19TH EUROPEAN SYMPOSIUM ON ORGANIC CHEMISTRY

BOOK OF ABSTRACTS

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Hydroxymethylation of cyclic \((S,S)\)-tert-butylsulfinylketimine-derived lithium enamides with methoxymethanol as a source of anhydrous monomeric formaldehyde affords \((S,S,R)\)-\(\alpha\)-hydroxymethyl ketimines with excellent diastereoselectivity (99:1 dr). Subsequent diastereoselective reduction of the ketimine moiety from \(Re\)-face with \(BH_3\)-THF provided \((S,S,R,R)\)-\(N\)-sulfinyl-1,3-amino alcohols. Diastereomeric \((S,R,S)\)-1,3-amino alcohols were also obtained by using \(LiBHEt_3\) as the reducing agent. The tert-butylsulfinyl chiral auxiliary controls the diastereoselectivity of both hydroxymethylation reaction and subsequent reduction of ketimines. Further studies to expand the scope of aldehydes in the reaction with \((S,S)\)-tert-butylsulfinyl ketimines are ongoing in our laboratory.\(^{[1]}\)

References: