Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A
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Supporting Information

A facile one-step hydrothermal synthesis of α-Fe_2O_3 nanoplates imbedded in graphene networks with high rate lithium storage and long cycle life

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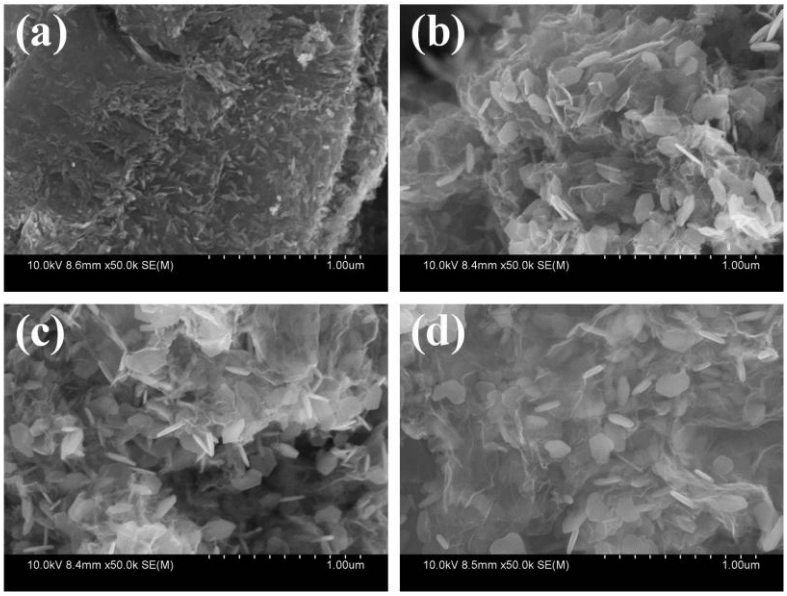

Figure S1. SEM images of the samples prepared under different temperature: (a)120℃; (b) 140℃; (c) at 160℃; (d)180℃.

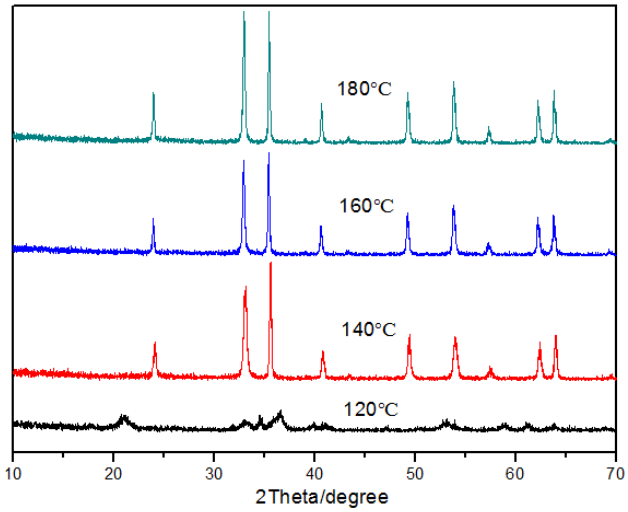

Figure S2. XRD of the samples prepared under different temperature

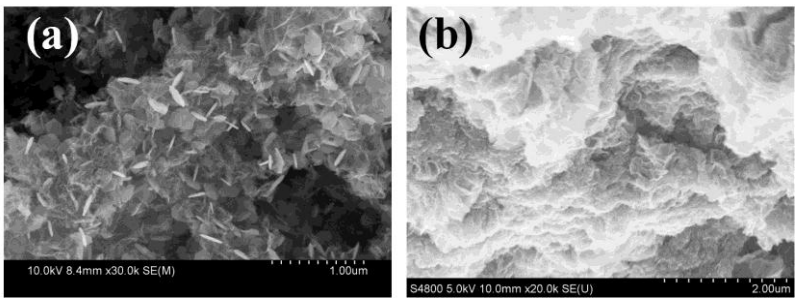

Figure S3. SEM images of (a) the rGO/α-Fe_2O_3 nanoplate composite and (b) rGO without adding $FeSO_4 \cdot 7H_2O$

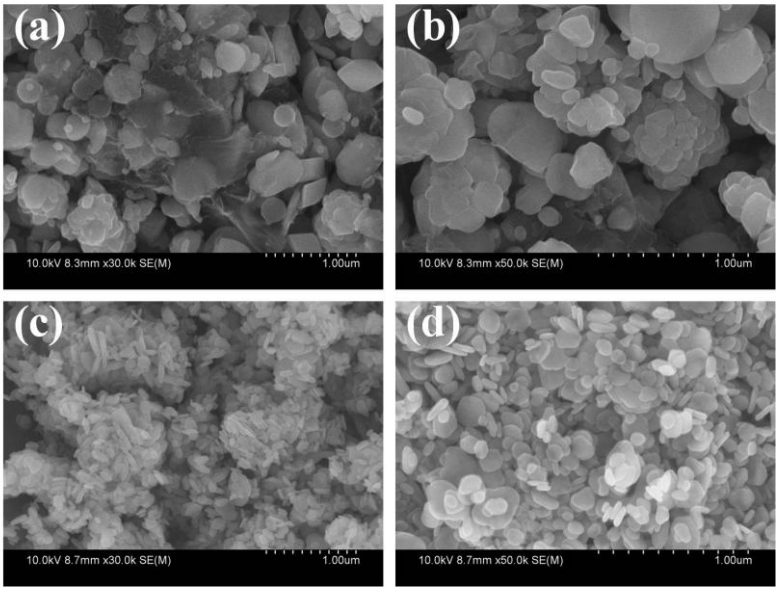

Figure S4. SEM images of the samples prepared without adding of glycerol (a) (b) and without adding of graphene oxide (c) (d)

