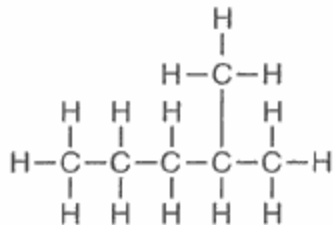
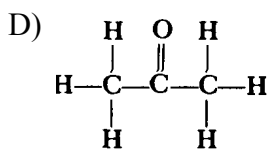
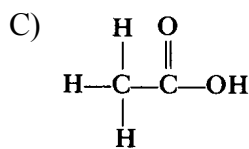
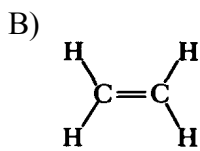
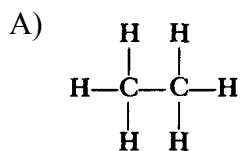


1. What is the IUPAC name of the organic compound that has the formula shown below?



- A) 1,1-dimethylbutane B) 2-methylpentane
C) hexane D) 4-methylpentane
2. Which compound is a saturated hydrocarbon?
- A) propanal B) propane
C) propene D) propyne
3. Which compound is a member of the same homologous series as C_3H_8 ?
- A) CH_4 B) C_4H_8
C) C_5H_8 D) C_5H_{10}
4. Hydrocarbons are compounds that contain
- A) carbon, only
B) carbon and hydrogen, only
C) carbon, hydrogen, and oxygen, only
D) carbon, hydrogen, oxygen, and nitrogen, only
5. A molecule of a compound contains a total of 10 hydrogen atoms and has the general formula C_nH_{2n+2} . Which prefix is used in the name of this compound?
- A) but- B) dec- C) oct- D) pent-
6. Which formula represents an unsaturated hydrocarbon?



7. Which organic compound is a saturated hydrocarbon?
- A) ethyne B) ethene
C) ethanol D) ethane

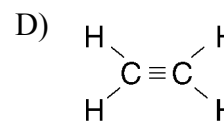
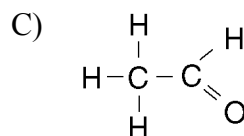
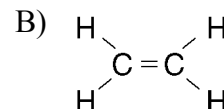
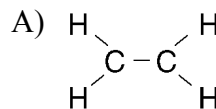
8. Which formula represents a hydrocarbon?

- A) $CH_3CH_2CH_2CHO$
B) $CH_3CH_2CH_2CH_3$
C) $CH_3CH_2CH_2COOH$
D) $CH_3CH_2COOCH_3$

9. Which compound is a saturated hydrocarbon?

- A) hexane B) hexene
C) hexanol D) hexanal

10. Which structural formula *correctly* represents a hydrocarbon molecule?



11. Which hydrocarbon is saturated?

- A) propene B) ethyne
C) butene D) heptane

12. In saturated hydrocarbons, carbon atoms are bonded to each other by

- A) single covalent bonds, only
B) double covalent bonds, only
C) alternating single and double covalent bonds
D) alternating double and triple covalent bonds

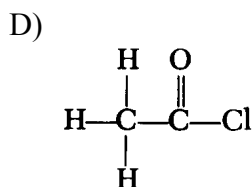
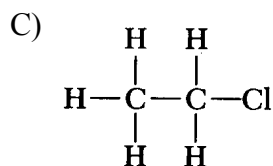
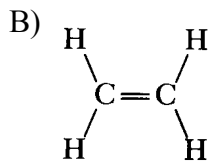
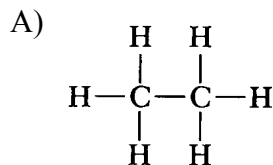
13. Which formula represents a molecule of a saturated hydrocarbon?

- A) C_2H_2 B) C_4H_{10}
C) C_5H_8 D) C_6H_6

14. Which formula represents a saturated hydrocarbon?

- A) C_2H_2 B) C_2H_4 C) C_3H_4 D) C_3H_8

15. Which structural formula represents a saturated hydrocarbon?



16. Natural gas is mostly comprised of

- A) butane B) ethane
C) methane D) propane

17. Which compound is a hydrocarbon?

- A) CH_3I B) CH_3OCH_3
C) CH_3COOH D) CH_3CH_3

18. What is the geometric shape of a methane molecule?

- A) triangular B) rectangular
C) octahedral D) tetrahedral

19. As the number of carbon atoms in each successive member of a homologous hydrocarbon series increases, the number of possible isomers

- A) decreases B) increases
C) remains the same

20. A hydrocarbon molecule is considered to be saturated if the molecule contains

- A) single covalent bonds, only
B) a double covalent bond, only
C) a triple covalent bond
D) single and double covalent bonds

21. Which formula represents butane?

- A) CH_3CH_3
B) $\text{CH}_3\text{CH}_2\text{CH}_3$
C) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$
D) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$

22. Which of the following compounds has the greatest possible number of isomers?

- A) butane B) ethane
C) pentane D) propane

23. Which compound is a member of the alkane series?

- A) C_2H_6 B) C_3H_6 C) C_4H_6 D) C_6H_6

24. What is the total number of carbon atoms contained in an ethyl group?

- A) 1 B) 2 C) 3 D) 4

25. The compound C_4H_{10} belongs to the series of hydrocarbons with the general formula

- A) C_nH_{2n} B) $\text{C}_n\text{H}_{2n+2}$
C) $\text{C}_n\text{H}_{2n-2}$ D) $\text{C}_n\text{H}_{2n-6}$

26. Which compound is a saturated hydrocarbon?

- A) methane B) ethene
C) ethyne D) ethanol

27. The total number of covalent bonds in a molecule of C_3H_8 is

- A) 11 B) 10 C) 3 D) 8

28. All carbon-carbon bonds in a saturated hydrocarbon molecule are

- A) single covalent
B) double covalent
C) triple covalent
D) coordinate covalent

29. Each member in the alkane series of hydrocarbons, when considered in successive order, has 1 more carbon atom and how many more hydrogen atoms?

- A) 1 B) 2 C) 3 D) 4

30. Which alkane has isomers?

- A) methane B) ethane
C) propane D) butane

31. Which is a saturated hydrocarbon?

- A) ethene B) ethyne
C) propene D) propane

32. A carbon atom in an alkane has a total of

- A) 2 covalent bonds B) 2 ionic bonds
C) 4 covalent bonds D) 4 ionic bonds

-
33. Which hydrocarbon is the most abundant component of natural gas?
- A) butane B) propane
C) ethane D) methane
34. Which compound has the molecular formula C_5H_{12} ?
- A) butane
B) pentane
C) 2,2-dimethyl butane
D) 2,2-dimethyl pentane
35. The compound $CH_3CH_2CH_2CH_3$ belongs to the series that has the general formula
- A) $C_n H_{2n-2}$ B) $C_n H_{2n+2}$
C) $C_n H_{n-6}$ D) $C_n H_{n+6}$
-