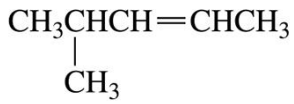
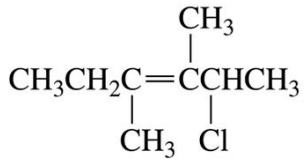
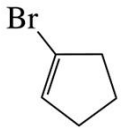
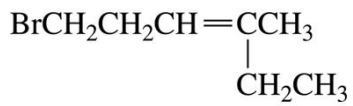
1. What is the systematic name for each compound?

a. 

b. 

c. 

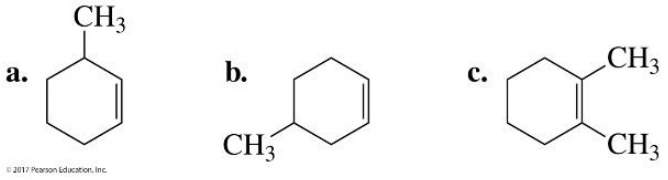
d. 

2. Draw the structure for the following
   a) 3,3, -dimethylcylopentene

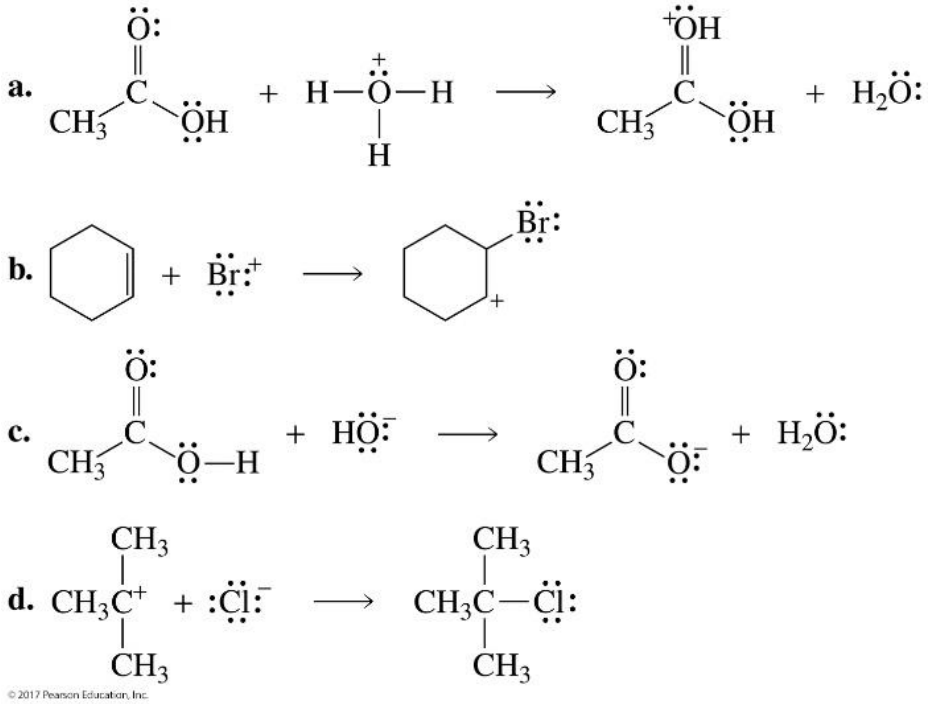
   b) 6-bromo-2,3,-dimethyl-2-hexene

3. Draw the isomers for the following compounds and name them.
   2-methyl-2,4-hexadiene.

4. How many carbons are in the planar double bond system in each compound?



5. Use curved arrows to show the movement of electrons in the following steps.



6. How many different alkenes can be dehydrogenated to form butane?
   Write the chemical reaction for each using the proper reagents and catalysis.

7. Which of the following compounds is the most stable and which is the least stable?