

Constructing three-dimensionally ordered macroporous LaCrO_δ composite oxide via cerium substitution for enhanced soot abatement

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Table S1 The lattice constants of LaCrO₃ and LaCrO₄ for 3DOM La_{1-x}Ce_xCrO_δ-800

Catalysts	Lattice constants (Å) ^a			Lattice constants (Å) ^b		
	a	b	c	a	b	c
LaCrO _δ -800	5.46	7.76	5.51	—	—	—
La _{0.9} Ce _{0.1} CrO _δ -800	5.48	7.77	5.51	7.04	7.24	6.69
La _{0.8} Ce _{0.2} CrO _δ -800	5.47	7.76	5.51	7.03	7.25	6.71
La _{0.7} Ce _{0.3} CrO _δ -800	5.47	7.76	5.51	7.03	7.24	6.69

^a The lattice constants of LaCrO₃

^b The lattice constants of LaCrO₄

Table S2. The temperatures and the selectivities to CO₂ for soot combustion over as-prepared powder samples.

Catalysts	T ₁₀ (°C)	T ₅₀ (°C)	T ₉₀ (°C)	S _{CO₂} ^m (%)
Powder LaCrO _δ -500	408	457	504	88.6
Powder LaCrO _δ -800	426	473	530	89.3

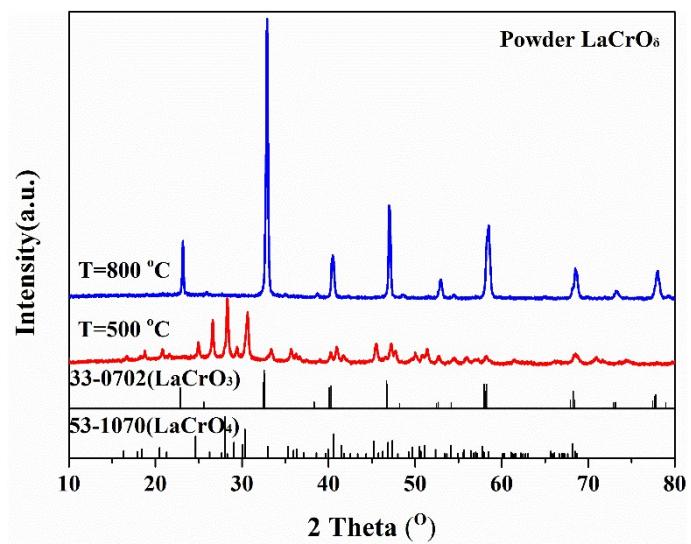


Figure S1. XRD patterns of powder LaCrO_δ calcinated at 500 or 800 °C.

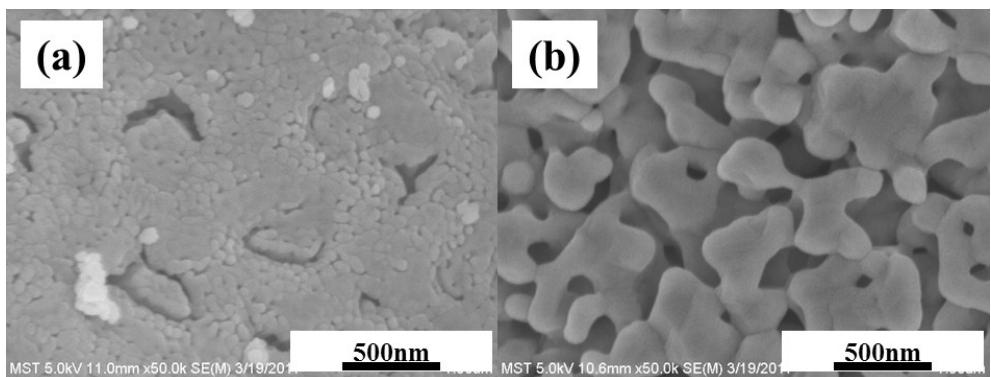


Figure S2. FESEM images of powder LaCrO_δ -500(a), and LaCrO_δ -800(b).

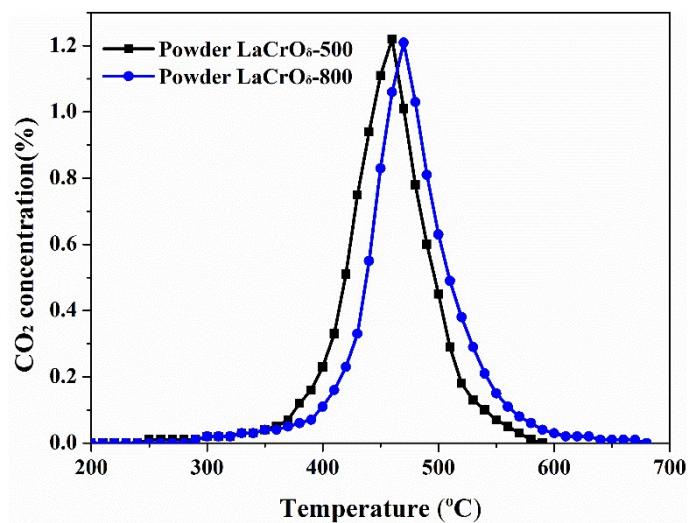


Figure S3. CO₂ concentration profiles of soot oxidation under loose contact condition over as-prepared powder samples.