Supporting Information

A colorimetric nitrite detection system based on Ag@Au nanoparticles with excellent selectivity and high sensitivity

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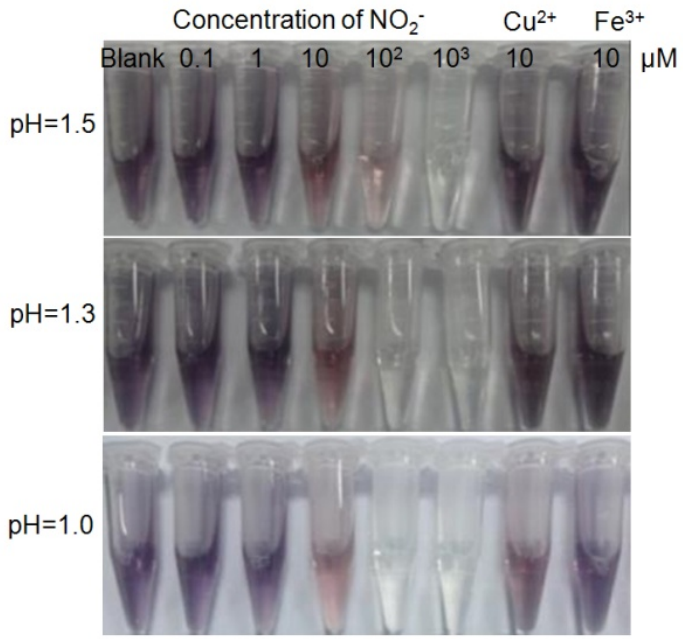

Figure S1. Influence of pH value on the color change of the Ag@AuNP dispersions incubated with NO_2^- (0.1-1000 μM), Fe^{3+} (10 μM) or Cu^{2+} (10 μM) for 15 min.

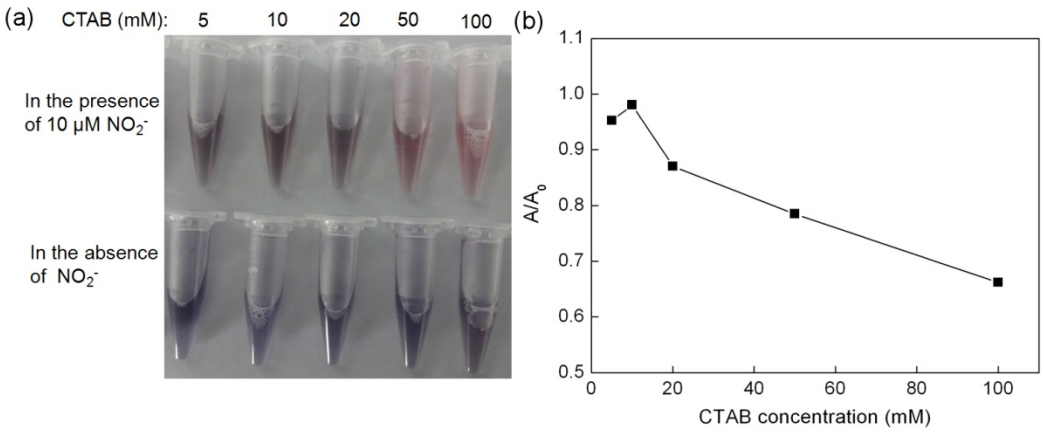

Figure S2. (a) Photographic image of the Ag@AuNPs incubated without or with 10 μM of NO_2^- in the presence of CTAB ranging from 5 to100 mM. The pH value of the Ag@AuNP dispersions is controlled to be 1.3. (b) Plot of A/A_0 versus the concentration of CTAB. A: the absorbance value at 526 nm in the UV-vis spectra of Ag@AuNP dispersions incubated with 10 μM of NO_2^- in the presence of CTAB. A_0: the absorbance value at 536 nm in the UV-vis spectra of Ag@AuNP dispersions without NO_2^- incubation in the presence of CTAB.

