

## Supporting information for

### Sensitive turn-on fluorescent detection of melamine based on fluorescence resonance energy transfer

Liangqia Guo <sup>1</sup>, Jianhai Zhong <sup>1,2</sup>, Jinmei Wu <sup>1</sup>, FengFu Fu <sup>1</sup>, Guonan Chen <sup>1</sup>,  
Yongxuan Chen <sup>3</sup>, Xiaoyan Zheng <sup>3</sup> and Song Lin <sup>3</sup>

<sup>1</sup>Ministry of Education Key Laboratory of Analysis and Detection for Food Safety,  
Fujian Provincial Key Laboratory of Analysis and Detection Technology for Food  
Safety, and Department of Chemistry, Fuzhou University, Fuzhou, Fujian, 350002,  
China

<sup>2</sup> Longyan Entry-Exit Inspection and Quarantine Bureau, Longyan, Fujian, 364000,  
China

<sup>3</sup>Fujian Provincial Central Inspection Institute, Fuzhou, Fujian, 350002, China

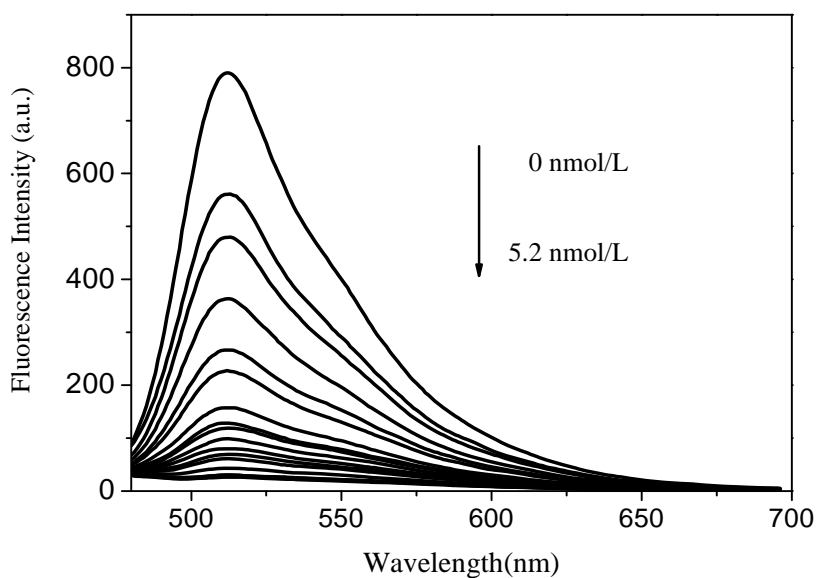


Figure S1 Fluorescence emission spectra of fluorescein as a function of Au NPs concentration. The concentration of fluorescein is  $3.6 \times 10^{-7}$  mol/L.

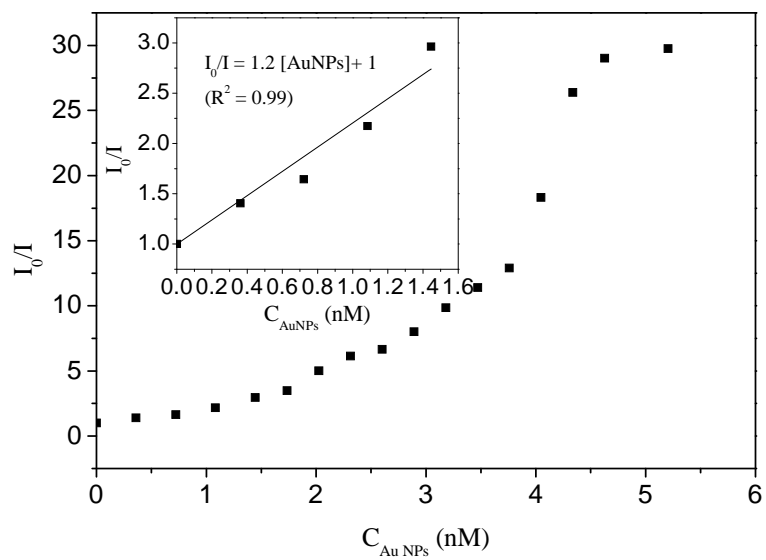


Figure S2 Plot of the  $I_0/I$  value of fluorescence at 512 nm versus the concentration of Au NPs. The concentration of fluorescein is  $3.6 \times 10^{-7}$  mol/L.

