

Supporting Information

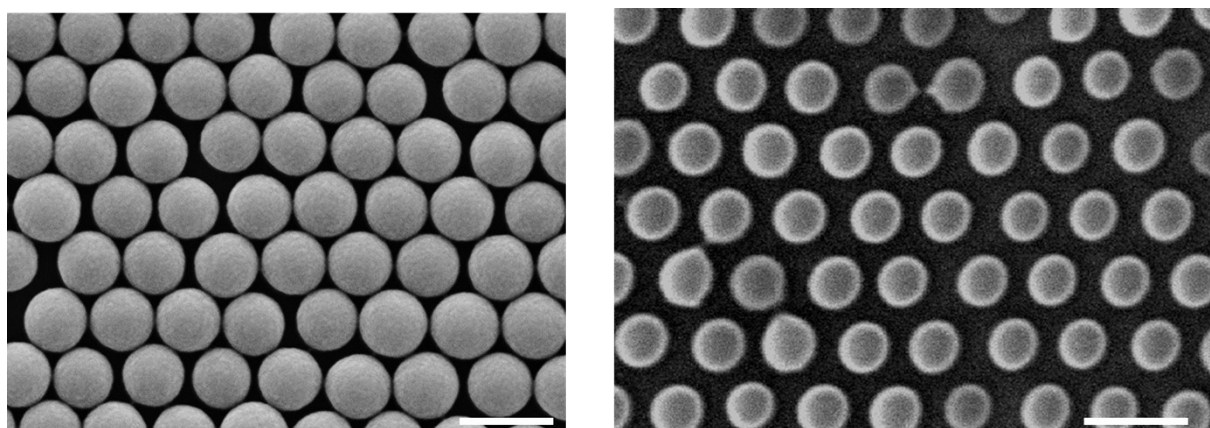


Figure S1. SEM image of monolayer of 700 nm PMMA nanoparticles before and after etching process (scale bar: 1 μm).

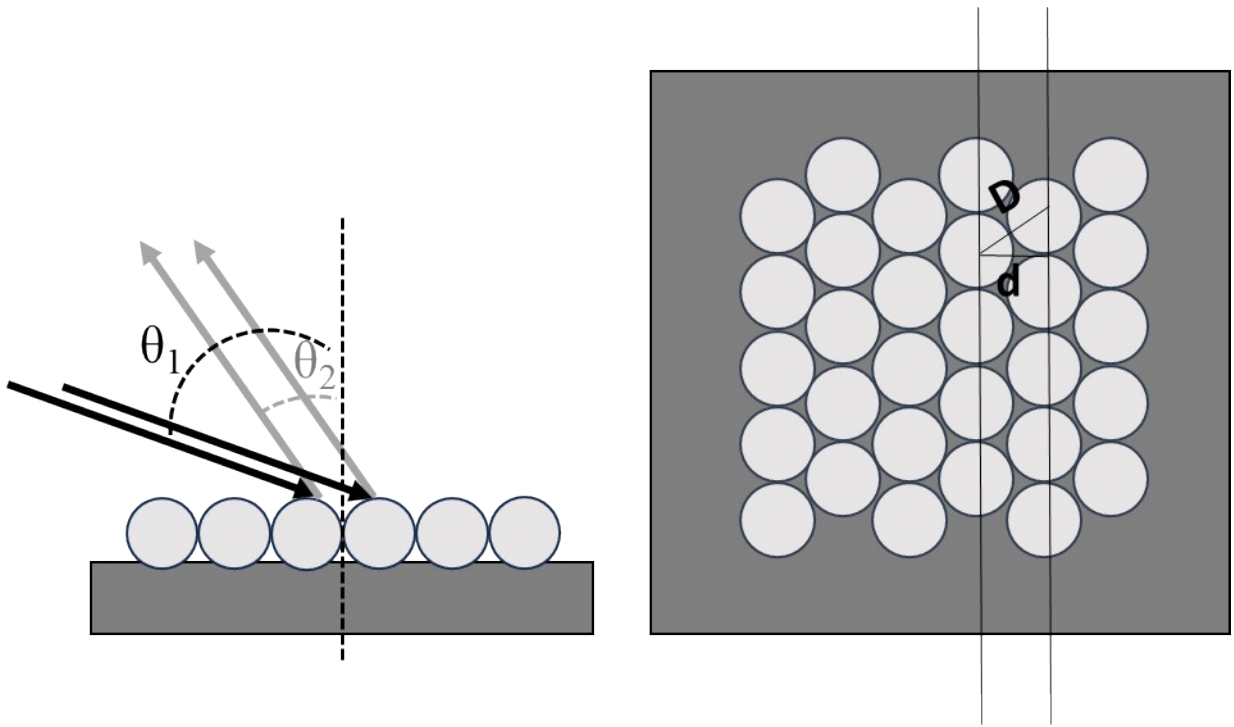


Figure S2. Schematic of the photonic crystal.

