

***In situ* interface engineering of NiSe with interlinked conductive networks for high energy density sodium-ion half/full batteries**

Jing Liu^a, Zichen Leng^a, Huilong Dong^a, Xin Xu^a, Chengkui Lv^a, Huaixin Wei^c, Lei Yu^{a*}, Jun Yang^{b*}, Hongbo Geng^{a*}

^aSchool of Materials Engineering, Changshu Institute of Technology, Changshu, Jiangsu, 215500, China.

^bSchool of Material Science and Engineering, Jiangsu University of Science and Technology, Zhenjiang, 212003, China.

^cSchool of Chemistry and Life Sciences, Suzhou University of Science and Technology, Suzhou, 215009, China.

E-mail address: hupbyulei@126.com; iamjyang@just.edu.cn; hbgeng@gdut.edu.cn

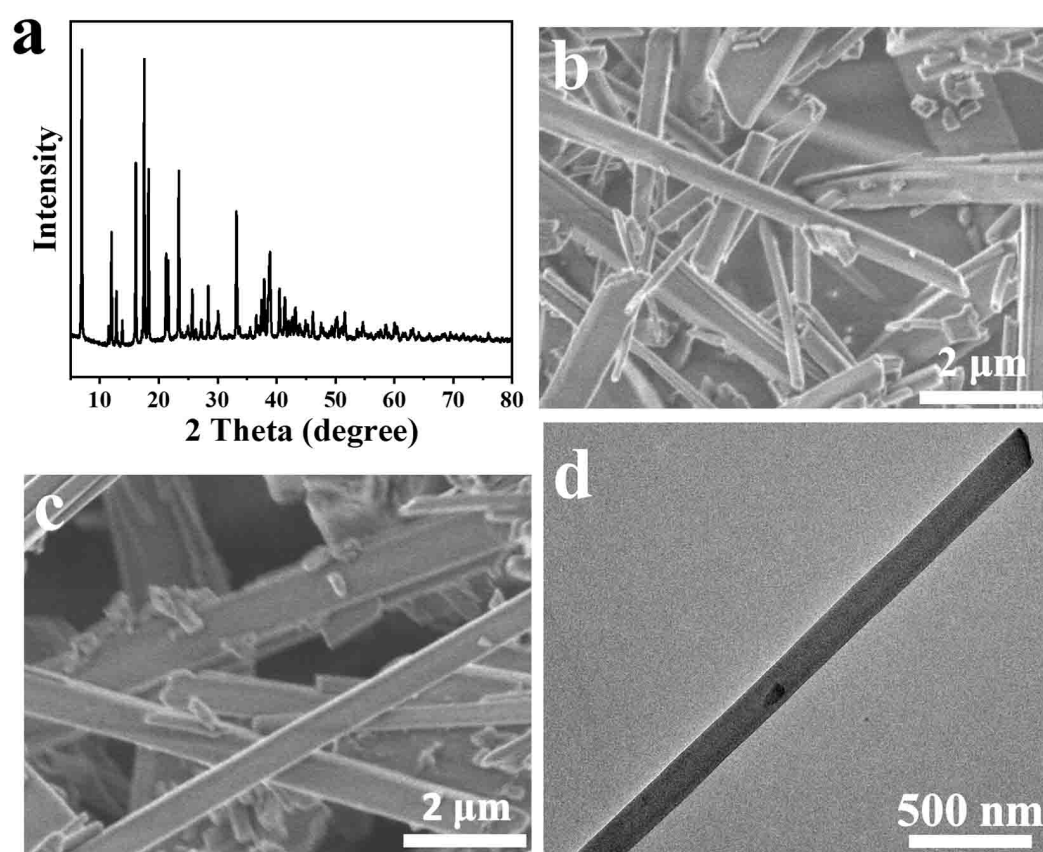


Fig. S1 Microstructure and morphology of nickel coordination polymer nanowires. (a) XRD pattern; (b, c) SEM images; (d) TEM image.

