

## Supporting Information

### Graphene Quantum Dots-Based Multifunctional Two-Photon Nanoprobe for Detection and Imaging Intracellular Glutathione and Enhanced Photodynamic Therapy

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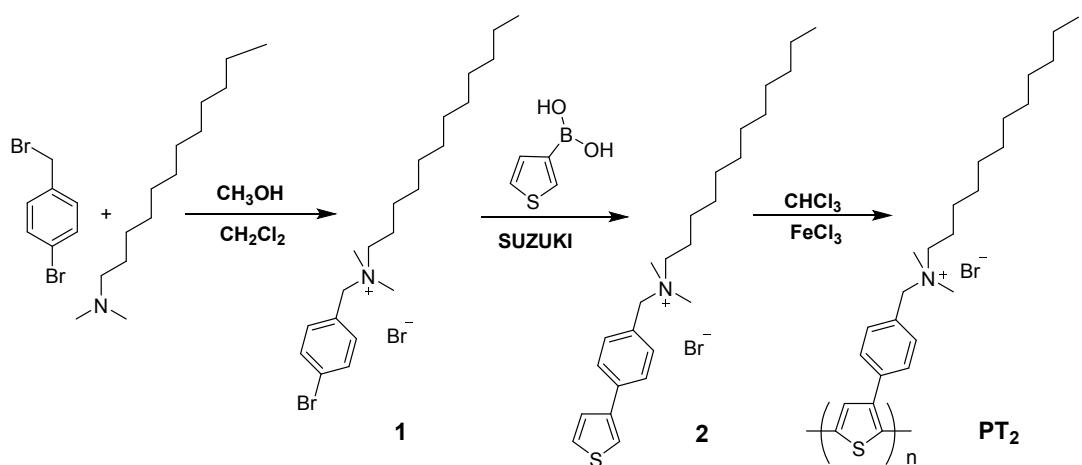
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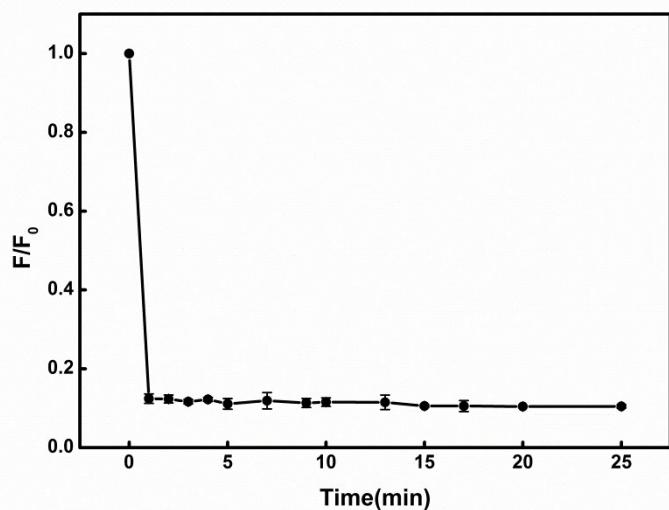
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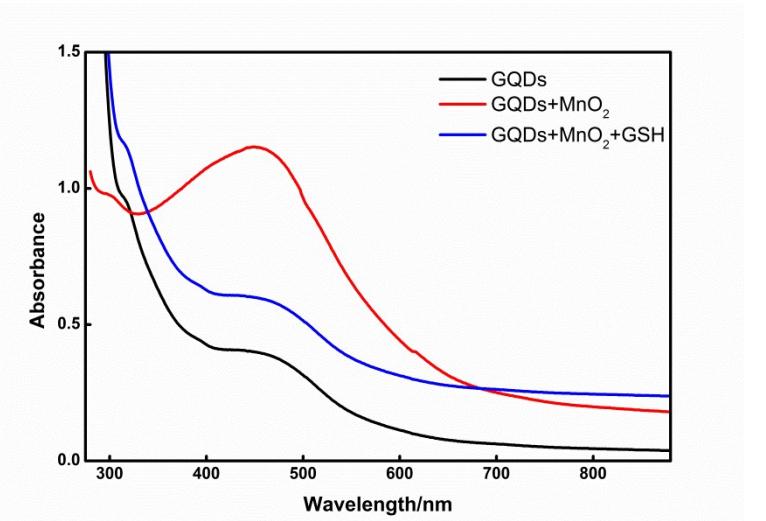
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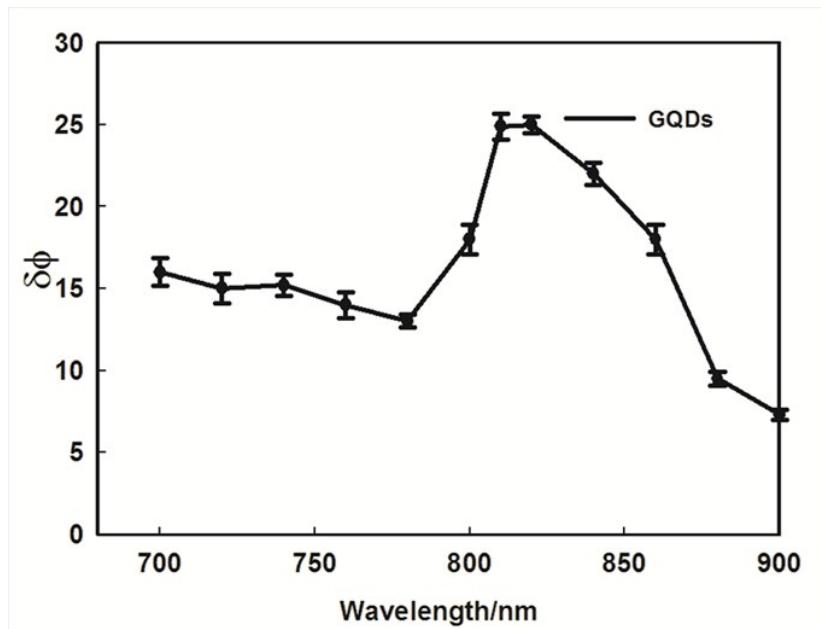
**Scheme S1.** The route for synthesis of PT2.



