

Electronic supplementary Information

Anchoring zinc-doped carbon dots on paper-based chip for highly sensitive fluorescent detection of copper ions

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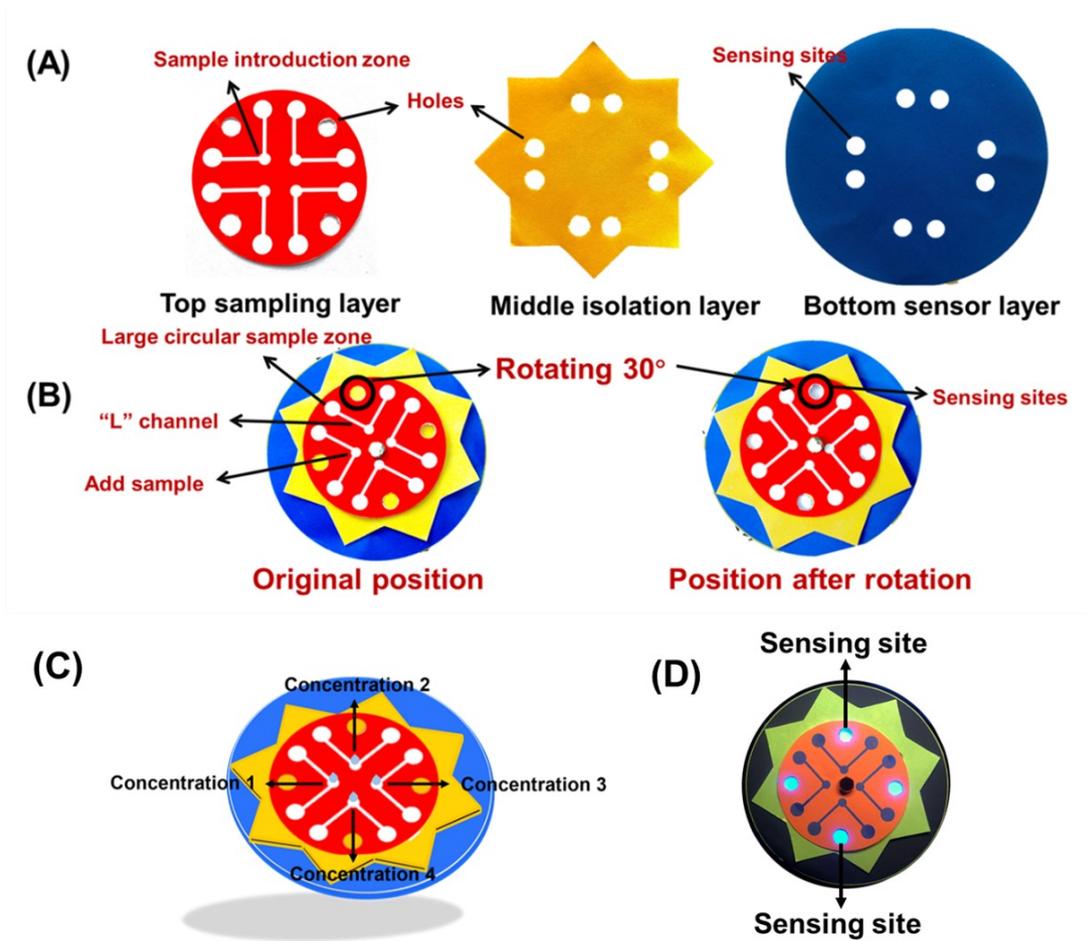


Fig. S1 (A) Top view of basic component of the wheel type paper-based microfluidic chip. (B) The operation of microfluidic chip. (C) The assembling wheel type paper-based microfluidic chip. (D) Photograph of the chip under UV light (365 nm).

