

Supporting Information

Bovine serum albumin-capped CdS quantum dots as inner-filter effect sensor for rapid detection and quantification of protamine and heparin

Hongxia Li* and Xiaohong Yang*

School of Pharmacy, Jilin University, Changchun 130021, China

* Corresponding author

Tel.: +86-431-85619660

E-mail address: hongxiali1106@126.com (H.X. Li)

xiaohongyang88@126.com (X.H. Yang)

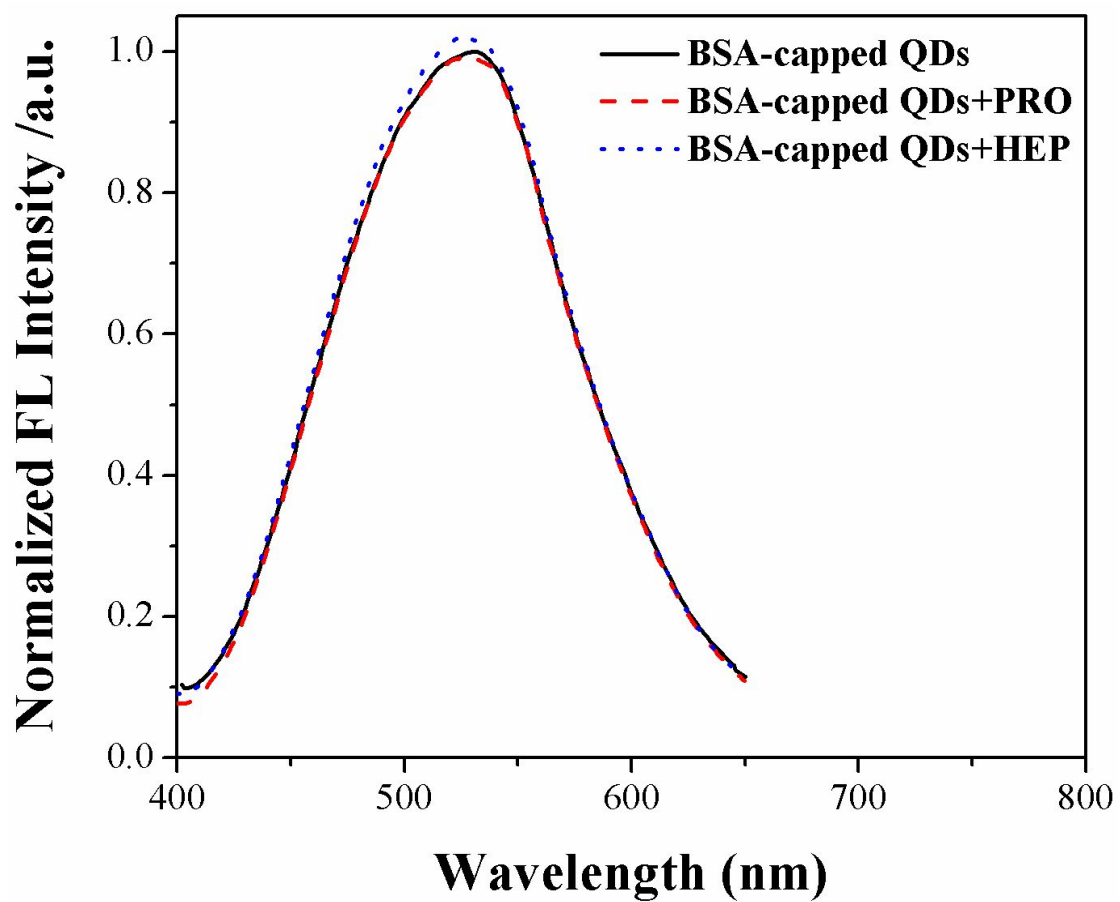


Fig.S1 The fluorescence spectra of QDs in the presence of PRO and HEP. The final concentrations of PRO and HEP are 2000 and 2000 ng mL⁻¹, respectively.

