

## Support Information

### **Industrially weavable metal/cotton yarn air electrodes for highly flexible and stable wire-shaped Li-O<sub>2</sub> batteries**

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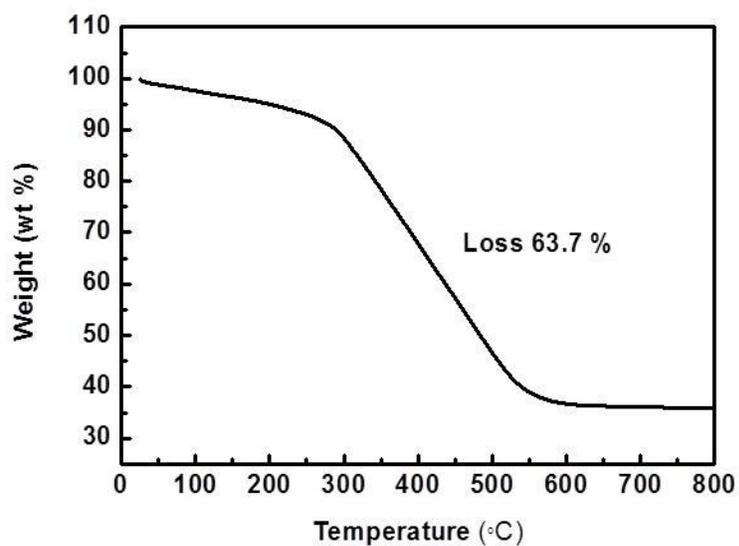
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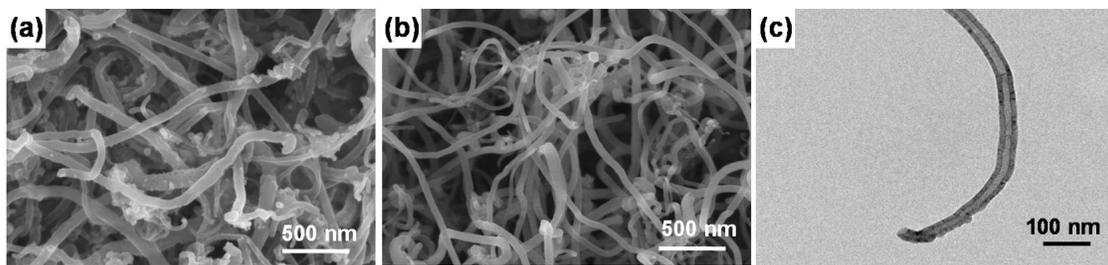
