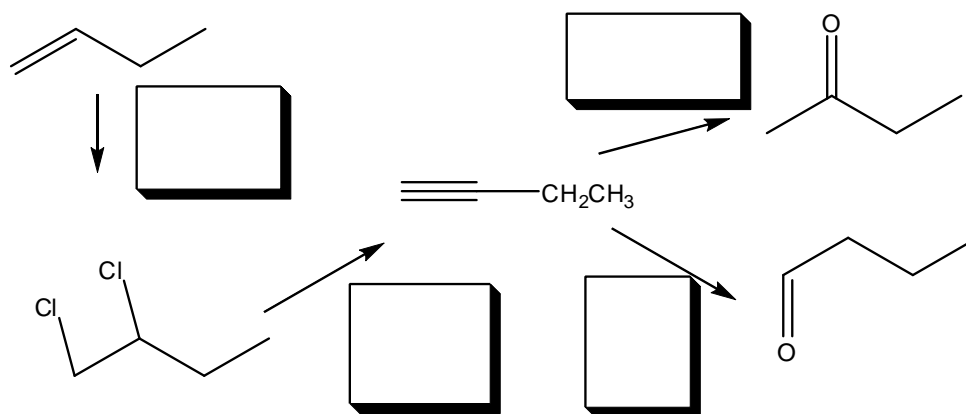
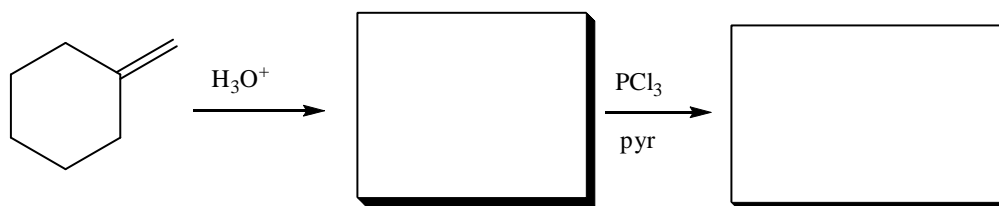
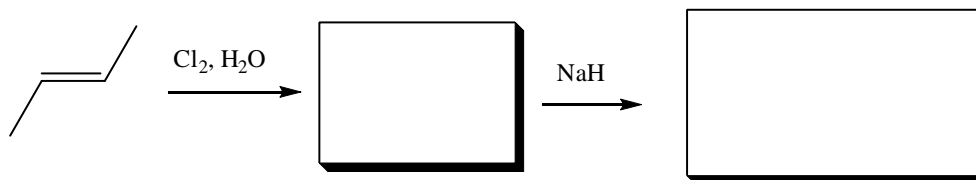
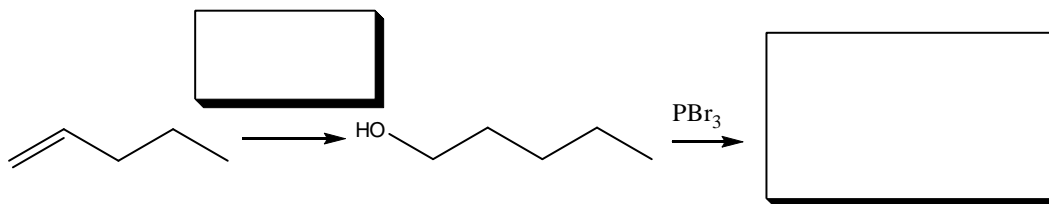
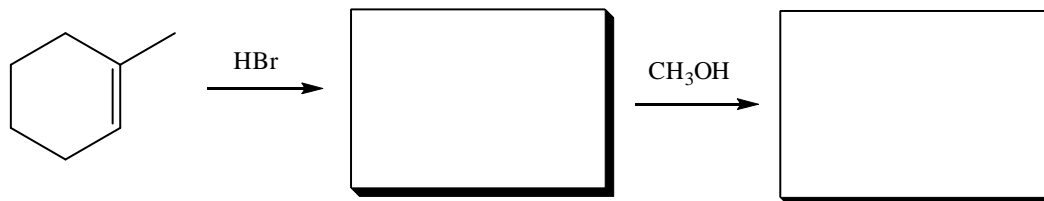


