Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supplementary Information for:

Aqueous Alkaline Electrolytes for Dynamic Windows based on Reversible Metal Electrodeposition with Improved Durability

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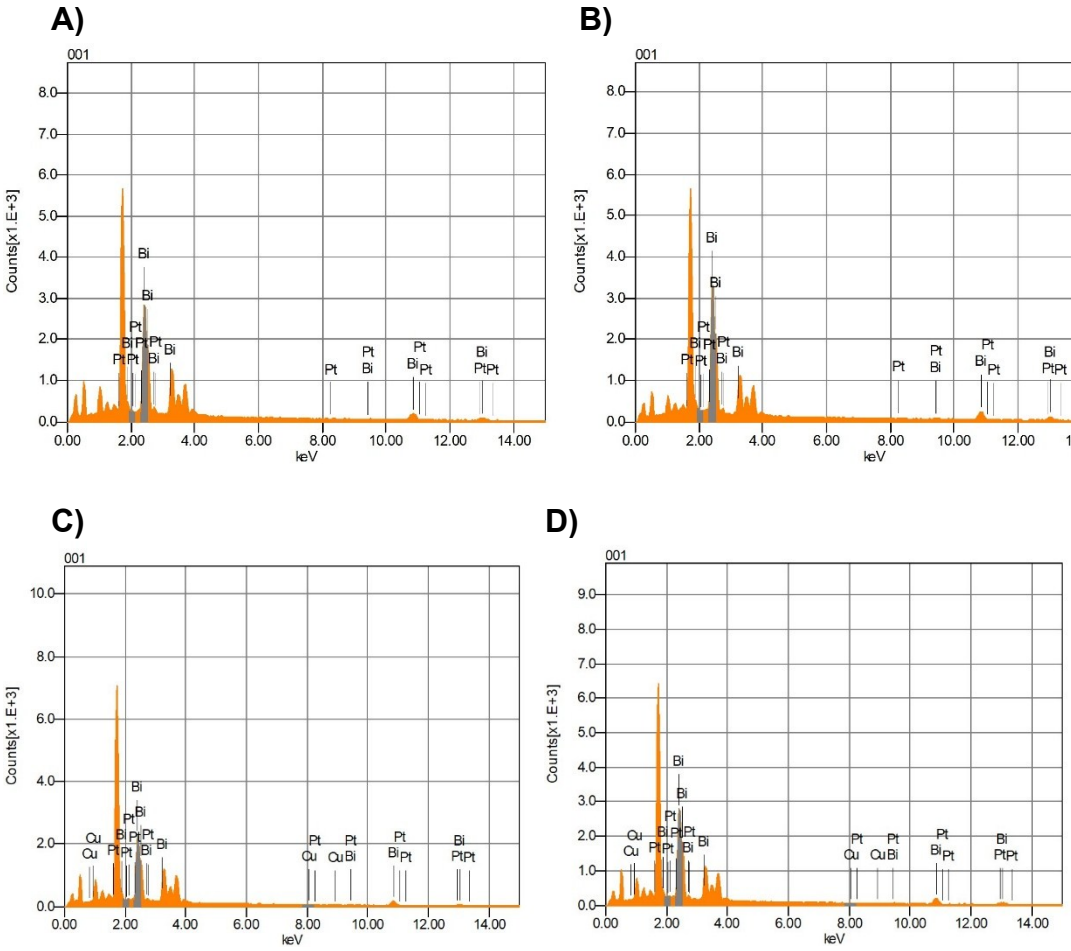

Fig. S1: Energy-dispersive X-ray spectra of metal electrodeposits on Pt-modified ITO on glass working electrodes electrodeposited from an electrolyte containing 120 mM $Bi(NO_3)_2$, 1.5 M EDTA, and 2.0 M NaI adjusted to pH 8.5 with HCl without (A, B, Solution I) and with 5 mM $CuCl_2$ (C, D, Solution F). Electrodeposition was performed at -0.9 V for 30 s (A, C) or 60 s (B, D). The corresponding scanning electron microscopy images are displayed in Figure 7 in the main text.

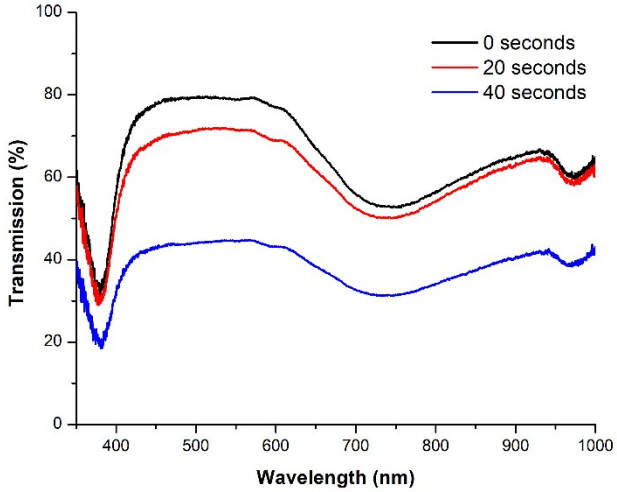

Fig. S2: Transmission as a function of wavelength of a 25 cm^2 dynamic window containing the Bi-Cu EDTA electrolyte (Solution F) after 0 s (black), 20 s (red), and 40 s (blue) of metal electrodeposition at -0.9 V.

