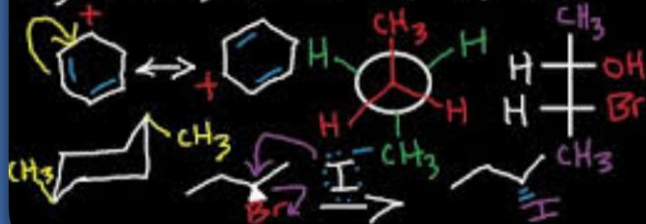




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Organic Chemistry



Organic Chemistry Specific Name Reactions

Prep Smart. Score Better.



HOW TO WASH YOUR HANDS

PROTECT YOURSELF AND OTHERS AGAINST INFECTIONS



#PrepSmartStaySafe



1 WET HANDS



2 APPLY SOAP



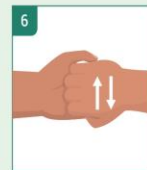
3 RUB HANDS
PALM TO PALM



4 LATHER THE BACKS
OF YOUR HANDS



5 SCRUB BETWEEN
YOUR FINGERS



6 RUB THE BACKS OF
FINGERS ON THE
OPPOSING PALMS



7 CLEAN THUMBS



8 WASH FINGERNAILS
AND FINGERTIPS



9 RINSE HANDS



10 DRY WITH A
SINGLE USE TOWEL



11 USE THE TOWEL
TO TURN OFF THE
FAUCET



12 YOUR HANDS ARE
CLEAN



NOVEL CORONAVIRUS

HELP US TO HELP YOU



+91-11-23978046

A Control Room at National level has been setup to address queries related to #nCoV.

May reach this number for any guidance, support and technical queries.

#PrepSmartStaySafe

#PrepSmartStaySafe

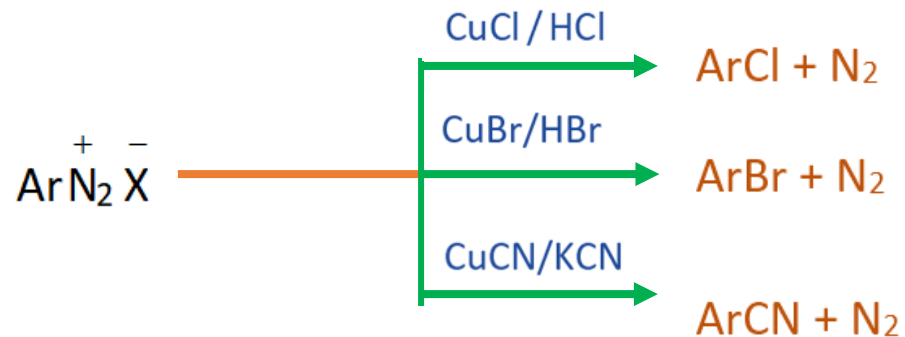


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**EDUCATION
IS THE PASSPORT
TO THE FUTURE,
FOR TOMORROW BELONGS
TO THOSE WHO
PREPARE FOR IT
TODAY.**

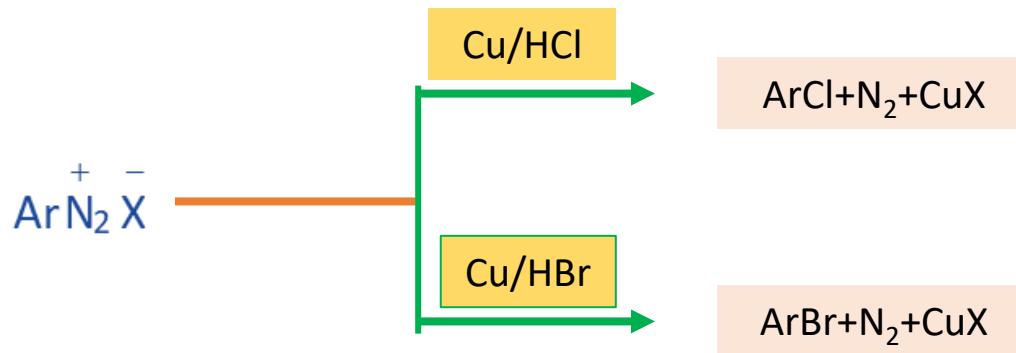


Sandmeyer Reaction





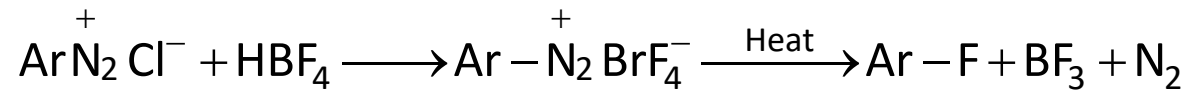
Gatterman Reaction



Note: The yield in Sandmeyer reaction is found to be better than Gattermann reaction



