

## **Preparation of Se-Doped Co/Ni Bimetallic Composite Carbon**

### **Nanotubes and Investigation of Their Oxidation Properties**

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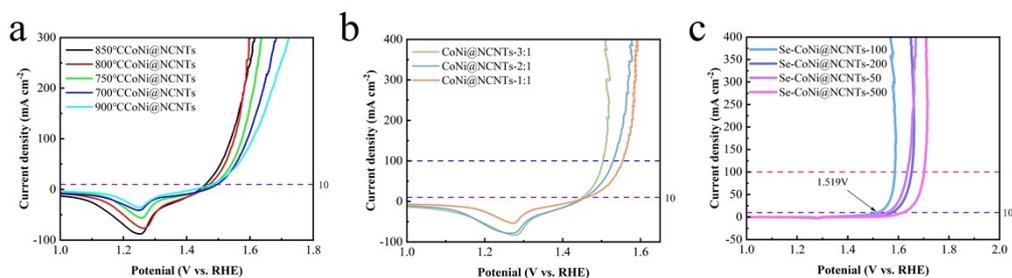


Figure S1 (a) Linear sweep voltammetry (LSV) curves of CoNi@NCNTs composites synthesised at different temperatures; (b) LSV curves of CoNi@NCNTs composites synthesised with varying Co/Ni ratios; (c) LSV curves of Se-CoNi@NCNTs composites with different selenium (Se) additions.

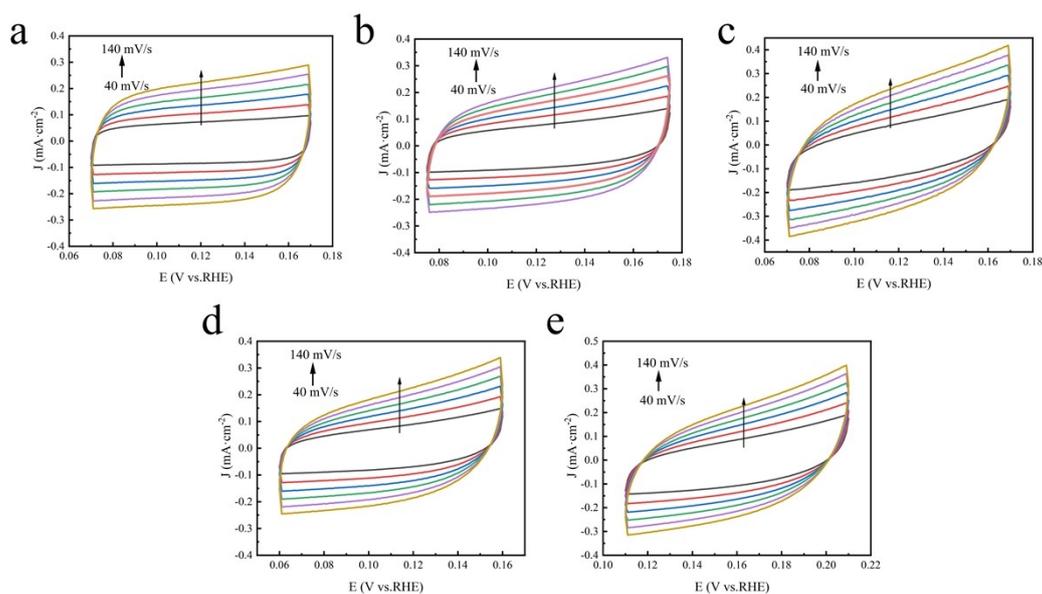


Figure S2 (a) NF, (b) Co@NCNTs, (c) Ni@NCNTs, (d) CoNi@NCNTs, (e) Se-CoNi@NCNTs ECSA-CV curves at different scan rates

