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Supporting Information

Catalytic NO Reduction by CO over Ceria-Cobalt Oxide Catalysts

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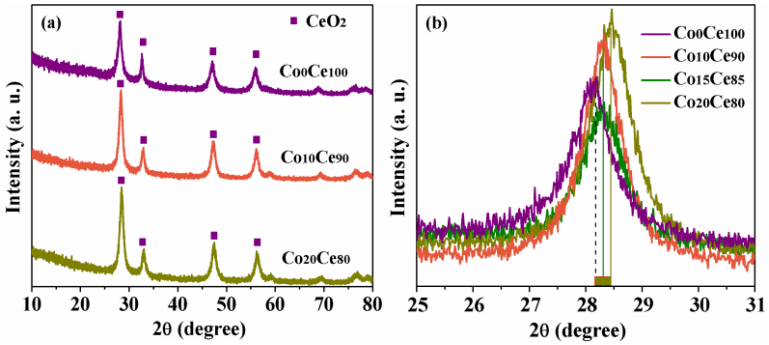

Fig. S1 XRD patterns of $Co_{100-x}Ce_x$ (x= 80, 90, 100) catalysts (a), the magnified XRD peak from 2θ= 25 to 31^o for $Co_{100-x}Ce_x$ (x= 80, 90, 100) catalysts (b).

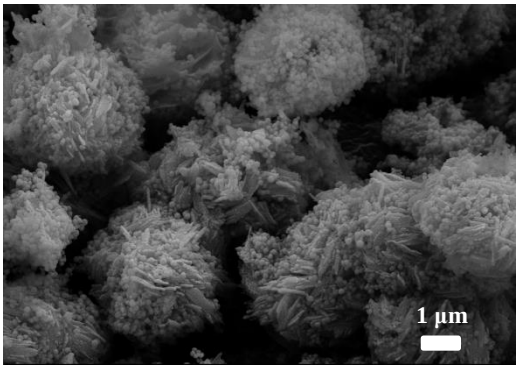

Fig.S2 SEM images of $Co_{85}Ce_{15}$ catalyst after calcination.

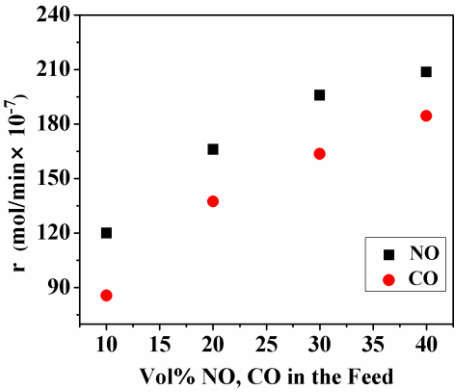

Fig. S3 Effect of the vol.% of reactant (NO and CO) in the feed on the reaction rate of NO and CO over $Co_{98}Ce_2$ catalyst.

Table. S1 Surface compositions and relative parameters of $Co_{100-x}Ce_x$ samples

Catalysts	Textural properties		Surface atomic ratio	
	BET surface area (m^2/g)	Ce/(Ce+Co) /%	Co^{2+}/Co^{3+}	Ce^{3+}/Ce^{2+}
$Co_{20}Ce_{80}$	19.5	85.3	0.92	0.40
$Co_{10}Ce_{90}$	17.8	90.0	0.93	0.40
Commercial Co_3O_4	3.4	-	-	-

[a] ICP results;

[b] XPS results;

Table. S2 Ceria content and the catalytic activity data of $Co_{100-x}Ce_x$ samples

sample	Atom content [a]	NO + CO reaction [b]			
	Ce/(Ce+Co) %	NO Conv. (C_{max}, %)		CO Conv. (C_{max}, %)	
		<300 °C	>580°C	<300 °C	>580°C
$Co_{100}Ce_0$	0	74.9	-	82.2	-
$Co_{98}Ce_2$	1.85	99.7	99.8	98.6	99.4
$Co_{85}Ce_{15}$	13.93	85.6	-	76.7	-

[a] Determined by the ICP analysis.

[b] the max conversion of reactant (C_{max}) measured from the flow reactor of NO+CO reaction.