Electronic Supporting Information

CO2-Triggered Reversible Phase Transfer of Graphene Quantum Dots for Visible Light-Promoted Amines Oxidation

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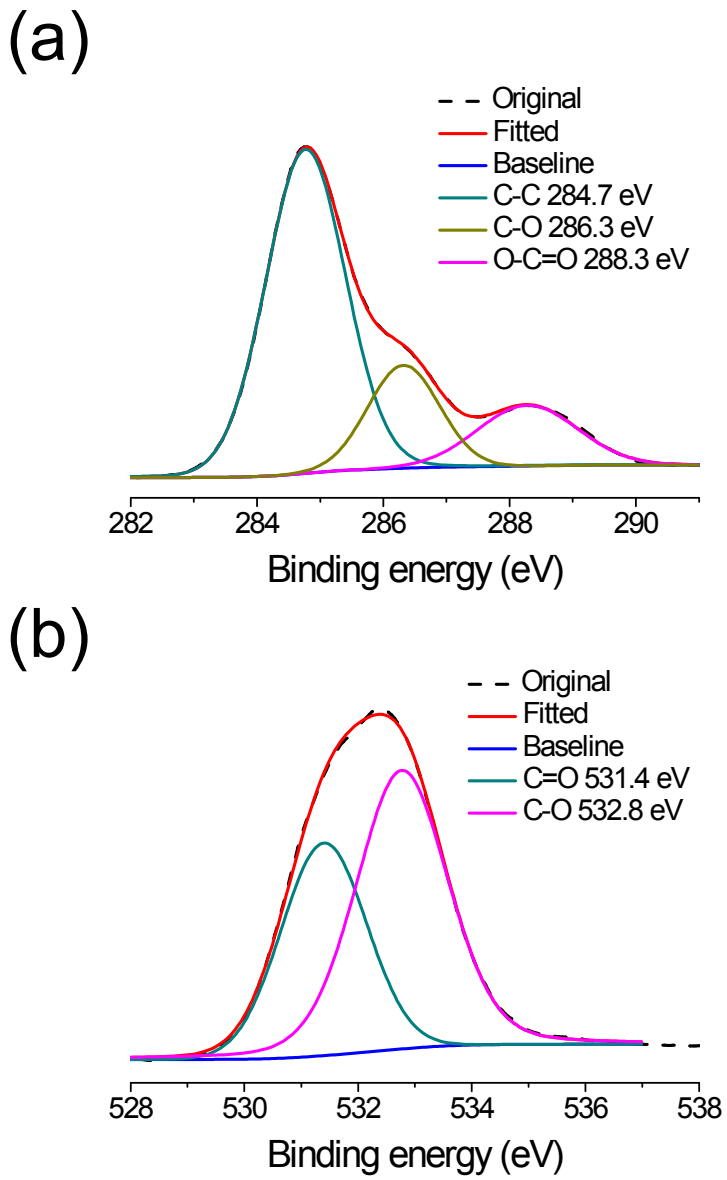

Fig. S1 High-resolution C 1s (a) and O 1s (b) XPS spectra of GQD-COOH.

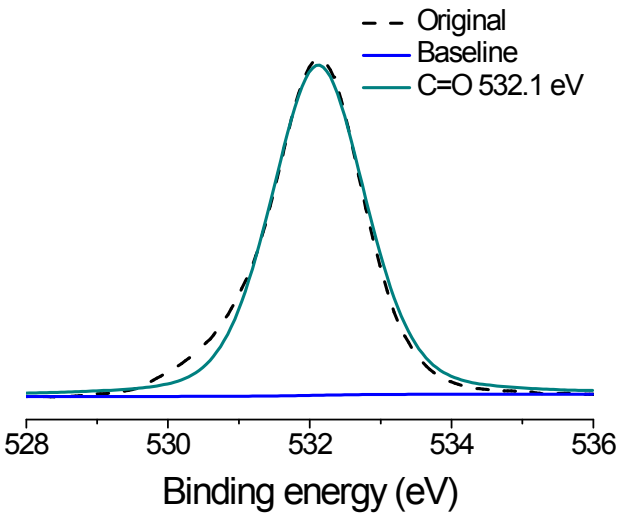

Fig. S2 High-resolution O 1s (c) XPS spectra of GQD-DMA.

