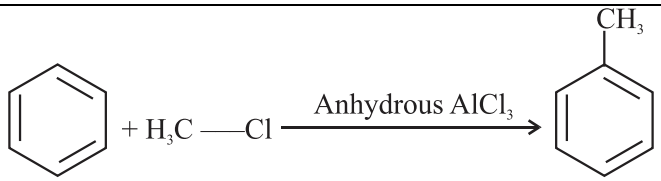
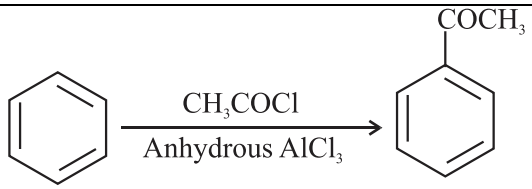
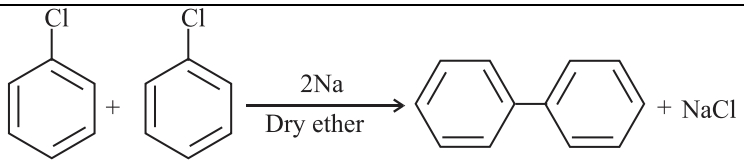
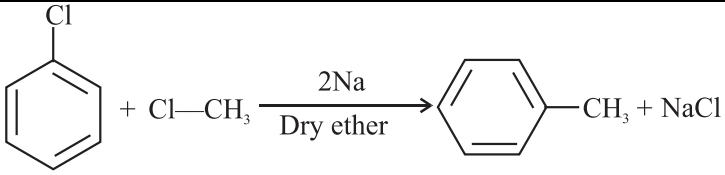
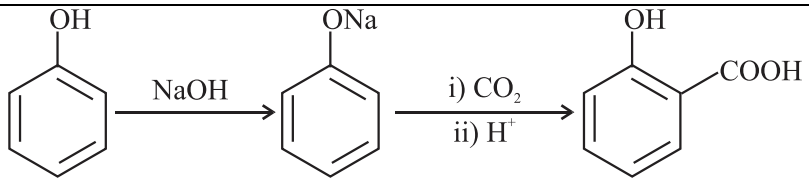
ORGANIC REAGENTS

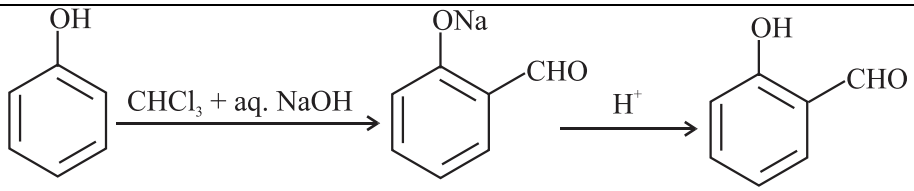
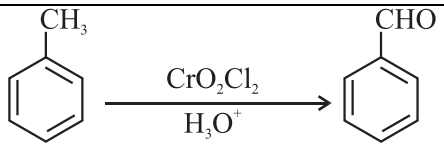
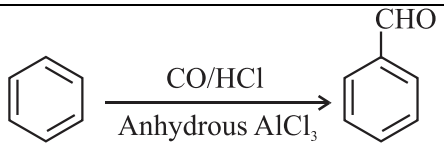
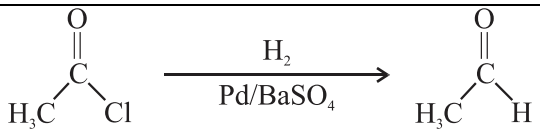
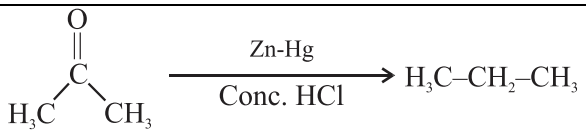
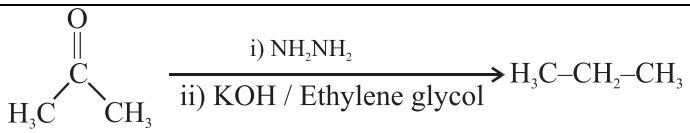
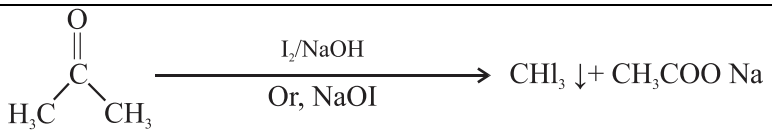
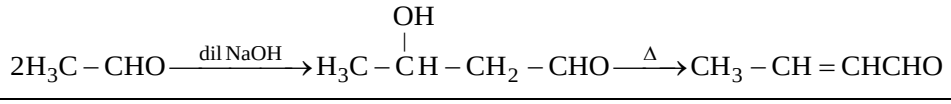
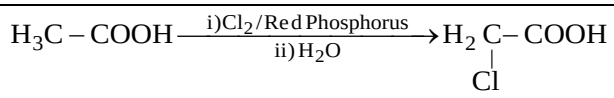
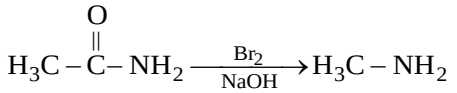
S. No.	Reagent	Function
1.	PCl_3, PBr_3	Alcohols into Alkyl halides
2.	$SOCl_2$, PCl_3, PCl_5	Alcohols into Alkyl chlorides & Carboxylic acids into Acid Chlorides
3.	HCl/$ZnCl_2$, HBr, HI	Alcohols into alkyl halides
4.	Cl_2/Fe or Anhy. $FeCl_3$ or $AlCl_3$	Cl group substitution on benzene
5.	$NaNO_2$/HCl 0-5°C	Diazotisation
6.	CuCl, CuBr, CuCN, KI, H_2O, H_3PO_2	Benzene Diazonium chloride into chloro benzene, Bromo Benzene, Benzonitrile, Iodo Benzene, Phenol, Benzene respectively
7.	HBF_4 or $NaBF_4$	Benzene Diazonium chloride into Fluoro Benzene
8.	AgF or Hg_2F_2 or SbF_3 or CoF_2	Alkyl halides into alkyl fluorides
9.	Na/dry ether	Alkyl halides into alkanes
10.	NaOH/623 K, 300 Bar	Chloro benzene to Phenol
11.	Br_2/$FeBr_3$	Bromination of Benzene
12.	Cl_2/$FeCl_3$	Chlorination of Benzene
13.	CH_3Cl/$AlCl_3$	Alkylation of Benzene and its derivatives
14.	CH_3COCl/$AlCl_3$	Acylation of Benzene and its derivatives
15.	Conc. H_2SO_4/Conc. HNO_3	Nitration of Benzene
16.	Aq. KOH	Alkyl halide into alcohol
17.	Fuming H_2SO_4	Sulphonation of Benzene
18.	H_2O/H^+	Alkenes into alcohols
19.	$BH_3/H_2O_2/OH^-$	Alkenes into alcohols (Anti Markownikoff product)
20.	$NaBH_4$/$LiAlH_4$	Aldehydes, ketones, acids into alcohols, Nitro & Cynides, Isocyanides into amines
21.	H_2/Ni or H_2/Pd	Reduction of aldehydes, ketones and cynides
22.	$RMgX/H_3O^+$	Aldehydes & ketones into alcohols
23.	O_2/H^+	Cumene to phenol
24.	Na	Alcohol or phenol into Sodium alkoxide/Phenoxide
25.	Alcoholic KOH	Alkyl halide into alkene
26.	Conc. H_2SO_4/443 K	Conversion of primary alcohols into Alkenes
27.	Conc. H_2SO_4/413 K	Conversion of alcohols into Ethers
28.	85% H_3PO_4/440 K	Secondary alcohol into alkene
29.	20% H_3PO_4/358 K	Tertiary alcohol into alkene
30.	CrO_3/$KMnO_4$ or $K_2Cr_2O_7$ in acidic medium	Oxidation of alcohols into acids
31.	Cu/573 K	Dehydrogenation of alcohols gives 1° alcohols into aldehydes and 2° alcohols into ketones & 3° alcohols into alkenes
32.	Dil. HNO_3	Mono nitration of Phenol
33.	Conc. HNO_3	tri nitration of Phenol
34.	Br_2/H_2O	tri bromination of Phenol
35.	Br_2 /CS_2	mono bromination of Phenol
36.	NaOH /CO_2/H^+	Phenol to salicylic acid

