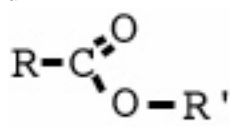


1 • What Do Chemists See When They Look At Chemicals?

PRACTICE TEST

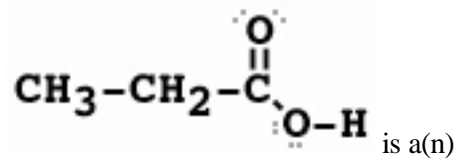
- A molecule named propene has the formula:
 - C_2H_2
 - C_3H_6
 - C_4H_3
 - C_3H_8
 - C_3H_4
- What is the name of a molecule with the formula, C_5H_8 ?
 - pentane
 - hexene
 - butyne
 - butene
 - pentyne
- A molecule that fits the pattern, C_nH_{2n+2} , is a(n)
 - alkane
 - alkene
 - cyclic compound
 - alkyne
 - need more info
- The general formula of the alkyne series is:
 - C_nH_{2n}
 - C_nH_{2n-4}
 - C_nH_{2n-2}
 - C_nH_{2n-6}
- The hydrocarbon series that has a double bond between carbon atoms is the
 - alkane family
 - alkene family
 - alkyne family
 - alkadiene family
- Organic chemistry is the branch of chemistry that is the study of
 - carbon compounds
 - nonmetals
 - once-living things
 - compounds produced by living things
- The properties of carboxylic acids include all of the following *except*:
 - they can be neutralized by bases
 - the molecule has some polarity
 - they ionize completely in water solution
 - they react with alcohols to form esters
- The compound



The diagram shows a central carbon atom double-bonded to an oxygen atom above it, single-bonded to an R group on the left, and single-bonded to another oxygen atom below it. This second oxygen atom is single-bonded to an R' group on the right.

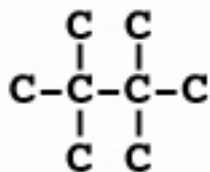
 is classified as a
 - alcohol
 - ester
 - acid
 - ketone
 - aldehyde
- An amine is characterized by what functional group?
 - ROH
 - RCO₂H
 - RCO₂R'
 - RNH₂
- Compounds with the same molecular formulas but different structural formulas are called
 - isotopes
 - variations
 - conformations
 - anomalies
 - isomers
- The least chemically reactive of the hydrocarbon families are the
 - alkanes
 - alkenes
 - alkynes

12. The compound represented by



- a) acid
- b) ester
- c) ketone
- d) aldehyde
- e) amide

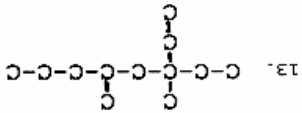
13. Draw the structural formula of
3,5-dimethyl-3-ethyloctane



14. The IUPAC name of _____ is:

15. Draw and name the three isomers of pentane.

Answers:
1.B 2.E 3.A 4.C 5.B 6.A
7.C 8.B 9.D 10.E 11.A 12.A

13. 

14. 2,2,3,3-tetramethylbutane

15. Three isomers of pentane:
C-C-C-C-C n-pentane
C-C-C-C
|
C 2-methylbutane
C-C-C
|
C 2,2-dimethylpropane