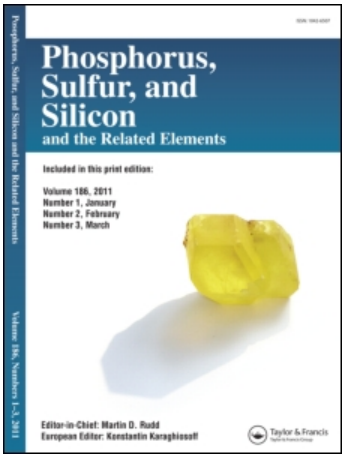

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Sulfur as Supporting Element in Vinylcyclopropane Formation

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SULFUR AS SUPPORTING ELEMENT IN VINYLCYCLOPROPANE FORMATION

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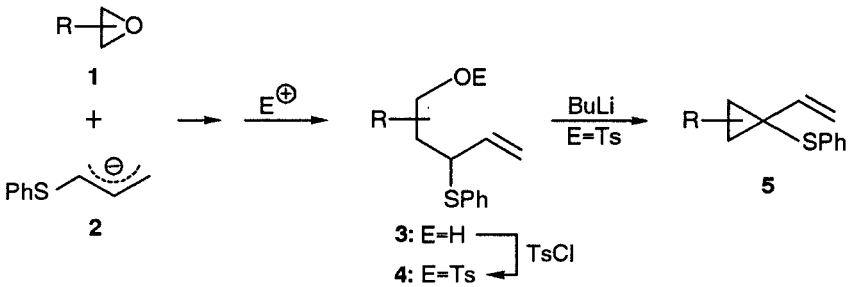
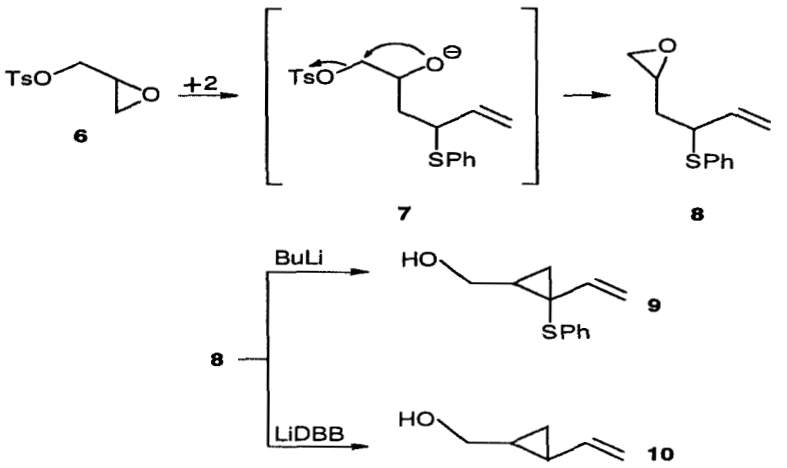
Abstract Vinylcyclopropanes **5,9,10** are conveniently obtained by sulfur-mediated S_Ni reactions.

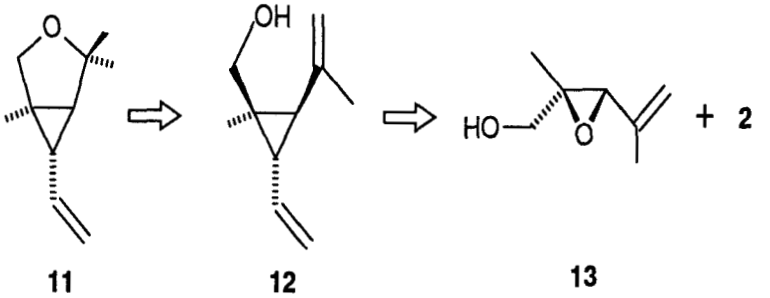
Bishomoallyl alcohols **3** are readily accessible from epoxides **1** and the sulfur-stabilized anion **2** of allyl phenyl sulfide. Tosylated derivatives **4** are available by tosylation of **3** or by quenching the reaction mixture from **1** and **2** with tosyl chloride. Now again the anion-stabilizing effect of sulfur can be used in a sequence of deprotonation/intramolecular nucleophilic attack giving vinylcyclopropanes **5**.[1]



Vinylcyclopropane formation is also possible by intramolecular ring-opening of epoxides. Here, oxiranes **6** with α-tosyloxy-substituted side-chain are employed. Reaction with anion **2** regenerates an epoxide **8** via intermediate **7**. Subsequent ring-closure to vinylcyclopropanes **9,10** is then possible by sulfur-supported deprotonation or by reductive desulfurization employing the radical anion of di-tert.-butylbiphenyl (DBB).[2]



The methodology could be used in an asymmetric synthesis of the monoterpene ether artemeseol (**11**) from vinylcyclopropane **12** with oxirane **13** being the key intermediate. Also the responding nor-derivative can be obtained.[3]



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2. F. Narjes, O. Bolte, D. Icheln, W. A. König and E. Schaumann, J. Org. Chem., submitted for publication
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