Electronic Supporting Information

A novel fluorescent nanoprobe for sensitive detection of 6-thioguanine in human serum based on Cu/Ag nanoclusters

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This supplementary information contains Experimental and 4 Figures. This document contains 4 pages, including this cover page.

1. Experimental

1.1 Chemical reagents

6-thioguanine (6-TG), D-penicillamine (DPA) and $CuSO_4•5H_2O$ were supplied by Aladdin. All chemicals were used as received without further purification. Ultrapure water was used to prepare all solutions. Human plasma, used as a practical sample, was provided by healthy laboratory members. 6-TG stock solution (5 mmol/L) was prepared as follows, 41.8 mg of 6-TG was dissolved in ultrapure water with 4 mL of 0.1 mol/L NaOH in a 50 mL volumetric flask, and then the solution was diluted to the scale line with ultrapure water.

1.2. Apparatus and measurements

The morphologies of Cu/Ag NCs were characterized by transmission electron microscopy (TEM; FEI f20, USA). The XPS spectra were recorded by an ESCALAB 250Xi X-ray photoelectron spectroscopy (Thermo Fisher Scientific, USA). The FT-IR spectra measurements were performed on a Perkin Elmer fourier transform infrared spectrometer (Perkin Elmer, USA). The QY measurements were obtained by an Edinburgh FLS1000 fluorescence spectrometer (Edinburgh, Britain). Fluorescence spectra were recorded on a Hitachi FL-7000 fluorescence spectrometer (Hitachi, Japan). UV-vis absorption spectra were acquired using a Shimadzu 2550 UV-vis spectrometer (Shimadzu, china). The fluorescence lifetimes were measured by a Horiba FluoroMax-4 fluorescence spectrometer(Horiba, Japan).

