

NAMING HYDROCARBONS

Name _____

Name the compounds below according to the IUPAC naming system

<p>1.</p> <pre> H H H H - C - C - C - H H H H </pre>	<p>5.</p> <pre> H H H H - C - C - C - H H H H - C - H H </pre>
<p>2.</p> <pre> H H H H H - C = C - C - C - H H H </pre>	<p>6.</p> <pre> H CH₃ H H - C - C - C - H H H H </pre>
<p>3.</p> <pre> H H - C ≡ C - C - H H </pre>	<p>7.</p> <pre> H H H H H H - C - C = C - C - C - H H H </pre>
<p>4.</p> <pre> H H H CH₃ H H - C - C - C - C - C - H H H H H H </pre>	<p>8.</p> <pre> H H - C - H H - C - H H - C - C - C - C - C - H H H H - C - H H H H C - H H - C - H H </pre>

STRUCTURE OF HYDROCARBONS

Name _____

Draw the structure of the compounds below.

1. ethane	5. ethyne
2. propene	6. 3,3-dimethyl pentane
3. 2-butene	7. 2,3-dimethyl pentane
4. methane	8. n-butyne

FUNCTIONAL GROUPS

Name _____

Classify each of the organic compounds below as an alcohol, carboxylic acid, aldehyde, ketone, ether or ester, and draw its structural formula.

1. CH_3COOH	6. $\text{CH}_3\text{CH}(\text{OH})\text{CH}_3$
2. CH_3COCH_3	7. $\text{CH}_3\text{CH}_2\text{COOH}$
3. $\text{CH}_3\text{CH}_2\text{OH}$	8. $\text{CH}_3\text{CH}_2\text{COOCH}_3$
4. $\text{CH}_3\text{CH}_2\text{OCH}_3$	9. $\text{CH}_3\text{CH}_2\text{COCH}_3$
5. $\text{CH}_3\text{CH}_2\text{CHO}$	10. CH_3OCH_3

NAMING OTHER ORGANIC COMPOUNDS

Name _____

Name the compounds below.

<p>1.</p> $ \begin{array}{c} \text{H} \quad \text{H} \\ \quad \\ \text{H} - \text{C} - \text{C} - \text{OH} \\ \quad \\ \text{H} \quad \text{H} \end{array} $	<p>6.</p> $ \begin{array}{c} \text{H} \quad \text{O} \quad \text{H} \\ \quad \quad \\ \text{H} - \text{C} - \text{C} - \text{O} - \text{C} - \text{H} \\ \quad \quad \\ \text{H} \quad \quad \text{H} \end{array} $
<p>2.</p> $ \begin{array}{c} \text{H} \quad \text{O} \quad \text{H} \\ \quad \quad \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{H} \\ \quad \quad \\ \text{H} \quad \quad \text{H} \end{array} $	<p>7.</p> $ \begin{array}{c} \text{H} \quad \text{OH} \quad \text{H} \quad \text{H} \\ \quad \quad \quad \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{C} - \text{H} \\ \quad \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \quad \text{H} \end{array} $
<p>3.</p> $ \begin{array}{c} \text{H} \quad \text{H} \quad \text{H} \quad \text{O} \\ \quad \quad \quad \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{C} - \text{H} \\ \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \end{array} $	<p>8.</p> $ \begin{array}{c} \text{H} \quad \text{H} \quad \text{O} \\ \quad \quad \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{OH} \\ \quad \\ \text{H} \quad \text{H} \end{array} $
<p>4.</p> $ \begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H} - \text{C} - \text{C} - \text{OH} \\ \\ \text{H} \end{array} $	<p>9.</p> $ \begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H} - \text{C} - \text{C} - \text{H} \\ \\ \text{H} \end{array} $
<p>5.</p> $ \begin{array}{c} \text{H} \quad \quad \text{H} \\ \quad \quad \\ \text{H} - \text{C} - \text{O} - \text{C} - \text{H} \\ \quad \quad \\ \text{H} \quad \quad \text{H} \end{array} $	<p>10.</p> $ \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{C} - \text{H} \\ \quad \quad \quad \\ \text{H} \quad \text{H} \quad \quad \text{H} \end{array} $

