

Supporting Information for

## **Post-Synthetic and In-Situ Vacancy Repairing of Iron Hexacyanoferrate Towards Highly Stable Cathodes for Sodium-Ion Batteries**

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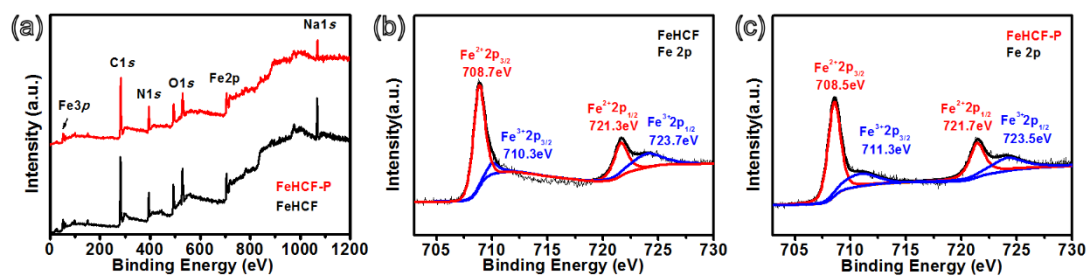
### **Supplementary Table and Figures**

**Table S1** Elemental contents of FeHCF, FeHCF-P and FeHCF-I (wt%)

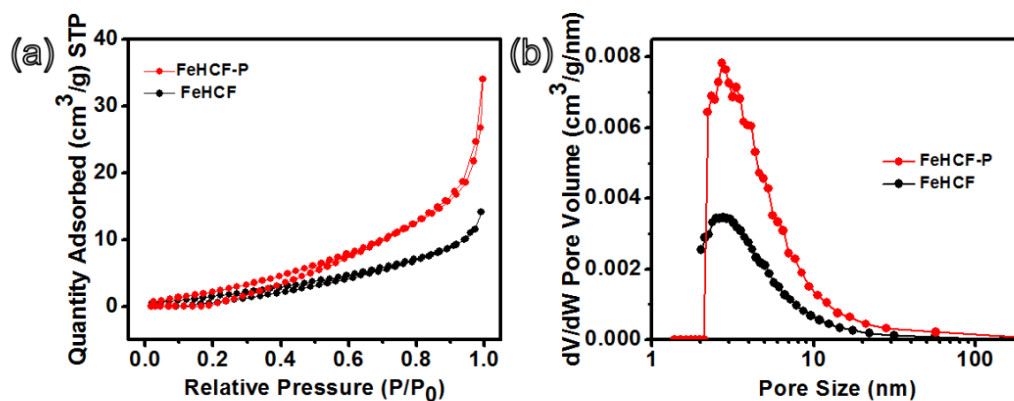
	<b>Na</b>	<b>Fe</b>	<b>C</b>	<b>N</b>
<b>FeHCF</b>	<b>12.39</b>	<b>32.79</b>	<b>18.92</b>	<b>21.93</b>
<b>FeHCF-P</b>	<b>11.30</b>	<b>33.26</b>	<b>19.51</b>	<b>22.98</b>
<b>FeHCF-I</b>	<b>14.13</b>	<b>33.31</b>	<b>20.14</b>	<b>23.24</b>

**Table S2** Energy levels (eV) of Na<sup>+</sup> at 8c and 24d sites in FeHCF with different sodium concentrations

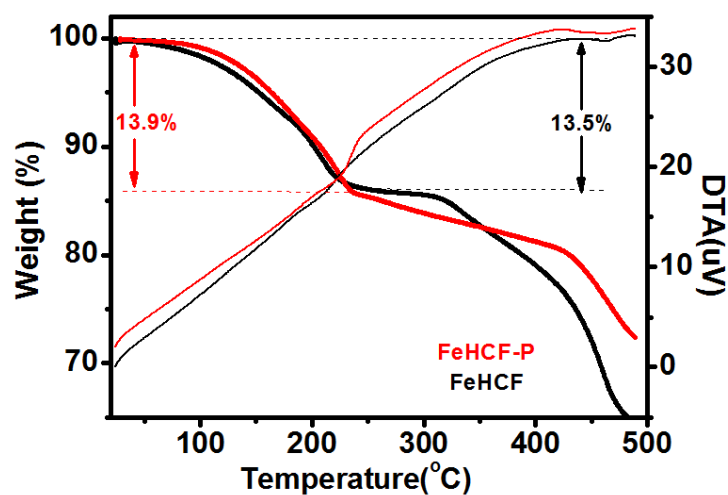
	<b>Na-0</b>	<b>Na-10</b>	<b>Na-20</b>
<b>8c</b>	<b>-3.26</b>	<b>-4.00</b>	<b>-3.80</b>
<b>24d</b>	<b>-3.44</b>	<b>-4.31</b>	<b>-4.36</b>



**Fig. S1** a XPS survey spectra of FeHCF and FeHCF-P. Fe 2p XPS spectra of **b** FeHCF and **c** FeHCF-P



**Fig. S2** a N<sub>2</sub> adsorption/desorption isotherm curves and **b** BJH pore-size distribution curves of FeHCF and FeHCF-P



