Electronic Supplementary Information (ESI)

Facile and Rapid Synthesis of Water-Soluble Fluorescent Gold Nanoclusters for Sensitive and Selective Detection of Ag^+

Jian Sun,[a] Yuan Yue,[b] Ping Wang,[a] Haili He,[a,c] and Yongdong Jin*[a]

[a]*State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, Jilin, China. Phone/fax: +86-431-85262661. E-mail: ydjin@ciac.jl.cn*

[b]*State Key Laboratory of Supramolecular Structure and Materials, Jilin University, No. 2699 Qianjin Street, Changchun 130012, Jilin, China.*

[c]*University of the Chinese Academy of Sciences, Beijing 100039, China.*

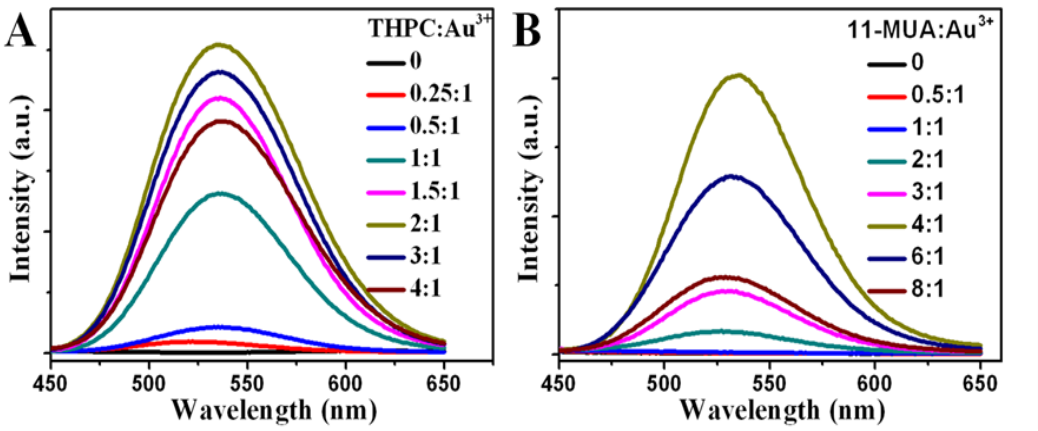

Fig. S1 Fluorescence emission (excitation at 375 nm) of AuNCs synthesized from (A) different ratios of THPC to Au^{3+}, and (B) different ratios of 11-MUA to Au^{3+}.

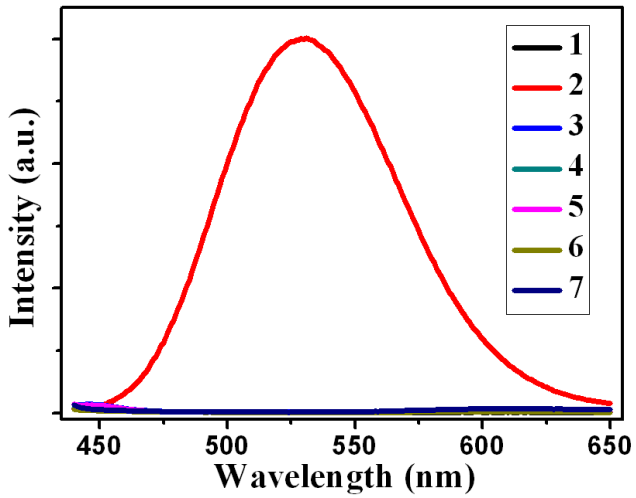

Fig. S2 Fluorescence emission (excitation at 375 nm) for the AuNCs synthesized by (1) $NaBH_4$, (2) THPC, (3) ascorbic acid, (4) $N_2H_4 \cdot H_2O$, (5) NH_2OH, (6) citrate sodium, (7) no additional reducing agent, respectively.

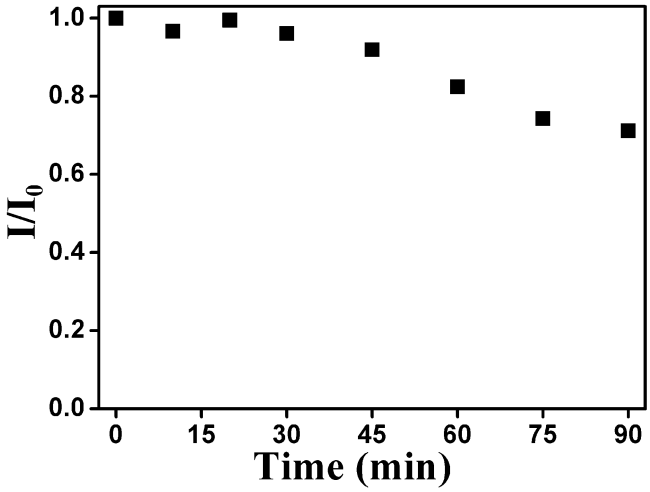

Fig. S3 Photostablility of the MUA/THPC-AuNCs system measured with the relative fluorescence intensity at 535 nm (excitation at 375 nm) of the AuNCs in water as a function of the UV irradiation time (365 nm).

