

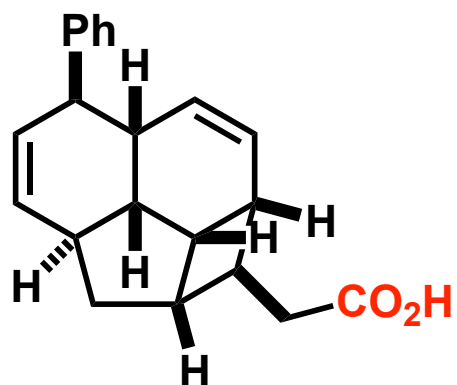
Total Synthesis of Endiandric Acids



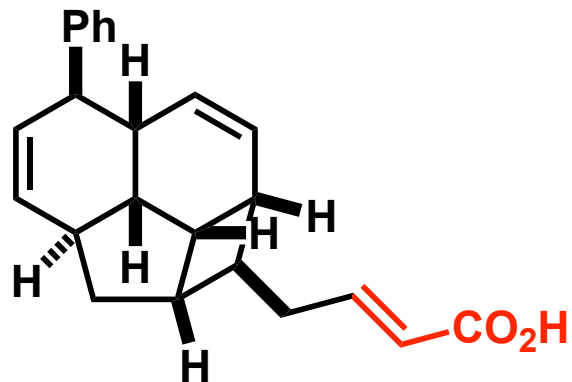
Krishna P Kaliappan
Professor of Chemistry, IIT Bombay

