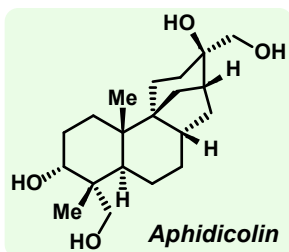


Synthesis of Aphidicolin (Ireland)



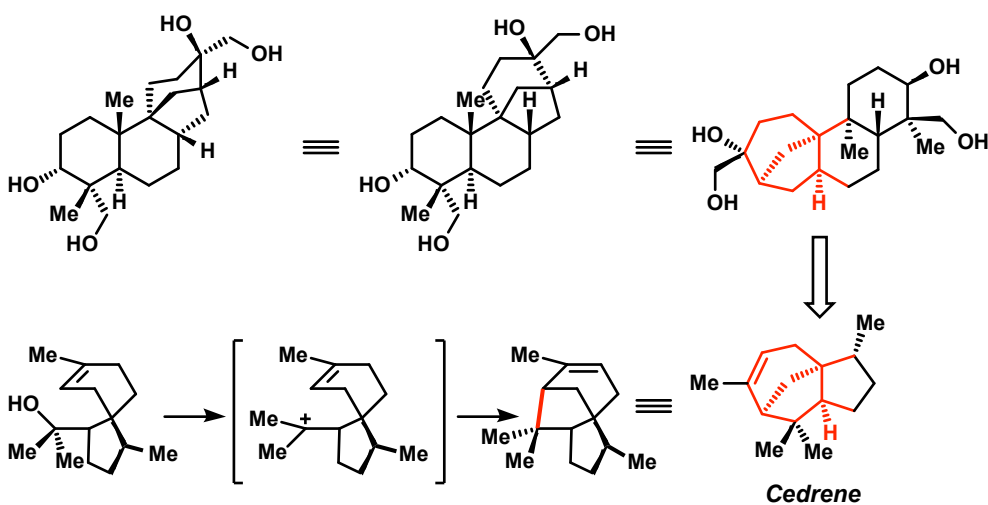
- tetracyclic diterpene antibiotic
- isolated from the fungus *Cephalosporum aphidicola*
- antiviral and antimitotic properties
- reversible inhibitor of eukaryotic nuclear DNA replication
- specific inhibitor of DNA polymerase A & D in eukaryotic cells and in some viruses

Synthetic Reference:

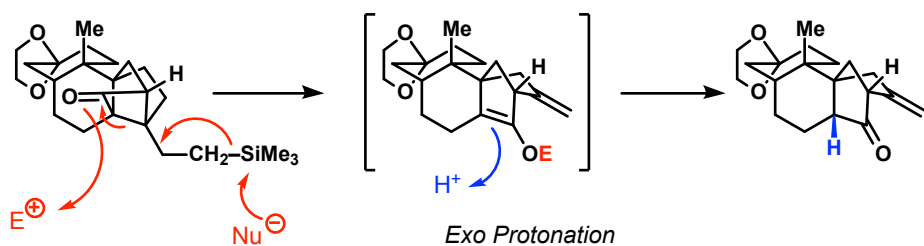
J. Am. Chem. Soc. **1981**, *103*, 2446-2448



