Supporting Information for

Carbon Fiber Cloth@VO₂ (B): Excellent Binder-free Flexible Electrodes

with Ultrahigh Mass-loading

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Processing of carbon fiber cloth

The carbon fiber cloth is purchased from Clean Energy Technology Co. Ltd (Taiwan). First, the carbon fiber cloth (CFC) was heated in a furnace at 300 °C for 2h before ultrasonic in ethyl alcohol and acetone for 30 min. After that, the CFC was put in a three-neck-flask to reflux with concentrated nitric acid at 70 °C for 5 h. Finally, the CFC was washed with distilled water until the PH is 7.



Figure S1. XPS spectra VO₂: (a) Survey spectrum; (b) core-level spectrum of V_{2p}



Figure S2. TGA curve of carbon fibre cloth@VO₂



Figure S3. SEM image of pure VO₂ nanobelt



Figure S4. SEM image of carbon fiber cloth



Figure S5. (a) SEM image of CFC @ VO₂ (B); (c,d,e) Corresponding EDX mapping images of C (red), V (blue), and V (green).



Figure S6. SEM image of CFC@VO₂ electrodes after 200 cycles.



Figure S7. The cycling performance of carbon fiber cloth in 2-3 V at 0.2 C.



Figure S8. The cycling performance of VO_2 and carbon fiber compound in terms of total mass $(VO_2 + \text{carbon fiber})$ in 2-3 V at 0.2 C.