

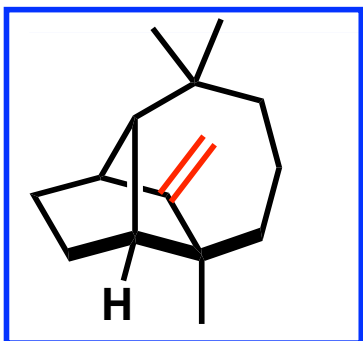
Total Synthesis of Longifolenes



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CH-588 Course on Organic Synthesis

Longifolene



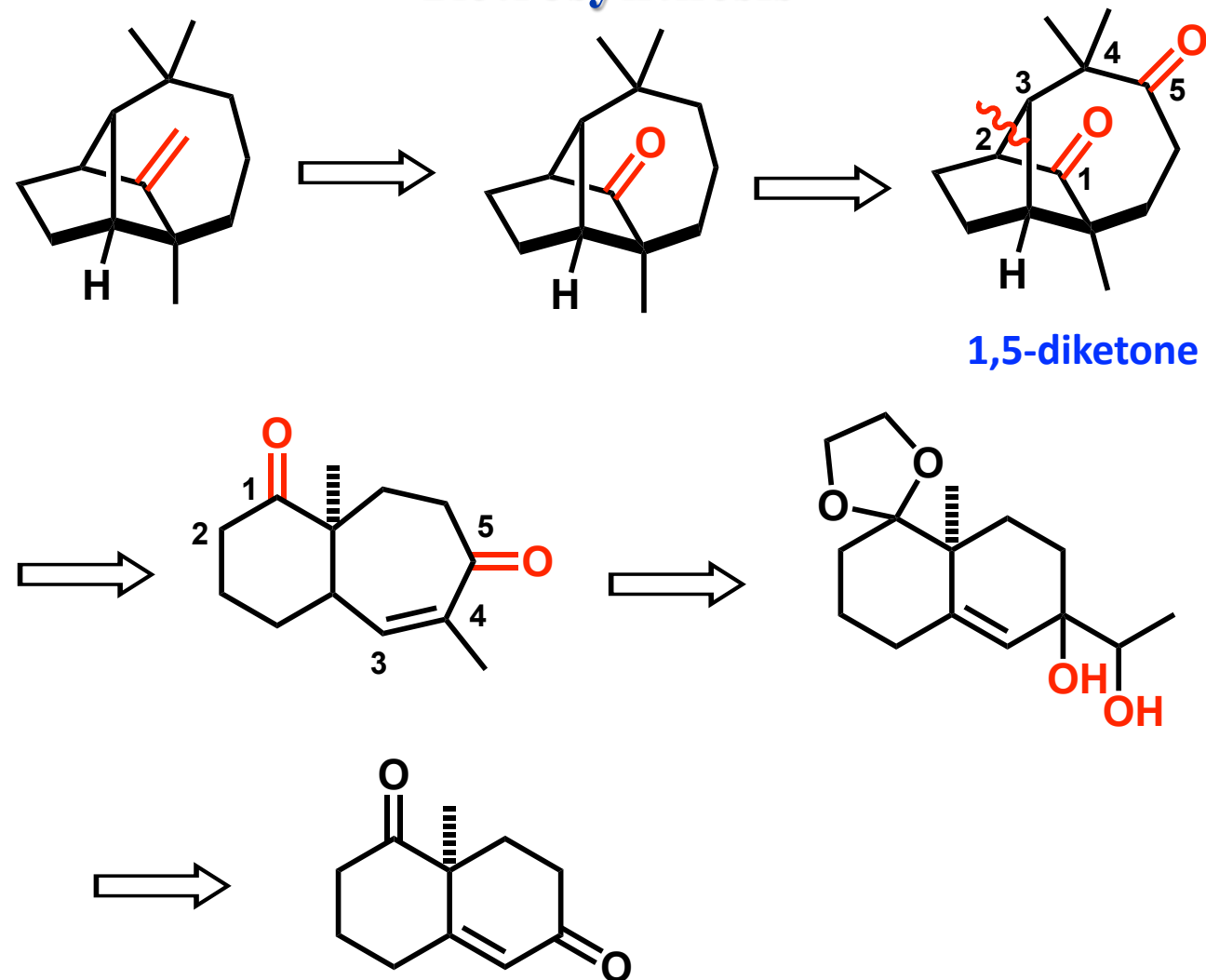
➤ Longifolene is the common (or trivial) chemical name of a naturally occurring, oily liquid hydrocarbon found primarily in the high-boiling fraction of certain pine resins