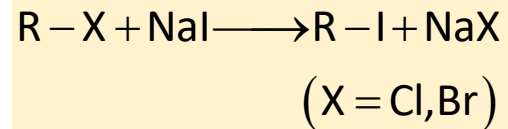
Balz-Schiemann Reaction



Fluoroboric acid



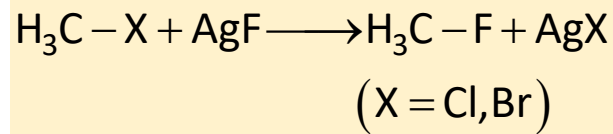
Finkelstein Reaction



Note: This reaction in forward direction can be favoured by precipitating NaX formed in dry acetone (according to Le Chatelier's principle).



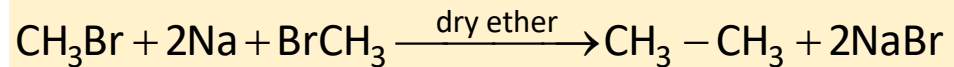
Swarts Reaction



Note: Finkelstein Reaction and Swarts Reaction are known as halogen exchange reaction.

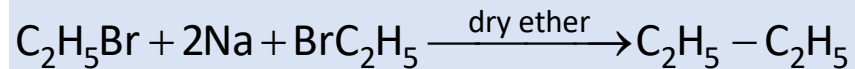


Wurtz Reaction



Bromomethane

Ethane

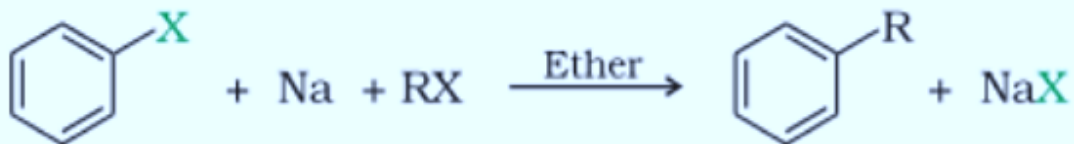


Bromoethane

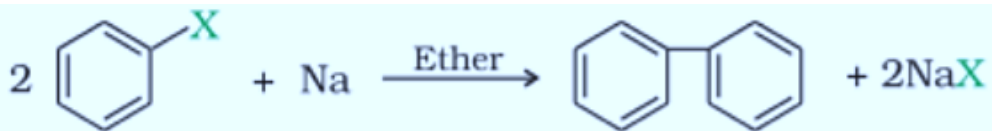
n-Butane



Wurtz-Fittig Reaction

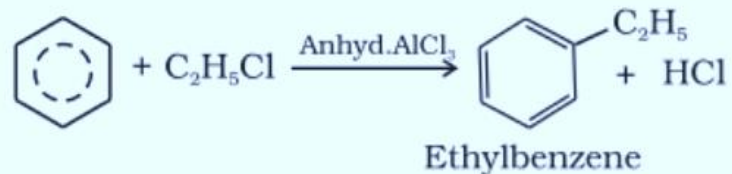
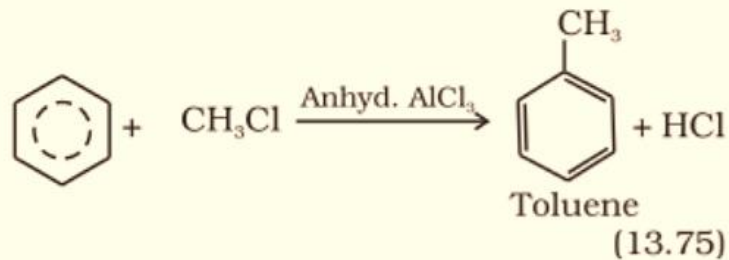


