

Supplementary Materials

Enhanced hydrogen production via coupled methanol oxidation reaction using Pt nanowires as bifunctional electrocatalysts

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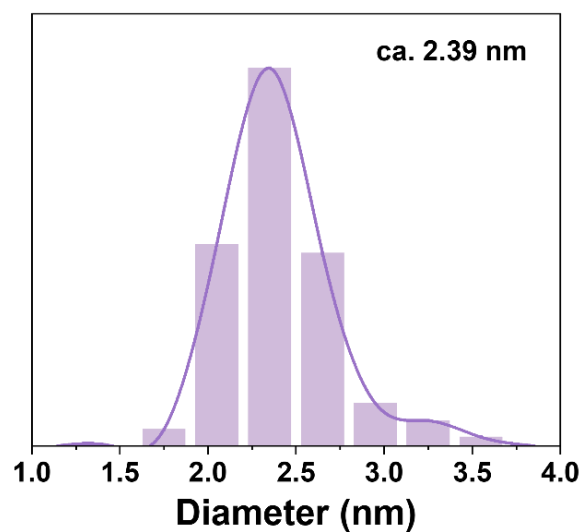


Figure S1. Diagram of the diameter distribution of Pt NWs.

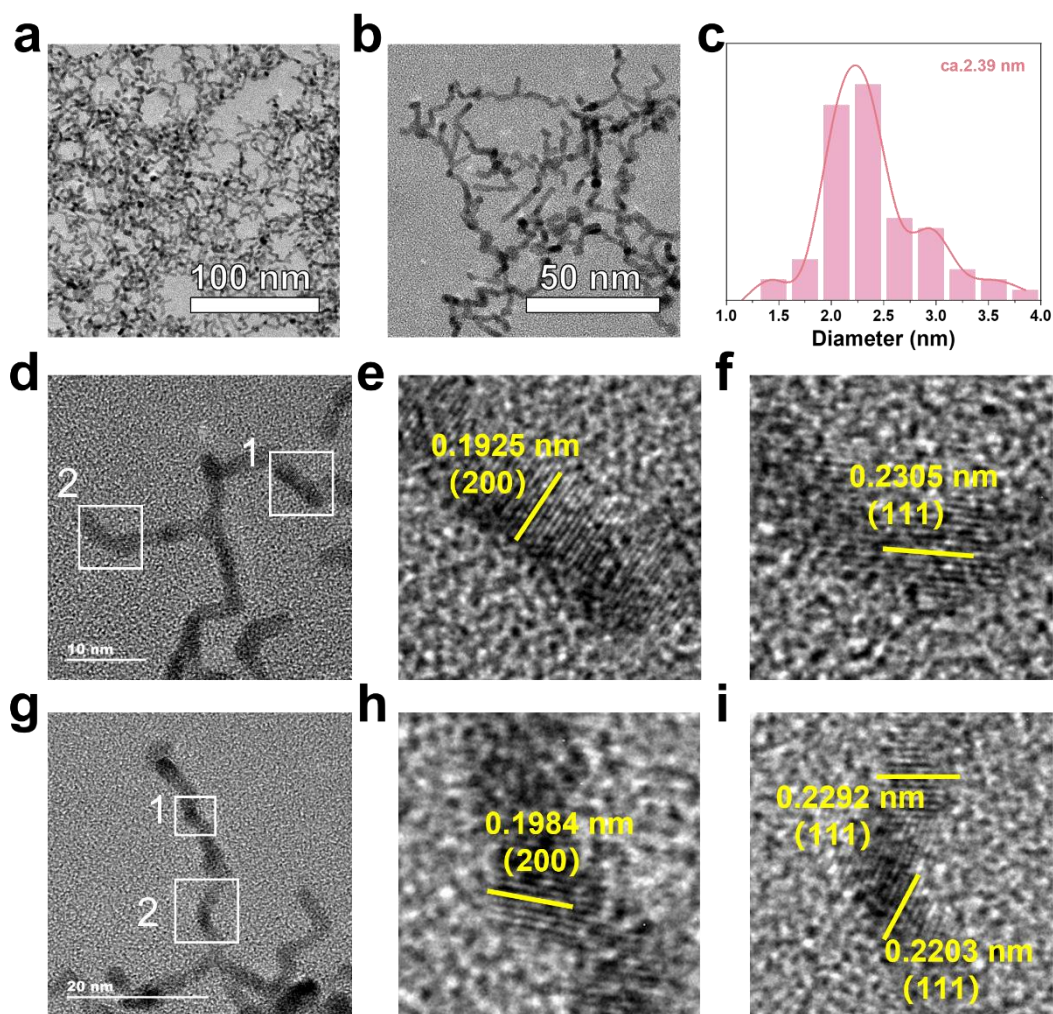


Figure S2. a,b) TEM of PtNWs; c) Diagram of the diameter distribution of Pt NWs. d-i) HRTEM image of Pt NWs.

