

## Electronic Supplementary Information for

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

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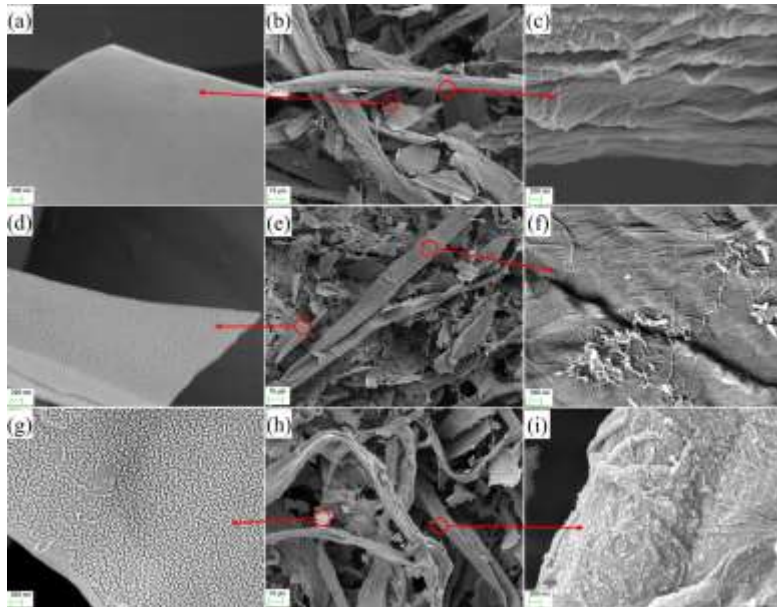


Fig. S1. SEM images of S1: (a) the surface of N-CS, (b) network, (c) the surface of MCF. SEM images of S2: (d) PANI-coated N-CS, (e) network, (f) PANI-coated MCF. SEM images of S3: (g) PANI-coated N-CS, (h) network, (i) PANI-coated MCF.

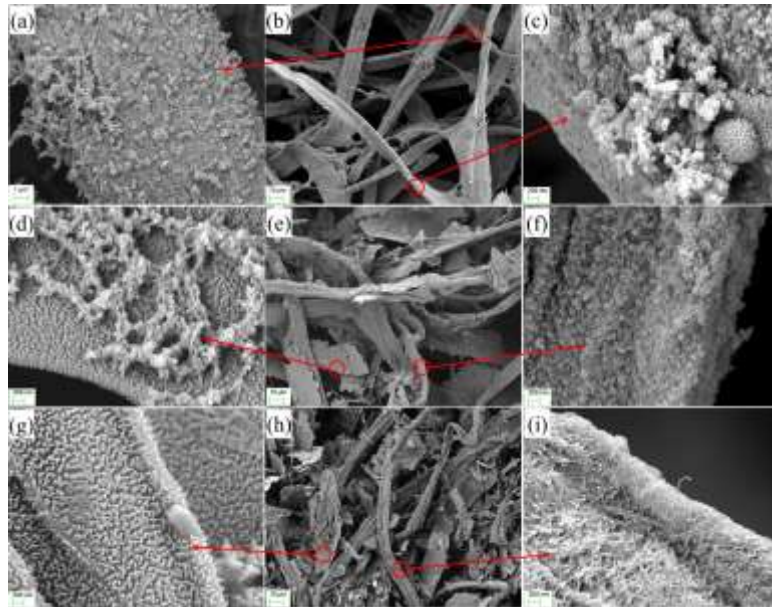


Fig. S2. SEM images of S6: (a) and (c) PANI-coated MCF, (b) network. SEM images of S7: (d) PANI-coated N-CS; (e) network, (f) PANI-coated MCF. SEM images of S8: (g) PANI-coated N-CS, (h) network, (i) PANI-coated MCF.