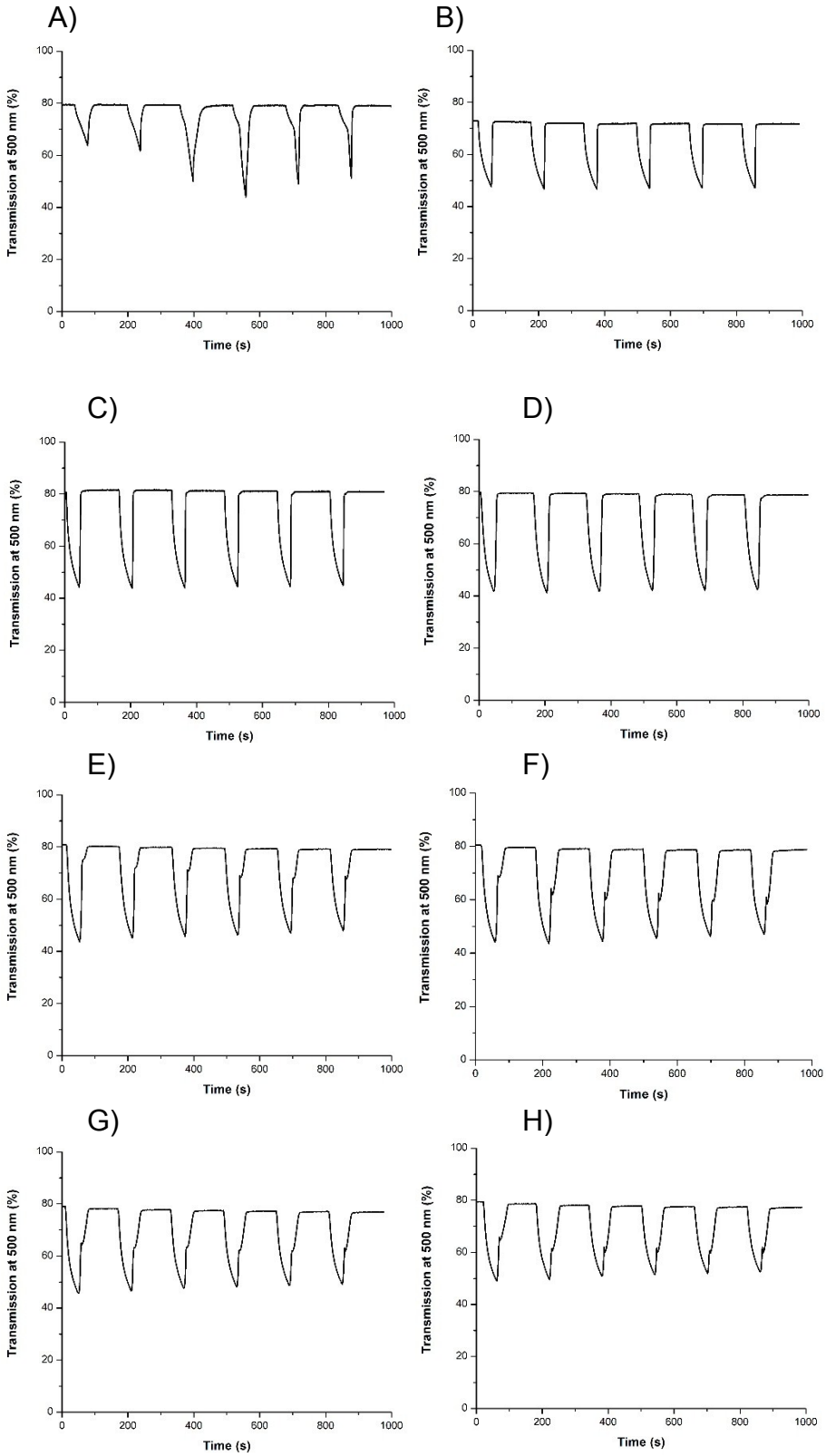

Fig. S3: Transmission at 500 nm of a 25 cm^2 dynamic window using the EDTA Bi-Cu electrolyte (Solution F) during six cycles of chronoamperometry at -0.9 V for 40 s followed by +0.8 V for 120 s after resting at open circuit potential for 0 (A), 1 (B), 2 (C), 3 (D), 4 (E), 5 (F), 6 (G), and 7 (H) days. The data points in Figure 10 in the main text are derived by taking the average contrast ratios across each six cycles for each day.

