Supplementary Material

Fig. S1 The pH value of the reaction solution in S cell 1 during the PEC reaction process

Fig. S2 Photolysis of 10 mg·L⁻¹ RhB in water under UV irradiation (254 nm) without metal electrodes
Fig. S3 The scanning spectra of the reaction solution in the S cell 1. The reaction solution in S1 cell was scanned by a spectrometer with some interval time in the PEC progress, as shown in Fig. 1. The absorption peak at 553 nm gradually decreased when the light was turned on, indicated that RhB was gradually degraded. What’s more, there was no new absorption peak appeared during the reaction, indicated that the main degradation products of RhB were colorless micro-molecular organics and CO₂