

## Supporting information (SI)

### **Graphene-Co<sub>3</sub>O<sub>4</sub> Nanocomposite as an Efficient Bifunctional Catalyst for Lithium-air Batteries**

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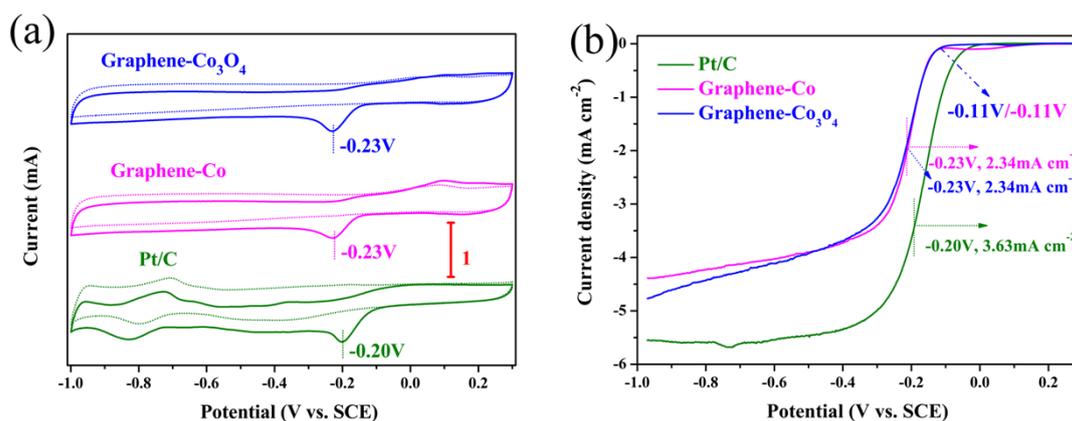
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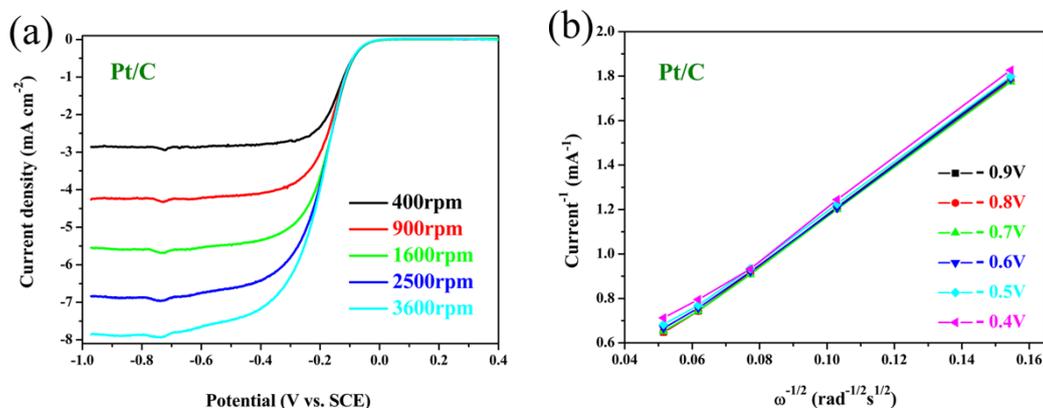
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**Fig. S1** Electrochemical ORR catalytic performance of different catalysts: (a) CV curves of graphene- $\text{Co}_3\text{O}_4$ , graphene-Co and the commercial Pt/C on glassy carbon electrodes in  $\text{O}_2$ -saturated (solid line) or Ar-saturated 0.1M KOH (dash line) with a sweep rate of  $100 \text{ mVs}^{-1}$ . (b) ORR polarization curves of different catalysts at a scan rate of  $10 \text{ mV s}^{-1}$  and a rotation speed of 1600 rpm in  $\text{O}_2$ -saturated 0.1M KOH solution. Catalyst loading was  $0.102 \text{ mg cm}^{-2}$  for the three catalysts.



**Fig. S2** LSVs at different rotating speeds and K-L plots of the commercial Pt/C catalyst at various potentials tested in  $\text{O}_2$ -saturated 0.1M KOH.