Supplementary Material

The Band Structure of Graphene Oxide Examined Using Photoluminescence Spectroscopy

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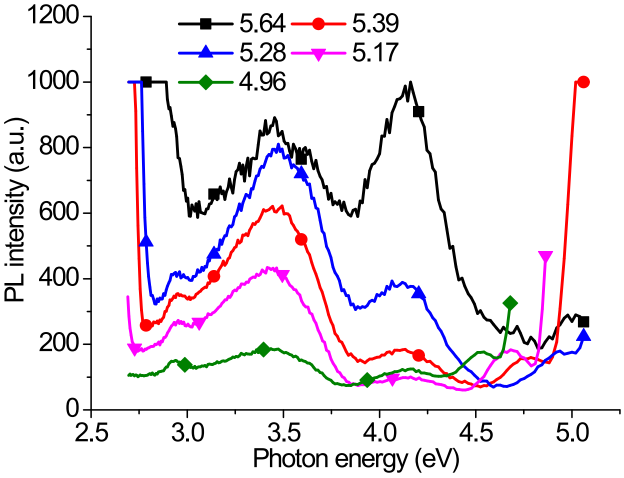

Figure S1 GO solution (0.03 mg/ml) PL spectra under increasing excitation energies (5.64, 5.39, 5.28, 5.17, 4.96 eV)

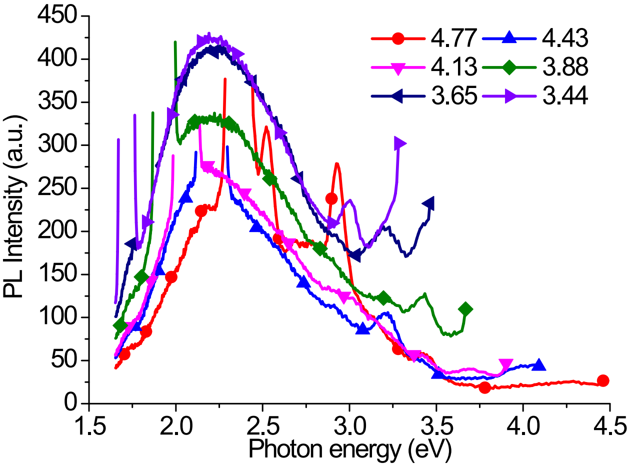

Figure S2 GO solution (0.5 mg/ml) PL spectra under increasing excitation energies (4.77, 4.43, 4.13, 3.88, 3.65, 3.44 eV)

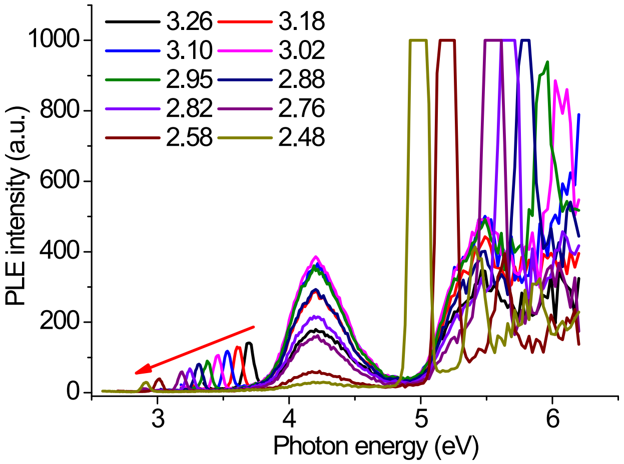

Figure S3 PLE of as-produced GO at increasing emission energies (3.26, 3.18, 3.10, 3.02, 2.95, 2.88, 2.82, 2.76, 2.58, 2.48 eV). The water Raman peak red-shifts from 3.69 to 2.92 eV, as indicated, with increasing emission wavelength.

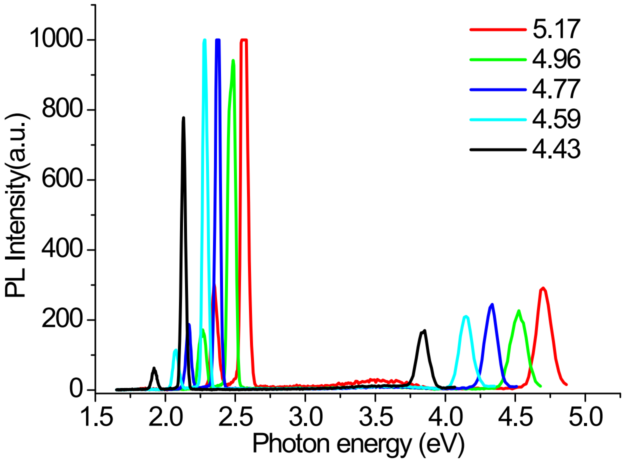

Figure S4 PL spectrum of water with increasing excitation energies (5.17, 4.96, 4.77, 4.59, 4.43 eV). The peak in the ultraviolet range (>3.50 eV) moves with excitation energy, which indicates this peak is a Raman peak and not a PL peak. The overtone peaks of the Raman peak (2.39-1.92 eV) and the excitation peaks (2.13-2.56 eV) are also observed.

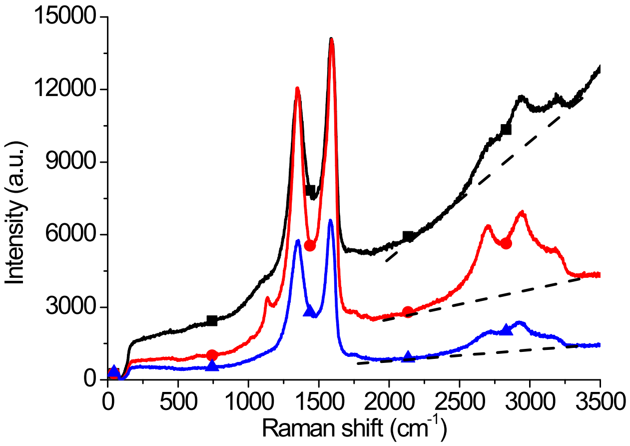

Figure S5 Raman spectra of as-produced GO (black squares), and after thermal annealing at 50 °C (red circles) and 250 °C (blue triangles).