Nanoscale Catalysis of Organic Molecule Transformations

In the field of organic chemistry, the search for new and improved catalysts with increased reactivity and selectivity, and more benign environmental profiles is an unending quest. Thus, in recent years the application of nanoscale catalysis to transform one organic compound into another has been the focus of much research. In this issue we have a collection of 5 manuscripts that highlight various aspects of this field, such as: (1) the preparation of nickel(0) nanoparticles and their application in reduction reactions, (2) the synthesis of metal nanoparticles and their use in oxidation reactions, (3) alkylaromatic oxidation reactions in nanosize water droplets, (4) a review of nanoparticle-supported catalysts in organic synthesis, and (5) a discussion of the subtle factors that determine the utility of supported ligands in asymmetric catalysis. It is hoped that this cluster of diverse papers will serve as a valuable resource and inspire new research that straddles the borders of materials science, catalysis and organic synthesis.

Patrick H. Toy
Department of Chemistry
The University of Hong Kong
Pokfulam Road
Hong Kong, People’s Republic of China
e-mail: phtoy@hku.hk