Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supporting Information

Electrodeposition-Based Electrochromic Devices with Reversible Three-States Optical Transformation by Using Titanium Dioxide Nanoparticles Modified FTO Electrode

Tao Ye, Yong Xiang, Hong Ji, Congjin Hu, and Gang Wu**

School of Energy Science and Engineering, University of Electronic Science and Technology of China, 2006 Xiyuan Ave, West High-Tech Zone, Chengdu, Sichuan 611731, China.

*E-mail:xiang@uestc.edu.cn.

*E-mail:wugang2012@uestc.edu.cn.

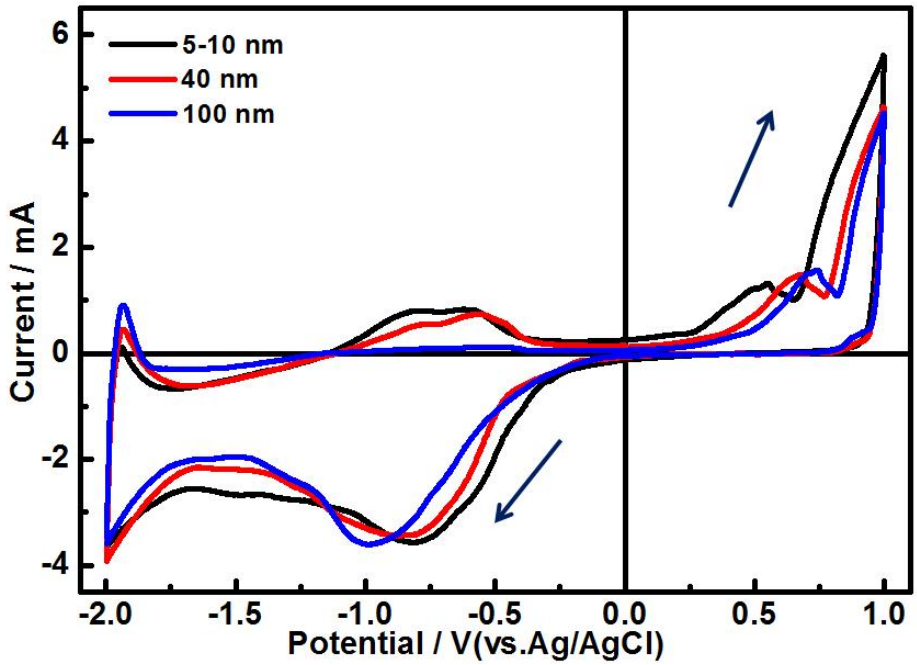

Figure S1 Cyclic voltammograms of the different sizes TiO_2 nanoparticles (5-10 nm, 40 nm, 100 nm) modified FTO electrodes in DMSO gel electrolyte (100 mM TBABr, 5 mM $CuCl_2$, 5 mM $AgNO_3$). The CV tests sweep at the rate of 100 mV s^{-1}.

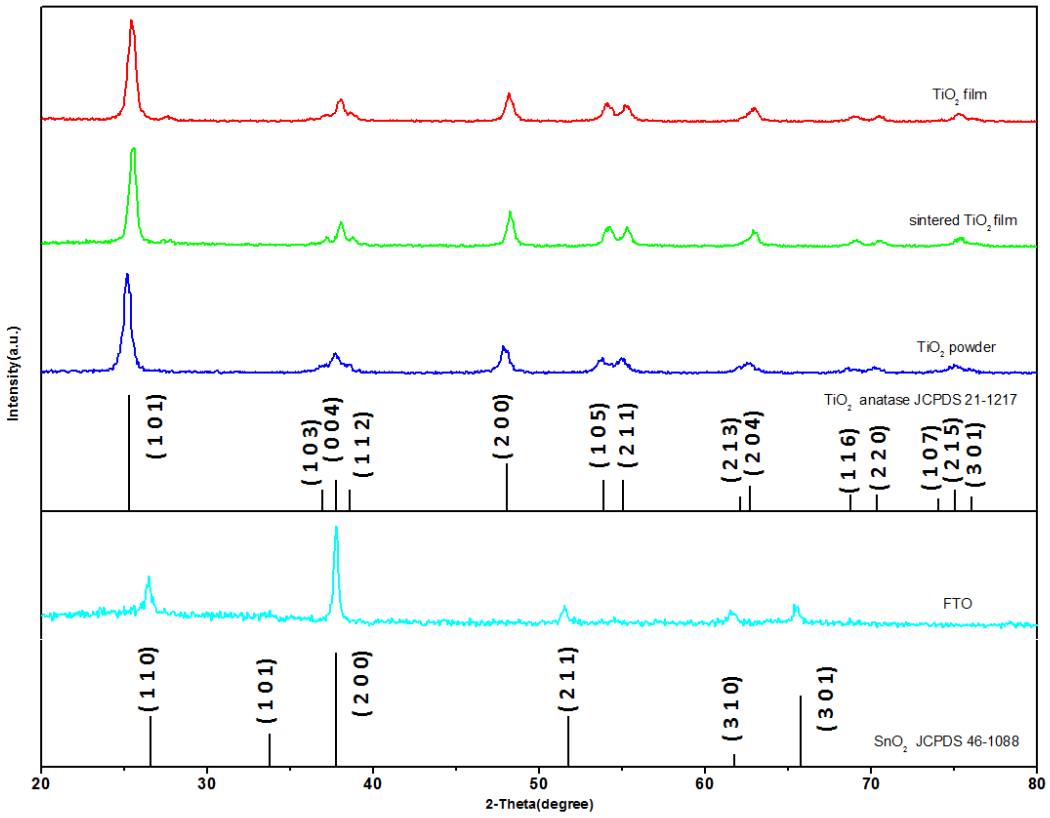

Figure S2 XRD patterns of TiO_2 film (spin-coated on the FTO and dried), sintered TiO_2 film (spin-coated and sintered at 500 ℃ for 30 min), fresh TiO_2 nanopowders (purchased and untreated), and flat FTO electrode (cleaned and dried).