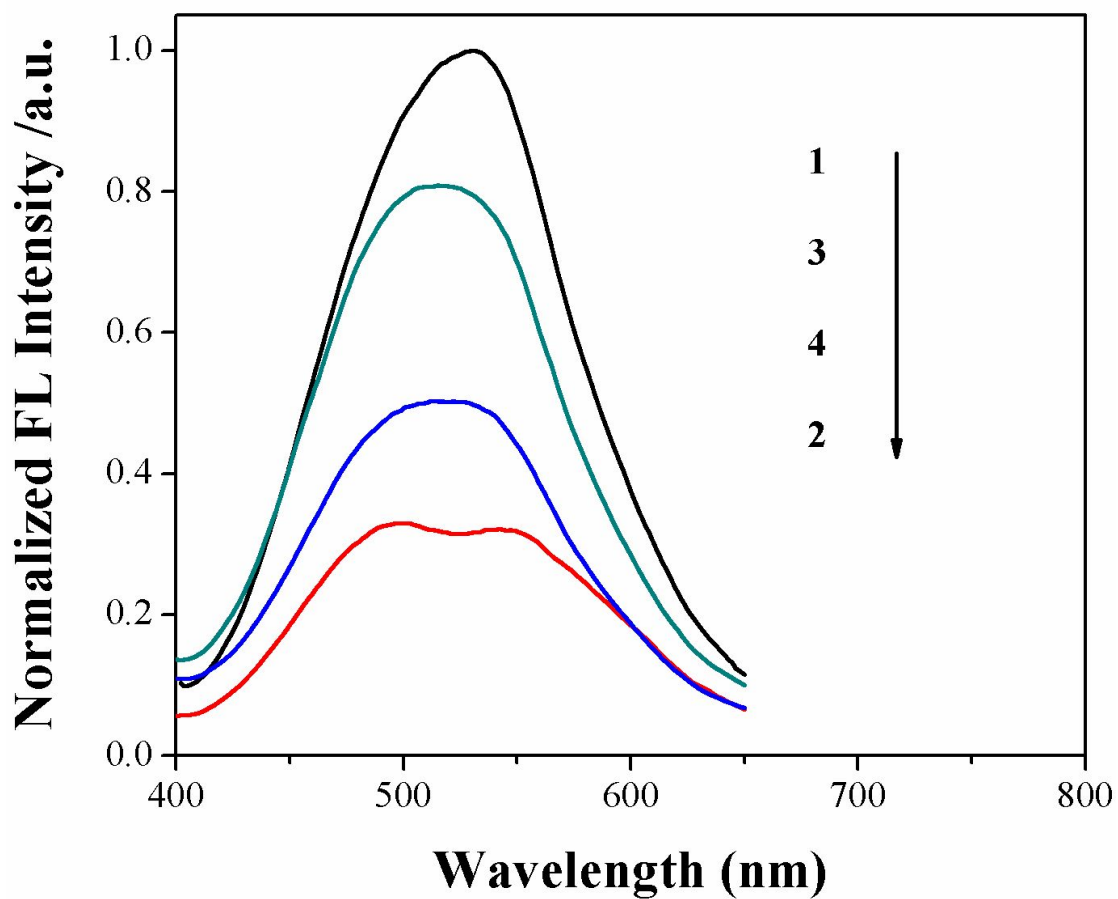


Fig.S2 The fluorescence spectra of (1) QDs, (2) QDs and AuNPs, (3) PRO/AuNPs and QDs, and (4) HEP/PRO/AuNPs and RF-QDs. The final concentrations of PRO, HEP and AuNPs are 350 ng mL⁻¹, 300 ng mL⁻¹ and 0.5 nmol L⁻¹, respectively.

