Supporting information

Tubular Morphology Surviving and Doping Engineering of Sn/P-Codoped Hematite for Photoelectrochemical Water Oxidation

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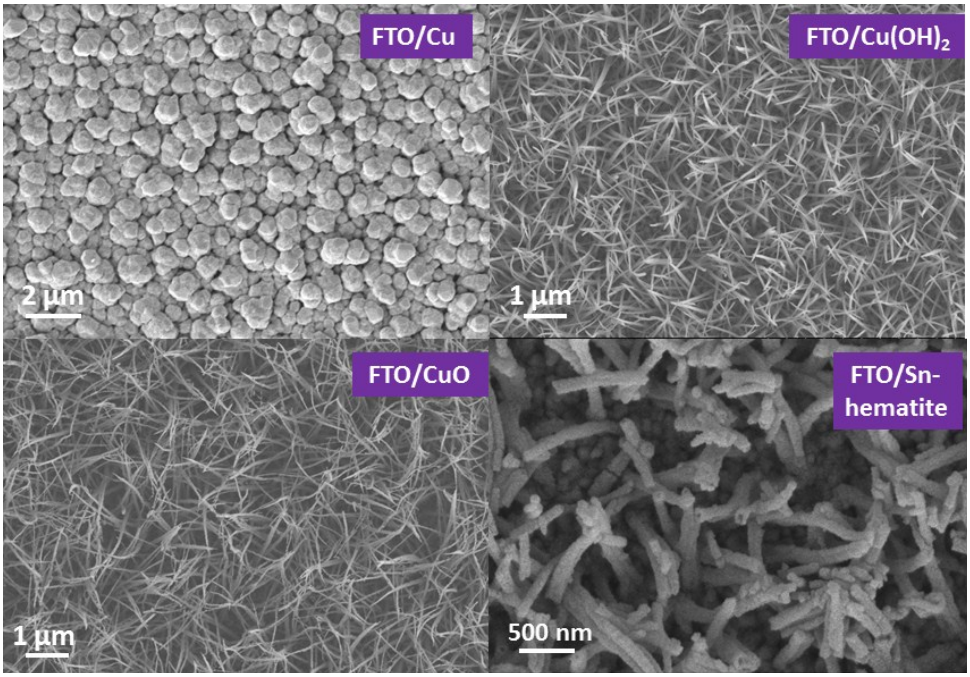


Figure S1 SEM images of the samples.

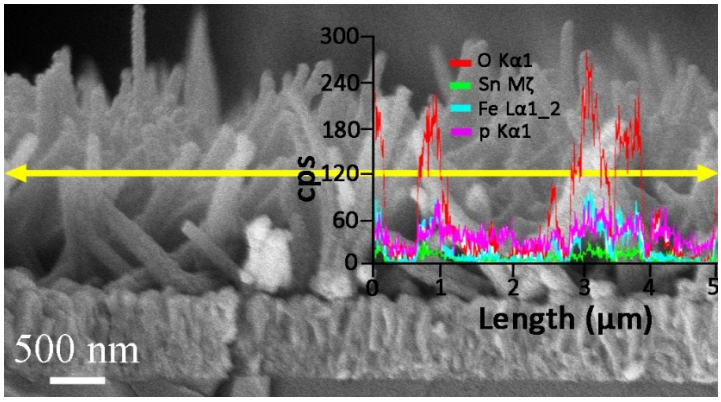


Figure S2 SEM cross-sectional elemental analysis of Sn/P-codoped hematite tubular film.

