

Self-supported $\text{Li}_3\text{VO}_4/\text{N}$ doped C fibers for superb high-rate and long-life Li-ion storage

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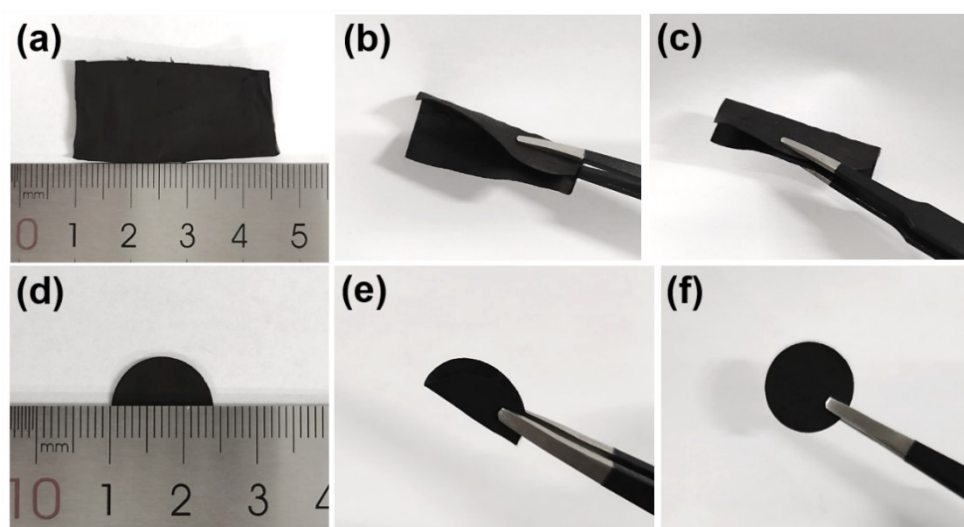


Fig. S1 (a-f) Digital photos of the SS LVO/NC NFs.



Fig. S2 Digital photos of the NC NFs without LVO.

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Fig. S3 Digital photos of the Li and V concentration increasing in the spinning precursor of the LVO/NC NFs.

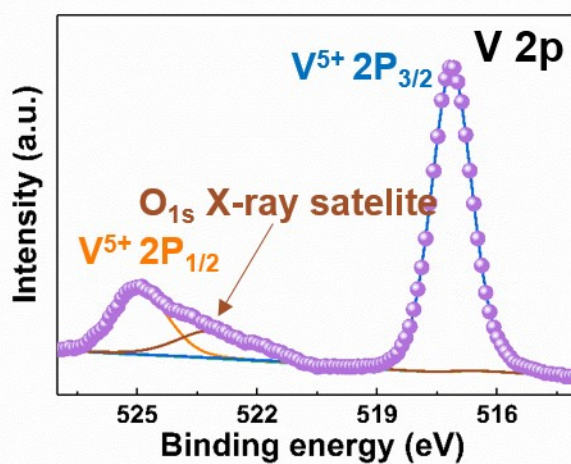


Fig. S4 High-resolution XPS spectra of V 2p for the SS LVO/NC NFs after re-sintering in air at 600 °C for 5h.

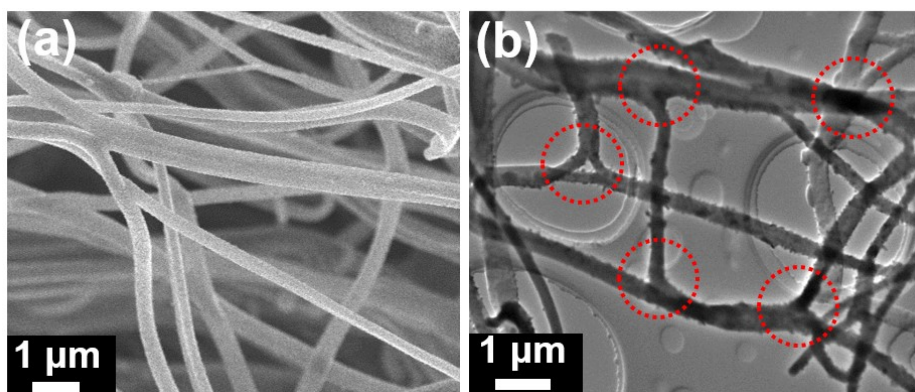


Fig. S5 (a) Low magnification SEM image and (b) Low magnification TEM image of the SS LVO/NC NFs.

