Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

The existing states of potassium species in K-doped Co_3O_4 catalysts and their influences on the activities for NO and soot oxidation

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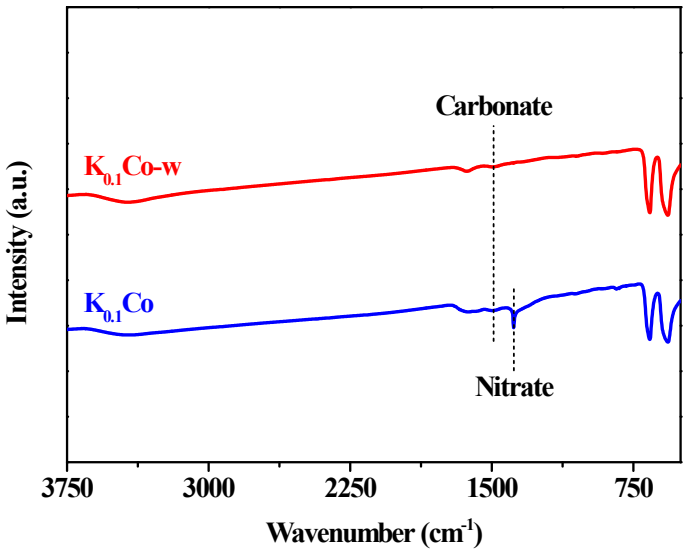

Fig.S1 FT-IR spectra of $K_{0.1}Co$ and $K_{0.1}Co$-w catalysts.

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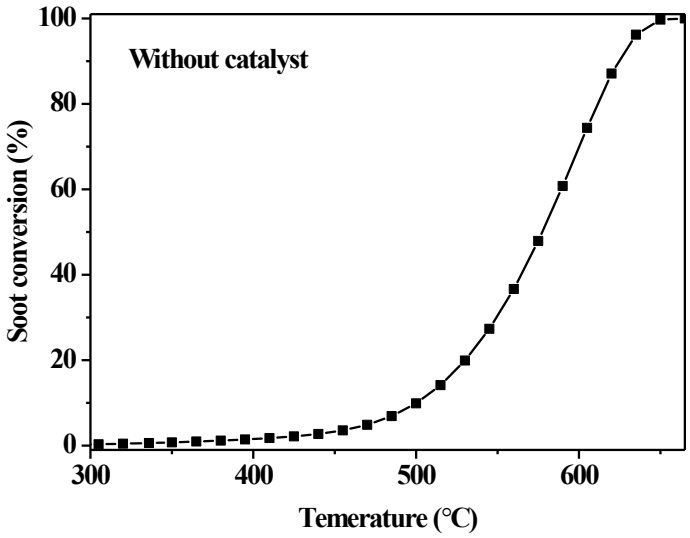

Fig.S2 Soot combustion in 8 % O_2/Ar.

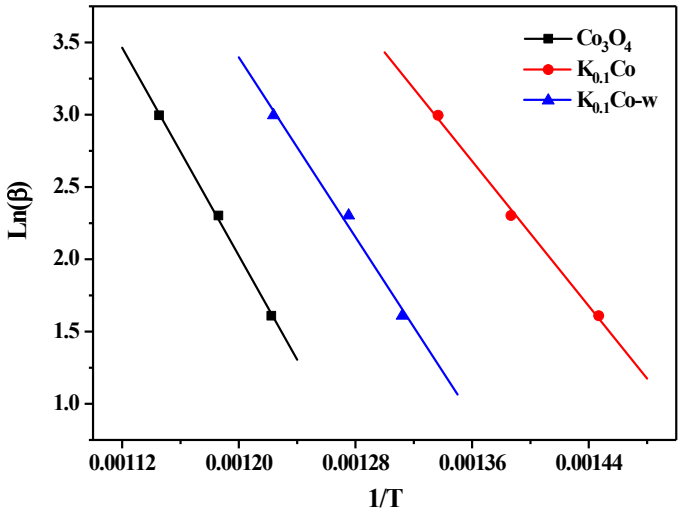

Fig.S3 Ozawa plots at a soot conversion of 50 % on Co_3O_4, $K_{0.1}Co$ and $K_{0.1}Co$-w. The feed gas was 8 % O_2/Ar.

