



(SARALA BIRLA GROUP OF SCHOOLS)

SARALA BIRLA PUBLIC SCHOOL

Birla Knowledge City, Mahilong, Ranchi

CLASS-XII (2020-21)

Sub: CHEMISTRY

Assignment-4



Q.1. Write the IUPAC names of the following compounds:

(i) C_2H_5CHO (ii) C_6H_5CHO (iii) $(C_2H_5)_2CHCOCH_3$ (iv) $C_6H_5COC_2H_5$ (v) $C_6H_5COCH_3$ (vi) $(C_2H_5)_3N$

Q.2. Write the structures of the following organic compound:

(i) Acetaldehyde dimethyl acetal (ii) Acetophenone (iii) 2,4-Dinitrophenylhydrazone of Benzaldehyde.

Q.3. Explain why :

(i) Acetone is more reactive than acetaldehyde towards nucleophilic addition reactions.

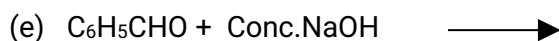
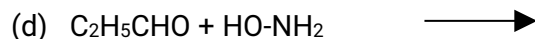
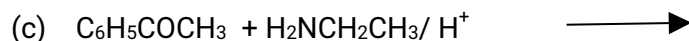
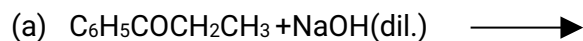
(ii) $(CH_3)_3CCHO$ does not undergo aldol condensation.

(iii) Carbonyl compounds are more polar than alcohols although electronegativity difference between C and O atoms is less than between O and H atoms.

(iv) Boiling points of ketones are higher than those of the isomeric aldehydes..

(v) Formaldehyde gives Cannizzaro's reaction while acetaldehyde does not.

Q.5. Complete the following reactions equations:



Q.6. Arrange the following:

In Reactivity towards HCN; Acetaldehyde, Acetone, Di tert. butyl ketone, Methyl tert. butyl ketone.

Q.7. What happens when:

(i) Methanal is treated with conc. NaOH.

(ii) Acetone is treated with Hydroxyl amine .

(iii) Cyclohexanecarbaldehyde reacts with Tollen's reagent..

(iv) Ethanal is treated with Zn/Hg and dil. HCl.

Q. 8. An organic compound with molecular formula $C_9H_{10}O$ forms 2,4- DNP derivative, reduces Tollen's Reagent and undergoes Cannizzaro's reaction. On vigorous oxidation, it gives 1,2-benzenedicarboxylic acid. Identify the compound.

Q.9. Distinguish between:

(i) Acetone and Acetaldehyde (ii) Benzaldehyde and Acetophenone (iii) Methanal and ethanal

(iv) Pentan-2-one and Pentan-3-one (v) Ethanal and propanal

Q.10. How the following conversion can be carried out?

(i) Propanone to propene (ii) Propanal to butanone (iii) Ethanol to 3-hydroxybutanal

(iv) Benzaldehyde to Benzophenone (v) Benzaldehyde to 3-Phenylpropan-1-ol

Q.11 Write short notes of the following reactions;

a) Aldol condensation reaction b) Cannizzaro's reaction c) Rosenmund reduction reaction

d) Clemenson reduction reaction e) Etard's reaction f) Cross aldol condensation reaction .