Electronic Supplemental Information

Self-supported Pt nanoclusters *via* galvanic replacement from Cu_2O nanocubes as efficient electrocatalysts

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Additional Figures:

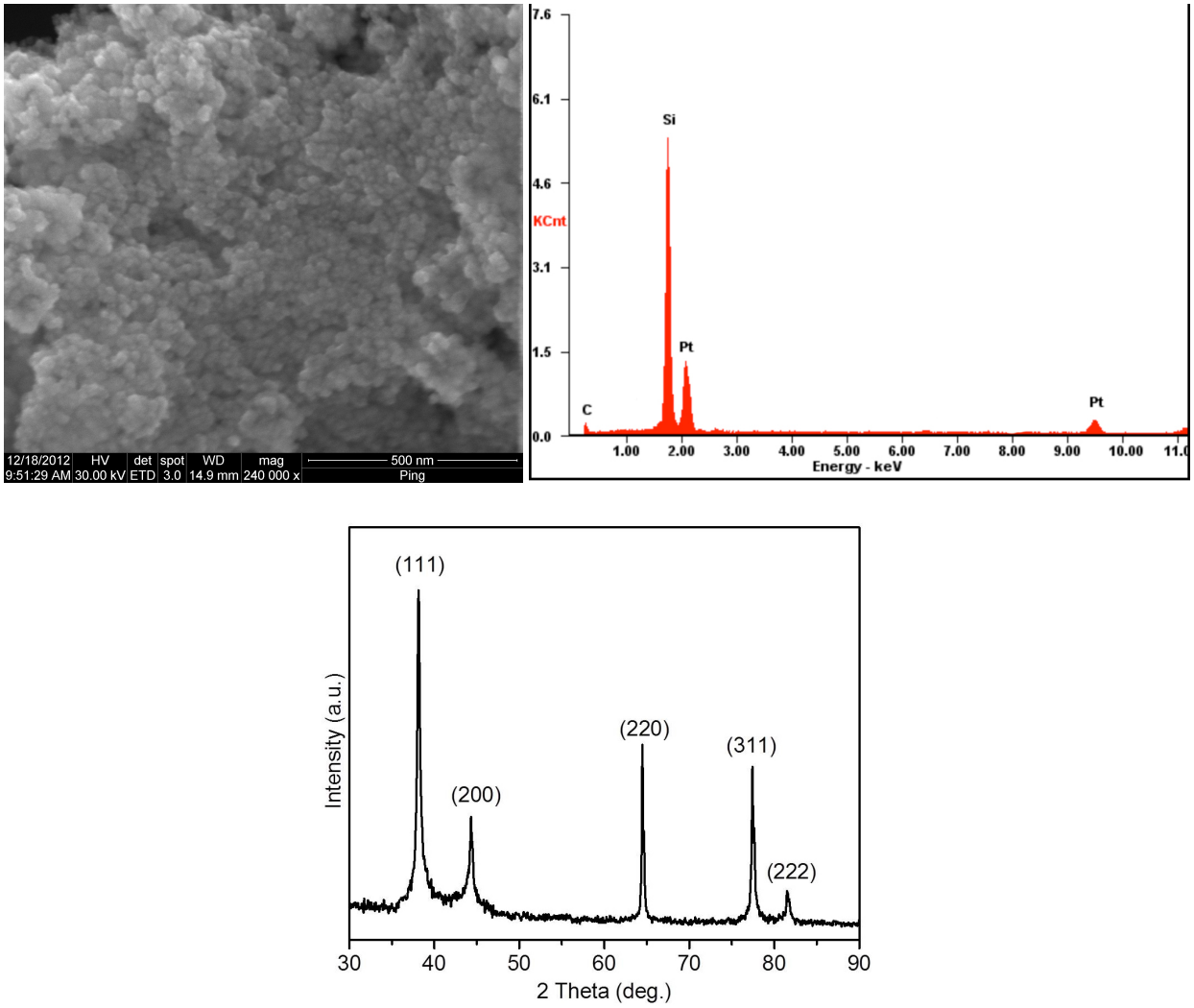

Fig. S1. SEM image, Energy dispersive spectrum (EDS) and XRD pattern of the Pt nanoclusters (NCs) prepared from Cu_2O-PEG with the assistance of acetic acid.

