Supporting Information

Construction of self-supported bimetallic MOFs mediated hollow and porous tri-metallic selenide nanosheet arrays as battery-type electrode for high-performance asymmetric supercapacitors

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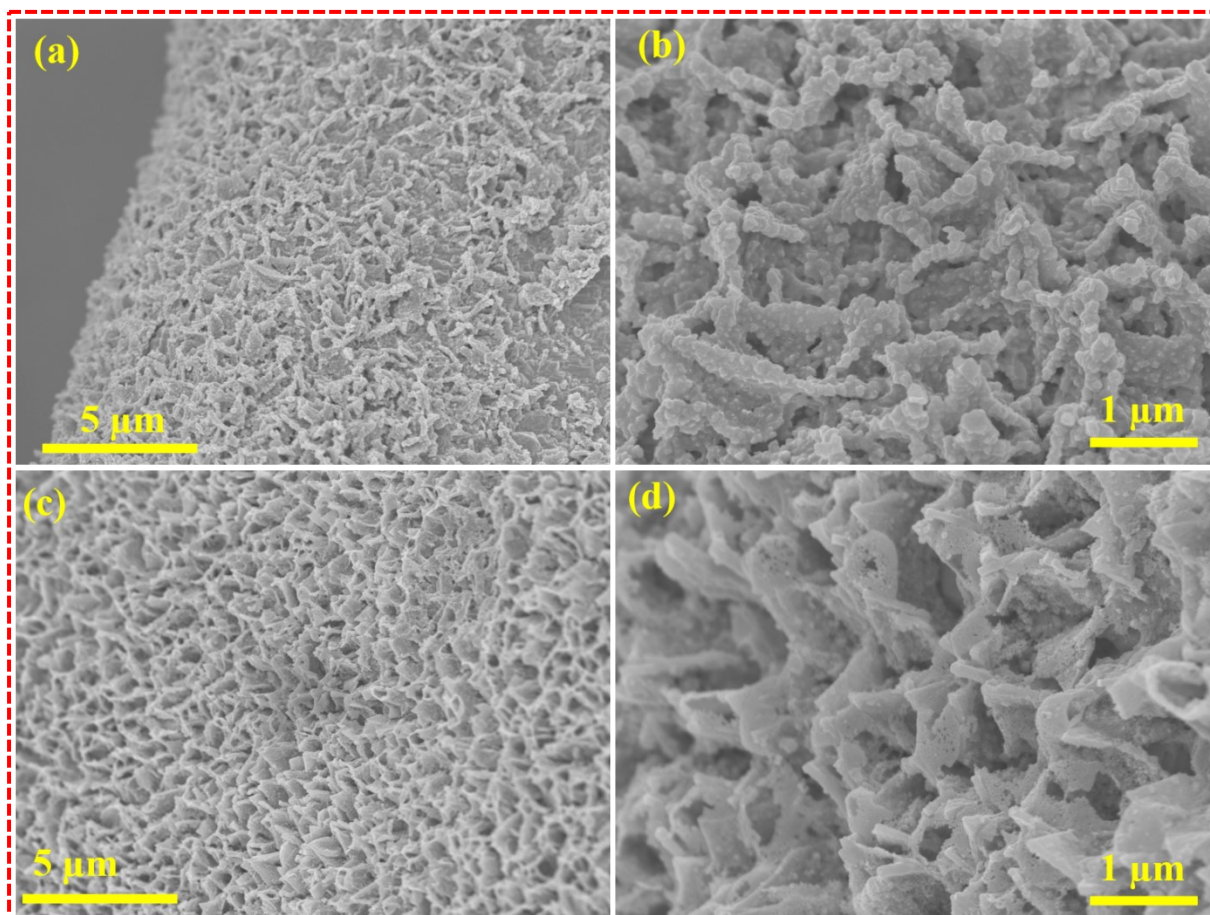[a]Carbon Composite Energy Nanomaterials Research Center, Woosuk University,

