Optimization of photoelectrochemical water splitting performance on hierarchical TiO$_2$ nanotubes array

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Fig. S1.

Fig. S2.

Fig. S3.
**Fig. S1.** (a) SEM image of the TiO$_2$ NTs sample synthesized using the conventional one-step anodization method; (b) Ti foil surface after ultrasonic removal of the NTs layer.

**Fig. S2.** Average crystalline sizes of hierarchical TiO$_2$ NTs.
**Fig. S3.** Open circuit potential vs time profile of different hierarchical TiO$_2$ NTs.