

Supplementary Information for:

Electrolytes for Reversible Zinc Electrodeposition for Dynamic Windows

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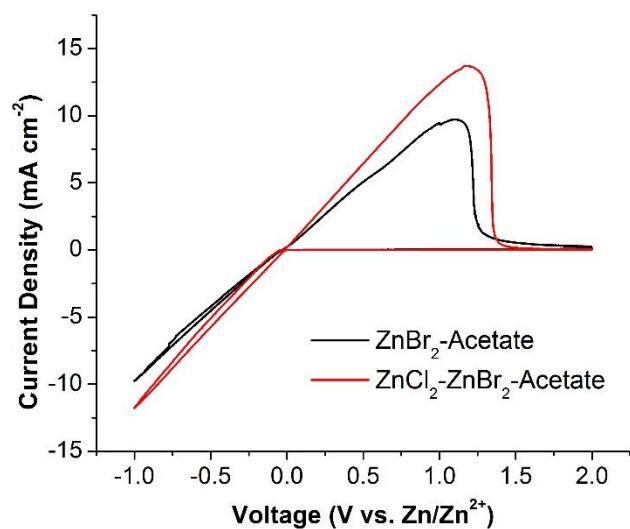


Figure S1: Cyclic voltammogram at a scan rate of 25 mV s⁻¹ of Pt-modified ITO working electrodes in electrolytes containing 0.5 M sodium acetate and 0.5 M ZnBr₂ (black line) or 0.25 M ZnCl₂ and 0.25 M ZnBr₂.

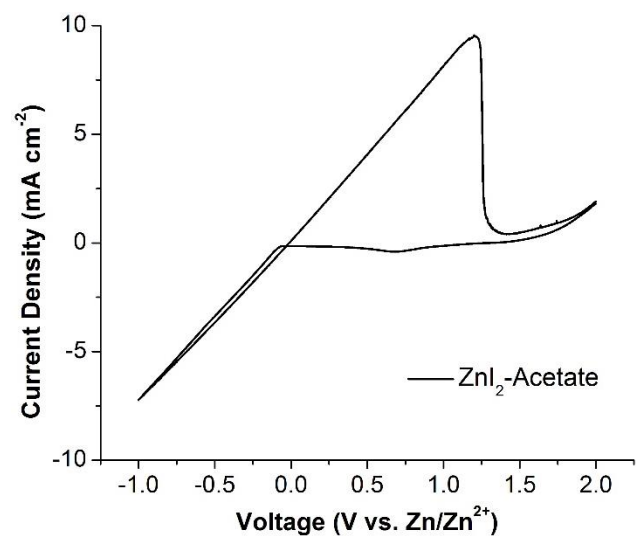


Figure S2: Cyclic voltammogram at a scan rate of 25 mV s⁻¹ of a Pt-modified ITO working electrode in an electrolyte containing 0.5 M ZnI₂ and 0.5 M sodium acetate.

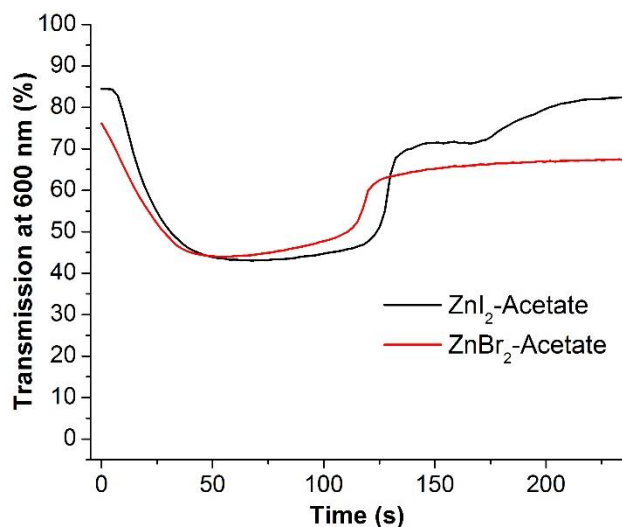


Figure S3: Transmission at 600 nm of the working electrode during the second cycle of CVs in an electrolyte containing 0.5 M sodium acetate and 0.5 M ZnI_2 (black line) or ZnBr_2 (red line). The corresponding CVs are displayed in Figure S1 and S2.

