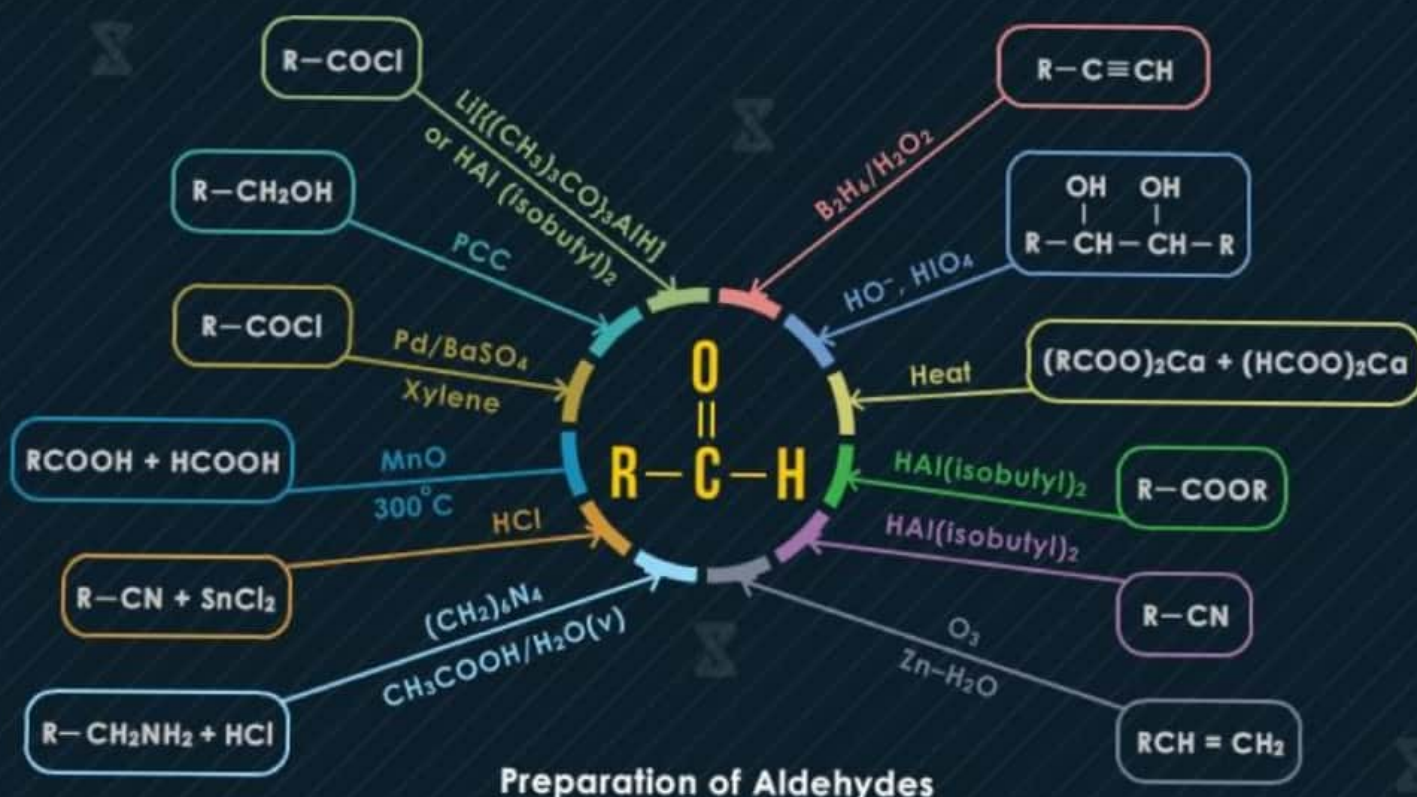


ALDEHYDE & KETONES

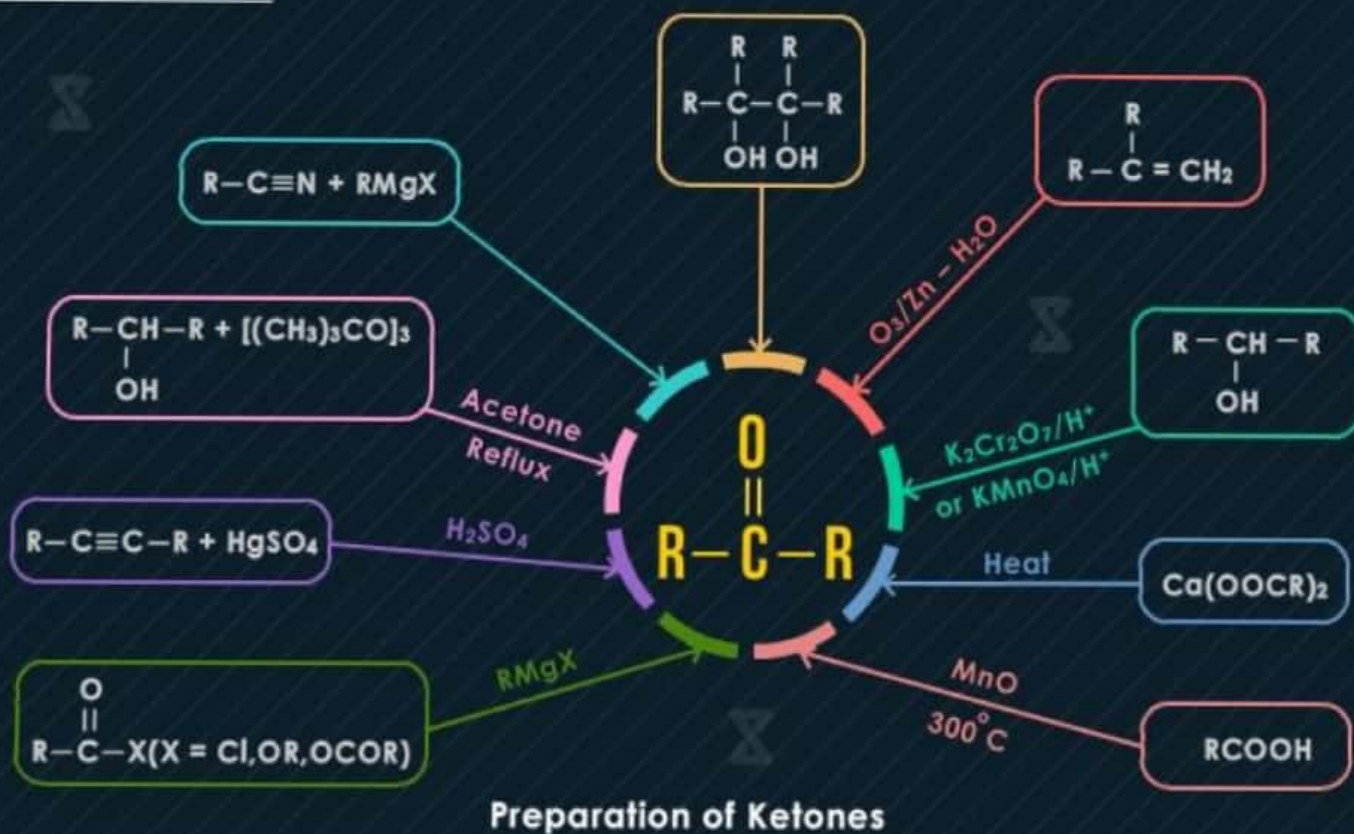
Aldehydes

PREPARATION



Ketones

PREPARATION

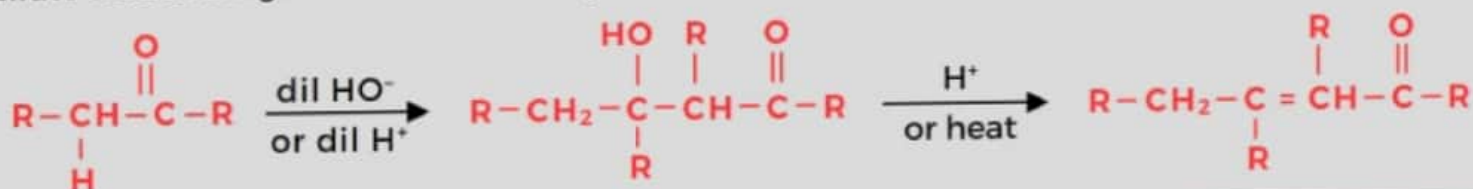


IMPORTANT REACTIONS ALDYHYDE AND KETONE

ALDOL CONDENSATION



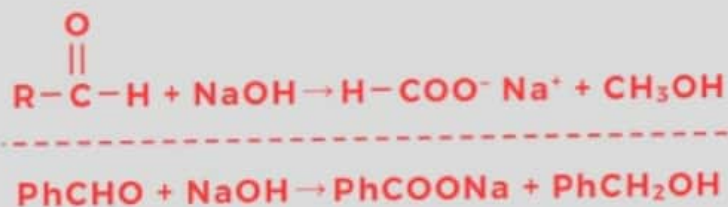
Aldehydes or ketones containing at least one α -hydrogen on treatment with dilute alkali or dilute acid undergo condensation to produce β -hydroxy aldehyde or β -hydroxy ketone.



