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

Effect of Ce and La dopants in Co_3O_4 nanorods on catalytic activity of CO and C_3H_6 oxidation

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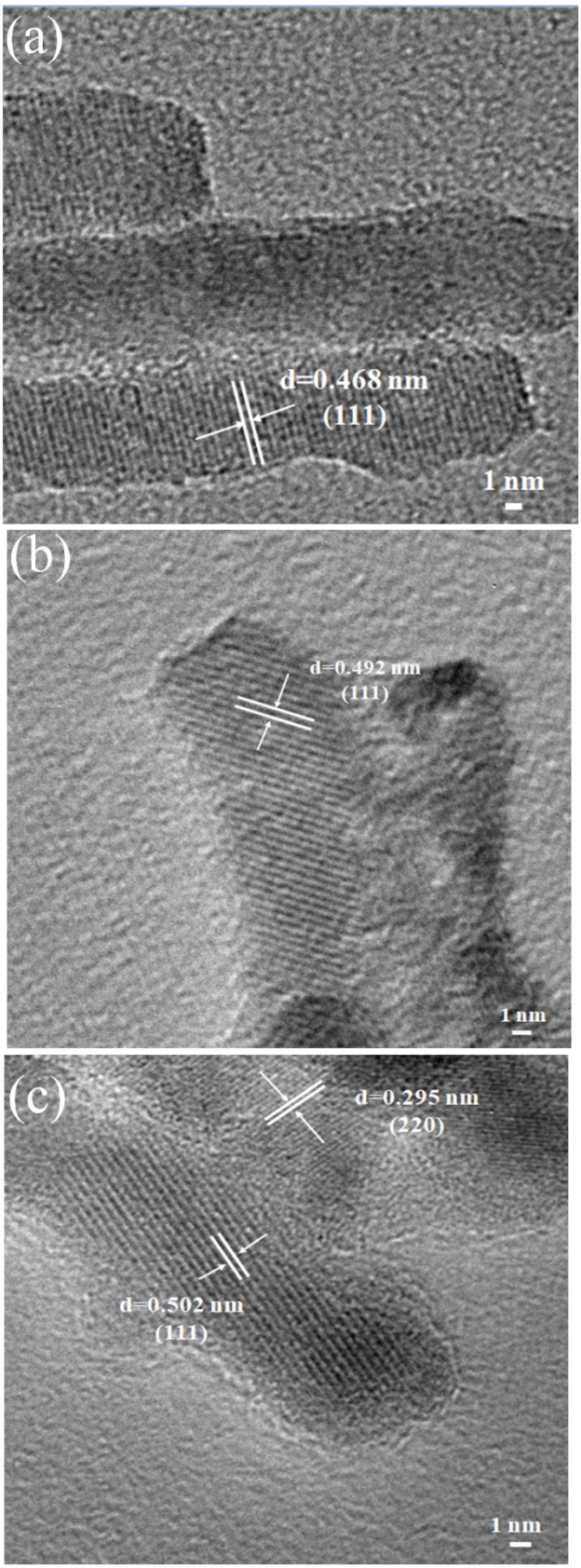

