

Figure S1. The XRD patterns of the precursors, (a) $\text{Bi}(\text{OHC}_2\text{O}_4)\cdot 2\text{H}_2\text{O}$, (b) S-1, (c) S-2, (d) S-3 (e) S-4 (f) $\text{Bi}_2\text{VO}_{5.5}$ and (g) Standard Card of $\text{Bi}_2\text{VO}_{5.5}$

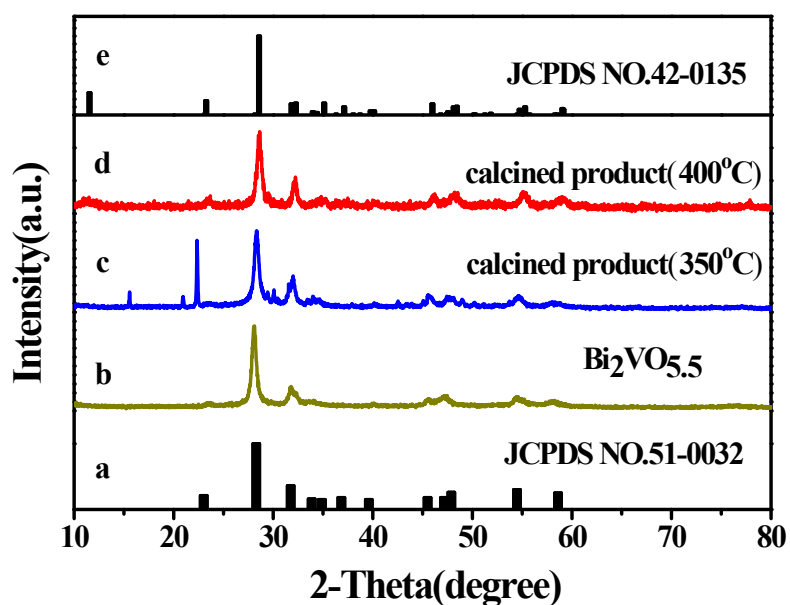


Figure S2. The XRD patterns of the pure $\text{Bi}_2\text{VO}_{5.5}$ (b), the calcined products (c-d) and the Standard Cards of $\text{Bi}_2\text{VO}_{5.5}$ (a) and $\text{Bi}_4\text{VO}_{11}$ (e).

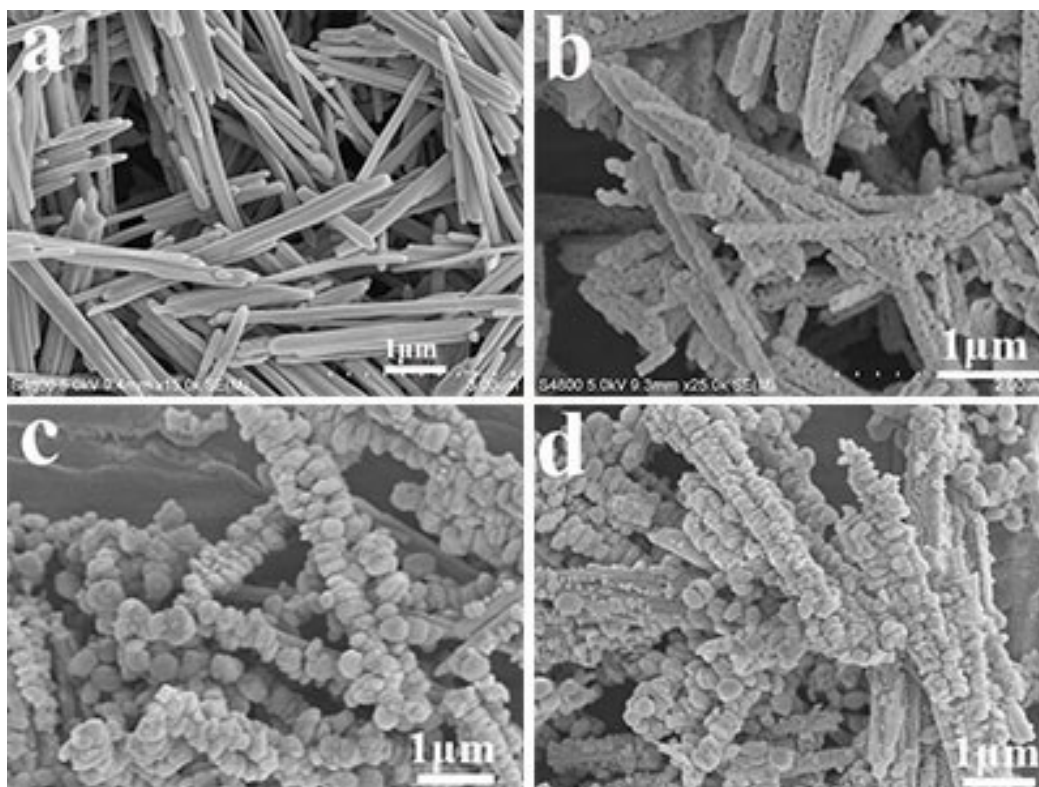


Figure S3 FE-SEM images of the $\text{Bi}(\text{OHC}_2\text{O}_4)\cdot 2\text{H}_2\text{O}$ (a) and the relative calcined products (b); the precursors with high loaded- $\text{Bi}_2\text{VO}_{5.5}$ content (c) and and the relative calcined product (d).

