## **Electronic Supplementary Information**

## A bi-functional metal-free catalyst composed of dualdoped graphene and mesoporous carbon for rechargeable lithium-oxygen batteries

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**Fig. S1**. SEM images of GC showing a similar morphology to that of NSGC. Hence, the effect of morphology on electrocatalytic performance could be eliminated.



**Fig. S2.** (a) Nitrogen adsorption/desorption isotherm, and (b) pore size distribution of GC. GC sample shows BET surface area of 1658 m<sup>2</sup> g<sup>-1</sup>, which is similar to the NSGC sample and thus the effect of porous architecture on their electrochemical performance could be eliminated.