Journal Name

ARTICLE

Design of $La_{2-x}Pr_xNiO_{4+\delta}$ SOFC cathodes: a compromise in electrochemical performance and thermodynamic stability

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FULLPROF refinements of the XRD patterns of the $La_{2-x}Pr_xNiO_{4+\delta}$ (x = 0, 0.5 and 2) films prepared by ESD on a CGO pellet.

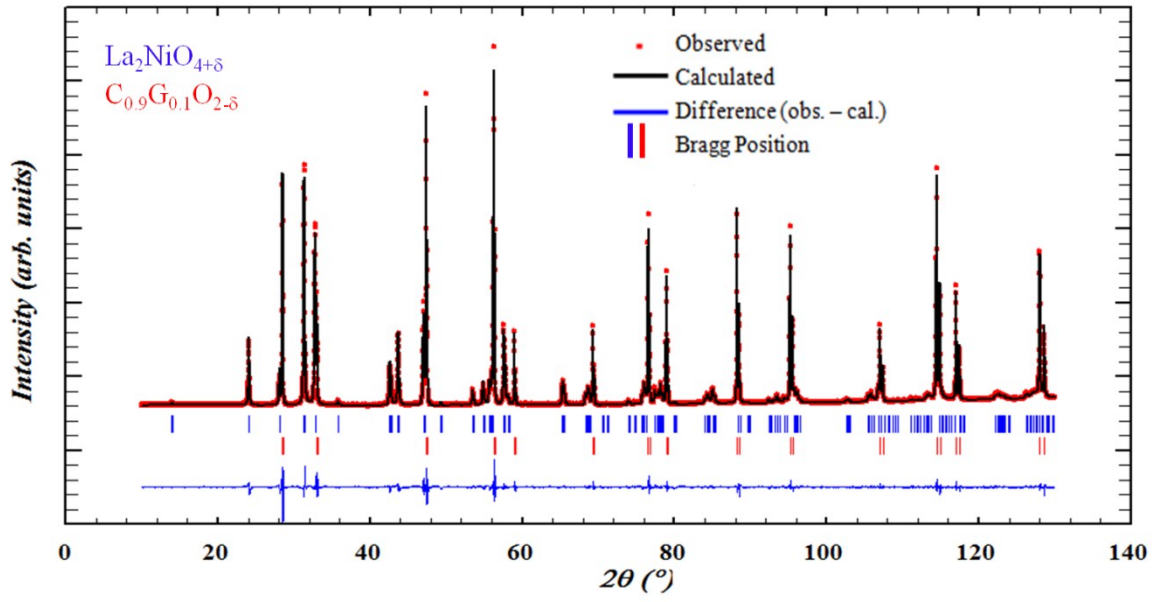

Fig. S1 FULLPROF refinement of the XRD patterns of $La_2NiO_{4+\delta}$ film deposited by ESD on a CGO pellet (Fitting parameters: $\chi^2 = 6.99$, Bragg R-factor = 1.22 and RF-factor = 0.752 for $La_2NiO_{4+\delta}$; Bragg R-factor = 1.84 and RF-factor = 1.00 for CGO).

