

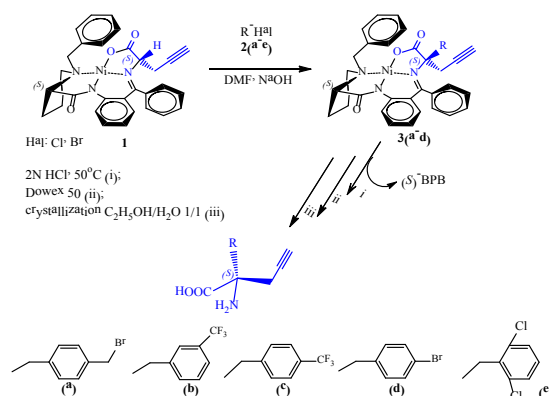
Efficient method for the synthesis of novel enantiomerically enriched derivatives of propargylglycine

Anna F Mkrтчyan^{1,2}, Ashot S Saghyan^{1,2}, Liana A Hayriyan^{1,2}, Ani J Karapetyan^{1,2}, Zorayr Z Mardiyani^{1,2}, Hayarpi M Simonyan^{1,2} and Hovhannes Adonc²

¹Scientific and Production Center "Armbiotechnology" - NAS, Armenia

²Yerevan State University, Armenia

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. 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. Among them, metal catalyzed cross-coupling reactions and cross metathesis are commonly used to generate peptide modifications and cyclization. They are very interesting and useful tools for "Click" Chemistry in peptidomimetic drug design or covalent modification of proteins. They can also be incorporated in compounds as beta-turn inducer to promote secondary structures. Finally they can be used for the preparation of stapled peptides. Some such amino acids are commercially attainable in enantiomerically pure form. 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 NiIII square-planar complexes of Schiff's bases of propargylglycine with chiral auxiliary (S)-2-N-(N'-benzyl-propyl)aminobenzophenone (BPB) (1) was taken. As a result effective methods of asymmetric synthesis for novel enantiomerically enriched derivatives of (S)-propargylglycine (S)-propargylglycine (ee > 80%) was developed.



Biography

Anna F Mkrтчyan works in Institute of Pharmacy of Yerevan State University and SPC "Armbiotechnology" NAS RA. She got her PhD degree in Chemistry in 2013 specializing in Bioorganic Chemistry.

anna_mkrтчyan@ysu.am

Notes: