Supplementary Information

Freestanding highly-defect nitrogen-enriched carbon nanofibers for lithium ion battery thin-film anodes

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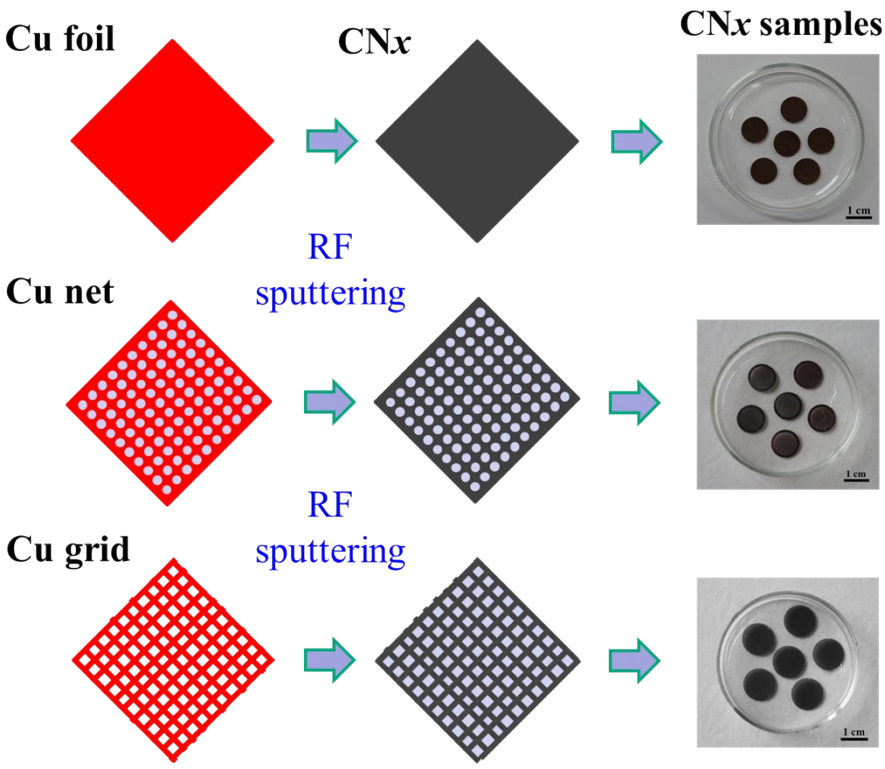

Fig. S1 The fabrication and optical photos of N-doped carbon thin films deposited on three different Cu substrates.

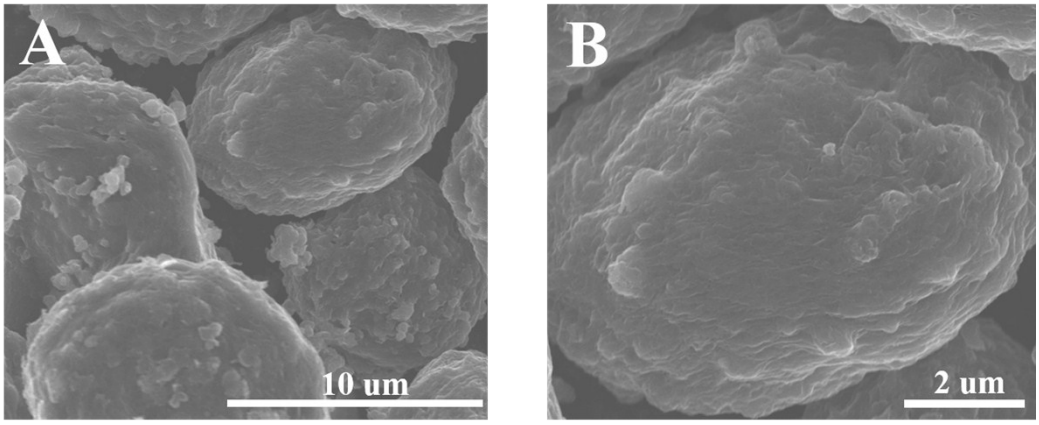

Fig. S2 SEM micrographs of raw graphite materials, which are the component of the graphite target.

