

Electronic Supplementary Information

A Visual Film Sensor Based on Silole-infiltrated SiO₂ Inverse Opal Photonic Crystal for Detecting Organic Vapors

Yuqi Zhang,^a Jianhua Qiu,^a Miaomiao Gao,^a Pei Li,^a Loujun Gao,^a Liping Heng,^{*b} Ben Zhong Tang^c and Lei Jiang^b

^a College of Chemistry and Chemical Engineering, Yan'an University, Yan'an, Shaanxi, 716000, P. R. China.

^b School of Chemistry and Environment, Beihang University, 100191, P. R. China.
Fax: (+86) 10- 8262 7566 E-mail: henglp@iccas.ac.cn

^c Departments of Chemistry, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, P. R. China.

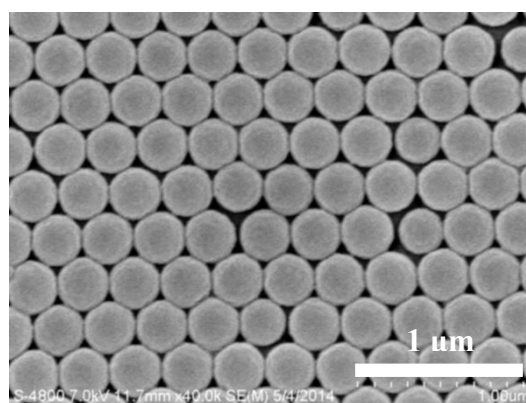


Fig. S1 SEM image of poly (styrene-acrylic acid) microspheres. The average diameter is 340 nm.

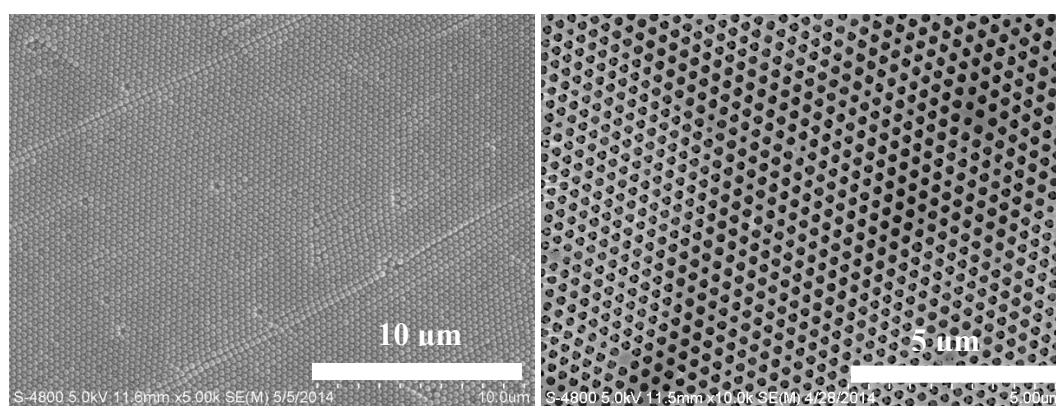


Fig. S2 The large area SEM images of the co-assembly PC film of P(St-AA) microspheres and SiO₂ precursor colloidal crystal (a), and SiO₂ IOPC (b).

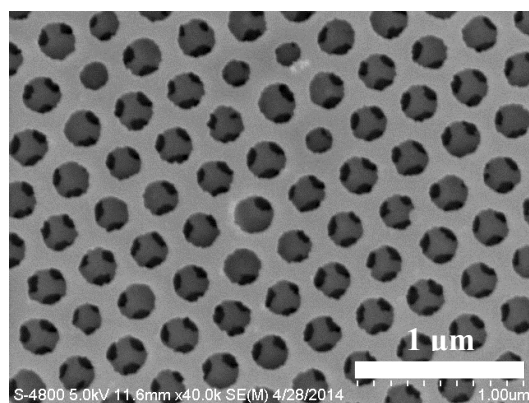


Fig. S3 SEM image of the HPS-SiO₂ IOPC. It is very similar to the SEM image of SiO₂ IOPC, which demonstrates that infiltration of a small quantity organic molecules cannot influence the surface morphology of the film clearly.

Table S1 The refractive indices (n_D^{20}) of some solvents

Solvents	n_D^{20}
H ₂ O	1.3330
Methanol	1.3284
Ethyl acetate	1.3724
Chloroform	1.4458
Tetrahydrofuran	1.4072
Ethanol	1.3614
Acetone	1.3587
Benzene	1.5011
Toluene	1.4969
Diethyl ether	1.3524
Petroleum ether (60-90 °C)	1.428