

Supporting Information

Colorimetric β -lactamase inhibitor assay with double catalyzed signal amplification

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Experimental section

Transmission Electron Microscopy

Images of nanoparticles were acquired on a JEM-2010F transmission electron microscopy (TEM) operating at 200 kV. Samples were prepared by evaporating a 10 μ L drop on a 300-mesh carbon-coated copper grid.

Results

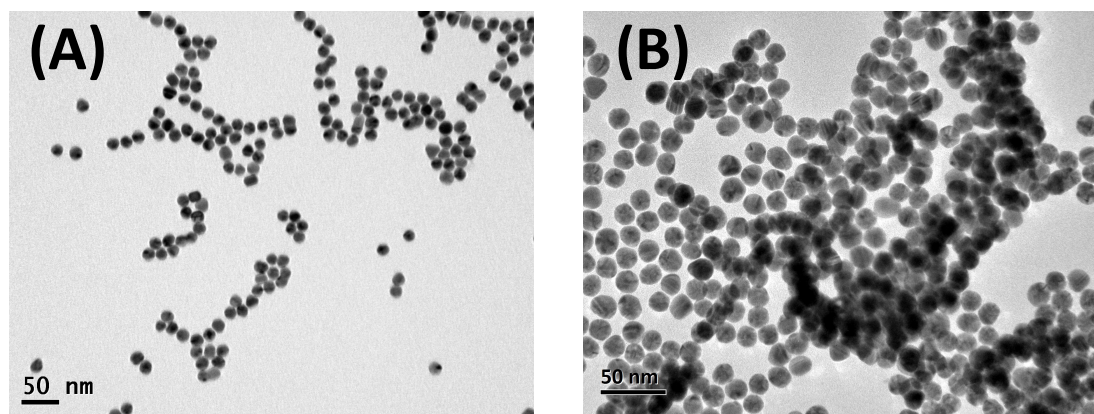


Figure S1 TEM images of (A) the citrate-stabilized AuNPs and (B) aggregation of AuNPs triggered by cysteine.

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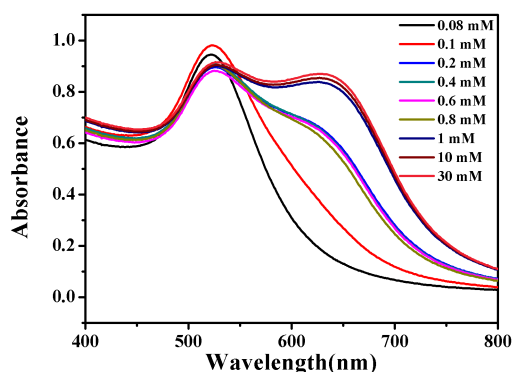


Figure S2 The influence of different concentrations of Cys on AuNPs aggregation. The detection system was consisted of Cys (40 μ L), AuNPs (50 μ L), and PBS buffer (50 μ L, 10 mM, pH 7.4).

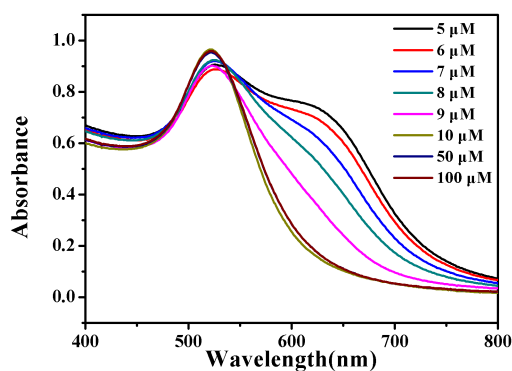


Figure S3 The influence of different concentrations of Cu(II) on AuNPs aggregation. The detection system was composed of Cu(II) (20 μ L), Cys (40 μ L, 1 mM), AuNPs (50 μ L), and PBS buffer (30 μ L, 10 mM, pH 7.4).

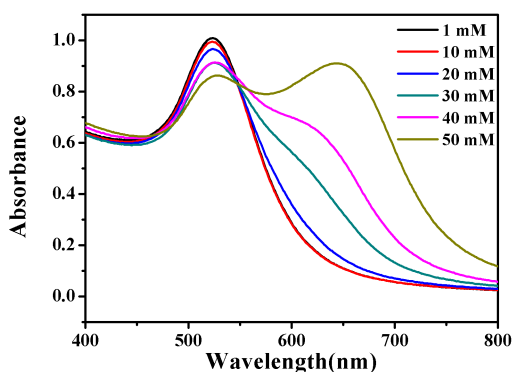


Figure S4 The influences of different concentrations of Pen on AuNPs aggregation. The detection system contains Pen (20 μ L), Cu(II) (20 μ L, 10 μ M), AuNPs (50 μ L), and PBS (50 μ L, 10 mM, pH 7.4).

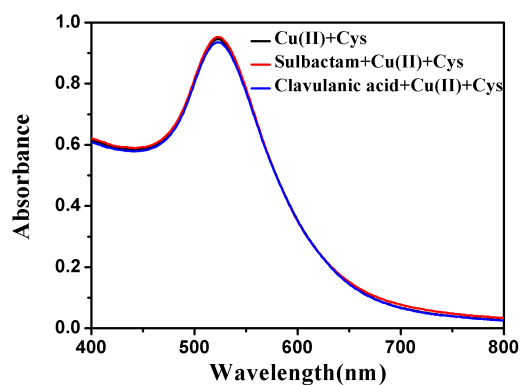


Figure S5 UV-vis spectra of the mixture prepared by separate adding Cu(II) (20 μ L, 10 μ M) + Cys (40 μ L, 1 mM) (black curve), Sulbactam (5 μ L, 10 μ M) + Cu(II) (20 μ L, 10 μ M) + Cys (40 μ L, 1 mM) (red curve), Clavulanic acid (5 μ L, 10 μ M) + Cu(II) (20 μ L, 10 μ M) + Cys (40 μ L, 1 mM) (blue curve), into AuNPs solution (50 μ L) to give the final volume of 140 μ L with the addition of PBS buffer (10 mM, pH 7.4).