

Carbon Nanofibers Decorated by MoS₂ Nanosheets with Tunable Dispersity as Flexible Self-Supporting Anode for High-Performance Lithium Ion Batteries

Liyan Dang ^{1,†}, Yapeng Yuan ^{1,†}, Zongyu Wang ¹, Haowei Li ¹, Rui Yang ¹, Aiping Fu ², Xuehua Liu ¹ and Hongliang Li ^{1,*}

¹ Institute of Materials for Energy and Environment, College of Materials Science and Engineering, State Key Laboratory of Bio-Fibers and Eco-Textiles, Qingdao University, Qingdao 266071, China

² College of Chemistry and Chemical Engineering, Qingdao University, Qingdao 266071, China

* Correspondence: lhl@qdu.edu.cn

† These authors contributed equally to this work.

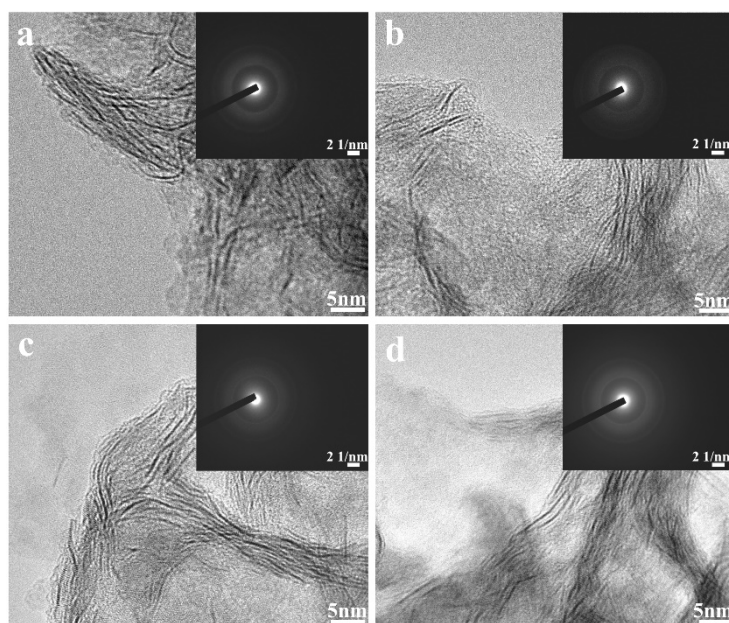


Figure S1. The HRTEM images of (a) CNF//MoS₂-0.1; (b) CNF//MoS₂-0.15; (c) CNF//MoS₂-0.2; (d) CNF//MoS₂-0.4, the insets show their SAED patterns.

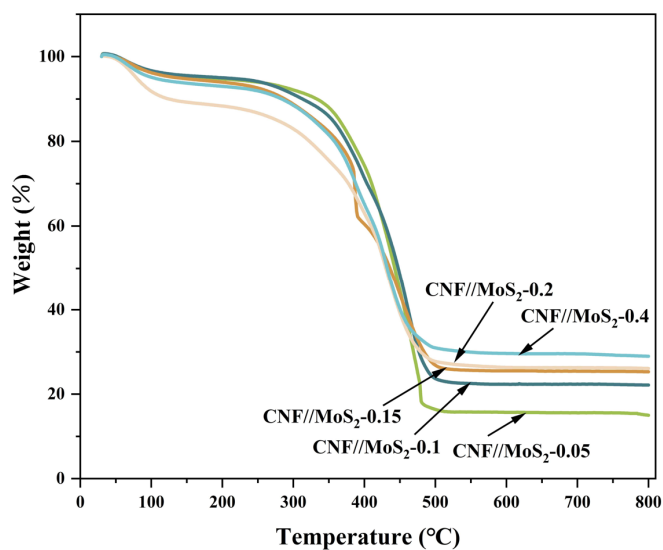


Figure S2. TGA curves of CNF//MoS₂-0.05, CNF//MoS₂-0.1, CNF//MoS₂-0.15, CNF//MoS₂-0.2, and CNF//MoS₂-0.4.

