catalysts

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Highly Dispersed Nanocatalysts

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Message from the Collection Editor

The decrease in particle size leads to a significant increase in the number of active sites available for reactions, establishing nanocatalysts as a groundbreaking advancement in catalysis. Efforts to maximize the utilization efficiency of these active sites have driven the development of highly dispersed nanocatalysts. Advances in synthetic methods, characterization techniques, and theoretical calculations have facilitated a progressive decrease in the size of nanocatalysts, evolving from nanoparticles and nanoclusters to single-atom catalysts. The unique geometric and electronic structures of highly dispersed nanocatalysts lead to enhanced efficiency and selectivity in catalytic reactions, which open new avenues for applications in green chemistry, energy conversion, sustainable synthesis, environmental remediation, etc.

In this Topic Collection, we will highlight and collect the latest progress in highly dispersed nanocatalysts. We encourage submissions of Original Research, Review, Mini-Review, and Perspectives that address the synthesis, characterization, application, and mechanism aspects of highly dispersed nanocatalysts.