

Supporting Information

Electrochromic Os-based metallo-supramolecular polymer: electronic state tracking by *in situ* XAFS, IR, and impedance measurements

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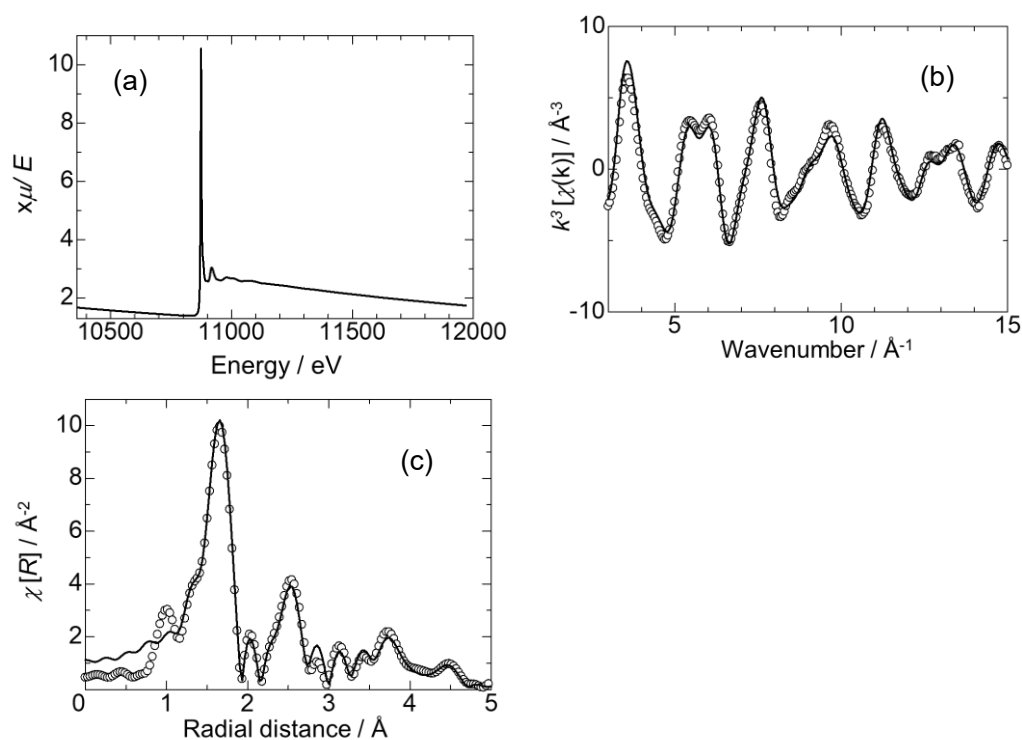


Fig. S1. (a) EXAFS of $\text{poly}(\text{OsL})^{2+}$, (b) the EXAFS oscillation, and (c) the Fourier transformation of EXAFS.

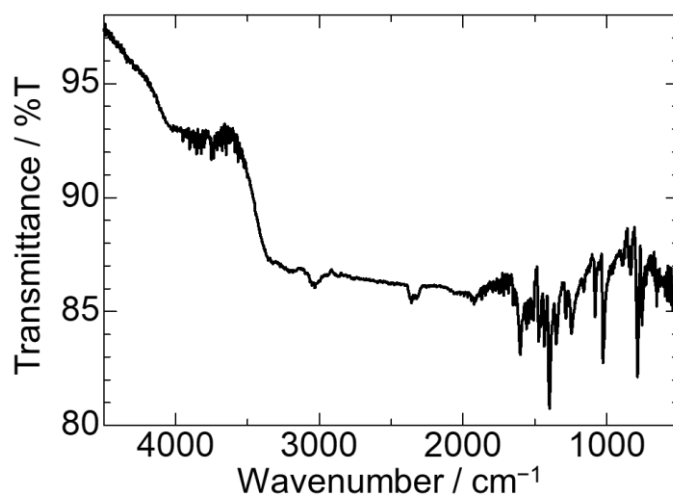


Fig. S2. IR spectrum of a pellet of $\text{poly}(\text{OsL})^{2+}$ in KBr.

