Colorimetric detection of Cs^+ based on anti-aggregation of gold naopartiles in the presence of Prussian blue

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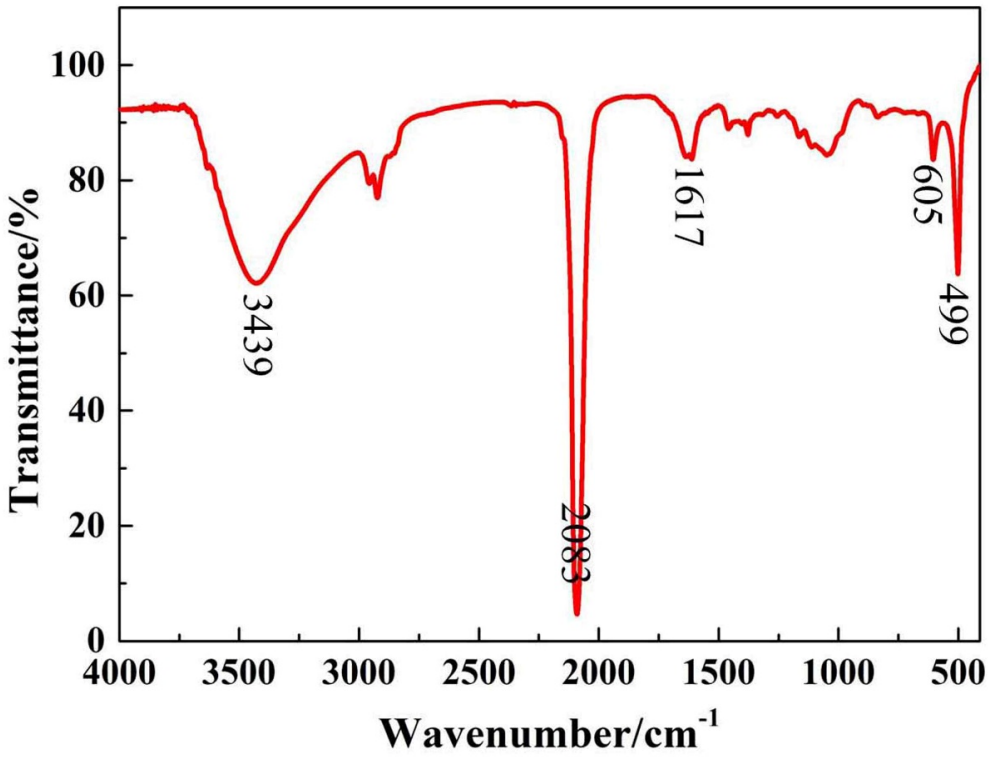

Fig. S1 FT-IR spectrum of Au@PB NPs.

