

Supporting information

(Ionic liquid)-derived morphology control of Nb₂O₅ materials and their photocatalytic properties

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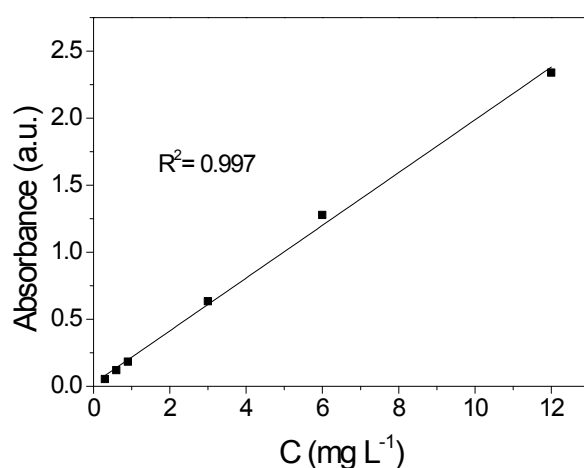


Figure S1. The calibration curve of methylene blue concentration. When the concentration of the methylene blue was above 12 mg·L⁻¹, it was diluted by adding water to fit the scope of the standard curve.

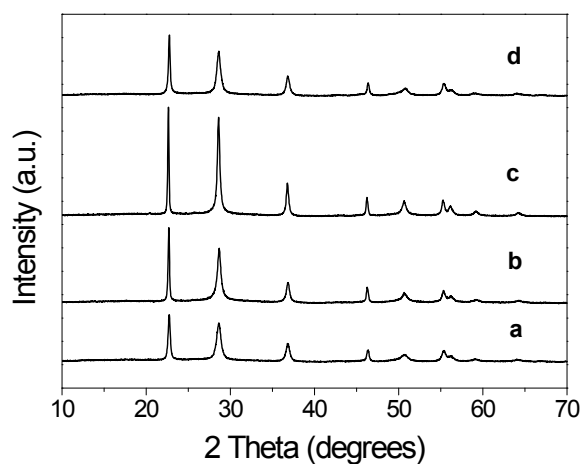


Figure S2. XRD patterns of Nb₂O₅ synthesized with the [Nb]:[[BMIm]Br] ratios of (a) 1:0.1, (b) 1:0.5, (c) 1:1, and (d) 1:3.

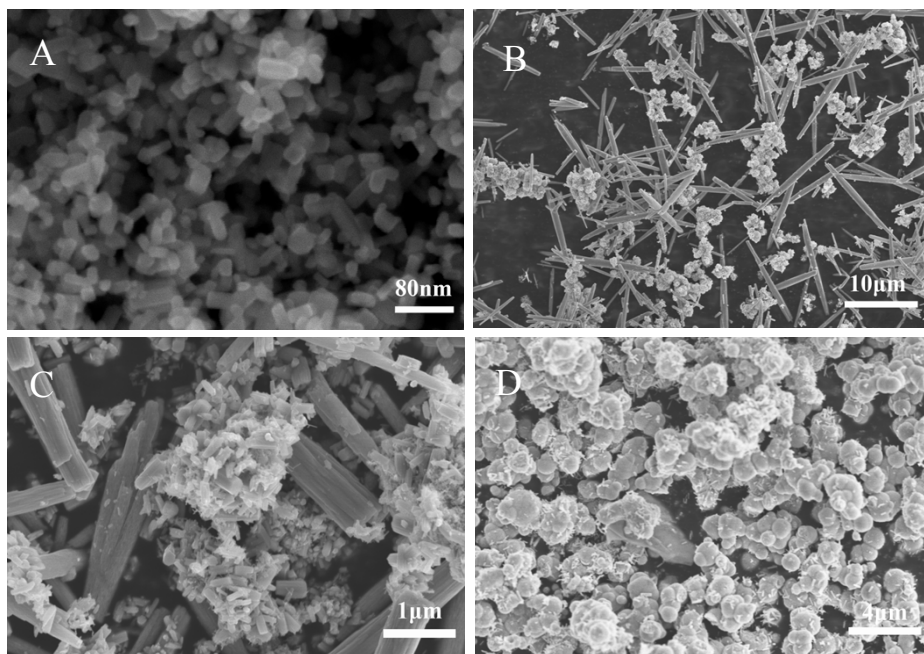


Figure S3. SEM images of the samples synthesized with the [Nb]:[[BMIm]Br] ratios of (A) 1:0.1, (B) 1:0.5, (C) 1:1, and (D) 1:3.