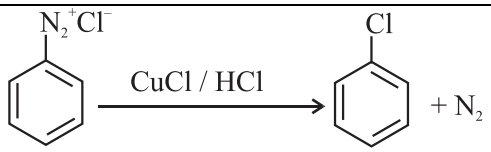
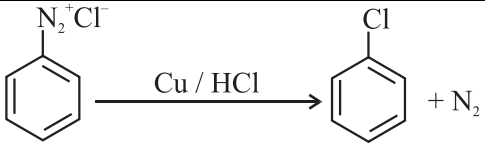
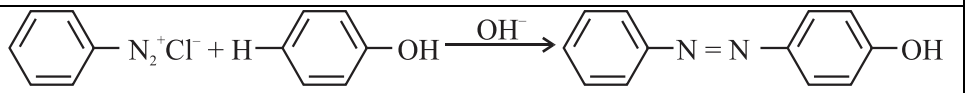
37.	$CHCl_3$/aq. NaOH/H^+	Phenol to salicylaldehyde
38.	Zn dust	Phenol to Benzene
39.	$Na_2Cr_2O_7$ /H_2SO_4 or air	Phenol to Benzoquinone
40.	ZnO-Cr_2O_3/200 to 300 atm, 573-673K	CO & H_2 into methanol
41.	Invertase	Sucrose into Glucose & Fructose
42.	Zymase	Glucose or Fructose into ethanol
43.	HI	Ether into alcohol & alkyl halide
44.	PCC	Alcohol to aldehyde
45.	H_2/Pd-$BaSO_4$	Acid chloride into aldehydes
46.	$SnCl_2$/HCl/H_3O^+	Cyanides into aldehydes
47.	$AlH(i\text{-}Bu)_2$/H_2O	Cyanides into aldehydes
48.	DIBAL–H/H_2O	Esters into aldehydes
49.	CrO_2Cl_2/H_3O^+	Toluene into Benzaldehyde
50.	CrO_3/$(CH_3CO)_2O$/H_3O^+	Toluene into Benzaldehyde
51.	Cl_2/hv	Chlorination on alkyl group of Benzene or alkane
52.	CO, HCl anhydrous $AlCl_3$	Benzene to Benzaldehyde
53.	$(CH_3)_2Cd$	Acid chloride into ketones
54.	RMgX/H_3O^+	Cyanides into ketones
55.	HCN	Carbonyl compound into cyanohydrin
56.	$NaHSO_3$	Addition to aldehyde and ketone
57.	H_2NOH	Carbonyl compound into oxime
58.	$H_2N\text{-}NH_2$	Carbonyl compound into hydrazone
59.	$H_2N\text{-}NH\text{-}Ph$	Carbonyl compound into Phenyl hydrazone
60.	2, 4-DNP	Carbonyl compound into 2,4-dinitro phenyl hydrazone
61.	$H_2N\text{-}NH\text{-}CO\text{-}CH_3$	Carbonyl compound into semi carbazide
62.	ROH/HCl	Aldehydes & ketones into hemiacetal and acetal
63.	$HO\text{-}CH_2\text{-}CH_2\text{-}OH$/HCl	Aldehyde or ketone into ethylene glycol ketal
64.	Zn-Hg/HCl	Carbonyl compound into alkane
65.	$H_2N\text{-}NH_2$/KOH	Carbonyl compound into alkane
66.	$KMnO_4/OH^-$ / $K_2Cr_2O_7$	Ketones into mixture of carboxylic acids on prolonged oxidation
67.	$[Ag(NH_3)_2]^+ + OH^-$	Tollen's test
68.	$Cu(OH)_2$	Fehling's test
69.	$NaOH + I_2$	Iodoform
70.	Dil. NaOH or $Ba(OH)_2$	Aldol condensation
71.	Conc. KOH or NaOH	Cannizzaro reaction
72.	$KMnO_4$ /KOH	Toluene/alkyl Benzene into Benzoic Acid
73.	H_2O/H^+	Cyanides into carboxylic acids, amides into carboxylic acids, esters into carboxylic acids and alcohols, acid chlorides or anhydrides into carboxylic acids
74.	NaOH	Saponification of ester, acid into salt of acid
75.	Na_2CO_3 or $NaHCO_3$	Carboxylic acid test
76.	P_4O_{10} or P_2O_5	Dehydration of acids into anhydride, amides into nitriles
77.	ROH/conc. H_2SO_4	Carboxylic acids into esters
78.	Cl_2/UV 500 K	Benzene into Benzene Hexachloride (BHC)
79.	NH_3 heating	Carboxylic acids into amides
80.	NaOH/CaO	Decarboxylation (acids into alkanes)

81.	$LiAlH_4$	Carboxylic acids into alcohols, amides into amines
82.	Cl_2/Red Phosphorus	HVZ reaction
83.	Sn/HCl or Fe/HCl or H_2/Pd	Reduction of nitro compounds into amines
84.	NH_3	Alkyl halides into amines
85.	H_2/Ni or H_2/Pd or $LiAlH_4$	Amides into cyanides
86.	KOH/R-X	Phthalimide into amine
87.	$NaOH/Br_2$	Hoffmann bromamide, amide into amine with one carbon less
88.	$KOH/CHCl_3$	1° Amines into Isocyanides or carbylamines
89.	$NaNO_2$/HCl	1° Aliphatic amines into alcohols
90.	$NaNO_2$/HCl 0-5 °C	Aniline into Benzene diazonium chloride
91.	$C_6H_5SO_2Cl$	Distinguishing 1°, 2° & 3° amines
92.	Br_2/H_2O	Aniline into tri bromo Aniline
93.	$Br_2/CH_3COCl/(CH_3CO)_2O$	Aniline into bromo Aniline

NAME REACTIONS

1.	Finkelstein	$CH_3Br + NaI \xrightarrow{\text{Acetone}} CH_3–I + NaBr$
2.	Swarts	$CH_3Br + AgF \longrightarrow CH_3F + AgBr$
3.	Friedel-Crafts Alkylation	
4.	Friedel-Crafts Acylation	
5.	Wurtz	$H_3C-Cl + Cl-CH_3 \xrightarrow[\text{Dry ether}]{2Na} H_3C-CH_3 + NaCl$
6.	Fittig	
7.	Wurtz-Fittig	
8.	Kolbe's Reaction	

9.	Reimer-Tiemann	
10.	Williamson Synthesis	$CH_3 - Br + CH_3 - ONa \longrightarrow CH_3 - O - CH_3 + NaBr$
11.	Stephen	$H_3C - CN + SnCl_2 + HCl \longrightarrow H_3C - CH = NH \xrightarrow{H_3O^+} H_3C - CHO$
12.	Etard	
13.	Gatterman-Koch	
14.	Rosenmund reduction	
15.	Clemmensen reduction	
16.	Wolff-Kishner reduction	
17.	Tollen's test	$R\text{-}CHO + 2[Ag(NH_3)_2]^+ + 3OH^- \longrightarrow R\text{–}COO^- + 2Ag\downarrow + 2H_2O + 4NH_3$
18.	Fehling's test	$R\text{-}CHO + 2Cu^{2+} + 5OH^- \longrightarrow R\text{-}COO^- + Cu_2O\downarrow + 3H_2O$
19.	Iodoform	
20.	Aldol condensation	
21.	Cannizzaro	$HCHO + HCHO \xrightarrow{Conc.NaOH} HCOONa + H_3C - OH$
22.	Hell-Volhard-Zelinsky (HVZ)	
23.	Hoffmann bromamide degradation	
24.	Carbylamine	$R\text{–}NH_2 + CHCl_3 + 3KOH \xrightarrow{\Delta} R\text{–}NC + 3KCl + 3H_2O$
25.	Diazotization	

26.	Sandmeyer	
27.	Gatterman	
28.	Coupling	

Distinguish by a Single Chemical Test

1. All aldehydes (R–CHO) gives Tollen's Test and produce silver mirror.
   $RCHO + 2[Ag(NH_3)_2]^+ + 3OH^- \rightarrow RCOO^- + 2\ Ag \downarrow + 2H_2O + 4NH_3$
   Tollens' Reagent Silver ppt
   Note: HCOOH (Methanoic acid) also gives this test. Ketones (RCOR) do not give this test.

2. All aldehydes (R–CHO) and ketones (RCOR) gives 2, 4-DNP test.
   RCOR + 2, 4-DNP → Orange ppt
   R–CHO + 2, 4-DNP → Orange ppt

3. Aldehydes and ketones having CH_3CO- (keto methyl) group give Iodoform Test. Alcohols having $CH_3CH(OH)$– group also give Iodoform Test.
   $CH_3CHO + 3I_2 + 4NaOH \rightarrow CHI_3 \downarrow + HCOONa + 3NaI + 3H_2O$
   Yellow ppt

4. **The following compounds give Iodoform Test:** Ethanol (C_2H_5OH), Propan-2-ol ($CH_3CH(OH)CH_3$), Ethanal (CH_3CHO), Propanone (CH_3COCH_3), Butanone ($CH_3COCH_2CH_3$), Pentan-2-one ($CH_3COCH_2CH_2CH_3$), Acetophenone ($PhCOCH_3$)

5. All carboxylic acids (R–COOH) gives Bicarbonate test.
   $RCOOH + NaHCO_3 \rightarrow RCOONa + CO_2 \uparrow + H_2O$
   effervescence

6. Phenol gives Neutral $FeCl_3$ Test.
   $C_6H_5OH + FeCl_3 \rightarrow (C_6H_5O)_3Fe + 3HCl$
   (neutral) (violet color)

7. All primary amines ($R/Ar–NH_2$) give Carbylamine Test.
   $R–NH_2 + CHCl_3 + 3KOH\ (alc.) \rightarrow R–NC + 3KCl + 3H_2O$
   offensive smell

8. Aniline gives Azo Dye Test. (Only for aromatic amines)
   $C_6H_5NH_2 + NaNO_2 + HCl \rightarrow C_6H_5N_2^+Cl^-$; and then add β-Naphthol gives Orange red dye is produced.

