Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information for Formation mechanism and control of extended nanoporous channels in multi-micron mesoporous silica particles

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Dynamic light scattering to define the size of the initial seed particles

Dynamic light scattering has been utilized to measure the size of the initial (seed) nanoparticles, the building blocks of the large mesoporous silica particles. The results are shown in figure S1.

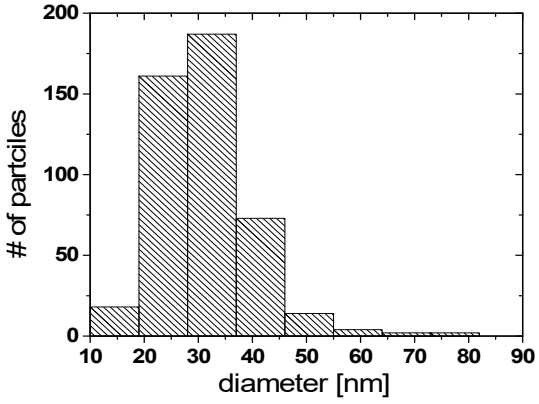

Fig.S1. Dynamic light scattering results for the size of the initial (seed) nanoparticles.

Diffusion of fluorescent dye inside particles: verification of the absence of lensing artifacts

Because the synthesized multi-micron size particles can work as good optical lenses, the presence of dark sports in the middle of the particles might be an artifact. To confirm that we are not dealing with this type of artifacts, one need to present images and different focal planes, or confocal Z stags. This is done and shown here in Fig.S2-S4 for the times of the assembly discussed in the paper (the largest time of 24hour is not shown here because the image showing the presence of the dye on at the surface is quite unambiguous). Rhodamine 6G dye aqueous solution was introduced to the particles and the synthesizing media confined between two glass slides. The imaging was done between 5 to 20 minutes after introducing the dye solution.

