catalysts

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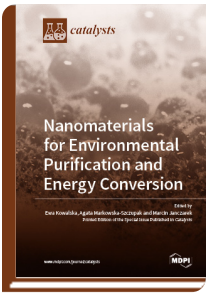
Special Issue Reprint

Nanomaterials for Environmental Purification and Energy Conversion



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The Special Issue, "Nanomaterials for Environmental Purification and Energy Conversion", describes the significant and increasing role of nanomaterials in catalysis. It is believed that the most important factor for future human development could be to use nanomaterials (nanotechnology) to solve such critical issues facing humanity such as environment, water and energy. It should be also pointed out that properties of nanomaterials differ substantially from that of bulk materials of the same composition, resulting in high reactivity. Therefore, it creates new perspectives for the catalytic processes in the broad sense. This issue was mainly dedicated as a platform for the contributions from The Symposium on Nanomaterials for Environmental Purification and Energy Conversion (SNEPEC), which was held in Sapporo, Japan in winter 2018. Accordingly, this book compiles the current state-of-the-art of research in the area of novel photocatalysts and highlights current research directions in the fields of advanced oxidation technologies, material science and nanotechnology. Written by leading experts in the field of photochemistry and chemical engineering, a collection of 17 papers, including 16 research papers and one review, covers a broad range of topics focusing on the exceptional role of catalytic nanomaterials in solving environmental and energy problems of modern societies. The majority of papers present the importance of photocatalytic nanomaterials, especially for degradation of organic pollutants and inactivation of microorganisms, but there is also a strong representation of conventional catalysis, based on nanomaterials for important processes such as catalytic hydrogen [illegible]d organic synthesis.

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