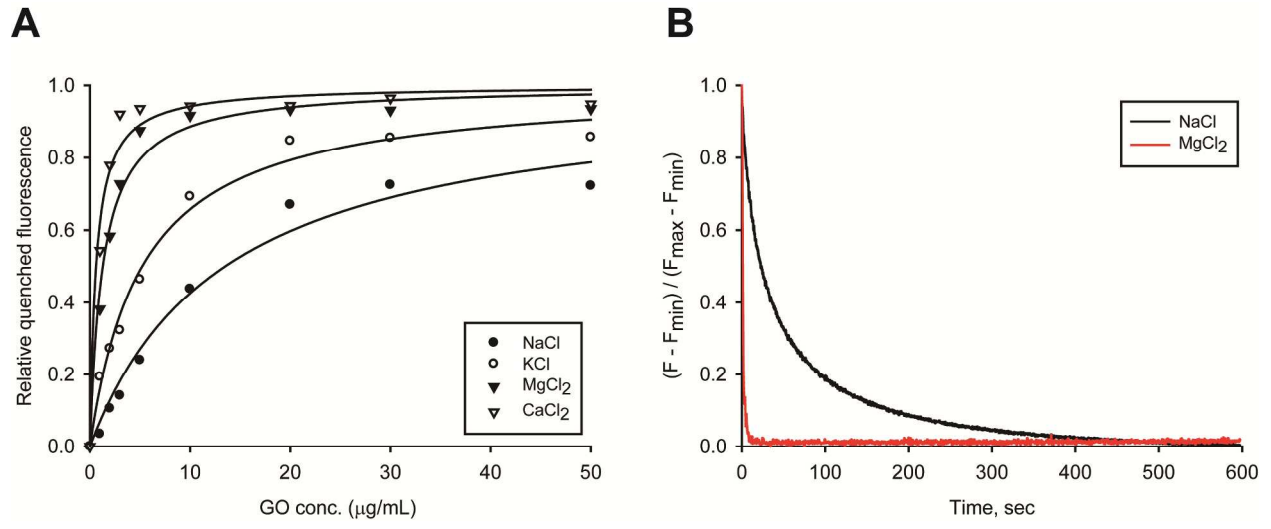


# Supporting Information

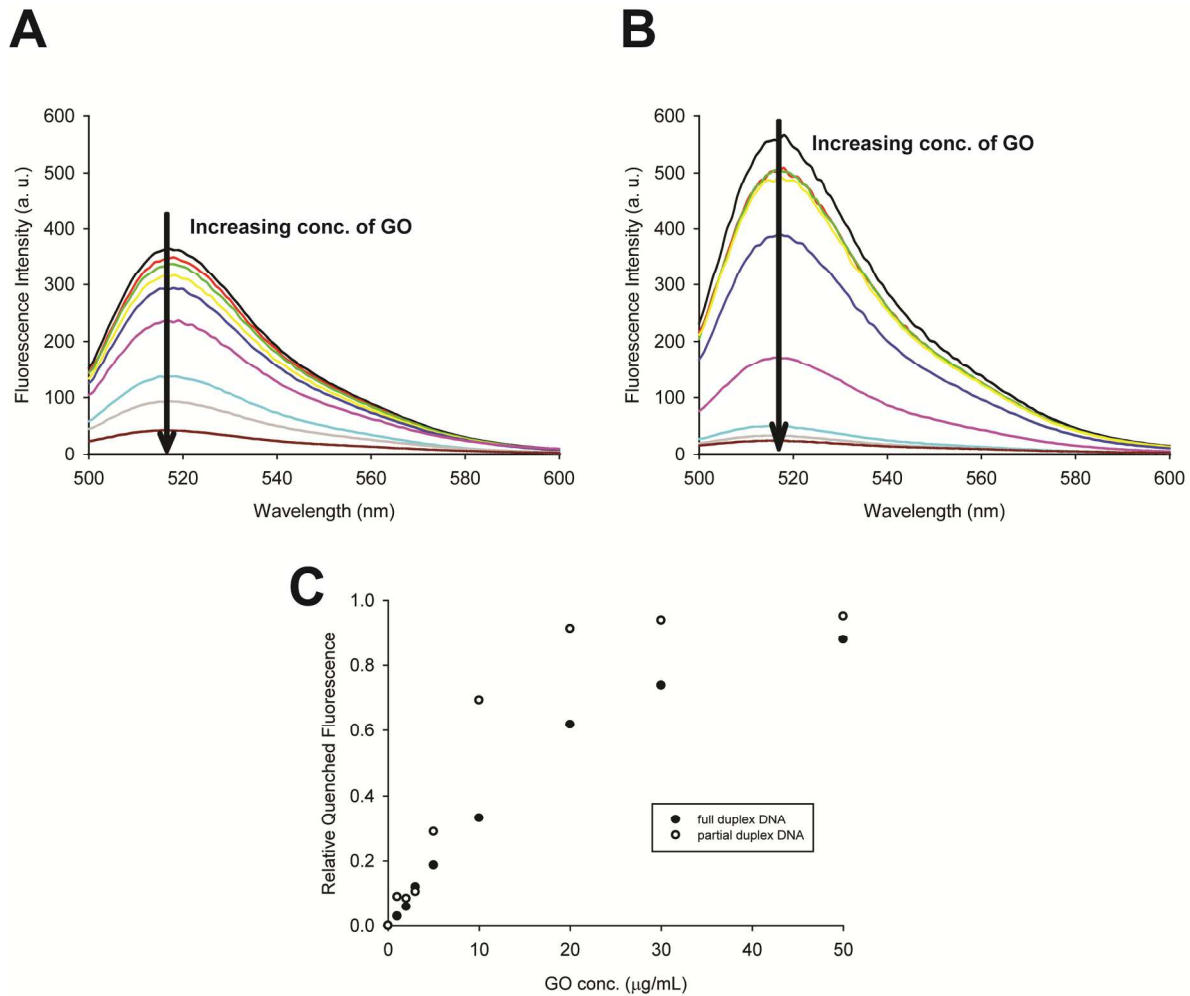
## Mechanism of DNA Adsorption and Desorption on Graphene Oxide

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**Figure S1.** (A) Binding affinity between ssDNA and GO in the presence of different metal ions. The relative fluorescence quenching at increasing concentrations of GO was fitted to the hyperbolic equation to obtain the apparent dissociation constant,  $K_d$ . (B) Adsorption kinetics of ssDNA on GO in the presence of  $\text{Na}^+$  or  $\text{Mg}^{2+}$ . The kinetics of fluorescence quenching was monitored by a spectrofluorophotometer ( $\lambda_{\text{ex}} = 485 \text{ nm}$  and  $\lambda_{\text{em}} = 535 \text{ nm}$ ).



**Figure S2.** Fluorescence spectra of full duplex DNA and partial duplex DNA upon mixed with GO. 0.1 μM of (A) full duplex or (B) partial duplex DNA was mixed with increasing concentration of GO (0, 1, 2, 3, 5, 10, 20, 30, 50 μg/mL) for 10 min, and the fluorescence spectra were scanned from 500 nm to 600 nm at excitation wavelength 485 nm. (C) Plot of relative quenched fluorescence ( $1-F/F_0$ ), where  $F$  and  $F_0$  are fluorescence intensities at 518 nm in a GO concentration of certain point and 0 μg/mL, respectively.