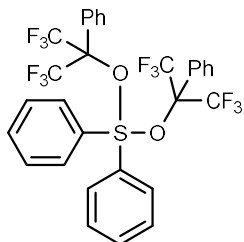


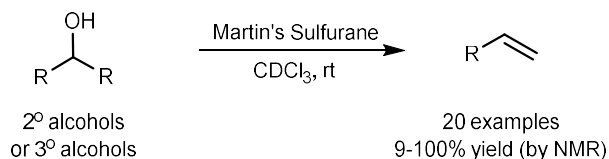
## Martin's Sulfurane:



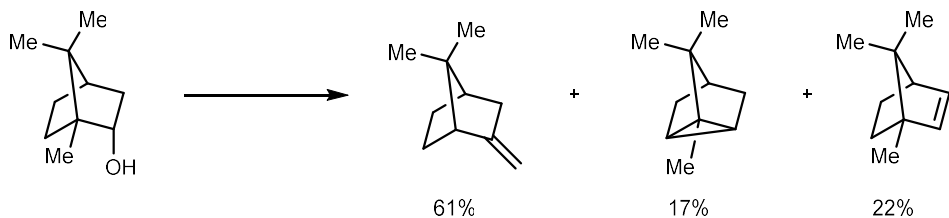
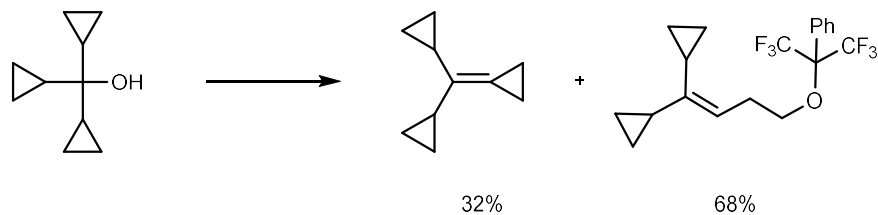
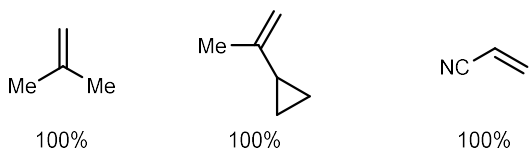
*J. Am. Chem. Soc.* **1971**, *93*, 2339. <https://doi.org/10.1021/ja00738a053>

*J. Am. Chem. Soc.* **1971**, *93*, 2341. <https://doi.org/10.1021/ja00738a054>

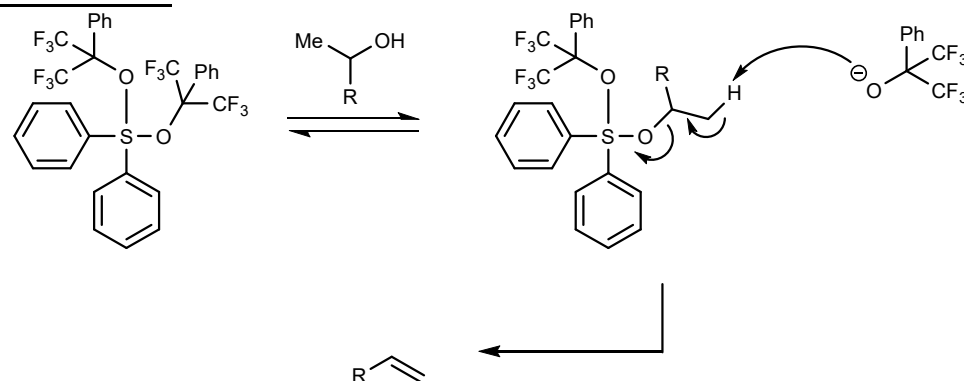
## Dehydration of Alcohols:



## Selected examples:



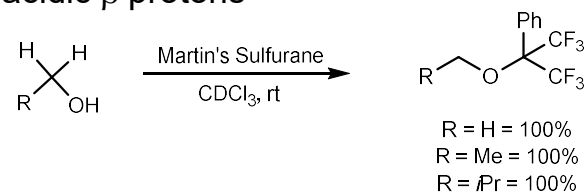
## Mechanism:



Secondary alcohols undergo E2 whereas tertiary alcohols favor mechanism with E1 character

## Limitations:

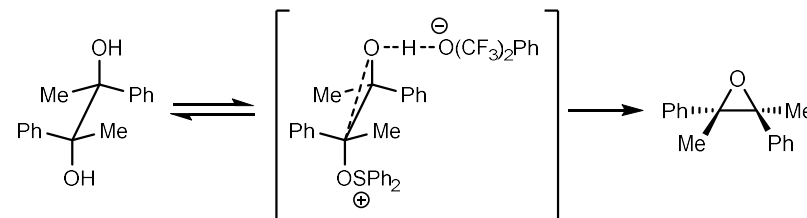
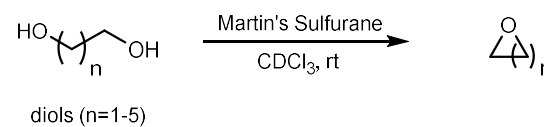
- Primary alcohols form unsymmetrical ethers, if there is no strongly acidic  $\beta$  protons

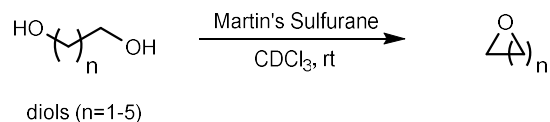


*J. Am. Chem. Soc.* **1971**, *93*, 4327. <https://doi.org/10.1021/ja00746a059>

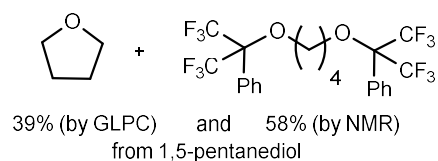
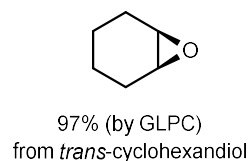
*J. Am. Chem. Soc.* **1972**, *94*, 5003. <https://doi.org/10.1021/ja00769a036>

