

Electronic Supplementary Information (ESI):

**Atomic layer-by-layer construction of Pd on nanoporous gold
via underpotential deposition and displacement reaction**

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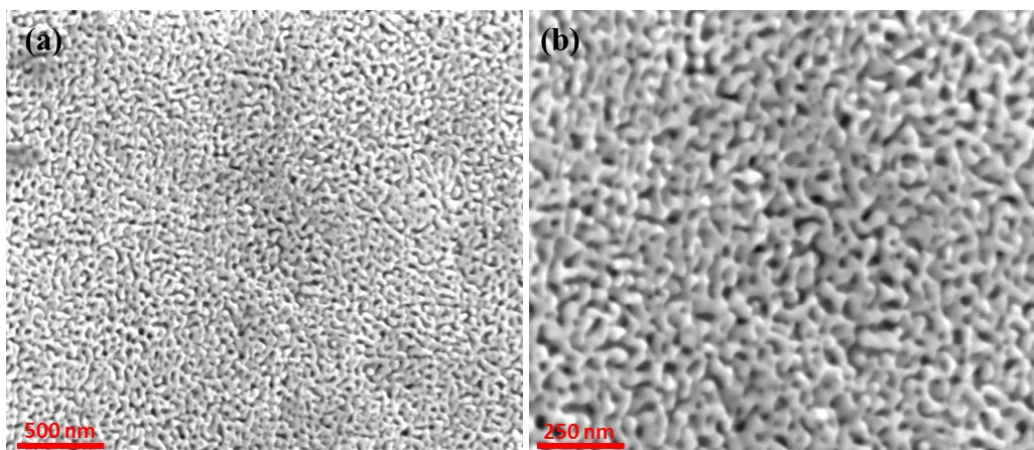


Fig. S1. (a, b) SEM images of the NPG-Pd5 film with different magnification.

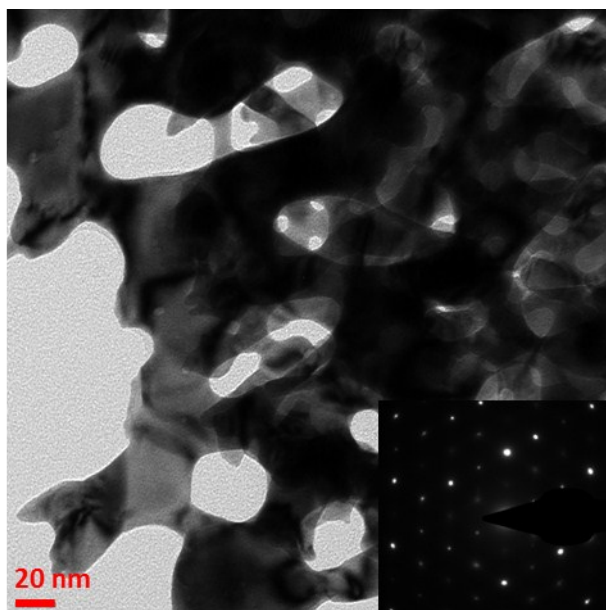


Fig. S2. TEM image of NPG-Pd4 film. (Inset) Corresponding SAED pattern.

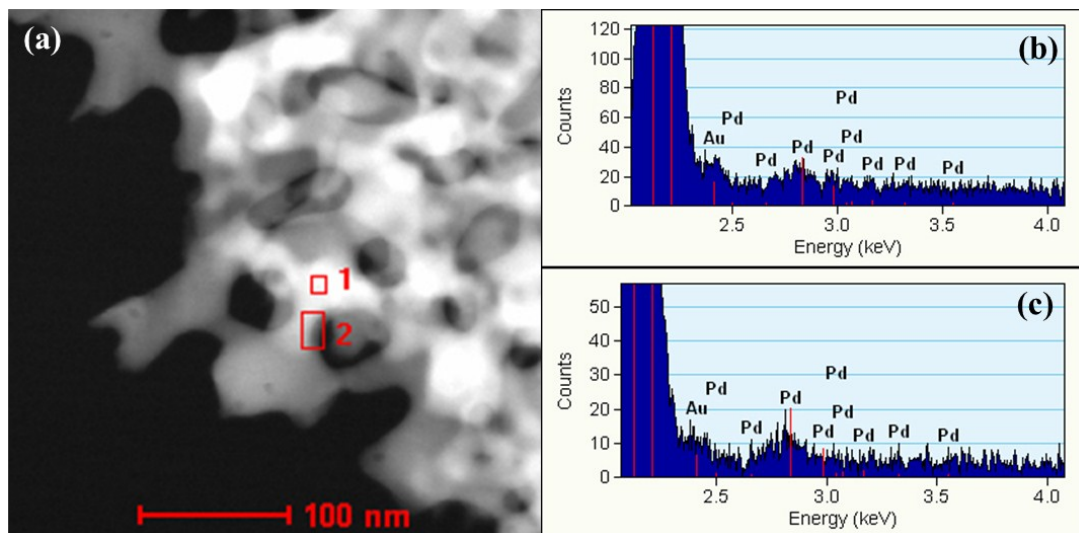


Fig. S3. (a) STEM image of NPG-Pd4; (b, c) EDX spectra corresponding to the marked areas by square 1 and square 2.

