



Endohedral Fullerenes : From Fundamentals to Applications

By Shangfeng Yang, Chun-Ru Wang

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Endohedral fullerenes represent a novel family of carbon nanostructures, which are characterized by a robust fullerene cage with atoms, ions, or clusters trapped in its interior. Since the first separation of the endohedral metallofullerene La@C₈₂ in 1991, a large variety of endohedral structures have been isolated and their endohedral nature has been proved by experimental studies. Within the past two decades, the world of endohedral fullerenes was significantly enlarged by the clusterfullerenes and the new carbon cages including non-IPR (IPR=isolated pentagon rule) structures. Resulting from the charge transfer from the engaged species to the fullerene cage, endohedral fullerenes hold a lot of fascinating properties inaccessible by the empty fullerenes, and consequently promise potential applications in biomedicine, molecular electronics and photonics etc.

The book provides a comprehensive overview of endohedral fullerenes focused on the new advances in the past decade, including its fundamentals (structures), synthesis, isolation, characterization, properties, functionalization as well as the applications, thus representing the most updated and broad review of this exciting field.

Readership: Advanced undergraduates and graduate students, scientists in Chemistry, Physics, and Materials Science, researchers and professionals in the fields of fullerenes and all-carbon nanomaterials, and the general public.

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Editorial Review

From the Inside Flap

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