

Supporting Information

Bimetallic IrNi Core Platinum Monolayer Shell Electrocatalysts for the Oxygen Reduction Reaction

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Figure S1 The *ex situ* XAS analysis for Pt and Ir L3 edge for the scaled-up Pt_{ML}/IrNi/C nanoparticles.

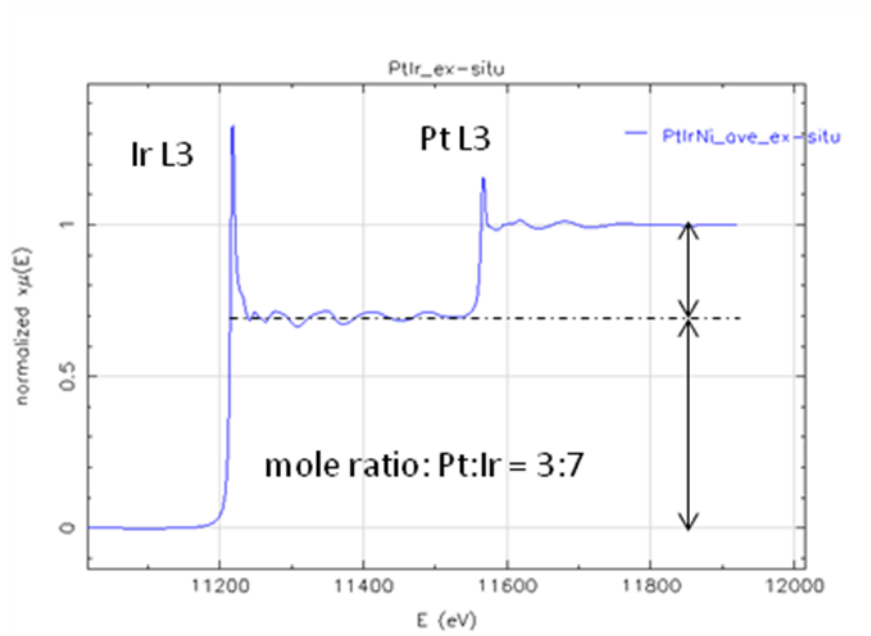


Figure S2 Voltammetry curves for the thin-film electrodes of the Pt_{ML}/IrNi/C nanoparticles and upd of Cu on them in 0.1M HClO₄ solution; scan rate 20mV/s.

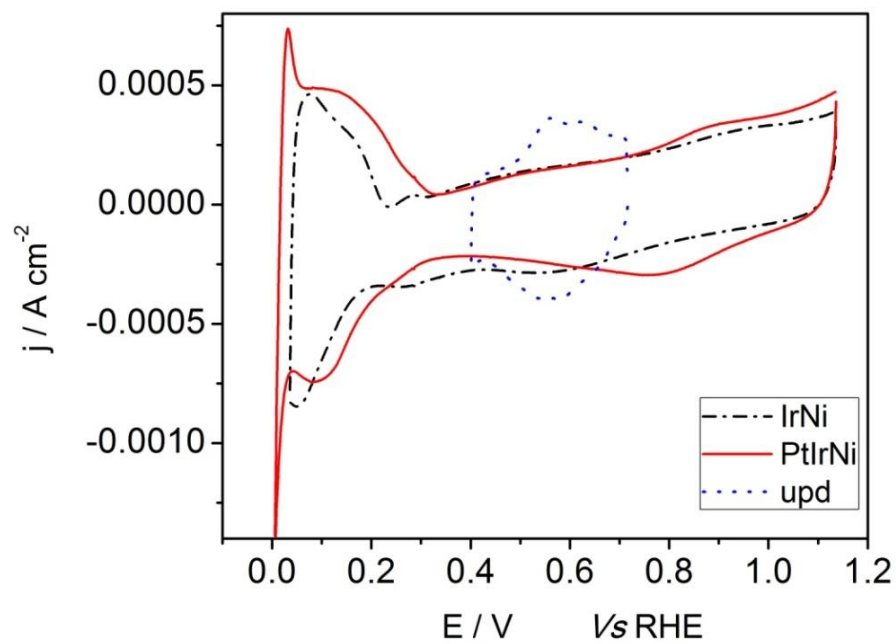


Figure S3 Polarization curves for the ORR on the scaled-up Pt monolayer IrNi core electrocatalyst at various rpm in oxygen-saturated 0.1 M HClO₄.

