Electronic Supplementary Material (ESI) for RSC Advances.

Electronic Supplementary Information

Facile large-scale synthesis of Au-Pt alloyed nanowire networks as efficient electrocatalysts for methanol oxidation and oxygen reduction reactions

Pei Song,† Shan-Shan Li,† Li-Li He, Jiu-Ju Feng, Liang Wu, Shu-Xian Zhong, Ai-Jun Wang*

College of Geography and Environmental Science, College of Chemistry and Life Science, Zhejiang Normal University, Jinhua 321004, China

† These authors contributed equally to this work.

**Corresponding Author: ajwang@zjnu.cn (A.J. Wang); Tel./Fax: +86 579 82282269.*

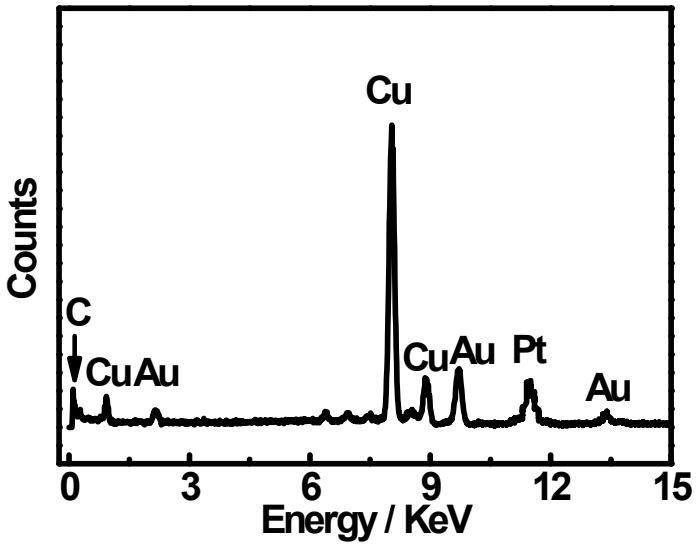

Fig. S1 EDS pattern of AuPt NNs.

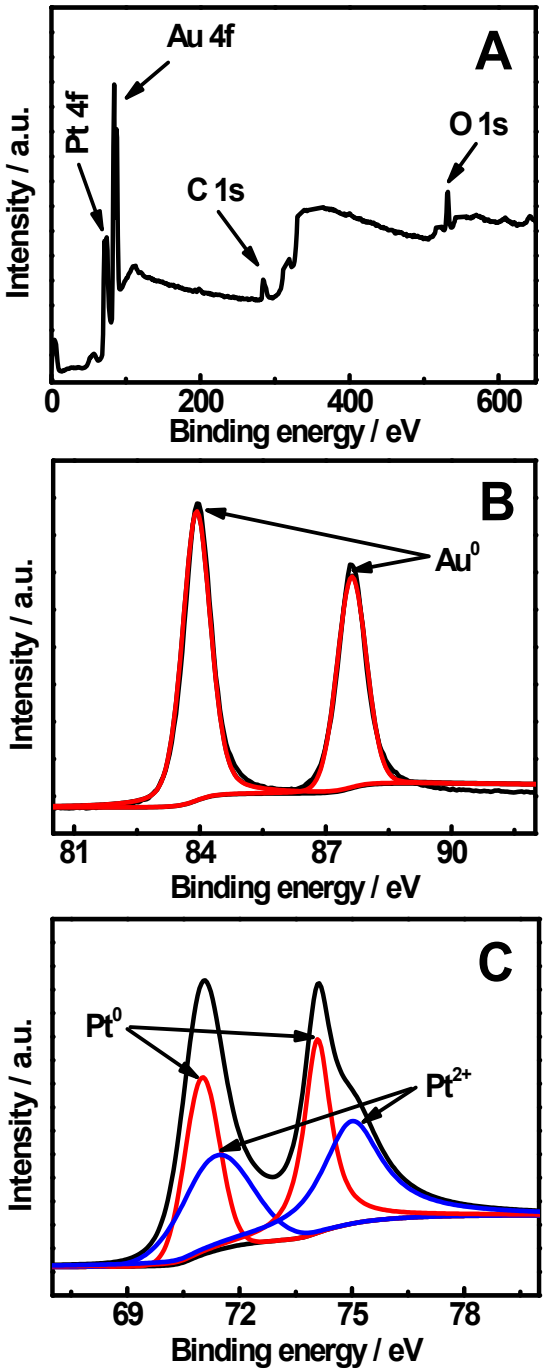

Fig. S2 Survey (A), high-resolution Au 4f (B) and Pt 4f (C) XPS spectra of AuPt NNs.

