

# 25 SYNTHETIC REAGENTS 2

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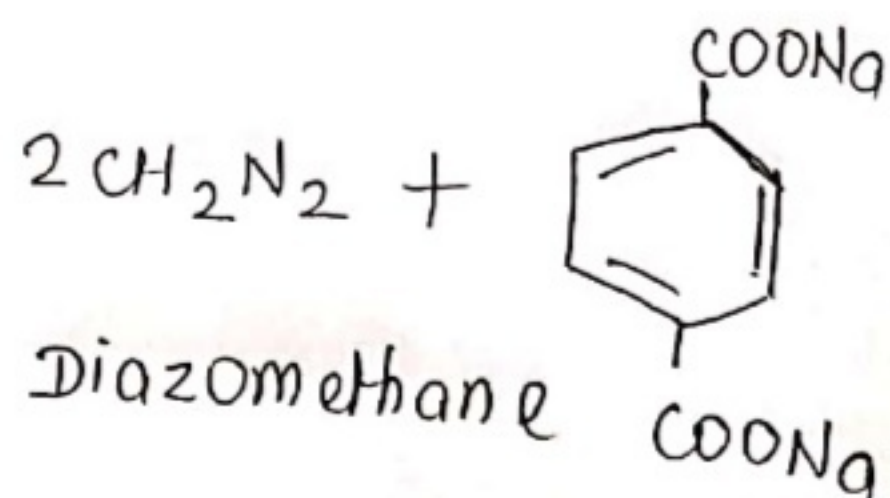
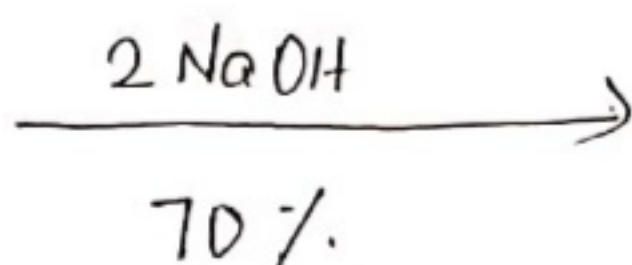
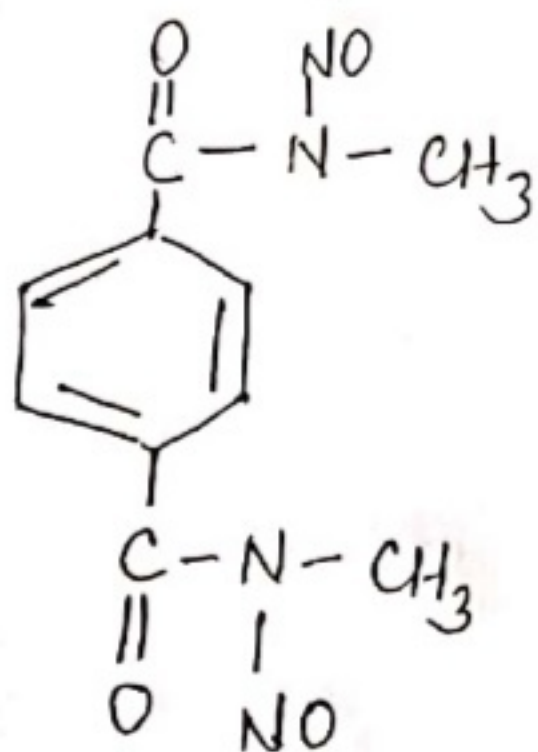
G. ORGANIC CHEMISTRY, PAPER-VII 0

