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Isomerisation of R-(+)-Limonene, Citronellene and Terpinolene Diepoxides in the Presence of the Solid Acidic Catalysts

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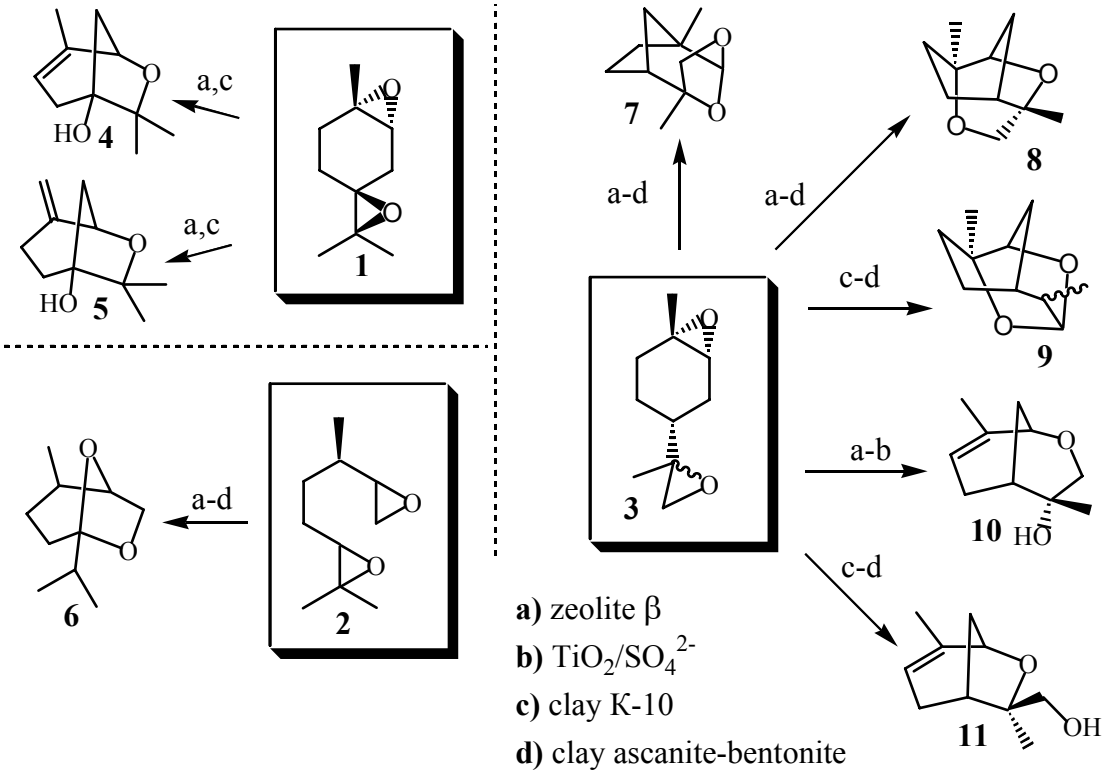
Epoxides, or oxiranes as they are also called, are versatile intermediates in organic synthesis. Chemical reactions of terpene epoxide compounds are of considerable interest because various products can be prepared on this basis.

We have investigated transformations of diepoxides of the such wildspread monoterpens as R-(+)-limonene, terpinolene and citronellene in heterogeneous acid media (zeolite β, bentonite clay, synthetical clay K-10, solid superacid TiO_2/SO_4^{2-}). It has been shown, that isomerisation of diepoxides (**1-3**) leads to bi- and tricyclic oxygen-containing substances (**4-11**). It is important, that ratio of compounds (**4-11**), obtained from limonene diepoxides, depends on the type of the solid acidic catalyst.



Compounds **1-11** were characterized from its NMR (^1H, ^{13}C) and mass spectrums.