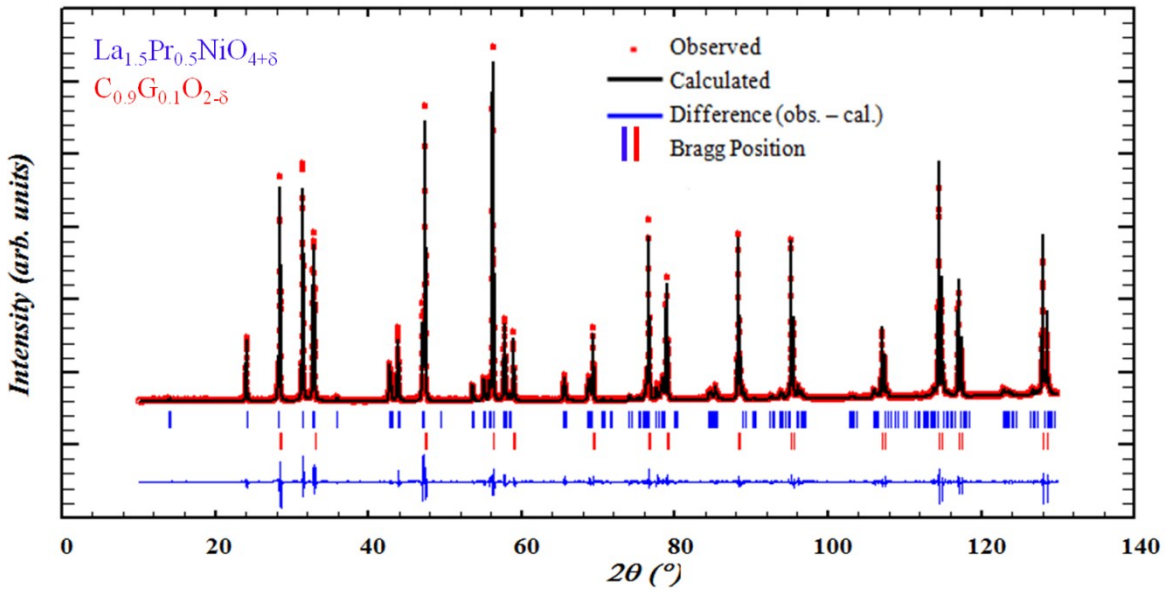

Fig. S2 FULLPROF refinement of the XRD patterns of $La_{1.5}Pr_{0.5}NiO_{4+\delta}$ film deposited by ESD on a CGO pellet (Fit parameters: χ^2 = 7.44, Bragg R-factor = 1.36 and RF-factor = 0.99 for $La_{1.5}Pr_{0.5}NiO_{4+\delta}$; Bragg R-factor = 1.48 and RF-factor = 0.77 for CGO).

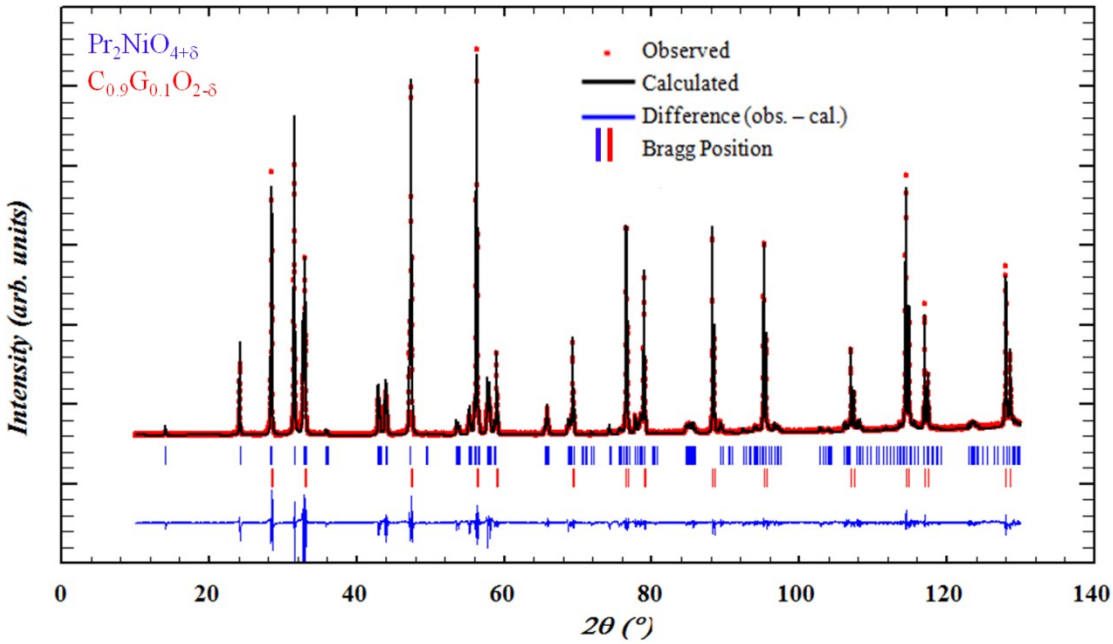

Fig. S3 FULLPROF refinement of the XRD patterns of $Pr_2NiO_{4+\delta}$ film deposited by ESD on a CGO pellet (Fit parameters: χ^2 = 10.3, Bragg R-factor = 1.09 and RF-factor = 0.67 for $Pr_2NiO_{4+\delta}$; Bragg R-factor = 0.83 and RF-factor = 0.49 for CGO).

