Supporting Information

1. Experimental

We adopted two methods to produce two types of pristine mesoporous silica nanoparticles without magnetic Fe_3O_4 cores (MSN).

1.1 Synthesis of MSN-h

5 mg synthesized magnetic mesoporous silica nanoparticles (M-MSNs) were dispersed in 20 mL ethanol and then 120 μL concentrated hydrochloric acid was added. The mixture was heated and refluxed at 60 ºC overnight. Then it was centrifuged and washed with ethanol three times and the product was denoted as MSN-h.

1.2 Synthesis of MSN

MSN was synthesized under the same condition as M-MSN without adding oleic acid stabilized Fe_3O_4 nanoparticles. Briefly, 10 mL aqueous solution containing 0.15 g CTAB was added to a solution of 45 mL water and 2 mL NaOH (2 M), followed by heating at 70 ºC for 10 min under stirring. Afterward, 0.5 mL TEOS and 2 mL ethyl acetate was introduced dropwise to the reaction solution under 70 ºC for 3 h and the resultant products were collected by centrifugation and washed repeatedly with ethanol and water to remove any non-reacted reagents. Finally, the template removal was performed by a highly efficient ion-exchange method. The as-prepared sample was denoted as MSNs.

2. Results

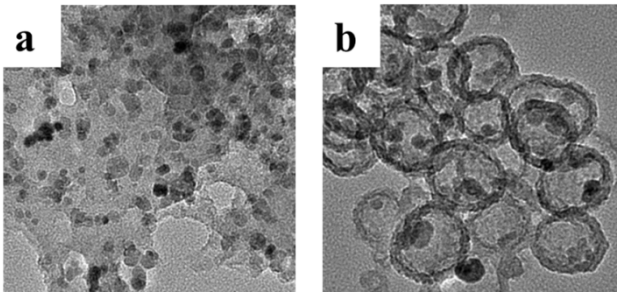

Fig. S1 TEM images of M-MSNs and M-MSN@PEI immersed in PBS (0.1 mg mL^{-1}) for 50 h at 37 ºC.

Table S1 the Dynamic Light Scattering (DLS) characterization for M-MSN and M-MSN@PEI

Particles	Hydrodynamic size (nm)	Polydispersity Index	Zeta potential (mv)
M-MSNs	100.4	0.053	-29.75 ± 0.25
M-MSN@PEI	132.5	0.058	46.95 ± 0.35
M-MSN@PEI-50 h	-	-	34.55 ± 0.30

Note: M-MSN@PEI-50 h refers to the sample of M-MSN@PEI after immersing 50 h in PBS