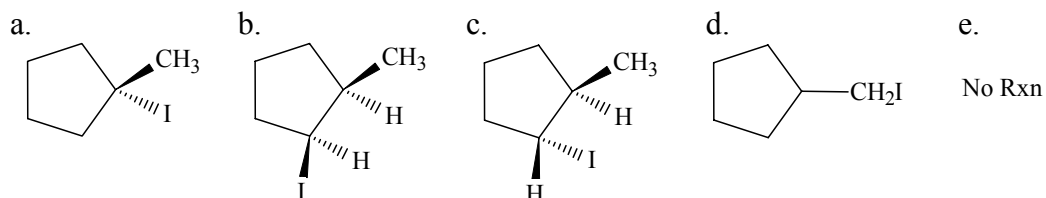
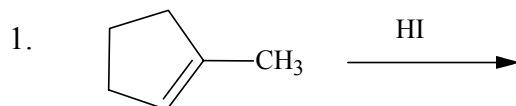


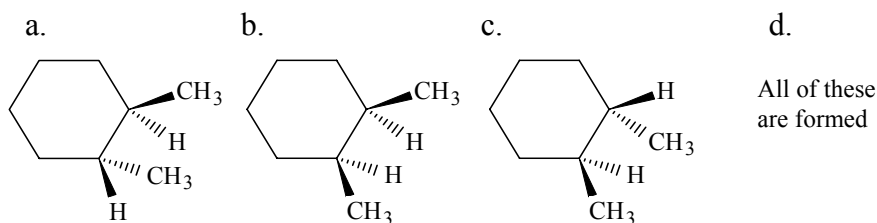
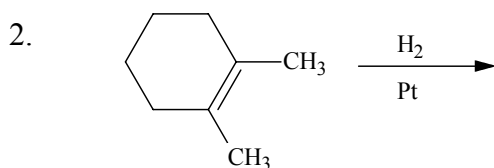
**Organic Chemistry I**  
**Problem Set 20 Answer Key**  
**Alkene Reactions – Practice Exam**

I. Select the Best Answer

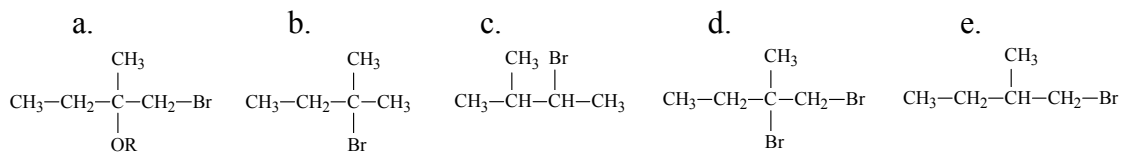
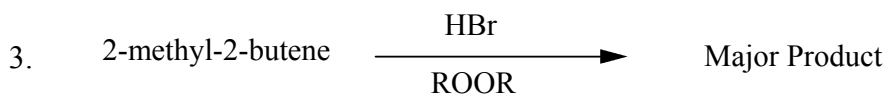
a



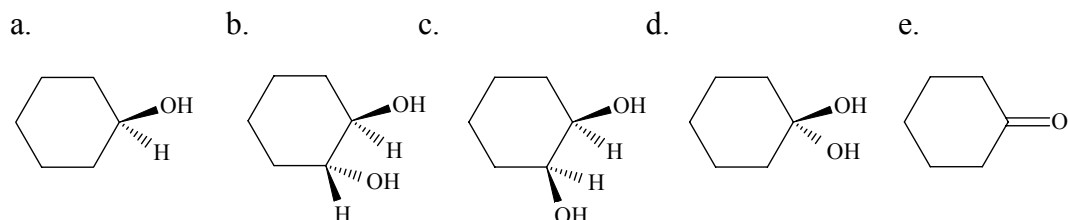
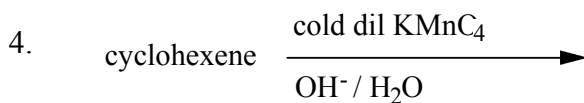
b