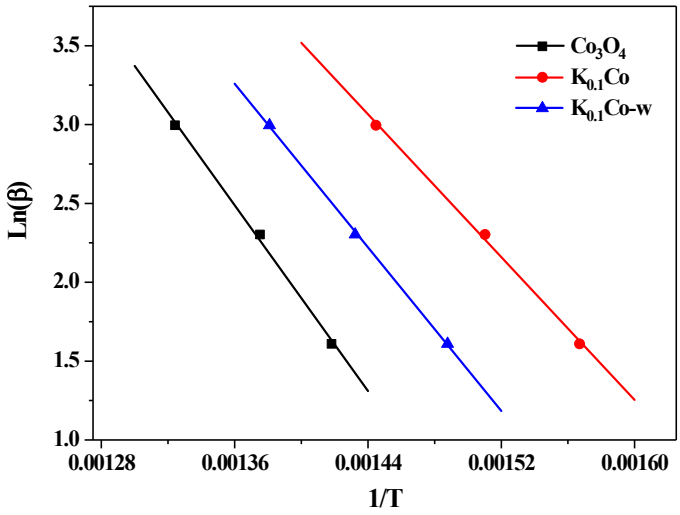

Fig.S4 Ozawa plots at a soot conversion of 50 % on Co_3O_4, $K_{0.1}Co$ and $K_{0.1}Co$-w. The feed gas was 500 ppm NO + 8 % O_2/Ar.

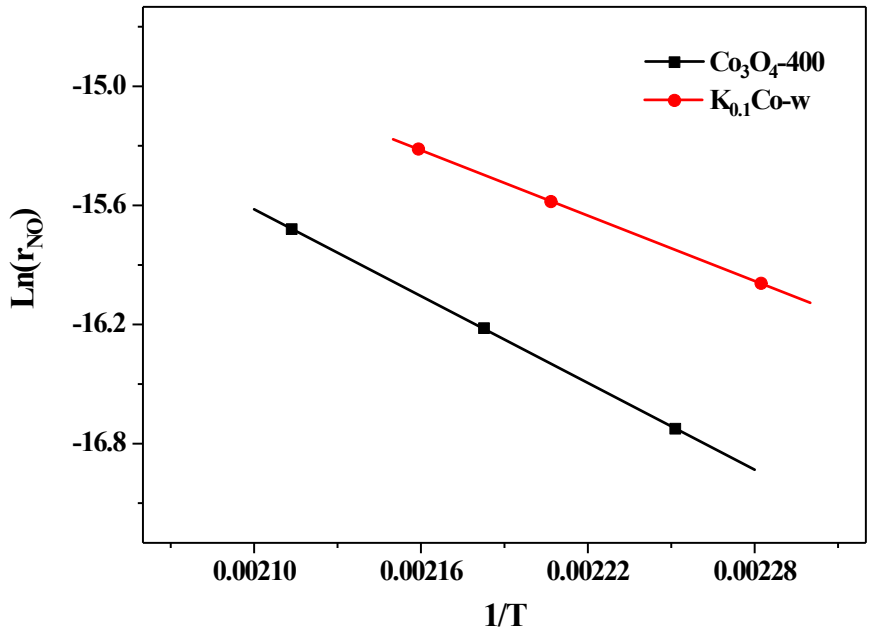

Fig.S5 Arrhenius plots for NO oxidation on Co_3O_4 and $K_{0.1}$Co-w. The feed gas was 500 ppm NO + 8 % O_2/Ar.