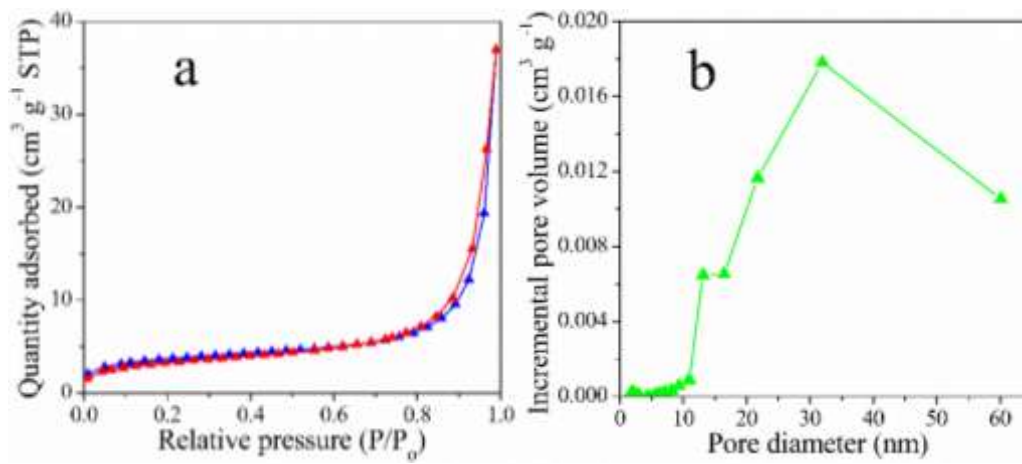


Fig. S3. Nitrogen adsorption and desorption isotherms (a) and pore size distributions (b) of S4. The pore size distribution was evaluated via the BJH method.

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

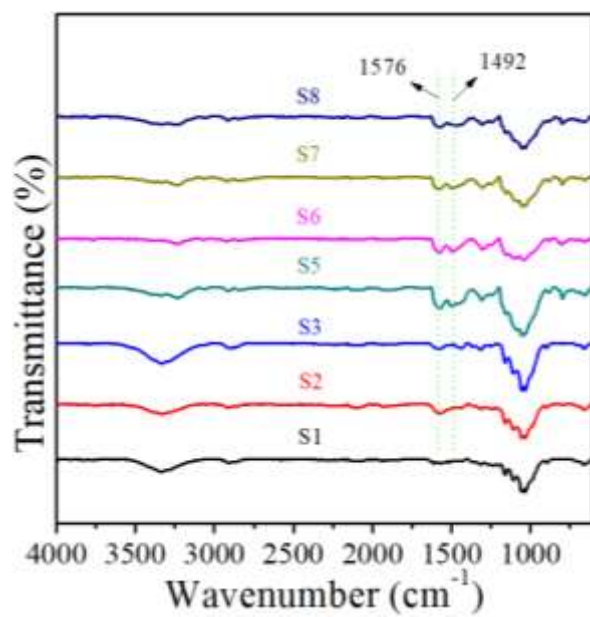


Fig. S4. FTIR spectra of S1, S2, S3, S5, S6, S7, and S8.

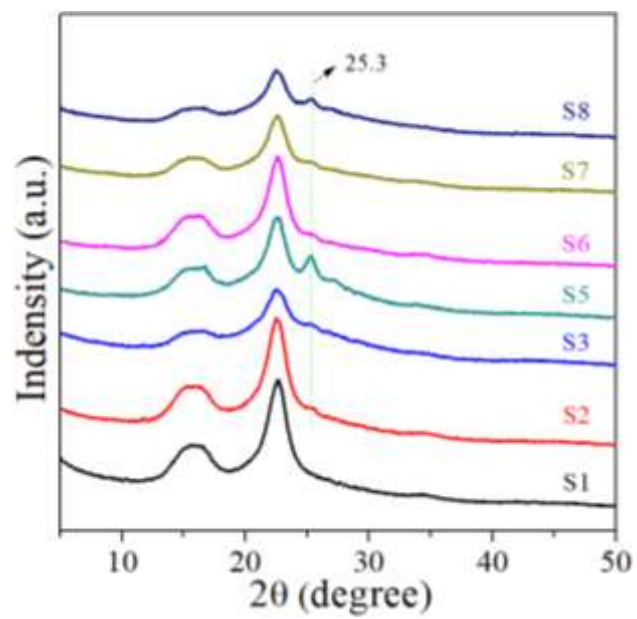


Fig. S5. XRD patterns of S1, S2, S3, S5, S6, S7, and S8.

