

Photostability in Dioxyheterocycle Electrochromic Polymers

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Supporting Information

Figure S1. Spectroelectrochemistry of ECP-Magenta samples stored at room temperature in a darkened location for one month, following encapsulation under (a) air and (b) argon atmospheres.

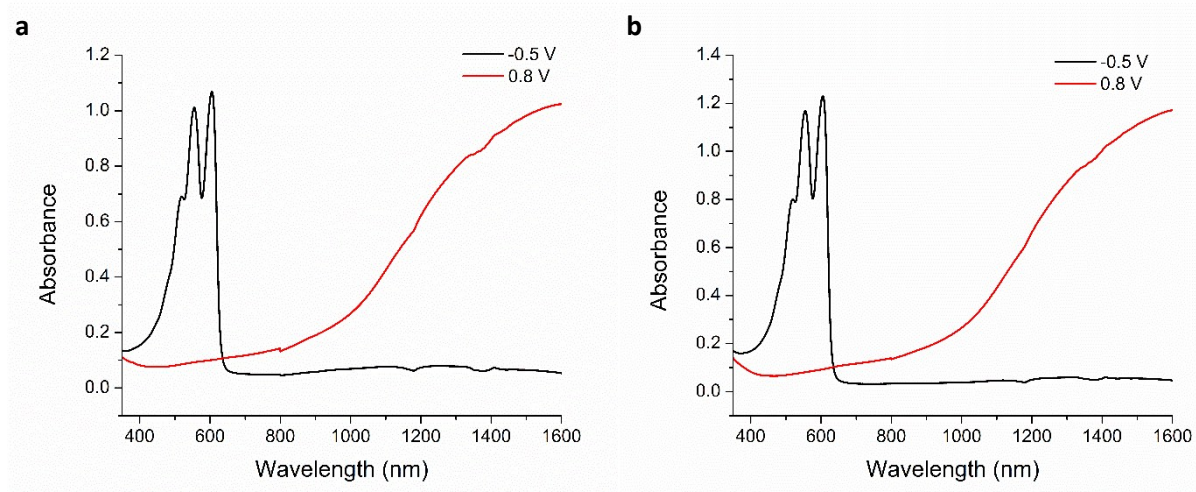


Figure S2. XPS spectra of the O (1s) orbitals in films of ECP-Magenta irradiated for time periods ranging from 24 hours to 1 month following encapsulation under both (a) air and (b) argon atmospheres. Illustrated here is the notable growth in the O (1s) signals following irradiation under and air atmosphere, in both signal intensity and breadth of the observed spectra.

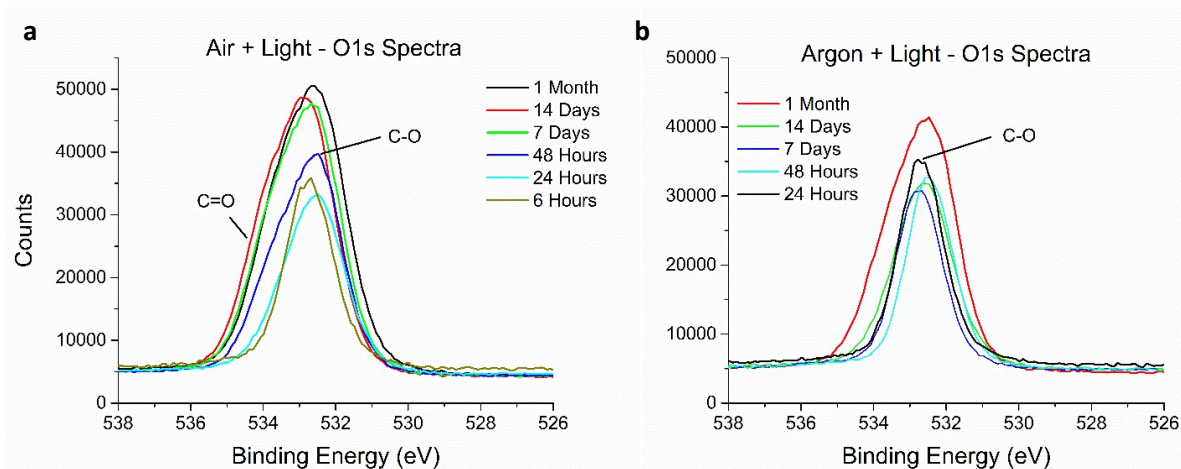


Figure S3. Signal peaks fitted to the (a) C 1s and (b) S 2p spectra recorded for ECP-Magenta samples encapsulated under an air atmosphere and irradiated for one month, illustrating the likely formation of carbonyl and carboxyl moieties in the former and sulfonyl moieties in the latter spectrum.

