Electronic Supplementary Information

Highly flexible all-solid-state cable-type supercapacitors based Cu/reduced graphene oxide/manganese dioxide fibers

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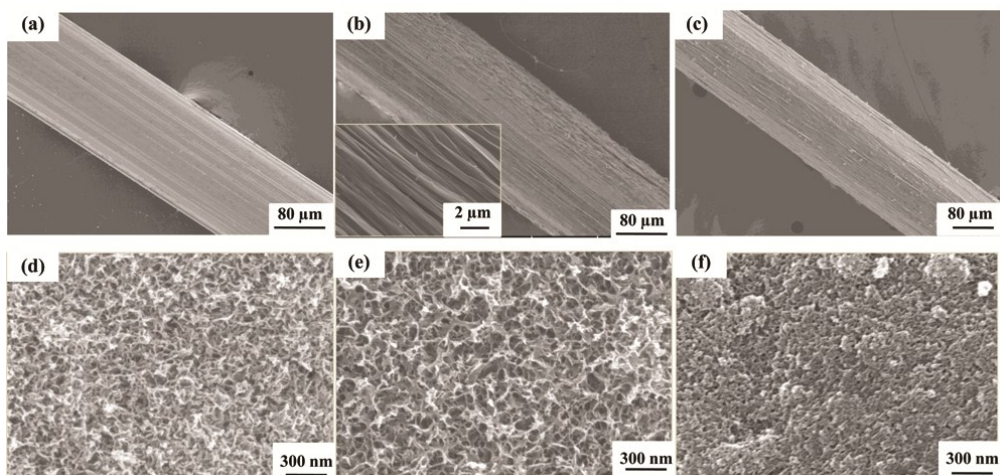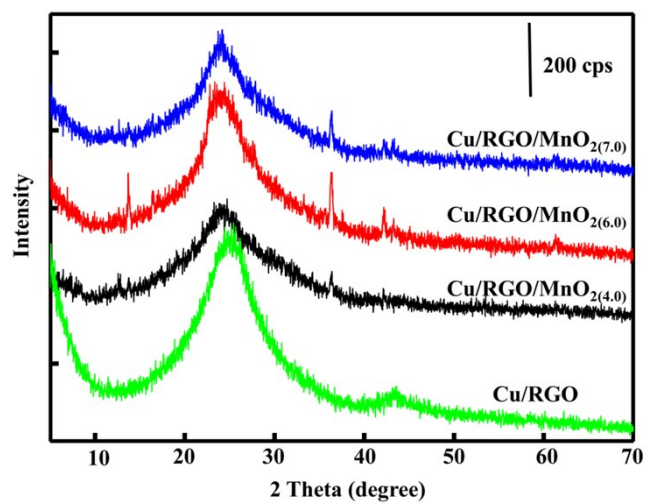
Figure S1. FE-SEM images of the obtained Cu wire (a), Cu/RGO fiber (b), Cu/RGO/MnO$_2$ fiber (c), and Cu/RGO/MnO$_2$ fibers coated with different MnO$_2$ amounts (d-f).