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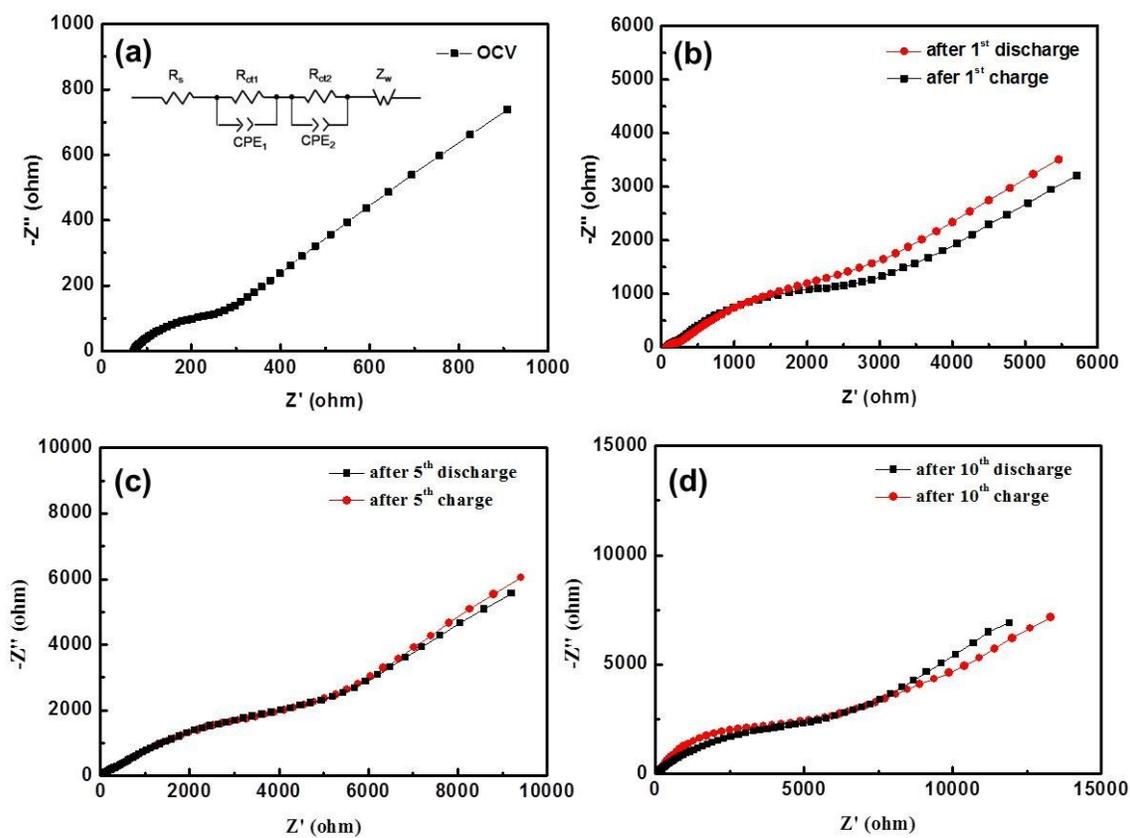
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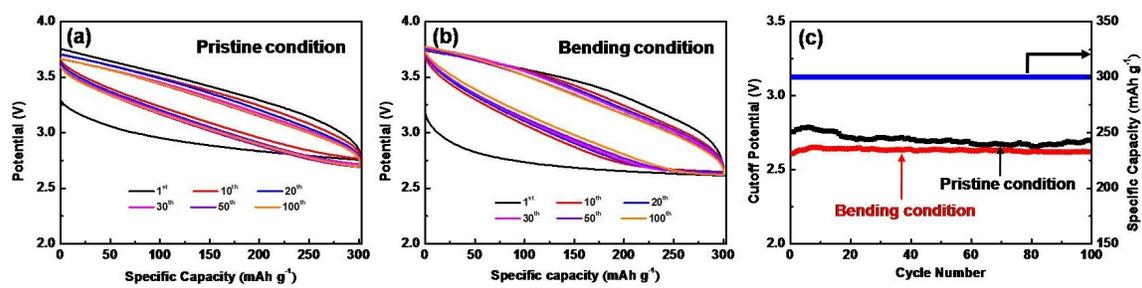
**Fig. S1** Thermal gravimetric analysis (TGA) curve for RuO<sub>2</sub>/N-CNTs sample.