CANNIZARO REACTION

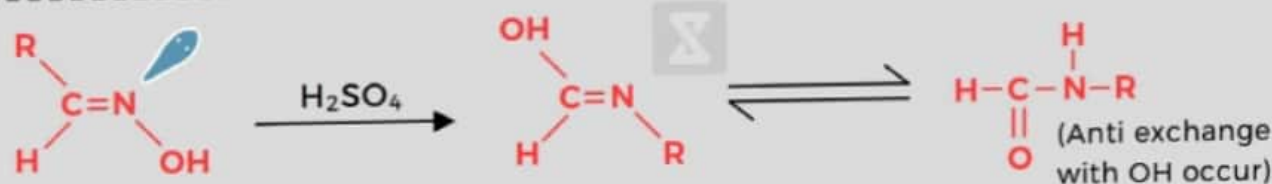
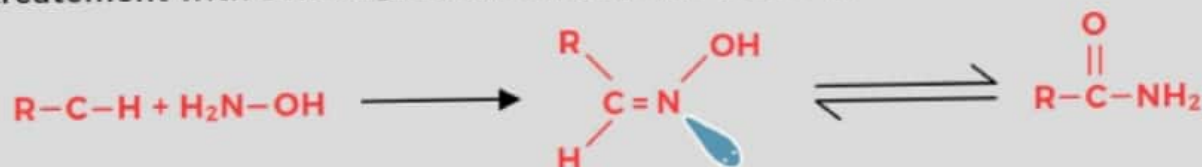


Aldehydes lacking α -hydrogen, when treated with concentrated solution of strong base, undergo mutual oxidation reaction.



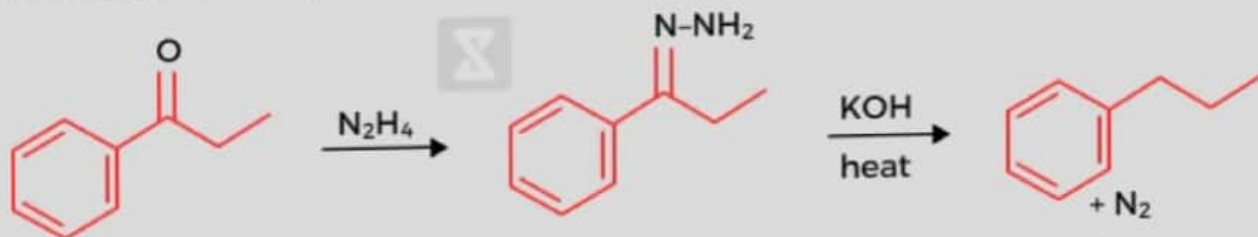
BECKMANN'S REARRANGEMENT

Aldehydes or ketones on treatment with hydroxyl amine gives oximes. Oximes on further treatment with conc. H_2SO_4 or PCl_5 undergo rearrangement as:



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Ketone or aldehyde is converted to its hydrazone (by reaction with hydrazine) and is then treated with a strong base, which generates the reduced product.



The mechanism of hydrazone formation is analogous to imine formation.

CLEMMENSEN REDUCTION

This was used in the reduction of acyl benzenes into alkyl benzenes, but it also works for other aldehydes and ketones.

