High nitrogen-content carbon nanosheets formed using a Schiff-base reaction in a molten salt medium as efficiency anode materials for lithium-ion batteries

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Table. S1 Comparison of the electrochemical performance of carbon-based anodes in literature.

Type of material	Reversible capacity[a] (mAh/g)	Initial efficiency[b] (%)	Rate performance		Reference
			[c]	[d]	
NC-2	605.3	63.1	430.0	396.1	This study
Carbon spheres	600.0	41.6	390	_	[1]
BCN nanosheets	424	51	300	_	[2]
Carbon nanospheres	_	41.7	370	280	[3]
Carbon nanosheets	_	38.6	_	350	[4]
Porous Carbon	400	47		178	[5]
Graphene paper	568	79.2	210	169	[6]
Graphene papers	175	40	268	_	[7]
Porous hard carbons	519.6	40.8	279.7	_	[8]

[a] The reversible capacity at the current density≦ 100 mA g^{-1}. This study test at 100 mA g^{-1}.[b] The initial efficiency at the current density≦ 100 mA g^{-1}. This study test at 100 mA g^{-1}.[c] The rate performance at the current density≦ 500 mA g^{-1}. This study test at 500 mA g^{-1}.[d] The rate performance at the current density≦1000 mA g^{-1}.

This study test at 1000 mA g^{-1}.

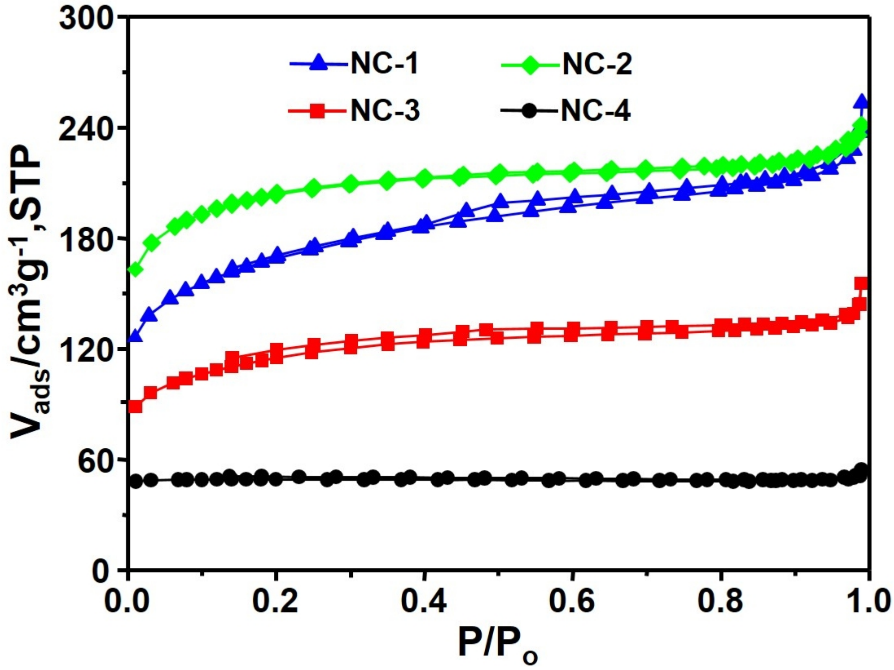

Figure S1. N_2 sorption isotherms for NC-1, NC-2, NC-3 and NC-4. The isotherms of NC-3 and NC-4 were vertically offset by 20 and 40 cm ^{3}g^{-1} STP, respectively.

