

Supplementary Information

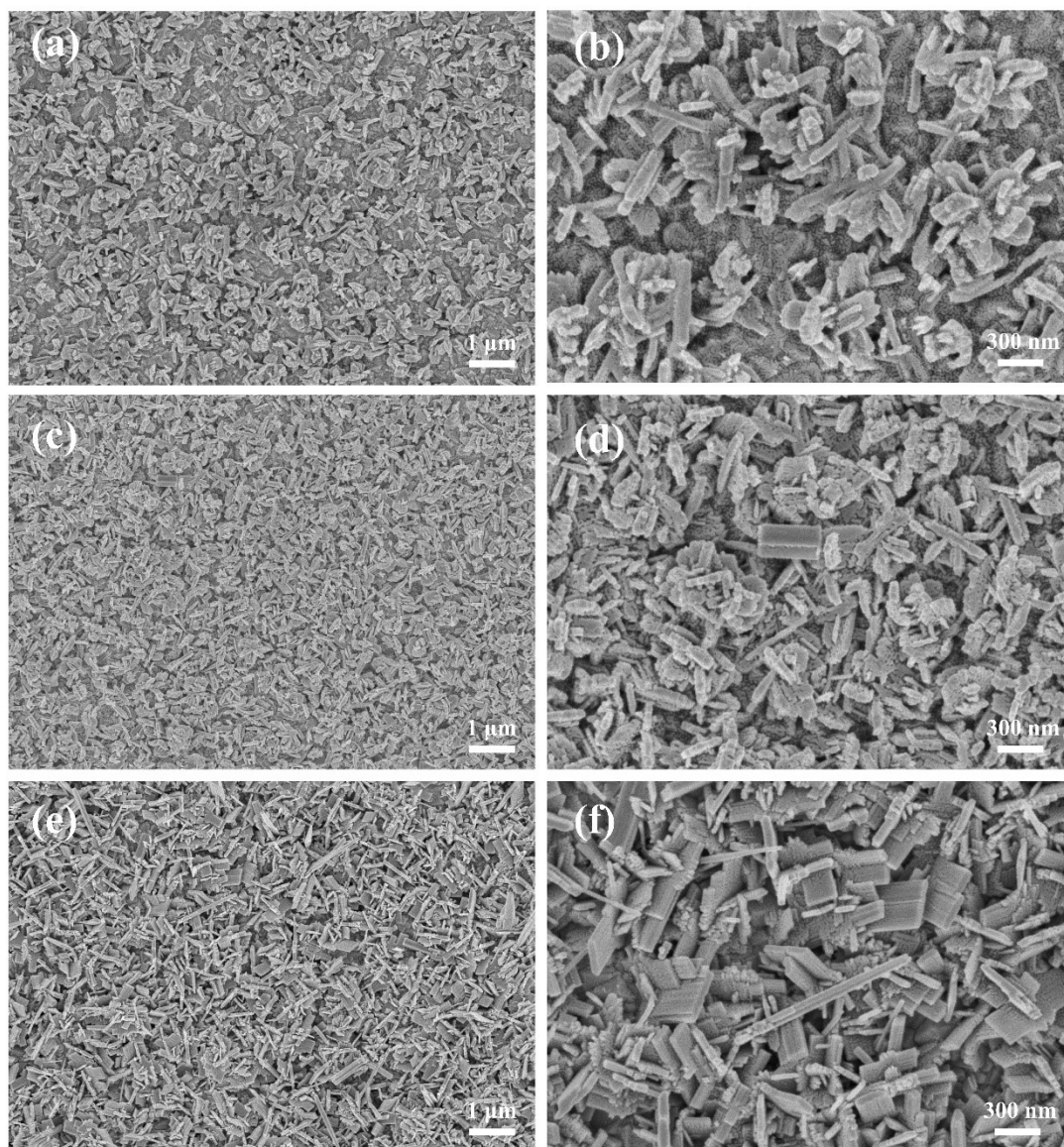


Fig. S1 SEM images of (a, b) WCo-0.5%, (c, d) WCo-1.0%, (e, f) WCo-2.0% with different magnifications.