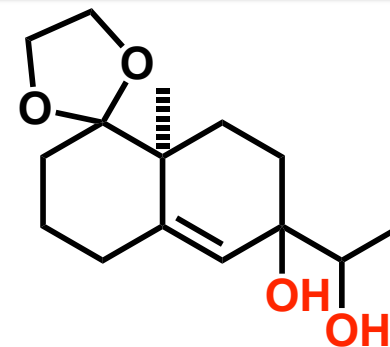
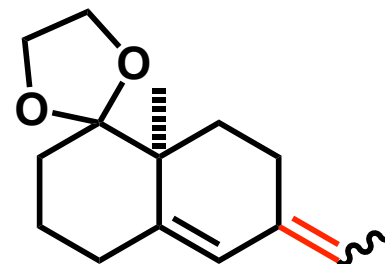
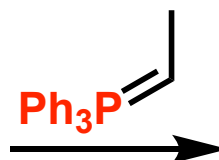
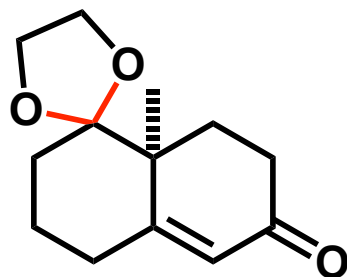
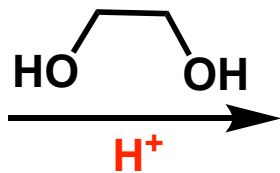
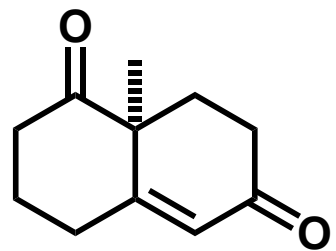
➤ The name is derived from that of a pine species from which the compound was isolated *Pinus longifolia*

Naffa, P.; Ourisson, G. *Bulletin de la Société chimique de France*, **1954**, 1410

Simonsen, J. L., *J. Chem. Soc.* **1920**, 117, 570

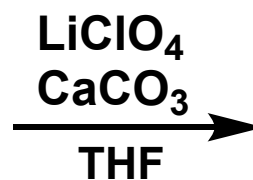
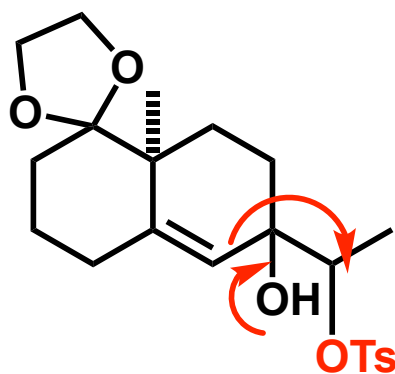
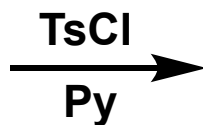
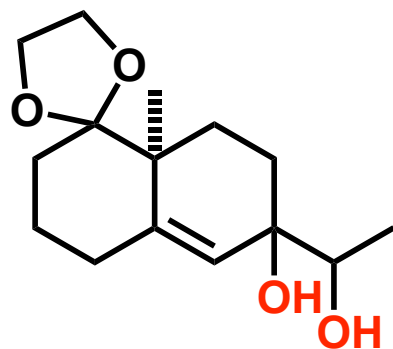
Retrosynthesis



