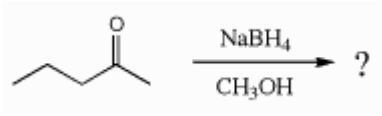
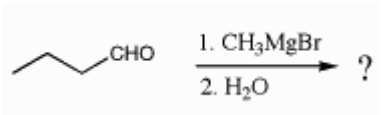
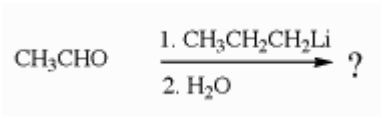
Organic Chemistry (I) Chapter 8

1. Which of the following reactions would you expect to produce 2-pentanol?

A. 

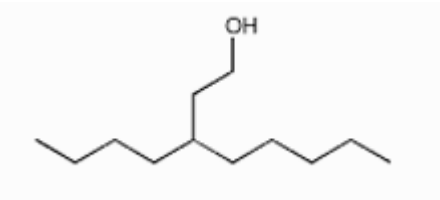
B. 

C. 

D. All of these reactions would produce 2-pentanol.

E. Only two of these reactions would produce 2-pentanol.

2. What is the correct IUPAC name of the following molecule?



A. 5-(hydroxyethyl)-decane

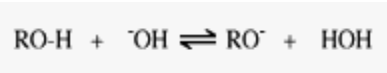
B. 3-butyl-1-octanol

C. 5-pentyl-1-heptanol

D. 6-butyl-1-octanol

E. 3-butyl-3-pentyl-1-propanol

3. Which statement is *generally* true about the reaction shown below?



A. This is an equilibrium that generally lies to the right.

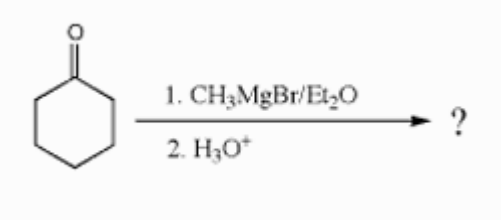
B. This is an equilibrium that generally lies to the left.

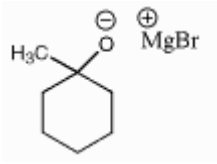
C. This is an equilibrium that lies equally to both sides.

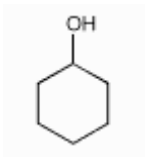
D. This is not an equilibrium reaction.

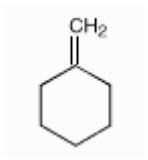
E. There is no way to know to which side this reaction usually lies.

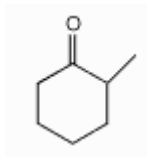
4. What is the major product of the following reaction?

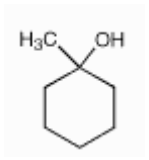


A. 

B. 

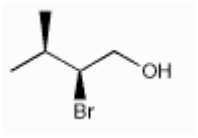
C. 

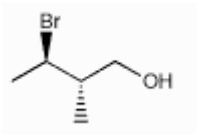
D. 

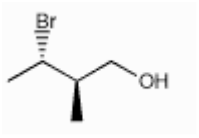
E. 

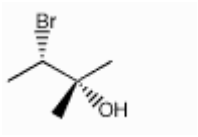
---

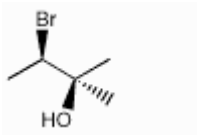
5. (2*R* ,3*S*)-3-Bromo-2-methyl-1-butanol is the IUPAC name for which of the following alcohols?

A. 

B. 

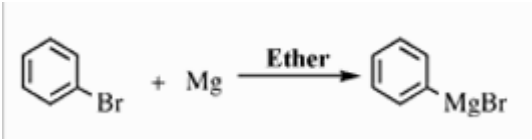
C. 

D. 

E. 

---

6. Which of the following would be true of the reaction shown?



A. A *carbon* is oxidized in this reaction.

B. A *carbon* is reduced in this reaction.

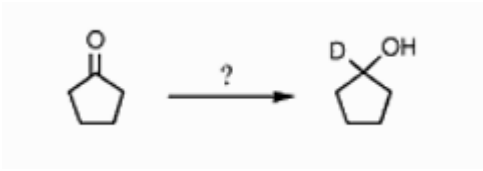
C. This cannot be considered as an oxidation/reduction reaction.

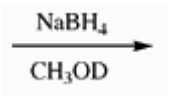
D. The bromine is reduced in this reaction.

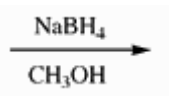
E. The bromine is oxidized in this reaction

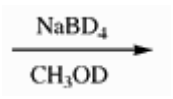
---

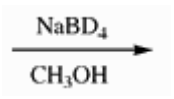
7. What product(s) would you expect from the following reaction?

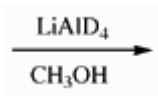


A. 

B. 

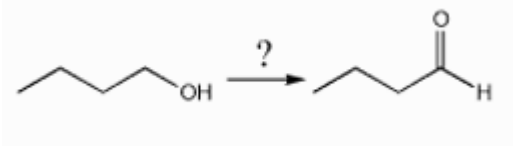
C. 

