Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Supporting Information

Topological transformation construction of $CoSe_2$/N-doped carbon heterojunction with three-dimensional porous structure for high-energy density sodium-ion half/full batteries

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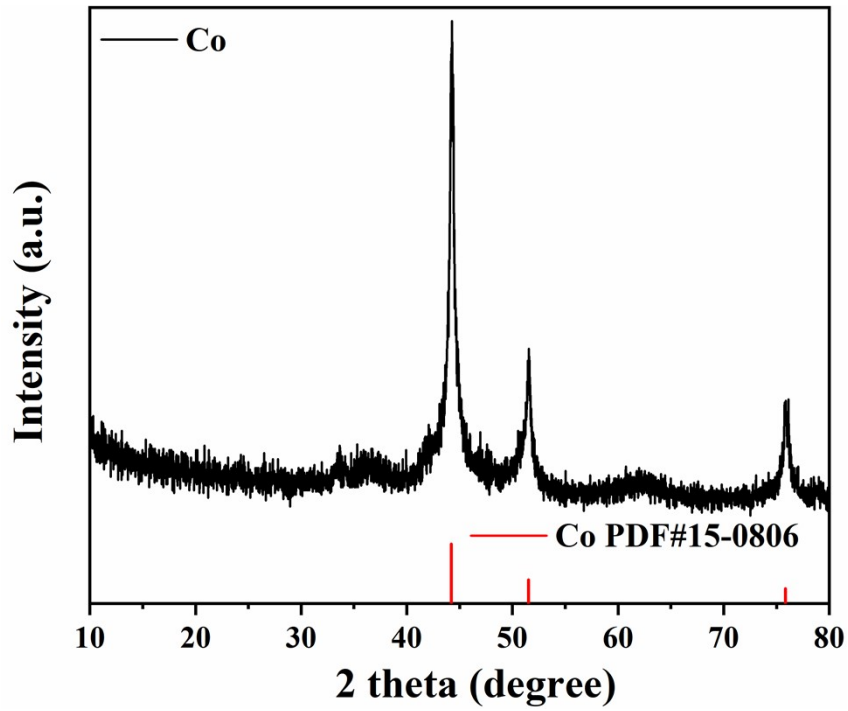

Fig.S1 XRD pattern of Co@NC precursor.

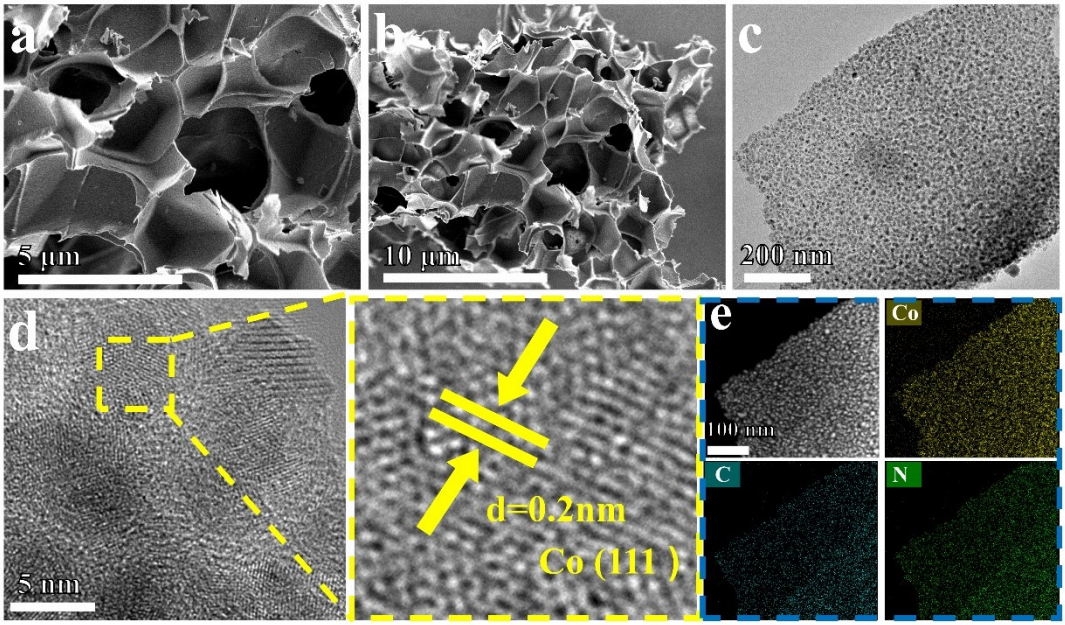

Fig.S2 The morphology and microstructure of Co@NC precursor. (a, b) SEM images, (c) TEM images, (d) HRTEM image, (e) HAADF-STEM image and the corresponding EDX mappings.

