

A label-free turn on-off chemiluminescent strategy for lysozyme detection by target-triggered Cu_{2-x}Se aggregation

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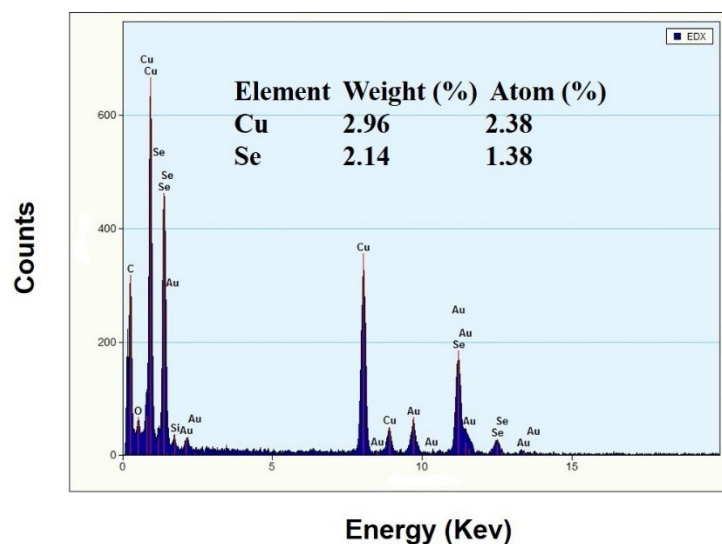


Fig. S1 EDX spectrum of the Cu_{2-x}Se NPs. Elemental Au mainly comes from the sample preparation for the SEM measurement.

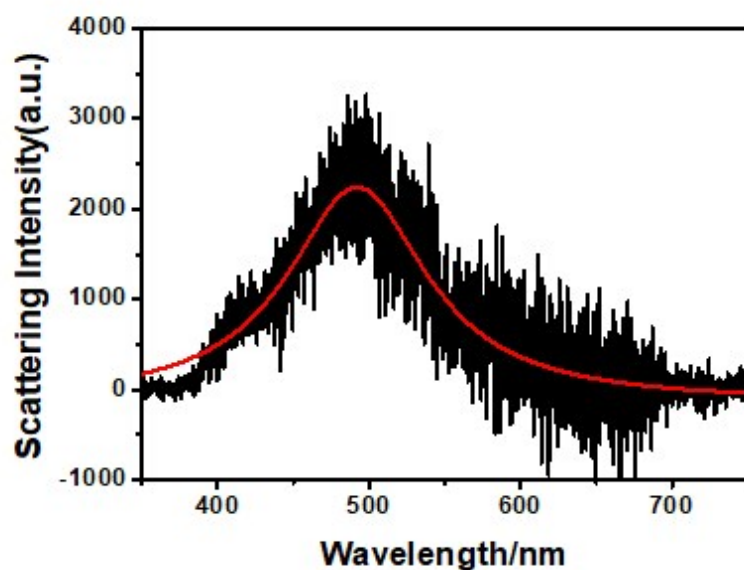


Fig. S2 The scattering spectrum of a single Cu_{2-x}Se NPs. The black dots represent the raw data; the red line was the Gaussian fitted curve.

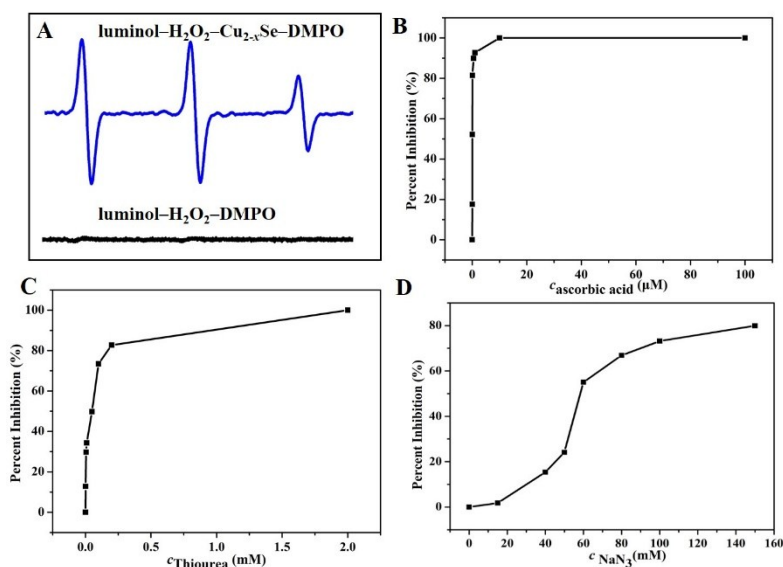


Fig. S3 (A) ESR spectra of DMPO- $\text{OH}\cdot$ adduct; Effects of the different radical scavengers of (B) ascorbic acid, (C) thiourea and (D) NaN_3 on the CL intensity of luminol (5 mM)- H_2O_2 (1mM)- Cu_{2-x}Se (10 $\mu\text{g}/\text{mL}$) system, $\text{pH}=7.3$.

