

Supporting Information

Solid Dual-Salt Plastic Crystal Electrolyte Enabling Rapid Ion Transfer and Stable Interphases for High-Performance Solid-State Sodium Ion Batteries

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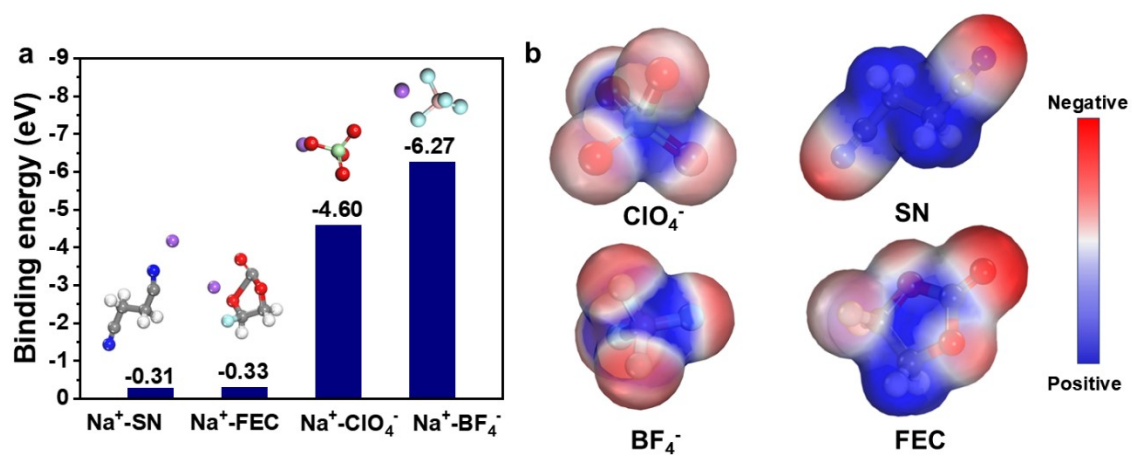


Fig. S1 (a) Binding energy of SN-Na⁺, FEC- Na⁺, ClO₄⁻- Na⁺, and BF₄⁻- Na⁺. (b) ESP distributions of ClO₄⁻, BF₄⁻, SN, and FEC.

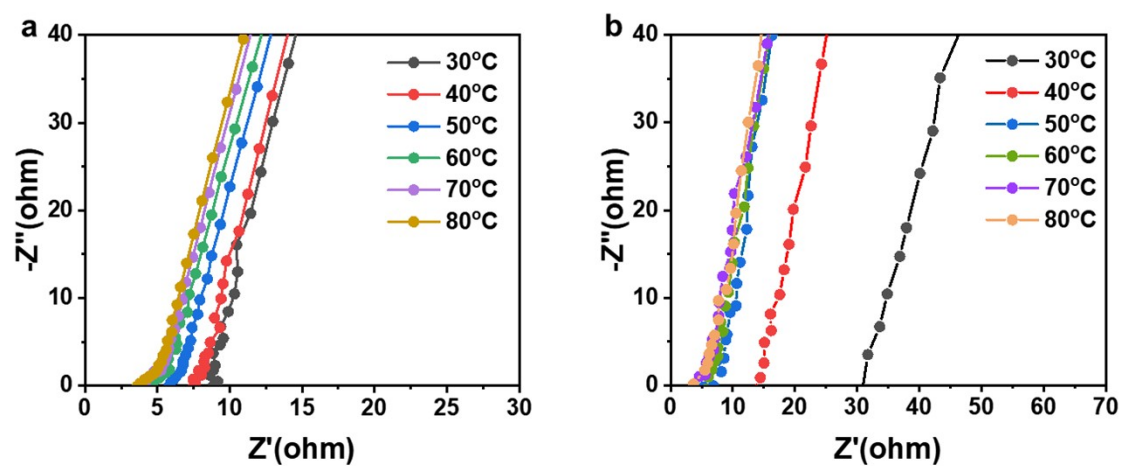


Fig. S2 EIS plots of the (a) stainless steel||dual-salt PCE||stainless steel and (b) stainless steel|| NaClO_4 -PCE||stainless steel cells at different temperatures.

