

CHEMISTRY

BOOKS - BETTER CHOICE PUBLICATION

AMINES

Question Bank 13 1 Structure Of Amines

1. What is the state of hybridisation of nitrogen atom in amines?



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2. What is the shape of trimethylamine molecule?



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3. Give one example of secondary alcohol and secondary amine.



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4. What are primary amines ? Give one example.



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5. What are secondary amines ? Give one example.



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6. What are tertiary amines ? Give one example



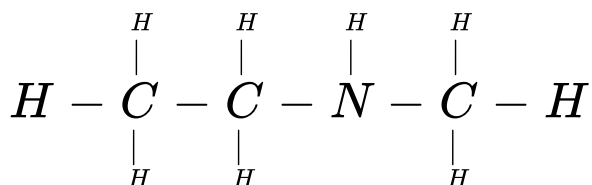
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7. Give an example of secondary amine and write its IUPAC name.



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8. Write the IUPAC name of



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9. Give an example of primary amine and write its IUPAC name.



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10. Give an example of primary amine and write its IUPAC name.



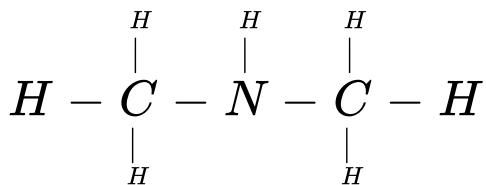
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11. Give an example of secondary amine and write its IUPAC name.



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12. Write the IUPAC name of



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13. Write down the IUPAC name of CH_3OCH_3



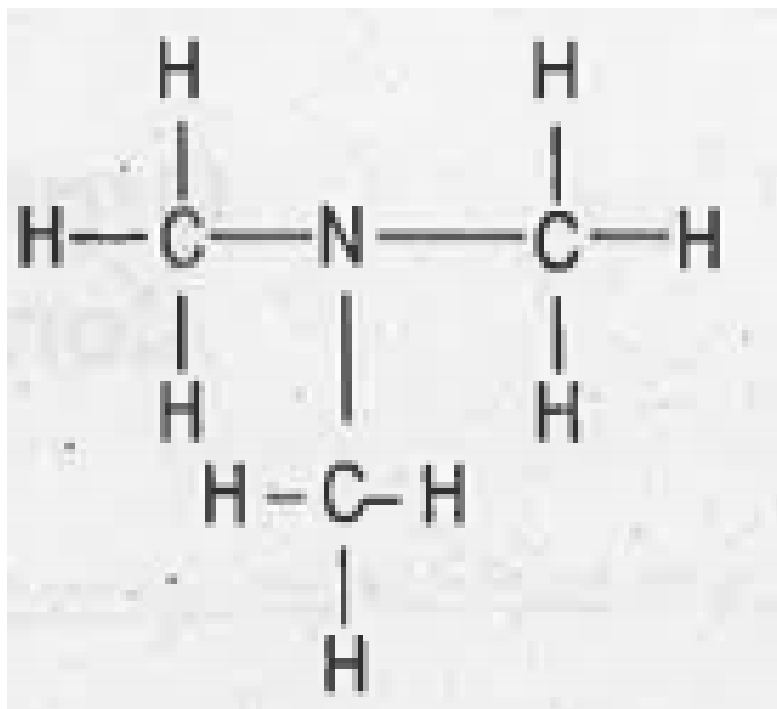
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14. Give an example of tertiary amine and write its IUPAC name.



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15. Write the IUPAC name of :



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16. Write the structural formula of a tertiary amine and its IUPAC name.



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17. Discuss reduction of alkyl isocyanides.



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18. Write short note on Hoffmann's bromamide reaction. Why is it regarded as Hoffmann

degradation reaction?



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19. How is aniline synthesised by Hoffmann
Broamamide reaction?



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20. How will you convert benzoic acid to
aniline?



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21. Write short note on Gabriel phthalimide synthesis. Why is it regarded as best method ?



