

Symmetry and Symmetry-Breaking in Organic Chemistry

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Symmetry is a fundamental concept in chemistry, both at the atomic, molecular, and supramolecular levels. In the field of organic chemistry, highly symmetric compounds, such as hydrocarbons with the skeletons of regular polyhedra (platonic solids of degree 3: tetrahedrane, cubane and dodecahedrane) and the pseudo-spherical carbon cages of fullerenes, have been the object of sustained interest over the last seventy years. The symmetric properties of self-assembled supramolecular systems, particularly those derived from symmetric organic molecules, are currently attracting great attention. The recognition of structural symmetry, either in the target molecule or in a synthetic precursor, plays a key role in the retrosynthetic analysis of complex natural (or purely synthetic) products. Synthetic strategies based on the symmetry-breaking of organic compounds are especially important, either for the development of new methods for enantioselective synthesis (desymmetrization reactions of prochiral compounds) or for the rapid generation of molecular diversity...





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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