Supplementary Information

Carbon nanofibers containing Si nanoparticles and graphene-encapsulated Ni for high performance anodes in Li ion batteries

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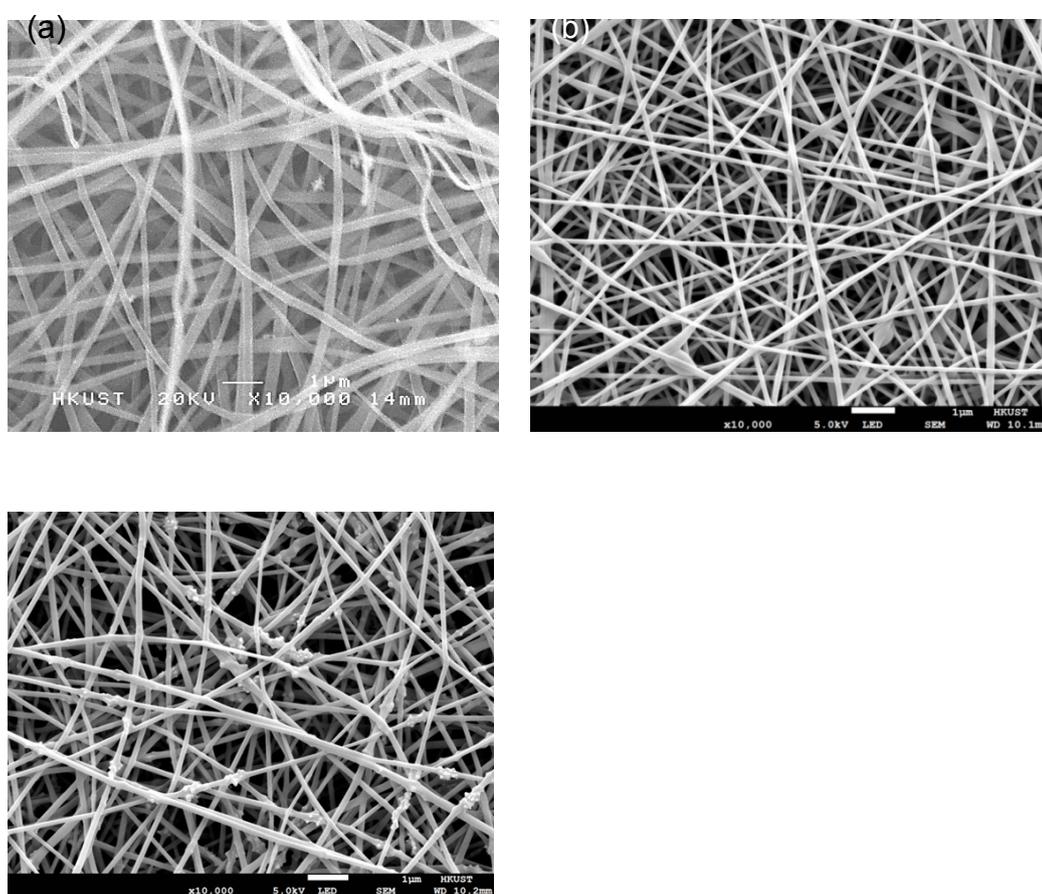
Fig. S1 SEM images of as-spun nanofibers of (a) Ni/PVA, (b) PVA, and (c) Si/Ni/PVA.
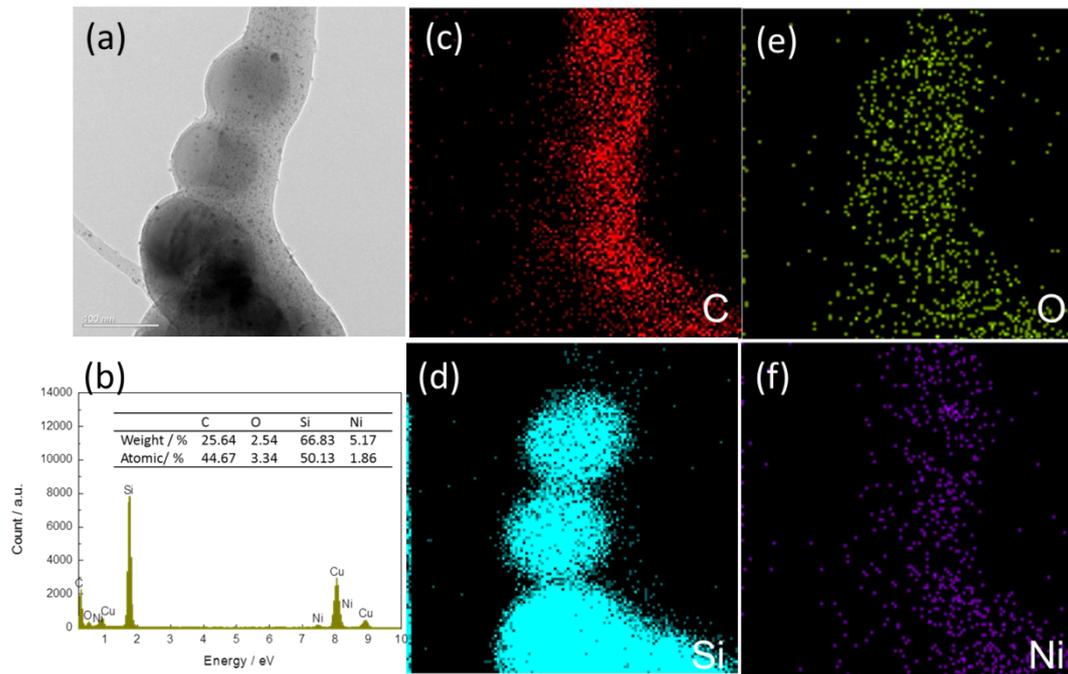
Fig. S2 Structure and characteristics of Si/Ni/CNF composites: (a) TEM image; (b) EDS of (a); (c-f) element mappings of C, Si, O and Ni, respectively.
