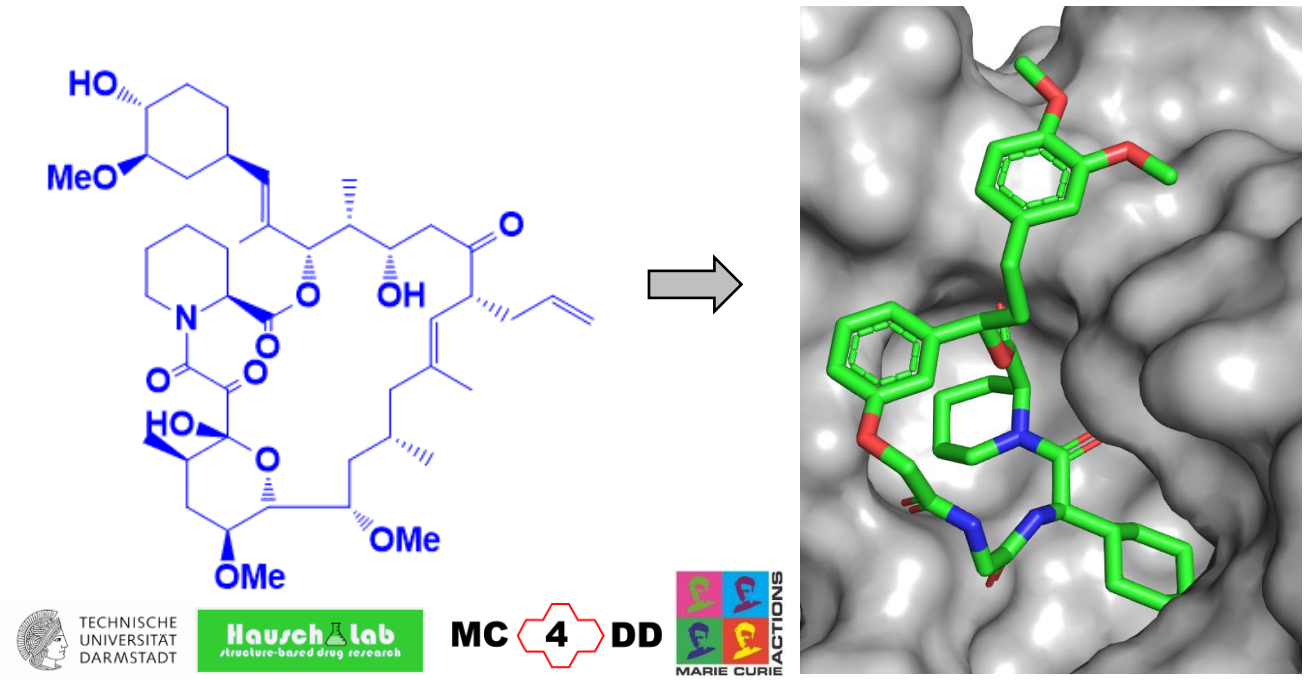
Two **PhD positions** in macrocyclic drug discovery

Develop synthetic approaches for the assembly of complex natural product-like macrocycles & application to the identification of inhibitors for the FK506-binding protein 51 (FKBP51), a key drug target for depression, obesity & chronic pain.



TECHNISCHE UNIVERSITÄT DARMSTADT

Hausch Lab structure-based drug research

MC 4 DD

MARIE CURIE ACTIONS

Topic 1: Conformation control by post-cyclization derivatization & rigidification

Aim: A fine-tuned balance between flexibility and rigidity underlies many of the beneficial properties of MCs. To better control this, conformational pre-organizaton will be achieved by the incorporation of rigid building blocks and by the development and application of tailored derivatization reactions that introduce rigidity and functional diversity on pre-assembled macrocycles.

Topic 2: Permeability & polarity control by combinatorial macrocycle assembly

Aim: Properly configured macrocycles allow a unique combination of high cell permeabilty and high polarity, which makes them particularly attractive for difficult drug targets. To exploit this more systematically, polar groups will be introduced in a systematic manner to foster intramolecular contacts and to the target proteins. This approach will be extended to macrocyclic molecular glues.

Where: Technical University Darmstadt, Institute of Organic Chemistry & Biochemistry

Suited for: Organic chemists interested in biology, pharmacology & drug discovery

Requirements: Master degree in chemistry, with a specialization in organic chemistry

We offer: Training in modern medicinal chemistry and dedicated mentoring in an inter-disciplinary and international lively group, embedded in the MSCA consortium MC4DD.

Literature: Voll et al., Angew Chem Int Ed 2021, doi:10.1002/anie.202017352
Bauder et al., J Med Chem 2021, doi:10.1021/acs.jmedchem.0c02195
Krajczy et al., Chem Eur J 2024, doi:10.1002/chem.202401405

Main mentor & further infos: Prof. Felix Hausch, felix.hausch@tu-darmstadt.de, https://www.chemie.tu-darmstadt.de/hausch/rg_hausch/index.en.jsp