

Electrocatalytic Oxygen Reduction Reaction of Graphene Oxide and Metal-Free Graphene in an Alkaline Medium

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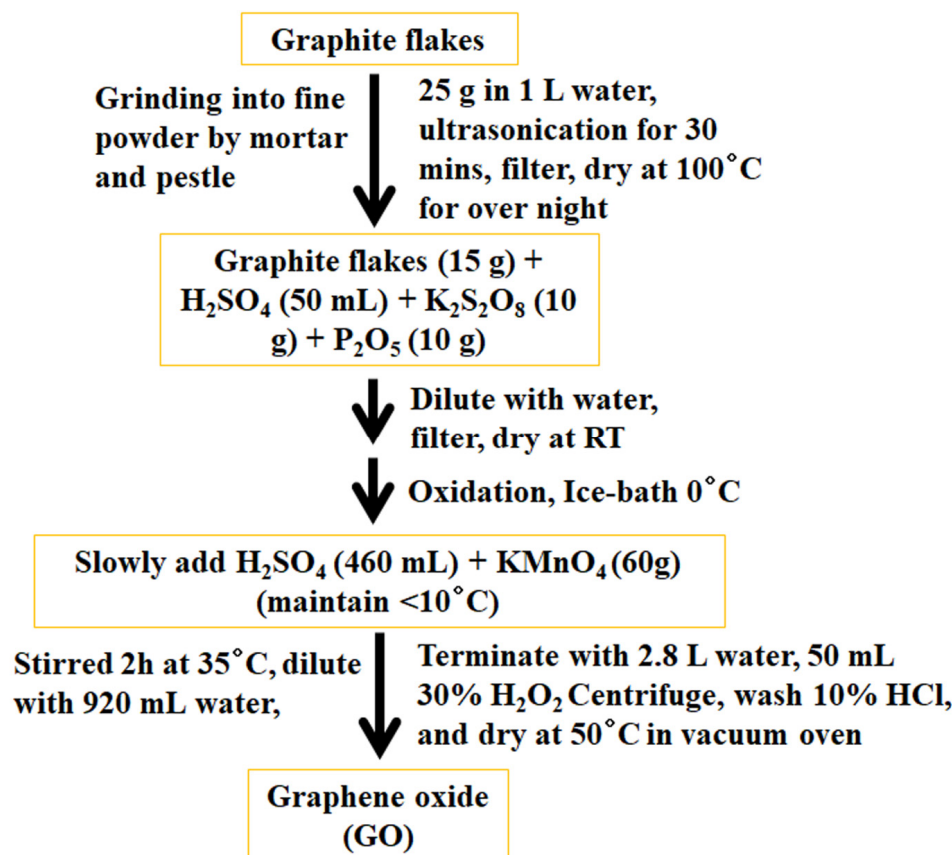


Figure S1. Flow chart for the synthesis of GO.

