Asymmetric synthesis of new enantiomerically enriched α-amino acids

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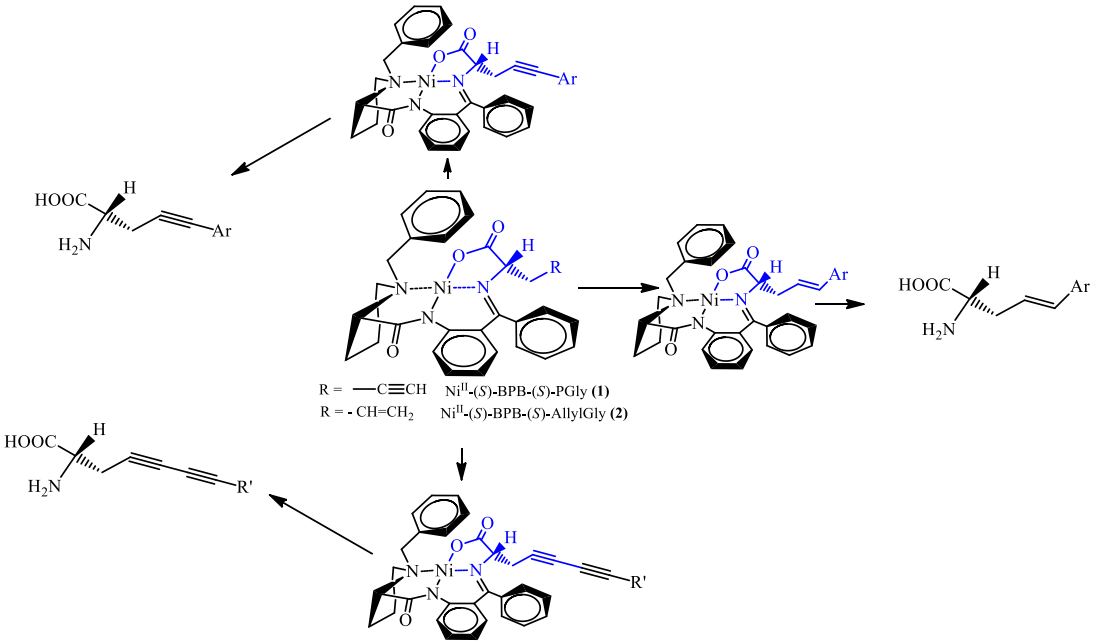
Alkyne-containing amino acids are versatile structures readily available by a number of methods and are accessible using very few transformations from economical starting materials[1]. They can be functionalized by many chemical functions and offer a wide range of possible transformations. Particularly, unsaturated α-amino acids give access to many synthetic applications in all fields of chemistry[2]. Different synthetic approaches have been developed to obtain chiral unsaturated α-amino acids[3].

Here, we present a stereoselective approach to synthesize unsaturated α-amino acids in optically active form. As a starting amino acid synthon for the asymmetric synthesis of amino acids Ni^{II} square-planar complexes of Schiff's bases of propargylglycine (1) or allylglycine (2) with chiral auxiliary (*S*)-2-N-(N`-benzyl-prolyl)aminobenzophenone (BPB) were taken (Figure).



As a result, effective methods of synthesis for novel enantiomerically enriched derivatives of (*S*)-propargylglycine and (*S*)-allylgylglycine were developed.

The obtained amino acids and intermediate complexes open a new way to the synthesis of enantiomerically pure amino acids containing practically unlimited number of radicals of different nature attached to the triple C-C bond.

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