Supplementary information

Controllable synthesis of supported platinum catalysts: Acidic support effect and soot oxidation catalysis

YanxiuGao[a], WeinanYang[a], XiaodongWu[a]*, Shuang Liu[b], DuanWeng[a] and RuiRan[a]

[a] *The Key Laboratory of Advanced Materials of Ministry of Education, School of Materials Science and Engineering, Tsinghua University, Beijing 100084, China*

[b] *Institute of Materials Science and Engineering, Ocean University of China, Qingdao 266100, China*

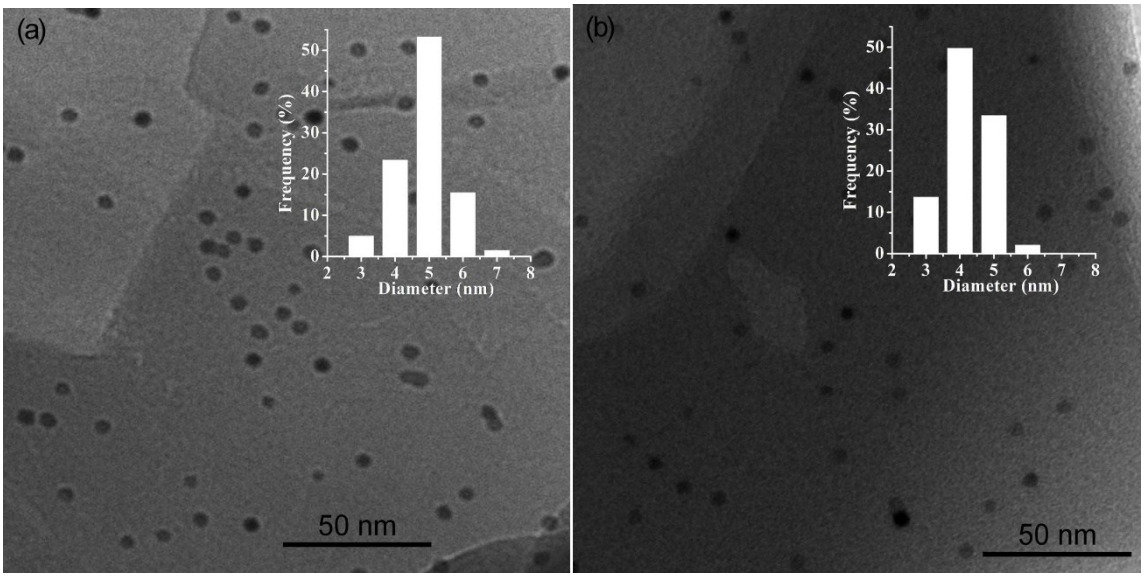

Fig. S1 TEM images and particle size distributions for the Pt/H-ZSM5 after (a) impregnation and (b) heating at 450 ºC in nitrogen.

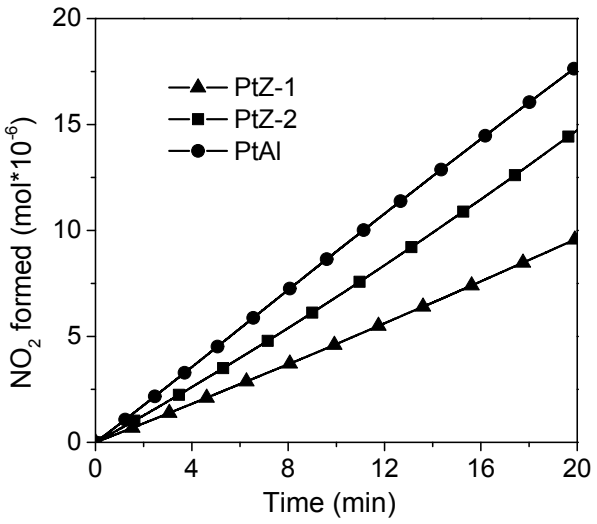

Fig. S2 Isothermal NO oxidation at 150 °C. Reaction conditions: 100 mg catalyst, 500 ppm NO/10 % O_2/N_2, 500 mL/min.

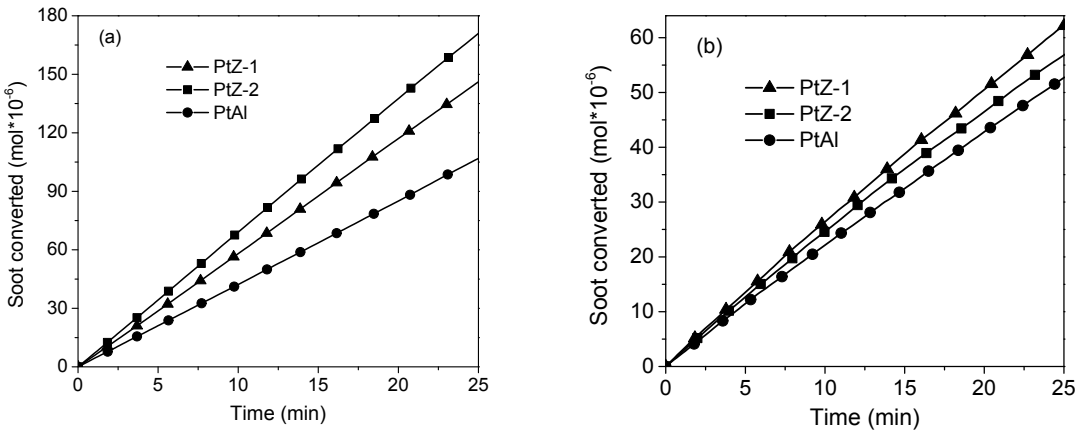

Fig. S3 Isothermal oxidation of soot (a) at 300 ºC in NO_2+O_2 and (b) at 400 ºC in O_2. Reaction conditions: 100 mg catalyst + 20 mg soot, loose contact, 500 ppm NO (when used)/10 % O_2/N_2, 500 mL/min.

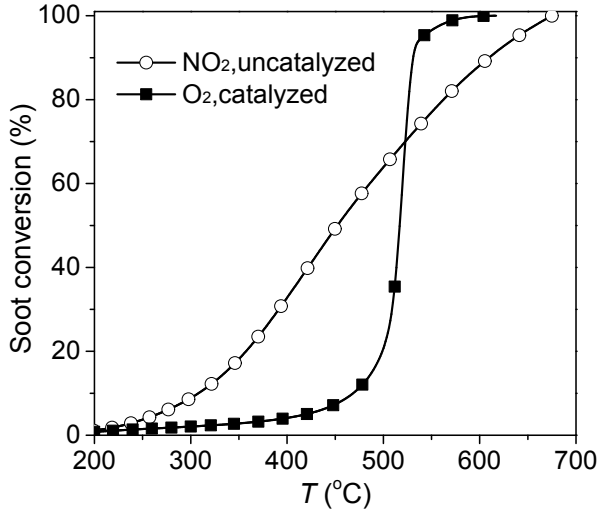

Fig. S4 Soot conversion profiles for the uncatalyzed soot-TPO in 1 % NO_2/N_2 and the catalyzed one over PtZ-2 in 10 % O_2/N_2. Reaction conditions: 100 mg catalyst + 20 mg soot, loose contact, 500 mL/min, 10 °C/min to 700 °C.