Electronic Supplementary Information

for

Papain-templated Cu nanoclusters: assaying and exhibiting dramatically antibacterial activity cooperating with H_2O_2

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Figures

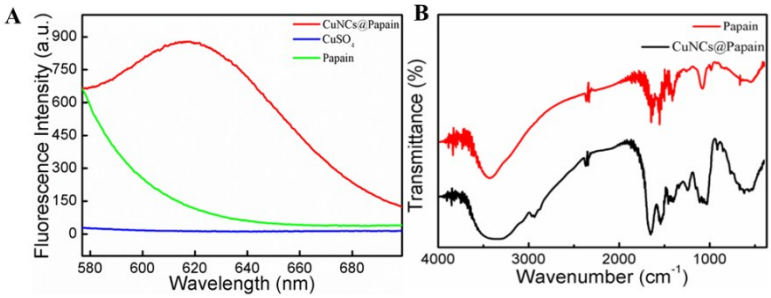

Figure S1 (A) Fluorecence spectra of CuNCs, Papain and $CuSO_4$; (B) FTIR spectra of CuNCs and Papain.

Figure S2 Two-dimensional fluorescent code produced by CuNCs under daylight (left) and UV light (right).

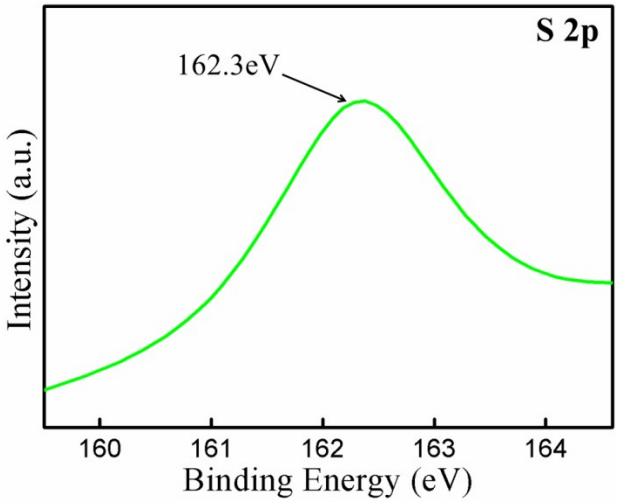

Figure S3 XPS spectra for S 2p of the CuNCs.

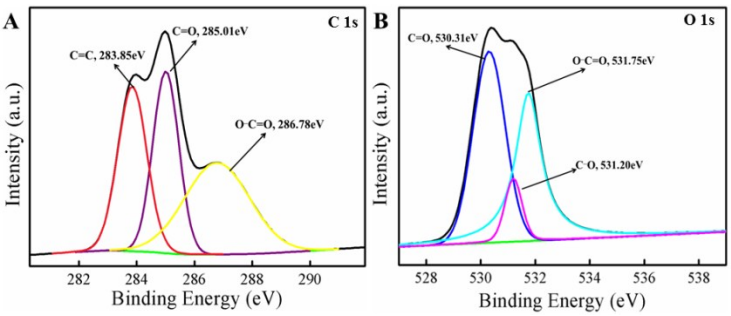

Figure S4 XPS spectra for C 1s (A) and O 1s (B) of the CuNCs

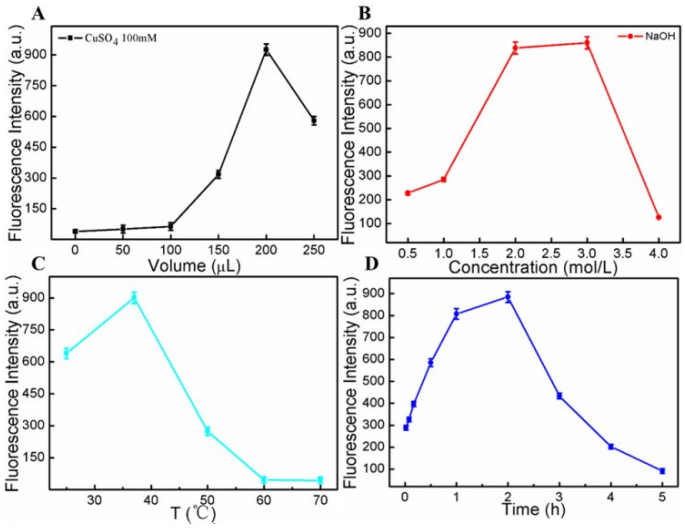

Figure S5 Varying volume of $CuSO_4$ (A), concenrations of NaOH (B), different reaction temperature (C) and time (D) for synthesizing CuNCs.

