

## Enhancing long-term photostability of BiVO<sub>4</sub> photoanodes for solar water splitting

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Solar hydrogen production using water splitting photoelectrochemical cells is an attractive way to harvest solar energy into a storable energy carrier. Among oxide-based photoelectrodes, n-type BiVO<sub>4</sub> photoanodes have been widely coupled with chip photovoltaic materials because of its early photocurrent onset potential and favorable valance band position for water oxidation. In this presentation, I will present a strategy to suppress photocorrosion of BiVO<sub>4</sub> photoanodes during photoelectrochemical water oxidation. Anodic photocorrosion of BiVO<sub>4</sub> photoanodes involves the loss of V<sup>5+</sup> from the BiVO<sub>4</sub> lattice by dissolution. The use of a V<sup>5+</sup>-saturated electrolyte, which inhibits the photooxidation-coupled dissolution of BiVO<sub>4</sub>, can serve as a simple yet effective method to enhance the photostability of BiVO<sub>4</sub> during water oxidation for hundreds hours.