

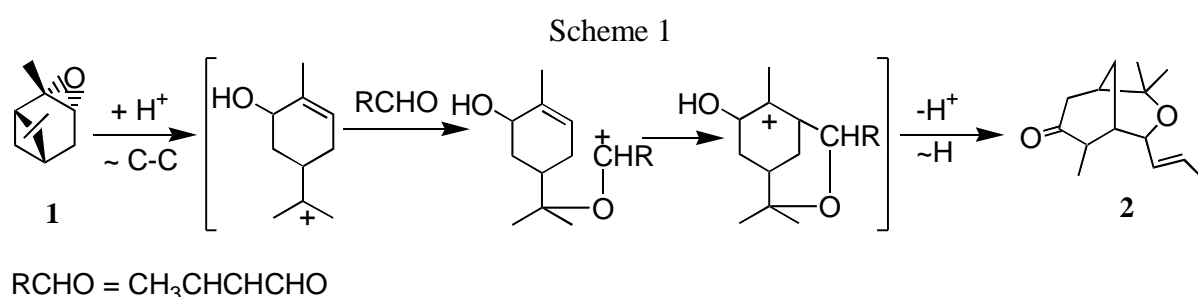
## Reaction of $\alpha$ -Pinene Epoxide with Aldehydes on Askanite-Bentonite Clay

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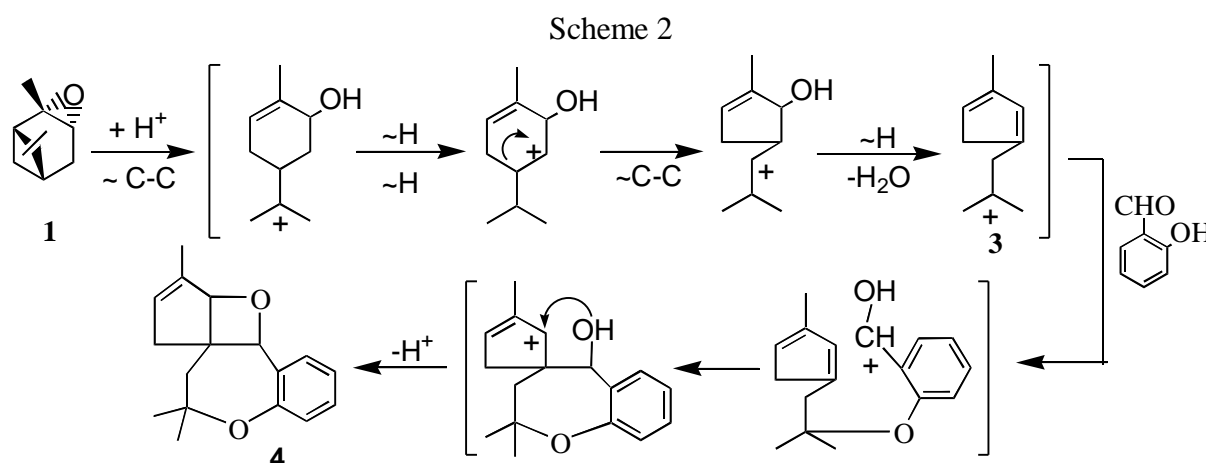
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We have found that different transformations take place in the reactions of  $\alpha$ -pinene epoxide **1** with crotonic and salicylic aldehydes on askanite-bentonite clay in mild conditions.

The reaction of epoxide **1** with crotonic aldehyde gave bicyclic ketoester **2**, for which the possible mechanism of formation is shown in Scheme 1.



The reaction of compound **1** with salicylic aldehyde is accompanied by profound rearrangement of the pinane framework, probably leading to intermediate **3**. The reaction of the latter with salicylic aldehyde forms tetracyclic diester **4**, whose framework, according to our knowledge, is unavailable in the literature. A possible route of transformation is shown in Scheme 2.



Thus we succeeded in obtaining previously unknown complex polyheterocyclic products from simple compounds in a one-step reaction at room temperature.