

Supplementary Information

A free-standing, flexible and bendable lithium-ion anode materials with improved performance

Xueqian Zhang,^a Xiaoxiao Huang,^{*a} Yingfei Zhang,^a Long Xia,^b Bo Zhong,^b Xiaodong Zhang,^b Nan Tian,^a Tao Zhang,^b Guangwu Wen^{*ab}

^aSchool of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150001, China

^bSchool of Materials Science and Engineering, Harbin Institute of Technology at Weihai, Weihai 264209, China

*Corresponding author:

E-mail address: swliza@hit.edu.cn; g.wen@hit.edu.cn.

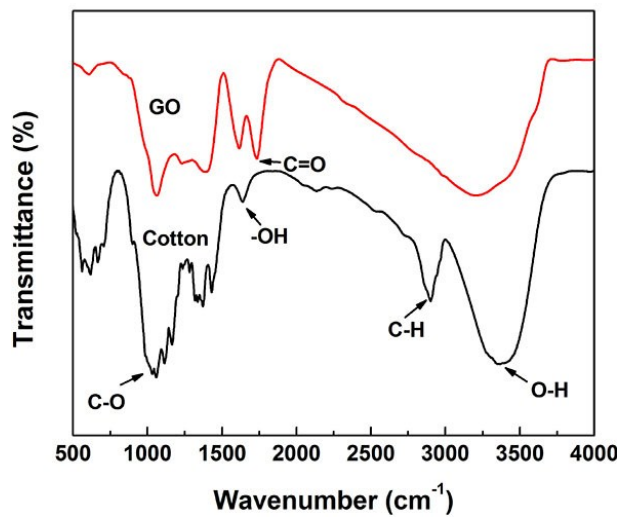


Fig. S1 FT-IR spectra of GO and non-woven cotton.

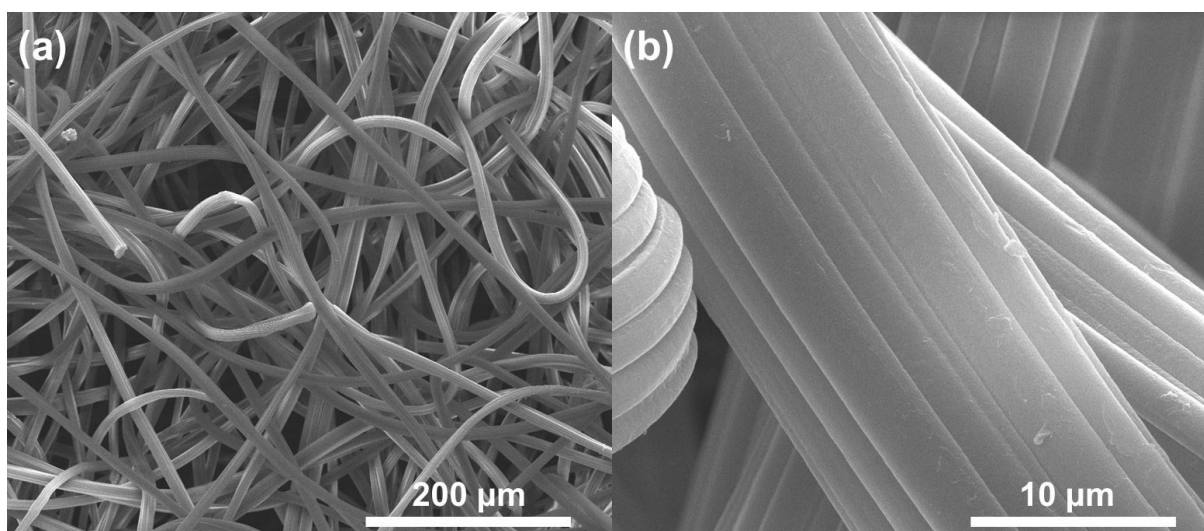


Fig. S2 SEM images of non-woven cotton low (a) and high (b) magnification.