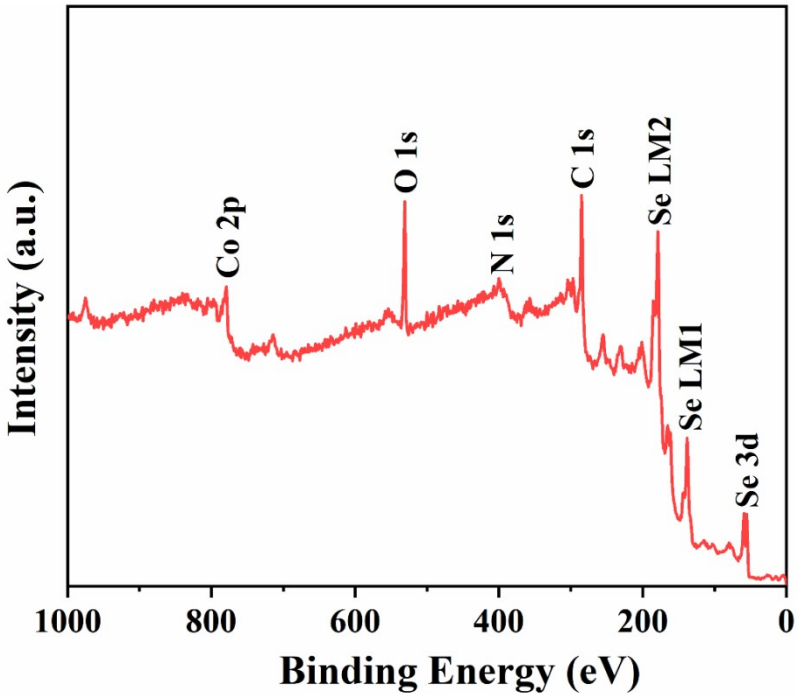

Fig.S3 XPS survey spectrum of $CoSe_2$@NC.

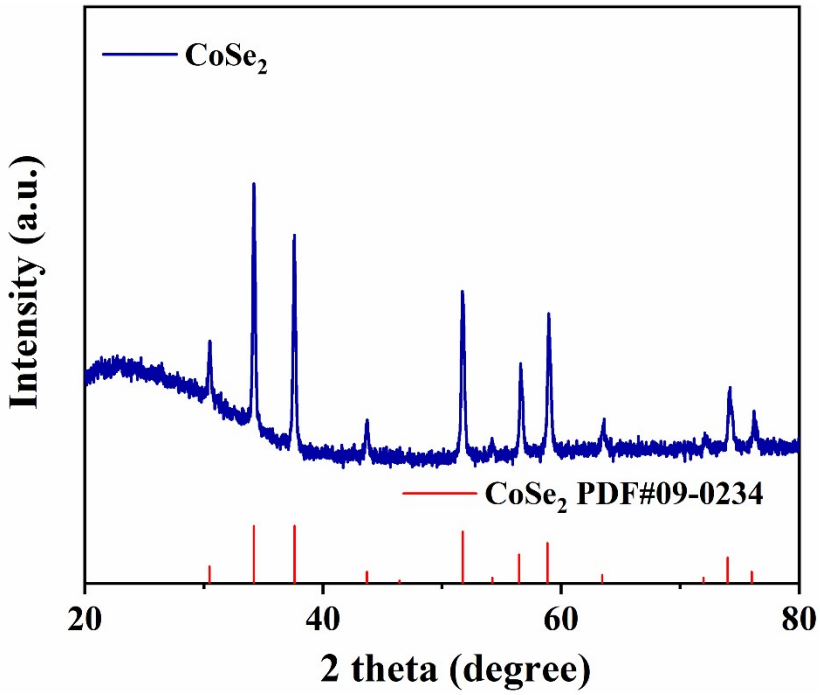

Fig.S4 XRD pattern of pure $CoSe_2$.

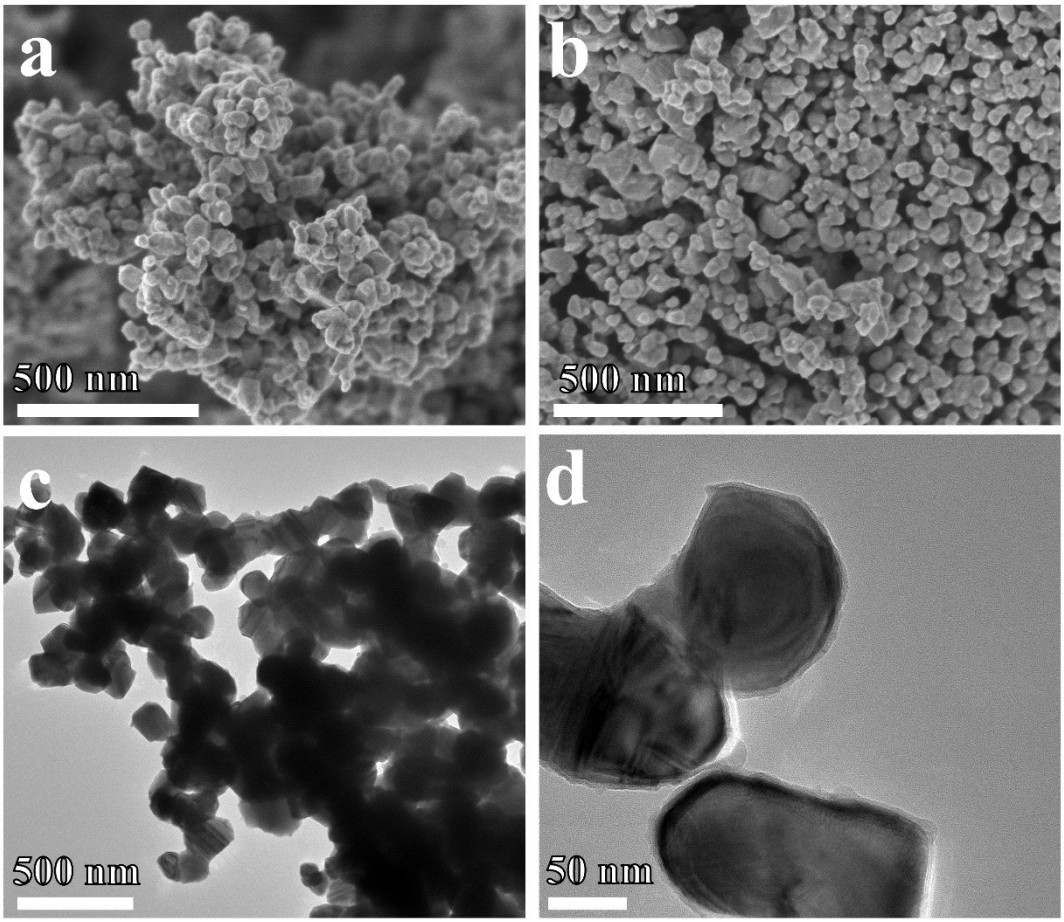

Fig.S5 The morphology and microstructure of pure $CoSe_2$. (a, b) SEM images, (c, d) TEM images.