Fittig Reaction



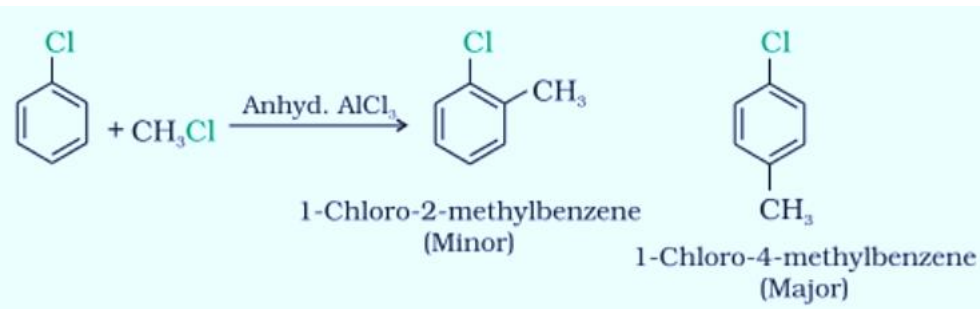


Friedel-Crafts alkylation Reaction



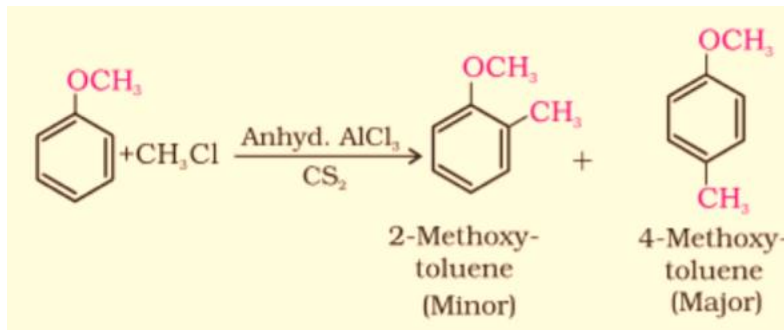


Friedel-Crafts alkylation Reaction





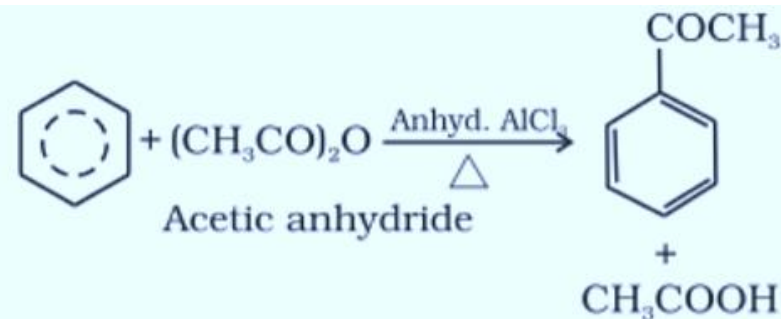
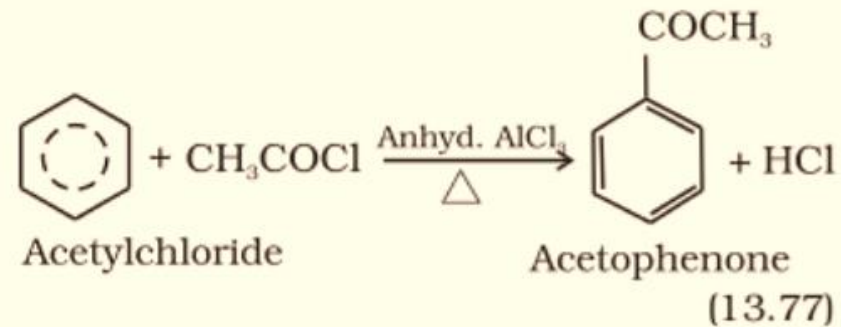
Friedel-Crafts alkylation Reaction



Note: Aromatic carboxylic acids do not undergo Friedel-Crafts reaction because the carboxyl group is deactivating and the catalyst aluminium chloride (Lewis acid) gets bonded to the carboxyl group.

