

## **Electronic Supplementary Information**

### **Redox stable Pd-doped perovskite for SOFCs application**

Andrea Marcucci,<sup>a</sup> Francesca Zurlo,<sup>a</sup> Isabella Natali Sora,<sup>b</sup> Ernesto Placidi,<sup>c,d</sup> Stefano Casciardi,<sup>e</sup>  
Silvia Licoccia<sup>a</sup> and Elisabetta Di Bartolomeo<sup>\*a</sup>

<sup>a</sup>*Dept. of Chemical Science and Technologies, University of Rome Tor Vergata, Via della Ricerca Scientifica, 00133 Rome, Italy*

<sup>b</sup>*Dept. of Engineering and Applied Science, University of Bergamo, 24044 Dalmine (BG), Italy*

<sup>c</sup>*Dept. of Physics, University of Rome Tor Vergata, Via della Ricerca Scientifica, 00133 Rome, Italy*

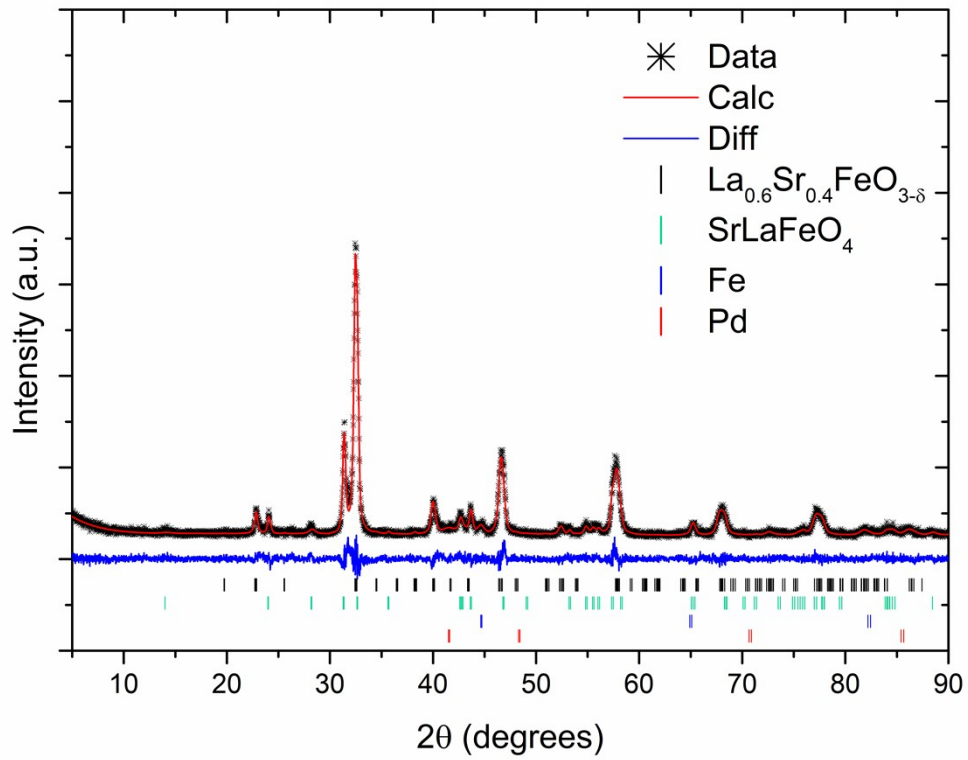
<sup>d</sup>*CNR-ISM, Via del Fosso del Cavaliere 100, 00133 Rome, Italy*

<sup>e</sup>*Dept. of Occupational and Environmental Medicine, Epidemiology and Hygiene, INAIL, 00078 Monte Porzio Catone (RM), Italy*

\*E-mail: [dibartolomeo@uniroma2.it](mailto:dibartolomeo@uniroma2.it)

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**S1** Reduced LSFPd sample: data (+ marks), calculated profile (continuous line) and difference curve in the Rietveld refinement plots of the XRD pattern. Thick marks at the bottom represent the allowed reflection of the rhombohedral ( $R\bar{3}c$ ) perovskite phase (black), the Ruddlesden-Popper phase (light green), metallic Fe (blue) and metallica Pd (red).



**S2** Re-oxidized LSFPd sample: data (+ marks), calculated profile (continuous line) and difference curve in the Rietveld refinement plots of the XRD pattern. Thick marks at the bottom represent the allowed reflection of the orthorhombic (*Pnma*) perovskite phase (black), the Ruddlesden-Popper phase (red).

