



Mandy Mlotek

Investigation and application of bacterial biosynthetic pathways using chemical synthesis and molecular biological methods

Isothiocyanates constitute a small group of sulfur-containing natural products endowed with various bioactive effects and are therefore interesting for drug development. The biosynthesis of them is well studied in plants and marine invertebrates, but little is known about bacterial isothiocyanates. The recent discovery of Sinapigladioside, an isothiocyanate from the beetle symbiont *Burkholderia gladioli*, and its biosynthetic gene cluster allowed investigation of the isothiocyanate biosynthesis in bacteria. The sulfur-incorporation will be studied using chemical synthesis of intermediates, heterologous expression as well as *in vivo* and *in vitro* biotransformations.

Supervisor

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