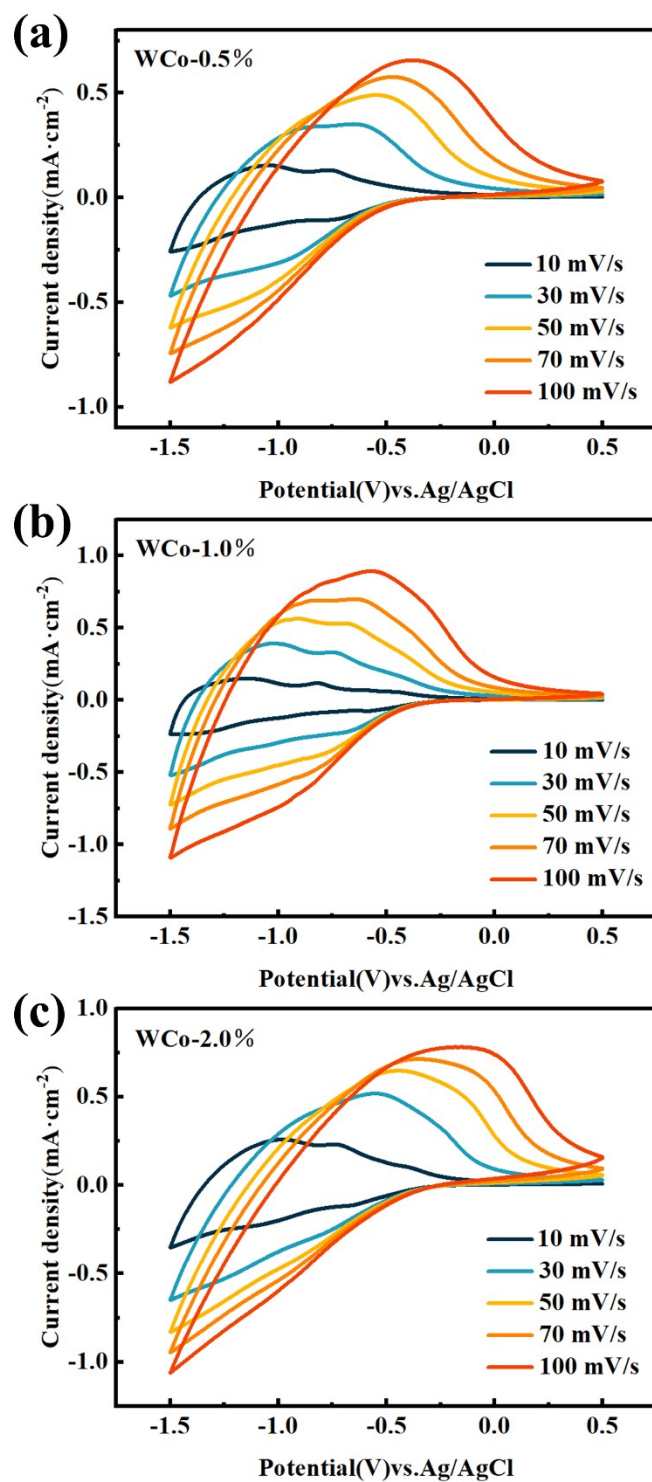


Fig. S2 Cyclic voltammetry (CV) curves of (a) WCo-0.5%, (b) WCo-1.0% and (c) WCo-2.0% films at different scan rates between -1.5 V and +0.5 V.