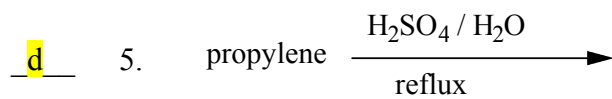


c

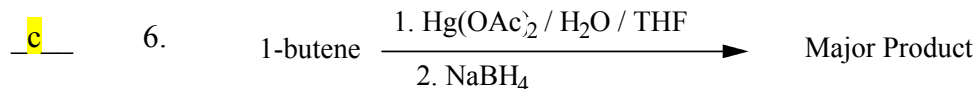


c

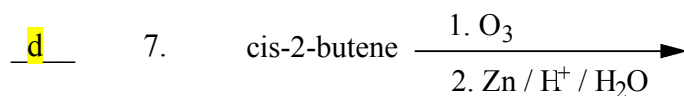




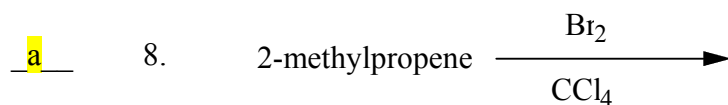
- a. propylene glycol      b.  $\text{CH}_2=\text{C}=\text{CH}_2$       c. 1-propanol      d. 2-propanol      e. none of these



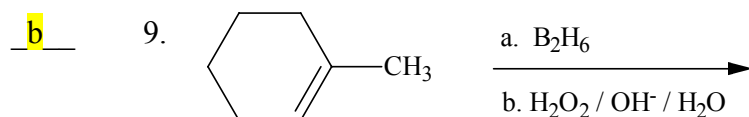
- a. 1,2-butanediol      b. 1-butanol      c. 2-butanol      d. butane



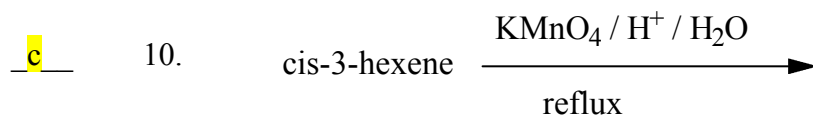
- a.  $\begin{array}{c} \text{OH} \quad \text{OH} \\ | \quad | \\ \text{CH}_3-\text{CH}-\text{CH}-\text{CH}_3 \end{array}$       b.  $\begin{array}{c} \text{OH} \\ | \\ \text{CH}_3-\text{CH}_2-\text{CH}-\text{CH}_3 \end{array}$       c.  $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3-\text{C}-\text{OH} \end{array}$       d.  $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3-\text{CH} \end{array}$



