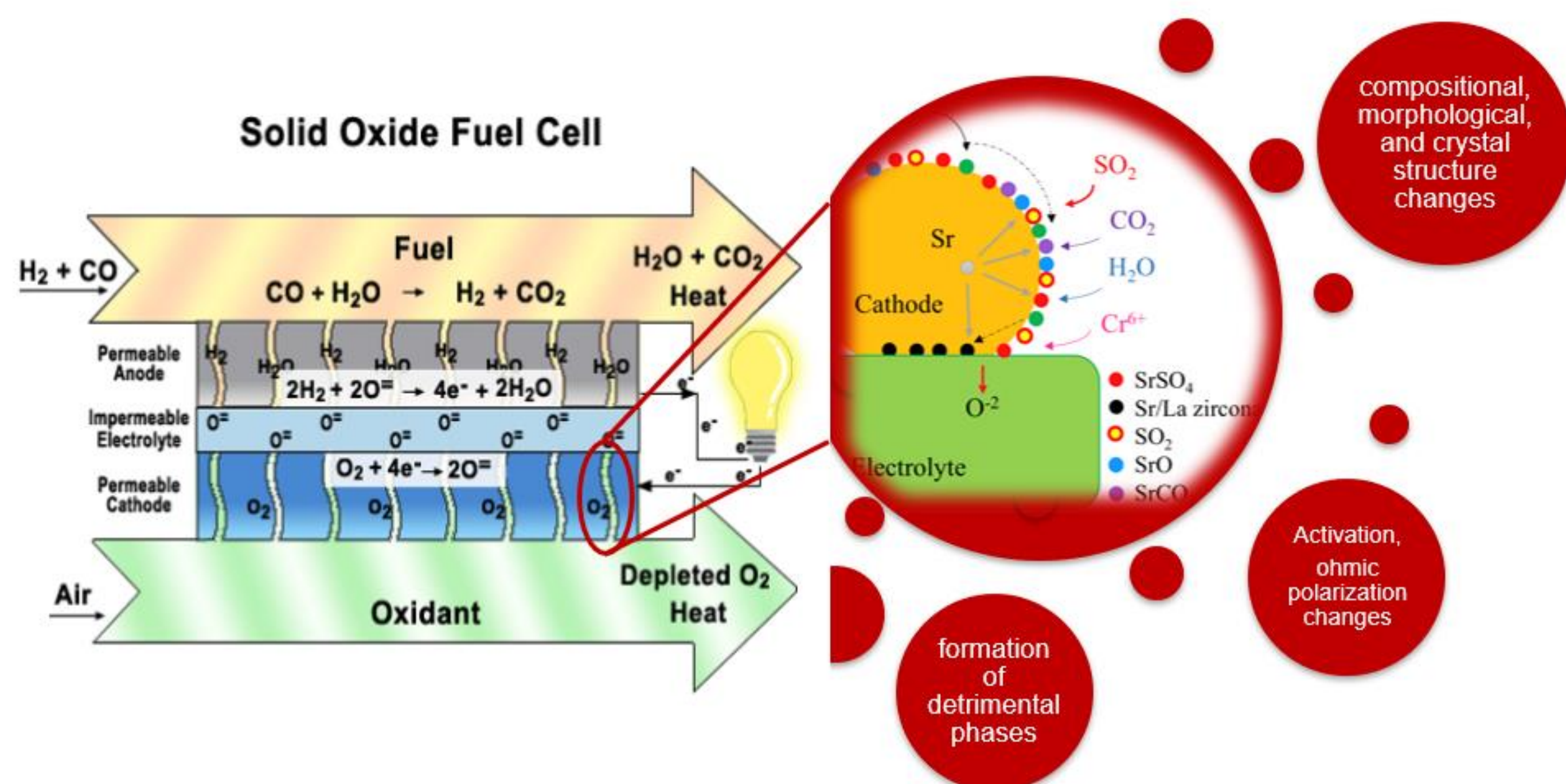
