Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C

Electronic Supplementary Information

A Novel Precursor-derived One-step Growth Approach to Fabrication of Highly Antireflective, Mechanically Robust and Self-healing Nanoporous Silica Thin Films

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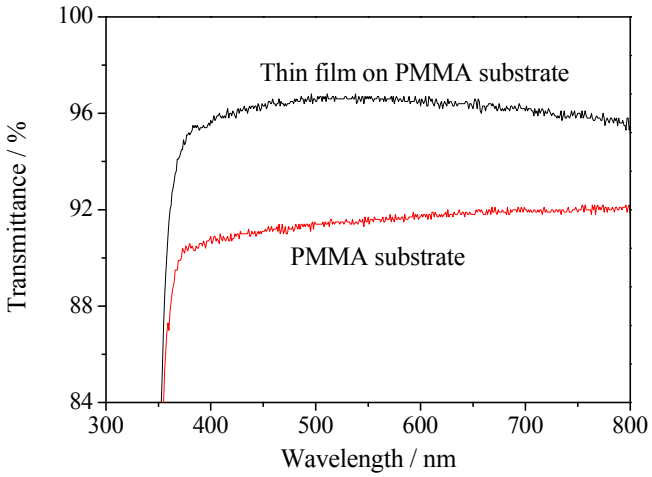

Figure S1. Transmission spectra of PMMA substrate and thin film deposited on PMMA substrate by POG at 60 ^{o}C for 24 h followed by extraction of CTAB by a mixture of concentrated HCl (36-38%)/Ethanol (15:120, v/v).

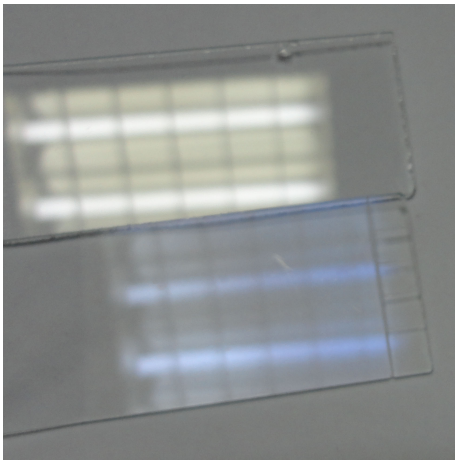

Figure S2. Digital image of the interface reflection toward a fluorescent lamp on the surface of uncoated slide glass (upper) and slide glass coated with highly antireflective and mechanically robust thin film (lower). The thin film was deposited by POG at 60 ^{o}C for 24 h followed by calcination at 550 ^{o}C for 3 h

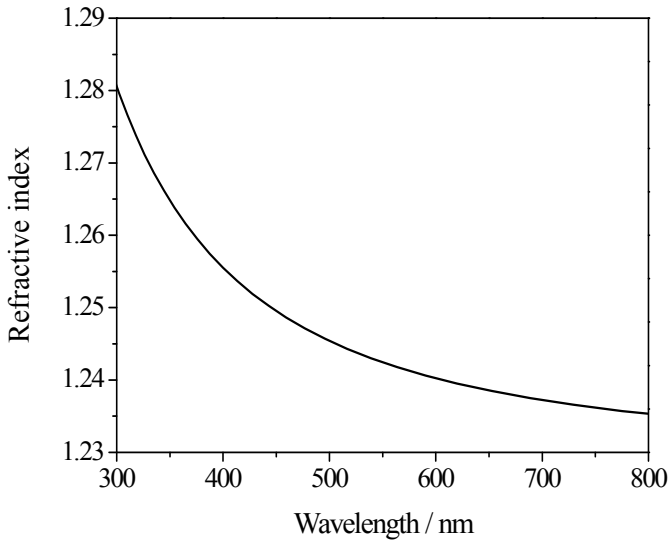

Figure S3. Dependence of refractive index on incident light wavelength of nanoporous silica thin film deposited on glass substrate by POG at 60 ^{o}C for 24 h followed by calcination at 550 ^{o}C for 3 h.

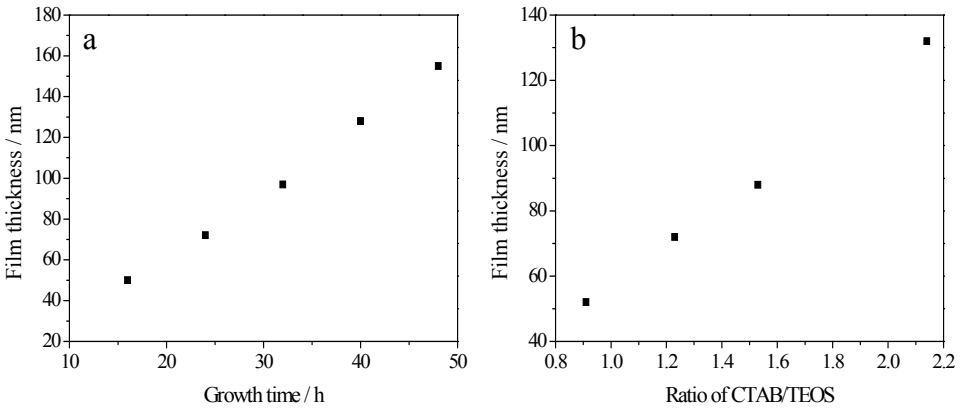

Figure S4. Variation of the thickness of nanoporous silica thin film as a function of (a) growth time and the CTAB/TEOS ratio (b), respectively.

