

Carbon Compounds

Chapter 9: Carbon Compounds · Topic 1

Key Concept

Carbon's ability to form four covalent bonds and chain with itself (catenation) allows for millions of diverse organic compounds.

Hydrocarbons, made of only carbon and hydrogen, include alkanes (single bonds), alkenes (double bonds), and alkynes (triple bonds).

Functional groups, like alcohol (-OH) and carboxylic acid (-COOH), give organic compounds specific chemical properties and reactivity.

Carbon compounds are essential for fuels (like petroleum), plastics, medicines, and all life processes, showing carbon's central role.

Quick Revision Notes

- Carbon forms 4 covalent bonds, catenation ability.
- This allows millions of organic compounds.
- Hydrocarbons: only carbon, hydrogen.
- Alkanes (single), alkenes (double), alkynes (triple) bonds.
- Functional groups: alcohol (-OH), carboxylic acid (-COOH).
- Give specific chemical properties.
- Carbon compounds: fuels, plastics, medicines.
- Essential for all life processes.

Practice Questions

- 1 Write the molecular formula for methane, ethene, ethyne.
- 2 Discuss why carbon forms so many compounds.
- 3 Identify the alcohol functional group in a compound.
- 4 Research a carbon compound used as fuel.
- 5 Discuss carbon's role in living organisms.
- 6 Explain carbon compounds in your own words.