Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information for

Optimized nano-metal particles filled into carbon nanohorns to achieve high N-doping amount and high porosity for enhanced oxygen evolution reaction

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Experimental Section: The pristine CNHs was produced by the arc discharge method in Ar (0.15 MPa). The magnetic properties were measured at room temperature using a vibrating sample magnetometer (VSM, TM-VSM2014-MHR).

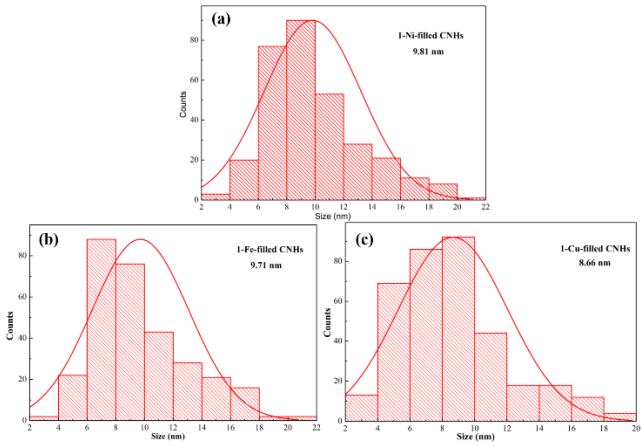

Figure S1. The size distribution of Ni, Fe, and Cu nanoparticles of 1-Ni-filled, 1-Fe-filled CNHs and 1-Cu-filled CNHs.

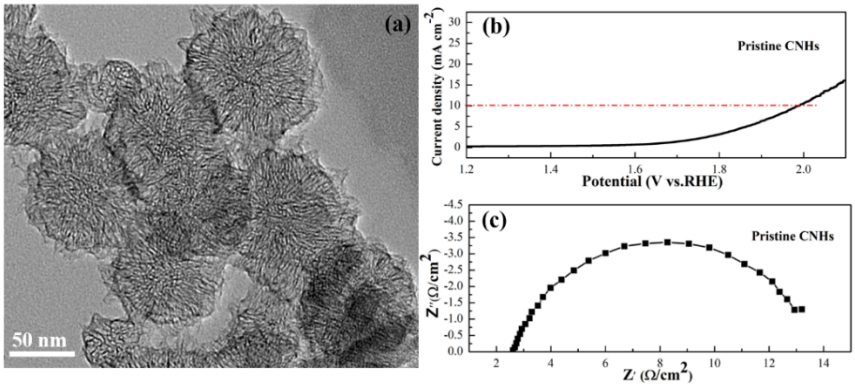

Figure S2. The TEM image of pristine CNHs. (b) The LSV plots of pristine CNHs at 5 mV s-1 in 1 M KOH. (c). EIS spectra of pristine CNHs.

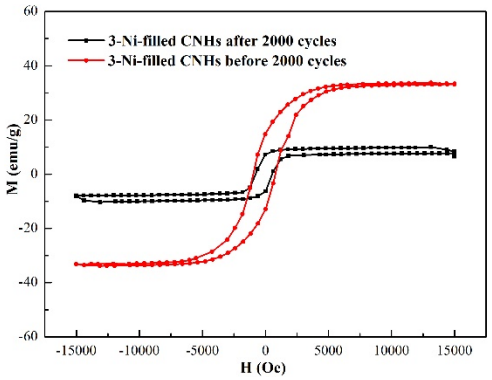

Figure S3. The magnetic hysteresis loops of working electrode coating with 3-Ni-filled CNHs and 3-Ni-filled CNHs after 2000 cycles at room temperature.