

**Electronic Supplementary Material (ESI) for RSC Advances.
This journal is ©The Royal Society of Chemistry 2015**

Electronic Supplementary Information

Fabrication and Photoactivity of Short Rod-shaped Mesoporous SiO₂@TiO₂ Composites with TiO₂ Shell

Pei Cao, Guowei Zhou,* Yixian Ren, and Hong Xiao

*Key Laboratory of Fine Chemicals in Universities of Shandong, School of Chemistry
and Pharmaceutical Engineering, Qilu University of Technology, Jinan 250353,
Shandong, People's Republic of China*

*Corresponding author: gwzhou@qlu.edu.cn, guoweizhou@hotmail.com (G. W. Zhou).

Tel: +86 531 89631696

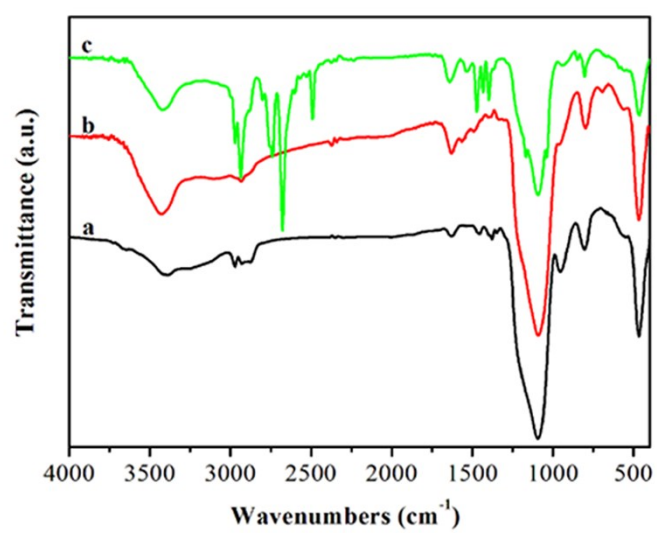


Figure S1. FT-IR spectra of (a) SiO₂, (b) SiO₂-NH₂, and (c) SiO₂-Br

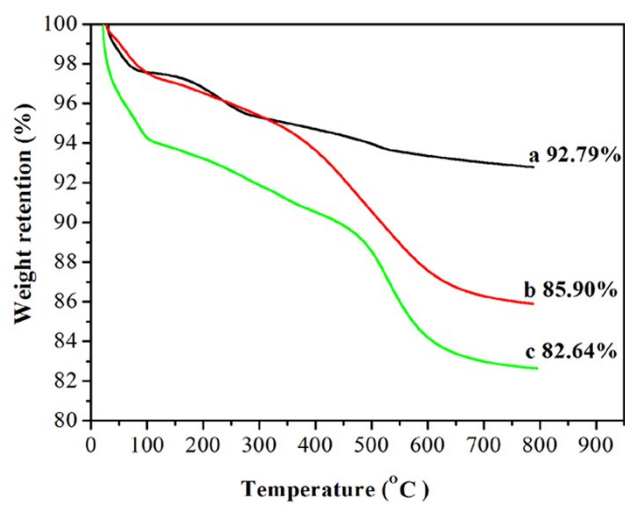


Figure S2. TGA results of (a) SiO₂, (b) SiO₂-NH₂, and (c) SiO₂-Br

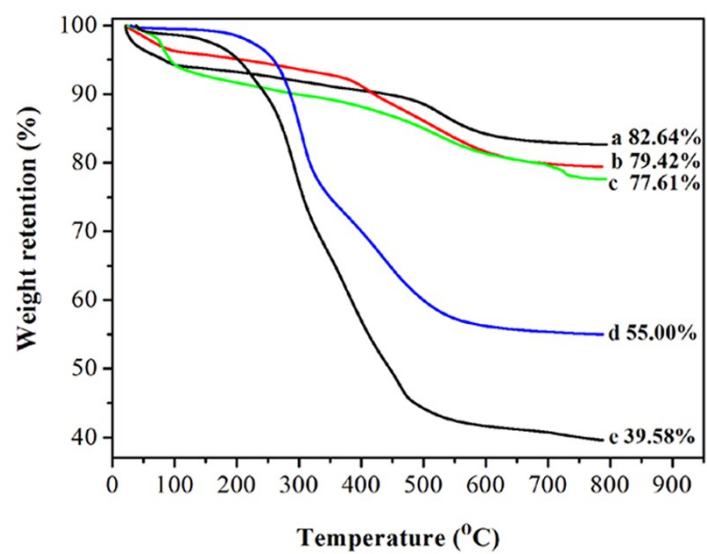


Figure S3. TGA results of (a) SiO₂, (b) SiO₂-NH₂, (c) SiO₂-Br, (d) SiO₂-PGMA and (e) SiGE4

