



CHEMISTRY

BOOKS - VGS PUBLICATION-BRILLIANT

ORGANIC CHEMISTRY

Very Short Answer Questions

1. Write the reagents required for conversion of benzene to methyl benzene.

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2. How is nitrobenzene prepared?

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3. Write the conformations of ethane.

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4. How do you prepare ethyl chloride from ethylene?

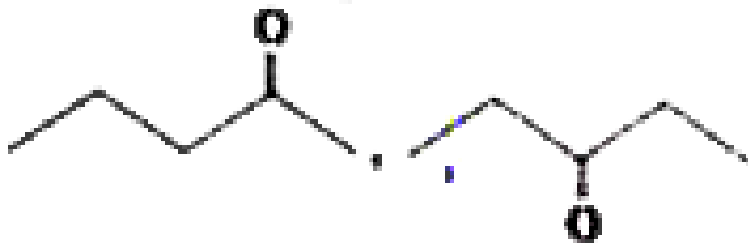
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5. Write the IUPAC names of:



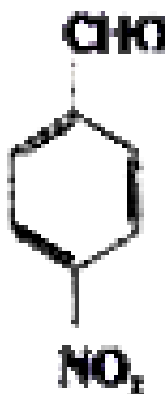
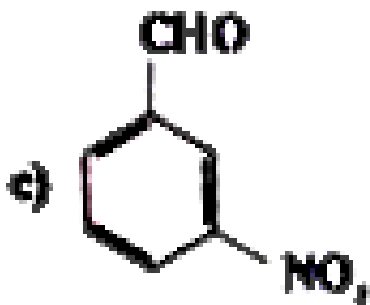
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6. Write the IUPAC names of:



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7. Write the IUPAC names of:



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8. Write the structures of : Trichlorethanoic acid, Neopentane, p-nitro benzaldehyde.

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9. Discuss Lassaigne's test.

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10. Explain the principle of chromatography.

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11. Explain why an organic liquid vaporizes at a temperature below its boiling point in its steam distillation.

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12. Explain the following:

Crystallisation

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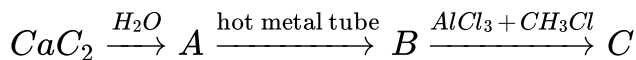
13. Explain the following:

Distillation.

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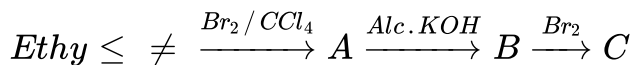
Short Answer Questions

1. Complete the following reactions and name the products A,B and C.



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2. Name the product A,B and C formed in the following reactions. Give the equations for the reactions.



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3. How does acetylene react with

Bromine ? Write the balanced equations for the above reactions.

Name the products.

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4. How does acetylene react with

Hydrogen ? Write the balanced equations for the above reactions.

Name the products.

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5. What is substitution reaction? Explain any two substitution reaction of benzene.

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6. What is dehydrogenation? Write the equation for the formation of alkene from alkyl halide.

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7. Which type of compound react with Ozone? Explain with one example.

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8. Given two examples each for position and functional isomerism.



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9. Explain the mechanism of halogenations of methane.

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10. How is ethylene prepared from ethyl alcohol? Write the reaction.

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11. Explain the reaction of acetylene with :

Na in NH_3

Write the equation and name of the products.

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12. Explain the reaction of acetylene with :

Chromic acid

Write the equation and name of the products.

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13. Explain crystallization and sublimation phenomena which are used in the purification of organic compounds.

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14. Describe solvent extraction method to purify a compound.

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15. Explain the estimation of phosphorus and sulphur present in the organic compound

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16. Explain addition of HBr to Propene with the ionic mechanism

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17. What is the product formed when sodium proplonate is heated with soda lime?

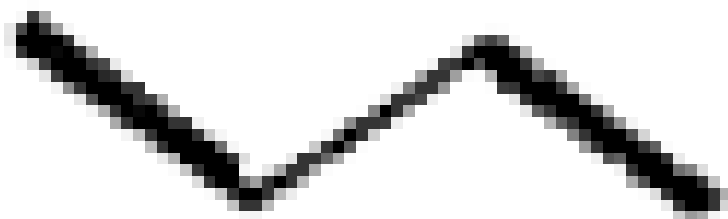
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Long Answer Questions

1. Explain the classification of hydrocarbons.

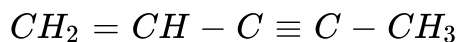
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2. Write IUPAC names of the following compounds.



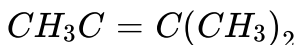
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3. Write IUPAC names of the following compounds.



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4. Write IUPAC names of the following compounds.



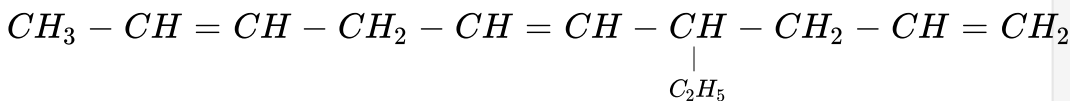
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5. Write IUPAC names of the following compounds.



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6. Write IUPAC names of the following compounds.



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7. Describe two methods of preparation of ethane. Given any three reactions of ethane.

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8. Write the structural formulas and IUPAC names for all possible isomers having the number of double or triple bond as indicated:

C_4H_8 (one double bond)

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9. Write the structural formulas and IUPAC names for all possible isomers having the number of double or triple bond as indicated:

C_2H_2 (one triple bond)

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10. Write the structural formulas and IUPAC names for all possible isomers having the number of double or triple bond as indicated:

C_5H_{12} (no multiple bond)

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11. Write chemical equations for combustion reaction of the following hydrocarbons.

