal Nanoparticle Superlattices in a Two Solvent System** CHENGUANG LU, AUSTIN AKEY, IRVING HERMAN, Columbia University — A two solvent system consisting of a high boiling point solvent and a low boiling point solvent was found to greatly aid the self-assembly of nanoparticle superlattices. Nanoparticle mixtures were prepared under multiple suitable solvent evaporation conditions and the products were analyzed by SEM and TEM. The formation process of various binary nanoparticles superlattices was investigated to elucidate the optimal conditions for self-assembly. Superlattice formation in this two solvent system was further investigated with various spatial confinement conditions. Here, the capillary effect during the evaporation of solvents may be the driving factor in the self-assembly. Micrometer scale superlattices of CdSe nanoparticles were fabricated with this technique.

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