TOPIC : DIAZOMETHANE

## ~ PREPARATION ~

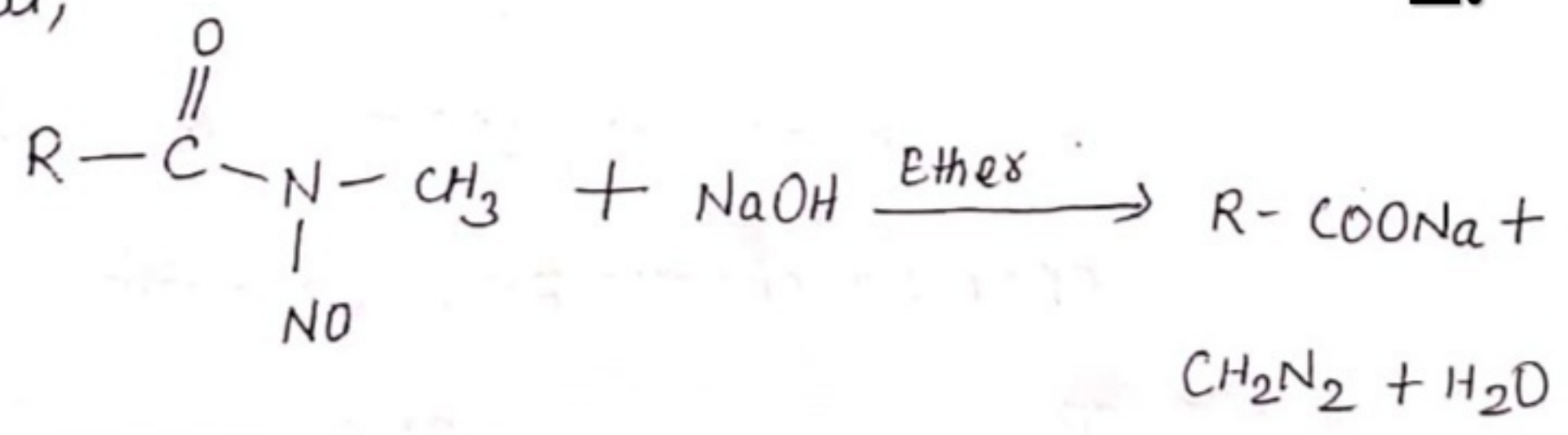
\* First of all diazomethane was prepared by von Pechmann in 1890, but now-a-days this method is only of historical importance; other important methods are:-

\* Moore and Reed in 1961 prepared diazomethane in quantitative yield by the alkaline hydrolysis of bis-(N-methyl-N-nitroso) terephthalamide.



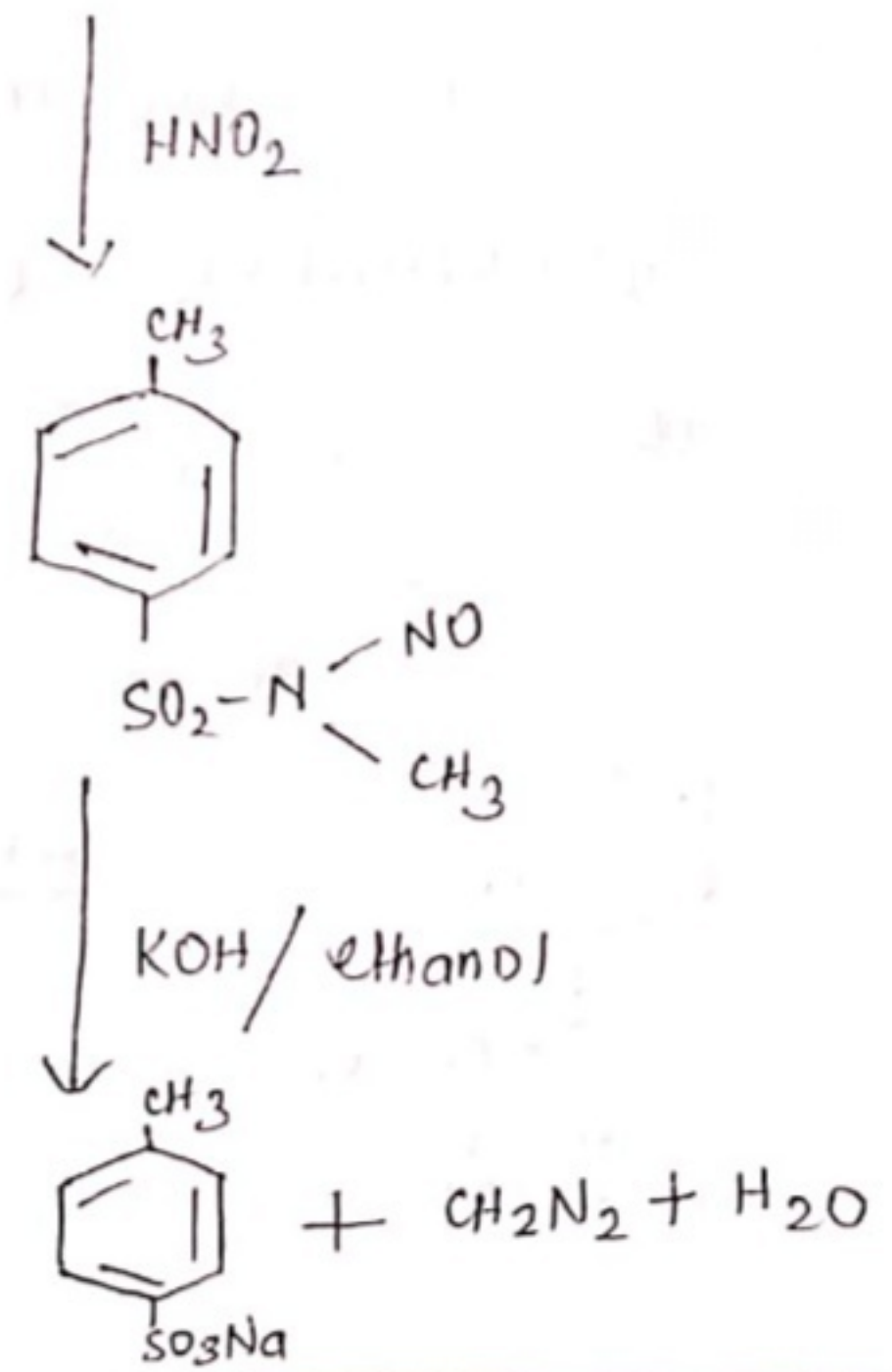
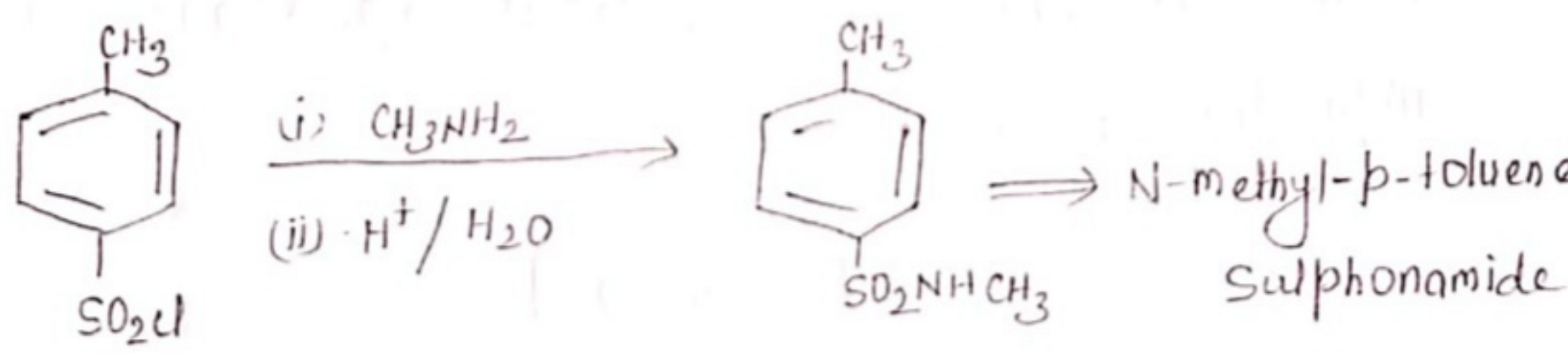
By: Dr.Rinky

