Electronic Supplementary Material (ESI) for RSC Advances.

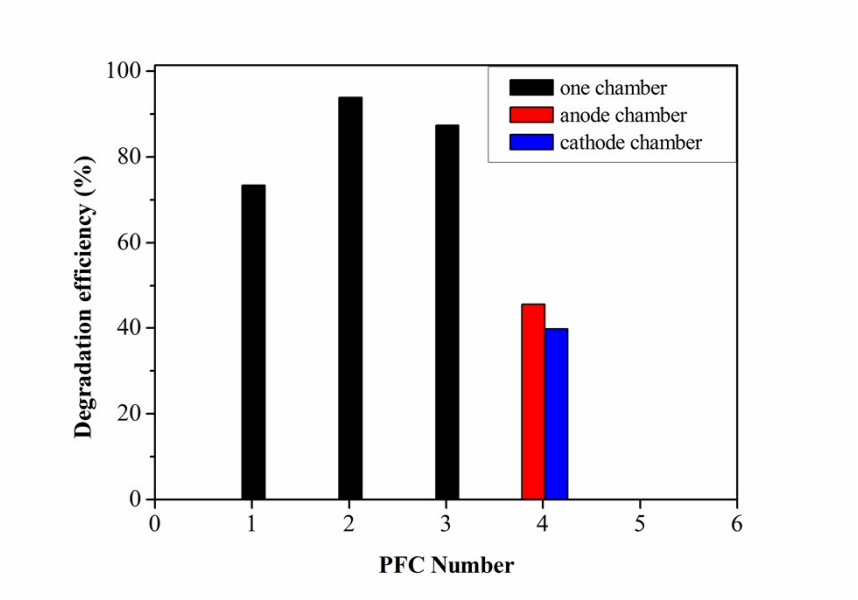


Fig. S1. Degradation efficiency of RhB in different PFC systems.

The light source is the LED light except the TiO_2-electrode was illuminated by UV light.

In the One chambered PFC system (No.1-3) with 1Ωexternal resistance , the test solution was 50mL in volume with 0.1M Na_2SO_4 and 10mg/L RhB.

Label number

1: Ag/AgCl/GO-TiO_2,

2:TiO_2-$ZnIn_2S_4$,

3: Ag/AgCl/GO-$ZnIn_2S_4$.

4: The Ag/AgCl/GO-$ZnIn_2S_4$ PFC in two chambered system. where ,the anolyte and catholyte were the same, 100mL 10mg/L RhB in 0.1M Na_2SO_4. The initial pH was 7. The distance between the two electrodes was 6cm and the LED light was used to illuminate the reactor through the quartz glass.

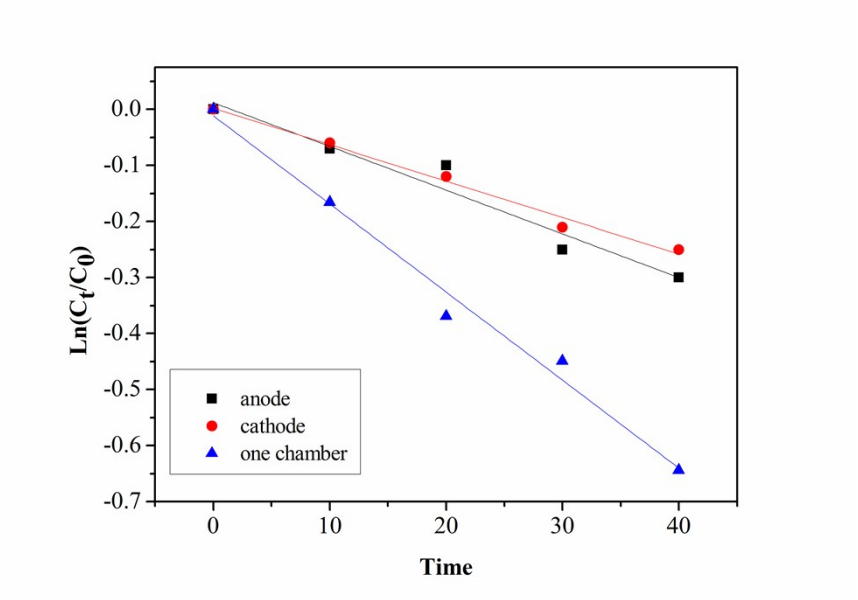
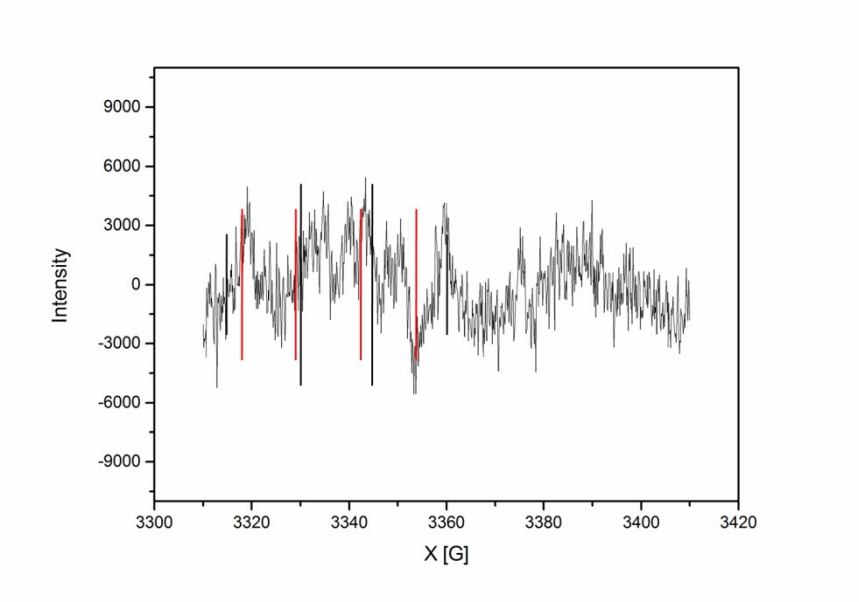


