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Supporting Information

Electrolyte regulation enhances the stability of Prussian blue analogues in aqueous Na-ion storage

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Calculation of Na^+ ion diffusivity

The Na^+ ion diffusivity of CoHCF has been calculated based on the result of electrochemical impedance spectroscopy (EIS) (Figure 2d), the equivalent electric circuit is shown in the insets, in which R_{SEI} and R_{CT} severally represent the solid electrolyte interface resistance and charge-transfer resistance, and Z_W represents the Warburg impedance. The Na^+ ion diffusivity of the CoHCF can be calculated with following formula given as follow,

$$D = \frac{R^2T^2}{2A^2n^4F^4C^2\sigma^2} \quad (3)$$

where R is gas constant (8.314 JK^{-1} mol^{-1}), T is the room temperature (298 K), A is the surface area of the electrode (3.85 × 10^{-5} m^2), n is the number of the electrons transferred in the electronic reaction (n = 2 in this work), F is the Faraday constant (96485 C mol^{-1}), C is the concentration of Na^+ in CoHCF electrode, and σ is the slope of the line Z'-$\omega^{-1/2}$ (as shown in the insets of Figure 2d, the σ values is 40.7), Hence, the calculated D_{Na} of CoHCF is 1.72 × 10^{-14} cm^2 s^{-1}.

