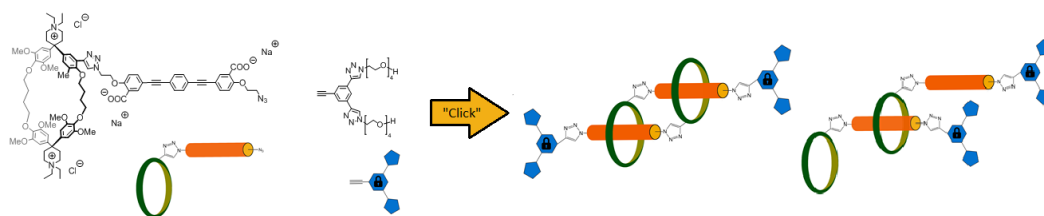


Assembly of Molecular Daisy Chains in WaterY. Aeschi¹, M. Mayor^{1,2*}¹University of Basel, ²Karlsruhe Institute of Technology

Construction of supramolecular nanosystems based on molecular daisy chains is an appealing option as their monomers are self-complementary and allow to access cyclic or linear oligomers by changing monomer concentration or solvent polarity¹. Our cyclophane-based approach for the synthesis of daisy chains relies on association driven by a hydrophobic effect combined with electrostatically complementary subunits. The zwitterionic monomer was found to assemble to linear and cyclic daisy chains in aqueous media, which could be characterized by ¹H-NMR after interlocking with bulky stoppers via a CuAAC-“click”-reaction. Introduction of redox-active chromophores into the monomer is expected to give daisy chains with switchable dimensions, which could be integrated into molecular muscles. Synthetic investigations towards this goal are currently in progress.



[1] J. Rotzler et al. *Chem. Soc. Rev.* **2013**, 42, 44-62