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New Frontiers in Catalytic Asymmetric Functionalization of Alkenes

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Message from the Guest Editor

Catalytic enantioselective functionalization of alkenes has enabled access to a wide array of chiral compounds containing diverse functional groups. Asymmetric epoxidation and dihydroxylation are classical examples in this topic. Recent progress in asymmetric hydrofunctionalization has significantly broadened the scope of unactivated alkenes while achieving excellent enantioselectivity.

Transition-metal-catalyzed enantioselective difunctionalization of alkenes is another exciting direction, particularly with nickel, copper, and palladium. In addition, the ability of transition metal to intercept radical intermediates in a stereoselective manner offers new opportunities in this area by combining single-electron redox chemistry. Finally, advances in halofunctionalization, chalcofunctionalization and aminofunctionalization are driven by designing chiral main-group catalysts that explore new scaffolds and non-covalent interactions. This Special Issue aims to highlight some of the most recent and significant developments in the catalytic asymmetric functionalization of alkenes. Submissions are welcome in the form of original research papers or short reviews.



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Special Issue