

## Hollow $\text{SnO}_2/\alpha\text{-Fe}_2\text{O}_3$ spheres with double-shell structure for gas sensor

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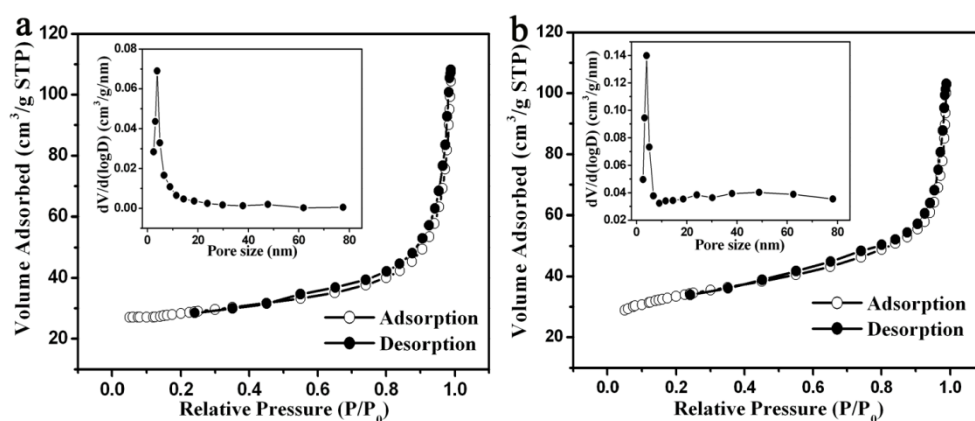


Fig. S1† Nitrogen adsorption-desorption isotherms of (a) hollow  $\text{SnO}_2$  spheres, (b) double-shell  $\text{SnO}_2/\alpha\text{-Fe}_2\text{O}_3$  composites. The insets show corresponding pore size distribution curves.

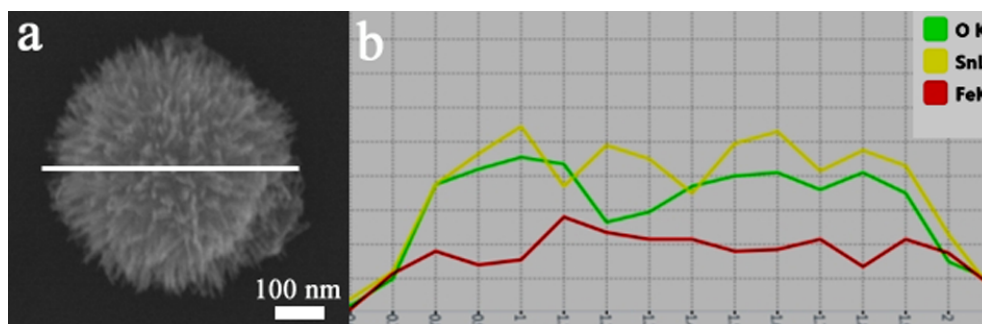


Fig. S2† Energy dispersive spectrum (EDS) of the hierarchical composites.

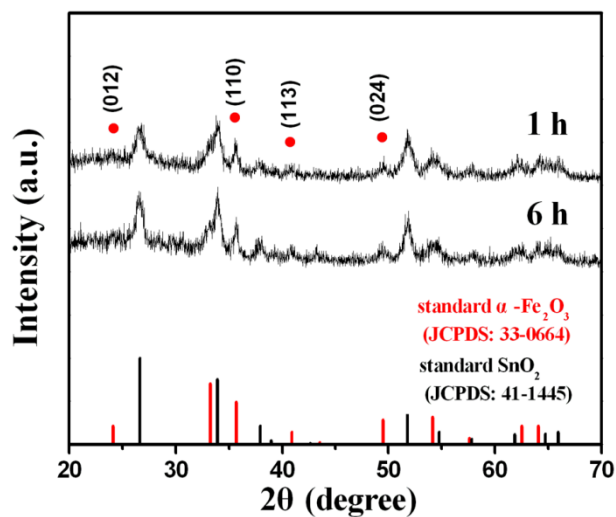


Fig. S3† XRD patterns of the product obtained at various reaction stages after heat treatment.

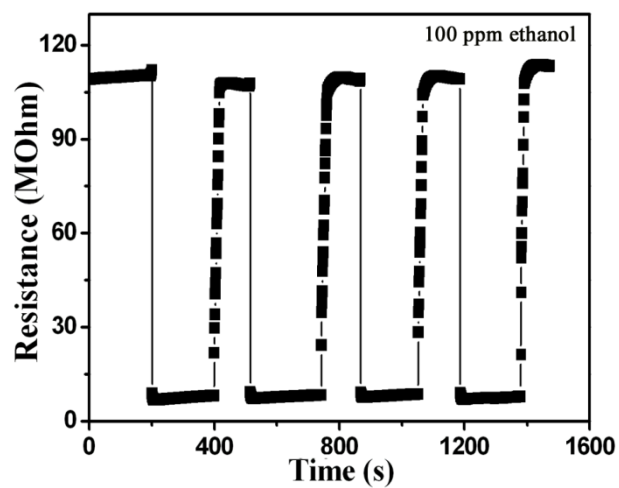


Fig. S4† Displaying four periods of response curve.