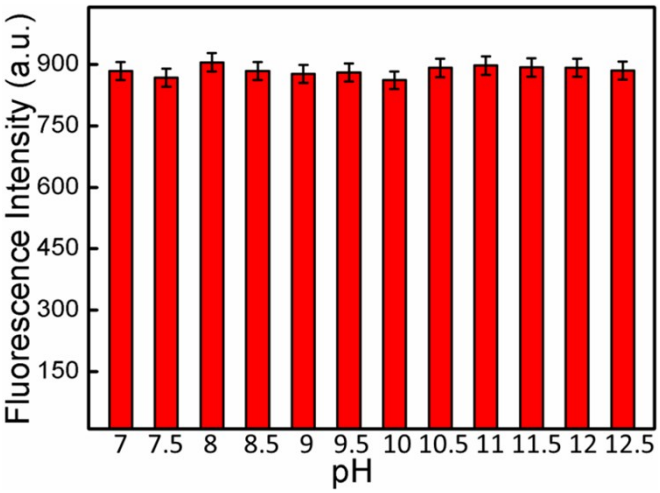

Figure S6 Influence of varying pH on the fluorescence stability of CuNCs in water.

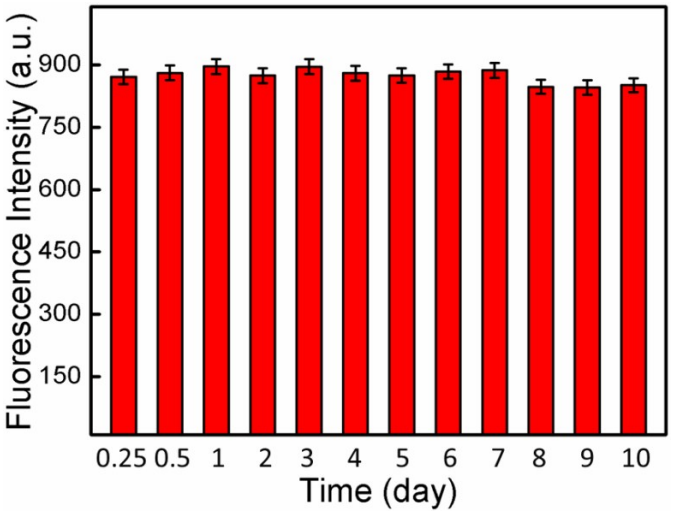

Figure S7 Influence of varying time on the fluorescence stability of CuNCs in water.

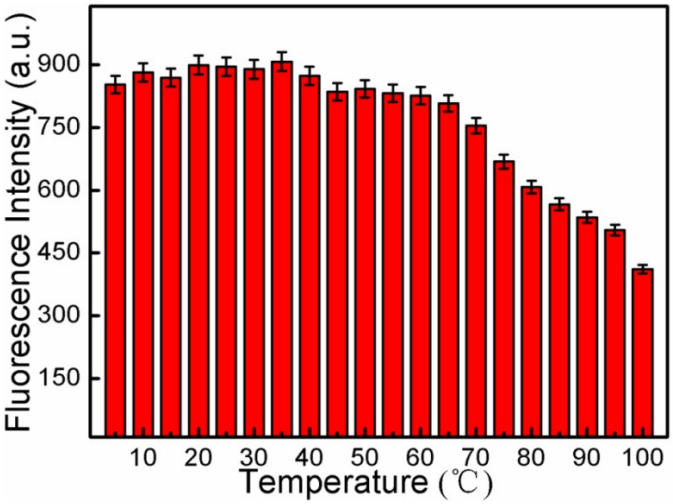

Figure S8 Influence of various temperatures on the fluorescence stability of CuNCs in water.

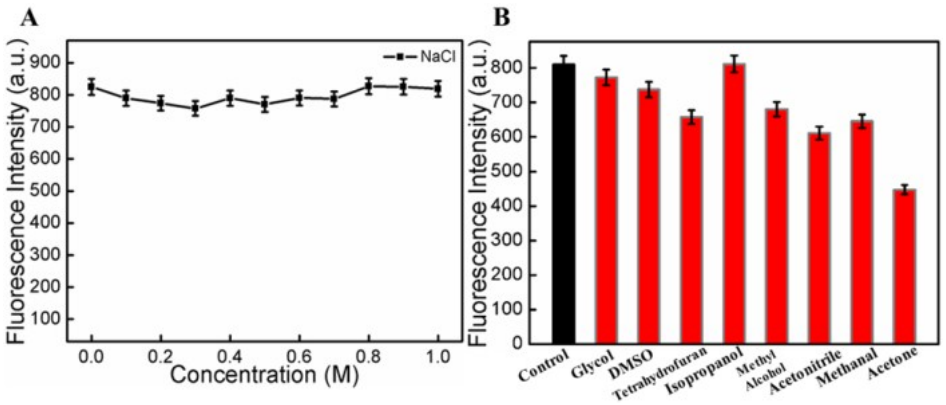

Figure S9 (A) Fluorescence intensities of CuNCs by adding concentrations of NaCl; (B) Fluorescence intensities of CuNCs in various organic solvents.

