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RIGA - LATVIA

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PROGRAM & ABSTRACTS

Chiral 1,3-Diamines: Synthesis and Application

PL17

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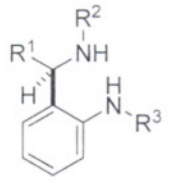
Chiral 1,3-diamines are emerging as efficient organocatalysts and useful bidentate ligands for transition metals catalyzed asymmetric transformations.



R^1=Me, *t*-Bu, Ph, 1-naphthyl, 2-naphthyl
R^2, R^3=H, Me

The presentation will focus on the synthesis of chiral, non-racemic 1,3-diamines employing highly diastereoselective reduction of *tert*-butanesulfinylimines as the key step. Both the structure of the starting imines and the relative configuration of the reduction products were determined by X-ray crystallographic analysis. The sense of asymmetric induction was found to be in good correlation with *E* or *Z* geometry of the starting imines in the crystalline form. Thus, (*E*)-imines were reduced to sulfinylamides with *R* configuration at the newly created chiral center, while (*Z*)-imines afforded sulfinylamides with *S* configuration.
Application of synthesized chiral 1,3-diamines as chiral acids in enantioselective protonation of lithium enolates will be demonstrated.