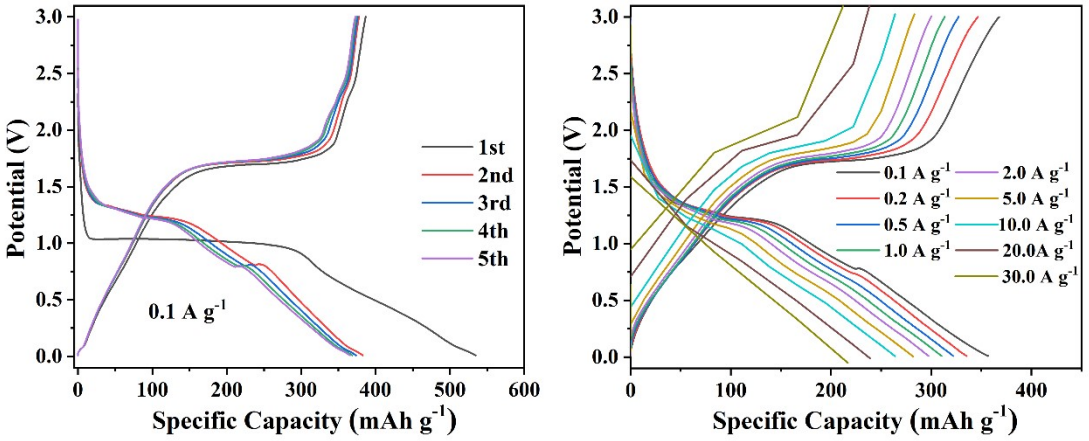

Fig.S6 (a) The 1st to 5th discharge-charge voltage profiles of the pure $CoSe_2$ electrode at a current density of 0.1 A g^{-1}, (b) The discharge-charge voltage profiles of the pure $CoSe_2$ electrode at different current density from 0.1 A g^{-1} to 30.0 A g^{-1}.

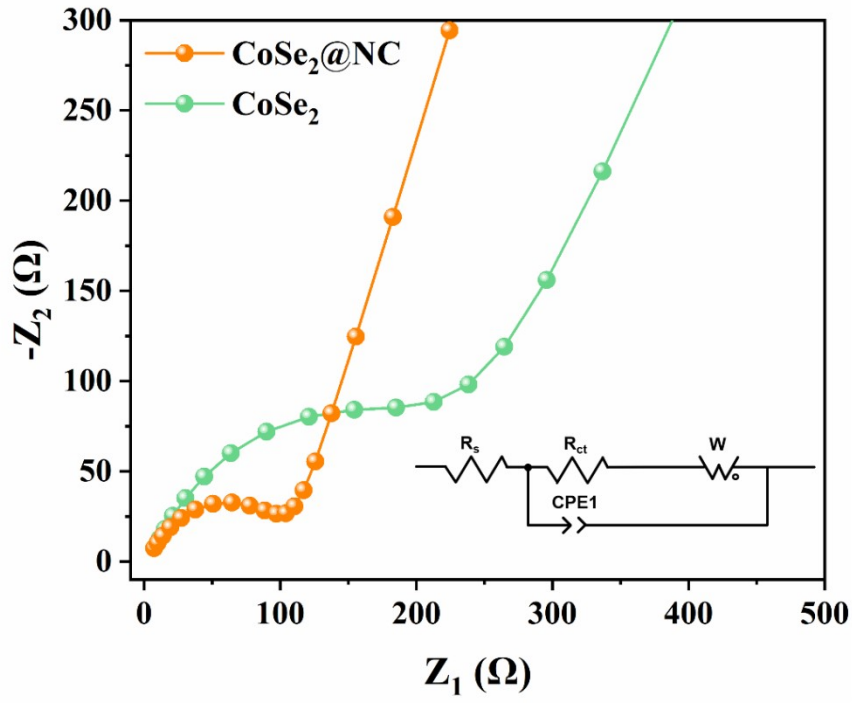

Fig.S7 Nyquist plots of the $CoSe_2$ and $CoSe_2$@NC electrode. The inset is corresponding equivalent circuit.