Fig. S2. The kinetic analysis of RhB degradation in the PFC system.

(a)



(b)

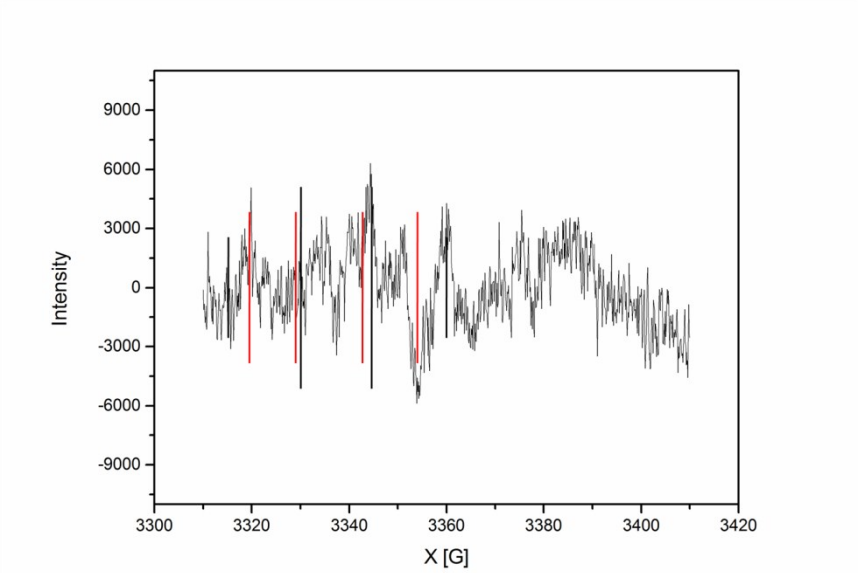


Fig. S3. ESR spectra from trapped radical in aqueous solution of PFC containing 20 mM DMPO at ambient temperature (20 ˚C)

(a) DMPO/•OH generated in anodic chamber of Ag/AgCl/GO-$ZnIn_2S_4$ PFC under visible irradiation;

(b) DMPO/$O_2^{\bullet}$-generated in cathodic chamber, using cathodic catalyst Ag/AgCl/GO and Fe-anode PFC, under visible irradiation.

