

Ag⁺ and Cysteine Detection Based on Graphene Oxide and G-Quadruplex by Ag⁺-Guanine interaction

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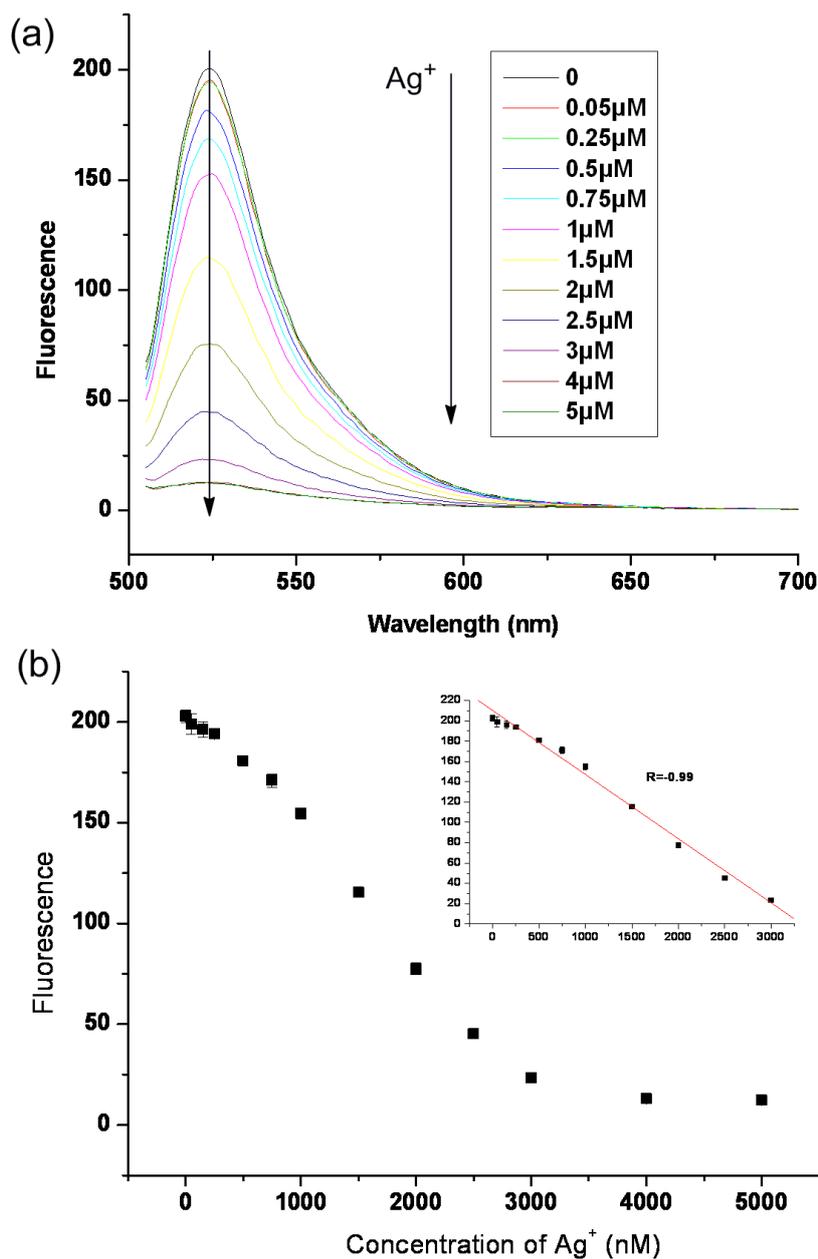


Figure S1. (a) Fluorescence emission spectra of the fluorescent sensor in the presence of different concentrations of Ag^+ (from 0 to 5000 nM) with the mixture of twelve metal ions together (Mg^{2+} , Cu^{2+} , Mn^{2+} , Zn^{2+} , Pb^{2+} , Ni^{2+} , Co^{2+} , Cd^{2+} , Ca^{2+} , Li^+ , Hg^{2+} , Fe^{3+} , the concentration of each ion is 3 μM). The concentration of AO is 500 nM while DNA is 300 nM. (b) Ag^+ concentration-dependent change in the emission signal at $\lambda = 523 \text{ nm}$. The insert figure shows the signal change in the Ag^+ concentration range of 0-3000 nM. The red line represents a linear fit to the data.