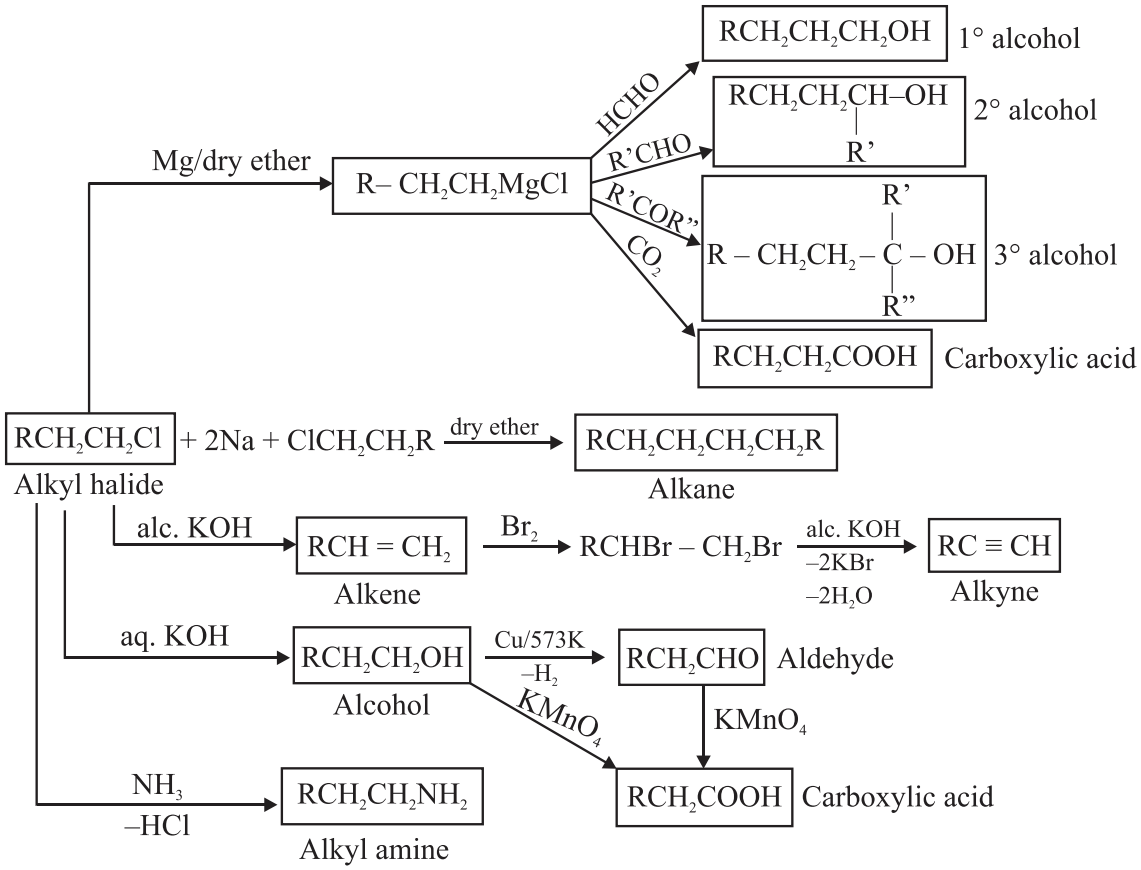
9. All alcohols (ROH) give Na-metal test.
   $R\text{-}OH + Na \rightarrow R\text{-}ONa + H_2$
   bubbles

10. **For esters (RCOOR):** Hydrolyses first. Then see the product (acid & alcohol) and give a test to identify them.

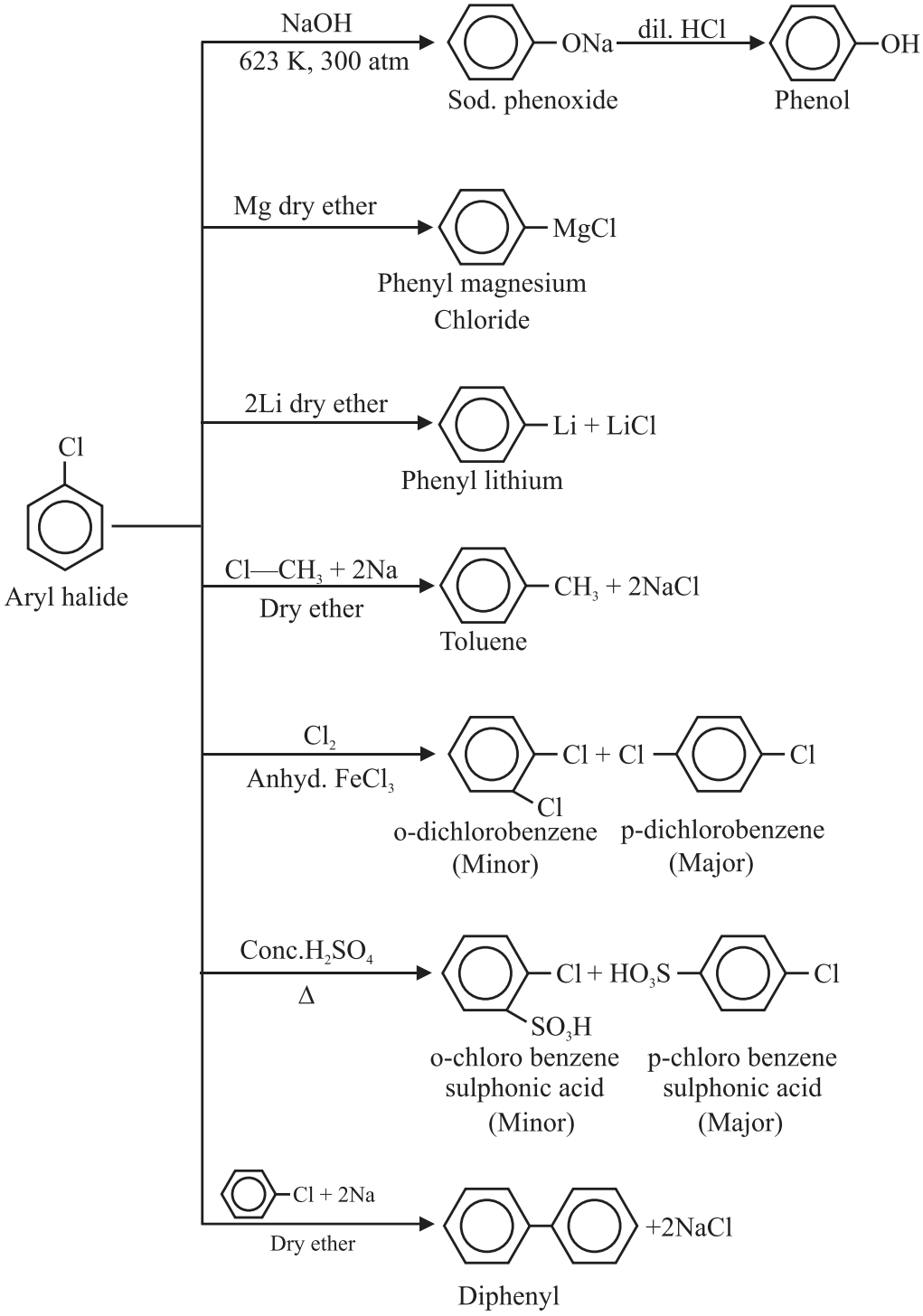
11. All alkenes (C = C) and alkynes (C ≡ C) decolorizes Br_2 water from red to colourless.

12. **Lucas Test to distinguish Primary, Secondary and Tertiary alcohols.**
Lucas reagent: Anhy. $ZnCl_2$/HCl
3° Alcohol + Lucas reagent → immediate turbidity
2° Alcohol + Lucas reagent → turbidity after sometime
1° Alcohol + Lucas reagent → no turbidity

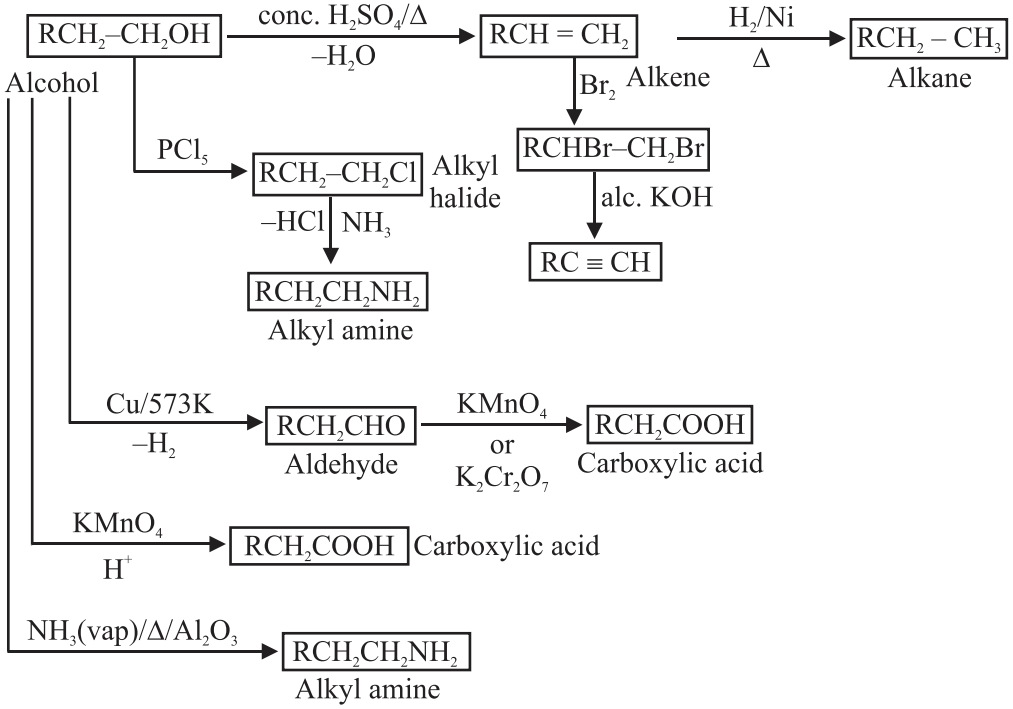
SCHEME-I: Conversions related to Alkyl Halides



