Isovalent Doping: a New Strategy to Suppress Surface Sr Segregation of Perovskite O₂-electrode for Solid Oxide Fuel Cells

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Supplementary Figure & Table



Figure S1| Normalized conductivity of polycrystalline $SrTi_{0.5}Fe_{0.5}O_{3-\delta}$ (STF) thin film along the reducing and oxidizing directions for a pO₂ switch between 0.21 atm and 1 atm at 650°C



Figure S2| (a) High-resolution powder X-ray diffraction (HR-powder XRD) result of $SrTi_{0.5}Fe_{0.5}O_{3-\delta}$ (STF) with 0.5, 1, and 2 at.% Zr doping levels, and (b) detailed patterns on the (110) plane of STF powders with 0.5, 1, and 2 at.% Zr doping

Table S1 Calculated lattice parameter and Sr-O bond length [Å] of $SrTi_{0.5}Fe_{0.5}O_{3-\delta}$ (STF) with 0.5, 1, and 2 at.% Zr doping from the HR-XRD data in Figure S2

Material	Lattice parameter [Å]	Average Sr-O [Å]
STF	3.8907	2.7511
with 0.5% Zr	3.8913	2.7515
with 1% Zr	3.8928	2.7526
with 2% Zr	3.8950	2.7541



 $SrTi_{0.5}Fe_{0.5}O_{3-\delta}$ (STF) thin films with 2 at.% Zr doping after ECR measurements