Wanju, Chonbuk, 55338, Republic of Korea

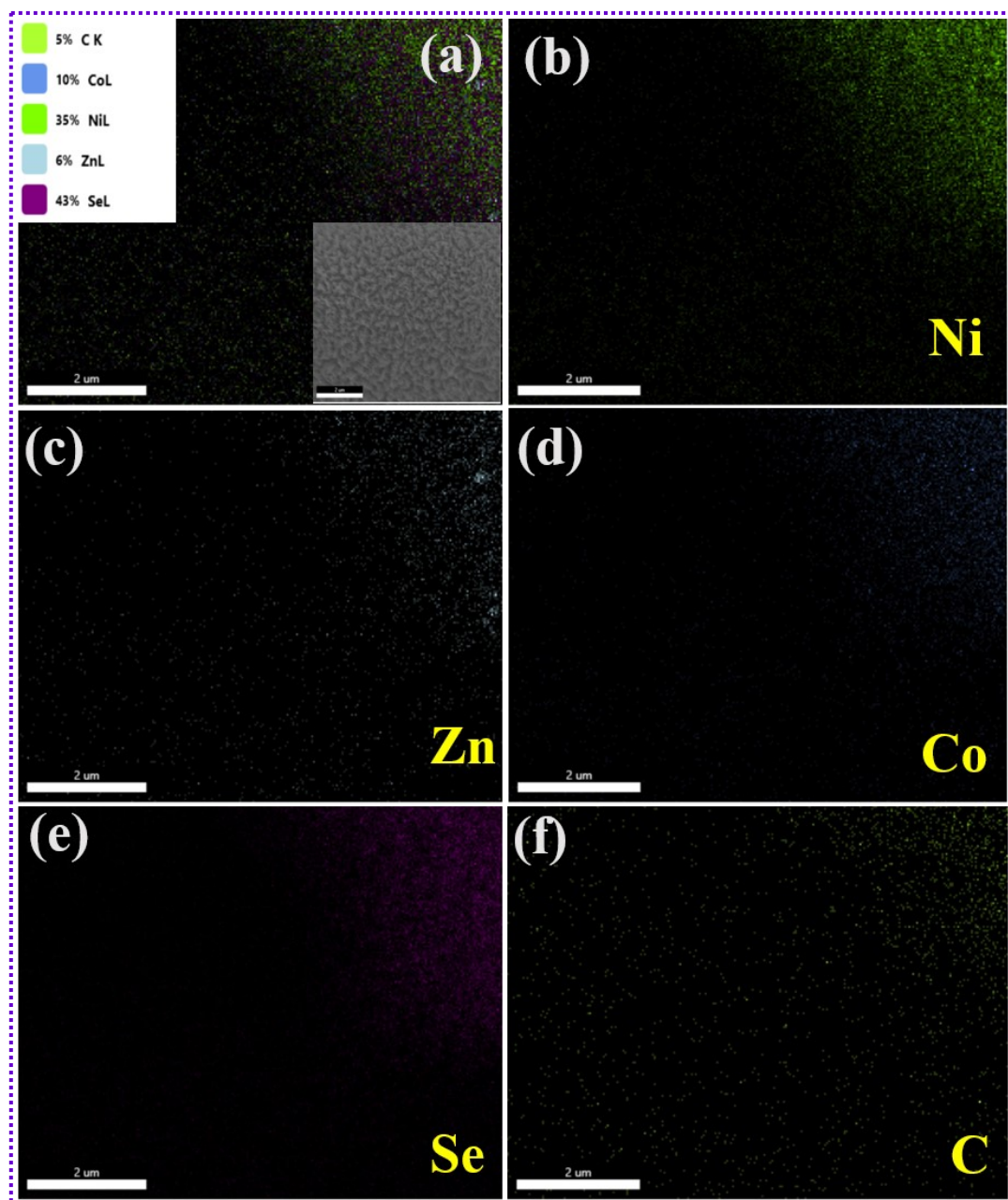[b]Woosuk Institute of Smart Convergence Life Care (WSCLC), Woosuk University,

