A fluorescent biosensor of lysozyme-stabilized copper nanoclusters for the selective detection of glucose

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**Figure S1** Typical XPS spectra of (a) S 2p, (b) C 1s, (c) N 1s and (d) O 1s involved in the resultant Lys–CuNCs.

**Figure S2** (a) DLS measurement, (b) HRTEM micrograph and (c) XRD spectra of the synthesized fluorescence Lys–CuNCs.
**Figure S3** FT-IR spectra of the lysozyme and Lys–CuNCs.

**Figure S4** Fluorescence spectra of Lys–CuNCs in the presence of different glucose concentrations at pH 5 (a) and 9 (b); (c) Fluorescence intensity at $\lambda_{\text{max}} = 600$ nm for Lys–CuNCs against the glucose concentrations. Inset: plots of fluorescence intensity vs concentration over two ranges of 0.01–1.0 μM.
Figure S5 Fluorescence spectra of Lys–CuNCs in the absence and presence of 200 mM KCl or NaCl solution.

Figure S6 PL decay profile ($\lambda_{em} = 380$ nm) of the Lys–CuNCs in aqueous solution at the excitation of 495 nm. Fitted curves were overlayed on the experimental data.
**Figure S7** The fluorescence spectra of the pristine lysozyme (without copper) in the presence of glucose at different concentration.

**Figure S8** (a) Photographs of the Lys–CuNCs adding with 1 mM glucose under the irradiation of visible (left) and UV (right) light. (b) Transmission electron microscopy (TEM) micrograph and (c) size distribution) of the synthesized fluorescence Lys–CuNCs/glucose.
Figure S9 (a) Fluorescence spectra of serum@Lys–CuNCs in the presence of different glucose concentrations. The arrows indicate the signal changes as increases in analyte concentrations (0, 0.5, 1.7, 3.3, and 9.2 mM). (b) Fluorescence intensity at $\lambda_{\text{max}} = 600$ nm for serum@Lys–CuNCs against the glucose concentrations (The data obtained from 15 mM was approximately zero).