Supporting information

Rod-like Nickel Doped Co$_3$Se$_4$/Reduced Graphene Oxide Hybrids as Efficient Electrocatalysts for Oxygen Evolution Reaction

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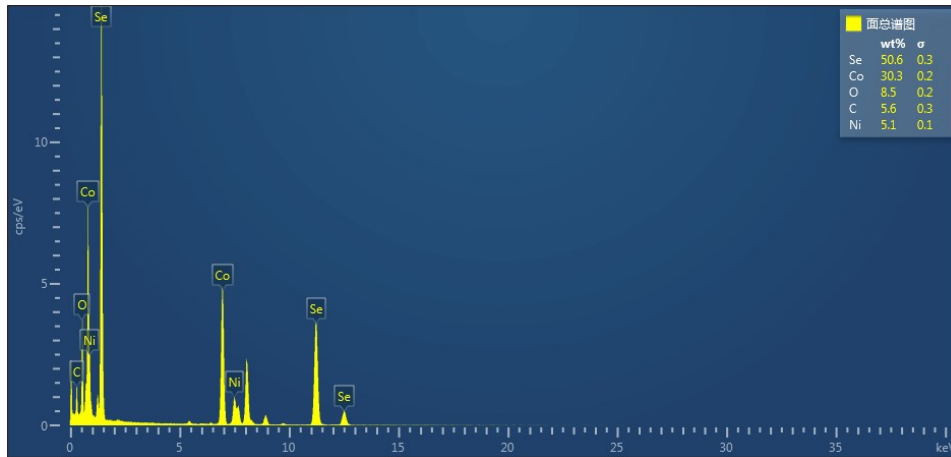E-mail: jinchen.fan@shiep.edu.cn; xuqunjie@shiep.edu.cn

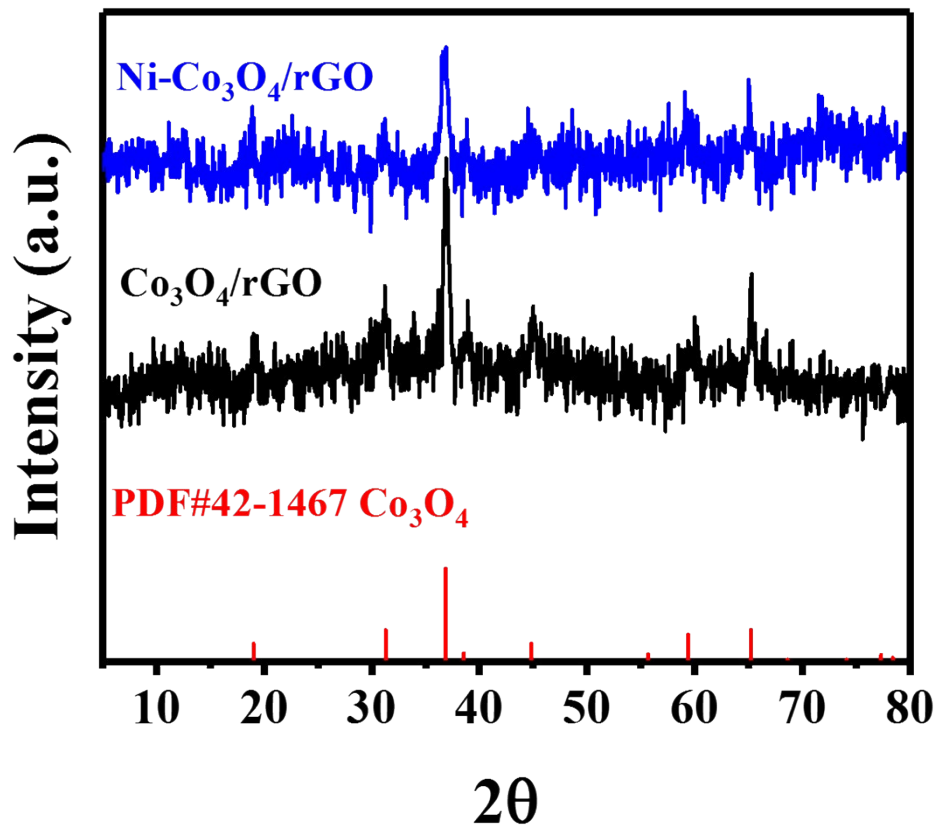**Figure S1**. Energy Dispersive X-Ray Spectroscopy of Ni-Co$_3$Se$_4$/rGO.