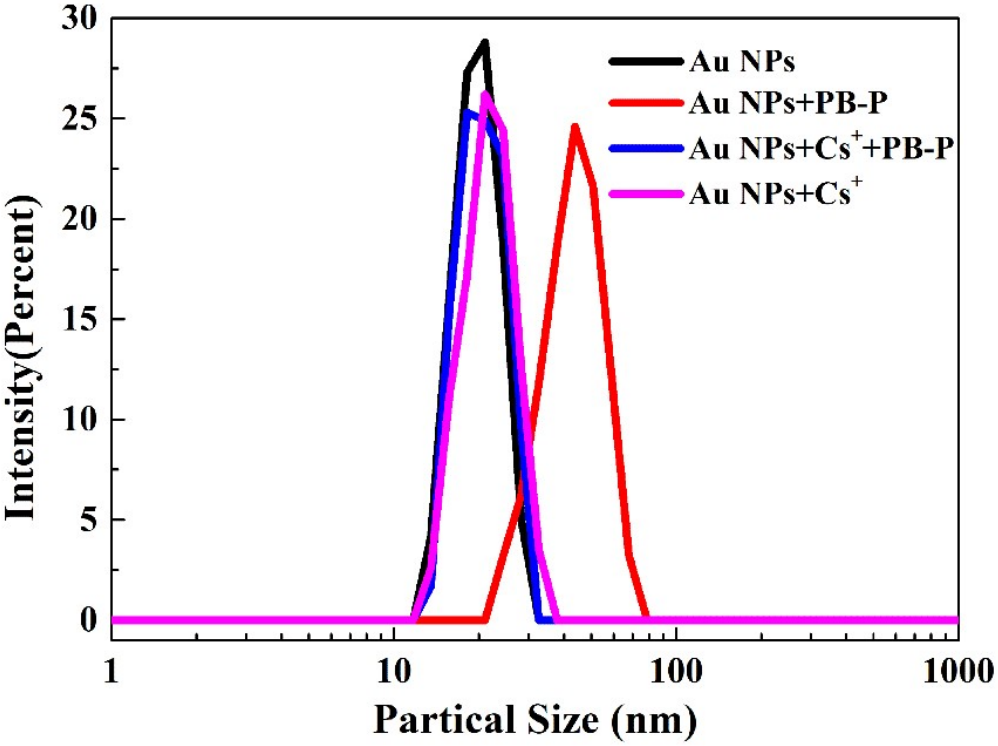

Fig. S2 The size dispersion of Au NPs under different conditions.

