

Abstract

This Thesis deals with the synthesis of *N*-fluoroalkyl azoles via rhodium(II)-catalyzed transannulation of *N*-fluoroalkyl-1,2,3-triazoles obtained through copper(I)-catalyzed azide-alkyne cycloaddition (CuAAC) of *N*-fluoroalkyl azides and alkynes.

The introductory chapter describes general approaches towards *N*-fluoroalkyl azoles, focusing on the synthesis of *N*-fluoroalkyl pyrroles and azoles.

In the first part of the Thesis, rhodium(II)-catalyzed transannulation of *N*-fluoroalkyl-1,2,3-triazoles with terminal alkynes is described. The reaction provides access to *N*-fluoroalkyl pyrroles. The regioselectivity of the reaction is investigated and modifications of the primary product are suggested.

In the second part of the Thesis, the reactivity of 4-cyclohexyl-*N*-fluoroalkyl-1,2,3-triazoles is investigated. A one-pot two-step reaction is presented, providing access to novel *N*-fluoroalkyl indoles. Several modification routes are suggested.