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Supplementary Materials: Facile Preparation of Fe_3O_4 Nanoparticles/Reduced Graphene Oxide Composite as an Efficient Anode Material for Lithium-Ion Batteries

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Citation: Hameed, M.U.; Akram, M.Y.; Ali, G.; Hafeez, M.; Altaf, F.; Ahmed, A.; Shahida, S.; Bocchetta, P. Facile Preparation of Fe_3O_4 Nanoparticles/Reduced Graphene Oxide Composite as an Efficient Anode Material for Lithium-Ion Batteries. *Coatings* **2021**, *11*, 836. https://doi.org/10.3390/coatings11070836

Academic Editor: Danut-Ionel Vaireanu

Received: 8 June 2021
Accepted: 8 July 2021
Published: 11 July 2021

Table S1. Capacity of carbon based Fe_3O_4 anode materials for LIBS.

Samples	Capacity (mAh/g)	References
Fe_3O_4/RGO	701.8 (200 mA/g, 50 cycles)	This work
Fe_3O_4/graphene	605.0 (92.5 mA/g, 50 cycles)	[1]
Fe_3O_4@graphene	538.7 (200 mA/g, 50 cycles)	[2]
Fe_3O_4/C microbelts	710 (100 mA/g, 50 cycles)	[3]
Graphene-Fe_3O_4@Carbon	710 (100 mA/g, 50 cycles)	[4]
	Nanocomposites	
Porous carbon-encapsulated Fe_3O_4	450 (200 mA/g, 100 cycles)	[5]
Fe_3O_4@C Microcapsules	600 (92.8 mA/g, 50 cycles)	[6]
Fe_3O_4/Fe/carbon	600 (50 mA/g, 40 cycles)	[7]
Fe_3O_4-graphene	410 (75 cycles) at 1 $A{\cdot}g^{-1}$)	[8]
Fe_3O_4 NPs-layered graphene	700 (200 mA/g, 20 cycles)	[9]
CNT-Fe_3O_4@graphene	408 (100 mA/g, 35 cycles)	[10]
	Graphene nanosheets-	
Fe_3O_4 NPs	857 (100 mA/g, 10 cycles)	[11]
Fe_2O_3/rGO	478 (100 mA/g, 50 cycles)	[12]
78.8 wt.% Fe_3O_4/rGO	568 (0.05 A/g, 100 cycles)	[13]
Fe_3O_4/rGO	446 (5, 50 Cycles)	[14]
Fe_3O_4/rGO	300 (1, 100 Cycles)	[15]

It can be seen from Table S1 that the current work showed excellent electrochemical performance, which was primarily related to the uniform dispersion of as-prepared nano-Fe_3O_4 on the surface of graphene. The ultra-high conductivity of graphene can provide an ultra-fast electron transmission network for electrons, and graphene folds can also provide more lithium storage sites [16,17]. Compared with the specific capacities reported in the Table S1, the results of this study are higher than other Fe_3O_4/graphene composite.

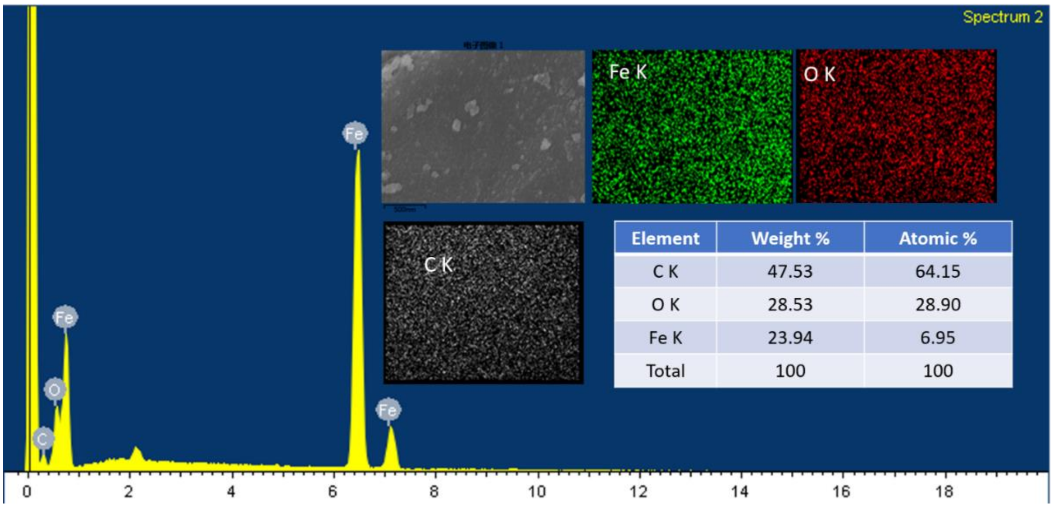

Figure S1. EDX and corresponding elemental mapping of C, O, and Fe.

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