

Home Assignments: Aldehydes, Ketones and Haloalkanes

Q01. The general molecular formula of aldehydes and ketones is

- 1) $C_nH_{2n-1}O$ 2) $C_nH_{2n}O$ 3) $C_nH_{2n+2}O$ 4) $C_nH_{2n+4}O$

Q02. Aldehyde functional group can occur

- 1) Any where in the carbon chain
- 2) In the middle of the carbon chain
- 3) Only at the second carbon atom
- 4) Only at either end carbon atom of the chain

Q03. Propan-2-ol on treatment with copper at $300^{\circ}C$ forms

- 1) Acetone 2) Acetaldehyde 3) Ethane 4) Both 1 and 2

Q04. Which of the following is correct?

- 1) Aldehydes undergo Cannizzaro's reaction
- 2) Aldehydes are less susceptible to oxidation than ketones
- 3) Aldehydes are more susceptible to oxidation than ketones
- 4) Formaldehyde forms CuO with Fehling's solution

Q05. IUPAC name of $CH_3CHOHCH_2CHO$ is

- 1) 2-hydroxybutanal 2) 2-hydroxypropanal
3) 3-hydroxybutanal 4) β -hydroxybutanal

Q06. The reagent which can be used to distinguish acetophenone from benzophenone is

- 1) 2, 4-dinitrophenyl hydrazine 2) Benedict's solution
3) Tollen's reagent 4) I_2 and Na_2CO_3

Q07. Toluene on reacting with chromyl chloride gives:

- 1) Chlorotoluene 2) Benzyl chloride 3) Benzaldehyde 4) Benzoic acid

Q08. Mesitylene is prepared from

- 1) CH_3CHO and conc. HNO_3 2) CH_3COCH_3 and conc. H_2SO_4
3) CH_3COCH_3 and conc. HCl 4) CH_3CHO and conc. H_2SO_4

Q09. $(CH_3)_2C = CHCOCH_3$ can be oxidised to $(CH_3)_2C = CHCOOH$ by

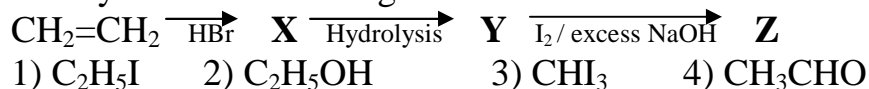
- 1) Chromic acid 2) $NaOI$ 3) Cu at $300^{\circ}C$ 4) $KMnO_4$

Q10. Oppenauer oxidation is the reverse process of

- 1) Wolff –Kishner reduction 2) Rosenmund's reduction
3) Clemmensen reduction 4) Meerwein-Ponndorf-Verley reduction

