

Total Synthesis of (±)-Longifolene

Category

Synthesis of Natural Products and Potential Drugs

Key words

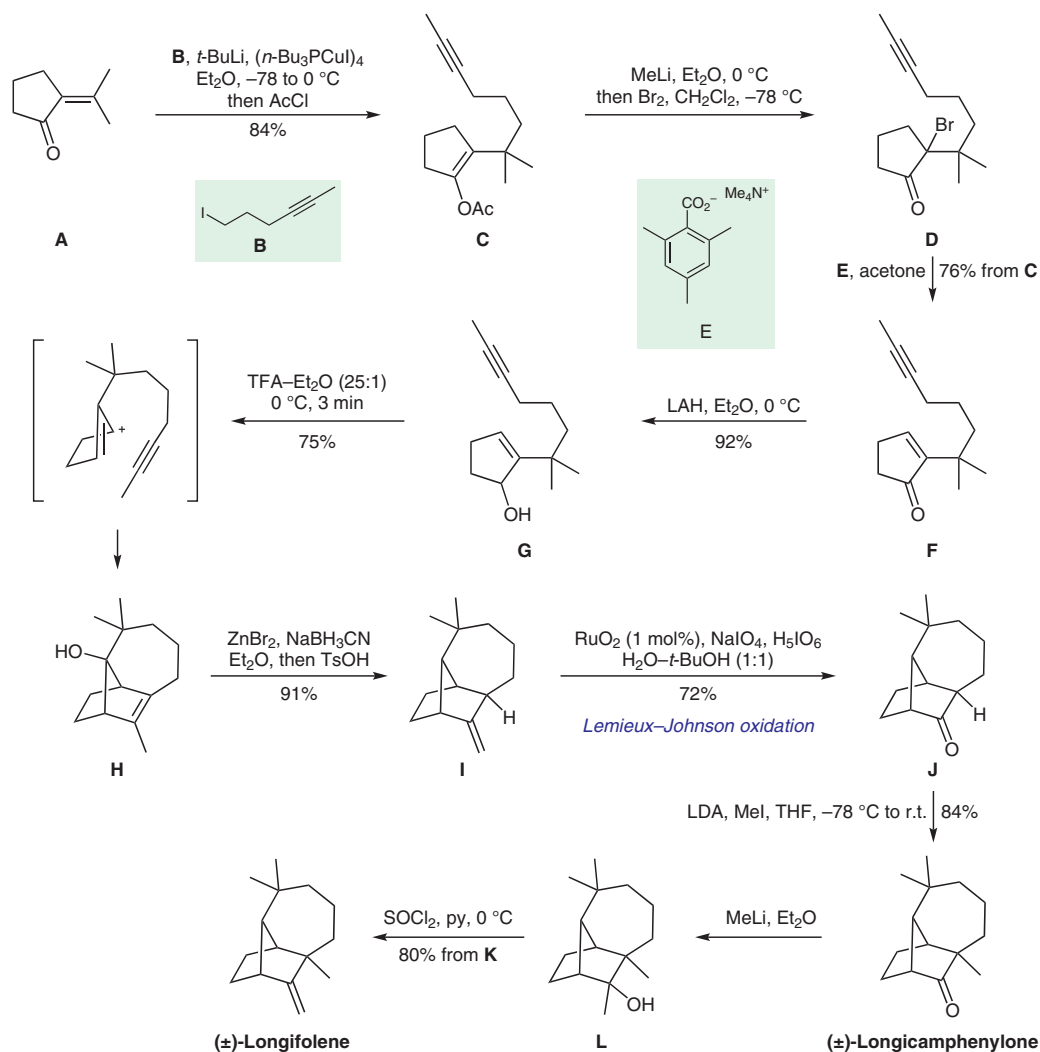
(±)-longifolene

(±)-longi-camphenylone

sesquiterpene

formal [3+2] cycloaddition

Synfact Classic



Significance: In 1954, Johnson and co-workers presented a total synthesis of the tricyclic sesquiterpene (±)-longifolene featuring an elegant formal [3+2] cycloaddition that provided fast access to the natural product.

Comment: Enyne **G** was accessed in four steps from enone **A** with an overall yield of 59%. Key cycloaddition of **G** efficiently provided the carbon skeleton of the natural product in 75% yield. Further elaboration of this intermediate afforded (±)-longifolene in four steps.