

Electronic Supplementary Information

Thermally Stable Ultra-Small Pd Nanoparticles Encapsulated by Silica: Elucidating the Reasons Determining the Inherent Activity of Noble Metal Catalysts

Jiawei Ying,^{†a} Honggen Peng,^{†a} Xianglan Xu,^a Ruonan Wang,^a Fan Yu,^a Qi Sun,^a Wenming Liu,^a Zhixian Gao,^b Xiang Wang^{*a}

^a Institute of Applied Chemistry, College of Chemistry,
Nanchang University, Nanchang, Jiangxi 330031, P. R. China

^b Institute of Coal Chemistry, Chinese Academy of Sciences, Taiyuan 030001, China.

[†]These authors contributed equally to this work.

* Corresponding author. Tel: +86 15979149877. E-mail: xwang23@ncu.edu.cn

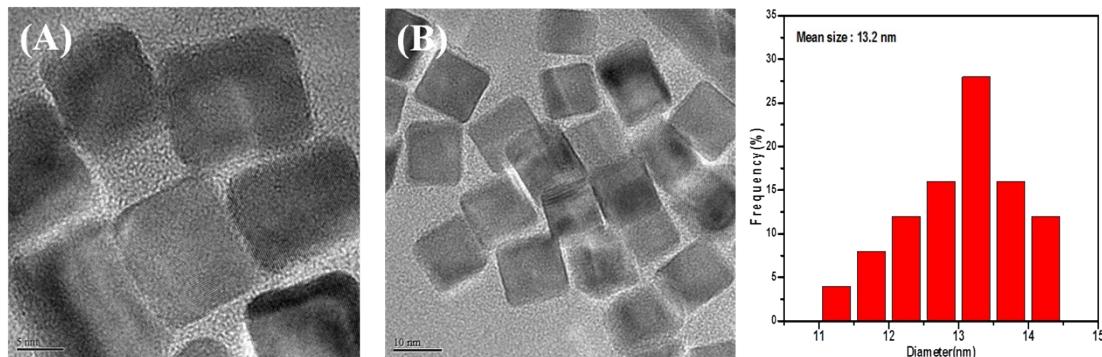


Fig. S1. HRTEM images of Cubic Pd nanoparticles .

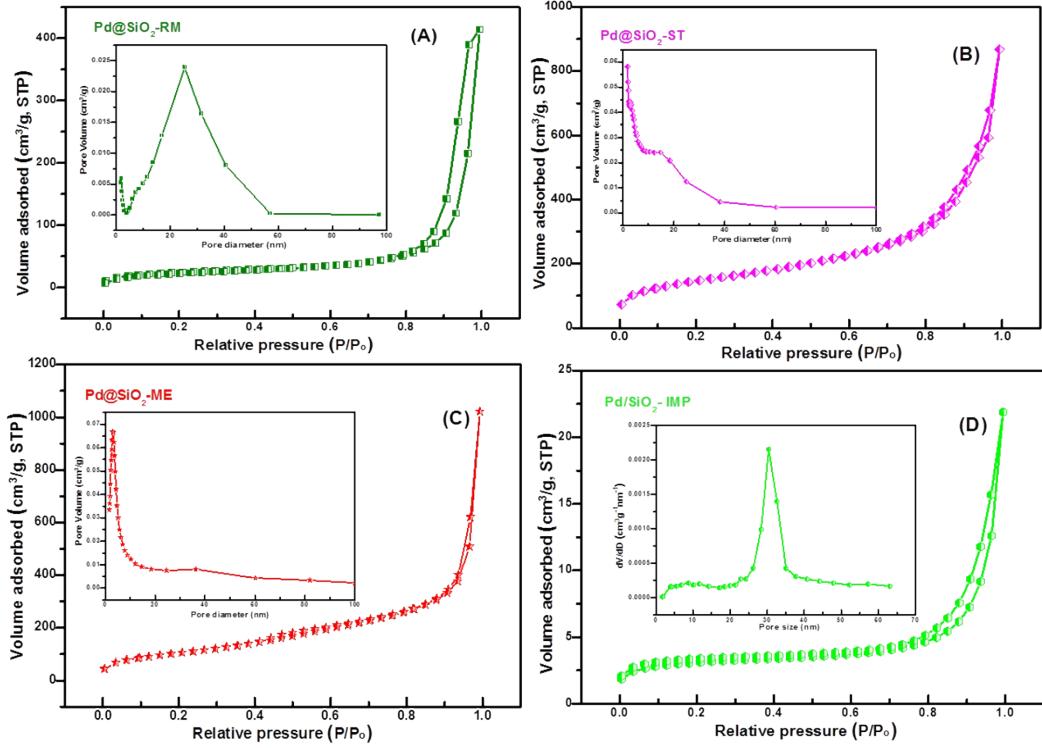


Fig. S2. N_2 adsorption–desorption and pore size distributions of A) Pd@SiO₂-RM, B) Pd@SiO₂-ST, C) Pd@SiO₂-ME, and D) Pd/SiO₂-IMP.

