Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

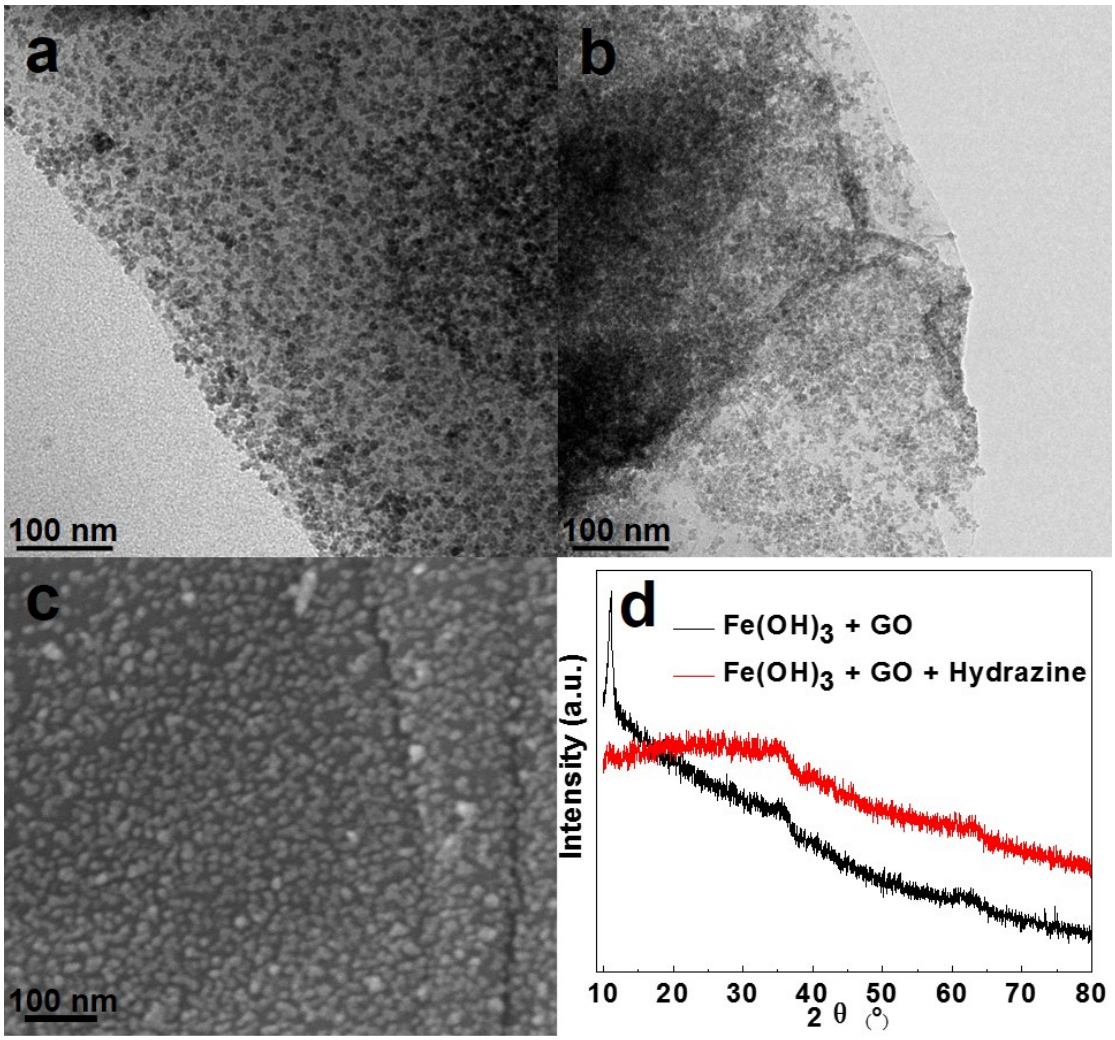

Figure S1. TEM images of $Fe(OH)_3$/GO obtained by mixing $Fe(OH)_3$ sol and GO solution with (a) or without (b) adding hydrazine. (c) SEM image of the above $Fe(OH)_3$/GO with adding hydrazine. (d) XRD patterns of the $Fe(OH)_3$/GO and $Fe(OH)_3$/GO after adding hydrazine.