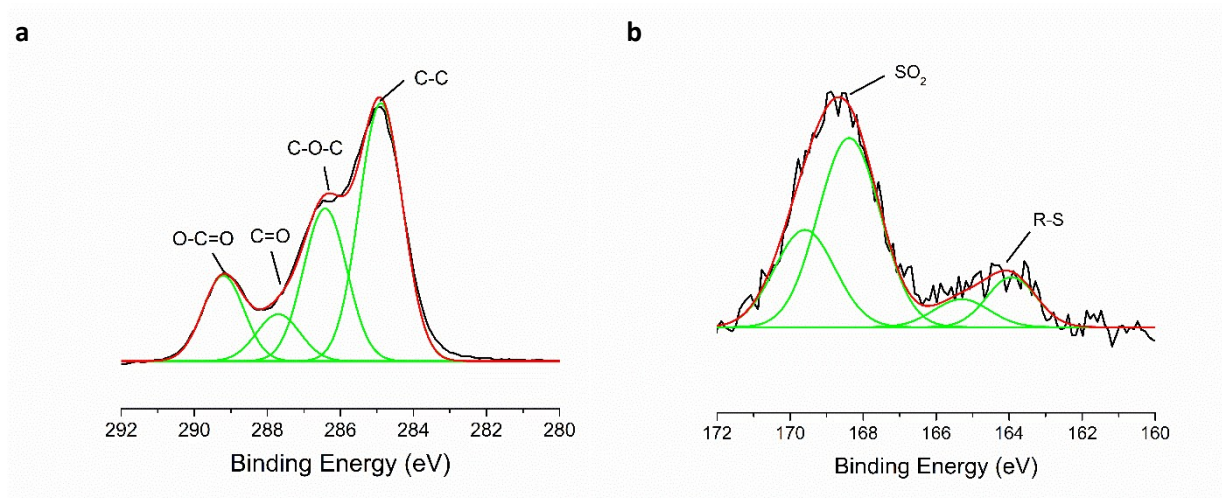


Figure S4. Signal peaks fitted to the (a) C 1s and (b) S 2p spectra recorded for ECP-Magenta samples encapsulated under an argon atmosphere and irradiated for one month, illustrating the minimal formation of any new binding energy signals. A note should be made of the minimal oxidation product signals generated after one month, suggesting a break-down of the barrier sealant material.

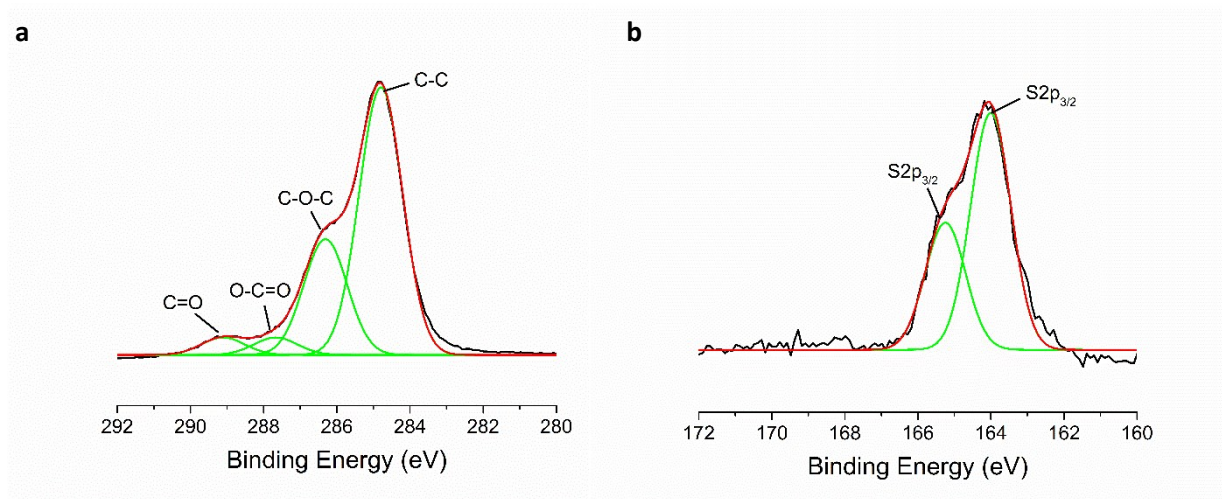


Figure S5. Spectra of the fully colored (reduced) and fully bleached (oxidized) states for films of (a) ECP-Magenta and (b) MCCP following one month of continuous irradiation, following encapsulation under and argon atmosphere and the addition of a gel electrolyte mixture.

