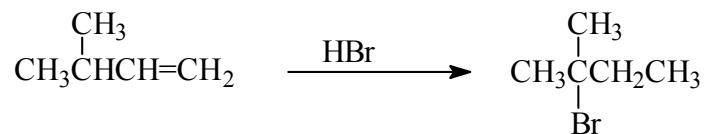
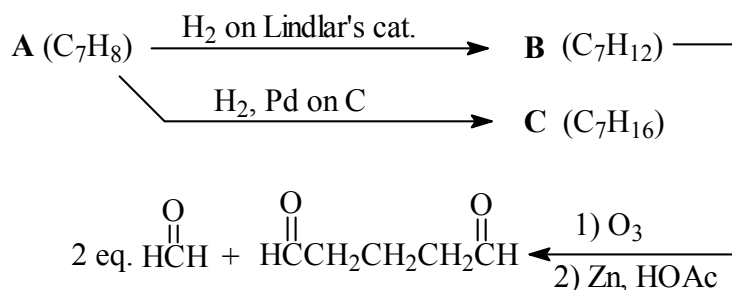


CHEM 241-601 Chapters 8-9 practice problems

1.(8) Give the stepwise mechanism for the following reaction. Use arrows to indicate the electron flow and show any intermediates.

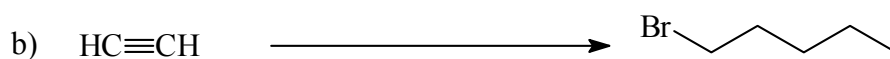
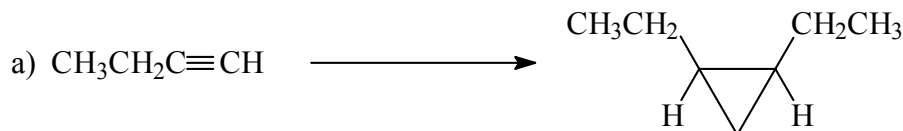


2.(14) An unknown compound (**A**) has a formula of C_7H_8 . Treatment of **A** with H_2 on Lindlar's catalyst gives compound **B** (C_7H_{12}). Treatment of **A** with H_2/Pd on carbon (standard hydrogenation) gives compound **C** (C_7H_{16}). Ozonolysis of **B** followed by a Zn/acetic work-up gives pentanedial and 2 equivalents of formaldehyde.

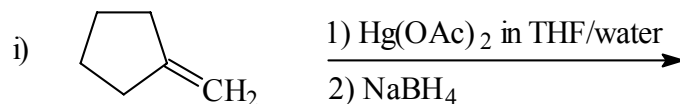
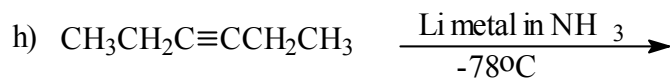
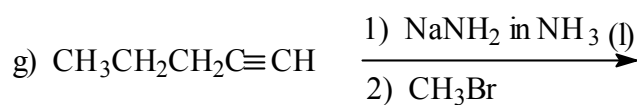
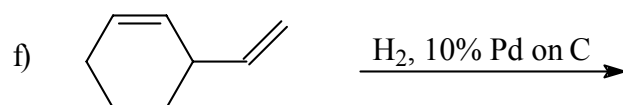
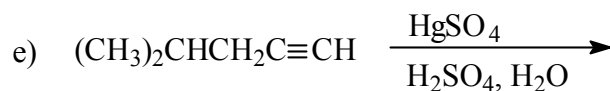
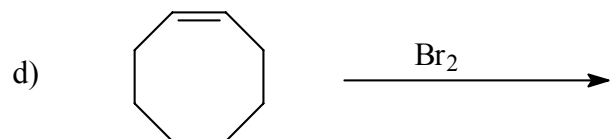
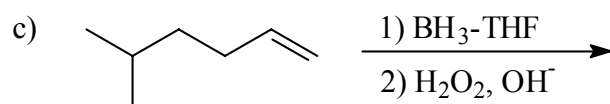
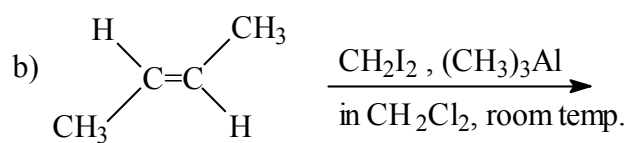


Propose structures for **A**, **B**, and **C** that are consistent with these data.

3.(14) Propose a sequence of steps that will allow for the transformations.



4.(36) Draw the major organic structure for the following reactions:



5.(10) Provide a clear mechanism for the following transformation. Use arrows to indicate electron flow, show all intermediates and use only the reagent provided.

