

Oxygen permeation, thermal expansion behavior and electrochemical properties of $\text{LaBa}_{0.5}\text{Sr}_{0.5}\text{Co}_2\text{O}_{5+\delta}$ cathode for SOFCs

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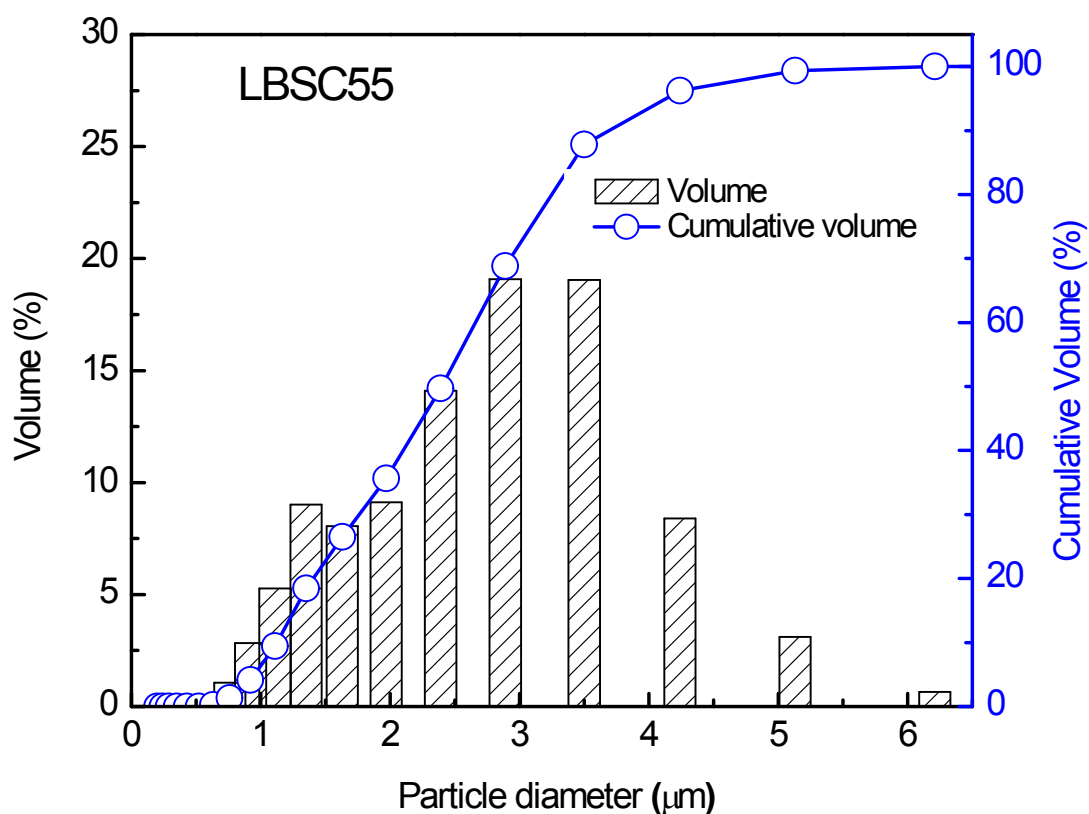


Fig. S1. Particle size distribution of LBSC55 powder prepared by solid-state reaction technique.