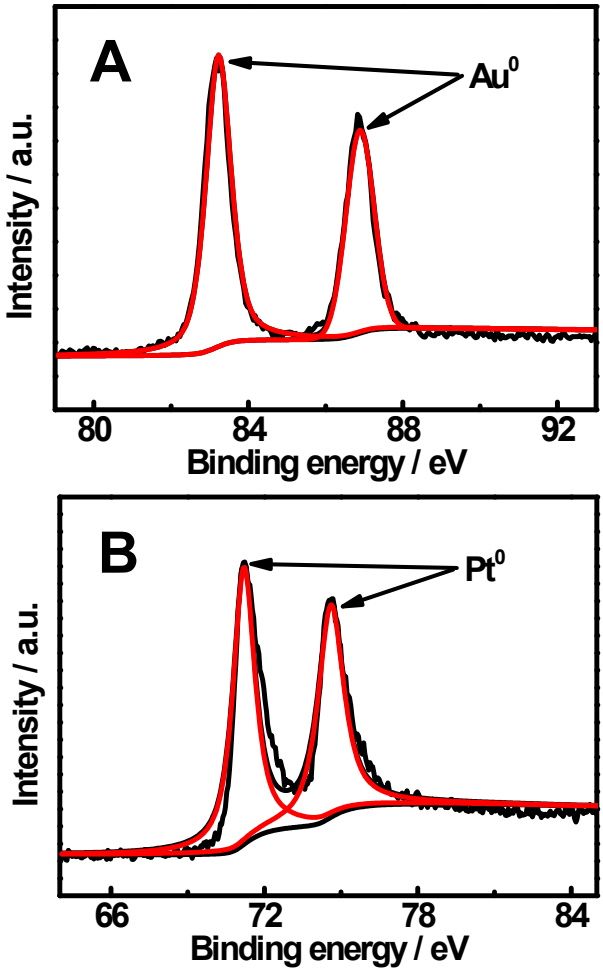

Fig. S3 High-resolution XPS spectra of Au 4f for Au nanoparticles (A) and Pt 4f for Pt nanoparticles (B).

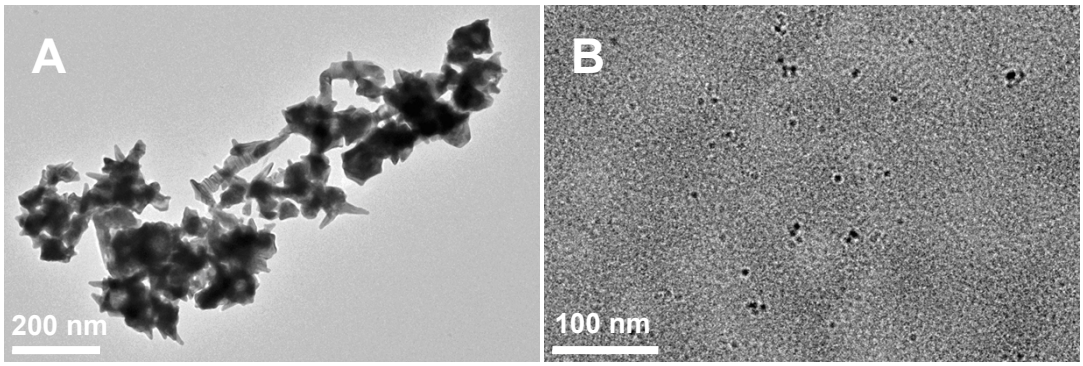

Fig. S4 TEM images of Au nanoparticles (A) and Pt nanoparticles (B).

