

Electronic Supplementary Information

Template-free Synthesis of Hierarchical ZnFe₂O₄ Yolk-Shell Microspheres for High-Sensitive Acetone Sensors

Xin Zhou, Boqun Wang, Hongbin Sun, Chen Wang, Peng Sun,* Xiaowei Li,
Xiaolong Hu, Geyu Lu*

State Key Laboratory on Integrated Optoelectronics, College of Electronic Science
and Engineering, Jilin University, Changchun 130012, People's Republic of China.

*Corresponding Authors: Tel: +86 431 85167808; Fax: +86 431 85167808.

E-mail addresses: spmaster2008@163.com, luyg@jlu.edu.cn

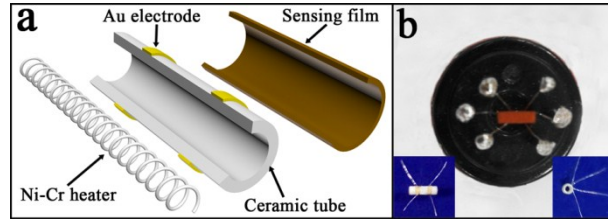


Fig. S1† (a) Schematic diagram of the gas sensor device. (b) Photograph of the completed sensor. The insets of panel b are the photographs of the ceramic tube.

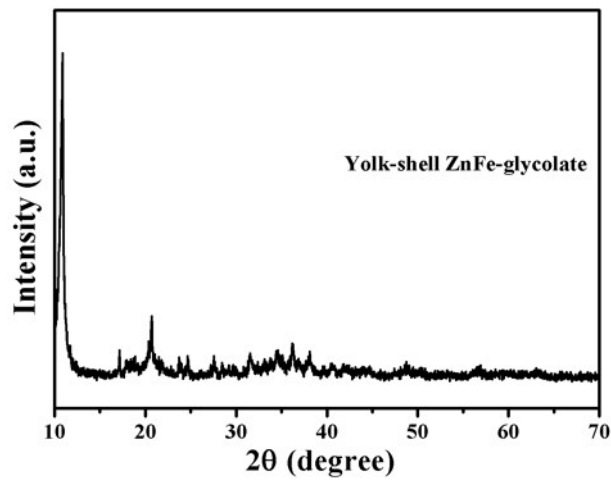


Fig. S2† XRD pattern of the yolk-shell ZnFe-glycolate.

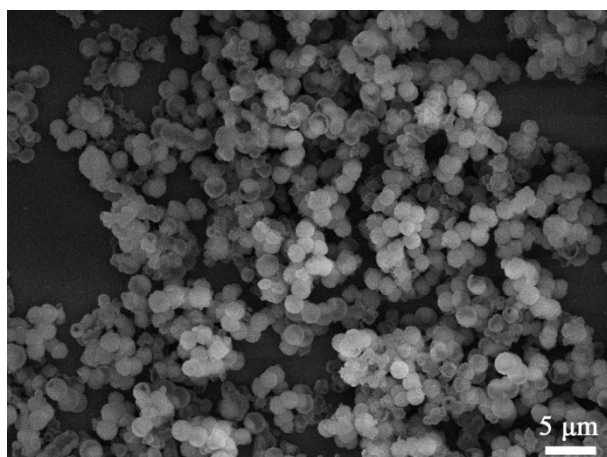


Fig. S3† Panoramic FESEM image of the yolk-shell ZnFe-glycolate microspheres.

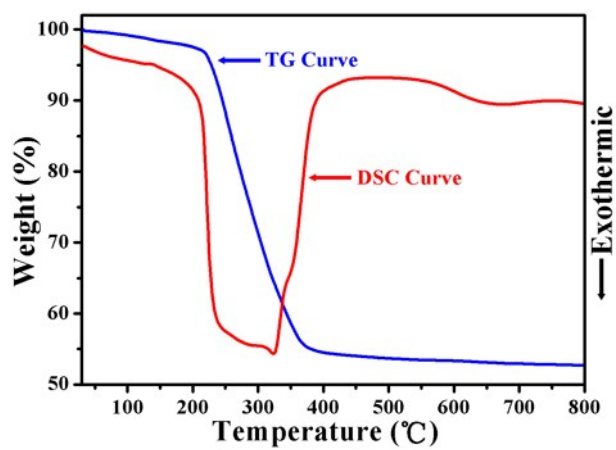


Fig. S4† TG and DSC curves of the ZnFe-glycolate precursor.

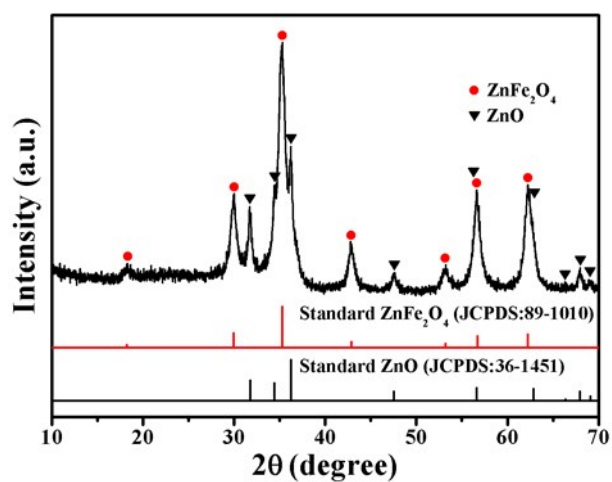


Fig. S5† XRD pattern of the product obtained by directly annealing the precursor.

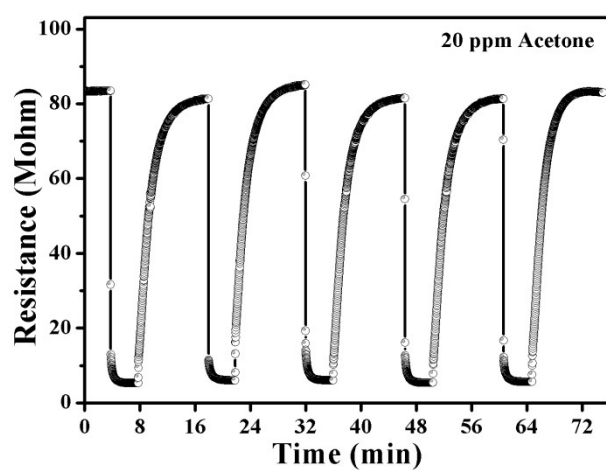


Fig. S6† Displaying five periods of response-recovery curve to 20 ppm acetone for yolk-shell ZnFe_2O_4 microspheres.

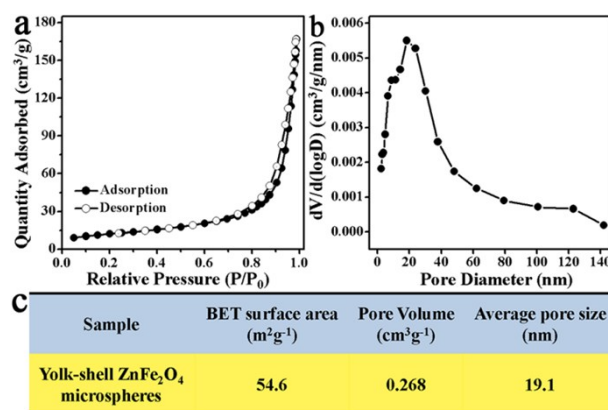


Fig. S7† (a) N₂ adsorption-desorption isotherm, (b) the corresponding pore size distribution curve and (c) textural parameters of the as-obtained yolk-shell ZnFe₂O₄ microspheres.