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Special Issue Reprint

Applied Catalysis in Chemical Industry: Synthesis, Catalyst Design, and Evaluation

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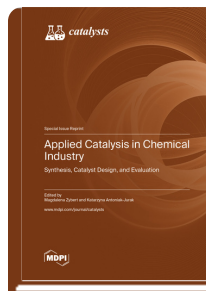
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The great economic and strategic importance of catalysis makes it a rapidly evolving field. Catalysis is fundamental in areas such as sustainable development, energy production, environmental protection, food production, and water purification. In the face of the significant challenges of the present day, acquiring fundamental knowledge about the structure and phenomena on the surface of catalysts and the relationships between the composition, synthesis method, properties, and performance of catalysts in industrial processes is essential. Research is still needed to improve existing catalysts or design new systems which may efficiently and selectively conduct a given reaction toward the desired product. This Special Issue was devoted to designing and characterizing heterogeneous catalytic systems for industrial chemical processes. The reprint collects 10 research articles providing insight into important aspects of modern catalyst design. The papers cover recent advances and comprehensive experimental studies of synthesis, characterization, and evaluation of catalyst performance in the following processes: ammonia synthesis, selective catalytic reduction of nitrogen oxides, hydrogen production from ethanol, and photocatalysis.



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