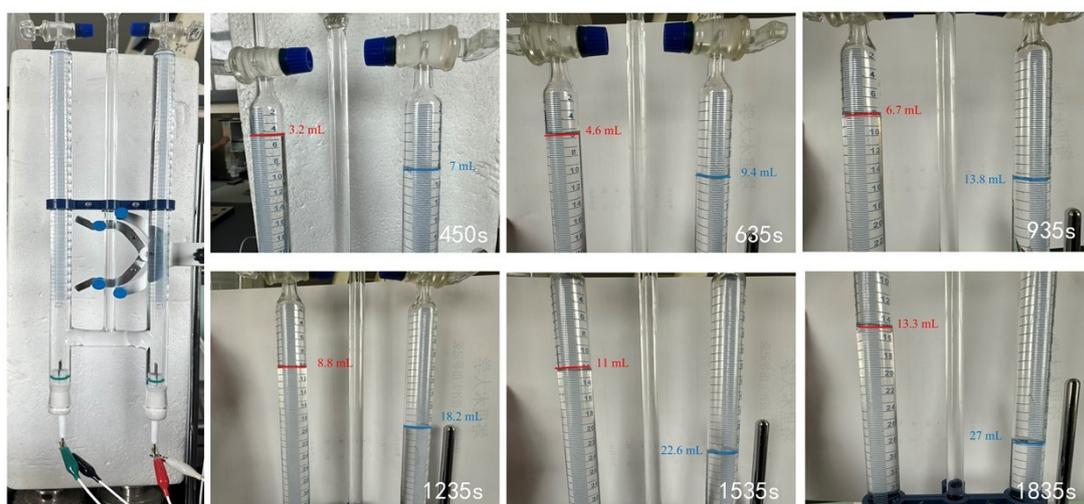


Figure S3: Photograph of the hydrogen and oxygen production testing apparatus for the Hoffmann drainage method

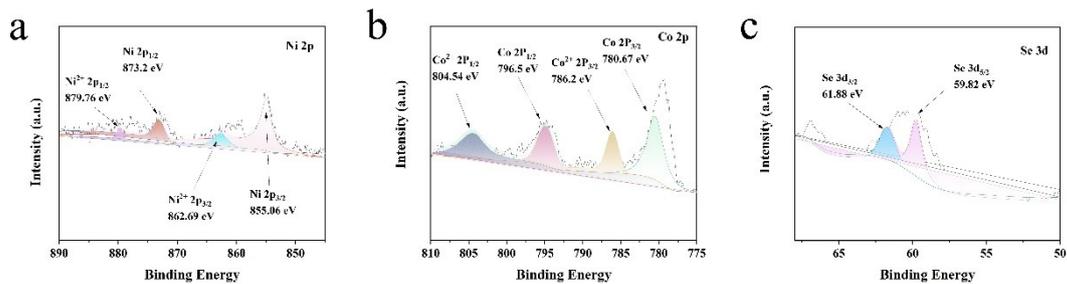


Figure S4: XPS spectra of Se-CoNi@NCNTs after the 100-hour stability test: (a) Ni 2p, (b) Co 2p, (c) Se 3d.

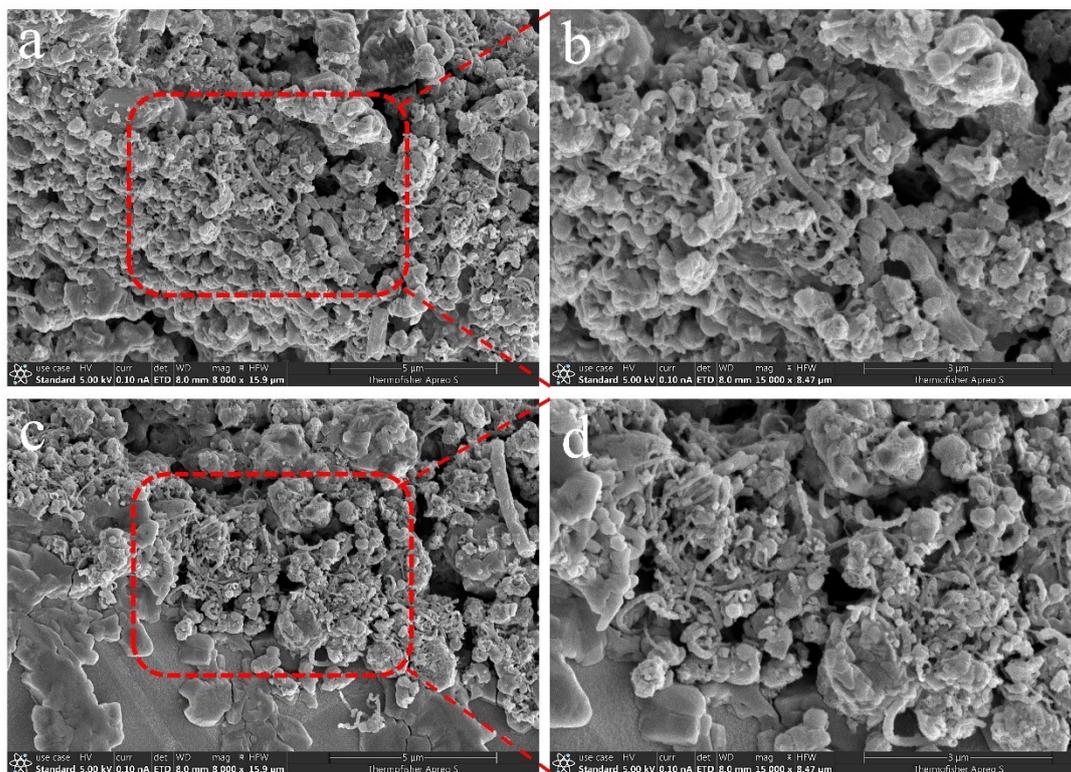


Figure S5: SEM spectra of Se-CoNi@NCNTs after the 100-hour stability test