Supplementary Information

Fe_3O_4 Nanoflakes in N-doped Carbon Matrix as High-Performance Anode for Lithium Ion Batteries

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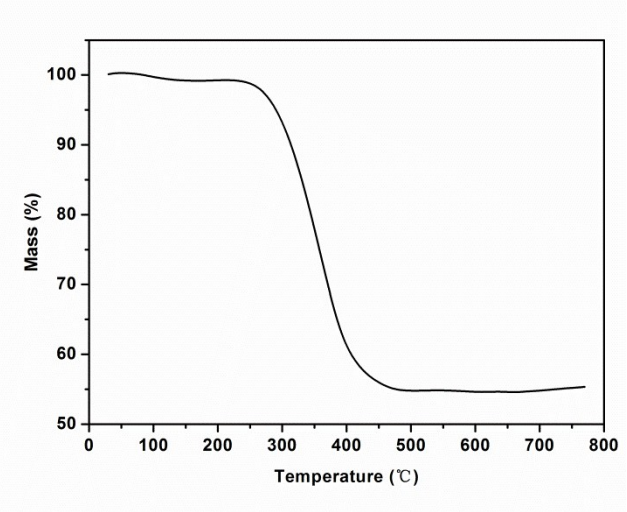

Fig. S1 TGA of Fe_3O_4 NF@NC

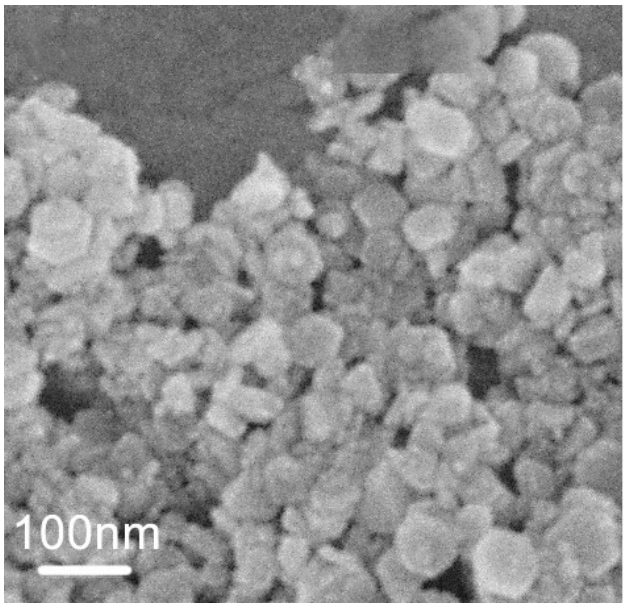

Fig. S2 SEM image of the as-obtained Fe_3O_4 nanoflakes

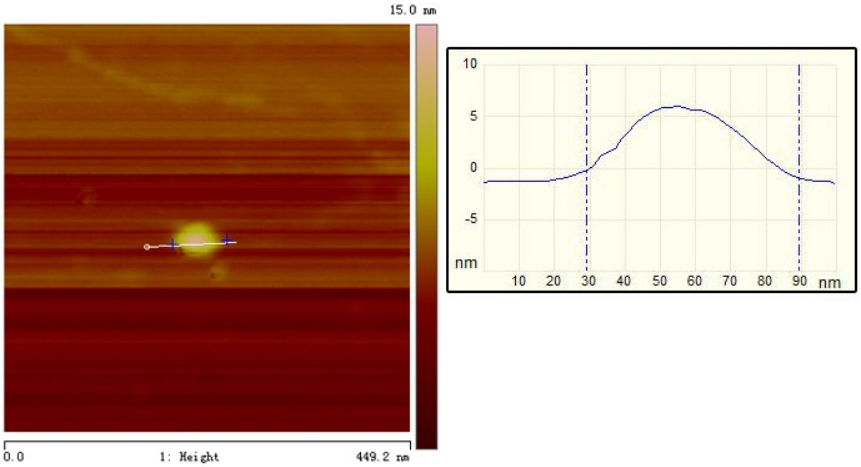

Fig. S3 AFM image of the as-obtained Fe_3O_4 nanoflakes

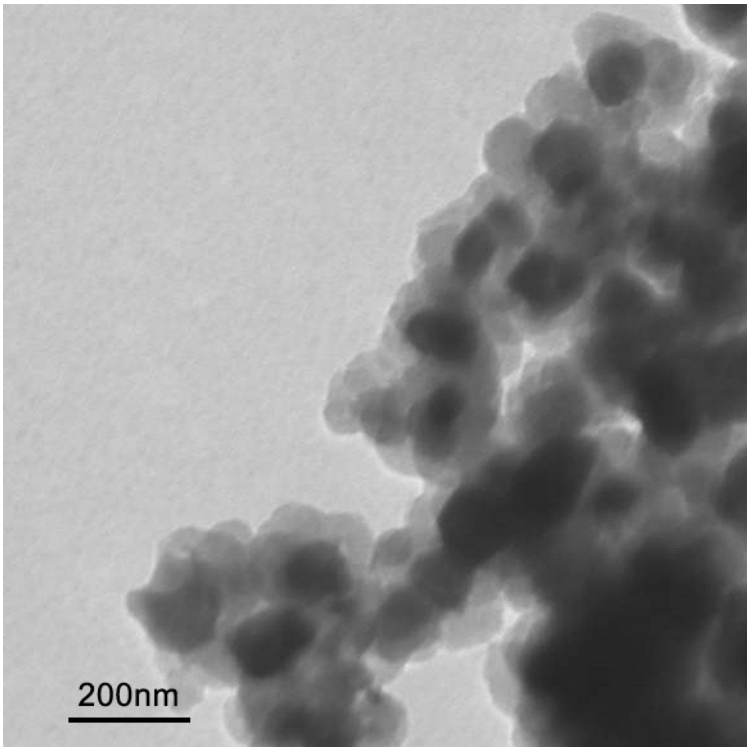

Fig. S4 TEM image of Fe_3O_4 NP@NC

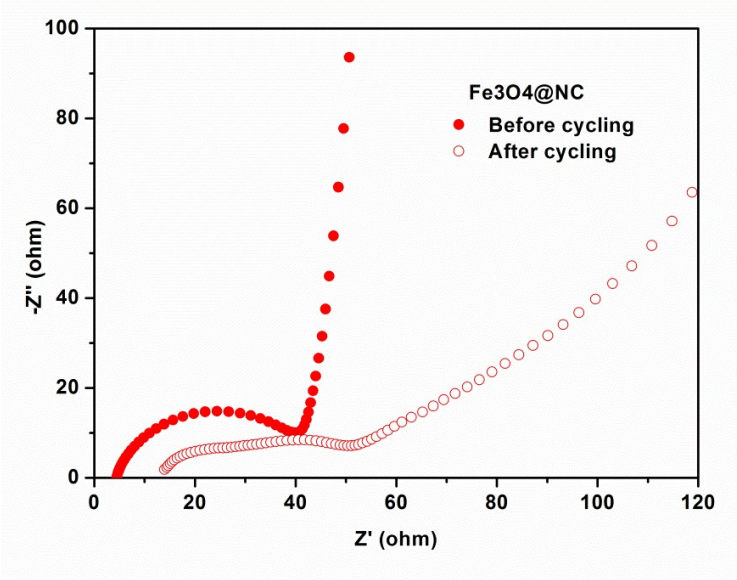

Fig. S5 EIS of Fe_3O_4 NF@NC electrode before cycling and after 200 cycles.

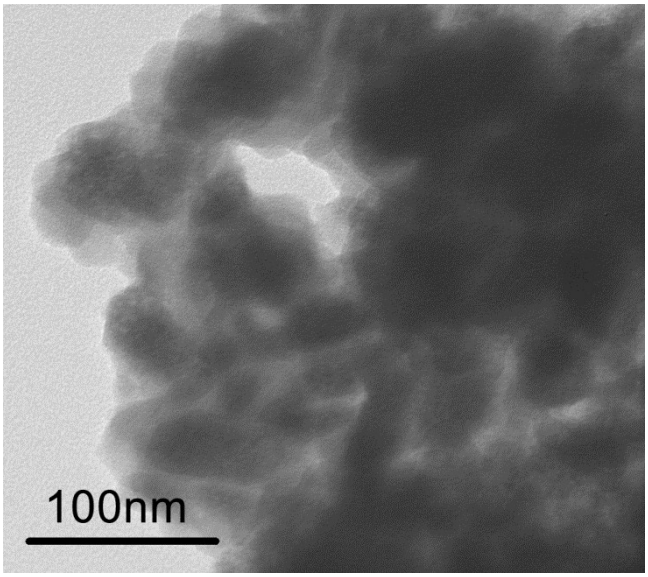

Fig. S6 TEM of Fe_3O_4 NF@NC electrode after 100 cycles at 5C.

