Supplementary Information

One-pot low-temperature synthesis of $MnFe_2O_4$-graphene composite for lithium ion battery applications

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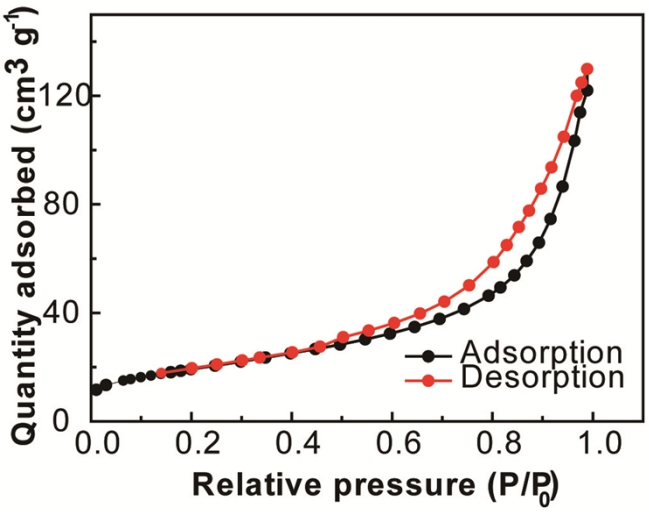

Figure S1. Nitrogen adsorption-desorption isotherms of $MnFe_2O_4$-rGO.

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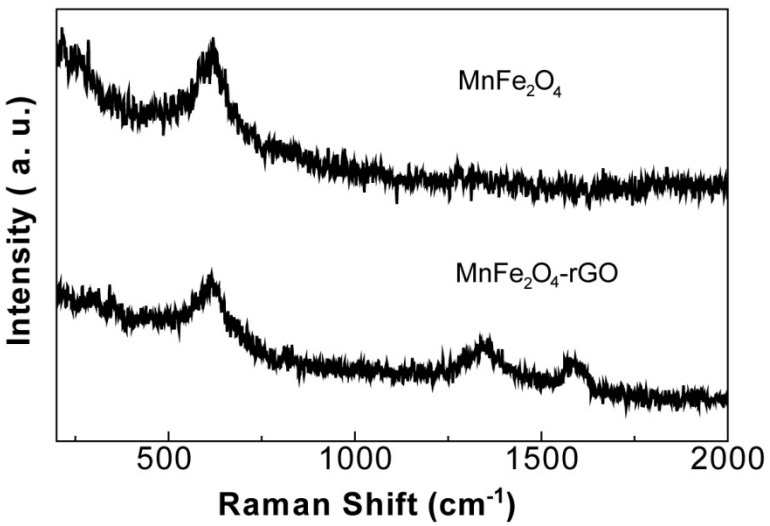

Figure S2. Raman spectra of $MnFe_2O_4$ and $MnFe_2O_4$-rGO.

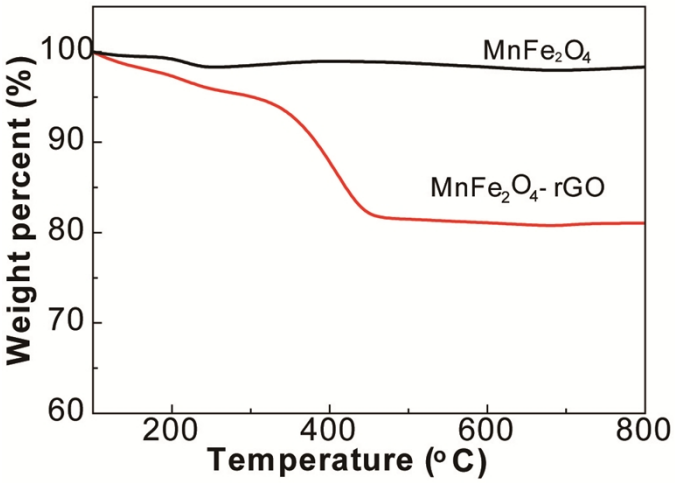

Figure S3. Thermogravimetric analyses of $MnFe_2O_4$ and $MnFe_2O_4$-rGO in air.

Table S1. Summary of synthesis process and electrochemical performance of transitional metal oxide-graphene nanocomponents reported in the literature.

No	Materials	Precursor	Preparation method	Current density (A g^{-1})	Cycle number	Capacity (mAh g^{-1})	Ref
1	Mn_3O_4-graphene	$Mn(Ac)_2$; purified graphene oxide	hydrothermal reaction at 180°C for 10 h	1.6	10	390	1
2	Graphene-Wrapped Fe_3O_4	$FeCl_3 \cdot 6H_2O$; graphene nanosheets	hydrolysis at 353 K for 24 h; heat-treated at 873K for 4 h	0.7	100	580	2
3	Fe_3O_4–graphene	$FeCl_3 \cdot 6H_2O$; purified graphene oxide	hydrothermal method at 180°C for 8 h	1.6	5	474	3
4	Fe_3O_4–graphene	$Fe(NO_3)_3 \cdot 9H_2O$; graphene sheets	gas/liquid interfacial reaction at 180 °C for 12 h	1.0	10	410	4
5	Fe_3O_4.reduced graphene oxide	$Fe_2(C_2O_4)_3 \cdot 5H_2O$; purified graphene oxide	hydrothermal reation at 180 °C for 10 h ; calcined at 500°C for 2 h	1.0	100	403	5
6	$MnFe_2O_4$–graphene	$MnCl_2$ and $FeCl_3 \cdot 6H_2O$; purified graphene oxide	hydrothermal reaction at 180 °C for 12 h for $MnFe_2O_4$, ultrasonication for 1.5 h for nanocomposite	1.0	90	767	6
7	$MnFe_2O_4$–graphene	$FeCl_3$; mixture directly from mixture by Hummer's method	low-temperature coprecipitation at 90°C for 4 h	1.0A	200	581.2	This work

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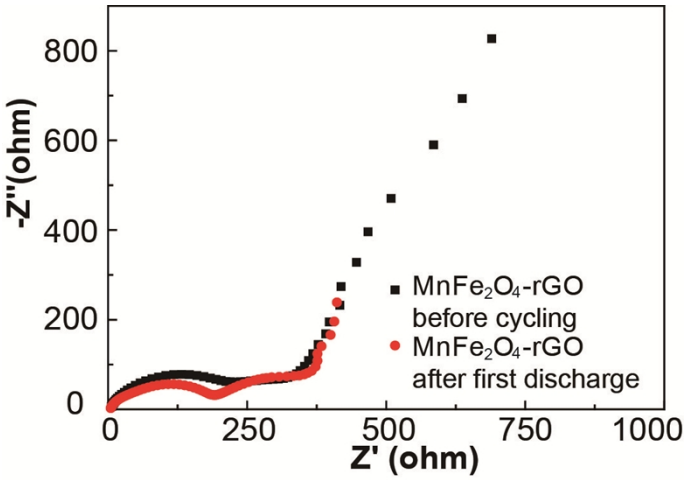

Figure. S4 Nyquist plots of $MnFe_2O_4$-rGO nanocomposite before and right after the first discharge process, respectively

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