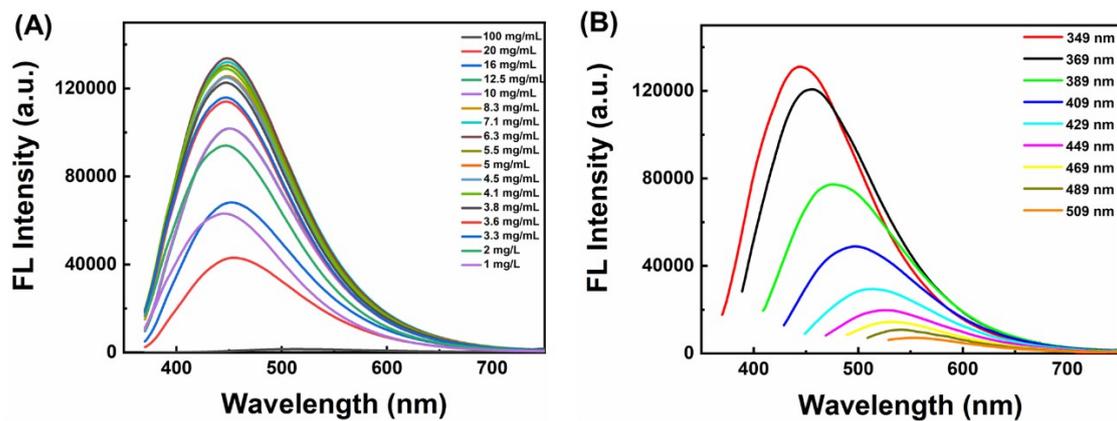


Fig. S2 (A) Fluorescence spectra of Zn-CDs at different concentrations. (B) Fluorescence spectra of Zn-CDs (160 times) at different excitation wavelength.

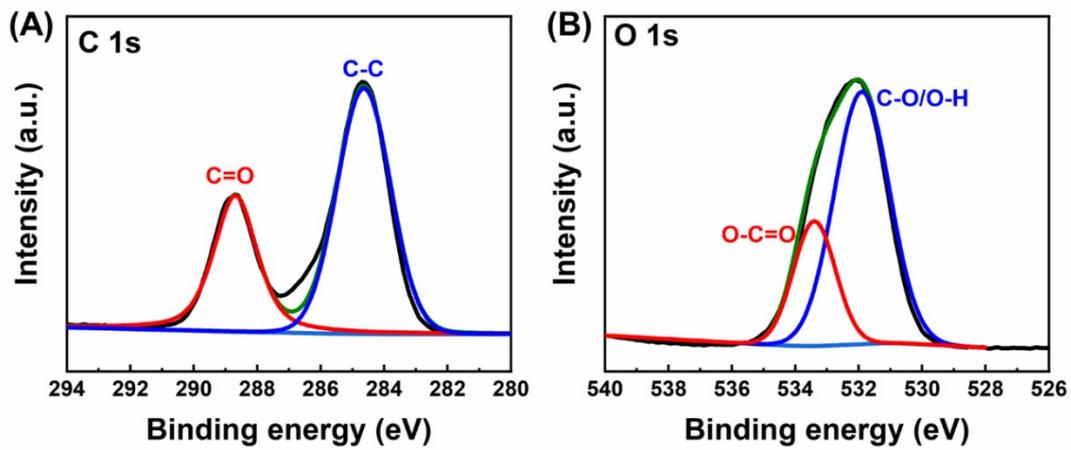


Fig. S3 (A) The high-resolution C 1s spectrum of Zn-CDs. (B)The high-resolution O 1s spectrum of Zn-CDs.

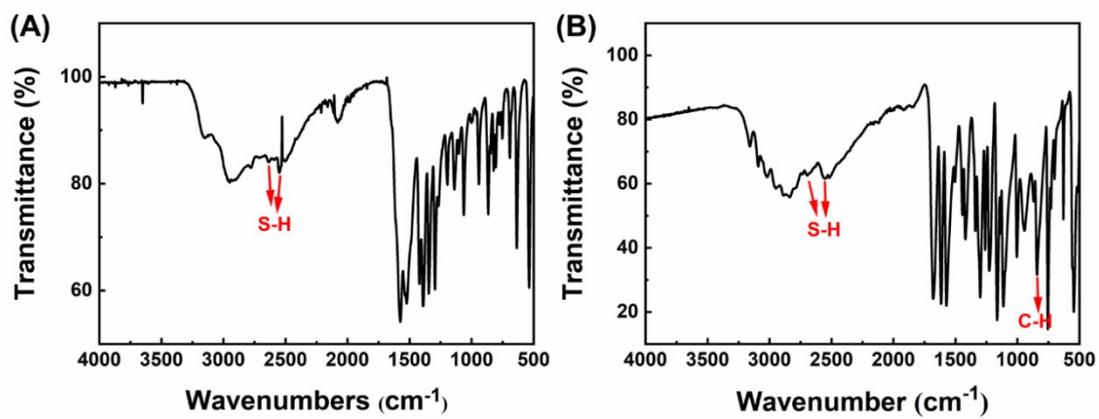


Fig. S4 FT-IR spectra of (A) L-Cys and (B) MNA.

