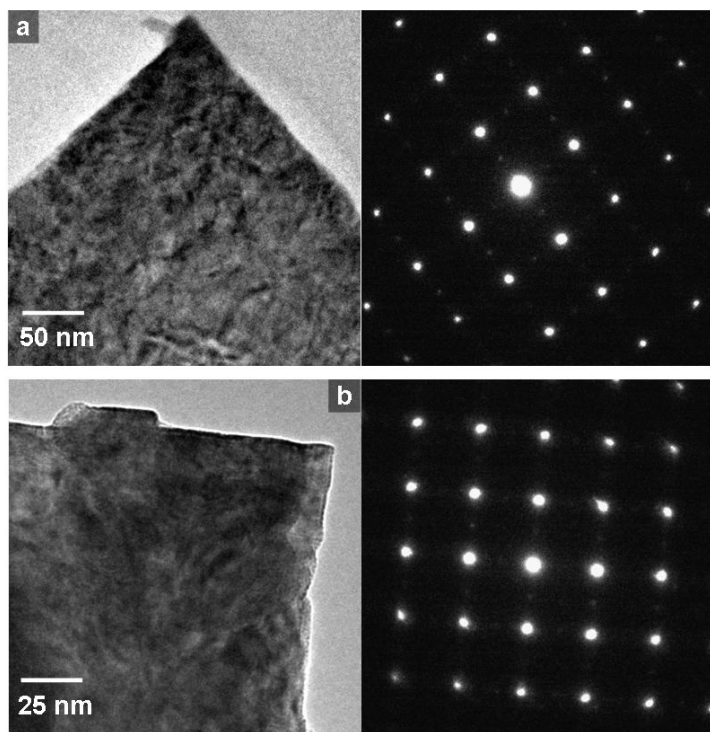


# Facile Preparation of Platelike Tungsten Oxide Thin Film Electrodes with High Photoelectrode Activity

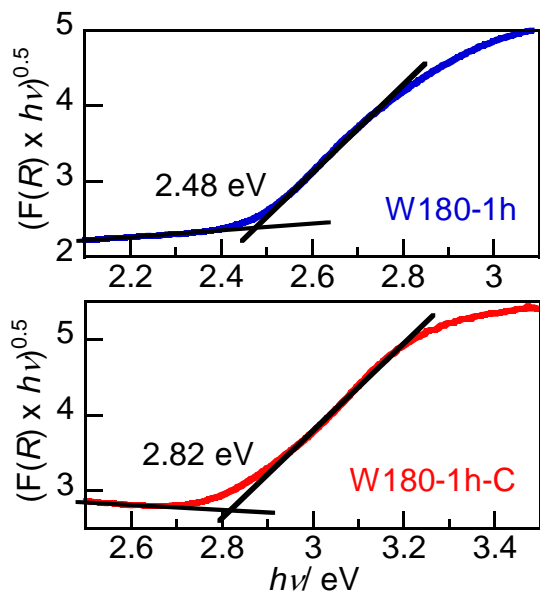
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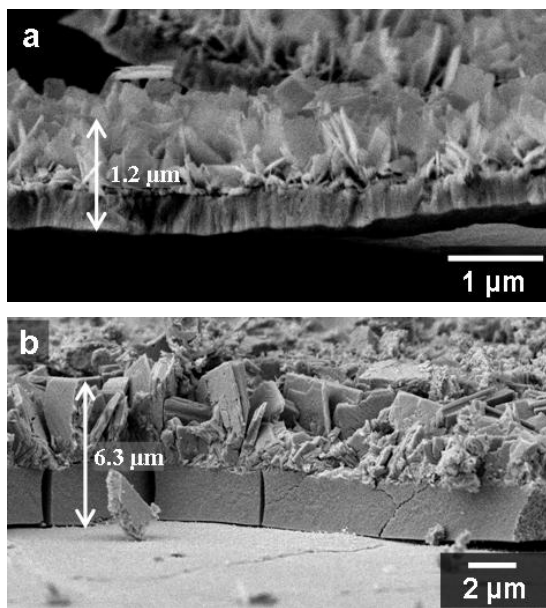
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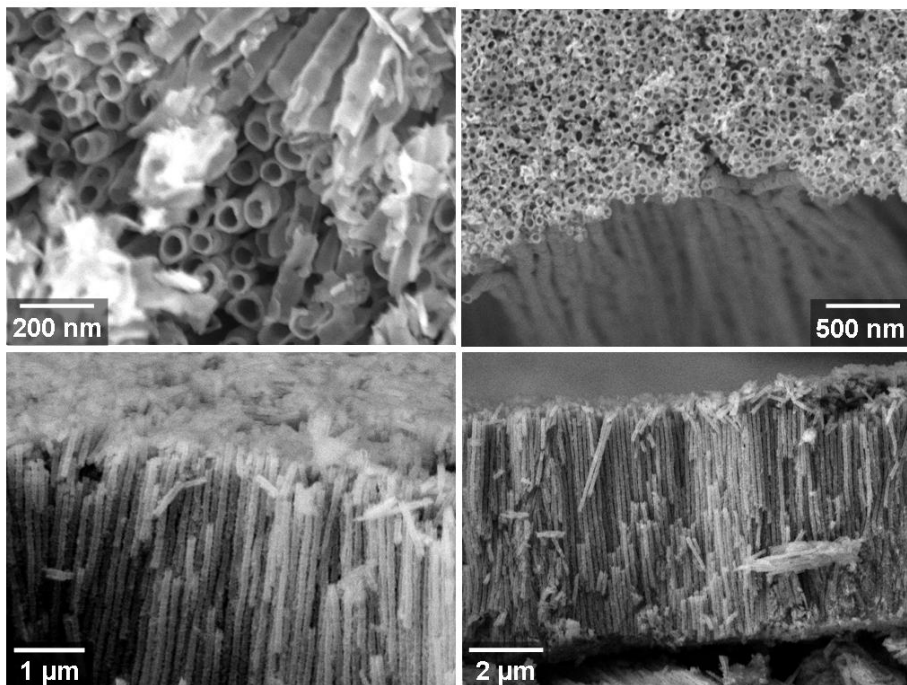
**Figure S1.** TEM images and SAED patterns of  $\text{WO}_3$  platelets dislodged from (a) W100-3h-C and (b) W180-1h-C.