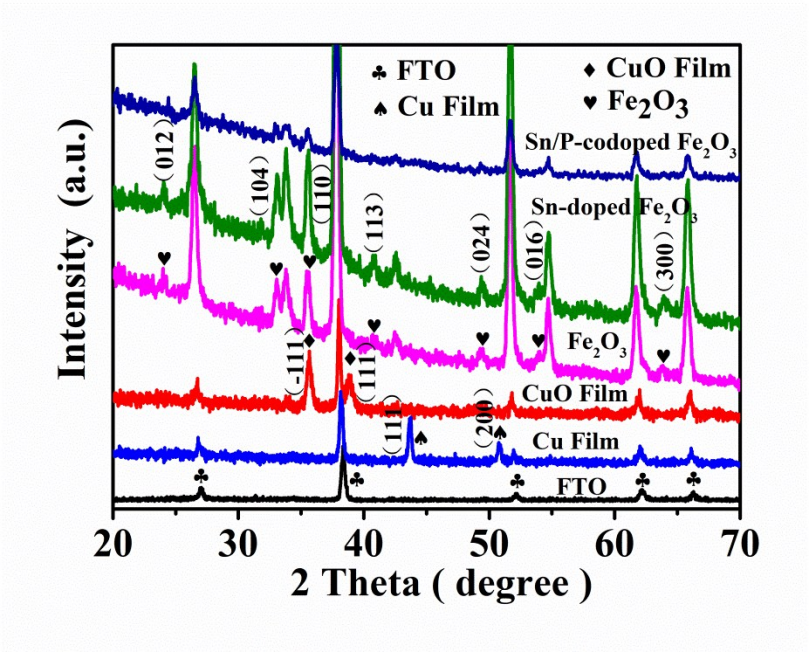


Figure S3 XRD diffraction patterns of the samples.

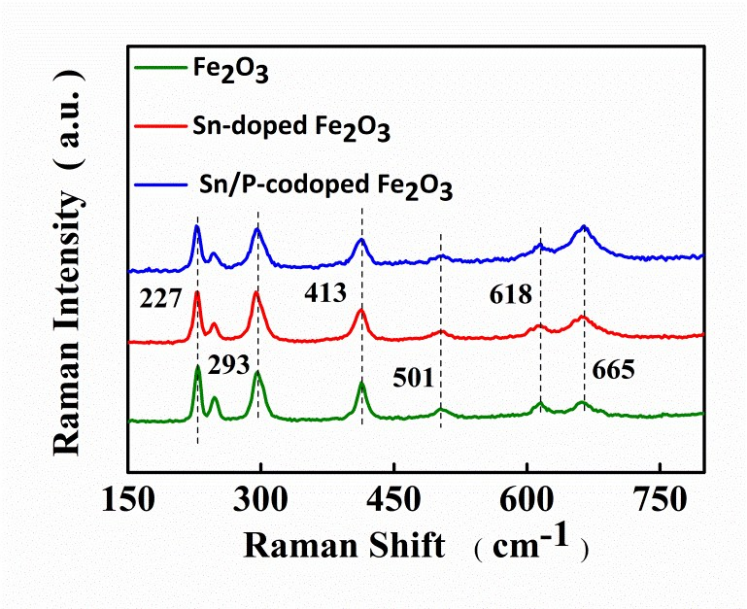


Figure S4 Raman spectra of the hematite with and without doping.

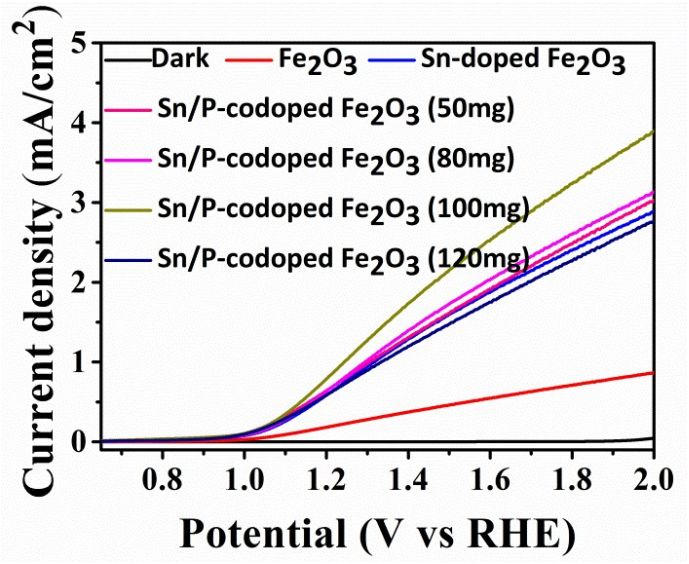


Figure S5 Photocurrent response of Sn-doped hematite tubes after annealing at different concentration of PH_3.

