

Electronic Supplementary Information for

Foldable composite electrode with excellent electrochemical performances using microfibrilled cellulose fiber as a framework

Qingzhong Liu¹, Zehong Chen¹, Shuangshuang Jing¹, Hao Zhuo¹, Yijie Hu¹, Jinchao Liu², Linxin Zhong*,¹ Xinwen Peng*,¹ Chuanfu Liu*¹

¹*State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Guangzhou, P. R. China.*

²*Analytical and testing center, South China University of Technology, Guangzhou, P. R. China.*

*Corresponding authors. E-mail: lxzhong0611@scut.edu.cn (Linxin Zhong) and chfliu@scut.edu.cn (Chuanfu Liu). Tel. and Fax: +86 02087111861.

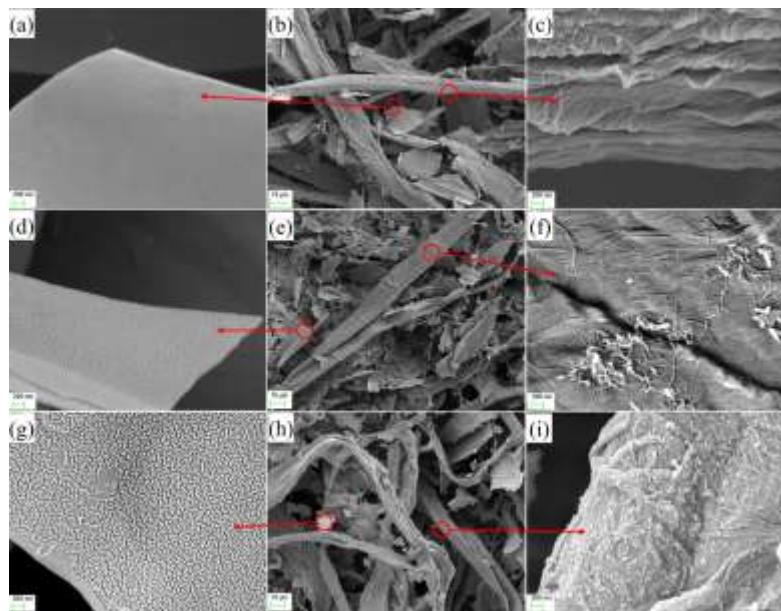


Fig. S1. SEM images of S1: (a) the surface of N-CS, (b) network, (c) the surface of MCF. SEM images of S2: (d) PANI-coated N-CS, (e) network, (f) PANI-coated MCF. SEM images of S3: (g) PANI-coated N-CS, (h) network, (i) PANI-coated MCF.

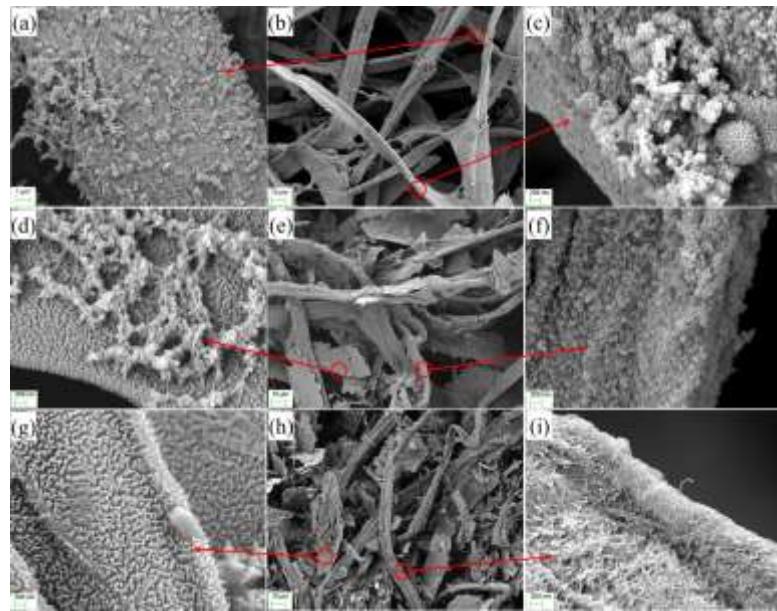


Fig. S2. SEM images of S6: (a) and (c) PANI-coated MCF, (b) network. SEM images of S7: (d) PANI-coated N-CS; (e) network, (f) PANI-coated MCF. SEM images of S8: (g) PANI-coated N-CS, (h) network, (i) PANI-coated MCF.

