Supporting information

$^1$H NMR spectra and $^{13}$C NMR spectra of synthesized compounds

Core-Shell Mesoporous Silica Nanosphere
Used as Zn$^{2+}$ Ratiometric Fluorescent Sensor
and Adsorbent

Deli Lu, Juying Lei, Zhidan Tian, Lingzhi Wang* and Jinlong Zhang*

Key Lab for Advanced Materials and Institute of Fine Chemicals, East China
University of Science and Technology, Shanghai 200237, P. R. China.

E-mail: wlz@ecust.edu.cn and jlzhang@ecust.edu.cn.
Fig. S1 $^1$H NMR spectra of compound 2
Fig. S2 $^{13}$C NMR spectra of compound 2
Fig. S3 $^1$H NMR spectra of compound 3
Fig. S4 $^{13}$C NMR spectra of compound 3
Fig. S5 $^1$H NMR spectra of compound Rhodamine 101-succinimide
Fig. S6 $^{13}$C NMR spectra of compound Rhodamine 101-succinimide
Fig. S7 Fluorescence spectra of R-S-MSN ($10^{-5}$ M) in EtOH-water solution (30 vol% EtOH) at different pH value (3-12) in the presence of $10^{-4}$ M Zn$^{2+}$. 
Fig. S1 $^1\text{H}$ NMR spectra of compound 2

Fig. S2 $^{13}\text{C}$ NMR spectra of compound 2
Fig. S3 $^1$H NMR spectra of compound 3

Fig. S4 $^{13}$C NMR spectra of compound 3
Fig. S5 $^1$H NMR spectra of Rhodamine 101-succinimide

Fig. S6 $^{13}$C NMR spectra of Rhodamine 101-succinimide
Fig. S7 Fluorescence spectra of R-S-MSN (10^{-5} M) in EtOH-water solution (30 vol% EtOH) at different pH value (3-12) in the presence of 10^{-4} M Zn^{2+}.