Special Issue

Symmetry on the Genealogy of Conjugated Acyclic Polyenes ☒ Dedicated to the Two Active Mathematical Chemists, Diudea and Aihara

Message from the Guest Editor

It goes without saying that the hydrocarbon family plays a central role among organic compounds, which are roughly divided into four with regard to saturation and cyclization. Among them, the realm of acyclic conjugated polyenes, which are important not only in the biochemical activity of life but also for future molecular electronic devices, has been something similar to a desert in experimental and theoretical organic chemistry. The reason was simply the scarcity of isolation of a variety of the hydrocarbon isomers. However, owing to the rapid development of synthesizing techniques, a number of relatively large conjugated acyclic hydrocarbons, such as dendralenes, radialenes, and other conjugated polyene isomers, were synthesized and/or isolated. According to a recent study by Hosoya (*Bull. Chem. Soc. Jpn.*, 92 (2019) 205) the genealogy of conjugated polyene isomers can easily be understood using relatively simple indices, such as the Z-index and mean length of conjugation. The success of this early-stages trial is inviting more sophisticated and systematic research. Vital discussions involving symmetry, cross-conjugation, and aromaticity are welcome.

Guest Editor

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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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