

Name: Key
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Chemistry 11
 Organic Chemistry
 Lesson #4 The 8 Functional Groups

The 8 FUNCTIONAL GROUPS INCLUDE:

1. ALCOHOLS	5. ORGANIC ACIDS
2. ALDEHYDES	6. AMINE
3. KETONES	7. AMIDE
4. ETHERS	8. ESTERS

A functional group is a specific grouping of atoms which exists in a hydrocarbon and gives the molecule the ability to react in a specific manner or gives it special properties

Of the eight functional groups you are responsible for knowing how to name:

1. ALCOHOLS
2. ORGANIC ACIDS
3. ESTERS

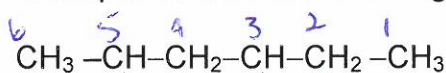
While for the remaining groups you must be able to recognize their formulas and structures.

ALCOHOLS- are organic compound that contain an "OH" group attached to a carbon in the carbon backbone:

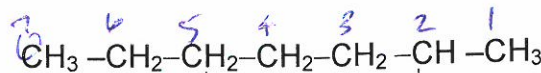
RULES for naming alcohols:

1. give the LOWEST ADDRESS to the OH group
2. place number directly in front of parent name
3. change parent ending to "ol"

Example 1: Name the following alcohols

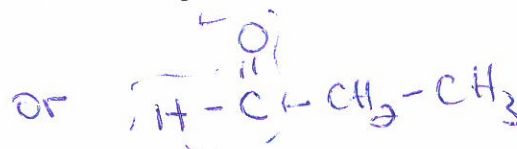


5-methyl-3-hexanol

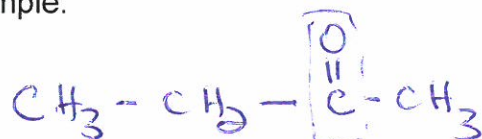


5-ethyl-2-heptanol

ALDEHYDES: -organic compounds that contain a $\text{HC}=\text{O}$ group at the end of the compound EXAMPLE:



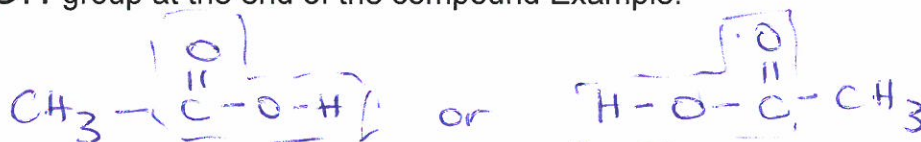
KETONES: - organic compounds that contain a $C=O$ group in the middle of the compound. Example:



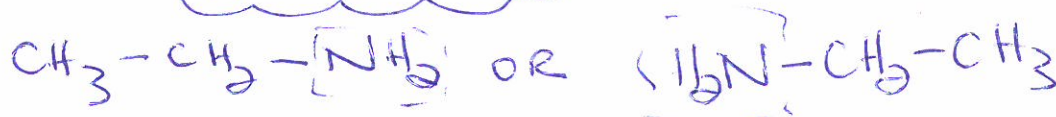
ETHERS: - organic compounds that contain an "O" group in the backbone of the compound. Example:



ORGANIC ACIDS or CARBOXYLIC ACIDS: - organic compounds that contain a $O=C-OH$ group at the end of the compound Example.



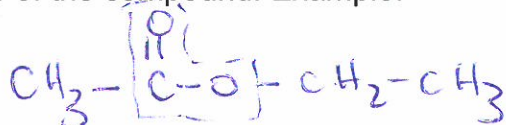
AMINES: - organic compounds that contain a NH_2 group at the end of the compound. Example: $N = \text{"3" bonds}$



AMIDES: - organic compounds that contain a $O=C-NH_2$ group at the end of the compound. Example:



ESTERS: - organic compounds that contain a $-O-C=O$ group in the backbone of the compound. Example:



HOMEWORK: Exercise #37