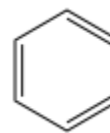
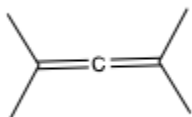
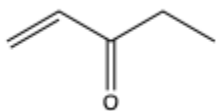
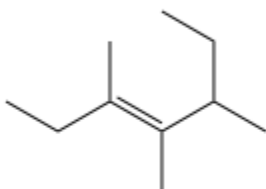
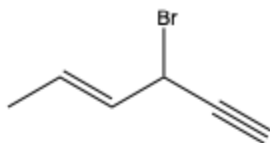


### CHEM 2300 SI Session 3

1. State whether the molecule is a conjugated, isolated, or cumulated double bond system.



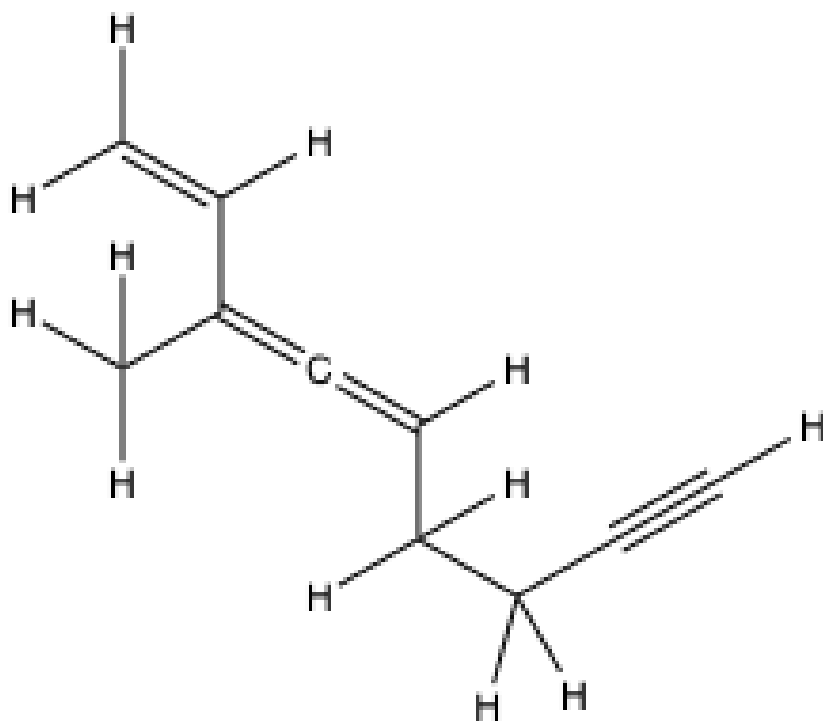
2. Name or draw the following compounds.



4-methylpent-1-yne

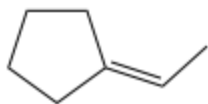
5-isopropylcyclopenta-1,3-diene

3. Label the hybridization and geometry of each carbon along with whether each bond is pi or sigma.



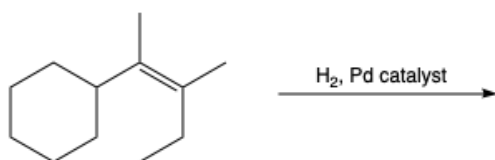
4. What are common attributes of nucleophiles? What are common attributes of electrophiles?

5. Draw the hydration reaction mechanism (in acidic conditions) for the molecule below.

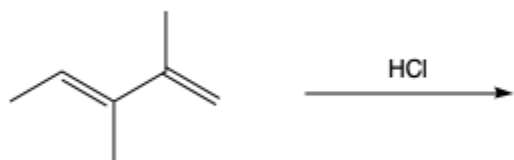


6. Draw the intermediate state and final product of the hydroboration reaction on the same molecule given above. How're these products related? Do you see the importance of the hydroboration reaction?

7. Draw the MAJOR product for the following reactions.



8. Draw the major product along with the mechanism for the following reaction.



9. Draw either the starting material or the product for the Diel-Alder reactions.