CH-588 Course on Organic Synthesis

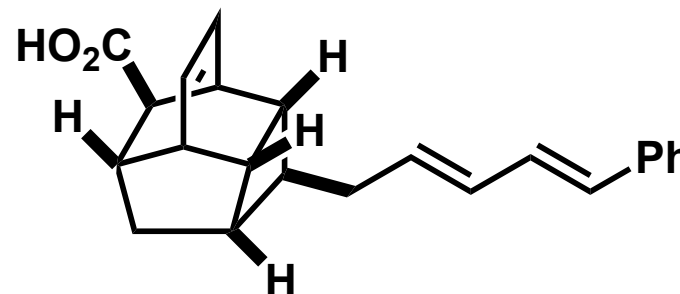
Endiandric Acids



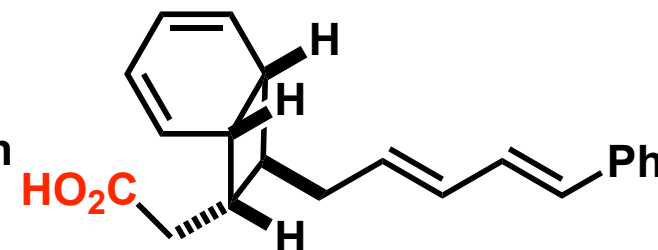
Endiandric Acid A



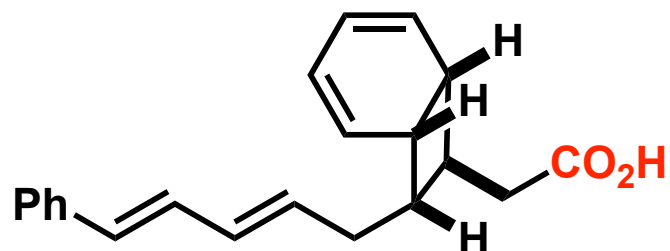
Endiandric Acid B



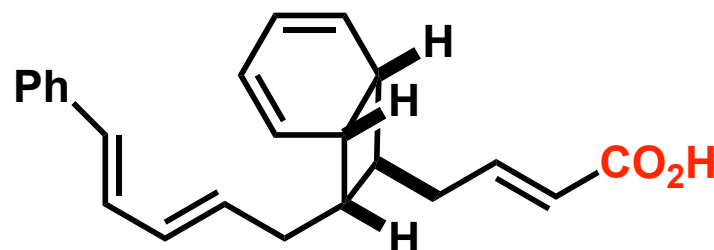
Endiandric Acid C



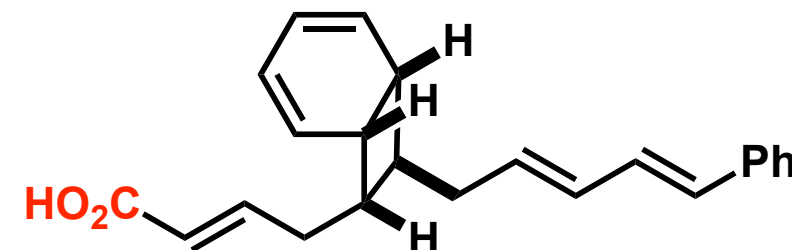
Endiandric Acid D



Endiandric Acid E



Endiandric Acid F



Endiandric Acid G

Isolation: Black, D. St. C and co-workers *J. Chem. Soc., Chem. Commun.*, 1980, 162, *ibid*, 1980, 902.

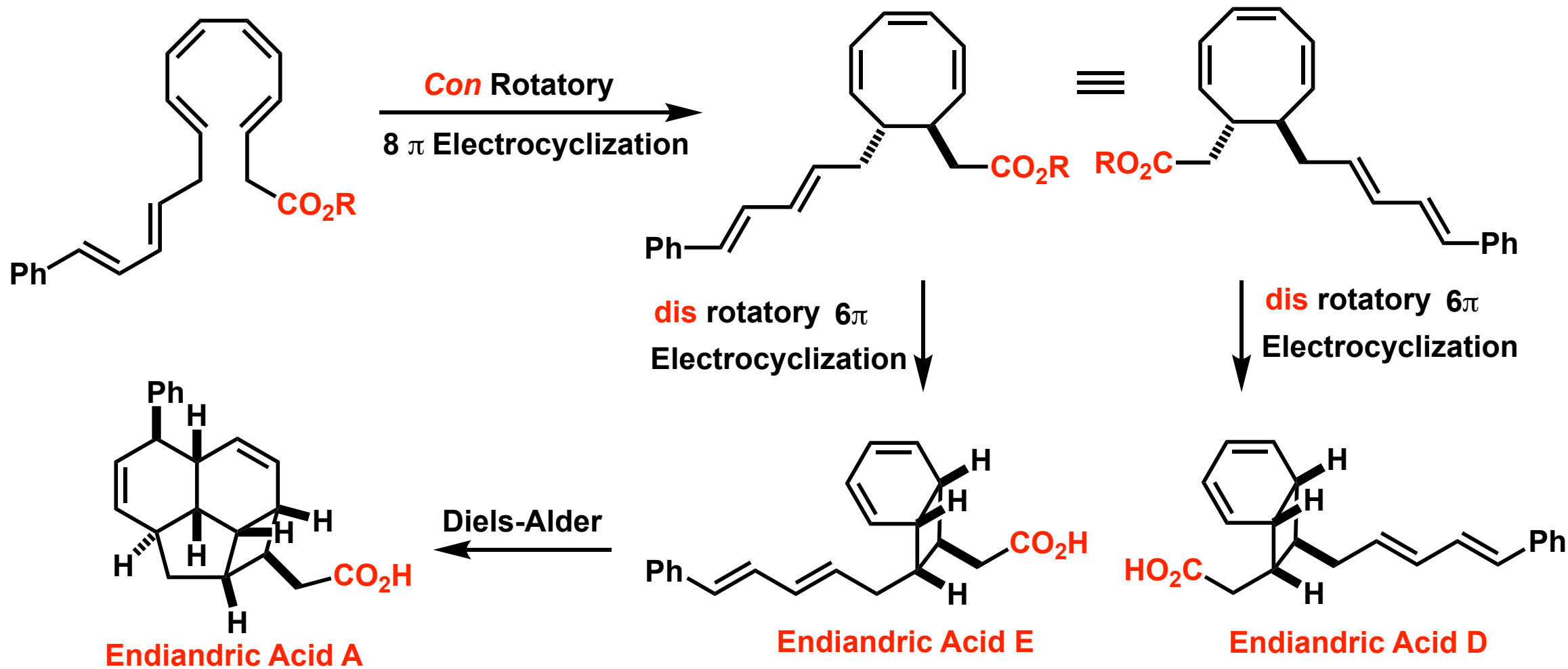
They were first isolated from the leaves of the Australian plant, *Endiantra Introrsa*, as racemates, by Black's group in 1980.