Fig. S1. HR-TEM images of (a) Co_3O_4, (b) CeO_2-Co_3O_4 and (c) La_2O_3-Co_3O_4

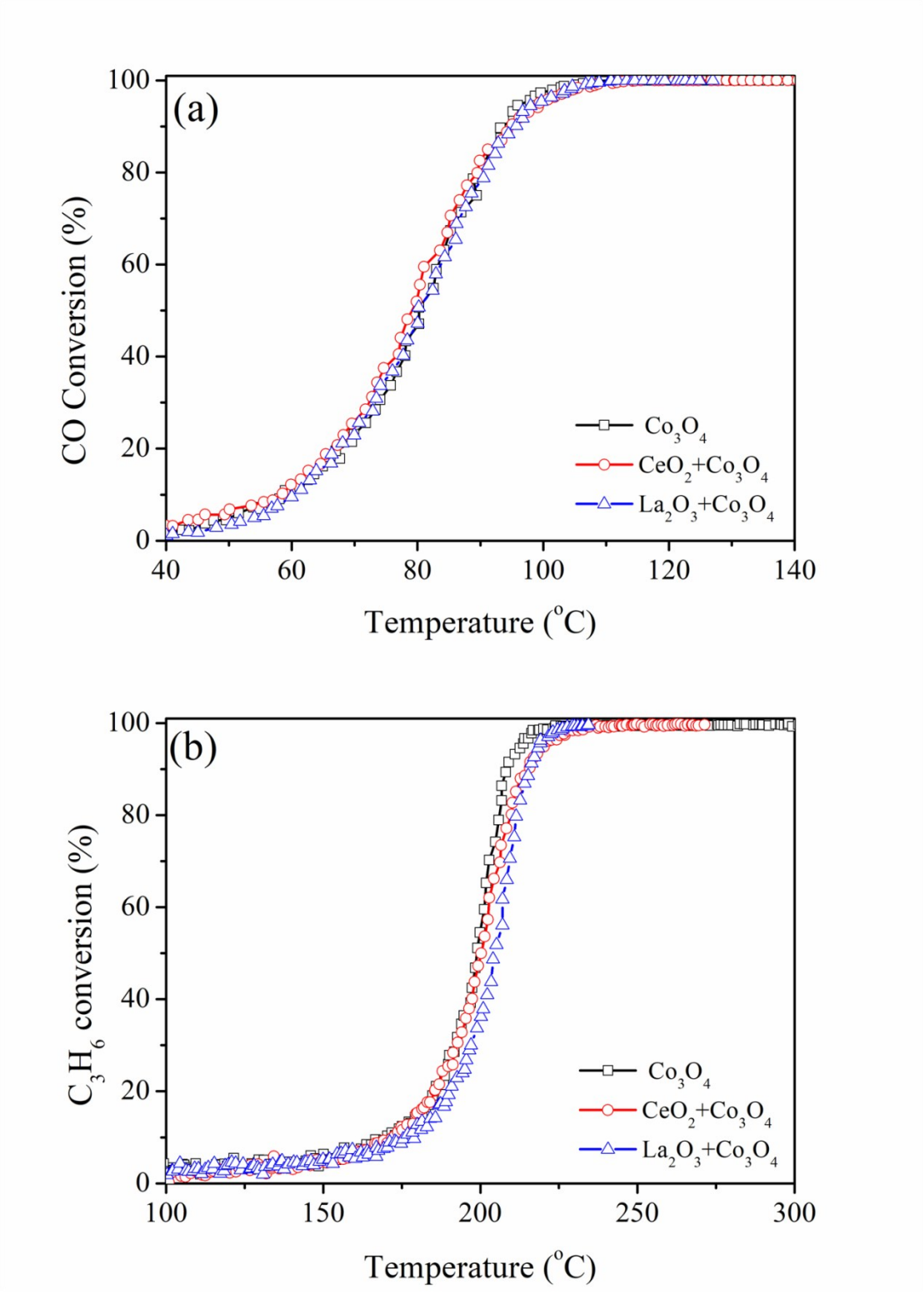

Fig. S2. Light-off curves of CO (a) and C_3H_6 (b) oxidation over Co_3O_4 and physical mixed CeO_2+Co_3O_4 and La_2O_3+Co_3O_4. Reaction conditions: (a) 0.4% CO, 10% O_2 balanced with N_2; (b) 0.1% C_3H_6, 10% O_2 balanced with N_2

