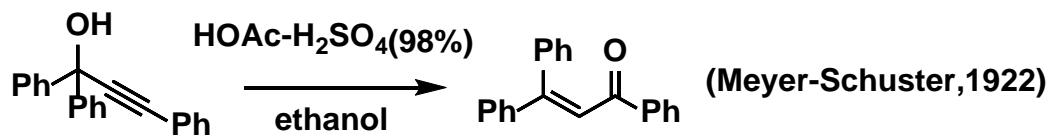
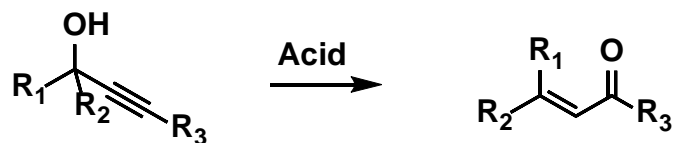
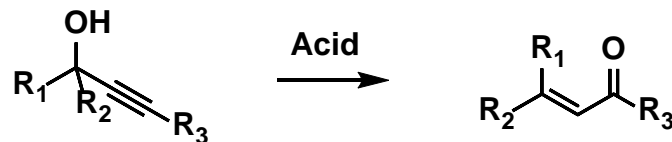


MEYER-SCHUSTER REARRANGEMENT



Chem. Ber., 55, 819 (1922)



$\text{R}_1 = \textit{tert}$ -alkyl, aryl; $\text{R}_2 = \textit{tert}$ -alkyl, aryl; $\text{R}_3 = \text{H}$, electron-donating groups

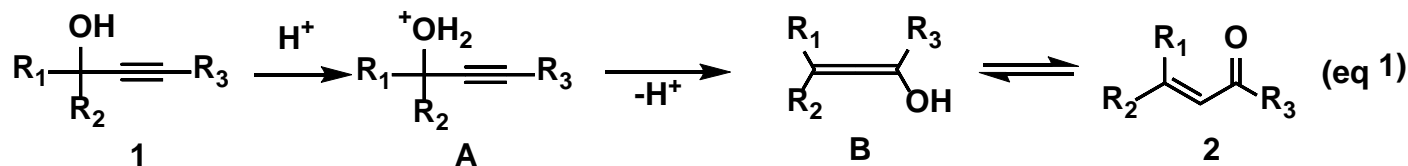
Acid = Bronsted acid, 'soft' Lewis acid

FEATURES

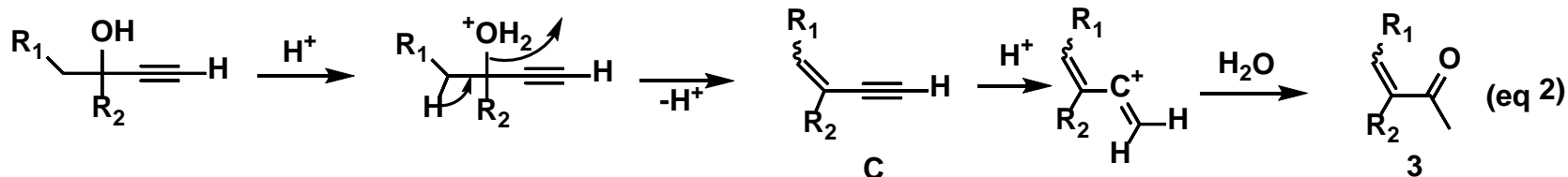
- 1) when $\text{R}_1, \text{R}_2 = \textit{pri}$ - or \textit{sec} - alkyl, initial β -elimination of the propargyl alcohol provides an enyne en route to the Rupe product, because the Rupe pathway is typically lower in energy
- 2) use of "soft" Lewis acid catalysts, which are thought to coordinate preferentially to the alkyne π -system rather than the oxygen atom lone pairs
- 3) electronic activation of the acetylene to enhance coordination of the Lewis acid catalyst to the alkyne π -system.

MECHANISM

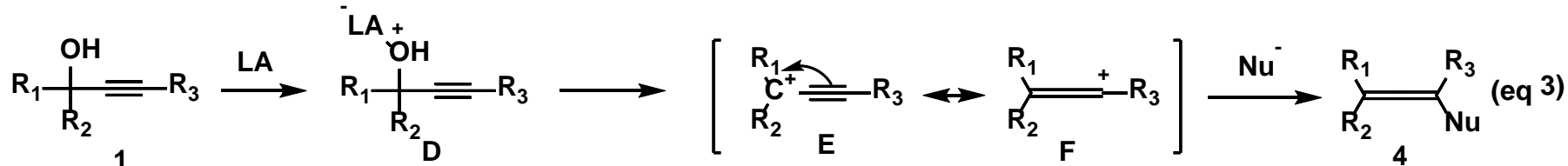
Meyer-Schuster rearrangement



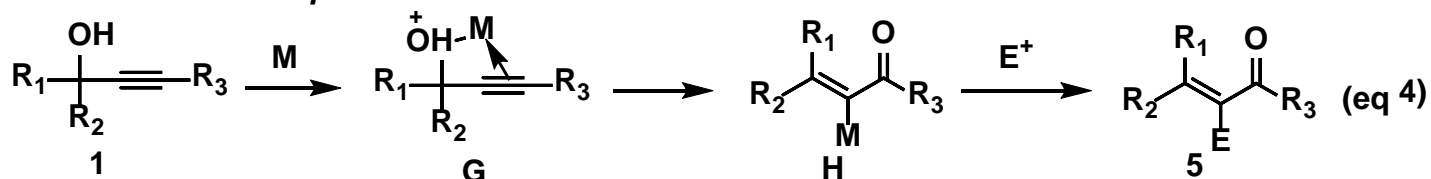
Rupe rearrangement



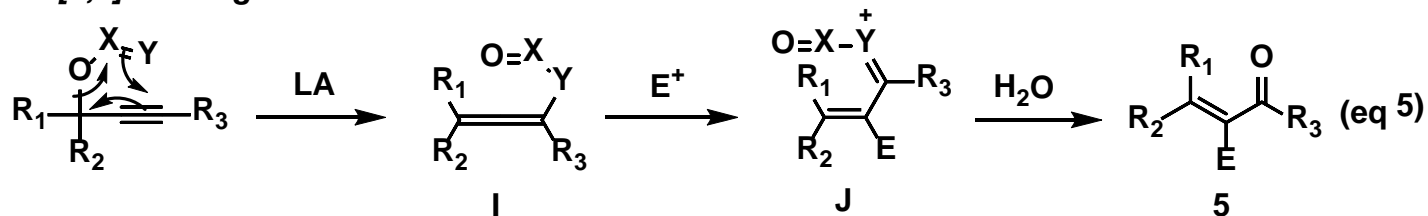
Allenic carbocation mechanism



Carbon-carbon triple activation mechanism



[3,3]rearrangement mechanism



APPLICATION