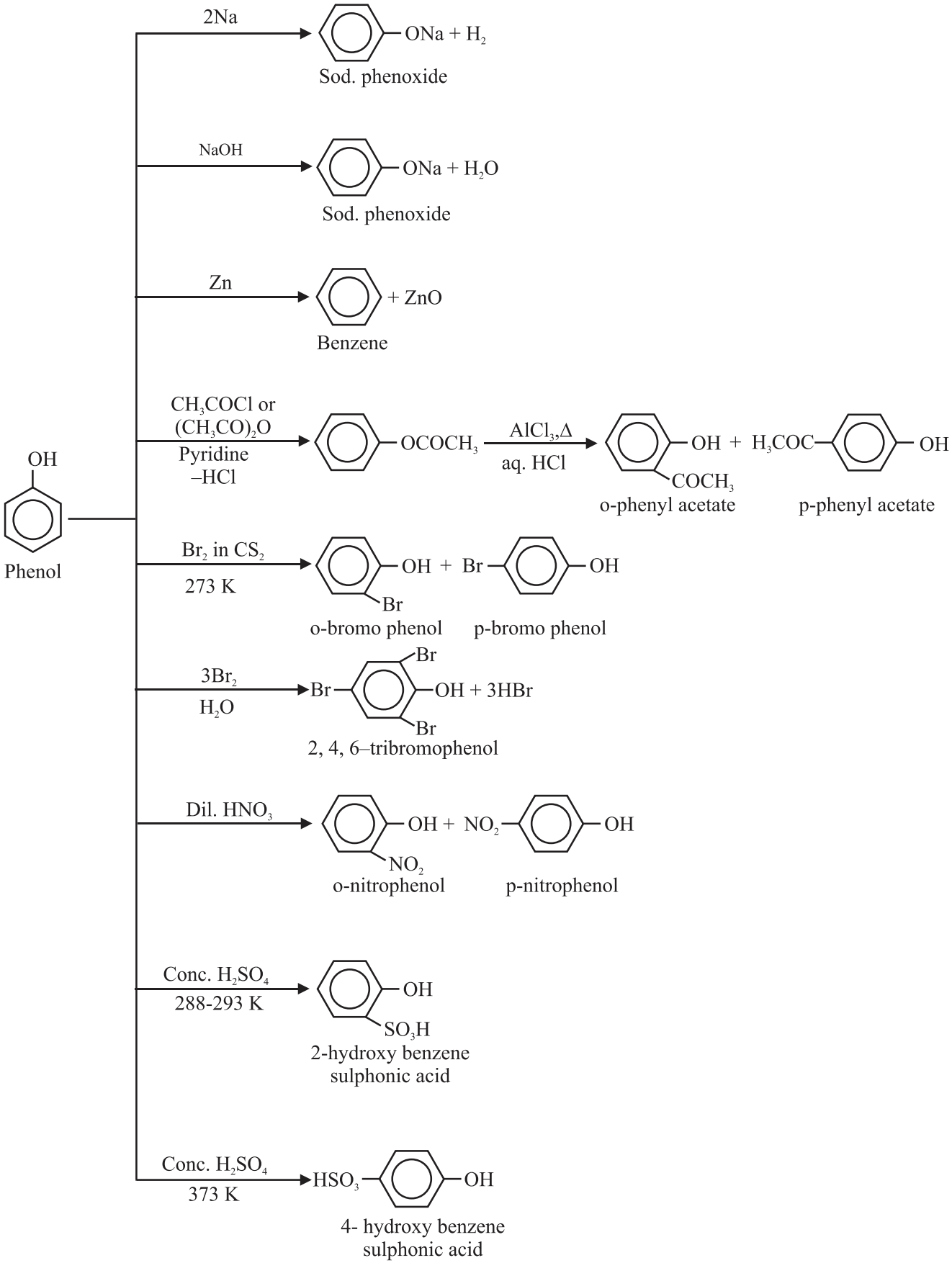
SCHEME – II: Conversions related to Aryl Halides



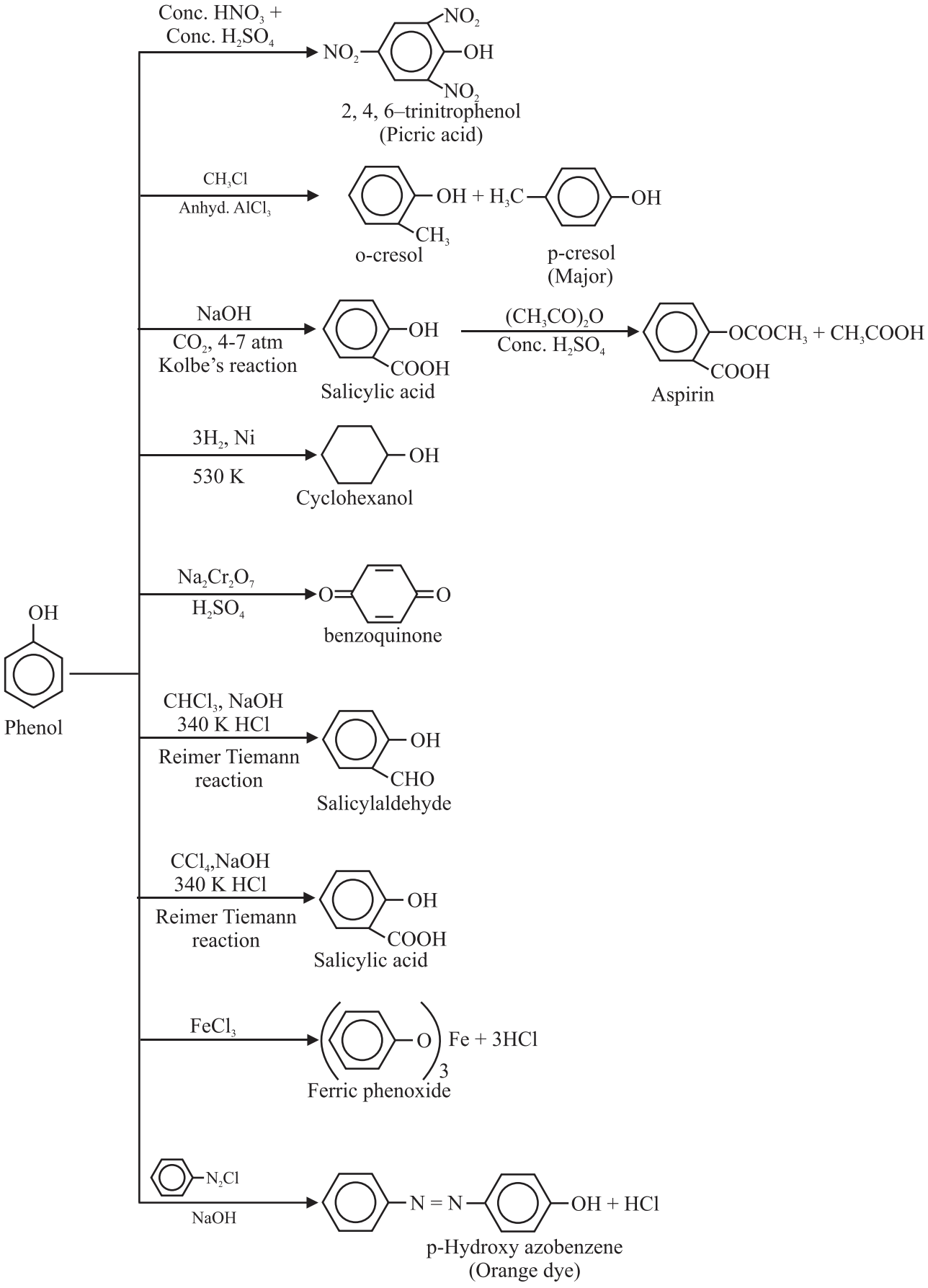
SCHEME – III: Conversions related to Alcohols



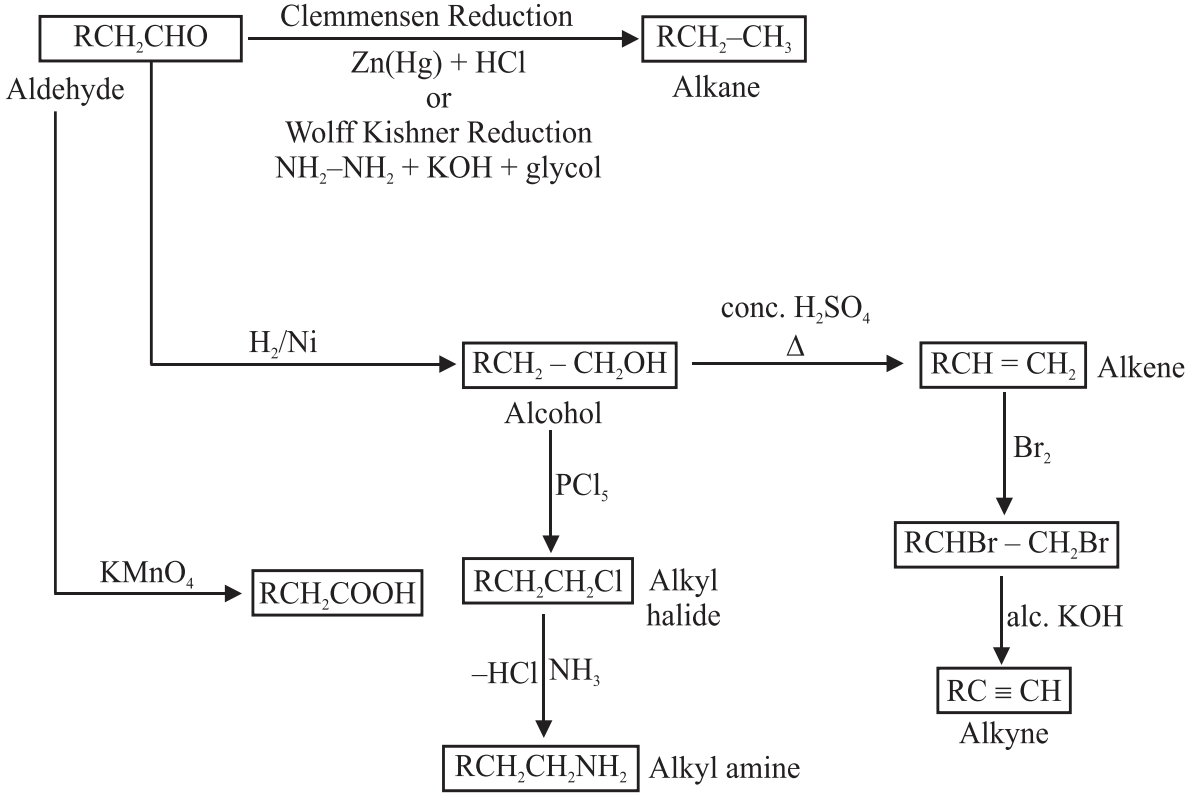
SCHEME – IV: Conversions related to Phenols – I



