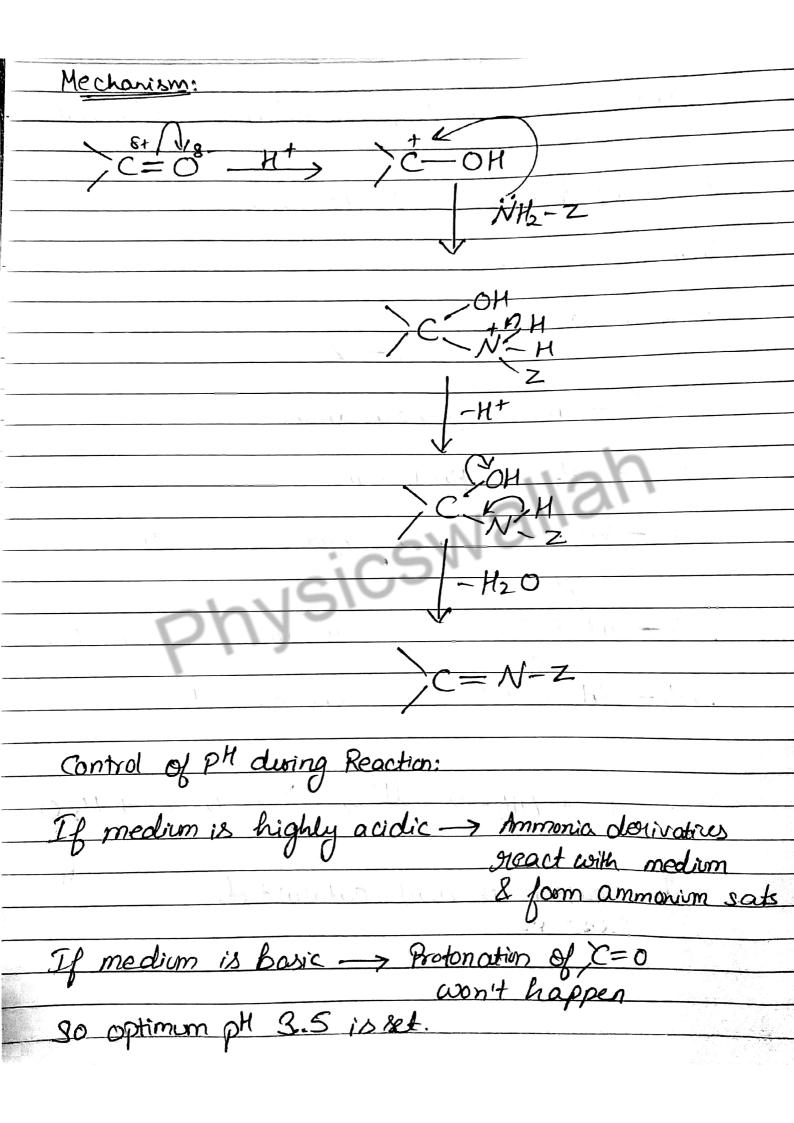
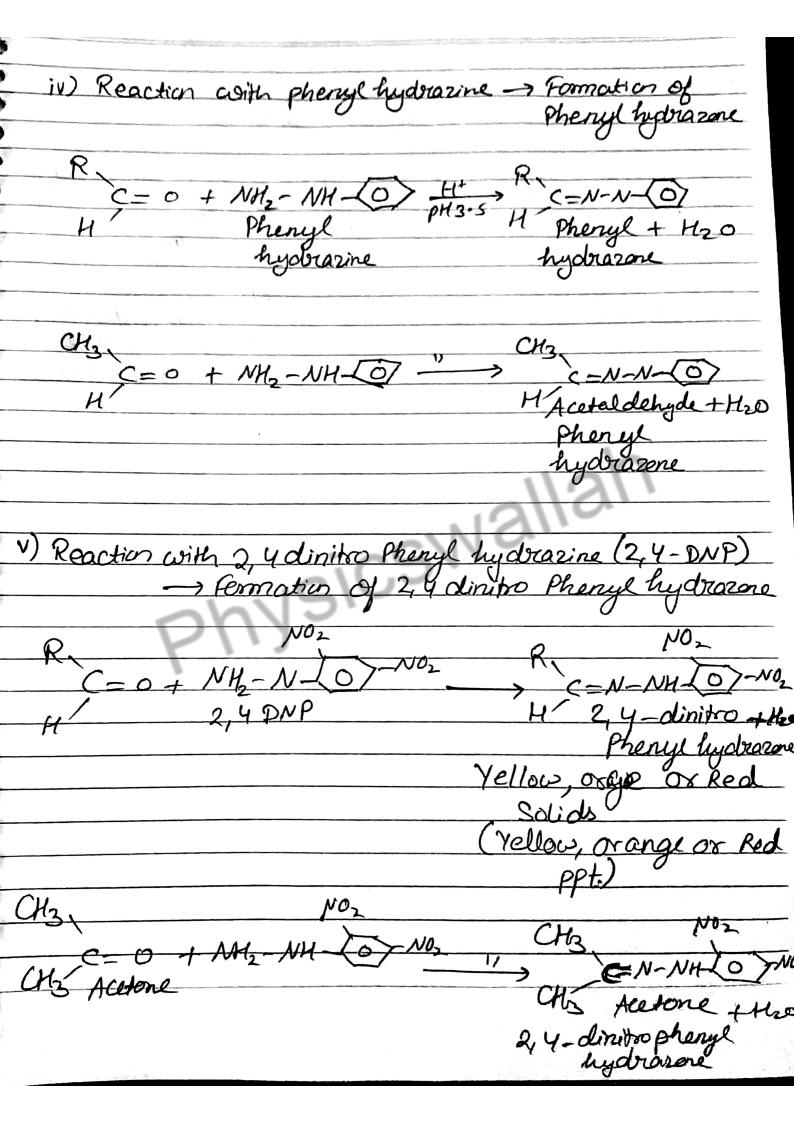
| Aldehydes & Ketones - 07 |
|---|
| Properties 2: Nucleophilic Addition - elimination |
| Addition of Ammonia & it's derivatives: |
| Ammonia: NH3 |
| Ammonia derivatives: NH_2-Z |
| NH2-OH Hydroxyl amine |
| NH2-M2 Hydrazine |
| NH2-NH-C) Phenyl hydrazine |
| NH2-NH_O NO2 2, 4-dinitropheny hydrax |
| NH2-NH-C-NH2 Semiconbazide |
| |
| $C = 0 + NH_2 - Z + H_2 O$ |
| |
| The neaction is acid catalysted. |
| |

