

Electronic Supplementary Information (ESI) available:

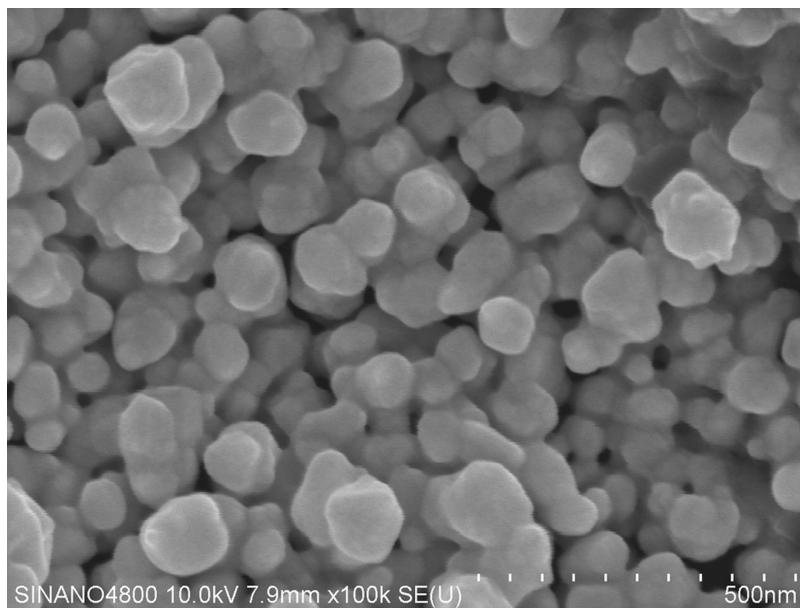


Figure S1. SEM image of the Au-rGO/PET fabricated at 1.1V for 1 hour.

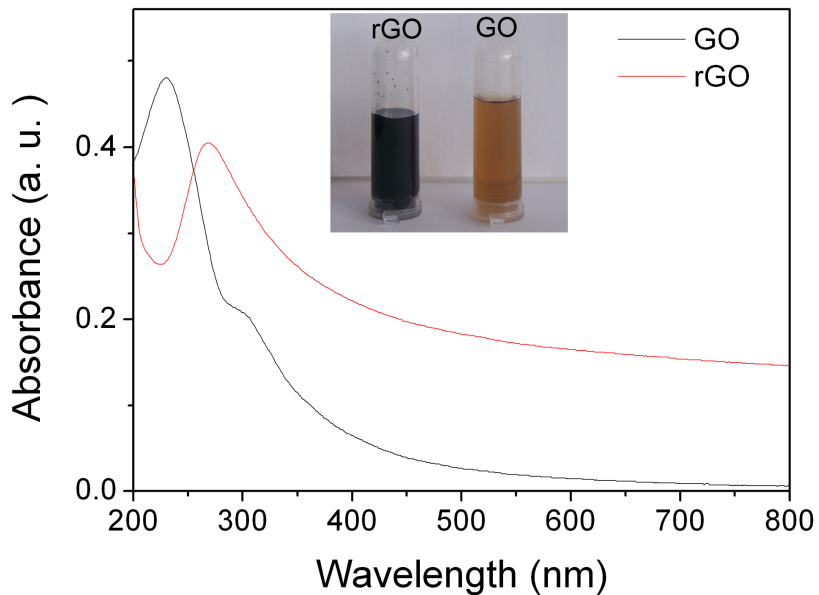


Figure S2. UV-Vis absorption of aqueous GO and rGO. The featured UV-Vis absorption maximum shifted from 231nm for GO to 269 nm for rGO. The inset is the optical images of rGO and GO solution.

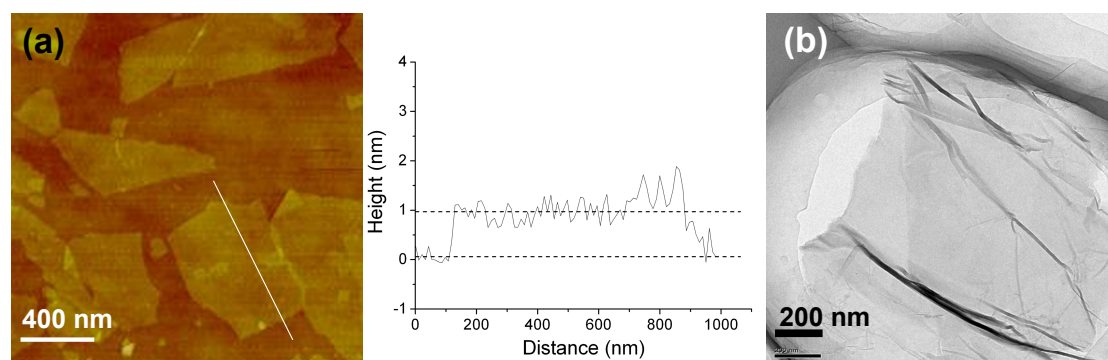


Figure S3. (a) The typical AFM image and height profile of rGO sheets. The line profile indicates a thickness of ~ 1.0 nm. (b) TEM image of the rGO sheets.

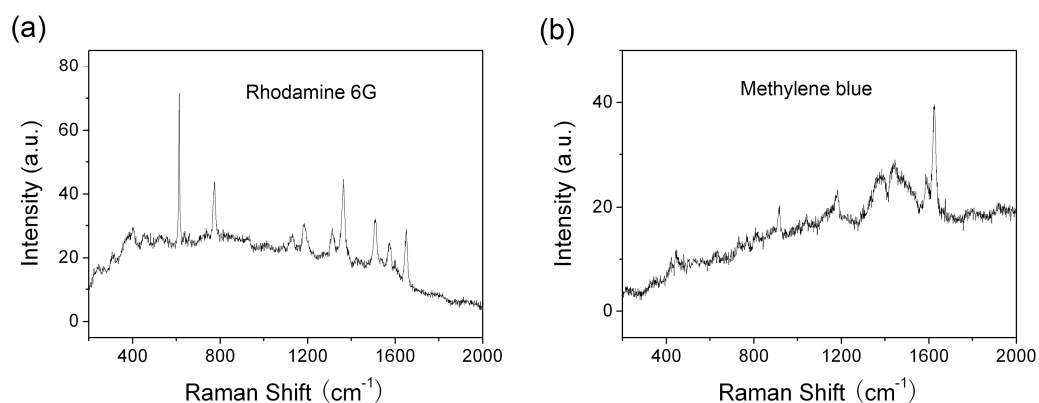


Figure S4. Raman spectra of rhodamine 6G (a), and methylene blue (b) on Au-rGO/PET substrate. The detected concentration of these molecules are both $\sim 10^{-6}$ M. The excitation wavelength is 532 nm.