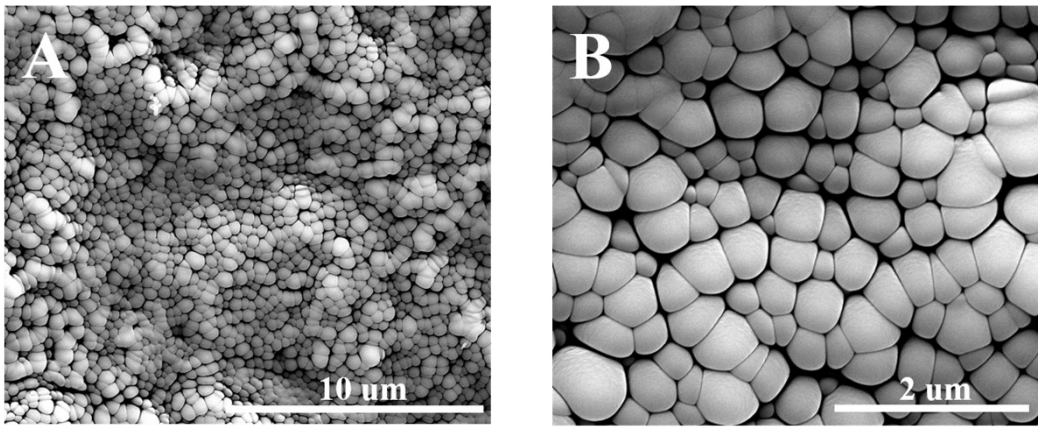

Fig. S3 SEM micrographs of the pure carbon thin film deposited at 120 W on the copper foil.

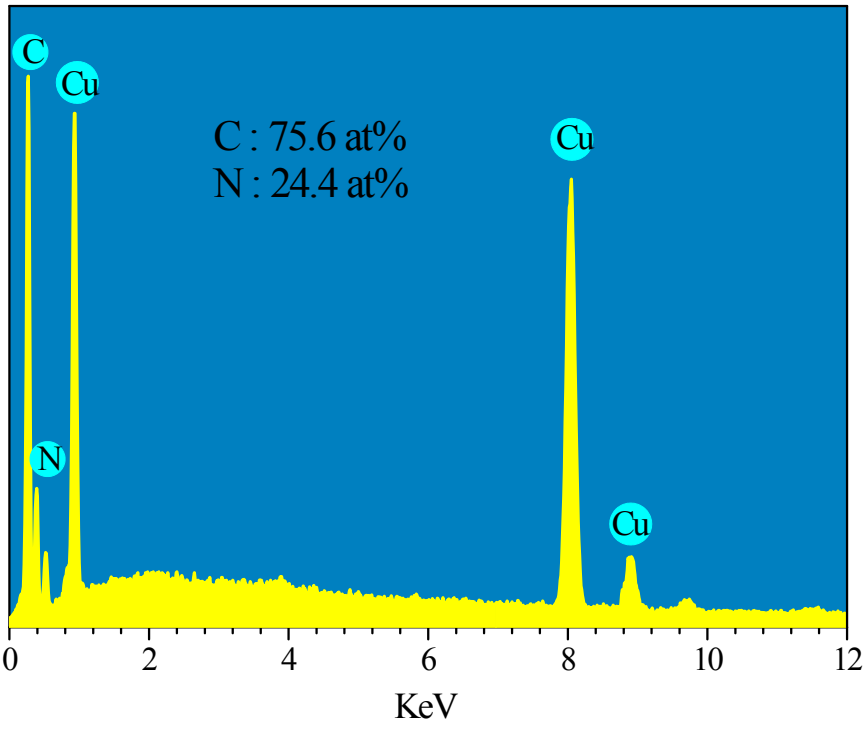

Fig. S4 The surficial EDX selected-area profile of N-doped carbon thin film deposited on the Cu foil.