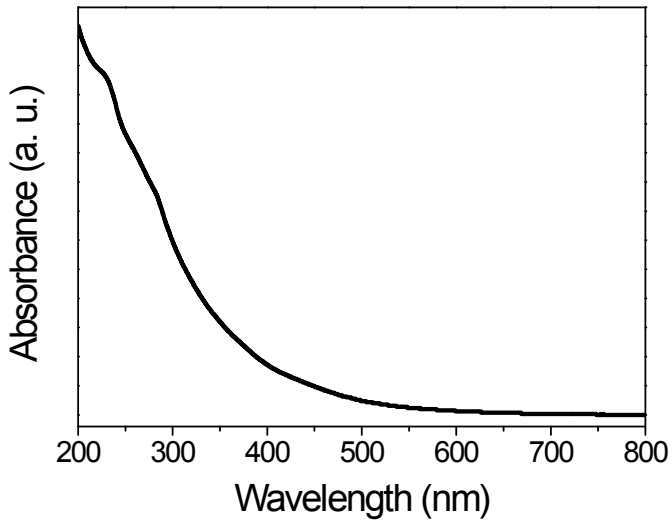

Fig. S3 UV-Vis spectra of GQD-COOH.

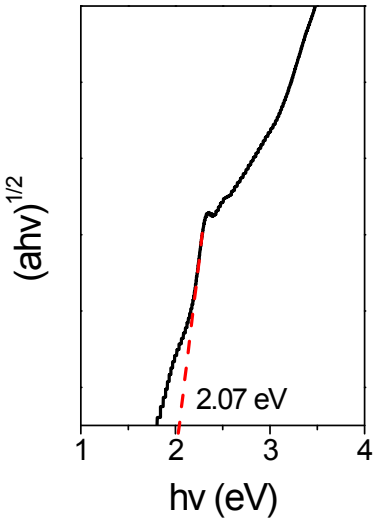

Fig.S4 Kubelka−Munk plot of $(\alpha E)^{1/2}$ against photon energy (E) for GQD-DMA.

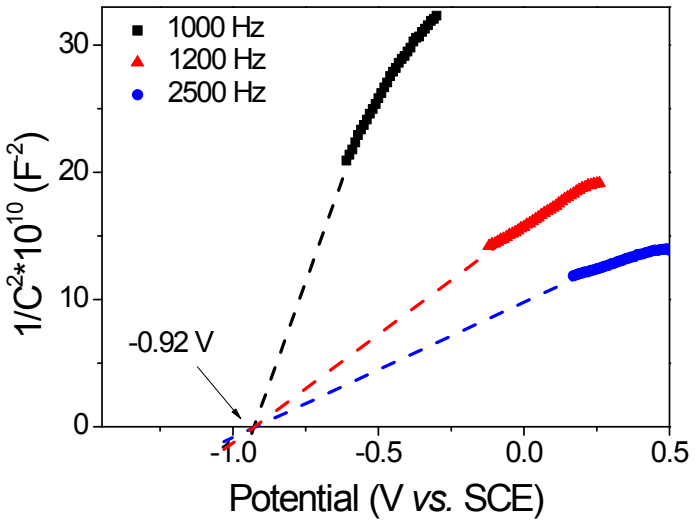

Fig. S5 Mott-Schottky plots of GQD-DMA in acetonitrile.

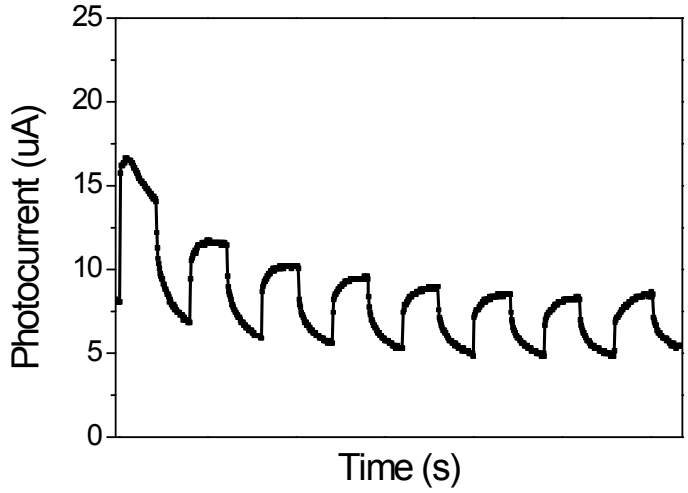

Fig. S6 Photocurrent responses upon switching the light (blue LED, λ=420 nm) on and off

