عنوان مقاله:

Immobilization of chiral amino alcohol (S)-2-amino-4-methylpentan-1-ol on MCM-41 nanoporous silica and its applications in asymmetric allylic C-H bond oxidation of cycloalkenes

محل انتشار:

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

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خلاصه مقاله:

There are several methods for the preparation of pure enantiomeric compounds which one of them is the use of chiral catalysts in asymmetric synthesis. For this purpose, we used a heterogeneous chiral catalyst because its separation and recycling is more convenient than homogeneous catalyst.1, 2 The allylic oxidation of olefins using peresters in the presence of copper catalyst to give allylic esters is known as the Kharash-Sosnovsky reaction. This reaction has been the subject of great interest over the last decade and provides access to chiral allylic alcohols, which are key intermediates in natural product synthesis. 2 In this study, MCM-41 was prepared and modified by (3-chloropropyl) trimethoxy silane. Afterward, the chiral amino alcohol (S)-2-amino-4-methyl pentan-1-ol which is synthesized by reduction of corresponding chiral amino acid L-leucine, immobilized on Cl-MCM-41 mesoporous silica. The synthesized chiral heterogeneous ligand with copper salt was used in the asymmetric allylic C-H bond oxidation of cycloalkenes under different conditions. The chiral allylic esters were achieved in high yields and moderate enantioselectivities. 2 a,c

کلمات کلیدی:

.Chiral amino alcohol, Chiral heterogeneous catalysts, Chiral allylic ester, Allylic C-H bond oxidation