## Cyclic Ethers from Diols:





## Selected examples:

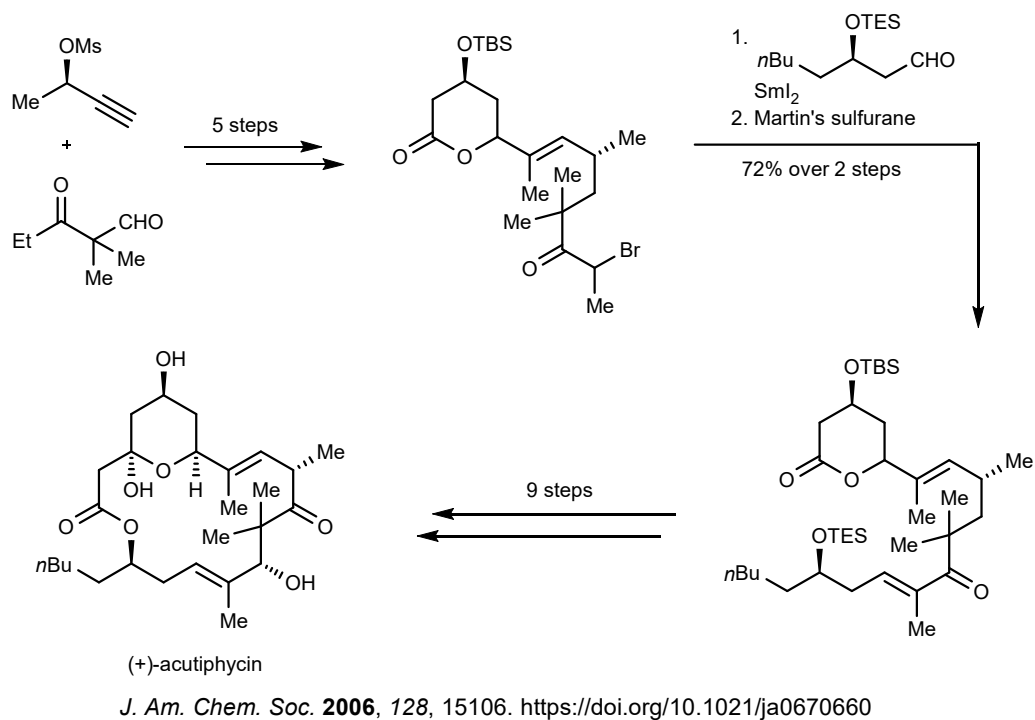


- Yields of cyclic ethers by ring size: 3 > 5 > 6 > 4 = 7

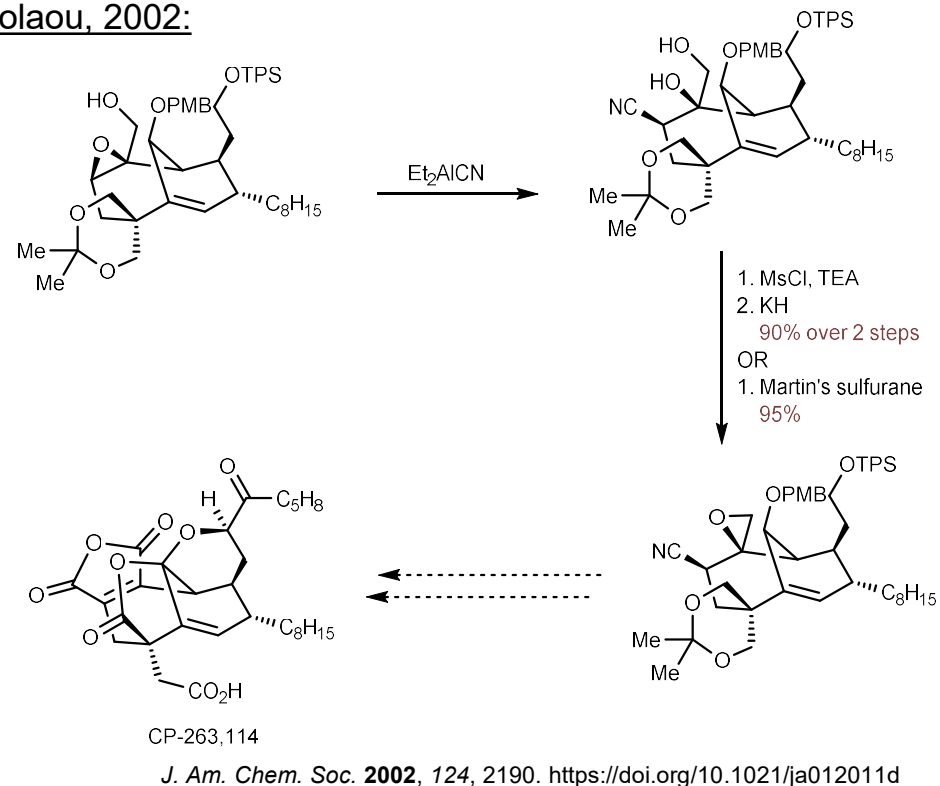
*J. Am. Chem. Soc.* **1974**, *96*, 4604. <https://doi.org/10.1021/ja00821a041>

## Examples in Total Synthesis:

### Jamison, 2006:



### Nicolaou, 2002:



### Nicolaou, 2008:

