

Title	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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Citation	Ling, H., Lu, J., Phua, S., Liu, H., Liu, L., Huang, Y., et al. (2014). One-pot sequential electrochemical deposition of multilayer poly(3,4-ethylenedioxythiophene):poly(4-styrenesulfonic acid)/tungsten trioxide hybrid films and their enhanced electrochromic properties. <i>Journal of Materials Chemistry A</i> , 2(8), 2708-2717.
Date	2014
URL	<a href="http://hdl.handle.net/10220/39701">http://hdl.handle.net/10220/39701</a>
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# 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

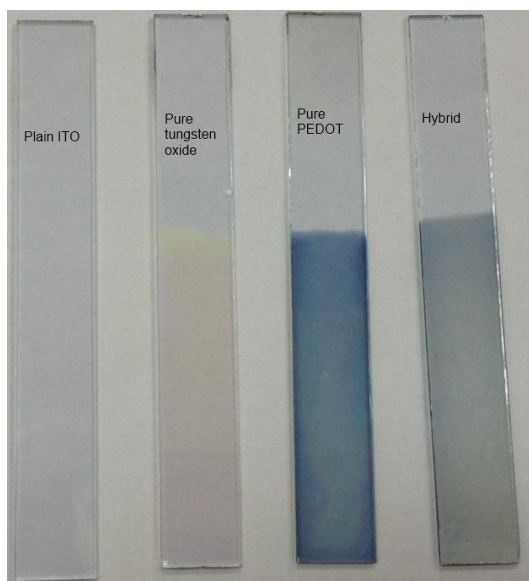


Fig. S1. Pictures of ITO coated glasses and the electrochromic thin films of same thickness. The three films were all at their oxidized states when they are dry out in air after the termination of electrochemical deposition in solution.

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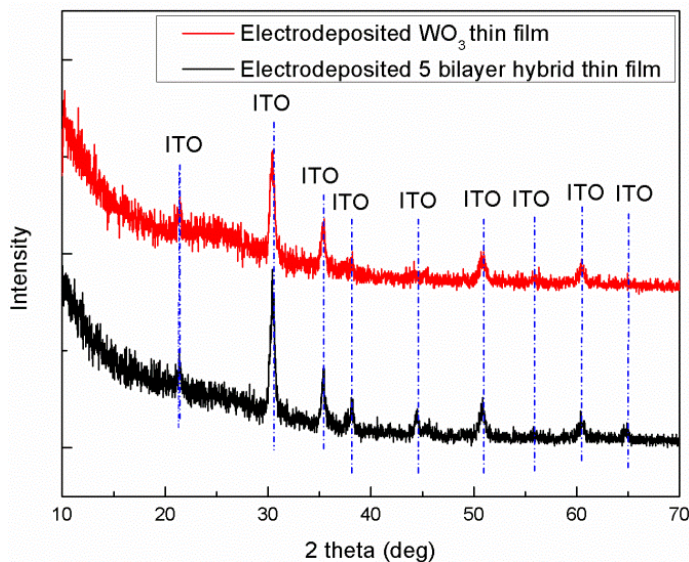


Fig. S2. X-ray diffraction patterns of the electrodeposited  $\text{WO}_3$  and 5-bilayer hybrid thin films

