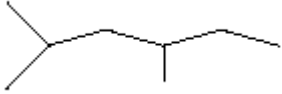
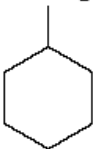


1. Write a definition for “organic compound”. What are some exceptions to this definition?
2. What is the difference between a saturated organic compound and an unsaturated organic compound?
3. What is a structural isomer? Give an example.
4. What affects the boiling point/melting point of an organic compound?

5. In Chemistry 30 we learned to name and draw 8 different families of organic compounds. Fill in the chart below about these 8 families. The first one is done for you.

<u>Family</u>	<u>Distinguishable feature</u>	<u>Naming Rules</u>
<b>Alkane</b>	- only single bonds - only C and H atoms in compound	- branches numbered so they get lowest numbers possible - name ends in -ane
<b>Alkene</b>		
<b>Alkyne</b>		
<b>Aromatic</b>		
<b>Organic Halide</b>		
<b>Alcohol</b>		
<b>Carboxylic Acid</b>		
<b>Ester</b>		

6. Fill in the chart below.

<u>Compound Name</u>	<u>Compound Structure</u>	<u>Organic Family</u>
	$\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH}_2 - \text{C} \equiv \text{CH} \\   \\ \text{CH}_3 \end{array}$	
3,6,6-trimethylheptane		
		
Cyclohexene		
	$\begin{array}{c} \text{CH}_2 - \text{CH}_3 \\   \\ \text{C}_6\text{H}_{10} \end{array}$ 	
	$\begin{array}{c} \text{H} \quad \text{H} \\   \quad   \\ \text{H} - \text{C} - \text{C} - \text{C} = \text{O} \\   \quad   \quad \backslash \\ \text{H} \quad \text{H} \quad \text{O} - \text{H} \end{array}$	
hex-3-yne		
	$\begin{array}{c} \text{H} \quad \text{H} \quad \text{O} \quad \text{H} \\   \quad   \quad    \quad   \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{O} - \text{C} - \text{H} \\   \quad   \quad \quad   \\ \text{H} \quad \text{H} \quad \quad \text{H} \end{array}$	
methylpropan-2-ol		

7. We learned 6 different reactions that organic compounds can undergo. For each one, read the page numbers listed and write what the reactants can be and what is produced in the type of reaction

**a. Addition reactions (pg 419-420)**

Reactants are:

Product(s) are:

**b. Substitution reactions (pgs 421-422)**

Reactants are:

Product(s) are:

**c. Elimination reactions (pgs 431-432)**

Reactants are:

Product(s) are:

**d. Esterification reactions (pgs 438-440)**

Reactants are:

Product(s) are:

**e. Complete Combustion (pgs 398-400)**

Reactants are:

Product(s) are:

**f. Incomplete Combustion (pgs 398-400)**

Reactants are:

Product(s) are:

8. What causes the difference between incomplete and complete combustion reactions?

9. Define "polymerization"

10. For the following reactants, complete the reaction and name and/or draw the reactants and products. Name the reaction type.

a. Ethane is converted to ethene. \_\_\_\_\_

b. 2-chloropropane is made from propene. \_\_\_\_\_

c. Butan-1-ol is made from but-1-ene. \_\_\_\_\_

d. Methyl propanoate is made. \_\_\_\_\_

11. What is crude oil?

12. In 3 or 4 sentences, briefly describe how fractional distillation works.

13. Why do alcohols have higher boiling and melting points than alkanes of the same size (same # of carbon atoms)?

14. Why do larger alkanes have higher boiling/melting points than smaller alkanes?