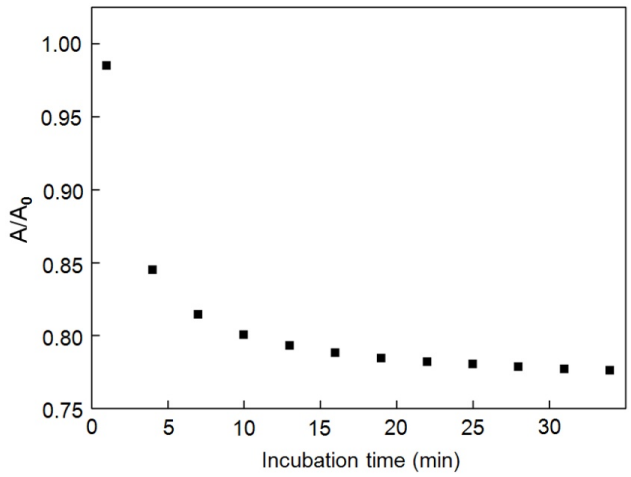

Figure S3. Plot of A/A_0 as a function of the incubation time. A: the absorbance value at 526 nm in the UV-vis spectra of Ag@AuNP dispersions incubated with10 μM of NO_2^- in the presence of CTAB (100 mM). A_0: the absorbance value at 536 nm in the UV-vis spectra of Ag@AuNP dispersions without NO_2^- incubation in the presence of CTAB (100 mM). The pH value of the Ag@AuNP dispersions is controlled to be 1.3.

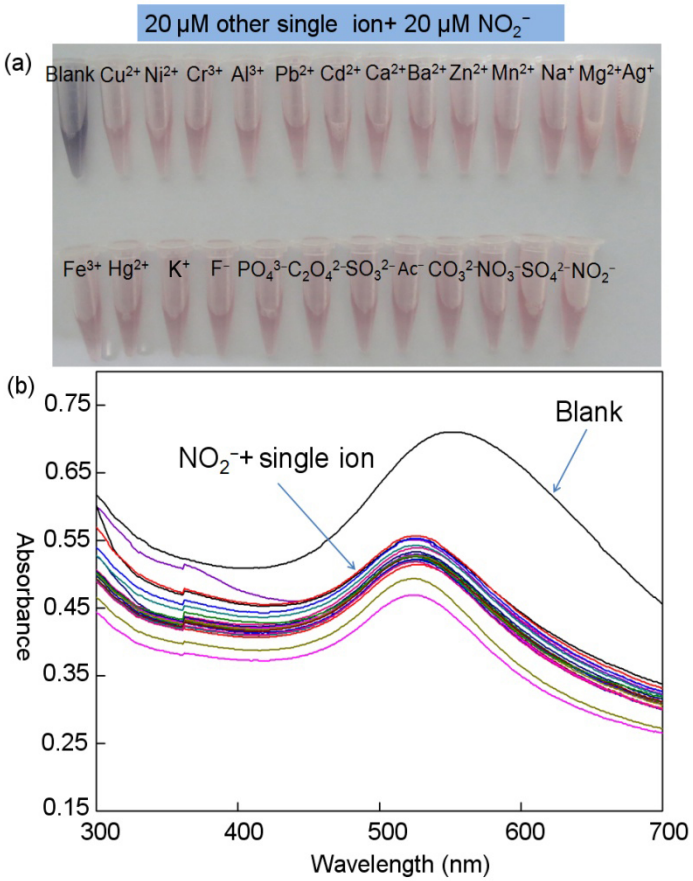

Figure S4. Selectivity of the Ag@AuNPs-based detection system for NO_2^- compared with other ions. (a): Photograph of the detection systems incubated with 20 μM of NO_2^- and 20 μM of other single ion; (b): UV-vis absorption spectra of the detection systems incubated with 20 μM of NO_2^- and 20 μM of other single ion. The Ag@AuNPs-based detection system without incubation with NO_2^- or any other ions is used as a control.