Supplementary Information

Colloidal Synthesis and Thermoelectric Properties of La-doped $SrTiO_3$ Nanoparticles

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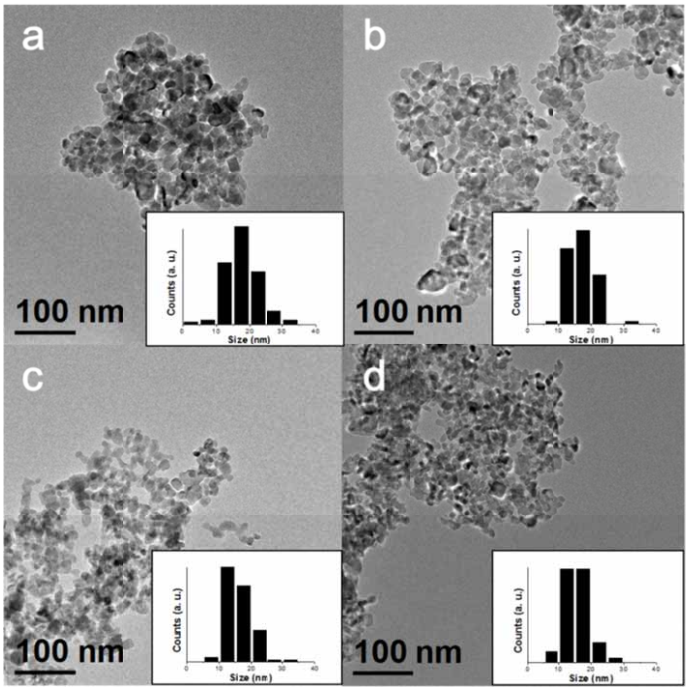

Figure S1. TEM images of synthesized SrTiO3 doped with (a) 3.1%, (b) 4.7%, (c) 7.7%, and (d) 9.0% La. Insets show the size distribution histograms which were collected by measuring the sizes of randomly selected 200 particles.

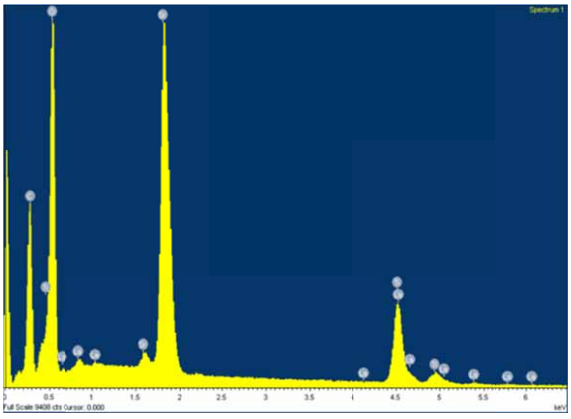

Figure S2. Energy-dispersive X-ray spectroscopy (EDX) of 9.0% La-doped $SrTiO_3$ nanoparticles.

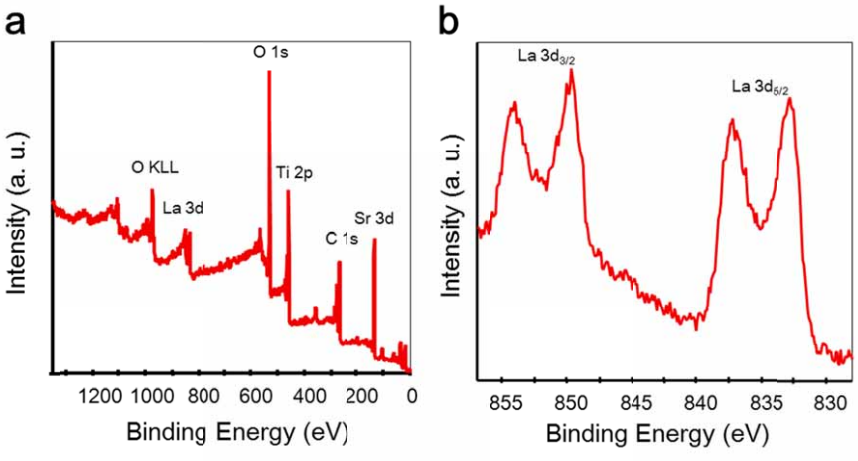

Figure S3. X-ray photoelectron spectroscopy (XPS) of 9.0% La-doped $SrTiO_3$ nanoparticles.

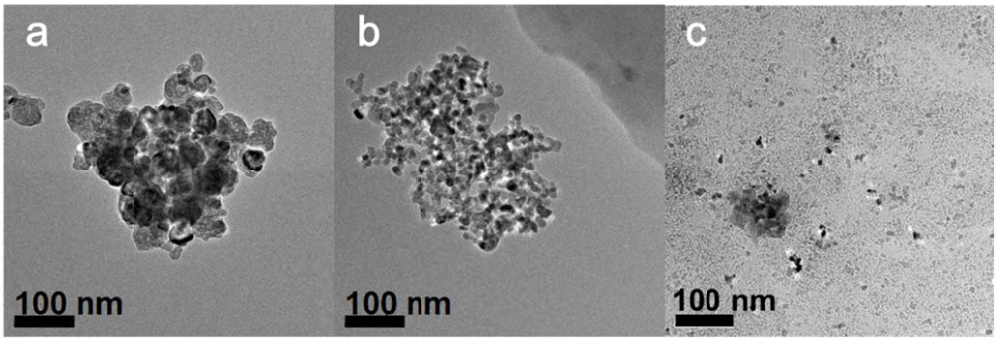

Figure S4. TEM images of 3.1% La-doped $SrTiO_3$ synthesized with (a) no oleic acid, (b) 20 mmol of oleic acid, and (c) 0.6M TMAH.

Figure S5. A photograph showing 1.35g of La-doped $SrTiO_3$ nanoparticles treated surfactant-removal process.

Figure S6. A photograph showing La-doped $SrTiO_3$ nanostructured bulk pellet (9.0% La) prepared by SPS.

Table S1. Sintering temperature dependent density and grain size of nanostructured bulk La-doped SrTiO3. [a] The relative density (%T.D.) are shown on the table.

Temperature (℃)	Density (g/cm^3)	Grain size (nm)
400	2 (38%)[a]	16
600	2 (38%)	16
800	2.3 (45%)	20
1000	4.3 (83%)	26
1200	4.6 (88%)	34
1300	4.7 (90%)	50
1400	4.8 (92%)	69