Special Issue

Graph Theory at Work in Carbon Chemistry

Message from the Guest Editors

Carbon allotropes are basically distinguished by the way in which carbon atoms are linked to each other, forming different types of networks (graphs) of carbon atoms. Different structures are builds with sp2-hybridized carbon atoms like PAHs, graphite, nanotubes, nanocones, nanohorns, and fullerenes. In these chemical systems, each node has degree 3, the basic hexagonal rings are connected with other similar rings in various topological ways, and in some cases, with the introduction of some pentagonal rings. By topology, the number of 5-rings is limited to 12...... This issue is devoted to the contemporary applications of chemical graph theory tools in modeling the carbon-based molecular structures and the investigations of topological molecular descriptors and their qualities.
Keywords

- Topological properties of low dimensional systems
- Topological symmetry
- Generalized Stone–Wales transformations
- Defective graphs
- Topological descriptors
- Bounds of topological descriptors

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The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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