

## SUPPORTING INFORMATION

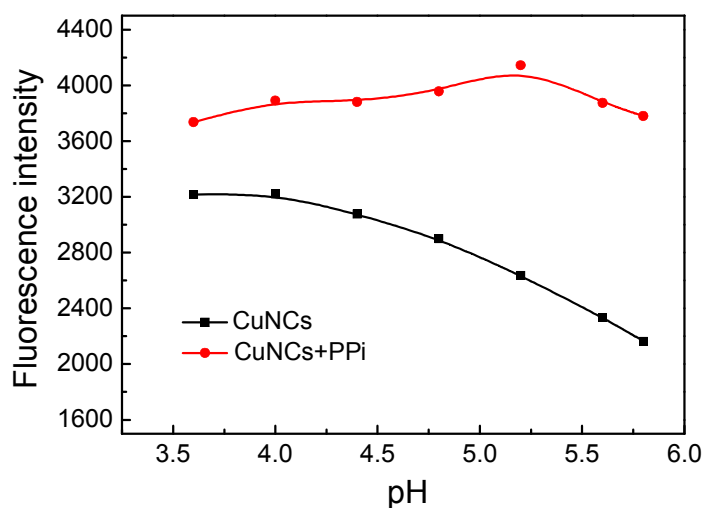
*for*

### A new spectrofluorometric method for pyrophosphate assay based on the fluorescence enhancement of trypsin-stabilized copper clusters

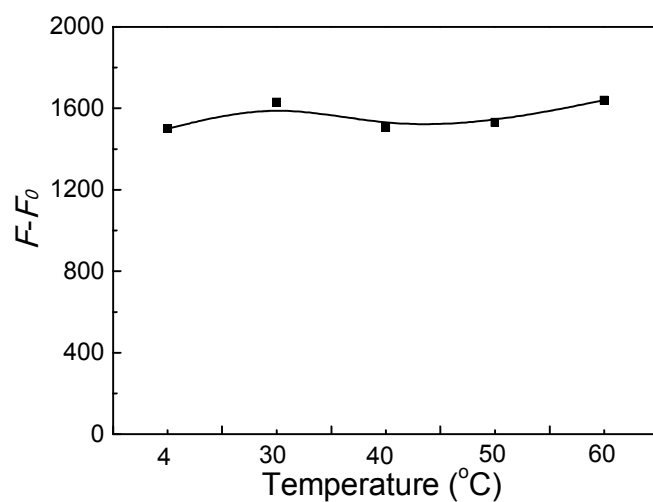
Wei Wang,<sup>a</sup> Lei Zhan,<sup>b</sup> Yu Qing Du,<sup>a</sup> Fei Leng,<sup>b</sup> and Cheng Zhi Huang<sup>\*a,b</sup>

<sup>a</sup> Key Laboratory of Luminescent and Real-Time Analytical Chemistry (Southwest University) ,  
Ministry of Education, College of Pharmaceutical Sciences, Southwest University, Chongqing  
400716, P. R. China.

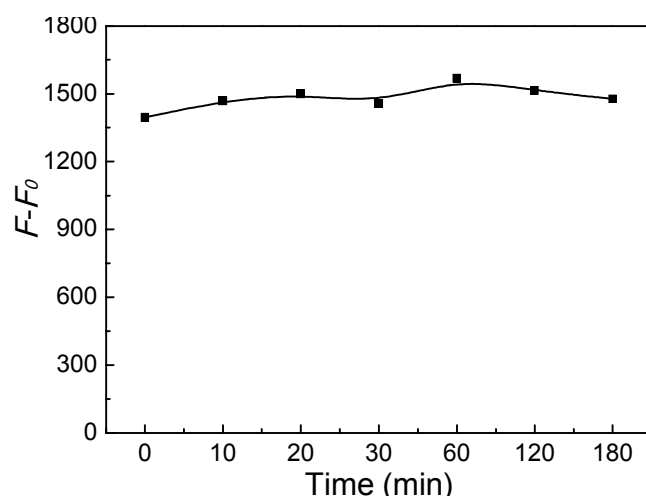
<sup>b</sup> College of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, P. R.  
China.



