Supporting Information

Flexible and high capacities lithium-ion battery anode based on carbon nanotubes/electrodeposited nickel sulfide paper-like composite

Peng Fan [a], Hao Liu [b,c,d,], Libing Liao [a,*], Jinzhou Fu [a], Zhen Wang [b], Guocheng Lv [a], Lefu Mei [a], Huiying Hao [b], Jie Xing [b], Jingjing Dong [b]*

[a] School of Materials Science and Technology, China University of Geosciences, Beijing, 100083, P. R. China.

[b] School of Science, China University of Geosciences, Beijing, 100083, P. R. China.

[c] Hubei Key Laboratory of Ferro & Piezoelectric Materials and Devices, Faculty of Physics & Electronic Science, Hubei University, Wuhan, 430062, P.R. China

[d] Beijing Key Laboratory of Optical Detection Technology for Oil and Gas, China University of Petroleum, Beijing, 102249, P. R. China.

Corresponding authors: Hao Liu, Email:liuhao1398@cugb.edu.cn

Libing Liao, Email:lbliao@cugb.edu.cn

Tel.: +86-10-8233-1701

Fax.: +86-10-8233-1701

Figure and Table Captions

Figure S1. Rate performance of the CNTs thin film.

Table S1. Comparison with other nickel sulfide anode materials reported in literature.

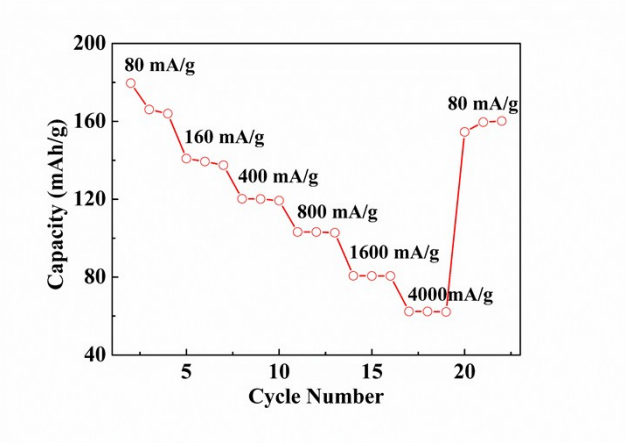

Figure S1. Rate performance of the CNTs thin film.

Table S1. Comparison with other nickel sulfide anode materials reported in literature.

Materials	Synthesis method	Flexible	Specific capacities A (mAh/g) [a]	Specific capacities B (mAh/g) [b]
Carbon nanofiber @NiS[3]	Electrospun	Yes	1150 (100 mA/g)	unknown
Nickel sulfide/ nitrogen-doped graphene composites[24]	Hydrothermal	No	1340 (140 mA/g)	139 - 300
Graphene-wrapped nickel sulfide nanoprisms[23]	Chemosynthesis	No	1200 (70 mA/g)	125 - 270
Ni_3S_2@N-G (N-doped graphene sheets)[22]	pyrosynthesis	No	800 (50 mA/g)	83 - 180
Ni_3S_2/Ni composite[28]	Electrodeposition	No	338 (170 mA/g)	35
NiS@SiO_2/graphene[22]	Hydrothermal and electrostatic selfassembly	No	867 (100 mA/g)	190.5
Ni_3S_2 nanoflake[15]	Hydrothermal	No	992 (200 mA/g)	160
Ni_3S_2 nanotube Array[14]	Template-free hydrothermal	No	762 (100 mA/g)	127 - 255
NS@CNTs (this work)	Electrodeposition	Yes	1265 (60 mA/g)	845

[a] The specific capacities A in terms of the mass of the active material were directly cited from literature.

[b] The specific capacities B were calculated in terms of the total mass of the active materials and the current collector. We supposed the mass of the active material as 2 mg to 5 mg (typical mass loading for 2032-type coin-cell) for the papers which did not give the active material mass. The mass of copper foil current collector was set as ~17.3 mg (10 μm thick and 16 mm in diameter).