

Supplementary Materials: Effect of Oxygen Content on the Properties of Sputtered TaO_x Electrolyte Film in All-Solid-State Electrochromic Devices

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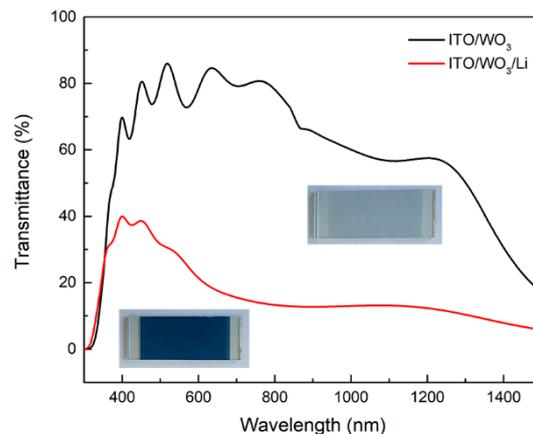


Figure S1. Optical transmittance spectra and corresponding digital photos of ITO/WO₃ and ITO/WO₃/Li.

Before Li deposition, ITO/WO₃ has high transmittance and light color. After lithium deposition, the transmittance of ITO/WO₃/Li decreases significantly, and the color becomes dark blue, indicating that Li diffuses directly into WO₃ layer to reduce it to Li_xWO₃.

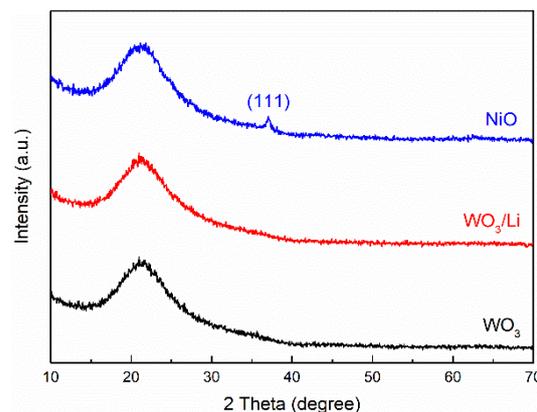


Figure S2. XRD patterns of NiO, WO₃/Li and WO₃ films on silica glass substrates.

XRD results show that the WO₃ and WO₃/Li films are amorphous and NiO exhibits a face-centered cubic structure. A weak peak located at 37.09° was observed in the XRD pattern of NiO film, which belongs to the (111) lattice plane (PDF card (No. 89-7130)).

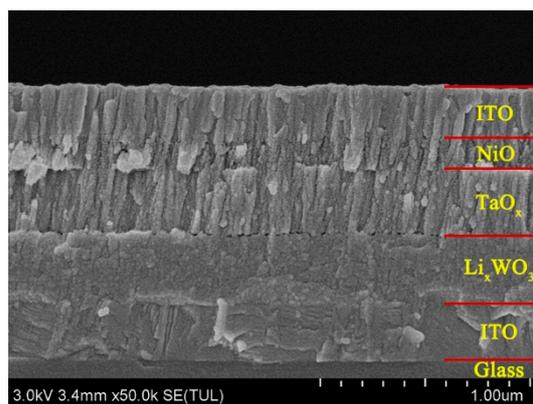


Figure S3. The cross-sectional morphology of the ECD after 1000 cycles.

The cross-sectional SEM images of the ECD after 10 and 1000 cycles have the same morphology.