Highly dispersed ultrafine palladium nanoparticles encapsulated in triazinyl functionalized porous organic polymer as a highly efficient catalyst for transfer hydrogenation of aldehydes

Jin Yang,^a Man Yuan,^a Dan Xu,^a Hong Zhao,^a Yangyang Zhu,^a Menying Fan,^a Fengwei Zhang*^b and Zhengping Dong*^a

^a State Key Laboratory of Applied Organic Chemistry, College of Chemistry and Chemical Engineering, Gansu Provincial Engineering Laboratory for Chemical Catalysis, Laboratory of Special Function Materials and Structure Design of the Ministry of Education, Lanzhou University, Lanzhou, 730000, PR China.
^b Institute of Crystalline Materials, Shanxi University, Taiyuan 030006, PR China.

E-mail: fwzhang@sxu.edu.cn (Fengwei Zhang), dongzhp@lzu.edu.cn (Zhengping Dong). Fax: +86 0931 8912582; Tel: +86 0931 8912577.



Fig. S1. The TEM image of the 1.81%Pd/TP-POP catalyst.



Fig. S2. The HRTEM image for the lattice of Pd NPs in the 1.31%Pd@TP-POP catalyst.



Fig. S3. TG analysis of the TP-POP in nitrogen atmosphere.



Fig. S4. (a) UV-Vis absorption spectra of 4-NP before and after addition of NaBH₄ solution, (b) UV-Vis spectra of the 4-NP reaction catalyzed by the TP-POP catalyst.



Fig. S5. TEM (a), (b) the corresponding histogram showing the particle size distribution images of the reused 1.31%Pd@TP-POP catalyst.



Fig. S6. XRD patterns of the fresh and recycled 1.31%Pd@TP-POP catalyst.