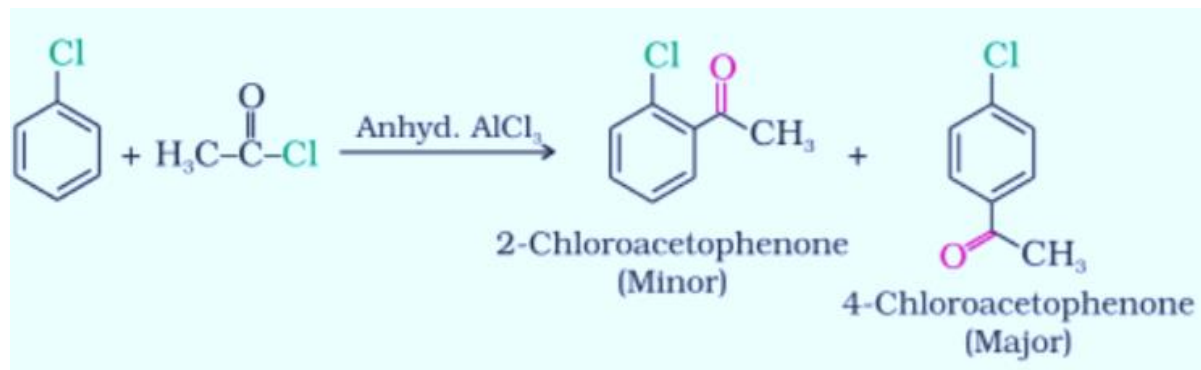


Friedel-Crafts acylation reaction



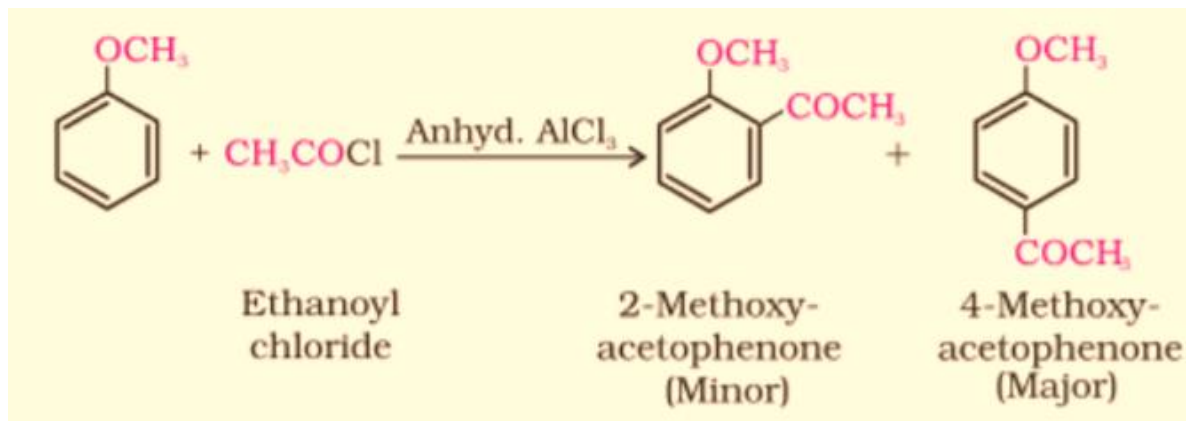


Friedel-Crafts acylation reaction





Friedel-Crafts acylation reaction



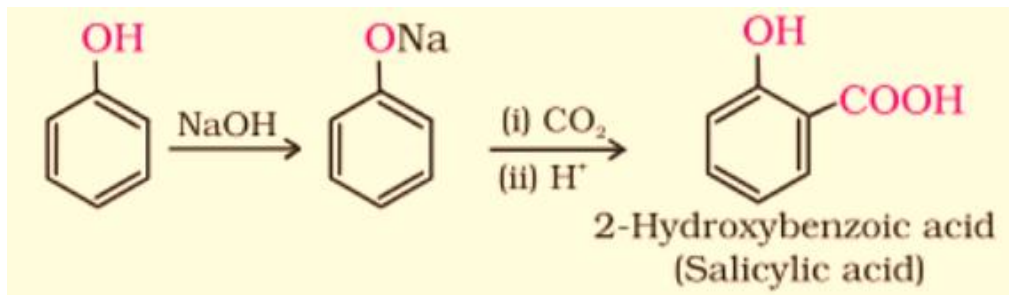


Reimer-Tiemann Reaction



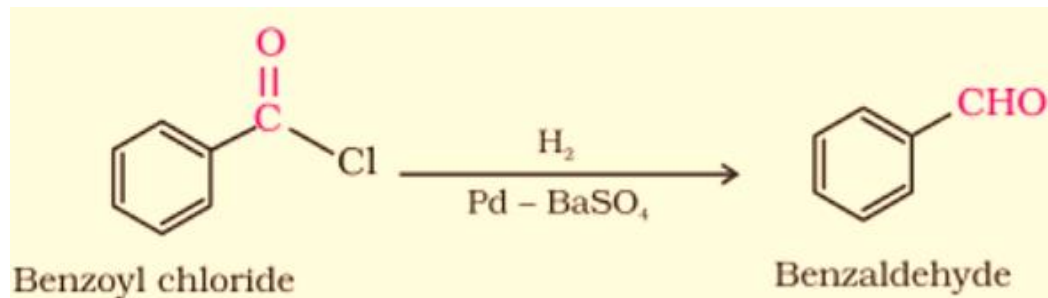


Kolbe's Reaction



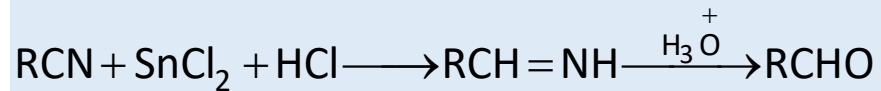


Rosenmund Reduction