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22. Why aromatic amines cannot be prepared by Gabriel phthalimide synthesis?



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23. Gabriel phthalimide is used for preparation of



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24. Write short note on ammonolysis.



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25. Why is it difficult to prepare pure amines by Hofmann's ammonolysis?



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26. Why is it difficult to prepare pure amines by Hofmann's ammonolysis?



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27. How to convert acetic acid to ethylamine.



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28. Write short note on Stephens reduction.



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29. Write the following reactions :

Mendius reaction



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30. Discuss reduction of alkyl isocyanides.



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Question Bank 13 2 Physical Properties

1. Ethylamine is soluble in water whereas the aniline is not. Why?



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2. Why are the lower amines soluble in water ?



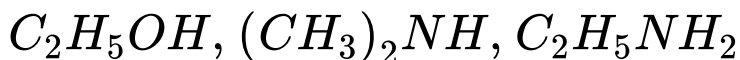
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3. Why are the lower amines soluble in water ?



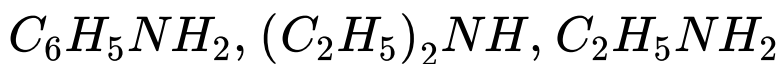
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4. Arrange in increasing order of boiling points :



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5. Arrange in increasing order of solubility in water :



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6. Why do primary amines have higher boiling point than tertiary amines?



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7. Why do primary amines have higher boiling point than tertiary amines?



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8. Aniline dissolve in aqueous HCl. Why?



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9. Why amines have lower boiling points than alcohols of comparable molecular masses?



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10. Why methyl amine has lower boiling point than methanol.



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11. Why alcohols are higher boiling point than hydrocarbons of corresponding molecular masses ?



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Question Bank 13 3 Chemical Reactions

1. Why is aniline less basic than ethylamine ?



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2. Why ethylamine is more basic than aniline ?



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3. Why ethylamine is more basic than aniline ?



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4. Alkyl amines are stronger bases than aryl amines. Justify.



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5. Explain why secondary amines are more basic than primary amines.



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6. Out of $C_2H_5NH_2$ and $(C_2H_5)_2NH$ which is more basic and why?



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7. Which is more basic and why?

CH_3NH_2 and $(CH_3)_2NH$.



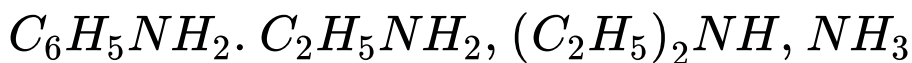
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8. Why aniline a weaker base than methylamine?



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9. Arrange the following in decreasing order of their basic strength in aqueous solution.



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10. Which is more basic, aliphatic amines or ammonia and why?



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11. All three classes of aliphatic amines are stronger bases than ammonia. Explain.



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12. Give order of basicity of 1° , 2° , 3° amines and ammonia.



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13. All three classes of aliphatic amines are stronger bases than ammonia. Explain.



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14. Arrange 1° , 2° and 3° amines in increasing order of their basicity and give reasons (in non-aqueous solvents or in vapour state).



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15. Out of ethylamine and ammonia which is more basic and why?



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16. Out of ammonia (NH_3) and $C_2H_5NH_2$ which is more basic and why?



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17. Why Methyl amine is stronger base than ammonia ?



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18. Why 2° amine is more basic than 1° and 3° amine ?



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19. Why benzylamine more basic than aniline?



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20. The reaction of toluene with chlorine in the presence of ferric chloride gives mainly



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21. Amino group in aniline is o, p-directing and activating in electrophilic substitution reactions.



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22. Aniline does not undergo Friedel-Crafts reaction. Explain.



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23. Acylation of $-NH_2$ group in aniline reduces its reactivity in electrophilic substitution reactions.



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24. What is Carbylamine reaction ? How is it used to distinguish primary amines from secondary and tertiary amines ?



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25. How will you convert ethylamine to ethyl alcohol?