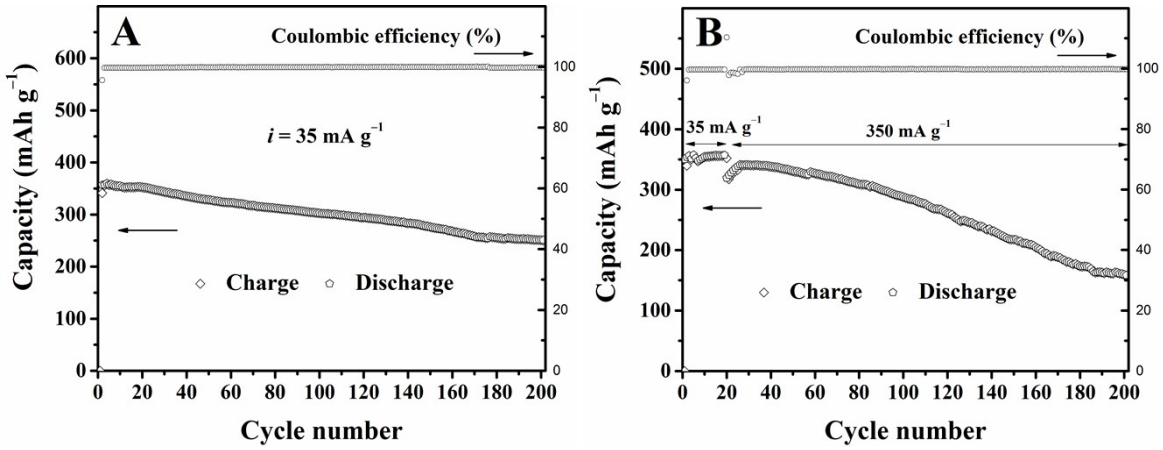

Fig. S5 The cycle performance of the raw graphite electrode cycled at (A) 35 mA g^{-1} and (B) 350 mA g^{-1}.

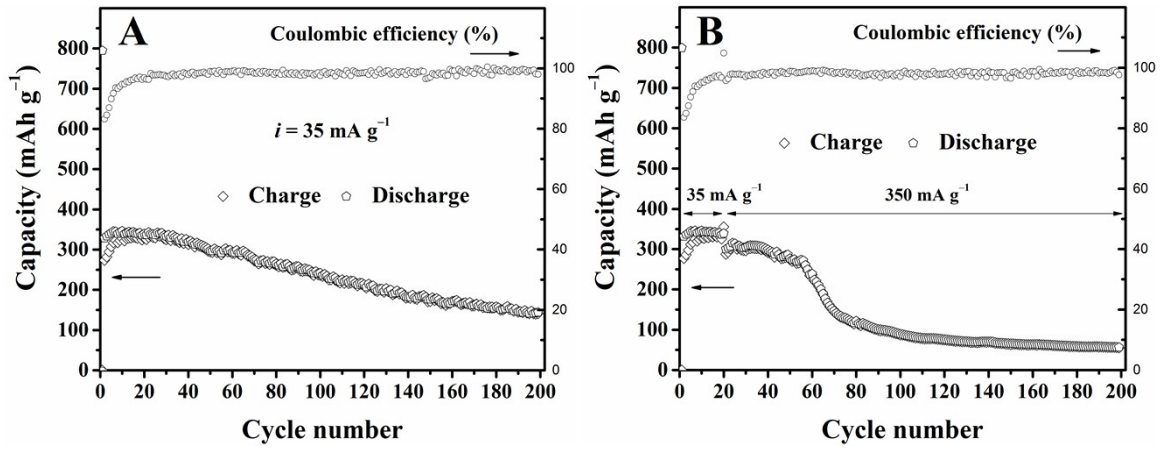

Fig. S6 The cycle performance of the pure carbon thin film cycled at (A) 35 mA g^{-1} and (B) 350 mA g^{-1}.