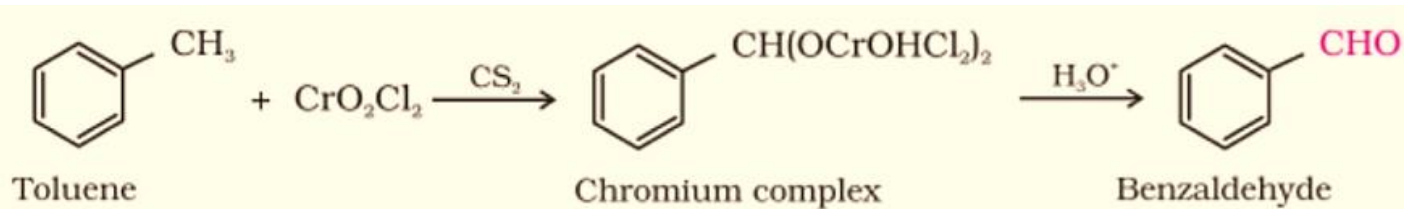




Stephen reaction

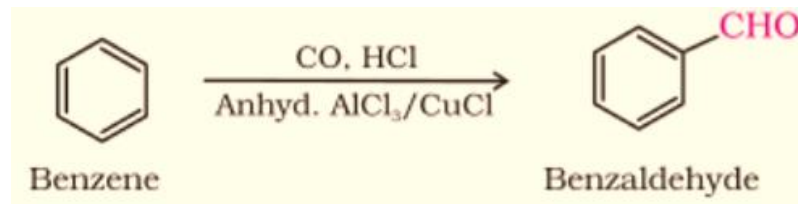


Etard reaction

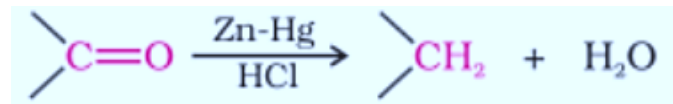




Gatterman – Koch reaction



Clemmensen Reduction



(Clemmensen reduction)



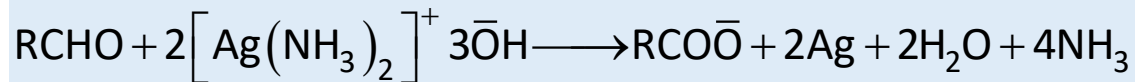
Wolff Kishner Reduction



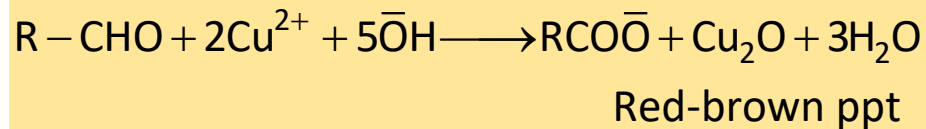
(Wolff-Kishner reduction)



