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Supplemental Information

Structural and Optical Characterization of 3D Binary Colloidal Crystal and Inverse Opal Films Prepared by Direct Codeposition

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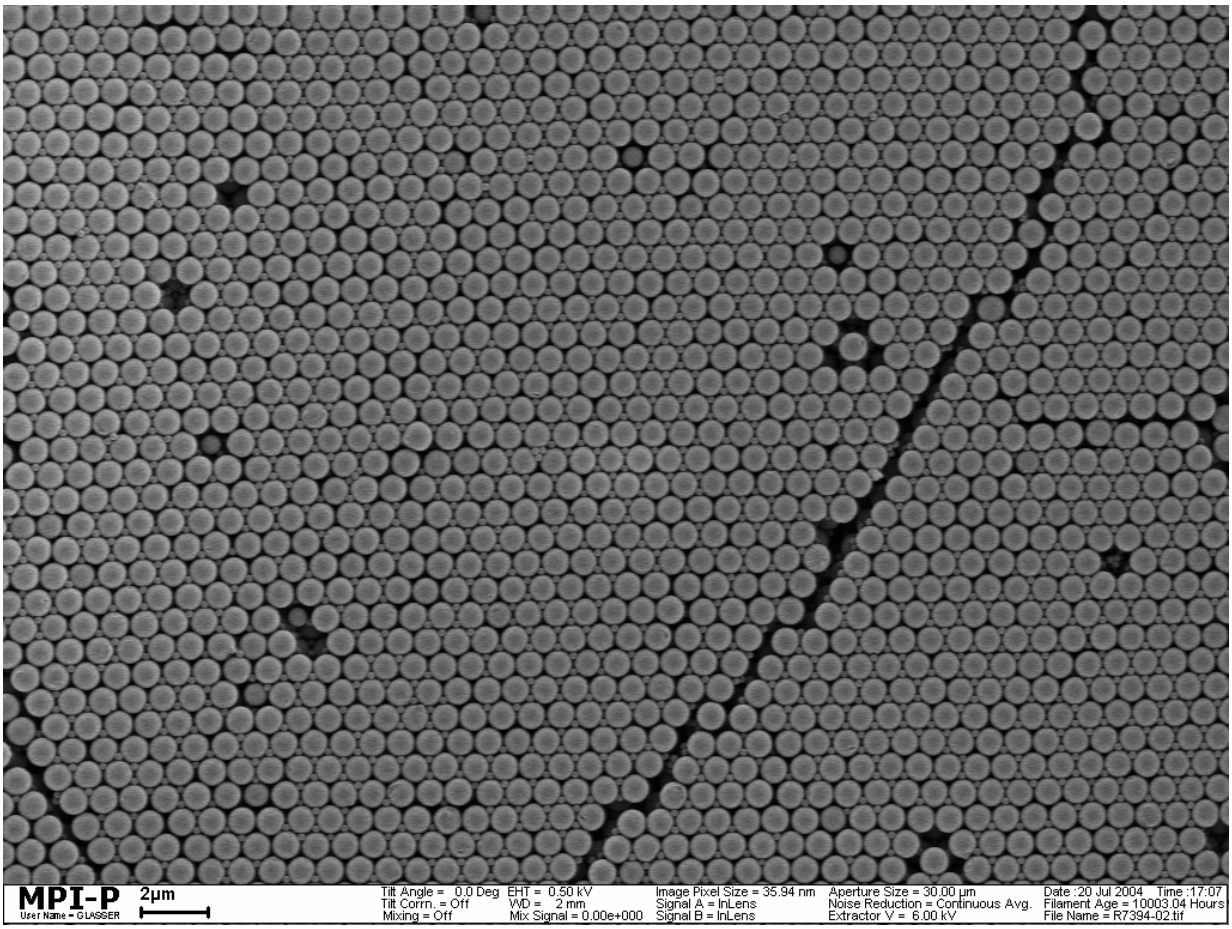

Figure S1: Low magnification SEM image of a PS/PS binary colloidal crystal d_L = 839 nm, ϕ_L = 0.01, d_S = 187 nm, $\phi_S = 2.0\times10^{-4}$) with $\gamma_{S/L}$ = 0.223, N_S/N_L = 1.80.