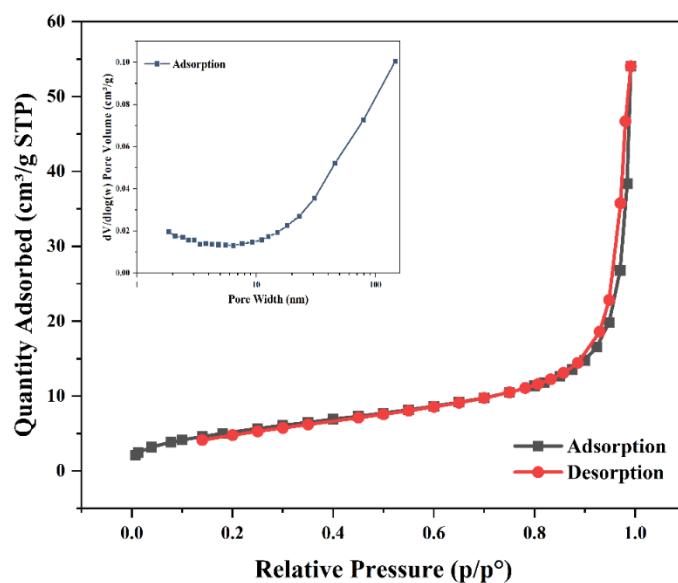


Figure S3. The N₂ sorption isotherms, and pore-size distribution curve (the inset) of CNFs.

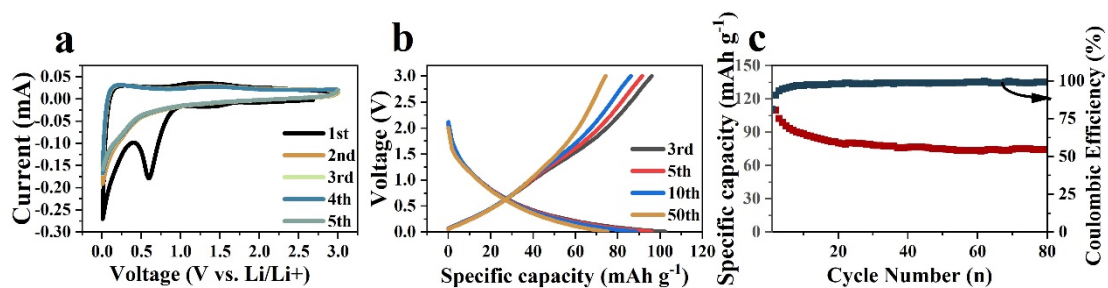


Figure S4. (a) CV profiles with a scanning rate of 0.2 mV s⁻¹ and (b) GCD profiles at 0.2 A g⁻¹ for

CNFs. (c) Cycling performance of CNFs at 0.2 A g^{-1}

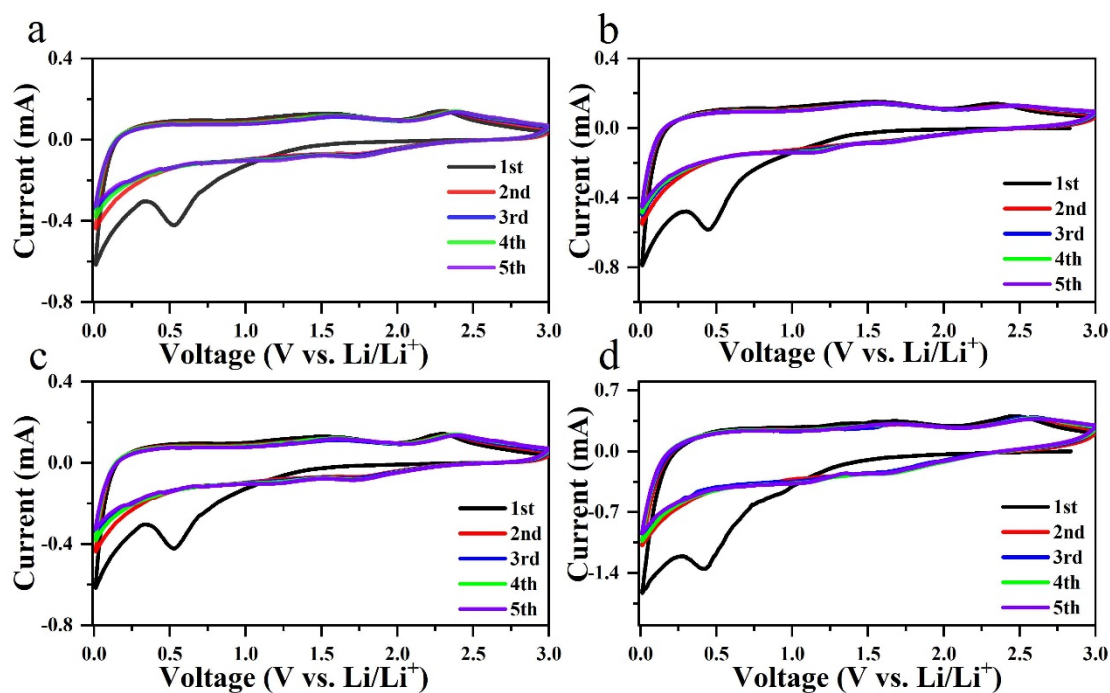


Figure S5. CV profiles of (a) CNF//MoS₂-0.1, (b) CNF//MoS₂-0.15, (c) CNF//MoS₂-0.2, (d) CNF//MoS₂-0.4, respectively.