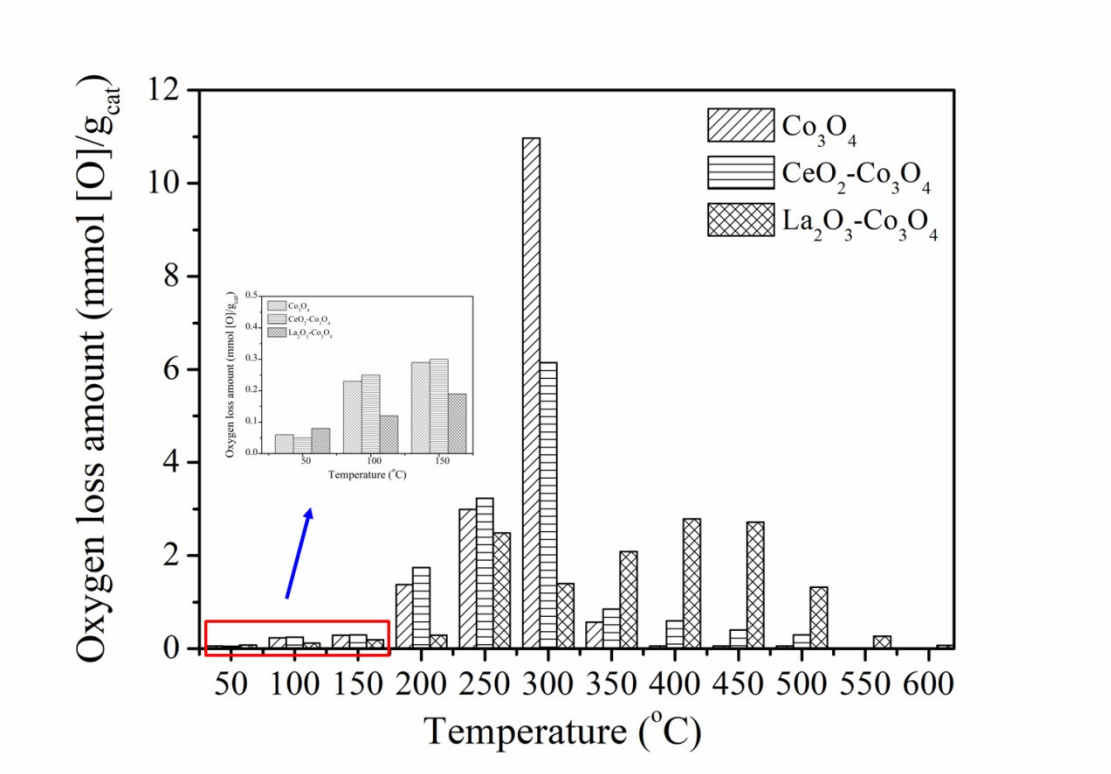

Fig. S3. Oxygen loss distribution of different catalysts versus temperature.

