Shape-Persistent Organic Cages – From Fundamental Understanding to New Materials

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Since a few years, the research interest in shape-persistent organic cages has significantly increased because these can be synthesized by applying e.g. multiple and (reversible) condensation reactions, which is called dynamic covalent chemistry (DCC). The cages can be made in of different size, geometry and more important function. Insights into structural needs for successful synthesis will be given as well as outstanding materials properties discussed.

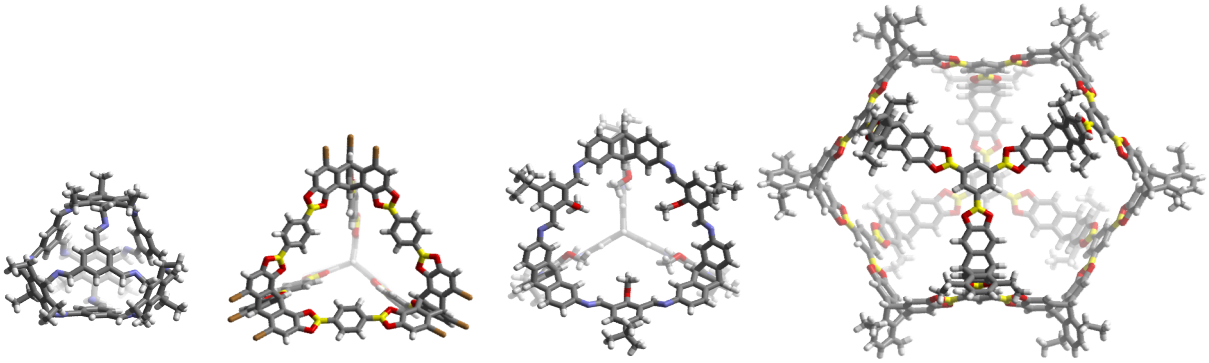

Figure 1. Examples of shape-persistent organic cages (X-ray structures)

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Short Bio:

Michael Mastalerz studied Chemistry in Duisburg-Essen and got his PhD in 2005 from Ruhr-Universität Bochum for his work on supramolecular chemistry of functionalized calix[4arenes. After a short stay in industry, he went as postdoctoral fellow to the

Massachusetts Institute of Technology (MIT) to work in the group of Gregory C. Fu on asymmetric Stille cross-coupling reactions. A second postdoctoral stay at Ulm University in the group of Prof. Peter Bäuerle followed, before at the same institute he started his independent career working on shape-persistent organic cages. After his successful habilitation in 2013 he got the offer for a professorship for Organic Chemistry at Ruprecht-Karls University, where he still is.