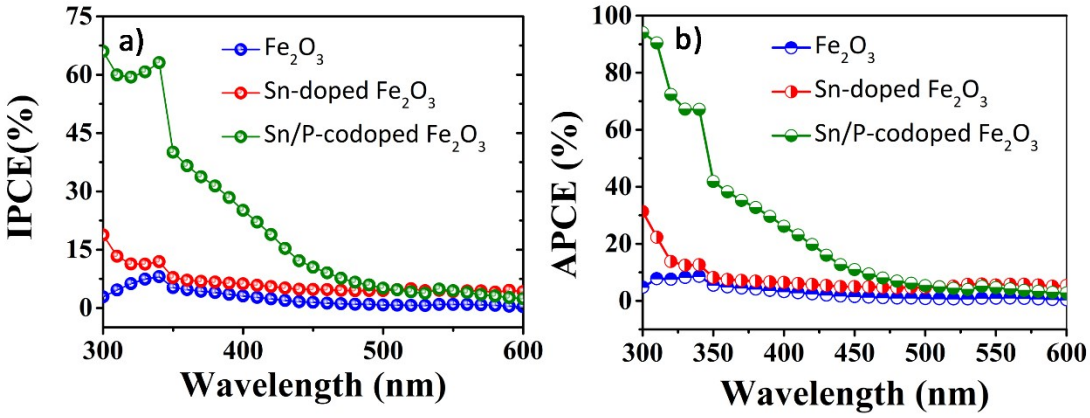


Figure S6 IPCE and APCE of the samples, measured at 1.23 V vs RHE in 1.0 M NaOH.

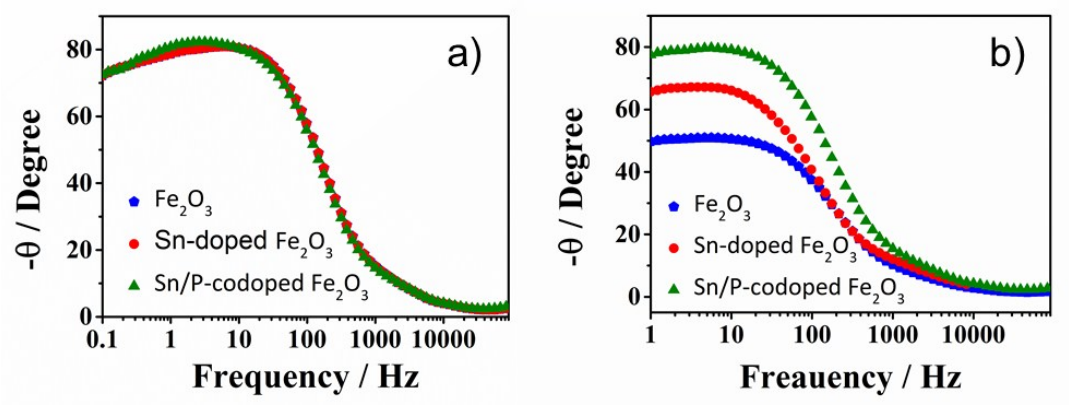
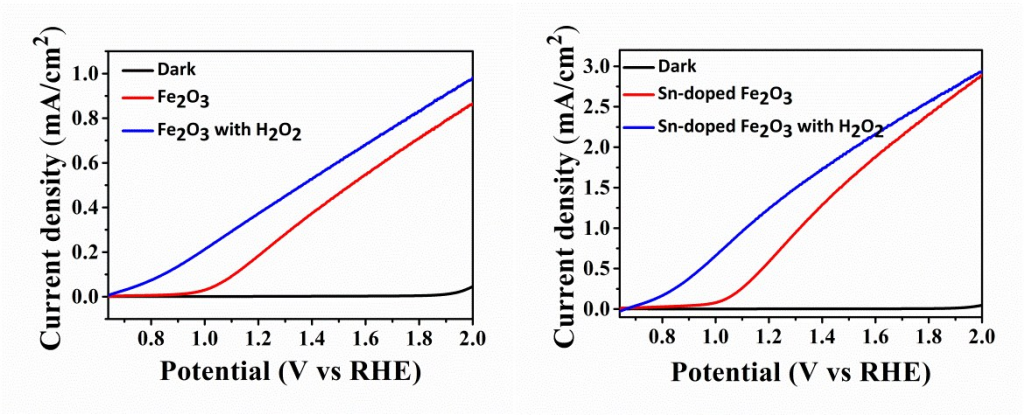