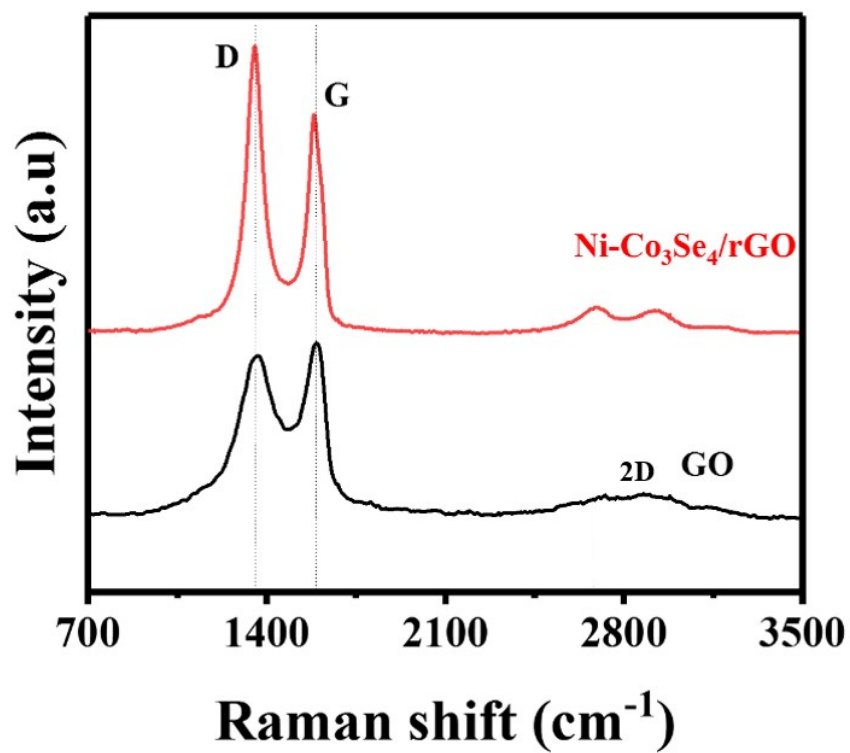**Figure S2**. XRD patterns of Co$_3$O$_4$/rGO and Ni-Co$_3$O$_4$/rGO.

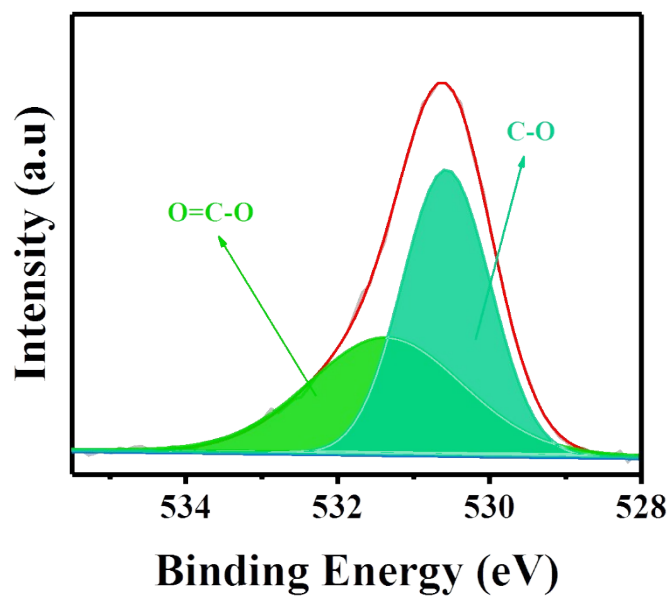**Figure S3.** Raman spectra for GO and Ni-Co$_3$Se$_4$/rGO.

