

## Supporting Information

### **Fluorescence quenching between unbonded graphene quantum dots and gold nanoparticles upon simple mixing**

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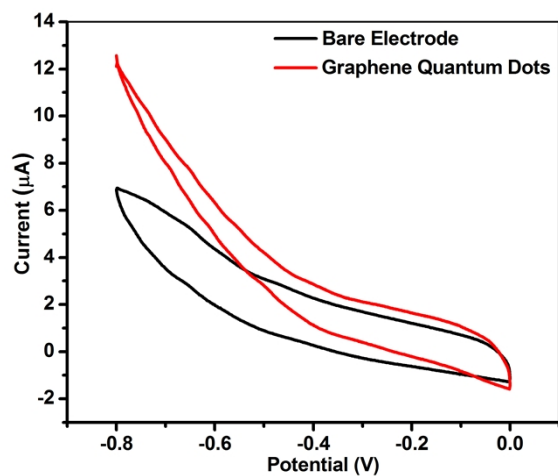


Figure S1: Cyclic voltammetry of bare glassy carbon electrode (GCE) and GQDs modified GCE in 0.1M PBS (pH5)

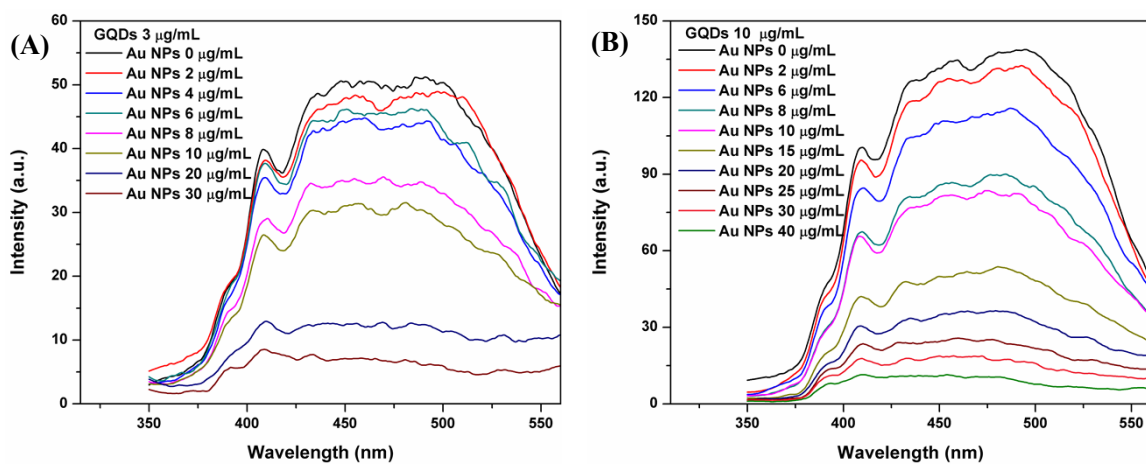


Figure S2: (A) Fluorescence spectra of GQDs and Au NPs mixtures with a constant 3 µg/mL GQDs and varied concentrations of Au NPs; (B) Fluorescence spectra of GQDs and Au NPs mixtures with a constant 10 µg/mL GQDs and varied concentrations of Au NPs.

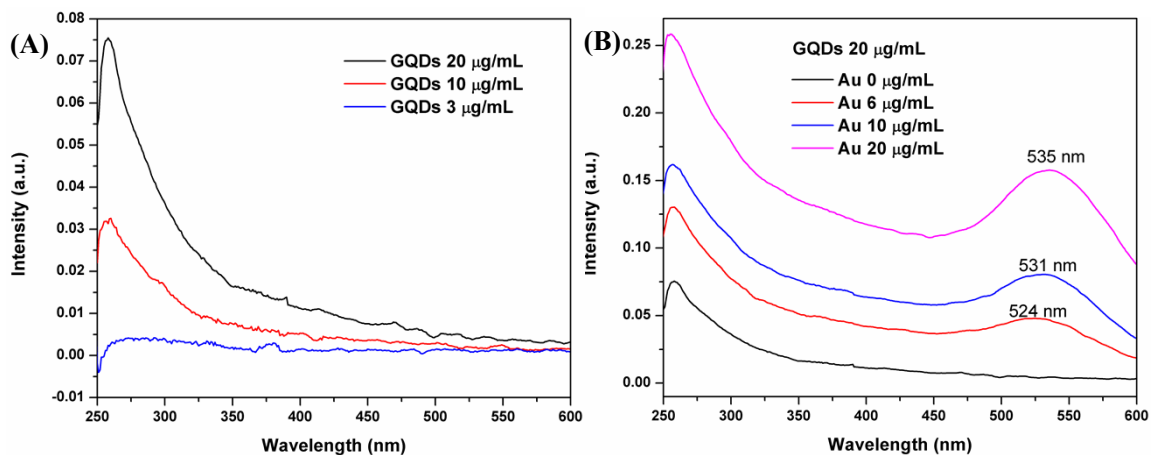


Figure S3: (A) UV-vis absorption spectra of GQDs (20, 10 and 3 µg/mL), the intensity decreases as the GQD concentration decreases; (B) UV-vis absorption spectra of mixtures with 20 µg/mL GQDs and varied concentrations of Au NPs (0, 6, 10, 20 µg/mL).

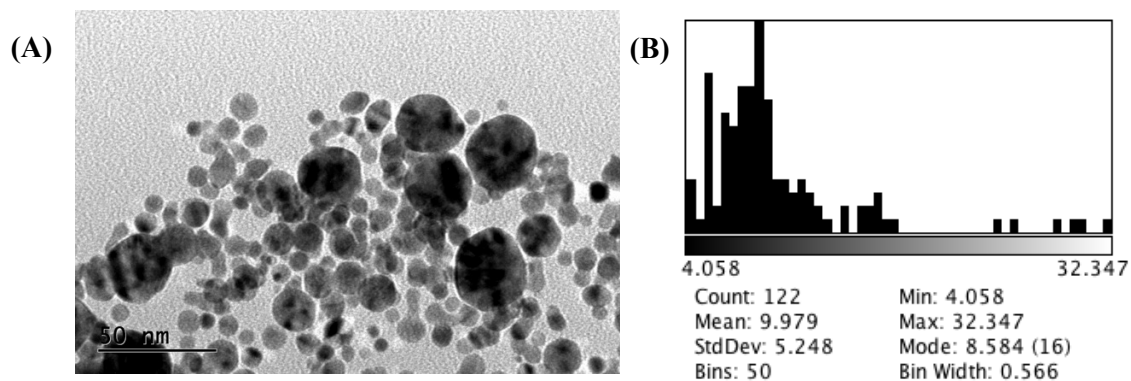


Figure S4: (A) TEM image of the mixture with 20 µg/mL GQDs and 10 µg/mL Au NPs; (B) particle size distribution of the Au NPs measured from the TEM image.