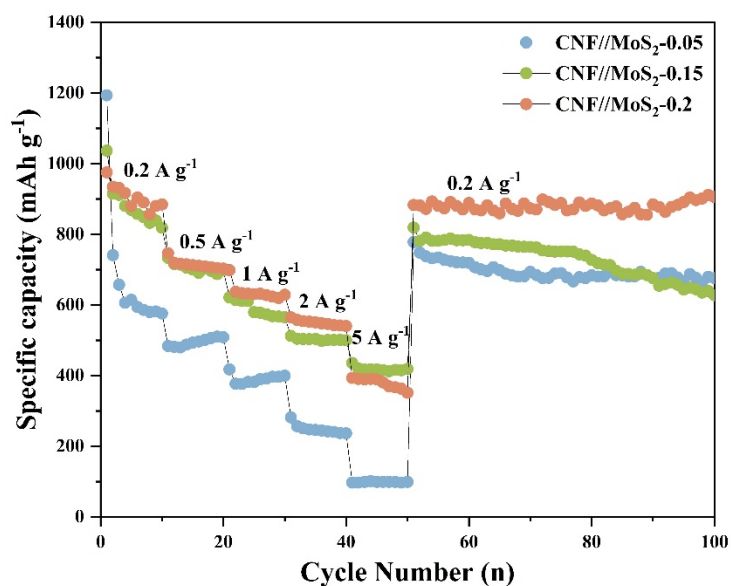


Figure S6. Rate performances of CNF//MoS₂-0.05, CNF//MoS₂-0.15 and CNF//MoS₂-0.2.

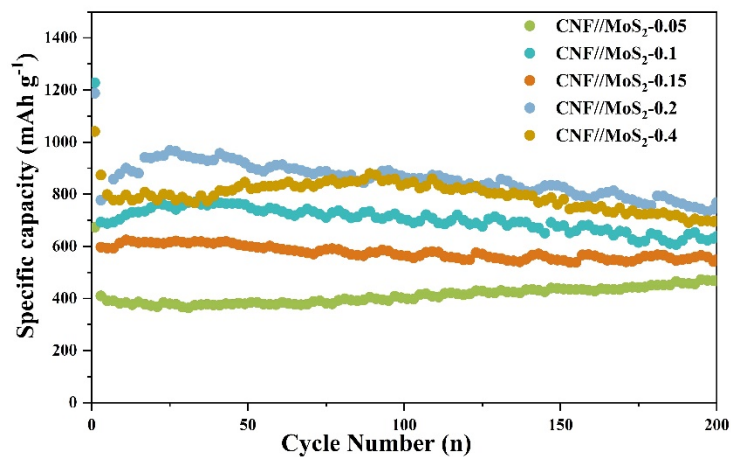


Figure S7. Cycling performances of CNF//MoS₂-0.05, CNF//MoS₂-0.1, CNF//MoS₂-0.15, CNF//MoS₂-0.2, and CNF//MoS₂-0.4 at current density of 0.5 A g⁻¹.

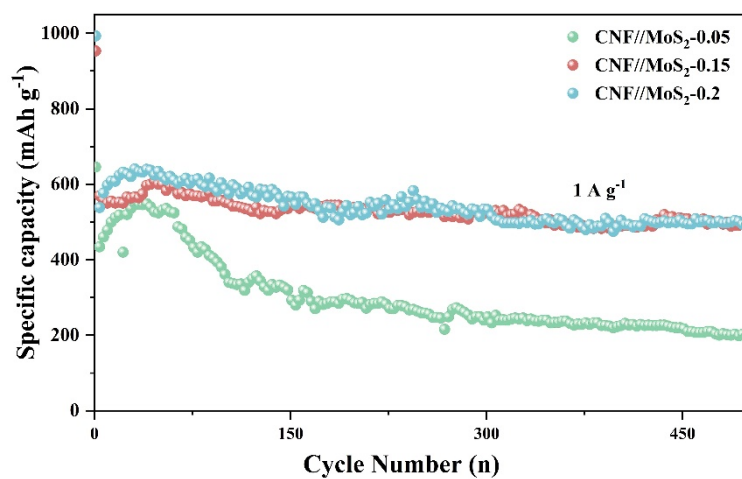


Figure S8. Cycling performances of CNF//MoS₂-0.05, CNF//MoS₂-0.15 and CNF//MoS₂-0.2 at current density of 1 A g⁻¹.