A Novel Dual Phase Membrane 40wt.%Nd$_{0.6}$Sr$_{0.4}$CoO$_{3-\delta}$ - 60wt.%Ce$_{0.9}$Nd$_{0.1}$O$_{2-\delta}$: Design, Synthesis and Properties

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Fig. 1S. XRD patterns of the 40NSCO-60CNO powder before and after exposure to pure Ar (99.999%) at different temperatures for 48 h.
Fig. 2S Fast Fourier Transformation images of different selected areas in the 40NSCO-60CNO powder after calcined at 950 °C for 10 h in air. The top one shows the [021] Zone axis pattern (ZAP) of Nd_{0.6}Sr_{0.4}CoO_3, which has an orthorombic structure. The bottom one shows the [110] Zone axis pattern (ZAP) of Ce_{0.9}Nd_{0.1}O_2, which has a cubic structure.
Fig. 3S Fast Fourier Transformation images of different selected areas in the 40NSCO-60CNO membrane after sintered at 1225 ºC for 5 h in air after crashed. The top one shows the [100] Zone axis pattern (ZAP) of Ce$_{0.9}$Nd$_{0.1}$O$_2$, which has a cubic structure. The bottom one shows the [001] Zone axis pattern (ZAP) of Nd$_{0.6}$Sr$_{0.4}$CoO$_3$, which has an orthorombic structure.