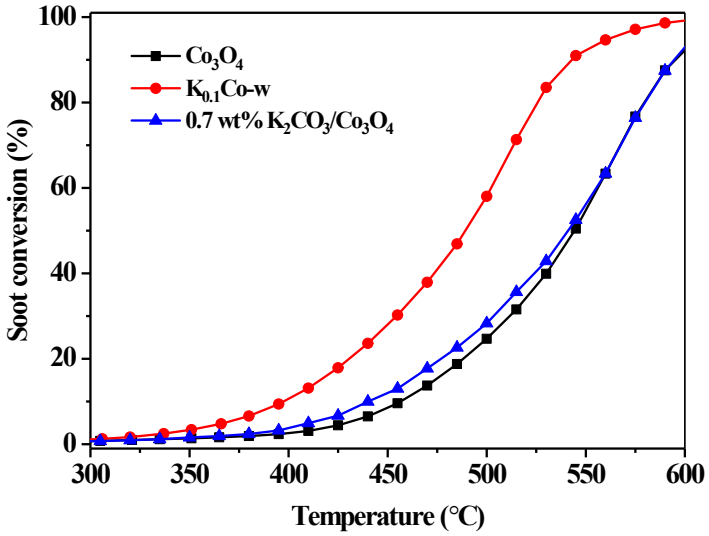

Fig.S6 Activity curves for soot oxidation in 8 % O_2/Ar over Co_3O_4, $K_{0.1}$Co-w and 0.7 wt% K_2CO_3/Co_3O_4 catalysts.

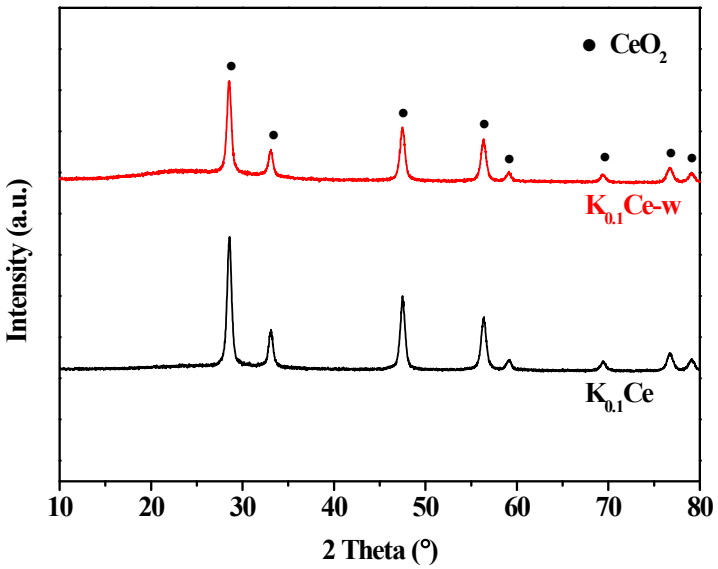

Fig.S7 XRD patterns of $K_{0.1}Ce$ and $K_{0.1}Ce$-w.

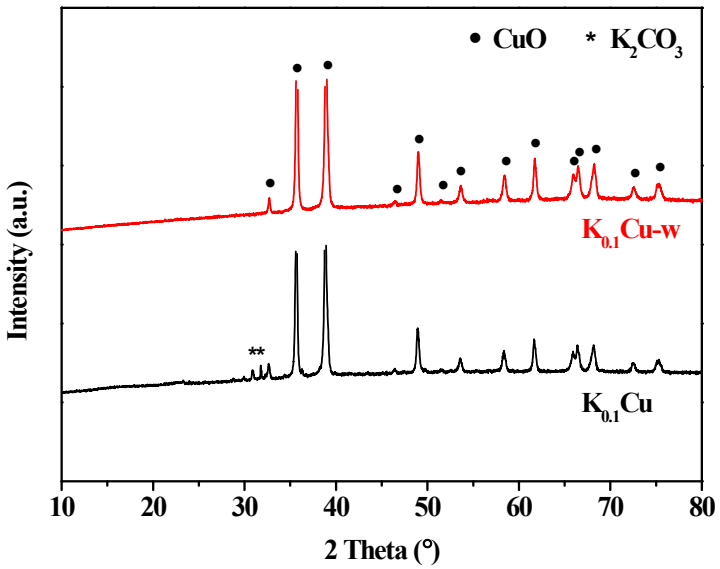

Fig.S8 XRD patterns of $K_{0.1}Cu$ and $K_{0.1}Cu$-w.