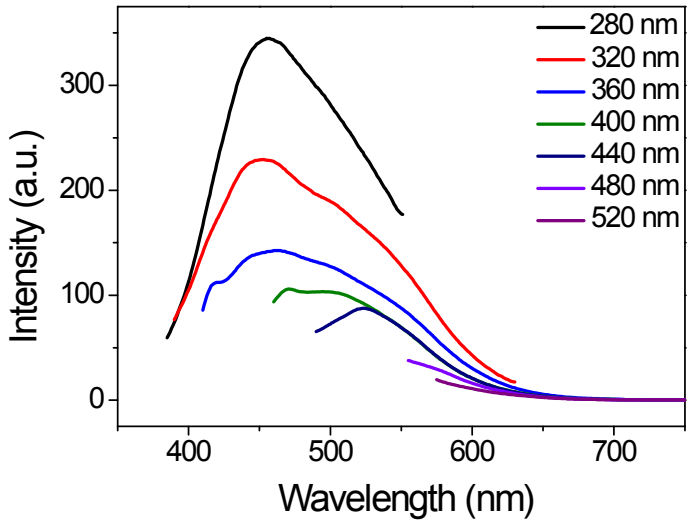

Fig. S7 Steady-state fluorescence spectra of GQD-COOH under different excitation wavelength from 280 nm to 520 nm.

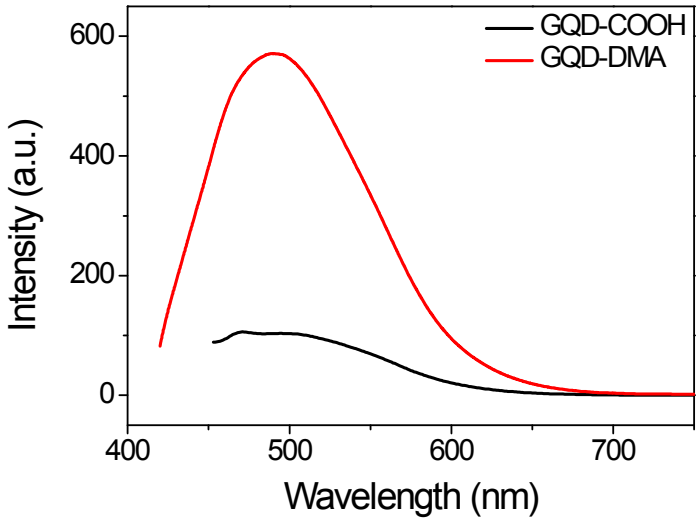

Fig. S8 Steady-state fluorescence spectra of GQD-COOH and GQD-DMA excited at 400 nm.

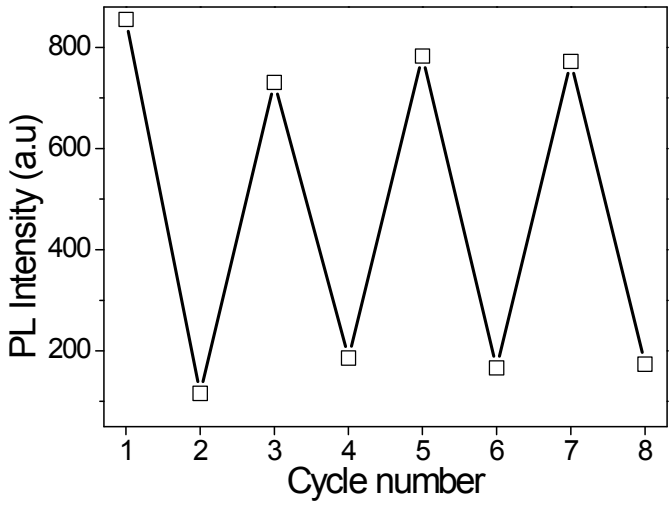

Fig. S9 Photoluminescence intensity change of GQD-DMA in CH_2Cl_2 phase by alternatively bubbling CO_2 and removal of CO_2.

