

Organic: Alkanes, Alkenes, Alkynes

1. An alkyne is represented by the molecular formula
 - a) C_3H_6
 - b) C_4H_6
 - c) C_5H_{12}
 - d) C_6H_6
2. Which of the following compounds is a **saturated aliphatic**?
 - a) $C_6H_5CH_3$
 - b) C_7H_{16}
 - c) C_9H_{18}
 - d) C_5H_8
3. The molecular formula for the **third member** of the alkyne series is _____
 - a) C_3H_8
 - b) C_3H_4
 - c) C_3H_6
 - d) C_4H_6
4. The carbon-carbon bonds in benzene are
 - a) identical to the carbon-carbon bonds in cyclohexane
 - b) identical to the carbon-carbon bonds in cyclohexene
 - c) a hybrid between a double and single bonds
 - d) easily broken in chemical reactions
5. If alkanes, alkenes and alkynes are ranked from the most reactive homologous series to the least reactive homologous series, the order would be _____, _____ and _____
 - a) alkanes, alkenes, alkynes
 - b) alkenes, alkynes, alkanes
 - c) alkynes, alkenes, alkanes
 - d) alkynes, alkanes, alkenes
6. Consider the following statements.

Number	Statement
I	Alkanes prefer to undergo substitution with halogens.
II	Alkenes prefer to undergo substitution with halogens
III	Alkanes prefer to undergo addition with halogens.
IV	Alkynes prefer to undergo addition halogens.

The **false statements** are:

- a) I and IV b) I and II
c) II and III d) II and IV

Solutions:

1. B
2. B
3. D
4. C
5. C
6. C