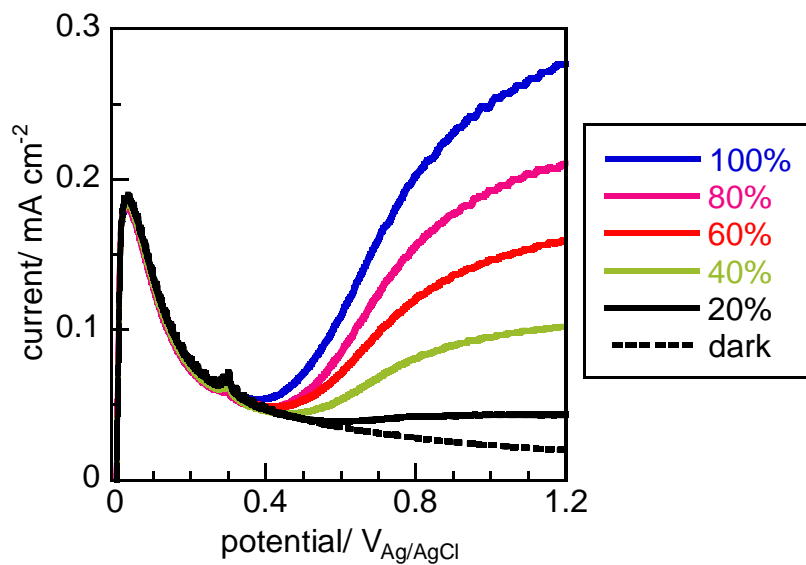
**Figure S2.** Tauc plot  $((F(R) \times hv)^{0.5})$  vs  $h\nu$  assuming indirect transition) of W180-1h (before calcination) and W180-1h-C (after calcination).



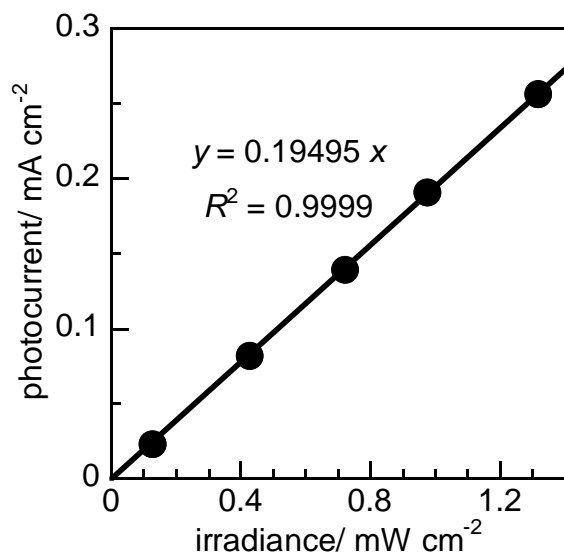
**Figure S3.** SEM images of cross-sectional side view of (a) W140-1h-C and (b) W140-12h-C.



**Figure S4.** SEM images of a TiO<sub>2</sub> nanotube film prepared by anodization of titanium foil at 40 V in DMSO with 2% hydrofluoric acid for 8 h and subsequent calcination at 450 °C for 3 h.



**Figure S5.** Linear sweep voltammograms of W180-1h-C in 0.1 M H<sub>2</sub>SO<sub>4</sub> in the dark (dashed curve) and under 365-nm photoirradiation with different light intensity (solid curves).



**Figure S6.** Photocurrent density at 1.2 V<sub>Ag/AgCl</sub> as a function of irradiance of 365-nm photoirradiation. The data was taken from Figure S4. Since the slope value was 0.195 mA mW<sup>-1</sup>, the incident photon-to-current conversion efficiency (IPCE) was calculated to be 66.2 %:

$$IPCE = \frac{1240 \times [\text{photocurrent (mA cm}^{-2}\text{)}]}{[\text{wavelength (nm)}] \times [\text{irradiance (mW cm}^{-2}\text{)}]} = \frac{1240 \times 0.195}{365} = 0.662$$