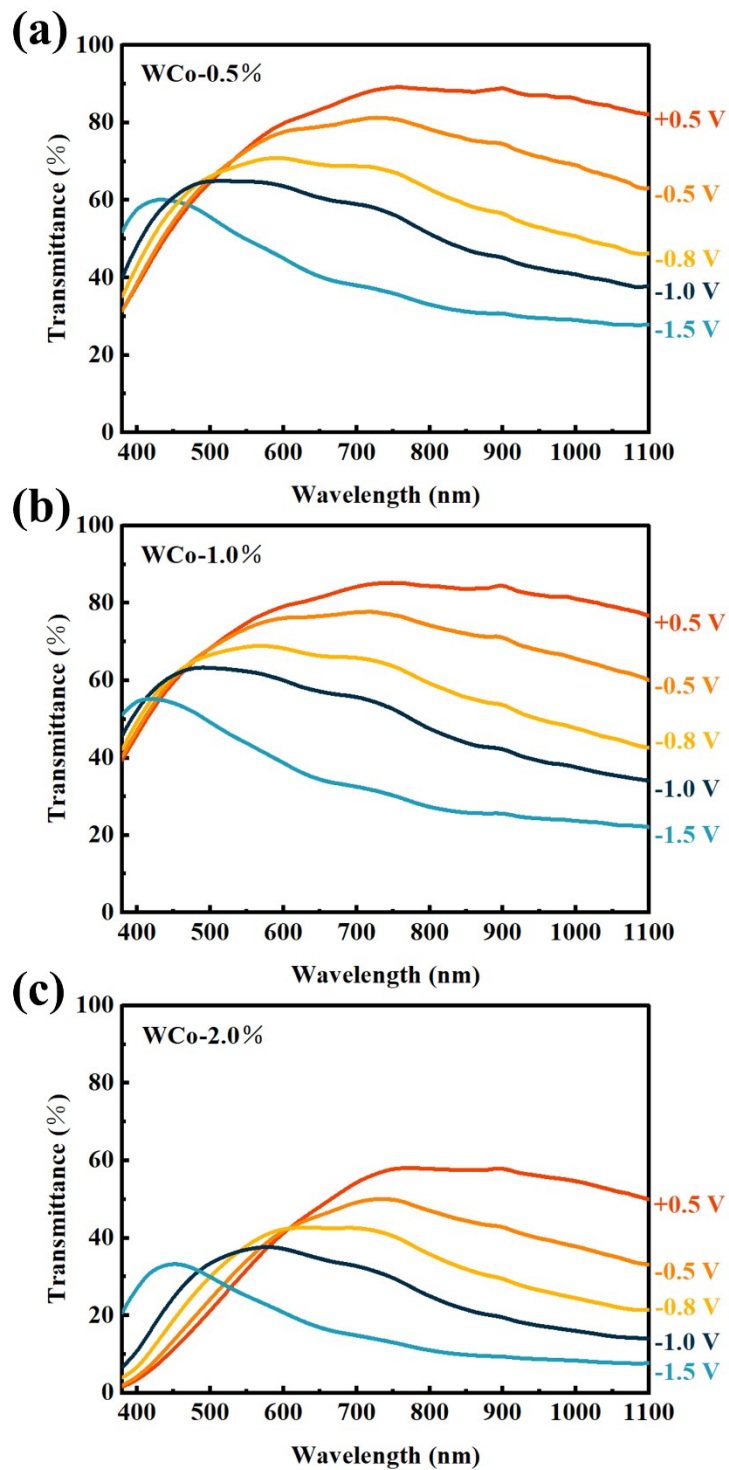


Fig. S3 Transmission spectra of (a) WCo-0.5%, (b) WCo-1.0% and (c) WCo-2.0% films at different applied potentials (vs. Ag/AgCl) for 60 s in the bleached and colored states.

