Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

Nanoporous Nitrogen Doped Carbon Modified Graphene as Electrocatalyst for Oxygen Reduction Reaction

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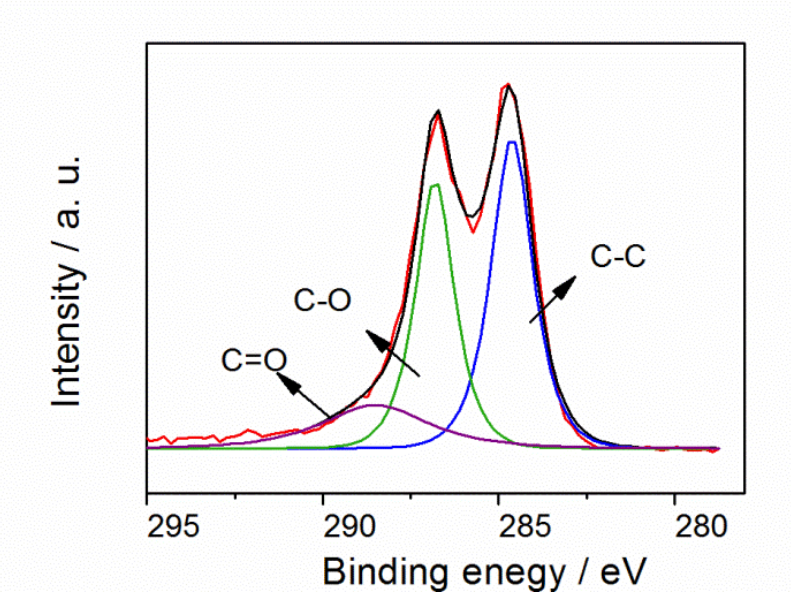

Figure S1 C 1s XPS spectra of graphene oxide (GO). The C 1s XPS spectrum of GO shows three types of carbon atoms, C=O (288.4 eV), C–O (286.8 eV) and C=C(284.7 eV) .

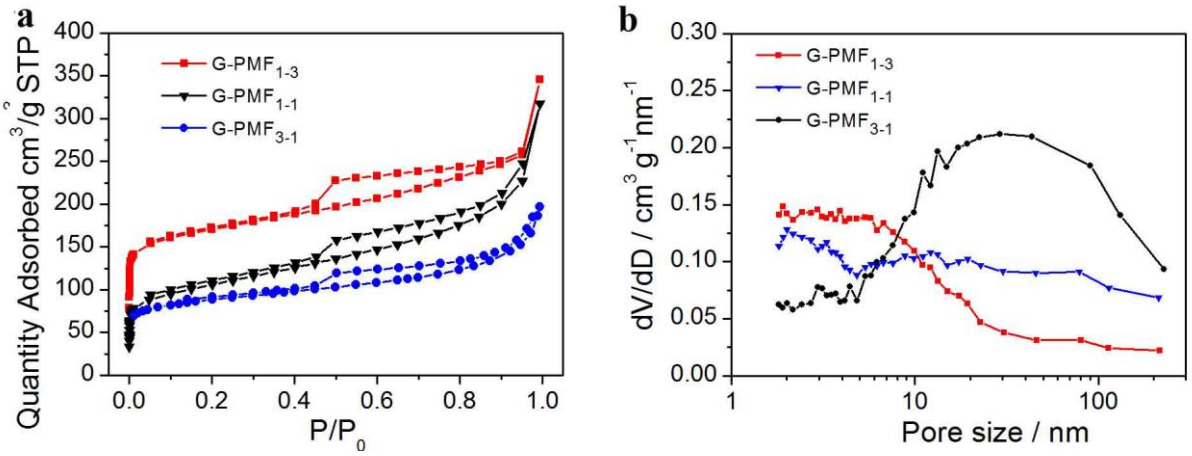

Figure S2 (a) Nitrogen adsorption/desorption isotherms of G–PMFs. (b) The pore size distributions of G–PMFs.

