

عنوان مقاله:

Boric Acid: As a Green Catalyst for the Conversion of Aldehydes and Ketones to Gem-Dihydroperoxides Using Aqueous ۳۰% H₂O₂

محل انتشار:

دوفصلنامه تحقیقات شیمی آلی، دوره 1، شماره 1 (سال: 1394)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Gem-dihydroperoxides as nearly stable peroxidic derivatives of aldehydes and ketones are known important intermediates in synthesis of anti-malaria drugs. Also, because containing high concentration of peroxidic oxygen, recently, some of these compounds have been used as solid, efficient and powerful oxidants in many oxidation organic reactions. Generally, these compounds are synthesized via peroxidation of aldehydes and ketones. So, regarding the importance of gem-dihydroperoxides, in this work, boric acid has been explored as an effective, inexpensive, commercially available, green and homogenous solid catalyst for catalyze peroxidation of aldehydes and ketones to corresponding gem-dihydroperoxides by ۳۰% aqueous hydrogen peroxide at room temperature in acetonitrile as the solvent. Both aromatic and aliphatic aldehydes and ketones were studied in this work. The reactions were carried on in short times. The products were obtained in high yields and good purity. In all reaction, no any by-product was observed. This methodology is easy, mild, nearly green, efficient and available.

کلمات کلیدی:

Gem-dihydroperoxide, Aldehyde, Ketones, Boric acid, Hydrogen peroxide

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