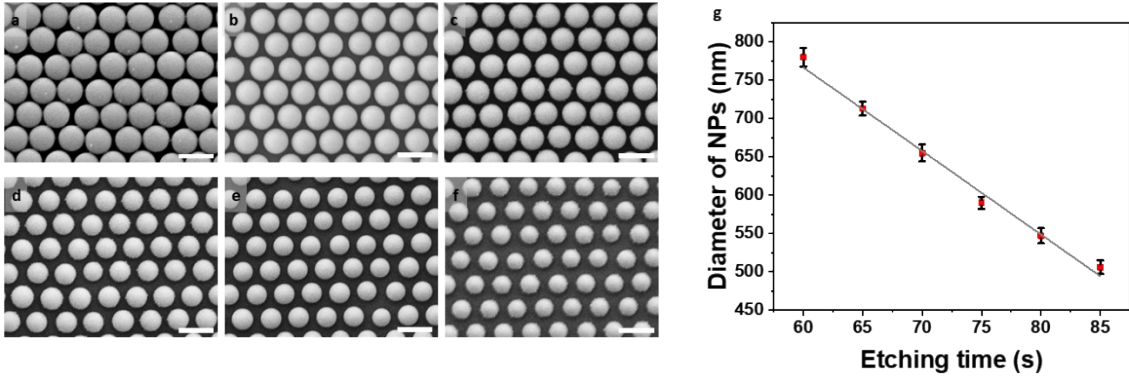


Figure S3. SEM images of same lattice constant PCs but different diameters of NPs on the silicon substrate (a)-(f): 780, 710, 655, 590, 547, 506 nm respectively (scale bar: 1 μm); (g) diameter of NPs vs etching time.

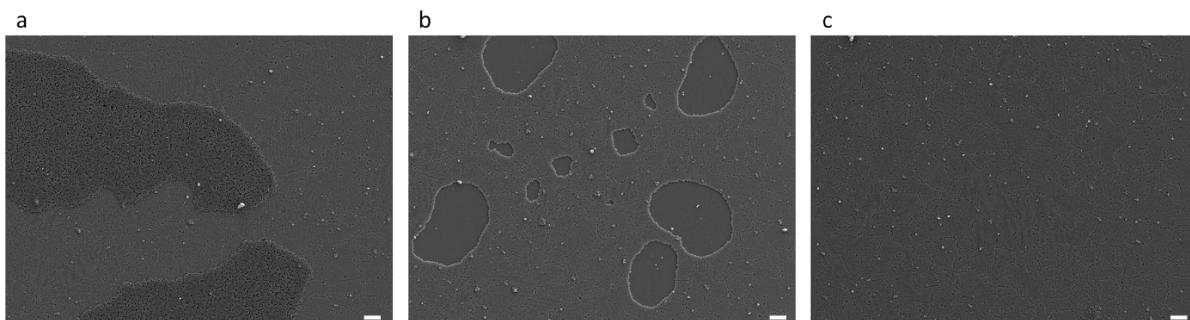


Figure S4. SEM images of the a) multiple layer of PS nanoparticles fabricated by spin coating method b) voids in the monolayer of PS nanoparticles fabricated by spin coating method c) 100% area fraction monolayer of PS nanoparticles fabricated by dip coating method (scale bar 10 μm).

Video S1. The close-packed monolayer of polystyrene nanoparticles on the black tape before and after application of cover film.

Video S2. The non-close-packed monolayer of polystyrene nanoparticles on the black tape before and after application of cover film.

Video S3. The non-close-packed monolayer of polystyrene nanoparticles on the black tape before and after application of cover film.

Video S4. The non-close-packed monolayer of polymethyl methacrylate nanoparticles on the black tape before and after application of cover film.

Video S5. Cyclic test.

Video S6. Label washing in water.

Video S7. Hybrid label of CPM and NCPM.