Supplementary Information

Synthesis of porous Bi$_4$Ti$_3$O$_{12}$ nanofibers by electrospinning and their enhanced visible-light-driven photocatalytic properties

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The peaks of the DTA curve and the weight loss between 20 and 500 ºC were assigned to the removal of volatile compounds, the decomposition of Bi(NO₃)₃, TBT and PVP, and the generation of Bi₄Ti₃O₁₂. TG-DTA curve after 600 ºC shows that there was no weight loss. It is convinced that all the organic substances in the Bi(NO₃)₃/TBT/PVP precursor nanofibers could be removed at 600 ºC for 30 min.
The as-spun and calcined nanofibers were characterized by FTIR spectra to prove the removal of the organic composition and the results are shown in Fig. S2. The FTIR spectra (Fig. S2a) for the as-spun fiber showed that all absorption peaks attributed to Bi(NO$_3$)$_3$/TBT/PVP composite fibers which were weakened or disappeared after calcinations at 600 °C. And the new peaks (Fig. S2b) around 619 cm$^{-1}$ assigned to vTi-O and 795 cm$^{-1}$ to vBi-O appeared, which confirmed that the pure inorganic species were obtained at 600 °C.
**Fig. S3** Absorption changes of the RhB solution in aqueous BTO-EF6 dispersions under visible light irradiation.
Fig. S4 XRD patterns of the BTO-FE6 nanofibers before and after photocatalytic degradation of RhB with five cycles.