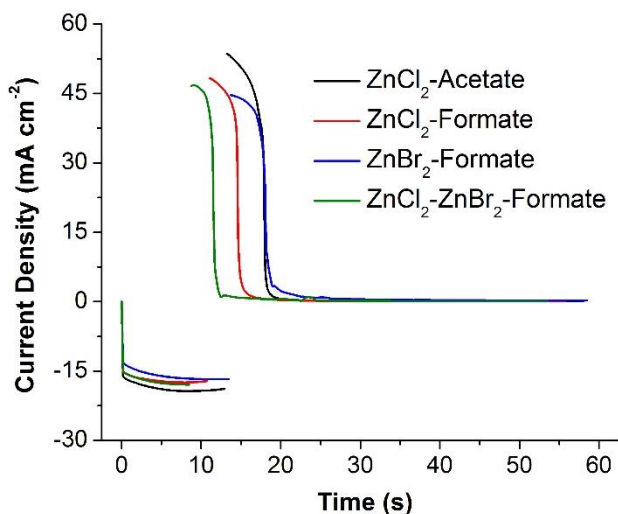


Figure S4: Chronoamperometry during Zn electrodeposition and stripping in electrolytes containing 0.5 M sodium acetate and 0.5 M ZnCl_2 (black line), or 0.5 M sodium formate and 0.5 M ZnCl_2 (red line), 0.5 M ZnBr_2 (blue line), or 0.25 M ZnCl_2 and 0.25 M ZnBr_2 (green line). To elicit Zn electrodeposition, chronoamperometry was conducted at -1.0 V until the transmission at 600 nm reached 1%. Next, Zn stripping was conducted at +2.5 V.

