

# Supporting Information

## **Rapid Fabrication of Tungsten Oxide-Based Electrochromic Devices through Femtosecond Laser Processing**

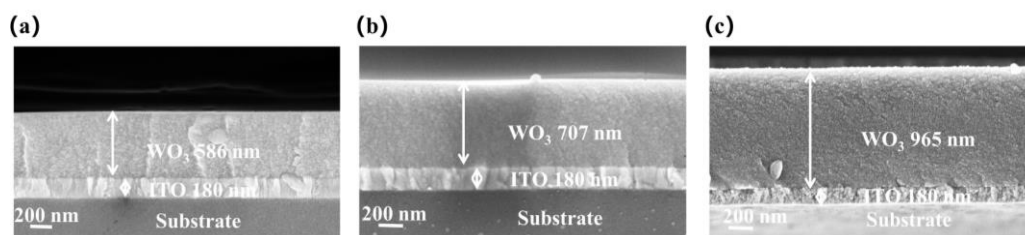
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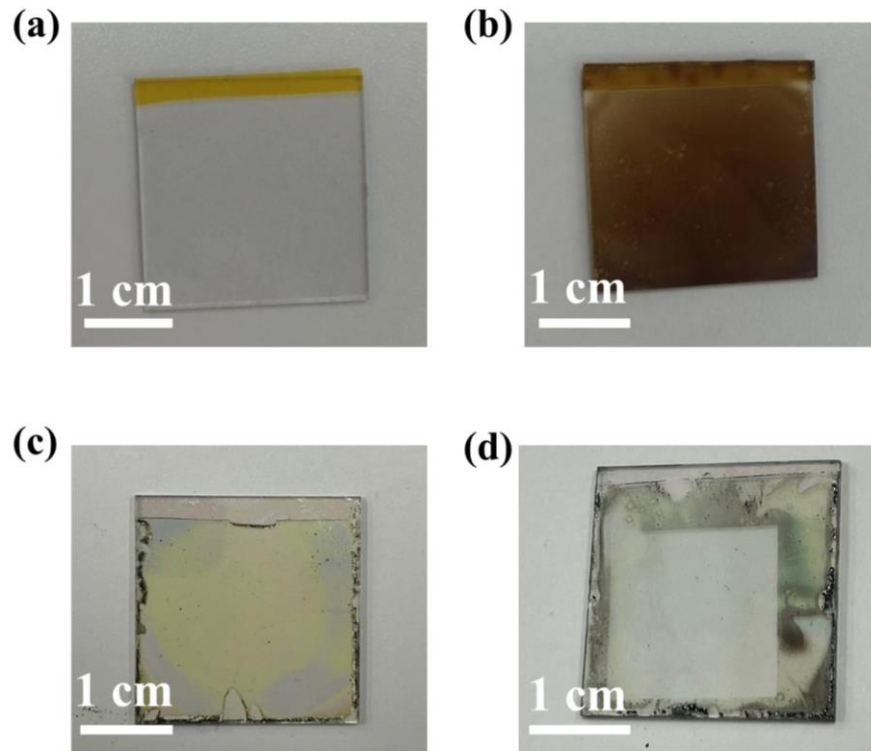
*<sup>2</sup> Center of Materials Science and Optoelectronics Engineering, University of Chinese  
Academy of Sciences, Beijing, 100049, China*