Endiandric acids show significant **antibiotic activities**.

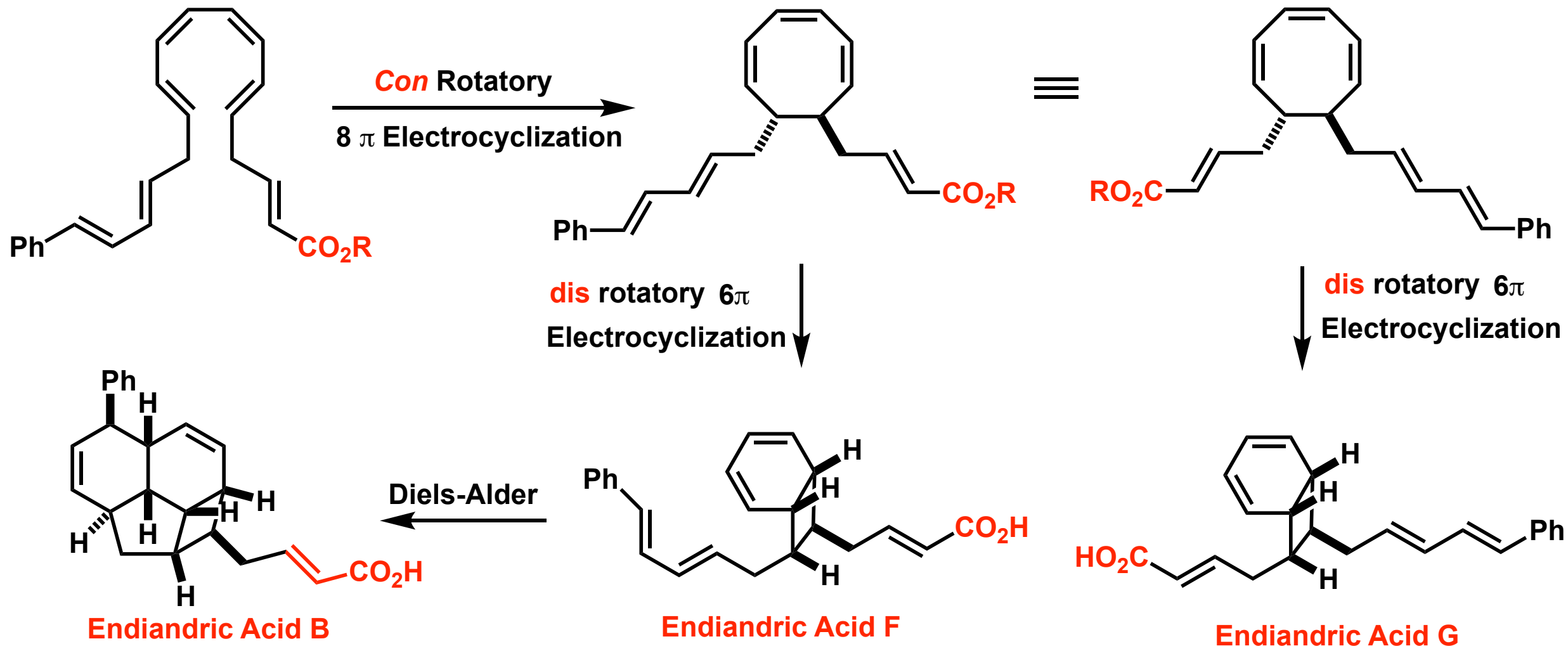
Endiandric acids A-C have **4 fused carbocyclic rings & 8 stereogenic centers**

