

Supplementary Material

Nanosheet-Assembled MnO₂-Integrated Electrode Based on the Low-temperature and Green Chemical Route

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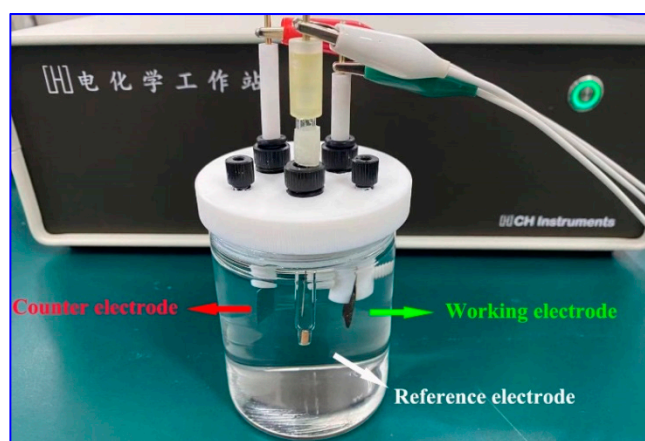


Figure S1. Photographs of the three-electrode testing system.

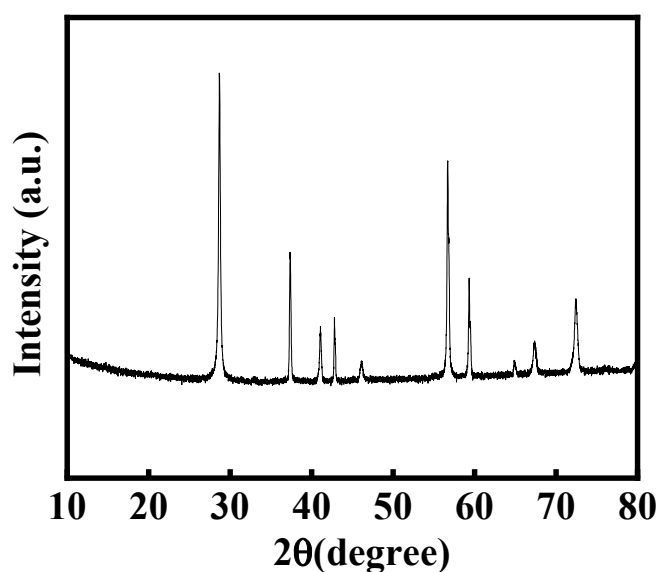


Figure S2. XRD pattern of the commercial MnO₂ powder.

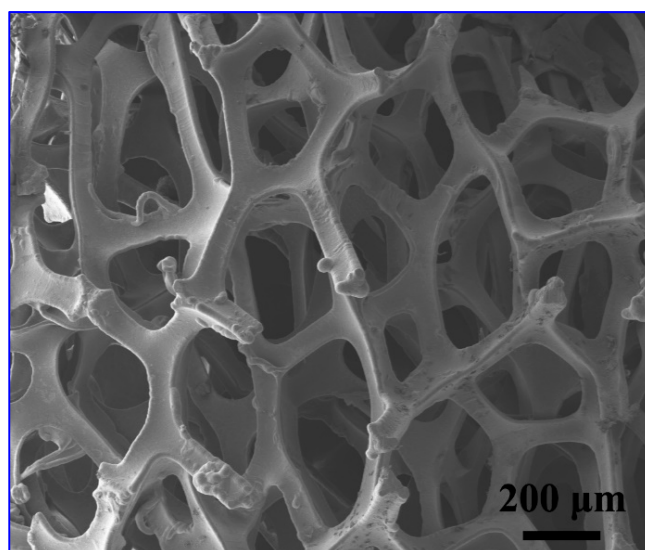


Figure S3. SEM image of the pristine 3D macroporous nickel foam, in which sub-millimeter pores can be clearly observed.

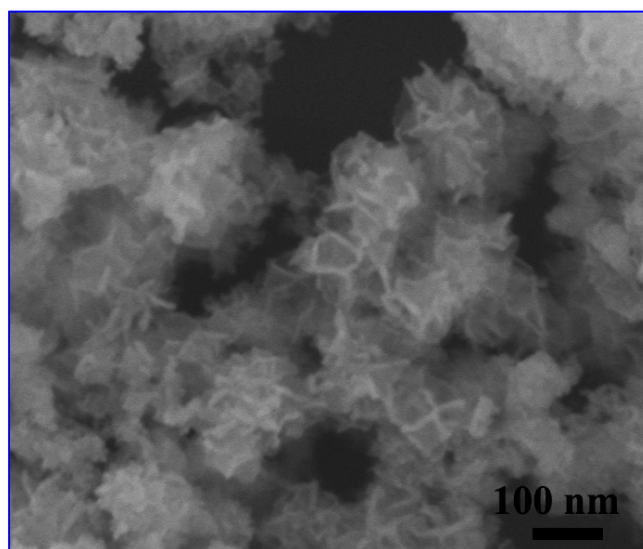


Figure S4. SEM image of the MnO₂ powder prepared by the low-temperature redox precipitation method.

