

Carbon-coated Si micrometer particles binding to reduced graphene oxide for a stable high-capacity lithium ion battery anode

Xiang Han,[†] Huixin Chen,[‡] Ziqi Zhang,[†] Donglin Huang,[†] Jianfang Xu,[†] Cheng Li,[†] Songyan Chen,^{**†} and Yong Yang^{**}

[†]Fujian Provincial Key Laboratory of Semiconductors and Applications, Collaborative Innovation Center for Optoelectronic Semiconductors and Efficient Devices, Department of Physics, Xiamen University, Xiamen361005, P. R. China

E-mail: syichen@xmu.edu.cn

[‡]State Key Laboratory for Physical Chemistry of Solid Surfaces, Department of Chemistry, Xiamen University, Xiamen361005, P. R. China

E-mail: yyang@xmu.edu.cn

Supporting Information

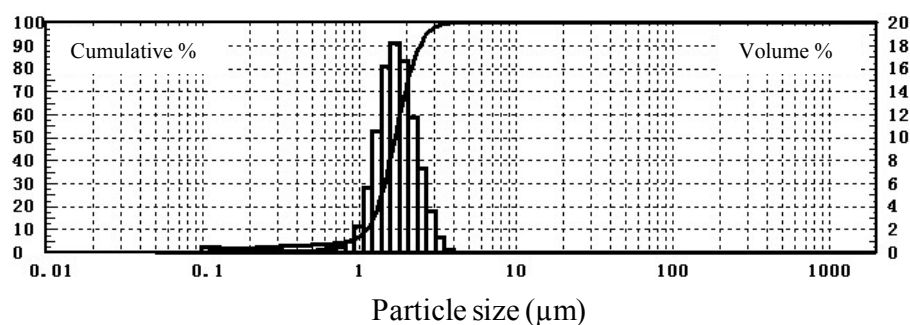


Figure S1. Particle size distribution of micron-sized Si particles.

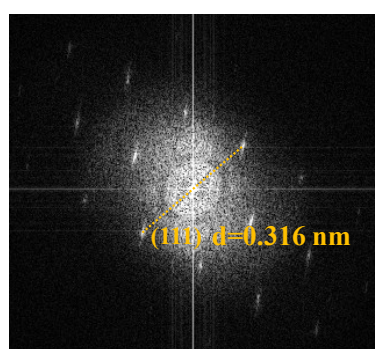


Figure S2. FFT patterns of the HRTEM image in Fig. 1d.

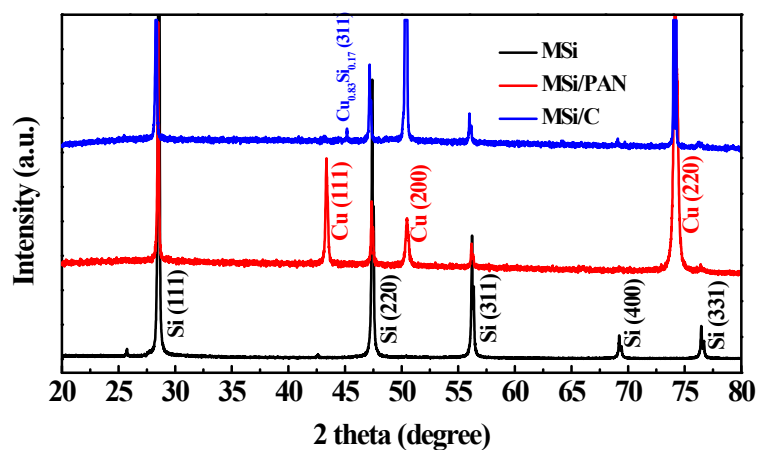


Figure S3. XRD patterns of MSi, MSi/PAN, and MSi/C.