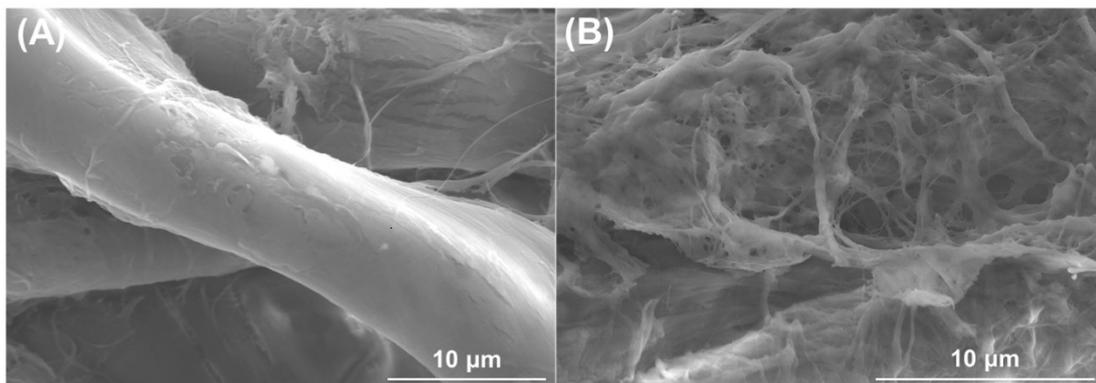


Fig. S5 SEM images of (A) bare paper and (B) MNA-L-Cys-paper@Zn-CDs.

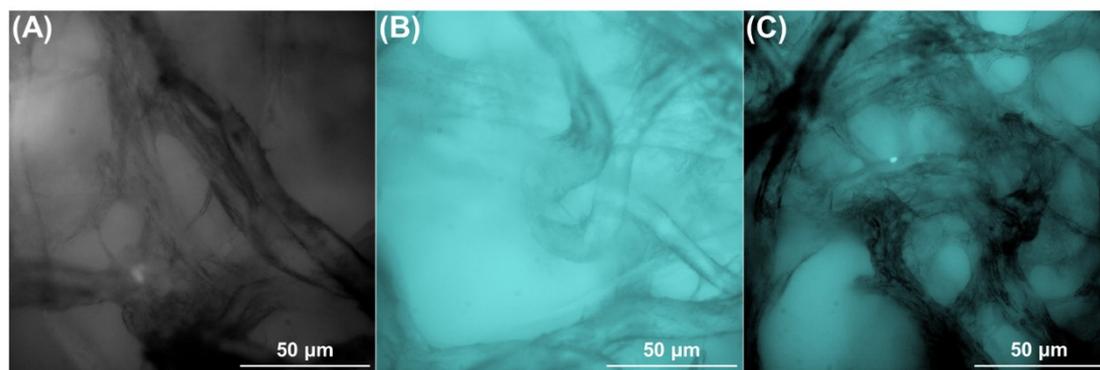


Fig. S6 Fluorescence microscopy images of (A) bare paper, (B) paper@Zn-CDs and (C) MNA-L-Cys-paper@Zn-CDs. Scale bars are 50 μm.