In general,



## BACKER'S METHOD

\* N-methyl-N-nitroso-p-toluene sulphonamide on distillation with ethanolic potassium hydroxide gives diazomethane.

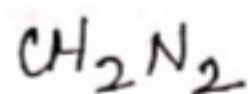
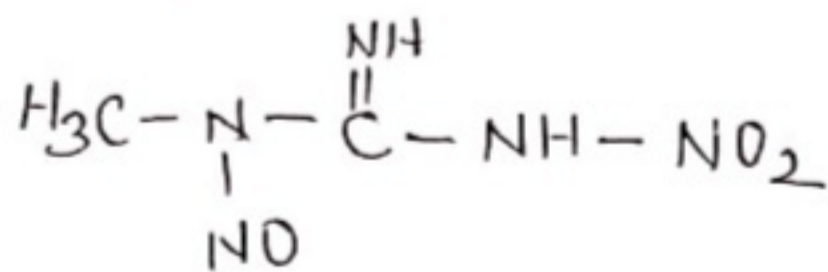
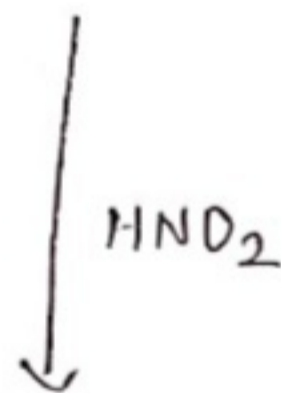
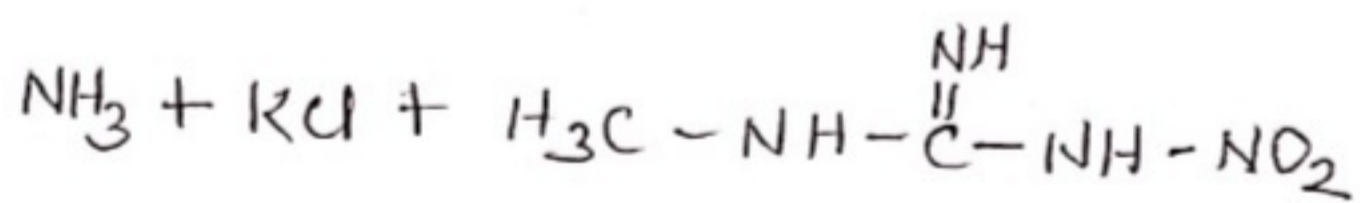
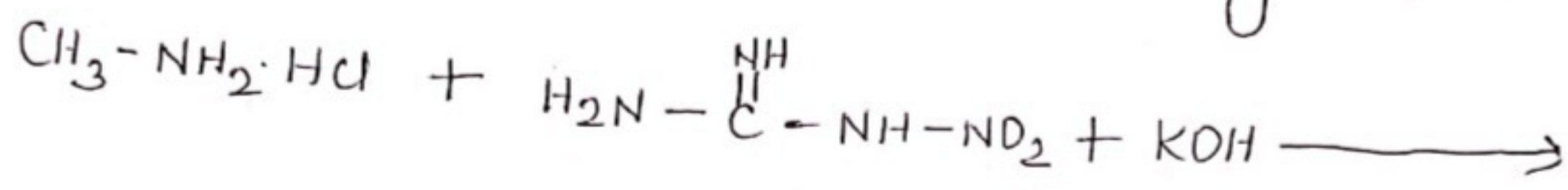




