

Supporting Information

Photoluminescent Graphene Quantum Dots for *in vivo* Imaging of Apoptotic Cells

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Quantum Yield equation:

$$\Phi = \Phi_R \frac{I}{I_R} \frac{E_R n^2}{E n_R^2},$$

where Φ denotes quantum yield, I is integrated fluorescence intensity, E is extinction co-efficient, n = refractive index and the index R indicates the standard.

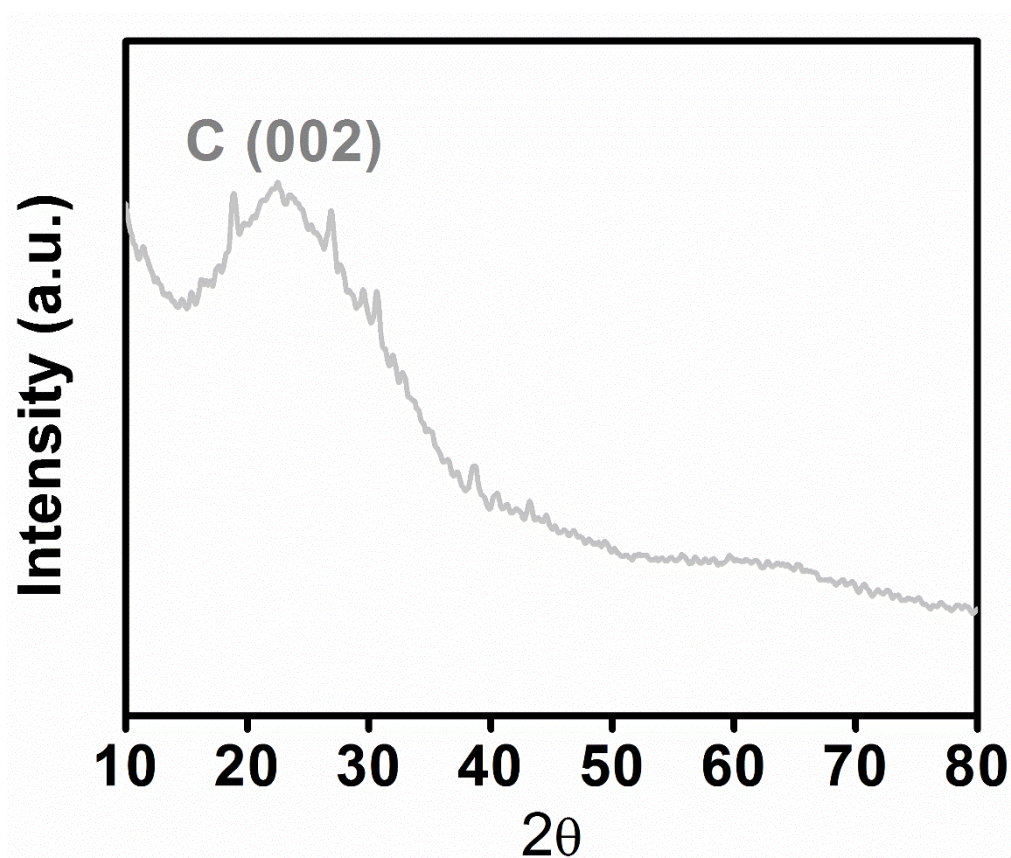


Figure S1. XRD spectrum of the as-prepared GQDs.