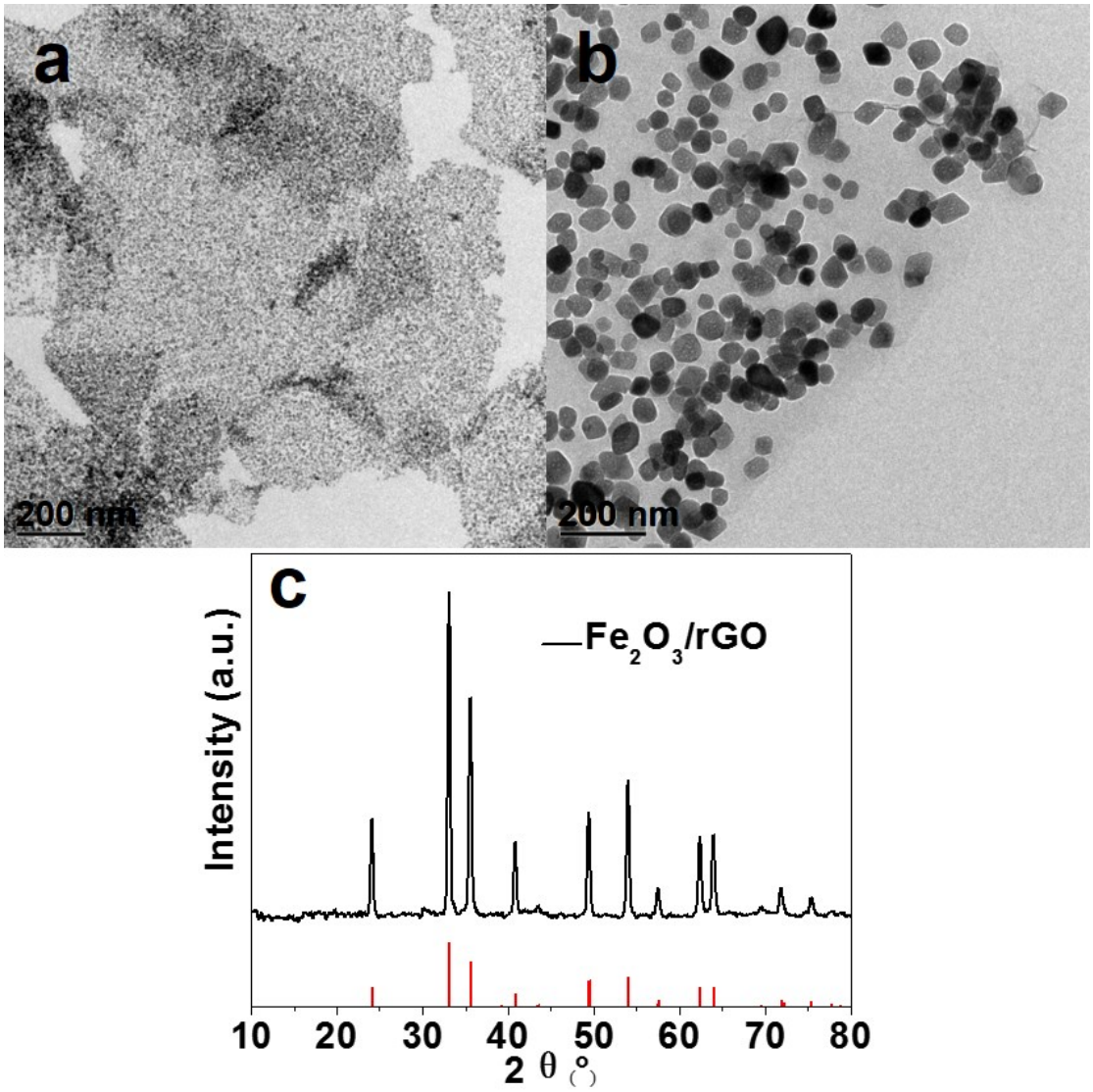

Figure S2. TEM images of Fe_3O_4/rGO-180 (a) and Fe_2O_3/rGO (b), and XRD pattern of Fe_2O_3/rGO (c). Fe_2O_3/rGO was obtained from hydrothermal reaction with Fe(OH)3, GO as precursors and hydrazine as reductants.

