## **Supporting Information**

## In Situ Chemical Vapor Reaction in Molten Salts for Preparation of Platinum Nanosheets *via* Bubble Breakage<sup>†</sup>

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Figure S1. AFM measurement of Pt nanosheets showing the thickness to be 8.9 nm.



**Figure S2.** SEM image of the platinum hollow spheres and nanosheets showing their coexistence in the same sample.



**Figure S3.** (a) XRD pattern and (b) EDX spectrum of Pt nanosheets and hollow spheres.



**Figure S4.** Schematic of Pt nanostructures formed using two different procedures: (a) the reaction was kept at 180 °C and the finial products were irregular Pt fragments; (b) the reaction temperature was increased to 200 °C after kept at 180 °C for 2 min and the finial products were nano-shells/sheets.



**Figure S5.** (a) SEM and (b) TEM images of self-supported Pt nanosheets after the 30,000 potential cycles. (c and d) HRTEM images of those regions labeled with "c" and "d" in (b), respectively.