A ME Comment



| (i) Reaction with Ammonia - formation of Imine |
|--|
| |
| R |
| R C=0 + Mb-H - H+ R C=NH + H20 H Smine |
| PH 3.5 11/1 1:00 |
| A smulle |
| |
| CH2, CH2 |
| C= 0 + NH2-H - H20 |
| H Acoteldon do PH3.5 H Acoteldimine |
| CH3 C=0+NH2-H—H+ CH3 C=NH + H20 H Acetaldanyde ph3.5 H Acetaldimine |
| |
| CH3. C=0 + NH2-H $\xrightarrow{H^{+}}$ CH3. Acetone invine |
| CH3. Acetone arrane |
| CH3 Acetone Acetone invine |
| ACESONE |
| ON/3, |
| CHC |
| $C = C + NH_0 - H \xrightarrow{H^+} C = NH + H_2O$ |
| $C = O + NH_2 - H \xrightarrow{H^{\dagger}}$ $C = NH + H_2O$ H Benzaldehyde H Benzaldimine |
| A Benzaldekyde |
| |
| 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| i) Reaction with Hydroxye Anine -> Formation of Oxime |
| |
| RY HT RESULTED |
| $C = 0 + NH_2 - OH \xrightarrow{H^2} C = N - OH + H_2U$ $H \qquad hydroxyrk \qquad Oxime$ |
| H hydroxyk oxime |
| Smire |
| |

| H-C=0+NH2-OH H+ H-C=N-OH +H20 H/ Formaldehyde |
|--|
| H-C=0+NH2-OH H+ C=N-OH +H20 H/ Formalderight |
| |
| CM ₃ C=0+NH ₂ -0H-H+ PH 3.5 Acetaldanyole Acetaldaxime |
| C= 0 + NH2-0H -H20 (=N-0H + H20 |
| H Acetaldehyde PM 3.5 H |
| Acetololoxina |
| |
| CH |
| $C = 0 + NH_2 - 0H \xrightarrow{\eta} C = N - 0H + H_2 O$ |
| CH3 $C=0+NH_2-0H-1)$ CH3 $C=N-0H+H_2o$ CH3 Acetone CH3 Acetone oxime Acetone oxime |
| Acetone oxime |
| |
| CoHs. |
| CHS. C=0+NH2-OH -") GHS. C=N-OH + H2O |
| H/ A A saine |
| Benzaldehyde Benzaldoxime |
| |
| ii) Reaction with hydronine -> formation of hydrone |
| |
| C= N-NH2 + H2 0 |
| $C = 0 + NH_2 - NH_2 \xrightarrow{H^+} C = N - NH_2 + H_2 O$ $H \qquad \qquad \text{hydrazine} \qquad PH 3.5 \qquad \text{hydrazone}$ |
| H MANUARE U |
| |
| H. = N-M2 + H20 |
| H- C=0 + NH2-NH2 - 11 H C=N-M12 + H20 Formul de hu de |
| Formaldehjde hydrazone |
| nywazwa. |
| |
| CH3. CH3 - N-NH + Kg0 |
| CH3. C=0+NH2-NH5 " C=N-NH2+ HeD CH3 C=0+NH2-NH5 " C=N-NH2+ HeD CH3 Acesone |
| $CH_3.$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_2 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ $C = 0 + NH_3 - NH_3 \qquad (H_3)$ |



| vi) Reaction with Semicon | |
|----------------------------|--|
| ri) Reaction with Semicard | 1 Semicoubazone |
| R C= 0 + NH2-NH-C-A | D 5 |
| CH_3 , $C=0$ | CH3N-NH-E-NH2 H Acetal dehyde Semicaribazone |
| | |
| | |
| | |
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