

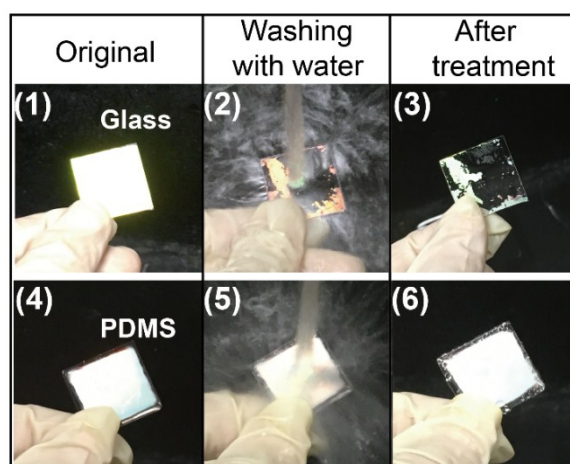
# Structurally Colored Polymer Films with Narrow Stop Band, High Angle-Dependence and Good Mechanical Robustness for Trademark Anti-counterfeiting

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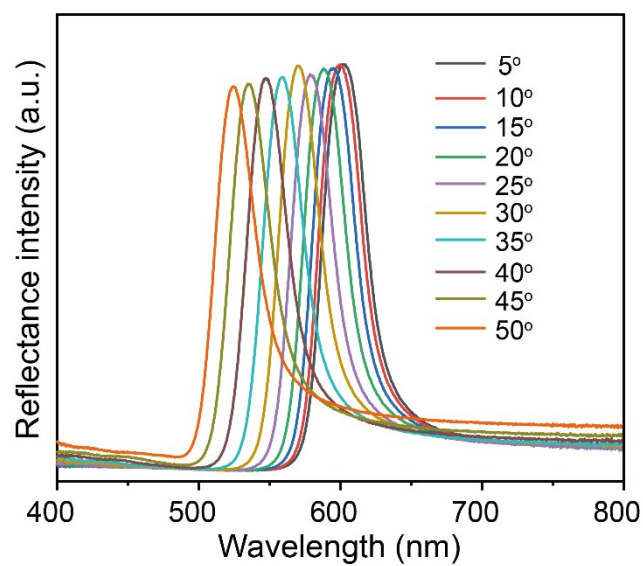
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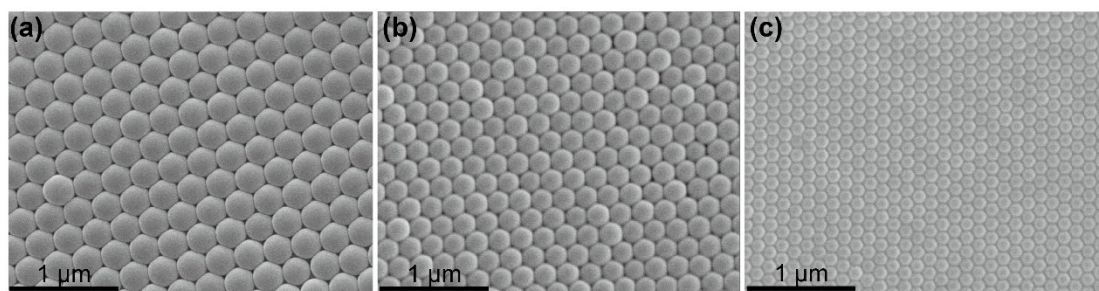
Supporting Figures:



