## **Supporting information**

## A novel ionically crosslinked gel polymer electrolyte as ion transport layer for high performance electrochromic devices

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We studied the cycle durability by applying repetitive positive and negative bias of 2.30 V on PECD for 200 cycles. The transmittance difference of PECD under bleached and colored states is 61% before applying repetitive voltage bias. After 50 cycles, the difference reduces to 58.4%, which reduces only 2.6% of its initial value.

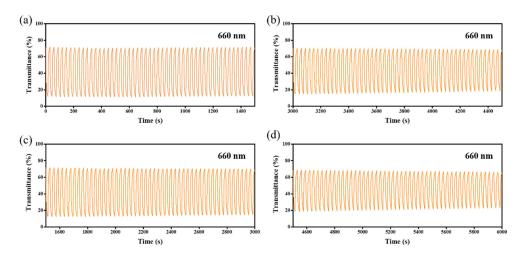


Fig. S1 In situ optical response of PECD measured at 660 nm. (a) 1-50th cycles (b) 51-100th cycles (c) 101-150th cycles (d) 151-200th cycles. Potential: 2.30 V, cycling time: 30 s.

The video of PECD in coloring and bleaching processes is also provided.