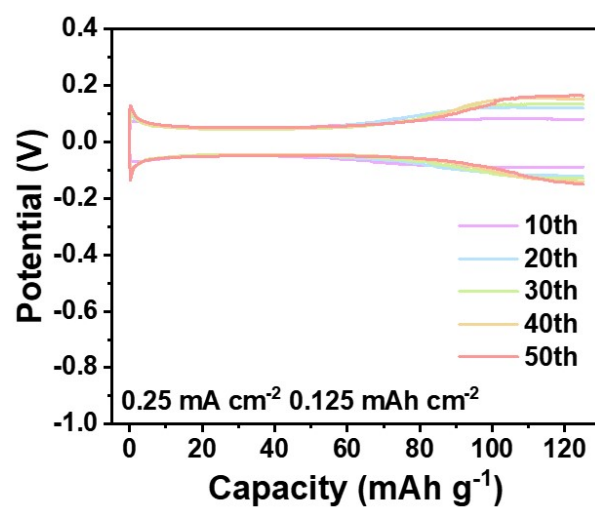


Fig. S3 of the symmetrical Na||Na cells with dual-salt PCE at 0.25 mA cm⁻²/0.125 mAh cm⁻².

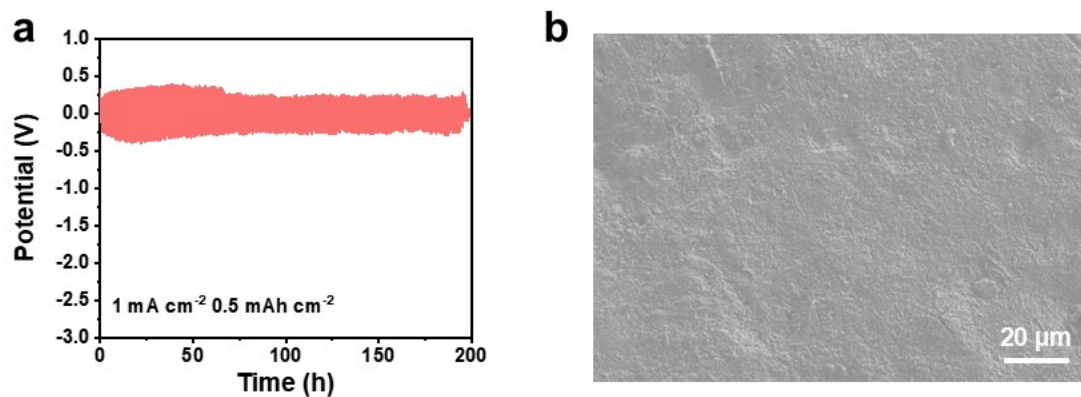


Fig. S4 (a) Voltage profiles of the symmetrical Na||Na cells with dual-salt PCE at 1 mA cm⁻²/0.5 mAh cm⁻² and (b) The top-surface and SEM images of cycled Na in Na||Na symmetric cells.

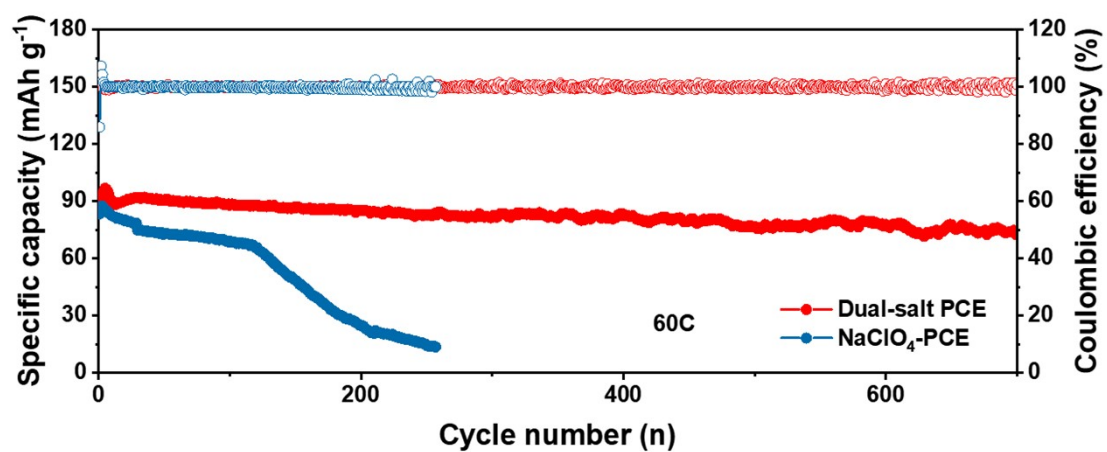


Fig. S5 Cycling performance of the Na||dual-salt PCE||NVP and Na||NaClO₄-PCE||NVP cells at 60 C (9 mA).