**Fig. S3** TG and DTA curves of FeHCF and FeHCF-P in N<sub>2</sub>

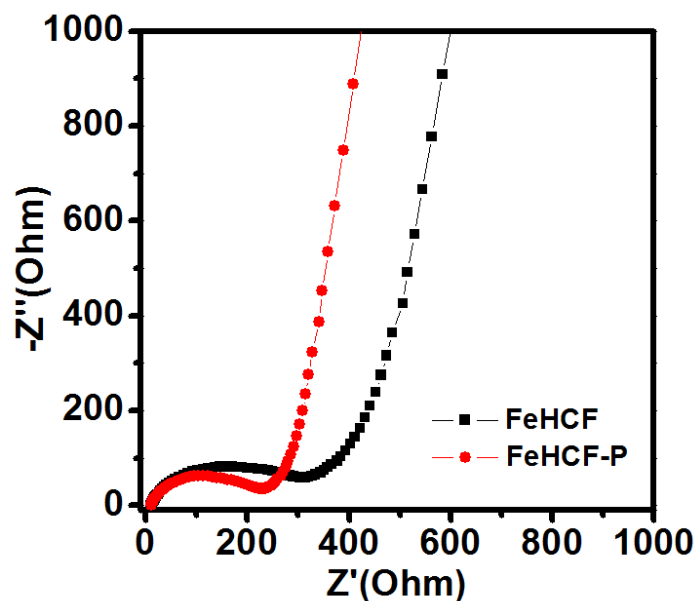


Fig. S4 Electrochemical impedance spectra of FeHCF and FeHCF-P

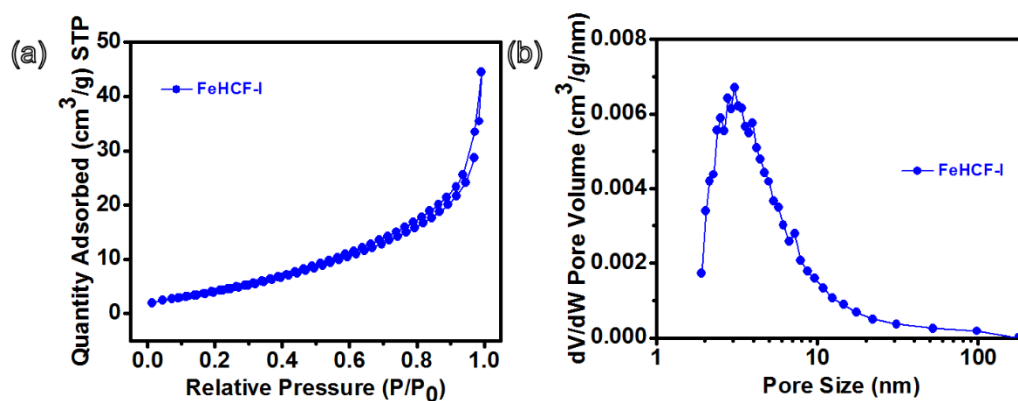


Fig. S5 a  $N_2$  adsorption/desorption isotherm curve and b the BJH pore-size distribution curve for FeHCF-I

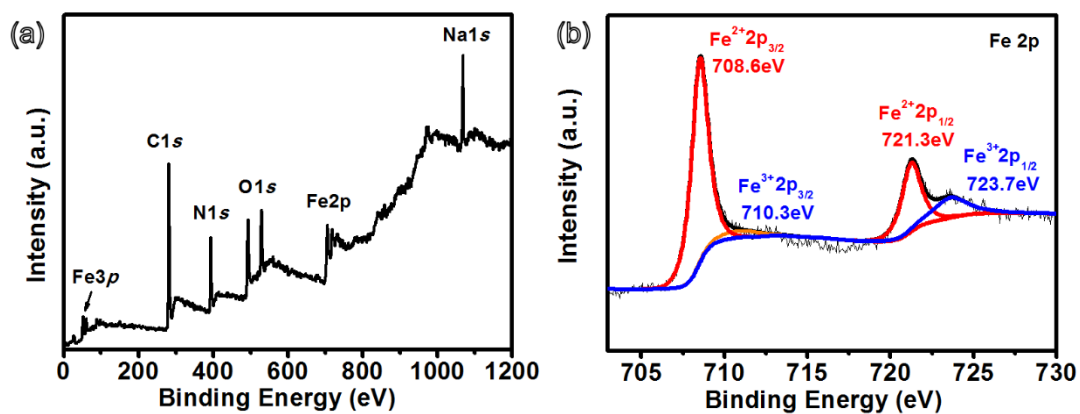
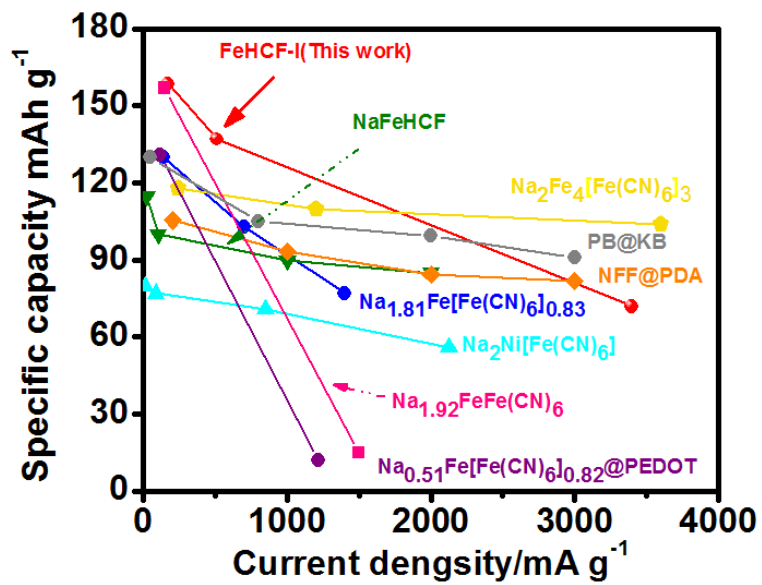


Fig. S6 a XPS survey spectrum and b Fe 2p XPS spectrum of FeHCF-I



**Fig. S7** Comparison of rate performance between FeHCF-I and reported PBAs cathode in previous literatures