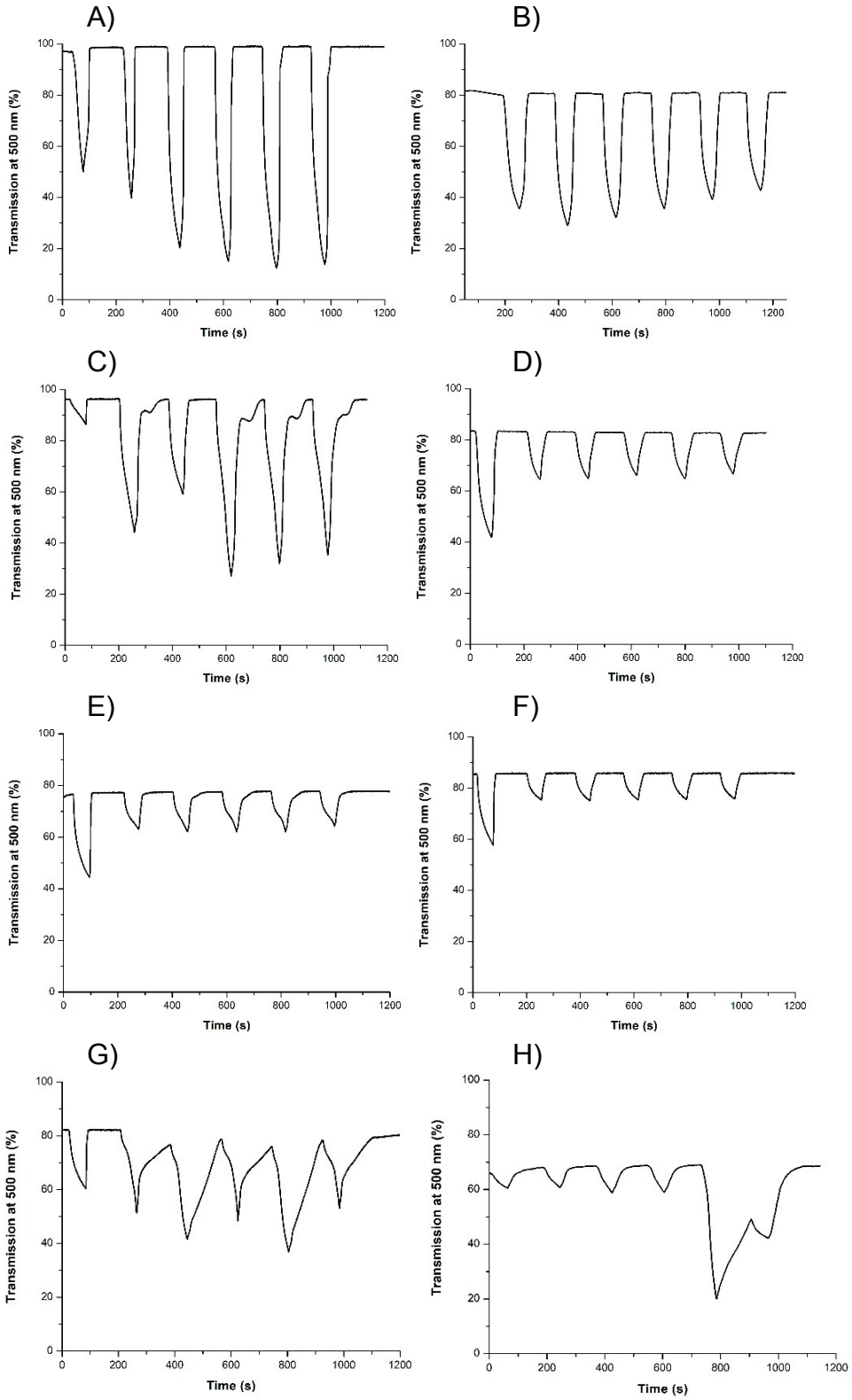

Fig. S4: Transmission at 500 nm of a 25 cm^2 dynamic window using the acidic Bi-Cu electrolyte during six cycles of chronoamperometry at -0.6 V for 60 s followed by +0.8 V for 120 s after resting at open circuit potential for 0 (A), 1 (B), 2 (C), 3 (D), 4 (E), 5 (F), 6 (G), and 7 (H) days. The data points in Figure 10 in the main text are derived by taking the average contrast ratios across each six cycles after 0-5 days of rest. Because the transmission of the window on after six days of rest was irreversible after the first cycle, the contrast ratio plotted in Figure 10 (red point) for the sixth day is equal to the contrast during the first cycle.