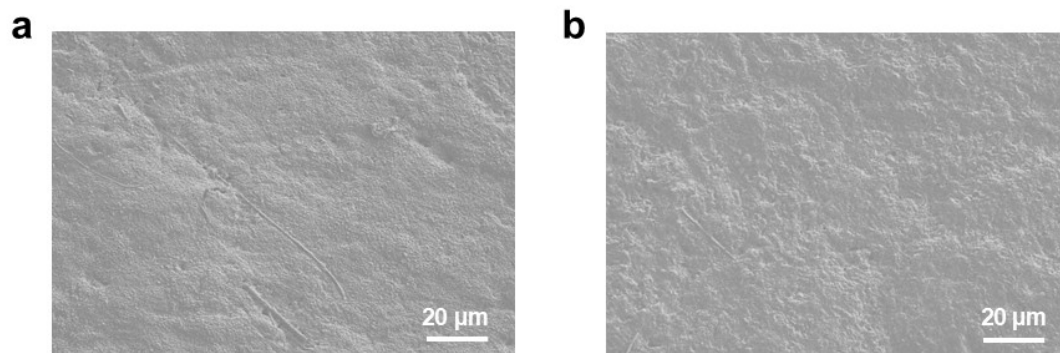


Fig. S6 The SEM images of Na anode after cycling at (a) 20 C and (b) 60 C, respectively. The dual-salt PCE enable a smooth and dendrite-free surface of Na metal after cycling at 20 C and 60 C.

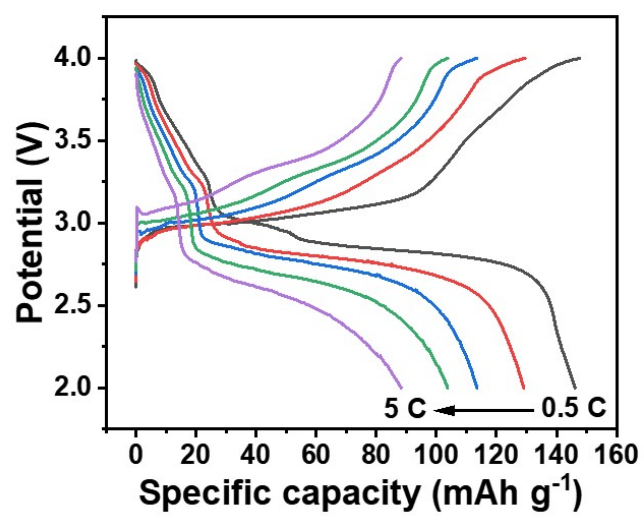


Fig. S7 Charge/discharge profiles of Na||dual-salt PCE||PW cell at different rates.

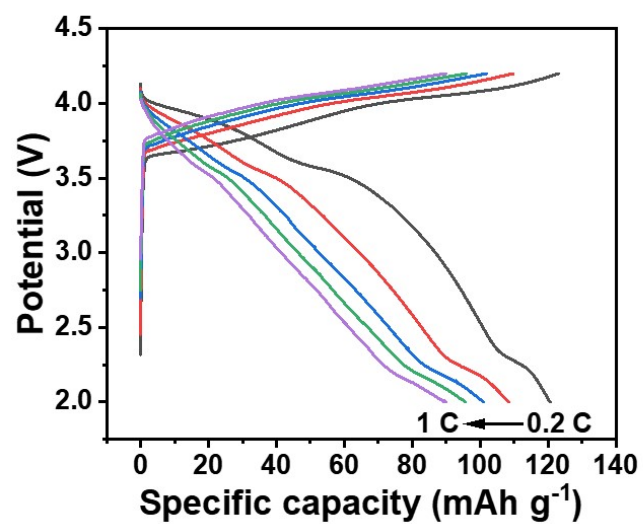


Fig. S8 Charge/discharge profiles of Na||dual-salt PCE||NVPF cell at different rates.