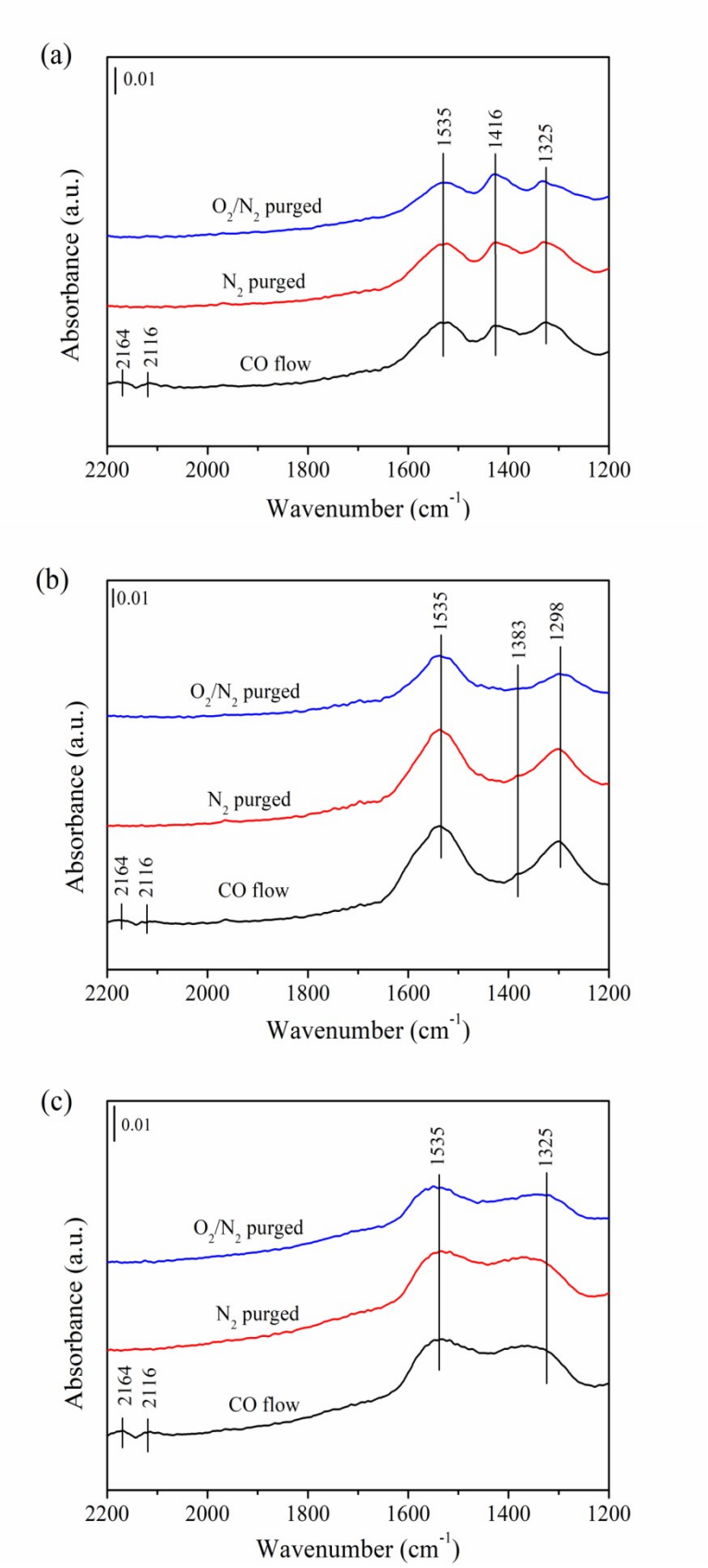

Fig. S4. *In situ* FTIR spectra of CO adsorbed at 100 °C followed by N_2 purging and O_2/N_2 reaction on (a) Co_3O_4, (b) CeO_2-Co_3O_4 and (c) La_2O_3-Co_3O_4

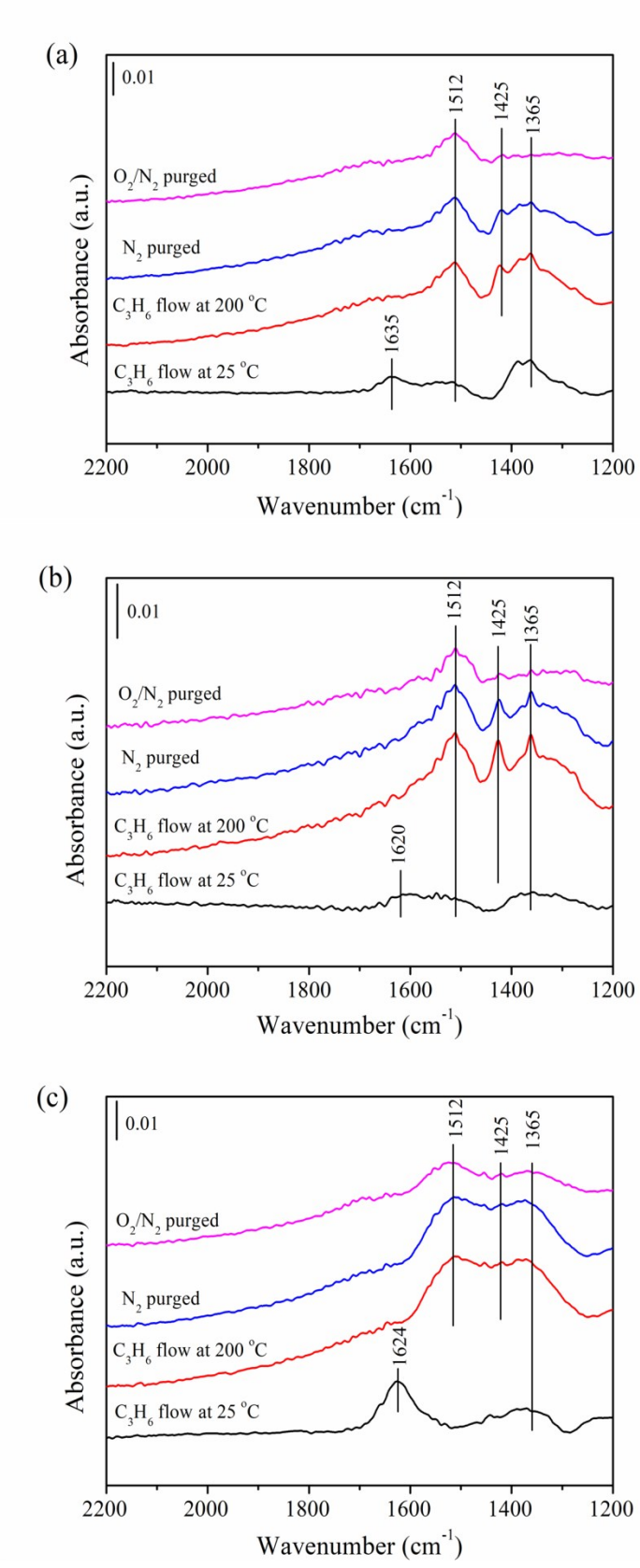

Fig. S5. *In situ* FTIR spectra of C_3H_6 initially adsorbed at 25 °C and then adsorbed at 200 °C followed by N_2 purging and O_2/N_2 reaction on (a) Co_3O_4, (b) CeO_2-Co_3O_4 and (c) La_2O_3-Co_3O_4

