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Fabrication of size-tunable silica particles during seed-growth process

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The size control is one of the most important factors during seed-growth process. Although precise determination of ingredients concentrations is easily controllable during the growth process, there is still a possibility to synthesize oversized particles. Nanosized fluorescent silica particles were synthetized using Stöber process and verified using three complementary methods of particle size determination, namely Dynamic Light Scattering (DLS), Particle Tracking (PT) as well as by Transmission Electron Microscopy (TEM) and Confocal Microscopy. The final diameter was verified by DLS and estimated to 494 nm. Parameters necessary to control the size were derived.