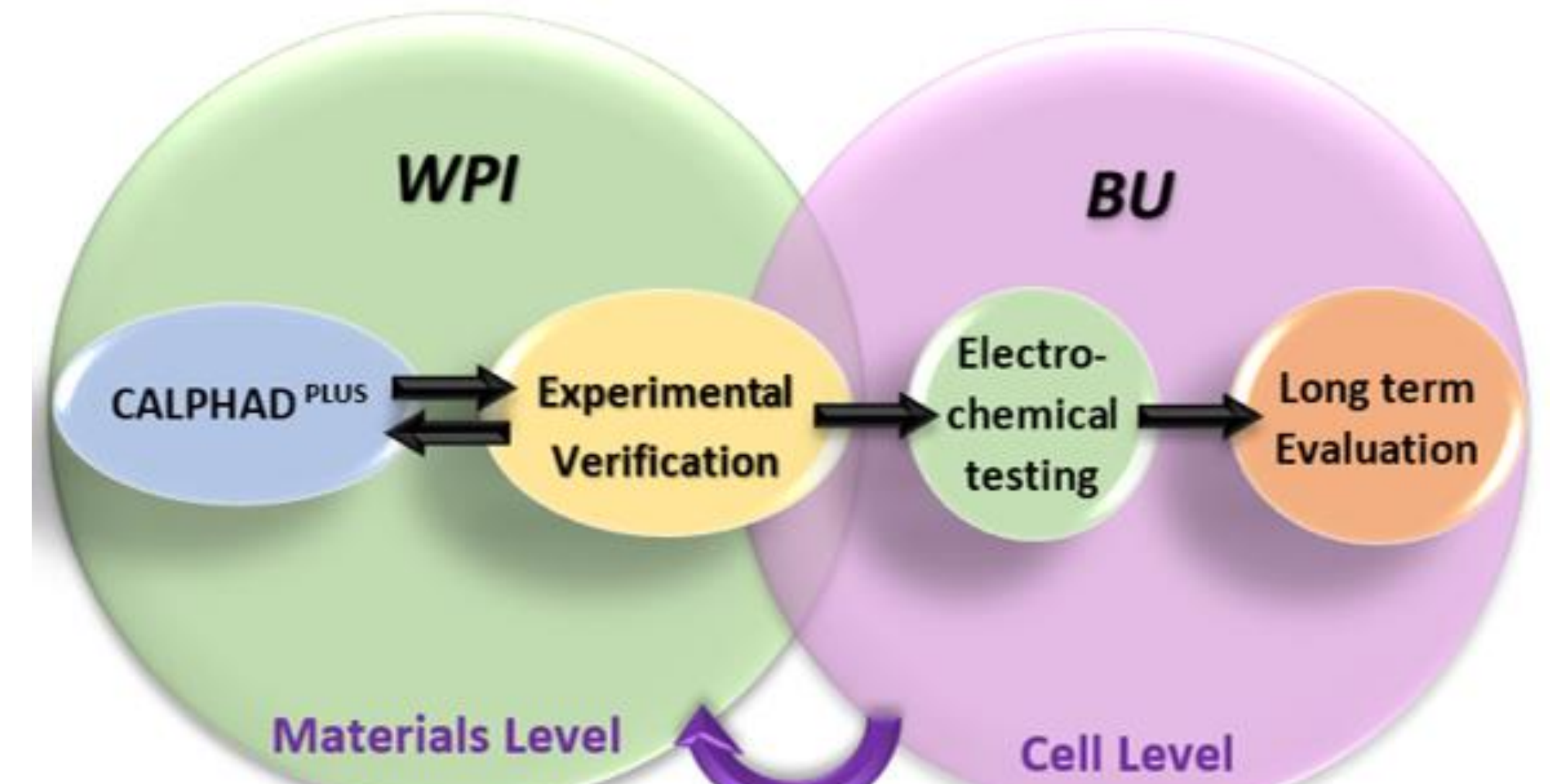