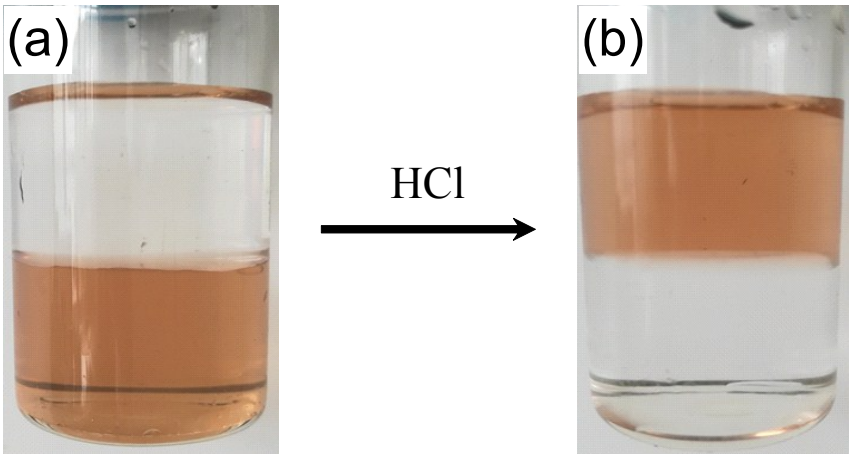

Fig. S10 Photograph of GQD-DMA in CH_2Cl_2 and water mixture taken under natural light before (a) and after (b) adding diluted HCl solution.

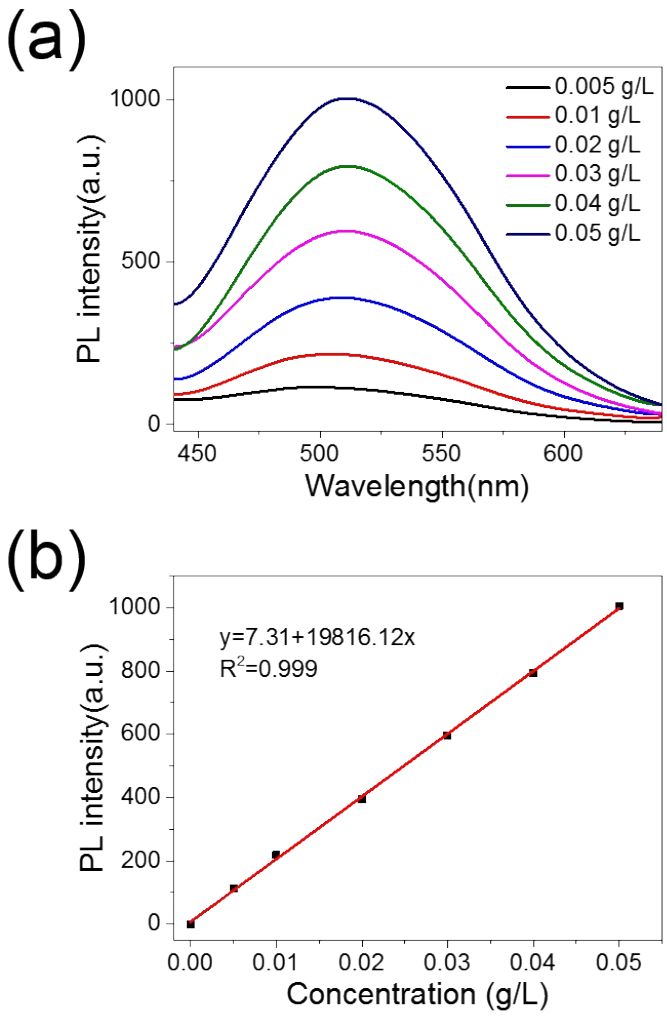

Fig. S11 (a) Emission spectra of GQD-DMA with different concentration and (b) change of emission intensity as a function of the concentration of graphene quantum dot in dichloromethane. Excited at 420 nm.