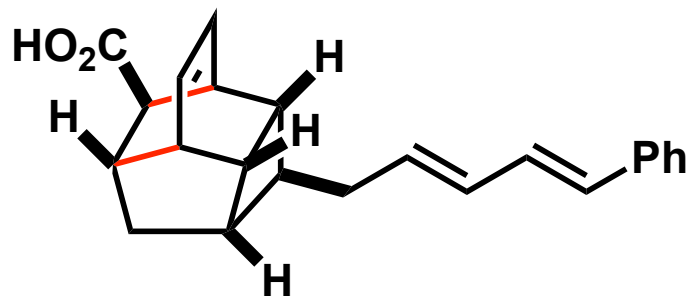
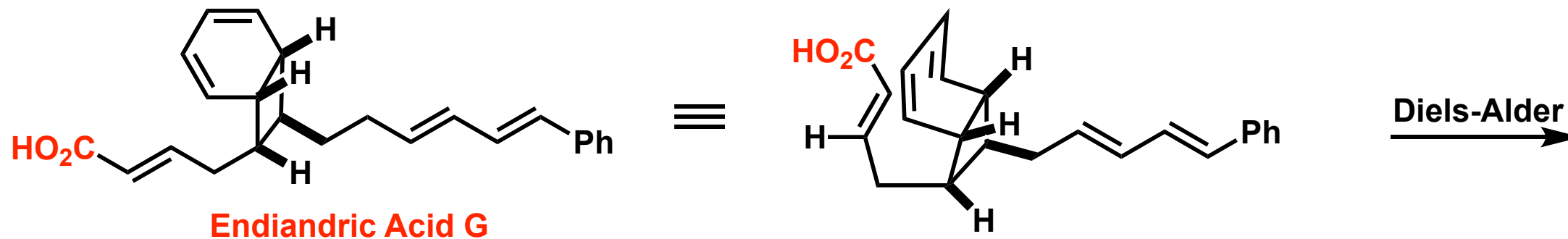
Endiandric acid D-G have **2 fused carbocyclic rings & 4 stereogenic centers**