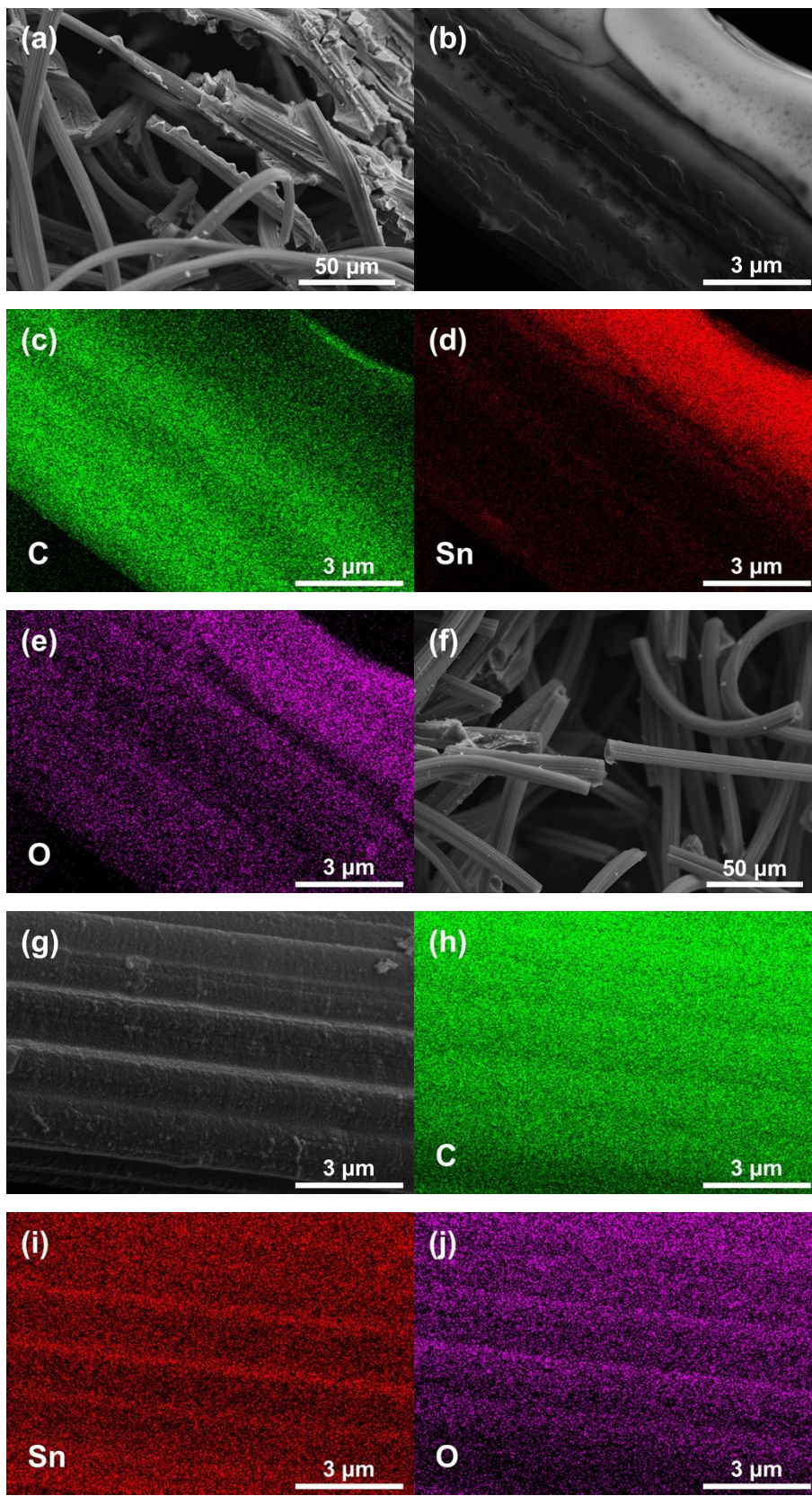


Fig. S3 SEM images and EDS mapping of the C/SnO₂ (a-e), CG/SnO₂ (f-j).