Tollens' test



Fehling's test



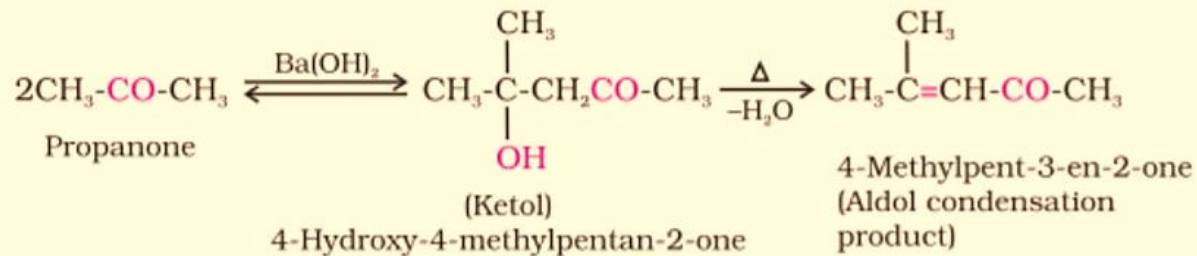
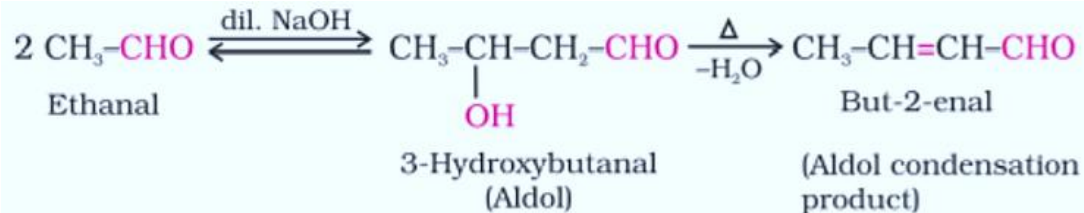


Aldol reaction

Aldehydes and ketones having at least one α -hydrogen undergo a reaction in the presence of dilute alkali as catalyst to form β -hydroxy aldehydes (aldol) or β -hydroxy ketones (ketol), respectively. This is known as **Aldol reaction**.

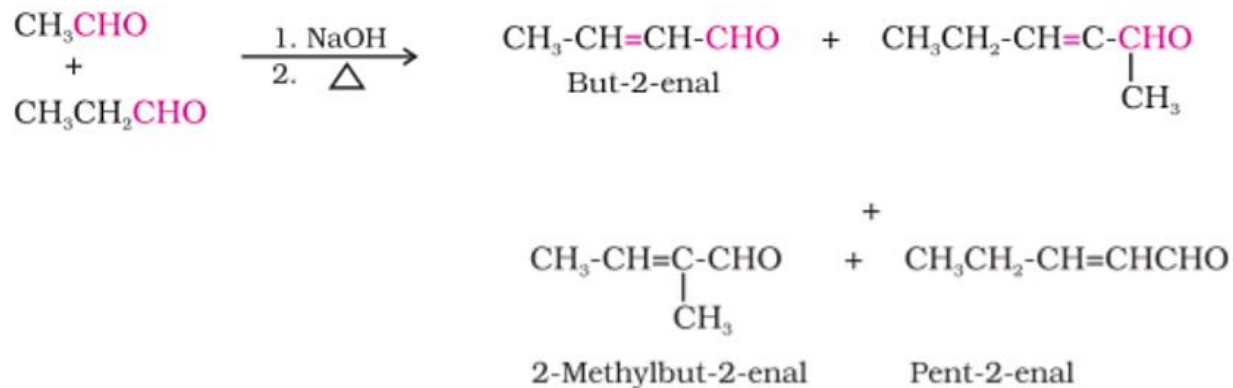


Aldol condensation.



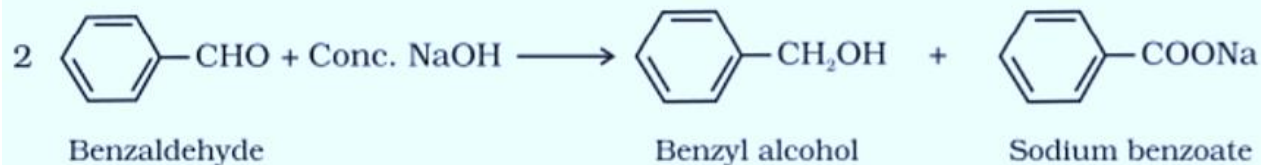
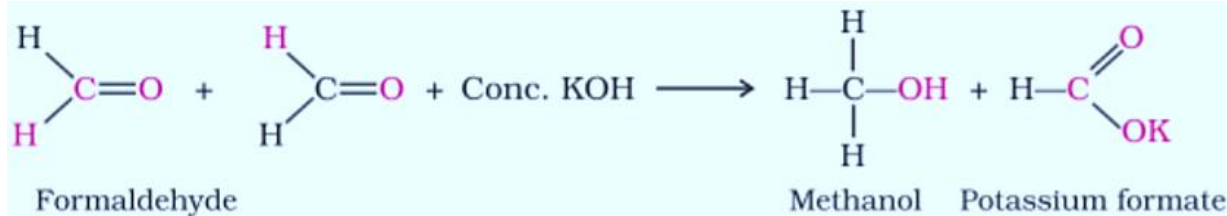


