The deactivation mechanism of Pb on Ce/TiO$_2$ catalyst for selective catalytic reduction of NOx

with NH$_3$:

TPD, DRIFT and kinetics studies

Shu-xian Wang[a,b], Rui-tang Guo[a,b*],Wei-guo Pan[a,b], Ming-yuan Li [a,b], Peng Sun[a,b],

Shu-ming Liu[a,b], Shuai-wei Liu[a,b], Xiao Sun[a,b], Jian Liu[a,b]

a. School of Energy Source and Mechanical Engineering, Shanghai University of Electric Power,

Shanghai, P. R. China

b. Shanghai Engineering Research Center of Power Generation Environment Protection, Shanghai,

P. R. China

Corresponding author：

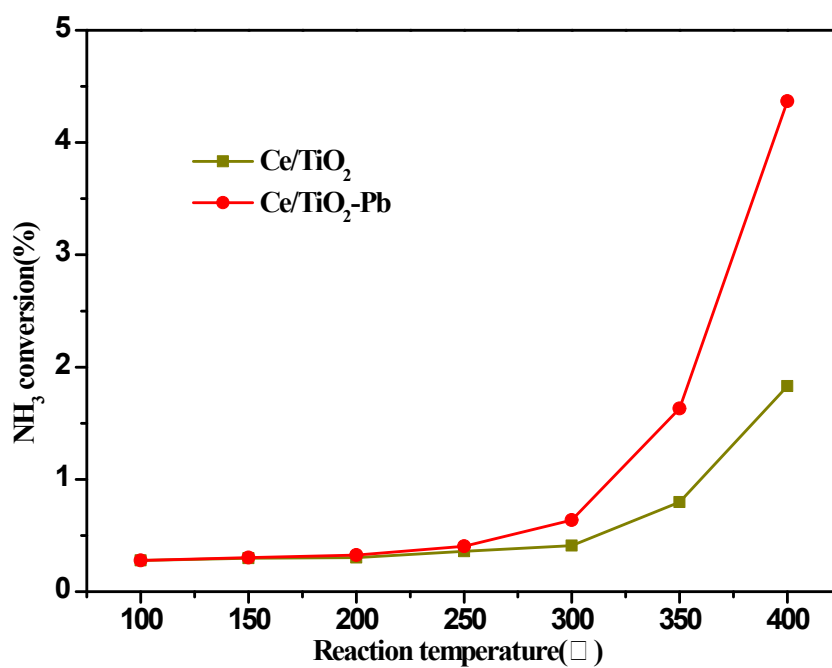**Rui-tang Guo**

E-mail: grta@zju.edu.cn

Fig.S1 NH$_3$ oxidation activities of the two catalyst samples as a function of reaction temperature

Reaction conditions: [NH$_3$] = 600 ppm, [O$_2$] = 5%, balance Ar, total flow rate = 1L/min, GHSV=108, 000h^{-1}
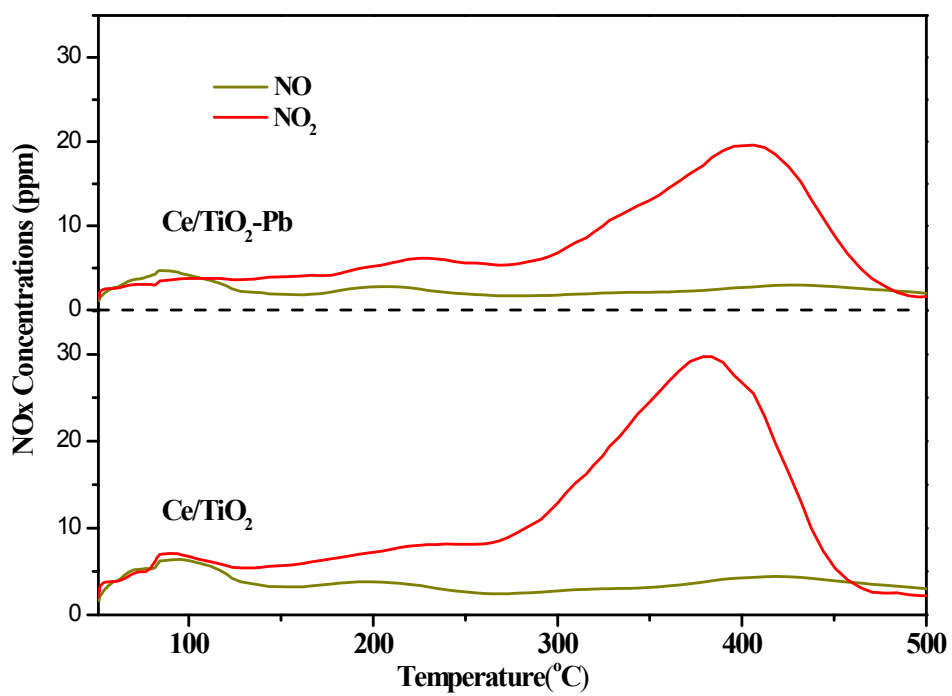
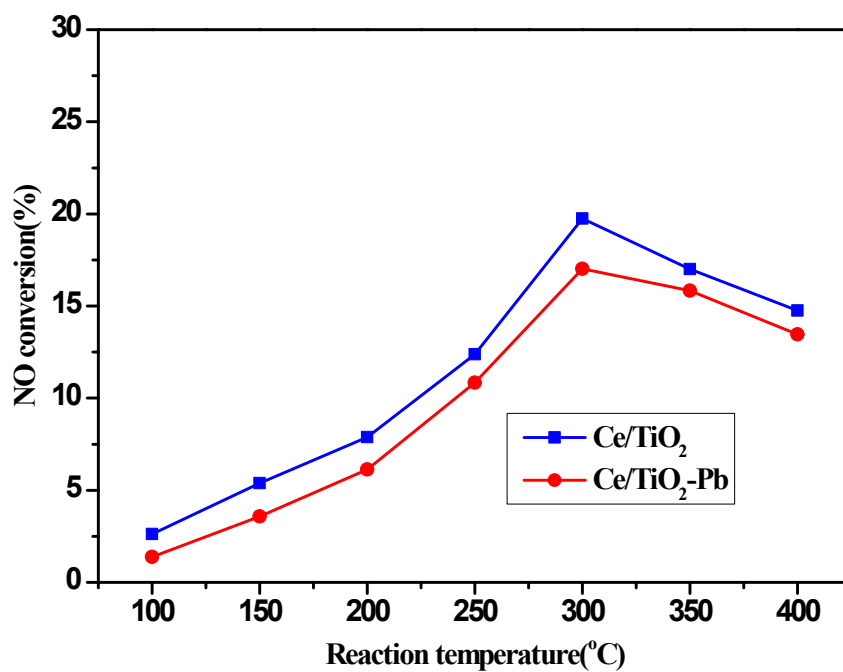Fig.S2 NO+O$_2$-TPD profiles of the two catalyst samples

Fig.S3 NO oxidation over the two catalyst samples as a function or reaction temperature
Reaction conditions: [NO] = 600 ppm, [O_2] = 5%, balance Ar, total flow rate = 1L/min

The specific surface areas of the two catalyst sample were measured by N_2 adsorption and desorption at liquid nitrogen temperature (-196℃) on a Quantachrome Autosorb-iQ-AG instrument, followed by calculation based on the Brunauer–Emmett–Teller (BET) method. The results of BET surface areas of the two catalyst samples are summarized in Table S1.

Table S1. BET surface areas of the two catalyst samples

Samples	BET surface area (m^2/g)
Ce/TiO$_2$	110.01
Ce/TiO$_2$-Pb	88.49