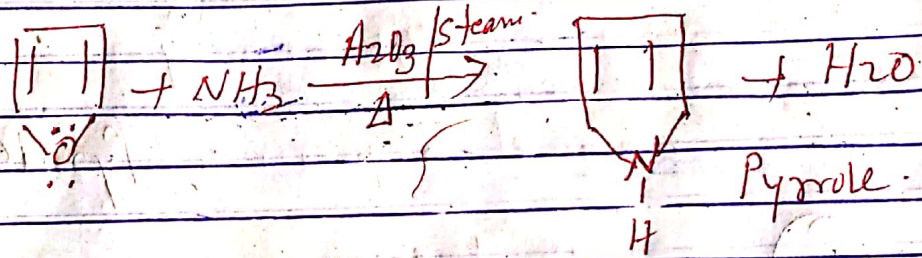


Preparation of Pyrrole and structure

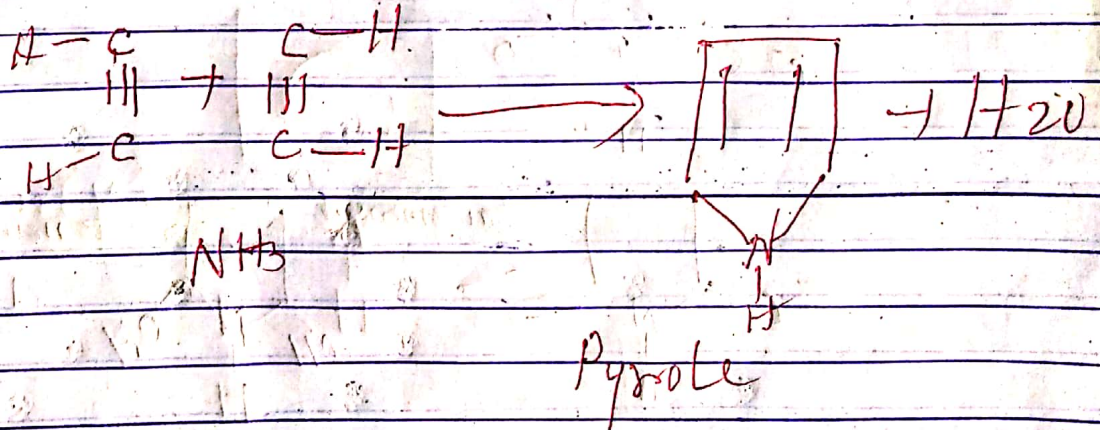
Pyrrole is prepared by following method.

1. When Furan is treated with Ammonia gas ~~with~~ in presence of Al_2O_3 at high temperature ~~at~~ $480-500^\circ C$, pyrrole is formed.



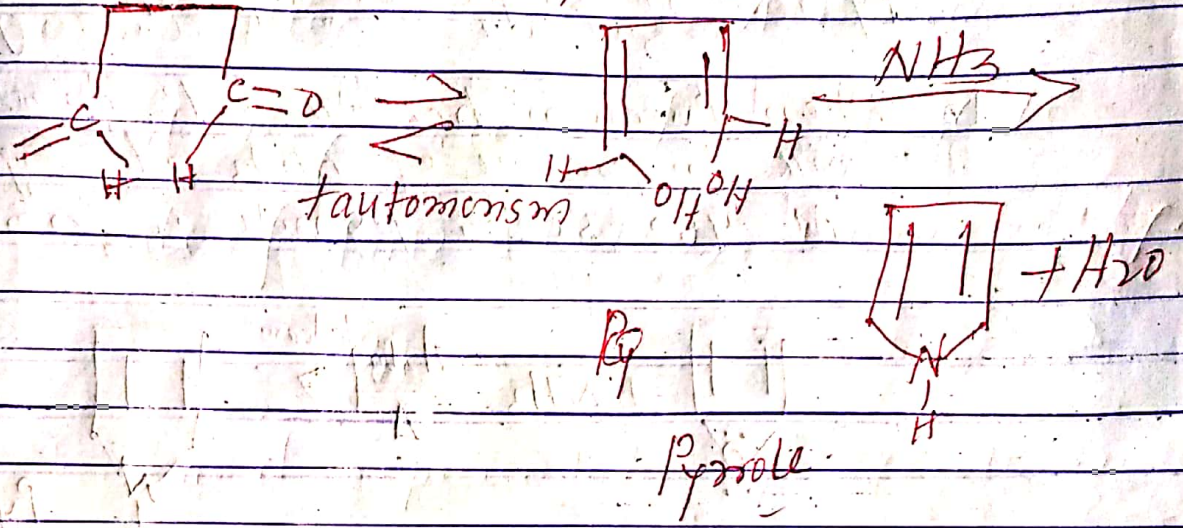
2. When Ammonia and acetylene gas is passed through red-hot ~~tube~~ tube

Pyrrole is obtained.