Cross aldol condensation:





Cannizzaro reaction:





Kolbe electrolysis



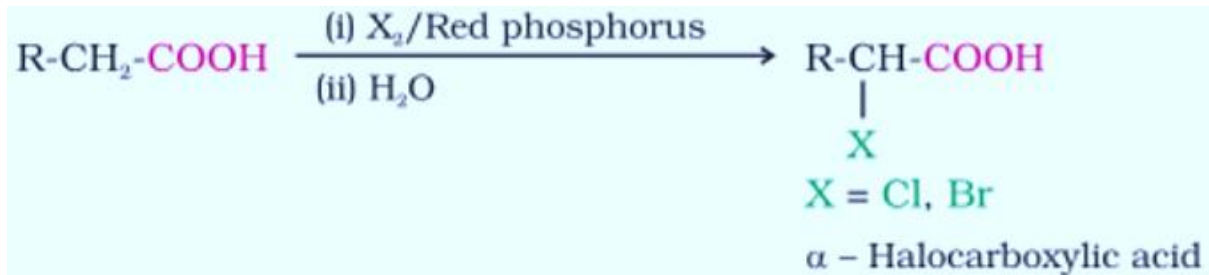
Sodium acetate

↓ **Electrolysis**



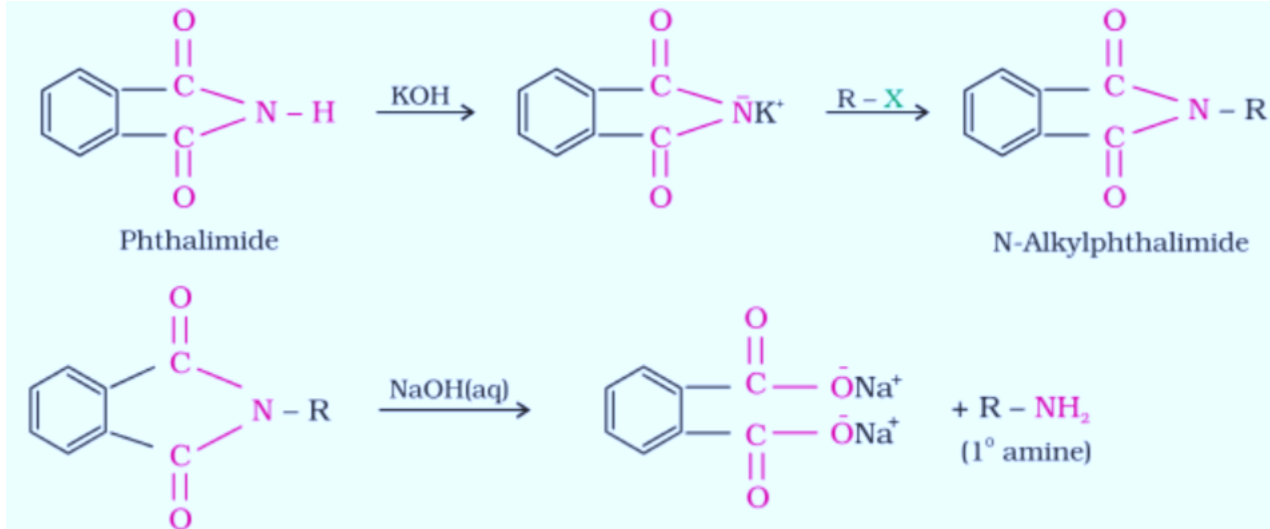


Hell-Volhard-Zelinsky (HVZ) reaction





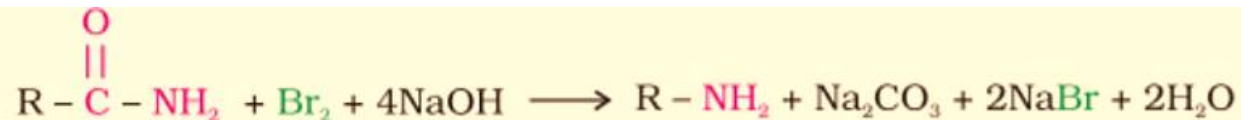
Gabriel phthalimide synthesis



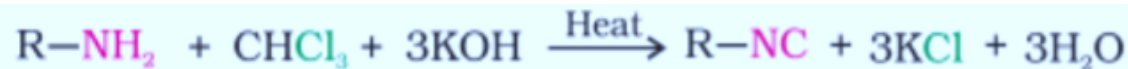
Note: Aromatic primary amines cannot be prepared by this method because aryl halides do not undergo nucleophilic substitution with the anion formed by phthalimide.