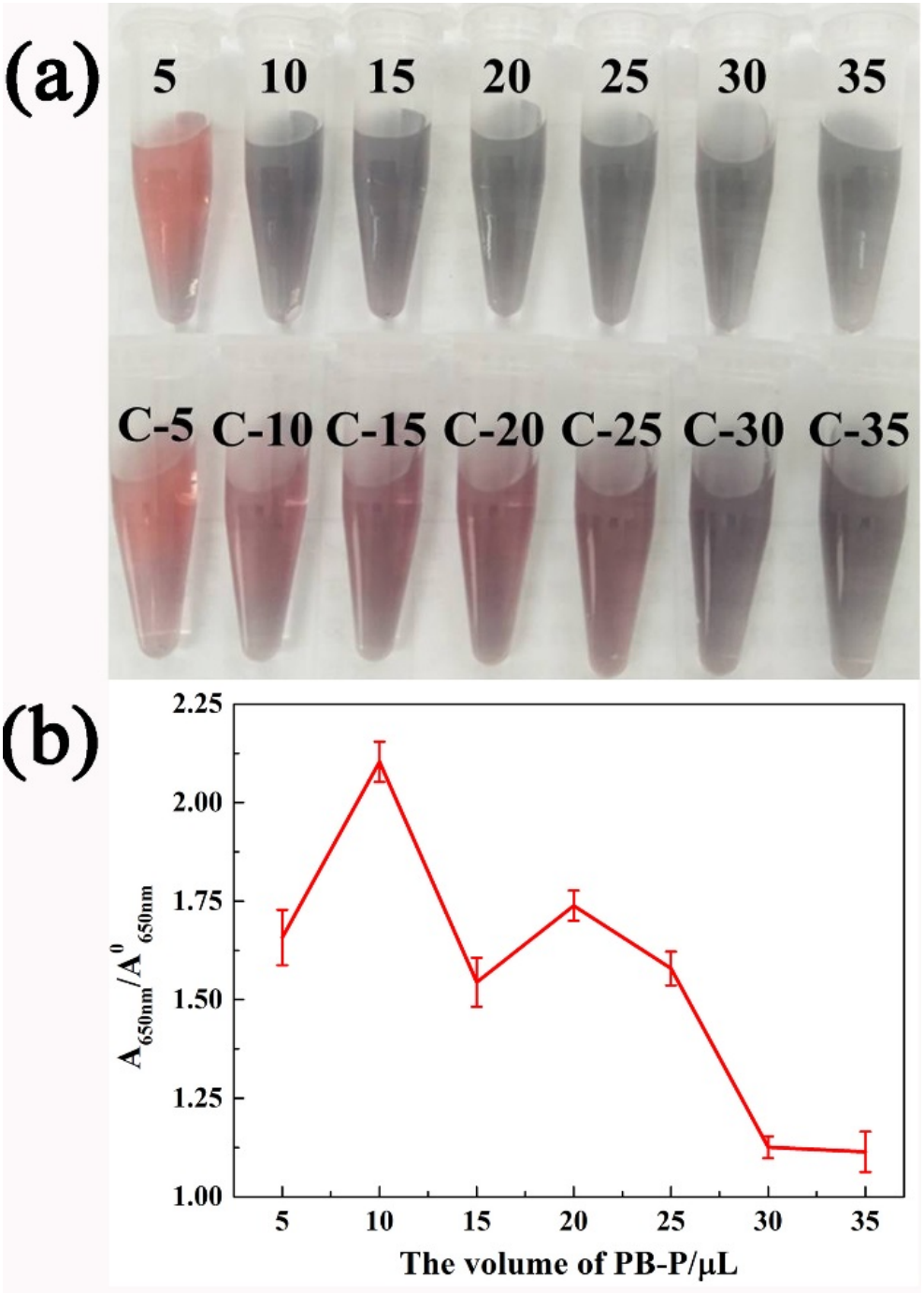

Fig. S3 Effect of PB-P volume (5, 10, 15, 20, 25, 30, and 35 μL) on the detection of Cs^+. (a) Photograph of the colorimetric detection effect (up: control samples, down: samples with Cs^+); (b) UV-vis absorption intensity ratio A_{650nm}/A_{0650nm} of Au NPs (A_{650nm} represents the absorption intensity ratio of Au NPs containing Cs^+ at 650nm; A_{0650nm} represents the absorption intensity ratio of the blank one).

