Abstract

Development of new asymmetric processes is one of the objectives of catalysis in organic chemistry. These processes can provide access to chiral building blocks applicable in syntheses of various natural substances that can be used for medical purposes. One such process is the preparation of chiral homoallyl alcohols, which have been used for syntheses of variety of biologically active compounds. In view of the aforementioned, suitably substituted homoallyl alcohols could be used as intermediates in syntheses of koibacins A-D, which have a number of interesting biological properties. Natural koibacins A-D are metabolites isolated from the marine cyanobacterium *Oscillatoria* sp. that exhibits selective antileishmanial activity and potent antïinflammantory properties. Our synthetic plan is focused on an approach through the allylation of aldehydes, esterification, ring closing metathesis and finally cross metathesis with different lipophilic fragments.

Key words: enantioselective allylation, asymmetric synthesis, natural compounds, coibacins.