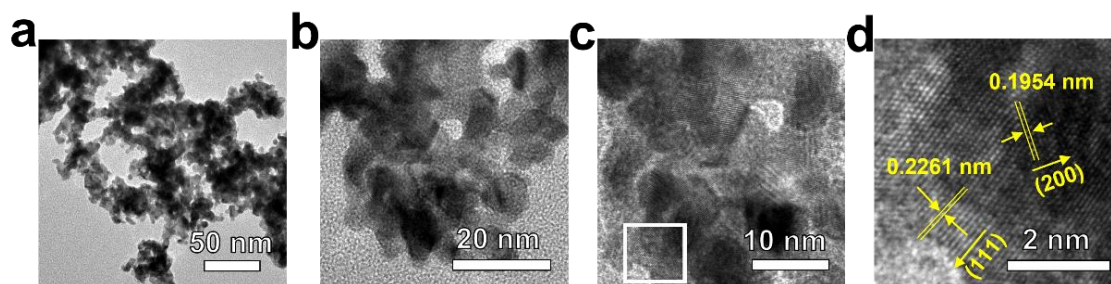


Figure S3. a-c) TEM of Pt Black; d) HRTEM of Pt Black.

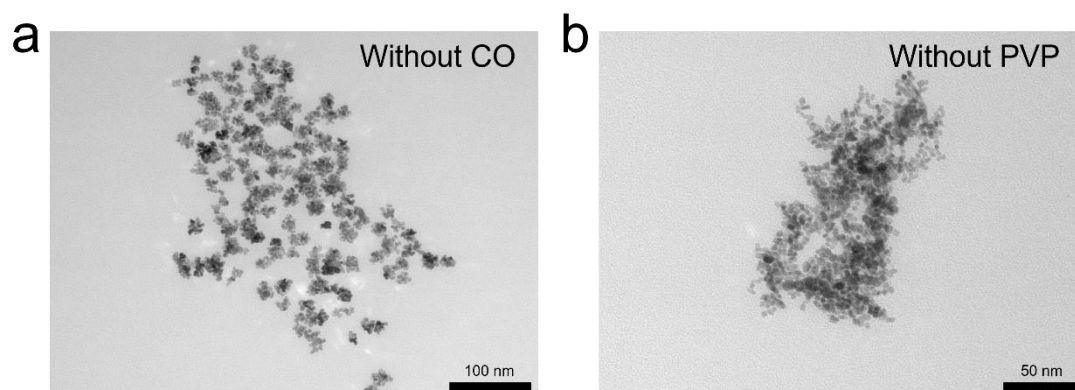


Figure S4. a) TEM image of the sample synthesized under standard conditions without CO; b) TEM image of the sample synthesized under standard conditions without PVP.

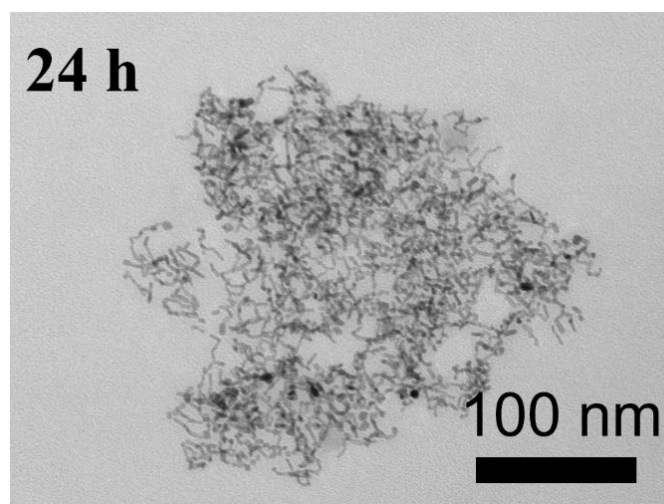


Figure S5. TEM image of the sample synthesized under 24-hour conditions.

