

Supplementary Material (ESI) for CrystEngComm

BiVO₄ nano-leaves: Mild synthesis and improved photocatalytic activity for O₂ production under visible light irradiation

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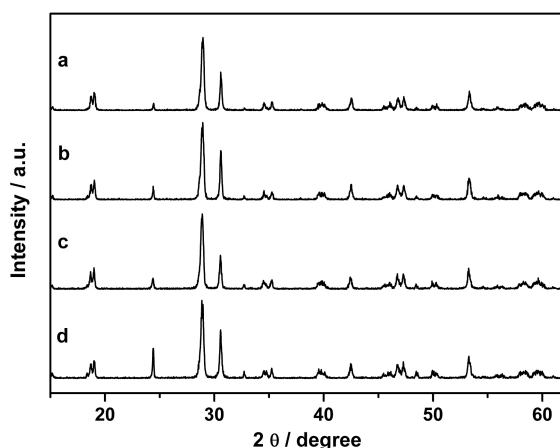


Fig. S1 XRD patterns of sample S-3 synthesized by varied stirring time of the intermediate colloid formation processes. (a) Stirred for 1 h. (b) Stirred for 2 h. (c) Stirred for 3 h. (d) Stirred for 4 h.

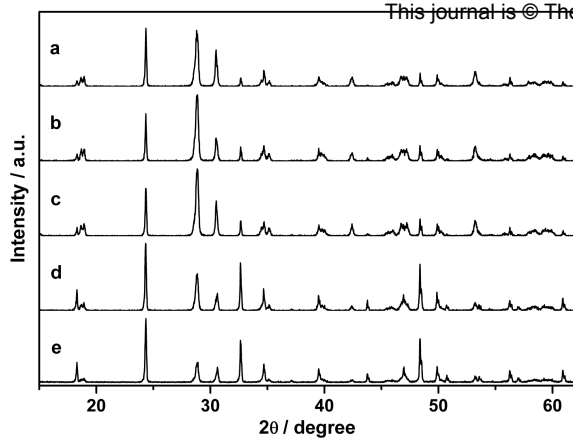


Fig. S2 XRD patterns of sample S-4 synthesized by varied stirring time of the intermediate colloid formation processes. (a) Stirred for 1 h. (b) Stirred for 2 h. (c) Stirred for 3 h. (d) Stirred for 4 h. (e) Stirred for 5 h.

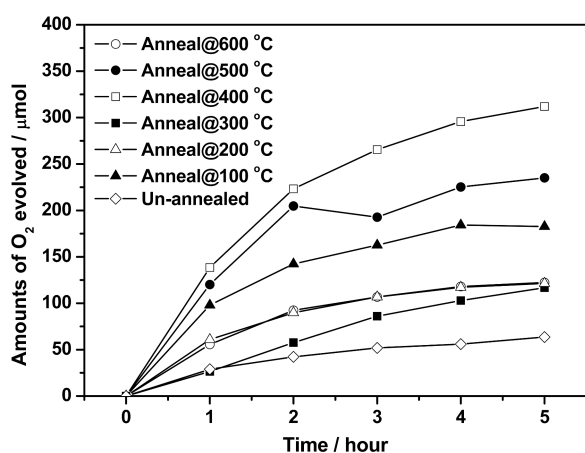


Fig. S3 Photocatalytic O₂ evolution activity of nano-leaves (sample S-2) annealed at various temperature for 10 hour. The activities were tested under visible light irradiation ($\lambda > 420$ nm) from aqueous AgNO₃ solution (0.05 M, 270 mL) over 0.1 g of photocatalysts.

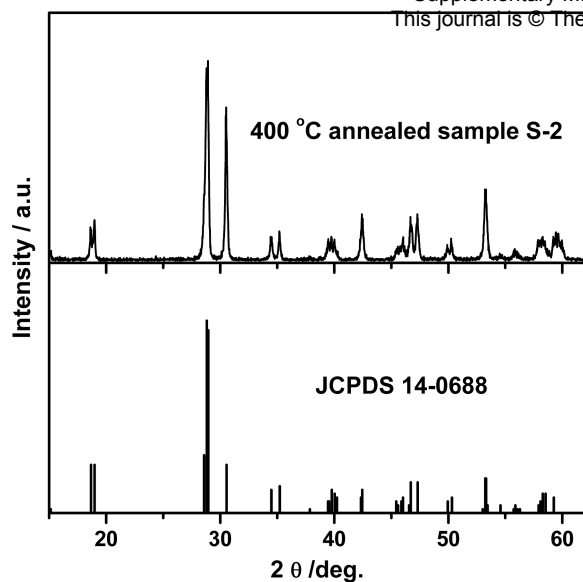


Fig. S4 XRD patterns of the sample S-2 after annealing at 400 °C.