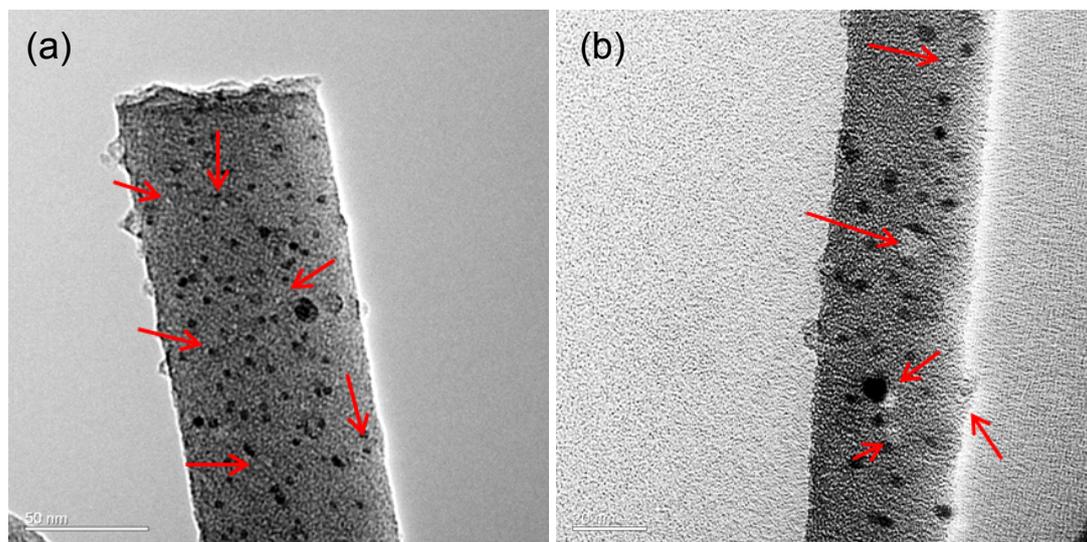
Fig. S3 TEM image of pores in Ni/CNF (in red arrows).
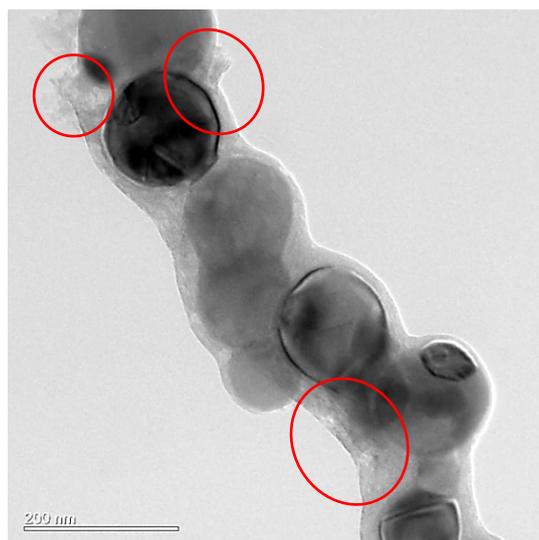
Fig. S4 TEM images of Si/CNF/Ni-etch composite: damaged CNF matrix (red circles)
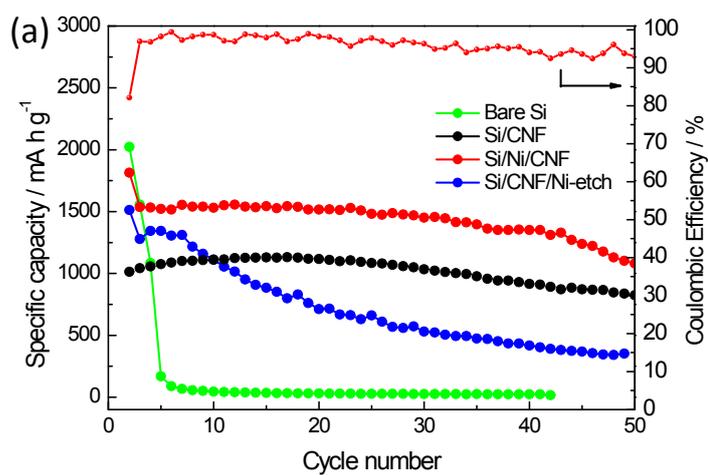
Fig. S5 Cyclic test results of electrodes made from neat Si, Si/CNF, Si/Ni/CNF and Si/CNF/Ni-etch at a current density 100 mA g^{-1} between 0 and 3 V.