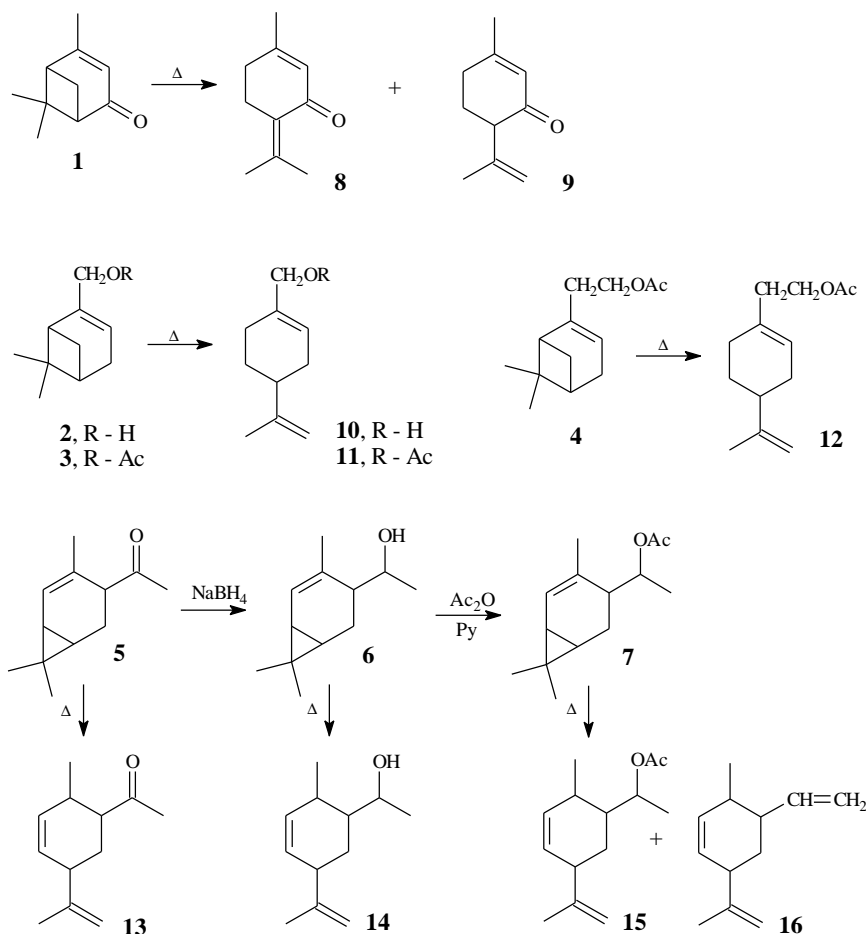


Pyrolysis - Selective Method of Bicyclic Monoterpenes Transformation into Methane Derivatives

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Oxygen-bearing monocyclic terpenes are widely used for manufacturing synthetic odoriferous substances. A simple procedure to obtain them is pyrolysis of bicyclic compounds with the pinane and carane structures. Thermal isomerization of terpenes to monocyclic and aliphatic compounds was first demonstrated by B.A.Arbusov for α -pinene. The present work reports the results of thermal transformations of some oxygen-bearing derivatives of α -pinene: verbenone (1), myrtenol (2), myrtenilacetate (3), nopolacetate (4) and carene: 4-acetylcarene-2 (5), 4-(1-hydroxyethyl)carene-2 (6) and its acetate (7).



Pyrolysis was conducted in a flow system with inert gas in the temperature range 380 to 460°C.

All the bicyclic terpenes have a double bond in the allyl site to cyclobutane and cyclopropane rings. It is this bond that plays the dramatic role in breaking the $\text{C}_1\text{-C}_7$ bond, so para-methane compounds were selectively obtained with a yield of 40-70%: piperitenone (8) and isopiperitenone (9), perilla alcohol (10) and perilacetate (11), homoperilacetate (12) and p-menthadiene-2,8 derivatives (13-16).