Supporting Information

Nickel Cobalt Oxide/carbon Nanotubes Hybrid as a High-performance Electrocatalyst for Metal/air Batteries

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Fig S1-S3

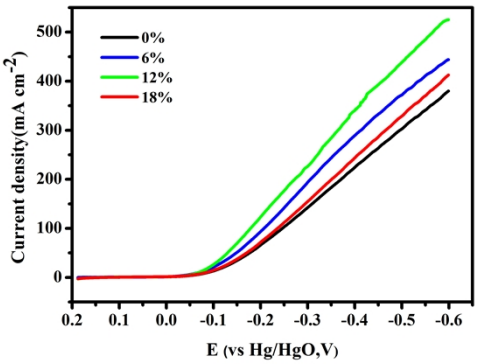

Fig. S1 The linear polarization curves of air electrodes with different contents of CNTs in 6 M KOH solution at 25 °C

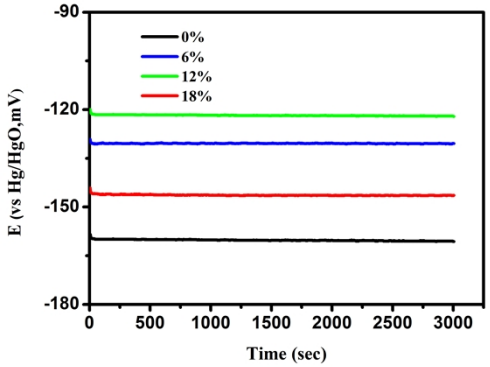

Fig. S2 Galvanostatic discharge curves of air electrodes with different contents of CNTs in 6 M KOH solution at a discharge current density of 50 mA cm^{-2}

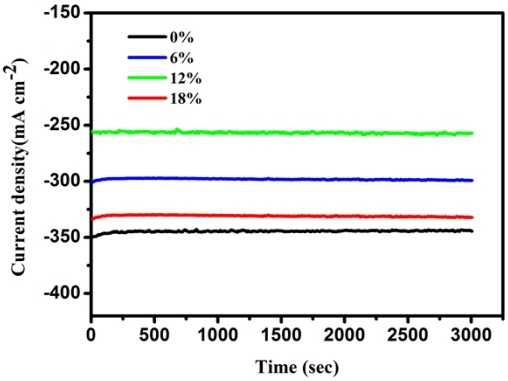

Fig. S3 Galvanostatic discharge curves of air electrodes with different contents of CNTs in 6 M KOH solution at a discharge current density of 200 mA cm^{-2}

For determining the best proportion of $NiCo_2O_4$ and CNTs in the nickel cobalt oxide/carbon nanotubes hybrid, we carried out the controlled experiments to optimize the catalytic activity of the composite electrodes by systematically changing the contents of CNTs. In the controlled experiments, the contents of CNTs are theoretically designed to 0%, 6%, 12% and 18%, respectively. The electrochemical properties of hybrids with different contents of CNTs were well conducted by using the three-electrode half-cell. The catalytic performance on ORR activities was investigated by the steady-state linear polarization curves and the galvanostatic discharge curves measurements. The results revealed that the hybrid with ca. 12 wt % CNTs displayed the best ORR performance.