# MACKAY'S METHOD

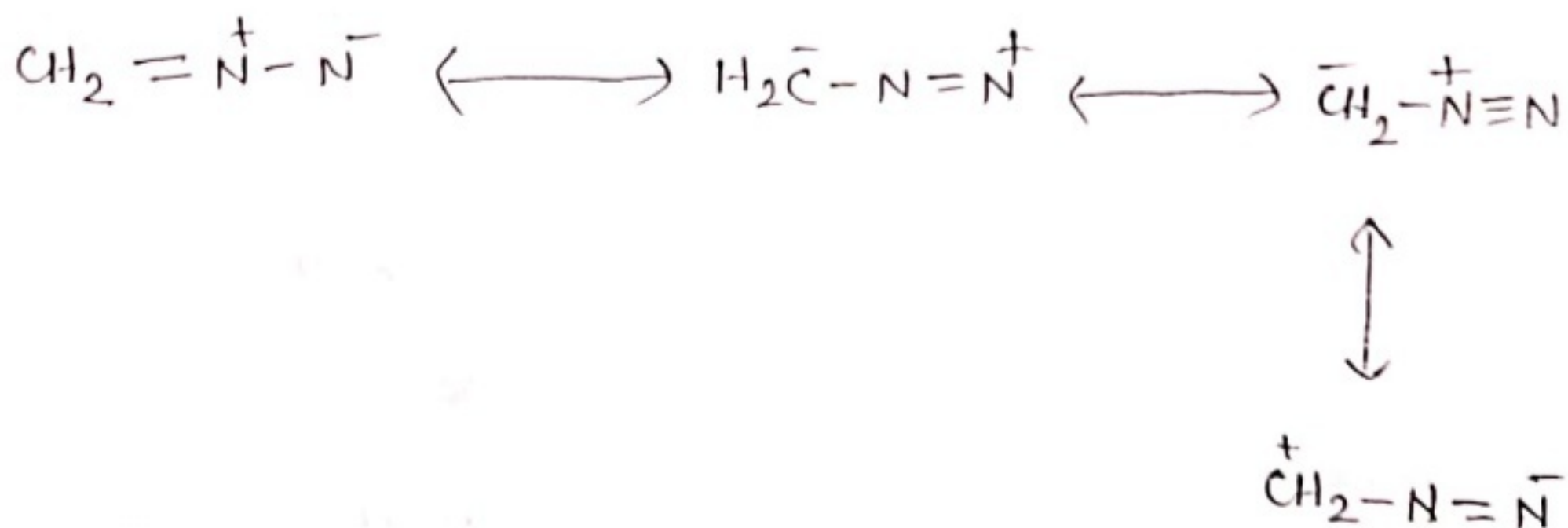
3.

In this method methylamine hydrochloride and nitroguanidine are allowed to react in KOH solution and the product is treated with nitrous acid to form N-methyl-N-nitroso-N-nitroguanidine. The latter compound gives diazomethane on warming with KOH.



Diazomethane

- \* Diazomethane is yellow, toxic and highly reactive gas which is soluble in ether.
- \* Liquid diazomethane is explosive but may be handled safely in ethereal solution.
- \* It is usually prepared immediately prior to use.
- \* Diazomethane has been extensively used for methylation of compounds containing active hydrogen, i.e.; acids, phenols and enols.
- \* It can also be used for methylation of compound containing weak acidic hydrogens such as alcohols and amines.
- \* Diazomethane is represented by several resonance structures.



**To be continued in next lecture..**