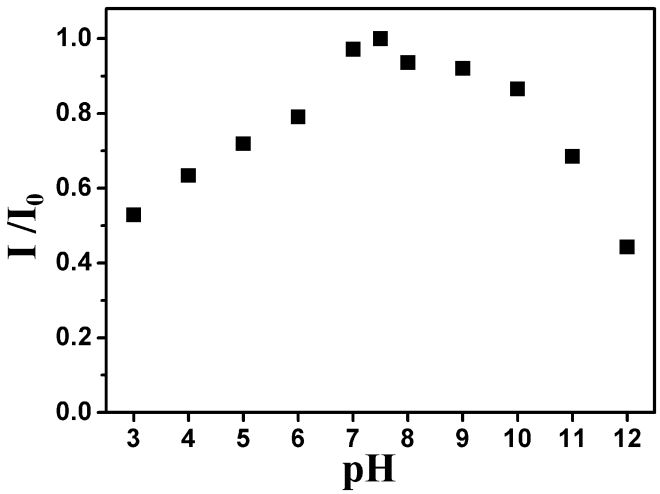

Fig. S4 The relative fluorescence intensity at 535 nm (excitation at 375 nm) of the MUA/THPC-AuNCs in the HEPES buffer at different pHs from 3 to 12.

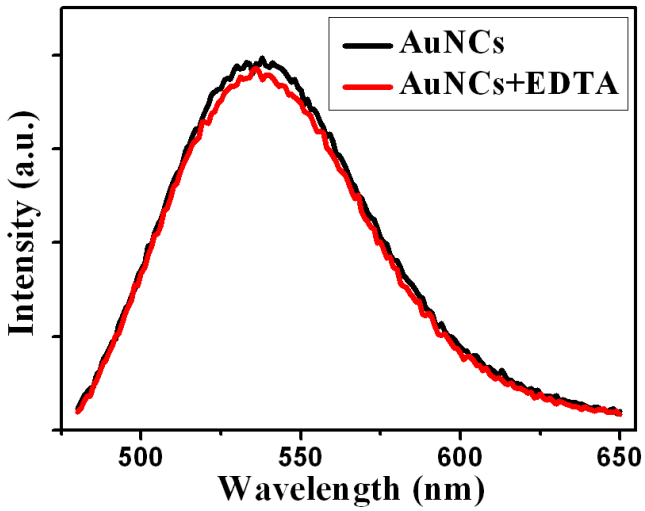

Fig. S5 Fluorescence emission spectra (excitation at 375 nm) of the MUA/THPC-AuNCs in the absence (black) and presence (red) of 500 μM EDTA in 20 mM HEPES buffer at pH 7.5.

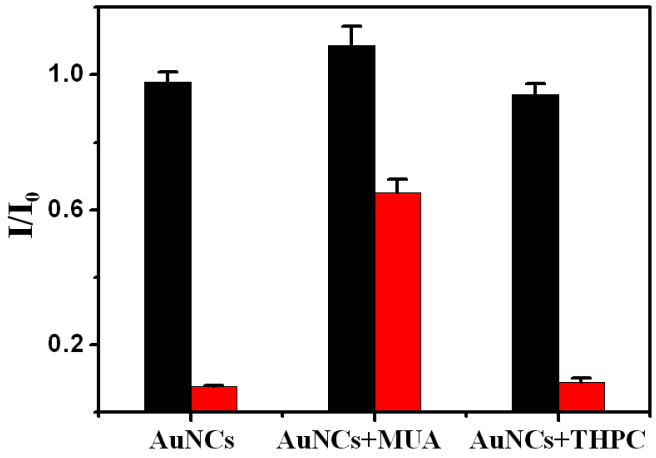

Fig. S6 The relative fluorescence intensity at 535 nm (excitation at 375 nm) for the MUA/THPC-AuNCs; AuNCs with added 20 μM 11-MUA; and AuNCs with added 20 μM THPC measured in the absence (black) and presence (red) of 10 μM Ag^{+} ions in 20 mM HEPES buffer at pH 7.5.