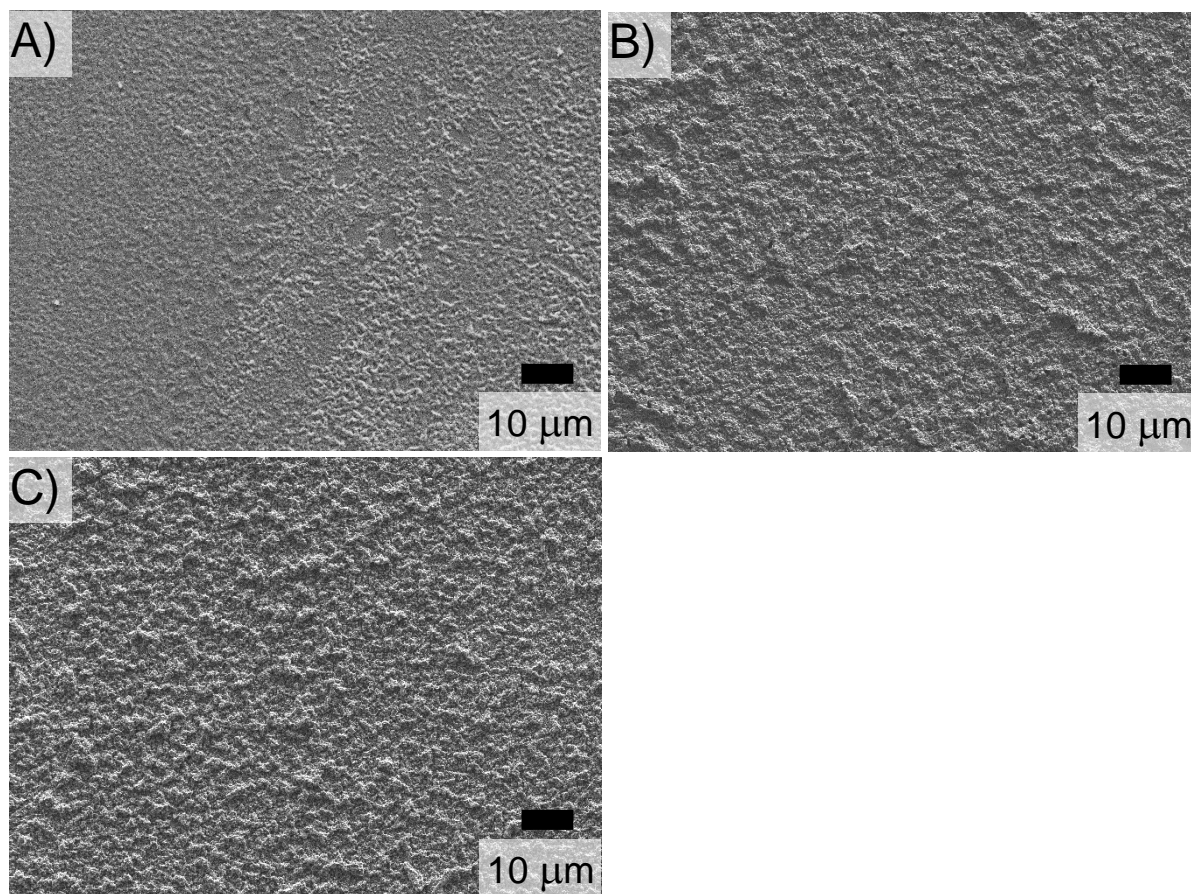


Figure S5: Scanning electron microscopy images of Zn electrodeposits obtained after a linear sweep voltammogram from 0 V to -0.25 V (A), -0.5 V (B), and -0.75 V (C) at 5 mV s^{-1} in an electrolyte containing 0.5 M sodium formate and 0.25 M ZnCl_2 and 0.25 M ZnBr_2 . The transmissions at 600 nm of the electrodes were 38%, 14%, and 4% for panels A, B, and C, respectively.