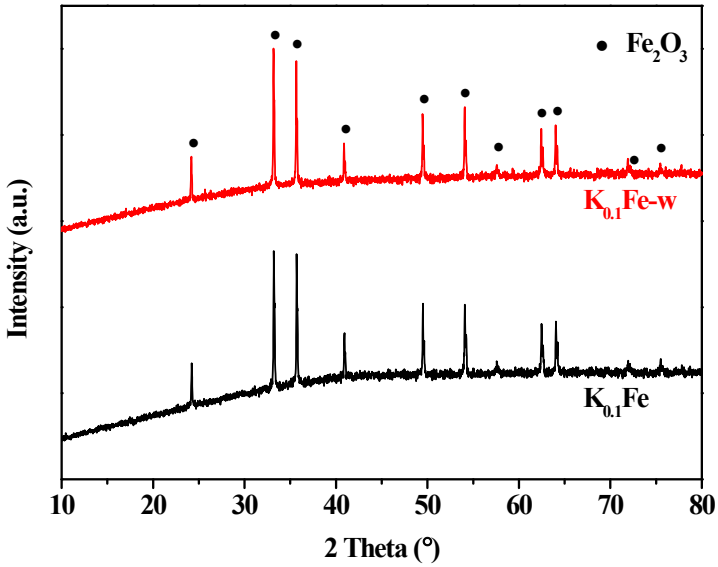

Fig.S9 XRD patterns of $K_{0.1}Fe$ and $K_{0.1}Fe$-w.

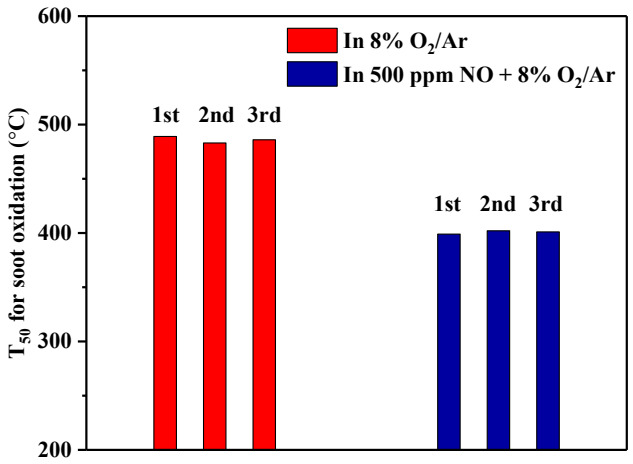

Fig.S10 T_{50} for soot oxidation under loose contact over $K_{0.1}$Co-w in 3 times of TPO recycles.

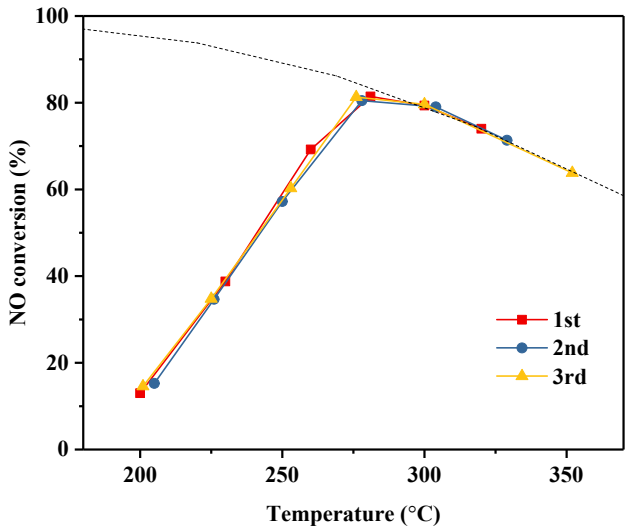

Fig.S11 Activity curves of 3 times recycle evaluations for NO oxidation on $K_{0.1}$Co-w in 500 ppm NO + 8 % O_2/Ar.