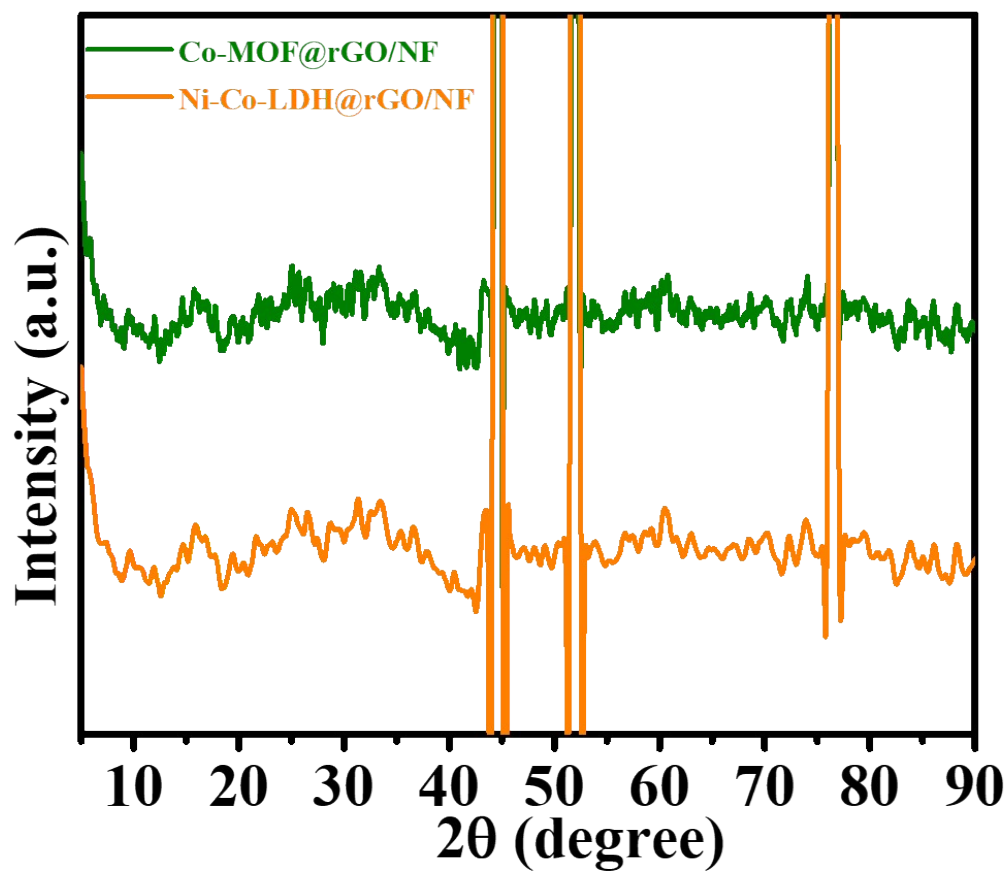Wanju, Chonbuk, 55338, Republic of Korea

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Fig. S1. FESEM images of (a, b) Co-Se@rGO/NF, and (b) Zn-Co-Se@rGO/NF.

Fig. S2. EDS color mapping and elemental ratio of various elements present in as-fabricated Ni-Zn-Co-Se@rGO/NF nanomaterials.

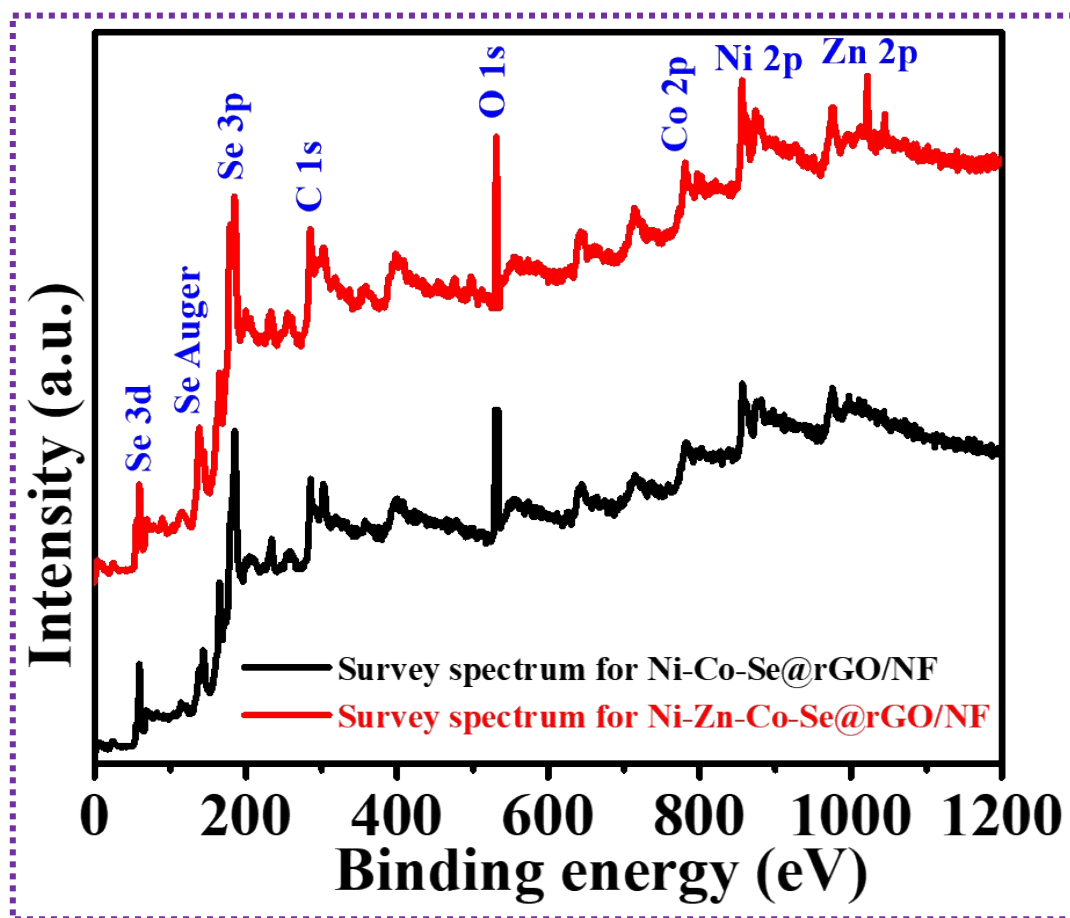*Fig. S3. XRD pattern of Co-MOF@rGO/NF, and Ni-Co-LDH@rGO/NF.*

