Supporting Information for

Hydrothermal Fabrication of $MnCO_3$@rGO Composite as an Anode Material for High Performance Lithium Ion Batteries

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Table S1. Atom ratio of C, O and Mn elements in MGC based on XPS data

Element	C1s	O1s	Mn2p
Atom ratio percent (at.%)	43.9	45.11	10.99

Total mass = 43.9×12+45.11×16+10.99×54.94 = 526.8+721.76+603.79 = 1852.35

$MnCO_3$ wt.% = 10.99×114.95/1852.35×100% = 68.20%

rGO wt.% = 100%-68.20% = 31.80%”

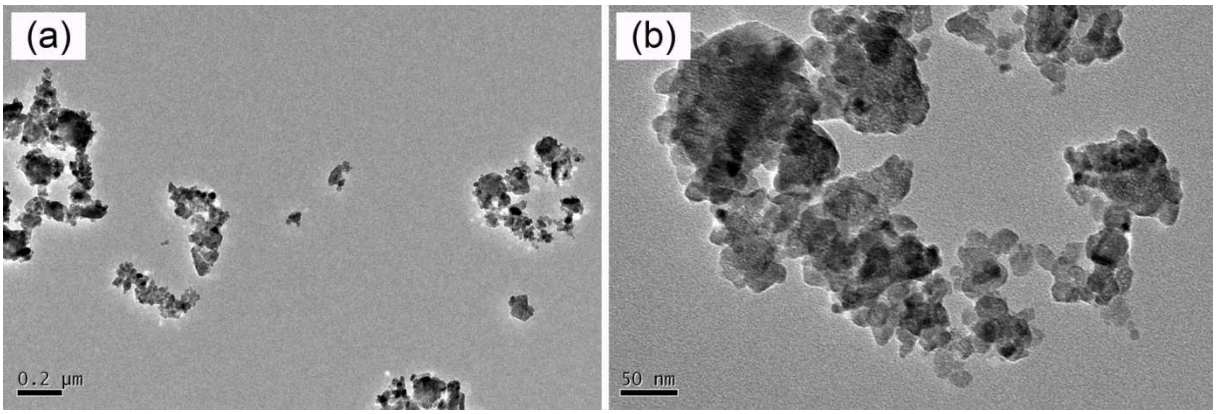

Figure S1. (a) and (b) TEM images of the pristine $MnCO_3$ with different magnification powers.

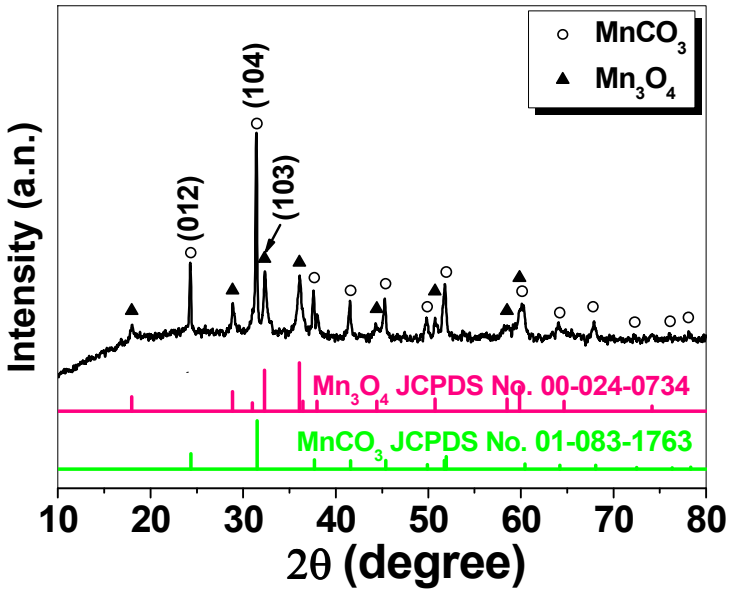

Figure S2. XRD pattern of the as-synthesized $MnCO_3$ with Mn_3O_4 purity by a similar synthesis process to the MGC just in the absence of GO.