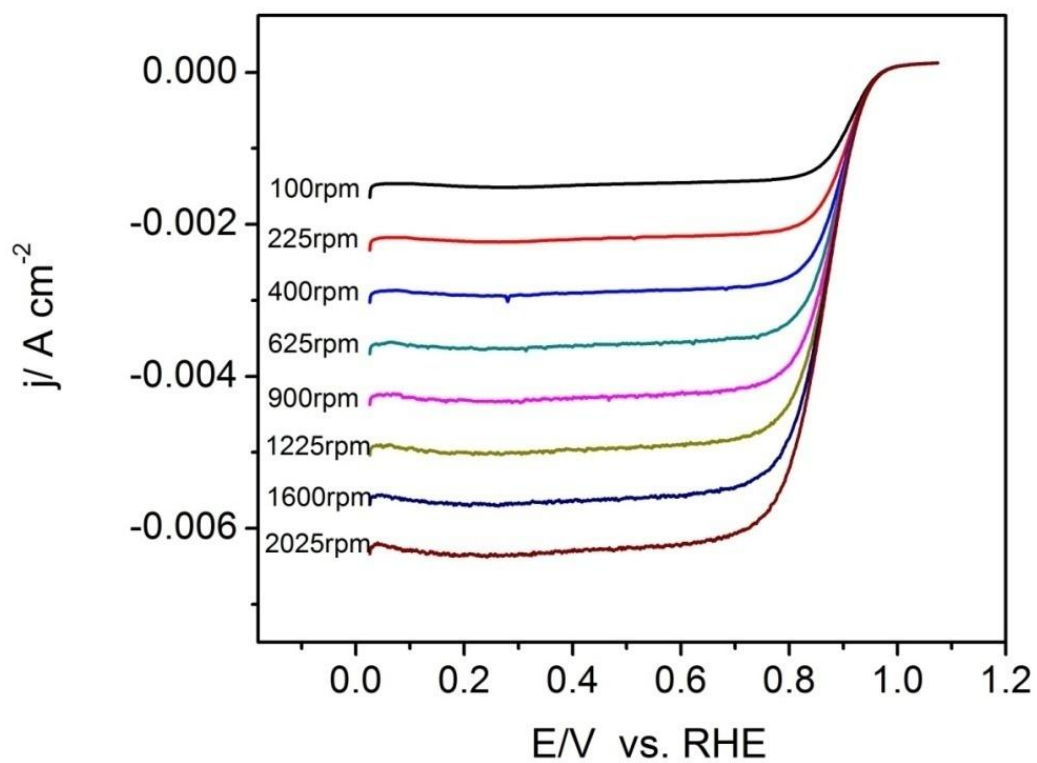


Figure S4 Levich-Koutecky plot for scaled-up Pt monolayer IrNi core electrocatalyst at various potentials

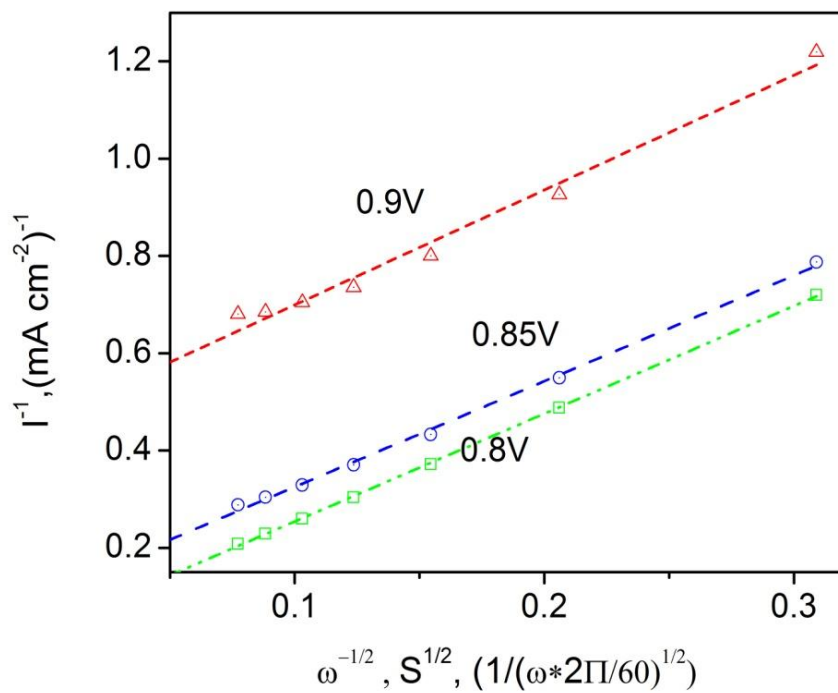


Figure S5 Polarization curves for the ORR for scaled-up Pt_{ML}/IrNi/C electrocatalysts at 1600 rpm in oxygen-saturated 0.1 M HClO₄ at room temperature before and after 50000 cycles; the scan rate was 10mVs⁻¹. The inset shows the corresponding cyclic voltammetry in argon-saturated 0.1 M HClO₄; the scan rate was 20mVs⁻¹.

