Supporting information

Preparation and Characterization of Multi-doped Porous Carbon Nanofibers from Carbonization in Different Atmospheres and Their Oxygen Electrocatalytic Properties Research

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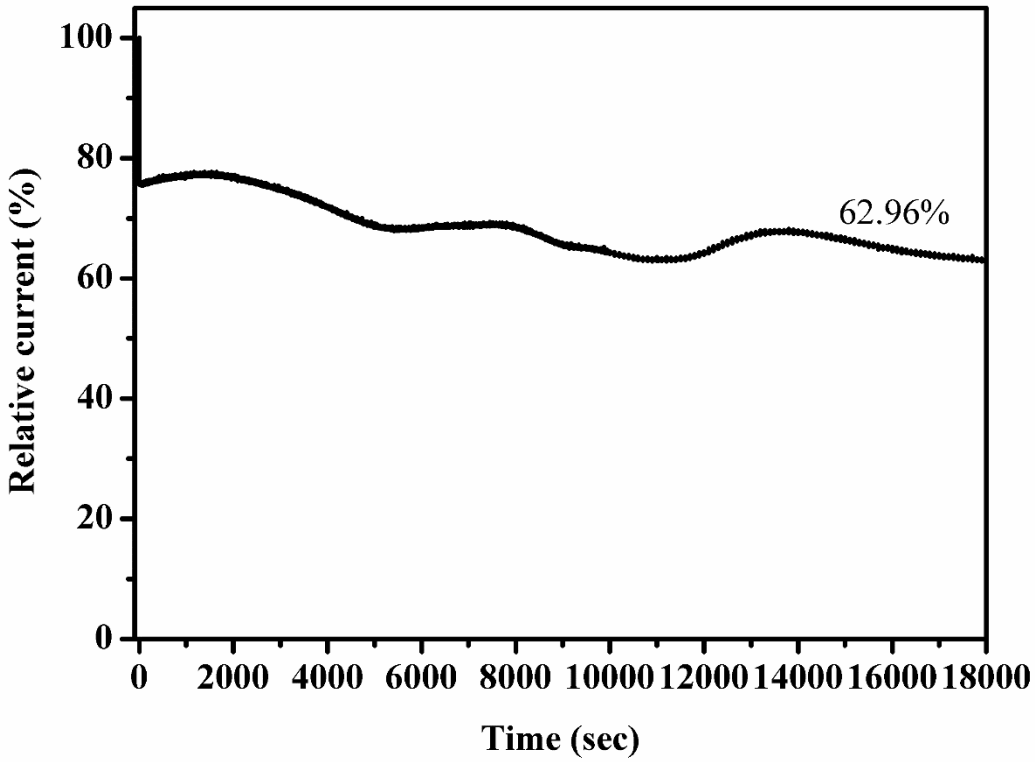


Figure S1 Electrocatalytic stability of Ni_1Co_2-ZIFs/PAN-Ar in O_2-saturated 0.1 M KOH aqueous solution at -0.30 V (vs. Ag/AgCl).