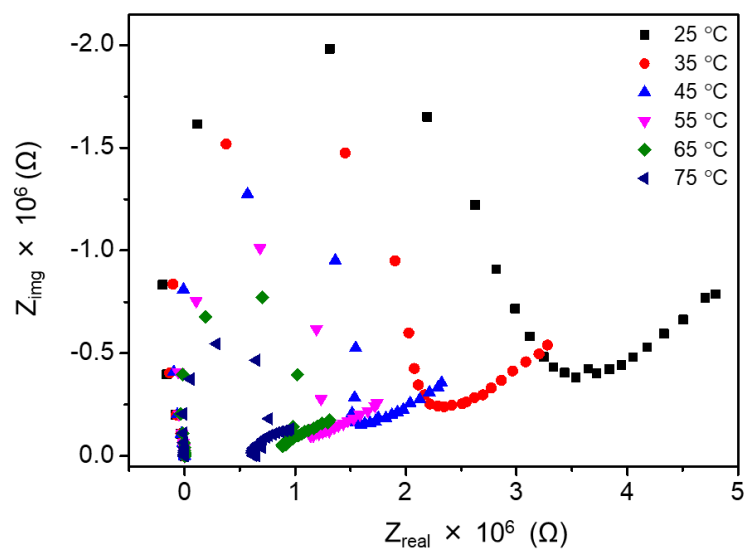


Fig. S3. Impedance response of **poly(OsL)²⁺** at various temperature at 50%RH.

Table S1. The calculated ionic conductivities of **poly(OsL)²⁺**.

Temperature/°C	25	35	45	55	65	75
Ionic conductivity/ $\mu S\ cm^{-1}$	0.3	0.44	0.58	0.73	0.87	1.28

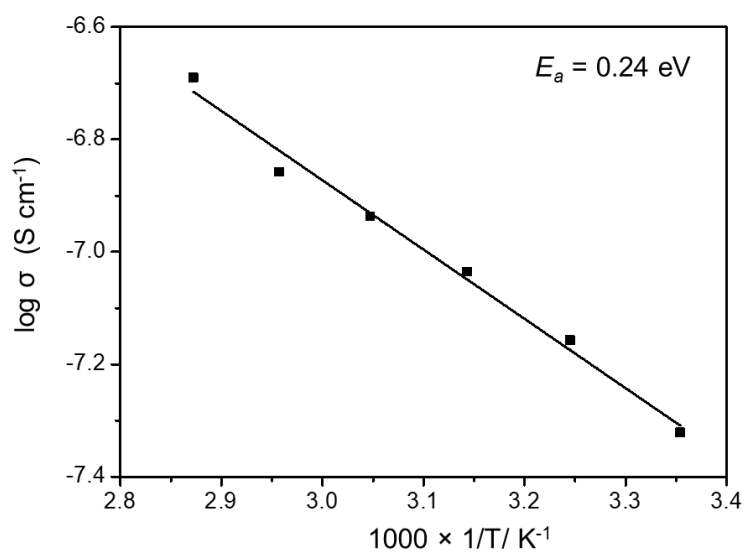


Fig. S4. Arrhenius plots for **poly(OsL)²⁺**.

