

**Mesoporous ZnS hierarchical nanostructures: facile synthesis,
growth mechanism and application in gas sensing**

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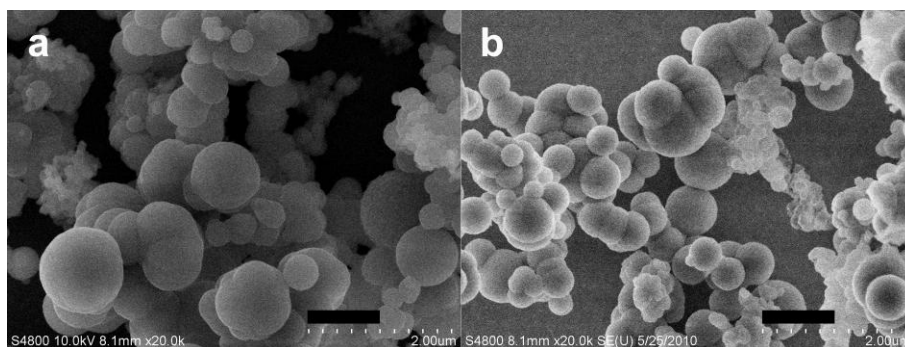


Fig. S1 SEM images of the ZnS nanostructures obtained in the presence of 1 ml PDDA (a) and 1 g CTAB (b). All the scale bars are 1 μm .

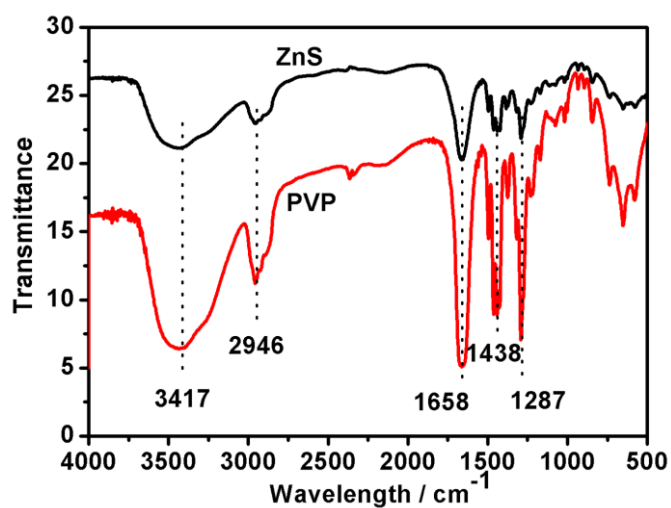


Fig. S2 IR spectra of ZnS MHNSs and PVP.

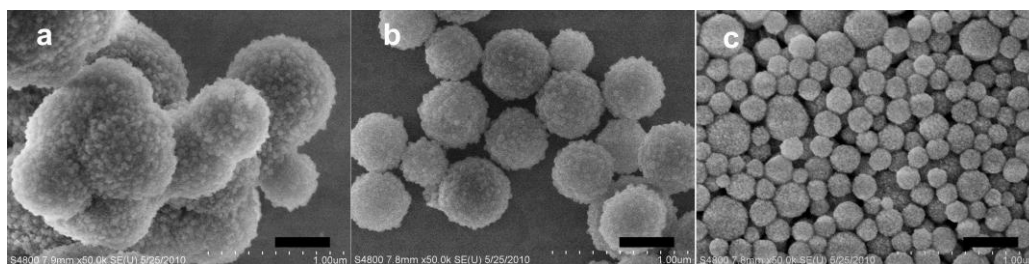


Fig. S3 SEM images of ZnS nanostructures prepared with different resulting concentration of PVP: (a) 0 mg/mL, (b) 25 mg/mL, and (c) 150 mg/mL. All the scale bars are 400 nm.

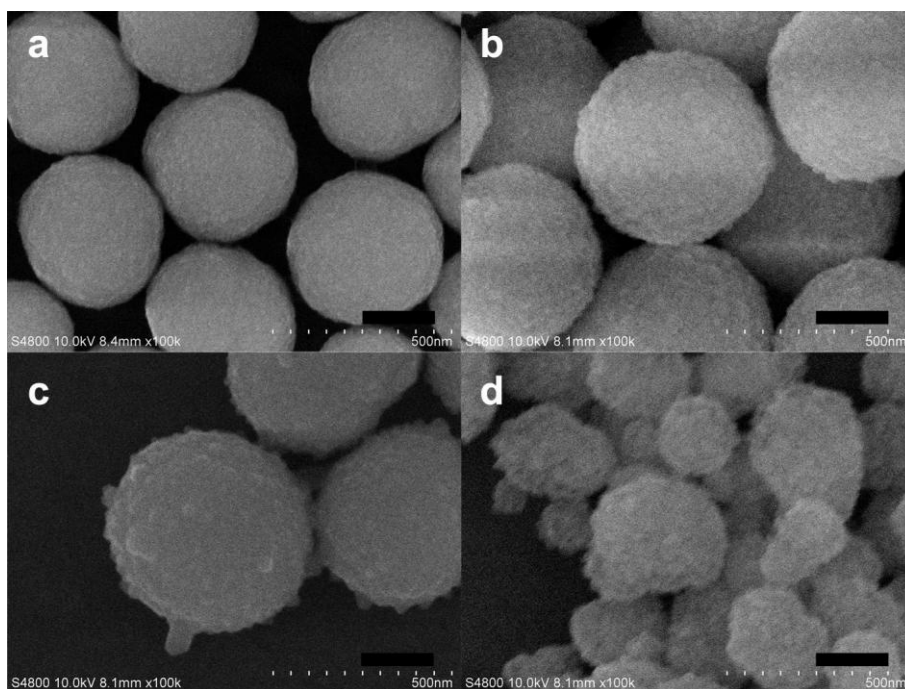


Fig. S4 SEM images of ZnS nanostructures obtained for different reaction time:

(a) 1 h, (b) 6 h, (c) 9 h, and (d) 24 h. All the scale bars are 200 nm.

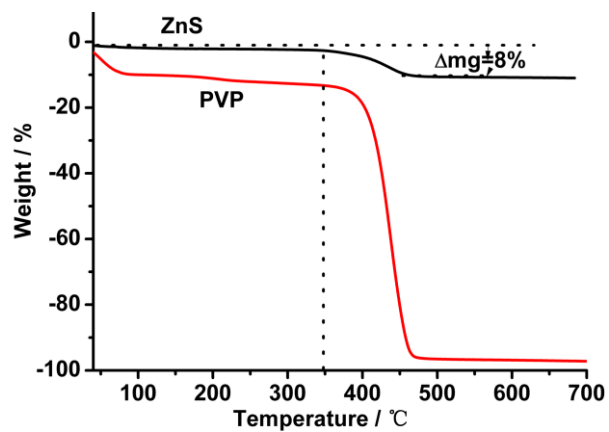


Fig. S5 TGA curves of ZnS MHNSs and PVP.