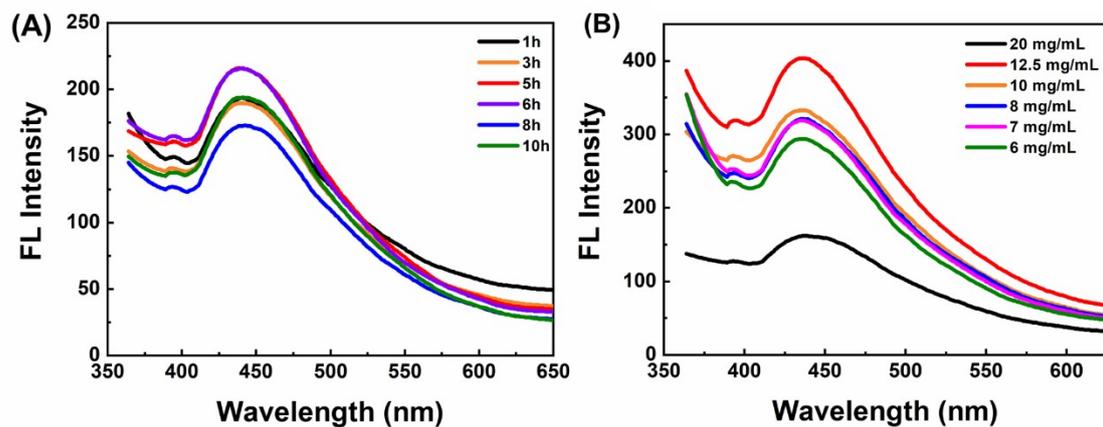


Fig. S7 Fluorescence spectra of the MNA-L-Cys-paper@Zn-CDs at (A) different grafting time of Zn-CDs and (B) different concentrations of Zn-CDs.

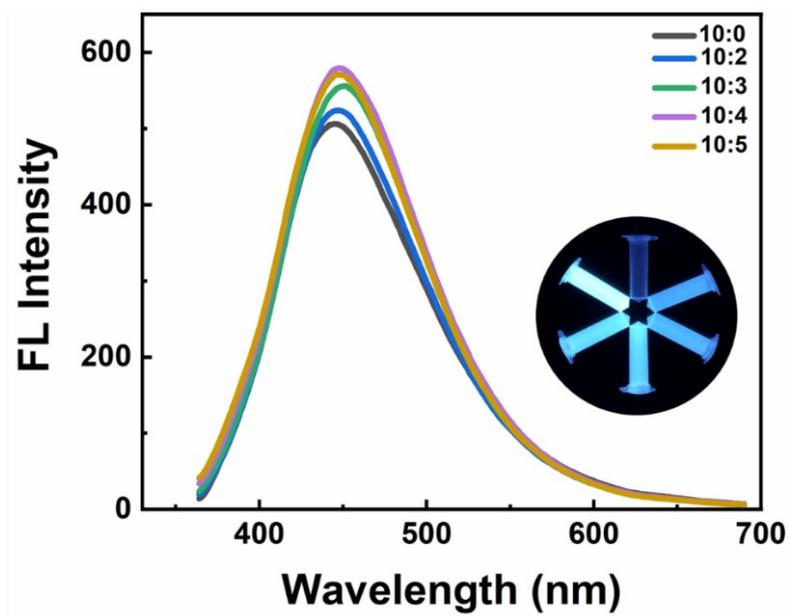


Fig. S8 Fluorescence spectra of Zn-CDs at different mass ratio of the precursors (citric acid:zinc acetate).

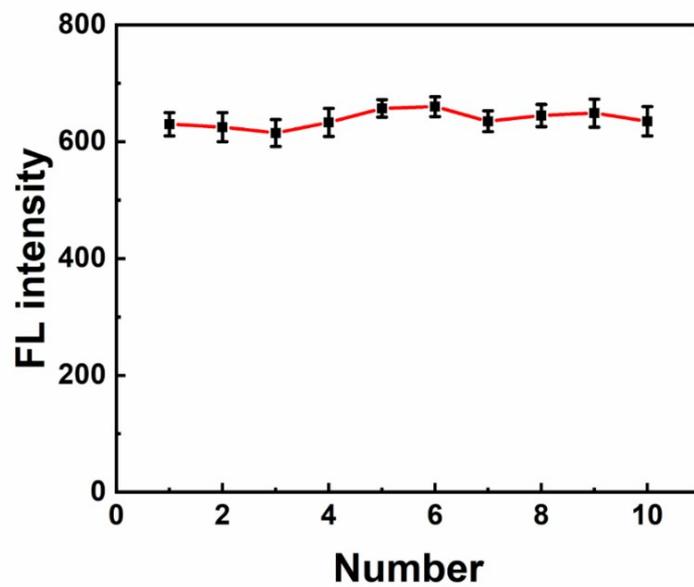


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