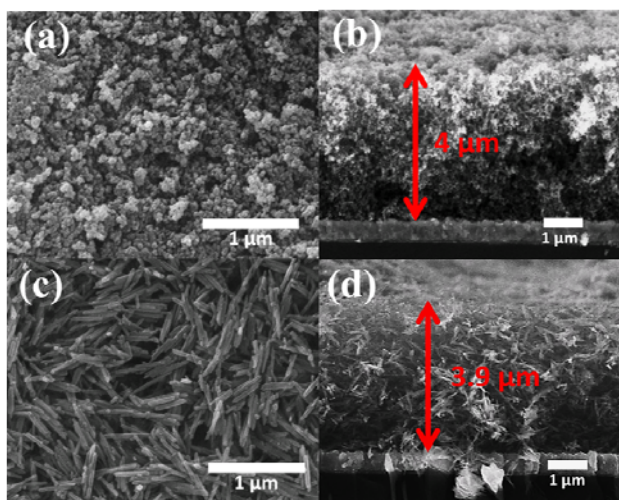


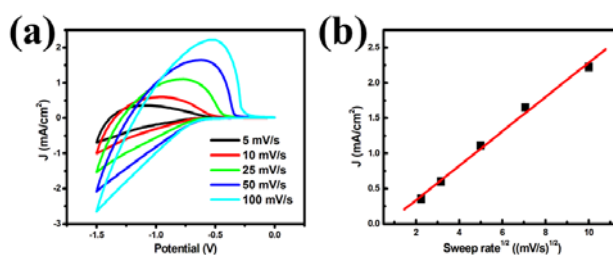
# Electrochromism of Vertically Aligned Rutile Nanowires along [001] by Alkali Metal Ion Intercalation

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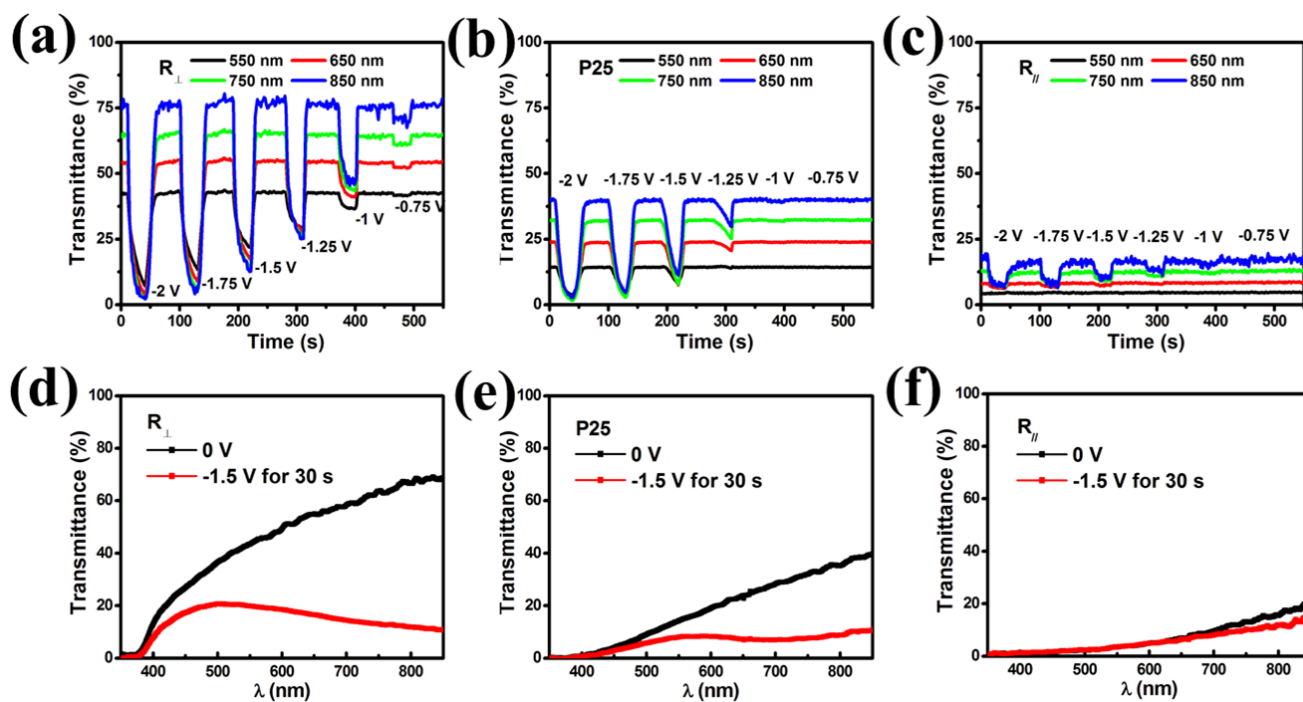
## 5 Electronic Supplementary Information



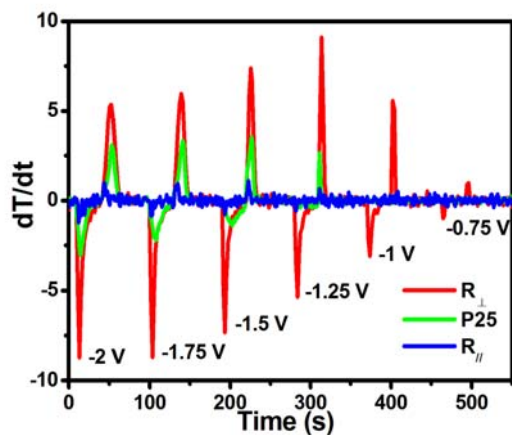
**Fig S1.** FESEM images of coated TiO<sub>2</sub> film on FTO. Fig (a) & (b) represents the top view and cross section of P25 nanoparticles. Fig (c) & (d) represents the top view and cross section of rutile nanowires.



**Fig S2.** (a) Cyclic voltammograms from R<sub>1</sub> at scan rates of 5, 10, 25, 50, and 100 mV s<sup>-1</sup> in 1 M LiClO<sub>4</sub>/PC. Fig (b) shows the dependence of the anodic peak current on the square root of the sweep rate according to a diffusion control.



**Fig S3.** The electrochromic performance of all TiO<sub>2</sub> electrodes in 1 M LiClO<sub>4</sub>/PC: Fig (a)-(c) show the electrochromic contrast of a collection of wavelength (550 nm to 850 nm) at a series of cathodic polarization potentials, Fig (d)-(e) present the transmittance spectrum of TiO<sub>2</sub> electrodes (Fig (a) & (d) refer to R<sub>⊥</sub>, Fig (b) & (e) refer to P25 and Fig (c) & (f) refer to R<sub>∥</sub>)



**Fig S4.** The colour switching responses of the TiO<sub>2</sub> electrodes were estimated by differential of the transmittance versus time.