

Supporting Information

Metal-free nitrogen-doped hollow carbon spheres synthesized by thermal treatment of poly(*o*-phenylenediamine) for oxygen reduction reaction in direct methanol fuel cell applications

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Materials

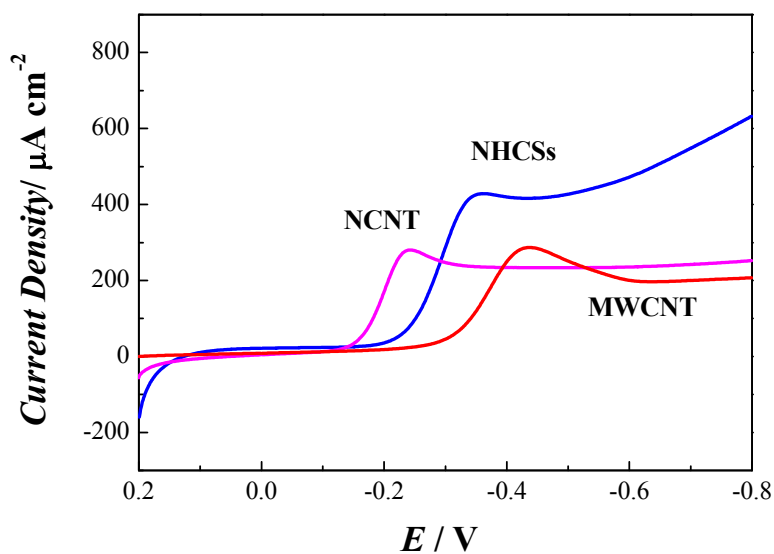


Fig. S1 LSV measurements for NCNT, MWCNT and NHCSs performed in 0.1 M KOH at a scan rate of 100 mV s⁻¹.

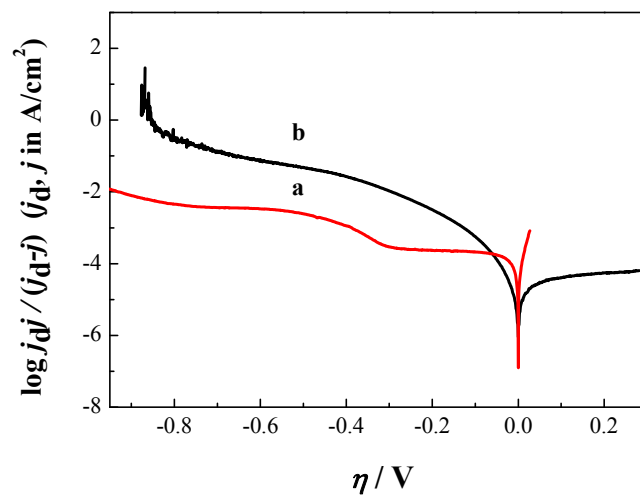


Fig. S2 Tafel curves of MWCNTs (a) and NHCSs (b) extracted from the polarization curves in Fig. S2.

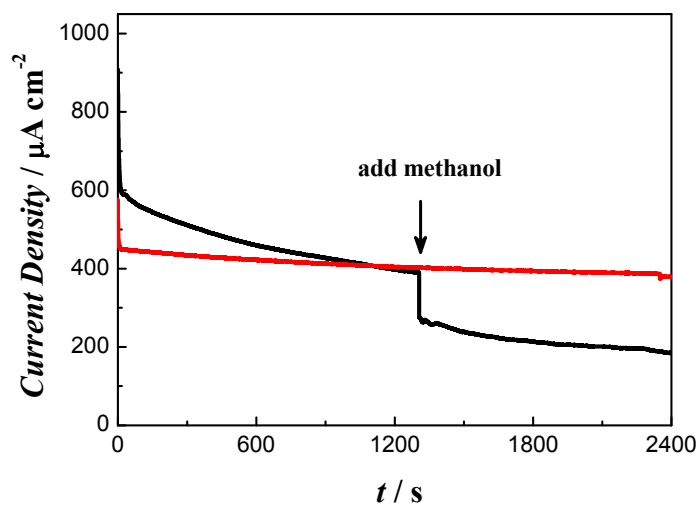


Fig. S3 Chronoamperometric responses for NHCSs and Pt catalysts in the O_2 -saturated 0.1 M KOH solution before and after 3.0 M methanol was added.