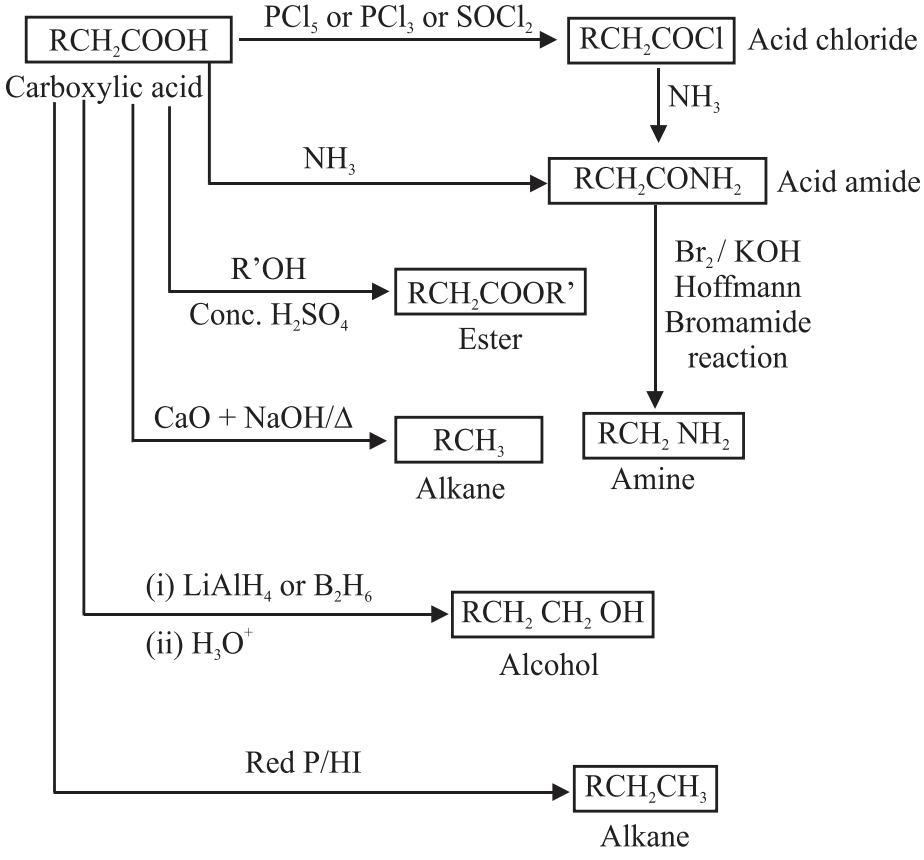
SCHEME – V: Conversion related to Phenols – II



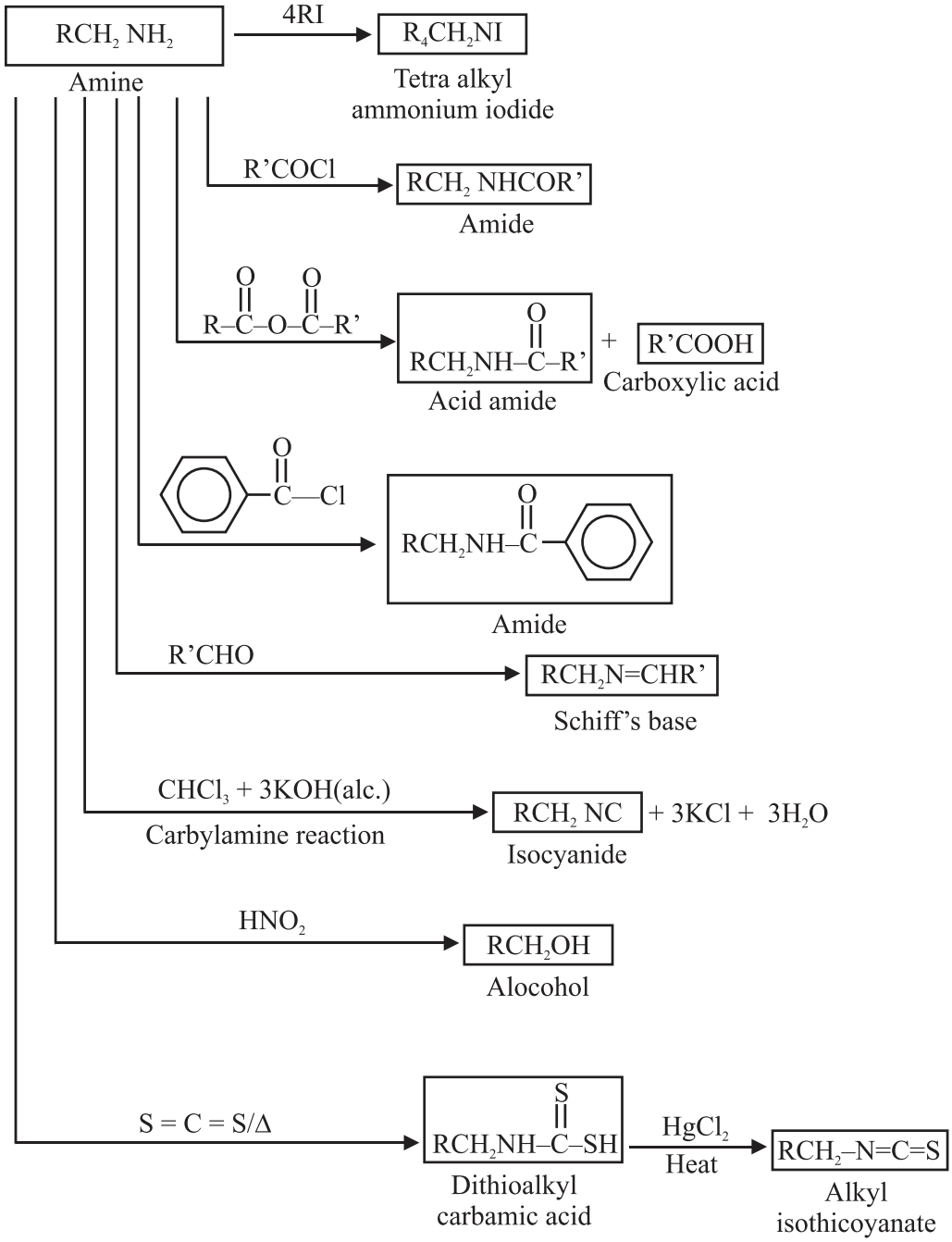
SCHEME – VI: Conversion related to Aldehydes



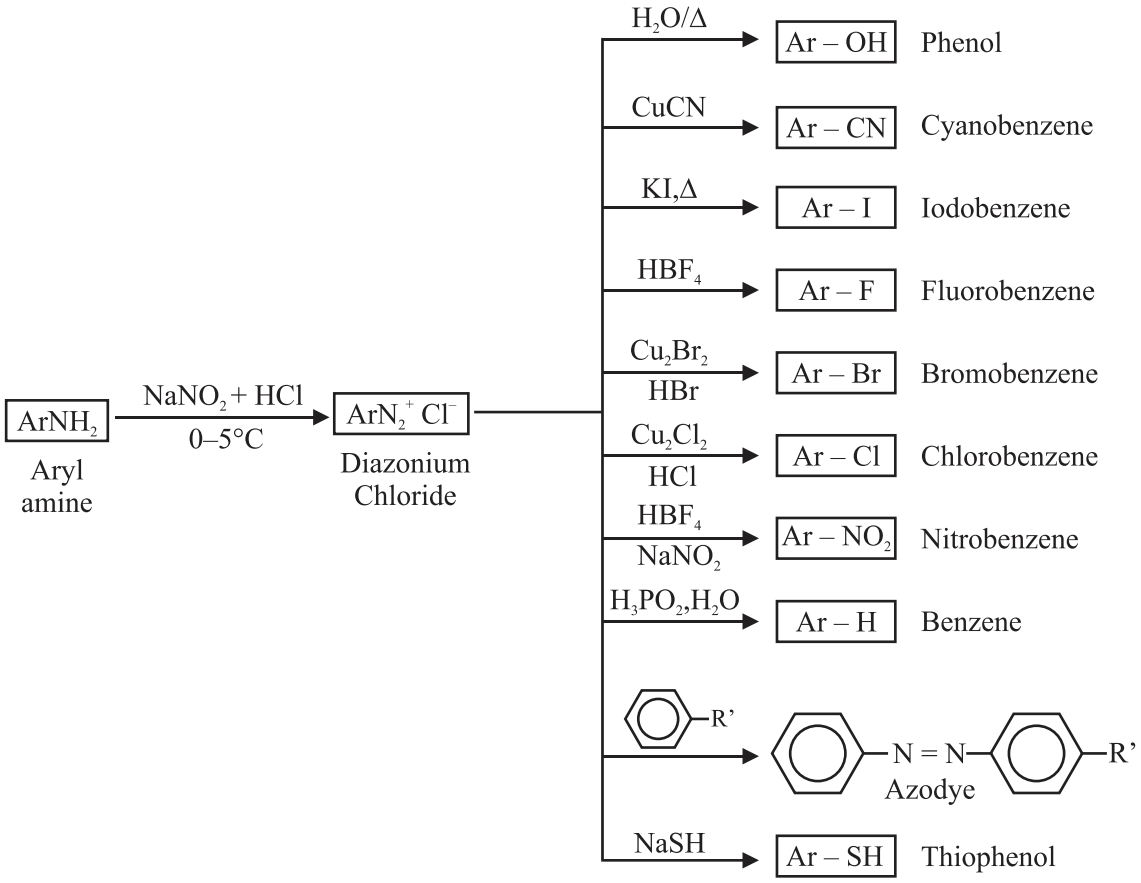
SCHEME – VII: Conversion related to Carboxylic Acids