Black's Hypothesis

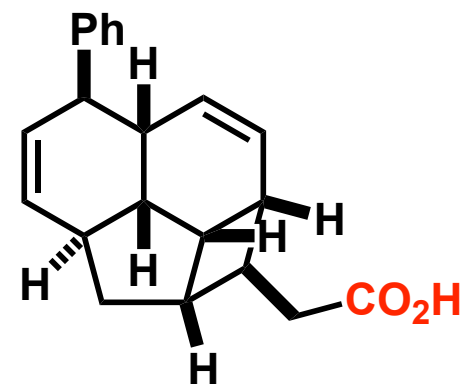


Black's Hypothesis

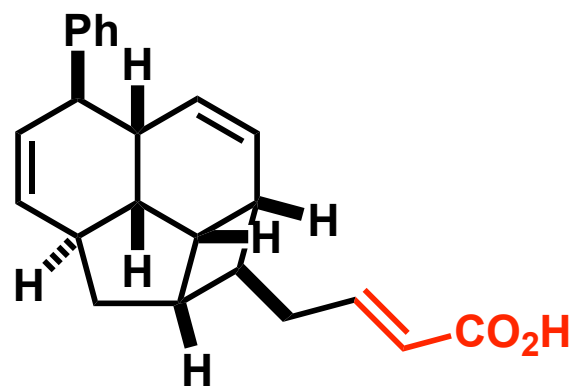




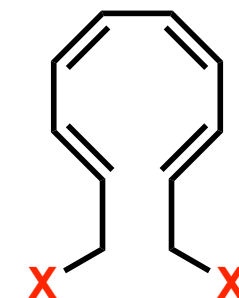
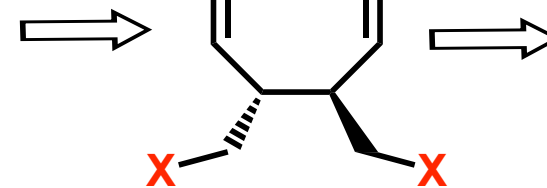
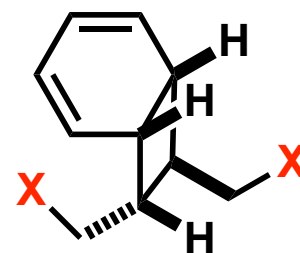
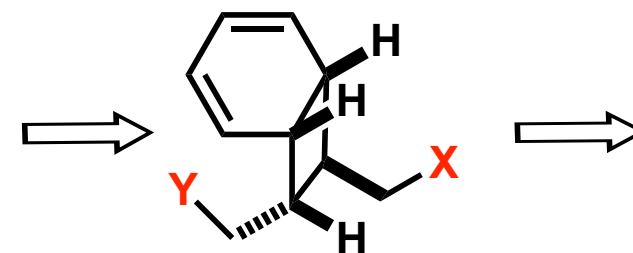
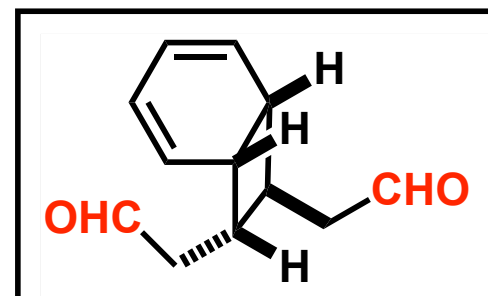
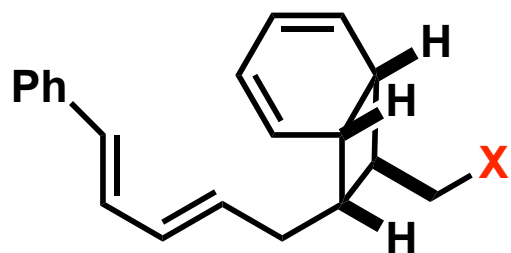
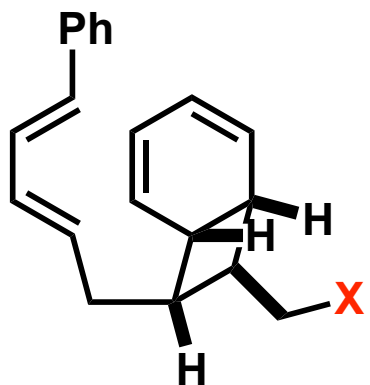
Nicolaou's Retrosynthesis