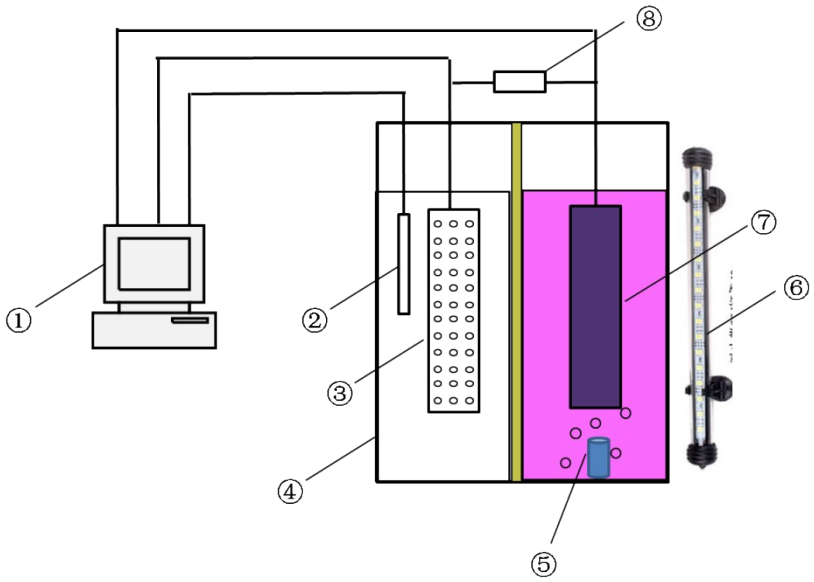


Fig. S4. Scheme of the two-chambered reactor (1. Data collector; 2. Reference electrode; 3. Iron Anode; 4. Quartz glass reactor; 5. Aerating device; 6. LED light; 7. Photocatalytic Cathode; 8. External resistance

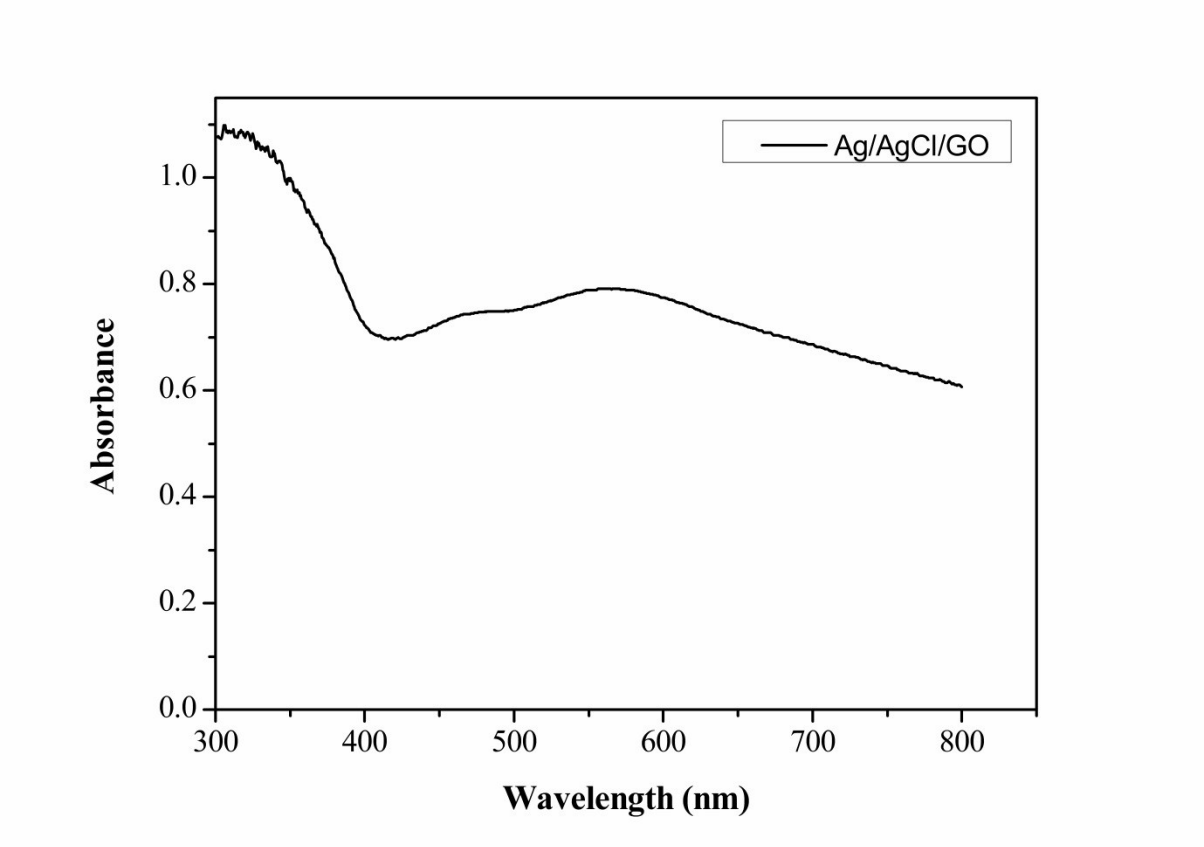


Fig. S5. UV–vis diffuse reflectance spectra of Ag/AgCl/GO.