

Electronic Supplementary Information

One-pot synthesis of yolk–shell mesoporous carbon spheres with high magnetisation

Wen-jing Liu¹, Yu-xin Liu², Xiang-yang Yan¹, Guo-ping Yong¹, Ye-ping Xu², Shao-min Liu^{*,1}

¹Department of chemistry, University of Science and Technology of China, Hefei, Anhui, 230026, China, Tel&Fax: +86 551 3492147, E-mail: liusm@ustc.edu.cn.

²Technology Center, Anhui Entry-Exit Inspection and Quarantine Bureau, Hefei 230022, P.R. China

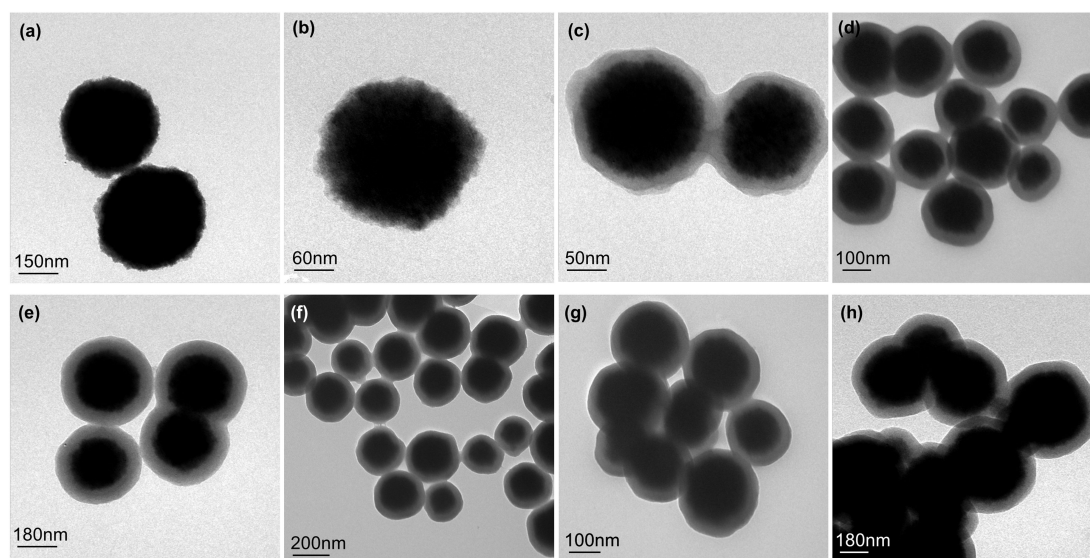


Fig. S1 The composition of solvent's affection to Fe₃O₄@polymer : ethanol: water = 0:1 (a), 1:1 (b), 2:1 (c), 2.5:1 (d), 3:1 (e), 4:1 (f), 7:1 (g), 1:0 (h).

