

Supporting Information for

Controllable Oxygenic Functional Groups of Metal-free Cathodes for High Performance Lithium Ion Batteries

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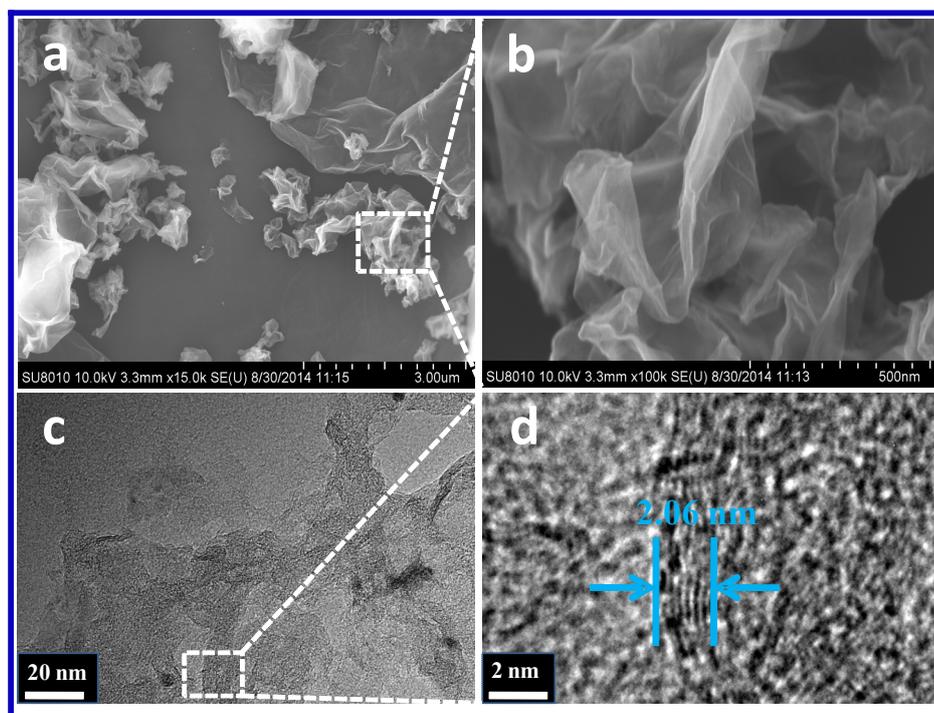


Fig. S1 SEM images of graphene oxide (a, b) and TEM images of rGO-1 (c, d).

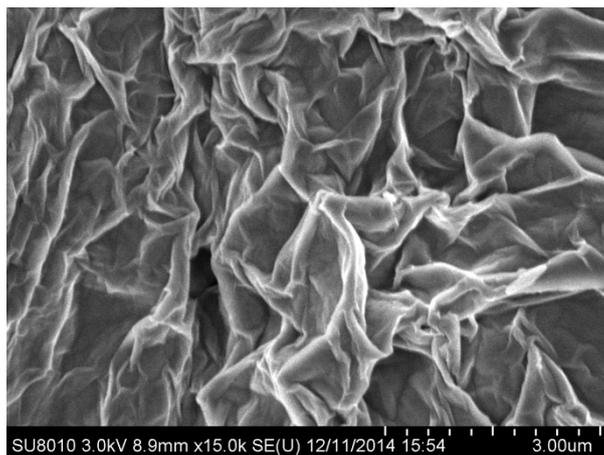


Fig. S2 SEM images of rGO-0.5.

Sample Name	Atomic %		Ratio
	C	O	O/C
GO	65.02	34.98	0.538
rGO-0.5	70.78	29.22	0.413
rGO-1	79.66	20.34	0.255
rGO-6	86.59	13.41	0.155
rGO-12	87.18	12.82	0.147

Fig. S3 Atomic percentage of carbon, oxygen and atomic ratios O/C data obtained from EDX.