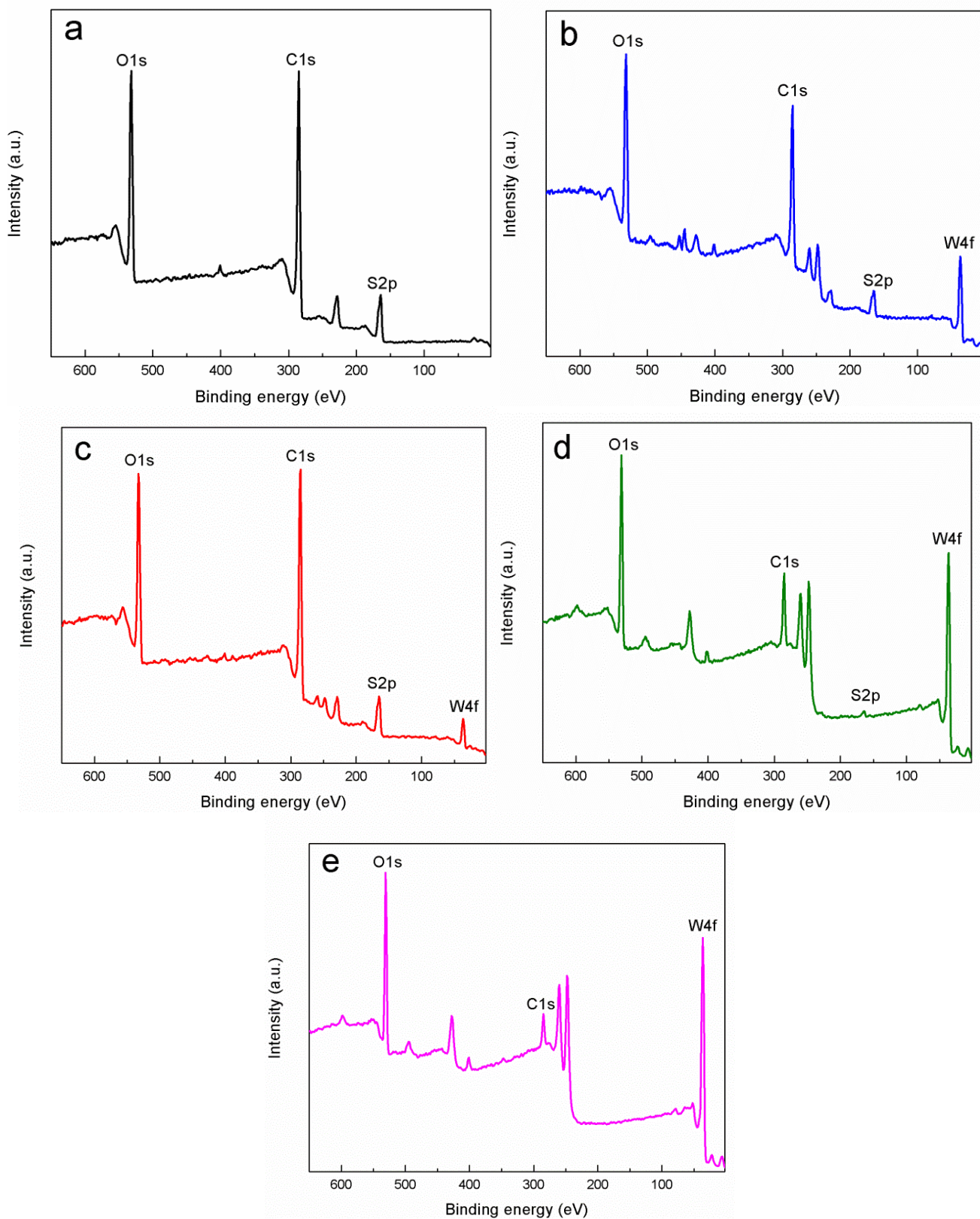


Fig. S3. XPS Survey of (a) PEDOT:PSS, (b) PEDOT:PSS/WO<sub>3</sub>, (c) PEDOT:PSS/WO<sub>3</sub>/PEDOT:PSS, (d) PEDOT:PSS/WO<sub>3</sub>/PEDOT:PSS/WO<sub>3</sub> and (e) WO<sub>3</sub> thin films