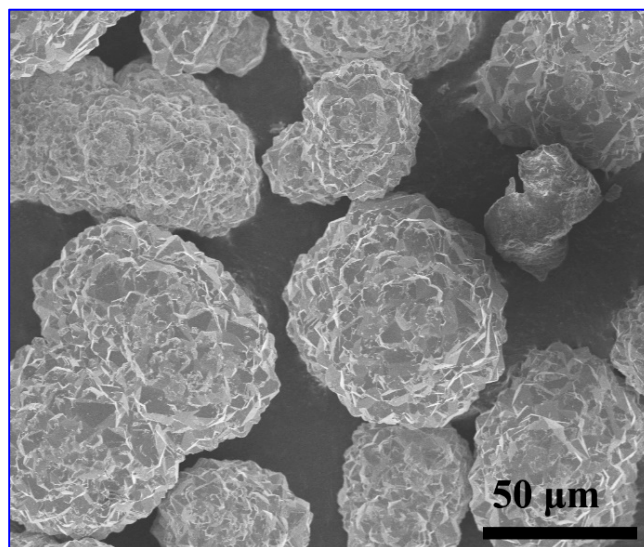


Figure S5. SEM image of the commercial MnO₂ powder.

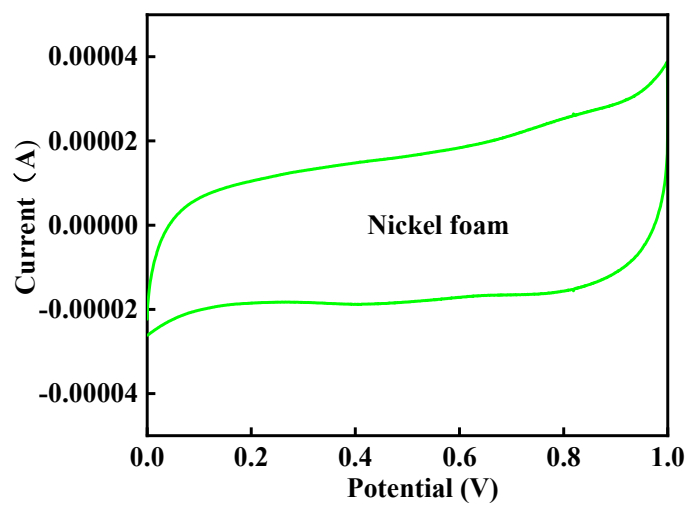


Figure S6. CV curve of the pure nickel foam at 10 mV s⁻¹.

Table S1. Comparison of the supercapacitor performances of the reported MnO₂-based electrodes in the aqueous electrolytes.

Morphology/Method	Capacitance (F/g)	Current density	Electrolyte	Ref.
Nanosheet/electrochemical deposition	201	1 A g ⁻¹	1 M Na ₂ SO ₄	[1]
Nanoflower/electrochemical deposition	314	1 A g ⁻¹	0.5 M Na ₂ SO ₄	[2]
Nanosphere/soft template	214	2 mA cm ⁻²	0.5 M Na ₂ SO ₄	[3]
MnO ₂ @MnO ₂ core-shell/hydrothermal	150.3	0.1 A g ⁻¹	1.0 M LiOH	[4]
Nanowire/electrochemical deposition	350	0.1 mA cm ⁻²	0.1 M Na ₂ SO ₄	[5]
Nanotube arrays/template	210	1.9 A g ⁻¹	0.5 M Na ₂ SO ₄	[6]
Nanowire arrays/template	231	0.5 A g ⁻¹	0.5 M Na ₂ SO ₄	
r-GO and MnO ₂ /hydrothermal	263	5 mA cm ⁻²	1 M Na ₂ SO ₄	[7]
Nanosheet on carbon fiber/hydrothermal	336	1 A g ⁻¹	1 M Na ₂ SO ₄	[8]
Nanosheet/chelation-mediated	325	1 A g ⁻¹	0.5 M Na ₂ SO ₄	[9]
MnO ₂ /graphene/Ni/electrochemical deposition	292.8	10 mV s ⁻¹	0.5 M Na ₂ SO ₄	[10]
Nanosheet on the nickel foam/low-temperature chemical route	445.89	1 A g ⁻¹	1 M Na ₂ SO ₄	This work

References

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