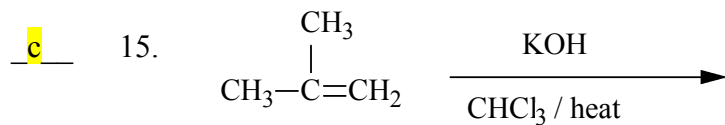
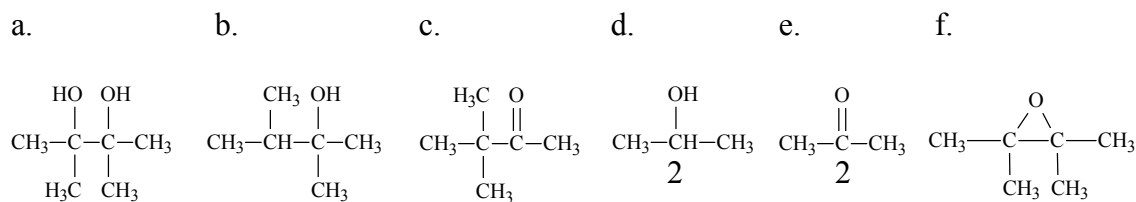
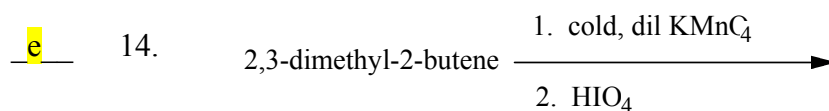
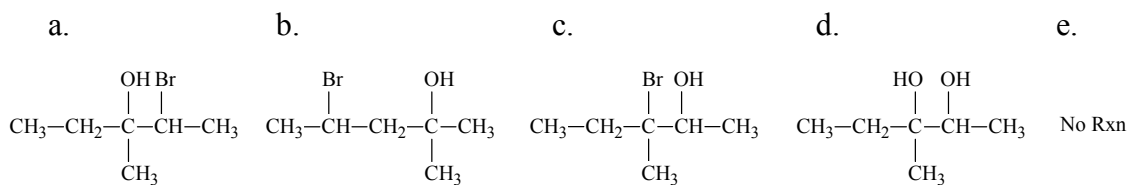
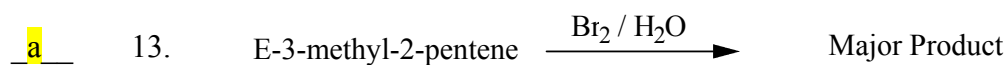
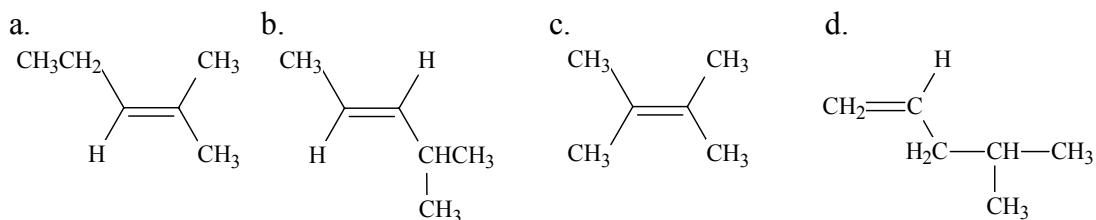
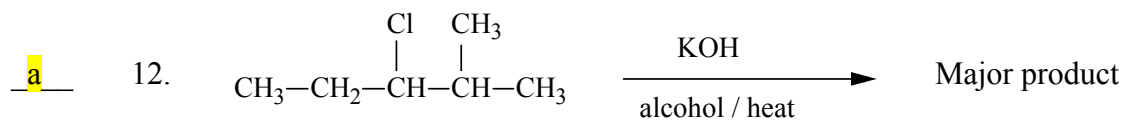
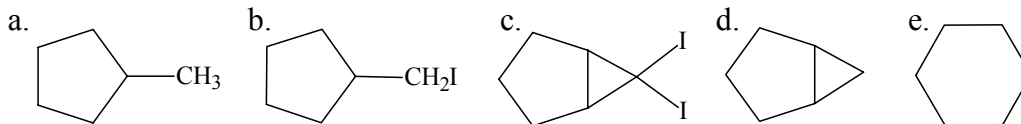
- a.  $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{Br} \\ | \\ \text{Br} \end{array}$       b.  $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3-\text{CH}-\text{CH}_2-\text{Br} \end{array}$       c.  $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3-\text{C}-\text{CH}_3 \\ | \\ \text{Br} \end{array}$       d.  $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{Br} \\ | \\ \text{CCl}_3 \end{array}$       e.  $\begin{array}{c} \text{CH}_3 \\ | \\ \text{CH}_3-\text{C}-\text{CH}_2-\text{CCl}_3 \\ | \\ \text{Br} \end{array}$