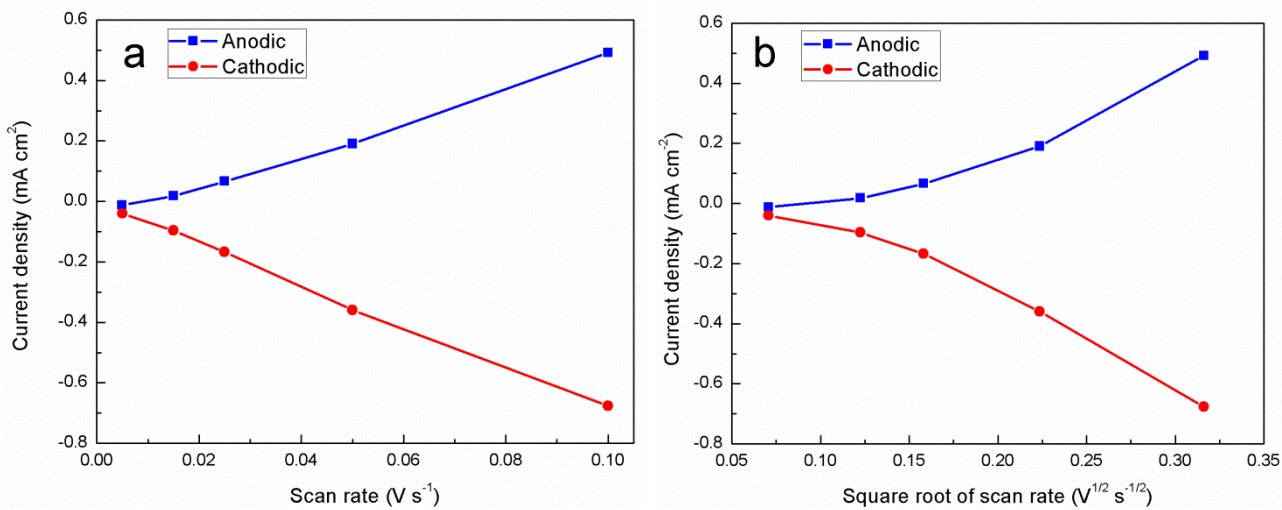


Fig. S4. Plots of peak current density versus (a) scan rate and (b) square root of scan rate for the 5-bilayer hybrid thin film

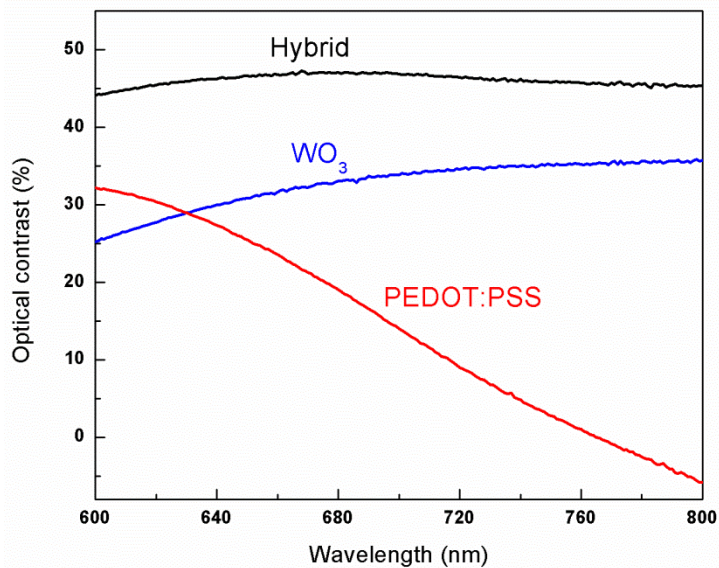


Fig. S5. Plots of optical contrasts of WO<sub>3</sub>, PEDOT:PSS, and 5-bilayer hybrid thin films in a wavelength range from 600 nm to 800 nm