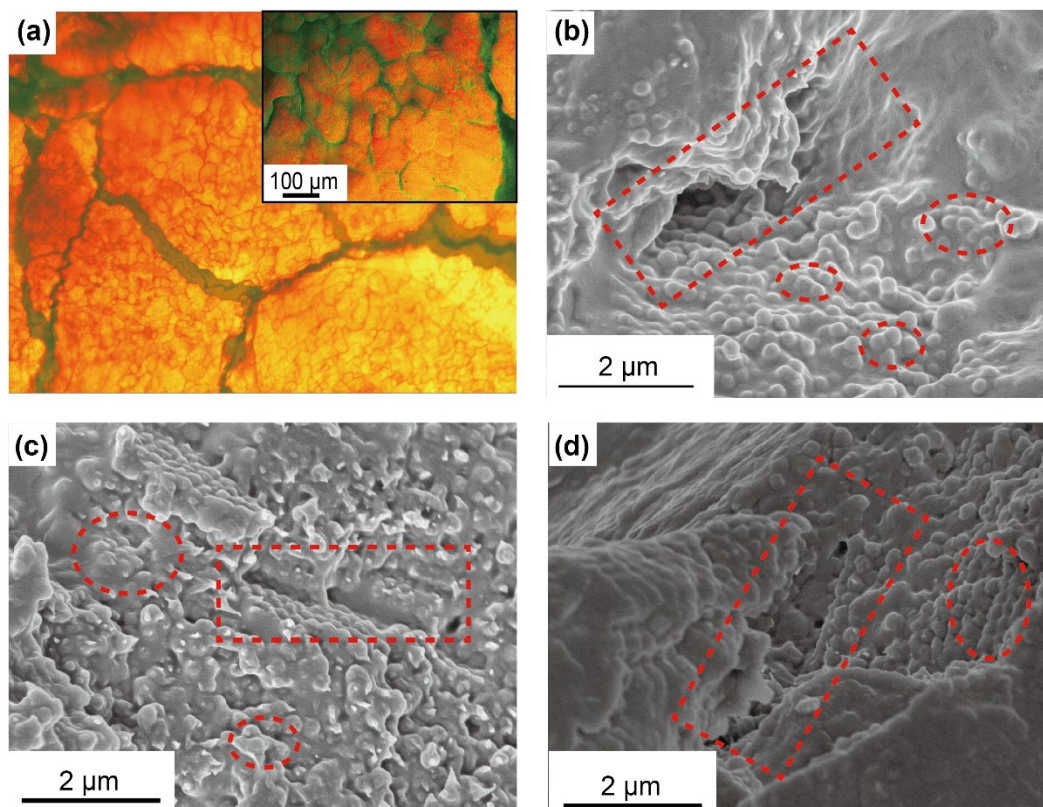
**Fig. S1** Digital images of photonic crystal film on glass and composite photonic crystal film(PDMS/PS) fabricated from 247 nm PS spheres under high speed water washing treatment: before the treatment (1,4) ; during the treatment(2,5); and after the treatment (3,6).



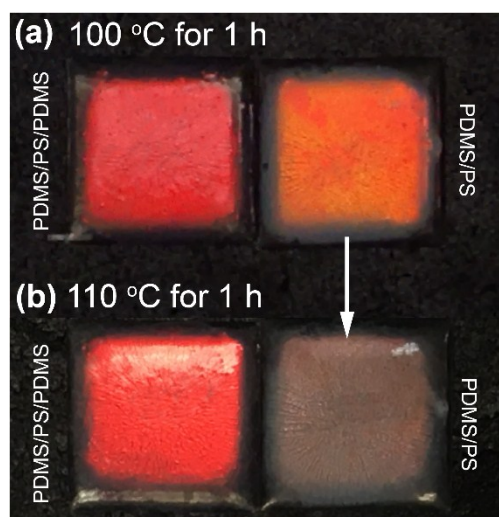
**Fig. S2** Reflectance spectra at different viewing angles of the as-prepared colloidal PCs of PS with diameter of 247 nm assembled on PDMS (PDMS/PS)



**Fig. S3** SEM of PDMS/PS films with different diameters (a) 274 nm (b) 209 nm (c) 177 nm.



**Fig. S4** (a) Optical microscopy image of the composite film with the strain of 10%. (b-d) The cross section SEM images of the structure of PS PCs in sandwich structure with the strain of 10%.



**Fig. S5** (a) Digital images of PDMS/PS/PDMS and PDMS/PS heated at 100 °C for 1h. (b) Digital images of PDMS/PS/PDMS and PDMS/PS heated at 110 °C for 1h.

**Table S1** The FWHM (full width at half-maximum) of different PCs

PCs film	FWHM(full width at half-maximum)
SiO <sub>2</sub> PCs	47.23 nm
PMMA PCs	42.85 nm
PS PCs	40.10 nm
PDMS/PS/PDMS	19.81 nm