Butane

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12. Write chemical equations for combustion reaction of the following hydrocarbons.

Pentane

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13. Write chemical equations for combustion reaction of the following hydrocarbons.

Hexane

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14. Addition HBr to propene yields 2-bromopropane, while in the presence of benzoyl peroxide, the same reaction yields 1-bromopropane. Explain and give mechanism.

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15. Describe two methods of preparation of ethane. Given any three reaction of ethylene with the Ozone?

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16. Describe two methods of preparation of ethane. Given any three reaction of ethylene with the Hypoalous acid?

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17. Describe two methods of preparation of ethane. Given any three reaction of ethylene with the Cold and dil.alk $KMnO_4$?

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18. Describe two methods of preparation of ethane. Given any three reaction of ethylene with the Heated of preparation of Ethylene:

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19. How does ethylene react with the following reagents? Give the chemical equations and names of the product formed in the

reactions.

Hydrogen halide

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20. How does ethylene react with the following reagents? Give the chemical equations and names of the product formed in the reactions.

Hydrogen

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21. How does ethylene react with the following reagents? Give the chemical equations and names of the product formed in the reactions.

Bromine

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22. How does ethylene react with the following reagents? Give the chemical equations and names of the product formed in the reactions.

Water

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23. How does ethylene react with the following reagents? Give the chemical equations and names of the product formed in the reactions.

Oxygen in presence of Ag at $200^{\circ}C$

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24. An alkene 'A' on ozonolysis gives a mixture of ethanal and pentan-3-one. Write the reaction, structure of the products and alkene-A. Give

the IUPAC name of alkene-A.

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25. An alkene 'A' contains three C-C, eight C-H bonds and one C=C bond. 'A' on ozonolysis gives two moles of an aldehyde of molar mass 44. Write the IUPAC name of 'A'.

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26. Given two methods of preparation of acetylene. How does it react with water and Ozone?

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27. How does acetylene react with the following reagents? Give the corresponding equations and name the product formed in the

reactions?

Acetic acid

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28. How does acetylene react with the following reagents? Give the corresponding equations and name the product formed in the reactions?

Water

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29. How does acetylene react with the following reagents? Give the corresponding equations and name the product formed in the reactions?

Hydrogen

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30. How does acetylene react with the following reagents? Give the corresponding equations and name the product formed in the reactions?

Halogens

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31. How does acetylene react with the following reagents? Give the corresponding equations and name the product formed in the reactions?

Hydrogen halide

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32. How does acetylene react with the following reagents? Give the corresponding equations and name the product formed in the

reactions?

Ammonical $AgNO_3$ and Cu_2Cl_2

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33. Describe any two methods of preparation of benzene with corresponding equations. Benzene does not behave like an alkene, why? How do we methyl benzene from benzene?

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34. How do we get benzene from acetylene? Give the corresponding equation. Explain the halogenation, alkylation, acylation, nitration and sulphonation of benzene.

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35. Explain the difference between structural isomers and stereoisomers.

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36. What is the difference between conformation and configuration in open chain molecules?

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37. What do you understand about geometrical isomerism? Explain the geometrical isomers of 2-butene.

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38. Explain the method of writing $E - Z$ configurations for geometrical isomers taking $CHCl - CBr$ as your example.

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39. If an alkene contains on carbon at double bond $Cl, Br, -CH_2 - CH_2 - OH$ and $-CH(CH_3)_2$. Write the E and Z configuration tions of it.

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40. Write a not on :

Distillation

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41. Write a not on :

Fractional distillation

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42. Write a not on :

Distillation under reduced pressure

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43. Write a not on :

Steam distillation

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44. Write the brief note on chromatography.



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45. Explain the following :

a) Column chromatography

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46. Explain the following :

b) Thin layer chromatography

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47. Explain the following :

c) Partition chromatography

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48. Explain the estimation of nitrogen of an organic compound by

a) Dumas method

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49. Explain the estimation of nitrogen of an organic compound by

b) Kjeldahl's method

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50. Explain inductive effect with a suitable example.

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51. Write a note on mesomeric effect.

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52. Describe resonance effect with one example.

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53. Explain how many types of organic reactions are possible.

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54. Write the possible conformations of ethane and explain which is more stable.

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55. Explain aromatic electrophilic substitution reactions of benzene.

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56. Explain electrophilic addition reactions of ethylene with mechanism.

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57. With the help of mechanism explain free radical halogenation of alkanes.

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58. Discuss Markovnikov's rule and Kharash effect.

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59. How would you convert the following compounds into benzene ?

Chlorobenzene



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60. How would you convert the following compounds into benzene ?

Toluene

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61. How would you convert the following compounds into benzene ?

p - nitro toluene

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62. Why is Wurtz reaction not preferred for the preparation of alkanes containing odd number of carbon atoms ? Illustrate with one example.

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63. Write the equations involved in the detection of Nitrogen, Halogens and Sulphur in or-ganic compounds.

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64. How are carbon and hydrogen of an organic compound estimated?

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65. Describe Dumans and Kjeldhahl's method for the estimation of Nitrogen .

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66. How do you determine Sulphur , Phosphorous and Oxygen quantitatively in an organic compound ?

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67. Explain Carius method for the determination of Halogens quantitatively in an organic compound.

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