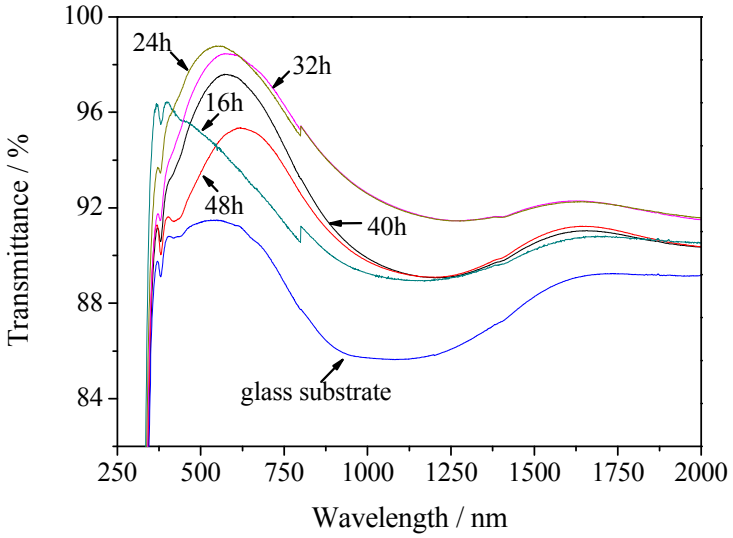

Figure S5. UV-Vis-Near IR transmission spectra of nanoporous silica thin films deposited on glass substrate by POG at 60 ^{o}C for varied periods of deposition time followed by calcination at 550 ^{o}C for 3 h.

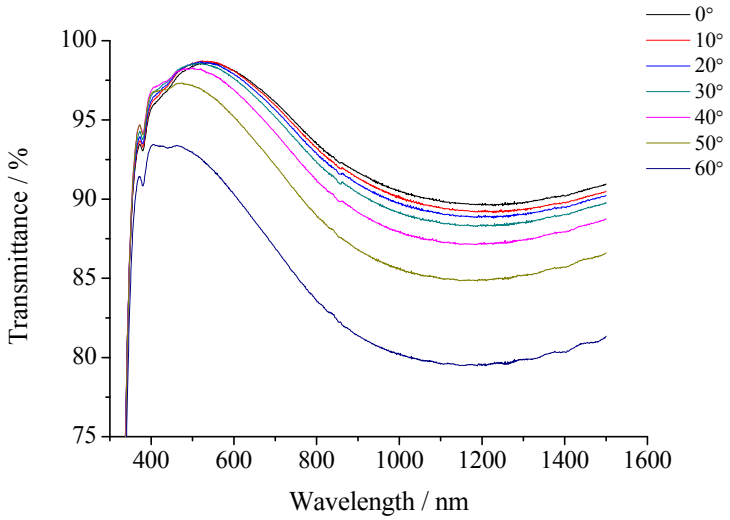

Figure S6. Transmission spectra of thin film deposited on glass substrate by POG at 60 ^{o}C for 24 h followed by calcination (550^{o}C for 3 h) as a function of incident angle.

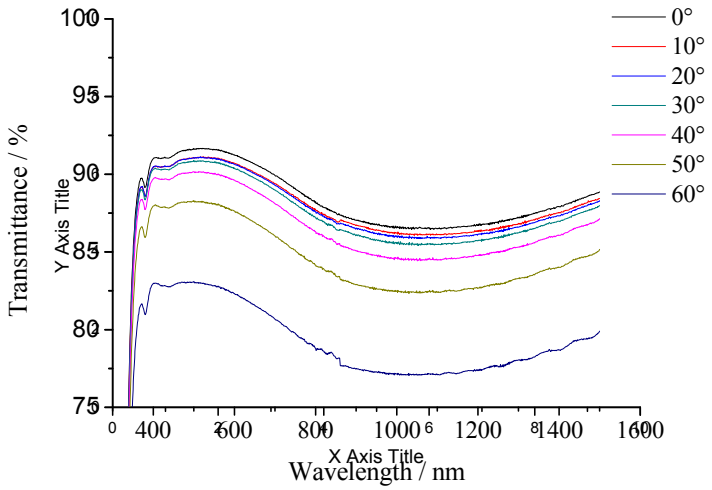

Figure S7. Transmission spectra of glass substrate as a function of incident angle.