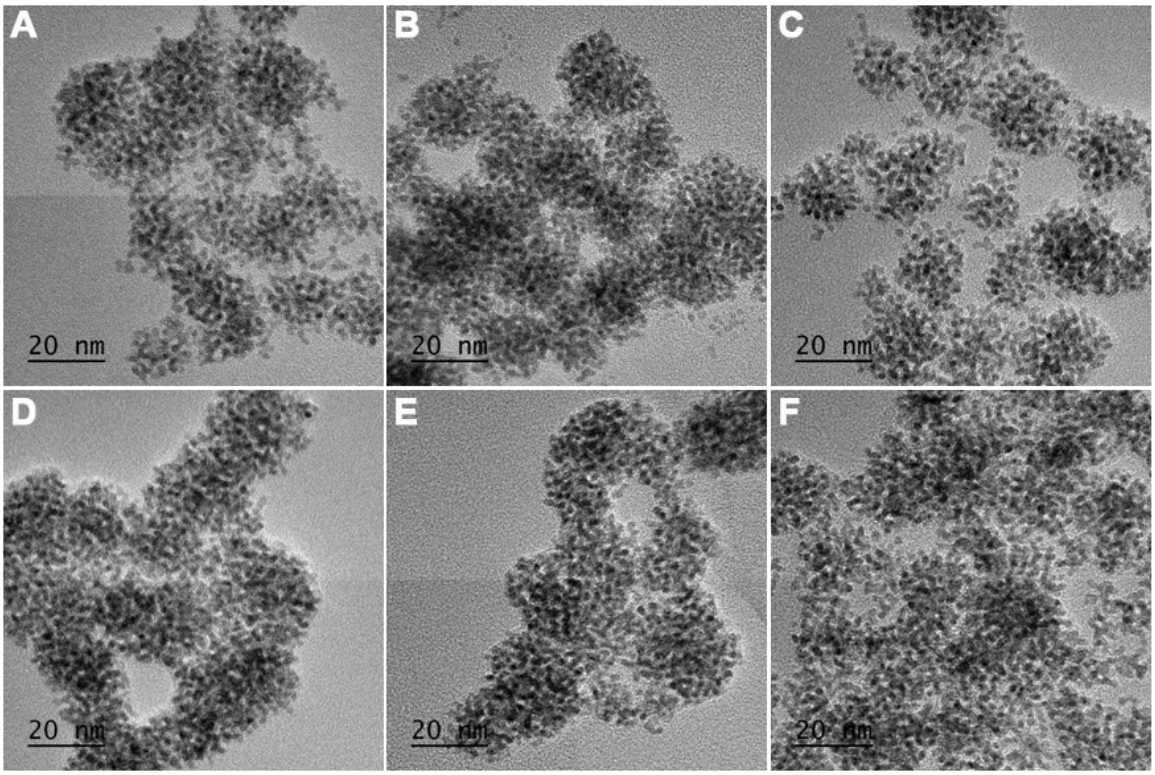

Fig. S2. TEM images of the self-supported Pt nanoclusters prepared via galvanic replacement from Cu_2O with the assistance of citric acid (A), camphorsulfonic acid (B), lactic acid (C), mandelic acid (D), nitric acid (E), and hydrochloric acid (F). All scale bars are 20 nm.