Table S1 Elemental contents (wt%) of as-prepared $Na_2CoFe(CN)_6$ material

	Na	Co	Fe	C	N	H
CoHCF	10.44	17.79	14.30	19.32	22.63	1.74

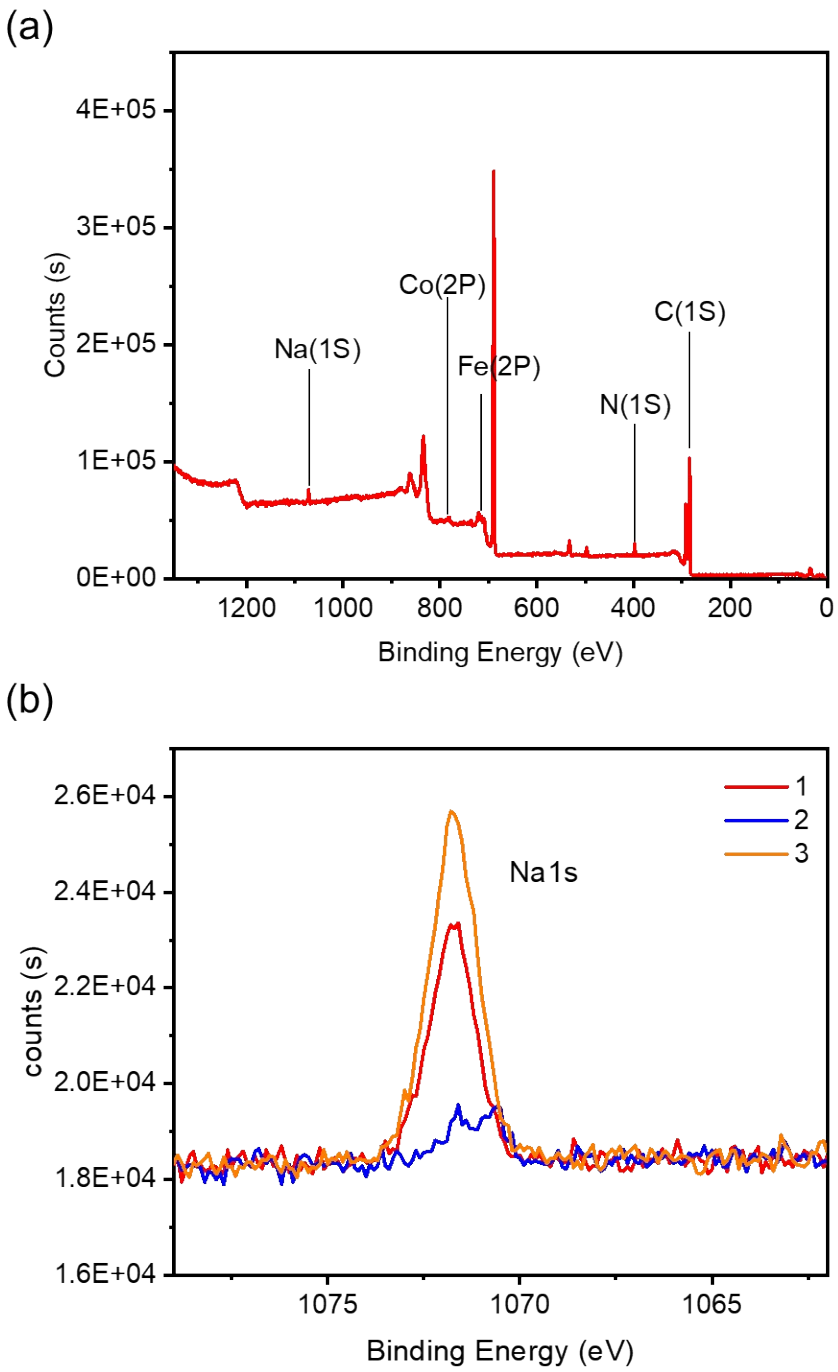

Figure S1 XPS spectra of (a) 1 initial state, and (b) Na 1s in three states (1. initial state, 2. fully charged to 1 V, 3. fully discharged to 0 V).

