

EINLADUNG

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

Prof. Dr. Anna McConnell

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einen Vortrag mit dem Thema:

“From Metallosupramolecular Cages to the Dynamic Covalent Chemistry of Amidoboronates”

This talk will present the development of stimuli-responsive supramolecular systems based on metallosupramolecular cages and amidoboronates. Metallosupramolecular cages^[1] can be self-assembled from relatively simple building blocks exploiting the reversibility of metal-ligand bonds for error-checking during the self-assembly process. Synthetic^[2] and characterisation^[3] tools for aiding the discovery of new cages will be discussed before presenting the proof-of-principle of using cyclopropanones^[4] as light-responsive motifs. A family of spin-crossover cages^[5] will also be discussed where the spin-crossover temperature can be tuned by up to 186 K by tuning the coordination motif and linker.^[5a]

Amidoboronates are a new class of BN-heterocycles prepared as a mixture of isomers by the reductive coupling of N-aryl iminoboronates.^[6] The dynamic covalent chemistry of the amidoboronates will be discussed, including the unusual interconversion between two isomers via rearrangement of the B-N covalent bonds^[6a, 6b] and tuning the ratio of these isomers via the dynamic covalent B-O bonds through catechol exchange.^[6b]

References:

- [1] A. J. McConnell, *Chem. Soc. Rev.* **2022**, *51*, 2957-2971.
- [2] M. Lehr, T. Paschelke, V. Bendt, A. Petersen, L. Pietsch, P. Harders, A. J. McConnell, *Eur. J. Org. Chem.* **2021**, 2728-2735.
- [3] M. Lehr, T. Paschelke, E. Trumpf, A.-M. Vogt, C. Näther, F. D. Sönnichsen, A. J. McConnell, *Angew. Chem. Int. Ed.* **2020**, *59*, 19344-19351.
- [4] M. Lehr, T. Neumann, C. Näther, A. J. McConnell, *Dalton Trans.* **2022**, *51*, 6936-6943.
- [5] a) T. Paschelke, E. Trumpf, D. Grantz, M. Pankau, N. Grocholski, C. Näther, F. D. Sönnichsen, A. J. McConnell, *Dalton Trans.* **2023**, *52*, 12789-12795; b) A. J. McConnell, *Supramol. Chem.* **2018**, *30*, 858-868.
- [6] a) E. N. Keyzer, A. Sava, T. K. Ronson, J. R. Nitschke, A. J. McConnell, *Chem. Eur. J.* **2018**, *24*, 12000-12005; b) P. Harders, T. Griebenow, A. Businski, A. J. Kaus, L. Pietsch, C. Näther, A. J. McConnell, *ChemPlusChem* **2022**, *87*, e202200022; c) A. J. McConnell, *Dalton Trans.* **2023**, *52*, 9189-9201.

Zeit: Dienstag, 14.01.2025, 17:15 Uhr
Ort: Chemiegebäude Hörsaal 1

Für die Dozierenden der Chemie

Im Auftrag des Dekans

Kontakt: Prof. Guido Clever (8677)