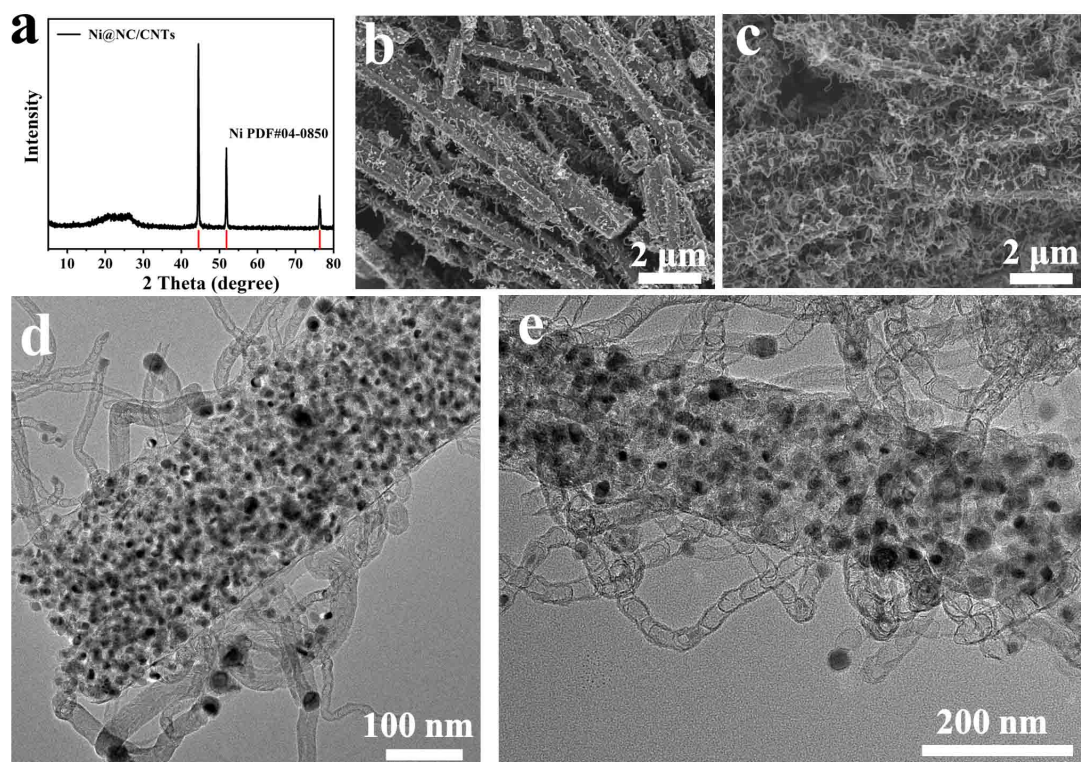


Fig. S2 Microstructure and morphology of Ni@NC/CNTs. (a) XRD pattern; (b, c) SEM image; (d,e) TEM image.

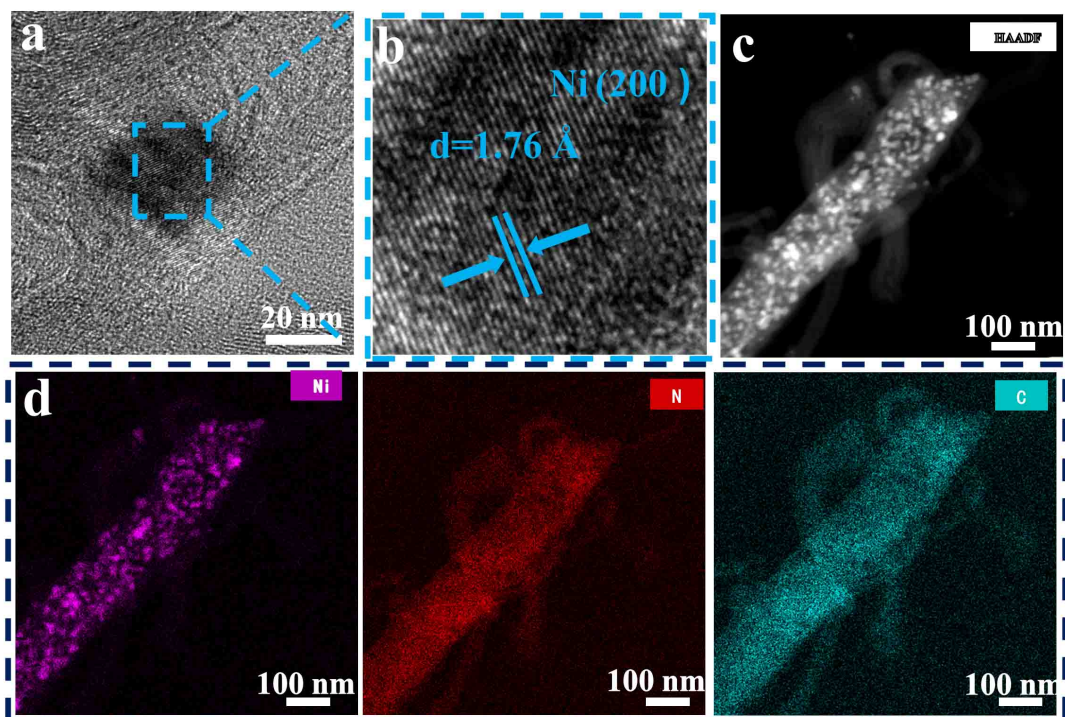


Fig. S3 Microstructure and morphology of Ni@NC/CNTs. (a,b) HRTEM images and (c,d) elemental mapping images.