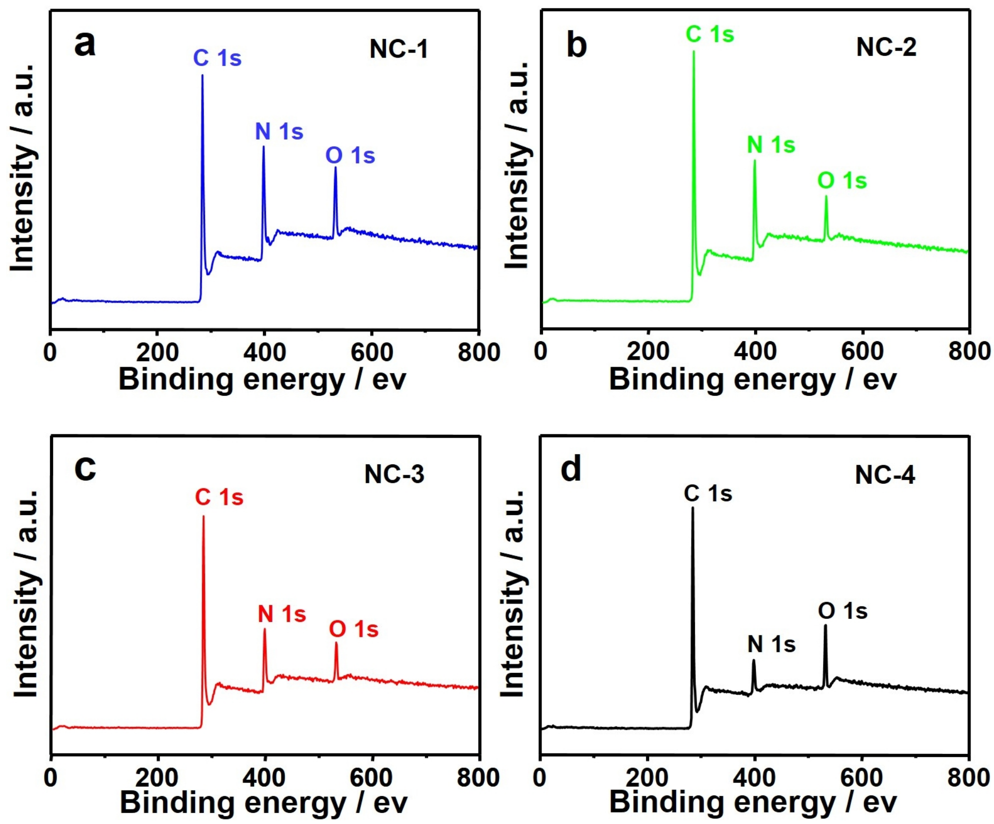

Figure S2. The XPS of (a) NC-1, (b) NC-2, (c) NC-3 and (d) NC-4.

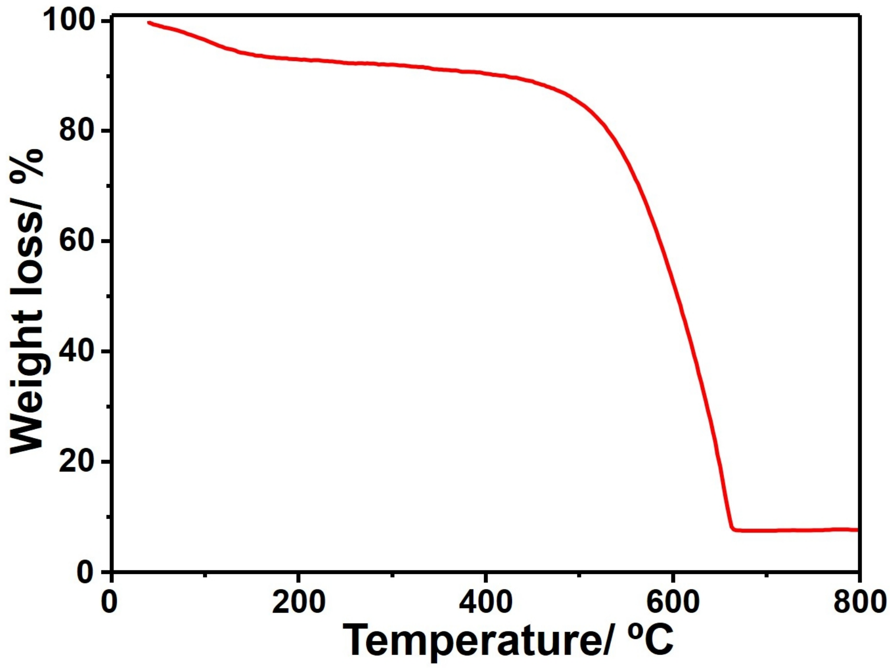

Figure S3. TG curve of the NC-2. It shows that about 7.5% salt residue is present in the sample NC-2 after intensive washing.

