# Supplementary Information

## Covalently coupled hybrid of graphitic carbon nitride with reduced graphene oxide as a superior performance lithium-ion battery anode

Yongsheng Fu, Junwu Zhu, Chong Hu, Xiaodong Wu and Xin Wang

**Table 1S.** N species content (at.%) of the $g$-$C_3N_4$-rGO-1 obtained based on XPS analysis.

| Sample | C-N=C | N-(C)$_3$ | -NH$_2$ | C-N-H |
|---|---|---|---|---|
| g-C$_3$N$_4$-rGO-1 | 49.8 | 23.6 | 15.1 | 11.5 |

**Table 2S.** The first cycle discharge capacity, charge capacity and coulombic efficiency for the $g$-$C_3N_4$, rGO, and $g$-$C_3N_4$-rGO-n (n=0.25, 0.5, 1, 2, 3) electrodes.

| Samples | discharge capacity (mAh g$^{-1}$) | charge capacity (mAh g$^{-1}$) | coulombic efficiency (%) |
|---|---|---|---|
| rGO | 1200 | 426 | 33 |
| g-C$_3$N$_4$-rGO-0.25 | 2080 | 1015 | 48 |
| g-C$_3$N$_4$-rGO-0.5 | 2289 | 1116 | 49 |
| g-C$_3$N$_4$-rGO-1 | 3002 | 1705 | 57 |
| g-C$_3$N$_4$-rGO-2 | 2695 | 1008 | 37 |
| g-C$_3$N$_4$-rGO-3 | 1071 | 388 | 36 |
| g-C$_3$N$_4$ | 151 | 67 | 44 |
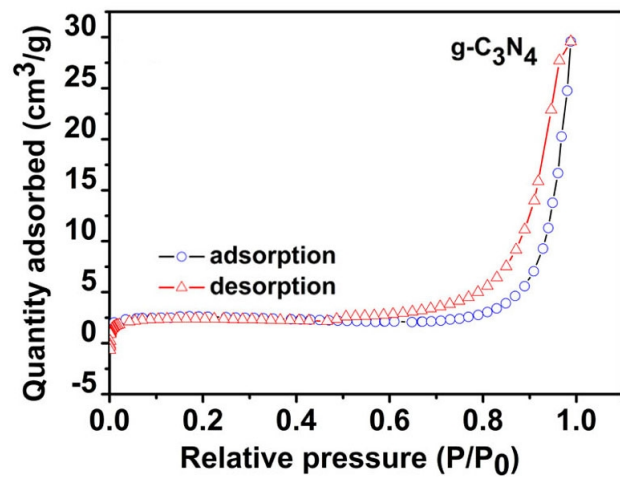
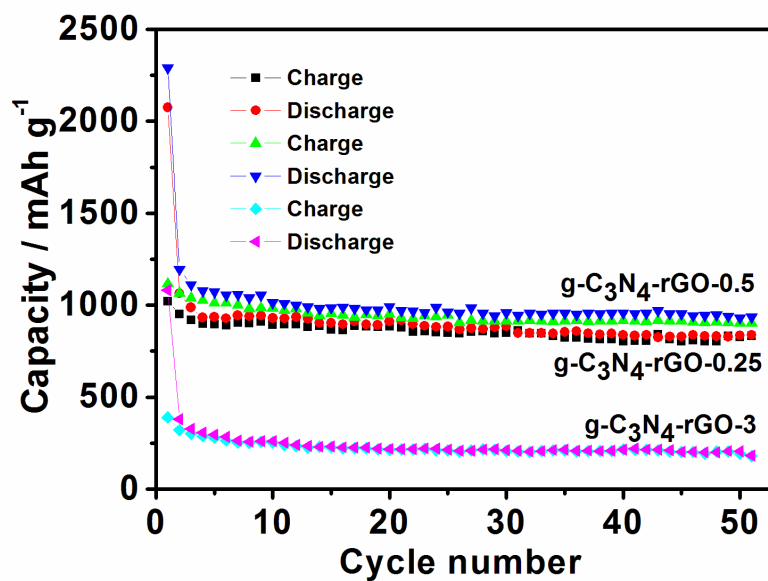**Figure 1S.** Nitrogen adsorption/desorption isotherm of g-$C_3N_4$.



**Figure 2S.** Cycle performance the g-$C_3N_4$-rGO-n (n=0.25, 0.5, 3) electrodes at a current rate of 100 mAg$^{-1}$

between 3.0 and 0.01 V *versus* Li$^+$/Li