Supporting Information

Self-assembly of colloidal nanoparticles inside charged droplets during spray-drying in the fabrication of nanostructured particles

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Sample groups and type		Droplet mean diameter (D_d) / Hole number (n)					
		D _d = 3.0 μm	D _d = 3.0 μm D _d = 3.5 μm		D _d = 4.0-5.0 μm		
		<i>n</i> =1	<i>n</i> =2	<i>n</i> = 3	n=4	n=5	
Electrosprayed PS only	SEM images			2		Ô	
	Model		00		8	83	
Electrosprayed silica/PS	SEM images	0	00	0	Q	\bigcirc	
	Model	0	00	\mathcal{B}	B	88	
Electrosprayed silica/PS after template removal process	SEM images	0	00	Ď	0	Ø.	
	Model	0	00	&	B	88	

Table SI-1. SEM images and schematic models of electrosprayed particles prepared using cationic PS spheres with various droplet diameters. Scale bars are 200 nm.



Figure SI-1. FTIR (a) and TG/DTA (b) analysis of the electrosprayed particles. Samples were prepared from 5-nm silica nanoparticles and 200-nm PS spheres.



Figure SI-2. Surface charge analysis of colloidal nanoparticles by measuring Zeta potential of precursors containing combination of cationic or anionic PS with silica nanoparticles.



Figure SI-3. SEM images of the particles generated from silica nanoparticles and anionic PS spheres with various silica/PS mass ratios. Samples in (a) and (b) were prepared using a mean droplet diameter of $3.50 \,\mu\text{m}$ and (c) and (d) were using $6.00 \,\mu\text{m}$. Samples in (a) and (c) were prepared using silica/PS mass ratio of 2.00, while (b) and (d) were 0.05. Samples were analyzed before additional PS removal process.