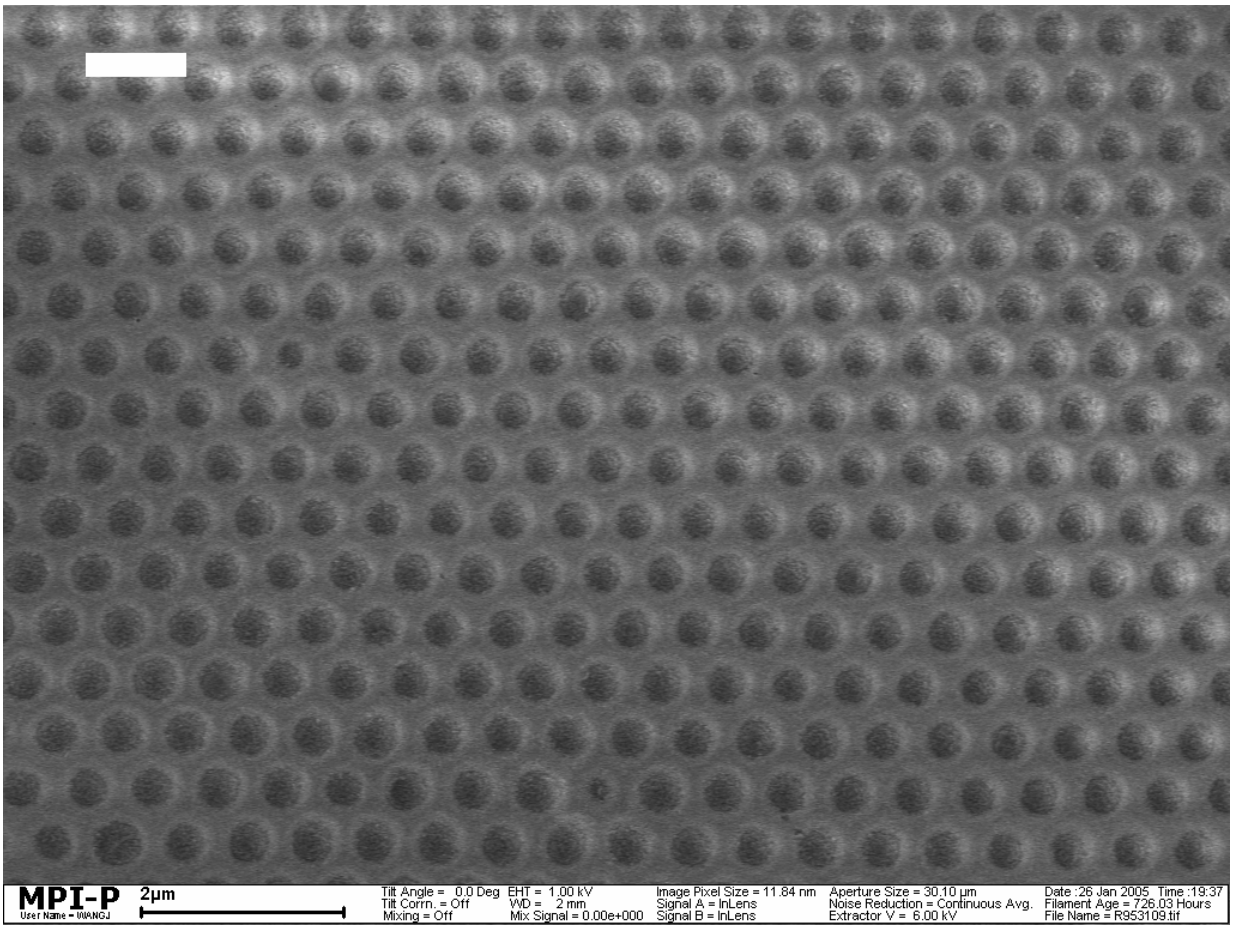

Figure S2: SEM images of silica/polystyrene composite film, d_{silica} = 10 nm, $\phi_{silica} = 8.62\times10^{-4}$, d_L = 626 nm, $\phi_L = 0.012$.

