

**Tentative Outline**  
**Special Issue for Current Organic Chemistry**  
*Guest Editor(s): Dr. Ke-Fang Yang and Prof. Li-Wen Xu*  
**TITLE: Nanoscale Catalysts for Organic Synthesis**

**Aims & Scope:**

Catalytic synthesis is an extremely important chemical process in organic chemical industry and academic world. One of the principal challenges in chemical catalysis is the development of practical methods for the control and manipulation of the activities, selectivities, stability, and specificities of catalytic systems. Having much larger surface areas, nanoscale materials exhibit unique physical and chemical properties compared to corresponding conventional bulk materials. With the development of nanoscience, nanoscale catalysts are currently experiencing an explosive growth for a variety of applications in the chemical catalysis. Especially in the past decades, an increasing number of the research articles about nanocatalysis were issued and had impact on many important organic synthesis reactions including oxidation of hydrocarbons, CO and H<sub>2</sub> oxidation, C-C coupling, NO reduction, water-gas shift reaction, asymmetric organocatalytic synthesis and so on.

The knowledge of nanocatalysis, inherited from the topics could be utilized to understand the nanoscale features including the surface effect, quantum effect, mini size effect and macro-quantum tunnel effect of the nanoscale catalysts on their catalytic properties in organic synthesis reaction. In addition, it has been found that organic molecule-based nanoscale selective catalysts can be considered as nanoreactors designed to promote organic transformations with high activity and selectivity, thus it is a quite novel research field in organic chemistry. Therefore, the ultimate goal of this thematic issue is to explore the size, dimensionality, chemical composition and morphology of the reaction center to promote catalytic activity, selectivity, stability or specificity and control the chemical reactions.

**Keywords:** Nanoscale; catalysis; organic reaction; metal; metal oxide; mesoporous materials; enzyme; nanoreactor

**Subtopics:**

- Organic reaction catalyzed with nanoscale metals
- Organic reaction catalyzed with nanosized alloy
- Organic reaction catalyzed with nanosized metal oxide
- Organic reaction in zeolite-type and mesoporous materials
- Organic reaction catalyzed with nanozyme
- Organic reaction catalyzed with catalysts supported on nanoscale materials

**Approximate Schedule:**

- Manuscript Submission Deadline: 09/30/2015
- Peer Review Due: 10/30/2015
- Revision Due: 11/30/2015

- Notification of Acceptance by the Guest Editor: 12/15/2015
- Final Manuscript Due: 12/30/2015