

Organic-inorganic Hybrid Material

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Abstract:

Organic-inorganic hybrid materials is a motivating topic for investigation. The effect of the organic part on the crystal structure and surface of the metals and alloys is still not elucidated. In this work we focus on the synthesis of Au-Pt alloys with an organic reducing agent (Binol, (1,1'-Bi-2-naphthol)). Binol is not only a reducing agent but also assembles and forms a shell surrounding the alloy. In this work we controlled this hybrid structure morphology by changing the capping agent type and concentration.

Applying this material as a catalyst for PEMFCs is our target. It is known that Pt-Alloying with noble metals increases the activity and the stability of the catalyst, moreover the effect of the Binol shell on the crystal structure may lead to better activity.