

## Morphological Modulation of TiO<sub>2</sub> Nanotube via Optimal Anodization Condition for Solar Water Oxidation

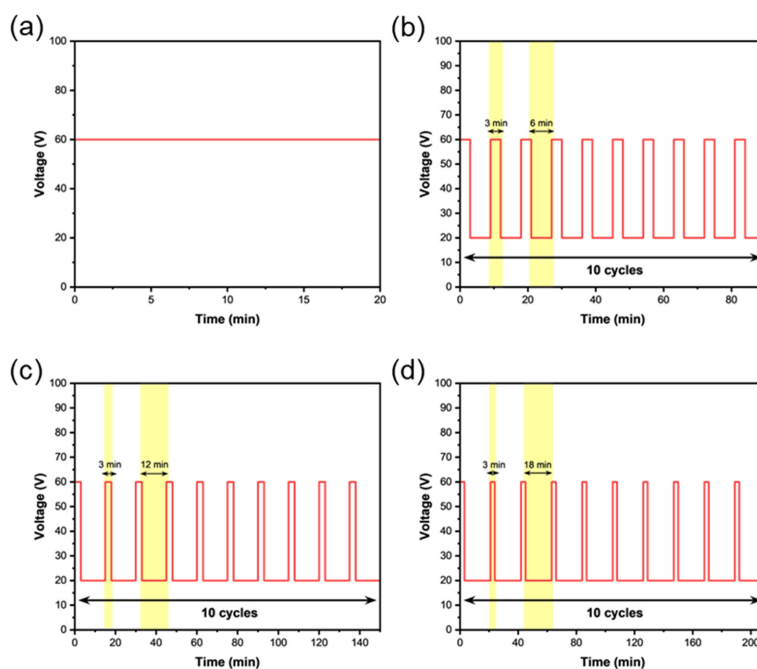
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**Fig. S1.** Applied voltage profiles for the electrochemical anodization of Ti Plates: (a) TiO<sub>2</sub>-ref, (b) TiO<sub>2</sub>-6, (c) TiO<sub>2</sub>-12, (d) TiO<sub>2</sub>-18.

**Table S1.** Quantitative charge transfer resistance ( $R_{CT}$ ) calculated from EIS Nyquist plots of TiO<sub>2</sub> nanotubes

Photoanode	Charge Transfer Resistance ( $\Omega \text{ cm}^{-2}$ )
TiO <sub>2</sub> -ref	$2.4 \times 10^5$
TiO <sub>2</sub> -6	2615
TiO <sub>2</sub> -12	3196
TiO <sub>2</sub> -18	$2.9 \times 10^4$

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**Table S2.** Carrier density ( $N_d$ ) and flat band potential ( $E_{fb}$ ) were calculated from the Mott-Schottky curves of TiO<sub>2</sub> nanotubes

Photoanode	Slope	Charge Carrier Density (cm <sup>-3</sup> )	Flat Band Potential (V)
TiO <sub>2</sub> -ref	1.09×10 <sup>11</sup>	5.12×10 <sup>19</sup>	0.15
TiO <sub>2</sub> -6	9.07×10 <sup>10</sup>	7.77×10 <sup>19</sup>	0.83
TiO <sub>2</sub> -12	1.25×10 <sup>11</sup>	3.80×10 <sup>19</sup>	0.02
TiO <sub>2</sub> -18	1.80×10 <sup>11</sup>	3.50×10 <sup>19</sup>	0.19