

Supporting Information

MoS₂ Nanosheets Encapsulated in Carbon Nanofibers as Binder-free Anode for Superior Lithium Storage

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Figure S1. SEM image of exfoliated MoS₂ nanosheets

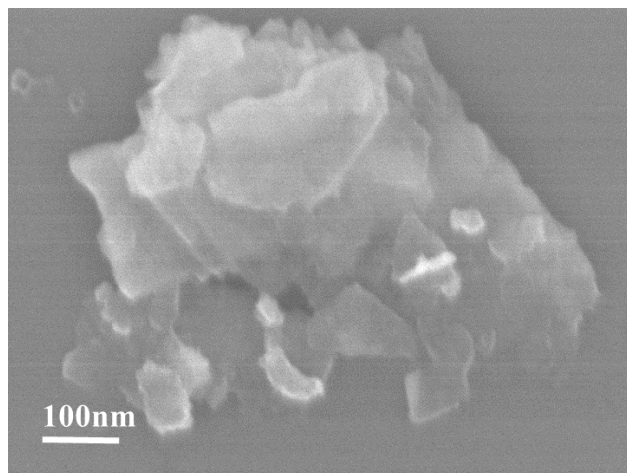


Figure S2. Exfoliated MoS₂ nanosheets dispersed in DMF solvent after ten days

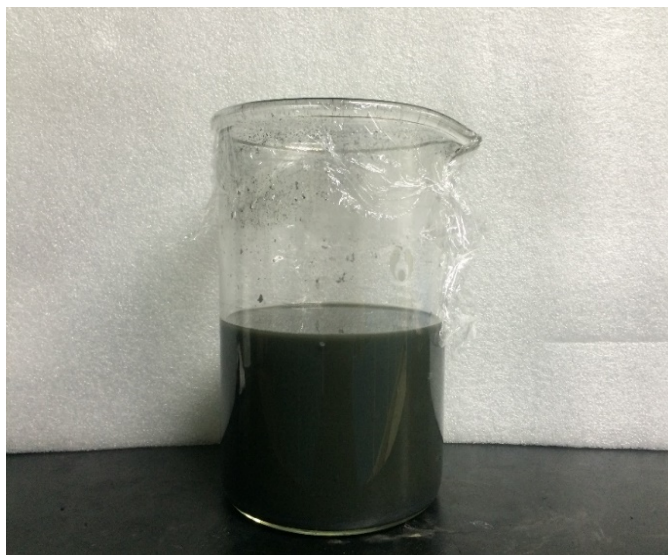


Figure S3. HRTEM image of exfoliated MoS₂ with a interplanar space of 0.63 nm

corresponding to its (002) plane

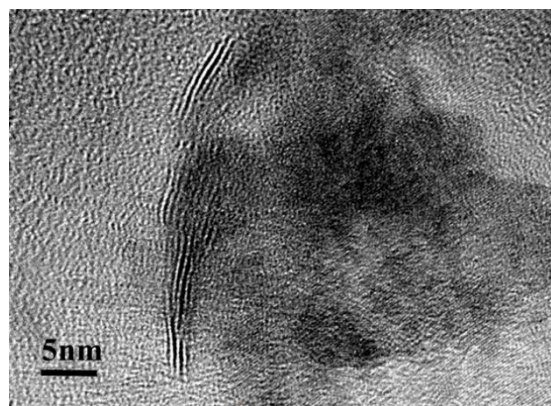


Figure S4. (a) MoS₂/CNFs directly cut into tablet; (b) MoS₂/CNFs film show good flexibility

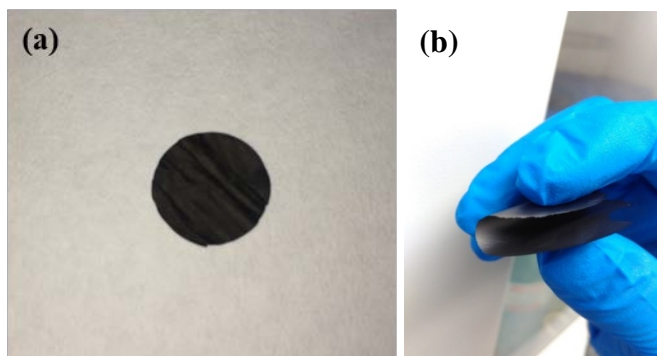


Figure S5. Cycling performance of the exfoliated MoS₂ nanosheets at a current density of

