Supporting Information

**Comparison of Sandwich and Fingers-crossing type WO$_3$/BiVO$_4$ Multilayer Heterojunctions for Photoelectrochemical Water Oxidation**

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![X-Ray diffraction patterns](image1)

**Fig.S1** X-Ray diffraction patterns of sample WO$_3$-BiVO$_4$-2 and WO$_3$-BiVO$_4$-4.

![UV−vis adsorption spectra and Tauc plot](image2)

**Fig.S2** UV−vis adsorption spectra (a) and Tauc plot (b) of fingers-crossing heterojunction with different number of WO$_3$/BiVO$_4$ layers and bare WO$_3$ or BiVO$_4$ thin films.
Fig.S3 SEM images of BiVO$_4$ with a concentration of precursor is 0.0625 M.

Fig.S4 The dependence of real impedance on frequency and log-log dependence of imaginary impedance on frequency.