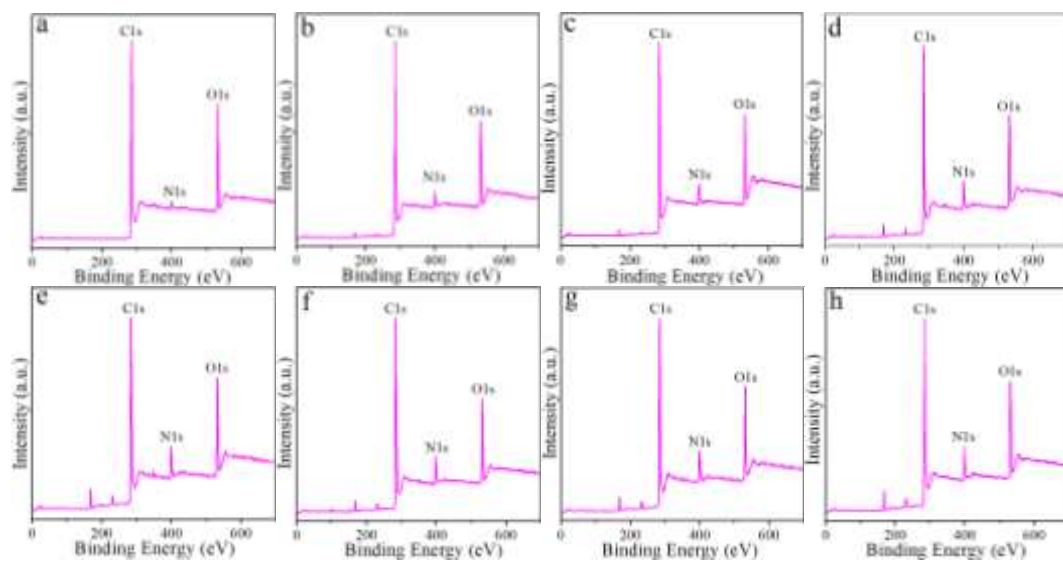


Fig. S6. XPS survey spectra of S1, S2, S3, S4, S5, S6, S7, and S8.



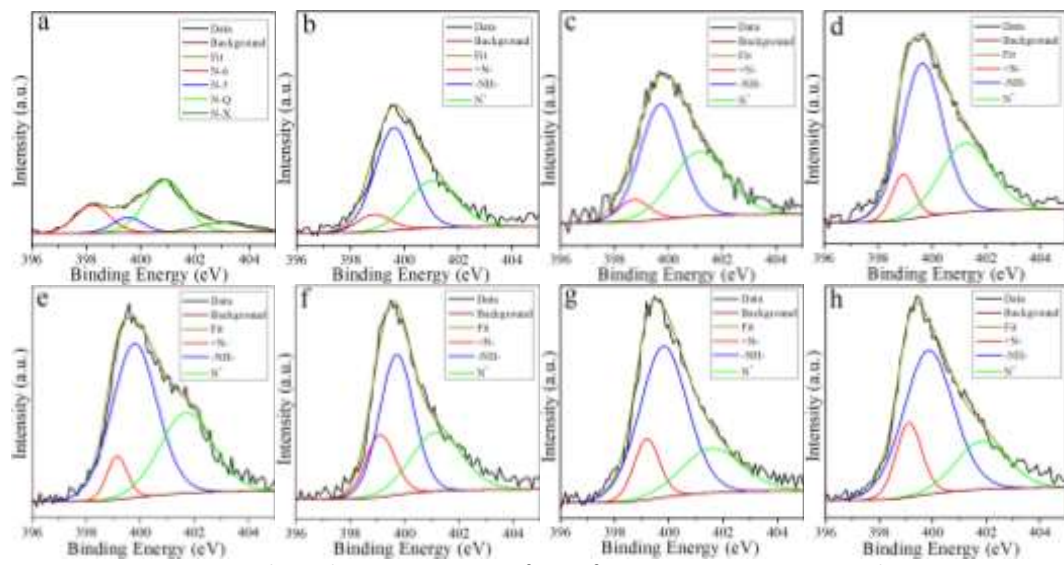


Fig. S7. High-resolution XPS spectra of N1s of S1, S2, S3, S4, S5, S6, S7, and S8.

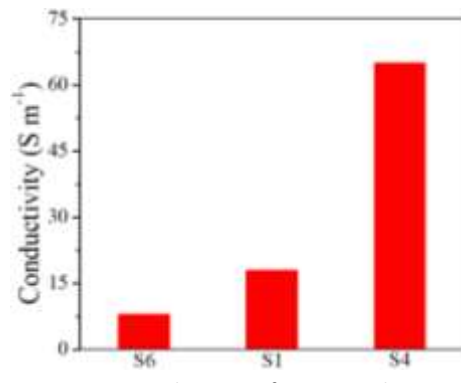


Fig. S8. Conductivity of S1, S4, and S6.