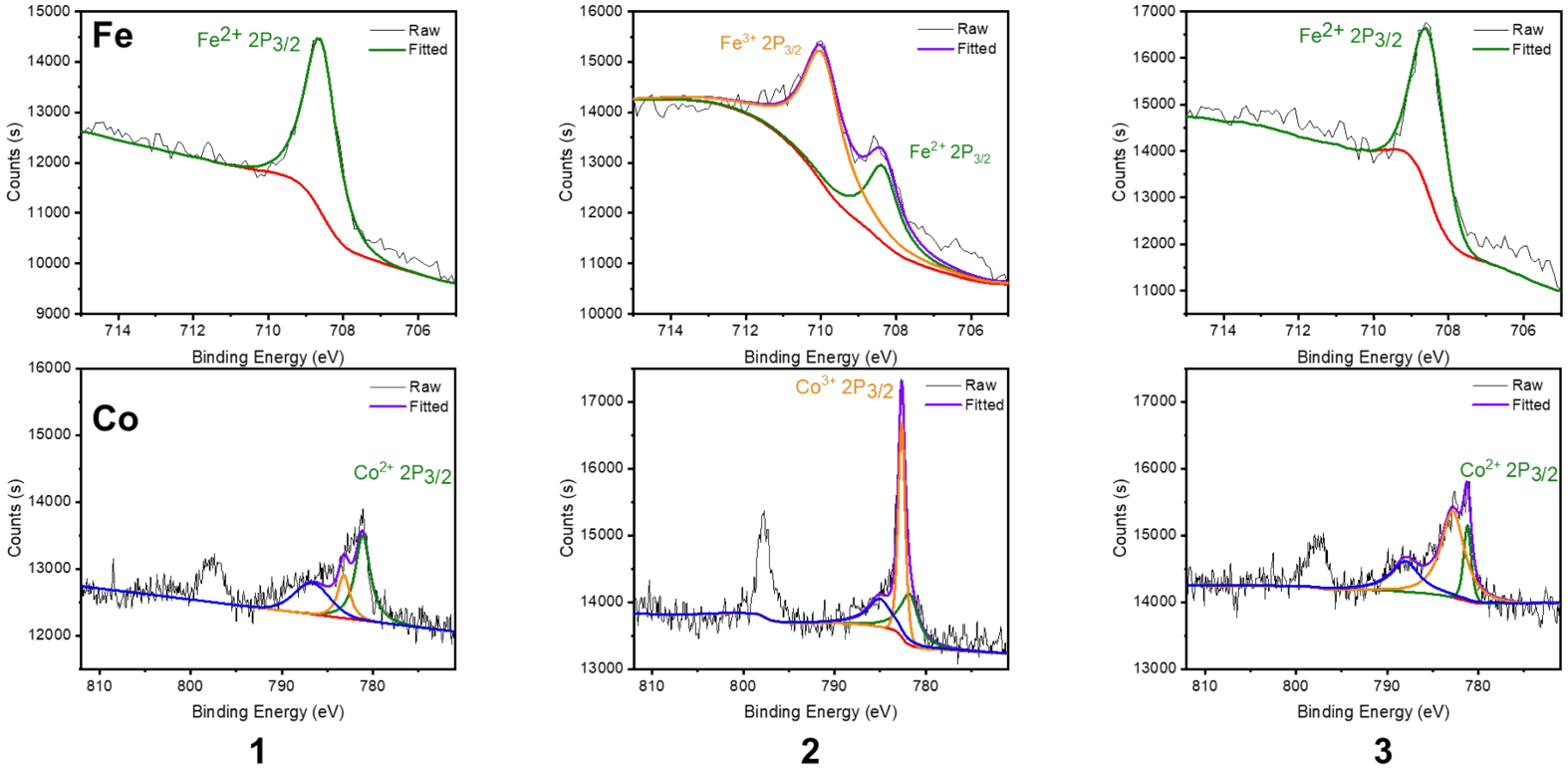

Figure S2 XPS spectra of Fe 2p and Co 2p in three states (1. initial state, 2. fully charged to 1 V, 3. fully discharged to 0 V).

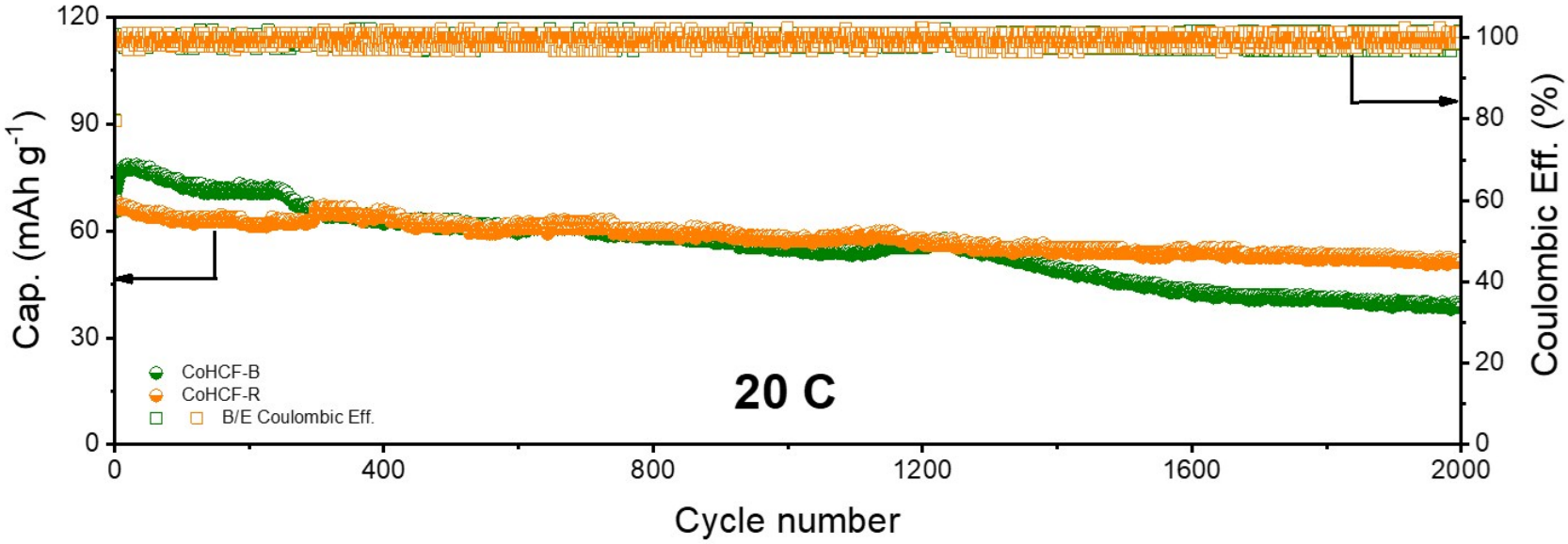

Figure S3 Cycle performances of CoHCF-B and CoHCF-R at a current density of 20 C,1 C=120 mA g^{-1}.