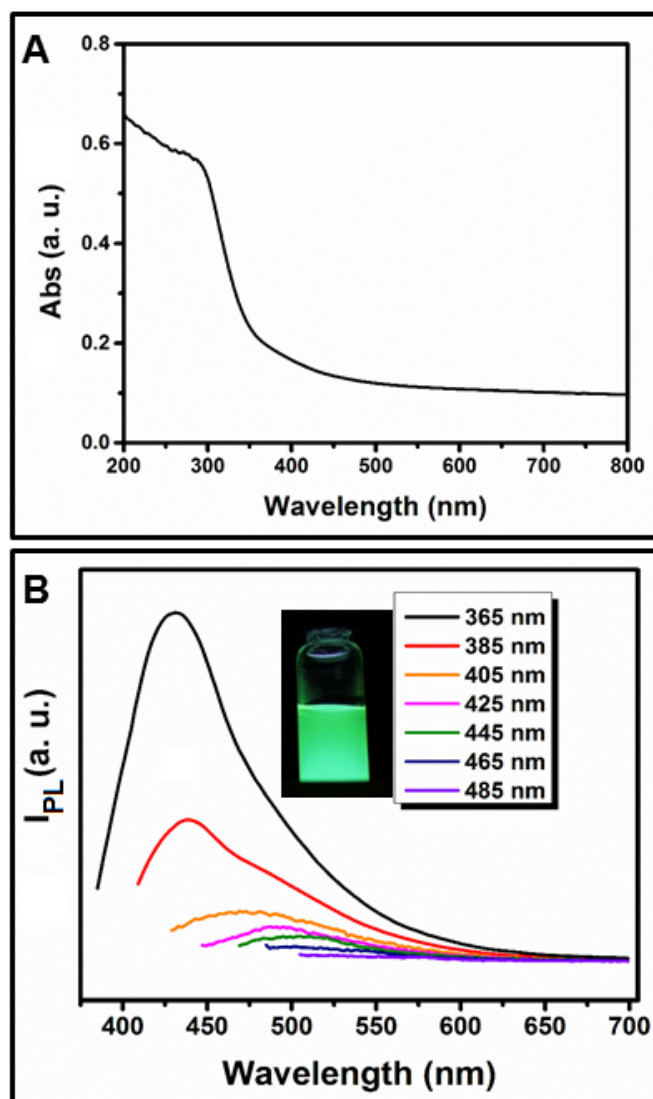


Figure S2. (A) UV-visible absorption spectrum and (B) excitation dependent emission spectra (from 365 to 485 nm) of GQDs (2 mg mL^{-1}) prepared in DI water. Inset: Photograph of photoluminescent GQD solution (excited at 365-nm). Absorbance (Abs) in (A) and PL intensity (I_{PL}) are plotted in arbitrary units (a. u.).