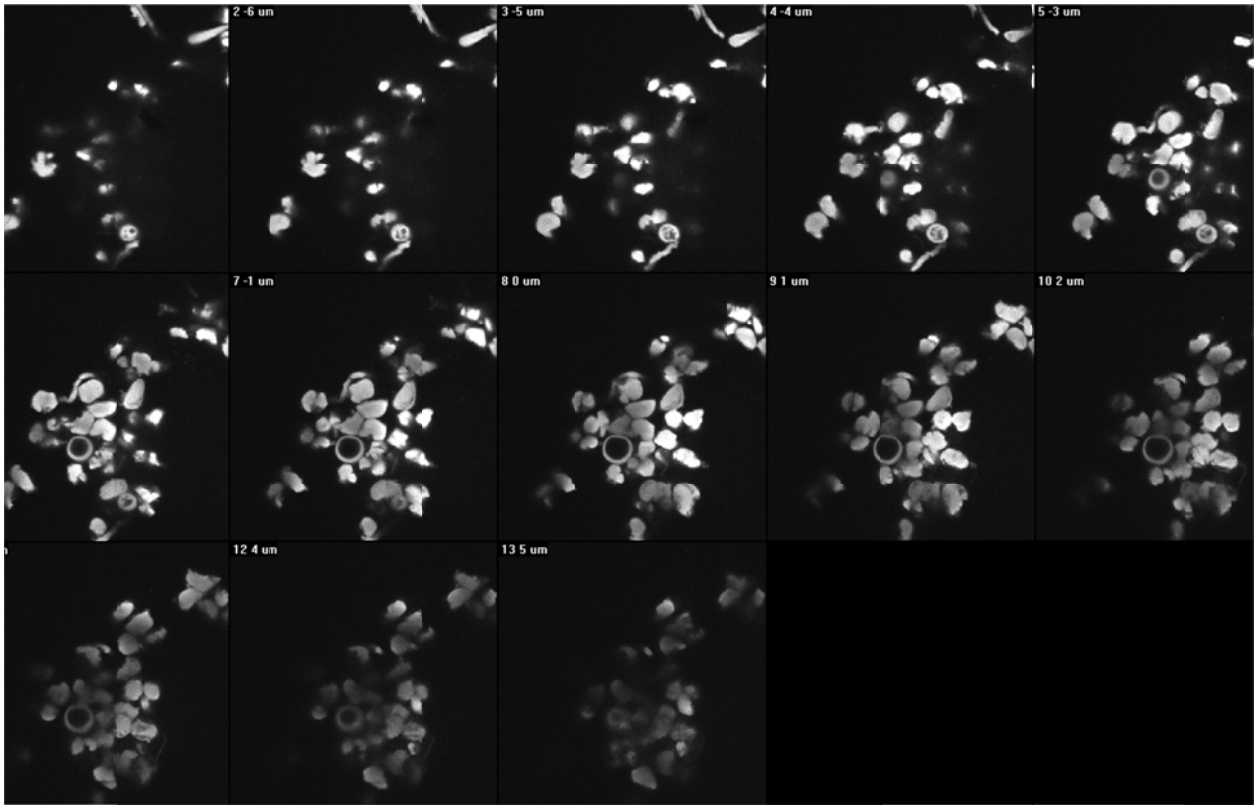

Fig.S2. Confocal Z stack images of micron silica particles at 10 hours after the start of assembly (after completing the mixing of the chemicals used in the synthesis).