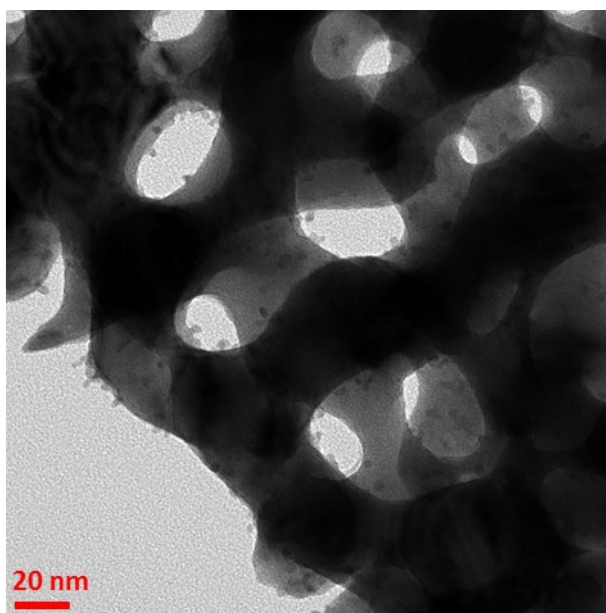


Fig. S4. TEM image of NPG-Pt1 film.

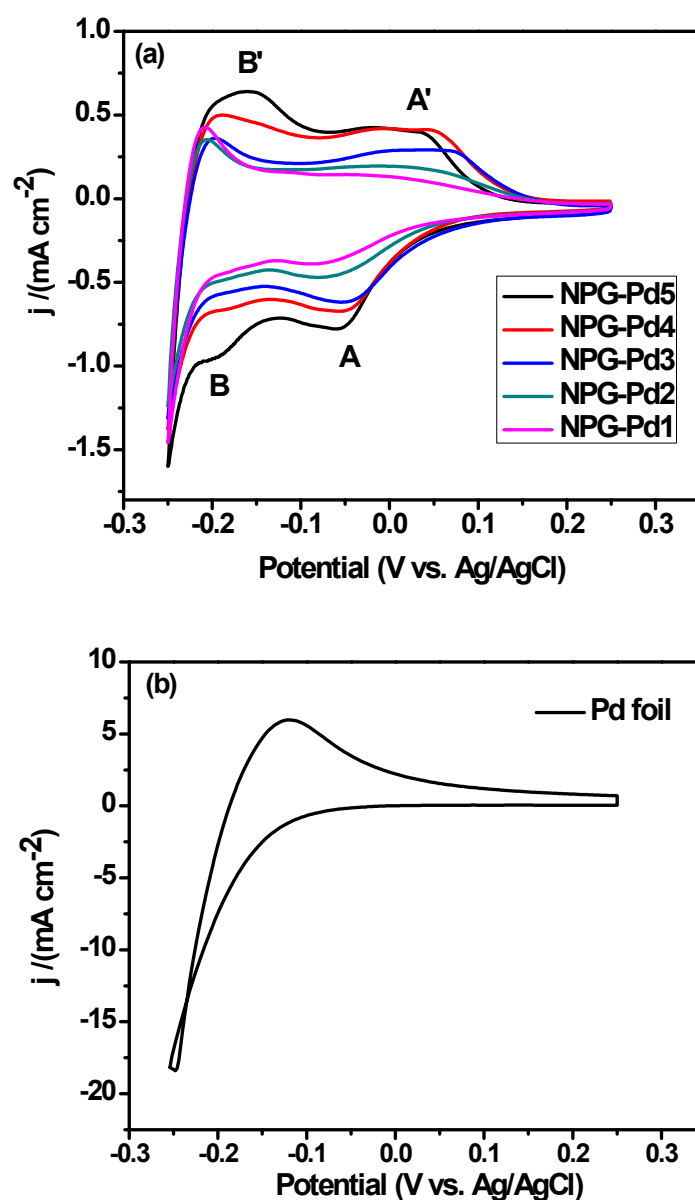


Fig. S5. (a) CVs of NPG-Pdx electrodes in the 0.5 M H₂SO₄ solution at the scan rate of 50 mV/s. (b) CV of Pd foil in the same solution. (Current densities are normalized by geometric area)