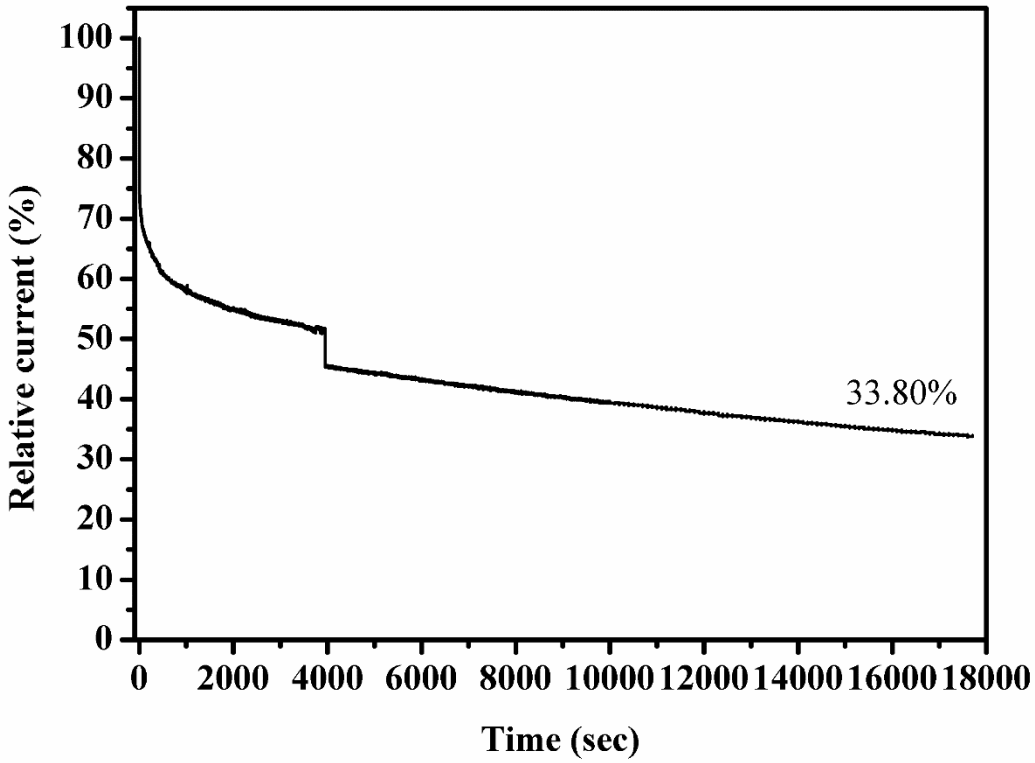


Figure S2. Electrocatalytic stability of Ni_1Co_1-ZIFs/PAN-Air in O_2-saturated 1.0 M KOH aqueous solution at 0.60 V (vs. Ag/AgCl).

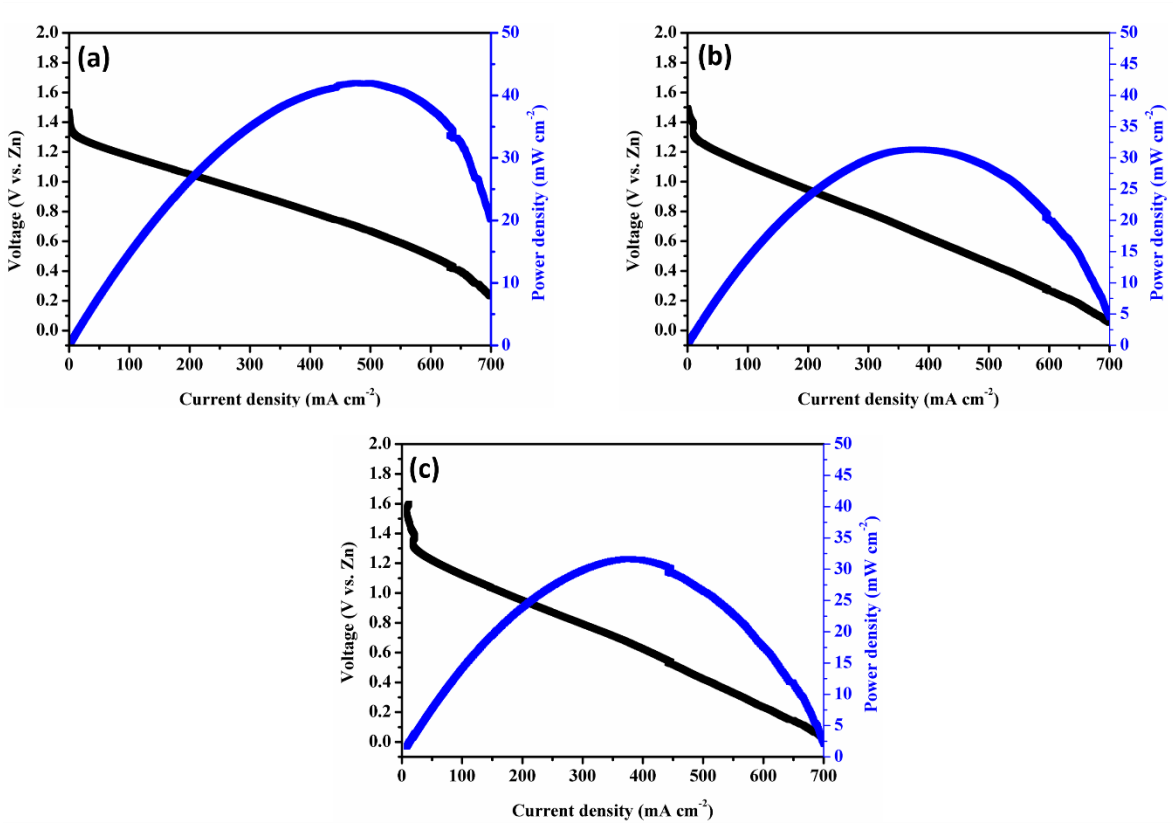


Figure S3 Discharge polarization and power density curves of Zn–air batteries using Ni_1Co_2-ZIFs/PAN under (a) Ar (b) Air and (c) H_2S as ORR catalysts (mass loading of 1.2 mg cm^{-2}).

