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Title: High-performance BiVO₄ photoanodes cocatalyzed with an ultrathin α -Fe₂O₃ layer for photoelectrochemical application

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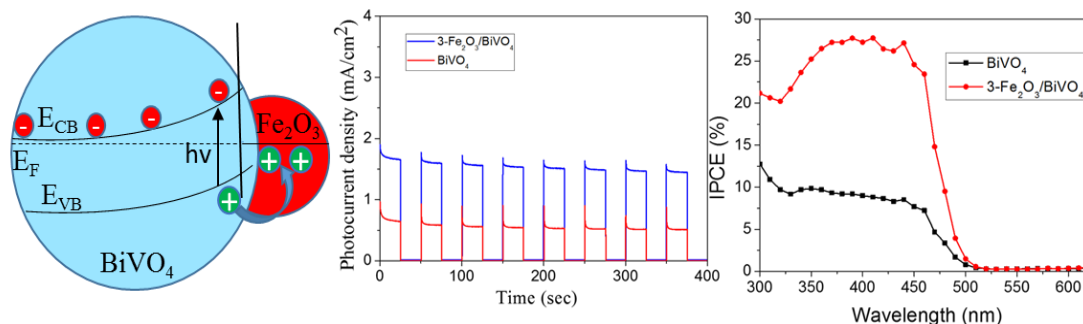
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Graphic Abstract



The combination of BiVO₄ photoanode and an ultrathin Fe₂O₃ film as cocatalyst, which will cause upward-bent band in BiVO₄ facilitating the holes transfer, can greatly improve the photocurrent density and IPCE of BiVO₄ photoanode.

Highlights

- A BiVO₄ photoanode cocatalyzed with an ultrathin α -Fe₂O₃ layer is fabricated.
- The ultrathin α -Fe₂O₃ layer is deposited using a SILAR method.
- The ultrathin α -Fe₂O₃ layer can facilitate holes transfer to the surface efficiently.

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