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## **Supporting Information**

## Quasi-reversible conversion reaction of CoSe<sub>2</sub>/nitrogen-doped carbon

## nanofibers towards long-lifetime anode materials for sodium-ion

## batteries

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Fig. S1 SEM of CoSe<sub>2</sub>/N-CNFs.



Fig. S2 Raman spectra of CoSe<sub>2</sub>/N-CNFs.



Fig. S3 XPS survey spectrum of CoSe<sub>2</sub>/N-CNFs.



Fig. S4 Cycling performance of CoSe<sub>2</sub>/N-CNFs electrode between 0.01 and 3.0 V.



Fig. S5 CV curves of  $CoSe_2/N$ -CNFs electrode for the first three cycles at 0.2 mV s<sup>-1</sup> between



Fig. S6 (a-b) side views of optimized CoSe<sub>2</sub>(210)/NC structure with different adsorption sites of a Na atom, respectively. Gray, wathet, gold and purple spheres represent C, Co, Se and Na atom, respectively.