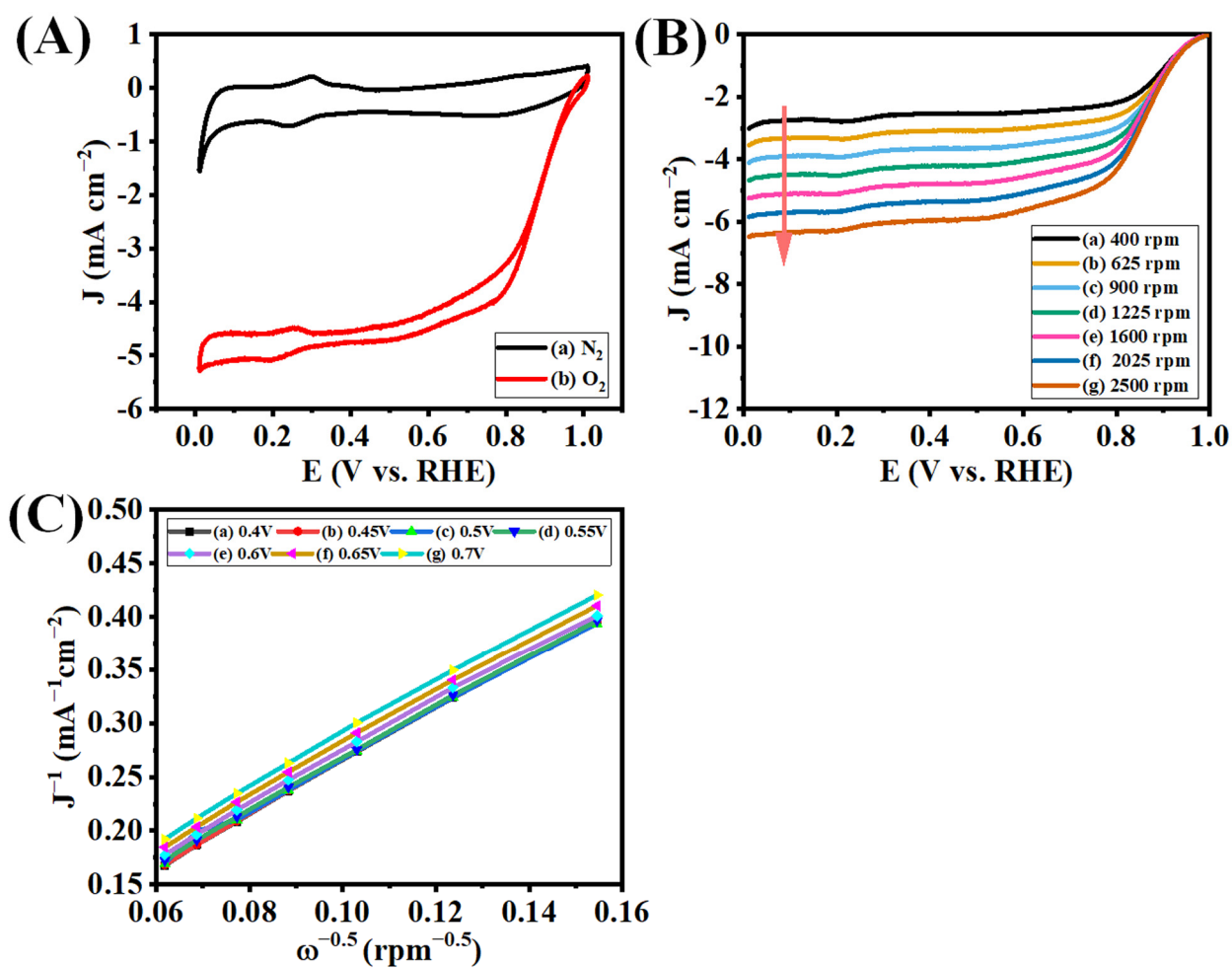


Figure S2. (A) CV graphs of Pt/C in N₂ and O₂ saturated aqueous 0.1M KOH electrolytes. (B and C) LSV at different rpm and K-L plots of Pt/C in O₂ saturated aqueous 0.1M KOH electrolyte at the rotation speed of 1600 rpm. All the experiments were performed at the scan rate of 10 mV s⁻¹ at room temperature.

Table S1. Comparison study of graphene-based electrocatalyst for ORR.

Catalyst	Electrolyte (KOH)	ORR onset potential (E_{onset}) (V vs. RHE)	ORR $E_{1/2}$ (V vs. RHE)	Electron transfer number (n)	Ref.
GO	0.1 M	0.8	0.66	1.69	This Work
G100-1B	0.1 M	0.84	0.77	3.76	This Work
G100-2B	0.1 M	0.84	0.74	3.41	This Work
N-GRW	0.1 M	0.92	0.84	3.95	[49]
N-Graphene/CNT	0.1 M	0.88	0.7	3.22	[50]
Fe ₃ Co@NG-C	0.1 M	1.03	0.86	3.90	[51]
Ng-C@G	0.1 M	0.96	0.81	3.96	[16]
N-pGF	0.1 M	0.86	0.76	3.9	[52]
N-GA-150	0.1 M	0.65	0.78	3.7	[53]
N-GDY	0.1 M	0.65	0.78	3.7	[54]
NGM	0.1 M	0.89	0.77	3.8	[55]
NPGC-950	-	0.91	0.78	3.79	[56]

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