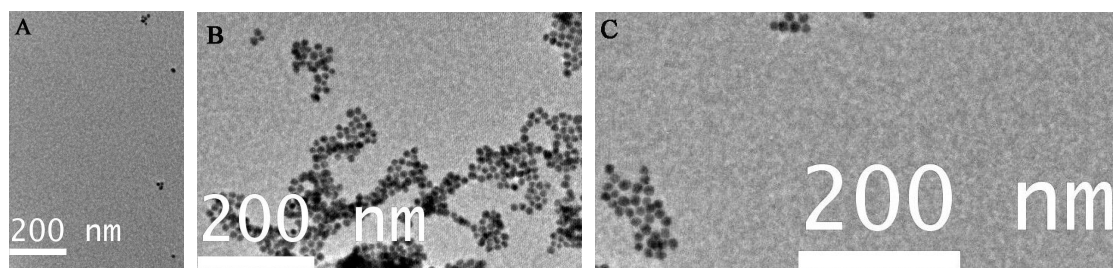


Fig.S3 TEM images of (A) AuNPs, (B) AuNPs in the presence of PRO, (C) AuNPs in the presence of PRO and HEP.

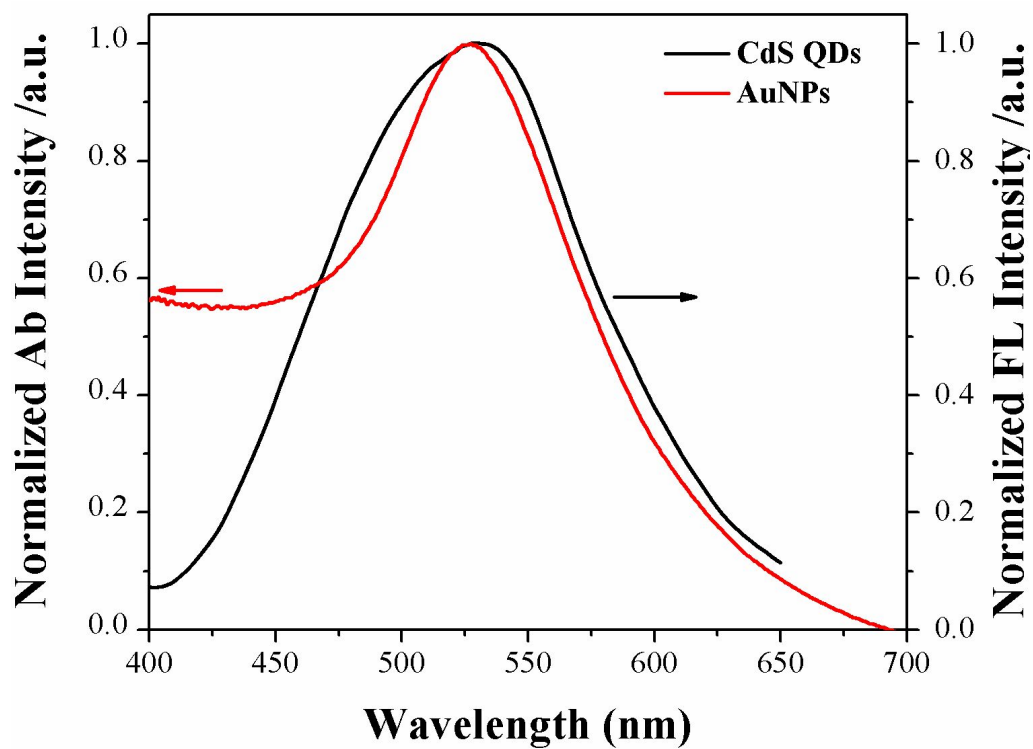


Fig.S4 The fluorescence emission spectrum of the as-prepared CdS QDs and the absorption spectrum of AuNPs.

