

Green synthesis of balsam pear-shaped BiVO₄/BiPO₄ nanocomposite for degradation of organic dye and antibiotic metronidazole

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Synthesis of BiPO₄ and BiVO₄: The BiPO₄ and BiVO₄ samples were synthesized through a precipitation-hydrothermal method. Briefly, 2.5 mmol Bi(NO₃)₃·5H₂O was dispersed in 5 mL of ethylene glycol (EG), and sonicated until completely dissolved. After that, 2.5 mmol NaH₂PO₄·2H₂O (or NH₄VO₃) was completely dissolved in 45 mL deionized water, which was added dropwise to the above Bi-EG solution during stirring process at room temperature. Finally, the obtained suspension was poured into a 100 mL Teflon-lined stainless steel autoclave, and maintained at 180 °C for 12h. The autoclave was then cooled down to room temperature naturally. The product was collected, washed with deionized water and dried in vacuum at 60 °C for 10 h.

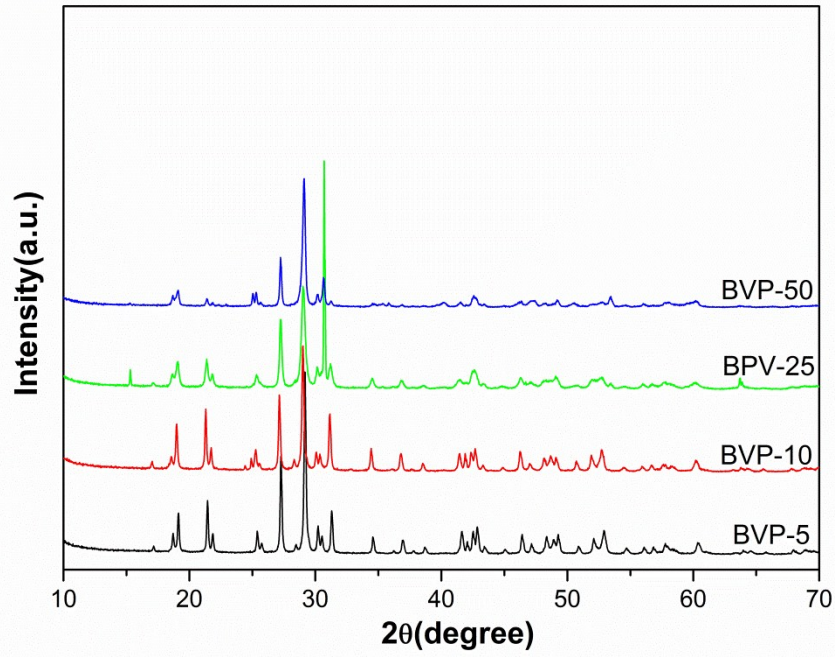


Fig.S1 XRD patterns of the BiVO₄/BiPO₄ composites with different molar ratios of BiVO₄ to BiPO₄.

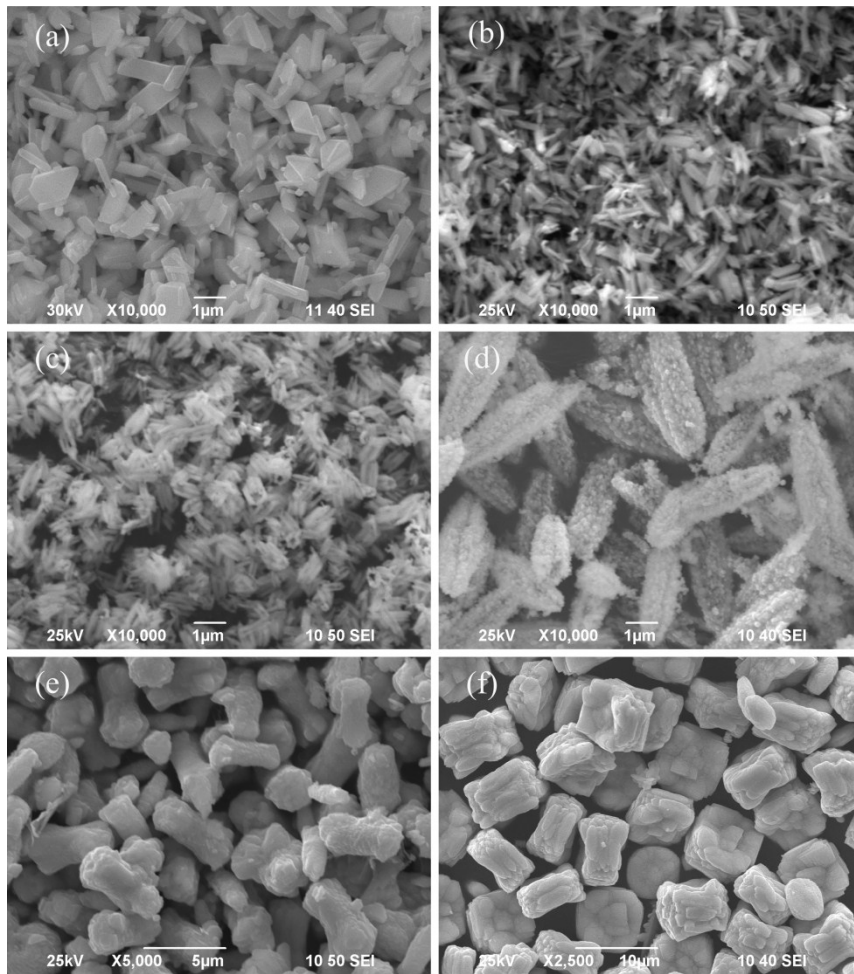


Fig.S2 SEM image of (a) BiPO_4 , (b) BVP-5, (c) BVP-10, (d) BVP-25, (e) BVP-50 and (f) BiVO_4 .