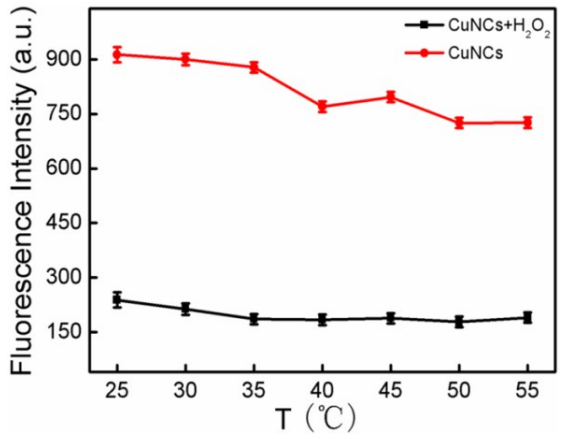

Figure S10 Effect of varying temperature on the fluorescence quenching of CuNCs by H_2O_2.

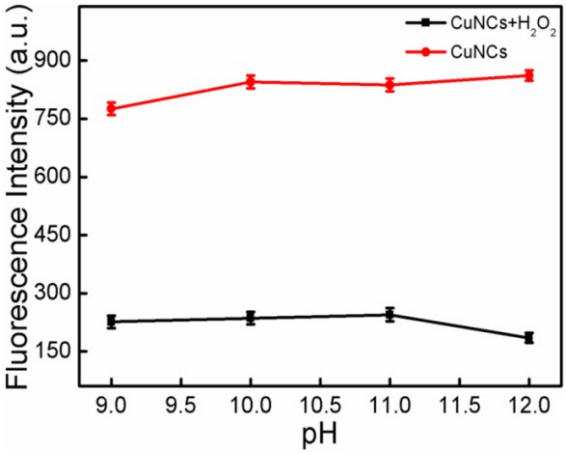

Figure S11 Effect of varying pH on the fluorescence quenching of CuNCs by H_2O_2.

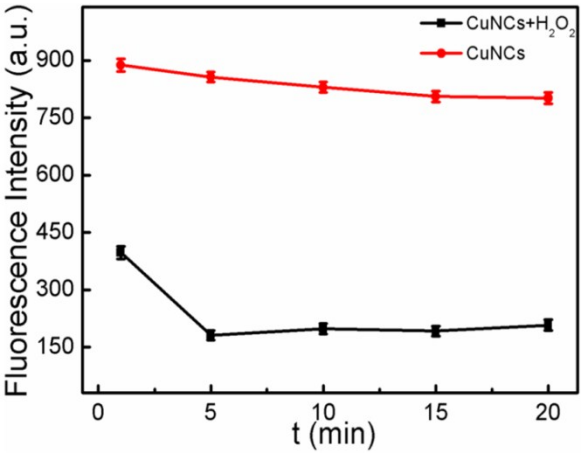

Figure S12 Effect of varying time on the fluorescence quenching of CuNCs by H_2O_2.

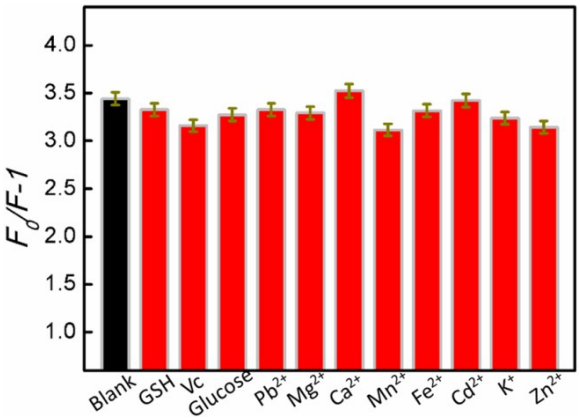

Figure S13 Influence by various interferences (GSH, Vc, glucose, Pb^{2+}, Mg^{2+}, Ca^{2+}, Mn^{2+}, Fe^{2+}, Cd^{2+}, K^{+}, Zn^{2+}, each for 10^{-3} M) on the fluorescence intensity of CuNCs reacting with H_2O_2.