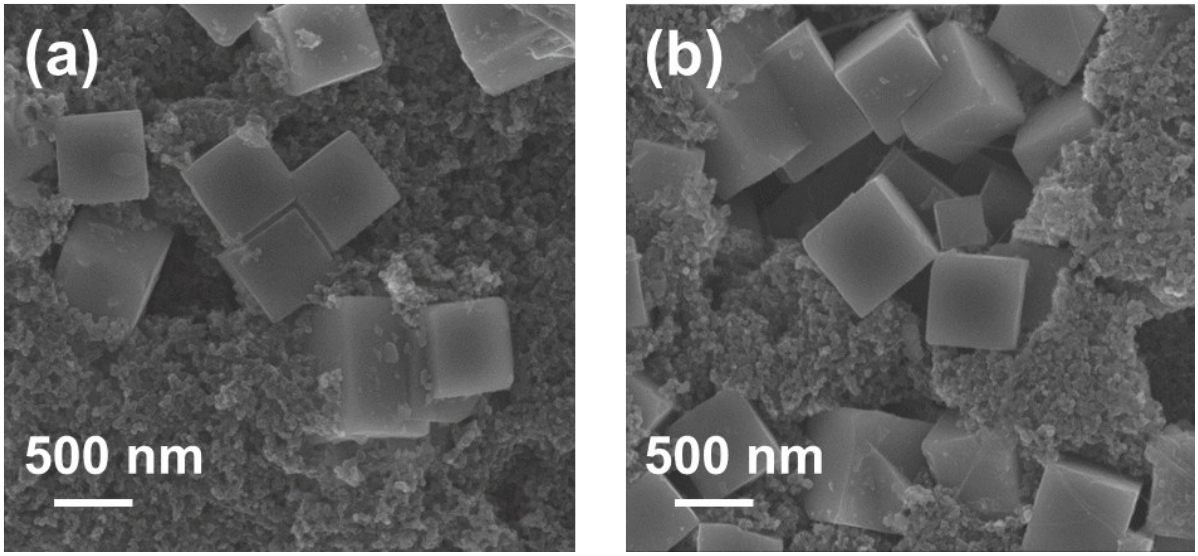

Figure S4 SEM images of the CoHCF-B (a) before (b) after 100cycles.

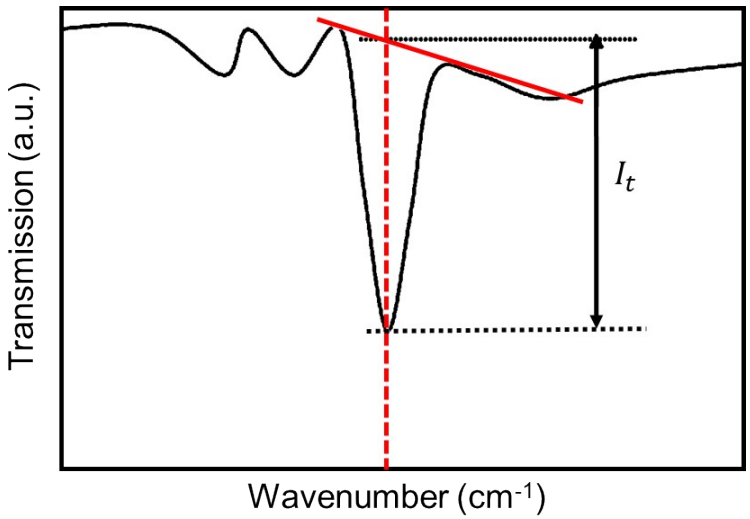

Figure S5 The specific value of I_t to calculate the relative intensity.