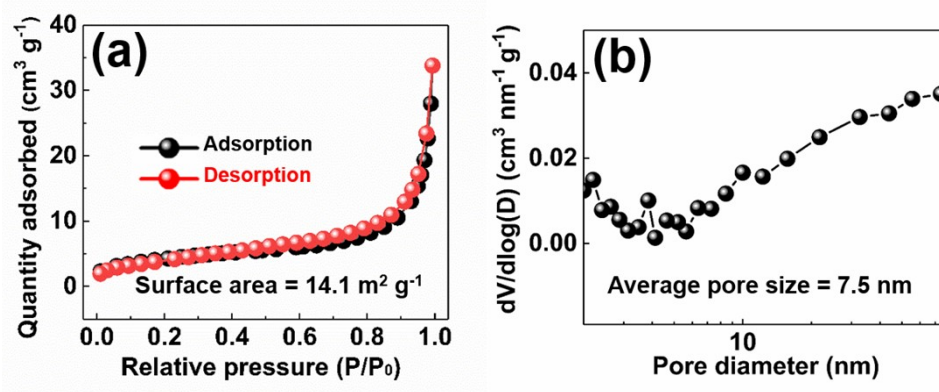


Fig. S6 (a) N₂ adsorption/desorption isotherm and (b) Pore size distribution of the SS LVO/NC NFs.

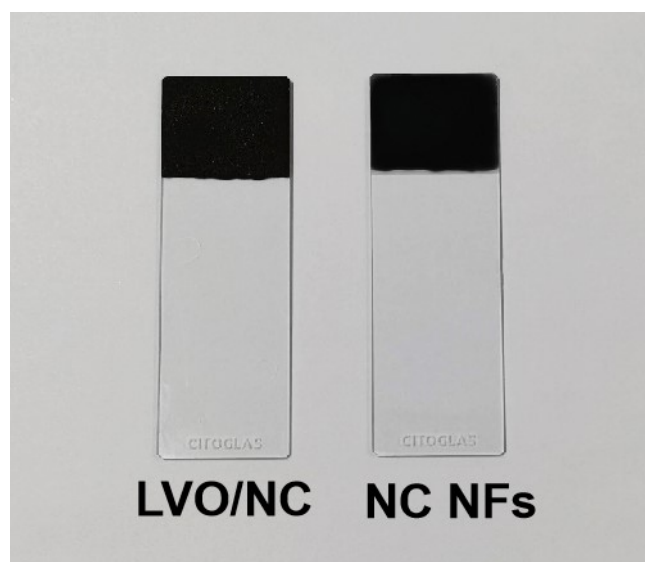


Fig. S7 Optical Photos of LVO/NC and NC NFs films coated on glass slide.

The conductivity of the SS LVO/NC NFs, LVO/NC and NC NFs are contrastively studied via resistivity measuring instruments with four-probe array method. The SS LVO/NC NFs could be directly tested, and the LVO/NC and NC NFs powders were mixed with PVDF (dissolve in NMP) with weight ratio of 8:1 and coated on glass slide (Fig. A1) for test. As seen, the SS LVO/NC NFs electrode exhibits higher conductivity than that of the LVO/NC and NC NFs electrodes (Tab. S1).

Tab. S1 Electrical conductivity of the SS LVO/NC NFs, LVO/NC and NC NFs electrodes measured via resistivity measuring instrument with four-probe array method.

