

International Conference on

Pharmaceutical Chemistry

September 05-07, 2016 Frankfurt, Germany

Enzyme-catalyzed reactions**F Devrim Özdemirhan**

Abant İzzet Baysal University, Turkey

Building blocks containing chiral tertiary alcohol frameworks is of great importance in the field of pharmaceutical and natural product industry. Oxygen involving, indan and tetralin compounds used to synthesize β -keto esters and antibiotic, i.e; thermorubin. Chemoenzymatic synthesis of optically active aromatic ring fused cyclic tertiary alcohols (S)-(-)-1-methyl-1,2,3,4-tetrahydronaphthalen-1-ol, (S)-(+)-1-methyl-2,3 dihydro-1H inden-1-ol has been progressed. Lipases have been tried; CAL-A (C. a. Lipase A) was found to be the best biocatalyst for (\pm)-1-methyl-1,2,3,4 tetrahydronaphthalen-1-ol 1b and CAL-A-CLEA (Lipase A, C. a., cross-linked enzyme aggregate) for (\pm)-1-methyl-2,3-dihydro-1H-inden-1-ol, 1a, achieved with ee values of 20%, 45%, successively, the corresponding esters, 2b and 2a with the ee values 99 % , 71 % , respectively. Transesterification of (\pm)-1-methyl-2,3-dihydro-1H-inden-1-ol 1a and (\pm)-1-methyl-1,2,3,4-tetrahydronaphthalen-1-ol 1b. The pharmaceutically active substances, a spirocycles make the synthesis and chemical reactivity of spiro cage an important area of research in organic. Cyclopent-2-ene barred tertiary allylic, homoallylic, homopropargylic alcohols, building blocks for spirocycles, have been resolved, via enzyme-catalyzed reaction with high ee (up to 90%) with 44%, 40% and 43% chemical yields, successively. The cyclohex-2-ene chain tertiary allyl, homoallyl and homopropargyl alcohols have been resolved in the same way at a high degree ee (up to 97 %) and in 42%, 45%, 49% chemical yields, sequentially. Enantiomerically enriched dienes from tertiary homoallyl alcohols related enantiomerically enriched spirocyclic dihydropyran compounds via RCM with 74% and 78% chemical yields and 90% and 97% ee, successively. Enantiomerically enriched enynes from tertiary homoallyl alcohols provided enantiomerically enriched cyclopentenone pyrans with spirocyclic motifs via PKR 80% and 81% chemical yields, respectively, as single diastereomers.

Biography

F Devrim Özdemirhan has completed her PhD from Middle East Technical University, Department of Chemistry. She is an Associate Professor at Abant İzzet Baysal University. She is the MC (Management Committee) member at the CMST COST Action CM 1303 (System Biocatalysis). She has published more than 10 papers in reputed journals and has been serving as an Editorial Board Member of repute.

ozdemirhan_d@ibu.edu.tr**Notes:**