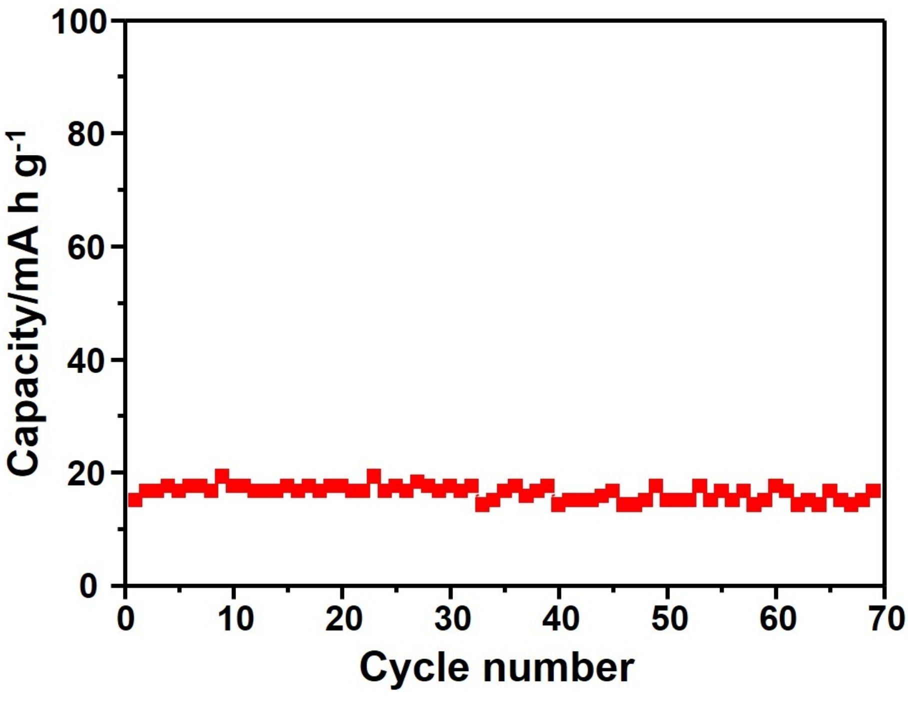

Figure S4. The cycle performance of commercial natural graphite at a current density of 3000 mA g^{-1} in the range of 0.005-3 V.

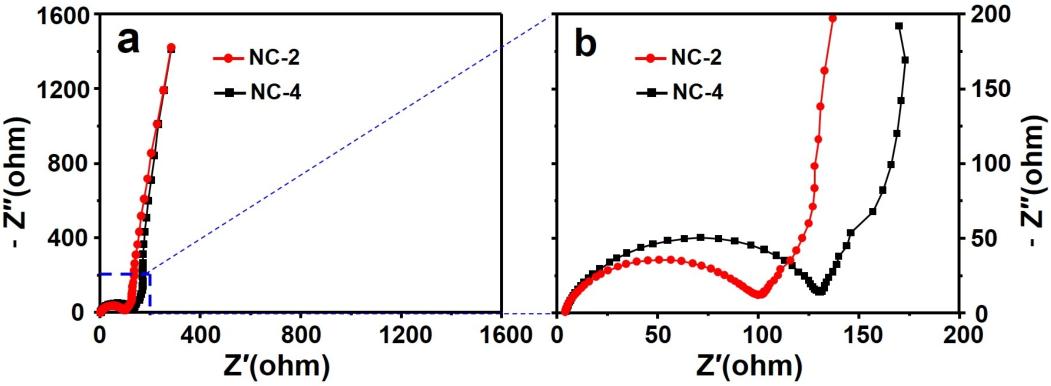

Figure S5. (a) Electrochemical impedance spectroscopy of NC-2 and NC-4, (b) close-up of Nyquist plots at a high frequency.

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