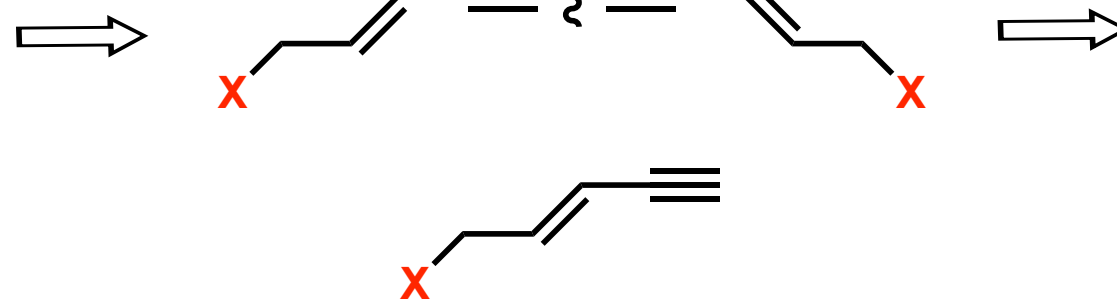
Endiandric Acid A



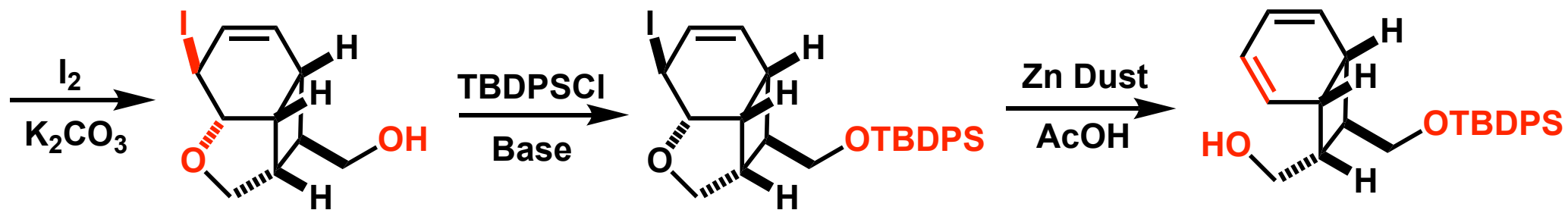
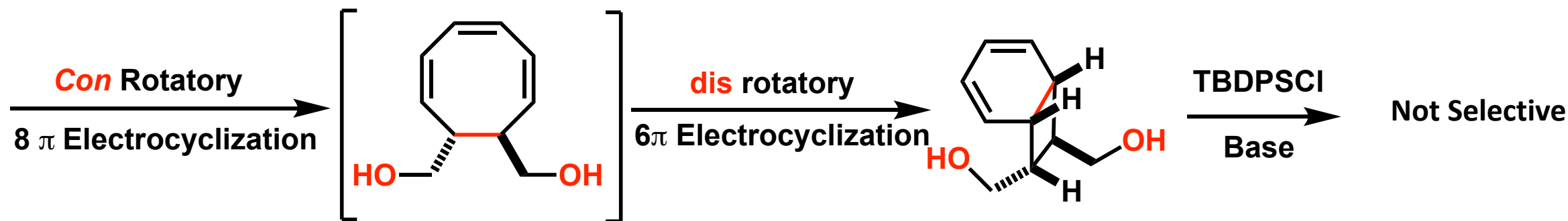
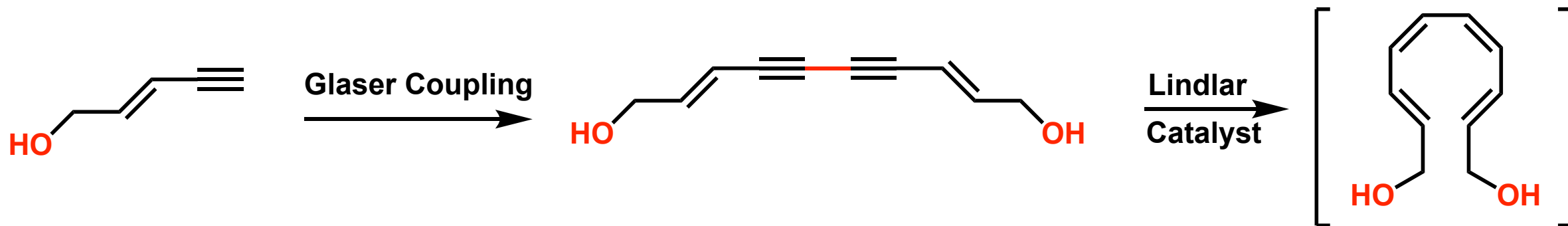
Endiandric Acid B