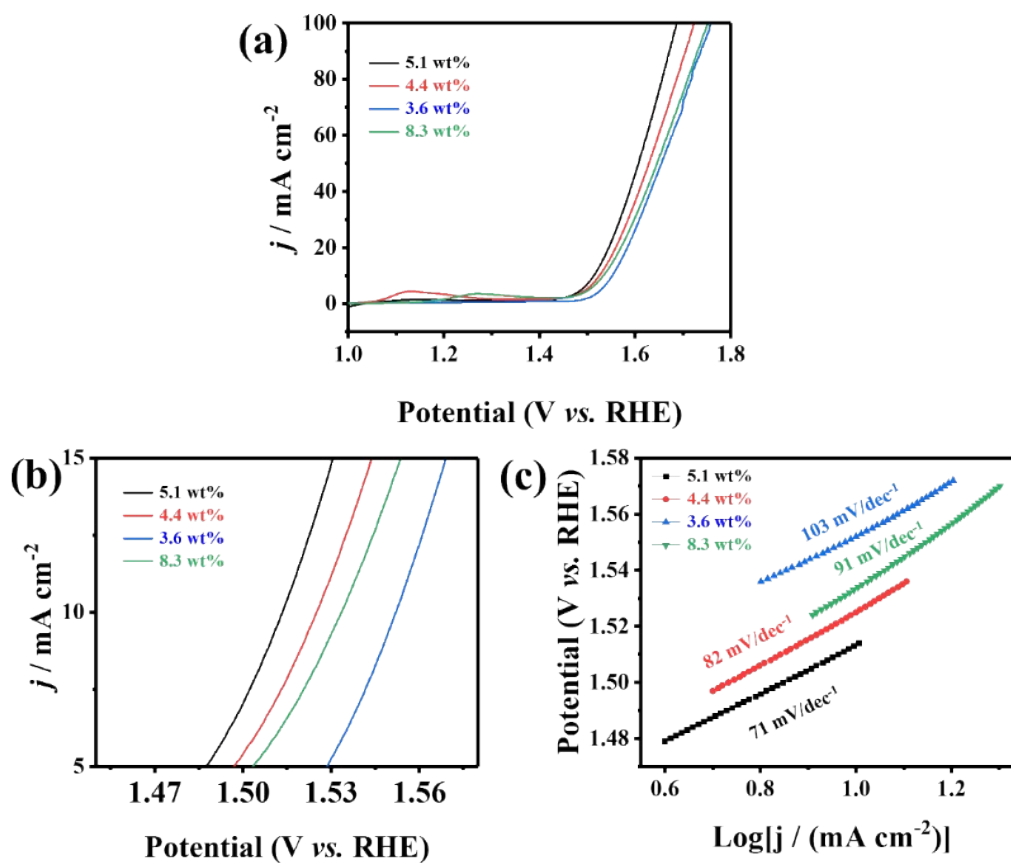**Figure S4**. Core-level XPS spectrum for O 1s.