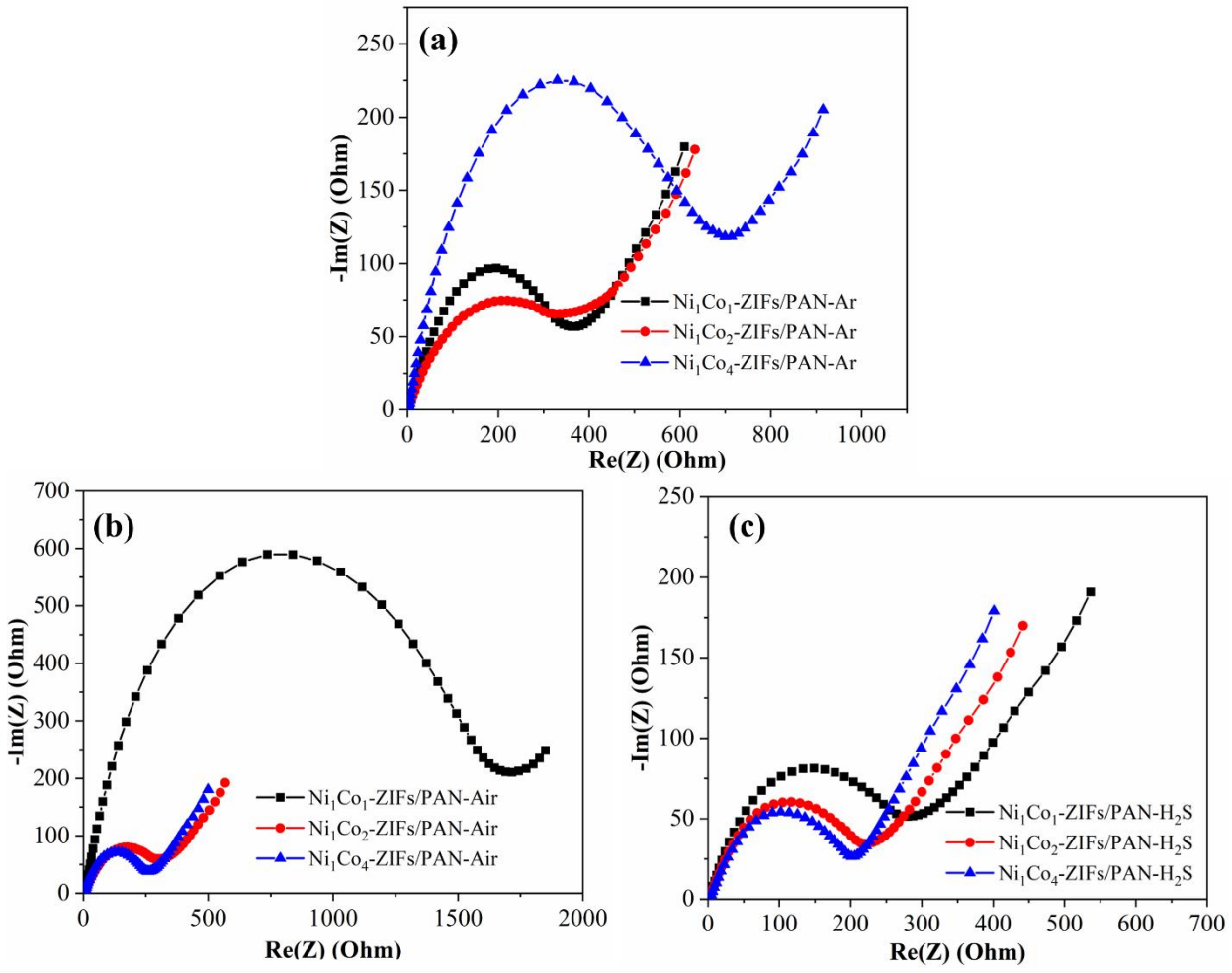


Fig. S4 EIS patterns of Ni_xCo_y-ZIFs/PAN nanofibers under different atmospheres (Ar, Air, and H_2S) at 0.23 V