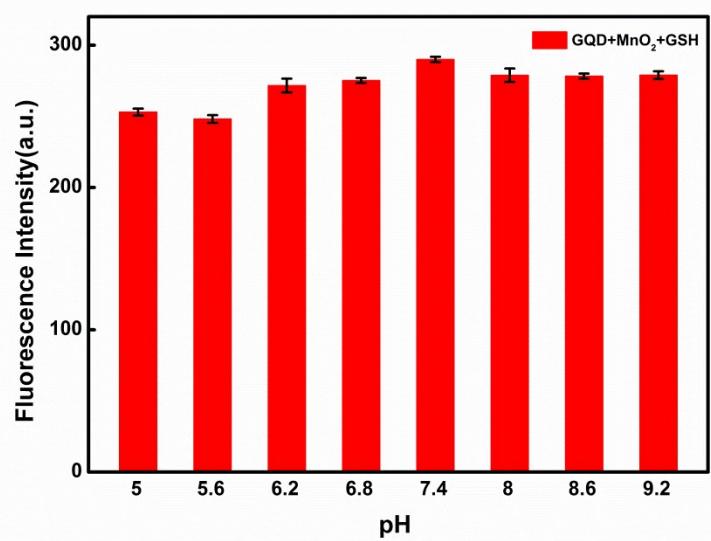
**Fig. S1.** The fluorescence intensity of GQDs with the addition of MnO<sub>2</sub> during 25 min at room temperature.



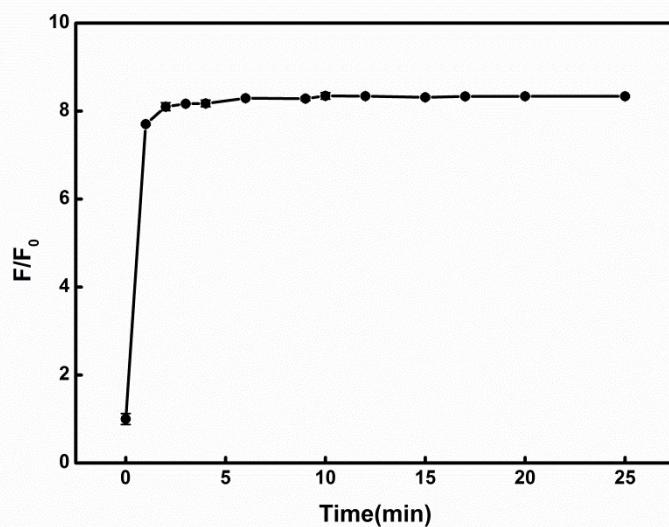
**Fig. S2.** UV-vis absorption spectrum of GQDs (dark line), GQDs-MnO<sub>2</sub> (red line) and GQDs-MnO<sub>2</sub> with the addition of 200  $\mu$ M GSH (blue line), respectively.



**Fig. S3.** Two-photon absorption cross-section of GQDs.



**Fig. S4.** The fluorescence intensity at 665 nm of GQDs@MnO<sub>2</sub> (1mg/mL) with 800  $\mu$ M GSH in 20 mM Tris-HCL buffer solution in the range of pH values from 5.0 to 9.2.



**Fig. S5.** The fluorescence intensity of GQDs@MnO<sub>2</sub> with the addition of GSH during 25 min at room temperature.