

New Chiral Ligand Derived from Caryophyllene Useful for Vanadium Catalyzed Asymmetric Oxidation of Sulfides

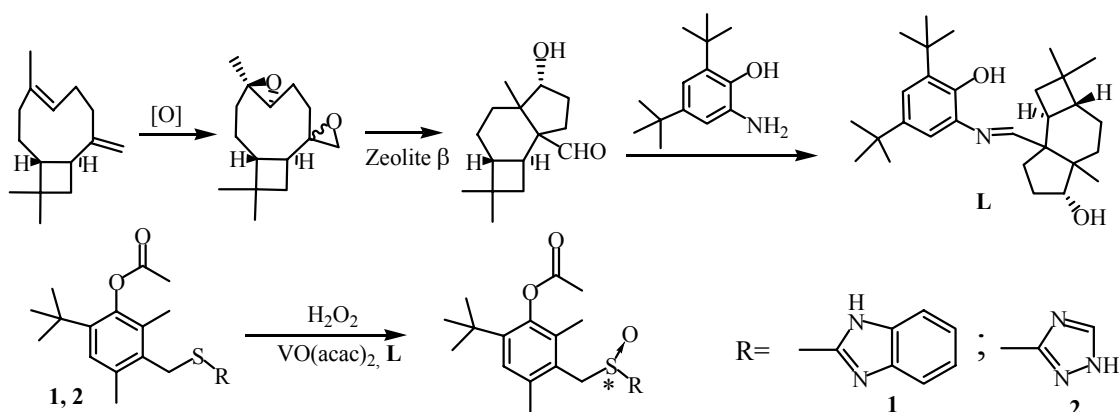
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Oxidation of prochiral sulfides by hydrogen peroxide in the presence of the complex vanadyl acetylacetonate and chiral Schiff base is one of the most convenient and universal ways of obtaining optically active sulfoxides¹. Unfortunately, at the present time there are only a few ligands that are successfully applied to this catalytic system. To increase the number of suitable ligands we have synthesized chiral Schiff base by taking for the first time the widespread and easily available sesquiterpene caryophyllene as an initial optically active compound. We have obtained the ligand via the reaction of di-*t*-butylaminophenol with chiral aldehyde which was formed when caryophyllene diepoxides were isomerized in the presence of β -zeolite.

The catalytic activity of the metal-complex system obtained *in situ* via the reaction of vanadyl acetylacetonate and the ligand **L** was tested in the catalytic oxidation of polyfunctional sulfides **1** and **2** to corresponding sulfoxides by aqueous hydrogen peroxide.



¹ K. P. Volcho, N. F. Salakhutdinov, A. G. Tolstikov. Russ. J. Org. Chem., vol. 39, № 11, 1537 (2003).