Electronic Supplementary Information

for

Water-soluble luminescent copper nanoclusters reduced and protected by histidine for sensing of guanosine 5'-triphosphate

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Supporting Figures

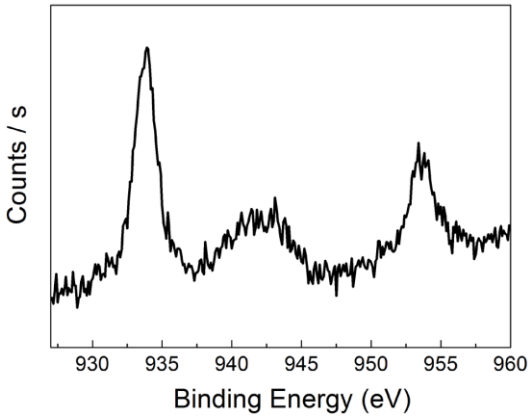

Fig. S1 XPS spectrum of Cu 2p electrons in dried Cu NCs.

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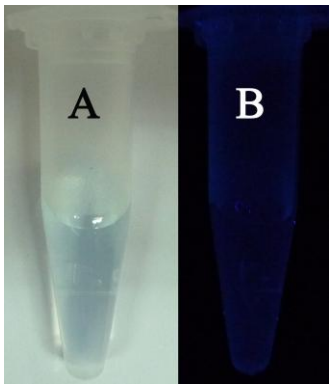

Fig. S2 Photographs of alanine and $CuCl_2$ refluxed for 12 hours at 70 ^{0}C under daylight (A) and under 365 nm UV lamp light (B). $c_{alanine}$, 112.5 mM; c_{CuCl2}, 2.5 mM.

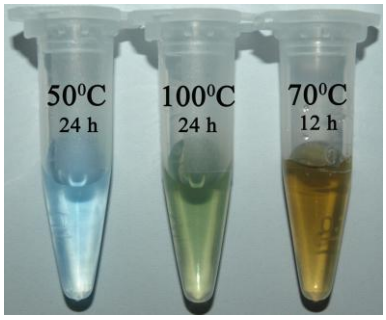

Fig. S3 Effects of temperature on the synthesis of Cu NCs.

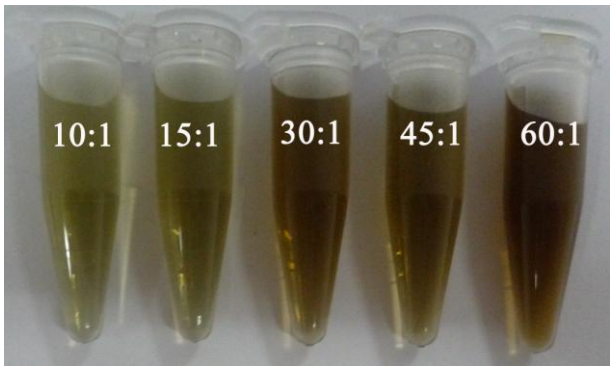

Fig. S4 Effects of the ratio of histidine and $CuCl_2$ on the synthesis of luminescent Cu NCs. c_{CuCl2}, 2.5 mM, $c_{histidine}$ / c_{CuCl2} = 10:1, 15:1, 30:1, 45:1, and 60:1.

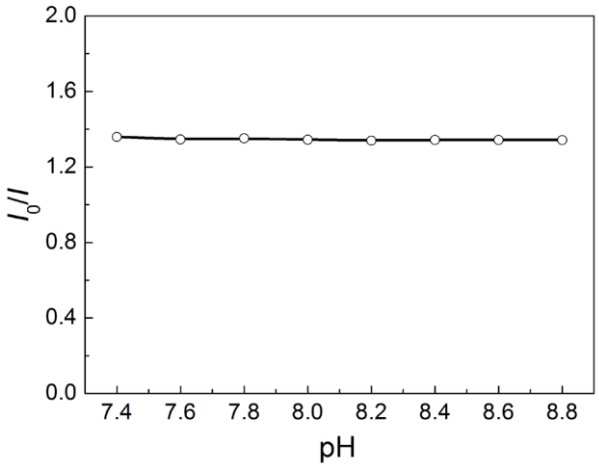

Fig. S5 Effects of pH values on the quenching extent of Cu NCs induced by GTP. I_0 and I represent the luminescence intensity of Cu NCs in the absence and presence of GTP, respectively. λ_{ex} = 350.0 nm, λ_{em} = 456.0 nm, c_{GTP} = 12 mM, pH values of tris-HCl buffer, 7.4, 7.6, 7.8, 8.0, 8.2, 8.4, 8.6, 8.8.

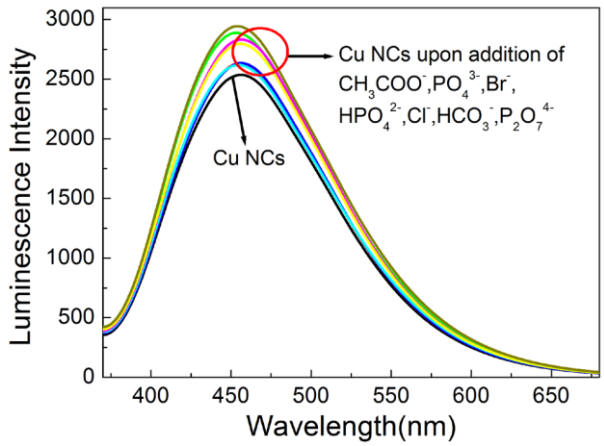

Fig. S6 The luminescent responses of Cu NCs to some inorganic anions including CH_3COO^-, PO_4^{3-}, Br^-, HPO_4^{2-}, Cl^-, HCO_3^-, $P_2O_7^{4-}$. λ_{ex} = 350.0 nm, c_{anion} = 12 mM, pH 7.8 tris-HCl.