

Abstract

Chiral BODIPY derivatives are interesting substances that can be used as a source of circularly polarized fluorescence (CPL) or as stereoselective fluorescent probes.

This diploma thesis deals with the preparation of enantiomerically and diastereomerically pure BODIPY derivatives using aminocatalysis.

The first part of the work is focused on the reactivity of BODIPY derivatives in enantioselective Michael additions to α,β -unsaturated aldehydes activated by chiral secondary amines. The second part of the work is devoted to finding suitable reaction conditions of the cascade Michael/ α -alkylation reaction to prepare chiral BODIPY derivatives with a cyclopropane ring. Subsequently, the reaction was performed with selected α,β -unsaturated aldehydes.

Key words

Asymmetric synthesis, BODIPY, cyclopropane, Michael addition, α,β -unsaturated aldehyde, organocatalysis.