

## 2. Summary of Ph.D. Thesis

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The main goal of the dissertation were the synthesis new, chiral carbohydrates ligands. Another goal was to check the effectiveness of obtained ligands in the reaction of asymmetric allylic alkylation in the presence of palladium complexes with various nucleophiles, as well as in the addition reaction diethylzinc to  $\alpha,\beta$ -unsaturated carbonyl compounds carried out in the presence of copper(II) triflate.

The thesis was divided into three main chapters - Literature, Discussion of the results of own research and Experimental.

The literature part has been divided into two basic subsections, in which presented phosphorous ligands such as phosphines, phosphinates or phosphites as well *P,P*- mixed and bident *P,S*-, *P,N*-, *P,O*- and *N,S*-sugar backbone ligands.

Discussion of the results of own research is divided into 4 main issues. The first one contains a short introduction to the subject of my research. In the second part of this chapter I presented a simple and effective method of synthesis 10 new chiral ligands derived from carbohydrates. All obtained compounds were tested in the asymmetric allylic substitution reactions under catalytic conditions and in the addition reaction of diethylzinc to chalcone. The last part is devoted to the summary of results obtained in the course of research work.

The experimental part describes the procedures for obtaining new ligands and the reactions in which these compounds were tested. This issue also includes all analytical data which made it possible to identify the resulting compounds.