Special Issue

Nanocatalysts for Methanation Reaction

Message from the Guest Editors

The creation of low-cost, efficient, and highly selective catalysts able to convert the majority of CO2 into CH4 has received great research attention in recent years. Rh and especially Ru among noble metals, as well as Ni among transition metals, are the most popular active phases for CO2 methanation. Furthermore, the support type also exerts a great influence, with redox active CeO2-based supports being proven to boost low temperature catalytic activity and CH4 selectivity. Many works also focus on the effect of active metal dispersion, the texture of the metal oxide support, the synergetic effect provided by adding two active metal phases, as well as the availability of active sites for CO2 and H2 dissociation, respectively. This Special Issue of Nanomaterials will aim to cover recent advances made in the following fields: Synthesis of nanostructured catalysts with a different texture and morphology; preparation of bimetallic catalysts with a different mix of supported metals; enhancement of defect chemistry of redox-active supports toward boosting low-temperature catalytic activity and selectivity; influence of different preparation methods on active metal dispersion

Guest Editors

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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