Fig. S4. XPS survey spectra of Ni-Co-Se@rGO/NF and Ni-Zn-Co-Se@rGO/NF.
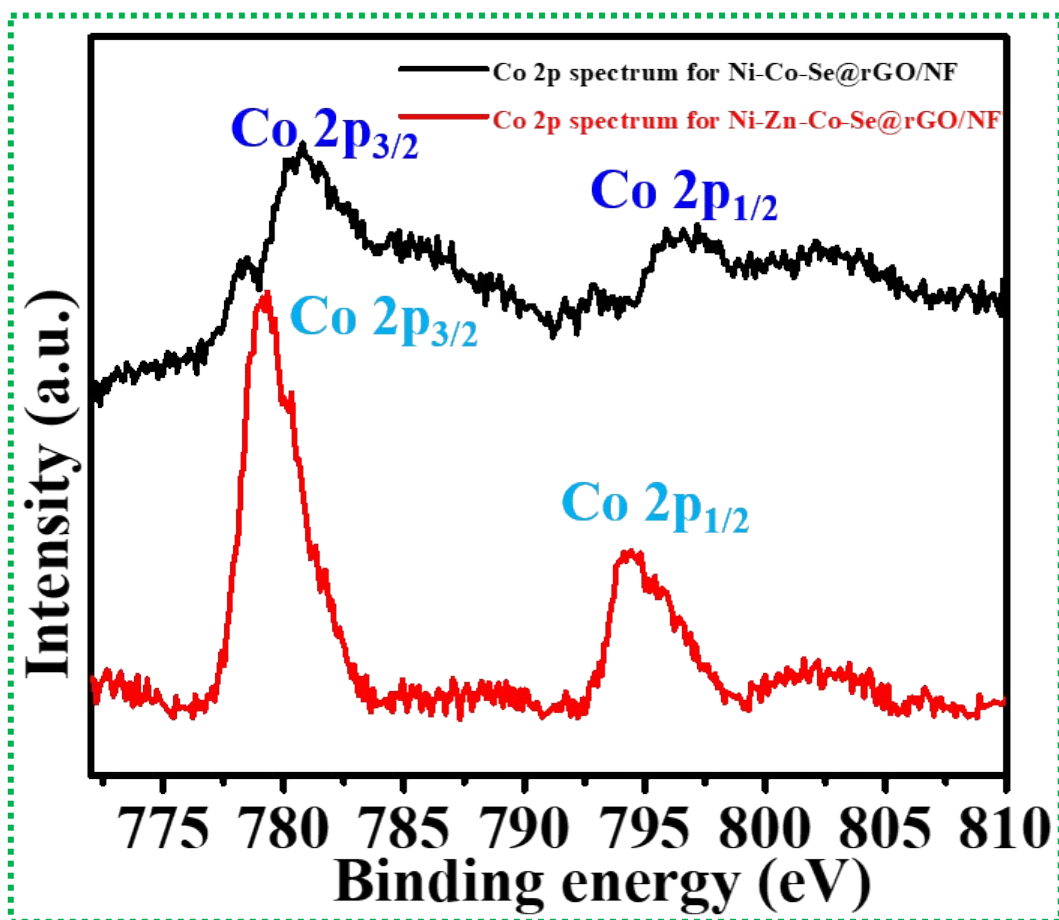
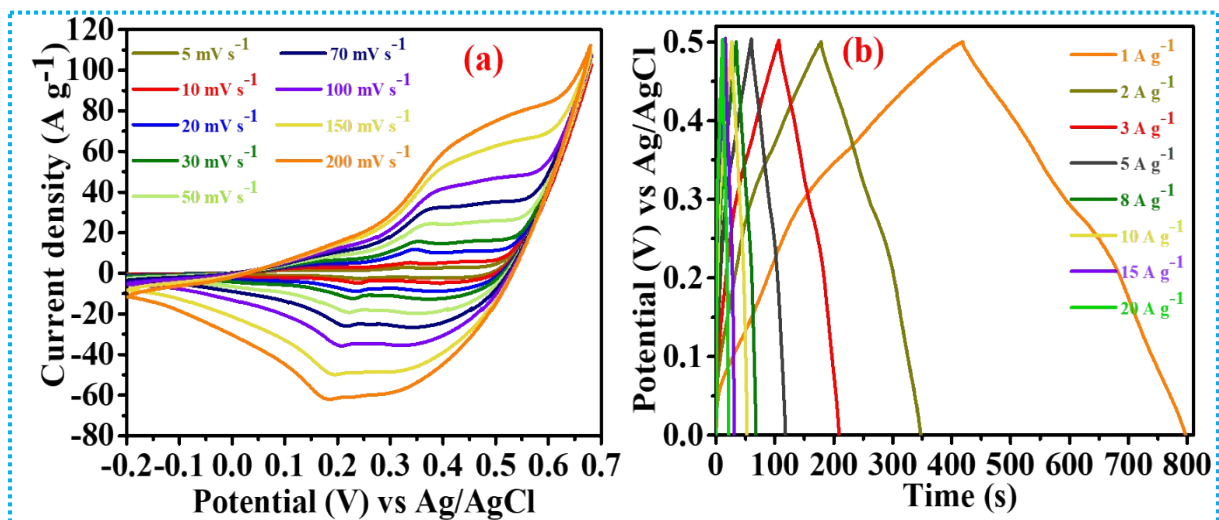*Fig. S5. HR-spectra of Co 2p for Ni-Co-Se@rGO/NF and Ni-Zn-Co-Se@rGO/NF..*

