

Electronic Supplementary Information

Tailored Preparation of WO₃ Nano-grassblades on FTO Substrate for Photoelectrochemical Water Splitting

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Fig. S1

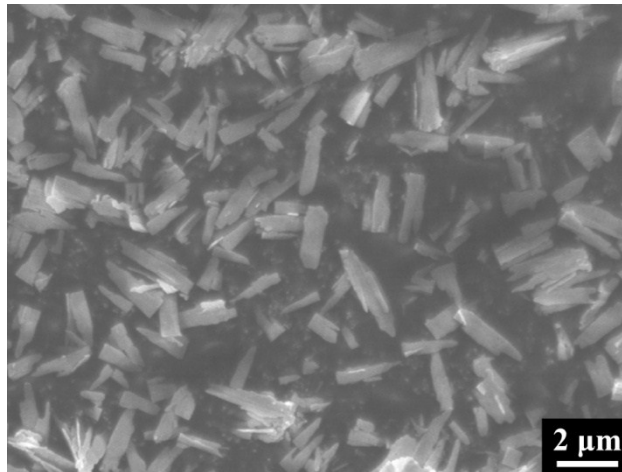


Fig. S1. SEM image of the WO₃ NGs removed by an electrically conductive adhesive tape from the FTO substrate

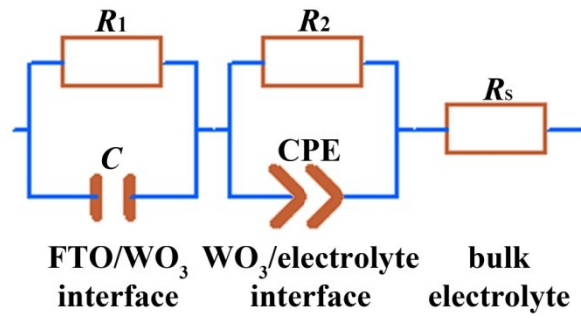


Fig. S2 Equivalent circuit for fitting the EIS spectra

Table S1. Elements of the equivalent circuit for the WO₃ NGs in the dark and under illumination measured in 0.1 M KH₂PO₄ (pH 7)

	$R_1 / \Omega \text{ cm}^2$	$C / \mu\text{F cm}^{-2}$	$R_2 / \text{k}\Omega \text{ cm}^2$	$Q / \mu\text{F cm}^{-2}$	n	$R_s / \Omega \text{ cm}^2$
dark	53.8	0.2	23.8	210.8	0.9	7.4
photo	53.8	0.2	0.3	290.5	0.9	7.2

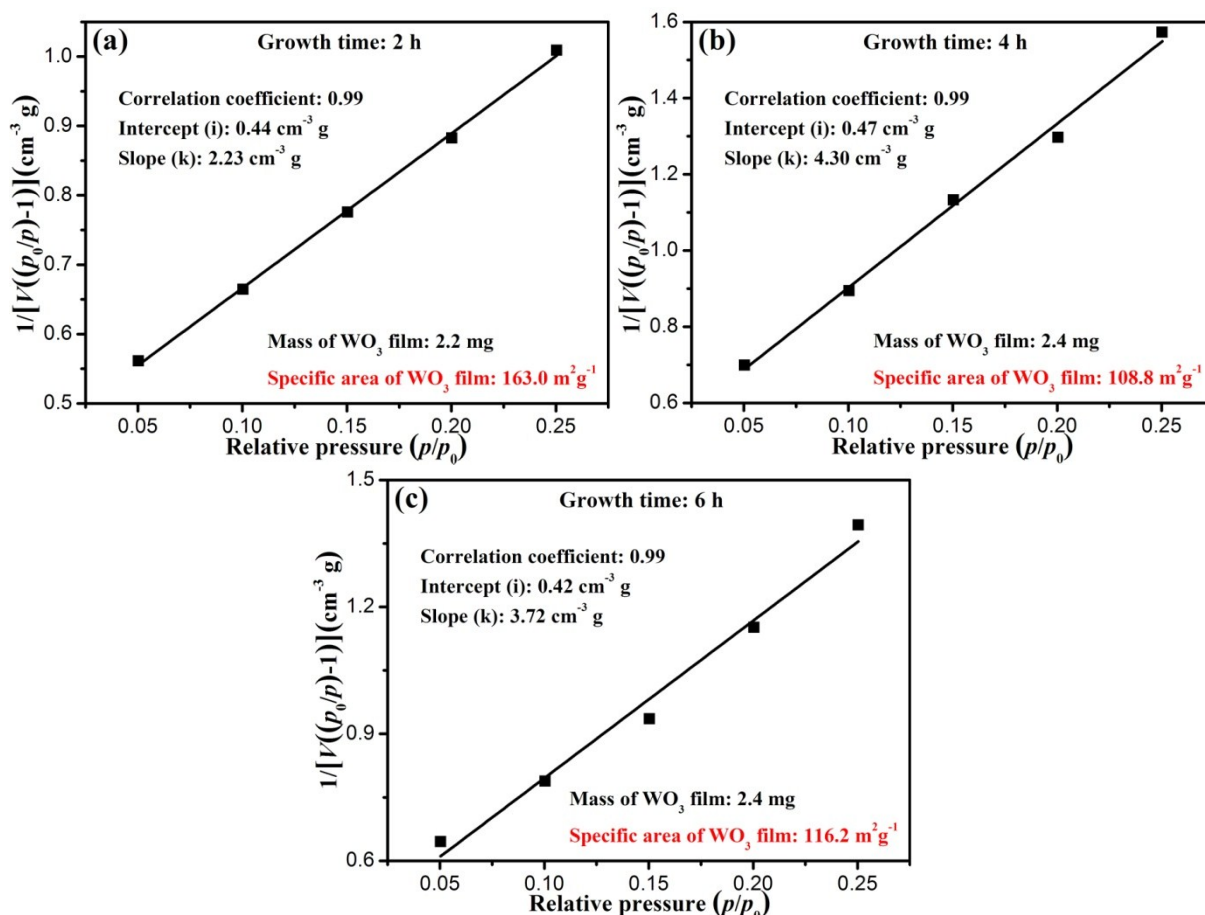


Fig. S3 BET interpretation results of the adsorption curves at $p/p_0 = 0.05-0.25$ for the samples grown for different time. (a) 2 h, (b) 4 h, (c) 6 h. Before BET measurements, the FTO substrates were cut into small pieces to fit in the test tube. The total mass of each sample (including the WO₃ film and FTO substrates) was measured on a balance. After BET measurements, the WO₃ films grown on FTO substrates were dissolved in KOH solution, and the mass of the FTO substrate was measured. The mass of WO₃ film, which was used to calculate specific area for each sample, was obtained by comparing the mass before and after dissolution of WO₃.

Table S2. Mass of FTO before and after dissolution of WO₃ film and mass of WO₃ film of samples grown for different time.

Growth time / h	Mass of FTO with WO ₃ film / mg	Mass of bare FTO / mg	Mass of WO ₃ film / mg
2	220.6	218.4	2.2
4	287.7	285.3	2.4
6	265.7	263.3	2.4