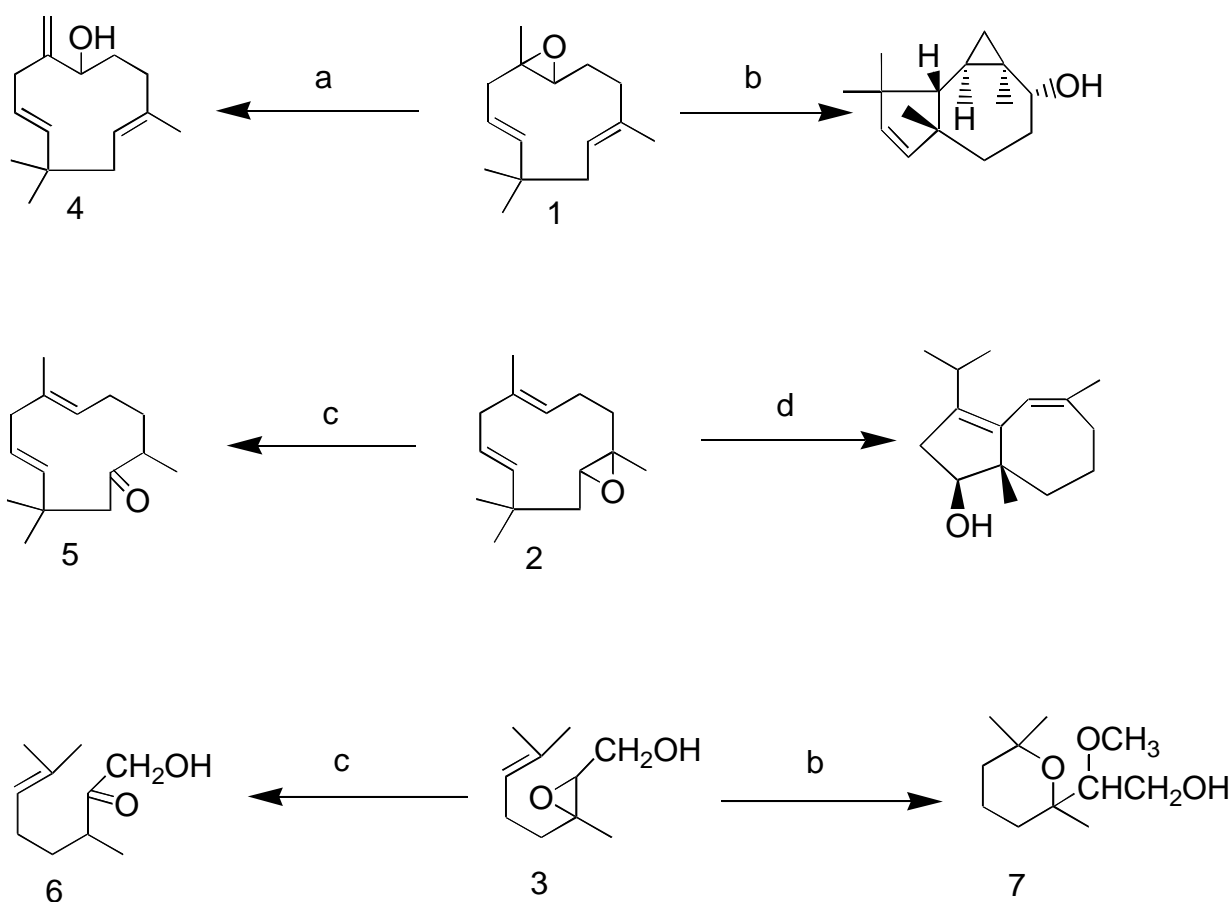


Rearrangements of Monoepoxides of Humulene and Geraniol on Solid Acidic Catalysts and in Liquid Superacids

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Data on the use of solid superacids in the chemistry of terpenes are very limited. We at the first time showed that 6,7-(1), 2,3- epoxides of humulene (2) and 2,3- epoxide of geraniol (3) isomerize by the different routes on the solid acidic catalysts at the room temperature and in the liquid superacids at the low temperature. For example of epoxides (1,2) we observed the initiation of the cationic center at one and the same site, but the subsequent divergence of the rearrangements routes is caused, apparently, by the nature of the conformational control. For example of epoxide (3) we reveal the changing of the site for cationic center initiation depending on the nature of superacid. The structures of compounds (4-7) were proved by the ^1H and ^{13}C NMR spectra.



a - $\text{Al}_2\text{O}_3/\text{SO}_4^{2-}$, 20 °C; b - $\text{HSO}_3\text{F}-\text{SO}_2\text{FCl}$, -100 °C; c - $\text{ZrO}_2/\text{SO}_4^{2-}$, 20 °C; d - SnCl_4 , -60 °C.