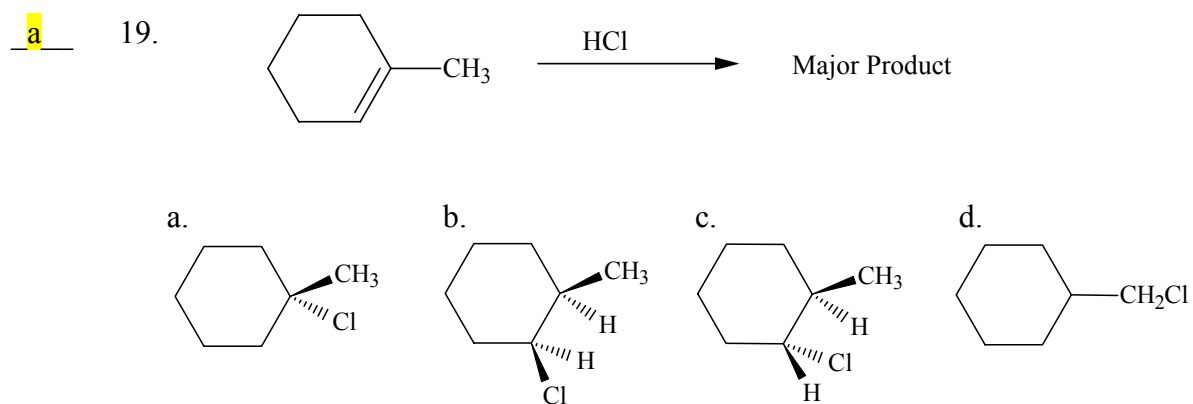
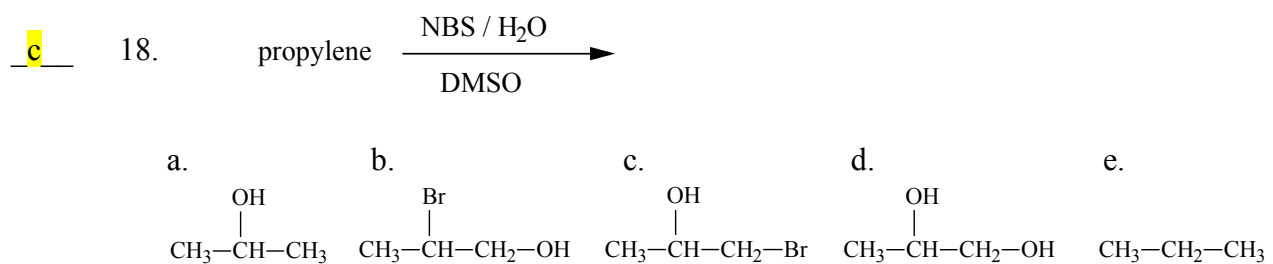
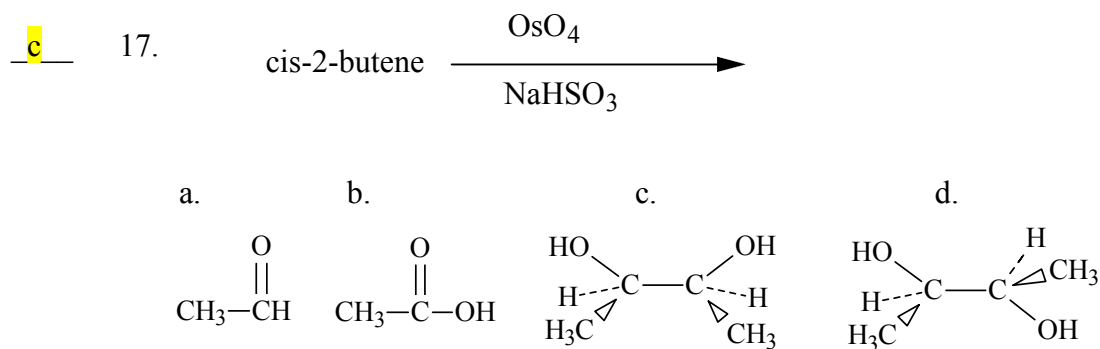
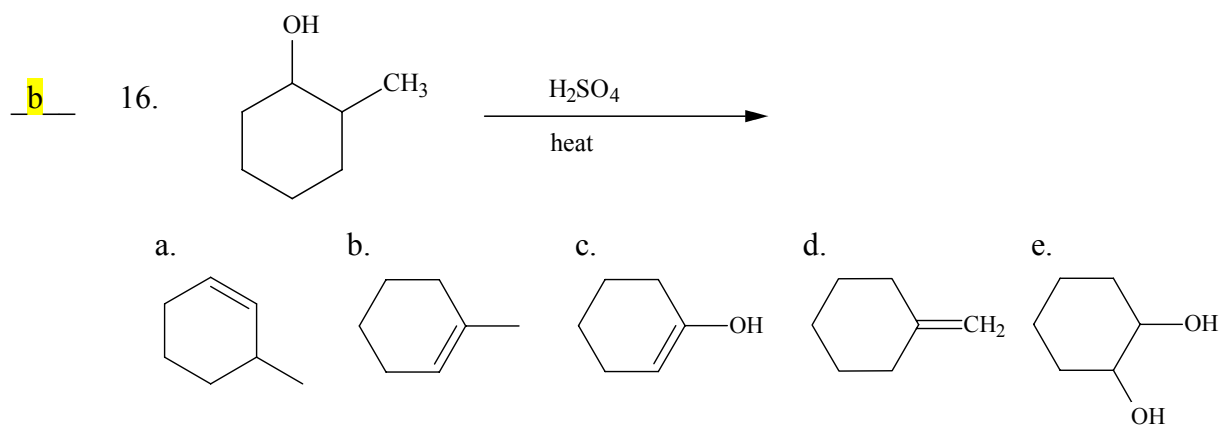
- a. cis-2-methylcyclohexane      b. trans-2-methylcyclohexanol      c. 1-methylcyclohexanol  
d. 1-methyl-1,2-cyclohexanediol



