

Stereoselective Synthesis of Fluorinated Heterocycles Using Hydroformylation

Tomas Smejkal¹, Régis Mondière¹, Sebastian Wendeborn¹, Jérôme Cassayre¹, Myriem El Qacemi¹, Julie Toueg¹, Nicolas Poirier¹, Bernhard Breit², Lisa Diab²

¹Syngenta Crop Protection AG, Schaffhauserstrasse, CH-4332 Stein, Switzerland.

²Albert-Ludwigs-Universität Freiburg, Albertstrasse 21, 79104 Freiburg, Deutschland.

e-mail: tomas.smejkal@syngenta.com

Stereoselective synthesis of fluorinated heterocyclic compounds is an active area of research with many applications in the synthesis of bioactive compounds.^[1]

In this poster we will discuss a combination of enzymatic resolution and hydroformylation to access some heterocyclic fluorinated scaffolds in a straightforward manner. Finally, the transformation of one of the chiral building blocks into a novel and potentially useful agrochemical intermediate will be described.

[1] (a) Bioorganic and Medicinal Chemistry of Fluorine; Begue, J.-P., Bonnet-Delpon, D., Eds.; Wiley: Hoboken, NJ, 2008. (b) Fluorine In Medicinal Chemistry And Chemical Biology; Ojima, I., Ed.; Wiley-Blackwell: 2009. (c) Nie, J.; Guo, H.-C.; Cahard, D.; Ma, J.-A. Chem. Rev. 2011, 111, 455–529.