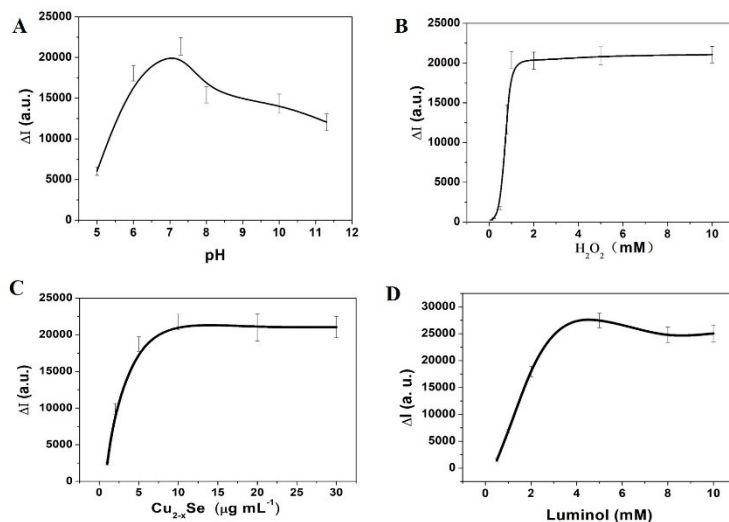


Fig. S4 Optimization of the experiment conditions (A) pH: luminol 5 mM, $Cu_{2-x}Se$ NPs 10 $\mu g/mL$, H_2O_2 1 mM (B) concentration of $Cu_{2-x}Se$ NPs: luminol 5 mM, pH, 7.3, H_2O_2 1 mM (C) concentration of H_2O_2 : luminol 5 mM, $Cu_{2-x}Se$ NPs 10 $\mu g/mL$, pH, 7.3. (D) concentration of luminol: H_2O_2 1 mM, $Cu_{2-x}Se$ NPs 10 $\mu g/mL$, pH, 7.3.

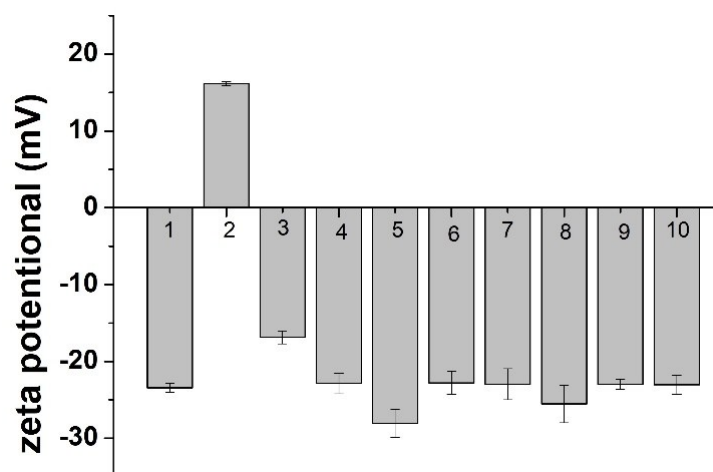


Fig. S5 Zeta potential of $Cu_{2-x}Se$ NPs and in presence of different proteins. 1, $Cu_{2-x}Se$ NPs; 2, $Cu_{2-x}Se$ NPs + Lys (1 mg/mL); 3, $Cu_{2-x}Se$ NPs + pepsin (1 mg/mL); 4, $Cu_{2-x}Se$ NPs +thrombin (1 mg/mL); 5, $Cu_{2-x}Se$ NPs +hemoglobin (1 mg/mL); 6, $Cu_{2-x}Se$ NPs + horse radish peroxidase (HRP) (1 mg/mL); 7, $Cu_{2-x}Se$ NPs + BSA (1 mg/mL); 8, $Cu_{2-x}Se$ NPs + immunoglobulin G (1 mg/mL); 9, $Cu_{2-x}Se$ NPs + proteinase K (0.1 mg/mL); 10, $Cu_{2-x}Se$ NPs + papain (1 mg/mL).

