

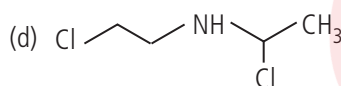
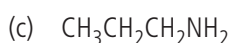
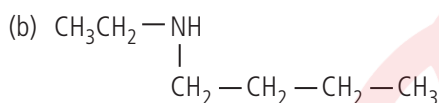
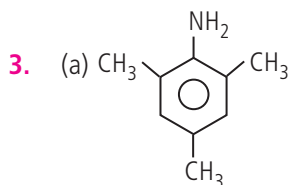
Amines



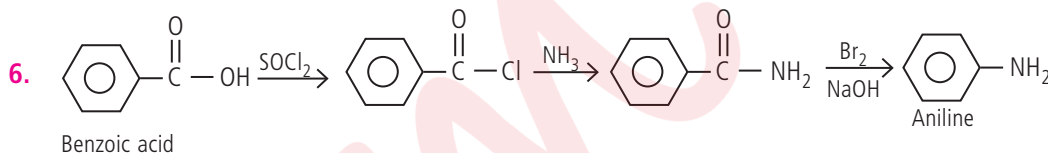
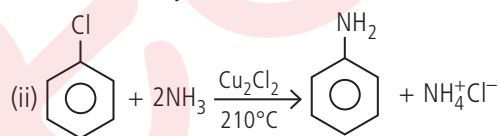
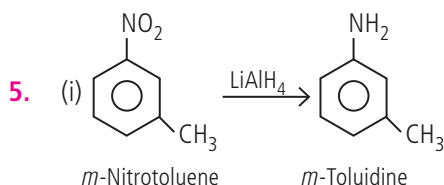
TRY YOURSELF

ANSWERS

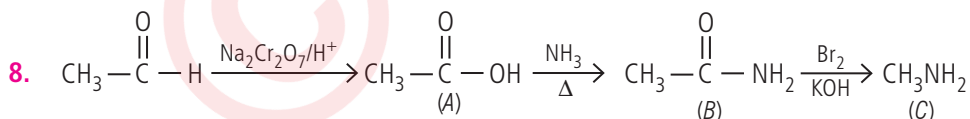
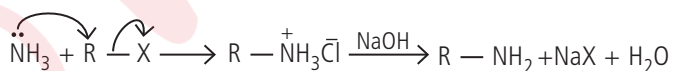
1. (a) *N*-Ethyl-*N*-propylaniline, (b) *N*-Ethyl-*N*-methylpropanamine, (c) *N*-Ethyl-*N*-methylbutylamine
(d) *N,N*-Diethyl-2-furamine
2. (i) Primary amine (ii) Tertiary amine, (iii) Primary amine (iv) Secondary amine



4. The functional groups present are :(i) Ester (ii) Aromatic amine and tertiary amine



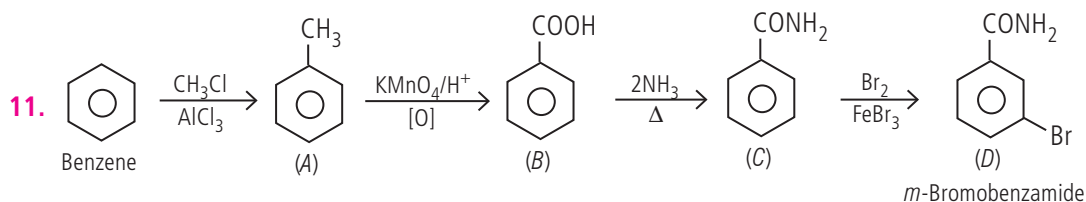
7. When ammonia is added to an alkyl halide, in the presence of base, then primary amines will be formed. Salts of 1° amines can be prepared from ammonia and alkyl halides. Treating the ammonium salt with base gives a 1° amine.



