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Electronic Supplementary Information

Wet Chemical Route to Hierarchical TiO_2 Nanodendrite/Nanoparticle Composite Anodes for Dye-Sensitized Solar Cells

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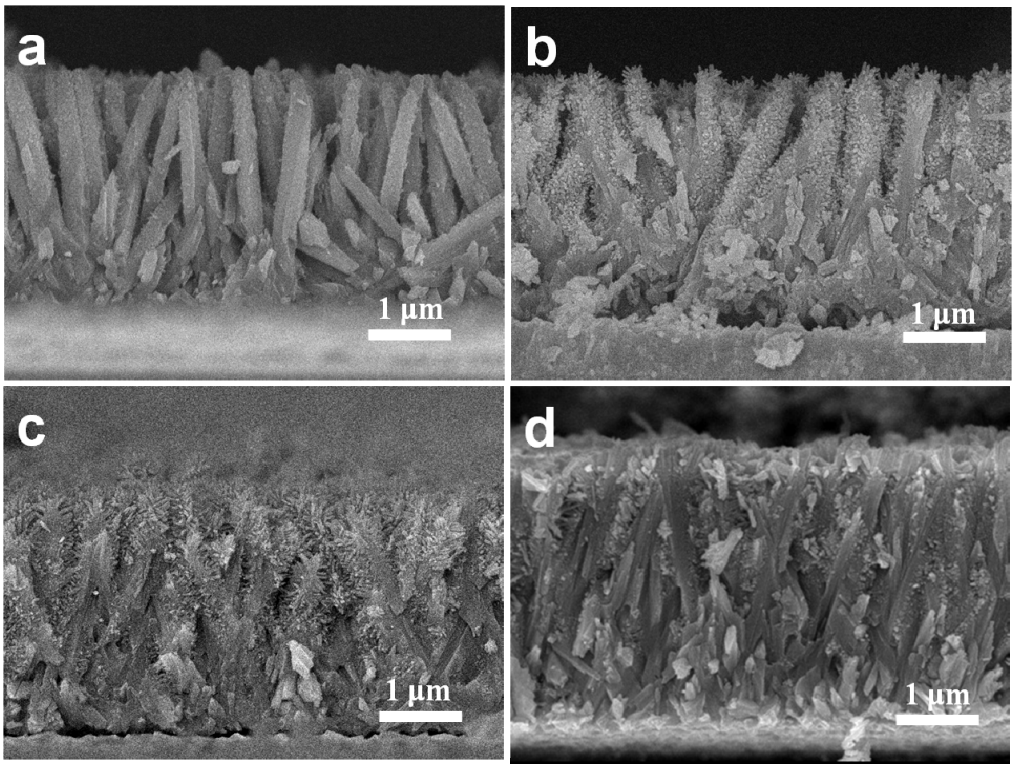

Figure S1. SEM images of the ND arrays formed for various branch growth periods. (a) 0 h; (b) 1.5 h; (c) 2 h and (d) 2.5 h.

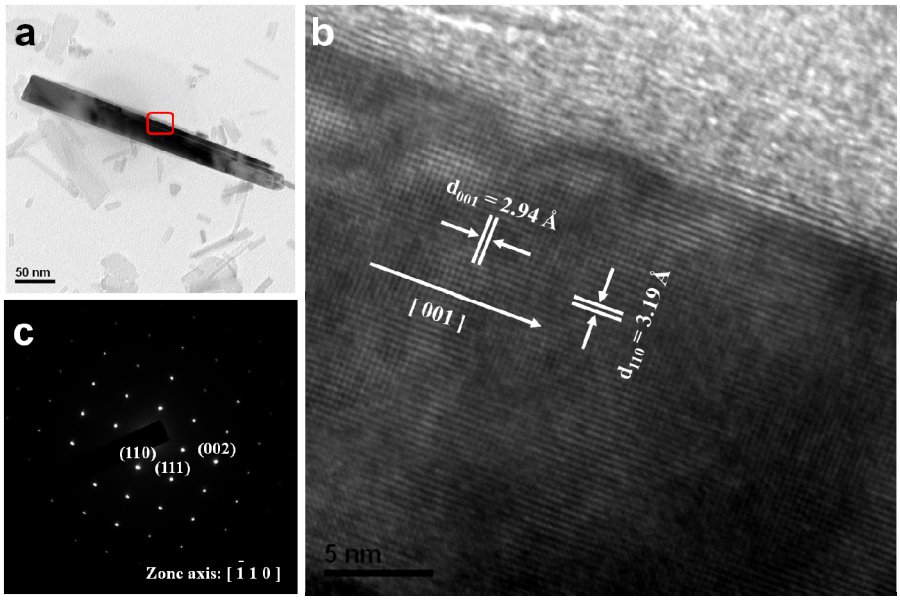

Figure S2. (a) Typical cross-sectional TEM image of an individual NW. (b) HRTEM image and (c) the corresponding SAED pattern of NW.

