

Supporting Information

Fabrication of SrTiO₃-TiO₂ Heterojunction Photoanode with Enlarged Pore Diameter for Dye-Sensitized Solar Cells

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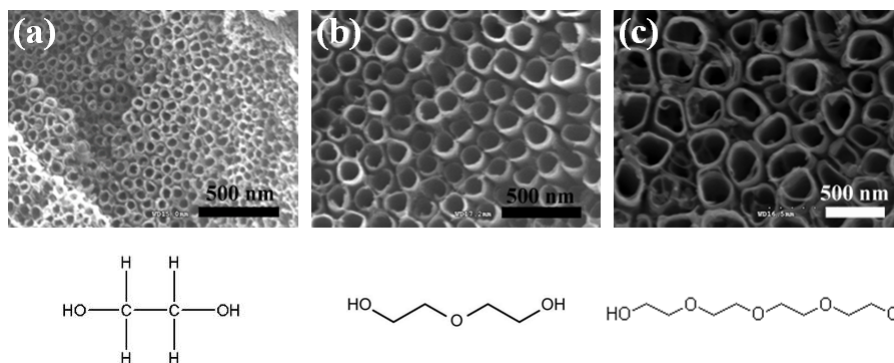


Figure S1. Comparison of TiO₂ tube morphology using electrolyte with various dielectric constant. (a) ethylene glycol (dielectric constant, 37 at 25 °C), (b) diethylene glycol (dielectric constant, 31.69 at 25 °C) and (c) tetraethylene glycol (dielectric constant, 15 at 25 °C) produce 50 nm, 100 nm and 200 nm as a pore diameter.

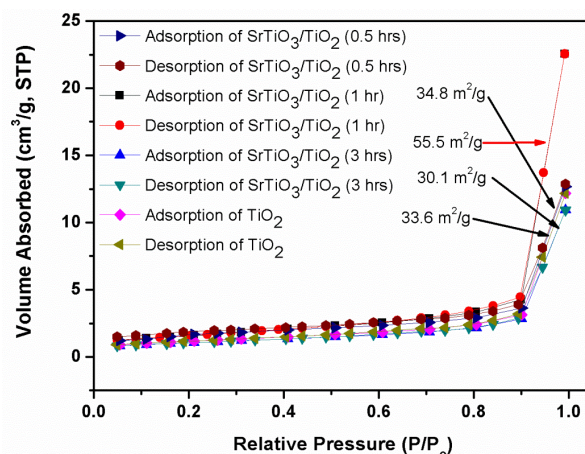


Figure S2. Nitrogen adsorption-desorption isotherm curves of SrTiO₃-TiO₂ heterostructure nanotube depending on reaction time.

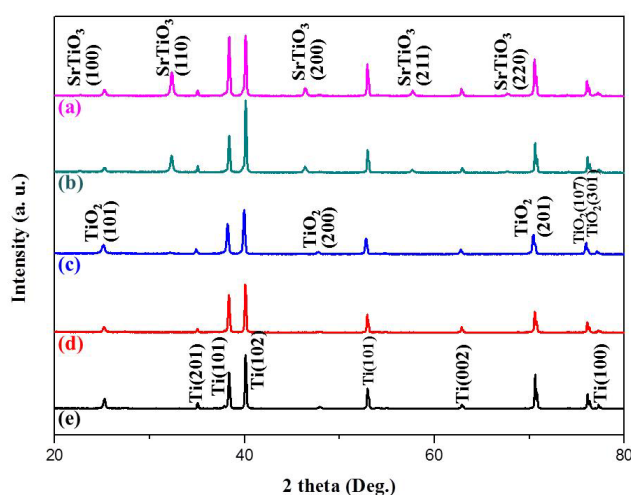


Figure S3. X-ray diffraction patterns of the TiO₂ and SrTiO₃-TiO₂ nanotube with various hydrothermal reaction times. before hydrothermal (a), 0.5 hr (b), 1 hr (c), 3 hrs (d) and 5 hrs (e).

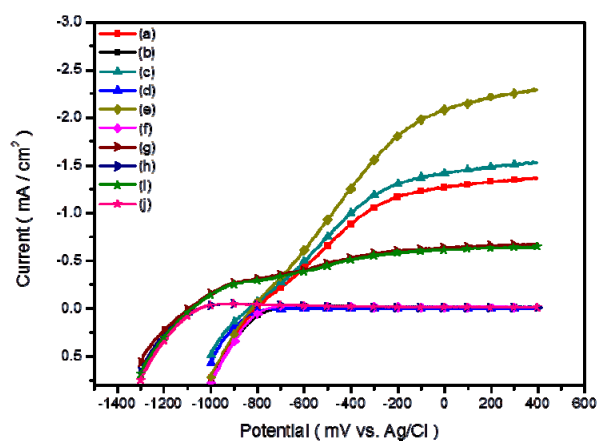


Figure S4. Photocurrent - voltage curves of the TiO_2 (a) and $\text{SrTiO}_3\text{-TiO}_2$ nanotube for 0.5 hr (c), 1 hr (e), 3 hrs (g), 5 hrs (i) and their dark current (b), (d), (f), (h), (j), respectively.