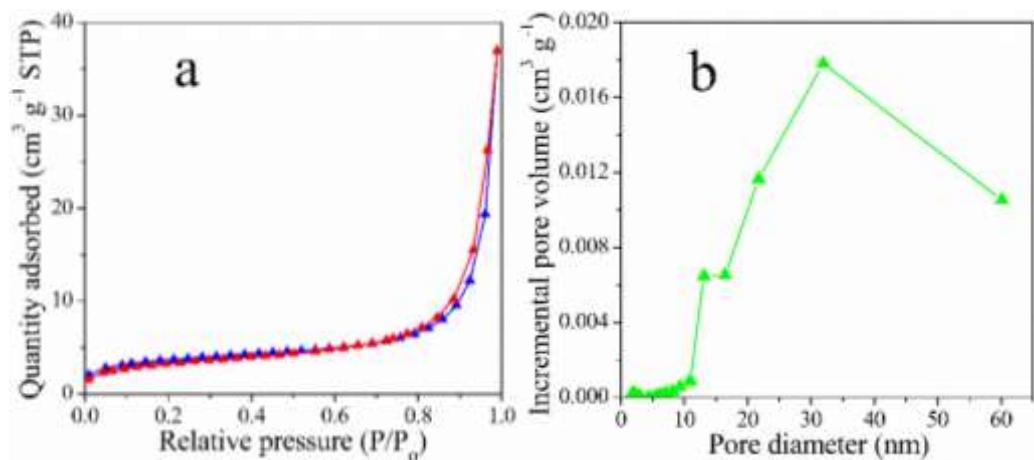


Fig. S3. Nitrogen adsorption and desorption isotherms (a) and pore size distributions (b) of S4. The pore size distribution was evaluated via the BJH method.

Table S1. BET parameters of S4.

Specific surface area ($\text{m}^2 \text{ g}^{-1}$)	Average pore diameter (nm)	Pore volume ($\text{cm}^3 \text{ g}^{-1}$)
12.4	27.9	0.0562

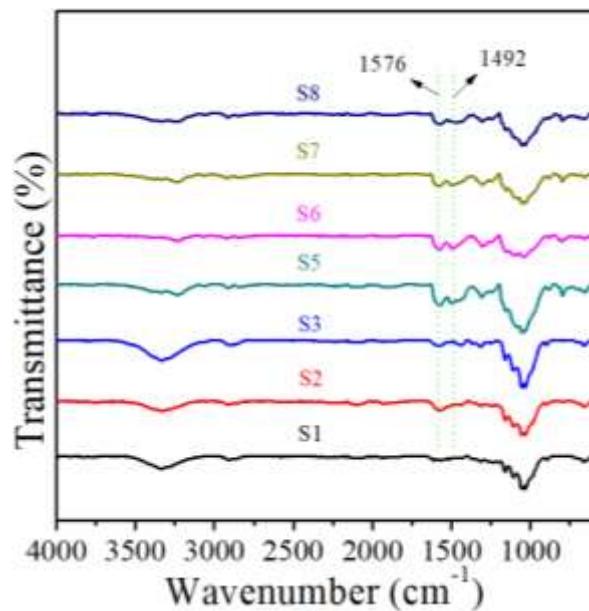


Fig. S4. FTIR spectra of S1, S2, S3, S5, S6, S7, and S8.

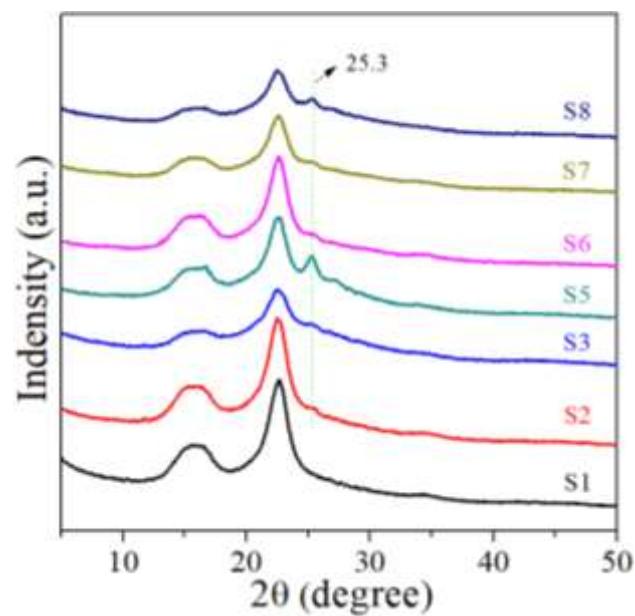


Fig. S5. XRD patterns of S1, S2, S3, S5, S6, S7, and S8.