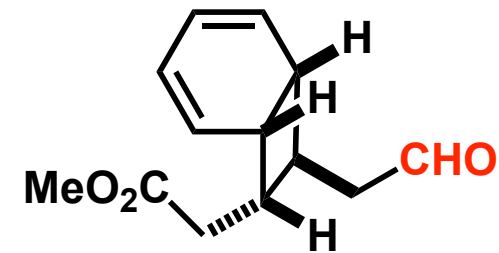
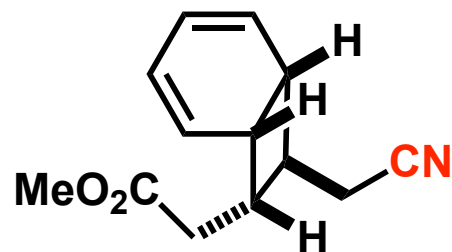
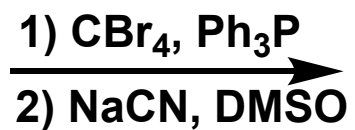
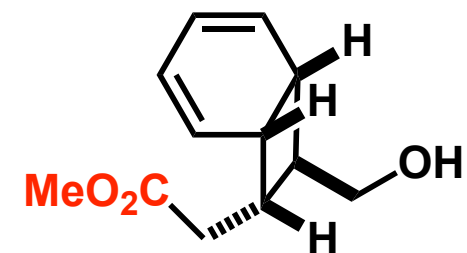
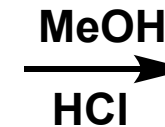
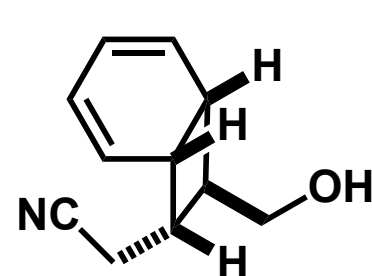
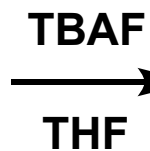
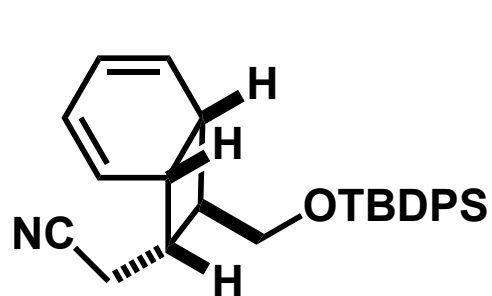
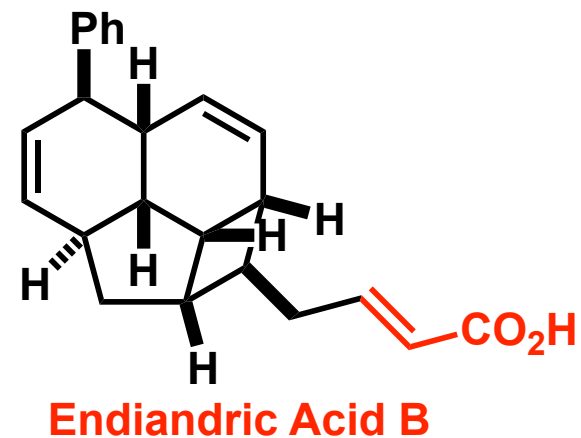
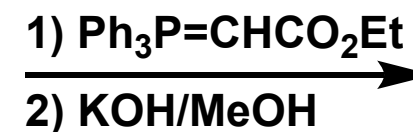
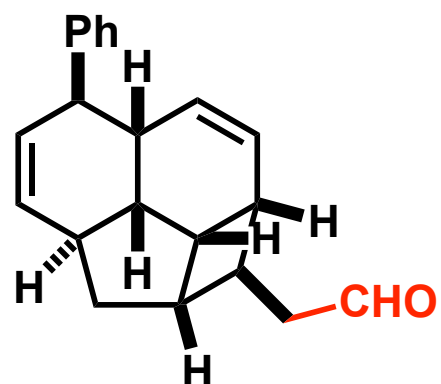
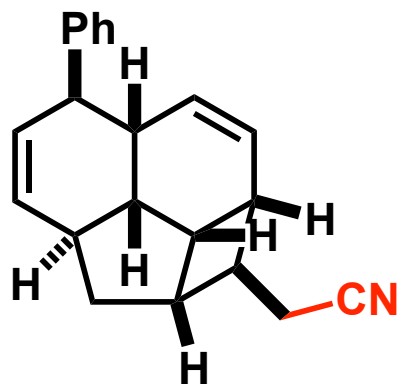
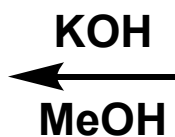
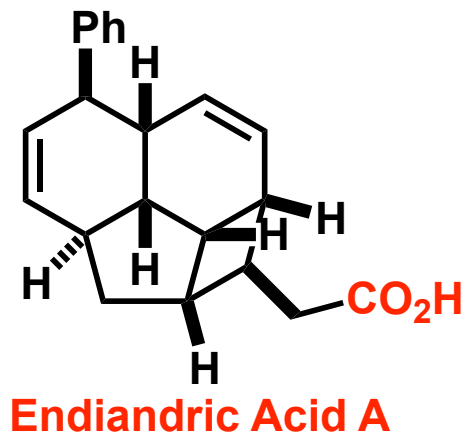
Glaser Coupling