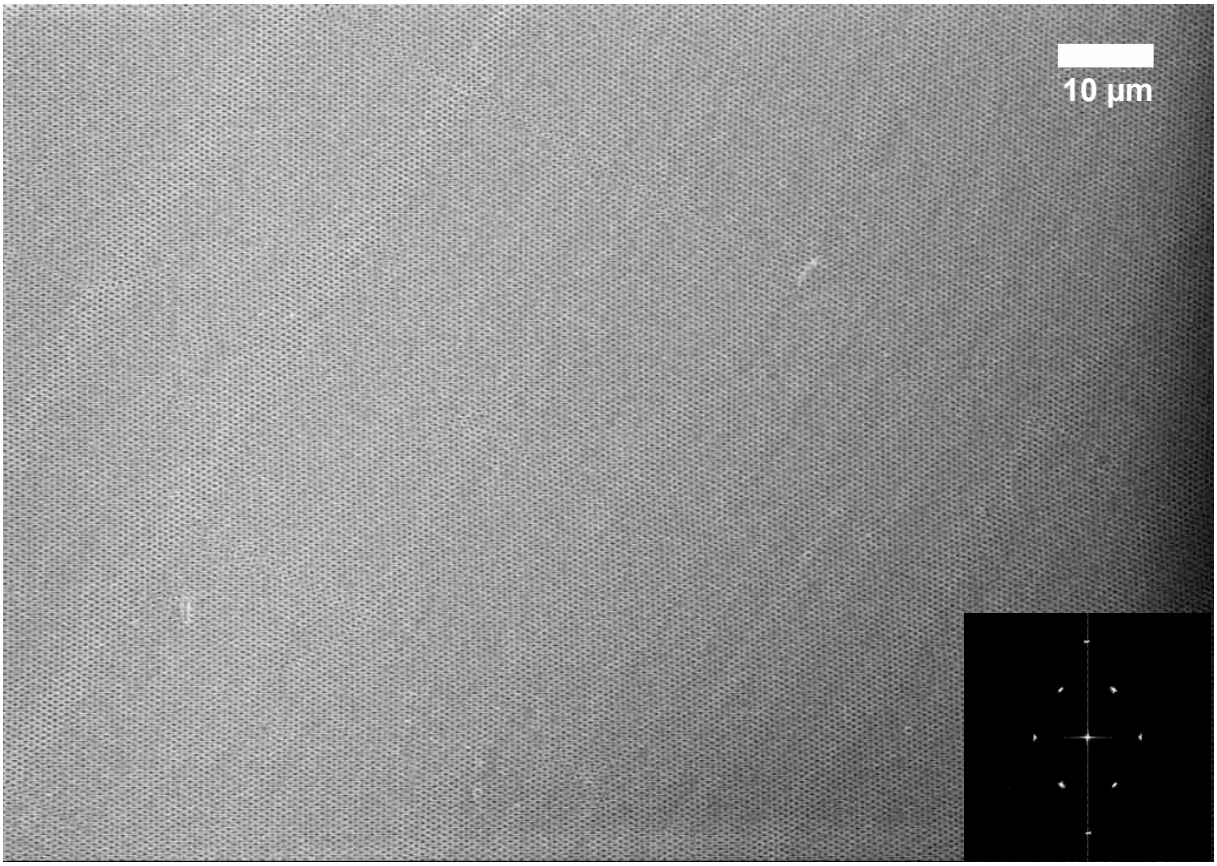

Figure S3: Low magnification image of a silica inverse opal together with FFT inset showing the quality of prepared silica inverse opal. Template PS latex with diameter of 626 nm, diameter of silica nanoparticles is 10 nm. Pyrolysis of silica/PS composite film was carried at 450°C in air.