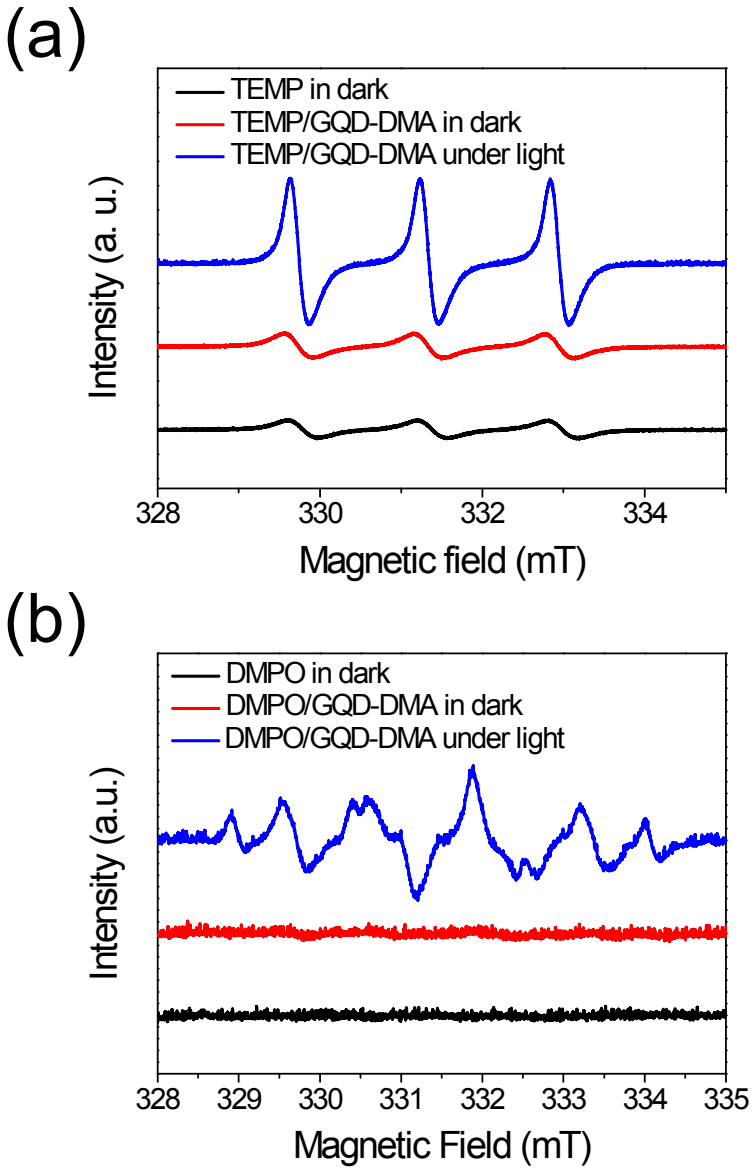

Fig. S12 EPR spectra of TEMP-$^1O_2$ (a) and DMPO-$O_2^{\cdot-}$ adducts (b) using GQD-DMA as photocatalyst in dark and under light irradiation.

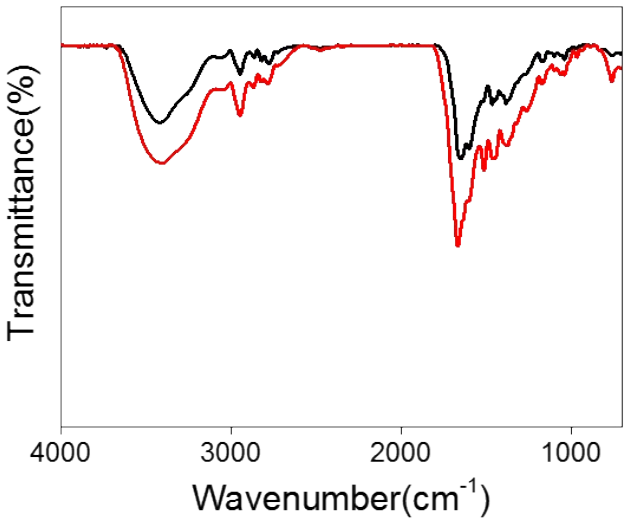

Fig. S13 FTIR spectra of GQD-DMA before (black) and after (red) photocatalysis reaction.