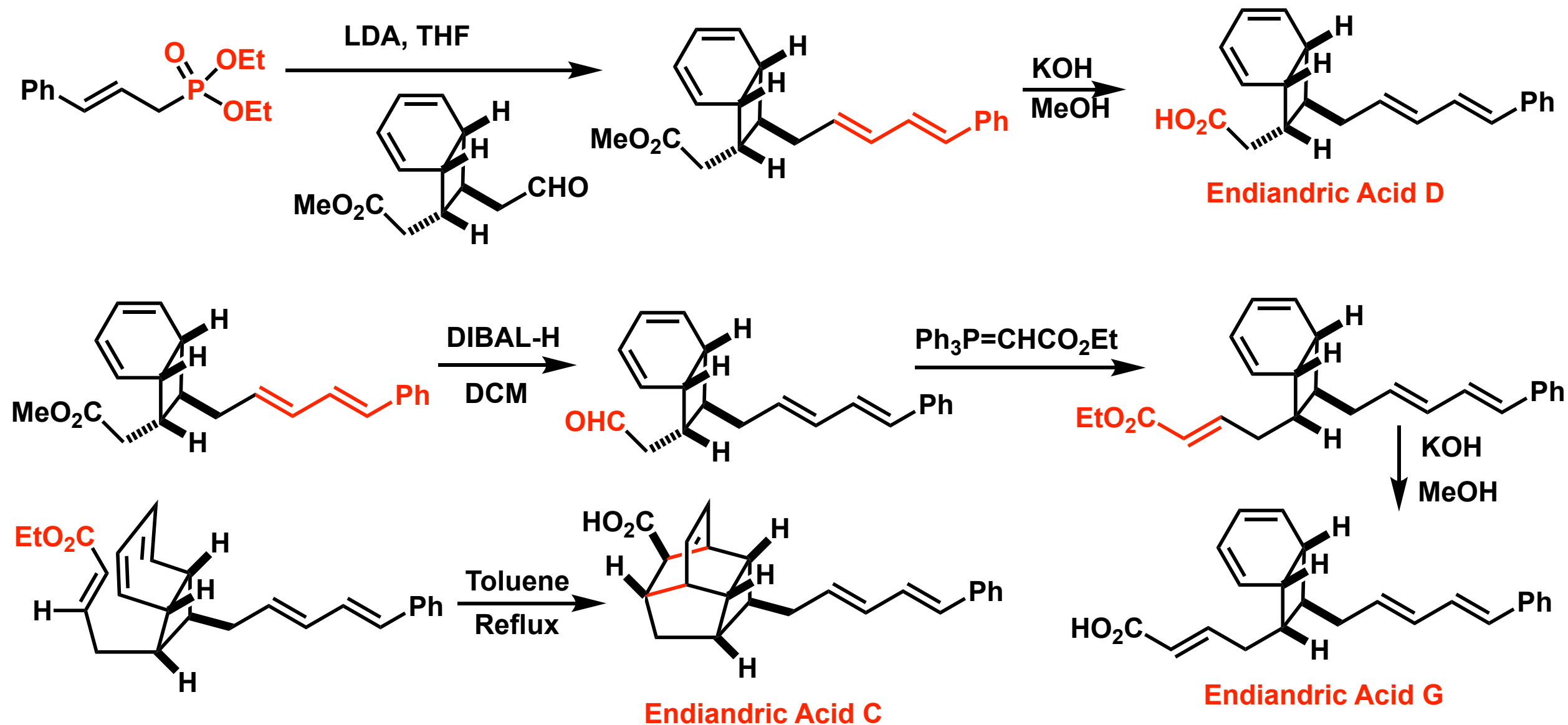
Synthesis of Bicyclic Compound



Total Synthesis of Endiandric Acids A and B



Total Synthesis of Endiandric Acids C, D & G



Total Synthesis of Endiandric Acids E, and F