Introduction and Background

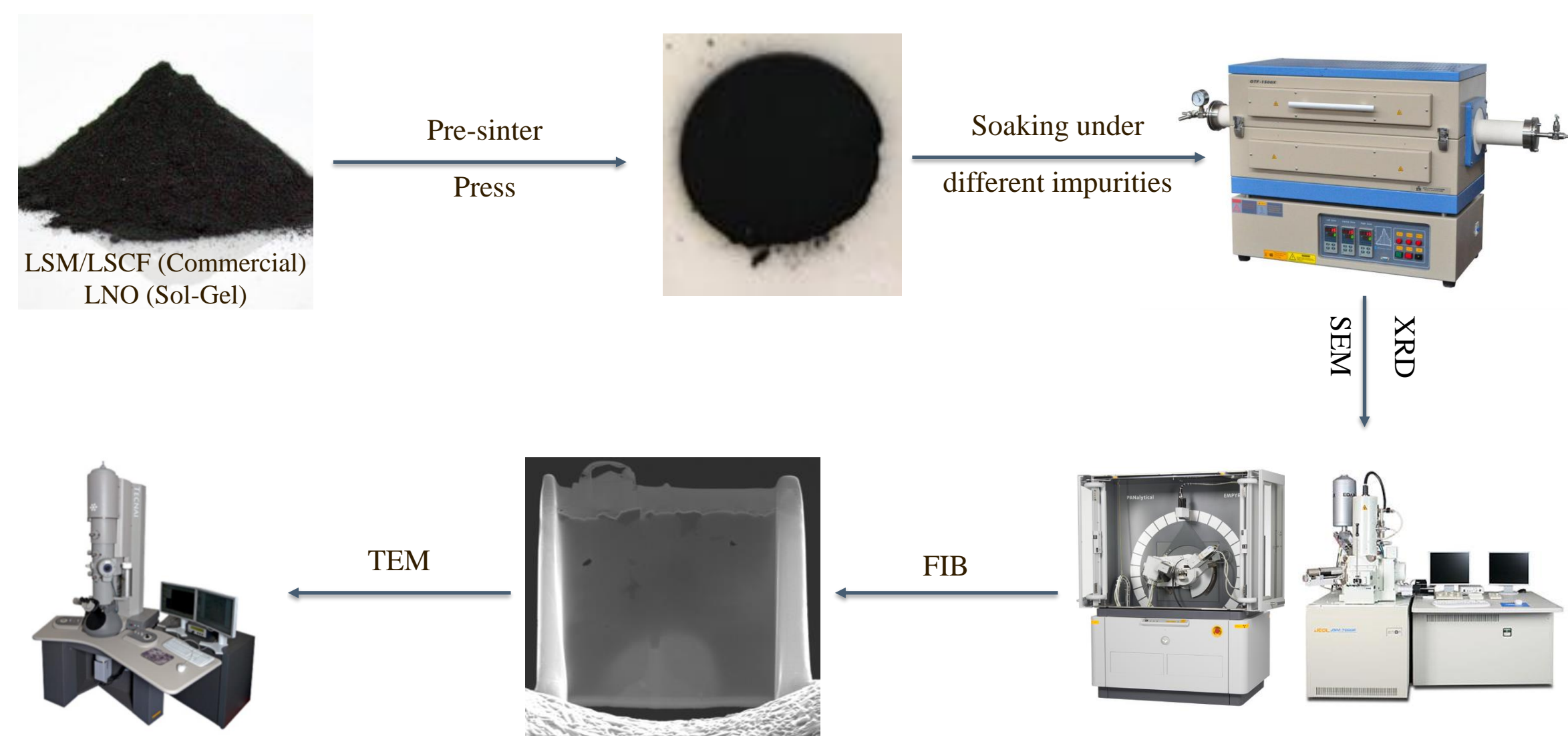


Approach and Objectives

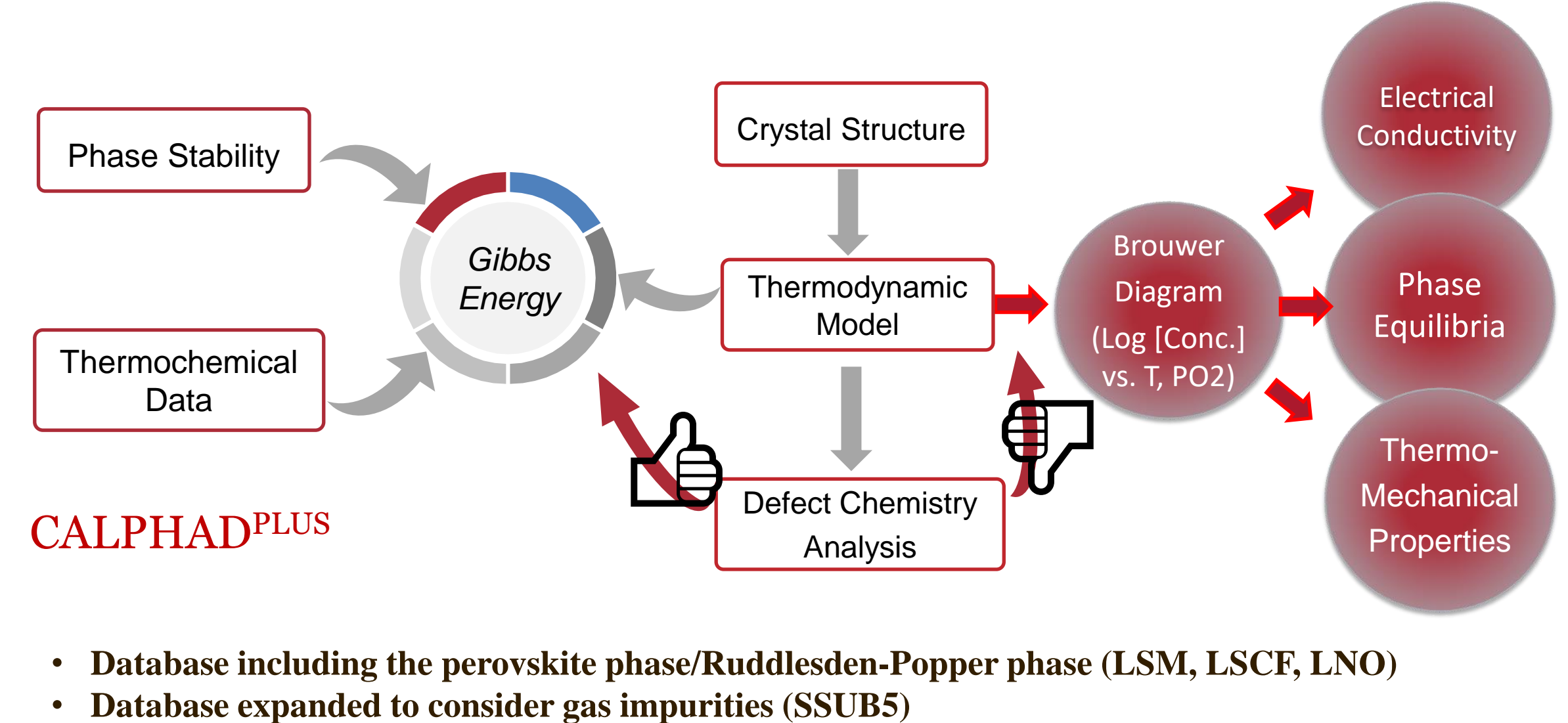
- Investigate the degradation mechanisms of different impurities to the cathode materials.
- Propose tolerant electrodes under different conditions.



