SUPPORTING INFORMATION

for

Cu^{2+}-mediated fluorescence switch of gold nanoclusters for the selective detection of clioquinol

Jian Wang,[a] Yong Chang,[b] Pu Zhang,[c] Shao Qing Lie,[b] Peng Fei Gao,[a] Cheng Zhi Huang*[,a,b]

[a] *Key Laboratory of Luminescent and Real-Time Analytical Chemistry (Southwest University) Ministry of Education, College of Pharmaceutical Science, Southwest University, Chongqing 400715, China. E-mail: chengzhi@swu.edu.cn, Tel: (+86) 23 68254659, Fax: (+86) 23 68367257.*

[b] *Chongqing Key Laboratory of Biomedical Analysis (Southwest University), Chongqing Science & Technology Commission, College of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China.*

[c] College of Physical Science and Technology, Southwest University, Chongqing 400715, China

Figures

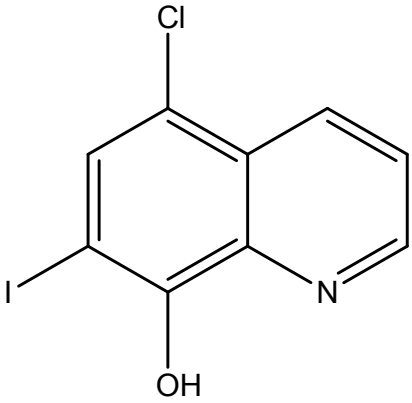

Fig. S1 The molecule structure of CQ

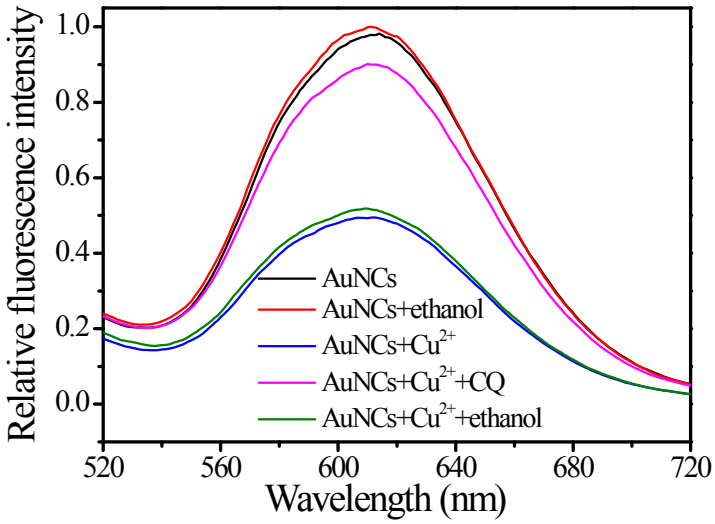

Fig. S2 The effect of ethanol on the fluorescence of BSA-AuNCs. Conditions: BSA-AuNCs, 0.192 mg/mL; Cu^{2+}, 6 μM; CQ, 10 μM; pH 7.0, Tris-HCl buffer.

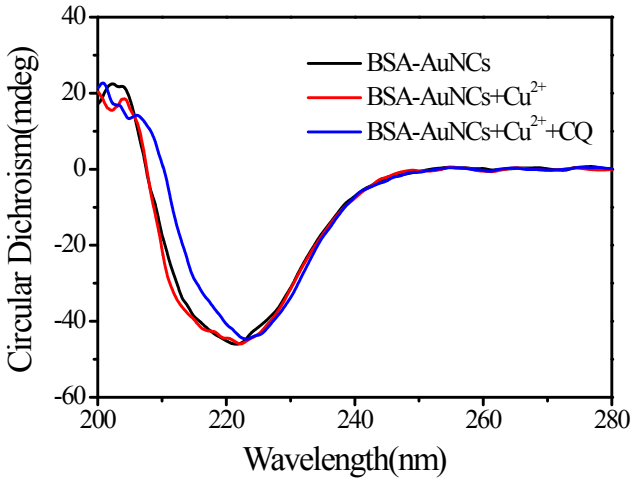

Fig. S3 The circular dichroism spectra of BSA-AuNCs, BSA-AuNCs-Cu^{2+} and BSA-AuNCs-Cu^{2+}-CQ. Conditions: BSA-AuNCs, 0.192 mg/mL; Cu^{2+}, 6 μM; CQ, 10 μM; pH 7.0, Tris-HCl buffer.