SCHEME – VIII: Conversion related to Alkyl Amines



SCHEME – IX: Conversion related to Aryl Amines



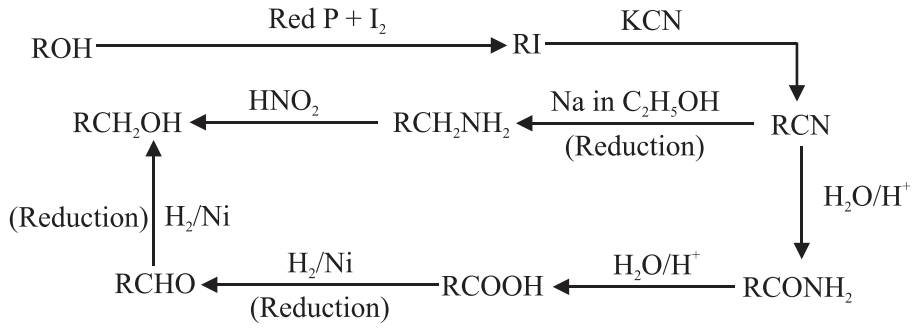
ASCENDING SERIES

1. By Wurtz Reaction

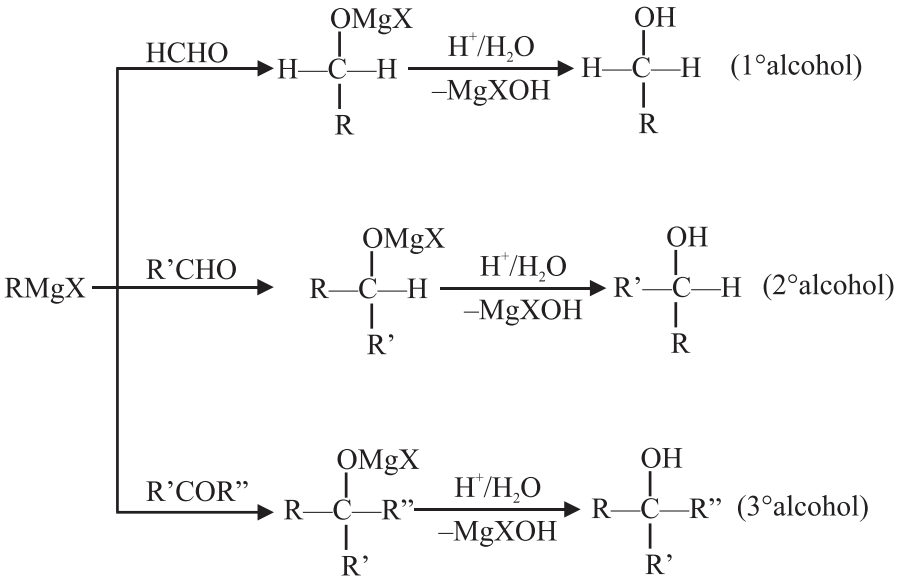
$$R-X+2Na+X-R \xrightarrow{\text{Dry ether}} R-R+2NaX$$

$$R-X+2Na+X-R' \xrightarrow{\text{Dry ether}} R-R'+2NaX$$

2. By Using Cyanide



3. By using Grignard Reagent



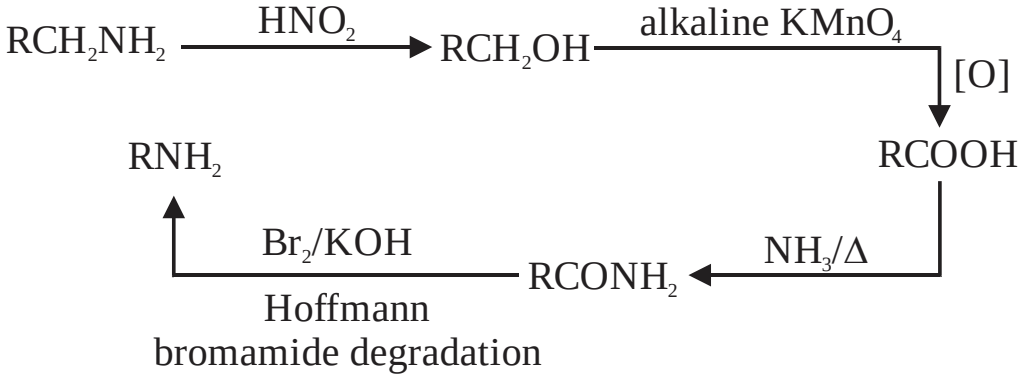
4. By using Sodium Alkylnides

$R - X + NaC \equiv C - R \longrightarrow R - C \equiv C - R + NaX$

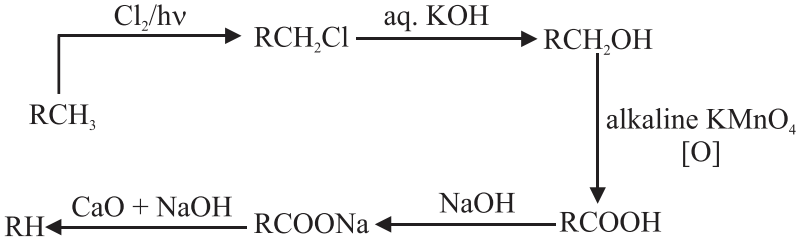
This reaction is used for terminal alkynes.

DESCENT OF SERIES

1. Hoffmann Bromamide Degradation Reaction



2. Decarboxylation Reaction



I R – Cl vs R – Br vs R – I (R ≡ alkyl or aryl)

S.No.	Test	R – Cl	R–Br	R–I
(a)	**Dil $AgNO_3$**	$R-Cl \xrightarrow{AgNO_3} AgCl$ (White ppt)	$R-Br \xrightarrow{AgNO_3} AgBr$ (Pale yellow ppt)	$R-I \xrightarrow{AgNO_3} AgI$ (yellow ppt)
(b)	**NH_4OH test**	above ppt of AgCl + liq. NH_3 or NH_4OH → ppt dissolves	above ppt of AgBr + liq. NH_3 or NH_4OH → ppt partially dissolves	above ppt of AgI + liq. NH_3 or NH_4OH → ppt remains insoluble

II. Ethylidene chloride (Geminal) vs Ethylene Dichloride (Vicinal)

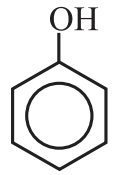
SNo.	Test	CH_3-CHCl_2 (Ethylidene chloride)	$Cl-CH_2-CH_2-Cl$ Ethylene dichloride
(a)	Aq. KOH test (Hydrolysis)	$CH_3-CHCl_2 \xrightarrow{aq.\ KOH} CH_3-CH(OH)_2$ → H_2O → $CH_3-C(=O)H$ → $-H_2O$ → 2,4 dinitrophenyl hydrazine → $CH_3-CH=N-NH-C_6H_3(NO_2)_2$ Yellow ppt	$CH_2Cl-CH_2Cl \xrightarrow{aq\ KOH} CH_2OH-CH_2OH$ → 2, 4 dinitrophenyl hydrazine → No reaction

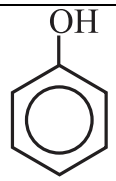
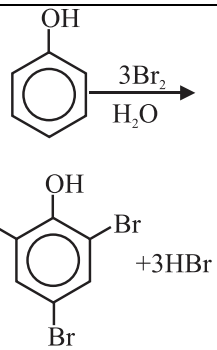
III. $CHCl_3$ vs $CH_3Cl/CCl_4/CH_3OH$