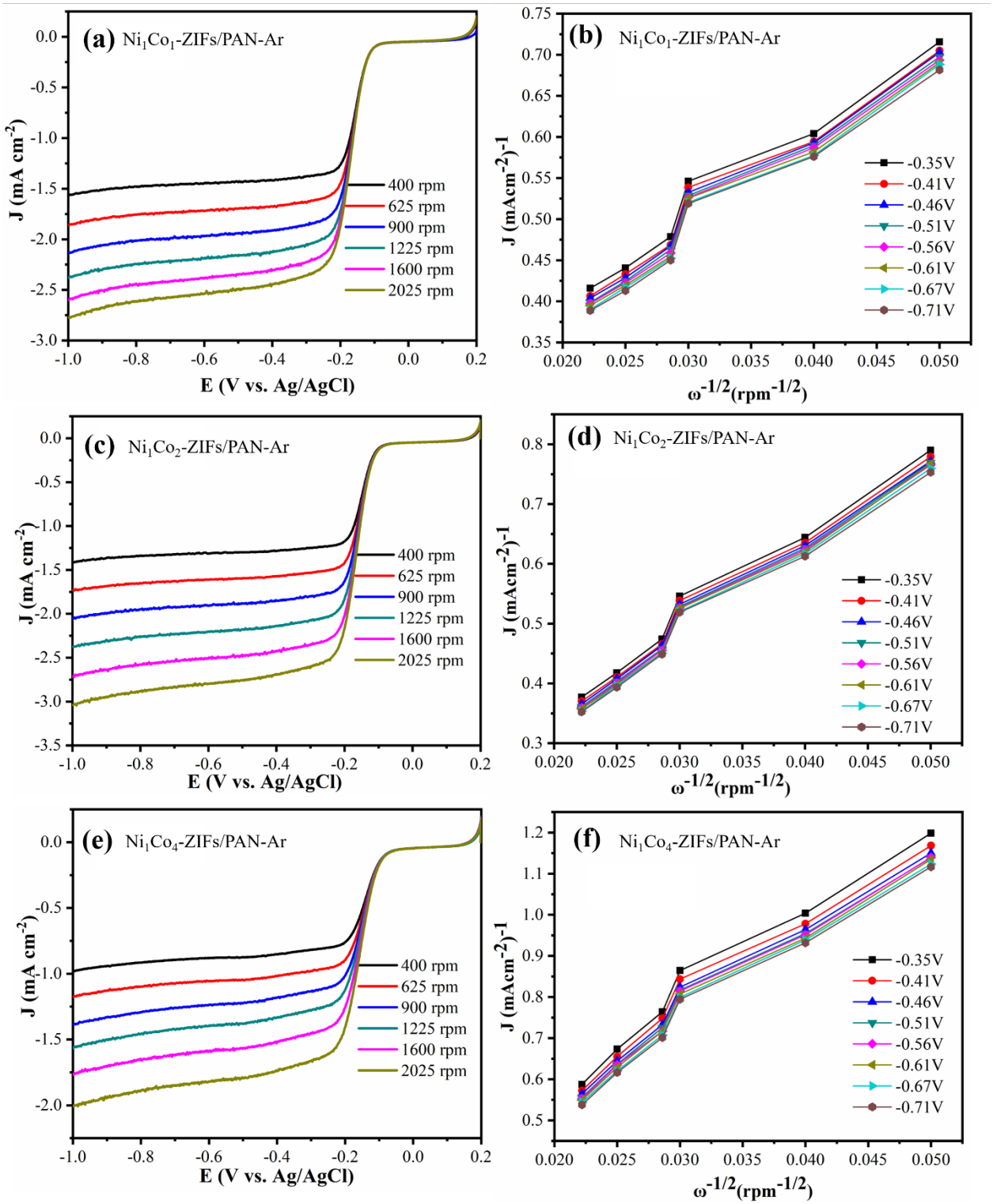


Fig. S5 LSV curves of Ni_xCo_y-ZIFs/PAN nanofibers at different rotation speeds from 400 to 2025 rpm (a,c,e), K–L plots of Ni_xCo_y-ZIFs/PAN nanofibers under Ar atmosphere at different potentials (b,d,f).

