

Electronic supplementary information

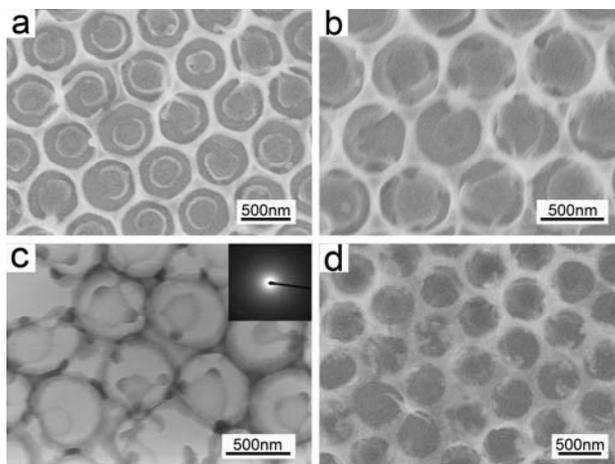


Fig. S1 SEM (a,b,d) and TEM (c) images of ZnS nanobowl arrays prepared with 600 nm PS spheres by interfacial reaction through gas diffusion after different times: (a) 5 h, (b,c) 10 h, and (d) 20 h. Inset in (c) shows the corresponding SAED pattern. Synthesis condition: MCCs of 600 nm PS spheres were floated on the surface of 3 mL 50 mM $\text{Zn}(\text{CH}_3\text{COO})_2$ solution and 1 g TAA powder was used to release H_2S gas.

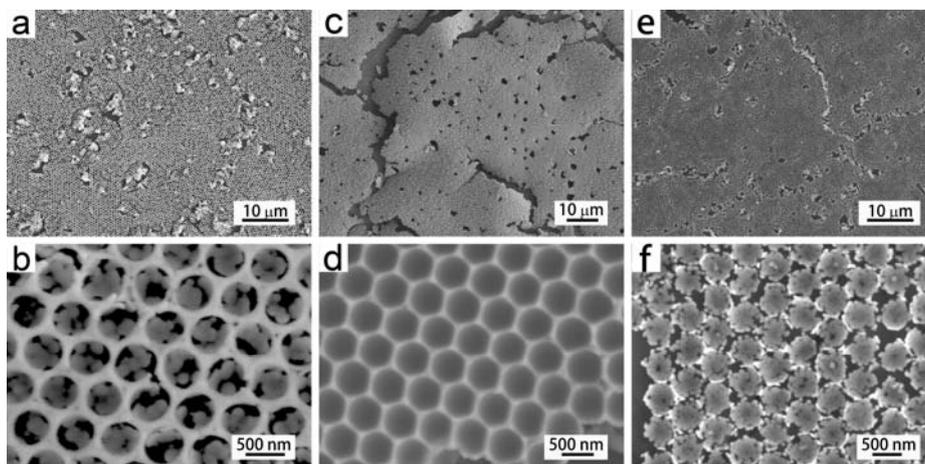


Fig. S2 SEM images of ZnS nanoarrays prepared with 600 nm PS spheres under different solution conditions. (a, b) 0.06 M $\text{Zn}(\text{CH}_3\text{COO})_2$ and 0.12M TAA; (c, d) 0.06M $\text{Zn}(\text{CH}_3\text{COO})_2$, 0.12M TAA and 0.03M Na_2EDTA ; (e, f) 0.06M $\text{Zn}(\text{CH}_3\text{COO})_2$, 0.12M TAA and 0.2M $\text{CH}_3\text{COONH}_4$.