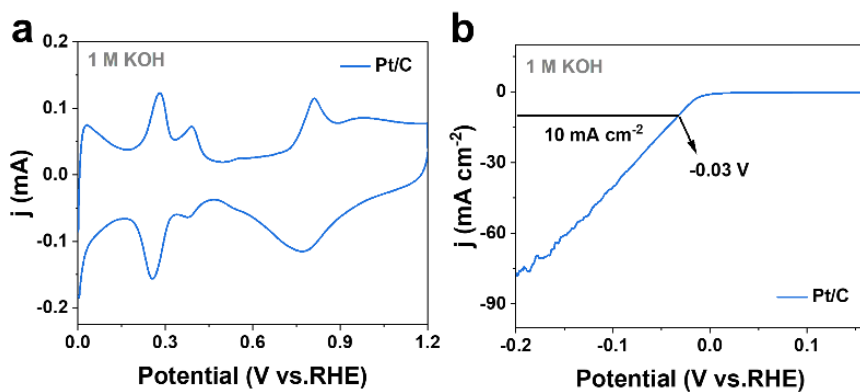


Figure S6. a) CV of Pt/C in an N₂-saturated 1 M KOH solution; b) LSV curves of Pt/C in an N₂-saturated 1 M KOH solution.

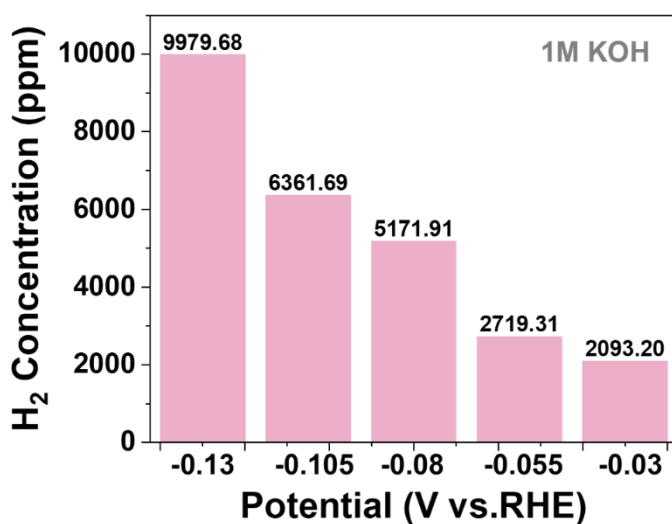


Figure S7. Hydrogen concentration at different potentials in an N₂-saturated 1 M KOH solution.

