

## عنوان مقاله:

Ceria nanoparticles supported on crosslinked polymer: a novel and efficient heterogeneous catalyst for aminolysis of epoxides

## محل انتشار:

همایش ملی نانو فناوری و شیمی سبز (سال: 1391)

تعداد صفحات اصل مقاله: 6

## نویسندگان:

Maryam Javadi azad - *Applied Chemistry Department-Shiraz Branch-Islamic Azad University-Shiraz-Iran*

Nooredin Goudarzian - *Applied Chemistry Department-Shiraz Branch-Islamic Azad University-Shiraz-Iran*

## خلاصه مقاله:

Cross-linked polyethyleneimine were prepared, characterized and were used to complex Cerium oxide. This polymer metal complex was used as a heterogeneous, recoverable and reusable Lewis acid in nucleophilic ring opening of different epoxides to prepare  $\beta$ -amino alcohols in good to excellent yields. Elemental analysis of Ce was carried out by ICP-OES and shows capacity of the supported catalyst which confirms the full heterogeneous character of the catalytically active species. The catalyst can be used many times in repeating cycles without considerable loss in its activity. Transmission electron microscopy (TEM) shows that Ceria particles are well-dispersed and small particle sizes in nanoscale. Short reaction times, high yields, excellent regioselectivity, easy purification, recyclability are main characteristic of the process.

## کلمات کلیدی:

Nano Ceria, heterogeneous catalyst, Polyethyleneimine, Epoxide,  $\beta$ -amino alcohols

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/203355>

