

Electronic Supplementary Material (ESI) for Catalysis Science & Technology.
This journal is © The Royal Society of Chemistry 2021

Support information

Steering ammonia decomposition over Ru nanoparticles on ZrO₂ through enhancing metal-support interaction

Tong Zhang,^{a,b,#} Xiaohua Ju,^{c,#} Lvyue Liu,^a Lin Liu,^{c,d,*} Teng He,^{c,d} Yunhua Xu,^{a,b} Hanying Wang,^b Ping Chen^{c,d}

^a*School of Material Science and Engineering, Xi'an University of Technology, Xi'an, 710048, China*

^b*School of Energy Engineering, Yulin University, Yulin 719000, China*

^c*Dalian National Laboratory for Clean Energy, State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China*

^d*Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China*

#These authors contributed equally to this work

E-mail: liulin@dicp.ac.cn

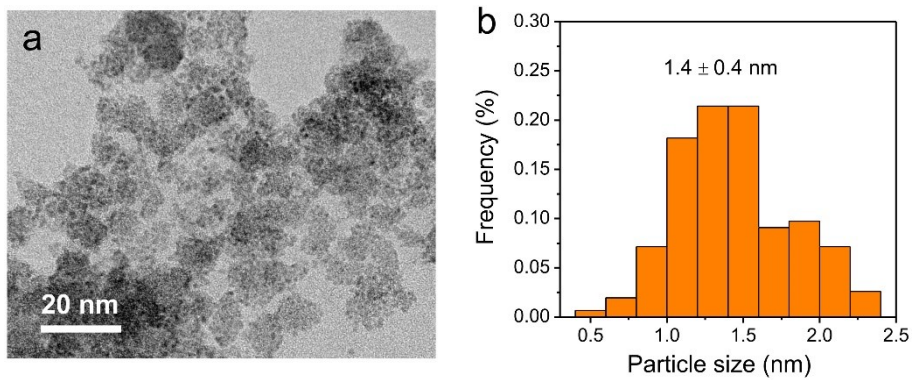


Fig. S1 TEM image (a) and particle size distribution (b) of RuO₂ NPs.

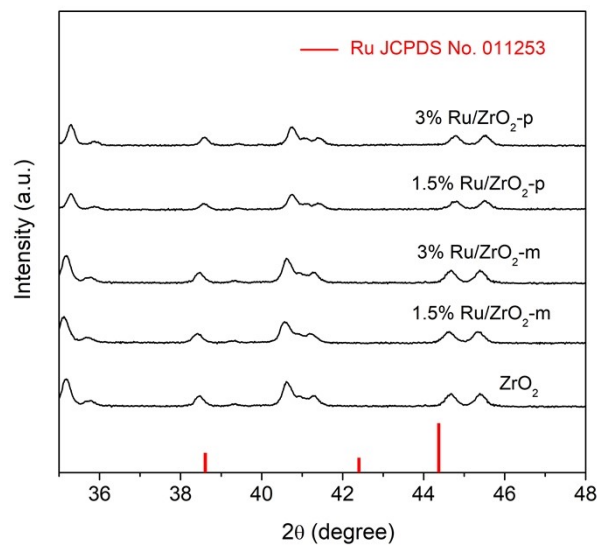


Fig. S2 Enlarged XRD patterns of ZrO₂, 1.5% Ru/ZrO₂-m, 3% Ru/ZrO₂-m, 1.5% Ru/ZrO₂-p and 3% Ru/ZrO₂-p samples.

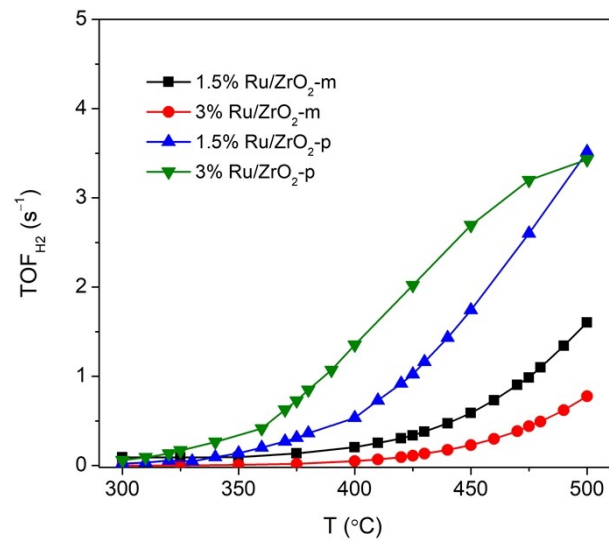


Fig. S3 TOF_{H₂} values of 1.5% Ru/ZrO₂-m, 3% Ru/ZrO₂-m, 1.5% Ru/ZrO₂-p and 3% Ru/ZrO₂-p as a function of temperature.

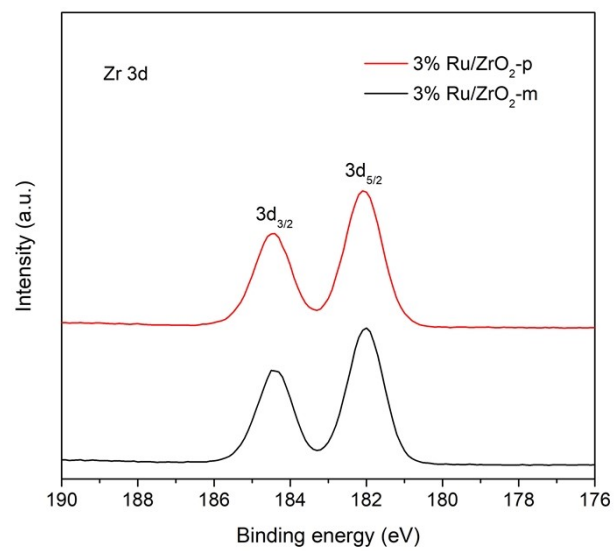


Fig. S4 Zr 3d core level XPS spectra of 3% Ru/ZrO₂-m and 3% Ru/ZrO₂-p catalysts.

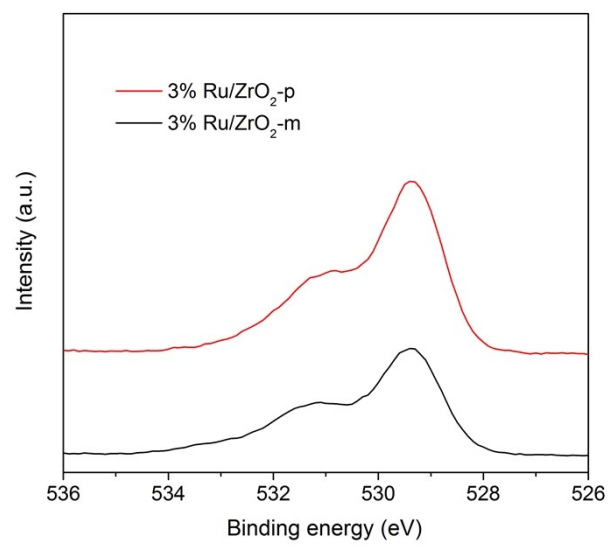


Fig. S5 O 1s core level XPS spectra of 3% Ru/ZrO₂-m and 3% Ru/ZrO₂-p catalysts.