Figure S5. (a) LSV curves for Ni-Co$_3$Se$_4$/rGO with different Ni doping contents, (b) the local enlarged LSV curves for Ni-Co$_3$Se$_4$/rGO with different Ni doping contents, and (c) Tafel plots for Ni-Co$_3$Se$_4$/rGO with different Ni doping contents.
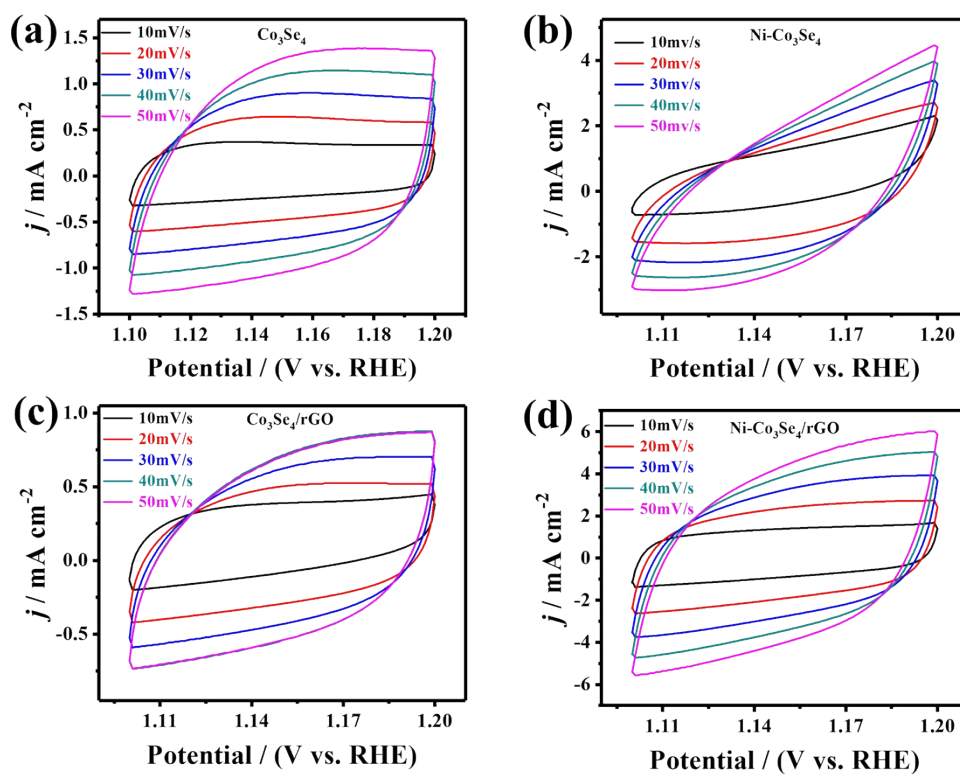
Figure S6. CV curves for (a) Co_3Se_4, (b) $Ni-Co_3Se_4$, (c) Co_3Se_4/rGO, and (d) $Ni-Co_3Se_4/rGO$ at different scan rates.
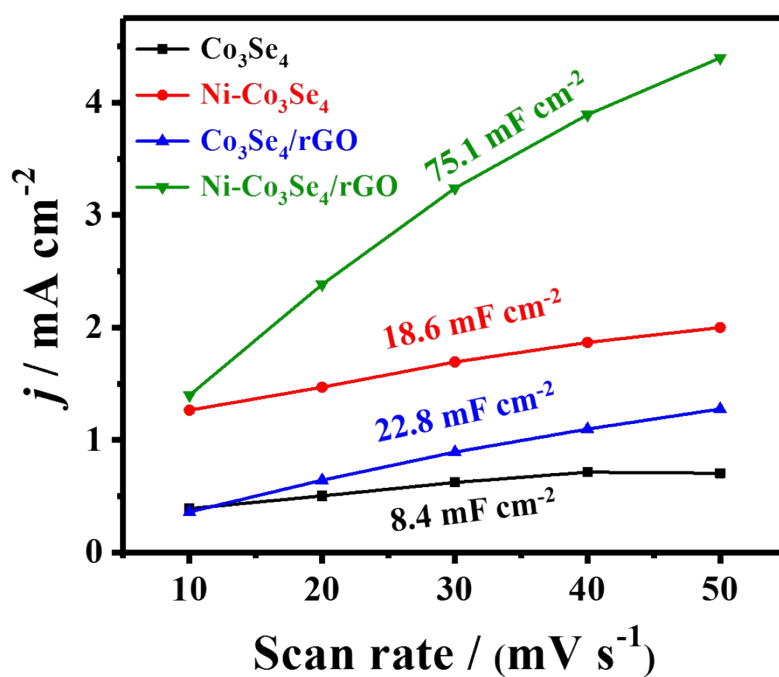

Figure S7. Plots of current density difference(Δj) at 1.15 V (*vs.* RHE) versus scan rate for calculation of double layer capacitance (Cdl).