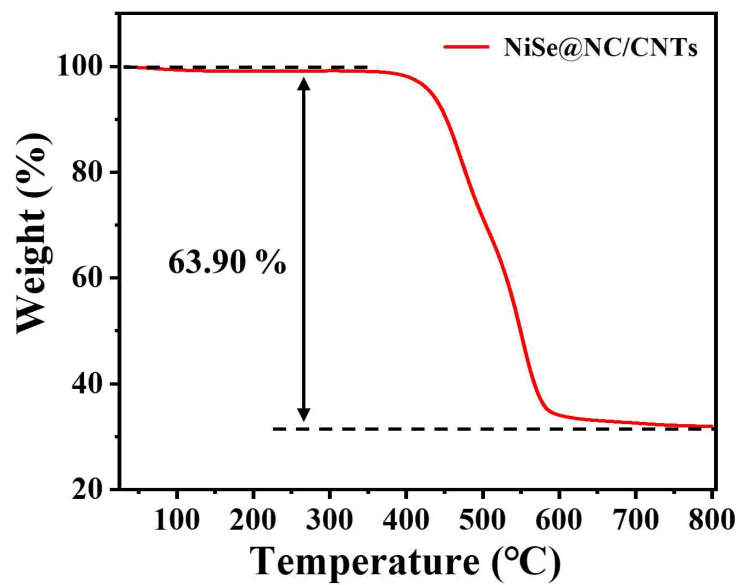


Fig. S4 TGA curve of NiSe@NC/CNTs.

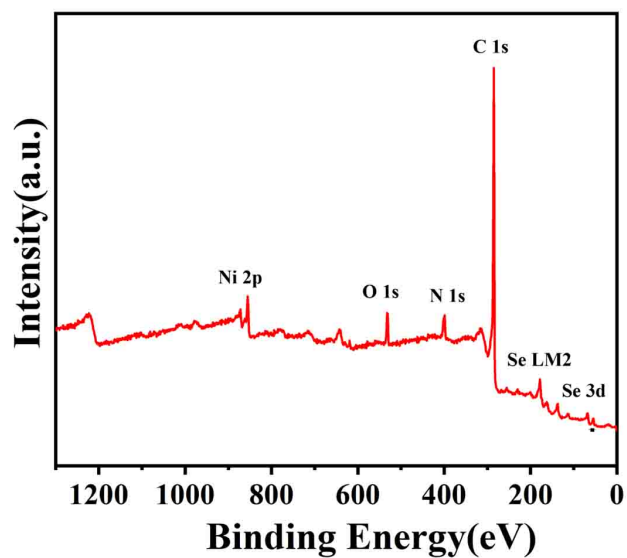


Fig. S5 XPS survey spectrum of NiSe@NC/CNTs.

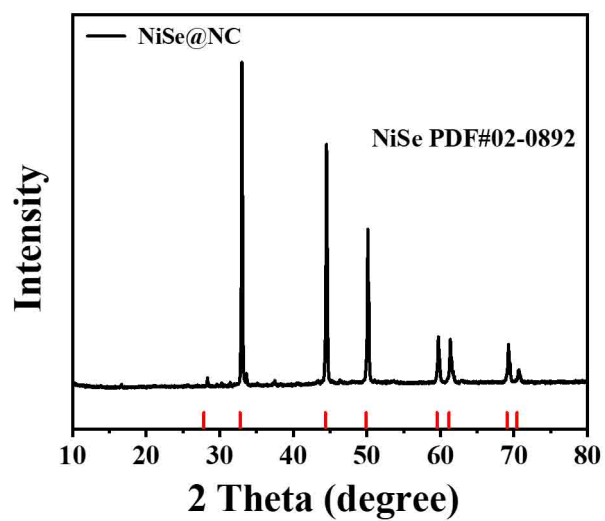


Fig. S6 XRD pattern of the NiSe@NC.