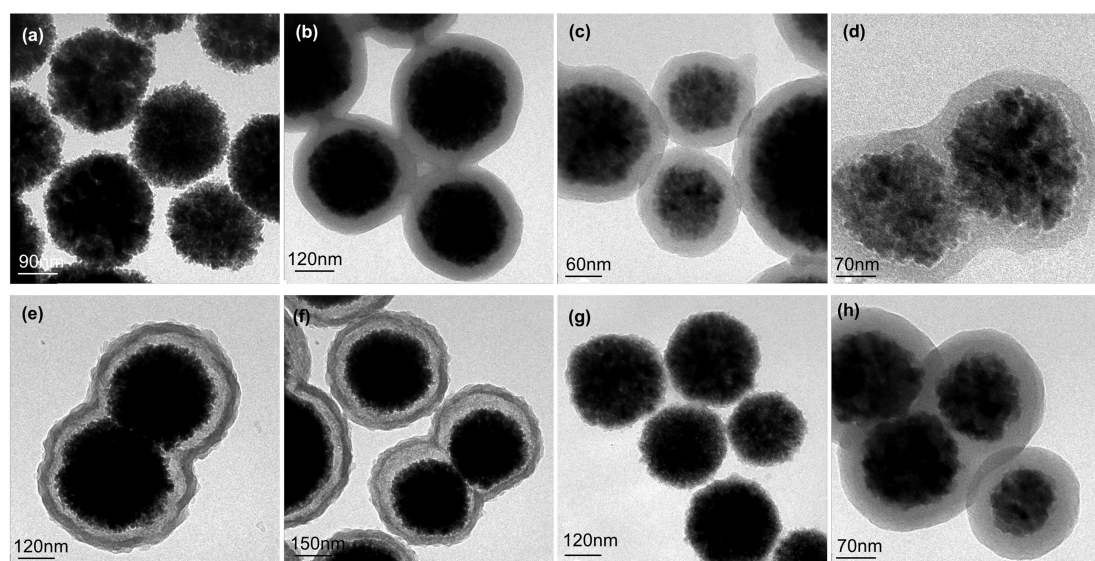


Fig. S2 The content of TEOS's affection to $\text{Fe}_3\text{O}_4@\text{vioid}@\text{C}$: HCHO:TEOS = 1:0 (a); 1:0.2 (b); 1:0.6 (c); 1:1 (d); 1:1.5 (e); 1:1.8 (f); 1:5 (g); 0:1 (h).

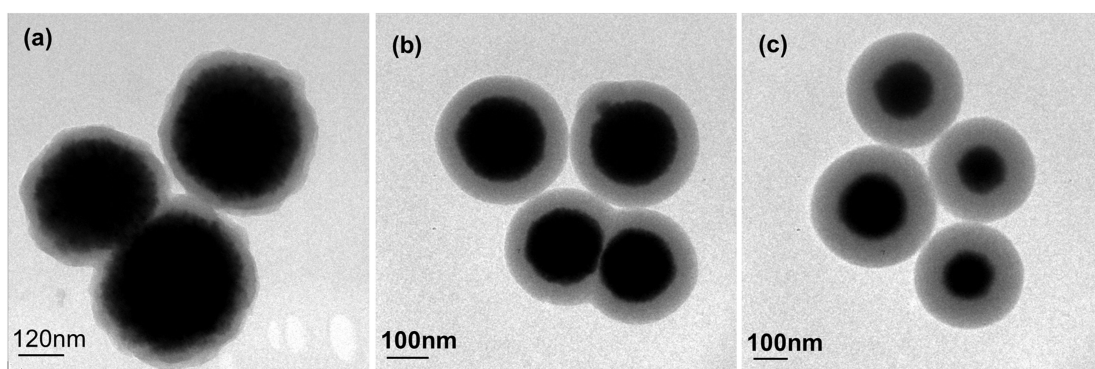


Fig. S3 The dosage of precursor material' affection to Shell thickness of $\text{Fe}_3\text{O}_4@\text{polymer}$ spheres: 40 nm (a); 60 nm (b); 80 nm (c).

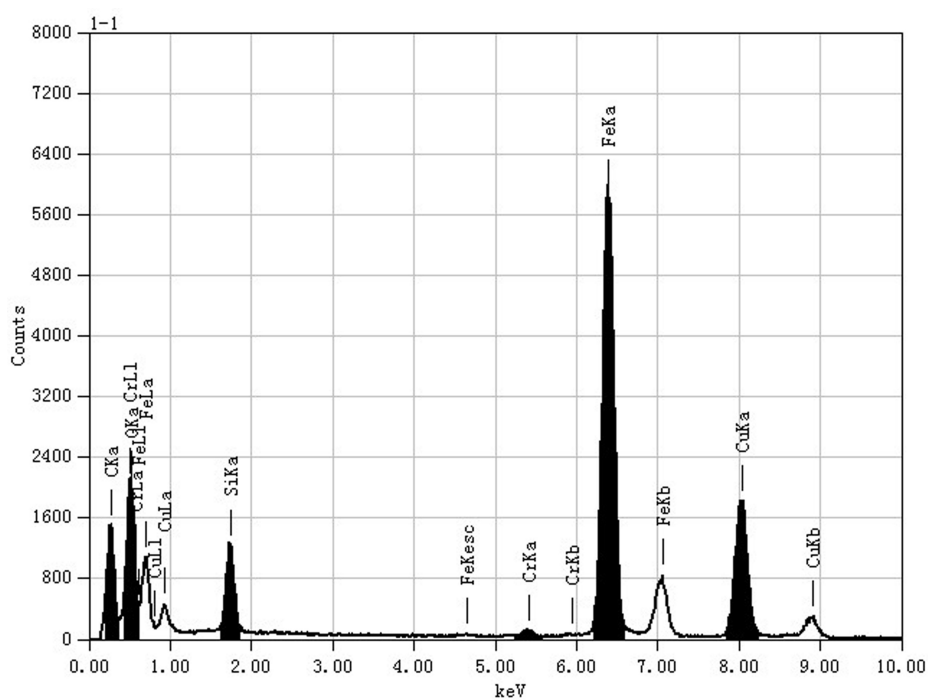


Fig. S4 The EDS of Fe_3O_4 @polymer.