Experimental Procedure

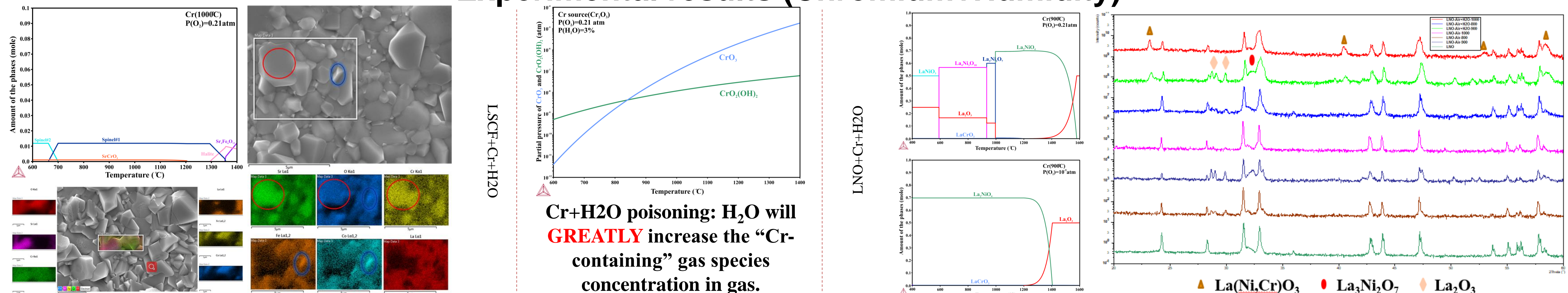


Computational Procedure

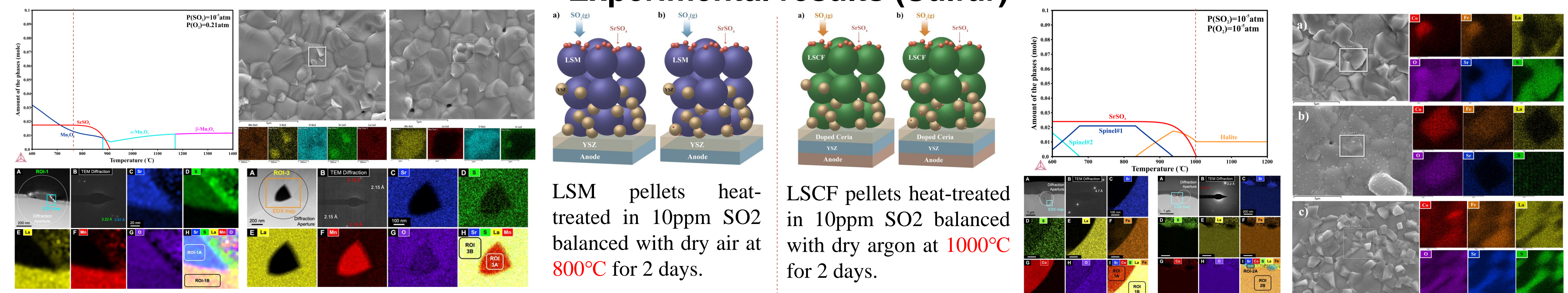


- Database including the perovskite phase/Ruddlesden-Popper phase (LSM, LSCF, LNO)
- Database expanded to consider gas impurities (SSUB5)

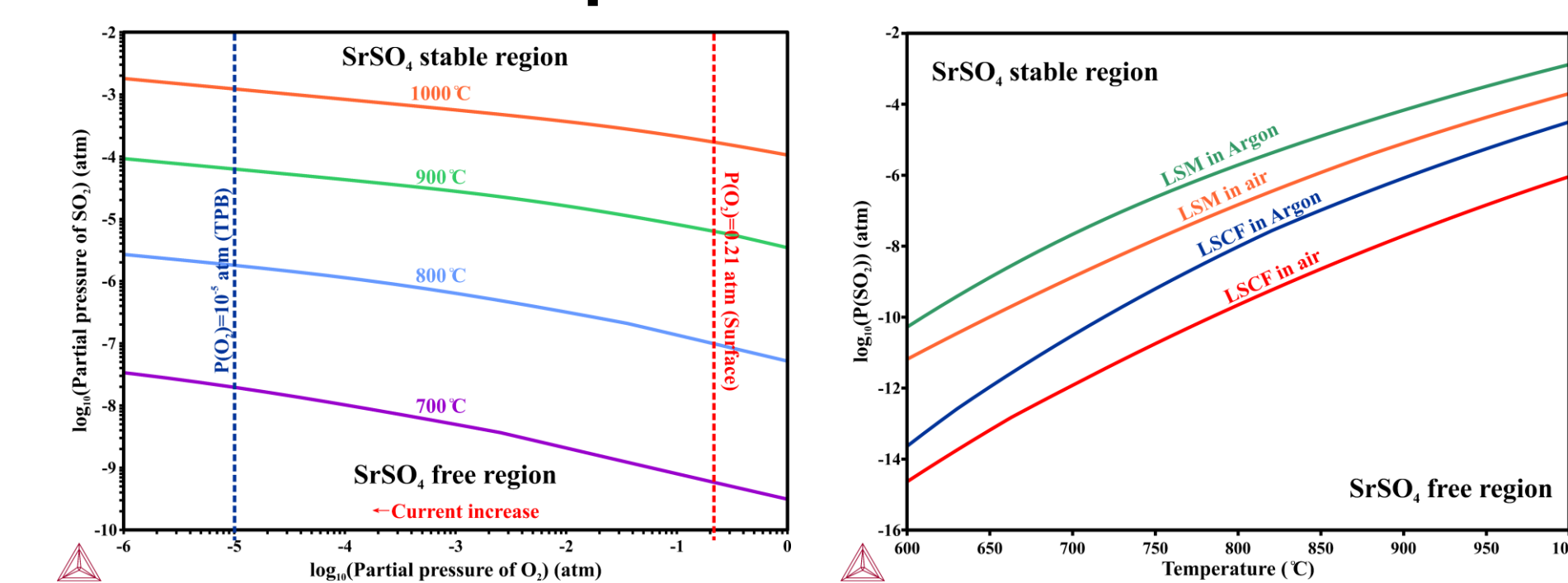
Experimental results (Chromium+Humidity)



Experimental results (Sulfur)



Computational Results



Threshold diagrams were plotted to scrutinize the accelerated testing.

Summary

- Thermodynamic simulations were carried out to understand the effect of multiple impurities to the SOFC cathode materials (LSM, LSCF & LNO)
- Specific experiments have been designed and shown good agreement with simulations.

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