D. 

E. 

---

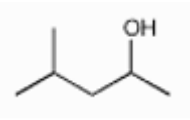
8. Which reagent will be useful for effecting the following transformation?



A. $K_2Cr_2O_7$ / H_2SO_4 / H_2O B. $Na_2Cr_2O_7$ / H_2SO_4 / H_2O C. $NaBH_4$ D. $LiAlH_4$ E. PCC

---

9. What is the proper name of the molecule shown?



A. 2-methyl-4-pentanol

B. 1,3-dimethyl-1-butanol

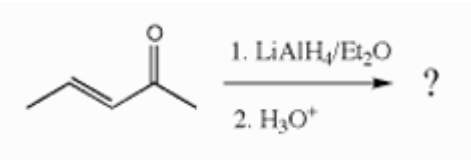
C. 4-hydroxy-2-methylpentane

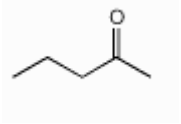
D. 4-methyl-2-pentanol

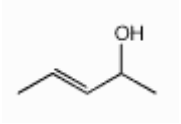
E. 2-hydroxy-4-methylpentane

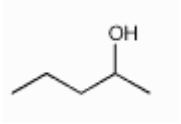
---

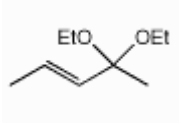
10. What is the major product of the following reaction?

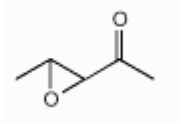


A. 

B. 

C. 

D. 

E. 

---

11. Which of the following statements is *not* true?

A. Grignard and organolithium reagents must be protected from oxygen and water.

B. Ether solvents are necessary for preparation of Grignard reagents.

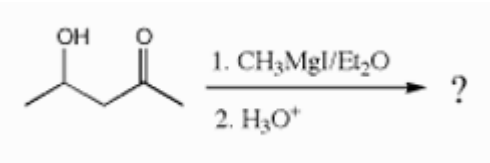
C. Both Grignard and organolithium reagents may be prepared from 1°, 2° and 3° haloalkanes.

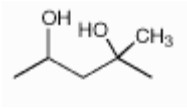
D. Alcohols react immediately with Grignard and organolithium reagents to yield hydrocarbons.

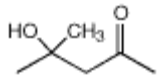
E. All of these statements are true.

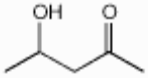
---

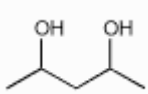
12. What is the major product of the following reaction?

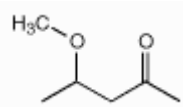


A. 

B. 

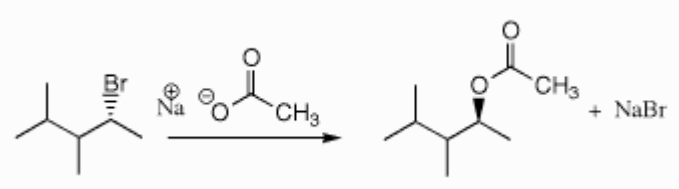
C. 

D. 

E. 

---

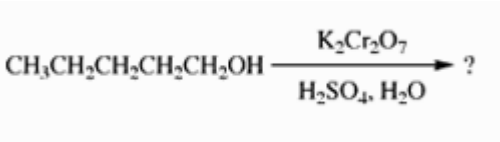
13. If the following reaction proceeds as indicated, what mechanistic pathway does it most likely follow?

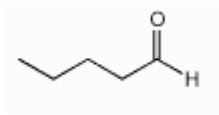


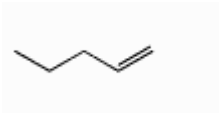
A. E2 B. E1 C. S_N2 D. S_N1 E. Free-radical halogenation

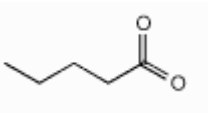
---

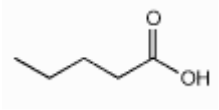
14. What product(s) would you expect from the following reaction?

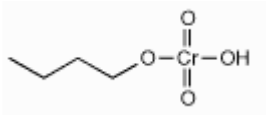


A. 

B. 

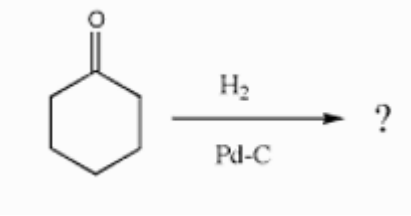
C. 

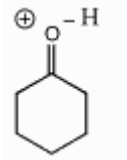
D. 

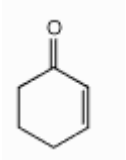
E. 

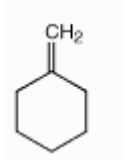
---

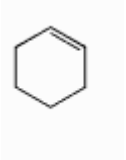
15. What is the major product of the following reaction?



A. 

B. 

C. 

D. 

E.