

# Understanding Aldehydes and Ketones

Chemistry · Answer Key · 19 Questions

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1. What functional group is common to both aldehydes and ketones?

- A) Hydroxyl group
- B) Carbonyl group**
- C) Carboxyl group
- D) Ether group

2. Where is the carbonyl group located in an aldehyde?

- A) In the middle of a chain
- B) At the end of a chain**
- C) Attached to two other carbons
- D) Inside a ring

3. How are aldehydes primarily prepared in the laboratory?

- A) Reduction of ketones
- B) Oxidation of primary alcohols**
- C) Hydration of alkenes
- D) Oxidation of tertiary alcohols

4. What suffix is used when naming aldehydes?

- A) -one
- B) -ol
- C) -al**
- D) -oic acid

5. When naming aldehydes, why is it unnecessary to number the position of the functional group?

- A) It is always terminal**
- B) It is always in the center
- C) The name would be too long
- D) It is always on carbon 2

6. What is the condensed structural formula for the aldehyde functional group?

- A) -OH
- B) -COOH
- C) -CHO**
- D) -CO-

7. What is the result of adding acidified dichromate to an aldehyde?

- A) The mixture turns blue
- B) The mixture turns green**
- C) The mixture stays orange
- D) The mixture turns black

8. Can ketones be oxidized by acidified dichromate?

- A) Yes, easily
- B) Yes, but slowly
- C) No**
- D) Only in sunlight

9. What is observed when an aldehyde reacts with Tollens' reagent?

- A) A green solution
- B) A silver mirror**
- C) Bubbles of gas
- D) A white precipitate

10. When naming an aldehyde with branches, where should you begin numbering the carbon chain?

- A) From the end nearest the branch
- B) From the functional group**
- C) From the longest chain
- D) From the middle

11. What is the parent alkane name for propanal?

- A) Propane**
- B) Propene
- C) Propanol
- D) Propanone

12. If a molecule has two aldehyde functional groups, what prefix is used?

- A) Bi-
- B) -di**
- C) -bis
- D) -tri

13. What is the primary industrial use for ketones?

- A) Food flavoring
- B) Solvents**
- C) Detergents
- D) Preservatives

14. What happens to the color of acidified dichromate when it reacts with an aldehyde?

**A) Orange to green**

B) Green to orange

C) Clear to blue

D) Yellow to red

15. Tollens' reagent is also known as what?

**A) Ammoniacal silver nitrate**

B) Sodium hydroxide

C) Copper sulfate

D) Potassium permanganate

16. Aldehydes and ketones are widely used in which of the following?

**A) Fragrances and flavors**

B) Concrete production

C) Metal polishing

D) Battery manufacturing

17. In the IUPAC naming of aldehydes, what is removed from the parent alkane name?

A) -ane

**B) -e**

C) -an

D) -al

18. Which of these is an example of an aldehyde?

A) Propanone

**B) Butanal**

C) Pentane

D) Hexanol

19. Why is the carbonyl group considered polar?

**A) Because of the oxygen atom**

B) Because of the carbon atom

C) Because it contains hydrogen

D) Because it is ionic