

Supporting Information

Colorimetric determination of copper(II) ions using gold nanoparticles as probe

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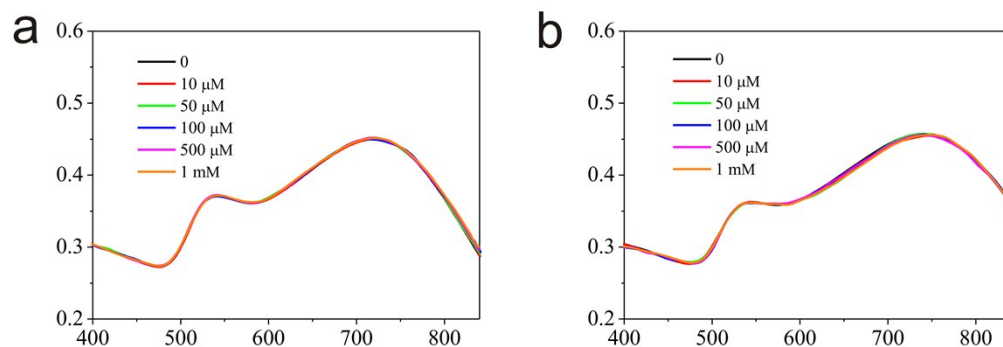


Fig. S1. UV-visible absorption spectra of the aggregated PVP-AuNPs induced by (a) 10 μM and (b) 20 μM MBI under different concentrations of Cu^{2+} : 0, 10 μM , 50 μM , 100 μM , 500 μM , and 1 mM, respectively. Conditions: 900 μL PVP-AuNPs + 100 μL Cu^{2+} . The concentration of PVP in the PVP-AuNPs nanodispersion is 0.025%.

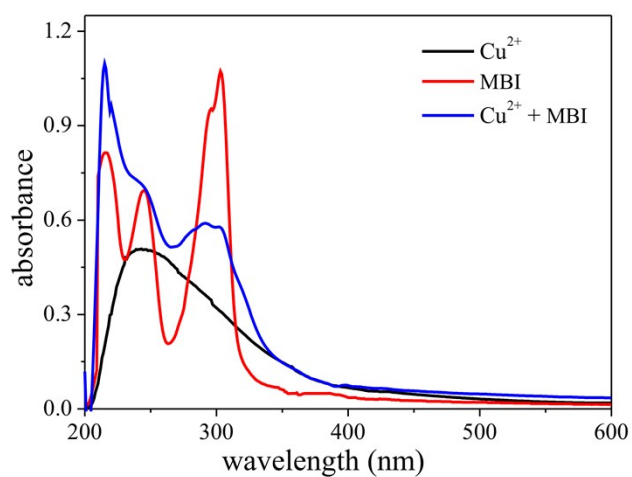


Fig. S2. UV-vis spectra for solutions of Cu²⁺, MBI, and Cu²⁺ + MBI. The concentrations of Cu²⁺ and MBI are 100 μ M and 500 μ M, respectively.

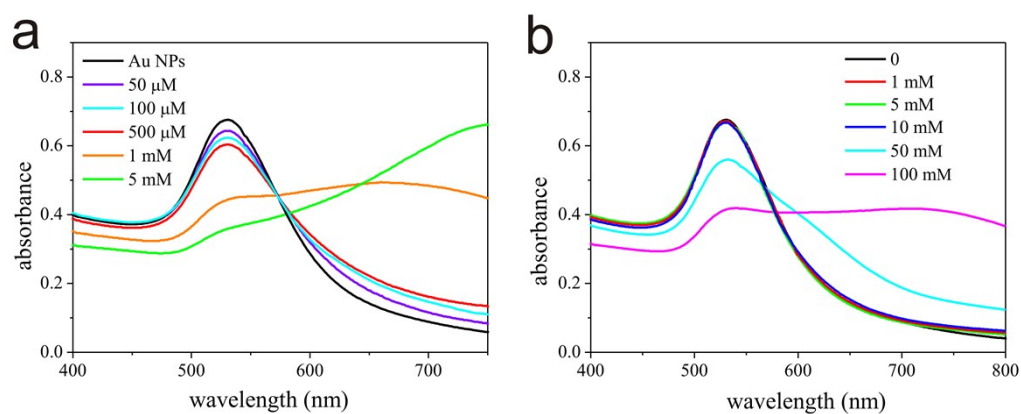


Fig. S3. (a) UV-Vis spectra of AuNPs (900 μ L) with various amounts of Cu²⁺ (100 μ L). (b) UV-Vis spectra of PVP-AuNPs with various amounts of Cu²⁺. Conditions: 900 μ L PVP-AuNPs + 100 μ L Cu²⁺. The concentration of PVP in the PVP-AuNPs nanodispersion is 0.025%.

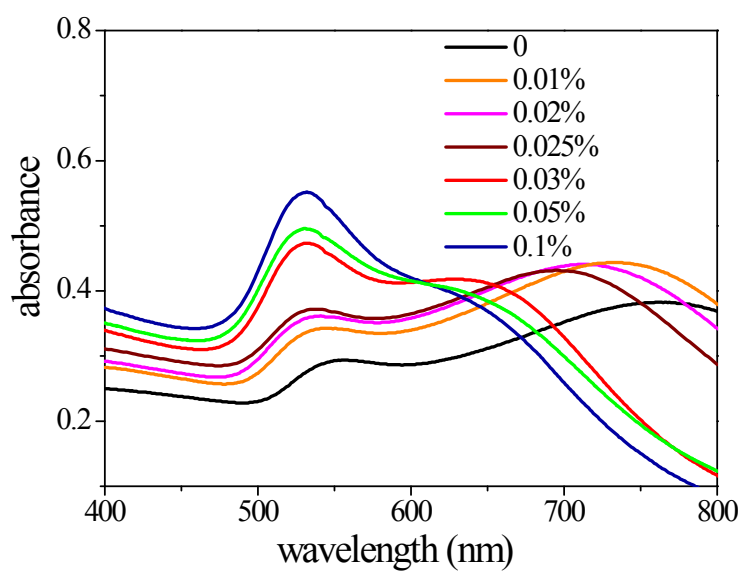


Fig. S4. Effect of PVP concentration on the absorbance of AuNPs (900 μL) with the addition of MBI (10 μM) in 100 μL of buffer (20 mM). The concentrations of PVP in the AuNPs were 0, 0.01%, 0.02%, 0.025%, 0.03%, 0.05% and 0.1%, respectively.