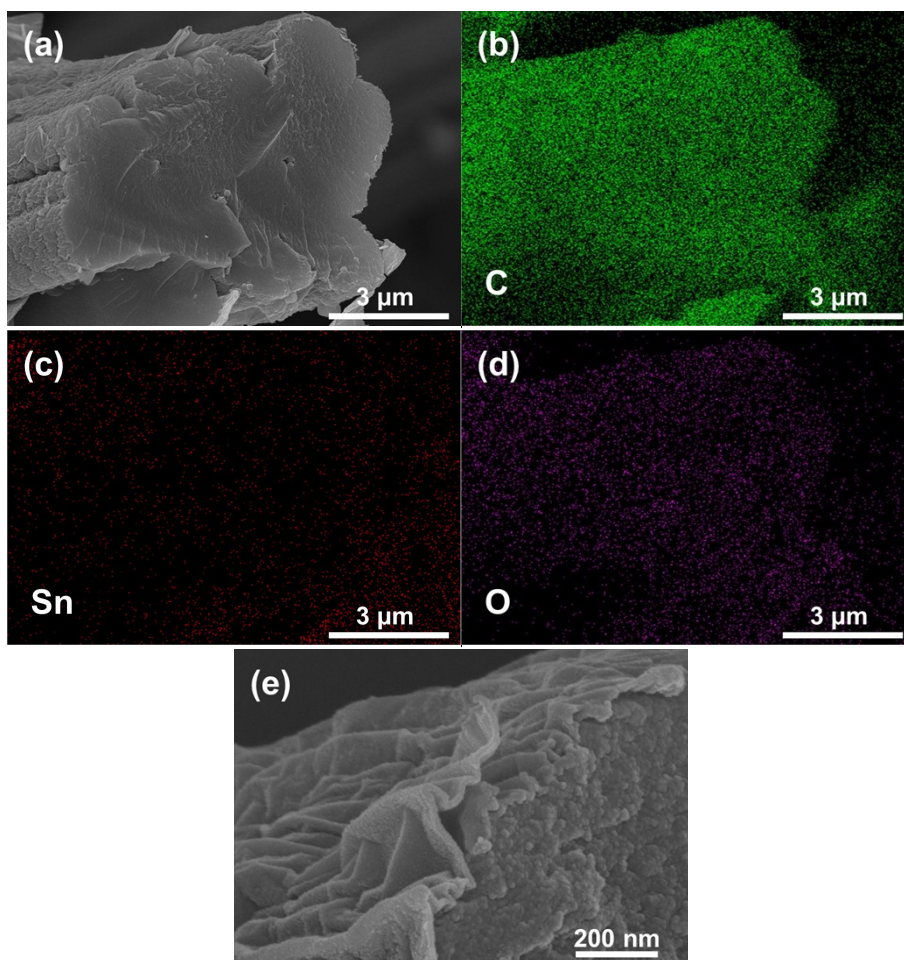


Fig. S4 SEM images of CGN/SnO₂ in cross section low (a), EDS mapping of C (b), Sn (c), O element (d), and cross high magnification (e).

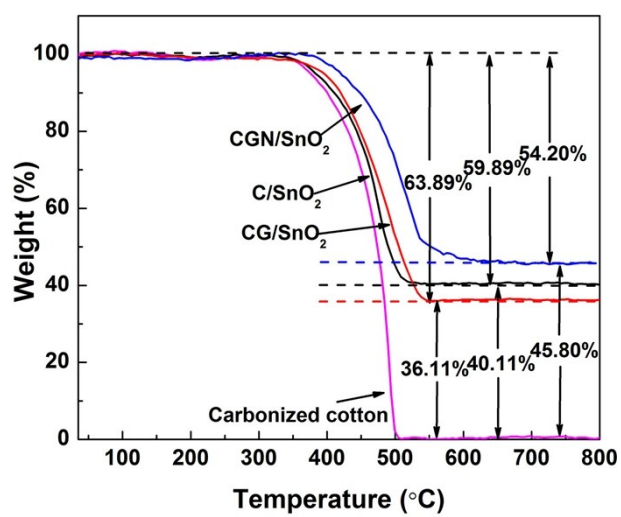


Fig. S5 TGA curves of the cotton, C/SnO₂, CG/SnO₂, and CGN/SnO₂ composites.

