

Supporting Information

**Tuning the morphology and crystal structure of Li_2O_2 — A graphene
model electrode study for Li- O_2 battery**

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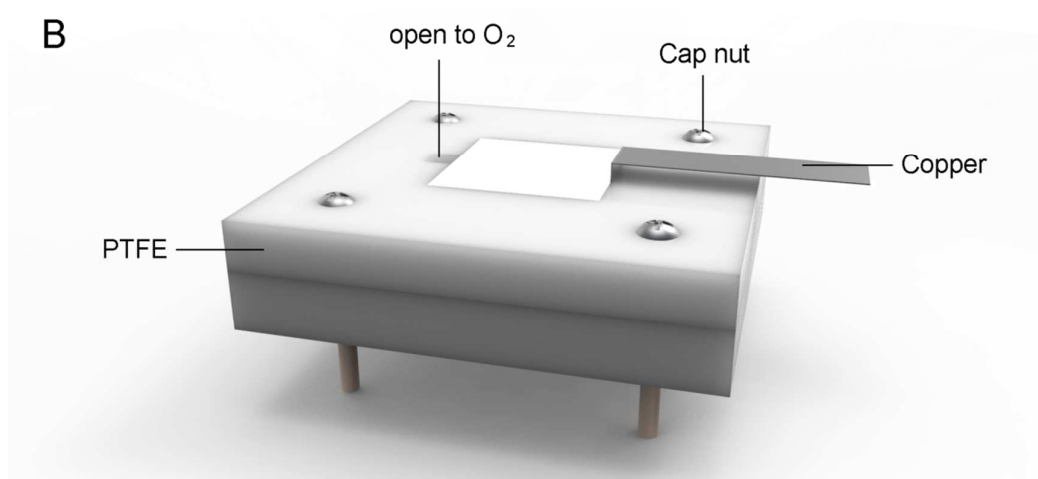
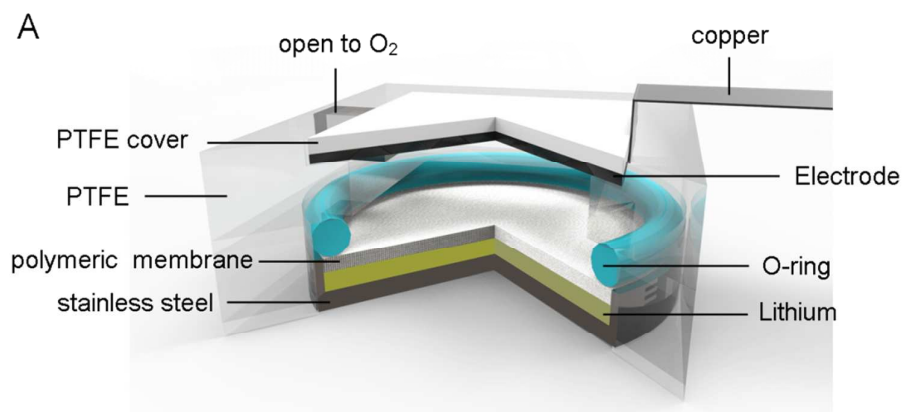


Figure S1. Schematic of the home-made electro-chemical testing device. (A) semi-transparent schematic to see the inside of the device; (B) the outside of the device.

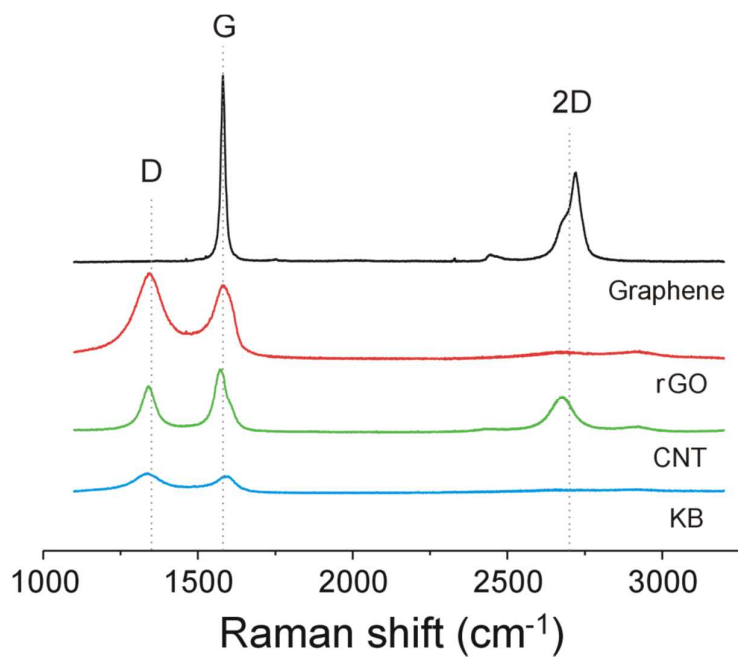


Figure S2. Confocal Raman spectra of 2D graphene, reduced graphene oxide (rGO), carbon nanotube (CNT) and Ketjen Black (KB). The peak labeled “D” is the defect peak of carbon materials, and the absence of the “D” peak in 2D graphene indicates that it has fewer defects.

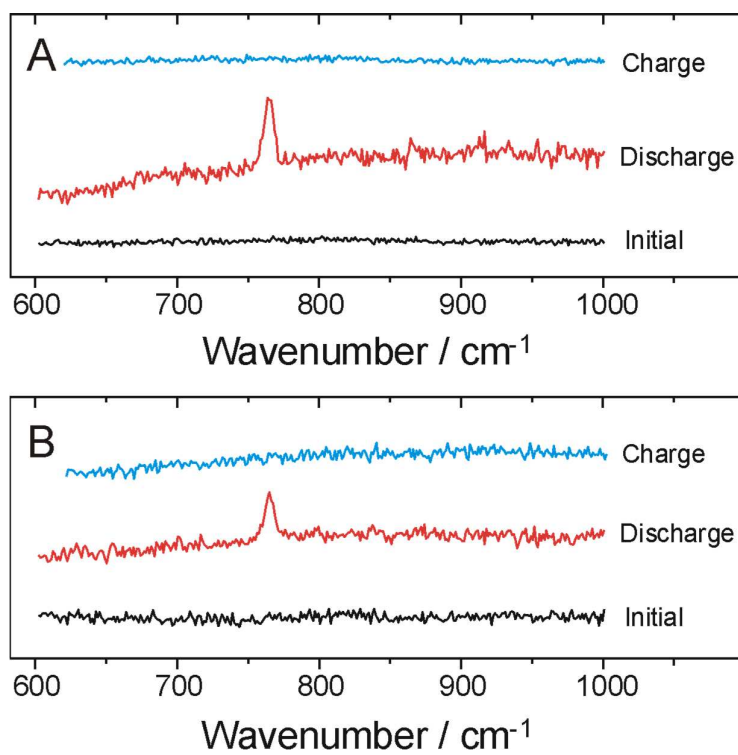


Figure S3. Confocal Raman spectra of the electrodes at different states of charge. (A) graphene electrode. (B) Pd/G electrode.