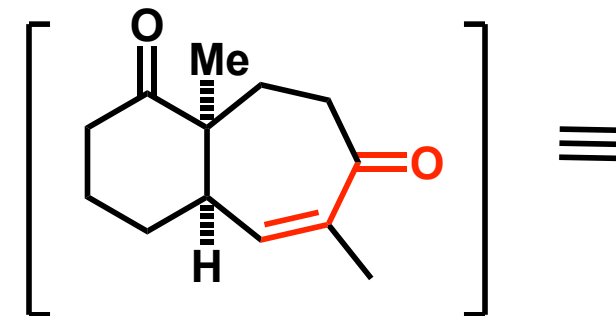
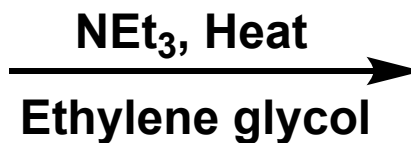
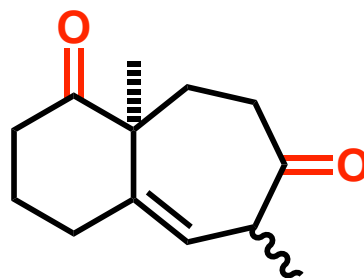
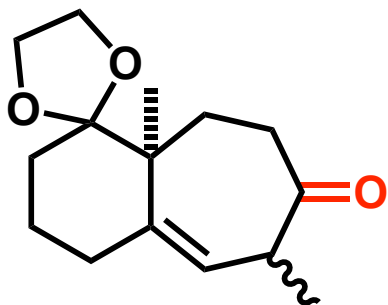


