Electric supplementary information (ESI)

Electroless Galvanic Incs on Inorganic WO₃/Al Boards

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\textbf{Fig. S1} XPS for O-1s and Al-2p orbitals. (i) before treatment, (ii) after dipping in an aqueous HCl solution with a pH of 3.0 for 5 min, (iii) after exposure to air at 120 °C for 30 min.
Although WO$_3$/Al also turns blue in an alkali solution, the color change is not as homogeneous as that after the acid treatment. Moreover, the color change was insignificant after dipping WO$_3$/Al into a neutral aqueous solution.
**Fig. S3** SEM images for WO$_3$/Al samples with WO$_3$ thicknesses of 4 µm (a) and 500 nm (b). Insets in (a) and (b) are photographs of WO$_3$/Al. (c) SEM image at the blue spot in Fig. S3 (a).

Blue color appears only around the pinholes of WO$_3$ film with a thickness of 4 µm.
Fig. S4  SEM images for WO$_3$/Al samples. (a) and (b) are before coloration (initial state), (c) and (d) are after repeating the coloration and decoloration processes five time.

Morphology of WO$_3$ does not change after repeating these processes.
Fig. S5  Photographs of various $\text{WO}_3$/Al structures. We confirmed that chromic devices can also be constructed by sputtering an Al foil or Al-coated glass substrate. Additionally, we found that similar to $\text{WO}_3$ crystals, amorphous $\text{WO}_3$ also exhibits an efficient color change.