## **Electronic Supplementary Information**

## A One-Pot Route to the Synthesis of Au@Pd/PMo<sub>12</sub>/rGO as a Dual Functional Electrocatalyst for Ethanol Electro-oxidation and Hydrogen Evolution Reaction

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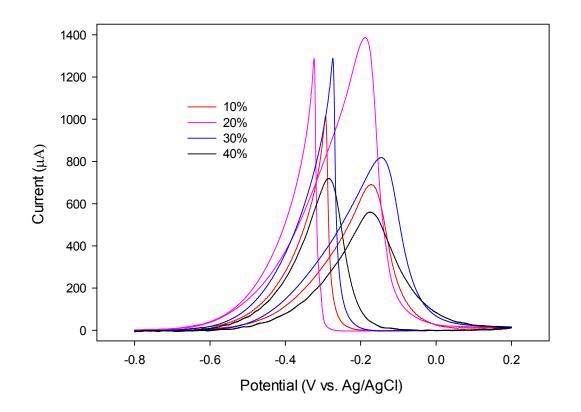
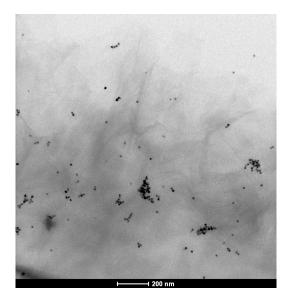
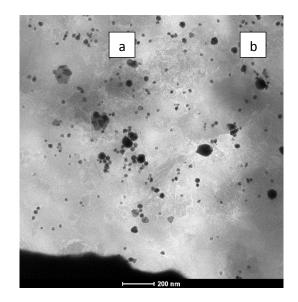


Fig.S1: Cyclic voltammetric curves for Au@Pd/PMo $_{12}$ /rGO at different loading of Au@Pd NPs on rGO in 1.0 M NaOH + 1.0 M ethanol, scan rate: 50 mV s<sup>-1</sup>





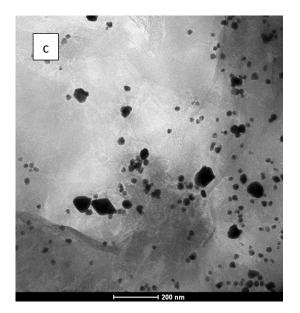


Fig. S2: TEM images of Au@Pd/PMo<sub>12</sub>/rGO nanohybrid with different loading of Au@Pd NPs rGO, (a) 10%, (b) 30% and (c) 40%.