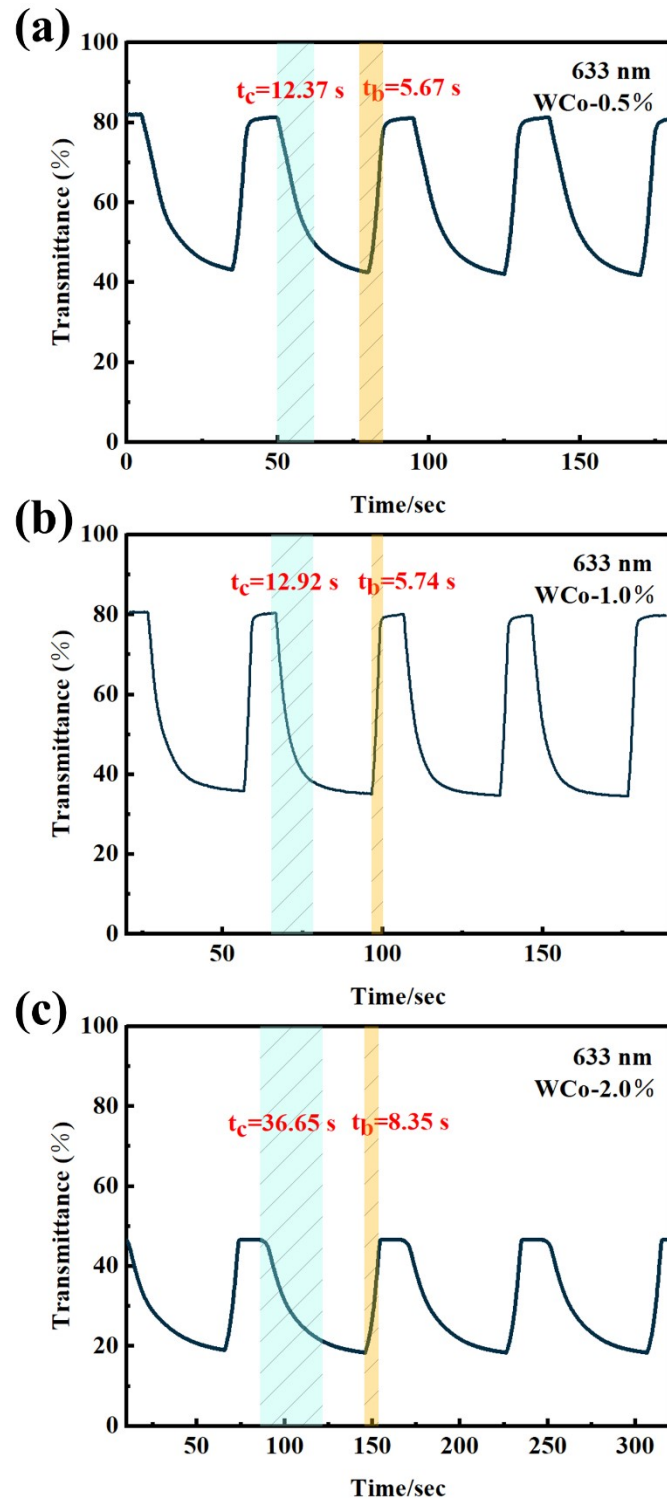


Fig. S4 In-situ response curves of (a) WCo-0.5%, (b) WCo-1.0% and (c) WCo-2.0% films at a wavelength of 633 nm.

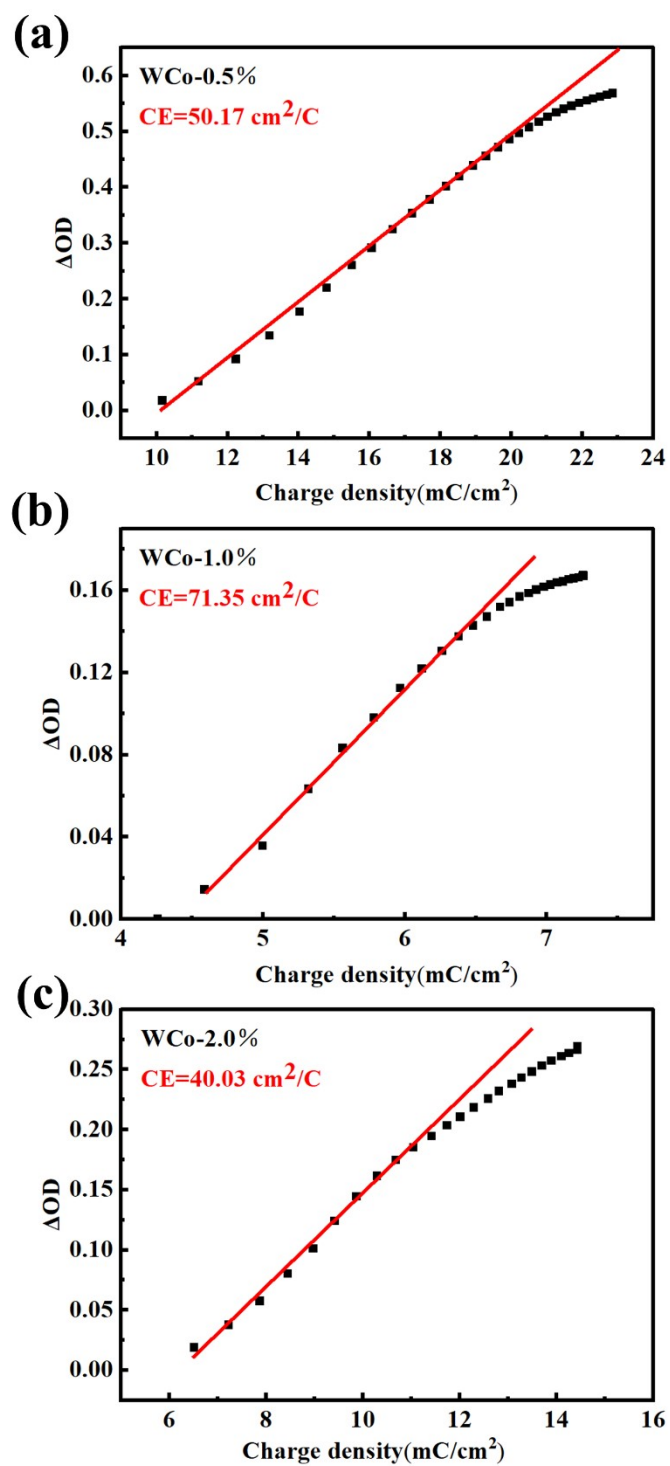


Fig. S5 (a) WCo-0.5%, (b) WCo-1.0% and (c) WCo-2.0% films at 633 nm optical density (ΔOD) vs. charge density ($\Delta Q/S$) curves at 633 nm.

