

Thermal Responsive Photonic Crystal with Function of Color Switch Based on Thermochromic System

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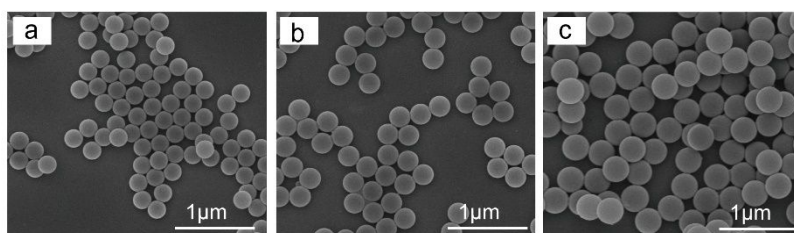


Figure S1. SEM images of PS spheres (a) 251 nm, (b) 305nm, (c) 368nm

Table S1. Size measurement of three kinds of PS emulsion

Sample	Amount of emulsifier (mg)	Size (nm)		PDI	Zeta potential (mV)
		D _a	D _h		
Blue	75.1	251	276	0.041	-28.2
Green	45.7	305	328	0.005	-31.3
Red	16.2	368	420	0.027	-30.6

*D_h: Hydrodynamic size of these microspheres measured by Nanoparticle size measurement, D_a: Actual measured diameters from the SEM.

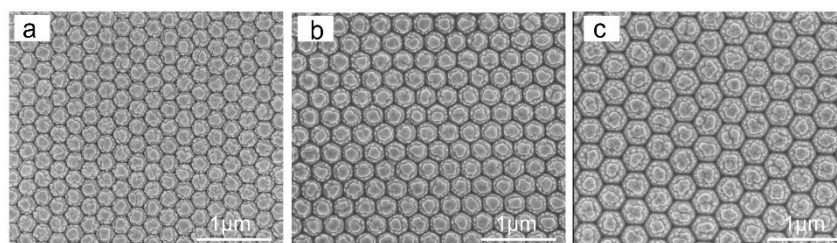


Figure S2. SEM images of PS templates with SnO₂ precursor infiltrated in the voids. There are little particles formed on the surface of PS spheres. (a) 251 nm, (b) 305nm, (c) 368nm

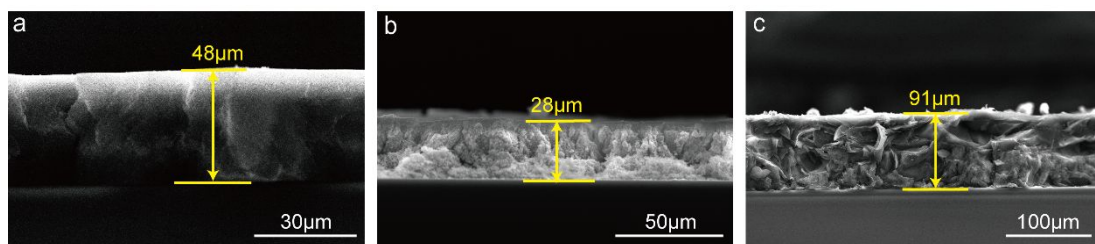


Figure S3 SEM images of cross-section (a) PS template (b) SnO_2 inverse opal (c) TRPC



Figure S4. Optical photograph of the TC-PCSs obtained at different temperature, (a) 30 °C, (b) 42 °C (c) 55 °C. The four samples corresponding to different phase change materials, are lauryl alcohol, tetradecanol, hexadecanol, octadecanol respectively.