## **Supporting information**

## Hydrogen Gas-Assisted Synthesis of Wormlike PtMo Wavy Nanowires as Efficient Catalyst for Methanol Oxidation Reaction

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Figure S1. XPS spectra of the PtMo nanowires and Pt nanoparticles.



**Figure S2.** Typical TEM images of nanostructures prepared using the standard procedure with varying amounts of Mo precursors: 0 mmol (A); 0.0625 mmol (B); 0.25 mmol (C); 4-tert-butyltoluene (D); 1-octadecene (E) and at 180°C (F).



**Figure S3.** PtMo nanoparticles prepared by via normal atmosphere  $H_2$  gas (A); by using  $N_2$  instead of  $H_2$  (B), and by normal atmosphere  $N_2$  gas (C).



Figure S4. TEM images of the Mo-doped Pt nanowire networks when the reaction time was 3

h.



**Figure S5.** TEM images of **(a, b)** PtMo nanowires and **(c, d)** commercial Pt/C catalyst before and after 2,000 potential durability cycles, respectively.