

# EXERCISE 10

Chem 100

(Due in lab \_\_\_\_\_)

10 points

Name KEY

(last)

(first)

Lab Section # \_\_\_\_\_

Lab Instructor \_\_\_\_\_

A. Write the number of covalent bonds that must be formed by each of the following atoms in organic compounds.

1. N 3

3. C 4

5. O 2

2. S 2

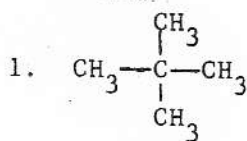
4. F 1

6. H 1

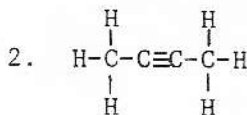
B. Write the general formula for each of the following classes of hydrocarbons and indicate whether it is saturated or unsaturated.

	<u>General Formula</u>	<u>Saturated or Unsaturated</u>
1. alkyne	<u><math>C_n H_{2n-2}</math></u>	<u>unsaturated</u>
2. alkane	<u><math>C_n H_{2n+2}</math></u>	<u>saturated</u>
3. alkene	<u><math>C_n H_{2n}</math></u>	<u>unsaturated</u>

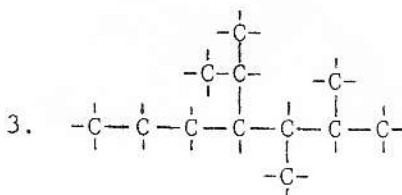
C. Write the IUPAC name for each of the following.



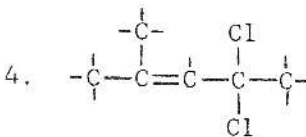
2,2-dimethylpropane



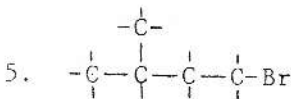
2-butyne



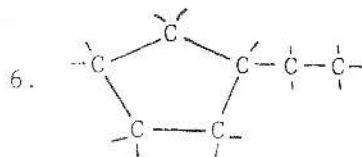
4-isopropyl-2,3-dimethylheptane



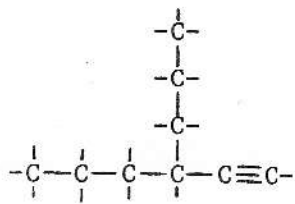
4,4-dichloro-2-methyl-2-pentene



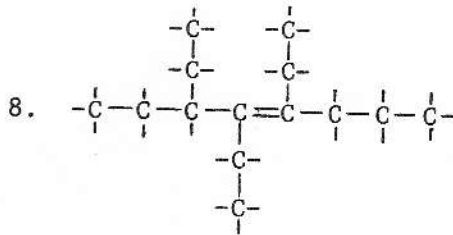
1-bromo-3-methylbutane



1-ethylcyclopentane



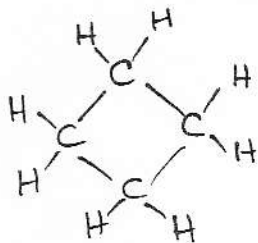
3-propyl-1-hexyne



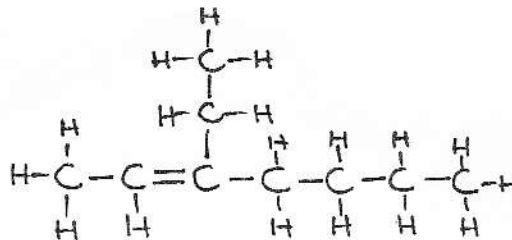
3,4,5-triethyl-4-octene

Draw the full structural formula for each of the following, showing all C's and H's. Use a dash to indicate a covalent bond. Be sure you have shown the correct number of bonds for each atom.

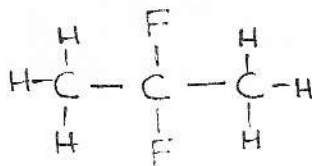
cyclobutane



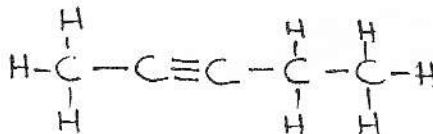
3-ethyl-2-heptene



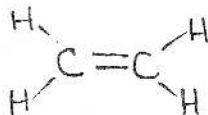
2,2-difluoropropane



2-pentyne



ethene



3,3,4-trimethylhexane