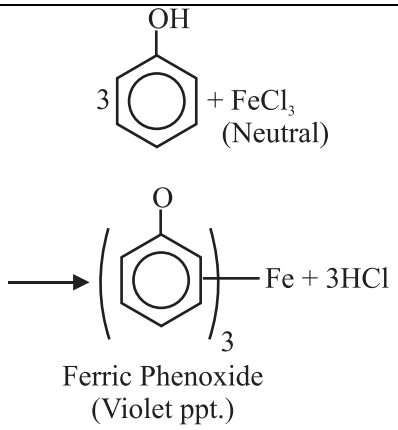
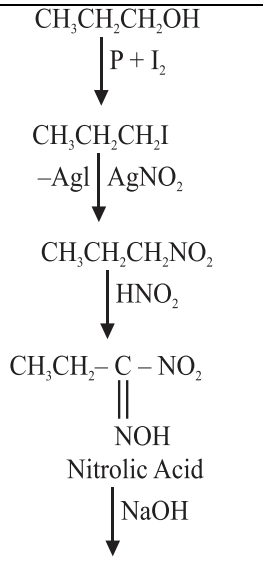
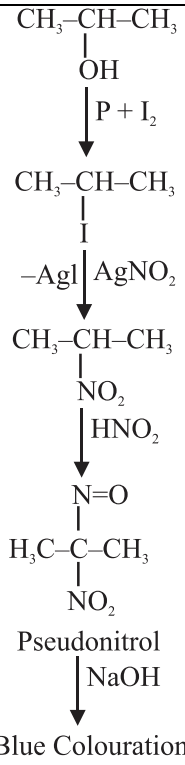
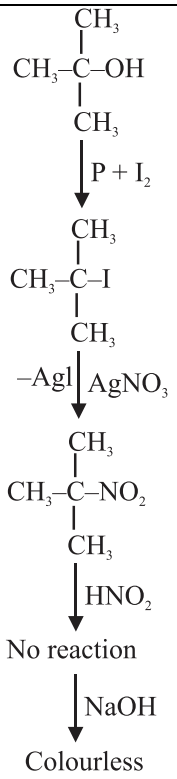
SNo.	Test	$CHCl_3$	$CH_3Cl/CCl_4/CH_3OH$
(a)	Carbylamine test	(+Ve) $R-NH_2$ (1°amine) + 3KOH (aq) + $CHCl_3$ → $R-NC$ alkyl isocyanide + $3KCl + 3H_2O$ Pungent Smelling	(–Ve)

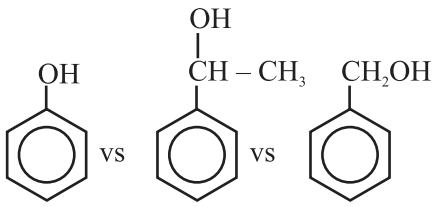
IV. $CH_3 – CH_2 – OH$ (Alcohol) vs $CH_3 – O – CH_3$ (Ether)

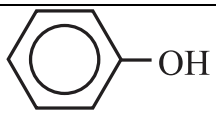
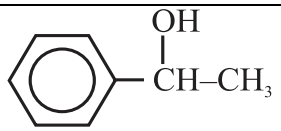
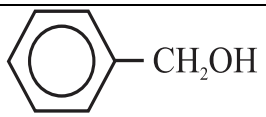
SNo.	Test	$CH_3 – CH_2 – OH$	$CH_3 – O – CH_3$
(a)	Na metal test	(+Ve) $CH_3–CH_2—OH+Na \longrightarrow CH_3–CH_2–ONa + \frac{1}{2}H_2\uparrow$	(–Ve)
(b)	Iodoform test (for alcohols having $CH_3–CH–OH$)	(+Ve) $CH_3CH_2OH + 6\,NaOH + 4I_2 \xrightarrow{\Delta} CHI_3\downarrow +$ (iodoform) $HCOONa + 5NaI + 5H_2O$	(–Ve)

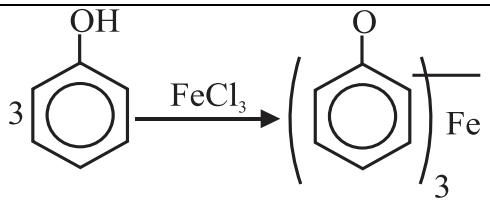
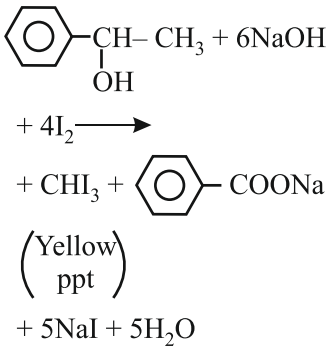
V. $CH_3–CH_2—CH_2–OH$ (1° alcohol) vs $CH_3–\underset{\underset{OH}{|}}{CH}–CH_3$ (2° alcohol) vs $CH_3–\underset{\underset{OH}{|}}{\overset{\overset{CH_3}{|}}{C}}–CH_3$ (3° alcohol) vs  (Phenol)

S.No.	Test	$CH_3–CH_2–\underset{\underset{OH}{|}}{CH_2}$ (1°) Alcohol	$CH_3–\underset{\underset{OH}{|}}{CH}–CH_3$ (2°) Alcohol	$CH_3–\underset{\underset{OH}{|}}{\overset{\overset{CH_3}{|}}{C}}–CH_3$ (3°) Alcohol	 (Phenol)
(a)	**Lucas Test (Conc. HCl + anhyd $ZnCl_2$)**	Turbidity appears on heating	Turbidity appears within in 5-10 min.	Turbidity appears Immediately	No appearance of Turbidity (–Ve)
(b)	**Iodoform test**	(–Ve)	$CH_3–\underset{\underset{OH}{|}}{CH}–CH_3 + 6NaOH + 4I_2 \longrightarrow CHI_3(\downarrow) + HCOONa + 5NaI + 5H_2O$ Yellow	(–Ve)	(–Ve)
(c)	**Bromine water test**	(–Ve)	(–Ve)	(–Ve)	 (2,4,6-tribromophenol) white ppt

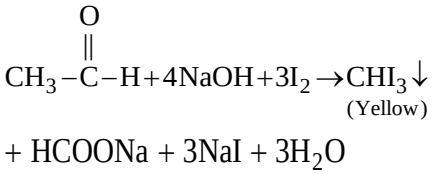
(d)	**Neutral $FeCl_3$ Test**	–Ve	–Ve	–Ve	
(e)	**Litmus Test**	–Ve	–Ve	–Ve	Turns blue litmus paper red.
		WEAK ACID			
(f)	**Victor Meyer Test**				–Ve

VI. 

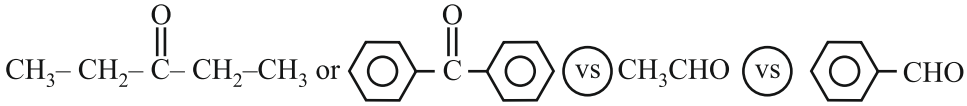
S. No.	**Test**			
(a)	**Litmus Test**	Turns blue Litmus to red	–Ve	–Ve

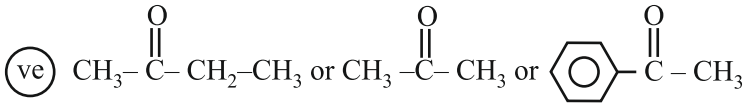
(b)	**Neutral $FeCl_3$ test**	 Ferric Phenoxide +3HCl (Violet ppt)	–Ve	–Ve
(c)	**Iodoform Test**	–ve	+ve 	–ve

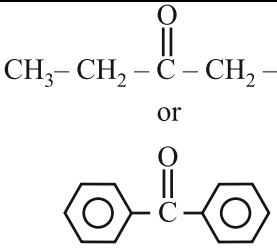
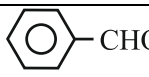
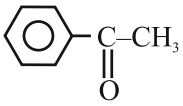
VII. HCHO vs CH_3CHO

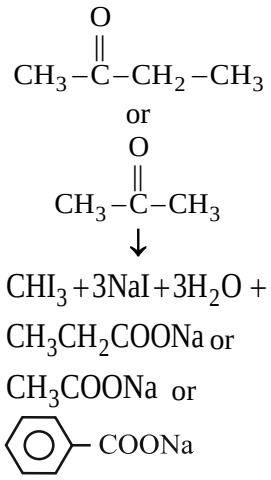
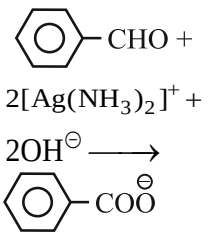
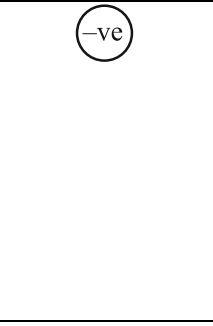
SNo.	Test	HCHO	CH_3CHO
(a)	**Iodoform Test**	–ve	+ve 

VIII.

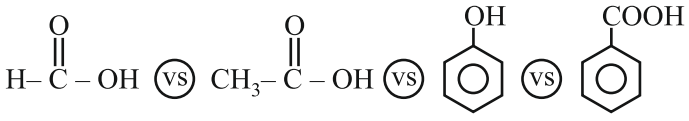


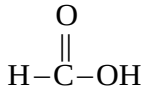
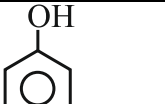
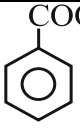
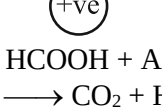


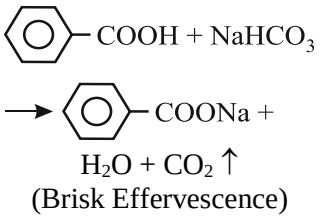
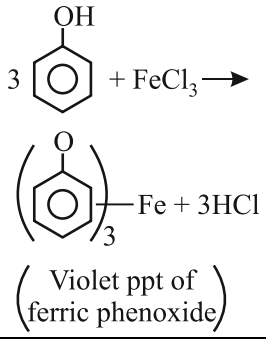
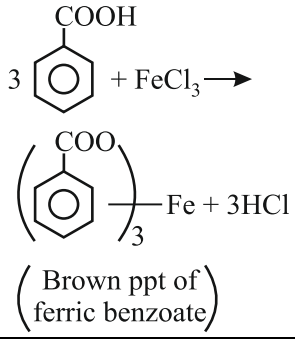
SNo.	Test				
			CH_3CHO		$CH_3COCH_2CH_3$ or CH_3COCH_3 or 

(a)	**Iodoform Test**	(–ve)	(+ve) $CH_3-CHO + 4NaOH + 3I_2 \rightarrow \underset{\text{(Yellow)}}{CHI_3}\downarrow + HCOONa + 3NaI + 3H_2O$	(–ve)	(+ve) 
(b)	**Tollen's reagent (amm. silver nitrate)**	(–ve)	(+ve) 	(+ve) 	(–ve)
(c)	**Fehling's solution (copper sulphate + sodium potassium tartarate)**	(–ve)	(+ve) 	(–ve)	(–ve)

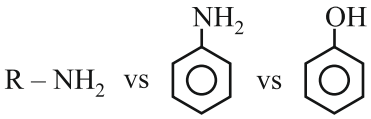
IX.