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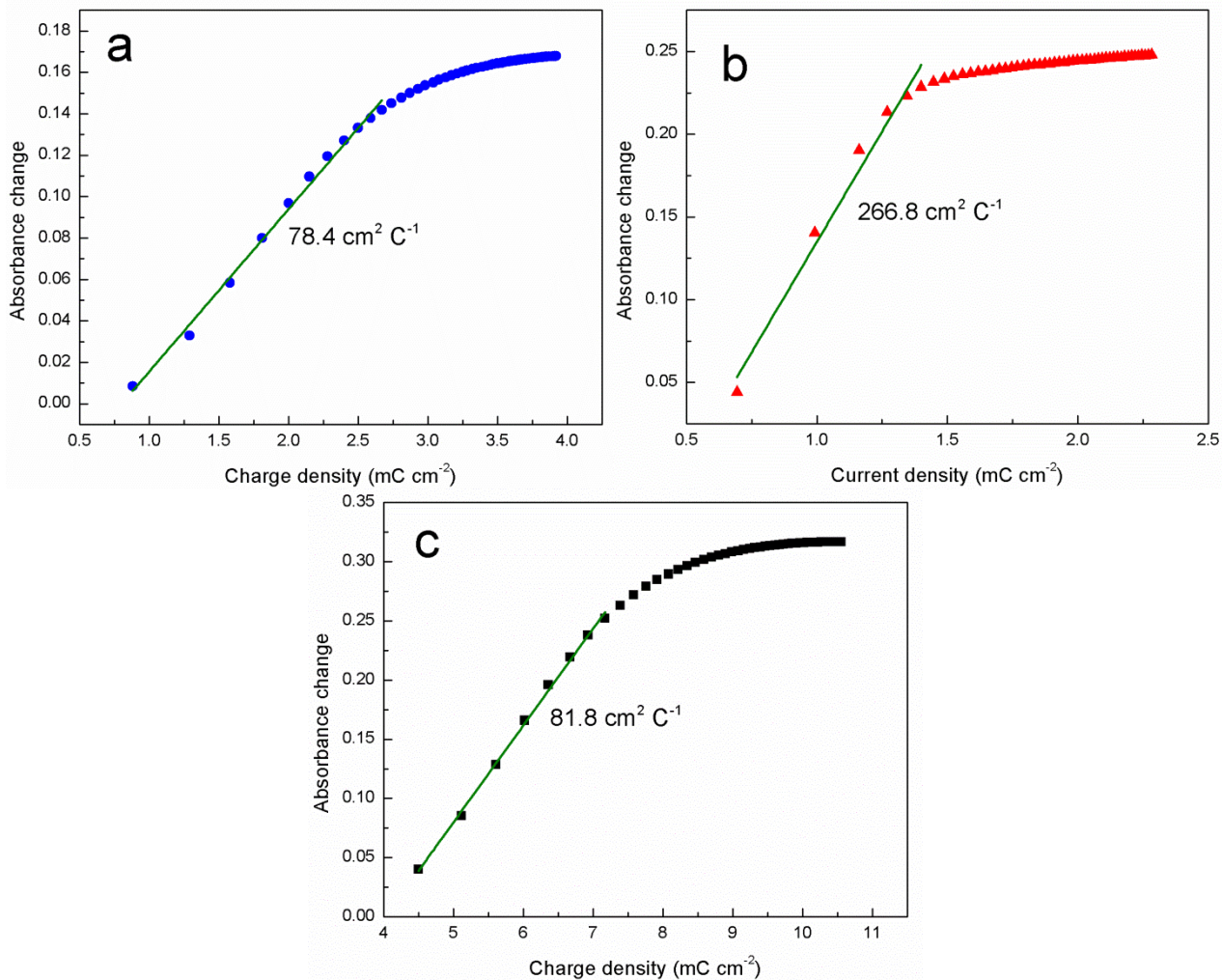


Fig. S6. Coloration efficiencies of (a) neat  $\text{WO}_3$ , (b) neat PEDOT:PSS, (c) 5-bilayer hybrid films measured from dynamic switching tests