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Synthesis of porous birnessite manganese dioxide hierarchical structure using thermally reduced graphene oxide paper as a sacrificing template for supercapacitor application

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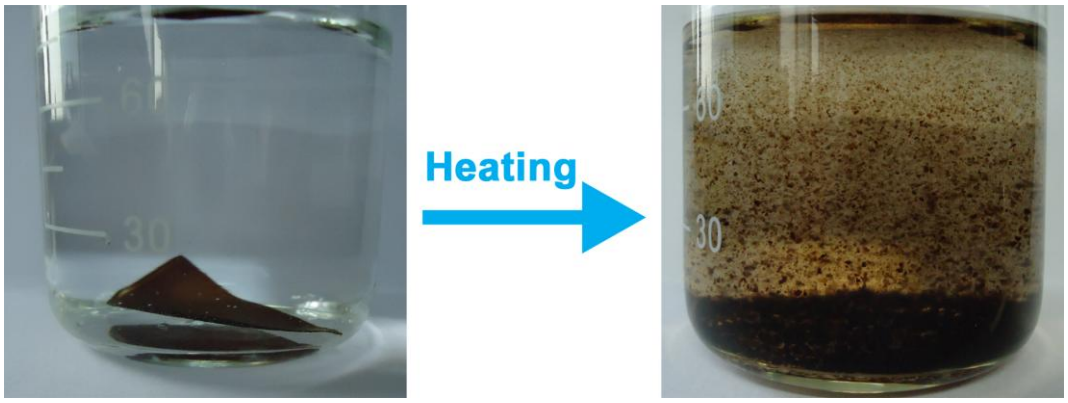

Fig. S1 Photographs of GO papers being immersed in water (left) and boiling water for 20 min (right), indicating the GO paper will be redispersed well in water under the poignant condition.

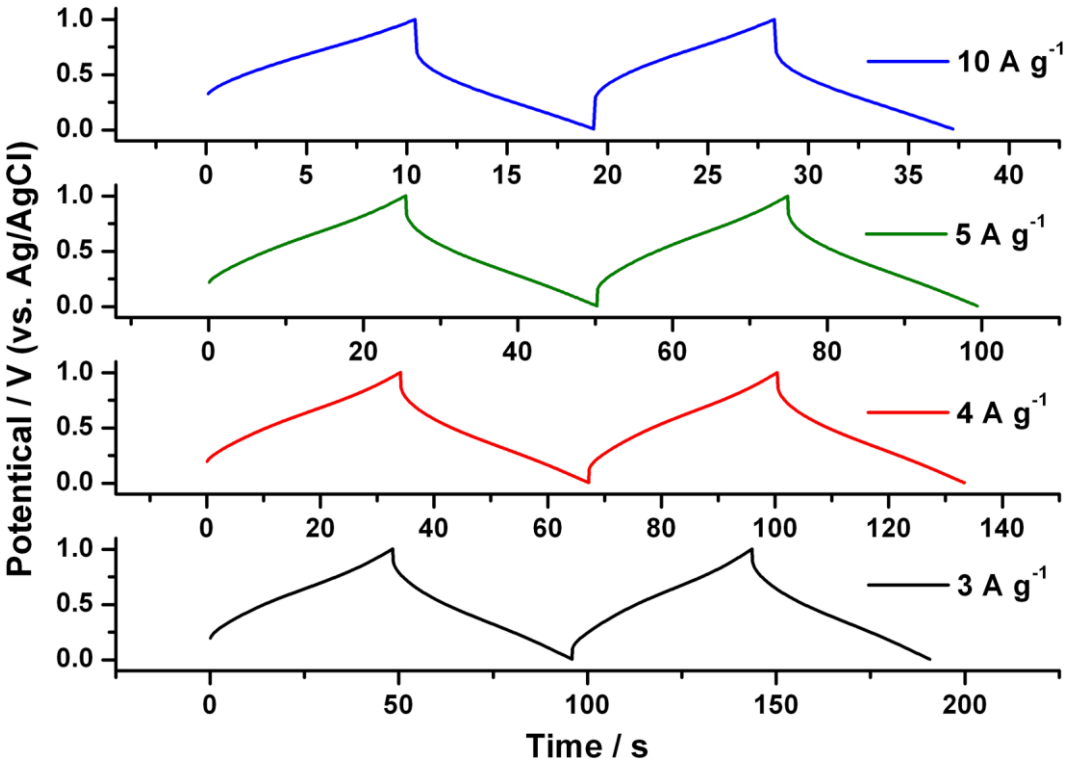

Fig. S2 Charge-discharge behaviors of the pMHs electrode at different current densities.

Table S1 Specific capacitance values of different graphene-based materials for supercapacitors

Electrode material	Specific capacitance	Power density	Reference
MnO_2/graphene composite	324 F g^{-1} @ 10 mV s^{-1} 325 F g^{-1} @ 1 A g^{-1}		S1
Functionalized graphene/MnO_2	188 F g^{-1} @ 0.25 A g^{-1} 168 F g^{-1} @ 1 A g^{-1}		S2
Graphene/MnO_2	315 F g^{-1} @ 2 mV s^{-1}	110 kW kg^{-1}	S3
MnO_2 nanowire/ graphene	31 F g^{-1} @ 0.5 A g^{-1}	5000 W kg^{-1} at 7.0 Wh kg^{-1}	S4
Graphene oxide/ MnO_2	216 F g^{-1} @ 0.15 A g^{-1} 111.1 F g^{-1} @ 1 A g^{-1}		S5
Graphene/ MnO_2 nanosheet	188 F g^{-1} @ 0.25 A g^{-1}		S6
Graphene/ MnO_2 nanofibre	113.5 F g^{-1} @ 1 mV s^{-1}		S7
MnO_2 hollow spheres	167 F g^{-1} @ 2.5 mA		S8
Nanostructured MnO_2	168 F g^{-1} @ 1 mV s^{-1}		S9
pMHs	194 F g^{-1} @ 0.1 A g^{-1} 154 F g^{-1} @ 2 A g^{-1}		this work

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