Hoffmann bromamide degradation reaction



Carbylamine reaction

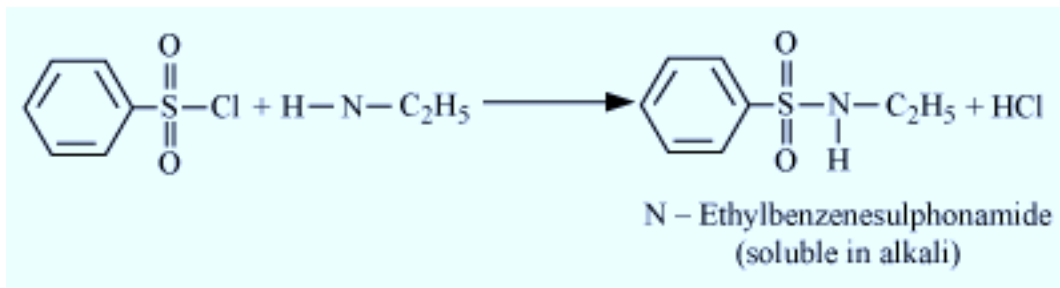


Note: Secondary and tertiary amines do not show this reaction and is used as a test for primary amines.



Hinsberg's Test

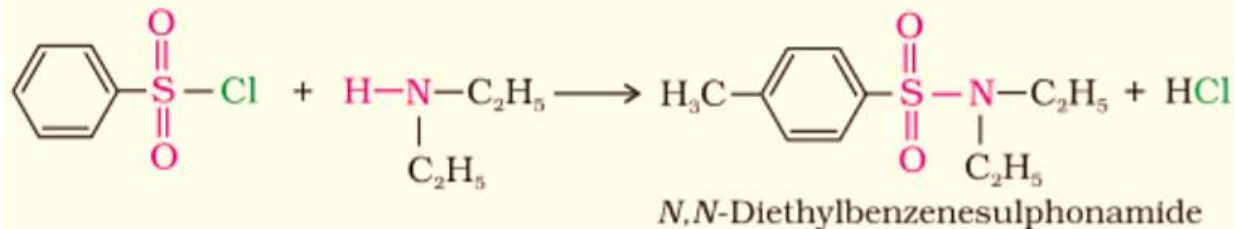
(a) The reaction of benzenesulphonyl chloride with primary amine yields N-ethylbenzenesulphonyl amide.





Hinsberg's Test

(b) In the reaction with secondary amine, *N,N*-diethylbenzenesulphonamide is formed. Since *N,N*-diethylbenzenesulphonamide does not contain any hydrogen atom attached to nitrogen atom, it is not acidic and hence insoluble in alkali.





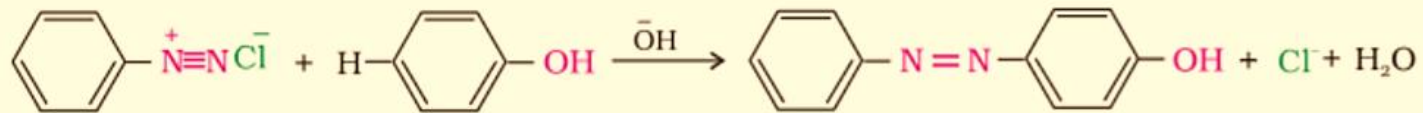
Hinsberg's Test

(c) Tertiary amines do not react with benzenesulphonyl chloride.

Note: This test is used for the distinction of primary, secondary and tertiary amines and also for the separation of a mixture of amines. However, these days benzenesulphonyl chloride is replaced by p-toluenesulphonyl chloride.

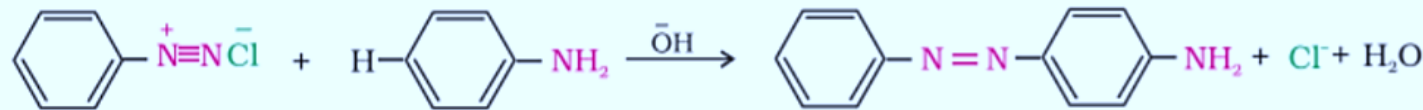


Coupling Reactions



p-Hydroxyazobenzene (orange dye)

Similarly the reaction of diazonium salt with aniline yields p-aminoazobenzene.



p-Aminoazobenzene (yellow dye)



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