

Electronic Supplementary Information

NiCo₂O₄ Nanoparticles inlaid on Sulphur and Nitrogen Doped and Co-doped rGO sheets as Efficient Electrocatalysts for Oxygen Evolution and Methanol Oxidation Reactions

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Collection Efficiency (N_{CL}) Calculation: To determine the Faradaic efficiency using RRDE, initially the collection efficiency of the ring electrode using RRDE experiments has to be determined. In a typical RRDE experiment, the product that is generated in the disk electrode will not reach the ring electrode. The percentage or amount of material that will be collected at the ring electrode is often called the “collection efficiency” of the RRDE. The collection efficiency of a specific RRDE is measured quantitatively using a well-defined electrochemical system by employing ferricyanide-ferrocyanide redox couple. To measure stable collection efficiency, it was subjected to rotation at different rates between 100 and 2000 rpm. The collection efficiency was determined as 30% or described as 0.3, when measured using a $[\text{Fe}(\text{CN})_6]^{3-/4-}$ redox couple.

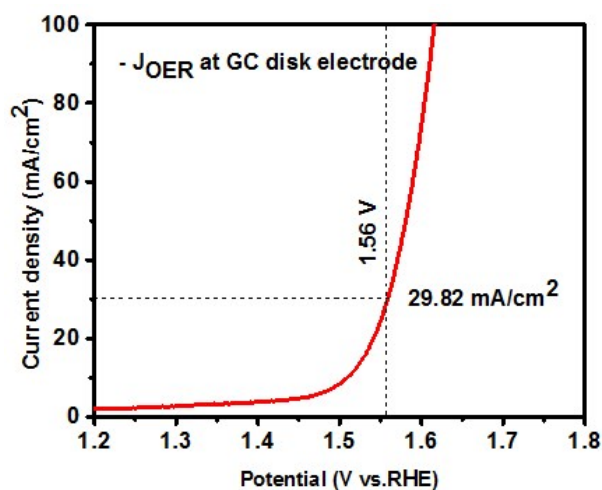


Fig. S1 LSV of NiCo₂O₄/S-rGO catalyst recorded at 1600 rpm at a sweep rate of 5 mV/s on RRDE of GC disk and Pt ring