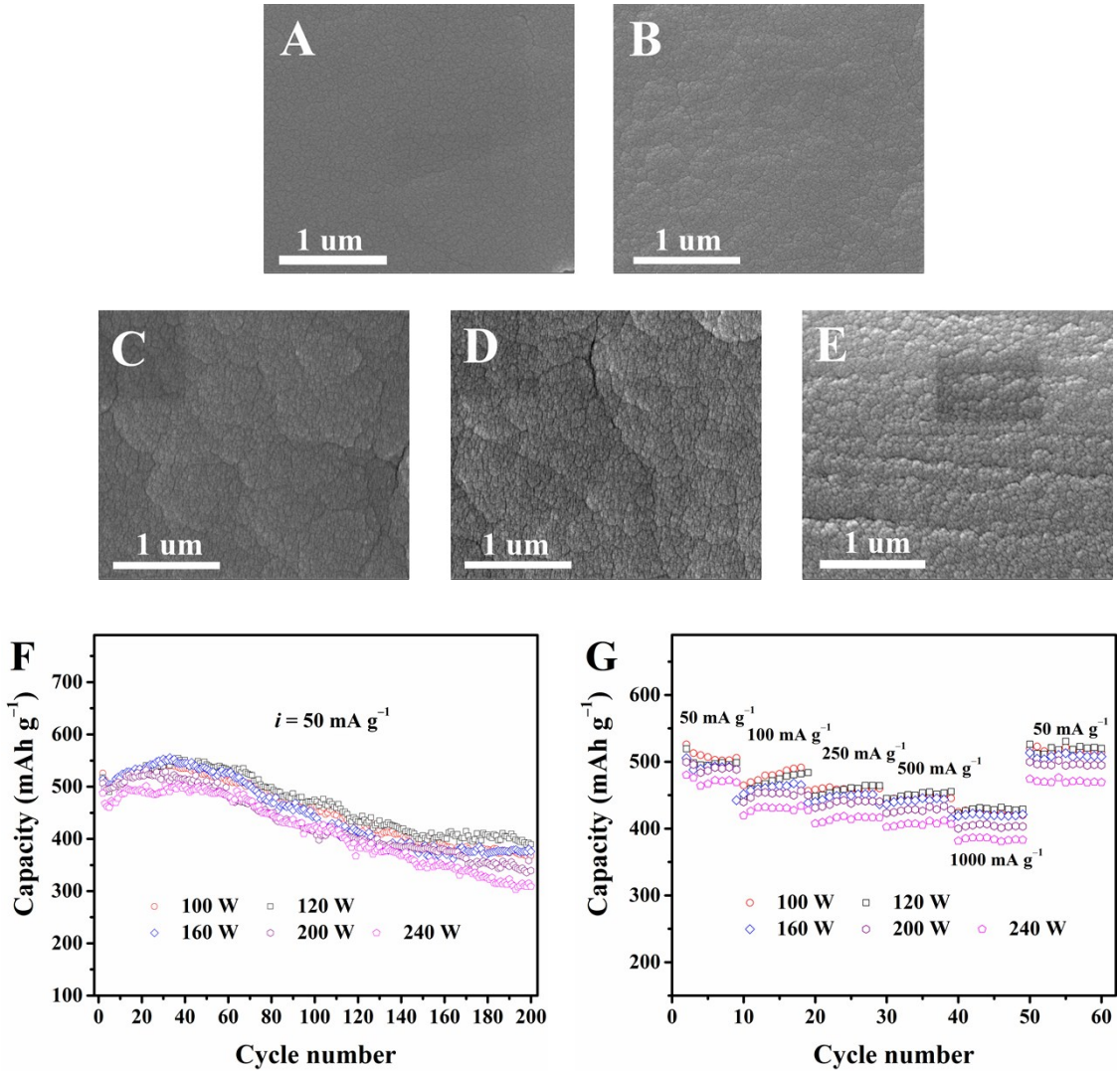

Fig. S7 SEM images of N-doped carbon thin films deposited at different sputtering powers: (A−E) 100, 120, 160, 200, and 240 W, respectively; (F) cycle performance and (G) rate cycle performance of thin films deposited at different sputtering powers.

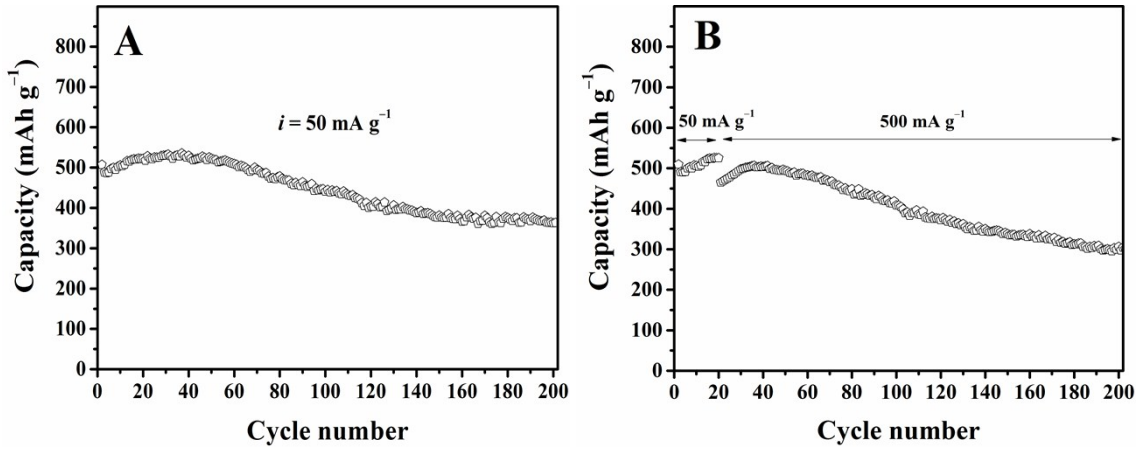

Fig. S8 The cycle performance of the thick N-doped carbon thin film cycled at (A) 50 mA g^{-1} and (B) 500 mA g^{-1}. This thick thin film was deposited on the Cu foil at 120 W for 24 h, with the material loading of 3 mg cm^{-2}.