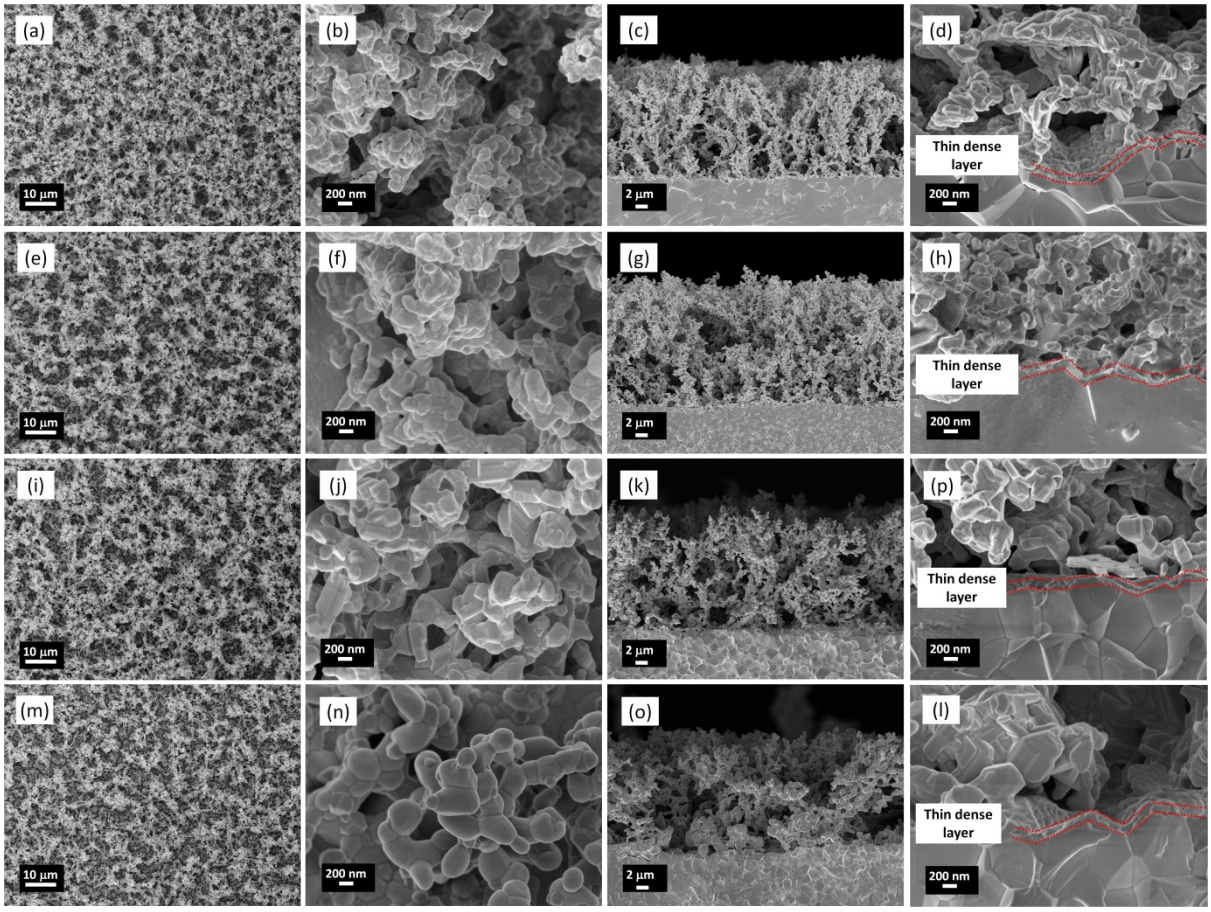

Fig. S4 SEM micrographs of the $La_{2-x}Pr_xNiO_{4+\delta}$ ($0 \leq x \leq 2$) single layer films on a CGO substrate, $La_2NiO_{4+\delta}$: (a, b) surface, (c, d) cross section; $La_{1.5}Pr_{0.5}NiO_{4+\delta}$: (e, f) surface, (g, h) cross section; $LaPrNiO_{4+\delta}$: (i, j) surface, (k, l) cross section and $Pr_2NiO_{4+\delta}$: (m, n) surface, (o, p) cross section.