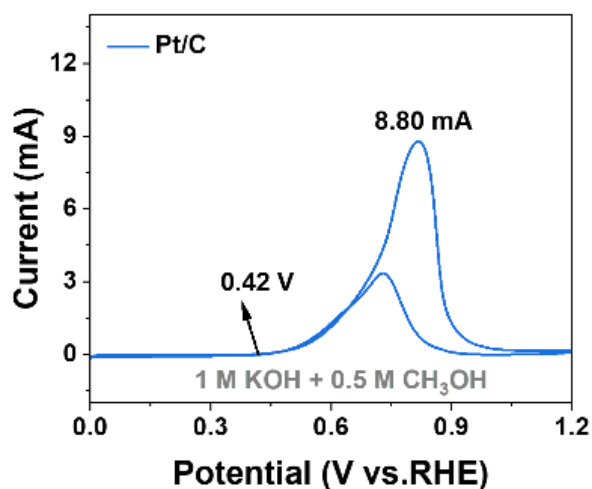


Figure S8. CV curves of Pt/C in N₂-saturated 1 M KOH + 0.5 M CH₃OH solution

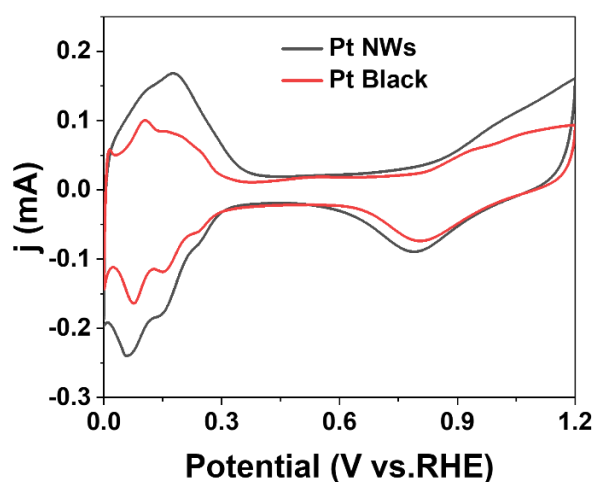


Figure S9. CV of Pt NWs and Pt black in an N_2 -saturated 0.5 M H_2SO_4 solution.

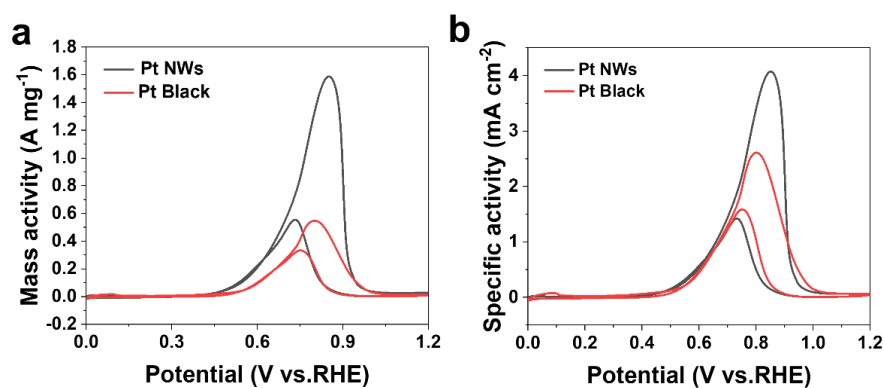


Figure S10. a) Mass-normalized curve for the MOR; b) ECSA-normalized curve for the MOR.

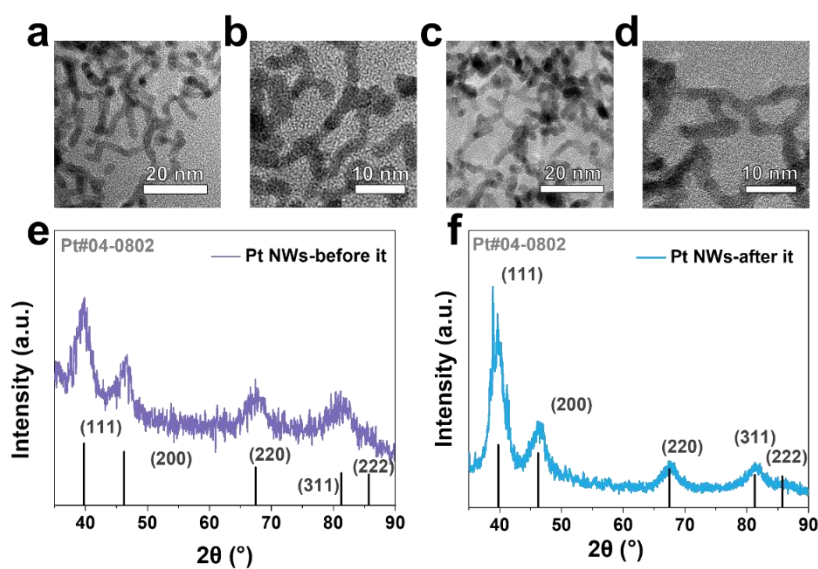


Figure S11. a,b) TEM of Pt NWs (before i-t); c,d) TEM of Pt NWs (after i-t); e) XRD of Pt NWs (before i-t); f) XRD of Pt NWs (after i-t).