

Supporting Information

Carbon nanodots prepared from o-phenylenediamine for sensing of Cu²⁺ ions in cells

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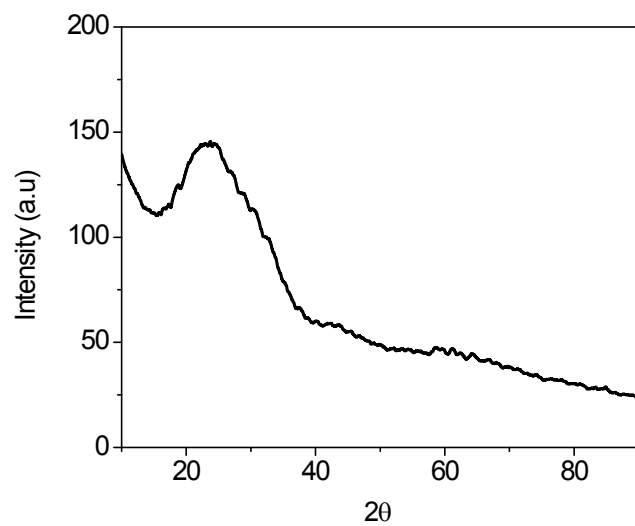


Figure S1. XRD pattern of C dots.

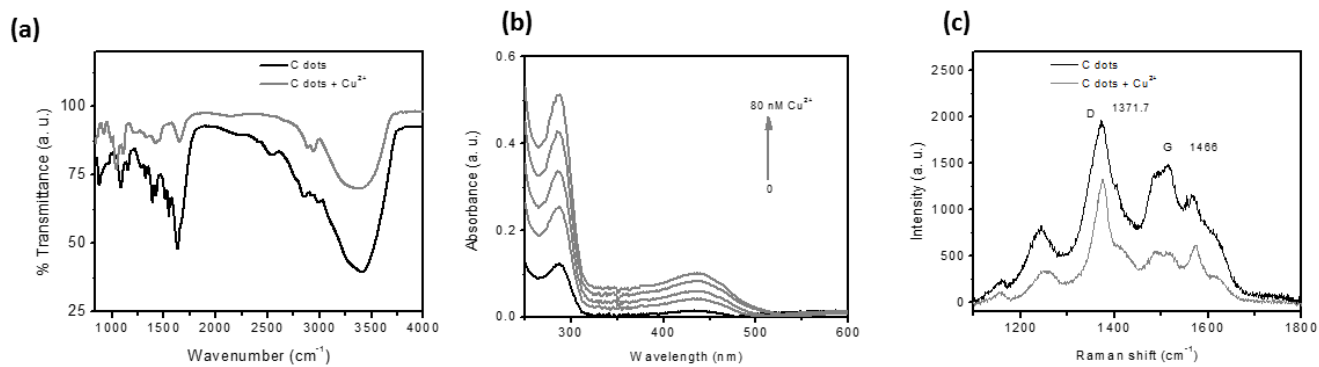


Figure S2. Effects of Cu^{2+} ions on the (a) FTIR, (b) absorption, and (c) Raman scattering spectra of C dots in PBS (10 mM, pH 7.0). Concentrations of Cu^{2+} ions are 80 nM in (a) and (c), and are 0, 20, 40, 60, and 80 nM in (b).

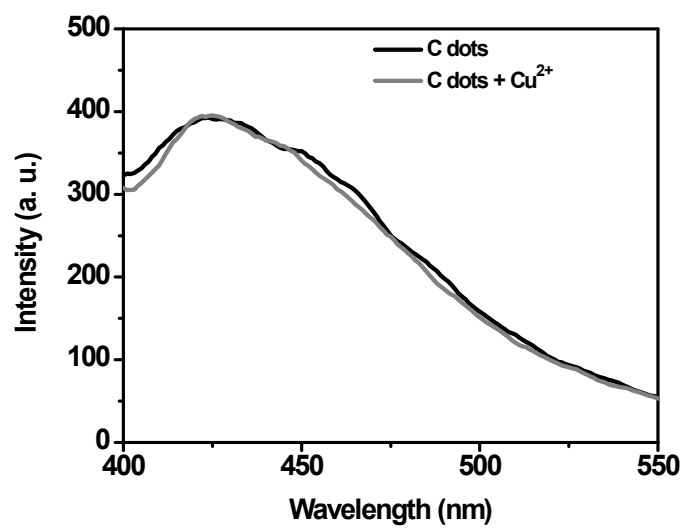


Fig. S3. Fluorescence spectra of C dots prepared from glycine in the absence and presence of Cu²⁺ (80 nM).

