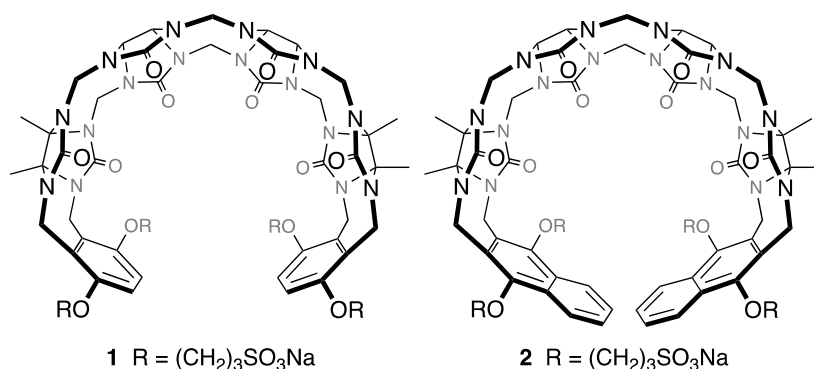


CUCURBIT[*n*]URIL MOLECULAR CONTAINERS: FROM BASIC SCIENCE TO BIOMEDICAL APPLICATIONS

Lyle Isaacs

Department of Chemistry and Biochemistry, University of Maryland, College Park, MD 20742, USA
LIsaacs@umd.edu

In this talk I will present our recent work on the preparation and use of macrocyclic and acyclic CB[*n*] (**1** and **2**) in biologically relevant applications. For example, I will discuss the use of acyclic CB[*n*] as a solubilizing excipient for insoluble drugs,^[1] as a reversal agent for neuromuscular block as well as hyperlocomotion induced by drugs of abuse (e.g. methamphetamine),^[2] the preparation of metal organic polyhedra that are either covalently or non-covalently functionalized with CB[*n*],^[3] and new acyclic CB[*n*] featuring triptycene sidewalls.^[4]



REFERENCES

- [1] G. Hettiarachchi, S. K. Samanta, S. Falcinelli, B. Zhang, L. Isaacs, V. Briken, *Mol. Pharmaceut.* **2016**, *13*, 809–818.
- [2] S. Ganapati, P. Y. Zavalij, M. Eikermann, L. Isaacs, *Org. Biomol. Chem.* **2016**, *14*, 1277–1287. S. Ganapati, S. D. Grabitz, S. Murkli, F. Scheffenbichler, M. I. Rudolph, P. Y. Zavalij, M. Eikermann, L. Isaacs, *ChemBioChem* **2017**, *18*, 1583–1588
- [3] S. K. Samanta, D. Moncelet, V. Briken, L. Isaacs, *J. Am. Chem. Soc.* **2016**, *138*, 14488–14496. S. K. Samanta, J. Quigley, B. Vinciguerra, V. Briken, L. Isaacs, *J. Am. Chem. Soc.* **2017**, *139*, 9066–9074.
- [4] X. Lu, S. K. Samanta, P. Y. Zavalij, L. Isaacs, *Angew. Chem. Int. Ed.* **2018**, *57*, 8073–8078. W. Liu, X. Lu, W. Xue, S. K. Samanta, P. Y. Zavalij, Z. Meng, L. Isaacs, *Chem. Eur. J.* **2018**, *24*, 14101–14110. W. Liu, X. Lu, Z. Meng, L. Isaacs, *L. Org. Biomol. Chem.* **2018**, *16*, 6499–6506.