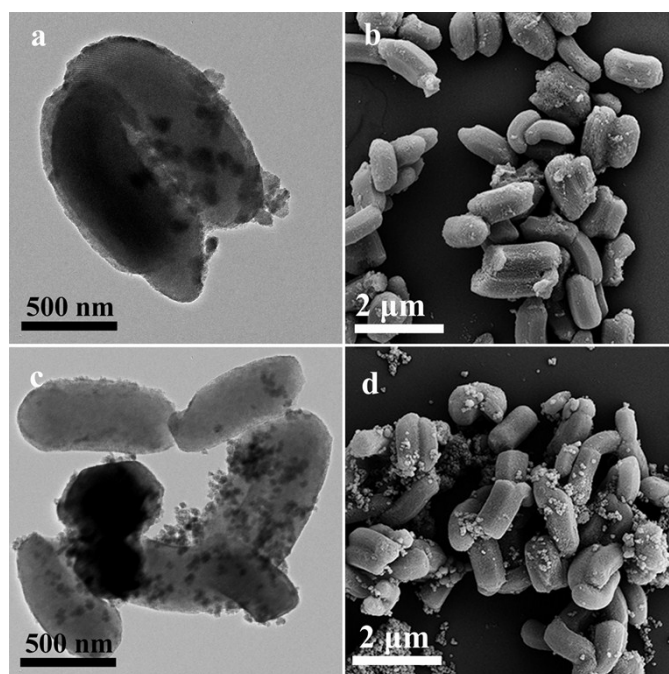


Figure S4. TEM of (a) SiO₂@TiO₂-4, (c) SiO₂@TiO₂-5, and FESEM of (b) SiO₂@TiO₂-4, (d) SiO₂@TiO₂-5

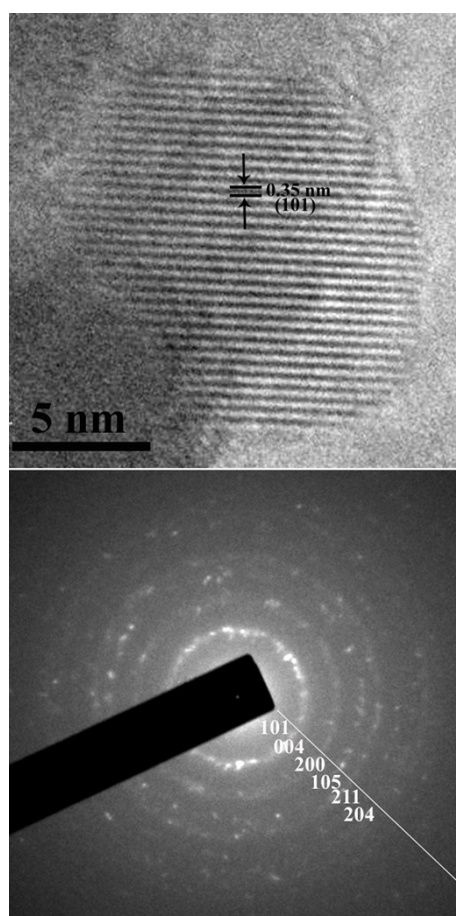


Figure S5. HRTEM of (a) lattice image of $\text{SiO}_2@\text{TiO}_2\text{-2}$ and (b) SAED of $\text{SiO}_2@\text{TiO}_2\text{-2}$

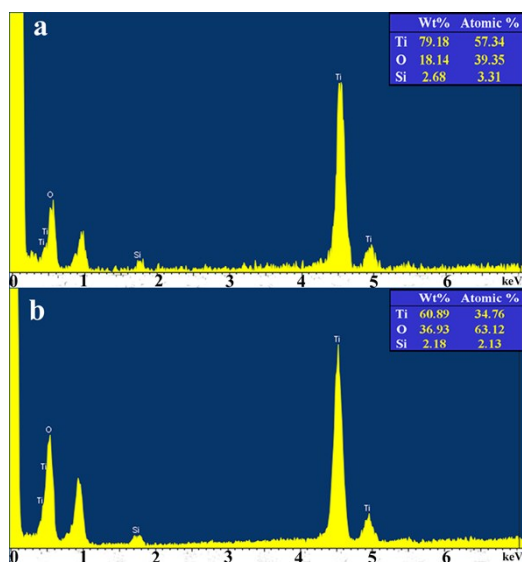


Figure S6. EDS results of (a) SiO₂@TiO₂-4 and (b) SiO₂@TiO₂-5