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Hybrid systems tetrathiafulvalenes - [2.2]paracyclophanes

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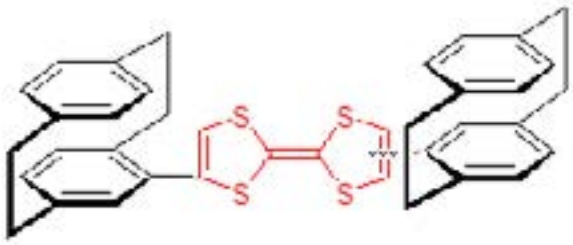
[2.2]Paracyclophanes ([2.2]PC) constitute an intriguing class of compounds, which have attracted a growing interest ever since their first appearance in the literature in 1949. Their molecules consist of two benzene rings arranged in two planes, one above the other in a sandwich manner, bridged by two ethano bridges in the para positions of the benzene rings. Interesting properties derive from the dual character of cyclophanes. The cyclophane chemistry is a rapidly evolving field, as shown, inter alia, by the recent monograph of Gleiter and Hopf, which describes the use of cyclophanes in stereoselective synthesis and their incorporation into more complex molecular frameworks, such as heterocycles and polymers. Because of the rigid molecular framework provided by the paracyclophane moiety and its short interannular distance, recent studies regarding the electronic properties of these compounds suggest possible applications in charge-transfer complexes formation and polymers synthesis. The introduction of a TTF moiety into the [2.2]PC framework, the main topic of the present application, is worth investigating, as it might enhance the ability of the TTF to act as an electron-donor. Moreover, these new molecules could be used to synthesize new charge transfer complexes. A recent study presents the synthesis, electrochemical properties, as well as the ability of a [2.2]PC derivative which contains TTF units in the 4,12 (pseudo-ortho) positions to function as a chiral dopant. Moreover, molecules with orthogonally incorporated 1,3-dithiol-2-ylidene units to [3.3]paracyclophane are known to play an important role in intramolecular charge transfer. The synthesis of new [2.2]paracyclophanes linked with one or more tetrathiafulvalene donor units as simple, multilayered or π-extended systems is presented.



Recent Publications

1. Hopf H and Gleiter R (2004) Modern cyclophane chemistry, Wiley-VCH, Weinheim. ISBN: 978-3-527-30713-5.
2. Ippen J, Tao-pen C, Starker B, Schweitzer D and Staab H A (1980) Title. Angew. Chem 92:51-52.
3. Kobayakawa K, Hasegawa M, Sasaki H, Endo J, Matsuzawa H, Sako K, Yoshida J and Mazaki Y (2014) Title. Chem. Asian J. 9:2751-2754.
4. Sako K, Mase Y, Kato Y, Iwanaga T, Shinmyozu T, Takemura H, Ito M, Sasakia K and Tatemitsua H (2006) Title. Tetrahedron Lett 47:9151-9153.
5. Sarbu L G, Hopf H, Jones P G and Birsa M L (2014) Title. Beilstein J Org Chem 10: 2550-2555.

Biography

Laura G Sarbu has her expertise as Organic Synthetic Chemist. During her Doctoral Research, she was working on [2.2]paracyclophane chemistry. She is currently affiliated to the Alexandru Ioan Cuza University of Iasi, Romania.

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