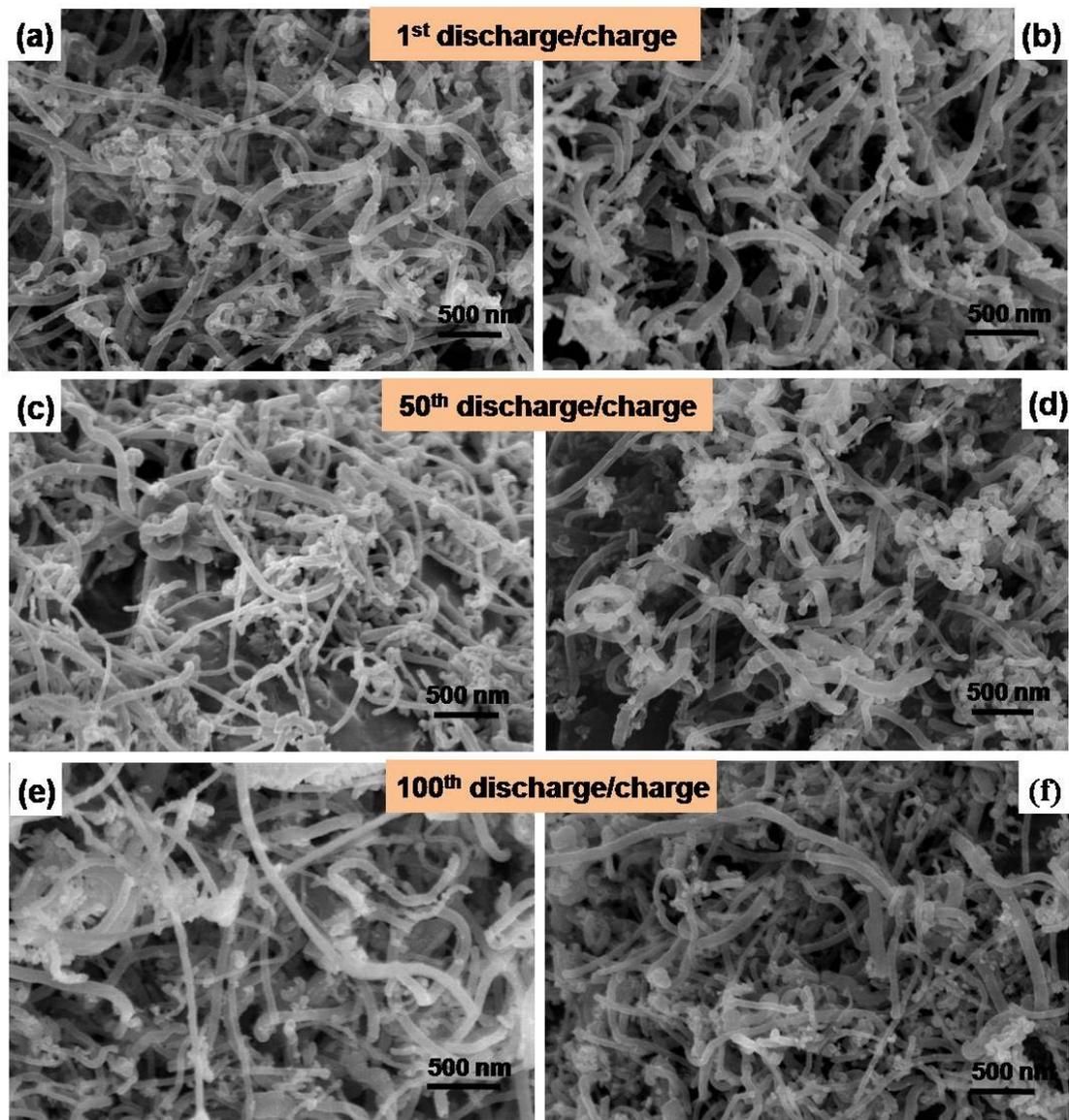
**Fig. S2** (a) SEM image of the RuO<sub>2</sub>/N-CNTs sample; (b) SEM image and (c) TEM image of the pristine N-CNTs sample.



**Fig. S3** Electrochemical impedance spectra of the RuO<sub>2</sub>/N-CNTs electrode.



**Fig. S4** Charge and discharge curves and the corresponding cycling performance of the fabricated wire-shaped Li-O<sub>2</sub> batteries with pristine and bending condition at a current density of 200 mA g<sub>total</sub><sup>-1</sup>, with a limit capacity of 300 mAh g<sub>total</sub><sup>-1</sup>



**Fig. S5** The SEM images of the RuO<sub>2</sub>/N-CNTs electrode after (a) 1<sup>st</sup> discharge, (b) 1<sup>st</sup> charge, (c) 50<sup>th</sup> discharge, (d) 50<sup>th</sup> charge, (e) 100<sup>th</sup> discharge and (f) 100<sup>th</sup> charge at current density of 200 mA g<sub>total</sub><sup>-1</sup>, with a limit capacity of 600 mAh g<sub>total</sub><sup>-1</sup>.