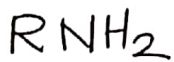


Basicity

Organic bases are mainly nitrogenous base, nitrogen bases are Lewis base which shows basicity by donation of lone pair of electron to proton or any acidic compound including Lewis acid.

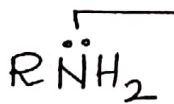
1) Aromatic amine vs aliphatic amine



1° aliphatic amine

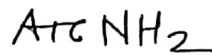


More basic



No other involvement of this IP of electron.

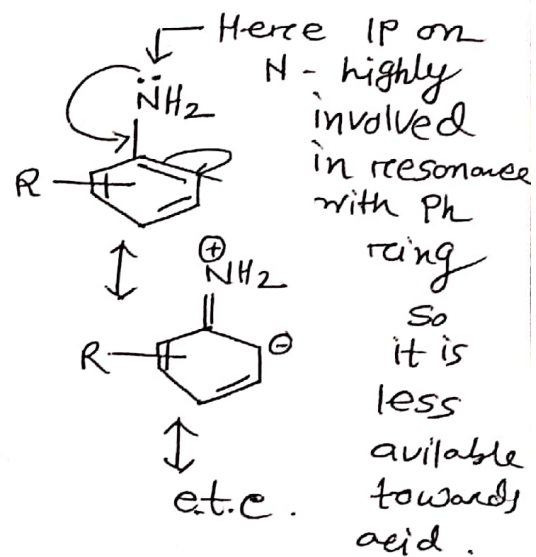
(IP = lone pair)



1° aromatic amine



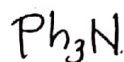
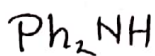
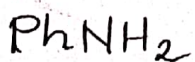
Less basic



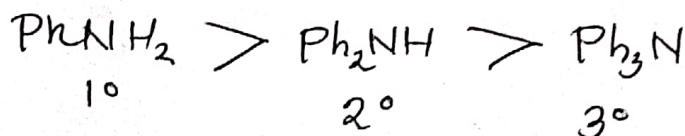
less basic.

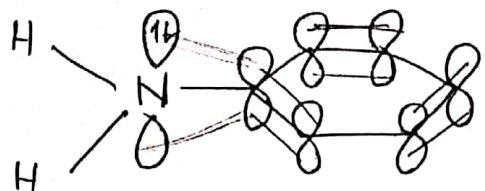
∴ Aromatic amine is less basic than aliphatic amine

2) Compare basicity among aromatic 1°, 2° and 3° amine.

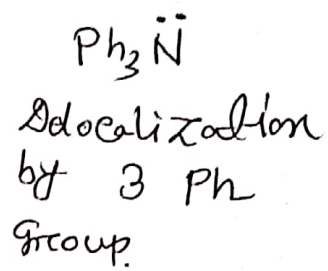
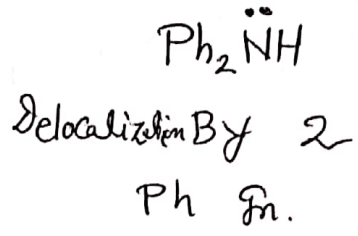


Basicity order





Delocalization of 1p electron on N-atom by one Ph. Group.



So availability of 1p on N is least in 3° amine, hence tertiary aromatic amine Ph<sub>3</sub>N is least basic.

✓ Compare basicity among 1°, 2° and 3° aliphatic amine.

For this two consideration have to be taken.

Vapour phase :- R<sub>3</sub>N > R<sub>2</sub>NH > RNH<sub>2</sub>  
(Basicity decreases from 3° > 2° > 1°).

In vapour phase basicity depends on electron density on N-atom, in case of 3° amine +I effect of 3 alkyl group enhances the electron density in maximum amount and thereby chances of electron donation towards acid is maximum. so R<sub>3</sub>N is most basic, and RNH<sub>2</sub> is least basic.

But in aq. phase :- RNH<sub>2</sub> > RNH<sub>2</sub> > R<sub>3</sub>N 2° amine is most basic both by ed and stability of conj. acid.