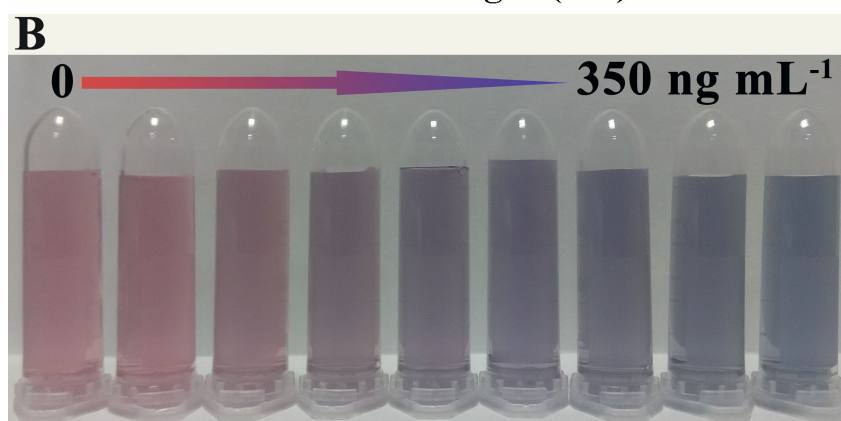
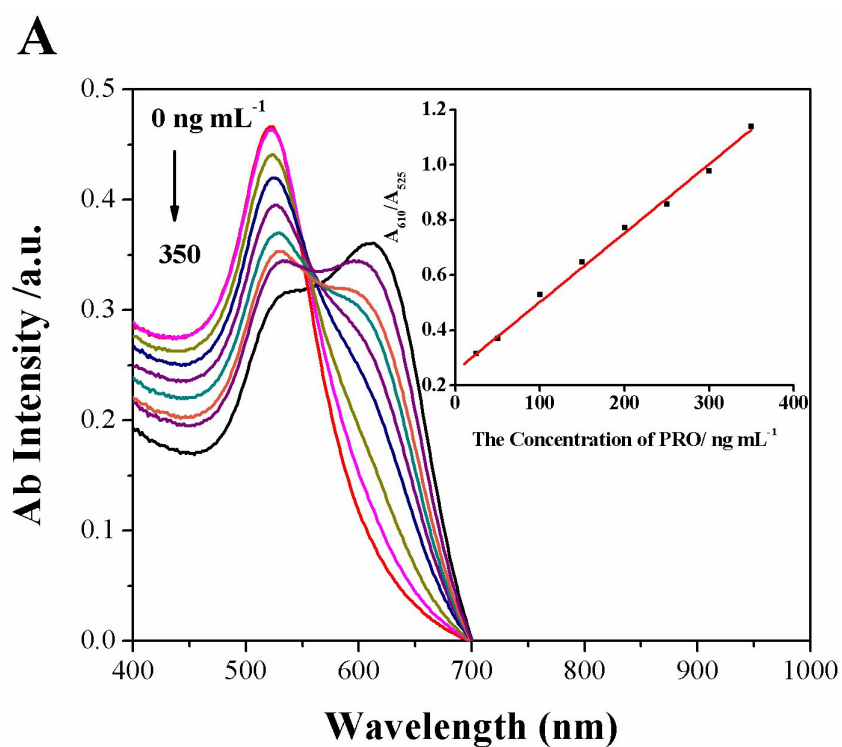


Fig.S5 (A) The absorption spectrum of AuNPs upon the addition of PRO at different concentrations from 0 to 350 ng mL⁻¹. Inset: the plot of absorbance intensity ratio (A_{610}/A_{525}) of AuNPs versus the concentration of PRO. A_{610} and A_{525} were the absorbance intensity of AuNPs at 610 nm and 525 nm. (B) The photographic images of AuNPs under different concentration of PRO.

