High-rate long-life of Li-ion batteries using reduced graphene oxide/Co$_3$O$_4$ as anode materials

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Fig. S1. Representative profile of (a) temperature, $T$, (b) power, $P$, and (c) pressure, $p$ monitored when the reaction was performed at 150 °C for 30 min.
Fig. S2. TGA curves of Co$_3$O$_4$ and rGO/Co$_3$O$_4$ composites.

Fig. S3. Powder XRD patterns for Co$_3$O$_4$ and rGO/Co$_3$O$_4$ composites with various nominal ratios of GO.
Table S1. The BET surface area of different materials used in our experiments

<table>
<thead>
<tr>
<th>GO (m$^2$/g)</th>
<th>rGO (m$^2$/g)</th>
<th>Co$_3$O$_4$ (m$^2$/g)</th>
<th>rGO/Co$_3$O$_4$ (m$^2$/g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>274</td>
<td>70</td>
<td>222</td>
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</tbody>
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Fig. S4. Cyclic voltammograms (CV) curves of rGO at a current rate of 1 C.

Fig. S5. Cycling performance of 2.5, 5, 15, and 30 wt% of rGO/Co$_3$O$_4$ composites at a current rate of 1 C.
Fig. S6. Structure and morphology characterization of rGO/Co$_3$O$_4$ electrode after over 900 cycles. (a) HRTEM image, (b) SAED pattern, and (c) XRD pattern of rGO/Co$_3$O$_4$ electrode.