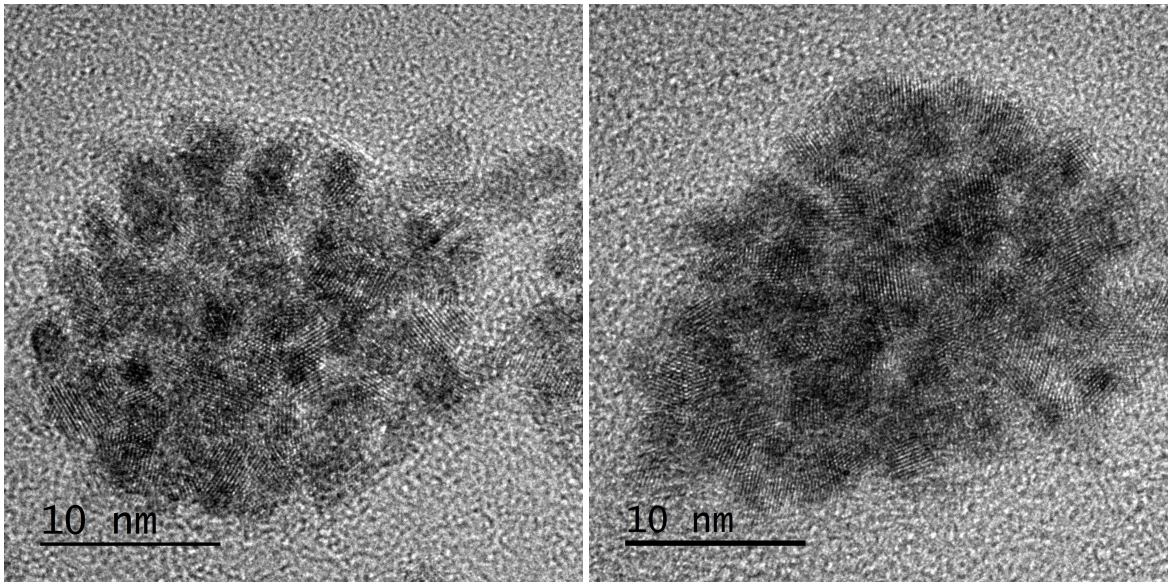

Fig. S3. HR-TEM images of the Pt nanoclusters prepared *via* galvanic replacement from Cu_2O-PEG with the assistance of lactic acid (left) and hydrochloric acid (right).

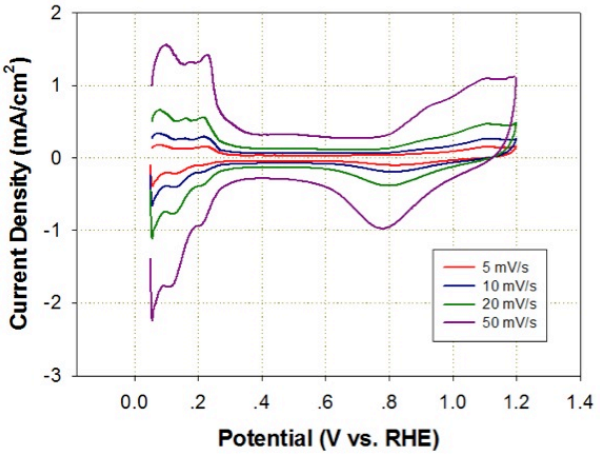

Fig. S4. Cyclic voltammograms of the Pt NCs in a N_2-saturated 0.5 M H_2SO_4 at different scan rates.

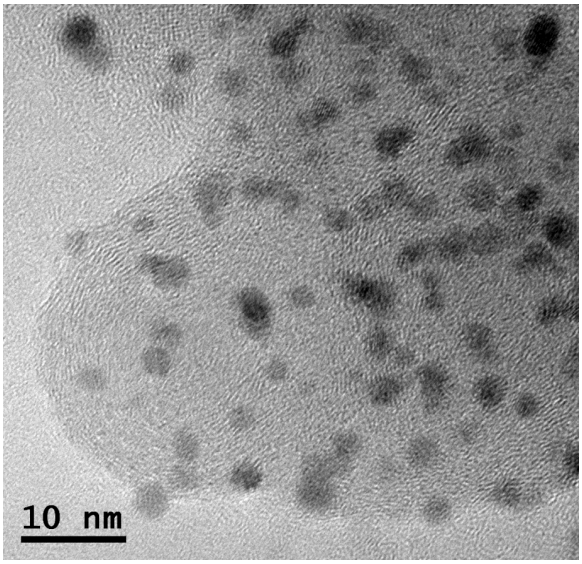

Fig. S5. TEM image of the commercial Pt/C before potential cycling tests.

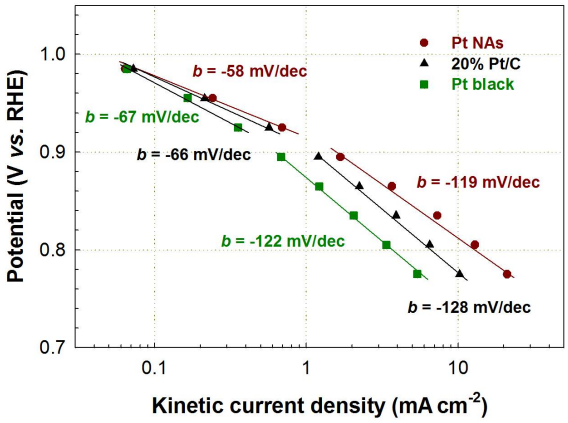

Fig. S6. Tafel plots for the ORR on the Pt NCs, the commercial Pt/C and Pt black.