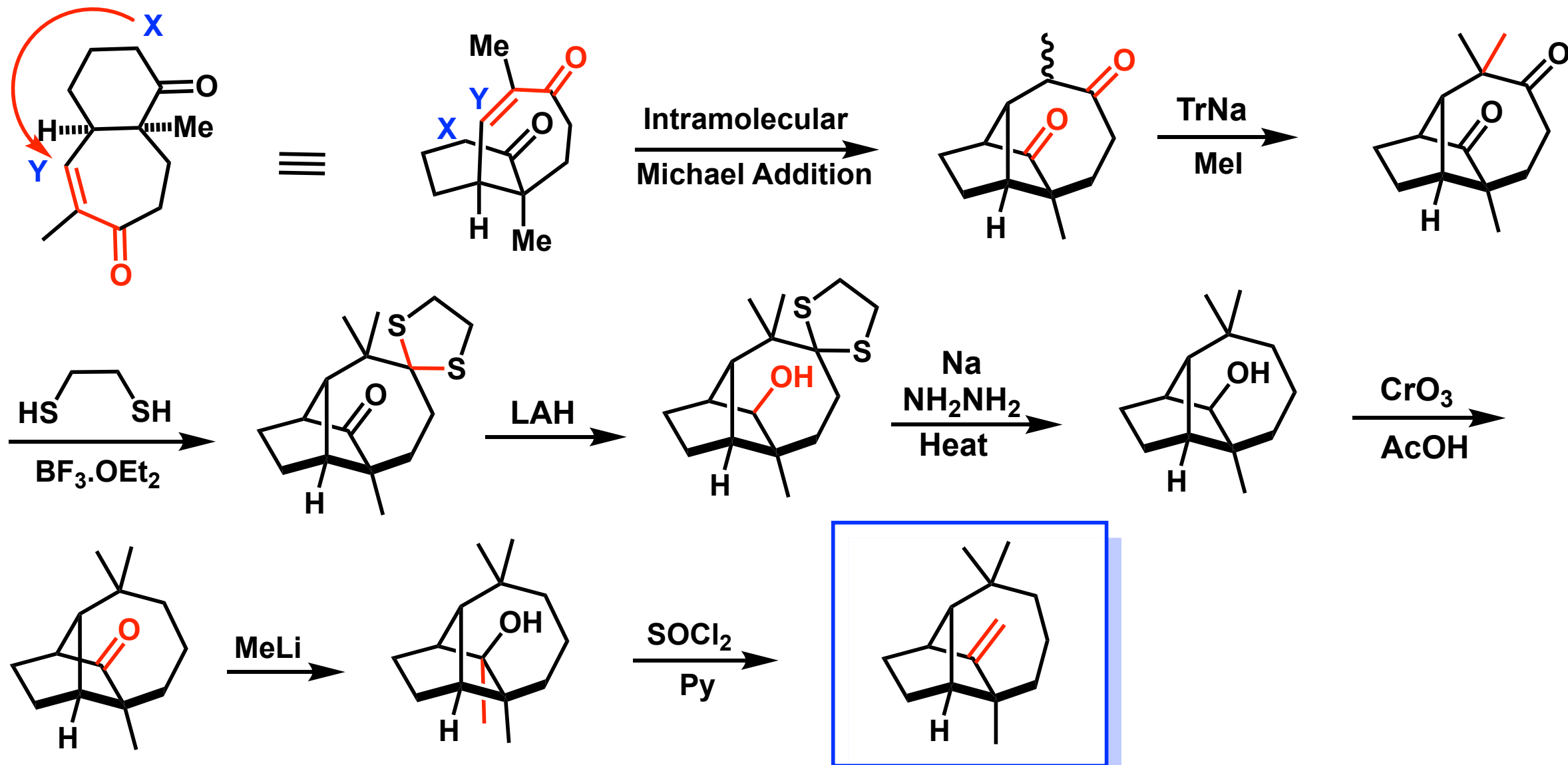
Wieland-Meischer
Ketone

1. Protonation will happen at tertiary alcohol