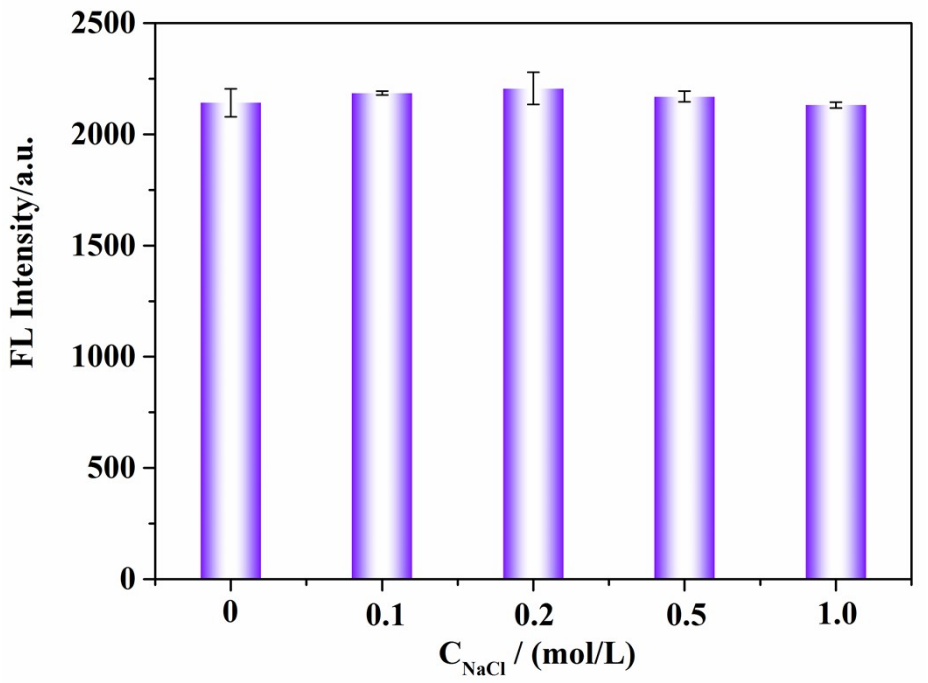

Fig. S1 Effect of ionic strength on the fluorescence intensity of Cu/Ag NCs

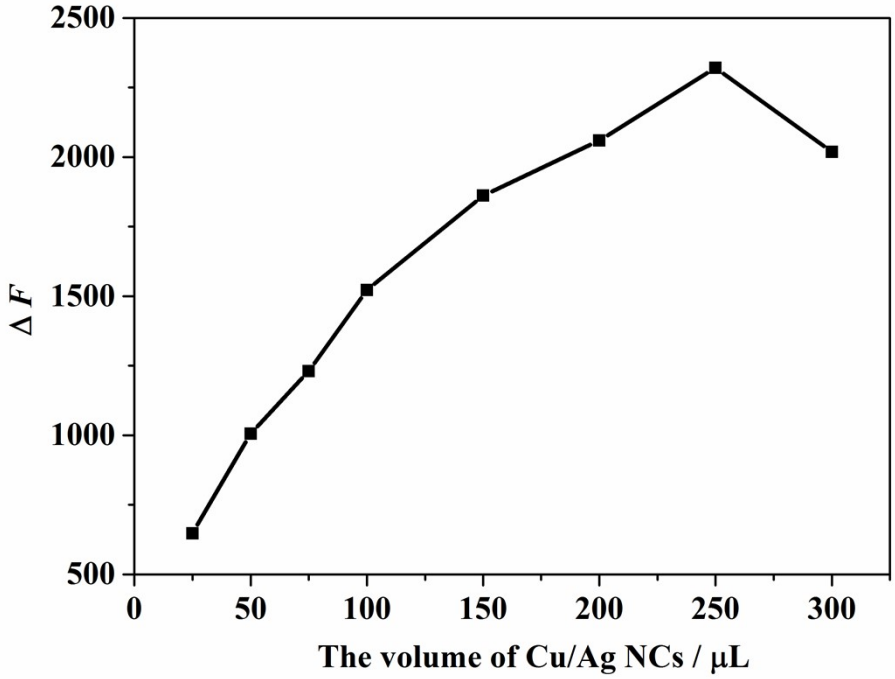

Fig. S2 Effect of the content of Cu/Ag NCs

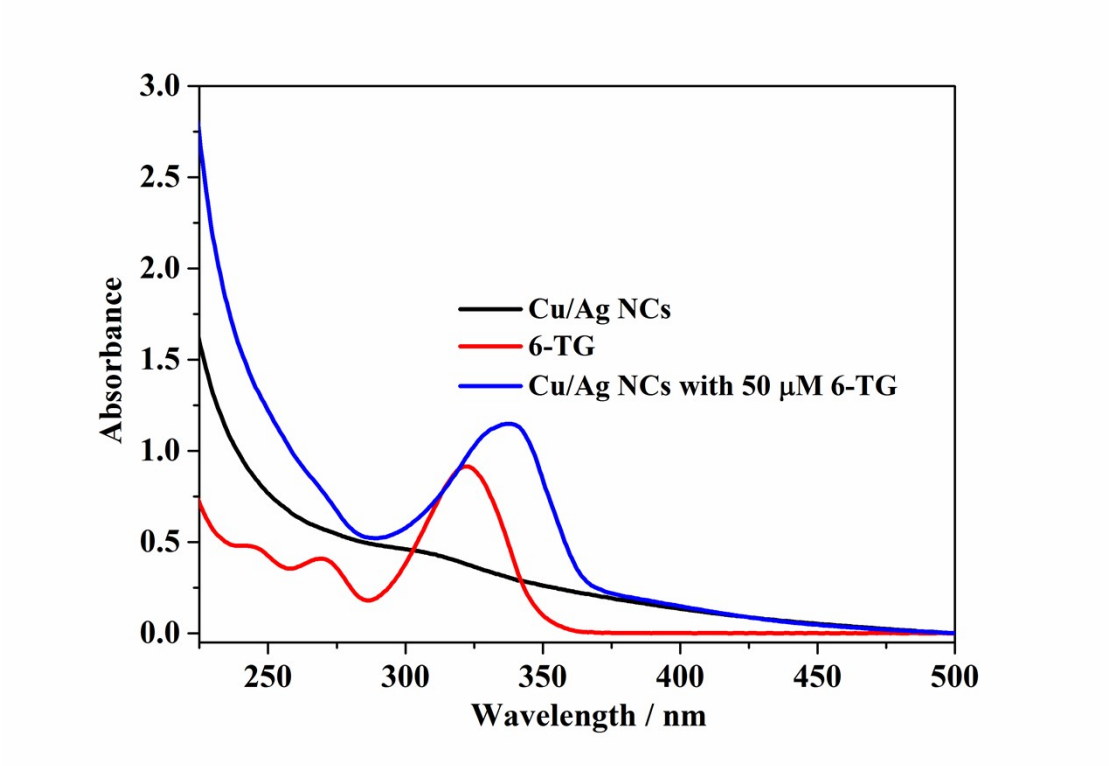