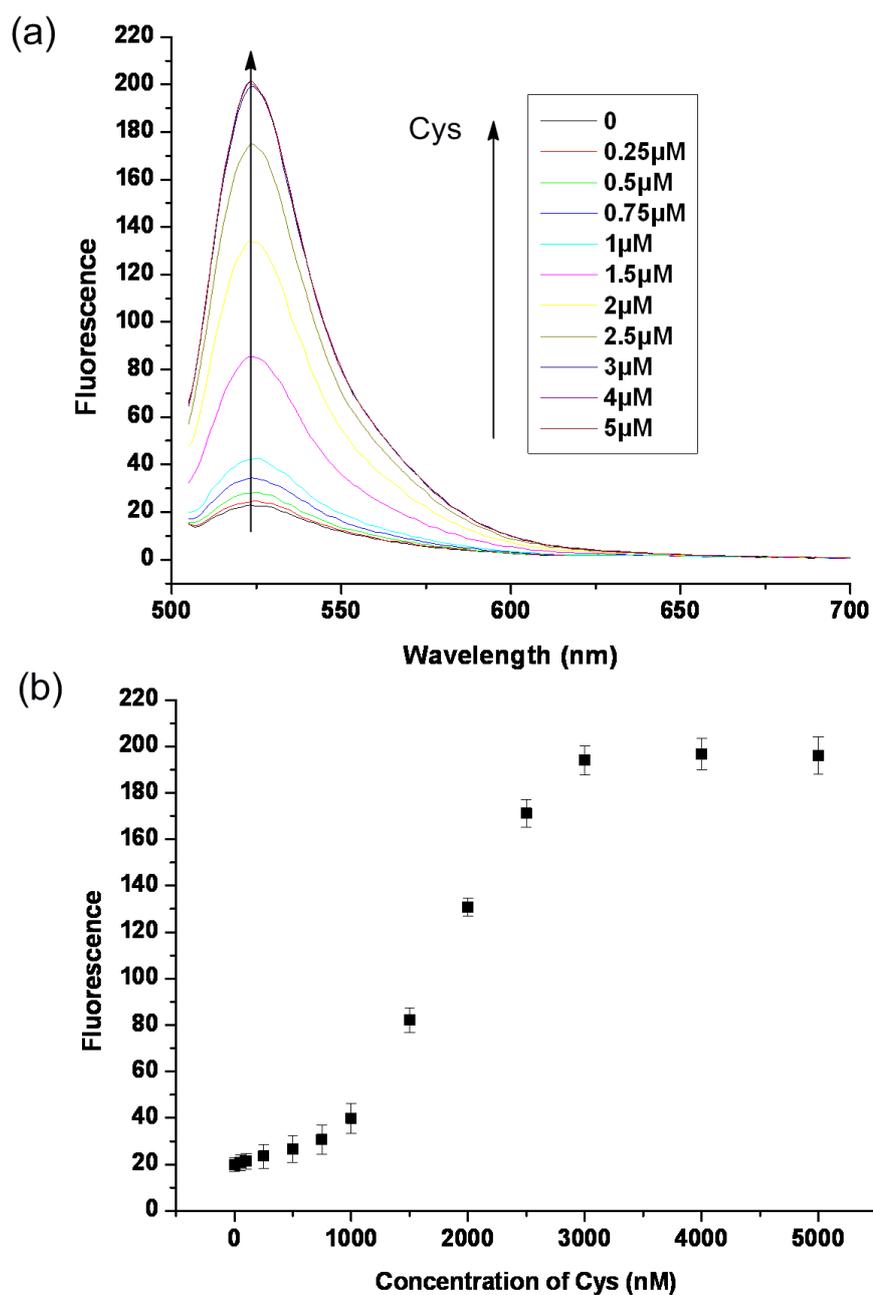


Figure S2. (a) Fluorescence emission spectra of the Cys sensor system in the presence of different concentrations of Cys (from 0 to 5000 nM). The concentration of AO is 500 nM while DNA is 300 nM. And the concentration of Ag⁺ is 3 μM. (b) Cys concentration-dependent change in the emission signal at $\lambda = 523$ nm.

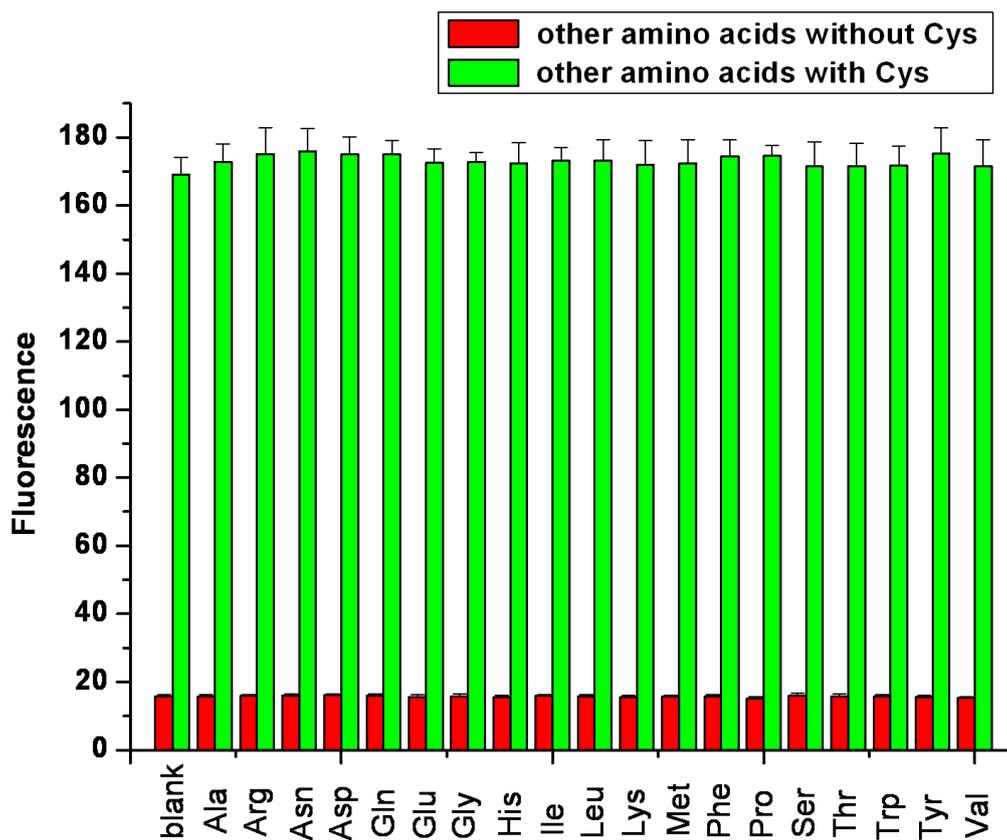


Figure S3. The selectivity of the Cys sensor system. Red bars represent the emission signals of the sensing systems in the presence of 3 μM of other amino acids without Cys. The green bars represent the emission signals of the sensing systems in the presence of 3 μM Cys and 3 μM of other amino acids together.