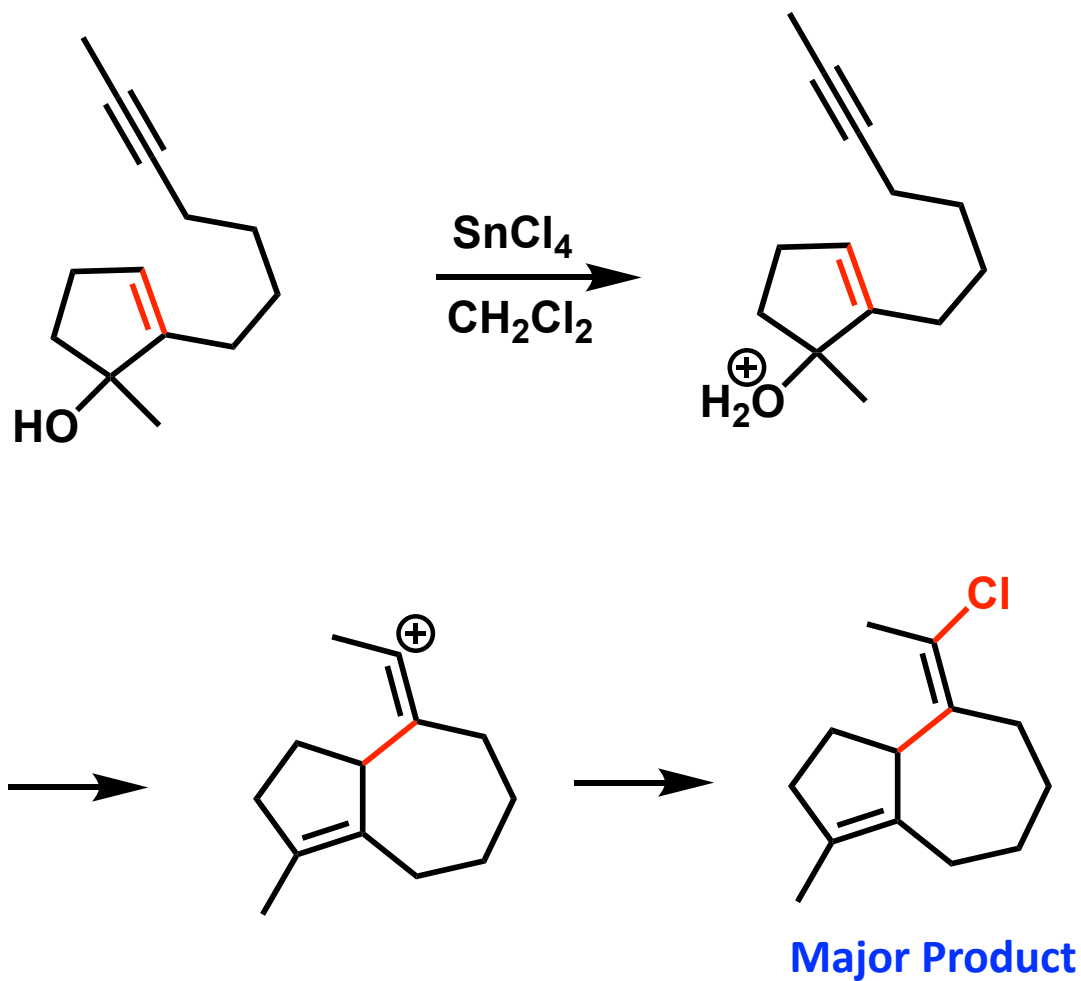
2. How to make the secondary alcohol as a better leaving group