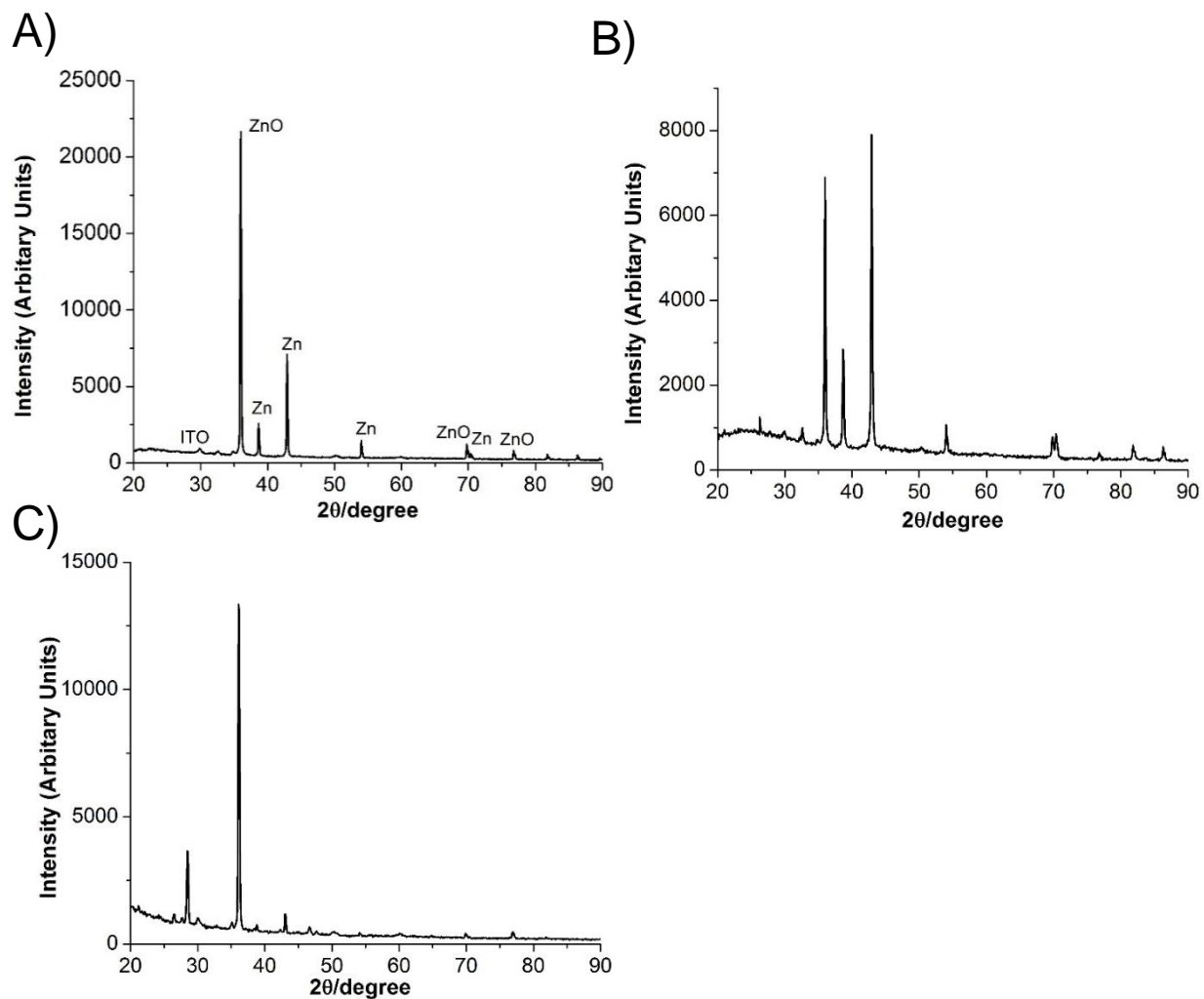


Figure S6: Representative X-ray diffraction spectra of Zn electrodeposits obtained after a linear sweep voltammogram from 0 V to -1 V at 5 mV s^{-1} in an electrolyte containing 0.5 M sodium formate and 0.5 M ZnCl_2 (A), 0.5 M ZnBr_2 (B), or 0.25 M ZnCl_2 and 0.25 M ZnBr_2 (C).

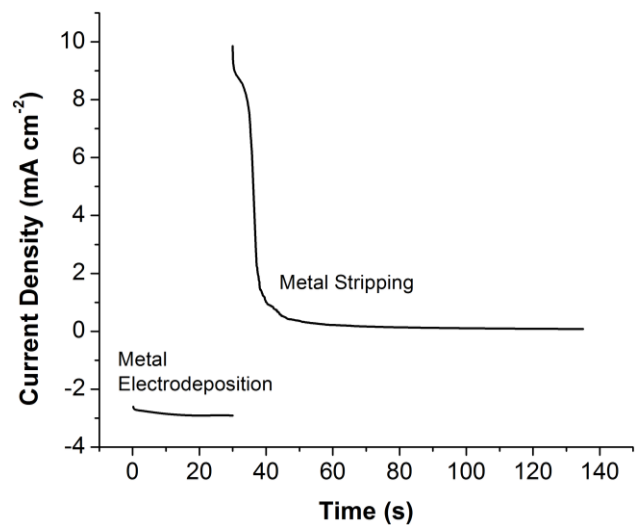


Figure S7: Chronoamperometry during switching of 25 cm² dynamic window based on reversible Zn electrodeposition. Metal electrodeposition on the working electrode was elicited by applying -0.8 V for 30 s before +2.3 V was applied to induce metal stripping.

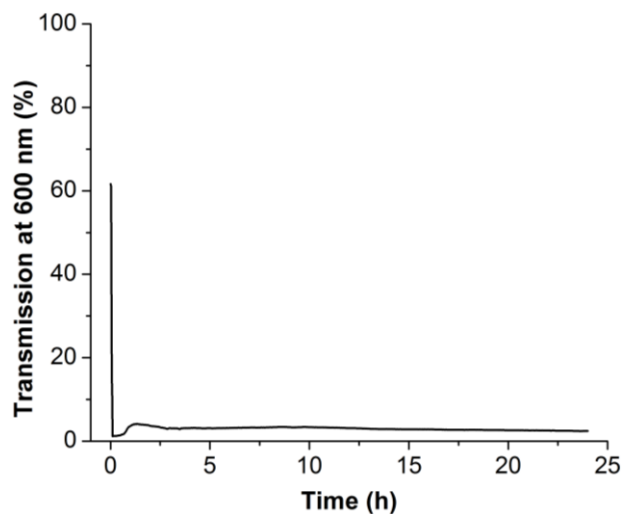


Figure S8: Transmission at 600 nm of a 25 cm² dynamic window based on reversible Zn electrodeposition. Initially, the device was switched to 1% transmission. For the remaining 24 hours, no voltage was applied to the device.