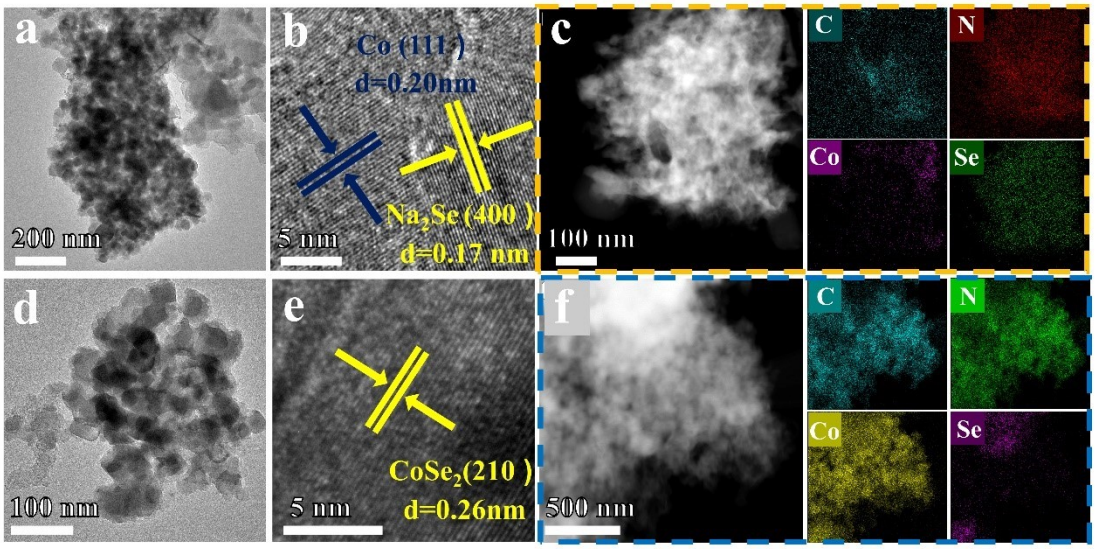

Fig.S8 Ex-TEM analysis of $CoSe_2$@NC electrode at the stage of initial discharge (a-c) and charge (d-f) process.

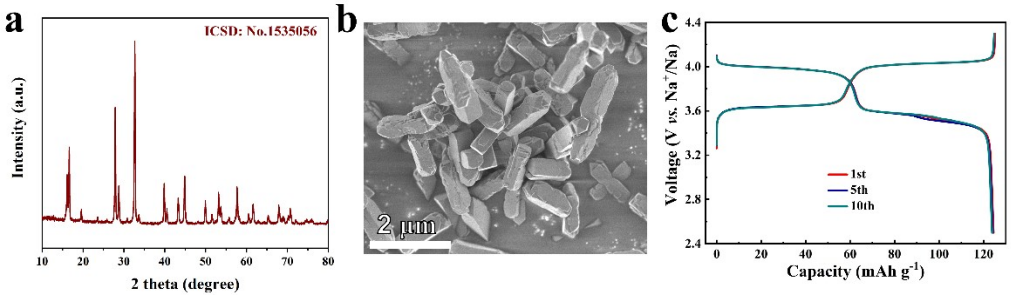

Fig.S9. (a) XRD pattern, (b) SEM image and (c) corresponding charge-discharge curves of the NVPOF.

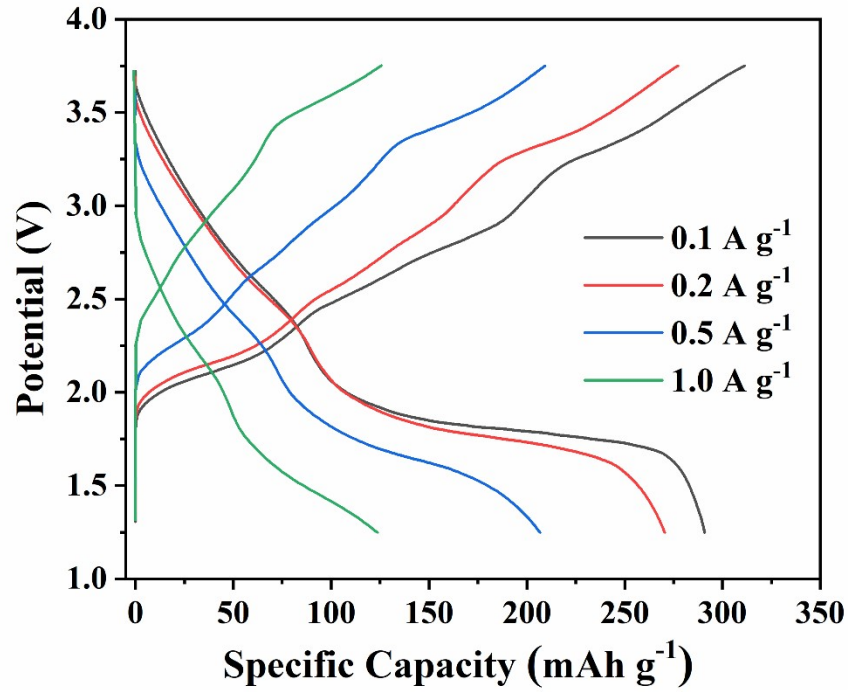

Fig.S10 The discharge-charge voltage profiles of $CoSe_2$@NC||NVPOF electrode at different current density from 0.1 A g^{-1} to 1.0 A g^{-1}.