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

One-pot construction of Fe/ZSM-5 zeolites for the selective catalytic reduction of nitrogen oxides by ammonia

Enhui Yuan[1], Guangjun Wu[1], Weili Dai[1], Naijia Guan[1,2], Landong Li[1,2*]

[1] *School of Materials Science and Engineering & National Institute for Advanced Materials, Nankai University, Tianjin, 300350, P.R. China*

[2] *Key Laboratory of Advanced Energy Materials Chemistry of Ministry of Education, Collaborative Innovation Center of Chemical Science and Engineering, Nankai University, Tianjin, 300071, P.R. China*

* Corresponding author

E-mail: lild@nankai.edu.cn

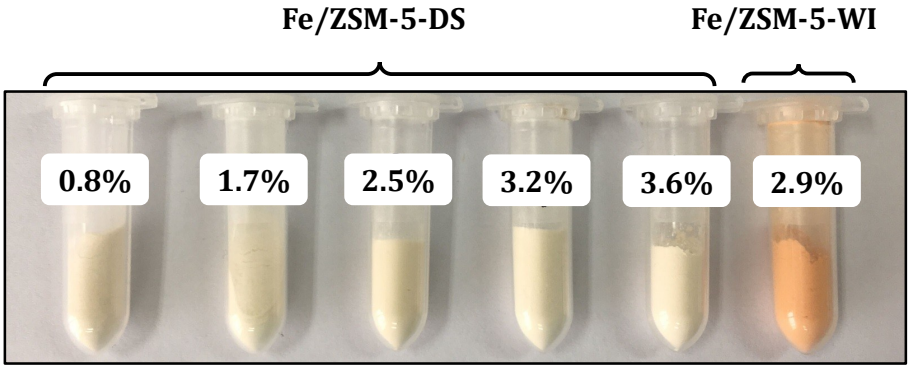

Figure S1 Apparent color of Fe/ZSM-5-DS samples with different Fe loadings and 2.9%Fe/ZSM-5-WI