- Q11. In the reaction $\text{CH}_3\text{CHO} + \text{CH}_2(\text{COOH})_2 \xrightarrow{\text{pyridine/heat}}$ A. The compound A is
 1) CH_3COOH 2) $\text{C}_2\text{H}_5\text{COOH}$ 3) $\text{CH}_3\text{CH} = \text{CHCOOH}$
 4) $\text{COOHCH} = \text{CHCOOH}$
- Q12. Benzaldehyde reacts with alcoholic KCN to give:
 1) $\text{C}_6\text{H}_5\text{CH}(\text{OH})\text{CN}$ 2) $\text{C}_6\text{H}_5\text{CH}(\text{OH})\text{COC}_6\text{H}_5$
 3) $\text{C}_6\text{H}_5\text{CH}(\text{OH})\text{COOH}$ 4) $\text{C}_6\text{H}_5\text{CH}(\text{OH})\text{CH}(\text{OH})\text{C}_6\text{H}_5$
- Q13. Aldehydes and ketones do not react with
 1) sodium bisulphite 2) phenyl hydrazine
 3) semi carbazide 4) di hydrazine sodium phosphate
- Q14. Which of the following will undergo aldol condensation?
 1) $\text{CH}_2 = \text{CHCHO}$ 2) $\text{CH} = \text{CCHO}$ 3) $\text{C}_6\text{H}_5\text{CHO}$ 4) $\text{CH}_3\text{CH}_2\text{CHO}$
- Q15. Which type of isomerism is shown by the pentanone
 1) Chain isomerism 2) Position isomerism
 3) Functional isomerism 4) All 1, 2 and 3
- Q16. Paraldehyde is formed as a result of polymerisation of
 1) CH_3CHO 2) HCHO 3) CH_3OH 4) $\text{CH}_3\text{CH}_2\text{CHO}$
- Q17. Aromatic aldehydes in the presence of CN^- ion give acyloins. The reaction is known as
 1) Perkin reaction 2) Benzoin condensation
 3) Claisen condensation 4) Cannizzaro's reaction
- Q18. Which of the following method is used to convert ketone into hydrocarbon
 1) aldol condensation 2) Reimer Tieman reaction
 3) Cannizzaro's reaction 4) Clemmensen's reduction
- Q19. Which will not give formaldehyde on heating or upon distillation?
 1) Formalin 2) Trioxane
 3) Paraldehyde 4) Paraformaldehyde
- Q20. When ethanal is heated with Fehling's solution it gives a precipitate of
 1) Cu 2) CuO 3) Cu_2O 4) $\text{CuO} + \text{Cu}_2\text{O} + \text{Cu}$
- Q21. When $\text{CH}_3\text{CHBrCH}_2\text{CH}_3$ is reacted with alcoholic KOH the major product is
 1) $\text{CH}_3\text{CH} = \text{CHCH}_3$ 2) $\text{CH}_2 = \text{CHCH}_2\text{CH}_3$
 3) $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}_3$ 4) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$
- Q22. Benzene reacts with n-propyl chloride in the presence of anhydrous AlCl_3 to give
 1) 3-propyl-1-chlorobenzene 2) n-propyl benzene
 3) No action 4) Isopropyl benzene

Q23. Identify Z in the following series:



Q24. Bromoethane reacts with silver nitrite to form

- 1) Nitroethane 2) Ethane
3) Ethylnitrite 4) Nitroethane and ethylnitrite

Q25. Which of the following compounds on oxidation gives benzoic acid?

- 1) *o*-Chlorophenol 2) *p*-Chlorotoluene
3) Chlorobenzene 4) Benzyl chloride

Q26. Reaction between alkyl halide and sodium metal is called

- 1) Wurtz reaction 2) Kolbe's reaction
3) Clemmensen's reaction 4) Wurtz - Fittig's reaction

Q27. Which compound gives iodoform by reaction between I₂ and NaOH?

- 1) CH₃OH 2) C₂H₅OH
3) C₃H₇OH 4) C₂H₅OC₂H₅

Q28. The reactivity order of halides in dehydrohalogenation reaction is:

- 1) R-F > R-Cl > R-Br > R-I 2) R-I > R-Br > R-Cl > R-F
3) R-I > R-Cl > R-Br > R-F 4) R-F > R-I > R-Br > R-Cl

Q29. Which of the following undergoes nucleophilic substitution exclusively by S_N1 mechanism?

- 1) ethyl chloride 2) isopropyl chloride
3) chlorobenzene 4) benzyl chloride

Q30. S_N2 mechanism proceeds through intervention of:

- 1) carbocation 2) transition state 3) free radical 4) carbanion

| ANSWERS | | | | | |
|---------|---|------|---|------|---|
| Q 01 | 2 | Q 11 | 3 | Q 21 | 1 |
| Q 02 | 4 | Q 12 | 2 | Q 22 | 4 |
| Q 03 | 1 | Q 13 | 4 | Q 23 | 3 |
| Q 04 | 3 | Q 14 | 4 | Q 24 | 4 |
| Q 05 | 3 | Q 15 | 4 | Q 25 | 4 |
| Q 06 | 4 | Q 16 | 1 | Q 26 | 1 |
| Q 07 | 3 | Q 17 | 2 | Q 27 | 2 |
| Q 08 | 2 | Q 18 | 4 | Q 28 | 2 |
| Q 09 | 2 | Q 19 | 3 | Q 29 | 4 |
| Q 10 | 4 | Q 20 | 3 | Q 30 | 2 |