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26. How will you convert :

Aniline into benzonitrile



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27. How will you convert :

Aniline into benzonitrile



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28. How will you convert :

Aniline into a acetanilide



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29. Write short note on acetylation of amines.



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30. How 1° amine reacts with nitrous acid ?



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31. How 2° amine reacts with nitrous acid ?



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32. How 3° amine reacts with nitrous acid ?



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33. Give one chemical test to distinguish between the following pairs of compounds.

Methylamine and dimethylamine



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34. Give one chemical test to distinguish between the following pairs of compounds.

Secondary and tertiary amines





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35. Give one chemical test to distinguish between the following pairs of compounds.

Ethylamine and aniline



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36. Give one chemical test to distinguish between the following pairs of compounds.

Aniline and benzylamine



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37. Give one chemical test to distinguish between the following pairs of compounds.

Aniline and N-methylaniline



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38. Give an example of Zwitter ion.



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39. Why direct nitration of amines is not possible ?



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40. Write Hinsberg's test to distinguish between 1° , 2° and 3° amines.



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41. Name the test with which primary, secondary and tertiary amines can be distinguished.



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42. Silver chloride dissolves in methylamine solution.



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Question Bank 13 3 Chemical Reactions Fill In The Blank



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2. How will you convert methylamine to ethylamine ?



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Question Bank 13 4 Methods Of Preparation Of Diazonium Salts

1. Write the following reactions :

Diazotisation



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2. How are diazonium salts prepared ?



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3. Write chemical reaction involved in the preparation of Benzene Diazonium chloride from aniline.



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4. Dizaotisation of aniline take place in ice cold conditions. Why?



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5. How will you convert aniline into phenol ?



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6. How is Benzene Diazonium chloride prepared and give its reaction with water ?



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1. Out of benzene diazonium chloride and benzene diazonium fluoride which is/are soluble in water



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2. Out of benzene diazonium chloride and benzene diazonium fluoride which is/are soluble in water



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Question Bank 13 6 Chemical Reactions

1. Write Gatterman Koch reaction



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2. How does benzene diazonium chloride react
with :

Hypophosphorous acid



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3. Write the reaction of benzene diazonium chloride with :



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4. How will you convert aniline to benzene ?



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5. How benzene diazonium chloride reacts with

Cu Powder/HCl



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6. What is Coupling reaction ?



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7. How does benzene diazonium chloride react

with :

Phenol



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8. Write the reactions of benzenediazonium chloride with :

Aniline



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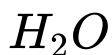
9. How benzene diazonium chloride reacts with

Cu Powder/HCl



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10. Write the reaction of benzene diazonium chloride with :



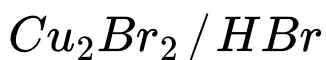
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11. Write short note on Sandmeyer reactions.



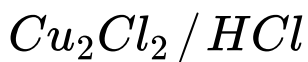
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12. How does benzene diazonium chloride react with:



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13. How does benzene diazonium chloride react with :



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14. How will you convert benzene diazonium chloride

Chlorobenzene



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15. How will you convert benzene diazonium chloride

Chlorobenzene



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16. Write short note in Balz Schiemann reaction.



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17. How does benzene diazonium chloride react with :

Fluoro boric acid.



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18. Write the reaction of benzenediazonium chloride with

KI.



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19. Write the reaction of benzene diazonium chloride with :

CuCN



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20. How will you convert benzene diazonium chloride to bromobenzene?



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21. How will you convert nitrobenzene into aniline ?



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22. How will you convert

Benzamide to toluene



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23. How will you convert

Aniline to toluene



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24. How benzenoid is converted into benzylamine.



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25. The chemical name of Vitamin E is _____.



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Question Bank 13 6 Importance Of Diazonium Salts In Synthesis Of Aromatic Compounds

1. How will you convert 4-nitrotoluene to 2-bromobenzoic acid ?

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2. Convert : 3-Methylaniline into 3-nitrotoluence

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3. Convert : Aniline into 1,3,5-tribromobenzene

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