

Supporting Information

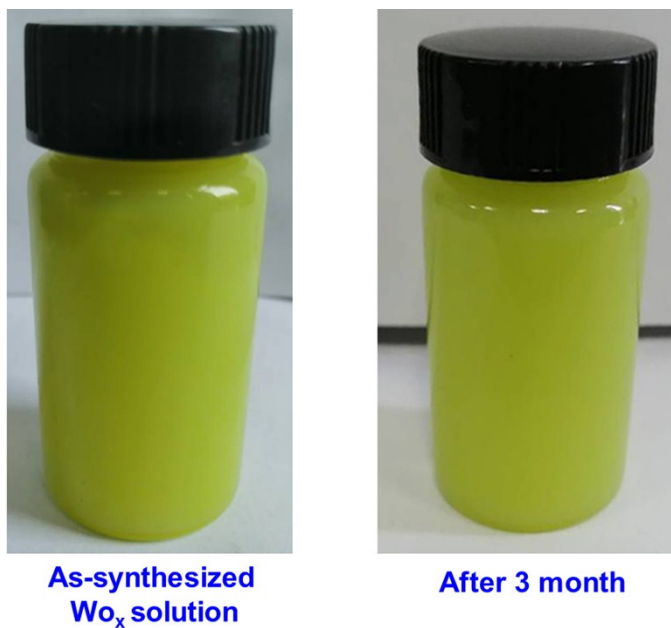


Fig. S1 The as-synthesized WO_x sol-gel solution and placed in ambient conditions for 3 month.

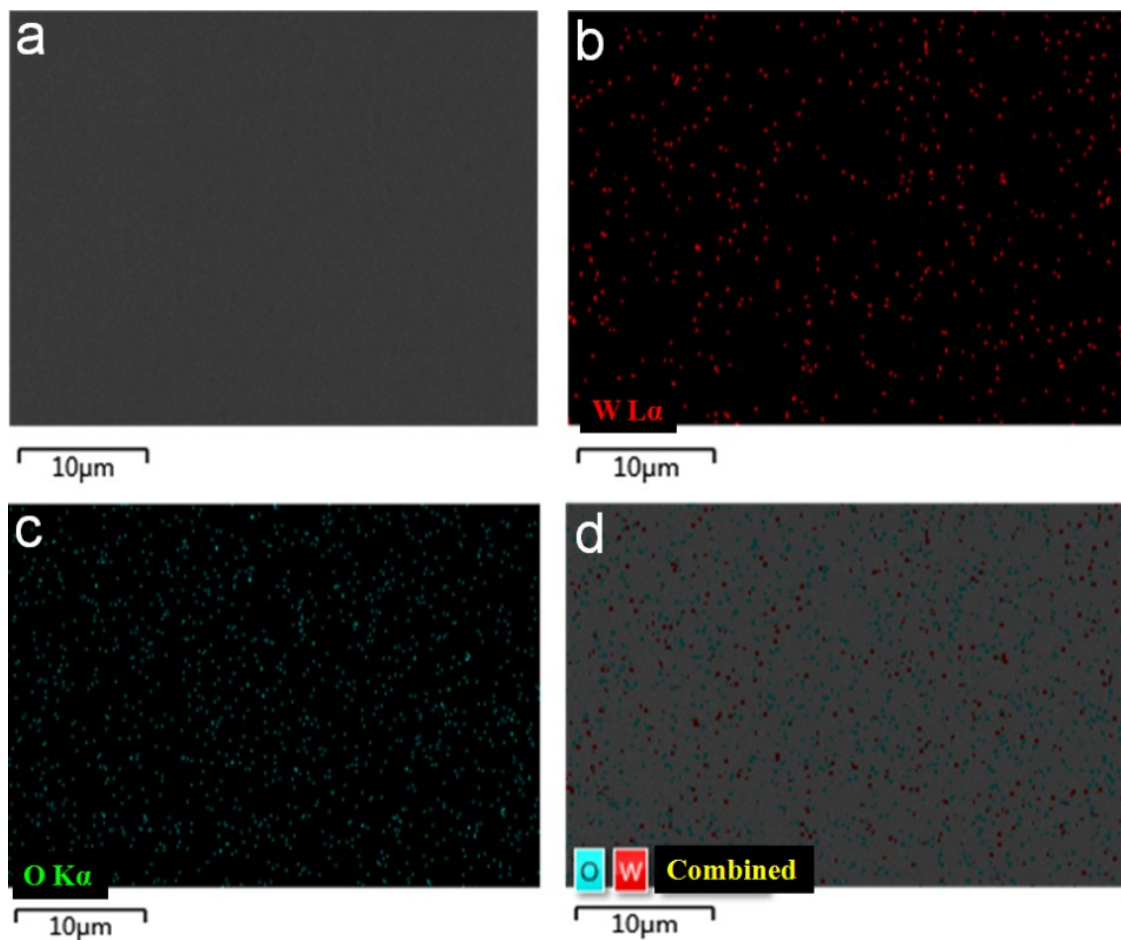


Fig. S2 The SEM images of (a) surface morphology, (b) the W element mapping, (c) the O element mapping, and (d) the mapping of combined W and O elements.

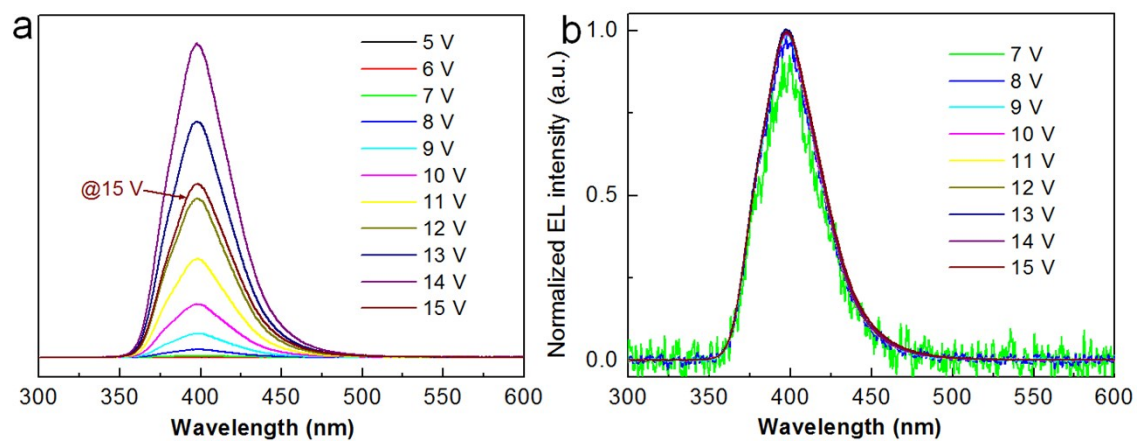


Fig.S3 The (a) EL spectra and (b) normalized EL spectra of the UV OLED with HIL of PEDOT:PSS+WO_x=20:1 (Device D) at different voltages.