

## Pseudorotaxanes based on bambus[6]uril

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Bambus[*n*]urils are new family of macrocyclic anion receptors. They are synthesized by acidic condensation of 2,4-disubstituted glycolurils and formaldehyde leading to macrocyclic structure with alternate orientation of glycoluril units which are connected together by one row of methylene bridges. Methine protons of glycolurils, pointing to the center of cavity, interact with anions and association constants of complexes are remarkably high in both organic and water solutions.<sup>1,2</sup> Only binding of bambusurils with inorganic anions (from halides, through hexafluorophosphate to perchlorate) was described until now. Here we are presenting formation of complexes with dicarboxyiodate salts and their properties. We used dodecabenzylbambus[6]uril and studied its binding with tetrabutylammonium diacetoxyiodate rod in chloroform. The rod is bound inside the bambusuril cavity forming type of an inclusion complex known as a pseudorotaxane. We prepared rods with different terminal groups (stoppers) and found that the bambusuril is capable to slip even over aromatic substituents. Dendrons were used as a stopper which is bulky enough to mechanically interlock bambusuril on axle and formation of rotaxane was investigated.

### References:

- (1) Havel, V.; Sindelar, V. Anion Binding Inside a Bambus[6]Uril Macrocyclic in Chloroform. *ChemPlusChem* **2015**, *80* (11), 1601–1606.
- (2) Yawer, M. A.; Havel, V.; Sindelar, V. A Bambusuril Macrocyclic That Binds Anions in Water with High Affinity and Selectivity. *Angew. Chem. Int. Ed.* **2015**, *54* (1), 276–279.