Supplementary Data

Synergistic effect between Eosin Y and Rhodamine B on a photoelectrode coated with the Pt nanoparticles decorated graphene

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Supplementary Fig. S1

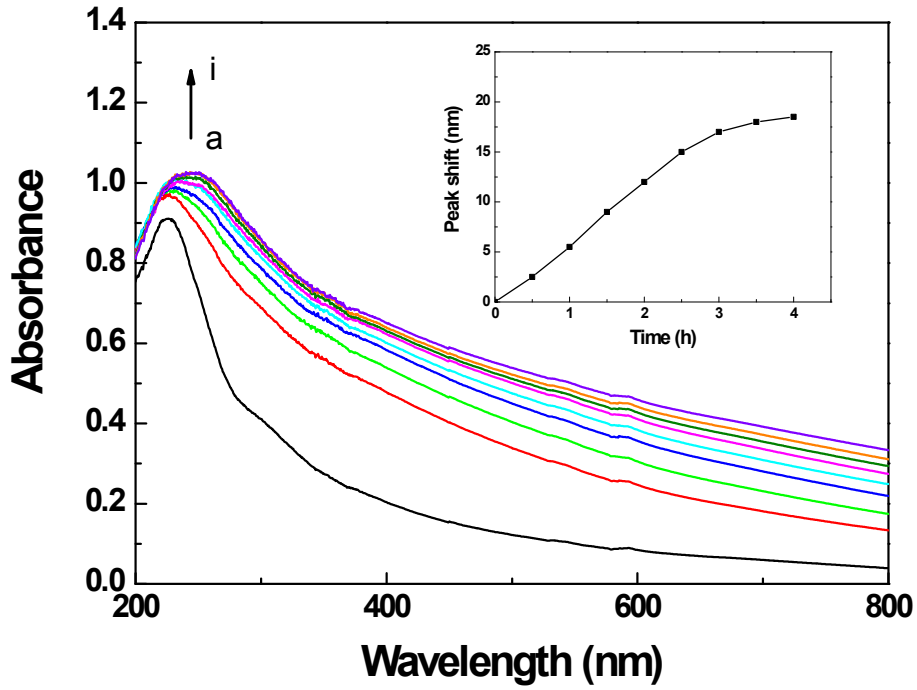

Fig. S1. UV-vis spectra of GO-Pt- (a) and rGO-Pt after photoreduced for 0.5 h (b), 1 h (c), 1.5 h (d), 2 h (e), 2.5 h (f), 3 h (g), 3.5 h (h) and 4 h (i); the insert shows peak shift values as a function the irradiation time.

Supplementary Fig. S2

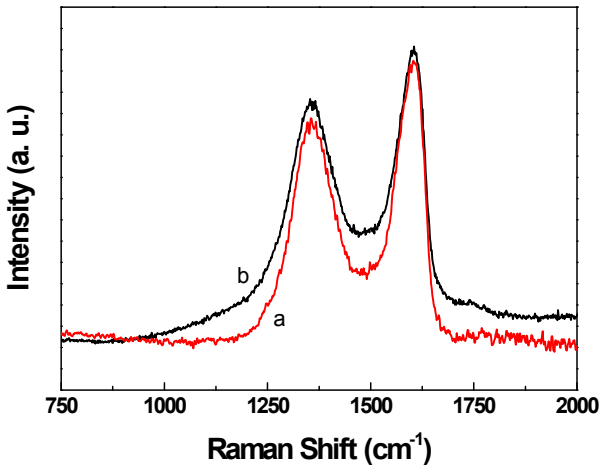

Fig. S2. Raman spectra of GO-Pt^{-} (a) and rGO-Pt (b).

Supplementary Fig. S3

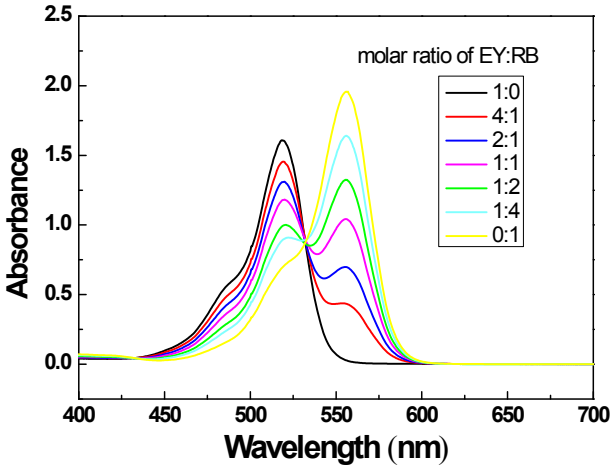

Fig. S3. UV-vis spectra of ER with various molar ratio of EY to RB. (Dye concentration: ER (m:n) 2×10^{-5} mol·L^{-1}; TEOA concentration: 15 vol.%; Na_2SO_4 concentration 0.1 mol·L^{-1}; pH 7)