\*Corresponding author: Longnan Li

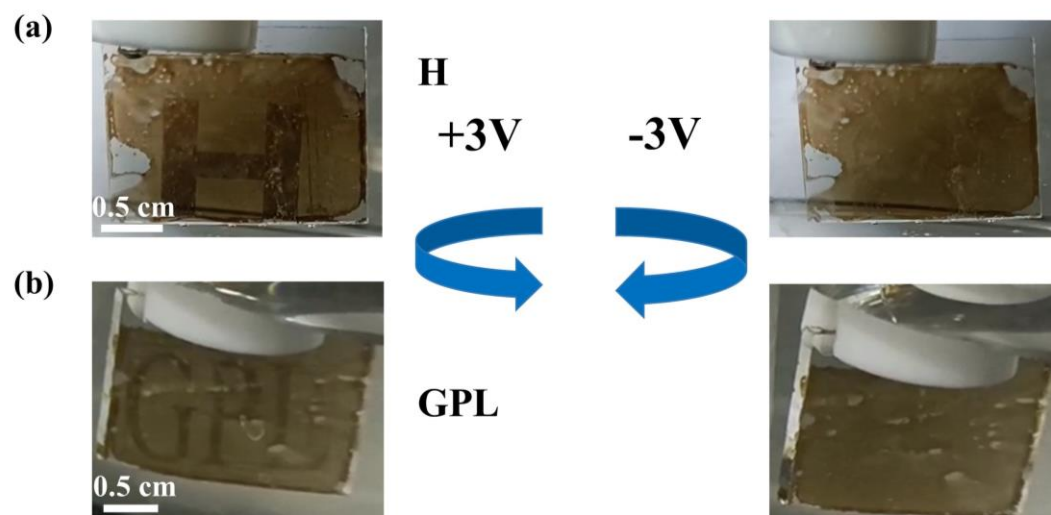
E-mail address: longnanli@ciomp.ac.cn



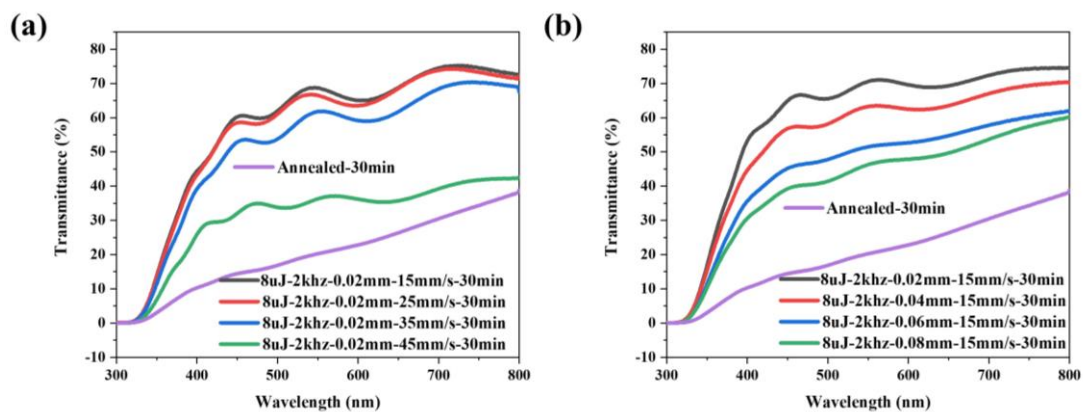
**Figure S1.**  $\text{WO}_3$  film thickness prepared from precursor solutions with different PVP contents: (a) 0.5 g (b) 0.6 g (c) 0.8 g.



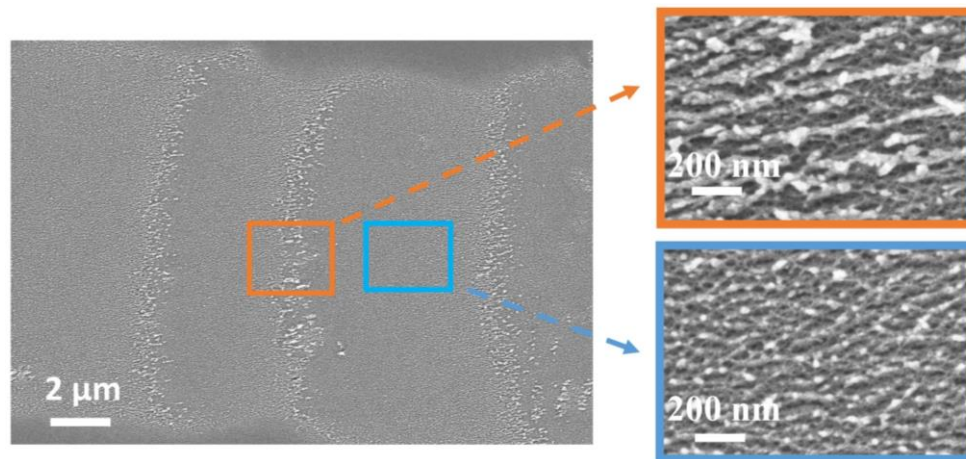
**Figure S2.** (a) General sample and (b) solidified sample after heat treatment at 300 ° C for 5 minutes (c) sample after heat treatment at 500 ° C for 2 hours (d) laser processed sample after heat treatment at 500 ° C for 40 minutes (8uJ-2kHz-0.02mm-15mm/s)