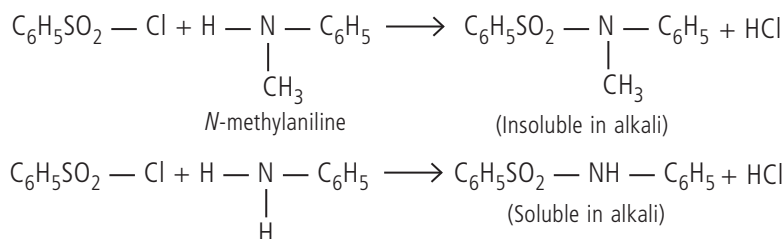
9. $\text{CH}_3\text{CH}_2\text{NH}_2 > \text{CH}_3\text{NHCH}_3 > (\text{C}_2\text{H}_5)_3\text{N}$

Solubility depends on the ability of amines to form extensive H-bonding with water.

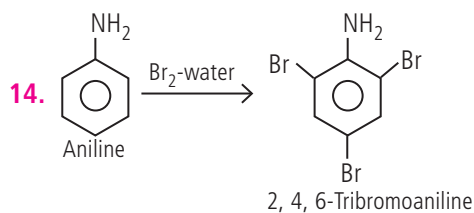
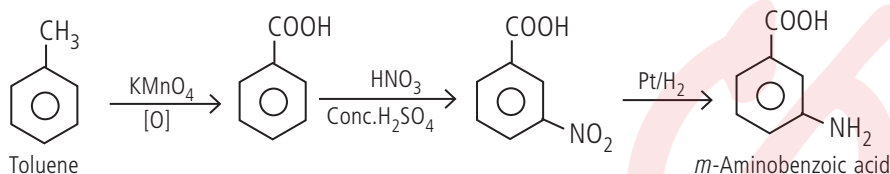
10. 1° and 2° amines are engaged in intermolecular association due to H-bonding between N atom of one molecule and H-atom of another. This intermolecular association is more in primary amines than in 2° amines thus 1° amine have higher b.p. than secondary amines.



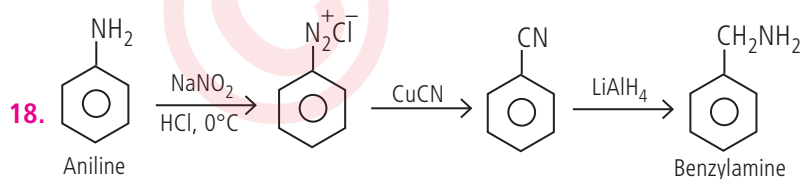
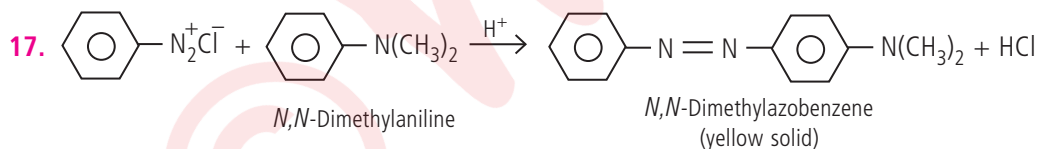
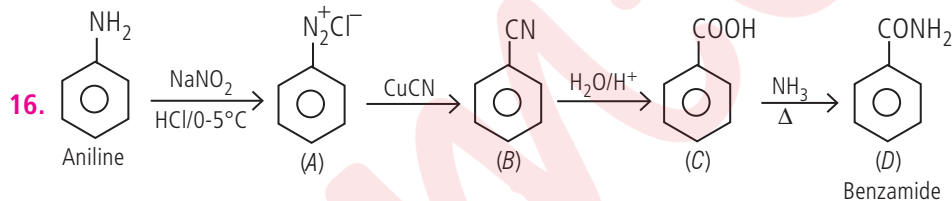
12. Hinsberg's test : Aniline (1° amine) reacts with benzene sulphonyl chloride to give a solid sulphonamide derivative which is soluble in alkali like NaOH solution. *N*-methylaniline (2° amine) reacts with benzene sulphonyl chloride to give a solid derivative which is insoluble in NaOH.



13. Following steps are involved :



15. Aliphatic amines are more basic than aromatic amines. Electron donating group on benzene ring increases the basic strength of aniline. Hence the correct order of increasing basic strength is 2 < 3 < 1.



19. Phenol

20. A - *p*-nitrotoluene, B - *p*-methylaniline, C - *p*-cyanotoluene, D - terephthalic acid.

