

Nature's Organic Chemistry

Organic Chemistry · Practice Test · 18 Questions

1. Which organic compound is primarily responsible for the green color in leaves and is essential for photosynthesis?

- A) Carotene
- B) Chlorophyll
- C) Anthocyanin
- D) Xanthophyll

2. What is the chemical nature of the primary structural component of an insect's exoskeleton, known as chitin?

- A) Polysaccharide
- B) Protein
- C) Lipid
- D) Nucleic Acid

3. Which organic acid do ants produce and secrete as a chemical defense mechanism?

- A) Citric acid
- B) Lactic acid
- C) Formic acid
- D) Acetic acid

4. What class of organic compounds makes up the majority of the protective wax coating on plant leaves?

- A) Esters
- B) Hydrocarbons
- C) Alcohols
- D) Ethers

5. Which molecule is the primary organic energy storage compound found in the liver and muscles of animals?

- A) Cellulose
- B) Glycogen
- C) Starch
- D) Sucrose

6. What organic molecule is the main component of natural silk produced by silkworms?

- A) Keratin
- B) Collagen
- C) Fibroin
- D) Elastin

7. Which organic compound is found in high concentrations in citrus fruits and acts as a natural preservative?

- A) Ascorbic acid
- B) Citric acid
- C) Malic acid
- D) Tartaric acid

8. What type of organic molecule forms the primary structure of wool and human hair?

- A) Chitin
- B) Keratin
- C) Cellulose
- D) Lignin

9. Which organic molecule is responsible for the characteristic smell of a forest after rain, produced by soil bacteria?

- A) Geosmin
- B) Limonene
- C) Ethanol
- D) Methane

10. What organic compound is the primary component of the cell walls in vascular plants, providing structural support?

- A) Glycogen
- B) Chitin
- C) Cellulose
- D) Amylose

11. Which organic substance acts as a natural antifreeze in the blood of some Antarctic fish?

- A) Glucose
- B) Glycoprotein
- C) Cholesterol
- D) Urea

12. Which fatty acid is commonly found in olive oil and is a key component of the Mediterranean diet?

- A) Oleic acid
- B) Stearic acid
- C) Palmitic acid
- D) Linoleic acid

13. What organic pigment provides the bright orange color to carrots and flamingos?

- A) Chlorophyll
- B) Beta-carotene
- C) Anthocyanin
- D) Hemoglobin

14. Which organic compound do skunks spray as a defense mechanism, known for its sulfur-containing structure?

- A) Thiols
- B) Esters
- C) Ketones
- D) Aldehydes

15. What is the base organic chemical structure of the hormones estrogen and testosterone?

- A) Steroid
- B) Amino acid
- C) Triglyceride
- D) Monosaccharide

16. Which organic molecule serves as the primary building block for DNA and RNA in all living organisms?

- A) Nucleotide
- B) Fatty acid
- C) Monosaccharide
- D) Amino acid

17. What organic compound, found in the venom of bees, is responsible for the pain associated with a sting?

- A) Melittin
- B) Capsaicin
- C) Caffeine
- D) Nicotine

18. Which organic compound is the primary component of natural rubber obtained from rubber trees?

- A) Isoprene
- B) Benzene
- C) Ethylene
- D) Acetone