

عنوان مقاله:

Asymmetric synthesis of Passerini reaction using a cheap and commercially available chiral amino acid as a catalyst

محل انتشار:

بیست و هفتمین کنفرانس شیمی آلی ایران (سال: 1398)

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خلاصه مقاله:

Today's chemistry focuses on the ways to accelerate organic reactions so that in addition to expediting reactions, high-yield products, easy workup and minimal environmental impact to be considered. For this purpose organo-catalysts have a prominent position in organic reactions, which carry many of the reactions in water that no longer requires traditional volatile organic solvents so that this aspect introduces green chemistry that focuses on technological approaches for the prevention of using and generating hazardous substances. The Passerini reaction, one of the oldest multicomponent reactions, has been found useful for the construction of multifunctional α -acyloxyamide in a practical process with the concurrent generation of a stereogenic center. This reaction was often used as a key step in the total synthesis of natural products and the α -acyloxycarboxamide group is also a frequently recurring motif in biologically active compounds, for example, in the pharmacologically interesting depsipeptides. [1,2] In this study an efficient enantioselective two component Passerini reaction in the presence of a chiral amino acid catalyst has been developed. This represents the general example of Passerini reaction with good to excellent enantioselectivities involving aromatic aldehydes under certain conditions. The feature of this method is highlighted by using a chiral reusable catalyst to bring about an aerobic oxidation of aldehyde for construction of widely useful (complex compounds) (Scheme 1).

کلمات کلیدی:

Asymmetric synthesis, Isocyanides, Passerini reaction, Amino acid

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