

One-pot sequential electrochemical deposition of multilayer poly(3,4-ethylenedioxythiophene):poly(4-styrenesulfonic acid)/tungsten trioxide hybrid films and their enhanced electrochromic properties

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Supporting Information

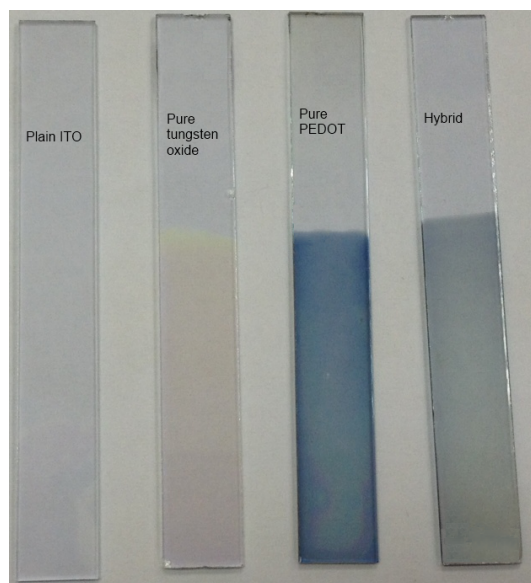


Fig. S1. Pictures of ITO coated glasses and the electrochromic thin films of same thickness. The three films were all at their oxidized states when they are dry out in air after the termination of electrochemical deposition in solution.

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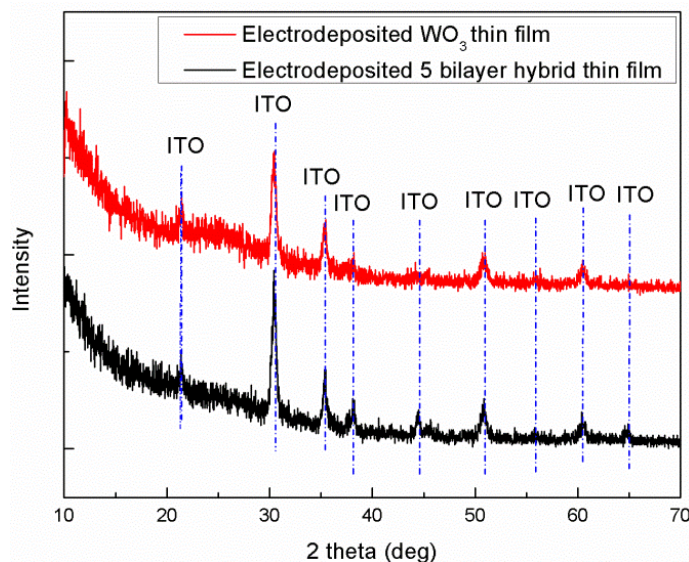


Fig. S2. X-ray diffraction patterns of the electrodeposited WO_3 and 5-bilayer hybrid thin films

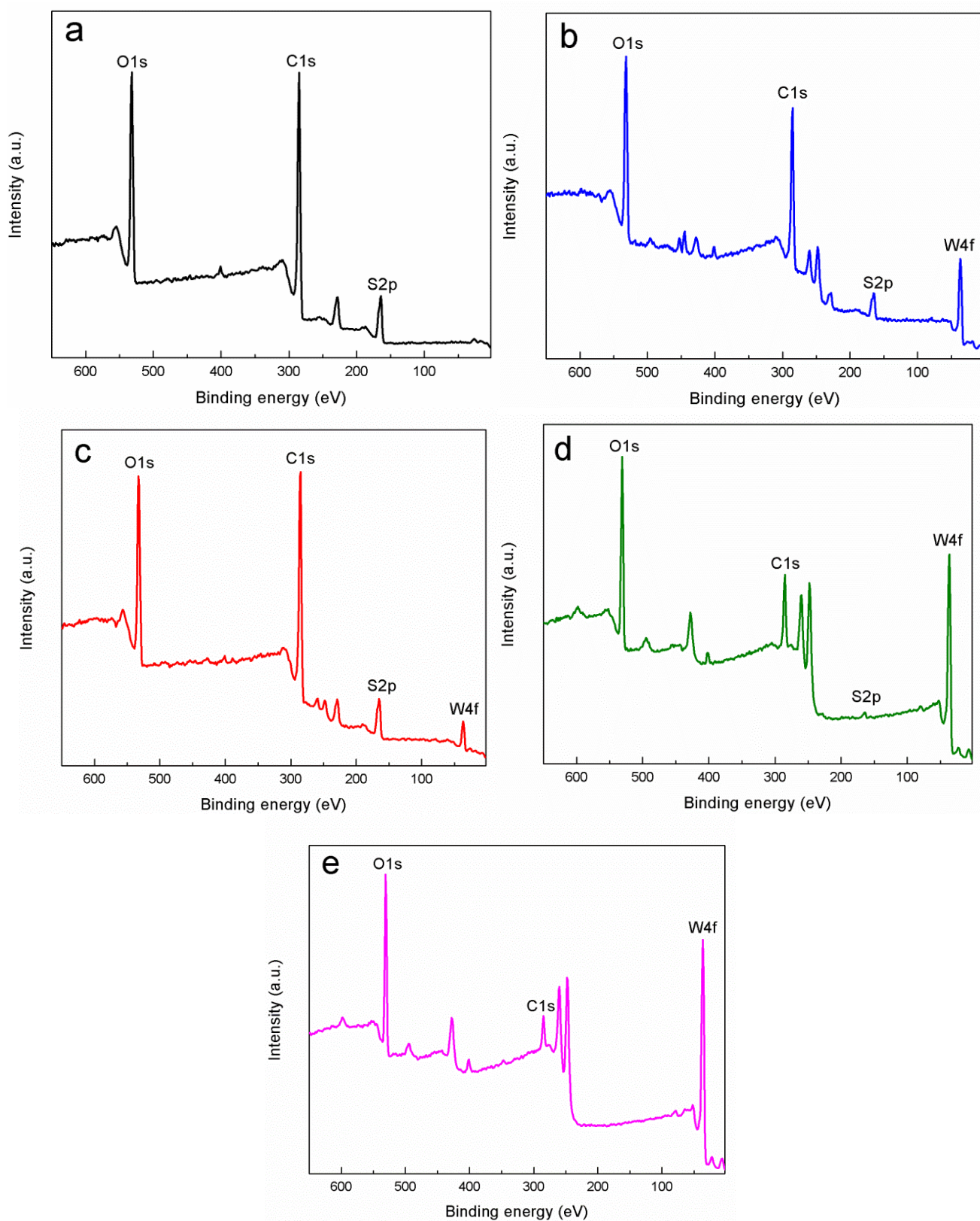
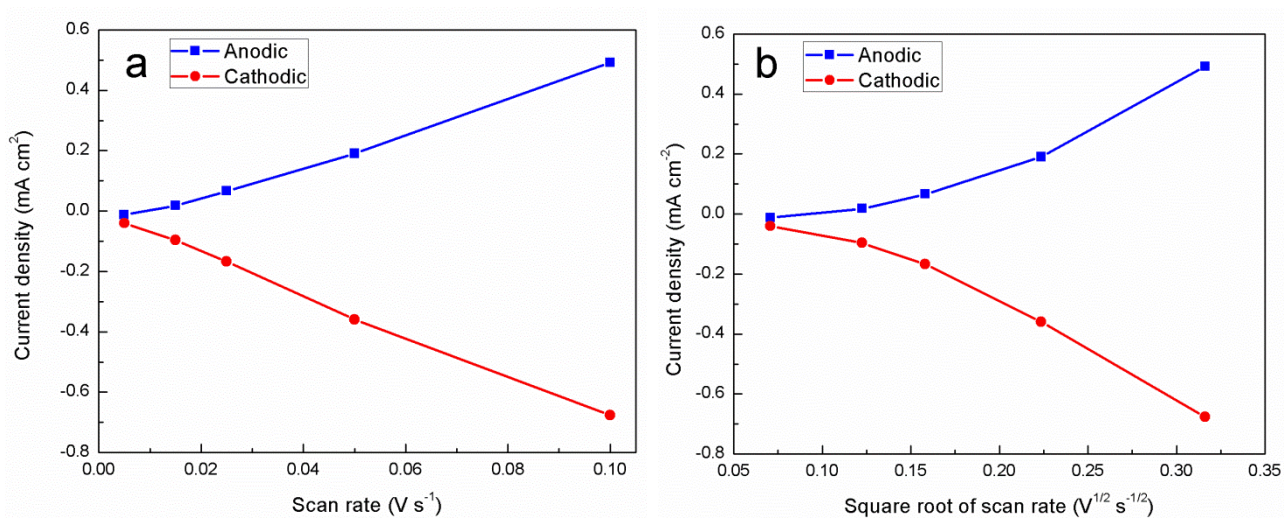
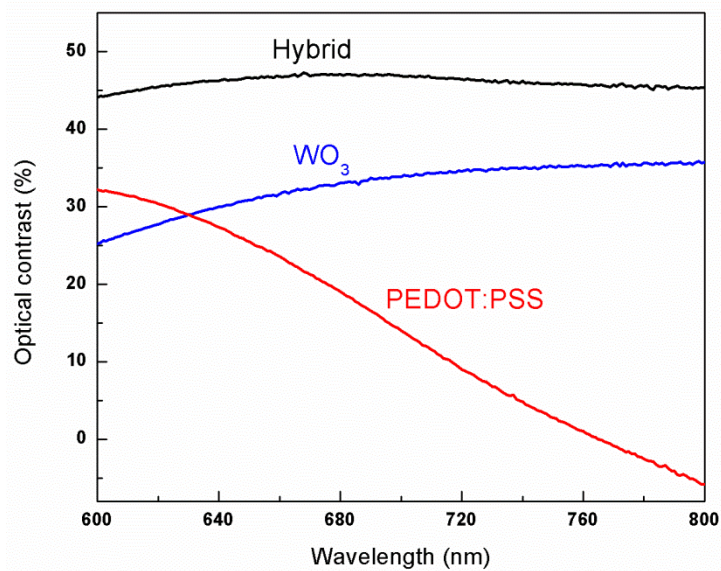


Fig. S3. XPS Survey of (a) PEDOT:PSS, (b) PEDOT:PSS/WO₃, (c) PEDOT:PSS/WO₃/PEDOT:PSS, (d) PEDOT:PSS/WO₃/PEDOT:PSS/WO₃ and (e) WO₃ thin films



5 Fig. S4. Plots of peak current density versus (a) scan rate and (b) square root of scan rate for the 5-bilayer hybrid thin film



10 Fig. S5. Plots of optical contrasts of WO_3 , PEDOT:PSS, and 5-bilayer hybrid thin films in a wavelength range from 600 nm to 800 nm

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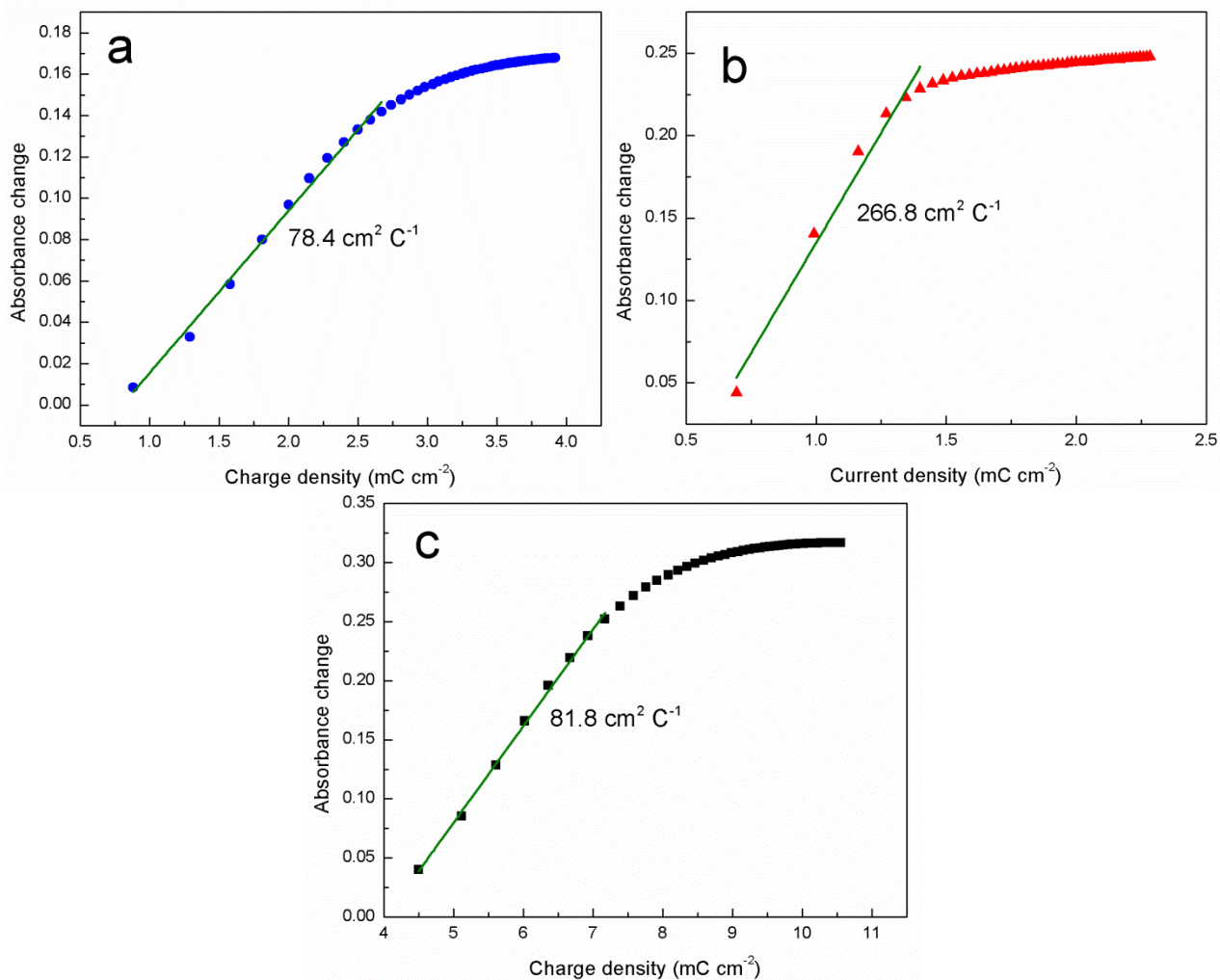


Fig. S6. Coloration efficiencies of (a) neat WO_3 , (b) neat PEDOT:PSS, (c) 5-bilayer hybrid films measured from dynamic switching tests