Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Investigation of the Fluorescence Quenching Behavior of PEI-Doped Silica Nanoparticles and Its Applications

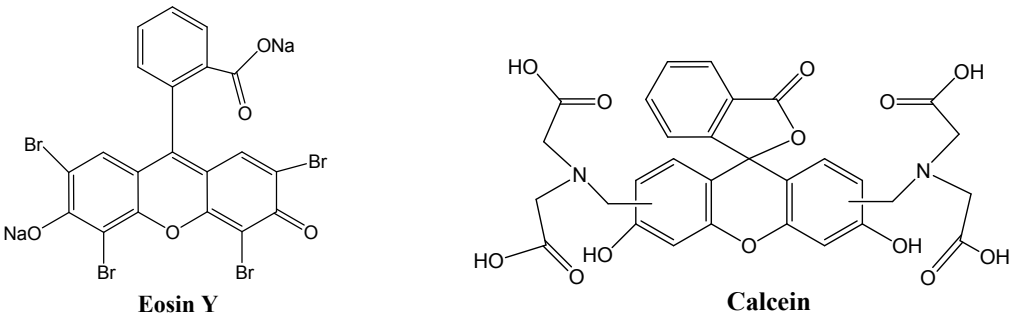
Yali Qiao and Xingwang Zheng*

Key Laboratory of Analytical Chemistry for Life Science of Shaanxi Province, School of Chemistry & Chemical Engineering, Shaanxi Normal University, Xi'an 710062, P. R. China

***Corresponding authors:**

Tel.: +86-029-81530791.

E-mail addresses: zhengxw@snnu.edu.cn or zhengxwsilica@163.com



Eosin Y **Calcein**

Fig. S1 Structure of eosin Y (left) and calcein (right)

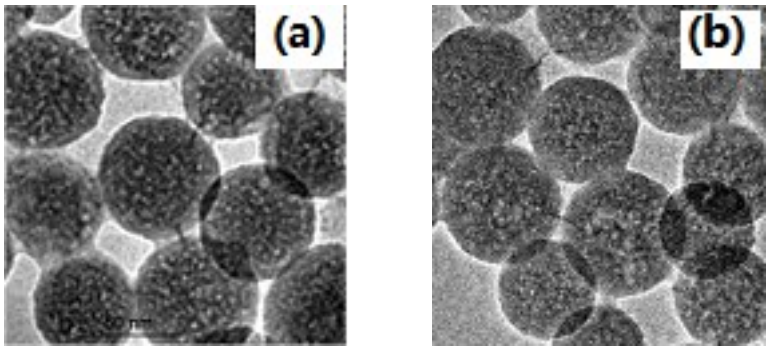


Fig. S2 TEM Images of (a) PEI/silica nanoparticles and (b) calcein/ PEI/silica nanoparticles.

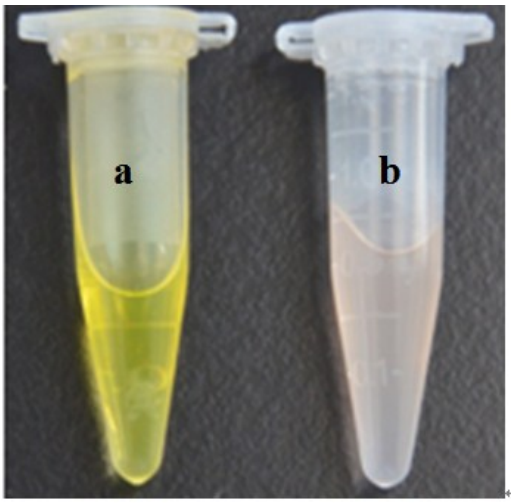


Fig. S3 Images of fee-state calcein (a) and CPSNPs (b) in aqueous solution.

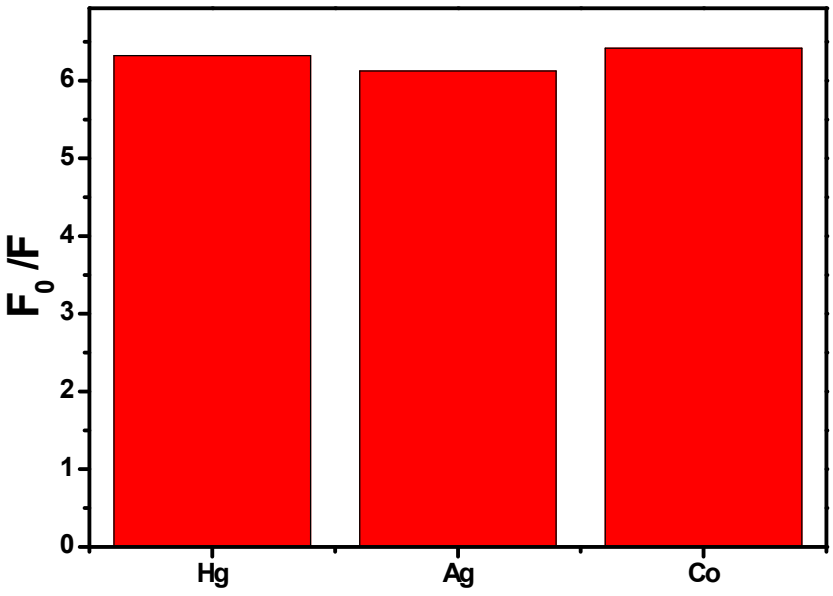


Fig. S4 Selectivity of the proposed method for Co^{2+} to Hg^{2+} and Ag^{+} in the solution of 10 mM pH 8.0 PB

with 10 mM NaCl solution (5.0×10^{-7} M Co^{2+} with the coexistence of Hg^{2+} and Ag^{+} at 5.0×10^{-6} M).

Table S1 Fluorescence Quantum Yield of CSPNPs, PEI/Calcein Mixture (PEI/Calcein), and Free-State Calcein

sample	free-state calcein (%)	CPSNPs (%)	PEI/calcein (%)
Φ	32.4	25.1	9.7