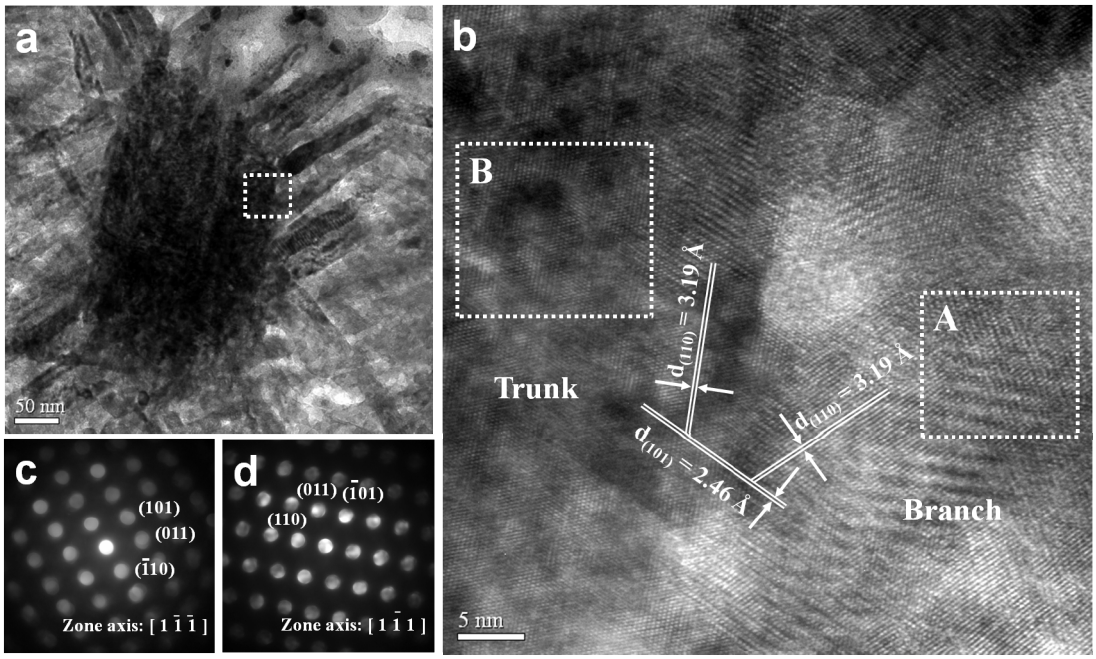

Figure S3. (a) TEM image of the TiO_2 ND/NP film. (b) HRTEM of the interfacial region of the trunk and branch in the ND/NP film denoted in (a). (c) and (d) Diffraction patterns taken from the portions of the branch (square A) and trunk (square B) in (b).

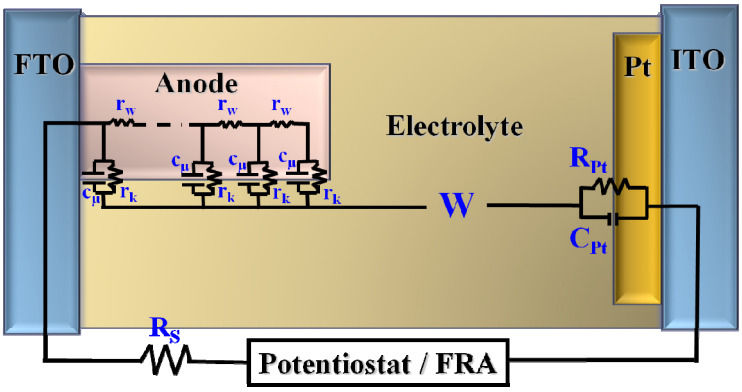

Figure S4. Suggested equivalent circuit of the DSSCs. R_w (= r_wxL) is the electron transport resistance in the anode (L is the thickness of the anode), R_k (= r_k/L) is the charge transfer resistance related to recombination of an electron at the interface, C_μ (= c_μxL) is the chemical capacitance, R_s is a lumped series resistance for the transport resistance of FTO and all resistances out of the cell, W is the impedance of diffusion of the redox species in the electrolyte, and R_{Pt} and C_{Pt} are the charge transfer resistance and the interfacial capacitance at the counter electrode/electrolyte interface, respectively.