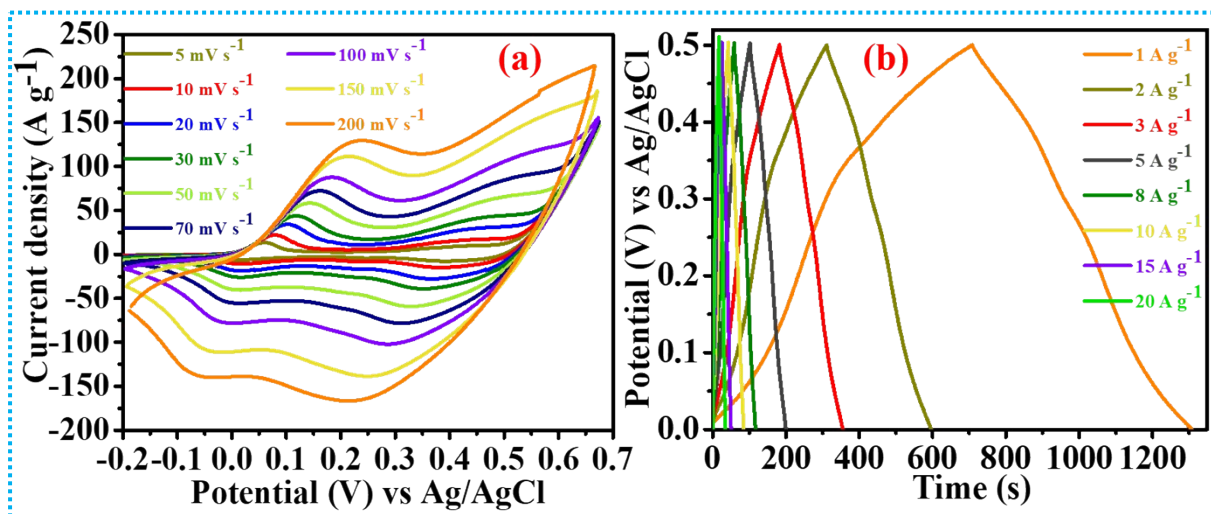*Fig. S6. (a) CV, and (b) GCD profiles of Co-Se@rGO-NF.*