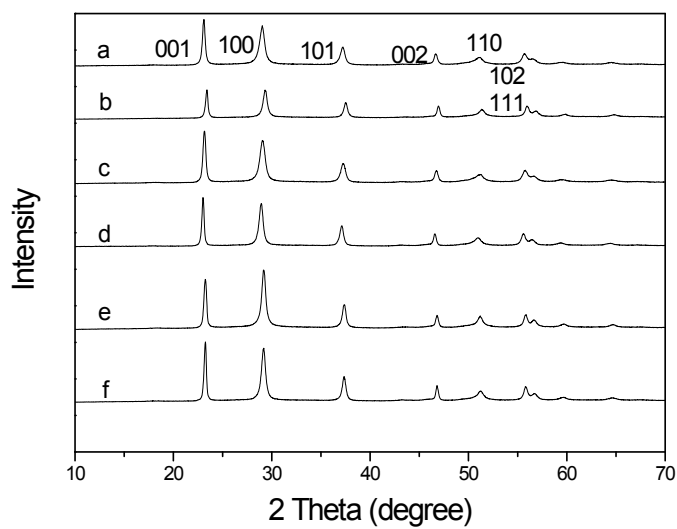


Figure S4. XRD patterns of Nb_2O_5 synthesized with molar ratio of [Nb]:[[BMIm]Br]=1:1.5 under different hydrothermal time: (a) 0, (b) 1, (c) 3, (d) 6, (e) 12 and (f) 24 h.

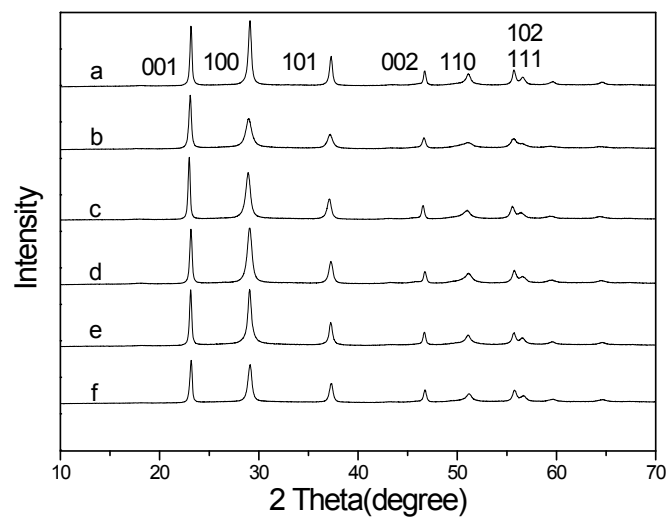


Figure S5. XRD patterns of Nb_2O_5 synthesized with molar ratio of $[\text{Nb}]:[[\text{BMIm}]\text{Br}]=1:4$ under different hydrothermal time: (a) 0, (b) 1, (c) 3, (d) 6, (e) 12 and (f) 24 h.

