
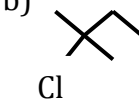





Organic Chemistry Example Problems

1. An alkane is:

- a) a hydrocarbon with no double or triple bonds
- b) a hydrocarbon with only single or double bonds
- c) a hydrocarbon with a ring structure
- d) a hydrocarbon that has triple bonds

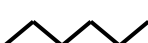

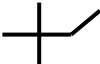


2. Which of the following compounds has a chiral carbon?

- a) 
- b) 
- c) 
- d) 
- e) 

3. Which class of hydrocarbons can have cis-/trans- isomers:

- a) alkanes
- b) alkenes
- c) alkynes
- d) aromatics

4. Which of the following compounds is an isomer of n-hexane?

- a) 
- b) 
- c) 
- d) 
- e) 

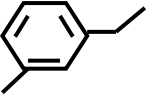
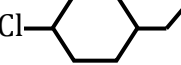
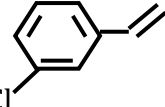
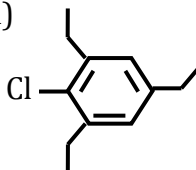

5. What is the reaction product of $\text{HCl} + \text{CH}_2=\text{CH}(\text{CH}_3)$?

- a) $\text{CH}_2\text{ClCH}_2\text{CH}_3$
- b) $\text{CH}_3\text{CHClCH}_3$
- c) $\text{CH}_2=\text{CCl}(\text{CH}_3)$
- d) $\text{ClCH}=\text{CH}(\text{CH}_3)$

6. Give the name for the compound: $\text{CH}_3\text{CH}_2\underset{\text{CH}_2\text{CH}_3}{\text{CH}}\text{CH}_3$

- a) 3-ethylbutane
- b) 2-ethylbutane
- c) 3-methylpentane
- d) 2-ethanyltetraane
- f) 3-methylquintane

7. Which carbon skeleton structure represents 1-chloro-3-ethylbenzene?

- a) 
- b) 
- c) 
- d) 
- e) 

8. Which of the following alkenes has no cis-/trans- isomers?

- a) $\text{CHCl}=\text{CHCl}$
- b) $\text{CHCl}=\text{CH}(\text{CH}_3)$
- c) $\text{CCl}_2=\text{CH}(\text{CH}_3)$
- d) $\text{C}(\text{CH}_3)\text{H}=\text{C}(\text{CH}_3)\text{Cl}$
- e) $\text{CHBr}=\text{CHCl}$

9. Hydrogenation of $\text{CH}_3(\text{CH}_2)_5\text{CH}=\text{CH}(\text{CH}_2)_3\text{CH}_3$ (cis- isomer) is expected to result in a product that:

- a) is more polar
- b) is more volatile
- c) is less stable
- d) melts at a higher temperature
- e) has identical properties of the reactant

Organic Chemistry Example Problems

10. $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_2\text{CH}_3$ is an example of a/an:

a) alcohol

b) ether

c) amine

d) carboxylic acid

e) ketone