

Alkynes Quiz PDF

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What is the suffix used in the nomenclature of alkynes?

- ane
- ene
- yne
- ol

What are the products of the complete combustion of an alkyne?

- Carbon dioxide
- Water
- Carbon monoxide
- Oxygen

Which of the following are characteristics of alkynes?

- Contain a carbon-carbon triple bond
- Are typically non-polar
- Have a bent molecular geometry
- Exhibit sp hybridization

What type of hybridization do the carbon atoms in a triple bond exhibit?

- sp³
- sp²
- sp
- sp³ d

Which of the following is a common use of ethyne (acetylene)?

- Fuel for cars
- Refrigerant

- Welding torches
- Fertilizer

Which safety precautions should be taken when handling alkynes?

- Use in a well-ventilated area
- Wear protective equipment
- Store near open flames
- Avoid inhalation

Which compounds can be formed by the oxidation of alkynes?

- Alcohols
- Acids
- Ketones
- Ethers

What is the general formula for acyclic alkynes?

- C_nH_{2n+2}
- C_nH_{2n}
- C_nH_{2n-2}
- C_nH_{2n-4}

Which of the following are true about the solubility of alkynes?

- Soluble in water
- Soluble in organic solvents
- Insoluble in water
- Soluble in acids

Explain why alkynes are more reactive than alkanes.

Describe the process and significance of hydrogenation in alkynes.

What role do alkynes play in industrial applications? Provide examples.

How does the linear geometry of alkynes affect their chemical properties?

Discuss the environmental implications of using alkynes in industrial processes.

What is the result of hydrating an alkyne in the presence of an acid and mercury catalyst?

- Alcohol
- Alkane
- Ketone or aldehyde
- Ether

What is the bond angle around the carbon atoms in an alkyne?

- 90°
- 109.5°
- 120°
- 180°

Which reaction involves the addition of hydrogen to an alkyne?

- Halogenation
- Hydrogenation
- Hydration
- Oxidation

Which physical property is common among alkynes?

- Soluble in water
- Non-polar
- High melting point
- Conduct electricity

Which reactions can alkynes undergo?

- Addition
- Substitution
- Polymerization
- Combustions

Explain the significance of IR spectroscopy in identifying alkynes.