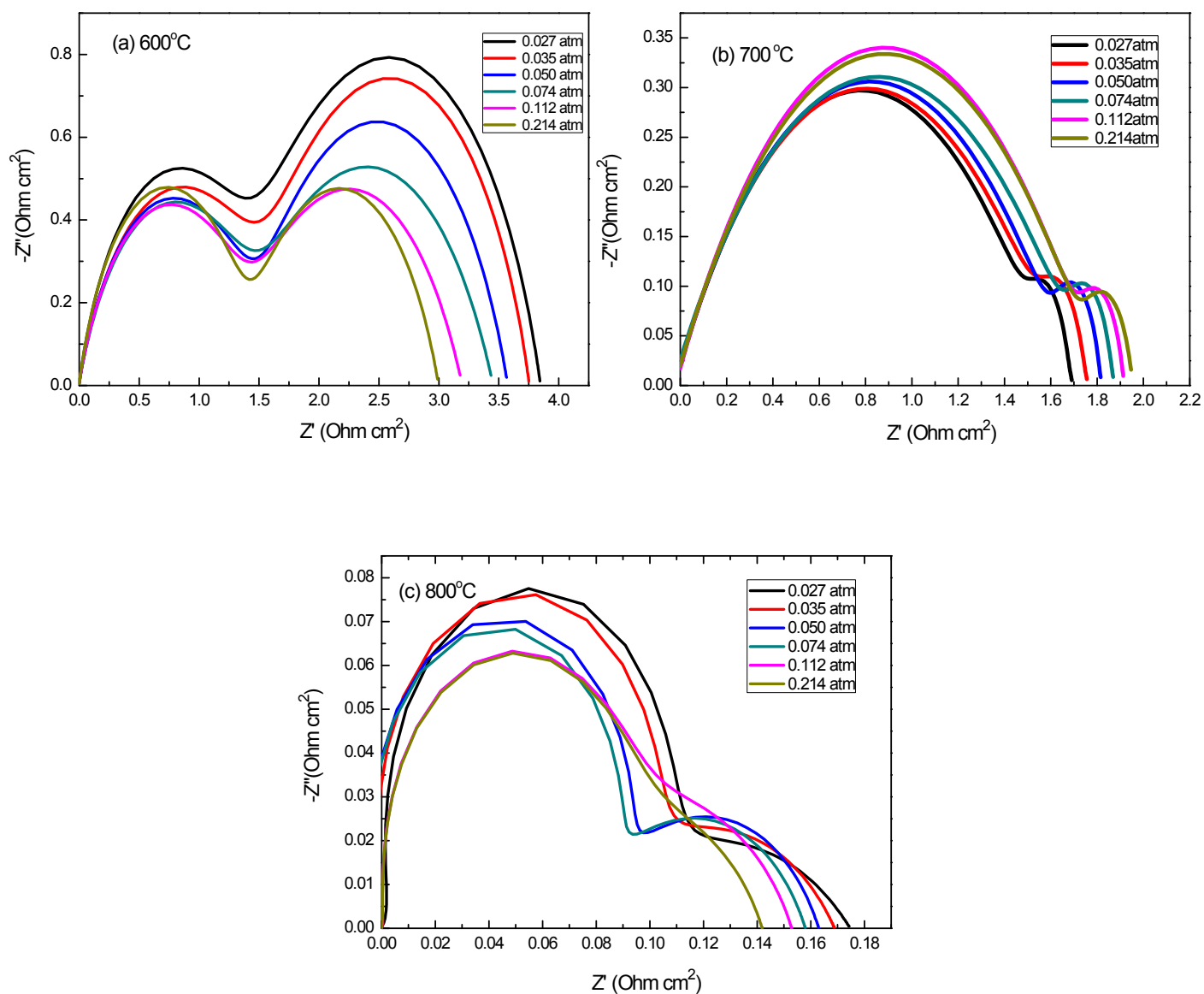


Fig. S2. Nyquist diagram of the impedance spectroscopy for LBSC55 cathode on SDC electrolyte with various oxygen partial pressures at (a) 600 °C; (b) 700 °C; and (c) 800 °C, respectively.

Table S1. Cumulative volume statistics for LBSC55 powder.

Cumulative volume	Particle diameter (μm)
D ₁₀	1.12
D ₂₅	1.57
D ₅₀	2.40
D ₇₅	3.08
D ₉₀	3.65

Table S2. The oxygen content ($5+\delta$) and average Co valence for LBSC55 cathode as function of temperature in air.

	LBSC55			
	200°C	400°C	600°C	600°C
Oxygen content ($5+\delta$)	5.71	5.69	5.64	5.58
Average Co valence	3.21	3.19	3.14	3.08