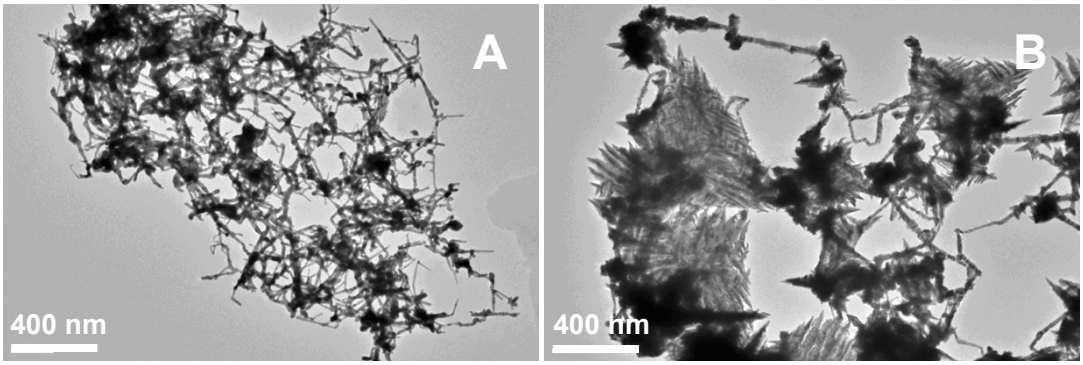

Fig. S5 TEM images of AuPt products obtained at the reaction temperature of 60 °C (A) and 40 °C (B).

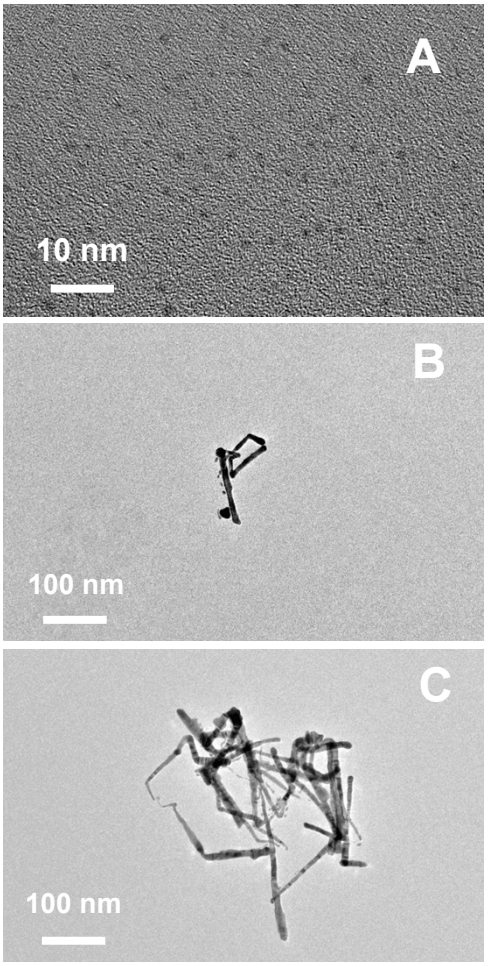

Fig. S6 TEM images of the typical AuPt products obtained with the reaction time of 0.5 min (A), 1 min (A), and 2 min (B).

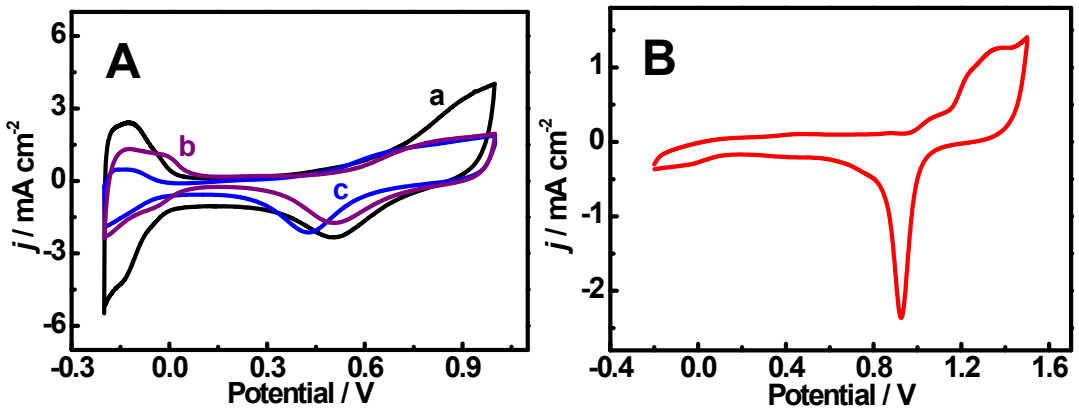

Fig. S7 (A) CV curves of AuPt NNs (curve a), Pt black (curve b), and Pt nanoparticles (curve c) modified electrodes in 0.5 M H_2SO_4 at a san rate of 50 mV s^{-1}, along with (B) Au nanoparticles modified electrode.