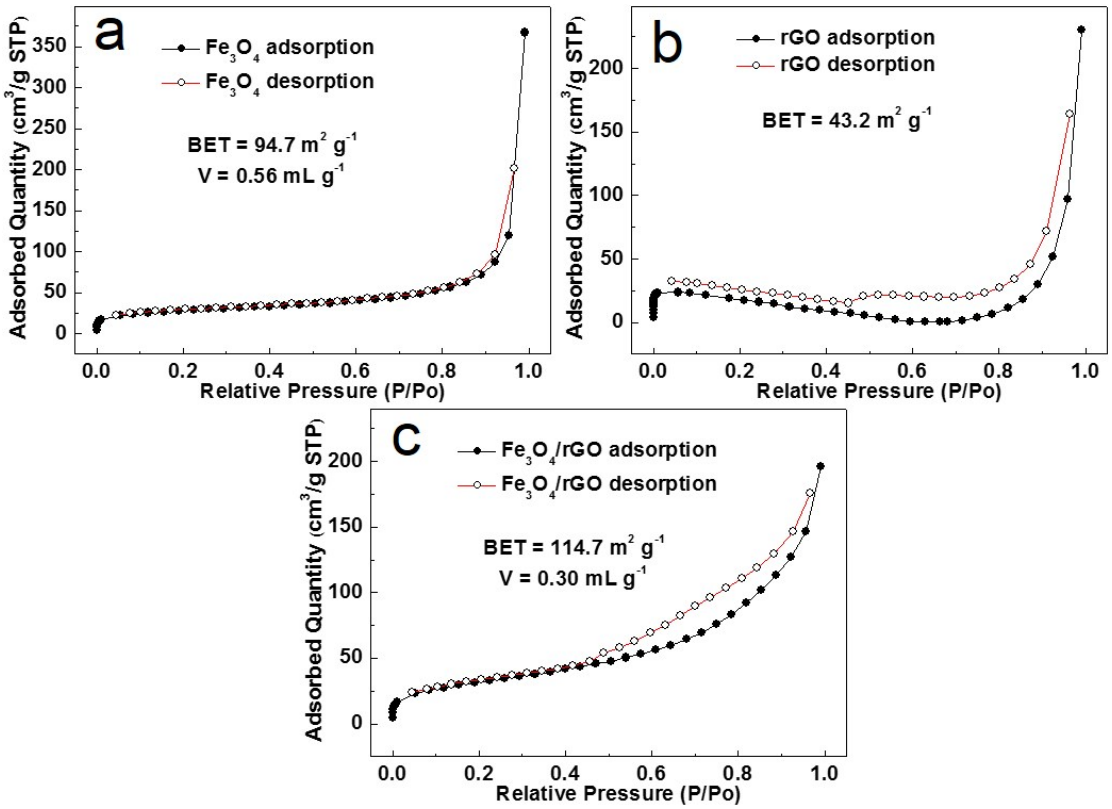

Figure S3. BET surface area of Fe_3O_4, rGO and Fe_3O_4/rGO.

