MS33-P19 | Complexation Studies of Chiral Cyclohexylhemicucurbit[n]uril to Metalloporphyrins in Solid-State

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The main building blocks of living organisms consist of chiral species. On a daily basis, chiral molecules are conventionally used and produced by pharmaceutical, food, agrochemical, perfume, and cosmetics industries. As a result, chiral waste becomes an extremely important issue. These chiral compounds can be ecologically hazardous due to their high biological activity creating a global pollution problem to the environment. Due to the wide distribution of chiral waste, there is a critical need of systems able of stereospecific recognition. Our current EU-project called *INITIO*, INnovative chemIcal sensors for enanTioselective detectIon of chiral pOllutants, is working on the development of low-cost, portable chemical sensor devices which are reliable, sensitive and capable of fast, simple and real-time *in situ* and on site analysis for sensing and discrimination of chiral molecules. The main components of our chiral sensing materials consist of (hemi)cucurbituril and porphyrin derivatives. The deposition of these materials later onto transducer surfaces will allow for testing and validating the new chemical sensor devices with enantiomeric pairs of model analytes.

Here, we report the first complexation products obtained from the reaction of two chiral macrocycles, namely (*all-R,R*)-cyclohexylhemicucurbit[6]uril (cycHC[6]) and (*all-R,R*)-cyclohexylhemicucurbit[8]uril (cycHC[8]), with various metalloporphyrin derivatives in a dichloromethane/methanol solvent mixture.