

## PREPARATION

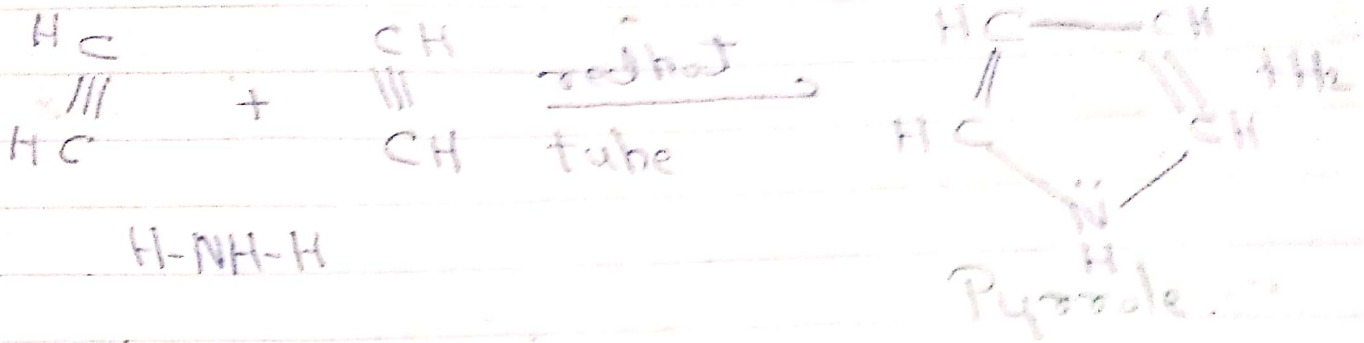
Imp

1) From bone oil (Dippel's oil).

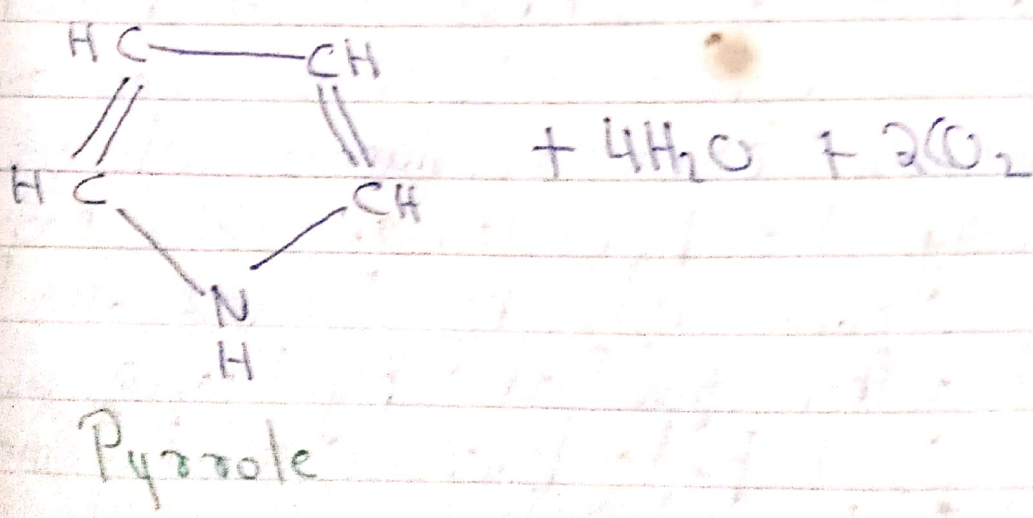
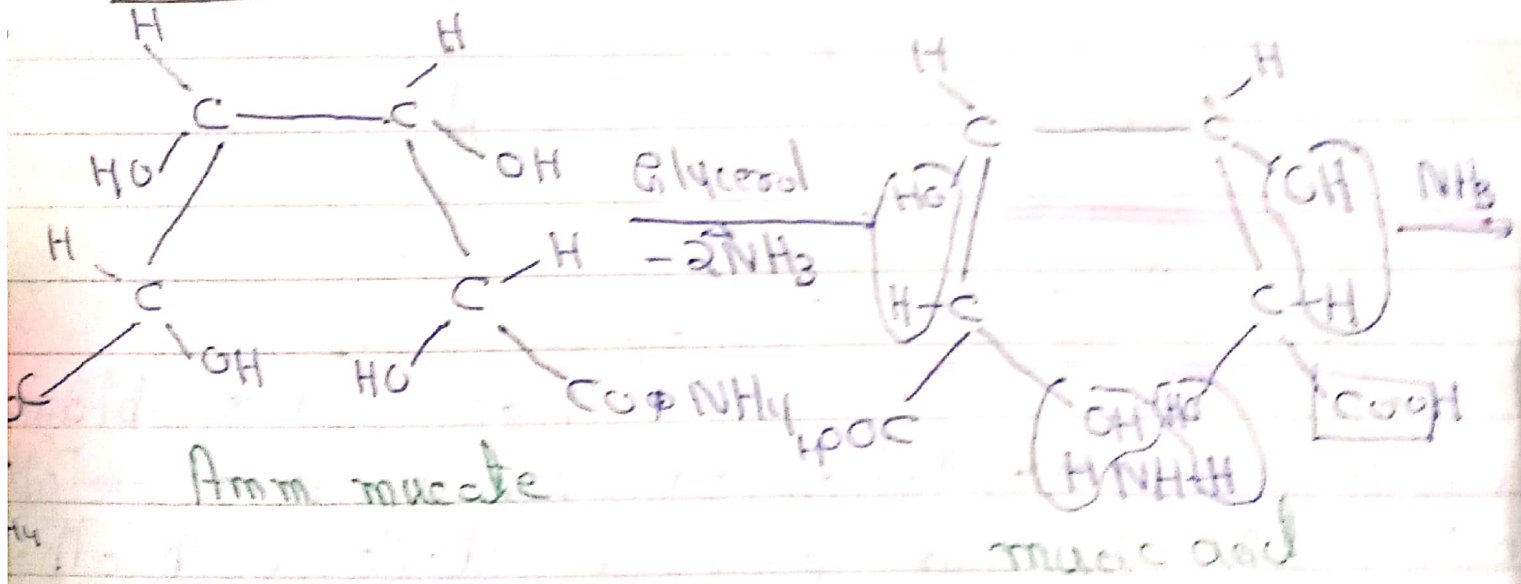
Bone oil is obtained by the dry distillation or pyrolysis of defatted bones. It contains pyroole along with other impurities. The bone oil is first washed with alkali to remove acidic substances, then with  $\text{dil. H}_2\text{SO}_4$  to remove basic substances such as pyridine. Finally the pyroole is separated from hydrocarbons etc by fractional distillation. It is then purified by fusing with solid  $\text{KOH}$ . Solid prod. pyroole so formed is filtered and pyroole is obtained removed by steam distillation.

