Supplementary Information (SI) for Physical Chemistry Chemical Physics. This journal is © the Owner Societies 2025

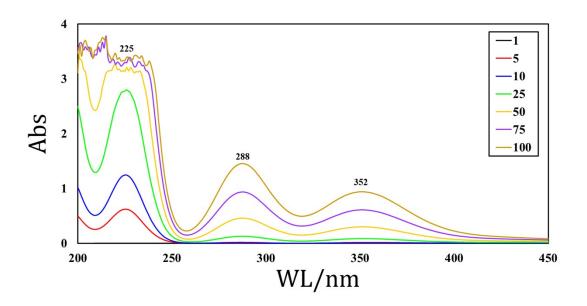


Figure SI. Spectrophotography of 0.1 M KI aqueous solution in the presence of 1, 5, 10, 25, 50, 75, and 100  $\mu$ M I $_3$ <sup>-</sup>.

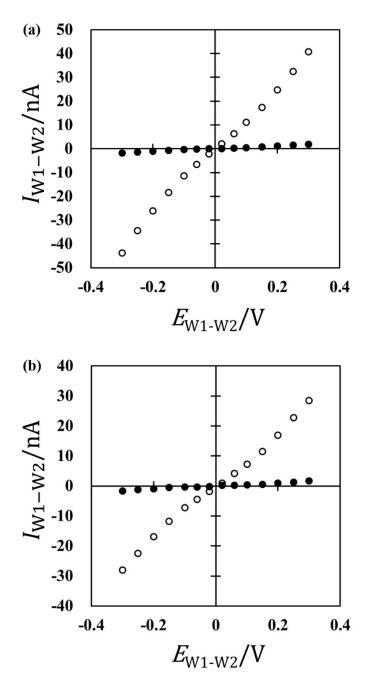
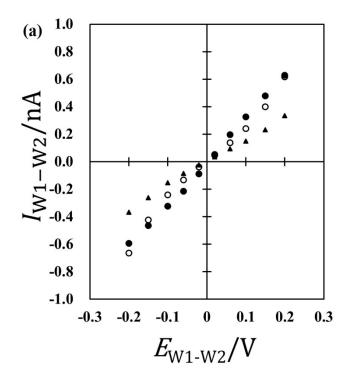


Figure SI2. NPV voltammogram for the ion transfer across the BLMs in the TM between W1 and W2 containing (a) 0.1 M NaI aqueous solution and (b) 0.1 M CsI aqueous solution, in the absence of  $I_3^-$  ( $\bullet$ ) and in the presence of 50  $\mu$ M  $I_3^-$  ( $\circ$ ), respectively.



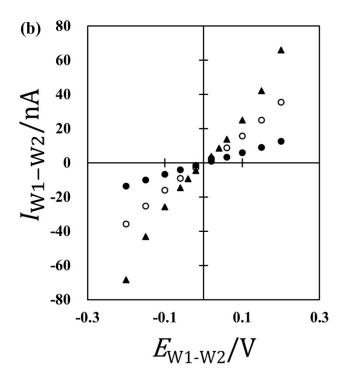


Figure SI3. NPV voltammogram for the ion transfer across the BLMs in the TM between W1 and W2 containing 0.1 M KI aqueous solution in the absence of  $I_3^-$  (a) and in the presence of 50  $\mu$ M  $I_3^-$  (b) at the temperature of 40 ( $\triangle$ ), 25 ( $\circ$ ), 10 ( $\bullet$ )  $^{\circ}$ C, respectively.