

# Supporting information

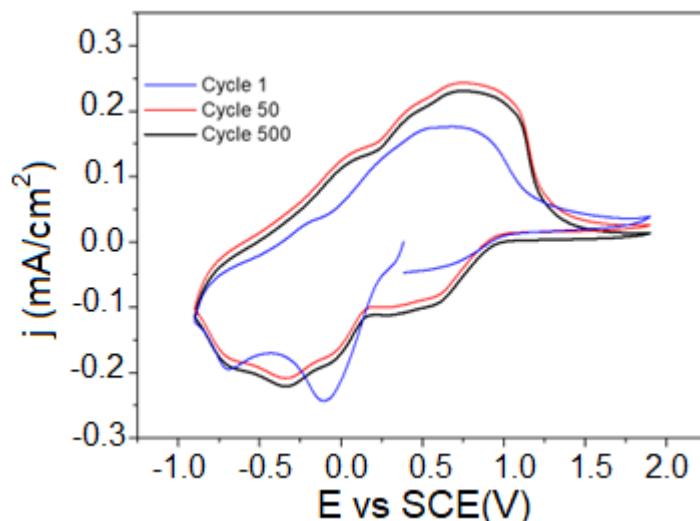
## From irreversible transformation of VO<sub>2</sub> to V<sub>2</sub>O<sub>5</sub> Electrochromic Films

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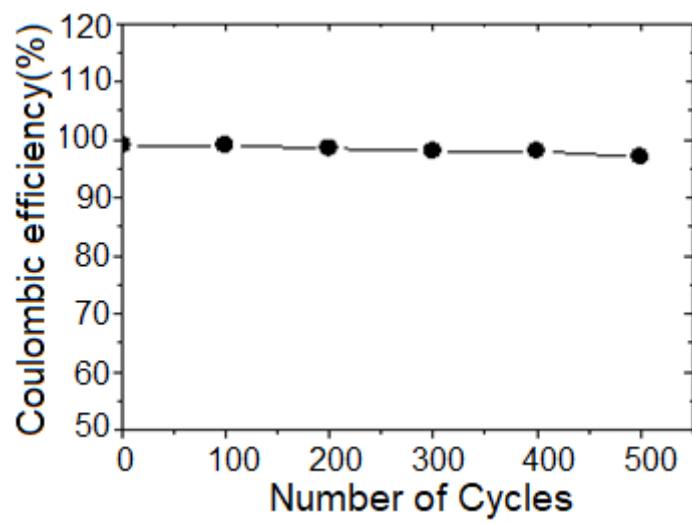
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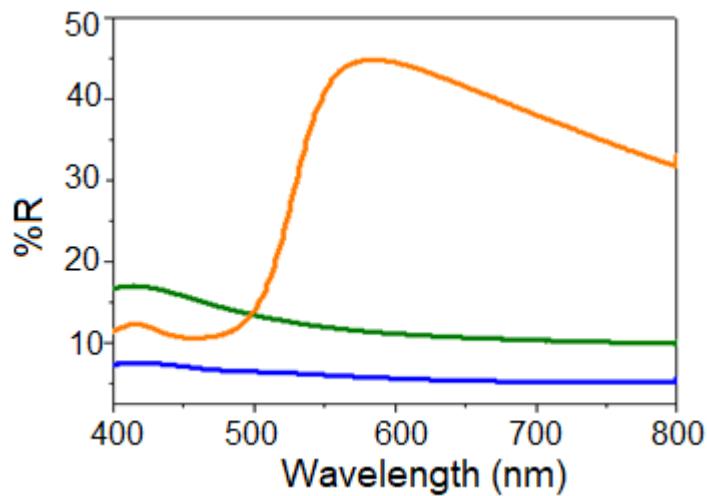


**Figure S1.** Corresponding cycling voltammograms for of VO<sub>2</sub>(M1) film cycled in Pt/LiTFSI-EMITFSI/VO<sub>2</sub> vs SCE with a 10 mV/s scan rate.

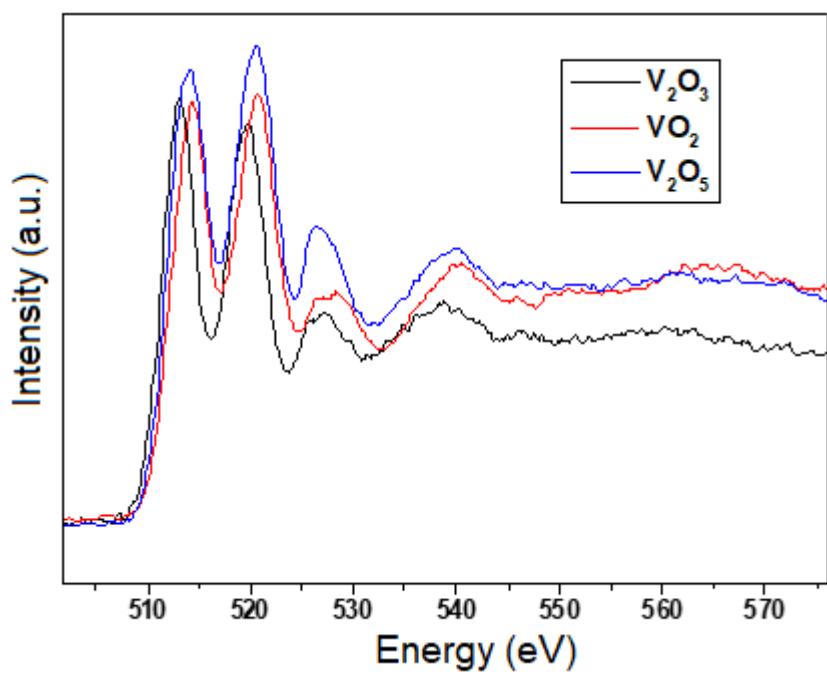


**Figure S2.** Coulombic efficiency evolution with the number of cycles.

S2



**Figure S3.** *Ex-situ* diffuse reflectance of VO<sub>2</sub>(M1) films in reduced green state at (-0.3V), blue state at (-0.9 V) and oxidized orange state (+1.9 V) after 500 cycles.



**Figure S4.** EELS of the powders.