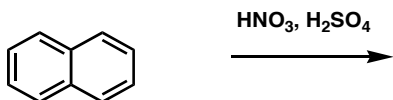


Chem 41c Quiz 5

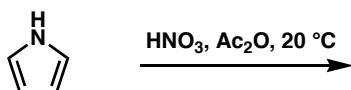
Stoltz, Spring 2005
May 27, 2005

Predict the major products (if any) of the following reactions: (5 points each)

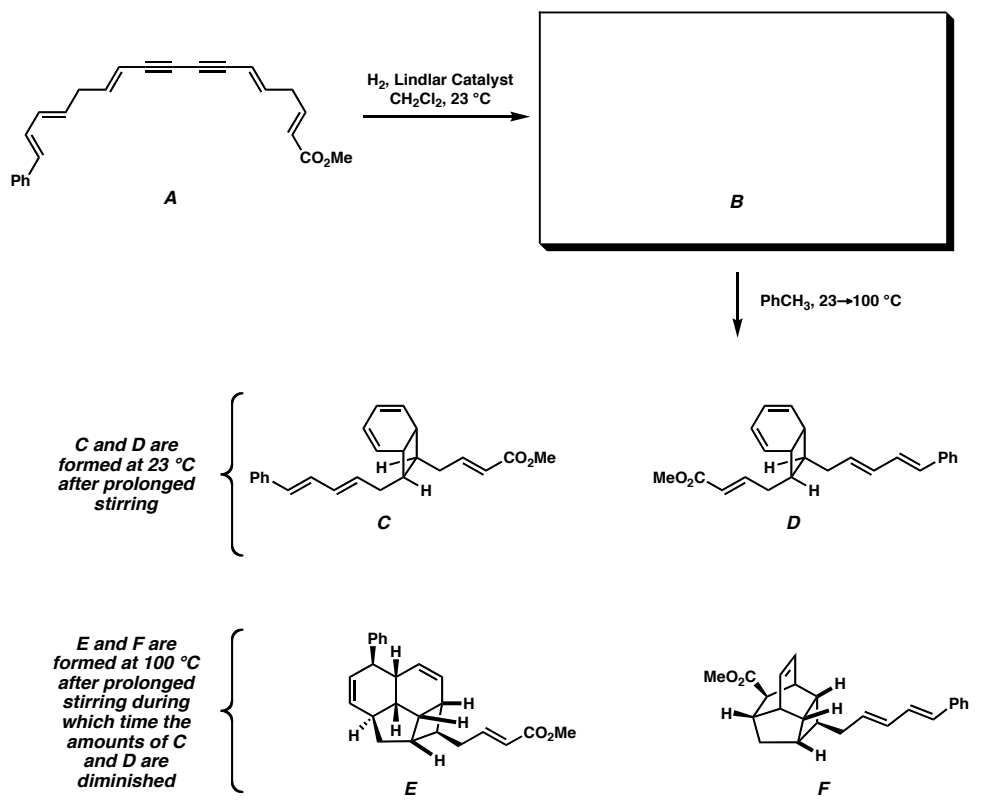
1.

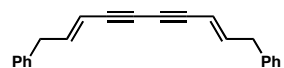


2.



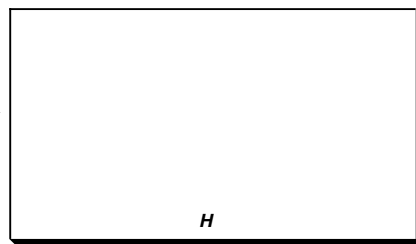
3. A remarkable cascade of pericyclic reactions on compound **B** produces a mixture of racemic compounds **C-F** simply upon heating. Compound **B** is prepared by Lindlar reduction of **A**. In a related system compound **G** is reduced to **H** and forms products **I** and **J** after prolonged stirring at $23\text{ }^\circ\text{C}$ (eventually only **J** is observed). Your task is the following 1) identify the structures of **B** and **H**, 2) Describe a mechanism for the conversion of **H** to **I** and **J**, (hint: it may be useful to draw an orbital diagram for **H** although not necessary) and 3) As a bonus provide the mechanism for the formation of **E** and **F**. (10 points, 10 point bonus)





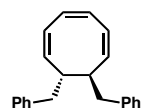
G

H_2 , Lindlar Catalyst
 CH_2Cl_2 , 23 °C



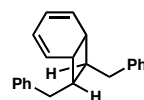
H

PhCH_3 , 23 °C



I

+



J