Electronic Supporting Information

Hierarchically structured MnO₂/graphene/carbon fiber and porous graphene hydrogel wrapped copper wire for fiber-based flexible all-solid-state asymmetric supercapacitors

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Fig. S1 XRD pattern of prepared MnO₂ nanoflakes RGO/CF.



Fig. S2 Deconvoluted C 1s spectra of MnO₂/RGO/CF.



Fig. S3 Galvanostatic charge/discharge curves of (a) $MnO_2/RGO/CF$, (b) MnO_2/CF and (c) RGO/CF electrodes at different current densities.



Fig. S4 Nyquist plots of RGO/CF, MnO₂/CF and MnO₂/RGO/CF electrodes.



Fig. S5 Galvanostatic charge/discharge curves of GH/CW (6 h) electrode at different current densities.



Fig. S6 Galvanostatic charge/discharge curves of $MnO_2/RGO/CF//GH/CW$ device (a) in different operation voltages at a current density of 5 mA cm⁻² and (b) at different current densities.



Fig. S7 SEM image of of MnO_2 on RGO/CF after 10,000 charge/discharge cycles.