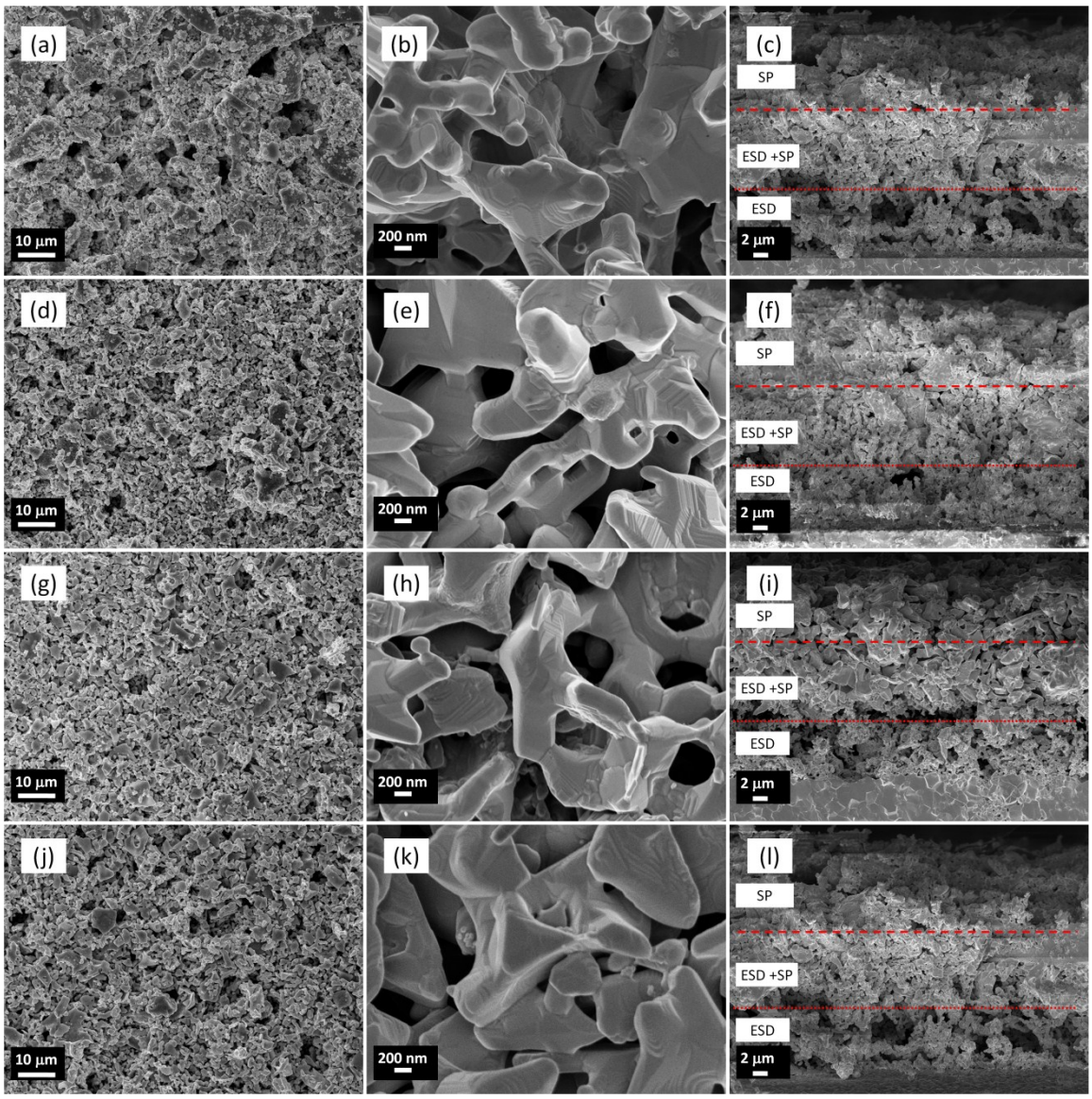

Fig. S5 SEM micrographs of the $La_{2-x}Pr_xNiO_{4+\delta}$ ($0 \leq x \leq 2$) double layer films on a CGO substrate, $La_2NiO_{4+\delta}$: (a, b) surface, (c) cross section; $La_{1.5}Pr_{0.5}NiO_{4+\delta}$: (d, e) surface, (f) cross section; $LaPrNiO_{4+\delta}$: (g, h) surface, (i) cross section and $Pr_2NiO_{4+\delta}$: (j, k) surface, (l) cross section.