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Properties characterization of tungsten doped strontium ferrites as cathode materials for intermediate temperature solid oxide fuel cells

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Highlights

- SFW cubic perovskite materials are chemically compatible with SDC electrolyte.
- Introduction of W inhibits the loss of lattice oxygen in the SrFeO_{3-δ} material.
- Conductivity, sinterability and TEC decrease with increasing W-doping content.
- SFW2 exhibits the smallest ASR values and the best ORR catalytic activity.

Abstract

Cobalt-free SrFe_{1-x}W_xO_{3-δ} (SFW, x=0, 0.1, 0.2, 0.3) perovskite cathode materials were synthesized by the citrate-EDTA-nitrate combustion method and systematically characterized in

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