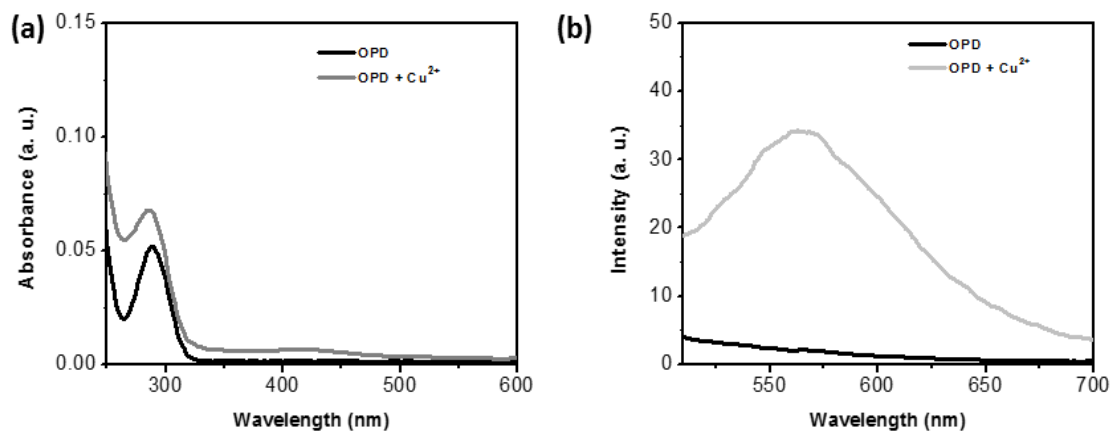


Figure. S4. (a) Absorption (b) fluorescence spectra of OPD (20 μM) in the absence and presence of Cu²⁺ (80 nM).

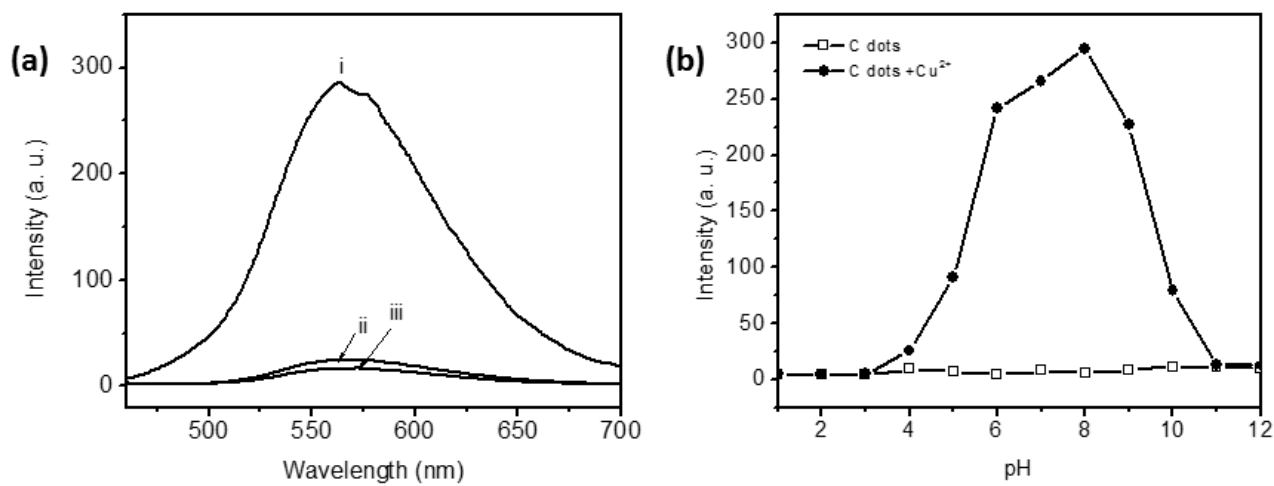


Figure S5. Effects of (a) ligand and (b) pH on the PL spectra of C dots (30 ng mL^{-1}) in PBS (10 mM , $\text{pH } 7.02$) containing 80 nM Cu^{2+} ions. (i) OPD, (ii) histidine and (iii) EDTA. The concentrations of the three ligands are all $2 \text{ }\mu\text{M}$. Excitation and emission wavelengths are 420 nm and 567 nm , respectively.