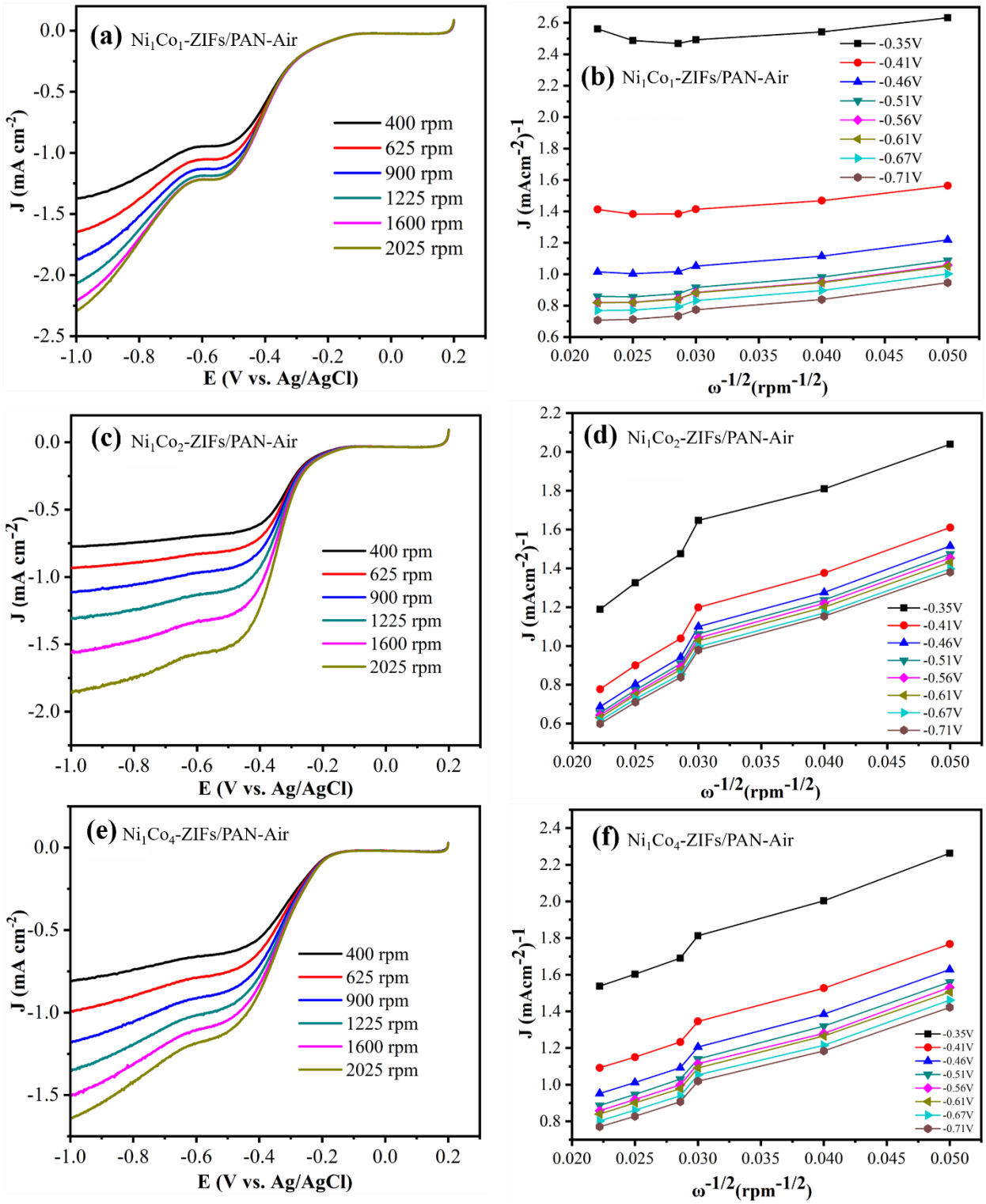


Fig. S6 LSV curves of Ni_xCo_y-ZIFs/PAN nanofibers at different rotation speeds from 400 to 2025 rpm (a,c,e), K–L plots of Ni_xCo_y-ZIFs/PAN nanofibers under Air atmosphere at different potentials (b,d,f).