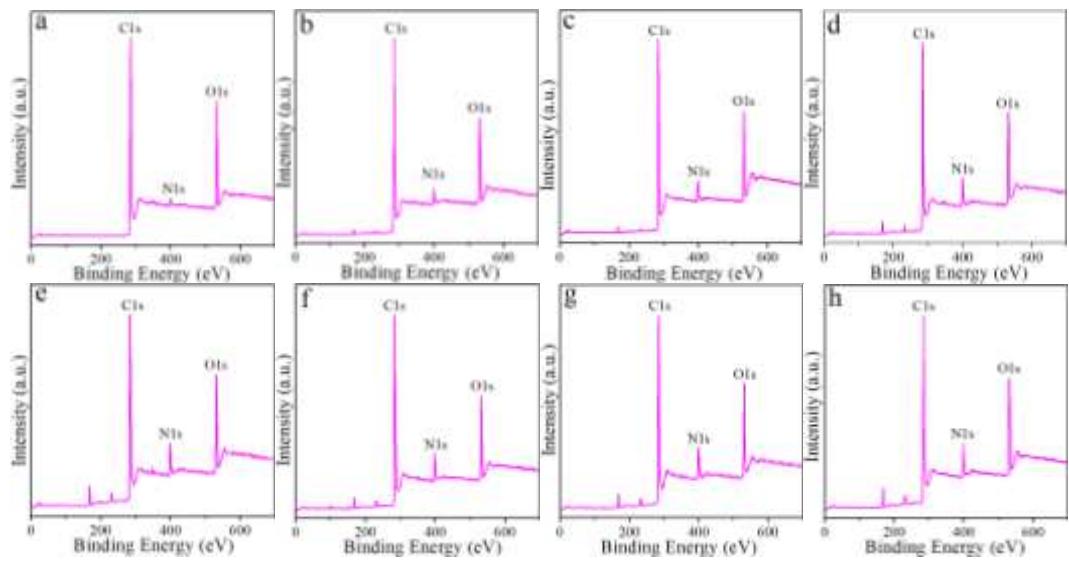


Fig. S6. XPS survey spectra of S1, S2, S3, S4, S5, S6, S7, and S8.

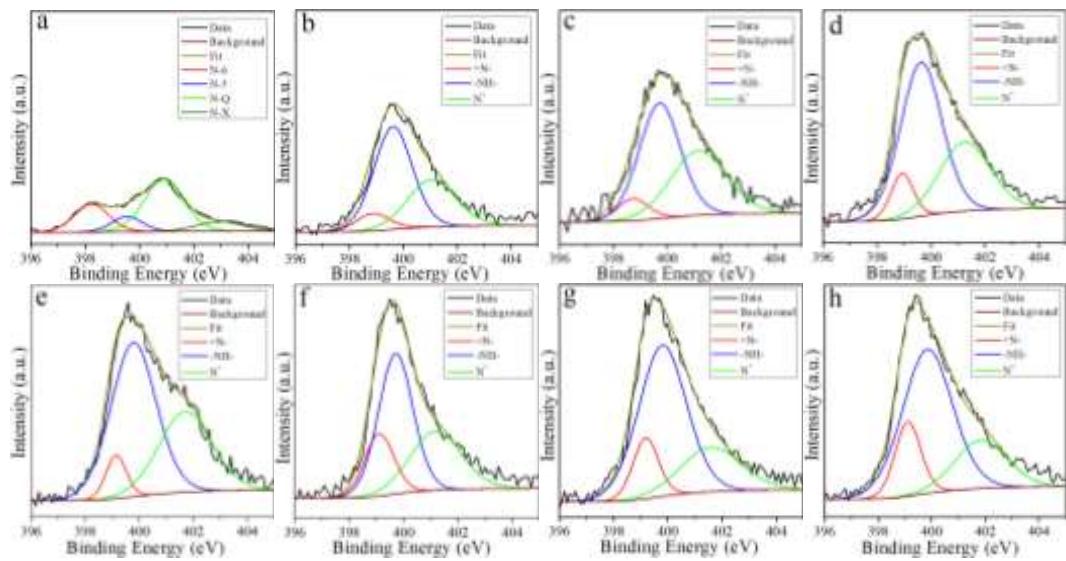


Fig. S7. High-resolution XPS spectra of N1s of S1, S2, S3, S4, S5, S6, S7, and S8.

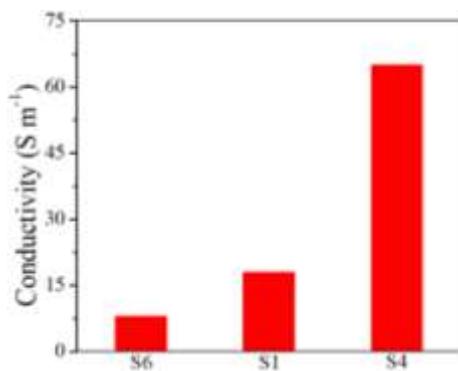


Fig. S8. Conductivity of S1, S4, and S6.