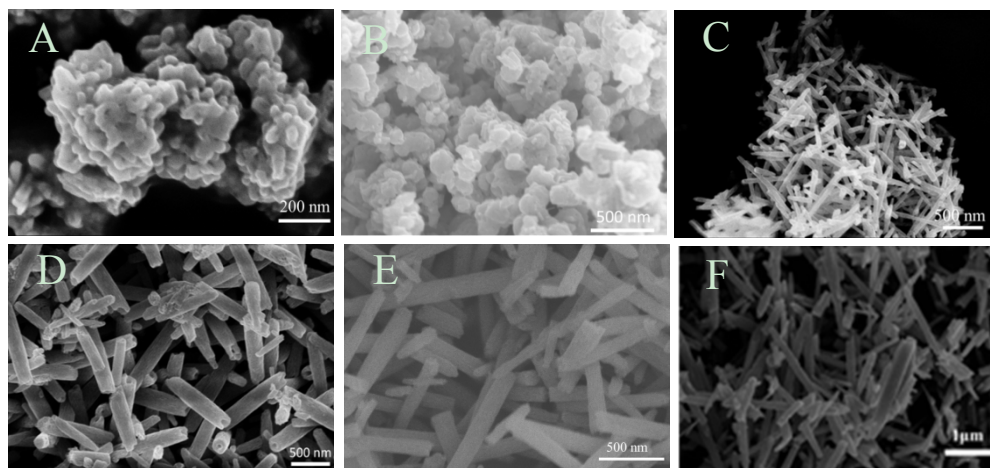


Figure S6. SEM images of Nb_2O_5 synthesized with molar ratio of $[\text{Nb}]:[[\text{BMIm}]\text{Br}]=1:1.5$ under different hydrothermal time: (a) 0, (b) 1, (c) 3, (d) 6, (e) 12 and (f) 24 h.

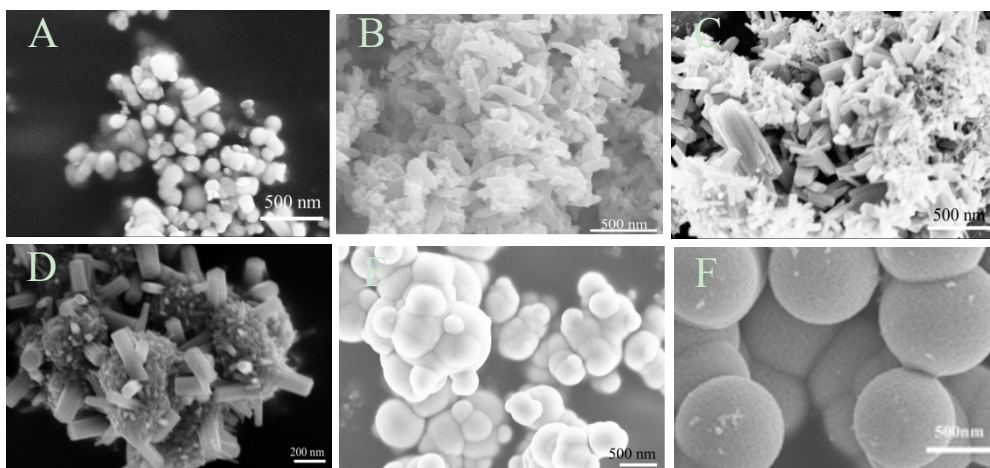


Figure S7. SEM images of Nb_2O_5 synthesized with molar ratio of $[\text{Nb}]:[[\text{BMIm}]\text{Br}]=1:4$ under different hydrothermal time: (a) 0, (b) 1, (c) 3, (d) 6, (e) 12 and (f) 24 h.

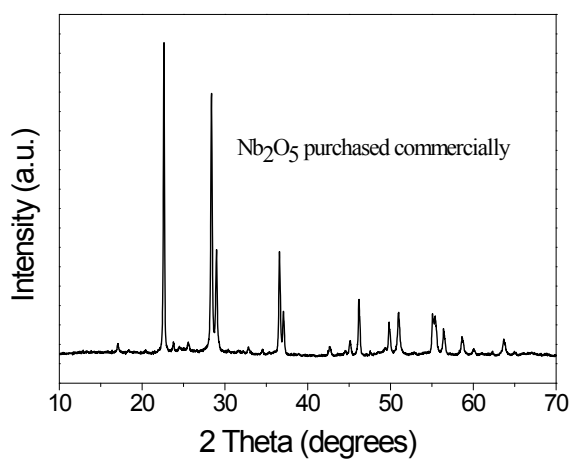


Figure S8. XRD pattern of the Nb_2O_5 raw material purchased commercially which was used to synthesize the Nb_2O_5 products with different morphologies in this work.