- a.  $\begin{array}{c} \text{OH} \quad \text{OH} \\ | \quad | \\ \text{CH}_3-\text{CH}_2-\text{CH}-\text{CH}-\text{CH}_2-\text{CH}_3 \end{array}$       b.  $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3-\text{CH}_2-\text{CH} \end{array}$       c.  $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3-\text{CH}_2-\text{C}-\text{OH} \end{array}$       d.  $\text{CH}_3-\text{CH}_2-\text{CH}_2-\text{OH}$   
e. None of these

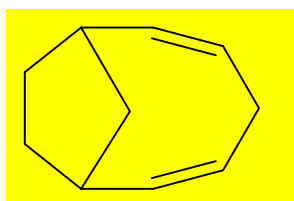
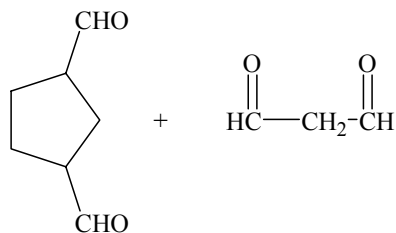


- a. 1,2-dimethylcyclopropane    b. acetone and CO<sub>2</sub>    c. 1,1-dichloro-2,2-dimethylcyclopropane  
d. 1-chloro-2-methyl-2-propanol



II. Answer the following questions:

1. A hydrocarbon of formula  $C_{10}H_{14}$  is treated with ozone, then with acidic zinc in water. The only products are shown below. Write the structure of the hydrocarbon.



2. A compound of formula  $C_{10}H_{16}$  is treated with ozone, then with acidic zinc in water. The products of this reaction are shown below. When the original compound is treated with excess  $H_2 / Pt$ , 1-isopropyl-3-methylcyclohexane is formed. Write the structure of the original compound.

