



Recent Advances in Catalytic Ordered Transformation and Applications

Guest Editors:

Prof. Dr. Zhenyu Tian

1. Institute of Engineering Thermophysics, Chinese Academy of Sciences, Beijing 100190, China

2. University of Chinese Academy of Sciences, Beijing 100049, China

Prof. Dr. Zhongqing Yang

School of Energy and Power Engineering, Chongqing University, Chongqing 400030, China

Deadline for manuscript submissions:

closed (15 June 2024)



Message from the Guest Editors

This **Special Issue** includes a collection of articles focused on the recent advances in catalytic ordered transformation and applications. Catalytic ordered transformation (COT) is a chemical reaction in which certain chemical substances are converted into other types of products using selective catalysts.

The topics that are covered include, but are not limited to:

- Tailored design of COT catalysts;
- Advanced synthesis methods to correlate the thickness, morphology and ionic states;
- Application of COT to energy storage and conversion;
- The effects of CO₂ and water vapor adsorption on the surface of COT catalysts;
- Studies on the mixture of NO_x, SO_x and VOCs, NVOCs;
- Studies on MnO_x as a catalyst support for FT synthesis and methane reformation;
- Controlled synthesis of single-atom catalysts for steam methane reformation and FT synthesis;
- conversion of low-cost industrial by-products to high-demand chemical products;
- Studies on the reaction pathway control that will reduce secondary reaction intermediates;
- Theoretical calculations of the thermo data of surface species and rate constants.