

## Engineered Halogenases for the Functionalization of Agrochemicals

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Late-stage functionalization is a powerful tool for fast derivatization of complex molecules as part of a discovery program. Alongside chemocatalysis, biocatalysis offers new synthetic solutions which can lead to high regio- and stereoselective transformations while reducing the use of organic solvents, protecting groups, high temperatures and rare metals.

In a collaboration with the group of Prof. Buller at ZHAW, an iron-alpha ketoglutarate dependent halogenase, WelO5\*, was engineered to enable chlorination of a complex natural product, soraphen A, a potent anti-fungal ingredient. Using smart library design together with algorithm-assisted enzyme engineering, new variants were identified that led to the formation of several bioactive analogues with increased TTN.