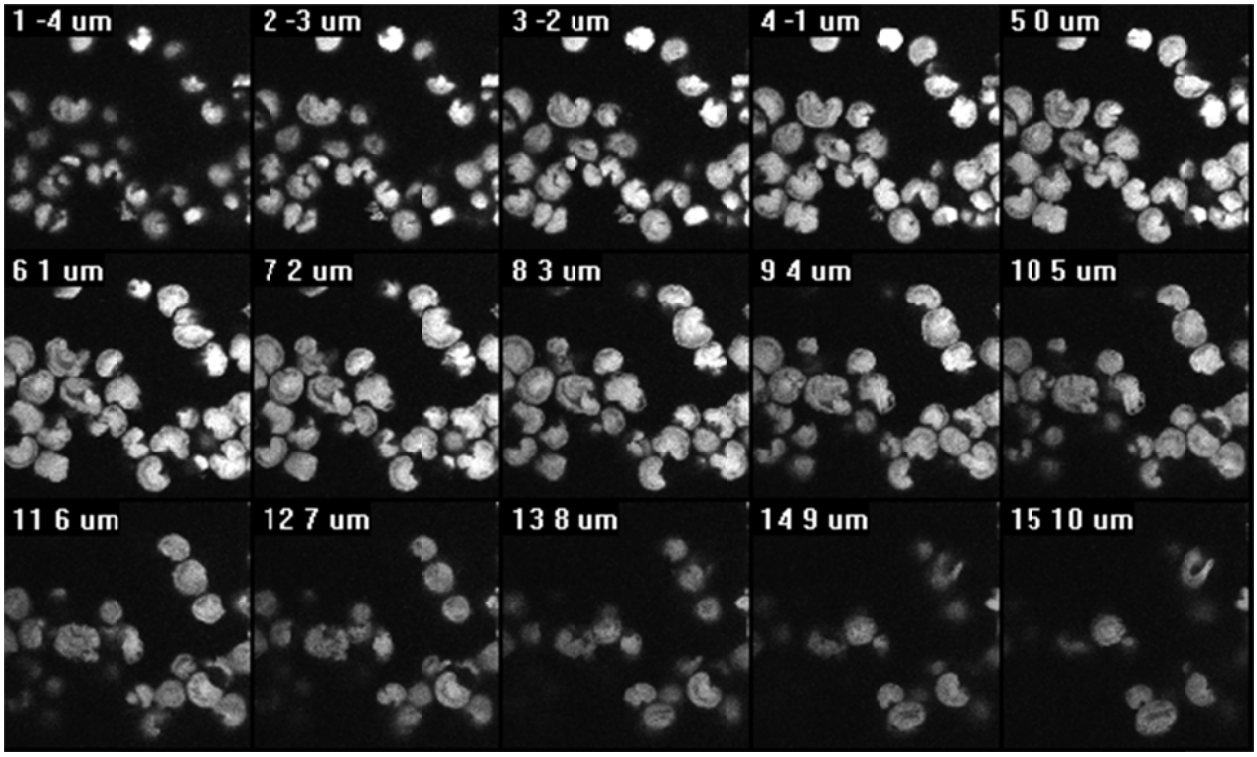

Fig.S3. Confocal Z stack images of micron silica particles at 12 hours after the synthesis start (after completing the mixing of the chemicals used in the synthesis).

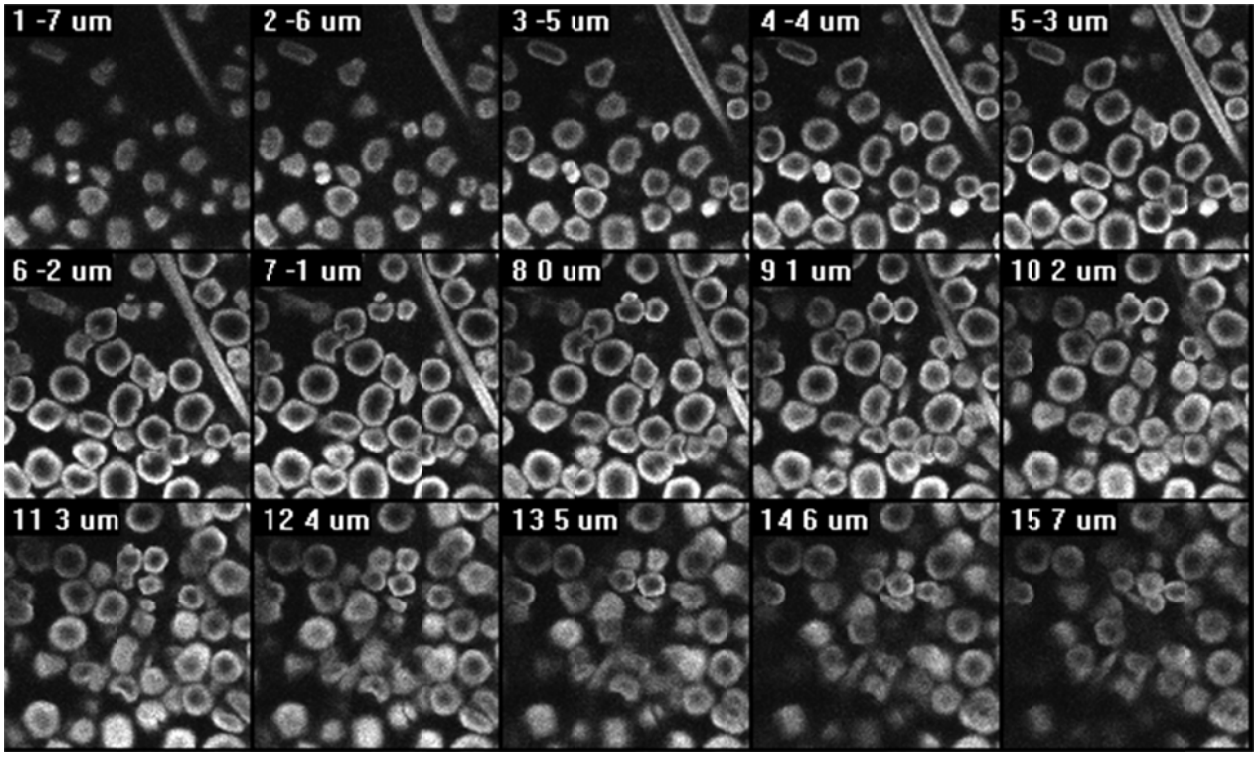

Fig.S4. Confocal Z stack images of micron silica particles at 16 hours after the start of assembly (after completing the mixing of the chemicals used in the synthesis).