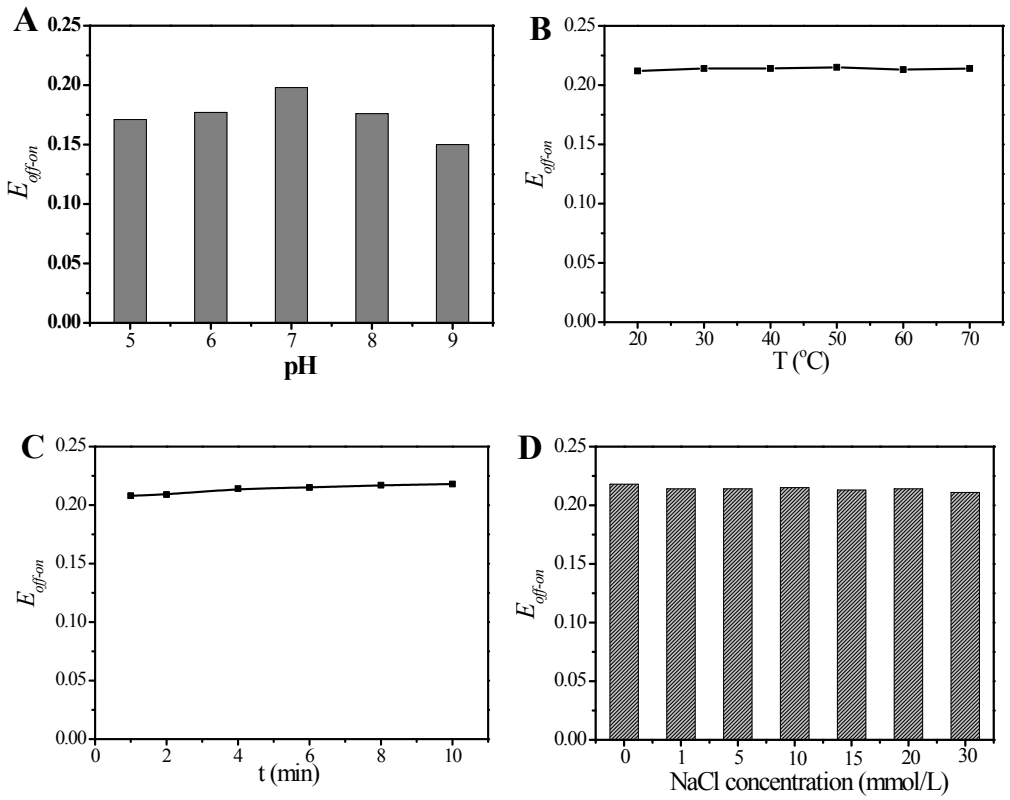

Fig. S4 Dependence of the fluorescence response of BSA-AuNCs on (A) pH; (B) reaction temperature; (C) incubation time; (D) concentration of NaCl. Conditions: BSA-AuNCs, 0.192 mg/mL; Cu^{2+}, 6 μM; CQ, 10 μM.