2) Synthetic methods:

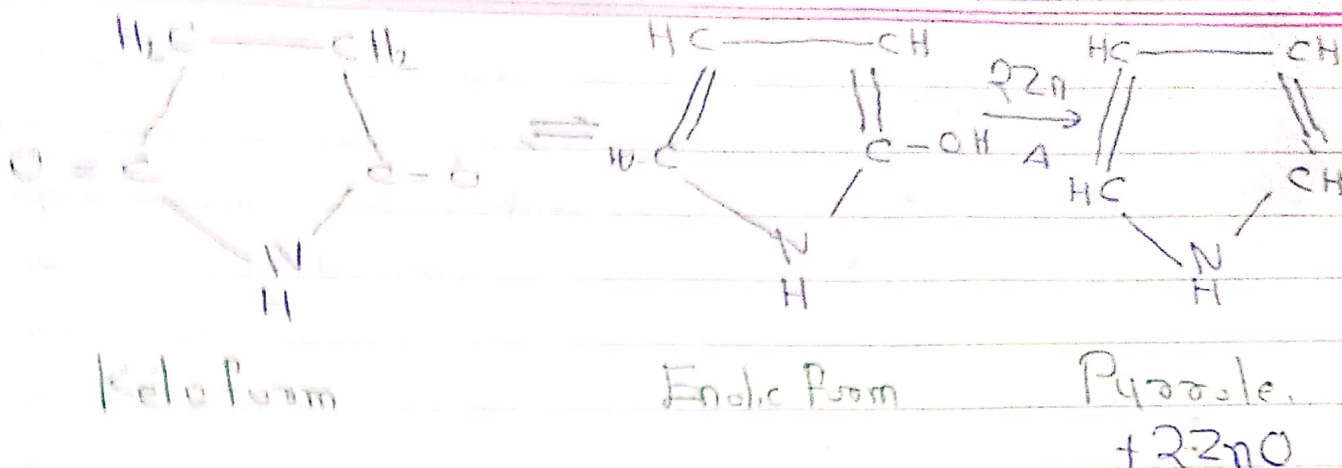
a). It is obtained by passing a mixture of acetylene and ammonia over red hot tube.



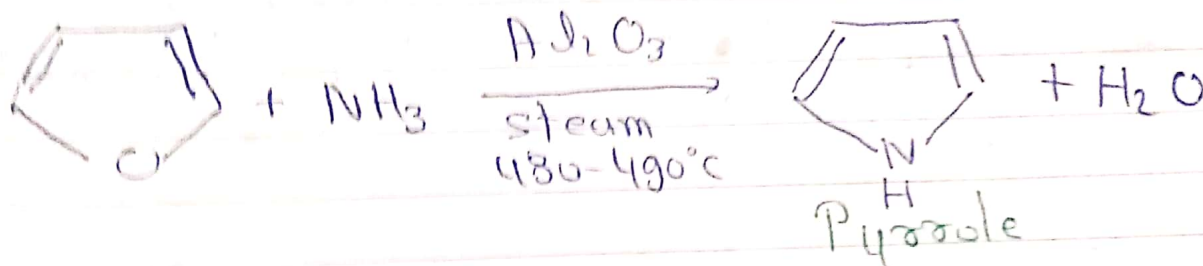
b). By heating ammonium mucate with glycerol at 200°C.



c). By heating succinimide with Zn dust



(d) By heating a mixture of Pyrazan, ammonia and steam over heated  $\text{Al}_2\text{O}_3$ .



(a) Derivatives of Pyrazole-

Imp.

(i) The Knorr pyrazole synthesis

This is the most widely applicable synthesis and has been utilized for synthesizing a wide variety of pyrazole derivatives. In this process an  $\alpha$ -amino ketone is condensed with a  $\beta$ -keto ester in the presence of acetic acid.