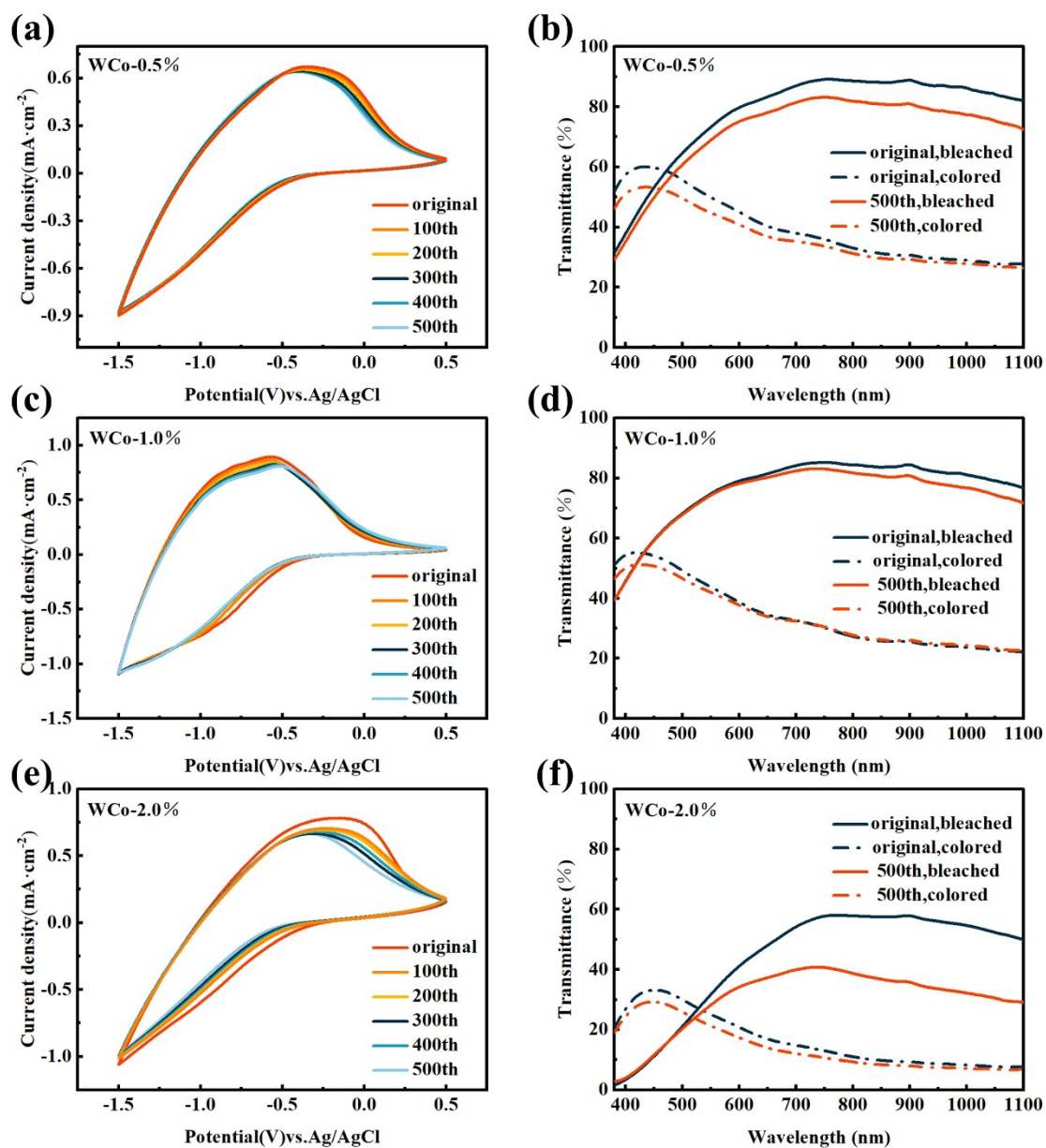


Fig. S6 Cyclic voltammetry curves and transmittance spectra of (a) WCo-0.5%, (b) WCo-1.0% and (c) WCo-2.0% films in the original state and after 500 cycles.