Supporting Information for:

Solid-State Redox Switching of Magnetic Exchange and Electronic Conductivity in a Benzoquinoid-Bridged Mn^{II} Chain Compound

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Figure S1 | FT-IR spectra of 1 (green), 1^{red} (purple), and 1^{ox} (olive) collected at 300 K, highlighting the certain modes of vibrations: v_{CH} from (Cp₂Co)⁺ (+), v_{CO} (*), and v_{SO} (^).



Figure S2 | XPS survey spectra of 1 (green), 1^{red} (purple), and 1^{ox} (olive) collected at 300 K.



Figure S3 | Diffuse-reflectance UV-Visible spectra of 1 (green), 1^{red} (purple), and 1^{ox} (olive).



Figure S4 | Raman spectra of **1** (top) and $\mathbf{1}^{\text{red}}$ (bottom) collected at 300 K, following excitations at 785 (red), 633 (orange), 532 (green), and 405 (purple) nm. The Raman intensities are adjusted for better comparison between different excitation wavelengths. Note that both the v_{CO} and v_{MO} vibrations for $\mathbf{1}^{\text{red}}$ at 1459 and 573 cm⁻¹, respectively, are enhanced with the excitation at 532 nm.



Figure S5 | Mn K-edge X-ray absorption spectra of 1 (green), 1^{red} (purple), 1^{ox} (olive), and 2 (blue).



Figure S6 | I-V curves of 1 (green) and 1^{red} (purple) collected at 300 K.