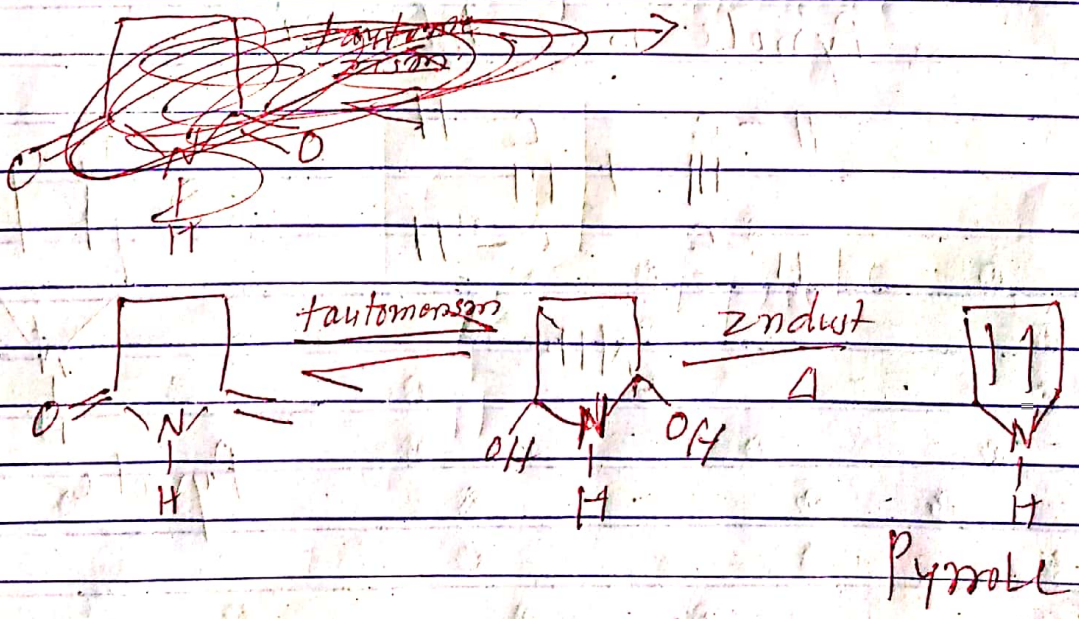
(iii)

When α -succinic aldehyde is heated with ammonia pyrolic is obtained.

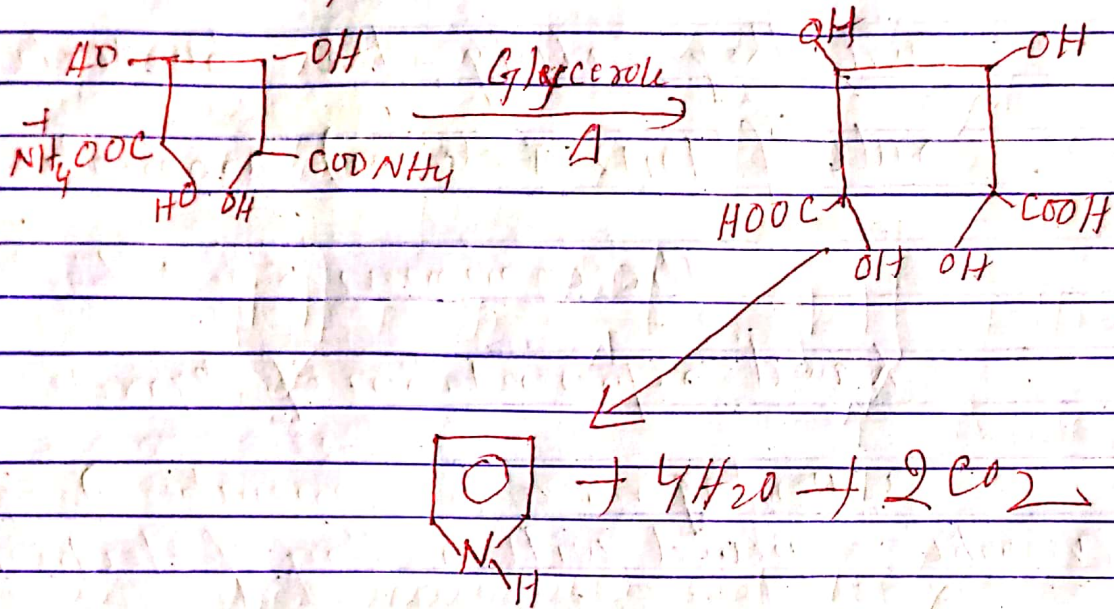


(iv)

Heating succinimide with zinc dust pyrolic is obtained.



(N) When glycerole is heated with ammonium succinate pyrrole is obtained.



Structure Pyrrole :

All the five atoms forming ring (4C and 1N) are sp² hybridized. The hybrid sp²

orbital overlaps each other to form C-C, C-N and C-H σ bonds. All these σ bonds lie in one plane. All carbon atoms and nitrogen atom

has unhybrid orbital perpendicular to the plane of σ bond.

These unhybridized p orbitals overlap with each other to form π bond.

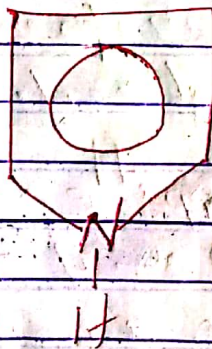
and they satisfy the Huckel rule of $(4n+2)\pi$ electrons aromaticity.

The common short ~~hand~~

hand representation of pyrrole is

a pentagon, a five membered cyclic aromatic compound with a ring of electron

inside. The ring ~~represents~~ represents the delocalized π molecular orbital.



Pyrrole