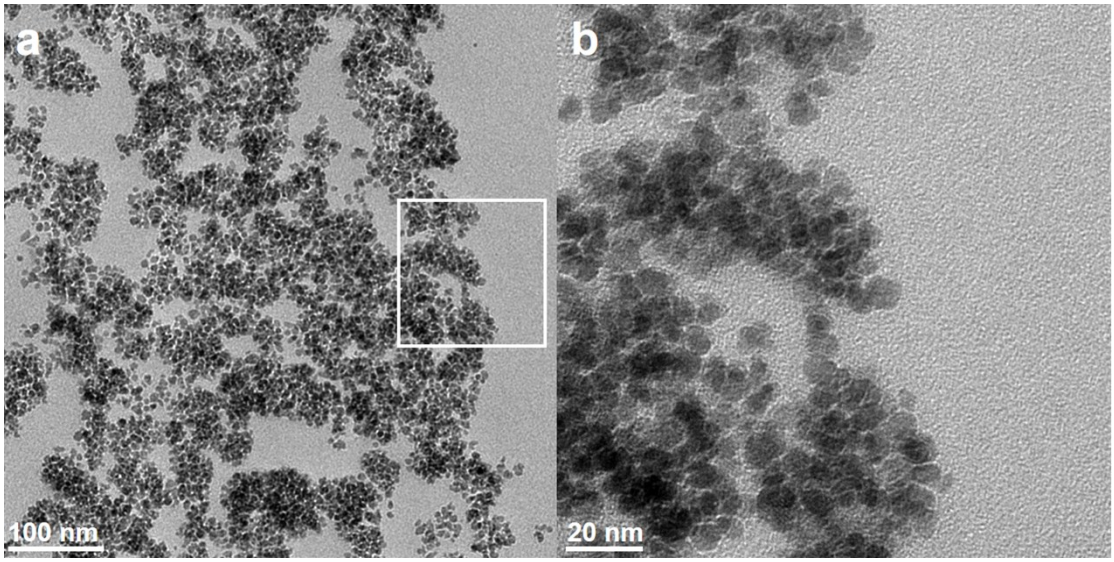

Figure S4. TEM images of Fe_3O_4 nanoparticles at different magnifications. Fe_3O_4 was obtained from hydrothermal reaction using Fe(OH)3 as precursors, and VC and hydrazine as reductants.

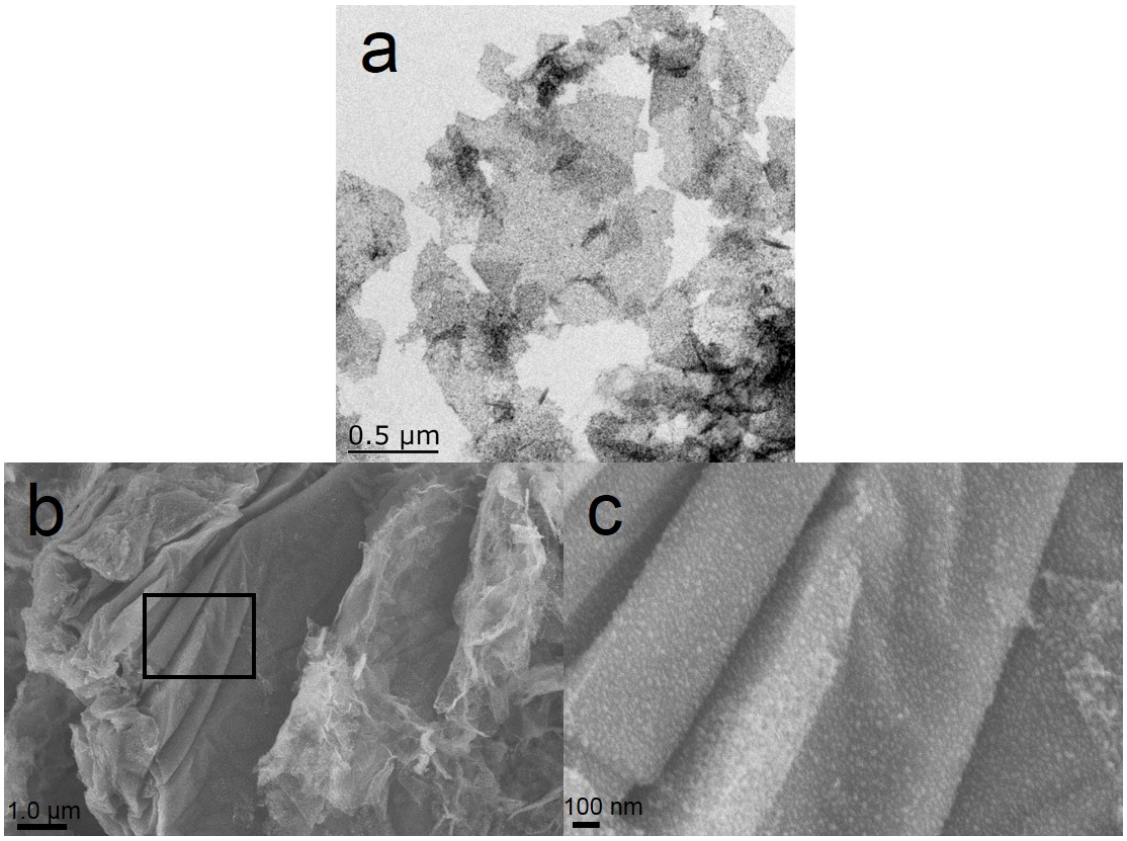

Figure S5. (a) TEM images of Fe_3O_4/rGO-180. (b and c) SEM images of Fe_3O_4/rGO at different magnifications.