STRUCTURES OF OTHER ORGANIC COMPOUNDS

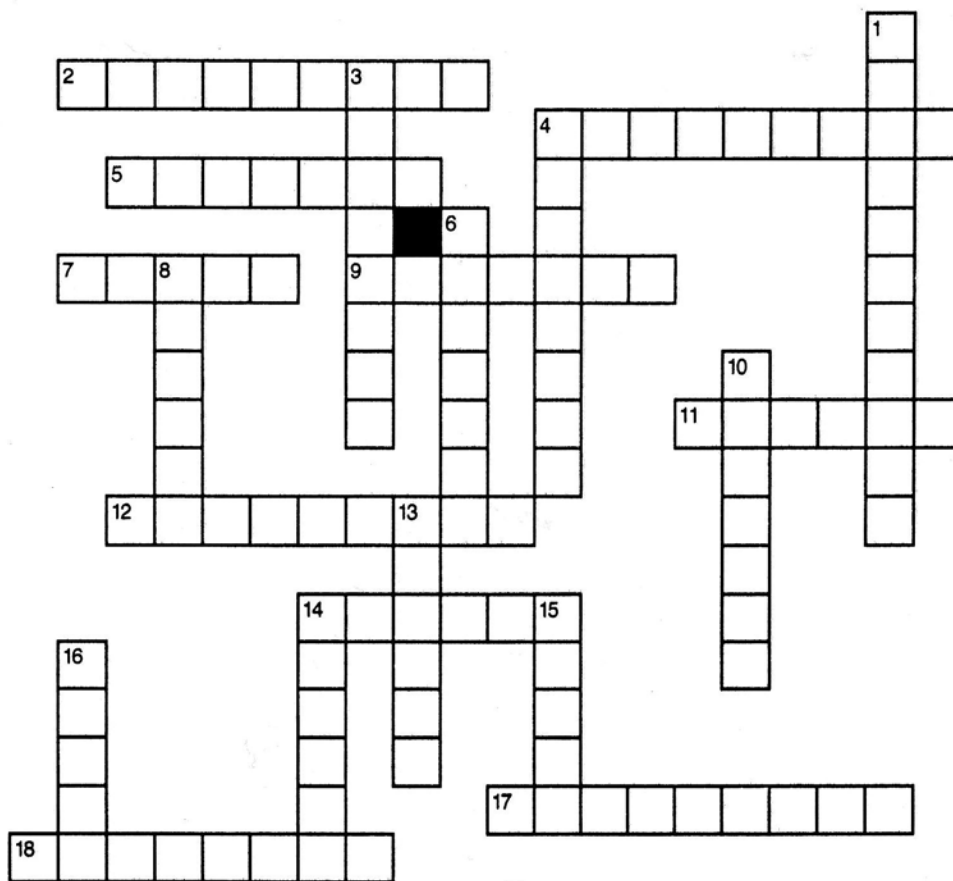
Name _____

Draw the structures of the compounds below.

1. butanoic acid	6. methylmethanoate (methyl formate)
2. methanal	7. 3-pentanol
3. methanol	8. methanoic acid (formic acid)
4. butanone	9. propanal
5. diethyl ether	10. 2-pentanone

ORGANIC CHEMISTRY CROSSWORD

Name _____



Across

- Hydrocarbon containing only single bonds
- Contains two double bonds
- Alcohol in which the hydroxyl group is attached to an end carbon
- An alkane minus one hydrogen. It attaches to another carbon chain.
- Compounds with the same molecular formula, but different structural formulas
- A dihydroxy alcohol
- Alcohol in which the hydroxyl is attached to a carbon attached to two other carbons
- Open chain hydrocarbon containing one double bond
- Organic compounds containing the benzene ring structure
- Describes a hydrocarbon with a side chain of carbon atoms

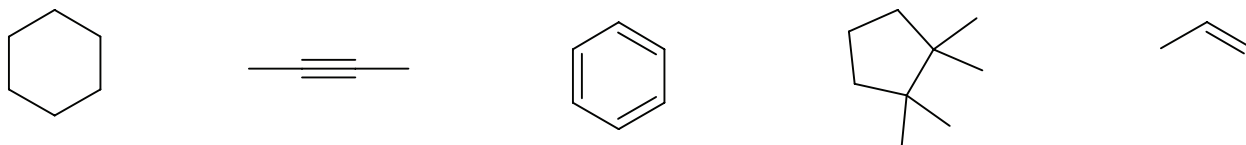
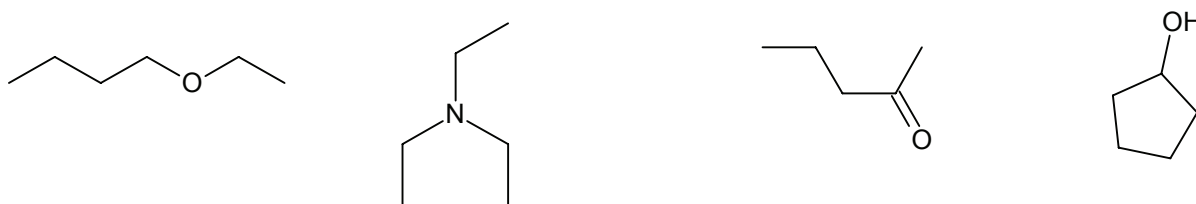
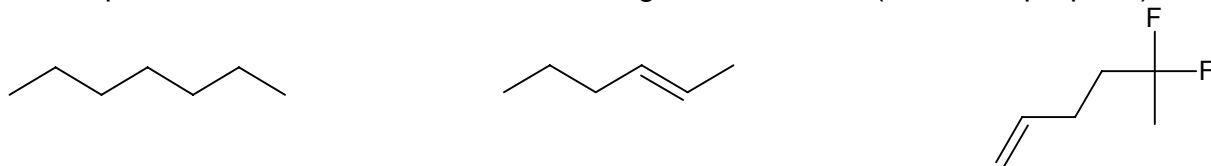
Down

- An alcohol with only one hydroxyl group in its structure
- Alcohol in which the hydroxyl is attached to a carbon attached to three other carbons
- General formula R-CHO
- High molecular mass compound consisting of repeating units called monomers
- General formula R-CO-R'
- Contains one or more -OH groups
- Saturated open chain hydrocarbon
- Open chain hydrocarbon containing only one triple bond
- Produced by the reaction of an alcohol and an acid
- General formula R-O-R'

Name: _____ Block: _____

The ridiculously long organic naming worksheet (not that long really)

Please provide IUPAC names for the following line structures (mixed on purpose).



Please provide structures for the following named compounds (use back of sheet).

1. 3-methylhexane
2. 2-hexyne
3. *tert*-butylcyclopentane
4. 2,2,3,3-tetrachloro-4-methylhexane
5. pentanoic acid
6. propyl pentanoate
7. 2-cyclopentylhexane
8. methylbenzene
9. 1,1,2,2,3,3-hexachlorocyclohexane
10. butanal
11. 4-fluoro-2,2,3,3,4,5,5,6-octamethylheptane
12. *trans*-2-butene
13. 2,3-dimethylpentane
14. 5-ethyl-3,7-dimethylnonane
15. 2-pentanol
16. isopropylbenzene
17. 3-heptanone