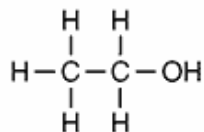
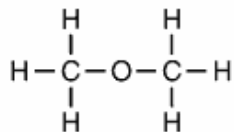


-
1. The two isomers of butane have different
- A) formula masses B) empirical formulas
C) molecular formulas D) structural formulas
2. Two substances have different physical and chemical properties. Both substances have molecules that contain two carbon atoms, one oxygen atom, and six hydrogen atoms. These two substances must be
- A) isomers of each other
B) isotopes of each other
C) the same compound
D) the same hydrocarbon
3. Given the structural formulas:

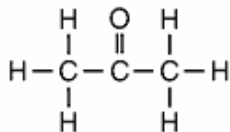
Formula A



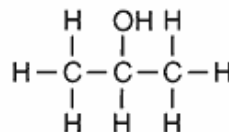
Formula B



Formula C



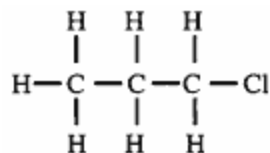
Formula D



Which two formulas represent compounds that are isomers of each other?

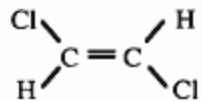
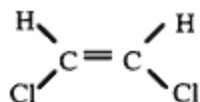
- A) *A* and *B* B) *A* and *C* C) *B* and *D* D) *C* and *D*
-
4. The compounds CH_3OCH_3 and $\text{CH}_3\text{CH}_2\text{OH}$ are isomers of each other. These two compounds must have the same
- A) density B) reactivity
C) melting point D) molecular formula
5. The three isomers of pentane have different
- A) formula masses B) molecular formulas
C) empirical formulas D) structural formulas

6. Consider the substance with the following formula



Which is an isomer of this substance?

- A)
$$\begin{array}{ccccccc}
 & \text{H} & & \text{H} & & \text{H} & \\
 & | & & | & & | & \\
 \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{Cl} \\
 & | & & | & & | & \\
 & \text{H} & & \text{H} & & \text{Cl} &
 \end{array}$$
- B)
$$\begin{array}{ccccccc}
 & \text{H} & & \text{H} & & \text{H} & \\
 & | & & | & & | & \\
 \text{Cl} & - \text{C} & - & \text{C} & - & \text{C} & - \text{H} \\
 & | & & | & & | & \\
 & \text{H} & & \text{H} & & \text{H} &
 \end{array}$$
- C)
$$\begin{array}{ccccccc}
 & \text{H} & & \text{H} & & \text{H} & \\
 & | & & | & & | & \\
 \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - \text{H} \\
 & | & & | & & | & \\
 & \text{H} & & \text{Cl} & & \text{H} &
 \end{array}$$
- D)
$$\begin{array}{ccccccc}
 & \text{H} & & \text{H} & & \text{H} & & \text{H} \\
 & | & & | & & | & & | \\
 \text{H} & - \text{C} & - & \text{C} & - & \text{C} & - & \text{C} - \text{Cl} \\
 & | & & | & & | & & | \\
 & \text{H} & & \text{H} & & \text{H} & & \text{H}
 \end{array}$$
- E)
$$\begin{array}{ccccccc}
 & \text{H} & & \text{H} & & \text{H} & \\
 & | & & | & & | & \\
 \text{Cl} & - \text{C} & - & \text{C} & - & \text{C} & - \text{Cl} \\
 & | & & | & & | & \\
 & \text{H} & & \text{Cl} & & \text{H} &
 \end{array}$$



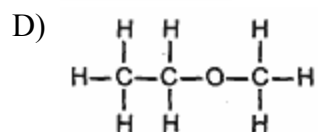
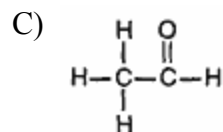
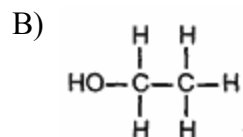
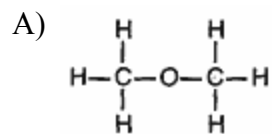
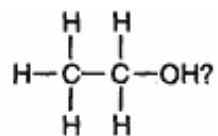
7. What term is used to describe the two forms of dichloroethene shown above?

- A) paramagnetic B) isotopes
 C) allotropes D) isoelectronic
 E) isomers
8. Compounds which have the same molecular formula but different structural formulas
- A) isomers. B) polymers.
 C) isotopes. D) allotropes.
 E) ethers.

9. Compounds which have the same molecular formula but different structural formulas are known as

- A) isomers. B) polymers.
 C) isotopes. D) allotropes.
 E) alkanes.
10. The compounds $\text{C}_2\text{H}_5\text{OH}$ and CH_3OCH_3 are examples of
- A) hydrocarbons B) alcohols
 C) isomers D) esters
 E) isotopes
11. Compounds which have the same molecular formula, but different molecular structures are called
- A) isomers B) isotopes
 C) allotropes D) homologs
 E) homotropes
12. If two compounds are isomers, they must have the same
- A) vapor pressure
 B) boiling point
 C) percentage composition
 D) structure
 E) intermolecular forces
13. Two isomers must have the same
- A) percentage composition
 B) chemical properties
 C) physical properties
 D) arrangement of atoms
 E) boiling points

14. Which is an isomer of



15. Which formulas represent compounds that are isomers of each other?