Supplementary Fig. S4

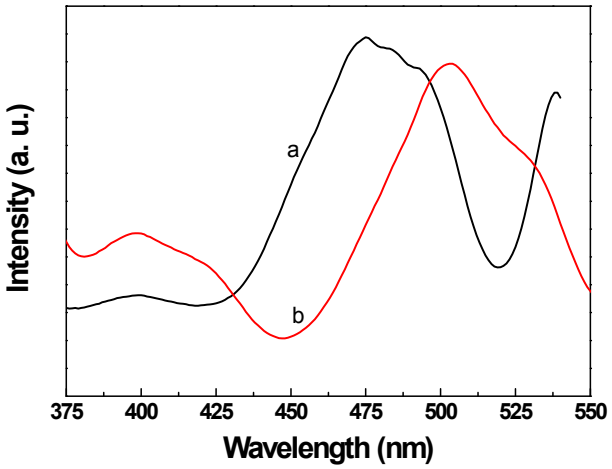

Fig. S4 Excitation spectra of EY (a) and RB (b). (Dye concentration: EY 5×10^{-5} mol·L^{-1}, RB 5×10^{-5} mol·L^{-1}; TEOA concentration: 15 vol.%; Na_2SO_4 concentration 0.1 mol·L^{-1}; pH 7; emission wavelength: (a) 551 nm, (b) 593 nm)

Supplementary Fig. S5

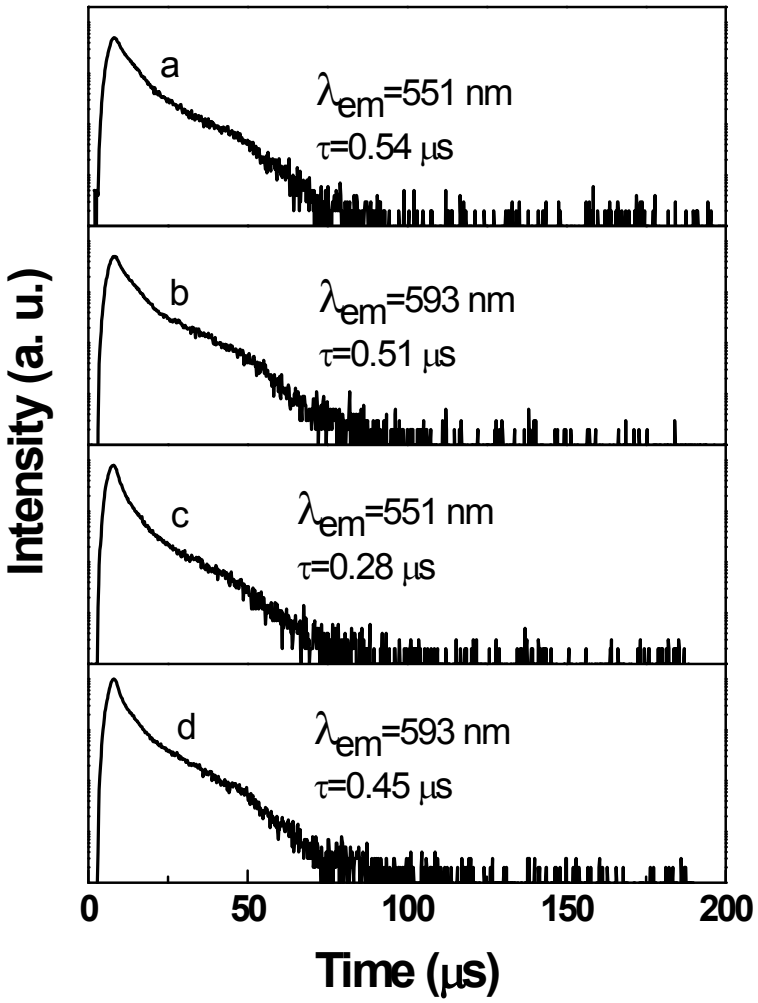

Fig. S5 Luminescence decay profiles of EY (a), RB (b) and ER (1:1) (c, d) excited at 475 nm. (Dye concentration: EY 5×10^{-5} mol·L^{-1}, RB 5×10^{-5} mol·L^{-1}, ER (1:1) 1×10^{-4} mol·L^{-1}; TEOA concentration: 15 vol.%; Na_2SO_4 concentration 0.1 mol·L^{-1}; pH 7; monitored emission: (a) 551 nm, (b) 593 nm, (c) 551 nm, (d) 593 nm)

Supplementary Fig. S6

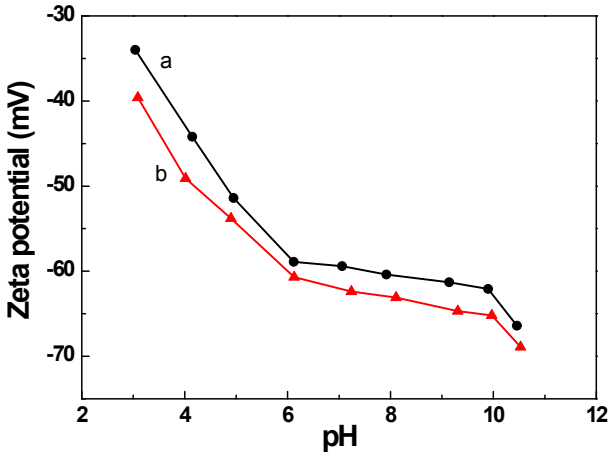

Fig. S6 pH dependence of the Zeta potentials for rGO-5%Pt (a) and RGO (b). (RGO 0.1 mg·mL^{-1}; rGO-5%Pt 0.1 mg·mL^{-1}, KCl 1 mmol·L^{-1})