

Chiral Auxiliaries and Chirogenesis

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Message from the Guest Editor

Chirality is one of the most fundamental properties of nature and is important in different branches of science, technology, and medicine, relating to the ability of any object to exist as a pair of non-superimposable mirror images or to a unidirectional action. The phenomena of chiral auxiliary and chirogenesis are of paramount significance for all aspects of chirality and include asymmetry generation, transfer, amplification, modulation, memorizing, etc. Investigation of these effects is a rapidly growing area of research and directly connects with numerous natural processes, artificial systems, and modern industries. It is widely seen and plays a key role in various biological structures, such as saccharides, proteins, enzymes, membranes, DNA/RNA, etc. In addition, this research field has important practical implications in novel materials, enantioselective catalysis, chiral sensors, optical resolution, asymmetric synthesis, nanotechnology, medicine, pharmacology, biomimetic studies, etc.

The aim of this Special Issue is to highlight and overview all aspects of chiral auxiliary and chirogenesis in different natural/physical sciences and in modern technologies.





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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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