

Supporting Information

A Facile Fabrication Strategy for Anisotropic Photonic Crystals Using Deformable Spherical Nanoparticles

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Synthesis of Deformable organosilica nanospheres:

The organosilica nanospheres were prepared by the following steps: At first, 0.16 g cetyltrimethylammonium bromide (CTAB) was dissolved in a mixed solution containing water (65 mL), ethanol (45 mL), and a concentrated ammonia aqueous solution (1.0 mL, 25–28 wt %). The mixture was heated at 35 °C in an oil bath, and then 0.1 mL bis[3-(triethoxysilyl)propyl] tetrasulfide (TESPTS) and 0.25 mL tetraethoxysilane (TEOS) were mixed and added into the mixed solution under vigorous stirring (500 rpm). The organosilica nanospheres were obtained after stirring at 35 °C for 24 h. We got organosilica nanospheres with different sizes by changing the volume of ethanol. The diameter of the nanosphere increased when the volume of ethanol increased (Figure S1). The organosilica nanospheres were centrifuged and washed with ethanol three times for the preparation of 2D IPC.

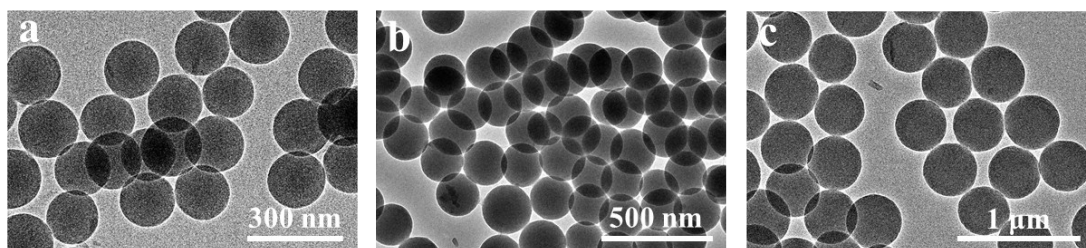


Figure S1 TEM images of the organosilica nanospheres with different particle sizes. The organosilica nanospheres are obtained by adding a) 35 ml ethanol, b) 40 ml ethanol, c) 45 ml ethanol respectively.

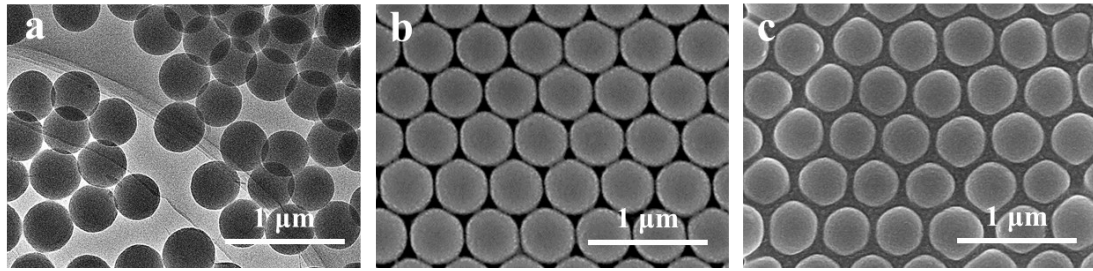


Figure S2 a) The TEM image of the initial organosilica nanoparticles. The SEM images of the organosilica nanospheres assembled on b) the Si substrate without annealing process and c) the PDMS substrate respectively.