Figure S2. XRD patterns of the obtained Cu/RGO and Cu/RGO/MnO$_2$ fibers coated with different MnO$_2$ amounts.
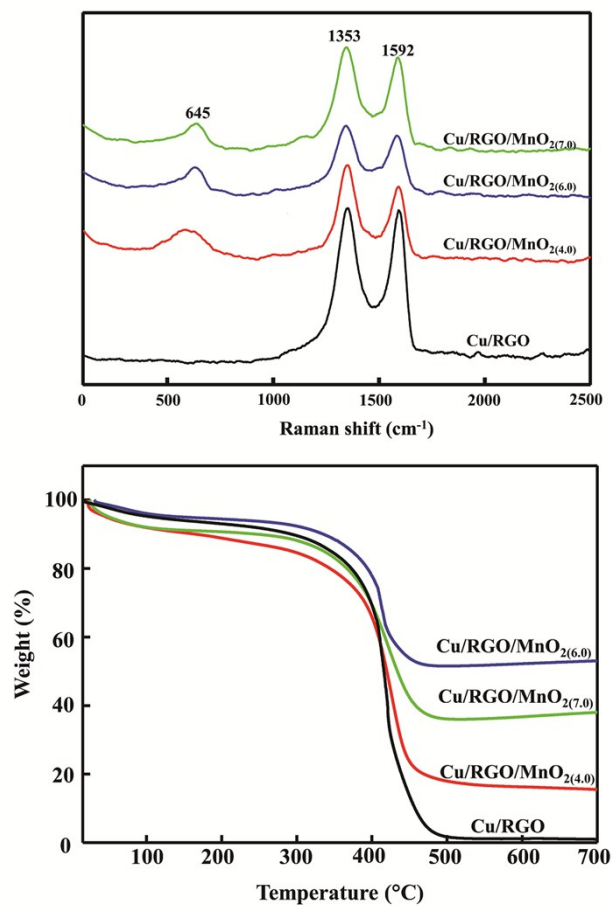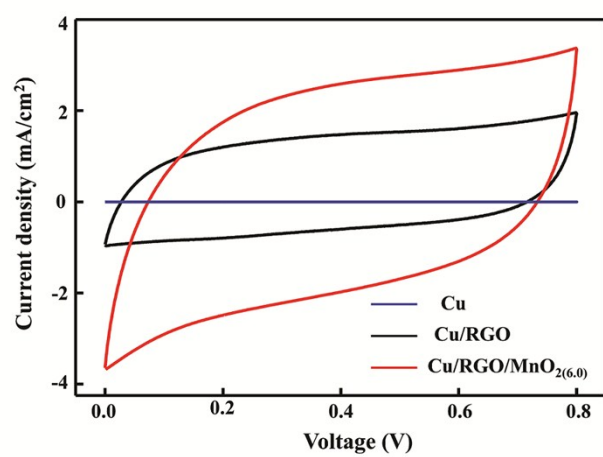
Figure S3. Raman spectra (above) and TG-DTA curves (below) of Cu/RGO fiber and Cu/RGO/MnO$_2$ fibers coated with different MnO$_2$ amounts.

Figure S4 CV curves of Cu wire, Cu/RGO fiber, and Cu/RGO/MnO$_{2(6.0)}$ all-solid-state fiber supercapacitors at a scan rate of 20 mV s^{-1}.

Table S1 The capacitance compare of the Cu/RGO/MnO$_{2(6.0)}$ fiber supercapacitor with other reported references.

Electrode material	Electrolyte	Capacitance (mF cm^{-2})	Curent density	Cycle life	Ref.
GF	PVA-H$_3$PO$_4$	3.3	0.1 mA cm^{-2}	100% for 5000 cycles	[1]
GF/3D-G	PVA-H$_2$SO$_4$	1.7	424.6 μA cm^{-2}	/	[2]
δ-MnO$_2$/HRGO	PVA-H$_3$PO$_4$	16.7	0.1 mA cm^{-2}	80% for 1000 cycles	[3]
MnO$_2$/G/GF	PVA-H$_2$SO$_4$	9.6	/	100% for 1000 cycles	[4]
MnO$_2$/CNT	PVA-KOH	33.75	5 mV s^{-1}	99% for 10000 cycles	[5]
MnO$_2$/CNT	PVA-KOH	60.43	10 mV s^{-1}	100% for 5000 cycles	[6]
MnO$_2$/CNT	PVA-LiCl	61.25	10 mV s^{-1}	/	[7]
Ti@MnO$_2$	PVA-LiCl	15.6	0.03 mA cm^{-2}	80% for 5000 cycles	[8]
MnO$_2$/carbon fiber	PVA-LiCl	87.1 F g^{-1}	1.25 A g^{-1}	95% for 3000 cycles	[9]
Graphene/CNT	PVA-H$_3$PO$_4$	4.97	0.9 mA cm^{-2}	100% for 5000 cycles	[10]
Cu/RGO/MnO$_2$	PVA-KOH	140	0.1 mA cm^{-2}	88% for 5000 cycles	This work

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