A novel and sensitive turn-on fluorescent biosensor for the determination of thioctic acid based on Cu^{2+}-modulated N-acetyl-L-cysteine capped CdTe quantum dots

Xuanping Tan [a], Qin Li [b], Xiaoning Zhang[c], Yizhong Shen [a], Jidong Yang*[a d]

[a] School of Chemistry and Chemical Engineering, Southwest University, Chongqing, 400715, China; [b] Chongqing Medical and Health school, Fuling, Chongqing 408100, P. R. China; [c] Department of Mathematics, Sciences & Technology, Paine College, 1235 Fifteenth Street, Augusta, Georgia 30901, United Sates; [d] School of Chemistry and Environmental Engineering, Chongqing Three Gorges University, Wanzhou,Chongqing 404000, China.

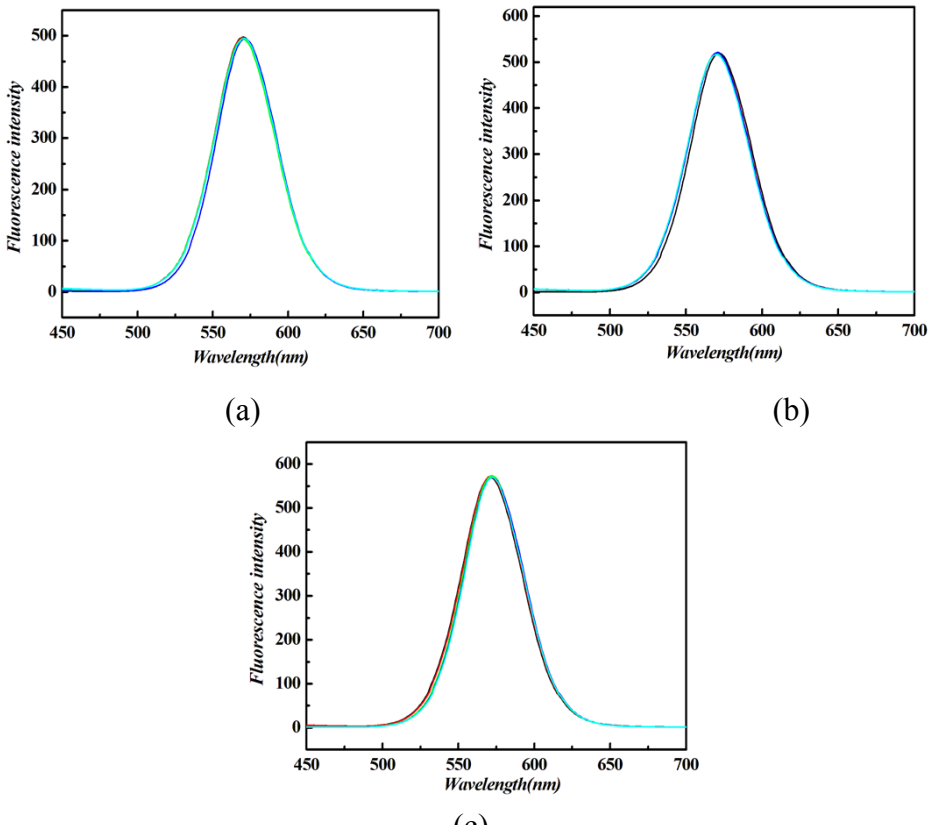


Fig S1 The fluorescence spectrums of the system of detecting TA in commercial tablets: the added concentration is (a) 8 μg·mL^{-1}, (b) 12 μg·mL^{-1}, (c) 20 μg·mL^{-1}.

*Corresponding author at: School of Chemistry and Chemical Engineering, Southwest University, Chongqing, Beibei 400715, China. Tel.: +86 18996678896.

E-mail address: flyjd6400@163.com (J. Yang).

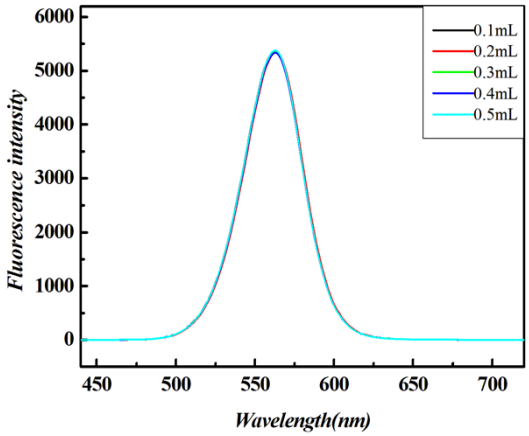
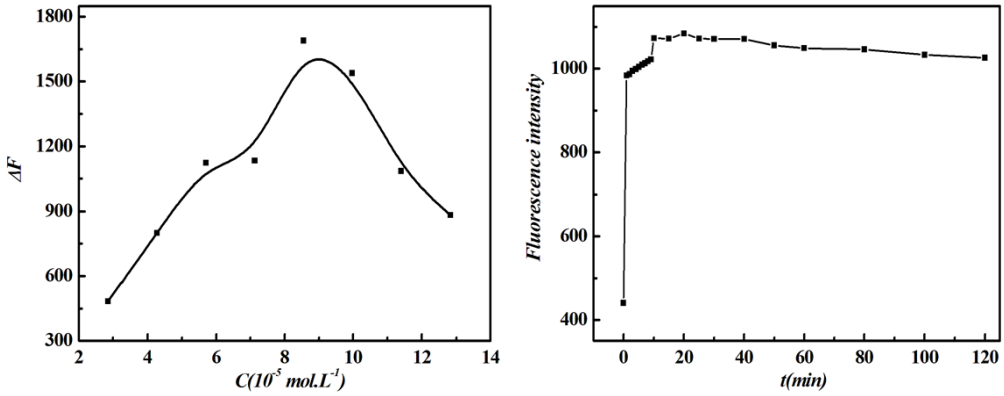


Fig S2 The effect of plasma on the fluorescence intensity of NALC-CdTe QDs in 1mL PBS buffer solution at pH=7.6, the volume of the plasma were 0.1, 0.2, 0.3, 0.4, 0.5 mL, respectively.



(a) (b)

Fig S3 (a) Effects of CdTe QDs concentration on fluorescence intensity of the QDs-Cu^{2+} system; (b) Effects of reaction time.