Fig. S3 UV-vis absorption spectra of 6-TG, Cu/Ag NCs and Cu/Ag NCs after adding 50 μmol/L 6-TG

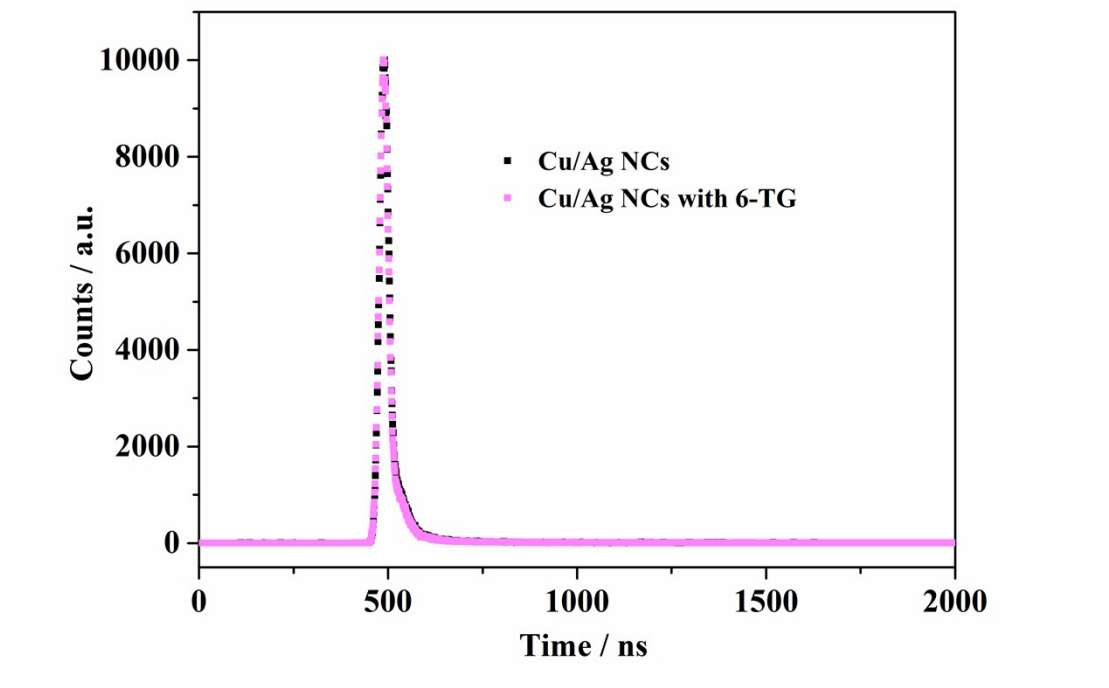

Fig. S4 Time-resolved fluorescence decay curves of the Cu/Ag NCs in the absence (black) and presence (pink) of 6-TG