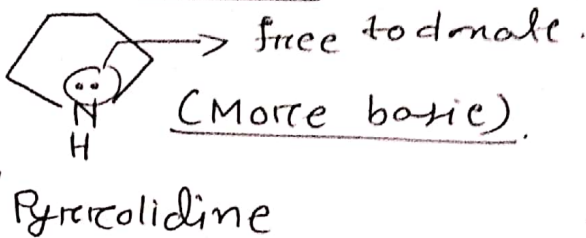
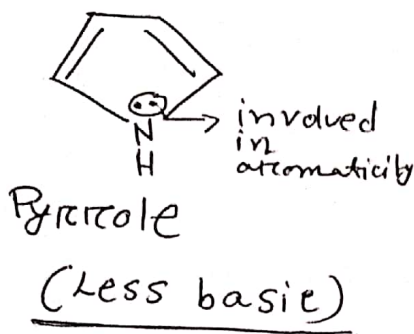
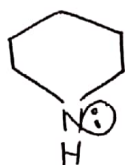
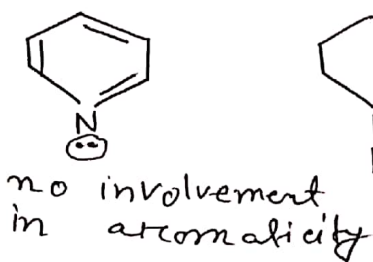


Basicy



C Belw<sup>n</sup>
  
 Pyrrole and
   
 Piperidine
   
 which one is
   
 more basic).

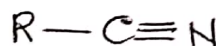
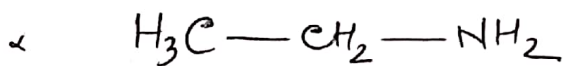


⇒ which one more
   
 basic ??

Piperidine is less basic.

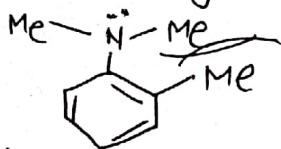
Since N of Pyridine
   
 is sp<sup>2</sup> hybridised while N of
   
 Piperidine is sp<sup>3</sup> hybridised,

So IP on N in Piperidine is more
   
 donatable towards acid than N-IP in Pyridine.

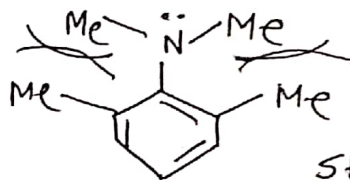


compare basicity. (H.W)

which one is more basic betw<sup>n</sup> the
   
 following compound.



steric
   
 inhibition
   
 by one
   
ortho Me-group

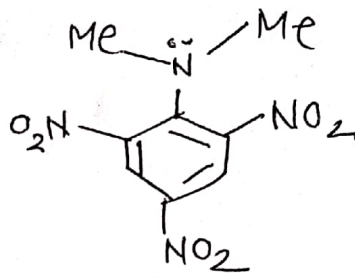
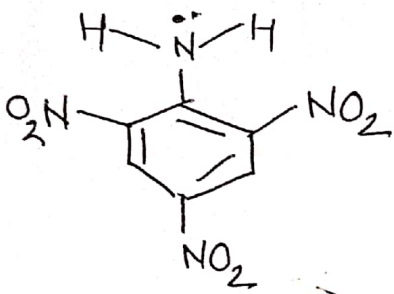


more
   
 steric inhibition
   
 by 2-ortho Me
   
gr.

In both
   
 case there
   
 is steric inhibition of resonance

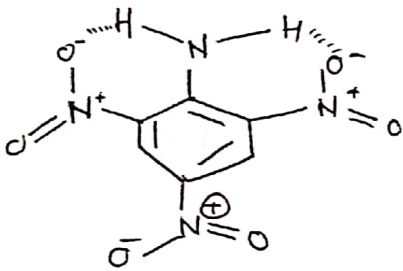
So, IP on N on tetramethyl derivative
   
 is more free for donation and hence more
   
 basic than trimethyl derivative.

(2)



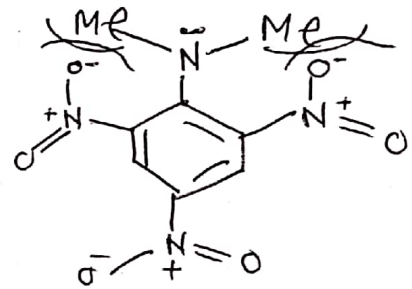
$10^4$  times more basic

Presence of EWG decreases the basicity of aromatic amine and this effect is more pronounced when present in more numbers especially in the ortho and para position from which position they exert strong -R effect.

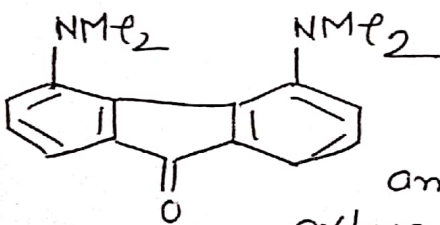


Planar due to internal H-bond, so, 3 NO<sub>2</sub> greatly reduces ed. on N atom of NH<sub>2</sub> gr.

But



Strong steric repulsion between a pair of Me gr. and oxygen atom, make NMe<sub>2</sub> to become out of plane, hence IP on N is free to donate, basicity is high.



This amine is extremely strong base than Me<sub>3</sub>N

Ans. Its conjugate acid become highly stabilised by - H bond and also minimising IP/IP repulsion (Highly stable).

