Supporting Information

Intercalation Pseudocapacitive Nanoscale Nickel Hexacyanoferrate@Carbon Nanotubes as a High-Rate Cathode Material for Aqueous Sodium-Ion Battery

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F-43m, $a = b = c = 10.08$ Å, $V = 1024.25$ Å ³						
$\alpha = \beta = \gamma = 90^{\circ}$						
Atom	x/a	y/b	z/c	Uiso		
K1	0.25	0.25	0.25	0.0484		
K2	0.75	0.75	0.75	0.247		
Ni1	0.5	0.5	0.5	0.0123		
Fe1	0.0	0.0	0.0	0.0165		
C1	0.1935	0.0	0.0	0.002		
N1	0.2690	0.0	0.0	0.240		

Table S1. Atomic parameters for cubic NiHCF (wRp = 1.82%; Rp = 1.42%) were obtained by Rietveld refinement of XRD data with the GSAS software.



Figure S1. TEM images of bare NiHCF at different magnifications. The scale bars in (a), (b), (c), (d) are 200 nm, 100 nm, 50 nm and 20 nm, respectively.



Figure S2. TEM images of NC cathodes after cycling at 10 A g⁻¹ over (a) 5000 cycles and (b) 10000 cycles, respectively.



Figure S3. The long-term cycling of NC at 0.2 A g^{-1} .



Figure S4. The (a) rate and (b) cycling performance of bare NiHCF.



M=Li, Na, K, ...

Scheme S1. Energy storage mechanism of PI via reversible enolization reaction.



Figure S5. FTIR spectrum of PI material. (Figure S5 shows bonding within the PI samples. The characteristic vibration mode of the imide C=O bond is shown at 1702, 1670 and 771 cm⁻¹. The transmission peaks at 1581 and 1350 cm⁻¹ correspond to the vibration of naphthalene and imide C-N, respectively. The FRIR spectrum is in consistence with what was previously reported, confirming the successful preparation of PI samples.)



Figure S6. Electrochemical properties of PI anode: (a) capacity retention at 1 A g^{-1} ; (b) CV profiles measured at different sweep rates from 0.5 to 50 mV s^{-1} ; (c) determination of *b*-value.