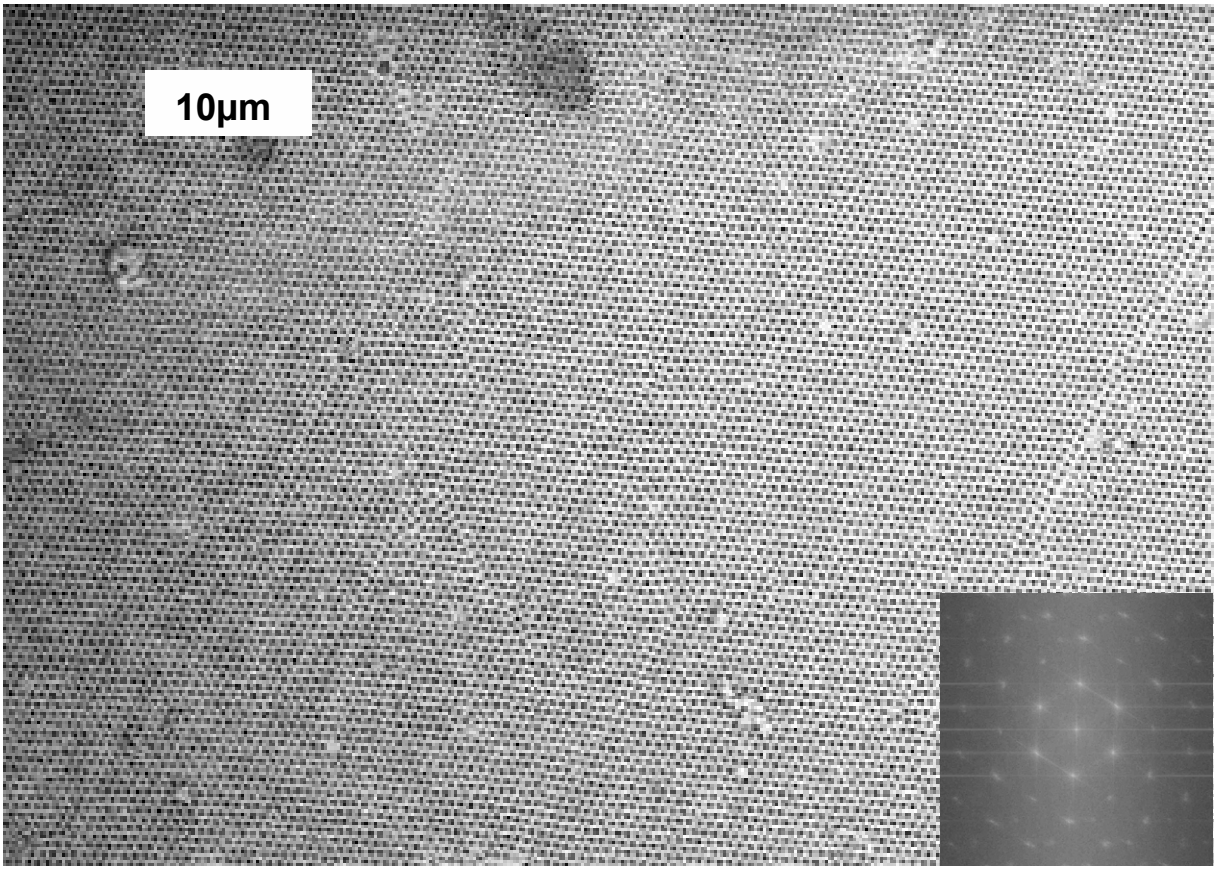

Figure S4: Low magnification image of silica/gold hybrid inverse opals, FFT inset of the image shows high quality of the composite inverse opals.