Electronic Supplementary Information (ESI)

Figure S1 TEM image of MoS$_2$ nanosheets obtained by chemical exfoliation
Figure S2 TEM images of (a) Au-MoS$_2$, (b) Ag-MoS$_2$, (c) Pd-MoS$_2$, and (d) Pt-MoS$_2$ NSs prepared in aqueous solutions using Tween 80 as stabilizer.

Figure S3 EDS analysis of Ag-MoS$_2$ NSs.
Figure S4 EDS analysis of Pd-MoS$_2$ NSs.

Figure S5 EDS analysis of Pt-MoS$_2$ NSs.
Figure S6 EIS measurement of Pd-MoS$_2$ NSs and Pd/C modified GCE.

Figure S7 (a) Cyclic voltammograms of Pd-MoS$_2$ modified ITO electrodes in N$_2$-saturated 0.5 M KOH + 1.0 M methanol solution before and after annealing; (b) EIS measurement of Pd-MoS$_2$ NSs modified ITO electrodes before and after annealing. Annealing conditions: Ar atmosphere, 300 °C, 1 h.
Figure S8 SEM images of Pd-MoS$_2$ NSs on ITO electrodes before (a) and after (b) CV test in 0.5 M KOH + 1.0 M methanol solution at scanning rate of 100 mV/s for 200 cycles.