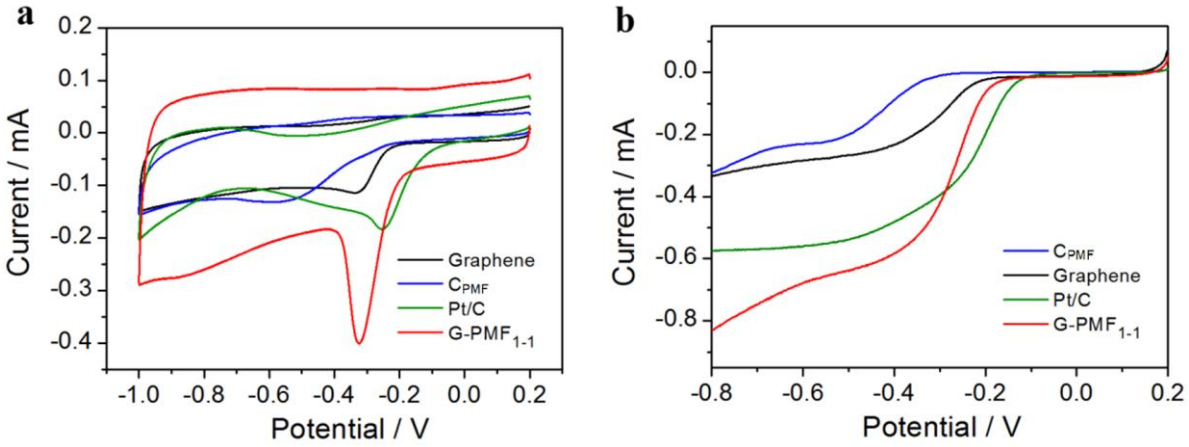

Figure S3 (a) Typical cyclic voltammogram (CV) of graphene, C_{PMF}, Pt/C or G–$PMF_{1–1}$ electrode in O_2 saturated 0.1 mol L^{-1} KOH solution at a scan rate of 100 mV s^{-1} and (b) RDE voltammogram of graphene, C_{PMF}, Pt/C or G–$PMF_{1–1}$ electrode in O_2 saturated 0.1 mol L^{-1} KOH solution at a scan rate of 10 mV s^{-1} and a rotation rate of 1600 rpm.

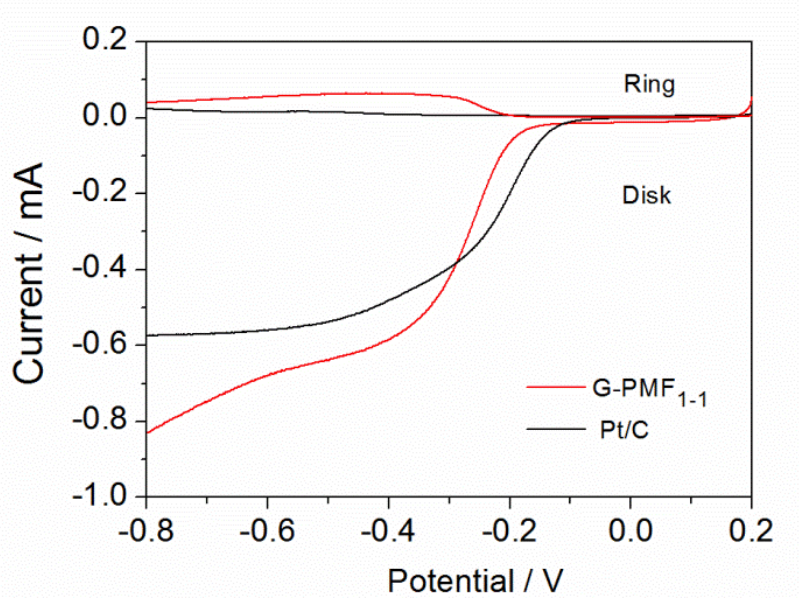

Figure S4 Rotating ring–disk electrode (RRDE) volatmmogram of G–PMF_{1-1} or Pt/C electrode in O_2 saturated 0.1 M KOH at 1600 rpm. The ring electrode was polarized at 0.5 V.

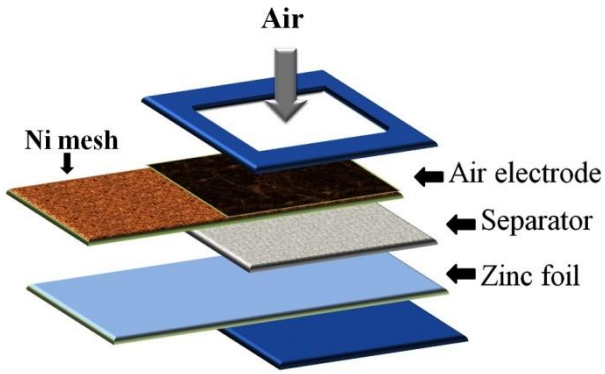

Figure S5 The schematic illustration of a Zn–air battery.