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Crash Course Chemistry #41: Alkenes and Alkynes

Name: _____ Date: _____

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1. Hydrocarbons that contain only single bonds are called _____.
2. If a hydrocarbon contains at least one double bond, it is classified as an _____.
3. Hydrocarbons with triple bonds are known as _____.
4. A _____ bond is made of one sigma bond and one pi bond, which prevents rotation.
5. _____ isomerism occurs when identical groups are attached on either the same side or opposite sides of a double bond.
6. The _____ isomer has matching groups on the same side of the double bond.
7. The _____ isomer has matching groups on opposite sides of the double bond.
8. A reaction that adds atoms across a double or triple bond is called an _____ reaction.
9. Adding hydrogen across a double bond in the presence of a catalyst is known as _____.
10. When a halogen is added to a double bond, the reaction is called _____.
11. The type of bond that allows free rotation around the carbon-carbon axis is the _____ bond.
12. A _____ is formed when three fatty acids are bonded to a molecule of glycerol.
13. Saturated fats have _____ double bonds in their hydrocarbon chains.
14. An omega-3 fatty acid has a double bond located _____ carbons from the end of the chain.
15. Trans fats are typically created through partial _____ of vegetable oils.

Crash Course Chemistry #41: Alkenes and Alkynes KEY

1. Hydrocarbons that contain only single bonds are called **alkanes**.
2. If a hydrocarbon contains at least one double bond, it is classified as an **alkene**.
3. Hydrocarbons with triple bonds are known as **alkynes**.
4. A **double** bond is made of one sigma bond and one pi bond, which prevents rotation.
5. **Cis-trans** isomerism occurs when identical groups are attached on either the same side or opposite sides of a double bond.
6. The **cis** isomer has matching groups on the same side of the double bond.
7. The **trans** isomer has matching groups on opposite sides of the double bond.
8. A reaction that adds atoms across a double or triple bond is called an **addition** reaction.
9. Adding hydrogen across a double bond in the presence of a catalyst is known as **hydrogenation**.
10. When a halogen is added to a double bond, the reaction is called **halogenation**.
11. The type of bond that allows free rotation around the carbon-carbon axis is the **sigma** bond.
12. A **triglyceride** is formed when three fatty acids are bonded to a molecule of glycerol.
13. Saturated fats have **no** double bonds in their hydrocarbon chains.
14. An omega-3 fatty acid has a double bond located **three** carbons from the end of the chain.
15. Trans fats are typically created through partial **hydrogenation** of vegetable oils.

15 Questions

Answer Key Included

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