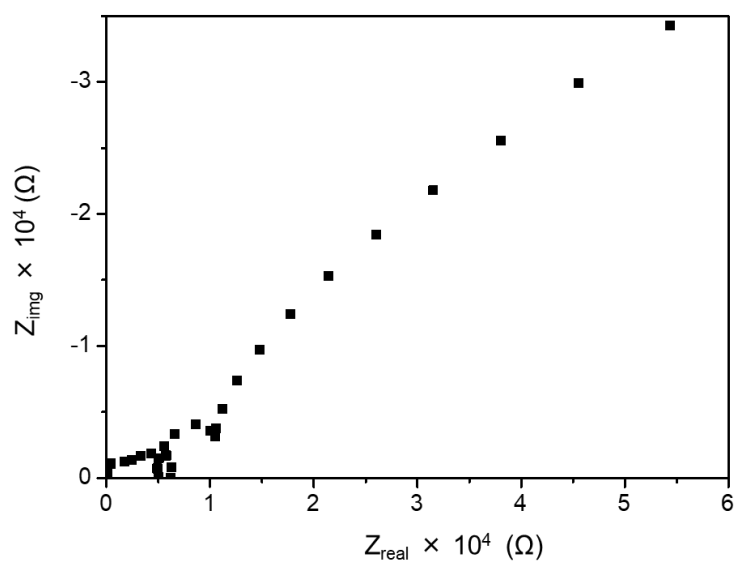


Fig. S5. Impedance response of **poly(OsL)²⁺H**.

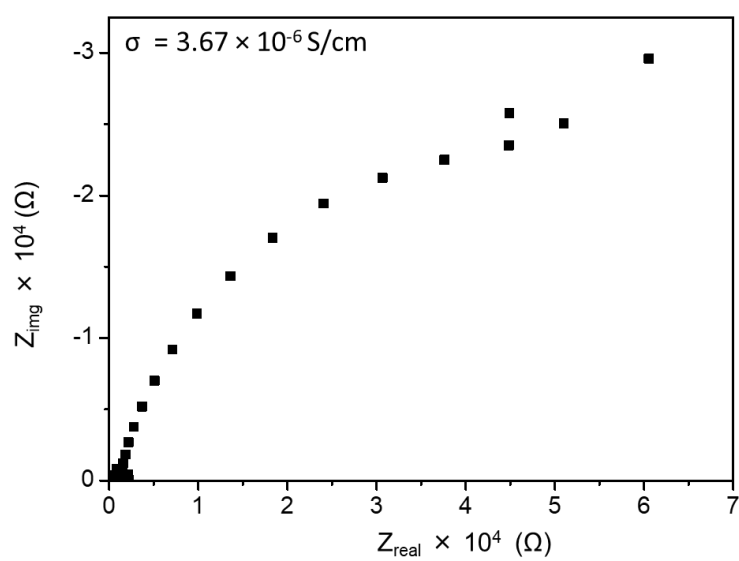


Fig. S6. Impedance response of **poly(OsL)²⁺D**.

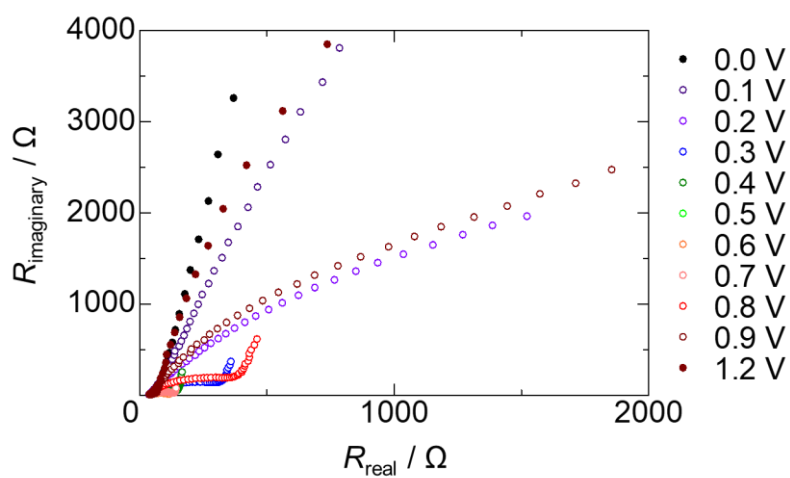


Fig. S7. Impedance responses of a $\text{poly}(\text{OsL})^{2+}$ film on an ITO glass at various potentials.