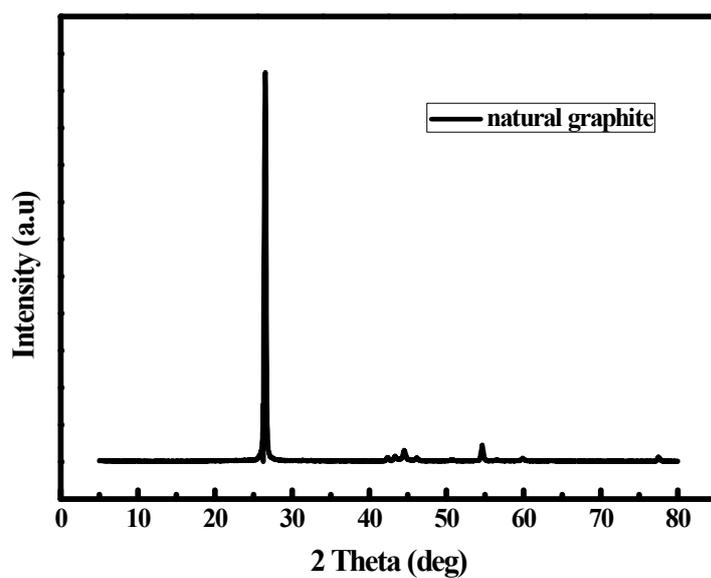


Fig. S4 XRD patterns of pristine graphite.

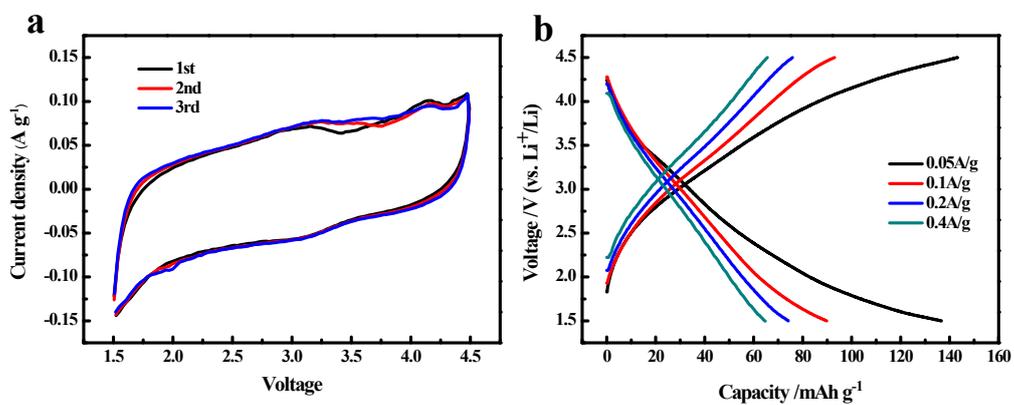


Fig. S5 (a) CV data of the first 3 cycles for the rGO-1 samples over a voltage range from 1.5 to 4.5 V with a scan rate of 0.1 mV s⁻¹; (b) Charge–discharge curves of GO electrode at various current densities.

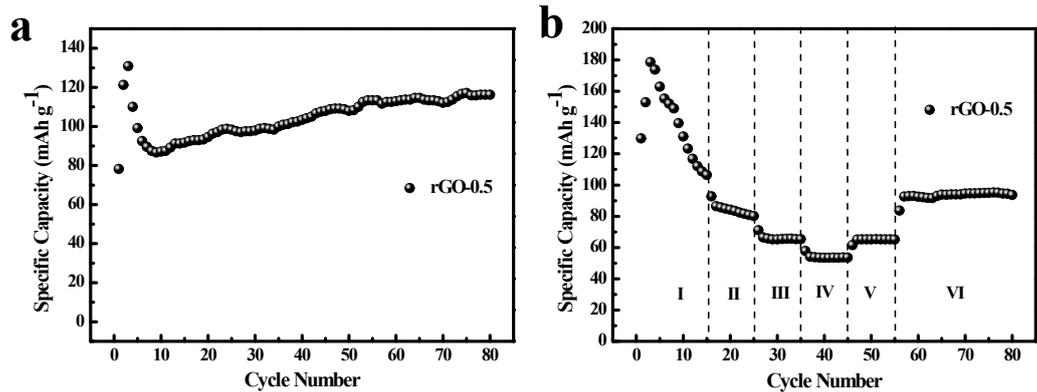


Fig. S6 (a) Cycling performance of rGO-0.5 electrode at a current density of 50 mA g^{-1} ; (b) Rate performance of rGO-0.5 electrode at different current densities: (I) 50 , (II) 100 , (III) 200 , (IV) 400 , (V) 200 , (VI) 50 mA g^{-1} .