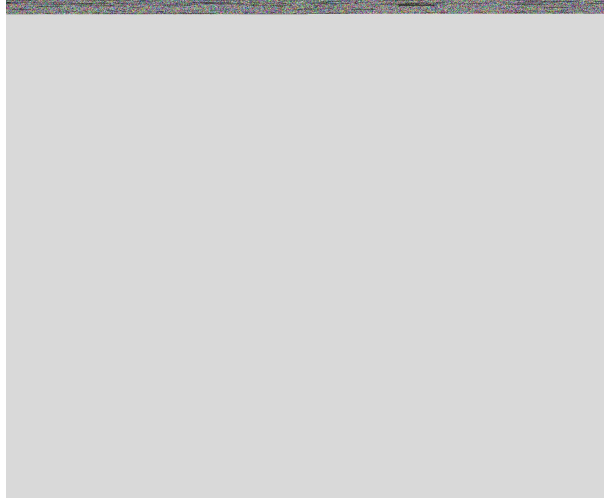


Fig. S6 Cycling performance of carbonized cotton, CG, and CGN.

The cycling performance of carbonized cotton, CG, and CGN at 50 mAh g^{-1} in the voltage range of 0.001-3 V. As shown in Fig. S6, after 60 cycles, the capacities of carbonized cotton, CG, and CGN are 149.1, 91.5, and 176.9 mAh g^{-1} .

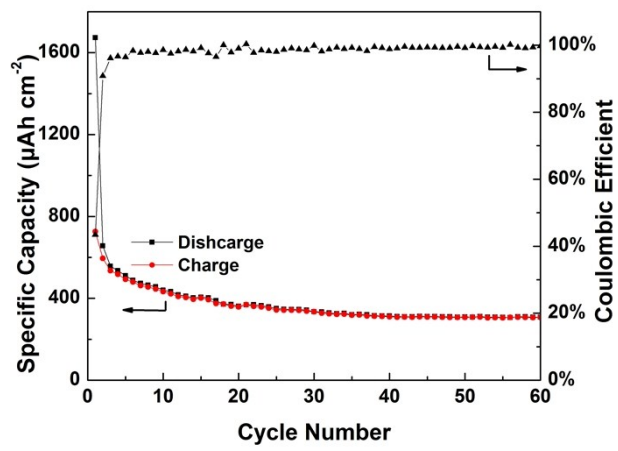
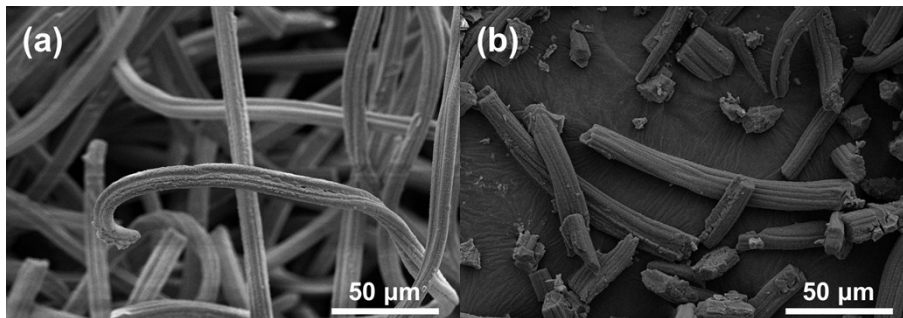


Fig. S7 Cycling performance of CGN composite.



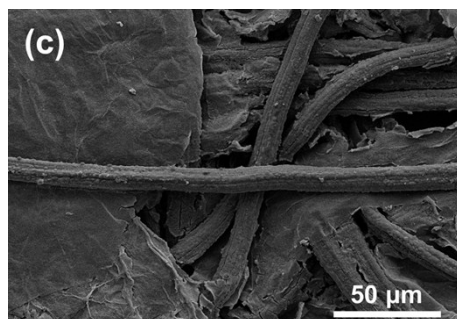


Fig. S8 SEM images of C/SnO₂ (a), CG/SnO₂ (b), and CGN/SnO₂ electrode cycling at 260 μA cm⁻² after 60 cycles.