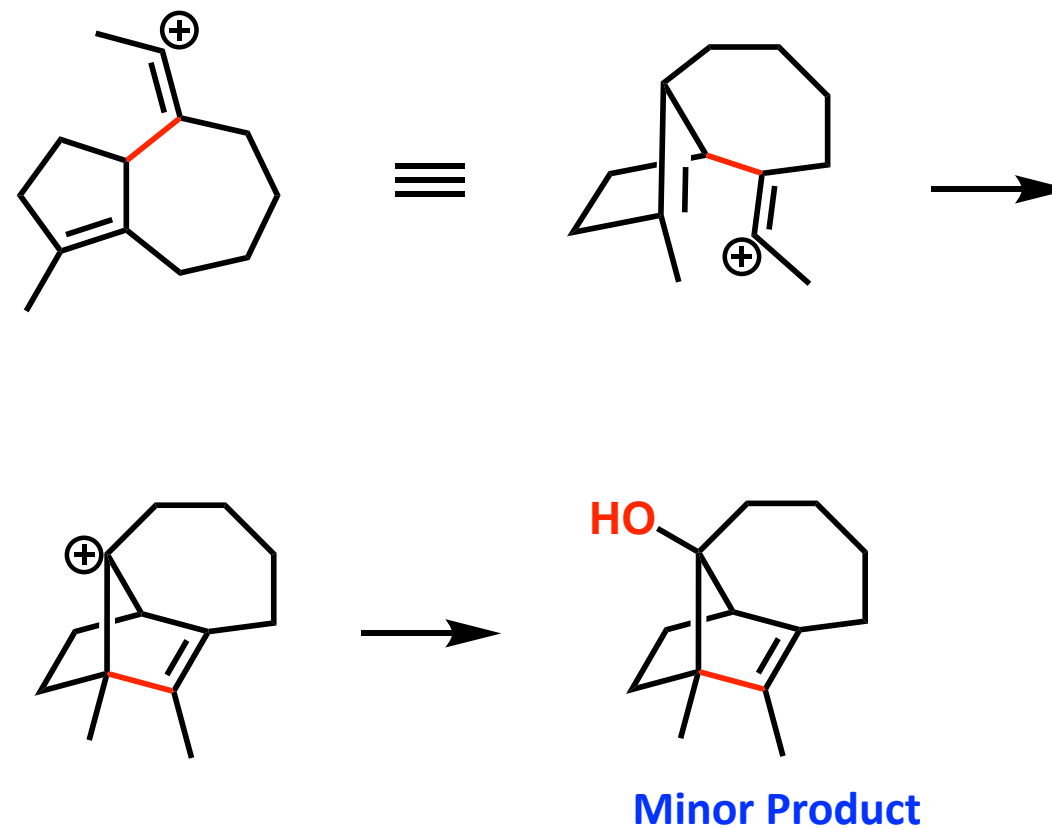


Johnson's Synthesis of Longifolene

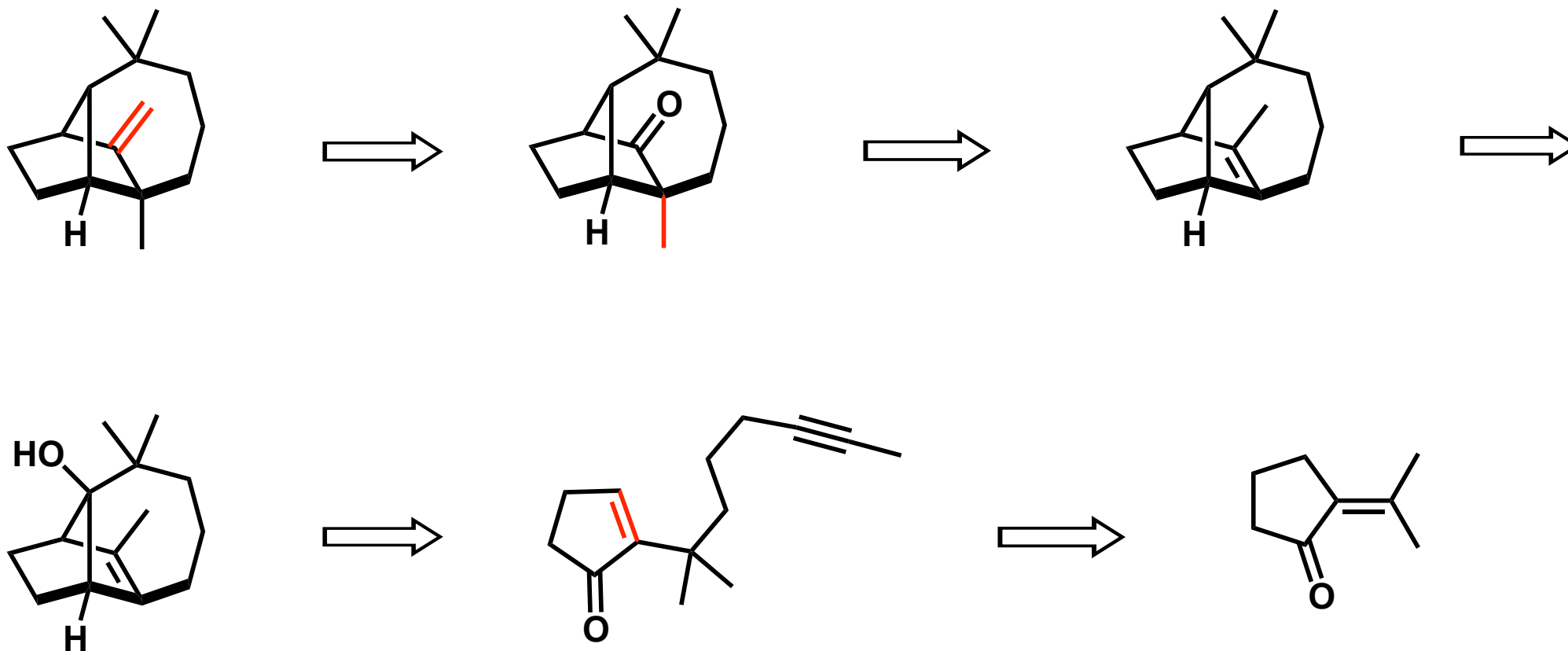
Serendipity



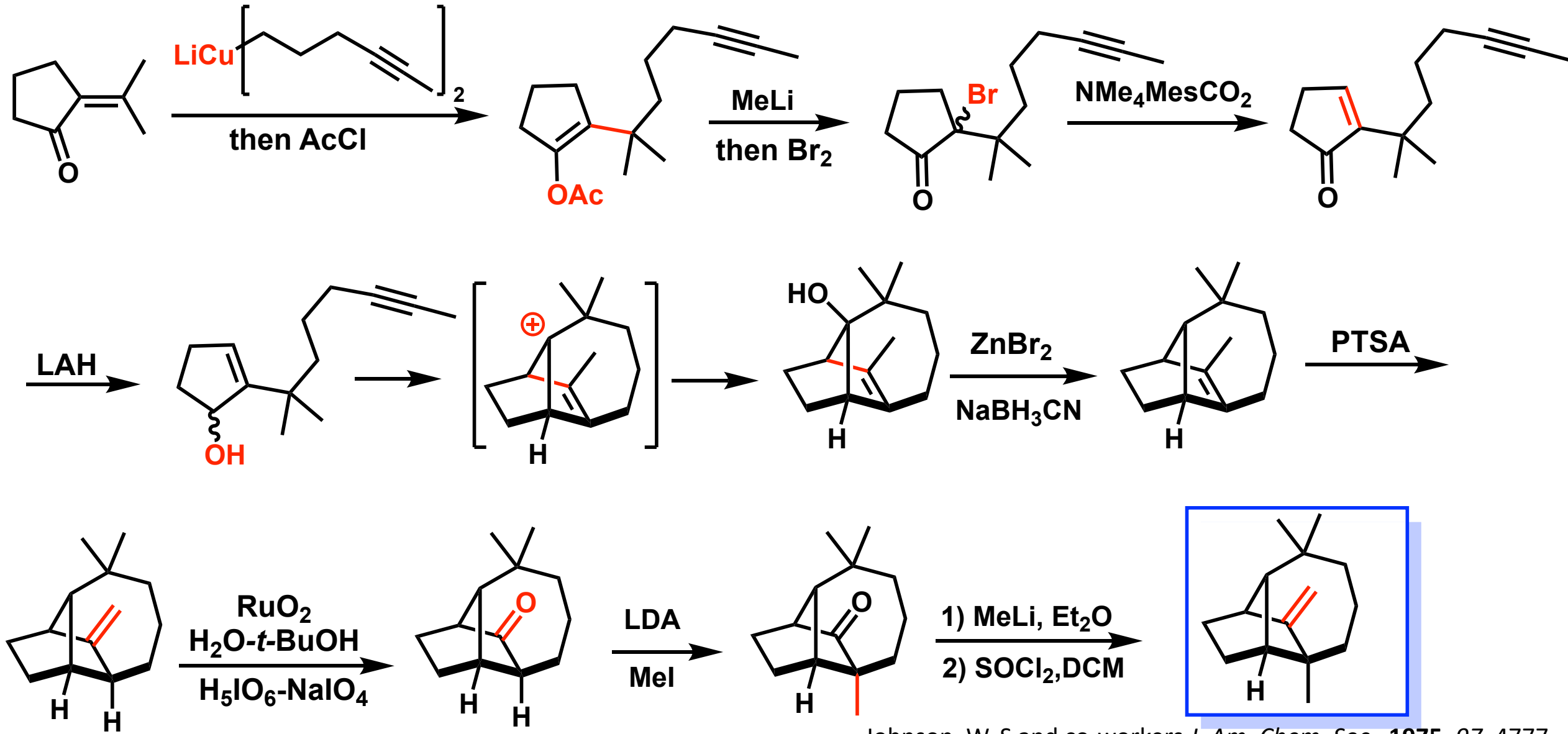
Serendipity



Retrosynthesis



Johnson's Total Synthesis of Longifolene



Johnson, W. S and co-workers *J. Am. Chem. Soc.*, 1975, 97, 4777