Table. S1 Comparison of Fe_3O_4 nanoflakes@NC (this work) and various reported Fe_3O_4@C composites as anodes for Li-ion batteries.

Material	Reversible capacity/mAh g^{-1}	Rate	Ref.
Fe_3O_4 nanoflakes@NC	1046/200th cycles	0.2C	This work
	662/500th cycles	1C	
	600/200th cycles	5C	
Fe_3O_4 nanoflakes@C	1232/120th cycles	~0.2C	23
Fe_3O_4 nanosheets@C	705/50th cycles	~0.2C	24
Fe_3O_4 nanocubes@NC	976/50th cycles	0.5C	17
Fe_3O_4 nanospheres@NC	670/30th cycles	0.1C	19
Fe_3O_4 nanospheres @NC	850/50th cycles	0.1C	18
Fe_3O_4 nanorods@C	808.2/100th cycles	1C	43
Fe_3O_4 nanospheres@C	775/50th cycles	~0.05C	44
Fe_3O_4 nanowires @C microsheafs	837/200 cycles	~0.5C	11
Fe_3O_4 nanospheres @C microrods	650/100 cycles	~0.2C	45
Graphene@Fe_3O_4 nanoparticles@C	920/100th cycles	~0.2C	46
Fe_3O_4 nanoparticles@3D graphene	577/300th cycles	6C	47