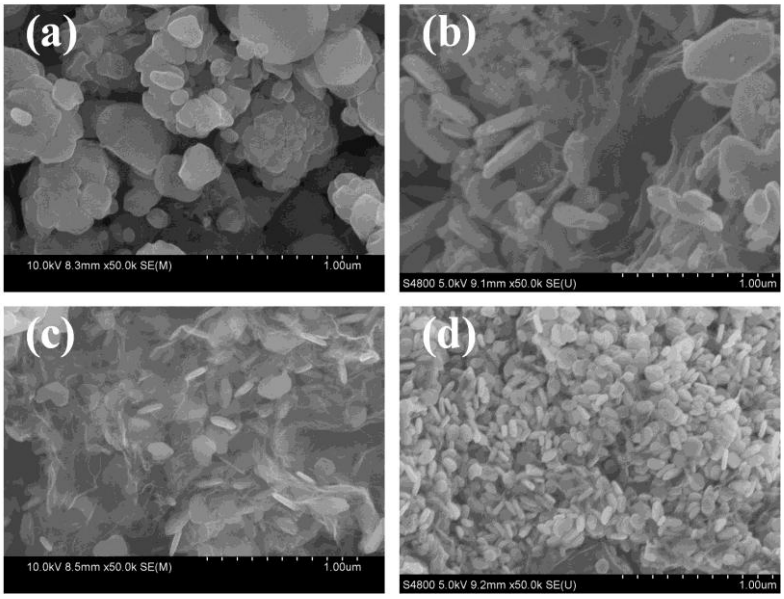

Figure S5. SEM images of the samples prepared with different amout of glycerol (a) 0ml, (b) 10ml, (c) 20ml, (d) 40ml while the total amount of the solvent kept unchanged

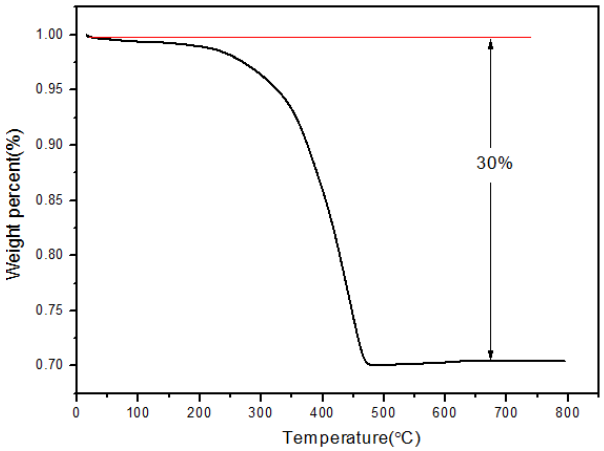

Figure S6. TG curves of the samples prepared at 180℃

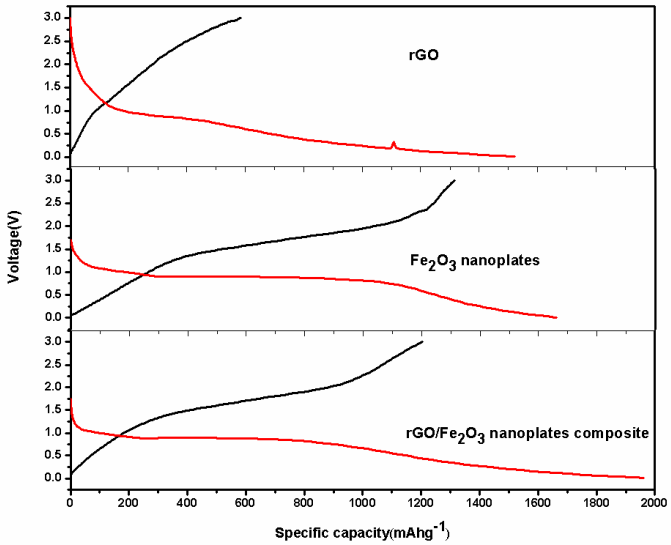

Figure S7. The representative charge-discharge curves of the rGO, α-Fe_2O_3 nanoplates and rGO/α-Fe_2O_3 nanoplate composite for the first cycle.

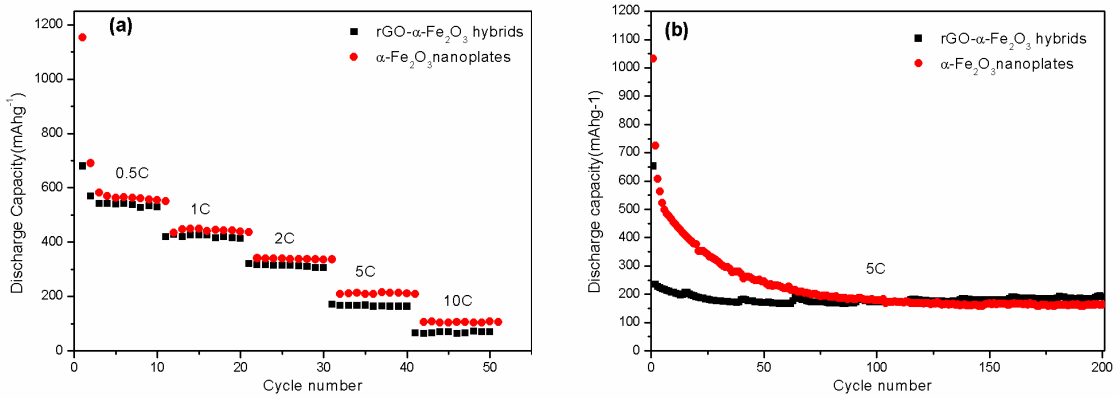

Figure S8. Rate performance (a) and cycling performance at 5C rate（b）of the samples prepared without adding of glycerol or graphene oxide