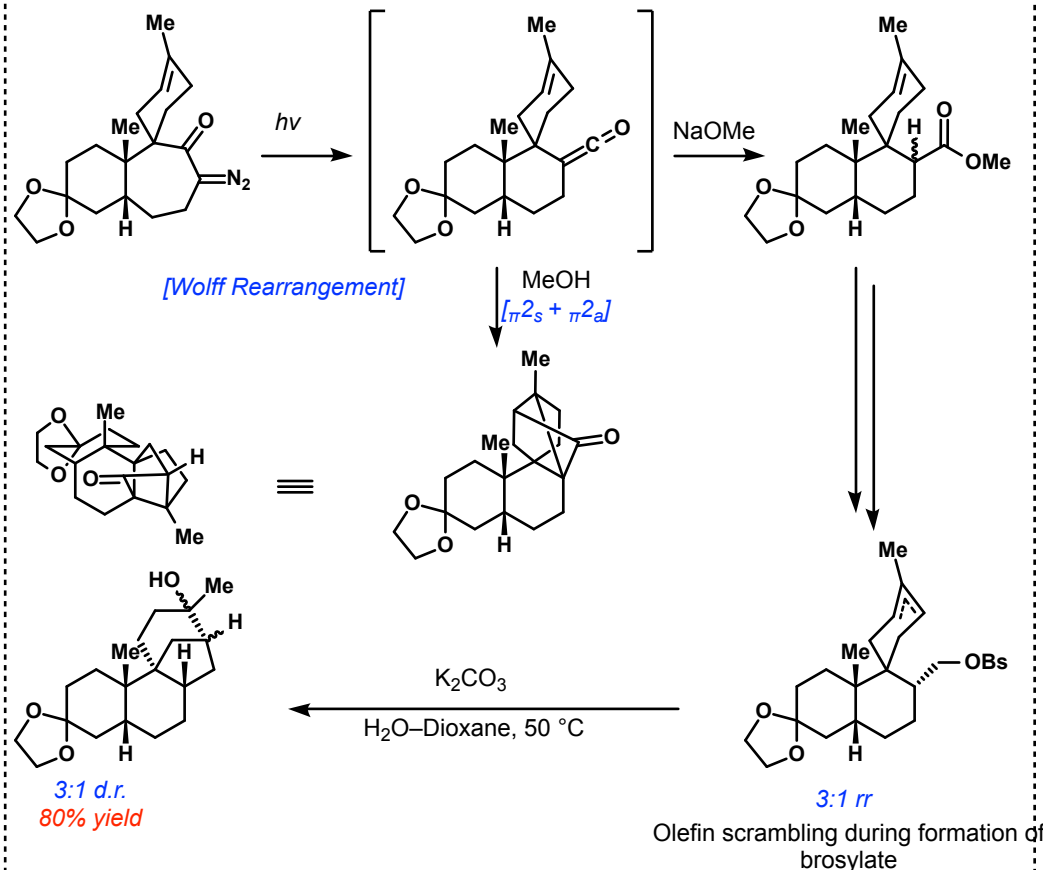
Planned Core Disconnection: Inspiration from Cedrene



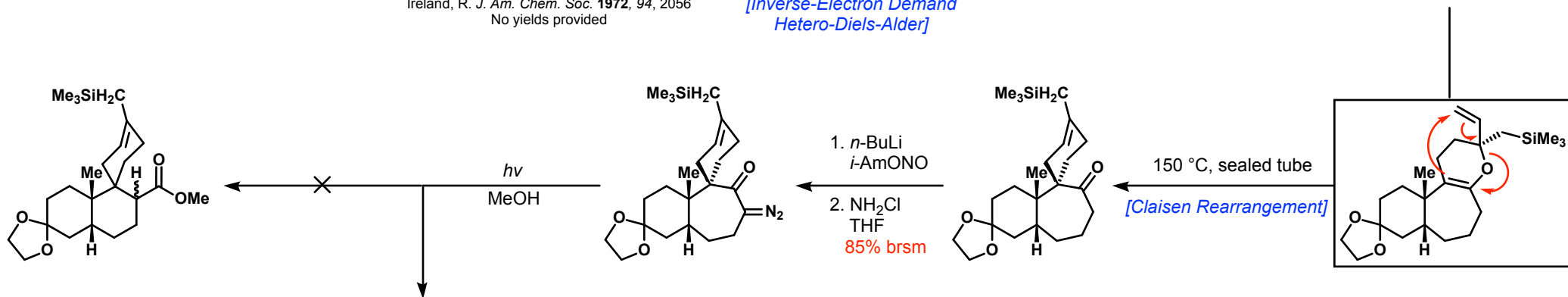
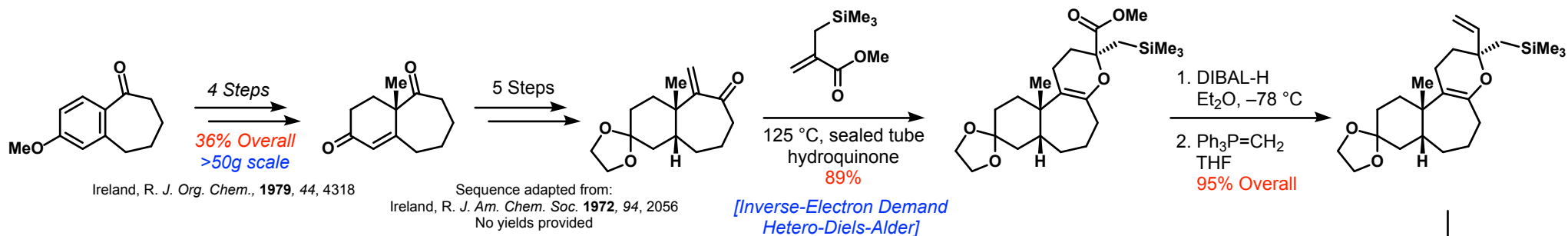
Acid-Catalyzed Rearrangement:



Aphidicolin Model System Studies:



Synthesis of Aphidicolin (Ireland)



Contrary to model system studies, the intermediate ketene could not be trapped under any conditions, and photolysis of the diazo compound led *exclusively* to the [2+2] cycloadduct with the allylsilane