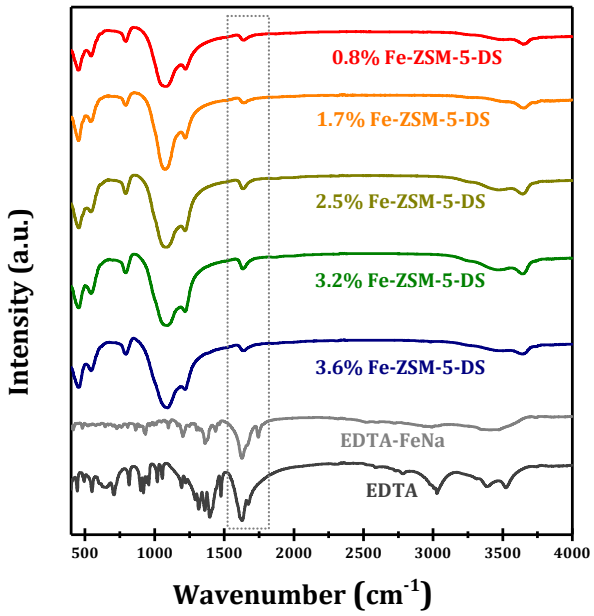

Figure S2 FTIR spectra of EDTA-FeNa and as-synthesized Fe/ZSM-5-DS samples

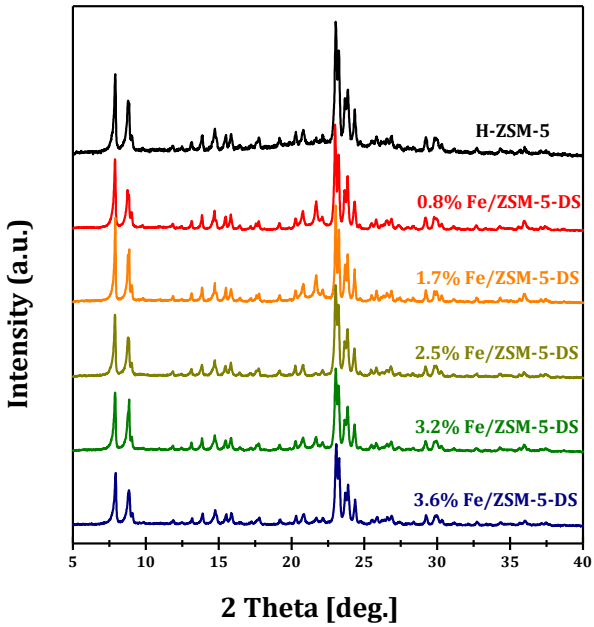

Figure S3 XRD patterns of H-ZSM-5 and Fe/ZSM-5-DS with different Fe loadings

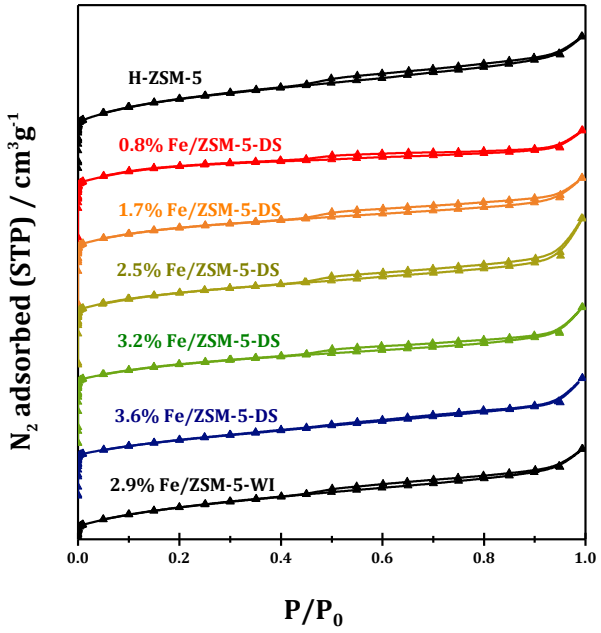

Figure S4 Low temperature nitrogen adsorption-desorption isotherms of H-ZSM-5 and Fe/ZSM-5 samples

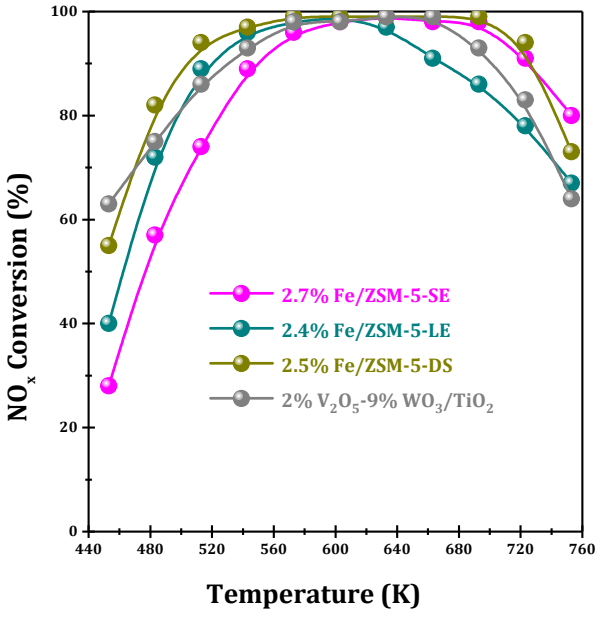

Figure S5 NOx conversion as a function of reaction temperature over various catalysts. Reaction conditions: NO =1000 ppm; NH_3 =1000 ppm; O_2 =10%; catalyst =0.4 g; GHSV =30,000 /h; SE: solid-state ion-exchange, LE: liquid-phase ion-exchange.

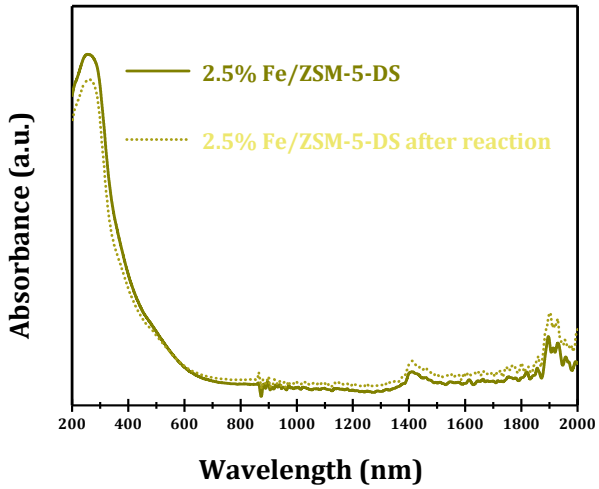

Figure S6 UV-vis-NIR spectra of hydrated 2.5%Fe/ZSM-5-DS catalyst before and after NH_3-SCR reaction at 623 K for 40 h. Reaction conditions: NO =1000 ppm; NH_3 =1000 ppm; O_2 =10%; SO_2 = 50 ppm; H_2O = 3%; catalyst =0.4 g; GHSV =30,000 /h