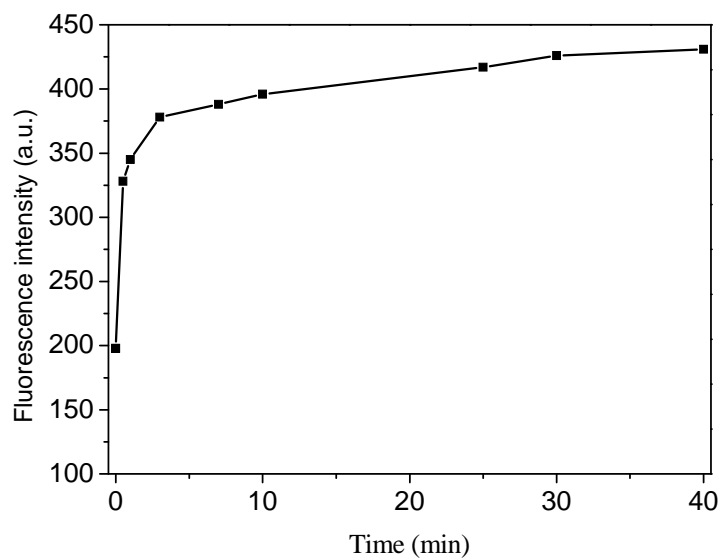


Figure S3 Effect of recovery time on fluorescence intensity of the mixture upon addition of melamine to fluorescein-Au NPs mixture. The concentration of Au NPs, fluorescein and melamine were 2.6 nmol/L,  $3.2 \times 10^{-7}$  mol/L and  $1.6 \times 10^{-7}$  mol/L, respectively.

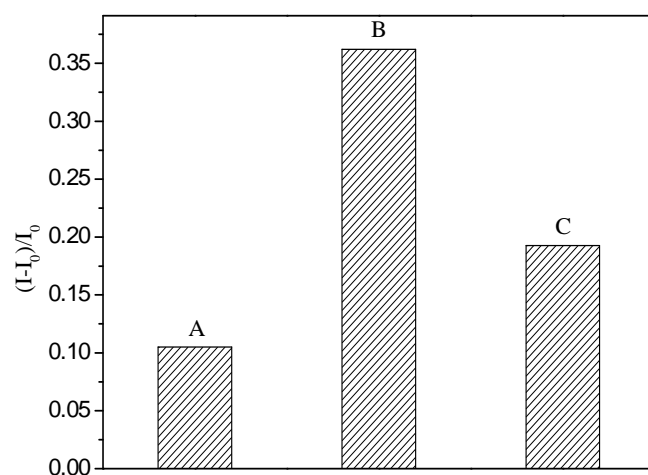


Figure S4 Comparison of fluorescent enhancement efficiency among three approaches with different reagent addition order. A. Fluorescein was firstly mixed with Au NPs for 10 min, and then melamine was added to the mixture. The fluorescence was recorded 60 min later. B. Melamine was firstly mixed with Au NPs for 60 min, and then fluorescein was added to the mixture. The fluorescence was recorded 10 min later. C. Melamine and fluorescein were added to Au NPs simultaneously, the fluorescence was recorded 60 min later. The concentration of melamine, fluorescein and Au NPs were  $1.2 \times 10^{-7}$  mol/L,  $6.5 \times 10^{-7}$  mol/L and 2.9 nmol/L, respectively.