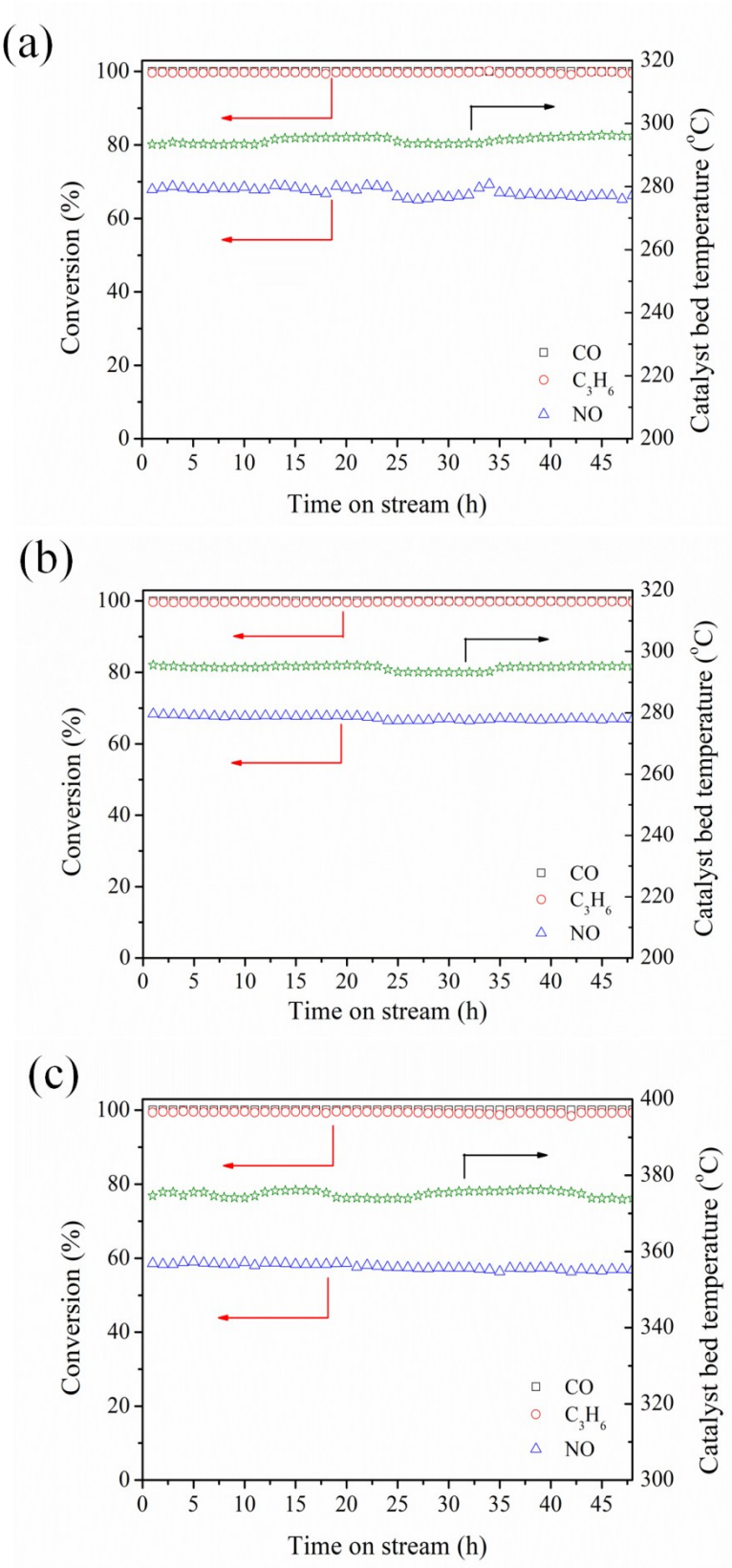

Fig. S6. Long-term stability tests under the simulated diesel exhaust over (a) Co_3O_4, (b) CeO_2-Co_3O_4 and (c) La_2O_3-Co_3O_4. Reaction condition: 0.4% CO, 0.1% C_3H_6, 0.05% NO, 10% O_2, 5% H_2O balanced with N_2 at WHSV = 240, 000 mL g^{-1} h^{-1}