

Supplementary Material

Reactive Fe-O-Ce Sites in Ceria Catalysts for Soot Oxidation

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1. Deconvoluted TPR results for CP and SCS catalysts

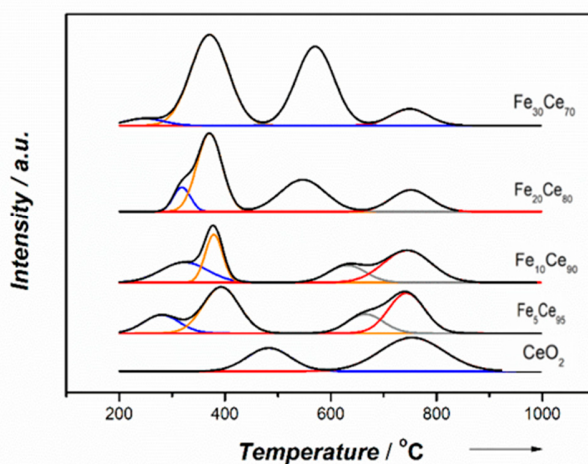


Figure S1. Deconvoluted TPR results for CP catalysts

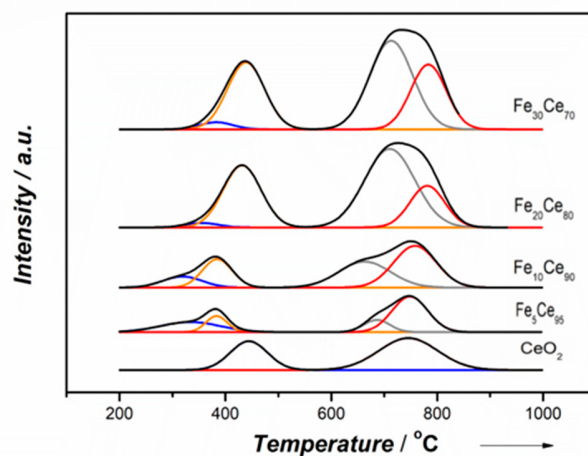


Figure S2. Deconvoluted TPR results for SCS catalysts

2. Quantitative TPR results

Table S1. H₂ consumption of CP catalysts

H ₂ consumption (mmol/g)	CeO ₂	Fe ₅ Ce ₉₅	Fe ₁₀ Ce ₉₀	Fe ₂₀ Ce ₈₀	Fe ₃₀ Ce ₇₀
Reduction of surface O of ceria	0.27	0.18	0.24	0.18	0.11
Fe ₂ O ₃ to Fe ₃ O ₄	0	0.45	0.23	0.88	1.38
Fe ₃ O ₄ to FeO	0	0.18	0.21	0.64	1.2
Reduction of bulk O of ceria	0.58	0.39	0.38	0.38	0.25

Table S2. H₂ consumption of CP catalysts

H ₂ consumption (mmol/g)	CeO ₂	Fe ₅ Ce ₉₅	Fe ₁₀ Ce ₉₀	Fe ₂₀ Ce ₈₀	Fe ₃₀ Ce ₇₀
Reduction of surface O of ceria	0.35	0.21	0.15	0.05	0.08
Fe ₂ O ₃ to Fe ₃ O ₄	0	0.12	0.28	0.76	0.86
Fe ₃ O ₄ to FeO	0	0.11	0.45	1.28	1.32
Reduction of bulk O of ceria	0.61	0.45	0.59	0.47	0.79