

Abstract

This diploma thesis is focused on the combination of enantioselective organocatalysis and transition metal catalysis. In the experimental part of the work, the optimization of reaction conditions with respect to the reaction yields, enantioselectivity and diastereoselectivity was solved.

The applicability of the reaction was verified on various substrates. The second part of the work is focused on the study of the mechanism of the reaction using the methods of quantum chemistry. The kinetics of the reaction were monitored by NMR spectroscopy and the mechanism of the reaction was investigated by quantum chemistry methods.

Keywords:

aminocatalysis, palladium, synergistic catalysis, reaction mechanism, DFT