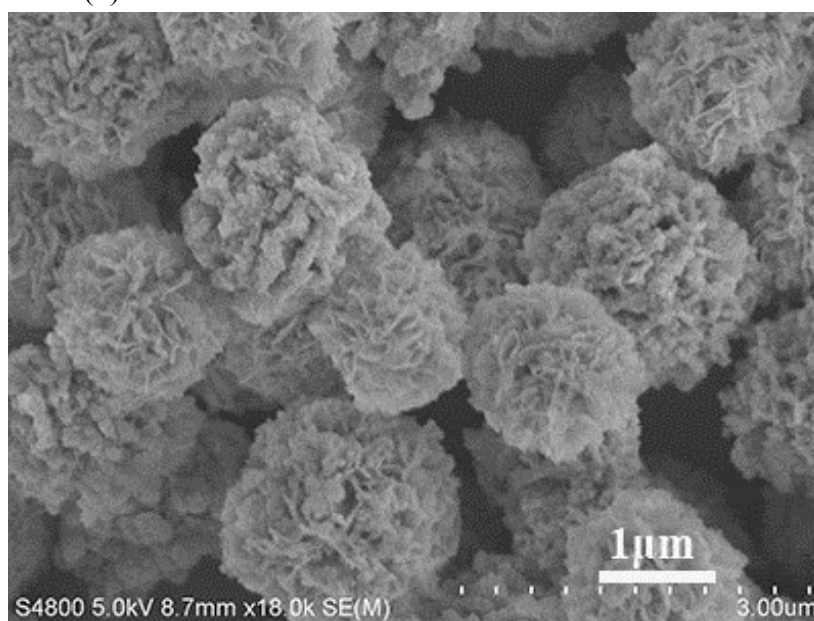


Figure S4 FE-SEM images of the pure $\text{Bi}_2\text{VO}_{5.5}$.

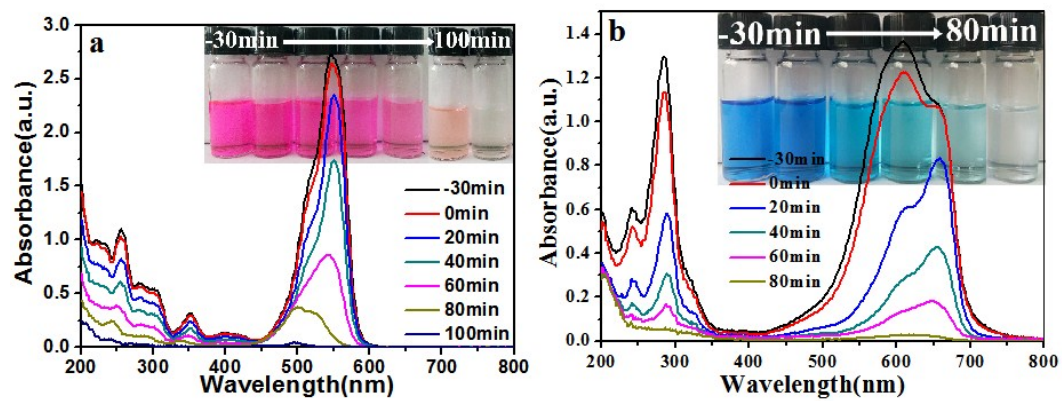


Figure S5 UV-vis absorption spectra of (a) RhB (20 mg/L) and (b) MB (10mg/L) using DS-2 as photocatalyst under visible light irradiation.

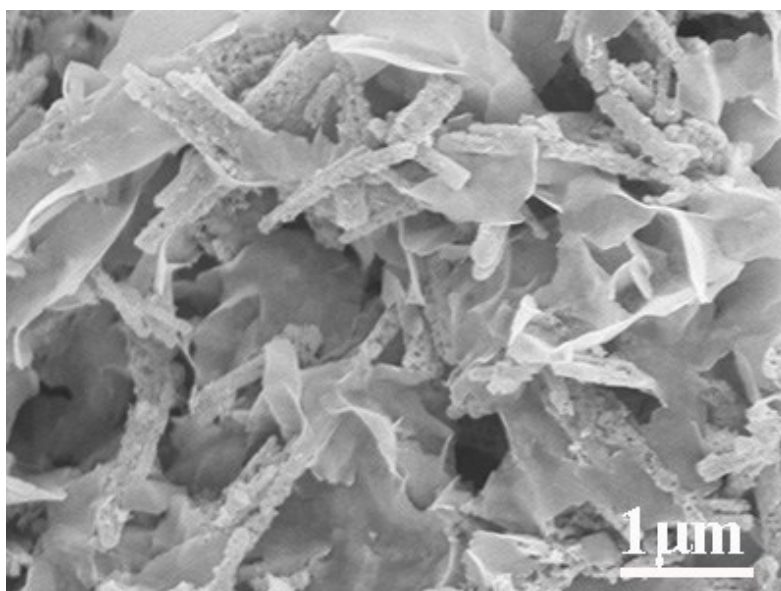


Figure S6 FE-SEM images of the DS-2 sample after the recycling photocatalysis.