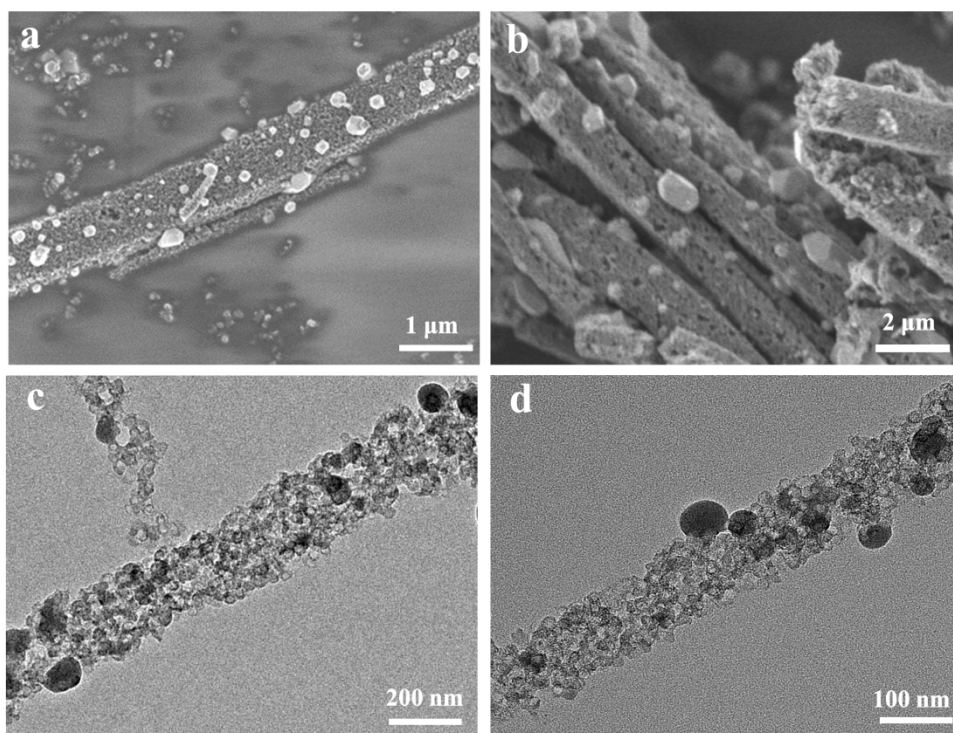


Fig. S7 Microstructure and morphology of NiSe@NC. (a, b) SEM image; (c,d) TEM image.

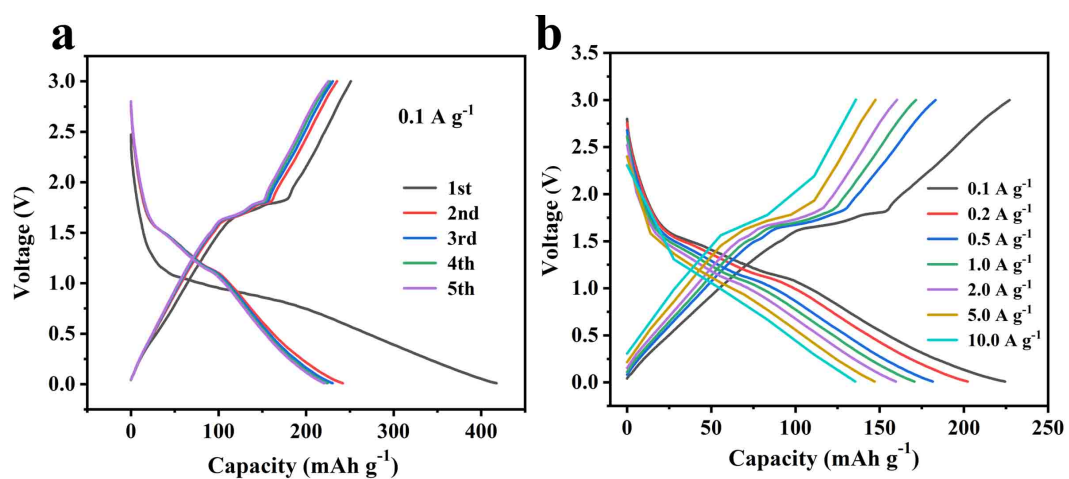


Fig. S8 (a) The GCD curves at 0.1 A g^{-1} and (b) rate capacities at current densities of NiSe@NC.

