

Exercise 9.32 – Properties of alkenes

Q932-01 The presence of a carbon-carbon double bond in an organic molecule:

- A. results in a linkage between carbon atoms that has a much smaller bond energy than that of single carbon to carbon bonds.
- B. results in greater reactivity, often with addition of two atoms to the two carbon atoms of the bond.
- C. makes the molecule much more polar and therefore much more soluble in water.
- D. allows internal molecular rotations so that there are no isomers with the same formula possible.

Q932-02 Which product is formed by the reaction between CH_2CH_2 and HBr

- A. $\text{CH}_3\text{CH}_2\text{Br}$
- B. CH_2CHBr
- C. BrCHCHBr
- D. $\text{CH}_3\text{CH}_2\text{Br}_2$

Q932-03 What type of reaction does the equation below represent?



- A. Substitution
- B. Condensation
- C. Reduction
- D. Addition

Q932-04 Which of the following statements about single and double bonds between two carbon atoms is (are) correct:

I - double bonds are stronger than single bonds

II - double bonds are more reactive than single bonds

- A. I only
- B. II only
- C. Both I and II
- D. Neither I nor II

Q932-05 Name the type of polymerisation reaction that C_3H_6 undergoes and draw the structure of a section of the polymer chain formed from three monomer molecules.

Q932-06 A gaseous alkane and a gaseous alkene are treated separately in the following ways. Which treatment will distinguish between them?

- A. They are ignited in excess oxygen
- B. They are passed over heated copper
- C. They are bubbled through an aqueous solution of bromine
- D. They are bubbled through an aqueous solution of propanal

Q932-07 Polymers formed from monomers with the general formula $\text{H}_2\text{C}=\text{CHX}$

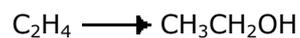
- A. Have the same percentage of carbon as the monomer
 - B. Are produced by substitution reactions
 - C. Contain $\text{C}=\text{C}$ bonds
 - D. Are more reactive than the monomer
-

Exercise 9.32 – Properties of alkenes

Q932-08 Which compound is most likely to be a starting material for a common polymer?

- A. $\text{CH}_3\text{CH}_2\text{CH}_3$
 - B. $\text{CH}_3\text{CH}_2\text{OH}$
 - C. CH_3CHCH_2
 - D. $\text{C}_6\text{H}_5\text{CH}_3$
-

Q932-09 In the reaction below state the type of reaction and identify the reagent and conditions needed.



Q932-10 C_2H_4 can be converted into one of the compounds below in a single step reaction

$\text{C}_2\text{H}_3\text{Cl}$

$\text{C}_2\text{H}_4\text{Cl}_2$

Identify the compound that can be formed directly from C_2H_4
