EINLADUNG

Im Rahmen der gemeinsamen Kolloquien der Fakultät für Chemie und Chemische Biologie der Technischen Universität Dortmund hält

Prof. Max von Delius
Institute of Organic Chemistry and Advanced Materials
University of Ulm, Germany

einen Vortrag mit dem Thema

The Dynamic Chemistry of Orthoesters: From Frustrated Networks to Adaptive Hosts and Fluxional Supramolecules

Dynamic covalent chemistry (DCC)\[3\] is a powerful tool for probing non-covalent interactions, identifying ligands for medicinally relevant biological targets, and for making use of the feature of “error correction” to achieve the synthesis of interesting molecules and materials.

I will present our recent work on a previously ignored dynamic covalent reaction: the acid-catalyzed reaction of $O,O,O$-orthoesters with alcohols\[2\] (Figure a), which we were able to use for the one-pot synthesis of cryptates, in which orthoesters act as tripodal bridgeheads.\[1\] Due to their unique structure (see Figure b), these compounds exhibit a range of unusual properties, including tunable, pH-dependent hydrolysis (Figure c).\[4\] Most notably, dynamic orthoester architectures offer an elegant entry to experiments, in which a metal ion selects its preferred host from a dynamic mixture of competing subcomponents (“adaptive host-guest systems”; Figure d).\[3\]

I will close the talk by discussing unpublished work on fluxional host-guest systems, anion-binding, porous orthoester polymers and $S,S,S$-orthoesters.

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Zeit: Dienstag, 23.10.2018, 17.15 Uhr
Ort: Campus Nord, Chemiegebäude, HS 1

Für die Dozenten der Chemie

Der Dekan
Prof. Dr. Stefan Kast

Betreuer: Prof. Clever (0231/755 8677)