Novel Synthesis of Low-Dimensional Metallic Nanoparticles at a Fluid/Fluid Interface

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Owing to their unique optical properties, low dimensional metallic nanoparticles (e.g., nanodisc, nanoprism, etc.) are potentially promising candidates for future biomedical applications. So far, such particles have been synthesized by making the use of ligands being able to direct one or two dimensional growth of small-sized seed in three dimensional solutions. Here we suggest a novel method to synthesizing low dimensional metallic nanoparticles by exploiting a liquid/liquid interface. As-made nanoparticles were characterized by TEM and UV-vis spectrophotometer. Effect of the interfacial area between two liquids was also addressed. Our innovative approach opens a new avenue for the tailored synthesis of low dimensional nanoparticles.