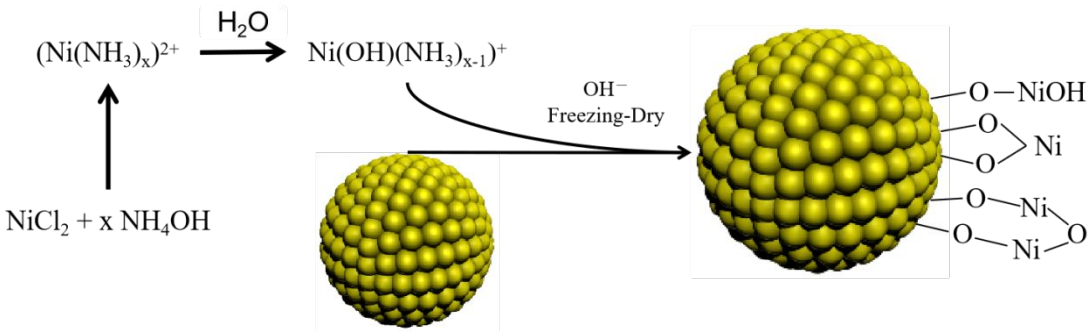
Controlled hydrolysis of nickel-ammonia complex on Pt nanoparticles for the preparation of highly active and stable PtNi/C catalysts

Hao Wu[a], *Huichi Zhong*[a], *Yingzhi Pan*[a], *Huibin Li*[a], *Jianhuang Zeng*[a, b, *]

[a]School of Chemistry and Chemical Engineering, South China University of Technology; Guangdong Key Lab for Fuel Cell Technology, Guangzhou 510641, China

[b]Sino-Science Hydrogen Co. Ltd., Guangzhou 511458, China.

*Corresponding author, cejhzeng@scut.edu.cn (J.H. Zeng)



Scheme S1. Schematic diagram of the mechanism on the controlled hydrolysis of nickel-ammonia complex on Pt nanoparticles

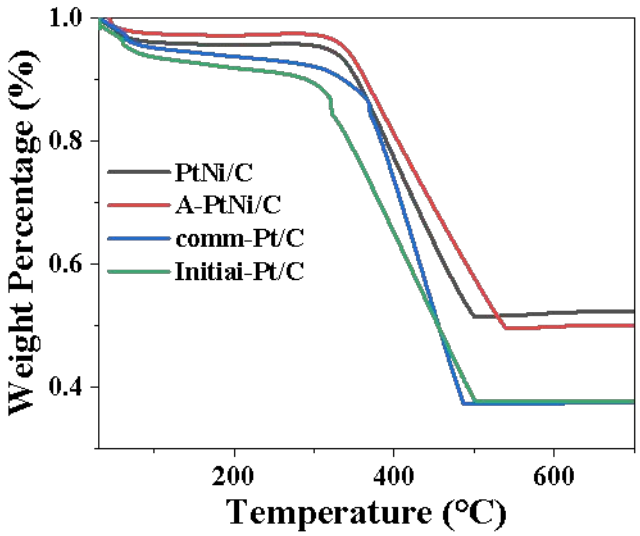


Figure S1. Thermogravimetric analysis (TGA) of the catalysts

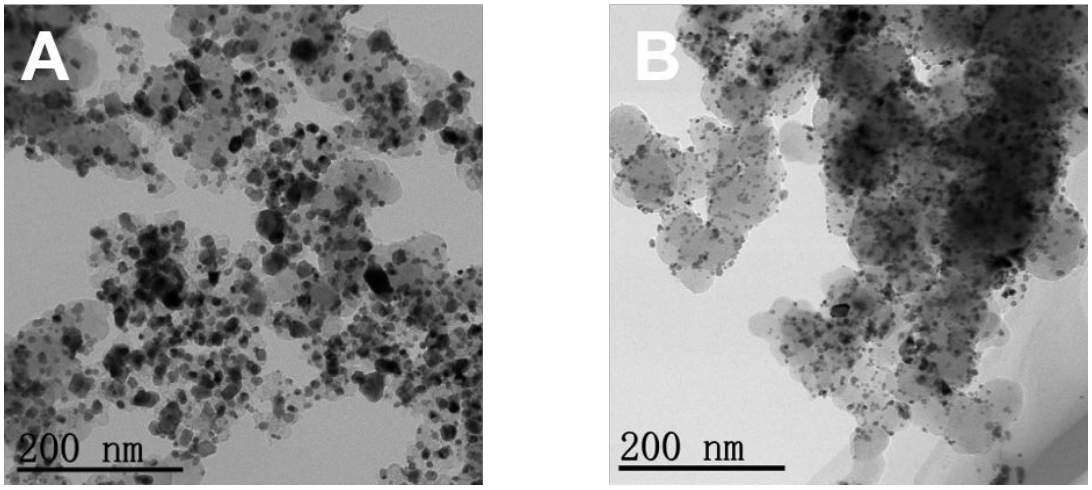


Figure S2. TEM images of PtNi/C (A) and A-PtNi/C (B)