Figure S7 Bode phase plots of the electrodes at 1.23 V vs RHE under dark (a) and 1 sun illumination (b) in 1.0 M NaOH.



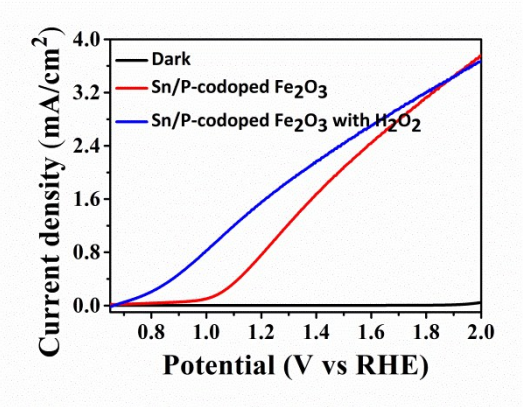


Figure S8 Photocurrent response of pristine hematite, Sn-doped and Sn/P-codoped hematite before and after adding 1mL H_2O_2 in 60 mL 1 M NaOH electrolyte.

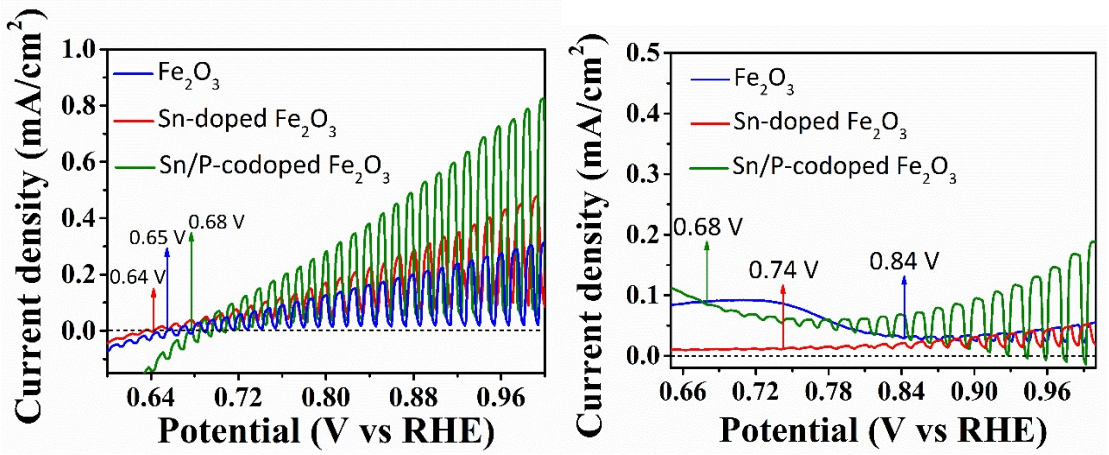


Figure S9 Photocurrent response of the samples with (left) and without (right) H_2O_2 under chopped light.