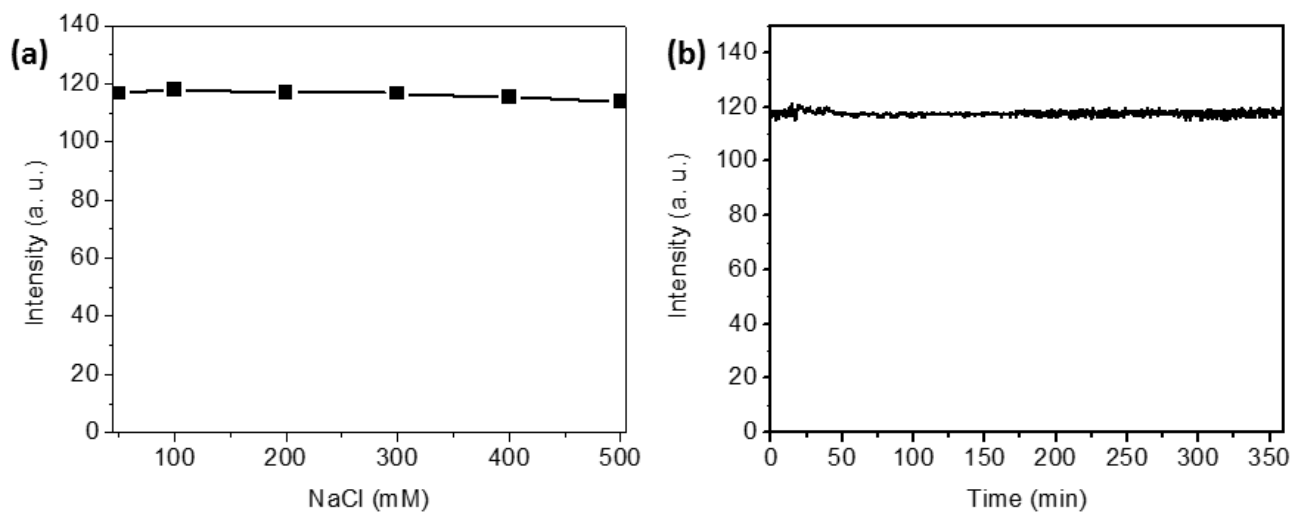


Figure S6. Effects of (a) NaCl concentration and (b) irradiation time on the PL intensity of C dots (3 mg mL^{-1}). Excitation and emission wavelengths are 420 and 567 nm, respectively. (a) C dots were prepared in PBS (10 mM, pH 7.0) containing various concentrations of NaCl. (b) C dots were prepared in PBS (10 mM, pH 7.0).

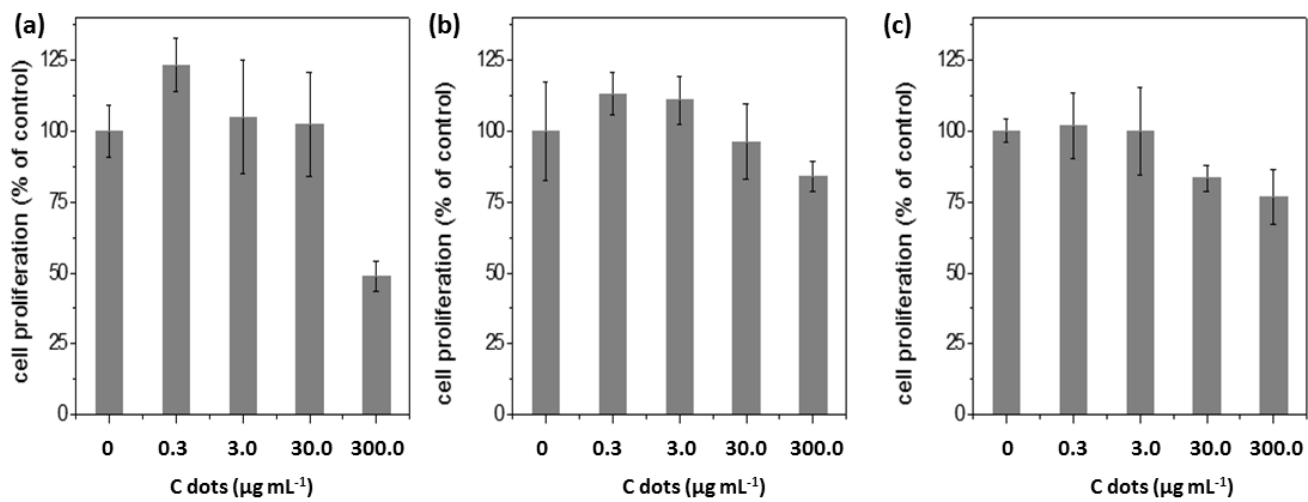


Figure S7. Viability of three types of cells treated with C dots. (a) A549, (b) MCF-10A, and (c)

MDA-MB-231 cells were treated with C dots at various concentrations for 24 h.