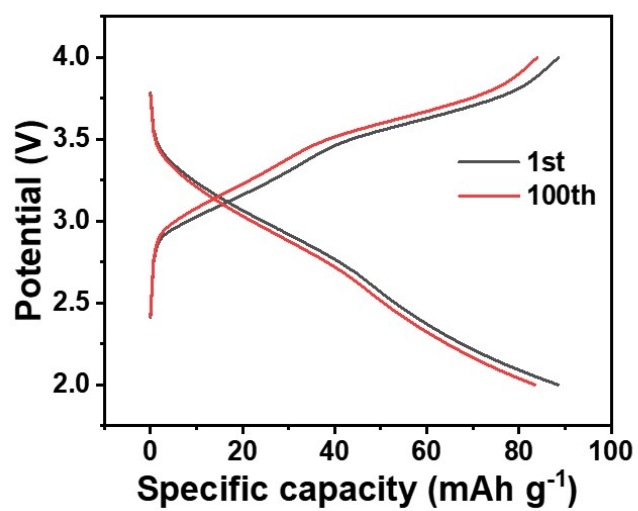


Fig. S9 Charge/discharge profiles of the HC||dual-salt PCE||NVP full cell at 10 C.

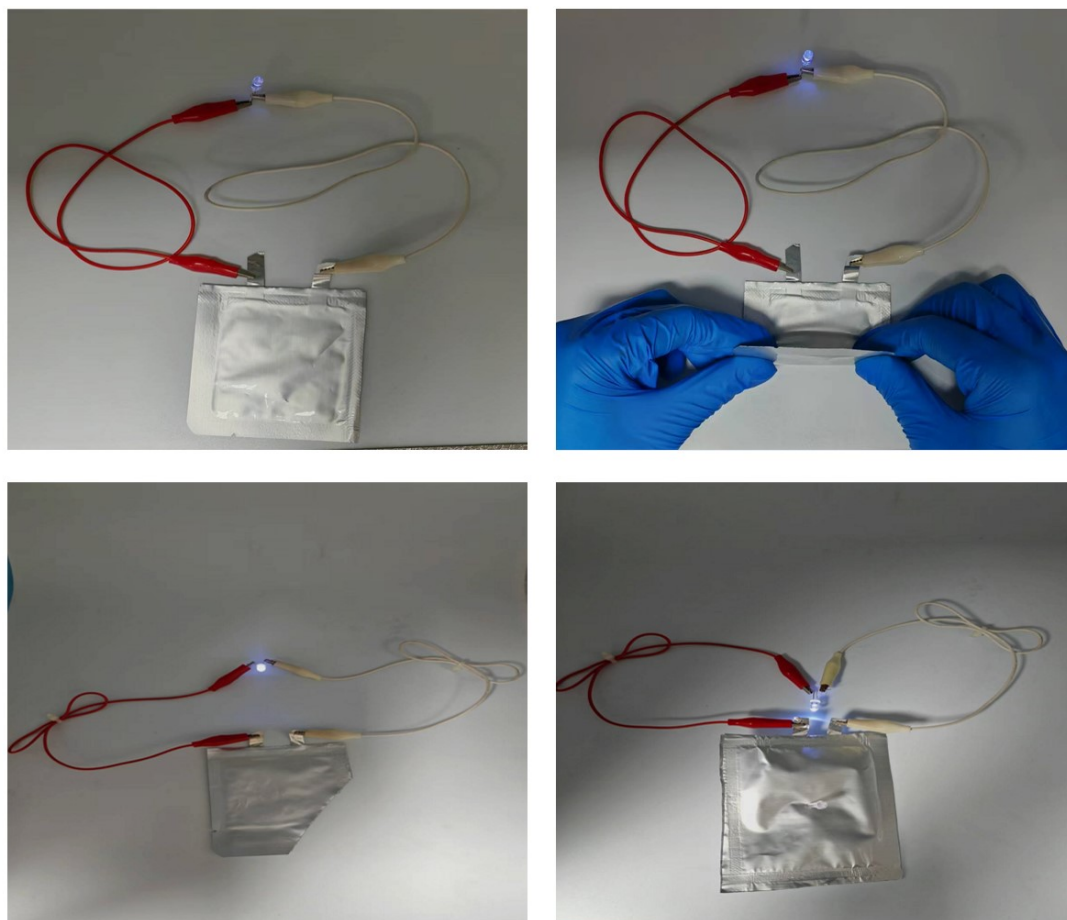


Fig. S10 Optical photograph of the HC||dual-salt PCE||NVP pouch cell lighting LEDs.