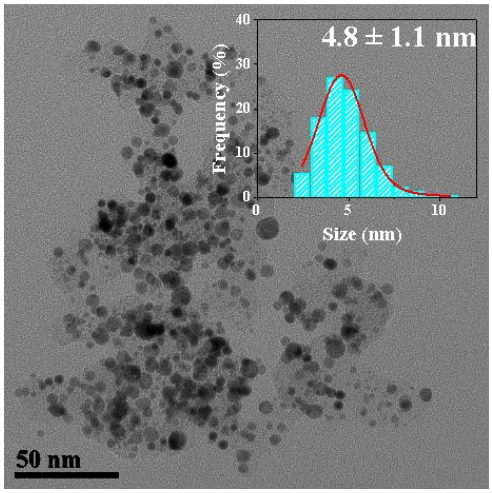


Figure S3. TEM and particle size distribution (inset) of HT-Pt/C

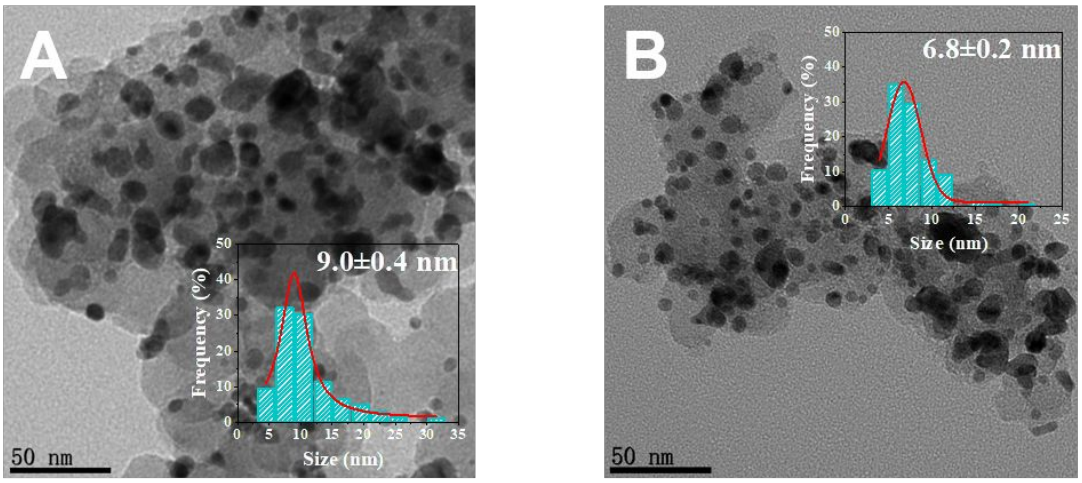


Figure S4. TEM image and particle size distribution (inset) after ADT of PtNi/C (A) and A-PtNi/C (B)

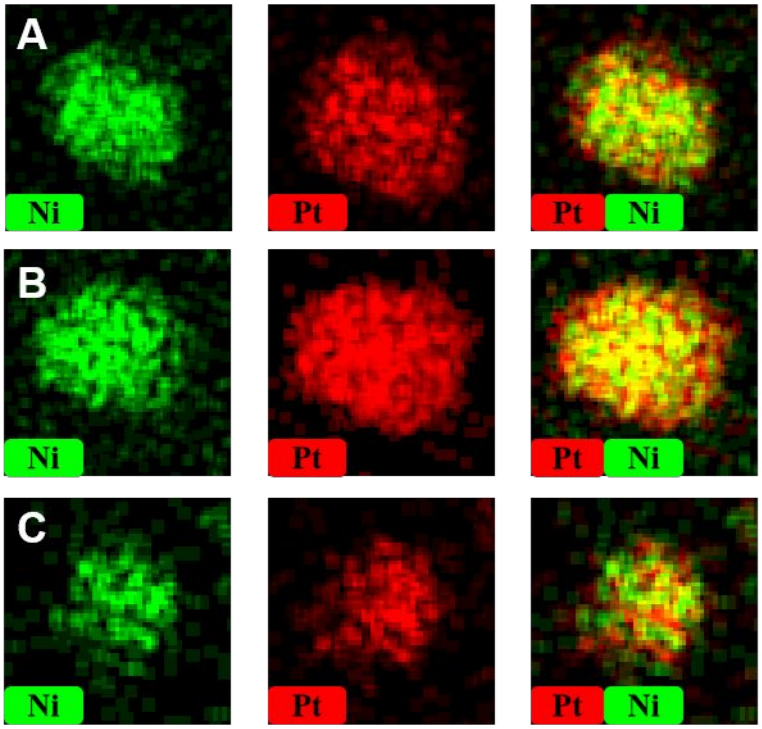


Figure S5. STEM-EDS mappings of PtNi/C before (A) and after 30K cycles (B) and A-PtNi/C catalysts after 30K cycles (C).