

Electronic Supplementary Information (ESI)

***In situ* Synthesis of Graphene/Carbon Nanotube Modified Ordered Mesoporous Carbon as Protective Film of Stainless Steel Bipolar Plates for Proton Exchange Membrane Fuel Cells**

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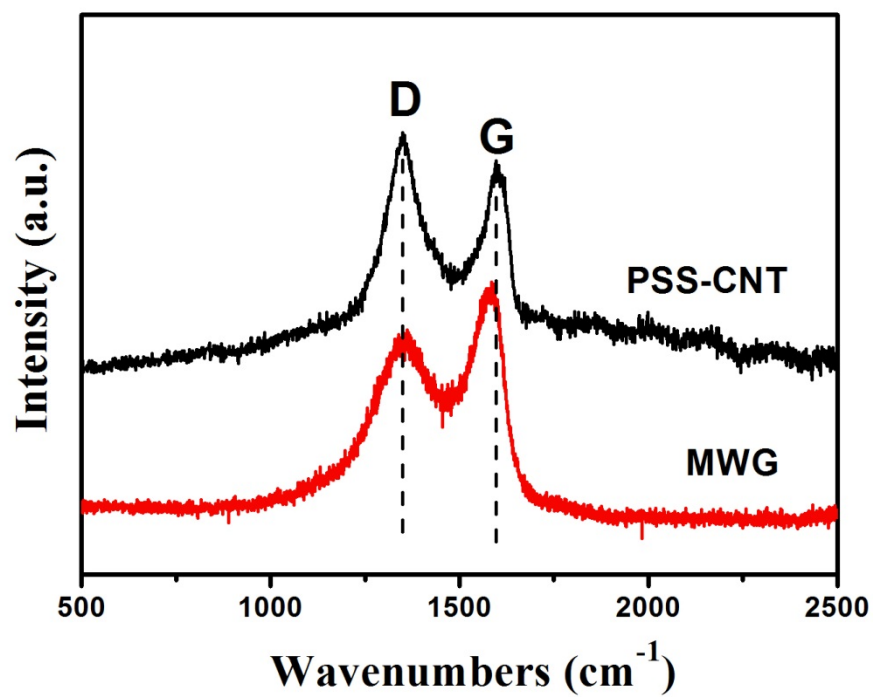


Fig. S1. Raman spectra of the PSS modified-CNT and microwave expansion graphene (MWG).

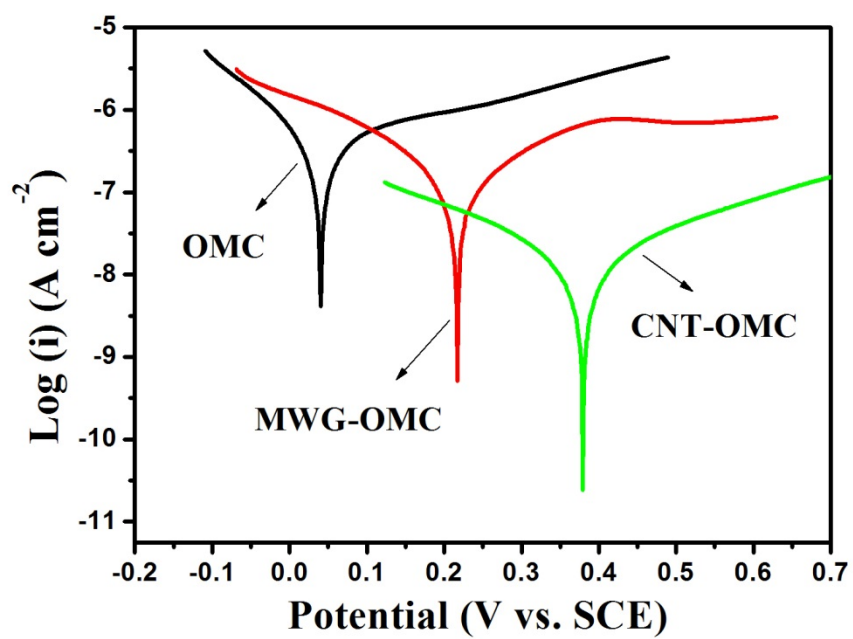


Fig. S2. Potentiodynamic polarization curves of OMC, WMG-OMC and CNT-OMC films in 0.5 mol L⁻¹ H₂SO₄ solution bubbled with air (simulating the O₂ environment).

Table. S1. The corrosion current density (I_{corr}) and the corrosion potentials (E_{corr}) values for OMC, WMG-OMC and CNT-OMC films in 0.5 mol L⁻¹ H₂SO₄ solution bubbled with air (simulating the O₂ environmentin).

Sample	E_{corr} (mV)(SCE)	i_{corr} (μA cm ⁻²)
OMC	40	0.536
MWG-OMC	213	0.218
CNT-OMC	377	0.016

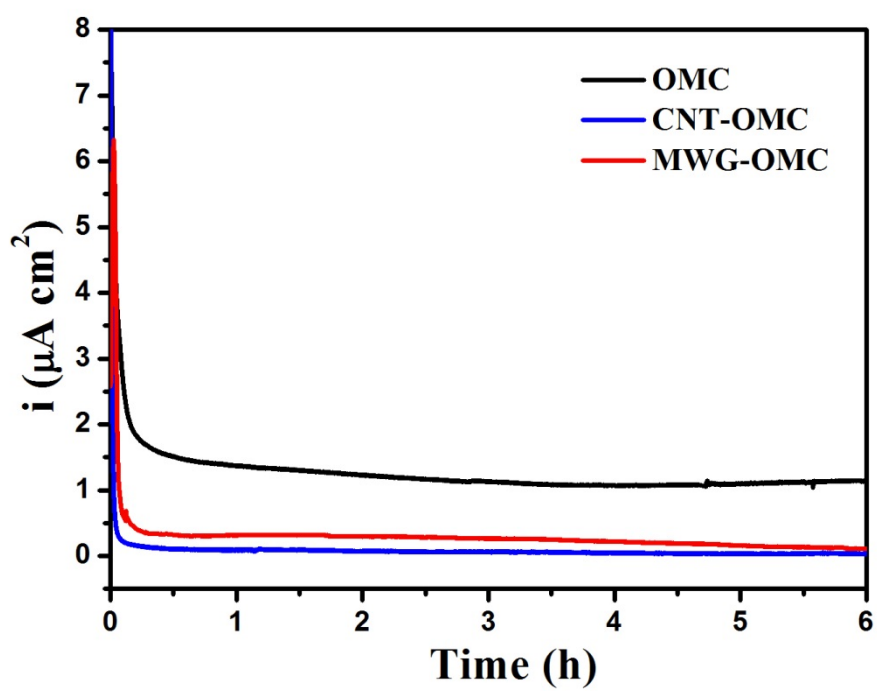


Fig. S3. Potentiostatic chronoamperograms of OMC, WMG-OMC and CNT-OMC films coated 304 SS at 600 mV (SCE) in 0.5 mol L⁻¹ H₂SO₄ solution.