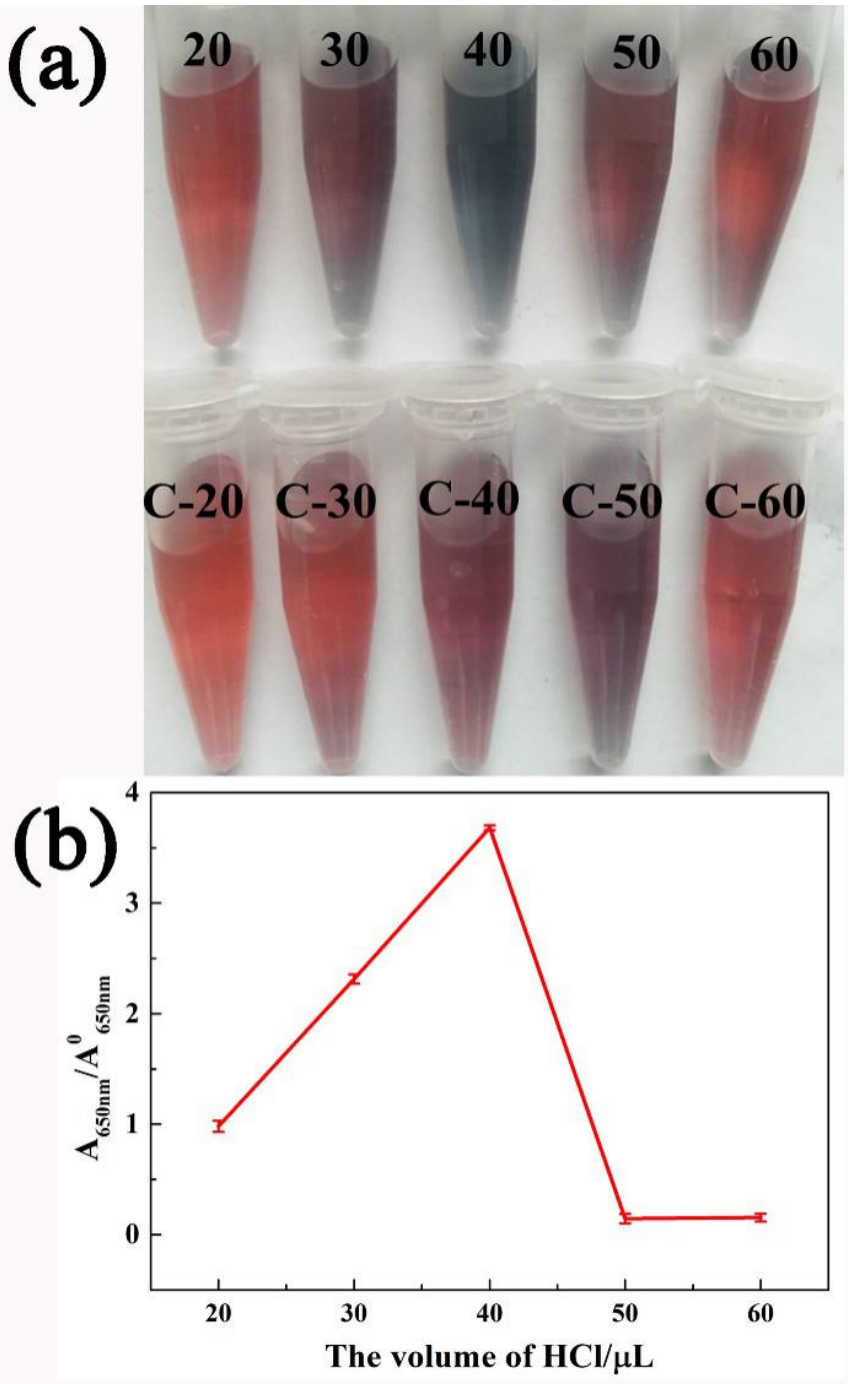

Fig. S4 The influence of HCl volume (20, 30, 40, 50, 60μL) on the detection effect of Cs^+. (a) Photograph of the detection effect; (b) UV-vis absorption intensity ratio A_{650nm}/A_{0650nm} of Au NPs (A_{650nm} represents the absorption intensity ratio of Au NPs containing PB-P and Cs^+ at 650 nm; A_{0650nm} represents the absorption intensity ratio of the blank one).

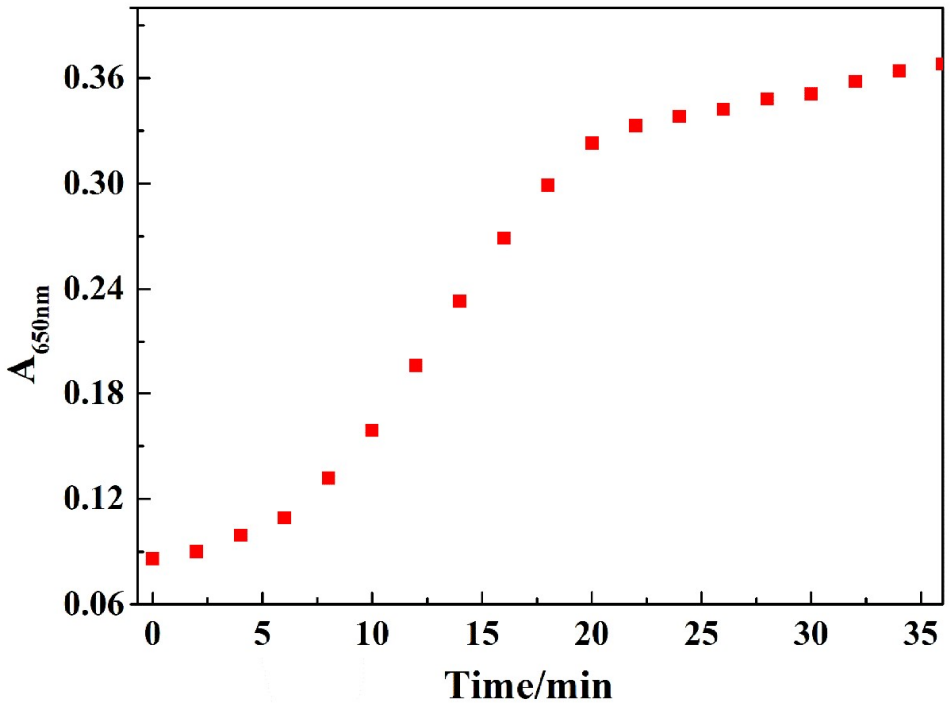

Fig. S5 Effect of reaction time on the detection of Cs^+ according to UV-vis absorption intensity at 650nm.