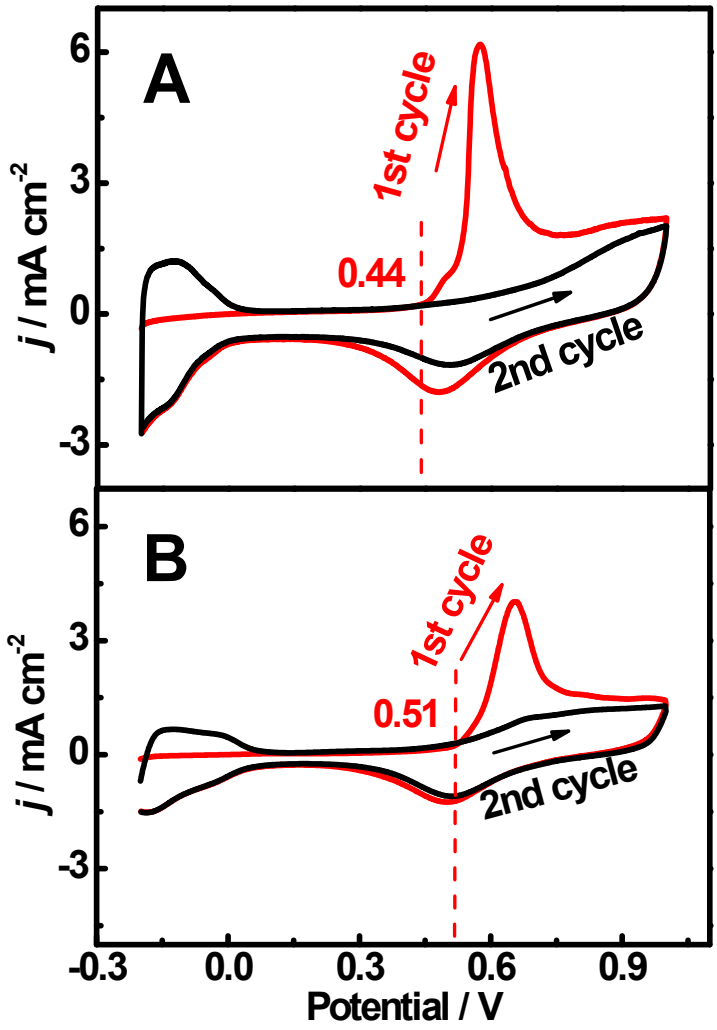

Fig. S8 CO-stripping voltammograms of AuPt NNs (A) and Pt black (B) modified electrodes in 0.5 M H_2SO_4 at a san rate of 50 mV s^{-1}.

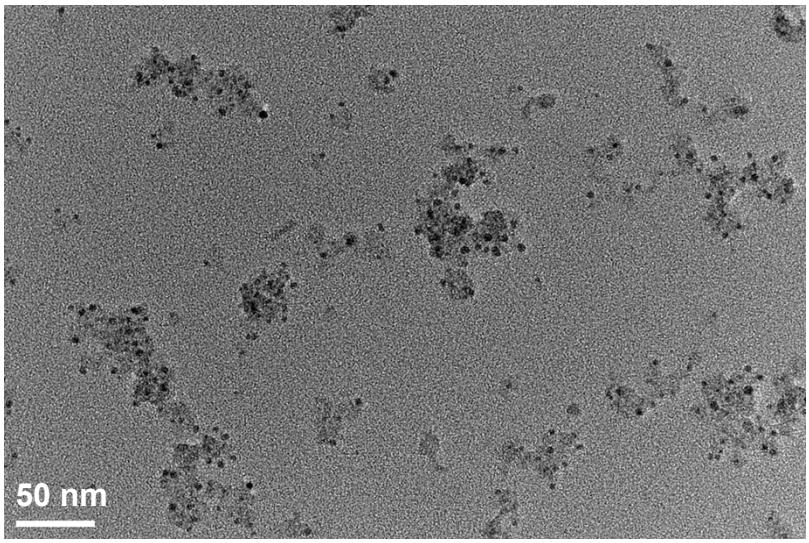

Fig. S9 Representative TEM image of Pt black.