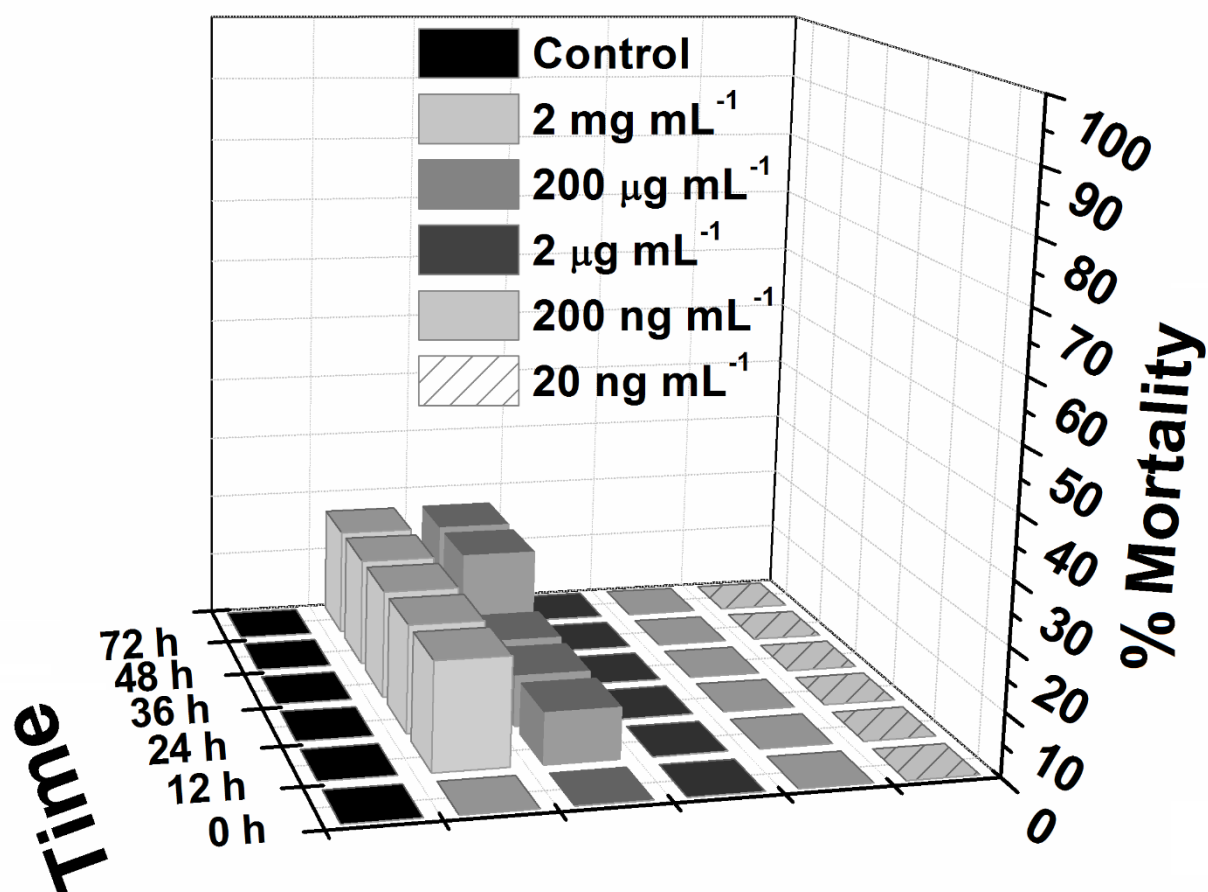


Figure S3. Mortality ($n = 12$, three replicates, where n is the number of embryos) of zebrafish embryos exposed in GQD solutions ($20 \text{ ng mL}^{-1} - 2 \text{ mg mL}^{-1}$) in the period of 0–72 h.

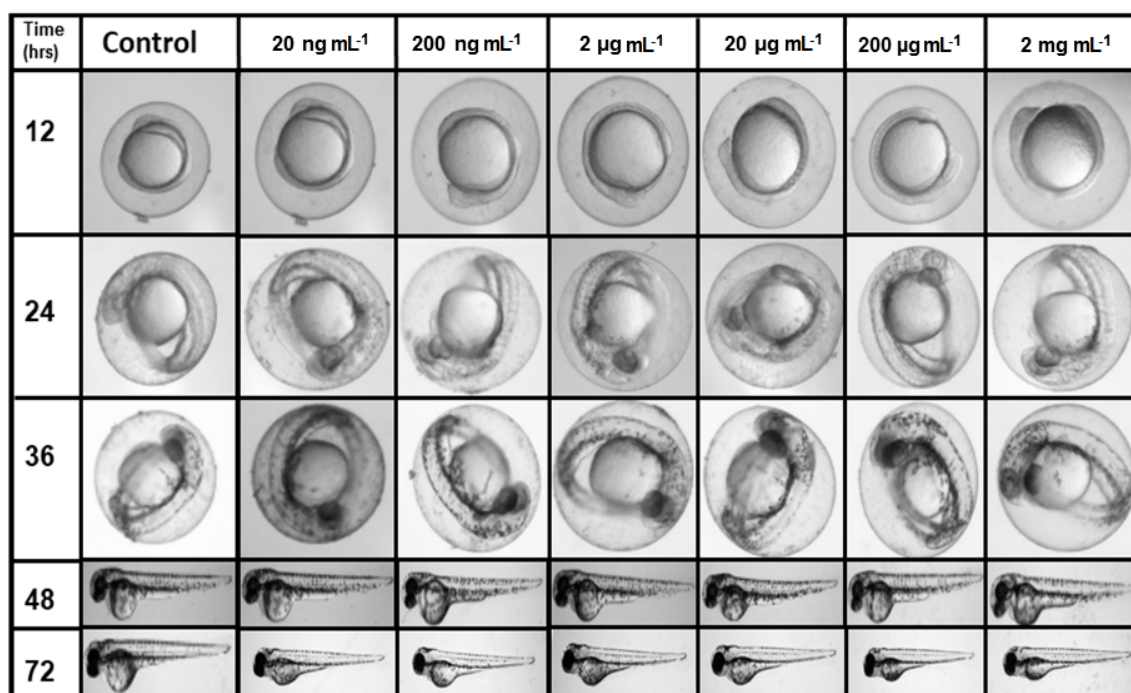


Figure S4. Time course recording of morphology of zebrafish embryos exposed in GQD solutions (0–2 mg mL⁻¹) in the period of 0–72 h.