100 mA g⁻¹

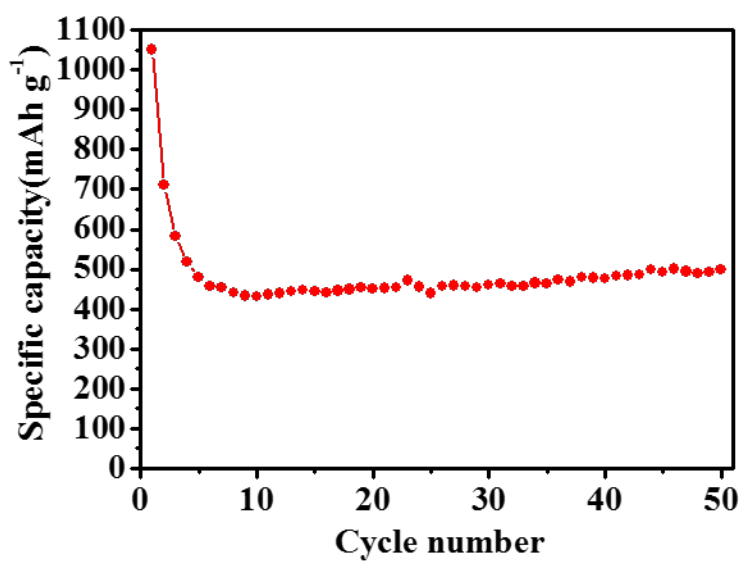


Figure S6. High-rate performance of the exfoliated MoS₂ nanosheets measured at different current densities.

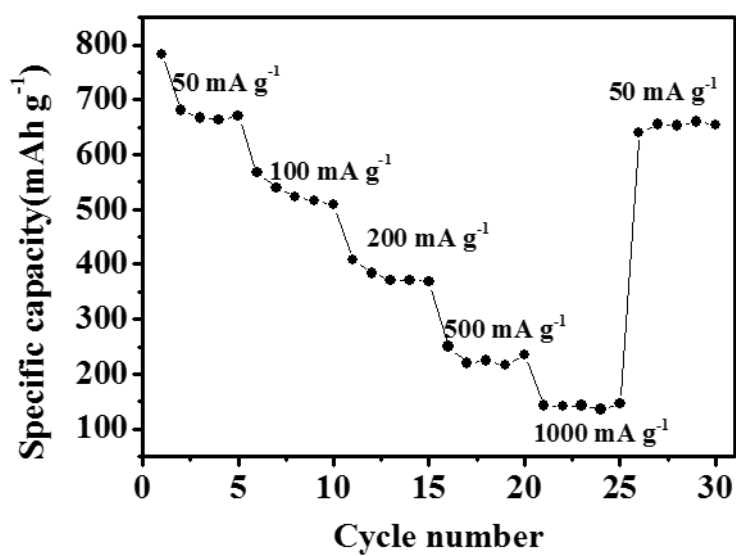


Figure S7. The equivalent circuit diagram of AC impedance for MoS₂/CNFs, exfoliated

MoS₂ nanosheets and bulk MoS₂ samples

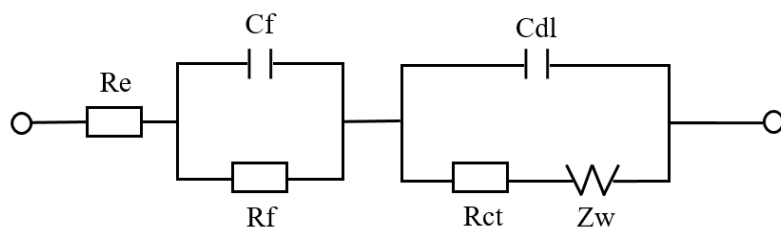


Table S1. Contents of molybdenum, sulfur, carbon and oxygen in the 1D MoS₂/CNFs

sample	Mo	S	C	O
MoS ₂ /CNFs	21.4%	11.16%	51.89%	16.42%

Table S2. Simulation results of the kinetic parameters of MoS₂/CNFs, exfoliated MoS₂ nanosheets and bulk MoS₂ electrodes

Samples	$R_e (\Omega)$	$R_f (\Omega)$	$R_{ct} (\Omega)$
MoS ₂ /CNFs	3.18	4.07	13.65
Exfoliated MoS ₂	3.51	14.33	83.77
Bulk MoS ₂	4.33	16.24	228.3