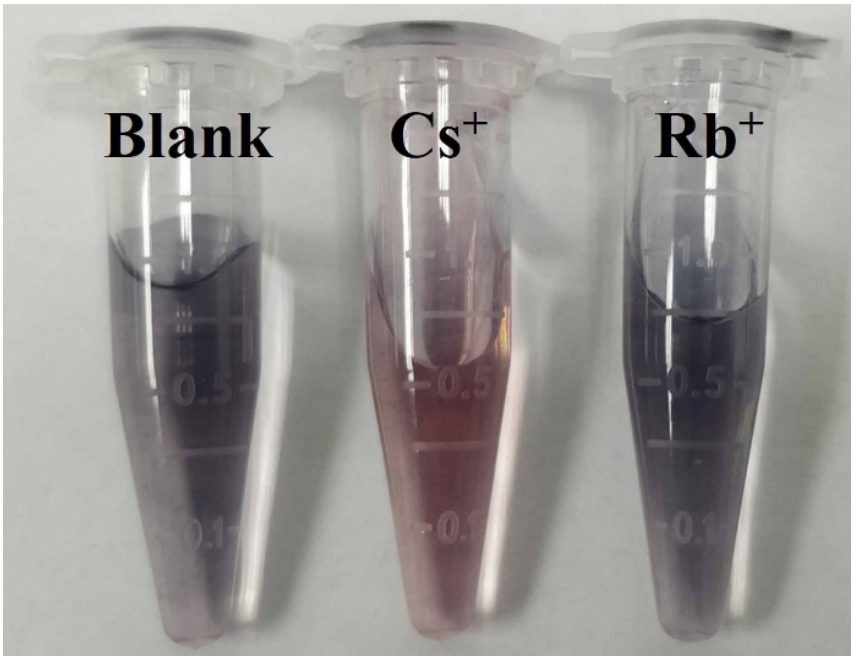

Fig. S6 Photograph of Au NPs solutions incubated with 10μL PB-P in the presence of Cs^+ (50μM) and Rb^+ (50μM).

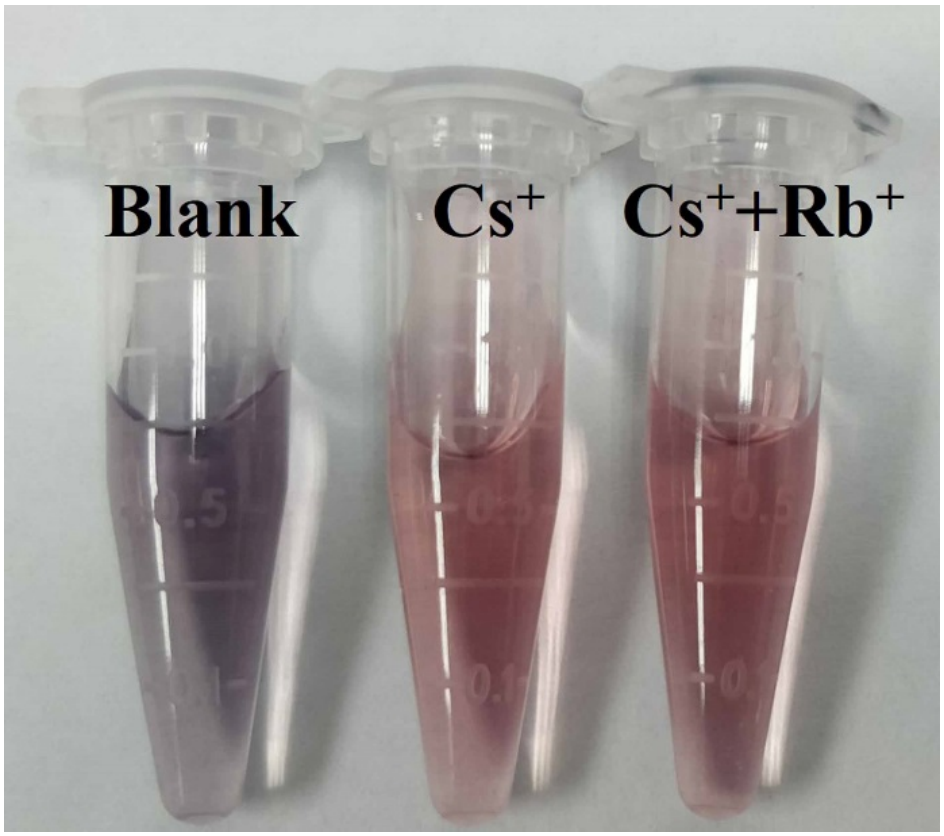

Fig. S7 Photograph of Au NPs solutions incubated with 10μL PB-P in the presence of Cs^+ (50μM) and a mixture of Rb^+ (50μM) and Cs^+ (50μM).