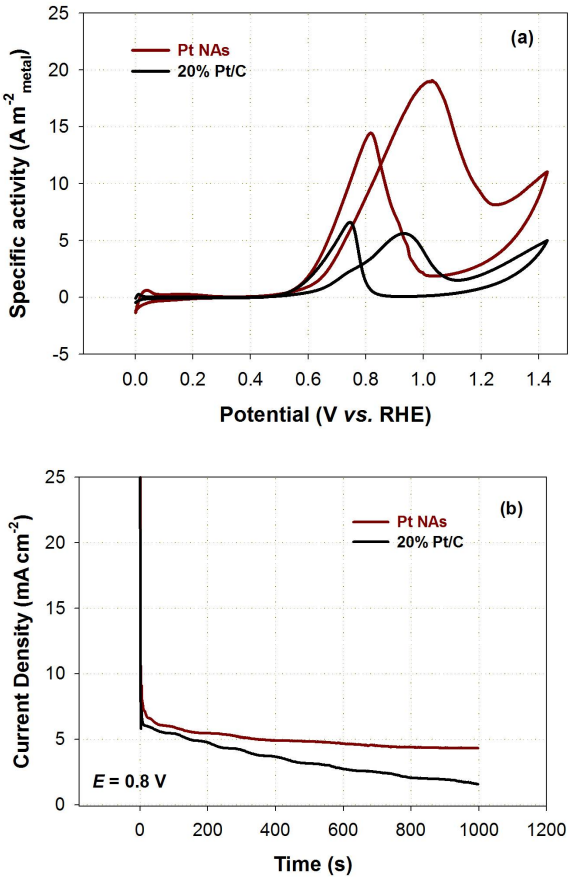

Fig. S7. (a) Cyclic voltammograms of the Pt NCs and the commercial Pt/C (20 wt%) at a scan rate of 10 mV s^{-1}; (b) Chronoamperometric curves of the Pt NCs and the commercial Pt/C (20 wt%) recorded at 0.8 V. Electrolyte: 0.5 M H_2SO_4 solutions containing 1.0 M methanol.

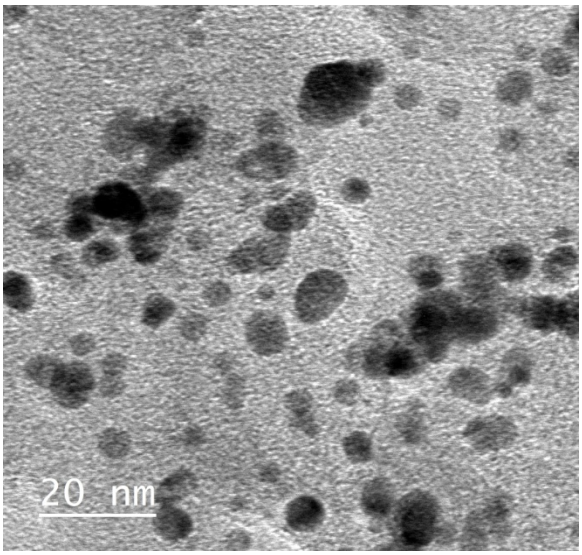

Fig. S8. TEM image of the commercial Pt/C after potential cycling tests..

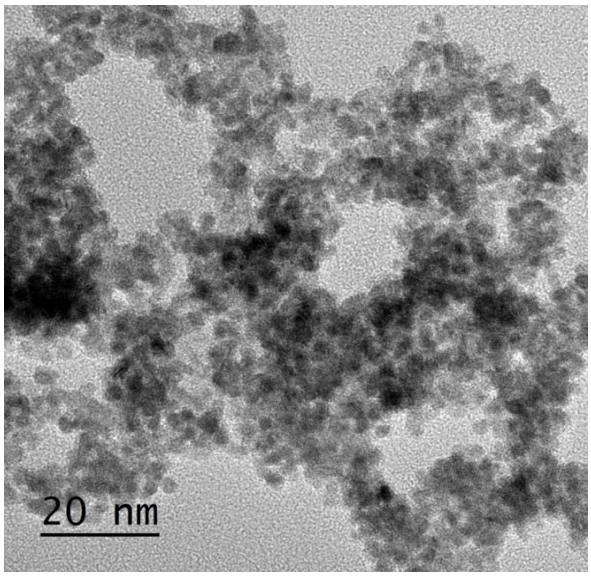

Fig. S9. TEM image of the Pt nanoclusters prepared from Cu_2O-PEG with the assistance of acetic acid after potential cycling tests..