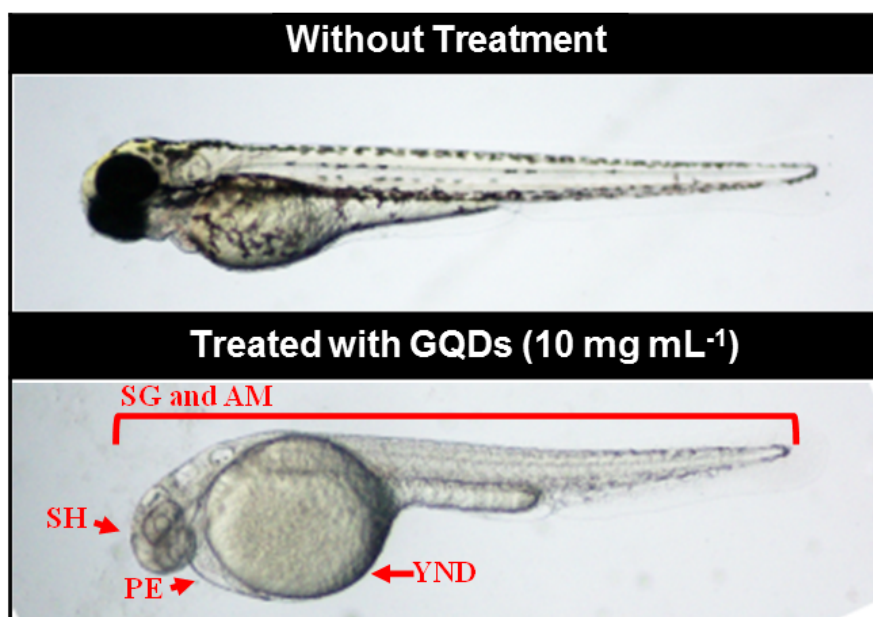


Figure S5. Morphologies of zebrafish without (up row) and with (bottom row) treatment with GQD solutions (10 mg mL⁻¹) for 120 hpf.

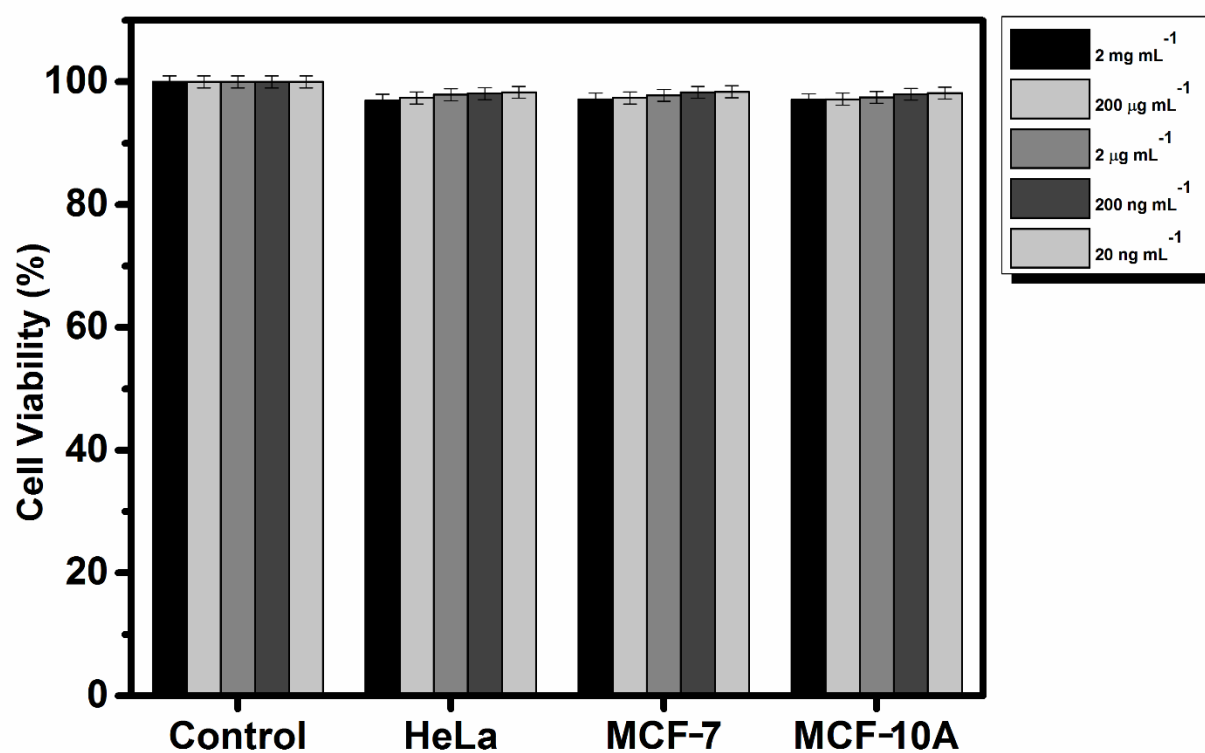


Figure S6. Cell viability of HeLa, MCF-7 and MCF-10A cells after GQDs (20 ng mL⁻¹–2 mg mL⁻¹) treatment for 4 h. The results are the mean \pm SD of three repeated experiments.