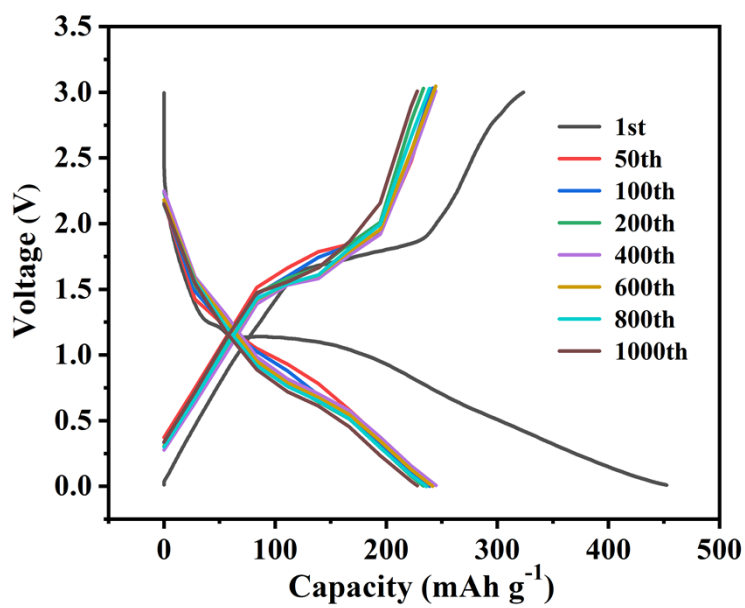


Fig. S9. The GCD curves at 10 A g^{-1} of NiSe@NC/CNTs.

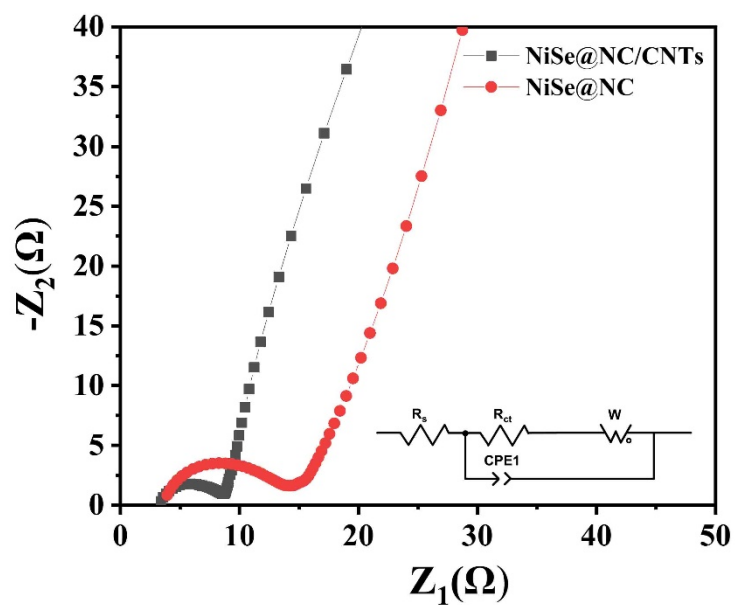


Fig. S10 EIS spectra of NiSe@NC/CNTs and NiSe@NC.

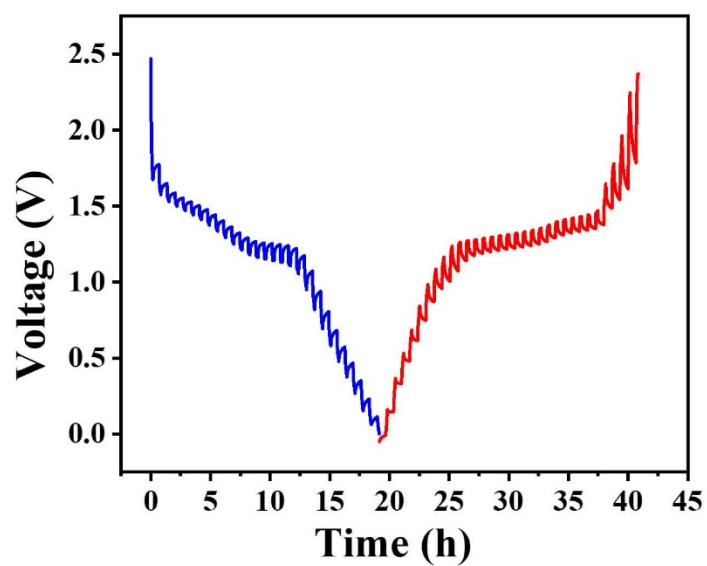


Fig. S11. The GITT tests for the NiSe@NC.