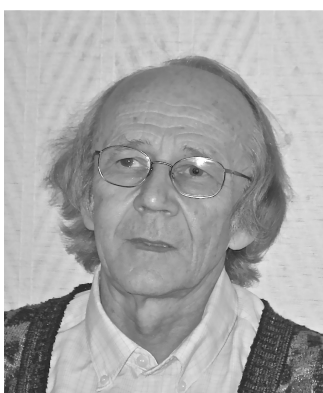


Endohedral functionalities in hemicryptophane molecular cages.



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Hemicryptophanes are ditopic molecular cages, which consist of a cyclotrimer core connected to a C_3 symmetrical binding unit by three linkers. These molecular hosts can include endohedral functionalities, depending on the nature of the linkers and the different functions introduced during the synthesis. Such compounds possess a molecular cavity that can encapsulate different neutral or charged guest molecules (*e.g.* ion-pairs or zwitterionic species). Moreover, the *P* or *M* configuration of the chiral CTV cap confers chiral recognition properties to these hosts allowing the enantioselective recognition of glucopyranosides. The choice of the second C_3 -symmetrical binding site makes the hemicryptophanes potential ligands for metal ions, leading to endohedral metal complexes. In particular the triethylene-teramine (*tren*) or triethanolamine binding units have been used to form new catalysts where the supramolecular environment of the complexes makes them very attractive. The chemistry of hemicryptophanes is still a fascinating domain in host-guest chemistry and a challenging approach to catalytic reactions in a confined space. Recent results in the field will be presented.