Electrode	Conductivity (S cm^{-1})
SS LVO/NC NFs	1.91×10^{-4}
LVO/NC	2.08×10^{-5}
NC NFs	1.68×10^{-4}

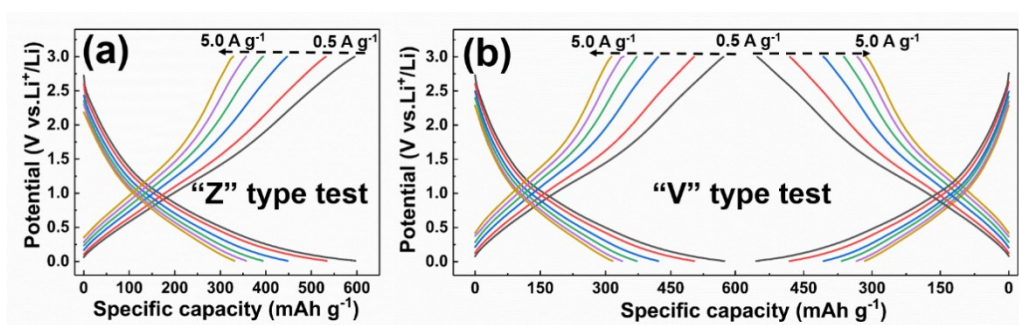


Fig. S8 (a) Representative charge/discharge curves in the 14th period rate performance testing in Figure 4d. (b) Representative charge/discharge curves in the 8th period rate performance testing in Figure 4e.

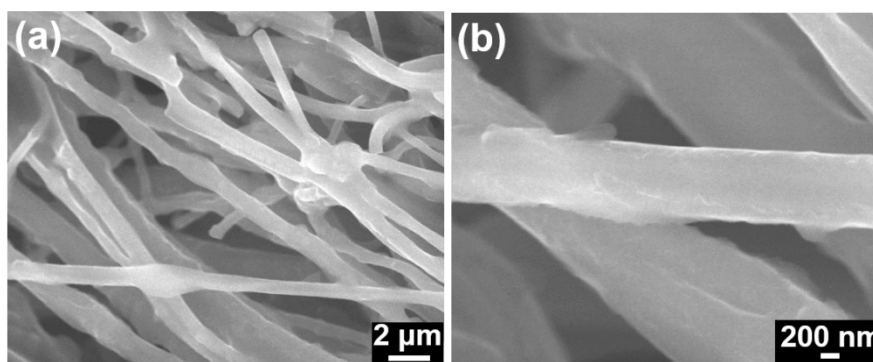


Fig. S9 (a) Low and (b) high magnification SEM image of the SS LVO/NC NFs electrode after long cycle performance.

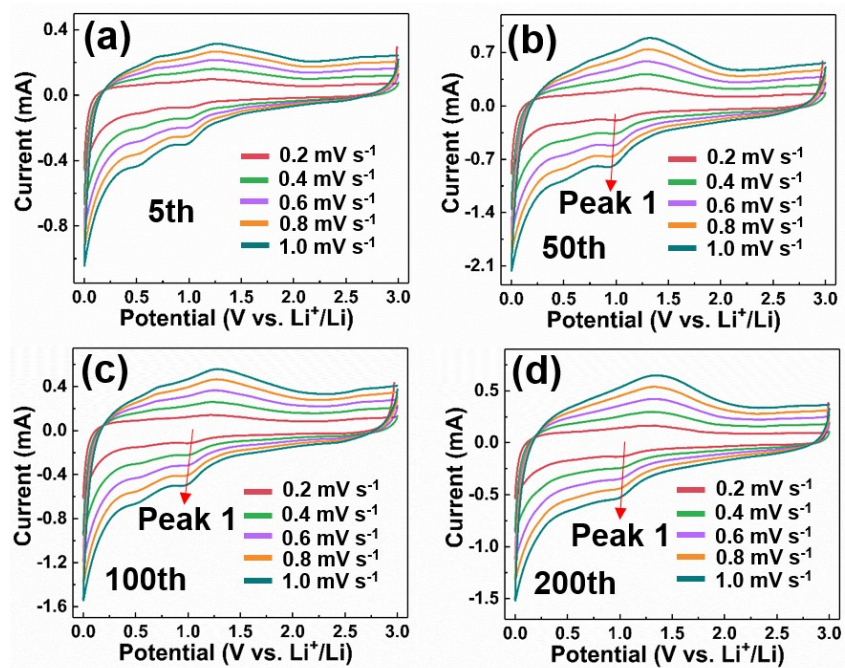


Fig. S10 (a-d) CV curves with varied scan rates.