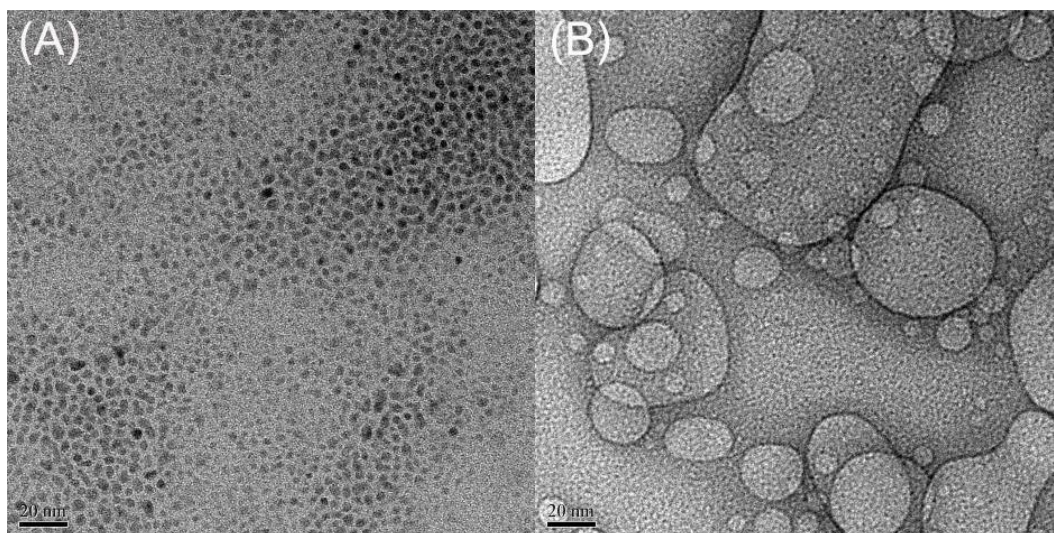
**Fig. S1** Effect of acidity on the fluorescence intensity of this system in CH<sub>3</sub>COOH-CH<sub>3</sub>COONa buffers (pH: 3.6, 4.0, 4.4, 4.8, 5.2, 5.6, 5.8).



**Fig. S2** Effect of temperature (4, 30, 40, 50, 60 °C) on the fluorescence intensity of this system in  $\text{CH}_3\text{COOH}-\text{CH}_3\text{COONa}$  buffer (pH: 5.2).



**Fig. S3** Effect of reaction times (0, 10, 20, 30, 60, 120, 180 min) on the fluorescence intensity of this system in  $\text{CH}_3\text{COOH}-\text{CH}_3\text{COONa}$  buffer (pH: 5.2).



**Fig. S4** TEM images (scale bar: 20 nm) of the CuNCs before(A) and after(B) reacting with PPI (10000  $\mu$ M) in  $\text{CH}_3\text{COOH}-\text{CH}_3\text{COONa}$  buffer (pH: 5.2).

**Table S1** Photophysical data for the CuNCs before and after reacting with different concentrations of PPI.

Sample	Fluorescence lifetime (ns)	Quantum yield (%)	Radiative decay rate constant
CuNCs	4.1	1.0	0.2439
CuNCs+2500 $\mu$ M PPI	3.9	1.1	0.2821
CuNCs+20000 $\mu$ M PPI	3.6	1.3	0.3611

**Table S2** The average hydrodynamic diameters of CuNCs before and after reacting with different concentrations of PPI in  $\text{CH}_3\text{COOH}-\text{CH}_3\text{COONa}$  buffer (pH 5.2).

Samples	hydrodynamic diameter (nm)
CuNCs	1835
CuNCs+625 $\mu$ M PPI	1166
CuNCs+10000 $\mu$ M PPI	637.6
CuNCs+20000 $\mu$ M PPI	484.8