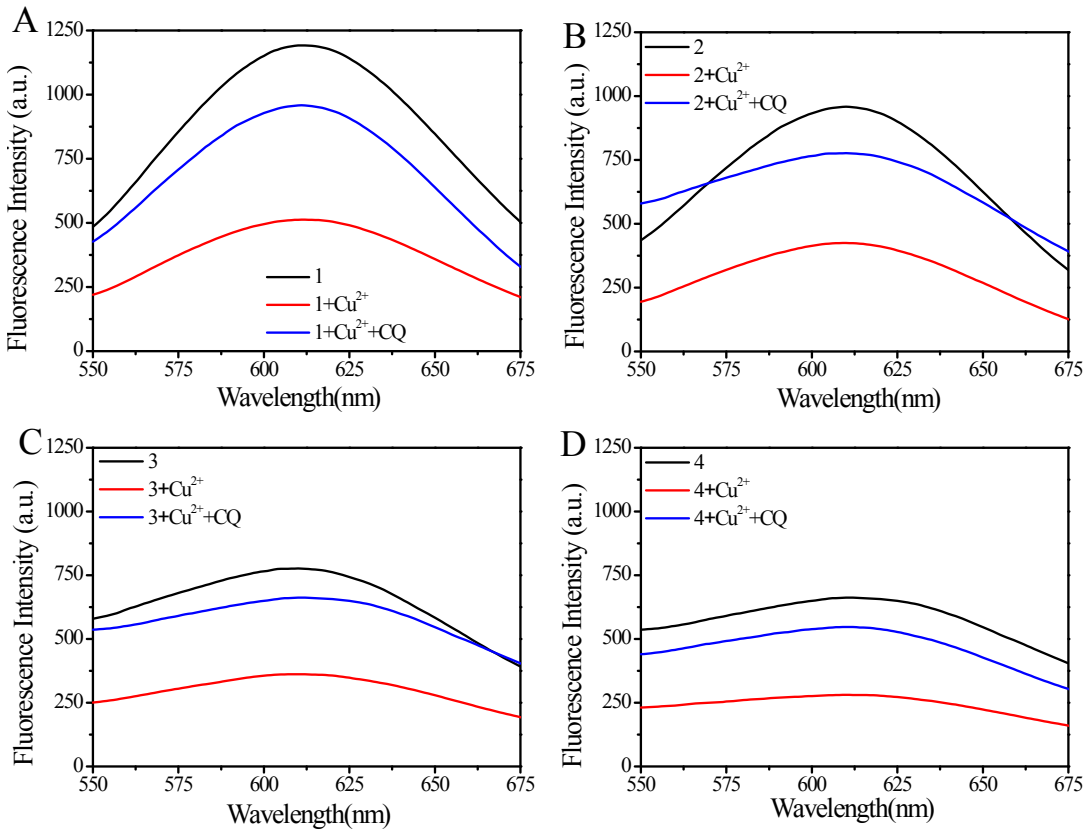

Fig. S5 The reusability of AuNCs for sensing CQ. A, the first cycle; B, the second cycle; C, the third cycle; D, the fourth cycle. 1, AuNCs; 2, AuNCs+Cu^{2+}+CQ; 3, AuNCs+Cu^{2+}+CQ+Cu^{2+}+CQ; 4, AuNCs+Cu^{2+}+CQ+Cu^{2+}+CQ+Cu^{2+}+CQ. Conditions: BSA-AuNCs, 0.192 mg/mL; Cu^{2+}, 6 μM for each cycle; CQ, 10 μM for each cycle; pH 7.0, Tris-HCl buffer.

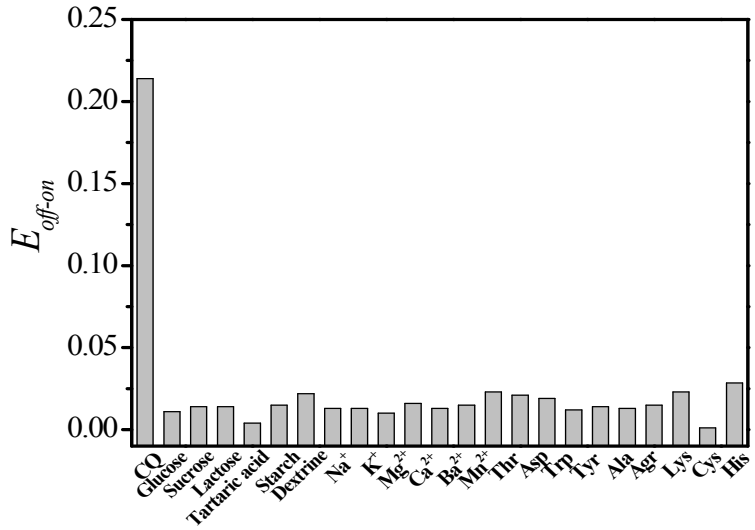

Fig. S6 The selectivity of the fluorescent probe for CQ detection. Conditions: BSA-AuNCs, 0.192 mg/mL; Cu^{2+}, 6 μM; CQ, 10 μM; glucose, sucrose, lactose, and tartaric acid, 100 μM; starch and dextrin, 100 μg/mL; His, 10 μM; other metal ions, 6 μM; other amino acids, 100 μM; pH 7.0, Tris-HCl buffer.