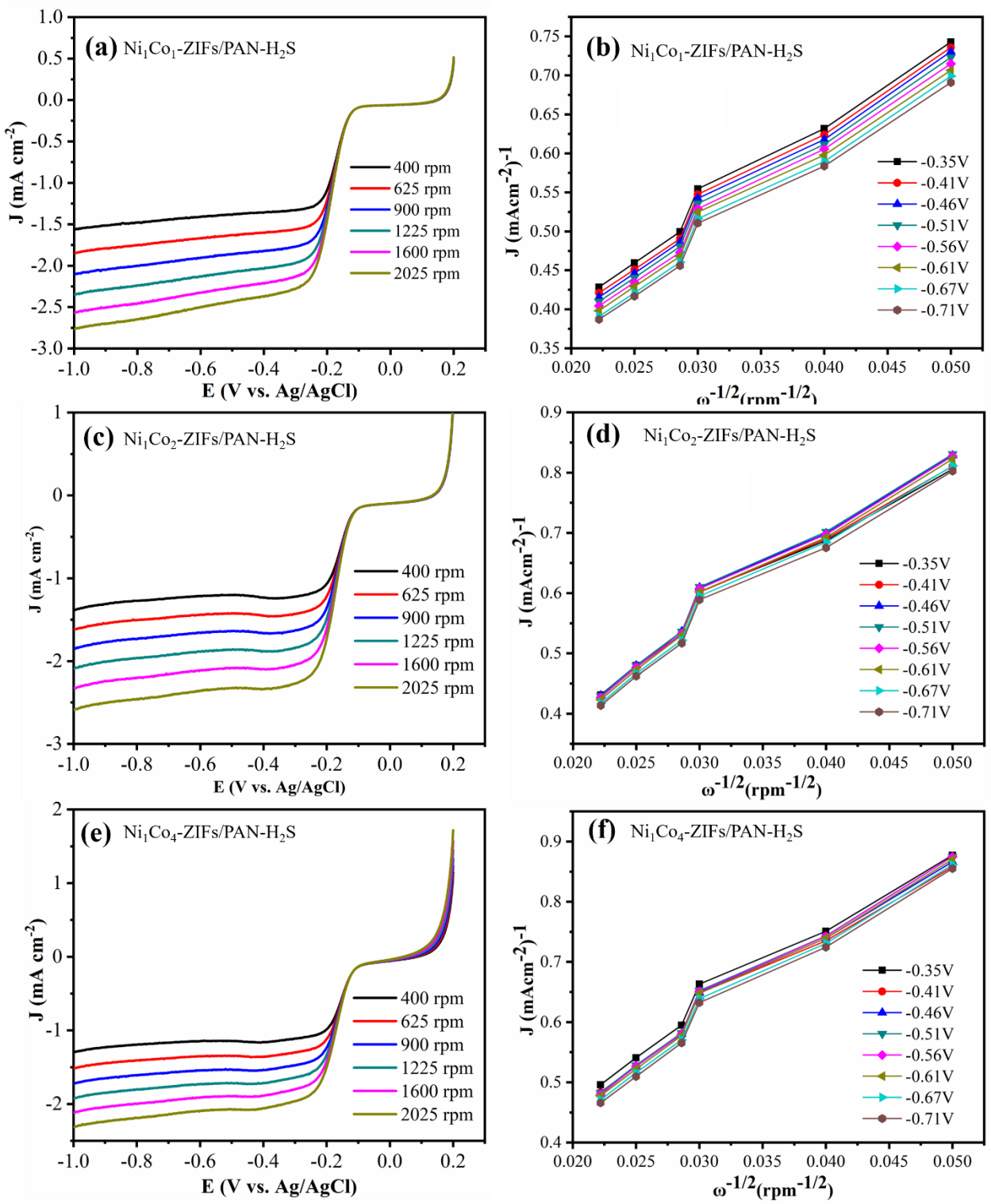


Fig. S7 LSV curves of Ni_xCo_y-ZIFs/PAN nanofibers at different rotation speeds from 400 to 2025 rpm (a,c,e), K–L plots of Ni_xCo_y-ZIFs/PAN nanofibers under H_2S atmosphere at different potentials (b,d,f).