Composition regulation of nickel selenide and its effects on

the catalytic activity of oxygen reduction reaction

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Figure S1 XRD pattern comparison of three $Ni_{1-x}Se(x=0-0.15)$.



Figure S2 XPS survey spectrum of five nickel selenides.



 $\label{eq:Figure S3} Figure \ S3 \ LSV \ and \ calculated \ K-L \ plots \ of \ (a, \ b) \ Ni_{0.85}Se, \ (c, \ d) NiSe, \ (e, \ f) \ o-NiSe_2, \ (c, \ d) \ c-NiSe_2.$



Figure S4 Transferred electron number n of ORR for five nickel selenides and Pt/C at 0.4 V calculated from Figure 5c.