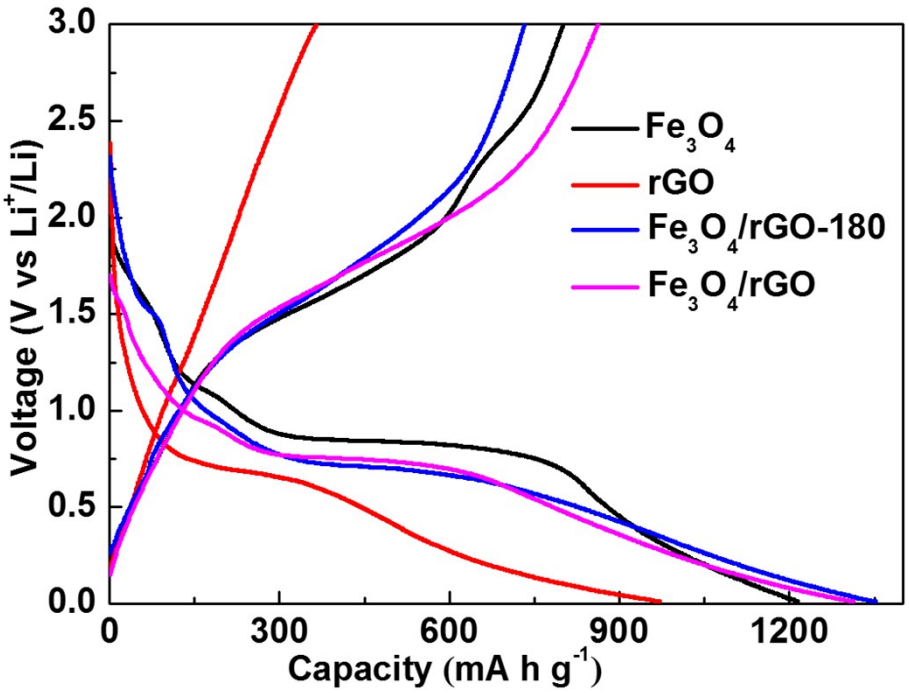

Figure S6. The first cycle charge-discharge profiles of cells with Fe_3O_4, rGO, Fe_3O_4/rGO-180 or Fe_3O_4/rGO.

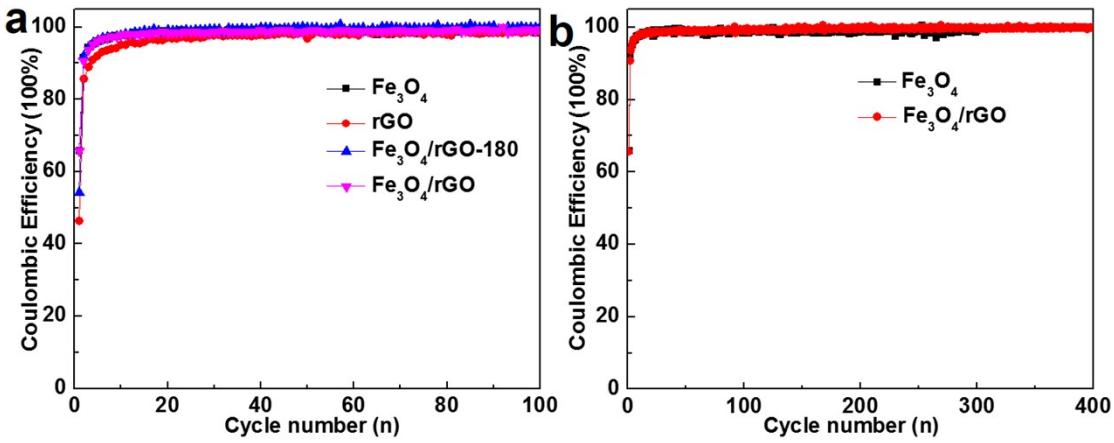

Figure S7. (a) Coulombic efficiencies of cells with rGO, Fe_3O_4, Fe_3O_4 /rGO-180 or Fe_3O_4/rGO at a current density of 0.5 A g^{-1}. (b) Long-term charge-discharge Coulombic efficiencies of cells with Fe_3O_4 or Fe_3O_4/rGO.

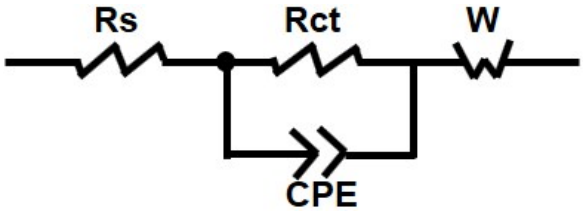

Figure S8. The equivalent circuit used for fitting cell resistances.