

Abstract Submitted
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Mechanisms of Size and Shape Selection and Control in Self-Assembly of Colloid Particles Synthesized from Nanosize Crystalline Precursors¹ VLADIMIR PRIVMAN, Clarkson University — The importance of well-defined dispersions of particles of different shapes, ranging in sizes from nanometer to colloidal, has been widely recognized in applications and in basic studies of advanced materials. Our program endeavors to advance understanding of formation of uniform particles of simple and composite structure, with focus on synthesis involving self-assembly of nanosize particles and their new unique properties for dimensions smaller than the typical submicron-size colloid scales. Presently, there is convincing experimental evidence that many monodispersed colloids of various shapes, obtained by precipitation in solutions, are formed by aggregation of such nanocrystalline subunits. Our group's theoretical explanation of this process expands the classical model of formation of uniform particles, by LaMer, and offers an interesting link between nanosize and micrometer size particles.

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