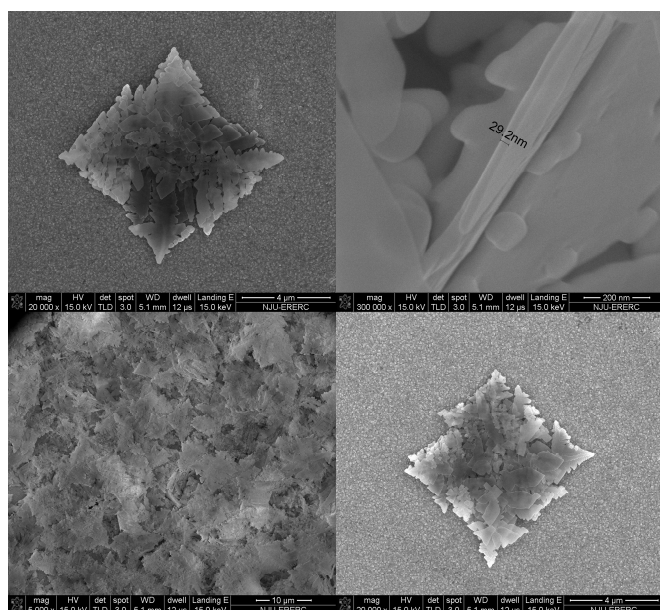


Fig. S5 SEM images of the sample S-2 after annealing at 400 °C.

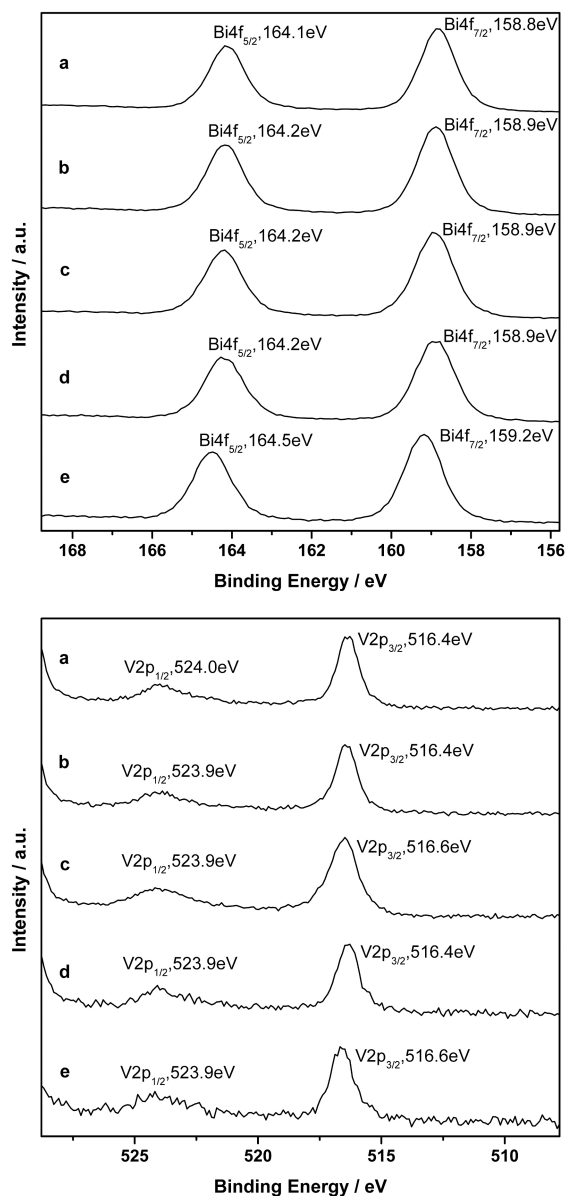


Fig. S6 X-ray photoelectron spectroscopy (XPS) elemental spectra of Bi and V in the powder samples, and the fitting positions of the peaks. (a) Annealed BiVO₄ nano-leaves (sample S-2). (b) BiVO₄ nano-leaves (sample S-2). (c) The sample synthesized from solid state reaction. (d) The micro-rod (sample S-4). (e) The Cubic-like blocks (sample S-6).