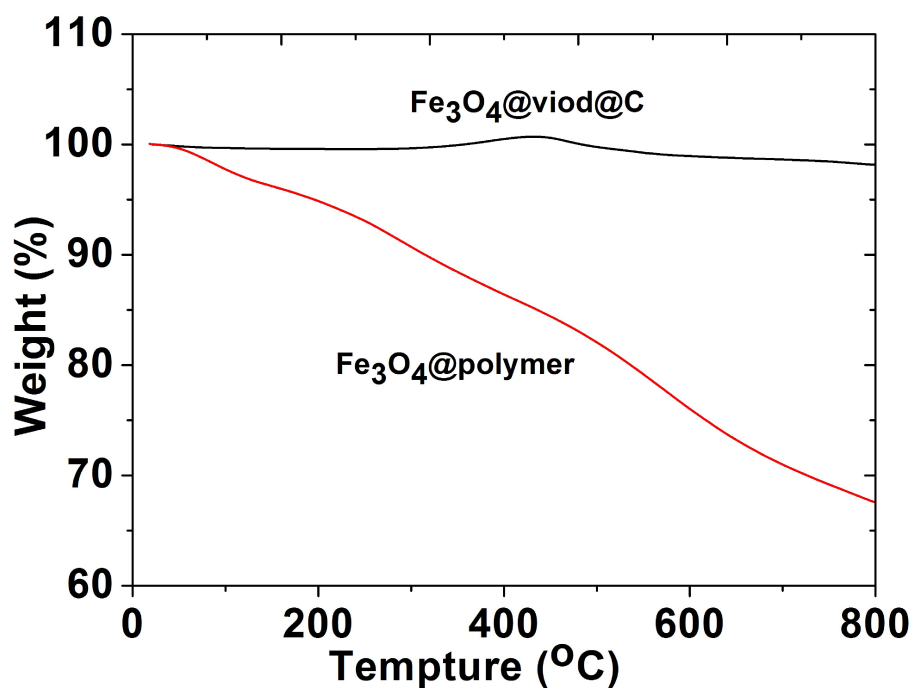


Fig. S5 Thermogravimetric (TG) analysis curves of mesoporous Fe_3O_4 @void@C and Fe_3O_4 @polymer.

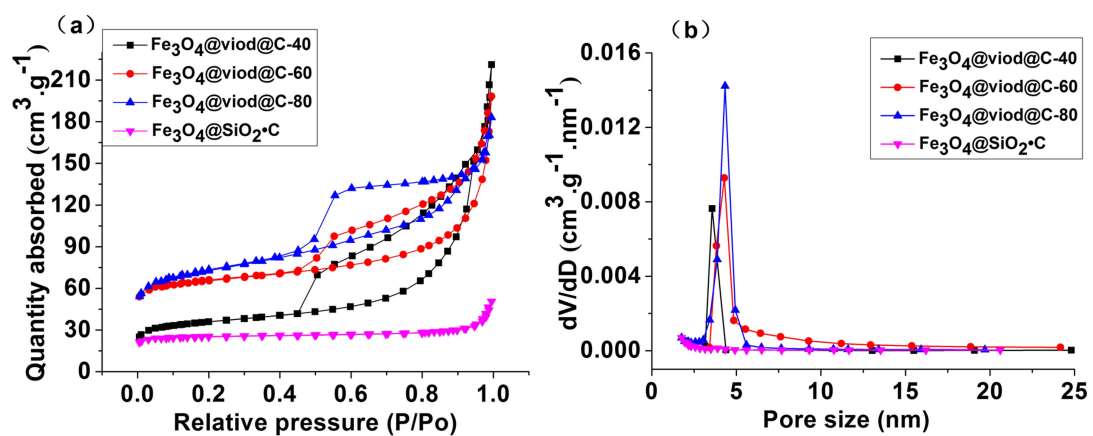


Fig. S6 N_2 sorption and adsorption curve of $\text{Fe}_3\text{O}_4@void@C$ with 40 nm, 60 nm, 80 nm and $\text{Fe}_3\text{O}_4@SiO_2 \cdot C$ (a), pore diameter distribution curve (b).