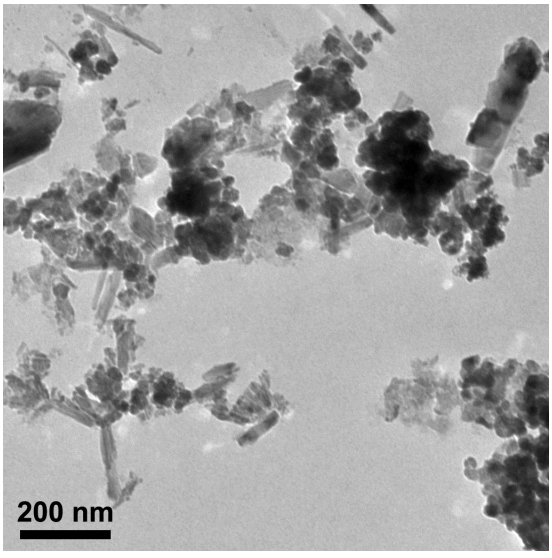

Figure S3. TEM image of the as-synthesized $MnCO_3$ with Mn_3O_4 purity by a similar synthesis process to the MGC just in the absence of GO.

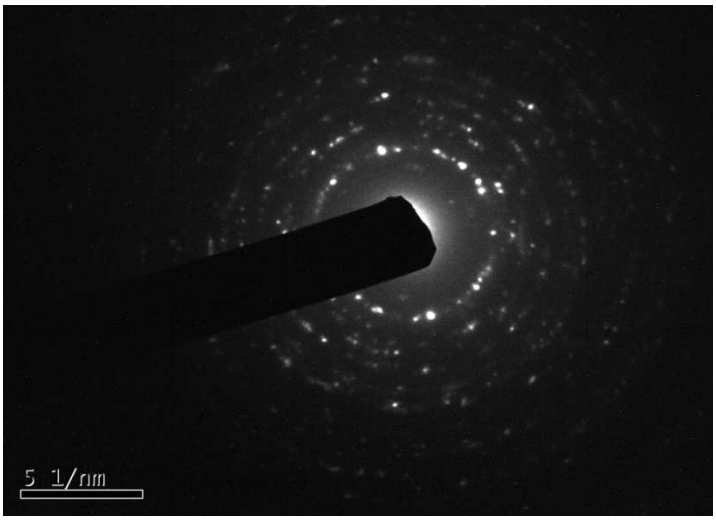

Figure S4. Selected area electron diffraction pattern of MGC.

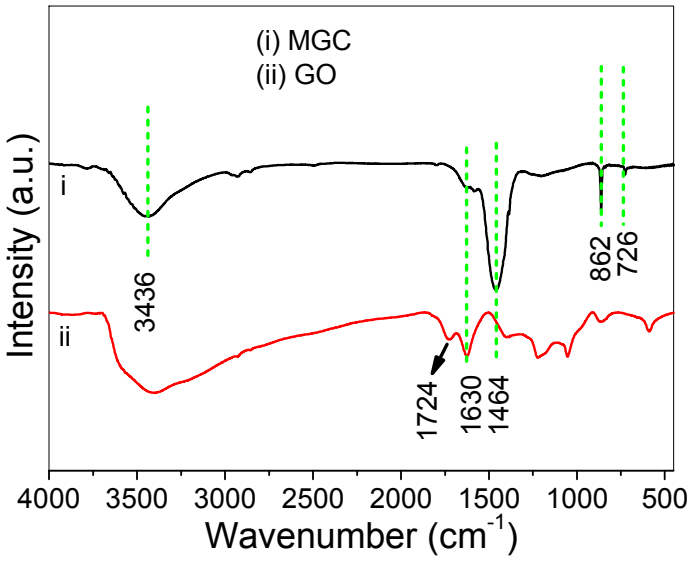

Figure S5. FT-IR spectra of MGC and GO.

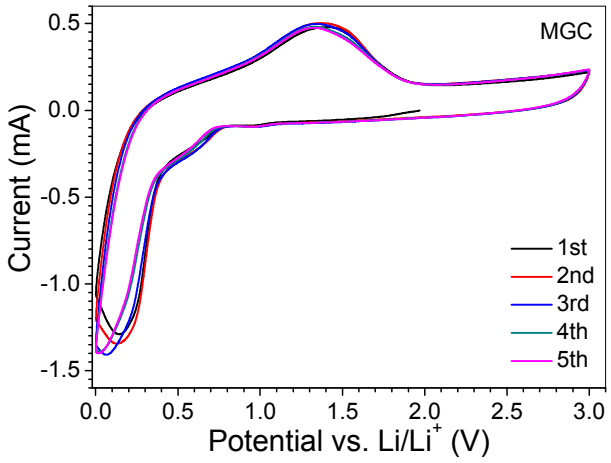

Figure S6. CV plots of $MnCO_3$@rGO composite (MGC) after cycled for 3 times in Li ion battery (LIBs).