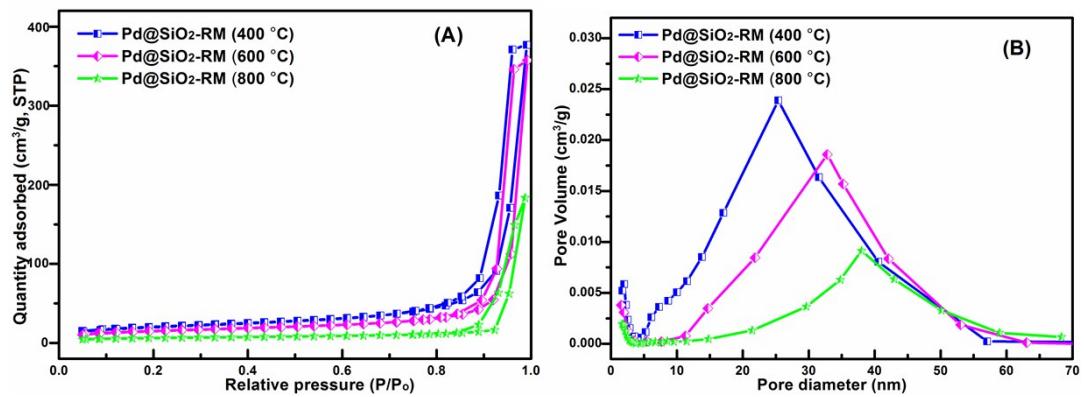


Fig. S3. (A) N₂ adsorption–desorption and (B) pore size distributions of Pd@SiO₂-RM calcined at different temperatures.

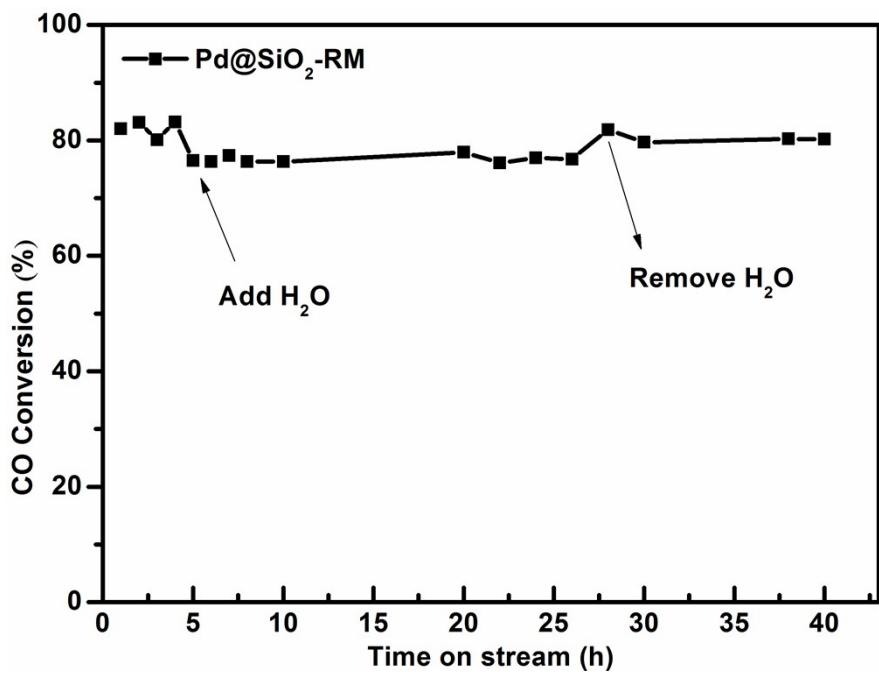


Fig. S4. Water resistance and durability test of Pd@SiO₂-RM catalyst for CO oxidation.