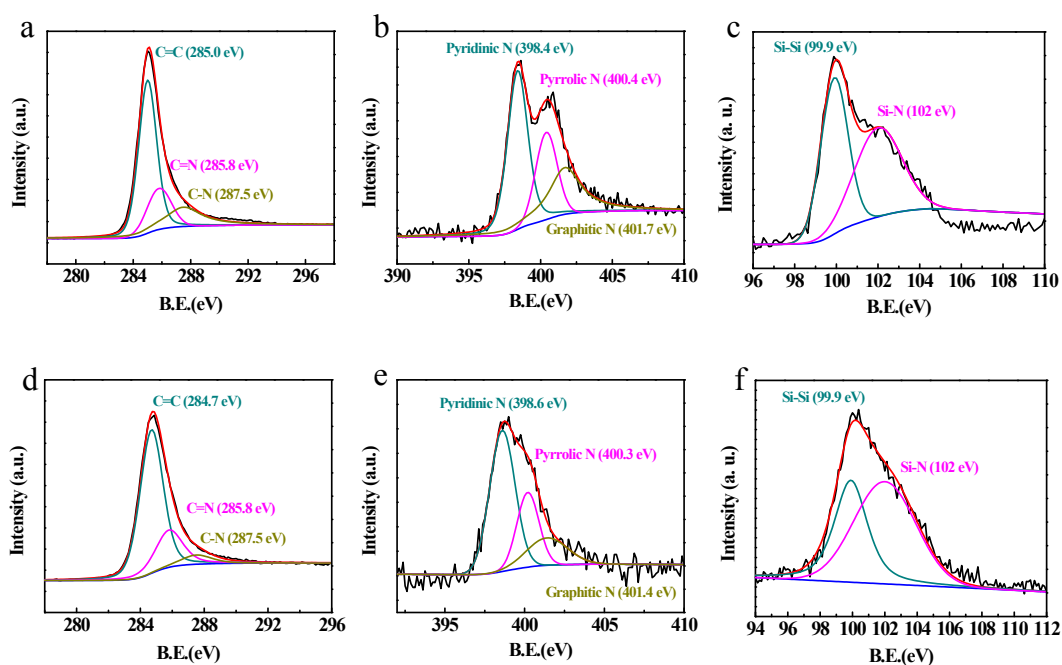


Figure S3. Fitting XPS spectra of MSi/C: (a) C 1s, (b) N 1s, (c) Si 2p and fitting XPS spectra of MSi/C/RGO: (d) C 1s, (e) N 1s, (f) Si 2p.

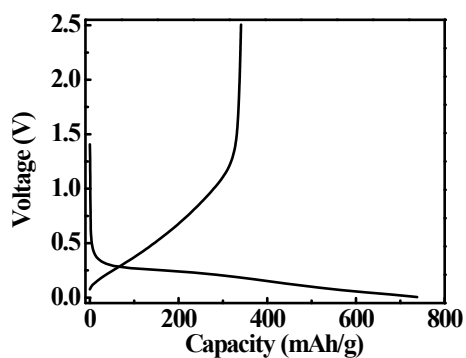


Figure S5. The first cycle voltage profile of amorphous carbon at 0.2 A g^{-1} between 0.005-2.5 V.

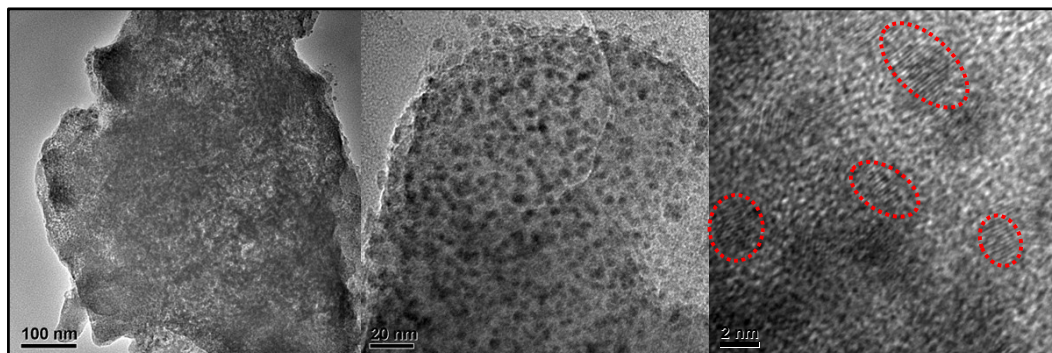


Figure S6. TEM images of MSi/C after 100 cycles at 0.2 A g^{-1} between 0.005-2.5 V.