

Microfluidic Synthesis of Inorganic Core-shell Nanoparticles

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Inorganic core-shell nanoparticles have attracted significant interest in multitude of applications ranging from catalysis to optical detection owing to their excellent physicochemical properties. So far, these nanoparticles have been typically synthesized via seed-mediated growth in a batch reactor. However, the conventional batch synthesis often suffers from a large batch-to-batch variation in size. Hence, a microfluidic synthesis that can allow a continuous production is highly desirable. Here we report the microfluidic synthesis of inorganic core-shell nanoparticles by reproducing the seed-mediated growth on a microfluidic reactor. The as-synthesized nanoparticles are extensively characterized by UV-vis, EDS, and TEM, respectively.