

# Rutile TiO<sub>2</sub> Nano-branched Arrays on FTO for Dye-sensitized Solar Cells

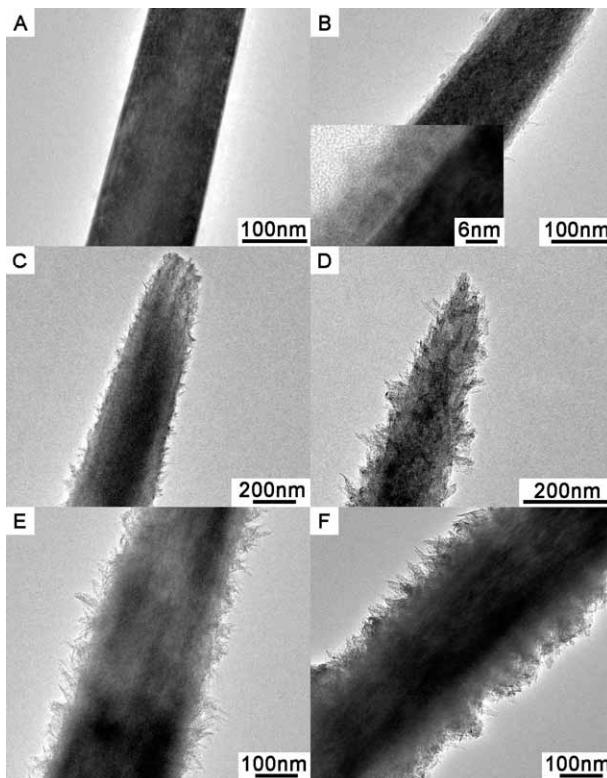
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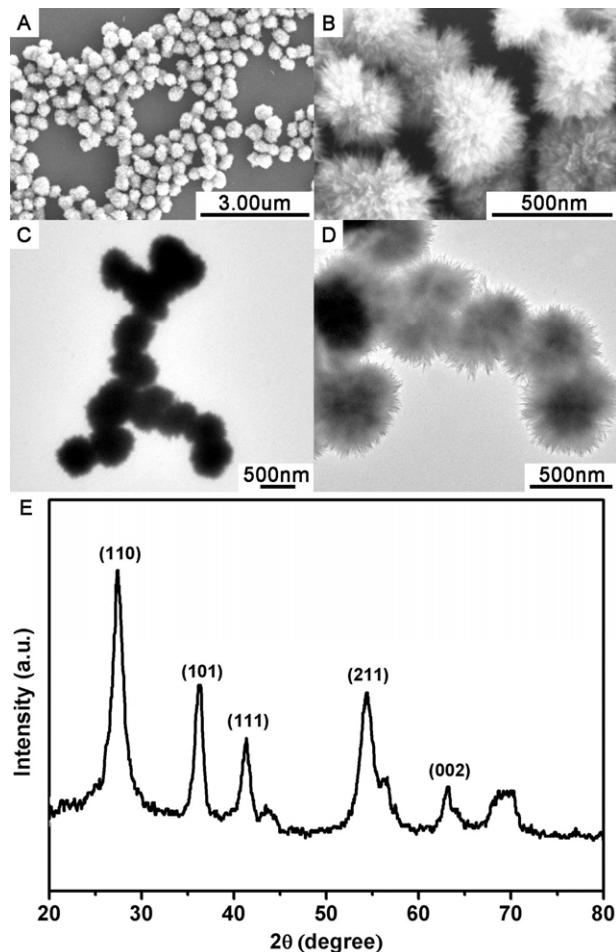
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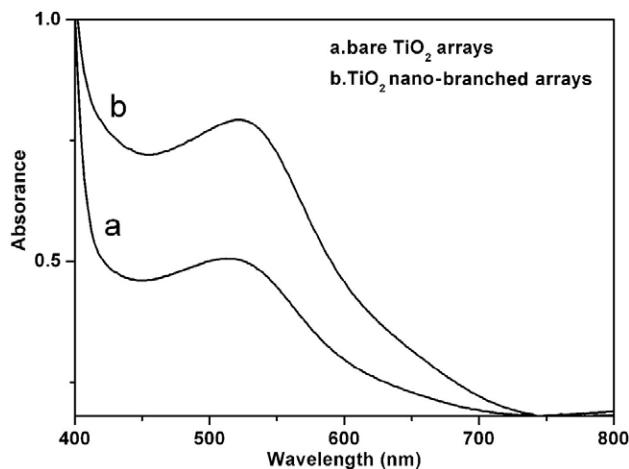
## Supporting information:



**Figure S1.** TEM images of TiO<sub>2</sub> nano-branched arrays after branches growth reaction for different times: (A) 0 h, (B) 6 h, (C) 12 h, (D) 18 h, (E) 24 h, (F) 30 h.



**Figure S2.** SEM images of hierarchical TiO<sub>2</sub> microspheres at (A) low and (B) high magnifications; (C) and (D) are TEM images of hierarchical TiO<sub>2</sub> microspheres at low and high magnifications; XRD pattern (E) of hierarchical TiO<sub>2</sub> microspheres.



**Figure S3.** Diffuse reflectance absorption spectra of bare  $\text{TiO}_2$  nanorod arrays film (a) and  $\text{TiO}_2$  nano-branched arrays film (b) after adsorption of N719 dye, and spectra are referenced to FTO.