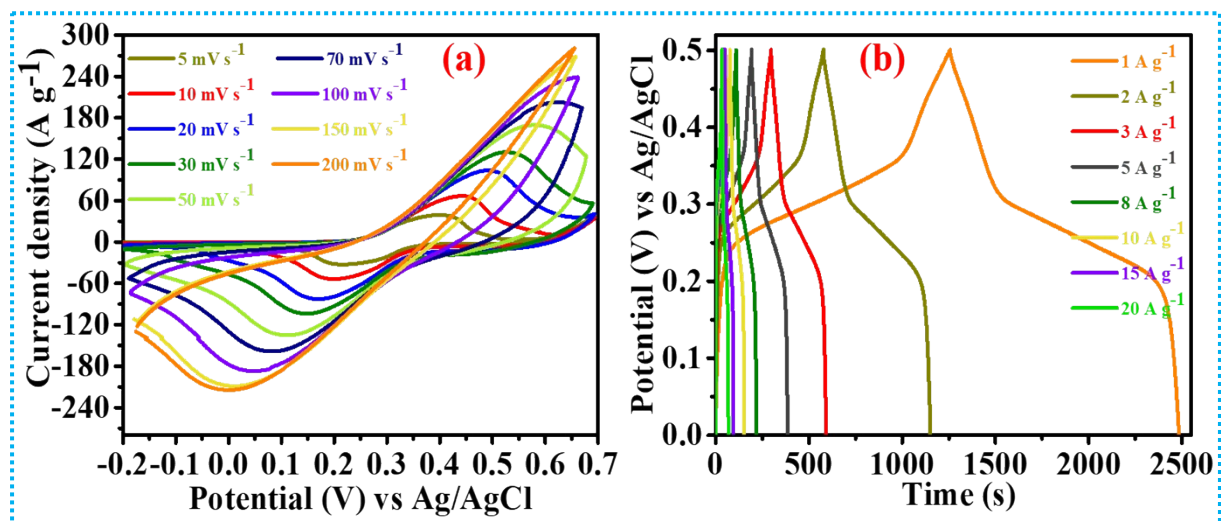*Fig. S7. (a) CV, and (b) GCD profiles of Zn-Co-Se@rGO-NF.*
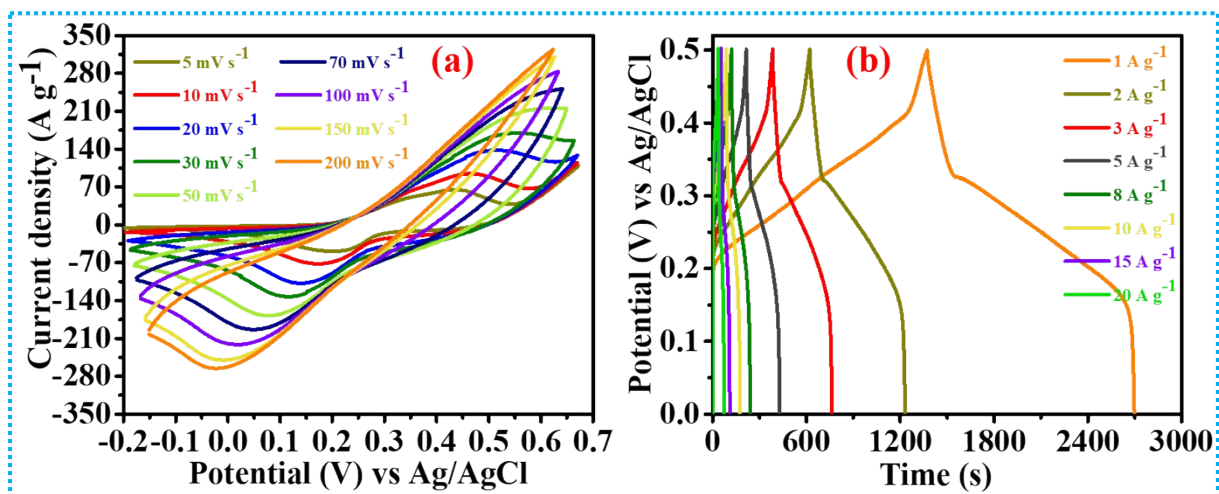
Fig. S8. (a) CV, and (b) GCD profiles of Ni-Co-LDH@rGO-NF.