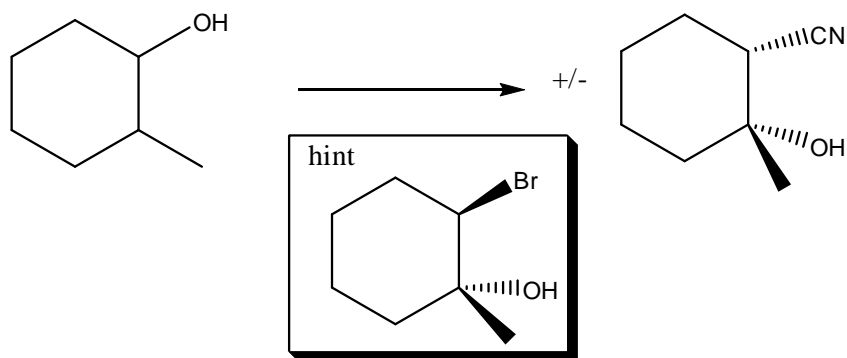
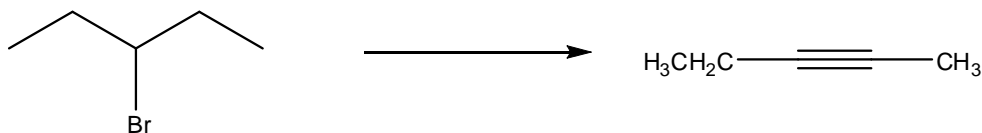
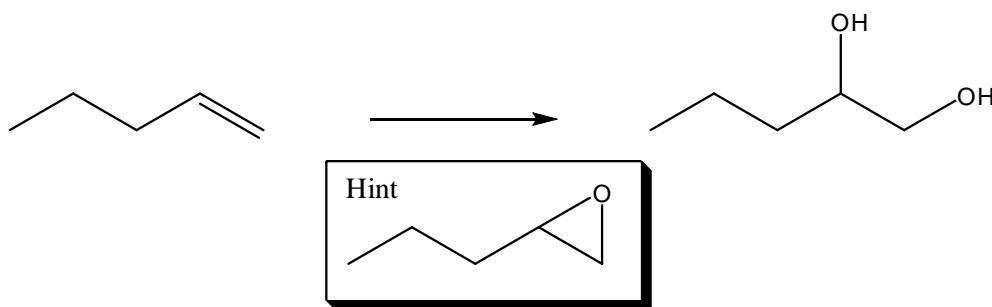
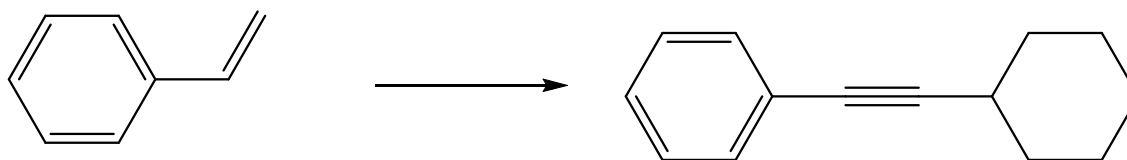
Discussion Problem Set 14  
Functional Group Transformation and Multistep Synthesis

1. Fill in the missing major product(s) or reagents. Include stereochemistry.

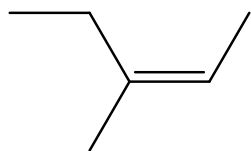


2. Propose a multistep synthesis of 2-hexyne using 1-propanol as the only carbon source.  
(problem 11.54)

3. Propose all reagents necessary for the multistep synthesis. (Key intermediates are given as hints for some of the problems.)



4. Give the product with correct stereochemistry.



1.  $\text{Cl}_2/\text{H}_2\text{O}$
2.  $\text{NaH}$
3.  $\text{H}^+, \text{CH}_3\text{OH}$
4.  $\text{PBr}_3$