**Figure S3.** Different patterns obtained by processing precursor films:(a) H(b) GPL.

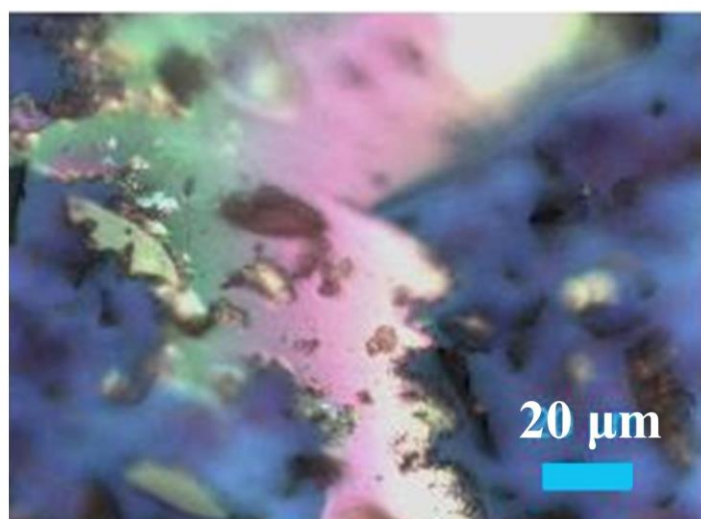


**Figure S4.** Effect of different laser processing parameters and heat treatment time on sample transmittance (a-b) heat treatment at 500 °C for 30 min

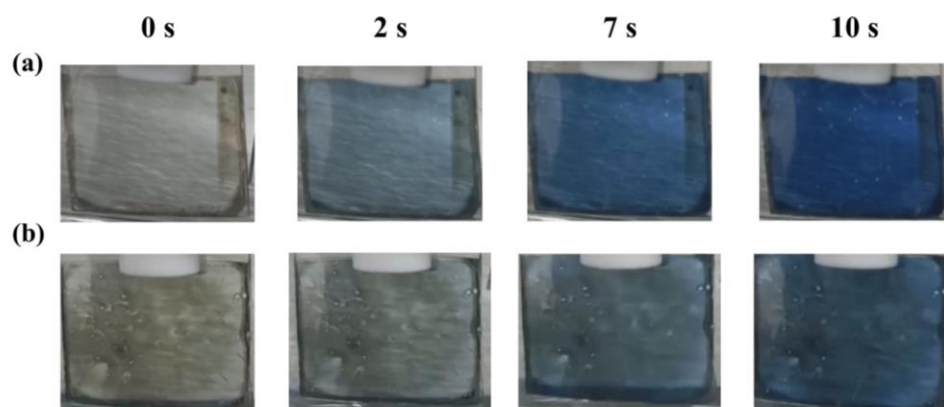


**Figure S5.** lower magnification of laser processed area; High magnification of the orange area; High magnification of the blue area.

**8uJ-2kHz-15mm/s-0.01mm**



**Figure S6.** Optical images of precursor film surface after laser processed with a line spacing of 0.01 mm.



**Figure S7.** The optical images of coloring performance of (a) laser-processed ( $8\ \mu\text{J}$ -2 kHz-0.02 mm-15 mm/s) and (b) general WO<sub>3</sub>-based EC device after applying an applied (-3 V) voltage.