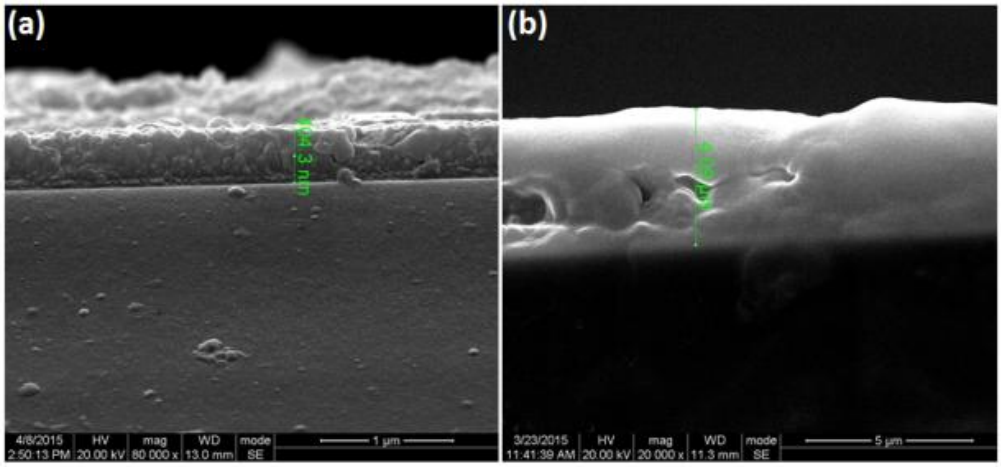

Figure S3 Side view of FESEM images of the 5-10 nm TiO_2 modified FTO: (a) before Ag deposition, (b) after Ag deposition.

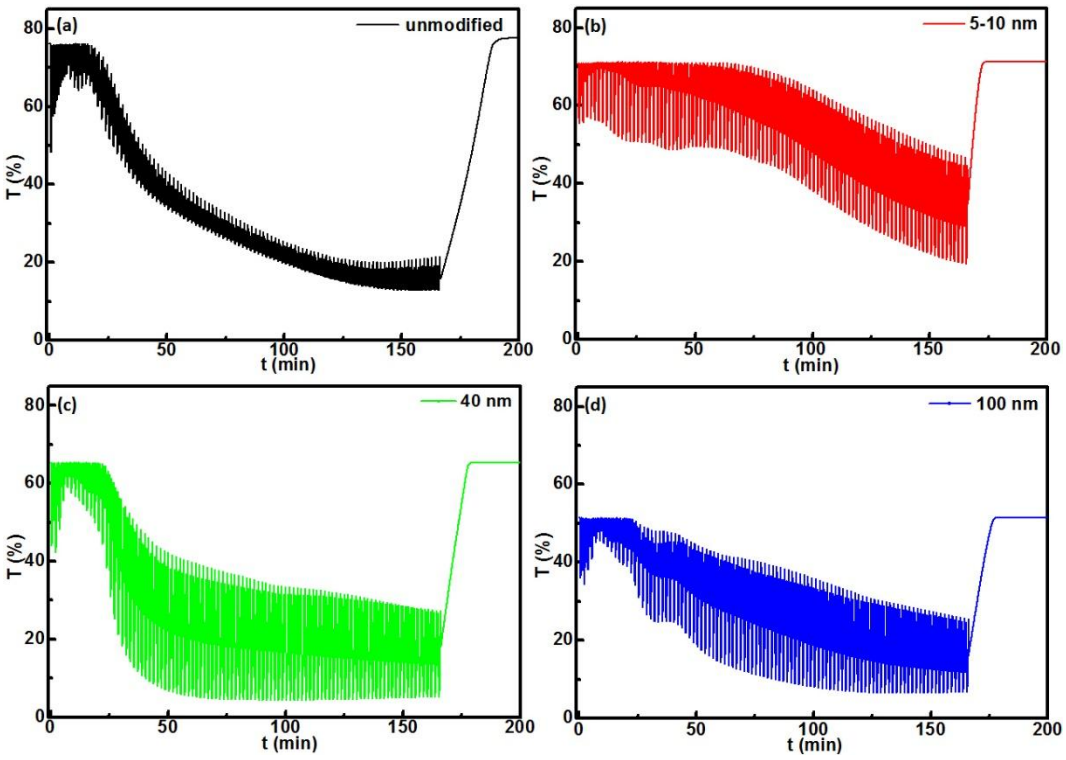

Figure S4 Transmittance change at 700 nm of the (a) unmodified devices and (b) 5-10 nm, (c) 40 nm, (d) 100 nm TiO_2 particles modified devices during the 100 CV cycles tests in suit. The CV cycle tests sweep at the rate of 100 mV s^{-1}.