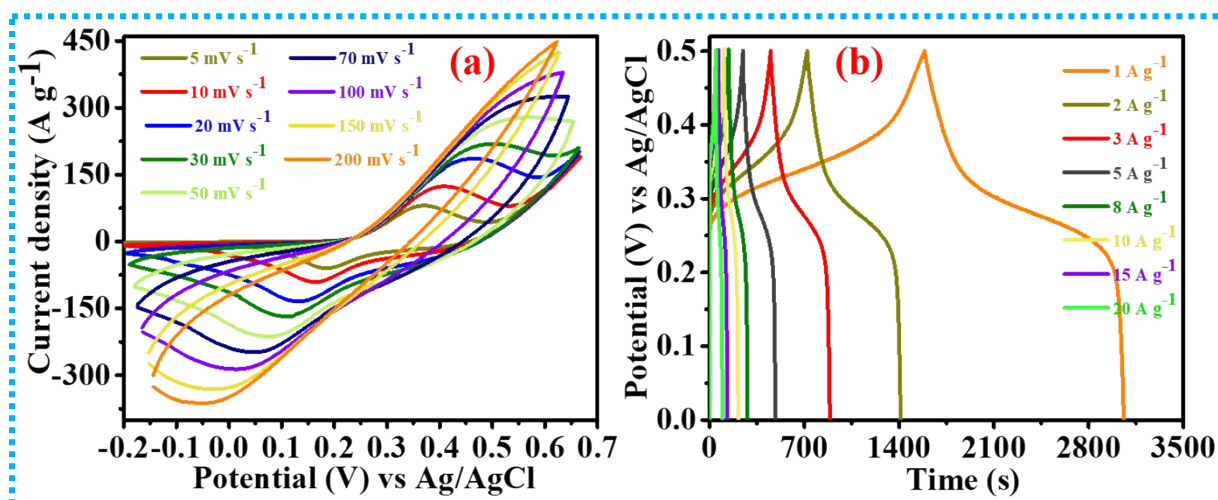
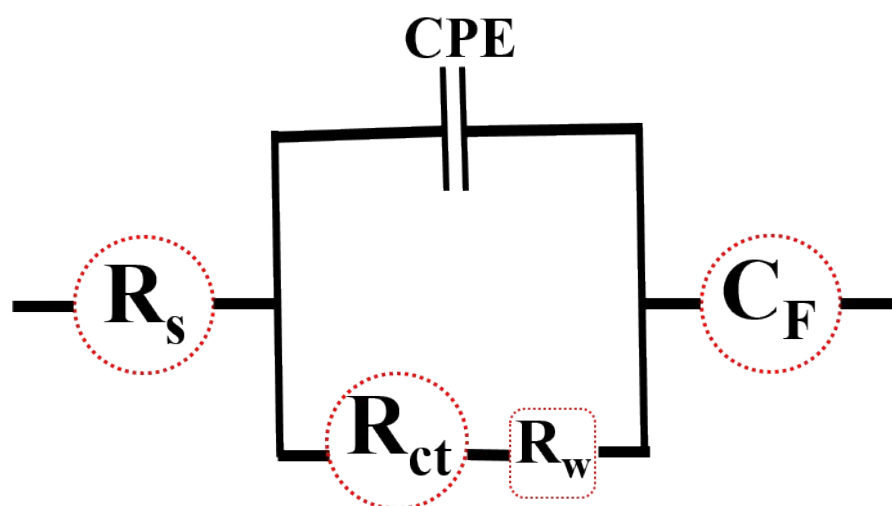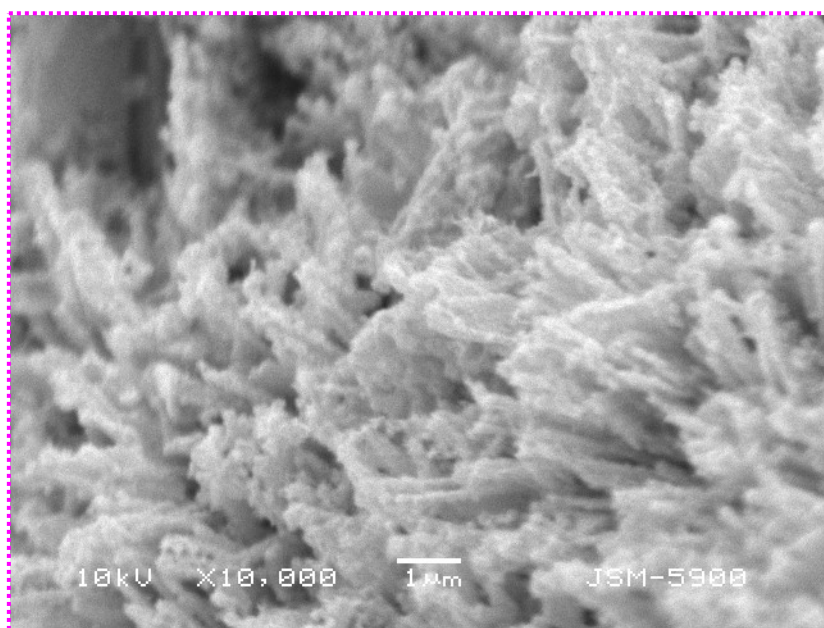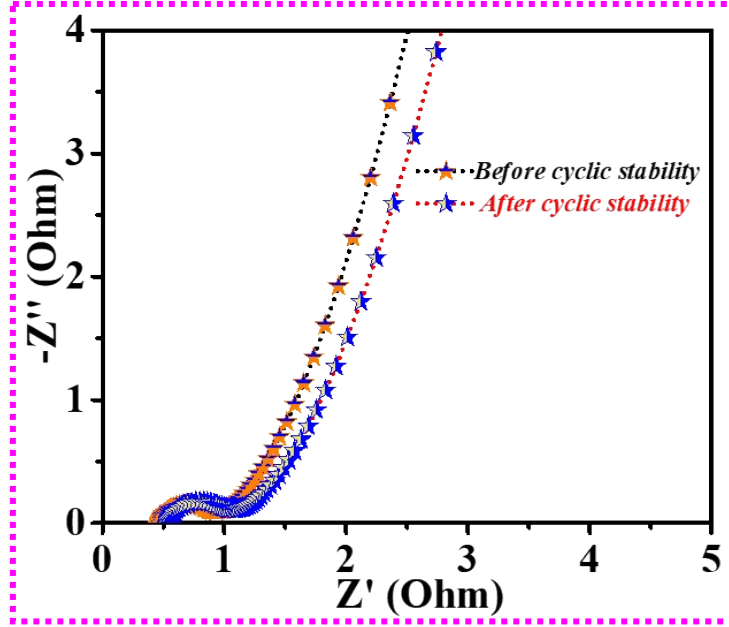*Fig. S9. (a) CV, and (b) GCD profiles of Ni-Zn-Co-LDH@rGO-NF.*