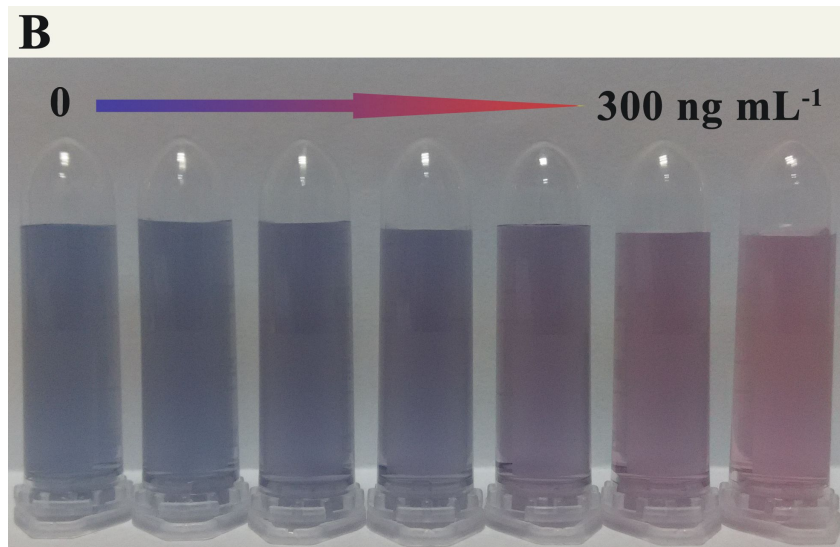
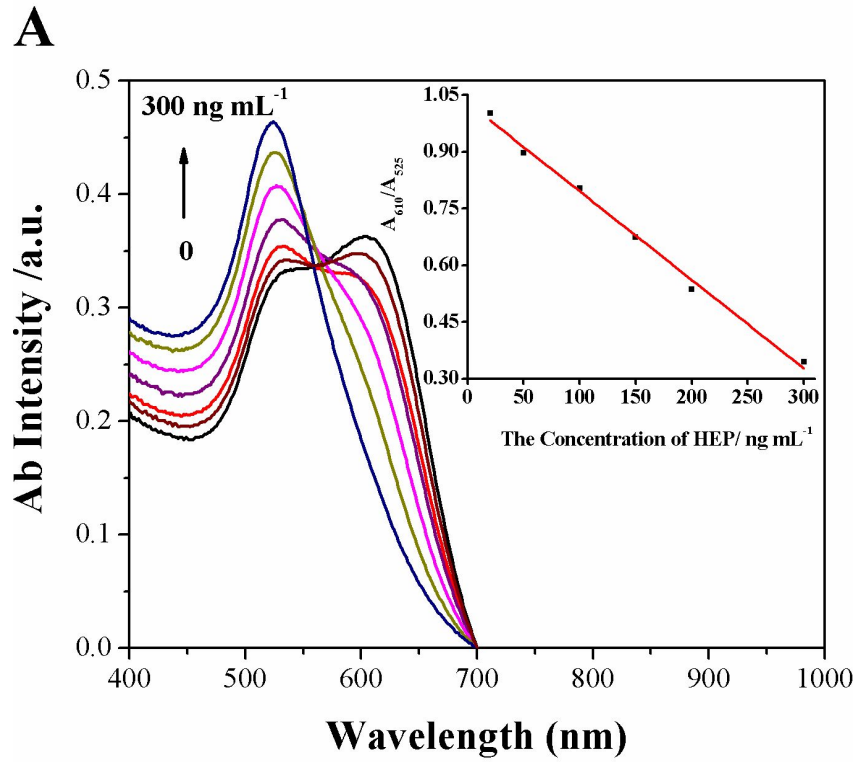


Fig.S6 (A) The absorption spectrum of AuNPs/PRO upon the addition of HEP at different concentrations from 0 to 300 ng mL^{-1} . Inset: the plot of absorbance intensity ratio (A_{610}/A_{525}) of AuNPs versus the concentration of HEP. A_{610} and A_{525} were the absorbance intensity of AuNPs at 610 nm and 525 nm. (B) The photographic images of AuNPs/PRO under different concentration of HEP.

Table S1 Detection of PRO in real samples.

Sample	Original found (ng mL ⁻¹)	Spiked concentration (ng mL ⁻¹)	Found phenol (ng mL ⁻¹)	Recovery (%)	RSD (n=3, %)
1	0	50	48	95	2.45
2	0	100	102	102	3.07
3	0	200	209	105	3.11

Table S2 Detection of HEP in real samples.

Sample	Original found (ng mL ⁻¹)	Spiked concentration (ng mL ⁻¹)	Found phenol (ng mL ⁻¹)	Recovery (%)	RSD (n=3, %)
1	0	50	52	104	3.82
2	0	100	99	99	3.49
3	0	200	205	103	2.96