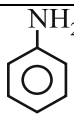
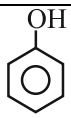
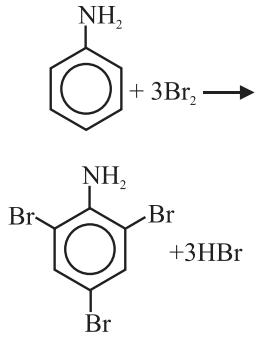
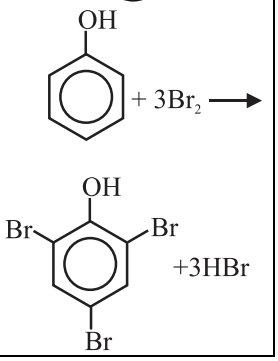


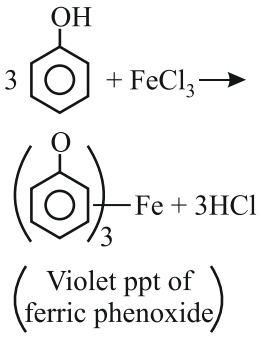
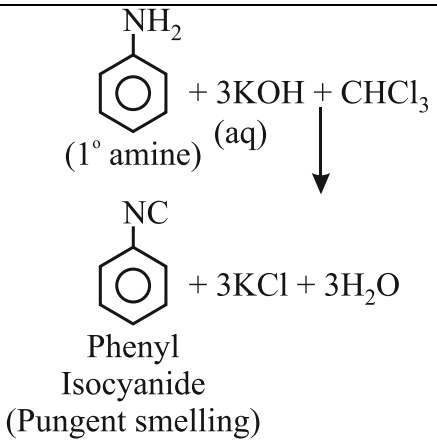
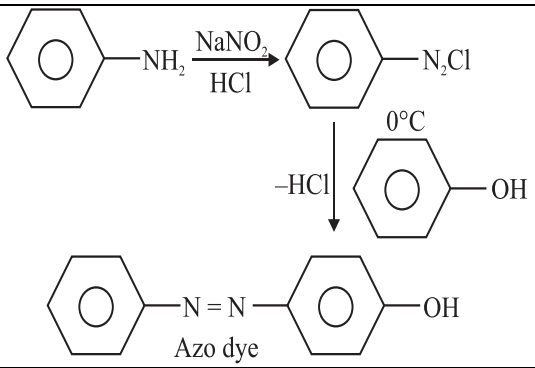
SNo.	Test				
a)	**Tollen's Test**	(+ve) 	(–ve)	(–ve)	(–ve)

b)	**Fehling's Solution Test**	(+ve) $HCOOH + 2CuO \rightarrow CO_2 + H_2O + Cu_2O\downarrow$ (Reddish Brown ppt)	(–ve)	(–ve)	(–ve)
c)	**$NaHCO_3$ Test**	(+ve) $HCOOH + NaHCO_3 \rightarrow HCOONa + H_2O + CO_2\uparrow$ (Brisk Effervescence)	(+ve) $CH_3COOH + NaHCO_3 \downarrow CH_3COONa + H_2O + CO_2\uparrow$ (Brisk Effervescence)	(–ve)	(+ve)  $H_2O + CO_2\uparrow$ (Brisk Effervescence)
d)	**Neutral $FeCl_3$ Test**	(–ve)	(–ve)	(+ve)  (Violet ppt of ferric phenoxide)	(+ve)  (Brown ppt of ferric benzoate)

X.

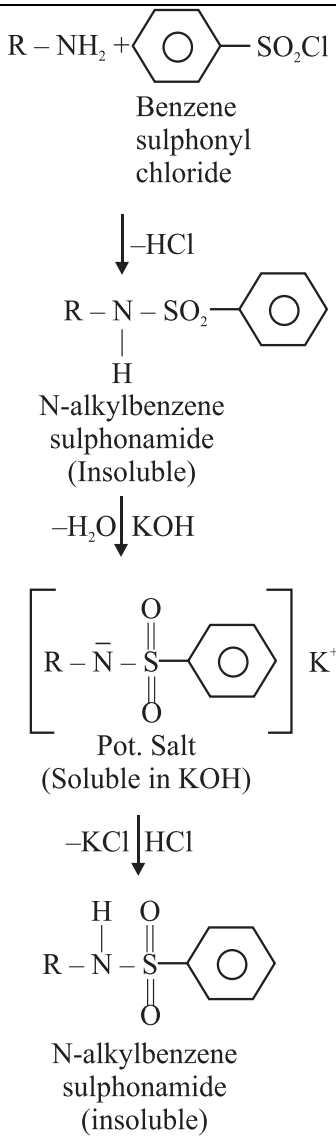
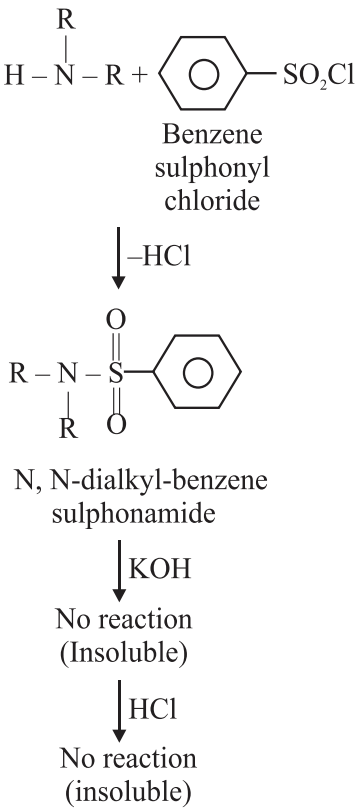
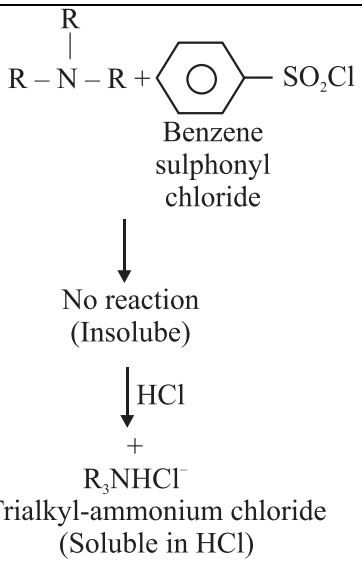


SNo.	**Test**	**$R - NH_2$**		
a)	**Bromine water**	(–ve)	(+ve) 	(+ve) 

			2, 4, 6-tribromo aniline (White ppt)	2, 4, 6-tribromo phenol (White ppt)
b)	**Neutral $FeCl_3$**	(–ve)	(–ve)	(+ve)  (Violet ppt of ferric phenoxide)
c)	**Carbylamine Test**	(+ve) $R - NH_2 + 3KOH + CHCl_3 \longrightarrow$ RNC + 3KCl + $3H_2O$ (1^o amine) (aq) alkyl isocyanide (Pungent smelling)	 Phenyl Isocyanide (Pungent smelling)	(–ve)
d)	**Azo Dye Test**	Azo dye formed is unstable, so cannot be removed from solution.	 	(+ve)

XI. $R - NH_2$ vs R_2NH vs R_3N

SNo.	Test	$R - NH_2$ (1° amine)	R_2NH (2° amine)	R_3N (3° amine)
a)	**Carbylamine Test**	$R - NH_2 + CHCl_3 + 3KOH$ (aq) $\downarrow$ $R–NC + 3KCl + 3H_2O$ alkyl isocyanide (Pungent smelling)	(–ve)	(–ve)

b)	**Nitrous Acid Test**	$R–NH_2 + HO – N = O \rightarrow R–OH + N_2 \uparrow + H_2O$ Evolution of nitrogen	$R_2 – N – H + HO – N \equiv O \rightarrow R_2N – N = O$ N–nitroso dialkyl amine (Yellow oily liquid) + Phenol $\xrightarrow{\text{Warm}}$ Green Colour	$R_3N + HNO_2 \xrightarrow{\text{Warm}} R_3NHNO_2$ (Water Soluble)
c)	**Hinsberg's Test [Hinsberg's Reagent is a mixture of (i) Benzene sulphonyl chloride, (ii) KOH, and (ii) HCl**			

XII. $R – \overset{\overset{O}{\|}}{C} – NH_2$ vs $R – NH_2$

SNo.	Test	$R – \overset{\overset{O}{\|}}{C} – NH_2$	$R–NH_2$
(a)	**Litmus Test**	No response to litmus	Red litmus changes to Blue

(b)	**Carbylamine test**	–ve	$R - NH_2 + CHCl_3 + 3\ KOH\ (aq) \longrightarrow RNC + 3KCl + 3H_2O$ alkyl isocyanide Pungent Smelling

PW Web/App - https://smart.link/7wwosivoicgd4

Library- https://smart.link/sdfez8ejd80if