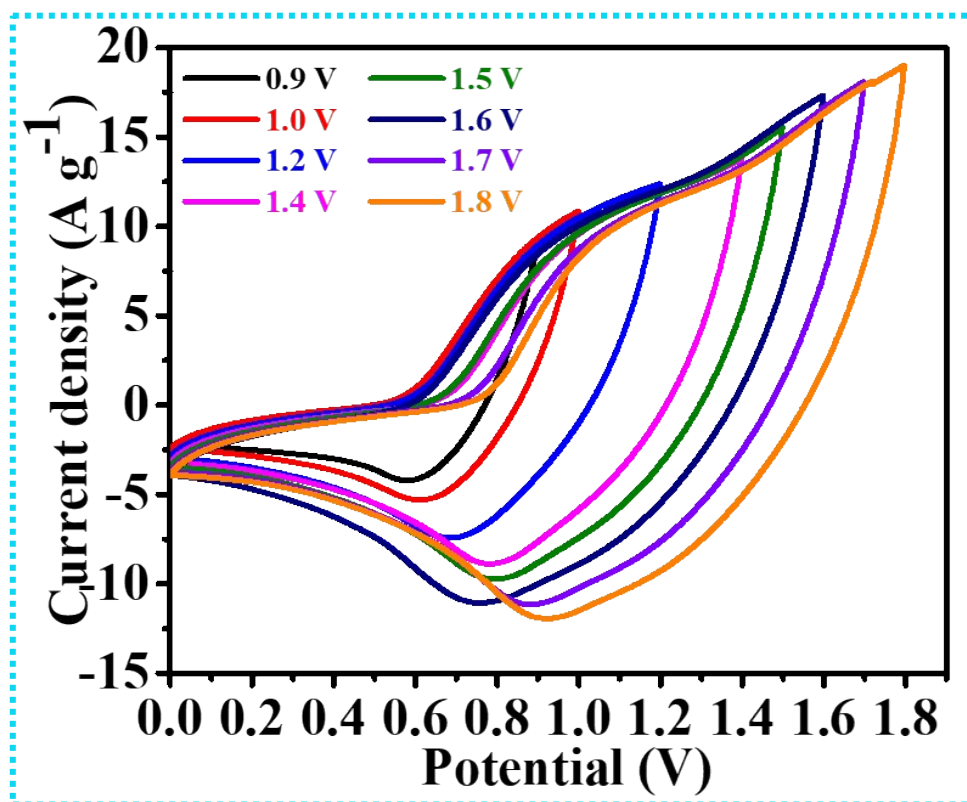*Fig. S10. (a) CV, and (b) GCD profiles of Ni-Co-Se@rGO-NF.*

Fig. S11. Electrochemical equivalent circuit diagram fitted for Nyquist plot of electrode materials.

Fig. S12. FESEM image after cyclic stability.

Fig. S13. EIS analysis of Ni-Zn-Co-Se@rGO-NF before and after the cyclic stability test.

Fig. S14. CV curves for Ni-Zn-Co-Se@rGO/NF//MDHPC ASC device at various potential window.